COMPLIANCE MONITORING REPORT

Fall 2015

Pine Street Canal Superfund Site
Burlington, Vermont

Prepared for

Performing Defendants

Submitted to

U.S. Environmental Protection Agency
Region I
The State of Vermont

PREPARED BY:

The Johnson Company, Inc.
100 State Street, Suite 600
Montpelier, Vermont 05602

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Disclaimer

This document is a DRAFT document prepared by the Performing Defendants under a government Consent Decree. This document has not undergone formal review by the EPA and VT DEC. The opinions, findings, and conclusions, expressed are those of the author and not those of the U.S. Environmental Protection Agency and VT DEC.

EXECUTIVE SUMMARY

This document is the Compliance Monitoring Report for monitoring activities performed during summer and fall 2015 at the Pine Street Canal Superfund Site in Burlington, Vermont. The Sand Cap and the Amended Cap are functioning as designed. Wetlands and aquatic biological communities are present and active. Deep groundwater and surface water are unaffected by site-related contamination. The Vertical Barrier is retarding and diverting groundwater flow as designed. The extent and thicknesses of DNAPL generally have not increased between the Canal and the Lake. The thicknesses of DNAPL in passive recovery wells adjacent to the amended cap are similar to previous years. Wells RW-106 and RW-107 on the east side of the Canal contained more than 0.1 foot of DNAPL for the first time in 2014, and did so again at least once in 2015. The fall 2015 data indicate that the maximum contaminant level (MCL) for benzene and arsenic continue to be exceeded beyond the Class IV groundwater area in the area west of the Canal. Additional summaries of the monitoring results are provided below.

GROUNDWATER

Groundwater Level Measurements and Hydrology

The 2015 data indicate groundwater gradients consistent with prior monitoring events.

Groundwater Sampling

In October 2015, seven wells had benzene above the Vermont Groundwater Enforcement Standard (VGES) and MCL of 5 μg/L. Four of these wells are outside the Class IV groundwater area: MW-21A, MW-28A & 28B, and MW-27B (newly installed in 2014). Benzene concentrations in MW-21A stabilized in 2011, and have ranged between 450 and 1,000 μg/L since then. Benzene concentrations in MW-21B were variable throughout 2013 and 2014, but were not reported above laboratory reporting in October 2015. Benzene in MW-22A (located south of the Vertical Barrier and within the Class IV groundwater area) has increased over the last eight monitoring events to its October 2015 concentration of 1,500 μg/L. Its deep companion, MW-22B, first had a detection of benzene in October 2013, and 590 μg/L was reported in October 2015.

The naphthalene concentrations in MW-21A have been variable since 2012, with the highest concentration of 620 μg/L reported in October 2015. Wells MW-27A & 27B also contained naphthalene in fall 2015 (at 8 μg/L and 100 μg/L, respectively). Naphthalene in MW-27A has been decreasing since it was first sampled in 2014, while MW-27B has been variable. These wells are outside of the Class IV groundwater area. Naphthalene was reported in fall 2015 in three wells inside the Class IV boundary above its VGES: in MW-22A at 760 μg/L, in MW-22B at 710 μg/L, and in MW-23B at 3,100 μg/L. Naphthalene does not have an MCL; the VGES for naphthalene is 20 μg/L.

The only metal with an exceedance of its MCL and/or VGES in October 2015 was arsenic (previously present in groundwater). Arsenic concentrations in MW-21B increased consistently in 2013 and 2014, and although concentrations have stabilized, and both sampling events in 2015

were lower than the previous year, this location exhibits a slight overall increase since the initial well installation in 2000. Overall, the lead concentration in MW-20B generally increased between 2001 and 2010, but has stabilized since then. These general increases in lead and arsenic appear to correlate with a general decrease of oxidation-reduction potential suggesting development of a reducing environment, which could cause dissolution of naturally occurring metals in the aquifer.

Overall, concentrations of VOCs and naphthalene appear to have stabilized or slightly decreased in wells sampled between the Vertical Barrier and the lake since the installation of the Barrier in 2013; specifically in MW-21B, MW-27A and MW-27B. The well cluster just to the south of the Barrier, MW-22A & B, has seen increases in analyte concentrations such as benzene and naphthalene since 2013, as have wells up-gradient of the Barrier. This suggests that the Vertical Barrier is diverting and/or retarding water as designed.

NAPL Monitoring – Groundwater Monitoring Wells
NAPL thicknesses in monitoring wells were similar to previous events. Measurable NAPL was present only in wells which have historically contained NAPL (MW-17, MW-23A and MW-23B).

NAPL Monitoring – Vertical Barrier NAPL Recovery Wells
No measurable NAPL was present in the four passive recovery wells in the vicinity of the Vertical Barrier.

NAPL Monitoring/Removal – Amended Cap NAPL Recovery Wells
The DNAPL thicknesses measured in the Amended Cap passive recovery wells in 2015 were similar to those previously observed. In 2014, RW-106 and RW-107 contained more than 0.1 ft. of DNAPL for the first time, and this was seen sporadically again in 2015. RW-106 had 0.3 ft. of DNAPL in June 2015, and RW-107 had 0.5 ft. and 0.4 ft. DNAPL in June and October, respectively.

SURFACE WATER

No PAHs were detected above practical quantitation levels during the September 2015 surface water monitoring event.

CAP MONITORING

No reported metals or PAHs in sediment cores collected from any of the capped areas exceeded the benchmark values. Four of the nine mid-cap samples contained detectable PAHs, although the sum-of-PAH values reported were all less than 0.20 mg/kg, well below the 21 mg/kg benchmark value.

AMENDED CAP MONITORING

Amended Cap Settlement Plate Survey and Bathymetry
The settlement plate survey data does not indicate significant settling, erosion, rebound or gas

build-up which would adversely impact the performance of the Amended Cap. The Amended Cap continues to appear stable and perform as designed.

Visual Sheen Monitoring
No NAPL or sheen release areas were observed emanating through the Amended Cap. No new areas of sheens were observed in 2015. As seen over the past few years, gas bubbles with associated sheens and/or NAPL droplets were recorded in an area 45-102 feet north of Amended Cap footprint, and in an area adjacent to the southeast edge of the Amended Cap.

Cap Termination Inspections
No significant areas of damage were noted during visual examinations of the edges of the Amended Cap.

BIOLOGICAL MONITORING

The fall 2015 monitoring results indicate that the following biological performance standards have been met:

- Presence of a macrobenthic invertebrate community;
- Wetland restoration in the West Bank Cap area;
- Presence of submergent palustrine open water vegetation;
- Hydric soil morphology in Areas 3 and 7

The wetlands restoration planting performed in 2013 in regard to the Amended Cap was successful, with no on-site mortality of the plantings in 2015.

WEIR INSPECTION

No significant settlement of either the weir or the railroad bridge was observed. The concrete of the weir was in good condition, with no cracks, exposed rebar or scaling noted.

SEDIMENT TRANSPORT MONITORING

No storms of sufficient magnitude to trigger the automatic sampling system occurred in 2015.

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
ARI	Additional Remedial Investigation
AVS/SEM	acid-volatile sulfide/simultaneously extracted
AWQC	ambient water quality criteria
B(a)P	benzo(a)pyrene
BTEX	benzene, toluene, ethylbenzene and xylenes
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	chain of custody
CMR	Compliance Monitoring Report
CMWP	Compliance Monitoring Work Plan
DNAPL	dense nonaqueous phase liquid
EPA	Environmental Protection Agency
ER-M	effects range median
Fbgs	feet below ground surface
Fbtoc	feet below top of casing
FSP	Field Sampling Plan
GPS	global positioning system
IDL	instrument detection limit
IDV	independent data validator
JCO	The Johnson Company, Inc.
LCS	laboratory control sample
LOQ	limit of quantitation
LNAPL	light non-aqueous phase liquid
LRS	Little River Survey, Stowe, Vermont
µg/kg	microgram per kilogram
µg/L	microgram per liter
MCL	maximum contaminant level
MDL	method detection limit
mg/kg	milligram per kilogram
mg/L	milligram per liter
MS	matrix spike
MSD	matrix spike duplicate
NAPL	non-aqueous phase liquid
NAVD88	North American Vertical Datum of 1988
NGVD27	National Geodetic Vertical Datum 1927
OMMP	Operation, Maintenance and Monitoring Plan
ORP	oxidation-reduction potential
PAH	polycyclic aromatic hydrocarbon
PDA	procedure deviation alert
PID	photoionization detector
ppbV	parts per billion by volume
PPE	personal protective equipment
PQL	practical quantitation limit
QAPP	Quality Assurance Project Plan
QA	quality assurance
QA/QC	quality assurance/quality control

QC	quality control
RCM	reactive core mat
RL	reporting limit
RPD	relative percent difference
SOW	Statement of Work
SDG	sample delivery group
SIM	Selective Ion Monitoring
TBM	Temporary benchmark
TRM	turf reinforcing mat
TOC	total organic carbon
USGS	United States Geological Survey
VGES	Vermont Groundwater Enforcement Standard
VOC	volatile organic compound
VT	Vermont
VT DEC	Vermont Department of Environmental Conservation
VT DOT	Vermont Department of Transportation
VT SMS	Vermont Sites Management Section

1.0 INTRODUCTION

This document is the Compliance Monitoring Report (CMR) for monitoring activities performed during summer and fall 2015 at the Pine Street Canal Superfund Site (the Site) in Burlington, Vermont. This report was prepared by The Johnson Company (JCO) on behalf of the Performing Defendants, pursuant to the Consent Decree, Section VI (Performance of the Work and the Projects by Performing Defendants), paragraph 13 (Compliance Monitoring) and the Statement of Work, Section VI.B.3 (Appendix C to the U.S. Environmental Protection Agency (EPA) Record of Decision).

On April 10, 2002, EPA granted approval of the April 3, 2002 Compliance Monitoring Workplan (CMWP), Revision 3. Subsequent to that approval, the need for additional remedial action and monitoring was identified as a result of nonaqueous phase liquid (NAPL) seeps observed in the west bank of the historic barge canal at the Site (Canal) approximately between transects T9+50 and T14+10. The West Bank Cap was installed in 2004 to address those seeps, and NAPL was removed from the Canal cap surface. Additional monitoring in the vicinity of the West Bank Cap was added to Revision 4 of the CMWP, which was submitted electronically to EPA and Vermont Department of Environmental Conservation (VT DEC) on August 3, 2004. Additional construction activity conducted in 2010 included the installation of several NAPL monitoring and recovery wells, dredging portions of the previously installed cap, and installation of a new Amended Cap in the vicinity of transects T9 to T12+50. The monitoring summarized in this report was performed consistent with the procedures presented in CMWP, final revision 5, dated December 27, 2006 (JCO, 2006), and subsequent revisions specific to stormwater in-flow monitoring (sediment traps) as well as the Operation, Maintenance and Monitoring Plan (OMMP) for the Amended Cap which was conditionally approved on October 28, 2011. The schedule and details of monitoring for NAPL in wells adjacent to the Amended Cap and Canal (in the OMMP) were modified pursuant to an August 9, 2013 EPA letter (NAPL monitoring/collection frequency was reduced to monthly, and the trigger for NAPL removal was reduced to 0.1 foot NAPL accumulation up to three times in 48 hours per monthly event).

Construction of a Vertical Barrier was initiated and completed in 2013 to prevent the potential migration of NAPL, and reduce the migration of dissolved contamination, under the railroad tracks to Lake Champlain ("Lake"). Post-construction monitoring of the Vertical Barrier was performed as specified in the October 1, 2012 (Revision 1) Draft Remedial Design Report, Pine Street Canal Vertical Barrier.

In 2013, ecological wetlands restoration was implemented in accordance with the Restoration Plan for Mitigation of Habitat Loss Due to Installation of the Amended Cap (JCO, 2012). In 2015, there were two monitoring events for the restoration area at the Site and one monitoring event for the off-site restoration area at the Ethan Allen Homestead (EAH).

This report discusses the methods, laboratory analyses, quality assurance and quality control (QA/QC) measures, and monitoring results for selected long-term monitoring tasks performed from April through November 2015. As required in the CMWP, field notes and forms generated during sample collection and monitoring are included in this report (Appendix 1). Also included are: a summary of potentiometric data (Appendix 2); a summary of all analytical and field data (Appendix 3); Lake and climate data (Appendix 4); chains-of-custody (Appendix 5); laboratory-supplied and survey data packages (Appendix 6); photographs (Appendix 7); validation reports prepared by an Independent Data Validator (IDV) and QA/QC correspondence and documentation (Appendix 8) and the Wetlands Restoration Monitoring Report (Appendix 9).

2.0 FIELD SAMPLING/MONITORING ACTIVITIES

The compliance monitoring activities that are the subject of this report include the following:

Groundwater Monitoring

- Water level and field parameter monitoring in groundwater monitoring wells
- Sampling and laboratory analysis of groundwater in 18 unconsolidated deposits wells
- Sampling and laboratory analysis of groundwater in three deep unconsolidated deposits or bedrock monitoring wells

NAPL Monitoring and Recovery

- Monitoring wells: NAPL monitoring in 17 groundwater monitoring wells and removal of NAPL from these wells where present and as feasible
- Vertical Barrier Passive Recovery Wells: NAPL monitoring in the four recovery wells located along the railroad tracks in the vicinity of the Vertical Barrier
- Amended Cap Passive Recovery Wells: NAPL monitoring and removal in the 14 recovery wells located along both sides of the Amended Cap

Surface Water Monitoring

- Water quality monitoring
- Visual sheen and NAPL monitoring on the Canal water surface in the vicinity of the Amended Cap

Cap Monitoring

- Cap coring and analysis
- Survey of nine settlement plates on the Amended Cap
- Visual integrity inspection of the Amended Cap terminations

Biological Monitoring

- Benthic macroinvertebrate sampling
- Aquatic vegetation observations

Outlet Weir Inspection

- Visual inspection
- Elevation Survey

Sediment Transport Monitoring

- Automated storm water sampling

The dates of each field activity performed in 2015 are summarized in Table 2-1. Detailed descriptions of the various field activities performed are provided in the following subsections.

TABLE 2-1
COMPLIANCE MONITORING ACTIVITIES – 2015

Location	Description	NAPL Measurement	Sampled for Lab Analysis	Water Level Measurements Completed	Visual Field Evaluations
Groundwater Monitoring Wells (* indicates a well associated with Vertical Barrier monitoring)					
MW-20A	Shallow well	Not measured	May 5 & October 6	May 4 & October 5	Not Applicable
MW-20B	Shallow well	Not measured	May 6 & October 6	May 4 & October 5	Not Applicable
MW-21A	Shallow well*	May 7 & October 5-6	May 5 & October 6	January 21, May 4 & October 5	Not Applicable
MW-21B	Shallow well*		May 5 & October 5		
MW-22A	Shallow well*	October 5	May 6 & October 6	January 21, May 4 & October 5	Not Applicable
MW-22B	Shallow well*				
MW-23A	Shallow well*	May 7 & October 5	Not Sampled	January 21, May 4 & October 5	Not Applicable
MW-23B	Shallow well*	May 7 & October 5	May 6 & October 6	May 4 & October 5	Not Applicable
MW-24A	Shallow well	May 7 & October 5	May 5 & October 6	May 4 & October 5	Not Applicable
MW-24B	Shallow well				
MW-25B	Shallow well*	Not measured	May 6 & October 6	January 21, May 4 & October 5	Not Applicable
MW-26A	Shallow well*	Not measured	May 5 & October 5	January 21, May 4 & October 5	Not Applicable
MW-26B	Shallow well*				
MW-27A	Shallow well*	Not measured	May 4 & October 5	January 21, May 4 & October 5	Not Applicable
MW-27B	Shallow well*				
MW-28A	Shallow well*	Not measured	May 5 & October 5	January 21, May 4 & October 5	Not Applicable
MW-28B	Shallow well*				
MW-9A	Shallow well	Not measured	May 6 & October 7	May 4 & October 5	Not Applicable
MW-9B	Shallow well	Not measured	May 6 & October 7	May 4 & October 5	Not Applicable
MW-1B	Deep well	October 5	Not Sampled	October 5	Not Applicable
MW-3C	Deep well	October 5	Not Sampled	October 5	Not Applicable
MW-4B	Deep well	October 5	Not Sampled	October 5	Not Applicable
MW-8A	Deep well	Not measured (could not locate well)	Not Sampled	Not measured	Not Applicable
MW-11D	Deep well	Not measured	October 7	October 7	Not Applicable
MW-12	Deep well	October 5	Not Sampled	October 5	Not Applicable
MW-13	Deep well	October 5	October 7	October 7	Not Applicable
MW-17	Shallow well	May 7 & October 5	Not Sampled	October 5	Not Applicable

TABLE 2-1 (continued)
COMPLIANCE MONITORING ACTIVITIES – 2015

Location	Description	NAPL Measurement	Sampled for Lab Analysis	Water Level Measurements Completed	Visual Field Evaluations
Groundwater Monitoring Wells (continued)					
MW-18	Deep well	Not measured	October 7	October 7	Not Applicable
MW-19	Deep well	Not measured (blocked at ~47 Fbtoc)	Not Sampled	October 7	Not Applicable
P-106	Deep well	October 7	Not Sampled	October 5	Not Applicable
WE 89-5S	Gilbane	Not measured	Not Sampled	May 4 & October 5	Not Applicable
WE 89-6S	Gilbane	Not measured	Not Sampled	May 4 & October 5	Not Applicable
WE 89-7S	Gilbane	Not measured	Not Sampled	May 4 & October 5	Not Applicable
FLA-1	Gilbane	Not measured	Not Sampled	May 4 & October 5	Not Applicable
FLA-4	Gilbane	Not measured	Not Sampled	May 4 & October 5	Not Applicable
Passive Recovery Wells					
RW-101	Amended Cap	Same dates as water level measurements	Not Sampled	Apr 13-14; May 11; Jun 10-12; Jul 8; Aug 4-5; Sep 1-2; Sep 29-30; Oct 26-28; Nov 23-24	Not Applicable
RW-102	Amended Cap	Same dates as water level measurements	Not Sampled	Apr 13-15; May 11-13; Jun 10-12; Jul 8-10; Aug 4-6; Sep 1-3; Sep 29-Oct. 1; Oct 26-28; Nov 23-24	Not Applicable
RW-103	Amended Cap	Same dates as water level measurements	Not Sampled	Apr 13-15; May 11-13; Jun 10-12; Jul 8-10; Aug 4-6; Sep 1-3; Sep 29-Oct. 1; Oct 26-28; Nov 23-25	Not Applicable
RW-104	Amended Cap	Same dates as water level measurements	Not Sampled	Apr 13-15; May 11-13; Jun 10-12; Jul 8-10; Aug 4-6; Sep 1; Sep 29-Oct. 1; Oct 26-28; Nov 23-25	Not Applicable
RW-105	Amended Cap	Same dates as water level measurements	Not Sampled	Apr 13-14; May 11; Jun 10-11; Jul 8-9; Aug 4-6; Sep 1; Sep 29-30; Oct 26-27; Nov 23-24	Not Applicable
RW-106	Amended Cap	Same dates as water level measurements	Not Sampled	Apr 13; May 11; Jun 10-11; Jul 8; Aug 4; Sep 1; Sep 29; Oct 26; Nov 23	Not Applicable
RW-107	Amended Cap	Same dates as water level measurements	Not Sampled	Apr 13; May 11; Jun 10-11; Jul 8; Aug 4; Sep 1; Sep 29; Oct 26-27; Nov 23	Not Applicable
RW-108	Amended Cap	Same dates as water level measurements	Not Sampled	Apr 13-15; May 11-13; Jun 10-12; Jul 8-10; Aug 4-6; Sep 1-3; Sep 29-Oct. 1; Oct 26-28; Nov 23-25	Not Applicable
RW-109	Amended Cap	Same dates as water level measurements	Not Sampled	Apr 13-15; May 11-13; Jun 10-12; Jul 8-10; Aug 4-6; Sep 1-3; Sep 29-Oct. 1; Oct 26-28; Nov 23-25	Not Applicable
RW-110	Amended Cap	Same dates as water level measurements	Not Sampled	Apr 13; May 11; Jun 10; Jul 8; Aug 4; Sep 1; Sep 29; Oct 26; Nov 23	Not Applicable
RW-111	Vertical Barrier	Same dates as water level measurements	Not Sampled	January 21, May 4 & October 5	Not Applicable
RW-112	Vertical Barrier	Same dates as water level measurements	Not Sampled	January 21, May 4 & October 5	Not Applicable
RW-113	Vertical Barrier	Same dates as water level measurements	Not Sampled	January 21, May 4 & October 5	Not Applicable
RW-114	Vertical Barrier	Same dates as water level measurements	Not Sampled	January 21, May 4 & October 5	Not Applicable

TABLE 2-1 (continued)
COMPLIANCE MONITORING ACTIVITIES – 2015

Location	Description	NAPL Measurement	Sampled for Lab Analysis	Water Level Measurements Completed	Visual Field Evaluations
Passive Recovery Wells (continued)					
RW9+80	West Bank and Amended Cap	Same dates as water level measurements	Not Sampled	Apr 13; May 11; Jun 10; Jul 8; Aug 4; Sep 1; Sep 29; Oct 26; Nov 23	Not Applicable
RW10+25	West Bank and Amended Cap	Same dates as water level measurements	Not Sampled	Apr 13; May 11; Jun 10; Jul 8; Aug 4; Sep 1; Sep 29-30; Oct 26; Nov 23	Not Applicable
RW11	West Bank and Amended Cap	Same dates as water level measurements	Not Sampled	Apr 13; May 11; Jun 10; Jul 8; Aug 4; Sep 1; Sep 29; Oct 26; Nov 23	Not Applicable
RW14	West Bank and Amended Cap	Same dates as water level measurements	Not Sampled	Apr 13; May 11; Jun 10; Jul 8; Aug 4; Sep 1; Sep 29-30; Oct 26; Nov 23	Not Applicable
Amended Cap Monitoring					
T8 to T13	Visual Sheen Monitoring	Not Applicable	Not Applicable	Not Applicable	Apr 13-15; Apr 30; May 11-13; May 29; Jun 10-12; Jun 25; Jul 8-10; Jul 22; Aug 4-6; Aug 20; Sep 1-3; Sep 16; Sep 28-Oct 1; Oct 15; Oct 26-28; Nov 13; Nov 23-24
Amended Cap T9–T12+50	Cap termination inspections	Not Applicable	Not Applicable	Not Applicable	Apr 13; May 13; Jun 12; Jul 8; Aug 6; Sep 3; Sep 29-Oct 1; Oct 26; Nov 25
Amended Cap T9–T12+50	Bathymetric Survey	Not Applicable	Not Applicable	Not Applicable	Not surveyed in 2015
Amended Cap T9-T12+50	Settlement Plate Survey (9 plates on Amended Cap)	Not Applicable	Not Applicable	Not Applicable	May 7 and August 25
Sediment Transport Monitoring					
Outlet to Lake	Automated stage recording and stormwater sampling	Not Applicable	Not Sampled	April 15 – November 25	Not Applicable

TABLE 2-1 (continued)
COMPLIANCE MONITORING ACTIVITIES – 2015

Location	Description	NAPL Measurement Performed	Sampled for Laboratory Analysis	Water Level Measurements Completed	Visual Field Evaluations
Surface Water Monitoring					
Outlet to Lake T1+50W80	Surface Water	Not Applicable	September 22	Not Applicable	Not Applicable
Cap Monitoring					
Area 1: T5+00-E20	Cap coring location	Not Applicable	September 23	Not Applicable	September 23
Area 1: T6+00-E60	Cap coring location	Not Applicable	September 23	Not Applicable	September 23
Area 1: T8+00-E40	Cap coring location	Not Applicable	September 24	Not Applicable	September 24
Area 3: T15+50-E100	Cap coring location	Not Applicable	September 24	Not Applicable	September 24
Area 3: T16+50-E150	Cap coring location	Not Applicable	September 24	Not Applicable	September 24
Area 4/5: T17+00-E400	Cap coring location	Not Applicable	September 22	Not Applicable	September 22
Area 4/5: T21+00-E25	Cap coring location	Not Applicable	September 22	Not Applicable	September 22
Area 4/5: T21+00-E50	Cap coring location	Not Applicable	September 22	Not Applicable	September 22
Area 8: T1+00-E50	Cap coring location	Not Applicable	September 23	Not Applicable	September 23
Area 8: T2+00-E100	Cap coring location	Not Applicable	September 21	Not Applicable	September 21
Area 8: T3+00-E100	Cap coring location	Not Applicable	September 21	Not Applicable	September 21
Area 8: T3+00-E300	Cap coring location	Not Applicable	September 21	Not Applicable	September 21

TABLE 2-1 (continued)
COMPLIANCE MONITORING ACTIVITIES – 2015

Location	Description	NAPL Measurement Performed	Sampled for Laboratory Analysis	Water Level Measurements Completed	Visual Field Evaluations
Biological Monitoring					
Area 8: T1+00E50	Benthic macroinvertebrate, TOC, AVS/SEM & grain size sampling and aquatic vegetation monitoring	Not applicable	September 23	Not applicable	September 23
Area 1: T6+00E60	Benthic macroinvertebrate, TOC, AVS/SEM & grain size sampling and aquatic vegetation monitoring	Not applicable	September 23	Not applicable	September 23
Area 4/5: T21+00E50	Benthic macroinvertebrate, TOC, AVS/SEM & grain size sampling and aquatic vegetation monitoring	Not applicable	September 22	Not applicable	September 22
Outlet Weir					
Outlet Weir to Lake Champlain	Visual inspection for integrity and elevation survey	Not applicable	Not applicable	Not applicable	September 26

2.1 GROUNDWATER

2.1.1 Groundwater Level Measurements

Groundwater level measurements were performed according to *Site Specific Method #9 - Water Level Measurements*, and recorded in field log books (Appendix 1). Groundwater level measurements in shallow wells for potentiometric map generation were performed on October 5, 2015 and the data are summarized in Appendix 2, along with historical data from the Vertical Barrier monitoring, Additional Remedial Investigation – ARI (JCO, 1997), Pre-Construction Phase, and Construction/Post Construction phase groundwater monitoring events. Canal stage measurements were made at the railroad equipment bridge, the outlet weir, and at staff gauge SG#8 installed circa transect T9+00 in the Canal, during the 2015 groundwater, cap, and biological monitoring events; those data are also included in Appendix 2. Groundwater level measurements performed at the time of groundwater sampling are included in the data printouts in Appendix 3: Summary of all Analytical Data and Groundwater Field Data.

Lake Champlain stage data for the period of groundwater level measurements were downloaded from the USGS web page for Station 04294500 at ECHO at the Leahy Center for Lake Champlain in Burlington, Vermont; the data are included in Appendix 4. The Lake stage data obtained from USGS are provided in reference to the 1929 National Geodetic Vertical Datum (NGVD29) and were adjusted to conform to the datum used at the Site (including the benchmark used to determine the Canal stage) which is the 1988 North American Vertical Datum (NAVD88). According to the Vermont Department of Transportation (VT DOT, 2001), the adjustment factor between the 1929 and 1988 datum is 0.48 feet (the 1988 datum is lower). Climate data from Burlington Airport were also obtained for the period of groundwater sampling and monitoring as required by the CMWP and are also included in Appendix 4.

An evaluation of these data, including potentiometric maps, is included in Section 4.1.1.

2.1.2 Groundwater Sampling

Groundwater samples were collected October 5-7, 2015 from 21 wells:

MW-9A & B	MW-20A & B
MW-21A & B	MW-22A & B
MW-23B	MW-24A & B
MW-25B	MW-26A & B
MW-27A & B	MW-28A & B
MW-11D	MW-13
MW-18	

The locations of the sampled wells are shown on Figure 2-1.

All samples were collected according to *Site Specific Method #8 - Groundwater Sampling of Monitoring Wells: Water Quality* using dedicated bladder pumps (with the exception of well MW-23B, which was sampled with a peristaltic pump as specified in the CMWP). Installation depths of the pumps are listed on the field sampling forms which are included in Appendix 1 and also in the well purging summary in Appendix 3. Field parameter measurements made during sampling were also recorded on field forms. A summary of the results of the field parameter measurements is provided in Appendix 3. All non-dedicated sampling equipment was decontaminated between wells according to *Site Specific Method #27 – Decontamination of Field Equipment*.

Sampling dates are listed in Table 2-1 and in the summary tables in Appendix 3. No field parameters were measured during sampling of well MW-23B due to the historical presence of NAPL in that well. In accordance with the Quality Assurance Project Plan (QAPP), the appropriate QA/QC samples were delivered with the samples under chain-of-custody (COC) protocol to Lancaster Laboratories, Inc. of Lancaster, Pennsylvania. Copies of the COC forms are included in Appendix 5, and full analytical reports are included in Appendix 6. A discussion of the groundwater analytical results is presented in Section 4.1.2.

2.1.3 NAPL Monitoring – Groundwater Monitoring Wells

The NAPL monitoring portion of the groundwater monitoring program was performed or attempted on October 5-6, 2015, in accordance with Section 4.1.4 of the CMWP Field Sampling Plan (FSP), in the following wells:

MW-1B	MW-3C
MW-4	MW-4B
MW-8A	MW-12
MW-13	MW-17
MW-19	P-102
P-104	P-106
MW-23A	MW-23B

Well MW-19, located on the beach of Lake Champlain, was previously damaged in 2013, and still contains an obstruction circa 47 feet below the top-of-casing which prevented access to the bottom of the well. P-102, P-104 and P-106 also contained obstructions and therefore complete NAPL monitoring was not possible in these wells. MW-8A was not monitored because it could not be located with a metal detector or shovel.

The NAPL monitoring results from these events are presented in Section 4.1.3 and Appendix 3, along with all available historical results. The locations of, and monitoring results for, the monitoring wells tested for the presence of NAPL in October 2015, are shown on Figure 2-2. All recovered NAPL, and associated personal protective equipment (PPE) and disposable sampling equipment were stored on-Site in drums and plastic totes for eventual transport off-site to an approved disposal facility.

2.1.4 NAPL Monitoring/Removal – NAPL Recovery Wells

Monthly NAPL monitoring and removal was performed from April through late November 2014 in the following wells:

RW-101	RW-102
RW-103	RW-104

RW-105	RW-106
RW-107	RW-108
RW-109	RW-110
RW9+80	RW10+25
RW11	RW14

In addition, NAPL monitoring was performed in January, May and October 2015 in wells RW-111, RW-112, RW-113 and RW-114.

OMMP NAPL monitoring and removal in wells adjacent to the Amended Cap was conducted monthly from April through November, 2015. During each event, NAPL thickness and water depth were measured in each of the wells using a steel measuring tape. If DNAPL thickness was observed greater than 0.1 foot (0.3 feet in the large-diameter 18 inch wells: RW9+80, RW10+25, RW11, and RW14) on the first day of each event, it was removed using a suction pump until approximately less than 10% of the fluid extracted contained NAPL based on visual observation. DNAPL was removed if it was present at thicknesses greater than 0.1 feet for three consecutive days during each monitoring event. Results of the NAPL monitoring and removal activities are summarized in Section 4.1.4. The locations of the recovery wells and other monitoring locations are shown on Figures 2-2 and 2-3.

2.2 SURFACE WATER

Monitoring of surface water quality at the Site was conducted at the outlet of the Turning Basin to Lake Champlain to assess the potential transport of contaminants to Lake Champlain during a non-precipitation period. Surface water samples for polycyclic aromatic hydrocarbon (PAH) analysis were collected from the Turning Basin outlet up-stream from the railroad bridge on September 22, 2015 (see Figure 2-4). The FSP anticipated that samples would be collected immediately preceding the cap coring event and after five consecutive days of no measured precipitation greater than two-tenths of an inch (0.2 in.) registered at Burlington Airport. This criterion was met for the 2015 sampling event, with a combined total of 0.13 inches of rain was

recorded (0.11 inch on September 19 and 0.02 inch on September 20; two to three days prior to the surface water sampling event).

The surface water samples were collected as discrete grab samples in accordance with *Site Specific Method #35 For Surface Water Sampling of Non-volatile Constituents.* In accordance with the FSP, the samples were not filtered. All samples were stored in an iced cooler until their delivery to the laboratory under chain-of-custody. The samples were analyzed by Lancaster Laboratories, Inc. for the 17 Pine Street PAHs by EPA Method 8270. The surface water monitoring results are summarized in Appendix 3 and discussed in Section 4.2.

2.3 CAP MONITORING

2.3.1 Cap Chemistry

Coring of the constructed caps in Areas 1, 3, 8, and in the non-capped Area 4/5 was conducted from September 21-24, 2015. The data were collected to evaluate the effectiveness of the caps in protecting benthic fauna from direct contact with contaminated sediments at unacceptable levels, and to verify that contaminant migration within the cap does not cause exceedances of benchmark concentrations over time. The scope of this cap monitoring did not include cap coring in Area 2 (consistent with the OMMP and recent previous monitoring events) because a large portion of Area 2 contains the Amended Cap.

A grid system based on the transects used in the ARI (JCO, 1997) was developed for random selection of sediment monitoring locations within Areas 1, 3, 4/5, and 8. This grid system was based on east-west Transects through the Turning Basin and Canal at 100 foot intervals and in wetland areas in Areas 3 and 4/5 at approximately 50-foot intervals in the north-south direction. The Turning Basin and Area 3 grids include points spaced 50 feet apart along transects in the east-west direction. The Area 4/5 grid has points spaced 20 feet apart in the east-west direction. Three locations on each transect at 20, 40, and 60 feet offsets from the West Bank of the Canal were included in the sample location selection grid. The purpose of the grid system was to define the array of possible sampling locations from which the *Site Specific*

Method No. 77 for Stratified Random Selection of Sample Location was used to determine the coring locations. The number of randomly chosen specific sampling locations was as follows: four in Area 8, three in Area 1, two in Area 3, and three in Area 4/5. Core locations for sampling and chemical analysis were selected at the following specific locations (as shown on Figure 2-5):

Area 8 (Turning Basin)

J_T1+00-E50
J_T2+00-E100
J_T3+00-E100
J_T3+00-E300

Area 1 (northern Canal)
J_T5+00-E20
J_T6+00-E60
J_T8+00-E40

Area 3 (wetlands cap)
J_T15+50-E100
J_T16+50-E150

Area 4/5 (non-capped wetlands & tributary area)
J_T17+00-E400
J_T21+00-E25
J_T21+00-E50

The depth intervals from which samples were collected for chemical analysis varied between study areas as specified in the CMWP. The intervals in Areas 1, 3, and 8 for the randomly selected locations included surface (0 - 10 cm) and mid-cap depths. The mid-cap intervals were determined to be the approximate middle third of the cap based upon field measurements at the time of sampling. Sample intervals in the non-capped Areas 4/5 were surface only (0 - 10 cm). Cap and sediment samples were collected from the 12 locations described above and submitted for laboratory analyses between September 21 and 24, 2015.

A minimum of two replicate samples were collected from each random coring location. Samples were composited on-site in accordance with *Site Specific Method No. 26 for Preparation of Soil/Sediment Composite Sample for Non-Volatile Constituents*, and the

composited samples were placed in the laboratory-supplied sample containers. Samples for analysis were shipped in chilled coolers under Chain-of-Custody in accordance with *Site Specific Method No. 7 For Chain-of-custody Records* to Lancaster Laboratories, Inc. where they were analyzed for: SVOCs (17 PAHs) by EPA 8270C; metals (RCRA 8 plus Cu and Zn) by EPA 6010b; Total Organic Carbon (TOC) by Lloyd Kahn Method; and percent solids. Results of the chemical analyses are summarized in Appendix 3 and discussed in Section 4.3.1.

In the Canal and Turning Basin (Areas 1 and 8), subaqueous cap core samples were collected from a barge in butyrate core liners using a two-inch diameter, 3-foot long Wildco™ corer equipped with a positive closure ball valve device at the top of the core liner. No baskets or other retaining devices were used below the liner. The Wildco™ corer was advanced by hammering it into the cap with a sledge hammer. The barge was held in position by ropes attached to anchors or trees on-shore, and the position was verified with a Trimble sub-meter global positioning system (GPS). Submersible anchors or spud poles were not used during cap coring.

The cap thickness was determined at each subaqueous sampling location prior to the collection of the cores by pushing or hammering a fiberglass rod into the cap to refusal (the geotextile layer). The Wildco™ corer was then advanced to either the bottom of the cap (represented by the location of the geotextile), or the full length of the core barrel (36 inches), whichever was shorter. Each core was advanced through the entire cap thickness or to the maximum 36-inch core barrel length and a minimum of two replicate cores were collected from each location. Recovery was sufficient in at least one of the replicates at each location (minimum of 42%, and an average of 64% of the core penetration/cap thickness) to provide sufficient volume of sample from the middle third of the cap as required for laboratory analysis. The cap thicknesses at the sampling locations ranged between 25 and 46 inches.

The samples from Area 3 were collected using a decontaminated Dutch soil auger which was advanced to refusal on the geotextile beneath the cap. The measured thicknesses of the cap

in Area 3 at the two sampling locations were 12 and 15 inches. Samples from Areas 4/5 were collected with the auger or a steel spade. All sampling equipment was decontaminated between locations in accordance with *Site Specific Method No. 27 for Decontamination of Field Equipment*.

2.4 AMENDED CAP MONITORING

2.4.1 Amended Cap Settlement Plate Survey

On August 25, 2015 a survey was completed by LRS of the nine settlement plates installed on the Amended Cap in 2010. The work was completed in general accordance with the September 16, 2011 OMMP conditionally approved by EPA on October 28, 2011. The settlement plates were initially surveyed following their installation on December 10, 2010 by LRS, and have been surveyed at approximately 6-month intervals since 2011.

Survey measurements of the settlement plate elevations were made using a total station and reported to +/- 0.1 foot vertical accuracy using the NAVD88 datum. Location measurements were performed using a total station transit. Existing LRS temporary benchmarks were used as positional control for the location survey. The location survey was performed with +/- 0.1 foot horizontal accuracy and referenced to the Vermont State Plane, NAD83 datum. Results of the survey are presented in Section 4.4.2.

2.4.2 Visual Sheen Monitoring

Visual Sheen inspections were conducted bi-weekly from April to November in 2015. Visual sheen monitoring was conducted at 43 different locations in the vicinity of the Amended Cap between T8 and T13 (11 locations along each of the east and west banks spaced 50 feet apart and 21 locations along the middle of the Canal spaced 25 feet apart). At each location, the surface of the water was observed for five minutes in each direction (northeast and southeast along the west bank, northwest and southwest along the east bank, and north, south, east, and west from positions in the middle of the Canal). The purpose of these inspections was to note the presence of gas bubbles (and any associated sheens or NAPL) rising to the surface of the

Canal near the Amended Cap. Results of the sheen monitoring conducted in 2013 are summarized in Section 4.4.3.

2.4.3 Cap Termination Inspections

Visual inspections of the edges of the Amended Cap were conducted on a monthly basis from April to November 2015. Results of these inspections are provided in Section 4.4.4.

2.5 BIOLOGICAL MONITORING

2.5.1 Benthic Survey

Benthic macroinvertebrate and sediment sampling was performed on September 22 and 23, 2015. Samples were collected in Areas 8, 1, and 4/5 using an Ekman grab sampler, as described in *Site Specific Method #28 For Sediment Sampling Using Ekman Grab*. Three replicate benthic macroinvertebrate samples and a composite physical/chemical parameter sample were collected at each sampling location. Sample locations were selected in Area 8, Area 1, and Area 4/5 using the Stratified Random Sampling Method described in *Site Specific Method #77 For Stratified Random Selection of Sample Location* of the CMWP. The portion of Area 2 that has been covered by the Amended Cap was not included in the sediment or macroinvertebrate sampling program. The sample locations are shown on Figure 2-5, and are described below:

- Turning Basin, Area 8: J_T1+00E50
- Canal, Area 1: J_T6+00E60
- Area 4/5: J_T21+00E50

Each benthic macroinvertebrate sample was passed through a #30 sieve bucket in the field to collect the macroinvertebrates. The macroinvertebrate samples were preserved in the field with denatured ethanol, and delivered within 30-hours to Aquatec Biological Services, Williston, Vermont, for enumeration and taxonomic identification. The enumeration and identification were performed following the protocols presented in Appendix F of the Vermont Indirect Discharge Permit rules consistent with the CMWP. Composite sediment samples

collected concurrently with the macroinvertebrate samples were also prepared for Acid Volatile Sulfide/Simultaneously Extracted Metals (AVS/SEM), Total Organic Carbon (TOC), and grain size analysis following CMWP *Site Specific Method #80 For Preparation of Soil/Sediment Sample for AVS/SEM Analysis* and *Site Specific Method #26 For Preparation of Soil/Sediment Composite Sample for Non-Volatile Constituents*, respectively. The sediment samples were sent to Lancaster Laboratories, Inc. for AVS/SEM, TOC (Lloyd Kahn Method), and grain size (ASTM-D422) analyses. Benthic survey monitoring data are summarized in Appendix 3 and discussed in Section 4.5.1.

2.5.2 Aquatic Vegetation

Observations of aquatic vegetation over the subaqueous cap on the Site were made on September 22-23, 2015, during the benthic macroinvertebrate sampling. The results of the qualitative vegetation monitoring are presented in Section 4.5.2.

2.6 WEIR INSPECTION

The outlet weir was inspected for settlement, erosion and integrity; the elevations of the weir and the adjacent railroad bridge were surveyed on August 26, 2015. The inspection included a visual assessment of those portions of the weir above ground, as well as a visual assessment of the integrity of portions of the rip-rap. Autolevel survey measurements were collected to determine the relative elevations of the weir abutments and the railroad bridge abutments. Results of the inspection and survey of the weir are presented in Section 4.6.

2.7 SEDIMENT TRANSPORT MONITORING

2.7.1 Trigger Stage Modeling

For 2015, a trigger stage elevation of 97.55 feet NAVD88 was utilized. The CMWP specifies that the trigger stage elevation be set at the highest previously measured storm stage elevation during which outlet water quality samples did not contain detectable contaminant concentrations exceeding the laboratory reporting limits. The 97.55 feet elevation trigger limit was defined during a stormwater event sampled in October 20, 2012. During that storm the

highest Canal stage elevation measured was 97.55 feet and the laboratory analysis of the composite water sample collected from the Turning Basin outlet during the storm did not report contaminant concentrations above the reporting limits.

2.7.2 Stormwater System Setup and Monitoring

The stormwater sampling system was installed on April 15, 2015. The stormwater sampling system is comprised of an ISCO Model 3700 automated sampler connected to a DataTaker DT80M (Thermo Fisher Scientific) data logger with an internal cellular modem which is programmed to monitor surface water stage level fluctuations in the Canal on hourly intervals. An electronic tipping bucket rain gage was installed to track hourly rainfall. All components were calibrated to ensure accurate measurements, and the data logger was programmed. If the Lake stage is below the top of the weir, and the Canal trigger elevation is exceeded, the program initiates sampling by sending an alarm text message to a dedicated cell phone three times, and then pulsing the ISCO sampler. The program is written so subsequent samples are then automatically collected hourly for 12 hours. One 10-psi Campbell Scientific pressure transducer was used to monitor stage fluctuations in the Canal, approximately 80 feet east of the weir.

A transducer was not placed in the Lake during the 2015 season, as described in the CMWP, because of periodic damage to the transducer cable by beavers in previous years. Instead, the Lake stage elevation was monitored on an on-going basis during the monitoring period via the United States Geological Survey's (USGS) website by downloading continuous stage elevation data from USGS Gaging Station #4294500 (Lake Champlain at Burlington VT) to determine if the Lake level was below the elevation of the outlet weir during the sampling season. Successful function testing of the stormwater system was performed on April 15th, 2015.

The ISCO sampler was connected via Teflon-lined tubing to a stainless steel intake tube set in the western-most deep portion of the Turning Basin, approximately 80 feet east of the weir, at approximately 0.6 feet above the bottom. An internal wireless modem connected to the data

logger enabled routine data transfer from the data logger via e-mail on a three day interval. Additionally, the wireless modem allowed the data logger to make an alarm call to JCO personnel announcing if sampling had been initiated in the event of a Canal stage trigger elevation exceedance. The location of the stormwater sampling intake and pressure transducer is shown in Figure 2-4. All above-water system components were located inside a locked enclosure adjacent to the Turning Basin throughout the monitoring season.

The lake level was above the elevation of the weir from initial setup in April until approximately May 18th, and again from approximately June 15th until August 6th. During these periods, the automated sampler was disabled, as it is a requirement that the lake level be below the elevation of the weir to ensure that potential samples represent water that is flowing from the canal to the lake.

2.8 RESTORATION AREA MONITORING

Two monitoring events of the post-Amended Cap remediation restoration efforts were conducted at the Pine Street Canal Site; on June 10, 2015 and September 24, 2015. Monitoring of the off-site restoration area at the Ethan Allen Homestead was conducted on June 11, 2015. The results of these monitoring events are summarized in Section 4.8, and the full Restoration Area Monitoring Report is provided in Appendix 9.

3.0 LABORATORY RESULTS AND QA/QC

3.1 LABORATORY RESULTS AND VALIDATION

Chemical analyses for surface water, groundwater, and cap chemistry samples (surface and mid-cap cores) collected during the summer and fall 2015 compliance monitoring were performed by Eurofins Lancaster Laboratories, Inc. (Lancaster). Summary tables of all analytical results and groundwater field parameters are presented in Appendix 3. Enumeration and taxonomic identification of macroinvertebrate samples was performed by Aquatec Biological Services, Williston, Vermont. Composite sediment samples collected concurrently with the macroinvertebrate samples were analyzed for acid volatile sulfide/simultaneously extracted metals (AVS/SEM), total organic carbon (TOC), and grain size by Lancaster.

Summaries of the reported results for equipment blanks and other quality control samples associated with field procedures which were not independently validated and Quality Assured (QA) are presented in Section 3.2.

The September 2015 cap core sample group was validated by the Independent Data Validator (IDV), Phoenix Chemistry Services, Inc., per the schedule outlined in the CMWP. In accordance with Table 4-1 of the QAPP, 10 percent of the water samples are subject to independent data validation. The data validation for 2015 water samples was previously performed on the spring 2015 groundwater sample group, thereby fulfilling this requirement.

Consistent with the requirement that all cap core data be independently validated, the laboratory reports for the cap core samples were delivered to the IDV for validation. Sections of the IDV report on the validated sample delivery group for the cap core samples collected September 21- 25, 2015 (Lancaster SDG Nos. PSC24 and PSC27) were received at JCO from December 7-16, 2015. Discussions of the independently validated quality control sample results for the cap core samples are presented in Section 3.4.2.

3.2 LABORATORY QUALITY ASSURANCE ON NON-VALIDATED DATA

Surface Water –September 2015

The September 2015 surface water sample was collected September 22, 2015 and shipped via overnight courier on September 24th along with a duplicate, a field blank, and matrix spike/matrix spike duplicate to Lancaster under chain-of-custody protocol. A Procedure Deviation Alert (PDA) has been prepared documenting incorrect SIN designations on the chain-of-custody and sample labels for the field duplicate and field blank respectively. The PDA is included with this report in Appendix 8. The laboratory report (SDG PSC25), received on October 7, 2015, reported no detectable concentrations of PAHs in the surface water sample (J_T1+50W80, SIN 0179-24) or in the field blank (J_SW-FB, SIN 0123-22FB). The laboratory reported very low estimated concentrations (J) in the field duplicate (J_SW-DP, SIN 0122-24DP) of 0.1-0.2 micrograms per liter (μg/L) for benzo(b)fluoranthene, fluoranthene, and pyrene. The limit of quantitation (LOQ) was 0.5 μg/L and the method detection limit was 0.1 μg/L.

The laboratory narrative (included in the laboratory report for SDG PSC25 in Appendix 6) indicates that the analyses of the field samples and associated method blank, lab control sample (LCS) blank spike, matrix spike (MS), matrix spike duplicate (MSD) and surrogate recoveries were all within the method-prescribed quality control (QC) criteria.

Sediment Grab Samples Associated with Biological Monitoring – September 2015

Sediment grab samples collected September 22-23, 2015 with the benthic macroinvertebrate samples were analyzed for percent solids, TOC, and AVS/SEM. The sample group for macroinvertebrate inventory was field preserved and delivered to Aquatec Biological Sciences on September 23, 2014. The samples specified for AVS/SEM, TOC, grain size, and percent solids were shipped via overnight courier to Lancaster. The samples were received chilled at 1.5 º centigrade. The narrative in the lab report for benthic samples (SDG PSC26 in Appendix 6) reported no difficulties with the analyses of grain size and TOC. However, abnormally high TOC concentrations with respect to historical data were reported. When questioned by JCO, Lancaster provided further information on the TOC analyses, and produced a

revised report of TOC analysis on December 16, 2015. The abnormally high TOC results were caused when the subcontracting laboratory, Eurofins Spectrum (Agawam, MA) provided results to Lancaster that were reported in dry weight. Lancaster then incorrectly adjusted the Spectrum results again to dry weight, causing order-of magnitude higher TOC results. The revised data reflecting the correct TOC concentrations was added to the JCO database. A summary of the correct TOC concentrations is included with this report as Appendix 3, and copies of the revised analytical reports are included as Appendix 6.

Copper, lead, and zinc were reported present in the sediment parent and field duplicate samples, J_T6+00E60 (SIN 0489-13) and J_0182-12DP (SIN 0182-13DP), respectively. The relative percent difference (RPD) for lead exceeded the 50% acceptable limit for solid samples as specified in the QAPP. The RPD between the two samples was 173% for lead. However, the laboratory performed an analysis of a lab duplicate (lab sample identification 0489-13DUP), which exhibited an RPD of 7% for lead, when compared with the parent sample, indicating variation in the sediment, rather than lab errors. RPDs of the parent and field duplicate samples were 10% for AVS by wet chemistry, 9.2% for TOC, 24% for copper, and 17% for zinc, all of which were within the 50% acceptance limit. Other quality issues associated with the laboratory analyses included:

- detection of lead in the laboratory method blank;
- unacceptably low recoveries of copper, lead, zinc and mercury in the matrix spike and/or matrix spike duplicate samples;
- an unacceptably high RPD (41%) above the 20% limit for AVS analyses of the parent and lab prepared duplicate sample. However, the result of the parent and duplicate samples were less than five times the LOQ.

Some of the quality issues described above may be due to inherent variability in the sediments, variation due to collection and/or decanting procedures, and/or interference from the matrix composition. However, the QA/QC data indicate insufficient accuracy and/or reproducibility for copper, lead, zinc, mercury and AVS/SEM analyses. Therefore, the reported

values for these analytes have been flagged as estimated in the JCO data base with a "J" or "UJ" as appropriate.

Groundwater Samples - October 2015

The fall 2015 groundwater sampling was conducted October 5-7, 2015. The samples were collected into laboratory supplied preserved containers (as appropriate) and delivered on ice at temperatures between 0.4 – 2.8º centigrade under chain-of-custody procedures to Lancaster for analysis by Methods 8260B, 8270C, 6010B, 6020 and 7470A. Lancaster assigned the fall 2015 samples to the following sample delivery groups: PSC28 and PSC29. The final laboratory reports were received October 20-22, 2015 and are provided in Appendix 6. Splits of the groundwater samples collected at J_MW-21B (SIN 0082-33) and T_MW-25B (SIN 0500-04) were used as replicate (RP), MS and MSD samples. Spike recoveries and reproducibilities were all within Pine Street QAPP guideline limits.

Three trip blanks were collected and analyzed with the fall 2015 groundwater samples. Two field blanks were submitted with the fall 2015 samples. The laboratory data reported by Lancaster indicated no compounds or analytes present in any of the field, trip or laboratory blanks analyzed with the groundwater sample groups.

With respect to the two field duplicate sample pairs, detectable concentrations in the parent (J_MW-22A; SIN 0081-33) and field duplicate sample (J_0085-33DP) were reported for numerous analytes. The RPDs calculated for the results above the LOQ of the field duplicate pairs were all far below the maximum limit of 30% for aqueous field duplicate reproducibility. No detectable compounds were reported in the duplicate pair collected at T_MW-25B (SIN 0500-04) and its duplicate T_0509-04DP (SIN 0509-04DP).

3.3 FIELD PROCEDURES QA

Field sampling procedures were performed during the reporting period in conformance with the site specific methods and procedures listed in the QAPP and FSP, except where

documented otherwise (see Procedure Deviations below). QA/QC batch samples (i.e., field duplicates, equipment blanks, matrix spike, matrix spike duplicates, and trip blanks) were collected and submitted with each respective sample group to the laboratory for analysis per the QAPP.

Field Calibration

All field and monitoring instruments were calibrated in accordance with applicable Site Specific Methods and manufacturer's instructions. The calibration log sheets are included with the field forms in Appendix 1.

Procedure Deviations

Procedure Deviation Alerts (PDAs) have been prepared for any apparent discrepancies with Site Specific Methods that were brought to the attention of the QA/QC Officer by the Field Manager or technicians, or that were discovered by the QA/QC Officer during review of project documentation during audits.

Copies of all PDAs for the monitoring activities described in this report are included in Appendix 8, and are primarily attributed to incorrect sample identifications on sample labels and the accompanying chains of custody. No adverse impacts to the quality of the data set have occurred due to the minor deviations from the Site Specific Methods which occurred during the monitoring period.

Project Database

Laboratory analytical data, once received from the laboratory (and/or the Independent Data Validator, if applicable), were logged and entered into The Johnson Company database for each applicable sample media. Electronic entries were back-checked against the lab sheets by a second Johnson Company scientist following their addition to the databases. All updated entries were observed to be correctly entered.

3.4 INDEPENDENT DATA VALIDATION

3.4.1 Overview

The IDV for the project is Deborah Gaynor, Ph.D., Phoenix Chemistry Services of North Ferrisburg, Vermont. In accordance with Table 4-1 of the QAPP, an annual minimum of 10 percent of the water samples (e.g., groundwater, surface water, and stormwater), and 10 percent of the cap core samples, are subject to independent data validation. Data validation was performed on the spring 2015 groundwater sample delivery group and presented in the Spring 2015 Compliance Monitoring Report. The spring 2015 data validation satisfied the annual minimum requirement for water samples; therefore, no independent data validation was performed on the fall 2015 groundwater or surface water analytical results.

The September 2015 cap coring event consisted of Lancaster Sample Delivery Group Nos. PSC24 and PSC27. Since the September 2015 cap coring is the only such event for the year, all of the cap core data were validated by the IDV.

A summary of the IDV's findings for the cap core analyses is presented in Section 3.4.2 below. The IDV's complete data validation reports are included in Appendix 8.

3.4.2 Cap Core IDV Summary

3.4.2.1 PAHs

Laboratory results for PAH compounds in the September 2015 cap core samples (Lancaster SDG Nos. PSC24 and PSC27) were determined to be valid by the IDV with the following qualifiers:

- On the basis of unacceptable precision in the field duplicate pair, the results for pyrene, acenaphthylene, phenanthrene, anthracene, flouranthene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene and benzo(g,h,i)perylene in the shallow (0-10 cm) core sample J_T15+50E100 and its field duplicate J_0164-13DP were qualified as estimated (J). Acenaphthylene in T15+50E100 was already estimated (J) as it was detected below the sample specific practical quantitation limit (PQL).

- The laboratory appropriately applied "J" qualifiers to the sample results when the concentration of an analyte was less than the sample-specific PQL.

The IDV reported that Chain of Custody records were present and completed accurately.

Data presentation was reported by the IDV as acceptable with the following exceptions:

- Decanting logs were not included in either data package (PSC24 and PSC27).

- There were missing forms in the data package related to instrument tuning, continuing calibration, and internal standards for the group of samples analyzed on October 5, 2015 by the analytical instrument HP 09910. The raw data associated with these analyses included with the data package was reviewed by the IDV, and appropriate criteria were observed to have been met.

- The IDV has requested the missing documentation from the laboratory, which when received, should be maintained in the IDV's report as Appendix C.

3.4.2.2 Inorganics

Laboratory results for the inorganic analytes in the September 2015 cap core samples (Lancaster SDG Nos. PSC24 and PSC27) were determined to be valid by the IDV with the following qualifiers:

- Based on laboratory blank contamination, the results for arsenic and selenium in all samples reported at concentrations below their respective limit of quantitation (LOQ) were qualified as less than the LOQ (U). Field blanks were not qualified based on the laboratory blank contamination.

- Based on field blank contamination, results for cadmium and mercury reported in all samples below their respective LOQ were qualified as less than the LOQ (U). Field blanks were not qualified based on laboratory blank contamination.

- Based on poor precision in the laboratory duplicate pairs, results for barium and copper in all cap core samples in SDG PSC27 were qualified as estimated (J).

- Based on poor reproducibility in an associated field duplicate pair, results for chromium in all cap core samples in SDG PSC27 were qualified as estimated (J).

- Based on the matrix interferences observed in the serial dilution, results for copper in all cap core samples in SDG PSC27 were qualified as estimated (J).

- The laboratory reported all results to the LOQ or reporting limit in the analysis results section of the data package; however, target compounds detected in the associated samples below the LOQ but greater than the MDL were reported on the Form I's with a "J" (estimated) qualifier. The "J" qualifiers were not removed by the validator, unless previously qualified, based on laboratory or field blank contamination (discussed above). Analysis Form I's included in the metals section of the data packages used "B" qualifiers for values less than the LOQs. These Form I's were disregarded in the validation effort since the laboratory also reported results with a non-detect to the concentration of the MDL. As stated in the case narrative (Appendix 6) the Instrument Detection Limits (IDLs) are used for determining the U flags (non-detects) on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The MDLs are used for determining all other U flags.

The IDV reported that Chain-of-custody (COC) and internal COC records were present and completed accurately. Lancaster data presentation was acceptable with the following exception:

- The form documenting analytical instrument tune information (Form 15) was missing from the data package. The tune data was found in the raw data and was observed by the IDV to be acceptable.

- The missing form has been requested from the laboratory and when received, should be maintained in the IDV's report in Appendix C.

3.4.2.3 Total Organic Carbon

Based on the IDV's findings, results for the analyte TOC in all samples were determined to be valid as reported in SDG Nos. PSC24 and PSC27.

- A revised report for the TOC results was submitted to JCO December 16, 2015. The revised report was required since on the original report dated November 23, 2015, analytical weight determination was performed by Eurofins Spectrum prior to the Lloyd Kahn analysis for TOC. The percent moisture correction performed by Lancaster incorrectly raised the TOC results by orders of magnitude. The correct results were re-submitted in the December 16, 2015 revision.

The IDV reported Lancaster documentation (Chain of Custody records) were present and accurately completed for reported samples in this TOC data set. Data presentation was acceptable with the following exceptions:

- Missing raw data for the initial calibration curve performed on instrument TOC2 on July 24, 2015 was requested by the IDV and provided by the laboratory on December 8, 2015.

- The IDV requested that the laboratory verify that correct samples had been analyzed and reported since sample identifiers used within the raw data in SDP PSC27 were not identical to the laboratory IDs used for reporting. The lab reported that the analyst mis-typed the IDs and that the software did not allow corrections, however, the correct samples had been analyzed.

- A revision of the TOC Analysis Reports from Lancaster and the full report from Eurofins Spectrum was submitted for each data package on December 16, 2015. Due to the size, the full data packages have not been attached to the IDV's report. These data packages have been inserted into the previously received reports, replacing the Analysis Reports and TOC sections of the original data packages.

3.5 DATA USABILITY

Based on the IDV reports (Appendix 8), JCO review of the non-validated data, and the overall data quality objectives outlined in Section 1.5 and Section 4.3 of the QAPP (Reconciliation with Data Quality Objectives), all of the laboratory data provided by Lancaster are considered useable for the purposes of Compliance Monitoring.

4.0 DATA SUMMARIES AND EVALUATIONS

4.1 GROUNDWATER

4.1.1 Hydrology

4.1.1.1 General Dynamics (G.P. Burlington North, LLC, or Gilbane)

The CMWP requires a potentiometric analysis of shallow groundwater at the Gilbane property based on data collected from monitoring wells WE-89-5S, WE-89-6S, WE-89-7S, J_FLA-1 and J_FLA-4. It is assumed that these wells, which are screened in the surficial fill unit, are hydraulically connected to the Canal; therefore, the Canal stage was incorporated into the potentiometric evaluation.

The resultant potentiometric maps for the fall 2015 and the previous two monitoring events on the Gilbane property are shown on Figures 4-1 through 4-3. The data from fall 2015 are very similar to those recorded during the previous two events, and indicate flow from the Gilbane property primarily to the north, west and east towards Area 3, the railroad and Areas 4/5, which is generally consistent with the prior monitoring events. The water levels in the wells on the Gilbane property were all at least 1.9 feet above the Canal stage on October 5, 2015.

4.1.1.2 Wells West of Canal

As discussed in the Fall 2000 Pre-Construction Compliance Monitoring Report, the three-zone cross section delineation proposed on Figure 4-1 of the CMWP Field Sampling Plan has been reduced to the two-zone delineation (Zone A and Zone B) that is shown for north-trending cross section P-P' on Figure 4-4 of this report (the P-P' cross section location in plan-view is shown on Figures 2-1, 4-8 and 4-10). Because only two wells are present in the upper sand layer shown on Figure 4-4, a plan view potentiometric map for this stratigraphic unit could not be constructed. Therefore, as with previous reports, only wells screened in the Zone B sandy unit were used to create plan view potentiometric maps for the water level data.

The Zone B potentiometric map for the fall 2015 monitoring event is shown on Figure 4-5. Potentiometric maps for the prior two groundwater monitoring events (May 2014 and October

2013) are shown on Figures 4-6 and 4-7, respectively. The fall 2015 potentiometric data indicate a hydraulic gradient of approximately 0.008 feet/foot from the Canal towards the Lake based upon the water elevations in each. Other than the higher gradient calculated in October 2014 (of approximately 0.01 ft/ft) this is the highest gradient recorded by The Johnson Company since 2009, when the beaver dam at the Canal outlet was retaining approximately 1.1 feet of water above the weir crest. The fall 2015 data indicate that groundwater flow towards the Lake was near its maximum rate during the October 2015 groundwater monitoring event.

The fall 2015 water elevations and gradient in the vicinity of the Vertical Barrier indicate that the Barrier is holding water east of it up to an elevation of approximately 95.8 feet NAVD88 (see Figure 4-5). Water levels in wells on the west (Lake) side of the Barrier are considerably lower, at approximately 94.6 feet NAVD88 near the center of the Barrier. Water levels in wells near the north and south edges of the Barrier (MW-25B and MW-22A&B) are in between, approximately 94.8 to 95.15 feet NAVD88.

4.1.2 Chemistry

Portions of the Site were designated as "Class IV" groundwater in 1993, indicating that the groundwater is not suitable as a source of potable water. This designation acts as one of the institutional controls for the Site, and prohibits licensed well drillers from installing drinking water supply wells in the Class IV area. On January 23, 2006, the configuration of the Class IV area was changed by the Vermont Agency of Natural Resources. This change was made effective following discussions with the Performing Defendants and the EPA, notice to the affected landowners, public notice, and a public comment period. The 2006 delineation of the Class IV area is larger than the 1993 area, and has boundaries that generally follow property lines rather than an amorphous shape, which was difficult to identify in the field. The 2006 boundary is included in this report on applicable figures, including Figures 2-1, 4-8 and 4-10. The western edge of the 2006 boundary is defined as the approximate centerline of the railroad tracks (30 feet due west of the eastern edge of the Vermont Railway/State of Vermont Parcel #053-1-009-000).

A summary of the historical analytical results for all groundwater samples is provided in Appendix 3. The results for the targeted volatile organic, semivolatile organic, and inorganic compounds are discussed in the following subsections. Applicable maximum contaminant levels (MCLs) and Vermont Groundwater Enforcement Standards (VGES) for contaminants of concern which have been reported above one or both levels during Post-construction Monitoring are listed below in µg/L. The MCL is listed in bold type, and the VGES is italicized; **NA** */ NA* are listed if there is not an applicable standard.

- Benzene **5** / *5*
- Toluene **1000** / *1000*
- Ethylbenzene **700** / *700*
- Xylenes **10,000** / *10,000*
- Naphthalene **NA** / *20*
- Anthracene **NA** / *2,100*
- Benzo(a)pyrene **NA** / *0.2*
- Fluoranthene **NA** / *280*
- Fluorine **NA** / *280*
- Arsenic **10** / *10*
- Lead **15** / *15*

4.1.2.1 Volatile Organic Compounds – BTEX & Naphthalene

Figure 4-8 presents a plan view of the Site showing reported concentrations of benzene, toluene, ethylbenzene and xylenes (BTEX) and naphthalene for all wells sampled in October, 2015 as part of the routine long term monitoring program for the Site, including those added in 2014 to monitor the effectiveness of the Vertical Barrier. Reported BTEX and naphthalene concentrations in well clusters along Cross Section P – P' (from north to south: MW-9, MW-20, MW-25, MW-23 and MW-22) are shown on Figure 4-9. This section presents the most recent analytical results, which are further discussed in Section 4.1.2.4.

Eighteen wells along the railroad tracks were monitored for chemical quality. Wells with an "A" are water table wells, and wells with a "B" are deeper wells screened approximately 25-35 feet below ground surface. Eight of the wells had no detections of BTEX compounds or naphthalene in fall 2015; five of these wells were inside the Class IV groundwater boundary. Of

the other 10 wells, three wells within the Class IV groundwater boundary had detections of all four BTEX compounds: MW-22A & B, and MW-23B. These three wells also had detections of naphthalene. MW-23B has historically contained DNAPL and BTEX compounds above the PQL since its installation in 2000. Seven of the wells with one or more BTEX/naphthalene detections are outside of the Class IV groundwater boundary: MW-21A & B, MW-24A, MW-27A & B, and MW-28A & B.

Benzene was detected in samples collected from MW-21A (450 µg/L), MW-21B (estimated 0.8 µg/L), MW-22A (1,500 µg/L), MW-22B (590 µg/L), MW-23B (380 µg/L), MW-27A (2 µg/L), MW-27B (73 µg/L), MW-28A (7 µg/L), and MW-28B (180 µg/L) during the October 2015 monitoring event. Seven of these nine wells reported benzene in exceedance of the VGES and EPA MCL of 5 µg/L. Four of the wells with benzene exceedances are outside the Class IV groundwater boundary: MW-21A, MW-27B, MW-28A, and MW-28B.

Xylenes were detected in four wells outside the Class IV groundwater boundary: MW-21A (13 µg/L), MW-24A (2 µg/L), MW-27A (estimated 0.5 µg/L), and MW-27B (6 µg/L). Ethylbenzene was only reported in one well outside the Class IV groundwater boundary: MW-27B (27 µg/L). Toluene was detected in MW-22A (15 µg/L), MW-22B (estimated 5 µg/L), and MW-23B (350 µg/L), but was not detected in any wells outside of the Class IV groundwater boundary. None of the detected TEX compounds were reported in excess of their respective MCLs or VGES.

Naphthalene was one of the analytes reported in the VOC analysis (Method 8260 – a purge and trap gas chromatograph/mass spectrophotometer method) for the Vertical Barrier monitoring well samples from MW-25B, MW-26A & B, MW-27A & B and MW-28A & B. Naphthalene was detected in two of those seven wells: MW-27A (8 µg/L) and MW-27B (100 µg/L). Naphthalene in MW-27B exceeded the VGES of 20 µg/L. Wells MW-27A & B are outside of the Class IV groundwater boundary.

The VGES or MCL exceedances by VOCs in October 2015 in wells located beyond the Class IV groundwater boundary are limited to MW-21A, MW-27A, and MW-28B.

4.1.2.2 Semivolatile Organic Compounds – PAHs

Figure 4-10 provides a plan view of the Site showing reported concentrations of 17 targeted PAH compounds for all wells sampled in October 2015. Reported PAH concentrations in well clusters along Cross Section P – P' (from north to south: MW-9, MW-20, MW-23 and MW-22) are shown on Figure 4-11. This section presents the most recent analytical PAH results, which are further discussed in Section 4.1.2.4.

Of the wells tested for PAHs by Method 8270 outside the Class IV groundwater boundary, only MW-21A had reported detections above the PQL of one or more target PAH in October 2015. Naphthalene was the only PAH detected above the PQL of 0.5 μg/L in MW-21A (590 μg/L reported by Method 8270, in comparison to 620 μg/L by Method 8260B) which exceeded its VGES (20 μg/L). No VGES or MCLs were exceeded for any other PAHs outside the Class IV groundwater area.

In October 2015, one or more PAHs were detected in five of the ten monitoring wells sampled and analyzed by Method 8270 from within the Class IV boundary. However, all of the reported concentrations are at or less than 1 μg/L except for MW-23B (all but two of the 17 targeted PAHS), and MW22A & B (naphthalene and acenaphthene only). The highest reported individual PAH concentrations in October 2015 were reported in MW-23B (3,100 μg/L for naphthalene and 690 μg/L for 2-methylnaphthalene). These concentrations are similar to those reported for MW-23B since 2013, when the Vertical Barrier was installed.

Only five of the 17 targeted PAHs have established MCLs and/or VGES (see list above in Section 4.1.2). The only exceedances of these standards in October, 2015 were values reported for benzo(a)pyrene and naphthalene. MW-23B had a value of 2 μg/L for benzo(a)pyrene, and 3,100 μg/L naphthalene. As described previously (and summarized in

Section 4.1.3), visual evidence of NAPL was detected in this well during this and previous monitoring events. Naphthalene was detected (by Method 8270) above the VGES in three other wells in October, 2015: in MW-21A (590 μg/L); MW-22A (600 μg/L); and MW-22B (680 μg/L).

4.1.2.3 Inorganic Compounds – Metals

Arsenic was the only reported analyte with exceedances of its MCL and/or VGES of the metals analyzed during the October 2015 monitoring event (current MCL of 10 μg/L). These exceedances were limited to samples from the following two wells: MW-9A (16.1 μg/L), and MW-21B (72.8 μg/L; see Figure 4-15). Of these wells, only MW-21B is located outside the Class IV groundwater boundary. Lead has historically been detected in samples from MW-20B above the MCL of 15 μg/L (Figure 4-14), but was not detected above the MCL in any well in October 2015.

4.1.2.4 Temporal Changes in Concentrations: Effectiveness of the Vertical Barrier

Figure 4-12 shows the hydraulic gradient between the Canal and Lake Champlain and historical benzene concentrations since 2000 in wells MW-21A & B, MW-22A, and MW-24A. Figure 4-13 shows historical benzene concentrations for MW-21A, MW-23B and the DNAPL thickness in MW-23B. MW-23A was excluded from the water quality monitoring program per the CMWP and FSP due to the presence of NAPL in that well. Because of the persistent elevated benzene concentrations in some of the wells west of the Canal, the Performing Defendants installed an approximately 250 foot north-south Vertical Barrier between MW-23B and the railroad tracks in the fall of 2013 to reduce the groundwater flux and possible NAPL migration from the Canal towards the Lake. The location of this Vertical Barrier is shown on Figures 2-1, 4-5, 4-8 and 4-10.

MW-23B is up-gradient of the Vertical Barrier, and has historically contained high concentrations of VOCs and PAHs (see Figure 4-13). This well, which is located within the Class IV groundwater boundary, is known to contain DNAPL, and has had reported

concentrations of benzene and naphthalene in exceedance of the MCLs/VGES for years. Reported VOC and PAH concentrations, as well as measurable DNAPL in MW-23B, increased slightly during the first monitoring event in May, 2014 after the installation of the Vertical Barrier, but have since stabilized or decreased. Additionally, BTEX and naphthalene concentrations in the MW-22 well cluster, directly to the south of the Vertical Barrier, have shown an increasing trend since 2013. Naphthalene was not detected in MW-24A (north of the Vertical Barrier) until April 2010, and concentrations stabilized between 2010 and 2014. Since May 2014, naphthalene has not been detected above reporting limits in MW-24A.

On the west and typically down-gradient side of the Vertical Barrier (see Figure 4-5), between the railroad tracks and the lake, BTEX and naphthalene concentrations have generally stabilized or slightly decreased since the Vertical Barrier installation in 2013. In MW-21A, benzene and naphthalene concentrations increased from 2008 to 2013, and although recent concentrations of these analytes were still reported above the MCLs/VGES for 2015, and the well is outside the Class IV groundwater boundary, they appear to have stabilized. Ethylbenzene and xylenes have significantly decreased since 2013 in this well. Benzene was first detected in 2009 in MW-21B, the deep member of the MW-21 well nest, and increased through 2013. In October 2015, benzene was not detected above laboratory reporting limits in this well. BTEX and naphthalene have both been reported in samples from the 2014 installed well cluster MW-27A & B, but have shown a generally decreasing trend throughout the last four monitoring events (see Appendix 3). No VOCs or PAHs were detected above laboratory reporting limits in any of the other wells installed along the Vertical Barrier in October 2015.

Arsenic concentrations in MW-21B exhibit a general increase since the initial well installation in 2000 with recent stabilization of concentrations (see Groundwater Metals Summary table in Appendix 3 and Figure 4-15). Lead concentrations in MW-20B have generally increased since 2001, but the most recent values suggest that lead is possibly stabilizing in this well. Increases in arsenic and lead appear to correlate with a similar general decrease of oxidation-reduction potential (ORP) (see Figure 4-14 & 4-15). The decrease in ORP

suggests development of a reducing environment, which could cause dissolution of existing naturally occurring metals in soils.

Looking at the trends demonstrated above, we can conclude the Vertical Barrier has effectively retarded groundwater and/or diverted groundwater flow slightly to the south. This has slowed and possibly prevented further migration of NAPL, and reduced the migration of dissolved contamination, under the railroad tracks to Lake Champlain.

4.1.3 NAPL Monitoring – Groundwater Monitoring Wells

Wells MW-1B, MW-3C, MW-4B, MW-12, MW-13, MW-17, MW-21A & B, MW-22A & B, MW-23A & B, MW-24A & B, and P-106 were monitored for NAPL in October 2015 (see Figure 2-2). MW-19 is part of the long-term DNAPL monitoring program, but was blocked at approximately 47 feet below top of casing, as compared with its 70-foot reported total depth. MW-8A is also part of the monitoring program, but could not be located visually or with a metal detector. We will attempt to locate this well again next year with a GPS. The results of the DNAPL monitoring/removal event in October 2015 in groundwater monitoring wells that are part of the long term NAPL monitoring program are shown on Figure 2-2. The NAPL Summary Table in Appendix 3 details the results of DNAPL monitoring in groundwater monitoring wells at the Site since 2000.

Measureable thicknesses of NAPL over 0.1 feet were noted in only three of the monitoring wells in October 2015: MW-17, MW-23A and MW-23B. DNAPL was removed from each of these wells on October 5, 2015, (removal is required when DNAPL thickness exceeds 0.1 feet). A summary of the October 5, 2015 NAPL measurement and removal data for MW-17, MW-23A and MW-23B is presented in Table 4-1. October 2015 DNAPL thicknesses in these wells are comparable to historical results.

TABLE 4-1
MONITORING WELL NAPL MONITORING AND REMOVAL SUMMARY – OCTOBER 2015

Monitoring Well	DNAPL Thickness – 10/5/15 (feet)	Historical Measured DNAPL Thickness (feet)	Approximate DNAPL removed – 10/5/15 (liters)
MW-17	0.17	2010-2015: 0.1-1.3	0.04
MW-23A	0.7	None between 2010 and spring 2012. 0.5 to 0.89 feet between fall 2012 and May 2015	0.4
MW-23B	2.5	2010-2015: 2.2-6.0	2

4.1.4 NAPL Monitoring/Removal – NAPL Recovery Wells

There are two sets of passive NAPL recovery wells; wells RW-111 through RW-114 located in the vicinity of the Vertical Barrier, and wells RW-101 through RW-110, RW9+80, RW10+25, RW11, and RW14 located adjacent to the Canal and Amended Cap (see Figures 2-2 & 2-3).

Monitoring in the Vertical Barrier recovery wells RW-111 through RW-114 installed in February 2014 was conducted in January, May and October 2015. No measureable NAPL (LNAPL or DNAPL) was present in these four wells during 2015.

Amended Cap NAPL monitoring and removal has been conducted (during the monitoring season) since August, 2011 in accordance with the OMMP and the August 9, 2013 EPA letter. Nine monitoring/removal events were completed every four weeks in 2015 from April to November.

Results of the 2015 monthly Amended Cap recovery well NAPL monitoring/removal events indicate that there is no measureable LNAPL (>0.01 feet thick) in any of the recovery wells. DNAPL monitoring and removal data for all the Amended Cap recovery wells are summarized in Table 4-2 (following this sub-section). Field notes collected during the NAPL monitoring and recovery are included in Appendix 1.

A total of approximately 1,275 gallons of DNAPL were removed from the Amended Cap recovery wells in 2015. A total of approximately 8,230 gallons of DNAPL have been removed since this monitoring task began in 2011.

Of the 14 Amended Cap recovery wells, all but RW-110, RW9+80, and RW11 contained greater than 0.1 feet of DNAPL on one or more days in 2015 and therefore required pumping. Total well depths of RW9+80 and RW11 are relatively shallow (6-8 feet), compared with the 30-40 foot depths of the most of other Amended Cap recovery wells; these shallow wells rarely contain DNAPL, as it sinks in the water column. RW-110 has required intermittent pumping in the past; however no measurable DNAPL was present during the 2015 monitoring season. RW-109 has consistently contained the largest quantity of DNAPL. Prior to each of the 2015 removal events, 22.0-22.5 feet of DNAPL was measured in RW-109, with 21.8-22.3 feet present on the second and third days of each event. Approximately 30 to 41 gallons of DNAPL were pumped (removed) from RW-109 on each of the three consecutive monitoring days.

In addition to RW-109, four other Amended Cap recovery wells required three successive days of DNAPL removal due to 24 hour recharge of more than 0.1 feet of DNAPL: RW-102, RW-103, RW-104 and RW-108. These wells had an average initial measured DNAPL thickness of 13.9 feet in April and between 2-9 feet at the beginning of each of the remaining 2015 monitoring events. The combined volume of DNAPL removed from these wells (excluding RW-109) was approximately 100 gallons in April, and between 19-38 gallons per month for the remainder of the 2015 monitoring period.

Two of the wells, RW-101 and RW-105, located on the west bank near the northern and southern edges of the Amended Cap, had less DNAPL than the three wells located between them (RW-102, -103 and -104). RW-101 initially had 5.6 feet of DNAPL in April, but contained 1.3 feet or less for the remainder of the year. RW-105 had an initial DNAPL thickness of 1.1 feet in April, and 0.5 feet or less for the remainder of 2015. Approximately 22.5 gallons of DNAPL were pumped from these two wells in 2015, which is the same as the total from 2014.

Two of the recovery wells, RW-106 and RW-107, both located on the east bank, required pumping only intermittently during the 2015 monitoring season due to DNAPL thickness greater than 0.1 foot. RW-106 was pumped once, and RW-107 was pumped twice. These two wells had between 0 and 0.1 feet of DNAPL present in April 2015, and between 0.0 and 0.5 feet in the remainder of 2015. A total of approximately 0.75 gallons of DNAPL were pumped from these two wells in 2015.

TABLE 4-2
RECOVERY WELL NAPL MONITORING AND REMOVAL SUMMARY

Well ID	Start Date	DNAPL thickness (feet)	Gallons DNAPL removed	Feet DNAPL ~24 hours after removal event	Gallons DNAPL removed 2nd Day	Feet DNAPL ~24 hours after 2nd day removal event	Gallons DNAPL removed 3rd Day
RW-101	4/13/2015	5.6	3.0	<0.1	0.0	--	--
	5/11/2015	0.8	0.5	--	--	--	--
	6/10/2015	0.7	0.5	0.3	0.3	<0.1	0.0
	7/8/2015	0.2	0.0[2]	--	--	--	--
	8/4/2015	0.8	0.5	<0.1	0.0	--	--
	9/1/2015	1.1	3.0	<0.1	0.0	--	--
	9/29/2015	1.3	3.0	<0.1	0.0	--	--
	10/26/2015	1.0	1.0	0.3	0.5	<0.1	0.0
	11/23/2015	0.8	4.0	<0.1	0.0	--	--
RW-102	4/13/2015	13.6	13.0	13.8	12.0	7.0	3.0
	5/11/2015	4.3	2.0	1.7	1.0	1.6	1.5
	6/10/2015	4.2	4.0	0.3	0.3	0.3	0.3
	7/8/2015	4.2	3.0	1.3	1.0	2.9	2.0
	8/4/2015	4.9	3.0	4.6	2.0	4.2	3.0
	9/1/2015	7.5	5.0	4.9	4.0	3.8	1.0
	9/29/2015	7.5	4.0	3.2	3.0	2.1	2.0
	10/26/2015	2.3[7]	4.0	0.5	0.5	2.6	5.0
	11/23/2015	3.8	5.0	<0.1	0.0	--	--
RW-103	4/13/2015	15.4	15.0	10.6	13.0	4.3	3.0
	5/11/2015	3.8	3.0	2.8	2.0	1.8	1.5
	6/10/2015	5.8	6.0	3.3	3.0	1.3	1.5
	7/8/2015	5.1	5.0	2.8	2.5	2.2	2.5
	8/4/2015	5.3	2.0	5.8	3.0	5.7	1.0
	9/1/2015	9.3	8.0	6.5	7.0	3.7	3.0
	9/29/2015	6.3	6.0	1.5	2.0	2.1	2.0
	10/26/2015	4.5	6.0	1.9	3.0	1.0	2.0
	11/23/2015	5.0	10.0	3.3	4.0	2.3	2.0
RW-104	4/13/2015	11.7	13.0	6.4	5.0	1.2	1.0
	5/11/2015	3.2	3.0	1.3	1.0	0.8	0.5
	6/10/2015	3.1	3.0	1.3	0.8	1.2	0.8
	7/8/2015	3.4	4.0	1.4	1.5	0.9	1.0
	8/4/2015	3.2	2.0	4.0	2.0	4.0	1.0
	9/1/2015	7.1	0.0[4]	--	--	--	--
	9/29/2015	9.3	9.0	0.9	1.0	1.3	1.0
	10/26/2015	3.4	3.0	1.2	1.0	0.7	2.0
	11/23/2015	4.0	5.0	0.3	1.0	<0.1	0.0

TABLE 4-2
RECOVERY WELL NAPL MONITORING AND REMOVAL SUMMARY

Well ID	Start Date	DNAPL thickness (feet)	Gallons DNAPL removed	Feet DNAPL ~24 hours after removal event	Gallons DNAPL removed 2nd Day	Feet DNAPL ~24 hours after 2nd day removal event	Gallons DNAPL removed 3rd Day
RW-105	4/13/2015	1.1	1.0	0.0	--	--	--
	5/11/2015	<0.1	--	--	--	--	--
	6/10/2015	0.3	0.3	<0.1	0.0	--	--
	7/8/2015	0.4	1.0	<0.1	0.0	--	--
	8/4/2015	0.2	1.0	0.2	1.0	<0.1	0.0
	9/1/2015	<0.1	0.0	--	--	--	--
	9/29/2015	0.4	0.5	<0.1	0.0	--	--
	10/26/2015	0.5	1.0	<0.1	0.0	--	--
	11/23/2015	0.3	0.5	<0.1	0.0	--	--
RW-106	4/13/2015	0.1	--	--	--	--	--
	5/11/2015	0.0	--	--	--	--	--
	6/10/2015	0.3	0.3	0.0	--	--	--
	7/8/2015	0.0	--	--	--	--	--
	8/4/2015	0.0	--	--	--	--	--
	9/1/2015	<0.1	0.0	--	--	--	--
	9/29/2015	<0.1	0.0	--	--	--	--
	10/26/2015	<0.1	0.0	--	--	--	--
	11/23/2015	<0.1	0.0	--	--	--	--
RW-107	4/13/2015	<0.1	--	--	--	--	--
	5/11/2015	<0.1	--	--	--	--	--
	6/10/2015	0.5	0.5	0.0	--	--	--
	7/8/2015	0.0	--	--	--	--	--
	8/4/2015	<0.1	0.0	--	--	--	--
	9/1/2015	0.0	--	--	--	--	--
	9/29/2015	<0.1	0.0	--	--	--	--
	10/26/2015	0.4	1.0	<0.1	0.0	--	--
	11/23/2015	<0.1	0.0	--	--	--	--
RW-108	4/13/2015	14.7	18.0	2.7	3.0	1.0	1.0
	5/11/2015	3.2	3.0	0.7	0.5	0.7	0.5
	6/10/2015	3.5	3.0	0.8	1.0	0.4	0.3
	7/8/2015	2.7	2.5	0.5	0.5	0.3	0.5
	8/4/2015	3.3	1.5	0.5	4.0	0.5	4.0
	9/1/2015	3.8	5.0	0.7	3.0	0.8	2.0
	9/29/2015	3.7	5.0	0.8	1.0	0.5	1.0
	10/26/2015	3.6	5.0	1.0	1.0	0.7	1.0
	11/23/2015	4.3	2.0	0.7	1.0	0.7	0.5

TABLE 4-2
RECOVERY WELL NAPL MONITORING AND REMOVAL SUMMARY

Well ID	Start Date	DNAPL thickness (feet)	Gallons DNAPL removed	Feet DNAPL ~24 hours after removal event	Gallons DNAPL removed 2nd Day	Feet DNAPL ~24 hours after 2nd day removal event	Gallons DNAPL removed 3rd Day
RW-109	4/13/2015	22.2	34.0	22.1	33.0	22.1	33.0
	5/11/2015	22.2	34.0	22.2	34.0	22.2	34.0
	6/10/2015	22.1	35.0	22.1	34.0	22.1	34.0
	7/8/2015	22.1	34.0	22.1	34.0	22.1	32.0
	8/4/2015	22.2	32.0	21.8	37.0	22.1	37.0
	9/1/2015	22.5	35.0	22.1	40.0	22.2	0.0[5]
	9/29/2015	22.3[6]	39.0	22.3	41.0	22.3	38.0
	10/26/2015	22.0	30.0	21.9	33.0	22.0	35.0
	11/23/2015	22.2	34.0	22.2	37.0	21.9	39.0
RW-110	4/13/2015	0.0	--	--	--	--	--
	5/11/2015	0.0	--	--	--	--	--
	6/10/2015	0.0	--	--	--	--	--
	7/8/2015	0.0	--	--	--	--	--
	8/4/2015	0.0	--	--	--	--	--
	9/1/2015	0.0	--	--	--	--	--
	9/29/2015	<0.1	0.0	--	--	--	--
	10/26/2015	<0.1	0.0	--	--	--	--
	11/23/2015	<0.1	0.0	--	--	--	--
RW 9+80	4/13/2015	0.0	--	--	--	--	--
	5/11/2015	0.0	--	--	--	--	--
	6/10/2015	0.0	--	--	--	--	--
	7/8/2015	0.0	--	--	--	--	--
	8/4/2015	0.0	--	--	--	--	--
	9/1/2015	0.0	--	--	--	--	--
	9/29/2015	0.0	--	--	--	--	--
	10/26/2015	0.0	--	--	--	--	--
	11/23/2015	0.0	--	--	--	--	--
RW 10+25	4/13/2015	0.0	--	--	--	--	--
	5/11/2015	0.0	--	--	--	--	--
	6/10/2015	0.0	--	--	--	--	--
	7/8/2015	0.0	--	--	--	--	--
	8/4/2015	<0.1	--	--	--	--	--
	9/1/2015	<0.1	--	--	--	--	--
	9/29/2015	0.4	1.0	<0.1	0.0	--	--
	10/26/2015	<0.1	0.0	--	--	--	--
	11/23/2015	0.0	--	--	--	--	--

TABLE 4-2
RECOVERY WELL NAPL MONITORING AND REMOVAL SUMMARY

Well ID	Start Date	DNAPL thickness (feet)	Gallons DNAPL removed	Feet DNAPL ~24 hours after removal event	Gallons DNAPL removed 2nd Day	Feet DNAPL ~24 hours after 2nd day removal event	Gallons DNAPL removed 3rd Day
RW 11	4/13/2015	0.0	--	--	--	--	--
	5/11/2015	0.0	--	--	--	--	--
	6/10/2015	0.0	--	--	--	--	--
	7/8/2015	0.0	--	--	--	--	--
	8/4/2015	0.0	--	--	--	--	--
	9/1/2015	0.0	--	--	--	--	--
	9/29/2015	0.0	--	--	--	--	--
	10/26/2015	0.0	--	--	--	--	--
	11/23/2015	0.0	--	--	--	--	--
RW 14	4/13/2015	0.0	--	--	--	--	--
	5/11/2015	0.0	--	--	--	--	--
	6/10/2015	0.0	--	--	--	--	--
	7/8/2015	0.0	--	--	--	--	--
	8/4/2015	<0.1	--	--	--	--	--
	9/1/2015	<0.1	--	--	--	--	--
	9/29/2015	0.3	2.0	<0.1	0.0	--	--
	10/26/2015	<0.1	0.0	--	--	--	--
	11/23/2015	<0.1	0.0	--	--	--	--

Notes: " -- " indicates no measurement and/or DNAPL removal performed

* Problems with the NAPL removal pumps - complete NAPL removal not possible

[1] - NAPL removal in large diameter wells with <0.3 ft. not practical. Past attempts proved ineffective with large amounts of water pumped and very little NAPL removed.

[2] - NAPL Removal impractical due to high water (well is in approx. 1 ft. of standing water on this date).

[3] - NM = Not measured; RW inaccessible due to ice across Canal.

[4] - PVC/suction fitting compromised, removal not possible. New PVC installed, allowed time for adhesive to set.

[5] - PVC/suction fitting compromised, removal not possible. Replaced with iron pipe before next monitoring event.

[6] - Compromised PVC was replaced with iron pipe and new fittings on 9/28/15.

[7] - Suction issues from 10/26/15 - 10/28/15; adjusted height of PVC which fixed the issue on 10/28/15.

4.2 SURFACE WATER

One unfiltered surface water sample (J_SWT1+50W80) and a field duplicate were collected from the Canal outlet on September 22, 2015 and analyzed for 17 PAHs. The sample location is shown on Figure 2-4 (primary long-term location). No PAHs were reported above laboratory reporting limits in either the parent sample or the field duplicate. The reporting limit

for each individual PAH was 0.5 μg/L. These data indicate that water quality in Lake Champlain, adjacent to the Canal outlet, was not adversely affected by Canal surface water at the time of sample collection.

Sections 6.2.1.6 and 6.2.1.7 of the FSP require that data evaluation include comparison of the analytical results to the current version of the Ambient Water Quality Criteria (AWQC). Additionally, for the years following Year 2 after construction completion (2005), a graph for each analytical parameter that illustrates changes in concentration over time is required. These graphs are to include the AWQC limits for each compound. No PAHs have been detected above the reporting limit in the available long-term surface water quality monitoring data, so the graphs were not prepared and comparison with AWQC was not performed. A summary table of all surface water analytical results (and the relevant AWQC), and a complete surface water sample results database printout, are presented in Appendix 3.

4.3 WETLANDS CAP AND SUBAQUEOUS CAP MONITORING

4.3.1 Cap Chemistry

Chemical analyses were completed on samples from cores of the wetland and subaqueous caps. The objective of the chemical analyses is to evaluate potential contaminant migration within the cap and to compare the mid-cap sample data with benchmark values set forth in the record of decision (ROD) and statement of work (SOW). Similar to the previous years since 2010, cap coring in Area 2 was not conducted during this monitoring event due to the presence of the Amended Cap in a large portion of Area 2. A summary of the laboratory analytical data and IDV reports are presented in Appendix 6 and Appendix 8, respectively. The cap core sampling locations are shown on Figures 2-5, 4-16 and 4-17. Field notes and sample forms are included in Appendix 1. Summaries of the analytical results are provided in Table 4-3.

TABLE 4-3
SUMMARY OF 2015 LONG TERM CAP CORING ANALYTICAL RESULTS

		Mid-Cap							Top-Cap				
Area	**Sample Location**	**Sum of PAHs[1] (mg/kg)**	**Exceeds PAH Benchmark[2]**	**Copper (mg/kg)**	**Mercury (mg/kg)**	**Lead (mg/kg)**	**Zinc (mg/kg)**	**Exceeds Metals Benchmark[3]**	**Sum of PAHs (mg/kg)**	**Copper (mg/kg)**	**Mercury (mg/kg)**	**Lead (mg/kg)**	**Zinc (mg/kg)**
8	J_T1+00-E50	0	No	10.8 J	0.119 U	3.67	23.5	No	2.450 J	12.7 J	0.124 U	6.95	37
	J_T2+00-E100	0	No	12.4	0.112 U	3.67	22.0	No	0.887	11.8	0.118 U	7.16	38.5
	J_T3+00-E100	0.062 J	No	9.82	0.112 U	4.02	24.3	No	0.106 J	10.8	0.119 U	4.34	25.6
	J_T3+00-E300	0	No	11.7	0.115 U	4.17	27.6	No	0.587	12	0.121 U	14.4	36.2
Area 8 Averages:		**0.016 J**	**No**	**11.18 J**	**0**	**3.88**	**24.4**	**No**	**1.01 J**	**11.8 J**	**0**	**8.21**	**34.3**
1	J_T5+00-E20	0	No	14.4 J	0.115 U	3.88	24.6	No	0.254	11 J	0.120 U	4.32	29.4
	J_T6+00-E60	0	No	9.96 J	0.115 U	3.7	21.9	No	0.757	9.38 J	0.117 U	4.58	27.1
	J_T8+00-E40	0.029 J	No	13.2 J	0.117 U	4.2	29.6	No	1.306 J	14.9 J	0.115 U	5.54	35.5
Area 1 Averages:		**0.010 J**	**No**	**12.52 J**	**0**	**3.93**	**25.4**	**No**	**0.772 J**	**11.76 J**	**0**	**4.81**	**30.7**
2	No Coring Performed in Area 2[4]												
3	J_T15+50-E100	0.114 J	No	10.5	0.117 U	5.78	25.1	No	2.435 J	15.3 J	0.192 U	17.1	67.1
	J_T16+50-E150	0.192 J	No	11.7 J	0.114 U	5.06	26.8	No	1.463 J	13.4 J	0.157 U	12.2	53.9
Area 3 Averages:		**0.153 J**	**No**	**11.1 J**	**0**	**5.42**	**26.0**	**No**	**1.949 J**	**14.4 J**	**0**	**14.7**	**60.5**
4/5	J_T17+00-E400	No mid-cap samples in Area 4/5							19.527 J	147 J	0.377	140	709
	J_T21+00-E25								11.393 J	95.6 J	0.259	127	387
	J_T21+00-E50								18.923 J	225 J	0.348	89.1	976
Area 4/5 Averages:									**16.614 J**	**155.9 J**	**0.328**	**118.7**	**691**

Notes:

[1] Most PAHs were not detected in most mid-cap samples. Zero was used for non-detect analytes in calculating the sum of PAHs. No reporting limits were above 330 μg/kg, so ½ the reporting limit was not used in the summations.

[2] Benchmark value for Mid-Cap PAHs is sum of ERMs for 13 PAHs: 21 mg/kg, no benchmark for Top-Cap samples or Area 4/5 samples.

[3] Benchmark values for Mid-Cap metals are ERMs: copper – 270 mg/kg; lead – 218 mg/kg; mercury – 0.71 mg/kg; zinc – 410 mg/kg, no benchmark for Top-Cap samples or Area 4/5 samples.

[4] No Coring was performed in Area 2 during the fall 2015 monitoring period due to the presence of the Amended Cap

U – indicates that analyte was not detected above laboratory reporting limit, with the associated value being the reporting limit

J – indicates an estimated concentration

4.3.1.1 Long-term Monitoring Mid-cap Results and Comparison to Benchmark Values

A summary of the results and a comparison to benchmark values for the mid-cap samples is presented in Table 4-3. The CMWP, Field Sampling Plan, Section 5.3.2.4: *Data Evaluation*; and associated Figure FSP 6-8: *Long Term Cap Monitoring Data Analysis*, presents the data evaluation procedures for the chemical monitoring of the caps at the Site. The primary basis for data evaluation is a comparison of the mid-cap sample laboratory results to the following benchmark values: the sum of the effects range median (ER-Ms) for 13 PAHs (21 mg/kg; the "PAH benchmark value"), and individual ER-M values for copper, lead, mercury, and zinc (270 mg/kg, 218 mg/kg, 0.71 mg/kg, and 410 mg/kg, respectively).

If the reported concentration for an individual mid-cap sample exceeds a benchmark value but the average concentration of all mid-cap samples within the study area (e.g., Area 8) do *not* exceed the benchmark value, then the location with the exceedance is to be re-sampled as soon as practical. If the re-sampled value also exceeds the benchmark, a data evaluation and best professional judgment assessment is required. If the re-sampled value does *not* exceed the benchmark value then no additional action is required. If the mean concentration from all mid-cap samples within the study area exceeds a benchmark value, then a full weight-of-evidence analysis (including toxicity testing) is required.

No reported metals or PAHs from any of the capped areas exceeded the benchmark values. Four of the nine associated mid-cap samples contained detectable PAHs, although sum-of-PAH values reported were all less than 0.2 mg/kg, well below the 21 mg/kg benchmark value.

Note that neither the SOW nor the CMWP require a comparison of the results from top of cap samples (0-10 cm) or samples from the uncapped Areas 4/5 to the benchmark values.

4.3.1.2 Long-term Top-of-Cap Monitoring Results

Overall, each of the nine selected top-of-cap samples (0–10 cm) collected at random

sample locations from Areas 1, 3, and 8, had detected PAHs, though many of the detections were reported as estimated concentrations (J) below the PQL. The sum of PAH numbers shown in Table 4-3 were calculated using zero for non-detects in accordance with the CMWP, as all reporting limits were 330 μg/kg.

The sums of PAHs from the three shallow samples collected from the uncapped Areas 4/5 were elevated relative to most of the cap samples in other areas. However, TOC in these samples ranged from 6.5% to 21.5%, making the PAHs largely unavailable to the biota, again consistent with prior findings (see discussion of biological monitoring in Section 4.5). Copper, lead, mercury, and zinc were also elevated in the Area 4/5 samples relative to those collected from the capped areas, although they are consistent with prior results. Two samples from Area 4/5 included an exceedance of the 410 mg/kg zinc benchmark (J_T17+00E400: 709 mg/kg and J_T21+00E50: 976 mg/kg). Further discussion of the bioavailability of metals in Area 4/5 is provided in Section 4.5.1.2.

4.4 AMENDED CAP MONITORING

4.4.1 Amended Cap Settlement Plate Survey

An elevation and location survey of the nine settlement plates (SP-A through SP-I) placed on the Amended Cap was performed following its construction, and was also completed on August 25, 2015 by LRS. The first settlement plate survey following Amended Cap installation was completed on December 10, 2010, followed by surveys completed in November 2011, spring and fall of 2012, 2013 and 2014 and May 7, 2015.

As was the case with previous similar surveys, attempts to insert the survey rod into the cone and pipe located in the middle of the plates were generally not successful. The elevation and horizontal location were therefore measured from the top of the plate near the approximate center, which provides for a potential horizontal error of +/- two feet due to the two-foot by two-foot size of the plates.

As with similar surveys, several flat, hard surfaces (presumed to be concrete blocks due to their approximately 8 x 16-inch size) were detected on the Amended Cap surface while probing with the survey rod for the settlement plates. The presence of these blocks suggests that some of the previously reported locations for settlement plates may actually have been concrete block locations.

The location and elevation data from the most recent settlement plate survey are presented on Table 4-4 (at the end of this sub-section). The reported plate locations from the August 2015 and the initial 2010 surveys are also shown on Figure 4-18, along with the change in elevation and location (in feet) between the two surveys. The August 2015 data suggest that the plates are currently within +/- 2 feet horizontally of the locations provided by the 2010 survey, except Plates D, E and F, whose August 2015 positions were between 5-9 feet from their 2010 locations. The vertical survey data indicate the plate elevations are all within one foot of the 2010 survey, and between 0.3-0.9 feet higher than the elevations surveyed in May 2015.

Temporal variability of generally less than a foot in the settlement plate elevations has been documented since their installation in 2010 (see Figure 4-19 and Table 4-5), probably as a result of seasonal changes (recent data suggests higher elevations in August than in May), and to inaccuracies inherent in the survey method (survey rod placement by feel in murky underwater conditions). However, systematic increases or decreases in the elevations are not apparent in the data. The settlement plate survey data does not indicate significant settling, erosion, rebound or gas build-up which would adversely impact the performance of the Amended Cap.

TABLE 4-4
SETTLEMENT PLATE SURVEY DATA

Location	LRS2010 Northing (ft)	LRS2010 Easting (ft)	LRS2010 Elev. Corrected (ft)	Distance Difference 2010-August 2015 (ft)	Elevation Difference August 2015-2010 data (ft)	Distance Difference May - August 2015 (ft)	Elevation Difference May - August 2015 (ft)	LRS 5/7/15 Northing (ft)	LRS 5/7/15 Easting (ft)	LRS 5/7/15 Plate Elev. (ft)	LRS 8/25/15 Northing (ft)	LRS 8/25/15 Easting (ft)	LRS 8/25/15 Plate Elev. (ft)	Elevation Correction to 2010 data for pipe vs plate
SP-A	717366.9	1452997.8	91.33	0.8	-0.19	9.8	0.48	717376.1	1452999.4	90.67	717366.3	1452998.4	91.15	-1.1 LRS Pipe
SP-B	717364.9	1453021.9	91.63	2.0	-0.27	1.7	0.57	717365.2	1453021.7	90.79	717366.0	1453020.2	91.37	-1.1 LRS Pipe
SP-C	717366.1	1453061.1	93.22	0.4	-0.71	2.0	0.61	717368.1	1453061.8	91.91	717366.3	1453060.8	92.51	-1.1 LRS Pipe
SP-D	717465.0	1452995.6	93.03	6.5	-0.18	7.0	0.82	717463.2	1453000.6	92.03	717458.5	1452995.3	92.85	
SP-E	717464.5	1453017.9	91.33	5.1	0.39	12.7	0.71	717469.0	1453026.3	91.00	717459.4	1453018.0	91.72	
SP-F	717565.5	1452989.5	90.74	8.8	-0.22	10.0	0.46	717566.4	1452988.7	90.06	717559.9	1452996.3	90.52	-1.1 LRS Pipe
SP-G	717561.5	1453017.0	90.70	0.8	0.16	1.2	0.30	717561.4	1453015.6	90.57	717562.2	1453016.5	90.86	-1.1 LRS Pipe
SP-H	717662.9	1452987.1	90.83	1.3	-0.14	2.5	0.49	717662.1	1452988.9	90.20	717664.1	1452987.5	90.69	
SP-I	717665.3	1453012.9	91.39	0.2	-0.08	1.4	0.39	717663.9	1453012.1	90.92	717665.1	1453012.9	91.31	-1.1 LRS Pipe

LRS = Little River Survey 12/10/10, 05/07/15, and 08/25/15 data.

Northing and Easting data are referenced to the Vermont State Plane, North American Datum of 1983 (NAD83)

Elevation data are referenced to the 1988 North American Vertical Datum (NAVD88).

LRS2010 elevations for SP-A, SP-B, SP-C, SP-F, SP-G and SP-I corrected from pipe to plate elevation by subtracting 1.1 feet.

TABLE 4-5
SETTLEMENT PLATE ELEVATION DATA

SETTLEMENT PLATE ID	SETTLEMENT PLATE ELEVATION (NAVD88)									
	12/10/10	11/22/11	5/24/12	8/30/12	5/10/13	8/15/13	4/28/14	9/2/14	5/7/15	8/25/15
SP-A	91.33	93.06*	91.32*	92.83*	91.34	91.26	91.07*	91.01	90.67	91.15
SP-B	91.63	92.70*	91.51*	91.47	91.55	91.54	91.04	91.23	90.79	91.37
SP-C	93.22	92.61	92.35*	92.94	92.72	92.84	92.47	92.45	91.91	92.51
SP-D	93.03	92.96*	92.72	92.30*	92.67	92.71*	92.19*	92.04	92.03	92.85*
SP-E	91.33	91.45*	91.11*	91.36*	91.69*	91.14*	91.44*	91.10	91.00	91.72*
SP-F	90.74	90.59	90.80*	90.76*	90.46	90.68	89.86	90.32	90.06	90.52*
SP-G	90.70	92.17*	91.52*	90.87	90.71	90.97	89.93	90.75	90.57	90.86
SP-H	90.83	90.91*	91.28*	91.65*	90.66	90.86	90.25	90.63	90.20	90.69
SP-I	91.39	90.97*	92.78*	91.41	91.24	91.17*	90.89	91.15	90.92	91.31

* Indicates that elevation may not be representative based upon a distance of greater than four feet from the 2010 survey location

4.4.2 Visual Sheen Monitoring

Visual sheen monitoring was conducted bi-weekly starting the week of April 13, 2015 through the week of November 23, 2015. A total of 17 Inspections were conducted at 43 different locations in the vicinity of the Amended Cap between T8 and T13 (11 locations along each of the east and west banks spaced 50 feet apart and 21 locations along the middle of the Canal spaced 25 feet apart). At each location, the surface of the water was observed for five minutes in each direction as specified by the OMMP (two observers were used for each location on the bank, one looking upstream, and one downstream; resulting in the full ten minutes of observations at each bank location required by the OMMP).

Areas of gas bubble emanation were observed during each sheen inspection event; with the number and frequency of the bubbling appearing to be generally correlated to seasonal changes of temperature and precipitation levels. The highest total number of gas bubble locations observed during the monitoring season was 66 in late July, with three being the fewest number of locations observed in late November. Gas bubbles have been observed within the

footprint of the Amended Cap, as well as to the north and south of the Amended Cap area.

To date, no sheens and and/or NAPL associated with gas bubbles have been observed emanating from within the Amended Cap footprint. Additionally, any sheens observed in the Canal (resulting from bubbles emanating from areas outside the Amended Cap) have dissipated prior to reaching the Turning Basin. No new areas of sheens were observed in 2015. As with the gas bubbles, the frequency of sheens and NAPL droplets associated with bubbles appeared to be generally correlated to seasonal changes with 1-4 locations observed during most events throughout the spring and summer, 0-3 locations observed in September and October, and none were present in November. Photographs of sheens are provided in Appendix 7, and bi-weekly interim reports and field forms in Appendix 1.

Gas bubbles with associated sheens and/or NAPL droplets were recorded at two locations (as compared to six in 2014) 45-102 feet north of Amended Cap footprint as shown on Figure 4-21 (North Seep Location Area), and at eight locations south of Amended Cap footprint (South Seep Location Area). All of these areas have had sheens observed in them over the past several years.

In accordance with the OMMP, since no release areas were observed emanating through the Amended Cap, no sheen/NAPL sampling was conducted.

4.4.3 Cap Termination Inspections

Visual examinations of the edges of the Amended Cap were conducted on a monthly basis from April to November, 2015. Photographs are included in Appendix 7. No significant areas of damage were noted during any of the inspections. A 6 foot by 3 foot area of the reactive core mat (RCM) is exposed along the eastern bank at approximately T11+85. A 3 foot diameter bubble had apparently formed under the TRM and RCM near T11+80 on the eastern shoreline, resulting in slight heaving. These areas were previously noted and do not appear to be expanding in size. These observations are considered relatively insignificant and are not adversely impacting the effectiveness of the Amended Cap.

4.5 BIOLOGICAL MONITORING

4.5.1 Benthic Macroinvertebrate Monitoring

Benthic macroinvertebrate sampling was conducted on September 22 and 23, including one sample randomly selected in the combined Areas 1 and 2; one in Area 8 (the capped section of the Canal); and one in the uncapped Area 4/5. The Amended Cap portion of Area 2 was not included in the sampling. The data tables are presented in Appendix 3 and the laboratory reports are in Appendix 6. Summary results from macroinvertebrate sampling in the individual study areas are presented in Tables 4-6 through 4-8. Comparisons of relative abundance and number of dominant species from the pre-construction sampling in 2001, and post-construction sampling in 2003 through 2015, are presented in Table 4-9. Table 4-10 presents sediment physical data and Table 4-11 presents AVS/SEM data. A comparison of AVS/SEM data from 2001 to 2015 for Area 4/5 is presented in Table 4-12. Locations of benthic samples are shown on Figures 2-5, 4-16 and 4-17. The benthic macroinvertebrate relative abundance data show the spatial heterogeneity that has been noted in previous years. These results do not appear to be the result of site contamination. The highest abundance was in Area 4/5 where the sediment contaminant concentrations are also the highest. The TOC content at the Area 4/5 biological sample location J_T21+00E50 was 21.9 percent. The SEM/AVS molar ratio was 0.1746 at J_21+00E50 indicating that metals contaminants are not bioavailable.

TABLE 4-6
SUMMARY OF BENTHIC MACROINVERTEBRATE DATA – AREA 8
September 2015
(Major Component Species ≥4%)

Sample Location: Area 8, J_T1+00 E50
Date Sample Collected: 9/23/15
Water Depth on Sample Collection Date: 2.0 ft.

Family	Species	% of Total
Replicate No. 1 – Total Abundance = 24		
Chironomidae	*Chironomus sp.*	17
Ceratopogonidae	*Sphaeromias sp.*	17
Tubeficidae	*Spp.*	67
Replicate No. 2 – Total Abundance = 132		
Lumbriculidae		9
Naididae	*Dero sp.*	27
Tubificidae	*Spp.*	30
Tubificidae	*Ilyodrilus tempeltoni*	6
Chironomidae	*Chironomus sp.*	12
Replicate No. 3 – Total Abundance = 160		
Lumbriculidae	*Spp.*	8
Naididae	*Dero sp.*	60
Tubificidae	*Spp.*	5
Chironomidae	*Chironomus sp.*	5
Chironomidae	*Tanytarsus sp.*	5
AREA 8 – RELATIVE ABUNDANCE = 105		

Note: Specimens are identified to the lowest practical taxon

TABLE 4-7
SUMMARY OF BENTHIC MACROINVERTEBRATE DATA – AREA 1
September 2015
(Major Component Species ≥4%)

Sample Location: Area 1, J_T6+00 E60
Date Sample Collected: 9/23/15
Water Depth on Sample Collection Date: 5.8 ft.

Family	Species	% of Total
Replicate No. 1 – Total Abundance = 23		
Lumbriculidae	*Spp.*	35
Tubificidae	*Spp.*	43
Ceratopogonidae	*Sphaeromias sp.*	4
Chironomidae	*Chironomus sp.*	9
Chironomidae	*Polypedilum sp.*	4
Chironomidae	*Tanytarsus sp.*	4
Replicate No. 2 – Total Abundance = 11		
Naididae	*Dero sp.*	9
Tubificidae	*Spp.*	64
Tubificidae	*Limnodrilus hoffmeisteri*	9
Valvatidae	*Valvata sp.*	9
Chironomidae	*Eukiefferiella sp.*	9
Replicate No. 3 – Total Abundance = 6		
Tubificidae	*Spp.*	50
Chironomidae	*Ablabesmyia sp.*	50
AREA 1 - RELATIVE ABUNDANCE = 13		

Note: Specimens are identified to the lowest practical taxon

TABLE 4-8
SUMMARY OF BENTHIC MACROINVERTEBRATE DATA – AREA 4/5
September 2015
(Major Component Species ≥4%)

Sample Location: Area 4/5, J_T21+00E50
Date Sample Collected: 9/22/15
Water Depth on Sample Collection Date: 1.6 ft.

Family	Species	% of Total
Replicate No. 1 – Total Abundance = 240		
Naididae	*Dero sp.*	23
Tubificidae	*Spp.*	10
Physidae	*Physa sp.*	8
Bithyniidae	*Bithynia tenticulata*	10
Asellidae	*Caecidotea communis*	33
Ceratopogonidae	*Culicoides sp.*	5
Replicate No. 2 – Total Abundance =172		
Naididae	*Dero sp.*	44
Physidae	*Physa sp.*	7
Bithyniidae	*Bithynia tenticulata*	7
Valvatidae	*Valvata sp.*	5
Gammaridae	*Gammarus sp.*	5
Asellidae	*Caecidotea communis*	21
Replicate No. 3 – Total Abundance = 432		
Naididae	*Dero sp.*	23
Tubificidae	*Spp.*	8
Physidae	*Physa sp.*	24
Bithyniidae	*Bithynia tenticulata*	14
Valvatidae	*Valvata sp.*	14
Asellidae	*Caecidotea communis*	4
Ceratopogonidae	*Culicoides sp.*	4
AREA 4/5 - RELATIVE ABUNDANCE = 281		
Note: Specimens are identified to the lowest practical taxon		

4.5.1.1 Benthic Macroinvertebrate Sampling

The sample from the Turning Basin, Area 8, showed the highest relative abundance since 2010 and the highest diversity since 2004 (see Table 4-9). The SEM/AVS ratio was 0.05 which indicates that metals would not be bioavailable. Total organic carbon content was 19.2 percent. The sample location was nearshore and the sediment contained much coarse organic material. This substrate probably accounts for the relative abundance and diversity at this location. Area 1/2 has shown the lowest relative abundance since 2006, but the sample has also shown the highest diversity since that year. As in 2014, tubificid worms were dominant but biting midges were a significant portion of the samples. The snail, *Valvata sp.*, was a significant portion of Replicate M2. The presence of earthworms, Lumbriculidae, in some samples in both the Turning Basin and Area 1/2 probably resulted from runoff from the shore. The measure of diversity in the capped area was strong this year, indicating a stable population.

The uncapped Area 4/5 had the greatest relative abundance and the diversity was the highest for this area since 2010. The dominant species were the naiad worm, *Dero sp.*, the isopod crustacean, *Caecidotea communis*, and snails *Physa* sp. and *Bithynia tenticulata*. The diversity in the samples from Area 4/5 was consistent with past data indicating that the benthic community is stable.

4.5.1.2 Sediment Physical/Chemical Characteristics

The sediment samples at J_T1+00E50 (Turning Basin) and J_T21+00E50 (Area 4/5) were primarily organic sediments. This location was very near the north shore and a great deal of plant material was present in the sample. Therefore, no grain size analysis was done on the sample. The grain size analyses, performed on the sample collected from the capped Area 1/2 in conjunction with biological sampling, indicated that the sediments at T6+00E60 in the Canal were silt loam (see Table 4-10). TOC reported in Area 8 was significantly higher than in Area 1 (see Table 4-10). As noted above, the sample location was very near the shore and the sample contained a lot of decaying plant material. TOC reduces the bioavailability of metal and organic contaminants. The ratios of SEM/AVS were less than one for Areas 8, 1 and 4/5, which indicates that metals are not bioavailable (see Table 4-11).

TABLE 4-9
COMPARISON OF RELATIVE ABUNDANCE AND DIVERSITY
BENTHIC MACROINVERTEBRATES

Year	Area 8		Area 1		Area 2		Area 4/5	
	Relative Abun-dance	# Major Species (≥4%)	Relative Abun-dance	# Major Species (≥4%)	Relative Abun-dance	# Major Species (≥4%)	Relative Abun-dance	# Major Species (≥4%)
2001	NOT SAMPLED						260	4
2003	16	3	12	5	75	5	1,898	6
2004	13	11	49	7	144	5	323	5
2005	2,941	4	103	10	23	3	121	4
2006	7	6	8	13*	NS	NS	340	4
2007	64	6	349	7	NS	NS	70	5
2008	101	3	159	2	NS	NS	379	7
2009	120	3	385	3	NS	NS	2,071	2
2010	491	4	390	2	NS	NS	95	9
2011	76	2	227	2	NS	NS	244	6
2012	23	2	106	1	NS	NS	317	4
2013	26	>1**	142	2	NS	NS	1,805	7
2014	2	5***	89	5	NS	NS	968	6
2015	105	7	13	11	NS	NS	281	8

* Replicate 1 accounted for 11 species, Relative Abundance was less than number of species in this replicate
** Specimens could only be identified to the family level
***Low numbers of individuals in each replicate so number of species greater than relative abundance
NS = Not sampled, long-term monitoring calls for one random sample from Areas 1 and 2.

TABLE 4-10
TOTAL ORGANIC CARBON & SEDIMENT DATA - BENTHIC MACROINVERTEBRATE SAMPLING 2015

Location	Sample Point	Date	Water Depth (ft.)	Percent Moisture	Total Organic Carbon (mg/kg)	Sediment Type (USDA)
Area 8	J_T1+00E50	9/23/15	2.0	78.4	192,000 (19.2%)	organic
Area 1	J_T6+00E60	9/23/15	5.8	61.4	50,000 (5%)	Silt loam
Area 4/5	J_T21+00E50	9/22/15	1.6	68.0	219,000 (21.9%)	organic
	J_T21+00E25	9/22/15	0.0	62.4	64,500 (6.5%)	organic
	J_T17+00E400	9/22/15	0.0	70.7	204,000 (20.4%)	organic

Note: tables updated from revised data

TABLE 4-11
METALS AND AVS-SEM SEDIMENT DATA 2015

Area	Sample Point	Water Depth (ft.)	Results from 0-10 cm Core Samples							SEM/AVS Molar Ratio
			Acid Volatile Sulfide (μmole/g)	Simultaneously Extracted Metals (SEM)						
				Cd	Cu	Pb	Hg	Ni	Zn	
				SEM (μmole/g)	SEM (μmole/g)	SEM (μmole/g)	SEM (μmole/g)	SEM (μmole/g)	SEM (μmole/g)	
Area 8	J_T1+00E50	2.0	11.1	NA	0.0483	0.0782	U	NA	0.440	0.0510
Area 1	J_T6+00E60[1]	5.8	2.55	NA	0.156	0.106	U	NA	1.05	0.5143
Area 4/5	J_T21+00E50	1.6	18.2	NA	0.302	0.0849	U	NA	2.79	0.1746

U – Sample was analyzed for the constituent, but it was not detected in the sample

NA – Not analyzed

[1] Values presented are the mean of the two duplicate samples.

In Area 4/5, the TOC concentrations reported were high indicating that PAHs are not readily bioavailable (see Table 4-10). The AVS/SEM ratio was less than 1 indicating that metals are not bioavailable. Based on these data, it appears that the native surficial sediments in Area 4/5 continue to function as a "natural cap" for contaminants present in the sediments.

4.5.1.3 Compliance with Performance Standards

The reduced dominance of the tubificid worms and the greater diversity in the benthic population indicates that the benthic community is becoming more stable. Extremely high dominance by one group of organisms is indicative of a relatively new community or a community that experiences frequent dislocation by external stressors. The increase in species diversity is a positive indicator for the benthic communities.

Comparisons of relative abundance and diversity over the 13 years of sampling data (see Table 4-9), show that spatial heterogeneity, or patchiness, continues to be evident. The very low relative abundance of 13 individuals for the 2015 Area 1/2 location J_T6+00E60 is probably a result of patchiness as the diversity reported is relatively high. The PAH concentrations are low, and the SEM/AVS ratio is less than 1, indicating that metals are not bioavailable. Therefore contamination does not seem to be the cause for the low abundance.

Patchiness is a common occurrence in benthic macroinvertebrate distribution which makes determining trends with small numbers of samples difficult (Elliott, 1983). The worms, mollusks, and crustaceans that dominate the fauna at Pine Street are not extremely mobile, so the populations tend to expand spatially around the early colonizers creating a "patch". Random sampling may hit a patch or miss one. As the populations expand, the distance between "patches" would decrease, so in ideal conditions over the long term the populations would become uniformly distributed across an area. However, population expansion may be limited by predation, availability of food resources, or other natural or man-made stressors. Also, in newly colonized environments, such as the capped area of the Canal, the spatial heterogeneity may result because not enough time has elapsed for the benthic macroinvertebrates to fully utilize the available habitat. The insect larvae like the chironomid midges would be expected to become widely distributed more rapidly, given suitable substrate conditions, because the next generation is produced from eggs laid by the flying adult. Chironomid larvae were reported in all three Area 1 replicates.

The Area average 0-10 cm surface sediments sum-of-PAH concentrations reported from the cap coring in Areas 8 and 1 in 2015 (see Section 4.3.1 and Table 4-3) were less than 2 mg/kg, well below the 21 mg/kg benchmark value (although that concentration is only an applicable benchmark value for the mid-cap samples according to the CMWP). The average summed PAH concentrations in the Areas 8 and 1 shallow sediment samples were well below the Area 4/5 16.61 mg/kg average (see Table 4-3). As discussed above, the high organic carbon content of the sediments in Area 4/5 limits the bioavailability of PAHs. The SEM/AVS ratio for Area 4/5 was 0.175 at sample location J_T21+00E50 in Area 4/5 which is well below 1, which indicates that metals at this location are not bioavailable.

The Performance Standard for benthic macroinvertebrates is: "*Presence of a macrobenthic invertebrate community consistent with sediment type, grain size, water depth, and total organic carbon content of sediments after three years*." (Ref. SOW VII. H. 1.) The 2005, Year 3, sampling in Areas 1, 4/5, and 8 showed the presence of a benthic macroinvertebrate community consistent with the sediment type. Monitoring continues to show development of the

benthic macroinvertebrate community. Thus, the Performance Standard for these Areas has been met over the last 10 years.

4.5.2 Aquatic Vegetation Monitoring

4.5.2.1 Qualitative Vegetation Monitoring

Monitoring of Canal submergent vegetation was performed during the macroinvertebrate sampling on September 22 and 23, 2015. On those days, the Lake level was lower than the weir crest and the Canal water level stage. See Figure 2-5 for location of the areas described below. The results of this monitoring are as follows.

Areas 8 and 1 – Turning Basin and Northern Portion of the Canal

Areas 8 and 1 are the deeper areas of the Canal and Turning Basin. The sampling station in Area 8, the Turning Basin, was very close to the northwest corner of the Turning basin. Water depth at the macroinvertebrate sampling station was 2.0 feet. Broadleaved cattail (*Typha latifolia*), burreed (*Sparganium eurycarpum*), and flowering rush (*Butomus umbellatus*) were observed on the shore. Common reed (*Phragmites australis*) was also present on the shore. White water lily beds (*Nymphaea odorata*) were the dominant floating leaved plant. Eurasian milfoil (*Myriophyllum spicatum*) formed the dominant submergent vegetation in the Turning Basin. Filamentous green algae were prominent on the submerged vegetation and floccular brown algae were also present on the rooted plants in both Area 8 and Area 1. In Area 1, the rooted aquatic vegetation noted included Eurasian milfoil, and white water lily. Burreed, cattail, and flowering rush were also present on the shore of Area 1. In both areas, the water was turbid and suspended green algae appeared to be a significant component of the turbidity.

Area 2 Southern Canal

The Amended Cap was placed in this area in 2010. The Amended Cap consists of a sand layer covered by a RCM, with a TRM mat as the final surface. This TRM mat consists of a plastic enmeshed in a chain-link wire framework.

The TRM extends into the riparian area above the mean water level for the Canal. On the east side of the Canal, an area of soil from 8 to 12 feet wide exists between the termination of the

TRM and an access road to the NAPL recovery wells. The restoration seeding of this area completed in 2013 has resulted in thick vegetative cover (see the report on compensatory restoration in Appendix 9 for a full discussion). The TRM and the area between the TRM and the access road have been maintained to prevent the growth of woody vegetation.

The TRM at the edges of the Canal on both the east and west sides has been colonized by native plants and *Phragmites*. Eurasian milfoil and white waterlily have colonized the Amended Cap.

Area 2 Waterway

The bottom of the waterway in the southern half of Area 2 is stabilized with rock gabions and the waterway channel formed using coir logs. These coir logs have been fully overgrown by emergent vegetation including burred and cattail. The waterway also supports a thick growth of waterweed and Eurasian milfoil that fills the channel.

Area 3

Phragmites has become dominant in all but the wettest portion of Area 3. Broadleaved cattail dominates the wetter areas. Wetland vegetation monitoring is no longer required in this area because the required wetland monitoring to demonstrate ≥50% dominance of wetland vegetation was completed in Year 5 following capping, as required by the Statement of Work.

Area 7

Cattail and *Phragmites* are the dominant emergent wetland plants in Area 7. The black locust trees that have colonized the Site have become quite large. The alders that were planted at the south west side of the area continue to thrive. Wetland vegetation monitoring is no longer required in this area because the required wetland monitoring to demonstrate ≥50% dominance of wetland vegetation was completed in Year 5 following capping, as required by the Statement of Work.

100 ft. X 100 ft. Area

The 100 ft. x 100 ft. Area is located in the wetland area south of the turning basin and

east of Area 1 (See Figure 2-5) *Phragmites* is the dominant plant in the 100 ft. X 100 ft. Area. Two small silver maple trees were noted above the *Phragmites*.

West Bank Cap

Wetland vegetation monitoring is no longer required in this area because the required wetland monitoring to demonstrate ≥50% dominance of wetland vegetation was completed in Year 5 following capping, as required by the Statement of Work.

Much of the West Bank Cap area was cleared for the construction of the Amended Cap. The TRM has been anchored in a trench there. The northernmost section of the TRM is anchored by concrete poured into the trench. The remainder of the trench is earth filled. On September 22 and 23, 2015, the West Bank Cap, including the area impacted by the Amended Cap construction, was dominated by *Phragmites*, despite herbicide treatment in 2013.

4.5.2.2 Compliance with Performance Standards

Wetland restoration in the West Bank Cap area has met the Performance Standards for wetland vegetation specified in the SOW for the fifth growing season post-construction:

- *Plant community >50% of dominant wetland plants are wetland indicators* (Ref. SOW VII H.2 and H.3)

The Performance Standard for Palustrine Open Water vegetation has also been met because submergent vegetation is present in Areas 8, 1, 2, and 4 (See Figure 2-5):

- *Presence of submergent vegetation* (Ref. SOW VII. H.1.)

4.5.3 Wetlands Areas 3 and 7

Soil sampling in 2013 (Year 10 post-construction) showed that the soils in Areas 3 and 7 showed soil morphologies for hydric soils. Based on the soil profiles, hydric soil morphology has developed in the palustrine emergent portions of Areas 3 and 7, and the scrub-shrub portion of Area 3 (See Figure 2-5); thus satisfying the final performance standard for the wetland restoration:

- *Soils show a trend toward hydric conditions (morphologies) at close of year 10 [2013]*. (Ref. SOW, VII.H. 2 and 3)

TABLE 4-12
AREA 4/5 "NATURAL CAP" COMPARISON OF 2001 AND 2003-2015 SEDIMENT DATA

Date	Sample Point	Water Depth (ft.)	Total Organic Carbon (mg/kg)	Acid Volatile Sulfide (mg/kg)	Simultaneously Extracted Metals (mg/kg)						SEM/AVS Molar Ratio
					Cd	Cu	Pb	Hg	Ni	Zn	
8/28/01	J_T24+30[1]	3.3	83,800	691	3.2	123	98.8	0.01	13.6	374	0.89
8/28/01	J_T24+30(Dup)[1]	3.3	96,500	663	3.0	122	91.7	0.01	13.3	367	0.90
8/13/03	J_T18+00E250	2.0	69,500	17.0	1.7	52.2	53.9	0.055	14.4	301	0.35
8/17/04	J_T20+00E75	1.5	103,000	367	1.2	26.2	56.8	U	7.4	164	0.29
8/19/05	J_T19+00E65	At surface	164,000	U	3.6	148	134	U	17.5	675	[2]
8/10/06	J_T21+00E25	2.75	82,600	1060	3.4	144	140	U	19.8	650	0.40
8/08/07	J_T19+00E45	3.5	244,000	1550	1.7	65.2	93.5	U	19.4	489	0.19
8/13/08	J_T18+00E425	3.5	77,500	2360	1.2	10.6	118	U	11.5	557	0.13
8/5/09	J_T18+00E400	1.5	88,000	694	1.1	53.5	61.6	U	6.6	368	0.32
6/30/10	J_T21+00E50	3.0	113,000	1800	4.7	1.3	136	U	12.7	559	0.17
8/24/11	J_T22+00E25	2.0	161,000	2270	NA	108	94.9	NA	NA	994	0.25
8/22/12	J_T19+00E15	At surface	20,700	335	NA	33.7	12.9	U	NA	149	0.28
8/16/13	J_T23+00E25	At surface	76,500	200	NA	12.0	22.3	U	NA	145	0.41
8/27/14	J_T21+00E75	0.5	81,600	154 J	NA	80.9 J	15.1 J	UJ	NA	242 J	1.05
9/22/15	J_T21+00E50	1.6	219,000	584	NA	19.2	17.6	U	NA	182	0.17

U = Sample was analyzed for the constituent, but it was not detected in the sample

J – Sample was analyzed for the constituent, value is estimated due to insufficient accuracy and or reproducibility

UJ – Sample was analyzed for the constituent but not detected, value is estimated due to insufficient accuracy and or reproducibility

NA = Non analyzed

[1] Using current Sample Point designation convention, this location would be J_T23+70E10

[2] Not available due to non-detect result for AVS

4.6 OUTLET WEIR INSPECTION

The outlet weir was inspected on August 26, 2015. The inspection field form is provided in Appendix 1. No visual evidence of settlement of either the weir or the railroad bridge was observed. The concrete of the weir was in good condition, with no cracks, exposed rebar or scaling noted. Some 1/2 to 1-inch pits were noted in the concrete (see photos in Appendix 7). As has been common, large portions of the weir and the adjacent rip-rap were covered with sand, and therefore were not inspected. The sand has accumulated to approximately 0.2 feet below the top of the weir crest and spillway on the upstream (Canal) side of the weir, and to approximately 0.8 feet below the crest on the Lake side. The rip rap was visible to the north and south of the weir abutments, and had no evidence of erosion. The elevations and alignment of the railroad bridge concrete abutments and weir remain essentially unchanged. The railroad bridge abutments surveyed in 2015 were within 0.02 feet of the 2014 measurements, and within 0.05 feet of the initial elevations surveyed in 2001. The elevations of the weir measured in 2015 were within 0.03-0.06 feet and lower than those surveyed in 2014 and 2001. The outlet weir, adjacent rip-rap, and railroad abutments are all stable and have held up well to the test of weather and seasonal changes over the past 14 years.

4.7 SEDIMENT TRANSPORT MONITORING

There were no storms of sufficient intensity to trigger the stormwater system, when the elevation of the lake was below the weir, during the 2015 monitoring season (April 15th to November 25th). However, due to unseasonably high rainfall amounts in late May and early June, the canal gradually rose above the elevation trigger point of 97.55 ft. (NAVD88) by June 12th, which triggered the automated ISCO sampler to activate the sampling routine. At this time, the elevation of the lake was also above the weir, so the samples were discarded because they would not be representative of water flowing from the canal to the lake.

Pursuant to the CMWP, the stormwater trigger elevation will remain at 97.55 ft. NAVD88 since low level PAHs were detected in surface water samples collected during the two storms in 2013 that exceeded that trigger elevation.

4.8 COMPENSATION RESTORATION MONITORING RESULTS

Two monitoring events of the post-Amended Cap remediation wetlands restoration were conducted at the Pine Street Canal Site; on June 10, 2015 and September 24, 2015. Monitoring of the off-site restoration area at the Ethan Allen Homestead was conducted on June 11, 2015. The monitoring report is attached as Appendix 9. The two on-site monitoring quadrants, North Area Plot and South Area Plot, had 100% survival, and all of the plantings outside the monitoring plots survived. The June 11, 2015 inspection was the third monitoring event for the Ethan Allen Homestead buffer planting and the survival rate was 48%. The 50 surviving trees are sufficient for the desired tree density at the Ethan Allen Homestead and achieve the objective in the Restoration Plan for Mitigation of Habitat Loss Due to Installation of the Amended Cap (The Johnson Company, 2012). Based on the success of the restoration at the two sites, continued monitoring is no longer necessary.

5.0 REFERENCES

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FIGURES

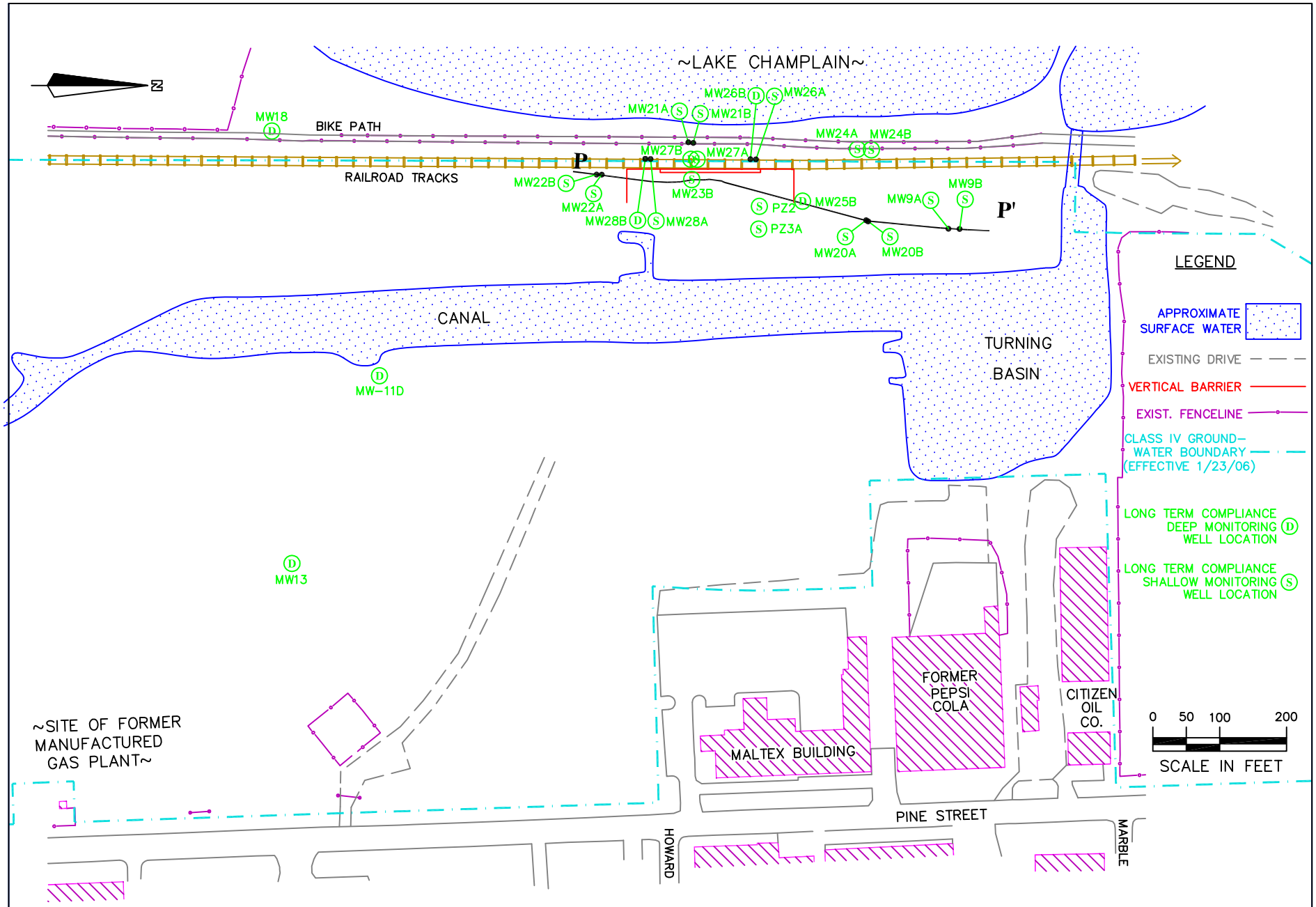


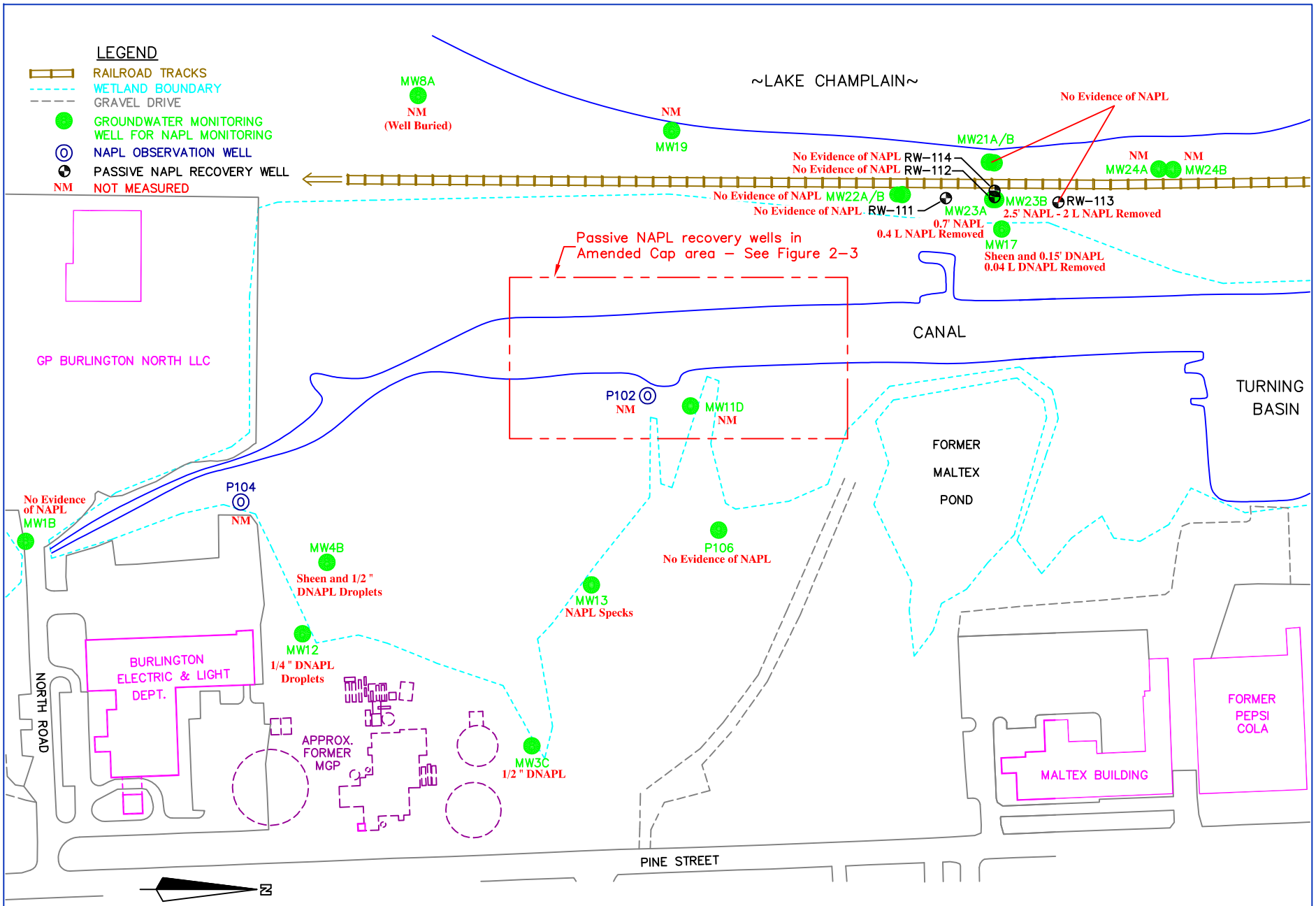
FIGURE 2-1: LOCATIONS OF WELLS USED FOR COMPLIANCE MONITORING PINE STREET CANAL SITE, BURLINGTON, VT.

K: \1-0870-2\cad\COMPWELL2015.DWG

The Johnson Company

100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: TJK	Date: 07/13/15
Reviewed by: JEP	Date: 07/13/15
Scale: As Shown	Project: 1-0870-02



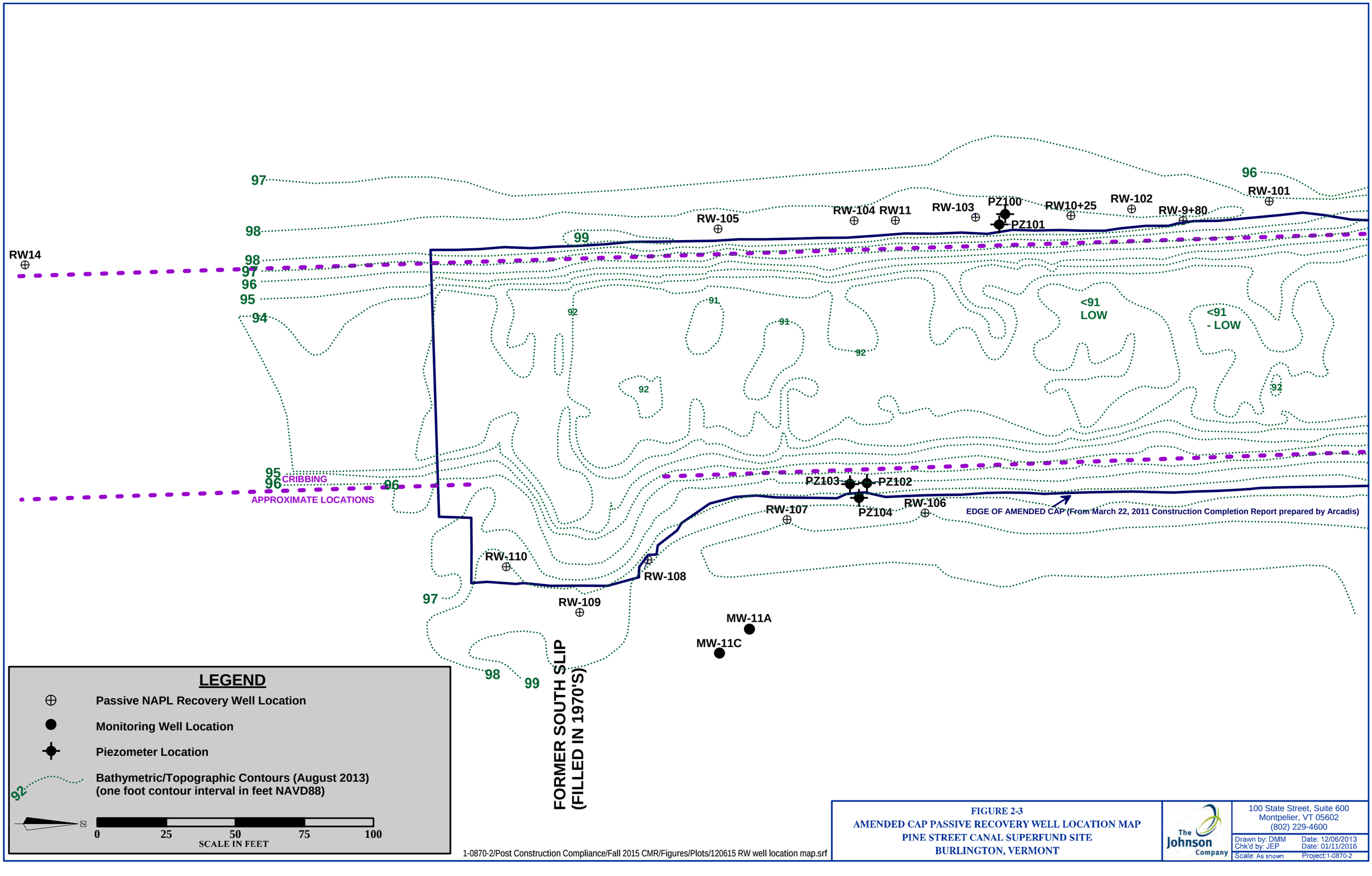
K:\1-0870-2\cad\NAPLMON2014.dwg

FIGURE 2-2: GROUNDWATER MONITORING WELLS AND PASSIVE RECOVERY WELLS OCTOBER 2015 NAPL MONITORING RESULTS PINE STREET CANAL SITE, BURLINGTON, VERMONT

The Johnson Company

100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: TJK Date: 01/06/16
Reviewed by: JEP Date: 01/06/16
Scale: As Shown Project: 1-0870-02



1-0870-2/Post Construction Compliance/Fall 2015 CMR/Figures/Plots/120615 RW well location map.srf

FIGURE 2-3
AMENDED CAP PASSIVE RECOVERY WELL LOCATION MAP
PINE STREET CANAL SUPERFUND SITE
BURLINGTON, VERMONT

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602
(802) 229-4600

Drawn by: DMM	Date: 12/06/2013
Chk'd by: JEP	Date: 01/11/2016
Scale: As shown	Project:1-0870-2

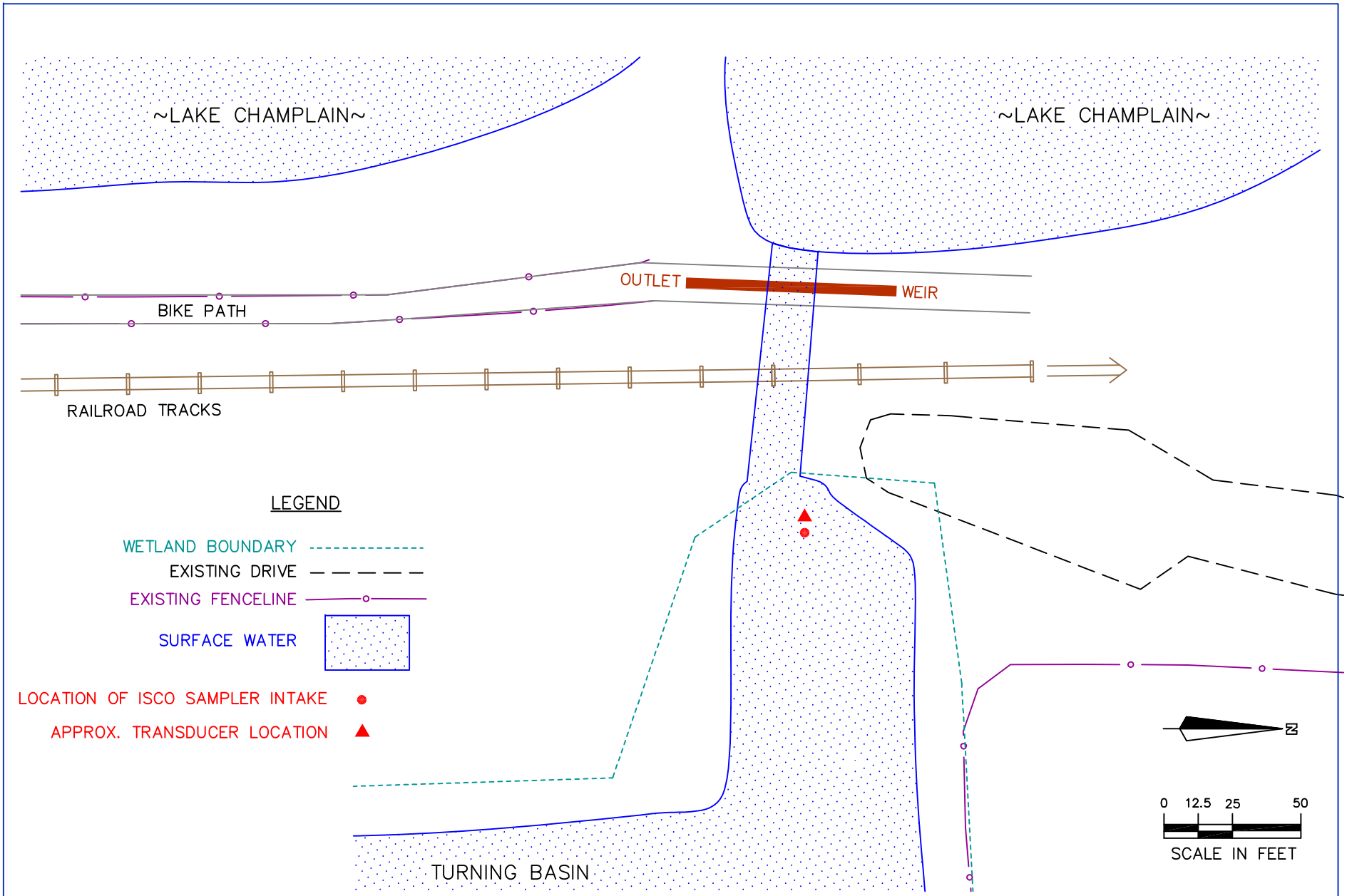


FIGURE 2-4: STORMWATER SAMPLING LOCATIONS
PINE STREET CANAL SITE
BURLINGTON, VERMONT

ORIGINAL 01/04/00 TJK
K:\1-0870-2\cad\SWGRAB.dwg

The Johnson Company

100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: TJK Date: 07/13/15
Reviewed by: JEP Date: 07/13/15
Scale: As Shown Project: 1-0870-02

ORIGINAL 12/17/07 TJK

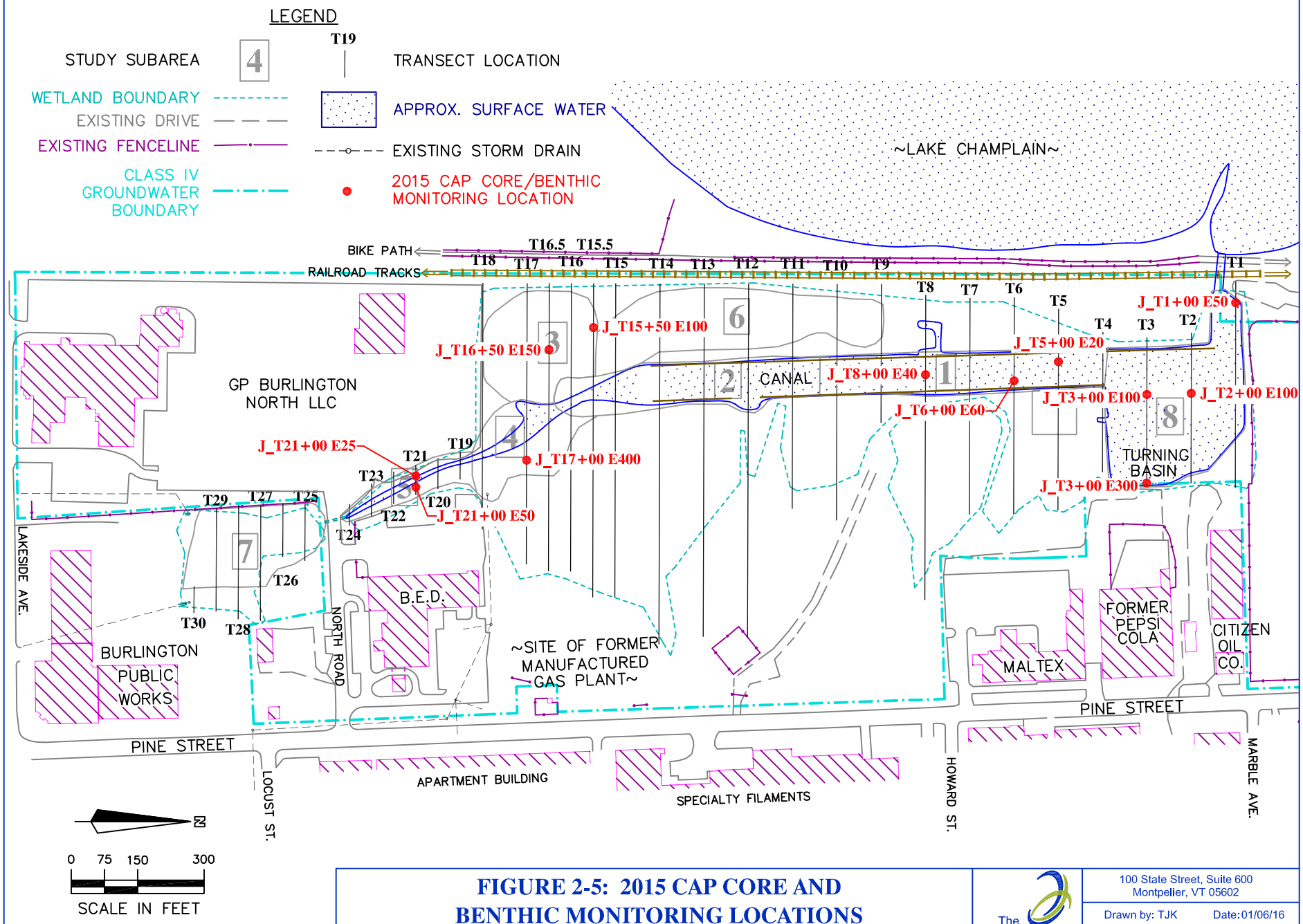


FIGURE 2-5: 2015 CAP CORE AND BENTHIC MONITORING LOCATIONS PINE STREET CANAL SITE, BURLINGTON, VERMONT

K:\1-0870-2\cad\PCLOCS.DWG

The Johnson Company
100 State Street, Suite 600
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Drawn by: TJK	Date: 01/06/16
Reviewed by: JEP	Date: 01/06/16
Scale: As Shown	Project: 1-0870-02

ORIGINAL 10/16/01 TJK

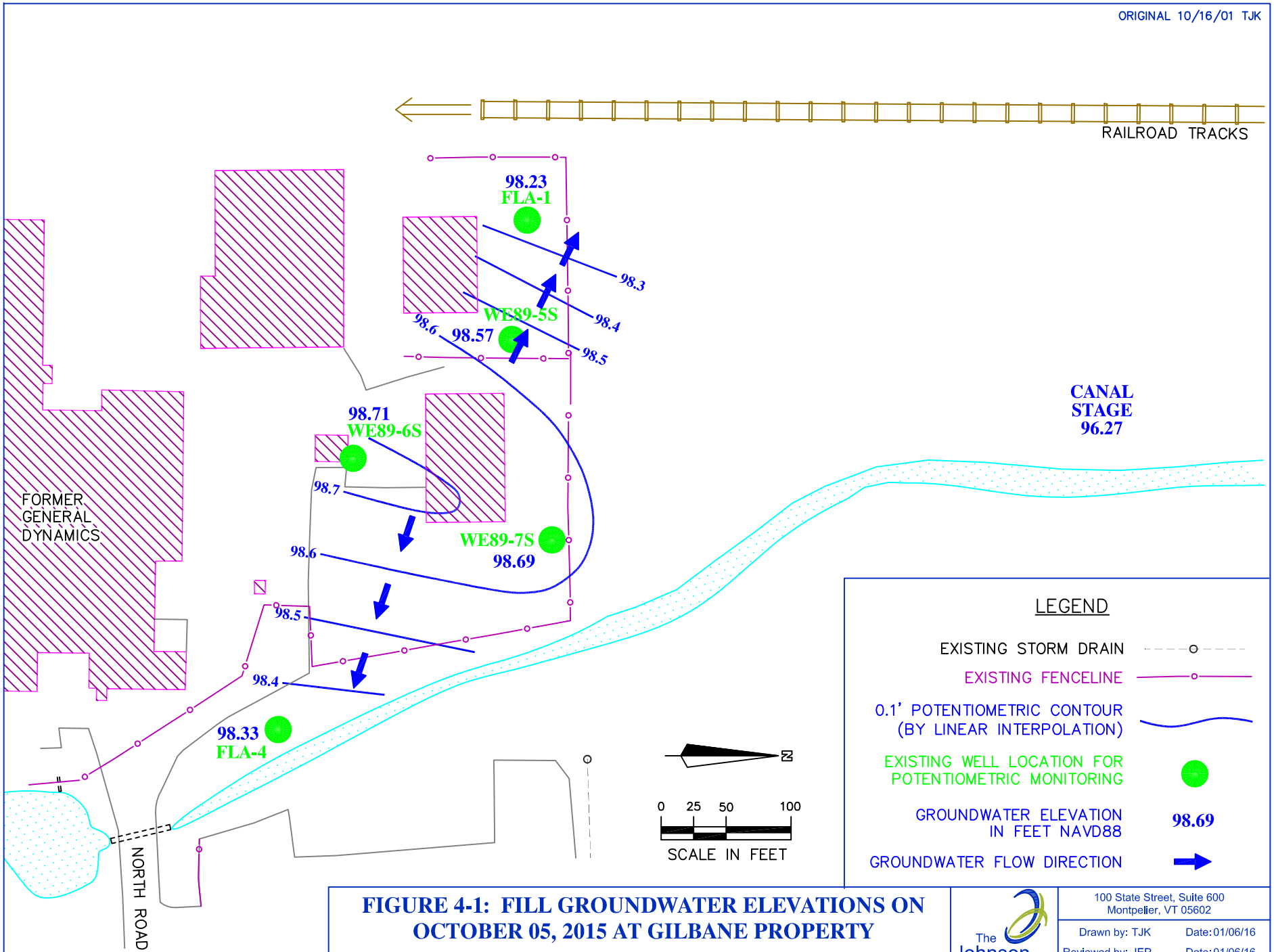

FIGURE 4-1: FILL GROUNDWATER ELEVATIONS ON OCTOBER 05, 2015 AT GILBANE PROPERTY
PINE STREET CANAL SITE, BURLINGTON, VERMONT

K: \1-0870-2\cad\GDWELLS.DWG

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

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Scale: As Shown	Project: 1-0870-02

ORIGINAL 10/16/01 TJK

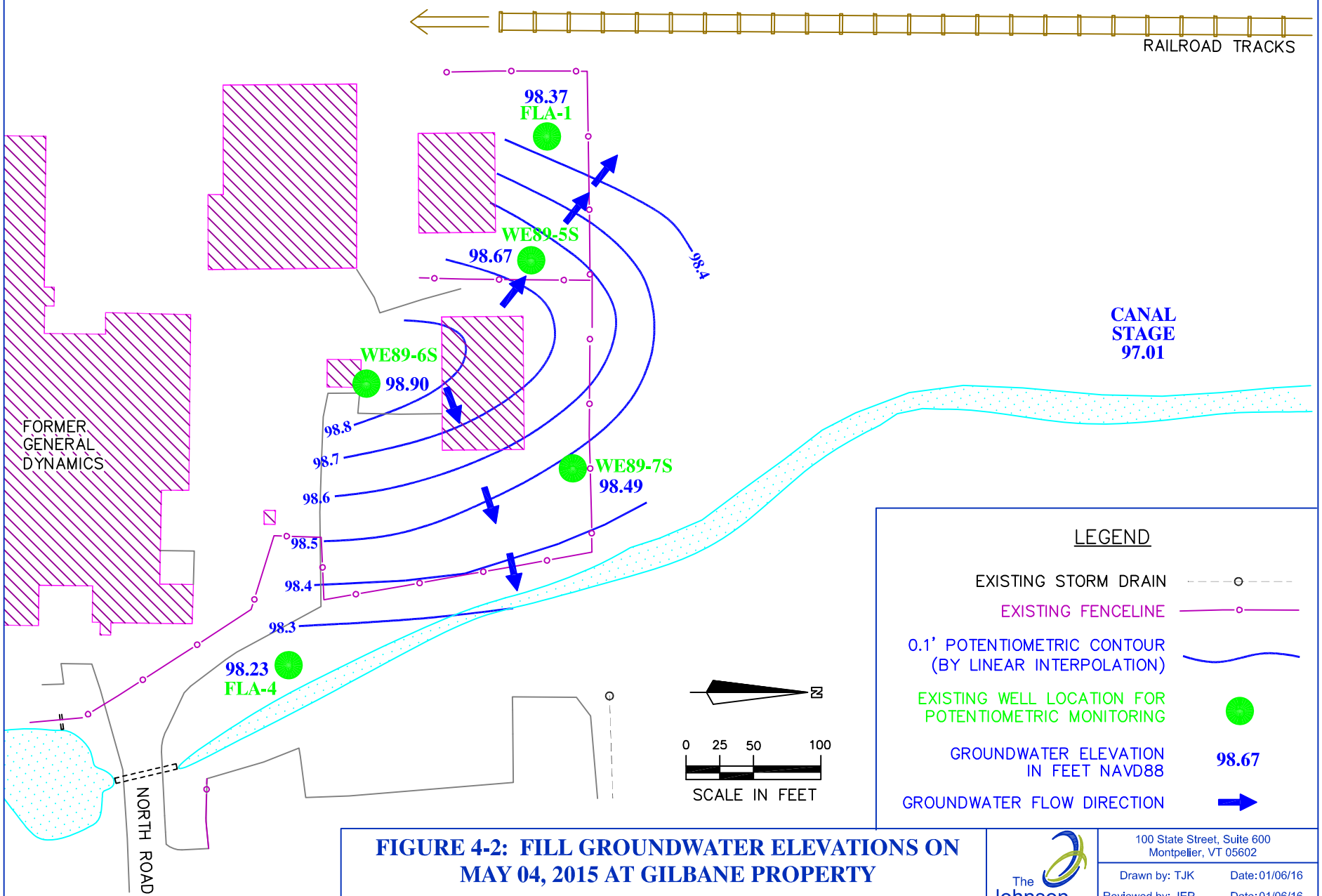


FIGURE 4-2: FILL GROUNDWATER ELEVATIONS ON MAY 04, 2015 AT GILBANE PROPERTY
PINE STREET CANAL SITE, BURLINGTON, VERMONT

K:\1-0870-2\cad\GDWELLS.DWG

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: TJK	Date: 01/06/16
Reviewed by: JEP	Date: 01/06/16
Scale: As Shown	Project: 1-0870-02

ORIGINAL 10/16/01 TJK

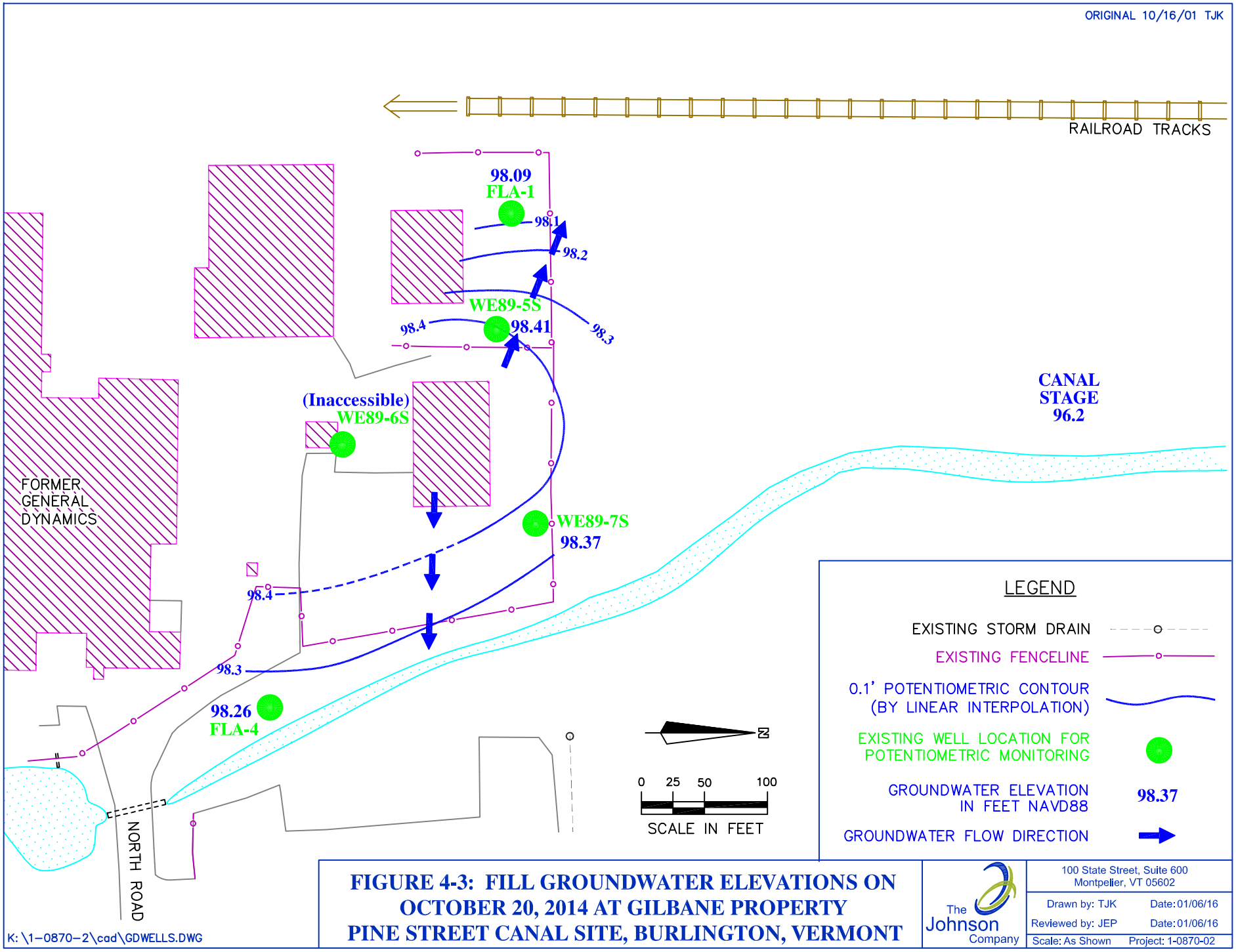
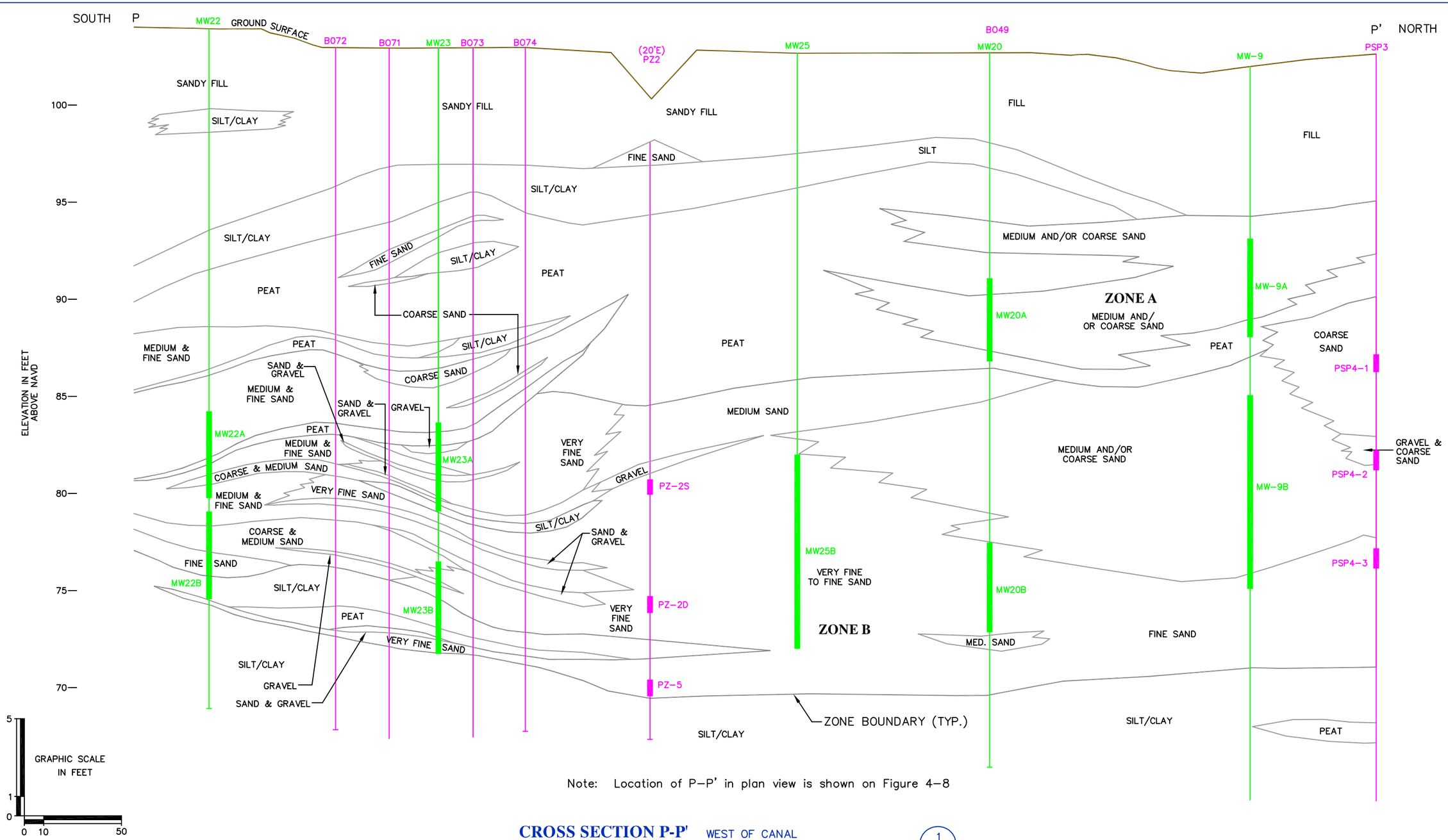


FIGURE 4-3: FILL GROUNDWATER ELEVATIONS ON OCTOBER 20, 2014 AT GILBANE PROPERTY PINE STREET CANAL SITE, BURLINGTON, VERMONT

K: \1-0870-2\cad\GDWELLS.DWG

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: TJK	Date: 01/06/16
Reviewed by: JEP	Date: 01/06/16
Scale: As Shown	Project: 1-0870-02



Note: Location of P–P' in plan view is shown on Figure 4–8

CROSS SECTION P-P' WEST OF CANAL

SCALE: 1"=50' HOR.; 1"=5' VER.; V.E. = 10:1

1
1

FIGURE 4-4: INTERPRETIVE GEOLOGIC CROSS SECTION P - P' BASED ON BORINGS SHOWN PINE STREET CANAL SITE, BURLINGTON, VT

The Johnson Company
100 State Street, Suite 600
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Drawn by: TJK Date: 07/14/15
Reviewed by: JEP Date: 07/14/15
Scale: As Shown Project: 1-0870-02

K: \1-0870-2\cad\GEOP2014.dwg

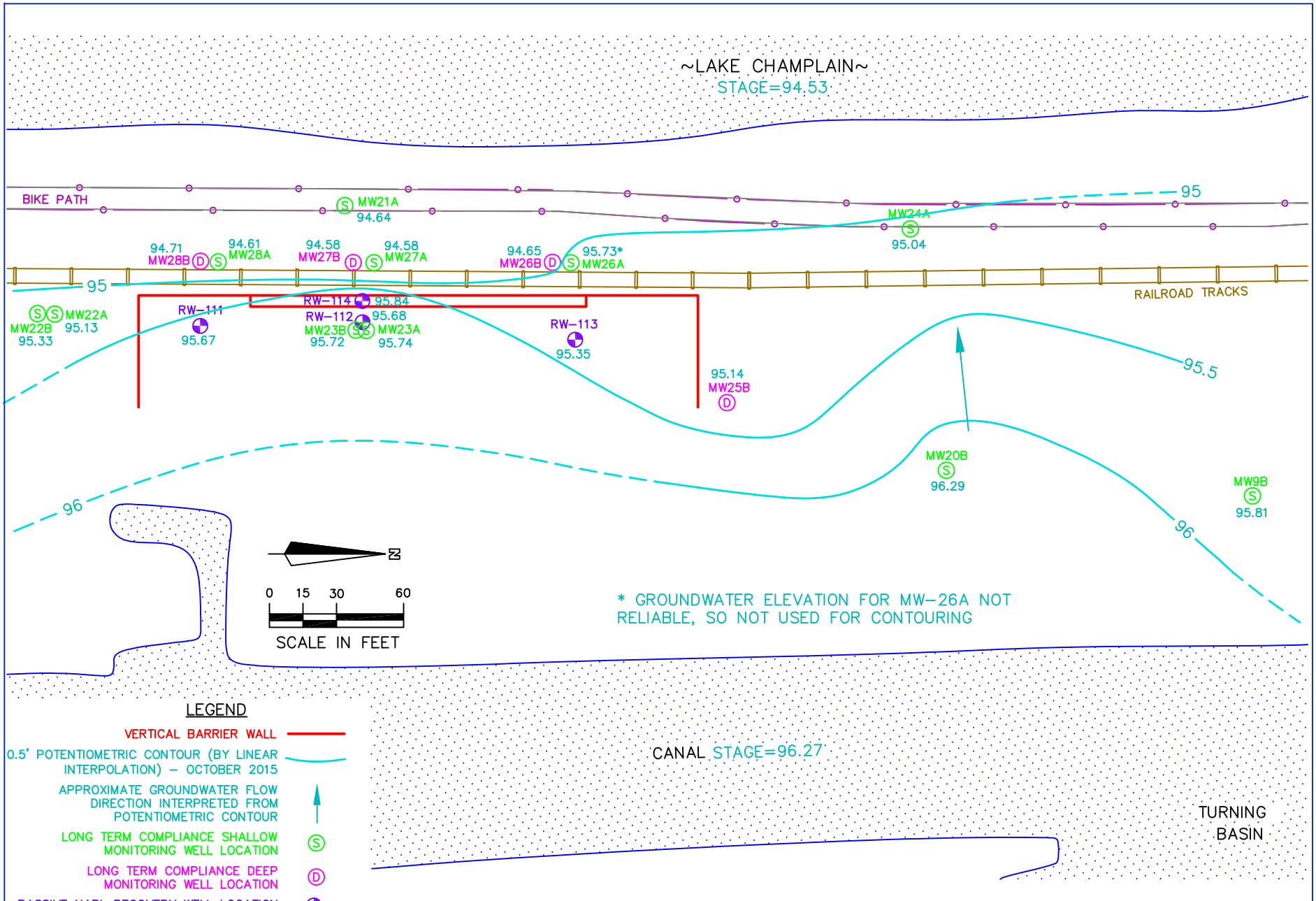
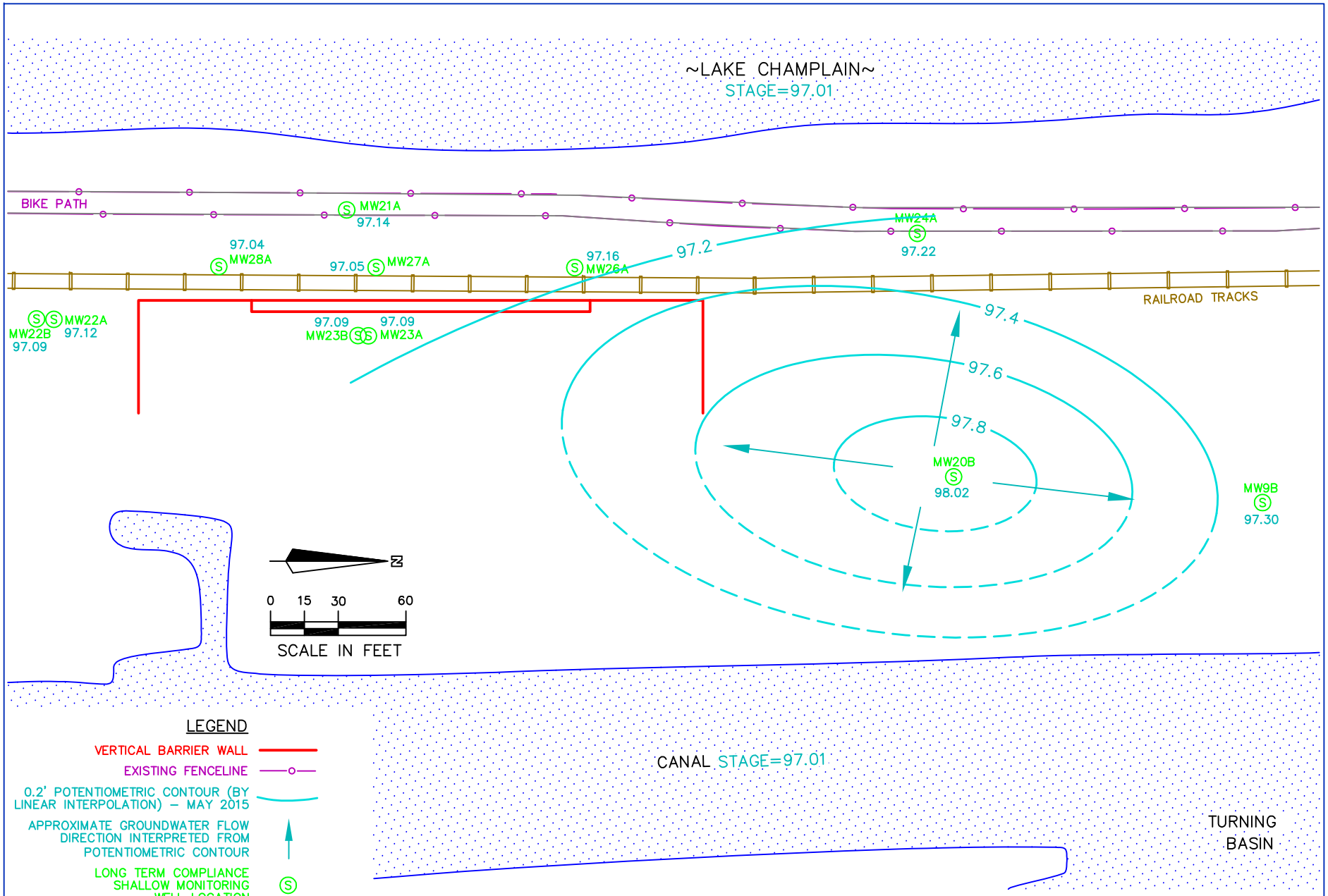


FIGURE 4-5: OCTOBER 05, 2015
POTENTIOMETRIC CONTOURS - ZONE B
PINE STREET CANAL SITE, BURLINGTON, VERMONT

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: TJK Date: 01/06/16
Reviewed by: JEP Date: 01/06/16
Scale: As Shown Project: 1-0870-02



ORIGINAL 12/31/01 TJK

K:\1-0870-2\cad\GWCNT2015.DWG

FIGURE 4-6: MAY 04, 2015
POTENTIOMETRIC CONTOURS - ZONE B
PINE STREET CANAL SITE, BURLINGTON, VERMONT

The Johnson Company

100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: TJK	Date: 01/06/16
Reviewed by: JEP	Date: 01/06/16
Scale: As Shown	Project: 1-0870-02

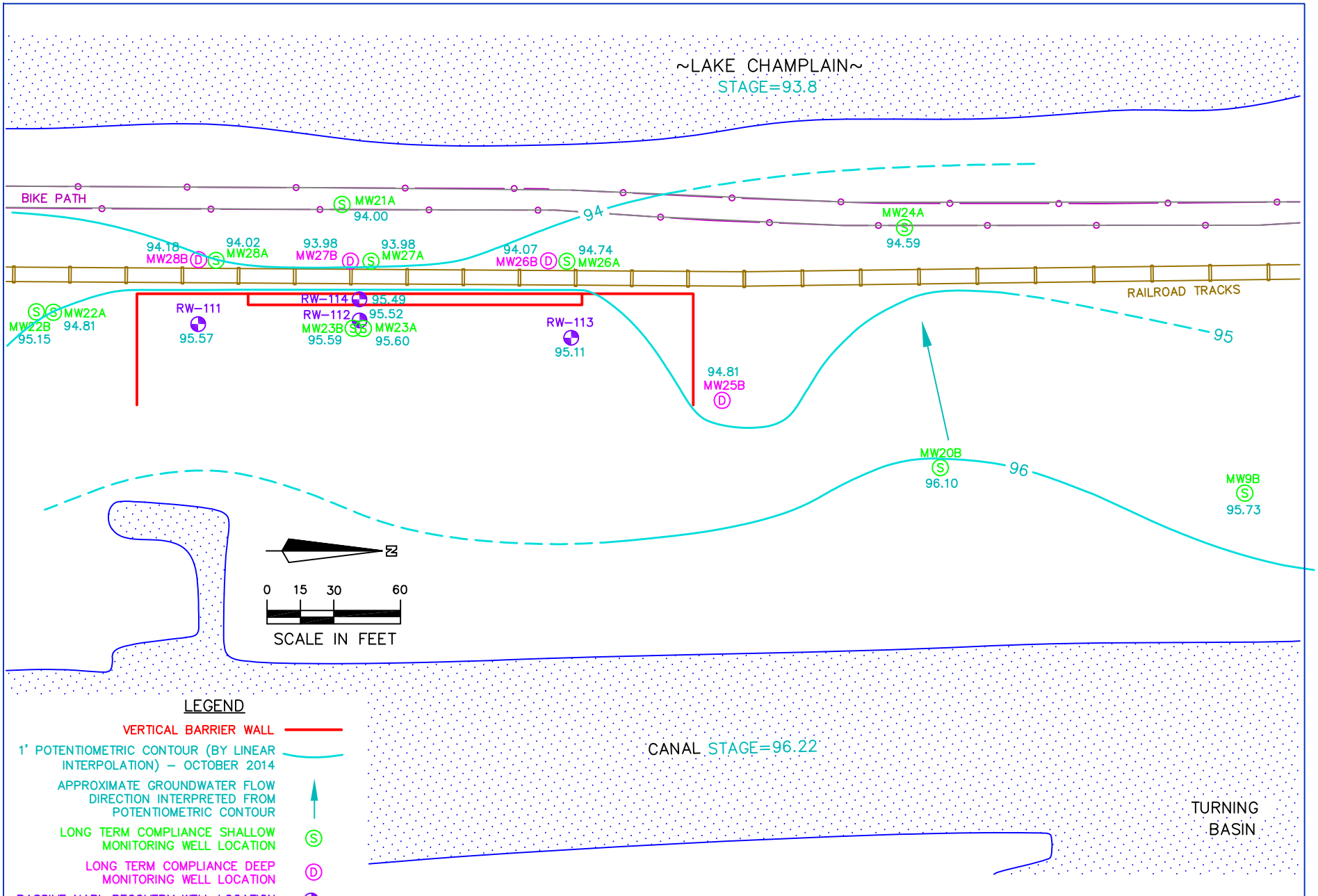


FIGURE 4-7: OCTOBER 20, 2014
POTENTIOMETRIC CONTOURS - ZONE B
PINE STREET CANAL SITE, BURLINGTON, VERMONT

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: TJK Date: 01/06/16
Reviewed by: JEP Date: 01/06/16
Scale: As Shown Project: 1-0870-02

~LAKE CHAMPLAIN~

BIKE PATH

RAILROAD TRACKS (APPROXIMATE)

CANAL

TURNING BASIN

MALTEX BUILDING

FORMER PEPSI COLA

CITIZEN OIL CO.

P

P'

10/07/15	
B	1.0 U
T	1.0 U
E	1.0 U
X	1.0 U

MW18 (D)

10/05/15	
B	180
T	1.0 U
E	1.0 U
X	1.0 U
N	4.0 U

10/05/15	
B	7
T	1.0 U
E	1.0 U
X	1.0 U
N	4.0 U

MW28B (D) MW28A (S)

10/06/15	
B	450
T	10 U
E	10 U
X	13
N	620

MW27B (D) MW27A (S)

10/05/15	
B	0.8 J
T	1.0 U
E	1.0 U
X	1.0 U
N	4.0 U

MW21A (S) MW21B (S)

10/05/15	
B	1.0 U
T	1.0 U
E	1.0 U
X	1.0 U
N	4.0 U

MW26B (D) MW26A (S)

10/05/15	
B	1.0 U
T	1.0 U
E	1.0 U
X	1.0 U
N	4.0 U

10/06/15	
B	1.0 U
T	1.0 U
E	1.0 U
X	2

MW24A (S) MW24B (S)

10/06/15	
B	1.0 U
T	1.0 U
E	1.0 U
X	1.0 U

10/06/15	
B	590
T	5 J
E	320
X	460
N	710

MW22B (S) MW22A (S)

10/06/15	
B	1,500
T	15
E	490
X	630
N	760

10/05/15	
B	73
T	5 U
E	27
X	6
N	100

MW23B (S)

10/06/15	
B	380
T	350
E	530
X	780
N	3,100

10/05/15	
B	2
T	1.0 U
E	1.0 U
X	0.5 J
N	8

MW25B (D)

10/06/15	
B	1.0 U
T	1.0 U
E	1.0 U
X	1.0 U
N	4.0 U

MW20A (S) MW20B (S)

10/06/15	
B	1.0 U
T	1.0 U
E	1.0 U
X	1.0 U
N	4.0 U

10/06/15	
B	1.0 U
T	1.0 U
E	1.0 U
X	1.0 U
N	4.0 U

10/07/15	
B	1.0 U
T	1.0 U
E	1.0 U
X	1.0 U

MW9A (S) MW9B (S)

10/07/15	
B	1.0 U
T	1.0 U
E	1.0 U
X	1.0 U

MW-11D (D)

10/07/15	
B	1.0 U
T	1.0 U
E	1.0 U
X	1.0 U

MW13 (D)

10/07/15	
B	1.0 U
T	1.0 U
E	1.0 U
X	1.0 U

BTEX KEY

- B Benzene
- T Toluene
- E Ethylbeneze
- X Xylene (total)
- N Naphthalene
- U The analyte was analyzed for but not detected
- J The associated numerical value is an estimated quantity

NS Not Sampled

LEGEND

- APPROX. SURFACE WATER
- EXISTING DRIVE
- EXIST. FENCELINE
- VERTICAL BARRIER WALL
- CLASS IV GROUNDWATER BOUNDARY (EFFECTIVE 01/23/06)
- LONG TERM COMPLIANCE DEEP MONITORING WELL LOCATION (D)
- LONG TERM COMPLIANCE SHALLOW MONITORING WELL LOCATION (S)

N

0 25 50 100

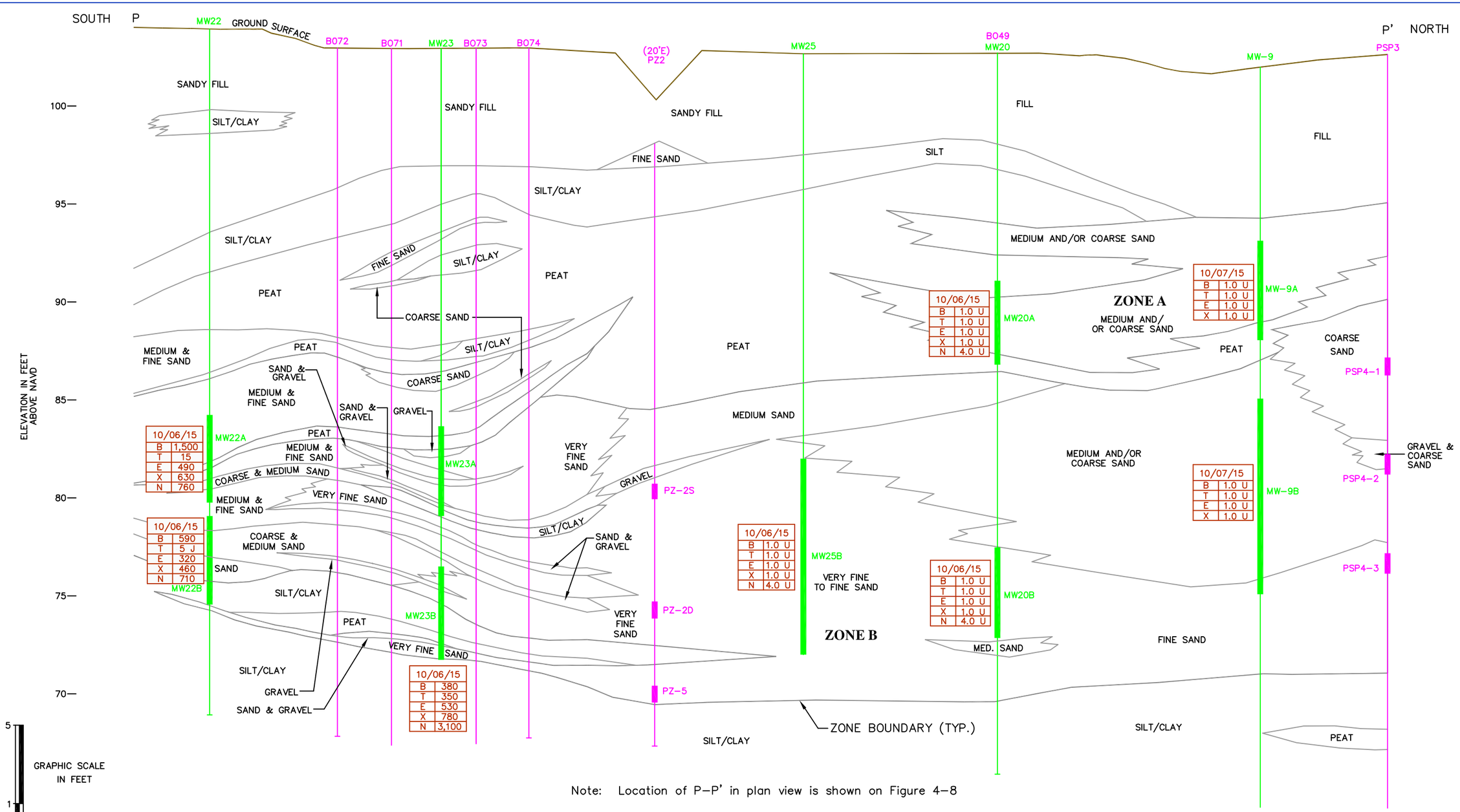
SCALE IN FEET

FIGURE 4-8: OCTOBER 2015 BTEX & NAPHTHALENE (8260B) ANALYSIS RESULTS (µg/L) IN GROUNDWATER PINE STREET CANAL SITE BURLINGTON, VERMONT

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: TJK Date: 12/11/15
Reviewed by: JEP Date: 12/11/15
Scale: As Shown Project: 1-0870-02

K:\1-0870-2\cad\ANLYSS14.dwg



Note: Location of P–P' in plan view is shown on Figure 4–8

BTEX KEY

B Benzene
T Toluene
E Ethylbeneze
X Xylene (total)
N Naphthalene

U The analyte was analyzed for but not detected
J The associated numerical value is an estimated quantity

CROSS SECTION P-P' WEST OF CANAL

SCALE: 1"=50' HOR.; 1"=5' VER.; V.E. = 10:1

1
1

FIGURE 4-9: OCTOBER 2015 BTEX & NAPHTHALENE (8260B) ANALYSIS RESULTS (μg/L) IN GROUNDWATER CROSS SECTION P - P' PINE STREET CANAL SITE, BURLINGTON, VT

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: TJK Date: 12/11/15
Reviewed by: JEP Date: 12/11/15
Scale: As Shown Project: 1-0870-02

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~LAKE CHAMPLAIN~

BIKE PATH

RAILROAD TRACKS (APPROXIMATE)

CANAL

TURNING BASIN

MALTEX BUILDING

FORMER PEPSI COLA

CITIZEN OIL CO.

P

P'

MW18 (D)	
10/07/15	
T	<1.0
All	ND

MW-11D (D)	
10/07/15	
T	<1.0
All	ND

MW13 (D)	
10/07/15	
T	<1.0
All	ND

MW22B (S)	
10/06/15	
T	13
A	680
B	0.2 J
D	3

MW22A (S)	
10/06/15	
T	10
A	600
B	0.4 J
D	2
F	0.1 J

NA

MW28B (DS)	
NA	

MW28A (DS)	
NA	

MW27B (DS)	MW21A (S)	MW27A (DS)	MW21B (S)
10/06/15	10/06/15	10/06/15	10/05/15
T	17	10	14
A	590	3,100	ND
B	0.1 J	690	
D	0.4 J	23	
		160	
		55	
		66	
		16	
		10	
		12	
		4	
		3	
		2	
		0.8	
		2	
		0.8	
		0.3 J	
		1	

MW26B (DS)	MW26A (DS)
NA	NA

MW24A (S)	MW24B (S)	
10/06/15	10/06/15	
T	2.8	14
A	0.3 J	ND
D	0.1 J	

MW23B (S)	
NA	

NA

NA

MW25B (D)	
NA	

MW20A (S)	MW20B (S)	
10/06/15	10/06/15	
T	1.2	24
D	0.3 J	ND
E	0.2 J	
F	0.2 J	
H	0.2 J	

MW9A (S)	MW9B (S)	
10/07/15	10/07/15	
T	16	<1.0
All	ND	0.6

PAH KEY

A	Naphthalene
B	2-Methylnaphthalene
C	Acenaphthylene
D	Acenaphthene
E	Fluorene
F	Phenanthrene
G	Anthracene
H	Fluoranthene
I	Pyrene
J	Benzo(a)anthracene
K	Chrysene
L	Benzo(b)fluoranthene
M	Benzo(k)fluoranthene
N	Benzo(a)pyrene
O	Indeno(1,2,3-cd)pyrene
P	Dibenz(a,h)anthracene
Q	Benzo(g,h,i)perylene
T	Turbidity (NTU)
NA	Not analyzed for PAH's
ND	Not detected above the Laboratory Reporting Limit
J	The associated numerical value is an estimated quantity

NOTE: UNLESS LISTED OTHERWISE, ALL VALUES FOR EACH COMPOUND WERE NOT DETECTED ABOVE THEIR RESPECTIVE LABORATORY DETECTION LIMITS.

LEGEND

- APPROX. SURFACE WATER
- EXISTING DRIVE
- EXIST. FENCELINE
- VERTICAL BARRIER WALL
- CLASS IV GROUNDWATER BOUNDARY (EFFECTIVE 01/23/06)
- LONG TERM COMPLIANCE DEEP MONITORING WELL LOCATION (D)
- LONG TERM COMPLIANCE SHALLOW MONITORING WELL LOCATION (S)
- POLYNUCLEAR AROMATIC HYDROCARBON PAH

N

0 25 50 100

SCALE IN FEET

FIGURE 4-10: OCTOBER 2015 PAH (8270C) ANALYSIS RESULTS (µg/L) - PLAN VIEW
PINE STREET CANAL SITE
BURLINGTON, VERMONT

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: TJK Date: 12/11/15
Reviewed by: JEP Date: 12/11/15
Scale: As Shown Project: 1-0870-02

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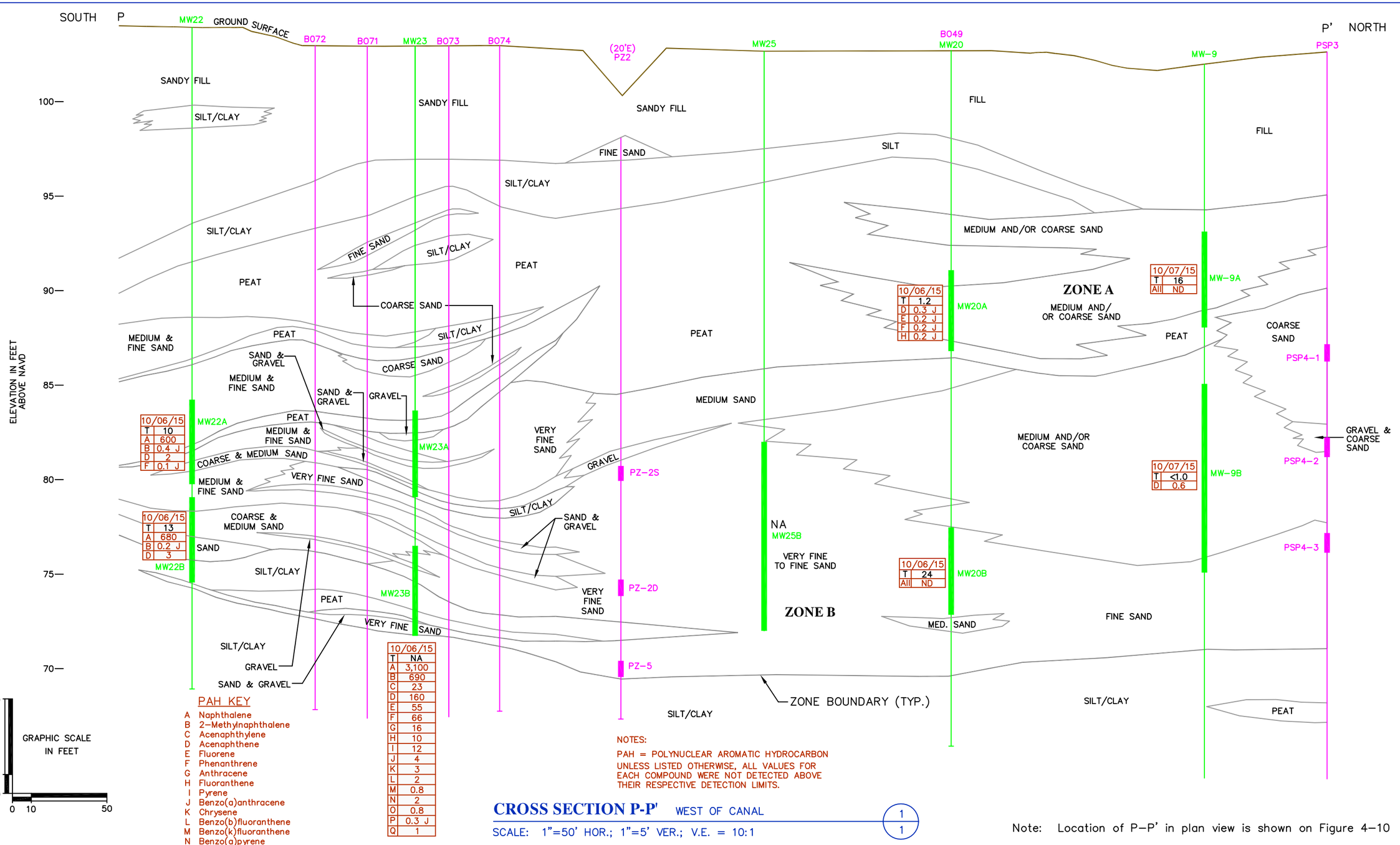


PAH KEY

A Naphthalene
B 2-Methylnaphthalene
C Acenaphthylene
D Acenaphthene
E Fluorene
F Phenanthrene
G Anthracene
H Fluoranthene
I Pyrene
J Benzo(a)anthracene
K Chrysene
L Benzo(b)fluoranthene
M Benzo(k)fluoranthene
N Benzo(a)pyrene
O Indeno(1,2,3-cd)pyrene
P Dibenz(a,h)anthracene
Q Benzo(g,h,i)perylene
T Turbidity (NTU)
NA Not analyzed for PAH's
ND Not detected above the Laboratory Reporting Limit
J The associated numerical value is an estimated quantity

NOTES:

PAH = POLYNUCLEAR AROMATIC HYDROCARBON

UNLESS LISTED OTHERWISE, ALL VALUES FOR EACH COMPOUND WERE NOT DETECTED ABOVE THEIR RESPECTIVE DETECTION LIMITS.

CROSS SECTION P-P' WEST OF CANAL

SCALE: 1"=50' HOR.; 1"=5' VER.; V.E. = 10:1

1
1

Note: Location of P-P' in plan view is shown on Figure 4-10

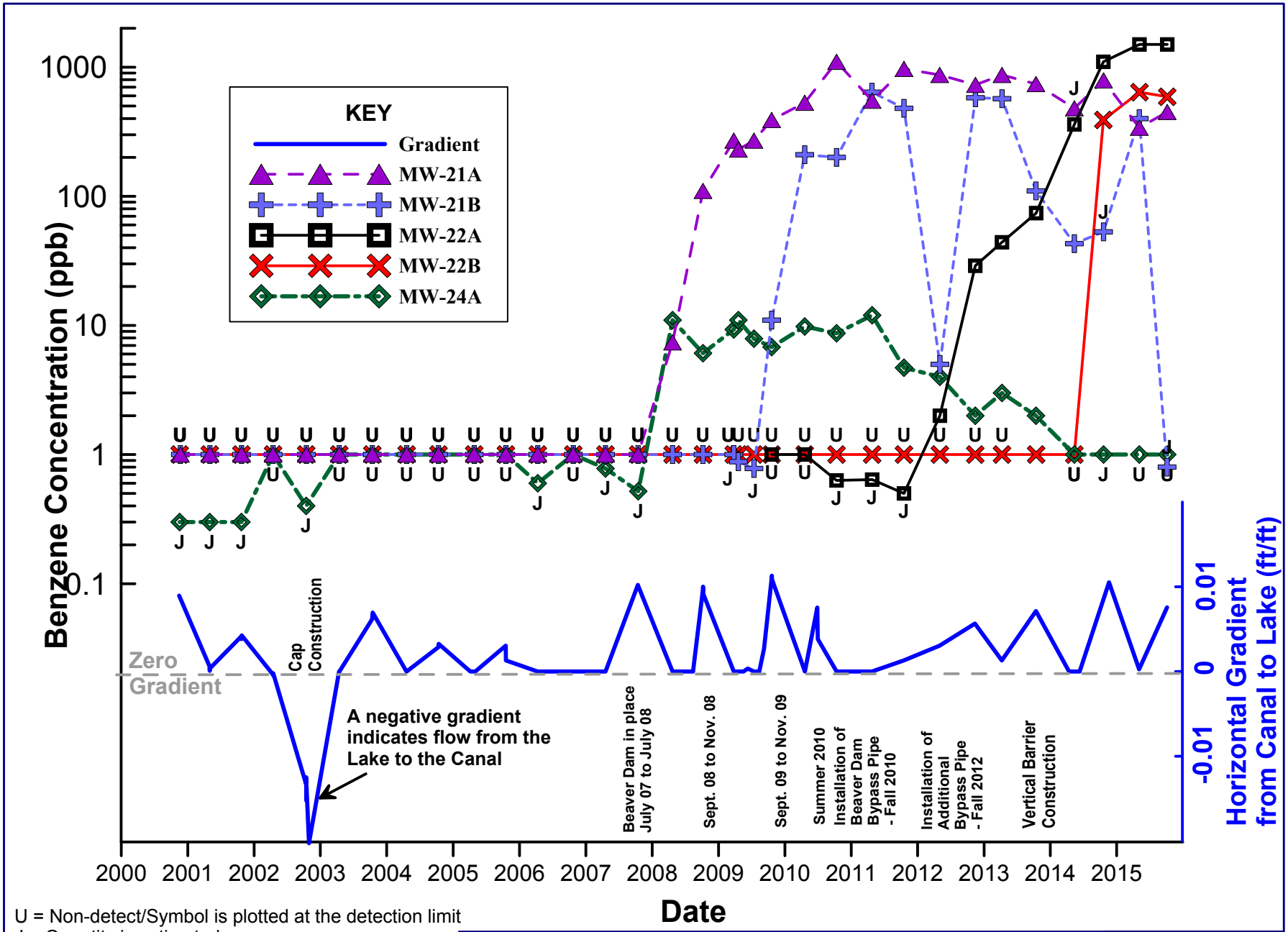
K:\1-0870-2\cad\GEOP2014.dwg

FIGURE 4-11: OCTOBER 2015 PAH (8270C) ANALYSIS RESULTS (µg/L) CROSS SECTION P - P' PINE STREET CANAL SITE, BURLINGTON, VT

The Johnson Company

100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: TJK Date: 12/11/15
Reviewed by: JEP Date: 12/11/15
Scale: As Shown Project: 1-0870-02



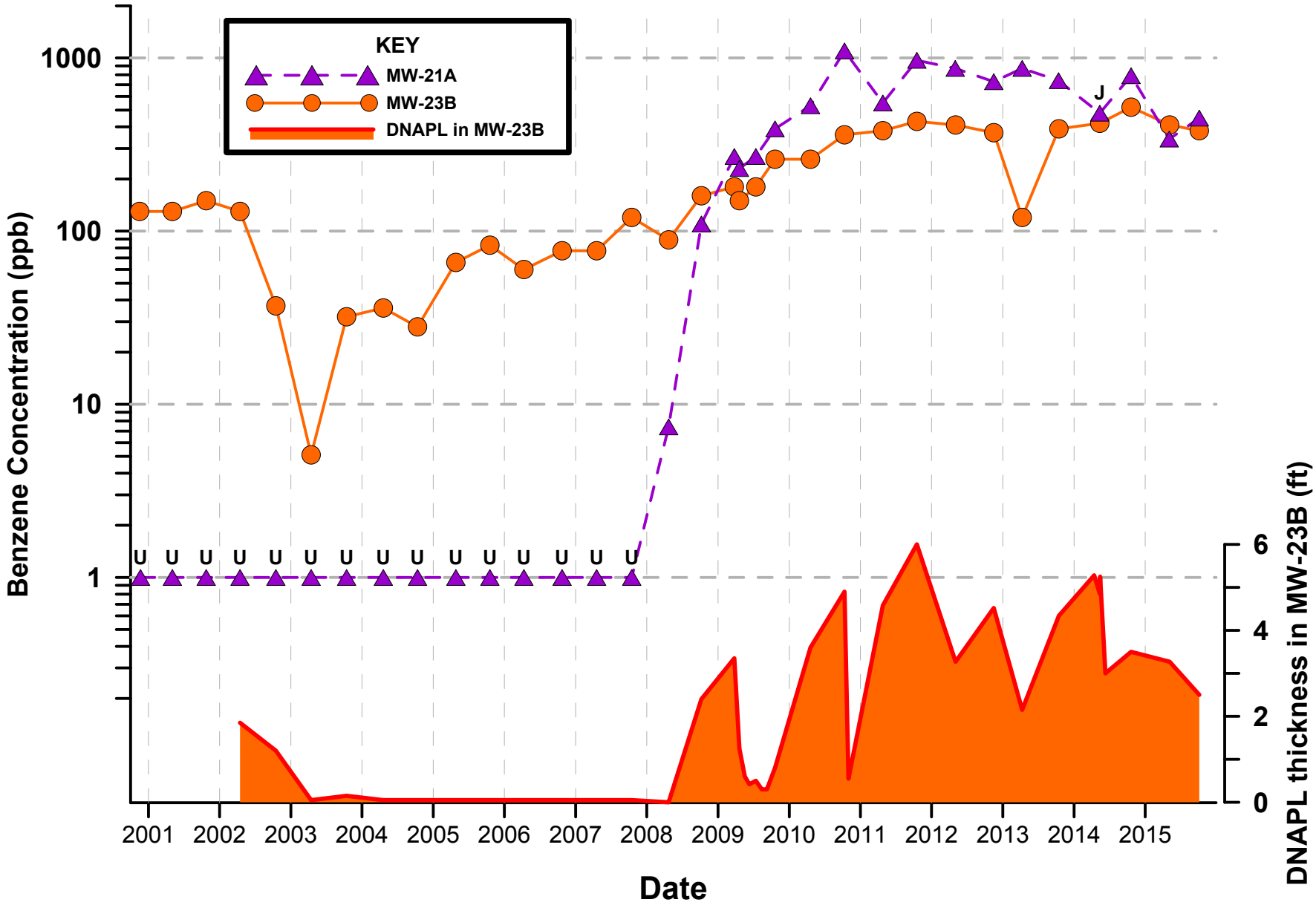
U = Non-detect/Symbol is plotted at the detection limit
J = Quantity is estimated

1-0870-2_PostConstruction Compliance_Fall 2015 CMR__
FIGURE 4-12 MW-21AB 22A 24A benzene and VG 060915.GRF
WQ-WE-NAPL FOR GRAPHS 121415.xls

FIGURE 4-12: HISTORICAL BENZENE CONCENTRATIONS AND GRADIENT FROM CANAL TO LAKE PINE STREET CANAL SITE, BURLINGTON, VERMONT

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: JEP Date: 12/14/15
Reviewed by: JRB Date: 12/15/15
Scale: As Shown Project: 1-0870-2



U = Non-detect/Symbol is plotted at the detection limit
J = Quantity is estimated

1-0870-2_PostConstruction Compliance_Fall 2015 CMR__
FIGURE 4-13 MW-21A 23B benzene-NAPL 060915.GRF
WQ-WE-NAPL FOR GRAPHS 121415.xls

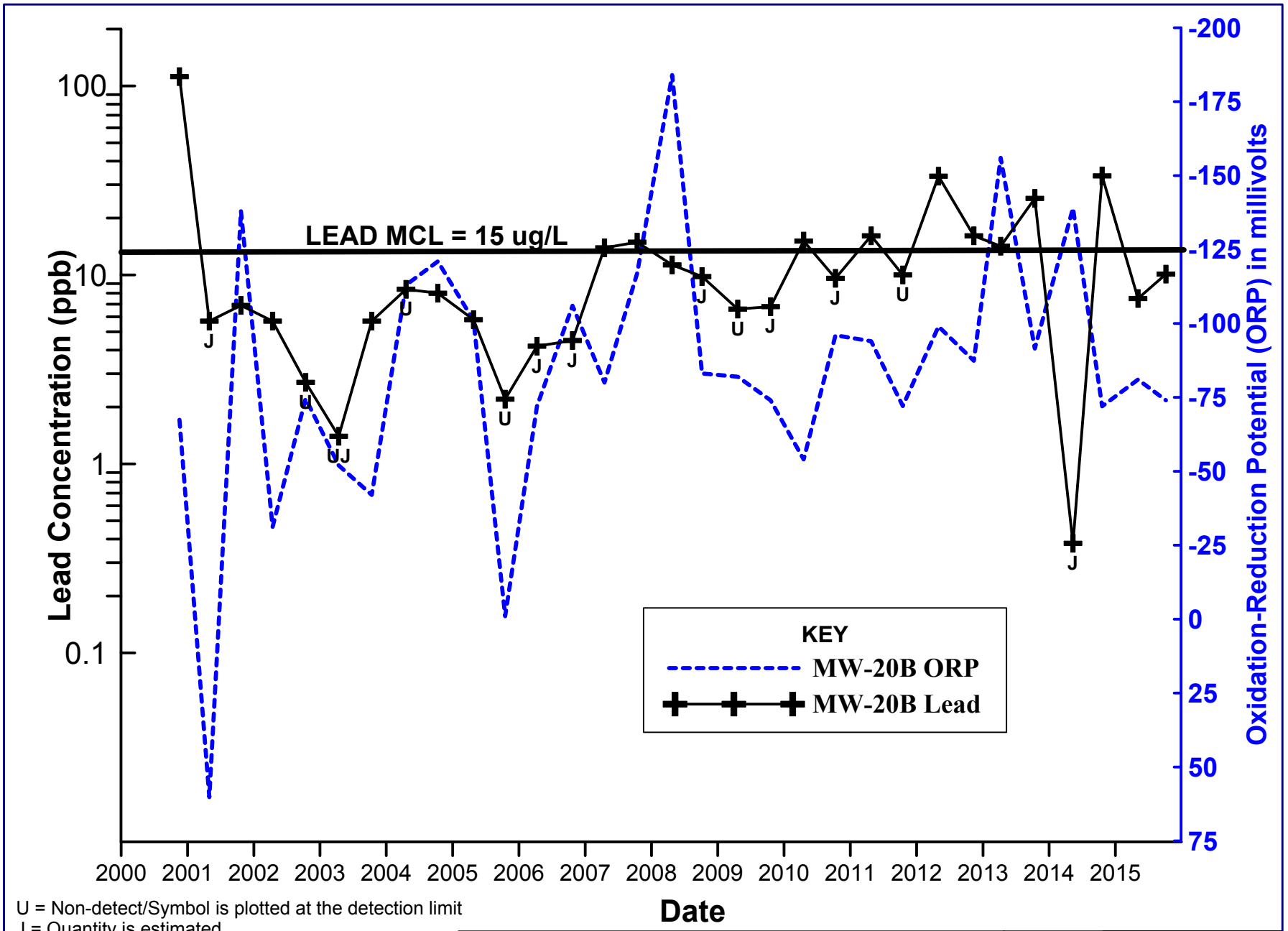
FIGURE 4-13: HISTORICAL BENZENE CONCENTRATIONS AND DNAPL THICKNESS PINE STREET CANAL SITE, BURLINGTON, VERMONT

The Johnson Company

100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: JEP Date: 12/14/15
Reviewed by: JRB Date: 12/15/15

Scale: As Shown Project: 1-0870-2



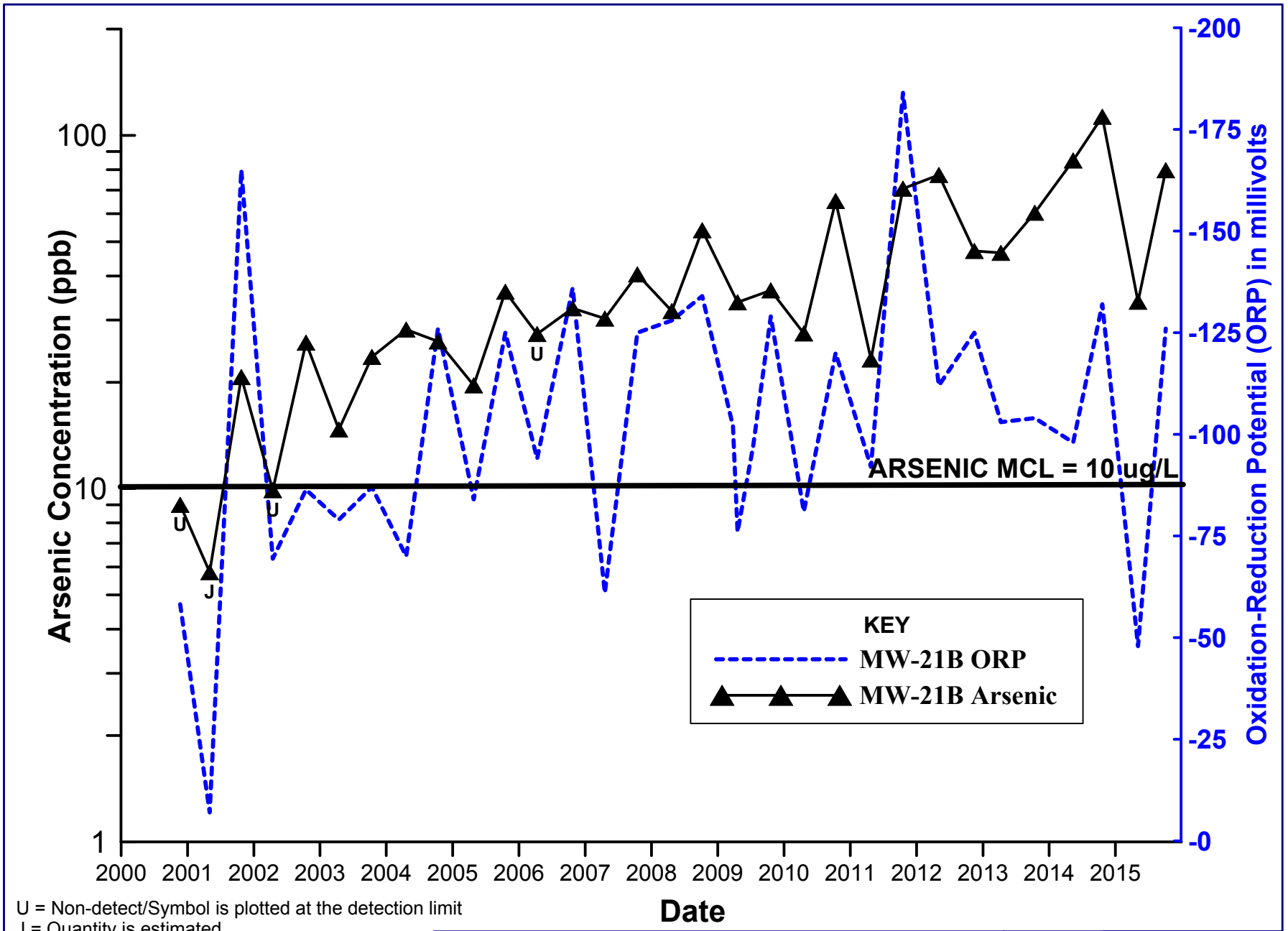
U = Non-detect/Symbol is plotted at the detection limit
J = Quantity is estimated
MCL = Maximum Contaminant Level

1-0870-2_PostConstruction Compliance_Fall 2015 CMR__
FIGURE 4-12 MW-20B LEAD and ORP 060915.GRF
WQ-WE-NAPL FOR GRAPHS 121415.xls

FIGURE 4-14: HISTORICAL LEAD CONCENTRATIONS AND OXIDATION-REDUCTION POTENTIAL IN MW-20B PINE STREET CANAL SITE, BURLINGTON, VERMONT

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: JEP Date: 12/14/15
Reviewed by: JRB Date: 12/15/15
Scale: As Shown Project: 1-0870-2



U = Non-detect/Symbol is plotted at the detection limit
J = Quantity is estimated
MCL = Maximum Contaminant Level

1-0870-2_PostConstruction Compliance_Fall 2015 CMR__
FIGURE 4-15 MW-21B Arsenic and ORP 060915.GRF
WQ-WE-NAPL FOR GRAPHS 121415.xls

FIGURE 4-15: HISTORICAL ARSENIC CONCENTRATIONS AND OXIDATION-REDUCTION POTENTIAL IN MW-21B PINE STREET CANAL SITE, BURLINGTON, VERMONT

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: JEP Date: 12/14/15
Reviewed by: JRB Date: 12/15/15
Scale: As Shown Project: 1-0870-2

ORIGINAL 08/02/06 TJK

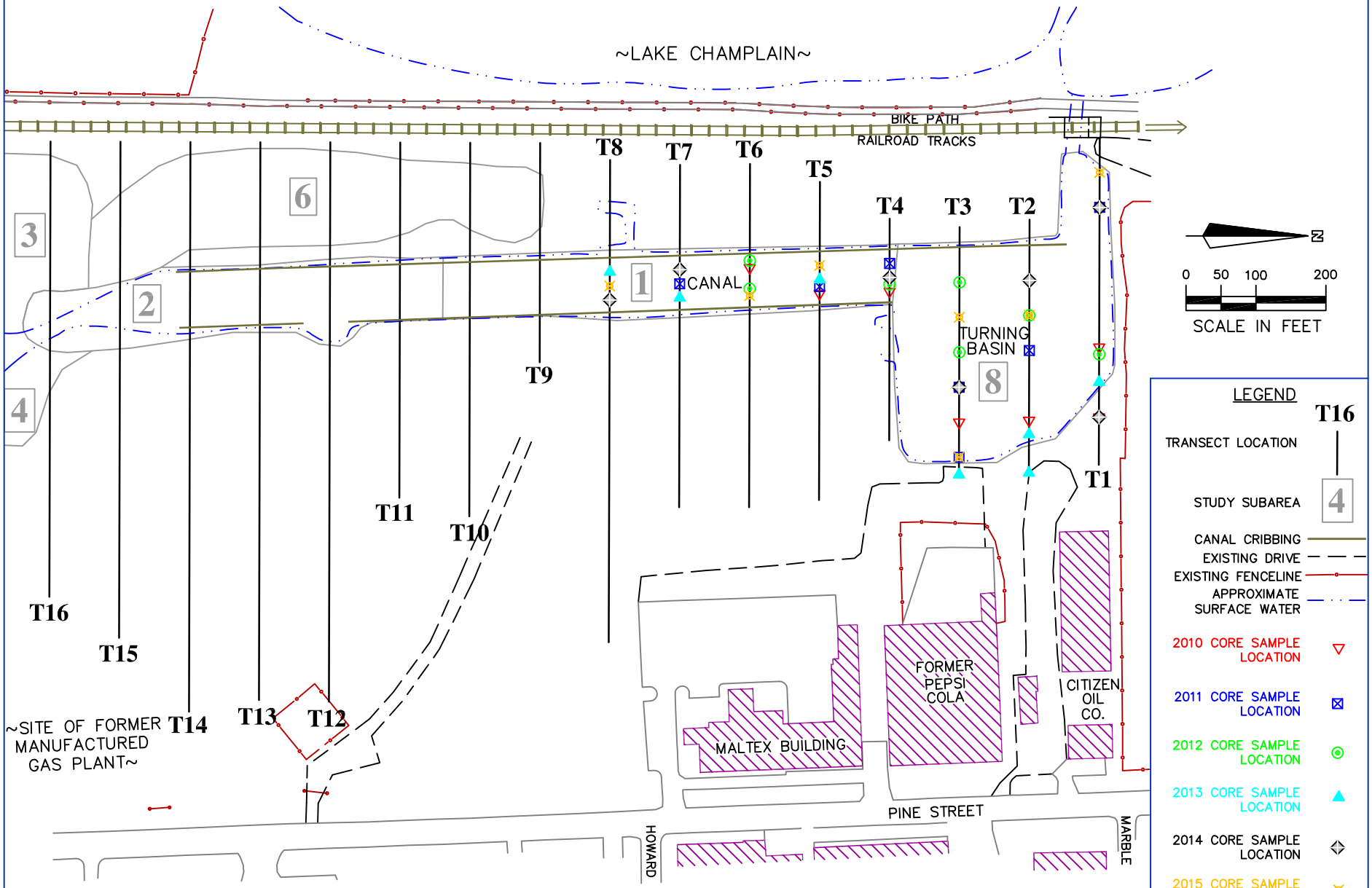


FIGURE 4-16
CORE SAMPLING LOCATIONS - AREAS 1 AND 8
PINE STREET CANAL SITE, BURLINGTON, VERMONT

K:\1-0870-2\cad\AREAS128.DWG

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: TJK Date: 01/06/16
Reviewed by: JEP Date: 01/06/16
Scale: As Shown Project: 1-0870-02

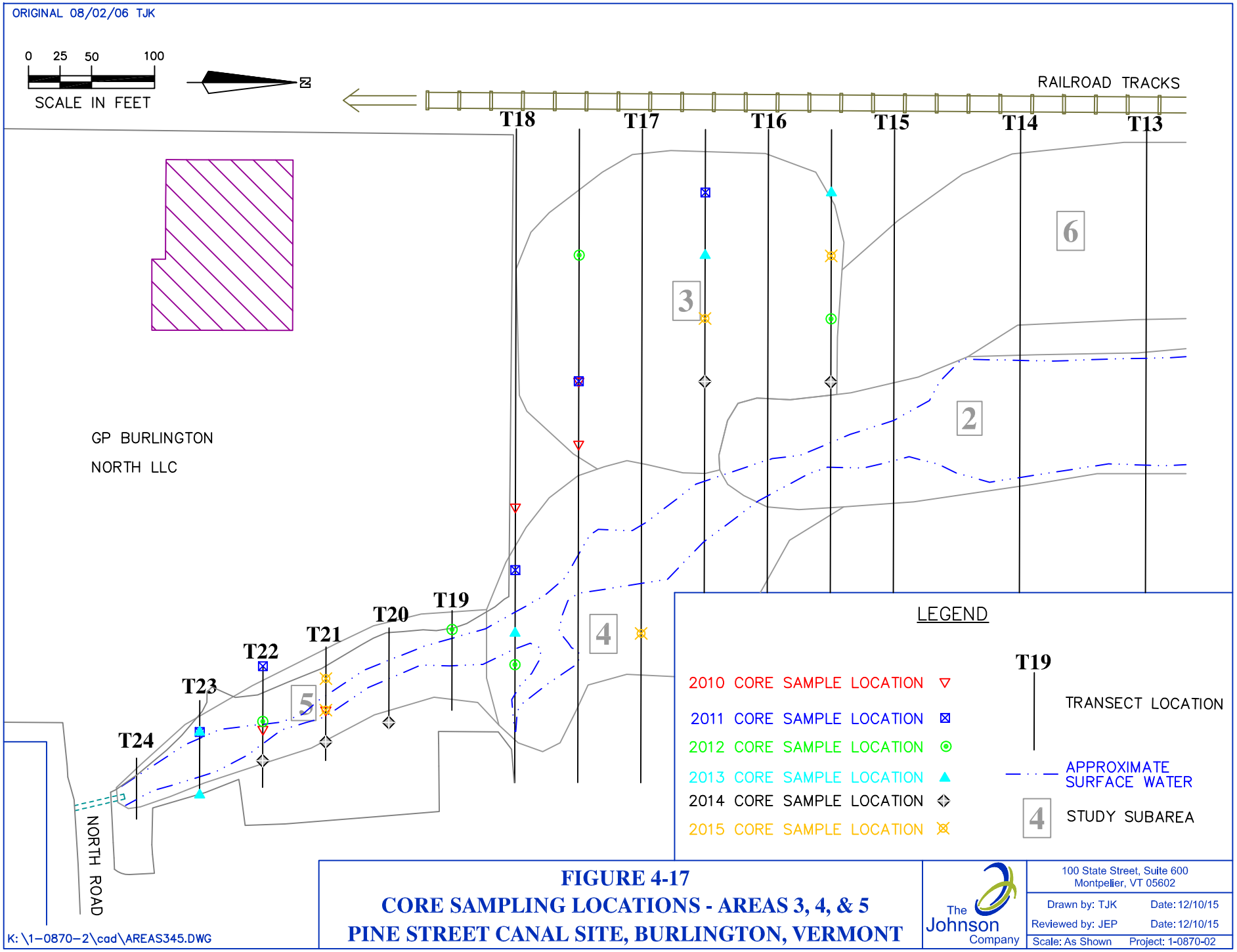


FIGURE 4-17
CORE SAMPLING LOCATIONS - AREAS 3, 4, & 5
PINE STREET CANAL SITE, BURLINGTON, VERMONT

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

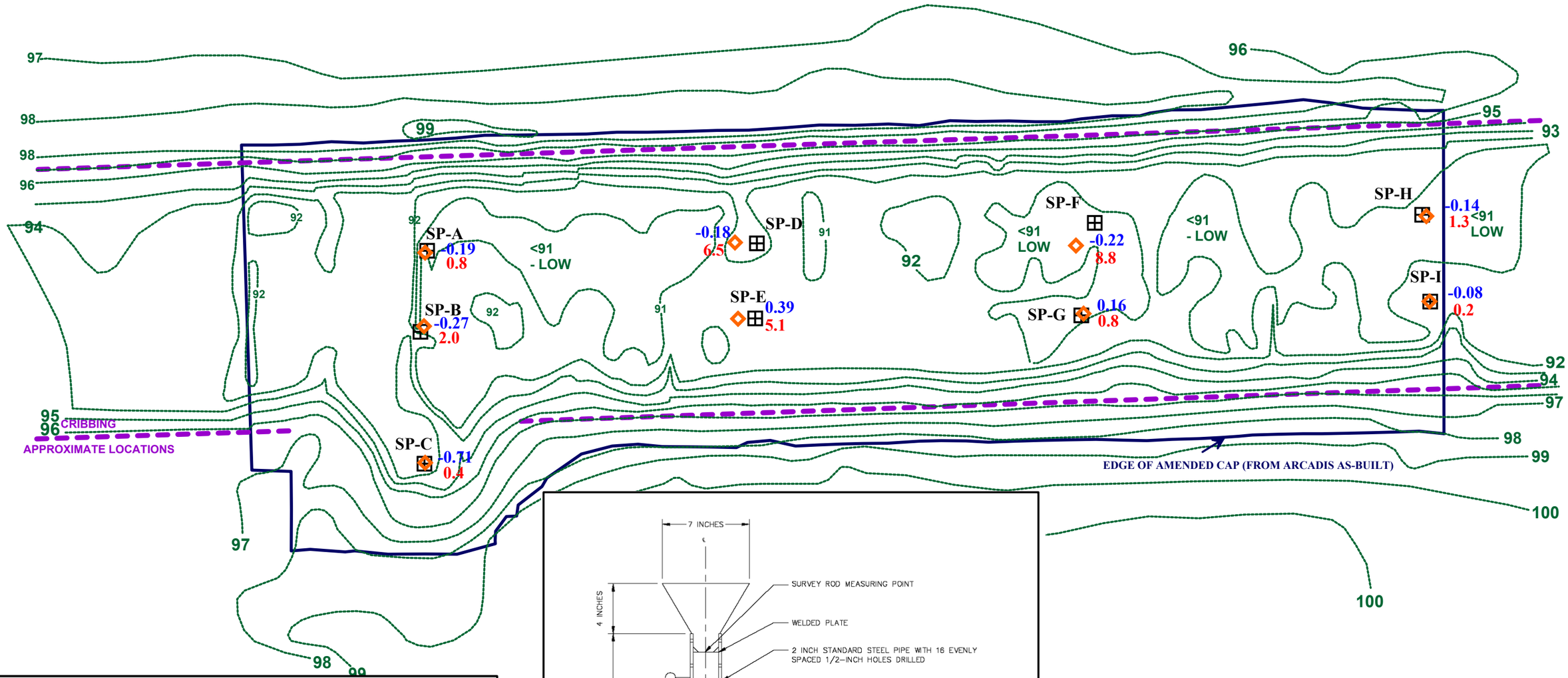
Drawn by: TJK Date: 12/10/15
Reviewed by: JEP Date: 12/10/15
Scale: As Shown Project: 1-0870-02

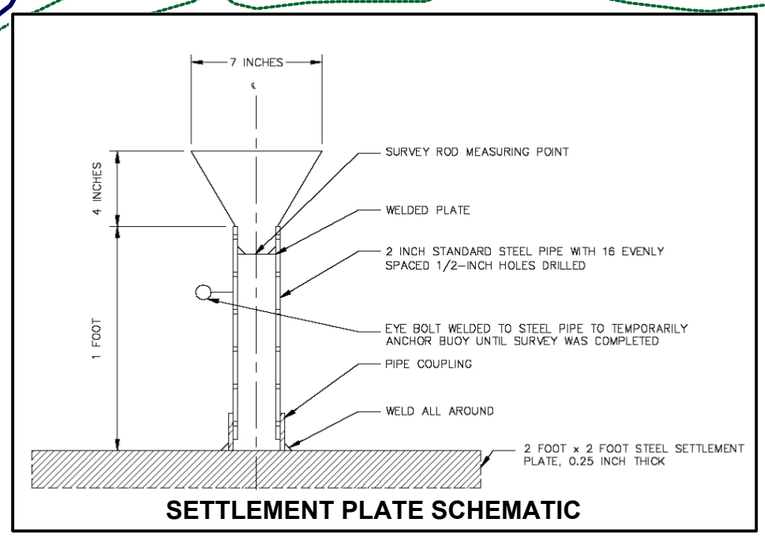
NOTES:

The settlement plates are 2-foot square aluminum plates that include an inverted cone on top of a 1-foot long pipe to assist surveying. The difference in elevation between the cone/pipe and the plate itself is 1.1 feet.

The 2011-2015 surveys were completed by surveying the plate itself. Although considerable effort was made to place the survey rod in the center of the plates, the precise location of the survey rod on the plate is uncertain. Therefore, a potential horizontal error of +/- two feet exists for each plate in each survey.

Data provided by Little River Survey in feet NAVD88. Settlement Plate Schematic from ARCADIS 03/22/2011 Construction Completion Report





SETTLEMENT PLATE SCHEMATIC

LEGEND

- December 2010 Plate Location
- August 2015 Plate Location and Elevation
- -0.35 Elevation Change 2010 to August 2015 (Feet)
- 2.2 Lateral Distance Moved 2010 to August 2015 (Feet)
- Bathymetric/Topographic Contours (September 2014) (one foot contour interval in feet NAVD88)

SCALE IN FEET: 0 25 50 75 100

1-0870-2_2011-15 settlement plates_
082515 PSCS SETTLEMENT PLATE SURVEY 091015.srf
Settlement Plate Locs 2010-2015 091015.xlsx

FIGURE 4-18
AUGUST 2015 SETTLEMENT PLATE SURVEY
PINE STREET CANAL SUPERFUND SITE
453 PINE ST., BURLINGTON, VERMONT

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602
(802) 229-4600

Drawn by: DMM Date: 09/10/15
Chk'd by: JEP Date: 12/10/15
Scale: AS SHOWN Project: 1-0870-2 (295)

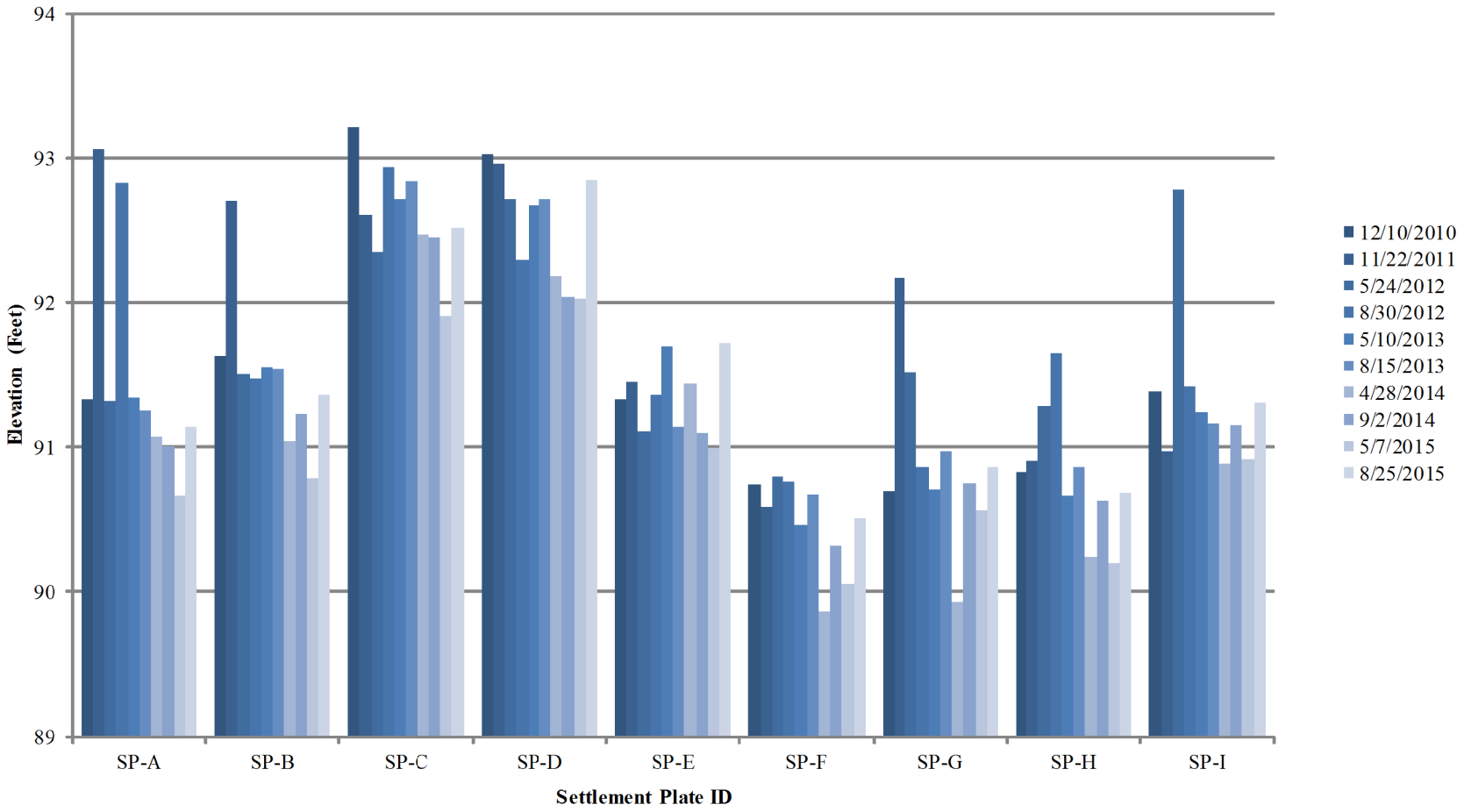


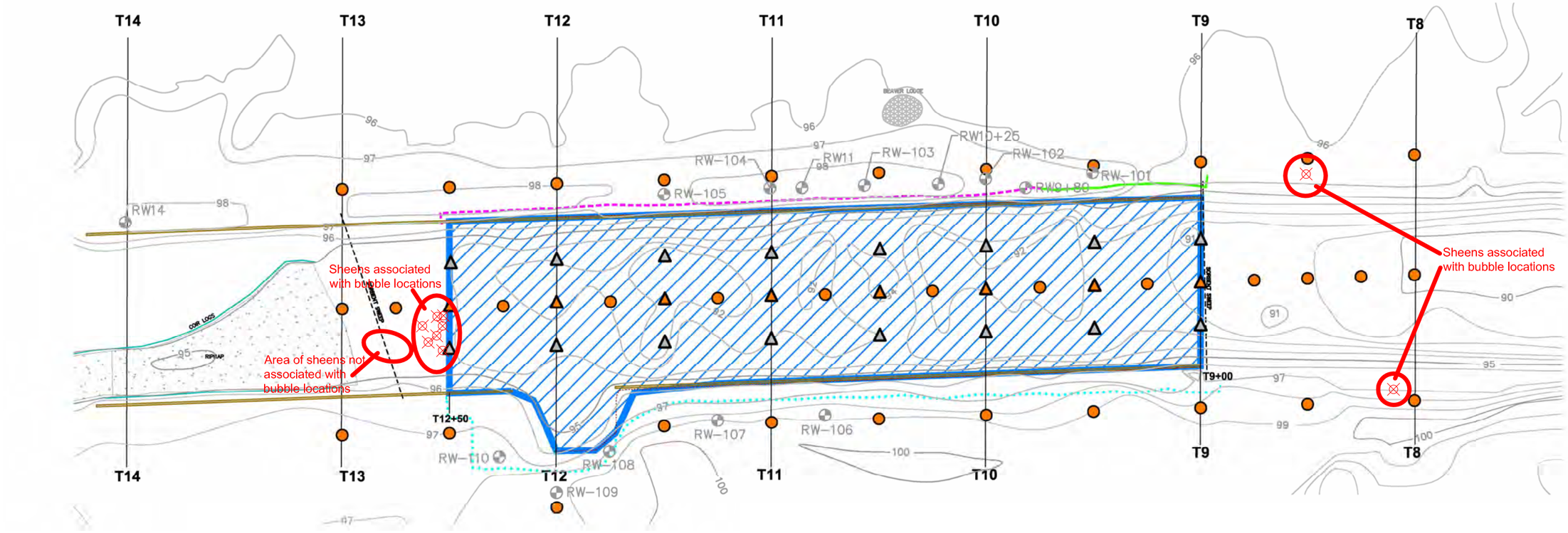
FIGURE 4-19: SETTLEMENT PLATE ELEVATIONS OVER TIME
PINE STREET CANAL SUPERFUND SITE
BURLINGTON, VERMONT

The Johnson Company

100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: JEP Date: 12/10/15
Reviewed by: JRB Date: 12/10/15
Scale: None Project: 1-0870-2

K:\1-0870-2\2011-15 settlement plates\121015_Histogram.dwg



LEGEND:

- EXTENT OF AMENDED CAP
- VISUAL SHEEN MONITORING LOCATION
- RW-109 NAPL RECOVERY WELLS
- CAP NAPL PROBING LOCATION *
- VISUAL SHEEN MONITORING AND CAP NAPL PROBING LOCATION
- APPROXIMATE WEST BANK AMENDED CAP TERMINATION
- APPROXIMATE WEST BANK SUBMERGED AMENDED CAP TERMINATION
- APPROXIMATE EAST BANK AMENDED CAP TERMINATION
- NAPL SEEPAGE LOCATIONS OBSERVED 2015

N

GRAPHIC SCALE

25 0 25 50 100

(IN FEET)

BASE MAP BY:

ARCADIS

NOTES:

1. BATHYMETRIC SURVEY DATA BY THE JOHNSON COMPANY, INC. – 2005.
2. VISUAL SHEEN MONITORING INCLUDES MONITORING FOR NAPL SEEPS, SHEEN, DROPLETS AND GANGLIA.
3. VISUAL CAP INSPECTION WILL BE CONDUCTED ON EACH BANK OF THE CANAL FROM TRANSECT T9+00 TO T12+50.
4. THE EXTENT OF AMENDED CAP IS SHOWN FOR THE AREA IN THE CANAL. THE GEOCOMPOSITE, RCMS, AND TRM EXTEND BEYOND THE CRIBBING AND TERMINATE ON THE BANKS.
5. LOCATION OF AMENDED CAP TERMINATION ON WEST BANK REPRESENTS THE EAST SIDE OF THE ANCHOR TRENCH (i.e. extent of exposed amended cap layers).
6. LOCATION OF AMENDED CAP TERMINATION ON EAST BANK REPRESENTS THE EXTENT OF THE TRM (TOP LAYER OF AMENDED CAP). THE TRM EXTENDS A MINIMUM OF 1 FOOT BEYOND THE EXTENT OF THE RCM LAYER. THE RCM LAYER EXTENDED BEYOND THE CRIBBING BASED ON FIELD VERIFICATION.

FIGURE 4-20: NAPL SEEPAGE MONITORING LOCATIONS
APRIL - NOVEMBER 2015
PINE STREET CANAL SITE
BURLINGTON, VERMONT

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: JEP Date: 01/11/16
Reviewed by: JRB Date: 01/11/16
Scale: As Shown Project: 1-0870-2

\\jcoafp\projects\1-0870-3\CAD\NAPL Inspection 2015.dwg

APPENDICES

APPENDIX 1

FIELD NOTES/FORMS
July-November, 2015

- **Vertical Barrier Water Level and NAPL Thickness Forms**
- **October 2015 Water Level Form**
- **October 2015 Groundwater Sampling Forms**
- **Calibration Forms**
- **Field Book Notes**
- **Waste Manifests and Inventory Forms**
- **Surface Water/Sheen/Bubbles Interim Reports and Forms**
- **Cap Condition Inspection Forms**
- **Amended Cap RW Well NAPL Inspection/Pumping Forms**
- **Weir Inspection Form**

Vertical Barrier Compliance Monitoring Potentiometric Data

Pine Street Canal Superfund Site, Burlington, Vermont

Data Collected by: D. Maynard; B. Osborne

SLID	Date	Time	Depth to Water (ft below MP)	Measuring Point (MP)	Reference Elevation (ft) NAVD88	Water Elevation (ft) NAVD88	LNAPL (ft.)	DNAPL (ft.)	Measured Total Depth (ft below MP)	Notes:
Lake Champlain Stage (a)	10/05/15	NA		Weir Crest		95.5	NM	NM	NA	From USGS 04294500, Lake Elevation = 95.01 NGVD29
Canal Stage: Weir, RR Abutment and Equipment Bridge				Weir Crest	96.5	96.50	NM	NM	NA	
	10/5/2015	11:22	3.28	RR Abutment	103.6	NM	NM	NM	NA	
				South end of Vehicle Bridge	99.6	NM	NM	NM	NA	
J_MW-21A	10/05/15	9:09	8.45	C	103.09	94.6	0	NM	NM	
J_MW-21B	10/05/15	9:08	8.21	C	102.78	94.6	0	NM	NM	
J_MW-22A	10/05/15	9:37	8.75	C	103.88	95.1	0	NM	NM	
J_MW-22B	10/05/15	9:33	8.63	C	103.96	95.3	0	NM	NM	
J_MW-23A	10/05/15	10:35	7.87	C	103.61	95.7	<0.00	0.70	24.29	
J_MW-23B	10/05/15	10:30	7.37	C	103.09	95.7	<0.01	2.50	31.29	
T_MW-25B	10/05/15	8:28	7.53	C	102.67	95.1	0	NM	NM	
T_MW-26A	10/05/15	8:39	7.77	C	103.50	95.7	0	NM	NM	
T_MW-26B	10/05/15	8:40	8.44	C	103.09	94.7	0	NM	NM	
T_MW-27A	10/05/15	8:56	9.38	C	103.96	94.6	0	NM	NM	
T_MW-27B	10/05/15	8:55	9.18	C	103.76	94.6	0	NM	NM	
T_MW-28A	10/05/15	9:03	9.81	C	104.42	94.6	0	NM	NM	
T_MW-28B	10/05/15	9:04	9.55	C	104.26	94.7	0	NM	NM	
T_RW-111	10/05/15	9:45	7.62	C	103.29	95.7	0	0	36.90	
T_RW-112	10/05/15	9:40	7.69	C	103.37	95.7	0	0	41.90	Soft bottom in well
T_RW-113	10/05/15	8:34	7.31	C	102.66	95.4	0	0	40.20	
T_RW-114	10/05/15	9:17	7.91	C	103.75	95.8	0	0	37.40	

Notes:
C = Top of Casing
J = Estimated
Water Depths listed as 0.00 indicate that the well was overflowing at the time of measurement.

NM indicates not measured
NA indciates not applicable or not available
QA: JRB 12/14/15

6.59

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100 State Street, Suite 600
Montpelier, VT 05602

Phone: (802) 229-4600
Fax: (802) 229-5876
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Water Level Measurement Record

Project Name: Pine Street

Project #: 1-0870-02

Site Location: Burlington, VT

Date: 10-5-15

Weather Conditions: 45-60° clear calm

Time on Site: 7:40

Personnel: R. Maynard T. Osborne

Well	Time	Depth to Water (ft. btoc)	PID (ppmv)	Observations
8_MW-9A	10:13	6.76	0.0	
8_MW-9B	10:18	9.81	0.0	
J_MW-20A	10:07	4.92	0.0	
J_MW-20B	10:02	6.59	0.0	
J_MW-21A		see V.B. FORM		
J_MW-21B				
J_MW-22A				
J_MW-22B				
J_MW-23A				
J_MW-23B	~~9:49~~	~~9.12~~	~~0.0~~	DM 10-5-15
J_MW-24A	8:47	8.17	0.0	
J_MW-24B	8:49 ✓	8:12	0.0	
T_MW-25B		see V.B. FORM		
T_MW-26A				
T_MW-26B				
T_MW-27A				
T_MW-27B				
T_MW-28A				
T_MW-28B				

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Water Level Measurement Record

Project Name: Pine Street

Project #: 1-0870-02

Site Location: Burlington, VT

Date: 10-5-15

Weather Conditions: 45-60° clear calm

Time on Site: 7:40

Personnel: D Maynard

Well	Time	Depth to Water (ft. btoc)	Observations
J_FLA-1	11:34	6.18	
J_FLA-4	12:00	6.35	Guard tilted ~15°
5_WE89-5S	11:52	1.23	No well heads found. Bolts broke. 11:40 @ 30 well 2.65' Bottom of Guard - Guard Broken Plugs NO SEAL
5_WE89-6S	11:57	5.89	BOLTS STRIPPED on Guard. New Guard needed
5_WE89-7S	11:29	6.29	

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Ground Water Monitoring Well Sample Collection Record

Well ID: 8_MW-9A (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: TRO Date: 10-7-15

Weather Conditions: P. Cloudy Calm 50's Time On Site: 945

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 7.04

Total well depth (ft): 15.5 Well diameter (in): 2.0 Length of water column in well (ft): 8.46

Gallons per foot[1]: 0.16 Well volume (gal): 1.35

2. PURGING DATA: Method: Bladder pump Sample intake depth: 13.6 (ft)

Purge Volume @ 1 well volume: 5.12 (L) Purge Rate: 100 (ml/min)

Parameter equipment: YSI, Turbidimeter, PID / initial headspace = ppm

Pump Setting 16psi 4-cpm 13/2 R+D

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1000	7.04	0	0	Start	----	----	----	----	----
1005	7.06	0.5	100	13.52	995	5.22	6.79	-28	5.9
1010	8.53	1.5	200	11.89	1245	1.15	6.17	-59	150
1015	9.44	2.5	200	12.85	1229	0.91	6.16	-72	170
1020	9.65	3.0	100	13.07	1220	0.94	6.12	-73	220
1025	9.75	3.5	100	13.14	1211	0.86	6.18	-73	120
1030	9.90	4.0	100	13.20	1209	0.76	6.23	-72	90
1035	10.08	4.5	100	13.22	1205	0.68	6.25	-71	65
1040	10.20	5.0	100	13.17	1203	0.60	6.28	-74	65
1045	10.30	5.5	100	13.33	1201	0.53	6.31	-78	39
1050	10.45	6.0	100	13.42	1199	0.48	6.31	-82	37
1055	10.52	6.5	100	13.58	1198	0.47	6.35	-86	30
1100	10.60	7.0	100	13.71	1197	0.45	6.36	-89	25
1105	10.70	7.5	100	13.78	1195	0.44	6.38	-92	22
1110	10.72	8.0	100	13.81	1193	0.46	6.36	-92	17
1115	10.75	8.5	100	14.01	1191	0.47	6.38	-94	15
1120	10.80	9.0	100	14.08	1189	0.48	6.39	-93	16
Sample Time 1122									

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : B_MW-9A (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): Slightly turbid / No Odor

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1122

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376959	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	↓	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	↓	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - B_MW-9A / SIN - 0074-33

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 16 psi, refill - 13 / discharge - 2 4-CPM

Trip Blank - SLID = J_0077-33TB

SIM = 0077-33TB

Time Off Site 1130

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Ground Water Monitoring Well Sample Collection Record

Well ID: B_MW-9R (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: TRC Date: 10-7-15

Weather Conditions: P. Cloudy Slight Breeze 60's Time On Site: 1135

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 9.82

Total well depth (ft): 29.2 Well diameter (in): 2.0 Length of water column in well (ft): 19.38

Gallons per foot[1]: 0.16 Well volume (gal): 3.1

2. PURGING DATA: Method: Bladder pump Sample intake depth: 25.9 (ft)

Purge Volume @ 1 well volume: 11.74 (L) Purge Rate: 200 (ml/min)

Parameter equipment: YSI, Turbidimeter, PID / initial headspace = ppm

Pump setting 4 CPM @ 18PSI 11/4 R+D

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1145	9.82	0	0	Start	---	---	---	---	---
1150	9.90	1.0	200	11.93	2738	3.50	6.30	-39	9.6
1155	10.00	2.0	200	10.24	2811	1.94	6.24	-45	3.0
1200	9.95	3.0	200	10.48	2928	1.09	6.19	-53	1.7
1205	9.95	4.0	200	11.20	3018	0.83	6.32	-62	2.0
1210	10.00	5.0	200	10.81	3045	0.67	6.33	-67	1.1
1215	1000	6.0	200	10.78	3082	0.56	6.32	-69	0.85
1220	1000	7.0	200	10.69	3110	0.47	6.34	-71	0.75
1225	1000	8.0	200	10.68	3132	0.44	6.34	-73	0.65
1230	1000	9.0	200	10.82	3159	0.39	6.35	-75	0.65
1235	1000	10.0	200	10.73	3174	0.36	6.36	-77	0.60
Sample Time 1237									

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : B_mw-9B (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): Clear / No Odor

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1237

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376959	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	↓	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	↓	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - B_mw-9B / SIN - 0071-33

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 18 psi, refill - 11 / discharge - 4 .4-CPM

Time Off Site 1250

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Ground Water Monitoring Well Sample Collection Record

Well ID: 8_MW-11D (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: JEP Date: 10.7.15

Weather Conditions: mostly cloudy, 60F, slight breeze Time On Site: 0950

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 0.0

Total well depth (ft): 138 Well diameter (in): 2 Length of water column in well (ft): 138

Gallons per foot[1]: 0.16 Well volume (gal): 22.08

2. PURGING DATA: Method: Bladder pump Sample intake depth: 130.5 (ft)

Purge Volume @ 1 well volume: 83.16 (L) Purge Rate: 200 | 100 (ml/min)

Parameter equipment: YSI , Turbidimeter , PID / initial headspace = ppm

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1010	0.0	0	0	Start	----	----	----	----	----
1015	2.00	1.0	200	11.72	279	0.24	7.64	-27	4
1020	3.55	2.0	200	11.74	279	0.21	7.81	-62	1
1025	3.95	3.0	200	11.77	279	0.18	7.87	-72	1
1030	4.75	4.0	200	11.75	278	0.19	7.94	-84	<1
1035	5.90	5.0	200	11.94	278	0.15	7.99	-97	<1
1040	6.30	5.5	100	12.48	279	0.19	8.19	-108	<1
1045	6.64	6.0	100	12.45	279	0.19	8.19	-110	<1
1050	6.94	6.5	100	12.50	278	0.19	8.11	-107	<1
1055	7.14	7.0	100	12.69	278	0.17	8.17	-112	<1
1100	7.54	7.5	100	13.07	278	0.17	8.24	-117	<1
1105	7.65	8.0	100	13.13	279	0.16	8.30	-121	<1
1110	7.94	8.5	100	12.77	278	0.17	8.12	-112	<1
1115	8.20	9.0	100	13.31	278	0.15	8.26	-121	1
1120	-	9.5	100	NOTE: SUNNY	-	-	-	-	-
1125	8.50	10.0	100	13.25	278	0.16	8.23	-119	0.90
1130	8.70	10.5	100	13.05	278	0.16	8.28	-121	0.75
1135	SAMPLED								

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : 8-MW-11D (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): None / None

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 11:35

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376958	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	↓	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	↓	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - 8-MW-11D / SIN - 0098-16

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 20 psi, refill - 10 / discharge - 5 4 gpm

well Flowing upon Arrival, Lowest Poss. Pump setting. Historical monitoring Data indicates water Level Does not equilibrate, even after 4 hrs. purging. Sample collected after all other parameters EQUILIBRATED.

Time Off Site 1200

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100 State Street, Suite 600
Montpelier, VT 05602 USA

Phone: (802) 229-4600
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Ground Water Monitoring Well Sample Collection Record

Well ID: 6_MW-13 (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: TRO Date: 10-7-15

Weather Conditions: P. Cloudy 60's Time On Site: 1315

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP): Top of PVC casing Depth to water below MP (ft): 0.3

Total well depth (ft): 105.0 Well diameter (in): 2.0 Length of water column in well (ft): 104.7

Gallons per foot[1]: 0.16 Well volume (gal): 16.75

2. PURGING DATA: Method: Bladder pump Sample intake depth: 100 (ft)

Purge Volume @ 1 well volume: 63.41 (L) Purge Rate: 200 (ml/min)

Parameter equipment: YSI , Turbidimeter , PID / initial headspace = 0.0 ppm

Pump setting

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1325	0.3	0	0	Start					
1330	0.3	1.0	200	8.57	396	1.14	6.87	-17	5.4
1335	0.3	2.0	200	8.57	395	1.02	6.89	-22	3.6
1340	0.3	3.0	200	8.63	395	0.93	6.95	-21	1.3
1345	0.3	4.0	200	8.72	395	0.84	7.04	-24	0.65
1350	0.3	5.0	200	8.66	394	0.72	7.09	-24	0.60
1355	0.3	6.0	200	8.61	394	0.62	7.14	-25	0.45
1400	0.3	7.0	200	8.56	393	0.53	7.18	-26	0.55
1405	0.3	8.0	200	8.55	393	0.47	7.21	-27	0.3
1410	0.3	9.0	200	8.57	393	0.41	7.22	-28	0.45
1415	0.3	10.0	200	8.56	392	0.38	7.25	-30	0.35
1420	0.3	11.0	200	8.52	392	0.33	7.27	-30	0.55
1425	0.3	12.0	200	8.52	391	0.29	7.32	-32	0.35
1430	0.3	13.0	200	8.49	391	0.27	7.36	-34	0.55
Sample Time	1432								

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : 6_MW-13 (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): Clear / No Odor

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1432

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376959	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	↓	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	↓	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - 6_MW-13 / SIN - 0097-16

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 20 psi, refill - 10.5 / discharge - 4.5 .4-cpm

Time Off Site 1500

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Ground Water Monitoring Well Sample Collection Record

Well ID: 6_MW-18 (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: JEP Date: 10.7.15

Weather Conditions: sunny, 65°F, slight breeze Time On Site: 1220

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 0.40

Total well depth (ft): 121.6 Well diameter (in): 2 Length of water column in well (ft): 121.20

Gallons per foot[1]: 0.16 Well volume (gal): 19.39

2. PURGING DATA: Method: Bladder pump Sample intake depth: 120.3 (ft)

Purge Volume @ 1 well volume: 73.40 (L) Purge Rate: 100 (ml/min)

Parameter equipment: YSI , Turbidimeter , PID / initial headspace = ppm

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1240	0.40	0	0	Start			---	---	---
1245	1.00	0.5	100	15.39	312	1.51	8.26	36	<1
1250	1.30	1.0	100	15.34	309	0.56	8.15	32	<1
1300	2.50	2.0	100	14.84	311	0.32	8.36	-10	<1
1305	2.70	2.5	100	14.76	312	0.27	8.38	-18	<1
1310	3.21	3.0	100	14.71	312	0.26	8.38	-27	<1
1315	3.64	3.5	100	14.65	312	0.26	8.39	-36	<1
1320	3.77	4.0	100	14.63	312	0.26	8.40	-38	<1
1325	4.18	4.5	100	14.41	312	0.23	8.37	-44	<1
1330	4.35	5.0	100	14.28	312	0.23	8.37	-45	<1
1335	4.74	5.5	100	14.31	311	0.20	8.40	-51	<1
1340	5.06	6.0	100	14.22	311	0.22	8.39	-53	<1
1345	5.30	6.5	100	14.13	311	0.20	8.40	-54	<1
1350	SAMPLED								

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : 6-MW-18 (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): None / 12

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1350

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376958	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	↓	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	↓	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - 6-MW-18 / SIN - 0099-16

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 20 psi, refill - 10 / discharge - 5 (4cpm)

Used lowest possible pump setting; Historical monitoring data indicates that water levels do not stabilize, even after 4 hrs. pumping/purging. Sample collected after all other parameters had stabilized.

Time Off Site 1410

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Montpelier, VT 05602 USA

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Ground Water Monitoring Well Sample Collection Record

Well ID: J- MW-20A (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: TRW Date: 10-6-15

Weather Conditions: Overcast Calm 50s - 60s F Time On Site: 1220

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 4.85

Total well depth (ft): 14.5 Well diameter (in): 2.0 Length of water column in well (ft): 9.65

Gallons per foot[1]: 0.16 Well volume (gal): 1.54

2. PURGING DATA: Method: Bladder pump Sample intake depth: 11.7 (ft)

Purge Volume @ 1 well volume: 5.84 (L) Purge Rate: 200 (ml/min)

Parameter equipment: YSI , Turbidimeter , PID / initial headspace = ppm

Pump Setting 15 PSI 4 CPM 12/3 R+D

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1255	4.85	0	0	Start	---	---	---	---	---
1300	5.10	1.0	200	12.78	663	3.37	5.79	5.0	33
1305	5.10	2.0	200	13.06	678	1.60	6.01	-14	9.9
1310	5.15	3.0	200	13.16	671	1.34	6.05	-21	5.1
1315	5.15	4.0	200	13.21	664	1.07	6.08	-25	3.2
1320	5.15	5.0	200	13.33	659	0.87	6.10	-28	2.3
1325	5.15	6.0	200	13.38	653	0.71	6.11	-30	2.0
1330	5.15	7.0	200	13.37	649	0.63	6.13	-31	1.6
1335	5.15	8.0	200	13.36	646	0.56	6.13	-32	1.2
1340	5.15	9.0	200	13.39	643	0.51	6.15	-34	1.3
1345	5.15	10.0	200	13.39	642	0.50	6.14	-35	1.2
Sample	Time	1348							

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : J_MW-20A (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): Clear / No Odor

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1348

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376955	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	↓	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	↓	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - J_MW-20A / SIN - 0076-33

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 15 psi, refill - 12/3 / discharge - 4-CPM

Time Off Site 1400

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Ground Water Monitoring Well Sample Collection Record

Well ID: J- MW-20B (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: TRO Date: 10-6-15

Weather Conditions: Partly Cloudy slight Breeze 60's Time On Site: 1400

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 6.54

Total well depth (ft): 28.76 Well diameter (in): 2.0 Length of water column in well (ft): 22.22

Gallons per foot[1]: 0.16 Well volume (gal): 3.56

2. PURGING DATA: Method: Bladder pump Sample intake depth: 26.2 (ft)

Purge Volume @ 1 well volume: 13.46 (L) Purge Rate: 200 (ml/min)

Parameter equipment: YSI, Turbidimeter, PID / initial headspace = ppm

Pump settings ~20psi 4-cpm 11/4 RTD

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25°C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1425	6.54	0	0	Start	---	---	---	---	---
1430	7.30	1.0	200	12.94	1400	1.25	6.47	-114	5.4
1435	7.55	2.0	200	10.24	1441	0.53	5.93	-64	9.9
1440	7.35	3.0	200	10.70	1419	0.42	5.84	-67	15
1445	7.30	4.0	200	10.57	1445	0.39	5.94	-71	20
1450	7.30	5.0	200	10.51	1449	0.36	5.88	-66	19
1455	7.25	6.0	200	10.66	1450	0.38	5.97	-71	20
1500	7.30	7.0	200	10.14	1462	0.35	5.91	-67	20
1505	7.30	8.0	200	10.35	1465	0.35	5.94	-70	26
1510	7.30	9.0	200	10.37	1468	0.34	5.95	-71	24
1515	7.30	10.0	200	10.39	1478	0.33	5.98	-72	24
1520	7.30	11.0	200	10.48	1489	0.34	5.98	-74	24
Sample Time		1522							

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : J_ MW- 20B (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): Slighty Turb. / No Odor

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1522

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376955	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	↓	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	↓	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - J_ MW-20B / SIN - 0079-33

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 120 psi, refill - 11 / discharge - 4 4-CPM

SLID SIN
Field Blank J_0073-33FB / 0073-33FB

Time Off Site 1550

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Ground Water Monitoring Well Sample Collection Record

Well ID: J-MW-21A (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: JEP Date: 10-6-15

Weather Conditions: overcast, 60°, calm Time On Site: 0915

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 8.47

Total well depth (ft): 23.53 Well diameter (in): 2 Length of water column in well (ft): 15.06

Gallons per foot[1]: 0.16 Well volume (gal): 2.41

2. PURGING DATA: Method: Bladder pump Sample intake depth: 21.0 (ft)

Purge Volume @ 1 well volume: 9.12 (L) Purge Rate: 200 (ml/min)

Parameter equipment: YSI , Turbidimeter , PID / initial headspace = ppm

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
0930	8.47	0	0	Start	---	---	---	---	---
0935	8.72	1	200	12.04	1253	0.60	6.40	-55	35
0940	8.60	2	200	12.41	1261	0.57	6.16	-60	28
0945	8.60	3	200	12.37	1255	0.41	6.08	-65	24
0950	8.60	4	200	12.37	1253	0.39	6.02	-69	24
0955	8.60	5	200	12.34	1253	0.32	5.99	-71	17
1000	8.60	6	200	12.31	1257	0.30	5.99	-73	16
1005	8.60	7	200	12.31	1264	0.28	5.98	-76	17
1010	SAMPLED								

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : J-MW-21A (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): none / na

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1010

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	396957	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	↓	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	↓	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - J_MW-21A / SIN - 0084-33

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 20 psi, refill - 10 / discharge - 5 4cpm

Time Off Site 1030

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Ground Water Monitoring Well Sample Collection Record

Well ID: JP MW-21B (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: JEP Date: 10.5.15

Weather Conditions: cloudy, 60°F, calm Time On Site: 1430

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 8.20

Total well depth (ft): 35.85 Well diameter (in): 2 Length of water column in well (ft): 27.65

Gallons per foot[1]: 0.16 Well volume (gal): 4.42

2. PURGING DATA: Method: Bladder pump Sample intake depth: 32.5 (ft)

Purge Volume @ 1 well volume: 16.74 (L) Purge Rate: 200 (ml/min)

Parameter equipment: YSI , Turbidimeter , PID / initial headspace = ppm

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1440	8.20	0	0	Start			---	---	---
1445	9.38	1	200	12.48	751	0.38	6.53	-109	65
1450	9.47	2	200	12.44	739	0.30	6.55	-108	38
1455	9.54	3	200	12.09	703	0.16	6.73	-128	16
1500	9.68	4	200	12.07	705	0.22	6.73	-128	14
1505	9.70	5	200	12.07	710	0.23	6.78	-128	15
1510	9.78	6	200	12.07	716	0.19	6.78	-126	14
1515	SAMPLED								
		TOTAL 14 LITERS @ End of sampling							

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : J-MW-21B (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): None, Na

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1515

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376956	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	↓	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	↓	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - J-MW-21B / SIN - 0082-33

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 20 psi, refill - 10 / discharge - 5 Hepm

collected MS/MSD @ 1515

MS-SLID: J-~~21B~~ MW-21B MS (JGP 10-5-15) | SIN: 0082-33MS

MSD-SLID: J-MW-21B MSD | SIN: 0082-33MSD

Collected Replicate (metals) SLID: J-MW-21B RP SIN: 0082-33 RP

Time Off Site 1530

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Fax: (802) 229-5876
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Ground Water Monitoring Well Sample Collection Record

Well ID: J_MW-22A (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: JEP Date: 10-6-15

Weather Conditions: overcast, 60°F, calm Time On Site: 1050

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 8.70

Total well depth (ft): 24.4 Well diameter (in): 2 Length of water column in well (ft): 15.7

Gallons per foot[1]: 0.16 Well volume (gal): 2.51 ~~22.1~~ 21.6 JEP 10-6-15

2. PURGING DATA: Method: Bladder pump Sample intake depth: ~~15.2~~ (ft)

Purge Volume @ 1 well volume: 9.51 (L) Purge Rate: 200 (ml/min)

Parameter equipment: YSI , Turbidimeter , PID / initial headspace = ppm

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1110	8.70	0	0	Start			---	---	---
1115	8.84	1	200	10.91	1087	0.64	5.68	15	31
1120	8.84	2	200	10.88	1081	0.46	5.66	6	15
1125	8.84	3	200	10.86	1092	0.39	5.68	0	11
1130	8.84	4	200	10.85	1091	0.36	5.68	-3	11
1135	8.84	5	200	10.82	1090	0.35	5.69	-5	10
1140	SAMPLED								

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : J-MW-22A (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): none / na

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1146

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	396957	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	↓	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	↓	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - J-MW-22A / SIN - 0081-33

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 20 psi, refill - 10 / discharge - 5 4cpm

collected duplicate @ 12:00 (fictitious time)

SLID: J-0085-33 SIN: 0085-33

for all analyses - 8260B, 8270C, metals

Time Off Site 1220

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Ground Water Monitoring Well Sample Collection Record

Well ID: JMW-22B (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: JEP Date: 10.6.15

Weather Conditions: overcast, 60°F, calm Time On Site: 12:20

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 8.54

Total well depth (ft): 29.5 Well diameter (in): 2 Length of water column in well (ft): 20.96

Gallons per foot[1]: 0.16 Well volume (gal): 3.35

2. PURGING DATA: Method: Bladder pump Sample intake depth: 26.7 (ft)

Purge Volume @ 1 well volume: 12.69 (L) Purge Rate: 200 (ml/min)

Parameter equipment: YSI , Turbidimeter , PID / initial headspace = ppm

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1230	8.54	0	0	Start	---	---	---	---	---
1235	8.65	1	200	11.54	1045	0.65	5.96	-24	19
1240	8.65	2	200	11.36	994	0.38	5.84	-6	15
1245	8.65	3	200	11.35	995	0.37	5.88	-8	16
1250	8.65	4	200	11.36	995	0.37	5.90	-11	13
1255	8.65	5	200	11.52	993	0.34	5.88	-10	13
1300	8.65	6	200	11.59	992	0.37	5.88	-11	13
1305	SAMPLED								

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : J-MW-22B (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): none / no

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1305

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	396957	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	↓	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	↓	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - J-MW-22B / SIN - 0080-33

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 20 psi, refill - 10 / discharge - 5 4cpm

Time Off Site 1330

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100 State Street, Suite 600
Montpelier, VT 05602 USA

Phone: (802) 229-4600
Fax: (802) 229-5876
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Ground Water Monitoring Well Sample Collection Record

Well ID: MW-23B (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: D Maynard Date: 10-6-15

Weather Conditions: 45-65° calm cloudy AM clearing PM Time On Site: 7:45

1. WATER LEVEL DATA: (from TOC) 28" DNAPL = 2.33' Depth TO DNAPL = 28.82 FB TOC

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 7.35

Total well depth (ft): 31.15' steel tape Well diameter (in): 2" Length of water column in well (ft): 23.80

Gallons per foot[1]: 0.16 Well volume (gal): 3.81 G = 14.4 L.

2. PURGING DATA: Method: ~~Bladder~~ peristaltic pump Sample intake depth: 24 (ft)

Purge Volume @ 0.55 well volume: 8 (L) DM 10-5-15 Purge Rate: 200 (ml/min)

Parameter equipment: ~~YSI, Turbidimeter~~ DM 10-5-15, PID / initial headspace = 19 ppmv

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
9:45	7.35	0	0	Start			---	---	---
10:12	7.30			- NO Field Parameters Due TO NAPL-					
10:15	Pump on								
10:19	7.55		~200	1/8" NAPL DNAPL Globules in Discharge					
10:22	~	none L. 450							
10:27	7.60	2 L.	200						
10:33	7.60	32	167	NAPL staining on interior suction tube					
10:38	7.62	4	200						
10:43	7.63	5	200						
10:48	7.65	6	200	1/4" NAPL Globule in tubing					
10:53	7.65	7	200						
11:00		~8		sample collection					

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : J.MW-23B (SLID)

DM 10-05-15

Purge Water Disposal Method ~~Ground~~ Comments (e.g. color / odor): sheens, odor,

place in tote w/2nd contain. @ 455 Pine St. peristaltic

3. SAMPLE COLLECTION: Method: ~~Bladder~~ Pump Sample Time: 11:00 10-6-15

DM 10-5-15

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376956	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	↓	Fed. Ex.	2 x ~~1L~~ 250 mL amber glass DM 10-6	ice	8270C/Lancaster
Groundwater	↓	Fed. Ex.	1 x ~~500ml~~ 250 mL plastic DM 10-6-15	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - J.MW-23B / SIN - 0087-33

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - psi, refill - NA / discharge - NA

D Maynard

Time Off Site 1130

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100 State Street, Suite 600
Montpelier, VT 05602 USA

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Fax: (802) 229-5876
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Ground Water Monitoring Well Sample Collection Record

Well ID: J_MW-24A (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: TRO Date: 10-6-15

Weather Conditions: Overcast Calm 45-65°F Time On Site: 0920

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 8.21

Total well depth (ft): 24.8 Well diameter (in): 2.0 Length of water column in well (ft): 16.59

Gallons per foot[1]: 0.16 Well volume (gal): 2.65

2. PURGING DATA: Method: Bladder pump Sample intake depth: 22.45 (ft)

Purge Volume @ 1 well volume: 10.05 (L) Purge Rate: 200 (ml/min)

Parameter equipment: YSI , Turbidimeter , PID / initial headspace = 0.0 ppm

Pump setting 15 psi

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25°C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
930	8.21	0	0	Start	---	---	---	---	---
935	8.35	1.0	200	10.56	2279	0.82	6.51	-28	23
940	8.30	2.0	200	9.57	2279	0.73	6.20	-34	18
945	8.30	3.0	200	10.02	2297	0.59	6.09	-37	7.5
950	8.30	4.0	200	10.02	2302	0.52	6.07	-42	4.1
955	8.30	5.0	200	9.99	2301	0.47	6.04	-44	2.7
1000	8.30	6.0	200	10.43	2295	0.45	6.02	-46	2.8
1005	8.30	7.0	200	10.09	2294	0.40	6.08	-51	2.9
1010	8.30	8.0	200	9.96	2285	0.36	6.01	-49	3.0
1015	8.25	9.0	200	9.92	2284	0.37	6.00	-50	2.8
1017	Sample Time								

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : J_MW-24A (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): Clear / No Oder

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1017

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376955	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	↓	Fed. Ex.	2 x 1L amber glass	ice	8270C/Lancaster
Groundwater	↓	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID J_MW-24A / SIN - 0089-33

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 15 psi, refill - 11.0 / discharge - 4.0

Trip Blank SLID J_0070-33TB / SIN 0070-33TB (0900)

Time Off Site 1025

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Montpelier, VT 05602 USA

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Fax: (802) 229-5876
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Ground Water Monitoring Well Sample Collection Record

Well ID: JMW-24B (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: TRO Date: 10-6-15

Weather Conditions: Overcast Calm 50-60°F Time On Site: 1025

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 8.15

Total well depth (ft): 32.6 Well diameter (in): 2.0 Length of water column in well (ft): 24.45

Gallons per foot[1]: 0.16 Well volume (gal): 3.91

2. PURGING DATA: Method: Bladder pump Sample intake depth: 30.15 (ft)

Purge Volume @ 1 well volume: 14.81 (L) Purge Rate: 300 (ml/min)

Parameter equipment: YSI, Turbidimeter, PID / initial headspace = 0.0 ppm

Pump setting 20 PSI 4-CPM 11.0/4.0 R+D

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1030	8.15	0	0	Start			---	---	---
1035	8.55	1.5	300	9.77	1002	2.80	5.83	-24	32
1040	8.55	3.0	300	9.65	1014	1.16	5.64	-22	19
1045	8.60	4.5	300	9.57	1007	0.92	5.64	-24	17
1050	8.60	6.0	300	9.54	1072	0.71	5.64	-26	16.0
1055	8.60	7.5	300	9.46	1077	0.61	5.65	-29	17.0
1100	8.60	9.0	300	9.44	1071	0.55	5.66	-31	15
1105	8.60	10.5	300	9.40	1073	0.51	5.67	-32	15
1110	8.60	12.0	300	9.38	1057	0.49	5.68	-34	14
1115	8.60	13.5	300	9.37	1058	0.47	5.69	-35	14
Sample	Time	1117							

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : J_mw-24R (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): Slightly Turbid / No Odor

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1117

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376955	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	↓	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	↓	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - J_mw-24R / SIN - 0090-33

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 20 psi, refill - 11 / discharge - 4

Time Off Site 1130

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100 State Street, Suite 600
Montpelier, VT 05602 USA

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Ground Water Monitoring Well Sample Collection Record

Well ID: T-MW-25B (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: JSP Date: 10.6.15

Weather Conditions: part sun, 60°F, calm Time On Site: 1400

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 7.53

Total well depth (ft): 30.5 Well diameter (in): 2 Length of water column in well (ft): 22.97

Gallons per foot[1]: 0.16 Well volume (gal): 3.68

2. PURGING DATA: Method: Bladder pump Sample intake depth: 26 (ft)

Purge Volume @ 1 well volume: 13.91 (L) Purge Rate: 200 (ml/min)

Parameter equipment: YSI , Turbidimeter , PID / initial headspace = ppm

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1420	7.53	0	0	Start			---	---	---
1425	7.80	1	200	12.05	1197	0.63	6.06	-45	20
1430	8.06	2	200	10.96	1233	0.45	6.01	-53	22
1435	8.10	3	200	12.31	1227	0.46	6.14	-61	18
1440	7.70	4	200	12.53	1220	0.41	6.16	-64	14
1445	7.70	5	200	12.49	1226	0.40	6.15	-65	12
1450	7.71	6	200	12.52	1226	0.39	6.12	-65	9
1455	7.70	7	200	12.40	1231	0.40	6.12	-66	9
1500	7.70	8	200	12.36	1234	0.39	6.12	-67	8
1505	SAMPLED								

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : T_MW-25B (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): none / na

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1505

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376957	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	NA X	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	NA X	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - T_MW-25B / SIN - 0500-04

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 20 psi, refill - 10 / discharge - 5 4cpm

MS/MSD collected

SLID: T_MW-25B MS
MS: SIN: 0500-04 MS
SLID: T_MW-25B MSD
MSD: SIN: 0500-04 MSD

Duplicate collected @ 12:05 (fictitious time)
SLID: T_0509-04DP
SIN: 0509-04DP

ASSOC. Trip Blank T_0072-33TB SIN 0072-33TB 10-6-15 9:00

Time Off Site 1520

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100 State Street, Suite 600
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Fax: (802) 229-5876
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Ground Water Monitoring Well Sample Collection Record

Well ID: T_MW-26A (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: TRO Date: 10-5-15

Weather Conditions: P. Cloudy (High Clouds) Breezy Time On Site: 1225

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 7.78

Total well depth (ft): 15.42 Well diameter (in): 2.0 Length of water column in well (ft): 7.64

Gallons per foot[1]: 0.16 Well volume (gal): 1.22

2. PURGING DATA: Method: Bladder pump Sample intake depth: 14.0 (ft)

Purge Volume @ 1 well volume: 4.63 (L) Purge Rate: 200 (ml/min)

Parameter equipment: YSI, Turbidimeter, PID / initial headspace = 0.0 ppm

Pump settings 15 psi; 4-CPM R=13 / D=2.0

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1230	7.78	0	0	Start	---		---	---	---
1235	10.15	1.5	300	13.43	934	0.67	6.84	-93	2.9
1240	*	2.5	200	13.52	936	0.71	6.94	-99	3.5
1245	*	3.5	200	13.34	949	0.61	6.95	-103	3.7
1250	*	4.5/Dry	200	1333	943	1.01	6.92	-91	—
	Pump Dry - Purged Below Pump intake								
	Sample Recharge								
1320	Sample Time								

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : T_mw-26A (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): clear/slightly Turbid / No odor

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1320

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376954	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	—	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	—	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
(2.00" = 0.16)	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - T_mw-26A / SIN - 0501-04

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 15 psi, refill - 13 / discharge - 2 4 cpm

Time Off Site 1330

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Ground Water Monitoring Well Sample Collection Record

Well ID: T-MW-26B (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: TRO Date: 10-5-15

Weather Conditions: P. Cloudy (High Clouds) Breezy Time On Site: 1115

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 8.44

Total well depth (ft): 31.53 Well diameter (in): 2.0 Length of water column in well (ft): 23.09

Gallons per foot[1]: 0.16 Well volume (gal): 3.69

2. PURGING DATA: Method: Bladder pump Sample intake depth: 26 (ft)

Purge Volume @ 1 well volume: 13.98 (L) Purge Rate: 400 (ml/min)

Parameter equipment: YSI, Turbidimeter, PID / initial headspace = 0.0 ppm
QED - Controler CPM = 4 11 R / 4D

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1125	8.44	0	0	Start			---	---	---
1130	8.80	2.0	400	9.82	1224	257	7.34	-30	11.0
1135	8.79	4.0	400	9.65	1288	1.01	6.40	-56	5.8
1140	8.75	6.0	400	9.77	1289	0.99	6.28	-63	2.2
1145	8.74	8.0	400	9.77	1289	0.97	6.27	-73	2.4
1150	8.74	10.0	400	9.72	1280	0.80	6.24	-81	1.9
1155	8.74	12.0	400	9.69	1287	0.76	6.22	-83	1.6
1200	8.75	14.0	400	9.68	1292	0.69	6.24	-87	1.5
1205	8.76	16.0	400	9.67	1289	0.67	6.26	-92	1.7
1210	8.76	18.0	400	9.67	1292	0.53	6.28	-94	1.1
sample Time	1217								

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : T_MW-26B (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): Yellowish / No Odor
slight. Turbid

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1212

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376954	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	—	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	—	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - T_MW-26B / SIN - 0502-04

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - CPm-4 psi, refill - 11.0 / discharge - 4.0 20psi

Trip Blank (1100) SLID-T_0507-04TB / SIN - 0507-04TB

Time Off Site 1225

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100 State Street, Suite 600
Montpelier, VT 05602 USA

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Fax: (802) 229-5876
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Ground Water Monitoring Well Sample Collection Record

Well ID: I-mw-27A (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: TRO Date: 10-5-15

Weather Conditions: P. Cloudy (High clouds) 50's Time On Site: 1335

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 9.28

Total well depth (ft): 17.0 Well diameter (in): 2.0 Length of water column in well (ft): 7.72

Gallons per foot[1]: 0.16 Well volume (gal): 1.24

2. PURGING DATA: Method: Bladder pump Sample intake depth: 16 (ft)

Purge Volume @ 1 well volume: 4.68 (L) Purge Rate: 200 (ml/min)

Parameter equipment: YSI, Turbidimeter, PID / initial headspace = 0.0 ppm

Pump Setting 15 psi 4-CPM 12/3 (R+D)

Time (10-5-15 TRO)	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
13:~~4~~50	9.28	0	0	Start	---	---	---	---	---
1355	9.55	1.0	200	11.87	1079	0.70	6.34	-20	8.2
1400	9.60	2.0	200	11.66	1223	0.72	6.26	-23	6.9
1405	9.58	3.0	200	11.41	1260	0.64	5.60	-15	3.0
1410	9.60	4.0	200	11.34	1266	0.47	5.74	-18	2.9
1415	9.60	5.0	200	11.23	1291	0.43	5.77	-20	2.3
1420	9.60	6.0	200	11.20	1308	0.42	5.74	-21	2.1
1425	9.60	7.0	200	11.14	1318	0.42	5.74	-23	1.9
sample Time		1427							

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : T_MW-27A (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): Clear / No odor

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1427

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376954	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	"	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	"	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - T_MW-27A / SIN - 0503-04

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 15 psi, refill - 12 / discharge - 3 4cpm

Time Off Site 1435

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Ground Water Monitoring Well Sample Collection Record

Well ID: T_MW-27B (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: TRO Date: 10-5-15

Weather Conditions: Mostly Cloudy slight Breeze 50's Time On Site: 1435

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 9.18

Total well depth (ft): 32.45 Well diameter (in): 2.0 Length of water column in well (ft): 23.27

Gallons per foot[1]: 0.16 Well volume (gal): 3.72

2. PURGING DATA: Method: Bladder pump Sample intake depth: 31 (ft)

Purge Volume @ 1 well volume: 14.09 (L) Purge Rate: 200 (ml/min)

Parameter equipment: YSI , Turbidimeter , PID / initial headspace = 0.0 ppm

Pump settings 20PSI 6-CPM 7.0/3.0 R+D

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1445	9.18	0	0	Start	---	---	---	---	---
1450	9.78	1.0	200	10.17	859	0.86	6.27	-57	14.0
1455	9.85	2.0	200	10.10	958	0.50	6.31	-62	6.4
1500	9.80	3.0	200	10.19	1043	0.35	6.30	-60	5.5
1505	9.70	4.0	200	11.07	1075	0.35	6.32	-62	5.3
1510	9.65	5.0	200	10.75	1091	0.36	6.38	-67	4.8
1515	9.60	6.0	200	10.63	1116	0.36	6.37	-66	4.1
1520	9.60	7.0	200	10.63	1137	0.36	6.36	-66	4.8
1525	9.60	8.0	200	10.65	1143	0.38	6.34	-67	4.9
Sample Time 1527									

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : T_MW-27B (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): slightly Turb. / No Odor

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1527

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376954	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	—	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	—	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
(2.00" = 0.16)	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - T_MW-27B / SIN - 0504-04

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 20 psi, refill - 7.0 / discharge - 3.0 6 CPM

Field Blank – SLID J_0508-04FB / SIN 0508-04FB (1600)

Time Off Site 1615

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Montpelier, VT 05602 USA

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Ground Water Monitoring Well Sample Collection Record

Well ID: T_MW-28A (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: JEP Date: 10.5.15

Weather Conditions: partly sun, 55°F, calm Time On Site: 1245

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 9.84

Total well depth (ft): 17.32 Well diameter (in): 2 Length of water column in well (ft): 7.48

Gallons per foot[1]: 0.16 Well volume (gal): 1.20

2. PURGING DATA: Method: Bladder pump Sample intake depth: 16 (ft)

Purge Volume @ 1 well volume: 4.53 (L) Purge Rate: 300 (ml/min)

Parameter equipment: YSI, Turbidimeter, PID / initial headspace = ppm

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond. (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1255	9.84	0	0	Start					
1300	10.24	1.5	300	13.81	931	2.67	6.46	-78	16
1305	10.25	3.0	300	13.19	1101	0.84	6.07	-62	17
1310	10.25	4.5	300	13.01	1104	0.50	5.94	-63	15
1315	10.25	6.0	300	12.91	1113	0.43	5.85	-67	12
1320	10.25	7.5	300	12.79	1124	0.37	5.80	-72	8
1325	10.25	9.0	300	12.74	1131	0.36	5.77	-76	7
1330	10.25	10.5	300	12.73	1142	0.38	5.77	-80	6
1335	10.26	12.0	300	12.71	1148	0.40	5.76	-82	6
1340	SAMPLED								

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : T-MW-28A (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): none / no

3. **SAMPLE COLLECTION**: Method: Bladder Pump Sample Time: 1340

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376954	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	- NA -	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	- NA -	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - T-MW-28A / SIN - 0505-04

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 15 psi, refill - 7 / discharge - 3 6 cpm

Time Off Site 1400

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100 State Street, Suite 600
Montpelier, VT 05602 USA

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Ground Water Monitoring Well Sample Collection Record

Well ID: T-MW-28 B (SLID)

Project Name: Pine Street Canal Site (PSCS) Project #: 1-0870-02

Site Location: Burlington, VT Sampler: JEP Date: 10.5.15

Weather Conditions: Mostly sun, 50°F, calm Time On Site: 1140

1. WATER LEVEL DATA: (from TOC)

Description of measuring point (MP) Top of PVC casing Depth to water below MP (ft): 9.52

Total well depth (ft): 29.54 Well diameter (in): 2 Length of water column in well (ft): 20.02

Gallons per foot[1]: 0.16 Well volume (gal): 3.20

2. PURGING DATA: Method: Bladder pump Sample intake depth: 24 (ft)

Purge Volume @ 1 well volume: 12.12 (L) Purge Rate: 200 (ml/min)

Parameter equipment: YSI , Turbidimeter , PID / initial headspace = ppm

Time	Depth (ft.)	volume removed (liters)	Flow Rate (mL/min)	Temp (°C)	Spec Cond (uS/cm) @25 °C	Dissolved Oxygen (mg/L)	p.H. (Std)	ORP (mV)	Turb. (NTU)
1155	9.52	0	0	Start	---	---	---	---	---
1200	9.83	1	200	11.18	1291	0.32	6.17	-45	16
1205	9.84	2	200	11.14	1290	0.36	5.68	-45	14
1210	9.84	3	200	11.13	1290	0.34	5.60	-50	14
1215	9.84	4	200	11.11	1290	0.25	5.56	-57	9
1220	9.85	5	200	11.07	1291	0.33	5.55	-62	9
1225	9.85	6	200	11.10	1291	0.24	5.55	-65	8
1230	9.85	7	200	11.10	1290	0.28	5.58	-68	7
1235	SAMPLED								

Project Name / Number - Pine Street Canal Site / 1-0870-02 Well ID : T-MW-28B (SLID)

Purge Water Disposal Method Ground Comments (e.g. color / odor): none / na

3. SAMPLE COLLECTION: Method: Bladder Pump Sample Time: 1235

Sample Matrix	Chain-of-Custody#	Shipper ID#	Container Qty/type	Preservation	Analytical method/Lab
Groundwater	376954	Fed. Ex.	3 x 40 ml VOA	HCl	8260B/Lancaster
Groundwater	NA	Fed. Ex.	2 x 1 L amber glass	ice	8270C/Lancaster
Groundwater	NA	Fed. Ex.	1 x 500ml plastic	HNO3	6010B-RCRA8 no Cu.Zn / Hg by 7470A / Lancaster

[1]well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

Comments: SLID - T-MW-28B / SIN - 0506-04

Decon after sampling ,as per method #27 – Water level meter deconned with Alconox/DI and DI rinse.

Pump controller setting - 20 psi, refill - 10 / discharge - 5 4cpm

Time Off Site 1245

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PID CALIBRATION SHEET				
Job Name: Pinest Camel site		Job #:		
Equipment ID:		Serial #		Lamp: 10.2eV
Brand of Standard		spec-Air		
Lot #		11930		
Expiration Date		N/A		
Date	Time	Initials	100 ppm Isobutylene Value (ppm)	Site Background Value (ppm)
10-5-15	8:0A	DM	102	0.0
10-7-15	8:25	DM	91.7	0.0

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PID CALIBRATION SHEET				
Job Name: Pine St			Job #: 10870-	
Equipment ID:		Serial # 592-002198		Lamp: 11.7 eV
Brand of Standard		Pine		
Lot #		DAP-248-100-1		
Expiration Date		3/2019		
Date	Time	Initials	100 ppm Isobutylene Value (ppm)	Site Background Value (ppm)
10/5/15	0800	TRO	100.0	0.0

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YSI CALIBRATION SHEET

Job Name: PSCS **Job # :** 1-0870-2

Equipment ID : YSI # 3 **Serial # :** 07C2008 AB

Brand of Standard		----------	YSI	Oakton	Oakton	Oakton	Oakton	Oakton	YSI	YSI	YSI		Oakton
Lot #		----------		RP-1	-	RP-1	3E-1	5Y-1	132-100 4477				501
Expiration Date		----------		11-17	-	11-15	1-16	2-16	11-15				12-15
Date	Time	Initials	YSI Temp. - °C	Specific Cond. 1.413 ms/cm	Specific Cond. _____ ms/cm	pH 7.00	pH 4.01	pH 10.00	ORP-Zobell Solution (200-275mV)	Barometric Pressure (mmHg)	100% D.O. (%)	100% D.O. (mg/L)	Zero O_2 Solution (mg/L)
Calibration 10.5.15	0930	JEP	6.49	1.413	—	7.00	4.01	9.98	255.0	767.0	101.0	10.74	0.24
End of Day Check 10.5.15	1600	DM	~21.8	1.413	—	7.01	3.84	9.71	232.4	NA	NA	NA	4.74
Calibration					—								
End of Day Check					—								
Calibration					—								
End of Day Check					—								
Calibration					—								
End of Day Check					—								
Calibration					—								
End of Day Check					—								
Calibration					—								
End of Day Check					—								
Calibration					—								
End of Day Check					—								

NIST Certified Thermometer Check (Date/Results): _____6/2015_____(must be completed at least once per year)

Notes: Calibration order is left to right on chart. The optimum pH mV range for pH7 is -70 to +70 after calibration.

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YSI CALIBRATION SHEET

Job Name: PSCS **Job #:** 1-0870-3

Equipment ID : YSI # 3 **Serial # :**

Brand of Standard		----------	YSI	Oakton	Oakton	Oakton	Oakton	Oakton	YSI	YSI	YSI		Oakton
Lot #		----------		RP-1	-	RP-1	SE-1	SY-1	132-100447				501
Expiration Date		----------		11-15	-	11-15	1-16	2/16	11-15				12/15
Date	Time	Initials	YSI Temp. - °C	Specific Cond. 1.413 ms/cm	Specific Cond. 1413 ms/cm	pH 7.00	pH 4.01	pH 10.00	ORP-Zobell Solution (200-275mV)	Barometric Pressure (mmHg)	100% D.O. (%)	100% D.O. (mg/L)	Zero O_2 Solution (mg/L)
Calibration 10-6-15	9:00	DM	16.04	1.413	~~1413~~ DM 10-6-15	7.00	4.01	9.97	242	760.8	100.1	10.15	0.10
End of Day Check 10-6-15	17:20	DM	15.15	1.414	-	7.24	4.14	9.54	253.2	747	105.5	-	0.10
Calibration 10-7-15	9:15	JEP DM	15.71	1.413	-	7.00	4.01	10.04	243.0	758.4	99.7	9.94	0.10
End of Day Check 10-7-15	1700	JEP	16.80	1.410	-	7.10	4.02	9.89	245.0	796.1	102.0	9.38	0.20
Calibration													
End of Day Check													
Calibration													
End of Day Check													
Calibration													
End of Day Check													
Calibration													
End of Day Check													
Calibration													
End of Day Check													

NIST Certified Thermometer Check (Date/Results): 6/2015 (must be completed at least once per year)

Notes: Calibration order is left to right on chart. The optimum pH mV range for pH7 is -70 to +70 after calibration.

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YSI CALIBRATION SHEET

Job Name: Pine St **Job #:** 1-0870-02

Equipment ID: YSI # 5 **Serial #:** 08J101252

Brand of Standard		----------	YSI	Oakton	Oakton	Oakton	Oakton	Oakton	YSI	YSI	YSI		Oakton
Lot #		----------	—	RP-1	—	RP-1	SZ-1	SY-1	13L-100447	—	—		501
Expiration Date		----------	—	11-15	—	11-15	1/16	2/16	11/15	—	—		12/15
Date	Time	Initials	YSI Temp. - °C	Specific Cond. 1.413 ms/cm	Specific Cond. _____ ms/cm	pH 7.00	pH 4.01	pH 10.00	ORP-Zobell Solution (200-275mV)	Barometric Pressure (mmHg)	100% D.O. (%)	100% D.O. (mg/L)	Zero O_2 Solution (mg/L)
Calibration 10-5-15	1000	TRO	12.96	1.413	—	7.00	4.01	9.86	246	765.2	99.8	10.13	0.10
End of Day Check 10-5-15	1610	TRO	21.38	1380	—	7.03	3.84	10.09	241	763.4	86.8	7.68	—
Calibration 10-6-15	0800	TRO	14.71	1413	—	7.00	4.01	9.96	246	761.1	100.1	10.66	0.25
End of Day Check 10-6-15	1700	TRO	15.22	1485	—	7.06	4.05	9.89	243	746.8	95.1	9.31	0.30
Calibration 10-7-15	0900	TRO	13.17	1413	—	7.00	4.01	10.01	246	758.3	99.8	10.48	0.25
End of Day Check 10-7-15	1630	TRO	15.86	1442	—	6.99	4.07	9.88	237	745.6	98.0	9.22	0.30
Calibration													
End of Day Check													
Calibration													
End of Day Check													
Calibration													
End of Day Check													
Calibration													
End of Day Check													

NIST Certified Thermometer Check (Date/Results): _____6/2015_____ (must be completed at least once per year)

Notes: Calibration order is left to right on chart. The optimum pH mV range for pH7 is -70 to +70 after calibration.

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TURBIDITY METER CALIBRATION SHEET

Job Name: PSCS | Job #: 1-0870-2

Equipment ID: #6 | Serial #:

Brand of Standard: Hanna →

Date	Time	Initials	15 NTU Value	100 NTU Value	750 NTU Value	Comments
Lot #			1905	1907	1937	
Expiration Date:			~~12/15~~ 1/17	1/17	2/17	
10.5.15	0930	JEP	✓	✓	✓	
check						
10-6-15	18:10	DM	15.00	90.0	700	check
10-7-15	9:30	DM	15.0	100.0	750	
10.7.15	14:00	JEP	~~16~~ 15.1	100	750	check

P:\STANDARD\JCO Forms\Turbidity Calsheet.doc

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TURBIDITY METER CALIBRATION SHEET

Job Name: Pine St | Job #: 1-0870-02

Equipment ID: HI 98703 | Serial #: 08566132

Brand of Standard: Hanna →

Lot #: 1610

Expiration Date: 11/16

Date	Time	Initials	15 NTU Value	100 NTU Value	750 NTU Value	Comments: 20.1
10-5-15	1000	TRO	15	100	750	0.20
10-6-15	0800	TRO	15	100	750	0.10
10-7-15	0900	TRO	15	100	750	0.10

ation PSCS PCM FBS Date 7-8-15

ect / Client P. Maynard Par

nsite 8:10

0-70°F overcast 10-15mph NW wind

w well monitor/pumping

cal. PID

+ SW/sheen Mon. → ID: 30-350

~~off~~site 15:45 DM

Location PSCS PCM FBS Date 7/9/15 29

Project / Client 0870-02

JRB PCS

8:00 ON site. Weather
S high fog, Muggy 61°F
Calm winds.

DAY 2 NAPL Monitoring-
Removal & Sheen/Bubble
Survey

15:45 off site

JRB

cation PSCS PCM FBB Date 7/10/15

oject / Client JRB FCC

0:30 on site. Weather
s sunny, humid, calm
74° F.

continue w NAPC
monitoring and removal
day 3

5:00 off site.

JRB

Location Date

Project / Client

Location PSCS PCM FB8 Date 7/22/15

Project / Client JEP / JBP

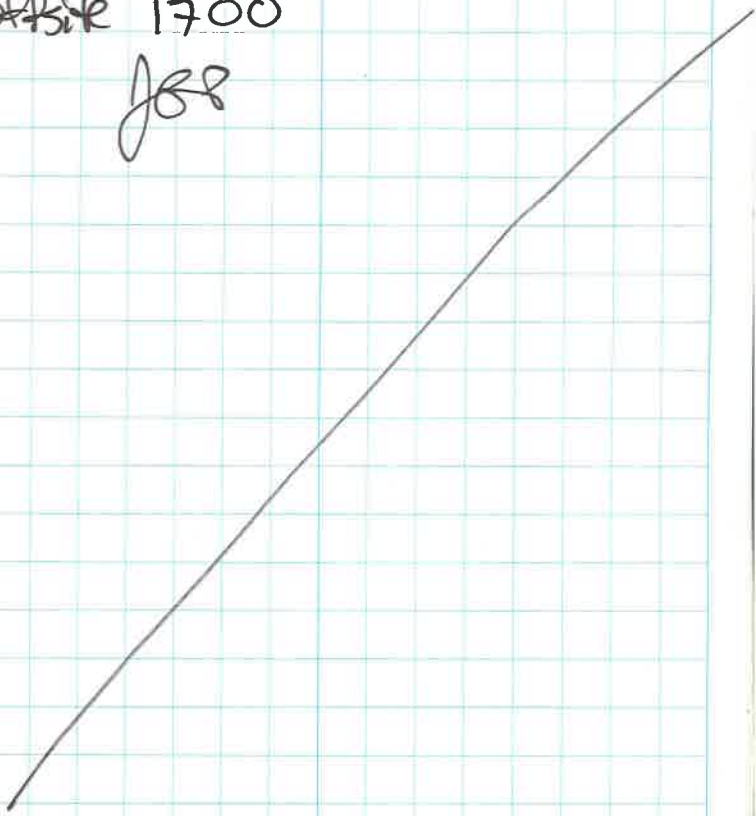
Onsite 9:00

weather - 60°F, drizzle, no wind

Task: biweekly sheen monitoring

Offsite 1700

JBP

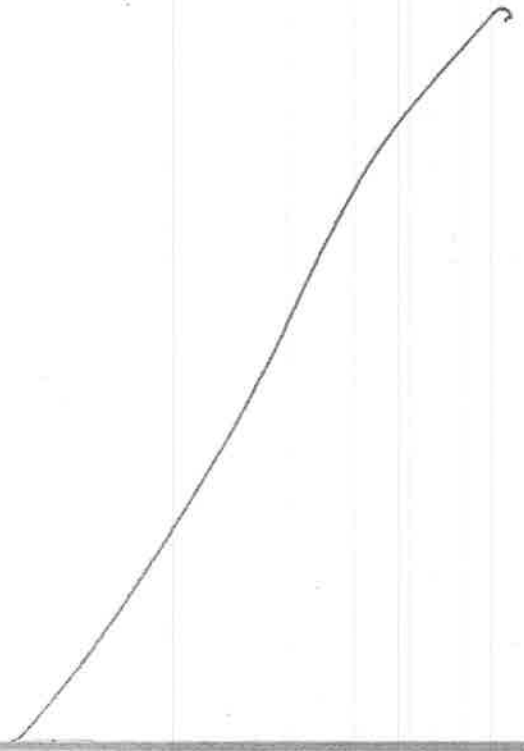


PSCS PCM FB8 Date 8-4-15

RJP PCS

on site - 8:15
Weather - 65-70° light breeze
Sunny

NAPL + Sheen monitoring
1300-1500 intermittent light rain
1559 - Cond water level at SG-8 = 0.44 FT
~830 - Installed new suction hose on peristaltic pump
1725 - leave site

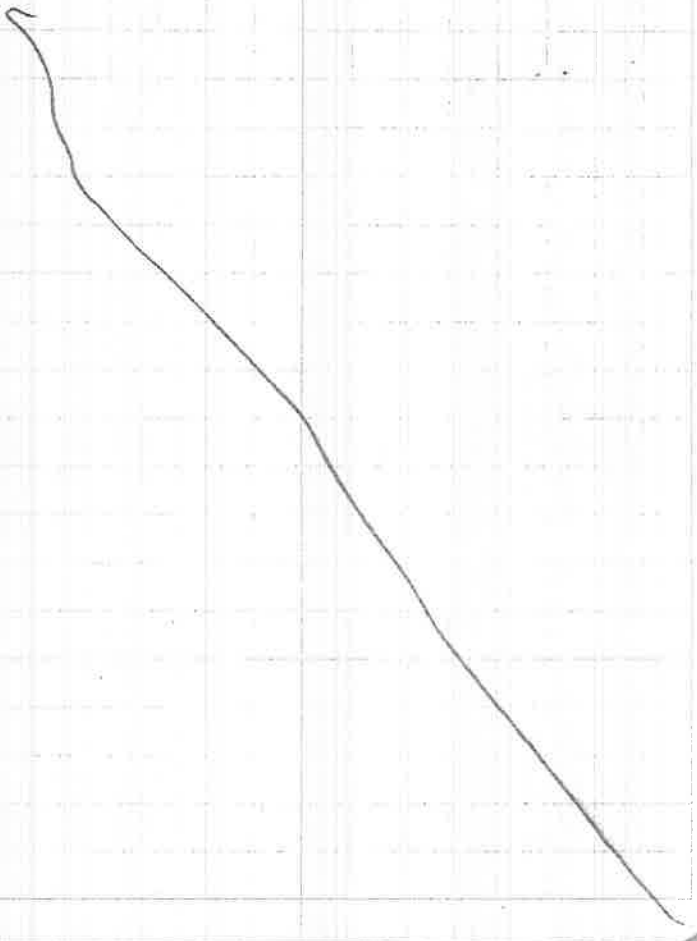


Location PSCS PCM fB8 Date 8/5/15

Project / Client

RJP PCS

815 - on-Site Partly Cloudy 75°F.
Rain overnight.
1007 - SG-8 measurement = 0.44 FT
Partly Cloudy all day
1600 - leave Site



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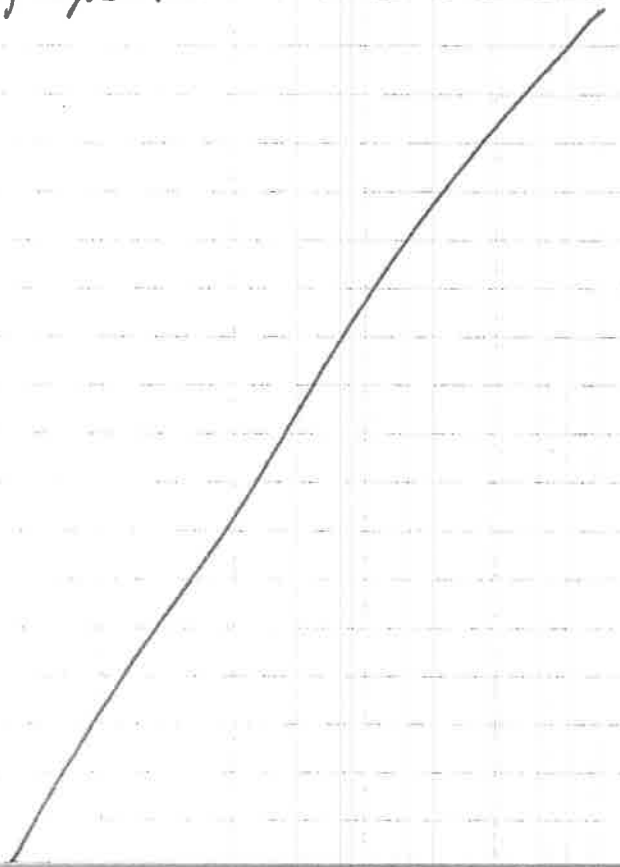
Location PCM PSCS FB8 Date 8/6/15

Project / Client

RDP PCS

On site - 800
weather - 70° sunny

continued monitoring
9:47 am - SG-8 water level = 0.44 FT.
1345 - leave site - head to storm water monitoring system.



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Location Date

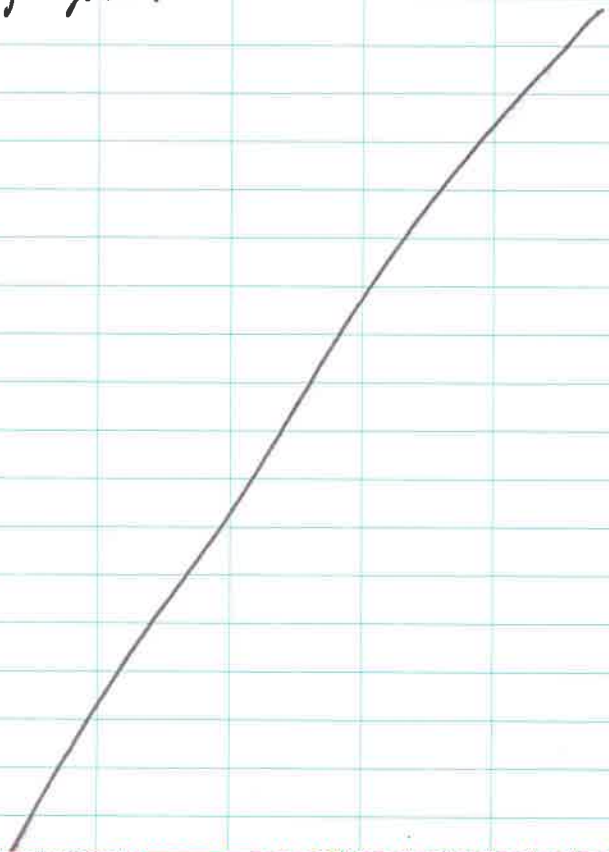
Project / Client

Location PCM PSCS FB8 Date 8/6/15

Project / Client RJP PCS

On site - 800
weather - 70° sunny

continued monitoring
9:47 an - SG-8 water level = 8.44 FT.
1345 - leave site - head to storm water monitoring system.



Location PCM PSCS FB#8 Date 8.20.15

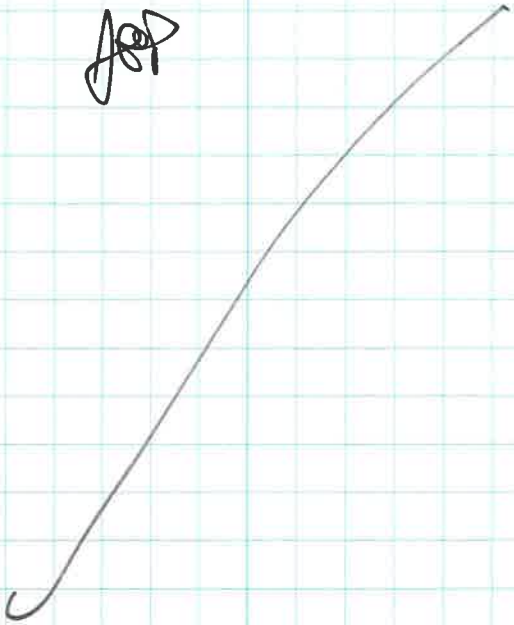
Project / Client JEP + RJP

Onsite 9:00
weather - 75°F, sunny, humid

Task: bi-weekly screen monitoring

offsite 17:15

JEP



Location PSCS – NAPL Pumping + sheen Monitoring Date 9/1/15

Project / Client

onsite @ 800. – Lt. Fog – 70°F, warmly to upper 80°s.
No Breeze.
ovm #2 calibrated – 100 ppm SG = 191.4 ppm V.
Background = 0.0 ppmv.
Canal water Level =

Perform NAPL measurement and Removal (see Field Forms)

staff gauge 0.17

offsite @ 1630.

AWR/RIP – NAPL Removal and sheen Monitoring – 9/2/15
onsite @ 740. – Sunny – 70°F warming to 90°F
No Breeze
offsite @ 1500.

AWR/RIP – NAPL Removal and sheen Monitoring – 9/3/15
onsite @ 740. – Cloudy – Rain showers, 70 F, No Breeze.

Location PSCS FB#8 Date 9.16.15

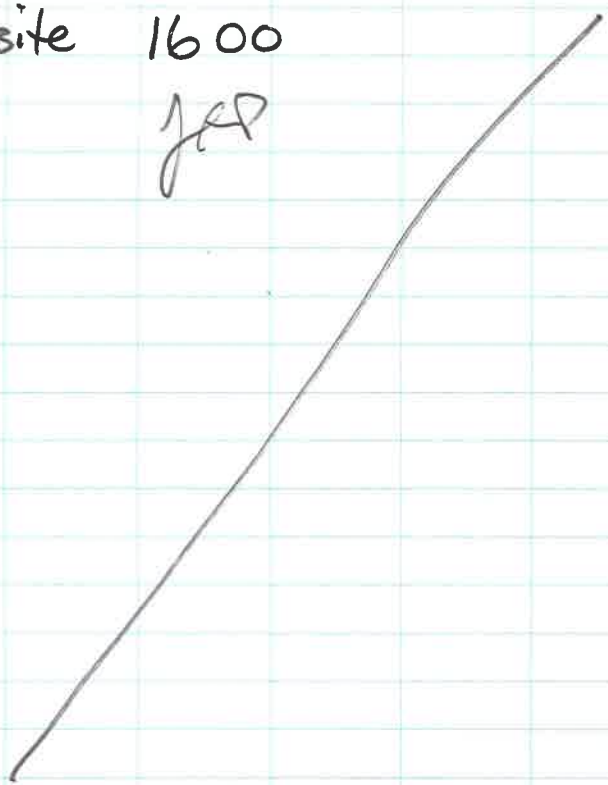
Project / Client JEP + RJP

Onsite @ 9:00. Weather is clear, 65°F, calm

Task - sheen monitoring

~~Offsite~~ 1600

JEP



Location Date

Project / Client

Location PSCS PCM FB #8 Date 9/21/15

Project / Client Cap Coring 2015

AUR - Adam Robfogy, JEP - Jo Palmer

RJP - Ross Preddom

onsite @ 800. - Sunny - 50°F - Lt. N wind,

Canal stage @ #8 = 0.06'.

Move Barge to J_T2+00 E100.

water Depth = 6.2' Cap Thickness = 34"

AUR 9.21.15

mid-3rd = 34" = 11-22"

3 Cores Collected, 12", 18", and 8" Recovery.

0-10cm = SIN: 0481-13 (1110).

11-22" = 0482-13 (1120).

Samples analyzed for Pine St. PAH List, RCRAB metals + Cu, Zn, % Solids, and TOC (0-10cm only)

COC = 384521

Equip. D-Conned w/ Alconox, 3x DI Rinse, MeOH Rinse

J_T3+00 E100 - water Depth = 6.3', Cap = 46"

mid-3rd = 15-30" 4 Reps. - 18", 17", 18", 16" Recovery

0-10cm - SIN: 0483-13 (1330)

15-30": SIN: 0484-13 (1340).

Duplicate (J_0162-13 DP, SIN: 0162-13 DP collected from 0-10cm) - 1350.

ms/msD: 0484-13 ms/msD collected from 15-30"

COC: 384521

Equip. D-Conned as above.

Location PSCS FB#8 Date 9/21/15

Project / Client AWR / RJP / JEP

Cap Coring 2015 Cont'd.

move to JT3+00 E300 AWR 9.21.15

Water Depth = ~~6.9~~, Cap Thickness = 45"

Mid 3rd = 15 - 5.9/30"

2 Reps. - 32", 19" Recovery.

0-10cm - SIN: 0485-13 (1440)

15-30" - SIN: 0486-13 (1450).

COC 384521

All Equip. D-Conned as per pg. 39.

Equip. Blank collected By Running Lab DI over Stainless Steel Tray.

J_0160-13 FB, SIN: 0160-13 FB (1530).

COC 384521.

offsite @ 1545

Location PSCS FB#8 Date 9-22-15

Project / Client RJP, JEP, SAS

Cap Coring and Benthic Grab Samples + surface water

0930 On-site

Cloudy ~65°F

Lake level 94.5 ft

Ross Predkomme RJP

Johanna Palmer JEP

Sonja Schuyler SAS

Area 4/5

slid: J_T21+00 E25 0-10cm only

Black organic soil with sand

sin 0498-13 (10:30)

COC # 384522

depth to water - 0.0ft.

slid J_T21+00 E50 Depth 1ft 7in

0-10cm + BIO

sin 0498-13 TOC AVS/SEM

COC # 384522 (10:45)

BIO COC # 384523

Hydrocotyle, burreed + cattail at margin - open water at sample location

Repl - poor recovery

No grain size - organic

COC 9252

0498-13 M1 4 containers

0498-13 M2 4 containers

0498-13 M3 7 containers

Location PSCS FB#8 Date 9-22-15

Project / Client RSP/JEP/SAS

Cap Coring + Benthic sampling / Surface water

Slid J_T17+00-E400 0-10cm only

Sin 0497-13

(N 716916.1 E 1452940.7)

COC# 384522 (13:25)

Depth to water = 0.0 ft, (beaver aetton)

All equipment decon'd as per pg. 39

Surface water:

Sample collected at canal outlet ~10' E of vehicle bridge

Lake level: 94.5 ft

Canal level: @SG#8

COC#

SLID	SIN	Time
J_T1+50 W80	0179-24	14:15
J_T1+50 W80MS	0179-24 MS	14:15
J_T1+50 W80MSD	0179-24 MSD	14:15
Duplicate:		
J_SW_DP	0122-24	14:20
Field Blank:		
J-SW-FB	0123-24	14:45

Location PSCS FB#8 Date 9.22.15

Project / Client JEP/RJP/SAS

Cap Coring / Benthic / surface water

Equipment blank collected by running Lab DI water over spoon

J_0161-13FB, sin 0161-13FB

time: 1500

Wildlife observations:

Blue heron, Kingfisher, cormorant

-Canal-cloudy-algae, also floating brown algal masses

offsite 16:10 JEP RJP SAS

Location PSCS PCM FB #8 Date 9/23/15

Project / Client

Cap Coring + Bio Monitoring

AWR, RJP, JEP, SAS - onsite @ 900.
Sunny - 60°F warming to mid-70's
Lake Level = 94.5' NGVD, Canal = 0.05'
move to J_T1+00 E50.
Bio and Cap Coring Location. water Depth = 2.0'
Cap Thickness = 31". Mid-3rd = 10"-20".

1045 Grab Samples
3rd grab poor recovery
Chem only
Material mostly coarse
organic matter not
suitable for grain size
W: = wrote SAS 9-25-15

J_T1+00E50 SLID SIN ~~0479~~ - 0479-13
COC# 384523
AVS/SEM TOC Lloyd Kahn
Macroinvertebrate
0479-13M1 5 containers
0479-13M2 3 containers
0479-13M3 5 containers
COC# 9252

Vegetation - waterlily, milfoil floating
algal mesas green/brown Phrag

Location PSCS PCM FB #8 Date 9/23/15

Project / Client Cont'd.

SLID: J_T1+00E50 - 2 Reps. - 16" Rec. 13" Rec.
0-10 cm - SIN: 0479-13 (1045)
10-20" - SIN: 0480-13 (1100).
CoC 384524

All Equip. D-Conned as per pg. 39.
move to J_T6+00E60
water Depth = 5.8', Cap = 25"
mid-3rd = 8-16" - 2 Reps. - 15", 15" Recovery.
0-10 cm - SIN: 0489-13 (1330).
8-16" - SIN: 0490-13 (1345).
CoC 384524.

All Equip. D-Conned as per pg. 39.
move to J_T5+00E20 - water Depth: 5.4'
Cap Thickness = 36". mid-3rd = 12"-24"
2 Reps. - 18", 18" Recovery.
0-10 cm - SIN: 0487-13 (1450)
12-24" - SIN: 0488-13 (1500).
CoC 384524.

All Equip. D-Conned as per pg. 39.
Equipment Blank collected By running Lab DI through New Core Liner.
J_0163-13 FB, SIN: 0163-13 FB (1545)

Location PSCS PCM FB #8 Date 9/23/15

Project / Client

Cap Coring/Bio 2015 Cont'd.

SLID
J_T6+00E60 COC# 384523
SIN 0489-13 AVS/SEM (1330).
SIN 0489-13 TOC Lloyd Kahn
SLID J_T6+00E60MS AVS/SEM SIN 0489-13 MS
J_T6+00E60MSD AVS/SEM SIN 0489-13 MSD
SLID J_0182-13 DP Lloyd Kahn TOC SIN 0182-13DP
Macroinvertebrate COC# +AVS/SEM 9252
SLID J_T6+00E60 SIN 0489-13 M1 1 container
J_T6+00E60 SIN 0489-13 M2 1 container (1340)
J_T6+00E60 SIN 0489-13 M3 1 container

offsite @ 1600.

Location PSCS PCM FB #8 Date 9/24/15

Project / Client Cap Coring 2015

AWR, RJP, JEP

onsite @ 900. - Sunny - 60°F, Lt. N wind.
Lake Level = 94.5' NGVD, Canal = 0.05' @ SG#8
Move to J_T8+00 E40.
water Depth = 5.6', Cap = 30", mid 3rd = 10"-20".
2 Reps. - 18" Recovery on Both.
0-10cm - SIN: 0491-13 (1010)
10-20" - SIN: 0492-13 (1020).

COC 384525
All Equip. D-Conned as per pg. 39.
Move to J_T15+50 E100. Cap = 15"
mid 3rd = 5-10". 6" Topsoil over Lt. gray fn. SAND.
0-10cm = SIN: 0493-13 (1200).
5-10" = SIN: 0494-13 (1210).
Duplicate Sample - J_0164-13DP, 0164-13DP
collected from 0-10cm (1215).
MS/MSD Collected from 5-10" interval (1210)
Equip Blank Collected from D-Conned Hand Augers.
J_0165-13 FB, SIN: 0165-13 FB (1230).
J_T16 +50 E150 - 5" Topsoil over 7" gray fn. Sand.
0-10cm - SIN: 0495-13 (1300).
4-8" = SIN: 0496-13 (1310). COC 384525
All Equip. D-Conned as per pg. 39.
offsite @ 1400.

Location PSCS PCM FB #8 Date 9/25/15

Project / Client 1-0870-2

AWR/RJP – NAPL Probing - 2015

onsite @ 830. – P. Cloudy - 60°F Lt. S wind.

T9 +30 E20 - No NAPL/sheen
T9 +55 E20 - No NAPL/sheen
T9 +80 E20 No NAPL/sheen
T10 +5 E20 No NAPL/sheen
T10 +30 E20 No NAPL/sheen
T10 +55 E20 No NAPL/sheen
T10 +80 E20 No NAPL/sheen
T11 +05 E20 No NAPL/sheen
T11 +30 E20 No NAPL/sheen
T11 +55 E20 No NAPL/sheen
T11 +80 E20 No NAPL/sheen
T12 +05 E20 No NAPL/sheen
T12 +30 E20 No NAPL/sheen
T12 +55 E20 No NAPL/sheen
T12 +80 E20 No NAPL/sheen
T13 +05 E20 No NAPL/sheen
T13 +30 E20 No NAPL/sheen
T13 +55 E20 No NAPL/sheen
T13 +80 E20 No NAPL/sheen
T14 +05 E20 No NAPL/sheen
T14 +30 E20 No NAPL/sheen

Canal Level = 0.00' @ SG #8

Location PSCS PCM FB #8 Date 9/25/15

Project / Client AWR/RJP Cont'd.

NAPL Probing 2015

J_T9 +50 E30 – No NAPL/sheen
E40 –
E50 –
E60 –
J_T10 +00 E30 No NAPL/sheen
E40
E50
E60
J_T10 +50 E30 No NAPL/sheen
E40
E50
E60
J_T11 +00 E30
E40
E50
E60
T_11 +50 E30
E40
E50
E60

50

Location PSCS PCM FB#8 Date 9/28/15

Project / Client 1-0870-02

10:30 J Bohy (JRB) P. Smart (PCS) ON Site for NAPL Monitoring Removal and Sheen Monitoring Also to install New Suction tubing into RW 109 (1" sch 40 IRON pipe). Weather is Partly cloudy, 70°F, breeze/ SOUTH.

17:00 off site

JRB

51

Location PSCS PCM FB#8 Date 9/29/15

Project / Client 1-0870-02

9:30 JRB. PCS on Site. Weather is O-CAST, humid 69°F slight breeze south, Continue NAPL monitoring removal / Sheen Monitoring

10:45 SG-8 cond level = -0.1

19:00 off site

JRB

PSCS PCM FB #9 Date 9/30/15

1-0870-02

800 JRB on site. Weather is rain, O-cast 55°F slight breeze.

945 PCS on site Continue NAPL Monitoring/ removal and sheen monitoring

1600 off site

JRB

PSCS PCM FB #8 10/1/15

1-0870-02

930 JRB PCS on site. Weather is partly cloudy cool 45F slight breeze North

Continue w. NAPL monitoring/ Removal (Day3) and sheen monitoring

16:00 OCT. NAPL/SHEEN MONITORING Completed. JRB, PCS to storm water system to inspect and replace batteries

16:30 off site

JRB

10-14-13

PSCS Well Book 4

J. Bowes, D. Maynard, W. Davey

onsite:

purpose: Autumn GW monitoring

see PSCS PCM FB7

DM

PSCS well Book 4 10-5-15

D Maynard

T. Osborne

onsite 7:40 J. Palmer

45-60° clear Calm

GW monitoring

RR Flagger 8:15 Brian MUZZY

well	Time	PID ppmv	IF Probe. FBTOC ft	LNAPL ft	DNAPL ft TD	
MW-8A						
MW-19	Blocked - See 10-7-15 notes					
MW-1B	12:05	0.4	4.32	No sheen 0.0	0 - 52.5'	
MW-12	12:20	0.0	Flowing 2' AGS	NS - 0. Sheen	<0.01' NAPL specks on water	1/4"
MW-4B	13:A	0.A	Flowing 3.3' AGS	sheen		1/2"
MW-3C	13:51	0.2	1.26	No sheen	<1/2'	69.92
MW-17	14:40	31.0	5.20	<0.01' sheen	2"	27' 8 3/8"
P-106	14:09	0.2	5.57	Blocked @ 26'		Covered Gorse
P-104	Blocked.			No LNAPL on sheen		

MW-13 - No NAPL or Boiler 1/2" Green SILT w/ NAPL on specks more

MW-12 TD 101.2' - 1/4" NAPL Droplets on tip of IF Probe

P-102 - Blocked. P106 Blocked @ 26'

MW-4 Spotty Grey sheen on Water

TD - 165.2 FBTOC (steel)

No Boiler Due to obstructions

DM NAPL Droplets on Lower 1/2" of probe

PSCS WELLBOOK 4

D Maynard 10-5-15

14:50 Bail MW-17 NAPL
0.1 FT NAPL on Bailer (2")
3 times Bailed - 90 ML
DNAPL recovered 1st Bail,
less to NONE recovered 2nd + 3rd Attempts
NAPL placed in totes @ 453 Pine St.
3/4" NAPL remaining after Bailing

MW21B 16:00 TD
34.3 FBGS
NO DNNAPL · 2" grey mud on TIP
TRO collects Field Blank over WL Marker
MATT.
J Palmer - off site 15:30
VRR Flagger off 16:00
YSI #3 Cal. check
Zero DO - 4.75 Mg/L * changed DO soln on 10/6
ORP - 232.4
SC (1413) - 1415
pH 10 - 9.71
pH 7 - 7.01
pH 4 - 3.84
Temp approx. 21.4 - 22 °C
Tosborne off site 16:25
DM offsite 17:00

10-6-15

Onsite: 7:45 D. Maynard Tosborne
J. Palmer Onsite: 9:00 - 15:30
50 - 65°F calm cloudy clearing PM
purpose: GW Monitoring
VT RR Flagger: 900 - 12:00
Alex.

Sample MW23B @ 11:00 (steel tape)
static WL 7.35 FBTOC, 2.33' NAPL (D)
purge DNAPL w/ Peri. pump +3/8" OD
11:30 - 11:45 - 2 L. DNAPL removed. Tubing
12:08 - 12:13 ADDIT. 0.7 mixed H2O + DNAPL pumped
NAPL, purge water, spent sorbents + Bailers, Gloves placed in TOTES + Drums @ IDW Container Area @ 453 Pine St.

2.33' DNAPL in 2" well = 0.376 = 1.41L.
12:15 Final MW23 DNAPL = 0.15'

MW21A NAPL check 12:30,
NO DNAPL BY WL probe TO 23.5' TD

CANAL WL 3.30 FT. BELOW BRIDGE @ 12:40

Hairy Woodpecker on-site

DM

PSCS well Book 4

10-6-15 D. Maynard

MW23A DNAPL removal
TD = 24'3½" DNAPL = 8½" = 0.43L
From 10/5/11 measurement
use ¼" ID x ⅜" OD Tubing + Peri Pump
Pump MW23A 13:14
200 mL H_2O + 300 mL DNAPL @ 13:27
+ 200 mLs DNAPL @ 13:30:30
+ 500 mL mixed H_2O + NAPL @ 13:39
(700 mLs H_2O + NAPL + 500 mLs DNAPL)
Ref set, 14:05 < ¼" DNAPL BY Steel Tape

MW22A 13:45 - TD 24.4'
check for DNAPL w/ ⏚ probe - None present.
MW22B 13:55 - TD 29.5'
NO DNAPL per ⏚ probe.

off site: 16:05 bm

10-7-15 D Maynard
onsite 7:45 - off 14:30
T. Osborne onsite 8:50 - 1600
J. Palmer onsite 9:10 - 1430

55-65°F calm, partly cloudy

Purpose: GW Monitoring

P-106 - 7:45 ¼" ⏚ probe
TD 59.5 ~~(5' blocked)~~ am 10/7
Bailer blocked @ 26'
NO NAPL on probe tip.

8:18 Canal ⏚ 3.31 F.B. Eddy Bridge
Raccoon prints under RR Bridge
weir ⏚ 0.2' B. crest = 96.3 FT.

Lake Level < 2.0' B. weir crest < 94.5'

MW-8A Location:
225' so. of MW18 + 80' due west
Near stairs to Beach - N 45-50' due E.
¾ hr. spent w/ Metal Detector and Shovel - well buried in Lawn - Not Found

MW-19 - 13:50 ⏚ 5' FBTOC PID 0.9
BLOCKED @ 49' NO SHEEN, ODOR OR NAPL bm

54

Location PSCS PCM FB#8 Date 10-15-15

Project / Client 1-0870-2

JEP + PCS

Onsite 8:40 for sheen monitoring

Weather: clear, 40°F, slight SW wind (10-15 mph)

Offsite 16:15

JEP

55

Location PSCS PCM FB8 Date 10-26-15

Project / Client

D Maynard - J Bowles

onsite 900 - off 16:45

40-55°F Partly cloudy Calm to 10mph N. wind.

check + Pump RW101 - RW110 + perform sheen/bubble monitor.

RW wells: TO 2 pm

SW/sheens - 2 - 16:45 DM

---

onsite 8:50 - 15:15 10-27-15 JRB, DMM

40-55°F mostly clear, Calm

RW well pumping + SW/sheens

DM

---

onsite: 9:05 - 14:30 JRB/DMM 10-28-15

40's - 50's°F overcast, rising wind. Rain @12:00

RW well pumping - Attempt TO recover PVC from RW2 + RW3 recovered 4 pieces - at least one left, stuck in soft bottom @ 408 in. BTOC

Cond 46 @ 568 = 0.09 @ 10:00

DM

Location PSCS PCM FB #2 Date 11/13/15

Project / Client 1-0870-02

JRB · GWL

9:15 ON site for surface water sheen / bubble survey; 48F o-cast H&S briefing w. GWL, went over job specific tasks.

9:40 South cross rope (T13) un done (broke) possible beaver issue(?) Replacement rope installed and surface sheen/bubble survey commenced.

16:00 To Stormwater system to show GWL location, tasks and leave manuals.

16:15 off site

JRB

Location Date

Project / Client

Location PSCS PCM FB#8 Date 11/23/15 11/24/15

Project / Client 1-0870-02

BND + GWL

0800 BND + GWL on site for NAPL monitoring/removal + sheen monitoring

Weather: 27°F, clear, 10mph wind N

0820 Leave site to pick up generator

0900 Return to site

Recover total of ~90 gal NAPL/H2O (slurry ~100 gal in tote 28)

B-0 monitoring

- King Eiders
- GB heron

Cond level @ SWB = 0.15'

1630 Leave site

0730 BND + GWL onsite for 11/24/15 NAPL monitoring/removal + sheen monitoring

Weather 25°F calm mostly cloudy

- ice on the southern + western sides of the cond

NAPL noses frozen - need to thaw

- generator oil fouled - change oil

1215 Finish NAPL monitoring remove total of ~45 gal

B-0 - Mallard pair, GB heron

Cond level @ SWB = 0.1'

1615 Leave site

58

Location PSCS PCM FB#8 Date 11/25/15

Project / Client 1-0870-02

BND + JEP

0915 BND + JEP onsite to finish NAPL + sheen monitoring and take equipment off site

Weather 32°F, MC, calm

- Pumped NAPL and transferred to totes
- pulled barge up onto plywood
- removed boat + red toolbox from site
- de-mobd stormwater sampling system

offsite: 1600

JEP

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: VTP000006707
2. Page 1 of: 1
3. Emergency Response Phone: 1800966 1102 800-966-1402
4. Manifest Tracking Number: 002788134 GBF

5. Generator's Name and Mailing Address: Green Mountain Power, 77 Grove Street, Rutland VT 05701 — Att: John Greenan
Generator's Phone: 802 747-5707
Generator's Site Address (if different than mailing address): Pine Street Barge Canal, 453 Pine Street, Burlington VT 05401

6. Transporter 1 Company Name: ENPRO SERVICES, INC.
U.S. EPA ID Number: MAC300098399

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address: ENPRO SERVICES OF VERMONT, INC., 54 AVENUE D, WILLISTON VT 05495
Facility's Phone: 802 860-1200
U.S. EPA ID Number: VTR000517052

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	RQ NA3082, Hazardous waste, liquid, n.o.s. (Benzene) 9, PGIII (RQ: D018)	002	TP	500	G	D018
X	NA3077, Hazardous waste, solid, n.o.s. (Benzene) 9, PGIII	001	OM	100	P	D018
	3.					
	4.					

14. Special Handling Instructions and Additional Information: 1)(L,E) WIP#GMP-PSC1 App#VT-0814-06548 - NAPL ERG#171 2)(S,E) WIP#GMP-PSC2 Approval#VT-1114-06549. PPE Drum ERG#171 ENPROPO#28062-61

ENPRO JOB# 8173-15

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

GENERATOR — Generator's/Offeror's Printed/Typed Name: Tracy Perry Agent 4 Generator — Signature — Month 09 Day 18 Year 15

INT'L — 16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.: Transporter signature (for exports only):

TRANSPORTER — 17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tracy Perry — Signature — Month 09 Day 18 Year 15
Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY — 18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H141	H141		

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jeff Frederick — Signature — Month 09 Day 15 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

TRANSPORTER'S COPY

www.anrmm.com www.tsdf.com www.hazardouswaste.com www.enpro.com www.hazardouswaste.com www.tsdf.com www.anrmm.com

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
VTP000006707	1	1800[illegible]4402	002788096 GBF

GENERATOR

5. Generator's Name and Mailing Address
Green Mountain Power
77 Grove Street
Rutland VT 05701
Att: John Greenan
Generator's Phone: 802 747-5707

Generator's Site Address (if different than mailing address)
Pine Street Barge Canal
453 Pine Street
Burlington VT 05401

6. Transporter 1 Company Name: ENPRO SERVICES, INC. — U.S. EPA ID Number: MAC300098399

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address
ENPRO SERVICES OF VERMONT, INC.
54 AVENUE D
WILLISTON VT 05495
Facility's Phone: 802 860-1200
U.S. EPA ID Number: VTR000517052

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	RQ NA3082, Hazardous waste, liquid, n.o.s. (Benzene) 9, PGIII (RQ: D018)	003	T.P.	0750	G	D018		
X	NA3077, Hazardous waste, solid, n.o.s. (Benzene) 9, PGIII	002	DM	020	P	D018		
X	3. RQ NA3082, Hazardous waste, liquid, N.O.S (Benzene) 9, PGIII	001	DM	0050	G	D018		
	4.							

14. Special Handling Instructions and Additional Information: 1)(L,E) WIP#GMP-PSC1 App#VT-0915-06548 - NAPL ERG#171 2)(S,E) WIP#GMP-PSC2 Approval#VT-1215-06549 PPE Drum ERG#171 ENPROPO#28700-61

ENPRO JOB# 8545-15

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator/Offeror's Printed/Typed Name: Tracy Pecor (Agent for Grantor) — Signature: [signature] — Month: 12 — Day: 4 — Year: 15

INTL

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. — Port of entry/exit:
Transporter signature (for exports only): — Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Tracy Pecor — Signature: [signature] — Month: 12 — Day: 4 — Year: 15

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month — Day — Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H141	H141	H141	

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Jeff Frederick — Signature: [signature] — Month: 12 — Day: 4 — Year: 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

TRANSPORTER'S COPY

www.enpro.com www.tsdf.com www.hazardouswaste.com www.enpro.com

Container Identification (a)	Media (b)	Sample Locations in Container (c)	Date Container Was Filled	Sampler's Initials	Approximate Volume of Material in Container (d)	Location of Container	Date Container Was Shipped Offsite
Temp: 2 Drums & 1 Carboy	Liquid	NA	4-13-15	DMM	110 G.	Storage Area	
TOTAL 5 FIVE Drums	Liquid	↓	4-15-15	DMM	~~330 Gal~~	↓	
1 Drum	SOLID	4-15-15	½ Full	DMM	25G.	↓	
Tote #22	Liquid	5/13/15	5/22/15	JRB	205 G	Storage Bins	6/12/15
DRUM #14	Solid	↓	↓	JRB	30 G	Storage Area	
Tote #23	LIQUID			JRB	150 G	Storage BIN	
DRUM #14	Solid			JRB	50 G	Storge Area	
TOTE #23	LIQ.		6/10/15	JRB	205 G	BINS	
DRUM #14	SOLID		6/11/15	JRB.	55 G	STORAGE ENCLOSURE	6/12/15
TOTE #23	LIQ		↓	↓	240 G	BINS	6/12/15
TOTE #24	LIQ		↓	↓	25 G	↓	~~6/11/15~~ JRB 6/12/15
DRUM #15	SOLID		6/12/15	JRB	10 G	Enclosure	
TOTE #24	LIQ		↓	↓	80 G	BINS	
TOTE #24	LIQ.		7-8-15	DMM	125 G	Storage Bin	
Tote #24	LIQ		7/9/15	JRB	220 G	Storage BIN	
Tote #24	LIQ		7/10/15	JRB	240 G	Storage Bin	← FULL 7 Loads
Tote #25	LIQ		↓	JRB	40 G	Storage Bin	
DRUM #15	SOLID		7/10/15	JRB	40 G	Enclosure	

a. Identify containers as PS-DR#.
b. Media are sediment, soil, or decontamination water.
c. Identify sample locations with field sample IDs.
d. Give volume in gallons.

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

WASTE TRACKING FORM

1-0870-02

Container Identification (a)	Media (b)	Sample Locations in Container (c)	Date Container Was Filled	Sampler's Initials	Approximate Volume of Material in Container (d)	Location of Container	Date Container Was Shipped Offsite
Tote #25	NAPL+WATER	Waste Storage Area	8/4/15	PCS	79 gallons Total	69 pumped in today	
#Tote #25	NAPL+Water	Waste storage Area	8-5-15	RJP	125gal total	46 pumped in today	
Tote #25	NAPL+Water	Waste Storage Area	8/6/15	RJP	175 total	50 pumped today	
Solids drum #15	NAPL contaminated solids	Waste Storage Area	8/6/15	RJP	55 gal	Full	

a. Identify containers as PS-DR#.
b. Media are sediment, soil, or decontamination water.
c. Identify sample locations with field sample IDs.
d. Give volume in gallons.

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

WASTE TRACKING FORM

Container Identification (a)	Media (b)	Sample Locations in Container (c)	Date Container Was Filled	Sampler's Initials	Approximate Volume of Material in Container (d)	Location of Container	Date Container Was Shipped Offsite
#25	Coal tar	Recovery Wells Contain. Mat'l Area	9-1-15	RJP	~245 gal	Containment Area	
#26	Coal tar	RJP 9-1-15 Recovery Wells	9-2-15	RJP	~60 gal	Containment Area	
#26	Coal tar	Recovery Wells	9-3-15	RJP	Total Volume (75gal) +15gal added	Containment Area	

a. Identify containers as PS-DR#.
b. Media are sediment, soil, or decontamination water.
c. Identify sample locations with field sample IDs.
d. Give volume in gallons.

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

WASTE TRACKING FORM

11/02/2011 SYRACUSE, NY-ENV/CAD-DJHOWES
B0069852/0001/00007/69852G04.CDR

Container Identification (a)	Media (b)	Sample Locations in Container (c)	Date Container Was Filled	Sampler's Initials	Approximate Volume of Material in Container (d)	Location of Container	Date Container Was Shipped Offsite
#25	Coal tar	Recovery Wells Contain. Area RJP 9-1-15	9-1-15	RJP	~245 gal	Containment Area	
#26	Coal tar	Recovery Wells RJP 9-1-15	9-2-15	RJP	~ 60 gal	Containment Area	
#26	Coal tar	Recovery Wells	9-3-15	RJP	Total Volume (75 gal) ~15 gal added	Containment Area	
#26	LIQUID	RW's	9/29/15	JRB	160 gal	Containment	
#26	LIQUID	RW's	9/30/15	JRB	210 gal	Containment	
#27	LIQUID	RW's	10/1/15	JRB	~50 gal	CONT. BIN Area	
#16	SOLIDS	Poly, PPE, PVC pipe	10/1/15	JRB	~40 gal	1	

a. Identify containers as PS-DR#.
b. Media are sediment, soil, or decontamination water.
c. Identify sample locations with field sample IDs.
d. Give volume in gallons.

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

WASTE TRACKING FORM

11/02/2011 SYRACUSE, NY-ENV/CAD-DJHOWES
B0069852/0001/00007/69852G04.CDR

Container Identification (a)	Media (b)	Sample Locations in Container (c)	Date Container Was Filled	Sampler's Initials	Approximate Volume of Material in Container (d)	Location of Container	Date Container Was Shipped Offsite
#25	Coal tar	Recovery Wells	9-1-15	RJP	~245 gal	Containment Area	
#26	Coal tar	RJP 9-1-15 Recovery Wells	9-2-15	RJP	~60 gal	Containment Area	
#26	Coal tar	Recovery Wells	9-3-15	RJP	Total Volume (75gal) ~15gal added	Containment Area	
#26	LIQUID	RW's	9/29/15	[illegible]	[illegible]	[illegible]	
#26	LIQUID	RW's	[illegible]	[illegible]	[illegible]	[illegible]	
#27	LIQUID	RW's	10/1/15	JRB	[illegible]	CONT. BIN AREA	
#16	SOLIDS	Soil, PPE, PVC	10/1/15	JRB	~40 gal	"	
#27	LIQUID	RWs	10/26/15	DM	140 gal	"	
#16	SOLIDS	SOIL, PPE, PVC	10-26-15	DM	FULL 55G.	"	
#27	LIQUID	RW's	10-27-15	DM	FULL 250 G.	"	
#28	"	"	" " "	DM	10 Gal	"	
#28 PPE	"	"	10-28-15	DM	95 Gal	"	
DRUM #17	SOLID	PPE, PVC SOIL	10-29-15	RM	150 gal	"	

a. Identify containers as PS-DR#.
b. Media are sediment, soil, or decontamination water.
c. Identify sample locations with field sample IDs.
d. Give volume in gallons.

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

WASTE TRACKING FORM

Container Identification (a)	Media (b)	Sample Locations in Container (c)	Date Container Was Filled	Sampler's Initials	Approximate Volume of Material in Container (d)	Location of Container	Date Container Was Shipped Offsite
#25	Coal tar	Recovery Wells Containment Area	9-1-15	RJP	~245 gal	Containment Area	
#26	Coal tar	#25 9-1-15 Recovery Wells	9-2-15	RJP	~60 gal	Containment Area	
#26	Coal tar	Recovery Wells	9-3-15	RJP	Total Volume (75gal) 150 gal added	Containment Area	
#26	LIQUID	RW's	9/29/15	[illegible]	[illegible]	[illegible]	
#26	LIQUID	RW's	[illegible]	[illegible]	[illegible]	[illegible]	
#27	LIQUID	RW's	10/1/15	JRB	~55 gal	Cont. BIN Area	
#16	SOLIDS	Soil, PPE, PVC liner	10/1/15	JRB	~40 gal	"	
#27	LIQUID	RW's	10/26/15	DM	190 gal	"	
#16	SOLIDS	SOIL, PPE, PVC	10-26-15	DM	FULL 55G.	"	
#27	LIQUID	RW'S	10-27-15	DM	FULL 250 G.	"	
#28	"	"	" " "	DM	10 Gal	"	
#28 PPE	"	"	10-28-15	DM	95 Gal	"	
DRUM #17	SOLID	PPE, PVC, SOIL	10-29-15	DM	150 Gal	"	
#28 tote	Liquid	RW's	11-23-15	BNJ	185 gal	"	
#28 tote	Liquid	RW's	11-24-15	BNJ	Full 250 gal	"	
Drum #18	liquid	next to RW's	11-25-15	JEP	~45 gal.	"	

a. Identify containers as PS-DR#.
b. Media are sediment, soil, or decontamination water.
c. Identify sample locations with field sample IDs.
d. Give volume in gallons.

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

WASTE TRACKING FORM

Shelly McCarthy

Subject: FW: Pine Street Canal Site-Interim Report on the July 8-10, 2015 Amended Cap Monitoring Event
Attachments: 071015 Sheen Monitoring Forms.pdf; 071315 Amended Cap RW NAPL measurement and removal summary.pdf

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From: Johanna Palmer
Sent: Wednesday, July 15, 2015 10:01 AM
To: Thor Helgason <thelgas@demaximis.com> (thelgas@demaximis.com)
Cc: Don Maynard; Guy Vaillancourt; Jim Bowes
Subject: Pine Street Canal Site-Interim Report on the July 8-10, 2015 Amended Cap Monitoring Event

Thor:
Provided below is an interim report for the July 8-10, 2015 Pine Street Canal Site Amended Cap surface water and passive recovery well monitoring event.

Summary:

- Visual sheen monitoring was performed July 8-9, 2015.
- Measurements of depth to groundwater and NAPL thicknesses, and NAPL removal, were performed July 8-10, 2015.
- During the monitoring period, the canal and lake levels were the same at 97.73 ft. (NAVD88), which is above the weir outlet. The weather was mostly cloudy with periods of overcast and sun, 65-70 degrees, generally with 10-20 mph winds.
- The monthly cap inspection was performed July 8, 2015.

Sheen monitoring:
The water was light brown and translucent.
Bubbles were observed at a total of 30 locations. Of these, 12 bubble locations were observed outside the Amended Cap, 4 locations along the southern edge of the Cap, and 14 within the Amended Cap area. The Amended Cap extends from transects T9+00 (North) to T12+50 (South). The field forms are attached (071015 Sheen Monitoring Forms.pdf).

- No sheens were observed within the Amended Cap area.
- One sheen was observed outside the Amended Cap area- a 0.5 ft. sheen at T12+60 E55 (approximately ten feet south of southern edge of Amended Cap).
- No odors were noted along the shores of the Canal.

RW well monitoring:
A table containing the NAPL thicknesses and volume pumped is attached: (071315 Amended Cap RW NAPL measurement and removal summary.pdf)
No measureable LNAPL was present in the Amended Cap RW wells. DNAPL thicknesses in the wells were generally similar to those measured during the previous monitoring event in June 2015.

As usual, well RW-109 has the most DNAPL (22.1 feet) at approximately the same thickness (22.1 feet) as previously measured. The adjacent well, RW-108, initially had 2.7 feet of DNAPL, which is slightly lower than the previous monitoring event in June 2015 (3.5 ft. DNAPL) . Of the five wells on the West Bank, the center three wells, RW-102, -103 and -104 initially had between 3.4-5.1 feet of DNAPL; RW-101 on the north end had 0.2 feet and RW-105 on the south end had 0.4 feet. Pumping of RW-101 was not performed, as there was approximately a foot of water surrounding the well, creating a high risk of releases to surface water if NAPL pumping was attempted.

Approximately 165 gallons of DNAPL and associated water were pumped from the wells and stored onsite in drums and the totes located in the fenced storage area for transport and off-site disposal.

Cap Condition Evaluation:

- The edges of the amended cap were observed to be in good shape, with no new damage since the last inspection (June 2015).

The following wildlife was observed during the monitoring:
Red wing black birds
Mallards
Several fish surfacing
Gulls
Gold finches
Dragonflies
Water skippers

Jo Palmer
Staff Scientist
The Johnson Company, Inc.
100 State St. Suite 600
Montpelier, VT. 05602
Office: 802-229-4600

Shelly McCarthy

Subject: FW: Pine Street Canal Site July 22, 2015 Sheen Monitoring Summary
Attachments: 072215 Sheen Monitoring Forms.pdf; 072215_PSCS Sheen T12+60 E45.jpg

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From: Johanna Palmer
Sent: Monday, July 27, 2015 10:16 AM
To: Thor Helgason <thelgas@demaximis.com> (thelgas@demaximis.com)
Cc: Guy Vaillancourt; Don Maynard; Jim Bowes
Subject: Pine Street Canal Site July 22, 2015 Sheen Monitoring Summary

Thor:

Provided below is an interim report for the July 22, 2015 Pine Street Canal Site Amended Cap surface water monitoring event.

The water level of Lake Champlain was 97.1 ft. and the Canal was 97.0 ft. (NAVD88); both are above the weir outlet. The weather was variable: 60 degrees F and raining in the morning, and sunny, 65-75 degrees F, with 10-15 mph winds in the afternoon. The water was light brown and murky to translucent. There were lily pads in bloom.

Sheen Monitoring Summary:
Visual sheen monitoring was performed on July 22nd.
A total of 66 bubble locations were observed: 26 outside the Amended Cap, 36 within the Amended Cap area, and 4 locations along the north and south edges of the Cap. The Amended Cap extends from transect T9+00 to T12+50. The field forms are attached (072215 Sheen Monitoring Forms.pdf).

- No sheens associated with bubbles were observed within the Amended Cap area.
- One sheen associated with bubbles was observed outside of the Amended Cap area, at T12+60 E45 (near the southern edge of the cap). See attached photo (072215_PSCS Sheen T12+60 E45).
- No odors were noted along the shores of the Canal within the Amended Cap area.

The following wild-life was observed during the monitoring:
green herons
many redwing black birds
tern
grackles
gulls
Canada geese
several surfacing fish, including swarms of minnows eating plant matter and creating bubbles
dragonflies

Johanna Palmer
The Johnson Company

Shelly McCarthy

Subject: FW: Pine Street Canal Site-Interim Report on the August 4-6, 2015 Amended Cap Monitoring Event

Attachments: 080415 Sheen Monitoring Forms.pdf; 080615 Amended Cap RW NAPL measurement and removal summary.pdf; 080515 Sheen at T12+51 E45.JPG

From: Johanna Palmer
Sent: Monday, August 17, 2015 3:17 PM
To: Thor Helgason <thelgas@demaximis.com> (thelgas@demaximis.com)
Cc: Guy Vaillancourt; Don Maynard; Jim Bowes
Subject: Pine Street Canal Site-Interim Report on the August 4-6, 2015 Amended Cap Monitoring Event

Thor:
Provided below is an interim report for the August 4-6, 2015 Pine Street Canal Site Amended Cap surface water and passive recovery well monitoring event.

Summary:

- Visual sheen monitoring was performed August 4-5, 2015.
- Measurements of depth to groundwater and NAPL thicknesses, and NAPL removal, were performed August 4-6, 2015.
- During the monitoring period, the canal level was 96.52 ft. and the lake level was 96.4 ft. (NAVD88), which is below the weir outlet. The weather was a mix of sun, clouds, and light rain, 70-80 degrees and humid, generally with 10-20 mph winds.
- The monthly cap inspection was performed August 6, 2015.

Sheen monitoring:
The water was light brown and translucent.
Bubbles were observed at a total of 41 locations. Of these, 16 bubble locations were observed outside the Amended Cap, 6 locations along the northern and southern edges of the Cap, and 19 within the Amended Cap area. The Amended Cap extends from transects T9+00 (North) to T12+50 (South). The field forms are attached (080415 Sheen Monitoring Forms.pdf).

- No sheens were observed within the Amended Cap area.
- Two sheens locations were observed outside the Amended Cap area- a 1 inch sheen at T8+10 E75 (approximately 90 feet north of northern edge of Amended Cap); and 1-2 inch sheens at T12+51 E45, along the southern edge of the Amended Cap (see attached photo: 080515 Sheen at T12+51 E45).
- No odors were noted along the shores of the Canal.

RW well monitoring:
A table containing the NAPL thicknesses and volume pumped is attached: (080615 Amended Cap RW NAPL measurement and removal summary.pdf)
No measureable LNAPL was present in the Amended Cap RW wells. DNAPL thicknesses in the wells were generally slightly higher than those measured during the previous monitoring event in July 2015.

As usual, well RW-109 has the most DNAPL (22.2 feet) at approximately the same thickness (22.1 feet) as previously measured. The adjacent well, RW-108, initially had 3.3 feet of DNAPL, which is slightly higher than the previous monitoring event in July 2015 (2.7 ft. DNAPL) . Of the five wells on the West Bank, the center three wells, RW-102, -

103 and -104 initially had between 3.2-5.3 feet of DNAPL; RW-101 on the north end had 0.8 feet and RW-105 on the south end had 0.2 feet.

Approximately 167 gallons of DNAPL and associated water were pumped from the wells and stored onsite in drums and the totes located in the fenced storage area for transport and off-site disposal.

Cap Condition Evaluation:

- The edges of the amended cap were observed to be in good shape, with no new damage since the last inspection (July 2015).

The next NAPL sheen inspection is scheduled for later this week (week of 8/17/15).

Jo Palmer
Staff Scientist
The Johnson Company, Inc.
100 State St. Suite 600
Montpelier, VT. 05602
Office: 802-229-4600

Shelly McCarthy

Subject: FW: Pine Street Canal Site August 20, 2015 Sheen Monitoring Summary
Attachments: 082015 Sheen Monitoring Forms.pdf

From: Johanna Palmer
Sent: Thursday, August 27, 2015 8:52 AM
To: Thor Helgason <thelgas@demaximis.com> (thelgas@demaximis.com)
Cc: Guy Vaillancourt; Don Maynard; Jim Bowes
Subject: Pine Street Canal Site August 20, 2015 Sheen Monitoring Summary

Thor:

Provided below is an interim report for the August 20, 2015 Pine Street Canal Site Amended Cap surface water monitoring event.

The water level of Lake Champlain was 95.8 ft. and the Canal was 96.2 ft. (NAVD88). The weather was between 80 and 95 degrees, sunny and humid, with 10-20 mph southwest winds. The water was light brown and translucent with abundant lily pads and milfoil.

Sheen Monitoring Summary:
Visual sheen monitoring was performed on August 20th.
A total of 19 bubble locations were observed: 5 outside the Amended Cap, 11 within the Amended Cap area, and 3 locations along the north and south edges of the Cap. The Amended Cap extends from transect T9+00 to T12+50. The field forms are attached (082015 Sheen Monitoring Forms.pdf).

- No sheens associated with bubbles were observed within the Amended Cap area.
- Three sheens associated with bubbles were observed outside of the Amended Cap area: at T8+50 E5 there was an approximately one foot diameter sheen (50 ft. north of the northern edge of the Cap); at T12+50 E50 and T12+50 E60 there were continuous bubbles associated with sheens (near the southern edge of the cap).
- No odors were noted along the shores of the Canal within the Amended Cap area.

The following wild-life was observed during the monitoring:
4 otters
Cormorant
White egret
Green herons
Turtle surfacing
Gulls

Johanna Palmer
The Johnson Company

Johanna Palmer

Subject: FW: Pine Street Canal Site-Interim Report on the September 1-3, 2015 Amended Cap Monitoring Event
Attachments: 090115 Sheen Monitoring Forms.pdf; 090315 Amended Cap RW NAPL measurement and removal summary.pdf

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From: Johanna Palmer
Sent: Friday, September 11, 2015 8:53 AM
To: Thor Helgason <thelgas@demaximis.com> (thelgas@demaximis.com)
Cc: Guy Vaillancourt; Don Maynard; Jim Bowes; Johanna Palmer
Subject: Pine Street Canal Site-Interim Report on the September 1-3, 2015 Amended Cap Monitoring Event

Thor:
Provided below is an interim report for the September 1-3, 2015 Pine Street Canal Site Amended Cap surface water and passive recovery well monitoring event.

Summary:

- Visual sheen monitoring was performed September 2-3, 2015.
- Measurements of depth to groundwater and NAPL thicknesses, and NAPL removal, were performed September 1-3, 2015.
- During the monitoring period, the canal level was 96.1 ft. and the lake level was 95.1 ft. (NAVD88), which is below the weir outlet. The weather was a mix of sun, clouds, and light rain, 65-90 degrees and humid, generally with 5-10 mph winds.
- The monthly cap inspection was performed September 3, 2015.

Sheen monitoring:
The water was light brown and translucent.
Bubbles were observed at a total of 21 locations. Of these, 6 bubble locations were observed outside the Amended Cap and 15 within the Amended Cap area. The Amended Cap extends from transects T9+00 (North) to T12+50 (South). The field forms are attached (090115 Sheen Monitoring Forms.pdf).

- No sheens were observed within the Amended Cap area.
- Three areas with rainbow and/or blue sheens (without a clear source of bubbles) were observed trapped in the milfoil more than ten feet south of the Amended Cap area between T12+60 and T13+00. Bubbles associated with sheens were observed ten feet south of the Amended Cap at T12+60 East 50. A sharp tar odor was noted in the vicinity of these sheens south of the Amended Cap.
- One 0.1 ft. diameter sheen was observed 100 feet north of the Amended Cap, at T8+00 E10.

RW well monitoring:
A table containing the NAPL thicknesses and volume pumped is attached: (090315 Amended Cap RW NAPL measurement and removal summary.pdf)
No measureable LNAPL was present in the Amended Cap RW wells. DNAPL thicknesses in the wells were generally the greatest they have been since the first 2015 monitoring event in April.

As usual, well RW-109 had the most DNAPL (22.5 feet) which was 0.3 to 0.4 feet thicker than other measurements performed in 2015. The adjacent well, RW-108, initially had 3.8 feet of DNAPL, which is 0.5 feet more than the previous monitoring event in August 2015. Of the five wells on the West Bank, the center three wells, RW-102, -103 and -104 initially had between 7.1-9.3 feet of DNAPL (compared to 3.2-5.3 feet in August); RW-101 on the north end had 1.1 feet and RW-105 on the south end had less than 0.1 feet in September.

The dedicated PVC tubing in well RW-104 was compromised on the first day of monitoring; therefore NAPL removal was not possible. The tubing has been replaced and the well will be monitored and pumped (if necessary) at the next event in October. The dedicated suction fitting in RW-109 was compromised on the third (last) day of monitoring; therefore NAPL was not removed from this well on the third day. In both cases, the NAPL has impacted the plastic over time, and they will be replaced.

Approximately 146 gallons of DNAPL and associated water were pumped from the wells and stored onsite in drums and the totes located in the fenced storage area for transport and off-site disposal.

Cap Condition Evaluation:

- The edges of the amended cap were observed to be in good shape, with no new damage since the last inspection (August 2015).

Jo Palmer
Staff Scientist
The Johnson Company, Inc.
100 State St. Suite 600
Montpelier, VT. 05602
Office: 802-229-4600

Shelly McCarthy

Subject: FW: Pine Street Canal Site September 16, 2015 Sheen Monitoring Summary
Attachments: 091615 Sheen Monitoring Forms.pdf

From: Johanna Palmer
Sent: Friday, September 18, 2015 3:10 PM
To: Thor Helgason <thelgas@demaximis.com> (thelgas@demaximis.com)
Cc: Guy Vaillancourt; Don Maynard
Subject: Pine Street Canal Site September 16, 2015 Sheen Monitoring Summary

Thor:

Provided below is an interim report for the September 16, 2015 Pine Street Canal Site Amended Cap surface water monitoring event.

The water level of Lake Champlain was 95.7 ft. and the Canal was 96.3 ft. (NAVD88). The weather was between 65-80 degrees and sunny, with 5-10 mph southwest winds. The water was light brown and murky with abundant lily pads and milfoil.

Sheen Monitoring Summary:
Visual sheen monitoring was performed on September 16th.
A total of 10 bubble locations were observed: 6 outside the Amended Cap, 3 within the Amended Cap area, and 1 location along the southern edge of the Cap. The Amended Cap extends from transect T9+00 to T12+50. The field forms are attached (091615 Sheen Monitoring Forms.pdf).

- No sheens associated with bubbles were observed within the Amended Cap area.
- No sheens associated with bubbles were observed outside of the Amended Cap area, although residual sheen was observed along the southern edge of the Cap.
- No odors were noted along the shores of the Canal within the Amended Cap area.

The following wild-life was observed during the monitoring:
Cormorants
Turtles
Gulls
Dragonflies
Fish surfacing
Ducks
Monarch butterfly
Blue heron
Honey bees on lily pads
Kingfisher
Migrating geese

Johanna Palmer
The Johnson Company

From:	Johanna Palmer
To:	Carol Lacount
Subject:	Pine Street Canal Site-Interim Report on the September 28-October 1, and October 15, 2015 Amended Cap Monitoring Events
Date:	Monday, October 19, 2015 9:08:10 AM
Attachments:	092915 Sheen Monitoring Forms.pdf 100115 Amended Cap RW NAPL measurement and removal summary.pdf 101515 Sheen Monitoring Forms.pdf

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Carol: Can you please save this report and attachments in cabinet G:\1-0870-2\Correspondence Out\2015\Interim Reports
Thanks!

Thor:
Provided below is an interim report for the September 28-October 1, 2015 Pine Street Canal Site Amended Cap surface water and passive recovery well monitoring event, and the October 15th sheen monitoring event.

Summary:

- Visual sheen monitoring was performed September 28-October 1, and on October 15, 2015.
- Measurements of depth to groundwater and NAPL thicknesses, and NAPL removal, were performed September 29-October 1, 2015.
- During the September 28-October 1 monitoring period, the canal level ranged from 96.0-96.9 ft. and the lake level ranged from 94.1-94.5 ft. (NAVD88), which is below the weir outlet. The weather was a mix of sun and clouds, with heavy rain on September 30th, 55-70 degrees, generally with 5-10 mph winds. On October 15, 2015, the canal level was 96.2 ft. and the lake level was 94.8 ft.
- The monthly cap inspection was performed September 29 and October 1, 2015.

Sheen monitoring September 28-October 1:
The water was light brown and translucent to turbid, with abundant lily pads and milfoil.
Bubbles were observed at a total of 27 locations. Of these, 17 bubble locations were observed outside the Amended Cap, 9 within the Amended Cap area, and one along the southern edge of the Cap. The Amended Cap extends from transects T9+00 (North) to T12+50 (South). The field forms are attached (092915 Sheen Monitoring Forms.pdf).

- No sheens were observed within the Amended Cap area.
- Three bubble locations with associated 0.5-3.0 ft. sheens were observed south of the Amended Cap area between T12+55 and T12+80.

Sheen monitoring October 15:
The water was light brown and translucent; the lily pads and milfoil have died back considerably since the last monitoring event.
Bubbles were observed at a total of 14 locations. Of these, 2 bubble locations were observed outside the Amended Cap, 10 within the Amended Cap area, and 2 along the southern edge of the Cap. The field forms are attached (101515 Sheen Monitoring Forms.pdf).

- No sheens were observed within the Amended Cap area, nor with any bubble locations outside the Cap area.

RW well monitoring September 29-October 1:
A table containing the NAPL thicknesses and volume pumped is attached: (100115 Amended Cap

RW NAPL measurement and removal summary.pdf)
No measureable LNAPL was present in the Amended Cap RW wells. DNAPL thicknesses in the wells were generally the greatest they have been since the first 2015 monitoring event in April.

As usual, well RW-109 had the most DNAPL (22.3 feet). The adjacent well, RW-108, initially had 3.7 feet of DNAPL, similar to the previous monitoring event in early September 2015 (3.8 feet). Of the wells on the West Bank, the center three wells, RW-102, -103 and -104 initially had between 6.3-9.3 feet of DNAPL; RW-101 on the north end had 1.3 feet and RW-105 on the south end had less than 0.4 feet. RW-10+25 and RW-14 had 0.4 and 0.3 feet of DNAPL, respectively, which is the most they have had in many years; these typically have less than 0.1 feet of DNAPL and do not have to be pumped.

The dedicated pipe and suction fitting in RW-109 was replaced with iron pipe on September 28th, before the first day of monitoring.

Approximately 189 gallons of DNAPL and associated water were pumped from the wells and stored onsite in drums and the totes located in the fenced storage area for transport and off-site disposal.

Cap Condition Evaluation:

- The edges of the amended cap were observed to be in good shape, with no new damage since the last inspection (early September).

The following wildlife was observed during the monitoring events:

Turtle

Dragonflies

Gulls

Monarch butterflies

Crows

Small fish surfacing

Mallards

Cormorants

Woodpeckers

3-4 Otters

Redwing blackbirds

Kingfisher

Cardinals

Migrating geese

Great blue heron

Mink

Snake swimming

Jo Palmer
Staff Scientist
The Johnson Company, Inc.
100 State St. Suite 600
Montpelier, VT. 05602
Office: 802-229-4600

From:	Johanna Palmer
To:	Carol Lacount
Subject:	Pine Street Canal Site-Interim Report on the October 26-28, and November 13, 2015 Amended Cap Monitoring Events
Date:	Tuesday, November 17, 2015 9:57:50 AM
Attachments:	102815 Amended Cap RW NAPL measurement and removal summary.pdf 102815 surface water-sheen-bubble forms.pdf 111315 Sheen Monitoring Forms.pdf

Carol- can you please add this email and attachments to the cabinet G:\1-0870-2\Correspondence Out\2015\Interim Reports
Thanks!

From: Johanna Palmer
Sent: Tuesday, November 17, 2015 9:54 AM
To: Thor Helgason <thelgas@demaximis.com> (thelgas@demaximis.com)
Cc: Guy Vaillancourt; Don Maynard; Jim Bowes; Johanna Palmer
Subject: Pine Street Canal Site-Interim Report on the October 26-28, and November 13, 2015 Amended Cap Monitoring Events

Thor:
Provided below is an interim report for the October 26-28, 2015 Pine Street Canal Site Amended Cap surface water and passive recovery well monitoring event, and the November 13th sheen monitoring event.

Summary:

- Visual sheen monitoring was performed October 26-28, and on November 13, 2015.
- Measurements of depth to groundwater and NAPL thicknesses, and NAPL removal, were performed October 26-28, 2015.
- During the October 26-28 monitoring period, the canal level was 96.2 ft. and the lake level was 94.0 ft. (NAVD88), which is below the weir outlet. The weather during the October event was a mix of sun and clouds, 45 degrees, generally with 5-10 mph winds. On November 13, 2015, the canal level was 96.4 ft. and the lake level was 94.3 ft. The weather on November 13th was overcast and 50 degrees.
- The monthly cap inspection was performed October 26, 2015.

Sheen monitoring October 26-28th:
The water was light brown and translucent.
Bubbles were observed at a total of 13 locations. Of these, 4 bubble locations were observed outside the Amended Cap, 8 within the Amended Cap area, and one along the southern edge of the Cap. The Amended Cap extends from transects T9+00 (North) to T12+50 (South). The field forms are attached (102815 surface water-sheen-bubble forms.pdf).

- No sheens were observed within the Amended Cap area, nor with any bubble locations outside the Cap area.

Sheen monitoring November 13th:
The water was light brown and translucent.
Bubbles were observed at a total of 54 locations. Of these, 21 bubble locations were observed outside the Amended Cap, 28 within the Amended Cap area, and 5 along the southern edge of the Cap. The field forms are attached (111315 Sheen Monitoring Forms.pdf).

- No sheens were observed within the Amended Cap area, nor with any bubble locations outside the Cap area.

RW well monitoring October 26-28th:
A table containing the NAPL thicknesses and volume pumped is attached: (102815 Amended Cap RW NAPL measurement and removal summary.pdf).
No measureable LNAPL was present in the Amended Cap RW wells. DNAPL thicknesses in the wells were generally lower than the previous monitoring event (September).

As usual, well RW-109 had the most DNAPL (22.0 feet). The adjacent well, RW-108, initially had 3.6 feet of DNAPL, similar to the previous monitoring event in late September 2015 (3.7 feet). Of the wells on the West Bank, the center three wells, RW-102, -103 and -104 initially had between 2.3-4.5 feet of DNAPL, compared to 6.3-9.3 feet in September; RW-101 on the north end had 1.0 feet and RW-105 on the south end had 0.5 feet of DNAPL. RW-9+80, RW-10+25, RW-11 and RW-14 all had less than 0.1 feet of DNAPL and did not need to be pumped.

Approximately 213 gallons of DNAPL and associated water were pumped from the wells and stored onsite in drums and the totes located in the fenced storage area for transport and off-site disposal.

Cap Condition Evaluation:

- The edges of the amended cap were observed to be in good shape, with no new damage since the last inspection (late September).

The following wildlife was observed during the monitoring events:

Blue jays

Cormorant

Gulls

Mallards

Pair of Blue Herons

4 Ducks

Hairy woodpecker

Crows

Jo Palmer
Staff Scientist
The Johnson Company, Inc.
100 State St. Suite 600
Montpelier, VT. 05602
Office: 802-229-4600

From:	Johanna Palmer
To:	Carol Lacount; Johanna Palmer
Subject:	Pine Street Canal Site-Interim Report on the November 23-25, 2015 Amended Cap Monitoring Event
Date:	Wednesday, December 09, 2015 11:46:32 AM
Attachments:	112515 Sheen Monitoring Forms.pdf 112515 Amended Cap RW NAPL measurement and removal summary.pdf

Carol: Could you please save this email and attachments in the cabinet 1-0870-2/correspondence out/2015/interim reports
thanks!

From: Johanna Palmer
Sent: Wednesday, December 09, 2015 11:45 AM
To: Thor Helgason <thelgas@demaximis.com> (thelgas@demaximis.com)
Cc: Guy Vaillancourt; Jim Bowes; Don Maynard
Subject: Pine Street Canal Site-Interim Report on the November 23-25, 2015 Amended Cap Monitoring Event

Thor:
Provided below is an interim report for the November 23-25, 2015 Pine Street Canal Site Amended Cap surface water and passive recovery well monitoring event.

Summary:

- Visual sheen monitoring was performed November 23-24, 2015.
- Measurements of depth to groundwater and NAPL thicknesses, and NAPL removal, were performed November 23-25, 2015.
- During the monitoring period, the canal level was between 96.18 ft. and 96.23 ft. and the lake level was on average 94.5 ft. (NAVD88), which is below the weir outlet. The weather during the event was a mix of sun and snow flurries, 25-45 degrees, generally with 5-10 mph winds.
- The monthly cap inspection was performed November 25, 2015.
- Ice was beginning to form on sections of the canal, so this was the last surface water and passive recovery well monitoring event until the ice clears in spring 2016, and the Site has been buttoned up for winter. NAPL containers were removed from the Site by ENPRO on December 4, 2015.
- The storm water system has been disassembled for the winter.

Sheen monitoring:
The water was light brown and translucent with no noticeable NAPL odors. Ice had formed over the following sections of the canal, and therefore sheen monitoring was not feasible in these areas: along the western bank from T8+00 to T8+50; the entire width of the canal from T11+00 to T13+00. The Amended Cap extends from transects T9+00 (North) to T12+50 (South).
Bubbles were observed at a total of 3 locations. All 3 bubble locations were observed outside the Amended Cap. The field forms are attached (112515 Sheen Monitoring Forms.pdf).

- No sheens were observed within the Amended Cap area, nor with any bubble locations outside the Cap area.

RW well monitoring:
A table containing the NAPL thicknesses and volume pumped is attached: (112515 Amended Cap RW NAPL measurement and removal summary.pdf).

No measureable LNAPL was present in the Amended Cap RW wells. DNAPL thicknesses in the wells were generally slightly higher than the previous monitoring event (October), but approximately equal to the averages in 2015.

As usual, well RW-109 had the most DNAPL (22.2 feet). The adjacent well, RW-108, initially had 4.3 feet of DNAPL, slightly higher than the previous monitoring event in late October 2015 (3.6 feet). Of the wells on the West Bank, the center three wells, RW-102, -103 and -104 initially had between 3.8-5.0 feet of DNAPL, compared to 2.3-4.5 feet in October; RW-101 on the north end initially had 0.8 feet and RW-105 on the south end had 0.3 feet of DNAPL. RW-106, RW-107, RW-110, RW-9+80, RW-10+25, RW-11 and RW-14 all had less than 0.1 feet of DNAPL and did not need to be pumped.

Approximately 195 gallons of DNAPL and associated water were pumped from the wells and stored onsite in drums and the totes located in the fenced storage area for transport and off-site disposal.

Cap Condition Evaluation:

- The edges of the amended cap were observed to be in good shape, with no new damage since the last inspection (late October).

The following wildlife was observed during the monitoring events:

Gulls

Mallards

Blue heron

Kingfishers

Jo Palmer
Staff Scientist
The Johnson Company, Inc.
100 State St. Suite 600
Montpelier, VT. 05602
Office: 802-229-4600

ARCADIS

SURFACE WATER SURVEY

Date: 7/9/15 Sampler: TKB/RCS

Project Number: 1-0870-2 Weather (Beginning of Day): Humid, O-Cast Weather (Mid-Day): O-Cast. 71°F, Calm Winds

Lake Level (ft): Canal Water Level (ft): (2) Date of Last Precipitation: 7/8/15 AM

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments (1)
T8+00	15:12	E00	—	—	Y	—	C-T8+00 E10
T8+50	15:18	E00	—	—	N	—	
T9+00	15:24	E00	—	—	N	—	
T9+50	15:30	E00	—	—	Y	—	C-T9+50 E40 (3)
T10+00	13:53	E00	—	—	N	—	
T10+50	13:48	E00	—	—	N	—	
T11+00	13:43	E00	—	—	N	—	
T11+50	13:38	E00	—	—	N	—	
T12+00	13:33	E00	—	—	N	—	
T12+50	13:28	E00	—	—	Y	—	C-T12+25 E30
T13+00	14:04	E00			Y		I-T12+50 E10; I-T12+80 E5

Mallards
Dragon flies
Water Skippers

(1) Continuous 1/4" stream, No sheen
(2) SG B = 1.65' 15:24 7/9/15
(3) 1/8"-1/4" stream bubbles No sheen

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

7/9: o-cast, humid, calm breeze

ARCADIS

SURFACE WATER SURVEY

Date: ~~7/8/15~~ 7/9/15 Sampler: PA Sawtelle JRB

Project Number: 1-0870-2 Weather (Beginning of Day): NW wind 5-10 mph Weather (Mid-Day): 7/9 O-cast, 5 kt. breeze 71°F

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation: overnight 7/7

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (Inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	15:06	E80	-	-	Y	-	I-T8+20 E80; I-T8+0 E70
T8+50	15:01	E80	-	-	Y	-	I T8+80 E80
T9+00	14:50	E80	-	-	N	-	
T9+50	14:45	E80	-	-	N	-	
T10+00	14:40	E80	-	-	N	-	
T10+50	14 34	E80	-	-	N	-	
T11+00	14:28	E80	-	-	N	-	
T11+50	14:23	E80	-	-	Y	-	I-T12+25 E75
T12+00	938 7/8/15	E80	NA	NONE	N		
T12+50	14:16	E80	-	-	N	-	
T13+00	14:10	E80	-	-	Y	-	I-T12+50 E80

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

ARCADIS

SURFACE WATER SURVEY

Date: 7/8/15 Sampler: Pat Smart / Don Maynard

Project Number: 1-0870-2 Weather (Beginning of Day): cloudy 70°F NW wind start Weather (Mid-Day):

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation: 7/7/15

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (Inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	1239	E40	—	—	Y	—	Intermittent T8+15 E35
T8+25	12:51	E40	—	—	N	—	
T8+50	1303	E40	—	—	Y	—	T8+70 E 45 intermittent
T8+75	1315	E40	—	—	N	—	
T9+00	1326	E40	—	—	N	—	
T9+25	1338	E40	—	—	N	—	
T9+50	1349	E40	—	—	Y	—	9+80 E 60 Continuous Stream of bubbles
T9+75	1359	E40	—	—	Y	—	T9+85 E25 Continuous - no sheen

9+45 E. 35 Continuous Stream of bubbles observed at T 9+50

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

7/9: Humid, o-cast, calm

7/9: overcast; 71F, slight breeze south

11/02/2011 SYRACUSE, NY-ENV/CAD-DJHOWES
B0069852/0001/00007/CDR/69852G01.CDR

ARCADIS

SURFACE WATER SURVEY

Date: 7/8/15; 7/9/15 Sampler: PCS 10mm / JRB

Project Number: 1-0870-2 Weather (Beginning of Day): Cloudy, nw wind 10-15 mph Weather (Mid-Day): clear, nw wind 10-15 mph

Lake Level (ft): 1.65' on SGS @ 15:35 Canal Water Level (ft): see Lake - 1.65' on SGS Date of Last Precipitation: 7/7/15

Other Site Conditions (Odors, surface water conditions, etc.): 7/9/15 calm - slight breeze south

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T10+00	1411	E40	–	–	N	–	
T10+25	1422	E40	–	–	N	–	
T10+50	1434	E40	–	–	N	–	
T10+75	1446	E40	–	–	N	–	
T11+00	1457	E40	–	–	Y	–	T11+15 E 20 int. Bubbles no sheen
T11+25	1508	E40	–	–	N	–	
T11+50	1520	E40	–	–	N	–	
T11+75	254	E40	–	–	Y	–	C-T11+75E30
T12+00	12:44	E40	–	–	Y	–	I-T12+27E5; I-T12+00E15
T12+25	1233	E40	–	–	Y	–	I-T12+2EE20, C-T12+5E35
T12+50	1223	E40	–	–	X	–	I-T12+45E25; I-T12+50E40; I-T12+40E65 I-T12+25E75; I-T12+40E15
T12+75	1212	E40	–	JRB 7/9/15 1/2"(2)	Y	~~Y~~ JRB	I-T12+80E40; I-T12+85E50 ~~I-T12+60E55~~ JRB 7/9/15
T13+00	1200	E40	–	–	Y(1)	~~Y~~ JRB 7/9/15	I T13+10E40, I-T12+85E60 C-T12+60E55

7/9/15

Red Wing Blackbirds
Goldfinches
Fish jumping

(1) 1/2" diam sheen T12+60E55 PIX

~~(2) 1" diam sheen T12+50E50~~
JRB 7/9/15

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

inside cap - IIII
outside cap - IIII
cap edge - III

11/02/2011 SYRACUSE, NY-ENV/CAD-DJHOWES
B0069852/0001/00007/CDR/69852G01.CDR

ARCADIS

SURFACE WATER SURVEY

Date: 7/22/15 Sampler: JEP / JRB

Project Number: 1-0870-2 Weather (Beginning of Day): LT RAIN, Weather (Mid-Day): 65-70° F, SUNNY

Lake Level (ft): Canal Water Level (ft): (1) Date of Last Precipitation: 0

Other Site Conditions (Odors, surface water conditions, etc.): murky to translucent ; lily pads in bloom

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	10:39	E00	—	—	Y	—	I- T8+10 E5
T8+50	10:57	E00	—	—	Y	—	T8+25 E5 - I T8+50 E5 - C T8+75 E5-C
T9+00	11:03	E00	—	—	Y	—	T9+00 E5 - I
T9+50	11:12	E00	—	—	Y	—	T9+50 E40 - C T9+40 E40 - C
T10+00	11:17	E00	—	—	Y	—	T10+05 E10 - I T9+85 E30 - I
T10+50	11:23	E00	—	—	N	—	
T11+00	11:29	E00	—	—	Y	—	T10+90 E15 - I
T11+50	11:34	E00	—	—	N	—	
T12+00	11:40	E00	—	—	Y	—	T12+00 E40 - C
T12+50	11:45	E00	—	—	Y	—	T12+50 E5 - I T12+50 E60 - C
T13+00	16:30	E00	—	—	N	—	

(1) SG = 0.91 10:31 7/22/15

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

SG = 0.98 at 0

inside cap - I
outside cap - III
cap edge -

11/02/2011 SYRACUSE, NY-ENV/CAD-DJHOWES
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ARCADIS

SURFACE WATER SURVEY

Date: 7/22/15 Sampler: JEP/JRB

Project Number: 1-0870-2 Weather (Beginning of Day): 60°F, rain Weather (Mid-Day):

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.): light brown, clear; no odor

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	10:47	E80	—	—	N	—	T8+15 E75 - I T8+17 E75 - I
T8+50	10:14	E80	—	—	Y	—	T8+50 E78 - I
T9+00	10:06	E80	—	—	N	—	
T9+50	9:59	E80	—	—	N	—	
T10+00	9:55	E80	—	—	N	—	
T10+50	9:49	E80	—	—	Y	—	T10+75 E45 - C
T11+00	9:44	E80	—	—	N	—	
T11+50	9:39	E80	—	—	N	—	
T12+00	9:32	E80	—	—	N	—	
T12+50	9:27	E80	—	—	N	—	
T13+00	16:50	E80	—	—	N	—	~~T13+15 E75 - I~~ JEP 7/22/15

fish surfacing
red wing blackbirds
Grackles
dragonflies

C = continuous
I = intermittant

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

inside cap - ||||
outside cap - |||| |||| ||||
cap edge -

11/02/2011 SYRACUSE, NY-ENV/CAD-DJHOWES
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ARCADIS

SURFACE WATER SURVEY

Date: 7/22/15 Sampler: JEP/JRB

Project Number: 1-0870-2 Weather (Beginning of Day): Weather (Mid-Day): 75°F - sunny

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation: 7/22/15 AM

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	12:56	E40	—	—	Y	—	T8+10 E30 - I T8+20 E30 - C
T8+25	13:07	E40	—	—	Y	—	T8+15 E20 - I T8+50 E40 - I
T8+50	13:18	E40	—	—	Y	—	T8+50 E15 - I T8+50 E45 - I
T8+75	13:29	E40	—	—	Y	—	T8+75 E45 - I T8+75 E35 - I T8+30 E45 - I T8+35 E15 - I T8+55 E40 - I T8+85 E40 - I T8+85 E50 - C T8+85 E20 - I
T9+00	13:40	E40	—	—	Y	—	T9+50 E20 - C T9+20 E60 - C
T9+25	13:51	E40	—	—	Y	—	T9+40 E40 - I
T9+50	14:01	E40	—	—	Y	—	T9+60 E60 - C T9+85 E20 - C
T9+75	14:11	E40	—	—	Y	—	

grackles
sea gulls
tern
redwing blackbirds
Canada geese
green heron

fish/tadpole swarms creating bubbles

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

inside cap – ||| |||| |||| |||| ||||
outside cap – ||||
cap edge – 18

11/02/2011 SYRACUSE, NY-ENV/CAD-DJHOWES
B0069852/0001/00007/CDR/69852G01.CDR

ARCADIS

SURFACE WATER SURVEY

Date: 7/22/15 Sampler: JEP | JRB

Project Number: 1-0870-2 Weather (Beginning of Day): Weather (Mid-Day): 75°F, sunny/part cloudy

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T10+00	14:21	E40	—	—	Y	—	T10+10 E45-C T10+10 E30-I T10+0 E30-I
T10+25	14:32	E40	—	—	Y	—	T10+20 E35-I T10+25 E50-I T10+25 E30-I
T10+50	14:42	E40	—	—	Y	—	T10+50 E25-C
T10+75	14:52	E40	—	—	Y	—	T11+00 E20-C; T10+80 E20-I
T11+00	15:03	E40	—	—	Y	—	T11+10 E45-C T11+00 E15-C T11+15 E30-I
T11+25	15:14	E40	—	—	N	—	
T11+50	15:25	E40	—	—	Y	—	T11+75 E43 I
T11+75	15:36	E40	—	—	Y	—	T11+85 E45-C T11+75 E45-C bursts T11+85 E40-I T11+75 E50-C bursts
T12+00	15:47	E40	—	—	Y	—	T11+75 E40-C T12+10 E60-I
T12+25	15:58	E40	—	—	Y	—	T12+25 E30-I T12+0 E55-I T12+55 E40-C T12+0 E40-C
T12+50	16:09	E40	—	—	Y	—	T12+50 E43-I T12+45 E45-C T12+60 E45-I w/sheen T12+55 E45-I bursts
T12+75	16:19	E40	—	—	Y	—	T12+80 E15-I T12+65 E30-I T12+65 E45-C
T13+00	16:30	E40	—	—	N	—	

T12+60 E45 – sheen (photo #1)

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

SURFACE WATER SURVEY

Date: 8/4/15 Sampler: Pat Smart Ross Predom

Project Number: 1-0870-2 Weather (Beginning of Day): mostly cloudy int. light rain Weather (Mid-Day): Partly cloudy 78°F Humid

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation: 8/4- Sprinklers

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	1608	E00	① —	—	Y	—	~~T12+50 E30 continuous~~ T12+50 E15 Pos ①
T8+50	1601	E00	—	—	Y	—	T8+25 E20 Cont.
T9+00	1537	E00	—	—	Y	—	T8+90 E10 Int.
T9+50	1526	E00	—	—	Y	—	T9+80 E60 Int.
T10+00	1520	E00	—	—	Y	—	T9+90 E30 Cont T10+00 E30 Cont.
T10+50	1515	E00	—	—	Y	—	T10+50 E40 Cont.
T11+00	1509	E00	—	—	Y	—	T11+00 E30 Cont.
T11+50	1504	E00	—	—	Y	—	T11+60 E40 Cont.
T12+00	1458	E00	—	—	N	—	
T12+50	1452	E00	—	—	Y	—	T12+50 E30 Cont. T12+~~50~~ E15 Int.
T13+00	1541	E00	—	—	N	—	

① T8+10 E75 Int. Bubble with sheen ~ 1 droplet/2 minutes
~1" diameter sheen
T8+25 E70 Continuous bubbles no sheen

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

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SURFACE WATER SURVEY

Date: 8/4/15 Sampler: Pat Smart, Ross Perdom

Project Number: 1-0870-2 Weather (Beginning of Day): Partly cloudy, int. rain Weather (Mid-Day): slight, cloudy, intermittent rain

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation: 8/4/15

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	1614	E80	—	—	Y	—	T8+15 E80 Int. Bubbles
T8+50	1620	E80	—	—	Y	—	T8+30 E75 Int. Bubbles
T9+00	1631	E80	—	—	Y	—	T9+00 E60 Int. Bubbles T8+80 E60 Int.
T9+50	1637	E80	—	—	Y	—	T9+50 E60 Int.
T10+00	1642	E80	—	—	N	—	
T10+50	1647	E80	—	—	N	—	
T11+00	1654	E80	—	—	N	—	
T11+50	1659	E80	—	—	Y	—	Int. Bubbles T11+40 E60
T12+00	1705	E80	—	—	Y	—	T12+00 E60 Int.
T12+50	1710	E80	—	—	Y	—	T12+50 E40 cont. T12+40 E60 cont.
T13+00	1548	E80	—	—	Y	—	T12+90 E75 Int T12+80 E80 Int.

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

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SURFACE WATER SURVEY

Date: 8/5/15 Sampler: Pat Smart Ross Perdo

Project Number: 1-0870-2 Weather (Beginning of Day): Partly cloudy 75°F Weather (Mid-Day): Partly cloudy, 75°F

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation: 8/5 - overnight 8/4 to 8/5

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	1301	E40	—	—	Y	—	T8+20 E75 cont. T8+00 E35 - Int.
T8+25	1314	E40	—	—	Y	—	T8+25 E55 Int. T8+30 E60 - Int.
T8+50	1326	E40	—	—	Y	—	T8+75 E40 Inj.
T8+75	1337	E40	—	—	N	—	
T9+00	1349	E40	—	—	Y	—	T9+00 E20 cont. T10+00 E40 cont.
T9+25	1400	E40	—	—	Y	—	T9+50 E30 cont. T10+00 E40 cont.
T9+50	1412	E40	—	—	Y	—	T9+75 E20 cont. T9+50 E30 cont.
T9+75	1423	E40	—	—	Y	—	T10+00 E40 cont

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

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SURFACE WATER SURVEY

Date: 8/5/15 Sampler: Pat Smart Ross Predon

Project Number: 1-0870-2 Weather (Beginning of Day): Partly Cloudy Weather (Mid-Day): Partly cloudy

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation: 8/4 → 8/5/15 overnight

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T10+00	1434	E40	–	–	Y	–	T10+5 E 35 Int. T10+30 E 10 Int.
T10+25	1445	E40	–	–	Y	–	T10+55 E 20 Cont.
T10+50	1457	E40	–	–	N	–	
T10+75	1508	E40	–	–	Y	–	T11+00 E 20 Cont.
T11+00	1519	E40	–	–	N	–	
T11+25	1531	E40	–	–	Y	–	T11+15 E40 Int.
T11+50	1209 ①	E40	–	–	Y	–	T12+10 E60 Cont.
T11+75	1221	E40	–	–	N	–	
T12+00	1232	E40	–	–	N	–	
T12+25	1243	E40	–	–	Y	–	T12+50 E 40 Cont.
T12+50	1259	E40	1/30	–	Y	–	T12+80 E 35 Cont. ②
T12+75	1308	E40	–	–	N	–	
T13+00	1319	E40	–	–	N	–	

① T11+50 to T13+00 were surveyed on 8/6/15

② T12+51 E45 Continuous bubbles, int. sheen ~1"-2" diameter droplets.

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

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SURFACE WATER SURVEY

Date: 8.20.15 Sampler: JEP / RJP

Project Number: 1-0870-2 Weather (Beginning of Day): Weather (Mid-Day): 90°F sunny

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	10:27	E00	–	–	Y	–	T8+10 E5 – I
T8+50	10:34	E00	–	–	Y	–	T8+50 E5 – I sheen (1FT. diameter)
T9+00	10:40	E00	–	–	N	–	"
T9+50	10:46	E00	–	–	N	–	
T10+00	10:55	E00	–	–	Y	–	T10+00 E20 – C T10+30 E30 – I
T10+50	10:01	E00	–	–	Y	–	T10+50 E30 – C
T11+00	11:08	E00	–	–	N	–	
T11+50	11:15	E00	–	–	N	–	
T12+00	11:22	E00	–	–	Y	–	T12+50 E30 – C
T12+50	11:30	E00	–	–	N	–	
T13+00	17:03	E00	–	–	N	–	" C

I – Intermittent

C – continuous

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

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SURFACE WATER SURVEY

Date: 8.20.15 Sampler: JEP | RJP

Project Number: 1-0870-2 Weather (Beginning of Day): 80°F, humid, sun Weather (Mid-Day):

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.): light brown, translucent; no odor; milfoil + lilypads abundant

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (Inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	9:59	E80	—	—	N	—	
T8+50	9:53	E80	—	—	Y	—	T8+25 E60
T9+00	9:07	E80	—	—	N	—	
T9+50	9:13	E80	—	—	N	—	
T10+00	9:18	E80	—	—	N	—	
T10+50	9:23	E80	—	—	N	—	
T11+00	9:29	E80	—	—	N	—	
T11+50	9:35	E80	—	—	N	—	
T12+00	9:42	E80	—	—	Y	—	T12+25 E70 - I
T12+50	9:47	E80	—	—	Y	—	T12+40 E60 - I
T13+00	17:03	E80	—	—	N	—	

4 otters
cormorant
white egret
green heron
turtle

SG 8 = 0.14'

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

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SURFACE WATER SURVEY

Date: 8.20.15 Sampler: JEP/RJP

Project Number: 1-0870-2 Weather (Beginning of Day): Weather (Mid-Day): 95°F, sunny, windy

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (Inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	12:41	E40	–	–	N	–	
T8+25	12:53	E40	–	–	Y	–	T8+25 E30 - I
T8+50	13:05	E40	–	–	N	–	
T8+75	13:18	E40	–	–	N	–	
T9+00	13:31	E40	–	–	N	–	
T9+25	13:42	E40	–	–	Y	–	T9+40 E25 - I
T9+50	13:55	E40	–	–	Y	–	T9+55 E70 - I
T9+75	14:07	E40	–	–	N	–	

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

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SURFACE WATER SURVEY

Date: 8.20.15 Sampler: JEP / RJP

Project Number: 1-0870-2 Weather (Beginning of Day): Weather (Mid-Day): 95°, windy (south) sun

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (Inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T10+00	14:20	E40	–	–	N	–	
T10+25	14:32	E40	–	–	Y	–	T10+40 E20 – C
T10+50	14:45	E40	–	–	Y	–	T11+00 E60 – I
T10+75	14:57	E40	–	–	N	–	
T11+00	15:10	E40	–	–	N	–	
T11+25	15:22	E40	–	–	N	–	
T11+50	15:35	E40	–	–	Y	–	T11+50 E50 – I-large bubbles (3in.)
T11+75	16:07	E40	–	–	N	–	
T12+00	16:20	E40	–	–	N	–	
T12+25	16:31	E40	–	–	Y	–	T12+30 E70 – C
T12+50	16:42	E40	–	–	Y	–	T12+50 E60 – C, sheen (2" diam, 10 per min) some at T12+50 E50 – sheen – continuous
T12+75	16:52	E40	–	–	N	–	
T13+00	17:03	E40	–	–	Y	–	T13+00 E20 – I

odor at T12+50

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

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SURFACE WATER SURVEY

Date: 9-2-15 Sampler: AWR RJP

Project Number: 1-0870-2 Weather (Beginning of Day): 70° Sunny Weather (Mid-Day): 90° Sunny

Lake Level (ft): ~~95.57~~ @ 95.58 Canal Water Level (ft): 0.02 Date of Last Precipitation: 8-29-15

Lake Level @ 9-2-15

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	~~1215~~ 1231	E00	2	0.1	Y	—	T8+00 E10 sheen, continuous Bubbles E15
T8+50	1238	E00	—	—	Y	—	Random, not continuous bubbles
T9+00	1336	E00	—	—	Y	—	T9+00 E15 intermediate
T9+50	1331	E00	—	—	N	—	
T10+00	1326	E00	—	—	Y	—	T9+75 E30 continuous Bubbles
T10+50	1321	E00	—	—	Y	—	T10+50 E30 continuous Bubbles
T11+00	1315	E00	—	—	N	—	
T11+50	1309	E00	—	—	N	—	
T12+00	1304	E00	—	—	Y	—	T11+75 E15 Random bubbles
T12+50	1259	E00	—	—	Y	—	T12+50 E20 intermittant Bubbles
T13+00	1213	E00	—	—	N	—	

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

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SURFACE WATER SURVEY

Date: 9/2/15 Sampler: AWR/RJP

Project Number: 1-0870-2 Weather (Beginning of Day): Sunny, calm ~65°F Weather (Mid-Day): 90° SUNNY

Lake Level (ft): — 95.58 Canal Water Level (ft): 0.02 Date of Last Precipitation: 8/29/15

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (Inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	1249	E80	—	—	N	—	
T8+50	1248	E80	—	—	N	—	
T9+00	1407	E80	—	—	N	—	
T9+50	1412	E80	—	—	N	—	
T10+00	1417	E80	—	—	N	—	
T10+50	1422	E80	—	—	N	—	
T11+00	1427	E80	—	—	N	—	
T11+50	1432	E80	—	—	N	—	
T12+00	843-848	E80	—	—	yes	No	Nearly continuous Bubbling @ ~T12+10 E50 - No Sheens
T12+50	850-855 AWR 9-2-15	E80	—	—	No	—	—
T13+00	1217	E80	—	—	N	—	

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

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SURFACE WATER SURVEY

Project Number: 1-0870-2 Date: 9-3-15 Sampler: AWR RJP

Lake Level (ft): 95.54 Weather (Beginning of Day): 70° Drizzle Weather (Mid-Day): 80° cloudy

Canal Water Level (ft): 0.02 Date of Last Precipitation: 9-3-15

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (Inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	1354	E40	—	—	Y	—	T7+75 E50 continuous Bubbles, Random bubbles
T8+25	1433	E40	—	—	Y	—	Random bubbles
T8+50	1423	E40	—	—	Y	—	T8D+70 E45 intermittent Bubbles
T8+75	1413	E40	—	—	N	—	
T9+00	1403	E40	—	—	N	—	
T9+25	1352	E40	—	—	N	—	
T9+50	1342	E40	—	—	N	—	
T9+75	1330	E40	—	—	Y	—	intermittent bubbles T9+90E25

T8+00 E40 on 9/2/15

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

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SURFACE WATER SURVEY

Date: 9-3-15 Sampler: AWR RJP

Project Number: 1-0870-2 Weather (Beginning of Day): Drizzle, 70° Weather (Mid-Day): 80° Partial cloudy

Lake Level (ft): 95.54 Canal Water Level (ft): 0.02 Date of Last Precipitation: 9-3-15

Other Site Conditions (Odors, surface water conditions, etc.): Coal tar odor

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T10+00	1329	E40	–	–	Y	–	T10+10 E40 continuous bubbles
T10+25	1309	E40	–	–	Y	–	T10+00 E40 continuous bubbles, T10+50 E30 continuous
T10+50	1259	E40	–	–	Y	–	T10+45 E40 intermittent bubbles
T10+75	1249	E40	–	–	Y	–	T11+00 E60 continuous
T11+00	1342	E40	–	–	Y	–	T11+10 E30 continuous Bubbles
T11+25	1235	E40	–	–	N	–	
T11+50	1222	E40	–	–	N	–	
T11+75	1211	E40	–	–	Y	–	T11+85 E40 continuous bubbles (T11+75 E60 intermittent bubbles)
T12+00	1201	E40	–	–	Y	–	T11+90 E40 continuous bubbles (T12+00 E50 continuous bubbles) T12+20 E40 Bubbles continuous
T12+25	1150	E40	25 drops/30 sec	1/8th droplets is sheen	Y	–	T12+60 E50 sheen bubbles
T12+50	1139	E40	–	–	Y	–	Large area of rainbow sheens
T12+75	1129	E40	–	–	N	–	10' Diameter, south of cap
T13+00	1118	E40	–	–	N	–	3'x 3' Purple/Blue sheen. Disturbed Milfoil

9-2-15
T11+00 E40

coal tar from Disturbed Milfoil, not bubbling at location sharp odor

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

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SURFACE WATER SURVEY

Date: 9.16.15 Sampler: JEP | RJP

Project Number: 1-0870-2 Weather (Beginning of Day): sun, 65°, calm Weather (Mid-Day):

Lake Level (ft): Canal Water Level (ft): 96.27 Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.): brown, murky

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	9:44	E00	—	—	Y	—	T7+90 E30 - C T7+90 E5 T8+00 E25 - I
T8+50	9:38	E00	—	—	N	—	
T9+00	10:02	E00	—	—	N	—	
T9+50	10:08	E00	—	—	N	—	
T10+00	10:14	E00	—	—	N	—	
T10+50	10:20	E00	—	—	N	—	
T11+00	10:26	E00	—	—	N	—	
T11+50	10:32	E00	—	—	N	—	
T12+00	10:38	E00	—	—	N	—	
T12+50	10:44	E00	—	—	Y	—	T12+50 E20 - I
T13+00	15:27	E00	—	—	N	—	

monarch
heron (blue)
lots of honey bees on lilypads
kingfisher
migrating geese
turtles

canal = 0.19' @ SG-8
= 96.27' Elev.

C - continuous
I - intermittent

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

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SURFACE WATER SURVEY

Date: 9.16.15 Sampler: JEP | RJP

Project Number: 1-0870-2 Weather (Beginning of Day): Weather (Mid-Day):

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	9:50	E80	—	—	N	—	
T8+50	9:56	E80	—	—	N	—	
T9+00	1542	E80	—	—	N	—	
T9+50	1543	E80	—	—	N	—	
T10+00	1538	E80	—	—	N	—	
T10+50	1120	E80	—	—	N	—	
T11+00	1115	E80	—	—	N	—	
T11+50	1110	E80	—	—	N	—	
T12+00	1105	E80	—	—	N	—	
T12+50	1100	E80	—	—	N	—	
T13+00	15:27	E80	—	—	N	—	

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

ARCADIS

SURFACE WATER SURVEY

Date: 9/16/15 Sampler: JEP / RJP

Project Number: 1-0870-2 Weather (Beginning of Day): Weather (Mid-Day): sun, 75°, slight SW breeze

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	11:40	E40	–	–	Y	–	T8+50 E20 + E60 - II
T8+25	11:51	E40	–	–	N	–	
T8+50	12:02	E40	–	–	N	–	
T8+75	12:14	E40	–	–	N	–	
T9+00	12:26	E40	–	–	N	–	
T9+25	12:37	E40	–	–	N	–	
T9+50	12:49	E40	–	–	N	–	
T9+75	13:01	E40	–	–	N	–	

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

11/02/2011 SYRACUSE, NY-ENV/CAD-DJHOWES
B0069852/0001/00007/CDR/69852G01.CDR

ARCADIS

SURFACE WATER SURVEY

Date: 9-16-15 Sampler: JBP | RJP

Project Number: 1-0870-2 Weather (Beginning of Day): Weather (Mid-Day):

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.): heavy milfoil at southern edge

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T10+00	13:12	E40	—	—	N	—	
T10+25	13:23	E40	—	—	N	—	
T10+50	13:35	E40	—	—	N	—	
T10+75	13:47	E40	—	—	N	—	
T11+00	1359	E40	—	—	N	—	
T11+25	14:10	E40	—	—	Y	—	T11+10 E35 - I
T11+50	14:21	E40	—	—	Y	—	T12+E35 - C
T11+75	14:32	E40	—	—	N	—	
T12+00	14:44	E40	—	—	Y	—	T12+25 E20- I
T12+25	14:56	E40	—	—	Y	—	T12+50 E40 - I - large bursts
T12+50	15:06	E40	—	—	Y	—	T12+50 E45 - I residual sheen
T12+75	15:16	E40	—	—	N	—	
T13+00	15:27	E40	—	—	N	—	

gulls
dragonflies
fish
ducks

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

ARCADIS

SURFACE WATER SURVEY

Date: 10/1/15 Sampler: JRB PCS

Project Number: 1-0870-2 Weather (Beginning of Day): Partly cldy 45 F Weather (Mid-Day): Partly Cloudy, 55 F

Lake Level (ft): 94.5 Canal Water Level (ft): 96.6 Date of Last Precipitation: 9/30/15

Other Site Conditions (Odors, surface water conditions, etc.): Abundant wild rice, lilly pads, lt translucent brown water

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	1345	E00		-	Y	-	@ T8+15 E5
T8+50	1340	E00		-	N	-	
T9+00	1323	E00		-	N	-	
T9+50	1217	E00		-	N	-	
T10+00	1150	E00		-	N	-	
T10+50	1313	E00		-	N	-	
T11+00	1328	E00		-	N	-	
T11+50	1055	E00		-	N	-	
T12+00	1045	E00		-	N	-	
T12+50	1035	E00		-	N	-	
T13+00	1025	E00		-	N	-	

10/1/15 10:20 SG-8 canal level = 0.52'

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

SG#8 = 96.08' at 0.0

ARCADIS

SURFACE WATER SURVEY

Date: 9/30/15 Sampler: JRF

Project Number: 1-0870-2 Weather (Beginning of Day): RAIN, N. breeze 55F Weather (Mid-Day):

Lake Level (ft): 94.4 Canal Water Level (ft): 96.9 Date of Last Precipitation: 9/30

Other Site Conditions (Odors, surface water conditions, etc.): Breeze from North

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	1105	E80		—	—	—	
T8+50	1055	E80		—	Y	—	C-T8+50 E75
T9+00	1045	E80		—	—	—	
T9+50	945	E80		—	—	—	
T10+00	935	E80		—	—	—	
T10+50	913	E80		—	—	—	
T11+00	903	E80		—	—	—	
T11+50	853	E80		—	—	—	
T12+00	843	E80		—	—	—	
T12+50	833	E80		—	Y	—	C-T12+55 E50
T13+00	819	E80		—	—	—	

9/30/15 9:30 SG8 Canal level = 0.81'

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

SURFACE WATER SURVEY

Date: 9/28/15 Sampler: JRB PCS

Project Number: 1-0870-2 Weather (Beginning of Day): Partly cloudy 70 F Weather (Mid-Day):

Lake Level (ft): 94.1 Canal Water Level (ft): 96.0 Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.): Abundant Milfoil; Turbid brown wat

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	1632	E40			Y		C-T8+25 E80; I-T8+15 E20
T8+25	1622	E40		—	Y	—	I-T8+40 E40; C-T8+15 E5
T8+50	1612	E40		—	Y	—	I-T8+50 E80
T8+75	1602	E40		—	Y	—	C-T8+50 E35
T9+00	1552	E40		—	Y	—	I-T9+00 E20
T9+25	1542	E40		—	Y	—	C-T9+90 E30
T9+50	1532	E40		—	Y	—	I-T9+55 E45; C-T9+75 E20
T9+75	1522	E40		—	Y	—	I-T9+70 E35; T9+75 E40 C

Crows
Small fish surfacing
Mallard Duck
Cormorant

CANAL Level @ SG-8
-0.1' @ 11:30 9/28/15

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

I- intermittent
C- continuous

11/02/2011 SYRACUSE, NY-ENV/CAD-DJHOWES
B0069852/0001/00007/CDR/69852G01.CDR

ARCADIS

SURFACE WATER SURVEY

Date: 9/28/15 Sampler: JRB PCS

Project Number: 1-0870-2 Weather (Beginning of Day): Partly cloudy 70°F Weather (Mid-Day): Partly cloudy 72° breeze

Lake Level (ft): 94.1 Canal Water Level (ft): ~~94.1~~ 96.0 Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.): Abundant M. foil growth; turbid brown water

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T10+00	512	E40			Y		C-T10+00E30
T10+25	502	E40		—	Y	—	C-T10+50E20
T10+50	452	E40		—	—	—	
T10+75	442	E40		—	—	—	
T11+00	432	E40		—	Y	—	C-T11+00 E30
T11+25	422	E40		—	—	—	
T11+50	412	E40		—	—	—	
T11+75	402	E40		—	Y	—	C-T11+75E40; C T11+90E40
T12+00	352	E40		—	—	—	
T12+25	342	E40		—	Y	—	I-T12+70E50; T12+50 E45-1;
T12+50	332	E40		—	—	—	
T12+75	322	E40			Y	Y	C-T12+80E45. T12+55E40-C
T13+00	310	E40	—	(1)	Y	Y	I-13+30 E; I-T12+80E40; I-T12+55 E45

(1) Sheens: 12" diameter T12+80E40; 6" diam. T12+55E45
36" diam T12+80E45

Turtle
Dragonflies
Gull
Monarch Butterfly

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

ARCADIS

SURFACE WATER SURVEY

Date: 10·15·15 Sampler: JEP / PCS

Project Number: 1-0870-2 Weather (Beginning of Day): clear, 40°F, breezy Weather (Mid-Day):

Lake Level (ft): Canal Water Level (ft): 96.22' Date of Last Precipitation: 10-14-15

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	9:48	E00	—	—	N	—	
T8+50	9:55	E00	—	—	N	—	
T9+00	10:03	E00	—	—	N	—	
T9+50	10:09	E00	—	—	N	—	
T10+00	10:15	E00	—	—	N	—	
T10+50	10:21	E00	—	—	N	—	
T11+00	10:27	E00	—	—	Y	—	T11+00 E30 - C
T11+50	10:33	E00	—	—	Y	—	T11+50 E45 - C
T12+00	10:39	E00	—	—	Y	—	T12+25 E25 - C
T12+50	10:44	E00	—	—	Y	—	T12+50 E50 - C - bursts
T13+00	1117	E00	—	—	N	—	

woodpeckers

SG#8 = 0.14'

C = continuous

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

SG#8 = 96.08' at 0

ARCADIS

SURFACE WATER SURVEY

Date: 10·15·15 Sampler: JEP / PCS

Project Number: 1-0870-2 Weather (Beginning of Day): clear, 40°F, breezy Weather (Mid-Day):

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation: 10·14·15

Other Site Conditions (Odors, surface water conditions, etc.): brown + translucent

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (Inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	9:42 ~~8:43~~	E80	–	–	N	–	
T8+50	8:43	E80	–	–	N	–	
T9+00	8:48	E80	–	–	N	–	
T9+50	8:54	E80	–	–	N	–	
T10+00	9:00	E80	–	–	N	–	
T10+50	9:07	E80	–	–	N	–	
T11+00	9:12	E80	–	–	N	–	
T11+50	9:17	E80	–	–	N	–	
T12+00	9:23	E80	–	–	N	–	
T12+50	9:28	E80	–	–	N	–	
T13+00	1059	E80	–	–	N	–	

JEP 10-15-15

3-4 otters
red wing blackbirds
kingfisher
cardinals
gulls

migrating geese
blue heron

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

ARCADIS

SURFACE WATER SURVEY

Date: 10/15/15 Sampler: Pat Smart / Jo Palmer

Project Number: 1-0870-2 Weather (Beginning of Day): Weather (Mid-Day):

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	1143	E40	-	-	Y	-	T8+10 E45 Int.
T8+25	1154	E40	-	-	Y	-	T8+25 E65 Int.
T8+50	1216	E40	-	-	N	-	
T8+75	1228	E40	-	-	N	-	
T9+00	1240	E40	-	-	N	-	
T9+25	1251	E40	-	-	Y	-	T10+00 E25 Continuous T9+25 E40 Int.
T9+50	1303	E40	-	-	N	-	
T9+75	1315	E40	-	-	N	-	

mink

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

ARCADIS

SURFACE WATER SURVEY

Date: 10/15/15 Sampler: Pat Smart / Jo Palmer

Project Number: 1-0870-2 Weather (Beginning of Day): clear, S. wind ~5mpH Weather (Mid-Day): Clear, S wind ~5mpH

Lake Level (ft): Canal Water Level (ft): SG-8 = 0.14ft Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T10+00	1327	E40	—	—	N	—	
T10+25	1339	E40	—	—	Y	—	T10+45 E. 20 continuous
T10+50	1349	E40	—	—	Y	—	T11+00 E 35 Continuous
T10+75	1359	E40	—	—	Y	—	T11+15 E 45 continuous
T11+00	1410	E40	—	—	N	—	
T11+25	1420	E40	—	—	Y	—	T11+25 E40 C. T11+25 E60 C.
T11+50	1430	E40	—	—	N	—	
T11+75	1445	E40	—	—	Y	—	T11+90 E 40 C.
T12+00	1455	E40	—	—	N	—	
T12+25	1505	E40	—	—	Y	—	T12+50 E. 60 Continuous Burst ~1'
T12+50	1518	E40	—	—	N	—	
T12+75	1528	E40	—	—	N	—	
T13+00	1539	E40	—	—	N	—	

Snake swimming

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

I = Intermittent
C = Continuous

11/02/2011 SYRACUSE, NY-ENV/CAD-DJHOWES
B0069852/0001/00007/CDR/69852G01.CDR

ARCADIS

SURFACE WATER SURVEY

Date: 10/27/15 Sampler: JRB

Project Number: 1-0870-2 Weather (Beginning of Day): 45° Partly Cloudy Weather (Mid-Day): Partly Cloudy, 46° F

Lake Level (ft): 94.0 from USGS Canal Water Level (ft): 96.2 Date of Last Precipitation: 10/25/15

Other Site Conditions (Odors, surface water conditions, etc.): Calm winds, clear water conditions

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	14:40	E00	—	—	N	—	
T8+50	14:20	E00	—	—	N	—	
T9+00	12:40	E00	—	—	Y	—	I T9+30E 40
T9+50	12:30	E00	—	—	Y	—	I-T9+80E 35
T10+00	12:20	E00	—	—	N	—	
T10+50	12:10	E00	—	—	N	—	
T11+00	10:15	E00	—	—	N	—	
T11+50	10:05	E00	—	—	N	—	
T12+00	9:55	E00	—	—	Y	—	C. T11+80E 40
T12+50	9:45	E00	—	—	N	—	
T13+00	9:35	E00	—	—	N	—	

Blue Jay
Comorant
Seq gull

10/27/15 @ 9:30 SG-8 = 0.13'

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

ARCADIS

SURFACE WATER SURVEY

Date: 10/26/15 Sampler: JRB

Project Number: 1-0870-2 Weather (Beginning of Day): Partly cloudy, 41°F Weather (Mid-Day): Clear, sunny 46°F, w. North breeze

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation: 10/25/15

Other Site Conditions (Odors, surface water conditions, etc.): Slight breeze North, clear water conditions

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	14:40	E80 10/27/15	-	-	N	-	
T8+50	14:35	E80 10/26/15	-	-	Y	-	I-T8/50E75
T9+00	14:25	E80	-	-	N	-	
T9+50	14:15	E80	-	-	N	-	
T10+00	14:05	E80	-	-	N	-	
T10+50	13:55	E80	-	-	N	-	
T11+00	10:20	E80	-	-	N	-	
T11+50	10:10	E80	-	-	N	-	
T12+00	10:00	E80	-	-	N	-	
T12+50	9:50	E80	-	-	N	-	
T13+00	9:40	E80	-	-	N	-	

Mallards

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

ARCADIS

SURFACE WATER SURVEY

Date: 10-27-15 Sampler: AM-JRB

Project Number: 1-0870-2 Weather (Beginning of Day): 40° clear calm Weather (Mid-Day): clear, calm 46°F

Lake Level (ft): Canal Water Level (ft): 96.3 Date of Last Precipitation: 10-25-15

Other Site Conditions (Odors, surface water conditions, etc.): clear · very few lily pads

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net · Sample ID	Comments
	14:40 DM 10-27						
T8+00	~~15:30~~	E40					
T8+25	14:30	E40	–	–	N	–	
T8+50	1420	E40	–	–	N	–	
T8+75	14:10	E40	–	–	Y	–	T+8+50 E60 intermittent
T9+00	14:00	E40	–	–	N	–	
T9+25	13:50	E40	–	–	Y	–	T9+50 E20 continuous
T9+50	13:40	E40	–	–	Y	–	T9+85 E20 continuous
T9+75	13:30	E40	–	–	N	–	

1 PAIR Blue Herons
4 DUCKS

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

ARCADIS

SURFACE WATER SURVEY

Date: 10/26/15 10/27/15 Sampler: JRB DMM

Project Number: 1-0870-2 Weather (Beginning of Day): 10/26 40° Partly cloudy Weather (Mid-Day): Clear, breezy North, 46°F

Lake Level (ft): Canal Water Level (ft): 0.13 @ SG-8 @ 1135 = 96.21 Date of Last Precipitation: 10-25-15

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (Inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
10/27							
T10+00	13:15	E40	—	—	N	—	
T10+25	13:05	E40	—	—	N	—	
T10+50	12:55	E40	—	—	N	—	
T10+75	16:22	E40	—	—	N	—	
T11+00	16:12	E40	—	—	N	—	
T11+25	16:02	E40	—	—	N	—	
10/26/15							
T11+50	15:52	E40	—	—	N	—	
T11+75	15:42	E40	—	—	Y	—	I- T11+80 E40
T12+00	15:32	E40	—	—	Y	—	C- T11+90 E50 TO E40
T12+25	15:22	E40	—	—	Y	—	I- T12+25 E40 T12+65 E20-I T12+55 E20-I
T12+50	15:12	E40	—	—	Y	—	I- T12+50 E45
T12+75	1502	E40	—	—	N	—	
T13+00	1452	E40	—	—	N	—	

Hairy Woodpecker
Pair of Ducks

C - Continuous
I - Intermediate

10/26/15 @ 16:36 CANAL Level SG-8 = 0.13'
+ 96.08
96.21

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

ARCADIS

SURFACE WATER SURVEY

Date: 11/13/15 Sampler: JRB GWL

Project Number: 1-0870-2 Weather (Beginning of Day): Overcast, 48°F, 4.6 Weather (Mid-Day): overcast, 50°F

Lake Level (ft): Canal Water Level (ft): 92.3 Date of Last Precipitation: 11/13/15 (AM)

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	13:55	E00	—	—	Y	—	I 8+00 E30 C 7+85 E10
T8+50	13:35	E00	—	—	Y	—	I 8+50 E10
T9+00	14:50	E00	—	—		—	
T9+50	14:45	E00	—	—	N	—	
T10+00	14:40	E00	—	—	N	—	C 9+90 E30 I 9+85 E20
T10+50	14:35	E00	—	—	Y	—	I 10+15 E20
T11+00	14:30	E00	—	—	N	—	
T11+50	14:25	E00	—	—	N	—	C
T12+00	14:20	E00	—	—	Y	—	C 12+90 E40 I 11+90 E30
T12+50	14:15	E00	—	—	N	—	
T13+00	14:10	E00	—	—	Y	—	
							C 14+00 E40 C 12+50 E40

SG-8 = 0.2' 9:30 11/13/15

SG-9 = 92 OBE Zero

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

SURFACE WATER SURVEY

Date: 11/13/15 Sampler: J RB CWL

Project Number: 1-0870-2 Weather (Beginning of Day): Overcast, 40°F, Lt brz Weather (Mid-Day): Overcast 50°F

Lake Level (ft): Canal Water Level (ft): 92.3 Date of Last Precipitation: 11/13/15

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	13:55	E80	—	—	N	—	
T8+50	13:25	E80	—	—	Y	—	IT+75 E75
T9+00	15:00	E80	—	—	Y	—	IT9+25 E50
T9+50	15:05	E80	—	—	N	—	
T10+00	15:10	E80	—	—	N	—	
T10+50	15:15	E80	—	—	N	—	
T11+00	15:20	E80	—	—	N	—	
T11+50	15:25	E80	—	—	Y	—	IT1+75 E60
T12+00	15:30	E80	—	—	N	—	
T12+50	15:35	E80					
T13+00	15:40	E80					

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

ARCADIS

SURFACE WATER SURVEY

Date: 11/13/15 Sampler: JRB GWL

Project Number: 1-0870-2 Weather (Beginning of Day): Overcast, 48°F, Light Rain Weather (Mid-Day): Overast, 50°F

Lake Level (ft): Canal Water Level (ft): 92.3 Date of Last Precipitation: 11/13/15 (AM)

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (Inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	13:55	E40	-	-	Y	-	I T8+00 E30 CT7+85 E10
T8+25	13:45	E40	-	-	N	-	
T8+50	13:35	E40	-	-	Y	-	I T8+50 E10
T8+75	13:25	E40	-	-	Y	-	I T8+75 E75
T9+00	13:15	E40	-	-	N	-	
T9+25	13:05	E40	-	-	Y	-	I T9+25 E70
T9+50	12:55	E40	-	-	N	-	
T9+75	12:45	E40	-	-	Y	-	CT9+75 E15

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

ARCADIS

SURFACE WATER SURVEY

Date: 11/13/15 Sampler: JRB GWL

Project Number: 1-0870-2 Weather (Beginning of Day): 48°F O-cast, LT breeze N Weather (Mid-Day): O-cast 50°F

Lake Level (ft): Canal Water Level (ft): 92.3 Date of Last Precipitation: 11/13/15 (AM)

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T10+00	12:35	E40	–	–	N	–	
T10+25	12:25	E40	–	–	Y	–	I 10+35 E60
T10+50	12:15	E40	–	–	Y	–	C T 10+40 E20
T10+75	11:55	E40	–	–	Y	–	I T11+00 E40
T11+00	11:45	E40	–	–	Y	–	C T10+70 E20, I T11+05 E10, I T11+10 E15
T11+25	11:35	E40	–	–	Y	–	C T11+00 E20, I T11+20 E20
T11+50	11:25	E40	–	–	Y	–	I T11+50 E30
T11+75	11:15	E40	–	–	Y	–	I T11+75 E50
T12+00	11:05	E40	–	–	Y	–	I T12+10 E60 C T11+90 E35 - E35 - T11+90 E30 C T12+00 E30 C T12+05 E10 C T11+90 E40 I T12+25 E30 I T12+20 E50
T12+25	10:55	E40	–	–	Y	–	I T12+80 E40 I T12+80 E60 I T12+50 E20 T12+50 E30
T12+50	10:45	E40	–	–	Y	–	C T12+50 E50 I T12+95 E30
T12+75	10:35	E40	–	–	Y	–	I T13 E60, I-T12+50 E40 I T12+90 E40
T13+00	10:25	E40	–	–	Y	–	

CROWS, HERRON, GULL

I T12+80 E20 I T13 E30
I T13 E20
I T12+80 E60
I-T12+75 E10
C-T13+30 E10
I-T12+70 E50
I-T12+80 E40

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

ARCADIS

SURFACE WATER SURVEY

Date: 11-24-15 Sampler: BMD, GWL

Project Number: 1-0870-2 Weather (Beginning of Day): 25°, calm Weather (Mid-Day): snow flurries, 30°F

Lake Level (ft): 94.5' Canal Water Level (ft): 96.18 Date of Last Precipitation: Currently

Other Site Conditions (Odors, surface water conditions, etc.): brown, translucent

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	—	E00	—	—	—	—	Ice on canal
T8+50	BMD 11-23-15	E00	—	—	—	—	Ice
T9+00	11-24-15 1540	E00	—	—	N	—	
T9+50	1545	E00	—	—	N	—	
T10+00	1550	E00	—	—	N	—	
T10+50	1555	E00	—	—	N	—	
T11+00	—	E00					ice
T11+50	—	E00					ice
T12+00	—	E00					ice
T12+50	—	E00					ice
T13+00	—	E00					ice

9 gulls
kingfishers
Great blue heron
Mallards

11.23.15 SG #8 = 0.15'
11.24.15 SG #8 = 0.1'

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

SURFACE WATER SURVEY

Date: 11-23-15 Sampler: BPD + GWL

Project Number: 1-0870-2 Weather (Beginning of Day): 27°F, sunny, 10mph N Weather (Mid-Day):

Lake Level (ft): Canal Water Level (ft): 96.23' Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.): Translucent, brown

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	1510	E80	—	—	N	—	
T8+50	1516	E80	—	—	N	—	
T9+00	1522	E80	—	—	N	—	
T9+50	1527	E80	—	—	N	—	
T10+00	1532	E80	—	—	N	—	
T10+50	1537	E80	—	—	N	—	
T11+00	1542	E80	—	—	N	—	
T11+50	1547	E80	—	—	N	—	
T12+00	1552	E80	—	—	N	—	
T12+50	1557	E80	—	—	N	—	BPD only
T13+00	1607	E80	—	—	N	—	

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

ARCADIS

SURFACE WATER SURVEY

Date: 11-24-15 Sampler: BND + GWL

Project Number: 1-0870-2 Weather (Beginning of Day): 75°F, NC, calm Weather (Mid-Day):

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (Inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T8+00	1332	E40	NA	NA	Y	NA	I: T8+10 E20 I= 8+25 E65
T8+25	1333	E40 1343	NA	NA	Y	NA	I T8+75 E35
T8+50	BND 11-24-15 1353	E40	-	-	N	-	
T8+75	1405	E40	-	-	N	-	
T9+00	1416	E40	-	-	N	-	
T9+25	1427	E40	-	-	N	-	
T9+50	1437	E40	-	-	N	-	
T9+75	1447	E40					

I = intermittent

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

SURFACE WATER SURVEY FORM

ARCADIS

ARCADIS

SURFACE WATER SURVEY

Date: 11-24-15 Sampler: BND-GWL

Project Number: 1-0870-2 Weather (Beginning of Day): Weather (Mid-Day):

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation:

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Rate of NAPL Seep (number of droplets/30 seconds)	Diameter of Droplet or Sheen (inches)	Gas Bubbles (Y/N)	Sheen Net Sample ID	Comments
T10+00	1457	E40	-	-	N	-	
T10+25	1507	E40	-	-	N	-	
T10+50	1517	E40	-	-	N	-	
T10+75	1527	E40	-	-	N	-	
T11+00	-	E40					ice on canal
T11+25	-	E40					ice
T11+50	-	E40					ice
T11+75	-	E40					ice
T12+00	-	E40					ice
T12+25	-	E40					ice
T12+50	-	E40					ice
T12+75	-	E40					ice
T13+00	-	E40					ice

CAP CONDITION EVALUATION

Date: 7-8-15 Sampler: D Maynard

Project Number: 1-0870-2 Weather (Beginning of Day): 60's overcast 5-10 MPH Weather (Mid-Day):

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation: 7/7/15

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Condition of the Cap (condition of anchor pins, evidence of erosion/ice damage, gaps in the fill)	Comments
T11+80	9:22	T11+80 E. edge	same as previous - Active mid Habitat because	Heavy 3-4' vegetation on shore
	9:29	East SIDE	NO DAMAGE OBSERVED	
	10:30	west side	cyclone Fence Gaps ~ 2'x 5"	
			at T11+80 and T12+00 - Same as previous	
			No New Damage observed.	

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

CAP TERMINATION SURVEY FORM

CAP CONDITION EVALUATION

Date: 8/6/15 Sampler: Pat Smart

Project Number: 1-0870-2 Weather (Beginning of Day): Partly cloudy, 76°F Weather (Mid-Day): 8/6/15

Lake Level (ft): Canal Water Level (ft): Date of Last Precipitation: 8/5/15

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Condition of the Cap (condition of anchor pins, evidence of erosion/ice damage, gaps in the fill)	Comments
T11+80	845	T11+80 E Edge	Same as previous- Active + visible heaving 3-4'	vegetation on shore
	850	East Side	no damage observed	
	10:00	West Side	Cyclone fence gaps 2-5" at T11+80 and T12+00 - Same as previous.	

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

CAP TERMINATION SURVEY FORM

CAP CONDITION EVALUATION

Date: 9-3-15 Sampler: AWR RJP

Project Number: 60870-02 Weather (Beginning of Day): 60° drizzle Weather (Mid-Day): 85° Sunny

Lake Level (ft): 95.54 Canal Water Level (ft): 0.02 Date of Last Precipitation: 9-3-15

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Condition of the Cap (condition of anchor pins, evidence of erosion/ice damage, gaps in the fill)	Comments
T11+80	1045	T 11+80 East Edge	Same as Previous - Active visible heaving	
	1050	East Side	No damage	
	1100	West Side	Same as previous Fence gaps @ T11+80 and T12+00	

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

CAP TERMINATION SURVEY FORM

CAP CONDITION EVALUATION

Date: 9/29/15 - 10/1/15 Sampler: JRB

Project Number: 10270-02 Weather (Beginning of Day): Partly cloudy 45 F Weather (Mid-Day): Partly cloudy 55 F

Lake Level (ft): 94.1 Canal Water Level (ft): 96.6 Date of Last Precipitation: 9/30/15

Other Site Conditions (Odors, surface water conditions, etc.): Abund. mil foil, lily pads, no odors

Transect	Time	Location	Condition of the Cap (condition of anchor pins, evidence of erosion/ice damage, gaps in the fill)	Comments
T9-T1250	11:19	EAST EDGE	NO NEW ISSUES SINCE PREV. INSPECTION	East bank mowed
1	10:45	WEST EDGE	NO NEW ISSUES	

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

CAP TERMINATION SURVEY FORM

CAP CONDITION EVALUATION

Date: 10/26/15 Sampler: JRP

Project Number: 1-0870-02 Weather (Beginning of Day): Partly Cloudy 41°F Weather (Mid-Day): Clear, Sunny 46°F

Lake Level (ft): Canal Water Level (ft): 96.2 Date of Last Precipitation: 10/25/15

Other Site Conditions (Odors, surface water conditions, etc.): Slight breeze North, clear water conditions

Transect	Time	Location	Condition of the Cap (condition of anchor pins, evidence of erosion/ice damage, gaps in the fill)	Comments
T9-T125	9:50	EAST BANK	NO NEW ISSUES SINCE LAST INSPECTION	
" "	9:45	WEST BANK 10/27/15	NO NEW ISSUES SINCE LAST	INSPECTION

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

CAP TERMINATION SURVEY FORM

CAP CONDITION EVALUATION

Date: 11.25.15 Sampler: JEP/BND

Project Number: 1-0870-2 Weather (Beginning of Day): Sun, 40°F Weather (Mid-Day):

Lake Level (ft): 94.5' Canal Water Level (ft): 96.18' Date of Last Precipitation: 11.24.15 (snow flurries)

Other Site Conditions (Odors, surface water conditions, etc.):

Transect	Time	Location	Condition of the Cap (condition of anchor pins, evidence of erosion/ice damage, gaps in the fill)	Comments
T9-T12+50		East Bank	no new issues since last inspection	
T9-T12+50		West Bank	no new issues since last inspection	

GREEN MOUNTAIN POWER
PINE STREET CANAL SUPERFUND SITE
FIELD SAMPLING PLAN

CAP TERMINATION SURVEY FORM

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-101 Nominal Total Pipe (ft): 30.9 - 371 in. Sump Length (ft): 2.9

"Sheen" indicates visible sheen on water surface. "<1/8" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft) in.	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
4/13/15	11:29	52.5	304	67	371	film	32	12:39	12:48	3	1	G	DMM	
4/15/15	11:44	53	370	1	371	FILM	—	—	—	—	—	G	DMM	
5/11/15	12:18	46"	362	9"	371	sheen	—	12:48	12:49	0.5	2.5	G	SH	
6/12/15	10:28	44"	—	11"	371	sheen	—	—	—	—	—	—	SH	
6/10/15	1050	44	363	8	371	0	49	12:31	12:37	0.5	2	G	JRB	
6/11/15	11:39	46	368	3	371	0	—	12:38	12:40	0.25	1.5	G	JRB	
6/12/15	1106	46	370	3/4	371	film	—	—	—	—	—	—	JRB	
7-8-15	9:52	34	368 1/4	2 3/4"	371	NO	13.8	NOT	Pumped	Due	TO	H(g)	DMM	water in Canal 4 1/2FT Deep around
8-4-15	11:10	47.5	361	10	371	Film	16	12:16	12:19	0.5	2	G	RSP	
8-5-15	10:29	60	378	1	371	Film	—	—	—	—	—	—	RSP	
10-26-15	11:16	53.5	359	12	371	film	36	11:47	11:50	1	2	G	DMM	~~Lowered suction hose to full depth (connected a~~ JRB 10/26/15
10/27/15	10:34	54	~~387~~	4	371	film	—	10:54	10:57	1/2	2 1/2	G	DMM	
—	—	JRB in Canal	367	—	—	—	—	—	—	—	—	—	—	
10/28/15	10:53	54	370	<1	371	film	—	—	—	—	—	G	DMM	
11/13/15	12:32	53	363	9	372	film	27	12:44	1255	4	3	G	BND	
11/24/15	10:45	56	371	<1	371	film	—	—	—	—	—	—	BND	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-101

Nominal Total Pipe (ft): 30.9 - 371 IN.

Sump Length (ft): 2.9

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft) IN.	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
9-1-15	1100	54	~~358~~ RSP	~~15~~ 358	~~371~~	Film	73	1111	1117	3	2	G	RSP	
9-2-15	934	50	370	9-1-15	371	Film	—	—	—	—	—	G	RSP	
9/29/15	1256	55	356	15	371	Sheen	—	1630	1636	3	1.	G	JCO	
9/30/15	1343	50	370	<1	371	film	26	—	—	—	—	—	JCO	

4/13 ① | measured 163 inches of DNAPL based on obstruction at 381. Using well depth of 445" total DNAPL thickness is 227 IN BTOC

Pine Street Canal Site, Burlington, Vermont **DNAPL Monitoring/Removal Data**
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-S (255).

Well: RW-102 Nominal Total Pipe (ft): 37.1 = 445 IN Sump Length (ft): 3.6

"Sheen" indicates visible sheen **on water surface.** "<1/8" indicates deminimus LNAPL as measured with clear bailer one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (in.)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
4/13/15	16:17	55	218	163	381	film	74	11:59	12:30	13	0.5	GAL	PCS	obstruction on casing TD Pumped Dry
4/14/15	11:11	58	380	165	399	sheen	—	11:29	11:37	12	2	G	DM	soft bottom; CAWW 0.22 @ 568
4/15/15	10:06	60	361	84	385	sheen	—	10:19	10:22	3	7	G	JRB	
4/15/15	1220	68	332	52"	384	film	—	13:07	13:13	2	1	G	JRB	332" product location 445" depth
5/12/15	1032	48	363	20"	383	film	—	10:49	10:51	1	4	G	JRB	82" product based on 445" depth
5/13/15	0949	49	364	19"	383	film	—	10:07	10:09	1½	3	G	JRB	
6/10/15	10:52	47.5	377	50	372	0	169	12:17	12:22	4	2	G	JRB	
6/11/15	11:44	50	357	3	360	film	—	12:17	12:18	0.25	1	G	JRB	obstruction 360"
6/12/15	11:00	49	356	4	360	film	—	11:30	11:32	0.25	3	G	JRB	obstruction 360"
7-8-15	9:58	36½	336½	50¾	377	FILM	17.8	10:30	1053	3	1	G	DMA	obstruction
7/9/15	10:03	39	367	16	383	FILM	30	10:26	1031	1	2.5	G	JRB	obstruction
7/10/15	12:52	39.5	367	35	402	film	—	1305	1308	2	5	G	JRB	obstrctn/soft oil-water mix
8-4-15	11:22	49.5	322	59	381	FILM	90	1228	1231	3	1	G	RJF	obstruction
8-5-15	1033	51	32-1	55	383	film	—	1055	1059	2	1.5	G	RJF	obstruction
8-6-15	1002	51	326	50	383	film	—	1019	1028	3	1	G	RJF	obstruction
10-26-15	11:22	56.5	352	27	377	FILM	83	1156	1214	4	8	G	DMA	soft btm/louvered short to full depth
10/27/15	10:37	61	373	6	379	FILM	—	11:04	11:09	0.5	5.5	G	DMA	soft btm/NAPL-WATER mix
10/28/15	10:55	58	376	7	383	film	—	11:20	11:26	2	4	G	DMA	set intake RVC FIVE F BTOC
10-29-15	1200	—	384	24	408	—	—	1210	1215	3	6	G	DMA	After removing 4 pieces PVC
11-23-15	1200	56	394	41	390	film	43	12:25	12:32	5	4	G	BJD	soft btm
11-24-15	10:50	61	385	20.1	385	film	—	—	—	—	—	—	BJD	soft btm /

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-102 Nominal Total Pipe (ft): 37.1

Sump Length (ft): 3.6

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (in)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
9-1-15	1124	58	320	90	410 397	Film	46	1129	1140	5	3	G	RJP	
9-2-15	936	58	342	59	RJP 9-1-15 401	Film	—	944	950	4	2	G	RJP	
9-3-15	925	58	355	46	401	Film	—	931	937	<1	3.	G	RJP	water/NAPL mix, no tar
9/29/15	1249	57	301	90	391	film	—	1613	1623	4	1	G	JRB	
9/30/15	1336	57	354	38	392	film	77	1406	1412	3	4	G	JRB	
10/1/15	1130	58	366	25	391	film	—	1231	1236	2	3	G	JRB	50 ft bfM. / Added extension

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-103 Nominal Total Pipe (ft): 32.2 - 395 in. Sump Length (ft): 0

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
4/13/15	11:11	63	205	185 +18 sheen	390	film	76	11:17	1140	15	2	gallons	PCS	
4-14-15	1040	6.5	2685	127½	396	FILM	—	10:50	11:05	13	1	G	DM	soft bottom > 395"
4/15/15	1057	64	340	52	388	Film	—	10:31	10:35	3	5	G	JRB	
5/11/15	1730	55	316	45	361	film	—	3:24	3:29	3	5	G	JRB	Soft bottom
5/12/15	1036	59	361	33"	394"	sheen	—	11:00	11:05	2	5	G	SH	Soft bottom
5/13/15	0953	66	368"	21"	389'	FILM	—	~~9:07~~	~~10:09~~	~~1½~~	~~3~~	G	JRB	soft bottom
—	—	—	—	—	—	—	—	10:17	10:19	1½	2	G	JRB	
6/10/15	10:58	53	319	70	389	0	192	12:00	1207	5½	2	G	JRB	Soft bottm
6/11/15	11:49	56	350	40	390	Film	—	12:25	1229	3	3	G	JRB	soft bottom
6/12/15	10:57	56	364	15	379	Film	—	11:14	11:15	JRB 6/14/15		G	JRB	Soft
—	—	—	—	—	—	—	—	11:18	11:21	1.5	2	G	JRB	Re-start
7/8/15	10:06	43.5	329½	61	389½	sheen	52.5	1043	1046	5	1	G	DM	soft @ 370, Hard @ 389½'
7/9/15	10:10	45.5	355.5	34	389½	FILM	60	10:38	1041	2.5	0.5	G	JRB	
7/10/15	1257	45.5	367	26	389	Film	—	13:17	13:19	2.5	1	G	JRB	
8-4-15	11:31	57	325	64	389	Film	86	12:40	1243	2	2	G	RJP	Soft Bottom
8-5-15	10:37	59	319	70	389	Film	—	11:07	11:10	3	1	G	RJP	
8-6-15	10:05	61	321	68	389	Film	—	10:35	10:38	1	3	G	RJP	
10/26/15	11:27	53	316	54	370	film	78	12:21	12:38	6	2	G	DMP	Obstruction / short suction hose lowered 2'
10/27/15	10:38	64	347	23	370	film	—	11:17	11:22	3	4	G	DMP	
10/28/15	11:00	64	364	12	376	film	—	11:09	11:13	2	4	G	SMH	Soft btm
11-23-15	11:54	64	372	60	382	Film	55	12:07	2:18	10	8.5	G	BJD	Soft btm
11-24-15	10:55	65, 35 pain	39		390	FILM	—	10:58	11:01	4	3	G	GUL	SOFT BOTTOM
11.25.15	11:04	66	364	27	391	film	—	11:07	11:10	2	3	G	JEP	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-103 Nominal Total Pipe (ft): 32.2 - 393 Sump Length (ft): 0

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (inches)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
9-1-15	1148	65	280	111	391	Film	67	1152	1213	8	2	G	RJP	
9-2-15	758	65	311	78	389	Film	-	1006	1025	7	1	G	RJP	
9-3-15	943	64	345	44	389	Film	-	0948	953	3	1	G	RJP	
9/29/15	1240	64	314	76	390	Film	-	1536	1552	6	1	G	JRB	
9/30/15	1324	57	352	18	370	film	56	1421	1423	2	1	G	JRB	Obstruction
10/1/15	1126	60	365	25	390	film	-	1252	1256	2	2	G	JRB	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-104 Nominal Total Pipe (ft): 32.0 - 385in. Sump Length (ft): 4.0

"Sheen" indicates visible sheen on water surface. "<1/8" indicates deminimus LNAPL as measured with clear baller — one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft) calculated	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
4/13/15	11:04	61.5	232	140	372	film	72	13:15	1339	13	1	G	JRB	possible pipe obstruction at 372"
4-14-15	11:53	74	308	77	368	FILM	—	12:24	12:31	5	1	G	DMM	retrieved on HARD object + calculated NAPL w/ SBS TD
4/15/15	10:13	72	354	14	368	FILM	—	10:42	10:44	1	3	G	JRB	
5/11/15	1240	55	334	38	372	film	—	13:37	13:40	3	1	G	JRB	
5/12/15	1040	58	366	16	372	Film	—	1115	1119	1	3	G	JRB	
5/13/15	0955	59	359	9	368	film	—	1030	1032	1/2	2	G	JRB	
6/10/15	11:05	53	330	37	367	FILM	108	1257	1301	3	2	G	JRB	obstruction 367
6/11/15	11:53	60	356	16	372	film	—	1258	1259	0.75	1.5	G	JRB	obstruction 372
JRB 6/12/15	~~10:56~~	~~56~~		15	371	FILM								soft
6/12/15	11:10	58	3575	14.5	372	Film	—	11:40	11:43	3/4	2	G	JRB	
7-8-15	10:18	43	331	41	372	FILM	20+	10:53	1107	4	2	G	DMM	Hard Bottom
7/9/15	10:15	50.5	~~331~~ 328	17	368	sheen	163	10:46	10:48	1.5	2	G	JRB	
7/10/15	13:00	49	361	11	372	Film	—	13:25	13:28	1	1	G	JRB	
8-4-15	11:38	~~52~~	334	38	372	film	30	1250	12:52	2	0.5	G	RJP	
8-5-15	10:41	60 RJP	8-4-15 324	48	372	—	—	11:17	11:20	2	1	G	RJP	
8-6-15	10:09	60	324	48	372	Film	—	10:46	10:47	1	1	G	RJP	
10-26-15	11:33	62	327	41	368	film	103	12:50	1253	3	2	G	DMM	obstrtN 368"
10/27/15	10:41	69	354	14	368	film	—	11:28	11:31	1	2	G	DMM	" "
10/28/15	1:20	68	360	8	368	film	—	10:46	10:50	2	4	G	DMM	obstructn
11/23/15	1303	63	321	48	369	Film	11	1320	1334	5	10	G	BND	obstruction @ 369"
11/24/15	1106	81	354	3	357	Film	—	1112	1114	1	5	G	BND	obstruction @ 357"
11.25.15	1115	75	—	<1/8"	362	film	—	—	—	—	—	G	JEP	pulled out 2@3' PVC obstruction, + 1' PVC

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-104 Nominal Total Pipe (ft): 32.0 - 385 Sump Length (ft): 4.0

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
9-1-15	1241	65	286	85	371	sheen	48	1245	—	—	—	G	RXP	PVC Fractured, unable to Pump
		└ New PVC to Be installed. installed 9/2/15.								Not pumped				
9/29/15	1234	65	266	112	378	sheen	~	1515	1526	9	1	G	JRB	soft bottom
9/30/15	1311	69	341	11	352	sheen	270	1355	1358	1	1	G	JRB	obstruction
10/1/15	1121	65	357	15	372	sheen	—	1139	1141	1	2	G	JRB	soft btm

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-105 Nominal Total Pipe (ft): 33.2 - 401 IM. Pump Length (ft): 5.2

"Sheen" indicates visible sheen on water surface. "<1/8" indicates deminimus LNAPL as measured with clear baller

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft) IM.	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
4/13/15	11:45	64.5	388	13.0	401	Sheen	69	13:0	15:08	1	2.5	G	DM	
4-14-15	11:48	62	—	0	401	sheen	—	—	—	—	—	G	DM	
5/11/15	12:46	57	-	<1	401	film	~	-	-	-	—	-	JRB	
6/10/15	11:10	55	398	3	401	Sheen	145	1246	1247	~0.25	2	G	JRB	
6/11/15	12:00	57	—	<1	401	Sheen	—	—	—	—	—	-	JRB	
7-8-15	10:16	46	396½	4½	401	FILM	60	11:29	11:49	1	1	G	DM	
7/9/15	10:20	46	—	<1	401	Sheen	108						JRB	
8-4-15	11:44	54	~~398~~ 396.4	~~2"~~ 2.1"	400	FILM	120	12:59	13:00	1	1	G	RJF	
8-5-15	10:47	60	RJF 8-4-15 398	2" RJF	8-5-15 401	Film	—	11:26	1129	1	2	G	RJF	
8-6-15	10:12	60	399 RJF	1" 8-6-15	401	—	—	—	—	—	—	—	RJF	
—	—	—												
10-26-15	11:35	61	395	6	401	film	46	13:02	13:05	1	2	G	DM	
10/27/15	10:44	66	401	<1	401	Sheen	—	—	—	—	—	-	DM	
11/23/15	13:00	65	399	3	402	FILM	28	1306	308	0.5	2.	G	GWL	
11/24/15	11:18	66	401	<0.1	401	FILM	—	—	—	—	—	—	BNJ	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-105 Nominal Total Pipe (ft): 33.2 - 401 in. Sump Length (ft): 5.2

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft) in.	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
9-1-15	1410	67	402.25	0.75	403	Sheen	88	—	—	—	—	—	RX	
9/29/15	1228	66	396	5	401	Sheen	—	1506	1508	0.5	2	G	JRB	
9/30/15	1306	59	400	<1	401	Sheen	55	—	—	—	—	—	JRB	

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Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-106 **Nominal Total Pipe (ft):** 40.1 482 in. **Sump Length (ft):** 4.1

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
4/23/15	9:35	78.5	479.5	.08	480.5	0	0.8	—	—	—	—	—	RJP	
5/11/15	1050	76	—	0	482	0	—	—	—	—	—	-	JRB	
6/10/15	1026	68.5	477	4	481	SHEEN	5.3	10:30	10:31	~0.25	1.5	G	JRB	
6/11/15	1010	74.5	—	0	—	SHEEN	—	—	—	—	—	-	JRB	
7-9-15	9:04	62	NONE	0.8'	481½	0	5	—	—	—	—	—	DAM	
8-4-15	9:50	72	~~NONE~~	~~0~~	480.5	FILM	~~2.8~~ 2.8	PRE-15	—	—	—	—	RJP	
—	—	—	RJP 8-4-15	RJP 8-4-15	—	—	—	—	—	—	—	—	—	
10/26/15	10:42	83	481.5	<0.1	482	—	—	—	—	—	—	G	DAM	
11-23-15	11:22	80	—	<0.1	482	—	0.4	—	—	—	—	-	BWJ	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-106 Nominal Total Pipe (ft): 40.1

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

Sump Length (ft): 4.1

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
9-1-15	1014	80	<1"	-	480	0	1.1	-	-	-	-	-	BJP	
9/29/15	10:03	80	[illegible]	<1	480	0	-	-	-	-	-	-	JRB	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-107 Nominal Total Pipe (ft): 39.1 ~~482~~

Sump Length (ft): 3.1
one inch in a 55-gallon drum = 1.77 gallons

"Sheen" indicates visible sheen on water surface. "<1/8" indicates deminimus LNAPL as measured with clear bailer

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
4/13/15	9:38	77	481.5	1/2"	482	0	4.9	—	—	—	—	—	DMM	small blebs @ 10ft
5/11/15	1055	72	-	<0.1	482	0	—	-	-	-	-	-	JRB	
6/10/15	10:16	69	476	6	482	Sheen	9.0	10:21	10:23	~0.5	2.5	G	JRB	
7/1/15	10:20	75	-	0	—	FILM	—	—	—	—	—	-	JRB	
7-9-15	9:08	59	NONE	0	482	FILM	3.0	—	—	—	—	-	RJO	
8-4-15	7:45	70.5	<81	1	482	FILM	8.0	—	—	—	—	—	DMM	
10-26-15	10:38	82	477	5	482	FILM	2.1	11:00	11:03	1	2.5	G	DMM	
~~10-26-15~~	9:33	86	481	<0.1	482	FILM	—	—	—	—	—	—	DMM	
11-23-15	11:21	78	~	<0.1	482	FILM	6.4	~	~	~	-	~	BJD	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-107 **Nominal Total Pipe (ft):** 39.1 **Sump Length (ft):** 3.1

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
9-1-15	1009	77.5	0	–	482	sheen	2.9	–	–	–	–	–	RJP	
9/29/15	1005	80	481	<1	482	film	–	–	–	–	–	–	JRB	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-108 Nominal Total Pipe (ft): 38.0 - 45.7 in.

Sump Length (ft): 3.9

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
4/13/15	9:42	76	280	176	456	0	25	10:25	10:46	18	3	G	DM	film
4-14-15	9:22	74	325	32	457	FILM	—	10:02	10:06	3	5	G	DM	
4/15/15	9:46	75	445	12	457	sheen	—	9:48	9:50	1	1	G	DM	
5/11/15	1139	69	419	38	457	Film	—	11:39	1142	3	2	G	SH	
5/12/15	0955	Core	448	8	456	film	—	1002	1004	1/2	2	G	JRB	
5/13/15	0920	69	450	8	458	film	—	9:24	9:26	1/2	2	G	JRB	
6/10/15	930	63	415	42	457	film	131	1001	10:05	3	2	G	JRB	
6/11/15	1020	68	448	9	457	Film	—	1121	1123	1	2	G	JRB	
6/12/15	1004	68	451	5	456	Film	—	10:41	10:43	~0.3	1.5	G	JRB	Oil/water mix
~~7-8-15~~	~~9:42~~	~~58~~	~~457~~		~~457~~	~~FILM~~	~~50~~	~~HS 7/8/15~~				G	DM	
7/8/15	9:12	58	425	32	457	Film	50	9:34	9:36	2.5	1	G	DM	
7/9/15	8:35	58	~~457~~ 451	6	457	film	73	9:36	9:38	0.5	2.5	G	JRB	
7/10/15	1025	58	454	3	457	film	—	12:24	12:28	0.5	2	G	PCS	
8-4-15	9:43	73	417	40	457	Film	103	1026	1029	1.5	1.5	G	RJA	
8-5-15	905	73.5	440	16	456	Film	—	9:46	9:57	4	4	G	RJA	
8-6-15	929	72	450	6	456	Film	—	938	942	4	1	G	RJA	
10-26-15	1038	79	412	43	455	FILM	54	1048	10:55	5	2	G	DM	
10-27-15	9:24	77	445	12	457	FILM	—	10:12	10:17	1	4	G	DM	
10/28/15	9:51	77	449	8	457	film	—	10:23	10:25	1	2	G	DMM	
11/23/15	11:01	78	466	51	457	FILM	105	11:05	1110	7	3	G	BJD	
11/24/15	8:25	78	449	8	457	FILM	—	10:26	10:29	1	2	G	CWL	MAPL THICKNESS CALCED
11-25-15	10:37	78	450	8	458	film	—	10:40	10:47	0.5	3	G	JEP	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-108 Nominal Total Pipe (ft): 38.0 - 457 Sump Length (ft): 3.9

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
9-1-15	950	78	410	45	455	Film	52	0955	1003	5	4	Gal	RJP	
9-2-15	803	78	450	8	458	Film	—	0902	905	3	1	Gal	RJP	
9-3-15	837	78	449	9	458	film	—	844	848	2	1	Gal	RJP	
9/29/15	1008	80	414	44	458	film	—	11:38	1148	5	1	Gal	PCS	
9/30/15	1025	68	447	9	456	Sheen	86	1227	1230	1	3	G	JRB	
10/1/15	1008	72	450	6	456	film	—	1057	1103	1	3	G	PCS	

1.7 Gal per inch in Drums

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

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Well: RW-109 Nominal Total Pipe (ft): 37.1 - 44.5 m Sump Length (ft): 3.1

"Sheen" indicates visible sheen on water surface. "<1/8" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft) m	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
4/13/15	9:26	69	179	266	445	~~266~~	64.7	9:42	1023	34	0	G	DM	film on WL 29" in Drum
4-14-15	9:15	65	180	265	—	film	—	9:28 9:23 AM	9:53	33	0	G	RM	film on WL
4/15/15	9:04	65.5	180	265	—	film	—	910	942	33	1	G	DM	calc NAPL THICK.
5/11/15	10:40	59.5	179	266	445	film	—	955	1123	34	0	G	SH	
5/12/15	8:43	56.0	179	266	—	film	—	8:51	0942	34	3	G	SH	NAPL THick. Calc'd.
5/13/15	8:42	59.0	179	266	—	film	—	8:46	9:12	34	3	G	JRB	〃
6/10/15	9:07	52	180	265	445	film	239	9:19	9:53	34	1	G	RS	
6/11/15	1009	57	180	265	—	film	—	10:33	11:15	34	2	G	JRB	NAPL Thickness calc'd
6/12/15	9:42	59	180	265	—	Film	—	9:46	10:36	34	2	G	JRB	〃
7-8-15	8:49	48½	179½	265½	445	FILM	50	8:59	9:28	34	2	G	DM	
7/9/15	9:31	49.5	180	265	—	Sheen	155	8:51	9:30	34	10	G	JRB	NAPL Thickness Calc'd
7/10/15	10:50	49.5	180	265	—	film	—	11:14	11:41	32	2	G	JRB	〃 〃 〃
8-4-15	9:00	63.5	~~179.5~~ 180	~~265.5~~ 266	~~445~~	Film	186	930	1020	32	2	G	RSP	
8/5/15	8:38	63	183	262	—	Film	—	845	9:40	37	2	G	RSP	NAPL Thickness Calc'd
8-6-15	8:31	64	180	265	—	Sheen	—	8:36	9:29	37	3	G	RSP	NAPL Thickness calculated
10/26/15	9:25	68	—	264	440	FILM	70	9:36	10:23	30	3	G	DM	
10-27-15	9:18	68	182		4—	FILM	—	9:21	10:03	33	2	G	DM	NAPL Thickness Calculated
10-28-15	9:28	68	181		—	FILM	—	9:32	10:15	35	15	G	DM	〃 〃 〃
11-23-15	9:40	68.5	180	266	446	FILM	84	9:53	10:15	34	2	G	BOD	
11-24-15	8:00	69	180	266	—	Film	—	9:10	10:10	37	4	G	BOD	NAPL thickness calc - stop to repair line
11.25.15	9:30	69	182	263	—	film	—	9:54	10:25	39	1	G	JEP	

1.77 gal/inch
Drum

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-109 Nominal Total Pipe (ft): 37.1 - 445 in Sump Length (ft): 3.1

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft) in	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
9-1-15	0840	68.5	175	270	445	Film	140	854	943	35	5	Gal	RJP	
9-2-15	0805	69	180	265	—	Film	—	811	856	40	5	Gal	RJP	DNAPL calc'd
9-3-15	0801	69	179	266	—	Film	—	Not Pumped		gvc	degraded	+ Breakum		DNAPL Calc'd
9/28/15	1102	70	178	267	445	Film	—	Installed		Sch	40	1" pipe		. Need suction fitting
9/29/15	1013	72	178	267	—	Film	—	1029	11:26	39	<1	G	JRB	NAPL Thickness <1/8"
9/30/15	1020	~~58~~ 68	178	267	—	sheen	93	1037	1200	- Pump tubing fails-				NAPL Thick. <1/8"
—	—	—	Restart after replacing tubing					(1207)	1217 1247	4)	<1	G	JRB	
10/1/15	955	62	178	267	—	Film	—	1004	1041	38	<1	G	PCS	NAPL Thick. <1/8"

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-110 Nominal Total Pipe (ft): 33.4 - 400M Sump Length (ft): 3.4

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
4/13/15	9:33	45.5	NONE	0	400	0	1.5	—	—	—	—	—	DM	blebs ON tape.
5/11/15	1100	42	NONE	0	400	0	—	—	—	—	—	—	JRB	
6/10/15	9:36	38"	NONE	0	400	SHEEN	4.2	—	—	—	—	—	JRB	
7-8-15	9:00	31.5"	NONE	0	400	0	0.7	—	—	—	—	—	DMY	
8-4-15	9:40	46"	NONE	0	400	0	2.8	—	—	—	—	—	RSP	
10-21-15	10:28	56"	399.5	<0.1	400	SHEEN	0	—	—	—	—	G	DMY	
11-23-15	10:56	51"	400	<0.1	401	FILM	1	—	—	—	—	G	BND	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-110 Nominal Total Pipe (ft): 33.4 = 400 in Sump Length (ft): 3.4

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness ~~(ft)~~ in	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
9-1-15	8:39	54	0	–	400	sheen	3.3	–	–	–	–	–	RJP	
9/29/15	10:00	58	~~175~~ RJP 9	-1-15 ~~27~~ <1	400	None	–	–	–	–	–	–	JRB	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW9+80 Nominal Total Pipe (ft): 6.7 80 in Sump Length (ft): 0

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear baller

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
4/13/15	1133	61.5	0	0	64	film	5.0	—	—	—	—	—	RMH	~~ICE FW~~ Silted in @ Bottom, Tape Refusal
5/11/15	1210	56	0	0	81	sheen	—	—	—	—	—	—	JRB	
6/10/15	1122	54	0	0	81	sheen	1.9	—	—	—	—	—	JRB	
7-8-15	10:02	44	0	0	79½	sheen	0	—	—	—	—	—	BJ	
8-4-15	11:20	60	0	0	80"	film	0	—	—	—	—	—	BJF	Biologic Film
10-26-15	11:20	63	0	0	80	sheen	0	—	—	—	—	6	DM	
11-23-15	12:30	64	0	0	82	sheen	0	—	—	—	—	—	BJD	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW9+80 Nominal Total Pipe (ft): 6.7 Sump Length (ft): 0

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
9-1-15	1123	66	0	0	82	sheen	6.1	-	-	-	-	-	RJP	
9/29/15	1255	67	0	0	82	sheen	-	-	-	-	-	-	JCRR	
9/30/15	1341	-	-	-	-	-	0.0	-	-	-	-	-	TJB	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal **Data**
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW 10+25 **Nominal Total Pipe (ft):** 7.4 89 in

"Sheen" Indicates visible sheen on water surface. "<1/8"" indicates deminimus **LNAPL** as measured with clear bailer

Sump Length (ft): 0

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
4-15-15	11:37	67.5	0	0	68	sheen	1.0	—	—	—	—	—	DM	Tape refusal on silt? ICE
5/11/15	1225	62	0	0	89	sheen	—	—	—	—	—	—	JRB	
6/10/15	11:20	60	0	0	89	sheen	0	—	—	—	—	—	JRB	
7-8-15	1109	50	0	0	90	sheen	0.9	—	—	—	—	—	DM	
8-4-15	11:28	67	89.5	0.5	90	sheen	1.2	—	—	—	—	—	RP	
10-26-15	11:25	70	0	<0.1	89	film	0.2	—	—	—	—	G	DM	
11-23-15	12:30	72	0	0	90	sheen	0	—	—	—	—	—	BJD	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW10+25 Nominal Total Pipe (ft): 7.4 Sump Length (ft): 0

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness ~~(ft)~~ inch	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
9-1-15	1145	73	89.25	0.75	90	Film	3.9	–	–	–	–	–	KJP	
9/29/15	1245	77	85	5	90	Film	–	1600	1602	1	1	G	JRB	
9/30/15	1334	59	89	<1	90	film	0.0	–	–	–	–	–	JRB	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-S (2SS)

Well: RW11 Nominal Total Pipe (ft): 7.5 89in Sump Length (ft): 0

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
4/13/15 ~~4/13/15~~	11:41	63.5	0	0	64	sheen	0.8	—	—	—	—	—	[illegible]	Tape refusal on Slotted in bottom
5/11/15	1236	58	0	0	89	sheen	—	—	—	—	—	—	JRB	
6/10/15	1118	54	0	0	89	sheen	0	—	—		—	—	JRB	
7-8-15		47	0	0	89	sheen	0	—	—	—	—	—	RM	
8-4-15	11:35	61	0	0	89	Sheen	0	—	—	—	—	—	RJF	
10-26-15	11:31	66	0	0	90	Sheen	0.8	—	—	—	—	6	DM	
11/23/15	11:55	62	—	—	90	CHEEN	0	—	—	—	—		GWL	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW11 Nominal Total Pipe (ft): 7.5 Sump Length (ft): 0

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
9-1-15	1205	69	—	0	88"	0	7.1	—	—	—	—	—	RJP	AWR
9/29/15	1237	66	—	0	90	0	—	—	—	—	—	—	JRB	
9/30/15	1315	—	—	—	—	—	0.0	—	—	—	—	—	JRB	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5.(255)

Well: RW1A Nominal Total Pipe (ft): 7.8 9ft III Sump Length (ft): 0

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear baller

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
4/13/15	11:50	66.5	0	0	67	Sheen	1.5	—	—	—	—	—	DMM	refusal on 7ft? Hard bottom, possible ice?
5/11/15	1250	61	0	0	94	Sheen	—	—	—	—	—	—	JPR	
6/10/15	11:15	61	0	0	95	Sheen	0.0	—	—	—	—	—	JPR	
7-8-15	10:20	49.5	0	0	94	Sheen	0.0	—	—	—	—	—	DMM	
8-4-15	11:49	64	94.5	<1"	95	Sheen	0.4	—	—	—	—	—	RJF	
9-1-15	1440	72	94.5	<1"	97	Sheen	2	—	—	—	—	—	RJF	
10/26/15	1139	69	0	<0.1	93	film	0	—	—	—	—	G	DMM	
11/23/15	1330	72	0	<0.1	93	FILM	0	—	—	—	—	—	GWL	

Pine Street Canal Site, Burlington, Vermont DNAPL Monitoring/Removal Data
Prepared by The Johnson Co., Montpelier, VT. JCO Project #1-0576-5 (255)

Well: RW-14 Nominal Total Pipe (ft): 7.8 - 94"

"Sheen" indicates visible sheen on water surface. "<1/8"" indicates deminimus LNAPL as measured with clear bailer

Sump Length (ft): 2

one inch in a 55-gallon drum = 1.77 gallons

Date	Time	Water Level (in.btoc)	DNAPL Level (in.btoc)	DNAPL Thickness (ft)	Measured Total Pipe (in.btoc)	LNAPL Thickness (inches)	PID Headspace (ppmV)	Pump Start time	Pump End Time	Volume DNAPL Removed	Volume Water Removed	Vol. units	Initials	Notes (measurement and pump methods, etc.)
9-1-15	~~1490~~	72	94.5	<1"	97	Sheen	2	-	-	-	-	-	RJP	
9/29/15	1223	70	91	3"	94	film	-	1408	1414	2	-	G	JRP	soft bottom / NAPL H2O MIX
9/30/15	1258	59	93	1"	93	film	3.5	-	-	-	-	-	JRP	

PINE STREET CANAL SUPERFUND SITE
OUTLET WEIR INSPECTION FORM

Date: 8-26-15 Time: 12:33 Weather: 75° sunny, calm

Inspector (Print Name): DMAYNARD Signature: _____

I. Mouth of Weir

Accumulation of debris or beaver activity: NONE

Condition of stoplogs: GOOD

Water surface differential: 0.23' B. crest (canal) 0.83 FB crest (TRIB. TO LAKE)

II. Ends of Weir

Evidence of scour along the edges of the Canal near the ends of the weir:

NO

III. Base of Weir

Rip-rap in place: Yes on 9/26 Buried in Sand.

Scouring along the base: NO (buried in Sand)

IV. Condition of Concrete

Exposure of Rebar: No exposed rebar

Cracks, spalls, scaling: NO cracks - some ½-1" pitting

V. Overall Alignment

BS: SW corner = 1.70 1.70 + 100.15 = 101.85 > IR = 101.85

NW corner = ~~1.75~~ 1.74 + 100.14 = 101.88

Settlement:

RDP 8-26-15 -5.42 +101.85 = ~~96.23~~ 96.43 on 8-26

Init Elev

96.48	Sluice crest elevation:	BM-C	3.93 = 97.92
97.98	North weir abutment:	BM-B	3.91 = 97.94
97.97	South weir abutment:	BM-A	

VI. Railroad Bridge Abutments Elevation Check

100.12	Northeast	100.15	8.74
100.12	Northwest	100.14	8.75
100.18	Southeast	108.89	5.25
	Southwest	100.15	7.74

BM PIN ELEV. 103.64 FT NGVD

VII. Notes:

BM 5.25 on closed loop

APPENDIX 2

SUMMARY OF POTENTIOMETRIC DATA

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
Lake Champlain Stage (a)	11/14/2000				NWS	93.8 J	94.24
	11/15/2000				USGS	93.9 J	94.37
	11/15/2000				NWS	93.9 J	94.35
	11/16/2000				NWS	93.8 J	94.24
	11/17/2000				NWS	93.9 J	94.36
	11/18/2000				NWS	93.9 J	94.40
	11/19/2000				NWS	93.9 J	94.40
	11/20/2000				NWS	93.9 J	94.39
	5/1/2001				NWS	100.3 J	100.80
	5/2/2001				NWS	100.3 J	100.74
	5/3/2001				NWS	100.2 J	100.70
	5/4/2001				NWS	100.2 J	100.64
	5/5/2001				NWS	100.1 J	100.61
	5/6/2001				NWS	100.0 J	100.50
	5/7/2001				NWS	99.8 J	100.33
	10/22/2001				USGS	93.3 J	93.80
	10/23/2001				USGS	93.2 J	93.70
	10/24/2001				USGS	93.2 J	93.70
	10/25/2001				USGS	93.2 J	93.70
	4/15/2002				USGS	97.0 J	97.50
	4/16/2002				USGS	97.3 J	97.80
	4/17/2002				USGS	97.47 J	97.97
	10/14/2002	8:30 AM		Weir Crest	96.50	94.58	95.08
	10/15/2002	8:00 AM		Weir Crest	96.50	94.58	95.08
	10/16/2002	8:00 AM		Weir Crest	96.50	94.58	95.08
	10/17/2002				USGS	94.2 J	94.70
	10/18/2002	8:00 AM		Weir Crest	96.50	94.66	95.16
	10/30/2002				USGS	94.57 J	95.07
	10/31/2002				USGS	94.55J	95.05
	4/14/2003			Weir Crest	96.50	97.20	97.70
	4/15/2003			Weir Crest	96.50	97.30	97.80
	4/16/2003			Weir Crest	96.50	97.40	97.90
	10/13/2003			USGS 04294500	USGS	94.50	95.00
	10/14/2003			USGS 04294500	USGS	94.40	94.90
	10/15/2003			USGS 04294500	USGS	94.50	95.00
	10/16/2003			USGS 04294500	USGS	94.40	94.90
	4/19/2004			Weir Crest	96.50	97.90	98.40
	4/20/2004			Weir Crest	96.50	98.00	98.50
	10/11/2004			Weir Crest	96.50	95.84	96.30
	10/12/2004			Weir Crest	96.50	95.80	96.30
	10/13/2004			Weir Crest	96.50	95.75	96.30
	10/14/2004			Weir Crest	96.50	95.75	96.30
	4/5/2005			Weir Crest	96.50	97.40	97.90
	4/14/2005			Weir Crest	96.50	98.40	98.90
	4/20/2005			Weir Crest	96.50	98.30	98.80
	4/26/2005			Weir Crest	96.50	98.60	99.10
	4/27/2005			Weir Crest	96.50	98.00	98.50
	5/3/2005			Weir Crest	96.50	99.40	99.90
	10/17/2005			Weir Crest	96.50	95.90	96.40
	10/18/2005			Weir Crest	96.50	96.20	96.70
	4/10/2006			Weir Crest	96.50	97.10	97.60
	4/11/2006			Weir Crest	96.50	97.10	97.60
	10/23/2006			Weir Crest	96.50	95.90	96.40
	10/24/2006			Weir Crest	96.50	96.00	96.50

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
Lake Champlain Stage (a)	10/25/2006			Weir Crest	96.50	96.10	96.60
	4/17/2007			Weir Crest	96.50	99.10	99.60
	4/18/2007			Weir Crest	96.50	99.80	100.30
	4/19/2007			Weir Crest	96.50	99.90	100.40
	10/15/2007			Weir Crest	96.50	95.30	95.80
	10/16/2007			Weir Crest	96.50	95.30	95.80
	10/17/2007			Weir Crest	96.50	95.30	95.80
	4/22/2008			RR Abutment	103.60	101.10	101.60
	4/23/2008			RR Abutment	103.60	101.10	101.60
	4/24/2008			SE XR of RR Abutment	100.10	100.20	100.70
	8/11/2008		1.70	Weir Crest	96.50	98.20	98.70
	8/12/2008		1.80	Weir Crest	96.50	98.30	98.80
	8/13/2008		1.80	Weir Crest	96.50	98.30	98.80
	8/14/2008		1.85	Weir Crest	96.50	98.35	98.90
	10/6/2008		-1.30	Weir Crest	96.50	95.20	95.70
	10/7/2008		-1.40	Weir Crest	96.50	95.10	95.60
	10/8/2008		-1.4	Weir Crest	96.50	95.10	95.60
	10/9/2008		-1.3	Weir Crest	96.50	95.20	95.70
	3/25/2009	7:40	0.40	Weir Crest	96.50	96.90	97.40
	3/26/2009	7:15	0.40	Weir Crest	96.50	96.90	97.40
	4/20/2009		1.10	Weir Crest	96.50	97.60	98.10
	4/21/2009		-0.35	Top of Weir	98.00	97.65	98.20
	4/22/2009		1.00	Weir Crest	96.50	97.50	98.00
	4/23/2009		-0.25	Top of Weir	98.00	97.75	98.30
	5/18/2009		-0.92	Top of Weir	98.00	97.08	97.60
	6/10/2009		-0.25	Weir Crest	96.50	96.25	96.80
	7/14/2009		0.19	Weir Crest	96.50	96.69	97.19
	7/15/2009		0.19	Weir Crest	96.50	96.69	97.20
	8/3/2009		0.20	Weir Crest	96.50	96.70	97.20
	8/4/2009		0.20	Weir Crest	96.50	96.70	97.20
	8/5/2009		0.20	Weir Crest	96.50	96.70	97.20
	8/6/2009		0.30	Weir Crest	96.50	96.80	97.30
	8/7/2009		0.30	Weir Crest	96.50	96.80	97.30
	8/13/2009		0.20	Weir Crest	96.50	96.70	97.20
	9/8/2009		-0.85	Weir Crest	96.50	95.65	96.15
	10/19/2009		-1.75	Weir Crest	96.50	94.75	95.25
	10/20/2009		-1.75	Weir Crest	96.50	94.75	95.25
	10/21/2009		-1.80	Weir Crest	96.50	94.70	95.20
	4/19/2010		1.80	Weir Crest	96.50	98.30	98.80
	4/20/2010		1.70	Weir Crest	96.50	98.20	98.70
	4/21/2010		1.73	Weir Crest	96.50	98.23	98.73
	6/28/2010		-0.63	Weir Crest	96.50	95.88	96.38
	6/29/2010		-0.63	Weir Crest	96.50	95.87	96.37
	6/30/2010		-0.63	Weir Crest	96.50	95.88	96.38
	7/1/2010		-0.50	Weir Crest	96.50	96.00	96.50
	10/11/2010		-0.20	Weir Crest	96.50	96.30	96.80
	10/12/2010		-0.20	Weir Crest	96.50	96.30	96.80
	10/13/2010		-0.20	Weir Crest	96.50	96.30	96.80
	10/14/2010		-0.20	Weir Crest	96.50	96.30	96.80
	4/25/2011		4.00	Weir Crest	96.50	100.50	101.00
	8/22/2011		-1.70	Weir Crest	96.50	94.80	95.30
	8/23/2011		-1.50	Weir Crest	96.50	95.00	95.50

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
Lake Champlain Stage (a)	8/24/2011		-1.50	Weir Crest	96.50	95.00	95.50
	9/22/2011		0.95	Weir Crest	96.50	97.45	97.95
	10/4/2011		0.95	Weir Crest	96.50	97.45	97.95
	10/17/2011		-0.70	Top of Weir	98.00	97.30	97.80
	10/18/2011		-0.70	Top of Weir	98.00	97.30	97.80
	10/19/2011		-0.65	Top of Weir	98.00	97.35	97.85
	10/20/2011		-0.65	Top of Weir	98.00	97.35	97.85
	5/1/2012		-0.20	Weir Crest	96.50	96.30	96.80
	5/2/2012		-0.30	Weir Crest	96.50	96.20	96.70
	5/3/2012		-0.30	Weir Crest	96.50	96.20	96.70
	5/4/2012		-0.20	Weir Crest	96.50	96.30	96.80
	11/12/2012		NA	USGS 04294500	USGS	94.90	95.40
	4/9/2013		-0.51	Weir Crest	96.50	95.99	96.49
	4/10/2013		-0.55	Weir Crest	96.50	95.95	96.45
	4/11/2013		-0.44	Weir Crest	96.50	96.06	96.56
	10/14/2013		-1.65	Weir Crest	96.50	94.85	95.35
	5/12/2014	10:00 AM	NA	USGS 04294500	USGS	99.32	99.80
	10/20/2014	9:00 AM	NA	USGS 04294500	USGS	93.81	94.29
	5/4/2015		NA	USGS 04294500	USGS	97.16	97.64
	5/5/2015		NA	USGS 04294500	USGS	97.08	97.56
	5/6/2015		NA	USGS 04294500	USGS	97.07	97.55
	5/7/2015		NA	USGS 04294500	USGS	97.01	97.49
	10/5/2015	10:00 AM	NA	USGS 04294500	USGS	94.53	95.01
Canal Stage: J_SG-2	11/20/2000		2.53	Staff	93.33	95.86	
Canal Stage: J_SG-1	5/1/2001	7:30 AM	7.10		93.34	100.44	
	5/2/2001	8:30 AM	6.98		93.34	100.32	
	5/3/2001	7:45 AM	7.00		93.34	100.34	
	5/4/2001	8:00 AM	6.95		93.34	100.29	
Canal Stage: J_SG-4	10/22/2001	7:30 AM	8.25	Staff	86.00	94.25	
	10/23/2001	7:00 AM	8.08	Staff	86.00	94.08	
	10/24/2001	7:00 AM	8.14	Staff	86.00	94.14	
	10/25/2001	6:15 AM	8.18	Staff	86.00	94.18	
	4/15/2002	8:00 AM	10.92	Staff	86.00	96.92	
	4/16/2002	7:00 AM	11.20	Staff	86.00	97.20	
	4/17/2002	7:10 AM	11.42	Staff	86.00	97.42	
Canal Stage: Weir	11/14/2001	3:00 PM	0.02	Sluice base	94.47	94.49	
	4/14/2003	8:00 AM		Weir Crest	96.50	97.20	
	4/15/2003	7:30 AM		Weir Crest	96.50	97.30	
	4/15/2003	9:00 AM		Weir Crest	96.50	97.40	
	10/13/2003	8:10 AM		Weir Crest	96.50	95.92	
	10/14/2003	7:30 AM		Weir Crest	96.50	95.92	
	10/15/2003	7:30 AM		Weir Crest	96.50	96.00	
	10/16/2003	8:30 AM		Weir Crest	96.50	96.00	
	4/19/2004	8:00 AM		Weir Crest	96.50	97.90	
	4/20/2004	7:45 AM		Weir Crest	96.50	98.00	
	10/11/2004			Weir Crest	96.50	96.50	
	10/12/2004			Weir Crest	96.50	96.50	
	10/13/2004			Weir Crest	96.50	96.50	
	10/14/2005			Weir Crest	96.50	96.50	
	4/5/2005			Weir Crest	96.50	97.40	
	4/14/2005			Weir Crest	96.50	98.40	
	4/20/2005			Weir Crest	96.50	98.30	
	4/26/2005			Weir Crest	96.50	98.60	
	4/27/2005			Weir Crest	96.50	98.00	
	5/3/2005			Weir Crest	96.50	99.40	

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
Canal Stage: Weir, RR Abutment and Equipment Bridge	10/17/2005			Weir Crest	96.50	96.60	
	10/18/2005			Weir Crest	96.50	96.50	
	4/10/2006			Weir Crest	96.50	97.10	
	4/11/2006			Weir Crest	96.50	97.10	
	10/23/2006			Weir Crest	96.50	95.90	
	10/24/2006			Weir Crest	96.50	96.00	
	10/25/2006			Weir Crest	96.50	96.10	
	4/17/2007			Weir Crest	96.50	99.10	
	4/18/2007			Weir Crest	96.50	99.80	
	4/19/2007			Weir Crest	96.50	99.90	
	10/15/2007			Weir Crest	96.50	97.65	
	10/16/2007			Weir Crest	96.50	97.63	
	10/17/2007			Weir Crest	96.50	97.62	
	4/22/2008			RR Abutment	103.60	101.10	101.60
	4/23/2008			RR Abutment	103.60	101.10	101.60
	4/24/2008			SE XR of RR Abutment	100.10	100.20	100.70
	8/11/2008		1.70	Weir Crest	96.50	98.20	98.70
	8/12/2008		1.80	Weir Crest	96.50	98.30	98.80
	8/13/2008		1.80	Weir Crest	96.50	98.30	98.80
	8/14/2008		1.85	Weir Crest	96.50	98.40	98.90
	10/6/2008		-2.70	SE XR of RR Abutment	100.10	97.40	97.90
	10/7/2008		-2.70	SE XR of RR Abutment	100.10	97.40	97.90
	10/8/2008		-2.70	SE XR of RR Abutment	100.10	97.40	97.90
	10/9/2008		-2.75	SE XR of RR Abutment	100.10	97.30	97.80
	3/25/2009	7:40 AM	0.40	Weir Crest	96.50	96.90	97.40
	3/26/2009	7:15 AM	0.40	Weir Crest	96.50	96.90	97.40
	4/20/2009		1.10	Weir Crest	96.50	97.60	97.10
	4/21/2009		-0.35	Top of Weir	98.00	97.65	97.20
	4/22/2009		1.00	Weir Crest	96.50	97.50	98.00
	4/23/2009		-0.25	Top of Weir	98.00	97.75	98.30
	5/18/2009		-0.92	Top of Weir	98.00	97.08	97.60
	6/10/2009		-0.17	Weir Crest	96.50	96.33	96.80
	7/14/2009		0.19	Weir Crest	96.50	96.69	97.20
	7/15/2009		-3.54	SE XR of RR Abutment	100.10	96.56	97.10
	8/3/2009		0.20	Weir Crest	96.50	96.70	97.20
	8/4/2009		0.20	Weir Crest	96.50	96.70	97.20
	8/5/2009		0.20	Weir Crest	96.50	96.70	97.20
	8/6/2009		0.30	Weir Crest	96.50	96.80	97.30
	8/7/2009		0.30	Weir Crest	96.50	96.80	97.30
	8/13/2009		0.20	Weir Crest	96.50	96.70	97.20
	9/8/2009		-3.80	SE XR of RR Abutment	100.10	96.30	96.80
	10/19/2009		-2.83	SE XR of RR Abutment	100.10	97.27	97.80
	10/20/2009		-2.80	SE XR of RR Abutment	100.10	97.30	97.80
	10/21/2009		-2.80	SE XR of RR Abutment	100.10	97.30	97.80
	4/19/2010		1.80	Weir Crest	96.50	98.30	98.80
	4/20/2010		1.70	Weir Crest	96.50	98.20	98.70
	4/21/2010		1.73	Weir Crest	96.50	98.23	98.70
	6/28/2010		-2.79	SE XR of RR Abutment	100.10	97.31	97.80
	6/28/2010		-3.75	SE XR of RR Abutment	100.10	96.35	98.80
	6/30/2010		-3.00	SE XR of RR Abutment	100.10	97.10	97.80
	6/30/2010		-4.08	SE XR of RR Abutment	100.10	96.02	98.80
	7/1/2010		-3.08	SE XR of RR Abutment	100.10	97.02	97.80
	10/11/2010		-0.20	Weir Crest	96.50	96.30	96.80
	10/12/2010		-0.20	Weir Crest	96.50	96.30	96.80

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
Canal Stage: Weir, RR Abutment and Equipment Bridge	10/13/2010		-0.20	Weir Crest	96.50	96.30	96.80
	10/14/2010		-0.20	Weir Crest	96.50	96.30	96.80
	4/25/2011		4.00	Weir Crest	96.50	100.50	101.00
	8/22/2011		-0.20	Weir Crest	96.50	96.30	96.80
	8/23/2011		-0.20	Weir Crest	96.50	96.30	96.80
	8/24/2011		-0.20	Weir Crest	96.50	96.30	96.80
	9/22/2011		-0.20	Weir Crest	96.50	96.30	96.80
	10/4/2011		0.90	Weir Crest	96.50	97.40	97.90
	10/17/2011		-1.95	S end of Vehicle Bridge	99.55	97.60	98.10
	10/18/2011		-1.95	S end of Vehicle Bridge	99.55	97.60	98.10
	10/19/2011		-2.15	S end of Vehicle Bridge	99.55	97.40	97.90
	10/20/2011		-2.20	S end of Vehicle Bridge	99.55	97.35	97.85
	5/1/2012		-2.63	SE corner vehicle bridge	99.60	96.97	97.47
	5/2/2012		-2.68	SE corner vehicle bridge	99.60	96.92	97.42
	5/3/2012		-2.63	SE corner vehicle bridge	99.60	96.97	97.47
	5/4/2012		-2.60	SE corner vehicle bridge	99.60	97.00	97.50
	11/12/2012		-3.40	S end of Vehicle Bridge	99.55	96.16	96.66
	4/9/2013		-3.27	S end of Vehicle Bridge	99.55	96.28	96.78
	4/10/2013		-3.21	S end of Vehicle Bridge	99.55	96.34	96.84
	4/11/2013		-3.26	S end of Vehicle Bridge	99.55	96.29	96.79
	10/14/2013		-3.06	S end of Vehicle Bridge	99.55	96.49	96.99
	5/12/2014	10:00 AM	-0.38	S end of Vehicle Bridge	99.55	99.18	99.68
	10/20/2014	2:33 PM	-3.33	S end of Vehicle Bridge	99.55	96.22	96.72
	5/4/2015	3:28 PM	-2.54	S end of Vehicle Bridge	99.55	97.01	97.51
	10/5/2015	11:22 AM	-3.28	S end of Vehicle Bridge	99.55	96.27	96.77
J_FLA-1	10/22/2001	9:28 AM	7.58	C	104.41	96.83	
	4/15/2002	3:18 PM	6.91	C	104.41	97.50	
	10/31/2002	1:40 PM	6.90	C	104.40	97.50	
	4/14/2003	9:21 AM	6.19	C	104.41	98.22	
	10/13/2003	9:15 AM	6.79	C	104.41	97.62	
	4/19/2004	9:23 AM	6.06	C	104.41	98.35	
	10/11/2004	8:45 AM	6.59	C	104.41	97.82	
	4/26/2005	7:50 AM	5.85	C	104.41	98.56	
	10/17/2005	9:25 AM	5.94	C	104.41	98.47	
	4/10/2006	9:06 AM	6.15	C	104.41	98.26	
	10/23/2006	9:20 AM	5.99	C	104.41	98.42	
	4/17/2007	9:15 AM	5.04	C	104.41	99.37	
	10/15/2007	8:10 AM	6.38	C	104.41	98.03	
	4/22/2008	7:15 AM	4.46	C	104.41	99.95	
	10/6/2008	8:33 AM	6.40	C	104.41	98.01	
	4/20/2009		6.20	C	104.41	98.21	
	10/19/2009		6.37	C	104.41	98.04	
	4/19/2010		5.91	C	104.41	98.50	
	10/11/2010		6.08	C	104.41	98.33	
	4/25/2011		4.17	C	104.41	100.24	
	10/17/2011		5.89	C	104.41	98.52	
	5/1/2012		5.80	C	104.41	98.61	
	11/12/2012	9:45 AM	6.29	C	104.41	98.12	
	4/9/2013		6.20	C	104.41	98.21	
	10/14/2013	10:45 AM	6.32	C	104.41	98.09	
	5/12/2014	8:31 AM	5.28	C	104.41	99.13	
	10/20/2014	10:21 AM	6.32	C	104.41	98.09	
	5/4/2015	7:39 AM	6.04	C	104.41	98.37	
	10/5/2015	11:34 AM	6.18	C	104.41	98.23	

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
J_FLA-2S	10/22/2001	9:19 AM	9.39	C	106.18	96.79	
	4/15/2002	3:16 PM	8.78	C	106.18	97.40	
	10/31/2002	4:30 PM	20.60	Staff	68.91	89.51	
J_FLA-2D	10/22/2001	9:21 AM	9.33	C	106.11	96.78	
	4/15/2002	3:14 PM	8.91	C	106.11	97.20	
J_FLA-4	10/22/2001	9:00 AM	7.77	C	104.68	96.91	
	4/15/2002	3:08 PM	7.07	C	104.68	97.61	
	10/31/2002	1:51 PM	3.87	C	104.68	100.81	
	4/14/2003	9:17 AM	6.68	C	104.68	98.00	
	10/13/2003	9:28 AM	7.40	C	104.68	97.28	
	4/19/2004	9:41 AM	6.42	C	104.68	98.26	
	10/11/2004	8:17 AM	7.03	C	104.68	97.65	
	4/26/2005	8:03 AM	6.01	C	104.68	98.67	
	10/17/2005	9:20AM	5.91	C	104.68	98.77	
	4/10/2006	9:03 AM	6.39	C	104.68	98.29	
	10/23/2006	9:27 AM	5.99	C	104.68	98.69	
	4/17/2007	9:30 AM	4.99	C	104.68	99.69	
	10/15/2007	8:26 AM	6.44	C	104.68	98.24	
	4/22/2008	6:55 AM	4.64	C	104.68	100.04	
	10/6/2008	8:43 AM	6.62	C	104.68	98.06	
	4/20/2009		6.33	C	104.68	98.35	
	10/19/2009		6.42	C	104.68	98.26	
	4/19/2010		5.82	C	104.68	98.86	
	10/11/2010		6.08	C	104.68	98.60	
	4/25/2011		4.32	C	104.68	100.36	
	10/17/2011		5.61	C	104.68	99.07	
	5/1/2012		5.89	C	104.68	98.79	
	11/12/2012	9:56 AM	6.66	C	104.68	98.02	
	4/9/2013		6.62	C	104.68	98.06	
	10/14/2013	10:59 AM	6.63	C	104.68	98.05	
	5/12/2014	8:22 AM	5.36	C	104.68	99.32	
	10/20/2014	10:29 AM	6.42	C	104.68	98.26	
	5/4/2015	7:46 AM	6.45	C	104.68	98.23	
	10/5/2015	12:00 PM	6.35	C	104.68	98.33	
5_P-12S	9/13/1990				104.49	98.28	
	9/20/1990				104.49	98.16	
	10/19/1994	11:44 AM	7.23	C	104.49	97.26	
	11/29/1994	3:11 PM	6.76	C	104.49	97.73	
	12/21/1994	10:41 AM	6.68	C	104.49	97.81	
	1/26/1995	9:51 AM	6.27	C	104.49	98.22	
	2/23/1995	11:42 AM	6.68	C	104.49	97.81	
	3/22/1995	9:29 AM	6.02	C	104.49	98.47	
	11/20/2000	8:54 AM	6.88	C	104.49	97.61	
5_P-17S	10/19/1994	10:50 AM	8.48	C	105.69	97.21	
	11/29/1994	2:55 PM	8.49	C	105.69	97.20	
	12/21/1994	9:16 AM	8.45	C	105.69	97.24	
	1/26/1995	8:51 AM	8.08	C	105.69	97.61	
	2/23/1995	10:55 AM	8.66	C	105.69	97.03	
	3/22/1995	8:50 AM	7.95	C	105.69	97.74	
	11/20/2000	8:37 AM	8.06	C	105.69	97.63	
	10/22/2001		Destroyed				

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
5_WE89-5S	10/19/1994	11:24 AM	7.10	C	103.90	96.80	
	11/29/1994	3:08 PM	6.90	C	103.90	97.00	
	12/21/1994	10:35 AM	6.99	C	103.90	96.91	
	2/23/1995	11:37 AM	7.08	C	103.90	96.82	
	3/22/1995	9:25 AM	6.68	C	103.90	97.22	
	11/20/2000	9:02 AM	6.70	C	103.90	97.20	
	5/7/2001	1:59 PM	3.95	C	103.90	99.95	
	10/22/2001	9:25 AM	6.92	C	103.90	96.98	
	4/15/2002	3:20 PM	6.56	C	103.90	97.34	
	10/31/2002	1:44 PM	3.70	C	101.22	97.52	
	4/14/2003	9:02 AM	2.81	C	101.22	98.41	
	10/13/2003	9:20 AM	3.40	C	101.22	97.82	
	4/19/2004	9:27 AM	2.48	C	101.22	98.74	
	10/11/2004	8:40 AM	3.08	C	101.22	98.14	
	4/26/2005	7:54 AM	2.37	C	101.22	98.85	
	10/17/2005	9:23 AM	paved over	C	101.22		
	4/10/2006	8:55 AM	2.80	C	101.22	98.42	
	10/23/2006	9:22 AM	2.44	C	101.22	98.78	
	4/17/2007	9:05 AM	1.52	C	101.22	99.70	
	10/15/2007	8:14 AM	2.89	C	101.22	98.33	
	4/22/2008	7:10 AM	0.95	C	101.22	100.27	
	10/6/2008	8:35 AM	2.87	C	101.22	98.35	
	4/20/2009		2.66	C	101.22	98.56	
	10/19/2009		2.81	C	101.22	98.41	
	4/19/2010		2.35	C	101.22	98.87	
	10/11/2010		2.54	C	101.22	98.68	
	4/25/2011		0.70	C	101.22	100.52	
	10/17/2011		2.31	C	101.22	98.91	
	5/1/2012		inacessible	C	101.22		
	11/12/2012	9:38 AM	2.81	C	101.22	98.41	
	4/9/2013		2.69	C	101.22	98.53	
	10/14/2013	10:54 AM	2.82	C	101.22	98.40	
	5/12/2014	8:27 AM	1.76	C	101.22	99.46	
	10/20/2014	10:20 AM	2.81	C	101.22	98.41	
	5/4/2015	7:31 AM	2.55	C	101.22	98.67	
	10/5/2015	11:52 AM	2.65	C	101.22	98.57	
5_WE89-6S	9/12/1989				105.89	97.66	
	9/15/1989				105.89	97.79	
	10/5/1989				105.89	97.81	
	10/19/1989				105.89	97.70	
	1/4/1990				105.89	97.20	
	2/22/1990				105.89	97.74	
	9/13/1990				105.89	97.71	
	9/20/1990				105.89	97.63	
	10/19/1994	11:00 AM	8.87	C	105.89	97.02	
	11/29/1994	2:59 PM	8.83	C	105.89	97.06	
	12/21/1994	10:18 AM	8.75	C	105.89	97.14	
	1/26/1995	9:42 AM	8.38	C	105.89	97.51	
	2/23/1995	11:27 AM	8.91	C	105.89	96.98	
	3/22/1995	9:17 AM	8.30	C	105.89	97.59	
	11/20/2000	8:48 AM	7.87	C	105.89	98.02	
	5/7/2001	1:50 PM	5.92	C	105.89	99.97	
	10/22/2001	9:12 AM	8.83	C	105.89	97.06	
	4/15/2002	3:30 PM	8.26	C	105.89	97.63	
	10/31/2002	1:55 PM	6.82	C	104.66	97.84	
	4/14/2003	9:13 AM	6.03	C	104.66	98.63	

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
	4/19/2004	9:37 AM	5.72	C	104.66	98.94	
	10/11/2004	8:23 AM	6.5	C	104.66	98.16	
	4/26/2005	8:00 AM	5.38	C	104.66	99.28	
	10/17/2005	9:18 AM	inaccessible	C	104.66		
	4/10/2006	8:50 AM	5.83	C	104.66	98.83	
	10/23/2006	9:28 AM	5.52	C	104.66	99.14	
	4/17/2007	8:55 AM	4.43	C	104.66	100.23	
	10/15/2007	8:23 AM	6.20	C	104.60	98.40	
	4/22/2008	7:20 AM	4.37	C	104.60	100.23	
	10/6/2008	8:40 AM	6.19	C	104.60	98.41	
	4/20/2009		5.92	C	104.60	98.68	
	10/19/2009		6.14	C	104.60	98.46	
	4/19/2010		5.50	C	104.60	99.10	
	10/11/2010		5.66	C	104.60	98.94	
	4/25/2011		3.94	C	104.60	100.66	
	10/17/2011		5.41	C	104.60	99.19	
	5/1/2012		5.65	C	104.60	98.95	
	11/12/2012	9:31 AM	6.11	C	104.60	98.49	
	4/9/2013		6.08	C	104.60	98.52	
	10/14/2013	10:37 AM	6.16	C	104.60	98.44	
	5/12/2014	8:18 AM	4.91	C	104.60	99.69	
	10/20/2014		inaccessible	C	104.60		
	5/4/2015	7:25 AM	5.70	C	104.60	98.90	
	10/5/2015	11:57 AM	5.89	C	104.60	98.71	
5_WE89-7S	9/5/1989					97.67	
	9/7/1989					97.52	
	9/15/1989					97.83	
	10/5/1989					97.43	
	10/19/1989					97.53	
	1/4/1990					97.35	
	2/22/1990					97.68	
	3/28/1990					99.08	
	9/13/1990					97.39	
	9/20/1990					97.37	
	10/19/1994	11:18 AM	8.13	C	104.98	96.85	
	11/29/1994	3:02 PM	8.04	C	104.98	96.94	
	12/21/1994	10:27 AM	8.06	C	104.98	96.92	
	1/26/1995	9:48 AM	7.91	C	104.98	97.07	
	2/23/1995	11:33 AM	8.11	C	104.98	96.87	
	3/22/1995	9:22 AM	7.70	C	104.98	97.28	
	11/20/2000	8:30 AM	7.89	C	104.98	97.09	
	5/7/2001	1:55 PM	5.23	C	104.98	99.75	
	10/22/2001	9:16 AM	8.28	C	104.98	96.70	
	4/15/2002	3:12 PM	7.75	C	104.98	97.23	
	10/31/2002	1:48 PM	4.58	C	104.98	100.40	
	4/14/2003	9:08 AM	6.79	C	104.98	98.19	
	10/13/2003	9:22 AM	7.58	C	104.98	97.40	
	4/19/2004	9:31 AM	6.39	C	104.98	98.59	
	10/11/2004	8:30 AM	7.23	C	104.98	97.75	
	4/26/2005	8:06 AM	6.12	C	104.98	98.86	
	10/17/2005	9:15 AM	5.02	C	104.98	99.96	
	4/10/2006	9:00 AM	6.46	C	104.98	98.52	
	10/23/2006	9:25 AM	5.6	C	104.98	99.38	
	4/17/2007	9:24 AM	5.12	C	104.98	99.86	
	10/15/2007	8:18 AM	6.77	C	104.98	98.21	
	4/22/2008	7:00 AM	4.79	C	104.98	100.19	

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
	10/6/2008	8:45 AM	6.75	C	104.98	98.23	
	4/20/2009		6.5	C	104.98	98.48	
	10/19/2009		6.66	C	104.98	98.32	
	4/19/2010		5.88	C	104.98	99.10	
	10/11/2010		6.32	C	104.98	98.66	
	4/25/2011		4.29	C	104.98	100.69	
	10/17/2011		5.25	C	104.98	99.73	
	5/1/2012		6.22	C	104.98	98.76	
	11/12/2012	9:24 AM	6.8	C	104.98	98.18	
	4/9/2013		6.69	C	104.98	98.29	
	10/14/2013	10:41 AM	6.83	C	104.98	98.15	
	5/12/2014	8:25 AM	5.39	C	104.98	99.59	
	10/20/2014	10:26 AM	6.61	C	104.98	98.37	
	5/4/2015	7:35 AM	6.49	C	104.98	98.49	
	10/5/2015	11:29 AM	6.29	C	104.98	98.69	
6_MW13	11/14/1990				104.09	98.28	
	12/11/1990				104.09	100.05	
	1/11/1991				104.09	102.53	
	4/14/1991				104.09	105.05	
	4/16/1992		6.46		104.09	97.63	
	11/28/1994	1:19 PM	6.75	C	104.09	97.34	
	12/21/1994	11:44 AM	7.15	C	104.09	96.94	
	1/25/1995	1:54 PM	6.71	C	104.09	97.38	
	2/22/1995	1:56 PM	5.98	C	104.09	98.11	
	3/22/1995	1:25 PM	5.15	C	104.09	98.94	
	11/20/2000	12:00 PM	6.72	C	104.09	97.37	
	10/22/2001	9:56 AM	2.17	C	104.09	101.92	
	4/15/2002	2:58 PM	0.00	C	104.09	>104.09	
	10/31/2002	1:22 PM	0.00	C	104.09	>104.09	
	4/14/2003	8:50 AM	0.00	C	104.09	>104.09	
	10/13/2003	9:04 AM	0.00	C	104.09	>104.09	
	4/19/2004	9:54 AM	0.00	C	104.09	>104.09	
	10/11/2004	9:23 AM	0.00	C	104.09	>104.09	
	4/26/2005	8:30 AM	0.00	C	104.09	>104.09	
	10/17/2005	9:45 AM	0.00	C	104.09	>104.09	
	10/23/2006	9:50 AM	0.00	C	104.09	>104.09	
	4/17/2007	10:03 AM	0.00	C	104.09	>104.09	
	10/15/2007	8:43 AM	0.00	C	104.09	>104.09	
	4/22/2008	8:15 AM	0.00	C	104.09	>104.09	
	10/6/2008	8:15 AM	0.00	C	104.09	>104.09	
	4/20/2009		0.00	C	104.09	>104.09	
	10/19/2009		0.00	C	104.09	>104.09	
	4/19/2010		0.00	C	104.09	>104.09	
	10/11/2010		0.00	C	104.09	>104.09	
	10/17/2011		0.00	C	104.09	>104.09	
	11/12/2012	3:43 PM	0.00	C	104.09	>104.09	
	10/16/2013	10:55 AM	flowing	C	104.09	>104.09	
	5/12/2014	9:20 AM	flowing	C	104.09	>104.09	
	10/7/2015	1:25 PM	0.30	C	104.09	103.79	
6_MW18	10/18/1994	2:14 PM	8.04	C	104.21	96.17	
	11/29/1994	10:42 AM	7.95	C	104.21	96.26	
	12/21/1994	1:08 PM	7.62	C	104.21	96.59	
	1/26/1995	11:40 AM	7.21	C	104.21	97.00	
	2/23/1995	1:32 PM	7.06	C	104.21	97.15	
	3/22/1995	10:38 AM	6.60	C	104.21	97.61	
	11/21/2000	10:15 AM	8.58	C	104.21	95.63	

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
	10/22/2001	10:28 AM	5.31	C	104.21	98.90	
	4/15/2002	1:30 PM	1.30	C	104.21	102.91	
	10/31/2002	1:07 PM	1.08	C	104.21	103.13	
	4/14/2003	8:30 AM	0.00	C	104.21	>104.21	
	10/13/2003	10:10 AM	0.00	C	104.21	>104.21	
	4/19/2004	10:20 AM	0.00	C	104.21	>104.21	
	10/11/2004	9:00 AM	0.00	C	104.21	>104.21	
	4/26/2005	9:22 AM	0.00	C	104.21	>104.21	
	10/17/2005	10:10AM	0.00	C	104.21	>104.21	
	4/10/2006	10:05 AM	0.00	C	104.21	>104.21	
	10/23/2006	10:25 AM	0.00	C	104.21	>104.21	
	4/17/2007	11:32 AM	0.00	C	104.21	>104.21	
	10/15/2007	9:10 AM	0.00	C	104.21	>104.21	
	4/22/2008	8:35 AM	0.00	C	104.21	>104.21	
	10/6/2008	9:52 AM	0.00	C	104.21	>104.21	
	4/20/2009		0.00	C	104.21	>104.21	
	10/19/2009		0.00	C	104.21	>104.21	
	4/19/2010		0.00	C	104.21	>104.21	
	10/11/2010		0.00	C	104.21	>104.21	
	10/17/2011		0.13	C	104.21	104.08	
	11/12/2012	10:22 AM	0.15	C	104.21	104.06	
	10/15/2013	12:20 PM	0.06	C	104.21	104.15	
	5/12/2014	8:55 AM	Flowing	C	104.21	>104.21	
	10/7/2015	12:40 PM	0.40	C	104.21	103.81	
8_MW-11D	11/14/1990				102.90	97.37	
	12/11/1990				102.90	100.00	
	4/14/1991				102.90	102.40	
	4/16/1992		3.80		102.90	99.10	
	10/17/1994	11:35 AM	4.71	C	102.90	98.19	
	11/28/1994	1:19 PM	4.40	C	102.90	98.50	
	12/21/1994	11:10 AM	4.63	C	102.90	98.27	
	1/25/1995	1:29 PM	4.18	C	102.90	98.72	
	2/22/1995	1:36 PM	3.45	C	102.90	99.45	
	3/22/1995	1:17 PM	2.69	C	102.90	100.21	
	11/20/2000	2:30 PM	4.53	C	102.90	98.37	
	10/22/2001	9:52 AM	0.23	C	102.90	102.67	
	4/15/2002	2:54 PM	0.00	C	102.90	>102.90	
	10/31/2002	1:18 PM	0.20	C	102.90	102.70	
	4/14/2003	8:46 AM	0.00	C	102.90	>102.90	
	10/13/2003	8:52 AM	0.12	C	102.90	102.78	
	4/19/2004	9:52 AM	0.00	C	102.90	>102.90	
	10/11/2004	9:20 AM	0.00	C	102.90	>102.90	
	4/26/2005	8:25 AM	0.14	C	102.90	102.76	
	10/17/2005	9:41AM	0.00	C	102.90	>102.90	
	4/10/2006	9:30 AM	0.00	C	102.90	>102.90	
	10/23/2006	9:45 AM	0.00	C	102.90	>102.90	
	4/17/2007	9:55 AM	0.00	C	102.90	>102.90	
	10/15/2007	8:36 AM	0.00	C	102.90	>102.90	
	4/22/2008	8:10 AM	0.00	C	102.90	>102.90	
	10/6/2008	8:40 AM	0.00	C	102.90	>102.90	
	4/20/2009		0.00	C	102.90	>102.90	
	10/19/2009		0.00	C	102.90	>102.90	
	4/19/2010		0.00	C	102.90	>102.90	
	10/11/2010		0.00	C	102.90	>102.90	
	10/17/2011		0.00	C	102.90	>102.90	
	11/12/2012	3:20 PM	0.11	C	102.90	>102.91	

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
	10/16/2013	6:15 AM	flowing	C	102.90	>102.91	
	5/12/2014	8:50 AM	3.59	C	102.90	99.31	
	10/7/2015	10:10 AM	flowing	C	102.90	>102.91	
8_MW-9A	11/14/1990				103.64	98.28	
	12/11/1990				103.64	95.90	
	1/11/1991				103.64	98.76	
	4/14/1991				103.64	98.67	
	4/16/1992		9.40		103.64	94.24	
	10/18/1994	4:10 PM	8.15	C	103.64	95.49	
	11/29/1994	11:39 AM	7.86	C	103.64	95.78	
	12/21/1994	1:59 PM	7.59	C	103.64	96.05	
	1/25/1995	11:06 AM	7.20	C	103.64	96.44	
	2/22/1995	10:37 AM	7.79	C	103.64	95.85	
	3/22/1995	3:39 PM	6.62	C	103.64	97.02	
	11/14/2000	5:00 PM	7.45	C	103.64	96.19	
	11/17/2000	12:15 PM	7.81	C	103.64	95.83	
	4/30/2001	4:13 PM	3.42	C	103.64	100.22	
	5/1/2001	2:25 PM	3.38	C	103.64	100.26	
	10/22/2001	10:47 AM	9.20	C	103.64	94.44	
	4/15/2002	10:15 AM	6.33	C	103.64	97.31	
	10/31/2002	12:23 PM	7.22	C	103.64	96.42	
	4/14/2003	9:57 AM	5.95	C	103.64	97.69	
	10/13/2003	12:50 PM	7.29	C	103.64	96.35	
	4/19/2004	10:25 AM	5.16	C	103.64	98.48	
	10/11/2004	10:30 AM	6.62	C	103.64	97.02	
	4/26/2005	9:57 AM	4.92	C	103.64	98.72	
	10/17/2005	10:48AM	6.09	C	103.64	97.55	
	4/10/2006	10:50 AM	5.72	C	103.64	97.92	
	10/23/2006	11:08 AM	5.65	C	103.64	97.99	
	4/17/2007	11:55 AM	4.18	C	103.64	99.46	
	10/15/2007	9:32 AM	5.90	C	103.64	97.74	
	4/22/2008	9:50 AM	3.48	C	103.64	100.16	
	10/6/2008	10:10 AM	6.20	C	103.64	100.16	
	3/25/2009	10:10 AM	6.14	C	103.64	97.50	
	4/20/2009		5.38	C	103.64	98.26	
	4/22/2009		5.42	C	103.64	98.22	
	5/18/2009		5.75	C	103.64	97.89	
	6/10/2009		6.16	C	103.64	97.48	
	7/14/2009		7.78	C	103.64	95.86	
	8/13/2009		6.17	C	103.64	97.47	
	9/8/2009		7.12	C	103.64	96.52	
	10/19/2009		5.95	C	103.64	97.69	
	4/19/2010		4.92	C	103.64	98.72	
	10/11/2010		5.38	C	103.64	98.26	
	4/25/2011		3.20	C	103.64	100.44	
	10/17/2011		5.20	C	103.64	98.44	
	5/1/2012		5.60	C	103.64	98.04	
	11/12/2012	11:43 AM	7.29	C	103.64	96.35	
	4/9/2013		6.44	C	103.64	97.20	
	10/14/2013	9:11 AM	6.32	C	103.64	97.32	
	5/12/2014	10:10 AM	4.54	C	103.64	99.10	
	10/20/2014	9:19 AM	7.31	C	103.64	96.33	
	5/4/2015	9:45 AM	5.83	C	103.64	97.81	
	10/5/2015	10:13 AM	6.76	C	103.64	96.88	
8_MW-9B	10/18/1994	4:10 PM	10.52	C	105.62	95.10	
	11/29/1994	11:37 AM	10.39	C	105.62	95.23	
	12/21/1994	1:58 PM	10.45	C	105.62	95.17	

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
	1/25/1995	11:04 AM	9.63	C	105.62	95.99	
	2/22/1995	10:39 AM	10.56	C	105.62	95.06	
	3/22/1995	3:37 PM	9.17	C	105.62	96.45	
	11/14/2000	3:30 PM	10.29	C	105.62	95.33	
	5/2/2001	9:34 AM	5.40	C	105.62	100.22	
	10/22/2001	10:44 AM	11.74	C	105.62	93.88	
	4/15/2002	1:12 AM	8.61	C	105.62	97.01	
	10/31/2002	12:20 PM	14.23	C	105.62	91.39	
	4/14/2003	9:56 AM	8.24	C	105.62	97.38	
	10/13/2003	11:15 AM	10.06	C	105.62	95.56	
	4/19/2004	10:28 AM	7.62	C	105.62	98.00	
	10/11/2004	10:35 AM	9.26	C	105.62	96.36	
	4/26/2005	9:54 AM	7.08	C	105.62	98.54	
	10/17/2005	10:46AM	9.33	C	105.62	96.29	
	4/10/2006	10:46 AM	8.48	C	105.62	97.14	
	10/23/2006	11:10 AM	9.35	C	105.62	96.27	
	4/17/2007	11:52 AM	6.46	C	105.62	99.16	
	10/15/2007	9:30 AM	9.00	C	105.62	96.62	
	4/22/2008	9:45 AM	5.23	C	105.62	100.39	
	10/6/2008	10:14 AM	8.78	C	105.62	96.84	
	3/25/2009	9:20 AM	8.64	C	105.62	96.98	
	4/20/2009		7.82	C	105.62	97.80	
	4/22/2009		7.86	C	105.62	97.76	
	5/18/2009		8.78	C	105.62	96.84	
	6/10/2009		9.22	C	105.62	96.40	
	7/14/2009		9.02	C	105.62	96.60	
	8/13/2009		8.77	C	105.62	96.85	
	9/8/2009		9.44	C	105.62	96.18	
	10/19/2009		9.08	C	105.62	96.54	
	4/19/2010		7.25	C	105.62	98.37	
	10/11/2010		9.02	C	105.62	96.60	
	4/25/2011		5.13	C	105.62	100.49	
	10/17/2011		8.05	C	105.62	97.57	
	5/1/2012		8.82	C	105.62	96.80	
	11/12/2012	11:39 AM	9.73	C	105.62	95.89	
	4/9/2013		9.38	C	105.62	96.24	
	10/14/2013	9:13 AM	9.65	C	105.62	95.97	
	5/12/2014	10:05 AM	6.49	C	105.62	99.13	
	10/20/2014	9:20 AM	9.89	C	105.62	95.73	
	5/4/2015	9:42 AM	8.32	C	105.62	97.30	
	10/5/2015	10:18 AM	9.81	C	105.62	95.81	
J_MW-20A	11/15/2000	10:45 AM	5.38	C	101.82	96.44	
	5/2/2001	9:18 AM	1.72	C	101.82	100.10	
	10/22/2001	10:54 AM	7.63	C	101.82	94.19	
	4/15/2002	12:20 PM	4.92	C	101.82	96.90	
	10/31/2002	12:29 PM	5.57	C	101.82	96.25	
	4/14/2003	9:59 AM	4.36	C	101.82	97.46	
	10/13/2003	10:16 AM	6.08	C	101.82	95.74	
	4/19/2004	10:38 AM	3.72	C	101.82	98.10	
	10/11/2004	10:25 AM	5.15	C	101.82	96.67	
	4/26/2005	9:46 AM	3.36	C	101.82	98.46	
	10/17/2005	10:53AM	4.62	C	101.82	97.20	
	4/10/2006	10:41 AM	4.27	C	101.82	97.55	
	10/23/2006	11:04 AM	4.24	C	101.82	97.58	
	4/17/2006	11:14 AM	2.69	C	101.82	99.13	
	10/15/2007	9:25 AM	4.25	C	101.82	97.57	

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
	4/22/2008	9:35 AM	1.75	C	101.82	100.07	
	10/6/2008	10:05 AM	4.54	C	101.82	97.28	
	4/20/2009		3.93	C	101.82	97.89	
	10/19/2009		4.35	C	101.82	97.47	
	4/19/2010		3.36	C	101.82	98.46	
	10/11/2010		3.88	C	101.82	97.94	
	4/25/2011		1.44	C	101.82	100.38	
	10/17/2011		3.81	C	101.82	98.01	
	5/1/2012		4.09	C	101.82	97.73	
	11/12/2012	11:29 AM	4.65	C	101.82	97.17	
	4/9/2013		5.80	C	101.82	96.02	
	10/14/2013	9:09 AM	4.65	C	101.82	97.17	
	5/12/2014	9:52 AM	2.43	C	101.82	99.39	
	10/20/2014	9:15 AM	5.52	C	101.82	96.30	
	5/4/2015	9:55 AM	4.13	C	101.82	97.69	
	10/5/2015	10:07 AM	4.92	C	101.82	96.90	
J_MW-20B	11/15/2000	11:30 AM	6.98	C	102.06	95.08	
	11/17/2000	12:25 PM	6.98	C	102.06	95.08	
	4/30/2001	2:36 PM	1.80	C	102.06	100.26	
	5/1/2001	12:17 PM	1.83	C	102.06	100.23	
	10/22/2001	10:59 AM	8.33	C	102.06	93.73	
	4/15/2002	10:00 AM	5.28	C	102.06	96.78	
	10/31/2002	12:31 PM	10.13	C	102.06	91.93	
	4/14/2003	10:01 AM	4.78	C	102.06	97.28	
	10/13/2003	10:13 AM	6.84	C	102.06	95.22	
	4/19/2004	10:41 AM	4.21	C	102.06	97.85	
	10/11/2004	10:27 AM	5.91	C	102.06	96.15	
	4/26/2005	9:50 AM	3.68	C	102.06	98.38	
	10/17/2005	10:56 AM	6.08	C	102.06	95.98	
	4/10/2006	10:43 AM	5.11	C	102.06	96.95	
	10/23/2006	11:06 AM	6.09	C	102.06	95.97	
	4/17/2007	11:18 AM	3.02	C	102.06	99.04	
	10/15/2007	9:26 AM	5.99	C	102.96	96.97	
	4/22/2008	9:40 AM	2.03	C	102.96	100.93	
	10/6/2008	10:07 AM	5.32	C	102.96	97.64	
	4/20/2009		4.48	C	102.96	98.48	
	10/19/2009		5.97	C	102.96	96.99	
	4/19/2010		3.83	C	102.96	99.13	
	10/11/2010		5.67	C	102.96	97.29	
	4/25/2011		1.72	C	102.96	101.24	
	10/17/2011		4.75	C	102.96	98.21	
	5/1/2012		5.57	C	102.96	97.39	
	11/12/2012		6.41	C	102.96	96.55	
	4/9/2013		6.06	C	102.96	96.90	
	10/14/2013	9:08	6.64	C	102.96	96.32	
	5/12/2014	18:57	2.79	C	102.88	100.09	
	10/20/2014	9:17	6.78	C	102.88	96.10	
	5/4/2015	9:51	4.86	C	102.88	98.02	
	10/5/2015	10:02	6.59	C	102.88	96.29	
J_MW-21A	11/16/2000	9:45 AM	8.74	C	103.12	94.38	
	11/21/2000	11:53 AM	8.74	C	103.12	94.38	
	5/3/2001	12:35 PM	3.06	C	103.12	100.06	
	10/22/2001	11:26 AM	9.67	C	103.12	93.45	
	4/15/2002	2:18 PM	6.2	C	103.12	96.92	
	10/31/2002	12:47 PM	9.36	C	103.12	93.76	
	4/14/2003	10:14 AM	5.88	C	103.12	97.24	

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
	10/13/2003	10:31 AM	8.41	C	103.12	94.71	
	4/19/2004	10:27 AM	5.27	C	103.12	97.85	
	10/11/2004	9:37 AM	7.20	C	103.12	95.92	
	4/26/2005	9:15 AM	4.72	C	103.12	98.40	
	10/17/2005	10:18AM	7.26	C	103.12	95.86	
	4/10/2006	10:12 AM	6.13	C	103.12	96.99	
	10/23/2006	10:31 AM	7.16	C	103.12	95.96	
	4/17/2007	10:47 AM	4.12	C	103.12	99.00	
	10/15/2007	9:01 AM	8.22	C	103.12	94.90	
	4/22/2008	9:05 AM	2.98	C	103.12	100.14	
	10/6/2008	9:55 AM	7.43	C	103.12	95.69	
	3/25/2009	12:38 PM	6.22	C	103.12	96.90	
	4/20/2009		5.48	C	103.12	97.64	
	4/22/2009		5.52	C	103.12	97.60	
	5/18/2009		6.01	C	103.12	97.11	
	6/10/2009		6.88	C	103.12	96.24	
	7/14/2009		6.53	C	103.12	96.59	
	8/13/2009		6.31	C	103.12	96.81	
	9/8/2009		7.42	C	103.12	95.70	
	10/19/2009		7.87	C	103.12	95.25	
	4/19/2010		4.89	C	103.12	98.23	
	10/11/2010		6.79	C	103.12	96.33	
	4/25/2011		2.73	C	103.12	100.39	
	10/17/2011		5.92	C	103.12	97.20	
	5/1/2012		6.82	C	103.12	96.30	
	11/12/2012	10:40 AM	8.00	C	103.12	95.12	
	4/9/2013		7.29	C	103.12	95.83	
	10/14/2013	9:41 AM	8.25	C	103.12	94.87	
	5/12/2014	10:24 AM	3.89	C	103.09	99.20	
	10/20/2014	8:27 AM	9.09	C	103.09	94.00	
	5/4/2015	9:16 AM	5.95	C	103.09	97.14	
	10/5/2015	9:09 AM	8.45	C	103.09	94.64	
J_MW-21B	11/16/2000	9:00 AM	8.41	C	102.85	94.44	
	11/21/2000	12:10 PM	8.44	C	102.85	94.41	
	5/3/2001	12:48 PM	2.82	C	102.85	100.03	
	10/22/2001	11:17 AM	9.44	C	102.85	93.41	
	4/15/2002	2:18 PM	5.96	C	102.85	96.89	
	10/31/2002	12:51 PM	9.24	C	102.85	93.61	
	4/14/2003	10:17 AM	5.69	C	102.85	97.16	
	10/13/2003	10:34 AM	8.13	C	102.85	94.72	
	4/19/2004	10:31 AM	5.06	C	102.85	97.79	
	10/11/2004	9:43 AM	6.99	C	102.85	95.86	
	4/26/2005	9:12 AM	4.50	C	102.85	98.35	
	10/17/2005	10:21AM	6.98	C	102.85	95.87	
	4/10/2006	10:15 AM	5.90	C	102.85	96.95	
	10/23/2006	10:34 AM	6.95	C	102.85	95.90	
	4/17/2007	10:52 AM	3.99	C	102.85	98.86	
	10/15/2007	9:00 AM	7.79	C	102.85	95.06	
	4/22/2008	9:10 AM	2.47	C	102.85	100.38	
	10/6/2008	9:50 AM	6.85	C	102.85	96.00	
	3/25/2009	1:18 PM	9.04	C	102.85	93.81	
	4/20/2009		5.29	C	102.85	97.56	
	4/22/2009		5.17	C	102.85	97.68	
	5/18/2009		8.29	C	102.85	94.56	
	6/10/2009		6.69	C	102.85	96.16	
	7/14/2009		8.24	C	102.85	94.61	

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
	8/13/2009		6.07	C	102.85	96.78	
	9/8/2009		7.19	C	102.85	95.66	
	10/19/2009		7.55	C	102.85	95.30	
	4/19/2010		4.74	C	102.85	98.11	
	10/11/2010		6.57	C	102.85	96.28	
	4/25/2011		2.52	C	102.85	100.33	
	10/17/2011		5.65	C	102.85	97.20	
	5/1/2012		6.62	C	102.85	96.23	
	11/12/2012	10:43 AM	7.72	C	102.85	95.13	
	4/9/2013		7.07	C	102.85	95.78	
	10/14/2013	9:45 AM	7.98	C	102.85	94.87	
	5/12/2014	10:20 AM	3.66	C	102.78	99.12	
	10/20/2014	8:25 AM	8.78	C	102.78	94.00	
	5/4/2015	9:20 AM	5.75	C	102.78	97.03	
	10/5/2015	9:08 AM	8.21	C	102.78	94.57	
J_MW-22A	11/15/2000	2:45 PM	9.12	C	103.88	94.76	
	11/20/2000	10:05 AM	9.21	C	103.88	94.67	
	5/4/2001	8:56 AM	3.81	C	103.88	100.07	
	10/22/2001	11:34 AM	10.28	C	103.88	93.60	
	4/15/2002	2:28 PM	6.98	C	103.88	96.90	
	10/31/2002	12:43 PM	10.39	C	103.88	93.49	
	4/14/2003	10:06 AM	6.8	C	103.88	97.08	
	10/13/2003	10:27 AM	8.89	C	103.88	94.99	
	4/19/2004	10:37 AM	6.09	C	103.88	97.79	
	10/11/2004	10:10 AM	7.89	C	103.88	95.99	
	4/26/2005	9:33 AM	5.47	C	103.88	98.41	
	10/17/2005	10:28AM	8.01	C	103.88	95.87	
	4/10/2006	10:31 AM	6.93	C	103.88	96.95	
	10/23/2006	10:51 AM	7.85	C	103.88	96.03	
	4/17/2007	11:41 AM	4.95	C	103.88	98.93	
	10/15/2007	9:05 AM	8.26	C	103.88	95.62	
	4/22/2008	9:35 AM	3.80	C	103.88	100.08	
	10/6/2008	9:45 AM	7.87	C	103.88	96.01	
	3/26/2009	8:15 AM	7.07	C	103.88	96.81	
	4/20/2009		6.29	C	103.88	97.59	
	4/22/2009		6.31	C	103.88	97.57	
	5/18/2009		6.79	C	103.88	97.09	
	6/10/2009		7.66	C	103.88	96.22	
	7/14/2009		7.27	C	103.88	96.61	
	8/13/2009		7.12	C	103.88	96.76	
	9/8/2009		8.07	C	103.88	95.81	
	10/19/2009		8.10	C	103.88	95.78	
	4/19/2010		5.71	C	103.88	98.17	
	10/11/2010		7.54	C	103.88	96.34	
	4/25/2011		3.54	C	103.88	100.34	
	10/17/2011		6.63	C	103.88	97.25	
	5/1/2012		7.46	C	103.88	96.42	
	11/12/2012	10:33 AM	8.54	C	103.88	95.34	
	4/9/2013		7.98	C	103.88	95.90	
	10/14/2013	9:37 AM	8.66	C	103.88	95.22	
	5/12/2014	10:00 AM	4.71	C	103.88	99.17	
	10/20/2014	8:51 AM	9.07	C	103.88	94.81	
	5/4/2015	10:07 AM	6.76	C	103.88	97.12	
	10/5/2015	9:37 AM	8.75	C	103.88	95.13	
J_MW-22B	11/15/2000	2:40 PM	9.06	C	103.96	94.90	
	11/20/2000	9:33 AM	9.18	C	103.96	94.78	

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
	5/4/2001	9:16 AM	3.89	C	103.96	100.07	
	10/22/2001	11:31 AM	10.29	C	103.96	93.67	
	4/15/2002	2:24 PM	7.09	C	103.96	96.87	
	10/31/2002	12:39 PM	10.72	C	103.96	93.24	
	4/14/2003	10:09 AM	5.84	C	103.96	98.12	
	10/13/2003	10:24 AM	8.89	C	103.96	95.07	
	4/19/2004	10:34 AM	6.14	C	103.96	97.82	
	10/11/2004	10:15 AM	7.92	C	103.96	96.04	
	4/26/2005	9:30 AM	5.56	C	103.96	98.40	
	10/17/2005	10:26AM	8.02	C	103.96	95.94	
	4/10/2006	10:28 AM	7.01	C	103.96	96.95	
	10/23/2006	10:48 AM	7.95	C	103.96	96.01	
	4/17/2007	11:37 AM	5.02	C	103.96	98.94	
	10/15/2007	9:06 AM	8.25	C	103.96	95.71	
	4/22/2008	9:40 AM	3.86	C	103.96	100.10	
	10/6/2008	9:42 AM	7.77	C	103.96	96.19	
	3/26/2009	8:02 AM	7.15	C	103.96	96.81	
	4/20/2009		6.34	C	103.96	97.62	
	4/22/2009		6.39	C	103.96	97.57	
	5/18/2009		6.88	C	103.96	97.08	
	6/10/2009		7.74	C	103.96	96.22	
	7/14/2009		7.52	C	103.96	96.44	
	8/13/2009		7.23	C	103.96	96.73	
	9/8/2009		8.08	C	103.96	95.88	
	10/19/2009		8.19	C	103.96	95.77	
	4/19/2010		5.77	C	103.96	98.19	
	10/11/2010		7.57	C	103.96	96.39	
	4/25/2011		3.65	C	103.96	100.31	
	10/17/2011		6.66	C	103.96	97.30	
	5/1/2012		7.50	C	103.96	96.46	
	11/12/2012	10:29 AM	8.52	C	103.96	95.44	
	4/9/2013		8.00	C	103.96	95.96	
	10/14/2013	9:34 AM	8.62	C	103.96	95.34	
	5/12/2014	10:04 AM	4.80	C	103.96	99.16	
	10/20/2014	8:54 AM	8.81	C	103.96	95.15	
	5/4/2015	10:11 AM	6.87	C	103.96	97.09	
	10/5/2015	9:33 AM	8.63	C	103.96	95.33	
J_MW-23A	11/16/2000	3:05 PM	8.92	C	103.61	94.69	
	5/3/2001	9:33 AM	3.50	C	103.61	100.11	
	10/22/2001	11:46 AM	9.99	C	103.61	93.62	
	4/15/2002	2:29 PM	6.7	C	103.61	96.91	
	10/31/2002	12:15 PM	10.3	C	103.61	93.31	
	4/14/2003	10:36 AM	6.39	C	103.61	97.22	
	10/13/2003	10:40 AM	8.68	C	103.61	94.93	
	4/19/2004	10:45 AM	5.75	C	103.61	97.86	
	10/11/2004	10:07 AM	7.59	C	103.61	96.02	
	4/26/2005	9:40 AM	5.20	C	103.61	98.41	
	10/17/2005	10:35AM	7.67	C	103.61	95.94	
	4/10/2006	10:36 AM	6.62	C	103.61	96.99	
	10/23/2006	10:54 AM	7.62	C	103.61	95.99	
	4/17/2007	11:24 AM	4.63	C	103.61	98.98	
	10/15/2007	9:15 AM	8.22	C	103.61	95.39	
	4/22/2008	9:50 AM	3.53	C	103.61	100.08	
	10/6/2009	9:38 AM	7.40	C	103.61	96.21	
	3/26/2009	8:27 AM	6.74	C	103.61	96.87	
	4/20/2009		6.05	C	103.61	97.56	

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
	4/22/2009		6.05	C	103.61	97.56	
	5/18/2009		6.52	C	103.61	97.09	
	6/10/2009		7.43	C	103.61	96.18	
	7/14/2009		6.92	C	103.61	96.69	
	8/13/2009		6.93	C	103.61	96.68	
	9/8/2009		7.75	C	103.61	95.86	
	10/19/2009		7.95	C	103.61	95.66	
	4/19/2010		5.39	C	103.61	98.22	
	10/11/2010		7.24	C	103.61	96.37	
	4/25/2011		3.26	C	103.61	100.35	
	10/17/2011		6.30	C	103.61	97.31	
	5/1/2012		7.23	C	103.61	96.38	
	11/12/2012	10:56 AM	8.25	C	103.61	95.36	
	4/9/2013		7.75	C	103.61	95.86	
	10/14/2013	9:57 AM	8.33	C	103.61	95.28	
	5/12/2014	10:09 AM	4.43	C	103.61	99.18	
	10/20/2014	8:58 AM	8.01	C	103.61	95.60	
	5/4/2015	11:19 AM	6.52	C	103.61	97.09	
	10/5/2015	10:35 AM	7.87	C	103.61	95.74	
J_MW-23B	11/16/2000	3:20 PM	8.42	C	103.09	94.67	
	5/3/2001	9:30 AM	2.91	C	103.09	100.18	
	10/22/2001	11:44 AM	9.25	C	103.09	93.84	
	4/15/2002	2:31 PM	6.34	C	103.09	96.75	
	10/31/2002	12:11 PM	9.77	C	103.09	93.32	
	4/14/2003	10:39 AM	5.84	C	103.09	97.25	
	10/13/2003	10:37 AM	8.15	C	103.09	94.94	
	4/19/2004	10:48 AM	5.23	C	103.09	97.86	
	10/11/2004	10:13 AM	7.05	C	103.09	96.04	
	4/26/2005	9:37 AM	4.63	C	103.09	98.46	
	10/17/2005	10:32AM	7.16	C	103.09	95.93	
	4/10/2006	10:34 AM	6.03	C	103.09	97.06	
	10/23/2006	10:56 AM	7.07	C	103.09	96.02	
	4/17/2007	11:30 AM	4.08	C	103.09	99.01	
	10/15/2007	9:14 AM	7.60	C	103.09	95.49	
	4/22/2008	9:55 AM	3.05	C	103.09	100.04	
	10/6/2008	9:25 AM	7.02	C	103.09	96.07	
	3/26/2009	8:35 AM	6.24	C	103.09	96.85	
	4/20/2009		5.55	C	103.09	97.54	
	4/22/2009		5.30	C	103.09	97.79	
	5/18/2009		6.01	C	103.09	97.08	
	6/10/2009		6.90	C	103.09	96.19	
	7/14/2009		6.49	C	103.09	96.60	
	8/13/2009		6.42	C	103.09	96.67	
	9/8/2009		7.24	C	103.09	95.85	
	10/19/2009		7.42	C	103.09	95.67	
	4/19/2010		4.88	C	103.09	98.21	
	10/11/2010		6.65	C	103.09	96.44	
	4/25/2011		2.62	C	103.09	100.47	
	10/17/2011		5.77	C	103.09	97.32	
	5/1/2012		6.66	C	103.09	96.43	
	11/12/2012	10:52 AM	7.69	C	103.09	95.40	
	4/9/2013		7.16	C	103.09	95.93	
	10/14/2013	10:00 AM	7.87	C	103.09	95.22	
	5/12/2014	10:15 AM	3.92	C	103.09	99.17	
	10/20/2014	9:00 AM	7.50	C	103.09	95.59	
	5/4/2015	11:29 AM	6.00	C	103.09	97.09	

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
	10/5/2015	10:30 AM	7.37	C	103.09	95.72	
J_MW-24A	11/17/2000	9:35 AM	8.69	C	103.21	94.52	
	5/2/2001	11:48 AM	3.01	C	103.21	100.20	
	10/22/2001	11:12 AM	9.67	C	103.21	93.54	
	4/15/2002	1:52 PM	6.23	C	103.21	96.98	
	10/31/2002	12:55 PM	9.62	C	103.21	93.59	
	4/14/2003	10:20 AM	5.89	C	103.21	97.32	
	10/13/2003	10:35 AM	8.36	C	103.21	94.85	
	4/19/2004	10:36 AM	5.28	C	103.21	97.93	
	10/11/2004	9:55 AM	7.23	C	103.21	95.98	
	4/26/2005	9:05 AM	4.72	C	103.21	98.49	
	10/17/2005	10:38AM	7.19	C	103.21	96.02	
	4/10/2006	10:20 AM	6.15	C	103.21	97.06	
	10/23/2006	10:37 AM	7.18	C	103.21	96.03	
	4/17/2007	10:58 AM	4.16	C	103.21	99.05	
	10/15/2007	9:20 AM	7.90	C	103.21	95.31	
	4/22/2008	9:20 AM	2.80	C	103.21	100.41	
	10/6/2008	9:58 AM	7.33	C	103.21	95.88	
	3/25/2009	11:18 AM	6.35	C	103.21	96.86	
	4/20/2009		5.55	C	103.21	97.66	
	4/22/2009		5.63	C	103.21	97.58	
	5/18/2009		6.03	C	103.21	97.18	
	6/10/2009		6.93	C	103.21	96.28	
	7/14/2009		6.47	C	103.21	96.74	
	8/13/2009		6.46	C	103.21	96.75	
	9/8/2009		7.30	C	103.21	95.91	
	10/19/2009		7.76	C	103.21	95.45	
	4/19/2010		4.93	C	103.21	98.28	
	10/11/2010		6.80	C	103.21	96.41	
	4/25/2011		2.79	C	103.21	100.42	
	10/17/2011		5.96	C	103.21	97.25	
	5/1/2012		6.81	C	103.21	96.40	
	11/12/2012	11:01 AM	7.93	C	103.21	95.28	
	4/9/2013		7.31	C	103.21	95.90	
	10/14/2013	9:29 AM	8.12	C	103.21	95.09	
	5/12/2014	10:17 AM	4.19	C	103.21	99.02	
	10/20/2014	8:18 AM	8.62	C	103.21	94.59	
	5/4/2015	9:11 AM	5.99	C	103.21	97.22	
	10/5/2015	8:47 AM	8.17	C	103.21	95.04	
J_MW-24B	11/17/2000	9:40 AM	8.85	C	103.07	94.22	
	5/2/2001	11:45 AM	3.03	C	103.07	100.04	
	10/22/2001	11:07 AM	7.81	C	103.07	95.26	
	4/15/2002	1:54 PM	6.38	C	103.07	96.69	
	10/31/2002	3:59 PM	9.70	C	103.07	93.37	
	4/14/2003	10:31 AM	5.84	C	103.07	97.23	
	10/13/2003	10:20 AM	8.05	C	103.07	95.02	
	4/19/2004	10:31 AM	5.15	C	103.07	97.92	
	10/11/2004	9:58 AM	7.17	C	103.07	95.90	
	4/26/2005	9:01 AM	4.62	C	103.07	98.45	
	10/17/2005	10:41AM	7.12	C	103.07	95.95	
	4/10/2006	10:23 AM	6.06	C	103.07	97.01	
	10/23/2006	10:41 AM	7.11	C	103.07	95.96	
	4/17/2007	11:03 AM	4.05	C	103.07	99.02	
	10/15/2007	9:21 AM	7.89	C	103.07	95.18	
	4/22/2008	9:25 AM	2.92	C	103.07	100.15	
	10/6/2008	10:00 AM	7.22	C	103.07	95.85	

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
	3/25/2009	11:40 AM	6.22	C	103.07	96.85	
	4/20/2009		5.40	C	103.07	97.67	
	4/22/2009		5.48	C	103.07	97.59	
	5/18/2009		6.04	C	103.07	97.03	
	6/10/2009		6.88	C	103.07	96.19	
	7/14/2009		7.23	C	103.07	95.84	
	8/13/2009		6.34	C	103.07	96.73	
	9/8/2009		7.15	C	103.07	95.92	
	10/19/2009		7.56	C	103.07	95.51	
	4/19/2010		4.72	C	103.07	98.35	
	10/11/2010		6.71	C	103.07	96.36	
	4/25/2011		2.70	C	103.07	100.37	
	10/17/2011		5.75	C	103.07	97.32	
	5/1/2012		7.11	C	103.07	95.96	
	11/12/2012	11:04 AM	7.85	C	103.07	95.22	
	4/9/2013		7.21	C	103.07	95.86	
	10/14/2013	9:22 AM	7.98	C	103.07	95.09	
	5/12/2014	10:25 AM	4.17	C	103.07	98.90	
	10/20/2014	8:23 AM	8.51	C	103.07	94.56	
	5/4/2015	9:08 AM	6.07	C	103.07	97.00	
	10/5/2015	8:49 AM	8.12	C	103.07	94.95	
T_MW-25B	5/12/2014	2:23 PM	3.59	C	102.67	99.08	
	10/20/2014	9:07 AM	7.86	C	102.67	94.81	
	5/4/2015	10:01 AM	5.61	C	102.67	97.06	
	10/5/2015	8:28 AM	7.53	C	102.67	95.14	
T_MW-26A	5/12/2014	2:31 PM	4.33	C	103.50	99.17	
	10/20/2014	8:46 AM	8.76	C	103.50	94.74	
	5/4/2015	8:53 AM	6.34	C	103.50	97.16	
	10/5/2015	8:39 AM	7.77	C	103.50	95.73	
T_MW-26B	5/12/2014	2:37 PM	3.98	C	103.09	99.11	
	10/20/2014	8:44 AM	9.02	C	103.09	94.07	
	5/4/2015	8:59 AM	6.02	C	103.09	97.07	
	10/5/2015	8:40 AM	8.44	C	103.09	94.65	
T_MW-27A	5/12/2014	2:41 PM	4.88	C	103.96	99.08	
	10/20/2014	8:38 AM	9.98	C	103.96	93.98	
	5/4/2015	8:30 AM	6.91	C	103.96	97.05	
	10/5/2015	8:56 AM	9.38	C	103.96	94.58	
T_MW-27B	5/12/2014	2:45 PM	4.69	C	103.76	99.07	
	10/20/2014	8:35 AM	9.78	C	103.76	93.98	
	5/4/2015	8:34 AM	6.72	C	103.76	97.04	
	10/5/2015	8:55 AM	9.18	C	103.76	94.58	
T_MW-28A	5/12/2014	2:50 PM	5.34	C	104.42	99.08	
	10/20/2014	8:31 AM	10.40	C	104.42	94.02	
	5/4/2015	8:42 AM	7.38	C	104.42	97.04	
	10/5/2015	9:03 AM	9.81	C	104.42	94.61	
T_MW-28B	5/12/2014	2:54 PM	5.18	C	104.26	99.08	
	10/20/2014	8:34 AM	10.08	C	104.26	94.18	
	5/4/2015	8:47 AM	7.22	C	104.26	97.04	
	10/5/2015	9:04 AM	9.55	C	104.26	94.71	
T_RW-111	5/13/2014	12:27 PM	4.16	C	103.29	99.13	
	10/20/2014	8:56 AM	7.72	C	103.29	95.57	
	5/4/2015	10:44 AM	6.28	C	103.29	97.01	
	10/5/2015	9:45 AM	7.62	C	103.29	95.67	

Summary of ARI and Compliance Monitoring Potentiometric Data Pine Street Canal Superfund Site, Burlington, Vermont

SLID	Date	Time	Depth to Water (ft)	Measuring Point	Reference Elevation	Water Elevation ft. NAVD88	Water Elevation ft. NGVD29
T_RW-112	5/13/2014	12:33 PM	4.23	C	103.37	99.14	
	10/20/2014	9:03 AM	7.85	C	103.37	95.52	
	5/4/2015	10:39 AM	6.33	C	103.37	97.04	
	10/5/2015	9:40 AM	7.69	C	103.37	95.68	
T_RW-113	5/13/2014	12:30 PM	3.58	C	102.66	99.08	
	10/20/2014	9:25 AM	7.55	C	102.66	95.11	
	5/4/2015	10:55 AM	5.66	C	102.66	97.00	
	10/5/2015	8:34 AM	7.31	C	102.66	95.35	
T_RW-114	5/13/2014	8:10 AM	4.68	C	103.75	99.07	
	10/20/2014	8:41 AM	8.26	C	103.75	95.49	
	5/4/2015	11:14 AM	6.75	C	103.75	97.00	
	10/5/2015	9:17 AM	7.91	C	103.75	95.84	

Notes: C = casing
J = estimated
Water Depths listed as 0.00 indicate that the well was overflowing at the time of measurement.

APPENDIX 3

SUMMARY OF ALL ANALYTICAL DATA AND GROUNDWATER FIELD DATA

- **Summary of Field Groundwater Purge Data**
- **Summary of NAPL Measurements in Monitoring Wells 2000-2015**
- **Summary of Surface Water Analytical Data: PAHs**
- **Summary of Cap Coring Analytical Results: PAHs**
- **Summary of Cap Coring Analytical Results: Metals**
- **Biological Sample Summary**
    - **AVS/SEM Data**
    - **Summary of TOC Data**
    - **Summary of Taxonomy Data**
- **Summary of Groundwater Analytical Data: VOC's**
- **Summary of Groundwater Analytical Data: PAHs**
- **Summary of Groundwater Analytical Data: Metals**

Pine Street Canal Site, Burlington, VT
Summary of Field Groundwater Purge Data

SLID	SIN	Date	Sample Time	Stabilized Purge Rate (ml/min)	Pre-sampling Purge Time (Hr:Min)	Purge Volume (Liters)	Initial Water Depth (ftbtoc)	Final Water Depth (ftbtoc)	Intake Sample Depth (ftbtoc)	Dissolved Oxygen (mg/L)	Specific Cond. (umho/cm)	Temp (Deg C)	pH (SU)	Turbidity (NTU)	ORP (mV)
6_MW-13															
	0097-01	11/20/2000	12:00	320	0hr 54min	16.0	6.72	7.18	100.0	0.2	326	9.3	8.1	> 1,100	-165
	0097-02	10/25/2001	11:10	320	4hr 2min	76.0	2.17	2.43	100.0	0.1	249	11.6	7.8	> 1,100	-182
	0097-03	10/18/2002	11:15	300	1hr 14min	20.0	above casing	above casing	100.0	0.1	342	9.8	7.7	0.7	-70.9
	0097-04	10/16/2003	14:05	320	0hr 49min	15.0	0.00	0.35	100.0	0.1	370	9.7	7.8	0.6	-60.0
	0097-05	10/13/2004	14:45	200	0hr 40min	9.0	0.10	0.17	100.0	0.3	367	9.8	7.8	18.0	-96.0
	0097-06	10/19/2005	14:10	200	1hr 15min	7.0	0.12	0.12	100.0	0.1	383	10.0	7.8	3.0	-78.0
	0097-07	10/25/2006	13:20	200	0hr 25min	5.0	0.00	0.00	100.0	0.1	461	9.5	7.9	1.4	-83.0
	0097-08	10/16/2007	14:20	200	0hr 35min	6.0			100.0	0.3	383	10.1	7.7	2.0	80.0
	0097-09	10/8/2008	14:00	200	0hr 40min	7.0	casing	0.00	100.0	0.1	374	9.9	7.7	1.7	-81.0
	0097-10	10/21/2009	15:25	200	0hr 25min	5.0	casing	0.10	100.0	0.1	354	9.7	7.7	3.6	-73.0
	0097-11	10/13/2010	12:17	200	0hr 35min	7.0	0.00	0.10	100.0	0.2	354	9.5	7.8	3.6	-72.0
	0097-12	10/19/2011	13:17	200	0hr 40min	8.0	above TOC	above TOC	100.0	0.3	375	9.8	7.6	3.3	-38.0
	0097-13	11/15/2012	11:34	250	0hr 32min	8.0	0.00	0.00	100.0	0.5	364	8.8	8.1	0.4	-26.8
	0097-14	10/16/2013	11:40	250	0hr 40min	8.0	0.00	0.00	100.0	0.1	371	10.0	7.7	1.0	-62.0
	0097-15	10/23/2014	13:22	250	0hr 47min	12.0	0.00	0.00	100.0	0.2	404	9.7	7.6		36.0
	0097-16	10/7/2015	14:32	200	1hr 5min	13.0	0.30	0.30	100.0	0.3	391	8.5	7.4	0.6	-34.0
6_MW-18															
	0099-01	11/21/2000	10:15	160	1hr 44min	29.0	8.58	33.81	120.3	0.7	306	9.0	8.3	> 1,100	90.1
	0099-02	10/24/2001	12:55	140	4hr 0min	37.0	5.24	30.11	120.3	0.6	305	10.9	8.4	> 1,100	-0.9
	0099-03	10/17/2002	14:45	150	4hr 43min	37.0	2.85	22.82	120.3	0.5	279	10.5	8.5	360	11.2
	0099-04	10/16/2003	12:32	143	4hr 0min	36.0	0.00	49.01	120.3	0.1	304	9.8	8.7	2.3	-185
	0099-05	10/13/2004	15:00	160	4hr 0min	41.0	0.00	25.21	120.3	0.1	296	10.9	8.5	0.9	-199
	0099-06	10/19/2005	13:14	160	4hr 3min	39.0	0.00	24.50	120.3	0.7	302	10.5	8.9	0.9	4.0
	0099-07	10/25/2006	12:54	160	4hr 0min	39.0	0.00	24.55	120.3	0.2	316	10.0	8.6	0.9	-231
	0099-08	10/16/2007	12:56	160	4hr 0min	38.0	casing	22.17	120.3	0.2	273	10.4	8.5	0.2	-175

SLID	SIN	Date	Sample Time	Stabilized Purge Rate (ml/min)	Pre-sampling Purge Time (Hr:Min)	Purge Volume (Liters)	Initial Water Depth (ftbtoc)	Final Water Depth (ftbtoc)	Intake Sample Depth (ftbtoc)	Dissolved Oxygen (mg/L)	Specific Cond. (umho/cm)	Temp (Deg C)	pH (SU)	Turbidity (NTU)	ORP (mV)
	0099-09	10/8/2008	12:45	160	4hr 0min	40.0	casing	22.98	120.3	0.1	303	10.7	8.5	1.0	-202
	0099-10	10/21/2009	14:15	160	4hr 0min	40.0	casing	24.54	120.3	0.2	284	10.4	8.5	2.3	44.0
	0099-11	10/13/2010	12:15	160	4hr 1min	39.6	0.00	27.93	120.3	0.2	298	10.9	8.5	0.2	-170
	0099-12	10/19/2011	12:00	160	4hr 4min	40.6	3.52	28.30	120.3	0.1	246	10.6	8.7	0.2	-214
	0099-13	11/14/2012	15:02	200	4hr 0min	48.0	0.12	30.09	120.3	0.2	288	9.6	8.4	0.7	-191
	0099-14	10/15/2013	16:22	200	4hr 0min	48.0	0.06	29.74	120.3	0.1	296	11.1	8.6	1.0	-189
	0099-15	10/24/2014	14:32	200	4hr 2min	48.0	0.78	31.85	120.3	0.1	299	10.2	8.7	0.3	-126
	0099-16	10/7/2015	13:50	100	1hr 5min	6.5	0.40	5.30	120.3	0.2	311	14.1	8.4	< 1.0	-54.0
8_MW-11D															
	0098-01	11/20/2000	14:30	200	3hr 24min	48.5	4.53	45.98	130.5	0.2	263	9.3	8.6	350	-177
	0098-02	10/24/2001	13:25	180	4hr 8min	47.0	0.24	28.75	130.5	0.3	191	11.2	8.6	504	-206
	0098-03	10/17/2002	14:00	167	4hr 3min	43.0	0.18	19.44	130.5	0.3	241	5.6	8.7	497	-108
	0098-04	10/16/2003	13:30	174	4hr 1min	44.0	0.12	20.67	130.5	0.2	269	10.0	8.6	119	-175
	0098-05	10/13/2004	13:15	190	2hr 35min	32.0	0.10	24.20	130.5	0.4	264	10.7	8.4	2.0	-178
	0098-06	10/18/2005	13:00	160	4hr 0min	38.4	0.00	21.40	130.5	0.1	273	10.1	8.4	1.1	-160
	0098-07	10/25/2006	12:30	190	4hr 0min	51.3	0.12	21.17	130.5	0.1	347	9.3	8.4	0.5	-174
	0098-08	10/15/2007	14:45	170	4hr 5min	41.7	1.78	19.68	130.5	0.1	221	10.2	8.3	0.2	-168
	0098-09	10/8/2008	15:28	170	4hr 0min	41.9	casing	20.27	130.5	0.1	269	10.6	8.2	1.3	-164
	0098-10	10/21/2009	14:00	170	4hr 0min	41.1	casing	20.47	130.5	0.1	257	9.7	8.3	3.6	-151
	0098-11	10/13/2010	10:45	200	4hr 0min	48.0	0.22	23.54	130.5	0.2	259	9.4	8.4	2.9	-160
	0098-12	10/19/2011	11:30	200	4hr 0min	48.0	above TOC	above TOC	130.5	0.2	269	10.0	7.8	2.5	-145
	0098-13	11/13/2012	16:12	200	4hr 0min	48.0	0.15	30.36	130.5	0.3	269	9.3	8.5	1.2	-160
	0098-14	10/16/2013	10:20	200	4hr 0min	48.0	0.00	31.99	130.5	0.1	267	10.4	8.3	1.0	-162
	0098-15	10/24/2014	13:45	200	4hr 5min	48.0	0.00	23.78	130.5	0.1	302	10.0	8.4		-97.0
	0098-16	10/7/2015	11:35	100	1hr 20min	10.5	0.00	8.70	130.5	0.2	278	13.1	8.3	0.8	-121
8_MW-9A															
	0074-01	11/14/2000	17:00	220	0hr 19min	3.9	7.45	below pump	13.6	9.5	1,293	11.7	6.3	205	-131
	0074-01A	11/17/2000	12:15	250	0hr 15min	4.0	7.81	below pump	13.6	1.7	1,342	11.0	6.5	127	-51.0
	0074-02	5/1/2001	16:10	250	0hr 20min	5.0	3.38	below pump	13.6	1.0	1,200	5.6	6.7	81.0	88.0

SLID	SIN	Date	Sample Time	Stabilized Purge Rate (ml/min)	Pre-sampling Purge Time (Hr:Min)	Purge Volume (Liters)	Initial Water Depth (ftbtoc)	Final Water Depth (ftbtoc)	Intake Sample Depth (ftbtoc)	Dissolved Oxygen (mg/L)	Specific Cond. (umho/cm)	Temp (Deg C)	pH (SU)	Turbidity (NTU)	ORP (mV)
	0074-03	10/22/2001	15:35	250	0hr 8min	1.9	9.18	below pump	13.6	3.6	1,446	13.2	6.1	230	-57.0
	0074-04	4/15/2002	15:15	250	0hr 12min	3.0	6.33	below pump	13.6	2.0	1,363	5.0	6.4	50.0	-60.0
	0074-05	10/14/2002	15:30	150	0hr 15min	4.0	6.94	below pump	13.6	1.7	1,232	8.8	6.2	65.0	-62.9
	0074-06	4/14/2003	14:30	250	0hr 12min	3.0	5.96	below pump	13.6	1.9	543	5.0	6.9	39.0	76.2
	0074-07	10/13/2003	15:15	200	0hr 14min	3.0	7.29	below pump	13.6	1.4	1,210	14.4	6.6	77.0	-103
	0074-08	4/19/2004	15:00	200	0hr 16min	3.2	5.21	below pump	13.6	1.3	1,184	6.0	6.6	72.0	-69.0
	0074-09	10/11/2004	15:10	200	0hr 17min	3.7	6.65	below pump	13.6	0.8	1,095	13.3	6.7	186	-21.0
	0074-10	4/26/2005	15:00	200	0hr 24min	4.3	4.86	below pump	13.6	0.8	1,195	6.8	6.5	400	-91.0
	0074-11	10/17/2005	14:30	200	0hr 21min	4.2	6.11	10.01	13.6	1.4	1,251	13.0	6.4	451	-91.0
	0074-12	4/10/2006	14:00	200	0hr 21min	4.2	5.64	below pump	13.6	0.9	1,217	6.4	6.0	361	-72.0
	0074-13	10/23/2006	14:30	200	0hr 21min	4.0	5.70	10.12	13.6	2.2	1,413	12.0	6.4	432	-77.0
	0074-14	4/17/2007	14:40	200	0hr 25min	4.8	4.46	below pump	13.6	0.6	685	5.0	6.5	120	-78.0
	0074-15	10/15/2007	13:05	200	0hr 34min	4.2	6.00	10.50	13.6	1.3	1,025	13.3	6.2	29.0	-60.0
	0074-16	4/22/2008	15:15	200	0hr 30min	5.2	3.48	9.26	13.6	1.0	9.6	6.4	6.4	699	-82.0
	0074-17	10/6/2008	14:05	200	1hr 11min	4.7	6.24	10.50	13.6	1.9	898	13.3	6.4	77.0	-53.0
	0074-19	4/21/2009	11:39	200	0hr 27min	5.4	6.60	7.55	13.6	1.0	968	6.1	6.6	39.1	-88.1
	0074-21	10/19/2009	15:55	200	0hr 19min	3.8	5.90	below pump	13.6	0.8	894	12.7	6.5	80.0	-90.0
	0074-22	4/19/2010	13:30	200	0hr 24min	4.0	4.91	> 10.27	13.6	1.4	1,100	6.9	6.5	302	-79.0
	0074-23	10/11/2010	13:28	200	0hr 20min	4.0	5.48	10.19	13.6	1.4	1,065	13.0	6.5	297	-76.0
	0074-24	4/26/2011	10:30	200	0hr 20min	4.0	2.90	10.16	13.6	1.2	988	6.4	6.2	280	-89.0
	0074-25	10/17/2011	14:40	200	0hr 20min	4.0	5.21	13.60	13.6	0.7	1,079	13.1	5.3	331	199
	0074-26	5/2/2012	9:00	200	0hr 20min	4.0	5.61	below pump	13.6	7.8	1,135	7.0	6.4	12.0	-82.0
	0074-27	11/13/2012	12:38	200	0hr 20min	4.0	6.29	10.60	13.6	1.0	983	11.5	6.4	151	-54.0
	0074-28	4/9/2013	13:10	200	0hr 19min	3.9	6.55	> 10.60	13.6	1.6	1,099	6.9	6.0	61.0	-54.0
	0074-29	10/14/2013	12:10	200	0hr 20min	4.0	6.27	> 10.60	13.6	0.7	1,119	12.6	6.4	52.0	-73.0
	0074-30	5/12/2014	14:00	200	0hr 23min	4.6	4.53	> 10.60	13.6	0.1	840	8.9	6.3	> 1,000	-74.0
	0074-31	10/20/2014	15:30	400	0hr 10min	3.0	7.24	10.50	13.6	1.5	1,006	13.1	6.4	> 100	-72.6
	0074-32	5/6/2015	14:27	100	1hr 37min	10.0	5.97	10.05	13.6	3.0	792	10.8	6.7	26.0	-71.0
	0074-33	10/7/2015	11:22	100	1hr 20min	9.0	7.04	10.80	13.6	0.5	1,189	14.1	6.4	16.0	-93.0

SLID	SIN	Date	Sample Time	Stabilized Purge Rate (ml/min)	Pre-sampling Purge Time (Hr:Min)	Purge Volume (Liters)	Initial Water Depth (ftbtoc)	Final Water Depth (ftbtoc)	Intake Sample Depth (ftbtoc)	Dissolved Oxygen (mg/L)	Specific Cond. (umho/cm)	Temp (Deg C)	pH (SU)	Turbidity (NTU)	ORP (mV)
8_MW-9B															
	0071-01	11/14/2000	15:30	220	0hr 47min	11.0	10.29	10.47	25.9	1.0	1,200	10.5	6.4	0.8	-24.0
	0071-02	5/2/2001	10:20	220	0hr 42min	9.0	5.40	5.56	25.9	1.7	793	10.1	6.5	7.0	-11.0
	0071-03	10/22/2001	14:47	220	0hr 42min	9.0	11.79	11.92	25.9	0.4	1,994	10.1	6.3	7.0	-72.0
	0071-04	4/15/2002	12:03	220	0hr 42min	9.0	8.61	8.93	25.9	1.5	1,237	8.2	6.5	6.0	-47.0
	0071-05	10/14/2002	13:30	220	0hr 53min	11.0	13.28	13.40	25.9	0.3	1,164	6.7	6.1	2.1	-82.3
	0071-06	4/14/2003	13:50	220	0hr 36min	8.0	8.23	8.62	25.9	1.4	179	9.8	6.7	24.0	29.4
	0071-07	10/13/2003	12:22	220	0hr 40min	9.0	10.06	10.28	25.9	0.6	1,545	10.6	6.3	6.0	-70.0
	0071-08	4/19/2004	11:52	220	0hr 41min	9.0	7.61	7.84	25.9	1.0	1,799	9.8	6.3	75.0	-80.0
	0071-09	10/11/2004	12:40	220	0hr 42min	8.0	9.31	9.47	25.9	0.6	1,476	11.0	6.6	1.4	-160
	0071-10	4/26/2005	11:38	220	0hr 37min	8.0	7.05	7.18	25.9	0.7	1,910	9.7	6.4	2.9	-84.0
	0071-11	10/17/2005	12:34	220	0hr 33min	8.0	9.35	9.62	25.9	0.4	4,418	10.8	6.5	4.1	-35.0
	0071-12	4/10/2006	11:50	220	0hr 30min	6.0	8.40	8.67	25.9	1.9	3,999	9.7	6.7	3.0	-107
	0071-13	10/23/2006	13:08	220	0hr 38min	8.0	9.33	9.60	25.9	0.6	2,526	10.6	6.7	4.0	-106
	0071-14	4/18/2007	9:10	220	0hr 38min	8.0	6.29	6.43	25.9	0.2	1,247	8.3	6.8	43.0	-61.0
	0071-15	10/15/2007	14:35	225	0hr 39min	8.0	8.95	9.13	25.9	1.3	1,141	12.0	6.5	7.0	-89.0
	0071-16	4/22/2008	11:58	220	0hr 28min	6.0	5.23	5.46	25.9	0.5	1,400	10.3	6.5	5.0	-69.0
	0071-17	10/6/2008	12:35	220	0hr 29min	6.0	8.68	8.91	25.9	0.3	1,954	11.4	6.4	4.6	-114
	0071-19	4/21/2009	9:50	250	0hr 33min	8.3	8.04	8.08	25.9	0.4	1,347	9.5	6.6	16.0	-66.2
	0071-21	10/19/2009	15:40	250	0hr 30min	8.0	9.03	9.19	25.9	0.1	1,811	10.8	6.4	4.5	-84.0
	0071-22	4/19/2010	11:40	250	0hr 32min	8.0	7.24	7.55	25.9	0.2	1,793	9.8	6.4	6.1	-43.0
	0071-23	10/11/2010	11:34	250	0hr 32min	8.0	9.03	9.26	25.9	0.5	1,446	12.1	6.5	5.0	-119
	0071-24	4/26/2011	8:30	250	0hr 40min	10.0	5.06	5.24	25.9	0.3	1,366	9.2	6.2	89.0	-63.0
	0071-25	10/17/2011	12:56	250	0hr 32min	8.0	8.20	8.26	25.9	0.4	1,749	11.6	6.3	5.9	-130
	0071-26	5/1/2012	13:12	250	0hr 44min	11.0	8.80	8.94	25.9	0.6	2,229	9.8	6.4	70.0	-83.0
	0071-27	11/13/2012	13:43	250	0hr 32min	8.0	9.59	9.74	25.9	0.4	1,534	11.5	6.5	0.6	-80.0
	0071-28	4/9/2013	11:28	250	0hr 48min	12.0	9.38	9.48	25.9	1.2	1,762	9.2	6.5	53.0	-96.0
	0071-29	10/14/2013	10:30	250	0hr 46min	11.0	9.70	9.80	25.9	0.5	2,562	10.7	6.5	34.0	-90.0
	0071-30	5/12/2014	12:47	250	0hr 52min	12.0	6.36	6.77	25.9	0.0	2,401	10.4	6.5	33.0	-98.0

SLID	SIN	Date	Sample Time	Stabilized Purge Rate (ml/min)	Pre-sampling Purge Time (Hr:Min)	Purge Volume (Liters)	Initial Water Depth (ftbtoc)	Final Water Depth (ftbtoc)	Intake Sample Depth (ftbtoc)	Dissolved Oxygen (mg/L)	Specific Cond. (umho/cm)	Temp (Deg C)	pH (SU)	Turbidity (NTU)	ORP (mV)
	0071-31	10/20/2014	13:44	333	0hr 50min	12.0	9.94	10.16	25.9	0.2	2,228	10.7	6.8	0.9	-114
	0071-32	5/6/2015	12:32	400	0hr 42min	16.0	8.45	8.70	25.9	0.1	2,689	10.4	6.5	5.8	-79.0
	0071-33	10/7/2015	12:37	200	0hr 50min	10.0	9.82	10.00	25.9	0.4	3,174	10.7	6.4	0.6	-77.0
J_MW-20A															
	0076-01	11/15/2000	10:45	270	0hr 34min	9.0	5.38	5.77	11.7	10.0	846	13.5	6.2	3.7	-73.0
	0076-02	5/2/2001	10:00	280	0hr 34min	10.0	1.72	2.10	11.7	0.7	386	6.5	6.6	4.1	-30.0
	0076-03	10/23/2001	9:30	280	0hr 30min	9.0	7.46	8.16	11.7	0.3	732	15.1	6.4	1.3	-27.6
	0076-04	4/15/2002	13:10	280	0hr 25min	8.0	5.21	5.24	11.7	0.1	928	8.6	6.3	3.1	-22.3
	0076-05	10/14/2002	15:25	280	0hr 48min	8.0	6.15	6.10	11.7	0.1	739	15.0	5.9	1.3	-74.2
	0076-06	4/14/2003	12:00	280	0hr 21min	7.0	4.34	4.83	11.7	0.5	721	6.2	6.5	3.5	-49.0
	0076-07	10/13/2003	14:05	280	0hr 28min	9.0	6.31	6.58	11.7	0.1	714	15.0	5.8	3.6	-9.0
	0076-08	4/19/2004	11:45	280	0hr 25min	8.0	4.12	4.28	11.7	0.3	754	7.2	6.3	2.8	-101
	0076-09	10/11/2004	12:15	200	0hr 38min	8.0	5.15	5.48	11.7	0.3	639	14.3	6.3	1.7	-112
	0076-10	4/26/2005	11:45	280	0hr 26min	8.0	3.35	3.88	11.7	0.1	534	6.7	6.3	3.0	-67.0
	0076-11	10/17/2005	13:20	280	1hr 5min	7.0	5.05	4.94	11.7	0.3	635	14.5	6.2	2.5	-77.0
	0076-12	4/10/2006	12:10	280	0hr 26min	6.0	4.80	4.78	11.7	0.2	671	7.9	6.3	2.6	-55.0
	0076-13	10/23/2006	13:10	280	0hr 22min	6.0	4.09	4.67	11.7	0.1	650	13.8	6.3	1.8	-87.0
	0076-14	4/17/2007	11:50	280	0hr 21min	6.0	2.66	3.18	11.7	0.2	518	6.6	6.2	2.8	-28.0
	0076-15	10/15/2007	10:35	280	0hr 25min	7.0	4.25	4.85	11.7	0.4	577	14.0	6.1	1.7	-99.0
	0076-16	4/24/2008	8:07	280	0hr 21min	6.0	2.08	2.13	11.7	0.8	557	7.2	6.2	2.8	208
	0076-17	10/6/2008	12:09	270	0hr 24min	6.5	4.54	5.02	11.7	0.5	540	14.4	6.2	2.3	-50.9
	0076-19	4/21/2009	9:45	270	0hr 23min	6.0	4.55	4.56	11.7	0.3	521	6.5	6.2	2.5	-17.0
	0076-21	10/19/2009	15:50	270	0hr 24min	6.6	4.35	4.91	11.7	0.6	713	13.7	6.3	4.4	-37.0
	0076-22	4/19/2010	11:15	270	0hr 32min	8.7	3.37	3.83	11.7	1.2	669	7.6	6.0	1.9	-4.0
	0076-23	10/11/2010	11:40	270	0hr 32min	8.8	3.84	4.30	11.7	0.7	578	13.7	6.3	1.8	-84.0
	0076-24	4/26/2011	9:40	270	0hr 34min	8.2	1.32	1.87	11.7	0.8	569	5.9	6.2	2.1	-17.0
	0076-25	10/17/2011	12:45	200	0hr 26min	5.1	4.18	4.56	11.7	0.1	538	14.2	6.3	1.2	-124
	0076-26	5/1/2012	10:40	270	0hr 28min	7.7	4.62	4.66	11.7	0.8	606	7.8	6.0	2.5	-57.0
	0076-27	11/13/2012	10:00	270	0hr 40min	11.0	4.66	5.15	11.7	0.4	618	12.9	6.1	0.8	-82.0

SLID	SIN	Date	Sample Time	Stabilized Purge Rate (ml/min)	Pre-sampling Purge Time (Hr:Min)	Purge Volume (Liters)	Initial Water Depth (ftbtoc)	Final Water Depth (ftbtoc)	Intake Sample Depth (ftbtoc)	Dissolved Oxygen (mg/L)	Specific Cond. (umho/cm)	Temp (Deg C)	pH (SU)	Turbidity (NTU)	ORP (mV)
	0076-28	4/9/2013	11:00	250	0hr 38min	9.5	5.80	5.68	11.7	0.5	715	6.6	6.5	1.0	-203
	0076-29	10/14/2013	12:06	250	0hr 24min	12.0	4.62	5.46	11.7	-0.1	540	14.2	6.3	1.7	-48.8
	0076-30	5/12/2014	13:45	100	0hr 49min	4.7	2.75	3.04	11.7	0.2	1,484	11.1	6.2	60.0	-61.9
	0076-31	10/20/2014	14:10	250	0hr 28min	7.8	5.38	5.74	11.7	0.2	444	14.1	6.3	1.9	-42.0
	0076-32	5/5/2015	17:02	250	0hr 52min	12.5	4.20	4.45	11.7	0.2	614	7.3	6.5	2.3	-21.0
	0076-33	10/6/2015	13:48	200	0hr 50min	10.0	4.85	5.15	11.7	0.5	642	13.4	6.1	1.2	-35.0
J_MW-20B															
	0079-01	11/15/2000	11:30	200	1hr 20min	14.0	6.98	7.80	26.2	0.2	680	10.5	6.5	66.4	-54.4
	0079-01A	11/17/2000	12:25	230	1hr 3min	14.0	6.98	7.95	26.2	0.3	795	9.7	6.4	856	-67.4
	0079-02	5/1/2001	14:30	200	1hr 5min	12.0	1.83	2.65	26.2	6.8	551	10.5	6.5	63.4	60.2
	0079-03	10/22/2001	14:15	200	1hr 11min	12.0	8.33	9.21	26.2	0.3	613	11.9	6.4	67.2	-138
	0079-04	4/15/2002	11:20	200	0hr 49min	10.0	5.98	5.97	26.2	0.2	895	11.1	6.4	48.7	-31.2
	0079-05	10/14/2002	13:15	200	1hr 11min	11.0	10.12	10.21	26.2	0.3	985	11.2	6.0	13.0	-74.6
	0079-06	4/14/2003	14:15	200	0hr 55min	12.0	4.81	5.53	26.2	0.3	902	11.1	6.4	107	-52.0
	0079-07	10/13/2003	12:20	200	0hr 50min	10.0	6.84	7.70	26.2	0.1	741	12.2	6.0	14.0	-42.3
	0079-08	4/19/2004	13:10	200	0hr 35min	8.0	4.18	4.96	26.2	0.2	757	10.2	6.4	26.0	-113
	0079-09	10/11/2004	14:15	200	0hr 45min	10.0	5.91	6.95	26.2	0.2	771	11.2	6.4	8.9	-121
	0079-10	4/26/2005	13:00	200	0hr 40min	8.0	3.70	4.46	26.2	0.1	631	11.0	6.4	37.0	-101
	0079-11	10/17/2005	14:20	200	0hr 30min	6.0	6.05	6.74	26.2	0.2	782	11.7	6.3	9.2	-1.0
	0079-12	4/10/2006	13:45	200	0hr 42min	8.0	5.48	5.78	26.2	0.2	856	11.0	6.4	28.0	-72.0
	0079-13	10/23/2006	14:15	200	0hr 30min	6.0	5.95	6.75	26.2	0.1	818	10.7	6.4	10.1	-106
	0079-14	4/17/2007	13:20	200	0hr 40min	8.0	3.08	3.71	26.2	0.2	625	8.4	6.3	46.0	-80.0
	0079-15	10/15/2007	11:45	200	0hr 40min	8.0	6.08	6.97	26.2	0.4	791	10.9	6.1	9.0	-117
	0079-16	4/24/2008	9:20	200	0hr 32min	6.3	1.92	2.50	26.2	0.5	910	10.0	6.4	58.0	-184
	0079-17	10/6/2008	13:23	200	0hr 21min	4.2	5.32	6.47	26.2	0.2	842	12.1	6.3	19.7	-83.1
	0079-19	4/21/2009	10:40	200	0hr 30min	6.0	4.55	5.32	26.2	0.3	874	9.2	6.4	60.0	-82.0
	0079-21	10/19/2009	15:05	200	0hr 36min	7.2	6.02	6.90	26.2	0.8	728	11.1	6.4	19.0	-74.0
	0079-22	4/19/2010	12:30	200	0hr 35min	7.0	3.98	4.48	26.2	0.9	959	10.6	6.1	28.0	-54.0
	0079-23	10/11/2010	13:15	200	0hr 45min	9.0	5.63	6.27	26.2	0.4	872	12.5	6.4	55.0	-96.0

SLID	SIN	Date	Sample Time	Stabilized Purge Rate (ml/min)	Pre-sampling Purge Time (Hr:Min)	Purge Volume (Liters)	Initial Water Depth (ftbtoc)	Final Water Depth (ftbtoc)	Intake Sample Depth (ftbtoc)	Dissolved Oxygen (mg/L)	Specific Cond. (umho/cm)	Temp (Deg C)	pH (SU)	Turbidity (NTU)	ORP (mV)
	0079-24	4/26/2011	8:45	200	0hr 40min	8.0	1.64	2.53	26.2	3.0	1,108	8.7	6.2	55.0	-94.0
	0079-25	10/17/2011	14:05	200	0hr 60min	12.0	5.11	5.55	26.2	0.1	753	11.3	6.4	18.6	-72.1
	0079-26	5/1/2012	11:45	200	0hr 40min	8.0	5.43	6.16	26.2	1.0	1,005	9.6	6.2	30.0	-99.0
	0079-27	11/12/2012	15:55	150	1hr 20min	12.4	6.41	7.03	26.2	0.5	1,122	11.4	6.1	30.8	-87.4
	0079-28	4/9/2013	12:35	200	1hr 00min	12.0	6.02	6.79	26.2	0.5	1,053	10.1	6.4	31.0	-156
	0079-29	10/14/2013	11:06	250	0hr 52min	12.0	6.64	7.52	26.2	0.1	1,188	11.4	6.3	74.6	-91.5
	0079-30	5/12/2014	12:45	250	0hr 54min	13.0	2.56	3.10	26.2	0.1	573	6.2	6.3	1.3	-139
	0079-31	10/20/2014	13:30	150	0hr 49min	6.9	6.74	7.32	26.2	0.2	1,069	11.7	6.2	83.6	-72.0
	0079-32	5/6/2015	11:02	300	1hr 12min	18.0	4.92	5.60	26.2	0.1	1,029	10.2	6.2	15.0	-81.0
	0079-33	10/6/2015	15:22	200	0hr 55min	11.0	6.54	7.30	26.2	0.3	1,489	10.5	6.0	24.0	-74.0
J_MW-21A															
	0084-01	11/16/2000	9:45	250	0hr 43min	10.0	8.74	8.84	21.0	1.3	1,135	10.1	6.5	1,051	-61.0
	0084-01A	11/21/2000	11:53	250	0hr 23min	6.0	8.74	8.83	21.0	1.4	1,132	10.4	6.5	792	-70.0
	0084-02	5/3/2001	13:23	250	0hr 44min	8.0	3.06	3.13	21.0	0.4	774	8.9	6.5	329	-20.0
	0084-03	10/24/2001	14:34	250	0hr 34min	8.0	9.68	9.83	21.0	0.5	1,112	10.2	6.3	130	-85.0
	0084-04	4/16/2002	13:52	250	0hr 29min	7.0	5.95	6.02	21.0	0.3	1,088	8.4	6.3	146	31.0
	0084-05	10/16/2002	13:10	250	0hr 37min	8.0	9.59	9.69	21.0	0.4	964	7.2	6.3	21.0	-16.9
	0084-06	4/15/2003	14:10	250	0hr 28min	7.0	5.85	6.04	21.0	0.6	184	7.9	6.4	130	116
	0084-07	10/14/2003	10:44	250	0hr 28min	7.0	8.43	8.51	21.0	0.5	851	11.8	5.7	63.7	-37.0
	0084-08	4/20/2004	11:04	250	0hr 28min	7.0	5.15	5.26	21.0	0.3	682	7.6	6.2	47.1	-5.1
	0084-09	10/12/2004	11:45	250	0hr 32min	8.0	7.35	7.44	21.0	0.3	850	11.4	6.5	68.0	-121
	0084-10	4/27/2005	9:18	250	0hr 32min	8.0	4.65	4.79	21.0	0.2	482	8.2	6.2	101	-7.0
	0084-11	10/18/2005	10:49	250	0hr 32min	8.0	6.93	7.10	21.0	0.2	968	11.8	6.0	97.0	18.0
	0084-12	4/11/2006	10:54	250	0hr 33min	8.0	6.06	6.16	21.0	1.8	969	8.4	5.9	108	-33.0
	0084-13	10/24/2006	10:23	250	0hr 33min	8.0	7.04	7.22	21.0	0.7	1,068	11.7	6.3	11.0	-64.0
	0084-14	4/19/2007	10:45	250	0hr 29min	7.0	3.61	3.89	21.0	0.2	649	7.9	6.2	25.0	-18.0
	0084-15	10/16/2007	10:50	250	0hr 29min	7.0	8.32	8.43	21.0	3.0	1,037	11.5	6.0	13.0	-49.0
	0084-16	4/23/2008	11:04	250	0hr 34min	8.0	2.90	3.09	21.0	0.4	1,729	8.3	6.0	53.0	-9.0
	0084-17	10/7/2008	11:35	250	0hr 26min	6.5	7.60	7.63	21.0	0.2	1,395	11.3	6.1	4.6	-63.7

SLID	SIN	Date	Sample Time	Stabilized Purge Rate (ml/min)	Pre-sampling Purge Time (Hr:Min)	Purge Volume (Liters)	Initial Water Depth (ftbtoc)	Final Water Depth (ftbtoc)	Intake Sample Depth (ftbtoc)	Dissolved Oxygen (mg/L)	Specific Cond. (umho/cm)	Temp (Deg C)	pH (SU)	Turbidity (NTU)	ORP (mV)
	0084-18	3/25/2009	12:54	250	0hr 28min	6.0	6.22	6.23	21.0	0.8	1,260	8.1	6.5	44.0	-78.0
	0084-19	4/20/2009	13:20	250	0hr 33min	8.3	5.61	5.59	21.0	0.2	1,279	8.6	6.3	7.8	-62.4
	0084-20	7/14/2009	12:45	250	0hr 30min	7.5	6.53	6.53	21.0	0.3	1,130	10.5	6.3	45.0	-94.0
	0084-21	10/20/2009	10:20	250	0hr 27min	7.1	7.97	7.95	21.0	0.2	1,121	10.8	6.2	15.0	-72.0
	0084-22	4/20/2010	10:50	250	0hr 32min	8.0	4.86	5.05	21.0	0.2	1,238	8.6	6.3	13.0	-49.0
	0084-23	10/12/2010	8:42	250	0hr 32min	8.0	6.75	6.98	21.0	0.4	1,167	11.5	6.4	15.0	-89.0
	0084-24	4/25/2011	11:15	250	0hr 32min	8.0	2.76	2.94	21.0	1.0	1,147	8.2	6.5	10.0	-91.0
	0084-25	10/18/2011	8:33	250	0hr 32min	8.0	5.89	6.19	21.0	0.5	1,167	11.6	6.4	19.0	-107
	0084-26	5/3/2012	8:55	250	0hr 32min	8.0	6.82	7.02	21.0	1.3	1,261	9.3	6.3	10.0	-32.0
	0084-27	11/15/2012	9:50	250	0hr 48min	12.0	7.93	7.97	21.0	0.4	1,261	11.4	6.1	15.0	-88.0
	0084-28	4/10/2013	15:10	250	0hr 55min	10.5	7.20	7.37	21.0	0.5	1,578	9.0	6.4	9.3	-60.9
	0084-29	10/14/2013	13:45	500	0hr 23min	11.0	8.22	8.65	21.0	-0.1	1,469	11.6	6.0	5.8	-25.0
	0084-30	5/13/2014	11:12	333	0hr 32min	10.0	4.13	4.53	21.0	0.2	939	8.6	6.5	8.0	-44.0
	0084-31	10/21/2014	11:47	400	0hr 32min	12.0	9.04	9.38	21.0	0.2	1,299	11.5	6.5	11.6	-89.3
	0084-32	5/5/2015	15:11	100	0hr 37min	4.5	5.97	6.08	21.0	0.3	1,521	8.8	6.1	100	-34.8
	0084-33	10/6/2015	10:10	200	0hr 35min	7.0	8.47	8.60	21.0	0.3	1,264	12.3	6.0	17.0	-76.0
J_MW-21B															
	0082-01	11/16/2000	9:00	240	1hr 13min	15.0	8.41	10.25	32.5	0.3	935	9.9	6.6	28.5	-47.7
	0082-01A	11/21/2000	12:10	240	0hr 46min	11.0	8.44	10.28	32.5	0.3	1,021	9.1	6.8	13.2	-58.2
	0082-02	5/3/2001	13:40	240	0hr 43min	9.0	2.82	4.75	32.5	0.3	755	10.1	6.8	9.8	-7.0
	0082-03	10/24/2001	14:45	240	0hr 36min	8.0	9.40	11.12	32.5	0.2	545	11.6	7.0	6.2	-165
	0082-04	4/16/2002	13:50	240	0hr 36min	10.0	6.97	7.51	32.5	0.3	964	12.5	6.7	5.2	-69.4
	0082-05	10/16/2002	11:30	235	0hr 46min	8.0	9.47	10.95	32.5	0.3	674	6.6	7.5	28.7	-86.4
	0082-06	4/15/2003	14:40	200	0hr 35min	8.0	5.62	7.10	32.5	0.3	1,021	10.3	6.7	14.0	-79.0
	0082-07	10/14/2003	11:20	200	0hr 40min	9.0	8.17	9.56	32.5	0.2	812	11.9	7.0	3.0	-87.0
	0082-08	4/20/2004	11:40	200	0hr 50min	11.0	5.00	6.28	32.5	0.2	811	8.7	6.9	13.0	-70.0
	0082-09	10/12/2004	11:55	200	0hr 35min	8.0	7.10	8.50	32.5	0.5	733	11.1	7.0	1.4	-126
	0082-10	4/27/2005	9:45	200	0hr 45min	9.0	4.49	6.07	32.5	0.1	918	9.1	6.7	3.7	-84.0
	0082-11	10/18/2005	11:15	200	0hr 30min	6.0	6.73	8.05	32.5	0.2	738	11.4	7.0	1.6	-125

SLID	SIN	Date	Sample Time	Stabilized Purge Rate (ml/min)	Pre-sampling Purge Time (Hr:Min)	Purge Volume (Liters)	Initial Water Depth (ftbtoc)	Final Water Depth (ftbtoc)	Intake Sample Depth (ftbtoc)	Dissolved Oxygen (mg/L)	Specific Cond. (umho/cm)	Temp (Deg C)	pH (SU)	Turbidity (NTU)	ORP (mV)
	0082-12	4/11/2006	11:15	200	0hr 35min	7.0	5.90	7.37	32.5	0.2	764	9.0	7.2	4.7	-94.0
	0082-13	10/24/2006	10:45	200	0hr 30min	6.0	6.78	8.31	32.5	0.1	855	10.5	7.1	1.8	-136
	0082-14	4/19/2007	9:30	200	0hr 46min	9.0	3.58	4.89	32.5	0.2	611	8.4	6.8	3.0	-61.0
	0082-15	10/16/2007	9:35	200	0hr 49min	9.0	7.91	9.54	32.5	1.8	573	10.9	6.8	3.0	-125
	0082-16	4/24/2008	11:45	200	0hr 36min	5.5	2.73	4.53	32.5	0.5	945	9.4	6.8	3.0	-128
	0082-17	10/7/2008	11:30	200	0hr 32min	6.0	7.02	8.63	32.5	0.2	752	11.0	7.0	3.6	-134
	0082-18	3/25/2009	11:42	200	0hr 32min	6.0	5.96	7.07	32.5	0.4	701	8.9	7.2	6.0	-102
	0082-19	4/20/2009	13:15	200	0hr 32min	6.4	5.30	6.55	32.5	0.5	908	10.2	6.8	18.0	-76.0
	0082-20	7/14/2009	13:50	200	0hr 45min	9.0	7.44	8.15	32.5	0.2	745	10.8	6.7	35.0	-97.0
	0082-21	10/20/2009	11:30	200	0hr 31min	6.2	7.83	9.20	32.5	0.1	727	10.7	6.8	21.1	-129
	0082-22	4/20/2010	12:22	200	0hr 40min	8.0	4.68	6.84	32.5	0.2	805	9.6	6.9	12.0	-81.0
	0082-23	10/12/2010	10:02	200	0hr 40min	8.0	6.59	7.99	32.5	0.2	706	11.7	7.2	14.0	-120
	0082-24	4/25/2011	12:43	200	0hr 50min	10.0	2.57	5.61	32.5	0.5	1,022	9.5	6.4	9.0	-92.0
	0082-25	10/18/2011	10:02	200	0hr 40min	8.0	5.63	6.96	32.5	0.2	755	11.2	7.3	25.0	-184
	0082-26	5/3/2012	9:50	200	0hr 40min	8.0	6.59	7.93	32.5	0.5	678	10.0	7.0	7.9	-112
	0082-27	11/15/2012	12:00	200	0hr 45min	9.0	7.44	8.79	32.5	0.4	679	11.2	6.8	2.0	-125
	0082-28	4/10/2013	15:00	200	0hr 45min	9.0	7.13	8.41	32.5	0.8	699	9.5	6.9	6.0	-103
	0082-29	10/14/2013	15:15	200	0hr 46min	10.0	7.92	9.42	32.5	-0.1	819	11.7	6.9	3.8	-104
	0082-30	5/13/2014	10:22	200	0hr 55min	10.0	3.89	5.36	32.5	0.0	832	9.4	6.9	3.0	-98.0
	0082-31	10/21/2014	10:04	200	0hr 52min	10.0	8.73	10.12	32.5	0.2	743	11.3	7.2	4.4	-132
	0082-32	5/5/2015	16:31	200	0hr 37min	7.0	5.75	7.69	32.5	0.2	1,144	9.7	6.2	4.3	-47.9
	0082-33	10/5/2015	15:15	200	0hr 30min	6.0	8.20	9.72	32.5	0.2	716	12.1	6.8	14.0	-126
J_MW-22A															
	0081-01	11/15/2000	14:45	300	0hr 37min	11.0	9.12	9.38	21.6	0.3	640	9.5	6.2	3.6	-6.8
	0081-01A	11/20/2000	10:05	350	0hr 36min	13.0	9.21	9.37	21.6	0.5	672	9.4	6.3	4.9	16.3
	0081-02	5/4/2001	9:50	300	0hr 26min	9.0	3.81	3.93	21.6	0.3	476	9.5	6.2	82.1	8.0
	0081-03	10/23/2001	9:46	300	0hr 42min	9.0	10.27	10.38	21.6	0.4	6.6	8.5	6.0	73.0	-14.0
	0081-04	4/16/2002	9:54	300	0hr 27min	8.0	6.77	6.85	21.6	0.5	664	7.9	6.1	64.0	59.0
	0081-05	10/15/2002	11:00	300	0hr 35min	8.0	10.43	10.45	21.6	0.5	714	5.7	6.2	17.9	-12.8

SLID	SIN	Date	Sample Time	Stabilized Purge Rate (ml/min)	Pre-sampling Purge Time (Hr:Min)	Purge Volume (Liters)	Initial Water Depth (ftbtoc)	Final Water Depth (ftbtoc)	Intake Sample Depth (ftbtoc)	Dissolved Oxygen (mg/L)	Specific Cond. (umho/cm)	Temp (Deg C)	pH (SU)	Turbidity (NTU)	ORP (mV)
	0081-06	4/15/2003	10:00	300	0hr 28min	8.0	6.63	6.82	21.6	0.3	435	9.6	5.7	13.0	165
	0081-07	10/14/2003	9:25	300	0hr 27min	8.0	8.86	9.06	21.6	0.4	1,076	10.0	5.3	11.8	18.0
	0081-08	4/19/2004	13:58	300	0hr 28min	8.0	5.99	6.11	21.6	0.2	1,016	9.2	6.0	22.0	15.8
	0081-09	10/12/2004	10:00	300	0hr 32min	9.0	7.95	8.09	21.6	0.7	1,005	10.2	6.2	2.9	-108
	0081-10	4/26/2005	14:07	300	0hr 31min	9.0	5.40	5.51	21.6	0.1	945	10.0	6.0	4.3	-21.0
	0081-11	10/18/2005	9:24	300	1hr 7min	8.0	7.75	7.87	21.6	0.1	931	10.1	5.7	4.1	97.0
	0081-12	4/11/2006	9:43	300	0hr 27min	8.0	6.87	6.99	21.6	0.6	921	9.0	6.0	6.0	-20.0
	0081-13	10/24/2006	9:08	300	0hr 27min	8.0	7.35	7.52	21.6	0.7	934	9.9	6.1	1.8	-32.0
	0081-14	4/18/2007	11:15	300	0hr 21min	6.0	4.60	4.80	21.6	0.2	635	9.0	6.0	10.0	5.0
	0081-15	10/16/2007	14:25	300	0hr 25min	6.0	8.49	8.58	21.6	1.2	690	11.1	5.8	4.0	-20.0
	0081-16	4/23/2008	8:47	300	0hr 27min	8.0	3.75	3.85	21.6	0.6	921	9.5	5.9	6.0	-13.0
	0081-17	10/7/2008	10:07	300	0hr 22min	6.4	8.03	8.03	21.6	0.3	953	10.2	5.9	1.8	-50.9
	0081-19	4/21/2009	13:20	300	0hr 24min	7.1	6.31	6.45	21.6	0.4	978	9.2	6.1	18.0	8.0
	0081-21	10/20/2009	11:15	300	0hr 32min	9.6	8.24	8.35	21.6	0.6	963	10.2	6.1	10.0	89.0
	0081-22	4/19/2010	14:43	250	0hr 36min	9.0	5.64	5.71	21.6	0.4	1,043	9.5	6.0	10.0	6.0
	0081-23	10/13/2010	10:15	250	0hr 28min	7.0	7.52	7.63	21.6	0.3	1,082	10.3	5.9	7.4	-17.0
	0081-24	4/25/2011	14:42	250	0hr 40min	10.0	3.64	3.72	21.6	0.4	1,028	9.2	5.8	8.0	-24.0
	0081-25	10/18/2011	9:40	200	0hr 18min	3.6	6.75	6.77	21.6	0.2	1,043	11.3	6.1	3.2	-33.8
	0081-26	5/2/2012	11:00	250	0hr 33min	8.2	7.47	7.53	21.6	0.7	1,062	10.0	6.0	4.5	9.0
	0081-27	11/13/2012	15:45	250	0hr 28min	7.0	8.43	8.47	21.6	0.5	1,040	10.2	5.9	3.5	6.0
	0081-28	4/10/2013	11:42	250	0hr 32min	8.0	7.95	7.95	21.6	0.3	1,063	10.0	6.1	9.2	-25.0
	0081-29	10/15/2013	10:46	250	0hr 32min	8.0	8.68	8.71	21.6	0.1	1,066	10.8	6.0	9.0	2.0
	0081-30	5/13/2014	13:35	250	0hr 51min	11.8	4.82	4.89	21.6	0.2	1,083	9.6	6.1	4.8	-60.0
	0081-31	10/21/2014	12:20	250	0hr 54min	12.0	9.20	9.22	21.6	0.1	1,112	10.9	6.0	3.2	-11.0
	0081-32	5/6/2015	11:17	200	0hr 32min	6.0	6.85	7.00	21.6	0.2	973	10.3	5.9	9.9	-4.0
	0081-33	10/6/2015	11:40	200	0hr 25min	5.0	8.70	8.84	21.6	0.4	1,090	10.8	5.7	10.0	-5.0
J_MW-22B															
	0080-01	11/15/2000	14:40	300	0hr 37min	11.0	9.06	9.42	26.7	8.7	707	9.3	5.9	89.0	-30.2
	0080-01A	11/20/2000	9:33	300	0hr 24min	7.0	9.18	9.43	26.7	0.2	707	9.5	6.2	91.0	103

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	0080-02	5/4/2001	10:00	300	0hr 38min	10.0	3.89	4.10	26.7	0.4	487	9.8	6.2	14.1	10.9
	0080-03	10/23/2001	14:20	300	0hr 39min	11.0	10.30	10.51	26.7	0.4	712	8.9	6.1	89.0	-18.0
	0080-04	4/16/2002	10:10	300	0hr 23min	8.0	6.99	6.99	26.7	0.3	695	10.0	6.1	9.2	26.4
	0080-05	10/15/2002	11:15	240	0hr 38min	7.0	10.54	10.73	26.7	0.3	589	10.5	5.8	2.4	2.8
	0080-06	4/15/2003	10:00	300	0hr 22min	8.0	6.70	6.95	26.7	0.3	1,219	9.7	5.8	8.6	-4.8
	0080-07	10/14/2003	9:30	300	0hr 23min	8.0	6.84	9.12	26.7	0.3	940	10.2	6.2	3.9	10.6
	0080-08	4/19/2004	14:30	300	0hr 20min	7.0	6.10	6.24	26.7	0.2	879	10.6	6.0	5.7	-39.0
	0080-09	10/12/2004	10:05	200	0hr 30min	7.0	8.00	8.13	26.7	0.7	902	10.3	6.1	1.9	-71.5
	0080-10	4/26/2005	14:20	200	0hr 35min	7.0	5.62	5.78	26.7	0.1	863	10.0	6.0	3.5	-26.0
	0080-11	10/18/2005	9:40	200	0hr 30min	6.0	7.87	8.04	26.7	0.3	967	10.4	6.0	1.5	-35.0
	0080-12	4/11/2006	10:00	200	0hr 30min	6.0	6.96	7.19	26.7	0.2	1,012	8.8	6.2	4.7	-36.0
	0080-13	10/24/2006	9:15	200	0hr 30min	6.0	7.85	7.98	26.7	0.2	1,162	10.0	6.1	1.8	-40.0
	0080-14	4/18/2007	10:20	200	0hr 31min	6.0	4.73	4.89	26.7	0.2	670	8.3	6.2	2.6	2.1
	0080-15	10/16/2007	13:20	200	0hr 32min	6.0	8.35	8.46	26.7	2.0	738	10.9	5.8	3.0	-18.0
	0080-16	4/24/2008	10:30	200	0hr 31min	6.0	3.82	3.94	26.7	0.5	957	9.7	6.1	4.6	-77.0
	0080-17	10/7/2008	9:55	200	0hr 35min	6.0	7.74	7.87	26.7	0.3	1,043	10.1	5.9	3.8	-45.0
	0080-19	4/21/2009	12:40	200	0hr 35min	7.0	6.40	6.56	26.7	0.5	991	9.1	6.1	11.0	6.0
	0080-21	10/20/2009	10:15	200	0hr 35min	7.0	8.12	8.24	26.7	0.8	1,010	10.4	6.1	20.0	85.0
	0080-22	4/20/2010	9:48	200	0hr 35min	7.0	5.74	5.92	26.7	0.4	1,121	9.3	6.0	11.0	-9.9
	0080-23	10/12/2010	9:15	200	0hr 40min	8.0	7.56	7.67	26.7	0.4	1,128	10.4	5.9	6.5	-20.0
	0080-24	4/25/2011	14:05	200	0hr 45min	9.0	3.59	3.63	26.7	1.0	1,035	9.3	6.1	10.0	6.0
	0080-25	10/18/2011	8:55	200	0hr 24min	4.8	6.80	6.83	26.7	0.2	1,052	11.2	6.1	4.0	-66.3
	0080-26	5/2/2012	10:07	200	0hr 40min	8.0	7.56	7.63	26.7	2.8	1,114	9.8	6.0	6.5	10.0
	0080-27	11/14/2012	10:38	200	0hr 50min	10.0	8.46	8.53	26.7	0.5	1,108	10.6	6.0	5.6	-24.0
	0080-28	4/10/2013	10:45	200	0hr 50min	9.0	7.96	8.06	26.7	0.5	1,093	9.9	6.1	6.8	-43.9
	0080-29	10/15/2013	9:40	200	0hr 45min	9.0	8.61	8.74	26.7	0.2	1,113	10.9	6.1	5.0	-24.0
	0080-30	5/13/2014	14:47	250	0hr 50min	10.8	5.19	5.25	26.7	0.2	1,027	9.9	6.1	12.0	-60.0
	0080-31	10/21/2014	13:15	200	0hr 39min	6.3	8.90	8.95	26.7	0.2	1,031	11.3	6.0	4.0	-9.0
	0080-32	5/6/2015	10:17	100	0hr 37min	3.5	6.95	7.05	26.7	0.2	896	9.9	5.9	119	-24.1

SLID	SIN	Date	Sample Time	Stabilized Purge Rate (ml/min)	Pre-sampling Purge Time (Hr:Min)	Purge Volume (Liters)	Initial Water Depth (ftbtoc)	Final Water Depth (ftbtoc)	Intake Sample Depth (ftbtoc)	Dissolved Oxygen (mg/L)	Specific Cond. (umho/cm)	Temp (Deg C)	pH (SU)	Turbidity (NTU)	ORP (mV)
	0080-33	10/6/2015	13:05	200	0hr 30min	6.0	8.54	8.65	26.7	0.4	992	11.6	5.9	13.0	-11.0
J_MW-23A															
	0088-01	11/16/2000	15:05	250	0hr 32min	8.0	8.92	9.05	22.1	1.3	1,296	9.7	6.4	4.2	-20.0
	0088-02	5/3/2001	10:07	250	0hr 32min	8.0	3.50	3.63	22.1	0.4	935	10.5	6.4	9.8	-6.3
J_MW-23B															
	0087-01	11/16/2000	15:20	320	0hr 47min	13.0	8.42	8.56	28.1	0.4	1,136	9.7	6.4	108	-34.7
	0087-02	5/3/2001	10:15	320	0hr 39min	11.0	2.91	3.14	28.1	0.3	842	10.3	6.5	146	41.1
	0087-03	10/23/2001	14:20	330	0hr 33min	11.0	9.29	9.64	28.1	0.4	818	9.9	6.5	135	-6.2
	0087-04	4/17/2002	9:52	330	0hr 34min	11.0	5.71	5.88	27.0						
	0087-05	10/18/2002	11:00	333	0hr 38min	11.0	9.24	9.38	27.0						
	0087-06	4/16/2003	10:18	333	0hr 33min	11.0	5.80	5.90	28.1						
	0087-07	10/14/2003	15:00	330	0hr 33min	11.0	8.15	8.40	28.1						
	0087-08	4/20/2004	13:32	330	0hr 34min	11.0	5.08	5.21	28.1						
	0087-09	10/14/2004	10:30	200	0hr 50min	11.0	7.20	7.26	28.1						
	0087-10	4/27/2005	13:45	330	0hr 33min	11.0	4.55	4.82	28.1						
	0087-11	10/18/2005	14:45	330	0hr 33min	11.0	6.90	7.00	28.1						
	0087-12	4/11/2006	14:30	330	0hr 24min	8.0	6.05	6.19	28.1						
	0087-13	10/24/2006	13:55	333	0hr 24min	8.0	7.04	7.22	28.1						
	0087-14	4/19/2007	13:45	330	0hr 24min	8.0	3.76	3.78	28.1						
	0087-15	10/17/2007	11:10	330	0hr 30min	8.0	7.62	7.65	28.1						
	0087-16	4/23/2008	15:05	330	0hr 25min	8.0	2.95	3.08	28.1						
	0087-17	10/7/2008	15:27	320	0hr 27min	8.6	7.20	7.25	28.1						
	0087-18	3/25/2009	13:45	330	0hr 25min	8.0	6.24	6.45	28.1						
	0087-19	4/21/2009	13:32	330	0hr 27min	8.9	5.52	5.63	28.1						
	0087-20	7/14/2009	13:08	330	0hr 24min	8.0	6.46	6.62	28.1						
	0087-21	10/20/2009	13:40	330	0hr 27min	9.0	7.25	7.28	28.1						
	0087-22	4/20/2010	10:15	330	0hr 27min	9.0	4.89	5.02	26.1						
	0087-23	10/12/2010	12:00	330	0hr 27min	9.0	6.65	6.74	26.5						
	0087-24	4/26/2011	11:00	330	0hr 27min	9.0	2.62	2.84	26.1						

SLID	SIN	Date	Sample Time	Stabilized Purge Rate (ml/min)	Pre-sampling Purge Time (Hr:Min)	Purge Volume (Liters)	Initial Water Depth (ftbtoc)	Final Water Depth (ftbtoc)	Intake Sample Depth (ftbtoc)	Dissolved Oxygen (mg/L)	Specific Cond. (umho/cm)	Temp (Deg C)	pH (SU)	Turbidity (NTU)	ORP (mV)
	0087-25	10/18/2011	12:00	330	0hr 27min	9.0	5.78	6.04	26.5						
	0087-26	5/3/2012	12:40	330	0hr 27min	9.0	6.66		27.0						
	0087-27	11/15/2012	14:54	330	0hr 27min	9.0		7.56	24.5						
	0087-28	4/11/2013	9:58	330	0hr 33min	11.0	7.07		27.0						
	0087-29	10/15/2013	10:38	250	0hr 56min	14.0	7.87		25.0						
	0087-30	5/13/2014	15:16	330	0hr 56min	18.0	4.10		25.0						
	0087-31	10/21/2014	15:10	285	0hr 45min	12.0	7.55		25.0						
	0087-32	5/6/2015	15:02	250	0hr 30min	7.0	6.03	6.50	24.0						
	0087-33	10/6/2015	11:00	200	0hr 48min	8.0	7.35	7.65	24.0						
J_MW-24A															
	0089-01	11/17/2000	9:35	250	0hr 49min	13.0	8.69	8.74	22.5	0.5	1,499	10.5	6.0	66.0	-3.0
	0089-02	5/2/2001	12:27	250	0hr 37min	10.0	3.01	3.07	22.5	1.1	1,006	9.1	6.2	64.2	-0.1
	0089-03	10/23/2001	11:35	250	0hr 41min	10.0	9.68	9.70	22.5	0.4	1,484	10.1	6.1	27.0	-25.0
	0089-04	4/16/2002	12:25	250	0hr 37min	9.0	5.98	6.05	22.5	0.2	1,398	7.9	6.2	45.0	55.0
	0089-05	10/15/2002	14:00	250	0hr 31min	7.0	9.79	9.85	22.5	0.4	1,313	7.8	6.5	4.7	-22.0
	0089-06	4/15/2003	12:35	250	0hr 37min	9.0	5.93	5.95	6.0	0.8	113	8.1	6.3	25.0	125
	0089-07	10/14/2003	12:55	250	0hr 36min	9.0	8.36	8.38	22.5	0.5	678	12.3	5.6	19.7	14.0
	0089-08	4/20/2004	9:25	250	0hr 36min	9.0	5.22	5.28	22.5	0.3	611	7.2	6.2	15.0	10.4
	0089-09	10/12/2004	14:15	250	0hr 36min	9.0	7.35	7.42	22.5	0.6	729	11.5	6.4	3.3	-112
	0089-10	4/27/2005	11:32	250	0hr 36min	9.0	4.72	4.77	22.5	0.2	1,417	8.3	6.1	6.0	2.0
	0089-11	10/18/2005	13:08	250	1hr 17min	9.0	6.92	6.97	22.5	0.2	1,274	11.2	5.9	6.0	84.0
	0089-12	4/11/2006	13:00	250	0hr 29min	8.0	6.13	6.18	22.5	0.6	1,248	8.7	5.9	87.0	-30.0
	0089-13	10/24/2006	12:37	250	0hr 37min	9.0	7.08	7.16	22.5	1.0	1,343	11.6	6.1	6.0	-27.0
	0089-14	4/19/2007	12:40	250	0hr 37min	9.0	3.83	4.89	22.5	0.2	1,024	8.7	6.2	7.7	7.0
	0089-15	10/17/2007	9:00	250	0hr 35min	7.0	7.93	8.05	22.5	0.5	2,043	11.1	6.2	4.0	-62.0
	0089-16	4/23/2008	13:20	250	0hr 32min	8.0	3.06	3.10	22.5	0.6	1,599	8.7	6.3	68.0	-25.0
	0089-17	10/7/2008	14:20	250	0hr 28min	7.5	7.45	7.49	22.5	0.2	1,456	11.7	6.2	3.0	-58.6
	0089-18	3/25/2009	9:15	250	0hr 35min	8.0	6.31	6.38	22.5	0.5	1,790	8.6	6.3	28.0	-135
	0089-19	4/20/2009	15:00	250	0hr 27min	6.8	5.55	5.56	22.5	0.4	1,900	8.7	6.2	9.1	-37.6

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	0089-20	7/14/2009	14:41	250	0hr 24min	6.0	6.55	6.55	22.5	0.2	1,564	10.5	6.2	24.0	-49.0
	0089-21	10/20/2009	13:50	250	0hr 27min	6.8	7.86	7.87	22.5	0.3	1,490	11.0	6.1	8.4	-35.0
	0089-22	4/19/2010	14:40	250	0hr 24min	6.0	4.92	5.03	22.5	0.7	1,769	9.2	6.0	28.0	-3.0
	0089-23	10/12/2010	11:45	250	0hr 28min	7.0	6.82	6.88	22.5	0.3	1,742	11.6	6.3	11.0	-63.0
	0089-24	4/25/2011	12:10	250	0hr 28min	7.0	2.76	2.76	22.5	0.6	1,778	8.4	6.4	25.0	-47.0
	0089-25	10/18/2011	11:54	250	0hr 28min	7.0	5.91	6.02	22.5	0.3	1,634	11.7	6.3	9.0	-59.0
	0089-26	5/2/2012	14:00	250	0hr 40min	10.0	6.88	6.88	22.5	0.5	1,696	9.5	6.3	11.0	-45.0
	0089-27	11/14/2012	13:23	250	0hr 52min	13.0	7.59	7.97	22.5	0.2	2,257	10.8	6.4	8.7	-59.0
	0089-28	4/10/2013	11:59	250	0hr 44min	11.0	7.38	7.41	22.5	0.6	1,878	9.1	6.0	10.0	-34.0
	0089-29	10/14/2013	14:44	250	0hr 40min	10.0	8.16	8.21	22.5	0.2	1,647	10.6	6.2	5.0	-30.0
	0089-30	5/13/2014	10:30	250	1hr 0min	14.5	4.14	4.15	22.5	0.1	1,754	8.6	6.5	4.2	-85.5
	0089-31	10/21/2014	9:37	200	0hr 42min	8.0	8.81	8.83	22.5	0.2	2,270	11.5	6.3	9.9	-35.0
	0089-32	5/5/2015	13:12	200	0hr 52min	10.0	6.10	6.10	22.5	0.1	1,954	906	6.4	10.0	-41.0
	0089-33	10/6/2015	10:17	200	0hr 45min	9.0	8.21	8.25	22.5	0.4	2,284	9.9	6.0	2.8	-50.0
J_MW-24B															
	0090-01	11/17/2000	9:40	240	0hr 53min	12.0	8.85	9.18	30.2	0.3	810	10.2	6.2	45.0	-15.2
	0090-02	5/2/2001	12:30	230	0hr 37min	8.0	3.03	3.53	30.2	1.6	471	10.1	6.4	102	-17.8
	0090-03	10/23/2001	11:45	230	0hr 47min	10.0	9.57	10.48	30.2	0.3	526	10.6	6.4	165	-43.2
	0090-04	4/16/2002	12:40	240	0hr 32min	9.0	6.49	6.43	30.2	0.3	664	11.2	6.3	96.4	-21.9
	0090-05	10/15/2002	14:20	270	0hr 48min	6.0	9.70	10.23	30.2	0.4	331	11.5	6.0	11.9	-40.1
	0090-06	4/15/2003	13:00	240	0hr 26min	7.0	5.75	6.31	30.2	0.3	908	9.4	6.3	40.1	-67.0
	0090-07	10/14/2003	13:15	240	0hr 30min	8.0	8.17	8.78	30.2	0.2	830	11.4	6.0	11.4	-31.0
	0090-08	4/20/2004	9:30	240	0hr 25min	7.0	5.14	5.63	30.2	0.3	777	7.9	6.4	15.4	-92.0
	0090-09	10/12/2004	14:15	200	0hr 30min	7.0	7.20	7.66	30.2	0.8	813	11.4	6.3	9.0	-67.6
	0090-10	4/27/2005	11:40	240	0hr 25min	6.0	4.71	5.20	30.2	0.2	796	8.8	6.3	26.0	-41.0
	0090-11	10/18/2005	13:15	240	0hr 29min	7.0	6.85	7.30	30.2	0.2	835	11.4	6.2	7.5	-56.0
	0090-12	4/11/2006	13:15	240	0hr 34min	8.0	6.00	6.51	30.2	0.2	826	9.0	6.4	25.0	-63.0
	0090-13	10/24/2006	12:45	240	0hr 26min	6.0	6.90	7.46	30.2	0.2	841	11.0	6.2	3.8	-60.0
	0090-14	4/18/2007	13:20	240	0hr 35min	8.0	3.56	4.26	30.5	0.2	569	9.0	6.2	18.0	-29.0

SLID	SIN	Date	Sample Time	Stabilized Purge Rate (ml/min)	Pre-sampling Purge Time (Hr:Min)	Purge Volume (Liters)	Initial Water Depth (ftbtoc)	Final Water Depth (ftbtoc)	Intake Sample Depth (ftbtoc)	Dissolved Oxygen (mg/L)	Specific Cond. (umho/cm)	Temp (Deg C)	pH (SU)	Turbidity (NTU)	ORP (mV)
	0090-15	10/17/2007	10:10	240	0hr 32min	6.0	7.79	8.34	30.2	0.3	837	11.1	6.2	5.6	-65.0
	0090-16	4/24/2008	13:30	240	0hr 34min	6.4	2.83	3.20	30.2	0.0	817	10.2	6.3	25.0	-126
	0090-17	10/7/2008	14:05	250	0hr 24min	6.0	7.22	7.69	30.2	0.2	861	11.2	6.1	7.9	-63.0
	0090-18	3/25/2009	10:22	250	0hr 26min	6.0	6.18	6.67	30.2	0.7	852	9.0	6.3	25.0	-99.0
	0090-19	4/20/2009	14:55	240	0hr 29min	7.0	5.33	5.86	30.2	0.5	835	9.5	6.2	18.0	-49.0
	0090-20	7/14/2009	15:50	250	0hr 30min	7.3	6.85	6.99	30.2	0.2	745	10.5	6.1	21.0	-54.0
	0090-21	10/20/2009	15:00	250	0hr 27min	12.6	7.71	8.30	30.2	0.4	861	10.7	5.9	9.8	-47.0
	0090-22	4/19/2010	13:45	250	0hr 32min	8.0	4.72	4.93	30.2	1.0	892	9.7	5.9	19.0	-4.0
	0090-23	10/12/2010	13:08	250	0hr 32min	8.0	6.68	7.33	30.2	0.5	882	11.2	6.1	10.0	-67.0
	0090-24	4/25/2011	11:10	250	0hr 36min	9.0	2.75	3.24	30.2	1.1	838	9.0	6.2	27.0	-75.0
	0090-25	10/18/2011	13:25	250	0hr 32min	8.0	5.78	6.23	30.2	0.3	911	11.0	6.2	10.0	-54.0
	0090-26	5/3/2012	11:15	250	0hr 36min	9.0	6.72	7.23	30.2	0.7	969	9.7	6.1	15.0	-19.0
	0090-27	11/14/2012	15:11	250	0hr 44min	11.0	7.71	8.28	30.2	0.3	888	10.3	6.1	30.0	-50.0
	0090-28	4/10/2013	10:44	250	0hr 44min	11.0	7.21	7.90	30.2	0.7	875	9.5	5.7	19.0	-67.0
	0090-29	10/14/2013	13:30	250	0hr 41min	10.0	8.07	8.83	30.2	0.4	925	10.3	5.9	15.0	-32.0
	0090-30	5/13/2014	11:22	150	0hr 33min	4.8	4.00	4.30	30.2	0.2	877	8.7	6.1	15.0	-67.0
	0090-31	10/21/2014	10:40	150	0hr 40min	6.7	8.55	8.72	30.2	0.2	930	11.8	6.1	27.0	-38.0
	0090-32	5/5/2015	14:37	300	0hr 57min	16.0	5.95	6.50	30.2	0.1	798	9.4	6.1	50.0	-58.0
	0090-33	10/6/2015	11:17	300	0hr 45min	13.5	8.15	8.60	30.2	0.5	1,058	9.4	5.7	14.0	-35.0
J_PZ-2D															
	0359-01	4/20/2010	13:30	120	0hr 17min	1.9	3.01	26.50	26.5	1.7	798	9.6	8.2	220	-114
J_PZ-2S															
	0358-01	4/20/2010	12:25	120	0hr 10min	1.4	3.03	19.50	19.5	5.1	969	9.4	8.3	100	75.0
J_PZ-3AD															
	0361-01	4/21/2010	11:05	75.0	0hr 20min	1.6	2.60	26.00	26.0	0.5	663	11.4	7.6	450	-189
J_PZ-3AS															
	0360-01	4/21/2010	14:15	150	0hr 4min	0.9	2.83	18.50	18.5	0.2	1,079	9.7	9.1	> 1,100	-271
T_MW-25B															
	0500-01	5/13/2014	13:37	200	0hr 52min	10.0	3.73	4.12	26.0	0.0	1,035	9.8	7.2	95.0	-154

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	0500-02	10/20/2014	15:25	100	0hr 28min	8.3	7.84	8.05	26.0	0.2	787	11.2	6.3	11.9	-84.0
	0500-03	5/6/2015	12:44	200	0hr 37min	6.0	5.65	5.98	26.0	0.2	1,048	10.4	6.0	31.0	-65.8
	0500-04	10/6/2015	15:05	200	0hr 40min	8.0	7.53	7.70	26.0	0.4	1,234	12.4	6.1	8.0	-67.0
T_MW-26A															
	0501-01	5/13/2014	7:00	200	0hr 37min	7.1	4.44	> 12.40	14.0	0.3	1,010	7.4	6.8	36.0	-91.0
	0501-02	10/22/2014	16:25	100	0hr 29min	3.6	8.72	> 10.75	14.0	1.5	995	14.7	7.0	8.4	-97.0
	0501-03	5/5/2015	11:30	300	0hr 15min	5.5	6.40	> 12.40	14.0	1.1	786	7.2	7.0	16.0	-72.0
	0501-04	10/5/2015	13:20	200	0hr 20min	4.5	7.78	14.00	14.0	1.0	943	13.3	6.9	3.7	-91.0
T_MW-26B															
	0502-01	5/13/2014	7:57	200	0hr 47min	9.0	4.19	4.51	26.0	0.2	1,494	11.2	6.8	37.0	-110
	0502-02	10/22/2014	13:17	200	0hr 52min	10.0	8.85	9.04	26.0	0.5	1,759	12.5	6.6	5.7	-96.0
	0502-03	5/5/2015	11:26	200	0hr 55min	11.0	5.95	6.30	26.0	0.2	1,126	10.6	6.5	6.5	-93.1
	0502-04	10/5/2015	12:12	400	0hr 45min	18.0	8.44	8.76	26.0	0.5	1,292	9.7	6.3	1.1	-94.0
T_MW-27A															
	0503-01	5/13/2014	7:12	150	0hr 50min	7.8	4.95	5.10	16.0	0.2	1,381	9.5	8.1	15.0	-260
	0503-02	10/22/2014	15:37	200	0hr 45min	7.8	9.74	9.98	16.0	0.3	1,455	13.4	6.5	4.0	-52.2
	0503-03	5/4/2015	14:48	400	0hr 53min	19.5	6.91	7.25	16.0	0.2	1,212	10.1	6.1	2.0	-79.0
	0503-04	10/5/2015	14:27	200	0hr 35min	7.0	9.28	9.60	16.0	0.4	1,318	11.1	5.7	1.9	-23.0
T_MW-27B															
	0504-01	5/13/2014	8:05	150	0hr 44min	6.7	4.75	5.00	31.0	0.4	1,200	10.1	6.7	85.0	-94.0
	0504-02	10/22/2014	15:25	200	1hr 9min	12.0	9.55	10.12	31.0	0.2	1,284	12.4	6.6	7.6	-76.4
	0504-03	5/4/2015	14:47	100	0hr 50min	5.5	6.72	6.95	31.0	0.5	1,102	12.7	6.4	12.5	-54.3
	0504-04	10/5/2015	15:27	200	0hr 40min	8.0	9.18	9.60	31.0	0.4	1,143	10.7	6.3	4.9	-67.0
T_MW-28A															
	0505-01	5/13/2014	8:47	200	0hr 42min	8.0	5.48	6.04	16.0	0.2	1,040	9.4	6.4	97.0	-42.0
	0505-02	10/22/2014	15:30	150	0hr 55min	8.3	10.18	10.41	16.0	0.5	1,289	13.1	6.2	9.3	-30.0
	0505-03	5/5/2015	10:02	300	0hr 50min	16.0	7.40	7.90	16.0	0.2	995	9.5	6.1	7.7	-53.0
	0505-04	10/5/2015	13:40	300	0hr 40min	12.0	9.84	10.26	16.0	0.4	1,148	12.7	5.8	6.0	-82.0
T_MW-28B															

SLID	SIN	Date	Sample Time	Stabilized Purge Rate (ml/min)	Pre-sampling Purge Time (Hr:Min)	Purge Volume (Liters)	Initial Water Depth (ftbtoc)	Final Water Depth (ftbtoc)	Intake Sample Depth (ftbtoc)	Dissolved Oxygen (mg/L)	Specific Cond. (umho/cm)	Temp (Deg C)	pH (SU)	Turbidity (NTU)	ORP (mV)
	0506-01	5/13/2014	8:57	200	0hr 29min	5.2	5.29	5.35	24.0	0.3	1,399	10.1	6.2	110	-37.0
	0506-02	10/22/2014	16:05	200	0hr 27min	5.3	9.95	10.05	24.0	0.2	1,354	12.0	6.1	0.4	-45.0
	0506-03	5/5/2015	9:41	200	0hr 25min	5.0	7.22	7.47	24.0	0.2	1,312	10.2	6.0	3.4	-57.3
	0506-04	10/5/2015	12:35	200	0hr 35min	7.0	9.52	9.85	24.0	0.3	1,290	11.1	5.6	7.0	-68.0

Please note the following: Blank records indicate no data is available for this parameter on date of sampling.

Summary of Non-Aqueous Phase Liquid Measurements in Monitoring Wells 2000-2015											
Well	Construction		Well Installation			Non-Aqueous Phase Liquid (NAPL) Measurements					
	Depth (fbgs)	Diam. (in.)	Installer	Date	Method	Date	Water Level (ftbtoc)	LNAPL (ft.)	DNAPL (ft.)	Max PID (ppmv)	Notes:
8_MW-1B	51	2	Peer	11/13/1989	Rotary	8/23/2000	4.91	0.0	0.0	0.0	No evidence of NAPL
						11/14/2001	5.41	0.0	0.0	0.0	No product on sorbents, probes or bailer
						10/30/2002	5.13	0.0	0.0	0.0	No product on sorbents, probes or bailer
						10/15/2003	5.08	0.0	0.0	0.0	No product on sorbents, probes or bailer
						10/14/2004	4.24	0.0	0.0	0.0	No product on sorbents, probes or bailer
						10/20/2005	4.17	0.0	0.0	0.0	No NAPL or sheens on sorbents, probes or bailer
						10/25/2006	4.04	0.0	0.0	0.0	No NAPL or sheens on sorbents, probes or bailer
						10/17/2007	4.25	0.0	0.0	0.0	No NAPL or sheens on sorbents, probes or bailer
						10/9/2008	4.13	0.0	0.0	0.0	No NAPL or sheens on sorbents, probes or bailer
						10/22/2009	4.08	0.0	0.0	0.0	No NAPL or sheens on sorbents, probes or bailer
						10/14/2010	4.08	0.0	0.00	0.0	No NAPL or sheens on sorbents, probes or bailer
						10/20/2011	3.50	0.0	0.0	0.0	No NAPL or sheens on sorbents, probes or bailer
						11/16/2012	4.02	0.0	0.0	0.0	No NAPL or sheens on sorbents, probes or bailer
						10/14/2013	4.00	0.0	0.0	NM	No NAPL or sheens on Interface probe
						10/22/2014	4.40	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape.
						10/5/2015	4.32	0.0	0.0	0.4	No evidence of NAPL
8_MW-3C	66	2	Peer	11/5/1989	Rotary	8/23/2000	10.64	0.0	0.0	0.0	No evidence of NAPL
						11/14/2001	4.62	0.0	0.0	0.0	No product on sorbents, probes or bailer
						10/30/2002	4.84	0.0	0.0	0.0	No product on sorbents, probes or bailer
						10/15/2003	flowing	0.0	0.0	0.0	No product on sorbents, probes or bailer
						10/14/2004	flowing	0.0	0.0	0.0	No product on sorbents, probes or bailer
						10/20/2005	1.49	0.0	0.0	0.0	No NAPL or sheens on sorbents, probes or bailer
						10/25/2006	flowing	0.0	0.0	0.0	No NAPL or sheens on sorbents, probes or bailer
						10/17/2007	flowing	0.0	0.0	0.0	No NAPL or sheens on sorbents, probes or bailer
						10/9/2008	flowing	0.0	0.0	0.0	No NAPL or sheens on sorbents, probes or bailer
						10/22/2009	flowing	0.0	0.0	0.0	No NAPL or sheens on sorbents, probes or bailer
						10/14/2010	0.30	0.0	0.0	0.0	No NAPL or sheens on sorbents, probes or bailer
						10/20/2011	flowing	0.0	0.0	0.0	No NAPL or sheens on sorbents, probes or bailer
						11/16/2012	0.81	0.0	0.0	0.0	No NAPL or sheens on sorbents, probes or bailer
						10/14/2013	flowing	0.0	0.0	NM	No NAPL or sheens on Interface probe
						10/22/2014	2.53	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape. Gray silt on probe tip.
						10/5/2015	1.26	0.0	<0.1	0.2	<1/2 inch on Interface probe
8_MW-4B	154	2	Peer	11/19/1989	Rotary	9/21/2000	4.82	0.0	~0.8	5.4	Obstruction ~1 ftbtoc. Brown/black stains on bailer. Sheens & odor on sorbent and probe
						7/11/2001	flowing	Sheen	~0.8-0.9	1.1	1/4" diameter blobs in flow. Brown stains, sheen, and odor on probe, bailer and sorbent. Nc NAPL recovery in bailer. Few streaks and stains, moderate odor on sock
						11/14/2001	flowing	Sheen	Present	8.4	Strong odor and sheen on flowing water. Brown product stains on probe and bailer, but nc measureable product. Few streaks and stains, and moderate odor on sorbent
						10/30/2002	flowing	0.0	~0.1	0.0	Slight odor at well head. Thick black tar product on probe. Blockage in well prevented NAPL removal. Bailer and sorbent not used.
						10/15/2003	flowing	0.0	~0.1	0.0	0.09' thick black tar product on probe. Blockage in well prevented bailer and sorbent use
						10/14/2004	flowing	0.0	<0.1	0.0	0.02' thick black tar product on probe. Blockage in well prevented bailer and sorbent use.
						10/20/2005	flowing	0.0	0.0	0.0	~0.02' black, thick tar DNAPL on tip of probe. No bailer or sorbent due to obsruction at 1.5
						10/25/2006	flowing	0.0	~0.04	0.0	~0.04' black, thick tar DNAPL on tip of probe. No bailer or sorbent due to obsruction at 1.5'
						10/17/2007	flowing	0.0	~0.02	0.0	~0.02' black, thick tar DNAPL on tip of probe. No bailer or sorbent due to obsruction at 1.5'
						10/9/2008	flowing	0.0	~0.03	0.0	~0.03' black, thick tar DNAPL on tip of probe. No bailer or sorbent due to obsruction at 1.5'
						10/22/2009	flowing	0.0	<0.1	0.0	Few pinhead specks of DNAPL on water marker tip. No bailer or sorbent due to obstruction at 1.5'
						10/14/2010	flowing	0.0	<0.1	0.0	Two <1/4" globs DNAPL on tip of probe. No bailer or sorbent due to obstruction at 1.5'
						10/20/2011	flowing	0.0	<0.1	0.0	Smearing of very thick, sticky NAPL on portions of bottom ~0.3' of water marker. No sorbent or bailer due to obstruction at 1.5
						11/16/2012	flowing	0.0	0.0	0.0	No DNAPL on probe/water level marker. No sorbent or bailer due to obstruction at 1.5'
						10/14/2013	flowing	0.0	<0.1	NM	No DNAPL per interface probe; 1/8 inch DNAPL on probe tip.
						10/22/2014	flowing	0.0	<0.1	0.0	No measureable DNAPL. Blob of black, semi-solid, NAPL on probe tip. Coal tar odor.
						10/5/2015	flowing	0.0	<0.1	0.4	Spotty grey sheen on water surface, NAPL droplets on lower 1/2 inch of probe tip

Updated: JEP 12/09/15
QA: JRB 12/10/15

Summary of Non-Aqueous Phase Liquid Measurements in Monitoring Wells 2000-2015											
Well	Construction		Well Installation			Non-Aqueous Phase Liquid (NAPL) Measurements					
	Depth (fbgs)	Diam. (in.)	Installer	Date	Method	Date	Water Level (ftbtoc)	LNAPL (ft.)	DNAPL (ft.)	Max PID (ppmv)	Notes:
8_MW-8A	150	2	Peer	10/30/1989	auger and core	8/23/2000	10.64	0.0	0.0	0.0	No evidence of NAPL
						11/14/2001	2.88	0.0	0.0	0.0	No product on sorbents, probes or bailer
						10/30/2002	0.04	0.0	0.0	0.0	No product on sorbents, probes or bailer
						10/15/2003	flowing	0.0	0.0	0.0	No product on sorbents, probes or bailer
						10/14/2004	flowing	0.0	0.0	0.0	No product on sorbents, probes or bailer
						10/18/2005	flowing	0.0	0.0	0.0	No product on sorbents, probes or bailer, strong sulfur odor
						10/25/2006	flowing	0.0	0.0	0.0	No product on sorbents, probes or bailer, strong sulfur odor
						10/16/2007	flowing	0.0	0.0	0.0	No product on sorbents, probes or bailer, strong sulfur odor
						10/7/2008	flowing	0.0	0.0	0.0	No NAPL or sheen on sorbent, probe or bailer
						10/22/2009	flowing	0.0	0.0	0.0	No NAPL or sheen on sorbent, probe or bailer
						10/14/2010	0.15	0.0	0.0	0.0	No NAPL or sheen on sorbent, probe or bailer
						10/20/2011	0.05	0.0	0.0	0.0	No NAPL or sheen on sorbent, probe or bailer
						11/16/2012	0.15	0.0	0.0	0.0	No NAPL or sheen on sorbent, probe or bailer
						10/14/2013	0.00	0.0	0.0	NM	No NAPL or sheens on bailer
						10/22/2014	0.05	0.0	0.0	0.5	No evidence of NAPL on Water Level Tape.
						10/7/2015	NM	NM	NM	NM	Could not locate well; covered with lawn grass
6_MW-12	98	2	M & E	11/2/1990	auger and spun casing	6/20/2000	0.68	NM	~0.5	MM	Odor and black product on marker
						7/28/2000	4.00	NM	0.35	0.6	~350 ml NAPL removed
						8/2/2000	3.96	Sheen	0.02	NM	Removed sorbent sock
						8/16/2000	NM	NM	0.02	NM	
						8/23/2000	5.43	0.0	0.00	8.6	Odor on bailer
						9/8/2000	NM	0.0	Present	NM	Odor and stains on bottom of bailer
						5/7/2001	0.43	0.0	Present	4.6	Smeared product on lower 2" of probe, bailer & sorbent lowered to bottom of well.
						11/14/2001	flowing	Sheen	Present	6.2	Small black/brown product globs in bailer and on ends of bailer and marker, but no measurable product. Product stains and odor on sorbent.
						10/30/2002	flowing	Sheen	0.01-0.02	0.0	Product on tip of probe. Slight odor. Product stains on sorbent and bailer tips.
						10/15/2003	flowing	Sheen	<0.05	0.0	1/4" diameter brown tar blobs on tip of probe, sorbent and bailer. Slight odor.
						10/14/2004	flowing	Sheen	<0.1	0.0	Gray silty sand w/ tiny specs of brown DNAPL on bottom 0.01' of probe. Bottom 0.1' of bailer and sorbent has few 1/16" specks of DNAPL and slight odor.
						10/20/2005	flowing	Sheen	0.02-0.05	0.0	Specks of brown DNAPL and silt on tip of water marker. No measurable product. 0.02-0.05' DNAPL smeared on tip of bailer and sorbent. Slight sheen and odor on bailed water
						10/25/2006	flowing	Sheen	0.0	0.0	Black thick tar-like DNAPL on tip of water marker (0.04'). Minor smudges of DNAPL and minor sheens on bottom of bailer and sorbent. Slight product odor on purge water
						10/17/2007	flowing	Sheen	~0.02	0.0	Black thick tar-like DNAPL on tip of water marker (~0.02'). Minor smudges of DNAPL and minor sheens on bottom of bailer and sorbent. Slight product odor on purge water.
						10/9/2008	flowing	Sheen	Present	0.0	Black thick tar-like DNAPL on tip of water marker (two small pin-head sized specs). No NAPL on bottom of bailer or sorbent. Slight product odor on purge water.
						10/22/2009	flowing	Sheen	<0.1	0.0	~0.05' thick black DNAPL specs mixed with gray sediment on tip of water marder. No NAPL on bailer or sorbent.
						10/14/2010	flowing	0.0	<0.1	0.0	Few pinhead sized specs of DNAPL on tip of water marker. No NAPL on bailer or sorbent
						10/20/2011	flowing	0.0	<0.1	0.0	Few pinhead sized specs of DNAPL on tip of water marker. No NAPL on bailer or sorbent.
						11/16/2012	flowing	0.0	<0.1	0.0	Few pinhead specs of DNAPL on tip of water marker. Trace NAPL on bailer and sorbent.
						10/14/2013	flowing	0.0	<0.1	NM	No DNAPL per interface probe; 1/4 inch DNAPL on probe tip.
						10/22/2014	flowing	0.0	0.0	0.0	Sheen off probe tip, coal tar odor.
						10/5/2015	flowing	0.0	<0.1	0.0	NAPL droplets on lower 1/4 inch of probe tip

Summary of Non-Aqueous Phase Liquid Measurements in Monitoring Wells 2000-2015											
Well	Construction		Well Installation			Non-Aqueous Phase Liquid (NAPL) Measurements					
	Depth (fbgs)	Diam. (in.)	Installer	Date	Method	Date	Water Level (ftbtoc)	LNAPL (ft.)	DNAPL (ft.)	Max PID (ppmv)	Notes:
6_MW-17	25	2	M & E	10/30/1990	Auger	5/16/2001	0.66	Sheen	0.5	60.0	Black/brown product on sorbent and on bailer with strong odor
						11/14/2001	7.01	Sheen	Present	31.6	Many black product globs in bailer and on ends of bailer and probe, but no measurable product Product stains and strong odor on sorbent and on well casing.
						4/17/2002	3.63	film	0.3	19.1	DNAPL on bailer, probe and sorbent. 10-15 ml DNAPL removed by bailer
						10/30/2002	8.29	Sheen	0.5	0.2	~0.5 ft dark brown tar-like DNAPL by IF probe, bailer and sorbent. ~270 ml DNAPL with tar-like odor removed by peri-pump. Stains on probe after, but no measurable NAPL.
						4/16/2003	6.31	Sheen	0.1	0.2	~0.1 ft dark brown tar-like DNAPL/gray fine sand mix by probe, bailer and sorbent
						10/15/2003	5.58	0.0	0.1	2.3	0.1 ft DNAPL on bailer & sorbent. 0.04' DNAPL in bailer. 0.2' DNAPL on parts of probe.
						4/20/2004	3.05	Sheen	<0.1	1.1	0.05' brown tar-like DNAPL on bailer tip & sorbent. 0.06-0.08 ft. DNAPL on interface probe tip.
						10/14/2004	4.96	Sheen	<0.1	0.0	0.05-0.07 ft. brown tar-like DNAPL on bailer and sorbent. 0.05-0.08' DNAPL on probe.
						4/27/2005	2.55	Sheen	0.1	0.0	0.13' brown tar-like DNAPL on probe and bailer. Swabbed out NAPL with sorbent until no measurable NAPL remained.
						10/20/2005	4.42	Sheen	0.05-0.08	0.0	0.08' brown tar-like DNAPL on probe tip with 0.15' DNAPL smeared on probe. Sheen on water. 0.05' of DNAPL on bailer with DNAPL specks in bail water. 0.05' brown DNAPL on sorbent with sheens/smearing to 0.15' and three 1/2" blotches of DNAPL on side of sorbent
						4/11/2006	3.99	Sheen	<0.1	0.0	Brown tar-like DNAPL smeared on probe tip, sorbent and tip of bailer but no measurable DNAPL. Sheens and small (<1/8") blobs of LNAPL floating in bail water
						10/24/2006	4.84	Sheen	0.1	4.8	0.05' brown tar-like DNAPL on bailer with 0.23' DNAPL smeared on portions of probe tip. Sheen on bail water. 0.05' DNAPL smeared on tip of bailer and sorbent.
						4/19/2007	1.42	Sheen	<0.1	0.0	~0.1' brown tar-like DNAPL smeared on portions of IF probe tip. Sheen on bail water. ~0.05' DNAPL smeared on tip and sorbent.
						10/17/2007	5.10	Sheen	<0.1	0.2	~0.2' brown tar-like DNAPL smeared on portions of IF probe tip. Sheen on bail water. ~0.08' DNAPL smeared on bailer tip and sorbent.
						4/24/2008	0.63	Sheen	0.0	0.0	Brown tar-like NAPL smeared on bottom 0.05' of probe. Similar smearing on bailer and sorbent Sheen/NAPL odor on bail water.
						10/9/2008	4.65	Sheen	1.1	71.0	~1.1' brown DNAPL (No LNAPL), removed with Bailer. Total NAPL removed ~0.8L along with 2.5L water/NAPL mix. After bailing (4 times) <0.1' NAPL remained in well
						3/26/2009	4.16	0.0	1.1	116.0	1.13' DNAPL in well (No LNAPL), removed with bailer. Total NAPL removed ~0.25 gallons + ~1.25 gallons water/NAPL mix. <0.1' DNAPL present 1 hour after bailing
						4/22/2009	3.51	0.0	0.4	101.0	5.25 inches DNAPL in well, removed with peri-pump. Total NAPL removed ~400 ml along with ~0.5 gallons NAPL/water mix. No NAPL recovery after 18 hours
						5/18/2009	3.91	0.0	0.1	109.0	1.5 inches DNAPL in bottom of well, No NAPL removal attempted.
						6/10/2009	3.76	0.0	0.1	60.0	1.25 inches DNAPL in bottom of well, No NAPL removal attempted.
						7/15/2009	4.38	0.0	0.2	96.2	0.2 feet DNAPL in bottom of well, NAPL removed with peri-pump. Total NAPL removed ~200 ml along with 1 liter water/NAPL mix. No NAPL recovery after ~18 hours.
						8/13/2009	3.51	0.0	<0.1	57.4	<0.1 feet DNAPL smear on probe. ~3/4 inches DNAPL on steel tape, No NAPL removal.
						9/8/2009	5.03	0.0	0.1	98.1	1.25" DNAPL, ~50 ml NAPL & ~250 ml NAPL/water mix removed. No NAPL after 20 hours.
						10/22/2009	4.98	0.0	0.3	126.2	~4" DNAPL, ~200 ml NAPL removed & 2 Liters NAPL/water mix. No NAPL after 18 hours.
						4/21/2010	2.80	0.0	1.0	NM	~1 ft. DNAPL, 1 L NAPL removed & 1 Liter NAPL/water mix. No NAPL after 1 hour.
						10/14/2010	4.59	0.0	0.9	2.8	0.9 ft. DNAPL, 0.5 L NAPL removed & 1 Liter NAPL/water mix. No NAPL after 1 hour.
						4/26/2011	0.24	0.0	0.7	NM	0.7 feet of DNAPL in well, Due to high lake/canal level no NAPL removal performed.
						10/18/2011	3.65	0.0	1.3	38.3	1.3 feet of DNAPL in well, 1.0 L NAPL removed along with ~6.5 L of NAPL/water mix.
						5/4/2012	2.78	0.0	0.8	NM	0.8 feet of DNAPL in well, 1.0 L NAPL removed along with ~2 L of NAPL/water mix.
						11/16/2012	5.42	0.0	1.0	35.0	1.0 feet of DNAPL in well, 0.6 L NAPL removed along with ~5 L of NAPL/water mix.
						4/11/2013	4.93	0.0	0.5	NM	0.5 ft. DNAPL in well (no LNAPL). 1.0 Liter NAPL and 1.5 Liter NAPL/Water mix removed.
						10/15/2013	5.60	0.0	1.1	46.0	0.7 ft. DNAPL per interface probe, 1.1 ft. on probe tape (no LNAPL). 0.5 Liter NAPL removed. No NAPL in well after removal.
						5/15/2014	2.18	0.0	1.5	NM	0.8 ft DNAPL per interface probe, 1.5 ft on probe tape. 0.5L DNAPL removed. No NAPL in well after removal.
						10/23/2014	7.50	0.0	0.1	15.2	0.1 ft DNAPL per interface probe. 4.0 L water/NAPL mix removed. No NAPL in well after removal.
						5/7/2015	4.14	0.0	0.1	NM	0.1 ft DNAPL per interface probe. 0.1 L NAPL removed. No NAPL in well after removal.
						10/5/2015	5.20	<0.01	0.2	31.0	Sheen on water surface. 0.15 ft DNAPL per interface probe, 0.1 ft. on bailer. 0.04 L NAPL removed. 3/4 inch NAPL after bailing.

Summary of Non-Aqueous Phase Liquid Measurements in Monitoring Wells 2000-2015											
Well	Construction		Well Installation			Non-Aqueous Phase Liquid (NAPL) Measurements					
	Depth (fbgs)	Diam. (in.)	Installer	Date	Method	Date	Water Level (ftbtoc)	LNAPL (ft.)	DNAPL (ft.)	Max PID (ppmv)	Notes:
6_MW-19	70	2	M&E	4/16/1992	spun/wash casing	8/23/2000	4.16	0.0	0.0	0.0	No evidence of NAPL
						11/14/2001	5.01	0.0	0.0	0.0	No product on sorbent, probe, or bailer
						10/30/2002	4.78	0.0	0.0	0.0	No product on sorbent, probe, or bailer
						10/15/2003	5.62	0.0	0.0	0.0	No product on sorbent, probe, or bailer
						10/14/2004	5.11	0.0	0.0	0.0	No product on sorbent, probe, or bailer
						10/18/2005	5.42	0.0	0.0	0.0	No product on sorbent, probe, or bailer
						10/25/2006	4.85	0.0	0.0	0.0	No product on sorbent, probe, or bailer (~0.1' gray silt on tip)
						10/17/2007	7.98	0.0	0.0	0.0	No product on sorbent, probe, or bailer (~0.1' gray silt on tip)
						10/9/2008	4.23	0.0	0.0	0.0	No product on sorbent, probe, or bailer (~0.1' gray silt on tip)
						10/22/2009	5.49	0.0	0.0	0.0	No product on sorbent, probe, or bailer (~0.1' gray silt on tip)
						10/14/2010	5.15	0.0	0.0	0.0	No product on sorbent, probe, or bailer (~0.1' gray silt on tip)
						10/19/2011	0.76	0.0	0.0	0.0	No product on sorbent, probe, or bailer (~0.1' gray silt on tip)
						11/16/2012	5.50	0.0	0.0	0.0	No product on sorbent, probe, or bailer (~0.1' gray silt on tip)
						10/14/2013	2.90	0.0	NM	NM	Well blocked at 47.2 fbtoc.
						10/22/2014	3.42	0.0	NM	0.0	Well blocked at 47.15 fbtoc.
						10/7/2015	5.00	0.0	NM	0.0	Well blocked at 48 fbtoc.
J_MW-20A	15	2	JCO	5/2/2000	Auger	5/16/2000	1.39	0.0	0.0	0.0	No product on sorbent, probe, or bailer
J_MW-20B	29	2	JCO	5/1/2000	Auger	5/16/2000	2.41	0.0	0.0	0.0	No product on sorbent, probe, or bailer
J_MW-21A	24	2	JCO	5/5/2000	Auger	5/16/2000	9.98	0.0	0.0	0.0	No product on sorbent, probe, or bailer
						3/25/2009	6.25	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/22/2009	5.52	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						5/18/2009	6.01	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						6/10/2009	6.88	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						7/14/2009	6.53	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						8/13/2009	6.31	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						9/8/2009	7.42	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						10/22/2009	7.78	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/21/2010	4.94	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						10/12/2010	7.10	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/26/2011	2.73	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						10/19/2011	5.83	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						5/4/2012	6.94	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						11/20/2012	8.08	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/11/2013	7.29	0.0	0.0	0.8	No evidence of NAPL with interface probe, steel tape or bailer
						10/15/2013	8.28	0.0	0.0	1.4	No evidence of NAPL with interface probe.
						4/14/2014	4.97	NM	NM	NM	No evidence on NAPL on water level.
						5/15/2014	4.33	0.0	0.0	0.0	No evidence of NAPL with interface probe.
						6/11/2014	5.88	0.0	NM	NM	No evidence of LNAPL with interface probe.
						7/8/2014	6.71	0.0	NM	NM	No evidence of LNAPL with interface probe.
						8/5/2014	7.55	0.0	NM	NM	No evidence of LNAPL with interface probe.
						9/3/2014	8.29	0.0	NM	NM	No evidence of LNAPL with interface probe.
						10/1/2014	9.10	0.0	0.0	NM	No evidence of LNAPL with interface probe.
						10/22/2014	9.03	0.0	0.0	NM	No evidence of NAPL on Water Level Tape. Gray silt on probe tip.
						1/21/2015	7.65	0.0	NM	0.0	No evidence of LNAPL with interface probe.
						5/7/2015	5.95	NM	NM	NM	No evidence of NAPL on water level tape.
						10/5/2015	8.45	0.0	0.0	0.0	No evidence of NAPL on water level tape.

Summary of Non-Aqueous Phase Liquid Measurements in Monitoring Wells 2000-2015											
Well	Construction		Well Installation			Non-Aqueous Phase Liquid (NAPL) Measurements					
	Depth (fbgs)	Diam. (in.)	Installer	Date	Method	Date	Water Level (ftbtoc)	LNAPL (ft.)	DNAPL (ft.)	Max PID (ppmv)	Notes:
J_MW-21B	36	2	JCO	5/4/2000	Auger	5/16/2000	3.13	0.0	0.0	0.0	No product on sorbent, probe, or bailer
						3/25/2009	9.04	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/22/2009	5.17	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						5/18/2009	8.29	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						6/10/2009	6.69	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						7/14/2009	8.24	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						8/13/2009	6.07	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						9/8/2009	7.19	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						10/22/2009	7.61	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/21/2010	4.84	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						10/12/2010	9.18	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/26/2011	2.52	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						10/19/2011	7.09	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						5/4/2012	6.65	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						11/20/2012	9.64	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/11/2013	7.07	0.0	0.0	0.0	No evidence of NAPL with interface probe, steel tape or bailer
						10/15/2013	10.55	0.0	0.0	0.1	No evidence of NAPL with interface probe.
						4/14/2014	4.69	NM	NM	NM	No evidence of NAPL on water level.
						5/15/2014	4.09	0.0	0.0	0.0	No evidence of NAPL with interface probe.
						6/11/2014	5.67	0.0	NM	NM	No evidence of LNAPL with interface probe.
						7/8/2014	6.45	0.0	NM	NM	No evidence of LNAPL with interface probe.
						8/5/2014	7.25	0.0	NM	NM	No evidence of LNAPL with interface probe.
						9/3/2014	8.02	0.0	NM	NM	No evidence of LNAPL with interface probe.
						10/1/2014	8.77	0.0	NM	NM	No evidence of LNAPL with interface probe.
						10/22/2014	10.28	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape. Gray silt on probe tip.
						1/21/2015	7.43	0.0	NM	0.0	No evidence of LNAPL with interface probe.
						5/7/2015	5.75	NM	NM	NM	No evidence of NAPL on water level tape.
						10/5/2015	8.21	0	0	0	No evidence of NAPL on water level tape.
J_MW-22A	25	2	JCO	6/9/2000	Auger	7/12/2000	7.85	0.0	0.0	0.0	No product on sorbent, probe, or bailer
						3/25/2009	7.07	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/22/2009	6.31	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						5/18/2009	6.79	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						6/10/2009	7.66	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						7/14/2009	7.27	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						8/13/2009	7.12	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						9/8/2009	8.07	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						10/22/2009	8.31	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/14/2014	5.84	NM	NM	NM	No evidence of NAPL on water level.
						5/15/2014	5.06	0.0	0.0	0.0	No evidence of NAPL with interface probe
						6/11/2014	6.69	0.0	NM	NM	No evidence of LNAPL with interface probe.
						7/8/2014	7.34	1.0	NM	NM	No evidence of LNAPL with interface probe.
						8/5/2014	8.06	2.0	NM	NM	No evidence of LNAPL with interface probe.
						9/3/2014	8.56	3.0	NM	NM	No evidence of LNAPL with interface probe.
						1/21/2015	8.10	0.0	NM	0.0	No evidence of LNAPL with interface probe.
						10/5/2015	8.75	0.0	0.0	8.0	No evidence of NAPL with water level marker.

Summary of Non-Aqueous Phase Liquid Measurements in Monitoring Wells 2000-2015											
Well	Construction		Well Installation			Non-Aqueous Phase Liquid (NAPL) Measurements					
	Depth (fbgs)	Diam. (in.)	Installer	Date	Method	Date	Water Level (ftbtoc)	LNAPL (ft.)	DNAPL (ft.)	Max PID (ppmv)	Notes:
J_MW-22B	30	2	JCO	6/9/2000	Auger	7/12/2000	7.79	0.0	0.0	0.0	No product on sorbent, probe, or bailer
						3/25/2009	7.15	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/22/2009	6.39	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						5/18/2009	6.88	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						6/10/2009	7.74	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						7/14/2009	7.52	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						8/13/2009	7.23	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						9/8/2009	8.08	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						10/22/2009	8.20	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/14/2014	5.94	NM	NM	NM	No evidence of NAPL on water level.
						5/15/2014	NM	0.0	0.0	0.0	No evidence of NAPL with interface probe
						6/11/2014	6.75	0.0	NM	NM	No evidence of LNAPL with interface probe.
						7/8/2014	7.35	0.0	NM	NM	No evidence of LNAPL with interface probe.
						8/5/2014	8.06	0.0	NM	NM	No evidence of LNAPL with interface probe.
						9/3/2014	8.56	0.0	NM	NM	No evidence of LNAPL with interface probe.
						1/21/2015	8.01	0.0	NM	0.0	No evidence of LNAPL with interface probe.
						10/5/2015	8.63	0.0	0.0	8.0	No evidence of NAPL with water level marker.
J_MW-23A	25	2	JCO	6/10/2000	Auger	7/12/2000	7.58	film	Present	9.9	Product odor and globs on bailer and sorbent
						4/16/2003	6.31	0.0	0.0	16.1	Slight product odor, but no sheens, stains, or product on sorbent, probe, or bailer.
						10/15/2003	5.62	0.0	0.0	0.9	No sheen, stains, NAPL on sorbent, probe, or bailer.
						4/20/2004	5.61	0.0	0.0	0.0	No sheen, stains, NAPL on sorbent, probe, or bailer.
						10/14/2004	7.73	0.0	0.0	0.2	No sheen, stains, NAPL on sorbent, probe, or bailer.
						4/27/2005	5.26	Sheen	Present	0.6	Minor sheens on bail water, four <0.5" smears of brown DNAPL on tip of sorbent. No measurable DNAPL with probe or bailer
						10/20/2005	7.03	0.0	0.0	0.0	No sheen, stains, NAPL on sorbent, probe, or bailer. Slight petroleum odor on probe tip.
						4/11/2006	6.62	0.0	0.0	0.0	No sheen, stains, NAPL on sorbent, probe, or bailer. Slight petroleum odor on probe tip.
						10/24/2006	7.56	0.0	0.0	0.0	No sheen, stains, NAPL on sorbent, probe, or bailer. Slight petroleum odor on probe tip.
						4/19/2007	4.61	0.0	0.0	0.0	No sheen, stains, NAPL on sorbent, probe, or bailer. Slight petroleum odor on probe tip.
						10/17/2007	8.32	0.0	0.0	0.0	No sheen, stains, NAPL on sorbent, probe, or bailer. Slight petroleum odor on probe tip.
						4/24/2008	3.51	0.0	0.0	0.0	No LNAPL or DNAPL on probe, sorbent, or bailer. Slight sheen on bail water.
						10/9/2008	7.65	0.0	0.0	0.0	No LNAPL, DNAPL, or sheens on probe, sorbent, or bailer. Slight NAPL odor on water.
						3/26/2009	6.74	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/22/2009	6.05	0.0	0.0	0.7	No evidence of NAPL on Water Level Tape or steel measuring tape
						5/18/2009	6.52	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						6/10/2009	7.43	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						7/14/2009	6.92	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						8/13/2009	6.93	0.0	0.0	0.6	No evidence of NAPL on Water Level Tape or steel measuring tape
						9/8/2009	7.75	0.0	0.0	0.4	No evidence of NAPL on Water Level Tape or steel measuring tape
						10/22/2009	8.02	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/21/2010	5.44	0.0	0.0	0.2	No evidence of NAPL on Interface Probe or steel measuring tape
						10/14/2010	7.30	0.0	0.0	0.0	No evidence of NAPL on Interface Probe or steel measuring tape
						4/26/2011	3.27	0.0	0.0	0.0	No evidence of NAPL on Interface Probe or steel measuring tape
						10/19/2011	6.30	0.0	0.0	0.1	No evidence of NAPL on Interface Probe or steel measuring tape
						5/4/2012	7.25	0.0	0.0	0.0	No evidence of NAPL on Interface Probe or steel measuring tape
						11/16/2012	8.13	0.0	0.5	0.0	0.5 feet DNAPL in bottom of well (no LNAPL). ~1.1 L NAPL and ~0.78 Liter NAPL/Water mix removed with peristaltic pump.
						4/11/2013	7.75	0.0	0.0	0.0	No evidence of NAPL with interface probe, steel tape or bailer
						10/15/2013	8.50	0.0	0.8	28.0	0.75 ft. DNAPL per interface probe, 0.8' on probe tape. 0.5 L. DNAPL removed. 0.05' DNAPL remaining after pumping.
						4/14/2014	0.71	<0.01	NM	NM	Frozen. Brown NAPL on interface probe.
						5/15/2014	4.80	film	0.8	NM	0.76 ft. DNAPL per interface probe, 1.5 ft DNAPL on probe/tape. 0.4L DNAPL removed. 0.06' DNAPL remaining after pumping.
						6/11/2014	6.34	0.0	Present	NM	Brown NAPL on interface probe. No measureable LNAPL.
						7/8/2014	6.85	0.0	NM	NM	No evidence of LNAPL with interface probe.

Summary of Non-Aqueous Phase Liquid Measurements in Monitoring Wells 2000-2015												
Well	Construction		Well Installation			Non-Aqueous Phase Liquid (NAPL) Measurements						
	Depth (fbgs)	Diam. (in.)	Installer	Date	Method	Date	Water Level (ftbtoc)	LNAPL (ft.)	DNAPL (ft.)	Max PID (ppmv)	Notes:	
						8/5/2014	7.53	0.0	NM	NM	No measureable LNAPL	
						9/3/2014	7.84	0.0	NM	NM	Brown NAPL on interface probe tip. No measureable LNAPL	
						10/1/2014	8.14	0.0	NM	NM	No evidence of LNAPL with interface probe.	
						10/23/2014	7.99	0.0	0.9	37.6	0.9 ft. DNAPL per interface probe. 0.5 L DNAPL removed, <0.5 L water removed. 0.3' DNAPL remaining after pumping.	
						1/21/2015	7.61	film	0.7	52.9	0.7 FT. DNAPL per interface probe	
						5/7/2015	6.52	0.0	1.4	NM	1.4 ft. DNAPL per interface probe. 0.5L DNAPL-water mix removed.	
						10/5/2015	7.87	<0.01	0.7	44.0	0.71 ft. DNAPL per steel tape. 0.5L DNAPL and 0.7L mixed water/NAPL removed. <0.02 ft. remaining.	
J_MW-23B	32	2	JCO	6/10/2000	Auger	7/12/2000	6.97	0.0	0.0	0.9	No product on sorbents, probe, or bailer	
						4/16/2002	5.95	NM	1.9	NM	Pulled bladder pump. Brown NAPL on pump. Interface probe indicates DNAPL from 28.34 30.19 fbtoc, and water from 30.19-30.8'.	
						4/17/2002	5.71	film	NM	14.2	Removed ~1.1 liters DNAPL with peristaltic pump. Sorbent afterwards showed ~0.15' DNAPL, and entire casing smeared with NAPL.	
						10/30/2002	9.77	Sheen	1.2	0.4	1.2 feet DNAPL by IF probe. Bailer and sorbent not used to avoid smearing NAPL on casing. ~650 ml DNAPL removed by peristaltic pump.	
						4/16/2003	5.80	Sheen	<0.1	1.4	<0.1' DNAPL on probe, bailer, and sorbent.	
						10/15/2003	8.15	0.0	0.2	1.3	~1.2' sediment mixed with DNAPL blobs in bottom of well based on total depth and bailer. Lower 1' of probe smeared with DNAPL. DNAPL smear on lower 0.15' of sorbent and present in 1/2" blobs over all of sorbent.	
						4/20/2004	5.08	0.0	<0.1	0.9	0.6' sediment mixed with tiny DNAPL blobs in bottom of well based on total depth and bailer. Lower 0.1' of probe smeared with DNAPL.	
						10/14/2004	7.20	film	<0.1	2.2	0.05-0.1' brown tar-like DNAPL on tip of probe. 0.05' DNAPL smeared on bailer. 0.08' DNAPL smeared on sorbent.	
						4/27/2005	4.55	Sheen	<0.1	3.7	0.05-0.08' brown tar-like DNPAL on probe. 0.1' DNAPL smeared on bailer. 0.02' DNAPL smeared on sorbent.	
						10/20/2005	6.52	Sheen	Present	0.1	Brown tar-like DNAPL on tip of probe, bailer and sorbent. Slight odor on bail water. Specs of NAPL on sides of bailer and sorbent, and two 1/2" blotches on side of sorbent	
						4/11/2006	6.05	0.0	Present	0.0	Brown tar-like DNAPL on tip of probe, bailer and sorbent. No mearsurable quantity of DNAPL. Product odor on bail water.	
						10/24/2006	7.05	Sheen	Present	0.7	Brown tar-like DNAPL on tip of probe, bailer and sorbent. Specs of DNAPL on sides of bailer and sorbent. Product odor on bail water	
						4/19/2007	3.62	Sheen	Present	0.2	Brown DNAPL smeared on tip of probe, bailer, and sorbent but no measurable amount. Slight odor on bail water. Specs of NAPL on sides of sorbent and bailer	
						10/17/2007	7.75	0.0	Present	0.0	Brown DNAPL smeared on tip of probe, bailer, and sorbent but no measurable amount. Slight odor on bail water. Specs of NAPL on sides of sorbent and bailer	
						4/24/2008	3.05	0.0	0.0	5.8	Minimal NAPL detected on bailer, sorbent, and probe. Slight NAPL odor on purge water, minor sheens present, no product observed.	
						10/9/2008	7.32	0.0	2.4	23.0	No LNAPL or DNAPL indicated by IF probe, but ~0.9' DNAPL on probe tape. ~2.4' DNAPL in bottom of well as measured with Bailer. 1.8L DNAPL removed by bailer along with ~3L of water/NAPL mix. After bailing (6 times) <0.1' measureable DNAPL in bottom of well	
						3/26/2009	6.24	0.0	3.4	30.1	39" DNAPL (no LNAPL). ~1.5 gallons NAPL bailed until <0.1' remained. No NAPL after 1 hour	
						4/22/2009	5.30	0.0	1.3	13.5	15" DNAPL (no LNAPL). ~800 ml NAPL & 1 gal. NAPL/water mix pumped. No NAPL after 18 hrs.	
						5/18/2009	6.01	0.0	0.6	35.0	7.5" DNAPL (no LNAPL). ~300 ml NAPL & 3 L. NAPL/Water mix pumped. No NAPLafter 18 hrs.	
						6/10/2009	6.90	0.0	0.4	24.8	5" DNAPL (no LNAPL). ~200 ml NAPL & 4 L. NAPL/Water mix pumped. No NAPL after 18 hrs.	
						7/14/2009	6.47	0.0	0.5	86.2	5.5" DNAPL (no LNAPL). ~400 ml NAPL & 4 L. NAPL/Water mix pumped. No NAPL after 18 hrs.	
						8/13/2009	6.42	0.0	0.3	36.5	3.8" DNAPL (No LNAPL). ~200 ml NAPL & 2 L. NAPL/Water mix pumped. No NAPL after 18 hrs.	
						9/8/2009	7.24	0.0	0.3	56.0	3.8" DNAPL (No LNAPL). ~0.2 L. NAPL & 2.5 L. NAPL/Water mix pumped. No NAPL after 18 hrs.	
						10/22/2009	7.48	0.0	0.8	36.0	10" DNAPL (no LNAPL). ~0.6 L. NAPL & 8 L. NAPL/Water mix pumped. No NAPL after 18 hrs.	
						4/21/2010	4.92	0.0	3.5	55.2	~3.5 ft. DNAPL (no LNAPL). 3 L. NAPL & 1 L. NAPL/Water mix pumped. Additional 200 ml NAPL removed after 30 min. (2 inch recovery of NAPL). No additional NAPL recovery after 1 hour.	
						10/14/2010	6.68	0.0	4.2	8.7	4.15 feet DNAPL in bottom of well (no LNAPL). 2 L NAPL and 3 Liter NAPL/Water mix removed with peristaltic pump. No additional NAPL recovery >0.1' after 1 hour	

Summary of Non-Aqueous Phase Liquid Measurements in Monitoring Wells 2000-2015											
Well	Construction		Well Installation			Non-Aqueous Phase Liquid (NAPL) Measurements					
	Depth (fbgs)	Diam. (in.)	Installer	Date	Method	Date	Water Level (ftbtoc)	LNAPL (ft.)	DNAPL (ft.)	Max PID (ppmv)	Notes:
						4/26/2011	2.62	0.0	4.6	20.3	4.58 ft. DNAPL (no LNAPL). 3 L. NAPL & 2.5 L. NAPL/Water mix pumped.
						10/18/2011	5.78	0.0	6.0	111.0	6 ft. DNAPL (film of LNAPL). 4 L. NAPL and ~12 L. of NAPL/water mix pumped. <0.1' DNAPL after pumping. Additional 2.75 ft of NAPL on 10/19/11 - 3 liters NAPL removed on 10/20/11
						5/4/2012	6.68	0.0	3.3	75.6	3.27 ft. DNAPL (film of LNAPL). 2 L. NAPL & ~2 L of NAPL/water mix pumped. <0.1' DNAPL left.
						11/16/2012	7.75	0.0	4.8	13.5	4.83 ft. DNAPL (no LNAPL). 2.8 L. NAPL & ~2.8 L. NAPL/water mix pumped. <0.1' DNAPL left.
						4/11/2013	7.09	0.0	2.2	68.2	2.15 ft. DNAPL (no LNAPL). ~1.9 L. NAPL & 2 L. NAPL/Water mix pumped.
						10/15/2013	7.87	0.0	4.3	2.9	4.3 ft. DNAPL per interface probe (no LNAPL). 3.5 L. NAPL pumped. 0.45 ft. DNAPL left
						4/14/2014	5.09	0.0	5.3	NM	5.3 feet DNAPL per interface probe. No measurable NAPL in bailer.
						5/15/2014	4.28	film	4.4	NM	4.4 ft. DNAPL per IF probe. 4.9 ft. NAPL on tape. 3 L. DNAPL removed. 0.22 ft DNAPL after pumping.
						6/11/2014	5.83	film	3.0	NM	3.0 feet DNAPL per interface probe.
						7/8/2014	6.36	0.0	2.6	NM	2.6 ft DNAPL per interface probe.
						8/5/2014	7.01	0.0	3.1	NM	3.1 ft DNAPL per interface probe.
						9/3/2014	7.31	film	3.5	NM	3.5 ft DNAPL per interface probe.
						10/1/2014	7.58	0.0	3.4	NM	3.4 ft DNAPL per interface probe.
						10/23/2014	7.50	0.0	3.5	10.2	3.5 ft. DNAPL per interface probe. 5 L DNAPL and 8 L water removed. No NAPL left after pumping.
						1/21/2015	7.10	film	2.7	27.2	2.7 ft. DNAPL per interface probe.
						5/7/2015	6.00	0.0	3.3	70.0	3.3 ft DNAPL per interface probe. 2L DNAPL removed.
						10/5/2015	7.37	<0.01	2.5	19.0	2.5 ft DNAPL per steel tape. 2 L DNAPL and 0.7L mixed NAPL/water removed. 0.15 ft. DNAPL after pumping.
J_MW-24A						11/13/2000	8.70	0.0	0.0	0.0	No product on probes.
						3/25/2009	6.35	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/22/2009	5.63	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						5/18/2009	6.03	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						6/10/2009	6.93	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						7/14/2009	6.47	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						8/13/2009	6.46	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						9/8/2009	7.30	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						10/22/2009	7.73	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						10/12/2010	6.91	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/26/2011	2.79	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						10/19/2011	5.78	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						5/4/2012	6.83	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						11/20/2012	7.65	0.0	0.0	0.7	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/11/2013	7.31	0.0	0.0	0.0	No evidence of NAPL with interface probe, steel tape or bailer
						10/15/2013	8.22	0.0	0.0	NM	No evidence of NAPL with interface probe. 1/2" gray silt on probe tip.
						5/15/2014	4.35	0.0	0.0	NM	No evidence of NAPL with interface probe. Gray silt on probe tip.
						10/22/2014	8.58	0.0	0.0	NM	No evidence of NAPL on Water Level Tape. Gray silt on probe tip.
						5/7/2015	5.99	NM	NM	NM	No evidence of NAPL on water level tape.
J_MW-24B						11/13/2000	7.82	0.0	0.0	0.0	No product on probes.
						3/25/2009	6.22	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/22/2009	5.48	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						5/18/2009	6.04	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						6/10/2009	6.88	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						7/14/2009	7.23	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						8/13/2009	6.34	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						9/8/2009	7.15	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						10/22/2009	7.64	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						10/12/2010	8.36	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/26/2011	2.70	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						10/19/2011	5.50	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape
						5/4/2012	7.14	0.0	0.0	0.0	No evidence of NAPL on Water Level Tape or steel measuring tape

Updated: JEP 12/09/15
QA: JRB 12/10/15

Summary of Non-Aqueous Phase Liquid Measurements in Monitoring Wells 2000-2015											
Well	Construction		Well Installation			Non-Aqueous Phase Liquid (NAPL) Measurements					
	Depth (fbgs)	Diam. (in.)	Installer	Date	Method	Date	Water Level (ftbtoc)	LNAPL (ft.)	DNAPL (ft.)	Max PID (ppmv)	Notes:
						11/20/2012	8.61	0.0	0.0	0.7	No evidence of NAPL on Water Level Tape or steel measuring tape
						4/11/2013	7.21	0.0	0.0	0.0	No evidence of NAPL with interface probe, steel tape or bailer
						10/15/2013	8.98	0.0	0.0	NM	No evidence of NAPL with interface probe.
						5/15/2014	4.36	0.0	0.0	NM	No evidence of NAPL with interface probe. Grey silt on probe tip.
						10/22/2014	9.45	0.0	0.0	NM	No evidence of NAPL on Water Level Tape.
						5/7/2015	6.07	NM	NM	NM	No evidence of NAPL on Water Level Tape.
9_P106	60	0.75	Perkins Jordan	8/6/1982	spun & washed casing	8/23/2000	5.42	film	Present	25.8	Could not get down to total depth.
						5/7/2001	6.48	0.0	0.0	NM	Not accessible to probe due to narrow diameter of well. Sorbent not used due to narrow well. No odor or product observed on water marker or bailer lowered to b ottom of well
						11/14/2001	7.60	0.0	Present	4.1	No product on marker. Few small black/brown dots of product in bailer but no measurable product.
						10/30/2002	8.18	0.0	0.0	0.0	No odor, sheen, or product on marker.
						10/15/2003	6.37	0.0	0.0	0.0	No odor, sheen, or product on marker or bailer.
						10/14/2004	4.80	0.0	0.0	0.0	No odor, sheen, or product on marker or bailer.
						10/20/2005	4.80	0.0	0.0	0.0	No NAPL on water marker or bailer.
						10/25/2006	5.10	0.0	0.0	0.0	No NAPL on water marker or bailer.
						10/17/2007	6.80	0.0	0.0	0.0	No NAPL on water marker or bailer.
						10/9/2008	4.55	0.0	0.0	0.0	No NAPL on water marker. No bailer or sorbent used (1/2" well).
						10/22/2009	5.02	0.0	0.0	0.0	No NAPL on water marker. No bailer or sorbent used (1/2" well).
						10/14/2010	NM	NM	NM	NM	Unable to locate (near Arcadis soil stockpiles) - may be buried
						10/19/2011	3.99	0.0	0.0	0.0	No NAPL on water marker. No bailer or sorbent used (1/2" well).
						11/16/2012	5.52	0.0	0.0	0.0	No NAPL on water marker. No bailer or sorbent used (1/2" well).
						10/14/2013	4.97	0.0	0.0	NM	No NAPL on water marker. No bailer or sorbent used (1/2" well).
						10/22/2014	5.65	0.0	0.0	0.0	No evidence of NAPL on water level tape.
						10/5/2015	5.57	0.0	0.0	0.2	No evidence of NAPL on water level tape.
T_MW-25B	31.4	2	TRC	1/28/2014	Auger	4/14/2014	4.63	NM	NM	NM	No NAPL on water marker.
						5/15/2014	3.89	0.0	0.0	NM	No evidence of NAPL with interface probe
						6/11/2014	5.52	0.0	NM	NM	No evidence of LNAPL with interface probe
						7/8/2014	6.22	0.0	NM	NM	No evidence of LNAPL with interface probe
						8/5/2014	7.01	0.0	NM	NM	No evidence of LNAPL with interface probe
						9/3/2014	7.45	0.0	NM	NM	No evidence of LNAPL with interface probe
						10/1/2014	8.94	0.0	NM	NM	No evidence of LNAPL with interface probe
						1/21/2015	7.01	0.0	NM	0.0	No evidence of LNAPL with interface probe
T_MW-26A	16.25	2	TRC	2/2/2014	Auger	4/14/2014	5.87	NM	NM	NM	No NAPL on water marker.
						5/15/2014	4.57	0.0	0.0	NM	No evidence of NAPL with interface probe
						6/11/2014	6.08	0.0	NM	NM	No evidence of LNAPL with interface probe.
						7/8/2014	6.64	0.0	NM	NM	No evidence of LNAPL with interface probe.
						8/5/2014	7.39	0.0	NM	NM	No evidence of LNAPL with interface probe.
						9/3/2014	8.25	0.0	0.0	NM	No evidence of LNAPL with interface probe.
						10/1/2014	8.81	0.0	NM	NM	No evidence of LNAPL with interface probe.
						1/21/2015	7.96	0.0	NM	0.0	No evidence of LNAPL with interface probe.
T_MW-26B	32.25	2	TRC	2/1/2014	Auger	4/14/2014	5.09	NM	NM	NM	No NAPL on water marker.
						6/11/2014	5.99	0.0	NM	NM	No evidence of LNAPL with interface probe.
						7/8/2014	6.77	0.0	NM	NM	No evidence of LNAPL with interface probe.
						8/5/2014	7.61	0.0	NM	NM	No evidence of LNAPL with interface probe.
						9/3/2014	8.30	0.0	0.00	NM	No evidence of LNAPL with interface probe.
						10/1/2014	8.98	0.0	NM	NM	No evidence of LNAPL with interface probe.
						1/21/2015	7.69	0.0	NM	0.00	No evidence of LNAPL with interface probe.

Summary of Non-Aqueous Phase Liquid Measurements in Monitoring Wells 2000-2015											
Well	Construction		Well Installation			Non-Aqueous Phase Liquid (NAPL) Measurements					
	Depth (fbgs)	Diam. (in.)	Installer	Date	Method	Date	Water Level (ftbtoc)	LNAPL (ft.)	DNAPL (ft.)	Max PID (ppmv)	Notes:
T_MW-27A	17.75	2	TRC	2/1/2015	Auger	4/14/2014	4.90	NM	NM	NM	No NAPL on water marker.
						5/15/2014	5.25	0.0	0.0	NM	No evidence of NAPL with interface probe
						6/11/2014	6.84	0.0	NM	NM	No evidence of LNAPL with interface probe.
						7/8/2014	7.65	0.0	NM	NM	No evidence of LNAPL with interface probe.
						8/5/2014	8.49	0.0	NM	NM	No evidence of LNAPL with interface probe.
						9/3/2014	9.19	0.0	NM	NM	No evidence of LNAPL with interface probe.
						10/1/2014	9.98	0.0	NM	NM	No evidence of LNAPL with interface probe.
						1/21/2015	8.60	0.0	NM	0.0	No evidence of LNAPL with interface probe.
T_MW-27B	33.75	2	TRC	2/2/2015	Auger	4/14/2014	4.73	NM	NM	NM	No NAPL on water marker.
						5/15/2014	5.04	0.0	0.0	NM	No evidence of NAPL with interface probe
						6/11/2014	6.66	0.0	NM	NM	No evidence of LNAPL with interface probe.
						7/8/2014	7.49	0.0	NM	NM	No evidence of LNAPL with interface probe.
						8/5/2014	8.29	0.0	NM	NM	No evidence of LNAPL with interface probe.
						9/3/2014	8.99	0.0	NM	NM	No evidence of LNAPL with interface probe.
						10/1/2014	9.73	0.0	NM	NM	No evidence of LNAPL with interface probe.
						1/21/2015	8.41	0.0	NM	0.0	No evidence of LNAPL with interface probe.
T_MW-28A	18.25	2	TRC	1/31/2014	Auger	4/14/2014	6.38	NM	NM	NM	No NAPL on water marker.
						5/15/2014	5.69	0.0	0.0	NM	No evidence of NAPL with interface probe
						6/11/2014	7.31	0.0	NM	NM	No evidence of LNAPL with interface probe.
						7/8/2014	8.11	0.0	NM	NM	No evidence of LNAPL with interface probe.
						8/5/2014	8.92	0.0	NM	NM	No evidence of LNAPL with interface probe.
						9/3/2014	9.64	0.0	NM	NM	No evidence of LNAPL with interface probe.
						10/1/2014	10.38	0.0	NM	NM	No evidence of LNAPL with interface probe.
						1/21/2015	9.06	0.0	NM	0.0	No evidence of LNAPL with interface probe.
T_MW-28B	30.25	2	TRC	1/29/2014	Auger	4/14/2014	6.27	NM	NM	NM	No NAPL on water marker.
						6/11/2014	7.14	0.0	NM	NM	No evidence of LNAPL with interface probe.
						7/8/2014	7.95	0.0	NM	NM	No evidence of LNAPL with interface probe.
						8/5/2014	8.75	0.0	NM	NM	No evidence of LNAPL with interface probe.
						9/3/2014	9.39	0.0	NM	NM	No evidence of LNAPL with interface probe.
						10/1/2014	10.08	0.0	NM	NM	No evidence of LNAPL with interface probe.
						1/21/2015	8.77	0.0	NM	0.0	No evidence of NAPL with interface probe.
T_RW-111	39	6	TRC	2/18/2014	Sonic	4/14/2014	5.35	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape.
						5/15/2014	4.41	0.0	0.0	NM	No evidence of NAPL with interface probe
						6/11/2014	6.09	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape. Silty bottom.
						7/8/2014	7.95	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape. Silt at 37 fbtoc.
						8/5/2014	7.25	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape.
						9/3/2014	7.59	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape. Soft bottom.
						10/1/2014	7.87	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape. Soft bottom.
						1/21/2015	7.31	0.0	0.0	0.0	No evidence of LNAPL with interface probe.
						5/4/2015	6.28	Sheen	0.0	NM	No evidence of NAPL on interface probe.
						10/5/2015	7.62	0.0	0.0	0.0	No evidence of NAPL. TD by IF probe = 36.9'
T_RW-112	45	6	TRC	2/21/2014	Sonic	4/14/2014	5.45	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape.
						5/15/2014	4.61	Sheen	0.0	NM	Sheen on water surface and probe tip. No measurable NAPL.
						6/11/2014	6.18	Sheen	0.0	NM	Sheen on water surface and probe tip. No measurable NAPL with interface probe or steel tape
						7/8/2014	6.67	0.0	0.0	NM	Sheen on water surface and probe tip. No measurable NAPL with interface probe or steel tape
						8/5/2014	7.35	Sheen	0.0	NM	No evidence of NAPL with interface probe or steel tape.
						9/3/2014	7.63	Sheen	0.0	NM	No measureable NAPL with interface probe or steel tape. Soft bottom.
						10/1/2014	7.93	Sheen	0.0	NM	No evidence of NAPL with interface probe or steel tape.
						1/21/2015	7.38	0.0	0.0	0.8	No evidence of LNAPL with interface probe.
						5/4/2015	6.33	Sheen	0.0	NM	No evidence of NAPL on interface probe.
						10/5/2015	7.69	0.0	0.0	4.0	No evidence of NAPL. TD 41.9' by IF probe, silt on tip.

Summary of Non-Aqueous Phase Liquid Measurements in Monitoring Wells 2000-2015											
Well	Construction		Well Installation			Non-Aqueous Phase Liquid (NAPL) Measurements					
	Depth (fbgs)	Diam. (in.)	Installer	Date	Method	Date	Water Level (ftbtoc)	LNAPL (ft.)	DNAPL (ft.)	Max PID (ppmv)	Notes:
T_RW-113	44	6	TRC	2/20/2014	Sonic	4/14/2014	4.75	Sheen	0.0	NM	Sheen on water surface. No measurable NAPL with interface probe or steel tape. Silty bottom.
						5/15/2014	3.84	0.0	0.0	NM	No evidence of NAPL with interface probe
						6/11/2014	5.50	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape. Silty bottom.
						7/8/2014	6.05	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape. Silt at 40 fbtoc.
						8/5/2014	6.79	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape.
						9/3/2014	7.24	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape. Soft bottom.
						10/1/2014	7.67	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape. Soft bottom.
						1/21/2015	6.91	0.0	0.0	0.0	No evidence of LNAPL with interface probe.
						5/4/2015	5.66	0.0	0.0	NM	No evidence of LNAPL with interface probe.
						10/5/2015	7.31	0.0	0.0	0.0	No evidence of NAPL. TD by IF probe = 40.2'
T_RW-114	43.2	6	TRC	2/25/2014	Sonic	4/14/2014	6.01	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape.
						5/15/2014	4.87	0.0	0.0	NM	No evidence of NAPL with interface probe
						6/11/2014	6.55	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape. Silty bottom.
						7/8/2014	7.04	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape. Silt at 37 fbtoc
						8/5/2014	7.71	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape.
						9/3/2014	8.13	0.0	0.0	NM	No evidence of NAPL with IF probe or steel tape. Silty bottom. No odor. Tape TD at 37 fbtoc
						10/1/2014	8.45	0.0	0.0	NM	No evidence of NAPL with interface probe or steel tape.
						1/21/2015	7.90	0.0	0.0	0.8	No evidence of LNAPL with interface probe. Soft bottom.
						5/4/2015	6.75	0.0	0.0	NM	No evidence of NAPL with interface probe
						10/5/2015	7.91	0.0	0.0	4.2	No evidence of NAPL. TD by IF probe = 37.4'

Notes: NM indicates measurement not performed on that date
"film" and "sheen" as described in the field notes indicate NAPL thickness less than 0.01 feet.
"present" indicates NAPL was observed on the water marker, interface probe or bailer, but thickness could not be measured.
fbtoc = feet below top of casing
PID = photoionization detector
ppmv = parts per million by volume
LNAPL = light NAPL
DNAPL = Dense NAPL

Pine Street Canal Site, Burlington, VT
Summary of Surface Water Analytical Data: PAHs
(All results in Micrograms Per Liter - ppb)

SLID	SIN	Date	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)-anthracene	Benzo(a)pyrene	Benzo(b)-fluoranthene	Benzo(g,h,i)-perylene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)-pyrene	Naphthalene	Phenanthrene	Pyrene
Vermont Surface Water Quality Standards (1):																			
Protection of human health:																			
Consumption of Water and Organisms:						9,600	0.0028	0.0028	0.0028		0.0028	0.0028	0.0028	300	1,300	0.0028			960
Consumption of Organisms Only:						110,000	0.031	0.031	0.031		0.031	0.031	0.031	370	14,000	0.031			11,000
J_SW-0																			
0126-05		12/12/2002	110	39	J 11	J 4.9	U 34	U 34	U 34	U 34	U 34	J 1.6	U 34	J 4.4	J 12	U 34	180	J 8.1	J 7.1
0126-05F		12/12/2002	69	34	13	J 2.5	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	13	U 10	D 450	11	U 10
0122-06		2/5/2003	33	19	J 3	J 2	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 1.2	J 5.9	U 10	74	J 5.9	J 1.2
0122-06F		2/5/2003	27	16	J 2.6	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 4.7	U 10	77	J 1.8	U 10
0126-06		2/5/2003	33	18	J 2.5	J 2	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 1.2	J 6.7	U 10	73	J 5.8	J 1.2
0126-06F		2/5/2003	28	16	J 2.6	J 1	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 4.8	U 10	75	J 3.3	U 10
0122-07		2/19/2003	13	J 7.1	J 0.91	J 0.74	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.72	J 2.8	U 10	38	J 3.5	J 0.79
0122-07F		2/19/2003	J 7.5	J 3.9	J 0.54	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.96	U 10	26	U 10	U 10
0126-07		2/19/2003	14	J 7.3	U 10	J 0.81	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.8	J 3.4	U 10	38	J 3.7	J 0.85
0126-07F		2/19/2003	J 9.9	J 5.1	J 0.76	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 2.1	U 10	29	J 1.5	U 10
0126-09		11/23/2003	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11
0126-09F		11/23/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0122-10		6/1/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0122-10F		6/1/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0126-10		6/1/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0126-10F		6/1/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0122-11		7/2/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0122-11F		7/2/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0126-11		7/2/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0126-11F		7/2/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10

SLID SIN Date	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)-anthracene	Benzo(a)pyrene	Benzo(b)-fluoranthene	Benzo(g,h,i)-perylene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)-pyrene	Naphthalene	Phenanthrene	Pyrene
Vermont Surface Water Quality Standards (1):																	
Protection of human health:																	
Consumption of Water and Organisms:				9,600	0.0028	0.0028	0.0028		0.0028	0.0028	0.0028	300	1,300	0.0028			960
Consumption of Organisms Only:				110,000	0.031	0.031	0.031		0.031	0.031	0.031	370	14,000	0.031			11,000
J_SW-DP																	
0122-01 8/12/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.54	U 10	J 0.73	U 10	U 10	U 10	U 10	J 0.67
0122-02 9/12/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0122-03 10/10/2002	U 10	J 0.8	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 1.2	U 10	U 10	U 10	U 10	J 2.4
0122-04 11/12/2002	J 3.6	87	J 9.8	J 42	J 44	J 40	J 30	J 18	J 43	71	J 4.3	130	74	J 16	U 57	320	320
0122-04F 11/12/2002	J 6.9	34	J 2.6	J 4.9	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.88	16	U 10	J 3.7	J 9.2	J 0.86
0122-05 12/12/2002	100	40	J 11	J 5	U 35	U 35	U 35	U 35	U 35	J 1.7	U 35	J 4.5	J 12	U 35	180	J 8.4	J 7.4
0122-05F 12/12/2002	73	35	14	J 1.6	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	13	U 10	D 470	J 8.9	U 10
0122-09 11/23/2003	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11
0122-09F 11/23/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_SW-FB																	
0123-01FB 8/12/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0123-02FB 9/12/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0123-03FB 10/10/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0123-04FB 11/12/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0123-05FB 12/12/2002	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	J 0.55	U 11	U 11
0123-06FB 2/5/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0123-07FB 2/19/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0123-09FB 11/23/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0123-10F 6/1/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0123-11F 7/2/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0123-12F 10/26/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0123-13F 11/29/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0123-15 8/7/2006	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0123-16 8/6/2007	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7
0123-17 8/11/2008	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7

SLID	SIN	Date	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)-anthracene	Benzo(a)pyrene	Benzo(b)-fluoranthene	Benzo(g,h,i)-perylene	Benzo(k.)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)-pyrene	Naphthalene	Phenanthrene	Pyrene
Vermont Surface Water Quality Standards (1):																			
Protection of human health:																			
Consumption of Water and Organisms:						9,600	0.0028	0.0028	0.0028		0.0028	0.0028	0.0028	300	1,300	0.0028			960
Consumption of Organisms Only:						110,000	0.031	0.031	0.031		0.031	0.031	0.031	370	14,000	0.031			11,000
0123-18		8/3/2009	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8
0123-19		6/28/2010	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0123-20FB		8/22/2011	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0123-21FB		8/20/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0123-22FB		8/12/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0123-23FB		8/25/2014	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6
0123-24FB		9/22/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J_SW-T1+50E020																			
0122-12		10/26/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0122-12F		10/26/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0178-12		10/26/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0178-12F		10/26/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0122-13		11/29/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0122-13F		11/29/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0178-13		11/29/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0179-13		11/29/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0179-13F		11/29/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_SW-T1+50W080																			
0179-12		10/26/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0179-12F		10/26/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0179-14		7/18/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0122-15		8/7/2006	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0179-15		8/7/2006	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0122-16		8/6/2007	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9
0179-16		8/6/2007	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0122-17		8/11/2008	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7

SLID	SIN	Date	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)-anthracene	Benzo(a)pyrene	Benzo(b)-fluoranthene	Benzo(g,h,i)-perylene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)-pyrene	Naphthalene	Phenanthrene	Pyrene
Vermont Surface Water Quality Standards (1):																			
Protection of human health:																			
Consumption of Water and Organisms:						9,600	0.0028	0.0028	0.0028		0.0028	0.0028	0.0028	300	1,300	0.0028			960
Consumption of Organisms Only:						110,000	0.031	0.031	0.031		0.031	0.031	0.031	370	14,000	0.031			11,000
0179-17	8/11/2008		U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0122-18	8/3/2009		U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0179-18	8/3/2009		U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9
0122-19	6/28/2010		U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0179-19	6/28/2010		U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0122-20DP	8/22/2011		U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8
0179-20	8/22/2011		U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0122-21DP	8/20/2012		U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0179-21	8/20/2012		U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0122-22DP	8/12/2013		U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.2	U 0.5	U 0.5	J 0.1	U 0.5	J 0.2	U 0.5	U 0.5	U 0.5	J 0.1	J 0.2
0179-22	8/12/2013		U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0122-23 DP	8/25/2014		U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0179-23	8/25/2014		U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0122-24DP	9/22/2015		U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5	J 0.2	U 0.5	U 0.5	U 0.5	U 0.5	J 0.2
0179-24	9/22/2015		U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J_SW-T2																			
0121-01	8/12/2002		U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0121-01F	8/12/2002		U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0121-02	9/12/2002		U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0121-02F	9/12/2002		U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0121-03	10/10/2002		U 10	J 0.98	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.6	U 10	U 10	U 10	U 10	J 0.92
0121-03F	10/10/2002		U 10	J 1.1	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0121-04	11/12/2002		U 10	J 5.8	U 10	J 0.78	U 10	U 10		U 10	U 10	U 10	U 10	J 0.76	J 1.8	U 10	U 10	U 10	J 0.85
0121-04F	11/12/2002		U 10	J 4.5	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.92	U 10	U 10	U 10	U 10
0121-08	3/12/2003		J 0.82	J 0.95	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.49	U 10	J 5.3	J 0.62	U 10
0121-08F	3/12/2003		J 0.6	J 0.82	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 5.4	U 10	U 10

SLID	SIN	Date	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)-anthracene	Benzo(a)pyrene	Benzo(b)-fluoranthene	Benzo(g,h,i)-perylene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)-pyrene	Naphthalene	Phenanthrene	Pyrene
Vermont Surface Water Quality Standards (1):																			
Protection of human health:																			
Consumption of Water and Organisms:						9,600	0.0028	0.0028	0.0028		0.0028	0.0028	0.0028	300	1,300	0.0028			960
Consumption of Organisms Only:						110,000	0.031	0.031	0.031		0.031	0.031	0.031	370	14,000	0.031			11,000
0122-08	3/12/2003		J 0.79	J 0.93	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.5	U 10	J 5.4	J 0.58	U 10
0122-08F	3/12/2003		J 0.52	J 0.8	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 4.9	U 10	U 10
J_SW-T5																			
0120-01	8/12/2002		U 10	U 10	U 10	U 10	U 10	U 10	J 0.51	U 10	J 0.51	J 0.87	U 10	J 1.2	U 10	U 10	U 10	J 0.71	J 1.1
0120-01F	8/12/2002		U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0122-01F	8/12/2002		U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0120-02	9/12/2002		U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0120-02F	9/12/2002		U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0122-02F	9/12/2002		U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0120-03	10/10/2002		U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 1	U 10	U 10	U 10	U 10	J 2.5
0120-03F	10/10/2002		J 4.7	J 8.1	J 1.8	J 0.51	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 3.1	U 10	J 3.1	J 2	U 10
0122-03F	10/10/2002		J 6	J 8.8	J 2	J 0.91	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 3.8	U 10	J 1	J 3.7	J 0.59
0120-04	11/12/2002		J 41	J 320	J 50	J 110	J 160	J 150	J 120	J 87	J 170	J 300	J 25	590	J 400	J 69	U 410	2000	1200
0120-04F	11/12/2002		14	39	J 3.9	J 5.8	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.76	19	U 10	J 4.7	15	J 0.66

(1) Vermont Quality Standards, July 2002, Appendix C: Water Quality Criteria for the Protection of Human Health and the Aquatic Biota (where applicable,a conservative median hardness of 51.4 mg/L as CaCO3 based on 64 samples from the Burlington Harbor Lake Station 21 was used to calculate standard)

GC/MS Qualifiers: B - The reported analyte was detected in the associated method blank as well as the sample. D - This flag indentifies all compounds identified in an analysis at a secondary dilution factor. This flag alerts data users that any discrepancies between the concentrations reported for the dilutions may be due to dilution of the sample or extract. It additionally indicates that spike recoveries may have been diluted below quantifiable levels. E - Compound quantitation is above the instrument's calibration range for this analysis. J - Indicates an estimated value. This flag is used when the result is less than the reporting limit, but >1/2 reporting limit or has been applied during data validation due to failure of one or more quality control criteria. U - Indicates compound was analyzed for but not detected above the reporting limit.

Metals Concentration Qualifiers: B - The reported value is less that the Contract Required Detection Limit (CRDL) or Practical Quantification Limit (PQL) but greater than the Instrument Detection Limit (IDL). U - Analyte was analyzed for but not detected, less than IDL, PQL, or CRDL.

Pine Street Canal Site, Burlington,VT
Summary of Cap Coring Analytical Results: PAHs

All Results in Parts per Billion (ppb) unless otherwise noted

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J 0160-01-FB																	
0160-01-FB (Aqueous)																	
5/19/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0160-02-FB																	
0160FB-02 (Aqueous)																	
10/27/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0160-03FB																	
0160-03FB (Aqueous)																	
7/18/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0160-04FB																	
0160-04FB (Aqueous)																	
8/7/2006	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0160-05FB																	
0160-05FB (Aqueous)																	
8/6/2007	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11
J 0160-06FB																	
0160-06FB (Aqueous)																	
8/11/2008	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0160-07FB																	
0160-07FB (Aqueous)																	
8/3/2009	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0160-08FB																	
0160-08FB (Aqueous)																	
6/28/2010	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19
J 0160-09FB																	
0160-09FB (Aqueous)																	
8/22/2011	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J 0160-10FB																	
0160-10FB (Aqueous)																	
8/20/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J 0160-11FB																	
0160-11FB (Aqueous)																	
8/12/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J 0160-12FB																	
0160-12FB (Aqueous)																	
8/25/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J 0160-13FB																	
0160-13FB (Aqueous)																	
9/21/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J 0161-01-FB																	
0161-01-FB (Aqueous)																	
5/20/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0161-02-FB																	
0161FB (Aqueous)																	
10/28/2004	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10
J 0161-03FB																	
0161-03FB (Aqueous)																	
7/20/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0161-04FB																	
0161-04FB (Aqueous)																	
8/8/2006	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0161-05FB																	
0161-05FB (Aqueous)																	
8/7/2007	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0161-06FB																	
0161-06FB (Aqueous)																	
8/12/2008	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J 0161-07FB																	
0161-07FB (Aqueous)																	
8/4/2009	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0161-08FB																	
0161-08FB (Aqueous)																	
6/29/2010	UJ 0.42	UJ 0.42	UJ 0.42	UJ 0.42	UJ 0.42	UJ 0.42	UJ 0.42	UJ 0.42	UJ 0.42	UJ 0.42	UJ 0.42	UJ 0.42	UJ 0.42	UJ 0.42	UJ 0.42	UJ 0.42	UJ 0.42
J 0161-09FB																	
0161-09FB (Aqueous)																	
8/23/2011	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0161-10FB																	
0161-10FB (Aqueous)																	
8/21/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J 0161-11FB																	
0161-11FB (Aqueous)																	
8/13/2013	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	U 0.6	J 0.2	U 0.6	U 0.6
J 0161-12FB																	
0161-12FB (Aqueous)																	
8/26/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J 0161-13 FB																	
0161-13 FB (Aqueous)																	
9/22/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J 0162-04FB																	
0162-04FB (Aqueous)																	
8/9/2006	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0162-05FB																	
0162-05FB (Aqueous)																	
8/8/2007	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0162-06FB																	
0162-06FB (Aqueous)																	
8/14/2008	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J 0162-09FB																	
0162-09FB (Aqueous)																	
8/24/2011	UJ 9	UJ 9	UJ 9	UJ 9	U 9	U 9	U 9	UJ 9	U 9	U 9	U 9	U 9	UJ 9	U 9	UJ 9	UJ 9	U 9
J 0163-01-FB																	
0163-01-FB (Aqueous)																	
5/21/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0163-02-FB																	
0163-02-FB (Aqueous)																	
10/29/2004	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10
J 0163-03FB																	
0163-03FB (Aqueous)																	
7/25/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0163-04FB																	
0163-04FB (Aqueous)																	
8/10/2006	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0163-05FB																	
0163-05FB (Aqueous)																	
8/9/2007	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0163-06FB																	
0163-06FB (Aqueous)																	
8/13/2008	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0163-07FB																	
0163-07FB (Aqueous)																	
8/5/2009	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9
J 0163-08FB																	
0163-08 FB (Aqueous)																	
6/30/2010	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19	UJ 0.19
J 0163-10FB																	
0163-10FB (Aqueous)																	
8/22/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J 0163-11FB																	
0163-11FB (Aqueous)																	
8/14/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J 0163-12FB																	
0163-12FB (Aqueous)																	
8/27/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J 0163-13 FB																	
0163-13 FB (Aqueous)																	
9/23/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J 0164-01-DP																	
0164-01DP Sample Depth: 0-10 (cm)																	
5/22/2003	U 33	J 1.8	J 4.9	J 8.2	J 72	40	62	34	J 27	J 61	J 7	95	U 33	J 27	U 33	44	88
J 0164-04FB																	
0164-04FB (Aqueous)																	
8/11/2006	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0164-07FB																	
0164-07FB (Aqueous)																	
8/6/2009	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9	U 9
J 0165-01FB																	
0165-01-FB (Aqueous)																	
5/22/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10
J 0165-02FB																	
0165-02-FB (Aqueous)																	
10/26/2004	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10
J 0165-03FB																	
0165-03FB (Aqueous)																	
7/19/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J 0165-05FB																	
0165-05FB (Aqueous)																	
8/10/2007	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J 0165-11FB																	
0165-11FB (Aqueous)																	
8/15/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.3	U 0.5	U 0.5
J 0165-12FB																	
0165-12FB (Aqueous)																	
8/28/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J 0165-13FB																	
0165-13 FB (Aqueous)																	
9/24/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J 0241-03FB																	
0241-03FB (Aqueous)																	
7/26/2005	UJ 10	UJ 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	UJ 10	U 10	U 10
J 0455-11FB																	
0455-11FB (Aqueous)																	
8/16/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.2	U 0.5	U 0.5
J T01+00E000																	
0337-07 Sample Depth: 0-10 (cm)																	
8/5/2009	J 8.8	J 29	J 13	96	280	190	330	120	100	270	39	D 690	34	170	J 7.6	370	D 530
0338-07 Sample Depth: 28-56 (cm)																	
8/5/2009	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
J T01+00E050																	
0257-04 Sample Depth: 0-10 (cm)																	
8/8/2006	J 20	45	44	120	DJ 950	D 530	DJ 1100	J 150	J 210	DJ 490	45	D 1300	72	J 140	J 13	D 820	D 760
0258-04 Sample Depth: 25-53 (cm)																	
8/8/2006	UJ 390	U 390	U 390	UJ 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	UJ 390	U 390
0479-13 Sample Depth: 0-10 (cm)																	
9/23/2015	J 8	J 15	41	84	170	220	310	140	100	250	30	360	26	130	J 16	210	340
0480-13 Sample Depth: 25-51 (cm)																	
9/23/2015	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20
J T01+00E100																	
0162-05DP Sample Depth: 34-69 (cm)																	
8/7/2007	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 200	U 400	U 400	U 400	U 400	U 400	U 400

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
0287-05 Sample Depth: 0-10 (cm)																	
8/7/2007	U 440	U 440	U 440	U 440	U 440	J 190	J 310	U 440	U 440	J 270	U 230	J 420	U 440	U 440	U 440	J 260	J 440
0288-05 Sample Depth: 34-69 (cm)																	
8/7/2007	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
0383-09 Sample Depth: 0-10 (cm)																	
8/23/2011	UJ 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	UJ 410	U 410	U 410	U 410	U 410	UJ 410	UJ 410	U 410	U 410
0384-09 Sample Depth: 36-71 (cm)																	
8/23/2011	UJ 360	U 360	U 360	U 360	U 360	U 360	U 360	U 360	UJ 360	U 360	U 360	U 360	U 360	UJ 360	UJ 360	U 360	U 360
0456-12 Sample Depth: 0-10 (cm)																	
8/27/2014	40	100	31	330	440	370	500	240	180	450	U 22	1100	140	220	71	1200	870
0457-12 Sample Depth: 13-25 (cm)																	
8/27/2014	U 22	U 22	U 22	U 22	U 22	U 22	U 22	U 22	U 22	J 4	U 22	U 22	U 22	U 22	U 22	U 22	J 5
J T01+00E150																	
0316-06 Sample Depth: 0-10 (cm)																	
8/12/2008	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 220	U 420	U 420	U 420	U 420	U 420	U 420
0317-06 Sample Depth: 38-76 (cm)																	
8/12/2008	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 200	U 400	U 400	U 400	U 400	U 400	U 400
0339-07 Sample Depth: 0-10 (cm)																	
8/5/2009	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 210	J 170	U 410	U 410	U 410	U 410	J 150
0340-07 Sample Depth: 33-66 (cm)																	
8/5/2009	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	U 400	U 400
J T01+00E200																	
0186-02 Sample Depth: 31-53 (cm)																	
10/29/2004	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 200	U 400	U 400	U 400	U 400	U 400	U 400
0185-02 Sample Depth: 0-10 (cm)																	
10/29/2004	U 350	J 82	U 350	U 350	J 38	J 38	U 350	U 350	U 350	J 49	U 180	J 83	U 350	U 350	U 350	J 49	J 83
0341-07 Sample Depth: 0-10 (cm)																	
8/5/2009	J 4.7	J 11	J 19	J 25	94	82	160	66	44	100	J 19	200	J 14	110	U 26	110	200
0342-07 Sample Depth: 38-76 (cm)																	
8/5/2009	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 200	U 400	U 400	U 400	U 400	U 400	U 400
0164-07DP Sample Depth: 0-10 (cm)																	
8/5/2009	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	U 400	U 400

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J T01+00E232																	
0214-03 Sample Depth: 0-10 (cm)																	
7/18/2005	U 400	U 400	U 400	U 400	U 400	J 62	J 98	UJ 400	U 400	J 89	UJ 210	J 94	U 400	UJ 400	U 400	U 400	J 180
0215-03 Sample Depth: 23-36 (cm)																	
7/18/2005	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
J T01+00E250																	
0162-08DP Sample Depth: 0-10 (cm)																	
6/29/2010	U 26	J 3.6	U 26	J 7.2	45	53	93	45	36	66	J 9.1	95	J 9.6	59	U 26	35	150
0362-08 Sample Depth: 0-10 (cm)																	
6/29/2010	UJ 24	J 2.7	J 5.5	J 6	43	49	89	38	32	58	J 5.8	100	J 4.6	36	U 24	33	140
0363-08 Sample Depth: 30-36 (cm)																	
6/29/2010	U 24	U 24	U 24	U 24	J 4.7	J 4.9	J 5.3	J 2.8	U 24	U 24	U 24	J 9.8	U 24	J 2.6	U 24	J 2.9	J 12
J T01+00E300																	
0404-10 Sample Depth: 0-10 (cm)																	
8/22/2012	J 5	U 17	J 17	J 12	42	55	86	55	33	68	U 17	91	J 6	50	J 4	34	91
0405-10 Sample Depth: 20-41 (cm)																	
8/22/2012	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17
J T01+00E350																	
0260-04 Sample Depth: 18-36 (cm)																	
8/8/2006	UJ 390	U 390	U 390	UJ 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	UJ 390	U 390
0162-04DP Sample Depth: 18-36 (cm)																	
8/8/2006	UJ 390	U 390	U 390	UJ 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	UJ 390	U 390
0259-04 Sample Depth: 0-10 (cm)																	
8/8/2006	UJ 450	U 450	U 450	UJ 450	U 450	U 450	J 190	U 450	U 450	U 450	UJ 230	U 450	U 450	UJ 450	U 450	J 130	J 280
0434-11 Sample Depth: 0-10 (cm)																	
8/13/2013	U 340	U 340	J 110	J 76	J 310	340	450	J 300	J 250	350	U 340	620	U 340	J 290	U 340	J 240	580
0435-11 Sample Depth: 23-46 (cm)																	
8/13/2013	U 41	U 41	U 41	U 41	U 41	U 41	U 41	U 41	U 41	U 41	U 41	U 41	U 41	U 41	U 41	U 41	U 41
J T01+00E400																	
0318-06 Sample Depth: 0-10 (cm)																	
8/13/2008	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	J 110	U 410	U 210	J 190	U 410	U 410	U 410	U 410	J 210
0319-06 Sample Depth: 23-46 (cm)																	
8/13/2008	U 400	U 400	U 400	U 400	J 170	J 150	U 400	U 400	J 140	J 180	U 210	J 390	U 400	U 400	U 400	J 300	J 330

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
0364-08 Sample Depth: 0-10 (cm)																	
6/29/2010	UJ 23	J 5.2	J 7	J 16	110	120	190	72	62	130	J 20	210	J 8.7	75	U 23	82	280
0365-08 Sample Depth: 23-46 (cm)																	
6/29/2010	U 22	U 22	U 22	U 22	J 2.2	U 22	J 3.1	U 22	U 22	U 22	U 22	J 3.1	U 22	U 22	U 22	J 2.1	J 3.2
0164-12DP Sample Depth: 0-10 (cm)																	
8/27/2014	J 22	J 12	41	J 37	140	170	240	150	79	170	U 28	310	J 22	140	J 26	120	290
0458-12 Sample Depth: 0-10 (cm)																	
8/27/2014	48	J 17	67	J 65	220	260	400	240	130	280	U 25	440	36	210	47	190	450
0459-12 Sample Depth: 25-51 (cm)																	
8/27/2014	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21
J T01+50E005																	
0212-03 Sample Depth: 0-10 (cm)																	
7/18/2005	U 420	U 420	U 420	J 150	J 460	J 460	J 670	J 210	J 250	J 490	U 220	J 1100	U 420	J 250	U 420	J 630	J 1200
0213-03 Sample Depth: 15-28 (cm)																	
7/18/2005	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	J 210	U 400	U 400	U 400	U 400	U 400	U 400
J T02+00E050																	
0162-03																	
7/26/2005	U 410	U 410	U 410	U 410	U 410	J 60	J 110	U 410	U 410	J 82	U 210	J 100	U 410	U 410	U 410	U 410	J 110
0217-03 Sample Depth: 43-64 (cm)																	
7/26/2005	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	U 400	U 400
0216-03 Sample Depth: 0-10 (cm)																	
7/26/2005	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	U 400	U 400
0436-11 Sample Depth: 0-10 (cm)																	
8/14/2013	U 200	U 200	J 46	U 200	J 65	J 100	J 180	J 100	J 56	J 100	U 200	J 130	U 200	J 100	U 200	J 47	J 140
0437-11 Sample Depth: 51-102 (cm)																	
8/14/2013	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20
0162-12DP Sample Depth: 0-10 (cm)																	
8/26/2014	J 8	J 9	28	J 19	48	68	120	64	39	82	U 21	130	J 9	55	J 9	52	120
0460-12 Sample Depth: 0-10 (cm)																	
8/26/2014	U 21	J 7	26	J 16	37	56	100	57	39	68	U 21	100	J 6	52	J 7	44	98
0461-12 Sample Depth: 25-51 (cm)																	
8/26/2014	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J T02+00E090																	
0127-01 Sample Depth: 0-10 (cm)																	
5/19/2003	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	U 400	U 400
0128-01 Sample Depth: 42-85 (cm)																	
5/19/2003	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
J T02+00E100																	
0289-05 Sample Depth: 0-10 (cm)																	
8/7/2007	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	U 400	U 400
0290-05 Sample Depth: 38-76 (cm)																	
8/7/2007	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
0406-10 Sample Depth: 0-10 (cm)																	
8/22/2012	UJ 100	UJ 100	J 49	J 41	J 110	J 140	J 300	J 160	J 80	J 160	UJ 100	J 270	UJ 100	J 130	UJ 100	J 82	J 290
0407-10 Sample Depth: 30-61 (cm)																	
8/22/2012	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17
0164-10DP Sample Depth: 0-10 (cm)																	
8/22/2012	J 8	J 5	J 26	J 18	J 56	J 81	J 110	J 73	J 52	J 87	J 13	J 120	J 6	J 59	J 7	J 44	J 140
0482-13 Sample Depth: 28-56 (cm)																	
9/21/2015	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20
0481-13 Sample Depth: 0-10 (cm)																	
9/21/2015	J 4	J 5	30	21	61	71	120	70	54	87	J 13	110	J 8	55	J 6	42	130
J T02+00E150																	
0291-05 Sample Depth: 0-10 (cm)																	
8/7/2007	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	U 400	U 400
0292-05 Sample Depth: 37-73 (cm)																	
8/7/2007	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 200	U 400	U 400	U 400	U 400	U 400	U 400
0162-09DP Sample Depth: 0-10 (cm)																	
8/23/2011	UJ 410	U 410	U 410	U 410	J 110	J 140	J 200	U 410	J 110	J 160	U 410	J 190	U 410	UJ 410	UJ 410	U 410	J 220
0385-09 Sample Depth: 0-10 (cm)																	
8/23/2011	UJ 420	U 420	U 420	U 420	J 130	J 150	J 220	U 420	J 120	J 190	U 420	J 200	U 420	UJ 420	UJ 420	U 420	J 280
0386-09 Sample Depth: 23-46 (cm)																	
8/23/2011	UJ 380	U 380	U 380	U 380	U 380	U 380	U 380	UJ 380	UJ 380	U 380	U 380	U 380	U 380	UJ 380	UJ 380	U 380	U 380

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J T02+00E190																	
0129-01 Sample Depth: 0-10 (cm)																	
5/19/2003	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
0130-01 Sample Depth: 24-48 (cm)																	
5/19/2003	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
J T02+00E200																	
0188-02 Sample Depth: 31-61 (cm)																	
10/28/2004	U 400	U 400	UJ 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 200	U 400	U 400	U 400	U 400	U 400	U 400
0187-02 Sample Depth: 0-10 (cm)																	
10/28/2004	U 400	J 93	U 400	U 400	J 100	J 110	J 130	J 48	J 120	J 130	U 200	J 280	U 400	J 57	U 400	J 87	J 180
0344-07 Sample Depth: 38-76 (cm)																	
8/4/2009	U 330	U 330	U 330	U 330	U 330	U 330	U 330	UJ 330	U 330	U 330	U 170	U 330	U 330	U 330	U 330	U 330	U 330
0343-07 Sample Depth: 0-10 (cm)																	
8/4/2009	U 330	U 330	U 330	U 330	U 330	U 330	U 330	J 140	U 330	U 330	U 170	J 220	U 330	U 330	U 330	U 330	J 160
J T02+00E250																	
0189-02 Sample Depth: 0-10 (cm)																	
10/28/2004	U 800	U 800	U 800	U 800	J 110	J 91	J 95	U 800	J 85	J 120	U 410	J 260	U 800	UJ 800	U 800	J 180	J 220
0190-02 Sample Depth: 15-31 (cm)																	
10/28/2004	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	UJ 390	U 390	U 390	U 390
0366-08 Sample Depth: 0-10 (cm)																	
6/29/2010	U 24	J 4.2	U 24	J 10	75	89	140	68	52	96	J 16	150	J 10	90	U 24	52	200
0367-08 Sample Depth: 18-36 (cm)																	
6/29/2010	U 44	U 44	U 44	J 7.3	J 17	J 22	J 34	J 18	J 13	J 21	U 44	J 26	U 44	J 33	U 44	J 6.5	J 31
J T02+00E270																	
0261-04 Sample Depth: 0-10 (cm)																	
8/9/2006	UJ 400	U 400	U 400	UJ 400	U 400	U 400	U 400	U 400	U 400	U 400	UJ 210	U 400	U 400	UJ 400	U 400	UJ 400	U 400
0262-04 Sample Depth: 23-46 (cm)																	
8/9/2006	UJ 400	U 400	U 400	UJ 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	UJ 400	U 400
0162-11DP Sample Depth: 0-10 (cm)																	
8/13/2013	U 340	U 340	J 100	J 91	J 290	340	440	J 270	J 220	420	U 340	560	U 340	J 220	U 340	J 180	560
0438-11 Sample Depth: 0-10 (cm)																	
8/13/2013	U 350	U 350	J 70	U 350	J 190	J 240	J 300	J 200	J 130	J 220	U 350	360	U 350	J 160	U 350	J 120	J 320

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
0439-11 Sample Depth: 33-66 (cm)																	
8/13/2013	U 40	U 40	U 40	U 40	U 40	U 40	U 40	U 40	U 40	U 40	U 40	U 40	U 40	U 40	U 40	U 40	U 40
J T03+00E050																	
0293-05 Sample Depth: 0-10 (cm)																	
8/8/2007	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 210	U 410	U 410	U 410	U 410	U 410	U 410
0294-05 Sample Depth: 31-61 (cm)																	
8/8/2007	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 210	U 410	U 410	U 410	U 410	U 410	U 410
0408-10 Sample Depth: 0-10 (cm)																	
8/21/2012	J 5	U 17	J 15	J 9	27	43	60	34	24	49	J 9	63	U 17	28	J 5	27	69
0409-10 Sample Depth: 30-61 (cm)																	
8/21/2012	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	J 3	U 17	U 17
0162-10DP Sample Depth: 0-10 (cm)																	
8/21/2012	U 17	U 17	J 14	J 9	21	32	63	33	22	47	J 9	62	U 17	26	J 4	27	71
J T03+00E090																	
0131-01 Sample Depth: 0-10 (cm)																	
5/19/2003	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
0132-01 Sample Depth: 51-102 (cm)																	
5/19/2003	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
J T03+00E100																	
0263-04 Sample Depth: 0-10 (cm)																	
8/9/2006	UJ 410	U 410	U 410	UJ 410	U 410	U 410	U 410	U 410	U 410	U 410	UJ 210	U 410	U 410	UJ 410	U 410	UJ 410	U 410
0264-04 Sample Depth: 27-53 (cm)																	
8/9/2006	UJ 390	U 390	U 390	UJ 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	UJ 390	U 390
0440-11 Sample Depth: 0-10 (cm)																	
8/15/2013	U 101	U 100	J 24	J 31	J 65	J 70	110	J 71	J 33	J 80	U 100	120	U 100	J 46	J 25	J 65	130
0441-11 Sample Depth: 41-81 (cm)																	
8/15/2013	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21
0483-13 Sample Depth: 0-10 (cm)																	
9/21/2015	U 21	U 21	J 5	U 21	J 7	J 8	J 17	J 10	J 7	J 11	U 21	J 13	U 21	J 10	U 21	J 5	J 13
0484-13 Sample Depth: 38-76 (cm)																	
9/21/2015	U 20	U 20	U 20	J 4	J 5	J 7	J 7	U 20	U 20	J 5	U 20	J 9	U 20	U 20	U 20	J 10	J 15
0162-13DP Sample Depth: 0-10 (cm)																	
9/21/2015	U 21	U 21	U 21	U 21	J 7	J 11	J 15	J 9	J 7	J 11	U 21	J 11	U 21	J 8	U 21	J 4	J 11

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J T03+00E150																	
0320-06 Sample Depth: 0-10 (cm)																	
8/12/2008	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 200	U 400	U 400	U 400	U 400	U 400	U 400
0321-06 Sample Depth: 41-81 (cm)																	
8/12/2008	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	U 400	U 400
0410-10 Sample Depth: 0-10 (cm)																	
8/21/2012	U 17	U 17	J 6	J 5	J 11	J 16	23	17	J 13	20	U 17	26	U 17	J 11	U 17	J 9	28
0411-10 Sample Depth: 41-81 (cm)																	
8/21/2012	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17
J T03+00E190																	
0133-01 Sample Depth: 0-10 (cm)																	
5/20/2003	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
0134-01 Sample Depth: 31-63 (cm)																	
5/20/2003	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 200	U 380	U 380	U 380	U 380	U 380	U 380
J T03+00E200																	
0387-09 Sample Depth: 0-10 (cm)																	
8/24/2011	U 390	U 390	U 390	U 390	U 390	U 390	U 390	UJ 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	J 150
0388-09 Sample Depth: 33-66 (cm)																	
8/24/2011	U 380	U 380	U 380	U 380	U 380	U 380	U 380	UJ 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380
0462-12 Sample Depth: 0-10 (cm)																	
8/26/2014	J 5	J 6	27	J 15	41	52	91	51	32	61	J 13	88	J 8	44	J 8	31	87
0463-12 Sample Depth: 33-66 (cm)																	
8/26/2014	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21
J T03+00E250																	
0322-06 Sample Depth: 0-10 (cm)																	
8/14/2008	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 220	U 420	U 420	U 420	U 420	U 420	U 420
0323-06 Sample Depth: 38-76 (cm)																	
8/14/2008	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	U 400	U 400
0369-08 Sample Depth: 30-61 (cm)																	
6/29/2010	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21
0368-08 Sample Depth: 0-10 (cm)																	
6/29/2010	U 25	U 25	U 25	U 25	J 5.9	J 8.7	J 17	J 7	J 6.6	J 6.9	U 25	J 17	U 25	J 6.4	U 25	J 4.8	J 16

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J T03+00E300																	
0218-03 Sample Depth: 0-10 (cm)																	
7/26/2005	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 210	U 410	U 410	U 410	U 410	U 410	U 410
0219-03 Sample Depth: 20-41 (cm)																	
7/26/2005	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	U 400	U 400
0164-09DP Sample Depth: 0-10 (cm)																	
8/24/2011	U 400	U 400	U 400	U 400	U 400	U 400	U 400	UJ 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	J 150
0389-09 Sample Depth: 0-10 (cm)																	
8/24/2011	U 410	U 410	U 410	U 410	U 410	J 120	J 180	UJ 410	J 110	J 140	U 410	U 410	U 410	U 410	U 410	U 410	J 140
0390-09 Sample Depth: 25-51 (cm)																	
8/24/2011	U 390	U 390	U 390	U 390	U 390	U 390	U 390	UJ 390	U 390	U 390	U 390	U 390	U 390	UJ 390	U 390	U 390	U 390
0485-13 Sample Depth: 0-10 (cm)																	
9/21/2015	J 8	J 4	J 15	J 15	33	40	84	46	34	59	J 7	78	J 6	35	J 7	30	86
0486-13 Sample Depth: 38-76 (cm)																	
9/21/2015	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20
J T03+02E287																	
0192-02 Sample Depth: 20-36 (cm)																	
10/29/2004	U 390	U 390	UJ 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
0191-02 Sample Depth: 0-10 (cm)																	
10/29/2004	J 5.9	J 4.1	J 7.9	J 11	97	140	180	J 100	140	160	UJ 78	260	J 9.4	100	U 78	81	200
J T04+00E020																	
0265-04 Sample Depth: 0-10 (cm)																	
8/9/2006	UJ 400	U 400	U 400	UJ 400	U 400	U 400	U 400	U 400	U 400	U 400	UJ 200	U 400	U 400	UJ 400	U 400	UJ 400	U 400
0266-04 Sample Depth: 28-56 (cm)																	
8/9/2006	UJ 400	U 400	U 400	UJ 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	UJ 400	U 400
0391-09 Sample Depth: 0-10 (cm)																	
8/23/2011	UJ 350	U 350	U 350	U 350	U 350	U 350	U 350	U 350	UJ 350	U 350	U 350	U 350	U 350	UJ 350	UJ 350	U 350	U 350
0392-09 Sample Depth: 36-71 (cm)																	
8/23/2011	UJ 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	UJ 380	U 380	U 380	U 380	U 380	UJ 380	UJ 380	U 380	U 380
J T04+00E040																	
0295-05 Sample Depth: 0-10 (cm)																	
8/8/2007	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 210	U 410	U 410	U 410	U 410	U 410	U 410

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
0296-05 Sample Depth: 25-51 (cm)																	
8/8/2007	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
0464-12 Sample Depth: 0-10 (cm)																	
8/28/2014	J 4	J 4	J 16	J 10	21	30	51	32	J 19	36	U 20	55	J 5	30	J 11	23	58
0465-12 Sample Depth: 28-56 (cm)																	
8/28/2014	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	J 5	U 21	U 21	U 21	U 21	U 21	U 21	U 21
J T04+00E060																	
0370-08 Sample Depth: 0-10 (cm)																	
6/29/2010	U 22	U 22	U 22	J 2.3	J 17	24	43	26	J 18	30	J 4.6	41	U 22	29	U 22	J 12	63
0371-08 Sample Depth: 23-46 (cm)																	
6/29/2010	UJ 23	U 23	U 23	U 23	U 23	U 23	U 23	U 23	U 23	U 23	U 23	J 2.4	U 23	U 23	U 23	U 23	J 3.9
0413-10 Sample Depth: 23-46 (cm)																	
8/21/2012	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17
0412-10 Sample Depth: 0-10 (cm)																	
8/21/2012	U 17	U 17	J 16	J 11	21	28	45	28	19	36	J 7	42	J 4	23	U 17	17	55
J T05+00E020																	
0346-07 Sample Depth: 41-81 (cm)																	
8/4/2009	U 330	U 330	U 330	U 330	U 330	U 330	U 330	UJ 330	U 330	U 330	U 170	U 330	U 330	UJ 330	U 330	U 330	U 330
0162-07DP																	
8/4/2009	U 330	U 330	U 330	U 330	U 330	U 330	U 330	UJ 330	U 330	U 330	U 170	U 330	U 330	U 330	U 330	U 330	U 330
0345-07 Sample Depth: 0-10 (cm)																	
8/4/2009	U 330	U 330	U 330	U 330	U 330	U 330	U 330	UJ 330	U 330	U 330	U 170	U 330	U 330	U 330	U 330	U 330	U 330
0487-13 Sample Depth: 0-10 (cm)																	
9/23/2015	U 20	U 20	J 13	J 6	J 13	21	43	23	J 13	24	U 20	30	U 20	21	U 20	J 11	36
0488-13 Sample Depth: 30-61 (cm)																	
9/23/2015	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20
J T05+00E040																	
0135-01 Sample Depth: 0-10 (cm)																	
5/20/2003	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 200	U 380	U 380	U 380	U 380	U 380	U 380
0136-01 Sample Depth: 29-58 (cm)																	
5/20/2003	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 200	U 380	U 380	U 380	U 380	U 380	U 380
0220-03 Sample Depth: 0-10 (cm)																	
7/25/2005	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 210	U 410	U 410	U 410	U 410	U 410	U 410

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
0221-03 Sample Depth: 36-46 (cm)																	
7/25/2005	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 210	U 410	U 410	U 410	U 410	U 410	U 410
0442-11 Sample Depth: 0-10 (cm)																	
8/14/2013	U 210	U 210	J 77	U 210	J 93	J 130	230	J 120	J 89	J 170	U 210	230	U 210	J 110	U 210	J 90	250
0443-11 Sample Depth: 30-61 (cm)																	
8/14/2013	U 20	J 8	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	J 5	U 20
J T05+00E060																	
0373-08 Sample Depth: 28-56 (cm)																	
6/30/2010	UJ 23	U 23	U 23	J 1.6	U 23	U 23	U 23	U 23	U 23	U 23	U 23	U 23	U 23	U 23	U 23	J 3	J 4.1
0164-08DP Sample Depth: 0-10 (cm)																	
6/30/2010	U 24	U 24	J 7.8	J 5.4	41	50	84	45	34	63	J 9.8	83	U 24	56	U 24	31	140
0372-08 Sample Depth: 0-10 (cm)																	
6/30/2010	U 24	J 2.4	J 9.3	J 6.2	50	64	110	49	42	78	J 9.7	110	J 4.5	63	U 24	41	170
0393-09 Sample Depth: 0-10 (cm)																	
8/23/2011	UJ 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	J 100	U 390	U 390	U 390	U 390	UJ 390	UJ 390	U 390	J 130
0394-09 Sample Depth: 28-56 (cm)																	
8/23/2011	UJ 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	UJ 380	U 380	U 380	U 380	U 380	UJ 380	UJ 380	U 380	U 380
J T06+00E020																	
0374-08 Sample Depth: 0-10 (cm)																	
6/30/2010	U 24	J 2.7	J 11	J 7.4	51	72	120	66	45	82	J 14	110	J 4.6	84	U 24	39	170
0375-08 Sample Depth: 20-41 (cm)																	
6/30/2010	UJ 22	J 3.9	U 22	J 1.4	U 22	U 22	U 22	U 22	U 22	U 22	U 22	U 22	U 22	U 22	U 22	J 3.8	J 2.5
0414-10 Sample Depth: 0-10 (cm)																	
8/22/2012	J 5	J 5	43	21	46	77	140	76	41	90	J 15	120	J 10	62	U 17	45	140
0415-10 Sample Depth: 23-46 (cm)																	
8/22/2012	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17
J T06+00E040																	
0347-07 Sample Depth: 0-10 (cm)																	
8/4/2009	U 330	U 330	U 330	U 330	U 330	U 330	U 330	UJ 330	U 330	U 330	U 170	U 330	U 330	U 330	U 330	U 330	U 330
0348-07 Sample Depth: 23-46 (cm)																	
8/4/2009	U 330	U 330	U 330	U 330	U 330	U 330	U 330	UJ 330	U 330	U 330	U 170	U 330	U 330	U 330	U 330	U 330	U 330
0416-10 Sample Depth: 0-10 (cm)																	
8/22/2012	U 17	J 5	44	21	53	90	130	80	65	97	J 10	140	J 13	68	U 17	58	160

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
0417-10 Sample Depth: 28-56 (cm)																	
8/22/2012	U 17	J 5	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	J 5	U 17
J T06+00E060																	
0162-06DP Sample Depth: 0-10 (cm)																	
8/13/2008	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 210	U 410	U 410	U 410	U 410	U 410	J 140
0324-06 Sample Depth: 0-10 (cm)																	
8/13/2008	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 220	U 420	U 420	U 420	U 420	U 420	U 420
0325-06 Sample Depth: 20-43 (cm)																	
8/13/2008	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 200	U 400	U 400	U 400	U 400	U 400	U 400
0489-13 Sample Depth: 0-10 (cm)																	
9/23/2015	U 21	J 6	45	24	48	55	110	49	30	69	J 9	89	J 11	42	U 21	39	110
0490-13 Sample Depth: 20-41 (cm)																	
9/23/2015	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20
J T07+00E020																	
0349-07 Sample Depth: 0-10 (cm)																	
8/6/2009	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 200	U 400	U 400	U 400	U 400	U 400	U 400
0350-07 Sample Depth: 23-46 (cm)																	
8/6/2009	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 200	U 400	U 400	U 400	U 400	U 400	U 400
0466-12 Sample Depth: 0-10 (cm)																	
8/26/2014	J 7	J 12	78	45	85	100	160	87	59	130	U 21	170	J 18	77	J 6	99	220
0467-12 Sample Depth: 25-51 (cm)																	
8/26/2014	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20
J T07+00E040																	
0326-06 Sample Depth: 0-10 (cm)																	
8/14/2008	U 430	U 430	U 430	U 430	J 130	J 170	J 280	U 430	J 210	J 270	U 220	J 340	U 430	U 430	U 430	J 200	480
0327-06 Sample Depth: 23-46 (cm)																	
8/14/2008	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
0395-09 Sample Depth: 0-10 (cm)																	
8/24/2011	U 410	U 410	U 410	U 410	J 120	J 170	J 250	J 150	J 130	J 230	U 410	J 250	U 410	J 170	U 410	J 190	J 400
0396-09 Sample Depth: 23-46 (cm)																	
8/24/2011	U 390	U 390	U 390	U 390	U 390	U 390	U 390	UJ 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J T07+00E050																	
0137-01 Sample Depth: 0-10 (cm)																	
5/20/2003	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
0138-01 Sample Depth: 18-36 (cm)																	
5/20/2003	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
J T07+00E060																	
0164-11DP Sample Depth: 0-10 (cm)																	
8/14/2013	U 210	J 44	230	J 150	280	330	480	270	J 170	370	J 76	590	J 80	240	U 210	410	760
0444-11 Sample Depth: 0-10 (cm)																	
8/14/2013	U 210	J 41	260	J 130	340	360	490	280	J 180	400	J 50	630	J 69	220	U 210	380	830
0445-11 Sample Depth: 25-51 (cm)																	
8/14/2013	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	J 5
J T07+00E070																	
0267-04 Sample Depth: 0-10 (cm)																	
8/9/2006	UJ 420	U 420	U 420	UJ 420	U 420	U 420	U 420	U 420	U 420	U 420	UJ 210	U 420	U 420	UJ 420	U 420	UJ 420	U 420
0268-04 Sample Depth: 18-36 (cm)																	
8/9/2006	UJ 390	U 390	U 390	UJ 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	UJ 390	U 390
J T08+00E020																	
0328-06 Sample Depth: 0-10 (cm)																	
8/14/2008	U 460	U 460	U 460	U 460	J 150	J 210	J 260	U 460	J 240	J 280	U 240	J 350	U 460	U 460	U 460	J 200	590
0329-06 Sample Depth: 25-51 (cm)																	
8/14/2008	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 200	U 400	U 400	U 400	U 400	U 400	U 400
0446-11 Sample Depth: 0-10 (cm)																	
8/15/2013	J 43	J 52	210	150	290	350	490	270	190	410	J 43	600	J 77	210	J 25	390	730
0447-11 Sample Depth: 30-61 (cm)																	
8/15/2013	U 21	J 15	J 5	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	U 21	J 5	U 21	U 21	J 13	U 21
J T08+00E040																	
0194-02 Sample Depth: 0-10 (cm)																	
10/28/2004	U 410	J 96	U 410	U 410	J 77	J 87	J 86	J 65	J 99	J 120	U 210	J 220	U 410	J 64	U 410	J 110	J 190
0193-02 Sample Depth: 46-60 (cm)																	
10/28/2004	U 400	J 100	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 200	U 400	U 400	U 400	J 54	U 400	U 400
0491-13 Sample Depth: 0-10 (cm)																	
9/24/2015	J 14	J 18	59	42	72	91	130	78	52	100	J 18	170	26	56	U 20	140	240

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
0492-13 Sample Depth: 25-51 (cm)																	
9/24/2015	U 20	J 8	U 20	U 20	U 20	J 7	J 5	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	J 9	U 20
J T08+00E060																	
0297-05 Sample Depth: 0-10 (cm)																	
8/8/2007	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 200	U 400	U 400	U 400	U 400	U 400	U 400
0298-05 Sample Depth: 25-51 (cm)																	
8/8/2007	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	U 400	U 400
0468-12 Sample Depth: 0-10 (cm)																	
8/28/2014	J 10	J 11	76	37	81	95	120	72	51	110	J 16	160	22	63	U 21	91	210
0469-12 Sample Depth: 28-56 (cm)																	
8/28/2014	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	U 20	J 5	U 20	U 20
J T09+00E020																	
0269-04 Sample Depth: 0-10 (cm)																	
8/10/2006	U 410	U 410	U 410	U 410	J 160	J 170	J 250	U 410	U 410	J 230	260	J 310	U 410	U 410	U 410	U 410	510
0270-04 Sample Depth: 36-71 (cm)																	
8/10/2006	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 200	U 400	U 400	U 400	U 400	U 400	U 400
J T09+00E040																	
0139-01 Sample Depth: 0-10 (cm)																	
5/20/2003	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 220	U 420	U 420	U 420	U 420	U 420	U 420
0140-01 Sample Depth: 31-62 (cm)																	
5/20/2003	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 200	U 380	U 380	U 380	U 380	U 380	U 380
0196-02 Sample Depth: 43-58 (cm)																	
10/28/2004	J 3.5	J 1.3	U 26	U 26	J 3.2	U 26	U 26	J 2.6	U 26	U 26	UJ 26	U 26	U 26	J 2.8	U 26	U 26	U 26
0195-02 Sample Depth: 0-10 (cm)																	
10/28/2004	U 400	J 110	J 150	J 260	J 430	J 370	J 340	J 210	J 350	J 510	J 51	J 1100	J 69	J 200	U 400	840	J 1100
J T09+00E060																	
0223-03 Sample Depth: 31-46 (cm)																	
7/19/2005	U 390	U 390	U 390	U 390	U 390	U 390	U 390	UJ 390	U 390	U 390	UJ 200	U 390	U 390	UJ 390	U 390	U 390	U 390
0164-03 Sample Depth: 0-10 (cm)																	
7/19/2005	U 390	U 390	U 390	U 390	U 390	U 390	U 390	UJ 390	U 390	U 390	UJ 200	U 390	U 390	UJ 390	U 390	U 390	U 390
0222-03 Sample Depth: 0-10 (cm)																	
7/19/2005	U 400	U 400	U 400	U 400	U 400	U 400	U 400	UJ 400	U 400	U 400	UJ 200	U 400	U 400	UJ 400	U 400	U 400	J 93

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J T09+80E030																	
0245-03 Sample Depth: 0-8 (cm)																	
7/26/2005	D 92000	D 38000	5800	D 20000	DJ 11000	DJ 7100	DJ 5700	J 4900	J 3200	DJ 11000	J 1400	D 14000	D 24000	J 5000	D 72000	D 67000	DJ 54000
J T10+00E020																	
0197-02 Sample Depth: 0-10 (cm)																	
10/27/2004	5300	2900	1100	J 2900	J 2200	J 1800	J 1400	J 600	J 1600	J 2200	J 160	J 5700	3300	J 650	2700	9600	J 6300
0198-02 Sample Depth: 20-44 (cm)																	
10/27/2004	U 400	U 400	UJ 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	J 42	J 71
J T10+00E040																	
0224-03 Sample Depth: 0-10 (cm)																	
7/20/2005	U 390	U 390	U 390	U 390	J 150	J 150	J 220	UJ 390	J 96	J 230	UJ 200	J 350	U 390	UJ 390	U 390	J 190	J 420
0225-03 Sample Depth: 28-38 (cm)																	
7/20/2005	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390
J T10+00E060																	
0299-05 Sample Depth: 0-10 (cm)																	
8/9/2007	U 400	U 400	J 210	J 390	J 390	J 320	J 350	U 400	J 150	J 390	J 150	840	J 260	U 400	U 400	1300	1200
0300-05 Sample Depth: 20-41 (cm)																	
8/9/2007	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
J T10+75E025																	
0244-03 Sample Depth: 0-8 (cm)																	
7/26/2005	D 16000	D 9900	1700	DJ 7500	DJ 6100	J 6200	J 6600	J 2800	J 2700	DJ 7300	J 770	DJ 8300	D 7000	J 3100	4600	DJ 26000	DJ 23000
J T10+75E060																	
0243-03 Sample Depth: 0-10 (cm)																	
7/26/2005	J 140	J 170	J 180	J 520	J 780	J 710	J 850	J 300	J 380	J 920	U 220	J 1700	J 360	J 370	U 430	J 1900	J 2900
J T11+00E020																	
0199-02 Sample Depth: 0-10 (cm)																	
10/27/2004	3200	3200	1400	J 3500	J 2500	J 1900	J 1100	J 580	J 1800	J 2400	J 130	J 6500	3800	J 620	820	11000	J 8300
0200-02 Sample Depth: 25-42 (cm)																	
10/27/2004	D 130	J 19	J 9	J 3.1	J 4.4	U 25	J 4.3	UJ 25	U 25	J 1.7	UJ 25	J 5.1	J 11	U 25	D 220	J 19	J 4.8
J T11+00E040																	
0227-03 Sample Depth: 23-41 (cm)																	
7/19/2005	U 400	U 400	U 400	U 400	U 400	U 400	U 400	UJ 400	U 400	U 400	UJ 210	U 400	U 400	UJ 400	U 400	U 400	U 400

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
0227-03RP Sample Depth: 23-41 (cm)																	
7/19/2005	U 400	U 400	U 400	U 400	U 400	U 400	U 400	UJ 400	U 400	U 400	UJ 210	U 400	U 400	UJ 400	U 400	U 400	U 400
0226-03 Sample Depth: 0-10 (cm)																	
7/19/2005	5400	3400	400	J 2500	J 1600	J 1100	J 1000	J 570	J 400	J 1500	UJ 210	J 2400	2700	J 590	2200	DJ 8100	J 5500
J T11+00E045																	
0141-01 Sample Depth: 0-10 (cm)																	
5/21/2003	J 5.7	J 4.3	J 5.5	J 6.5	J 13	J 22	40	J 22	J 20	33	J 4.3	60	J 3.1	J 25	J 10	J 25	50
0142-01 Sample Depth: 17-34 (cm)																	
5/21/2003	J 1.6	U 24	J 2	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	J 4	U 24	U 24
J T11+00E060																	
0271-04 Sample Depth: 0-10 (cm)																	
8/10/2006	U 420	U 420	U 420	U 420	J 180	J 170	J 230	U 420	U 420	J 240	U 220	J 380	U 420	U 420	U 420	J 390	650
0272-04 Sample Depth: 36-71 (cm)																	
8/10/2006	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	U 400	U 400
J T12+00E020																	
0228-03 Sample Depth: 0-10 (cm)																	
7/25/2005	U 420	U 420	J 120	J 120	J 320	J 330	470	J 270	J 190	500	U 220	650	U 420	J 290	U 420	570	1300
0229-03 Sample Depth: 31-41 (cm)																	
7/25/2005	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	U 400	U 400
J T12+00E040																	
0202-02 Sample Depth: 12-25 (cm)																	
10/27/2004	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400
0201-02 Sample Depth: 0-10 (cm)																	
10/27/2004	J 240	J 270	UJ 15	J 420	J 590	J 570	J 520	J 240	J 450	J 750	J 96	J 1500	J 340	J 250	J 41	J 2100	J 1600
J T12+00E060																	
0274-04 Sample Depth: 38-76 (cm)																	
8/11/2006	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 200	U 400	U 400	U 400	U 400	U 400	U 400
0164-04DP Sample Depth: 38-76 (cm)																	
8/11/2006	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
0273-04 Sample Depth: 0-10 (cm)																	
8/11/2006	1800	960	J 280	500	440	J 310	J 340	U 420	U 420	460	280	880	680	U 420	770	2400	1400

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J T12+00E080																	
0164-02-DP Sample Depth: 38-60 (cm)																	
10/27/2004	D 170000	D 60000	7200	D 31000	DJ 14000	DJ 9500	J 5200	J 3500	J 7000	DJ 12000	J 1500	D 30000	D 37000	J 3400	D 150000	D 100000	D 43000
0203-02 Sample Depth: 0-10 (cm)																	
10/27/2004	J 170	J 170	J 140	J 300	J 520	J 520	J 470	J 350	J 360	690	UJ 670	1500	J 250	J 270	J 120	1700	1500
0204-02 Sample Depth: 38-60 (cm)																	
10/27/2004	D 140000	D 50000	J 7700	D 25000	J 9900	J 7600	J 4100	J 2700	J 5300	J 9100	J 490	D 25000	D 31000	J 2800	D 120000	D 82000	D 34000
0230-03 Sample Depth: 15-31 (cm)																	
7/20/2005	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 210	U 400	U 400	U 400	U 400	U 400	U 400
0242-03 Sample Depth: 56-61 (cm)																	
7/20/2005	U 400	J 110	U 400	J 81	U 400	U 400	U 400	U 400	U 400	U 400	U 210	J 110	J 78	U 400	U 400	J 220	J 130
J T12+90E060																	
0232-03 Sample Depth: 0-10 (cm)																	
7/25/2005	U 420	U 420	U 420	U 420	J 75	J 100	J 240	U 420	J 110	J 210	U 210	J 280	U 420	U 420	U 420	J 140	J 340
0233-03 Sample Depth: 15-31 (cm)																	
7/25/2005	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
J T13+00E020																	
0276-04 Sample Depth: 23-46 (cm)																	
8/11/2006	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
0275-04 Sample Depth: 0-10 (cm)																	
8/11/2006	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	U 400	J 160	U 210	U 400	U 400	U 400	U 400	U 400	J 250
J T13+00E040																	
0302-05 Sample Depth: 15-30 (cm)																	
8/9/2007	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
0164-05DP																	
8/9/2007	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
0301-05 Sample Depth: 0-10 (cm)																	
8/9/2007	U 450	U 450	J 210	J 180	480	730	1300	J 400	J 420	900	J 220	1200	U 450	630	U 450	1000	1600
J T13+00E050																	
0143-01 Sample Depth: 0-10 (cm)																	
5/21/2003	U 24	U 24	U 24	U 24	J 5.9	J 5.2	J 12	J 5.8	J 5.4	J 7.4	U 24	J 15	U 24	J 6.2	U 24	J 7.2	J 9.8
0144-01 Sample Depth: 15-31 (cm)																	
5/21/2003	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J T14+00E020																	
0303-05 Sample Depth: 0-10 (cm)																	
8/9/2007	U 24	J 3.5	J 12	J 9.8	120	110	130	28	94	140	62	D 190	J 7.1	80	J 6.9	71	200
0304-05 Sample Depth: 15-30 (cm)																	
8/9/2007	U 430	U 430	U 430	U 430	U 430	U 430	U 430	U 430	U 430	U 430	U 220	U 430	U 430	U 430	U 430	U 430	U 430
J T14+00E040																	
0305-05 Sample Depth: 0-10 (cm)																	
8/9/2007	U 24	J 3.4	J 8.5	J 7.7	68	79	110	J 22	67	110	54	180	J 9.1	66	U 24	64	130
0306-05 Sample Depth: 15-30 (cm)																	
8/9/2007	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 420	U 220	U 420	U 420	U 420	U 420	U 420	U 420
J T15+00E220																	
0145-01 Sample Depth: 0-10 (cm)																	
5/21/2003	U 28	U 28	J 1.8	J 3.6	J 13	J 16	J 27	J 16	J 14	J 21	J 4	35	U 28	J 18	U 28	J 16	34
0146-01 Sample Depth: 26-55 (cm)																	
5/21/2003	UJ 24	U 24	J 0.45	J 0.62	J 5.4	J 3.6	J 5.4	J 3.3	J 2.8	J 4.9	J 0.57	J 6	U 24	J 3.6	UJ 24	J 2.6	J 10
J T15+35E080																	
0234-03 Sample Depth: 0-10 (cm)																	
7/20/2005	J 6	UJ 40	UJ 40	UJ 40	J 94	J 54	UJ 40	J 30	UJ 40	J 59	UJ 40	J 120	UJ 40	J 37	UJ 40	J 26	J 100
0235-03 Sample Depth: 13-25 (cm)																	
7/20/2005	U 480	U 480	U 480	U 480	U 480	U 480	U 480	U 480	U 480	U 480	U 240	U 480	U 480	U 480	U 480	U 480	U 480
J T15+35E095																	
0277-04 Sample Depth: 0-10 (cm)																	
8/7/2006	UJ 39	U 39	J 13	U 39	J 120	83	J 200	U 39	J 28	66	J 29	150	U 39	J 33	U 39	42	96
0278-04 Sample Depth: 10-20 (cm)																	
8/7/2006	UJ 410	U 410	U 410	J 410	U 410	U 410	U 410	U 410	U 410	U 410	U 210	U 410	U 410	U 410	U 410	UJ 410	U 410
J T15+50E050																	
0448-11 Sample Depth: 0-10 (cm)																	
8/12/2013	U 95	U 95	U 95	U 95	J 28	J 39	J 58	J 35	J 22	J 37	U 95	J 48	U 95	J 24	U 95	J 28	J 52
0449-11 Sample Depth: 10-20 (cm)																	
8/12/2013	U 24	U 24	31	J 8	32	33	42	24	J 18	29	J 8	38	U 24	J 21	U 24	J 11	46

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J T15+50E100																	
0164-13 DP Sample Depth: 0-10 (cm)																	
9/24/2015	J 9	U 34	J 69	62	J 200	J 220	J 310	J 180	J 130	J 240	55	J 330	U 34	J 140	J 22	J 88	J 380
0493-13 Sample Depth: 0-10 (cm)																	
9/24/2015	U 34	U 34	J 22	J 29	J 56	J 81	J 130	J 83	J 58	J 88	J 21	J 120	U 34	J 67	U 34	J 51	J 120
0494-13 Sample Depth: 13-25 (cm)																	
9/24/2015	U 21	U 21	U 21	U 21	J 9	J 11	J 16	J 10	J 5	J 12	J 5	J 16	U 21	J 8	U 21	J 6	J 16
J T15+50E150																	
0205-02 Sample Depth: 0-10 (cm)																	
10/26/2004	J 2.3	U 36	J 13	J 3.5	J 37	57	69	J 32	36	J 35	UJ 36	85	U 36	J 34	U 36	J 29	J 43
0206-02 Sample Depth: 20-41 (cm)																	
10/26/2004	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410
0419-10 Sample Depth: 30-61 (cm)																	
8/20/2012	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17
0418-10 Sample Depth: 0-10 (cm)																	
8/20/2012	U 85	U 85	U 85	U 85	J 31	J 39	J 55	J 42	J 29	J 26	U 85	J 53	U 85	J 23	U 85	U 85	J 46
J T15+50E200																	
0307-05 Sample Depth: 0-10 (cm)																	
8/6/2007	U 33	U 33	J 8.3	J 10	140	120	110	65	82	130	U 33	220	U 33	82	U 33	43	170
0308-05 Sample Depth: 18-37 (cm)																	
8/6/2007	U 430	U 430	U 430	U 430	U 430	U 430	U 430	U 430	U 430	U 430	U 220	U 430	U 430	U 430	U 430	U 430	U 430
0470-12 Sample Depth: 0-10 (cm)																	
8/25/2014	U 30	U 30	J 19	J 22	64	79	130	61	51	97	J 13	130	U 30	60	J 6	48	130
0471-12 Sample Depth: 18-36 (cm)																	
8/25/2014	U 23	U 23	J 12	J 17	67	61	82	31	34	69	J 9	110	U 23	32	U 23	34	94
J T16+00E100																	
0147-01 Sample Depth: 0-10 (cm)																	
5/22/2003	UJ 34	U 34	J 4.3	J 2.9	48	J 26	43	J 25	J 14	J 46	J 5.1	J 31	U 34	J 20	UJ 34	J 17	J 65
0148-01 Sample Depth: 13-25 (cm)																	
5/22/2003	U 25	U 25	U 25	U 25	J 2.9	J 3.6	J 5.8	J 3	J 2.5	J 4.9	U 25	J 6	U 25	J 3.3	UJ 25	J 3.3	J 7.8
J T16+50E050																	
0351-07 Sample Depth: 0-10 (cm)																	
8/3/2009	UJ 20	UJ 20	J 4.8	J 4.5	J 41	J 42	J 71	J 31	J 22	J 49	J 6	J 86	UJ 20	J 43	UJ 20	J 21	J 79

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
0352-07 Sample Depth: 10-18 (cm)																	
8/3/2009	UJ 20	UJ 20	J 2.6	J 2.6	J 26	J 25	J 38	J 19	J 11	J 27	J 3.9	J 44	UJ 20	J 25	UJ 20	J 15	J 42
0397-09 Sample Depth: 0-10 (cm)																	
8/22/2011	J 5.2	J 4	J 7.6	J 9.1	71	100	130	66	J 78	82	J 33	150	J 3.8	120	UJ 34	58	130
0398-09 Sample Depth: 28-56 (cm)																	
8/22/2011	J 18	J 5.2	J 8.9	J 15	J 68	J 78	J 82	J 64	J 60	J 92	J 28	J 150	J 8.1	J 93	J 14	J 100	J 140
J T16+50E100																	
0354-07 Sample Depth: 15-31 (cm)																	
8/3/2009	UJ 20	UJ 20	UJ 20	UJ 20	UJ 20	J 7.8	UJ 20	J 7.1	UJ 20	J 10	UJ 20	J 20	UJ 20	J 9.7	UJ 20	J 12	J 18
0353-07 Sample Depth: 0-10 (cm)																	
8/3/2009	UJ 20	UJ 20	J 7	J 7	J 71	J 76	J 130	J 64	J 39	J 85	J 18	J 160	UJ 20	J 95	UJ 20	J 57	J 140
0451-11 Sample Depth: 13-25 (cm)																	
8/12/2013	U 20	U 20	U 20	U 20	U 20	U 20	J 5	J 5	U 20	U 20	U 20	U 20	U 20	J 5	U 20	U 20	U 20
0450-11 Sample Depth: 0-10 (cm)																	
8/12/2013	J 9	U 38	108	J 25	63	68	113	63	J 34	74	J 11	106	U 38	54	J 9	38	113
J T16+50E150																	
0330-06 Sample Depth: 0-10 (cm)																	
8/11/2008	U 37	U 37	J 4	J 2.6	J 32	J 35	U 37	J 26	U 37	J 36	U 37	63	U 37	J 24	U 37	J 20	53
0331-06 Sample Depth: 15-31 (cm)																	
8/11/2008	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 410	U 210	U 410	U 410	U 410	U 410	U 410	U 410
0495-13 Sample Depth: 0-10 (cm)																	
9/24/2015	U 28	J 8	J 25	39	100	130	180	110	64	140	J 22	200	J 6	89	U 28	130	220
0496-13 Sample Depth: 10-20 (cm)																	
9/24/2015	U 19	U 19	J 4	J 8	J 18	21	21	J 11	J 9	J 18	U 19	29	U 19	J 9	U 19	J 18	26
J T16+50E200																	
0309-05 Sample Depth: 0-10 (cm)																	
8/6/2007	U 33	U 33	J 9.7	J 7.1	81	79	71	53	57	78	U 33	110	U 33	64	U 33	J 30	96
0310-05 Sample Depth: 18-37 (cm)																	
8/6/2007	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 390	U 200	U 390	U 390	U 390	U 390	U 390	U 390
0472-12 Sample Depth: 0-10 (cm)																	
8/25/2014	U 26	U 26	J 22	J 10	28	42	68	41	J 23	46	J 7	52	U 26	37	J 5	J 19	51
0473-12 Sample Depth: 18-36 (cm)																	
8/25/2014	U 20	U 20	U 20	U 20	U 20	J 5	J 7	J 5	U 20	J 5	U 20	J 5	U 20	J 4	U 20	U 20	J 6

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J T16+50E250																	
0237-03 Sample Depth: 15-31 (cm)																	
7/20/2005	U 430	U 430	U 430	U 430	U 430	U 430	U 430	U 430	U 430	U 430	U 220	U 430	U 430	U 430	U 430	U 430	U 430
0236-03 Sample Depth: 0-10 (cm)																	
7/20/2005	U 460	U 460	U 460	U 460	U 460	J 67	J 92	UJ 460	UJ 460	U 460	UJ 240	U 460	U 460	UJ 460	U 460	U 460	U 460
J T17+00E200																	
0149-01 Sample Depth: 0-10 (cm)																	
5/22/2003	U 34	J 1.3	J 6.8	J 7.8	58	42	68	43	J 27	J 42	J 8.8	86	U 34	35	U 34	38	75
0150-01 Sample Depth: 15-30 (cm)																	
5/22/2003	U 31	J 2.9	J 3.6	J 9.5	62	42	70	38	J 28	J 47	J 8.4	140	J 4.1	33	U 31	50	66
J T17+00E300																	
0334-06 Sample Depth: 0-10 (cm)																	
8/11/2008	160	U 140	1300	600	D 5900	D 8700	D 7500	D 6400	D 7700	D 7000	1800	D 10000	150	D 6900	J 97	D 3800	D 9400
J T17+00E335																	
0151-01 Sample Depth: 0-10 (cm)																	
5/22/2003	J 840	J 140	2300	J 920	JD 10000	8500	D 13000	J 8300	4000	J 11000	J 1900	5200	J 400	J 8100	J 260	J 2100	JD 1900
J T17+00E400																	
0497-13 Sample Depth: 0-10 (cm)																	
9/22/2015	J 58	J 70	J 150	J 220	980	1600	2900	1500	1000	2000	J 260	3200	J 110	1400	J 79	1400	2600
J T17+50E100																	
0279-04 Sample Depth: 0-10 (cm)																	
8/7/2006	UJ 33	U 33	J 7	U 33	J 48	J 30	J 65	J 7	J 8	J 19	U 33	63	U 33	J 13	U 33	J 22	J 42
0280-04 Sample Depth: 13-25 (cm)																	
8/7/2006	UJ 400	U 400	U 400	UJ 400	U 400	U 400	U 400	U 400	U 400	U 400	U 200	U 400	U 400	U 400	U 400	UJ 400	U 400
0332-06 Sample Depth: 0-10 (cm)																	
8/11/2008	U 38	U 38	J 8.6	J 5.4	56	61	U 38	41	U 38	62	J 7	120	J 7	39	U 38	68	110
0333-06 Sample Depth: 13-25 (cm)																	
8/11/2008	U 430	U 430	U 430	U 430	U 430	U 430	U 430	U 430	U 430	U 430	U 220	U 430	U 430	U 430	U 430	U 430	U 430
0420-10 Sample Depth: 0-10 (cm)																	
8/20/2012	U 17	U 17	J 8	J 10	21	27	37	21	J 12	26	U 17	41	U 17	18	U 17	19	39
0421-10 Sample Depth: 13-25 (cm)																	
8/20/2012	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	U 17	J 4

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J T17+50E150																	
0207-02 Sample Depth: 0-10 (cm)																	
10/26/2004	U 920	U 920	U 920	J 170	J 680	J 690	J 610	J 360	J 610	J 750	UJ 920	J 2300	U 920	J 390	U 920	J 870	J 1100
0208-02 Sample Depth: 18-37 (cm)																	
10/26/2004	U 380	U 380	UJ 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 190	U 380	U 380	U 380	U 380	U 380	U 380
0162-02 Sample Depth: 0-10 (cm)																	
10/26/2004	J 2.3	J 1.5	J 11	J 13	J 100	140	130	J 73	79	J 89	J 41	DJ 210	J 4.7	75	U 34	54	J 110
J T17+50E200																	
0376-08 Sample Depth: 0-10 (cm)																	
6/28/2010	U 44	U 44	U 44	J 11	55	70	92	61	J 36	61	J 21	99	U 44	90	U 44	J 32	110
0377-08 Sample Depth: 20-41 (cm)																	
6/28/2010	U 26	U 26	U 26	J 4.1	J 3.3	U 26	J 6.8	J 3.8	U 26	J 5.6	U 26	J 9.3	U 26	J 9.3	U 26	J 2.4	J 7.8
0399-09 Sample Depth: 0-10 (cm)																	
8/22/2011	UJ 27	UJ 27	UJ 27	J 1.8	J 16	J 16	J 22	J 18	J 16	J 18	J 8.2	30	UJ 27	J 21	UJ 27	J 11	27
0400-09 Sample Depth: 20-41 (cm)																	
8/22/2011	UJ 420	U 420	U 420	U 420	U 420	U 420	U 420	U 420	UJ 420	U 420	U 420	U 420	U 420	UJ 420	UJ 420	U 420	U 420
J T17+50E250																	
0378-08 Sample Depth: 0-10 (cm)																	
6/28/2010	UJ 35	J 5.1	U 35	J 8.8	66	80	130	52	37	73	J 13	120	U 35	53	U 35	54	140
0379-08 Sample Depth: 18-36 (cm)																	
6/28/2010	UJ 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24	U 24
J T18+00E300																	
0380-08 Sample Depth: 0-10 (cm)																	
6/28/2010	UJ 29	J 3.9	U 29	J 4	43	55	84	38	31	44	J 9.8	70	U 29	35	U 29	J 24	77
J T18+00E350																	
0209-02 Sample Depth: 0-10 (cm)																	
10/26/2004	J 220	2000	U 1300	DJ 12000	DJ 19000	DJ 26000	DJ 18000	DJ 14000	DJ 21000	D 26000	3900	D 68000	2600	DJ 14000	J 300	D 39000	D 38000
0401-09 Sample Depth: 0-10 (cm)																	
8/24/2011	U 350	U 350	U 350	J 130	490	550	700	J 380	J 340	600	J 150	870	U 350	430	U 350	600	1100
J T18+00E400																	
0355-07 Sample Depth: 0-10 (cm)																	
8/5/2009	U 40	D 3900	U 40	D 960	D 4000	D 3800	D 6400	D 3000	D 2100	D 4700	D 820	D 11000	D 1200	D 4500	D 1900	D 6300	D 8000

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
0452-11 Sample Depth: 0-10 (cm)																	
8/12/2013	J 190	J 314	1465	1151	3400	3900	5100	3100	1900	4500	J 690	7200	J 553	2700	J 269	3737	7623
J T18+00E425																	
0164-06DP Sample Depth: 0-10 (cm)																	
8/13/2008	J 100	480	J 120	1000	D 5300	U 3800	D 4900	3100	3500	D 5500	U 380	D 16000	740	3600	J 250	D 11000	D 7600
0335-06 Sample Depth: 0-10 (cm)																	
8/13/2008	U 410	J 240	J 76	610	4300	3700	4500	2500	2800	5100	U 410	D 13000	J 410	2700	J 160	DJ 5400	D 6500
0422-10 Sample Depth: 0-10 (cm)																	
8/20/2012	J 120	J 170	700	690	2400	2300	2900	1900	1300	2900	430	5100	230	1600	300	2500	4200
J T19+00E015																	
0281-04 Sample Depth: 0-10 (cm)																	
8/10/2006	U 1000	U 1000	J 400	J 380	4600	6400	10000	6400	3400	6900	1900	6700	J 400	7400	U 1000	5000	14000
0423-10 Sample Depth: 0-10 (cm)																	
8/22/2012	J 98	140	150	340	1500	2200	3500	2100	1700	2600	320	4600	190	1800	140	1700	4100
J T19+00E025																	
0311-05 Sample Depth: 0-10 (cm)																	
8/10/2007	U 500	680	J 330	J 480	1500	1100	U 500	730	U 500	1400	300	2000	800	940	J 320	1600	4400
J T19+00E045																	
0312-05 Sample Depth: 0-10 (cm)																	
8/10/2007	J 35	56	110	180	D 2000	D 2800	D 3700	D 1900	D 2300	D 3000	D 870	D 4800	69	D 2400	J 33	D 1300	D 3300
J T19+00E065																	
0238-03 Sample Depth: 0-10 (cm)																	
7/19/2005	U 7800	J 570	U 7800	J 3300	26000	25000	35000	8600	14000	23000	U 7800	65000	J 550	8900	U 7800	19000	J 53000
J T20+00E025																	
0313-05 Sample Depth: 0-10 (cm)																	
8/10/2007	160	280	D 1900	D 1400	D 6100	D 6200	D 5200	D 1700	D 3900	D 5700	D 3400	D 9300	370	D 4300	150	D 3200	D 6800
J T20+00E050																	
0152-01 Sample Depth: 0-10 (cm)																	
5/22/2003	UJ 2200	J 360	J 240	J 1200	J 7700	5500	8500	4200	3900	J 9200	J 1100	7300	J 400	4400	J 470	4400	JD 19000
0356-07 Sample Depth: 0-10 (cm)																	
8/6/2009	J 54	370	82	480	D 4900	D 6400	D 14000	D 6200	D 4300	D 9200	DJ 1500	D 21000	570	D 9200	94	D 7900	D 14000

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J T20+00E075																	
0239-03 Sample Depth: 0-10 (cm)																	
7/20/2005	U 430	U 430	U 430	UJ 430	J 240	J 410	J 730	J 430	J 330	J 540	UJ 220	J 750	U 430	J 500	U 430	J 300	J 660
0474-12 Sample Depth: 0-10 (cm)																	
8/25/2014	84	J 10	100	69	240	370	640	390	260	490	65	610	J 19	320	89	280	550
J T21+00E025																	
0282-04 Sample Depth: 0-10 (cm)																	
8/10/2006	U 810	U 810	U 810	J 340	4200	5900	10000	5600	3100	7400	1500	7700	J 400	6800	U 810	5400	13000
0498-13 Sample Depth: 0-10 (cm)																	
9/22/2015	J 34	73	J 25	200	840	890	1400	770	580	960	190	1900	64	650	J 37	980	1800
J T21+00E050																	
0381-08 Sample Depth: 0-10 (cm)																	
6/30/2010	J 50	440	130	J 670	4100	5600	9100	4100	3500	7000	J 1000	12000	J 550	4600	81	5400	11000
0499-13 Sample Depth: 0-10 (cm)																	
9/22/2015	U 300	U 300	J 93	J 120	790	1300	3000	1600	1000	2100	J 220	3300	J 100	1400	U 300	1300	2600
J T21+00E075																	
0357-07 Sample Depth: 0-10 (cm)																	
8/6/2009	77	660	160	DJ 1200	D 7000	D 7600	D 14000	D 6400	D 4500	D 9600	DJ 1600	D 21000	DJ 690	D 9500	120	D 8200	D 15000
0475-12 Sample Depth: 0-10 (cm)																	
8/27/2014	96	J 24	85	110	560	1200	2200	1500	770	1600	320	2400	J 63	1300	100	830	1900
J T22+00E025																	
0240-03 Sample Depth: 0-10 (cm)																	
7/20/2005	U 1500	U 1500	U 1500	DJ 960	D 6400	D 6300	D 8400	D 3700	D 3800	D 7600	D 990	D 9900	U 1500	D 4600	U 1500	D 5000	D 14000
0402-09 Sample Depth: 0-10 (cm)																	
8/24/2011	J 150	J 920	J 50	1700	5000	5400	7900	J 3800	2900	6400	J 1100	9600	J 720	J 370	J 440	8600	13000
J T22+00E050																	
0382-08 Sample Depth: 0-10 (cm)																	
6/30/2010	J 16	96	J 32	190	2000	3700	7800	3200	2800	5500	J 660	9800	170	3900	J 14	3700	7400
0424-10 Sample Depth: 0-10 (cm)																	
8/20/2012	U 1000	J 270	J 260	J 720	2700	3300	4300	2700	2200	4000	J 750	6700	J 420	2200	U 1000	2800	5300

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
J T22+00E075																	
0210-02 Sample Depth: 0-10 (cm)																	
10/26/2004	J 300	J 520	J 130	J 2200	14000	DJ 16000	DJ 27000	16000	DJ 22000	DJ 24000	U 1600	D 56000	J 600	16000	J 250	DJ 20000	DJ 30000
0476-12 Sample Depth: 0-10 (cm)																	
8/25/2014	J 27	J 24	85	110	660	1200	2500	1400	740	1500	240	2200	J 32	1200	J 31	760	1700
J T23+00E015																	
0153-01 Sample Depth: 0-10 (cm)																	
5/22/2003	UJ 3800	J 310	J 160	J 1600	J 13000	12000	D 21000	J 12000	6300	J 18000	J 2700	14000	J 350	J 13000	UJ 3800	5400	JD 28000
J T23+00E025																	
0336-06 Sample Depth: 0-10 (cm)																	
8/11/2008	250	280	310	710	D 7600	D 11000	D 11000	D 8900	D 8900	D 9400	J 2200	D 18000	500	D 8900	J 140	D 5500	D 14000
0453-11 Sample Depth: 0-10 (cm)																	
8/16/2013	J 140	J 250	J 200	590	3900	7200	12400	6500	4900	8100	1100	14000	J 360	5900	J 190	5500	11000
J T23+00E050																	
0283-04 Sample Depth: 0-10 (cm)																	
8/10/2006	U 820	U 820	U 820	J 510	6200	8900	13000	9300	4500	9300	2200	8000	J 320	10000	U 820	5300	6000
0403-09 Sample Depth: 0-10 (cm)																	
8/24/2011	J 130	J 470	J 120	2100	11000	14000	18000	J 9100	7300	16000	1700	21000	J 590	13000	J 180	9800	23000
J T23+00E075																	
0211-02 Sample Depth: 0-10 (cm)																	
10/26/2004	J 130	J 400	J 77	J 1500	DJ 12000	DJ 22000	DJ 20000	J 11000	DJ 22000	DJ 23000	UJ 2500	D 56000	J 660	DJ 18000	J 91	DJ 18000	DJ 25000
0454-11 Sample Depth: 0-10 (cm)																	
8/12/2013	U 1800	U 1800	J 740	J 920	6300	11600	21500	12000	8100	14800	1900	24300	J 460	10900	U 1800	9200	18700
J T25+00E090																	
0154-01 Sample Depth: 0-10 (cm)																	
5/22/2003	U 33	U 33	J 7.2	J 9.4	J 140	J 81	J 130	J 71	J 36	J 120	J 16	86	U 33	J 72	J 2.6	64	JD 260
0155-01 Sample Depth: 13-23 (cm)																	
5/22/2003	J 1	U 28	J 2.6	J 4.4	63	34	57	31	J 16	J 57	J 9.6	43	U 28	J 28	U 28	J 26	110
J T27+00E055																	
0156-01 Sample Depth: 0-10 (cm)																	
5/22/2003	J 2.1	U 38	J 8.4	J 5.6	62	J 31	52	J 35	J 18	J 54	J 7.6	53	U 38	J 26	J 2.7	J 31	J 100

SLID SIN Date	2-Methyl-naphthalene:	Acenaph-thene:	Acenaph-thylene:	Anthracene:	Benzo(a)-anthracene:	Benzo(a)-pyrene:	Benzo(b)-fluoranthene:	Benzo(g,h,i)-perylene:	Benzo(k)-fluoranthene:	Chrysene:	Dibenz(a,h)-anthracene:	Fluoranthene:	Fluorene:	Indeno(1,2,3-cd)pyrene:	Naphthalene:	Phenanthrene:	Pyrene:
0157-01 Sample Depth: 15-31 (cm)																	
5/22/2003	U 31	U 31	J 5.8	J 6.2	130	75	120	42	40	J 100	J 14	51	U 31	48	U 31	J 12	JD 170
J T29+00E125																	
0159-01 Sample Depth: 13-25 (cm)																	
5/22/2003	J 4.1	J 2.3	J 2.4	J 9.7	110	46	75	36	30	J 80	J 9.6	61	J 3.3	37	J 2.3	50	JD 68
0158-01 Sample Depth: 0-10 (cm)																	
5/22/2003	J 7	U 200	U 200	J 15	J 110	J 62	J 100	J 52	J 36	J 82	U 200	J 130	U 200	J 52	UJ 200	J 69	J 130

GC/MS Qualifiers: B - The reported analyte was detected in the associated method blank as well as the sample. D - This flag indentifies all compounds identified in an analysis at a secondary dilution factor. This flag alerts data users that any discrepancies between the concentrations reported for the dilutions may be due to dilution of the sample or extract. It additionally indicates that spike recoveries may have been diluted below quantifiable levels. E - Compound quantitation is above the instrument's calibration range for this analysis. J - Indicates an estimated value. This flag is used when the result is less than the reporting limit, but >1/2 reporting limit or has been applied during data validation due to failure of one or more quality control criteria. U - Indicates compound was analyzed for but not detected above the reporting limit.

Metals Concentration Qualifiers: B - The report is less that the Contract Required Detection Limit (CRDL) or Practical Quantification Limit (PQL) but greater than the Instrument Detection Limit (IDL). U - Analyte was analyzed for but not detected, less than IDL, PQL, or CRDL. DL - Detection Limit, includes dilution and preparation information.

Blank space indicates data not available for the sample on the listed date. Either the sample was not collected, or no lab analytical results were generated for the specific compound.

Aqueous = Field Blank and/or QA Blank is aqueous matrix. Concentration for this sample is in Micrograms per Liter unless noted otherwise.

Pine Street Canal Site, Burlington,VT
Summary of Subaqueous Cap Coring Analytical Results: Metals
All results in Parts per Million (ppm), unless otherwise noted

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_0160-01-FB	**(Aqueous Sample - concentrations in ppb)**														
0160-01-FB		5/19/2003		U 1.8	U 0.12	U 0.28	U 0.57	U 0.91	U 0.91	U 0.03	B 2.8	U 0.57	B 2.5		
J_0160-02-FB	**(Aqueous Sample - concentrations in ppb)**														
0160FB-02		10/27/2004		U 0.75	B 1.4	U 3.97	B 2.7	U 1.91	U 0.15	U 0.01	U 0.6	U 2.84	B 2.8		
J_0160-03FB	**(Aqueous Sample - concentrations in ppb)**														
0160-03FB		7/18/2005		U 2.81	J 0.89	U 0.41	U 1	U 1.16	U 2.07	J 0.03	UJ 4.08	J 2.5	J 2.1		
J_0160-04FB	**(Aqueous Sample - concentrations in ppb)**														
0160-04FB		8/7/2006		U 3.09	U 0.17	U 0.5	U 0.69	U 1.1	U 1.8	U 0.01	U 4.04	U 1.21	J 3.4		
J_0160-05FB	**(Aqueous Sample - concentrations in ppb)**														
0160-05FB		8/6/2007		U 0.83	U 0.45	J 2	J 0.65	J 0.89	23.4	U 0.02	U 1.5	U 0.46	J 1.7		
J_0160-06FB	**(Aqueous Sample - concentrations in ppb)**														
0160-06FB		8/11/2008		U 0.98	U 0.66	U 0.1	U 0.37	U 0.87	U 1	U 0.02	U 2.1	U 0.52	J 2.2		
J_0160-07FB	**(Aqueous Sample - concentrations in ppb)**														
0160-07FB		8/3/2009		U 1.5	U 0.57	U 0.07	J 0.93	U 0.79	U 1.4	U 0.02	U 2.1	U 0.63	J 0.35		
J_0160-08FB	**(Aqueous Sample - concentrations in ppb)**														
0160-08FB		6/28/2010		U 1.86	U 0.44	U 0.04	U 0.32	U 0.48	U 0.73	U 0.04	U 3.67	U 0.48	U 0.5		
J_0160-09FB	**(Aqueous Sample - concentrations in ppb)**														
0160-09FB		8/22/2011		U 1.43	U 0.23	J 0.12	U 0.36	U 0.63	U 1.07	U 0.01	U 2.36	U 0.27	J 0.87		
J_0160-10FB	**(Aqueous Sample - concentrations in ppb)**														
0160-10FB		8/20/2012		U 2	J 0.59	U 5	U 2	U 10	U 1	U 0.2	U 2	U 5	U 20		
J_0160-11FB	**(Aqueous Sample - concentrations in ppb)**														
0160-11FB		8/12/2013		U 2	U 5	U 5	U 2	J 3.3	U 1	U 0.2	U 2	U 5	U 20		

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_0160-12FB	**(Aqueous Sample - concentrations in ppb)**														
0160-12FB		8/25/2014		U 2	J 0.33	U 5	U 2	U 10	U 1	U 0.2	U 2	U 5	U 20		
J_0160-13FB	**(Aqueous Sample - concentrations in ppb)**														
0160-13FB		9/21/2015		U 2	U 5	J 0.4	U 2	U 10	U 1	J 0.072	U 2	U 5	U 20		
J_0161-01-FB	**(Aqueous Sample - concentrations in ppb)**														
0161-01-FB		5/20/2003		U 1.8	B 0.15	U 0.28	B 0.72	U 0.91	U 0.91	B 0.1	B 2.9	U 0.57	B 3.5		
J_0161-02-FB	**(Aqueous Sample - concentrations in ppb)**														
0161FB		10/28/2004		U 0.75	B 0.83	U 3.97	B 2.8	U 1.91	U 0.15	U 0.01	U 0.6	U 2.84	B 3.3		
J_0161-03FB	**(Aqueous Sample - concentrations in ppb)**														
0161-03FB		7/20/2005		U 2.81	J 0.88	U 0.41	U 1	U 1.16	U 2.07	J 0.04	UJ 4.08	J 2.3	J 0.64		
J_0161-04FB	**(Aqueous Sample - concentrations in ppb)**														
0161-04FB		8/8/2006		U 3.09	J 0.37	U 0.5	U 0.69	U 1.1	U 1.8	U 0.01	J 5.1	U 1.21	J 3.8		
J_0161-05FB	**(Aqueous Sample - concentrations in ppb)**														
0161-05FB		8/7/2007		J 0.97	U 0.45	J 1.6	J 0.36	J 0.48	18.7	U 0.02	U 1.5	U 0.46	J 1.4		
J_0161-06FB	**(Aqueous Sample - concentrations in ppb)**														
0161-06FB		8/12/2008		U 0.98	U 0.66	U 0.1	U 0.37	U 0.87	U 1	U 0.02	U 2.1	U 0.52	J 1.8		
J_0161-07FB	**(Aqueous Sample - concentrations in ppb)**														
0161-07FB		8/4/2009		U 1.5	U 0.57	U 0.07	U 0.62	U 0.79	U 1.4	J 0.02	U 2.1	U 0.63	U 0.32		
J_0161-08FB	**(Aqueous Sample - concentrations in ppb)**														
0161-08FB		6/29/2010		U 1.86	J 1.1	U 0.04	U 0.32	J 0.79	U 0.73	U 0.04	U 3.67	U 0.48	J 3.7		
J_0161-09FB	**(Aqueous Sample - concentrations in ppb)**														
0161-09FB		8/23/2011		U 1.43	U 0.23	J 0.21	U 0.36	U 0.63	U 1.07	U 0.01	U 2.36	U 0.27	J 0.83		
J_0161-10FB	**(Aqueous Sample - concentrations in ppb)**														
0161-10FB		8/21/2012		U 2	J 0.6	J 0.67	U 2	U 10	J 0.1	U 0.2	U 2	U 5	J 3.1		
J_0161-11FB	**(Aqueous Sample - concentrations in ppb)**														
0161-11FB		8/13/2013		U 2	U 5	U 5	U 2	U 10	U 1	U 0.2	U 2	U 5	U 20		

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_0161-12FB	**(Aqueous Sample - concentrations in ppb)**														
0161-12FB		8/26/2014		U 2	U 5	U 5	U 2	U 10	U 1	U 0.2	U 2	U 5	J 2		
J_0161-13 FB	**(Aqueous Sample - concentrations in ppb)**														
0161-13 FB		9/22/2015		U 2	J 0.92	U 5	U 2	J 9.6	U 1	J 0.067	U 2	U 5	U 20		
J_0162-01-DP															
0162-01DP		5/21/2003	0-10	4.7	11.4	U 0.03	12.6	11.2	3.6	U 0.01	U 0.22	U 0.06	24.9	J 1400	82
J_0162-04FB	**(Aqueous Sample - concentrations in ppb)**														
0162-04FB		8/9/2006		U 3.09	U 0.17	U 0.5	U 0.69	U 1.1	U 1.8	U 0.01	U 4.04	U 1.21	J 6.5		
J_0162-05FB	**(Aqueous Sample - concentrations in ppb)**														
0162-05FB		8/8/2007		U 0.83	U 0.45	J 1.6	U 0.28	J 1.4	19.5	U 0.02	U 1.5	U 0.46	J 1.6		
J_0162-06FB	**(Aqueous Sample - concentrations in ppb)**														
0162-06FB		8/14/2008		U 0.98	U 0.66	U 0.1	U 0.37	U 0.87	U 1	U 0.02	U 2.1	U 0.52	J 1.7		
J_0162-09FB	**(Aqueous Sample - concentrations in ppb)**														
0162-09FB		8/24/2011		U 1.43	U 0.23	U 0.05	U 0.36	U 0.63	U 1.07	U 0.01	U 2.36	U 0.27	U 0.72		
J_0163-01-FB	**(Aqueous Sample - concentrations in ppb)**														
0163-01-FB		5/21/2003		U 1.8	U 0.12	U 0.28	U 0.57	U 0.91	U 0.91	UJ 0.03	U 2.1	U 0.57	U 2.5		
J_0163-02-FB	**(Aqueous Sample - concentrations in ppb)**														
0163-02-FB		10/29/2004		U 0.75	B 1.3	U 3.97	U 1.3	U 1.91	U 0.15	U 0.01	U 0.6	U 2.84	B 5.4		
J_0163-03FB	**(Aqueous Sample - concentrations in ppb)**														
0163-03FB		7/25/2005		J 3.6	U 0.5	J 0.53	J 1.2	J 10.4	U 2.07	J 0.03	U 4.08	J 2.7	J 3.2		
J_0163-04FB	**(Aqueous Sample - concentrations in ppb)**														
0163-04FB		8/10/2006		U 3.09	B 1.3	U 0.5	U 0.69	U 1.1	U 1.8	U 0.01	U 4.04	U 1.21	32.1		
J_0163-05FB	**(Aqueous Sample - concentrations in ppb)**														
0163-05FB		8/9/2007		U 0.83	U 0.45	B 1.7	B 0.34	B 0.73	21.2	U 0.02	U 1.5	U 0.46	B 3.3		
J_0163-06FB	**(Aqueous Sample - concentrations in ppb)**														
0163-06FB		8/13/2008		U 0.98	U 0.66	U 0.1	U 0.37	U 0.87	U 1	U 0.02	U 2.1	U 0.52	J 1.8		

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_0163-07FB	**(Aqueous Sample - concentrations in ppb)**														
	0163-07FB	8/5/2009		U 1.5	U 0.57	U 0.07	U 0.62	U 0.79	U 1.4	U 0.02	U 2.1	U 0.63	U 0.32		
J_0163-08FB	**(Aqueous Sample - concentrations in ppb)**														
	0163-08 FB	6/30/2010		U 1.86	U 0.44	U 0.04	U 0.32	J 0.5	U 0.73	U 0.04	U 3.67	U 0.48	J 0.85		
J_0163-10FB	**(Aqueous Sample - concentrations in ppb)**														
	0163-10FB	8/22/2012		U 2	J 1.1	J 0.56	U 2	U 10	J 0.1	U 0.2	U 2	U 5	J 2.9		
J_0163-11FB	**(Aqueous Sample - concentrations in ppb)**														
	0163-11FB	8/14/2013		U 2	U 5	U 5	U 2	U 10	U 1	U 0.2	U 2	U 5	U 20		
J_0163-12FB	**(Aqueous Sample - concentrations in ppb)**														
	0163-12FB	8/27/2014		U 2	J 0.33	U 5	U 2	U 10	U 1	U 0.2	U 2	U 5	U 20		
J_0163-13 FB	**(Aqueous Sample - concentrations in ppb)**														
	0163-13 FB	9/23/2015		U 2	U 5	U 5	U 2	U 10	U 1	J 0.063	U 2	U 5	U 20		
J_0164-01-DP															
	0164-01DP	5/22/2003	0-10	1.8	32	0.17	6.4	8.3	8.9	0.05	J 0.35	U 0.08	43.5	J 130000	63
J_0164-04FB	**(Aqueous Sample - concentrations in ppb)**														
	0164-04FB	8/11/2006		U 3.09	B 0.23	U 0.5	U 0.69	U 1.1	U 1.8	U 0.01	U 4.04	U 1.21	B 1.5		
J_0164-07FB	**(Aqueous Sample - concentrations in ppb)**														
	0164-07FB	8/6/2009		U 1.5	U 0.57	U 0.07	U 0.62	U 0.79	U 1.4	U 0.02	U 2.1	U 0.63	U 0.32		
J_0165-01FB	**(Aqueous Sample - concentrations in ppb)**														
	0165-01-FB	5/22/2003		U 1.8	U 0.12	U 0.28	U 0.57	U 0.91	U 0.91	UJ 0.03	U 2.1	U 0.57	U 1.9		
J_0165-02FB	**(Aqueous Sample - concentrations in ppb)**														
	0165-02-FB	10/26/2004		U 0.75	B 1.3	U 3.97	B 2.4	B 2.2	U 0.15	U 0.01	U 0.6	U 2.84	B 3.2		
J_0165-05FB	**(Aqueous Sample - concentrations in ppb)**														
	0165-05FB	8/10/2007		U 0.83	U 0.45	B 1.7	U 0.28	U 0.22	21.4	U 0.02	U 1.5	U 0.46	B 2.2		
J_0165-11FB	**(Aqueous Sample - concentrations in ppb)**														
	0165-11FB	8/15/2013		U 2	7.8	U 5	U 2	U 10	J 0.23	U 0.2	U 2	U 5	U 20		

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_0165-12FB	**(Aqueous Sample - concentrations in ppb)**														
	0165-12FB	8/28/2014		U 2	J 0.41	U 5	U 2	U 10	U 1	U 0.2	U 2	U 5	U 20		
J_0165-13FB	**(Aqueous Sample - concentrations in ppb)**														
	0165-13 FB	9/24/2015		U 2	J 0.7	U 5	U 2	J 4.5	U 1	U 0.2	U 2	U 5	U 20		
J_0241-03FB	**(Aqueous Sample - concentrations in ppb)**														
	0241-03FB	7/26/2005		U 2.81	U 0.29	J 1.1	U 1	J 7	U 2.07	J 0.04	U 4.08	U 0.74	J 1.7		
J_0455-11FB	**(Aqueous Sample - concentrations in ppb)**														
	0455-11FB	8/16/2013		U 2	U 5	U 5	U 2	U 10	U 1	U 0.2	U 2	U 5	U 20		
J_T01+00E000															
	0337-07	8/5/2009	0-10	5.6	15.5	U 0.01	14	11.7	4.5	U 0.01	U 0.26	B 0.15	31.3	13000	66.9
	0338-07	8/5/2009	28-56	4.8	10.5	U 0.01	11.6	10.2	3.1	U 0.01	U 0.24	B 0.14	22.1		83.7
J_T01+00E050															
	0257-04	8/8/2006	0-10	4.9	17.2	U 0.08	10	15.7	7.7	J 0.01	U 0.65	U 0.19	45	14000	54
	0258-04	8/8/2006	25-53	4.3	8.3	U 0.05	7.5	9.4	2.9	J 0.01	U 0.41	U 0.12	17.4		84
	0479-13	9/23/2015	0-10	2.74	J 16.7	U 0.612	J 13.5	J 12.7	6.95	U 0.124	U 2.45	U 0.612	37	2440	79.3
	0480-13	9/23/2015	25-51	3.15	J 14	U 0.581	J 12.4	J 10.8	3.67	U 0.119	2.58	U 0.581	23.5		82.8
J_T01+00E100															
	0162-05DP	8/7/2007	34-69	5	11	EB 0.35	11.2	10.8	EB 5.4	U 0.01	U 0.15	U 0.34	24.5		
	0287-05	8/7/2007	0-10	5.6	14.8	EB 0.42	13.3	12.9	EB 9.7	U 0.01	U 0.18	U 0.42	54.5	7100	75
	0288-05	8/7/2007	34-69	4.9	11.7	EB 0.34	11	10	EB 5.1	U 0.01	U 0.11	U 0.3	23.6		84
	0383-09	8/23/2011	0-10	J 4.4	12.3	U 0.006	13	10.8	7.3	J 0.01	U 0.13	U 1.1	38.7	7000	79
	0384-09	8/23/2011	36-71	J 4.8	12.5	U 0.007	10.2	9.6	3.3	J 0.005	U 0.15	U 0.02	21.8		82
	0456-12	8/27/2014	0-10	3.82	18.5	U 0.637	11.8	12.8	5.27	U 0.122	U 2.55	U 0.637	40.4	713	78.5
	0457-12	8/27/2014	13-25	4.82	15.4	U 0.615	12.3	10.9	J 1.7	U 0.128	U 2.46	U 0.615	26.5		77.4
J_T01+00E150															
	0316-06	8/12/2008	0-10	5.2	11.3	U 0.03	13.2	10.1	4.2	U 0.01	J 0.42	U 0.06	29.4	1500	78.8
	0317-06	8/12/2008	38-76	5.1	12.4	U 0.03	11.3	9.1	3.2	U 0.01	J 0.5	U 0.05	25		82.9
	0339-07	8/5/2009	0-10	4.3	11.4	U 0.01	13.3	10.3	3.7	U 0.01	U 0.19	B 0.12	27.2	2600	80.3
	0340-07	8/5/2009	33-66	5	11.5	U 0.01	12.7	9.3	3.1	U 0.01	U 0.22	B 0.12	21.1		81.6

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_T01+00E200															
	0164-07DP	8/5/2009	0-10	4.4	12.4	U 0.01	12.7	10.7	4.3	U 0.01	U 0.18	B 0.11	32.7	2200	81.5
	0185-02	10/29/2004	0-10	2.9	8.6	UJ 0.33	7.8	7.7	J 3.5	U 0.01	J 0.11	UJ 0.52	24.7	J 2400	94
	0186-02	10/29/2004	31-53	3.4	10.5	UJ 0.4	9.3	9.2	J 2.8	U 0.01	J 0.14	UJ 0.42	21.4		83
	0341-07	8/5/2009	0-10	4.7	16.3	U 0.01	13.4	12.3	5.3	B 0.01	U 0.19	B 0.16	38.3	2100	76.1
	0342-07	8/5/2009	38-76	4.3	12	U 0.01	11.5	9.1	3	U 0.01	U 0.22	B 0.14	22.9		82.7
J_T01+00E232															
	0214-03	7/18/2005	0-10	4	13.8	U 0.03	11.2	11.4	7.3	U 0.01	UJ 0.33	U 0.28	40.5	3400	82
	0215-03	7/18/2005	23-36	3.9	12.1	U 0.05	10.1	6.4	9.7	U 0.01	UJ 0.39	U 0.07	26.1		84
J_T01+00E250															
	0162-08DP	6/29/2010	0-10	4.3	J 17.7	U 0.13	J 12	11.6	7.8	U 0.01	U 0.42	U 0.05	41	J 3900	76
	0362-08	6/29/2010	0-10	4.4	J 16.9	U 0.07	J 12.4	11.4	7.9	U 0.01	U 0.24	U 0.06	41.1	J 3300	80
	0363-08	6/29/2010	30-36	3.7	J 13.4	U 0.07	J 9.2	8.4	3.9	U 0.01	U 0.4	U 0.17	22.3		83
	0363-08RP	6/29/2010	30-36	3.9	18.4	J 0.04	11.2	9.7	4	U 0.01	U 0.4	U 0.03	25.6		83
J_T01+00E300															
	0404-10	8/22/2012	0-10	5.01	17.1	U 0.495	12.6	11.1	6.31	U 0.0989	U 1.98	U 0.495	38.7	1780	83
	0405-10	8/22/2012	20-41	3.51	14.8	U 0.5	9.59	9.11	2.24	U 0.1	U 2	U 0.5	21.8		83.3
J_T01+00E350															
	0162-04DP	8/8/2006	18-36	4.2	8.9	U 0.05	7.7	9.9	3	U 0.01	U 0.42	U 0.13	18.4		
	0259-04	8/8/2006	0-10	4.3	15.5	U 0.05	9.3	15	14.1	J 0.02	U 0.44	U 0.13	73.9	8100	72
	0260-04	8/8/2006	18-36	4.6	12.8	U 0.04	8.6	11.6	3.6	U 0.01	U 0.36	U 0.11	22.7		84
	0434-11	8/13/2013	0-10	8.22	33.2	U 0.635	14.7	24.2	27.6	J 0.0418	U 2.54	U 0.635	112	8510	76.4
	0435-11	8/13/2013	23-46	5.24	20.4	U 0.584	11.3	11.1	4.53	U 0.12	U 2.34	U 0.584	29.3		83

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_T01+00E400															
	0164-12DP	8/27/2014	0-10	10.3	71.1	J 0.0845	22.1	57	64.9	J 0.123	U 3.25	U 0.813	260	J 14000	60.9
	0318-06	8/13/2008	0-10	4.4	16.8	U 0.09	11.2	12.9	8.4	U 0.01	U 0.15	U 0.04	49.6	6500	79.7
	0319-06	8/13/2008	23-46	3.9	16.2	U 0.06	9.9	12.4	11.9	U 0.01	U 0.2	U 0.05	41.4		81.4
	0364-08	6/29/2010	0-10	4.2	J 20	U 0.05	J 12.1	13.5	10.5	J 0.01	U 0.41	U 0.27	46.3	3300	80
	0365-08	6/29/2010	23-46	4.1	J 16.3	U 0.1	J 11.9	11.6	16.7	U 0.01	U 0.47	U 0.03	36.4		84
	0458-12	8/27/2014	0-10	7.3	51.6	U 0.711	18.1	39.6	43.6	J 0.0774	U 2.84	U 0.711	171	J 4080	67.6
	0459-12	8/27/2014	25-51	3.91	17.1	U 0.591	10.6	10.6	2.28	U 0.119	U 2.37	U 0.591	26.5		82.1
J_T01+50E005															
	0212-03	7/18/2005	0-10	2.5	7.6	U 0.05	10.1	6.4	9.7	U 0.02	UJ 0.38	U 0.12	36.6	4000	78
	0213-03	7/18/2005	15-28	4.4	8	U 0.03	11.5	9.2	3.5	U 0.01	UJ 0.31	U 0.06	22.5		81
J_T02+00E050															
	0162-03	7/26/2005		4.6	11.2	U 0.32	11.4	J 10.7	4.2	U 0.01	U 0.35	U 0.16	28.2	920	81
	0162-12DP	8/26/2014	0-10	4.54	15.4	J 0.0945	11.1	12.6	8.15	U 0.115	U 2.42	U 0.606	36.9	2870	80.9
	0216-03	7/26/2005	0-10	5.6	11.8	U 0.36	11.2	J 11.9	5.5	U 0.01	U 0.41	U 0.33	33	U 490	82
	0217-03	7/26/2005	43-64	4.3	8.5	U 0.26	10.5	J 9.3	3	U 0.01	U 0.35	U 0.06	20.2		82
	0436-11	8/14/2013	0-10	4.71	19.4	U 0.593	14.9	14.9	6.55	U 0.118	U 2.37	U 0.593	44.9	1410	83.5
	0437-11	8/14/2013	51-102	4.72	11.9	U 0.586	12.1	10.4	3.27	U 0.117	J 1.03	U 0.586	24.3		83.6
	0460-12	8/26/2014	0-10	5.08	18.1	J 0.0918	12.5	13.3	9.23	U 0.122	U 2.48	U 0.62	40.8	2220	80.6
	0461-12	8/26/2014	25-51	3.85	10.9	J 0.0441	13.3	10.3	5.73	U 0.115	U 2.32	U 0.58	24		83.7
J_T02+00E090															
	0127-01	5/19/2003	0-10	5.1	10.2	U 0.03	9.4	10.6	7.5	U 0.01	U 0.23	U 0.06	24	900	82
	0128-01	5/19/2003	42-85	5.1	7.6	U 0.03	12.1	9.4	3.3	U 0.01	U 0.2	U 0.05	21		85
J_T02+00E100															
	0164-10DP	8/22/2012	0-10	4.14	19.5	U 0.485	11.9	11.3	5.11	0.0946	U 1.94	U 0.485	37.6	1410	81.4
	0289-05	8/7/2007	0-10	5.1	13.2	EB 0.34	12.4	11	EB 5.4	U 0.01	U 0.15	U 0.24	29	740	82
	0290-05	8/7/2007	38-76	5	13.3	EB 0.32	12.3	11.8	EB 4.7	U 0.01	U 0.11	U 0.22	23.7		84
	0406-10	8/22/2012	0-10	4.36	22.2	U 0.481	11.6	12	6.71	U 0.099	U 1.92	U 0.481	47.5	3520	75.4
	0407-10	8/22/2012	30-61	3.97	8.58	U 0.49	9.78	7.15	1.78	U 0.0946	U 1.96	U 0.49	18.1		82.9
	0481-13	9/21/2015	0-10	U 2.39	25.5	U 0.597	15.4	11.8	7.16	U 0.118	4.39	0.67	38.5	2750	82.1
	0482-13	9/21/2015	28-56	7.03	11.6	U 0.572	12.4	8.8	3.67	U 0.112	3.6	J 0.484	22		84

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_T02+00E150															
	0162-09DP	8/23/2011	0-10	J 5	16.6	U 0.008	14.2	11.7	8.2	J 0.02	U 0.18	J 0.33	48	5600	78
	0291-05	8/7/2007	0-10	4.7	12.7	EB 0.34	12.9	9.9	EB 9.9	U 0.01	U 0.1	U 0.2	26.4	1300	82
	0292-05	8/7/2007	37-73	4.9	8.6	EB 0.29	12.3	9.2	EB 5.5	J 0.01	U 0.1	U 0.19	21.4		83
	0385-09	8/23/2011	0-10	J 4.2	11.2	U 0.006	10	8.4	5.2	J 0.01	U 0.13	U 1.2	32.3	5900	78
	0386-09	8/23/2011	23-46	J 4.4	11.5	U 0.007	10.3	10.9	3.4	U 0.005	U 0.14	U 1.2	23.6		82
	0386-09RP	8/23/2011	23-46												82
J_T02+00E190															
	0129-01	5/19/2003	0-10	4.2	9.6	U 0.02	11	8.5	3.3	U 0.01	U 0.17	U 0.05	22.2	2000	84
	0130-01	5/19/2003	24-48	4.1	11	U 0.02	9.6	9.5	3.2	U 0.01	U 0.16	U 0.04	22.2		85
J_T02+00E200															
	0187-02	10/28/2004	0-10	3.8	14.8	UJ 0.34	11.6	11.5	J 6	U 0.01	J 0.18	U 0.47	43.7	J 3300	82
	0188-02	10/28/2004	31-61	3.3	10.4	UJ 0.38	9.7	9.8	J 3	U 0.01	J 0.15	U 0.35	23.7		83
	0343-07	8/4/2009	0-10	5.4	21.2	U 0.01	13.9	15.6	7.6	U 0.01	U 0.25	U 0.12	47.6	3800	82
	0344-07	8/4/2009	38-76	5.1	20.5	U 0.01	13.3	13.1	3.6	U 0.01	U 0.2	U 0.1	27		83.1
J_T02+00E250															
	0189-02	10/28/2004	0-10	4	15.8	UJ 0.34	10.5	10.8	J 5.8	U 0.01	J 0.17	U 0.54	66.7	J 3800	82
	0190-02	10/28/2004	15-31	2.7	12	UJ 0.38	9.6	9	J 3	U 0.01	J 0.13	U 0.5	48.9		84
	0366-08	6/29/2010	0-10	4.7	J 19.4	J 0.24	J 13	12.4	8.1	U 0.01	U 0.47	U 0.1	44.8	3500	79
	0367-08	6/29/2010	18-36	7.2	J 28.9	U 0.31	J 18.5	21.7	10.7	J 0.02	U 1.06	U 0.37	52.1		44
J_T02+00E270															
	0162-11DP	8/13/2013	0-10	8.36	35	U 0.644	15	24.1	26.7	J 0.0385	U 2.57	U 0.644	112	9120	76.9
	0261-04	8/9/2006	0-10	4	7.8	U 0.04	8.8	8.4	3.3	U 0.01	U 0.33	U 0.1	17.3	620	82
	0262-04	8/9/2006	23-46	3.8	8.8	U 0.05	8	9.6	3.1	U 0.01	U 0.39	U 0.12	17.2		82
	0438-11	8/13/2013	0-10	7.96	23.8	U 0.665	13.1	14	14.5	J 0.0134	U 2.66	U 0.665	71.2	5430	74.4
	0439-11	8/13/2013	33-66	6.43	19	U 0.589	12.6	11.3	4.3	U 0.112	U 2.36	U 0.589	36.2		84.9

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_T03+00E050															
	0162-10DP	8/21/2012	0-10	4.98	12.7	U 0.49	9.92	8.68	3.97	U 0.0944	U 1.96	U 0.49	33.2	4190	82.6
	0293-05	8/8/2007	0-10	5.1	14.4	EB 0.4	12	11.1	EB 5.9	U 0.01	U 0.1	U 0.26	35.1	1600	81
	0294-05	8/8/2007	31-61	4.8	10.8	EB 0.33	11.7	9.6	EB 6.8	U 0.01	U 0.13	U 0.26	22.9		80
	0408-10	8/21/2012	0-10	4.29	16.3	U 0.495	13.7	9.6	3.73	U 0.0969	U 1.98	U 0.495	33.4	3820	82.6
	0409-10	8/21/2012	30-61	3.5	7.87	U 0.495	10.2	8.11	1.87	U 0.099	U 1.98	U 0.495	20.7		82.3
J_T03+00E090															
	0131-01	5/19/2003	0-10	4.3	9.2	U 0.02	8.5	9.8	3.1	U 0.01	U 0.16	U 0.04	26.3	1400	85
	0132-01	5/19/2003	51-102	4.6	7.9	U 0.02	10.1	9.7	3.5	U 0.01	U 0.18	U 0.05	19.8		85
J_T03+00E100															
	0162-13DP	9/21/2015	0-10	6.51	14.1	U 0.608	13.9	10.8	4.34	U 0.119	4.14	J 0.554	25.6	709	79.9
	0263-04	8/9/2006	0-10	4.1	8.2	J 0.09	8.4	9.4	3.9	U 0.01	U 0.36	U 0.11	23.2	960	81
	0264-04	8/9/2006	27-53	4.5	7.8	U 0.04	7.7	9.1	2.9	U 0.01	U 0.36	U 0.11	16.1		85
	0440-11	8/15/2013	0-10	6.07	16.7	U 0.583	11.8	11.5	7.2	U 0.116	U 2.33	U 0.583	36.1	2240	84
	0441-11	8/15/2013	41-81	6.58	12.6	U 0.588	12	9.4	4.12	U 0.119	U 2.35	U 0.588	25.2		82.5
	0483-13	9/21/2015	0-10	6.62	13.1	U 0.607	12.9	10.7	3.94	U 0.119	4.24	J 0.537	25.4	846	80.7
	0484-13	9/21/2015	38-76	7.26	16	U 0.584	14.7	9.82	4.02	U 0.112	4.1	J 0.543	24.3		83.9
J_T03+00E150															
	0320-06	8/12/2008	0-10	4.5	12.6	U 0.01	11.7	9.7	3.9	U 0.01	U 0.15	U 0.04	31.7	1400	83.2
	0321-06	8/12/2008	41-81	4.6	9.4	U 0.01	11.2	8.2	2.9	U 0.01	U 0.19	U 0.05	21.2		82
	0410-10	8/21/2012	0-10	4.28	9.69	U 0.485	11	8.19	3	U 0.097	U 1.94	U 0.485	25	309	83.3
	0411-10	8/21/2012	41-81	4.62	6.99	U 0.49	10.6	7.29	2.32	U 0.097	U 1.96	U 0.49	19.7		82.3
J_T03+00E190															
	0133-01	5/20/2003	0-10	4.5	6.7	U 0.03	9.7	8.5	3	U 0.01	U 0.19	U 0.05	19.9	U 400	84
	0134-01	5/20/2003	31-63	5	7.1	U 0.02	11.2	8.4	3	U 0.01	U 0.17	U 0.05	19.7		86
J_T03+00E200															
	0387-09	8/24/2011	0-10	J 5.1	32.8	U 0.008	17	14	7.2	J 0.006	U 0.17	U 0.03	50	2700	80
	0388-09	8/24/2011	33-66	J 5	7.3	U 0.008	11.2	8	3.2	J 0.006	U 0.18	U 0.03	19.2		84
	0462-12	8/26/2014	0-10	4.66	16.9	J 0.0932	12.5	13.2	9.84	U 0.122	U 2.39	U 0.597	39.3	1590	79.7
	0463-12	8/26/2014	33-66	4.34	10.1	U 0.595	9.58	9.08	5.07	U 0.117	U 2.38	U 0.595	21.1		80.8

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_T03+00E250															
	0322-06	8/14/2008	0-10	5.8	17.5	B 0.06	16.1	10.8	5.8	U 0.01	U 0.13	U 0.03	35.4	2400	78
	0323-06	8/14/2008	38-76	3.8	14	B 0.02	10.1	9.1	3.1	U 0.01	U 0.19	U 0.05	24		82
	0368-08	6/29/2010	0-10	5	J 13.1	U 0.09	J 12.4	8.5	5.7	U 0.01	U 0.48	U 0.03	26.7	J 460	79
	0369-08	6/29/2010	30-61	3.6	J 15	U 0.08	J 10.6	9.1	3.6	U 0.01	U 0.45	U 0.03	23.1		83
J_T03+00E300															
	0164-09DP	8/24/2011	0-10	J 6.8	25.4	U 0.007	14.6	12.7	9.2	J 0.02	U 0.16	U 0.02	49.8	J 11000	78
	0218-03	7/26/2005	0-10	4.9	10.2	U 0.22	10.2	J 9.6	5	U 0.01	U 0.4	U 0.27	25.8	2100	82
	0219-03	7/26/2005	20-41	5	10.8	U 0.24	11.3	J 9.2	3.4	U 0.01	U 0.27	U 0.21	21.8		82
	0389-09	8/24/2011	0-10	J 6.3	18	U 0.008	12.8	11.4	8.2	J 0.01	U 0.17	U 0.03	44.6	J 5100	76
	0389-09RP	8/24/2011	0-10											7100	
	0390-09	8/24/2011	25-51	J 4.8	13.9	U 0.007	12.2	10	3.6	J 0.005	U 0.15	U 0.02	25.5		83
	0390-09RP	8/24/2011	25-51												83
	0485-13	9/21/2015	0-10	6.64	19.3	U 0.601	13.4	12	14.4	U 0.121	4.46	J 0.561	36.2	1730	81.6
	0486-13	9/21/2015	38-76	3.37	20.1	U 0.581	12.3	11.7	4.17	U 0.115	3.83	J 0.41	27.6		83.6
J_T03+02E287															
	0191-02	10/29/2004	0-10	5.6	15.6	UJ 0.34	11.5	12.3	J 8.5	J 0.01	J 0.24	UJ 0.64	51	J 4700	77
	0192-02	10/29/2004	20-36	3	11.3	UJ 0.34	8.4	8.9	J 2.6	U 0.01	J 0.06	UJ 0.32	20.8		84
J_T04+00E020															
	0265-04	8/9/2006	0-10	4.7	8.3	U 0.05	9.7	10.2	3.3	U 0.01	U 0.38	U 0.11	22.6	U 480	83
	0266-04	8/9/2006	28-56	4.2	6.5	J 0.05	7.7	8.6	3	U 0.01	U 0.36	U 0.11	16.1		82
	0391-09	8/23/2011	0-10	J 4.4	10.9	U 0.006	14.8	9.3	3.9	U 0.005	U 0.12	J 0.21	29	1300	82
	0392-09	8/23/2011	36-71	J 4.6	7.9	U 0.006	10	8.6	3.2	J 0.007	U 0.73	J 0.31	20.5		84
J_T04+00E040															
	0295-05	8/8/2007	0-10	5.4	13.3	EB 0.41	13.2	10.7	EB 7.4	U 0.01	U 0.1	U 0.32	31.9	1400	80
	0296-05	8/8/2007	25-51	5.1	10.3	EB 0.32	11.9	8.7	EB 10.3	U 0.01	U 0.12	U 0.27	21.2		85
	0464-12	8/28/2014	0-10	3.77	13.7	U 0.591	10.7	10.2	3	U 0.119	U 2.37	U 0.591	24.5	664	83.7
	0465-12	8/28/2014	28-56	3.9	8.4	U 0.608	11.2	8.99	2.96	U 0.118	U 2.43	U 0.608	20.9		79.8

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_T04+00E060															
	0370-08	6/29/2010	0-10	5.3	J 11.4	U 0.13	J 12.8	9	4	U 0.01	U 0.54	U 0.11	26.6	3700	82
	0371-08	6/29/2010	23-46	3.9	J 7.6	U 0.11	J 11.6	6.7	2.9	U 0.01	U 0.48	U 0.14	19		83
	0412-10	8/21/2012	0-10	3.81	11.4	U 0.485	11	8.91	3.52	U 0.0968	U 1.94	U 0.485	29.5	537	82.3
	0413-10	8/21/2012	23-46	3.13	6.92	U 0.485	10.9	6.49	1.6	U 0.0994	U 1.94	U 0.485	17.9		80.6
J_T05+00E020															
	0162-07DP	8/4/2009		4.7	10.9	U 0.01	13.9	11.2	3.3	U 0.01	U 0.25	U 0.08	23.7	7800	82
	0345-07	8/4/2009	0-10	4.6	13.8	U 0.01	15	11.4	3.5	U 0.01	U 0.24	U 0.08	26.8	1400	82.5
	0346-07	8/4/2009	41-81	5.2	10.9	U 0.01	13.4	9.8	3.3	U 0.01	U 0.23	U 0.11	22		84.5
	0487-13	9/23/2015	0-10	3.75	J 17.8	U 0.607	J 12.9	J 11	4.32	U 0.12	3.47	U 0.607	29.4	1010	82.4
	0488-13	9/23/2015	30-61	4.09	J 11.4	U 0.585	J 13.3	J 14.4	3.88	U 0.115	3.02	U 0.585	24.6		85.4
J_T05+00E040															
	0135-01	5/20/2003	0-10	4	8.1	U 0.02	10.6	8.9	3.3	U 0.01	U 0.16	U 0.04	21.7	1000	86
	0136-01	5/20/2003	29-58	4.9	8	U 0.02	14	9.4	3.1	U 0.01	U 0.18	U 0.05	20.9		86
	0220-03	7/25/2005	0-10	4.6	10.7	U 0.19	12.1	J 10.2	4.1	U 0.01	U 0.32	U 0.08	28	1800	81
	0221-03	7/25/2005	36-46	4	6.7	U 0.13	11	J 8.2	0.29	U 0.01	U 0.42	U 0.24	20.2		80
	0442-11	8/14/2013	0-10	5.42	20.3	U 0.597	13.8	12.9	5.65	U 0.112	J 1.1	U 0.597	42.7	2320	82.9
	0443-11	8/14/2013	30-61	4.57	11.4	U 0.586	12.2	9.5	3.45	U 0.112	U 2.35	U 0.586	23.1		84.4
J_T05+00E060															
	0164-08DP	6/30/2010	0-10	5.4	J 15	U 0.1	J 13.7	9.2	4.7	U 0.01	U 0.23	U 0.14	31.8	3100	81
	0372-08	6/30/2010	0-10	5	J 13	U 0.1	J 11.9	8.4	4.1	U 0.01	U 0.24	U 0.3	28.8	2600	81
	0373-08	6/30/2010	28-56	5	J 12.9	U 0.1	J 12.6	8.4	3.5	U 0.01	U 0.23	U 0.27	23.7		84
	0373-08RP	6/30/2010	28-56	4.8	11.7	J 0.07	11.7	8.1	3.3	U 0.01	U 0.23	J 0.22	21.9		84
	0393-09	8/23/2011	0-10	J 4.8	12.1	U 0.009	13.5	9.5	4.2	J 0.01	U 0.2	J 0.22	29.8	5400	80
	0394-09	8/23/2011	28-56	J 5.3	8.8	U 0.006	10.7	8.3	3.2	U 0.006	U 0.13	J 0.21	21.3		83
J_T06+00E020															
	0374-08	6/30/2010	0-10	4.3	J 15.6	U 0.06	J 12.8	8.9	3.9	U 0.01	U 0.27	U 0.2	32	2800	80
	0375-08	6/30/2010	20-41	6	J 26.8	U 0.04	J 16	12.4	4.9	U 0.01	U 0.47	U 0.26	36.2		84
	0414-10	8/22/2012	0-10	4.97	17	U 0.5	11.6	10.7	3.86	U 0.0952	U 2	U 0.5	36.6	1720	82.3
	0415-10	8/22/2012	23-46	4.1	11.8	U 0.485	10.7	8.55	2.02	U 0.0946	U 1.94	U 0.485	19.8		81.8

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_T06+00E040															
	0347-07	8/4/2009	0-10	4.9	15	U 0.01	13.2	11.5	3.5	U 0.01	U 0.2	U 0.08	27	830	82.7
	0348-07	8/4/2009	23-46	5	15.9	U 0.01	13.7	11.3	3.4	U 0.01	U 0.19	U 0.1	25.6		84.2
	0416-10	8/22/2012	0-10	4.2	18	U 0.476	10.9	11.5	3.64	U 0.0949	U 1.9	U 0.476	35.6	2410	82.5
	0417-10	8/22/2012	28-56	4.44	10.6	U 0.481	10.1	8.57	2.12	U 0.0935	U 1.92	U 0.481	19		82.3
J_T06+00E060															
	0162-06DP	8/13/2008	0-10	5	17.9	U 0.07	13.1	12	4.5	U 0.01	U 0.19	U 0.05	42.6	3000	80.4
	0324-06	8/13/2008	0-10	4.8	16	U 0.05	12.7	12	4.8	U 0.01	U 0.23	J 0.09	42.7	1900	78.1
	0325-06	8/13/2008	20-43	4.8	12.7	U 0.01	10.9	10.1	3.3	U 0.01	U 0.23	U 0.06	25.5		83.3
	0489-13	9/23/2015	0-10	3.75	J 13.1	U 0.599	J 12.8	J 9.38	4.58	U 0.117	2.52	U 0.599	27.1	2790	80.3
	0490-13	9/23/2015	20-41	3.77	J 12.3	U 0.587	J 12	J 9.96	3.7	U 0.115	2.77	U 0.587	21.9		83.5
J_T07+00E020															
	0349-07	8/6/2009	0-10	4.6	14.6	U 0.01	11.3	10.9	3.7	U 0.01	U 0.23	B 0.16	28.8	1000	82.9
	0350-07	8/6/2009	23-46	3.9	15.2	U 0.01	11.6	10.9	3.3	U 0.01	U 0.18	B 0.16	26.3		83.5
	0466-12	8/26/2014	0-10	4.52	20	J 0.104	12.5	14.5	8.34	U 0.118	U 2.54	U 0.635	41.6	2260	78.8
	0467-12	8/26/2014	25-51	4.18	16.8	J 0.0859	11	12.7	6.16	U 0.116	U 2.35	U 0.588	28		81.7
J_T07+00E040															
	0326-06	8/14/2008	0-10	6.1	25.2	B 0.04	15.1	14.5	6.3	U 0.01	U 0.14	U 0.04	55.4	5000	76
	0327-06	8/14/2008	23-46	4.9	16.9	B 0.01	12.9	9.2	3.9	U 0.01	U 0.22	U 0.05	25.2		84
	0395-09	8/24/2011	0-10	J 5	19.3	U 0.007	14.1	13.1	5.6	J 0.01	U 0.16	U 0.02	48.1	4600	79
	0396-09	8/24/2011	23-46	J 4.8	13	U 0.009	11.4	10.7	3.4	J 0.01	U 0.18	U 0.03	24.2		82
J_T07+00E050															
	0137-01	5/20/2003	0-10	4.7	11.8	U 0.03	11.7	11.6	3.5	U 0.01	U 0.2	U 0.06	24.4	U 400	84
	0138-01	5/20/2003	18-36	4.7	10.9	U 0.03	11.2	10.4	4	U 0.01	U 0.2	U 0.05	23.3		85
J_T07+00E060															
	0164-11DP	8/14/2013	0-10	5.13	24.1	U 0.604	14.1	14.5	6.38	U 0.118	U 2.41	U 0.604	49.1	2110	82
	0444-11	8/14/2013	0-10	5.22	24	U 0.608	14	14.5	5.67	U 0.119	U 2.43	U 0.608	47.9	1860	82.2
	0445-11	8/14/2013	25-51	4.98	17.9	U 0.566	12.2	12.6	3.57	U 0.112	U 2.26	U 0.566	29.6		86.6

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_T07+00E070															
	0267-04	8/9/2006	0-10	4.8	11.9	U 0.05	9.5	11.1	3.8	U 0.01	U 0.39	U 0.12	25.6	640	79
	0268-04	8/9/2006	18-36	4.5	9.1	J 0.15	7.6	10.8	3.2	U 0.01	U 0.39	U 0.12	18.9		84
J_T08+00E020															
	0328-06	8/14/2008	0-10	5.9	27	B 0.07	16.4	15.6	7.1	U 0.01	U 0.16	U 0.04	69.7	6200	72
	0329-06	8/14/2008	25-51	3.9	15.9	B 0.02	10.1	9.9	3.5	U 0.01	U 0.13	U 0.03	25.8		83.2
	0446-11	8/15/2013	0-10	6.84	30	U 0.646	14.4	15.2	8.06	U 0.127	U 2.58	U 0.646	58.9	6070	75.1
	0447-11	8/15/2013	30-61	5.05	21.3	U 0.593	10.5	11.1	3.82	U 0.12	U 2.37	U 0.593	29.1		82.7
J_T08+00E040															
	0193-02	10/28/2004	46-60	2.6	12.6	UJ 0.35	8.9	9.2	J 2.8	U 0.01	J 0.12	UJ 0.64	21.6		83
	0194-02	10/28/2004	0-10	3	11.4	UJ 0.39	9.3	8.7	J 3	U 0.01	J 0.21	UJ 0.28	25.8	J 560	81
	0491-13	9/24/2015	0-10	4.16	J 23.4	U 0.607	J 14.7	J 14.9	5.54	U 0.115	3.39	U 0.607	35.5	1030	82.4
	0492-13	9/24/2015	25-51	3.67	J 24.9	U 0.593	J 13.1	J 13.2	4.2	U 0.117	3.08	U 0.593	29.6		82.7
J_T08+00E060															
	0297-05	8/8/2007	0-10	5	16.4	EB 0.39	12.1	11	EB 5.3	U 0.01	U 0.1	U 0.27	31.5	1500	83
	0298-05	8/8/2007	25-51	4.3	17.3	EB 0.38	11.4	11	EB 8	U 0.01	U 0.14	U 0.33	25.5		82
	0468-12	8/28/2014	0-10	3.24	17.7	J 0.0681	10.7	12	3.53	U 0.124	U 2.39	U 0.597	32.9	2050	79.7
	0469-12	8/28/2014	28-56	3.03	19.4	U 0.599	10.4	11.7	2.74	U 0.113	U 2.4	U 0.599	26.2		82.6
J_T09+00E020															
	0269-04	8/10/2006	0-10	4.3	10.9	U 0.05	9.8	8.1	3.9	U 0.01	U 0.35	U 0.11	31	1100	80
	0270-04	8/10/2006	36-71	3.7	12.1	U 0.05	10.1	10.2	3.4	U 0.01	U 0.33	U 0.1	23.3		83
J_T09+00E040															
	0139-01	5/20/2003	0-10	3.8	6.3	U 0.03	8.9	7.4	2.8	U 0.01	U 0.2	U 0.05	18.1	700	78
	0140-01	5/20/2003	31-62	4.4	10.7	U 0.02	10.5	11	3.4	U 0.01	U 0.17	U 0.05	23.1		86
	0195-02	10/28/2004	0-10	2.9	6.1	J 0.03	7.1	5.8	J 2.5	U 0.01	UJ 0.31	U 0.06	19.1	J 5600	82
	0196-02	10/28/2004	43-58	3.1	14.8	UJ 0.41	10.3	10.8	J 3.3	U 0.01	J 0.2	UJ 0.38	25.6		77
J_T09+00E060															
	0164-03	7/19/2005	0-10	4.1	15.3	U 0.03	11.3	10.4	3.8	U 0.01	UJ 0.32	U 0.86	28		84
	0222-03	7/19/2005	0-10	3.7	8.1	U 0.03	10.6	8	3	U 0.01	UJ 0.3	U 0.14	24.2	U 480	83
	0223-03	7/19/2005	31-46	3.4	11	U 0.03	8.9	9.6	3.3	U 0.01	UJ 0.35	U 0.15	22		84

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_T10+00E020															
	0197-02	10/27/2004	0-10	3.5	11.8	UJ 0.39	10.2	10.4	J 3.8	U 0.01	J 0.18	U 0.51	39.1	J 3600	82
	0198-02	10/27/2004	20-44	3.6	23.5	UJ 0.28	13.1	13.9	J 4.5	U 0.01	J 0.22	U 0.32	35.7		82
J_T10+00E040															
	0224-03	7/20/2005	0-10	5	9.1	U 0.3	11.7	J 10.3	3.4	U 0.01	U 0.33	U 0.47	26.3	1200	84
	0225-03	7/20/2005	28-38	4.4	12	U 0.32	11.5	J 11.3	3.6	U 0.01	U 0.32	U 0.2	24.7		85
J_T10+00E060															
	0299-05	8/9/2007	0-10	5.3	12.2	B 0.04	12.9	10.1	3.7	U 0.01	B 0.24	U 0.04	26.9	2900	82
	0300-05	8/9/2007	20-41	4.4	12.9	B 0.05	12.2	9.7	3.3	U 0.01	U 0.1	U 0.03	23.7		84
J_T11+00E020															
	0199-02	10/27/2004	0-10	3.1	11.7	UJ 0.38	10.4	9.4	J 3.2	U 0.01	J 0.18	U 0.53	30.7	J 9600	81
	0200-02	10/27/2004	25-42	3.4	8.4	UJ 0.42	10.4	9.1	J 2.9	U 0.01	J 0.18	U 0.31	21.8		80
J_T11+00E040															
	0226-03	7/19/2005	0-10	4.2	11.6	U 0.04	11.6	10.6	3.8	U 0.01	UJ 0.35	U 0.1	29.3	820	82
	0227-03	7/19/2005	23-41	3.8	8.4	U 0.03	9.4	8.3	3.4	U 0.01	UJ 0.28	U 0.05	20		82
J_T11+00E045															
	0141-01	5/21/2003	0-10	5.2	16.5	U 0.03	12.4	12.9	3.9	U 0.01	U 0.21	U 0.06	29.4	J 1300	78
	0142-01	5/21/2003	17-34	4.2	12	U 0.02	10.4	11.5	3.5	U 0.01	U 0.15	U 0.04	24.5		84
J_T11+00E060															
	0271-04	8/10/2006	0-10	4.7	10.5	U 0.04	11.3	10	4.4	U 0.01	U 0.35	U 0.1	27.3	530	78
	0272-04	8/10/2006	36-71	4.3	11.8	U 0.05	11.4	10.6	3.7	U 0.01	U 0.33	U 0.1	23.5		82
J_T12+00E020															
	0228-03	7/25/2005	0-10	4.1	12.5	U 0.27	10	J 9.8	3.8	U 0.01	U 0.38	U 0.07	32	910	79
	0229-03	7/25/2005	31-41	4.1	12.1	U 0.32	9.8	J 10.7	3.2	U 0.01	U 0.33	U 0.14	22.4		82
J_T12+00E040															
	0201-02	10/27/2004	0-10	3.4	15.3	UJ 0.33	11.3	10.8	J 4.1	U 0.01	J 0.17	U 0.52	41.2	J 1500	77
	0202-02	10/27/2004	12-25	2.8	10	UJ 0.42	8.8	8.9	J 2.7	U 0.01	J 0.1	U 0.55	21.1		82

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_T12+00E060															
	0164-04DP	8/11/2006	38-76	4.5	7.5	U 0.05	9.6	11.4	3	U 0.01	U 0.39	U 0.12	20.4		84
	0273-04	8/11/2006	0-10	3.8	9.8	U 0.05	9.9	10.1	3	U 0.01	U 0.39	U 0.12	28	920	79
	0274-04	8/11/2006	38-76	4.9	7.7	U 0.05	9.4	9.8	3.2	U 0.01	U 0.32	U 0.1	19.7		83
J_T12+00E080															
	0164-02-DP	10/27/2004	38-60	2.9	12.5	UJ 0.44	10	8.6	J 2.8	U 0.01	J 0.2	U 0.41	22.8		81
	0203-02	10/27/2004	0-10	2.5	12	UJ 0.36	9.7	7.9	J 3.1	U 0.01	J 0.11	U 0.25	29.9	J 11000	74
	0204-02	10/27/2004	38-60	2.5	12.1	UJ 0.28	7.6	8.8	J 2.5	U 0.01	J 0.22	U 0.42	22.2		83
J_T12+90E060															
	0232-03	7/25/2005	0-10	4.7	12	U 0.34	12.9	J 10.7	4.2	U 0.01	U 0.36	U 0.4	49.6	1200	79
	0233-03	7/25/2005	15-31	4.9	8.1	U 0.26	10.8	J 11.8	3.2	U 0.01	U 0.28	U 0.06	23.1		85
J_T13+00E020															
	0275-04	8/11/2006	0-10	4.5	10.8	U 0.05	9.9	12.8	4.1	U 0.01	U 0.4	U 0.12	37.4	1600	82
	0276-04	8/11/2006	23-46	6.1	6.8	U 0.05	10	10.9	3.3	U 0.01	U 0.32	U 0.1	21.4		84
J_T13+00E040															
	0164-05DP	8/9/2007		5.2	9.1	B 0.04	12.1	11.6	3.2	U 0.01	U 0.13	U 0.04	23.2		85
	0301-05	8/9/2007	0-10	5	21.5	B 0.18	15.1	16	9	B 0.01	B 0.26	B 0.31	120	8700	74
	0302-05	8/9/2007	15-30	5.4	10.8	B 0.05	12.8	11.8	3.4	U 0.01	B 0.2	U 0.05	26.5		85
J_T13+00E050															
	0143-01	5/21/2003	0-10	4.6	7.1	U 0.02	11.4	10	2.8	0.04	U 0.19	U 0.05	20	UJ 400	84
	0144-01	5/21/2003	15-31	4.7	7.2	U 0.03	10.8	11	3.1	U 0.01	U 0.2	U 0.05	21.2		85
J_T14+00E020															
	0303-05	8/9/2007	0-10	4.1	33.4	B 0.2	12.2	12.7	8.8	B 0.01	U 0.16	B 0.16	55.2	150000	51
	0304-05	8/9/2007	15-30	5.5	20	B 0.1	13.1	14.8	5.1	U 0.01	U 0.14	B 0.1	35.2		76
J_T14+00E040															
	0305-05	8/9/2007	0-10	2.8	36.4	B 0.23	8.4	10.6	10.5	B 0.01	B 0.32	B 0.3	51	140000	50
	0306-05	8/9/2007	15-30	4.6	13.8	B 0.07	11.8	11	4.1	U 0.01	B 0.14	B 0.08	27.8		78

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_T15+00E220															
	0145-01	5/21/2003	0-10	3.4	16.5	U 0.03	10	9.8	5.3	U 0.01	U 0.23	U 0.06	26.2	J 31000	71
	0146-01	5/21/2003	26-55	3.7	9.4	U 0.03	11	10.2	2.9	U 0.01	U 0.19	U 0.05	21.7		84
J_T15+35E080															
	0234-03	7/20/2005	0-10	2.3	36.8	U 0.18	9.4	11.6	12.3	U 0.05	UJ 0.59	U 0.66	53.4	120000	50
	0235-03	7/20/2005	13-25	3.4	15.2	U 0.04	10.3	9.1	6	U 0.02	UJ 0.39	U 0.2	30.6		69
J_T15+35E095															
	0277-04	8/7/2006	0-10	3.2	31.1	U 0.08	8.2	10.8	19.2	J 0.03	U 0.67	U 0.2	44.1	J 100000	52
	0278-04	8/7/2006	10-20	4.4	10.1	U 0.05	8.2	10.6	3.8	J 0.02	J 0.45	U 0.13	18.6		80
J_T15+50E050															
	0448-11	8/12/2013	0-10	3.77	35.7	U 0.5	16.9	13.3	7.96	J 0.0171	UJ 2.01	U 0.5	40.7	31000	53.8
	0449-11	8/12/2013	10-20	3.75	23.8	U 0.689	16	11.5	6.53	U 0.138	UJ 2.76	U 0.689	33		71.8
J_T15+50E100															
	0164-13 DP	9/24/2015	0-10	U 3.95	J 51.8	U 0.988	J 13.2	J 15.1	17.1	U 0.192	U 3.95	U 0.988	63.8	106000	50.1
	0493-13	9/24/2015	0-10	U 3.88	J 51.4	U 0.971	J 23.2	J 15.3	16.2	U 0.19	U 3.88	U 0.971	67.1	112000	50
	0494-13	9/24/2015	13-25	4.01	J 18.1	U 0.608	J 11	J 10.4	5.78	U 0.117	2.96	U 0.608	25.1		81.4
J_T15+50E150															
	0205-02	10/26/2004	0-10	2.4	34.3	J 0.24	8.9	9.2	J 13	0.07	UJ 0.58	U 0.11	49		56
	0206-02	10/26/2004	20-41	4.7	6.2	U 0.02	9.8	8.7	J 3.2	U 0.01	UJ 0.31	U 0.06	19.7		81
	0418-10	8/20/2012	0-10	3.19	20.6	U 0.49	6.99	7.3	5.73	J 0.0115	U 1.96	J 0.353	26.5	6280	61
	0419-10	8/20/2012	30-61	5.7	10.3	U 0.485	10.9	9.15	3.07	U 0.0958	J 0.751	J 0.436	20.3		83.8
J_T15+50E200															
	0307-05	8/6/2007	0-10	4.8	22.5	EB 0.36	13.9	12.8	EB 10.6	J 0.01	U 0.16	U 0.24	37.8	50000	60
	0308-05	8/6/2007	18-37	5.1	9.4	EB 0.3	11.5	10.9	U 4	U 0.01	U 0.11	U 0.17	23.4		77
	0470-12	8/25/2014	0-10	U 3.62	45.6	J 0.29	9.47	12.2	15.7	J 0.0419	U 3.62	U 0.906	53.5	44300	55.2
	0471-12	8/25/2014	18-36	3.98	22.6	J 0.154	10.3	13.9	10.1	U 0.133	U 2.75	U 0.688	35.2		71.3
J_T16+00E100															
	0147-01	5/22/2003	0-10	2.9	32.5	U 0.06	9.2	10.8	10.5	U 0.01	U 0.3	U 0.08	42	J 100000	59
	0148-01	5/22/2003	13-25	4.8	9.1	U 0.02	11.1	10.5	3.7	U 0.01	U 0.16	U 0.04	22.3		80

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_T16+50E050															
	0351-07	8/3/2009	0-10	5.8	61.8	U 0.01	12.1	24.9	26.4	J 0.06	U 0.44	U 0.45	59.6	120000	41.4
	0352-07	8/3/2009	10-18	5.2	28.2	U 0.01	12	13.5	6.9	J 0.02	U 0.22	U 0.21	29.8		66.8
	0397-09	8/22/2011	0-10	J 7.2	86.7	U 0.01	19.8	13	23.2	0.18	U 1.5	J 0.71	66.8	J 200000	44
	0397-09RP	8/22/2011	0-10											140000	
	0398-09	8/22/2011	28-56	J 4.1	29.4	J 0.18	13	6.1	31.5	0.1	U 1.4	J 0.58	46.4		60
J_T16+50E100															
	0353-07	8/3/2009	0-10	2.6	53.5	U 0.08	11.6	16.1	11.8	J 0.06	U 0.54	U 0.34	59.2	180000	36.8
	0354-07	8/3/2009	15-31	3.6	18.3	U 0.01	11.8	10.3	4.9	J 0.02	U 0.26	U 0.13	26.3		75.3
	0450-11	8/12/2013	0-10	3.36	57.7	0.628	14.1	16	15.2	J 0.0459	UJ 2	J 0.356	75.2	49800	44.4
	0451-11	8/12/2013	13-25	5.22	13.4	U 0.59	15.9	12	3.41	U 0.115	UJ 2.36	U 0.59	26.5		83.1
J_T16+50E150															
	0330-06	8/11/2008	0-10	3.7	27.9	U 0.16	13.2	12.3	8.2	J 0.01	J 0.36	U 0.09	43.4	69000	54.6
	0331-06	8/11/2008	15-31	4.6	7.9	U 0.04	12	10.5	2.9	U 0.01	J 0.23	U 0.05	21.9		81.1
	0495-13	9/24/2015	0-10	U 3.22	J 35.8	U 0.805	J 13.8	J 13.4	12.2	U 0.157	U 3.22	U 0.805	53.9	73100	60.3
	0496-13	9/24/2015	10-20	4.01	J 15.1	U 0.56	J 12.7	J 11.7	5.06	U 0.114	2.8	U 0.56	26.8		85.9
J_T16+50E200															
	0309-05	8/6/2007	0-10	3.6	30.1	EB 0.46	9.7	12.1	EB 11	J 0.04	U 0.21	U 0.37	42.4	120000	60
	0310-05	8/6/2007	18-37	4.9	12.1	EB 0.32	12.2	11.6	EB 6	U 0.01	U 0.14	U 0.22	26.1		84
	0472-12	8/25/2014	0-10	5.26	25.6	J 0.132	11.8	14.8	10	J 0.0182	U 3.07	U 0.767	46.5	6940	65.2
	0473-12	8/25/2014	18-36	4.98	12.1	J 0.065	11.7	13.1	6.53	U 0.118	U 2.41	U 0.602	26.1		82.2
J_T16+50E250															
	0236-03	7/20/2005	0-10	2.8	27.5	U 0.04	11.4	11.1	9.8	0.05	UJ 0.39	U 0.63	42.1	54000	71
	0237-03	7/20/2005	15-31	4.9	9.4	U 0.04	18.4	10.5	4.3	U 0.01	UJ 0.43	U 0.28	26.3		76
J_T17+00E200															
	0149-01	5/22/2003	0-10	2.2	33.7	U 0.03	8.6	10.8	11	0.04	J 0.31	U 0.07	53.3	J 120000	58
	0150-01	5/22/2003	15-30	3.6	27.9	U 0.03	11.1	12.9	9.4	0.04	J 0.3	U 0.07	41.7		65
J_T17+00E300															
	0334-06	8/11/2008	0-10	12	210	3.6	84	132	190	0.66	4	16.8	609	200000	27.6

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_T17+00E335															
	0151-01	5/22/2003	0-10	14.8	196	4.9	122	199	401	0.81	7.6	39.4	717	J 200000	18
J_T17+00E400															
	0497-13	9/22/2015	0-10	11.6	J 116	3.38	J 69.5	J 147	140	0.377	8.91	12.6	709	204000	29.3
J_T17+50E100															
	0279-04	8/7/2006	0-10	3.2	22.4	J 0.11	6.4	9.8	6.5	J 0.03	U 0.56	U 0.17	27.8	J 52000	61
	0280-04	8/7/2006	13-25	4.8	6.9	U 0.05	8	8.6	3	U 0.01	U 0.41	U 0.12	16.7		83
	0332-06	8/11/2008	0-10	4.2	28.3	U 0.16	13	13.3	9.6	J 0.03	J 0.45	U 0.07	49.8	100000	52.5
	0333-06	8/11/2008	13-25	4.3	10.2	U 0.06	10.7	8.6	3.4	U 0.01	U 0.14	U 0.04	23		76.6
	0420-10	8/20/2012	0-10	2.48	21.4	U 0.481	4.62	5.54	6.16	J 0.0192	U 1.92	J 0.283	24.5	21300	47.1
	0421-10	8/20/2012	13-25	5.82	15.6	J 0.188	11.5	8.57	2.83	U 0.0981	U 1.96	J 0.391	18.2		82.6
J_T17+50E150															
	0162-02	10/26/2004	0-10	1.6	32.6	UJ 0.53	6.9	8.6	J 9.2	J 0.05	J 0.2	U 0.38	45	J 130000	59
	0207-02	10/26/2004	0-10	1.9	38.8	UJ 0.63	9.1	10.8	J 12.3	J 0.05	J 0.18	UJ 0.61	53.8	J 130000	54
	0208-02	10/26/2004	18-37	3.4	6.4	UJ 0.36	9.1	7.8	J 2.7	U 0.01	J 0.13	U 0.3	19.8		88
J_T17+50E200															
	0376-08	6/28/2010	0-10	4.4	J 35.1	U 0.32	J 16.1	16	18.4	J 0.05	U 0.8	U 0.13	58.5	91000	45
	0377-08	6/28/2010	20-41	5.1	J 10.3	U 0.11	J 13	11.9	4.1	U 0.01	U 0.45	U 0.03	23.9		76
	0399-09	8/22/2011	0-10	J 4.6	17.4	U 0.008	12.2	11.5	8.1	J 0.02	U 0.16	J 0.21	35.1	40000	72
	0400-09	8/22/2011	20-41	J 5.7	9	U 0.007	13	10.7	3.8	U 0.006	U 0.93	U 1.44	24.1		74
J_T17+50E250															
	0378-08	6/28/2010	0-10	2.7	J 40.1	U 0.25	J 10.8	16.2	17.4	0.06	U 0.35	U 0.41	58.5	88000	53
	0379-08	6/28/2010	18-36	4	J 20.6	U 0.06	J 14.1	13	4.5	U 0.01	U 0.45	U 0.29	31.6		83
J_T18+00E300															
	0380-08	6/28/2010	0-10	3.6	J 37.3	J 0.28	J 11.1	12	12.1	0.05	U 0.38	U 0.26	54	83000	66
J_T18+00E350															
	0209-02	10/26/2004	0-10	4.4	33.1	J 0.48	27.4	43.9	J 40.3	0.1	UJ 0.41	U 1.7	147	J 34000	78
	0401-09	8/24/2011	0-10	J 3.7	24.3	0.81	13.6	21	22.9	0.04	U 0.66	U 0.02	59.3	28000	90
	0401-09RP	8/24/2011	0-10												91

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_T18+00E400															
	0355-07	8/5/2009	0-10	6.7	71.6	34.6	37	78.5	79.4	0.38	B 0.52	8.4	310	88000	49.9
	0452-11	8/12/2013	0-10	4.92	42.3	1.36	27.2	96.4	68.6	0.309	UJ 2	7.16	260	36500	66.9
J_T18+00E425															
	0164-06DP	8/13/2008	0-10	5.2	44.9	u 0.87	44.2	50.4	55.5	J 0.05	J 0.28	J 0.16	370	62000	53
	0335-06	8/13/2008	0-10	5.4	58.1	J 0.98	52.6	52.7	56.2	J 0.05	J 0.47	J 0.26	404	71000	48.6
	0422-10	8/20/2012	0-10	3.66	45.6	0.908	14.9	38.6	112	J 0.0708	J 1.2	1.41	190	14700	76.3
J_T19+00E015															
	0281-04	8/10/2006	0-10	12.1	153	6.1	113	271	216	0.84	U 0.84	48.2	755	77000	33
	0423-10	8/22/2012	0-10	5.95	74.1	2.2	49.1	138	99.8	0.37	U 1.98	30.5	274	24000	52
J_T19+00E025															
	0311-05	8/10/2007	0-10	9	119	2.1	70.2	84.5	124	0.24	B 1.6	18.2	162	140000	65
J_T19+00E045															
	0312-05	8/10/2007	0-10	4.9	67	B 0.66	17.2	44.1	27.9	0.19	B 0.54	4.2	149	100000	37
J_T19+00E065															
	0238-03	7/19/2005	0-10	19.3	218	4.8	85.6	212	181	1.2	UJ 1.19	21.4	946	160000	26
J_T20+00E025															
	0313-05	8/10/2007	0-10	9.5	110	B 2.9	62.5	114	119	2.8	3.8	25.6	875	240000	29
J_T20+00E050															
	0152-01	5/22/2003	0-10	13.9	134	4.2	86	189	151	0.75	1.7	40.5	520	J 120000	45
	0356-07	8/6/2009	0-10	24.3	284	B 3.1	83.6	207	143	0.74	U 1.05	15.3	1050	160000	25.5
J_T20+00E075															
	0239-03	7/20/2005	0-10	3.4	46.5	J 0.52	8.6	21.7	11.8	U 0.04	UJ 0.87	2	49.6	62000	76
	0474-12	8/25/2014	0-10	3.72	70.6	J 0.305	18	35.5	31.6	U 0.152	U 3.06	0.936	122	31400	62.2
J_T21+00E025															
	0282-04	8/10/2006	0-10	14.1	127	5	86.6	205	183	0.88	U 0.76	33.9	604		41
	0498-13	9/22/2015	0-10	7.35	J 98.8	2.05	J 82.4	J 95.6	127	0.259	6.29	1.95	387	64500	37.6

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_T21+00E050															
	0381-08	6/30/2010	0-10	13.3	J 137	4.8	J 93.3	241	177	0.8	U 0.55	50.1	651	120000	34
	0499-13	9/22/2015	0-10	22.3	J 238	U 1.75	J 67.5	J 225	89.1	0.348	15.3	8.36	976	174000	28
J_T21+00E075															
	0357-07	8/6/2009	0-10	14.2	142	4.6	87.7	205	162	0.81	U 0.38	37.1	690	150000	33.2
	0475-12	8/27/2014	0-10	18.3	199	J 0.487	41.4	151	55.8	J 0.194	U 8.4	J 0.899	626	27500	23.8
J_T22+00E025															
	0240-03	7/20/2005	0-10	2.7	22.9	J 0.73	52.2	29.3	76.7	0.06	UJ 0.4	U 0.49	152	44000	90
	0402-09	8/24/2011	0-10	J 7.9	83.2	J 2.7	106	84.7	123	0.25	U 3.1	J 2.1	367	140000	28
J_T22+00E050															
	0382-08	6/30/2010	0-10	11.3	J 92	J 1.1	J 32.3	100	47.9	0.19	J 1.1	4.8	580	56000	60
	0424-10	8/20/2012	0-10	4.29	41.6	1.11	22.6	42.6	48.7	0.88	J 0.75	12	137	40400	31.7
J_T22+00E075															
	0210-02	10/26/2004	0-10	19.9	209	3.2	82.8	172	J 153	0.97	UJ 0.89	15.4	949	J 140000	31
	0476-12	8/25/2014	0-10	10.8	125	1.67	44.3	133	88.4	J 0.162	U 4.32	6.56	723	76700	46.3
J_T23+00E015															
	0153-01	5/22/2003	0-10	21.9	248	7.5	212	466	453	1.1	J 0.97	137	1250	J 120000	26
J_T23+00E025															
	0336-06	8/11/2008	0-10	19	242	12.2	272	361	697	2.4	J 2	263	1000	150000	32.5
	0453-11	8/16/2013	0-10	10.9	193.5	3.453	77.5	229	149	0.485	U 2	10.2	2430	87300	30.7
J_T23+00E050															
	0283-04	8/10/2006	0-10	14.9	144	9.4	172	271	593	1.1	U 0.64	191	726	100000	40
	0403-09	8/24/2011	0-10	J 14.2	128	5	144	298	306	1.3	U 3.2	105	758	120000	29
J_T23+00E075															
	0211-02	10/26/2004	0-10	13	105	J 1.9	52.4	126	J 113	0.33	J 0.68	22.8	680	J 68000	40
	0454-11	8/12/2013	0-10	25.7	239	3.27	83.8	250	129	0.391	UJ 10	9.75	1077	91200	28.4
J_T25+00E090															
	0154-01	5/22/2003	0-10	1.9	38.7	U 0.13	8.2	10.5	12.4	0.04	U 0.3	J 0.08	45.4	J 130000	61
	0155-01	5/22/2003	13-23	3.1	21	U 0.03	9.7	10.5	7.2	U 0.01	U 0.21	U 0.06	32.6		71

SLID	SIN	Date	Sample Depth (cm)	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc	Total Organic Carbon	% Solids
J_T27+00E055															
	0156-01	5/22/2003	0-10	2.5	37.1	0.18	10.5	12.9	12.9	0.05	J 0.56	0.19	49.1	J 120000	52
	0157-01	5/22/2003	15-31	4.5	19	U 0.04	13.8	14.1	6.4	U 0.01	U 0.27	U 0.07	36.6		64
J_T29+00E125															
	0158-01	5/22/2003	0-10	3.3	42.1	U 0.04	11.4	20.5	17.2	0.06	J 0.33	0.23	70	J 76000	51
	0159-01	5/22/2003	13-25	4.2	14.7	U 0.03	12.6	13.5	5.2	U 0.01	U 0.25	U 0.07	31.1		78

GC/MS Qualifiers: B - The reported analyte was detected in the associated method blank as well as the sample. D - This flag indentifies all compounds identified in an analysis at a secondary dilution factor. This flag alerts data users that any discrepancies between the concentrations reported for the dilutions may be due to dilution of the sample or extract. It additionally indicates that spike recoveries may have been diluted below quantifiable levels. E - Compound quantitation is above the instrument's calibration range for this analysis. J - Indicates an estimated value. This flag is used when the result is less than the reporting limit, but >1/2 reporting limit or has been applied during data validation due to failure of one or more quality control criteria. U - Indicates compound was analyzed for but not detected above the reporting limit.

Metals Concentration Qualifiers: B - The report is less that the Contract Required Detection Limit (CRDL) or Practical Quantification Limit (PQL) but greater than the Instrument Detection Limit (IDL). U - Analyte was analyzed for but not detected, less than IDL, PQL, or CRDL. DL - Detection Limit, includes dilution and preparation information.

Blank space indicates data not available for the sample on the listed date. Either the sample was not collected, or no lab analytical results were generated for the specific compound.

Aqueous = Field Blank and/or QA Blank is aqueous matrix. Concentration for this sample is in Micrograms per Liter unless noted otherwise.

Pine Street Canal Site, Burlington, VT
AVS/SEM Data

SIN	SLID	Date	Cadmium, umole/g	Copper, umole/g	Lead, umole/g	Mercury, umole/g	Nickel, umole/g	Zinc, umole/g	AVS, umole/g	Ratio of SEM/AVS
00111-01	J_T23+70 E10	8/28/2001	0.028	1.93	E 0.48	B 0.00005	0.23	5.72	21.5	0.54
00112-01	J_T23+70 E10	8/28/2001								
00117-01-DP	J_T23+70 E10	8/28/2001	0.027	1.92	E 0.44	B 0.00005	0.23	5.61	20.7	0.54
00118-01-DP	J_T23+70 E10	8/28/2001								
00167-01	J_T2+00 E150	8/12/2003	0.00082	0.088	J 0.014	U 0.000034	0.095	0.21	U 0.29	NA
00168-01	J_T6+00 E70	8/12/2003	0.0018	0.16	J 0.026	U 0.000035	0.16	0.72	1.6	0.69
00169-01	J_T13+00 E60	8/13/2003	0.00080	0.082	J 0.011	U 0.000033	0.094	J 0.33	U 0.28	NA
00170-01-DP	J_00170-01-DP	8/13/2003	0.0012	0.12	J 0.014	U 0.000055	0.12	0.52	0.36	2.2
00171-01	J_T18+00 E250	8/13/2003	0.015	0.82	J 0.26	0.00027	0.25	4.6	17.0	0.35
00180-02	J_T3+00_E150	8/16/2004	U ND	B 0.18	0.079	U ND	B 0.1	1.6	2.3	0.87
00181-02	J_T9+00_E50	8/16/2004	U ND	B 0.054	0.0082	U ND	B 0.044	0.17	2.3	0.12
00182-02DP	J_00182-02DP	8/16/2004	U ND	B 0.058	0.011	U ND	B 0.046	0.2	0.83	0.39
00182-03-DP	J_00182-03-DP	7/19/2005	U ND	B 0.14	0.034	U ND	B 0.11	0.95	5.1	0.24
00182-04DP	J_0182-04DP	8/9/2006	U ND	0.21	0.056	U ND	B 0.11	1.5	4.0	0.48

SIN	SLID	Date	Cadmium, umole/g	Copper, umole/g	Lead, umole/g	Mercury, umole/g	Nickel, umole/g	Zinc, umole/g	AVS, umole/g	Ratio of SEM/AVS
00182-05DP	J_0182-05DP	8/8/2007	B 0.014	0.94	0.42	U ND	B 0.30	7	52.1	0.17
00183-02	J_T13+00_E75	8/17/2004	U ND	0.19	0.015	U ND	0.85	0.6	1.5	1.1
00184-02	J_T20+00_E75	8/17/2004	B 0.011	0.41	0.27	U ND	B 0.13	2.5	11.4	0.29
00212-03	J_T1+50E5	7/18/2005	B 0.0025	B 0.091	0.045	U ND	B 0.053	0.4	0.79	0.75
00222-03	J_T9+00E60	7/19/2005	U ND	0.18	0.043	U ND	B 0.12	1.2	3.3	0.45
00226-03	J_T11+00E40	7/19/2005	U ND	B 0.12	B 0.016	ND	B 0.10	0.32	U ND	NA
00238-03	J_T19+00E65	7/19/2005	B 0.032	2.3	0.65	U ND	B 0.30	10.3	U ND	NA
00263-04	J_T3+00E100	8/9/2006	U ND	B 0.099	0.036	U ND	B 0.060	0.69	U ND	NA
00267-04	J_T7+00E60	8/9/2006	U ND	0.21	0.055	U ND	B 0.11	1.5	4.5	0.42
00267-04MS	J_T7+00E60MS	8/9/2006								
00267-04RP	J_T7+00E60RP	8/9/2006	U ND	0.20	0.049	U ND	B 0.12	1.3	2.5	0.68
00282-04	J_T21+00E25	8/9/2006	B 0.030	2.3	0.68	U ND	B 0.34	9.9	33.1	0.40
00291-05	J_T2+00150	8/7/2007	U ND	0.17	0.061	U ND	B 0.12	1.0	3.3	0.42
00297-05	J_T8+00E60	8/7/2007	U ND	B 0.089	0.025	U ND	B 0.095	0.45	3.2	0.21
00312-05	T19+00E45	8/8/2007	B 0.015	1.0	0.45	U ND	B 0.33	7.5	48.3	0.19
0182-06DP	J_0182-06DP	8/13/2008	B 0.0015	0.15	0.057	U ND	B 0.072	1.5	1.3	1.4

SIN	SLID	Date	Cadmium, umole/g	Copper, umole/g	Lead, umole/g	Mercury, umole/g	Nickel, umole/g	Zinc, umole/g	AVS, umole/g	Ratio of SEM/AVS
0182-07DP	J_T5+00E20	8/4/2009	U 0.017	B 0.068	0.036	U 0.00019	B 0.031	0.88	6	0.17
0182-08DP	J_0182-08DP	6/29/2010	B 0.0014	B 0.094	0.092	U 0.00020	B 0.044	1.9	28.2	0.074
0182-09	J_0182-09DP	8/23/2011		J D 0.089	D 0.061	U 0.000032		D 0.89	4.7	0.22
0182-11DP	J_0182-11DP	8/15/2013		0.055	0.035	U 0.000073		0.405	4.366	0.11
0182-12DP	J_0182-12DP	8/26/2014		J 0.0927	J 0.0194	UJ 0.0000732		J 0.336	J 1.9	0.24
0182-13DP	J_T06+00E060DP	9/23/2015		0.209	0.0879	U 0.0000722		0.922	2.8	0.4353
0297-05MS	J_T8+00E60MS	8/7/2007	U ND	B 0.088	0.026	U ND	B 0.086	0.45	3.1	0.21
0320-06	J_T3+00E150	8/12/2008	U ND	B 0.071	0.016	U ND	B 0.082	0.20	1.4	0.26
0324-06	J_T6+00E60	8/13/2008	B 0.0012	0.23	0.074	U ND	B 0.13	1.9	15.2	0.15
0335-06	J_T18+00E425	8/13/2008	B 0.011	B 0.17	0.57	U ND	B 0.2	8.5	73.6	0.13
0343-07	J_T2+00E200	8/4/2009	B 0.0038	B 0.13	0.2	U 0.00023	B 0.095	2.8	17.5	0.18
0345-07	J_T5+00E20	8/4/2009	U 0.017	B 0.098	0.029	U 0.00019	B 0.043	0.67	8.1	0.1
0345-07MS	J_T5+00E20	8/4/2009	0.63	1.2	0.39	U 0.00018	1.3	1.8	20.1	0.26
0345-07RP	J_T5+00E20	8/4/2009	B 0.0018	B 0.098	0.024	U 0.00018	B 0.04	0.58	8.1	0.091
0355-07	J_T18+00E400	8/5/2009	B 0.0098	0.84	0.3	U 0.00035	B 0.11	5.6	21.6	0.32
0362-08	J_T1+00E250	6/29/2010	B 0.0016	B 0.033	0.063	U 0.00031	B 0.026	0.85	7.4	0.13

SIN	SLID	Date	Cadmium, umole/g	Copper, umole/g	Lead, umole/g	Mercury, umole/g	Nickel, umole/g	Zinc, umole/g	AVS, umole/g	Ratio of SEM/AVS
0370-08	J_T4+00E60	6/29/2010	B 0.0015	B 0.072	0.076	U 0.00019	B 0.041	1.6	26	0.069
0370-08MS	J_T4+00E60	6/29/2010								
0370-08RP	J_T4+00E60	6/29/2010	B 0.0024	B 0.046	0.046	U 0.00020	B 0.046	1.0	27.6	0.040
0381-08	J_T21+00E50	6/30/2010	0.042	B 0.020	0.66	U 0.00045	B 0.22	8.5	56.1	0.17
0385-09	J_T2+00E150	8/23/2011		J D 0.14	D 0.092	U 0.000039		D 1.2	8.2	0.17
0393-09	J_T5+00E60	8/23/2011		J D 0.17	D 0.08	U 0.000044		D 1.5	14.5	0.12
0402-09	J_T22+00E25	8/24/2011		D 1.7	D 0.46	U 0.00018		D 15.2	70.7	0.25
0408-10	J_T3+00E50	8/21/2012		0.144	0.0403	U 0.0000745		0.8	6.4	0.15
0412-10	J_T4+00E60	8/21/2012		0.155	0.0363	U 0.0000739		0.593	3.3	0.24
0412-10DUP	J_T4+00E60DUP	8/21/2012		0.137	0.0385	U 0.0000725		0.649	3.3	0.24
0423-10	J_T19+00E15	8/22/2012		0.53	0.0622	U 0.0000744		2.28	10.4	0.28
0440-11	J_T3+00E100	8/15/2013		0.054	0.027	U 0.000074		0.367	2.682	0.17
0446-11	J_T8+00E20	8/15/2013		0.056	0.037	U 0.000074		0.46	3.431	0.16
0446-11DUP	J_T8+00E20DUP	8/15/2013		0.058	0.038	U 0.000074		0.505	6.861	0.09
0446-11MS	J_T8+00E20MS	8/15/2013		0.021	0.049	U 0.000073		0.704	38.048	0.02
0446-11MSD	J_T8+00E20MSD	8/15/2013		0.019	0.052	U 0.000073		0.667	35.241	0.02

SIN	SLID	Date	Cadmium, umole/g	Copper, umole/g	Lead, umole/g	Mercury, umole/g	Nickel, umole/g	Zinc, umole/g	AVS, umole/g	Ratio of SEM/AVS
0460-12	J_T2+00E50	8/26/2014		J 0.154	J 0.0744	UJ 0.0000737		J 1.2	J 5.5	0.26
0466-12	J_T7+00E20	8/26/2014		J 0.118	J 0.0368	UJ 0.0000717		J 0.597	J 2.6	0.29
0466-12DUP	J_T7+00E20DUP	8/26/2014		J 0.117	J 0.0326	UJ 0.0000721		J 0.523	J 4	0.17
0466-12MS	J_T7+00E20MS	8/26/2014		J 0.104	J 0.0442	UJ 0.0000717		J 0.496	J 3.8	0.17
0466-12MSD	J_T7+00E20MSD	8/26/2014		J 0.074	J 0.057	UJ 0.0000717		J 0.919	J 3.9	0.27
0475-12	J_T21+00E75	8/27/2014		J 1.27	J 0.0729	UJ 0.0000746		J 3.7	J 4.8	1.05
0479-13	J_T01+00E050	9/23/2015		0.0483	0.0782	U 0.0000725		0.440	11.1	0.0510
0489-13	J_T06+00E060	9/23/2015		0.164	0.109	U 0.0000746		1.09	3.1	0.4397
0499-13	J_T21+00E050	9/22/2015		0.302	0.0849	U 0.0000749		2.79	18.2	0.1746

Please note the following: U - The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. J - The associated numerical value is an estimated quantity. UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise. The sample quantitation limit is an estimated quantity. E - The reported value is estimated because of the presence of interference. N - Matrix spiked sample recovery not within control limits. B - The report is less than the Contract Required Detection Limit (CRDL) or Pracitacal Quantitation Limit (PQL) but greater than the Instrument Detection Limit (IDL). D - Sample results are obtained from a dilution; the surrogate or matrix spike recoveries are calculated from diluted samples. Blank - no data.

Pine Street Canal Site, Burlington, VT
Summary of TOC Data

Sin	Slid	Date	Percent Solids	TOC (mg/kg)
00111-01	J_T23+70 E10	8/28/2001	26.3	
00112-01	J_T23+70 E10	8/28/2001	32.0	83800
00117-01-DP	J_T23+70 E10	8/28/2001	26.3	
00118-01-DP	J_T23+70 E10	8/28/2001	34.9	96500
00167-01	J_T2+00 E150	8/12/2003	77.2	1390
00168-01	J_T6+00 E70	8/12/2003	62.7	3830
00169-01	J_T13+00 E60	8/13/2003	83.7	J 248
00170-01-DP	J_00170-01-DP	8/13/2003	70.5	J 1210
00171-01	J_T18+00 E250	8/13/2003	30.8	69500
00180-02	J_T3+00_E150	8/16/2004	53.1	5360
00181-02	J_T9+00_E50	8/16/2004	74.4	2270
00182-02DP	J_00182-02DP	8/16/2004	70.7	2180
00182-03-DP	J_00182-03-DP	7/19/2005	62.9	11500
00182-04DP	J_0182-04DP	8/9/2006	57.8	6750
00182-05DP	J_0182-05DP	8/8/2007	28.1	65600
00183-02	J_T13+00_E75	8/17/2004	72.6	3320
00184-02	J_T20+00_E75	8/17/2004	47.7	103000
00212-03	J_T1+50E5	7/18/2005	72.9	8060
00222-03	J_T9+00E60	7/19/2005	60.6	16400

Sin	Slid	Date	Percent Solids	TOC (mg/kg)
00226-03	J_T11+00E40	7/19/2005	68.3	4410
00238-03	J_T19+00E65	7/19/2005	21.4	164000
00263-04	J_T3+00E100	8/9/2006	71.4	3530
00267-04	J_T7+00E60	8/9/2006	58.6	7760
00267-04MS	J_T7+00E60MS	8/9/2006		
00267-04RP	J_T7+00E60RP	8/9/2006		
00282-04	J_T21+00E25	8/9/2006	29.3	82600
00291-05	J_T2+00150	8/7/2007	60.8	9450
00297-05	J_T8+00E60	8/7/2007	63.4	5230
00312-05	T19+00E45	8/8/2007	30.4	244000
0182-06DP	J_0182-06DP	8/13/2008	71.7	4940
0182-07DP	J_T5+00E20	8/4/2009	63.5	8650
0182-08DP	J_0182-08DP	6/29/2010	62.3	13100
0182-09	J_0182-09DP	8/23/2011	61.7	12300
0182-11DP	J_0182-11DP	8/15/2013	28.1	57,200
0182-12DP	J_0182-12DP	8/26/2014	57.2	7540
0182-13DP	J_0182-13DP	9/23/2015		54800
0297-05MS	J_T8+00E60MS	8/7/2007	63.6	
0320-06	J_T3+00E150	8/12/2008	72.3	3020
0324-06	J_T6+00E60	8/13/2008	45.8	13300
0335-06	J_T18+00E425	8/13/2008	32.6	77500

Sin	Slid	Date	Percent Solids	TOC (mg/kg)
0343-07	J_T2+00E200	8/4/2009	49	27700
0345-07	J_T5+00E20	8/4/2009	65.6	6850
0345-07MS	J_T5+00E20	8/4/2009	65.6	
0345-07RP	J_T5+00E20	8/4/2009	66	7020
0355-07	J_T18+00E400	8/5/2009	33.7	68200
0362-08	J_T1+00E250	6/29/2010	34	35900
0370-08	J_T4+00E60	6/29/2010	56.5	7770
0370-08MS	J_T4+00E60	6/29/2010		
0370-08RP	J_T4+00E60	6/29/2010	56.5	
0381-08	J_T21+00E50	6/30/2010	24.4	113000
0385-09	J_T2+00E150	8/23/2011	63.5	11800
0393-09	J_T5+00E60	8/23/2011	55.8	14500
0402-09	J_T22+00E25	8/24/2011	13.1	161000
0408-10	J_T3+00E50	8/21/2012	66.8	11500
0412-10	J_T4+00E60	8/21/2012	45.3	7160
0412-10DUP	J_T4+00E60DUP	8/21/2012	56.2	6080
0423-10	J_T19+00E15	8/22/2012	83.1	20700
0440-11	J_T3+00E100	8/15/2013	67.3	8,390
0446-11	J_T8+00E20	8/15/2013	25.5	51,000
0446-11DUP	J_T8+00E20DUP	8/15/2013	25.5	NA
0446-11MS	J_T8+00E20MS	8/15/2013	25.5	NA

Sin	Slid	Date	Percent Solids	TOC (mg/kg)
0446-11MSD	J_T8+00E20MSD	8/15/2013	25.5	NA
0460-12	J_T2+00E50	8/26/2014	33.2	32700
0466-12	J_T7+00E20	8/26/2014	71.5	4570
0466-12DUP	J_T7+00E20DUP	8/26/2014	57.4	
0466-12MS	J_T7+00E20MS	8/26/2014	56.6	
0466-12MSD	J_T7+00E20MSD	8/26/2014	56.6	
0475-12	J_T21+00E75	8/27/2014	30.3	81600
0479-13	J_T01+00E050	9/23/2015		192000
0489-13	J_T06+00E060	9/23/2015		50000
0499-13	J_T21+00E050	9/22/2015		219000

Please note the following: J - The associated numerical value is an estimated quantity. Blank - no data.

Pine Street Canal Site, Burlington, VT
Summary of Taxonomy Data

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00113-01										
	J_T23+70 E10	8/28/2001								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae			Helobdella stagnalis	3
				Oligochaeta						
					Tubificida					
						Enchytraeidae			Lumbricillus sp.	1
						Tubificidae			Limnodrilus hoffmeisteri	39
						Tubificidae			Ilyodrilus templetoni	6
			Arthropoda							
				Crustacea						
					Amphipoda					
						Crangonictidae			Crangonyx pseudogracilis	4
					Isopoda					
						Asellidae			Caecidotea communis	1
						Asellidae			Caecidotea racovitzai	4
				Insecta						
					Coleoptera					
						Dytiscidae			Ilybius sp.	1
						Lampyridae				1
					Diptera					
						Chironomidae	Chironominae	Chironomini	Glyptotendipes sp.	1
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	19
						Chironomidae	Tanypodinae	Chironomini	Psectrotanypus sp.	6
						Chironomidae	Tanypodinae	Natarsiini	Natarsia sp.	2
						Culicidae			Culex sp.	3
						Stratiomyiidae			Nemotelus sp.	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella heterostropha	1
00115-01										
	J_T23+70 E10	8/28/2001								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae			Helobdella stagnalis	2
				Oligochaeta						
					Tubificida					
						Enchytraeidae			Lumbricillus sp.	1
						Tubificidae			Ilyodrilus templetoni	7
						Tubificidae			Limnodrilus hoffmeisteri	175
						Tubificidae			Quistadrilus multisetosus	1
			Arthropoda							
				Crustacea						
					Isopoda					
						Asellidae			Caecidotea racovitzai	5
				Insecta						
					Diptera					
						Ceratopogonidae			Culicoides sp.	1
						Ceratopogonidae			Sphaeromias sp.	1
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	10
						Chironomidae	Tanypodinae		Psectrotanypus sp.	12
						Chironomidae	Tanypodinae	Natarsiini	Natarsia sp.	2
						Dolichopodidae			Argyra sp.	2
					Ephemeroptera					
						Baetidae			Cloeon sp.	1
					Odonata					
						Coenagrionidae			Enallagma sp.	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella heterostropha	1
					Mesogastropoda					
						Valvatidae			Valvata sincera	1
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Pisidium sp.	8
						Sphaeriidae			Musculium sp.	1
			Sipuncula							
									Physella elliptica	1
00116-01										
	J_T23+70 E10	8/28/2001								
			Annelida							
				Oligochaeta						
					Tubificida					
						Enchytraeidae			Lumbricillus sp.	1
						Tubificidae			Limnodrilus hoffmeisteri	304
						Tubificidae			Ilyodrilus templetoni	118
						Tubificidae			Quistadrilus multisetosus	4
			Arthropoda							
				Crustacea						
					Isopoda					
						Asellidae			Caecidotea racovitzai	3
				Insecta						
					Diptera					
						Ceratopogonidae			Ceratopogon sp.	1
						Ceratopogonidae			Bezzia sp.	1
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	4
						Chironomidae	Tanypodinae		Psectrotanypus sp.	7
						Culicidae			Culex sp.	3

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Planorbidae			Planorbella trivolvis	1
					Mesogastropoda					
						Bithyniidae			Bithynia tentaculata	1
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Pisidium sp.	7
00167-01-M1										
	J_T2+00 E150	8/12/2003								
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	23
						Chironomidae	Tanypodinae	Procladiini	Procladius sp.	1
00167-01-M2										
	J_T2+00 E150	8/12/2003								
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	14
						Chironomidae	Tanypodinae	Tanypodini	Tanypus punctipennis	1
00167-01-M3										
	J_T2+00 E150	8/12/2003								
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	9

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00168-01-M1										
	J_T6+00 E150	8/12/2003								
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	19
						Chironomidae	Chironominae	Tanytarsini	Tanytarsus sp.	1
						Chironomidae	Tanypodinae	Procladiini	Procladius sp.	1
00168-01-M2										
	J_T6+00 E150	8/12/2003								
			Arthropoda							
				Insecta						
					Diptera					
						Chaoboridae			Chaoborus sp.	1
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	4
						Chironomidae	Tanypodinae	Tanypodini	Tanypus punctipennis	1
00168-01-M3										
	J_T6+00 E150	8/12/2003								
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	7
						Chironomidae	Tanypodinae	Procladiini	Procladius sp.	1
						Chironomidae	Tanypodinae	Tanypodini	Tanypus punctipennis	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00169-01-M1										
	J_T13+00 E60	8/13/2003								
			Arthropoda							
				Arachnoidea						
					Acariformes					
						Unionicolidae			Neumania sp.	1
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Dicrotendipes modestus	1
						Chironomidae	Chironominae	Chironomini	Cryptotendipes sp.	1
						Chironomidae	Chironominae	Chironomini	Kiefferulus sp.	7
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	1
						Chironomidae	Chironominae	Chironomini	Cladopelma sp.	1
						Chironomidae	Chironominae	Tanytarsini	Tanytarsus sp.	76
						Chironomidae	Chironominae	Tanytarsini	Cladotanytarsus sp.	2
						Chironomidae	Tanypodinae	Procladiini	Procladius	24
00169-01-M2										
	J_T13+00 E60	8/13/2003								
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	5
						Chironomidae	Chironominae	Chironomini	Kiefferulus sp.	4
						Chironomidae	Chironominae	Chironomini	Dicrotendipes modestus	1
						Chironomidae	Chironominae	Chironomini	Cladopelma sp.	1
						Chironomidae	Chironominae	Tanytarsini	Tanytarsus sp.	39
						Chironomidae	Tanypodinae	Procladiini	Procladius sp.	5
					Ephemeroptera					
						Ephemeridae	Chironominae		Ephemera sp.	1
			Mollusca							
				Gastropoda						
					Basommatophora					
						Planorbidae			Gyraulus parvus	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00169-01-M3										
	J_T13+00 E60	8/13/2003								
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	2
						Chironomidae	Chironominae	Chironomini	Cladopelma sp.	1
						Chironomidae	Chironominae	Chironomini	Dicrotendipes modestus	4
						Chironomidae	Chironominae	Tanytarsini	Tanytarsus sp.	31
						Chironomidae	Tanypodinae	Procladiini	Procladius sp.	15
00171-01-M1										
	J_T18+00 E250	8/13/2003								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae			Helobdella stagnalis	20
				Oligochaeta						
					Tubificida					
						Naididae			Dero digitata	2
						Tubificidae			Limnodrilus sp.	1203
						Tubificidae			Ilyodrilus templetoni	16
						Tubificidae			Quistadrilus multisetosus	1
						Tubificidae			Tubifex tubifex	20

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Crustacea						
					Amphipoda					
						Crangonictidae			Crangonyx pseudogracilis	12
					Isopoda					
						Asellidae			Caecidotea sp.	37
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	2
						Chironomidae	Chironominae	Chironomini	Parachironomus sp.	1
						Chironomidae	Chironominae	Tanytarsini	Cladotanytarsus sp.	1
						Chironomidae	Tanypodinae		Psectrotanypus	7
			Mollusca							
				Gastropoda						
					Basommatophora					
						Lymnaeidae			Stagnicola catascopium	2
						Physidae			Physella heterostropha	10
						Planorbidae			Gyraulus deflectus	1
					Mesogastropoda					
						Bithyniidae			Bithynia tentaculata	11
						Valvatidae			Valvata sincera	116
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Musculium sp.	34

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00171-01-M2										
	J_T18+00 E250	8/13/2003								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae			Helobdella stagnalis	31
				Oligochaeta						
					Tubificida					
						Enchytraeidae			Enchytraeus sp.	1
						Naididae			Dero digitata	8
						Tubificidae			Ilyodrilus templetoni	279
						Tubificidae			Tubifex tubifex	30
						Tubificidae			Quistadrilus multisetosus	5
						Tubificidae			Limnodrilus sp.	3301
						Tubificidae			Limnodrilus udekemianus	7
			Arthropoda							
				Crustacea						
					Amphipoda					
						Crangonictidae			Crangonyx pseudogracilis	6
					Isopoda					
						Asellidae			Caecidotea sp.	71
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	1
						Chironomidae	Chironominae	Tanytarsini	Paratanytarsus sp.	2
						Chironomidae	Tanypodinae		Psectrotanypus sp.	7
						Chironomidae	Tanypodinae	Procladiini	Procladius sp.	2
					Odonata					
						Coenagrionidae			Enallagma sp.	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Lymnaeidae			Stagnicola catascopium	21
						Physidae			Physella heterostropha	6
						Planorbidae			Promenetus exacuous	1
						Planorbidae			Gyraulus parvus	1
					Mesogastropoda					
						Bithyniidae			Bithynia tentaculata	5
						Valvatidae			Valvata sincera	84
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Musculium sp.	159
						Sphaeriidae			Pisidium sp.	1
00171-01-M3										
	J_T18+00 E250	8/13/2003								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae			Helobdella stagnalis	3
				Oligochaeta						
					Tubificida					
						Naididae			Dero digitata	1
						Tubificidae			Quistadrilus multisetosus	1
						Tubificidae			Limnodrilus sp.	80
						Tubificidae			Ilyodrilus templetoni	4
			Arthropoda							
				Crustacea						
					Isopoda					
						Asellidae			Caecidotea sp.	6
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Tanytarsini	Paratanytarsus sp.	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Lymnaeidae			Stagnicola catascopium	2
						Physidae			Physella heterostropha	9
						Planorbidae			Gyraulus parvus	1
						Planorbidae			Planorbella trivolvis	1
					Mesogastropoda					
						Bithyniidae			Bithynia tentaculata	4
						Valvatidae			Valvata sincera	54
00180-02-M1										
	J_T3+00E150	8/16/2004								
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae			Chironomid pupa	2
						Chironomidae	Chironominae	Chironomini	Parachironomus sp.	2
						Chironomidae	Chironominae	Tanytarsini	Paratanytarsus sp.	5
						Chironomidae	Tanypodinae	Procladiini	Procladius sublettei	1
					Ephemeroptera					
						Baetidae			Acentrella sp.	5
					Hemiptera					
						Corixidae				3
					Odonata					
						Asechinidae			Boyeria sp.	1
					Trichoptera					
						Hydroptilidae			Mayatrichia sp.	1
00180-02-M2										
	J_T3+00E150	8/16/2004								
			Arthropoda							
				Insecta						
					Hemiptera					
						Corixidae				2

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00180-02-M3										
	J_T3+00E150	8/16/2004								
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae			Chironomid pupa	4
						Chironomidae				1
					Ephemeroptera					
						Baetidae				1
					Hemipetera					
						Corixidae				7
						Mesoveliidae				1
					Odonata					
						Coenagrionidae				1
			Mollusca							
				Gastropoda						
					Basommatophora					
						Ancylidae			Ferrissia sp.	1
						Planorbidae			Gyraulus sp.	2
00181-02-M1										
	J_T9+00E50	8/16/2004								
			Arthropoda							
				Insecta						
					Diptera					
										1
						Chironomidae			Chironomid pupa	2
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	31
						Chironomidae	Chironominae	Tanytarsini	Chironomus decorus	1
						Dixidae			Dixa sp.	1
					Ephemeroptera					
						Baetidae			Acentrella sp.	3
					Odonata					
						Coenagrionidae			Acentrella sp.	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Planorbidae			Gyraulus sp.	3
					Mesogasatropoda					
00181-02-M2										
	J_T9+00E50	8/16/2004								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				38
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae			Chironomid pupa	1
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	29
						Chironomidae	Tanypodinae	Procladiini	Procladius sublettei	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00181-02-M3										
	J_T9+00E50	8/16/2004								
			Arthropoda							
				Insecta						
					Coleoptera					
						Elmidae			Stenelmis sp.	1
					Diptera					
						Ceratopogonidae			Bezzia sp.	1
						Chironomidae			Chironomid pupa	1
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	16
						Chironomidae	Chironominae	Chironomini		3
						Chironomidae	Chironominae	Chironomini	Dicrotendipes sp.	3
						Chironomidae	Orthocladiinae	Orthocladiini	Eukiefferiella	1
					Ephemeroptera					
						Baetidae			Baetis sp.	1
					Hemiptera					
						Corixidae				4
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella sp.	1
						Planorbidae			Gyraulus sp.	1
00183-02-M1										
	J_T13+00E75	8/17/2004								
			Annelida							
				Oligochaeta						
					Tubificidu					
						Tubificidae				94

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae				5
						Chironomidae			Chironomid pupa	3
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	29
						Chironomidae	Chironominae	Tanytarsini	Tanytarsus guerlus	28
						Chironomidae	Tanypodinae		Psectrotanypus sp.	1
					Hemiptera					
						Corixidae				1
			Mollusca							
				Gastropoda						
					Basommatophora					
						Planorbidae			Gyraulus sp.	15
00183-02-M2										
	J_T13+00E75	8/17/2004								
			Annelida							
				Oligochaeta						
					Tubificida					
										9
			Arthrpoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	19
						Chironomidae	Chironominae	Chironomini	Parachironomus sp.	2
						Chironomidae	Chironominae	Tanytarsini	Parachironomus sp.	1
						Chironomidae	Chironominae	Tanytarsini	Tanytarsus guerlus	13
						Chironomidae	Chironominae	Tanytarsini		1
					Odonata					
						Coenagrionidae			Enallagma sp.	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella sp.	7
						Planorbidae			Gyraulus sp.	77
					Mesogastropoda					
						Valvatidae			Valvata sp.	1
00183-02-M3										
	J_T13+00E75	8/17/2004								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificida	Tubificida			23
			Arthrpoda							
				Insecta						
					Diptera					
						Athericidae			Atherix sp.	1
						Chironomidae			Chironomid pupa	1
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	15
						Chironomidae	Chironominae	Chironomini		2
						Chironomidae	Chironominae	Tanytarsini	Tanytarsus guerlus	26
					Hemiptera					
						Corixidae				3
					Odonata					
						Coenagrionidae				1
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella sp.	2
						Planorbidae			Gyraulus sp.	49
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Musculium sp.	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00184-02-M1										
	J_T20+00E75	8/17/2004								
			Arthropoda							
				Crustacea						
					Isopoda					
						Asellidae			Caecidotea sp.	4
				Insecta						
					Diptera					
						Chironomidae			Chironomid pupa	2
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	91
						Chironomidae	Tanypodinae		Psectrotanypus sp.	5
					Ephemeroptera					
						Baetidae				1
					Hemiptera					
						Corixidae				3
			Mollusca							
				Gastropoda						
					Basommatophora					
						Planorbidae			Gyraulus sp.	26
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae				11
						Sphaeriidae			Musculium sp.	1
00184-02-M2										
	J_T20+00E75	8/17/2004								
			Annelida							
				Oligochaeta						
					Tubificidae					
						Tubificida				101

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae				4
					Isopoda					
						Asellidae			Caecidotea sp.	10
				Insecta						
					Diptera					
						Ceratopogonidae			Bezzia sp.	1
						Chironomidae				3
						Chironomidae			Chironomid pupa	1
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	151
						Chironomidae	Chironominae	Chironomini		1
						Chironomidae	Chironominae	Tanytarsini	Paratanytarsus sp.	1
						Chironomidae	Tanypodinae		Psectrotanypus sp.	2
					Odonata					
						Coenagrionidae				1
					Plecoptera					
						Chloroperlidae				1
			Mollusca							
				Gastropoda						
					Basommatophora					
						Lymaeidae			Stagnicola sp.	1
						Planorbidae			Gyraulus sp.	16
				Pelecypoda						
					Prionodesmacae					
						Sphaeriidae			Musculium sp	8

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00184-02-M3										
	J_T20+00E75	8/17/2004								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae				2
						Glossiphoniidae			Helobdella sp.	4
				Oligochaeta						
					Tubificida					
						Naididae				1
						Tubificidae				246
			Arthopoda							
				Crustacea						
					Amphipoda					
						Crangonicitidae			Crangonyx sp.	16
					Isopoda					
						Asellidae			Caecidotea sp.	81
				Insecta						
					Diptera					
						Ceratopogonidae			Bezzia sp.	1
						Chironomidae			Chironomid pupa	2
						Chironomidae	Chironominae	Chironomini		1
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	71
						Chironomidae	Chironominae	Tanytarsini	Tanytarsus guerlus	2
						Chironomidae	Chironominae	Tanytarsini	Paratanytarus sp.	8
						Chironomidae	Tanypodinae		Psectrotanypus sp.	11
					Ephemeroptera					
						Baetidae			Baetis sp.	2
					Hemiptera					
						Corixidae				1
					Odonata					
						Coenagrionidae				2
						Coenagrionidae			Enallagma sp.	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella sp.	5
						Planorbidae			Gyraulus sp.	31
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Musculium sp	7
						Sphaeriidae				27
00212-03-M1										
	J_T1+50E5	7/18/2005								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae			Glossiphonia complanata	8
						Glossiphoniidae			Gloiobdella elongata	8
				Oligochaeta						
					Tubificida					
						Naididae			Naididae	8
						Tubificidae			Tubificidae	1864

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Arachnoidea						
					Acariformes					
									Acariformes	8
				Crustacea						
					Isopoda					
						Asellidae			Caecidotea communis	8
				Insecta						
					Diptera					
						Chironomidae			Chironomid pupa	8
						Chironomidae			Chironomidae	8
						Chironomidae	Chironominae	Chironomini	Dicrotendipes neomodestus	8
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	120
						Chironomidae	Tanypodinae		Tanypodinae	8
						Chironomidae	Tanypodinae	Procladiini	Procladius sublettei	16
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella sp.	128
					Mesogastropoda					
						Hydrobiidae			Hydrobiidae	32
						Pleuroceridae			Goniobasis livescens	8
				Pelecypoda						
					Prionodesmacea					
						Unionidae			Unionidae	24
			Nematoda							
									Nematoda	16

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00212-03-M2										
	J_T1+50E5	7/18/2005								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Naididae	528
						Tubificidae			Tubificidae	1920
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae			Chironomid pupa	16
						Chironomidae			Chironomidae	48
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	80
						Chironomidae	Chironominae	Chironomini	Tribelos jucundus	16
						Chironomidae	Chironominae	Tanytarsini	Rheotanytarsus exiguus	16
						Chironomidae	Tanypodinae		Tanypodinae	16
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella sp.	80
					Mesogastropoda					
						Bithyniidae			Bithynia sp.	48
00212-03-M3										
	J_T1+50E5	7/18/2005								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Naididae	848
						Tubificidae			Tubificidae	2624

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae		Chironominae	16
						Chironomidae	Chironominae	Chironomini	Cryptochironomus fulvus	32
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	96
						Chironomidae	Tanypodinae		Tanypodinae	32
						Chironomidae	Tanypodinae	Procladiini	Procladius sublettei	80
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella sp.	16
					Mesogastropoda					
						Hydrobiidae			Hydrobiidae	16
			Nematoda							
									Nematoda	16
00222-03-M1										
	J_T9+00E60	7/19/2005								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Naididae	1
						Tubificidae			Tubificidae	11
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Ceratopogon sp.	1
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	3
						Chironomidae	Chironominae	Chironomini	Parachironomus sp.	3
						Chironomidae	Orthocladiinae		Orthocladiinae	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella sp.	1
						Planorbidae			Gyraulus parvus	10
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Pisidium sp.	1
00222-03-M2										
	J_T9+00E60	7/19/2005								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Naididae	47
						Tubificidae			Tubificidae	141
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Ceratopogon sp.	1
						Chironomidae	Chironominae	Chironomini	Dicrotendipes nervosus	2
						Chironomidae	Chironominae	Chironomini	Chironomini	1
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	2
						Chironomidae	Chironominae	Chironomini	Parachironomus sp.	3
			Mollusca							
				Gastropoda						
					Basommatophora					
						Planorbidae			Gyraulus parvus	1
					Mesogastropoda					
						Valvatidae			Valvata sp.	1
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Sphaeriidae	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00222-03-M3										
	J_T9+00E60	7/19/2005								
			Arthropoda							
				Crustacea						
					Isopoda					
						Asellidae			Caecidotea communis	2
				Insecta						
					Diptera					
						Ceratopogonidae			Ceratopogon sp.	8
						Chironomidae	Chironominae	Chironomini	Parachironomus abortivus	2
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	22
						Chironomidae	Chironominae	Chironomini	Polypedilum scalaenum	2
						Chironomidae	Chironominae	Chironomini	Phaenopsectra dyari	2
						Chironomidae	Chironominae	Chironomini	Dicrotendipes nervosus	2
						Chironomidae	Chironominae	Chironomini	Chironomini	2
						Chironomidae	Chironominae	Chironomini	Polypedilum illinoense	4
						Chironomidae	Orthocladiinae		Orthocladiinae	2
						Chironomidae	Tanypodinae	Tanypodini	Tanypodini	2
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella sp.	2
						Planorbidae			Gyraulus parvus	6
					Mesogastropoda					
						Bithyniidae			Bithynia sp.	4
						Valvatidae			Valvata sp.	4
						Viviparidae			Campeloma decisum	6
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Musculium sp.	4

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00226-03-M1										
	J_T11+00E40	7/19/2005								
		No Organisms Found								
									No Organisms Found	0
00226-03-M2										
	J_T11+00E40	7/19/2005								
			Arthropoda							
				Insecta						
					Coleoptera					
						Haliplidae			Peltodytes sp.	1
			Mollusca							
				Gastropoda						
					Basommatophora					
						Planorbidae			Gyraulus parvus	3
00226-03-M3										
	J_T11+00E40	7/19/2005								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Naididae	2
						Tubificidae			Tubificidae	62
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus decorus	1
			Mollusca							
				Gastropoda						
					Basommatophora					
						Planorbidae			Gyraulus parvus	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00238-03-M1										
	J_T19+00E65	7/19/2005								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae			Helobdella stagnalis	4
						Glossiphoniidae			Gloiobdella elongata	2
						Glossiphoniidae			Actinobdella sp.	2
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	10
			Arthropoda							
				Crustacea						
					Amphipoda					
						Crangonictidae			Crangonyx sp.	20
					Isopoda					
						Asellidae			Caecidotea communis	154
				Insecta						
					Coleoptera					
						Dryopidae			Dryopidae	2
						Dytiscidae			Dytiscidae	4
						Dytiscidae			Hydroporus sp.	4
					Diptera					
						Ceratopogonidae			Bezzia sp.	2
						Empididae			Empididae	4
						Syrphidae			Crysogaster sp.	8
					Odonata					
						Coenagrionidae			Chromagrion sp.	2
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella sp.	8
						Planorbidae			Planorbella sp.	2

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00238-03-M2										
	J_T19+00E65	7/19/2005								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	12
			Arthropoda							
				Crustacea						
					Amphipoda					
						Crangonictidae			Crangonyx sp.	62
						Gammaridae			Gammarus sp.	4
					Isopoda					
						Asellidae			Caecidotea communis	20
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Polypedilum sp.	4
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella sp.	4
00238-03-M3										
	J_T19+00E65	7/19/2005								
			Arthropoda							
				Crustacea						
					Amphipoda					
						Crangonictidae			Crangonyx sp.	20
						Gammaridae			Gammarus sp.	4
					Isopoda					
						Asellidae			Caecidotea communis	6

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00263-04M1										
	J_T3+00E100	8/9/2006								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae				2
						Tubificidae			Limnodrilus hoffmeisteri	1
						Tubificidae				7
00263-04M2										
	J_T3+00E100	8/9/2006								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae				1
						Tubificidae				3
						Tubificidae			Limnodrilus hoffmeisteri	1
			Arthropoda							
				Insecta						
					Diptera					
						Chaoboridae			Chaoborus sp.	2
						Chironomidae			Chironomid pupa	1
00263-04M3										
	J_T3+00E100	8/9/2006								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				3
						Tubificidae			Aulodrilus pigueti	1
00267-04M1										
	J_T7+00E60	8/9/2006								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				4
						Tubificidae			Limnodrilus claparedianus	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Sphaeromias sp.	1
						Chironomidae	Chironominae			1
						Chironomidae	Chironominae	Chironomini	Parachironomus abortivus	1
						Chironomidae	Chironominae	Chironomini	Cryptochironomus sp.	1
						Chironomidae	Chironominae	Tanytarsini	Rheotanytarsus sp.	1
						Chironomidae	Tanypodinae	Pentaneurini	Ablabesmyia sp.	1
			Mollusca							
				Gastropoda						
					Mesogastropoda					
						Bithyniidae			Bithynia tentaculata	2
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Musculium sp.	2
			Nematoda							1
00267-04M2										
	J_T7+00E60	8/9/2006								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			IIyodrilus templetoni	1
00267-04M3										
	J_T7+00E60	8/9/2006								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae				1
						Tubificidae				2
						Tubificidae			IIyodrilus templetoni	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Insecta						
					Diptera					
						Chaoboridae			Chaoborus sp.	1
						Chironomidae	Chironominae	Chironomini		1
00282-04M1										
	J_T21+00E25	8/10/2006								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae			Helobdella stagnalis	7
						Glossiphoniidae			Placobdella sp.	2
				Oligochaeta						
					Tubificida					
						Naididae			Dero sp.	5
						Naididae			Dero furcata	22
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	19
					Isopoda					
						Asellidae			Caecidotea communis	298
				Insecta						
					Coleotera					
						Hydrophilidae			Enochrus sp.	1
					Diptera					
										1
						Ceratopogonidae			Bezzia sp.	1
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	5
						Chironomidae	Chironominae	Tanytarsini	Rheotanytarsus sp.	2
					Onodata					
						Coenagrionidae			Enallagma sp.	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Planorbidae			Planorbella trivolvis	2
					Mesogastropoda					
						Valvatidae			Valvata sincera	2
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae				2
						Sphaeriidae			Musculium sp.	1
00282-04M2										
	J_T21+00E25	8/10/2006								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae			Helobdella stagnalis	6
				Oligochaeta						
					Tubificida					
						Enchytraeidae				1
						Naididae			Dero furcata	2
						Naididae			Dero sp.	5
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	5
					Isopoda					
						Asellidae			Caecidotea communis	117
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	3
						Chironomidae	Chironominae	Chironomini	Phaenopsectra flavipes	1
						Chironomidae	Chironominae	Tanytarsini	Rheotanytarsus sp.	1
					Onodata					
						Coenagrionidae			Nehalennia sp.	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00282-04M3										
	J_T21+00E25	8/10/2006								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae			Helobdella stagnalis	4
				Oligochaeta						
					Tubificida					
						Naididae			Dero sp.	6
						Naididae			Dero furcata	2
						Naididae			Piguetiella sp.	4
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	68
					Isopoda					
						Asellidae			Caecidotea communis	408
				Insecta						
					Diptera					
						Ceratopogonidae			Culicoides sp.	2
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	2
						Chironomidae	Chironominae	Tanytarsini	Rheotanytarsus sp.	6
					Onodata					
						Coenagrionidae			Enallagma sp.	2
						Libellulidae			Leucorrhinia sp.	2
			Mollusca							
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Musculium sp.	2

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00291-05M1										
	J-T2+00E150	8/7/2007								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	37
						Tubificidae			Limnodrilus hoffmeisteri	2
						Tubificidae			Limnodrilus sp.	6
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Sphaeromias sp.	3
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	1
00291-05M2										
	J-T2+00E150	8/7/2007								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Limnodrilus hoffmeisteri	12
						Tubificidae			Tubificidae	52
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Sphaeromias sp.	3
						Chironomidae	Chironominae	Chironomini	Polypedilum fallax	1
00291-05M3										
	J-T2+00E150	8/7/2007								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	51
						Tubificidae			Limnodrilus sp.	7
						Tubificidae			Limnodrilus hoffmeisteri	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Bezzia sp.	1
						Ceratopogonidae			Sphaeromias sp.	2
						Chironomidae			Chironomid pupa	3
						Chironomidae	Chironominae	Chironomini	Polypedilum fallax	7
						Chironomidae	Chironominae	Chironomini	Dicrotendipes sp.	2
00297-05M1										
	J-T8+00E60	8/7/2007								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Limnodrilus hoffmeisteri	39
						Tubificidae			Tubifex sp.	5
						Tubificidae			Tubificidae	98
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Sphaeromias sp.	1
						Chironomidae			Chironomidae	1
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	23
						Chironomidae	Chironominae	Chironomini	Einfeldia sp.	12
			Mollusca							
				Gastropoda						
					Basommatophora					
						Planorbidae			Planorbella trivolvis	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00297-05M2										
	J-T8+00E60	8/7/2007								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Ilyodrilus sp.	32
						Tubificidae			Limnodrilus hoffmeisteri	40
						Tubificidae			Tubificidae	101
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Sphaeromias sp.	4
						Chironomidae			Chironomidae	1
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	6
00297-05M3										
	J-T8+00E60	8/7/2007								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Nais sp.	34
						Tubificidae			Tubificidae	422
						Tubificidae			Ilyodrilus sp.	6
						Tubificidae			Limnodrilus hoffmeisteri	46
						Tubificidae			Tubifex sp.	98

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Sphaeromias sp.	2
						Chironomidae			Chironomid pupa	1
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	62
						Chironomidae	Chironominae	Tanytarsini	Paratanytarsus sp.	3
						Chironomidae	Orthocladiinae	Orthocladiini	Cricotopus sylvestris	1
						Chironomidae	Tanypodinae	Pentaneurini	Ablabesmyia sp.	3
					Odonata					
						Coenagrionidae			Ischnura sp.	3
					Trichoptera					
						Rhyacophilidae			Rhyacophila sp.	1
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella sp.	1
					Mesogastropoda					
						Bithyniidae			Bithynia tentaculata	1
00312-05M1										
	J-T19+00E45	8/8/2007								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Nais sp.	12
						Tubificidae			Limnodrilus hoffmeisteri	8
						Tubificidae			Tubificidae	92
						Tubificidae			Tubifex sp.	30

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00312-05M2										
	J-T19+00E45	8/8/2007								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	10
						Tubificidae			Tubifex sp.	2
00312-05M3										
	J-T19+00E45	8/8/2007								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Nais sp.	4
						Tubificidae			Tubificidae	8
						Tubificidae			Limnodrilus hoffmeisteri	14
						Tubificidae			Tubifex sp.	24
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	2
			Mollusca							
				Gastropoda						
					Mesogastropoda					
						Valvatidae			Valvata sincera	4
00320-06M1										
	J_T3+00E150	8/12/2008								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Dero sp.	1
						Tubificidae			Limnodrilus hoffmeisteri	1
						Tubificidae			Tubificidae	80
						Tubificidae			Tubificidae	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Sphaeriidae	2
						Sphaeriidae			Musculium sp.	1
00320-06M2										
	J_T3+00E150	8/12/2008								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	158
						Tubificidae			Tubifex tubifex	3
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Phaenopsectra flavipes	1
00320-06M3										
	J_T3+00E150	8/12/2008								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	39
						Tubificidae			Limnodrilus hoffmeisteri	13
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Bezzia sp.	1
			Mollusca							
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Sphaeriidae	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
00324-06M1										
	J_T6+00E60	8/13/2008								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Limnodrilus hoffmeisteri	4
						Tubificidae			Tubificidae	269
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Dasyhelea sp.	1
00324-06M2										
	J_T6+00E60	8/13/2008								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Limnodrilus hoffmeisteri	4
						Tubificidae			Tubificidae	113
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Bezzia sp.	1
00324-06M3										
	J_T6+00E60	8/13/2008								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Limnodrilus udekemianus	1
						Tubificidae			Tubificidae	83

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
0335-06M1										
	J_T18+00E425	8/13/2008								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Naididae	8
						Tubificidae			Tubificidae	368
						Tubificidae			IIyodrilus sp.	52
						Tubificidae			Limnodrilus hoffmeisteri	4
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	8
					Isopoda					
						Asellidae			Caecidotea communis	36
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	28
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella sp.	24
					Mesogastropoda					
						Bithyniidae			Bithynia tentaculata	16
						Valvatidae			Valvata sincera	156
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Sphaeriidae	8

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
0335-06M2										
	J_T18+00E425	8/13/2008								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	172
						Tubificidae			Limnodrilus hoffmeisteri	32
						Tubificidae			IIyodrilus sp.	16
						Tubificidae			Limnodrilus claparedianus	8
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	24
					Isopoda					
						Asellidae			Caecidotea communis	96
				Insecta						
					Diptera					
						Chironomidae			Chironomid pupa	4
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	8
						Chironomidae	Orthocladiinae	Corynoneurini	Thienemanniella sp.	12
						Chironomidae	Tanypodinae		Psectrotanypus sp.	4
						Chironomidae	Tanypodinae	Pentaneurini	Labrundinia sp.	4
			Mollusca							
				Gastropoda						
					Basommatophora					
						Lymnaeidae			Lymnaea sp.	12
						Physidae			Physella sp.	20
					Mesogastropoda					
						Bithyniidae			Bithynia tentaculata	24
						Valvatidae			Valvata sincera	76
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Sphaeriidae	4

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
0335-06M3										
	J_T18+00E425	8/13/2008								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Naididae	32
						Naididae			Dero sp.	20
						Tubificidae			IIyodrilus sp.	6
						Tubificidae			Tubifex tubifex	4
						Tubificidae			Limnodrilus hoffmeisteri	24
						Tubificidae			Tubificidae	236
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	220
						Talitridae			Hyalella azteca	4
					Isopoda					
						Asellidae			Caecidotea communis	204
				Insecta						
					Diptera					
						Chironomidae	Tanypodinae	Pentaneurini	Ablabesmyia sp.	4

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Lymnaeidae			Lymnaea sp.	36
						Physidae			Physella sp.	96
						Planorbidae			Planorbidae	4
						Planorbidae			Planorbella trivolvis	8
						Planorbidae			Gyraulus sp.	8
					Mesogastropoda					
						Bithyniidae			Bithynia tentaculata	28
						Hydrobiidae			Amnicola sp.	24
						Valvatidae			Valvata sincera	76
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Sphaeriidae	8
0343-07M1										
	J-T2+00E200	8/4/2009								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Limnodrilus hoffmeisteri	56
						Tubificidae			Tubificidae	118
0343-07M2										
	J-T2+00E200	8/4/2009								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Limnodrilus udekemianus	6
						Tubificidae			Limnodrilus hoffmeisteri	40
						Tubificidae			Tubificidae	55

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
0343-07M3										
	J-T2+00E200	8/4/2009								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	61
						Tubificidae			Limnodrilus hoffmeisteri	25
0345-07M1										
	J-T5+00E20	8/4/2009								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Limnodrilus hoffmeisteri	7
						Tubificidae			Tubificidae	184
						Tubificidae			Tubificidae	2
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	31
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	1
0345-07M2										
	J-T5+00E20	8/4/2009								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Limnodrilus hoffmeisteri	62
						Tubificidae			Tubificidae	336
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	44

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
0345-07M3										
	J-T5+00E20	8/4/2009								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	376
						Tubificidae			Limnodrilus hoffmeisteri	80
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	28
			Nematoda							
									Nematoda	2.66666666667
0355-07M1										
	J-T18+00E400	8/5/2009								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae			Alboglossiphonia heteroclita	4
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	804
						Tubificidae			Ilyodrilus sp.	20
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	28
					Isopoda					
						Asellidae			Caecidotea communis	20
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Cryptochironomus sp.	4

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Mesogastropoda					
						Valvatidae			Valvata sincera	4
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Musculium sp.	12
						Sphaeriidae			Sphaeriidae	60
0355-07M2										
	J-T18+00E400	8/5/2009								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae			Helobdella stagnalis	32
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	3312
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	104
					Isopoda					
						Asellidae			Caecidotea communis	48
				Insecta						
					Diptera					
						Ceratopogonidae			Bezzia sp.	8
						Chironomidae	Chironominae	Tanytarsini	Tanytarsus sp.	16
					Odonata					
						Coenagrionidae			Coenagrionidae	8
					Trichoptera					
						Leptoceridae			Oecetis sp.	8

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Ancylidae			Ferrissia sp.	8
						Physidae			Physella sp.	24
					Mesogastropoda					
						Hydrobiidae			Amnicola sp.	32
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Musculium sp.	72
						Sphaeriidae			Sphaeriidae	208
0355-07M3										
	J-T18+00E400	8/5/2009								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae			Helobdella stagnalis	8
				Oligochaeta						
					Lumbriculida					
						Lumbriculidae			Lumbriculidae	36
					Tubificida					
						Tubificidae			Limnodrilus hoffmeisteri	36
						Tubificidae			Tubificidae	1032

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	48
					Isopoda					
						Asellidae			Caecidotea communis	28
				Insecta						
					Diptera					
						Ceratopogonidae			Bezzia sp.	4
						Chironomidae	Chironominae	Chironomini	Cryptochironomus sp.	4
						Chironomidae	Tanypodinae	Procladiini	Procladius sp.	4
					Odonata					
						Coenagrionidae			Coenagrionidae	4
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella sp.	4
					Mesogastropoda					
						Bithyniidae			Bithynia tentaculata	8
						Hydrobiidae			Amnicola sp.	32
						Valvatidae			Valvata sincera	4
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Musculium sp.	24
						Sphaeriidae			Sphaeriidae	100
0362-08M1										
	J-T1+00E250	6/29/2010								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Nais sp.	43
						Tubificidae				195
						Tubificidae			Limnodrilus hoffmeisteri	115

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Bezzia sp.	3
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	75
			Mollusca							
				Pelecypoda						
					Prionodesmace					
						Sphaeriidae			Musculium sp.	3
					Prionodesmacea					
						Sphaeriidae				2
0362-08M2										
	J-T1+00E250	6/29/2010								
			Annelida							
				Oligochaeta						
					Tubidicida					
						Tubidicidae			Quistadrilus multisetosus	7
						Tubidicidae			Tubidex sp.	16
					Tubificida					
						Naididae				10
						Tubificidae				389
						Tubificidae			Limnodrilus hoffmeisteri	3
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomine	Chironomus sp.	91
			Mollusca							
				Gastropoda						
					Mesogastropoda					
						Valvatidae			Valvata sp.	1
				Pelecypoda						
					Prionodesmace					
						Sphaeriidae			Pisidium sp.	1
					Prionodesmacea					
						Sphaeriidae			Musculium sp.	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Nematoda							
										1
0362-08M3										
	J-T1+00E250	6/29/2010								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Limnodrilus hoffmeisteri	72
						Tubificidae			Tubifex sp.	16
						Tubificidae				366
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	62
0370-08M1										
	J-T4+00E60	6/29/2010								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				329
						Tubificidae			Limnodrilus hoffmeisteri	25
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	1
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	1
					Lepidoptera					
						Pyralidae			Synclita sp.	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
0370-08M2										
	J-T4+00E60	6/29/2010								
			Annelida							
				Oligochaeta						
					Tubificidae					
										226
									Limnodrilus hoffmeisteri	53
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	2
0370-08M3										
	J-T4+00E60	6/29/2010								
			Annelida							
				Oligochaeta						
					Tubificida					
										443
									Limnodrilus hoffmeisteri	77
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	13
0381-08M1										
	J-T21+00E50	6/30/2010								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Nais sp.	6
						Tubificidae			Quistadrilus multisetosus	2

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Crustacea						
					Isopoda					
						Asellidae			Caecidotea communis	6
				Insecta						
					Diptera					
						Ceratopogonidae			Bezzia sp.	2
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	4
						Chironomidae	Tanypodinae	Natarsiini	Natarsia sp.	2
			Mollusca							
				Gastropoda						
					Basommatophora					
						Lymnaeidae				2
					Mesogastropoda					
						Bithynildae			Bithynia tentaculata	26
						Valvatidae			Valvata sp.	28
0381-08M2										
	J-T21+00E50	6/30/2010								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae			Helobdella sp.	2
				Oligochaeta						
					Tubificida					
						Naididae			Nais sp.	2
						Tubificidae				6

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Crustacea						
					Isopoda					
						Asellidae			Caecidotea communis	10
				Insecta						
					Diptera					
						Ceratopogonidae			Bezzia sp.	2
						Chironomidae	Tanypodinae	Pentaneurini	Ablabesmyia sp.	2
					Odonata					
						Coenagrionidae				2
			Mollusca							
				Gastropoda						
					Basommatophora					
						Lymnaeidae			Fosseria sp.	2
						Physidae			Physella sp.	20
						Planorbidae			Gyraulus sp.	2
					Mesogastropoda					
						Bithyniidae			Bithynia tentaculata	32
						Hydrobiidae			Amnicola sp.	2
						Valvatidae			Valvata sp.	14
0381-08M3										
	J-T21+00E50	6/30/2010								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae			Helobdella sp.	2
				Oligochaeta						
					Tubificida					
						Naididae			Nais sp.	12

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Crustacea						
					Idopoda					
						Asellidae			Caecidotea communis	16
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	4
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physella sp.	10
						Planorbidae			Gyraulus sp.	4
					Mesogastropoda					
						Bithyniidae			Bithynia tentaculata	32
						Hydrobiidae			Amnicola sp.	4
						Valvatidae			Valvata sp.	24
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae				2
0385-09-M1										
	J_T2+00-E150	8/23/2011								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				64
0385-09-M2										
	J_T2+00-E150	8/23/2011								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				70
						Tubificidae			ıodrilus sp. Limnodrilus hoffmeis	11

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
0385-09-M3										
	J_T2+00-E150	8/23/2011								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				79
						Tubificidae			odrilus sp. Limnodrilus hoffmeis	3
0393-09-M1										
	J_T5+00-E60	8/23/2011								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				18
						Tubificidae				481
						Tubificidae			odrilus sp. Limnodrilus hoffmeis	24
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Bezzia sp.	1
0393-09-M2										
	J_T5+00-E60	8/23/2011								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			odrilus sp. Limnodrilus hoffmeis	1
						Tubificidae				114
						Tubificidae			yodrilus sp. Ilyodrilus templeton	4
0393-09-M3										
	J_T5+00-E60	8/23/2011								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				37
						Tubificidae			odrilus sp. Limnodrilus hoffmeis	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
0402-09-M1										
	J_T22+00-E25	8/24/2011								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Nais sp.	4
						Tubificidae				8
						Tubificidae			Tubifex sp.	4
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	8
			Mollusca							
				Gastropoda						
					Mesogastropoda					
						Bithyniidae			Bithynia sp. Bithynia tentaculata	4
						Valvatidae			Valvata sp.	16
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Pisidium sp.	132
0402-09-M2										
	J_T22+00-E25	8/24/2011								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubifex sp.	4
						Tubificidae				4
						Tubificidae			Limnodrilus sp. Limnodrilus hoffmeis	8
			Arthropoda							
				Crustacea						
					Isopoda					
						Asellidae			Caecidotea sp. Caecidotea commun	28

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Ancylidae			Ferrissia sp.	4
						Physidae			Physella sp.	4
						Planorbidae			Gyraulus sp.	44
					Mesogastropoda					
						Hydrobiidae			Amnicola sp.	8
						Valvatidae			Valvata sp.	32
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Pisidium sp.	192
0402-09-M3										
	J_T22+00-E25	8/24/2011								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				8
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	12
					Isopoda					
						Asellidae			ecidotea sp. Caecidotea commun	40
				Insecta						
					Diptera					
						Ephydridae				4

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Lymnaeidae			Fosseria sp.	4
						Planorbidae			Gyraulus sp.	52
					Mesogastropoda					
						Valvatidae			Valvata sp.	4
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Pisidium sp.	104
0408-10 M1										
	J_T3+00-E50	8/21/2012								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	7
0408-10 M2										
	J_T3+00-E50	8/21/2012								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Limnodrilus hoffmeisteri	1
						Tubificidae			Tubificidae	4
0408-10 M3										
	J_T3+00-E50	8/21/2012								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	57
0412-10 M1										
	J_T4+00-E60	8/21/2012								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	97

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
0412-10 M2										
	J_T4+00-E60	8/21/2012								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	171
0412-10 M3										
	J_T4+00-E60	8/21/2012								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	50
0423-10 M1										
	J_T19+00-E15	8/22/2012								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Dero sp.	76
						Tubificidae			Limnodrilus hoffmeisteri	24
						Tubificidae			Tubificidae	284
			Arthropoda							
				Crustacea						
					Isopoda					
						Asellidae			Caecidotea communis	12
0423-10 M2										
	J_T19+00-E15	8/22/2012								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Dero sp.	32
						Tubificidae			Tubificidae	228
						Tubificidae			Ilyodrilus templetoni	12
						Tubificidae			Limnodrilus hoffmeisteri	80

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Crustacea						
					Amphipoda					
						Crangonictidae			Crangonyx sp.	4
					Isopoda					
						Asellidae			Caecidotea communis	12
				Insecta						
					Collembola					
						Poduridae			Podura sp.	4
					Diptera					
						Chironomidae			Chironomid pupa	4
						Chironomidae	Tanypodinae	Procladiini	Procladius sp.	4
			Mollusca							
				Gastropoda						
					Mesogastropoda					
						Valvatidae			Valvata sp.	4
0423-10 M3										
	J_T19+00-E15	8/22/2012								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	48
						Tubificidae			Ilyodrilus templetoni	36
						Tubificidae			Limnodrilus hoffmeisteri	72
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Bezzia sp.	4
					Odonata					
						Coenagrionidae			Coenagrionidae	4

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Mesogastropoda					
						Valvatidae			Valvata sp.	4
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Sphaerium sp.	4
0440-11 M1										
	J_T3+00E100	8/15/2013								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				43
0440-11 M2										
	J_T3+00E100	8/15/2013								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				10
0440-11 M3										
	J_T3+00E100	8/15/2013								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				26
0446-11 M1										
	J_T8+00E20	8/15/2013								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				88
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae			Chironomid pupa	1
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
0446-11 M2										
	J_T8+00E20	8/15/2013								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				71
0446-11 M3										
	J_T8+00E20	8/15/2013								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				228
						Tubificidae			Limnodrilus sp.	24
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	4
						Chironomidae	Tanypodinae	Natarsiini	Natarsia sp.	4
			Nematoda							4
0453-11 M1										
	J_T23+00E25	8/16/2013								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Dero sp.	32
						Tubificidae			Limnodrilus sp.	64
						Tubificidae				880
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	484
					Isopoda					
						Asellidae			Caecidotea sp.	108

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Lymnaeidae			Pseudosuccinea columella	12
						Physidae			Physa sp.	148
					Mesogastropoda					
						Bithyniidae			Bithynia sp.	4
						Hydrobiidae			Amnicola sp.	8
						Valvatidae			Valvata tricarinata	12
0453-11 M2										
	J_T23+00E25	8/16/2013								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae				260
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	1368
					Isopoda					
						Asellidae			Caecidotea sp.	224
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physa sp.	184
					Mesogastropoda					
						Bithyniidae			Bithynia sp.	12
						Hydrobiidae			Amnicola sp.	28
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Sphaerium sp.	4

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
0453-11 M3										
	J_T23+00E25	8/16/2013								
			Annelida							
				Oligochaeta						
					Lumbricina					
						Lumbricidae				24
					Tubificida					
						Tubificidae			Limnodrilus hoffmeisteri	136
						Tubificidae				852
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	176
					Isopoda					
						Asellidae			Caecidotea sp.	72
				Insecta						
					Diptera					
										4
			Mollusca							
				Gastropoda						
					Basommatophora					
						Lymnaeidae			Pseudosuccinea columella	184
						Physidae			Physa sp.	64
						Planorbidae			Planorbella trivolvis	12
					Mesogastropoda					
						Bithyniidae			Bithynia sp.	20
						Hydrobiidae			Amnicola sp.	4
						Viviparidae			Campeloma decisum	24
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Pisidium sp.	4
						Sphaeriidae			Sphaerium sp.	8

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
0460-12 M1										
	J_T2+00E50	8/26/2014								
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Tanypodinae	Pentaneurini	Ablabesmyia sp.	1
0460-12 M2										
	J_T2+00E50	8/26/2014								
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	1
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Polypedilum sp.	1
			Mollusca							
				Gastropoda						
					Basommatophora					
						Planorbidae			Planorbella trivolvis	1
0460-12 M3										
	J_T2+00E50	8/26/2014								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	1
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Tanypodinae	Pentaneurini	Ablabesmyia sp.	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
0466-12 M1										
	J_T7+00E20	8/26/2014								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	1
						Tubificidae			Tubificidae	49
						Tubificidae			Limnodrilus hoffmeisteri	5
			Arthropoda							
				Hydrachnidia						
					Acariformes					
						Hygrobatidae			Megapus sp.	1
						Hygrobatidae			Hygrobates sp.	2
				Insecta						
					Diptera					
						Ceratopogonidae			Sphaeromias sp.	4
						Ceratopogonidae			Sphaeromias sp.	43
						Ceratopogonidae			Bezzia sp.	6
						Ceratopogonidae			Bezzia sp.	1
						Chironomidae			Chironomid pupa	1
						Chironomidae	Chironominae	Chironomini	Cladopelma sp.	1
						Chironomidae	Tanypodinae		Tanypodinae	2
						Chironomidae	Tanypodinae	Pentaneurini	Ablabesmyia sp.	1
0466-12 M2										
	J_T7+00E20	8/26/2014								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Nais sp.	6
						Tubificidae			Tubificidae	42
						Tubificidae			Limnodrilus hoffmeisteri	6

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	1
				Insecta						
					Diptera					
						Ceratopogonidae			Sphaeromias sp.	38
						Ceratopogonidae			Bezzia sp.	5
						Ceratopogonidae			Ceratopogonidae	3
						Chironomidae	Chironominae	Chironomini	Cladopelma sp.	1
						Chironomidae	Tanypodinae	Pentaneurini	Ablabesmyia sp.	1
						Chironomidae	Tanypodinae	Tanypodini	Tanypus sp.	1
0466-12 M3										
	J_T7+00E20	8/26/2014								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	25
						Tubificidae			Limnodrilus hoffmeisteri	12
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Sphaeromias sp.	4
						Ceratopogonidae			Bezzia sp.	3
			Mollusca							
				Gastropoda						
					Basommatophora					
						Planorbidae			Helisoma anceps	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
0475-12 M1										
	J_T21+00E75	8/27/2014								
			Annelida							
				Hirudinea						
					Rhynchobdellida					
						Glossiphoniidae			Placobdella sp.	4
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubifex sp.	24
						Tubificidae			Tubificidae	32
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	356
					Isopoda					
						Asellidae			Caecidotea sp.	572
				Insecta						
					Diptera					
						Ceratopogonidae			Ceratopogonidae	4
						Empididae			Empididae	4
					Ephemeroptera					
						Baetidae			Procloeon sp.	4
					Odonata					
						Coenagrionidae			Enallagma sp.	12

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Lymnaeidae			Pseudosuccinea columella	48
						Physidae			Physa sp.	200
						Planorbidae			Planorbella trivolvis	44
					Mesogastropoda					
						Viviparidae			Campeloma decisum	344
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Pisidium sp.	12
						Sphaeriidae			Sphaerium sp.	8
0475-12 M2										
	J_T21+00E75	8/27/2014								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	72
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	152
					Isopoda					
						Asellidae			Caecidotea sp.	484
				Insecta						
					Coleoptera					
						Chrysomelidae			Donacia sp.	4
					Diptera					
						Chironomidae	Chironominae	Chironomini	Polypedilum sp.	4
						Chironomidae	Tanypodinae	Pentaneurini	Ablabesmyia sp.	4
					Odonata					
						Aeshnidae			Aeshna sp.	4
						Coenagrionidae			Ischnura sp.	4

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Lymnaeidae			Pseudosuccinea columella	8
						Physidae			Physa sp.	92
						Planorbidae			Helisoma anceps	8
						Planorbidae			Planorbella trivolvis	20
					Mesogastropoda					
						Viviparidae			Campeloma decisum	156
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Pisidium sp.	4
						Sphaeriidae			Sphaerium sp.	4
0475-12 M3										
	J_T21+00E75	8/27/2014								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Nais sp.	4
						Tubificidae			Limnodrilus hoffmeisteri	4
						Tubificidae			Tubificidae	20
						Tubificidae			Tubifex sp.	16
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	44
					Isopoda					
						Asellidae			Caecidotea sp.	52
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Tanytarsini	Rheotanytarsus sp.	4
					Ephemeroptera					
						Ephemerellidae			Ephemerellidae	4

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physa sp.	20
					Mesogastropoda					
						Viviparidae			Campeloma decisum	44
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Sphaerium sp.	4
0479-13 M1										
	J_T1+00E50	9/23/2015								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	16
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Sphaeromias sp.	4
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	4
0479-13 M2										
	J_T1+00E50	9/23/2015								
			Annelida							
				Oligochaeta						
					Lumbriculida					
						Lumbriculidae			Lumbriculidae	12
					Tubificida					
						Naididae			Dero sp.	36
						Tubificidae			Ilyodrilus templetoni	8
						Tubificidae			Tubificidae	40

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	16
						Chironomidae	Chironominae	Chironomini	Phaenopsectra sp.	4
						Chironomidae	Chironominae	Chironomini	Dicrotendipes sp.	4
						Chironomidae	Chironominae	Tanytarsini	Tanytarsus sp.	4
					Trichoptera					
						Hydroptilidae	Hydroptilinae		Agraylea sp.	4
			Nematoda							
									Nematoda	4
0479-13 M3										
	J_T1+00E50	9/23/2015								
			Annelida							
				Oligochaeta						
					Lumbriculida					
						Lumbriculidae			Lumbriculidae	12
					Tubificida					
						Naididae			Dero sp.	96
						Tubificidae			Tubificidae	8
						Tubificidae			Tubificidae	4
			Arthropoda							
				Hydrachnidia						
					Acariformes					
						Hygrobatidae			Hygrobatidae	4
				Insecta						
					Diptera					
						Ceratopogonidae			Sphaeromias sp.	4
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	8
						Chironomidae	Chironominae	Tanytarsini	Tanytarsus sp.	8

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Mollusca							
				Gastropoda						
					Basommatophora					
						Ancylidae			Ferrissia sp.	4
					Mesogastropoda					
						Valvatidae			Valvata sp.	4
				Pelecypoda						
					Prionodesmacea					
						Sphaeriidae			Sphaerium sp.	4
			Platyhelminthes							
				Turbellaria						
					Tricladida					
						Planariidae			Planariidae	4
0489-13 M1										
	J_T6+00E60	9/23/2015								
			Annelida							
				Oligochaeta						
					Lumbriculida					
						Lumbriculidae			Lumbriculidae	8
					Tubificida					
						Tubificidae			Tubificidae	10
			Arthropoda							
				Insecta						
					Diptera					
						Ceratopogonidae			Sphaeromias sp.	1
						Chironomidae	Chironominae	Chironomini	Polypedilum sp.	1
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	2
						Chironomidae	Chironominae	Tanytarsini	Tanytarsus sp.	1

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
0489-13 M2										
	J_T6+00E60	9/23/2015								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Dero sp.	1
						Tubificidae			Tubificidae	7
						Tubificidae			Limnodrilus hoffmeisteri	1
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Orthocladiinae	Orthocladiini	Eukiefferiella sp.	1
			Mollusca							
				Gastropoda						
					Mesogastropoda					
						Valvatidae			Valvata sp.	1
0489-13 M3										
	J_T6+00E60	9/23/2015								
			Annelida							
				Oligochaeta						
					Tubificida					
						Tubificidae			Tubificidae	3
			Arthropoda							
				Insecta						
					Diptera					
						Chironomidae	Tanypodinae	Pentaneurini	Ablabesmyia sp.	3
0498-13 M1										
	J_T21+00E50	9/22/2015								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Dero sp.	56
						Tubificidae			Tubificidae	24

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	4
						Talitridae			Hyalella azteca	4
					Isopoda					
						Asellidae			Caecidotea communis	80
				Insecta						
					Collembola					
						Isotomidae			Isotomurus sp.	4
					Diptera					
						Ceratopogonidae			Culicoides sp.	12
						Empididae			Empididae	4
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physa sp.	20
					Mesogastropoda					
						Bithyniidae			Bithynia tentaculata	24
						Valvatidae			Valvata sp.	8
0498-13 M2										
	J_T21+00E50	9/22/2015								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Dero sp.	76

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	8
					Isopoda					
						Asellidae			Caecidotea communis	36
				Insecta						
					Diptera					
						Ceratopogonidae			Bezzia sp.	4
						Chironomidae	Chironominae	Tanytarsini	Tanytarsus sp.	4
					Ephemeroptera					
						Baetidae			Baetidae	4
					Odonata					
						Coenagrionidae			Coenagrionidae	4
			Mollusca							
				Gastropoda						
					Basommatophora					
						Lymnaeidae			Pseudosuccinea columella	4
						Physidae			Physa sp.	12
					Mesogastropoda					
						Bithyniidae			Bithynia tentaculata	12
						Valvatidae			Valvata sp.	8
0498-13 M3										
	J_T21+00E50	9/22/2015								
			Annelida							
				Oligochaeta						
					Tubificida					
						Naididae			Dero sp.	100
						Tubificidae			Tubificidae	36

SIN	SLID	Date	Phylum	Class	Order	Family	Sub-Family	Tribe	Genus/Species/Variety	Total #
			Arthropoda							
				Crustacea						
					Amphipoda					
						Gammaridae			Gammarus sp.	4
					Isopoda					
						Asellidae			Caecidotea communis	16
				Insecta						
					Collembola					
						Isotomidae			Isotomurus sp.	4
					Diptera					
						Ceratopogonidae			Culicoides sp.	16
						Chironomidae	Chironominae	Chironomini	Chironomus sp.	8
						Chironomidae	Chironominae	Tanytarsini	Tanytarsus sp.	8
					Odonata					
						Coenagrionidae			Ischnura sp.	8
			Mollusca							
				Gastropoda						
					Basommatophora					
						Physidae			Physa sp.	104
					Mesogastropoda					
						Bithyniidae			Bithynia tentaculata	60
						Valvatidae			Valvata sp.	60
			Platyhelminthes							
				Turbellaria						
					Tricladida					
						Planariidae			Planariidae	8

Pine Street Canal Site, Burlington, VT
Summary of Groundwater Analytical Data: VOC's
(All results in Micrograms per Liter - ppb)

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
6_MW-13									
	0097-01	11/20/2000	U 1	U 1		U 1	U 1	U 1	U 1
	0097-02	10/24/2001	U 1	UJ 1		UJ 1	UJ 1	UJ 1	UJ 1
	0097-03	10/17/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0097-04	10/16/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0097-05	10/14/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0097-06	10/19/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0097-07	10/25/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0097-08	10/16/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0097-09	10/8/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0097-10	10/21/2009	U 1	U 1		U 1	U 1	U 1	U 1
	0097-11	10/13/2010	U 1	U 1		U 1	U 1	U 1	U 1
	0097-12	10/19/2011	U 1	U 1		U 1	U 1	U 1	U 1
	0097-13	11/15/2012	U 1	U 1		U 1			U 1
	0097-14	10/16/2013	U 1	U 1		U 1			U 1
	0097-15	10/23/2014	U 1	U 1		U 1			U 1
	0097-16	10/7/2015	U 1	U 1		U 1			U 1
6_MW-18									
	0099-01	11/21/2000	U 1	U 1		U 1	U 1	U 1	U 1
	0099-02	10/24/2001	U 1	UJ 1		U 1	UJ 1	UJ 1	UJ 1
	0099-03	10/17/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0099-04	10/16/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0099-05	10/14/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0099-06	10/19/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0099-07	10/25/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0099-08	10/16/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0099-09	10/8/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0099-10	10/21/2009	U 1	U 1		U 1	U 1	U 1	U 1
	0099-11	10/13/2010	U 1	U 1		U 1	U 1	U 1	U 1
	0099-12	10/19/2011	U 1	U 1		U 1	U 1	U 1	U 1
	0099-13	11/14/2012	U 1	U 1		U 1			U 1
	0099-14	10/15/2013	U 1	U 1		U 1			U 1
	0099-15	10/24/2014	U 1	U 1		U 1			U 1
	0099-16	10/7/2015	U 1	U 1		U 1			U 1
8_MW-11D									
	0098-01	11/20/2000	U 1	U 1		U 1	U 1	U 1	U 1
	0098-02	10/24/2001	U 1	UJ 1		UJ 1	UJ 1	UJ 1	UJ 1
	0098-03	10/17/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0098-04	10/16/2003	U 1	U 1		U 1	U 1	U 1	U 1

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
	0098-05	10/14/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0098-06	10/19/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0098-07	10/25/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0098-08	10/15/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0098-09	10/8/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0098-10	10/21/2009	U 1	U 1		U 1	U 1	U 1	U 1
	0098-11	10/13/2010	U 1	U 1		U 1	U 1	U 1	U 1
	0098-12	10/19/2011	U 1	U 1		U 1	U 1	U 1	U 1
	0098-13	11/13/2012	U 1	U 1		U 1			U 1
	0098-14	10/16/2013	U 1	U 1		U 1			U 1
	0098-15	10/24/2014	U 1	U 1		U 1			U 1
	0098-16	10/7/2015	U 1	U 1		U 1			U 1
8_MW-9A									
	0074-01	11/14/2000	U 1	U 1		U 1	U 1	U 1	U 1
	0074-02	5/1/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0074-03	10/22/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0074-04	4/15/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0074-05	10/14/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0074-06	4/14/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0074-07	10/13/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0074-08	4/19/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0074-09	10/11/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0074-10	4/26/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0074-11	10/17/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0074-12	4/10/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0074-13	10/23/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0074-14	4/17/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0074-15	10/15/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0074-16	4/22/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0074-17	10/6/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0074-19	4/21/2009	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	0074-21	10/19/2009	U 1	U 1		U 1	U 1	U 1	U 1
	0074-22	4/19/2010	U 1	U 1		U 1	U 1	U 1	U 1
	0074-23	10/11/2010	U 1	U 1		U 1	U 1	U 1	U 1
	0074-24	4/26/2011	U 1	U 1		U 1	U 1	U 1	U 1
	0074-25	10/17/2011	U 1	U 1		U 1	U 1	U 1	U 1
	0074-26	5/2/2012	U 1	U 1		U 1			U 1
	0074-27	11/13/2012	U 1	U 1		U 1			U 1
	0074-28	4/9/2013	U 1	U 1		U 1			U 1
	0074-29	10/14/2013	U 1	U 1		U 1			U 1
	0074-30	5/12/2014	U 1	U 1		U 1			U 1
	0074-31	10/20/2014	U 1	U 1		U 1			U 1
	0074-32	5/6/2015	U 1	U 1		U 1			U 1

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
	0074-33	10/7/2015	U 1	U 1		U 1			U 1
8_MW-9B									
	0071-01	11/14/2000	U 1	U 1		U 1	U 1	U 1	U 1
	0071-02	5/2/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0071-03	10/22/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0071-04	4/15/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0071-05	10/14/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0071-06	4/14/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0071-07	10/13/2003	J 0.4	U 1		U 1	U 1	J 0.18	U 1
	0071-08	4/19/2004	J 0.35	U 1		U 1	U 1	U 1	U 1
	0071-09	10/11/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0071-10	4/26/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0071-11	10/17/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0071-12	4/10/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0071-13	10/23/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0071-14	4/18/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0071-15	10/15/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0071-16	4/22/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0071-17	10/6/2008	U 1	U 1		U 1	U 1	J 0.3	J 0.3
	0071-19	4/21/2009	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	0071-21	10/19/2009	U 1	U 1		U 1	U 1	U 1	U 1
	0071-22	4/19/2010	U 1	U 1		U 1	U 1	J 0.61	J 0.61
	0071-23	10/11/2010	U 1	U 1		U 1	U 1	J 0.43	U 1
	0071-24	4/26/2011	U 1	U 1		U 1	U 1	J 0.33	U 1
	0071-25	10/17/2011	U 1	U 1		U 1	U 1	U 1	U 1
	0071-26	5/1/2012	U 1	U 1		U 1			U 1
	0071-27	11/13/2012	U 1	U 1		U 1			U 1
	0071-28	4/9/2013	U 1	U 1		U 1			U 1
	0071-29	10/14/2013	U 1	U 1		U 1			U 1
	0071-30	5/12/2014	U 1	U 1		U 1			U 1
	0071-31	10/20/2014	U 1	U 1		U 1			U 1
	0071-32	5/6/2015	U 1	U 1		U 1			U 1
	0071-33	10/7/2015	U 1	U 1		U 1			U 1
J_0070-13TB									
	0070-13TB	10/16/2006	U 1	U 1		U 1	U 1	U 1	U 1
J_0070-15TB									
	0070-15TB	10/10/2007	U 1	U 1		U 1	U 1	U 1	U 1
J_0070-16TB									
	0070-16TB	4/16/2007	U 1	U 1		U 1	U 1	U 1	U 1
J_0070-17TB									
	0070-17TB	10/1/2008	U 1	U 1		U 1	U 1	U 1	U 1
J_0070-21TB									
	0070-21TB	10/13/2009	U 1	U 1		U 1	U 1	U 1	U 1

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
J_0070-22TB									
	0070-22TB	4/19/2010	U 1	U 1		U 1	U 1	U 1	U 1
J_0070-23TB									
	0070-23TB	10/6/2010	U 1	U 1		U 1	U 1	U 1	U 1
J_0070-24TB									
	0070-24TB	4/18/2011	U 1	U 1		U 1	U 1	U 1	U 1
J_0070-25TB									
	J_0070-25TB	10/11/2011	U 1	U 1		U 1	U 1	U 1	U 1
J_0070-26TB									
	0070-26TB	4/18/2012	U 1	U 1		U 1			U 1
J_0070-27TB									
	0070-27TB	11/15/2012	U 1	U 1		U 1			U 1
J_0070-28TB									
	0070-28TB	4/3/2013	U 1	U 1		U 1			U 1
J_0070-29TB									
	0070-29TB	10/14/2013	U 1	U 1		U 1			U 1
J_0070-30 TB									
	0070-30 TB	5/12/2014	U 1	U 1		U 1			U 1
J_0070-33TB									
	0070-33TB	10/6/2015	U 1	U 1	U 4	U 1			U 1
J_0072-13TB									
	0072-13TB	10/16/2006	U 1	U 1		U 1	U 1	U 1	U 1
J_0072-14TB									
	0072-14TB	4/12/2007	U 1	U 1		U 1	U 1	U 1	U 1
J_0072-15TB									
	0072-15TB	10/16/2007	U 1	U 1		U 1	U 1	U 1	U 1
J_0072-16TB									
	0072-16TB	4/16/2008	U 1	U 1		U 1	U 1	U 1	U 1
J_0072-17TB									
	0072-17TB	10/1/2008	U 1	U 1		U 1	U 1	U 1	U 1
J_0072-18TB									
	0072-18TB	3/20/2009	U 1	U 1	U 1	U 1	U 1	U 1	U 1
J_0072-19TB									
	0072-19TB	4/17/2009	U 1	U 1	U 1	U 1	U 1	U 1	U 1
J_0072-21TB									
	0072-21TB	10/13/2009	U 1	U 1		U 1	U 1	U 1	U 1
J_0072-22TB									
	0072-22TB	4/20/2010	U 1	U 1		U 1	U 1	U 1	U 1
J_0072-23TB									
	0072-23TB	10/12/2010	U 1	U 1		U 1	U 1	U 1	U 1
J_0072-24TB									
	0072-24TB	4/26/2011	U 1	U 1		U 1	U 1	U 1	U 1
J_0072-25TB									
	0072-25TB	10/11/2011	U 1	U 1		U 1	U 1	U 1	U 1

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
J_0072-26TB									
	0072-26TB	4/18/2012	U 1	U 1		U 1			U 1
J_0072-27TB									
	0072-27TB	11/12/2012	U 1	U 1		U 1			U 1
J_0072-28TB									
	0072-28TB	4/9/2013	U 1	U 1		U 1			U 1
J_0072-29TB									
	0072-29TB	10/14/2013	U 1	U 1		U 1			U 1
J_0072-30TB									
	0072-30TB	5/12/2014	U 1	U 1	U 4	U 1			U 1
J_0072-31TB									
	0072-31TB	10/22/2014	U 1	U 1		U 1			U 1
J_0072-32TB									
	0072-32TB	5/6/2015	U 1	U 1		U 1			U 1
J_0072-33TB									
	0072-33TB	10/6/2015	U 1	U 1	U 4	U 1			U 1
J_0073-13FB									
	0073-13FB	10/24/2006	U 1	U 1		U 1	U 1	U 1	U 1
J_0073-14FB									
	0073-14FB	4/18/2007	U 1	U 1		U 1	U 1	U 1	U 1
J_0073-15FB									
	0073-15FB	10/17/2007	U 1	U 1		U 1	U 1	U 1	U 1
J_0073-16FB									
	0073-16FB	4/23/2008	U 1	U 1		U 1	U 1	U 1	U 1
J_0073-17FB									
	0073-17FB	10/7/2008	U 1	U 1		U 1	U 1	U 1	U 1
J_0073-18FB									
	0073-18FB	3/25/2009	U 1	U 1	U 1	U 1	U 1	U 1	U 1
J_0073-19FB									
	0073-19FB	4/21/2009	U 1	U 1	U 1	U 1	U 1	U 1	U 1
J_0073-20FB									
	0073-20FB	7/14/2009	U 1	U 1		U 1	U 1	U 1	U 1
J_0073-21FB									
	0073-21FB	10/20/2009	U 1	U 1		U 1	U 1	U 1	U 1
J_0073-22FB									
	0073-22FB	4/20/2010	U 1	U 1		U 1	U 1	U 1	U 1
J_0073-23FB									
	0073-23FB	10/12/2010	U 1	U 1		U 1	U 1	U 1	U 1
J_0073-24FB									
	0073-24FB	4/26/2011	U 1	U 1		U 1	U 1	U 1	U 1
J_0073-27FB									
	0073-27FB	11/15/2012	U 1	U 1		U 1			U 1
J_0073-28FB									
	0073-28FB	4/10/2013	U 1	U 1		U 1			U 1

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
J_0073-29FB									
	0073-29FB	10/14/2013	U 1	U 1		U 1			U 1
J_0073-30FB									
	0073-30FB	5/13/2014	U 1	U 1	J 3	U 1			U 1
J_0073-31FB									
	0073-31FB	10/21/2014	U 1	U 1		U 1			U 1
J_0073-32FB									
	0073-32FB	5/6/2015	U 1	U 1		U 1			U 1
J_0073-33FB									
	0073-33FB	10/6/2015	U 1	U 1	U 4	U 1			U 1
J_0073-FB									
	0073-FB	10/18/2011	U 1	U 1		U 1	U 1	U 1	U 1
J_0077-13TB									
	0077-13TB	10/16/2006	U 1	U 1		U 1	U 1	U 1	U 1
J_0077-14TB									
	0077-14TB	4/12/2007	U 1	U 1		U 1	U 1	U 1	U 1
J_0077-15TB									
	0077-15TB	10/17/2007	U 1	U 1		U 1	U 1	U 1	U 1
J_0077-16TB									
	0077-16TB	4/16/2008	U 1	U 1		U 1	U 1	U 1	U 1
J_0077-17TB									
	0077-17TB	10/1/2008	U 1	U 1		U 1	U 1	U 1	U 1
J_0077-19TB									
	0077-19TB	4/17/2009	U 1	U 1	U 1	U 1	U 1	U 1	U 1
J_0077-20TB									
	0077-20TB	7/9/2009	U 1	U 1		U 1	U 1	U 1	U 1
J_0077-22TB									
	0077-22TB	4/14/2010	U 1	U 1		U 1	U 1	U 1	U 1
J_0077-23TB									
	0077-23TB	10/13/2010	U 1	U 1		U 1	U 1	U 1	U 1
J_0077-25TB									
	0077-25TB	10/11/2011	U 1	U 1		U 1	U 1	U 1	U 1
J_0077-26TB									
	0077-26TB	4/18/2012	U 1	U 1		U 1			U 1
J_0077-28TB									
	0077-28TB	4/3/2013	U 1	U 1		U 1			U 1
J_0077-29TB									
	0077-29TB	10/15/2013	U 1	U 1		U 1			U 1
J_0077-30TB									
	0077-30TB	5/13/2014	U 1	U 1	U 4	U 1			U 1
J_0077-32TB									
	0077-32TB	5/4/2015	U 1	U 1	U 4	U 1			U 1
J_0077-33TB									
	0077-33TB	10/7/2015	U 1	U 1		U 1			U 1

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
J_0092-27TB									
	0092-27TB	11/14/2012	U 1	U 1		U 1			U 1
J_0092-29TB									
	0092-29TB	10/16/2013	U 1	U 1		U 1			U 1
J_0092-30TB									
	0092-30TB	5/13/2014	U 1	U 1		U 1			U 1
J_0092-31TB									
	0092-31TB	10/22/2014	U 1	U 1	U 4	U 1			U 1
J_0092-32TB									
	0092-32TB	5/5/2015	U 1	U 1	U 4	U 1			U 1
J_0125-01-TB									
	0125-01TB	10/18/2002	U 1	U 1		U 1	U 1	U 1	U 1
J_0507-02TB									
	0507-02TB	10/21/2014	U 1	U 1	U 4	U 1			U 1
J_0508-02FB									
	0508-02FB	10/22/2014	U 1	U 1	U 4	U 1			U 1
J_0508-03FB									
	0508-03FB	5/5/2015	U 1	U 1	U 4	U 1			U 1
J_0508-04FB									
	0508-04FB	10/5/2015	U 1	U 1	U 4	U 1			U 1
J_070-01-TB									
	0070-01TB	11/14/2000	U 1	U 1		U 1	U 1	U 1	U 1
J_070-02-TB									
	0070-02TB	5/1/2001	U 1	U 1		U 1	U 1	U 1	U 1
J_070-03-TB									
	0070-03TB	10/22/2001	U 1	U 1		U 1	U 1	U 1	U 1
J_070-04-TB									
	0070-04TB	4/15/2002	U 1	U 1		U 1	U 1	U 1	U 1
J_070-05-TB									
	0070-05TB	10/17/2002	U 1	U 1		U 1	U 1	U 1	U 1
J_070-06-TB									
	0070-06	4/15/2003	U 1	U 1		U 1	U 1	U 1	U 1
J_070-08-TB									
	0070-08TB	4/13/2004	U 1	U 1		U 1	U 1	U 1	U 1
J_070-09-TB									
	0070-09TB	10/7/2004	U 1	U 1		U 1	U 1	U 1	U 1
J_070-10-TB									
	0070-10TB	4/19/2005	U 1	U 1		U 1	U 1	U 1	U 1
J_070-11-TB									
	0070-11TB	10/17/2005	U 1	U 1		U 1	U 1	U 1	U 1
J_070-12-TB									
	0070-12TB	4/7/2006	U 1	U 1		U 1	U 1	U 1	U 1
J_072-01-TB									
	0072-01TB	11/14/2000	U 1	U 1		U 1	U 1	U 1	U 1

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
J_072-02-TB									
	0072-02TB	5/1/2001	U 1	U 1		U 1	U 1	U 1	U 1
J_072-03-TB									
	0072-03TB	10/22/2001	U 1	U 1		U 1	U 1	U 1	U 1
J_072-04-TB									
	0072-04TB	4/15/2002	U 1	U 1		U 1	U 1	U 1	U 1
J_072-05-TB									
	0072-05TB	10/15/2002	U 1	U 1		U 1	U 1	U 1	U 1
J_072-06-TB									
	0072-06TB	4/14/2003	U 1	U 1		U 1	U 1	U 1	U 1
J_072-07-TB									
	0072-07TB	10/9/2003	U 1	U 1		U 1	U 1	U 1	U 1
J_072-08-TB									
	0072-08TB	4/13/2004	U 1	U 1		U 1	U 1	U 1	U 1
J_072-09-TB									
	0072-09TB	10/7/2004	U 1	U 1		U 1	U 1	U 1	U 1
J_072-10-TB									
	0072-10TB	4/19/2005	U 1	U 1		U 1	U 1	U 1	U 1
J_072-11-TB									
	0072-11TB	10/17/2005	U 1	U 1		U 1	U 1	U 1	U 1
J_072-12-TB									
	0072-12TB	4/7/2006	U 1	U 1		U 1	U 1	U 1	U 1
J_073-01-FB									
	0073-01FB	11/14/2000	U 1	U 1		U 1	U 1	U 1	U 1
J_073-02-FB									
	0073-02FB	5/1/2001	U 1	U 1		U 1	U 1	U 1	U 1
J_073-03-FB									
	0073-03FB	10/22/2001	U 1	U 1		U 1	U 1	U 1	U 1
J_073-04-FB									
	0073-04FB	4/15/2002	U 1	U 1		U 1	U 1	U 1	U 1
J_073-05-FB									
	0073-05FB	10/15/2002	U 1	U 1		U 1	U 1	U 1	U 1
J_073-06-FB									
	0073-06FB	4/15/2003	U 1	U 1		U 1	U 1	U 1	U 1
J_073-07-FB									
	0073-07FB	10/14/2003	U 1	U 1		U 1	U 1	U 1	U 1
J_073-08-FB									
	0073-08FB	4/20/2004	U 1	U 1		U 1	U 1	U 1	U 1
J_073-09-FB									
	0073-09FB	10/12/2004	U 1	U 1		U 1	U 1	U 1	U 1
J_073-10-FB									
	0073-10FB	4/27/2005	U 1	U 1		U 1	U 1	U 1	U 1
J_073-11-FB									
	0073-11FB	10/18/2005	U 1	U 1		U 1	U 1	U 1	U 1

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
J_073-12-FB									
	0073-12FB	4/11/2006	U 1	U 1		U 1	U 1	U 1	U 1
J_077-01-TB									
	0077-01TB	11/14/2000	U 1	U 1		U 1	U 1	U 1	U 1
J_077-02-TB									
	0077-02TB	5/1/2001	U 1	U 1		U 1	U 1	U 1	U 1
J_077-03-TB									
	0077-03TB	10/22/2001	U 1	U 1		U 1	U 1	U 1	U 1
J_077-04-TB									
	0077-04TB	4/15/2002	U 1	U 1		U 1	U 1	U 1	U 1
J_077-05-TB									
	0077-05TB	10/14/2002	U 1	U 1		U 1	U 1	U 1	U 1
J_077-06-TB									
	0077-06TB	4/16/2003	U 1	U 1		U 1	U 1	U 1	U 1
J_077-07-TB									
	0077-07TB	10/9/2003	U 1	U 1		U 1	U 1	U 1	U 1
J_077-09-TB									
	0077-09TB	10/7/2004	U 1	U 1		U 1	U 1	U 1	U 1
J_078-01-FB									
	0078-01FB	11/14/2000	U 1	U 1		U 1	U 1	U 1	U 1
J_078-02-FB									
	0078-02FB	5/1/2001	U 1	U 1		U 1	U 1	U 1	U 1
J_078-03-FB									
	0078-03FB	10/22/2001	U 1	U 1		U 1	U 1	U 1	U 1
J_083-01-FB									
	0083-01FB	11/14/2000	U 1	U 1		U 1	U 1	U 1	U 1
J_085-01-DP									
	0085-01DP	11/14/2000	U 1	U 1		U 1	U 1	U 1	U 1
J_085-02-DP									
	0085-02DP	5/1/2002	J 0.3	U 1		U 1	U 1	U 1	U 1
J_085-03-DP									
	0085-03DP	10/22/2001	J 0.3	U 1		U 1	U 1	U 1	U 1
J_085-04-DP									
	0085-04DP	4/15/2002	U 1	U 1		U 1	U 1	U 1	U 1
J_086-01-TB									
	0086-01TB	11/14/2000	U 1	U 1		U 1	U 1	U 1	U 1
J_091-01-FB									
	0091-01FB	11/14/2000	U 1	U 1		U 1	U 1	U 1	U 1
J_092-01-TB									
	0092-01TB	11/14/2000	U 1	U 1		U 1	U 1	U 1	U 1
J_092-02-TB									
	0092-02TB	5/1/2001	U 1	U 1		U 1	U 1	U 1	U 1
J_092-03-TB									
	0092-03TB	10/22/2001	U 1	U 1		U 1	U 1	U 1	U 1

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
J_092-05-TB									
	0092-05TB	10/16/2002	U 1	U 1		U 1	U 1	U 1	U 1
J_092-07-TB									
	0092-07TB	10/9/2003	U 1	U 1		U 1	U 1	U 1	U 1
J_092-11-TB									
	0092-11TB	10/12/2005	U 1	U 1		U 1	U 1	U 1	U 1
J_095-01-TB									
	0095-01TB	11/14/2000	U 1	U 1		U 1	U 1	U 1	U 1
J_096-01-FB									
	0096-01FB	11/14/2000	U 1	U 1		U 1	U 1	U 1	U 1
J_100-01-FB									
	0100-01FB	11/14/2000	U 1	U 1		U 1	U 1	U 1	U 1
J_MW-20A									
	0076-01	11/15/2000	U 1	U 1		U 1	U 1	U 1	U 1
	0076-02	5/2/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0076-03	10/23/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0076-04	4/15/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0076-05	10/14/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0076-06	4/14/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0076-07	10/13/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0076-08	4/19/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0076-09	10/11/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0076-10	4/26/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0076-11	10/17/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0076-12	4/10/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0076-13	10/23/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0076-14	4/17/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0076-15	10/15/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0076-16	4/24/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0076-17	10/6/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0076-19	4/21/2009	U 1	U 1	J 0.21	U 1	U 1	U 1	U 1
	0076-21	10/19/2009	U 1	U 1		U 1	U 1	U 1	U 1
	0076-22	4/19/2010	U 1	U 1		U 1	U 1	U 1	U 1
	0076-23	10/11/2010	U 1	U 1		U 1	U 1	U 1	U 1
	0076-24	4/26/2011	U 1	U 1		U 1	U 1	U 1	U 1
	0076-25	10/17/2011	U 1	U 1		U 1	U 1	U 1	U 1
	0076-26	5/1/2012	U 1	U 1		U 1			U 1
	0076-27	11/13/2012	U 1	U 1		U 1			U 1
	0076-28	4/9/2013	U 1	U 1		U 1			U 1
	0076-29	10/14/2013	U 1	U 1		U 1			U 1
	0076-30	5/12/2014	U 1	U 1		U 1			U 1
	0076-31	10/20/2014	U 1	U 1		U 1			U 1
	0076-32	5/5/2015	U 1	U 1		U 1			U 1

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
	0076-33	10/6/2015	U 1	U 1	U 4	U 1			U 1
J_MW-20B									
	0079-01	11/15/2000	U 1	U 1		U 1	U 1	U 1	U 1
	0079-02	5/1/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0079-03	10/22/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0079-04	4/15/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0079-05	10/14/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0079-06	4/14/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0079-07	10/13/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0079-08	4/19/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0079-09	10/11/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0079-10	4/26/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0079-11	10/17/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0079-12	4/10/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0079-13	10/23/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0079-14	4/17/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0079-15	10/15/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0079-16	4/24/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0079-17	10/6/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0079-19	4/21/2009	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	0079-21	10/19/2009	U 1	U 1		U 1	U 1	U 1	U 1
	0079-22	4/19/2010	U 1	U 1		U 1	U 1	U 1	U 1
	0079-23	10/11/2010	U 1	U 1		U 1	U 1	U 1	U 1
	0079-24	4/26/2011	U 1	U 1		U 1	U 1	U 1	U 1
	0079-25	10/17/2011	U 1	U 1		U 1	U 1	U 1	U 1
	0079-26	5/1/2012	U 1	U 1		U 1			U 1
	0079-27	11/12/2012	U 1	U 1		U 1			U 1
	0079-28	4/9/2013	U 1	U 1		U 1			U 1
	0079-29	10/14/2013	U 1	U 1		U 1			U 1
	0079-30	5/12/2014	U 1	U 1		U 1			U 1
	0079-31	10/20/2014	U 1	U 1		U 1			U 1
	0079-32	5/6/2015	U 1	U 1		U 1			U 1
	0079-33	10/6/2015	U 1	U 1	U 4	U 1			U 1
J_MW-21A									
	0084-01A	11/21/2000	U 1	U 1		U 1	U 1	U 1	U 1
	0084-02	5/3/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0084-03	10/24/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0084-04	4/16/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0084-05	10/16/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0084-06	4/15/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0084-07	10/14/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0084-08	4/20/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0084-09	10/12/2004	U 1	U 1		U 1	U 1	U 1	U 1

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
	0084-10	4/27/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0084-11	10/18/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0084-12	4/11/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0084-13	10/24/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0084-14	4/19/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0084-15	10/16/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0084-16	4/23/2008	7.4	U 1		U 1	U 1	U 1	U 1
	0084-17	10/7/2008	110	U 3.7		U 3.7	U 3.7	U 3.7	U 3.7
	0084-18	3/25/2009	270	U 7.9	U 7.9	U 7.9	U 7.9	U 7.9	U 7.9
	0084-19	4/20/2009	230	U 6.3	U 6.3	U 6.3	U 6.3	U 6.3	U 6.3
	0084-20	7/14/2009	270	U 7.9		U 7.9	U 7.9	U 7.9	U 7.9
	0084-21	10/20/2009	390	U 11		U 11	U 11	U 11	U 11
	0084-22	4/20/2010	530	U 16		U 16	U 16	U 16	U 16
	0084-23	10/12/2010	1100	J 12		U 15	J 11	85	97
	0084-24	4/25/2011	550	J 1.1		U 6	U 6	6.6	6.6
	0084-25	10/18/2011	970	U 14		U 14	U 14	U 14	U 14
	0084-26	5/3/2012	870	J 9		U 10			63
	0084-27	11/15/2012	730	150		5			250
	0084-28	4/10/2013	870	150		U 5			200
	0084-29	10/14/2013	740	120		J 0.9			180
	0084-30	5/13/2014	J 480	31	J 330	U 1			70
	0084-31	10/21/2014	790	J 7		U 10			53
	0084-32	5/5/2015	340	2	460	U 1			3
	0084-33	10/6/2015	450	U 10	620	U 10			13
J_MW-21B									
	0082-01A	11/21/2000	U 1	U 1		U 1	U 1	U 1	U 1
	0082-02	5/3/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0082-03	10/24/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0082-04	4/16/2002	U 1	U 1		U 1	UJ 1	UJ 1	UJ 1
	0082-05	10/16/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0082-06	4/15/2003	U 1	U 1		U 1	UJ 1	UJ 1	U 1
	0082-07	10/14/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0082-08	4/20/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0082-09	10/12/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0082-10	4/27/2005	U 1	U 1		U 1	J 0.24	U 1	J 0.26
	0082-11	10/18/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0082-12	4/11/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0082-13	10/24/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0082-14	4/19/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0082-15	10/16/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0082-16	4/24/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0082-17	10/7/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0082-18	3/25/2009	U 1	U 1	U 1	U 1	U 1	U 1	U 1

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
	0082-19	4/20/2009	J 0.88	U 1	U 1	U 1	U 1	U 1	U 1
	0082-20	7/14/2009	J 0.78	U 1		U 1	U 1	U 1	U 1
	0082-21	10/20/2009	11	U 1		U 1	U 1	U 1	U 1
	0082-22	4/20/2010	210	U 6.8		U 6.8	U 6.8	U 6.8	U 6.8
	0082-23	10/12/2010	200	U 2.6		U 2.6	U 2.6	U 2.6	U 2.6
	0082-24	4/25/2011	640	U 8.8		U 8.8	U 8.8	U 8.8	U 8.8
	0082-25	10/18/2011	480	U 7		U 7	U 7	U 7	U 7
	0082-26	5/3/2012	5	U 1		U 1			U 1
	0082-27	11/15/2012	580	U 1		U 1			U 1
	0082-28	4/10/2013	570	U 1		U 1			J 0.5
	0082-29	10/14/2013	110	U 1		U 1			U 1
	0082-30	5/13/2014	43	2	33	U 1			5
	0082-31	10/21/2014	J 53	U 1		U 1			U 1
	0082-32	5/5/2015	400	U 1	U 4	U 1			1
	0082-33	10/5/2015	J 0.8	U 1	U 4	U 1			U 1
J_MW-22A									
	0081-01	11/15/2000	U 1	U 1		U 1	U 1	U 1	U 1
	0081-02	5/4/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0081-03	10/23/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0081-04	4/16/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0081-05	10/15/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0081-06	4/15/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0081-07	10/14/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0081-08	4/19/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0081-09	10/12/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0081-10	4/26/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0081-11	10/18/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0081-12	4/11/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0081-13	10/24/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0081-14	4/18/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0081-15	10/16/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0081-16	4/23/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0081-17	10/7/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0081-19	4/21/2009	U 1	U 1		U 1	U 1	U 1	U 1
	0081-21	10/20/2009	U 1	U 1		U 1	U 1	U 1	U 1
	0081-22	4/19/2010	U 1	U 1		U 1	U 1	U 1	U 1
	0081-23	10/12/2010	J 0.63	U 1		U 1	U 1	U 1	U 1
	0081-24	4/25/2011	J 0.64	U 1		U 1	J 0.32	U 1	U 1
	0081-25	10/18/2011	J 0.5	U 1		U 1	U 1	U 1	U 1
	0081-26	5/2/2012	2	U 1		U 1			U 1
	0081-27	11/13/2012	29	U 1		U 1			J 0.9
	0081-28	4/10/2013	44	U 1		U 1			1
	0081-29	10/15/2013	74	U 1		U 1			3

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
	0081-30	5/13/2014	360	U 10		U 10			38
	0081-31	10/21/2014	1100	150		12			300
	0081-32	5/6/2015	1500	360	460	33			470
	0081-33	10/6/2015	1500	490	760	15			630
	0085-33DP	10/6/2015	1400	470	740	14			610
J_MW-22B									
	0080-01	11/15/2000	U 1	U 1		U 1	U 1	U 1	U 1
	0080-02	5/4/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0080-03	10/23/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0080-04	4/16/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0080-05	10/15/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0080-06	4/15/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0080-07	10/14/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0080-08	4/19/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0080-09	10/12/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0080-10	4/26/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0080-11	10/18/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0080-12	4/11/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0080-13	10/24/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0080-14	4/18/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0080-15	10/16/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0080-16	4/24/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0080-17	10/7/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0080-19	4/21/2009	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	0080-21	10/20/2009	U 1	U 1		U 1	U 1	U 1	U 1
	0080-22	4/20/2010	U 1	U 1		U 1	U 1	U 1	U 1
	0080-23	10/12/2010	U 1	U 1		U 1	U 1	U 1	U 1
	0080-24	4/25/2011	U 1	U 1		U 1	U 1	U 1	U 1
	0080-25	10/18/2011	U 1	U 1		U 1	U 1	U 1	U 1
	0080-26	5/2/2012	U 1	U 1		U 1			U 1
	0080-27	11/14/2012	U 1	U 1		U 1			U 1
	0080-28	4/10/2013	U 1	U 1		U 1			U 1
	0080-29	10/15/2013	1	U 1		U 1			U 1
	0080-30	5/13/2014	U 1	U 1		U 1			U 1
	0080-31	10/21/2014	390	53		J 3			170
	0080-32	5/6/2015	640	280	530	10			410
	0080-33	10/6/2015	590	320	710	J 5			460
J_MW-23A									
	0088-01	11/16/2000	D 180	D 460		D 230	D 400	D 240	D 660
	0088-02	5/3/2001	D 150	D 240		D 29	D 170	D 120	D 290
J_MW-23B									
	0087-01	11/16/2000	D 130	D 260		D 92	D 220	D 140	D 370
	0087-02	5/3/2001	D 130	D 320		D 120	D 260	D 150	D 310

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
	0087-03	10/23/2001	150	410		220	380	220	610
	0087-04	4/17/2002	D 130	D 380		D 160	DJ 330	D 200	D 540
	0087-05	10/18/2002	37	120		4.8	89	42	130
	0087-06	4/16/2003	5.1	24		1.5	20	11	33
	0087-07	10/14/2003	32	200		47	170	100	280
	0087-08	4/20/2004	36	200		16	170	100	280
	0087-09	10/14/2004	28	160		23	140	85	230
	0087-10	4/27/2005	66	290		54	240	150	400
	0087-11	10/18/2005	83	340		110	270	180	450
	0087-12	4/11/2006	D 60	D 260		35	D 110	D 140	D 240
	0087-13	10/24/2006	77	320		100	210	180	400
	0087-14	4/19/2007	77	320		35	210	160	390
	0087-15	10/17/2007	120	380		140	320	210	550
	0087-16	4/23/2008	89	400		53	320	200	530
	0087-17	10/7/2008	160	490		180	420	260	680
	0087-18	3/25/2009	180	440	2900	140	420	260	700
	0087-19	4/21/2009	150	390		110	360	230	600
	0087-20	7/14/2009	180	510		200	440	280	750
	0087-21	10/20/2009	260	490		260	430	260	690
	0087-22	4/20/2010	260	480		190	420	260	700
	0087-23	10/12/2010	360	620		400	550	320	870
	0087-24	4/26/2011	380	680		400	610	360	970
	0087-25	10/18/2011	430	680		490	610	360	980
	0087-26	5/3/2012	410	850		570			1200
	0087-27	11/15/2012	370	580		460			870
	0087-28	4/11/2013	120	130		170			600
	0087-29	10/15/2013	390	670		560			960
	0087-30	5/13/2014	420	680	4300	550			1000
	0085-31DP	10/21/2014	520	690		500			1000
	0087-31	10/21/2014	520	700		510			1000
	0087-32	5/6/2015	400	500	3400	420			850
	0085-32DP	5/6/2015	410	510	3400	430			910
	0087-33	10/6/2015	380	530	3100	350			780
J_MW-24A									
	0089-01	11/17/2000	J 0.3	U 1		U 1	U 1	U 1	U 1
	0089-02	5/2/2001	J 0.3	U 1		U 1	U 1	U 1	U 1
	0089-03	10/23/2001	J 0.3	U 1		U 1	U 1	U 1	U 1
	0089-04	4/16/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0089-05	10/15/2002	J 0.4	U 1		U 1	U 1	U 1	U 1
	0085-05DP	10/15/2002	J 0.3	U 1		U 1	U 1	U 1	U 1
	0089-06	4/15/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0085-06DP	4/15/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0085-07DP	10/14/2003	U 1	U 1		U 1	U 1	U 1	U 1

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
	0089-07	10/14/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0085-08DP	4/20/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0089-08	4/20/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0089-09	10/12/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0085-09DP	10/12/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0089-10	4/27/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0085-10DP	4/27/2005	J 0.21	U 1		U 1	U 1	U 1	U 1
	0085-11DP	10/18/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0089-11	10/18/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0089-12	4/11/2006	J 0.6	U 1		U 1	U 1	U 1	U 1
	0085-12DP	4/11/2006	J 0.59	U 1		U 1	U 1	U 1	U 1
	0089-13	10/24/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0085-13DP	10/24/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0089-14	4/19/2007	J 0.78	U 1		U 1	U 1	U 1	U 1
	0085-14DP	4/19/2007	J 0.75	U 1		U 1	U 1	U 1	U 1
	0089-15	10/17/2007	J 0.52	U 1		U 1	U 1	U 1	U 1
	0085-15DP	10/17/2007	J 0.46	U 1		U 1	U 1	U 1	U 1
	0089-16	4/23/2008	11	J 0.84		U 1	U 1	2.3	2.3
	0085-16DP	4/23/2008	11	J 0.79		U 1	U 1	2.2	2.2
	0089-17	10/7/2008	6.1	U 1		U 1	U 1	1.1	1.1
	0085-17DP	10/7/2008	6	U 1		U 1	U 1	1.1	1.1
	0089-18	3/25/2009	9.3	U 1	U 1	J 0.2	2.2	6.2	8.5
	0085-18DP	3/25/2009	9.1	U 1	U 1	U 1	2.1	5.8	8
	0085-19DP	4/20/2009	11	U 1	J 0.2	J 0.2	2.7	7.5	10
	0089-19	4/20/2009	11	U 1	J 0.2	J 0.2	2.8	7.7	11
	0085-20DP	7/14/2009	8.6	U 1		U 1	1.6	5.3	7
	0089-20	7/14/2009	7.9	U 1		U 1	1.2	4.1	5.4
	0085-21DP	10/20/2009	6.9	U 1		U 1	1.2	3.6	4.8
	0089-21	10/20/2009	6.8	U 1		U 1	1.3	3.8	5.1
	0085-22DP	4/19/2010	9.7	U 1		U 1	2	9.9	12
	0089-22	4/19/2010	9.8	U 1		U 1	2	9.7	12
	0085-23-DP	10/12/2010	8.8	U 1		U 1	1	9.1	10
	0089-23	10/12/2010	8.7	U 1		U 1	J 0.98	9.2	10
	0085-24DP	4/25/2011	11	U 1		U 1	J 0.74	13	14
	0089-24	4/25/2011	12	U 1		U 1	J 0.81	13	14
	0085-25DP	10/18/2011	4.7	U 1		U 1	J 0.61	3.9	4.5
	0089-25	10/18/2011	4.7	U 1		U 1	J 0.44	4	4.4
	0089-26	5/2/2012	4	U 1		U 1			4
	0085-26DP	5/2/2012	4	U 1		U 1			4
	0089-27	11/14/2012	2	U 1		U 1			2
	0085-27DP	11/14/2012	2	U 1		U 1			2
	0085-28DP	4/10/2013	3	U 1		U 1			2
	0089-28	4/10/2013	3	U 1		U 1			3

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
	0089-29	10/14/2013	2	U 1		U 1			2
	0085-29DP	10/14/2013	2	U 1		U 1			2
	0089-30	5/13/2014	U 1	U 1		U 1			3
	0089-31	10/21/2014	J 1	J 0.5		U 1			3
	0089-32	5/5/2015	U 1	U 1		U 1			3
	0089-33	10/6/2015	U 1	U 1	U 4	U 1			2
J_MW-24B									
	0090-01	11/17/2000	U 1	U 1		U 1	U 1	U 1	U 1
	0090-02	5/2/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0090-03	10/23/2001	U 1	U 1		U 1	U 1	U 1	U 1
	0090-04	4/16/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0090-05	10/15/2002	U 1	U 1		U 1	U 1	U 1	U 1
	0090-06	4/15/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0090-07	10/14/2003	U 1	U 1		U 1	U 1	U 1	U 1
	0090-08	4/20/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0090-09	10/12/2004	U 1	U 1		U 1	U 1	U 1	U 1
	0090-10	4/27/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0090-11	10/18/2005	U 1	U 1		U 1	U 1	U 1	U 1
	0090-12	4/11/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0090-13	10/24/2006	U 1	U 1		U 1	U 1	U 1	U 1
	0090-14	4/18/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0090-15	10/17/2007	U 1	U 1		U 1	U 1	U 1	U 1
	0090-16	4/24/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0090-17	10/7/2008	U 1	U 1		U 1	U 1	U 1	U 1
	0090-18	3/25/2009	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	0090-19	4/20/2009	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	0090-20	7/14/2009	U 1	U 1		U 1	U 1	U 1	U 1
	0090-21	10/20/2009	U 1	U 1		U 1	U 1	U 1	U 1
	0090-22	4/19/2010	U 1	U 1		U 1	U 1	U 1	U 1
	0090-23	10/12/2010	U 1	U 1		U 1	U 1	U 1	U 1
	0090-24	4/25/2011	U 1	U 1		U 1	U 1	U 1	U 1
	0090-25	10/18/2011	U 1	U 1		U 1	U 1	U 1	U 1
	0090-26	5/3/2012	U 1	U 1		U 1			U 1
	0090-27	11/14/2012	U 1	U 1		U 1			U 1
	0090-28	4/10/2013	U 1	U 1		U 1			U 1
	0090-29	10/14/2013	U 1	U 1		U 1			U 1
	0090-30	5/13/2014	U 1	U 1		U 1			U 1
	0090-31	10/21/2014	U 1	U 1		U 1			U 1
	0090-32	5/5/2015	U 1	U 1		U 1			U 1
	0090-33	10/6/2015	U 1	U 1	U 4	U 1			U 1
J_PZ-2D									
	0359-01	4/20/2010	J 0.26	J 0.35		1.1	1.1	J 0.54	1.7
J_PZ-2S									

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
	0358-01	4/20/2010	75	3.8		J 1.1	U 3.1	J 1.4	J 1.4
J_PZ-3AD									
	0361-01	4/21/2010	U 1	U 1		J 0.44	J 0.3	U 1	J 0.32
J_PZ-3AS									
	0360-01	4/21/2010	J 0.66	J 0.85		2.4	2.6	1.3	4
T_MW-25B									
	0509-01DP	5/13/2014	U 1	U 1	U 4	U 1			U 1
	0500-01	5/13/2014	U 1	U 1	U 4	U 1			U 1
	0500-02	10/20/2014	U 1	U 1	U 4	U 1			U 1
	0509-02DP	10/20/2014	U 1	U 1	U 4	U 1			U 1
	0509-03DP	5/6/2015	U 1	U 1	U 4	U 1			U 1
	0500-03	5/6/2015	U 1	U 1	U 4	U 1			U 1
	0509-04DP	10/6/2015	U 1	U 1	U 4	U 1			U 1
	0500-04	10/6/2015	U 1	U 1	U 4	U 1			U 1
T_MW-26A									
	0501-01	5/13/2014	U 1	U 1	U 4	U 1			U 1
	0501-02	10/22/2014	U 1	U 1	U 4	54			U 1
	0501-03	5/5/2015	U 1	U 1	U 4	U 1			U 1
	0501-04	10/5/2015	U 1	U 1	U 4	U 1			U 1
T_MW-26B									
	0502-01	5/13/2014	J 0.9	U 1	U 4	U 1			U 1
	0502-02	10/22/2014	U 1	U 1	U 4	U 1			U 1
	0502-03	5/5/2015	U 1	U 1	U 4	U 1			U 1
	0502-04	10/5/2015	U 1	U 1	U 4	U 1			U 1
T_MW-27A									
	0503-01	5/13/2014	4	J 0.7	44	U 1			2
	0503-02	10/22/2014	3	U 1	41	U 1			1
	0503-03	5/4/2015	1	U 1	24	U 1			J 0.6
	0503-04	10/5/2015	2	U 1	8	U 1			J 0.5
T_MW-27B									
	0504-01	5/13/2014	610	78	160	U 5			53
	0504-02	10/22/2014	470	180	330	J 0.6			64
	0504-03	5/4/2015	55	25	61	U 1			4
	0504-04	10/5/2015	73	27	100	U 5			6
	0504-04TB	10/5/2015	U 1	U 1	U 4	U 1			U 1
T_MW-28A									
	0505-01	5/13/2014	U 2	U 2	U 8	U 2			U 2
	0505-02	10/22/2014	U 1	U 1	U 4	U 1			U 1
	0505-03	5/5/2015	11	U 1	U 4	U 1			U 1
	0505-04	10/5/2015	7	U 1	U 4	U 1			U 1
T_MW-28B									
	0506-01	5/13/2014	2	U 1	U 4	U 1			U 1
	0506-02	10/22/2014	U 1	U 1	U 4	U 1			U 1
	0506-03	5/5/2015	18	U 1	U 4	U 1			U 1

SLID	SIN	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (m,p)	Xylene (o)	Xylene (total)
	0506-04	10/5/2015	180	U 1	U 4	U 1			U 1

GC/MS Qualifiers: B - The reported analyte was detected in the associated method blank as well as the sample. D - This flag indentifies all compounds identified in an analysis at a secondary dilution factor. This flag alerts data users that any discrepancies between the concentrations reported for the dilutions may be due to dilution of the sample or extract. It additionally indicates that spike recoveries may have been diluted below quantifiable levels. E - Compound quantitation is above the instrument's calibration range for this analysis. J - Indicates an estimated value. This flag is used when the reuslt is less than the reporting limit, but >1/2 reporting limit or has been applied during data validation due to failure of one or more quality control criteria. U - Indicates compound was analyzed for but not detected above the reporting limit.

Metals Concentration Qualifiers: B - The report is less that the Contract Required Detection Limit (CRDL) or Practical Quantification Limit (PQL) but greater than the Instrument Detection Limit (IDL). U - Analyte was analyzed for but not detected, less than IDL, PQL, or CRDL. DL - Detection Limit, includes dilution and preparation information.

Blank space indicates data not available for the sample on the listed date. Either the sample was not collected, or no lab analytical results were generated for the specific compound.

Pine Street Canal Site, Burlington, VT
Summary of Groundwater Analytical Data: PAHs
(All results in Micrograms per Liter - ppb)

SLID	SIN	Date	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)-anthracene	Benzo(a)pyrene	Benzo(b)-fluoranthene	Benzo(g,h,i)-perylene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)-pyrene	Naphthalene	Phenanthrene	Pyrene
6_MW-13																			
0097-01		11/20/2000	U 10	J 0.5	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0097-02		10/24/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0097-03		10/17/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0097-04		10/16/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0097-05		10/14/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 1.5	U 10	U 10
0097-06		10/19/2005	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11
0097-07		10/25/2006	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0097-08		10/16/2007	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0097-09		10/8/2008	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0097-10		10/21/2009	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0097-11		10/13/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0097-12		10/19/2011	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0097-13		11/15/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0097-14		10/16/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0097-15		10/23/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0097-16		10/7/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
6_MW-18																			
0099-01		11/21/2000	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0099-02		10/24/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0099-03		10/17/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0099-04		10/16/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0099-05		10/14/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0099-06		10/19/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0099-07		10/25/2006	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4

SLID	SIN	Date	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)-anthracene	Benzo(a)pyrene	Benzo(b)-fluoranthene	Benzo(g,h,i)-perylene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)-pyrene	Naphthalene	Phenanthrene	Pyrene
0099-08		10/16/2007	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0099-09		10/8/2008	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7
0099-10		10/21/2009	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0099-11		10/13/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0099-12		10/19/2011	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9
0099-13		11/14/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0099-14		10/15/2013	J 0.3	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	1	U 0.5	U 0.5
0099-15		10/24/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0099-16		10/7/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
8_MW-11D																			
0098-01		11/20/2000	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.5	J 0.7	U 10
0098-02		10/24/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0098-03		10/17/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0098-04		10/16/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0098-05		10/14/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0098-06		10/19/2005	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11
0098-07		10/25/2006	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6
0098-08		10/15/2007	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8
0098-09		10/8/2008	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0098-10		10/21/2009	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6
0098-11		10/13/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0098-12		10/19/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0098-13		11/13/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0098-14		10/16/2013	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0098-15		10/24/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0098-16		10/7/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
8_MW-9A																			
0074-01		11/14/2000	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0074-02		5/1/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10

SLID	SIN	Date	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
0074-03		10/22/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0074-04		4/15/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0074-05		10/14/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0074-06		4/14/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10
0074-07		10/13/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0074-08		4/19/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0074-09		10/11/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0074-10		4/26/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0074-11		10/17/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0074-12		4/10/2006	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9
0074-13		10/23/2006	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0074-14		4/17/2007	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0074-15		10/15/2007	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7
0074-16		4/22/2008	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	UJ 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0074-17		10/6/2008	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0074-19		4/21/2009	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7
0074-21		10/19/2009	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0074-22		4/19/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0074-23		10/11/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0074-24		4/26/2011	U 9.4	U 9.4	U 9.4	UJ 9.4	UJ 9.4	UJ 9.4	UJ 9.4	UJ 9.4	UJ 9.4	UJ 9.4	UJ 9.4	UJ 9.4	U 9.4	UJ 9.4	U 9.4	UJ 9.4	UJ 9.4
0074-25		10/17/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0074-26		5/2/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0074-27		11/13/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0074-28		4/9/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5	U 0.5	J 0.1	U 0.5	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5	J 0.2
0074-29		10/14/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0074-30		5/12/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0074-31		10/20/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5	U 0.5	J 0.1	U 0.5	J 0.2	U 0.5	U 0.5	U 0.5	J 0.1	J 0.2
0074-32		5/6/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0074-33		10/7/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5

SLID	SIN	Date	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
8_MW-9B																			
0071-01		11/14/2000	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0071-02		5/2/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0071-03		10/22/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0071-04		4/15/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0071-05		10/14/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0071-06		4/14/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0071-07		10/13/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0071-08		4/19/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0071-09		10/11/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0071-10		4/26/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0071-11		10/17/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0071-12		4/10/2006	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9
0071-13		10/23/2006	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0071-14		4/18/2007	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0071-15		10/15/2007	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0071-16		4/22/2008	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	UJ 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0071-17		10/6/2008	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0071-19		4/21/2009	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0071-21		10/19/2009	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0071-22		4/19/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0071-23		10/11/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0071-24		4/26/2011	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0071-25		10/17/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0071-26		5/1/2012	U 0.5	J 0.4	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0071-27		11/13/2012	U 0.5	J 0.4	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0071-28		4/9/2013	U 0.5	J 0.4	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0071-29		10/14/2013	U 0.5	J 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5	U 0.5
0071-30		5/12/2014	U 0.5	0.6	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5	U 0.5

SLID	SIN	Date	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
0071-31		10/20/2014	U 0.5	0.6	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.2	U 0.5	U 0.5
0071-32		5/6/2015	U 0.5	0.6	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0071-33		10/7/2015	U 0.5	0.6	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J_0073-13FB																			
0073-13FB		10/24/2006	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
J_0073-14FB																			
0073-14FB		4/18/2007	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
J_0073-15FB																			
0073-15FB		10/17/2007	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
J_0073-16FB																			
0073-16FB		4/23/2008	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	UJ 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
J_0073-17FB																			
0073-17FB		10/7/2008	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
J_0073-19FB																			
0073-19FB		4/21/2009	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
J_0073-21FB																			
0073-21FB		10/20/2009	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	J 0.5	U 9.5	U 9.5
J_0073-22FB																			
0073-22FB		4/20/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
J_0073-23FB																			
0073-23FB		10/12/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
J_0073-24FB																			
0073-24FB		4/26/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
J_0073-26FB																			
0073-26FB		5/2/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5	U 0.5
J_0073-27FB																			
0073-27FB		11/15/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J_0073-28FB																			
0073-28FB		4/10/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5

SLID	SIN	Date	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)-anthracene	Benzo(a)pyrene	Benzo(b)-fluoranthene	Benzo(g,h,i)-perylene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)-pyrene	Naphthalene	Phenanthrene	Pyrene
J_0073-29FB																			
0073-29FB		10/14/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J_0073-30FB																			
0073-30FB		5/13/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J_0073-31FB																			
0073-31FB		10/21/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.2	U 0.5	U 0.5
J_0073-32FB																			
0073-32FB		5/6/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J_0073-33FB																			
0073-33FB		10/6/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J_0073-FB																			
0073-FB		10/18/2011	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8
J_073-01-FB																			
0073-01FB		11/14/2000	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_073-02-FB																			
0073-02FB		5/1/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 1.6	U 10	U 10
J_073-03-FB																			
0073-03FB		10/22/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_073-04-FB																			
0073-04FB		4/15/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_073-05-FB																			
0073-05FB		10/15/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_073-06-FB																			
0073-06FB		4/15/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_073-07-FB																			
0073-07FB		10/14/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_073-08-FB																			
0073-08FB		4/20/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10
J_073-09-FB																			

SLID SIN	Date	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
0073-09FB	10/12/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_073-10-FB																		
0073-10FB	4/27/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_073-11-FB																		
0073-11FB	10/18/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_073-12-FB																		
0073-12FB	4/11/2006	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_078-01-FB																		
0078-01FB	11/14/2000	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_078-02-FB																		
0078-02FB	5/1/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.6	U 10	U 10
J_078-03-FB																		
0078-03FB	10/22/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_083-01-FB																		
0083-01FB	11/14/2000	U 10	U 10	U 10	U 10	UJ 10	UJ 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10
J_085-01-DP																		
0085-01DP	11/14/2000	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_085-02-DP																		
0085-02DP	5/1/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_085-03-DP																		
0085-03DP	10/22/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_085-04-DP																		
0085-04DP	4/15/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_091-01-FB																		
0091-01FB	11/14/2000	U 10	U 10	U 10	U 10	UJ 10	UJ 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10
J_096-01-FB																		
0096-01FB	11/14/2000	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
J_100-01-FB																		
0100-01FB	11/14/2000	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10

SLID	SIN	Date	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)-anthracene	Benzo(a)pyrene	Benzo(b)-fluoranthene	Benzo(g,h,i)-perylene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)-pyrene	Naphthalene	Phenanthrene	Pyrene
J_MW-20A																			
0076-01		11/15/2000	J 1.7	J 3.2	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	J 2.4	U 10	J 2.2	J 2.9	U 10
0076-02		5/2/2001	J 0.7	J 1.6	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 1.3	U 10	J 1.2	J 1.7	U 10
0076-03		10/23/2001	J 1	J 2.1	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 1.8	U 10	J 1.2	J 2.5	U 10
0076-04		4/15/2002	J 0.5	J 1.5	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 1.3	U 10	J 1.2	J 2	U 10
0076-05		10/14/2002	J 0.6	J 1.6	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.5	J 1.5	U 10	J 0.9	J 2.2	U 10
0076-06		4/14/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10
0076-07		10/13/2003	U 10	J 1.2	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 1	U 10	J 0.62	J 1.6	U 10
0076-08		4/19/2004	U 10	J 0.84	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.66	U 10	J 0.72	J 1.2	U 10
0076-09		10/11/2004	U 10	J 0.98	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.95	U 10	J 0.54	J 1.2	U 10
0076-10		4/26/2005	U 10	J 0.57	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	J 0.54	U 10	U 10	J 0.91	U 10
0076-11		10/17/2005	U 11	J 0.89	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	J 0.84	U 11	J 0.57	J 1.5	U 11
0076-12		4/10/2006	U 10	J 0.74	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.68	U 10	U 10	J 1.1	U 10
0076-13		10/23/2006	U 9.8	J 0.77	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	J 0.46	J 0.75	U 9.8	J 0.47	J 1.3	U 9.8
0076-14		4/17/2007	U 9.5	J 0.44	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	J 0.44	U 9.5	U 9.5	J 0.91	U 9.5
0076-15		10/15/2007	U 9.6	J 0.62	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	J 0.5	J 0.61	U 9.6	U 9.6	J 1.2	U 9.6
0076-16		4/24/2008	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	UJ 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	J 0.49	J 0.76	U 9.4
0076-17		10/6/2008	U 9.4	J 0.47	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	J 0.44	U 9.4	U 9.4	J 0.77	U 9.4
0076-19		4/21/2009	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	J 0.64	U 9.9
0076-21		10/19/2009	U 9.9	J 0.45	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	J 0.47	U 9.9	U 9.9	U 9.9	J 0.8	U 9.9
0076-22		4/19/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	J 0.61	J 0.61	U 9.4
0076-23		10/11/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0076-24		4/26/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0076-25		10/17/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0076-26		5/1/2012	U 0.5	J 0.4	U 0.5	J 0.2	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.3	J 0.3	U 0.5	U 0.5	0.6	J 0.2
0076-27		11/13/2012	U 0.5	J 0.3	U 0.5	J 0.2	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.4	J 0.2	U 0.5	U 0.5	0.6	J 0.2
0076-28		4/9/2013	U 0.5	J 0.3	U 0.5	J 0.2	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.3	J 0.2	U 0.5	U 0.5	0.5	J 0.2
0076-29		10/14/2013	U 0.5	J 0.3	U 0.5	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.3	J 0.2	U 0.5	U 0.5	0.6	J 0.2
0076-30		5/12/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1

SLID SIN	Date	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)-anthracene	Benzo(a)pyrene	Benzo(b)-fluoranthene	Benzo(g,h,i)-perylene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)-pyrene	Naphthalene	Phenanthrene	Pyrene
0076-31	10/20/2014	U 0.5	J 0.3	U 0.5	J 0.2	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.4	J 0.3	U 0.5	U 0.5	0.6	J 0.3
0076-32	5/5/2015	U 0.5	J 0.2	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5
0076-33	10/6/2015	U 0.5	J 0.3	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.2	J 0.2	U 0.5	U 0.5	J 0.2	U 0.5
J_MW-20B																		
0079-01	11/15/2000	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0079-02	5/1/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0079-03	10/22/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0079-04	4/15/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0079-05	10/14/2002	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11
0079-06	4/14/2003	U 10	J 0.86	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.88	U 10	J 0.72	J 1.4	U 10
0079-07	10/13/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0079-08	4/19/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0079-09	10/11/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0079-10	4/26/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0079-11	10/17/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0079-12	4/10/2006	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0079-13	10/23/2006	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8
0079-14	4/17/2007	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6
0079-15	10/15/2007	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0079-16	4/24/2008	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0079-17	10/6/2008	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0079-19	4/21/2009	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0079-21	10/19/2009	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0079-22	4/19/2010	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0079-23	10/11/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0079-24	4/26/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0079-25	10/17/2011	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7
0079-26	5/1/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1
0079-27	11/12/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5

SLID SIN	Date	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
0079-28	4/9/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1
0079-29	10/14/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1
0079-30	5/12/2014	U 0.5	J 0.2	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.2	J 0.2	U 0.5	U 0.5	J 0.5	J 0.2
0079-31	10/20/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5	J 0.2	U 0.5	U 0.5	U 0.5	J 0.1	J 0.2
0079-32	5/6/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0079-33	10/6/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J_MW-21A																		
0084-01A	11/21/2000	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0084-02	5/3/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 1.7	U 10	U 10
0084-03	10/24/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0084-04	4/16/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0084-05	10/16/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0084-06	4/15/2003	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1
0084-07	10/14/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0084-08	4/20/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10
0084-09	10/12/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0084-10	4/27/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0084-11	10/18/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0084-12	4/11/2006	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0084-13	10/24/2006	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0084-14	4/19/2007	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7
0084-15	10/16/2007	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0084-16	4/23/2008	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	UJ 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0084-17	10/7/2008	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0084-19	4/20/2009	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0084-21	10/20/2009	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0084-22	4/20/2010	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0084-23	10/12/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	J 1.4	U 9.4	U 9.4
0084-24	4/25/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4

SLID	SIN	Date	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
0084-25		10/18/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0084-26		5/3/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	6	U 0.5	U 0.5
0084-27		11/15/2012	U 0.5	J 0.2	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	250	U 0.5	U 0.5
0084-28		4/10/2013	J 0.1	J 0.4	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	330	U 0.5	U 0.5
0084-29		10/14/2013	U 0.5	J 0.4	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	490	U 0.5	U 0.5
0084-30		5/13/2014	J 0.1	J 0.3	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	290	U 0.5	U 0.5
0084-31		10/21/2014	J 0.1	J 0.4	UJ 0.5	UJ 0.5	UJ 0.5	UJ 0.5	UJ 0.5	UJ 0.5	UJ 0.5	UJ 0.5	UJ 0.5	UJ 0.5	UJ 0.5	UJ 0.5	460	UJ 0.5	UJ 0.5
0084-32		5/5/2015	U 0.5	J 0.3	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	280	U 0.5	U 0.5
0084-33		10/6/2015	J 0.1	J 0.4	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	590	U 0.5	U 0.5
J_MW-21B																			
0082-01A		11/21/2000	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0082-02		5/3/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 1.1	U 10	U 10
0082-03		10/24/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0082-04		4/16/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0082-05		10/16/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0082-06		4/15/2003	U 10.7	U 10.7	U 10.7	U 10.7	U 10.7	U 10.7	U 10.7	U 10.7	U 10.7	U 10.7	U 10.7	U 10.7	U 10.7	U 10.7	U 10.7	U 10.7	U 10.7
0082-07		10/14/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0082-08		4/20/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0082-09		10/12/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0082-10		4/27/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.68	U 10	U 10
0082-11		10/18/2005	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11
0082-12		4/11/2006	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11
0082-13		10/24/2006	J 0.51	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	J 2.1	U 9.6	U 9.6
0082-14		4/19/2007	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9	U 9.9
0082-15		10/16/2007	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0082-16		4/24/2008	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0082-17		10/7/2008	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0082-19		4/20/2009	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0082-21		10/20/2009	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6

SLID SIN	Date	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
0082-22	4/20/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0082-23	10/12/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0082-24	4/25/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0082-25	10/18/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0082-26	5/3/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0082-27	11/15/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0082-28	4/10/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1
0082-29	10/14/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0082-30	5/13/2014	U 0.5	J 0.3	U 0.5	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	J 0.1	U 0.5	J 0.2	J 0.1	U 0.5
0082-31	10/21/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0082-32	5/5/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0082-33	10/5/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
J_MW-22A																		
0081-01	11/15/2000	J 0.7	J 0.7	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.6	U 10	J 1.4	J 1.6	U 10
0081-02	5/4/2001	J 1.8	J 1.7	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.8	J 1.3	U 10	J 6.5	J 2.4	J 0.5
0081-03	10/23/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.5	J 1	U 10
0081-04	4/16/2002	J 0.9	J 0.8	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.5	J 0.7	U 10	J 3	J 1.1	U 10
0081-05	10/15/2002	U 10	J 0.5	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.8	J 0.9	U 10
0081-06	4/15/2003	U 10.1	J 0.47	U 10.1	U 10.1	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10.1	U 10.1	U 10	J 1.4	J 0.69	U 10.1
0081-07	10/14/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0081-08	4/19/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.79	J 0.7	U 10
0081-09	10/12/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.68	U 10
0081-10	4/26/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0081-11	10/18/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0081-12	4/11/2006	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 0.48	J 0.77	U 10
0081-13	10/24/2006	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0081-14	4/18/2007	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6
0081-15	10/16/2007	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0081-16	4/23/2008	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	UJ 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4

SLID	SIN	Date	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
	0081-17	10/7/2008	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
	0081-19	4/21/2009	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
	0081-21	10/20/2009	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
	0081-22	4/19/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
	0081-23	10/12/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
	0081-24	4/25/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
	0081-25	10/18/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
	0081-26	5/2/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5
	0081-27	11/13/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5
	0081-28	4/10/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5
	0081-29	10/15/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
	0081-30	5/13/2014	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5	UJ 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	UJ 0.5	1	J 0.1	U 0.5
	0081-31	10/21/2014	U 0.7	J 0.2	U 0.7	U 0.7	U 0.7	U 0.7	U 0.7	U 0.7	U 0.7	U 0.7	U 0.7	U 0.7	U 0.7	U 0.7	76	U 0.7	U 0.7
	0081-32	5/6/2015	0.5	2	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.2	U 0.5	420	J 0.2	U 0.5
	0081-33	10/6/2015	J 0.4	2	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	600	J 0.1	U 0.5
	0085-33DP	10/6/2015	J 0.4	2	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	590	J 0.1	U 0.5
J_MW-22B																			
	0080-01	11/15/2000	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
	0080-02	5/4/2001	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
	0080-03	10/23/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
	0080-04	4/16/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
	0080-05	10/15/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
	0080-06	4/15/2003	U 10.4	U 10.4	U 10.4	U 10.4	U 10.4	U 10.4	U 10.4	U 10.4	U 10.4	U 10.4	U 10.4	U 10.4	U 10.4	U 10.4	U 10.4	U 10.4	U 10.4
	0080-07	10/14/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
	0080-08	4/19/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
	0080-09	10/12/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
	0080-10	4/26/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
	0080-11	10/18/2005	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11
	0080-12	4/11/2006	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10

SLID	SIN	Date	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)-anthracene	Benzo(a)pyrene	Benzo(b)-fluoranthene	Benzo(g,h,i)-perylene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)-pyrene	Naphthalene	Phenanthrene	Pyrene
0080-13		10/24/2006	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0080-14		4/18/2007	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0080-15		10/16/2007	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0080-16		4/24/2008	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0080-17		10/7/2008	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0080-19		4/21/2009	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0080-21		10/20/2009	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6
0080-22		4/20/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0080-23		10/12/2010	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7
0080-24		4/25/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0080-25		10/18/2011	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7	U 9.7
0080-26		5/2/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0080-27		11/14/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0080-28		4/10/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0080-29		10/15/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0080-30		5/13/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5	U 0.5
0080-31		10/21/2014	U 0.5	J 0.2	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	36	U 0.5	U 0.5
0080-32		5/6/2015	U 0.5	2	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	340	U 0.5	U 0.5
0080-33		10/6/2015	J 0.2	3	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	680	U 0.5	U 0.5
J_MW-23A																			
0088-01		11/16/2000	D 410	82	J 23	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	J 10	U 10	D 1900	J 5.8	U 10
0088-02		5/3/2001	DJ 120	D 26	DJ 4	DJ 3.3	DU 10	DU 10	DU 10	DU 10	DU 10	DU 10	DU 10	DJ 2	DJ 5.3	DU 10	DJ 970	D 12	DJ 2.5
J_MW-23B																			
0087-01		11/16/2000	74	30	15	J 2.6	UJ 10	UJ 10	U 10	U 10	U 10	U 10	U 10	J 1.6	J 4.9	U 10	D 630	U 10	J 2
0087-02		5/3/2001	D 310	50	15	J 1.5	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 9.6	U 10	D 1700	J 7.4	U 10
0087-03		10/23/2001	D 350	47	36	J 3.8	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 1.1	20	U 10	D 1300	18	J 1.5
0087-04		4/17/2002	D 600	100	42	J 22	J 7.5	J 5.2	J 2.6	J 1.3	J 4.2	J 6.8	U 10	17	39	J 1.2	D 2000	71	20
0087-05		10/18/2002	D 160	34	J 7	J 2.9	J 0.7	J 0.6	U 10	U 10	U 10	J 0.7	U 10	J 1.7	J 9.6	U 10	D 570	J 10	J 2.5
0087-06		4/16/2003	46	J 15	U 20.2	J 3	U 20.2	U 20.2	U 20.2	U 20.2	U 20.2	U 20.2	U 20.2	J 1.8	J 5.9	U 20.2	130	J 11	J 2.1

SLID	SIN	Date	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
0087-07		10/14/2003	D 290	70	J 8.9	13	J 2.8	J 1.9	J 1.1	J 0.73	J 1.3	J 2.5	U 10	J 8	24	J 0.61	D 1100	43	J 9.7
0087-08		4/20/2004	D 220	62	J 1.9	J 5.7	U 10	U 10	U 10	U 10	U 10	U 10	U 10	J 2.1	J 19	U 10	D 760	24	J 2.4
0087-09		10/14/2004	D 340	DJ 94	J 3.6	J 9.9	J 1.6	J 1.2	J 0.62	U 10	J 0.94	J 1.4	U 10	J 4.3	27	U 10	D 1400	35	J 7
0087-10		4/27/2005	D 400	71	J 5.1	J 5.2	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	J 2	24	U 10	D 1100	23	J 2.5
0087-11		10/18/2005	D 380	DJ 98	J 8.7	J 7.7	J 0.94	J 0.68	U 11	U 11	U 11	J 0.91	U 11	J 3.4	24	U 11	D 1900	33	J 4.6
0087-12		4/11/2006	D 400	DJ 100	J 6.1	J 6.2	J 0.81	J 0.54	U 10	U 10	J 0.48	J 0.71	U 10	J 3.3	28	U 10	D 1400	26	J 3.8
0087-13		10/24/2006	D 530	DJ 120	J 6.9	J 8.3	J 0.7	J 0.57	U 9.4	U 9.4	J 0.48	J 0.67	U 9.4	J 4.2	32	U 9.4	D 1900	33	J 4.6
0087-14		4/19/2007	430	J 90	J 3.6	J 6.8	J 0.82	J 0.65	U 9.4	U 9.4	J 0.47	J 0.86	U 9.4	J 3.5	24	U 9.4	1800	30	J 4.3
0087-15		10/17/2007	600	J 120	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	U 380	2300	J 40	U 380
0087-16		4/23/2008	650	110	U 9.4	J 8.6	J 0.64	U 9.4	U 9.4	U 9.4	UJ 9.4	J 0.62	U 9.4	J 4	34	U 9.4	2100	36	J 3.6
0087-17		10/7/2008	D 610	D 120	22	J 6.3	DU 9.4	DU 9.4	DU 9.4	DU 9.4	DU 9.4	DU 9.4	DU 9.4	DJ 2	32	DU 9.4	D 2200	27	DJ 2
0087-19		4/21/2009	840	J 190	J 26	J 36	U 380	U 380	U 380	U 380	U 380	U 380	U 380	J 34	J 76	U 380	2600	J 130	J 34
0087-21		10/20/2009	690	J 150	J 43	U 470	U 470	U 470	U 470	U 470	U 470	U 470	U 470	U 470	J 49	U 470	2600	J 55	U 470
0087-22		4/20/2010	800	J 160	U 470	U 470	U 470	U 470	U 470	U 470	U 470	U 470	U 470	U 470	J 47	U 470	3000	J 48	U 470
0087-23		10/12/2010	680	J 130	U 480	U 480	U 480	U 480	U 480	U 480	U 480	U 480	U 480	U 480	U 480	U 480	2800	U 480	U 480
0087-24		4/26/2011	840	J 160	U 470	U 470	U 470	U 470	U 470	U 470	U 470	U 470	U 470	U 470	U 470	U 470	3500	J 60	U 470
0087-25		10/18/2011	720	J 140	U 470	U 470	U 470	U 470	U 470	U 470	U 470	U 470	U 470	U 470	U 470	U 470	3100	U 470	U 470
0087-26		5/3/2012	200000	77000	22000	38000	20000	15000	13000	6400	5000	17000	1400	37000	49000	5300	200000	120000	50000
0087-27		11/15/2012	32000	12000	2800	5600	2600	1500	1200	730	520	2100	220	5100	6900	610	35000	17000	7100
0087-28		4/11/2013	1000	270	59	62	23	15	13	6	5	19	2	49	110	6	3500	200	67
0087-29		10/15/2013	690	150	36	17	4	3	2	0.9	0.8	4	U 0.5	11	60	0.8	3300	66	14
0087-30		5/13/2014	980	300	58	74	36	24	18	11	8	32	2	71	120	9	3500	260	83
0085-31DP		10/21/2014	990	220	35	15	2	1	0.9	J 0.4	J 0.3	2	J 0.1	6	64	J 0.3	4100	61	7
0087-31		10/21/2014	830	180	29	13	2	1	1	0.6	J 0.4	2	J 0.1	6	56	J 0.4	3500	54	8
0087-32		5/6/2015	680	140	24	14	3	2	1	0.8	0.6	3	J 0.1	9	50	0.6	2900	57	10
0085-32DP		5/6/2015	740	150	25	13	2	1	1	0.6	J 0.4	2	J 0.1	8	45	J 0.4	3200	56	9
0087-33		10/6/2015	690	160	23	16	4	2	2	1	0.8	3	J 0.3	10	55	0.8	3100	66	12
J_MW-24A																			
0089-01		11/17/2000	U 10	U 10	U 10	U 10	UJ 10	UJ 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10

SLID	SIN	Date	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
0089-02		5/2/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0089-03		10/23/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0089-04		4/16/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0089-05		10/15/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0085-05DP		10/15/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0089-06		4/15/2003	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1
0085-06DP		4/15/2003	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1	U 10.1
0085-07DP		10/14/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0089-07		10/14/2003	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0085-08DP		4/20/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10
0089-08		4/20/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10
0085-09DP		10/12/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0089-09		10/12/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0085-10DP		4/27/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0089-10		4/27/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0085-11DP		10/18/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0089-11		10/18/2005	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0089-12		4/11/2006	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0085-12DP		4/11/2006	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0089-13		10/24/2006	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0085-13DP		10/24/2006	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0089-14		4/19/2007	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0085-14DP		4/19/2007	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8
0085-15DP		10/17/2007	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0089-15		10/17/2007	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0085-16DP		4/23/2008	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	UJ 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0089-16		4/23/2008	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	UJ 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0089-17		10/7/2008	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6
0085-17DP		10/7/2008	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5

SLID	SIN	Date	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
0089-19		4/20/2009	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0085-19DP		4/20/2009	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0085-21DP		10/20/2009	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0089-21		10/20/2009	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0089-22		4/19/2010	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	J 3.6	U 9.6	U 9.6
0085-22DP		4/19/2010	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	J 3.9	U 9.5	U 9.5
0089-23		10/12/2010	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	J 4.6	U 9.4	U 9.4
0085-23-DP		10/12/2010	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	J 4.3	U 9.5	U 9.5
0089-24		4/25/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	16	U 9.4	U 9.4
0085-24DP		4/25/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	16	U 9.4	U 9.4
0089-25		10/18/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	J 4.1	U 9.4	U 9.4
0085-25DP		10/18/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	J 4.3	U 9.4	U 9.4
0085-26DP		5/2/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	5	U 0.5	U 0.5
0089-26		5/2/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	4	U 0.5	U 0.5
0085-27DP		11/14/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	2	U 0.5	U 0.5
0089-27		11/14/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	2	U 0.5	U 0.5
0089-28		4/10/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	3	U 0.5	U 0.5
0085-28DP		4/10/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	3	U 0.5	U 0.5
0089-29		10/14/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	4	U 0.5	U 0.5
0085-29DP		10/14/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	3	U 0.5	U 0.5
0085-30DP		5/13/2014	J 0.3	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	5	U 0.5	U 0.5
0089-30		5/13/2014	J 0.3	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	4	U 0.5	U 0.5
0089-31		10/21/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.4	U 0.5	U 0.5
0089-32		5/5/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.2	U 0.5	U 0.5
0089-33		10/6/2015	U 0.5	J 0.1	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	J 0.3	U 0.5	U 0.5
J_MW-24B																			
0090-01		11/17/2000	U 10	U 10	U 10	U 10	UJ 10	UJ 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10
0090-02		5/2/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0090-03		10/23/2001	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10

SLID	SIN	Date	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
0090-04		4/16/2002	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0090-05		10/15/2002	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11
0090-06		4/15/2003	U 10.2	U 10.2	U 10.2	U 10.2	U 10.2	U 10.2	U 10.2	U 10.2	U 10.2	U 10.2	U 10.2	U 10.2	U 10.2	U 10.2	U 10.2	U 10.2	U 10.2
0090-07		10/14/2003	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11
0090-08		4/20/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0090-09		10/12/2004	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0090-10		4/27/2005	J 0.51	U 10	U 10	U 10	U 10	U 10	U 10	UJ 10	U 10	U 10	U 10	U 10	U 10	U 10	J 1.6	U 10	U 10
0090-11		10/18/2005	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11	U 11
0090-12		4/11/2006	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10	U 10
0090-13		10/24/2006	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0090-14		4/18/2007	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0090-15		10/17/2007	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0090-16		4/24/2008	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6	U 9.6
0090-17		10/7/2008	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0090-19		4/20/2009	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0090-21		10/20/2009	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8	U 9.8
0090-22		4/19/2010	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0090-23		10/12/2010	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0090-24		4/25/2011	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4	U 9.4
0090-25		10/18/2011	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5	U 9.5
0090-26		5/3/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0090-27		11/14/2012	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0090-28		4/10/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0090-29		10/14/2013	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0090-30		5/13/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0090-31		10/21/2014	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0090-32		5/5/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
0090-33		10/6/2015	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5

SLID	SIN	Date	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)-anthracene	Benzo(a)pyrene	Benzo(b)-fluoranthene	Benzo(g,h,i)-perylene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)-pyrene	Naphthalene	Phenanthrene	Pyrene

GC/MS Qualifiers: B - The reported analyte was detected in the associated method blank as well as the sample. D - This flag indentifies all compounds identified in an analysis at a secondary dilution factor. This flag alerts data users that any discrepancies between the concentrations reported for the dilutions may be due to dilution of the sample or extract. It additionally indicates that spike recoveries may have been diluted below quantifiable levels. E - Compound quantitation is above the instrument's calibration range for this analysis. J - Indicates an estimated value. This flag is used when the reuslt is less than the reporting limit, but >1/2 reporting limit or has been applied during data validation due to failure of one or more quality control criteria. U - Indicates compound was analyzed for but not detected above the reporting limit.

Metals Concentration Qualifiers: B - The report is less that the Contract Required Detection Limit (CRDL) or Practical Quantification Limit (PQL) but greater than the Instrument Detection Limit (IDL). U - Analyte was analyzed for but not detected, less than IDL, PQL, or CRDL. DL - Detection Limit, includes dilution and preparation information.

Blank space indicates data not available for the sample on the listed date. Either the sample was not collected, or no lab analytical results were generated for the specific compound.

Pine Street Canal Site, Burlington, VT
Summary of Groundwater Analytical Data: Metals
(All results in Micrograms per Liter - ppb)

SLID	SIN	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
6_MW-13												
	0097-15	10/23/2014	J 0.89	89.1	U 5	U 2		U 1	U 0.2	U 2	U 5	
	0097-16	10/7/2015	J 1.1	90.5	U 5	U 2		U 1	U 0.2	U 2	U 5	
6_MW-18												
	0099-15	10/24/2014	6.4	12.4	U 5	U 2		U 1	U 0.2	U 2	U 5	
	0099-16	10/7/2015	5.8	13.9	U 5	U 2		U 1	U 0.2	U 2	U 5	
8_MW-11D												
	0098-15	10/24/2014	3.2	28	U 5	U 2		U 1	U 0.2	U 2	U 5	
	0098-16	10/7/2015	2.9	28.5	U 5	2.7		U 1	U 0.2	U 2	U 5	
8_MW-9A												
	0074-01A	11/17/2000	U 9.9	80.1	U 0.3	UJ 3.3	U 9.1	U 5.6	UJ 0.1	U 4.3	U 1.6	14.8
	0074-02	5/1/2001	U 4.1	70.6	U 0.56	UJ 1.4	U 2.9	J 2.1	U 0.1	UJ 3.9	U 2.4	J 5.2
	0074-03	10/22/2001	U 7.6	131	1.3	J 12.8	U 41.2	29.1	U 0.15	U 1.6	U 0.69	214
	0074-04	4/15/2002	J 2.3	J 79.5	J 1	J 1.3		U 0.8	U 0.1	U 2	U 1.2	
	0074-05	10/14/2002	16.2	B 76.8	U 0.7	B 2.8	U 2.2	3.7	U 0.1	B 4.8	U 1.9	B 11.4
	0074-06	4/14/2003	U 4.7	70.3	U 0.4	J 1.1		J 6.7	U 0.1	U 3.9	U 1.7	
	0074-07	10/13/2003	B 9.4	B 80.4	U 0.5	B 2.9		5.8	B 0.13	U 3.6	U 1.6	
	0074-08	4/19/2004	U 7.5	72.1	U 0.3	5.5		U 12	UJ 0.1	U 3.6	U 1	
	0074-09	10/11/2004	13.8	B 65.3	B 0.76	U 0.9		7.2	U 0.1	U 4.3	B 3.6	
	0074-10	4/26/2005	J 5.9	J 69	U 0.8	10.1		8.3	U 0.1	U 3.8	U 3.7	
	0074-11	10/17/2005	13.6	B 97.7	U 0.8	11.7		15.9	U 0.1	U 4.9	B 3.4	
	0074-12	4/10/2006	U 5	J 79.2	U 0.4	14.6		11	U 0.1	U 4.6	U 1.6	
	0074-13	10/23/2006	B 5.9	B 71.6	B 1.3	18.5		B 8.9	B 0.13	U 4.5	U 1.4	
	0074-14	4/17/2007	U 9.2	J 58.6	U 0.4	J 2.9		J 8.5	U 0.1	U 2.1	U 0.7	
	0074-15	10/15/2007	13.8	B 48.3	B 0.72	B 7.2		B 6.6	U 0.1	U 0.7	B 0.39	
	0074-16	4/22/2008	84.7	630	J 4.8	177		474	3.6	J 2.5	U 0.37	
	0074-17	10/6/2008	12.6	B 69.5	B 1.4	B 7.2		17.2	U 0.1	U 2	U 0.51	
	0074-19	4/21/2009	J 8.3	J 48.1	U 0.2	U 1.6		U 3.5	U 0.1	U 4.6	U 0.54	
	0074-21	10/19/2009	13.5	B 49.4	B 0.81	B 3.1		B 7.2	U 0.1	U 1.1	U 0.26	
	0074-22	4/19/2010	U 15	J 105	J 0.7	18.5		43	J 0.16	U 4.4	U 1.1	
	0074-23	10/11/2010	22.2	J 112	U 5	20.3	28.9	45.3	0.26	U 35	U 10	95.3
	0074-24	4/26/2011	U 10	J 56.1	U 5	U 10		J 8.6	U 0.2	U 35	U 10	
	0074-25	10/17/2011	16.6	J 83.9	J 0.78	12.6		30.2	U 0.2	U 35	U 10	

SLID	SIN	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
	0074-26	5/2/2012	6.4	48.5	U 5	J 1.2		2.3	UJ 0.2	U 2	U 5	
	0074-27	11/13/2012	7.8	68.3	J 1.3	4.6		12.1	U 0.2	U 2	U 5	
	0074-28	4/9/2013	10.5	94.8	U 5	12.3		22.8	U 0.2	U 2	U 5	
	0074-29	10/14/2013	6.7	74.2	U 5	3.3		5.9	U 0.2	U 2	U 5	
	0074-30	5/12/2014	30.8	230	J 0.98	68.1		155	0.85	J 0.75	U 5	
	0074-31	10/20/2014	12.9	92.4	U 5	6.6		20.7	J 0.1	U 2	U 5	
	0074-32	5/6/2015	7.7	46.5	U 5	J 1.3		1.5	U 0.2	U 2	U 5	
	0074-33	10/7/2015	16.1	74.6	U 5	3.5		6.2	U 0.2	U 2	U 5	
8_MW-9B												
	0071-01	11/14/2000	U 5.2	62.2	U 0.3	UJ 3	U 2	UJ 1.8	UJ 0.1	UJ 3.7	U 2.3	UJ 8.1
	0071-01RP	11/15/2000	U 5.2	64.1	U 0.3	UJ 3.1	U 5.3	UJ 1.8	UJ 0.1	J 5.8	U 2.2	UJ 3.8
	0071-02	5/2/2001	U 4.1	62.3	U 0.84	UJ 1.4	U 4.5	UJ 1.3	U 0.1	UJ 3.9	U 2.4	30.7
	0071-03	10/22/2001	U 1.8	85.3	0.4	J 0.8	U 1	U 1.4	U 0.1	U 1.2	U 0.6	7.2
	0071-04	4/15/2002	UJ 2.2	63.8	J 0.53	J 1.2		U 0.8	U 0.1	U 2	U 1.2	
	0071-05	10/14/2002	U 4.7	B 54.5	U 0.7	U 1.9	U 1.8	U 2.7	U 0.1	U 3.9	U 1.9	B 9.5
	0071-06	4/14/2003	U 4.7	30.4	U 0.4	J 1		UJ 1.4	U 0.1	U 3.9	U 1.7	
	0071-07	10/13/2003	U 4.1	B 123	U 0.5	B 1.5		3.8	B 0.11	U 3.6	U 1.6	
	0071-08	4/19/2004	U 2.6	135	U 0.3	J 1		U 3.8	UJ 0.1	U 3.6	U 1	
	0071-09	10/11/2004	U 5.8	B 88.7	B 1.5	U 0.9		4.1	U 0.1	U 4.3	B 3.8	
	0071-10	4/26/2005	U 4.5	J 88.3	U 0.8	U 2.5		U 2.7	U 0.1	U 3.8	U 3.7	
	0071-11	10/17/2005	U 4.7	B 19.8	U 0.8	B 2.7		U 2.2	U 0.1	U 4.9	U 1.9	
	0071-12	4/10/2006	U 2.7	J 122	U 0.4	U 1.3		U 2.3	U 0.1	U 3.4	U 1.6	
	0071-13	10/23/2006	U 4.3	B 65.2	U 0.5	B 1.7		B 3.2	U 0.1	U 4.5	U 1.4	
	0071-14	4/18/2007	U 2.3	J 67.6	U 0.4	U 0.85		J 6.5	U 0.1	U 2.1	J 1.2	
	0071-15	10/15/2007	B 2.9	B 42.5	B 0.56	B 1.3		B 3.5	U 0.1	B 0.97	B 0.68	
	0071-16	4/22/2008	U 1.1	J 60.4	U 0.14	U 0.1		U 1.2	U 0.1	J 3.9	U 0.37	
	0071-17	10/6/2008	B 5.6	B 84.7	B 0.27	B 0.31		B 2.2	U 0.1	U 2	B 1	
	0071-19	4/21/2009	UJ 1.2	J 52.6	U 0.24	U 0.77		U 1.7	U 0.1	U 5.4	U 0.54	
	0071-21	10/19/2009	B 1.6	B 70.1	B 0.29	B 0.55		B 1.8	U 0.1	U 1.1	U 0.26	
	0071-22	4/19/2010	U 1.9	J 86.4	U 0.35	U 0.36		U 2	U 0.1	U 2.6	U 1.1	
	0071-23	10/11/2010	J 4.5	J 56.1	U 5	U 10	U 25	U 10	U 0.2	U 35	U 10	J 4.2
	0071-24	4/26/2011	U 10	J 54.8	U 5	U 10		J 3.3	U 0.2	U 35	U 10	
	0071-25	10/17/2011	U 10	J 77.8	J 0.47	J 0.64		U 10	U 0.2	U 35	U 10	
	0071-26	5/1/2012	U 2	89.6	U 5	U 2		U 1	UJ 0.2	U 2	U 5	
	0071-27	11/13/2012	J 1.6	52.9	U 5	J 0.59		J 0.076	U 0.2	U 2	U 5	
	0071-28	4/9/2013	J 1.6	77	U 5	U 2		J 0.81	U 0.2	U 2	U 5	

SLID	SIN	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
	0071-29	10/14/2013	J 1.1	96.8	U 5	U 2		U 1	U 0.2	U 2	U 5	
	0071-30	5/12/2014	J 1.1	112	U 5	U 2		J 0.73	U 0.2	U 2	U 5	
	0071-31	10/20/2014	J 1.1	62.9	U 5	J 0.98		J 0.16	U 0.2	U 2	U 5	
	0071-32	5/6/2015	U 2	114	U 5	U 2		U 1	U 0.2	U 2	U 5	
	0071-33	10/7/2015	J 0.88	123	U 5	U 2		J 0.13	U 0.2	U 2	U 5	
J_0073-13FB												
	0073-13FB	10/24/2006	U 3.9	U 4.2	U 0.4	U 1.1		U 3	U 0.1	U 4.8	U 2.1	
J_0073-14FB												
	0073-14FB	4/18/2007	U 2.1	U 11.5	U 0.4	J 0.35		U 1.6	U 0.1	U 2.1	U 0.7	
J_0073-15FB												
	0073-15FB	10/17/2007	B 3.2	U 1.3	B 0.4	B 0.4		B 1	U 0.1	U 0.7	U 0.3	
J_0073-16FB												
	0073-16FB	4/23/2008	U 1.1	U 1.3	U 0.14	U 0.095		J 1	U 0.1	U 1.9	U 0.37	
J_0073-17FB												
	0073-17FB	10/7/2008	U 1.3	B 8.8	B 0.18	U 0.18		U 0.93	U 0.1	U 2	B 1.2	
J_0073-19FB												
	0073-19FB	4/21/2009	UJ 1.2	U 1.7	U 0.14	J 0.29		J 1.9	U 0.1	J 1.3	U 0.54	
J_0073-21FB												
	0073-21FB	10/20/2009	U 0.95	U 1.8	B 0.11	B 0.41		U 0.9	U 0.1	U 1.1	B 0.7	
J_0073-22FB												
	0073-22FB	4/20/2010	U 1.7	J 5.9	U 0.35	U 0.36		J 2	U 0.1	J 3.3	U 1.1	
J_0073-23FB												
	0073-23FB	10/12/2010	J 4.2	U 200	U 5	U 10		U 10	U 0.2	U 35	U 10	
J_0073-24FB												
	0073-24FB	4/26/2011	J 3.8	U 200	U 5	U 10		U 10	U 0.2	U 35	U 10	
J_0073-26FB												
	0073-26FB	5/2/2012	U 2	U 5	J 0.79	U 2		J 0.29	UJ 0.2	U 2	U 5	
J_0073-27FB												
	0073-27FB	11/15/2012	U 2	J 1.3	U 5	U 2		U 1	U 0.2	U 2	U 5	
J_0073-28FB												
	0073-28FB	4/10/2013	U 2	U 5	U 5	U 2		U 1	U 0.2	U 2	U 5	
J_0073-29FB												
	0073-29FB	10/14/2013	U 2	U 5	U 5	U 2		U 1	U 0.2	U 2	U 5	
J_0073-30FB												
	0073-30FB	5/13/2014	U 2	J 0.65	U 5	U 2		U 1	U 0.2	U 2	U 5	
J_0073-31FB												
	0073-31FB	10/21/2014	U 2	J 0.42	J 0.6	U 2		J 0.17	U 0.2	U 2	U 5	
J_0073-32FB												
	0073-32FB	5/6/2015	U 2	J 1.5	J 0.35	U 2		J 0.21	U 0.2	U 2	U 5	

SLID	SIN	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
J_0073-33FB												
	0073-33FB	10/6/2015	U 2	U 5	U 5	U 2		U 1	U 0.2	U 2	U 5	
J_0073-FB												
	0073-FB	10/18/2011	U 10	U 200	U 5	U 10		U 10	U 0.2	U 35	U 10	
J_073-01-FB												
	0073-01FB	11/14/2000	U 5.2	U 4.1	U 0.39	UJ 2.6	J 3.3	UJ 1.8	UJ 0.1	UJ 3.7	U 2.4	UJ 3.5
J_073-02-FB												
	0073-02FB	5/1/2001	U 4.1	U 3.6	U 0.2	UJ 1.4	U 3.3	UJ 1.3	U 0.1	UJ 3.9	U 2.4	U 4.8
J_073-03-FB												
	0073-03FB	10/22/2001	U 1.5	U 4	U 0.2	UJ 0.7	U 3.9	J 0.66	U 0.1	U 2.9	U 0.6	U 0.9
J_073-04-FB												
	0073-04FB	4/15/2002	UJ 2.2	U 6.3	U 0.5	U 1.2		U 0.8	U 0.1	U 2	U 1.2	
J_073-05-FB												
	0073-05FB	10/15/2002	U 4.7	U 6.7	U 0.7	U 1.9		U 2.7	U 0.1	U 3.9	B 2.9	
J_073-06-FB												
	0073-06FB	4/15/2003	U 4.7	U 13.5	U 0.4	U 0.9		UJ 1.4	U 0.1	U 3.9	U 1.7	
J_073-07-FB												
	0073-07FB	10/14/2003	U 4.1	U 11.5	U 0.5	U 1.1		U 1.4	U 0.1	U 3.6	U 1.6	
J_073-08-FB												
	0073-08FB	4/20/2004	U 2.8	U 1.2	U 0.3	U 0.8		U 2.6	U 0.1	U 3.6	U 1	
J_073-09-FB												
	0073-09FB	10/12/2004	U 5.8	B 40.6	U 0.5	U 0.9		U 1.2	U 0.1	U 4.3	B 6.5	
J_073-10-FB												
	0073-10FB	4/27/2005	U 4.5	U 8.9	U 0.8	U 2.5		U 2.7	U 0.1	U 3.8	U 3.7	
J_073-11-FB												
	0073-11FB	10/18/2005	U 5.2	U 15.3	U 0.6	U 1.5		U 2.9	U 0.1	U 4	U 1.9	
J_073-12-FB												
	0073-12FB	4/11/2006	U 2.7	U 9.4	U 0.4	U 1.3		U 2.3	U 0.1	J 4.8	U 1.6	
J_078-01-FB												
	0078-01FB	11/14/2000	U 5.2	U 4.1	U 0.3	UJ 1.1	J 3.4	U 1.8	UJ 0.1	UJ 3.7	U 1.6	U 3.5
J_078-02-FB												
	0078-02FB	5/1/2001	U 4.1	U 3.6	U 0.33	UJ 1.4	U 4.8	UJ 1.3	U 0.1	UJ 3.9	U 2.4	U 4.8
J_078-03-FB												
	0078-03FB	10/22/2001	J 1.6	U 4	U 0.2	UJ 0.7	U 1	U 0.6	U 0.1	U 1.3	U 0.6	U 0.9
J_083-01-FB												
	0083-01FB	11/14/2000	U 4.2	U 4.1	U 0.55	U 1.1	J 2.2	U 1.8	UJ 0.1	U 3.7	U 1.6	U 3.5
J_085-01-DP												
	0085-01DP-A	11/14/2000	U 9.7	50.5	U 0.3	7.6	13.8	4	UJ 0.1	U 3.7	U 1.65	17.4
J_085-02-DP												
	0085-02DP	5/1/2002	U 4.1	93.5	U 0.6	J 3.9	U 7.8	J 1.8	U 0.1	UJ 3.9	U 2.4	J 7.2

SLID	SIN	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
J_085-03-DP												
	0085-03DP	10/22/2001	U 1.5	79	0.5	J 2	U 5.1	U 2.6	U 0.1	U 1.2	U 0.6	2.6
J_085-04-DP												
	0085-04DP	4/15/2002	UJ 2.2	78.7	U 0.5	J 1.3		J 1.2	U 0.1	U 2	U 1.2	
J_091-01-FB												
	0091-01FB	11/14/2000	U 4.2	U 4.1	J 0.54	U 1.1	J 2	J 1.8	UJ 0.1	U 3.7	U 1.6	U 3.5
J_096-01-FB												
	0096-01FB	11/14/2000	U 4.2	U 4.1	J 0.51	U 1.1	J 2.2	U 1.8	UJ 0.1	U 3.7	U 1.6	U 3.5
J_MW-20A												
	0076-01	11/15/2000	U 5.2	72.9	U 0.3	U 1.1	U 2.2	U 1.8	UJ 0.1	UJ 3.7	U 1.6	U 3.5
	0076-02	5/2/2001	U 4.1	51.7	U 0.61	J 4.5	U 8.8	15.5	U 0.1	U 3.9	U 2.4	29.9
	0076-03	10/23/2001	U 1.6	56	J 0.3	J 1.2	U 27.1	U 3.1	U 0.1	U 1.6	U 0.6	U 0.9
	0076-04	4/15/2002	UJ 2.2	53.9	U 0.5	J 1.8		U 0.8	U 0.1	U 2	U 1.2	
	0076-05	10/14/2002	U 4.7	B 45.4	U 0.7	U 1.9	U 2.2	U 2.7	U 0.1	U 3.9	B 2.4	U 2.1
	0076-06	4/14/2003	U 4.7	99.8	U 0.4	2.3		J 13	U 0.1	U 3.9	U 1.7	
	0076-07	10/13/2003	U 4.1	B 44.2	U 0.5	B 1.4		U 1.4	U 0.1	U 3.6	U 1.6	
	0076-08	4/19/2004	U 3.1	37.2	U 0.3	U 0.8		U 1.7	UJ 0.1	U 3.6	U 1	
	0076-09	10/11/2004	U 5.8	B 37.7	B 0.76	U 0.9		U 2.1	U 0.1	U 4.3	B 7.2	
	0076-10	4/26/2005	U 4.5	J 29.8	U 0.8	U 2.5		U 2.7	U 0.1	U 3.8	U 3.7	
	0076-11	10/17/2005	U 5.2	B 37.2	U 0.6	U 1.5		U 2.9	U 0.1	U 4	U 1.9	
	0076-12	4/10/2006	U 2.7	J 27.3	U 0.4	U 1.3		U 2.3	U 0.1	U 3.4	U 1.6	
	0076-13	10/23/2006	U 4.3	B 26.3	U 0.5	U 0.7		U 2.8	U 0.1	U 4.5	U 1.4	
	0076-14	4/17/2007	U 3.7	J 28.5	U 0.4	U 1.2		U 1.6	U 0.1	U 2.1	U 0.7	
	0076-15	10/15/2007	B 5.1	B 30.8	B 1.3	B 1.8		B 2.5	U 0.1	U 0.7	U 0.3	
	0076-16	4/24/2008	U 1.1	J 24.2	U 0.32	U 0.69		U 0.66	U 0.1	U 1.9	U 0.37	
	0076-17	10/6/2008	B 5.9	B 26.6	B 2.6	B 2.5		B 4	U 0.1	U 2	B 1.2	
	0076-19	4/21/2009	UJ 1.2	J 31.9	U 0.22	U 0.94		U 1.3	U 0.1	U 2	U 0.54	
	0076-21	10/19/2009	B 1.9	B 29	B 0.71	B 0.97		B 2.2	U 0.1	U 1.1	B 0.57	
	0076-22	4/19/2010	U 1.7	U 27.7	U 0.35	J 0.64		U 1.9	U 0.1	U 2.6	U 1.1	
	0076-23	10/11/2010	U 10	J 15.9	U 5	J 1.2	U 25	U 10	J 0.035	U 35	U 10	J 5
	0076-24	4/26/2011	U 10	J 25	U 5	U 10		U 10	U 0.2	U 35	U 10	
	0076-25	10/17/2011	J 7.1	J 95.7	J 1.2	J 2.2		J 9	U 0.2	U 35	U 10	
	0076-26	5/1/2012	U 2	28	U 5	U 2		U 1	UJ 0.2	U 2	U 5	
	0076-27	11/13/2012	J 0.87	30.8	U 5	J 0.75		J 0.24	U 0.2	U 2	U 5	
	0076-28	4/9/2013	J 0.49	U 32.3	U 5	U 2		U 1	U 0.2	U 2	U 5	
	0076-29	10/14/2013	J 0.84	27.1	U 5	U 2		J 0.41	U 0.2	U 2	U 5	
	0076-30	5/12/2014	9	158	J 1.1	6.8		28	U 0.2	U 2	U 5	

SLID	SIN	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
	0076-31	10/20/2014	U 2	26.8	U 5	J 1.1		1	U 0.2	U 2	U 5	
	0076-32	5/5/2015	7.4	101	U 5	J 0.98		U 1	U 0.2	U 2	U 5	
	0076-33	10/6/2015	J 1.2	66.9	U 5	J 1		1.8	U 0.2	U 2	U 5	
J_MW-20B												
	0079-01A	11/17/2000	U 11.4	297	U 0.3	55.4	70.3	112	UJ 0.1	U 3.7	U 1.6	238
	0079-02	5/1/2001	4.1	138.04	U 0.95	J 4.1	U 9.1	J 5.7	U 0.1	U 3.9	U 2.4	22.1
	0079-03	10/22/2001	U 6.1	116	0.9	J 3.9	U 42.8	6.9	U 0.1	U 1.2	U 0.65	23.1
	0079-04	4/15/2002	J 4.2	120	1.2	J 2.2		5.7	U 0.1	U 2.2	U 1.2	
	0079-05	10/14/2002	U 4.7	B 110	U 0.7	U 1.9	U 2.2	U 2.7	U 0.1	U 3.9	U 1.9	B 5.5
	0079-06	4/14/2003	U 4.7	31.4	J 0.44	U 0.9		UJ 1.4	U 0.1	U 3.9	U 1.7	
	0079-07	10/13/2003	B 6.8	B 98.4	U 0.5	B 1.7		5.7	U 0.1	U 3.6	U 1.6	
	0079-08	4/19/2004	U 12	93.4	U 0.37	2.9		U 8.4	UJ 0.1	U 3.6	U 1	
	0079-09	10/11/2004	U 5.8	B 76.9	B 1.5	U 0.9		8	U 0.1	U 4.3	B 2.1	
	0079-10	4/26/2005	J 9.4	J 97.1	U 0.8	U 2.5		5.8	J 0.13	U 3.8	U 3.7	
	0079-11	10/17/2005	U 4.7	B 140	U 0.8	B 1.6		U 2.2	U 0.1	U 4.9	U 1.9	
	0079-12	4/10/2006	U 8.7	J 82.8	U 0.4	U 1.3		J 4.2	U 0.1	U 3.4	U 1.6	
	0079-13	10/23/2006	B 7.6	B 83.7	U 0.5	B 1.4		B 4.5	U 0.1	U 4.5	U 1.4	
	0079-14	4/17/2007	14.4	J 92.5	U 0.4	J 4.6		13.9	U 0.1	U 2.1	J 1	
	0079-15	10/15/2007	11.8	B 86.7	B 0.48	B 3.4		14.9	U 0.1	U 0.7	U 0.3	
	0079-16	4/24/2008	14.1	J 107	U 0.45	U 4.7		11.3	U 0.1	J 2.9	U 0.37	
	0079-17	10/6/2008	B 9.4	B 90	B 0.86	B 2.5		B 9.8	U 0.1	U 2	B 4	
	0079-19	4/21/2009	J 8.9	J 97.1	U 0.72	U 1.7		U 6.6	U 0.1	U 2.6	J 3.1	
	0079-21	10/19/2009	B 8	B 80.1	B 0.83	B 3		B 6.8	U 0.1	U 1	U 0.26	
	0079-22	4/19/2010	U 12.4	J 97.6	U 0.35	J 3.3		15.1	U 0.1	U 2.6	U 1.1	
	0079-23	10/11/2010	11.3	J 94.4	U 5	J 3.4	J 3.5	J 9.6	U 0.2	U 35	U 10	54.9
	0079-24	4/26/2011	16	J 109	U 5	U 10		16.1	U 0.2	U 35	U 10	
	0079-25	10/17/2011	U 10	J 26.3	U 5	J 0.64		U 10	U 0.2	U 35	U 10	
	0079-26	5/1/2012	10.9	121	U 5	10		33.3	UJ 0.2	U 2	U 5	
	0079-27	11/12/2012	7.4	114	U 5	3.3		16.1	U 0.2	U 2	U 5	
	0079-28	4/9/2013	8.2	130	J 0.45	4.2		14.2	J 0.087	U 2	U 5	
	0079-29	10/14/2013	9.8	132	J 1.2	5.7		25.4	U 0.2	U 2	U 5	
	0079-30	5/12/2014	U 2	25.8	U 5	J 0.55		J 0.38	U 0.2	U 2	U 5	
	0079-31	10/20/2014	8.8	163	U 5	9.4		33.4	U 0.2	U 2	U 5	
	0079-32	5/6/2015	15	148	U 5	2.4		7.5	U 0.2	U 2	U 5	
	0079-33	10/6/2015	7.2	164	U 5	3		10.1	U 0.2	U 2	U 5	
J_MW-21A												

SLID	SIN	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
	0084-01A	11/21/2000	U 6.6	79	U 0.3	18.3	33.2	15.9	UJ 0.1	U 3.7	U 1.6	50
	0084-02	5/3/2001	U 4.1	94.9	U 0.71	J 23.5	35.5	16.9	U 0.1	U 3.9	U 2.4	58.6
	0084-03	10/24/2001	U 3.2	72.6	0.71	J 16.1	U 24.6	13.7	U 0.1	U 4	U 0.6	38.6
	0084-04	4/16/2002	UJ 2.2	51.6	J 0.71	4.3		7.9	U 0.1	U 2	U 1.2	
	0084-05	10/16/2002	B 5.6	B 61.4	U 0.7	B 3.1		U 2.7	U 0.1	U 3.9	U 1.9	
	0084-06	4/15/2003	U 4.7	34	U 0.4	4.7		J 6.5	U 0.1	U 3.9	U 1.7	
	0084-07	10/14/2003	U 4.1	B 49.7	U 0.5	B 3.8		6	U 0.1	U 3.6	U 1.6	
	0084-08	4/20/2004	U 3.8	60.4	U 0.4	11		U 12.5	U 0.1	U 3.6	U 1	
	0084-09	10/12/2004	B 9.8	B 55.8	B 0.95	U 0.9		8.9	U 0.1	U 4.3	B 3	
	0084-10	4/27/2005	U 4.5	J 83.7	U 0.8	14.9		11	U 0.1	U 3.8	U 3.7	
	0084-11	10/18/2005	U 5.2	B 77.3	U 0.6	12.8		15.4	U 0.1	U 4	U 1.9	
	0084-12	4/11/2006	U 2.7	J 59	U 1.2	J 8.2		J 5.5	U 0.1	U 4.4	U 1.6	
	0084-13	10/24/2006	U 3.9	B 60.7	B 0.82	B 8.3		B 5.9	U 0.1	U 4.8	U 2.1	
	0084-14	4/19/2007	U 4.2	J 52	U 0.4	J 3.8		J 1.6	U 0.1	U 2.1	U 0.7	
	0084-15	10/16/2007	B 4.2	B 65.8	B 0.59	B 1.9		B 4.7	U 0.1	U 0.7	U 0.3	
	0084-16	4/23/2008	U 1.1	J 82.8	J 1.2	J 2.1		U 2.3	U 0.1	J 2	U 0.37	
	0084-17	10/7/2008	B 4.3	B 57.2	U 0.12	B 1.5		B 2.2	U 0.1	U 2	B 0.72	
	0084-19	4/20/2009	J 1.2	J 45.1	U 0.49	U 2		U 2.5	U 0.1	U 3.7	U 0.54	
	0084-21	10/20/2009	B 2.1	B 35.9	B 0.45	B 2.1		U 0.9	U 0.1	U 1.1	U 0.26	
	0084-22	4/20/2010	U 2.6	U 45.5	U 0.35	J 1.6		U 3.2	U 0.1	U 3.7	U 1.1	
	0084-23	10/12/2010	J 4.3	J 41	U 5	J 1.9		U 10	U 0.2	U 35	U 10	
	0084-24	4/25/2011	U 10	J 38.8	U 5	U 10		U 10	U 0.2	U 35	U 10	
	0084-25	10/18/2011	J 4.5	J 39.5	J B 0.58	J 2.2		U 10	U 0.2	U 35	U 10	
	0084-26	5/3/2012	U 2	59	U 5	J 1.5		U 1.1	UJ 0.2	U 2	U 5	
	0084-27	11/15/2012	J 0.67	59.7	U 5	J 1.2		J 0.47	U 0.2	U 2	U 5	
	0084-28	4/10/2013	J 0.55	68.3	U 5	J 0.92		J 0.38	U 0.2	U 2	U 5	
	0084-29	10/14/2013	J 0.6	61.5	U 5	J 0.53		J 0.16	U 0.2	U 2	U 5	
	0084-30	5/13/2014	21.8	58.5	U 5	2.2		1.2	U 0.2	U 2	U 5	
	0084-31	10/21/2014	J 1.8	50.8	U 5	J 1.8		J 0.8	U 0.2	U 2	U 5	
	0084-32	5/5/2015	J 1.4	68.2	U 5	3.7		2.7	U 0.2	U 2	U 5	
	0084-33	10/6/2015	J 0.85	60.2	U 5	2.5		1.1	U 0.2	U 2	U 5	
J_MW-21B												
	0082-01A	11/21/2000	U 9	46.7	U 0.3	U 3.7	6.1	J 2.6	UJ 0.1	U 3.7	U 1.6	8.3
	0082-02	5/3/2001	J 5.8	39	U 0.39	UJ 1.4	U 3.7	UJ 1.3	U 0.1	UJ 3.9	U 2.4	J 5.8
	0082-03	10/24/2001	20.7	34.7	J 0.25	J 1.4	U 2.3	U 1.5	U 0.1	U 1.6	U 0.6	3.5
	0082-04	4/16/2002	U 9.9	31.8	U 0.5	J 1.3		U 0.8	U 0.1	U 2	U 1.2	

SLID	SIN	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
	0082-05	10/16/2002	25.9	B 33.2	U 0.7	B 2.4		U 2.7	U 0.1	U 3.9	U 1.9	
	0082-06	4/15/2003	14.7	J 25.8	U 0.4	J 0.91		UJ 1.4	U 0.1	U 3.9	U 1.7	
	0082-07	10/14/2003	23.6	B 25.7	U 0.5	B 1.3		U 1.4	U 0.1	U 3.6	U 1.6	
	0082-08	4/20/2004	28.2	21.8	U 0.3	J 1.2		U 4.2	U 0.1	U 3.6	U 1	
	0082-09	10/12/2004	26.1	B 22.1	B 0.68	U 0.9		U 1.2	U 0.1	U 4.3	U 0.9	
	0082-10	4/27/2005	19.6	J 24.6	U 0.8	U 2.5		U 2.7	U 0.1	U 3.8	U 3.7	
	0082-11	10/18/2005	36.1	B 26.5	U 0.6	U 1.5		U 2.9	U 0.1	U 4	U 1.9	
	0082-12	4/11/2006	U 27.4	J 21.3	U 0.4	U 1.3		U 2.3	U 0.1	U 4.2	U 1.6	
	0082-13	10/24/2006	32.4	B 22.6	U 0.5	U 0.7		U 2.8	U 0.1	U 4.5	U 1.4	
	0082-14	4/19/2007	30.3	J 28.5	U 0.4	U 1.2		J 2.7	U 0.1	U 2.1	U 0.7	
	0082-15	10/16/2007	40.4	B 26.9	B 0.49	B 1.1		B 2.6	U 0.1	B 1.5	B 0.57	
	0082-16	4/24/2008	31.8	J 28	U 0.14	U 0.42		U 1.9	U 0.1	U 1.9	U 0.37	
	0082-17	10/7/2008	53.9	B 25.6	B 0.44	B 0.49		U 0.93	U 0.1	U 2	B 0.67	
	0082-19	4/20/2009	33.7	J 25.5	U 0.25	U 1.5		U 2.4	U 0.1	U 1.5	U 0.54	
	0082-21	10/20/2009	36.4	B 21.1	U 0.091	B 2		B 1.7	U 0.1	U 1.1	U 0.26	
	0082-22	4/20/2010	27.5	U 24	U 0.35	J 0.68		U 1.9	U 0.1	U 2.6	U 1.1	
	0082-22REP	4/20/2010	25.36	B 24.99	U 0.35	B 0.8579		B 2.998	U 0.1	B 7.61	U 1.1	
	0082-23	10/12/2010	61.8	J 25.7	U 5	J 1.2		U 10	U 0.2	U 35	U 10	
	0082-23DU	10/12/2010	65.22	J 16.96	U 5	J 1.35		U 10	J 0.06	U 35	U 10	
	0082-24	4/25/2011	23.2	J 20.8	U 5	U 10		J 3.4	U 0.2	U 35	U 10	
	0082-24DU	4/25/2011	21.39	J 22.5	U 5	J 1.28		U 10	U 0.2	U 35	U 10	
	0082-25REP	10/18/2011	63.61	J 21.5	J 0.648	J 1.6		U 10	J 0.127	U 35	U 10	
	0082-25	10/18/2011	70.7	J 22.6	U 5	J 1.7		U 10	U 0.2	U 35	U 10	
	0082-26	5/3/2012	77.3	19.6	U 5	U 2		1.5	UJ 0.2	U 2	U 5	
	0082-27	11/15/2012	47	26.3	U 5	U 2		J 0.1	U 0.2	U 2	U 5	
	0082-27-DUP	11/15/2012	47.1	25.4	U 5	U 2		J 0.12	U 0.2	U 2	U 5	
	0082-28	4/10/2013	46.5	U 28.8	U 5	J 0.67		1	U 0.2	U 2	U 5	
	0082-28RP	4/10/2013	46.1	28.7	U 5	J 0.73		1	U 0.2	U 2	U 5	
	0082-29	10/14/2013	58.6	25.3	U 5	U 2		J 0.15	U 0.2	U 2	U 5	
	0082-29RP	10/14/2013	60.4	25	U 5	U 2		J 0.13	U 0.2	U 2	U 5	
	0082-30	5/13/2014	84.9	42.9	U 5	J 0.95		1.7	U 0.2	U 2	U 5	
	0082-31RP	10/21/2014	113	19.1	U 5	J 1.4		1.3	U 0.2	U 2	U 5	
	0082-31	10/21/2014	111	19.5	U 5	J 0.93		1.2	U 0.2	U 2	U 5	
	0082-32RP	5/5/2015	32.3	31	U 5	J 1		J 0.36	U 0.2	U 2	U 5	
	0082-32	5/5/2015	33.8	31.1	U 5	J 1.2		U 1	U 0.2	U 2	U 5	
	0082-33	10/5/2015	72.8	27.1	U 5	J 0.92		J 0.63	U 0.2	U 2	U 5	

SLID	SIN	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
	0082-33DUP	10/5/2015	79.7	24.8	U 5	J 0.78		J 0.78	U 0.2	U 2	U 5	
J_MW-22A												
	0081-01A	11/20/2000	U 4.2	43.9	U 0.3	U 1.2	U 3.9	J 2.1	UJ 0.1	U 3.7	U 1.6	10.7
	0081-02	5/4/2001	J 5.2	60.8	U 0.82	J 7.3	U 16.5	J 5.6	U 0.1	UJ 3.9	U 2.8	41.9
	0081-03	10/23/2001	U 3.2	49.1	1.2	J 4.4	U 8.7	5.4	U 0.1	U 1.2	U 0.6	11.5
	0081-04	4/16/2002	UJ 2.2	53	U 0.5	2.5		5.2	U 0.1	U 2	U 1.2	
	0081-05	10/15/2002	U 4.7	B 49.1	U 0.7	B 2.9		U 2.7	U 0.1	U 3.9	U 1.9	
	0081-06	4/15/2003	U 4.7	69.6	U 0.4	J 1		J 2.2	U 0.1	U 3.9	U 1.7	
	0081-07	10/14/2003	U 4.1	B 67.7	U 0.5	B 1.2		B 1.6	B 0.14	U 3.6	U 1.6	
	0081-08	4/19/2004	U 4.5	60.6	U 1.2	J 1.4		U 4.7	UJ 0.1	U 3.6	U 1	
	0081-09	10/12/2004	U 5.8	B 56.6	B 1.1	B 6.7		3.7	U 0.1	U 4.3	B 2.2	
	0081-10	4/26/2005	U 4.5	J 56.7	J 2.5	U 2.5		U 2.7	U 0.1	U 3.8	U 3.7	
	0081-11	10/18/2005	U 5.2	B 59.4	U 0.6	U 1.5		U 2.9	U 0.1	U 4	U 1.9	
	0081-12	4/11/2006	U 4.5	J 54.9	U 0.4	J 2.2		J 2.4	U 0.1	U 3.4	U 1.6	
	0081-13	10/24/2006	U 3.9	B 49.8	U 0.4	B 1.4		U 3	U 0.1	U 4.8	U 2.1	
	0081-14	4/18/2007	U 3.5	J 51.6	U 0.4	U 1		U 1.6	U 0.1	U 2.1	U 0.7	
	0081-15	10/16/2007	B 3.1	B 52.9	B 0.53	B 1.8		B 3.6	U 0.1	U 0.7	B 0.47	
	0081-16	4/23/2008	J 4.2	J 53.6	U 0.33	U 1.3		U 2.1	U 0.1	J 5.4	U 0.37	
	0081-17	10/7/2008	U 1.3	B 54.7	B 0.65	B 1		B 1.5	U 0.1	U 2	U 0.51	
	0081-19	4/21/2009	UJ 1.2	J 61.8	U 0.48	U 1.5		U 2.8	U 0.1	U 3.3	J 1.9	
	0081-21	10/20/2009	B 3.4	B 47.8	B 0.5	B 1.5		B 3.1	U 0.1	U 1.1	U 0.26	
	0081-22	4/19/2010	U 3.4	U 55.9	U 0.35	J 1.4		U 2.8	U 0.1	U 2.6	U 1.1	
	0081-23	10/12/2010	J 4.3	J 49.1	U 5	J 1		U 10	U 0.2	U 35	U 10	
	0081-24	4/25/2011	U 10	J 57.7	U 5	U 10		U 10	U 0.2	U 35	U 10	
	0081-25	10/18/2011	U 10	J 53.8	J B 0.55	J 0.94		U 10	U 0.2	U 35	U 10	
	0081-26	5/2/2012	2.4	52.9	U 5	J 0.94		U 1	UJ 0.2	U 2	U 5	
	0081-27	11/13/2012	J 1.6	49.1	U 5	J 0.83		1.8	U 0.2	U 2	U 5	
	0081-28	4/10/2013	J 1.9	50	U 5	J 0.82		J 0.36	U 0.2	U 2	U 5	
	0081-29	10/15/2013	J 1.4	49.4	U 5	U 2		J 0.34	U 0.2	U 2	U 5	
	0081-30	5/13/2014	J 0.96	53.1	U 5	J 1.1		J 0.37	U 0.2	U 2	U 5	
	0081-30RP	5/13/2014	U 2	53.4	U 5	J 1		J 0.38	U 0.2	U 2	U 5	
	0081-31	10/21/2014	J 1.5	55.6	U 5	J 1.6		J 0.79	U 0.2	U 2	U 5	
	0081-32	5/6/2015	J 1.6	54.6	U 5	J 1.5		U 1	U 0.2	U 2	U 5	
	0081-33	10/6/2015	2.2	57.5	U 5	J 1.5		J 0.76	U 0.2	U 2	U 5	
	0085-33DP	10/6/2015	2.1	58.1	U 5	J 1.6		J 0.76	U 0.2	U 2	U 5	
J_MW-22B												

SLID	SIN	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
	0080-01A	11/20/2000	U 13.1	59.7	U 0.3	UJ 6.5	18.8	6.8	UJ 0.1	U 3.7	U 1.6	20
	0080-02	5/4/2001	J 4.2	46	U 0.59	UJ 1.4	U 4.5	UJ 1.3	U 0.1	UJ 3.9	U 2.4	J 5.4
	0080-03	10/23/2001	9.5	57.9	0.56	J 6.5	U 9.9	6.4	U 0.1	U 2.4	U 0.6	18.3
	0080-04	4/16/2002	J 5.3	46.8	J 0.52	J 1.3		U 0.8	U 0.1	U 2	U 1.2	
	0080-05	10/15/2002	U 4.7	B 51.3	U 0.7	U 1.9		U 2.7	U 0.1	U 3.9	U 1.9	
	0080-06	4/15/2003	U 4.7	84	U 0.4	J 1		J 1.7	U 0.1	J 4.1	U 1.7	
	0080-07	10/14/2003	B 7.6	B 62.1	U 0.5	U 1.1		U 1.4	U 0.1	U 3.6	U 1.6	
	0080-08	4/19/2004	U 6	58.6	U 0.3	J 1.5		U 4.1	UJ 0.1	U 3.6	U 1	
	0080-09	10/12/2004	U 5.8	B 83.6	B 1.5	U 0.9		4.2	U 0.1	U 4.3	U 0.9	
	0080-10	4/26/2005	U 4.5	J 63	U 0.8	U 2.5		U 2.7	U 0.1	J 4	U 3.7	
	0080-11	10/18/2005	U 5.2	B 58.8	U 0.6	U 1.5		U 2.9	U 0.1	U 4	U 1.9	
	0080-12	4/11/2006	U 4.7	J 55.6	U 0.4	U 1.3		U 2.3	U 0.1	U 3.4	U 1.6	
	0080-13	10/24/2006	B 4.4	B 52.8	U 0.5	B 0.79		U 2.8	U 0.1	U 4.5	U 1.4	
	0080-14	4/18/2007	U 9.9	J 55.2	U 0.4	U 0.95		U 1.6	U 0.1	U 2.1	U 0.7	
	0080-15	10/16/2007	B 6.5	B 54	B 0.33	B 1.5		B 3.7	U 0.1	B 0.7	U 0.3	
	0080-16	4/24/2008	J 2.2	J 54.8	U 0.49	U 0.34		U 2.3	U 0.1	J 3.7	U 0.37	
	0080-17	10/7/2008	B 7.3	B 58.2	B 0.62	B 0.63		B 4.8	U 0.1	U 2	B 0.87	
	0080-19	4/21/2009	J 6	J 57.8	U 0.63	U 1.3		U 1.8	U 0.1	U 5.4	U 0.54	
	0080-21	10/20/2009	B 7.7	B 47.2	B 0.73	B 1.8		B 3.9	U 0.1	U 1.1	U 0.26	
	0080-22	4/20/2010	U 7.8	U 54.6	U 0.35	J 1.1		U 7	U 0.1	U 2.6	U 1.1	
	0080-23	10/12/2010	J 8.8	J 55.2	U 5	J 0.95		U 10	U 0.2	U 35	U 10	
	0080-24	4/25/2011	U 10	J 57.1	U 5	U 10		U 10	U 0.2	U 35	U 10	
	0080-25	10/18/2011	10.1	J 47.1	U 5	J 2.7		U 10	U 0.2	U 35	U 10	
	0080-26	5/2/2012	6.3	51	U 5	J 0.94		1.6	UJ 0.2	U 2	U 5	
	0080-27	11/14/2012	4.6	49.5	U 5	J 1.1		J 0.92	U 0.2	U 2	U 5	
	0080-28	4/10/2013	4.9	U 48.5	U 5	J 0.7		J 0.8	U 0.2	U 2	U 5	
	0080-29	10/15/2013	6.1	49.1	U 5	J 0.69		1.3	U 0.2	U 2	U 5	
	0080-30	5/13/2014	4	48.9	U 5	J 1.5		1.2	U 0.2	U 2	U 5	
	0080-31	10/21/2014	3.9	46.4	U 5	J 1.1		J 0.79	U 0.2	U 2	U 5	
	0080-32	5/6/2015	6.4	52.8	U 5	2.2		2.2	U 0.2	U 2	U 5	
	0080-33	10/6/2015	4.6	48.3	U 5	J 1.6		J 0.97	U 0.2	U 2	U 5	
J_MW-23A												
	0088-01	11/16/2000	U 4.2	70.2	U 0.3	6.6	23.8	3.9	UJ 0.1	U 3.7	U 1.6	26.6
	0088-02	5/3/2001	U 4.1	55.8	U 0.55	UJ 1.4	U 2.5	UJ 1.3	U 0.1	UJ 3.9	U 2.4	J 6.2
J_MW-23B												
	0087-01	11/16/2000	U 4.2	67.3	U 0.31	U 2.8	U 4.3	U 1.8	UJ 0.1	U 3.7	J 2.3	11.1

SLID	SIN	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
	0087-02	5/3/2001	UJ 4.1	92.4	U 0.61	J 11.6	U 15.4	J 6.1	U 0.1	UJ 3.9	U 2.4	41.5
	0087-03	10/23/2001	U 4.4	64.5	0.5	J 6.5	U 6.9	5.2	U 0.1	U 1.2	U 0.6	14.8
	0087-04	4/17/2002	U 2.2	B 56	U 0.5	B 1.3		U 0.8	U 0.1	U 2	U 1.2	
	0087-05	10/18/2002	U 4.7	B 59.7	U 0.7	U 1.9		U 2.7	U 0.1	U 3.9	U 1.9	
	0087-06	4/16/2003	U 4.7	58	U 0.4	2		UJ 1.4	U 0.1	U 3.9	U 1.7	
	0087-07	10/14/2003	U 4.1	B 56.2	U 0.5	B 1.8		U 1.4	U 0.1	U 3.6	U 1.6	
	0087-08	4/20/2004	U 7.3	53.1	U 0.33	2		U 4	U 0.1	U 3.6	U 1	
	0087-09	10/14/2004	U 5.8	B 41.3	U 0.5	U 0.9		3	U 0.1	8.2	B 2.9	
	0087-10	4/27/2005	U 4.5	J 62.6	U 0.8	U 2.5		U 2.7	U 0.1	U 3.8	U 3.7	
	0087-11	10/18/2005	U 5.2	B 72.2	U 0.6	U 1.5		B 3	U 0.1	U 4	U 1.9	
	0087-12	4/11/2006	U 10.7	J 55	U 0.4	J 1.6		U 2.3	U 0.1	U 3.4	U 1.6	
	0087-13	10/24/2006	U 3.9	B 61	U 0.4	B 2		U 3	U 0.1	U 4.8	U 2.1	
	0087-14	4/19/2007	U 8.8	J 60.4	U 0.4	U 1.2		U 1.6	U 0.1	U 2.1	U 0.7	
	0087-15	10/17/2007	B 7	B 96.4	B 0.67	B 1.4		B 2.2	U 0.1	U 0.7	U 0.3	
	0087-16	4/23/2008	J 8	J 65.7	U 0.43	U 1		U 1.8	U 0.1	J 4.2	U 0.37	
	0087-17	10/7/2008	B 3.8	B 54.4	B 0.29	B 1.8		B 1.7	U 0.1	U 2	B 1.5	
	0087-19	4/21/2009	J 4.5	J 49.2	U 0.14	U 2.8		U 1.7	U 0.1	U 2.1	U 0.54	
	0087-21	10/20/2009	B 6.6	B 34.5	B 0.3	B 1.9		B 1.7	U 0.1	U 1.1	B 0.32	
	0087-22	4/20/2010	U 3.6	U 54.3	U 0.35	J 0.99		U 1.9	U 0.1	U 4.2	U 1.1	
	0087-23	10/12/2010	J 7.2	J 53.6	U 5	J 1.4		U 10	U 0.2	U 35	U 10	
	0087-24	4/26/2011	U 10	J 49.7	U 5	U 10		U 10	U 0.2	U 35	U 10	
	0087-25	10/18/2011	U 10	J 44.1	U 5	J 1.5		U 10	U 0.2	U 35	U 10	
	0087-26	5/3/2012	25.7	47.1	U 25	U 10		U 5	UJ 0.2	U 10	U 25	
	0087-27	11/15/2012	2.6	54.2	U 5	U 2		U 1	U 0.2	U 2	U 5	
	0087-28	4/11/2013	12	U 47.8	U 5	J 0.87		U 1	U 0.2	U 2	U 5	
	0087-29	10/15/2013	J 1.9	54.6	U 5	J 0.52		U 1	0.25	U 2	U 5	
	0087-30	5/13/2014	4.3	50.7	U 5	J 1.3		J 0.34	U 0.2	U 2	U 5	
	0085-31DP	10/21/2014	2.2	51	U 5	J 1.4		U 1	U 0.2	U 2	U 5	
	0087-31	10/21/2014	2.3	48.1	U 5	J 1.5		U 1	U 0.2	U 2	U 5	
	0087-32	5/6/2015	2.4	49	U 5	J 1.4		U 1	U 0.2	U 2	U 5	
	0085-32DP	5/6/2015	2.2	50.7	U 5	J 1.3		U 1	U 0.2	U 2	U 5	
	0087-33	10/6/2015	2.7	52.1	U 5	J 1.4		U 1	U 0.2	U 2	U 5	
J_MW-24A												
	0089-01	11/17/2000	U 4.2	92.1	U 0.3	5.2	U 6.1	U 2.9	UJ 0.1	UJ 4.5	U 1.6	9.4
	0089-02	5/2/2001	U 4.1	92.8	U 0.43	J 3.5	U 5.5	UJ 1.3	U 0.1	UJ 3.9	U 2.4	J 9.1
	0089-03	10/23/2001	U 1.5	80.7	0.5	J 2.3	U 5.2	U 2.7	U 0.1	U 2.5	U 0.6	3.5

SLID	SIN	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
	0089-04	4/16/2002	UJ	79	U 0.5	J 1.8		U 0.8	U 0.1	U 2	U 1.2	
	0085-05DP	10/15/2002	U 4.7	B 72.6	U 0.7	U 1.9		U 2.7	U 0.1	U 3.9	U 1.9	
	0089-05	10/15/2002	U 4.7	B 69.8	U 0.7	U 1.9		U 2.7	U 0.1	U 3.9	U 1.9	
	0085-06DP	4/15/2003	U 4.7	J 14.6	U 0.4	J 0.93		UJ 1.4	U 0.1	U 3.9	U 1.7	
	0089-06	4/15/2003	U 4.7	J 14.8	U 0.4	J 1.4		UJ 1.4	U 0.1	U 3.9	U 1.7	
	0085-07DP	10/14/2003	U 4.1	B 38.1	U 0.5	B 2.2		B 2.2	U 0.1	U 3.6	U 1.6	
	0089-07	10/14/2003	U 4.1	B 38.8	U 0.5	B 1.8		B 2.6	U 0.1	U 3.6	U 1.6	
	0089-08	4/20/2004	U 2.6	33.2	U 0.65	1.9		U 3.3	U 0.1	J 3.8	U 1	
	0085-08DP	4/20/2004	U 2.6	32.9	U 0.3	5.5		U 4	U 0.1	U 3.6	U 1	
	0085-09DP	10/12/2004	U 5.8	B 63.9	B 0.82	U 0.9		U 1.2	U 0.1	U 4.3	B 3.5	
	0089-09	10/12/2004	U 5.8	B 41.6	U 0.5	U 0.9		U 2.1	U 0.1	U 4.3	10.9	
	0085-10DP	4/27/2005	U 4.5	J 87.5	U 0.8	U 2.5		3.7	U 0.1	U 3.8	U 3.7	
	0089-10	4/27/2005	U 4.5	J 86.1	U 0.8	U 2.5		3	U 0.1	U 3.8	U 3.7	
	0089-11	10/18/2005	U 5.2	B 71.2	U 0.6	U 1.5		U 2.9	U 0.1	U 4	U 1.9	
	0085-11DP	10/18/2005	U 5.2	B 70.8	U 0.6	U 1.5		B 3.4	U 0.1	U 4	U 1.9	
	0085-12DP	4/11/2006	U 2.7	J 65.7	U 0.4	U 1.3		J 3.3	U 0.1	U 4.8	U 1.6	
	0089-12	4/11/2006	U 2.7	J 64.7	U 0.4	U 1.3		U 2.3	U 0.1	U 3.4	U 1.6	
	0085-13DP	10/24/2006	U 3.9	B 70.5	U 0.4	B 1.8		U 3	U 0.1	U 4.8	U 2.1	
	0089-13	10/24/2006	U 3.9	B 72.9	U 0.4	B 2.2		U 3	U 0.1	U 4.8	U 2.1	
	0089-14	4/19/2007	U 3.5	J 80.7	U 0.4	U 0.74		U 1.6	U 0.1	U 2.1	U 0.7	
	0085-14DP	4/19/2007	U 2.4	J 80.4	U 0.4	U 1.1		U 1.6	U 0.1	U 2.1	U 0.7	
	0085-15DP	10/17/2007	B 2.5	B 96.3	B 0.37	B 1.2		B 3.7	U 0.1	U 0.7	U 0.3	
	0089-15	10/17/2007	B 2.9	B 97	B 0.31	B 1.2		B 3.5	U 0.1	B 0.8	U 0.3	
	0085-16DP	4/23/2008	U 1.1	J 68.8	U 0.34	U 0.54		U 2	U 0.1	J 2	U 0.37	
	0089-16	4/23/2008	U 1.1	J 64.6	U 0.54	U 0.57		U 2.6	U 0.1	J 3.1	U 0.37	
	0089-17	10/7/2008	B 2	B 69.2	U 0.12	B 0.78		B 1.8	U 0.1	U 2	B 0.85	
	0085-17DP	10/7/2008	B 2.5	B 76.2	B 0.44	B 1.1		B 5.4	U 0.1	U 2	B 1.9	
	0089-19	4/20/2009	J 1.6	J 94.5	U 0.22	U 1		U 1	U 0.1	U 3.7	U 0.54	
	0085-19DP	4/20/2009	UJ 1.2	J 94	U 0.55	U 0.93		U 1.5	U 0.1	U 3.7	U 0.54	
	0085-21DP	10/20/2009	U 0.95	B 67.2	B 0.37	B 0.95		U 0.9	U 0.1	U 1.1	B 0.58	
	0089-21	10/20/2009	B 1.5	B 63.7	B 0.54	B 1		B 2.8	U 0.1	U 1.1	U 0.26	
	0089-22	4/19/2010	U 3.5	J 74.8	U 0.35	J 0.5		U 1.9	U 0.1	U 2.6	U 1.1	
	0085-22DP	4/19/2010	U 2.8	J 79.1	U 0.35	J 0.73		U 3.7	U 0.1	U 3.8	U 1.1	
	0089-23	10/12/2010	U 10	J 81.5	U 5	U 10		U 10	U 0.2	U 35	U 10	
	0085-23-DP	10/12/2010	U 10	J 82.5	U 5	J 0.82		U 10	U 0.2	U 35	U 10	
	0085-24DP	4/25/2011	U 10	J 84	U 5	U 10		U 10	U 0.2	U 35	U 10	

SLID	SIN	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
	0089-24	4/25/2011	U 10	J 87.2	U 5	U 10		U 10	U 0.2	U 35	U 10	
	0085-25DP	10/18/2011	J 4.7	J 68.4	U 5	J 1.2		U 10	U 0.2	U 35	U 10	
	0089-25	10/18/2011	U 10	J 65.9	U 5	J 1.2		U 10	U 0.2	U 35	U 10	
	0089-26	5/2/2012	U 2	81.6	U 5	J 0.63		U 1.1	UJ 0.2	U 2	U 5	
	0085-26DP	5/2/2012	U 2	80.2	U 5	J 0.69		1	UJ 0.2	U 2	U 5	
	0089-27	11/14/2012	J 0.69	94.4	U 5	J 0.56		J 0.7	U 0.2	U 2	U 5	
	0085-27DP	11/14/2012	J 0.72	96.3	U 5	J 0.56		J 0.63	U 0.2	U 2	U 5	
	0085-28DP	4/10/2013	J 0.58	75.2	U 5	J 0.75		J 0.41	U 0.2	U 2	U 5	
	0089-28	4/10/2013	J 0.66	76.4	U 5	J 0.69		J 0.48	U 0.2	U 2	U 5	
	0085-29DP	10/14/2013	J 0.69	69	U 5	U 2		J 0.35	U 0.2	U 2	U 5	
	0089-29	10/14/2013	J 0.59	67.6	U 5	U 2		J 0.39	U 0.2	U 2	U 5	
	0085-30DP	5/13/2014	J 0.8	63	U 5	J 0.86		1.1	U 0.2	U 2	U 5	
	0089-30	5/13/2014	U 2	63.3	U 5	J 0.95		J 0.82	U 0.2	U 2	U 5	
	0089-31	10/21/2014	U 2	93.8	U 5	J 1.1		2.7	U 0.2	U 2	U 5	
	0089-32	5/5/2015	U 2	76	U 5	J 0.8		U 1	U 0.2	U 2	U 5	
	0089-33	10/6/2015	J 0.7	93	U 5	U 2		J 0.4	U 0.2	U 2	U 5	
J_MW-24B												
	0090-01	11/17/2000	U 4.5	105	U 0.3	4.5	U 6.4	U 3	UJ 0.1	U 3.7	U 1.6	11.4
	0090-02	5/2/2001	UJ 4.1	123	U 0.84	J 10.4	U 18	J 6.6	U 0.1	UJ 3.9	U 2.4	41.7
	0090-03	10/23/2001	U 5.7	90.6	0.8	J 7.3	U 11	6.4	U 0.1	U 1.2	U 1	21.8
	0090-04	4/16/2002	UJ 2.2	77.4	J 0.93	3.4		3.2	U 0.1	U 2	U 1.2	
	0090-05	10/15/2002	B 7.1	B 87	U 0.7	B 3.6		U 2.7	U 0.1	U 3.9	B 2.4	
	0090-06	4/15/2003	U 4.7	94.3	U 0.4	2.3		J 2.9	U 0.1	U 3.9	U 1.7	
	0090-07	10/14/2003	B 4.5	B 99.9	U 0.5	B 2		B 1.6	U 0.1	U 3.6	U 1.6	
	0090-08	4/20/2004	U 5.9	92.4	U 0.36	2.7		U 6.5	U 0.1	U 3.6	U 1	
	0090-09	10/12/2004	U 5.8	B 51.3	B 0.57	U 0.9		4.6	U 0.1	U 4.3	B 3.2	
	0090-10	4/27/2005	U 4.5	J 90.5	U 0.8	U 2.5		J 2.8	U 0.1	U 3.8	U 3.7	
	0090-11	10/18/2005	U 5.2	B 84.6	U 0.6	U 1.5		U 2.9	U 0.1	U 4	U 1.9	
	0090-12	4/11/2006	U 8.3	J 76.8	U 0.4	U 1.3		U 2.3	U 0.1	U 3.4	U 1.6	
	0090-13	10/24/2006	U 4.3	B 75	U 0.5	B 1.6		U 2.8	U 0.1	U 4.5	U 1.4	
	0090-14	4/18/2007	U 6.9	J 77.4	U 0.4	J 3.1		J 2.6	U 0.1	U 2.1	U 0.7	
	0090-15	10/17/2007	B 6	B 84.4	B 0.54	B 3.1		B 4.1	U 0.1	U 0.7	U 0.3	
	0090-16	4/24/2008	J 2.8	J 80.8	U 0.39	J 2.3		U 0.87	U 0.1	U 1.9	U 0.37	
	0090-17	10/7/2008	B 3.6	B 83.4	U 0.12	B 1.8		U 0.93	U 0.1	U 2	B 1	
	0090-19	4/20/2009	J 4.6	J 83.1	U 0.85	U 2.8		U 2.1	U 0.1	U 1	U 0.54	
	0090-21	10/20/2009	B 2.6	B 80.6	B 0.5	B 2.5		B 3.2	U 0.1	U 1.1	B 0.48	

SLID	SIN	Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
	0090-22	4/19/2010	U 2.9	J 82.7	U 0.35	J 2.1		U 2.6	U 0.1	U 4.6	U 1.1	
	0090-23	10/12/2010	J 4.1	J 86.3	U 5	J 2		U 10	U 0.2	U 35	U 10	
	0090-24	4/25/2011	U 10	J 95.5	U 5	U 10		26.3	U 0.2	U 35	U 10	
	0090-25	10/18/2011	J 5.8	J 78.5	U 5	J 2.4		J 5.4	U 0.2	U 35	U 10	
	0090-26	5/3/2012	2.4	94.2	U 5	2.4		6.6	UJ 0.2	U 2	U 5	
	0090-27	11/14/2012	2.6	91.1	U 5	3.7		2.2	U 0.2	U 2	U 5	
	0090-28	4/10/2013	3.2	93.4	U 5	2.7		2.1	U 0.2	U 2	U 5	
	0090-29	10/14/2013	2.2	93.8	U 5	2.7		1.6	U 0.2	U 2	U 5	
	0090-30	5/13/2014	3.7	88.3	U 5	2.6		1.8	U 0.2	U 2	U 5	
	0090-31	10/21/2014	3.5	96	U 5	3.6		4.3	U 0.2	U 2	U 5	
	0090-32	5/5/2015	J 1.8	102	U 5	3.2		2.3	U 0.2	U 2	U 5	
	0090-33	10/6/2015	3.5	112	U 5	4.2		6.7	U 0.2	U 2	U 5	

GC/MS Qualifiers: B - The reported analyte was detected in the associated method blank as well as the sample. D - This flag indentifies all compounds identified in an analysis at a secondary dilution factor. This flag alerts data users that any discrepancies between the concentrations reported for the dilutions may be due to dilution of the sample or extract. It additionally indicates that spike recoveries may have been diluted below quantifiable levels. E - Compound quantitation is above the instrument's calibration range for this analysis. J - Indicates an estimated value. This flag is used when the result is less than the reporting limit, but >1/2 reporting limit or has been applied during data validation due to failure of one or more quality control criteria. U - Indicates compound was analyzed for but not detected above the reporting limit.

Metals Concentration Qualifiers: B - The report is less that the Contract Required Detection Limit (CRDL) or Practical Quantification Limit (PQL) but greater than the Instrument Detection Limit (IDL). U - Analyte was analyzed for but not detected, less than IDL, PQL, or CRDL. DL - Detection Limit, includes dilution

Blank space indicates data not available for the sample on the listed date. Either the sample was not collected, or no lab analytical results were generated for the spe

APPENDIX 4

LAKE AND CLIMATE DATA

Date and Time	Average Hourly Canal Elev (ft)	Rain Gage Counts	Rain Gage Inches	Hourly Rain (Inches	Logger Volts Hourly AVG
4/15/15 3:00 PM	95.656296	0	0		12.36978
4/15/15 4:00 PM	95.656416	0	0	0	12.494948
4/15/15 5:00 PM	95.656464	0	0	0	12.497396
4/15/15 6:00 PM	95.655472	0	0	0	12.374682
4/15/15 7:00 PM	95.655264	0	0	0	12.2937
4/15/15 8:00 PM	95.654888	0	0	0	12.1268
4/15/15 9:00 PM	95.654296	0	0	0	12.075258
4/15/15 10:00 PM	95.653912	0	0	0	12.075258
4/15/15 11:00 PM	95.6538	0	0	0	12.075258
4/16/15 12:00 AM	95.6534	0	0	0	12.075258
4/16/15 1:00 AM	95.653216	0	0	0	12.075258
4/16/15 2:00 AM	95.652816	0	0	0	12.075258
4/16/15 3:00 AM	95.65248	0	0	0	12.075258
4/16/15 4:00 AM	95.652088	0	0	0	12.075258
4/16/15 5:00 AM	95.651728	0	0	0	12.075258
4/16/15 6:00 AM	95.651272	0	0	0	12.072804
4/16/15 7:00 AM	95.650672	0	0	0	12.075258
4/16/15 8:00 AM	95.64976	0	0	0	12.070348
4/16/15 9:00 AM	95.649608	0	0	0	12.075258
4/16/15 10:00 AM	95.649736	0	0	0	12.141528
4/16/15 11:00 AM	95.649216	0	0	0	12.369772
4/16/15 12:00 PM	95.649624	0	0	0	12.536674
4/16/15 1:00 PM	95.649544	0	0	0	12.659394
4/16/15 2:00 PM	95.650056	0	0	0	12.600484
4/16/15 3:00 PM	95.650528	0	0	0	12.647122
4/16/15 4:00 PM	95.65064	0	0	0	12.620122
4/16/15 5:00 PM	95.651728	0	0	0	12.62012
4/16/15 6:00 PM	95.651784	0	0	0	12.377134
4/16/15 7:00 PM	95.651352	0	0	0	12.345234
4/16/15 8:00 PM	95.651888	0	0	0	12.2348
4/16/15 9:00 PM	95.651976	0	0	0	12.220076
4/16/15 10:00 PM	95.652632	0	0	0	12.197984
4/16/15 11:00 PM	95.652992	0	0	0	12.121892
4/17/15 12:00 AM	95.65456	0	0	0	12.087528
4/17/15 1:00 AM	95.655384	0	0	0	12.077712
4/17/15 2:00 AM	95.656664	0	0	0	12.075258
4/17/15 3:00 AM	95.657624	0	0	0	12.075258
4/17/15 4:00 AM	95.659064	4	0.04	0.04	12.075258
4/17/15 5:00 AM	95.660328	6	0.06	0.02	12.075258
4/17/15 6:00 AM	95.662976	9	0.09	0.03	12.075258
4/17/15 7:00 AM	95.665016	9	0.09	0	12.075258
4/17/15 8:00 AM	95.669544	17	0.17	0.08	12.075258
4/17/15 9:00 AM	95.675264	18	0.18	0.01	12.075258
4/17/15 10:00 AM	95.680832	18	0.18	0	12.075258
4/17/15 11:00 AM	95.684208	18	0.18	0	12.185714
4/17/15 12:00 PM	95.686152	18	0.18	0	12.15134
4/17/15 1:00 PM	95.688088	18	0.18	0	12.512126
4/17/15 2:00 PM	95.689016	18	0.18	0	12.593122
4/17/15 3:00 PM	95.69036	18	0.18	0	12.654486
4/17/15 4:00 PM	95.691	18	0.18	0	12.64712
4/17/15 5:00 PM	95.69284	18	0.18	0	12.62012
4/17/15 6:00 PM	95.693888	18	0.18	0	12.450762
4/17/15 7:00 PM	95.6966	18	0.18	0	12.369772
4/17/15 8:00 PM	95.698264	18	0.18	0	12.35505
4/17/15 9:00 PM	95.699872	18	0.18	0	12.274064
4/17/15 10:00 PM	95.70084	18	0.18	0	12.22253
4/17/15 11:00 PM	95.702344	18	0.18	0	12.220076
4/18/15 12:00 AM	95.703856	18	0.18	0	12.195528
4/18/15 1:00 AM	95.706224	18	0.18	0	12.13662
4/18/15 2:00 AM	95.708936	18	0.18	0	12.08753
4/18/15 3:00 AM	95.711104	18	0.18	0	12.077712
4/18/15 4:00 AM	95.71336	18	0.18	0	12.075258

4/18/15 5:00 AM	95.715784	18	0.18	0	12.075258
4/18/15 6:00 AM	95.717232	18	0.18	0	12.075258
4/18/15 7:00 AM	95.71864	18	0.18	0	12.075258
4/18/15 8:00 AM	95.719824	18	0.18	0	12.075258
4/18/15 9:00 AM	95.721312	18	0.18	0	12.085074
4/18/15 10:00 AM	95.722656	18	0.18	0	12.247058
4/18/15 11:00 AM	95.72392	18	0.18	0	12.396772
4/18/15 12:00 PM	95.725872	18	0.18	0	12.615216
4/18/15 1:00 PM	95.727848	18	0.18	0	12.644666
4/18/15 2:00 PM	95.730024	18	0.18	0	12.39677
4/18/15 3:00 PM	95.730576	20	0.2	0.02	12.482682
4/18/15 4:00 PM	95.732944	20	0.2	0	12.64712
4/18/15 5:00 PM	95.73432	20	0.2	0	12.593122
4/18/15 6:00 PM	95.735088	20	0.2	0	12.54894
4/18/15 7:00 PM	95.737176	20	0.2	0	12.401678
4/18/15 8:00 PM	95.73812	20	0.2	0	12.369772
4/18/15 9:00 PM	95.73908	20	0.2	0	12.330512
4/18/15 10:00 PM	95.74036	20	0.2	0	12.237256
4/18/15 11:00 PM	95.742208	20	0.2	0	12.224982
4/19/15 12:00 AM	95.743432	20	0.2	0	12.210256
4/19/15 1:00 AM	95.744384	20	0.2	0	12.161164
4/19/15 2:00 AM	95.745376	20	0.2	0	12.107164
4/19/15 3:00 AM	95.746808	20	0.2	0	12.082622
4/19/15 4:00 AM	95.748	20	0.2	0	12.075258
4/19/15 5:00 AM	95.749008	20	0.2	0	12.075258
4/19/15 6:00 AM	95.74976	20	0.2	0	12.075258
4/19/15 7:00 AM	95.750816	20	0.2	0	12.077712
4/19/15 8:00 AM	95.751568	20	0.2	0	12.075258
4/19/15 9:00 AM	95.752264	20	0.2	0	12.17835
4/19/15 10:00 AM	95.75448	20	0.2	0	12.303504
4/19/15 11:00 AM	95.755544	20	0.2	0	12.487588
4/19/15 12:00 PM	95.756672	20	0.2	0	12.671666
4/19/15 1:00 PM	95.757496	20	0.2	0	12.70848
4/19/15 2:00 PM	95.758928	20	0.2	0	12.676576
4/19/15 3:00 PM	95.76	20	0.2	0	12.81647
4/19/15 4:00 PM	95.761144	20	0.2	0	12.801746
4/19/15 5:00 PM	95.762256	20	0.2	0	12.67903
4/19/15 6:00 PM	95.76392	20	0.2	0	12.65694
4/19/15 7:00 PM	95.765056	20	0.2	0	12.482672
4/19/15 8:00 PM	95.765856	20	0.2	0	12.369772
4/19/15 9:00 PM	95.766856	20	0.2	0	12.369772
4/19/15 10:00 PM	95.768032	20	0.2	0	12.369772
4/19/15 11:00 PM	95.768992	20	0.2	0	12.359956
4/20/15 12:00 AM	95.770272	20	0.2	0	12.305966
4/20/15 1:00 AM	95.771384	20	0.2	0	12.244616
4/20/15 2:00 AM	95.7726	20	0.2	0	12.232344
4/20/15 3:00 AM	95.7736	20	0.2	0	12.22253
4/20/15 4:00 AM	95.775112	20	0.2	0	12.22253
4/20/15 5:00 AM	95.776168	20	0.2	0	12.215166
4/20/15 6:00 AM	95.777056	20	0.2	0	12.19062
4/20/15 7:00 AM	95.778328	20	0.2	0	12.16362
4/20/15 8:00 AM	95.779448	20	0.2	0	12.119438
4/20/15 9:00 AM	95.781448	22	0.22	0.02	12.094894
4/20/15 10:00 AM	95.787128	40	0.4	0.18	12.089984
4/20/15 11:00 AM	95.802976	42	0.42	0.02	12.136622
4/20/15 12:00 PM	95.819808	42	0.42	0	12.372226
4/20/15 1:00 PM	95.82728	42	0.42	0	12.369772
4/20/15 2:00 PM	95.831576	42	0.42	0	12.39677
4/20/15 3:00 PM	95.83444	42	0.42	0	12.34278
4/20/15 4:00 PM	95.837224	42	0.42	0	12.239706
4/20/15 5:00 PM	95.839528	42	0.42	0	12.170982
4/20/15 6:00 PM	95.841816	42	0.42	0	12.082622
4/20/15 7:00 PM	95.843592	42	0.42	0	12.077712

4/20/15 8:00 PM	95.845656	42	0.42	0	12.075258
4/20/15 9:00 PM	95.847704	42	0.42	0	12.075258
4/20/15 10:00 PM	95.849504	42	0.42	0	12.075258
4/20/15 11:00 PM	95.85096	42	0.42	0	12.075258
4/21/15 12:00 AM	95.852648	42	0.42	0	12.075258
4/21/15 1:00 AM	95.854168	42	0.42	0	12.075258
4/21/15 2:00 AM	95.855736	42	0.42	0	12.075258
4/21/15 3:00 AM	95.85756	42	0.42	0	12.075258
4/21/15 4:00 AM	95.858848	42	0.42	0	12.075258
4/21/15 5:00 AM	95.862864	55	0.55	0.13	12.075258
4/21/15 6:00 AM	95.873144	62	0.62	0.07	12.075258
4/21/15 7:00 AM	95.89004	67	0.67	0.05	12.075258
4/21/15 8:00 AM	95.903472	68	0.68	0.01	12.075258
4/21/15 9:00 AM	95.913496	72	0.72	0.04	12.075258
4/21/15 10:00 AM	95.922016	73	0.73	0.01	12.075258
4/21/15 11:00 AM	95.9302	74	0.74	0.01	12.075258
4/21/15 12:00 PM	95.941264	93	0.93	0.19	12.075258
4/21/15 1:00 PM	95.972272	100	1	0.07	12.075258
4/21/15 2:00 PM	95.994976	108	1.08	0.08	12.075258
4/21/15 3:00 PM	95.999392	108	1.08	0	12.332962
4/21/15 4:00 PM	95.9968	110	1.1	0.02	12.467954
4/21/15 5:00 PM	95.98888	110	1.1	0	12.664304
4/21/15 6:00 PM	95.979792	110	1.1	0	12.580846
4/21/15 7:00 PM	95.969048	110	1.1	0	12.37959
4/21/15 8:00 PM	95.957864	110	1.1	0	12.35505
4/21/15 9:00 PM	95.947736	110	1.1	0	12.237254
4/21/15 10:00 PM	95.939032	110	1.1	0	12.202892
4/21/15 11:00 PM	95.932472	110	1.1	0	12.107164
4/22/15 12:00 AM	95.927024	110	1.1	0	12.080166
4/22/15 1:00 AM	95.92268	110	1.1	0	12.075258
4/22/15 2:00 AM	95.920048	110	1.1	0	12.075258
4/22/15 3:00 AM	95.91784	111	1.11	0.01	12.075258
4/22/15 4:00 AM	95.914704	111	1.11	0	12.075258
4/22/15 5:00 AM	95.912688	111	1.11	0	12.075258
4/22/15 6:00 AM	95.91148	111	1.11	0	12.075258
4/22/15 7:00 AM	95.910368	111	1.11	0	12.075258
4/22/15 8:00 AM	95.909128	111	1.11	0	12.075258
4/22/15 9:00 AM	95.908536	111	1.11	0	12.077712
4/22/15 10:00 AM	95.910168	111	1.11	0	12.229886
4/22/15 11:00 AM	95.912848	111	1.11	0	12.367318
4/22/15 12:00 PM	95.916544	111	1.11	0	12.369772
4/22/15 1:00 PM	95.920144	111	1.11	0	12.40904
4/22/15 2:00 PM	95.925728	111	1.11	0	12.320696
4/22/15 3:00 PM	95.928992	118	1.18	0.07	12.178346
4/22/15 4:00 PM	95.93388	122	1.22	0.04	12.089984
4/22/15 5:00 PM	95.9418	125	1.25	0.03	12.075258
4/22/15 6:00 PM	95.950408	134	1.34	0.09	12.075258
4/22/15 7:00 PM	95.961224	141	1.41	0.07	12.075258
4/22/15 8:00 PM	95.972512	142	1.42	0.01	12.075258
4/22/15 9:00 PM	95.97712	143	1.43	0.01	12.075258
4/22/15 10:00 PM	95.975112	143	1.43	0	12.075258
4/22/15 11:00 PM	95.972128	143	1.43	0	12.075258
4/23/15 12:00 AM	95.969928	143	1.43	0	12.075258
4/23/15 1:00 AM	95.969504	143	1.43	0	12.075258
4/23/15 2:00 AM	95.970656	143	1.43	0	12.075258
4/23/15 3:00 AM	95.970728	143	1.43	0	12.075258
4/23/15 4:00 AM	95.970944	143	1.43	0	12.075258
4/23/15 5:00 AM	95.972784	143	1.43	0	12.075258
4/23/15 6:00 AM	95.974368	143	1.43	0	12.075258
4/23/15 7:00 AM	95.976728	143	1.43	0	12.075258
4/23/15 8:00 AM	95.984104	143	1.43	0	12.075258
4/23/15 9:00 AM	95.99184	143	1.43	0	12.077712
4/23/15 10:00 AM	95.998136	143	1.43	0	12.09244

4/23/15 11:00 AM	96.003944	143	1.43	0	12.264238
4/23/15 12:00 PM	96.008088	143	1.43	0	12.44341
4/23/15 1:00 PM	96.011568	143	1.43	0	12.72566
4/23/15 2:00 PM	96.014504	143	1.43	0	12.693754
4/23/15 3:00 PM	96.01284	143	1.43	0	12.644666
4/23/15 4:00 PM	96.014496	143	1.43	0	12.674122
4/23/15 5:00 PM	96.022344	143	1.43	0	12.720752
4/23/15 6:00 PM	96.028376	143	1.43	0	12.666758
4/23/15 7:00 PM	96.029184	143	1.43	0	12.573484
4/23/15 8:00 PM	96.026472	143	1.43	0	12.384498
4/23/15 9:00 PM	96.0238	143	1.43	0	12.364864
4/23/15 10:00 PM	96.020016	143	1.43	0	12.278972
4/23/15 11:00 PM	96.016872	143	1.43	0	12.229892
4/24/15 12:00 AM	96.018032	143	1.43	0	12.220074
4/24/15 1:00 AM	96.019576	143	1.43	0	12.195528
4/24/15 2:00 AM	96.026144	143	1.43	0	12.141528
4/24/15 3:00 AM	96.036864	143	1.43	0	12.094894
4/24/15 4:00 AM	96.04676	143	1.43	0	12.080166
4/24/15 5:00 AM	96.056192	143	1.43	0	12.075258
4/24/15 6:00 AM	96.058928	143	1.43	0	12.075258
4/24/15 7:00 AM	96.06968	143	1.43	0	12.075258
4/24/15 8:00 AM	96.07372	143	1.43	0	12.075258
4/24/15 9:00 AM	96.070552	143	1.43	0	12.075258
4/24/15 10:00 AM	96.065728	143	1.43	0	12.075258
4/24/15 11:00 AM	96.063424	143	1.43	0	12.15626
4/24/15 12:00 PM	96.06812	143	1.43	0	12.22253
4/24/15 1:00 PM	96.067728	143	1.43	0	12.21762
4/24/15 2:00 PM	96.06676	143	1.43	0	12.220076
4/24/15 3:00 PM	96.06552	143	1.43	0	12.143982
4/24/15 4:00 PM	96.067984	143	1.43	0	12.087528
4/24/15 5:00 PM	96.070264	143	1.43	0	12.075258
4/24/15 6:00 PM	96.067224	143	1.43	0	12.075258
4/24/15 7:00 PM	96.06772	143	1.43	0	12.075258
4/24/15 8:00 PM	96.072752	143	1.43	0	12.075258
4/24/15 9:00 PM	96.070728	143	1.43	0	12.075258
4/24/15 10:00 PM	96.065184	143	1.43	0	12.075258
4/24/15 11:00 PM	96.062552	143	1.43	0	12.075258
4/25/15 12:00 AM	96.06428	143	1.43	0	12.075258
4/25/15 1:00 AM	96.065824	143	1.43	0	12.075258
4/25/15 2:00 AM	96.063888	143	1.43	0	12.075258
4/25/15 3:00 AM	96.064128	143	1.43	0	12.072804
4/25/15 4:00 AM	96.063984	143	1.43	0	12.072804
4/25/15 5:00 AM	96.065088	143	1.43	0	12.072804
4/25/15 6:00 AM	96.076744	143	1.43	0	12.072804
4/25/15 7:00 AM	96.081208	143	1.43	0	12.075258
4/25/15 8:00 AM	96.07372	143	1.43	0	12.072804
4/25/15 9:00 AM	96.066968	143	1.43	0	12.080168
4/25/15 10:00 AM	96.06144	143	1.43	0	12.178348
4/25/15 11:00 AM	96.057968	143	1.43	0	12.271602
4/25/15 12:00 PM	96.057584	143	1.43	0	12.566132
4/25/15 1:00 PM	96.059408	143	1.43	0	12.683936
4/25/15 2:00 PM	96.058512	143	1.43	0	12.593122
4/25/15 3:00 PM	96.056552	143	1.43	0	12.647124
4/25/15 4:00 PM	96.05704	143	1.43	0	12.463034
4/25/15 5:00 PM	96.0552	143	1.43	0	12.372226
4/25/15 6:00 PM	96.054928	143	1.43	0	12.369772
4/25/15 7:00 PM	96.053576	143	1.43	0	12.283884
4/25/15 8:00 PM	96.055144	143	1.43	0	12.21271
4/25/15 9:00 PM	96.056144	143	1.43	0	12.136618
4/25/15 10:00 PM	96.05628	143	1.43	0	12.080166
4/25/15 11:00 PM	96.057368	143	1.43	0	12.075258
4/26/15 12:00 AM	96.059624	143	1.43	0	12.075258
4/26/15 1:00 AM	96.061384	143	1.43	0	12.075258

4/26/15 2:00 AM	96.06332	143	1.43	0	12.075258
4/26/15 3:00 AM	96.062768	143	1.43	0	12.075258
4/26/15 4:00 AM	96.065144	143	1.43	0	12.072804
4/26/15 5:00 AM	96.06552	143	1.43	0	12.075258
4/26/15 6:00 AM	96.063776	143	1.43	0	12.075258
4/26/15 7:00 AM	96.061864	143	1.43	0	12.075258
4/26/15 8:00 AM	96.060736	143	1.43	0	12.075258
4/26/15 9:00 AM	96.061552	143	1.43	0	12.085076
4/26/15 10:00 AM	96.06316	143	1.43	0	12.256878
4/26/15 11:00 AM	96.064384	143	1.43	0	12.4115
4/26/15 12:00 PM	96.06456	143	1.43	0	12.54649
4/26/15 1:00 PM	96.06332	143	1.43	0	12.600482
4/26/15 2:00 PM	96.063752	143	1.43	0	12.40904
4/26/15 3:00 PM	96.062432	143	1.43	0	12.369772
4/26/15 4:00 PM	96.063704	143	1.43	0	12.485124
4/26/15 5:00 PM	96.062304	143	1.43	0	12.369772
4/26/15 6:00 PM	96.060648	143	1.43	0	12.29861
4/26/15 7:00 PM	96.058976	143	1.43	0	12.220076
4/26/15 8:00 PM	96.059352	143	1.43	0	12.126802
4/26/15 9:00 PM	96.058568	143	1.43	0	12.080166
4/26/15 10:00 PM	96.06164	143	1.43	0	12.075258
4/26/15 11:00 PM	96.062	143	1.43	0	12.075258
4/27/15 12:00 AM	96.062696	143	1.43	0	12.075258
4/27/15 1:00 AM	96.060376	145	1.45	0.02	12.075258
4/27/15 2:00 AM	96.062152	145	1.45	0	12.075258
4/27/15 3:00 AM	96.062896	145	1.45	0	12.075258
4/27/15 4:00 AM	96.062944	145	1.45	0	12.072804
4/27/15 5:00 AM	96.06212	145	1.45	0	12.075258
4/27/15 6:00 AM	96.062168	146	1.46	0.01	12.075258
4/27/15 7:00 AM	96.062816	146	1.46	0	12.075258
4/27/15 8:00 AM	96.062832	149	1.49	0.03	12.075258
4/27/15 9:00 AM	96.062168	149	1.49	0	12.075258
4/27/15 10:00 AM	96.06208	149	1.49	0	12.075258
4/27/15 11:00 AM	96.059864	150	1.5	0.01	12.075258
4/27/15 12:00 PM	96.060384	150	1.5	0	12.153802
4/27/15 1:00 PM	96.062408	151	1.51	0.01	12.259338
4/27/15 2:00 PM	96.062792	151	1.51	0	12.269152
4/27/15 3:00 PM	96.064504	151	1.51	0	12.205342
4/27/15 4:00 PM	96.063008	151	1.51	0	12.075258
4/27/15 5:00 PM	96.062584	151	1.51	0	12.075258
4/27/15 6:00 PM	96.061088	151	1.51	0	12.075258
4/27/15 7:00 PM	96.059648	152	1.52	0.01	12.075258
4/27/15 8:00 PM	96.05892	157	1.57	0.05	12.075258
4/27/15 9:00 PM	96.063816	159	1.59	0.02	12.075258
4/27/15 10:00 PM	96.071896	159	1.59	0	12.075258
4/27/15 11:00 PM	96.071728	159	1.59	0	12.075258
4/28/15 12:00 AM	96.067848	159	1.59	0	12.075258
4/28/15 1:00 AM	96.06704	159	1.59	0	12.075258
4/28/15 2:00 AM	96.0686	159	1.59	0	12.075258
4/28/15 3:00 AM	96.067264	159	1.59	0	12.075258
4/28/15 4:00 AM	96.067696	159	1.59	0	12.075258
4/28/15 5:00 AM	96.068864	159	1.59	0	12.075258
4/28/15 6:00 AM	96.07304	159	1.59	0	12.075258
4/28/15 7:00 AM	96.07008	159	1.59	0	12.070348
4/28/15 8:00 AM	96.068528	159	1.59	0	12.075258
4/28/15 9:00 AM	96.067472	159	1.59	0	12.075258
4/28/15 10:00 AM	96.071624	159	1.59	0	12.188164
4/28/15 11:00 AM	96.07536	159	1.59	0	12.357502
4/28/15 12:00 PM	96.076	159	1.59	0	12.507216
4/28/15 1:00 PM	96.07332	160	1.6	0.01	12.583308
4/28/15 2:00 PM	96.06736	160	1.6	0	12.634848
4/28/15 3:00 PM	96.062512	160	1.6	0	12.546488
4/28/15 4:00 PM	96.05964	160	1.6	0	12.65203

4/28/15 5:00 PM	96.060856	160	1.6	0	12.622574
4/28/15 6:00 PM	96.061712	160	1.6	0	12.472854
4/28/15 7:00 PM	96.061032	160	1.6	0	12.386952
4/28/15 8:00 PM	96.061664	160	1.6	0	12.364864
4/28/15 9:00 PM	96.060832	160	1.6	0	12.256886
4/28/15 10:00 PM	96.060808	160	1.6	0	12.21762
4/28/15 11:00 PM	96.060376	160	1.6	0	12.173436
4/29/15 12:00 AM	96.06052	160	1.6	0	12.107166
4/29/15 1:00 AM	96.060192	160	1.6	0	12.080166
4/29/15 2:00 AM	96.060792	160	1.6	0	12.077712
4/29/15 3:00 AM	96.05868	160	1.6	0	12.075258
4/29/15 4:00 AM	96.059728	160	1.6	0	12.075258
4/29/15 5:00 AM	96.060104	160	1.6	0	12.075258
4/29/15 6:00 AM	96.059976	160	1.6	0	12.075258
4/29/15 7:00 AM	96.058864	160	1.6	0	12.075258
4/29/15 8:00 AM	96.060144	160	1.6	0	12.075258
4/29/15 9:00 AM	96.061936	160	1.6	0	12.077712
4/29/15 10:00 AM	96.064064	160	1.6	0	12.269146
4/29/15 11:00 AM	96.064128	160	1.6	0	12.55631
4/29/15 12:00 PM	96.064608	160	1.6	0	12.649576
4/29/15 1:00 PM	96.059784	160	1.6	0	12.718298
4/29/15 2:00 PM	96.058344	160	1.6	0	12.710938
4/29/15 3:00 PM	96.057456	160	1.6	0	12.66921
4/29/15 4:00 PM	96.054744	160	1.6	0	12.666758
4/29/15 5:00 PM	96.055408	160	1.6	0	12.666758
4/29/15 6:00 PM	96.059832	160	1.6	0	12.595572
4/29/15 7:00 PM	96.060048	160	1.6	0	12.369772
4/29/15 8:00 PM	96.058008	160	1.6	0	12.364864
4/29/15 9:00 PM	96.058272	160	1.6	0	12.31333
4/29/15 10:00 PM	96.057232	160	1.6	0	12.247068
4/29/15 11:00 PM	96.0584	160	1.6	0	12.227436
4/30/15 12:00 AM	96.05832	160	1.6	0	12.22253
4/30/15 1:00 AM	96.058088	160	1.6	0	12.21271
4/30/15 2:00 AM	96.057224	160	1.6	0	12.180802
4/30/15 3:00 AM	96.057536	160	1.6	0	12.107166
4/30/15 4:00 AM	96.057152	160	1.6	0	12.089984
4/30/15 5:00 AM	96.055768	160	1.6	0	12.089984
4/30/15 6:00 AM	96.055352	160	1.6	0	12.075258
4/30/15 7:00 AM	96.054744	160	1.6	0	12.077712
4/30/15 8:00 AM	96.05352	160	1.6	0	12.094894
4/30/15 9:00 AM	96.054128	160	1.6	0	12.239704
4/30/15 10:00 AM	96.054512	160	1.6	0	12.409046
4/30/15 11:00 AM	96.05576	160	1.6	0	12.504758
4/30/15 12:00 PM	96.055368	160	1.6	0	12.504766
4/30/15 1:00 PM	96.05368	160	1.6	0	12.627486
4/30/15 2:00 PM	96.051968	160	1.6	0	12.843464
4/30/15 3:00 PM	96.049544	160	1.6	0	12.76738
4/30/15 4:00 PM	96.048144	160	1.6	0	12.789472
4/30/15 5:00 PM	96.051136	160	1.6	0	12.649576
4/30/15 6:00 PM	96.053328	160	1.6	0	12.426222
4/30/15 7:00 PM	96.053688	160	1.6	0	12.369772
4/30/15 8:00 PM	96.052288	160	1.6	0	12.359956
4/30/15 9:00 PM	96.050968	160	1.6	0	12.301058
4/30/15 10:00 PM	96.05048	160	1.6	0	12.234798
4/30/15 11:00 PM	96.048944	160	1.6	0	12.232346
5/1/15 12:00 AM	96.049096	160	1.6	0	12.21762
5/1/15 1:00 AM	96.048592	160	1.6	0	12.21762
5/1/15 2:00 AM	96.045632	160	1.6	0	12.175892
5/1/15 3:00 AM	96.044264	160	1.6	0	12.116984
5/1/15 4:00 AM	96.045888	160	1.6	0	12.097348
5/1/15 5:00 AM	96.045608	160	1.6	0	12.080168
5/1/15 6:00 AM	96.045768	160	1.6	0	12.075258
5/1/15 7:00 AM	96.044456	160	1.6	0	12.075258

5/1/15 8:00 AM	96.044144	160	1.6	0	12.082622
5/1/15 9:00 AM	96.044232	160	1.6	0	12.185712
5/1/15 12:00 PM	97.237368	0	0	0	12.45568
5/1/15 1:00 PM	97.239704	0	0	0	12.654484
5/1/15 2:00 PM	97.240992	0	0	0	12.664304
5/1/15 3:00 PM	97.240264	0	0	0	12.659394
5/1/15 4:00 PM	97.237504	0	0	0	12.541574
5/1/15 5:00 PM	97.232592	0	0	0	12.369772
5/1/15 6:00 PM	97.226168	0	0	0	12.369772
5/1/15 7:00 PM	97.222552	0	0	0	12.328058
5/1/15 8:00 PM	97.222664	0	0	0	12.242162
5/1/15 9:00 PM	97.219408	0	0	0	12.220076
5/1/15 10:00 PM	97.21732	0	0	0	12.21762
5/1/15 11:00 PM	97.212088	0	0	0	12.143984
5/2/15 12:00 AM	97.208016	0	0	0	12.094894
5/2/15 1:00 AM	97.206048	0	0	0	12.077712
5/2/15 2:00 AM	97.205432	0	0	0	12.075258
5/2/15 3:00 AM	97.201112	0	0	0	12.075258
5/2/15 4:00 AM	97.19684	0	0	0	12.075258
5/2/15 5:00 AM	97.19404	0	0	0	12.075258
5/2/15 6:00 AM	97.19096	0	0	0	12.075258
5/2/15 7:00 AM	97.18636	0	0	0	12.075258
5/2/15 8:00 AM	97.185504	0	0	0	12.075258
5/2/15 9:00 AM	97.183496	0	0	0	12.129258
5/2/15 10:00 AM	97.182296	0	0	0	12.315776
5/2/15 11:00 AM	97.179976	0	0	0	12.369772
5/2/15 12:00 PM	97.178248	0	0	0	12.440954
5/2/15 1:00 PM	97.177992	0	0	0	12.622224
5/2/15 2:00 PM	97.175704	0	0	0	12.659394
5/2/15 3:00 PM	97.174496	0	0	0	12.622576
5/2/15 4:00 PM	97.170472	0	0	0	12.485124
5/2/15 5:00 PM	97.17016	0	0	0	12.369772
5/2/15 6:00 PM	97.168992	0	0	0	12.367318
5/2/15 7:00 PM	97.170032	0	0	0	12.256886
5/2/15 8:00 PM	97.165408	0	0	0	12.222528
5/2/15 9:00 PM	97.161608	0	0	0	12.21271
5/2/15 10:00 PM	97.15544	0	0	0	12.148892
5/2/15 11:00 PM	97.155984	0	0	0	12.094894
5/3/15 12:00 AM	97.15588	0	0	0	12.080166
5/3/15 1:00 AM	97.152936	0	0	0	12.075258
5/3/15 2:00 AM	97.151032	0	0	0	12.075258
5/3/15 3:00 AM	97.149904	0	0	0	12.075258
5/3/15 4:00 AM	97.149064	0	0	0	12.075258
5/3/15 5:00 AM	97.144528	0	0	0	12.075258
5/3/15 6:00 AM	97.142048	0	0	0	12.075258
5/3/15 7:00 AM	97.139016	0	0	0	12.075258
5/3/15 8:00 AM	97.136032	0	0	0	12.075258
5/3/15 9:00 AM	97.138416	0	0	0	12.114532
5/3/15 10:00 AM	97.13696	0	0	0	12.313322
5/3/15 11:00 AM	97.137336	0	0	0	12.369772
5/3/15 12:00 PM	97.136104	0	0	0	12.401682
5/3/15 1:00 PM	97.1368	0	0	0	12.472854
5/3/15 2:00 PM	97.135296	0	0	0	12.38695
5/3/15 3:00 PM	97.127448	0	0	0	12.382044
5/3/15 4:00 PM	97.122072	0	0	0	12.369772
5/3/15 5:00 PM	97.119016	0	0	0	12.367318
5/3/15 6:00 PM	97.11496	0	0	0	12.274068
5/3/15 7:00 PM	97.116744	0	0	0	12.22253
5/3/15 8:00 PM	97.115568	0	0	0	12.146436
5/3/15 9:00 PM	97.113432	0	0	0	12.092438
5/3/15 10:00 PM	97.114872	0	0	0	12.077712
5/3/15 11:00 PM	97.1112	0	0	0	12.075258
5/4/15 12:00 AM	97.109536	0	0	0	12.075258

5/4/15 1:00 AM	97.106712	0	0	0	12.075258
5/4/15 2:00 AM	97.104928	0	0	0	12.075258
5/4/15 3:00 AM	97.102088	0	0	0	12.075258
5/4/15 4:00 AM	97.097168	0	0	0	12.075258
5/4/15 5:00 AM	97.093592	0	0	0	12.075258
5/4/15 6:00 AM	97.08924	0	0	0	12.075258
5/4/15 7:00 AM	97.083648	0	0	0	12.075258
5/4/15 8:00 AM	97.080224	0	0	0	12.075258
5/4/15 9:00 AM	97.078224	0	0	0	12.080168
5/4/15 10:00 AM	97.079024	0	0	0	12.25197
5/4/15 11:00 AM	97.077752	0	0	0	12.369772
5/4/15 12:00 PM	97.074656	0	0	0	12.369772
5/4/15 1:00 PM	97.068432	0	0	0	12.384498
5/4/15 2:00 PM	97.068576	0	0	0	12.369772
5/4/15 3:00 PM	97.06556	0	0	0	12.372226
5/4/15 4:00 PM	97.063016	0	0	0	12.369772
5/4/15 5:00 PM	97.060512	0	0	0	12.291246
5/4/15 6:00 PM	97.061824	0	0	0	12.220074
5/4/15 7:00 PM	97.063264	0	0	0	12.134164
5/4/15 8:00 PM	97.073016	0	0	0	12.080166
5/4/15 9:00 PM	97.083304	0	0	0	12.075258
5/4/15 10:00 PM	97.083992	0	0	0	12.075258
5/4/15 11:00 PM	97.075	0	0	0	12.075258
5/5/15 12:00 AM	97.072152	0	0	0	12.075258
5/5/15 1:00 AM	97.083656	0	0	0	12.075258
5/5/15 2:00 AM	97.093136	0	0	0	12.075258
5/5/15 3:00 AM	97.092016	0	0	0	12.075258
5/5/15 4:00 AM	97.08368	0	0	0	12.075258
5/5/15 5:00 AM	97.077384	0	0	0	12.075258
5/5/15 6:00 AM	97.069576	0	0	0	12.075258
5/5/15 7:00 AM	97.062696	0	0	0	12.075258
5/5/15 8:00 AM	97.055264	0	0	0	12.075258
5/5/15 9:00 AM	97.046104	0	0	0	12.075258
5/5/15 10:00 AM	97.039976	0	0	0	12.180804
5/5/15 11:00 AM	97.03624	0	0	0	12.224982
5/5/15 12:00 PM	97.031464	0	0	0	12.325594
5/5/15 1:00 PM	97.029104	0	0	0	12.369772
5/5/15 2:00 PM	97.028464	0	0	0	12.374682
5/5/15 3:00 PM	97.029176	0	0	0	12.369772
5/5/15 4:00 PM	97.029344	0	0	0	12.369772
5/5/15 5:00 PM	97.026384	0	0	0	12.347688
5/5/15 6:00 PM	97.022664	0	0	0	12.227436
5/5/15 7:00 PM	97.022616	0	0	0	12.1808
5/5/15 8:00 PM	97.022288	0	0	0	12.085074
5/5/15 9:00 PM	97.0192	0	0	0	12.075258
5/5/15 10:00 PM	97.015056	0	0	0	12.075258
5/5/15 11:00 PM	97.002632	0	0	0	12.075258
5/6/15 12:00 AM	96.999544	0	0	0	12.075258
5/6/15 1:00 AM	97.012352	0	0	0	12.075258
5/6/15 2:00 AM	97.012696	0	0	0	12.075258
5/6/15 3:00 AM	97.011208	0	0	0	12.075258
5/6/15 4:00 AM	97.012424	0	0	0	12.075258
5/6/15 5:00 AM	97.010168	0	0	0	12.075258
5/6/15 6:00 AM	97.007752	0	0	0	12.075258
5/6/15 7:00 AM	97.00284	0	0	0	12.075258
5/6/15 8:00 AM	96.999776	0	0	0	12.075258
5/6/15 9:00 AM	96.995776	0	0	0	12.077712
5/6/15 10:00 AM	96.992472	0	0	0	12.217612
5/6/15 11:00 AM	96.987696	0	0	0	12.369772
5/6/15 12:00 PM	96.984472	0	0	0	12.372226
5/6/15 1:00 PM	96.981856	0	0	0	12.443404
5/6/15 2:00 PM	96.9814	0	0	0	12.453218
5/6/15 3:00 PM	96.979408	0	0	0	12.40904

5/6/15 4:00 PM	96.978696	0	0	0	12.369772
5/6/15 5:00 PM	96.977808	0	0	0	12.364864
5/6/15 6:00 PM	96.976032	0	0	0	12.259342
5/6/15 7:00 PM	96.973992	0	0	0	12.21271
5/6/15 8:00 PM	96.972432	0	0	0	12.1268
5/6/15 9:00 PM	96.968792	0	0	0	12.08753
5/6/15 10:00 PM	96.96528	0	0	0	12.075258
5/6/15 11:00 PM	96.96216	0	0	0	12.075258
5/7/15 12:00 AM	96.959664	0	0	0	12.075258
5/7/15 1:00 AM	96.95744	0	0	0	12.075258
5/7/15 2:00 AM	96.955616	0	0	0	12.075258
5/7/15 3:00 AM	96.954184	0	0	0	12.075258
5/7/15 4:00 AM	96.952808	0	0	0	12.075258
5/7/15 5:00 AM	96.952784	0	0	0	12.075258
5/7/15 6:00 AM	96.950504	0	0	0	12.075258
5/7/15 7:00 AM	96.946568	0	0	0	12.075258
5/7/15 8:00 AM	96.943232	0	0	0	12.075258
5/7/15 9:00 AM	96.94028	0	0	0	12.075258
5/7/15 10:00 AM	96.938328	0	0	0	12.20289
5/7/15 11:00 AM	96.935112	0	0	0	12.364864
5/7/15 12:00 PM	96.935552	0	0	0	12.369772
5/7/15 1:00 PM	96.937368	0	0	0	12.394316
5/7/15 2:00 PM	96.938256	0	0	0	12.411496
5/7/15 3:00 PM	96.937736	0	0	0	12.384498
5/7/15 4:00 PM	96.936024	0	0	0	12.369772
5/7/15 5:00 PM	96.93416	0	0	0	12.362412
5/7/15 6:00 PM	96.932328	0	0	0	12.237256
5/7/15 7:00 PM	96.930024	0	0	0	12.21271
5/7/15 8:00 PM	96.927752	0	0	0	12.112074
5/7/15 9:00 PM	96.9256	0	0	0	12.077712
5/7/15 10:00 PM	96.92272	0	0	0	12.075258
5/7/15 11:00 PM	96.920024	0	0	0	12.075258
5/8/15 12:00 AM	96.918096	0	0	0	12.075258
5/8/15 1:00 AM	96.915544	0	0	0	12.075258
5/8/15 2:00 AM	96.913328	0	0	0	12.075258
5/8/15 3:00 AM	96.910968	0	0	0	12.075258
5/8/15 4:00 AM	96.908936	0	0	0	12.075258
5/8/15 5:00 AM	96.906704	0	0	0	12.075258
5/8/15 6:00 AM	96.904616	0	0	0	12.075258
5/8/15 7:00 AM	96.901768	0	0	0	12.075258
5/8/15 8:00 AM	96.899096	0	0	0	12.075258
5/8/15 9:00 AM	96.897016	0	0	0	12.075258
5/8/15 10:00 AM	96.896688	0	0	0	12.178348
5/8/15 11:00 AM	96.892992	0	0	0	12.359954
5/8/15 12:00 PM	96.891144	0	0	0	12.369772
5/8/15 1:00 PM	96.890704	0	0	0	12.384498
5/8/15 2:00 PM	96.889272	0	0	0	12.384498
5/8/15 3:00 PM	96.88828	0	0	0	12.369772
5/8/15 4:00 PM	96.886096	0	0	0	12.369772
5/8/15 5:00 PM	96.886696	0	0	0	12.34278
5/8/15 6:00 PM	96.886328	0	0	0	12.224982
5/8/15 7:00 PM	96.88456	0	0	0	12.178346
5/8/15 8:00 PM	96.882736	0	0	0	12.10471
5/8/15 9:00 PM	96.879808	0	0	0	12.082622
5/8/15 10:00 PM	96.878576	0	0	0	12.075258
5/8/15 11:00 PM	96.87624	0	0	0	12.075258
5/9/15 12:00 AM	96.873664	0	0	0	12.075258
5/9/15 1:00 AM	96.871632	0	0	0	12.075258
5/9/15 2:00 AM	96.870064	0	0	0	12.075258
5/9/15 3:00 AM	96.868072	0	0	0	12.075258
5/9/15 4:00 AM	96.866368	0	0	0	12.075258
5/9/15 5:00 AM	96.865048	0	0	0	12.075258
5/9/15 6:00 AM	96.864048	0	0	0	12.075258

5/9/15 7:00 AM	96.862216	0	0	0	12.075258
5/9/15 8:00 AM	96.860224	0	0	0	12.075258
5/9/15 9:00 AM	96.857848	0	0	0	12.080166
5/9/15 10:00 AM	96.856112	0	0	0	12.141528
5/9/15 11:00 AM	96.853592	0	0	0	12.195522
5/9/15 12:00 PM	96.853776	0	0	0	12.35014
5/9/15 1:00 PM	96.851248	0	0	0	12.36241
5/9/15 2:00 PM	96.85096	0	0	0	12.369772
5/9/15 3:00 PM	96.848584	0	0	0	12.41886
5/9/15 4:00 PM	96.84844	0	0	0	12.421312
5/9/15 5:00 PM	96.845504	0	0	0	12.369772
5/9/15 6:00 PM	96.844672	0	0	0	12.369772
5/9/15 7:00 PM	96.842768	0	0	0	12.310878
5/9/15 8:00 PM	96.839624	0	0	0	12.224982
5/9/15 9:00 PM	96.835728	0	0	0	12.148892
5/9/15 10:00 PM	96.833496	0	0	0	12.099802
5/9/15 11:00 PM	96.831384	0	0	0	12.075258
5/10/15 12:00 AM	96.827744	0	0	0	12.080166
5/10/15 1:00 AM	96.82516	0	0	0	12.075258
5/10/15 2:00 AM	96.822672	0	0	0	12.075258
5/10/15 3:00 AM	96.82012	0	0	0	12.075258
5/10/15 4:00 AM	96.818168	0	0	0	12.075258
5/10/15 5:00 AM	96.815912	0	0	0	12.075258
5/10/15 6:00 AM	96.813184	0	0	0	12.075258
5/10/15 7:00 AM	96.809472	0	0	0	12.075258
5/10/15 8:00 AM	96.80648	0	0	0	12.075258
5/10/15 9:00 AM	96.804416	0	0	0	12.075258
5/10/15 10:00 AM	96.801088	0	0	0	12.126802
5/10/15 11:00 AM	96.799904	0	0	0	12.178346
5/10/15 12:00 PM	96.7962	0	0	0	12.08753
5/10/15 1:00 PM	96.793392	0	0	0	12.099804
5/10/15 2:00 PM	96.78816	0	0	0	12.35014
5/10/15 3:00 PM	96.789272	0	0	0	12.389408
5/10/15 4:00 PM	96.787888	0	0	0	12.369772
5/10/15 5:00 PM	96.78448	0	0	0	12.364864
5/10/15 6:00 PM	96.7826	0	0	0	12.28388
5/10/15 7:00 PM	96.78172	2	0.02	0.02	12.175892
5/10/15 8:00 PM	96.800248	16	0.16	0.14	12.085074
5/10/15 9:00 PM	96.84512	20	0.2	0.04	12.075258
5/10/15 10:00 PM	96.865896	20	0.2	0	12.075258
5/10/15 11:00 PM	96.871056	20	0.2	0	12.075258
5/11/15 12:00 AM	96.871496	20	0.2	0	12.075258
5/11/15 1:00 AM	96.87008	20	0.2	0	12.075258
5/11/15 2:00 AM	96.86744	20	0.2	0	12.075258
5/11/15 3:00 AM	96.864448	20	0.2	0	12.075258
5/11/15 4:00 AM	96.86156	20	0.2	0	12.075258
5/11/15 5:00 AM	96.857536	20	0.2	0	12.075258
5/11/15 6:00 AM	96.853672	20	0.2	0	12.075258
5/11/15 7:00 AM	96.849632	20	0.2	0	12.075258
5/11/15 8:00 AM	96.845832	20	0.2	0	12.075258
5/11/15 9:00 AM	96.841832	21	0.21	0.01	12.075258
5/11/15 10:00 AM	96.83824	21	0.21	0	12.075258
5/11/15 11:00 AM	96.834048	21	0.21	0	12.075258
5/11/15 12:00 PM	96.830384	21	0.21	0	12.107166
5/11/15 1:00 PM	96.826712	21	0.21	0	12.102256
5/11/15 2:00 PM	96.82272	21	0.21	0	12.25198
5/11/15 3:00 PM	96.819992	21	0.21	0	12.116982
5/11/15 4:00 PM	96.829992	21	0.21	0	12.075258
5/11/15 5:00 PM	96.945024	65	0.65	0.44	12.075258
5/11/15 6:00 PM	97.017384	71	0.71	0.06	12.075258
5/11/15 7:00 PM	97.019488	71	0.71	0	12.075258
5/11/15 8:00 PM	97.01372	75	0.75	0.04	12.075258
5/11/15 9:00 PM	97.019312	84	0.84	0.09	12.075258

5/11/15 10:00 PM	97.036744	93	0.93	0.09	12.075258
5/11/15 11:00 PM	97.046712	98	0.98	0.05	12.075258
5/12/15 12:00 AM	97.038328	98	0.98	0	12.075258
5/12/15 1:00 AM	97.02264	98	0.98	0	12.075258
5/12/15 2:00 AM	97.004792	98	0.98	0	12.072804
5/12/15 3:00 AM	96.987208	98	0.98	0	12.075258
5/12/15 4:00 AM	96.971864	98	0.98	0	12.075258
5/12/15 5:00 AM	96.973088	108	1.08	0.1	12.072804
5/12/15 6:00 AM	96.982264	118	1.18	0.1	12.072804
5/12/15 7:00 AM	96.98492	121	1.21	0.03	12.075258
5/12/15 8:00 AM	96.979392	122	1.22	0.01	12.075258
5/12/15 9:00 AM	96.972752	122	1.22	0	12.075258
5/12/15 10:00 AM	96.96596	125	1.25	0.03	12.075258
5/12/15 11:00 AM	96.955872	126	1.26	0.01	12.207786
5/12/15 12:00 PM	96.945872	126	1.26	0	12.436046
5/12/15 1:00 PM	96.935672	126	1.26	0	12.482672
5/12/15 2:00 PM	96.919536	126	1.26	0	12.65694
5/12/15 3:00 PM	96.914176	126	1.26	0	12.485132
5/12/15 4:00 PM	96.906856	126	1.26	0	12.382046
5/12/15 5:00 PM	96.900304	126	1.26	0	12.598032
5/12/15 6:00 PM	96.900344	126	1.26	0	12.409042
5/12/15 7:00 PM	96.896592	126	1.26	0	12.278976
5/12/15 8:00 PM	96.898072	126	1.26	0	12.21762
5/12/15 9:00 PM	96.893816	126	1.26	0	12.139074
5/12/15 10:00 PM	96.886816	126	1.26	0	12.080166
5/12/15 11:00 PM	96.878928	126	1.26	0	12.075258
5/13/15 12:00 AM	96.870056	126	1.26	0	12.075258
5/13/15 1:00 AM	96.861712	126	1.26	0	12.075258
5/13/15 2:00 AM	96.854712	126	1.26	0	12.075258
5/13/15 3:00 AM	96.848784	126	1.26	0	12.075258
5/13/15 4:00 AM	96.844096	126	1.26	0	12.075258
5/13/15 5:00 AM	96.839696	126	1.26	0	12.075258
5/13/15 6:00 AM	96.837512	127	1.27	0.01	12.075258
5/13/15 7:00 AM	96.83628	128	1.28	0.01	12.075258
5/13/15 8:00 AM	96.833664	128	1.28	0	12.075258
5/13/15 9:00 AM	96.831336	128	1.28	0	12.075258
5/13/15 10:00 AM	96.827656	128	1.28	0	12.075258
5/13/15 11:00 AM	96.823632	128	1.28	0	12.075258
5/13/15 12:00 PM	96.818448	128	1.28	0	12.134166
5/13/15 1:00 PM	96.813224	128	1.28	0	12.364864
5/13/15 2:00 PM	96.811864	128	1.28	0	12.458128
5/13/15 3:00 PM	96.812624	128	1.28	0	12.42622
5/13/15 4:00 PM	96.81072	128	1.28	0	12.372226
5/13/15 5:00 PM	96.807984	128	1.28	0	12.359958
5/13/15 6:00 PM	96.804936	128	1.28	0	12.232346
5/13/15 7:00 PM	96.803328	128	1.28	0	12.119436
5/13/15 8:00 PM	96.800864	128	1.28	0	12.080166
5/13/15 9:00 PM	96.79796	128	1.28	0	12.075258
5/13/15 10:00 PM	96.795512	128	1.28	0	12.075258
5/13/15 11:00 PM	96.793	128	1.28	0	12.075258
5/14/15 12:00 AM	96.790528	128	1.28	0	12.075258
5/14/15 1:00 AM	96.790856	128	1.28	0	12.075258
5/14/15 2:00 AM	96.790912	128	1.28	0	12.075258
5/14/15 3:00 AM	96.791032	128	1.28	0	12.075258
5/14/15 4:00 AM	96.78972	128	1.28	0	12.075258
5/14/15 5:00 AM	96.78824	128	1.28	0	12.075258
5/14/15 6:00 AM	96.786472	128	1.28	0	12.075258
5/14/15 7:00 AM	96.783832	128	1.28	0	12.075258
5/14/15 8:00 AM	96.781416	128	1.28	0	12.075258
5/14/15 9:00 AM	96.779504	128	1.28	0	12.075258
5/14/15 10:00 AM	96.780032	128	1.28	0	12.207794
5/14/15 11:00 AM	96.777136	128	1.28	0	12.369772
5/14/15 12:00 PM	96.775872	128	1.28	0	12.399228

5/14/15 1:00 PM	96.773168	128	1.28	0	12.519488
5/14/15 2:00 PM	96.772664	128	1.28	0	12.529306
5/14/15 3:00 PM	96.772144	128	1.28	0	12.458128
5/14/15 4:00 PM	96.772648	128	1.28	0	12.374682
5/14/15 5:00 PM	96.77044	128	1.28	0	12.367318
5/14/15 6:00 PM	96.76904	128	1.28	0	12.249526
5/14/15 7:00 PM	96.767696	128	1.28	0	12.178346
5/14/15 8:00 PM	96.766504	128	1.28	0	12.089984
5/14/15 9:00 PM	96.765328	128	1.28	0	12.075258
5/14/15 10:00 PM	96.763488	128	1.28	0	12.075258
5/14/15 11:00 PM	96.76168	128	1.28	0	12.075258
5/15/15 12:00 AM	96.759928	128	1.28	0	12.075258
5/15/15 1:00 AM	96.758328	128	1.28	0	12.075258
5/15/15 2:00 AM	96.756624	128	1.28	0	12.075258
5/15/15 3:00 AM	96.755064	128	1.28	0	12.075258
5/15/15 4:00 AM	96.75316	128	1.28	0	12.075258
5/15/15 5:00 AM	96.75092	128	1.28	0	12.075258
5/15/15 6:00 AM	96.7484	128	1.28	0	12.075258
5/15/15 7:00 AM	96.745552	128	1.28	0	12.075258
5/15/15 8:00 AM	96.74332	128	1.28	0	12.075258
5/15/15 9:00 AM	96.740632	128	1.28	0	12.075258
5/15/15 10:00 AM	96.739192	128	1.28	0	12.075258
5/15/15 11:00 AM	96.73628	128	1.28	0	12.195522
5/15/15 12:00 PM	96.73612	128	1.28	0	12.364864
5/15/15 1:00 PM	96.734256	128	1.28	0	12.369772
5/15/15 2:00 PM	96.732264	128	1.28	0	12.369772
5/15/15 3:00 PM	96.732704	128	1.28	0	12.369772
5/15/15 4:00 PM	96.731032	128	1.28	0	12.369772
5/15/15 5:00 PM	96.731152	128	1.28	0	12.278976
5/15/15 6:00 PM	96.729072	128	1.28	0	12.19062
5/15/15 7:00 PM	96.72712	128	1.28	0	12.087528
5/15/15 8:00 PM	96.725096	128	1.28	0	12.075258
5/15/15 9:00 PM	96.723696	128	1.28	0	12.075258
5/15/15 10:00 PM	96.721832	128	1.28	0	12.075258
5/15/15 11:00 PM	96.720824	128	1.28	0	12.075258
5/16/15 12:00 AM	96.719624	128	1.28	0	12.075258
5/16/15 1:00 AM	96.717848	128	1.28	0	12.075258
5/16/15 2:00 AM	96.716856	128	1.28	0	12.075258
5/16/15 3:00 AM	96.716024	128	1.28	0	12.075258
5/16/15 4:00 AM	96.714656	128	1.28	0	12.075258
5/16/15 5:00 AM	96.713912	128	1.28	0	12.075258
5/16/15 6:00 AM	96.712832	128	1.28	0	12.075258
5/16/15 7:00 AM	96.71148	128	1.28	0	12.075258
5/16/15 8:00 AM	96.710632	128	1.28	0	12.075258
5/16/15 9:00 AM	96.709312	128	1.28	0	12.075258
5/16/15 10:00 AM	96.70648	128	1.28	0	12.075258
5/16/15 11:00 AM	96.704952	128	1.28	0	12.075258
5/16/15 12:00 PM	96.704224	128	1.28	0	12.077712
5/16/15 1:00 PM	96.700832	128	1.28	0	12.151348
5/16/15 2:00 PM	96.697944	128	1.28	0	12.22989
5/16/15 3:00 PM	96.697328	128	1.28	0	12.212708
5/16/15 4:00 PM	96.695024	128	1.28	0	12.129254
5/16/15 5:00 PM	96.692088	128	1.28	0	12.075258
5/16/15 6:00 PM	96.690464	128	1.28	0	12.075258
5/16/15 7:00 PM	96.690384	128	1.28	0	12.075258
5/16/15 8:00 PM	96.688184	128	1.28	0	12.075258
5/16/15 9:00 PM	96.6866	129	1.29	0.01	12.075258
5/16/15 10:00 PM	96.692688	138	1.38	0.09	12.075258
5/16/15 11:00 PM	96.701168	138	1.38	0	12.075258
5/17/15 12:00 AM	96.708536	138	1.38	0	12.075258
5/17/15 1:00 AM	96.711536	138	1.38	0	12.075258
5/17/15 2:00 AM	96.710712	138	1.38	0	12.075258
5/17/15 3:00 AM	96.70876	138	1.38	0	12.075258

5/17/15 4:00 AM	96.70636	138	1.38	0	12.075258
5/17/15 5:00 AM	96.703312	138	1.38	0	12.075258
5/17/15 6:00 AM	96.699648	138	1.38	0	12.075258
5/17/15 7:00 AM	96.695336	138	1.38	0	12.075258
5/17/15 8:00 AM	96.69208	138	1.38	0	12.075258
5/17/15 9:00 AM	96.688296	138	1.38	0	12.075258
5/17/15 10:00 AM	96.685376	138	1.38	0	12.075258
5/17/15 11:00 AM	96.680208	138	1.38	0	12.232338
5/17/15 12:00 PM	96.678872	138	1.38	0	12.369772
5/17/15 1:00 PM	96.675096	138	1.38	0	12.369772
5/17/15 2:00 PM	96.670616	138	1.38	0	12.369772
5/17/15 3:00 PM	96.669056	138	1.38	0	12.369772
5/17/15 4:00 PM	96.66612	138	1.38	0	12.369772
5/17/15 5:00 PM	96.6626	138	1.38	0	12.266706
5/17/15 6:00 PM	96.66096	138	1.38	0	12.14889
5/17/15 7:00 PM	96.657248	138	1.38	0	12.077712
5/17/15 8:00 PM	96.653504	138	1.38	0	12.075258
5/17/15 9:00 PM	96.649376	138	1.38	0	12.075258
5/17/15 10:00 PM	96.645592	138	1.38	0	12.075258
5/17/15 11:00 PM	96.64224	138	1.38	0	12.075258
5/18/15 12:00 AM	96.63916	138	1.38	0	12.075258
5/18/15 1:00 AM	96.63592	138	1.38	0	12.075258
5/18/15 2:00 AM	96.63288	138	1.38	0	12.075258
5/18/15 3:00 AM	96.630088	138	1.38	0	12.075258
5/18/15 4:00 AM	96.627064	138	1.38	0	12.075258
5/18/15 5:00 AM	96.623736	138	1.38	0	12.075258
5/18/15 6:00 AM	96.619784	138	1.38	0	12.072804
5/18/15 7:00 AM	96.616488	138	1.38	0	12.075258
5/18/15 8:00 AM	96.612024	138	1.38	0	12.072804
5/18/15 9:00 AM	96.608824	138	1.38	0	12.075258
5/18/15 10:00 AM	96.606024	138	1.38	0	12.11944
5/18/15 11:00 AM	96.60344	138	1.38	0	12.28633
5/18/15 12:00 PM	96.6024	138	1.38	0	12.369772
5/18/15 1:00 PM	96.598968	138	1.38	0	12.364864
5/18/15 2:00 PM	96.597752	138	1.38	0	12.369772
5/18/15 3:00 PM	96.596232	138	1.38	0	12.36241
5/18/15 4:00 PM	96.59276	138	1.38	0	12.364864
5/18/15 5:00 PM	96.591416	138	1.38	0	12.197982
5/18/15 6:00 PM	96.589808	138	1.38	0	12.107166
5/18/15 7:00 PM	96.587336	138	1.38	0	12.075258
5/18/15 8:00 PM	96.583976	138	1.38	0	12.075258
5/18/15 9:00 PM	96.581536	138	1.38	0	12.075258
5/18/15 10:00 PM	96.578832	138	1.38	0	12.075258
5/18/15 11:00 PM	96.576344	138	1.38	0	12.075258
5/19/15 12:00 AM	96.574176	138	1.38	0	12.075258
5/19/15 1:00 AM	96.572832	138	1.38	0	12.075258
5/19/15 2:00 AM	96.57204	138	1.38	0	12.075258
5/19/15 3:00 AM	96.567352	138	1.38	0	12.075258
5/19/15 4:00 AM	96.565072	138	1.38	0	12.075258
5/19/15 5:00 AM	96.563536	140	1.4	0.02	12.072804
5/19/15 6:00 AM	96.561248	141	1.41	0.01	12.075258
5/19/15 7:00 AM	96.558712	141	1.41	0	12.072804
5/19/15 8:00 AM	96.556704	141	1.41	0	12.072804
5/19/15 9:00 AM	96.556144	141	1.41	0	12.072804
5/19/15 10:00 AM	96.553048	141	1.41	0	12.075258
5/19/15 11:00 AM	96.550896	141	1.41	0	12.104712
5/19/15 12:00 PM	96.550568	141	1.41	0	12.200434
5/19/15 1:00 PM	96.54	141	1.41	0	12.180794
5/19/15 2:00 PM	96.535	141	1.41	0	12.298608
5/19/15 3:00 PM	96.533	141	1.41	0	12.190616
5/19/15 4:00 PM	96.533864	141	1.41	0	12.286336
5/19/15 5:00 PM	96.533136	141	1.41	0	12.163618
5/19/15 6:00 PM	96.531096	141	1.41	0	12.077712

5/19/15 7:00 PM	96.530384	141	1.41	0	12.075258
5/19/15 8:00 PM	96.528528	141	1.41	0	12.075258
5/19/15 9:00 PM	96.532768	141	1.41	0	12.075258
5/19/15 10:00 PM	96.533304	141	1.41	0	12.075258
5/19/15 11:00 PM	96.53516	141	1.41	0	12.075258
5/20/15 12:00 AM	96.536776	141	1.41	0	12.075258
5/20/15 1:00 AM	96.539304	141	1.41	0	12.075258
5/20/15 2:00 AM	96.540784	141	1.41	0	12.075258
5/20/15 3:00 AM	96.542432	141	1.41	0	12.072804
5/20/15 4:00 AM	96.543936	141	1.41	0	12.075258
5/20/15 5:00 AM	96.545608	141	1.41	0	12.070348
5/20/15 6:00 AM	96.54692	141	1.41	0	12.06544
5/20/15 7:00 AM	96.549952	141	1.41	0	12.058076
5/20/15 8:00 AM	96.550296	141	1.41	0	12.062986
5/20/15 9:00 AM	96.551688	141	1.41	0	12.067894
5/20/15 10:00 AM	96.551376	141	1.41	0	12.075258
5/20/15 11:00 AM	96.551232	141	1.41	0	12.077712
5/20/15 12:00 PM	96.552288	141	1.41	0	12.330504
5/20/15 1:00 PM	96.549352	141	1.41	0	12.313334
5/20/15 2:00 PM	96.548336	141	1.41	0	12.330504
5/20/15 3:00 PM	96.548336	141	1.41	0	12.320696
5/20/15 4:00 PM	96.548336	141	1.41	0	12.30596
5/20/15 5:00 PM	96.548336	141	1.41	0	12.205344
5/20/15 6:00 PM	96.548336	141	1.41	0	12.082622
5/20/15 7:00 PM	96.548336	141	1.41	0	12.075258
5/20/15 8:00 PM	96.548336	141	1.41	0	12.075258
5/20/15 9:00 PM	96.548336	141	1.41	0	12.075258
5/20/15 10:00 PM	96.548336	141	1.41	0	12.075258
5/20/15 11:00 PM	96.548336	141	1.41	0	12.075258
5/21/15 12:00 AM	96.572128	141	1.41	0	12.072804
5/21/15 1:00 AM	96.574512	141	1.41	0	12.060532
5/21/15 2:00 AM	96.576696	141	1.41	0	12.001628
5/21/15 3:00 AM	96.578136	141	1.41	0	11.984446
5/21/15 4:00 AM	96.5796	141	1.41	0	11.959904
5/21/15 5:00 AM	96.581536	141	1.41	0	11.945176
5/21/15 6:00 AM	96.582856	141	1.41	0	11.942722
5/21/15 7:00 AM	96.58408	141	1.41	0	11.947632
5/21/15 8:00 AM	96.585008	141	1.41	0	11.97954
5/21/15 9:00 AM	96.586528	141	1.41	0	12.055624
5/21/15 10:00 AM	96.587744	141	1.41	0	12.126804
5/21/15 11:00 AM	96.588288	141	1.41	0	12.347684
5/21/15 12:00 PM	96.590296	141	1.41	0	12.374682
5/21/15 1:00 PM	96.7212	141	1.41	0	12.384498
5/21/15 2:00 PM	96.55648	141	1.41	0	12.372226
5/21/15 3:00 PM	96.55648	141	1.41	0	12.369772
5/21/15 4:00 PM	96.55648	141	1.41	0	12.29861
5/21/15 5:00 PM	96.55648	141	1.41	0	12.229892
5/21/15 6:00 PM	96.55648	141	1.41	0	12.1538
5/21/15 7:00 PM	96.55648	141	1.41	0	12.077712
5/21/15 8:00 PM	96.55648	141	1.41	0	12.075258
5/21/15 9:00 PM	96.55648	141	1.41	0	12.075258
5/21/15 10:00 PM	96.55648	141	1.41	0	12.075258
5/21/15 11:00 PM	96.55648	141	1.41	0	12.075258
5/22/15 12:00 AM	96.573384	141	1.41	0	12.075258
5/22/15 1:00 AM	96.575104	141	1.41	0	12.075258
5/22/15 2:00 AM	96.576304	141	1.41	0	12.075258
5/22/15 3:00 AM	96.578152	141	1.41	0	12.075258
5/22/15 4:00 AM	96.57936	141	1.41	0	12.070348
5/22/15 5:00 AM	96.580256	141	1.41	0	12.050712
5/22/15 6:00 AM	96.581248	141	1.41	0	12.021262
5/22/15 7:00 AM	96.581408	141	1.41	0	12.006536
5/22/15 8:00 AM	96.58252	141	1.41	0	12.028624
5/22/15 9:00 AM	96.58128	141	1.41	0	12.075258

5/22/15 10:00 AM	96.581688	141	1.41	0	12.060534
5/22/15 11:00 AM	96.578576	141	1.41	0	11.97463
5/22/15 12:00 PM	96.581976	141	1.41	0	12.173428
5/22/15 1:00 PM	96.582376	141	1.41	0	12.561216
5/22/15 2:00 PM	96.584976	141	1.41	0	12.529306
5/22/15 3:00 PM	96.587072	141	1.41	0	12.482672
5/22/15 4:00 PM	96.586632	141	1.41	0	12.374682
5/22/15 5:00 PM	96.585592	141	1.41	0	12.325604
5/22/15 6:00 PM	96.58556	141	1.41	0	12.227438
5/22/15 7:00 PM	96.586712	141	1.41	0	12.124346
5/22/15 8:00 PM	96.585544	141	1.41	0	12.080168
5/22/15 9:00 PM	96.585048	141	1.41	0	12.080168
5/22/15 10:00 PM	96.584944	141	1.41	0	12.075258
5/22/15 11:00 PM	96.584112	141	1.41	0	12.075258
5/23/15 12:00 AM	96.583216	141	1.41	0	12.075258
5/23/15 1:00 AM	96.583184	141	1.41	0	12.075258
5/23/15 2:00 AM	96.582808	141	1.41	0	12.075258
5/23/15 3:00 AM	96.58464	141	1.41	0	12.075258
5/23/15 4:00 AM	96.584224	141	1.41	0	12.075258
5/23/15 5:00 AM	96.5844	141	1.41	0	12.07035
5/23/15 6:00 AM	96.584736	141	1.41	0	12.055622
5/23/15 7:00 AM	96.584072	141	1.41	0	12.04826
5/23/15 8:00 AM	96.583408	141	1.41	0	12.07035
5/23/15 9:00 AM	96.583968	141	1.41	0	12.075258
5/23/15 10:00 AM	96.584024	141	1.41	0	12.251966
5/23/15 11:00 AM	96.583288	141	1.41	0	12.51704
5/23/15 12:00 PM	96.5832	141	1.41	0	12.666758
5/23/15 1:00 PM	96.584144	141	1.41	0	12.710934
5/23/15 2:00 PM	96.58572	141	1.41	0	12.664304
5/23/15 3:00 PM	96.585584	141	1.41	0	12.664304
5/23/15 4:00 PM	96.586376	141	1.41	0	12.664304
5/23/15 5:00 PM	96.586432	141	1.41	0	12.659394
5/23/15 6:00 PM	96.587312	141	1.41	0	12.526848
5/23/15 7:00 PM	96.589368	141	1.41	0	12.345236
5/23/15 8:00 PM	96.58896	141	1.41	0	12.244618
5/23/15 9:00 PM	96.589464	141	1.41	0	12.202892
5/23/15 10:00 PM	96.590984	141	1.41	0	12.107164
5/23/15 11:00 PM	96.591464	141	1.41	0	12.080166
5/24/15 12:00 AM	96.591712	141	1.41	0	12.077712
5/24/15 1:00 AM	96.593816	141	1.41	0	12.075258
5/24/15 2:00 AM	96.593296	141	1.41	0	12.077712
5/24/15 3:00 AM	96.594288	141	1.41	0	12.075258
5/24/15 4:00 AM	96.59472	141	1.41	0	12.077712
5/24/15 5:00 AM	96.595696	141	1.41	0	12.075258
5/24/15 6:00 AM	96.59544	141	1.41	0	12.075258
5/24/15 7:00 AM	96.595168	141	1.41	0	12.075258
5/24/15 8:00 AM	96.594992	141	1.41	0	12.075258
5/24/15 9:00 AM	96.594744	141	1.41	0	12.143986
5/24/15 10:00 AM	96.59692	141	1.41	0	12.188162
5/24/15 11:00 AM	96.59516	141	1.41	0	12.28387
5/24/15 12:00 PM	96.59576	141	1.41	0	12.320692
5/24/15 1:00 PM	96.595104	141	1.41	0	12.632392
5/24/15 2:00 PM	96.595816	141	1.41	0	12.639758
5/24/15 3:00 PM	96.60156	141	1.41	0	12.433584
5/24/15 4:00 PM	96.59832	141	1.41	0	12.374682
5/24/15 5:00 PM	96.59744	141	1.41	0	12.539124
5/24/15 6:00 PM	96.454304	141	1.41	0	12.423766
5/24/15 7:00 PM	96.337264	141	1.41	0	12.369772
5/24/15 8:00 PM	96.337352	141	1.41	0	12.254434
5/24/15 9:00 PM	96.337776	141	1.41	0	12.197984
5/24/15 10:00 PM	96.338136	141	1.41	0	12.109618
5/24/15 11:00 PM	96.338536	141	1.41	0	12.085074
5/25/15 12:00 AM	96.341632	141	1.41	0	12.077712

5/25/15 1:00 AM	96.343544	141	1.41	0	12.075258
5/25/15 2:00 AM	96.344168	141	1.41	0	12.075258
5/25/15 3:00 AM	96.344528	141	1.41	0	12.075258
5/25/15 4:00 AM	96.345664	141	1.41	0	12.075258
5/25/15 5:00 AM	96.345992	141	1.41	0	12.075258
5/25/15 6:00 AM	96.346584	141	1.41	0	12.075258
5/25/15 7:00 AM	96.346944	141	1.41	0	12.075258
5/25/15 8:00 AM	96.347408	141	1.41	0	12.075258
5/25/15 9:00 AM	96.34888	141	1.41	0	12.077712
5/25/15 10:00 AM	96.351288	141	1.41	0	12.075258
5/25/15 11:00 AM	96.350744	142	1.42	0.01	12.085074
5/25/15 12:00 PM	96.352856	143	1.43	0.01	12.080166
5/25/15 1:00 PM	96.353968	144	1.44	0.01	12.080166
5/25/15 2:00 PM	96.355504	144	1.44	0	12.247064
5/25/15 3:00 PM	96.357672	144	1.44	0	12.17589
5/25/15 4:00 PM	96.3586	144	1.44	0	12.082622
5/25/15 5:00 PM	96.359768	144	1.44	0	12.082622
5/25/15 6:00 PM	96.361	144	1.44	0	12.097348
5/25/15 7:00 PM	96.362424	144	1.44	0	12.075258
5/25/15 8:00 PM	96.36424	145	1.45	0.01	12.075258
5/25/15 9:00 PM	96.366592	148	1.48	0.03	12.075258
5/25/15 10:00 PM	96.369352	149	1.49	0.01	12.075258
5/25/15 11:00 PM	96.371832	149	1.49	0	12.075258
5/26/15 12:00 AM	96.37344	150	1.5	0.01	12.075258
5/26/15 1:00 AM	96.37496	150	1.5	0	12.075258
5/26/15 2:00 AM	96.376504	150	1.5	0	12.075258
5/26/15 3:00 AM	96.379176	150	1.5	0	12.075258
5/26/15 4:00 AM	96.38004	150	1.5	0	12.075258
5/26/15 5:00 AM	96.381136	150	1.5	0	12.075258
5/26/15 6:00 AM	96.382	150	1.5	0	12.075258
5/26/15 7:00 AM	96.382328	150	1.5	0	12.075258
5/26/15 8:00 AM	96.38248	150	1.5	0	12.075258
5/26/15 9:00 AM	96.383256	150	1.5	0	12.075258
5/26/15 10:00 AM	96.38464	150	1.5	0	12.14153
5/26/15 11:00 AM	96.385456	150	1.5	0	12.210248
5/26/15 12:00 PM	96.420608	150	1.5	0	12.374682
5/26/15 1:00 PM	96.425096	150	1.5	0	12.51213
5/26/15 2:00 PM	96.42824	150	1.5	0	12.423768
5/26/15 3:00 PM	96.429256	150	1.5	0	12.357502
5/26/15 4:00 PM	96.4294	150	1.5	0	12.313328
5/26/15 5:00 PM	96.429488	150	1.5	0	12.276524
5/26/15 6:00 PM	96.430576	150	1.5	0	12.18571
5/26/15 7:00 PM	96.431488	150	1.5	0	12.094892
5/26/15 8:00 PM	96.43136	150	1.5	0	12.077712
5/26/15 9:00 PM	96.432464	150	1.5	0	12.075258
5/26/15 10:00 PM	96.435344	150	1.5	0	12.075258
5/26/15 11:00 PM	96.434888	150	1.5	0	12.075258
5/27/15 12:00 AM	96.436016	150	1.5	0	12.075258
5/27/15 1:00 AM	96.43672	150	1.5	0	12.075258
5/27/15 2:00 AM	96.4374	150	1.5	0	12.075258
5/27/15 3:00 AM	96.438096	150	1.5	0	12.075258
5/27/15 4:00 AM	96.439184	150	1.5	0	12.075258
5/27/15 5:00 AM	96.439344	150	1.5	0	12.075258
5/27/15 6:00 AM	96.439304	150	1.5	0	12.075258
5/27/15 7:00 AM	96.443472	150	1.5	0	12.075258
5/27/15 8:00 AM	96.450552	150	1.5	0	12.075258
5/27/15 9:00 AM	96.449928	150	1.5	0	12.075258
5/27/15 10:00 AM	96.450368	150	1.5	0	12.08753
5/27/15 11:00 AM	96.450336	150	1.5	0	12.170984
5/27/15 12:00 PM	96.450368	150	1.5	0	12.32314
5/27/15 1:00 PM	96.45312	150	1.5	0	12.269158
5/27/15 2:00 PM	96.451728	150	1.5	0	12.232342
5/27/15 3:00 PM	96.457248	153	1.53	0.03	12.099802

5/27/15 4:00 PM	96.455328	154	1.54	0.01	12.077712
5/27/15 5:00 PM	96.457328	154	1.54	0	12.075258
5/27/15 6:00 PM	96.45768	154	1.54	0	12.075258
5/27/15 7:00 PM	96.459192	154	1.54	0	12.075258
5/27/15 8:00 PM	96.460304	154	1.54	0	12.077712
5/27/15 9:00 PM	96.460696	154	1.54	0	12.075258
5/27/15 10:00 PM	96.460544	154	1.54	0	12.075258
5/27/15 11:00 PM	96.462368	154	1.54	0	12.075258
5/28/15 12:00 AM	96.463408	154	1.54	0	12.075258
5/28/15 1:00 AM	96.4636	154	1.54	0	12.075258
5/28/15 2:00 AM	96.465656	154	1.54	0	12.075258
5/28/15 3:00 AM	96.466256	154	1.54	0	12.075258
5/28/15 4:00 AM	96.466816	154	1.54	0	12.075258
5/28/15 5:00 AM	96.467128	154	1.54	0	12.075258
5/28/15 6:00 AM	96.468648	154	1.54	0	12.075258
5/28/15 7:00 AM	96.469464	154	1.54	0	12.075258
5/28/15 8:00 AM	96.470296	155	1.55	0.01	12.072804
5/28/15 9:00 AM	96.471392	155	1.55	0	12.075258
5/28/15 10:00 AM	96.470752	155	1.55	0	12.075258
5/28/15 11:00 AM	96.471888	155	1.55	0	12.085074
5/28/15 12:00 PM	96.4728	155	1.55	0	12.116986
5/28/15 1:00 PM	96.486328	176	1.76	0.21	12.075258
5/28/15 2:00 PM	96.552808	176	1.76	0	12.075258
5/28/15 3:00 PM	96.595832	176	1.76	0	12.09244
5/28/15 4:00 PM	96.609744	176	1.76	0	12.075258
5/28/15 5:00 PM	96.614624	176	1.76	0	12.075258
5/28/15 6:00 PM	96.61776	176	1.76	0	12.075258
5/28/15 7:00 PM	96.617896	176	1.76	0	12.075258
5/28/15 8:00 PM	96.618216	176	1.76	0	12.075258
5/28/15 9:00 PM	96.612104	176	1.76	0	12.072804
5/28/15 10:00 PM	96.598664	176	1.76	0	12.072804
5/28/15 11:00 PM	96.584944	176	1.76	0	12.070348
5/29/15 12:00 AM	96.57164	176	1.76	0	12.072804
5/29/15 1:00 AM	96.558704	176	1.76	0	12.072804
5/29/15 2:00 AM	96.54556	176	1.76	0	12.060532
5/29/15 3:00 AM	96.532616	176	1.76	0	12.062986
5/29/15 4:00 AM	96.519016	176	1.76	0	12.053168
5/29/15 5:00 AM	96.506784	176	1.76	0	12.03108
5/29/15 6:00 AM	96.493504	176	1.76	0	12.031078
5/29/15 7:00 AM	96.479712	176	1.76	0	12.03599
5/29/15 8:00 AM	96.466528	176	1.76	0	12.062986
5/29/15 9:00 AM	96.45368	176	1.76	0	12.075258
5/29/15 10:00 AM	96.441032	176	1.76	0	12.09244
5/29/15 11:00 AM	96.428656	176	1.76	0	12.291234
5/29/15 12:00 PM	96.417064	176	1.76	0	12.369772
5/29/15 1:00 PM	96.404904	176	1.76	0	12.369772
5/29/15 2:00 PM	96.39472	176	1.76	0	12.369772
5/29/15 3:00 PM	96.384632	176	1.76	0	12.369772
5/29/15 4:00 PM	96.373984	176	1.76	0	12.364864
5/29/15 5:00 PM	96.36304	176	1.76	0	12.224982
5/29/15 6:00 PM	96.351856	176	1.76	0	12.119436
5/29/15 7:00 PM	96.341464	176	1.76	0	12.075258
5/29/15 8:00 PM	96.331408	176	1.76	0	12.075258
5/29/15 9:00 PM	96.321584	176	1.76	0	12.075258
5/29/15 10:00 PM	96.31168	176	1.76	0	12.075258
5/29/15 11:00 PM	96.302248	176	1.76	0	12.075258
5/30/15 12:00 AM	96.29296	176	1.76	0	12.075258
5/30/15 1:00 AM	96.284152	176	1.76	0	12.075258
5/30/15 2:00 AM	96.27524	176	1.76	0	12.075258
5/30/15 3:00 AM	96.267504	176	1.76	0	12.075258
5/30/15 4:00 AM	96.25896	176	1.76	0	12.075258
5/30/15 5:00 AM	96.250568	176	1.76	0	12.075258
5/30/15 6:00 AM	96.242424	176	1.76	0	12.075258

5/30/15 7:00 AM	96.23416	176	1.76	0	12.067896
5/30/15 8:00 AM	96.226024	176	1.76	0	12.075258
5/30/15 9:00 AM	96.217048	176	1.76	0	12.075258
5/30/15 10:00 AM	96.210104	176	1.76	0	12.075258
5/30/15 11:00 AM	96.201176	176	1.76	0	12.143986
5/30/15 12:00 PM	96.194248	176	1.76	0	12.274056
5/30/15 1:00 PM	96.187136	176	1.76	0	12.315776
5/30/15 2:00 PM	96.180704	176	1.76	0	12.369772
5/30/15 3:00 PM	96.176912	176	1.76	0	12.330512
5/30/15 4:00 PM	96.169696	176	1.76	0	12.217618
5/30/15 5:00 PM	96.162648	176	1.76	0	12.08753
5/30/15 6:00 PM	96.158992	178	1.78	0.02	12.075258
5/30/15 7:00 PM	96.1672	198	1.98	0.2	12.077712
5/30/15 8:00 PM	96.201624	206	2.06	0.08	12.075258
5/30/15 9:00 PM	96.253856	222	2.22	0.16	12.075258
5/30/15 10:00 PM	96.327824	228	2.28	0.06	12.075258
5/30/15 11:00 PM	96.377072	233	2.33	0.05	12.075258
5/31/15 12:00 AM	96.398616	236	2.36	0.03	12.075258
5/31/15 1:00 AM	96.4116	237	2.37	0.01	12.075258
5/31/15 2:00 AM	96.415048	237	2.37	0	12.070348
5/31/15 3:00 AM	96.413072	237	2.37	0	12.072804
5/31/15 4:00 AM	96.411136	241	2.41	0.04	12.075258
5/31/15 5:00 AM	96.40628	243	2.43	0.02	12.06544
5/31/15 6:00 AM	96.401032	244	2.44	0.01	12.04826
5/31/15 7:00 AM	96.3944	244	2.44	0	12.02126
5/31/15 8:00 AM	96.38776	246	2.46	0.02	12.001628
5/31/15 9:00 AM	96.382496	248	2.48	0.02	11.999172
5/31/15 10:00 AM	96.38064	256	2.56	0.08	12.062986
5/31/15 11:00 AM	96.392888	260	2.6	0.04	12.075258
5/31/15 12:00 PM	96.413696	260	2.6	0	12.067896
5/31/15 1:00 PM	96.422632	260	2.6	0	12.072804
5/31/15 2:00 PM	96.423912	261	2.61	0.01	12.038444
5/31/15 3:00 PM	96.41996	261	2.61	0	12.072804
5/31/15 4:00 PM	96.41396	261	2.61	0	12.058078
5/31/15 5:00 PM	96.406952	261	2.61	0	12.058078
5/31/15 6:00 PM	96.399168	261	2.61	0	11.96481
5/31/15 7:00 PM	96.391472	261	2.61	0	11.940268
5/31/15 8:00 PM	96.397528	264	2.64	0.03	11.925542
5/31/15 9:00 PM	96.400568	265	2.65	0.01	11.930452
5/31/15 10:00 PM	96.394456	268	2.68	0.03	11.93536
5/31/15 11:00 PM	96.3898	270	2.7	0.02	11.925542
6/1/15 12:00 AM	96.388384	279	2.79	0.09	11.927996
6/1/15 1:00 AM	96.403656	289	2.89	0.1	11.923086
6/1/15 2:00 AM	96.449536	301	3.01	0.12	11.93045
6/1/15 3:00 AM	96.520664	315	3.15	0.14	11.925542
6/1/15 4:00 AM	96.60532	322	3.22	0.07	11.925542
6/1/15 5:00 AM	96.657464	328	3.28	0.06	11.923086
6/1/15 6:00 AM	96.692224	339	3.39	0.11	11.91818
6/1/15 7:00 AM	96.7388	344	3.44	0.05	11.920636
6/1/15 8:00 AM	96.774128	345	3.45	0.01	11.91818
6/1/15 9:00 AM	96.788104	345	3.45	0	11.923088
6/1/15 10:00 AM	96.790008	345	3.45	0	11.979536
6/1/15 11:00 AM	96.787192	345	3.45	0	12.07035
6/1/15 12:00 PM	96.780856	346	3.46	0.01	12.072804
6/1/15 1:00 PM	96.773288	346	3.46	0	12.04826
6/1/15 2:00 PM	96.763784	346	3.46	0	11.96972
6/1/15 3:00 PM	96.754384	346	3.46	0	11.964812
6/1/15 4:00 PM	96.744408	346	3.46	0	11.977084
6/1/15 5:00 PM	96.734264	346	3.46	0	11.945176
6/1/15 6:00 PM	96.724448	348	3.48	0.02	11.93045
6/1/15 7:00 PM	96.715008	348	3.48	0	11.925544
6/1/15 8:00 PM	96.704424	348	3.48	0	11.913272
6/1/15 9:00 PM	96.693896	348	3.48	0	11.91818

6/1/15 10:00 PM	96.68248	348	3.48	0	11.915726
6/1/15 11:00 PM	96.671648	348	3.48	0	11.908362
6/2/15 12:00 AM	96.660632	348	3.48	0	11.886278
6/2/15 1:00 AM	96.64976	348	3.48	0	11.88873
6/2/15 2:00 AM	96.638752	348	3.48	0	11.881368
6/2/15 3:00 AM	96.627864	348	3.48	0	11.871552
6/2/15 4:00 AM	96.61668	348	3.48	0	11.8691
6/2/15 5:00 AM	96.605216	348	3.48	0	11.87155
6/2/15 6:00 AM	96.593728	348	3.48	0	11.849462
6/2/15 7:00 AM	96.582208	348	3.48	0	11.851914
6/2/15 8:00 AM	96.571208	349	3.49	0.01	11.905908
6/2/15 9:00 AM	96.5602	349	3.49	0	11.947632
6/2/15 10:00 AM	96.549536	349	3.49	0	12.01881
6/2/15 11:00 AM	96.538496	349	3.49	0	12.075258
6/2/15 12:00 PM	96.52796	349	3.49	0	12.075258
6/2/15 1:00 PM	96.518328	349	3.49	0	12.077712
6/2/15 2:00 PM	96.507536	349	3.49	0	12.089986
6/2/15 3:00 PM	96.499032	349	3.49	0	12.077712
6/2/15 4:00 PM	96.48916	349	3.49	0	12.075258
6/2/15 5:00 PM	96.479016	349	3.49	0	12.075258
6/2/15 6:00 PM	96.46908	349	3.49	0	12.06544
6/2/15 7:00 PM	96.459248	349	3.49	0	11.989354
6/2/15 8:00 PM	96.44956	349	3.49	0	11.937814
6/2/15 9:00 PM	96.44024	349	3.49	0	11.92309
6/2/15 10:00 PM	96.431104	349	3.49	0	11.910816
6/2/15 11:00 PM	96.431936	349	3.49	0	11.90591
6/3/15 12:00 AM	96.429104	349	3.49	0	11.898546
6/3/15 1:00 AM	96.41988	349	3.49	0	11.856828
6/3/15 2:00 AM	96.41044	349	3.49	0	11.85928
6/3/15 3:00 AM	96.401192	349	3.49	0	11.82001
6/3/15 4:00 AM	96.392336	349	3.49	0	11.820012
6/3/15 5:00 AM	96.383408	349	3.49	0	11.800378
6/3/15 6:00 AM	96.37468	349	3.49	0	11.797924
6/3/15 7:00 AM	96.365528	349	3.49	0	11.800378
6/3/15 8:00 AM	96.356616	349	3.49	0	11.891182
6/3/15 9:00 AM	96.348904	349	3.49	0	11.940268
6/3/15 10:00 AM	96.34108	349	3.49	0	12.03108
6/3/15 11:00 AM	96.332152	349	3.49	0	12.089986
6/3/15 12:00 PM	96.325192	349	3.49	0	12.32314
6/3/15 1:00 PM	96.318064	349	3.49	0	12.369772
6/3/15 2:00 PM	96.32276	349	3.49	0	12.369772
6/3/15 3:00 PM	96.352024	349	3.49	0	12.369772
6/3/15 4:00 PM	96.34536	349	3.49	0	12.325602
6/3/15 5:00 PM	96.338624	349	3.49	0	12.168528
6/3/15 6:00 PM	96.332128	349	3.49	0	12.075258
6/3/15 7:00 PM	96.326576	349	3.49	0	12.075258
6/3/15 8:00 PM	96.32036	349	3.49	0	12.075258
6/3/15 9:00 PM	96.314504	349	3.49	0	12.075258
6/3/15 10:00 PM	96.308664	349	3.49	0	12.072804
6/3/15 11:00 PM	96.30332	349	3.49	0	12.075258
6/4/15 12:00 AM	96.298072	349	3.49	0	12.04335
6/4/15 1:00 AM	96.293232	349	3.49	0	11.974628
6/4/15 2:00 AM	96.288736	349	3.49	0	11.945176
6/4/15 3:00 AM	96.284304	349	3.49	0	11.927998
6/4/15 4:00 AM	96.280112	349	3.49	0	11.915728
6/4/15 5:00 AM	96.27584	349	3.49	0	11.89364
6/4/15 6:00 AM	96.27116	349	3.49	0	11.86664
6/4/15 7:00 AM	96.266408	349	3.49	0	11.844554
6/4/15 8:00 AM	96.2614	349	3.49	0	11.898544
6/4/15 9:00 AM	96.257792	349	3.49	0	12.043352
6/4/15 10:00 AM	96.254544	349	3.49	0	12.080168
6/4/15 11:00 AM	96.251048	349	3.49	0	12.278962
6/4/15 12:00 PM	96.247632	349	3.49	0	12.369772

6/4/15 1:00 PM	96.246088	349	3.49	0	12.369772
6/4/15 2:00 PM	96.244808	349	3.49	0	12.369772
6/4/15 3:00 PM	96.243272	349	3.49	0	12.369772
6/4/15 4:00 PM	96.240928	349	3.49	0	12.318242
6/4/15 5:00 PM	96.238056	349	3.49	0	12.15871
6/4/15 6:00 PM	96.236064	349	3.49	0	12.075258
6/4/15 7:00 PM	96.233928	349	3.49	0	12.075258
6/4/15 8:00 PM	96.232536	349	3.49	0	12.075258
6/4/15 9:00 PM	96.228608	349	3.49	0	12.075258
6/4/15 10:00 PM	96.225816	349	3.49	0	12.075258
6/4/15 11:00 PM	96.22288	349	3.49	0	12.075258
6/5/15 12:00 AM	96.220568	349	3.49	0	12.075258
6/5/15 1:00 AM	96.219152	349	3.49	0	12.072804
6/5/15 2:00 AM	96.21704	349	3.49	0	12.053168
6/5/15 3:00 AM	96.21636	349	3.49	0	12.00408
6/5/15 4:00 AM	96.214568	349	3.49	0	11.977084
6/5/15 5:00 AM	96.215232	349	3.49	0	11.954996
6/5/15 6:00 AM	96.212696	349	3.49	0	11.932906
6/5/15 7:00 AM	96.211512	349	3.49	0	11.935362
6/5/15 8:00 AM	96.208944	349	3.49	0	11.93536
6/5/15 9:00 AM	96.209	349	3.49	0	11.940268
6/5/15 10:00 AM	96.207816	349	3.49	0	12.016354
6/5/15 11:00 AM	96.206288	349	3.49	0	12.050714
6/5/15 12:00 PM	96.203968	349	3.49	0	12.008988
6/5/15 1:00 PM	96.202416	349	3.49	0	12.040896
6/5/15 2:00 PM	96.1986	349	3.49	0	12.077712
6/5/15 3:00 PM	96.198256	349	3.49	0	12.116982
6/5/15 4:00 PM	96.196152	349	3.49	0	12.136618
6/5/15 5:00 PM	96.19416	349	3.49	0	12.077712
6/5/15 6:00 PM	96.19272	349	3.49	0	12.075258
6/5/15 7:00 PM	96.193576	349	3.49	0	12.075258
6/5/15 8:00 PM	96.197224	355	3.55	0.06	12.070348
6/5/15 9:00 PM	96.220384	378	3.78	0.23	12.02126
6/5/15 10:00 PM	96.31576	383	3.83	0.05	11.954994
6/5/15 11:00 PM	96.36968	383	3.83	0	11.942722
6/6/15 12:00 AM	96.38704	383	3.83	0	11.932906
6/6/15 1:00 AM	96.392368	384	3.84	0.01	11.925542
6/6/15 2:00 AM	96.393096	384	3.84	0	11.93045
6/6/15 3:00 AM	96.392752	384	3.84	0	11.925542
6/6/15 4:00 AM	96.389824	385	3.85	0.01	11.920634
6/6/15 5:00 AM	96.387072	385	3.85	0	11.920632
6/6/15 6:00 AM	96.382512	385	3.85	0	11.913272
6/6/15 7:00 AM	96.377184	385	3.85	0	11.920634
6/6/15 8:00 AM	96.371352	385	3.85	0	11.93045
6/6/15 9:00 AM	96.36644	385	3.85	0	12.058078
6/6/15 10:00 AM	96.359744	385	3.85	0	12.075258
6/6/15 11:00 AM	96.35328	385	3.85	0	12.195526
6/6/15 12:00 PM	96.347264	385	3.85	0	12.364864
6/6/15 1:00 PM	96.340664	385	3.85	0	12.369772
6/6/15 2:00 PM	96.335592	385	3.85	0	12.369772
6/6/15 3:00 PM	96.329192	385	3.85	0	12.362412
6/6/15 4:00 PM	96.325264	385	3.85	0	12.308426
6/6/15 5:00 PM	96.318808	385	3.85	0	12.158708
6/6/15 6:00 PM	96.31276	385	3.85	0	12.075258
6/6/15 7:00 PM	96.306968	385	3.85	0	12.075258
6/6/15 8:00 PM	96.300944	385	3.85	0	12.075258
6/6/15 9:00 PM	96.29568	385	3.85	0	12.075258
6/6/15 10:00 PM	96.290296	385	3.85	0	12.075258
6/6/15 11:00 PM	96.2854	385	3.85	0	12.075258
6/7/15 12:00 AM	96.28056	385	3.85	0	12.072804
6/7/15 1:00 AM	96.275888	385	3.85	0	12.04335
6/7/15 2:00 AM	96.271384	385	3.85	0	11.979538
6/7/15 3:00 AM	96.266752	385	3.85	0	11.945176

6/7/15 4:00 AM	96.26228	385	3.85	0	11.93045
6/7/15 5:00 AM	96.257984	385	3.85	0	11.925542
6/7/15 6:00 AM	96.253096	385	3.85	0	11.883822
6/7/15 7:00 AM	96.248576	385	3.85	0	11.88873
6/7/15 8:00 AM	96.243872	385	3.85	0	11.89609
6/7/15 9:00 AM	96.238632	385	3.85	0	12.038442
6/7/15 10:00 AM	96.234888	385	3.85	0	12.075258
6/7/15 11:00 AM	96.23084	385	3.85	0	12.205344
6/7/15 12:00 PM	96.228856	385	3.85	0	12.278972
6/7/15 1:00 PM	96.223496	385	3.85	0	12.367318
6/7/15 2:00 PM	96.221792	385	3.85	0	12.362412
6/7/15 3:00 PM	96.21912	385	3.85	0	12.269158
6/7/15 4:00 PM	96.213848	385	3.85	0	12.25198
6/7/15 5:00 PM	96.2118	385	3.85	0	12.168528
6/7/15 6:00 PM	96.209016	385	3.85	0	12.075258
6/7/15 7:00 PM	96.204432	385	3.85	0	12.075258
6/7/15 8:00 PM	96.201688	385	3.85	0	12.075258
6/7/15 9:00 PM	96.198728	385	3.85	0	12.075258
6/7/15 10:00 PM	96.196712	385	3.85	0	12.075258
6/7/15 11:00 PM	96.192976	385	3.85	0	12.072804
6/8/15 12:00 AM	96.190296	385	3.85	0	12.053166
6/8/15 1:00 AM	96.188376	385	3.85	0	12.001628
6/8/15 2:00 AM	96.188144	385	3.85	0	11.95254
6/8/15 3:00 AM	96.187168	385	3.85	0	11.945176
6/8/15 4:00 AM	96.186288	385	3.85	0	11.927996
6/8/15 5:00 AM	96.185904	385	3.85	0	11.925542
6/8/15 6:00 AM	96.18388	386	3.86	0.01	11.910816
6/8/15 7:00 AM	96.185184	386	3.86	0	11.913272
6/8/15 8:00 AM	96.181912	387	3.87	0.01	11.891186
6/8/15 9:00 AM	96.185064	394	3.94	0.07	11.891184
6/8/15 10:00 AM	96.192928	399	3.99	0.05	11.903456
6/8/15 11:00 AM	96.202336	399	3.99	0	11.954992
6/8/15 12:00 PM	96.213952	399	3.99	0	11.93536
6/8/15 1:00 PM	96.220576	399	3.99	0	11.92309
6/8/15 2:00 PM	96.227248	399	3.99	0	11.898544
6/8/15 3:00 PM	96.22972	399	3.99	0	11.85437
6/8/15 4:00 PM	96.229152	400	4	0.01	11.839646
6/8/15 5:00 PM	96.274632	427	4.27	0.27	11.888728
6/8/15 6:00 PM	96.394624	427	4.27	0	11.913272
6/8/15 7:00 PM	96.435072	427	4.27	0	11.832282
6/8/15 8:00 PM	96.446928	427	4.27	0	11.827374
6/8/15 9:00 PM	96.449448	427	4.27	0	11.817558
6/8/15 10:00 PM	96.447144	427	4.27	0	11.815104
6/8/15 11:00 PM	96.443448	427	4.27	0	11.827374
6/9/15 12:00 AM	96.438872	427	4.27	0	11.81265
6/9/15 1:00 AM	96.434352	427	4.27	0	11.815104
6/9/15 2:00 AM	96.43092	431	4.31	0.04	11.81265
6/9/15 3:00 AM	96.427616	433	4.33	0.02	11.817556
6/9/15 4:00 AM	96.425552	437	4.37	0.04	11.802832
6/9/15 5:00 AM	96.426112	441	4.41	0.04	11.80283
6/9/15 6:00 AM	96.438104	458	4.58	0.17	11.805286
6/9/15 7:00 AM	96.500736	471	4.71	0.13	11.805286
6/9/15 8:00 AM	96.58776	478	4.78	0.07	11.800378
6/9/15 9:00 AM	96.647536	486	4.86	0.08	11.807738
6/9/15 10:00 AM	96.68884	489	4.89	0.03	11.834736
6/9/15 11:00 AM	96.719728	497	4.97	0.08	11.888724
6/9/15 12:00 PM	96.746384	497	4.97	0	11.99917
6/9/15 1:00 PM	96.764288	497	4.97	0	11.97954
6/9/15 2:00 PM	96.769008	497	4.97	0	12.050714
6/9/15 3:00 PM	96.76952	497	4.97	0	12.107166
6/9/15 4:00 PM	96.769512	497	4.97	0	12.075258
6/9/15 5:00 PM	96.773528	523	5.23	0.26	12.028624
6/9/15 6:00 PM	96.830768	537	5.37	0.14	11.940268

6/9/15 7:00 PM	96.907736	537	5.37	0	11.923092
6/9/15 8:00 PM	96.93252	546	5.46	0.09	11.834736
6/9/15 9:00 PM	96.972992	597	5.97	0.51	11.80774
6/9/15 10:00 PM	97.251456	612	6.12	0.15	11.802832
6/9/15 11:00 PM	97.350296	616	6.16	0.04	11.800378
6/10/15 12:00 AM	97.282032	618	6.18	0.02	11.797924
6/10/15 4:00 PM	96.971984	0	0	0	12.283152
6/10/15 5:00 PM	97.029568	0	0	0	12.325604
6/10/15 6:00 PM	97.02084	0	0	0	12.355046
6/10/15 7:00 PM	97.012872	0	0	0	12.229892
6/10/15 8:00 PM	97.005416	0	0	0	12.21762
6/10/15 9:00 PM	96.999568	0	0	0	12.220076
6/10/15 10:00 PM	96.992296	0	0	0	12.21762
6/10/15 11:00 PM	96.987832	0	0	0	12.21762
6/11/15 12:00 AM	96.983968	0	0	0	12.210256
6/11/15 1:00 AM	96.98048	0	0	0	12.215166
6/11/15 2:00 AM	96.97732	0	0	0	12.193074
6/11/15 3:00 AM	96.973096	0	0	0	12.193074
6/11/15 4:00 AM	96.97144	0	0	0	12.188166
6/11/15 5:00 AM	96.96756	0	0	0	12.178348
6/11/15 6:00 AM	96.965832	0	0	0	12.161166
6/11/15 7:00 AM	96.965728	0	0	0	12.16853
6/11/15 8:00 AM	96.9668	0	0	0	12.200438
6/11/15 9:00 AM	96.965312	0	0	0	12.220074
6/11/15 10:00 AM	96.965888	0	0	0	12.315776
6/11/15 11:00 AM	96.964184	0	0	0	12.399228
6/11/15 12:00 PM	96.9632	0	0	0	12.605398
6/11/15 1:00 PM	96.961048	0	0	0	12.65203
6/11/15 2:00 PM	96.96164	0	0	0	12.53176
6/11/15 3:00 PM	96.963312	0	0	0	12.460584
6/11/15 4:00 PM	96.96312	0	0	0	12.40904
6/11/15 5:00 PM	96.964112	0	0	0	12.369772
6/11/15 6:00 PM	96.965096	0	0	0	12.345234
6/11/15 7:00 PM	96.966104	0	0	0	12.24707
6/11/15 8:00 PM	96.967384	0	0	0	12.22253
6/11/15 9:00 PM	96.968512	0	0	0	12.21762
6/11/15 10:00 PM	96.96904	0	0	0	12.205348
6/11/15 11:00 PM	96.970416	0	0	0	12.18571
6/12/15 12:00 AM	96.97148	0	0	0	12.14153
6/12/15 1:00 AM	96.97352	0	0	0	12.141528
6/12/15 2:00 AM	96.975352	0	0	0	12.124348
6/12/15 3:00 AM	96.97776	0	0	0	12.104712
6/12/15 4:00 AM	96.979848	0	0	0	12.104712
6/12/15 5:00 AM	96.982792	0	0	0	12.089984
6/12/15 6:00 AM	96.984744	0	0	0	12.089984
6/12/15 7:00 AM	96.986376	0	0	0	12.085074
6/12/15 8:00 AM	96.988336	0	0	0	12.094894
6/12/15 9:00 AM	96.989896	0	0	0	12.148892
6/12/15 10:00 AM	96.992464	0	0	0	12.207802
6/12/15 11:00 AM	96.995096	0	0	0	12.251974
6/12/15 12:00 PM	96.99852	0	0	0	12.256888
6/12/15 1:00 PM	97.000584	0	0	0	12.303514
6/12/15 2:00 PM	97.00468	0	0	0	12.2078
6/12/15 3:00 PM	97.007608	0	0	0	12.094894
6/12/15 4:00 PM	97.011008	1	0.01	0.01	12.107166
6/12/15 5:00 PM	97.016272	1	0.01	0	12.112076
6/12/15 6:00 PM	97.02024	1	0.01	0	12.080166
6/12/15 7:00 PM	97.02836	18	0.18	0.17	12.080166
6/12/15 8:00 PM	97.084032	41	0.41	0.23	12.080168
6/12/15 9:00 PM	97.179576	48	0.48	0.07	12.077712
6/12/15 10:00 PM	97.228568	78	0.78	0.3	12.080166
6/12/15 11:00 PM	97.373584	120	1.2	0.42	12.075258
6/13/15 12:00 AM	97.539128	142	1.42	0.22	12.075258

6/13/15 1:00 AM	97.550152	145	1.45	0.03	12.075258
6/13/15 2:00 AM	97.550152	145	1.45	0	12.075258
6/13/15 3:00 AM	97.550152	145	1.45	0	12.075258
6/13/15 4:00 AM	97.550152	145	1.45	0	12.075258
6/13/15 5:00 AM	97.550152	145	1.45	0	12.075258
6/13/15 6:00 AM	97.550152	145	1.45	0	12.075258
6/13/15 7:00 AM	97.550152	145	1.45	0	12.075258
6/13/15 8:00 AM	97.550152	145	1.45	0	12.075258
6/13/15 9:00 AM	97.550152	145	1.45	0	12.077712
6/13/15 10:00 AM	97.550152	145	1.45	0	12.15626
6/13/15 11:00 AM	97.193336	145	1.45	0	12.296142
6/13/15 12:00 PM	97.185176	145	1.45	0	12.369772
6/13/15 1:00 PM	97.190728	145	1.45	0	12.448314
6/13/15 2:00 PM	97.197992	145	1.45	0	12.49249
6/13/15 3:00 PM	97.20644	145	1.45	0	12.450762
6/13/15 4:00 PM	97.2154	145	1.45	0	12.372226
6/13/15 5:00 PM	97.224888	145	1.45	0	12.369772
6/13/15 6:00 PM	97.23536	145	1.45	0	12.357504
6/13/15 7:00 PM	97.243488	145	1.45	0	12.25198
6/13/15 8:00 PM	97.251152	145	1.45	0	12.210256
6/13/15 9:00 PM	97.258152	145	1.45	0	12.10962
6/13/15 10:00 PM	97.264776	145	1.45	0	12.087528
6/13/15 11:00 PM	97.267768	145	1.45	0	12.075258
6/14/15 12:00 AM	97.275104	145	1.45	0	12.077712
6/14/15 1:00 AM	97.2816	145	1.45	0	12.075258
6/14/15 2:00 AM	97.289864	145	1.45	0	12.075258
6/14/15 3:00 AM	97.300088	145	1.45	0	12.075258
6/14/15 4:00 AM	97.306112	145	1.45	0	12.075258
6/14/15 5:00 AM	97.315624	145	1.45	0	12.075258
6/14/15 6:00 AM	97.322688	145	1.45	0	12.075258
6/14/15 7:00 AM	97.330328	145	1.45	0	12.075258
6/14/15 8:00 AM	97.338816	145	1.45	0	12.075258
6/14/15 9:00 AM	97.349376	145	1.45	0	12.080166
6/14/15 10:00 AM	97.361944	145	1.45	0	12.17835
6/14/15 11:00 AM	97.361976	145	1.45	0	12.34032
6/14/15 12:00 PM	97.362512	145	1.45	0	12.372226
6/14/15 1:00 PM	97.371592	145	1.45	0	12.455676
6/14/15 2:00 PM	97.378448	145	1.45	0	12.507216
6/14/15 3:00 PM	97.38064	145	1.45	0	12.426222
6/14/15 4:00 PM	97.382528	145	1.45	0	12.369772
6/14/15 5:00 PM	97.385232	145	1.45	0	12.369772
6/14/15 6:00 PM	97.38808	145	1.45	0	12.34769
6/14/15 7:00 PM	97.38736	145	1.45	0	12.229892
6/14/15 8:00 PM	97.389744	145	1.45	0	12.188166
6/14/15 9:00 PM	97.391136	145	1.45	0	12.107166
6/14/15 10:00 PM	97.393576	145	1.45	0	12.075258
6/14/15 11:00 PM	97.393472	145	1.45	0	12.075258
6/15/15 12:00 AM	97.393184	145	1.45	0	12.075258
6/15/15 1:00 AM	97.395752	145	1.45	0	12.075258
6/15/15 2:00 AM	97.398088	145	1.45	0	12.075258
6/15/15 3:00 AM	97.39764	148	1.48	0.03	12.075258
6/15/15 4:00 AM	97.396848	155	1.55	0.07	12.075258
6/15/15 5:00 AM	97.396312	160	1.6	0.05	12.075258
6/15/15 6:00 AM	97.421056	176	1.76	0.16	12.075258
6/15/15 7:00 AM	97.438448	185	1.85	0.09	12.075258
6/15/15 8:00 AM	97.44316	192	1.92	0.07	12.075258
6/15/15 9:00 AM	97.438952	192	1.92	0	12.075258
6/15/15 10:00 AM	97.43432	192	1.92	0	12.077712
6/15/15 11:00 AM	97.433264	192	1.92	0	12.075258
6/15/15 12:00 PM	97.430032	192	1.92	0	12.075258
6/15/15 1:00 PM	97.424904	192	1.92	0	12.077712
6/15/15 2:00 PM	97.442872	0	0	0	12.075258
6/15/15 3:00 PM	97.444416	0	0	0	12.077712

6/15/15 4:00 PM	97.44428	0	0	0	12.077712
6/15/15 5:00 PM	97.441048	0	0	0	12.075258
6/15/15 6:00 PM	97.444504	0	0	0	12.075258
6/15/15 7:00 PM	97.45528	0	0	0	12.075258
6/15/15 8:00 PM	97.458808	0	0	0	12.075258
6/15/15 9:00 PM	97.461256	0	0	0	12.075258
6/15/15 10:00 PM	97.46036	0	0	0	12.075258
6/15/15 11:00 PM	97.458712	0	0	0	12.075258
6/16/15 12:00 AM	97.461064	0	0	0	12.075258
6/16/15 1:00 AM	97.462672	0	0	0	12.075258
6/16/15 2:00 AM	97.455944	0	0	0	12.075258
6/16/15 3:00 AM	97.45928	0	0	0	12.075258
6/16/15 4:00 AM	97.458248	0	0	0	12.075258
6/16/15 5:00 AM	97.460832	0	0	0	12.075258
6/16/15 6:00 AM	97.457296	0	0	0	12.075258
6/16/15 7:00 AM	97.46208	0	0	0	12.075258
6/16/15 8:00 AM	97.457528	0	0	0	12.075258
6/16/15 9:00 AM	97.463888	0	0	0	12.075258
6/16/15 10:00 AM	97.461872	0	0	0	12.075258
6/16/15 11:00 AM	97.475688	3	0.03	0.03	12.075258
6/16/15 12:00 PM	97.470176	17	0.17	0.14	12.075258
6/16/15 1:00 PM	97.491832	26	0.26	0.09	12.075258
6/16/15 2:00 PM	97.513944	32	0.32	0.06	12.075258
6/16/15 3:00 PM	97.515448	33	0.33	0.01	12.16361
6/16/15 4:00 PM	97.506808	33	0.33	0	12.524398
6/16/15 5:00 PM	97.508624	33	0.33	0	12.583304
6/16/15 6:00 PM	97.514184	33	0.33	0	12.38941
6/16/15 7:00 PM	97.516584	34	0.34	0.01	12.320684
6/16/15 8:00 PM	97.515368	34	0.34	0	12.249526
6/16/15 9:00 PM	97.54076	34	0.34	0	12.13171
6/16/15 10:00 PM	97.536104	34	0.34	0	12.085074
6/16/15 11:00 PM	97.526912	34	0.34	0	12.075258
6/17/15 12:00 AM	97.522808	34	0.34	0	12.075258
6/17/15 1:00 AM	97.546048	34	0.34	0	12.075258
6/17/15 2:00 AM	97.563344	34	0.34	0	12.075258
6/17/15 3:00 AM	97.557144	34	0.34	0	12.075258
6/17/15 4:00 AM	97.534928	34	0.34	0	12.075258
6/17/15 5:00 AM	97.52736	34	0.34	0	12.075258
6/17/15 6:00 AM	97.532368	34	0.34	0	12.075258
6/17/15 7:00 AM	97.53804	34	0.34	0	12.075258
6/17/15 8:00 AM	97.54196	34	0.34	0	12.075258
6/17/15 9:00 AM	97.546112	34	0.34	0	12.075258
6/17/15 10:00 AM	97.555824	34	0.34	0	12.151346
6/17/15 11:00 AM	97.567656	34	0.34	0	12.4115
6/17/15 12:00 PM	97.571576	34	0.34	0	12.644668
6/17/15 1:00 PM	97.571912	34	0.34	0	12.664304
6/17/15 2:00 PM	97.572192	34	0.34	0	12.664304
6/17/15 3:00 PM	97.574168	34	0.34	0	12.65694
6/17/15 4:00 PM	97.565392	34	0.34	0	12.664304
6/17/15 5:00 PM	97.564952	34	0.34	0	12.617664
6/17/15 6:00 PM	97.5656	34	0.34	0	12.529304
6/17/15 7:00 PM	97.5676	34	0.34	0	12.406588
6/17/15 8:00 PM	97.563544	34	0.34	0	12.364864
6/17/15 9:00 PM	97.568016	34	0.34	0	12.266704
6/17/15 10:00 PM	97.567432	34	0.34	0	12.229892
6/17/15 11:00 PM	97.566808	34	0.34	0	12.222528
6/18/15 12:00 AM	97.566352	34	0.34	0	12.200438
6/18/15 1:00 AM	97.560872	34	0.34	0	12.13171
6/18/15 2:00 AM	97.558552	34	0.34	0	12.10471
6/18/15 3:00 AM	97.55616	34	0.34	0	12.077712
6/18/15 4:00 AM	97.54876	34	0.34	0	12.077712
6/18/15 5:00 AM	97.548128	34	0.34	0	12.077712
6/18/15 6:00 AM	97.5492	34	0.34	0	12.077712

6/18/15 7:00 AM	97.548256	34	0.34	0	12.075258
6/18/15 8:00 AM	97.545384	34	0.34	0	12.075258
6/18/15 9:00 AM	97.546456	34	0.34	0	12.092438
6/18/15 10:00 AM	97.54708	34	0.34	0	12.256878
6/18/15 11:00 AM	97.54472	34	0.34	0	12.391862
6/18/15 12:00 PM	97.54736	34	0.34	0	12.580854
6/18/15 1:00 PM	97.54892	34	0.34	0	12.649578
6/18/15 2:00 PM	97.545456	34	0.34	0	12.664304
6/18/15 3:00 PM	97.544464	34	0.34	0	12.642214
6/18/15 4:00 PM	97.545864	34	0.34	0	12.602942
6/18/15 5:00 PM	97.532936	34	0.34	0	12.615214
6/18/15 6:00 PM	97.51568	34	0.34	0	12.573484
6/18/15 7:00 PM	97.512976	34	0.34	0	12.394316
6/18/15 8:00 PM	97.518432	34	0.34	0	12.367318
6/18/15 9:00 PM	97.515296	34	0.34	0	12.251976
6/18/15 10:00 PM	97.511432	34	0.34	0	12.220076
6/18/15 11:00 PM	97.515368	34	0.34	0	12.21762
6/19/15 12:00 AM	97.564264	51	0.51	0.17	12.200438
6/19/15 1:00 AM	97.564184	78	0.78	0.27	12.126802
6/19/15 2:00 AM	97.586928	81	0.81	0.03	12.094894
6/19/15 3:00 AM	97.570392	81	0.81	0	12.077712
6/19/15 4:00 AM	97.578136	81	0.81	0	12.075258
6/19/15 5:00 AM	97.578144	81	0.81	0	12.075258
6/19/15 6:00 AM	97.571008	81	0.81	0	12.075258
6/19/15 7:00 AM	97.60056	81	0.81	0	12.077712
6/19/15 8:00 AM	97.616248	81	0.81	0	12.075258
6/19/15 9:00 AM	97.606416	81	0.81	0	12.075258
6/19/15 10:00 AM	97.578656	81	0.81	0	12.14644
6/19/15 11:00 AM	97.573024	81	0.81	0	12.364864
6/19/15 12:00 PM	97.569512	81	0.81	0	12.374682
6/19/15 1:00 PM	97.567104	81	0.81	0	12.637304
6/19/15 2:00 PM	97.558096	81	0.81	0	12.664304
6/19/15 3:00 PM	97.559568	81	0.81	0	12.664304
6/19/15 4:00 PM	97.56648	81	0.81	0	12.664304
6/19/15 5:00 PM	97.570512	81	0.81	0	12.664304
6/19/15 6:00 PM	97.57012	81	0.81	0	12.664304
6/19/15 7:00 PM	97.573096	81	0.81	0	12.475306
6/19/15 8:00 PM	97.57216	81	0.81	0	12.369772
6/19/15 9:00 PM	97.5732	81	0.81	0	12.367318
6/19/15 10:00 PM	97.570792	81	0.81	0	12.30106
6/19/15 11:00 PM	97.573936	81	0.81	0	12.247068
6/20/15 12:00 AM	97.56924	81	0.81	0	12.224982
6/20/15 1:00 AM	97.569664	81	0.81	0	12.22253
6/20/15 2:00 AM	97.568608	81	0.81	0	12.21762
6/20/15 3:00 AM	97.56436	81	0.81	0	12.188166
6/20/15 4:00 AM	97.56184	81	0.81	0	12.121892
6/20/15 5:00 AM	97.556744	81	0.81	0	12.092438
6/20/15 6:00 AM	97.552008	81	0.81	0	12.085074
6/20/15 7:00 AM	97.549472	81	0.81	0	12.085076
6/20/15 8:00 AM	97.55092	81	0.81	0	12.075258
6/20/15 9:00 AM	97.54984	81	0.81	0	12.109622
6/20/15 10:00 AM	97.550624	81	0.81	0	12.296142
6/20/15 11:00 AM	97.55064	81	0.81	0	12.53177
6/20/15 12:00 PM	97.553056	81	0.81	0	12.745296
6/20/15 1:00 PM	97.551616	81	0.81	0	12.67412
6/20/15 2:00 PM	97.548008	81	0.81	0	12.664304
6/20/15 3:00 PM	97.54704	81	0.81	0	12.664304
6/20/15 4:00 PM	97.551784	81	0.81	0	12.664304
6/20/15 5:00 PM	97.558824	81	0.81	0	12.664304
6/20/15 6:00 PM	97.556232	81	0.81	0	12.664304
6/20/15 7:00 PM	97.555504	81	0.81	0	12.497392
6/20/15 8:00 PM	97.561512	81	0.81	0	12.369772
6/20/15 9:00 PM	97.560752	81	0.81	0	12.367318

6/20/15 10:00 PM	97.550616	81	0.81	0	12.355048
6/20/15 11:00 PM	97.536952	81	0.81	0	12.281424
6/21/15 12:00 AM	97.529824	81	0.81	0	12.244616
6/21/15 1:00 AM	97.533192	97	0.97	0.16	12.22253
6/21/15 2:00 AM	97.551224	126	1.26	0.29	12.224982
6/21/15 3:00 AM	97.57504	138	1.38	0.12	12.220076
6/21/15 4:00 AM	97.555512	138	1.38	0	12.205348
6/21/15 5:00 AM	97.544456	138	1.38	0	12.156256
6/21/15 6:00 AM	97.547472	139	1.39	0.01	12.099802
6/21/15 7:00 AM	97.55048	141	1.41	0.02	12.082622
6/21/15 8:00 AM	97.551464	142	1.42	0.01	12.082622
6/21/15 9:00 AM	97.549168	150	1.5	0.08	12.075258
6/21/15 10:00 AM	97.560688	158	1.58	0.08	12.08753
6/21/15 11:00 AM	97.569936	159	1.59	0.01	12.28878
6/21/15 12:00 PM	97.568152	159	1.59	0	12.51213
6/21/15 1:00 PM	97.560688	159	1.59	0	12.664302
6/21/15 2:00 PM	97.561864	159	1.59	0	12.664304
6/21/15 3:00 PM	97.566456	159	1.59	0	12.65694
6/21/15 4:00 PM	97.570968	159	1.59	0	12.507212
6/21/15 5:00 PM	97.559432	159	1.59	0	12.369772
6/21/15 6:00 PM	97.567704	159	1.59	0	12.369772
6/21/15 7:00 PM	97.563384	159	1.59	0	12.369772
6/21/15 8:00 PM	97.569088	159	1.59	0	12.320694
6/21/15 9:00 PM	97.570872	160	1.6	0.01	12.24216
6/21/15 10:00 PM	97.582	167	1.67	0.07	12.224982
6/21/15 11:00 PM	97.586216	171	1.71	0.04	12.22253
6/22/15 12:00 AM	97.590784	171	1.71	0	12.197984
6/22/15 1:00 AM	97.618904	172	1.72	0.01	12.141528
6/22/15 2:00 AM	97.62004	172	1.72	0	12.102256
6/22/15 3:00 AM	97.622728	173	1.73	0.01	12.082622
6/22/15 4:00 AM	97.614208	173	1.73	0	12.077712
6/22/15 5:00 AM	97.61904	173	1.73	0	12.075258
6/22/15 6:00 AM	97.627312	173	1.73	0	12.075258
6/22/15 7:00 AM	97.629544	173	1.73	0	12.075258
6/22/15 8:00 AM	97.628344	173	1.73	0	12.075258
6/22/15 9:00 AM	97.637936	173	1.73	0	12.099804
6/22/15 10:00 AM	97.641152	173	1.73	0	12.28142
6/22/15 11:00 AM	97.652584	173	1.73	0	12.377136
6/22/15 12:00 PM	97.656704	173	1.73	0	12.536672
6/22/15 1:00 PM	97.665696	173	1.73	0	12.588214
6/22/15 2:00 PM	97.673016	173	1.73	0	12.647122
6/22/15 3:00 PM	97.68108	173	1.73	0	12.664304
6/22/15 4:00 PM	97.685064	173	1.73	0	12.661848
6/22/15 5:00 PM	97.686408	173	1.73	0	12.661848
6/22/15 6:00 PM	97.69132	173	1.73	0	12.664304
6/22/15 7:00 PM	97.696312	173	1.73	0	12.460582
6/22/15 8:00 PM	97.700048	173	1.73	0	12.369772
6/22/15 9:00 PM	97.70168	173	1.73	0	12.367318
6/22/15 10:00 PM	97.704176	173	1.73	0	12.28388
6/22/15 11:00 PM	97.707992	173	1.73	0	12.242162
6/23/15 12:00 AM	97.712016	173	1.73	0	12.22253
6/23/15 1:00 AM	97.719616	173	1.73	0	12.220076
6/23/15 2:00 AM	97.72148	173	1.73	0	12.21271
6/23/15 3:00 AM	97.726176	173	1.73	0	12.156256
6/23/15 4:00 AM	97.727816	173	1.73	0	12.104712
6/23/15 5:00 AM	97.714424	174	1.74	0.01	12.089984
6/23/15 6:00 AM	97.718616	183	1.83	0.09	12.082622
6/23/15 7:00 AM	97.703504	206	2.06	0.23	12.075258
6/23/15 8:00 AM	97.718456	209	2.09	0.03	12.077712
6/23/15 9:00 AM	97.7458	218	2.18	0.09	12.075258
6/23/15 10:00 AM	97.75448	233	2.33	0.15	12.075258
6/23/15 11:00 AM	97.799512	234	2.34	0.01	12.14644
6/23/15 12:00 PM	97.795304	238	2.38	0.04	12.212698

6/23/15 1:00 PM	97.777608	238	2.38	0	12.443406
6/23/15 2:00 PM	97.782048	238	2.38	0	12.521944
6/23/15 3:00 PM	97.797008	238	2.38	0	12.566122
6/23/15 4:00 PM	97.813008	238	2.38	0	12.529312
6/23/15 5:00 PM	97.823568	238	2.38	0	12.602942
6/23/15 6:00 PM	97.853416	238	2.38	0	12.664304
6/23/15 7:00 PM	97.880968	238	2.38	0	12.465488
6/23/15 8:00 PM	97.932216	238	2.38	0	12.359958
6/23/15 9:00 PM	97.931056	238	2.38	0	12.242162
6/23/15 10:00 PM	97.878056	238	2.38	0	12.224982
6/23/15 11:00 PM	97.88192	238	2.38	0	12.220076
6/24/15 12:00 AM	97.897976	238	2.38	0	12.183256
6/24/15 1:00 AM	97.920208	238	2.38	0	12.10962
6/24/15 2:00 AM	97.927928	238	2.38	0	12.087528
6/24/15 3:00 AM	97.934464	238	2.38	0	12.075258
6/24/15 4:00 AM	97.94448	238	2.38	0	12.075258
6/24/15 5:00 AM	97.959152	238	2.38	0	12.075258
6/24/15 6:00 AM	97.959264	238	2.38	0	12.075258
6/24/15 7:00 AM	97.974544	238	2.38	0	12.075258
6/24/15 8:00 AM	97.975144	238	2.38	0	12.075258
6/24/15 9:00 AM	97.972504	238	2.38	0	12.136622
6/24/15 10:00 AM	97.974072	238	2.38	0	12.197982
6/24/15 11:00 AM	97.973384	238	2.38	0	12.40659
6/24/15 12:00 PM	97.982424	238	2.38	0	12.661848
6/24/15 1:00 PM	97.988864	238	2.38	0	12.664304
6/24/15 2:00 PM	97.995832	238	2.38	0	12.664304
6/24/15 3:00 PM	97.997624	238	2.38	0	12.661848
6/24/15 4:00 PM	98.000888	238	2.38	0	12.659394
6/24/15 5:00 PM	98.006848	238	2.38	0	12.637302
6/24/15 6:00 PM	98.012984	238	2.38	0	12.475308
6/24/15 7:00 PM	98.002736	238	2.38	0	12.369772
6/24/15 8:00 PM	98.003184	238	2.38	0	12.357504
6/24/15 9:00 PM	98.036112	241	2.41	0.03	12.269156
6/24/15 10:00 PM	98.003288	243	2.43	0.02	12.224982
6/24/15 11:00 PM	98.0116	243	2.43	0	12.22253
6/25/15 12:00 AM	97.998904	245	2.45	0.02	12.21271
6/25/15 1:00 AM	98.020336	245	2.45	0	12.183256
6/25/15 2:00 AM	98.01904	245	2.45	0	12.119438
6/25/15 3:00 AM	98.022488	245	2.45	0	12.097348
6/25/15 4:00 AM	98.019696	245	2.45	0	12.080168
6/25/15 5:00 AM	98.025152	245	2.45	0	12.075258
6/25/15 6:00 AM	98.029928	245	2.45	0	12.075258
6/25/15 7:00 AM	98.031096	245	2.45	0	12.075258
6/25/15 8:00 AM	98.031088	245	2.45	0	12.075258
6/25/15 9:00 AM	98.039888	245	2.45	0	12.085074
6/25/15 10:00 AM	98.044232	245	2.45	0	12.180802
6/25/15 11:00 AM	98.037704	245	2.45	0	12.377138
6/25/15 12:00 PM	98.035008	245	2.45	0	12.65203
6/25/15 1:00 PM	98.039152	245	2.45	0	12.664304
6/25/15 2:00 PM	98.045304	245	2.45	0	12.664304
6/25/15 3:00 PM	98.049208	245	2.45	0	12.664304
6/25/15 4:00 PM	98.04768	245	2.45	0	12.664304
6/25/15 5:00 PM	98.049552	245	2.45	0	12.664304
6/25/15 6:00 PM	98.049168	245	2.45	0	12.629938
6/25/15 7:00 PM	98.04152	245	2.45	0	12.458126
6/25/15 8:00 PM	98.035152	245	2.45	0	12.369772
6/25/15 9:00 PM	98.029832	245	2.45	0	12.310878
6/25/15 10:00 PM	98.030312	245	2.45	0	12.244616
6/25/15 11:00 PM	98.025536	245	2.45	0	12.227436
6/26/15 12:00 AM	98.0274	245	2.45	0	12.22253
6/26/15 1:00 AM	98.0298	245	2.45	0	12.21271
6/26/15 2:00 AM	98.033408	245	2.45	0	12.197984
6/26/15 3:00 AM	98.036152	245	2.45	0	12.146438

6/26/15 4:00 AM	98.0384	245	2.45	0	12.107166
6/26/15 5:00 AM	98.042064	245	2.45	0	12.082622
6/26/15 6:00 AM	98.035608	245	2.45	0	12.077712
6/26/15 7:00 AM	98.037496	245	2.45	0	12.075258
6/26/15 8:00 AM	98.032248	245	2.45	0	12.075258
6/26/15 9:00 AM	98.040976	245	2.45	0	12.080166
6/26/15 10:00 AM	98.037752	245	2.45	0	12.16853
6/26/15 11:00 AM	98.039536	245	2.45	0	12.359956
6/26/15 12:00 PM	98.033744	245	2.45	0	12.65203
6/26/15 1:00 PM	98.038184	245	2.45	0	12.664304
6/26/15 2:00 PM	98.034496	245	2.45	0	12.664304
6/26/15 3:00 PM	98.031224	245	2.45	0	12.64712
6/26/15 4:00 PM	98.037632	245	2.45	0	12.654484
6/26/15 5:00 PM	98.019648	245	2.45	0	12.661848
6/26/15 6:00 PM	98.015992	245	2.45	0	12.632392
6/26/15 7:00 PM	98.030096	245	2.45	0	12.475306
6/26/15 8:00 PM	98.01864	245	2.45	0	12.369772
6/26/15 9:00 PM	98.017416	245	2.45	0	12.325602
6/26/15 10:00 PM	98.01184	245	2.45	0	12.242162
6/26/15 11:00 PM	98.013408	245	2.45	0	12.224982
6/27/15 12:00 AM	98.012192	245	2.45	0	12.22253
6/27/15 1:00 AM	98.004736	245	2.45	0	12.215166
6/27/15 2:00 AM	98.008352	245	2.45	0	12.183256
6/27/15 3:00 AM	98.003704	245	2.45	0	12.141528
6/27/15 4:00 AM	98.004176	245	2.45	0	12.087528
6/27/15 5:00 AM	97.997192	245	2.45	0	12.082622
6/27/15 6:00 AM	97.998984	245	2.45	0	12.077712
6/27/15 7:00 AM	98.000864	245	2.45	0	12.075258
6/27/15 8:00 AM	98.004848	245	2.45	0	12.075258
6/27/15 9:00 AM	97.99452	245	2.45	0	12.139078
6/27/15 10:00 AM	97.992408	245	2.45	0	12.291232
6/27/15 11:00 AM	97.99308	245	2.45	0	12.453226
6/27/15 12:00 PM	97.99076	245	2.45	0	12.664304
6/27/15 1:00 PM	97.987992	245	2.45	0	12.664304
6/27/15 2:00 PM	97.984256	245	2.45	0	12.664304
6/27/15 3:00 PM	97.982752	245	2.45	0	12.637302
6/27/15 4:00 PM	97.97896	245	2.45	0	12.57594
6/27/15 5:00 PM	97.974632	245	2.45	0	12.406586
6/27/15 6:00 PM	97.975352	245	2.45	0	12.369772
6/27/15 7:00 PM	97.974464	245	2.45	0	12.345234
6/27/15 8:00 PM	97.97188	245	2.45	0	12.244618
6/27/15 9:00 PM	97.971504	245	2.45	0	12.22253
6/27/15 10:00 PM	97.96688	245	2.45	0	12.210256
6/27/15 11:00 PM	97.966624	245	2.45	0	12.1538
6/28/15 12:00 AM	97.956512	245	2.45	0	12.099802
6/28/15 1:00 AM	97.952496	245	2.45	0	12.082622
6/28/15 2:00 AM	97.940568	250	2.5	0.05	12.077712
6/28/15 3:00 AM	97.940136	254	2.54	0.04	12.075258
6/28/15 4:00 AM	97.948656	266	2.66	0.12	12.075258
6/28/15 5:00 AM	97.96236	271	2.71	0.05	12.075258
6/28/15 6:00 AM	97.96976	275	2.75	0.04	12.075258
6/28/15 7:00 AM	97.978672	285	2.85	0.1	12.075258
6/28/15 8:00 AM	97.979696	293	2.93	0.08	12.075258
6/28/15 9:00 AM	97.989568	298	2.98	0.05	12.075258
6/28/15 10:00 AM	97.994456	311	3.11	0.13	12.075258
6/28/15 11:00 AM	98.004216	328	3.28	0.17	12.075258
6/28/15 12:00 PM	98.010352	332	3.32	0.04	12.26424
6/28/15 1:00 PM	97.99688	333	3.33	0.01	12.212708
6/28/15 2:00 PM	98.002952	334	3.34	0.01	12.089984
6/28/15 3:00 PM	98.0014	336	3.36	0.02	12.075258
6/28/15 4:00 PM	98.00112	336	3.36	0	12.075258
6/28/15 5:00 PM	98.008392	336	3.36	0	12.075258
6/28/15 6:00 PM	98.016672	341	3.41	0.05	12.075258

6/28/15 7:00 PM	98.025336	342	3.42	0.01	12.075258
6/28/15 8:00 PM	98.02884	344	3.44	0.02	12.075258
6/28/15 9:00 PM	98.019616	346	3.46	0.02	12.075258
6/28/15 10:00 PM	98.020488	346	3.46	0	12.075258
6/28/15 11:00 PM	98.017184	346	3.46	0	12.075258
6/29/15 12:00 AM	98.01568	346	3.46	0	12.075258
6/29/15 1:00 AM	98.014824	346	3.46	0	12.075258
6/29/15 2:00 AM	98.0154	346	3.46	0	12.075258
6/29/15 3:00 AM	98.016	346	3.46	0	12.075258
6/29/15 4:00 AM	98.016288	347	3.47	0.01	12.075258
6/29/15 5:00 AM	98.019984	347	3.47	0	12.075258
6/29/15 6:00 AM	98.023288	348	3.48	0.01	12.075258
6/29/15 7:00 AM	98.0262	348	3.48	0	12.075258
6/29/15 8:00 AM	98.03316	348	3.48	0	12.075258
6/29/15 9:00 AM	98.034448	348	3.48	0	12.077712
6/29/15 10:00 AM	98.041408	348	3.48	0	12.21516
6/29/15 11:00 AM	98.040024	348	3.48	0	12.293698
6/29/15 12:00 PM	98.040912	348	3.48	0	12.477772
6/29/15 1:00 PM	98.043088	348	3.48	0	12.504758
6/29/15 2:00 PM	98.035608	348	3.48	0	12.539132
6/29/15 3:00 PM	98.034888	348	3.48	0	12.65203
6/29/15 4:00 PM	98.040424	348	3.48	0	12.418858
6/29/15 5:00 PM	98.03324	348	3.48	0	12.369772
6/29/15 6:00 PM	98.034704	348	3.48	0	12.389408
6/29/15 7:00 PM	98.03872	348	3.48	0	12.362412
6/29/15 8:00 PM	98.040184	348	3.48	0	12.215164
6/29/15 9:00 PM	98.033432	348	3.48	0	12.121892
6/29/15 10:00 PM	98.03824	348	3.48	0	12.080166
6/29/15 11:00 PM	98.0344	348	3.48	0	12.075258
6/30/15 12:00 AM	98.03636	348	3.48	0	12.075258
6/30/15 1:00 AM	98.032624	348	3.48	0	12.075258
6/30/15 2:00 AM	98.033408	348	3.48	0	12.075258
6/30/15 3:00 AM	98.030128	348	3.48	0	12.075258
6/30/15 4:00 AM	98.033096	348	3.48	0	12.075258
6/30/15 5:00 AM	98.0288	348	3.48	0	12.075258
6/30/15 6:00 AM	98.028904	348	3.48	0	12.075258
6/30/15 7:00 AM	98.027096	348	3.48	0	12.075258
6/30/15 8:00 AM	98.022864	348	3.48	0	12.075258
6/30/15 9:00 AM	98.019768	348	3.48	0	12.075258
6/30/15 10:00 AM	98.020272	348	3.48	0	12.131714
6/30/15 11:00 AM	98.028328	348	3.48	0	12.34032
6/30/15 12:00 PM	98.024528	348	3.48	0	12.625034
6/30/15 1:00 PM	98.029184	348	3.48	0	12.664304
6/30/15 2:00 PM	98.028936	348	3.48	0	12.49003
6/30/15 3:00 PM	98.03272	348	3.48	0	12.313334
6/30/15 4:00 PM	98.020544	350	3.5	0.02	12.22253
6/30/15 5:00 PM	98.010672	350	3.5	0	12.205348
6/30/15 6:00 PM	98.007304	353	3.53	0.03	12.092438
6/30/15 7:00 PM	98.023016	353	3.53	0	12.077712
6/30/15 8:00 PM	98.023904	353	3.53	0	12.075258
6/30/15 9:00 PM	98.022616	353	3.53	0	12.075258
6/30/15 10:00 PM	98.022568	353	3.53	0	12.075258
6/30/15 11:00 PM	98.025672	353	3.53	0	12.075258
7/1/15 12:00 AM	98.028728	353	3.53	0	12.075258
7/1/15 1:00 AM	98.02448	353	3.53	0	12.075258
7/1/15 2:00 AM	98.023464	353	3.53	0	12.075258
7/1/15 3:00 AM	98.016032	353	3.53	0	12.075258
7/1/15 4:00 AM	98.016936	353	3.53	0	12.075258
7/1/15 5:00 AM	98.017696	357	3.57	0.04	12.075258
7/1/15 6:00 AM	98.019888	367	3.67	0.1	12.075258
7/1/15 7:00 AM	98.02428	367	3.67	0	12.075258
7/1/15 8:00 AM	98.025584	367	3.67	0	12.075258
7/1/15 9:00 AM	98.02592	368	3.68	0.01	12.075258

7/1/15 10:00 AM	98.023368	381	3.81	0.13	12.075258
7/1/15 11:00 AM	98.04532	403	4.03	0.22	12.075258
7/1/15 12:00 PM	98.068096	429	4.29	0.26	12.075258
7/1/15 1:00 PM	98.10356	459	4.59	0.3	12.075258
7/1/15 2:00 PM	98.105944	467	4.67	0.08	12.075258
7/1/15 3:00 PM	98.154272	496	4.96	0.29	12.239698
7/1/15 4:00 PM	98.13072	496	4.96	0	12.583302
7/1/15 5:00 PM	98.117992	496	4.96	0	12.350142
7/1/15 6:00 PM	98.125632	499	4.99	0.03	12.173436
7/1/15 7:00 PM	98.110024	501	5.01	0.02	12.16362
7/1/15 8:00 PM	98.130632	501	5.01	0	12.107164
7/1/15 9:00 PM	98.130712	501	5.01	0	12.075258
7/1/15 10:00 PM	98.130536	501	5.01	0	12.075258
7/1/15 11:00 PM	98.126008	501	5.01	0	12.075258
7/2/15 12:00 AM	98.113392	501	5.01	0	12.075258
7/2/15 1:00 AM	98.128664	501	5.01	0	12.075258
7/2/15 2:00 AM	98.152952	501	5.01	0	12.075258
7/2/15 3:00 AM	98.173104	501	5.01	0	12.075258
7/2/15 4:00 AM	98.167104	501	5.01	0	12.075258
7/2/15 5:00 AM	98.168856	501	5.01	0	12.075258
7/2/15 6:00 AM	98.172712	501	5.01	0	12.075258
7/2/15 7:00 AM	98.187032	501	5.01	0	12.075258
7/2/15 8:00 AM	98.195528	501	5.01	0	12.075258
7/2/15 9:00 AM	98.181904	501	5.01	0	12.075258
7/2/15 10:00 AM	98.180352	501	5.01	0	12.075258
7/2/15 11:00 AM	98.180472	501	5.01	0	12.180796
7/2/15 12:00 PM	98.181416	501	5.01	0	12.472856
7/2/15 1:00 PM	98.183392	501	5.01	0	12.664304
7/2/15 2:00 PM	98.18288	501	5.01	0	12.661848
7/2/15 3:00 PM	98.190792	501	5.01	0	12.632392
7/2/15 4:00 PM	98.194472	501	5.01	0	12.605392
7/2/15 5:00 PM	98.19632	501	5.01	0	12.634852
7/2/15 6:00 PM	98.203568	501	5.01	0	12.65203
7/2/15 7:00 PM	98.208104	501	5.01	0	12.416404
7/2/15 8:00 PM	98.20928	501	5.01	0	12.318244
7/2/15 9:00 PM	98.2126	501	5.01	0	12.151346
7/2/15 10:00 PM	98.21092	501	5.01	0	12.085074
7/2/15 11:00 PM	98.208752	501	5.01	0	12.075258
7/3/15 12:00 AM	98.209256	501	5.01	0	12.077712
7/3/15 1:00 AM	98.209208	501	5.01	0	12.075258
7/3/15 2:00 AM	98.215472	501	5.01	0	12.075258
7/3/15 3:00 AM	98.22312	501	5.01	0	12.075258
7/3/15 4:00 AM	98.218136	501	5.01	0	12.075258
7/3/15 5:00 AM	98.208496	501	5.01	0	12.075258
7/3/15 6:00 AM	98.20696	501	5.01	0	12.075258
7/3/15 7:00 AM	98.212424	501	5.01	0	12.075258
7/3/15 8:00 AM	98.215368	501	5.01	0	12.075258
7/3/15 9:00 AM	98.214792	501	5.01	0	12.075258
7/3/15 10:00 AM	98.216928	501	5.01	0	12.075258
7/3/15 11:00 AM	98.214976	501	5.01	0	12.220064
7/3/15 12:00 PM	98.216456	501	5.01	0	12.546494
7/3/15 1:00 PM	98.216808	501	5.01	0	12.666758
7/3/15 2:00 PM	98.220704	501	5.01	0	12.664304
7/3/15 3:00 PM	98.22188	501	5.01	0	12.649576
7/3/15 4:00 PM	98.223176	501	5.01	0	12.639756
7/3/15 5:00 PM	98.220496	501	5.01	0	12.634852
7/3/15 6:00 PM	98.224	501	5.01	0	12.556302
7/3/15 7:00 PM	98.22852	501	5.01	0	12.369772
7/3/15 8:00 PM	98.23072	501	5.01	0	12.276524
7/3/15 9:00 PM	98.232056	501	5.01	0	12.148892
7/3/15 10:00 PM	98.229784	501	5.01	0	12.097348
7/3/15 11:00 PM	98.2234	501	5.01	0	12.077712
7/4/15 12:00 AM	98.222456	501	5.01	0	12.075258

7/4/15 1:00 AM	98.217144	501	5.01	0	12.075258
7/4/15 2:00 AM	98.213296	501	5.01	0	12.075258
7/4/15 3:00 AM	98.206104	501	5.01	0	12.075258
7/4/15 4:00 AM	98.201192	501	5.01	0	12.075258
7/4/15 5:00 AM	98.200424	501	5.01	0	12.075258
7/4/15 6:00 AM	98.196632	501	5.01	0	12.075258
7/4/15 7:00 AM	98.192928	501	5.01	0	12.075258
7/4/15 8:00 AM	98.19572	501	5.01	0	12.075258
7/4/15 9:00 AM	98.19152	501	5.01	0	12.077712
7/4/15 10:00 AM	98.19652	501	5.01	0	12.151348
7/4/15 11:00 AM	98.19276	501	5.01	0	12.325594
7/4/15 12:00 PM	98.195584	501	5.01	0	12.369772
7/4/15 1:00 PM	98.190512	501	5.01	0	12.369772
7/4/15 2:00 PM	98.189928	501	5.01	0	12.369772
7/4/15 3:00 PM	98.18584	501	5.01	0	12.37959
7/4/15 4:00 PM	98.180864	501	5.01	0	12.436038
7/4/15 5:00 PM	98.173208	503	5.03	0.02	12.318244
7/4/15 6:00 PM	98.192216	521	5.21	0.18	12.19307
7/4/15 7:00 PM	98.199264	544	5.44	0.23	12.075258
7/4/15 8:00 PM	98.1954	544	5.44	0	12.075258
7/4/15 9:00 PM	98.178936	544	5.44	0	12.075258
7/4/15 10:00 PM	98.17868	544	5.44	0	12.075258
7/4/15 11:00 PM	98.176632	544	5.44	0	12.075258
7/5/15 12:00 AM	98.18416	544	5.44	0	12.075258
7/5/15 1:00 AM	98.169272	544	5.44	0	12.075258
7/5/15 2:00 AM	98.15764	544	5.44	0	12.075258
7/5/15 3:00 AM	98.157672	544	5.44	0	12.075258
7/5/15 4:00 AM	98.15416	544	5.44	0	12.075258
7/5/15 5:00 AM	98.15576	544	5.44	0	12.075258
7/5/15 6:00 AM	98.151936	544	5.44	0	12.075258
7/5/15 7:00 AM	98.14924	544	5.44	0	12.075258
7/5/15 8:00 AM	98.159592	544	5.44	0	12.075258
7/5/15 9:00 AM	98.17092	544	5.44	0	12.075258
7/5/15 10:00 AM	98.16016	544	5.44	0	12.075258
7/5/15 11:00 AM	98.162632	544	5.44	0	12.202888
7/5/15 12:00 PM	98.164528	544	5.44	0	12.42132
7/5/15 1:00 PM	98.168072	544	5.44	0	12.622576
7/5/15 2:00 PM	98.164152	544	5.44	0	12.664304
7/5/15 3:00 PM	98.157248	544	5.44	0	12.661848
7/5/15 4:00 PM	98.156872	544	5.44	0	12.65694
7/5/15 5:00 PM	98.1582	544	5.44	0	12.661848
7/5/15 6:00 PM	98.151328	544	5.44	0	12.521938
7/5/15 7:00 PM	98.145496	544	5.44	0	12.369772
7/5/15 8:00 PM	98.14396	544	5.44	0	12.259342
7/5/15 9:00 PM	98.13888	544	5.44	0	12.134166
7/5/15 10:00 PM	98.137608	544	5.44	0	12.082622
7/5/15 11:00 PM	98.136136	544	5.44	0	12.077712
7/6/15 12:00 AM	98.139512	544	5.44	0	12.075258
7/6/15 1:00 AM	98.13572	544	5.44	0	12.075258
7/6/15 2:00 AM	98.132456	544	5.44	0	12.075258
7/6/15 3:00 AM	98.133128	544	5.44	0	12.075258
7/6/15 4:00 AM	98.127152	544	5.44	0	12.075258
7/6/15 5:00 AM	98.12112	544	5.44	0	12.075258
7/6/15 6:00 AM	98.116288	544	5.44	0	12.075258
7/6/15 7:00 AM	98.112952	544	5.44	0	12.075258
7/6/15 8:00 AM	98.115432	544	5.44	0	12.075258
7/6/15 9:00 AM	98.111344	544	5.44	0	12.075258
7/6/15 10:00 AM	98.108264	544	5.44	0	12.082622
7/6/15 11:00 AM	98.107336	544	5.44	0	12.281418
7/6/15 12:00 PM	98.108168	544	5.44	0	12.46795
7/6/15 1:00 PM	98.109184	544	5.44	0	12.664304
7/6/15 2:00 PM	98.103648	544	5.44	0	12.664304
7/6/15 3:00 PM	98.103896	544	5.44	0	12.654484

7/6/15 4:00 PM	98.10364	544	5.44	0	12.649576
7/6/15 5:00 PM	98.104016	544	5.44	0	12.65694
7/6/15 6:00 PM	98.10116	544	5.44	0	12.612756
7/6/15 7:00 PM	98.091928	544	5.44	0	12.384498
7/6/15 8:00 PM	98.090592	544	5.44	0	12.318244
7/6/15 9:00 PM	98.090088	544	5.44	0	12.220074
7/6/15 10:00 PM	98.084336	544	5.44	0	12.148892
7/6/15 11:00 PM	98.081832	544	5.44	0	12.094894
7/7/15 12:00 AM	98.080648	544	5.44	0	12.089984
7/7/15 1:00 AM	98.078992	544	5.44	0	12.077712
7/7/15 2:00 AM	98.079144	544	5.44	0	12.075258
7/7/15 3:00 AM	98.076936	544	5.44	0	12.075258
7/7/15 4:00 AM	98.076496	544	5.44	0	12.075258
7/7/15 5:00 AM	98.0676	544	5.44	0	12.075258
7/7/15 6:00 AM	98.060544	544	5.44	0	12.075258
7/7/15 7:00 AM	98.050128	544	5.44	0	12.075258
7/7/15 8:00 AM	98.052216	544	5.44	0	12.075258
7/7/15 9:00 AM	98.047184	544	5.44	0	12.075258
7/7/15 10:00 AM	98.032808	544	5.44	0	12.077712
7/7/15 11:00 AM	98.023824	544	5.44	0	12.20289
7/7/15 12:00 PM	98.025888	544	5.44	0	12.313328
7/7/15 1:00 PM	98.02736	544	5.44	0	12.384504
7/7/15 2:00 PM	98.038208	544	5.44	0	12.352594
7/7/15 3:00 PM	98.029872	544	5.44	0	12.487588
7/7/15 4:00 PM	98.022912	544	5.44	0	12.463038
7/7/15 5:00 PM	98.019248	544	5.44	0	12.521942
7/7/15 6:00 PM	98.00844	544	5.44	0	12.372226
7/7/15 7:00 PM	98.008528	544	5.44	0	12.372226
7/7/15 8:00 PM	98.008656	544	5.44	0	12.313336
7/7/15 9:00 PM	98.006576	544	5.44	0	12.148892
7/7/15 10:00 PM	97.992944	544	5.44	0	12.075258
7/7/15 11:00 PM	97.98452	544	5.44	0	12.075258
7/8/15 12:00 AM	97.986656	544	5.44	0	12.075258
7/8/15 1:00 AM	97.982856	544	5.44	0	12.075258
7/8/15 2:00 AM	97.9912	544	5.44	0	12.075258
7/8/15 3:00 AM	97.992112	546	5.46	0.02	12.075258
7/8/15 4:00 AM	97.986424	547	5.47	0.01	12.075258
7/8/15 5:00 AM	98.022056	547	5.47	0	12.075258
7/8/15 6:00 AM	98.024	548	5.48	0.01	12.075258
7/8/15 7:00 AM	98.017352	552	5.52	0.04	12.075258
7/8/15 8:00 AM	97.985024	552	5.52	0	12.075258
7/8/15 9:00 AM	97.977984	552	5.52	0	12.075258
7/8/15 10:00 AM	97.967152	552	5.52	0	12.075258
7/8/15 11:00 AM	97.972544	552	5.52	0	12.175886
7/8/15 12:00 PM	97.963592	552	5.52	0	12.364864
7/8/15 1:00 PM	97.955976	552	5.52	0	12.580852
7/8/15 2:00 PM	97.958888	552	5.52	0	12.65203
7/8/15 3:00 PM	97.959072	552	5.52	0	12.664304
7/8/15 4:00 PM	97.953496	552	5.52	0	12.664304
7/8/15 5:00 PM	97.948136	552	5.52	0	12.664304
7/8/15 6:00 PM	97.95364	552	5.52	0	12.664304
7/8/15 7:00 PM	97.950664	552	5.52	0	12.485122
7/8/15 8:00 PM	97.941072	552	5.52	0	12.345236
7/8/15 9:00 PM	97.938968	552	5.52	0	12.151346
7/8/15 10:00 PM	97.934656	552	5.52	0	12.080166
7/8/15 11:00 PM	97.936304	552	5.52	0	12.075258
7/9/15 12:00 AM	97.9404	552	5.52	0	12.075258
7/9/15 1:00 AM	97.933424	552	5.52	0	12.075258
7/9/15 2:00 AM	97.928056	552	5.52	0	12.075258
7/9/15 3:00 AM	97.932328	552	5.52	0	12.075258
7/9/15 4:00 AM	97.935744	552	5.52	0	12.075258
7/9/15 5:00 AM	97.932264	552	5.52	0	12.075258
7/9/15 6:00 AM	97.933784	552	5.52	0	12.075258

7/9/15 7:00 AM	97.923696	552	5.52	0	12.075258
7/9/15 8:00 AM	97.921544	552	5.52	0	12.075258
7/9/15 9:00 AM	97.921	552	5.52	0	12.077712
7/9/15 10:00 AM	97.918856	552	5.52	0	12.114532
7/9/15 11:00 AM	97.923456	552	5.52	0	12.305962
7/9/15 12:00 PM	97.92188	552	5.52	0	12.320684
7/9/15 1:00 PM	97.92036	552	5.52	0	12.529306
7/9/15 2:00 PM	97.918104	552	5.52	0	12.514586
7/9/15 3:00 PM	97.921064	552	5.52	0	12.377134
7/9/15 4:00 PM	97.920552	552	5.52	0	12.350142
7/9/15 5:00 PM	97.917792	552	5.52	0	12.318244
7/9/15 6:00 PM	97.921192	552	5.52	0	12.114528
7/9/15 7:00 PM	97.917128	552	5.52	0	12.075258
7/9/15 8:00 PM	97.914184	552	5.52	0	12.075258
7/9/15 9:00 PM	97.907256	552	5.52	0	12.075258
7/9/15 10:00 PM	97.9058	552	5.52	0	12.075258
7/9/15 11:00 PM	97.906976	552	5.52	0	12.075258
7/10/15 12:00 AM	97.90256	552	5.52	0	12.075258
7/10/15 1:00 AM	97.90548	552	5.52	0	12.075258
7/10/15 2:00 AM	97.902744	552	5.52	0	12.075258
7/10/15 3:00 AM	97.899496	552	5.52	0	12.075258
7/10/15 4:00 AM	97.896904	552	5.52	0	12.075258
7/10/15 5:00 AM	97.892648	552	5.52	0	12.075258
7/10/15 6:00 AM	97.889488	552	5.52	0	12.075258
7/10/15 7:00 AM	97.881264	552	5.52	0	12.075258
7/10/15 8:00 AM	97.877592	552	5.52	0	12.075258
7/10/15 9:00 AM	97.874944	552	5.52	0	12.075258
7/10/15 10:00 AM	97.8734	552	5.52	0	12.075258
7/10/15 11:00 AM	97.871056	552	5.52	0	12.134168
7/10/15 12:00 PM	97.868776	552	5.52	0	12.352592
7/10/15 1:00 PM	97.858448	552	5.52	0	12.57349
7/10/15 2:00 PM	97.86092	552	5.52	0	12.632392
7/10/15 3:00 PM	97.863232	552	5.52	0	12.539124
7/10/15 4:00 PM	97.858008	552	5.52	0	12.502306
7/10/15 5:00 PM	97.847976	552	5.52	0	12.53667
7/10/15 6:00 PM	97.842576	552	5.52	0	12.514578
7/10/15 7:00 PM	97.83792	552	5.52	0	12.369772
7/10/15 8:00 PM	97.832264	552	5.52	0	12.320698
7/10/15 9:00 PM	97.825264	552	5.52	0	12.161164
7/10/15 10:00 PM	97.81892	552	5.52	0	12.089984
7/10/15 11:00 PM	97.81356	552	5.52	0	12.075258
7/11/15 12:00 AM	97.810072	552	5.52	0	12.075258
7/11/15 1:00 AM	97.807672	552	5.52	0	12.075258
7/11/15 2:00 AM	97.800656	552	5.52	0	12.075258
7/11/15 3:00 AM	97.804056	552	5.52	0	12.075258
7/11/15 4:00 AM	97.79704	552	5.52	0	12.075258
7/11/15 5:00 AM	97.79068	552	5.52	0	12.075258
7/11/15 6:00 AM	97.790944	552	5.52	0	12.075258
7/11/15 7:00 AM	97.781592	552	5.52	0	12.075258
7/11/15 8:00 AM	97.773328	552	5.52	0	12.075258
7/11/15 9:00 AM	97.77056	552	5.52	0	12.075258
7/11/15 10:00 AM	97.766528	552	5.52	0	12.075258
7/11/15 11:00 AM	97.765424	552	5.52	0	12.193068
7/11/15 12:00 PM	97.760608	552	5.52	0	12.369772
7/11/15 1:00 PM	97.761856	552	5.52	0	12.607854
7/11/15 2:00 PM	97.760456	552	5.52	0	12.65694
7/11/15 3:00 PM	97.75656	552	5.52	0	12.607848
7/11/15 4:00 PM	97.75668	552	5.52	0	12.590668
7/11/15 5:00 PM	97.7528	552	5.52	0	12.558766
7/11/15 6:00 PM	97.749944	552	5.52	0	12.43113
7/11/15 7:00 PM	97.744672	552	5.52	0	12.296156
7/11/15 8:00 PM	97.736384	552	5.52	0	12.200438
7/11/15 9:00 PM	97.73192	552	5.52	0	12.107164

7/11/15 10:00 PM	97.720928	552	5.52	0	12.080166
7/11/15 11:00 PM	97.713616	552	5.52	0	12.075258
7/12/15 12:00 AM	97.704392	552	5.52	0	12.075258
7/12/15 1:00 AM	97.695568	552	5.52	0	12.075258
7/12/15 2:00 AM	97.692736	552	5.52	0	12.075258
7/12/15 3:00 AM	97.689264	552	5.52	0	12.075258
7/12/15 4:00 AM	97.68688	552	5.52	0	12.075258
7/12/15 5:00 AM	97.682448	552	5.52	0	12.075258
7/12/15 6:00 AM	97.683432	552	5.52	0	12.075258
7/12/15 7:00 AM	97.680688	552	5.52	0	12.075258
7/12/15 8:00 AM	97.685576	552	5.52	0	12.075258
7/12/15 9:00 AM	97.678232	552	5.52	0	12.075258
7/12/15 10:00 AM	97.678336	552	5.52	0	12.075258
7/12/15 11:00 AM	97.671856	552	5.52	0	12.18816
7/12/15 12:00 PM	97.67144	552	5.52	0	12.369772
7/12/15 1:00 PM	97.668408	552	5.52	0	12.37959
7/12/15 2:00 PM	97.659984	552	5.52	0	12.369772
7/12/15 3:00 PM	97.654712	552	5.52	0	12.372226
7/12/15 4:00 PM	97.647168	552	5.52	0	12.369772
7/12/15 5:00 PM	97.645408	552	5.52	0	12.369772
7/12/15 6:00 PM	97.644096	552	5.52	0	12.274068
7/12/15 7:00 PM	97.641232	552	5.52	0	12.170982
7/12/15 8:00 PM	97.633656	552	5.52	0	12.085074
7/12/15 9:00 PM	97.630616	552	5.52	0	12.075258
7/12/15 10:00 PM	97.627832	552	5.52	0	12.075258
7/12/15 11:00 PM	97.624928	552	5.52	0	12.075258
7/13/15 12:00 AM	97.622736	552	5.52	0	12.075258
7/13/15 1:00 AM	97.618576	552	5.52	0	12.075258
7/13/15 2:00 AM	97.613744	552	5.52	0	12.075258
7/13/15 3:00 AM	97.612296	552	5.52	0	12.075258
7/13/15 4:00 AM	97.604368	552	5.52	0	12.075258
7/13/15 5:00 AM	97.605056	552	5.52	0	12.075258
7/13/15 6:00 AM	97.596736	552	5.52	0	12.075258
7/13/15 7:00 AM	97.595496	552	5.52	0	12.075258
7/13/15 8:00 AM	97.593048	552	5.52	0	12.075258
7/13/15 9:00 AM	97.589584	552	5.52	0	12.075258
7/13/15 10:00 AM	97.583064	552	5.52	0	12.075258
7/13/15 11:00 AM	97.579736	552	5.52	0	12.129258
7/13/15 12:00 PM	97.576264	552	5.52	0	12.350138
7/13/15 1:00 PM	97.575688	552	5.52	0	12.541584
7/13/15 2:00 PM	97.566888	552	5.52	0	12.588212
7/13/15 3:00 PM	97.563872	552	5.52	0	12.509672
7/13/15 4:00 PM	97.553088	552	5.52	0	12.517034
7/13/15 5:00 PM	97.55456	552	5.52	0	12.440946
7/13/15 6:00 PM	97.561688	552	5.52	0	12.33051
7/13/15 7:00 PM	97.557712	552	5.52	0	12.200438
7/13/15 8:00 PM	97.551736	552	5.52	0	12.085074
7/13/15 9:00 PM	97.54772	552	5.52	0	12.075258
7/13/15 10:00 PM	97.550704	552	5.52	0	12.075258
7/13/15 11:00 PM	97.545792	552	5.52	0	12.075258
7/14/15 12:00 AM	97.530192	552	5.52	0	12.075258
7/14/15 1:00 AM	97.517376	552	5.52	0	12.075258
7/14/15 2:00 AM	97.50948	552	5.52	0	12.075258
7/14/15 3:00 AM	97.50284	552	5.52	0	12.075258
7/14/15 4:00 AM	97.491888	552	5.52	0	12.075258
7/14/15 5:00 AM	97.485272	552	5.52	0	12.075258
7/14/15 6:00 AM	97.483408	552	5.52	0	12.075258
7/14/15 7:00 AM	97.481304	552	5.52	0	12.075258
7/14/15 8:00 AM	97.477704	552	5.52	0	12.075258
7/14/15 9:00 AM	97.472304	552	5.52	0	12.075258
7/14/15 10:00 AM	97.47032	552	5.52	0	12.075258
7/14/15 11:00 AM	97.463248	552	5.52	0	12.10226
7/14/15 12:00 PM	97.462752	552	5.52	0	12.315778

7/14/15 1:00 PM	97.465992	552	5.52	0	12.399228
7/14/15 2:00 PM	97.468064	552	5.52	0	12.42622
7/14/15 3:00 PM	97.461624	552	5.52	0	12.27652
7/14/15 4:00 PM	97.457928	552	5.52	0	12.1538
7/14/15 5:00 PM	97.452856	552	5.52	0	12.099802
7/14/15 6:00 PM	97.450784	552	5.52	0	12.077712
7/14/15 7:00 PM	97.441872	552	5.52	0	12.10962
7/14/15 8:00 PM	97.441816	552	5.52	0	12.075258
7/14/15 9:00 PM	97.435688	552	5.52	0	12.075258
7/14/15 10:00 PM	97.428776	552	5.52	0	12.075258
7/14/15 11:00 PM	97.42496	552	5.52	0	12.075258
7/15/15 12:00 AM	97.442488	552	5.52	0	12.075258
7/15/15 1:00 AM	97.452648	578	5.78	0.26	12.072804
7/15/15 2:00 AM	97.464504	582	5.82	0.04	12.075258
7/15/15 3:00 AM	97.493784	582	5.82	0	12.075258
7/15/15 4:00 AM	97.514216	587	5.87	0.05	12.072804
7/15/15 5:00 AM	97.49056	587	5.87	0	12.072804
7/15/15 6:00 AM	97.4506	587	5.87	0	12.075258
7/15/15 7:00 AM	97.417256	587	5.87	0	12.067896
7/15/15 8:00 AM	97.402704	587	5.87	0	12.072804
7/15/15 9:00 AM	97.402368	587	5.87	0	12.075258
7/15/15 10:00 AM	97.392904	588	5.88	0.01	12.075258
7/15/15 11:00 AM	97.392112	588	5.88	0	12.124348
7/15/15 12:00 PM	97.378048	588	5.88	0	12.283872
7/15/15 1:00 PM	97.371256	588	5.88	0	12.40659
7/15/15 2:00 PM	97.365144	588	5.88	0	12.598034
7/15/15 3:00 PM	97.36524	588	5.88	0	12.659394
7/15/15 4:00 PM	97.362216	588	5.88	0	12.664304
7/15/15 5:00 PM	97.354856	588	5.88	0	12.625034
7/15/15 6:00 PM	97.350712	588	5.88	0	12.598028
7/15/15 7:00 PM	97.34764	588	5.88	0	12.271616
7/15/15 8:00 PM	97.341888	588	5.88	0	12.16362
7/15/15 9:00 PM	97.346208	588	5.88	0	12.075258
7/15/15 10:00 PM	97.357904	588	5.88	0	12.075258
7/15/15 11:00 PM	97.375256	588	5.88	0	12.075258
7/16/15 12:00 AM	97.377056	588	5.88	0	12.075258
7/16/15 1:00 AM	97.362936	588	5.88	0	12.075258
7/16/15 2:00 AM	97.350464	588	5.88	0	12.075258
7/16/15 3:00 AM	97.348288	588	5.88	0	12.075258
7/16/15 4:00 AM	97.352592	588	5.88	0	12.075258
7/16/15 5:00 AM	97.360192	588	5.88	0	12.075258
7/16/15 6:00 AM	97.360104	588	5.88	0	12.075258
7/16/15 7:00 AM	97.3582	588	5.88	0	12.06544
7/16/15 8:00 AM	97.363992	588	5.88	0	12.07035
7/16/15 9:00 AM	97.365528	588	5.88	0	12.070348
7/16/15 10:00 AM	97.362568	588	5.88	0	12.075258
7/16/15 11:00 AM	97.356656	588	5.88	0	12.075258
7/16/15 12:00 PM	97.355944	588	5.88	0	12.29369
7/16/15 1:00 PM	97.355504	588	5.88	0	12.374682
7/16/15 2:00 PM	97.347832	588	5.88	0	12.55631
7/16/15 3:00 PM	97.336616	588	5.88	0	12.627486
7/16/15 4:00 PM	97.330952	588	5.88	0	12.580846
7/16/15 5:00 PM	97.330296	588	5.88	0	12.595578
7/16/15 6:00 PM	97.328736	588	5.88	0	12.477758
7/16/15 7:00 PM	97.325808	588	5.88	0	12.330512
7/16/15 8:00 PM	97.328232	588	5.88	0	12.173436
7/16/15 9:00 PM	97.325096	588	5.88	0	12.075258
7/16/15 10:00 PM	97.322224	588	5.88	0	12.075258
7/16/15 11:00 PM	97.32056	588	5.88	0	12.075258
7/17/15 12:00 AM	97.3238	588	5.88	0	12.075258
7/17/15 1:00 AM	97.324048	588	5.88	0	12.075258
7/17/15 2:00 AM	97.31532	588	5.88	0	12.075258
7/17/15 3:00 AM	97.3112	588	5.88	0	12.070348

7/17/15 4:00 AM	97.304408	588	5.88	0	12.060532
7/17/15 5:00 AM	97.295704	588	5.88	0	12.008988
7/17/15 6:00 AM	97.2918	588	5.88	0	11.974628
7/17/15 7:00 AM	97.288032	588	5.88	0	11.974628
7/17/15 8:00 AM	97.282544	588	5.88	0	12.0139
7/17/15 9:00 AM	97.279392	588	5.88	0	12.072804
7/17/15 10:00 AM	97.278976	588	5.88	0	12.075258
7/17/15 11:00 AM	97.279008	588	5.88	0	12.09244
7/17/15 12:00 PM	97.277728	588	5.88	0	12.232334
7/17/15 1:00 PM	97.274976	588	5.88	0	12.369772
7/17/15 2:00 PM	97.272688	588	5.88	0	12.369772
7/17/15 3:00 PM	97.266064	588	5.88	0	12.367318
7/17/15 4:00 PM	97.259296	588	5.88	0	12.26425
7/17/15 5:00 PM	97.252112	588	5.88	0	12.075258
7/17/15 6:00 PM	97.24252	588	5.88	0	12.075258
7/17/15 7:00 PM	97.237008	588	5.88	0	12.070348
7/17/15 8:00 PM	97.230184	588	5.88	0	12.02617
7/17/15 9:00 PM	97.223232	588	5.88	0	11.979538
7/17/15 10:00 PM	97.216424	588	5.88	0	11.96972
7/17/15 11:00 PM	97.213144	588	5.88	0	11.981992
7/18/15 12:00 AM	97.207808	590	5.9	0.02	11.97463
7/18/15 1:00 AM	97.197744	591	5.91	0.01	11.957448
7/18/15 2:00 AM	97.192544	599	5.99	0.08	11.95254
7/18/15 3:00 AM	97.19484	621	6.21	0.22	11.95254
7/18/15 4:00 AM	97.20772	622	6.22	0.01	11.950086
7/18/15 5:00 AM	97.213088	627	6.27	0.05	11.959904
7/18/15 6:00 AM	97.2116	629	6.29	0.02	11.942722
7/18/15 7:00 AM	97.21312	629	6.29	0	11.942722
7/18/15 8:00 AM	97.210224	629	6.29	0	11.954996
7/18/15 9:00 AM	97.202544	629	6.29	0	12.045806
7/18/15 10:00 AM	97.19316	629	6.29	0	12.075258
7/18/15 11:00 AM	97.181768	629	6.29	0	12.075258
7/18/15 12:00 PM	97.176432	629	6.29	0	12.178336
7/18/15 1:00 PM	97.175648	629	6.29	0	12.310872
7/18/15 2:00 PM	97.170696	629	6.29	0	12.411496
7/18/15 3:00 PM	97.160888	629	6.29	0	12.42377
7/18/15 4:00 PM	97.15976	629	6.29	0	12.443402
7/18/15 5:00 PM	97.164136	629	6.29	0	12.372226
7/18/15 6:00 PM	97.165624	629	6.29	0	12.359958
7/18/15 7:00 PM	97.164464	629	6.29	0	12.112074
7/18/15 8:00 PM	97.162264	629	6.29	0	12.075258
7/18/15 9:00 PM	97.154784	629	6.29	0	12.075258
7/18/15 10:00 PM	97.147312	629	6.29	0	12.075258
7/18/15 11:00 PM	97.14084	629	6.29	0	12.075258
7/19/15 12:00 AM	97.13756	629	6.29	0	12.075258
7/19/15 1:00 AM	97.132472	629	6.29	0	12.06544
7/19/15 2:00 AM	97.12932	629	6.29	0	11.999172
7/19/15 3:00 AM	97.123032	630	6.3	0.01	11.967266
7/19/15 4:00 AM	97.1196	630	6.3	0	11.954994
7/19/15 5:00 AM	97.116984	630	6.3	0	11.954994
7/19/15 6:00 AM	97.113184	630	6.3	0	11.95254
7/19/15 7:00 AM	97.10844	630	6.3	0	11.947632
7/19/15 8:00 AM	97.104824	630	6.3	0	12.001628
7/19/15 9:00 AM	97.112352	630	6.3	0	11.96972
7/19/15 10:00 AM	97.129808	638	6.38	0.08	11.940268
7/19/15 11:00 AM	97.13896	640	6.4	0.02	12.038442
7/19/15 12:00 PM	97.139576	640	6.4	0	12.166076
7/19/15 1:00 PM	97.136	640	6.4	0	12.325598
7/19/15 2:00 PM	97.1298	640	6.4	0	12.372226
7/19/15 3:00 PM	97.130592	640	6.4	0	12.377136
7/19/15 4:00 PM	97.126352	640	6.4	0	12.318244
7/19/15 5:00 PM	97.125512	640	6.4	0	12.080166
7/19/15 6:00 PM	97.122152	640	6.4	0	12.075258

7/19/15 7:00 PM	97.128576	640	6.4	0	12.075258
7/19/15 8:00 PM	97.13256	640	6.4	0	12.06544
7/19/15 9:00 PM	97.127312	640	6.4	0	12.008988
7/19/15 10:00 PM	97.12648	640	6.4	0	11.95254
7/19/15 11:00 PM	97.13032	640	6.4	0	11.940268
7/20/15 12:00 AM	97.13204	640	6.4	0	11.937814
7/20/15 1:00 AM	97.13296	640	6.4	0	11.930452
7/20/15 2:00 AM	97.135656	640	6.4	0	11.925542
7/20/15 3:00 AM	97.136008	640	6.4	0	11.93045
7/20/15 4:00 AM	97.136776	640	6.4	0	11.923088
7/20/15 5:00 AM	97.134864	640	6.4	0	11.927998
7/20/15 6:00 AM	97.136	640	6.4	0	11.927996
7/20/15 7:00 AM	97.136472	640	6.4	0	11.932906
7/20/15 8:00 AM	97.135784	640	6.4	0	11.940268
7/20/15 9:00 AM	97.134936	640	6.4	0	11.964812
7/20/15 10:00 AM	97.138264	640	6.4	0	11.989356
7/20/15 11:00 AM	97.141456	640	6.4	0	12.075258
7/20/15 12:00 PM	97.145608	640	6.4	0	12.136622
7/20/15 1:00 PM	97.149416	640	6.4	0	12.352592
7/20/15 2:00 PM	97.153752	640	6.4	0	12.369772
7/20/15 3:00 PM	97.158112	640	6.4	0	12.369772
7/20/15 4:00 PM	97.163984	640	6.4	0	12.364864
7/20/15 5:00 PM	97.167592	640	6.4	0	12.369772
7/20/15 6:00 PM	97.181368	640	6.4	0	12.340328
7/20/15 7:00 PM	97.189912	640	6.4	0	12.205344
7/20/15 8:00 PM	97.19356	640	6.4	0	12.082622
7/20/15 9:00 PM	97.188816	640	6.4	0	12.075258
7/20/15 10:00 PM	97.181856	640	6.4	0	12.075258
7/20/15 11:00 PM	97.183568	640	6.4	0	12.075258
7/21/15 12:00 AM	97.183008	640	6.4	0	12.075258
7/21/15 1:00 AM	97.181896	640	6.4	0	12.075258
7/21/15 2:00 AM	97.18388	640	6.4	0	12.075258
7/21/15 3:00 AM	97.184504	640	6.4	0	12.075258
7/21/15 4:00 AM	97.184864	640	6.4	0	12.072804
7/21/15 5:00 AM	97.181904	640	6.4	0	12.043352
7/21/15 6:00 AM	97.179344	640	6.4	0	12.001626
7/21/15 7:00 AM	97.176528	640	6.4	0	11.972178
7/21/15 8:00 AM	97.178568	640	6.4	0	12.035988
7/21/15 9:00 AM	97.181016	640	6.4	0	12.072804
7/21/15 10:00 AM	97.183016	640	6.4	0	12.075258
7/21/15 11:00 AM	97.186248	640	6.4	0	12.075258
7/21/15 12:00 PM	97.185352	640	6.4	0	12.217608
7/21/15 1:00 PM	97.18832	640	6.4	0	12.20534
7/21/15 2:00 PM	97.196488	663	6.63	0.23	12.126802
7/21/15 3:00 PM	97.313984	701	7.01	0.38	12.075258
7/21/15 4:00 PM	97.3876	701	7.01	0	12.158702
7/21/15 5:00 PM	97.343016	701	7.01	0	12.281424
7/21/15 6:00 PM	97.285672	701	7.01	0	12.36241
7/21/15 7:00 PM	97.249456	701	7.01	0	12.301064
7/21/15 8:00 PM	97.246896	701	7.01	0	12.080166
7/21/15 9:00 PM	97.26412	701	7.01	0	12.075258
7/21/15 10:00 PM	97.254368	701	7.01	0	12.075258
7/21/15 11:00 PM	97.244952	701	7.01	0	12.075258
7/22/15 12:00 AM	97.248648	701	7.01	0	12.060532
7/22/15 1:00 AM	97.241824	701	7.01	0	11.9869
7/22/15 2:00 AM	97.236336	701	7.01	0	11.95254
7/22/15 3:00 AM	97.233392	701	7.01	0	11.940268
7/22/15 4:00 AM	97.23616	701	7.01	0	11.932906
7/22/15 5:00 AM	97.227024	701	7.01	0	11.925542
7/22/15 6:00 AM	97.222544	701	7.01	0	11.927996
7/22/15 7:00 AM	97.213384	701	7.01	0	11.920636
7/22/15 8:00 AM	97.20852	701	7.01	0	11.927998
7/22/15 9:00 AM	97.20684	701	7.01	0	12.065442

7/22/15 10:00 AM	97.214696	707	7.07	0.06	11.962358
7/22/15 11:00 AM	97.21656	717	7.17	0.1	11.999176
7/22/15 12:00 PM	97.224464	717	7.17	0	12.180802
7/22/15 1:00 PM	97.224568	717	7.17	0	12.352594
7/22/15 2:00 PM	97.215728	717	7.17	0	12.526854
7/22/15 3:00 PM	97.216912	717	7.17	0	12.507218
7/22/15 4:00 PM	97.224408	717	7.17	0	12.53176
7/22/15 5:00 PM	97.224624	717	7.17	0	12.33542
7/22/15 6:00 PM	97.227704	717	7.17	0	12.254432
7/22/15 7:00 PM	97.226632	717	7.17	0	12.094894
7/22/15 8:00 PM	97.222712	717	7.17	0	12.104712
7/22/15 9:00 PM	97.220496	717	7.17	0	12.075258
7/22/15 10:00 PM	97.223272	717	7.17	0	12.075258
7/22/15 11:00 PM	97.235016	717	7.17	0	12.075258
7/23/15 12:00 AM	97.246696	718	7.18	0.01	12.075258
7/23/15 1:00 AM	97.23724	718	7.18	0	12.075258
7/23/15 2:00 AM	97.227656	718	7.18	0	12.075258
7/23/15 3:00 AM	97.22112	718	7.18	0	12.075258
7/23/15 4:00 AM	97.223736	718	7.18	0	12.075258
7/23/15 5:00 AM	97.230792	718	7.18	0	12.075258
7/23/15 6:00 AM	97.23784	718	7.18	0	12.072804
7/23/15 7:00 AM	97.249	718	7.18	0	12.055622
7/23/15 8:00 AM	97.249424	718	7.18	0	12.062986
7/23/15 9:00 AM	97.247512	718	7.18	0	12.07035
7/23/15 10:00 AM	97.238688	718	7.18	0	12.072804
7/23/15 11:00 AM	97.22264	718	7.18	0	12.075258
7/23/15 12:00 PM	97.212488	718	7.18	0	12.239696
7/23/15 1:00 PM	97.20888	718	7.18	0	12.200432
7/23/15 2:00 PM	97.204608	718	7.18	0	12.075258
7/23/15 3:00 PM	97.199432	718	7.18	0	12.080166
7/23/15 4:00 PM	97.195408	718	7.18	0	12.416406
7/23/15 5:00 PM	97.189688	718	7.18	0	12.485124
7/23/15 6:00 PM	97.191528	718	7.18	0	12.296144
7/23/15 7:00 PM	97.18888	718	7.18	0	12.337872
7/23/15 8:00 PM	97.19284	718	7.18	0	12.131708
7/23/15 9:00 PM	97.204792	718	7.18	0	12.075258
7/23/15 10:00 PM	97.219688	718	7.18	0	12.075258
7/23/15 11:00 PM	97.227792	718	7.18	0	12.075258
7/24/15 12:00 AM	97.235672	718	7.18	0	12.072804
7/24/15 1:00 AM	97.23856	718	7.18	0	12.013898
7/24/15 2:00 AM	97.237392	718	7.18	0	11.95254
7/24/15 3:00 AM	97.23504	718	7.18	0	11.927998
7/24/15 4:00 AM	97.222688	718	7.18	0	11.925542
7/24/15 5:00 AM	97.204744	718	7.18	0	11.90591
7/24/15 6:00 AM	97.18664	718	7.18	0	11.891186
7/24/15 7:00 AM	97.183152	728	7.28	0.1	11.866642
7/24/15 8:00 AM	97.175808	728	7.28	0	11.86664
7/24/15 9:00 AM	97.172016	728	7.28	0	11.910818
7/24/15 10:00 AM	97.16444	729	7.29	0.01	11.959902
7/24/15 11:00 AM	97.166208	730	7.3	0.01	11.986902
7/24/15 12:00 PM	97.163248	732	7.32	0.02	12.023718
7/24/15 1:00 PM	97.155648	732	7.32	0	12.293688
7/24/15 2:00 PM	97.151384	732	7.32	0	12.406586
7/24/15 3:00 PM	97.148264	732	7.32	0	12.421314
7/24/15 4:00 PM	97.149688	732	7.32	0	12.578392
7/24/15 5:00 PM	97.14844	732	7.32	0	12.44831
7/24/15 6:00 PM	97.146328	732	7.32	0	12.382044
7/24/15 7:00 PM	97.14856	732	7.32	0	12.347688
7/24/15 8:00 PM	97.146384	732	7.32	0	12.124346
7/24/15 9:00 PM	97.139232	732	7.32	0	12.075258
7/24/15 10:00 PM	97.131792	732	7.32	0	12.075258
7/24/15 11:00 PM	97.129904	732	7.32	0	12.075258
7/25/15 12:00 AM	97.128272	732	7.32	0	12.075258

7/25/15 1:00 AM	97.123624	732	7.32	0	12.075258
7/25/15 2:00 AM	97.120112	732	7.32	0	12.075258
7/25/15 3:00 AM	97.116696	732	7.32	0	12.075258
7/25/15 4:00 AM	97.114	732	7.32	0	12.075258
7/25/15 5:00 AM	97.111888	732	7.32	0	12.072804
7/25/15 6:00 AM	97.108056	732	7.32	0	12.075258
7/25/15 7:00 AM	97.10552	732	7.32	0	12.072804
7/25/15 8:00 AM	97.100656	732	7.32	0	12.058078
7/25/15 9:00 AM	97.101096	732	7.32	0	12.067896
7/25/15 10:00 AM	97.097808	732	7.32	0	12.072804
7/25/15 11:00 AM	97.100296	732	7.32	0	12.075258
7/25/15 12:00 PM	97.10352	732	7.32	0	12.25442
7/25/15 1:00 PM	97.106144	732	7.32	0	12.320688
7/25/15 2:00 PM	97.104872	732	7.32	0	12.421314
7/25/15 3:00 PM	97.103464	732	7.32	0	12.521942
7/25/15 4:00 PM	97.099752	732	7.32	0	12.54158
7/25/15 5:00 PM	97.097544	732	7.32	0	12.431138
7/25/15 6:00 PM	97.091912	732	7.32	0	12.094894
7/25/15 7:00 PM	97.086112	732	7.32	0	12.075258
7/25/15 8:00 PM	97.080064	735	7.35	0.03	12.075258
7/25/15 9:00 PM	97.07492	735	7.35	0	12.075258
7/25/15 10:00 PM	97.06908	735	7.35	0	12.075258
7/25/15 11:00 PM	97.064632	735	7.35	0	12.075258
7/26/15 12:00 AM	97.061744	735	7.35	0	12.075258
7/26/15 1:00 AM	97.060864	735	7.35	0	12.075258
7/26/15 2:00 AM	97.060984	735	7.35	0	12.075258
7/26/15 3:00 AM	97.066088	737	7.37	0.02	12.075258
7/26/15 4:00 AM	97.065328	737	7.37	0	12.075258
7/26/15 5:00 AM	97.061984	737	7.37	0	12.075258
7/26/15 6:00 AM	97.05804	737	7.37	0	12.060532
7/26/15 7:00 AM	97.056304	737	7.37	0	12.040896
7/26/15 8:00 AM	97.054552	737	7.37	0	12.001628
7/26/15 9:00 AM	97.05448	737	7.37	0	12.028626
7/26/15 10:00 AM	97.053392	737	7.37	0	12.07035
7/26/15 11:00 AM	97.051744	737	7.37	0	12.075258
7/26/15 12:00 PM	97.047048	737	7.37	0	12.146436
7/26/15 1:00 PM	97.046032	737	7.37	0	12.364864
7/26/15 2:00 PM	97.046992	737	7.37	0	12.50231
7/26/15 3:00 PM	97.048384	737	7.37	0	12.539124
7/26/15 4:00 PM	97.048104	737	7.37	0	12.421312
7/26/15 5:00 PM	97.047816	741	7.41	0.04	12.215156
7/26/15 6:00 PM	97.047624	741	7.41	0	12.355046
7/26/15 7:00 PM	97.04648	741	7.41	0	12.320698
7/26/15 8:00 PM	97.04556	741	7.41	0	12.119436
7/26/15 9:00 PM	97.042504	741	7.41	0	12.075258
7/26/15 10:00 PM	97.039616	741	7.41	0	12.075258
7/26/15 11:00 PM	97.03584	741	7.41	0	12.075258
7/27/15 12:00 AM	97.031824	741	7.41	0	12.075258
7/27/15 1:00 AM	97.027664	741	7.41	0	12.075258
7/27/15 2:00 AM	97.023384	741	7.41	0	12.075258
7/27/15 3:00 AM	97.018792	741	7.41	0	12.075258
7/27/15 4:00 AM	97.014472	741	7.41	0	12.075258
7/27/15 5:00 AM	97.010352	741	7.41	0	12.075258
7/27/15 6:00 AM	97.00648	741	7.41	0	12.075258
7/27/15 7:00 AM	97.002288	741	7.41	0	12.040896
7/27/15 8:00 AM	96.998432	741	7.41	0	12.060532
7/27/15 9:00 AM	96.995104	741	7.41	0	12.067896
7/27/15 10:00 AM	96.992048	741	7.41	0	12.075258
7/27/15 11:00 AM	96.989784	741	7.41	0	12.075258
7/27/15 12:00 PM	96.986968	741	7.41	0	12.227428
7/27/15 1:00 PM	96.985144	741	7.41	0	12.372226
7/27/15 2:00 PM	96.983416	741	7.41	0	12.502308
7/27/15 3:00 PM	96.982808	741	7.41	0	12.423766

7/27/15 4:00 PM	96.982152	741	7.41	0	12.347694
7/27/15 5:00 PM	96.981008	741	7.41	0	12.14153
7/27/15 6:00 PM	96.979992	741	7.41	0	12.332962
7/27/15 7:00 PM	96.980376	741	7.41	0	12.229886
7/27/15 8:00 PM	96.980648	741	7.41	0	12.075258
7/27/15 9:00 PM	96.98032	741	7.41	0	12.075258
7/27/15 10:00 PM	96.979776	741	7.41	0	12.075258
7/27/15 11:00 PM	96.979648	741	7.41	0	12.075258
7/28/15 12:00 AM	96.97896	741	7.41	0	12.070348
7/28/15 1:00 AM	96.979488	741	7.41	0	12.040896
7/28/15 2:00 AM	96.984432	752	7.52	0.11	11.959902
7/28/15 3:00 AM	96.996144	758	7.58	0.06	11.93536
7/28/15 4:00 AM	97.012944	760	7.6	0.02	11.93536
7/28/15 5:00 AM	97.027048	761	7.61	0.01	11.927996
7/28/15 6:00 AM	97.033592	761	7.61	0	11.920634
7/28/15 7:00 AM	97.034552	761	7.61	0	11.918178
7/28/15 8:00 AM	97.031944	761	7.61	0	11.923088
7/28/15 9:00 AM	97.027448	761	7.61	0	11.93045
7/28/15 10:00 AM	97.022304	761	7.61	0	11.950086
7/28/15 11:00 AM	97.016376	761	7.61	0	12.058078
7/28/15 12:00 PM	97.010136	761	7.61	0	12.075258
7/28/15 1:00 PM	97.002816	761	7.61	0	12.332956
7/28/15 2:00 PM	96.997416	761	7.61	0	12.396768
7/28/15 3:00 PM	96.99172	761	7.61	0	12.40659
7/28/15 4:00 PM	96.986048	761	7.61	0	12.401678
7/28/15 5:00 PM	96.980504	761	7.61	0	12.382044
7/28/15 6:00 PM	96.975744	761	7.61	0	12.34769
7/28/15 7:00 PM	96.970784	761	7.61	0	12.22007
7/28/15 8:00 PM	96.966016	761	7.61	0	12.08753
7/28/15 9:00 PM	96.961736	761	7.61	0	12.075258
7/28/15 10:00 PM	96.957928	761	7.61	0	12.075258
7/28/15 11:00 PM	96.953768	761	7.61	0	12.075258
7/29/15 12:00 AM	96.949952	761	7.61	0	12.075258
7/29/15 1:00 AM	96.946232	761	7.61	0	12.075258
7/29/15 2:00 AM	96.942712	761	7.61	0	12.075258
7/29/15 3:00 AM	96.939504	761	7.61	0	12.075258
7/29/15 4:00 AM	96.936576	761	7.61	0	12.075258
7/29/15 5:00 AM	96.933496	761	7.61	0	12.072804
7/29/15 6:00 AM	96.930688	761	7.61	0	12.072804
7/29/15 7:00 AM	96.92716	761	7.61	0	12.070348
7/29/15 8:00 AM	96.924128	761	7.61	0	12.075258
7/29/15 9:00 AM	96.921872	761	7.61	0	12.075258
7/29/15 10:00 AM	96.91908	761	7.61	0	12.075258
7/29/15 11:00 AM	96.918888	761	7.61	0	12.075258
7/29/15 12:00 PM	96.91904	761	7.61	0	12.156256
7/29/15 1:00 PM	96.919144	761	7.61	0	12.367318
7/29/15 2:00 PM	96.918704	761	7.61	0	12.443402
7/29/15 3:00 PM	96.918576	761	7.61	0	12.399224
7/29/15 4:00 PM	96.918096	761	7.61	0	12.377134
7/29/15 5:00 PM	96.918944	761	7.61	0	12.237248
7/29/15 6:00 PM	96.929104	777	7.77	0.16	12.082622
7/29/15 7:00 PM	96.95116	777	7.77	0	12.089984
7/29/15 8:00 PM	96.981176	777	7.77	0	12.075258
7/29/15 9:00 PM	96.990704	777	7.77	0	12.075258
7/29/15 10:00 PM	96.990992	777	7.77	0	12.075258
7/29/15 11:00 PM	96.987744	777	7.77	0	12.075258
7/30/15 12:00 AM	96.982712	777	7.77	0	12.075258
7/30/15 1:00 AM	96.976864	777	7.77	0	12.075258
7/30/15 2:00 AM	96.970776	777	7.77	0	12.067894
7/30/15 3:00 AM	96.964736	777	7.77	0	11.996716
7/30/15 4:00 AM	96.95884	777	7.77	0	11.959904
7/30/15 5:00 AM	96.95308	777	7.77	0	11.940268
7/30/15 6:00 AM	96.946888	777	7.77	0	11.940268

7/30/15 7:00 AM	96.941272	777	7.77	0	11.937816
7/30/15 8:00 AM	96.93588	777	7.77	0	11.981992
7/30/15 9:00 AM	96.93128	777	7.77	0	12.070348
7/30/15 10:00 AM	96.92636	777	7.77	0	12.075258
7/30/15 11:00 AM	96.921192	777	7.77	0	12.075258
7/30/15 12:00 PM	96.918456	777	7.77	0	12.075258
7/30/15 1:00 PM	96.915072	779	7.79	0.02	12.06544
7/30/15 2:00 PM	96.915648	784	7.84	0.05	12.06544
7/30/15 3:00 PM	96.918824	791	7.91	0.07	11.989356
7/30/15 4:00 PM	96.93192	791	7.91	0	12.082622
7/30/15 5:00 PM	96.95824	791	7.91	0	12.337864
7/30/15 6:00 PM	96.967552	791	7.91	0	12.335416
7/30/15 7:00 PM	96.966056	791	7.91	0	12.207794
7/30/15 8:00 PM	96.962176	791	7.91	0	12.089984
7/30/15 9:00 PM	96.956224	791	7.91	0	12.075258
7/30/15 10:00 PM	96.94988	791	7.91	0	12.075258
7/30/15 11:00 PM	96.943768	791	7.91	0	12.072804
7/31/15 12:00 AM	96.938144	791	7.91	0	12.067894
7/31/15 1:00 AM	96.93324	791	7.91	0	12.02617
7/31/15 2:00 AM	96.930224	791	7.91	0	11.962358
7/31/15 3:00 AM	96.928248	791	7.91	0	11.937814
7/31/15 4:00 AM	96.92252	791	7.91	0	11.93536
7/31/15 5:00 AM	96.916944	791	7.91	0	11.927996
7/31/15 6:00 AM	96.911424	791	7.91	0	11.92554
7/31/15 7:00 AM	96.906536	791	7.91	0	11.937814
7/31/15 8:00 AM	96.902392	791	7.91	0	11.937814
7/31/15 9:00 AM	96.9002	791	7.91	0	11.957448
7/31/15 10:00 AM	96.898072	791	7.91	0	12.018808
7/31/15 11:00 AM	96.894184	791	7.91	0	12.075258
7/31/15 12:00 PM	96.891736	791	7.91	0	12.151342
7/31/15 1:00 PM	96.892048	791	7.91	0	12.315778
7/31/15 2:00 PM	96.892928	791	7.91	0	12.36732
7/31/15 3:00 PM	96.891744	791	7.91	0	12.416404
7/31/15 4:00 PM	96.890136	791	7.91	0	12.352596
7/31/15 5:00 PM	96.888288	791	7.91	0	12.276512
7/31/15 6:00 PM	96.887056	791	7.91	0	12.352592
7/31/15 7:00 PM	96.88572	791	7.91	0	12.278974
7/31/15 8:00 PM	96.884112	791	7.91	0	12.107164
7/31/15 9:00 PM	96.882432	791	7.91	0	12.075258
7/31/15 10:00 PM	96.881224	791	7.91	0	12.075258
7/31/15 11:00 PM	96.878776	791	7.91	0	12.075258
8/1/15 12:00 AM	96.876416	791	7.91	0	12.075258
8/1/15 1:00 AM	96.874096	791	7.91	0	12.075258
8/1/15 2:00 AM	96.872432	791	7.91	0	12.075258
8/1/15 3:00 AM	96.871424	791	7.91	0	12.038442
8/1/15 4:00 AM	96.86924	791	7.91	0	11.959904
8/1/15 5:00 AM	96.867112	791	7.91	0	11.927998
8/1/15 6:00 AM	96.865448	792	7.92	0.01	11.905912
8/1/15 7:00 AM	96.864432	792	7.92	0	11.87646
8/1/15 8:00 AM	96.862552	792	7.92	0	11.886272
8/1/15 9:00 AM	96.86008	793	7.93	0.01	11.923088
8/1/15 10:00 AM	96.857056	793	7.93	0	11.979536
8/1/15 11:00 AM	96.854824	793	7.93	0	12.06544
8/1/15 12:00 PM	96.851752	793	7.93	0	12.11453
8/1/15 1:00 PM	96.851904	795	7.95	0.02	12.180792
8/1/15 2:00 PM	96.850448	795	7.95	0	12.372226
8/1/15 3:00 PM	96.84956	795	7.95	0	12.436042
8/1/15 4:00 PM	96.847368	795	7.95	0	12.418858
8/1/15 5:00 PM	96.845296	795	7.95	0	12.310876
8/1/15 6:00 PM	96.842328	795	7.95	0	12.232332
8/1/15 7:00 PM	96.840728	795	7.95	0	12.087528
8/1/15 8:00 PM	96.838632	795	7.95	0	12.075258
8/1/15 9:00 PM	96.838312	795	7.95	0	12.075258

8/1/15 10:00 PM	96.83768	795	7.95	0	12.075258
8/1/15 11:00 PM	96.836048	795	7.95	0	12.070348
8/2/15 12:00 AM	96.835648	795	7.95	0	12.062986
8/2/15 1:00 AM	96.835416	795	7.95	0	11.999172
8/2/15 2:00 AM	96.835056	795	7.95	0	11.950086
8/2/15 3:00 AM	96.834336	795	7.95	0	11.93045
8/2/15 4:00 AM	96.833112	795	7.95	0	11.920636
8/2/15 5:00 AM	96.831816	795	7.95	0	11.908366
8/2/15 6:00 AM	96.83044	795	7.95	0	11.878912
8/2/15 7:00 AM	96.828968	795	7.95	0	11.851916
8/2/15 8:00 AM	96.827824	795	7.95	0	11.864186
8/2/15 9:00 AM	96.825888	795	7.95	0	11.94763
8/2/15 10:00 AM	96.82432	795	7.95	0	11.940268
8/2/15 11:00 AM	96.821976	795	7.95	0	12.062986
8/2/15 12:00 PM	96.819784	795	7.95	0	12.097348
8/2/15 1:00 PM	96.818008	795	7.95	0	12.318234
8/2/15 2:00 PM	96.817472	795	7.95	0	12.32315
8/2/15 3:00 PM	96.81444	795	7.95	0	12.404134
8/2/15 4:00 PM	96.81324	795	7.95	0	12.34769
8/2/15 5:00 PM	96.81112	795	7.95	0	12.318232
8/2/15 6:00 PM	96.809136	795	7.95	0	12.369772
8/2/15 7:00 PM	96.807576	795	7.95	0	12.195526
8/2/15 8:00 PM	96.806744	795	7.95	0	12.075258
8/2/15 9:00 PM	96.805552	795	7.95	0	12.075258
8/2/15 10:00 PM	96.804584	795	7.95	0	12.075258
8/2/15 11:00 PM	96.80328	795	7.95	0	12.075258
8/3/15 12:00 AM	96.802224	795	7.95	0	12.075258
8/3/15 1:00 AM	96.801496	795	7.95	0	12.070348
8/3/15 2:00 AM	96.802104	795	7.95	0	12.033534
8/3/15 3:00 AM	96.799752	795	7.95	0	11.967266
8/3/15 4:00 AM	96.800096	795	7.95	0	11.937814
8/3/15 5:00 AM	96.797968	795	7.95	0	11.927996
8/3/15 6:00 AM	96.798928	795	7.95	0	11.915728
8/3/15 7:00 AM	96.796688	795	7.95	0	11.90591
8/3/15 8:00 AM	96.796736	795	7.95	0	11.923088
8/3/15 9:00 AM	96.792704	795	7.95	0	11.940268
8/3/15 10:00 AM	96.794088	795	7.95	0	12.028626
8/3/15 11:00 AM	96.792392	795	7.95	0	12.072804
8/3/15 12:00 PM	96.789784	795	7.95	0	12.112076
8/3/15 1:00 PM	96.788544	795	7.95	0	12.180796
8/3/15 2:00 PM	96.786976	795	7.95	0	12.264246
8/3/15 3:00 PM	96.786104	795	7.95	0	12.17098
8/3/15 4:00 PM	96.785088	795	7.95	0	12.094894
8/3/15 5:00 PM	96.782848	795	7.95	0	12.345234
8/3/15 6:00 PM	96.783544	795	7.95	0	12.089984
8/3/15 7:00 PM	96.782328	795	7.95	0	12.075258
8/3/15 8:00 PM	96.78216	795	7.95	0	12.075258
8/3/15 9:00 PM	96.781296	795	7.95	0	12.075258
8/3/15 10:00 PM	96.780616	795	7.95	0	12.067894
8/3/15 11:00 PM	96.780384	795	7.95	0	12.016352
8/4/15 12:00 AM	96.780032	795	7.95	0	11.962356
8/4/15 1:00 AM	96.779656	795	7.95	0	11.923088
8/4/15 2:00 AM	96.779248	795	7.95	0	11.927998
8/4/15 3:00 AM	96.778848	795	7.95	0	11.913272
8/4/15 4:00 AM	96.778048	795	7.95	0	11.910818
8/4/15 5:00 AM	96.77816	795	7.95	0	11.88873
8/4/15 6:00 AM	96.777384	795	7.95	0	11.874006
8/4/15 7:00 AM	96.776656	795	7.95	0	11.866644
8/4/15 8:00 AM	96.776056	795	7.95	0	11.874002
8/4/15 9:00 AM	96.77528	795	7.95	0	11.954996
8/4/15 10:00 AM	96.774704	795	7.95	0	12.028626
8/4/15 11:00 AM	96.774936	795	7.95	0	12.026168
8/4/15 12:00 PM	96.774224	795	7.95	0	11.969722

8/4/15 1:00 PM	96.7734	795	7.95	0	12.028628
8/4/15 2:00 PM	96.771928	795	7.95	0	12.303514
8/4/15 3:00 PM	96.77192	795	7.95	0	12.303514
8/4/15 4:00 PM	96.772816	795	7.95	0	12.08753
8/4/15 5:00 PM	96.770136	795	7.95	0	12.205336
8/4/15 6:00 PM	96.769728	795	7.95	0	12.369772
8/4/15 7:00 PM	96.769528	795	7.95	0	12.23234
8/4/15 8:00 PM	96.768952	795	7.95	0	12.075258
8/4/15 9:00 PM	96.767992	795	7.95	0	12.075258
8/4/15 10:00 PM	96.767384	795	7.95	0	12.070348
8/4/15 11:00 PM	96.767232	795	7.95	0	12.00408
8/5/15 12:00 AM	96.766944	795	7.95	0	11.952538
8/5/15 1:00 AM	96.766816	795	7.95	0	11.93045
8/5/15 2:00 AM	96.767304	796	7.96	0.01	11.915726
8/5/15 3:00 AM	96.767096	796	7.96	0	11.893642
8/5/15 4:00 AM	96.766856	796	7.96	0	11.85437
8/5/15 5:00 AM	96.767232	796	7.96	0	11.832282
8/5/15 6:00 AM	96.767088	796	7.96	0	11.815104
8/5/15 7:00 AM	96.766848	796	7.96	0	11.815104
8/5/15 8:00 AM	96.766384	796	7.96	0	11.829828
8/5/15 9:00 AM	96.765736	796	7.96	0	11.913272
8/5/15 10:00 AM	96.765016	796	7.96	0	11.972178
8/5/15 11:00 AM	96.764512	796	7.96	0	12.040896
8/5/15 12:00 PM	96.7642	796	7.96	0	12.082622
8/5/15 1:00 PM	96.762504	796	7.96	0	12.134162
8/5/15 2:00 PM	96.760248	796	7.96	0	12.342774
8/5/15 3:00 PM	96.76176	796	7.96	0	12.362416
8/5/15 4:00 PM	96.760784	796	7.96	0	12.2397
8/5/15 5:00 PM	96.759392	796	7.96	0	12.075258
8/5/15 6:00 PM	96.757128	796	7.96	0	12.075258
8/5/15 7:00 PM	96.75704	797	7.97	0.01	12.058076
8/5/15 8:00 PM	96.768536	810	8.1	0.13	11.996718
8/5/15 9:00 PM	96.770232	810	8.1	0	11.920636
8/5/15 10:00 PM	96.772152	810	8.1	0	11.851918
8/5/15 11:00 PM	96.774136	810	8.1	0	11.81265
8/6/15 12:00 AM	96.775456	810	8.1	0	11.793016
8/6/15 1:00 AM	96.777352	810	8.1	0	11.793014
8/6/15 2:00 AM	96.77736	810	8.1	0	11.79056
8/6/15 3:00 AM	96.777688	810	8.1	0	11.788106
8/6/15 4:00 AM	96.77724	810	8.1	0	11.785654
8/6/15 5:00 AM	96.777096	810	8.1	0	11.785654
8/6/15 6:00 AM	96.777872	810	8.1	0	11.785654
8/6/15 7:00 AM	96.777088	810	8.1	0	11.788106
8/6/15 8:00 AM	96.776208	810	8.1	0	11.820006
8/6/15 9:00 AM	96.77608	810	8.1	0	11.88382
8/6/15 10:00 AM	96.775648	810	8.1	0	11.94763
8/6/15 11:00 AM	96.774968	810	8.1	0	12.04826
8/6/15 12:00 PM	96.772472	810	8.1	0	12.075258
8/6/15 1:00 PM	96.771536	810	8.1	0	12.107166
8/6/15 2:00 PM	96.769688	810	8.1	0	12.335414
8/6/15 3:00 PM	96.768808	810	8.1	0	12.190618
8/6/15 4:00 PM	96.7684	810	8.1	0	12.102256
8/6/15 5:00 PM	96.767424	810	8.1	0	12.075258
8/6/15 6:00 PM	96.765224	810	8.1	0	12.072804
8/6/15 7:00 PM	96.764168	810	8.1	0	12.053166
8/6/15 8:00 PM	96.763304	810	8.1	0	11.962358
8/6/15 9:00 PM	96.762336	810	8.1	0	11.927996
8/6/15 10:00 PM	96.762088	810	8.1	0	11.888732
8/6/15 11:00 PM	96.761424	810	8.1	0	11.832282
8/7/15 12:00 AM	96.760544	810	8.1	0	11.820012
8/7/15 1:00 AM	96.760304	810	8.1	0	11.812648
8/7/15 2:00 AM	96.76008	810	8.1	0	11.800378
8/7/15 3:00 AM	96.759456	810	8.1	0	11.793016

8/7/15 4:00 AM	96.759288	810	8.1	0	11.790562
8/7/15 5:00 AM	96.759072	810	8.1	0	11.790562
8/7/15 6:00 AM	96.75828	810	8.1	0	11.793016
8/7/15 7:00 AM	96.757528	810	8.1	0	11.783198
8/7/15 8:00 AM	96.75664	810	8.1	0	11.785652
8/7/15 9:00 AM	96.755968	810	8.1	0	11.790562
8/7/15 10:00 AM	96.755144	810	8.1	0	11.810196
8/7/15 11:00 AM	96.754064	810	8.1	0	11.839644
8/7/15 12:00 PM	96.752688	810	8.1	0	11.91818
8/7/15 1:00 PM	96.75004	810	8.1	0	11.967268
8/7/15 2:00 PM	96.749096	810	8.1	0	12.075258
8/7/15 3:00 PM	96.748088	810	8.1	0	12.10226
8/7/15 4:00 PM	96.746264	810	8.1	0	12.202892
8/7/15 5:00 PM	96.74412	810	8.1	0	12.075258
8/7/15 6:00 PM	96.74264	810	8.1	0	12.075258
8/7/15 7:00 PM	96.742104	810	8.1	0	12.075258
8/7/15 8:00 PM	96.741344	810	8.1	0	11.994264
8/7/15 9:00 PM	96.74	810	8.1	0	11.927996
8/7/15 10:00 PM	96.73972	810	8.1	0	11.876462
8/7/15 11:00 PM	96.73908	810	8.1	0	11.820012
8/8/15 12:00 AM	96.73848	810	8.1	0	11.81265
8/8/15 1:00 AM	96.738576	810	8.1	0	11.793016
8/8/15 2:00 AM	96.7384	810	8.1	0	11.788108
8/8/15 3:00 AM	96.737784	810	8.1	0	11.785654
8/8/15 4:00 AM	96.737216	810	8.1	0	11.780744
8/8/15 5:00 AM	96.736792	810	8.1	0	11.783198
8/8/15 6:00 AM	96.735944	810	8.1	0	11.785654
8/8/15 7:00 AM	96.735224	810	8.1	0	11.785654
8/8/15 8:00 AM	96.734376	810	8.1	0	11.780744
8/8/15 9:00 AM	96.733592	810	8.1	0	11.783198
8/8/15 10:00 AM	96.732912	810	8.1	0	11.79547
8/8/15 11:00 AM	96.732104	810	8.1	0	11.834734
8/8/15 12:00 PM	96.731	810	8.1	0	11.90591
8/8/15 1:00 PM	96.730208	810	8.1	0	11.974628
8/8/15 2:00 PM	96.729384	810	8.1	0	11.962356
8/8/15 3:00 PM	96.727824	810	8.1	0	11.844556
8/8/15 4:00 PM	96.726512	810	8.1	0	11.876458
8/8/15 5:00 PM	96.725584	810	8.1	0	11.844556
8/8/15 6:00 PM	96.724904	810	8.1	0	11.797924
8/8/15 7:00 PM	96.72436	810	8.1	0	11.780744
8/8/15 8:00 PM	96.723736	810	8.1	0	11.780744
8/8/15 9:00 PM	96.723424	810	8.1	0	11.783198
8/8/15 10:00 PM	96.72324	810	8.1	0	11.783198
8/8/15 11:00 PM	96.722616	810	8.1	0	11.780744
8/9/15 12:00 AM	96.722168	810	8.1	0	11.780744
8/9/15 1:00 AM	96.721752	810	8.1	0	11.780744
8/9/15 2:00 AM	96.721552	810	8.1	0	11.780744
8/9/15 3:00 AM	96.72112	810	8.1	0	11.780744
8/9/15 4:00 AM	96.721144	810	8.1	0	11.780744
8/9/15 5:00 AM	96.720728	810	8.1	0	11.780744
8/9/15 6:00 AM	96.720408	810	8.1	0	11.780744
8/9/15 7:00 AM	96.720072	810	8.1	0	11.780744
8/9/15 8:00 AM	96.719128	810	8.1	0	11.780744
8/9/15 9:00 AM	96.718616	810	8.1	0	11.780744
8/9/15 10:00 AM	96.717776	810	8.1	0	11.807736
8/9/15 11:00 AM	96.717128	810	8.1	0	11.90346
8/9/15 12:00 PM	96.716152	810	8.1	0	11.793014
8/9/15 1:00 PM	96.71484	810	8.1	0	11.91818
8/9/15 2:00 PM	96.714392	810	8.1	0	12.06544
8/9/15 3:00 PM	96.71376	810	8.1	0	12.075258
8/9/15 4:00 PM	96.712984	810	8.1	0	12.075258
8/9/15 5:00 PM	96.711672	810	8.1	0	12.00408
8/9/15 6:00 PM	96.710568	810	8.1	0	11.839648

8/9/15 7:00 PM	96.70944	810	8.1	0	11.780744
8/9/15 8:00 PM	96.708416	810	8.1	0	11.780744
8/9/15 9:00 PM	96.70708	810	8.1	0	11.780744
8/9/15 10:00 PM	96.706608	810	8.1	0	11.780744
8/9/15 11:00 PM	96.706056	810	8.1	0	11.780744
8/10/15 12:00 AM	96.705448	810	8.1	0	11.780744
8/10/15 1:00 AM	96.705232	810	8.1	0	11.780744
8/10/15 2:00 AM	96.70512	810	8.1	0	11.780744
8/10/15 3:00 AM	96.704872	810	8.1	0	11.780744
8/10/15 4:00 AM	96.704592	810	8.1	0	11.780744
8/10/15 5:00 AM	96.7044	810	8.1	0	11.780744
8/10/15 6:00 AM	96.703944	810	8.1	0	11.780744
8/10/15 7:00 AM	96.703392	810	8.1	0	11.780744
8/10/15 8:00 AM	96.702528	810	8.1	0	11.780744
8/10/15 9:00 AM	96.702368	810	8.1	0	11.780744
8/10/15 10:00 AM	96.702304	810	8.1	0	11.780744
8/10/15 11:00 AM	96.70036	810	8.1	0	11.780744
8/10/15 12:00 PM	96.699216	810	8.1	0	11.788106
8/10/15 1:00 PM	96.69836	810	8.1	0	11.947636
8/10/15 2:00 PM	96.698432	810	8.1	0	12.043352
8/10/15 3:00 PM	96.696832	810	8.1	0	12.075258
8/10/15 4:00 PM	96.69808	810	8.1	0	11.824922
8/10/15 5:00 PM	96.69632	810	8.1	0	11.780744
8/10/15 6:00 PM	96.695448	810	8.1	0	11.780744
8/10/15 7:00 PM	96.69524	810	8.1	0	11.780744
8/10/15 8:00 PM	96.694704	810	8.1	0	11.780744
8/10/15 9:00 PM	96.694056	810	8.1	0	11.780744
8/10/15 10:00 PM	96.694184	810	8.1	0	11.780744
8/10/15 11:00 PM	96.69296	810	8.1	0	11.780744
8/11/15 12:00 AM	96.69212	810	8.1	0	11.780744
8/11/15 1:00 AM	96.69272	810	8.1	0	11.780744
8/11/15 2:00 AM	96.69252	810	8.1	0	11.780744
8/11/15 3:00 AM	96.692384	810	8.1	0	11.780744
8/11/15 4:00 AM	96.69228	810	8.1	0	11.780744
8/11/15 5:00 AM	96.692696	811	8.11	0.01	11.780744
8/11/15 6:00 AM	96.693312	811	8.11	0	11.780744
8/11/15 7:00 AM	96.694248	815	8.15	0.04	11.780744
8/11/15 8:00 AM	96.70432	826	8.26	0.11	11.780744
8/11/15 9:00 AM	96.713784	833	8.33	0.07	11.780744
8/11/15 10:00 AM	96.732032	842	8.42	0.09	11.780744
8/11/15 11:00 AM	96.75848	849	8.49	0.07	11.780744
8/11/15 12:00 PM	96.793248	855	8.55	0.06	11.780744
8/11/15 1:00 PM	96.823776	858	8.58	0.03	11.829824
8/11/15 2:00 PM	96.84592	860	8.6	0.02	11.783198
8/11/15 3:00 PM	96.859096	861	8.61	0.01	11.85192
8/11/15 4:00 PM	96.865728	861	8.61	0	11.954998
8/11/15 5:00 PM NotYetSet		861	8.61	0	12.006542
8/11/15 6:00 PM NotYetSet		861	8.61	0	11.780744
8/11/15 7:00 PM NotYetSet		861	8.61	0	11.780744
8/11/15 8:00 PM NotYetSet		861	8.61	0	11.780744
8/11/15 9:00 PM NotYetSet		895	8.95	0.34	11.780744
8/11/15 10:00 PM NotYetSet		911	9.11	0.16	11.780744
8/11/15 11:00 PM NotYetSet		911	9.11	0	11.780744
8/12/15 12:00 AM NotYetSet		911	9.11	0	11.780744
8/12/15 1:00 AM NotYetSet		911	9.11	0	11.780744
8/12/15 2:00 AM NotYetSet		911	9.11	0	11.780744
8/12/15 3:00 AM NotYetSet		911	9.11	0	11.780744
8/12/15 4:00 AM	96.989784	911	9.11	0	11.780744
8/12/15 5:00 AM	96.969208	911	9.11	0	11.780744
8/12/15 6:00 AM	96.950656	912	9.12	0.01	11.780744
8/12/15 7:00 AM	96.934448	912	9.12	0	11.780744
8/12/15 8:00 AM	96.919992	912	9.12	0	11.780744
8/12/15 9:00 AM	96.907136	912	9.12	0	11.780744

8/12/15 10:00 AM	96.895768	912	9.12	0	11.780744
8/12/15 11:00 AM	96.884392	912	9.12	0	11.780744
8/12/15 12:00 PM	96.875008	912	9.12	0	11.780744
8/12/15 1:00 PM	96.866048	912	9.12	0	11.783198
8/12/15 2:00 PM	96.857048	912	9.12	0	11.896098
8/12/15 3:00 PM	96.850256	917	9.17	0.05	11.92064
8/12/15 4:00 PM	96.84652	917	9.17	0	11.937822
8/12/15 5:00 PM	96.839344	917	9.17	0	11.797926
8/12/15 6:00 PM	96.833712	917	9.17	0	11.780744
8/12/15 7:00 PM	96.82616	917	9.17	0	11.780744
8/12/15 8:00 PM	96.821088	917	9.17	0	11.780744
8/12/15 9:00 PM	96.814904	917	9.17	0	11.780744
8/12/15 10:00 PM	96.808712	917	9.17	0	11.780744
8/12/15 11:00 PM	96.803168	917	9.17	0	11.780744
8/13/15 12:00 AM	96.798088	917	9.17	0	11.780744
8/13/15 1:00 AM	96.79304	917	9.17	0	11.780744
8/13/15 2:00 AM	96.78792	917	9.17	0	11.780744
8/13/15 3:00 AM	96.783584	917	9.17	0	11.780744
8/13/15 4:00 AM	96.778664	917	9.17	0	11.780744
8/13/15 5:00 AM	96.773784	917	9.17	0	11.780744
8/13/15 6:00 AM	96.769872	917	9.17	0	11.780744
8/13/15 7:00 AM	96.764512	917	9.17	0	11.780744
8/13/15 8:00 AM	96.75976	917	9.17	0	11.780744
8/13/15 9:00 AM	96.75572	917	9.17	0	11.780744
8/13/15 10:00 AM	96.750344	917	9.17	0	11.780744
8/13/15 11:00 AM	96.74516	917	9.17	0	11.780744
8/13/15 12:00 PM	96.740504	917	9.17	0	11.780744
8/13/15 1:00 PM	96.734768	917	9.17	0	11.86173
8/13/15 2:00 PM	96.73164	917	9.17	0	12.050714
8/13/15 3:00 PM	96.72676	917	9.17	0	12.038442
8/13/15 4:00 PM	96.723064	917	9.17	0	12.075258
8/13/15 5:00 PM	96.71928	917	9.17	0	11.979536
8/13/15 6:00 PM	96.714888	917	9.17	0	11.842104
8/13/15 7:00 PM	96.710648	917	9.17	0	11.783198
8/13/15 8:00 PM	96.706544	917	9.17	0	11.780744
8/13/15 9:00 PM	96.703656	917	9.17	0	11.780744
8/13/15 10:00 PM	96.699688	917	9.17	0	11.780744
8/13/15 11:00 PM	96.69644	917	9.17	0	11.780744
8/14/15 12:00 AM	96.693336	917	9.17	0	11.780744
8/14/15 1:00 AM	96.689848	917	9.17	0	11.780744
8/14/15 2:00 AM	96.686336	917	9.17	0	11.780744
8/14/15 3:00 AM	96.683496	917	9.17	0	11.780744
8/14/15 4:00 AM	96.680376	917	9.17	0	11.780744
8/14/15 5:00 AM	96.67748	917	9.17	0	11.780744
8/14/15 6:00 AM	96.674488	917	9.17	0	11.780744
8/14/15 7:00 AM	96.671672	917	9.17	0	11.780744
8/14/15 8:00 AM	96.668392	917	9.17	0	11.780744
8/14/15 9:00 AM	96.665112	917	9.17	0	11.780744
8/14/15 10:00 AM	96.66276	917	9.17	0	11.780744
8/14/15 11:00 AM	96.659288	917	9.17	0	11.780744
8/14/15 12:00 PM	96.656416	917	9.17	0	11.783198
8/14/15 1:00 PM	96.653032	917	9.17	0	11.783198
8/14/15 2:00 PM	96.649584	917	9.17	0	11.780744
8/14/15 3:00 PM	96.650488	921	9.21	0.04	11.783198
8/14/15 5:00 PM	96.722248	0	0	0	11.839644
8/14/15 6:00 PM	96.50832	0	0	0	11.817558
8/14/15 7:00 PM	96.51664	0	0	0	11.81265
8/14/15 8:00 PM	96.51928	0	0	0	11.797924
8/14/15 9:00 PM	96.519312	0	0	0	11.79547
8/14/15 10:00 PM	96.518424	0	0	0	11.80038
8/14/15 11:00 PM	96.516432	0	0	0	11.800376
8/15/15 12:00 AM	96.514048	0	0	0	11.810194
8/15/15 1:00 AM	96.511688	0	0	0	11.795468

8/15/15 2:00 AM	96.50924	0	0	0	11.790562
8/15/15 3:00 AM	96.506552	0	0	0	11.790562
8/15/15 4:00 AM	96.503872	0	0	0	11.788106
8/15/15 5:00 AM	96.501032	0	0	0	11.780744
8/15/15 6:00 AM	96.49788	0	0	0	11.790562
8/15/15 7:00 AM	96.49448	0	0	0	11.783198
8/15/15 8:00 AM	96.49136	0	0	0	11.785652
8/15/15 9:00 AM	96.48788	0	0	0	11.793016
8/15/15 10:00 AM	96.484104	0	0	0	11.851914
8/15/15 11:00 AM	96.481424	0	0	0	11.908366
8/15/15 12:00 PM	96.477672	0	0	0	11.88627
8/15/15 1:00 PM	96.473584	0	0	0	12.033534
8/15/15 2:00 PM	96.47028	0	0	0	12.072804
8/15/15 3:00 PM	96.470104	0	0	0	12.004078
8/15/15 4:00 PM	96.465216	0	0	0	11.888734
8/15/15 5:00 PM	96.463208	3	0.03	0.03	11.80283
8/15/15 6:00 PM	96.462512	4	0.04	0.01	11.79547
8/15/15 7:00 PM	96.460064	4	0.04	0	11.780744
8/15/15 8:00 PM	96.457992	4	0.04	0	11.780744
8/15/15 9:00 PM	96.455424	4	0.04	0	11.780744
8/15/15 10:00 PM	96.452912	4	0.04	0	11.780744
8/15/15 11:00 PM	96.450536	4	0.04	0	11.780744
8/16/15 12:00 AM	96.448032	4	0.04	0	11.780744
8/16/15 1:00 AM	96.446096	4	0.04	0	11.780744
8/16/15 2:00 AM	96.44368	4	0.04	0	11.780744
8/16/15 3:00 AM	96.441352	4	0.04	0	11.780744
8/16/15 4:00 AM	96.438872	4	0.04	0	11.780744
8/16/15 5:00 AM	96.436632	4	0.04	0	11.780744
8/16/15 6:00 AM	96.434528	4	0.04	0	11.780744
8/16/15 7:00 AM	96.432048	4	0.04	0	11.780744
8/16/15 8:00 AM	96.429616	4	0.04	0	11.780744
8/16/15 9:00 AM	96.427128	4	0.04	0	11.780744
8/16/15 10:00 AM	96.424224	4	0.04	0	11.783198
8/16/15 11:00 AM	96.4214	4	0.04	0	11.861732
8/16/15 12:00 PM	96.418168	4	0.04	0	11.97463
8/16/15 1:00 PM	96.41512	4	0.04	0	12.072804
8/16/15 2:00 PM	96.4142	4	0.04	0	12.040894
8/16/15 3:00 PM	96.410072	4	0.04	0	12.03599
8/16/15 4:00 PM	96.408616	4	0.04	0	12.06544
8/16/15 5:00 PM	96.40676	4	0.04	0	11.95254
8/16/15 6:00 PM	96.40468	4	0.04	0	11.871552
8/16/15 7:00 PM	96.40224	4	0.04	0	11.785654
8/16/15 8:00 PM	96.399984	4	0.04	0	11.780744
8/16/15 9:00 PM	96.397808	4	0.04	0	11.780744
8/16/15 10:00 PM	96.39556	4	0.04	0	11.780744
8/16/15 11:00 PM	96.393112	4	0.04	0	11.780744
8/17/15 12:00 AM	96.391136	4	0.04	0	11.780744
8/17/15 1:00 AM	96.389032	4	0.04	0	11.780744
8/17/15 2:00 AM	96.387032	4	0.04	0	11.780744
8/17/15 3:00 AM	96.384984	4	0.04	0	11.780744
8/17/15 4:00 AM	96.383	4	0.04	0	11.780744
8/17/15 5:00 AM	96.381464	4	0.04	0	11.780744
8/17/15 6:00 AM	96.379424	4	0.04	0	11.780744
8/17/15 7:00 AM	96.377056	4	0.04	0	11.780744
8/17/15 8:00 AM	96.374608	4	0.04	0	11.780744
8/17/15 9:00 AM	96.372168	4	0.04	0	11.780744
8/17/15 10:00 AM	96.369984	4	0.04	0	11.780744
8/17/15 11:00 AM	96.367768	4	0.04	0	11.800378
8/17/15 12:00 PM	96.365856	4	0.04	0	11.913272
8/17/15 1:00 PM	96.362864	4	0.04	0	12.045806
8/17/15 2:00 PM	96.361368	4	0.04	0	12.072804
8/17/15 3:00 PM	96.358656	4	0.04	0	12.060532
8/17/15 4:00 PM	96.356184	4	0.04	0	12.03353

8/17/15 5:00 PM	96.354032	4	0.04	0	11.856826
8/17/15 6:00 PM	96.35192	4	0.04	0	11.788108
8/17/15 7:00 PM	96.349288	4	0.04	0	11.780744
8/17/15 8:00 PM	96.347368	4	0.04	0	11.780744
8/17/15 9:00 PM	96.345568	4	0.04	0	11.780744
8/17/15 10:00 PM	96.343648	4	0.04	0	11.780744
8/17/15 11:00 PM	96.34216	4	0.04	0	11.780744
8/18/15 12:00 AM	96.340704	4	0.04	0	11.780744
8/18/15 1:00 AM	96.339096	4	0.04	0	11.780744
8/18/15 2:00 AM	96.337608	4	0.04	0	11.780744
8/18/15 3:00 AM	96.335792	4	0.04	0	11.780744
8/18/15 4:00 AM	96.334568	4	0.04	0	11.780744
8/18/15 5:00 AM	96.33308	4	0.04	0	11.780744
8/18/15 6:00 AM	96.33168	4	0.04	0	11.780744
8/18/15 7:00 AM	96.329904	4	0.04	0	11.780744
8/18/15 8:00 AM	96.327896	4	0.04	0	11.780744
8/18/15 9:00 AM	96.32616	4	0.04	0	11.780744
8/18/15 10:00 AM	96.323976	4	0.04	0	11.780744
8/18/15 11:00 AM	96.322152	4	0.04	0	11.785654
8/18/15 12:00 PM	96.32	4	0.04	0	11.874002
8/18/15 1:00 PM	96.31848	4	0.04	0	11.967266
8/18/15 2:00 PM	96.316616	4	0.04	0	11.979538
8/18/15 3:00 PM	96.315376	4	0.04	0	12.02126
8/18/15 4:00 PM	96.31344	4	0.04	0	11.942728
8/18/15 5:00 PM	96.312872	4	0.04	0	11.785654
8/18/15 6:00 PM	96.310064	4	0.04	0	11.780744
8/18/15 7:00 PM	96.308744	4	0.04	0	11.780744
8/18/15 8:00 PM	96.307536	4	0.04	0	11.780744
8/18/15 9:00 PM	96.305408	4	0.04	0	11.780744
8/18/15 10:00 PM	96.304176	4	0.04	0	11.780744
8/18/15 11:00 PM	96.303128	4	0.04	0	11.780744
8/19/15 12:00 AM	96.302248	4	0.04	0	11.780744
8/19/15 1:00 AM	96.301272	4	0.04	0	11.780744
8/19/15 2:00 AM	96.299928	4	0.04	0	11.780744
8/19/15 3:00 AM	96.298824	4	0.04	0	11.780744
8/19/15 4:00 AM	96.297936	4	0.04	0	11.780744
8/19/15 5:00 AM	96.297096	4	0.04	0	11.780744
8/19/15 6:00 AM	96.29544	4	0.04	0	11.780744
8/19/15 7:00 AM	96.29448	4	0.04	0	11.780744
8/19/15 8:00 AM	96.293096	4	0.04	0	11.780744
8/19/15 9:00 AM	96.290632	4	0.04	0	11.780744
8/19/15 10:00 AM	96.289376	4	0.04	0	11.780744
8/19/15 11:00 AM	96.287176	4	0.04	0	11.780744
8/19/15 12:00 PM	96.285968	4	0.04	0	11.797922
8/19/15 1:00 PM	96.283656	4	0.04	0	11.90591
8/19/15 2:00 PM	96.282816	4	0.04	0	11.927998
8/19/15 3:00 PM	96.280848	4	0.04	0	11.974628
8/19/15 4:00 PM	96.27896	4	0.04	0	11.8961
8/19/15 5:00 PM	96.277264	4	0.04	0	11.780744
8/19/15 6:00 PM	96.275224	4	0.04	0	11.780744
8/19/15 7:00 PM	96.273224	4	0.04	0	11.780744
8/19/15 8:00 PM	96.271696	4	0.04	0	11.780744
8/19/15 9:00 PM	96.270312	4	0.04	0	11.780744
8/19/15 10:00 PM	96.268896	4	0.04	0	11.780744
8/19/15 11:00 PM	96.267784	4	0.04	0	11.780744
8/20/15 12:00 AM	96.266864	4	0.04	0	11.780744
8/20/15 1:00 AM	96.264816	4	0.04	0	11.780744
8/20/15 2:00 AM	96.264888	4	0.04	0	11.780744
8/20/15 3:00 AM	96.263888	4	0.04	0	11.780744
8/20/15 4:00 AM	96.263424	4	0.04	0	11.780744
8/20/15 5:00 AM	96.26296	4	0.04	0	11.780744
8/20/15 6:00 AM	96.26012	4	0.04	0	11.780744
8/20/15 7:00 AM	96.259136	4	0.04	0	11.780744

8/20/15 8:00 AM	96.257496	4	0.04	0	11.780744
8/20/15 9:00 AM	96.25684	4	0.04	0	11.780744
8/20/15 10:00 AM	96.25412	4	0.04	0	11.780744
8/20/15 11:00 AM	96.253608	4	0.04	0	11.780744
8/20/15 12:00 PM	96.24968	4	0.04	0	11.788106
8/20/15 1:00 PM	96.247672	4	0.04	0	11.84701
8/20/15 2:00 PM	96.247048	4	0.04	0	11.851912
8/20/15 3:00 PM	96.24596	4	0.04	0	11.874004
8/20/15 4:00 PM	96.243992	4	0.04	0	11.83474
8/20/15 5:00 PM	96.241672	4	0.04	0	11.780744
8/20/15 6:00 PM	96.239768	4	0.04	0	11.780744
8/20/15 7:00 PM	96.238824	4	0.04	0	11.780744
8/20/15 8:00 PM	96.23728	4	0.04	0	11.780744
8/20/15 9:00 PM	96.23432	4	0.04	0	11.780744
8/20/15 10:00 PM	96.23292	4	0.04	0	11.780744
8/20/15 11:00 PM	96.2322	4	0.04	0	11.780744
8/21/15 12:00 AM	96.231376	4	0.04	0	11.780744
8/21/15 1:00 AM	96.230072	4	0.04	0	11.780744
8/21/15 2:00 AM	96.230312	4	0.04	0	11.780744
8/21/15 3:00 AM	96.229496	4	0.04	0	11.780744
8/21/15 4:00 AM	96.231896	15	0.15	0.11	11.780744
8/21/15 5:00 AM	96.245952	42	0.42	0.27	11.780744
8/21/15 6:00 AM	96.320056	62	0.62	0.2	11.780744
8/21/15 7:00 AM	96.463448	63	0.63	0.01	11.780744
8/21/15 8:00 AM	96.526816	63	0.63	0	11.780744
8/21/15 9:00 AM	96.544656	63	0.63	0	11.780744
8/21/15 10:00 AM	96.548664	63	0.63	0	11.780744
8/21/15 11:00 AM	96.54768	63	0.63	0	11.780744
8/21/15 12:00 PM	96.545536	63	0.63	0	11.783198
8/21/15 1:00 PM	96.541896	63	0.63	0	11.869096
8/21/15 2:00 PM	96.537736	63	0.63	0	11.898544
8/21/15 3:00 PM	96.533768	63	0.63	0	11.972174
8/21/15 4:00 PM	96.528912	63	0.63	0	11.901008
8/21/15 5:00 PM	96.524176	63	0.63	0	11.783198
8/21/15 6:00 PM	96.520216	63	0.63	0	11.780744
8/21/15 7:00 PM	96.514864	63	0.63	0	11.780744
8/21/15 8:00 PM	96.50988	63	0.63	0	11.780744
8/21/15 9:00 PM	96.504888	63	0.63	0	11.780744
8/21/15 10:00 PM	96.500488	63	0.63	0	11.780744
8/21/15 11:00 PM	96.496056	63	0.63	0	11.780744
8/22/15 12:00 AM	96.491936	63	0.63	0	11.780744
8/22/15 1:00 AM	96.487456	63	0.63	0	11.780744
8/22/15 2:00 AM	96.483016	63	0.63	0	11.780744
8/22/15 3:00 AM	96.479056	63	0.63	0	11.780744
8/22/15 4:00 AM	96.475072	63	0.63	0	11.780744
8/22/15 5:00 AM	96.470728	63	0.63	0	11.780744
8/22/15 6:00 AM	96.466656	63	0.63	0	11.780744
8/22/15 7:00 AM	96.462536	63	0.63	0	11.780744
8/22/15 8:00 AM	96.458352	63	0.63	0	11.780744
8/22/15 9:00 AM	96.45424	63	0.63	0	11.780744
8/22/15 10:00 AM	96.449912	63	0.63	0	11.780744
8/22/15 11:00 AM	96.445608	63	0.63	0	11.780744
8/22/15 12:00 PM	96.441504	63	0.63	0	11.780744
8/22/15 1:00 PM	96.437008	63	0.63	0	11.81756
8/22/15 2:00 PM	96.433192	63	0.63	0	11.820006
8/22/15 3:00 PM	96.42932	63	0.63	0	11.90836
8/22/15 4:00 PM	96.424232	63	0.63	0	11.85192
8/22/15 5:00 PM	96.420664	63	0.63	0	11.780744
8/22/15 6:00 PM	96.416224	63	0.63	0	11.780744
8/22/15 7:00 PM	96.41212	63	0.63	0	11.780744
8/22/15 8:00 PM	96.408496	63	0.63	0	11.780744
8/22/15 9:00 PM	96.405136	63	0.63	0	11.780744
8/22/15 10:00 PM	96.401728	63	0.63	0	11.780744

8/22/15 11:00 PM	96.3988	63	0.63	0	11.780744
8/23/15 12:00 AM	96.395408	63	0.63	0	11.780744
8/23/15 1:00 AM	96.39244	63	0.63	0	11.780744
8/23/15 2:00 AM	96.389592	63	0.63	0	11.780744
8/23/15 3:00 AM	96.386928	63	0.63	0	11.780744
8/23/15 4:00 AM	96.384192	63	0.63	0	11.780744
8/23/15 5:00 AM	96.38164	63	0.63	0	11.77829
8/23/15 6:00 AM	96.379016	63	0.63	0	11.77829
8/23/15 7:00 AM	96.3764	63	0.63	0	11.77829
8/23/15 8:00 AM	96.373128	63	0.63	0	11.780744
8/23/15 9:00 AM	96.370064	63	0.63	0	11.780744
8/23/15 10:00 AM	96.367544	63	0.63	0	11.780744
8/23/15 11:00 AM	96.364856	63	0.63	0	11.780744
8/23/15 12:00 PM	96.362128	63	0.63	0	11.780744
8/23/15 1:00 PM	96.359464	63	0.63	0	11.805286
8/23/15 2:00 PM	96.356464	63	0.63	0	11.797924
8/23/15 3:00 PM	96.354592	63	0.63	0	11.893636
8/23/15 4:00 PM	96.350792	63	0.63	0	11.839648
8/23/15 5:00 PM	96.348304	63	0.63	0	11.780744
8/23/15 6:00 PM	96.345136	63	0.63	0	11.780744
8/23/15 7:00 PM	96.34212	63	0.63	0	11.780744
8/23/15 8:00 PM	96.339544	63	0.63	0	11.775836
8/23/15 9:00 PM	96.337088	63	0.63	0	11.77829
8/23/15 10:00 PM	96.334568	63	0.63	0	11.775836
8/23/15 11:00 PM	96.332008	63	0.63	0	11.780744
8/24/15 12:00 AM	96.329904	63	0.63	0	11.77829
8/24/15 1:00 AM	96.327984	63	0.63	0	11.77829
8/24/15 2:00 AM	96.326056	63	0.63	0	11.780744
8/24/15 3:00 AM	96.324096	63	0.63	0	11.77829
8/24/15 4:00 AM	96.32204	63	0.63	0	11.780744
8/24/15 5:00 AM	96.320176	63	0.63	0	11.775836
8/24/15 6:00 AM	96.318144	63	0.63	0	11.775836
8/24/15 7:00 AM	96.315848	63	0.63	0	11.77338
8/24/15 8:00 AM	96.313576	63	0.63	0	11.773382
8/24/15 9:00 AM	96.311552	63	0.63	0	11.780744
8/24/15 10:00 AM	96.309848	63	0.63	0	11.780744
8/24/15 11:00 AM	96.30752	63	0.63	0	11.780744
8/24/15 12:00 PM	96.305144	63	0.63	0	11.780744
8/24/15 1:00 PM	96.302032	63	0.63	0	11.783198
8/24/15 2:00 PM	96.299952	63	0.63	0	11.780744
8/24/15 3:00 PM	96.297728	63	0.63	0	11.79056
8/24/15 4:00 PM	96.294448	63	0.63	0	11.783198
8/24/15 5:00 PM	96.29184	63	0.63	0	11.780744
8/24/15 6:00 PM	96.289496	63	0.63	0	11.780744
8/24/15 7:00 PM	96.286488	63	0.63	0	11.780744
8/24/15 8:00 PM	96.28464	63	0.63	0	11.775836
8/24/15 9:00 PM	96.282792	63	0.63	0	11.768474
8/24/15 10:00 PM	96.280912	63	0.63	0	11.761108
8/24/15 11:00 PM	96.279096	63	0.63	0	11.758656
8/25/15 12:00 AM	96.276888	63	0.63	0	11.763564
8/25/15 1:00 AM	96.275112	63	0.63	0	11.763564
8/25/15 2:00 AM	96.273792	63	0.63	0	11.751292
8/25/15 3:00 AM	96.272288	63	0.63	0	11.751292
8/25/15 4:00 AM	96.2708	63	0.63	0	11.73902
8/25/15 5:00 AM	96.269216	63	0.63	0	11.729204
8/25/15 6:00 AM	96.268048	63	0.63	0	11.707114
8/25/15 7:00 AM	96.2664	63	0.63	0	11.70466
8/25/15 8:00 AM	96.264408	63	0.63	0	11.716932
8/25/15 9:00 AM	96.262928	63	0.63	0	11.736568
8/25/15 10:00 AM	96.26168	63	0.63	0	11.766018
8/25/15 11:00 AM	96.260432	63	0.63	0	11.73902
8/25/15 12:00 PM	96.260992	66	0.66	0.03	11.76601
8/25/15 1:00 PM	96.265128	67	0.67	0.01	12.043352

8/25/15 2:00 PM	96.275472	67	0.67	0	12.075258
8/25/15 3:00 PM	96.284536	67	0.67	0	12.072804
8/25/15 4:00 PM	96.28908	67	0.67	0	12.06544
8/25/15 5:00 PM	96.291256	67	0.67	0	12.075258
8/25/15 6:00 PM	96.29288	67	0.67	0	12.067894
8/25/15 7:00 PM	96.292912	67	0.67	0	11.991808
8/25/15 8:00 PM	96.292536	67	0.67	0	11.925542
8/25/15 9:00 PM	96.291056	67	0.67	0	11.91818
8/25/15 10:00 PM	96.2898	67	0.67	0	11.920634
8/25/15 11:00 PM	96.288488	67	0.67	0	11.915726
8/26/15 12:00 AM	96.28764	67	0.67	0	11.91327
8/26/15 1:00 AM	96.286296	67	0.67	0	11.90836
8/26/15 2:00 AM	96.285352	67	0.67	0	11.913272
8/26/15 3:00 AM	96.284144	67	0.67	0	11.908366
8/26/15 4:00 AM	96.282344	67	0.67	0	11.883822
8/26/15 5:00 AM	96.280688	67	0.67	0	11.869096
8/26/15 6:00 AM	96.278496	67	0.67	0	11.839646
8/26/15 7:00 AM	96.277048	67	0.67	0	11.856826
8/26/15 8:00 AM	96.275112	67	0.67	0	11.888724
8/26/15 9:00 AM	96.27324	67	0.67	0	11.932906
8/26/15 10:00 AM	96.271352	67	0.67	0	11.974632
8/26/15 11:00 AM	96.268744	67	0.67	0	12.072804
8/26/15 12:00 PM	96.266568	67	0.67	0	12.075258
8/26/15 1:00 PM	96.264592	67	0.67	0	12.077712
8/26/15 2:00 PM	96.264664	67	0.67	0	12.070348
8/26/15 3:00 PM	96.261112	67	0.67	0	12.04826
8/26/15 4:00 PM	96.259352	67	0.67	0	11.996722
8/26/15 5:00 PM	96.258096	67	0.67	0	11.93536
8/26/15 6:00 PM	96.256376	67	0.67	0	11.876458
8/26/15 7:00 PM	96.255056	67	0.67	0	11.815104
8/26/15 8:00 PM	96.25408	67	0.67	0	11.79547
8/26/15 9:00 PM	96.252488	67	0.67	0	11.793016
8/26/15 10:00 PM	96.251504	67	0.67	0	11.783198
8/26/15 11:00 PM	96.250056	67	0.67	0	11.785652
8/27/15 12:00 AM	96.249304	67	0.67	0	11.788106
8/27/15 1:00 AM	96.247672	67	0.67	0	11.783198
8/27/15 2:00 AM	96.247144	67	0.67	0	11.788106
8/27/15 3:00 AM	96.246416	67	0.67	0	11.783198
8/27/15 4:00 AM	96.245152	67	0.67	0	11.788106
8/27/15 5:00 AM	96.244048	67	0.67	0	11.783198
8/27/15 6:00 AM	96.2432	67	0.67	0	11.780744
8/27/15 7:00 AM	96.242	67	0.67	0	11.780744
8/27/15 8:00 AM	96.24032	67	0.67	0	11.780744
8/27/15 9:00 AM	96.239368	67	0.67	0	11.785654
8/27/15 10:00 AM	96.239528	67	0.67	0	11.785652
8/27/15 11:00 AM	96.238224	67	0.67	0	11.800374
8/27/15 12:00 PM	96.235968	67	0.67	0	12.028626
8/27/15 1:00 PM	96.234152	67	0.67	0	12.077712
8/27/15 2:00 PM	96.233312	67	0.67	0	12.077712
8/27/15 3:00 PM	96.233104	67	0.67	0	12.053166
8/27/15 4:00 PM	96.230712	67	0.67	0	12.040896
8/27/15 5:00 PM	96.228896	67	0.67	0	12.053168
8/27/15 6:00 PM	96.228768	67	0.67	0	11.94273
8/27/15 7:00 PM	96.22704	67	0.67	0	11.893642
8/27/15 8:00 PM	96.226352	67	0.67	0	11.785654
8/27/15 9:00 PM	96.224864	67	0.67	0	11.780744
8/27/15 10:00 PM	96.223544	67	0.67	0	11.780744
8/27/15 11:00 PM	96.22332	67	0.67	0	11.780744
8/28/15 12:00 AM	96.221696	67	0.67	0	11.780744
8/28/15 1:00 AM	96.220784	67	0.67	0	11.780744
8/28/15 2:00 AM	96.22072	67	0.67	0	11.780744
8/28/15 3:00 AM	96.219184	67	0.67	0	11.780744
8/28/15 4:00 AM	96.218096	67	0.67	0	11.780744

8/28/15 5:00 AM	96.217448	67	0.67	0	11.780744
8/28/15 6:00 AM	96.216768	67	0.67	0	11.780744
8/28/15 7:00 AM	96.215632	67	0.67	0	11.780744
8/28/15 8:00 AM	96.21404	67	0.67	0	11.780744
8/28/15 9:00 AM	96.213256	67	0.67	0	11.780744
8/28/15 10:00 AM	96.211448	67	0.67	0	11.805282
8/28/15 11:00 AM	96.21	67	0.67	0	12.006538
8/28/15 12:00 PM	96.20912	67	0.67	0	12.077712
8/28/15 1:00 PM	96.207808	67	0.67	0	12.077712
8/28/15 2:00 PM	96.20728	67	0.67	0	12.075258
8/28/15 3:00 PM	96.206312	67	0.67	0	12.077712
8/28/15 4:00 PM	96.20452	67	0.67	0	12.075258
8/28/15 5:00 PM	96.204168	67	0.67	0	12.075258
8/28/15 6:00 PM	96.20292	67	0.67	0	12.070348
8/28/15 7:00 PM	96.20208	67	0.67	0	11.92064
8/28/15 8:00 PM	96.201288	67	0.67	0	11.785654
8/28/15 9:00 PM	96.20052	67	0.67	0	11.780744
8/28/15 10:00 PM	96.199656	67	0.67	0	11.780744
8/28/15 11:00 PM	96.19892	67	0.67	0	11.780744
8/29/15 12:00 AM	96.198536	67	0.67	0	11.780744
9/1/15 1:00 AM	96.171	67	0.67	0	11.780744
9/1/15 2:00 AM	96.1708	67	0.67	0	11.780744
9/1/15 3:00 AM	96.170424	67	0.67	0	11.780744
9/1/15 4:00 AM	96.169992	67	0.67	0	11.780744
9/1/15 5:00 AM	96.169624	67	0.67	0	11.780744
9/1/15 6:00 AM	96.169224	67	0.67	0	11.780744
9/1/15 7:00 AM	96.168648	67	0.67	0	11.780744
9/1/15 8:00 AM	96.167688	67	0.67	0	11.780744
9/1/15 9:00 AM	96.166696	67	0.67	0	11.780744
9/1/15 10:00 AM	96.166272	67	0.67	0	11.780744
9/1/15 11:00 AM	96.164696	67	0.67	0	11.817552
9/1/15 12:00 PM	96.16432	67	0.67	0	12.026172
9/1/15 1:00 PM	96.16368	67	0.67	0	12.075258
9/1/15 2:00 PM	96.163344	67	0.67	0	12.075258
9/1/15 3:00 PM	96.163008	67	0.67	0	12.075258
9/1/15 4:00 PM	96.161256	67	0.67	0	12.075258
9/1/15 5:00 PM	96.161184	67	0.67	0	12.075258
9/1/15 6:00 PM	96.160392	67	0.67	0	11.996718
9/1/15 7:00 PM	96.15944	67	0.67	0	11.802834
9/1/15 8:00 PM	96.159016	67	0.67	0	11.780744
9/1/15 9:00 PM	96.158192	67	0.67	0	11.780744
9/1/15 10:00 PM	96.157136	67	0.67	0	11.780744
9/1/15 11:00 PM	96.157	67	0.67	0	11.780744
9/2/15 12:00 AM	96.156712	67	0.67	0	11.780744
9/2/15 1:00 AM	96.156376	67	0.67	0	11.780744
9/2/15 2:00 AM	96.156096	67	0.67	0	11.780744
9/2/15 3:00 AM	96.155672	67	0.67	0	11.780744
9/2/15 4:00 AM	96.155368	67	0.67	0	11.780744
9/2/15 5:00 AM	96.15492	67	0.67	0	11.780744
9/2/15 6:00 AM	96.154488	67	0.67	0	11.780744
9/2/15 7:00 AM	96.153888	67	0.67	0	11.780744
9/2/15 8:00 AM	96.153032	67	0.67	0	11.780744
9/2/15 9:00 AM	96.152416	67	0.67	0	11.780744
9/2/15 10:00 AM	96.15128	67	0.67	0	11.780744
9/2/15 11:00 AM	96.150272	67	0.67	0	11.793014
9/2/15 12:00 PM	96.149368	67	0.67	0	11.99672
9/2/15 1:00 PM	96.14856	67	0.67	0	12.075258
9/2/15 2:00 PM	96.148816	67	0.67	0	12.075258
9/2/15 3:00 PM	96.148328	67	0.67	0	12.075258
9/2/15 4:00 PM	96.147464	67	0.67	0	12.072804
9/2/15 5:00 PM	96.146904	67	0.67	0	12.028624
9/2/15 6:00 PM	96.146376	67	0.67	0	11.869102
9/2/15 7:00 PM	96.146032	67	0.67	0	11.780744

9/2/15 8:00 PM	96.145512	67	0.67	0	11.780744
9/2/15 9:00 PM	96.145016	67	0.67	0	11.780744
9/2/15 10:00 PM	96.144416	67	0.67	0	11.780744
9/2/15 11:00 PM	96.14396	67	0.67	0	11.780744
9/3/15 12:00 AM	96.143712	67	0.67	0	11.780744
9/3/15 1:00 AM	96.14368	67	0.67	0	11.780744
9/3/15 2:00 AM	96.143288	67	0.67	0	11.780744
9/3/15 3:00 AM	96.143336	67	0.67	0	11.780744
9/3/15 4:00 AM	96.14316	67	0.67	0	11.780744
9/3/15 5:00 AM	96.143096	67	0.67	0	11.780744
9/3/15 6:00 AM	96.142568	67	0.67	0	11.780744
9/3/15 7:00 AM	96.142024	67	0.67	0	11.780744
9/3/15 8:00 AM	96.141456	67	0.67	0	11.780744
9/3/15 9:00 AM	96.141376	67	0.67	0	11.780744
9/3/15 10:00 AM	96.140648	67	0.67	0	11.780744
9/3/15 11:00 AM	96.140096	67	0.67	0	11.780744
9/3/15 12:00 PM	96.138984	67	0.67	0	11.800374
9/3/15 1:00 PM	96.138304	67	0.67	0	11.952542
9/3/15 2:00 PM	96.138024	67	0.67	0	12.06544
9/3/15 3:00 PM	96.137424	67	0.67	0	12.075258
9/3/15 4:00 PM	96.136504	67	0.67	0	12.050712
9/3/15 5:00 PM	96.135408	67	0.67	0	11.950086
9/3/15 6:00 PM	96.134192	67	0.67	0	11.886282
9/3/15 7:00 PM	96.132768	67	0.67	0	11.783198
9/3/15 8:00 PM	96.131976	67	0.67	0	11.780744
9/3/15 9:00 PM	96.131296	67	0.67	0	11.780744
9/3/15 10:00 PM	96.130344	67	0.67	0	11.780744
9/3/15 11:00 PM	96.129464	67	0.67	0	11.780744
9/4/15 12:00 AM	96.129184	67	0.67	0	11.780744
9/4/15 1:00 AM	96.128192	67	0.67	0	11.780744
9/4/15 2:00 AM	96.12716	67	0.67	0	11.780744
9/4/15 3:00 AM	96.126664	67	0.67	0	11.780744
9/4/15 4:00 AM	96.125944	67	0.67	0	11.780744
9/4/15 5:00 AM	96.125016	67	0.67	0	11.780744
9/4/15 6:00 AM	96.1242	67	0.67	0	11.780744
9/4/15 7:00 AM	96.123376	67	0.67	0	11.780744
9/4/15 8:00 AM	96.121592	67	0.67	0	11.780744
9/8/15 4:00 PM	96.075512	0	0	0	12.057588
9/8/15 5:00 PM	96.122032	0	0	0	11.95745
9/8/15 6:00 PM	96.122328	0	0	0	11.802834
9/8/15 7:00 PM	96.138112	20	0.2	0.2	11.780744
9/8/15 8:00 PM	96.156984	20	0.2	0	11.780744
9/8/15 9:00 PM	96.174656	20	0.2	0	11.780744
9/8/15 10:00 PM	96.18404	20	0.2	0	11.780744
9/8/15 11:00 PM	96.18956	20	0.2	0	11.780744
9/9/15 12:00 AM	96.193208	20	0.2	0	11.780744
9/9/15 1:00 AM	96.195696	21	0.21	0.01	11.780744
9/9/15 2:00 AM	96.197424	21	0.21	0	11.780744
9/9/15 3:00 AM	96.19884	21	0.21	0	11.780744
9/9/15 4:00 AM	96.199944	21	0.21	0	11.780744
9/9/15 5:00 AM	96.200352	21	0.21	0	11.780744
9/9/15 6:00 AM	96.201472	21	0.21	0	11.780744
9/9/15 7:00 AM	96.201216	21	0.21	0	11.780744
9/9/15 8:00 AM	96.199952	21	0.21	0	11.780744
9/9/15 9:00 AM	96.199544	21	0.21	0	11.780744
9/9/15 10:00 AM	96.19892	21	0.21	0	11.780744
9/9/15 11:00 AM	96.19804	21	0.21	0	11.790558
9/9/15 12:00 PM	96.197904	21	0.21	0	11.927998
9/9/15 1:00 PM	96.196216	21	0.21	0	12.053166
9/9/15 2:00 PM	96.195728	21	0.21	0	12.053168
9/9/15 3:00 PM	96.19632	21	0.21	0	11.935362
9/9/15 4:00 PM	96.194976	21	0.21	0	11.996716
9/9/15 5:00 PM	96.19524	24	0.24	0.03	11.790562

9/9/15 6:00 PM	96.193496	24	0.24	0	11.780744
9/9/15 7:00 PM	96.19296	24	0.24	0	11.780744
9/9/15 8:00 PM	96.193632	26	0.26	0.02	11.780744
9/9/15 9:00 PM	96.19376	26	0.26	0	11.780744
9/9/15 10:00 PM	96.193568	26	0.26	0	11.780744
9/9/15 11:00 PM	96.193368	26	0.26	0	11.780744
9/10/15 12:00 AM	96.193088	26	0.26	0	11.780744
9/10/15 1:00 AM	96.192576	26	0.26	0	11.780744
9/10/15 2:00 AM	96.192408	26	0.26	0	11.780744
9/10/15 3:00 AM	96.192256	26	0.26	0	11.780744
9/10/15 4:00 AM	96.19184	26	0.26	0	11.780744
9/10/15 5:00 AM	96.191528	26	0.26	0	11.780744
9/10/15 6:00 AM	96.19108	26	0.26	0	11.780744
9/10/15 7:00 AM	96.19048	26	0.26	0	11.780744
9/10/15 8:00 AM	96.189424	26	0.26	0	11.780744
9/10/15 9:00 AM	96.188912	26	0.26	0	11.780744
9/10/15 10:00 AM	96.187984	26	0.26	0	11.780744
9/10/15 11:00 AM	96.187208	26	0.26	0	11.780744
9/10/15 12:00 PM	96.186192	26	0.26	0	11.780744
9/10/15 1:00 PM	96.185696	26	0.26	0	11.783198
9/10/15 2:00 PM	96.185056	26	0.26	0	11.79056
9/10/15 3:00 PM	96.184864	26	0.26	0	11.805286
9/10/15 4:00 PM	96.184416	26	0.26	0	11.783198
9/10/15 5:00 PM	96.1834	26	0.26	0	11.780744
9/10/15 6:00 PM	96.183096	26	0.26	0	11.780744
9/10/15 7:00 PM	96.182656	26	0.26	0	11.780744
9/10/15 8:00 PM	96.181904	26	0.26	0	11.780744
9/10/15 9:00 PM	96.181424	26	0.26	0	11.780744
9/10/15 10:00 PM	96.18096	26	0.26	0	11.780744
9/10/15 11:00 PM	96.18044	26	0.26	0	11.780744
9/11/15 12:00 AM	96.180264	26	0.26	0	11.780744
9/11/15 1:00 AM	96.179976	26	0.26	0	11.780744
9/11/15 2:00 AM	96.179488	26	0.26	0	11.780744
9/11/15 3:00 AM	96.179152	26	0.26	0	11.780744
9/11/15 4:00 AM	96.178848	26	0.26	0	11.780744
9/11/15 5:00 AM	96.178128	26	0.26	0	11.780744
9/11/15 6:00 AM	96.177816	26	0.26	0	11.780744
9/11/15 7:00 AM	96.177088	26	0.26	0	11.780744
9/11/15 8:00 AM	96.176112	26	0.26	0	11.780744
9/11/15 9:00 AM	96.174408	26	0.26	0	11.780744
9/11/15 10:00 AM	96.17388	26	0.26	0	11.780744
9/11/15 11:00 AM	96.172728	26	0.26	0	11.780744
9/11/15 12:00 PM	96.172464	26	0.26	0	11.876456
9/11/15 1:00 PM	96.171384	26	0.26	0	12.023716
9/11/15 2:00 PM	96.170488	26	0.26	0	12.033534
9/11/15 3:00 PM	96.169512	26	0.26	0	12.075258
9/11/15 4:00 PM	96.166744	26	0.26	0	12.075258
9/11/15 5:00 PM	96.165272	26	0.26	0	12.06544
9/11/15 6:00 PM	96.16336	26	0.26	0	12.006532
9/11/15 7:00 PM	96.16208	26	0.26	0	11.839646
9/11/15 8:00 PM	96.16068	26	0.26	0	11.780744
9/11/15 9:00 PM	96.159528	26	0.26	0	11.780744
9/11/15 10:00 PM	96.158408	26	0.26	0	11.780744
9/11/15 11:00 PM	96.157688	26	0.26	0	11.780744
9/12/15 12:00 AM	96.156984	26	0.26	0	11.780744
9/12/15 1:00 AM	96.156184	26	0.26	0	11.780744
9/12/15 2:00 AM	96.155504	26	0.26	0	11.780744
9/12/15 3:00 AM	96.155056	26	0.26	0	11.780744
9/12/15 4:00 AM	96.154392	26	0.26	0	11.780744
9/12/15 5:00 AM	96.153544	26	0.26	0	11.780744
9/12/15 6:00 AM	96.152504	26	0.26	0	11.780744
9/12/15 7:00 AM	96.151816	26	0.26	0	11.780744
9/12/15 8:00 AM	96.150416	26	0.26	0	11.780744

9/12/15 9:00 AM	96.149192	26	0.26	0	11.780744
9/12/15 10:00 AM	96.148272	26	0.26	0	11.780744
9/12/15 11:00 AM	96.14776	26	0.26	0	11.780744
9/12/15 12:00 PM	96.145536	26	0.26	0	11.90591
9/12/15 1:00 PM	96.145776	26	0.26	0	12.018808
9/12/15 2:00 PM	96.145512	26	0.26	0	11.967266
9/12/15 3:00 PM	96.143824	26	0.26	0	11.979536
9/12/15 4:00 PM	96.143328	26	0.26	0	11.854374
9/12/15 5:00 PM	96.1422	26	0.26	0	11.780744
9/12/15 6:00 PM	96.14104	26	0.26	0	11.780744
9/12/15 7:00 PM	96.14068	26	0.26	0	11.780744
9/12/15 8:00 PM	96.140656	27	0.27	0.01	11.780744
9/12/15 9:00 PM	96.140912	28	0.28	0.01	11.780744
9/12/15 10:00 PM	96.140792	29	0.29	0.01	11.780744
9/12/15 11:00 PM	96.141552	30	0.3	0.01	11.780744
9/13/15 12:00 AM	96.141696	31	0.31	0.01	11.780744
9/13/15 1:00 AM	96.14168	31	0.31	0	11.780744
9/13/15 2:00 AM	96.143744	38	0.38	0.07	11.780744
9/13/15 3:00 AM	96.149592	41	0.41	0.03	11.780744
9/13/15 4:00 AM	96.152136	42	0.42	0.01	11.780744
9/13/15 5:00 AM	96.155432	42	0.42	0	11.780744
9/13/15 6:00 AM	96.158864	43	0.43	0.01	11.780744
9/13/15 7:00 AM	96.161392	43	0.43	0	11.780744
9/13/15 8:00 AM	96.163344	43	0.43	0	11.780744
9/13/15 9:00 AM	96.167408	47	0.47	0.04	11.780744
9/13/15 10:00 AM	96.169344	47	0.47	0	11.780744
9/13/15 11:00 AM	96.170288	47	0.47	0	11.780744
9/13/15 12:00 PM	96.17228	47	0.47	0	11.780744
9/13/15 1:00 PM	96.17276	47	0.47	0	11.793016
9/13/15 2:00 PM	96.173856	47	0.47	0	11.802828
9/13/15 3:00 PM	96.175064	47	0.47	0	11.815104
9/13/15 4:00 PM	96.17552	47	0.47	0	11.780744
9/13/15 5:00 PM	96.178136	54	0.54	0.07	11.780744
9/13/15 6:00 PM	96.208608	82	0.82	0.28	11.780744
9/13/15 7:00 PM	96.327728	82	0.82	0	11.780744
9/13/15 8:00 PM	96.382536	82	0.82	0	11.780744
9/13/15 9:00 PM	96.39644	82	0.82	0	11.780744
9/13/15 10:00 PM	96.40116	83	0.83	0.01	11.780744
9/13/15 11:00 PM	96.402584	83	0.83	0	11.780744
9/14/15 12:00 AM	96.403	84	0.84	0.01	11.780744
9/14/15 1:00 AM	96.403896	87	0.87	0.03	11.780744
9/14/15 2:00 AM	96.403888	87	0.87	0	11.780744
9/14/15 3:00 AM	96.403512	87	0.87	0	11.780744
9/14/15 4:00 AM	96.402776	87	0.87	0	11.780744
9/14/15 5:00 AM	96.40136	87	0.87	0	11.780744
9/14/15 6:00 AM	96.399488	87	0.87	0	11.780744
9/14/15 7:00 AM	96.396656	87	0.87	0	11.780744
9/14/15 8:00 AM	96.394728	88	0.88	0.01	11.77829
9/14/15 9:00 AM	96.391952	88	0.88	0	11.780744
9/14/15 10:00 AM	96.389848	88	0.88	0	11.780744
9/14/15 11:00 AM	96.38712	88	0.88	0	11.780744
9/14/15 12:00 PM	96.383976	88	0.88	0	11.780744
9/14/15 1:00 PM	96.383032	88	0.88	0	11.780744
9/14/15 2:00 PM	96.382112	88	0.88	0	11.780744
9/14/15 3:00 PM	96.379312	88	0.88	0	11.780744
9/14/15 4:00 PM	96.37688	88	0.88	0	11.780744
9/14/15 5:00 PM	96.372648	88	0.88	0	11.780744
9/14/15 6:00 PM	96.36944	88	0.88	0	11.780744
9/14/15 7:00 PM	96.367096	88	0.88	0	11.780744
9/14/15 8:00 PM	96.363368	88	0.88	0	11.780744
9/14/15 9:00 PM	96.360672	88	0.88	0	11.780744
9/14/15 10:00 PM	96.358112	88	0.88	0	11.780744
9/14/15 11:00 PM	96.354968	88	0.88	0	11.780744

9/15/15 12:00 AM	96.352856	88	0.88	0	11.780744
9/15/15 1:00 AM	96.34936	88	0.88	0	11.77829
9/15/15 2:00 AM	96.346016	88	0.88	0	11.77829
9/15/15 3:00 AM	96.34364	88	0.88	0	11.780744
9/15/15 4:00 AM	96.34036	88	0.88	0	11.775836
9/15/15 5:00 AM	96.337432	88	0.88	0	11.77829
9/15/15 6:00 AM	96.335536	88	0.88	0	11.77338
9/15/15 7:00 AM	96.337088	88	0.88	0	11.770926
9/15/15 8:00 AM	96.342264	88	0.88	0	11.775836
9/15/15 9:00 AM	96.343848	88	0.88	0	11.780744
9/15/15 10:00 AM	96.343176	88	0.88	0	11.780744
9/15/15 11:00 AM	96.342024	88	0.88	0	11.780744
9/15/15 12:00 PM	96.340536	88	0.88	0	11.805282
9/15/15 1:00 PM	96.338776	88	0.88	0	11.913272
9/15/15 2:00 PM	96.336896	88	0.88	0	11.92309
9/15/15 3:00 PM	96.335184	88	0.88	0	11.950084
9/15/15 4:00 PM	96.33268	88	0.88	0	11.950086
9/15/15 5:00 PM	96.33052	88	0.88	0	11.93045
9/15/15 6:00 PM	96.327864	88	0.88	0	11.847014
9/15/15 7:00 PM	96.32568	88	0.88	0	11.780744
9/15/15 8:00 PM	96.323584	88	0.88	0	11.780744
9/15/15 9:00 PM	96.321128	88	0.88	0	11.780744
9/15/15 10:00 PM	96.318728	88	0.88	0	11.780744
9/15/15 11:00 PM	96.316496	88	0.88	0	11.780744
9/16/15 12:00 AM	96.314296	88	0.88	0	11.780744
9/16/15 1:00 AM	96.312216	88	0.88	0	11.780744
9/16/15 2:00 AM	96.309792	88	0.88	0	11.780744
9/16/15 3:00 AM	96.307824	88	0.88	0	11.780744
9/16/15 4:00 AM	96.305616	88	0.88	0	11.780744
9/16/15 5:00 AM	96.303424	88	0.88	0	11.780744
9/16/15 6:00 AM	96.301392	88	0.88	0	11.77829
9/16/15 7:00 AM	96.298912	88	0.88	0	11.77829
9/16/15 8:00 AM	96.296112	88	0.88	0	11.77829
9/16/15 9:00 AM	96.293552	88	0.88	0	11.780744
9/16/15 10:00 AM	96.290848	88	0.88	0	11.780744
9/16/15 11:00 AM	96.287792	88	0.88	0	11.780744
9/16/15 12:00 PM	96.285136	88	0.88	0	11.802828
9/16/15 1:00 PM	96.282112	88	0.88	0	11.901
9/16/15 2:00 PM	96.280952	88	0.88	0	11.94027
9/16/15 3:00 PM	96.278584	88	0.88	0	11.954996
9/16/15 4:00 PM	96.276424	88	0.88	0	11.935364
9/16/15 5:00 PM	96.27432	88	0.88	0	11.920634
9/16/15 6:00 PM	96.272328	88	0.88	0	11.837194
9/16/15 7:00 PM	96.270384	88	0.88	0	11.780744
9/16/15 8:00 PM	96.268488	88	0.88	0	11.780744
9/16/15 9:00 PM	96.266336	88	0.88	0	11.780744
9/16/15 10:00 PM	96.264376	88	0.88	0	11.780744
9/16/15 11:00 PM	96.262608	88	0.88	0	11.780744
9/17/15 12:00 AM	96.260904	88	0.88	0	11.780744
9/17/15 1:00 AM	96.25904	88	0.88	0	11.780744
9/17/15 2:00 AM	96.257304	88	0.88	0	11.780744
9/17/15 3:00 AM	96.255752	88	0.88	0	11.780744
9/17/15 4:00 AM	96.254472	88	0.88	0	11.77829
9/17/15 5:00 AM	96.252656	88	0.88	0	11.780744
9/17/15 6:00 AM	96.251296	88	0.88	0	11.77829
9/17/15 7:00 AM	96.24944	88	0.88	0	11.77829
9/17/15 8:00 AM	96.247448	88	0.88	0	11.775836
9/17/15 9:00 AM	96.245752	88	0.88	0	11.77829
9/17/15 10:00 AM	96.243456	88	0.88	0	11.780744
9/17/15 11:00 AM	96.240688	88	0.88	0	11.780744
9/17/15 12:00 PM	96.23976	88	0.88	0	11.805284
9/17/15 1:00 PM	96.238456	88	0.88	0	11.88873
9/17/15 2:00 PM	96.23724	88	0.88	0	11.908362

9/17/15 3:00 PM	96.23592	88	0.88	0	11.93045
9/17/15 4:00 PM	96.234168	88	0.88	0	11.913272
9/17/15 5:00 PM	96.232664	88	0.88	0	11.903456
9/17/15 6:00 PM	96.231008	88	0.88	0	11.827376
9/17/15 7:00 PM	96.229688	88	0.88	0	11.780744
9/17/15 8:00 PM	96.228128	88	0.88	0	11.780744
9/17/15 9:00 PM	96.226208	88	0.88	0	11.780744
9/17/15 10:00 PM	96.224808	88	0.88	0	11.780744
9/17/15 11:00 PM	96.223528	88	0.88	0	11.780744
9/18/15 12:00 AM	96.222416	88	0.88	0	11.780744
9/18/15 1:00 AM	96.221072	88	0.88	0	11.780744
9/18/15 2:00 AM	96.220064	88	0.88	0	11.780744
9/18/15 3:00 AM	96.219264	88	0.88	0	11.780744
9/18/15 4:00 AM	96.217936	88	0.88	0	11.780744
9/18/15 5:00 AM	96.217056	88	0.88	0	11.780744
9/18/15 6:00 AM	96.215816	88	0.88	0	11.77829
9/18/15 7:00 AM	96.21436	88	0.88	0	11.77829
9/18/15 8:00 AM	96.21268	88	0.88	0	11.770926
9/18/15 9:00 AM	96.211472	88	0.88	0	11.77338
9/18/15 10:00 AM	96.208912	88	0.88	0	11.780744
9/18/15 11:00 AM	96.20672	88	0.88	0	11.780744
9/18/15 12:00 PM	96.205936	88	0.88	0	11.797922
9/18/15 1:00 PM	96.204784	88	0.88	0	11.908362
9/18/15 2:00 PM	96.20432	88	0.88	0	11.908362
9/18/15 3:00 PM	96.203008	88	0.88	0	11.91818
9/18/15 4:00 PM	96.200752	88	0.88	0	11.925544
9/18/15 5:00 PM	96.200144	88	0.88	0	11.908362
9/18/15 6:00 PM	96.197888	88	0.88	0	11.834738
9/18/15 7:00 PM	96.196176	88	0.88	0	11.780744
9/18/15 8:00 PM	96.194504	88	0.88	0	11.780744
9/18/15 9:00 PM	96.193152	88	0.88	0	11.780744
9/18/15 10:00 PM	96.191504	88	0.88	0	11.780744
9/18/15 11:00 PM	96.190744	88	0.88	0	11.780744
9/19/15 12:00 AM	96.189424	88	0.88	0	11.780744
9/19/15 1:00 AM	96.18892	88	0.88	0	11.780744
9/19/15 2:00 AM	96.187744	88	0.88	0	11.780744
9/19/15 3:00 AM	96.18596	88	0.88	0	11.780744
9/19/15 4:00 AM	96.185856	88	0.88	0	11.77829
9/19/15 5:00 AM	96.184656	88	0.88	0	11.77829
9/19/15 6:00 AM	96.184552	88	0.88	0	11.77829
9/19/15 7:00 AM	96.183232	88	0.88	0	11.780744
9/19/15 8:00 AM	96.182008	88	0.88	0	11.775836
9/19/15 9:00 AM	96.1814	88	0.88	0	11.780744
9/19/15 10:00 AM	96.178704	88	0.88	0	11.780744
9/19/15 11:00 AM	96.176864	88	0.88	0	11.780744
9/19/15 12:00 PM	96.175816	88	0.88	0	11.797924
9/19/15 1:00 PM	96.174776	88	0.88	0	11.854368
9/19/15 2:00 PM	96.174688	88	0.88	0	11.925542
9/19/15 3:00 PM	96.172312	88	0.88	0	11.925544
9/19/15 4:00 PM	96.168664	88	0.88	0	11.871552
9/19/15 5:00 PM	96.169096	88	0.88	0	11.790562
9/19/15 6:00 PM	96.167064	88	0.88	0	11.780744
9/19/15 7:00 PM	96.165872	88	0.88	0	11.780744
9/19/15 8:00 PM	96.165528	88	0.88	0	11.780744
9/19/15 9:00 PM	96.167248	88	0.88	0	11.780744
9/19/15 10:00 PM	96.165736	88	0.88	0	11.780744
9/19/15 11:00 PM	96.165128	88	0.88	0	11.780744
9/20/15 12:00 AM	96.16576	88	0.88	0	11.780744
9/20/15 1:00 AM	96.169072	88	0.88	0	11.780744
9/20/15 2:00 AM	96.174656	88	0.88	0	11.780744
9/20/15 3:00 AM	96.178048	88	0.88	0	11.780744
9/20/15 4:00 AM	96.180432	88	0.88	0	11.775836
9/20/15 5:00 AM	96.183256	88	0.88	0	11.77338

9/20/15 6:00 AM	96.183344	88	0.88	0	11.746384
9/20/15 7:00 AM	96.183368	88	0.88	0	11.726748
9/20/15 8:00 AM	96.184584	88	0.88	0	11.697296
9/20/15 9:00 AM	96.18492	88	0.88	0	11.719388
9/20/15 10:00 AM	96.18404	88	0.88	0	11.780744
9/20/15 11:00 AM	96.182912	88	0.88	0	11.780744
9/20/15 12:00 PM	96.182352	88	0.88	0	11.788108
9/20/15 1:00 PM	96.180888	88	0.88	0	11.82001
9/20/15 2:00 PM	96.179928	88	0.88	0	11.915726
9/20/15 3:00 PM	96.179928	88	0.88	0	11.932904
9/20/15 4:00 PM	96.179192	88	0.88	0	11.932908
9/20/15 5:00 PM	96.178064	88	0.88	0	11.945174
9/20/15 6:00 PM	96.176776	88	0.88	0	11.849466
9/20/15 7:00 PM	96.17604	88	0.88	0	11.780744
9/20/15 8:00 PM	96.17508	88	0.88	0	11.780744
9/20/15 9:00 PM	96.174288	88	0.88	0	11.780744
9/20/15 10:00 PM	96.173352	88	0.88	0	11.780744
9/20/15 11:00 PM	96.172504	88	0.88	0	11.780744
9/21/15 12:00 AM	96.17168	88	0.88	0	11.780744
9/21/15 1:00 AM	96.170952	88	0.88	0	11.77829
9/21/15 2:00 AM	96.17008	88	0.88	0	11.770926
9/21/15 3:00 AM	96.169328	88	0.88	0	11.739018
9/21/15 4:00 AM	96.168472	88	0.88	0	11.672752
9/21/15 5:00 AM	96.167704	88	0.88	0	11.64821
9/21/15 6:00 AM	96.166952	88	0.88	0	11.633484
9/21/15 7:00 AM	96.165904	88	0.88	0	11.623666
9/21/15 8:00 AM	96.164056	88	0.88	0	11.613848
9/21/15 9:00 AM	96.162968	88	0.88	0	11.63103
9/21/15 10:00 AM	96.16088	88	0.88	0	11.758656
9/21/15 11:00 AM	96.1598	88	0.88	0	11.780744
9/21/15 12:00 PM	96.15952	88	0.88	0	11.898546
9/21/15 1:00 PM	96.159408	88	0.88	0	11.950086
9/21/15 2:00 PM	96.157576	88	0.88	0	11.969724
9/21/15 3:00 PM	96.15764	88	0.88	0	11.981994
9/21/15 4:00 PM	96.156024	88	0.88	0	11.954996
9/21/15 5:00 PM	96.154632	88	0.88	0	11.812648
9/21/15 6:00 PM	96.153672	88	0.88	0	11.797924
9/21/15 7:00 PM	96.152992	88	0.88	0	11.780744
9/21/15 8:00 PM	96.152072	88	0.88	0	11.780744
9/21/15 9:00 PM	96.15128	88	0.88	0	11.780744
9/21/15 10:00 PM	96.150464	88	0.88	0	11.77829
9/21/15 11:00 PM	96.149752	88	0.88	0	11.780744
9/22/15 12:00 AM	96.148856	88	0.88	0	11.77829
9/22/15 1:00 AM	96.148088	88	0.88	0	11.770926
9/22/15 2:00 AM	96.147272	88	0.88	0	11.76111
9/22/15 3:00 AM	96.146848	88	0.88	0	11.68257
9/22/15 4:00 AM	96.145864	88	0.88	0	11.66539
9/22/15 5:00 AM	96.145008	88	0.88	0	11.635938
9/22/15 6:00 AM	96.144232	88	0.88	0	11.640846
9/22/15 7:00 AM	96.143048	88	0.88	0	11.63103
9/22/15 8:00 AM	96.141752	88	0.88	0	11.623666
9/22/15 9:00 AM	96.140744	88	0.88	0	11.638392
9/22/15 10:00 AM	96.1398	88	0.88	0	11.682572
9/22/15 11:00 AM	96.13892	88	0.88	0	11.76111
9/22/15 12:00 PM	96.137088	89	0.89	0.01	11.780744
9/22/15 1:00 PM	96.136072	89	0.89	0	11.80774
9/22/15 2:00 PM	96.135568	89	0.89	0	11.820014
9/22/15 3:00 PM	96.13276	89	0.89	0	11.908362
9/22/15 4:00 PM	96.133496	89	0.89	0	11.901004
9/22/15 5:00 PM	96.132496	89	0.89	0	11.898548
9/22/15 6:00 PM	96.131624	89	0.89	0	11.815104
9/22/15 7:00 PM	96.1304	89	0.89	0	11.780744
9/22/15 8:00 PM	96.129312	89	0.89	0	11.780744

9/22/15 9:00 PM	96.128136	89	0.89	0	11.780744
9/22/15 10:00 PM	96.127712	89	0.89	0	11.780744
9/22/15 11:00 PM	96.126576	89	0.89	0	11.780744
9/23/15 12:00 AM	96.125512	89	0.89	0	11.77829
9/23/15 1:00 AM	96.124456	89	0.89	0	11.753746
9/23/15 2:00 AM	96.123976	89	0.89	0	11.70466
9/23/15 3:00 AM	96.12324	89	0.89	0	11.662936
9/23/15 4:00 AM	96.122352	89	0.89	0	11.645756
9/23/15 5:00 AM	96.121512	89	0.89	0	11.633484
9/23/15 6:00 AM	96.12056	89	0.89	0	11.613848
9/23/15 7:00 AM	96.119592	89	0.89	0	11.599122
9/23/15 8:00 AM	96.117696	89	0.89	0	11.584396
9/23/15 9:00 AM	96.116632	89	0.89	0	11.594214
9/23/15 10:00 AM	96.114856	89	0.89	0	11.736568
9/23/15 11:00 AM	96.113632	89	0.89	0	11.780744
9/23/15 12:00 PM	96.113	89	0.89	0	11.827368
9/23/15 1:00 PM	96.1124	89	0.89	0	11.91818
9/23/15 2:00 PM	96.111744	89	0.89	0	11.950086
9/23/15 3:00 PM	96.11104	89	0.89	0	11.923088
9/23/15 4:00 PM	96.11032	89	0.89	0	11.88873
9/23/15 5:00 PM	96.109672	89	0.89	0	11.864188
9/23/15 6:00 PM	96.10848	89	0.89	0	11.788108
9/23/15 7:00 PM	96.107296	89	0.89	0	11.780744
9/23/15 8:00 PM	96.105976	89	0.89	0	11.780744
9/23/15 9:00 PM	96.104832	89	0.89	0	11.780744
9/23/15 10:00 PM	96.104152	89	0.89	0	11.780744
9/23/15 11:00 PM	96.103392	89	0.89	0	11.780744
9/24/15 12:00 AM	96.10244	89	0.89	0	11.780744
9/24/15 1:00 AM	96.101536	89	0.89	0	11.780744
9/24/15 2:00 AM	96.101216	89	0.89	0	11.7562
9/24/15 3:00 AM	96.100632	89	0.89	0	11.726748
9/24/15 4:00 AM	96.099848	89	0.89	0	11.672752
9/24/15 5:00 AM	96.099024	89	0.89	0	11.64821
9/24/15 6:00 AM	96.097912	89	0.89	0	11.64821
9/24/15 7:00 AM	96.097192	89	0.89	0	11.628574
9/24/15 8:00 AM	96.095392	89	0.89	0	11.611394
9/24/15 9:00 AM	96.093912	89	0.89	0	11.611394
9/24/15 10:00 AM	96.093112	89	0.89	0	11.746384
9/24/15 11:00 AM	96.09124	89	0.89	0	11.780744
9/24/15 12:00 PM	96.089696	89	0.89	0	11.80283
9/24/15 1:00 PM	96.088512	89	0.89	0	11.908362
9/24/15 2:00 PM	96.088568	89	0.89	0	11.940268
9/24/15 3:00 PM	96.087288	89	0.89	0	11.915726
9/24/15 4:00 PM	96.084768	89	0.89	0	11.88873
9/24/15 5:00 PM	96.083664	89	0.89	0	11.864188
9/24/15 6:00 PM	96.08204	89	0.89	0	11.790562
9/24/15 7:00 PM	96.0802	89	0.89	0	11.780744
9/24/15 8:00 PM	96.07872	89	0.89	0	11.780744
9/24/15 9:00 PM	96.0772	89	0.89	0	11.780744
9/24/15 10:00 PM	96.075888	89	0.89	0	11.780744
9/24/15 11:00 PM	96.07484	89	0.89	0	11.780744
9/25/15 12:00 AM	96.074184	89	0.89	0	11.780744
9/25/15 1:00 AM	96.07312	89	0.89	0	11.77829
9/25/15 2:00 AM	96.07204	89	0.89	0	11.734112
9/25/15 3:00 AM	96.071128	89	0.89	0	11.689932
9/25/15 4:00 AM	96.07056	89	0.89	0	11.653118
9/25/15 5:00 AM	96.069952	89	0.89	0	11.640846
9/25/15 6:00 AM	96.068848	89	0.89	0	11.60894
9/25/15 7:00 AM	96.067888	89	0.89	0	11.594214
9/25/15 8:00 AM	96.0662	89	0.89	0	11.591762
9/25/15 9:00 AM	96.065072	89	0.89	0	11.618758
9/25/15 10:00 AM	96.06384	89	0.89	0	11.741476
9/25/15 11:00 AM	96.062328	89	0.89	0	11.780744

9/25/15 12:00 PM	96.061872	89	0.89	0	11.788104
9/25/15 1:00 PM	96.06036	89	0.89	0	11.90591
9/25/15 2:00 PM	96.06008	89	0.89	0	11.881368
9/25/15 3:00 PM	96.059816	89	0.89	0	11.805288
9/25/15 4:00 PM	96.058248	89	0.89	0	11.788106
9/25/15 5:00 PM	96.056224	89	0.89	0	11.837192
9/25/15 6:00 PM	96.055416	89	0.89	0	11.780744
9/25/15 7:00 PM	96.053416	89	0.89	0	11.780744
9/25/15 8:00 PM	96.052168	89	0.89	0	11.780744
9/25/15 9:00 PM	96.051008	89	0.89	0	11.77829
9/25/15 10:00 PM	96.049672	89	0.89	0	11.77829
9/25/15 11:00 PM	96.048488	89	0.89	0	11.719386
9/26/15 1:00 AM	96.047472	89	0.89	0	11.655572
9/26/15 2:00 AM	96.045208	89	0.89	0	11.594214
9/26/15 3:00 AM	96.0442	89	0.89	0	11.57458
9/26/15 4:00 AM	96.043072	89	0.89	0	11.523038
9/26/15 5:00 AM	96.04176	89	0.89	0	11.510768
9/26/15 6:00 AM	96.04072	89	0.89	0	11.503404
9/26/15 7:00 AM	96.039336	89	0.89	0	11.503404
9/26/15 8:00 AM	96.037632	89	0.89	0	11.491132
9/26/15 9:00 AM	96.036104	89	0.89	0	11.493588
9/26/15 10:00 AM	96.034344	89	0.89	0	11.682572
9/26/15 11:00 AM	96.032936	89	0.89	0	11.780744
9/26/15 12:00 PM	96.032344	89	0.89	0	11.893636
9/26/15 1:00 PM	96.03136	89	0.89	0	12.028626
9/26/15 2:00 PM	96.03088	89	0.89	0	12.018808
9/26/15 3:00 PM	96.030528	89	0.89	0	11.969722
9/26/15 4:00 PM	96.0288	89	0.89	0	11.910824
9/26/15 5:00 PM	96.027176	89	0.89	0	11.849466
9/26/15 6:00 PM	96.025936	89	0.89	0	11.785654
9/26/15 7:00 PM	96.024712	89	0.89	0	11.780744
9/26/15 8:00 PM	96.023536	89	0.89	0	11.780744
9/26/15 9:00 PM	96.022536	89	0.89	0	11.780744
9/26/15 10:00 PM	96.021288	89	0.89	0	11.77829
9/26/15 11:00 PM	96.020032	89	0.89	0	11.780744
9/27/15 12:00 AM	96.018952	89	0.89	0	11.768474
9/27/15 1:00 AM	96.017704	89	0.89	0	11.743928
9/27/15 2:00 AM	96.016992	89	0.89	0	11.680116
9/27/15 3:00 AM	96.01612	89	0.89	0	11.638392
9/27/15 4:00 AM	96.015312	89	0.89	0	11.621212
9/27/15 5:00 AM	96.014552	89	0.89	0	11.562306
9/27/15 6:00 AM	96.013504	89	0.89	0	11.520584
9/27/15 7:00 AM	96.01268	89	0.89	0	11.508312
9/27/15 8:00 AM	96.011224	89	0.89	0	11.498494
9/27/15 9:00 AM	96.010752	89	0.89	0	11.508312
9/27/15 10:00 AM	96.008664	89	0.89	0	11.680118
9/27/15 11:00 AM	96.008344	89	0.89	0	11.780744
9/27/15 12:00 PM	96.007096	89	0.89	0	11.842096
9/27/15 1:00 PM	96.006632	89	0.89	0	11.969722
9/27/15 2:00 PM	96.005048	89	0.89	0	11.989354
9/27/15 3:00 PM	96.004352	89	0.89	0	11.930452
9/27/15 4:00 PM	96.003768	89	0.89	0	11.874012
9/27/15 5:00 PM	96.002912	89	0.89	0	11.829832
9/27/15 6:00 PM	96.001744	89	0.89	0	11.780744
9/27/15 7:00 PM	95.99972	89	0.89	0	11.780744
9/27/15 8:00 PM	95.99784	89	0.89	0	11.780744
9/27/15 9:00 PM	95.996296	89	0.89	0	11.780744
9/27/15 10:00 PM	95.99456	89	0.89	0	11.780744
9/27/15 11:00 PM	95.99376	89	0.89	0	11.780744
9/28/15 12:00 AM	95.991912	89	0.89	0	11.773382
9/28/15 1:00 AM	95.991576	89	0.89	0	11.743928
9/28/15 2:00 AM	95.988728	89	0.89	0	11.685026
9/28/15 3:00 AM	95.987864	89	0.89	0	11.64821

9/28/15 4:00 AM	95.98696	89	0.89	0	11.645754
9/28/15 5:00 AM	95.985944	89	0.89	0	11.621212
9/28/15 6:00 AM	95.985032	89	0.89	0	11.584398
9/28/15 7:00 AM	95.984456	89	0.89	0	11.547582
9/28/15 8:00 AM	95.98368	89	0.89	0	11.545126
9/28/15 9:00 AM	95.98172	89	0.89	0	11.616304
9/28/15 10:00 AM	95.98052	89	0.89	0	11.719388
9/28/15 11:00 AM	95.980304	89	0.89	0	11.780744
9/28/15 12:00 PM	95.979336	89	0.89	0	11.797922
9/28/15 1:00 PM	95.977016	89	0.89	0	11.913272
9/28/15 2:00 PM	95.978888	89	0.89	0	11.834738
9/28/15 3:00 PM	95.977872	89	0.89	0	11.780744
9/28/15 4:00 PM	95.97696	89	0.89	0	11.780744
9/28/15 5:00 PM	95.975176	89	0.89	0	11.780744
9/28/15 6:00 PM	95.974808	89	0.89	0	11.780744
9/28/15 7:00 PM	95.97448	89	0.89	0	11.775836
9/28/15 8:00 PM	95.972512	89	0.89	0	11.71693
9/28/15 9:00 PM	95.972536	89	0.89	0	11.650664
9/28/15 10:00 PM	95.972496	89	0.89	0	11.643302
9/28/15 11:00 PM	95.971064	89	0.89	0	11.604032
9/29/15 12:00 AM	95.971712	89	0.89	0	11.601578
10/1/15 5:00 PM		0	0	0	11.793892
10/1/15 6:00 PM	96.531376	0	0	0	11.584396
10/1/15 7:00 PM	96.52452	0	0	0	11.478864
10/1/15 8:00 PM	96.5178	0	0	0	11.35615
10/1/15 9:00 PM	96.510736	0	0	0	11.260428
10/1/15 10:00 PM	96.503776	0	0	0	11.196618
10/1/15 11:00 PM	96.496936	0	0	0	11.19171
10/2/15 12:00 AM	96.49048	0	0	0	11.19171
10/2/15 1:00 AM	96.483776	0	0	0	11.19171
10/2/15 2:00 AM	96.476888	0	0	0	11.159802
10/2/15 3:00 AM	96.470608	0	0	0	11.064074
10/2/15 4:00 AM	96.464344	0	0	0	10.990442
10/2/15 5:00 AM	96.45788	0	0	0	10.902088
10/2/15 6:00 AM	96.451672	0	0	0	10.89718
10/2/15 7:00 AM	96.445256	0	0	0	10.89718
10/2/15 8:00 AM	96.439256	0	0	0	10.89718
10/2/15 9:00 AM	96.433064	0	0	0	10.89718
10/2/15 10:00 AM	96.426248	0	0	0	11.43469
10/2/15 11:00 AM	96.420256	0	0	0	11.80038
10/2/15 12:00 PM	96.414824	0	0	0	11.952542
10/2/15 1:00 PM	96.409816	0	0	0	12.045806
10/2/15 2:00 PM	96.40492	0	0	0	11.996718
10/2/15 3:00 PM	96.398728	0	0	0	12.026172
10/2/15 4:00 PM	96.393064	0	0	0	11.996718
10/2/15 5:00 PM	96.38744	0	0	0	11.788108
10/2/15 6:00 PM	96.383104	0	0	0	11.547582
10/2/15 7:00 PM	96.377584	0	0	0	11.486224
10/2/15 8:00 PM	96.372472	0	0	0	11.476408
10/2/15 9:00 PM	96.367696	0	0	0	11.334058
10/2/15 10:00 PM	96.363304	0	0	0	11.199072
10/2/15 11:00 PM	96.358944	0	0	0	11.19171
10/3/15 12:00 AM	96.35456	0	0	0	11.1868
10/3/15 1:00 AM	96.350016	0	0	0	11.059166
10/3/15 2:00 AM	96.346368	0	0	0	10.958538
10/3/15 3:00 AM	96.34168	0	0	0	10.89718
10/3/15 4:00 AM	96.337888	0	0	0	10.89718
10/3/15 5:00 AM	96.334056	0	0	0	10.875096
10/3/15 6:00 AM	96.330344	0	0	0	10.67875
10/3/15 7:00 AM	96.326688	0	0	0	10.602664
10/3/15 8:00 AM	96.322496	0	0	0	10.246786
10/3/15 9:00 AM	96.31832	0	0	0	9.903184
10/3/15 10:00 AM	96.31392	0	0	0	10.619846

10/3/15 11:00 AM	96.309064	0	0	0	11.753748
10/3/15 12:00 PM	96.305904	0	0	0	11.98445
10/3/15 1:00 PM	96.30368	0	0	0	12.062986
10/3/15 2:00 PM	96.299792	0	0	0	12.136618
10/3/15 3:00 PM	96.296672	0	0	0	12.175886
10/3/15 4:00 PM	96.293688	0	0	0	12.085074
10/3/15 5:00 PM	96.290888	0	0	0	12.011444
10/3/15 6:00 PM	96.288112	0	0	0	11.994266
10/3/15 7:00 PM	96.284744	0	0	0	11.758652
10/3/15 8:00 PM	96.281792	0	0	0	11.542674
10/3/15 9:00 PM	96.279048	0	0	0	11.486224
10/3/15 10:00 PM	96.276456	0	0	0	11.486224
10/3/15 11:00 PM	96.273888	0	0	0	11.486224
10/4/15 12:00 AM	96.27128	0	0	0	11.442052
10/4/15 1:00 AM	96.269088	0	0	0	11.311968
10/4/15 2:00 AM	96.266808	0	0	0	11.196618
10/4/15 3:00 AM	96.264168	0	0	0	11.19171
10/4/15 4:00 AM	96.262464	0	0	0	11.19171
10/4/15 5:00 AM	96.259568	0	0	0	11.18189
10/4/15 6:00 AM	96.257616	0	0	0	11.06162
10/4/15 7:00 AM	96.255344	0	0	0	10.94872
10/4/15 8:00 AM	96.253456	0	0	0	10.89718
10/4/15 9:00 AM	96.2506	0	0	0	10.89718
10/4/15 10:00 AM	96.248104	0	0	0	11.30706
10/4/15 11:00 AM	96.245992	0	0	0	11.77829
10/4/15 12:00 PM	96.243928	0	0	0	12.03599
10/4/15 1:00 PM	96.24312	0	0	0	12.183254
10/4/15 2:00 PM	96.241664	0	0	0	12.274064
10/4/15 3:00 PM	96.239728	0	0	0	12.350138
10/4/15 4:00 PM	96.238088	0	0	0	12.25443
10/4/15 5:00 PM	96.236128	0	0	0	12.15871
10/4/15 6:00 PM	96.234368	0	0	0	12.06053
10/4/15 7:00 PM	96.232776	0	0	0	11.793016
10/4/15 8:00 PM	96.231112	0	0	0	11.780744
10/4/15 9:00 PM	96.229712	0	0	0	11.743926
10/4/15 10:00 PM	96.22836	0	0	0	11.55249
10/4/15 11:00 PM	96.226984	0	0	0	11.486224
10/5/15 12:00 AM	96.225784	0	0	0	11.486224
10/5/15 1:00 AM	96.224744	0	0	0	11.486224
10/5/15 2:00 AM	96.223728	0	0	0	11.486224
10/5/15 3:00 AM	96.2228	0	0	0	11.397874
10/5/15 4:00 AM	96.22104	0	0	0	11.292332
10/5/15 5:00 AM	96.22016	0	0	0	11.199072
10/5/15 6:00 AM	96.218736	0	0	0	11.19171
10/5/15 7:00 AM	96.21752	0	0	0	11.19171
10/5/15 8:00 AM	96.215984	0	0	0	11.19171
10/5/15 9:00 AM	96.214776	0	0	0	11.181892
10/5/15 10:00 AM	96.2128	0	0	0	11.395418
10/5/15 11:00 AM	96.2116	0	0	0	12.00163
10/5/15 12:00 PM	96.211912	0	0	0	11.947638
10/5/15 1:00 PM	96.209632	0	0	0	12.048262
10/5/15 2:00 PM	96.209344	0	0	0	12.27897
10/5/15 3:00 PM	96.208792	0	0	0	12.166066
10/5/15 4:00 PM	96.20772	0	0	0	12.25197
10/5/15 5:00 PM	96.2072	0	0	0	12.077712
10/5/15 6:00 PM	96.20616	0	0	0	11.89119
10/5/15 7:00 PM	96.205576	0	0	0	11.780744
10/5/15 8:00 PM	96.20428	0	0	0	11.7562
10/5/15 9:00 PM	96.203424	0	0	0	11.589304
10/5/15 10:00 PM	96.203088	0	0	0	11.486224
10/5/15 11:00 PM	96.202496	0	0	0	11.486224
10/6/15 12:00 AM	96.201664	0	0	0	11.486224
10/6/15 1:00 AM	96.20088	0	0	0	11.486224

10/6/15 2:00 AM	96.200544	0	0	0	11.388056
10/6/15 3:00 AM	96.199848	0	0	0	11.299696
10/6/15 4:00 AM	96.199624	0	0	0	11.196618
10/6/15 5:00 AM	96.199096	0	0	0	11.19171
10/6/15 6:00 AM	96.198624	0	0	0	11.19171
10/6/15 7:00 AM	96.197904	0	0	0	11.19171
10/6/15 8:00 AM	96.197352	0	0	0	11.088618
10/6/15 9:00 AM	96.196536	0	0	0	11.037076
10/6/15 10:00 AM	96.195912	0	0	0	10.973264
10/6/15 11:00 AM	96.195136	0	0	0	11.181892
10/6/15 12:00 PM	96.194664	0	0	0	11.284968
10/6/15 1:00 PM	96.193984	0	0	0	11.667844
10/6/15 2:00 PM	96.193416	0	0	0	11.780744
10/6/15 3:00 PM	96.192856	0	0	0	11.891188
10/6/15 4:00 PM	96.192752	0	0	0	11.849464
10/6/15 5:00 PM	96.192216	0	0	0	11.783198
10/6/15 6:00 PM	96.192224	0	0	0	11.57458
10/6/15 7:00 PM	96.19136	0	0	0	11.486224
10/6/15 8:00 PM	96.190816	0	0	0	11.46414
10/6/15 9:00 PM	96.19024	0	0	0	11.316876
10/6/15 10:00 PM	96.190144	0	0	0	11.194164
10/6/15 11:00 PM	96.189904	0	0	0	11.19171
10/7/15 12:00 AM	96.18956	0	0	0	11.172072
10/7/15 1:00 AM	96.189304	0	0	0	11.041986
10/7/15 2:00 AM	96.188856	0	0	0	10.919268
10/7/15 3:00 AM	96.188608	0	0	0	10.89718
10/7/15 4:00 AM	96.188288	0	0	0	10.89718
10/7/15 5:00 AM	96.187832	0	0	0	10.742566
10/7/15 6:00 AM	96.187656	0	0	0	10.583026
10/7/15 7:00 AM	96.187416	0	0	0	10.148622
10/7/15 8:00 AM	96.186608	0	0	0	9.598852
10/7/15 9:00 AM	96.18612	0	0	0	9.37551
10/7/15 10:00 AM	96.184912	0	0	0	9.8811
10/7/15 11:00 AM	96.183968	0	0	0	11.113168
10/7/15 12:00 PM	96.183208	0	0	0	11.746384
10/7/15 1:00 PM	96.183296	0	0	0	11.77829
10/7/15 2:00 PM	96.183392	0	0	0	11.937816
10/7/15 3:00 PM	96.184072	0	0	0	11.739018
10/7/15 4:00 PM	96.1826	0	0	0	11.515676
10/7/15 5:00 PM	96.18184	0	0	0	11.50095
10/7/15 6:00 PM	96.180912	0	0	0	11.397874
10/7/15 7:00 PM	96.18064	0	0	0	11.260428
10/7/15 8:00 PM	96.179672	0	0	0	11.19171
10/7/15 9:00 PM	96.179512	0	0	0	11.19171
10/7/15 10:00 PM	96.17904	0	0	0	11.12789
10/7/15 11:00 PM	96.178272	0	0	0	10.987988
10/8/15 12:00 AM	96.176768	0	0	0	10.899634
10/8/15 1:00 AM	96.176792	0	0	0	10.872644
10/8/15 2:00 AM	96.176216	0	0	0	10.624752
10/8/15 3:00 AM	96.175608	0	0	0	10.141262
10/8/15 4:00 AM	96.175088	0	0	0	9.503134
10/8/15 5:00 AM	96.174464	0	0	0	9.120256
10/8/15 6:00 AM	96.173752	0	0	0	8.8012
10/8/15 7:00 AM	96.173216	0	0	0	8.975454
10/8/15 8:00 AM	96.171856	0	0	0	9.024538
10/8/15 9:00 AM	96.171192	0	0	0	9.13253
10/8/15 10:00 AM	96.170128	0	0	0	9.721564
10/8/15 11:00 AM	96.168672	0	0	0	11.415052
10/8/15 12:00 PM	96.1686	0	0	0	11.766018
10/8/15 1:00 PM	96.168168	0	0	0	11.871548
10/8/15 2:00 PM	96.1678	0	0	0	11.999174
10/8/15 3:00 PM	96.167496	0	0	0	12.062986
10/8/15 4:00 PM	96.16728	0	0	0	11.87401

10/8/15 5:00 PM	96.166256	0	0	0	11.82738
10/8/15 6:00 PM	96.166072	0	0	0	11.736562
10/8/15 7:00 PM	96.165656	0	0	0	11.486224
10/8/15 8:00 PM	96.165088	0	0	0	11.48377
10/8/15 9:00 PM	96.164584	0	0	0	11.385602
10/8/15 10:00 PM	96.164104	0	0	0	11.33406
10/8/15 11:00 PM	96.163976	0	0	0	11.223616
10/9/15 12:00 AM	96.163968	0	0	0	11.19171
10/9/15 1:00 AM	96.164064	0	0	0	11.19171
10/9/15 2:00 AM	96.164208	0	0	0	11.142618
10/9/15 3:00 AM	96.164208	0	0	0	11.019894
10/9/15 4:00 AM	96.164088	0	0	0	10.909452
10/9/15 5:00 AM	96.163872	0	0	0	10.892272
10/9/15 6:00 AM	96.166696	9	0.09	0.09	10.698386
10/9/15 7:00 AM	96.18324	32	0.32	0.23	10.327778
10/9/15 8:00 AM	96.224152	44	0.44	0.12	9.709296
10/9/15 9:00 AM	96.29488	61	0.61	0.17	9.294516
10/9/15 10:00 AM	96.376048	65	0.65	0.04	9.058902
10/9/15 11:00 AM	96.424248	65	0.65	0	8.874832
10/9/15 12:00 PM	96.440896	65	0.65	0	9.139894
10/9/15 1:00 PM	96.445304	65	0.65	0	9.073626
10/9/15 2:00 PM	96.44668	68	0.68	0.03	8.892008
10/9/15 3:00 PM	96.446416	68	0.68	0	8.76684
10/9/15 4:00 PM	96.443672	68	0.68	0	9.053992
10/9/15 5:00 PM	96.4402	68	0.68	0	8.987732
10/9/15 6:00 PM	96.438208	68	0.68	0	8.720202
10/9/15 7:00 PM	96.4382	68	0.68	0	8.533676
10/9/15 8:00 PM	96.43476	69	0.69	0.01	8.337329
10/9/15 9:00 PM	96.430416	69	0.69	0	8.084534
10/10/15 11:00 AM	96.315937	0	0	0	10.346152
10/10/15 12:00 PM	96.356211	0	0	0	11.503406
10/10/15 1:00 PM	96.3525	0	0	0	11.766018
10/10/15 2:00 PM	96.34845	0	0	0	11.81265
10/10/15 3:00 PM	96.345004	0	0	0	11.969726
10/10/15 4:00 PM	96.341107	0	0	0	11.716926
10/10/15 5:00 PM	96.337269	0	0	0	11.734112
10/10/15 6:00 PM	96.333637	0	0	0	11.739016
10/10/15 7:00 PM	96.330227	0	0	0	11.446964
10/10/15 8:00 PM	96.326564	0	0	0	11.277608
10/10/15 9:00 PM	96.323028	0	0	0	11.194164
10/10/15 10:00 PM	96.31985	0	0	0	11.19171
10/10/15 11:00 PM	96.316474	0	0	0	11.13771
10/11/15 12:00 AM	96.312886	0	0	0	10.990442
10/11/15 1:00 AM	96.309543	0	0	0	10.89718
10/11/15 2:00 AM	96.306417	0	0	0	10.87019
10/11/15 3:00 AM	96.303067	0	0	0	10.634568
10/11/15 4:00 AM	96.301334	0	0	0	10.229608
10/11/15 5:00 AM	96.298809	0	0	0	9.5694
10/11/15 6:00 AM	96.295339	0	0	0	9.041724
10/11/15 7:00 AM	96.292251	0	0	0	8.872372
10/11/15 8:00 AM	96.289724	0	0	0	9.132526
10/11/15 9:00 AM	96.286794	0	0	0	9.2577
10/11/15 10:00 AM	96.282907	0	0	0	10.21979
10/11/15 11:00 AM	96.280605	0	0	0	11.093534
10/11/15 12:00 PM	96.277169	0	0	0	11.579488
10/11/15 1:00 PM	96.277229	0	0	0	11.608944
10/11/15 2:00 PM	96.273388	0	0	0	11.807738
10/11/15 3:00 PM	96.270972	0	0	0	12.04335
10/11/15 4:00 PM	96.26934	0	0	0	11.788106
10/11/15 5:00 PM	96.267259	0	0	0	11.665384
10/11/15 6:00 PM	96.265212	0	0	0	11.54267
10/11/15 7:00 PM	96.262887	0	0	0	11.378238
10/11/15 8:00 PM	96.260814	0	0	0	11.319332

10/11/15 9:00 PM	96.258549	0	0	0	11.203982
10/11/15 10:00 PM	96.256432	0	0	0	11.19171
10/11/15 11:00 PM	96.253906	0	0	0	11.167164
10/12/15 12:00 AM	96.25133	0	0	0	11.03462
10/12/15 1:00 AM	96.250206	0	0	0	10.899634
10/12/15 2:00 AM	96.247659	0	0	0	10.848104
10/12/15 3:00 AM	96.245884	0	0	0	10.617386
10/12/15 4:00 AM	96.24452	0	0	0	10.087266
10/12/15 5:00 AM	96.242595	0	0	0	9.44423
10/12/15 6:00 AM	96.240409	0	0	0	8.914098
10/12/15 7:00 AM	96.238858	0	0	0	8.99754
10/12/15 8:00 AM	96.237132	0	0	0	9.13989
10/12/15 9:00 AM	96.235502	0	0	0	9.238062
10/12/15 10:00 AM	96.233601	0	0	0	9.67248
10/12/15 11:00 AM	96.231585	0	0	0	11.243248
10/12/15 12:00 PM	96.230174	0	0	0	11.41014
10/12/15 1:00 PM	96.229546	0	0	0	11.741476
10/12/15 2:00 PM	96.230233	0	0	0	11.834736
10/12/15 3:00 PM	96.231164	0	0	0	11.97463
10/12/15 4:00 PM	96.230563	0	0	0	11.753742
10/12/15 5:00 PM	96.228698	0	0	0	11.729204
10/12/15 6:00 PM	96.227969	0	0	0	11.59912
10/12/15 7:00 PM	96.226987	0	0	0	11.471502
10/12/15 8:00 PM	96.224961	0	0	0	11.353694
10/12/15 9:00 PM	96.223824	0	0	0	11.307058
10/12/15 10:00 PM	96.222702	0	0	0	11.196618
10/12/15 11:00 PM	96.221669	0	0	0	11.19171
10/13/15 12:00 AM	96.220547	0	0	0	11.179438
10/13/15 1:00 AM	96.219489	0	0	0	11.027258
10/13/15 2:00 AM	96.219082	0	0	0	10.904542
10/13/15 3:00 AM	96.217699	0	0	0	10.833378
10/13/15 4:00 AM	96.21658	0	0	0	10.529038
10/13/15 5:00 AM	96.215778	0	0	0	9.942456
10/13/15 6:00 AM	96.214778	0	0	0	9.346058
10/13/15 7:00 AM	96.21327	0	0	0	8.919008
10/13/15 8:00 AM	96.213596	0	0	0	9.04417
10/13/15 9:00 AM	96.21099	0	0	0	9.30679
10/13/15 10:00 AM	96.21128	0	0	0	9.562034
10/13/15 11:00 AM	96.209029	0	0	0	10.94873
10/13/15 12:00 PM	96.209722	0	0	0	11.358602
10/13/15 1:00 PM	96.206563	0	0	0	11.250612
10/13/15 2:00 PM	96.207402	0	0	0	10.963446
10/13/15 3:00 PM	96.205465	0	0	0	10.66893
10/13/15 4:00 PM	96.205246	0	0	0	10.212438
10/13/15 5:00 PM	96.204972	0	0	0	10.479946
10/13/15 6:00 PM	96.204778	0	0	0	10.300786
10/13/15 7:00 PM	96.215911	21	0.21	0.21	9.031906
10/13/15 8:00 PM	96.231658	21	0.21	0	9.022084
10/13/15 9:00 PM	96.250955	21	0.21	0	9.009814
10/13/15 10:00 PM	96.260022	21	0.21	0	8.869926
10/13/15 11:00 PM	96.263572	21	0.21	0	8.806108
10/14/15 12:00 AM	96.265348	21	0.21	0	8.624486
10/14/15 1:00 AM	96.266642	21	0.21	0	8.496858
10/14/15 2:00 AM	96.266918	21	0.21	0	8.278426
10/14/15 3:00 AM	96.266836	21	0.21	0	8.047717
10/14/15 4:00 AM	96.266353	21	0.21	0	7.858738
10/14/15 12:00 PM	96.178553	0	0	0	9.831722
10/14/15 1:00 PM	96.250955	0	0	0	10.934004
10/14/15 2:00 PM	96.250063	0	0	0	10.838284
10/14/15 3:00 PM	96.247756	0	0	0	11.10826
10/14/15 4:00 PM	96.245824	0	0	0	11.167164
10/14/15 5:00 PM	96.24423	0	0	0	11.09598
10/14/15 6:00 PM	96.241446	0	0	0	10.742564

10/14/15 7:00 PM	96.23918	0	0	0	9.910552
10/14/15 8:00 PM	96.237805	0	0	0	8.857652
10/14/15 9:00 PM	96.236574	0	0	0	8.838018
10/14/15 10:00 PM	96.234571	0	0	0	8.788926
10/14/15 11:00 PM	96.232978	0	0	0	8.563128
10/15/15 12:00 AM	96.23064	0	0	0	8.256339
10/15/15 10:00 AM	95.809233	0	0	0	9.130076
10/15/15 11:00 AM	96.21167	0	0	0	11.235888
10/15/15 12:00 PM	96.210952	0	0	0	11.778292
10/15/15 1:00 PM	96.210381	0	0	0	11.827372
10/15/15 2:00 PM	96.209625	0	0	0	11.888728
10/15/15 3:00 PM	96.208487	0	0	0	11.952544
10/15/15 4:00 PM	96.207276	0	0	0	11.648206
10/15/15 5:00 PM	96.206411	0	0	0	11.395418
10/15/15 6:00 PM	96.205264	0	0	0	11.299698
10/15/15 7:00 PM	96.204769	0	0	0	11.194164
10/15/15 8:00 PM	96.203469	0	0	0	11.189256
10/15/15 9:00 PM	96.202505	0	0	0	11.06162
10/15/15 10:00 PM	96.20169	0	0	0	10.911906
10/15/15 11:00 PM	96.201715	1	0.01	0.01	10.889818
10/16/15 12:00 AM	96.201656	3	0.03	0.02	10.639478
10/16/15 1:00 AM	96.201145	3	0.03	0	10.104446
10/16/15 2:00 AM	96.200459	3	0.03	0	9.328874
10/16/15 3:00 AM	96.20031	3	0.03	0	9.007356
10/16/15 4:00 AM	96.199333	3	0.03	0	9.130072
10/16/15 5:00 AM	96.198246	3	0.03	0	9.130072
10/16/15 6:00 AM	96.201703	8	0.08	0.05	9.130072
10/16/15 7:00 AM	96.202531	8	0.08	0	9.10062
10/16/15 8:00 AM	96.201676	8	0.08	0	8.982818
10/16/15 9:00 AM	96.202269	8	0.08	0	9.022086
10/16/15 10:00 AM	96.20152	8	0.08	0	9.35342
10/16/15 11:00 AM	96.201257	8	0.08	0	9.795196
10/16/15 12:00 PM	96.200436	8	0.08	0	10.563396
10/16/15 1:00 PM	96.199035	8	0.08	0	11.370874
10/16/15 2:00 PM	96.201487	8	0.08	0	11.375782
10/16/15 3:00 PM	96.200268	8	0.08	0	11.427318
10/16/15 4:00 PM	96.200073	8	0.08	0	11.397872
10/16/15 5:00 PM	96.198999	8	0.08	0	11.496038
10/16/15 6:00 PM	96.198693	8	0.08	0	11.304608
10/16/15 7:00 PM	96.198129	8	0.08	0	11.120526
10/16/15 8:00 PM	96.197001	8	0.08	0	10.943812
10/16/15 9:00 PM	96.196067	8	0.08	0	10.808834
10/16/15 10:00 PM	96.195176	8	0.08	0	10.308146
10/16/15 11:00 PM	96.194919	8	0.08	0	9.42214
10/17/15 12:00 AM	96.193901	8	0.08	0	8.838014
10/17/15 1:00 AM	96.19373	9	0.09	0.01	8.835566
10/17/15 2:00 AM	96.1931	9	0.09	0	8.835566
10/17/15 3:00 AM	96.192722	9	0.09	0	8.739836
10/17/15 4:00 AM	96.192473	9	0.09	0	8.636758
10/17/15 5:00 AM	96.192362	9	0.09	0	8.54104
10/17/15 6:00 AM	96.190474	9	0.09	0	8.46004
10/17/15 7:00 AM	96.190455	9	0.09	0	8.261247
10/17/15 8:00 AM	96.188295	9	0.09	0	8.148352
10/17/15 9:00 AM	96.187419	9	0.09	0	8.042811
10/17/15 10:00 AM	96.18944	17	0.17	0.08	8.420778
10/17/15 11:00 AM	96.191064	18	0.18	0.01	10.46768
10/17/15 12:00 PM	96.194153	20	0.2	0.02	10.53149
10/17/15 1:00 PM	96.196734	20	0.2	0	10.965904
10/17/15 2:00 PM	96.199477	20	0.2	0	11.47641
10/17/15 3:00 PM	96.200978	20	0.2	0	11.793016
10/17/15 4:00 PM	96.205876	24	0.24	0.04	11.250614
10/17/15 5:00 PM	96.207883	24	0.24	0	11.326694
10/17/15 6:00 PM	96.212285	25	0.25	0.01	11.211338

10/17/15 7:00 PM	96.213848	25	0.25	0	10.93154
10/17/15 8:00 PM	96.216136	25	0.25	0	10.720474
10/17/15 9:00 PM	96.216648	25	0.25	0	9.967
10/17/15 10:00 PM	96.21729	25	0.25	0	9.088356
10/17/15 11:00 PM	96.217141	25	0.25	0	8.860104
10/18/15 12:00 AM	96.21758	25	0.25	0	8.835566
10/21/15 12:00 PM		0	0	0	11.172966
10/21/15 1:00 PM	96.1696	0	0	0	11.43714
10/21/15 2:00 PM	96.169784	0	0	0	11.265338
10/21/15 3:00 PM	96.16944	0	0	0	10.850554
10/21/15 4:00 PM	96.168752	0	0	0	10.192798
10/21/15 5:00 PM	96.168256	0	0	0	9.122712
10/21/15 6:00 PM	96.16808	0	0	0	8.676024
10/21/15 7:00 PM	96.167488	0	0	0	8.54104
10/21/15 8:00 PM	96.167096	0	0	0	8.359418
10/21/15 9:00 PM	96.167024	0	0	0	8.167987
10/22/15 11:00 AM	96.160059	0	0	0	10.626764
10/22/15 12:00 PM	96.182983	0	0	0	10.904548
10/22/15 1:00 PM	96.183524	0	0	0	11.208882
10/22/15 2:00 PM	96.185325	0	0	0	11.088616
10/22/15 3:00 PM	96.185142	0	0	0	10.727836
10/22/15 4:00 PM	96.186282	0	0	0	10.774464
10/22/15 5:00 PM	96.186342	0	0	0	11.046898
10/22/15 6:00 PM	96.186788	0	0	0	10.735204
10/22/15 7:00 PM	96.186124	0	0	0	9.32397
10/22/15 8:00 PM	96.184734	0	0	0	8.860104
10/22/15 9:00 PM	96.184417	0	0	0	8.838018
10/22/15 10:00 PM	96.183956	0	0	0	8.63676
10/22/15 11:00 PM	96.183226	0	0	0	8.366781
10/23/15 1:00 PM	96.144665	0	0	0	11.09746
10/23/15 2:00 PM	96.167221	0	0	0	10.784286
10/23/15 3:00 PM	96.166057	0	0	0	11.022356
10/23/15 4:00 PM	96.16511	0	0	0	11.326696
10/23/15 5:00 PM	96.165153	0	0	0	11.392962
10/23/15 6:00 PM	96.165061	0	0	0	11.270234
10/23/15 7:00 PM	96.164127	0	0	0	10.811286
10/23/15 8:00 PM	96.16335	0	0	0	10.229612
10/23/15 9:00 PM	96.162459	0	0	0	8.987728
10/23/15 10:00 PM	96.161932	0	0	0	9.110438
10/23/15 11:00 PM	96.161166	0	0	0	9.080988
10/24/15 12:00 AM	96.160659	0	0	0	8.850288
10/24/15 1:00 AM	96.160268	0	0	0	8.5484
10/24/15 10:00 AM	96.067	0	0	0	10.602668
10/24/15 11:00 AM	96.154393	0	0	0	11.33651
10/24/15 12:00 PM	96.153945	0	0	0	11.913276
10/24/15 1:00 PM	96.154529	0	0	0	11.802832
10/24/15 2:00 PM	96.154693	0	0	0	11.802836
10/24/15 3:00 PM	96.155739	0	0	0	11.699742
10/24/15 4:00 PM	96.153632	0	0	0	11.248158
10/24/15 5:00 PM	96.154186	0	0	0	11.152436
10/24/15 6:00 PM	96.152878	0	0	0	10.98308
10/24/15 7:00 PM	96.152258	0	0	0	10.89718
10/24/15 8:00 PM	96.153451	0	0	0	10.710654
10/24/15 9:00 PM	96.15352	0	0	0	10.222248
10/24/15 10:00 PM	96.151427	0	0	0	9.33133
10/24/15 11:00 PM	96.152412	0	0	0	8.892006
10/25/15 12:00 AM	96.152907	0	0	0	9.130072
10/25/15 1:00 AM	96.153091	0	0	0	9.130072
10/25/15 2:00 AM	96.152363	1	0.01	0.01	9.130072
10/25/15 3:00 AM	96.155445	6	0.06	0.05	9.039266
10/25/15 4:00 AM	96.160137	11	0.11	0.05	8.838018
10/25/15 5:00 AM	96.166219	15	0.15	0.04	8.646576
10/25/15 6:00 AM	96.169635	15	0.15	0	8.425682

10/25/15 7:00 AM	96.175209	15	0.15	0	8.136077
10/25/15 3:00 PM	96.127129	0	0	0	9.951626
10/26/15 10:00 AM	96.128009	0	0	0	10.851874
10/26/15 11:00 AM	96.17203	0	0	0	11.194156
10/26/15 12:00 PM	96.170748	0	0	0	11.746382
10/26/15 1:00 PM	96.170394	0	0	0	11.874004
10/26/15 2:00 PM	96.169857	0	0	0	11.898548
10/26/15 3:00 PM	96.170502	0	0	0	11.827368
10/26/15 4:00 PM	96.169102	0	0	0	11.427326
10/26/15 5:00 PM	96.168426	0	0	0	11.604032
10/26/15 6:00 PM	96.168176	0	0	0	11.523044
10/26/15 7:00 PM	96.167341	0	0	0	11.19171
10/26/15 8:00 PM	96.166376	0	0	0	11.19171
10/26/15 9:00 PM	96.16547	0	0	0	11.0788
10/26/15 10:00 PM	96.164377	0	0	0	10.911906
10/26/15 11:00 PM	96.163907	0	0	0	10.855466
10/27/15 12:00 AM	96.162994	0	0	0	10.511858
10/27/15 1:00 AM	96.161921	0	0	0	9.733838
10/27/15 2:00 AM	96.161493	0	0	0	8.860104
10/27/15 3:00 AM	96.161072	0	0	0	8.86992
10/27/15 4:00 AM	96.160373	0	0	0	8.980362
10/27/15 5:00 AM	96.159725	0	0	0	8.86256
10/27/15 6:00 AM	96.159007	0	0	0	8.83311
10/27/15 7:00 AM	96.158182	0	0	0	8.683388
10/27/15 8:00 AM	96.157119	0	0	0	8.560674
10/27/15 9:00 AM	96.15582	0	0	0	9.0319
10/27/15 10:00 AM	96.154845	0	0	0	10.985546
10/27/15 11:00 AM	96.15378	0	0	0	11.802826
10/27/15 12:00 PM	96.153786	0	0	0	11.87891
10/27/15 1:00 PM	96.153345	0	0	0	12.038444
10/27/15 2:00 PM	96.153748	0	0	0	12.082622
10/27/15 3:00 PM	96.153796	0	0	0	12.062986
10/27/15 4:00 PM	96.153428	0	0	0	11.871552
10/27/15 5:00 PM	96.153484	0	0	0	11.812652
10/27/15 6:00 PM	96.153432	0	0	0	11.510768
10/27/15 7:00 PM	96.152961	0	0	0	11.402782
10/27/15 8:00 PM	96.152516	0	0	0	11.33406
10/27/15 9:00 PM	96.151869	0	0	0	11.213798
10/27/15 10:00 PM	96.151433	0	0	0	11.19171
10/27/15 11:00 PM	96.151249	0	0	0	11.189256
10/28/15 12:00 AM	96.150756	0	0	0	11.0788
10/28/15 1:00 AM	96.150245	0	0	0	10.958538
10/28/15 2:00 AM	96.149862	0	0	0	10.87019
10/28/15 3:00 AM	96.149499	0	0	0	10.563398
10/28/15 4:00 AM	96.149257	0	0	0	9.954726
10/28/15 5:00 AM	96.148812	0	0	0	9.262604
10/28/15 6:00 AM	96.148613	0	0	0	8.803652
10/28/15 7:00 AM	96.148474	0	0	0	8.597486
10/28/15 8:00 AM	96.148207	0	0	0	8.693204
10/28/15 9:00 AM	96.147287	0	0	0	8.9141
10/28/15 10:00 AM	96.147359	0	0	0	8.857654
10/28/15 11:00 AM	96.147892	0	0	0	8.877284
10/28/15 12:00 PM	96.147676	0	0	0	8.877284
10/28/15 1:00 PM	96.148655	2	0.02	0.02	8.7742
10/28/15 2:00 PM	96.152565	9	0.09	0.07	8.543494
10/28/15 3:00 PM	96.161183	20	0.2	0.11	8.359417
10/28/15 4:00 PM	96.176803	27	0.27	0.07	8.241613
10/28/15 5:00 PM	96.207855	29	0.29	0.02	8.158166
10/28/15 6:00 PM	96.234801	30	0.3	0.01	7.951998
10/28/15 7:00 PM	96.25178	37	0.37	0.07	7.871011
10/28/15 8:00 PM	96.268836	44	0.44	0.07	7.672204
10/29/15 11:00 AM	96.740777	0	0	0	11.191704
10/29/15 12:00 PM	96.824117	0	0	0	10.95118

10/29/15 1:00 PM	96.805253	0	0	0	10.526588
10/29/15 2:00 PM	96.787815	2	0.02	0.02	8.94109
10/29/15 3:00 PM	96.771939	2	0.02	0	10.413684
10/29/15 4:00 PM	96.756317	2	0.02	0	9.883554
10/29/15 5:00 PM	96.742346	2	0.02	0	10.747472
10/29/15 6:00 PM	96.729106	2	0.02	0	9.000004
10/29/15 7:00 PM	96.717332	2	0.02	0	8.658846
10/29/15 8:00 PM	96.70496	2	0.02	0	8.361874
10/30/15 11:00 AM	96.506566	0	0	0	10.095442
10/30/15 12:00 PM	96.559345	0	0	0	9.036814
10/30/15 1:00 PM	96.551197	0	0	0	11.046896
10/30/15 2:00 PM	96.544893	0	0	0	11.169618
10/30/15 3:00 PM	96.536938	0	0	0	11.670296
10/30/15 4:00 PM	96.530867	0	0	0	11.402784
10/30/15 5:00 PM	96.523923	0	0	0	11.449414
10/30/15 6:00 PM	96.516368	0	0	0	11.270242
10/30/15 7:00 PM	96.509424	0	0	0	10.926632
10/30/15 8:00 PM	96.502382	0	0	0	10.727838
10/30/15 9:00 PM	96.495589	0	0	0	9.967002
10/30/15 10:00 PM	96.48925	0	0	0	8.928826
10/30/15 11:00 PM	96.482914	0	0	0	8.973
10/31/15 12:00 AM	96.476111	0	0	0	8.946004
10/31/15 1:00 AM	96.46955	0	0	0	8.835566
10/31/15 2:00 AM	96.463363	0	0	0	8.629396
10/31/15 3:00 AM	96.457206	0	0	0	8.398686
10/31/15 10:00 AM	96.373834	0	0	0	11.149634
10/31/15 11:00 AM	96.408972	0	0	0	11.773382
10/31/15 12:00 PM	96.403938	0	0	0	11.878912
10/31/15 1:00 PM	96.399922	0	0	0	11.996724
10/31/15 2:00 PM	96.395416	0	0	0	11.606486
10/31/15 3:00 PM	96.390356	0	0	0	11.780746
10/31/15 4:00 PM	96.385091	0	0	0	11.616298
10/31/15 5:00 PM	96.380715	0	0	0	11.311968
10/31/15 6:00 PM	96.376469	0	0	0	11.19171
10/31/15 7:00 PM	96.371884	0	0	0	11.169618
10/31/15 8:00 PM	96.367696	0	0	0	11.014986
10/31/15 9:00 PM	96.363363	0	0	0	10.899634
10/31/15 10:00 PM	96.359184	0	0	0	10.698382
10/31/15 11:00 PM	96.355176	0	0	0	10.047994
11/1/15 12:00 AM	96.351416	0	0	0	9.201248
11/1/15 1:00 AM	96.347623	0	0	0	8.801204
11/1/15 2:00 AM	96.343714	0	0	0	8.838018
11/1/15 3:00 AM	96.340005	0	0	0	8.835566
11/1/15 4:00 AM	96.336577	0	0	0	8.835566
11/1/15 5:00 AM	96.333549	0	0	0	8.695658
11/1/15 6:00 AM	96.331242	0	0	0	8.543494
11/1/15 7:00 AM	96.328283	0	0	0	8.445316
11/1/15 8:00 AM	96.324932	0	0	0	8.25143
11/1/15 9:00 AM	96.322097	1	0.01	0.01	8.123808
11/1/15 10:00 AM	96.320668	1	0.01	0	8.219523
11/1/15 11:00 AM	96.317913	1	0.01	0	8.496862
11/1/15 12:00 PM	96.314827	1	0.01	0	8.86501
11/1/15 1:00 PM	96.312321	1	0.01	0	9.24543
11/1/15 3:00 PM	96.269755	0	0	0	9.358714
11/1/15 4:00 PM	96.301522	0	0	0	10.899638
11/1/15 5:00 PM	96.299941	0	0	0	9.814828
11/1/15 6:00 PM	96.297629	0	0	0	8.489494
11/1/15 7:00 PM	96.294668	0	0	0	8.19253
11/2/15 2:00 PM	96.206207	0	0	0	11.072058
11/2/15 3:00 PM	96.24458	0	0	0	11.196608
11/2/15 4:00 PM	96.213969	0	0	0	10.67116
11/2/15 5:00 PM	96.241768	0	0	0	11.94027
11/2/15 6:00 PM	96.239798	0	0	0	12.075258

11/2/15 7:00 PM	96.23753	0	0	0	12.075258
11/2/15 8:00 PM	96.236275	0	0	0	12.075258
11/2/15 9:00 PM	96.234496	0	0	0	12.075258
11/2/15 10:00 PM	96.233024	0	0	0	12.075258
11/2/15 11:00 PM	96.231403	0	0	0	12.075258
11/3/15 12:00 AM	96.230308	0	0	0	12.075258
11/3/15 1:00 AM	96.228444	0	0	0	12.075258
11/3/15 2:00 AM	96.227088	0	0	0	12.075258
11/3/15 3:00 AM	96.225928	0	0	0	12.075258
11/3/15 4:00 AM	96.224428	0	0	0	12.075258
11/3/15 5:00 AM	96.223112	0	0	0	12.075258
11/3/15 6:00 AM	96.221705	0	0	0	12.075258
11/3/15 7:00 AM	96.220608	0	0	0	12.075258
11/3/15 8:00 AM	96.218761	0	0	0	12.075258
11/3/15 9:00 AM	96.217256	0	0	0	12.075258
11/3/15 10:00 AM	96.215443	0	0	0	12.075258
11/3/15 11:00 AM	96.215079	0	0	0	12.075258
11/3/15 12:00 PM	96.212742	0	0	0	12.161166
11/3/15 1:00 PM	96.212189	0	0	0	12.369772
11/3/15 2:00 PM	96.211885	0	0	0	12.369772
11/3/15 3:00 PM	96.211257	0	0	0	12.342782
11/3/15 4:00 PM	96.209965	0	0	0	12.10962
11/3/15 5:00 PM	96.209292	0	0	0	12.080168
11/3/15 6:00 PM	96.208204	0	0	0	12.075258
11/3/15 7:00 PM	96.206727	0	0	0	12.075258
11/3/15 8:00 PM	96.205105	0	0	0	12.075258
11/3/15 9:00 PM	96.202902	0	0	0	12.075258
11/3/15 10:00 PM	96.202503	0	0	0	12.075258
11/3/15 11:00 PM	96.201679	0	0	0	12.075258
11/4/15 12:00 AM	96.200777	0	0	0	12.075258
11/4/15 1:00 AM	96.199893	0	0	0	12.075258
11/4/15 2:00 AM	96.198825	0	0	0	12.075258
11/4/15 3:00 AM	96.197454	0	0	0	12.075258
11/4/15 4:00 AM	96.196355	0	0	0	12.075258
11/4/15 5:00 AM	96.195228	0	0	0	12.075258
11/4/15 6:00 AM	96.194213	0	0	0	12.075258
11/4/15 7:00 AM	96.193099	0	0	0	12.075258
11/4/15 8:00 AM	96.19201	0	0	0	12.075258
11/4/15 9:00 AM	96.190177	0	0	0	12.075258
11/4/15 10:00 AM	96.189332	0	0	0	12.112076
11/4/15 11:00 AM	96.187894	0	0	0	12.332956
11/4/15 12:00 PM	96.187146	0	0	0	12.369772
11/4/15 1:00 PM	96.187081	0	0	0	12.377134
11/4/15 2:00 PM	96.186708	0	0	0	12.384498
11/4/15 3:00 PM	96.187035	0	0	0	12.369772
11/4/15 4:00 PM	96.186454	0	0	0	12.298604
11/4/15 5:00 PM	96.186287	0	0	0	12.247072
11/4/15 6:00 PM	96.185954	0	0	0	12.131708
11/4/15 7:00 PM	96.18541	0	0	0	12.075258
11/4/15 8:00 PM	96.184665	0	0	0	12.075258
11/4/15 9:00 PM	96.18339	0	0	0	12.075258
11/4/15 10:00 PM	96.183295	0	0	0	12.075258
11/4/15 11:00 PM	96.183762	0	0	0	12.075258
11/5/15 12:00 AM	96.1834	0	0	0	12.075258
11/5/15 1:00 AM	96.182288	0	0	0	12.075258
11/5/15 2:00 AM	96.181286	0	0	0	12.075258
11/5/15 3:00 AM	96.18081	0	0	0	12.075258
11/5/15 4:00 AM	96.181356	0	0	0	12.075258
11/5/15 5:00 AM	96.180773	0	0	0	12.075258
11/5/15 6:00 AM	96.180526	0	0	0	12.075258
11/5/15 7:00 AM	96.180165	0	0	0	12.075258
11/5/15 8:00 AM	96.179515	0	0	0	12.075258
11/5/15 9:00 AM	96.178028	0	0	0	12.075258

11/5/15 10:00 AM	96.177595	0	0	0	12.075258
11/5/15 11:00 AM	96.1771	0	0	0	12.15135
11/5/15 12:00 PM	96.176635	0	0	0	12.215152
11/5/15 1:00 PM	96.177249	0	0	0	12.364864
11/5/15 2:00 PM	96.177036	0	0	0	12.369772
11/5/15 3:00 PM	96.177313	0	0	0	12.364864
11/5/15 4:00 PM	96.177421	0	0	0	12.19307
11/5/15 5:00 PM	96.177042	0	0	0	12.075258
11/5/15 6:00 PM	96.176878	0	0	0	12.075258
11/5/15 7:00 PM	96.176473	0	0	0	12.075258
11/5/15 8:00 PM	96.176433	0	0	0	12.075258
11/5/15 9:00 PM	96.176758	0	0	0	12.075258
11/5/15 10:00 PM	96.175678	0	0	0	12.075258
11/5/15 11:00 PM	96.175172	0	0	0	12.075258
11/6/15 12:00 AM	96.175288	0	0	0	12.075258
11/6/15 1:00 AM	96.175825	0	0	0	12.075258
11/6/15 2:00 AM	96.175658	0	0	0	12.075258
11/6/15 3:00 AM	96.175389	0	0	0	12.075258
11/6/15 4:00 AM	96.176653	0	0	0	12.075258
11/6/15 5:00 AM	96.176442	0	0	0	12.075258
11/6/15 6:00 AM	96.176544	0	0	0	12.075258
11/6/15 7:00 AM	96.177159	0	0	0	12.075258
11/6/15 8:00 AM	96.177772	0	0	0	12.075258
11/6/15 9:00 AM	96.177404	0	0	0	12.075258
11/6/15 10:00 AM	96.178918	0	0	0	12.075258
11/6/15 11:00 AM	96.177651	0	0	0	12.075258
11/6/15 12:00 PM	96.177555	0	0	0	12.075258
11/6/15 1:00 PM	96.178425	0	0	0	12.075258
11/6/15 2:00 PM	96.181111	0	0	0	12.075258
11/6/15 3:00 PM	96.180453	0	0	0	12.075258
11/6/15 4:00 PM	96.17887	0	0	0	12.075258
11/6/15 5:00 PM	96.183803	6	0.06	0.06	12.075258
11/6/15 6:00 PM	96.187879	6	0.06	0	12.075258
11/6/15 7:00 PM	96.186641	6	0.06	0	12.075258
11/6/15 8:00 PM	96.185813	6	0.06	0	12.075258
11/6/15 9:00 PM	96.18654	6	0.06	0	12.075258
11/6/15 10:00 PM	96.187577	6	0.06	0	12.075258
11/6/15 11:00 PM	96.187443	6	0.06	0	12.075258
11/7/15 12:00 AM	96.187558	6	0.06	0	12.075258
11/7/15 1:00 AM	96.187323	6	0.06	0	12.075258
11/7/15 2:00 AM	96.186454	6	0.06	0	12.075258
11/7/15 3:00 AM	96.186741	6	0.06	0	12.075258
11/7/15 4:00 AM	96.186664	6	0.06	0	12.075258
11/7/15 5:00 AM	96.186427	6	0.06	0	12.075258
11/7/15 6:00 AM	96.185902	6	0.06	0	12.075258
11/7/15 7:00 AM	96.184084	6	0.06	0	12.075258
11/7/15 8:00 AM	96.182901	6	0.06	0	12.075258
11/7/15 9:00 AM	96.18226	6	0.06	0	12.075258
11/7/15 10:00 AM	96.181224	6	0.06	0	12.075258
11/7/15 11:00 AM	96.179392	6	0.06	0	12.141532
11/7/15 12:00 PM	96.178052	6	0.06	0	12.301052
11/7/15 1:00 PM	96.177092	6	0.06	0	12.369772
11/7/15 2:00 PM	96.176482	6	0.06	0	12.369772
11/7/15 3:00 PM	96.17644	6	0.06	0	12.374682
11/7/15 4:00 PM	96.175894	6	0.06	0	12.369772
11/7/15 5:00 PM	96.175069	6	0.06	0	12.173436
11/7/15 6:00 PM	96.17451	6	0.06	0	12.077712
11/7/15 7:00 PM	96.173809	6	0.06	0	12.075258
11/7/15 8:00 PM	96.173573	6	0.06	0	12.075258
11/7/15 9:00 PM	96.173123	6	0.06	0	12.075258
11/7/15 10:00 PM	96.172254	6	0.06	0	12.075258
11/7/15 11:00 PM	96.171437	6	0.06	0	12.075258
11/8/15 12:00 AM	96.169904	6	0.06	0	12.075258

11/8/15 1:00 AM	96.16943	6	0.06	0	12.072804
11/8/15 2:00 AM	96.168137	6	0.06	0	12.075258
11/8/15 3:00 AM	96.16787	6	0.06	0	12.075258
11/8/15 4:00 AM	96.166456	6	0.06	0	12.067894
11/8/15 5:00 AM	96.165717	6	0.06	0	12.072804
11/8/15 6:00 AM	96.164307	6	0.06	0	12.06544
11/8/15 7:00 AM	96.163781	6	0.06	0	12.050714
11/8/15 8:00 AM	96.162836	6	0.06	0	12.060532
11/8/15 9:00 AM	96.162567	6	0.06	0	12.050714
11/8/15 10:00 AM	96.161434	6	0.06	0	12.067896
11/8/15 11:00 AM	96.159771	6	0.06	0	12.180792
11/8/15 12:00 PM	96.159359	6	0.06	0	12.377136
11/8/15 1:00 PM	96.158586	6	0.06	0	12.455674
11/8/15 2:00 PM	96.158413	6	0.06	0	12.497396
11/8/15 3:00 PM	96.158509	6	0.06	0	12.445854
11/8/15 4:00 PM	96.157894	6	0.06	0	12.369772
11/8/15 5:00 PM	96.157885	6	0.06	0	12.313336
11/8/15 6:00 PM	96.157265	6	0.06	0	12.166072
11/8/15 7:00 PM	96.156784	6	0.06	0	12.075258
11/8/15 8:00 PM	96.15608	6	0.06	0	12.075258
11/8/15 9:00 PM	96.155453	6	0.06	0	12.075258
11/8/15 10:00 PM	96.155403	6	0.06	0	12.075258
11/8/15 11:00 PM	96.154912	6	0.06	0	12.075258
11/9/15 12:00 AM	96.154168	6	0.06	0	12.075258
11/9/15 1:00 AM	96.153631	6	0.06	0	12.075258
11/9/15 2:00 AM	96.153152	6	0.06	0	12.06544
11/9/15 3:00 AM	96.152552	6	0.06	0	12.028624
11/9/15 4:00 AM	96.15205	6	0.06	0	11.999172
11/9/15 5:00 AM	96.151544	6	0.06	0	11.957448
11/9/15 6:00 AM	96.150732	6	0.06	0	11.959902
11/9/15 7:00 AM	96.150614	6	0.06	0	11.947632
11/9/15 8:00 AM	96.150084	6	0.06	0	11.945176
11/9/15 9:00 AM	96.148877	6	0.06	0	12.006538
11/9/15 10:00 AM	96.149049	6	0.06	0	12.107166
11/9/15 11:00 AM	96.148163	6	0.06	0	12.305958
11/9/15 12:00 PM	96.149035	6	0.06	0	12.472856
11/9/15 1:00 PM	96.148753	6	0.06	0	12.58576
11/9/15 2:00 PM	96.148351	6	0.06	0	12.607848
11/9/15 3:00 PM	96.148709	6	0.06	0	12.541578
11/9/15 4:00 PM	96.14871	6	0.06	0	12.369772
11/9/15 5:00 PM	96.148704	6	0.06	0	12.320698
11/9/15 6:00 PM		6	0.06	0	12.183256
11/9/15 7:00 PM	96.348368	6	0.06	0	12.082622
11/9/15 8:00 PM	96.347184	6	0.06	0	12.075258
11/9/15 9:00 PM	96.347384	6	0.06	0	12.075258
11/9/15 10:00 PM	96.347176	6	0.06	0	12.075258
11/9/15 11:00 PM	96.347648	6	0.06	0	12.075258
11/10/15 12:00 AM	96.347088	6	0.06	0	12.075258
11/10/15 1:00 AM	96.347408	6	0.06	0	12.072804
11/10/15 2:00 AM	96.3472	6	0.06	0	12.072804
11/10/15 3:00 AM	96.347112	6	0.06	0	12.062986
11/10/15 4:00 AM	96.347056	6	0.06	0	12.02617
11/10/15 5:00 AM	96.346832	6	0.06	0	12.004082
11/10/15 6:00 AM	96.346656	6	0.06	0	11.962358
11/10/15 7:00 AM	96.34632	6	0.06	0	11.95254
11/10/15 8:00 AM	96.345936	6	0.06	0	11.937812
11/10/15 9:00 AM	96.345104	6	0.06	0	11.994268
11/10/15 10:00 AM	96.344968	6	0.06	0	12.075258
11/10/15 11:00 AM	96.344208	6	0.06	0	12.264236
11/10/15 12:00 PM	96.201864	0	0	0	12.535446
11/10/15 1:00 PM	96.344928	0	0	0	12.595578
11/10/15 2:00 PM	96.345896	0	0	0	12.654484
11/10/15 3:00 PM	96.346312	0	0	0	12.54649

11/10/15 4:00 PM	96.34656	0	0	0	12.372226
11/10/15 5:00 PM	96.34688	0	0	0	12.332966
11/10/15 6:00 PM	96.347296	0	0	0	12.183256
11/10/15 7:00 PM	96.347072	0	0	0	12.077712
11/10/15 8:00 PM	96.347128	0	0	0	12.075258
11/10/15 9:00 PM	96.34704	0	0	0	12.075258
11/10/15 10:00 PM	96.347432	0	0	0	12.075258
11/10/15 11:00 PM	96.34744	0	0	0	12.075258
11/11/15 12:00 AM	96.34748	0	0	0	12.075258
11/11/15 1:00 AM	96.347848	0	0	0	12.075258
11/11/15 2:00 AM	96.347952	0	0	0	12.072804
11/11/15 3:00 AM	96.347848	0	0	0	12.070348
11/11/15 4:00 AM	96.348072	0	0	0	12.06544
11/11/15 5:00 AM	96.34804	0	0	0	12.050714
11/11/15 6:00 AM	96.348088	0	0	0	12.053168
11/11/15 7:00 AM	96.347992	0	0	0	12.038442
11/11/15 8:00 AM	96.347872	0	0	0	12.016354
11/11/15 9:00 AM	96.347432	0	0	0	12.021262
11/11/15 10:00 AM	96.347024	0	0	0	12.043352
11/11/15 11:00 AM	96.347008	0	0	0	12.075258
11/11/15 12:00 PM	96.346512	0	0	0	12.077712
11/11/15 1:00 PM	96.347312	0	0	0	12.077712
11/11/15 2:00 PM	96.34696	0	0	0	12.075258
11/11/15 3:00 PM	96.34632	0	0	0	12.239696
11/11/15 4:00 PM	96.347704	0	0	0	12.367318
11/11/15 5:00 PM	96.347768	0	0	0	12.21516
11/11/15 6:00 PM	96.34744	0	0	0	12.075258
11/11/15 7:00 PM	96.346888	0	0	0	12.075258
11/11/15 8:00 PM	96.346344	0	0	0	12.075258
11/11/15 9:00 PM	96.346384	0	0	0	12.072804
11/11/15 10:00 PM	96.346408	0	0	0	12.067896
11/11/15 11:00 PM	96.345904	0	0	0	12.053168
11/12/15 12:00 AM	96.345488	0	0	0	12.035988
11/12/15 1:00 AM	96.34548	0	0	0	12.028626
11/12/15 2:00 AM	96.345552	0	0	0	12.028626
11/12/15 3:00 AM	96.345968	0	0	0	11.991808
11/12/15 4:00 AM	96.345176	0	0	0	11.996718
11/12/15 5:00 AM	96.34544	0	0	0	11.99181
11/12/15 6:00 AM	96.345664	0	0	0	11.967266
11/12/15 7:00 AM	96.345448	0	0	0	11.977082
11/12/15 8:00 AM	96.345784	0	0	0	11.981992
11/12/15 9:00 AM	96.346648	0	0	0	11.969722
11/12/15 10:00 AM	96.346112	0	0	0	11.986902
11/12/15 11:00 AM	96.346296	0	0	0	11.999174
11/12/15 12:00 PM	96.347176	0	0	0	12.013898
11/12/15 1:00 PM	96.347544	0	0	0	12.011444
11/12/15 2:00 PM	96.348624	0	0	0	11.999174
11/12/15 3:00 PM	96.34944	2	0.02	0.02	11.994264
11/12/15 4:00 PM	96.353768	4	0.04	0.02	11.994262
11/12/15 5:00 PM	96.354776	4	0.04	0	11.996718
11/12/15 6:00 PM	96.35476	5	0.05	0.01	12.001628
11/12/15 7:00 PM	96.357464	6	0.06	0.01	11.994264
11/12/15 8:00 PM	96.35812	6	0.06	0	11.989356
11/12/15 9:00 PM	96.359472	9	0.09	0.03	11.989356
11/12/15 10:00 PM	96.383008	26	0.26	0.17	11.99181
11/12/15 11:00 PM	96.43312	26	0.26	0	12.004084
11/13/15 12:00 AM	96.459088	26	0.26	0	11.972174
11/13/15 1:00 AM	96.469776	26	0.26	0	11.994264
11/13/15 2:00 AM	96.474104	26	0.26	0	11.967266
11/13/15 3:00 AM	96.47716	26	0.26	0	11.957448
11/13/15 4:00 AM	96.478512	26	0.26	0	11.957448
11/13/15 5:00 AM	96.477808	26	0.26	0	11.96972
11/13/15 6:00 AM	96.478624	27	0.27	0.01	11.967266

11/13/15 7:00 AM	96.47688	27	0.27	0	11.954994
11/13/15 8:00 AM	96.47524	27	0.27	0	11.95745
11/13/15 9:00 AM	96.47392	29	0.29	0.02	11.964812
11/13/15 10:00 AM	96.473808	29	0.29	0	11.954994
11/13/15 11:00 AM	96.473832	29	0.29	0	11.954994
11/13/15 12:00 PM	96.472744	29	0.29	0	11.97463
11/13/15 1:00 PM	96.469984	29	0.29	0	11.979538
11/13/15 2:00 PM	96.470304	29	0.29	0	11.962358
11/13/15 3:00 PM	96.46836	29	0.29	0	11.967266
11/13/15 4:00 PM	96.46716	29	0.29	0	11.945176
11/13/15 5:00 PM	96.464712	30	0.3	0.01	11.945176
11/13/15 6:00 PM	96.462552	30	0.3	0	11.950086
11/13/15 7:00 PM	96.459888	30	0.3	0	11.94027
11/13/15 8:00 PM	96.457424	30	0.3	0	11.942722
11/13/15 9:00 PM	96.454832	30	0.3	0	11.950086
11/13/15 10:00 PM	96.452392	30	0.3	0	11.940268
11/13/15 11:00 PM	96.449952	30	0.3	0	11.940268
11/14/15 12:00 AM	96.44804	30	0.3	0	11.93045
11/14/15 1:00 AM	96.444776	30	0.3	0	11.937816
11/14/15 2:00 AM	96.442624	30	0.3	0	11.932904
11/14/15 3:00 AM	96.440208	30	0.3	0	11.93536
11/14/15 4:00 AM	96.437992	30	0.3	0	11.927998
11/14/15 5:00 AM	96.434456	30	0.3	0	11.93045
11/14/15 6:00 AM	96.430664	30	0.3	0	11.932906
11/14/15 7:00 AM	96.43012	30	0.3	0	11.920634
11/14/15 8:00 AM	96.427984	30	0.3	0	11.91327
11/14/15 9:00 AM	96.424656	30	0.3	0	11.910818
11/14/15 10:00 AM	96.423096	30	0.3	0	11.901002
11/14/15 11:00 AM	96.419448	30	0.3	0	11.913272
11/14/15 12:00 PM	96.416224	30	0.3	0	11.91818
11/14/15 1:00 PM	96.415608	30	0.3	0	11.994268
11/14/15 2:00 PM	96.410592	30	0.3	0	12.067896
11/14/15 3:00 PM	96.408824	30	0.3	0	12.134164
11/14/15 4:00 PM	96.407184	30	0.3	0	12.11944
11/14/15 5:00 PM	96.406048	30	0.3	0	12.129252
11/14/15 6:00 PM	96.404024	30	0.3	0	12.06053
11/14/15 7:00 PM	96.400752	30	0.3	0	11.937814
11/14/15 8:00 PM	96.399544	30	0.3	0	11.90591
11/14/15 9:00 PM	96.398472	30	0.3	0	11.878914
11/14/15 10:00 PM	96.395712	30	0.3	0	11.866644
11/14/15 11:00 PM	96.394144	30	0.3	0	11.861732
11/15/15 12:00 AM	96.392528	30	0.3	0	11.856824
11/15/15 1:00 AM	96.391336	30	0.3	0	11.82983
11/15/15 2:00 AM	96.389408	30	0.3	0	11.837192
11/15/15 3:00 AM	96.3872	30	0.3	0	11.82492
11/15/15 4:00 AM	96.38604	30	0.3	0	11.827374
11/15/15 5:00 AM	96.384304	30	0.3	0	11.817556
11/15/15 6:00 AM	96.383792	30	0.3	0	11.810194
11/15/15 7:00 AM	96.382592	30	0.3	0	11.82001
11/15/15 8:00 AM	96.381104	30	0.3	0	11.805286
11/15/15 9:00 AM	96.37924	30	0.3	0	11.903456
11/15/15 10:00 AM	96.378208	30	0.3	0	12.067896
11/15/15 11:00 AM	96.376568	30	0.3	0	12.107166
11/15/15 12:00 PM	96.375968	30	0.3	0	12.121894
11/15/15 1:00 PM	96.374976	30	0.3	0	12.075258
11/15/15 2:00 PM	96.373704	30	0.3	0	12.075258
11/15/15 3:00 PM	96.373128	30	0.3	0	12.075258
11/15/15 4:00 PM	96.372464	30	0.3	0	12.070348
11/15/15 5:00 PM	96.371616	30	0.3	0	11.962358
11/15/15 6:00 PM	96.371344	30	0.3	0	11.923086
11/15/15 7:00 PM	96.370216	30	0.3	0	11.920634
11/15/15 8:00 PM	96.368928	30	0.3	0	11.898546
11/15/15 9:00 PM	96.367648	30	0.3	0	11.878914

11/15/15 10:00 PM	96.366752	30	0.3	0	11.871552
11/15/15 11:00 PM	96.366048	30	0.3	0	11.864186
11/16/15 12:00 AM	96.365184	30	0.3	0	11.861734
11/16/15 1:00 AM	96.364184	30	0.3	0	11.84946
11/16/15 2:00 AM	96.363336	30	0.3	0	11.83719
11/16/15 3:00 AM	96.362784	30	0.3	0	11.839644
11/16/15 4:00 AM	96.362024	30	0.3	0	11.832282
11/16/15 5:00 AM	96.361216	30	0.3	0	11.8421
11/16/15 6:00 AM	96.3606	30	0.3	0	11.82492
11/16/15 7:00 AM	96.359552	30	0.3	0	11.81756
11/16/15 8:00 AM	96.358616	30	0.3	0	11.839646
11/16/15 9:00 AM	96.35728	30	0.3	0	11.896094
11/16/15 10:00 AM	96.35636	30	0.3	0	12.075258
11/16/15 11:00 AM	96.355304	30	0.3	0	12.112076
11/16/15 12:00 PM	96.354056	30	0.3	0	12.369772
11/16/15 1:00 PM	96.353976	30	0.3	0	12.377136
11/16/15 2:00 PM	96.353432	30	0.3	0	12.384498
11/16/15 3:00 PM	96.353544	30	0.3	0	12.409042
11/16/15 4:00 PM	96.352216	30	0.3	0	12.369772
11/16/15 5:00 PM	96.351808	30	0.3	0	12.264248
11/16/15 6:00 PM	96.350336	30	0.3	0	12.075258
11/16/15 7:00 PM	96.34912	30	0.3	0	12.075258
11/16/15 8:00 PM	96.348728	30	0.3	0	12.075258
11/16/15 9:00 PM	96.34744	30	0.3	0	12.075258
11/16/15 10:00 PM	96.346944	30	0.3	0	12.075258
11/16/15 11:00 PM	96.34624	30	0.3	0	12.070348
11/17/15 12:00 AM	96.345536	30	0.3	0	12.035988
11/17/15 1:00 AM	96.345104	30	0.3	0	11.950086
11/17/15 2:00 AM	96.344016	30	0.3	0	11.937814
11/17/15 3:00 AM	96.343488	30	0.3	0	11.915726
11/17/15 4:00 AM	96.342824	30	0.3	0	11.883824
11/17/15 5:00 AM	96.3422	30	0.3	0	11.82492
11/17/15 6:00 AM	96.34144	30	0.3	0	11.802832
11/17/15 7:00 AM	96.340904	30	0.3	0	11.790562
11/17/15 8:00 AM	96.34012	30	0.3	0	11.790562
11/17/15 9:00 AM	96.338704	30	0.3	0	11.891186
11/17/15 10:00 AM	96.337976	30	0.3	0	12.075258
11/17/15 11:00 AM	96.337248	30	0.3	0	12.293688
11/17/15 12:00 PM	96.337056	30	0.3	0	12.558764
11/17/15 1:00 PM	96.33736	30	0.3	0	12.661848
11/17/15 2:00 PM	96.337608	30	0.3	0	12.664304
11/17/15 3:00 PM	96.337928	30	0.3	0	12.637302
11/17/15 4:00 PM	96.337616	30	0.3	0	12.369772
11/17/15 5:00 PM	96.338056	30	0.3	0	12.310882
11/17/15 6:00 PM	96.337848	30	0.3	0	12.089984
11/17/15 7:00 PM	96.337768	30	0.3	0	12.075258
11/17/15 8:00 PM	96.33752	30	0.3	0	12.075258
11/17/15 9:00 PM	96.337008	30	0.3	0	12.075258
11/17/15 10:00 PM	96.336632	30	0.3	0	12.075258
11/17/15 11:00 PM	96.336336	30	0.3	0	12.075258
11/18/15 12:00 AM	96.335952	30	0.3	0	12.075258
11/18/15 1:00 AM	96.336032	30	0.3	0	12.050712
11/18/15 2:00 AM	96.33524	30	0.3	0	11.967266
11/18/15 3:00 AM	96.334944	30	0.3	0	11.927996
11/18/15 4:00 AM	96.335504	30	0.3	0	11.903458
11/18/15 5:00 AM	96.334992	30	0.3	0	11.864188
11/18/15 6:00 AM	96.334856	30	0.3	0	11.820012
11/18/15 7:00 AM	96.334696	30	0.3	0	11.802836
11/18/15 8:00 AM	96.333792	30	0.3	0	11.79547
11/18/15 9:00 AM	96.33388	30	0.3	0	11.87155
11/18/15 10:00 AM	96.334184	30	0.3	0	12.075258
11/18/15 11:00 AM	96.335272	30	0.3	0	12.229876
11/18/15 12:00 PM	96.333712	30	0.3	0	12.460586

11/18/15 1:00 PM	96.335168	30	0.3	0	12.605396
11/18/15 2:00 PM	96.335656	30	0.3	0	12.634848
11/18/15 3:00 PM	96.336752	30	0.3	0	12.598032
11/18/15 4:00 PM	96.336344	30	0.3	0	12.369772
11/18/15 5:00 PM	96.33568	30	0.3	0	12.278976
11/18/15 6:00 PM	96.336256	30	0.3	0	12.082622
11/18/15 7:00 PM	96.333872	30	0.3	0	12.075258
11/18/15 8:00 PM	96.3342	30	0.3	0	12.075258
11/18/15 9:00 PM	96.332952	30	0.3	0	12.075258
11/18/15 10:00 PM	96.333048	30	0.3	0	12.075258
11/18/15 11:00 PM	96.33444	30	0.3	0	12.075258
11/19/15 12:00 AM	96.334296	30	0.3	0	12.075258
11/19/15 1:00 AM	96.333112	30	0.3	0	12.070348
11/19/15 2:00 AM	96.334472	30	0.3	0	12.06544
11/19/15 3:00 AM	96.335624	30	0.3	0	12.001626
11/19/15 4:00 AM	96.334688	30	0.3	0	11.947632
11/19/15 5:00 AM	96.3344	30	0.3	0	11.937814
11/19/15 6:00 AM	96.335096	30	0.3	0	11.94027
11/19/15 7:00 AM	96.336184	30	0.3	0	11.927998
11/19/15 8:00 AM	96.336304	30	0.3	0	11.92309
11/19/15 9:00 AM	96.336032	30	0.3	0	11.927996
11/19/15 10:00 AM	96.33608	30	0.3	0	11.927996
11/19/15 11:00 AM	96.336048	30	0.3	0	11.920634
11/19/15 12:00 PM	96.336208	30	0.3	0	11.937812
11/19/15 1:00 PM	96.336928	30	0.3	0	11.93045
11/19/15 2:00 PM	96.336808	30	0.3	0	11.93536
11/19/15 3:00 PM	96.337128	30	0.3	0	11.93045
11/19/15 4:00 PM	96.338312	30	0.3	0	11.932906
11/19/15 5:00 PM	96.337728	30	0.3	0	11.952538
11/19/15 6:00 PM	96.337384	30	0.3	0	11.923086
11/19/15 7:00 PM	96.337048	30	0.3	0	11.925542
11/19/15 8:00 PM	96.337064	30	0.3	0	11.927996
11/19/15 9:00 PM	96.337184	30	0.3	0	11.927996
11/19/15 10:00 PM	96.338736	33	0.33	0.03	11.927996
11/19/15 11:00 PM	96.344496	40	0.4	0.07	11.927996
11/20/15 12:00 AM	96.353328	51	0.51	0.11	11.925542
11/20/15 1:00 AM	96.37824	63	0.63	0.12	11.93045
11/20/15 2:00 AM	96.435056	73	0.73	0.1	11.91818
11/20/15 3:00 AM	96.490776	75	0.75	0.02	11.91818
11/20/15 4:00 AM	96.52636	75	0.75	0	11.915724
11/20/15 5:00 AM	96.54036	75	0.75	0	11.910818
11/20/15 6:00 AM	96.54488	75	0.75	0	11.913272
11/20/15 7:00 AM	96.546592	75	0.75	0	11.898548
11/20/15 8:00 AM	96.545888	75	0.75	0	11.900998
11/20/15 9:00 AM	96.544192	75	0.75	0	11.888734
11/20/15 10:00 AM	96.541792	75	0.75	0	12.016354
11/20/15 11:00 AM	96.538672	75	0.75	0	12.109622
11/20/15 12:00 PM	96.535816	75	0.75	0	12.359954
11/20/15 1:00 PM	96.532888	75	0.75	0	12.372226
11/20/15 2:00 PM	96.52916	75	0.75	0	12.369772
11/20/15 3:00 PM	96.526976	75	0.75	0	12.382044
11/20/15 4:00 PM	96.523344	75	0.75	0	12.345232
11/20/15 5:00 PM	96.52	75	0.75	0	12.17589
11/20/15 6:00 PM	96.516216	75	0.75	0	12.075258
11/20/15 7:00 PM	96.511768	75	0.75	0	12.075258
11/20/15 8:00 PM	96.508024	75	0.75	0	12.075258
11/20/15 9:00 PM	96.504408	75	0.75	0	12.075258
11/20/15 10:00 PM	96.500056	75	0.75	0	12.075258
11/20/15 11:00 PM	96.49576	75	0.75	0	12.075258
11/21/15 12:00 AM	96.492208	75	0.75	0	12.055622
11/21/15 1:00 AM	96.488032	75	0.75	0	11.99181
11/21/15 2:00 AM	96.484216	75	0.75	0	11.940268
11/21/15 3:00 AM	96.480648	75	0.75	0	11.927998

11/21/15 4:00 AM	96.477424	75	0.75	0	11.925542
11/21/15 5:00 AM	96.473984	75	0.75	0	11.87646
11/21/15 6:00 AM	96.47048	75	0.75	0	11.834738
11/21/15 7:00 AM	96.467056	75	0.75	0	11.80774
11/21/15 8:00 AM	96.463512	75	0.75	0	11.797924
11/21/15 9:00 AM	96.459928	75	0.75	0	11.810192
11/21/15 10:00 AM	96.457024	75	0.75	0	11.842096
11/21/15 11:00 AM	96.453512	75	0.75	0	12.026172
11/21/15 12:00 PM	96.450512	75	0.75	0	12.075258
11/21/15 1:00 PM	96.447856	75	0.75	0	12.242146
11/21/15 2:00 PM	96.44608	75	0.75	0	12.323152
11/21/15 3:00 PM	96.444016	75	0.75	0	12.1268
11/21/15 4:00 PM	96.441616	75	0.75	0	12.121894
11/21/15 5:00 PM	96.439704	75	0.75	0	12.075258
11/21/15 6:00 PM	96.437584	75	0.75	0	12.03353
11/21/15 7:00 PM	96.435312	75	0.75	0	11.927998
11/21/15 8:00 PM	96.4334	75	0.75	0	11.854372
11/21/15 9:00 PM	96.431296	75	0.75	0	11.81265
11/21/15 10:00 PM	96.429312	75	0.75	0	11.788108
11/21/15 11:00 PM	96.427376	75	0.75	0	11.790562
11/22/15 12:00 AM	96.425736	75	0.75	0	11.780744
11/22/15 1:00 AM	96.423752	75	0.75	0	11.783198
11/22/15 2:00 AM	96.422896	75	0.75	0	11.783198
11/22/15 3:00 AM	96.420704	75	0.75	0	11.785654
11/22/15 4:00 AM	96.418792	75	0.75	0	11.783198
11/22/15 5:00 AM	96.41704	75	0.75	0	11.780744
11/22/15 6:00 AM	96.416064	75	0.75	0	11.780744
11/22/15 7:00 AM	96.413464	75	0.75	0	11.780744
11/22/15 8:00 AM	96.414344	75	0.75	0	11.783198
11/22/15 9:00 AM	96.412848	76	0.76	0.01	11.78565
11/22/15 10:00 AM	96.411032	76	0.76	0	11.927998
11/22/15 11:00 AM	96.409384	76	0.76	0	12.124346
11/22/15 12:00 PM	96.408808	76	0.76	0	12.374682
11/22/15 1:00 PM	96.407576	76	0.76	0	12.47531
11/22/15 2:00 PM	96.406656	76	0.76	0	12.42622
11/22/15 3:00 PM	96.404512	76	0.76	0	12.369772
11/22/15 4:00 PM	96.402488	76	0.76	0	12.362412
11/22/15 5:00 PM	96.400896	76	0.76	0	12.146436
11/22/15 6:00 PM	96.39992	76	0.76	0	12.075258
11/22/15 7:00 PM	96.397344	76	0.76	0	12.075258
11/22/15 8:00 PM	96.395528	76	0.76	0	12.075258
11/22/15 9:00 PM	96.394512	76	0.76	0	12.075258
11/22/15 10:00 PM	96.392376	76	0.76	0	12.075258
11/22/15 11:00 PM	96.390872	76	0.76	0	12.03844
11/23/15 12:00 AM	96.389696	76	0.76	0	11.959902
11/23/15 1:00 AM	96.388312	76	0.76	0	11.93045
11/23/15 2:00 AM	96.386664	76	0.76	0	11.913274
11/23/15 3:00 AM	96.385504	76	0.76	0	11.842102
11/23/15 4:00 AM	96.383304	76	0.76	0	11.800376
11/23/15 5:00 AM	96.382912	76	0.76	0	11.790562
11/23/15 6:00 AM	96.381144	76	0.76	0	11.785652
11/23/15 7:00 AM	96.37964	76	0.76	0	11.783198
11/23/15 8:00 AM	96.378272	76	0.76	0	11.780744
11/23/15 9:00 AM	96.376712	76	0.76	0	11.783198
11/23/15 10:00 AM	96.37536	76	0.76	0	11.999174
11/23/15 11:00 AM	96.373512	76	0.76	0	12.195518
11/23/15 12:00 PM	96.372392	76	0.76	0	12.423774
11/23/15 1:00 PM	96.371376	76	0.76	0	12.661848
11/23/15 2:00 PM	96.3708	76	0.76	0	12.664304
11/23/15 3:00 PM	96.370184	76	0.76	0	12.661848
11/23/15 4:00 PM	96.369792	76	0.76	0	12.399226
11/23/15 5:00 PM	96.368328	76	0.76	0	12.320698
11/23/15 6:00 PM	96.367624	76	0.76	0	12.080166

11/23/15 7:00 PM	96.366504	76	0.76	0	12.075258
11/23/15 8:00 PM	96.364616	76	0.76	0	12.075258
11/23/15 9:00 PM	96.364144	76	0.76	0	12.075258
11/23/15 10:00 PM	96.3628	76	0.76	0	12.075258
11/23/15 11:00 PM	96.362016	76	0.76	0	12.072804
11/24/15 12:00 AM	96.361376	76	0.76	0	12.067894
11/24/15 1:00 AM	96.360864	76	0.76	0	11.999172
11/24/15 2:00 AM	96.36024	76	0.76	0	11.937814
11/24/15 3:00 AM	96.3594	76	0.76	0	11.915728
11/24/15 4:00 AM	96.358592	76	0.76	0	11.856828
11/24/15 5:00 AM	96.358	76	0.76	0	11.788106
11/24/15 6:00 AM	96.356784	76	0.76	0	11.780744
11/24/15 7:00 AM	96.35624	76	0.76	0	11.780744
11/24/15 8:00 AM	96.355232	76	0.76	0	11.783198
11/24/15 9:00 AM	96.353888	76	0.76	0	11.783198
11/24/15 10:00 AM	96.353064	76	0.76	0	11.805284
11/24/15 11:00 AM	96.35232	76	0.76	0	12.075258
11/24/15 12:00 PM	96.351544	76	0.76	0	12.058076
11/24/15 1:00 PM	96.35124	76	0.76	0	11.861736
11/24/15 2:00 PM	96.350496	76	0.76	0	11.785654
11/24/15 3:00 PM	96.350136	76	0.76	0	11.780744
11/24/15 4:00 PM	96.350048	76	0.76	0	11.780744
11/24/15 5:00 PM	96.349584	76	0.76	0	11.780744
11/24/15 6:00 PM	96.349272	76	0.76	0	11.780744
11/24/15 7:00 PM	96.348536	76	0.76	0	11.780744
11/24/15 8:00 PM	96.348	76	0.76	0	11.780744
11/24/15 9:00 PM	96.347528	76	0.76	0	11.780744
11/24/15 10:00 PM	96.346808	76	0.76	0	11.780744
11/24/15 11:00 PM	96.346312	76	0.76	0	11.780744
11/25/15 12:00 AM	96.345632	76	0.76	0	11.780744

Climate Data for September 21, 2015
Burlington, VT

CLIMATE REPORT
NATIONAL WEATHER SERVICE BURLINGTON VT
152 AM EDT TUE SEP 22 2015

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...THE BURLINGTON VT CLIMATE SUMMARY FOR SEPTEMBER 21 2015...

CLIMATE NORMAL PERIOD 1981 TO 2010
CLIMATE RECORD PERIOD 1884 TO 2015

WEATHER ITEM	OBSERVED VALUE	TIME (LST)	RECORD VALUE	YEAR	NORMAL VALUE	DEPARTURE FROM NORMAL	LAST YEAR
TEMPERATURE (F)							
YESTERDAY							
MAXIMUM	71	102 PM	89	1914	68	3	82
MINIMUM	43	551 AM	29	1929	49	-6	63
AVERAGE	57				58	-1	73
PRECIPITATION (IN)							
YESTERDAY	**0.00**		3.11	1983	0.13	-0.13	0.33
MONTH TO DATE	1.50				2.46	-0.96	1.61
SINCE SEP 1	1.50				2.46	-0.96	1.61
SINCE JAN 1	25.66				26.53	-0.87	27.31
SNOWFALL (IN)							
YESTERDAY	0.0		0.0	2002	0.0	0.0	0.0
2001							
MONTH TO DATE	0.0				0.0	0.0	0.0
SINCE SEP 1	0.0				0.0	0.0	0.0
SINCE JUL 1	0.0				0.0	0.0	0.0
SNOW DEPTH	0						
DEGREE DAYS							
HEATING							
YESTERDAY	8				7	1	0
MONTH TO DATE	17				91	-74	120
SINCE SEP 1	17				91	-74	120
SINCE JUL 1	23				133	-110	133
COOLING							
YESTERDAY	0				1	-1	8
MONTH TO DATE	141				39	102	66
SINCE SEP 1	141				39	102	66
SINCE JAN 1	763				487	276	559

Climate Data for September 21, 2015
Burlington, VT

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WIND (MPH)
HIGHEST WIND SPEED 12 HIGHEST WIND DIRECTION W (280)
HIGHEST GUST SPEED 14 HIGHEST GUST DIRECTION W (280)
AVERAGE WIND SPEED 2.3

SKY COVER
POSSIBLE SUNSHINE MM
AVERAGE SKY COVER 0.4

WEATHER CONDITIONS
THE FOLLOWING WEATHER WAS RECORDED YESTERDAY.
FOG

RELATIVE HUMIDITY (PERCENT)
HIGHEST 92 300 AM
LOWEST 40 200 PM
AVERAGE 66

Climate Data for September 22, 2015
Burlington, VT

CLIMATE REPORT
NATIONAL WEATHER SERVICE BURLINGTON VT
148 AM EDT WED SEP 23 2015

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...THE BURLINGTON VT CLIMATE SUMMARY FOR SEPTEMBER 22 2015...

CLIMATE NORMAL PERIOD 1981 TO 2010
CLIMATE RECORD PERIOD 1884 TO 2015

WEATHER ITEM	OBSERVED VALUE	TIME (LST)	RECORD VALUE	YEAR	NORMAL VALUE	DEPARTURE FROM NORMAL	LAST YEAR
TEMPERATURE (F)							
YESTERDAY							
MAXIMUM	74	322 PM	88	1965	68	6	64 1914
MINIMUM	51	1159 PM	31	1962	48	3	50
AVERAGE	63				58	5	57
PRECIPITATION (IN)							
YESTERDAY	**0.00**		2.36	1992	0.14	-0.14	0.02
MONTH TO DATE	1.50				2.60	-1.10	1.63
SINCE SEP 1	1.50				2.60	-1.10	1.63
SINCE JAN 1	25.66				26.67	-1.01	27.33
SNOWFALL (IN)							
YESTERDAY	0.0		0.0	2002	0.0	0.0	0.0 2001
MONTH TO DATE	0.0				0.0	0.0	0.0
SINCE SEP 1	0.0				0.0	0.0	0.0
SINCE JUL 1	0.0				0.0	0.0	0.0
SNOW DEPTH	0						
DEGREE DAYS							
HEATING							
YESTERDAY	2				8	-6	8
MONTH TO DATE	19				99	-80	128
SINCE SEP 1	19				99	-80	128
SINCE JUL 1	25				141	-116	141
COOLING							
YESTERDAY	0				1	-1	0
MONTH TO DATE	141				40	101	66
SINCE SEP 1	141				40	101	66

SINCE JAN 1	763	488	275	559

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WIND (MPH)

HIGHEST WIND SPEED	13	HIGHEST WIND DIRECTION	SE (130)
HIGHEST GUST SPEED	16	HIGHEST GUST DIRECTION	S (180)
AVERAGE WIND SPEED	5.1		

SKY COVER

POSSIBLE SUNSHINE MM
AVERAGE SKY COVER 0.3

WEATHER CONDITIONS

THE FOLLOWING WEATHER WAS RECORDED YESTERDAY.
NO SIGNIFICANT WEATHER WAS OBSERVED.

RELATIVE HUMIDITY (PERCENT)

HIGHEST	77	300 AM
LOWEST	25	300 PM
AVERAGE	51	

Climate Data for September 23, 2015
Burlington, VT

CLIMATE REPORT
NATIONAL WEATHER SERVICE BURLINGTON VT
131 AM EDT THU SEP 24 2015

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...THE BURLINGTON VT CLIMATE SUMMARY FOR SEPTEMBER 23 2015...

CLIMATE NORMAL PERIOD 1981 TO 2010
CLIMATE RECORD PERIOD 1884 TO 2015

WEATHER ITEM	OBSERVED VALUE	TIME (LST)	RECORD VALUE	YEAR	NORMAL VALUE	DEPARTURE FROM NORMAL	LAST YEAR
TEMPERATURE (F)							
YESTERDAY							
MAXIMUM	78	246 PM	87	1895	67	11	64
MINIMUM	45	559 AM	29	1963	48	-3	49
AVERAGE	62				58	4	57
PRECIPITATION (IN)							
YESTERDAY	0.00		1.92	1981	0.13	-0.13	0.00
MONTH TO DATE	1.50				2.73	-1.23	1.63
SINCE SEP 1	1.50				2.73	-1.23	1.63
SINCE JAN 1	25.66				26.80	-1.14	27.33
SNOWFALL (IN)							
YESTERDAY	0.0		0.0	2002	0.0	0.0	0.0
2001							
MONTH TO DATE	0.0				0.0	0.0	0.0
SINCE SEP 1	0.0				0.0	0.0	0.0
SINCE JUL 1	0.0				0.0	0.0	0.0
SNOW DEPTH	0						
DEGREE DAYS							
HEATING							
YESTERDAY	3				8	-5	8
MONTH TO DATE	22				107	-85	136
SINCE SEP 1	22				107	-85	136
SINCE JUL 1	28				149	-121	149
COOLING							
YESTERDAY	0				1	-1	0
MONTH TO DATE	141				41	100	66
SINCE SEP 1	141				41	100	66
SINCE JAN 1	763				489	274	559

Climate Data for September 23, 2015
Burlington, VT

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WIND (MPH)
HIGHEST WIND SPEED 9 HIGHEST WIND DIRECTION NE (30)
HIGHEST GUST SPEED 12 HIGHEST GUST DIRECTION N (20)
AVERAGE WIND SPEED 2.0

SKY COVER
POSSIBLE SUNSHINE MM
AVERAGE SKY COVER 0.0

WEATHER CONDITIONS
THE FOLLOWING WEATHER WAS RECORDED YESTERDAY.
NO SIGNIFICANT WEATHER WAS OBSERVED.

RELATIVE HUMIDITY (PERCENT)
HIGHEST 92 600 AM
LOWEST 40 400 PM
AVERAGE 66

Climate Data for October 5, 2015
Burlington, VT

CLIMATE REPORT
NATIONAL WEATHER SERVICE BURLINGTON VT
139 AM EDT TUE OCT 6 2015

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...THE BURLINGTON VT CLIMATE SUMMARY FOR OCTOBER 5 2015...

CLIMATE NORMAL PERIOD 1981 TO 2010
CLIMATE RECORD PERIOD 1884 TO 2015

WEATHER ITEM	OBSERVED VALUE	TIME (LST)	RECORD VALUE	YEAR	NORMAL VALUE	DEPARTURE FROM NORMAL	LAST YEAR
TEMPERATURE (F)							
YESTERDAY							
MAXIMUM	64	242 PM	82	1926	62	2	60
MINIMUM	35	604 AM	27	1964	43	-8	46
AVERAGE	50				52	-2	53
PRECIPITATION (IN)							
YESTERDAY	0.00		2.09	1926	0.12	-0.12	T
MONTH TO DATE	0.00				0.62	-0.62	1.01
SINCE SEP 1	4.86				4.26	0.60	2.64
SINCE JAN 1	29.02				28.33	0.69	28.34
SNOWFALL (IN)							
YESTERDAY	0.0		0.0	2002	0.0	0.0	0.0
2001							
MONTH TO DATE	0.0				0.0	0.0	0.0
SINCE SEP 1	0.0				T	0.0	0.0
SINCE JUL 1	0.0				T	0.0	0.0
SNOW DEPTH	0						
DEGREE DAYS							
HEATING							
YESTERDAY	15				13	2	12
MONTH TO DATE	80				61	19	33
SINCE SEP 1	146				236	-90	184
SINCE JUL 1	152				278	-126	197
COOLING							
YESTERDAY	0				0	0	0
MONTH TO DATE	0				0	0	0
SINCE SEP 1	145				41	104	71

SINCE JAN 1 767 489 278 564

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WIND (MPH)
HIGHEST WIND SPEED 12 HIGHEST WIND DIRECTION S (200)
HIGHEST GUST SPEED 14 HIGHEST GUST DIRECTION S (200)
AVERAGE WIND SPEED 2.3

SKY COVER
POSSIBLE SUNSHINE MM
AVERAGE SKY COVER 0.5

WEATHER CONDITIONS
THE FOLLOWING WEATHER WAS RECORDED YESTERDAY.
NO SIGNIFICANT WEATHER WAS OBSERVED.

RELATIVE HUMIDITY (PERCENT)
HIGHEST 89 600 AM
LOWEST 36 100 PM
AVERAGE 63

Climate Data for October 6, 2015
Burlington, VT

LIMATE REPORT
NATIONAL WEATHER SERVICE BURLINGTON VT
845 AM EDT WED OCT 7 2015

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...THE BURLINGTON VT CLIMATE SUMMARY FOR OCTOBER 6 2015...

CLIMATE NORMAL PERIOD 1981 TO 2010
CLIMATE RECORD PERIOD 1884 TO 2015

WEATHER ITEM	OBSERVED VALUE	TIME (LST)	RECORD VALUE	YEAR	NORMAL VALUE	DEPARTURE FROM NORMAL	LAST YEAR
TEMPERATURE (F)							
YESTERDAY							
MAXIMUM	63	235 PM	82	1990	61	2	65 1946
MINIMUM	47	512 AM	23	1964	42	5	41
AVERAGE	55				52	3	53
PRECIPITATION (IN)							
YESTERDAY	0.00		4.19	1932	0.13	-0.13	0.00
MONTH TO DATE	0.00				0.75	-0.75	1.01
SINCE SEP 1	4.86				4.39	0.47	2.64
SINCE JAN 1	29.02				28.46	0.56	28.34
SNOWFALL (IN)							
YESTERDAY	0.0		0.0	2002	0.0	0.0	0.0 2001
MONTH TO DATE	0.0				0.0	0.0	0.0
SINCE SEP 1	0.0		T		0.0	0.0	
SINCE JUL 1	0.0		T		0.0	0.0	
SNOW DEPTH	0						
DEGREE DAYS							
HEATING							
YESTERDAY	10				13	-3	12
MONTH TO DATE	90				74	16	45
SINCE SEP 1	156				249	-93	196
SINCE JUL 1	162				291	-129	209
COOLING							
YESTERDAY	0				0	0	0
MONTH TO DATE	0				0	0	0
SINCE SEP 1	145				41	104	71

Climate Data for October 6, 2015
Burlington, VT

SINCE JAN 1	767	489	278	564

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WIND (MPH)

HIGHEST WIND SPEED	9	HIGHEST WIND DIRECTION	NE (30)
HIGHEST GUST SPEED	11	HIGHEST GUST DIRECTION	N (350)
AVERAGE WIND SPEED	1.9		

SKY COVER

POSSIBLE SUNSHINE MM
AVERAGE SKY COVER 0.9

WEATHER CONDITIONS

THE FOLLOWING WEATHER WAS RECORDED YESTERDAY.
NO SIGNIFICANT WEATHER WAS OBSERVED.

RELATIVE HUMIDITY (PERCENT)

HIGHEST	86	100 AM
LOWEST	52	300 PM
AVERAGE	69	

Climate Data for October 7, 2015
Burlington, VT

CLIMATE REPORT
NATIONAL WEATHER SERVICE BURLINGTON VT
845 AM EDT THU OCT 8 2015

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...THE BURLINGTON VT CLIMATE SUMMARY FOR OCTOBER 7 2015...

CLIMATE NORMAL PERIOD 1981 TO 2010
CLIMATE RECORD PERIOD 1884 TO 2015

WEATHER ITEM	OBSERVED VALUE	TIME (LST)	RECORD VALUE	YEAR	NORMAL VALUE	DEPARTURE FROM NORMAL	LAST YEAR
TEMPERATURE (F)							
YESTERDAY							
MAXIMUM	69	105 PM	83	1963	61	8	70 1947
MINIMUM	51	1159 PM	25	1964	42	9	57
AVERAGE	60				51	9	64
PRECIPITATION (IN)							
YESTERDAY	0.00		1.37	1959	0.12	-0.12	0.04
MONTH TO DATE	0.00				0.87	-0.87	1.05
SINCE SEP 1	4.86				4.51	0.35	2.68
SINCE JAN 1	29.02				28.58	0.44	28.38
SNOWFALL (IN)							
YESTERDAY	0.0		T	2001	0.0	0.0	0.0
MONTH TO DATE	0.0				0.0	0.0	0.0
SINCE SEP 1	0.0				T	0.0	0.0
SINCE JUL 1	0.0				T	0.0	0.0
SNOW DEPTH	0						
DEGREE DAYS							
HEATING							
YESTERDAY	5				14	-9	1
MONTH TO DATE	95				88	7	46
SINCE SEP 1	161				263	-102	197
SINCE JUL 1	167				305	-138	210
COOLING							
YESTERDAY	0				0	0	0
MONTH TO DATE	0				0	0	0
SINCE SEP 1	145				41	104	71
SINCE JAN 1	767				489	278	564

Climate Data for October 7, 2015
Burlington, VT

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WIND (MPH)
HIGHEST WIND SPEED 17 HIGHEST WIND DIRECTION N (360)
HIGHEST GUST SPEED 22 HIGHEST GUST DIRECTION N (10)
AVERAGE WIND SPEED 5.9

SKY COVER
POSSIBLE SUNSHINE MM
AVERAGE SKY COVER 0.8

WEATHER CONDITIONS
THE FOLLOWING WEATHER WAS RECORDED YESTERDAY.
NO SIGNIFICANT WEATHER WAS OBSERVED.

RELATIVE HUMIDITY (PERCENT)
HIGHEST 83 1200 AM
LOWEST 45 100 PM
AVERAGE 64

---------- WARNING ----------
The data you have obtained from this automated U.S. Geological Survey database
have not received Director's approval and as such are provisional and subject to
revision. The data are released on the condition that neither the USGS nor the
United States Government may be held liable for any damages resulting from its use.
Additional info: http://help.waterdata.usgs.gov/policies/provisional-data-statement
#
File-format description: http://help.waterdata.usgs.gov/faq/about-tab-delimited-output
Automated-retrieval info: http://help.waterdata.usgs.gov/faq/automated-retrievals
#
Contact: gs-w_support_nwisweb@usgs.gov
retrieved: 2015-10-15 08:36:39 EDT (vaww02)
#
Data for the following 1 site(s) are contained in this file
USGS 04294500 LAKE CHAMPLAIN AT BURLINGTON, VT

#
Data provided for site 04294500
DD parameter Description
03 62614 Lake or reservoir water surface elevation above NGVD 1929, feet
#
Data-value qualification codes included in this output:
P Provisional data subject to revision.
#

agency_cd	site_no	datetime	tz_cd	03_62614	03_62614_cd
5s	15s	20d	6s	14n	10s
USGS	04294500	2015-10-04 00:00	EDT	95.08	P
USGS	04294500	2015-10-04 00:15	EDT	95.09	P
USGS	04294500	2015-10-04 00:30	EDT	95.10	P
USGS	04294500	2015-10-04 00:45	EDT	95.09	P
USGS	04294500	2015-10-04 01:00	EDT	95.09	P
USGS	04294500	2015-10-04 01:15	EDT	95.09	P
USGS	04294500	2015-10-04 01:30	EDT	95.08	P
USGS	04294500	2015-10-04 01:45	EDT	95.09	P
USGS	04294500	2015-10-04 02:00	EDT	95.09	P
USGS	04294500	2015-10-04 02:15	EDT	95.09	P
USGS	04294500	2015-10-04 02:30	EDT	95.09	P
USGS	04294500	2015-10-04 02:45	EDT	95.08	P
USGS	04294500	2015-10-04 03:00	EDT	95.09	P
USGS	04294500	2015-10-04 03:15	EDT	95.08	P
USGS	04294500	2015-10-04 03:30	EDT	95.08	P
USGS	04294500	2015-10-04 03:45	EDT	95.09	P
USGS	04294500	2015-10-04 04:00	EDT	95.09	P
USGS	04294500	2015-10-04 04:15	EDT	95.07	P
USGS	04294500	2015-10-04 04:30	EDT	95.08	P
USGS	04294500	2015-10-04 04:45	EDT	95.08	P
USGS	04294500	2015-10-04 05:00	EDT	95.09	P
USGS	04294500	2015-10-04 05:15	EDT	95.08	P
USGS	04294500	2015-10-04 05:30	EDT	95.08	P

USGS	04294500	2015-10-04 05:45	EDT	95.09	P
USGS	04294500	2015-10-04 06:00	EDT	95.08	P
USGS	04294500	2015-10-04 06:15	EDT	95.09	P
USGS	04294500	2015-10-04 06:30	EDT	95.08	P
USGS	04294500	2015-10-04 06:45	EDT	95.07	P
USGS	04294500	2015-10-04 07:00	EDT	95.08	P
USGS	04294500	2015-10-04 07:15	EDT	95.09	P
USGS	04294500	2015-10-04 07:30	EDT	95.08	P
USGS	04294500	2015-10-04 07:45	EDT	95.06	P
USGS	04294500	2015-10-04 08:00	EDT	95.07	P
USGS	04294500	2015-10-04 08:15	EDT	95.07	P
USGS	04294500	2015-10-04 08:30	EDT	95.08	P
USGS	04294500	2015-10-04 08:45	EDT	95.07	P
USGS	04294500	2015-10-04 09:00	EDT	95.06	P
USGS	04294500	2015-10-04 09:15	EDT	95.06	P
USGS	04294500	2015-10-04 09:30	EDT	95.08	P
USGS	04294500	2015-10-04 09:45	EDT	95.08	P
USGS	04294500	2015-10-04 10:00	EDT	95.07	P
USGS	04294500	2015-10-04 10:15	EDT	95.06	P
USGS	04294500	2015-10-04 10:30	EDT	95.08	P
USGS	04294500	2015-10-04 10:45	EDT	95.08	P
USGS	04294500	2015-10-04 11:00	EDT	95.07	P
USGS	04294500	2015-10-04 11:15	EDT	95.07	P
USGS	04294500	2015-10-04 11:30	EDT	95.07	P
USGS	04294500	2015-10-04 11:45	EDT	95.07	P
USGS	04294500	2015-10-04 12:00	EDT	95.08	P
USGS	04294500	2015-10-04 12:15	EDT	95.06	P
USGS	04294500	2015-10-04 12:30	EDT	95.06	P
USGS	04294500	2015-10-04 12:45	EDT	95.07	P
USGS	04294500	2015-10-04 13:00	EDT	95.07	P
USGS	04294500	2015-10-04 13:15	EDT	95.07	P
USGS	04294500	2015-10-04 13:30	EDT	95.05	P
USGS	04294500	2015-10-04 13:45	EDT	95.06	P
USGS	04294500	2015-10-04 14:00	EDT	95.07	P
USGS	04294500	2015-10-04 14:15	EDT	95.07	P
USGS	04294500	2015-10-04 14:30	EDT	95.07	P
USGS	04294500	2015-10-04 14:45	EDT	95.06	P
USGS	04294500	2015-10-04 15:00	EDT	95.06	P
USGS	04294500	2015-10-04 15:15	EDT	95.07	P
USGS	04294500	2015-10-04 15:30	EDT	95.07	P
USGS	04294500	2015-10-04 15:45	EDT	95.06	P
USGS	04294500	2015-10-04 16:00	EDT	95.06	P
USGS	04294500	2015-10-04 16:15	EDT	95.08	P
USGS	04294500	2015-10-04 16:30	EDT	95.06	P
USGS	04294500	2015-10-04 16:45	EDT	95.06	P
USGS	04294500	2015-10-04 17:00	EDT	95.05	P
USGS	04294500	2015-10-04 17:15	EDT	95.05	P
USGS	04294500	2015-10-04 17:30	EDT	95.06	P
USGS	04294500	2015-10-04 17:45	EDT	95.07	P

USGS	04294500	2015-10-04 18:00	EDT	95.05	P
USGS	04294500	2015-10-04 18:15	EDT	95.05	P
USGS	04294500	2015-10-04 18:30	EDT	95.06	P
USGS	04294500	2015-10-04 18:45	EDT	95.06	P
USGS	04294500	2015-10-04 19:00	EDT	95.04	P
USGS	04294500	2015-10-04 19:15	EDT	95.05	P
USGS	04294500	2015-10-04 19:30	EDT	95.06	P
USGS	04294500	2015-10-04 19:45	EDT	95.06	P
USGS	04294500	2015-10-04 20:00	EDT	95.04	P
USGS	04294500	2015-10-04 20:15	EDT	95.05	P
USGS	04294500	2015-10-04 20:30	EDT	95.05	P
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USGS	04294500	2015-10-08 00:00	EDT	94.97	P
USGS	04294500	2015-10-08 00:15	EDT	94.97	P
USGS	04294500	2015-10-08 00:30	EDT	94.96	P
USGS	04294500	2015-10-08 00:45	EDT	94.95	P
USGS	04294500	2015-10-08 01:00	EDT	94.94	P
USGS	04294500	2015-10-08 01:15	EDT	94.94	P
USGS	04294500	2015-10-08 01:30	EDT	94.95	P
USGS	04294500	2015-10-08 01:45	EDT	94.95	P
USGS	04294500	2015-10-08 02:00	EDT	94.94	P
USGS	04294500	2015-10-08 02:15	EDT	94.93	P
USGS	04294500	2015-10-08 02:30	EDT	94.93	P
USGS	04294500	2015-10-08 02:45	EDT	94.94	P
USGS	04294500	2015-10-08 03:00	EDT	94.94	P
USGS	04294500	2015-10-08 03:15	EDT	94.95	P
USGS	04294500	2015-10-08 03:30	EDT	94.96	P
USGS	04294500	2015-10-08 03:45	EDT	94.97	P
USGS	04294500	2015-10-08 04:00	EDT	94.96	P
USGS	04294500	2015-10-08 04:15	EDT	94.95	P
USGS	04294500	2015-10-08 04:30	EDT	94.95	P
USGS	04294500	2015-10-08 04:45	EDT	94.96	P
USGS	04294500	2015-10-08 05:00	EDT	94.96	P
USGS	04294500	2015-10-08 05:15	EDT	94.95	P
USGS	04294500	2015-10-08 05:30	EDT	94.95	P
USGS	04294500	2015-10-08 05:45	EDT	94.97	P
USGS	04294500	2015-10-08 06:00	EDT	94.96	P
USGS	04294500	2015-10-08 06:15	EDT	94.95	P
USGS	04294500	2015-10-08 06:30	EDT	94.94	P
USGS	04294500	2015-10-08 06:45	EDT	94.94	P
USGS	04294500	2015-10-08 07:00	EDT	94.96	P
USGS	04294500	2015-10-08 07:15	EDT	94.94	P
USGS	04294500	2015-10-08 07:30	EDT	94.95	P

USGS	04294500	2015-10-08 07:45	EDT	94.95	P
USGS	04294500	2015-10-08 08:00	EDT	94.96	P
USGS	04294500	2015-10-08 08:15	EDT	94.95	P
USGS	04294500	2015-10-08 08:30	EDT	94.94	P
USGS	04294500	2015-10-08 08:45	EDT	94.95	P
USGS	04294500	2015-10-08 09:00	EDT	94.97	P
USGS	04294500	2015-10-08 09:15	EDT	94.95	P
USGS	04294500	2015-10-08 09:30	EDT	94.94	P
USGS	04294500	2015-10-08 09:45	EDT	94.95	P
USGS	04294500	2015-10-08 10:00	EDT	94.95	P
USGS	04294500	2015-10-08 10:15	EDT	94.95	P
USGS	04294500	2015-10-08 10:30	EDT	94.95	P
USGS	04294500	2015-10-08 10:45	EDT	94.94	P
USGS	04294500	2015-10-08 11:00	EDT	94.95	P
USGS	04294500	2015-10-08 11:15	EDT	94.96	P
USGS	04294500	2015-10-08 11:30	EDT	94.94	P
USGS	04294500	2015-10-08 11:45	EDT	94.94	P
USGS	04294500	2015-10-08 12:00	EDT	94.95	P
USGS	04294500	2015-10-08 12:15	EDT	94.95	P
USGS	04294500	2015-10-08 12:30	EDT	94.94	P
USGS	04294500	2015-10-08 12:45	EDT	94.93	P
USGS	04294500	2015-10-08 13:00	EDT	94.92	P
USGS	04294500	2015-10-08 13:15	EDT	94.95	P
USGS	04294500	2015-10-08 13:30	EDT	94.95	P
USGS	04294500	2015-10-08 13:45	EDT	94.94	P
USGS	04294500	2015-10-08 14:00	EDT	94.93	P
USGS	04294500	2015-10-08 14:15	EDT	94.93	P
USGS	04294500	2015-10-08 14:30	EDT	94.95	P
USGS	04294500	2015-10-08 14:45	EDT	94.94	P
USGS	04294500	2015-10-08 15:00	EDT	94.93	P
USGS	04294500	2015-10-08 15:15	EDT	94.94	P
USGS	04294500	2015-10-08 15:30	EDT	94.95	P
USGS	04294500	2015-10-08 15:45	EDT	94.95	P
USGS	04294500	2015-10-08 16:00	EDT	94.94	P
USGS	04294500	2015-10-08 16:15	EDT	94.93	P
USGS	04294500	2015-10-08 16:30	EDT	94.95	P
USGS	04294500	2015-10-08 16:45	EDT	94.96	P
USGS	04294500	2015-10-08 17:00	EDT	94.94	P
USGS	04294500	2015-10-08 17:15	EDT	94.93	P
USGS	04294500	2015-10-08 17:30	EDT	94.95	P
USGS	04294500	2015-10-08 17:45	EDT	94.96	P
USGS	04294500	2015-10-08 18:00	EDT	94.95	P
USGS	04294500	2015-10-08 18:15	EDT	94.93	P
USGS	04294500	2015-10-08 18:30	EDT	94.90	P
USGS	04294500	2015-10-08 18:45	EDT	94.94	P
USGS	04294500	2015-10-08 19:00	EDT	94.96	P
USGS	04294500	2015-10-08 19:15	EDT	94.94	P
USGS	04294500	2015-10-08 19:30	EDT	94.91	P
USGS	04294500	2015-10-08 19:45	EDT	94.92	P

USGS	04294500	2015-10-08 20:00	EDT	94.96	P
USGS	04294500	2015-10-08 20:15	EDT	94.95	P
USGS	04294500	2015-10-08 20:30	EDT	94.93	P
USGS	04294500	2015-10-08 20:45	EDT	94.92	P
USGS	04294500	2015-10-08 21:00	EDT	94.94	P
USGS	04294500	2015-10-08 21:15	EDT	94.95	P
USGS	04294500	2015-10-08 21:30	EDT	94.94	P
USGS	04294500	2015-10-08 21:45	EDT	94.92	P
USGS	04294500	2015-10-08 22:00	EDT	94.93	P
USGS	04294500	2015-10-08 22:15	EDT	94.95	P
USGS	04294500	2015-10-08 22:30	EDT	94.95	P
USGS	04294500	2015-10-08 22:45	EDT	94.93	P
USGS	04294500	2015-10-08 23:00	EDT	94.92	P
USGS	04294500	2015-10-08 23:15	EDT	94.96	P
USGS	04294500	2015-10-08 23:30	EDT	94.95	P
USGS	04294500	2015-10-08 23:45	EDT	94.93	P

APPENDIX 5

CHAINS-OF-CUSTODY

Environmental Analysis Request/Chain of Custody

384521

eurofins | Lancaster Laboratories Environmental

Acct. # _____ For Eurofins Lancaster Laboratories Environmental use only Group # _____ Sample # _____

Instructions on reverse side correspond with circled numbers.

(1) Client Information

Client: The Johnson Company	Acct. #: 06556
Project Name/#: Pine Street Canal / 1-0870-2	PWSID #:
Project Manager: Jim Bowers	P.O. #:
Sampler: Adam Robtoy	Quote #: 174980
Name of state where samples were collected:	

(4) Matrix

Sediment ☒ Soil ☐ | Water: Ground ☐ Potable ☐ Surface ☐ NPDES ☐ | Other: ____

(5) Analysis Requested

Preservation Codes: O O | O | O

For Lab Use Only

FSC: _____

SCR#: 174980

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

(6) Remarks

(2) Sample Identification SLID	SIN	Collected Date	Collected Time	(3) Grab	(3) Composite	Soil	Water	Other	Total # of Containers	Pine Street PAHs	RCRA8+Cu,Zn metals	TOC - Lloyd Kahn	% solids	Remarks: Depth
J_T2+00 E100	0481-13	9/21/15	1110		X	X			2	X	X	X	X	0-10 cm
J_T2+00 E100	0482-13	9/21/15	1120		X	X			1	X	X		X	11-22"
J_T3+00 E100	0483-13	9/21/15	1330		X	X			2	X	X	X	X	0-10 cm
J_T3+00 E100	0484-13	9/21/15	1340		X	X			1	X	X		X	15-30"
J_0162-13DP	0163-13DP	9/21/15	1350		X	X			2	X	X	X	X	0-10 cm
J_T3+00 E100 MS	0484-13 MS	9/21/15	1340		X	X			1	X	X		X	15-30"
J_T3+00 E100 MSD	0484-13 MSD	9/21/15	1340		X	X			1	X	X		X	15-30"
J_T3+00 E300	0485-13	9/21/15	1440		X	X			2	X	X	X	X	0-10 cm
J_T3+00 E300	0486-13	9/21/15	1450		X	X			1	X	X		X	15-30"
J_0160-13FB	0160-13FB	9/21/15	1530				DI		3	X	X			Equip. Blank

(7) Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: JRB@icomail.com

(8) Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) | Type VI (Raw Data Only)

Type III (Reduced non-CLP) | TX TRRP-13

NYSDEC Category A or B | MA MCP | CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Charles A Montgomery	9/22/15	1130			
				9/18/15	1600 (9)
Relinquished by	Date	Time	Received by	Date	Time
	9/21/15	1700			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time

EDD Required? Yes No

If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature upon receipt _____ °C

Environmental Analysis Request/Chain of Custody

384522

eurofins | Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only
Acct. # _____ Group # _____ Sample # _____
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: The Johnson Company	Acct. #: 06556
Project Name/#: Pine Street Canal Site / 1-0870-2	PWSID #:
Project Manager: Jim Bowes	P.O. #:
Sampler: Ross Predom	Quote #: 174980

Name of state where samples were collected: VT

4 Matrix

Soil ☐ Sediment ☒ Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other: ____

5 Analysis Requested

Preservation Codes: 0 | 0 | | 0 | | 0 | | | | | |

2 Sample Identification (SLID / S/N)	Collected Date	Collected Time	3 Grab	3 Composite	Matrix	Total # of Containers	Pine Street PAH's	RCRA 8 + Cu, Zn metals	TOC - Lloyd Kahn	% Solids	6 Remarks
J_T21+00 E25 / 0498-13	9.22.15	1030		X	Sediment	2	X	X	X	X	Depth 0-10 cm
J_T21+00 E50 / 0499-13	9.22.15	1045		X	Sediment	2	X	X	X	X	0-10 cm
J_T17+00 E400 / 0497-13	9.22.15	13:25		X	Sediment	2	X	X	X	X	0-10 cm
J_0161-13FB / 0161-13 FB	9.22.15	15:00			Water (DI)	3	X	X			Equip. Blank

For Lab Use Only
FSC: _____
SCR#: _____

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

7 Turnaround Time (TAT) Requested (please circle)
Standard (Rush)
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: JRB@jcomail.com

8 Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) | Type VI (Raw Data Only)
Type III (Reduced non-CLP) | TX TRRP-13
NYSDEC Category A or B | MA MCP | CT RCP

Relinquished by	Date	Time	Received by	Date	Time
[signature]	9/24/15	1500			
[signature]					

9

EDD Required? Yes (No)
If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? (Yes) No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt _____ °C

Environmental Analysis Request/Chain of Custody

384523

eurofins | Lancaster Laboratories Environmental

Acct. # _____ For Eurofins Lancaster Laboratories Environmental use only Group # _____ Sample # _____

Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: The Johnson Company	Acct. #: 06537
Project Name/#: Pine Street Canal Site / 1-0870-2	PWSID #:
Project Manager: Jim Bowes	P.O. #:
Sampler: Ross Riedo / Sonja Schuyler	Quote #:
Name of state where samples were collected: VT	

2 Sample Identification | **Collected** Date | Time | **3** Grab | Composite | **4 Matrix** Soil | Sediment | Water: Potable | Ground | NPDES | Surface | Other: | **Total # of Containers** | **5 Analysis Requested** Preservation Codes: 0 0 0 0 | AVS/SEM | Tox Lab Kahn | Grain Size

SLID	SIN	Date	Time	Grab	Composite	Soil	Sediment	Potable	Ground	NPDES	Surface	Other	Total # of Containers	AVS/SEM	Tox Lab Kahn	Grain Size
J_T3+00E5D	~~0498-13~~ 0499-13	9-22-15	1045	X			X						1	X		
J_T2+00E0D	~~0498-13~~ 0499-13	9-22-15	1045		X		X						1		X	
JT1+00E5D	0479-13	9-23-15	1045		X		X						2	X	X	
J_T6+00E6D	0489-13	9-23-15	1330		X		X						3	X	X	X
J_T6+00E6DMS	0489-13 MS	9-23-15	1330		X		X						1	X		
J_T6+00E6DMSD	0489-13 MSD	9-23-15	1330		X		X						1	X		
J_0182-13DP	0182-13DP	9-23-15	1340		X		X						2	X	X	

For Lab Use Only

FSC: _____

SCR#: _____

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

7 Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: JRB@icomail.com

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
	9/24/15	1500			

9

EDD Required? Yes No

If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____

Temperature upon receipt _____ °C

Environmental Analysis Request/Chain of Custody

384524

eurofins

Lancaster Laboratories Environmental

Acct. # _____ For Eurofins Lancaster Laboratories Environmental use only Group # _____ Sample # _____

Instructions on reverse side correspond with circled numbers.

(1) Client Information

Client: The Johnson Company	Acct. #: 06556
Project Name/#: Pine Street Canal Site/1-0570	PWSID #: -2
Project Manager: Jim Bowes	P.O. #:
Sampler: Adam Robtoy (AR)	Quote #:

Name of state where samples were collected: VT

(2) Sample Identification | **Collected** Date | Time | **(3)** Grab | Composite

(4) Matrix: Sediment ☒ | Soil ☐ | Water: Ground ☐ Potable ☐ Surface ☐ NPDES ☐ Other: ____

(5) Analysis Requested — Preservation Codes: 5 | 0 | 0 | 0

SLID	SIN	Date	Time	Grab	Composite	Sediment	Soil	Water	Total # of Containers	Pine St. PAHs	6010 - RCRA 8+Cu, Zn	% solids	TOC - Lloyd Kahn	Depth
J_T1+00 E50	0479-13	9/23/15	1045		X	X			2	X	X	X	X	0-10 cm
J_T1+00 E50	0480-13	9/23/15	1100		X	X			1	X	X	X		10-20"
J_T6+00 E60	0489-13	9/23/15	1330		X	X			2	X	X	X	X	0-10 cm
J_T6+00 E60	0490-13	9/23/15	1345		X	X			1	X	X	X		8-16"
J_T5+00 E20	0487-13	9/23/15	1450		X	X			2	X	X	X	X	0-10 cm
J_T5+00 E20	0488-13	9/23/15	1500		X	X			1	X	X	X		12-24"
J_0163-13 FB	0163-13 FB	9/23/15	1545	X				DI	3	X	X			Equip. Blank

For Lab Use Only
FSC: _____
SCR#: _____

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

(6) Remarks
Depth

(7) Turnaround Time (TAT) Requested (please circle)
Standard (7) Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: JRB@jcomail.com

(8) Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP)
Type III (Reduced non-CLP)
NYSDEC Category A or B
Type VI (Raw Data Only)
TX TRRP-13
MA MCP
CT RCP

Relinquished by	Date	Time	Received by	Date	Time
[signature]	9/24/15	1500			

(9)

EDD Required? Yes (Yes) No
If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes (Yes) No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt _____ °C

Environmental Analysis Request/Chain of Custody

384525

eurofins

Lancaster Laboratories Environmental

Acct. # _____ For Eurofins Lancaster Laboratories Environmental use only Group # _____ Sample # _____

Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: The Johnson Company	Acct. #: 06556
Project Name/#: Pine Street Canal Site / 1-0870-2 ~~1-0870~~-2	PWSID #:
Project Manager: Jim Bowers	P.O. #:
Sampler: Adam Rostoy	Quote #:

Name of state where samples were collected: VT

4 Matrix: Sediment ☒, Soil ☐, Water: Ground ☐, Potable ☐, NPDES ☐, Surface ☐, Other: ____

5 Analysis Requested — Preservation Codes: 0 0 0 0

For Lab Use Only

FSC: _____

SCR#: _____

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

2 Sample Identification SLID	SIN	Collected Date	Collected Time	3 Grab	3 Composite	Total # of Containers	Pine Street PAHs	6010 6-RCRA B+Li,Zn	% Solids	TOC - Lloyd Kahn	Remarks
J-TR+00 E40	0491-13	9/24/15	1010		X	2	X	X	X	X	0-10 cm
J-TR+00 E40	0492-13	9/24/15	1020		X	1	X	X	X		10-20"
J-T15+50 E100	0493-13	9/24/15	1200		X	2	X	X	X	X	0-10 cm
J-T15+50 E100	0494-13	9/24/15	1210		X	1	X	X	X		5-10"
J-T15+50 E100 MS	0494-13 MS	9/24/15	1210		X	1	X	X	X		Matrix Spike
J-T15+50 E100 MSD	0494-13 MSD	9/24/15	1210		X	1	X	X	X		Matrix Spike Dup
J-0164-13 DP	0164-13 DP	9/24/15	1215		X	2	X	X	X	X	Duplicate
J-T16+50 E150	0495-13	9/24/15	1300		X	2	X	X	X	X	0-10 cm
J-T16+50 E150	0496-13	9/24/15	1310		X	1	X	X	X		4-8"
J-0165-13 FB	0165-13 FB	9/24/15	1236	X		3	X	X			Equip Blank

7 Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: JRBejcomail.com

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
	9/24/15	1500			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time

9

EDD Required? Yes No

If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____

Temperature upon receipt _____ °C

Environmental Analysis Request/Chain of Custody

384726

eurofins | Lancaster Laboratories Environmental

Acct. # _____ For Eurofins Lancaster Laboratories Environmental use only Group # _____ Sample # _____

Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: The Johnson Company	Acct. #: 06552
Project Name/#: Pine Street Canal Site / 1-0870-2	PWSID #:
Project Manager: Tim Bowes	P.O. #:
Sampler: RJP	Quote #:

Name of state where samples were collected: VT

4 Matrix: Sediment ☐ Soil ☐ | Water: Ground ☐ Potable ☐ Surface ☒ NPDES ☐ | Other: ____

5 Analysis Requested — Preservation Codes

For Lab Use Only

FSC: _____

SCR#: 174978

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

2 Sample Identification SLID	ISN	Collected Date	Collected Time	3 Grab	3 Composite	Total # of Containers	8270 - Pine St. PAH SIM
I-TI+SD W80	0179-24	9-22-15	14:15	X		2	X
I-TI+SD W80 MS	0179-24 MS		14:15	X		2	X
I-TI+SD W80 MSD	0179-24 MSD		14:15	X		2	X
I-SW-DP	0122-24		14:20	X		2	X
I-SW-FB	0123-24	↓	14:45	X		2	X

7 Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: JRBejcomail.com

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) — Type VI (Raw Data Only)

Type III (Reduced non-CLP) — TX TRRP-13

NYSDEC Category A or B — MA MCP — CT RCP

Relinquished by	Date	Time	Received by	Date	Time
	9-22-15	1440		9-22-15	1700
	9/24/15	1500			

9

EDD Required? Yes No

If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____

Temperature upon receipt _____ °C

The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

7044 0315

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # _____ For Eurofins Lancaster Laboratories Environmental use only Group # _____ Sample # _____
Instructions on reverse side correspond with circled numbers.

376954

1 Client Information

Client: The Johnson Co	Acct. #: 06556
Project Name/#: Pine St. Canal Site	PWSID #:
Project Manager: Guy Vaillancourt	P.O. #: 1-0870-02
Sampler: Bob Osborne / Jo Palmer	Quote #:

Name of state where samples were collected: VT

4 Matrix

Sediment ☐ Soil ☐ | Water: ☒ Ground ☐ Potable ☐ Surface ☐ NPDES ☐ | Other: DI Water

5 Analysis Requested

Preservation Codes: H

2 Sample Identification SLID	SIN	Collected Date	Collected Time	3 Grab	3 Composite	Total # of Containers	8260B / BTEX + MTBE
T_0507-04TB	0504-04TB	10-5-15	1100	X		3	3
T_MW-26B	0502-04MNA	"	1212	"		3	3
T_MW-26A	0501-04		1320			3	3
T_MW-27A	0503-04		1427			3	3
T_MW-27B	0504-04		1527			3	3
T_0508-04FB	0508-04FB		1600	X		3	3
T_MW-28A	0505-04		13:40	X		3	3
T_MW-28B	0506-04		12:35	X		3	3

For Lab Use Only
FSC: _____
SCR#: _____

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

Please Report Samples By SIN #

7 Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: JEP@jromail.com; JRB@jromail.com

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP)
Type VI (Raw Data Only)
Type III (Reduced non-CLP)
TX TRRP-13
NYSDEC Category A or B
MA MCP
CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Jane Patton	10.7.15	1600			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
					2
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time

9

EDD Required? Yes No
If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt _____ °C

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # _____ For Eurofins Lancaster Laboratories Environmental use only Group # _____ Sample # _____
Instructions on reverse side correspond with circled numbers.

376955

1 Client Information

Client: The Johnson Co	Acct. #: 06556
Project Name/#: Pine St. Canal Site	PWSID #:
Project Manager: Guy Vaillancourt	P.O. #: 1-0870-02
Sampler: Bob Osborne (TRC) / [illegible]	Quote #:

Name of state where samples were collected: VT

2 Sample Identification | **Collected** Date | Time | **3** Grab | Composite | **4 Matrix** Soil | Sediment | Water: Potable | Ground | NPDES | Surface | Other: DI water | **Total # of Containers** | **5 Analysis Requested** Preservation Codes: H | O | 8260B BTEX + NAPHTH | 8270C-17 PAHs | 6010B-RCRA 8 No Cu, Zn | H_2 by 2320A

SLID / SIN	Date	Time	Grab	Composite	Soil	Sediment	Potable	Ground	NPDES	Surface	Other: DI water	Total # of Containers	H	O	8260B BTEX + NAPHTH	8270C-17 PAHs	6010B-RCRA 8 No Cu, Zn	H_2 by 2320A
J-0070-33TB / 0070-33TR	10-6-15	0900	X								X	2	X					
J-MW-24A / 0089-33		1017	X					X				3	X	X	X			
J-MW-24B / 0090-33		1117	X					X				6	X	X	X			
J-MW-20A / 0076-33		1348	X					X				6	X	X	X			
J-MW-20B / 0079-33	↓	1522	X					X				6	X	X	X			
J-0073-33FB / 0073-33FR	10-6-15	1600	X								X	6	X	X	X			

For Lab Use Only
FSC: _____
SCR#: _____

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

7 Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____
E-mail address: JEP@jcomail.com + JBB@jcomail.com

8 Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP)
Type VI (Raw Data Only)
Type III (Reduced non-CLP)
TX TRRP-13
NYSDEC Category A or B
MA MCP
CT RCP

9

Relinquished by	Date	Time	Received by	Date	Time
[illegible] / [illegible]	10.7.15	1600			

EDD Required? Yes No
If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt _____ °C

Environmental Analysis Request/Chain of Custody

eurofins

Lancaster Laboratories Environmental

Acct. # _____ For Eurofins Lancaster Laboratories Environmental use only Group # _____ Sample # _____

Instructions on reverse side correspond with circled numbers.

376956

1 Client Information

Client: The Johnson Company	Acct. #: 06556
Project Name/#: Pine Street Canal Site	PWSID #:
Project Manager: Guy Valliancourt	P.O. #: 1-0270-2
Sampler: J. Palmer / D. MAYNARD	Quote #:

Name of state where samples were collected: VT

2 Sample Identification

3 Grab / Composite

4 Matrix Soil / Sediment / Water / Potable / Ground / NPDES / Surface / Other:

5 Analysis Requested — Preservation Codes

SLD	SIN	Collected Date	Collected Time	Grab	Composite	Matrix	Total # of Containers	8260B BTEX + Naphthalene	8260B BTEX	8270C PAHs	6010B-NCRAB w CU, NI, ZN 1631E 7470A	Remarks
TMW21B	0082-33	10-5-15	15:15	✓		Water	6	3		2	1	
TMW-21B MS	0082-33 MS	↓	15:15	↓		↓	6	3		2	1	
T-MW-21B MSD	0082-33 MSD	↓	15:15	↓		↓	6	3		2	1	
T-MW-21B RP	0082-33 RP	↓	15:15				1					
T.MW-23B	0087-33	10-6-15	11:00	↓		↓	6	3		2	1	From well with NAPL

For Lab Use Only

FSC: _____

SCR#: _____

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

7 Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: JEP@jcamail.com / JRB@jcamail.com

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

9

Relinquished by	Date	Time	Received by	Date	Time
D. Maynard / Adam Pa	10.7.15	6:00			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time

EDD Required? Yes No

If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____

Temperature upon receipt _____ °C

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # _____ For Eurofins Lancaster Laboratories Environmental use only Group # _____ Sample # _____
Instructions on reverse side correspond with circled numbers.

376957

1 Client Information

Client: THE JOHNSON CO	Acct. #:
Project Name/#: PWE STREET CANAL SITE	PWSID #:
Project Manager: Gary Vaillancourt	P.O. #: 1-0870-2
Sampler: [illegible] / J. Palmer	Quote #:
Name of state where samples were collected:	

2 Sample Identification / Collected / 3 Grab / Composite / 4 Matrix / Total # of Containers / 5 Analysis Requested

Matrix: Sediment ☐ Soil ☐ | Ground ☒ Potable ☐ | Surface ☐ NPDES ☐ | Water | Other: DI

Preservation Codes: H | H | N | N

SLID	SIN	Date	Time	Grab	Composite	Matrix	Total # of Containers	8260B BTEX+NAPHTH	8260B BTEX	8270C PAHS (17)	6010B-RCRA8 NO CR(VI) TAL NO HG	Remarks
T-0509-04 DP	0509-04 DP	10-6-15	12:05	✓		Water	3	3				site site specific QAPP
T-MW-21A	0084-33		10:10				6	3		2	1	
T-MW-22B	0080-33		13:05				6	3		2	1	
T-MW-22A	0081-33 0085-33		11:40				6	3		2	1	
T-MW25BMS	0500-04MS		15:05				3	3				
T-MW25BMSD	0500-04MSD		15:05				3	3				
T-0085-33	0085-33		12:00				6	3		2	1	
T-MW-25B	0500-04		15:05	✓			3	3				
T-0072-33B	0072-33B	✓	0900	✓		DI	2	2				

For Lab Use Only
FSC: _____
SCR#: _____

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

site site specific QAPP

7 Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: JER@JCO MAIL.COM [illegible]@JCO MAIL.COM

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP)
Type III (Reduced non-CLP)
NYSDEC Category A or B
Type VI (Raw Data Only)
TX TRRP-13
MA MCP
CT RCP

9 Relinquished / Received

Relinquished by	Date	Time	Received by	Date	Time
[illegible] / [illegible]	10-6-15	16:00			

EDD Required? Yes No
If yes, format: EXCEL

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt _____ °C

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # _____ For Eurofins Lancaster Laboratories Environmental use only Group # _____ Sample # _____
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: THF JOHNSON CO.	Acct. #: 06550
Project Name/#: PINE STREET CANAL SITE	PWSID #:
Project Manager: GUY VAILLANCOURT	P.O. #: 1-0870-2
Sampler: Jo Palmer	Quote #:

Name of state where samples were collected: VT

2 Sample Identification | **3 Collected** (Date, Time) | Grab | Composite | **4 Matrix** (Soil, Sediment, Water, Ground, Potable, Surface, NPDES, Other:) | Total # of Containers | **5 Analysis Requested** — Preservation Codes: H, O, N | For Lab Use Only

SID	SIN	Date	Time	Grab	Composite	Matrix	Total # of Containers	H	O	N
8_MW-11D	0098-16	10-7-15	1135	✓		Water	6	3	2	1
6_MW-18	0099-16	10-7-15	1350	✓		Water	6	3	2	1

8260B BTEX
8270C 17 PAHs
6010B RCRA 8 No CA
7470A - HG

FSC: _____
SCR#: _____

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks
site specific QAPP

7 Turnaround Time (TAT) Requested (please circle)
(Standard) Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____
E-mail address: JEP@JCOMAIL.COM JRB@JCOMAIL.COM

8 Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP)
Type III (Reduced non-CLP)
NYSDEC Category A or B
Type VI (Raw Data Only)
TX TRRP-13
MA MCP
CT RCP

9

Relinquished by	Date	Time	Received by	Date	Time
[signature]	10.7.15	1600			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time

EDD Required? (Yes) No
If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? (Yes) No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt _____ °C

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

376959

Acct. # _____ For Eurofins Lancaster Laboratories Environmental use only Group # _____ Sample # _____
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: The Johnson Co	Acct. #: 06556
Project Name/#: Pine St. Canal Site	PWSID #:
Project Manager: Guy Vaillancourt	P.O. #: 1-0670-02
Sampler: Bob Osborne (TRC)	Quote #:

Name of state where samples were collected: VT

2 Sample Identification / Collected / 3 Grab / Composite / 4 Matrix / 5 Analysis Requested

Matrix: Soil ☐ Sediment ☐ Water: Potable ☐ Ground ☒ NPDES ☐ Surface ☐ Other: DI water

Preservation Codes: # | O | N

SLID	SIN	Date	Time	Grab	Composite	Total # of Containers	8260B-BTEX	8270C-17PAH	6010-RCRA-8 Metals No Cu, Zn / Hg by 7470A
TB 0077-33TB	0077-33TB	10-7-15	0920	X		3	3		
8 MW-9A	0074-33	↓	1122	X		6	X	X	X
8 MW-9B	0071-33	↓	1237	X		6	X	X	X
6 MW-13	0097-16	10-7-15	1432	X		6	X	X	X

For Lab Use Only
FSC: _____
SCR#: _____

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

site specific QAPP

7 Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: JEP@JCOMAIL.COM JRB@JCOMAIL.COM

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP)
Type III (Reduced non-CLP)
NYSDEC Category A or B
Type VI (Raw Data Only)
TX TRRP-13
MA MCP
CT RCP

9

Relinquished by	Date	Time	Received by	Date	Time
[signature]	10-7-15	1600			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time

EDD Required? (Yes) No
If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? (Yes) No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt _____ °C

APPENDIX 6

LABORATORY DATA PACKAGES (CD ONLY)

eurofins | Lancaster Laboratories

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Type I Data Package

Prepared for:

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

Project: Pine Street Canal - Benthic Monitoring
Sediment Samples
Collected on 09/22/15-09/23/15

SDG# PSC26-V.2

GROUP	SAMPLE NUMBERS
1596019	8064406-8064417

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-13-10
AZ Cert. # AZ0780

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman **Date:** **12/22/2015**

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Wendy Kozma at Ext. 1522.

2425 New Holland Pike, Lancaster, PA 17601 · 717-656-2300 · Fax: 717-656-2681 · www.LancasterLabs.com

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eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Reference List for SDG Number PSC26
with a Data Package Type of I

06556 - The Johnson Company, Inc.

Project: Pine Street Canal - Benthic Monitoring

Lab Sample Number	Client Sample ID	Collection Date	Date Received
8064406	0499-13	09/22/2015 10:45	09/25/2015 09:25
8064407	0499-13	09/22/2015 10:45	09/25/2015 09:25
8064408	0479-13	09/23/2015 10:45	09/25/2015 09:25
8064409	0479-13	09/23/2015 10:45	09/25/2015 09:25
8064410	0489-13	09/23/2015 13:30	09/25/2015 09:25
8064411	0489-13	09/23/2015 13:30	09/25/2015 09:25
8064412	0489-13	09/23/2015 13:30	09/25/2015 09:25
8064413	0489-13 MS	09/23/2015 13:30	09/25/2015 09:25
8064414	0489-13 MSD	09/23/2015 13:30	09/25/2015 09:25
8064415	0489-13 DUP	09/23/2015 13:30	09/25/2015 09:25
8064416	0182-13 DP	09/23/2015 13:40	09/25/2015 09:25
8064417	0182-13 DP	09/23/2015 13:40	09/25/2015 09:25

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

00159 Mercury

The solution resulting from the mercury digestion is analyzed by Cold Vapor AA.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7471A, September 1994

04792 All Inst./ Non-digest - U3

The sample is digested with nitric acid and hydrogen peroxide.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3050B, December 1996

06953 Copper
06955 Lead
06972 Zinc

The solution resulting from the metals digestion is analyzed by Trace ICP.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6010B, December 1996.

13994 TOC Subcontracted - Spectrum

Total organic carbon is determined by acidifying a sample aliquot and heating it to remove any inorganic carbon. The sample is then heated to 900oC for combustion of the remaining organic carbon. The resulting carbon dioxide from the organic carbon is detected by a nondispersive infrared detector that has been calibrated to directly display the mass of carbon dioxide detected. The mass is proportional to the mass of total organic carbon in the sample.

Reference: Lloyd Kahn (modified)

01630 Acid Volatile Sulfide

A measured volume of sample is purged under nitrogen gas and then acidified with hydrochloric acid (HCL). Any AVS in the sample is converted to hydrogen sulfide which is purged from the sample and trapped in an aqueous solution of antioxidant buffer. The amount of sulfide is determined by an ion-selective electrode (ISE). The millivolt value is read and compared to a standard curve.

Reference: EPA-821-R-91-100 "Draft Analytical Method for the Determination of Acid Volatile Sulfide in Sediment", December 1991

07103 Grain Size to 1 um

A thoroughly dried soil is ground using a rubber pestle to break the aggregations. The ground soil is then sieved to determine percentage of particles passing sizes in the range 75 - 2.36 mm. Particles finer than 2.36 mm are soaked in a dispersing agent for 16 hours and the particle sizes from 0.075 mm - 0.001 mm are determined by a sedimentation process using a hydrometer. The soil from the hydrometer test is dried and then sieved to determine percentage of particles passing sizes in the range 1.18 - 0.075 mm.

Reference: ASTM D422, Standard Test Method for Particle-Size Analysis of Soil

---

00111 Moisture
00118 Moisture
00121 Moisture Duplicate

A well-mixed sample is placed in a tared container and dried to a constant weight in an oven at 103-105C. The increase in weight is the total solids.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 2540 G-1997

12815 Sample Decanting

Decanting is used to separate the liquid from an insoluble solid. As the solid settles to the bottom of the container, the liquid is carefully poured into another container leaving the solid behind.

Analysis Reports / Field Chain of Custody

REVISED

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

December 16, 2015

Project: Pine Street Canal - Benthic Monitoring

Submittal Date: 09/25/2015
Group Number: 1596019
SDG: PSC26
PO Number: 1-0870-2
State of Sample Origin: VT

Client Sample Description	Lancaster Labs (LL) #
0499-13 Grab Sediment	8064406
0499-13 Composite Sediment	8064407
0479-13 Composite Sediment	8064408
0479-13 Composite Sediment	8064409
0489-13 Composite Sediment	8064410
0489-13 Composite Sediment	8064411
0489-13 Composite Sediment	8064412
0489-13 MS Composite Sediment	8064413
0489-13 MSD Composite Sediment	8064414
0489-13 DUP Composite Sediment	8064415
0182-13 DP Composite Sediment	8064416
0182-13 DP Composite Sediment	8064417

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO The Johnson Company, Inc. Attn: Jim Bowes

REVISED

Respectfully Submitted,

Wendy A. Kozma
Principal Specialist Group Leader

(717) 556-7257

REVISED

Sample Description: 0499-13 Grab Sediment
Pine Street Canal - Benthic Monitoring

LL Sample # SW 8064406
LL Group # 1596019
Account # 06556

Project Name: Pine Street Canal - Benthic Monitoring

Collected: 09/22/2015 10:45 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49813 SDG#: PSC26-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		**umoles/g**	**umoles/g**	**umoles/g**	
06953	Copper	7440-50-8	0.302	0.00394	0.00110	1
06955	Lead	7439-92-1	0.0849	0.00758	0.000386	1
	After consultation with the client, the reporting limit for Lead was raised due to a detection in the Method Blank.					
06972	Zinc	7440-66-6	2.79	0.00765	0.00295	1
	SW-846 7471A		**umoles/g**	**umoles/g**	**umoles/g**	
00159	Mercury	7439-97-6	0.0000749 U	0.0000749	0.0000075	1
Wet Chemistry	**EPA-821-R-91-100**		**umoles/g**	**umoles/g**	**umoles/g**	
01630	Acid Volatile Sulfide	1313-84-4	18.2	2.0	0.63	1
Wet Chemistry	**LLI In House**		**g**	**g**	**g**	
12815	Sample Decanting	n.a.	5.7			1
	SM 2540 G-1997		**%**	**%**	**%**	
00111	Moisture	n.a.	70.9	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06953	Copper	SW-846 6010B	1	152794792002	10/06/2015 23:08	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152794792002	10/09/2015 09:55	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152794792002	10/06/2015 23:08	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152794792002	10/07/2015 09:41	Damary Valentin	1
04792	All Inst./ Non-digest - U3	SW-846 3050B	1	152794792002	10/06/2015 15:19	Eric L Eby	1
01630	Acid Volatile Sulfide	EPA-821-R-91-100	1	15278163001A	10/05/2015 09:00	Susan E Hibner	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15278820002A	10/05/2015 19:19	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0499-13 Composite Sediment
Pine Street Canal - Benthic Monitoring

LL Sample # SW 8064407
LL Group # 1596019
Account # 06556

Project Name: Pine Street Canal - Benthic Monitoring

Collected: 09/22/2015 10:45 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-9813 SDG#: PSC26-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**	**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	219,000	5,000	4,950	1
	The TOC analysis was subcontracted to Eurofins Spectrum Analytical, Inc. This data entry is to enable EDD generation in the client required format. The original laboratory data report is attached. All relevant certification information is provided in that report.					
Wet Chemistry	**LLI In House**		**g**	**g**	**g**	
12815	Sample Decanting	n.a.	6.9			1
	SM 2540 G-1997		**%**	**%**	**%**	
00111	Moisture	n.a.	68.0	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518708	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15278820002A	10/05/2015 19:19	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0479-13 Composite Sediment
Pine Street Canal - Benthic Monitoring

LL Sample # SW 8064408
LL Group # 1596019
Account # 06556

Project Name: Pine Street Canal - Benthic Monitoring

Collected: 09/23/2015 10:45 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

47913 SDG#: PSC26-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		**umoles/g**	**umoles/g**	**umoles/g**	
06953	Copper	7440-50-8	0.0483	0.00381	0.00107	1
06955	Lead	7439-92-1	0.0782	0.00760	0.000374	1
	After consultation with the client, the reporting limit for Lead was raised due to a detection in the Method Blank.					
06972	Zinc	7440-66-6	0.440	0.00741	0.00285	1
	SW-846 7471A		**umoles/g**	**umoles/g**	**umoles/g**	
00159	Mercury	7439-97-6	0.0000725 U	0.0000725	0.0000072	1
Wet Chemistry	**EPA-821-R-91-100**		**umoles/g**	**umoles/g**	**umoles/g**	
01630	Acid Volatile Sulfide	1313-84-4	11.1	2.0	0.63	1
Wet Chemistry	**LLI In House**		**g**	**g**	**g**	
12815	Sample Decanting	n.a.	2.3			1
	SM 2540 G-1997		**%**	**%**	**%**	
00111	Moisture	n.a.	80.0	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06953	Copper	SW-846 6010B	1	152794792002	10/06/2015 23:11	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152794792002	10/09/2015 09:58	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152794792002	10/06/2015 23:11	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152794792002	10/07/2015 09:43	Damary Valentin	1
04792	All Inst./ Non-digest - U3	SW-846 3050B	1	152794792002	10/06/2015 15:19	Eric L Eby	1
01630	Acid Volatile Sulfide	EPA-821-R-91-100	1	15278163001A	10/05/2015 09:00	Susan E Hibner	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15278820002A	10/05/2015 19:19	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0479-13 Composite Sediment
Pine Street Canal - Benthic Monitoring

LL Sample # SW 8064409
LL Group # 1596019
Account # 06556

Project Name: Pine Street Canal - Benthic Monitoring

Collected: 09/23/2015 10:45 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-7913 SDG#: PSC26-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**	**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	192,000	1,900	1,890	1
	The TOC analysis was subcontracted to Eurofins Spectrum Analytical, Inc. This data entry is to enable EDD generation in the client required format. The original laboratory data report is attached. All relevant certification information is provided in that report.					
Wet Chemistry	**LLI In House**		**g**	**g**	**g**	
12815	Sample Decanting	n.a.	1.2			1
	SM 2540 G-1997		**%**	**%**	**%**	
00111	Moisture	n.a.	78.4	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518708	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15278820002A	10/05/2015 19:19	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0489-13 Composite Sediment
Pine Street Canal - Benthic Monitoring

LL Sample # SW 8064410
LL Group # 1596019
Account # 06556

Project Name: Pine Street Canal - Benthic Monitoring

Collected: 09/23/2015 13:30 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

48913 SDG#: PSC26-05BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		**umoles/g**	**umoles/g**	**umoles/g**	
06953	Copper	7440-50-8	0.164	0.00392	0.00110	1
06955	Lead	7439-92-1	0.109	0.00760	0.000385	1
	After consultation with the client, the reporting limit for Lead was raised due to a detection in the Method Blank.					
06972	Zinc	7440-66-6	1.09	0.00762	0.00293	1
	SW-846 7471A		**umoles/g**	**umoles/g**	**umoles/g**	
00159	Mercury	7439-97-6	0.0000746 U	0.0000746	0.0000075	1
Wet Chemistry	**EPA-821-R-91-100**		**umoles/g**	**umoles/g**	**umoles/g**	
01630	Acid Volatile Sulfide	1313-84-4	3.1	2.0	0.63	1
Wet Chemistry	**LLI In House**		**g**	**g**	**g**	
12815	Sample Decanting	n.a.	22			1
	SM 2540 G-1997		**%**	**%**	**%**	
00111	Moisture	n.a.	66.8	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06953	Copper	SW-846 6010B	1	152794792002	10/06/2015 22:51	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152794792002	10/09/2015 09:38	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152794792002	10/06/2015 22:51	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152794792002	10/07/2015 09:31	Damary Valentin	1
04792	All Inst./ Non-digest - U3	SW-846 3050B	1	152794792002	10/06/2015 15:19	Eric L Eby	1
01630	Acid Volatile Sulfide	EPA-821-R-91-100	1	15278163001A	10/05/2015 09:00	Susan E Hibner	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15278820002A	10/05/2015 19:19	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

REVISED

Sample Description: 0489-13 Composite Sediment
Pine Street Canal - Benthic Monitoring

LL Sample # SW 8064411
LL Group # 1596019
Account # 06556

Project Name: Pine Street Canal - Benthic Monitoring

Collected: 09/23/2015 13:30 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-8913 SDG#: PSC26-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	1
07103	4.75 mm	n.a.	99.6	0.50	0.50	1
07103	3.35 mm	n.a.	98.4	0.50	0.50	1
07103	2.36 mm	n.a.	95.4	0.50	0.50	1
07103	1.18 mm	n.a.	94.6	0.50	0.50	1
07103	0.6 mm	n.a.	93.7	0.50	0.50	1
07103	0.3 mm	n.a.	86.7	0.50	0.50	1
07103	0.15 mm	n.a.	61.3	0.50	0.50	1
07103	0.075 mm	n.a.	43.8	0.50	0.50	1
07103	0.064 mm	n.a.	40.0	0.50	0.50	1
07103	0.05 mm	n.a.	36.0	0.50	0.50	1
07103	0.02 mm	n.a.	17.0	0.50	0.50	1
07103	0.005 mm	n.a.	4.0	0.50	0.50	1
07103	0.002 mm	n.a.	1.0	0.50	0.50	1
07103	0.001 mm	n.a.	0.50 U	0.50	0.50	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D422	1	15269710301A	09/26/2015 13:00	Luz M Groff	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0489-13 Composite Sediment
Pine Street Canal - Benthic Monitoring

LL Sample # SW 8064412
LL Group # 1596019
Account # 06556

Project Name: Pine Street Canal - Benthic Monitoring

Collected: 09/23/2015 13:30 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

8913- SDG#: PSC26-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**	**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	50,000	1,380	1,370	1
	The TOC analysis was subcontracted to Eurofins Spectrum Analytical, Inc. This data entry is to enable EDD generation in the client required format. The original laboratory data report is attached. All relevant certification information is provided in that report.					
Wet Chemistry	**LLI In House**		**g**	**g**	**g**	
12815	Sample Decanting	n.a.	13			1
	SM 2540 G-1997		**%**	**%**	**%**	
00111	Moisture	n.a.	60.1	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518708	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15278820002A	10/05/2015 19:19	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0489-13 MS Composite Sediment
Pine Street Canal - Benthic Monitoring

LL Sample # SW 8064413
LL Group # 1596019
Account # 06556

Project Name: Pine Street Canal - Benthic Monitoring

Collected: 09/23/2015 13:30 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

48913 SDG#: PSC26-05MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		**umoles/g**	**umoles/g**	**umoles/g**	
06953	Copper	7440-50-8	0.0533	0.00380	0.00106	1
06955	Lead	7439-92-1	0.112	0.00760	0.000373	1
	After consultation with the client, the reporting limit for Lead was raised due to a detection in the Method Blank.					
06972	Zinc	7440-66-6	1.14	0.00738	0.00284	1
	SW-846 7471A		**umoles/g**	**umoles/g**	**umoles/g**	
00159	Mercury	7439-97-6	0.0000722 U	0.0000722	0.0000072	1
Wet Chemistry	**EPA-821-R-91-100**		**umoles/g**	**umoles/g**	**umoles/g**	
01630	Acid Volatile Sulfide	1313-84-4	32.5	2.0	0.63	1
Wet Chemistry	**LLI In House**		**g**	**g**	**g**	
12815	Sample Decanting	n.a.	19			1
	SM 2540 G-1997		**%**	**%**	**%**	
00118	Moisture	n.a.	66.8	0.50	0.50	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06953	Copper	SW-846 6010B	1	152794792002	10/06/2015 22:59	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152794792002	10/09/2015 09:47	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152794792002	10/06/2015 22:59	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152794792002	10/07/2015 09:37	Damary Valentin	1
04792	All Inst./ Non-digest - U3	SW-846 3050B	1	152794792002	10/06/2015 15:19	Eric L Eby	1
01630	Acid Volatile Sulfide	EPA-821-R-91-100	1	15278163001A	10/05/2015 09:00	Susan E Hibner	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00118	Moisture	SM 2540 G-1997	1	15278820002A	10/05/2015 19:19	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0489-13 MSD Composite Sediment
Pine Street Canal - Benthic Monitoring

LL Sample # SW 8064414
LL Group # 1596019
Account # 06556

Project Name: Pine Street Canal - Benthic Monitoring

Collected: 09/23/2015 13:30 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

48913 SDG#: PSC26-05MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		**umoles/g**	**umoles/g**	**umoles/g**	
06953	Copper	7440-50-8	0.0576	0.00379	0.00106	1
06955	Lead	7439-92-1	0.121	0.00760	0.000373	1
	After consultation with the client, the reporting limit for Lead was raised due to a detection in the Method Blank.					
06972	Zinc	7440-66-6	1.22	0.00738	0.00284	1
	SW-846 7471A		**umoles/g**	**umoles/g**	**umoles/g**	
00159	Mercury	7439-97-6	0.0000722 U	0.0000722	0.0000072	1
Wet Chemistry	**EPA-821-R-91-100**		**umoles/g**	**umoles/g**	**umoles/g**	
01630	Acid Volatile Sulfide	1313-84-4	37.4	2.0	0.63	1
Wet Chemistry	**LLI In House**		**g**	**g**	**g**	
12815	Sample Decanting	n.a.	17			1
	SM 2540 G-1997		**%**	**%**	**%**	
00118	Moisture	n.a.	66.8	0.50	0.50	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06953	Copper	SW-846 6010B	1	152794792002	10/06/2015 23:02	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152794792002	10/09/2015 09:49	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152794792002	10/06/2015 23:02	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152794792002	10/07/2015 09:39	Damary Valentin	1
04792	All Inst./ Non-digest - U3	SW-846 3050B	1	152794792002	10/06/2015 15:19	Eric L Eby	1
01630	Acid Volatile Sulfide	EPA-821-R-91-100	1	15278163001A	10/05/2015 09:00	Susan E Hibner	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00118	Moisture	SM 2540 G-1997	1	15278820002A	10/05/2015 19:19	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0489-13 DUP Composite Sediment
Pine Street Canal - Benthic Monitoring

LL Sample # SW 8064415
LL Group # 1596019
Account # 06556

Project Name: Pine Street Canal - Benthic Monitoring

Collected: 09/23/2015 13:30 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

48913 SDG#: PSC26-05DUP

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		**umoles/g**	**umoles/g**	**umoles/g**	
06953	Copper	7440-50-8	0.148	0.00392	0.00110	1
06955	Lead	7439-92-1	0.102	0.00760	0.000385	1
	After consultation with the client, the reporting limit for Lead was raised due to a detection in the Method Blank.					
06972	Zinc	7440-66-6	1.01	0.00762	0.00293	1
	SW-846 7471A		**umoles/g**	**umoles/g**	**umoles/g**	
00159	Mercury	7439-97-6	0.0000746 U	0.0000746	0.0000075	1
Wet Chemistry	**EPA-821-R-91-100**		**umoles/g**	**umoles/g**	**umoles/g**	
01630	Acid Volatile Sulfide	1313-84-4	2.0	2.0	0.63	1
Wet Chemistry	**LLI In House**		**g**	**g**	**g**	
12815	Sample Decanting	n.a.	22			1
	SM 2540 G-1997		**%**	**%**	**%**	
00118	Moisture	n.a.	66.8	0.50	0.50	1
00121	Moisture Duplicate	n.a.	60.8	0.50	0.50	1
	The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06953	Copper	SW-846 6010B	1	152794792002	10/06/2015 22:57	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152794792002	10/09/2015 09:44	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152794792002	10/06/2015 22:57	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152794792002	10/07/2015 09:35	Damary Valentin	1
04792	All Inst./ Non-digest - U3	SW-846 3050B	1	152794792002	10/06/2015 15:19	Eric L Eby	1
01630	Acid Volatile Sulfide	EPA-821-R-91-100	1	15278163001A	10/05/2015 09:00	Susan E Hibner	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00118	Moisture	SM 2540 G-1997	1	15278820002A	10/05/2015 19:19	Scott W Freisher	1
00121	Moisture Duplicate	SM 2540 G-1997	1	15278820002A	10/05/2015 19:19	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0182-13 DP Composite Sediment
Pine Street Canal - Benthic Monitoring

LL Sample # SW 8064416
LL Group # 1596019
Account # 06556

Project Name: Pine Street Canal - Benthic Monitoring

Collected: 09/23/2015 13:40 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

FD-13 SDG#: PSC26-08FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		**umoles/g**	**umoles/g**	**umoles/g**	
06953	Copper	7440-50-8	0.209	0.00380	0.00106	1
06955	Lead	7439-92-1	0.0879	0.00760	0.000373	1
	After consultation with the client, the reporting limit for Lead was raised due to a detection in the Method Blank.					
06972	Zinc	7440-66-6	0.922	0.00738	0.00284	1
	SW-846 7471A		**umoles/g**	**umoles/g**	**umoles/g**	
00159	Mercury	7439-97-6	0.0000722 U	0.0000722	0.0000072	1
Wet Chemistry	**EPA-821-R-91-100**		**umoles/g**	**umoles/g**	**umoles/g**	
01630	Acid Volatile Sulfide	1313-84-4	2.8	2.0	0.63	1
Wet Chemistry	**LLI In House**		**g**	**g**	**g**	
12815	Sample Decanting	n.a.	20			1
	SM 2540 G-1997		**%**	**%**	**%**	
00111	Moisture	n.a.	58.9	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06953	Copper	SW-846 6010B	1	152794792002	10/06/2015 23:18	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152794792002	10/09/2015 10:06	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152794792002	10/06/2015 23:18	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152794792002	10/07/2015 09:46	Damary Valentin	1
04792	All Inst./ Non-digest - U3	SW-846 3050B	1	152794792002	10/06/2015 15:19	Eric L Eby	1
01630	Acid Volatile Sulfide	EPA-821-R-91-100	1	15278163001A	10/05/2015 09:00	Susan E Hibner	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15278820002A	10/05/2015 19:19	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0182-13 DP Composite Sediment
Pine Street Canal - Benthic Monitoring

LL Sample # SW 8064417
LL Group # 1596019
Account # 06556

Project Name: Pine Street Canal - Benthic Monitoring

Collected: 09/23/2015 13:40 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-FD13 SDG#: PSC26-09FD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**	**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	54,800	769	762	1
	The TOC analysis was subcontracted to Eurofins Spectrum Analytical, Inc. This data entry is to enable EDD generation in the client required format. The original laboratory data report is attached. All relevant certification information is provided in that report.					
Wet Chemistry	**LLI In House**		**g**	**g**	**g**	
12815	Sample Decanting	n.a.	12			1
	SM 2540 G-1997		**%**	**%**	**%**	
00111	Moisture	n.a.	66.0	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518708	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15278820002A	10/05/2015 19:19	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1596019
Reported: 12/16/2015 08:47

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 152794792002	Sample number(s): 8064406,8064408,8064410,8064413-8064416								
Copper	0.00185 J	0.00394	0.00110	umoles/g	99		80-120		
Lead	0.00760	0.00181	0.00038 6	umoles/g	99		80-120		
Mercury	0.0000749 U	0.00007 49	0.00000 75	umoles/g	96		80-120		
Zinc	0.0124	0.00765	0.00295	umoles/g	103		80-120		
Batch number: 1518708	Sample number(s): 8064407,8064409,8064412,8064417								
TOC Subcontracted - Spectrum	100 U	100.	99.0	mg/kg	113		75-125		
Batch number: 15278163001A	Sample number(s): 8064406,8064408,8064410,8064413-8064416								
Acid Volatile Sulfide	2.0 U	2.0	0.63	umoles/g	48		40-95		
Batch number: 15278820002A	Sample number(s): 8064406-8064410,8064412-8064417								
Moisture					100		99-101		
Moisture					100		99-101		
Moisture Duplicate					100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 152794792002	Sample number(s): 8064406,8064408,8064410,8064413-8064416 UNSPK: 8064410 BKG: 8064410								
Copper	-117*	-112*	75-125	8	20	0.164	0.148	10	20
Lead	16 (2)	65 (2)	75-125	7	20	0.109	0.102	7	20
Mercury	0*	0*	80-120	0	20	0.0000746 U	0.0000746 U	0 (1)	20
Zinc	27 (2)	71 (2)	75-125	7	20	1.09	1.01	7	20
Batch number: 1518708	Sample number(s): 8064407,8064409,8064412,8064417 BKG: P064458								
TOC Subcontracted - Spectrum						73,100	69,000	6	20

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1596019
Reported: 12/16/2015 08:47

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 15278163001A	Sample number(s): 8064406,8064408,8064410,8064413-8064416 UNSPK: 8064410 BKG: 8064410								
Acid Volatile Sulfide	62	73	40-95	14	20	3.1	2.0	41* (1)	20
Batch number: 15278820002A	Sample number(s): 8064406-8064410,8064412-8064417 BKG: 8064410								
Moisture						66.8	60.8	9*	5
Moisture						66.8	60.8	9*	5
Moisture Duplicate						66.8	60.8	9*	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 6557 For Eurofins Lancaster Laboratories Environmental use only Group # 159609 Sample # 806440 6-17
Instructions on reverse side correspond with circled numbers.

384523

1 Client Information

Client: The Johnson Company	Acct. #: 06557
Project Name/#: Pine Street Canal Site / 1-0820-2	PWSID #:
Project Manager: Jim Bowes	P.O. #:
Sampler: Ross Piedom	Quote #:

Name of state where samples were collected: VT

4 Matrix: Sediment ☒ Soil ☐ | Water: Ground ☐ Potable ☐ Surface ☐ NPDES ☐ | Other: ____

5 Analysis Requested — Preservation Codes: 0 0 0 0

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

2 Sample Identification SLID	SIN	Collected Date	Time	3 Grab	Composite	Total # of Containers	AVS/SEM	TOC Lloyd Kahn	Grain Size
J_T2H00E50	0498-13	9-22-15	1045	X		1	X		
J_T2I+00E50	0498-13	9-22-15	1045		X	1		X	
J_T1+00E50	0479-13	9-23-15	1045		X	2	X	X	
J_T6+00E60	0499-13	9-23-15	1330		X	3	X	X	X
J_T6+00E60MS	0489-13 MS	9-23-15	1330		X	1	X		
J_T6+00E60MSD	0489-13 MSD	9-23-15	1330		X	1	X		
J_0182-13DP	0182-13DP	9-23-15	1340		X	2	X	X	

7 Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: JRB@jcomail.com

8 Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
	9/24/15	1500			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	9/25/15	905

9

EDD Required? Yes No
If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ____ Other ____

Temperature upon receipt 1.5 °C

6# 1596019

PROCEDURE - DEVIATION

ALERT!

DRAFT

Alert No: RJP- Method #007 – 2015-1
To: Pine Street Canal Site QA File
CC: Guy Vaillancourt - Project Manager
From: Ross Predom, Staff Scientist
Date: 09/30/15
Re: Chain of Custody # 384523 Transcription Error: Incorrect Sample Identification Number

BACKGROUND: Chain of Custody # 384523 and sample labels were submitted with an incorrect Sample Identification Number (SIN) for the benthic sample J_T21+00-E50 collected on 9/22/15 at 10:45. The correct SIN for this location is 0499-13. Chain of Custody (COC) 384523 was submitted with the incorrect SIN of 0498-13, and the analytical lab logged the sample in under the SIN that was incorrectly entered on the COC (laboratory sample numbers 8064406 and 8064407).

ACTION: The laboratory was initially notified of the error and correct SIN was provided by email after receipt of the log-in report. Alert was prepared for the Project Manager by the Staff Scientist and copied to the analytical laboratory. A copy of this PDA will also be included with the Fall 2015 Compliance Monitoring Report, and also with the original laboratory data package. The correct SIN will be transcribed onto the original laboratory report, and will be entered into the project database for this sample so that the sample results for the 2015 cap coring and benthic monitoring event appear at the correct SLID location.

K:\1-0870-2\PostConstruction Compliance\Fall 2015 CMR\PDAs\093015_RJP-Method #007-2015-1.doc

---

SAMPLE: C of C # 384523
SAMPLE OR OPERATOR'S INITIALS: RJP

EQUIPMENT: NA
SAMPLING EVENT:
2015 CAP CORING
& BENTHIC MONITORING

ALERT RECEIVED/READ: NRL

Environmental Analysis Request/Chain of Custody

384523

eurofins | Lancaster Laboratories Environmental

Acct. # 10556 For Eurofins Lancaster Laboratories Environmental use only Group # 1596019 Sample # 8066406-17
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: The Johnson Company	Acct. #: 10556
Project Name/#: Pine Street Canal Site 1-080-2	PWSID #:
Project Manager: Jim Bowes	P.O. #:
Sampler: Ross Riedel/Sonja Schuyler	Quote #:
Name of state where samples were collected: VT	

2 Sample Identification | **3** Grab | Composite | **4 Matrix**: Soil, Sediment, Water (Potable, Ground, NPDES, Surface), Other: | **Total # of Containers** | **5 Analysis Requested** (Preservation Codes: 0 0 0 0) | **For Lab Use Only**

Sample Identification (SLID / SIA)	Collected Date	Collected Time	Grab	Composite	Soil	Sediment	Water	Total # of Containers	AVS/SEM	Tox Leaching	Grain Size	Remarks
JT1400ESD 0499-13	9-22-15	1045	X			X		1	X			
JT2 1400E30 0499-13	9-22-15	1045		X		X		1		X		
JT1400E 520 0479-13	9-23-15	1045		X		X		2	X	X		
JT6 1400E60 0459-13	9-23-15	1530		X		X		3	X	X	X	
JT6 1400E100 0459-13 MS	9-23-15	1330		X		X		1	X			
JT6 1400E100MSD 0459-13 MSD	9-23-15	1230		X		X		1	X			
J-0182-13 DP 0182-13 DP	9-23-15	1340		X		X		2	X	X		

Preservation Codes: H=HCl, T=Thiosulfate, N=HNO_3, B=NaOH, S=H_2SO_4, O=Other

FSC: _____ SCR#: _____

7 Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: JTRB@icloud.com

8 Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) | Type VI (Raw Data Only)
Type III (Reduced non-CLP) | TX TRRP-13
NYSDEC Category A or B | MA MCP | CT RCP

Relinquished by	Date	Time	Received by	Date	Time
	9/24/15	1500			

9

EDD Required? Yes / No
If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes / No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____

Temperature upon receipt _____ °C

G# 1596019

From: Johanna Palmer
To: Wendy Kozma
Cc: Jim Bowes; Deborah Gaynor; Sonja Schuyler; Don Maynard
Subject: CORRECTION****1594773-Pine Street Canal - Sand Cap Sampling
Date: Monday, September 28, 2015 10:35:17 AM

Good morning Wendy,

I need to alert you to a mistake on a COC for the Pine Street Canal cap sampling that occurred last week: on COC # 384523, the sample with SLID J_T-21+00-E50 (time 1045) should have a SIN of 0499-13 (not 0498-13), as shown correctly on COC # 384522. I imagine that the corresponding sample jars had this incorrect SIN as well. We will generate a Procedure Deviation Alert and send along shortly.

Thank you,

Johanna Palmer
The Johnson Company

From: USLAN-PXAdmin [mailto:USLAN-PXAdmin@lancasterlabs.com]
Sent: Wednesday, September 23, 2015 11:12 AM
To: dgaynor@phoenixchemistryservices.com; Jim Bowes
Subject: 1594773-Pine Street Canal - Sand Cap Sampling-09/22/2015 9:20:00 Acknowledgement

The following is an acknowledgement of the receipt of samples by Lancaster Laboratories. Please review this acknowledgement and contact your Client Service Representative if you have concerns.

This is an automated message from an unmonitored address. Please do not reply to this address.

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 108459

Group Number(s): 15-96089

Client: The Johnson Company

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/25/2015 9:25
Number of Packages:	3	Number of Projects:	1
State/Province of Origin:	VT		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Jordan Woods (6698) at 16:41 on 09/25/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	1.9	DT	Wet	Y	Bagged	N
2	DT146	4.7	DT	Wet	Y	Bagged	N
3	8013596-IR	1.5	IR	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T 717-656-2300
F 717-656-2681
www.LancasterLabs.cor

eurofins | Spectrum Analytical

☐ Final Report
☐ Re-Issued Report
☑ Revised Report

Report Date:
28-Oct-15 17:48

Laboratory Report

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17605-2425
Attn: Kathy Binkley

Project: See Chain of Custody
Project #: 1596019

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC13118-01	0499-13	Sediment	22-Sep-15 10:45	02-Oct-15 12:49
SC13118-02	0479-13	Sediment	23-Sep-15 10:45	02-Oct-15 12:49
SC13118-03	0489-13	Sediment	23-Sep-15 13:30	02-Oct-15 12:49
SC13118-04	0182-13 DP	Sediment	23-Sep-15 13:40	02-Oct-15 12:49

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00098
USDA # S-51435

Authorized by:

June O'Connor
Laboratory Director

Eurofins Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 7 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

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Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received -0.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

October 28, 2015 Report Revision Case Narrative:

This report has been revised to include sample ID correction per client request.

There is no relevant protocol-specific QC and/or performance standards non-conformances to report.

Sample Acceptance Check Form

Client:	Eurofins Lancaster Laboratories Environmental, LLC
Project:	See Chain of Custody / 1596019
Work Order:	SC13118
Sample(s) received on:	10/2/2015

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☑	☐	☐
Were custody seals intact?	☑	☐	☐
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☐	☑	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC13118-01 **Client ID:** 0499-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	219000		5000	mg/kg	Lloyd Kahn

Lab ID: SC13118-02 **Client ID:** 0479-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	192000		1900	mg/kg	Lloyd Kahn

Lab ID: SC13118-03 **Client ID:** 0489-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	50000		1380	mg/kg	Lloyd Kahn

Lab ID: SC13118-04 **Client ID:** 0182-13 DP

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	54800		769	mg/kg	Lloyd Kahn

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification
0499-13
SC13118-01

Client Project #	Matrix	Collection Date/Time	Received
1596019	Sediment	22-Sep-15 10:45	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	**219,000**		mg/kg	5000	4950	1	Lloyd Kahn	03-Oct-15	03-Oct-15	rlt	1518708	X

Sample Identification
0479-13
SC13118-02

Client Project #	Matrix	Collection Date/Time	Received
1596019	Sediment	23-Sep-15 10:45	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	**192,000**		mg/kg	1900	1890	1	Lloyd Kahn	03-Oct-15	03-Oct-15	rlt	1518708	X

Sample Identification
0489-13
SC13118-03

Client Project #	Matrix	Collection Date/Time	Received
1596019	Sediment	23-Sep-15 13:30	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	**50,000**		mg/kg	1380	1370	1	Lloyd Kahn	03-Oct-15	03-Oct-15	rlt	1518708	X

Sample Identification
0182-13 DP
SC13118-04

Client Project #	Matrix	Collection Date/Time	Received
1596019	Sediment	23-Sep-15 13:40	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	**54,800**		mg/kg	769	762	1	Lloyd Kahn	03-Oct-15	03-Oct-15	rlt	1518708	X

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1518708 - General Preparation										
Blank (1518708-BLK1)							Prepared: 02-Oct-15 Analyzed: 03-Oct-15			
Total Organic Carbon	< 100		mg/kg	100						
LCS (1518708-BS1)							Prepared: 02-Oct-15 Analyzed: 03-Oct-15			
Total Organic Carbon	**9060**		mg/kg	100	8000		113	75-125		
Calibration Blank (1518708-CCB1)							Prepared: 02-Oct-15 Analyzed: 03-Oct-15			
Total Organic Carbon	**1.44**		mg/kg							
Calibration Blank (1518708-CCB2)							Prepared: 02-Oct-15 Analyzed: 03-Oct-15			
Total Organic Carbon	**1.31**		mg/kg							
Calibration Blank (1518708-CCB3)							Prepared: 02-Oct-15 Analyzed: 03-Oct-15			
Total Organic Carbon	**2.72**		mg/kg							
Calibration Check (1518708-CCV1)							Prepared: 02-Oct-15 Analyzed: 03-Oct-15			
Total Organic Carbon	**9140**		mg/kg	100	8000		114	85-115		
Calibration Check (1518708-CCV2)							Prepared: 02-Oct-15 Analyzed: 03-Oct-15			
Total Organic Carbon	**8840**		mg/kg	100	8000		111	85-115		
Calibration Check (1518708-CCV3)							Prepared: 02-Oct-15 Analyzed: 03-Oct-15			
Total Organic Carbon	**8540**		mg/kg	100	8000		107	85-115		
Reference (1518708-SRM1)							Prepared: 02-Oct-15 Analyzed: 03-Oct-15			
Total Organic Carbon	**5830**		mg/kg	194	5430		107	49-151		

Notes and Definitions

dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
June O'Connor

Analysis Request / Environmental Services Subcontracting Form

eurofins | Lancaster Laboratories

For Lancaster Laboratories Use Only

Acct: _____ Group No.: 1596019 Sample Nos.: 8064407, 09, 12, 17

Date: 10/1/2015

SC13118

Subcontractor: EUROFINS SPECTRUM ANALYTICAL, INC.

LLI P.O.# : _____ Courier: FED EX

Submit report to: Kathy Binkley Ext.: 1393

Submit invoice to: Kathy Binkley

State where samples were collected: VT

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Sediment	Matrix: Potable / NPDES / Water	Matrix: Other	Total # of Containers	Analyses Requested: TOC by Lloyd Kahn	Temperature of samples upon receipt (if requested)	
0498-13 13118-01	09/22/15	10:45	X		X				X		8064407
0479-13 -02	09/23/15	10:45	X		X				X		8064409
0489-13 -03	09/23/15	13:30	X		X				X		8064412
0489-13 DP -04	09/23/15	13:40	X		X				X		8064417

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments: Type 1 DP Level 4 and EDD. EDD format will follow.

Turnaround Time Requested (TAT): Standard Rush

Date Results are Needed:

Email Results to: KathyBinkley@EurofinsUS.com

Data Package Options (circled when required)
Type I (validation/NJ Reg) Type VI(Raw Data)
Type II (Tier II) Type III (Reduced NJ)
Type IV (CLP SOW) TX TRRP-13

SDG Complete? Yes No

MA MCP
CT RCP

Site-specific QC Required (MS/MSD/DUP)? Yes No
Internal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
AA	10/1/15	1700			
Fed Ex	10/2		AA	10/2	12:49

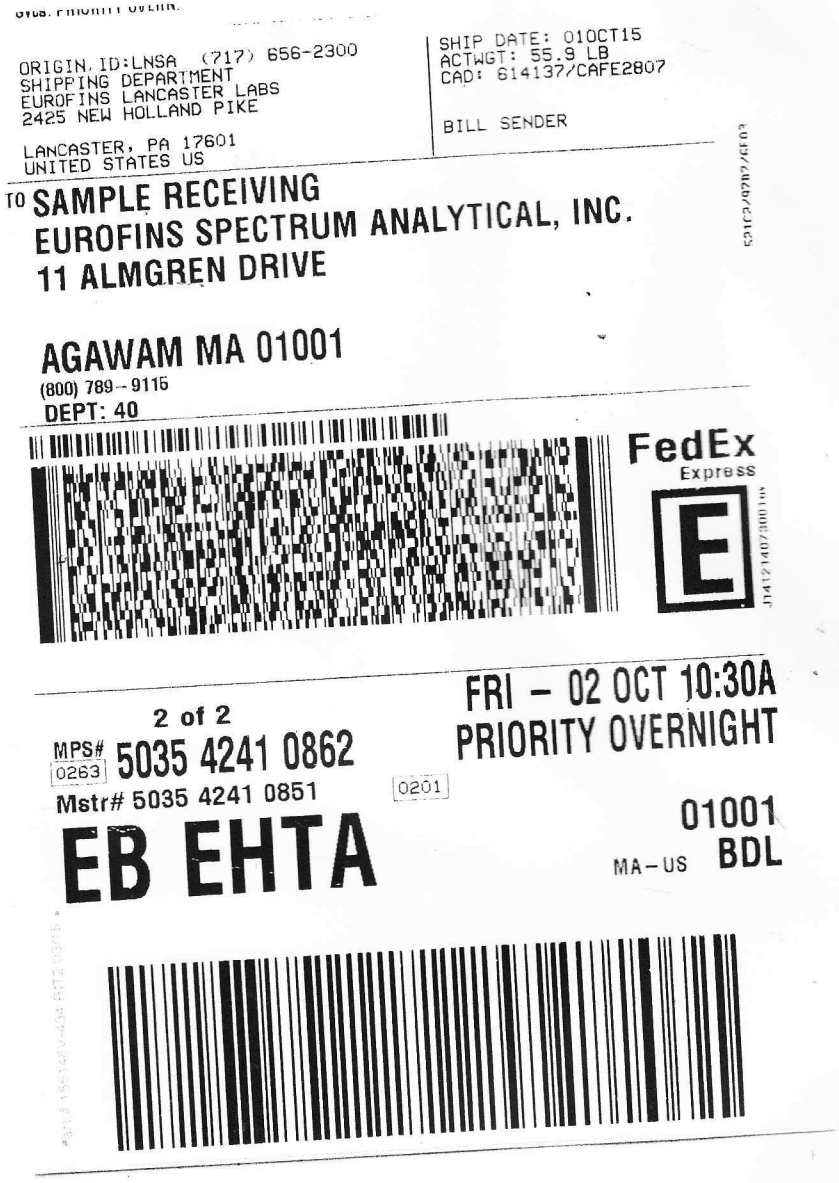
Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

AA 10/2/15

07-1-/03/01 Ice, custody sealed

PSC26 Page 35 of 326
Page 29 of 89


ORIGIN ID:LNSA (717) 656-2300
SHIPPING DEPARTMENT
EUROFINS LANCASTER LABS
2425 NEW HOLLAND PIKE
LANCASTER, PA 17601
UNITED STATES US
SHIP DATE: 010CT15
ACTWGT: 55.9 LB
CAD: 614137/CAFE2807
BILL SENDER
TO SAMPLE RECEIVING
EUROFINS SPECTRUM ANALYTICAL, INC.
11 ALMGREN DRIVE
AGAWAM MA 01001
(800) 789-9115
DEPT: 40
FedEx
Express
2 of 2
MPS# 0263 5035 4241 0862
Mstr# 5035 4241 0851
0201
FRI - 02 OCT 10:30A
PRIORITY OVERNIGHT
EB EHTA
01001
MA-US BDL

Analysis Request / Environmental Services Subcontracting Form

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For Lancaster Laboratories Use Only

Acct: _____ Group No.: 1596019 Sample Nos.: 8064407, 09, 12, 17

Date: 10/1/2015

SC13118

Subcontractor: EUROFINS SPECTRUM ANALYTICAL, INC.

LLI P.O.# : _____ Courier: FED EX

Submit report to: Kathy Binkley Ext.: 1393

Submit invoice to: Kathy Binkley

State where samples were collected: VT

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Sediment	Matrix: Potable / NPDES / Water	Matrix: Other	Total # of Containers	Analyses Requested: TOC by Lloyd Kahn	Preservation Codes	Temperature of samples upon receipt (if requested)
0498-13 ~~0498-13~~ 0499-13	09/22/15	10:45	X	X	X				X		8064407
0479-13	09/23/15	10:45	X	X	X				X		8064409
0489-13	09/23/15	13:30	X	X	X				X		8064412
~~0489-13 DP~~ 0182-13DP	09/23/15	13:40	X	X	X				X		8064417

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments: Type 1 DP Level 4 and EDD. EDD format will follow.

Turnaround Time Requested (TAT): Standard Rush

Date Results are Needed:

Email Results to: KathyBinkley@EurofinsUS.com

Data Package Options (circled when required)
Type I (validation/NJ Reg) Type VI(Raw Data)
Type II (Tier II) Type III (Reduced NJ)
Type IV (CLP SOW) TX TRRP-13

SDG Complete? Yes No

MA MCP
CT RCP

Site-specific QC Required (MS/MSD/DUP)? Yes No
Internal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	10/1/15	1700			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

eurofins | Spectrum Analytical

Quality Assurance/Quality Control Data Deliverable

Level IV (REVISED)

Prepared for

Eurofins Lancaster Laboratories Environmental, LLC

Project/Number: See Chain of Custody / 1596019

Work Order: SC13118

SDG# 13118

Submitted on October 2nd, 2015

Table of Contents

Laboratory Name: Eurofins Spectrum Analytical, Inc.
City/Sate: Agawam, MA
Client Name: Eurofins Lancaster Laboratories Environmental, LLC
Project Name/Number: See Chain of Custody / 1596019
SDG#: 13118
Associated Work Orders: SC13118

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NY Lab ID #11393/11840
NJ Lab ID#MA011/MA012

Eurofins Lancaster Laboratories Environmental, LLC

Client Project: See Chain of Custody

Project Number: 1596019
Eurofins Spectrum Analytical, Inc. Project ID: SC13118

11/04/2015

Prepared for: Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17605-2425
Attn: Kathy Binkley

Prepared By: Eurofins Spectrum Analytical, Inc.
830 Silver Street
Agawam, MA 01001
(800)789-9115

SDG13118

SC13118 General Narrative

Eurofins Spectrum Analytical, Inc. submits the enclosed data package for the site characterization of See Chain of Custody. Samples submitted for analysis by Eurofins Lancaster Laboratories Environmental, LLC. Under this deliverable, analysis results are presented for four Sediment samples submitted on October 2nd, 2015.

The analyses were performed according to USEPA SW846 method analytical guidelines and other methods. In addition the analyses were performed according to criteria dictated by National Environmental Laboratory Accreditation Conference (NELAC) and in accordance with project contract requirements and chain of custody forms.

Observations and/or deviations observed for specific analyses can be found in the analysis narrative:

1. Overall Observations:

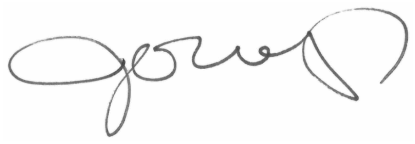
Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual Integrations are coded to provide the data reviewer justification for such action. The codes are labeled on corresponding raw data for GC/MS and GC analysis as follows:

- M1 peak tailing or fronting
- M2 peak co-elution
- M3 rising or failing baseline
- M4 retention time shift
- M5 miscellaneous - under this category, the justification is explained
- M6 software did not integrate peak
- M7 partial peak integration

The enclosed report includes the originals of all data with the exception of logbook pages and certain initial calibrations. Scanned copies of logbook pages are included, with the originals are archived within the laboratory.

The pages in this report have been numbered consecutively, starting with the general narrative and ending with the page labeled as "Last Page of data Report".

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this electronic data package, has been authorized by the laboratory director as verified by the following signature.



June O'Connor Date: 11/04/2015

Laboratory Director

Executive Summary - Detection Highlights

Sample ID: 0182-13 DP

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	54800		769	mg/kg	Lloyd Kahn

Sample ID: 0479-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	192000		1900	mg/kg	Lloyd Kahn

Sample ID: 0489-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	50000		1380	mg/kg	Lloyd Kahn

Sample ID: 0499-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	219000		5000	mg/kg	Lloyd Kahn

Please note that this summary does not include hits from hazardous waste characterizations or micro analyses, because they do not have minimum detection limits.

Sample Identification and Analytical Requirements Summary

Project Name: See Chain of Custody SDG: SC13118

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		VOC Method #	SVOC Method #	GC Method #	Metals	Other
0499-13	SC13118-01					Lloyd Kahn
0479-13	SC13118-02					Lloyd Kahn
0489-13	SC13118-03					Lloyd Kahn
0182-13 DP	SC13118-04					Lloyd Kahn

Sample Transmittal Documentation

Analysis Request / Environmental Services Subcontracting Form

eurofins | Lancaster Laboratories

For Lancaster Laboratories Use Only

Acct: _____ Group No.: 1596019 Sample Nos.: 8064407, 09, 12, 17

Date: 10/1/2015

SC13118

Subcontractor: EUROFINS SPECTRUM ANALYTICAL, INC.

LLI P.O.# : _____ Courier: FED EX

Submit report to: Kathy Binkley Ext.: 1393

Submit invoice to: Kathy Binkley

State where samples were collected: VT

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Sediment	Matrix: Potable / NPDES / Water	Matrix: Other	Total # of Containers	Analyses Requested: TOC by Lloyd Kahn	Preservation Codes	Temperature of samples upon receipt (if requested)
0498-13 13118-01	09/22/15	10:45	X		X				X		8064407
0479-13 -02	09/23/15	10:45	X		X				X		8064409
0489-13 -03	09/23/15	13:30	X		X				X		8064412
0489-13 DP -04	09/23/15	13:40	X		X				X		8064417

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments: Type 1 DP Level 4 and EDD. EDD format will follow.

Turnaround Time Requested (TAT): Standard Rush

Date Results are Needed:

Email Results to: KathyBinkley@EurofinsUS.com

Data Package Options (circled when required)
Type I (validation/NJ Reg) Type VI(Raw Data)
Type II (Tier II) Type III (Reduced NJ)
Type IV (CLP SOW) TX TRRP-13

SDG Complete? Yes No

MA MCP
CT RCP

Site-specific QC Required (MS/MSD/DUP)? Yes No
Internal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	10/1/15	1700			
Fed Ex	10/2		AA	10/2	12:49

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

AA 10/2/15

07-1-1/03/01 Rev. Chain of custody revised

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Page 39 of 89

SDG 13118 Page 6 / 55 REVISED

Analysis Request / Environmental Services Subcontracting Form

eurofins | Lancaster Laboratories

For Lancaster Laboratories Use Only

Acct: _____ Group No.: 1596019 Sample Nos.: 8064407, 09, 12, 17

Date: 10/1/2015

SC 13118

Subcontractor: EUROFINS SPECTRUM ANALYTICAL, INC.

LLI P.O.# : _____ Courier: FED EX

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Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Sediment	Matrix: Potable / NPDES / Water	Matrix: Other	Total # of Containers	Analyses Requested: TOC by Lloyd Kahn	Preservation Codes	Temperature of samples upon receipt (if requested)
~~0498-13~~ 0499-13	09/22/15	10:45	X	X	X				X		8064407
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0489-13	09/23/15	13:30	X	X	X				X		8064412
~~0489-13 DP~~ 0182-13DP	09/23/15	13:40	X	X	X				X		8064417

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

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Email Results to: KathyBinkley@EurofinsUS.com

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	10/1/15	1700			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

Data Package Options (circled when required)
Type I (validation/NJ Reg) Type VI(Raw Data)
Type II (Tier II) Type III (Reduced NJ)
Type IV (CLP SOW) TX TRRP-13

SDG Complete? Yes No

MA MCP
CT RCP

Site-specific QC Required (MS/MSD/DUP)? Yes No
Internal Chain of Custody Required? Yes No

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

SC13118

Eurofins Spectrum Analytical, Inc. - MA

Report To:

Eurofins Lancaster Laboratories Environmental, LLC
Kathy Binkley
2425 New Holland Pike
Lancaster, PA 17605-2425
Phone: (717) 656-2300
Fax: -

Project #:	1596019
Project:	See Chain of Custody
Date Due:	09-Oct-15 17:00
Received By:	Arshik Ahamed
Date Received:	02-Oct-15 12:49
Temperature:	-0.3°C
PO #:	

✓ Containers Intact	Frozen vials
✓ Properly Labeled	Frozen soil jars
✓ COC/Labels Agree	State EDD
✓ Received On Ice	✓ COC present
✓ Recd within hold time	✓ Custody seal present
Air-tight containers (Encore device)	✓ Custody seal intact
Refrigerated	COC complete
DW Field QC	

Lab ID	Client ID	Sampled	Lab Matrix / Report Matrix	Containers
SC13118-01	0499-13	22-Sep-15 10:45	Soil/Sediment / Sediment	A - 2 oz. jar
SC13118-02	0479-13	23-Sep-15 10:45	Soil/Sediment / Sediment	A - 2 oz. jar
SC13118-03	0489-13	23-Sep-15 13:30	Soil/Sediment / Sediment	A - 2 oz. jar
SC13118-04	0182-13 DP	23-Sep-15 13:40	Soil/Sediment / Sediment	A - 2 oz. jar

SC13118

Eurofins Spectrum Analytical, Inc. - MA

Analysis	Due	TAT	Comments
SC13118-01 0499-13			
wc-TOC-Lloyd Kahn	09-Oct-15 15:00	5	Type 1 DP Level 4
SC13118-02 0479-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13118-03 0489-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13118-04 0182-13 DP			
wc-TOC-Lloyd Kahn	"	"	"

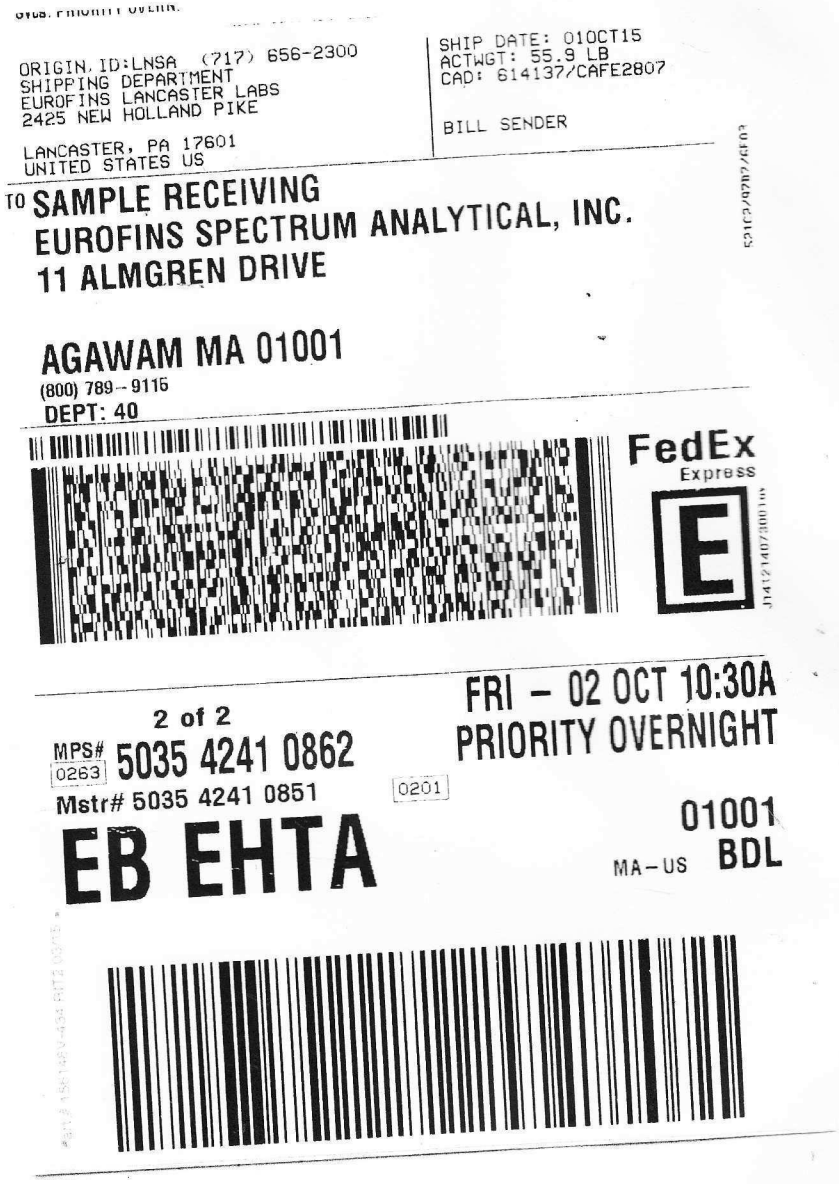
EUROFINS SPECTRUM ANALYTICAL, INC.

SAMPLE INTEGRITY FORM

Sample ID			Preservative Added						Notes
	Initial pH	Sample split	50% HCl - Element # 15D1359	50% H2SO4 - Element # 15H0773	50% NaOH - Element # 15B0084	Final pH	Chlorinated? (Y/N)	10% Na2S2O3 - Element # 15D0952	Work Order No. SC13118 Solid samples for VOC analyses: _____ Submitted in SA provided CH3OH/DI/NaHSO4 vials _____ Submitted in CH3OH/DI/NaHSO4, not SA _____ Not submitted in CH3OH/DI/NaHSO4

Notes:

COC login reviewed by: _____ Login Analyst Initials: _____ Date: 10/2/2015 (Rev. 2/5/2013)


ORIGIN ID:LNSA (717) 656-2300
SHIPPING DEPARTMENT
EUROFINS LANCASTER LABS
2425 NEW HOLLAND PIKE
LANCASTER, PA 17601
UNITED STATES US
SHIP DATE: 010CT15
ACTWGT: 55.9 LB
CAD: 614137/CAFE2807
BILL SENDER
TO SAMPLE RECEIVING
EUROFINS SPECTRUM ANALYTICAL, INC.
11 ALMGREN DRIVE
AGAWAM MA 01001
(800) 789-9115
DEPT: 40
FedEx
Express
2 of 2
MPS# 0263 5035 4241 0862
Mstr# 5035 4241 0851
0201
FRI - 02 OCT 10:30A
PRIORITY OVERNIGHT
EB EHTA
01001
MA-US BDL

Form I Summary Pack

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0499-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596019			Received:	10/02/15 12:49
Matrix:	Sediment	Laboratory ID:	SC13118-01	File ID:	10031353
Sampled:	09/22/15 10:45	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 13:58
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0008 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MRL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	219000	1	4950	5000	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0479-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596019			Received:	10/02/15 12:49
Matrix:	Sediment	Laboratory ID:	SC13118-02	File ID:	10031400
Sampled:	09/23/15 10:45	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 14:05
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0021 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MRL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	192000	1	1890	1900	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0489-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596019			Received:	10/02/15 12:49
Matrix:	Sediment	Laboratory ID:	SC13118-03	File ID:	10031406
Sampled:	09/23/15 13:30	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 14:10
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0029 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MRL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	50000	1	1370	1380	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0182-13 DP

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596019			Received:	10/02/15 12:49
Matrix:	Sediment	Laboratory ID:	SC13118-04	File ID:	10031411
Sampled:	09/23/15 13:40	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 14:15
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0052 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MRL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	54800	1	762	769	

Lloyd Kahn

CROSS REFERENCE TABLE

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Project Number:	1596019		

Client Sample ID:	Lab Sample ID:
0499-13	SC13118-01
0479-13	SC13118-02
0489-13	SC13118-03
0182-13 DP	SC13118-04

CASE NARRATIVE

Spectrum Analytical, Inc. Lab Reference No. SC13118

Client: Eurofins Lancaster Laboratories Environmental, LLC

Project: See Chain of Custody / 1596019

SDG #: 13118

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception or a communication form is included in the addendum with this package.

II. HOLDING TIMES

All samples were prepared and analyzed within the method-specific holding time.

III. METHODS

Analyses were performed according to Lloyd Kahn.

IV. PREPARATION

Soil/Sediment samples were prepared according to General Preparation.

V. INSTRUMENTATION

The following equipment was used to analyze Lloyd Kahn:

TOC2 details: Teledyne Tekmar Apollo 9000 / TOC Boat Sampler Model 183

VI. ANALYSIS

A. Calibration:

All quality control samples were within the acceptance criteria.

B. Blanks:

All blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Samples (LCS):

All method criteria were met.

2. Matrix Spike / Matrix Spike Duplicate Samples (MS/MSD):

No matrix spike or matrix spike duplicates were analyzed.

3. Reference:

All method criteria were met.

D. Duplicates:

No client requested duplicate. However, the method criteria may have been fulfilled with non-SDG source samples.

E. Samples:

All method criteria were met with the following exceptions:

October 28, 2015 Report Revision Case Narrative:

This report has been revised to include sample ID correction per client request.

Lloyd Kahn

QC Summary

FORM IIa - INITIAL AND CONTINUING CALIBRATION CHECK

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Instrument ID: TOC2

SDG: 13118
Project: See Chain of Custody
Calibration: 1507063
Sequence: S506983

Lab Sample ID	Analyte	True	Found	%R	QC Limits	Units	Method
S506983-ICV1	Total Organic Carbon	5430	5860	108	85 - 115	µg	Lloyd Kahn

* Values outside of QC limits

FORM IIa - INITIAL AND CONTINUING CALIBRATION CHECK

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Instrument ID: TOC2

SDG: 13118
Project: See Chain of Custody
Calibration: 1507063
Sequence: S508898

Lab Sample ID	Analyte	True	Found	%R	QC Limits	Units	Method
1518708-CCV1	Total Organic Carbon	8000	9140	114	85 - 115	mg/kg	Lloyd Kahn
1518708-CCV2	Total Organic Carbon	8000	8840	111	85 - 115	mg/kg	Lloyd Kahn
1518708-CCV3	Total Organic Carbon	8000	8540	107	85 - 115	mg/kg	Lloyd Kahn

* Values outside of QC limits

FORM III - BLANKS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13118
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Instrument ID: TOC2
Calibration: 1507063
Sequence: S506983
Matrix: Soil/Sediment

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
S506983-ICB1	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn

FORM III - BLANKS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13118
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Instrument ID: TOC2
Calibration: 1507063
Sequence: S508898
Matrix: Soil/Sediment

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
1518708-CCB1	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn
1518708-BLK1	Total Organic Carbon	BRL	100	mg/kg	U	Lloyd Kahn
1518708-CCB2	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn
1518708-CCB3	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn

FORM IIIa - LCS / LCS DUPLICATE RECOVERY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Matrix:	Soil/Sediment	Instrument:	TOC2
Batch:	1518708	Laboratory ID:	1518708-BS1
Preparation:	General Preparation	Initial/Final:	0.04 g / 1 ml
Analyzed:	10/03/15 11:54	Spike ID:	15G0891
		File ID:	10031149

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	8000	9060	113	75 - 125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VIIb(Inorganics) - STANDARD REFERENCE MATERIAL RECOVERY

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13118
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Matrix: Soil/Sediment
Spike ID: 15C0320
Batch: 1518708
Laboratory ID: 1518708-SRM1
Preparation: General Preparation
Initial/Final: 0.0206 g / 1 ml

ANALYTE	TRUE (mg/kg)	FOUND (mg/kg)	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	5430	5830	107	49 - 151

* Values outside of QC limits

Organic/FORM IX(Inorganic) - METHOD DETECTION AND REPORTING LIMITS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA **SDG:** 13118

Client: Eurofins Lancaster Laboratories Environmental, LLC **Project:** See Chain of Custody

Analyte	MDL	MRL	Units
Total Organic Carbon	99.0	100	mg/kg

Lloyd Kahn

Sample Data

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0499-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596019			Received:	10/02/15 12:49
Matrix:	Sediment	Laboratory ID:	SC13118-01	File ID:	10031353
Sampled:	09/22/15 10:45	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 13:58
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0008 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MRL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	219000	1	4950	5000	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0479-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596019			Received:	10/02/15 12:49
Matrix:	Sediment	Laboratory ID:	SC13118-02	File ID:	10031400
Sampled:	09/23/15 10:45	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 14:05
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0021 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MRL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	192000	1	1890	1900	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0489-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596019			Received:	10/02/15 12:49
Matrix:	Sediment	Laboratory ID:	SC13118-03	File ID:	10031406
Sampled:	09/23/15 13:30	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 14:10
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0029 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MRL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	50000	1	1370	1380	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0182-13 DP

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596019			Received:	10/02/15 12:49
Matrix:	Sediment	Laboratory ID:	SC13118-04	File ID:	10031411
Sampled:	09/23/15 13:40	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 14:15
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0052 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MRL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	54800	1	762	769	

Lloyd Kahn

Standards Data

FORM VI - INITIAL CALIBRATION DATA

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	0	0	1000	2110.995	2000	2020.206	4000	1984.608	8000	1905.392	12500	1875.863

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	15000	1812.287										

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

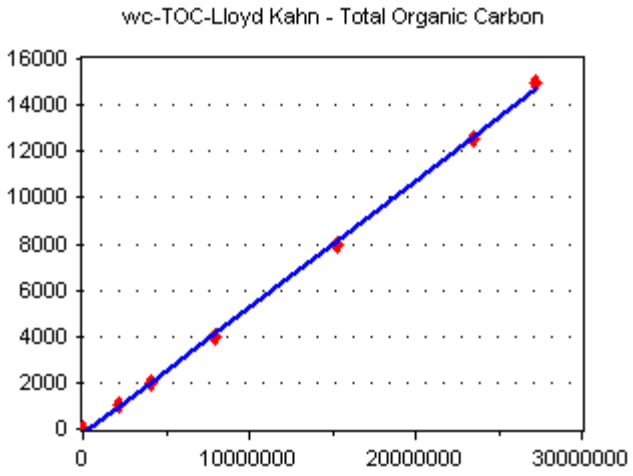
Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Total Organic Carbon	1672.765	44.48907	0	0	0.9990526		0.997	

Individual peaks for multi-component analytes are indicated by a number in parentheses

Instrument:	TOC2	Calibration Date:	23-Jul-15 11:19 By RLT
Calibration ID:	1507063	Last Edit Date:	24-Jul-15 11:20 By RLT

wc-TOC-Lloyd Kahn

Total Organic Carbon



Linear Regression

r2: 0.9990526

[Conc] = 5.486597E-04 * [Response] + -197.7798

Lloyd Kahn

Raw Quality Control Data

Detailed Analysis Report Print Date/Time: 2015/10/03 15:09:17

Sample ID: CLN Mode: TOC
Method: Filename: 10031115
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:19
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	706.0037	28.2401	1285560	102.169	103.169	149

Sample ID: CLN Mode: TOC
Method: Filename: 10031121
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:24
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	27.7574	1.1103	50543	101.598	101.667	120

Last Message: Low Sample Detected

Sample ID: SEQ-CCV1 Mode: TOC
Method: Filename: 10031134
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:38
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	9142.5049	365.7002	16647557	101.747	102.746	217

Sample ID: SEQ-CCB1 Mode: TOC
Method: Filename: 10031141
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:43
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	36.0305	1.4412	65608	101.271	102.268	42

Sample ID: 1518708-BLK1 Mode: TOC
Method: Filename: 10031145
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:48
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2.7114	0.1085	4937	101.993	101.452	120

Last Message: Low Sample Detected

Sample ID: 1518708-BS1 Mode: TOC
Method: Filename: 10031149
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:54
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	9058.7637	362.3505	16495072	101.237	102.235	234

Sample ID: 1518708-SRM1 Mode: TOC
Method: Filename: 10031155
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:59
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5825.3506	120.0022	5462791	102.545	103.544	166

Sample ID: SC12113-01A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt

Mode: TOC
Filename: 10031201
Timestamp: 2015/10/03 12:05
Sample Type: Sample

over range, see rr

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	96906.3984	978.7546	44555276	104.192	105.191	230

Sample ID: SC12113-01A RR
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt

Mode: TOC
Filename: 10031207
Timestamp: 2015/10/03 12:12
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	86197.0625	387.8868	17657544	103.485	104.485	211

over range, see rr

Sample ID: SC12115-04A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt

Mode: TOC
Filename: 10031213
Timestamp: 2015/10/03 12:17
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	64879.8438	772.0701	35146500	104.695	105.695	173

sample

Sample ID: SC12115-04A RR
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt

Mode: TOC
Filename: 10031218
Timestamp: 2015/10/03 12:24
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	73127.5000	336.3865	15313127	102.676	103.675	217

Sample ID: SC12115-08A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt

Mode: TOC
Filename: 10031226
Timestamp: 2015/10/03 12:31
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	64498.0742	264.4421	12038044	103.048	104.046	196

over range, see rr

Sample ID: SC12115-09A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt

Mode: TOC
Filename: 10031232
Timestamp: 2015/10/03 12:39
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	181495.7188	707.8333	32222282	103.205	104.204	283

Sample ID: SC12115-09A RR
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt

Mode: TOC
Filename: 10031240
Timestamp: 2015/10/03 12:46
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	174037.5938	295.8639	13468441	103.393	104.391	271

Sample ID: SEQ-CCV2 Mode: TOC
Method: Filename: 10031247
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 12:51
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	8841.3281	353.6531	16099145	104.933	105.931	187

Sample ID: SEQ-CCB2 Mode: TOC
Method: Filename: 10031252
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 12:55
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	32.6277	1.3051	59412	104.387	105.385	76

Sample ID: SC12115-02A Mode: TOC
Method: Filename: 10031255
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 12:59
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	111551.0156	524.2898	23866938	103.959	104.955	183

Sample ID: SC12115-010A Mode: TOC
Method: Filename: 10031303
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 13:09
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	203915.0938	244.6981	11139250	103.982	104.980	199

1518708-dup1

Sample ID: SC12115-04(2) Mode: TOC
Method: Filename: 10031331
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 13:35
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	68953.5859	372.3493	16950244	101.922	102.922	156

Sample ID: SC12115-04(3) Mode: TOC
Method: Filename: 10031336
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 13:39
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	64234.0234	295.4765	13450805	103.302	104.288	135

Sample ID: SC12115-04(4) Mode: TOC
Method: Filename: 10031341
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 13:46
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	85188.7969	442.9818	20165600	101.044	102.042	177

Sample ID: SC12118-01A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031353
Timestamp: 2015/10/03 13:58
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	219100.1094	175.2801	7979173	100.897	101.896	201

Sample ID: SC13118-02A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031400
Timestamp: 2015/10/03 14:05
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	192264.0312	403.7544	18379880	100.916	101.916	183

Sample ID: SC13118-03A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031406
Timestamp: 2015/10/03 14:10
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	50033.4922	145.0971	6605172	100.906	101.906	144

Sample ID: SC13118-04A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031411
Timestamp: 2015/10/03 14:15
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	54797.3906	284.9464	12971450	101.007	102.005	168

Sample ID: SC13115-03A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031418
Timestamp: 2015/10/03 14:22
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	106298.5312	297.6359	13549105	101.340	102.337	156

Sample ID: SEQ-CCV3
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031424
Timestamp: 2015/10/03 14:28
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	8543.1475	341.7259	15556188	101.420	102.420	196

Sample ID: SEQ-CCB3
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031429
Timestamp: 2015/10/03 14:32
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	68.1085	2.7243	124018	101.882	102.614	120

Last Message: Low Sample Detected

Lloyd Kahn

Data Processing Summary

PREPARATION BENCH SHEET

1518708

Eurofins Spectrum Analytical, Inc. - Agawam, MA

Temp °C	Correction Factor	Corrected Temp °C
10.4	-2	10.2

Balance ID: HS — 10.280 KW

Thermometer ID: NF44D

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **Sequence: S508898**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518708-BLK1	Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-BS1	LCS		QC	0.04	1	15G0891			02-Oct-15 17:28	
1518708-CCB1	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB2	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB3	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCV1	Calibration Check		QC	0.04	1	15G0891			02-Oct-15 17:28	
1518708-CCV2	Calibration Check		QC	0.04	1	15G0891			02-Oct-15 17:28	
1518708-CCV3	Calibration Check		QC	0.04	1	15G0891			02-Oct-15 17:28	
1518708-DUP1	Duplicate		QC	0.0054	1		SC13115-04		24-Sep-15 13:00	
1518708-SRM1	Reference		QC	0.0206	1	15C0320			02-Oct-15 17:28	
SC13113-01	BCP-SED-OF7(12-24)	A	wc-TOC-Lloyd	0.0045	1			09-Oct-15 15:00	22-Sep-15 11:30	DP-NYSDEC Cat B
SC13115-02	0493-13	A	wc-TOC-Lloyd	0.0047	1			09-Oct-15 15:00	24-Sep-15 12:00	Type 1 DP Level 4
SC13115-03	0164-13 DP	A	wc-TOC-Lloyd	0.0028	1			09-Oct-15 15:00	24-Sep-15 12:15	Type 1 DP Level 4
SC13115-04	0495-13	A	wc-TOC-Lloyd	0.0046	1			09-Oct-15 15:00	24-Sep-15 13:00	Type 1 DP Level 4
SC13115-08	0498-13	A	wc-TOC-Lloyd	0.0041	1			09-Oct-15 15:00	22-Sep-15 10:30	Type 1 DP Level 4
SC13115-09	0499-13	A	wc-TOC-Lloyd	0.0017	1			09-Oct-15 15:00	22-Sep-15 10:45	Type 1 DP Level 4
SC13115-10	0497-13	A	wc-TOC-Lloyd	0.0012	1			09-Oct-15 15:00	22-Sep-15 13:25	Type 1 DP Level 4
SC13118-01	0498-13	A	wc-TOC-Lloyd	0.0008	1			09-Oct-15 15:00	22-Sep-15 10:45	Type 1 DP Level 4
SC13118-02	0479-13	A	wc-TOC-Lloyd	0.0021	1			09-Oct-15 15:00	23-Sep-15 10:45	Type 1 DP Level 4
SC13118-03	0489-13	A	wc-TOC-Lloyd	0.0029	1			09-Oct-15 15:00	23-Sep-15 13:30	Type 1 DP Level 4

Analyst Reviewed 10/8/15 Date

Manager Reviewed 10/9/15 Date

Extracts Received By Date

Printed: 10/8/2015 6:47:07PM

PREPARATION BENCH SHEET

1518708

Eurofins Spectrum Analytical, Inc. - Agawam, MA

Temp °C	Correction Factor	Corrected Temp °C
10.4	-2	10.2

Balance ID: C

Thermometer ID: N7440

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **Sequence: S508898**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
SC13118-04	0489-13 DP Low	A	wc-TOC-Lloyd	0.0052	1			09-Oct-15 15:00	23-Sep-15 13:40	Type 1 DP Level 4

10.02.15
rlt
toc soil

Reagents Used:

15G0336 Nitric Acid 50%

Analyst Reviewed 10/8/15 Date

Manager Reviewed 10/9/15 Date

Extracts Received By Date

Printed: 10/8/2015 6:47:07PM

PREPARATION BENCH SHEET

1518708

Balance ID _____

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **(No Surrogate)**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518708-BLK1	Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-BS1	LCS		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB1	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB2	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB3	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCV1	Calibration Check		QC	0.04	1				02-Oct-15 17:28	
1518708-CCV2	Calibration Check		QC	0.04	1				02-Oct-15 17:28	
1518708-CCV3	Calibration Check		QC	0.04	1				02-Oct-15 17:28	
1518708-DUP1	Duplicate		QC	0.04	1				02-Oct-15 17:28	
1518708-SRM1	Reference		QC	0.04	1	0.0206			02-Oct-15 17:28	
SC13113-01	BCP-SED-DF7(12-24)	A	wc-TOC-Lloyd	0.04	1	0.0181	0.0045	09-Oct-15 15:00	22-Sep-15 11:30	**DP-NYSDEC Cat B**
SC13114-01	0481-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	21-Sep-15 11:10	**Type 1 DP Level 4**
SC13114-02	0483-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	21-Sep-15 13:30	**Type 1 DP Level 4**
SC13114-03	0163-13DP	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	21-Sep-15 13:50	**Type 1 DP Level 4**
SC13114-04	0485-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	21-Sep-15 14:40	**Type 1 DP Level 4**
SC13115-04	0495-13	A	wc-TOC-Lloyd	0.04	1	0.0119	0.0046	09-Oct-15 15:00	24-Sep-15 13:00	**Type 1 DP Level 4**
SC13115-05	0479-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	23-Sep-15 10:45	**Type 1 DP Level 4**
SC13115-06	0489-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	23-Sep-15 13:30	**Type 1 DP Level 4**
SC13115-07	0487-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	23-Sep-15 14:50	**Type 1 DP Level 4**
SC13115-08	0498-13	A	wc-TOC-Lloyd	0.04	1	0.0041		09-Oct-15 15:00	22-Sep-15 10:30	**Type 1 DP Level 4**
SC13115-09	0499-13	A	wc-TOC-Lloyd	0.04	1	0.0039	0.0017	09-Oct-15 15:00	22-Sep-15 10:45	**Type 1 DP Level 4**
SC13115-10	0497-13	A	wc-TOC-Lloyd	0.04	1	0.0012		09-Oct-15 15:00	22-Sep-15 13:35	**Type 1 DP Level 4**

Analyst Reviewed Date

Manager Reviewed Date

Extracts Received By Date

Printed: 10/3/2015 10:10:16AM

HIGH CURVE

PREPARATION BENCH SHEET

1518720

CS 10/8

Balance ID _____

Matrix: Soil/Sediment

Prepared using: Wet Chem - General Preparation

(No Surrogate)

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518720-BLK1	Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-BS1	LCS		QC	0.04	1				03-Oct-15 10:08	
1518720-DUP1	Duplicate		QC	0.04	1				03-Oct-15 10:08	
1518720-SRM1	Reference		QC	0.04	1				03-Oct-15 10:08	
SC13118-01	0498-13 HIGH	A	wc-TOC-Lloyd	0.04	0.0008			09-Oct-15 15:00	22-Sep-15 10:45	**Type 1 DP Level 4**
SC13118-02	0479-13 HIGH	A	wc-TOC-Lloyd	0.04	10 0020			09-Oct-15 15:00	23-Sep-15 10:45	**Type 1 DP Level 4**
SC13118-03	0489-13 HIGH	A	wc-TOC-Lloyd	0.04	1	0.0029		09-Oct-15 15:00	23-Sep-15 13:30	**Type 1 DP Level 4**
SC13118-04	0489-13 DP HIGH	A	wc-TOC-Lloyd	0.04	1	0.0052		09-Oct-15 15:00	23-Sep-15 13:40	**Type 1 DP Level 4**

10.03.15
rlt
toc soil

Reagents Used:

15G0336 Nitric Acid 50%

HIGH -02A 0.0047
-04A
-05A -012
-01A LOW
-03A 0.0028

Analyst Reviewed Date

Manager Reviewed Date

Extracts Received By Date

Printed: 10/3/2015 10:09:35AM

Lloyd Kahn Method - TOC							
10/3/2015							
Sample ID:	Replicate 1	Replicate 2	Replicate 3	Replicate 4	Standard Deviation	Mean	% RSD
SC13115-04A	73127.5	68953.5859	64234.0234	85188.7969	8976.586428	72875.98	12.31762
					#DIV/0!	#DIV/0!	#DIV/0!
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Rev. 4/15/09

FORM VIII(Organics)/FORM XIII(Inorganics)
ANALYSIS BATCH (SEQUENCE) SUMMARY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Sequence:	S506983	Instrument:	TOC2
		Calibration:	1507063

Sample Name	Lab Sample ID	Lab File ID	Analyzed
Cal Standard	S506983-CAL1	07231501	07/23/15 15:04
Cal Standard	S506983-CAL2	07231505	07/23/15 15:08
Cal Standard	S506983-CAL3	07231508	07/23/15 15:11
Cal Standard	S506983-CAL4	07231512	07/23/15 15:15
Cal Standard	S506983-CAL5	07231516	07/23/15 15:19
Cal Standard	S506983-CAL6	07231520	07/23/15 15:23
Cal Standard	S506983-CAL7	07231545	07/23/15 15:49
Initial Cal Check	S506983-ICV1	07231605	07/23/15 16:08
Initial Cal Blank	S506983-ICB1	07231608	07/23/15 16:11

FORM VIII(Organics)/FORM XIII(Inorganics)
ANALYSIS BATCH (SEQUENCE) SUMMARY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Sequence:	S508898	Instrument:	TOC2
		Calibration:	1507063

Sample Name	Lab Sample ID	Lab File ID	Analyzed
Calibration Check	1518708-CCV1	10031134	10/03/15 11:38
Calibration Blank	1518708-CCB1	10031141	10/03/15 11:43
Blank	1518708-BLK1	10031145	10/03/15 11:48
LCS	1518708-BS1	10031149	10/03/15 11:54
Reference	1518708-SRM1	10031155	10/03/15 11:59
Calibration Check	1518708-CCV2	10031247	10/03/15 12:51
Calibration Blank	1518708-CCB2	10031252	10/03/15 12:55
0499-13	SC13118-01	10031353	10/03/15 13:58
0479-13	SC13118-02	10031400	10/03/15 14:05
0489-13	SC13118-03	10031406	10/03/15 14:10
0182-13 DP	SC13118-04	10031411	10/03/15 14:15
Calibration Check	1518708-CCV3	10031424	10/03/15 14:28
Calibration Blank	1518708-CCB3	10031429	10/03/15 14:32

Multiple Analysis Report Print Date/Time: 2015/10/22 12:35:01

Sample ID	Result	Std. Dev.	RSD	Mode	ALT	Method ID	Sample Type	Vial	Timestamp	Message
CLN	706.0037			TOC			Sample		2015/10/03 11:19	
CLN	27.7574			TOC			Sample		2015/10/03 11:24	Low Sample Detected
SEQ-CCV1	9142.5049			TOC			Sample		2015/10/03 11:38	
SEQ-CCB1	36.0305			TOC			Sample		2015/10/03 11:43	
1518708-BLK1	2.7114			TOC			Sample		2015/10/03 11:48	Low Sample Detected
1518708-BS1	9058.7637			TOC			Sample		2015/10/03 11:54	
1518708-SRM1	5825.3506			TOC			Sample		2015/10/03 11:59	
SC12113-01A	96906.3984			TOC			Sample		2015/10/03 12:05	
SC12113-01A RR	86197.0625			TOC			Sample		2015/10/03 12:12	
SC12115-04A	64879.8438			TOC			Sample		2015/10/03 12:17	
SC12115-04A RR	73127.5000			TOC			Sample		2015/10/03 12:24	
SC12115-08A	64498.0742			TOC			Sample		2015/10/03 12:31	
SC12115-09A	181495.7188			TOC			Sample		2015/10/03 12:39	
SC12115-09A RR	174037.5938			TOC			Sample		2015/10/03 12:46	
SEQ-CCV2	8841.3281			TOC			Sample		2015/10/03 12:51	
SEQ-CCB2	32.6277			TOC			Sample		2015/10/03 12:55	
SC12115-02A	111551.0156			TOC			Sample		2015/10/03 12:59	
SC12115-010A	203915.0938			TOC			Sample		2015/10/03 13:09	
SC12115-04(2)	68953.5859			TOC			Sample		2015/10/03 13:35	
SC12115-04(3)	64234.0234			TOC			Sample		2015/10/03 13:39	
SC12115-04(4)	85188.7969			TOC			Sample		2015/10/03 13:46	
SC12118-01A	219100.1094			TOC			Sample		2015/10/03 13:58	
SC13118-02A	192264.0312			TOC			Sample		2015/10/03 14:05	
SC13118-03A	50033.4922			TOC			Sample		2015/10/03 14:10	
SC13118-04A	54797.3906			TOC			Sample		2015/10/03 14:15	
SC13115-03A	106298.5312			TOC			Sample		2015/10/03 14:22	
SEQ-CCV3	8543.1475			TOC			Sample		2015/10/03 14:28	
SEQ-CCB3	68.1085			TOC			Sample		2015/10/03 14:32	Low Sample Detected

Notes & Definitions

BRL Below the reporting limit and also indicates there are no detections between the MDL and MRL

Form I 'Q' column

B The analyte was found in the associated blank as well as the sample

D All identified compounds in the analysis are at a secondary dilution factor

E The identified compound's concentration exceeds the calibration range of the instrument for this specific analysis

J Compound detected but below the reporting limit and above the minimum detection limit (MDL); therefore, the result is an estimated concentration

N Included for TIC that indicates presumptive evidence of a compound

P Used for a Dual Column target analyte when the concentration difference between the two GC columns is greater than 40%.

U Compound was analyzed for but not detected

Form IIa 'Method' column

This column refers to the instrument used for analysis

IR Iris ICP
MS Thermo ICP/MS
AV Mercury analyzer

Form VI 'Q' column

***** indicates that:
Mean RF is above the value in the LIMIT column, or
Linear COD is below the value in the LIMIT column, or
Quad COD is below the value in the LIMIT column

Form VII 'Type' column

A average of response factor
L linear regression
Q quadratic equation

Form VIII 'Q' column for Inorganics

E The dilution analysis is not within a control limit of 10%, therefore a chemical or physical interference effect must be suspected

Last Page of Data Report

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Metals in Solid Data

Case Narrative/Conformance Summary

Metals in Solid

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC26

ICP Metals

Fraction: Metals in Solid

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8064406	0499-13		X	1	
8064408	0479-13		X	1	
8064410	0489-13		X	1	Background/Unspiked
8064413	0489-13 MS		X	1	Matrix Spike
8064414	0489-13 MSD		X	1	Matrix Spike Duplicate
8064415	0489-13 DUP		X	1	Duplicate
8064416	0182-13 DP		X	1	Field Duplicate Sample

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Method Blank

For noncompliant preparation/method blanks, corrective action is not required if the sample is ND or > 10 times the blank concentration, unless otherwise specified in the method or by the client.

LCS/LCSD

MS/MSD

Method defined actions are taken for any failed matrix QC.

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC26

ICP Metals

Fraction: Metals in Solid

Batch#: 152794792002 (Sample number(s): 8064406, 8064408, 8064410, 8064413-8064416, UNSPK: 8064410, BKG: 8064410)
The recovery(ies) for the following analyte(s) in the MS and MSD is outside the acceptance window: Copper, Lead, Mercury, Zinc
Refer to the QC Summary forms for more information.

Surrogate

Sample Duplicate

Serial Dilution

Post Digestion Spike

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

The instrument detection limits (IDLs) are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The method detection limits (MDLs) are used for determining all other U flags.

Additional Comments

(Sample number(s): 8064406, 8064408, 8064410, 8064413-8064416: Analysis: 06955)
After consultation with the client, the reporting limit for Lead was raised due to a detection in the Method Blank.

Abbreviation Key

BKG – Background	AF - Cold Vapor Atomic Fluorescence
DUP – Duplicate	U - Below MDL
MS - Matrix Spike	B - Below LOQ
MSD - Matrix Spike Dup	N - Matrix Spike out of specifications

Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC26

ICP Metals

Fraction: Metals in Solid

B – Blank	* - Duplicate out of specifications
Q - Laboratory Control Sample	E - Matrix Effects exist as proven by Serial Dilution or Spiked Dilution
Y - Laboratory Control Sample Duplicate	A - Post Digestion Spike
P - ICP Atomic Emission Spectrometer	L - Serial Dilution
MS - ICP Mass Spectrometry	R - Internal Standard Relative Intensity OOS
CV - Cold Vapor	NR - Not Required

Sample Data

Metals in Solid

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC26
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064406 % Solids: 100.0
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-50-8	Copper	19.2			P
7439-92-1	Lead	17.6			P
7439-97-6	Mercury	0.0015	U		CV
7440-66-6	Zinc	182			P

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC26
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064408 % Solids: 100.0
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-50-8	Copper	3.1			P
7439-92-1	Lead	16.2			P
7439-97-6	Mercury	0.0015	U		CV
7440-66-6	Zinc	28.8			P

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC26
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064410BKG % Solids: 100.0
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-50-8	Copper	10.4			P
7439-92-1	Lead	22.7			P
7439-97-6	Mercury	0.0015	U		CV
7440-66-6	Zinc	71.0			P

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC26
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064413MS % Solids: 100.0
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-50-8	Copper	3.4			P
7439-92-1	Lead	23.2			P
7439-97-6	Mercury	0.0014	U		CV
7440-66-6	Zinc	74.2			P

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC26
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064414MSD % Solids: 100.0
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-50-8	Copper	3.7			P
7439-92-1	Lead	25.0			P
7439-97-6	Mercury	0.0014	U		CV
7440-66-6	Zinc	79.6			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC26
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064415DUP % Solids: 100.0
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-50-8	Copper	9.4			P
7439-92-1	Lead	21.2			P
7439-97-6	Mercury	0.0015	U		CV
7440-66-6	Zinc	66.2			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC26
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064416 % Solids: 100.0
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-50-8	Copper	13.3			P
7439-92-1	Lead	18.2			P
7439-97-6	Mercury	0.0014	U		CV
7440-66-6	Zinc	60.3			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

Quality Control and Calibration Summary Forms

Metals in Solid

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QUALITY CONTROL REFERENCE LIST

SDG No.: PSC26
Matrix: SOIL

Analyte	Batch ID	Lab Sample ID
Copper	P27992B	8064406
Lead		8064408
Zinc		8064410BKG
		8064413MS
		8064414MSD
		8064415DUP
		8064416
		P27992BB
		P27992BQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

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QUALITY CONTROL REFERENCE LIST

SDG No.: PSC26
Matrix: SOIL

Analyte	Batch ID	Lab Sample ID
Mercury	P27992B	8064406
		8064408
		8064410BKG
		8064413MS
		8064414MSD
		8064415DUP
		8064416
		P27992BB
		P27992BQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC26

Method: P
Run Name: 1527907T73
Calibration Date(s): 10/06/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Copper		600.0	598.55	99.8	500.0	497.67	99.5	500.0	501.89	100.4
Lead										
Zinc		600.0	605.22	100.9	500.0	495.01	99.0	500.0	492.51	98.5

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC26

Method: P
Run Name: 1527907T73
Calibration Date(s): 10/06/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Copper					500.0	501.47	100.3			
Lead										
Zinc					500.0	492.57	98.5			

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC26

Method: P
Run Name: 1528203T73
Calibration Date(s): 10/09/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Copper										
Lead		600.0	606.79	101.1	500.0	493.05	98.6	500.0	495.77	99.2
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC26

Method: P
Run Name: 1528203T73
Calibration Date(s): 10/09/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Copper										
Lead					500.0	491.41	98.3			
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Run Name: 1528002M07
Calibration Date(s): 10/07/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury		2.5	2.67	106.8	1.0	0.98	98.0	1.0	0.98	98.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC26

Method: CV
Run Name: 1528002M07
Calibration Date(s): 10/07/2015
Concentration Units: UG/L

		Initial Calibration			Continuing Calibration					
Analyte	Mass	True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.99	99.0	1.0	0.98	98.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: P
Run Name: 1527907T73
Calibration Date(s): 10/06/2015
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Copper		10.0	11.60	116.0	10.91	109.1
Lead						
Zinc		20.0	20.61	103.1	20.72	103.6

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: P
Run Name: 1528203T73
Calibration Date(s): 10/09/2015
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Copper						
Lead		15.0	19.06	127.1	15.65	104.3
Zinc						

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: PSC26

Method: CV
Run Name: 1528002M07
Calibration Date(s): 10/07/2015
Concentration Units: UG/L

			Initial		Final	
Analyte	Mass	True	Found	%R	Found	%R
Mercury		0.2	0.21	105.0	0.21	105.0

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC26

Method: P
Run Name: 1527907T73
Calibration Date(s): 10/06/2015
Preparation Blank Matrix: SOIL

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Copper		1.7	U	1.7	U	1.7	U	1.7	B		0.117	B	P27992BB
Lead													
Zinc		2.0	U	2.0	U	2.0	U	2.0	U		0.812		P27992BB

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC26

Method: P
Run Name: 1528203T73
Calibration Date(s): 10/09/2015
Preparation Blank Matrix: SOIL

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Copper													
Lead		2.5	U	2.5	U	2.5	U	2.5	U		1.573		P27992BB
Zinc													

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC26

Method: CV
Run Name: 1528002M07
Calibration Date(s): 10/07/2015
Preparation Blank Matrix: SOIL

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury		0.050	U	0.050	U	0.050	U	0.050	U		0.002	U	P27992BB

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC26

Method: CV
Run Name: 1528002M07
Calibration Date(s): 10/07/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury				0.050	U								

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: PSC26

Instrument ID: 18255
Run Name: 1527907T73
Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	500000	500000	497086	99.4	495239.3	99.0	501456	100.3	492954.6	98.6
Calcium	500000	500000	506854	101.4	505333.1	101.1	512671	102.5	501933.0	100.4
Copper	0	500	-3		523.4	104.7	-3		519.7	103.9
Iron	200000	200000	202034	101.0	200372.6	100.2	202515	101.3	198825.5	99.4
Lead										
Magnesium	500000	500000	504132	100.8	500248.4	100.0	515971	103.2	499255.8	99.9
Zinc	0	1000	8		958.8	95.9	8		958.6	95.9

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: PSC26

Instrument ID: 18255
Run Name: 1528203T73
Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	500000	500000	490357	98.1	487288.6	97.5	491553	98.3	489363.2	97.9
Calcium	500000	500000	501004	100.2	497415.4	99.5	502521	100.5	499436.4	99.9
Copper										
Iron	200000	200000	197767	98.9	197586.6	98.8	199825	99.9	199104.1	99.6
Lead	0	50	2		45.6	91.2	3		48.9	97.8
Magnesium	500000	500000	499673	99.9	498272.4	99.7	506646	101.3	505194.2	101.0
Zinc										

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: PSC26
Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 8064410BKG Matrix Spike Lab Sample ID: 8064413MS Matrix Spike Duplicate Lab Sample ID: 8064414MSD
Batch Id(s): P27992B

		BKG Sample		MS Sample		MSD Sample		MS Spike	MSD Spike		MS		MSD				Control Limit		
Analyte	Mass	Result	C	Result	C	Result	C	Added	Added	Units	%R	Q	%R	Q	RPD	Q	%R	RPD	M
Copper		10.4288		3.3854		3.6589		6.0328	6.0270	MG/KG	-117	N	-112	N	8		75 - 125	20	P
Lead		22.6564		23.2471		24.9928		3.6197	3.6162	MG/KG	16		65		7			20	P
Mercury		0.0015	U	0.0015	U	0.0014	U	0.0965	0.0964	MG/KG	0	N	0	N	7		80 - 120	20	CV
Zinc		70.9988		74.1976		79.6078		12.0656	12.0540	MG/KG	27		71		7			20	P

Note: Results shown are reported on an as-received basis.

METHODS:
P = ICP Atomic Emission Spectrometer CV = Cold Vapor
MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL, B= Below LOQ
FLAGS:
N = Matrix Spike OOS, * = Duplicate OOS

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QUALITY ASSURANCE SUMMARY
FORM 5B
POST DIGEST SPIKE SAMPLE RECOVERY
SDG No.: PSC26
Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 8064410BKG Post Digest Spike Lab Sample ID: 8064410A
Batch ID(s): P27992B
Concentration Units: UG/L

Analyte	Mass	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Copper			909.2000		418.8200		500.0000	98		P

Comments:
_____
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_____

Note: Results shown are reported on an as-received basis.

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 6
DUPLICATES
SDG No.: PSC26
Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 8064410BKG Duplicate Lab Sample ID: 8064415DUP
Batch ID(s): P27992B
Concentration Units: MG/KG

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Copper			10.4288		9.4029		10		P
Lead			22.6564		21.1579		7		P
Mercury			-0.0015	B	0.0015	U	-200		CV
Zinc			70.9988		66.1987		7		P

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

Note: Results shown are reported on an as-received basis.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
* = Duplicate Out of Spec

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QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: PSC26
Matrix: SOIL

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Copper		P27992BQ	MG/KG	6.250	6.216		80 - 120	99	P	Yes
Lead		P27992BQ	MG/KG	3.750	3.710		80 - 120	99	P	Yes
Mercury		P27992BQ	MG/KG	0.100	0.096		80 - 120	96	CV	Yes
Zinc		P27992BQ	MG/KG	12.500	12.937		80 - 120	103	P	Yes

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: PSC26
Matrix: SOIL

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Lead		P27992BQ	MG/KG	15.000	3.710		80 - 120	25	P	No

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 9
SERIAL DILUTIONS
SDG No.: PSC26
Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 8064410BKG Serial Dilution Lab Sample ID: 8064410L
Batch ID(s): P27992B
Concentration Units: UG/L

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Copper		418.8200		411.9500		2		P
Lead		909.8800		927.2000		2		P
Zinc		2851.3100		2922.3500		2		P

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
E = Matrix Effects exist as proven by Serial Dilution or Spiked Dilution

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QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: PSC26

Method: P
Instrument ID: 16315
Date: 07/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Copper			
Lead	220.35		2.5
Zinc			

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: P
Instrument ID: 18255
Date: 07/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Copper	327.40		1.7
Lead	220.35		2.5
Zinc	213.86		2.0

Comments:

_____
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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Instrument ID: 17384
Date: 07/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Mercury	254.00		0.050

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC26
Matrix: SOIL

Method: P
Date: 07/2015

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Copper	327.40		10.0	2.8
Lead	220.35		15.0	3.2
Zinc	213.86		20.0	7.7

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC26
Matrix: SOIL

Method: CV
Date: 07/2015

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Mercury	254.00		0.60	0.060

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

_____
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_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC26

Instrument ID: 16315
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: AL	CA	FE	MG	CO
Lead	220.35	0.0001710	0.0000000	0.0000490	0.0000000	-0.0000890

Comments:
_____
_____
_____
_____

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC26

Instrument ID: 16315
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: CR	CU	MO	NI	SI
Lead	220.35	0.0000420	0.0011050	-0.0012300	-0.0000500	0.0002660

Comments:
_____
_____
_____
_____

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC26

Instrument ID: 16315
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: W	--	--	--	--
Lead	220.35	-0.0009170				

Comments:

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC26

Instrument ID: 18255
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: AL	CA	FE	MG	CO
Copper	327.40	0.0000000	0.0000230	0.0000000	0.0000000	0.0002960
Lead	220.35	0.0001410	0.0000000	0.0000020	0.0000000	0.0000000
Zinc	213.86	0.0000000	0.0000000	0.0000850	0.0000000	0.0000000

Comments:
_____
_____
_____
_____

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC26

Instrument ID: 18255
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: CR	CU	MO	NI	SI
Copper	327.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0000000	0.0002590	-0.0028050	0.0000000	0.0000780
Zinc	213.86	0.0000000	0.0011920	0.0000000	0.0052370	0.0000000

Comments:
_____
_____
_____
_____

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC26

Instrument ID: 18255
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: TH	TI	ZR	--	--
Copper	327.40	0.0205160	-0.0047690	-0.0010740		
Lead	220.35	0.0000000	0.0000000	0.0000000		
Zinc	213.86	0.0000000	0.0000000	0.0000000		

Comments:
_____
_____
_____
_____

QUALITY ASSURANCE SUMMARY
FORM 12
LINEAR RANGES
SDG No.: PSC26

Method: P
Instrument ID: 16315
Date: 07/2015

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Copper			
Lead	220.35	10.00	10000.0
Zinc			

Comments:
_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 12
LINEAR RANGES
SDG No.: PSC26

Method: P
Instrument ID: 18255
Date: 07/2015

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Copper	327.4	10.00	20000.0
Lead	220.35	10.00	20000.0
Zinc	213.86	10.00	10000.0

Comments:
_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: P
Batch ID: P27992B

Lab Sample ID	Date	Sample Weight(gram)	Final Volume(ml)
8064406	10/06/2015	10.00	250
8064408	10/06/2015	10.33	250
8064416	10/06/2015	10.36	250
8064410BKG	10/06/2015	10.04	250
8064415DUP	10/06/2015	10.04	250
8064414MSD	10/06/2015	10.37	250
8064413MS	10/06/2015	10.36	250
P27992BB	10/06/2015	10.00	250
P27992BQ	10/06/2015	10.00	250

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

Method: CV
Batch ID: P27992B

Lab Sample ID	Date	Sample Weight(gram)	Final Volume(ml)
8064406	10/06/2015	10.00	250
8064408	10/06/2015	10.33	250
8064416	10/06/2015	10.36	250
8064410BKG	10/06/2015	10.04	250
8064415DUP	10/06/2015	10.04	250
8064414MSD	10/06/2015	10.37	250
8064413MS	10/06/2015	10.36	250
P27992BB	10/06/2015	10.00	250
P27992BQ	10/06/2015	10.00	250

METHODS:	LEGEND:
P = ICP Atomic Emission Spectrometer	BKG = Background
MS = ICP Mass Spectrometry	DUP = Duplicate
CV = Cold Vapor	MS = Matrix Spike
AF = Cold Vapor Atomic Fluorescence	MSD = Matrix Spike Duplicate
	B = Blank
	Q = Laboratory Control Sample
	Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC26

Method: P
Instrument ID: 18255
Run Name: 1527907T73

Run Start Date: 10/06/2015
Run End Date: 10/06/2015

Lab Sample ID	D/F	Time	Analytes																													
			CU	PB	HG	ZN																										
S0	1.00	22:16	X			X																										
S	1.00	22:19																														
S	1.00	22:22	X			X																										
S	1.00	22:24																														
ICV	1.00	22:27	X			X																										
ICB	1.00	22:30	X			X																										
LLC	1.00	22:32	X			X																										
ICSA	1.00	22:35	X			X																										
ICSAB	1.00	22:38	X			X																										
CCV	1.00	22:40	X			X																										
CCB	1.00	22:43	X			X																										
P27992BB	1.00	22:46	X			X																										
P27992BQ	1.00	22:48	X			X																										
8064410BKG	1.00	22:51	X			X																										
8064410A	1.00	22:54	X																													
8064415DUP	1.00	22:57	X			X																										
8064413MS	1.00	22:59	X			X																										
8064414MSD	1.00	23:02	X			X																										
8064410L	5.00	23:05	X			X																										
8064406	1.00	23:08	X			X																										
8064408	1.00	23:11	X			X																										
CCV	1.00	23:13	X			X																										
CCB	1.00	23:16	X			X																										
8064416	1.00	23:18	X			X																										
LLC	1.00	23:21	X			X																										
ICSA	1.00	23:24	X			X																										
ICSAB	1.00	23:27	X			X																										
CCV	1.00	23:29	X			X																										
CCB	1.00	23:32	X			X																										

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC26

Method: P
Instrument ID: 18255
Run Name: 1528203T73

Run Start Date: 10/09/2015
Run End Date: 10/09/2015

Lab Sample ID	D/F	Time	Analytes																													
			CU	PB	HG	ZN																										
S0	1.00	09:03		X																												
S	1.00	09:06																														
S	1.00	09:09		X																												
S	1.00	09:11																														
ICV	1.00	09:14		X																												
ICB	1.00	09:17		X																												
LLC	1.00	09:19		X																												
ICSA	1.00	09:22		X																												
ICSAB	1.00	09:25		X																												
CCV	1.00	09:27		X																												
CCB	1.00	09:30		X																												
P27992BB	1.00	09:33		X																												
P27992BQ	1.00	09:35		X																												
8064410BKG	1.00	09:38		X																												
ZZZZZZ	1.00	09:41																														
8064415DUP	1.00	09:44		X																												
8064413MS	1.00	09:47		X																												
8064414MSD	1.00	09:49		X																												
8064410L	5.00	09:52		X																												
8064406	1.00	09:55		X																												
8064408	1.00	09:58		X																												
CCV	1.00	10:00		X																												
CCB	1.00	10:03		X																												
8064416	1.00	10:06		X																												
LLC	1.00	10:08		X																												
ICSA	1.00	10:11		X																												
ICSAB	1.00	10:14		X																												
CCV	1.00	10:16		X																												
CCB	1.00	10:19		X																												

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC26

Method: CV
Instrument ID: 17384
Run Name: 1528002M07

Run Start Date: 10/07/2015
Run End Date: 10/07/2015

Lab Sample ID	D/F	Time	Analytes																																		
			CU	PB	HG	ZN																																
S0	1.00	09:00			X																																
S0.2	1.00	09:02			X																																
S0.5	1.00	09:04			X																																
S1.0	1.00	09:06			X																																
S2.5	1.00	09:08			X																																
S5.0	1.00	09:10			X																																
ICV	1.00	09:12			X																																
ICB	1.00	09:19			X																																
CRA	1.00	09:21			X																																
CCV	1.00	09:23			X																																
CCB	1.00	09:25			X																																
P27992BB	1.00	09:27			X																																
P27992BQ	1.00	09:29			X																																
8064410BKG	1.00	09:31			X																																
8064410A	1.00	09:33																																			
8064415DUP	1.00	09:35			X																																
8064413MS	1.00	09:37			X																																
8064414MSD	1.00	09:39			X																																
8064406	1.00	09:41			X																																
8064408	1.00	09:43			X																																
8064416	1.00	09:46			X																																
CCV	1.00	09:48			X																																
CCB	1.00	09:50			X																																
ZZZZZZ	1.00	09:52																																			
ZZZZZZ	1.00	09:54																																			
ZZZZZZ	1.00	09:56																																			
ZZZZZZ	1.00	09:58																																			
ZZZZZZ	1.00	10:00																																			
ZZZZZZ	1.00	10:02																																			
ZZZZZZ	1.00	10:04																																			
ZZZZZZ	1.00	10:06																																			
ZZZZZZ	1.00	10:08																																			
ZZZZZZ	1.00	10:10																																			
CCV	1.00	10:12			X																																
CCB	1.00	10:14			X																																
ZZZZZZ	1.00	10:16																																			
ZZZZZZ	1.00	10:18																																			
ZZZZZZ	1.00	10:20																																			

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC26

Method: CV
Instrument ID: 17384
Run Name: 1528002M07

Run Start Date: 10/07/2015
Run End Date: 10/07/2015

Lab Sample ID	D/F	Time	Analytes																													
			CU	PB	HG	ZN																										
ZZZZZZ	1.00	10:22																														
CRA	1.00	10:24			X																											
CCV	1.00	10:26			X																											
CCB	1.00	10:28			X																											

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

Raw Data

Metals in Solid

ICP Data

Metals in Solid

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ICP-AES Run Data Report

Reviewed By
Katlin N Cataldi

Reviewed Date
10/07/2015 9:19AM

Data File Name 1527907T73.TXT
Run Name: 1527907T73

Method Reference Name(s):

Verified By:
Deborah A Krady

Verified Date
10/07/2015 9:45AM

Analyst Employee: 0463

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 1 Date/Time: 10/06/2015 22:16

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-0.00457	25.311	-0.00435	-0.00355	-0.00583
AL	0.000	0.00742	58.961	0.01028	0.00961	0.00238
AS	0.000	0.00195	181.641	0.00585	-0.00106	0.00106
B	0.000	0.00001	134.228	0.00001	0.00000	0.00002
BA	0.000	0.00024	37.859	0.00020	0.00035	0.00018
BE	0.000	-0.01072	7.554	-0.00987	-0.01149	-0.01080
CA	0.000	0.00577	1.095	0.00584	0.00572	0.00575
CD	0.000	-0.01746	7.093	-0.01887	-0.01696	-0.01655
CO	0.000	-0.01255	47.016	-0.00903	-0.00926	-0.01937
CR	0.000	-0.00001	224.872	-0.00001	0.00001	-0.00001
CU	0.000	-0.00101	130.555	-0.00040	-0.00251	-0.00010
FE	0.000	0.00010	70.010	0.00018	0.00007	0.00006
K	0.000	0.23914	25.646	0.17259	0.25145	0.29338
LI	0.000	0.00211	23.380	0.00178	0.00187	0.00268
MG	0.000	0.00026	34.216	0.00035	0.00024	0.00018
MN	0.000	0.00281	35.723	0.00181	0.00281	0.00382
MO	0.000	-0.00189	140.346	-0.00386	0.00113	-0.00294
NA	0.000	0.00098	48.277	0.00147	0.00052	0.00096
NI	0.000	0.03178	13.524	0.03145	0.02766	0.03623
P	0.000	0.00017	32.430	0.00011	0.00021	0.00021
PB	0.000	0.01939	48.415	0.02294	0.02649	0.00875
S	0.000	0.00073	15.906	0.00086	0.00063	0.00071
SB	0.000	0.00033	31.841	0.00026	0.00027	0.00045
SI	0.000	0.00017	16.885	0.00014	0.00020	0.00016
SN	0.000	0.01397	15.262	0.01152	0.01495	0.01543
SR	0.000	-0.00007	29.894	-0.00007	-0.00009	-0.00005
TI	0.000	0.00421	23.529	0.00482	0.00307	0.00475
TL	0.000	0.00371	18.010	0.00299	0.00382	0.00431
V	0.000	-0.00136	39.771	-0.00153	-0.00076	-0.00181
Y1	0.000	7999.50248	0.168	8014.80232	7989.55609	7994.14902
Y2A	0.000	221024.97285	0.337	221789.78179	220302.68018	220982.45658
Y2R	0.000	19854.69150	0.376	19914.11242	19770.99580	19878.96627
ZN	0.000	0.03426	14.577	0.03239	0.03047	0.03992
ZR	0.000	-0.00034	41.387	-0.00050	-0.00023	-0.00030

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 2 Date/Time: 10/06/2015 22:19

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	12.58405	0.137	12.60313	12.56938	12.57964
CA	50.000	1.55052	0.532	1.55823	1.55151	1.54183
FE	50.000	0.54165	0.607	0.54527	0.54084	0.53884
K	50.000	47.19535	0.421	47.41923	47.12762	47.03920
MG	50.000	3.62028	0.486	3.64024	3.61344	3.60714
NA	50.000	3.14185	0.527	3.15466	3.12316	3.14774
S	50.000	0.42970	1.101	0.42502	0.43448	0.42961
SI	50.000	0.37680	0.548	0.37918	0.37574	0.37548
Y1	50.000	7820.13701	0.088	7823.95686	7812.17061	7824.28357
Y2R	50.000	19451.60065	0.266	19444.69424	19506.51848	19403.58923

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 3 Date/Time: 10/06/2015 22:22

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	1.57152	0.795	1.57208	1.58373	1.55876
AS	1.000	0.92607	0.699	0.93212	0.91924	0.92684
B	1.000	0.02055	0.590	0.02065	0.02058	0.02041
BA	1.000	2.11265	0.682	2.11607	2.12505	2.09684
BE	1.000	41.38513	0.848	41.53807	41.63350	40.98380
CD	1.000	31.12131	0.048	31.11842	31.13761	31.10791
CO	1.000	17.26340	0.140	17.26202	17.23992	17.28827
CU	1.000	1.51381	1.053	1.51567	1.52874	1.49702
LI	1.000	0.38759	0.358	0.38667	0.38691	0.38919
MN	1.000	6.43520	0.295	6.44007	6.45128	6.41426
NI	1.000	10.52923	0.186	10.53478	10.54546	10.50745
P	1.000	0.01397	1.022	0.01409	0.01381	0.01401
PB	1.000	2.94650	0.784	2.96602	2.92098	2.95249
SR	1.000	2.52390	0.734	2.54499	2.51022	2.51649
TL	1.000	0.41820	4.199	0.43762	0.41352	0.40345
Y1	1.000	7917.09684	0.020	7916.59145	7915.85283	7918.84623
Y2A	1.000	215850.72984	0.354	215849.37500	215088.27487	216614.53964
Y2R	1.000	19665.12735	0.360	19585.56577	19688.84838	19720.96790
ZN	1.000	22.51443	0.200	22.47316	22.50754	22.56260

LANCASTER LABORATORIES

Run Name: 1527907T73

Instrument ID: 18255

Tube: 4

Date/Time: 10/06/2015 22:24

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	0.02332	0.258	0.02327	0.02339	0.02330
MO	1.000	5.57623	0.419	5.60317	5.56431	5.56120
SB	1.000	0.02642	0.526	0.02653	0.02626	0.02645
SN	1.000	2.10738	0.475	2.11892	2.10103	2.10219
TI	1.000	5.82897	0.101	5.83506	5.82858	5.82327
V	1.000	1.85228	0.226	1.85709	1.84948	1.85027
Y1	1.000	8032.44392	0.090	8024.66207	8039.01198	8033.65771
Y2A	1.000	221635.56432	0.152	221491.01796	221394.90000	222020.77500
Y2R	1.000	19835.03525	0.323	19888.96662	19764.34631	19851.79283
ZR	1.000	0.08708	0.329	0.08676	0.08729	0.08720

LANCASTER LABORATORIES

Run Name: 1527907T73

Instrument ID: 18255

Tube: 5

Date/Time: 10/06/2015 22:27

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.60873	4,059.73	0.537	0.60712	0.60658	0.61250
____ AL	30.39923	2,990.79	0.353	30.48717	30.43090	30.27961
____ AS	0.61323	88.37	0.464	0.61493	0.60994	0.61481
____ B	0.57915	2,778.09	0.252	0.57844	0.57819	0.58083
____ BA	0.60904	277,461.03	0.241	0.60736	0.60968	0.61009
____ BE	0.58935	105,166.34	0.290	0.58766	0.58930	0.59108
____ CA	30.65086	18,667.73	0.130	30.60537	30.67852	30.66870
____ CD	0.60562	2,979.77	0.232	0.60699	0.60566	0.60419
____ CO	0.59632	1,623.71	0.065	0.59654	0.59587	0.59654
____ CR	0.58063	2,919.12	0.435	0.57791	0.58109	0.58290
____ CU	0.59855	3,893.22	0.357	0.59648	0.59844	0.60074
____ FE	29.97980	6,408.29	0.213	30.04301	29.98111	29.91528
____ K	29.92827	11,079.95	0.190	29.87453	29.98767	29.92260
____ LI	0.60228	4,580.00	0.319	0.60014	0.60284	0.60385
____ MG	30.15126	42,951.07	0.032	30.15903	30.15413	30.14063
____ MN	0.60660	16,838.89	0.158	0.60702	0.60727	0.60550
____ MO	0.59386	522.95	0.534	0.59753	0.59197	0.59210
____ NA	29.72987	36,506.41	0.238	29.81136	29.68466	29.69361
____ NI	0.59708	991.16	0.399	0.59965	0.59662	0.59496
____ P	0.60691	67.30	3.109	0.60155	0.62788	0.59131
____ PB	0.60283	282.94	0.497	0.60200	0.60616	0.60035
____ S	30.98661	2,100.19	2.002	30.80795	31.67679	30.47508
____ SB	0.59058	124.26	1.234	0.59662	0.58248	0.59264
____ SI	30.82841	4,542.82	0.094	30.80285	30.85971	30.82268
____ SN	0.58806	196.15	0.455	0.59049	0.58849	0.58520
____ SR	0.60231	327,931.45	0.525	0.60251	0.59906	0.60538
____ TI	0.61242	15,443.78	0.276	0.61071	0.61247	0.61409
____ TL	0.58357	38.76	4.608	0.56169	0.61359	0.57541
____ V	0.60230	4,810.30	0.501	0.60031	0.60081	0.60577
____ Y1	7877.28243	7,877.28	0.176	7870.26363	7868.36146	7893.22220
____ Y2A	215622.88406	215,622.88	0.221	215596.64075	216111.52500	215160.48644
____ Y2R	19544.45409	19,544.45	0.008	19546.14579	19542.94616	19544.27031
____ ZN	0.60522	2,157.61	0.068	0.60475	0.60537	0.60554
____ ZR	0.60830	1,026.35	0.427	0.61101	0.60807	0.60583

LANCASTER LABORATORIES

Run Name: 1527907T73

Instrument ID: 18255

Tube: 6

Date/Time: 10/06/2015 22:30

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00089	-9.46	109.623	0.00045	0.00021	0.00200
____ AL	0.01145	4.07	119.032	0.01026	0.02565	-0.00154
____ AS	0.00727	0.78	20.155	0.00578	0.00731	0.00871
____ B	0.00138	7.89	44.653	0.00090	0.00208	0.00116
____ BA	0.00005	77.43	28.692	0.00004	0.00007	0.00005
____ BE	0.00000	-38.55	1213.774	0.00004	0.00000	-0.00005
____ CA	-0.00464	111.27	96.728	-0.00767	0.00052	-0.00676
____ CD	0.00035	-1.72	43.674	0.00019	0.00049	0.00036
____ CO	0.00052	-1.64	9.790	0.00048	0.00057	0.00050
____ CR	-0.00040	-3.31	76.158	-0.00068	-0.00044	-0.00008
____ CU	0.00063	-0.24	106.543	0.00126	-0.00007	0.00070
____ FE	-0.00519	0.86	50.894	-0.00389	-0.00345	-0.00823
____ K	-0.00548	92.57	410.948	-0.03006	0.01422	-0.00061
____ LI	0.00044	45.10	360.911	-0.00047	0.00228	-0.00049
____ MG	0.00367	4.82	9.924	0.00379	0.00395	0.00326
____ MN	-0.00002	11.83	462.285	-0.00007	-0.00007	0.00008
____ MO	-0.00045	-0.42	77.980	-0.00078	-0.00048	-0.00009
____ NA	0.02645	19.64	11.373	0.02400	0.02980	0.02554
____ NI	-0.00009	4.94	326.275	-0.00039	0.00020	-0.00008
____ P	-0.00167	1.21	314.903	-0.00743	0.00289	-0.00048
____ PB	-0.00303	1.69	233.994	-0.00962	0.00447	-0.00394
____ S	0.00449	6.19	157.120	0.00860	0.00852	-0.00365
____ SB	-0.00465	1.65	50.031	-0.00255	-0.00716	-0.00425
____ SI	0.00131	3.52	524.250	-0.00074	-0.00430	0.00897
____ SN	-0.00255	1.38	18.659	-0.00225	-0.00310	-0.00231
____ SR	0.00006	-5.20	16.599	0.00007	0.00005	0.00007
____ TI	0.00009	20.84	191.117	-0.00009	0.00011	0.00024
____ TL	0.00158	0.70	419.890	-0.00216	-0.00234	0.00925
____ V	0.00045	-4.97	163.887	0.00129	0.00012	-0.00007
____ Y1	8015.77591	8,015.78	0.294	7991.03138	8018.39992	8037.89642
____ Y2A	220182.48916	220,182.49	0.328	219379.01056	220773.53264	220394.92429
____ Y2R	19777.70107	19,777.70	0.426	19688.54623	19788.68988	19855.86709
____ ZN	-0.00011	5.10	192.238	-0.00026	-0.00020	0.00013
____ ZR	0.00368	-6.35	33.715	0.00325	0.00271	0.00508

LANCASTER LABORATORIES

Run Name: 1527907T73

Instrument ID: 18255

Tube: 7

Date/Time: 10/06/2015 22:32

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00470	18.03	2.444	0.00480	0.00457	0.00471
____ AL	0.18958	21.86	5.636	0.19082	0.19960	0.17833
____ AS	0.02169	2.93	17.192	0.01739	0.02380	0.02389
____ B	0.04771	220.94	0.369	0.04788	0.04773	0.04753
____ BA	0.00516	2,472.75	0.633	0.00518	0.00517	0.00512
____ BE	0.00489	861.63	0.466	0.00487	0.00490	0.00491
____ CA	0.19215	233.09	2.615	0.18830	0.19783	0.19032
____ CD	0.00542	23.75	3.605	0.00523	0.00562	0.00541
____ CO	0.00539	11.95	2.859	0.00539	0.00524	0.00555
____ CR	0.01417	72.15	2.012	0.01406	0.01396	0.01450
____ CU	0.01160	73.31	3.440	0.01122	0.01157	0.01202
____ FE	0.21169	48.59	4.032	0.21589	0.20187	0.21731
____ K	0.54669	298.74	6.736	0.50495	0.56053	0.57459
____ LI	0.01902	187.42	0.728	0.01894	0.01894	0.01918
____ MG	0.10260	149.39	0.433	0.10311	0.10236	0.10232
____ MN	0.00511	158.43	1.075	0.00505	0.00513	0.00515
____ MO	0.01031	9.21	5.098	0.01045	0.00972	0.01074
____ NA	1.01072	1,247.51	1.379	0.99732	1.02513	1.00969
____ NI	0.01039	22.64	1.539	0.01027	0.01033	0.01058
____ P	0.10136	12.58	3.069	0.10049	0.10480	0.09877
____ PB	0.00965	7.65	31.331	0.00694	0.01291	0.00911
____ S	0.50525	40.73	1.645	0.50711	0.51247	0.49616
____ SB	0.01577	5.91	24.703	0.01819	0.01127	0.01783
____ SI	0.03580	8.70	18.885	0.03520	0.04283	0.02935
____ SN	0.02210	9.68	11.817	0.02509	0.02097	0.02025
____ SR	0.00517	2,861.68	0.283	0.00516	0.00518	0.00519
____ TI	0.01003	278.53	4.465	0.00952	0.01036	0.01022
____ TL	0.03273	2.77	18.897	0.02606	0.03385	0.03828
____ V	0.00534	34.40	1.571	0.00530	0.00527	0.00543
____ Y1	8034.71726	8,034.72	0.376	8069.57668	8017.98442	8016.59068
____ Y2A	222070.38373	222,070.38	0.379	222371.65000	222718.99940	221120.50180
____ Y2R	19848.04729	19,848.05	0.406	19854.82342	19764.34835	19924.97011
____ ZN	0.02061	79.77	1.083	0.02086	0.02047	0.02048
____ ZR	0.04962	73.56	2.822	0.04849	0.05118	0.04918

LANCASTER LABORATORIES

Run Name: 1527907T73

Instrument ID: 18255

Tube: 8

Date/Time: 10/06/2015 22:35

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.01191	-558.96	9.263	-0.01176	-0.01089	-0.01308
____ AL	497.08556	46,899.15	0.270	495.55048	497.65295	498.05325
____ AS	0.00561	-3.01	67.815	0.00275	0.00992	0.00415
____ B	-0.03213	1,165.83	15.718	-0.02650	-0.03362	-0.03627
____ BA	0.00061	297.62	1.664	0.00062	0.00060	0.00061
____ BE	-0.00089	-175.15	6.449	-0.00083	-0.00089	-0.00094
____ CA	506.85381	275,184.25	0.344	505.02723	508.49689	507.03730
____ CD	0.00319	78.11	15.561	0.00304	0.00374	0.00278
____ CO	0.00194	2.09	36.979	0.00257	0.00207	0.00116
____ CR	0.00194	7.63	36.138	0.00113	0.00234	0.00234
____ CU	-0.00326	45.33	53.759	-0.00442	-0.00412	-0.00124
____ FE	202.03416	37,788.26	0.452	201.09572	202.91816	202.08860
____ K	0.05561	108.40	85.840	0.01837	0.10942	0.03903
____ LI	0.00607	101.71	37.720	0.00789	0.00683	0.00350
____ MG	504.13153	575,907.33	0.093	504.66981	503.88600	503.83877
____ MN	0.00272	78.57	6.847	0.00285	0.00281	0.00251
____ MO	-0.00846	-10.95	16.865	-0.00879	-0.00689	-0.00969
____ NA	0.26343	295.58	1.037	0.26249	0.26651	0.26130
____ NI	-0.00167	-9.94	2.755	-0.00169	-0.00170	-0.00161
____ P	0.00213	1.48	232.358	-0.00313	0.00667	0.00283
____ PB	-0.00775	35.02	61.196	-0.00231	-0.01102	-0.00993
____ S	-0.00703	6.73	84.020	-0.00200	-0.01353	-0.00555
____ SB	-0.01803	3.11	32.821	-0.02129	-0.02161	-0.01120
____ SI	0.00088	3.24	1652.526	0.01443	0.00282	-0.01460
____ SN	0.00785	4.44	36.369	0.00605	0.01115	0.00636
____ SR	0.00002	2,402.00	181.069	0.00006	-0.00002	0.00003
____ TI	-0.00005	14.84	581.002	-0.00022	-0.00018	0.00026
____ TL	-0.01187	-0.16	62.165	-0.00440	-0.01204	-0.01916
____ V	0.00198	7.87	22.936	0.00203	0.00240	0.00150
____ Y1	7297.05631	7,297.06	0.144	7291.91094	7290.11198	7309.14600
____ Y2A	193417.09280	193,417.09	0.316	193311.24178	194074.67500	192865.36163
____ Y2R	18604.92291	18,604.92	0.182	18602.68839	18572.26719	18639.81315
____ ZN	0.00841	88.06	7.221	0.00859	0.00773	0.00890
____ ZR	0.00494	-29.98	25.132	0.00605	0.00516	0.00360

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 9 Date/Time: 10/06/2015 22:38

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.20015	738.22	0.186	0.19988	0.19999	0.20057
____ AL	495.23934	46,811.17	0.381	497.40981	493.99274	494.31548
____ AS	0.10642	10.68	1.966	0.10854	0.10635	0.10436
____ B	-0.02798	1,172.63	14.349	-0.03259	-0.02524	-0.02610
____ BA	0.50797	207,922.33	0.274	0.50705	0.50727	0.50957
____ BE	0.47771	76,582.52	0.182	0.47801	0.47673	0.47839
____ CA	505.33308	274,930.96	0.689	509.34659	503.54197	503.11069
____ CD	0.91644	4,214.59	0.223	0.91853	0.91634	0.91445
____ CO	0.46164	1,157.85	0.118	0.46225	0.46145	0.46121
____ CR	0.46820	2,114.65	0.076	0.46841	0.46779	0.46841
____ CU	0.52341	3,136.24	0.592	0.52556	0.51985	0.52481
____ FE	200.37259	37,580.00	0.600	201.75957	199.70389	199.65432
____ K	0.00805	91.96	212.841	0.02421	-0.00991	0.00985
____ LI	0.00515	95.26	10.775	0.00483	0.00484	0.00580
____ MG	500.24836	573,427.05	0.512	503.15151	498.29903	499.29454
____ MN	0.44727	11,158.24	0.288	0.44631	0.44873	0.44677
____ MO	-0.00781	-10.37	19.013	-0.00660	-0.00946	-0.00736
____ NA	0.25958	291.66	3.433	0.24958	0.26667	0.26249
____ NI	0.90488	1,374.79	0.217	0.90703	0.90442	0.90318
____ P	0.00068	1.62	780.042	-0.00541	0.00368	0.00376
____ PB	0.03913	54.84	2.418	0.03826	0.04014	0.03900
____ S	-0.00928	6.70	107.778	-0.01339	-0.01659	0.00212
____ SB	0.55806	115.01	1.225	0.55094	0.56457	0.55867
____ SI	-0.00511	2.39	173.128	-0.01487	0.00239	-0.00285
____ SN	0.01000	5.05	46.263	0.01521	0.00845	0.00635
____ SR	0.00003	2,403.87	118.691	-0.00001	0.00005	0.00006
____ TI	-0.00067	12.08	30.581	-0.00089	-0.00064	-0.00048
____ TL	0.07119	5.00	2.994	0.06898	0.07323	0.07137
____ V	0.49312	3,598.98	0.503	0.49476	0.49027	0.49434
____ Y1	7273.48156	7,273.48	0.273	7250.99131	7280.88938	7288.56400
____ Y2A	193728.76844	193,728.77	0.403	194046.73154	194300.58395	192838.98982
____ Y2R	18640.25894	18,640.26	0.365	18564.06219	18661.67066	18695.04396
____ ZN	0.95876	3,193.06	0.251	0.96140	0.95822	0.95667
____ ZR	0.00578	-28.43	24.219	0.00661	0.00417	0.00657

LANCASTER LABORATORIES

Run Name: 1527907T73

Instrument ID: 18255

Tube: 10

Date/Time: 10/06/2015 22:40

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49618	3,312.27	0.787	0.49917	0.49176	0.49760
____ AL	25.33928	2,487.20	1.210	25.66153	25.05121	25.30511
____ AS	0.49943	72.52	0.242	0.49982	0.49807	0.50039
____ B	0.47322	2,278.81	0.923	0.47506	0.46823	0.47636
____ BA	0.50508	230,615.71	0.898	0.50900	0.50011	0.50612
____ BE	0.48016	85,866.00	0.829	0.48364	0.47582	0.48103
____ CA	25.38240	15,451.14	0.743	25.60020	25.27779	25.26919
____ CD	0.49442	2,453.26	0.116	0.49376	0.49484	0.49466
____ CO	0.49289	1,353.11	0.319	0.49123	0.49308	0.49436
____ CR	0.47988	2,417.74	0.543	0.48223	0.47708	0.48034
____ CU	0.49767	3,243.88	1.071	0.50009	0.49156	0.50136
____ FE	24.99130	5,341.96	0.672	25.14317	24.81112	25.01959
____ K	24.89441	9,209.99	0.574	25.05734	24.79077	24.83510
____ LI	0.50186	3,814.14	0.627	0.50449	0.49838	0.50272
____ MG	25.06344	35,677.71	0.921	25.29883	24.83725	25.05423
____ MN	0.49608	13,803.69	0.725	0.49860	0.49196	0.49769
____ MO	0.48023	426.57	0.211	0.47911	0.48110	0.48049
____ NA	24.74820	30,314.05	0.889	24.97814	24.53967	24.72679
____ NI	0.49380	827.67	0.129	0.49367	0.49450	0.49325
____ P	0.47784	53.76	2.322	0.46600	0.48799	0.47953
____ PB	0.49403	234.46	0.323	0.49363	0.49266	0.49578
____ S	25.11576	1,718.10	1.240	24.79448	25.13639	25.41642
____ SB	0.47613	101.52	0.715	0.48006	0.47412	0.47421
____ SI	25.44879	3,741.63	0.986	25.73120	25.25157	25.36360
____ SN	0.48432	163.33	0.406	0.48249	0.48640	0.48406
____ SR	0.50192	273,871.40	0.807	0.50461	0.49726	0.50388
____ TI	0.49358	12,478.63	0.893	0.49693	0.48859	0.49523
____ TL	0.45556	30.66	0.706	0.45721	0.45186	0.45762
____ V	0.49325	3,947.36	1.042	0.49683	0.48736	0.49556
____ Y1	7945.38812	7,945.39	0.289	7953.56786	7963.17968	7919.41682
____ Y2A	216106.08300	216,106.08	0.489	215241.75633	217284.20187	215792.29079
____ Y2R	19498.12537	19,498.13	0.535	19393.52130	19601.95461	19498.90022
____ ZN	0.49501	1,781.23	0.330	0.49333	0.49511	0.49659
____ ZR	0.49999	839.28	1.005	0.50575	0.49649	0.49773

LANCASTER LABORATORIES

Run Name: 1527907T73

Instrument ID: 18255

Tube: 11

Date/Time: 10/06/2015 22:43

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00003	-15.47	3008.273	0.00075	0.00015	-0.00082
____ AL	0.02947	5.84	64.199	0.02406	0.05051	0.01384
____ AS	0.00022	-0.27	2202.743	-0.00189	0.00571	-0.00317
____ B	0.00073	5.04	109.100	0.00004	0.00159	0.00054
____ BA	0.00004	71.98	64.228	0.00001	0.00006	0.00005
____ BE	-0.00003	-42.88	42.792	-0.00002	-0.00003	-0.00004
____ CA	0.01651	123.72	10.960	0.01851	0.01498	0.01605
____ CD	0.00023	-2.32	82.529	0.00024	0.00003	0.00040
____ CO	0.00001	-3.04	9491.054	-0.00051	0.00019	0.00034
____ CR	0.00016	-0.43	138.144	0.00030	0.00027	-0.00009
____ CU	0.00035	-2.09	206.553	0.00119	-0.00005	-0.00008
____ FE	0.01106	4.41	59.085	0.00370	0.01619	0.01328
____ K	0.02585	103.73	76.190	0.04814	0.01862	0.01079
____ LI	-0.00097	34.17	120.173	0.00036	-0.00147	-0.00181
____ MG	0.02826	40.45	7.074	0.03044	0.02785	0.02650
____ MN	0.00000	12.39	3236.163	0.00009	-0.00006	-0.00003
____ MO	0.00052	0.44	181.498	0.00124	-0.00055	0.00089
____ NA	0.03835	34.28	14.661	0.03348	0.03705	0.04450
____ NI	0.00009	5.24	656.604	-0.00048	0.00007	0.00068
____ P	-0.00116	1.26	599.079	0.00655	-0.00306	-0.00698
____ PB	-0.00120	2.54	160.042	-0.00237	0.00102	-0.00226
____ S	0.00000	5.88	1797.677	-0.00296	0.00156	0.00141
____ SB	-0.00650	1.24	61.569	-0.01110	-0.00456	-0.00384
____ SI	-0.00502	2.56	175.061	0.00272	-0.01459	-0.00320
____ SN	-0.00036	2.12	387.873	0.00012	0.00073	-0.00193
____ SR	0.00005	-11.58	16.790	0.00004	0.00005	0.00006
____ TI	0.00010	21.05	462.589	-0.00005	0.00062	-0.00026
____ TL	0.01079	1.31	84.010	0.00433	0.02116	0.00689
____ V	0.00066	-3.36	86.060	0.00032	0.00131	0.00035
____ Y1	8003.90131	8,003.90	0.066	8009.07855	7998.53229	8004.09309
____ Y2A	219850.19408	219,850.19	0.343	219393.91973	219434.90519	220721.75732
____ Y2R	19690.64081	19,690.64	0.328	19636.28195	19761.94761	19673.69288
____ ZN	-0.00001	5.47	1396.031	0.00003	-0.00011	0.00007
____ ZR	0.00294	-7.61	56.252	0.00479	0.00160	0.00243

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 12 Date/Time: 10/06/2015 22:46

Sample Number: **PBW** Class: **** Batch: 152794792002

Initial Vol: 10.00 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00078	-10.74	27.734	0.00053	0.00087	0.00093
____ AL	0.10104	13.02	31.693	0.13719	0.08973	0.07621
____ AS	0.00580	0.56	49.972	0.00426	0.00914	0.00400
____ B	0.02598	121.28	0.831	0.02623	0.02590	0.02582
____ BA	0.08392	39,229.74	0.350	0.08425	0.08382	0.08368
____ BE	0.00017	-7.88	7.467	0.00016	0.00018	0.00015
____ CA	0.62148	497.37	0.664	0.61975	0.61850	0.62619
____ CD	0.00098	1.55	10.907	0.00105	0.00086	0.00103
____ CO	0.00310	5.59	20.571	0.00378	0.00251	0.00302
____ CR	0.03722	190.61	2.548	0.03647	0.03828	0.03690
____ CU	0.00469	26.83	3.020	0.00452	0.00477	0.00477
____ FE	0.22311	51.05	2.070	0.22838	0.21975	0.22121
____ K	0.10877	135.34	26.647	0.13905	0.08129	0.10598
____ LI	0.00375	70.55	39.629	0.00463	0.00460	0.00204
____ MG	0.08056	117.06	2.625	0.08280	0.08028	0.07860
____ MN	0.00477	148.15	1.830	0.00483	0.00467	0.00482
____ MO	0.00778	6.96	12.685	0.00845	0.00664	0.00823
____ NA	0.13350	153.08	3.639	0.12996	0.13149	0.13904
____ NI	0.00266	9.60	16.919	0.00242	0.00318	0.00238
____ P	0.01090	2.60	39.480	0.01545	0.00688	0.01038
____ PB	0.06212	32.39	9.886	0.06537	0.06596	0.05504
____ S	0.04341	8.91	21.421	0.03633	0.05394	0.03996
____ SB	0.00324	3.31	114.268	-0.00102	0.00569	0.00504
____ SI	0.20035	33.27	7.167	0.19533	0.18917	0.21654
____ SN	0.01669	7.87	6.789	0.01800	0.01604	0.01604
____ SR	0.00537	2,957.92	0.354	0.00536	0.00539	0.00535
____ TI	0.00629	181.02	1.897	0.00643	0.00621	0.00624
____ TL	0.00394	0.86	139.150	-0.00210	0.00859	0.00532
____ V	0.00278	13.23	7.906	0.00286	0.00294	0.00253
____ Y1	8050.48386	8,050.48	0.173	8060.29782	8056.58668	8034.56709
____ Y2A	221003.19664	221,003.20	0.491	220186.61303	222234.42794	220588.54893
____ Y2R	19826.19051	19,826.19	0.126	19848.37086	19799.14189	19831.05879
____ ZN	0.03248	122.44	0.603	0.03268	0.03247	0.03229
____ ZR	0.00745	0.17	11.592	0.00701	0.00690	0.00845

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 13 Date/Time: 10/06/2015 22:48

Sample Number: **LCSW** Class: **** Batch: 152794792002

Initial Vol: 10.00 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04770	339.90	1.376	0.04720	0.04844	0.04745
____ AL	2.06557	210.57	0.251	2.06223	2.06294	2.07153
____ AS	0.15070	22.30	1.820	0.15280	0.15171	0.14760
____ B	1.95746	8,780.86	0.119	1.95517	1.95738	1.95982
____ BA	1.98675	915,962.81	0.224	1.98314	1.98539	1.99173
____ BE	0.04991	8,980.76	0.280	0.04996	0.04976	0.05002
____ CA	4.20917	2,705.58	0.099	4.21351	4.20882	4.20519
____ CD	0.05142	255.45	0.432	0.05159	0.05150	0.05117
____ CO	0.49671	1,388.73	0.298	0.49565	0.49607	0.49840
____ CR	0.19466	989.67	0.311	0.19407	0.19462	0.19528
____ CU	0.24864	1,604.59	0.143	0.24900	0.24829	0.24862
____ FE	1.22175	270.24	0.994	1.21065	1.23472	1.21989
____ K	9.79502	3,739.91	0.778	9.88013	9.77184	9.73309
____ LI	0.98614	7,573.74	0.139	0.98640	0.98465	0.98736
____ MG	2.02522	2,951.51	0.246	2.03021	2.02025	2.02521
____ MN	0.51103	14,359.98	0.124	0.51144	0.51134	0.51030
____ MO	1.95773	1,763.34	0.325	1.95451	1.96505	1.95362
____ NA	9.89189	12,304.79	0.798	9.97537	9.81853	9.88177
____ NI	0.50435	862.28	0.098	0.50396	0.50418	0.50490
____ P	1.00949	113.53	3.474	1.02767	1.03174	0.96907
____ PB	0.14831	71.74	1.710	0.14544	0.15024	0.14924
____ S	1.04829	79.02	2.453	1.06932	1.05594	1.01962
____ SB	0.50596	89.65	0.279	0.50715	0.50633	0.50440
____ SI	1.85309	282.98	3.302	1.78715	1.86407	1.90806
____ SN	3.89828	1,320.58	0.329	3.88774	3.91258	3.89451
____ SR	0.99503	548,100.56	0.058	0.99570	0.99473	0.99466
____ TI	1.00675	25,610.12	0.059	1.00721	1.00608	1.00696
____ TL	0.14190	10.25	10.175	0.14366	0.15538	0.12666
____ V	0.49834	3,811.87	0.256	0.49770	0.49751	0.49981
____ Y1	8075.94622	8,075.95	0.131	8083.89100	8080.05589	8063.89177
____ Y2A	218239.81670	218,239.82	0.493	219362.38029	218137.96981	217219.10000
____ Y2R	19813.30098	19,813.30	0.128	19801.77929	19842.37610	19795.74755
____ ZN	0.51746	1,883.61	0.179	0.51688	0.51696	0.51852
____ ZR	0.99852	1,723.07	0.317	1.00067	0.99489	1.00000

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 14 Date/Time: 10/06/2015 22:51

Sample Number: **8064410** Class: U*** Batch: 152794792002

Initial Vol: 10.04 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.03112	-1,470.78	10.537	0.03205	0.02748	0.03383
____ AL	24.24514	2,430.62	0.337	24.29364	24.15083	24.29094
____ AS	0.14613	-7.96	3.690	0.15230	0.14379	0.14231
____ B	-0.17489	3,779.39	8.708	-0.17612	-0.15908	-0.18947
____ BA	1.00413	458,369.12	0.432	1.00663	1.00664	0.99912
____ BE	0.00207	333.34	1.569	0.00204	0.00210	0.00208
____ CA	94.73275	58,079.77	0.712	95.04793	93.95825	95.19208
____ CD	0.00206	274.65	13.358	0.00205	0.00234	0.00179
____ CO	0.59512	1,637.24	0.225	0.59376	0.59644	0.59516
____ CR	0.12114	609.33	0.427	0.12137	0.12150	0.12055
____ CU	0.41882	2,736.70	0.293	0.41869	0.42011	0.41767
____ FE	637.67200	99,336.35	1.445	639.45414	627.69789	645.86396
____ K	2.29242	952.70	0.700	2.29437	2.27549	2.30740
____ LI	0.03357	303.51	2.801	0.03465	0.03296	0.03309
____ MG	14.29575	20,858.91	0.841	14.31724	14.16616	14.40385
____ MN	16.37739	455,248.90	0.621	16.34143	16.49223	16.29850
____ MO	-0.01124	-8.98	10.013	-0.01058	-0.01060	-0.01254
____ NA	10.88442	13,609.80	0.764	10.90359	10.79333	10.95636
____ NI	0.35335	553.74	0.608	0.35269	0.35161	0.35575
____ P	12.86616	1,407.21	1.426	12.73242	12.79075	13.07532
____ PB	0.91985	396.77	0.092	0.91983	0.91902	0.92071
____ S	1.35763	105.23	0.466	1.35033	1.36170	1.36085
____ SB	-0.01484	3.66	34.344	-0.00895	-0.01765	-0.01791
____ SI	37.09514	5,568.02	0.771	37.29530	36.76779	37.22232
____ SN	0.01321	6.62	5.727	0.01289	0.01407	0.01266
____ SR	0.34361	187,866.80	0.128	0.34338	0.34412	0.34334
____ TI	0.74151	18,700.16	0.184	0.74117	0.74302	0.74035
____ TL	-0.00854	-0.28	153.649	0.00620	-0.01289	-0.01893
____ V	0.11593	979.72	0.409	0.11547	0.11641	0.11590
____ Y1	7955.59625	7,955.60	0.054	7960.56349	7952.76940	7953.45585
____ Y2A	216071.14804	216,071.15	0.503	217166.70000	214992.22178	216054.52234
____ Y2R	19914.55567	19,914.56	0.503	19986.41846	19957.18356	19800.06499
____ ZN	2.85131	10,336.41	0.150	2.84742	2.85590	2.85061
____ ZR	0.02775	-52.35	3.662	0.02741	0.02695	0.02889

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 15 Date/Time: 10/06/2015 22:54

Sample Number: **8064410** Class: UP** Batch: 152794792002

Initial Vol: 10.04 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04374	-1,274.08	3.668	0.04198	0.04413	0.04511
____ AL	24.48863	2,469.18	0.500	24.45619	24.62399	24.38572
____ AS	0.60363	61.46	1.025	0.59781	0.60295	0.61012
____ B	0.04540	4,540.43	15.957	0.05259	0.04551	0.03810
____ BA	1.03525	473,668.60	0.573	1.03273	1.03099	1.04202
____ BE	0.02112	3,748.89	0.569	0.02124	0.02100	0.02110
____ CA	92.65684	57,149.25	0.179	92.80967	92.68007	92.48078
____ CD	0.05148	509.32	0.692	0.05170	0.05107	0.05168
____ CO	0.67455	1,867.77	0.299	0.67517	0.67230	0.67618
____ CR	0.30544	1,541.83	0.475	0.30711	0.30477	0.30445
____ CU	0.90920	5,956.57	0.270	0.90636	0.91075	0.91049
____ FE	605.91611	96,907.78	0.178	604.78869	606.01599	606.94367
____ K	4.22919	1,686.73	1.396	4.16898	4.28695	4.23165
____ LI	1.01355	7,871.06	0.279	1.01029	1.01544	1.01492
____ MG	14.81699	21,739.43	0.213	14.78294	14.82286	14.84515
____ MN	16.05041	447,211.51	0.327	16.09739	16.06015	15.99368
____ MO	0.17011	152.93	1.179	0.17227	0.16975	0.16831
____ NA	12.51771	15,743.54	0.534	12.44126	12.54718	12.56469
____ NI	0.48640	783.16	0.099	0.48584	0.48672	0.48663
____ P	13.33816	1,468.22	2.509	13.71186	13.23676	13.06588
____ PB	1.35492	605.00	0.156	1.35248	1.35626	1.35601
____ S	2.17080	161.63	1.633	2.20009	2.18090	2.13140
____ SB	0.35292	79.14	1.702	0.35896	0.34695	0.35284
____ SI	37.60833	5,677.53	0.041	37.61915	37.59089	37.61495
____ SN	0.55312	187.65	0.744	0.55786	0.55061	0.55087
____ SR	0.35415	194,056.43	0.021	0.35412	0.35410	0.35424
____ TI	0.81848	20,687.43	0.130	0.81950	0.81737	0.81855
____ TL	0.88116	58.56	5.742	0.93951	0.85444	0.84952
____ V	0.20784	1,706.16	0.334	0.20840	0.20805	0.20706
____ Y1	8005.82404	8,005.82	0.192	8023.53682	7995.68729	7998.24800
____ Y2A	216575.35106	216,575.35	0.371	217275.49900	216752.65000	215697.90419
____ Y2R	20028.19448	20,028.19	0.297	20062.77500	20062.27536	19959.53309
____ ZN	2.86894	10,459.46	0.050	2.86944	2.86732	2.87006
____ ZR	0.98296	1,629.78	0.501	0.97755	0.98718	0.98414

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 16 Date/Time: 10/06/2015 22:57

Sample Number: **8064415** Class: D*** Batch: 152794792002

Initial Vol: 10.04 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01979	-1,352.54	8.750	0.01865	0.02179	0.01894
____ AL	21.71554	2,180.50	0.619	21.85241	21.71062	21.58359
____ AS	0.12552	-7.53	1.592	0.12342	0.12739	0.12575
____ B	-0.14380	3,383.32	2.460	-0.14475	-0.14677	-0.13989
____ BA	0.95231	435,840.18	0.519	0.94712	0.95697	0.95285
____ BE	0.00190	303.88	0.702	0.00192	0.00189	0.00189
____ CA	83.95245	51,628.68	0.285	83.89645	84.21448	83.74642
____ CD	0.00496	257.85	3.561	0.00478	0.00497	0.00513
____ CO	0.30340	837.24	0.752	0.30368	0.30552	0.30099
____ CR	0.11216	565.53	0.497	0.11273	0.11161	0.11213
____ CU	0.37762	2,472.59	0.639	0.37616	0.38041	0.37629
____ FE	561.59485	91,982.88	0.622	562.22971	564.72778	557.82706
____ K	2.01389	849.82	1.172	2.03797	1.99078	2.01291
____ LI	0.02822	262.36	2.552	0.02789	0.02904	0.02772
____ MG	12.94731	18,928.25	0.380	12.95818	12.99021	12.89355
____ MN	15.57374	434,037.88	0.462	15.54450	15.65574	15.52098
____ MO	-0.01213	-9.82	14.526	-0.01201	-0.01394	-0.01042
____ NA	10.00436	12,527.18	0.296	10.03113	10.00933	9.97262
____ NI	0.24231	374.44	0.142	0.24241	0.24193	0.24260
____ P	12.24116	1,342.88	3.095	12.25129	12.61492	11.85728
____ PB	0.85600	372.39	0.339	0.85579	0.85901	0.85321
____ S	1.28301	100.08	1.814	1.29565	1.29723	1.25615
____ SB	-0.00506	5.28	91.730	-0.00719	-0.00825	0.00026
____ SI	34.74866	5,223.80	0.478	34.78800	34.89159	34.56641
____ SN	0.00932	5.34	25.393	0.00771	0.00822	0.01204
____ SR	0.31682	173,643.38	0.469	0.31543	0.31838	0.31664
____ TI	0.67810	17,147.06	0.534	0.67541	0.68222	0.67667
____ TL	-0.01067	-0.50	102.255	-0.00225	-0.00676	-0.02300
____ V	0.10038	853.04	1.892	0.10040	0.10227	0.09847
____ Y1	7979.39996	7,979.40	0.164	7990.56038	7965.03244	7982.60705
____ Y2A	216631.69747	216,631.70	0.287	217339.00080	216172.64160	216383.45000
____ Y2R	19944.22015	19,944.22	0.364	20017.30423	19872.25604	19943.10018
____ ZN	2.65854	9,654.99	0.179	2.65794	2.66357	2.65411
____ ZR	0.02470	-47.25	8.611	0.02263	0.02459	0.02688

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 17 Date/Time: 10/06/2015 22:59

Sample Number: **8064413** Class: R*** Batch: 152794792002

Initial Vol: 10.36 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01796	-1,296.09	9.722	0.01901	0.01892	0.01594
____ AL	35.01420	3,526.18	0.735	34.78366	35.29194	34.96701
____ AS	0.22311	8.06	2.766	0.22383	0.22889	0.21661
____ B	1.33841	9,792.45	1.061	1.33663	1.32518	1.35342
____ BA	2.42878	1,107,486.88	0.527	2.43009	2.41537	2.44088
____ BE	0.03992	7,096.44	1.024	0.03961	0.03977	0.04038
____ CA	87.83040	54,155.12	0.415	87.45826	88.18687	87.84606
____ CD	0.04280	436.28	1.443	0.04343	0.04220	0.04278
____ CO	0.44086	1,220.36	0.221	0.43983	0.44177	0.44097
____ CR	0.26608	1,338.43	0.497	0.26537	0.26526	0.26760
____ CU	0.14029	891.47	0.953	0.13888	0.14045	0.14154
____ FE	540.39771	89,966.68	0.667	536.57080	543.72696	540.89539
____ K	10.52493	4,050.94	0.321	10.49264	10.56004	10.52211
____ LI	0.82708	6,424.61	0.687	0.82054	0.82988	0.83082
____ MG	18.36818	26,890.75	0.606	18.24346	18.45782	18.40324
____ MN	15.13050	420,160.75	0.614	15.06285	15.09217	15.23648
____ MO	0.37275	333.21	0.073	0.37298	0.37245	0.37283
____ NA	17.86371	22,450.27	0.402	17.79247	17.93599	17.86267
____ NI	0.50841	821.59	0.131	0.50875	0.50764	0.50883
____ P	12.52870	1,373.57	0.624	12.44739	12.53552	12.60319
____ PB	0.96376	425.30	0.639	0.96743	0.96721	0.95665
____ S	2.22882	164.62	1.056	2.21119	2.21974	2.25554
____ SB	0.27074	52.12	1.681	0.26600	0.27508	0.27115
____ SI	49.84091	7,515.76	0.565	49.53184	50.08374	49.90715
____ SN	2.11636	708.95	0.262	2.12274	2.11285	2.11350
____ SR	1.08284	590,388.76	0.331	1.07894	1.08360	1.08599
____ TI	1.57915	39,744.64	0.492	1.57339	1.57607	1.58800
____ TL	0.08652	6.00	5.397	0.08142	0.08756	0.09058
____ V	0.48978	3,970.59	0.813	0.48697	0.48804	0.49434
____ Y1	7974.62642	7,974.63	0.240	7958.10228	7970.21787	7995.55911
____ Y2A	215853.52065	215,853.52	0.676	217002.01733	216346.75085	214211.79377
____ Y2R	20007.93829	20,007.94	0.550	20098.17693	20040.32097	19885.31699
____ ZN	3.07475	11,129.90	0.119	3.07868	3.07414	3.07143
____ ZR	0.34289	514.05	0.683	0.34018	0.34412	0.34435

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 18 Date/Time: 10/06/2015 23:02

Sample Number: **8064414** Class: M*** Batch: 152794792002

Initial Vol: 10.37 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.02874	-1,414.02	4.879	0.02713	0.02973	0.02935
____ AL	39.70541	4,023.13	0.248	39.80880	39.69498	39.61246
____ AS	0.23700	6.76	2.670	0.23508	0.23186	0.24407
____ B	1.36562	10,437.03	0.526	1.37293	1.35857	1.36535
____ BA	2.59607	1,184,275.18	0.754	2.61868	2.58421	2.58533
____ BE	0.04231	7,526.89	0.634	0.04262	0.04212	0.04219
____ CA	92.35238	57,256.29	0.178	92.49368	92.39092	92.17255
____ CD	0.04452	473.11	0.966	0.04421	0.04433	0.04501
____ CO	1.18381	3,253.73	0.228	1.18325	1.18675	1.18144
____ CR	0.29799	1,499.77	0.862	0.30096	0.29642	0.29660
____ CU	0.15177	966.05	0.817	0.15320	0.15097	0.15115
____ FE	613.39225	98,134.60	0.319	613.76425	615.13841	611.27409
____ K	11.42611	4,416.61	0.389	11.44329	11.45937	11.37569
____ LI	0.88427	6,908.26	0.254	0.88226	0.88669	0.88387
____ MG	20.57825	30,289.81	0.212	20.58178	20.61993	20.53304
____ MN	16.13311	448,200.57	0.514	16.21641	16.05061	16.13231
____ MO	0.36417	324.27	0.724	0.36445	0.36665	0.36140
____ NA	18.78658	23,756.12	0.275	18.81070	18.82177	18.72727
____ NI	0.95047	1,549.51	0.511	0.95103	0.95502	0.94536
____ P	13.32407	1,453.91	1.257	13.17194	13.50364	13.29663
____ PB	1.03443	452.42	0.268	1.03144	1.03690	1.03495
____ S	3.38398	242.90	1.134	3.35213	3.42661	3.37322
____ SB	0.27487	52.41	0.534	0.27654	0.27382	0.27424
____ SI	55.02029	8,347.49	0.282	55.11766	55.10176	54.84144
____ SN	2.26679	755.64	0.537	2.27177	2.27568	2.25292
____ SR	1.15245	628,603.01	0.760	1.16214	1.15010	1.14511
____ TI	1.72943	43,544.87	0.310	1.73556	1.72709	1.72563
____ TL	0.09430	6.70	12.414	0.10774	0.08633	0.08883
____ V	0.53489	4,344.60	0.164	0.53588	0.53458	0.53422
____ Y1	7937.45869	7,937.46	0.267	7948.02276	7913.04443	7951.30887
____ Y2A	215944.08980	215,944.09	0.122	215647.08525	216031.41845	216153.76569
____ Y2R	20131.08093	20,131.08	0.341	20183.84408	20053.36097	20156.03775
____ ZN	3.30213	11,915.07	0.232	3.29497	3.31022	3.30121
____ ZR	0.35146	522.18	0.580	0.35378	0.34996	0.35064

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 19 Date/Time: 10/06/2015 23:05

Sample Number: **8064410** Class: UL** Batch: 152794792002

Initial Vol: 10.04 Final Vol: 250.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00534	-310.04	9.141	-0.00591	-0.00504	-0.00508
____ AL	4.84026	486.69	1.468	4.91110	4.84066	4.76903
____ AS	0.01741	-2.16	21.305	0.02165	0.01588	0.01471
____ B	0.02352	810.66	7.960	0.02400	0.02511	0.02146
____ BA	0.20360	94,795.95	0.145	0.20342	0.20394	0.20343
____ BE	0.00039	33.01	3.880	0.00037	0.00040	0.00039
____ CA	18.84097	11,732.66	0.240	18.87606	18.85683	18.79002
____ CD	0.00304	52.69	7.582	0.00289	0.00330	0.00292
____ CO	0.12207	336.98	0.524	0.12281	0.12173	0.12168
____ CR	0.02383	121.21	5.195	0.02243	0.02476	0.02431
____ CU	0.08239	545.28	1.112	0.08324	0.08142	0.08250
____ FE	96.48804	20,325.03	0.305	96.72087	96.58571	96.15753
____ K	0.46089	267.23	9.225	0.50388	0.45993	0.41886
____ LI	0.00584	87.49	32.382	0.00402	0.00779	0.00571
____ MG	2.83922	4,151.61	0.162	2.84363	2.83959	2.83445
____ MN	3.55272	100,696.78	0.104	3.55132	3.55692	3.54992
____ MO	-0.00078	-0.52	47.580	-0.00121	-0.00051	-0.00064
____ NA	2.17680	2,707.02	0.365	2.18529	2.16952	2.17560
____ NI	0.07201	120.33	0.559	0.07225	0.07155	0.07224
____ P	2.64830	293.89	2.682	2.70462	2.67178	2.56850
____ PB	0.18561	85.37	0.936	0.18478	0.18761	0.18445
____ S	0.29658	27.83	1.739	0.30115	0.29759	0.29099
____ SB	-0.00126	2.97	233.999	0.00126	-0.00449	-0.00054
____ SI	7.44875	1,119.01	0.430	7.47494	7.45825	7.41306
____ SN	0.00793	4.91	34.438	0.00599	0.00674	0.01105
____ SR	0.06889	38,370.86	0.138	0.06891	0.06879	0.06898
____ TI	0.14862	3,835.76	0.270	0.14904	0.14859	0.14824
____ TL	-0.00411	0.25	19.261	-0.00322	-0.00472	-0.00440
____ V	0.02401	200.01	0.891	0.02377	0.02410	0.02416
____ Y1	8041.24258	8,041.24	0.365	8049.36532	8065.67573	8008.68671
____ Y2A	220292.22429	220,292.22	0.179	220715.36775	219933.89399	220227.41114
____ Y2R	19883.61688	19,883.62	0.190	19876.89924	19924.30140	19849.65000
____ ZN	0.58447	2,135.56	0.247	0.58517	0.58281	0.58543
____ ZR	0.00532	-16.82	47.709	0.00673	0.00683	0.00239

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 20 Date/Time: 10/06/2015 23:08

Sample Number: **8064406** Class: **** Batch: 152794792002

Initial Vol: 10.00 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00307	-1,025.92	38.910	0.00320	0.00420	0.00182
____ AL	32.91292	3,287.02	0.208	32.86009	32.99010	32.88858
____ AS	0.09131	-4.82	7.818	0.08713	0.08724	0.09955
____ B	0.01806	2,895.72	8.040	0.01656	0.01817	0.01946
____ BA	1.38645	625,266.08	0.617	1.37956	1.39603	1.38375
____ BE	0.00490	828.41	0.423	0.00491	0.00491	0.00487
____ CA	195.23131	117,671.46	0.312	195.04822	195.91028	194.73544
____ CD	0.01521	235.39	2.427	0.01536	0.01479	0.01548
____ CO	0.05804	159.80	0.426	0.05779	0.05805	0.05828
____ CR	0.22242	1,106.34	0.753	0.22269	0.22394	0.22063
____ CU	0.76865	4,972.33	0.095	0.76888	0.76923	0.76783
____ FE	398.81668	71,581.99	0.351	398.00416	400.43468	398.01120
____ K	3.29027	1,321.17	1.847	3.31013	3.33863	3.22205
____ LI	0.04165	368.25	2.215	0.04272	0.04107	0.04118
____ MG	48.68774	69,979.36	0.267	48.60898	48.83776	48.61650
____ MN	30.99004	851,101.69	0.296	30.90334	30.98051	31.08626
____ MO	-0.01350	-11.89	6.265	-0.01253	-0.01409	-0.01389
____ NA	31.10923	38,782.40	0.218	31.03572	31.12225	31.16971
____ NI	0.11333	165.93	1.784	0.11104	0.11413	0.11484
____ P	13.92720	1,499.87	2.245	14.15208	14.05928	13.57024
____ PB	0.70435	306.84	0.791	0.70512	0.69844	0.70950
____ S	2.31421	173.89	1.872	2.36092	2.30637	2.27534
____ SB	-0.00779	3.37	76.744	-0.01324	-0.00140	-0.00871
____ SI	32.75012	4,898.45	0.545	32.68130	32.95274	32.61631
____ SN	0.01184	6.06	15.411	0.00985	0.01221	0.01345
____ SR	0.52005	281,212.24	0.144	0.51975	0.52090	0.51949
____ TI	1.10369	27,477.13	0.212	1.10311	1.10627	1.10169
____ TL	0.00184	-0.28	231.454	0.00271	-0.00279	0.00559
____ V	0.17443	1,473.90	0.599	0.17559	0.17357	0.17413
____ Y1	7833.49504	7,833.50	0.230	7828.90687	7853.33866	7818.23958
____ Y2A	213478.20838	213,478.21	0.434	214544.43945	212861.63569	213028.55000
____ Y2R	19842.15415	19,842.15	0.433	19936.45000	19821.76664	19768.24581
____ ZN	7.29100	25,635.33	0.082	7.29774	7.28889	7.28637
____ ZR	0.01738	-37.35	17.366	0.01806	0.02001	0.01409

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 21 Date/Time: 10/06/2015 23:11

Sample Number: **8064408** Class: **** Batch: 152794792002

Initial Vol: 10.33 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00468	-240.07	11.699	-0.00404	-0.00502	-0.00496
____ AL	8.79581	883.15	0.482	8.75722	8.84122	8.78900
____ AS	0.01678	-1.10	10.101	0.01728	0.01817	0.01489
____ B	0.09992	975.00	0.379	0.09953	0.09993	0.10028
____ BA	0.35065	161,939.96	0.548	0.34844	0.35155	0.35194
____ BE	0.00081	108.62	3.630	0.00084	0.00079	0.00079
____ CA	58.47105	36,039.61	0.367	58.35655	58.33820	58.71841
____ CD	0.00450	49.92	4.223	0.00471	0.00437	0.00440
____ CO	0.02114	57.26	2.951	0.02172	0.02048	0.02122
____ CR	0.02766	139.78	3.785	0.02664	0.02873	0.02761
____ CU	0.12668	837.83	1.196	0.12512	0.12678	0.12815
____ FE	72.60005	15,488.65	0.311	72.45631	72.48364	72.86022
____ K	1.17988	536.43	6.012	1.26159	1.13414	1.14392
____ LI	0.01061	125.75	6.936	0.01053	0.01138	0.00991
____ MG	11.86737	17,323.75	0.257	11.83758	11.86594	11.89858
____ MN	2.50338	70,401.39	0.124	2.50366	2.50633	2.50014
____ MO	-0.00413	-3.87	11.300	-0.00434	-0.00445	-0.00359
____ NA	9.26277	11,576.23	0.322	9.25915	9.23493	9.29424
____ NI	0.05971	101.58	1.619	0.06010	0.05861	0.06042
____ P	3.59758	400.30	1.355	3.65056	3.58750	3.55466
____ PB	0.66983	316.38	0.401	0.66731	0.66952	0.67266
____ S	1.35838	101.22	1.173	1.37671	1.34787	1.35055
____ SB	-0.00887	1.06	58.537	-0.00914	-0.00354	-0.01391
____ SI	7.60328	1,143.55	0.549	7.55575	7.63407	7.62004
____ SN	0.01074	5.88	28.714	0.00719	0.01224	0.01278
____ SR	0.22334	123,487.38	0.344	0.22246	0.22383	0.22374
____ TI	0.25488	6,510.32	0.545	0.25336	0.25607	0.25522
____ TL	0.00046	0.56	1872.238	0.01029	-0.00340	-0.00552
____ V	0.03632	298.98	1.213	0.03593	0.03680	0.03623
____ Y1	8073.05456	8,073.05	0.307	8101.65702	8058.15600	8059.35065
____ Y2A	218562.16615	218,562.17	0.604	219866.10879	218592.78144	217227.60822
____ Y2R	19907.73677	19,907.74	0.507	19964.17896	19967.83932	19791.19205
____ ZN	1.18958	4,318.29	0.144	1.18917	1.18811	1.19146
____ ZR	0.00422	-15.47	13.695	0.00476	0.00361	0.00429

LANCASTER LABORATORIES

Run Name: 1527907T73

Instrument ID: 18255

Tube: 22

Date/Time: 10/06/2015 23:13

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49652	3,296.05	0.706	0.49543	0.49369	0.50044
____ AL	25.08843	2,480.75	0.133	25.12687	25.06912	25.06930
____ AS	0.49927	72.66	1.424	0.49109	0.50405	0.50266
____ B	0.47845	2,288.31	0.459	0.47714	0.47722	0.48098
____ BA	0.50869	230,939.18	0.549	0.50837	0.50607	0.51163
____ BE	0.48249	85,788.51	0.543	0.48281	0.47972	0.48493
____ CA	25.13417	15,414.08	0.149	25.09555	25.13636	25.17061
____ CD	0.49312	2,452.36	0.125	0.49338	0.49242	0.49356
____ CO	0.49263	1,355.47	0.236	0.49197	0.49195	0.49397
____ CR	0.48342	2,421.67	0.628	0.48457	0.47998	0.48572
____ CU	0.50189	3,252.69	0.952	0.50131	0.49742	0.50692
____ FE	24.90581	5,363.00	0.451	24.78883	25.01310	24.91548
____ K	24.79133	9,239.60	0.224	24.73286	24.84344	24.79770
____ LI	0.50333	3,853.32	0.360	0.50537	0.50191	0.50272
____ MG	24.93060	35,751.25	0.277	24.86033	24.99862	24.93285
____ MN	0.49900	13,805.42	0.429	0.50127	0.49703	0.49868
____ MO	0.47699	424.65	0.212	0.47813	0.47620	0.47663
____ NA	24.57105	30,318.29	0.555	24.52782	24.72374	24.46159
____ NI	0.49004	823.25	0.205	0.48990	0.48911	0.49111
____ P	0.48409	54.56	1.659	0.47799	0.48108	0.49319
____ PB	0.48944	232.84	0.844	0.48959	0.48523	0.49349
____ S	25.07490	1,719.22	1.147	25.21472	24.74413	25.26585
____ SB	0.47333	101.19	0.557	0.47638	0.47169	0.47193
____ SI	25.36699	3,757.06	0.220	25.30976	25.42141	25.36979
____ SN	0.47768	161.49	0.684	0.47490	0.47686	0.48128
____ SR	0.50405	273,460.54	0.480	0.50406	0.50163	0.50646
____ TI	0.49579	12,462.79	0.418	0.49422	0.49502	0.49814
____ TL	0.46404	31.29	2.925	0.47959	0.45462	0.45789
____ V	0.49453	3,935.71	0.415	0.49385	0.49290	0.49683
____ Y1	7963.41895	7,963.42	0.142	7953.47392	7975.70643	7961.07649
____ Y2A	214868.44057	214,868.44	0.332	214861.54921	215584.64528	214159.12722
____ Y2R	19641.02090	19,641.02	0.322	19710.23295	19586.48270	19626.34704
____ ZN	0.49251	1,776.30	0.271	0.49387	0.49120	0.49246
____ ZR	0.50533	854.67	0.812	0.50480	0.50151	0.50967

LANCASTER LABORATORIES

Run Name: 1527907T73

Instrument ID: 18255

Tube: 23

Date/Time: 10/06/2015 23:16

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00002	-15.66	2418.952	-0.00015	-0.00023	0.00042
____ AL	-0.02820	0.13	40.631	-0.01593	-0.03861	-0.03005
____ AS	0.00629	0.64	40.764	0.00557	0.00416	0.00913
____ B	0.00151	8.58	73.482	0.00106	0.00276	0.00069
____ BA	0.00010	98.98	17.876	0.00009	0.00008	0.00012
____ BE	-0.00001	-40.13	151.221	0.00000	0.00000	-0.00003
____ CA	-0.00211	112.35	209.902	-0.00369	0.00290	-0.00555
____ CD	0.00030	-1.96	81.519	0.00052	0.00004	0.00034
____ CO	-0.00024	-3.73	207.691	-0.00069	-0.00031	0.00029
____ CR	-0.00099	-6.34	53.583	-0.00159	-0.00067	-0.00068
____ CU	0.00164	6.49	17.823	0.00194	0.00136	0.00161
____ FE	0.00716	3.56	58.250	0.01098	0.00271	0.00777
____ K	-0.00589	92.00	783.842	0.00488	-0.05647	0.03393
____ LI	-0.00268	21.19	58.121	-0.00129	-0.00437	-0.00239
____ MG	0.00405	5.35	20.891	0.00308	0.00444	0.00463
____ MN	0.00091	38.45	13.365	0.00104	0.00080	0.00089
____ MO	0.00085	0.73	77.295	0.00080	0.00152	0.00022
____ NA	0.01931	10.70	40.418	0.01997	0.01119	0.02676
____ NI	-0.00028	4.62	298.390	-0.00045	-0.00104	0.00063
____ P	0.00132	1.54	203.823	0.00245	-0.00175	0.00326
____ PB	-0.00325	1.58	13.676	-0.00279	-0.00329	-0.00367
____ S	0.00883	6.50	197.717	0.01687	0.02083	-0.01120
____ SB	-0.00387	1.81	19.410	-0.00316	-0.00466	-0.00380
____ SI	-0.00130	3.12	630.432	0.00803	-0.00723	-0.00469
____ SN	-0.00049	2.08	385.246	-0.00122	0.00164	-0.00188
____ SR	0.00008	3.34	11.885	0.00009	0.00007	0.00007
____ TI	0.00038	28.33	13.962	0.00042	0.00032	0.00039
____ TL	-0.00485	0.27	59.328	-0.00188	-0.00762	-0.00505
____ V	0.00003	-8.63	1266.694	0.00053	-0.00031	-0.00012
____ Y1	8025.84936	8,025.85	0.145	8016.01639	8038.75425	8022.77744
____ Y2A	221233.34147	221,233.34	0.032	221297.29932	221245.40827	221157.31683
____ Y2R	19695.46480	19,695.46	0.229	19653.94580	19743.58910	19688.85951
____ ZN	0.00021	6.26	91.171	0.00016	0.00005	0.00042
____ ZR	0.00221	-8.86	67.096	0.00205	0.00377	0.00081

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 24 Date/Time: 10/06/2015 23:18

Sample Number: **8064416** Class: **** Batch: 152794792002

Initial Vol: 10.36 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00993	-1,295.13	20.022	0.00764	0.01096	0.01119
____ AL	22.89653	2,338.80	0.095	22.88700	22.92134	22.88126
____ AS	0.11934	-6.14	1.781	0.11905	0.12160	0.11738
____ B	-0.06179	3,404.07	8.582	-0.05893	-0.06791	-0.05853
____ BA	0.84554	388,425.44	0.956	0.85485	0.84143	0.84035
____ BE	0.00192	307.48	0.986	0.00194	0.00190	0.00191
____ CA	90.61779	56,638.02	0.232	90.37522	90.73398	90.74415
____ CD	0.00628	243.53	14.999	0.00735	0.00558	0.00591
____ CO	1.40376	3,877.72	0.255	1.39978	1.40482	1.40669
____ CR	0.12508	633.17	1.154	0.12595	0.12342	0.12588
____ CU	0.55049	3,621.99	0.739	0.55469	0.54656	0.55023
____ FE	512.10945	87,962.48	0.638	508.36023	513.63391	514.33422
____ K	2.10375	898.73	1.487	2.07379	2.10127	2.13620
____ LI	0.03029	283.42	5.999	0.02956	0.02896	0.03236
____ MG	12.91112	19,202.55	0.318	12.86368	12.93327	12.93640
____ MN	14.21709	397,701.74	0.934	14.22366	14.08118	14.34644
____ MO	-0.01164	-9.51	4.687	-0.01152	-0.01224	-0.01117
____ NA	9.34721	11,905.97	0.575	9.28525	9.37497	9.38142
____ NI	0.90546	1,490.38	0.210	0.90407	0.90763	0.90469
____ P	13.93943	1,531.37	3.414	14.42840	13.91206	13.47781
____ PB	0.75418	328.40	0.355	0.75676	0.75436	0.75141
____ S	1.23168	96.19	2.541	1.26242	1.23276	1.19985
____ SB	-0.00551	4.75	97.342	-0.00738	-0.00969	0.00054
____ SI	33.84217	5,175.75	0.411	33.69407	33.86273	33.96971
____ SN	0.01182	6.18	8.328	0.01260	0.01071	0.01214
____ SR	0.32520	178,928.27	0.381	0.32582	0.32377	0.32600
____ TI	0.74682	18,950.40	0.263	0.74856	0.74469	0.74721
____ TL	-0.00017	0.60	2537.233	-0.00335	0.00476	-0.00192
____ V	0.11134	943.66	1.001	0.11263	0.11067	0.11073
____ Y1	7990.38424	7,990.38	0.304	8018.46968	7976.16928	7976.51374
____ Y2A	217440.15140	217,440.15	0.369	216975.16986	218366.47500	216978.80933
____ Y2R	20289.96355	20,289.96	0.687	20450.75758	20216.54859	20202.58448
____ ZN	2.49825	9,095.67	0.079	2.49640	2.49801	2.50034
____ ZR	0.02349	-43.27	2.440	0.02305	0.02327	0.02414

LANCASTER LABORATORIES

Run Name: 1527907T73

Instrument ID: 18255

Tube: 25

Date/Time: 10/06/2015 23:21

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00496	19.61	25.595	0.00547	0.00591	0.00352
____ AL	0.21999	24.69	12.727	0.18834	0.24150	0.23015
____ AS	0.02490	3.42	14.884	0.02214	0.02343	0.02911
____ B	0.04752	218.49	2.281	0.04634	0.04776	0.04847
____ BA	0.00529	2,512.56	0.493	0.00527	0.00527	0.00532
____ BE	0.00497	867.52	0.123	0.00497	0.00496	0.00497
____ CA	0.20280	237.71	3.964	0.19411	0.20997	0.20433
____ CD	0.00548	24.18	3.019	0.00538	0.00539	0.00567
____ CO	0.00502	10.96	2.011	0.00491	0.00511	0.00503
____ CR	0.01389	70.10	3.647	0.01331	0.01424	0.01412
____ CU	0.01091	68.09	5.187	0.01152	0.01040	0.01082
____ FE	0.24845	56.23	2.507	0.25231	0.24127	0.25178
____ K	0.49407	276.88	2.636	0.50820	0.48255	0.49144
____ LI	0.01790	177.33	10.053	0.01582	0.01898	0.01889
____ MG	0.10431	150.65	2.282	0.10339	0.10701	0.10253
____ MN	0.00673	203.12	2.315	0.00658	0.00689	0.00673
____ MO	0.00942	8.45	4.519	0.00965	0.00893	0.00968
____ NA	1.03217	1,264.01	0.306	1.02907	1.03538	1.03206
____ NI	0.01018	22.36	6.799	0.00940	0.01072	0.01041
____ P	0.10616	13.16	2.725	0.10720	0.10289	0.10839
____ PB	0.01074	8.20	30.424	0.01010	0.00784	0.01428
____ S	0.51333	41.46	1.298	0.51456	0.51929	0.50614
____ SB	0.01851	6.54	36.403	0.02171	0.01077	0.02304
____ SI	0.06674	13.23	17.341	0.07125	0.05359	0.07538
____ SN	0.01925	8.76	5.457	0.01905	0.01832	0.02039
____ SR	0.00524	2,871.63	0.531	0.00520	0.00524	0.00526
____ TI	0.01029	282.79	1.521	0.01017	0.01047	0.01023
____ TL	0.02884	2.52	39.462	0.04092	0.01832	0.02727
____ V	0.00563	36.66	7.351	0.00523	0.00606	0.00559
____ Y1	8067.57297	8,067.57	0.378	8099.53828	8064.46111	8038.71954
____ Y2A	220219.03756	220,219.04	0.467	221030.71357	220564.74910	219061.65000
____ Y2R	19687.93352	19,687.93	0.624	19808.50958	19562.77401	19692.51697
____ ZN	0.02072	80.49	1.436	0.02045	0.02066	0.02104
____ ZR	0.04773	69.71	0.441	0.04770	0.04795	0.04753

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 26 Date/Time: 10/06/2015 23:24

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.01142	-560.49	6.688	-0.01118	-0.01227	-0.01080
____ AL	501.45600	47,078.74	0.169	500.59013	501.49852	502.27933
____ AS	0.00857	-2.59	37.654	0.00957	0.01118	0.00496
____ B	-0.03380	1,169.37	3.992	-0.03406	-0.03234	-0.03500
____ BA	0.00066	318.95	2.589	0.00068	0.00066	0.00064
____ BE	-0.00088	-174.54	4.137	-0.00092	-0.00085	-0.00086
____ CA	512.67129	276,743.18	0.159	512.40981	512.02059	513.58347
____ CD	0.00347	79.35	9.848	0.00382	0.00314	0.00343
____ CO	0.00127	0.42	20.759	0.00131	0.00151	0.00099
____ CR	0.00174	6.80	9.031	0.00156	0.00181	0.00185
____ CU	-0.00317	46.94	54.466	-0.00216	-0.00218	-0.00516
____ FE	202.51493	37,679.86	0.222	202.86584	202.00719	202.67176
____ K	-0.03701	75.67	31.662	-0.03515	-0.02633	-0.04955
____ LI	0.00503	93.98	37.179	0.00454	0.00346	0.00710
____ MG	515.97111	583,744.26	0.732	520.04157	512.58659	515.28517
____ MN	0.00389	108.27	0.839	0.00393	0.00387	0.00387
____ MO	-0.00789	-10.52	20.787	-0.00865	-0.00901	-0.00601
____ NA	0.25160	280.34	2.356	0.25727	0.24545	0.25207
____ NI	-0.00168	-9.97	18.936	-0.00133	-0.00176	-0.00195
____ P	0.00266	1.53	470.170	0.01591	0.00109	-0.00900
____ PB	-0.00368	37.09	84.523	-0.00284	-0.00712	-0.00107
____ S	-0.01351	6.33	117.579	-0.00036	-0.00901	-0.03116
____ SB	-0.01477	3.76	53.697	-0.01015	-0.02392	-0.01022
____ SI	0.01218	4.80	89.915	0.00170	0.02355	0.01129
____ SN	0.00876	4.71	26.428	0.00821	0.00677	0.01130
____ SR	-0.00003	2,418.35	96.462	-0.00002	-0.00001	-0.00006
____ TI	-0.00030	9.25	75.999	-0.00055	-0.00010	-0.00024
____ TL	0.00464	0.83	400.808	0.00290	-0.01303	0.02406
____ V	0.00117	1.95	25.881	0.00140	0.00083	0.00130
____ Y1	7287.20951	7,287.21	0.061	7292.16653	7285.85600	7283.60600
____ Y2A	194605.83527	194,605.84	0.629	195023.21750	193227.01894	195567.26938
____ Y2R	18511.98605	18,511.99	0.024	18516.91147	18510.39589	18508.65078
____ ZN	0.00809	87.04	2.279	0.00828	0.00791	0.00808
____ ZR	0.00461	-30.42	27.730	0.00608	0.00380	0.00394

LANCASTER LABORATORIES

Run Name: 1527907T73

Instrument ID: 18255

Tube: 27

Date/Time: 10/06/2015 23:27

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.20020	750.63	0.380	0.20053	0.20073	0.19933
____ AL	492.95457	47,036.54	0.284	491.81010	492.53683	494.51677
____ AS	0.10337	10.31	7.238	0.10336	0.09589	0.11086
____ B	-0.02727	1,178.93	13.859	-0.02431	-0.02598	-0.03153
____ BA	0.50424	208,764.65	0.983	0.50724	0.49852	0.50696
____ BE	0.47293	76,685.48	0.872	0.47493	0.46819	0.47567
____ CA	501.93301	275,801.40	0.482	500.42555	500.65268	504.72079
____ CD	0.91510	4,206.19	0.072	0.91545	0.91552	0.91434
____ CO	0.46209	1,158.48	0.401	0.46267	0.46358	0.46001
____ CR	0.46318	2,115.93	0.959	0.46444	0.45824	0.46686
____ CU	0.51969	3,149.68	1.008	0.52215	0.51367	0.52324
____ FE	198.82552	37,674.04	0.618	198.71234	197.65793	200.10629
____ K	0.04112	104.49	104.774	0.03414	0.00195	0.08727
____ LI	0.00481	93.55	3.017	0.00489	0.00490	0.00464
____ MG	499.25584	577,958.03	0.461	497.64667	498.22595	501.89490
____ MN	0.44389	11,201.05	0.219	0.44465	0.44280	0.44422
____ MO	-0.00728	-9.91	21.152	-0.00755	-0.00866	-0.00562
____ NA	0.24817	280.93	3.536	0.24731	0.25734	0.23985
____ NI	0.90512	1,374.67	0.116	0.90505	0.90620	0.90411
____ P	-0.00630	0.92	98.517	-0.00442	-0.00125	-0.01322
____ PB	0.04436	56.91	19.207	0.03465	0.04786	0.05058
____ S	-0.02864	5.48	4.276	-0.02722	-0.02932	-0.02937
____ SB	0.56441	116.15	1.741	0.56630	0.55378	0.57316
____ SI	0.00707	4.15	96.474	0.01396	0.00696	0.00031
____ SN	0.01319	6.02	20.549	0.01207	0.01628	0.01122
____ SR	0.00006	2,427.66	41.482	0.00008	0.00007	0.00003
____ TI	-0.00060	13.68	37.124	-0.00052	-0.00086	-0.00043
____ TL	0.07077	4.97	33.863	0.09673	0.06607	0.04950
____ V	0.48640	3,590.47	0.878	0.48776	0.48161	0.48982
____ Y1	7270.36712	7,270.37	0.207	7277.29589	7253.07746	7280.72800
____ Y2A	195954.89103	195,954.89	0.470	195532.74345	197011.30465	195320.62500
____ Y2R	18817.54102	18,817.54	0.427	18845.19884	18880.45971	18726.96450
____ ZN	0.95857	3,190.62	0.374	0.95597	0.96265	0.95707
____ ZR	0.00339	-32.45	45.038	0.00436	0.00417	0.00163

LANCASTER LABORATORIES

Run Name: 1527907T73 Instrument ID: 18255

Tube: 28 Date/Time: 10/06/2015 23:29

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49801	3,315.97	0.314	0.49924	0.49854	0.49625
____ AL	25.05513	2,480.60	0.530	25.20844	24.97286	24.98409
____ AS	0.50407	73.50	0.877	0.50475	0.50811	0.49934
____ B	0.47477	2,278.05	0.133	0.47413	0.47479	0.47539
____ BA	0.50906	231,781.40	0.385	0.51052	0.50683	0.50982
____ BE	0.48297	86,125.14	0.427	0.48488	0.48078	0.48323
____ CA	25.08213	15,402.10	0.711	25.28570	24.95265	25.00803
____ CD	0.49335	2,457.81	0.242	0.49369	0.49202	0.49433
____ CO	0.49333	1,359.81	0.184	0.49400	0.49370	0.49230
____ CR	0.48248	2,423.98	0.664	0.48610	0.48003	0.48129
____ CU	0.50147	3,259.52	0.163	0.50218	0.50058	0.50165
____ FE	24.81369	5,350.25	0.602	24.98606	24.73123	24.72378
____ K	24.74929	9,235.84	0.519	24.87214	24.61609	24.75966
____ LI	0.49832	3,820.19	0.454	0.49867	0.49591	0.50039
____ MG	24.94960	35,823.87	0.410	25.05393	24.84953	24.94533
____ MN	0.49904	13,847.01	0.169	0.49997	0.49833	0.49882
____ MO	0.47673	425.17	0.412	0.47900	0.47562	0.47558
____ NA	24.69600	30,511.35	0.253	24.73566	24.62404	24.72830
____ NI	0.49087	826.11	0.239	0.48952	0.49168	0.49140
____ P	0.47668	53.85	2.359	0.47324	0.46756	0.48924
____ PB	0.49232	234.60	0.508	0.49065	0.49519	0.49111
____ S	24.91753	1,711.54	0.515	24.81601	24.87473	25.06184
____ SB	0.47507	101.73	0.603	0.47770	0.47203	0.47549
____ SI	25.30030	3,751.96	0.421	25.37115	25.17767	25.35209
____ SN	0.47982	162.49	0.627	0.47928	0.48306	0.47711
____ SR	0.50367	274,055.92	0.276	0.50474	0.50210	0.50417
____ TI	0.49557	12,493.71	0.332	0.49690	0.49373	0.49610
____ TL	0.46455	31.38	1.446	0.45746	0.46538	0.47082
____ V	0.49345	3,938.47	0.296	0.49442	0.49415	0.49176
____ Y1	7977.58965	7,977.59	0.108	7969.75415	7976.17753	7986.83727
____ Y2A	215494.97570	215,494.98	0.088	215388.99681	215714.77500	215381.15530
____ Y2R	19665.90015	19,665.90	0.119	19691.01180	19661.94261	19644.74605
____ ZN	0.49257	1,779.66	0.138	0.49331	0.49199	0.49241
____ ZR	0.50167	849.45	0.399	0.50330	0.49943	0.50227

LANCASTER LABORATORIES

Run Name: 1527907T73

Instrument ID: 18255

Tube: 29

Date/Time: 10/06/2015 23:32

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00054	-11.94	111.447	0.00105	-0.00012	0.00069
____ AL	0.01032	3.93	154.497	0.00183	0.02872	0.00042
____ AS	0.00168	-0.05	367.477	0.00476	-0.00543	0.00571
____ B	0.00149	8.51	33.404	0.00092	0.00183	0.00172
____ BA	0.00006	82.56	48.009	0.00010	0.00005	0.00004
____ BE	0.00003	-32.06	39.369	0.00004	0.00002	0.00003
____ CA	0.01999	125.32	49.755	0.00915	0.02212	0.02871
____ CD	0.00041	-1.38	24.951	0.00044	0.00050	0.00030
____ CO	0.00024	-2.40	109.343	0.00037	-0.00006	0.00041
____ CR	-0.00009	-1.70	309.822	0.00007	-0.00040	0.00007
____ CU	0.00174	7.15	44.795	0.00258	0.00105	0.00158
____ FE	0.01574	5.41	48.027	0.02158	0.01842	0.00720
____ K	-0.02161	85.80	186.818	-0.05949	-0.02621	0.02087
____ LI	-0.00186	27.32	105.893	-0.00413	-0.00063	-0.00082
____ MG	0.03284	46.89	6.574	0.03471	0.03332	0.03048
____ MN	0.00013	15.88	82.820	0.00019	0.00018	0.00001
____ MO	0.00000	-0.03	5200.060	-0.00025	-0.00015	0.00040
____ NA	0.01631	6.97	70.934	0.00570	0.02864	0.01459
____ NI	0.00039	5.75	227.660	0.00141	-0.00009	-0.00016
____ P	0.00208	1.62	162.559	-0.00149	0.00523	0.00249
____ PB	-0.00228	2.04	54.286	-0.00255	-0.00093	-0.00335
____ S	0.01667	7.03	26.128	0.02009	0.01815	0.01177
____ SB	0.00187	3.03	26.191	0.00227	0.00132	0.00201
____ SI	0.00673	4.29	85.870	0.01224	0.00723	0.00072
____ SN	-0.00029	2.14	287.269	-0.00118	-0.00019	0.00049
____ SR	0.00008	6.09	19.408	0.00010	0.00007	0.00007
____ TI	0.00023	24.34	42.633	0.00030	0.00012	0.00026
____ TL	0.01382	1.51	31.043	0.01799	0.00942	0.01404
____ V	0.00034	-5.90	215.894	0.00080	-0.00051	0.00073
____ Y1	8017.19996	8,017.20	0.215	8028.88379	8025.34758	7997.36853
____ Y2A	219825.27825	219,825.28	0.443	219671.53248	218936.96347	220867.33879
____ Y2R	19607.73732	19,607.74	0.247	19638.90276	19632.34853	19551.96069
____ ZN	0.00000	5.50	867.524	0.00000	0.00002	-0.00003
____ ZR	0.00162	-9.85	103.592	-0.00031	0.00241	0.00275

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ICP-AES Run Data Report

Reviewed By
Deborah A Krady

Reviewed Date
10/09/2015 11:42AM

Data File Name 1528203T73.TXT
Run Name: 1528203T73

Method Reference Name(s):

Verified By:
Nina C Haller

Verified Date
10/14/2015 1:22PM

Analyst Employee: 0420

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 1 Date/Time: 10/09/2015 09:03

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-0.00359	31.161	-0.00275	-0.00316	-0.00486
AL	0.000	0.01241	57.098	0.01289	0.01924	0.00509
AS	0.000	0.00290	134.758	0.00503	-0.00161	0.00529
B	0.000	0.00002	88.035	0.00004	0.00000	0.00001
BA	0.000	0.00065	8.512	0.00071	0.00064	0.00060
BE	0.000	-0.01062	5.263	-0.01049	-0.01014	-0.01123
CA	0.000	0.00578	3.945	0.00592	0.00551	0.00590
CD	0.000	-0.00868	48.057	-0.01121	-0.00386	-0.01096
CO	0.000	-0.02311	31.515	-0.01881	-0.01900	-0.03152
CR	0.000	-0.00002	44.650	-0.00003	-0.00002	-0.00001
CU	0.000	0.00049	80.654	0.00062	0.00005	0.00081
FE	0.000	0.00055	9.794	0.00052	0.00062	0.00052
K	0.000	0.29470	11.371	0.27279	0.33328	0.27803
LI	0.000	0.00258	2.689	0.00264	0.00259	0.00251
MG	0.000	0.00048	14.491	0.00056	0.00042	0.00046
MN	0.000	0.02107	9.571	0.02332	0.02045	0.01943
MO	0.000	-0.00243	98.143	-0.00387	-0.00374	0.00032
NA	0.000	0.00132	28.268	0.00132	0.00095	0.00170
NI	0.000	0.02652	14.376	0.02918	0.02216	0.02823
P	0.000	0.00027	7.615	0.00027	0.00029	0.00025
PB	0.000	0.01317	66.400	0.01901	0.01739	0.00312
S	0.000	0.00090	12.089	0.00089	0.00101	0.00079
SB	0.000	0.00028	15.274	0.00023	0.00031	0.00031
SI	0.000	0.00020	36.577	0.00021	0.00027	0.00012
SN	0.000	0.01009	7.443	0.00979	0.01095	0.00954
SR	0.000	0.00020	6.380	0.00019	0.00019	0.00021
TI	0.000	0.00559	14.820	0.00485	0.00649	0.00543
TL	0.000	0.00198	117.790	0.00322	0.00341	-0.00071
V	0.000	-0.00096	109.950	-0.00129	0.00022	-0.00180
Y1	0.000	7752.60287	0.047	7748.49441	7753.92729	7755.38692
Y2A	0.000	212322.55223	0.678	213543.79235	212687.01435	210736.85000
Y2R	0.000	18756.47424	0.533	18784.56969	18839.40712	18645.44591
ZN	0.000	0.06675	5.867	0.06224	0.06879	0.06923
ZR	0.000	-0.00046	5.753	-0.00048	-0.00046	-0.00043

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 2 Date/Time: 10/09/2015 09:06

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	12.71214	0.428	12.66532	12.77174	12.69937
CA	50.000	1.57372	0.055	1.57305	1.57470	1.57342
FE	50.000	0.52973	0.222	0.52850	0.52986	0.53084
K	50.000	47.99075	0.470	47.74625	48.03585	48.19014
MG	50.000	3.59127	0.215	3.58322	3.59199	3.59860
NA	50.000	3.16628	0.579	3.14895	3.16439	3.18548
S	50.000	0.45120	0.465	0.44922	0.45099	0.45340
SI	50.000	0.36782	0.402	0.36612	0.36849	0.36884
Y1	50.000	7618.69714	0.299	7633.32400	7630.30267	7592.46475
Y2R	50.000	18459.49047	0.428	18515.93357	18493.37500	18369.16284

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 3 Date/Time: 10/09/2015 09:09

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	1.57766	0.468	1.57869	1.56982	1.58446
AS	1.000	0.92509	0.889	0.91713	0.92459	0.93355
B	1.000	0.02084	0.298	0.02091	0.02079	0.02082
BA	1.000	2.12056	0.099	2.12242	2.12097	2.11830
BE	1.000	41.91112	0.542	42.05604	41.64929	42.02804
CD	1.000	31.13716	0.139	31.08744	31.16671	31.15732
CO	1.000	17.27770	0.162	17.25280	17.30786	17.27243
CU	1.000	1.53591	0.396	1.54185	1.52969	1.53620
LI	1.000	0.39240	0.231	0.39143	0.39253	0.39323
MN	1.000	6.42279	0.412	6.43826	6.39225	6.43786
NI	1.000	10.44846	0.160	10.46503	10.43163	10.44870
P	1.000	0.01452	0.076	0.01451	0.01453	0.01451
PB	1.000	2.94124	0.281	2.93185	2.94441	2.94746
SR	1.000	2.52237	1.387	2.55850	2.48867	2.51995
TL	1.000	0.45401	0.713	0.45749	0.45345	0.45109
Y1	1.000	7680.78802	0.143	7692.73163	7678.50779	7671.12465
Y2A	1.000	207586.59141	0.201	207106.37607	207868.54694	207784.85121
Y2R	1.000	18674.62775	0.403	18666.85791	18753.41544	18603.60989
ZN	1.000	22.58204	0.137	22.55712	22.61652	22.57247

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 4 Date/Time: 10/09/2015 09:11

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	0.02361	0.393	0.02355	0.02371	0.02356
MO	1.000	5.46372	0.151	5.45591	5.46290	5.47234
SB	1.000	0.02579	0.514	0.02571	0.02571	0.02594
SN	1.000	2.07611	0.413	2.06654	2.08312	2.07866
TI	1.000	5.87027	0.291	5.85065	5.87847	5.88169
V	1.000	1.88855	0.583	1.87668	1.89057	1.89841
Y1	1.000	7796.68510	0.188	7788.93481	7787.56319	7813.55729
Y2A	1.000	212615.62246	0.364	213467.31961	211954.47284	212425.07493
Y2R	1.000	18706.53349	0.466	18739.40636	18607.70958	18772.48453
ZR	1.000	0.08724	0.952	0.08628	0.08773	0.08771

LANCASTER LABORATORIES

Run Name: 1528203T73

Instrument ID: 18255

Tube: 5

Date/Time: 10/09/2015 09:14

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.61247	3,909.64	0.338	0.61019	0.61297	0.61424
____ AL	30.01475	2,827.78	0.445	29.86185	30.07489	30.10751
____ AS	0.60059	83.95	0.887	0.59643	0.60659	0.59874
____ B	0.58635	2,725.44	0.608	0.58317	0.59020	0.58568
____ BA	0.60953	266,536.49	0.718	0.60642	0.61454	0.60764
____ BE	0.59241	102,364.49	0.260	0.59108	0.59410	0.59207
____ CA	30.45763	17,843.92	0.271	30.36468	30.52243	30.48578
____ CD	0.60590	2,896.97	0.043	0.60587	0.60565	0.60617
____ CO	0.59627	1,578.12	0.053	0.59654	0.59593	0.59636
____ CR	0.58402	2,840.55	0.264	0.58283	0.58576	0.58345
____ CU	0.60662	3,830.42	0.412	0.60390	0.60880	0.60717
____ FE	29.91337	5,929.91	0.624	29.70107	29.98764	30.05138
____ K	29.96859	10,699.36	0.895	29.66051	30.09476	30.15049
____ LI	0.60709	4,432.41	0.391	0.60559	0.60982	0.60585
____ MG	30.11177	40,326.68	0.645	29.88747	30.22892	30.21892
____ MN	0.60483	16,052.51	0.309	0.60269	0.60614	0.60567
____ MO	0.59337	497.25	0.462	0.59632	0.59090	0.59287
____ NA	29.96992	35,147.86	0.906	29.65670	30.13947	30.11360
____ NI	0.59877	957.67	0.058	0.59851	0.59917	0.59864
____ P	0.59301	66.71	3.061	0.60964	0.59575	0.57365
____ PB	0.60679	275.58	0.257	0.60720	0.60811	0.60507
____ S	29.81222	2,061.37	1.496	30.20461	29.90481	29.32725
____ SB	0.59399	118.35	1.041	0.59289	0.60065	0.58842
____ SI	30.89841	4,212.50	0.421	30.74893	30.98634	30.95994
____ SN	0.59356	189.19	0.061	0.59327	0.59397	0.59345
____ SR	0.60734	315,986.60	0.425	0.60894	0.60872	0.60437
____ TI	0.61507	14,937.64	0.424	0.61205	0.61664	0.61650
____ TL	0.59038	41.22	6.860	0.62349	0.60243	0.54523
____ V	0.60809	4,735.60	0.449	0.60700	0.61119	0.60607
____ Y1	7650.72195	7,650.72	0.174	7663.30002	7652.14093	7636.72491
____ Y2A	206171.39005	206,171.39	0.250	206712.27028	205684.67500	206117.22488
____ Y2R	18522.81273	18,522.81	0.537	18616.27674	18533.86146	18418.30000
____ ZN	0.60529	2,104.07	0.156	0.60557	0.60424	0.60606
____ ZR	0.61453	984.52	0.394	0.61243	0.61397	0.61718

LANCASTER LABORATORIES

Run Name: 1528203T73

Instrument ID: 18255

Tube: 6

Date/Time: 10/09/2015 09:17

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00040	-16.99	33.082	-0.00027	-0.00053	-0.00038
____ AL	-0.02996	1.78	58.799	-0.03147	-0.01164	-0.04678
____ AS	0.00480	0.43	130.909	-0.00051	0.01172	0.00317
____ B	0.00089	7.45	86.724	0.00168	0.00014	0.00084
____ BA	-0.00009	99.43	44.947	-0.00005	-0.00012	-0.00009
____ BE	0.00006	-26.25	90.809	0.00001	0.00006	0.00011
____ CA	-0.00754	102.98	66.323	-0.00825	-0.00223	-0.01216
____ CD	0.00004	-2.91	449.471	-0.00014	0.00004	0.00023
____ CO	0.00002	-3.15	1361.842	0.00003	-0.00025	0.00029
____ CR	0.00035	-2.95	168.836	0.00031	-0.00022	0.00096
____ CU	0.00011	2.81	596.583	0.00068	0.00029	-0.00063
____ FE	-0.04139	1.95	9.786	-0.04364	-0.04382	-0.03672
____ K	0.01955	116.49	314.665	0.03664	0.07072	-0.04871
____ LI	-0.00176	35.27	119.329	0.00064	-0.00326	-0.00266
____ MG	0.00808	10.57	30.362	0.01089	0.00692	0.00642
____ MN	-0.00266	17.10	6.835	-0.00245	-0.00280	-0.00272
____ MO	0.00006	0.02	168.287	0.00016	0.00007	-0.00005
____ NA	0.03833	32.68	15.229	0.04123	0.04215	0.03161
____ NI	0.00067	5.21	83.760	0.00116	0.00079	0.00006
____ P	-0.00229	1.84	109.470	-0.00431	-0.00308	0.00052
____ PB	0.00110	2.54	113.199	0.00249	0.00012	0.00067
____ S	-0.00426	6.68	353.920	0.00460	-0.02168	0.00429
____ SB	0.00022	2.24	1550.176	0.00335	0.00080	-0.00348
____ SI	-0.00486	3.09	41.032	-0.00257	-0.00617	-0.00584
____ SN	0.00144	2.03	103.681	0.00018	0.00104	0.00309
____ SR	0.00011	27.61	3.706	0.00011	0.00010	0.00011
____ TI	-0.00007	21.90	379.237	-0.00018	0.00022	-0.00024
____ TL	0.01061	1.05	130.097	0.01545	-0.00496	0.02134
____ V	0.00042	-4.91	155.517	0.00115	0.00020	-0.00010
____ Y1	7764.67601	7,764.68	0.205	7776.52009	7746.56612	7770.94181
____ Y2A	210682.59568	210,682.60	0.523	211760.21323	210731.35000	209556.22380
____ Y2R	18594.10307	18,594.10	0.392	18641.42372	18510.22296	18630.66254
____ ZN	-0.00053	8.54	32.250	-0.00037	-0.00051	-0.00070
____ ZR	0.00353	-6.36	37.984	0.00489	0.00349	0.00221

LANCASTER LABORATORIES

Run Name: 1528203T73

Instrument ID: 18255

Tube: 7

Date/Time: 10/09/2015 09:19

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00488	18.97	7.225	0.00524	0.00488	0.00454
____ AL	0.15903	19.62	5.034	0.14978	0.16344	0.16385
____ AS	0.01953	2.55	6.338	0.01830	0.01950	0.02077
____ B	0.04787	214.97	0.568	0.04810	0.04795	0.04757
____ BA	0.00500	2,367.95	0.218	0.00498	0.00500	0.00500
____ BE	0.00498	842.54	0.417	0.00496	0.00496	0.00500
____ CA	0.21208	231.71	1.322	0.21432	0.21298	0.20893
____ CD	0.00536	22.88	4.331	0.00552	0.00509	0.00547
____ CO	0.00498	10.21	9.487	0.00506	0.00447	0.00540
____ CR	0.01481	69.03	6.428	0.01577	0.01480	0.01386
____ CU	0.01019	67.72	8.560	0.00930	0.01023	0.01105
____ FE	0.16084	42.66	4.715	0.15482	0.15835	0.16936
____ K	0.50537	288.70	0.451	0.50328	0.50780	0.50504
____ LI	0.01719	172.49	8.147	0.01855	0.01575	0.01728
____ MG	0.11312	153.11	1.958	0.11145	0.11228	0.11564
____ MN	0.00258	158.26	1.469	0.00256	0.00255	0.00262
____ MO	0.00993	8.39	7.737	0.00941	0.01081	0.00956
____ NA	1.06028	1,235.51	1.030	1.07224	1.05083	1.05779
____ NI	0.01109	22.05	4.978	0.01054	0.01107	0.01165
____ P	0.09529	12.58	5.164	0.09699	0.09914	0.08975
____ PB	0.01906	10.70	2.277	0.01950	0.01863	0.01906
____ S	0.48973	41.19	2.128	0.50089	0.48805	0.48025
____ SB	0.02245	6.64	5.934	0.02143	0.02196	0.02396
____ SI	0.04595	10.05	24.010	0.04695	0.05645	0.03445
____ SN	0.02112	8.34	1.676	0.02072	0.02125	0.02140
____ SR	0.00534	2,806.36	0.220	0.00535	0.00533	0.00534
____ TI	0.00988	267.79	0.603	0.00981	0.00993	0.00989
____ TL	0.03494	2.75	21.683	0.02636	0.04071	0.03775
____ V	0.00594	38.47	7.380	0.00595	0.00550	0.00638
____ Y1	7758.04783	7,758.05	0.230	7754.21347	7777.53449	7742.39552
____ Y2A	210621.66926	210,621.67	0.315	211368.25000	210097.44114	210399.31664
____ Y2R	18582.93683	18,582.94	0.249	18533.18673	18624.42706	18591.19669
____ ZN	0.02021	80.80	2.147	0.02004	0.01989	0.02071
____ ZR	0.04743	65.32	1.926	0.04638	0.04801	0.04790

LANCASTER LABORATORIES

Run Name: 1528203T73

Instrument ID: 18255

Tube: 8

Date/Time: 10/09/2015 09:22

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00191	-551.07	87.929	-0.00347	-0.00014	-0.00210
____ AL	490.35655	44,466.50	0.136	491.09032	490.19282	489.78652
____ AS	0.00848	-2.40	30.293	0.00608	0.00817	0.01119
____ B	-0.03651	1,109.98	0.457	-0.03670	-0.03638	-0.03645
____ BA	0.00041	284.76	7.154	0.00042	0.00037	0.00043
____ BE	-0.00083	-163.69	4.619	-0.00086	-0.00079	-0.00084
____ CA	501.00355	263,011.56	0.379	502.71771	501.32704	498.96590
____ CD	0.00310	73.92	8.477	0.00334	0.00282	0.00316
____ CO	0.00154	0.85	42.521	0.00213	0.00083	0.00167
____ CR	0.00294	8.88	13.449	0.00310	0.00248	0.00322
____ CU	-0.00347	48.56	15.175	-0.00363	-0.00389	-0.00288
____ FE	197.76683	34,489.40	0.196	197.75181	198.16094	197.38775
____ K	0.02481	112.77	88.592	0.02261	0.00401	0.04780
____ LI	0.00275	82.69	24.979	0.00204	0.00280	0.00341
____ MG	499.67344	539,948.32	0.783	502.59699	501.19250	495.23083
____ MN	0.00007	81.17	238.050	0.00023	0.00010	-0.00011
____ MO	-0.00771	-9.75	27.369	-0.00527	-0.00882	-0.00903
____ NA	0.26448	284.80	1.461	0.26055	0.26459	0.26828
____ NI	-0.00110	-9.17	26.443	-0.00077	-0.00123	-0.00131
____ P	-0.00147	1.75	426.108	-0.00861	0.00116	0.00304
____ PB	0.00222	35.07	180.643	0.00199	-0.00167	0.00635
____ S	-0.01837	6.98	71.455	-0.00338	-0.02780	-0.02394
____ SB	-0.01238	3.60	90.473	-0.02190	-0.00004	-0.01521
____ SI	0.00092	3.69	1209.899	0.00398	0.01016	-0.01138
____ SN	0.01541	5.91	9.276	0.01647	0.01378	0.01597
____ SR	0.00006	2,333.98	18.954	0.00006	0.00004	0.00006
____ TI	-0.00054	9.06	22.989	-0.00063	-0.00059	-0.00040
____ TL	-0.00327	0.08	644.873	-0.02332	0.01875	-0.00525
____ V	0.00076	-0.90	57.454	0.00051	0.00051	0.00127
____ Y1	7051.20000	7,051.20	0.248	7071.29000	7039.08800	7043.22200
____ Y2A	188562.84931	188,562.85	0.531	187409.13394	189188.61139	189090.80259
____ Y2R	17710.00492	17,710.00	0.247	17751.54567	17664.39349	17714.07559
____ ZN	0.00719	84.82	11.195	0.00654	0.00809	0.00694
____ ZR	0.00290	-31.37	43.351	0.00381	0.00342	0.00146

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 9 Date/Time: 10/09/2015 09:25

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.20805	691.90	0.318	0.20881	0.20772	0.20761
____ AL	487.28857	43,839.50	0.337	487.36176	485.60959	488.89435
____ AS	0.10240	9.82	8.489	0.10674	0.09240	0.10808
____ B	-0.03590	1,095.38	13.232	-0.03256	-0.03380	-0.04134
____ BA	0.49989	197,256.13	0.778	0.50340	0.50057	0.49571
____ BE	0.46358	72,268.13	0.720	0.46683	0.46374	0.46016
____ CA	497.41544	259,202.29	0.588	496.53609	495.02906	500.68116
____ CD	0.90022	3,990.00	0.310	0.89963	0.89777	0.90326
____ CO	0.45646	1,103.54	0.263	0.45508	0.45722	0.45710
____ CR	0.46012	2,018.33	1.321	0.46602	0.46046	0.45388
____ CU	0.51713	3,021.21	0.833	0.52162	0.51673	0.51304
____ FE	197.58660	34,190.58	0.782	196.69261	196.69730	199.36990
____ K	0.02190	110.84	274.232	0.02230	-0.03836	0.08177
____ LI	0.00344	86.61	58.902	0.00166	0.00564	0.00301
____ MG	498.27240	534,500.44	0.885	495.16793	496.32783	503.32143
____ MN	0.43891	10,532.13	0.548	0.44088	0.43961	0.43623
____ MO	-0.00872	-10.43	16.860	-0.00864	-0.01022	-0.00728
____ NA	0.27292	291.98	0.589	0.27473	0.27238	0.27165
____ NI	0.89126	1,294.26	0.472	0.89134	0.88701	0.89543
____ P	-0.01232	0.95	51.638	-0.01794	-0.01361	-0.00541
____ PB	0.04561	52.44	8.496	0.04301	0.05006	0.04376
____ S	-0.03967	5.72	11.556	-0.03725	-0.04495	-0.03680
____ SB	0.56228	108.72	1.659	0.55614	0.57301	0.55769
____ SI	-0.00841	2.44	99.753	-0.01632	-0.00930	0.00039
____ SN	0.01471	5.65	4.108	0.01506	0.01401	0.01506
____ SR	0.00011	2,312.78	47.438	0.00015	0.00013	0.00005
____ TI	-0.00060	18.47	52.659	-0.00026	-0.00088	-0.00065
____ TL	0.09623	6.54	31.951	0.11942	0.10790	0.06135
____ V	0.48362	3,455.70	1.061	0.48842	0.48423	0.47821
____ Y1	7006.00200	7,006.00	0.210	7005.12400	7021.15400	6991.72800
____ Y2A	186029.26775	186,029.27	0.619	185173.97705	185574.36614	187339.46005
____ Y2R	17571.59272	17,571.59	0.758	17685.27678	17604.49141	17425.00997
____ ZN	0.93681	3,015.19	0.050	0.93631	0.93687	0.93724
____ ZR	0.00499	-27.86	12.385	0.00570	0.00469	0.00458

LANCASTER LABORATORIES

Run Name: 1528203T73

Instrument ID: 18255

Tube: 10

Date/Time: 10/09/2015 09:27

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49732	3,188.06	0.692	0.49522	0.49546	0.50129
____ AL	24.84620	2,346.28	0.630	24.95287	24.66648	24.91926
____ AS	0.49193	69.11	0.919	0.48957	0.49714	0.48907
____ B	0.47349	2,216.85	0.919	0.47055	0.47144	0.47849
____ BA	0.50187	220,661.78	0.651	0.50231	0.49840	0.50489
____ BE	0.47892	83,190.88	0.624	0.47841	0.47622	0.48213
____ CA	25.03809	14,727.87	0.286	25.05547	24.95927	25.09953
____ CD	0.49150	2,363.00	0.240	0.49181	0.49249	0.49020
____ CO	0.49225	1,309.64	0.132	0.49237	0.49155	0.49283
____ CR	0.47704	2,331.82	0.765	0.47485	0.47500	0.48125
____ CU	0.49612	3,150.17	0.603	0.49664	0.49291	0.49882
____ FE	24.65438	4,911.42	0.230	24.70440	24.59296	24.66577
____ K	24.54896	8,802.53	0.322	24.52539	24.48442	24.63706
____ LI	0.50030	3,668.69	0.344	0.50095	0.49835	0.50160
____ MG	24.79481	33,333.87	0.241	24.80305	24.73135	24.85003
____ MN	0.49542	13,235.21	0.314	0.49515	0.49401	0.49709
____ MO	0.47772	402.63	0.068	0.47739	0.47773	0.47804
____ NA	24.50333	28,794.51	0.178	24.48822	24.46930	24.55246
____ NI	0.49168	791.60	0.185	0.49064	0.49228	0.49213
____ P	0.47925	54.62	2.239	0.46892	0.49035	0.47848
____ PB	0.49305	225.61	0.914	0.49755	0.49308	0.48854
____ S	24.48470	1,703.88	1.190	24.25220	24.81144	24.39045
____ SB	0.47676	95.93	0.214	0.47561	0.47711	0.47757
____ SI	25.08171	3,427.26	0.455	25.02334	25.00850	25.21329
____ SN	0.48715	156.44	0.480	0.48522	0.48975	0.48649
____ SR	0.50172	262,428.01	0.560	0.50143	0.49906	0.50466
____ TI	0.49319	12,047.24	0.381	0.49322	0.49130	0.49505
____ TL	0.49096	34.52	5.709	0.46772	0.52209	0.48308
____ V	0.49021	3,836.63	0.500	0.48971	0.48805	0.49287
____ Y1	7694.49730	7,694.50	0.088	7697.58145	7686.73930	7699.17116
____ Y2A	207281.95241	207,281.95	0.616	208361.17753	207612.27037	205872.40933
____ Y2R	18561.04368	18,561.04	0.212	18594.85603	18570.32500	18517.95000
____ ZN	0.49250	1,723.90	0.108	0.49210	0.49311	0.49230
____ ZR	0.50448	807.71	0.742	0.50308	0.50165	0.50873

LANCASTER LABORATORIES

Run Name: 1528203T73

Instrument ID: 18255

Tube: 11

Date/Time: 10/09/2015 09:30

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00018	-15.49	518.139	-0.00050	0.00088	-0.00092
____ AL	0.01898	6.38	156.699	0.00183	0.05332	0.00179
____ AS	0.00604	0.61	14.447	0.00512	0.00685	0.00615
____ B	0.00044	5.54	34.551	0.00048	0.00027	0.00057
____ BA	-0.00010	90.98	45.944	-0.00015	-0.00010	-0.00006
____ BE	0.00005	-28.03	47.476	0.00005	0.00002	0.00006
____ CA	0.02120	119.40	17.508	0.01731	0.02160	0.02470
____ CD	0.00055	-0.43	23.027	0.00070	0.00047	0.00049
____ CO	-0.00005	-3.34	508.184	0.00024	-0.00025	-0.00013
____ CR	-0.00004	-4.87	1785.686	-0.00085	0.00020	0.00053
____ CU	0.00036	4.37	331.614	-0.00099	0.00080	0.00128
____ FE	-0.02926	4.37	18.389	-0.03547	-0.02600	-0.02631
____ K	0.01261	113.63	171.025	-0.00998	0.03297	0.01482
____ LI	-0.00182	34.72	78.389	-0.00054	-0.00155	-0.00336
____ MG	0.03648	48.95	7.685	0.03905	0.03349	0.03690
____ MN	-0.00278	13.71	3.934	-0.00287	-0.00281	-0.00266
____ MO	0.00004	0.01	1176.467	-0.00047	0.00005	0.00055
____ NA	0.04363	38.78	8.182	0.04674	0.03973	0.04442
____ NI	0.00121	6.08	99.775	-0.00005	0.00236	0.00132
____ P	-0.00332	1.72	105.634	0.00073	-0.00546	-0.00521
____ PB	-0.00172	1.26	64.660	-0.00047	-0.00209	-0.00260
____ S	-0.00242	6.80	223.152	-0.00529	-0.00577	0.00381
____ SB	0.00104	2.40	233.516	0.00030	0.00375	-0.00094
____ SI	-0.00775	2.69	62.477	-0.01289	-0.00328	-0.00708
____ SN	0.00099	1.88	55.071	0.00119	0.00141	0.00037
____ SR	0.00006	4.28	14.993	0.00007	0.00005	0.00007
____ TI	0.00012	26.30	113.233	0.00006	0.00002	0.00027
____ TL	0.00433	0.61	105.918	-0.00067	0.00834	0.00532
____ V	0.00053	-4.04	87.335	0.00105	0.00034	0.00019
____ Y1	7757.61360	7,757.61	0.116	7749.46486	7756.10268	7767.27327
____ Y2A	209823.88021	209,823.88	0.379	210123.42752	210425.52395	208922.68916
____ Y2R	18524.67974	18,524.68	0.477	18587.78398	18562.53742	18423.71782
____ ZN	-0.00054	8.51	30.999	-0.00072	-0.00039	-0.00051
____ ZR	0.00442	-4.89	18.493	0.00349	0.00501	0.00477

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 12 Date/Time: 10/09/2015 09:33

Sample Number: **PBW** Class: **** Batch: 152794792002

Initial Vol: 10.00 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00027	-13.11	325.574	0.00117	0.00020	-0.00057
____ AL	0.09299	13.48	18.819	0.10886	0.09589	0.07423
____ AS	0.00274	0.13	81.313	0.00251	0.00507	0.00064
____ B	0.02516	115.88	2.711	0.02591	0.02496	0.02459
____ BA	0.08275	37,231.39	0.362	0.08306	0.08272	0.08246
____ BE	0.00019	-3.36	15.953	0.00019	0.00021	0.00015
____ CA	0.62159	475.02	0.047	0.62185	0.62164	0.62127
____ CD	0.00118	2.71	26.665	0.00082	0.00136	0.00137
____ CO	0.00283	4.45	6.526	0.00305	0.00274	0.00271
____ CR	0.03800	185.18	1.126	0.03849	0.03772	0.03779
____ CU	0.00371	26.07	9.750	0.00366	0.00338	0.00409
____ FE	0.17690	46.21	5.365	0.17371	0.18758	0.16941
____ K	0.07087	135.61	65.994	0.01754	0.10492	0.09014
____ LI	0.00285	69.10	32.044	0.00388	0.00252	0.00215
____ MG	0.07783	105.93	2.133	0.07773	0.07622	0.07954
____ MN	0.00194	141.52	0.952	0.00192	0.00193	0.00196
____ MO	0.00762	6.46	8.464	0.00728	0.00836	0.00722
____ NA	0.13945	152.74	4.505	0.13225	0.14228	0.14382
____ NI	0.00447	11.37	22.329	0.00415	0.00367	0.00558
____ P	0.00495	2.65	50.627	0.00774	0.00288	0.00424
____ PB	0.06293	30.73	4.407	0.06551	0.06327	0.06000
____ S	0.02326	8.63	25.432	0.02801	0.02512	0.01663
____ SB	0.00254	2.68	152.428	0.00697	-0.00024	0.00089
____ SI	0.20848	32.47	7.170	0.21233	0.19199	0.22113
____ SN	0.01863	7.56	1.729	0.01829	0.01893	0.01868
____ SR	0.00534	2,822.30	0.204	0.00534	0.00535	0.00534
____ TI	0.00622	178.27	6.052	0.00662	0.00587	0.00616
____ TL	0.01293	1.22	62.831	0.01068	0.02195	0.00617
____ V	0.00322	16.74	2.124	0.00315	0.00322	0.00328
____ Y1	7784.94465	7,784.94	0.253	7797.67739	7794.85103	7762.30554
____ Y2A	211463.37679	211,463.38	0.057	211520.28783	211544.02531	211325.81722
____ Y2R	18711.18541	18,711.19	0.403	18660.67158	18797.86969	18675.01497
____ ZN	0.03166	120.78	0.567	0.03172	0.03145	0.03180
____ ZR	0.00853	1.80	7.448	0.00792	0.00919	0.00847

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 13 Date/Time: 10/09/2015 09:35

Sample Number: **LCSW** Class: **** Batch: 152794792002

Initial Vol: 10.00 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04717	324.77	1.314	0.04753	0.04752	0.04645
____ AL	1.99186	194.18	0.725	2.00852	1.98301	1.98404
____ AS	0.14905	21.26	1.337	0.14984	0.15052	0.14678
____ B	1.93928	8,472.63	0.182	1.93713	1.93737	1.94335
____ BA	1.96055	871,481.43	1.097	1.94070	1.98341	1.95754
____ BE	0.04908	8,590.80	0.273	0.04903	0.04923	0.04898
____ CA	4.09870	2,507.84	0.428	4.11412	4.07959	4.10239
____ CD	0.05077	243.20	0.819	0.05125	0.05051	0.05055
____ CO	0.49259	1,327.68	0.264	0.49396	0.49137	0.49244
____ CR	0.19186	945.80	0.381	0.19164	0.19267	0.19126
____ CU	0.24478	1,544.19	0.386	0.24429	0.24417	0.24587
____ FE	0.95691	202.70	0.324	0.95435	0.95601	0.96035
____ K	9.83820	3,595.17	0.168	9.85612	9.82353	9.83496
____ LI	0.97855	7,132.02	0.131	0.97769	0.97794	0.98002
____ MG	1.99820	2,707.73	0.353	2.00332	1.99016	2.00111
____ MN	0.49708	13,431.61	0.161	0.49772	0.49733	0.49618
____ MO	1.95061	1,658.38	0.465	1.95999	1.94190	1.94993
____ NA	9.94756	11,688.47	0.546	10.00916	9.90676	9.92676
____ NI	0.50285	821.49	0.181	0.50390	0.50238	0.50227
____ P	0.99074	111.60	1.518	1.00579	0.97571	0.99070
____ PB	0.14841	68.22	1.649	0.14763	0.15115	0.14645
____ S	0.98130	76.20	1.006	0.98597	0.96996	0.98796
____ SB	0.50848	84.77	1.157	0.51512	0.50642	0.50390
____ SI	1.91838	268.47	3.802	1.84702	1.91531	1.99279
____ SN	3.87492	1,247.43	0.349	3.88963	3.86305	3.87206
____ SR	0.98406	520,419.35	0.395	0.98044	0.98816	0.98358
____ TI	0.99616	24,516.75	0.070	0.99644	0.99667	0.99536
____ TL	0.14267	10.50	3.422	0.13895	0.14086	0.14820
____ V	0.49216	3,684.86	0.099	0.49191	0.49184	0.49272
____ Y1	7779.88374	7,779.88	0.032	7778.19525	7782.74953	7778.70646
____ Y2A	209657.40894	209,657.41	0.492	210667.58297	208606.71887	209697.92498
____ Y2R	18570.95833	18,570.96	0.609	18572.92498	18683.07500	18456.87500
____ ZN	0.51169	1,802.27	0.281	0.51281	0.51220	0.51007
____ ZR	0.98786	1,600.56	0.577	0.98154	0.98942	0.99261

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 14 Date/Time: 10/09/2015 09:38

Sample Number: **8064410** Class: U*** Batch: 152794792002

Initial Vol: 10.04 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05921	-1,439.68	3.536	0.05730	0.05888	0.06145
____ AL	23.63625	2,269.14	0.417	23.52285	23.70125	23.68464
____ AS	0.14063	-7.58	3.350	0.14604	0.13747	0.13838
____ B	-0.16555	3,589.99	1.403	-0.16557	-0.16787	-0.16322
____ BA	0.99039	436,426.50	0.356	0.98678	0.99057	0.99383
____ BE	0.00207	324.85	1.487	0.00210	0.00204	0.00206
____ CA	92.75006	54,704.85	0.025	92.74883	92.77349	92.72785
____ CD	0.00292	262.58	15.348	0.00246	0.00336	0.00293
____ CO	0.59128	1,577.41	0.055	0.59098	0.59162	0.59123
____ CR	0.12041	586.60	0.751	0.12010	0.11970	0.12143
____ CU	0.41577	2,654.34	0.364	0.41417	0.41595	0.41718
____ FE	617.95579	90,296.31	0.299	617.56747	616.33005	619.96985
____ K	2.27805	931.32	1.716	2.24700	2.32193	2.26521
____ LI	0.03290	294.28	3.628	0.03168	0.03296	0.03407
____ MG	14.01085	19,217.81	0.206	14.03404	13.97855	14.01996
____ MN	16.31423	434,149.44	0.326	16.34943	16.34023	16.25302
____ MO	-0.01058	-7.96	15.717	-0.00937	-0.01248	-0.00989
____ NA	10.78972	12,883.14	0.294	10.78337	10.76170	10.82408
____ NI	0.35070	528.91	0.484	0.35068	0.34902	0.35241
____ P	13.39284	1,466.86	1.616	13.38399	13.18098	13.61355
____ PB	0.90988	380.13	0.552	0.90603	0.91556	0.90804
____ S	1.26531	101.58	1.760	1.27505	1.23983	1.28105
____ SB	-0.00255	5.52	201.527	0.00322	-0.00422	-0.00666
____ SI	37.06923	5,146.80	0.361	37.16444	36.91627	37.12698
____ SN	0.01296	5.68	22.998	0.01041	0.01224	0.01624
____ SR	0.34228	179,863.22	0.120	0.34217	0.34193	0.34273
____ TI	0.73730	18,012.11	0.098	0.73648	0.73781	0.73761
____ TL	-0.00221	-0.18	367.729	-0.01115	-0.00024	0.00475
____ V	0.11413	946.30	0.478	0.11353	0.11460	0.11427
____ Y1	7708.86897	7,708.87	0.143	7719.08347	7697.23470	7710.28874
____ Y2A	207804.07713	207,804.08	0.440	208182.37500	208468.61288	206761.24352
____ Y2R	18869.82912	18,869.83	0.226	18915.75110	18862.47750	18831.25875
____ ZN	2.83325	9,968.41	0.015	2.83299	2.83373	2.83303
____ ZR	0.02759	-47.52	6.302	0.02602	0.02729	0.02946

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 15 Date/Time: 10/09/2015 09:41

Sample Number: **8064410** Class: UP** Batch: 152794792002

Initial Vol: 10.04 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00120	-17.13	20.599	0.00110	0.00102	0.00149
____ AL	-0.03371	2.64	77.014	-0.00644	-0.03656	-0.05813
____ AS	0.00284	0.34	29.370	0.00255	0.00378	0.00219
____ B	0.00001	10.20	3711.442	-0.00044	-0.00008	0.00057
____ BA	-0.00006	271.27	188.000	-0.00015	-0.00010	0.00007
____ BE	0.00011	-42.60	13.913	0.00011	0.00009	0.00013
____ CA	0.01238	255.17	122.671	0.02979	0.00539	0.00195
____ CD	0.00043	-2.29	10.126	0.00039	0.00042	0.00048
____ CO	0.00065	-3.35	39.081	0.00050	0.00051	0.00094
____ CR	0.00054	-5.35	25.239	0.00039	0.00059	0.00065
____ CU	0.00019	8.07	117.656	-0.00006	0.00036	0.00027
____ FE	0.03750	37.74	131.002	0.09207	0.02365	-0.00321
____ K	-0.15793	117.70	18.924	-0.12441	-0.16757	-0.18180
____ LI	-0.00368	46.94	20.968	-0.00336	-0.00311	-0.00455
____ MG	0.00840	22.66	79.915	0.01606	0.00566	0.00350
____ MN	-0.00082	163.57	139.485	-0.00180	-0.00109	0.00043
____ MO	0.00010	0.10	323.243	-0.00017	0.00045	0.00002
____ NA	0.01122	2.83	43.760	0.00558	0.01454	0.01354
____ NI	-0.00070	6.90	73.883	-0.00124	-0.00020	-0.00066
____ P	-0.01109	2.01	18.238	-0.01168	-0.00884	-0.01275
____ PB	-0.00194	2.69	18.471	-0.00165	-0.00184	-0.00234
____ S	-0.05764	6.85	8.177	-0.05298	-0.05755	-0.06241
____ SB	-0.00349	3.45	54.665	-0.00276	-0.00206	-0.00566
____ SI	-0.00387	7.10	169.277	0.00310	-0.00990	-0.00481
____ SN	-0.00085	3.01	73.241	-0.00028	-0.00076	-0.00151
____ SR	0.00010	48.13	28.717	0.00008	0.00008	0.00013
____ TI	0.00009	62.47	684.774	-0.00039	-0.00009	0.00074
____ TL	0.00400	1.40	192.508	-0.00191	0.00120	0.01271
____ V	0.00091	-2.57	7.803	0.00085	0.00099	0.00090
____ Y1	18092.80232	18,092.80	6.229	18310.96446	16872.61748	19094.82503
____ Y2A	542874.02248	542,874.02	17.891	651657.68082	512104.18049	464860.20612
____ Y2R	41687.05495	41,687.05	15.457	34989.44400	42229.54862	47842.17222
____ ZN	-0.00104	15.70	9.000	-0.00096	-0.00103	-0.00114
____ ZR	0.00530	-7.12	34.245	0.00326	0.00591	0.00674

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 16 Date/Time: 10/09/2015 09:44

Sample Number: **8064415** Class: D*** Batch: 152794792002

Initial Vol: 10.04 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04614	-1,338.56	2.833	0.04677	0.04464	0.04701
____ AL	21.28017	2,055.42	0.782	21.10608	21.29686	21.43757
____ AS	0.12704	-6.61	6.851	0.12835	0.11776	0.13502
____ B	-0.15229	3,204.51	4.852	-0.14428	-0.15375	-0.15883
____ BA	0.92917	411,835.60	0.478	0.92629	0.93428	0.92694
____ BE	0.00194	303.33	2.449	0.00194	0.00189	0.00198
____ CA	83.12486	49,387.51	0.476	82.71805	83.14786	83.50869
____ CD	0.00450	244.51	11.497	0.00505	0.00442	0.00402
____ CO	0.30151	808.73	0.455	0.30242	0.30218	0.29993
____ CR	0.11101	543.61	0.843	0.10994	0.11145	0.11165
____ CU	0.37637	2,416.31	0.571	0.37670	0.37408	0.37833
____ FE	551.60714	84,553.51	0.720	547.43710	552.04598	555.33833
____ K	1.97624	827.53	2.008	1.93305	2.01109	1.98459
____ LI	0.02714	253.04	9.902	0.02979	0.02720	0.02442
____ MG	12.74321	17,589.83	0.476	12.68255	12.74332	12.80378
____ MN	15.50456	414,997.38	0.296	15.45210	15.53746	15.52413
____ MO	-0.01272	-9.86	10.982	-0.01290	-0.01402	-0.01124
____ NA	9.89724	11,886.42	0.466	9.84453	9.91711	9.93008
____ NI	0.24007	357.33	0.501	0.23992	0.24134	0.23895
____ P	12.46274	1,372.61	2.789	12.26246	12.26163	12.86414
____ PB	0.84970	358.49	0.344	0.85291	0.84898	0.84720
____ S	1.17871	95.73	2.465	1.16000	1.16395	1.21219
____ SB	0.00032	5.73	1864.308	0.00541	0.00183	-0.00628
____ SI	34.56693	4,828.05	0.257	34.46436	34.62270	34.61372
____ SN	0.01257	5.58	13.668	0.01065	0.01309	0.01396
____ SR	0.31527	166,621.85	0.120	0.31502	0.31509	0.31571
____ TI	0.67525	16,594.03	0.246	0.67362	0.67520	0.67693
____ TL	-0.00034	-0.12	3016.557	0.01142	-0.00515	-0.00729
____ V	0.09992	835.60	0.620	0.09957	0.09955	0.10064
____ Y1	7751.14531	7,751.15	0.129	7757.82439	7739.60236	7756.00919
____ Y2A	209011.42511	209,011.43	0.408	209991.89769	208609.51835	208432.85928
____ Y2R	18981.73854	18,981.74	0.392	19064.35000	18960.91254	18919.95308
____ ZN	2.65146	9,370.96	0.297	2.65769	2.65409	2.64259
____ ZR	0.02177	-48.77	9.491	0.01967	0.02186	0.02380

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 17 Date/Time: 10/09/2015 09:47

Sample Number: **8064413** Class: R*** Batch: 152794792002

Initial Vol: 10.36 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04543	-1,287.56	3.778	0.04555	0.04365	0.04707
____ AL	34.74133	3,319.06	0.095	34.77837	34.73041	34.71520
____ AS	0.21027	6.01	1.112	0.20923	0.21294	0.20862
____ B	1.31758	9,432.63	0.676	1.32774	1.31389	1.31111
____ BA	2.41704	1,061,442.48	0.751	2.43174	2.42261	2.39677
____ BE	0.03962	6,845.47	0.609	0.03987	0.03938	0.03962
____ CA	87.52994	51,436.07	0.363	87.87295	87.24491	87.47195
____ CD	0.04236	419.10	1.820	0.04227	0.04316	0.04163
____ CO	0.44067	1,178.24	0.422	0.44199	0.43854	0.44147
____ CR	0.26402	1,287.58	0.525	0.26547	0.26271	0.26389
____ CU	0.13997	871.40	1.260	0.14125	0.13796	0.14070
____ FE	539.57582	82,465.94	0.902	542.13667	533.96602	542.62478
____ K	10.52438	3,882.65	0.721	10.54959	10.43912	10.58442
____ LI	0.83232	6,146.93	0.202	0.83087	0.83416	0.83191
____ MG	18.28926	24,939.25	0.623	18.35626	18.15769	18.35384
____ MN	15.19781	403,121.79	0.755	15.25359	15.06578	15.27408
____ MO	0.37734	318.99	0.221	0.37822	0.37724	0.37656
____ NA	17.85272	21,229.32	0.896	17.87928	17.68112	17.99775
____ NI	0.50438	780.15	0.069	0.50463	0.50398	0.50453
____ P	13.35218	1,460.24	3.460	12.85838	13.77371	13.42446
____ PB	0.96336	409.40	0.541	0.96192	0.95903	0.96914
____ S	2.17154	163.84	1.677	2.12955	2.19059	2.19450
____ SB	0.27355	49.28	2.087	0.27193	0.27989	0.26882
____ SI	49.59509	6,854.60	0.731	49.82955	49.17728	49.77843
____ SN	2.14871	685.09	0.309	2.14381	2.15627	2.14604
____ SR	1.07540	562,299.51	0.225	1.07782	1.07540	1.07299
____ TI	1.57107	38,210.28	0.450	1.57869	1.56474	1.56977
____ TL	0.12016	8.33	5.258	0.11353	0.12083	0.12611
____ V	0.49038	3,889.16	0.222	0.49164	0.48983	0.48968
____ Y1	7697.54563	7,697.55	0.232	7687.73331	7718.17037	7686.73321
____ Y2A	207128.15860	207,128.16	0.238	206776.55221	207691.85466	206916.06894
____ Y2R	18786.00399	18,786.00	0.946	18920.54302	18853.04526	18584.42369
____ ZN	3.07152	10,753.53	0.105	3.07199	3.06809	3.07450
____ ZR	0.34347	484.52	0.936	0.34561	0.33978	0.34503

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 18 Date/Time: 10/09/2015 09:49

Sample Number: **8064414** Class: M*** Batch: 152794792002

Initial Vol: 10.37 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.06111	-1,395.97	8.264	0.05559	0.06550	0.06223
____ AL	39.32234	3,765.96	0.728	39.11224	39.64822	39.20655
____ AS	0.23409	6.14	2.502	0.22781	0.23941	0.23506
____ B	1.33790	10,003.44	1.544	1.36053	1.32005	1.33311
____ BA	2.58445	1,132,131.86	0.619	2.58562	2.59984	2.56788
____ BE	0.04218	7,271.95	0.784	0.04254	0.04212	0.04189
____ CA	91.87056	54,090.44	0.685	91.36288	92.57425	91.67456
____ CD	0.04333	450.98	1.992	0.04427	0.04257	0.04316
____ CO	1.18062	3,132.51	0.149	1.17895	1.18045	1.18246
____ CR	0.29784	1,449.50	0.486	0.29951	0.29693	0.29708
____ CU	0.14958	929.24	0.905	0.15052	0.14803	0.15020
____ FE	612.97121	89,682.15	1.278	605.37813	621.02305	612.51243
____ K	11.38226	4,200.88	0.934	11.27757	11.49021	11.37900
____ LI	0.89419	6,617.14	0.636	0.88873	0.90009	0.89376
____ MG	20.58780	28,124.11	0.843	20.42341	20.76938	20.57062
____ MN	16.09568	425,877.18	0.636	16.21320	16.04763	16.02621
____ MO	0.36737	309.14	0.527	0.36514	0.36842	0.36856
____ NA	18.89272	22,524.32	1.276	18.63979	19.12002	18.91834
____ NI	0.94597	1,475.90	0.303	0.94378	0.94921	0.94492
____ P	13.89509	1,511.37	2.624	14.25801	13.89834	13.52892
____ PB	1.03670	436.43	0.449	1.03481	1.04199	1.03328
____ S	3.30476	241.45	1.717	3.33675	3.33829	3.23925
____ SB	0.28372	50.73	0.765	0.28623	0.28253	0.28241
____ SI	54.99212	7,619.52	0.867	54.54651	55.49502	54.93484
____ SN	2.29856	728.79	0.262	2.30472	2.29826	2.29269
____ SR	1.14532	597,368.26	0.848	1.13827	1.15640	1.14128
____ TI	1.72505	41,849.98	0.527	1.73550	1.72057	1.71908
____ TL	0.10203	7.26	4.807	0.10763	0.09853	0.09991
____ V	0.53277	4,220.91	0.511	0.53590	0.53104	0.53135
____ Y1	7655.96390	7,655.96	0.162	7670.05798	7646.69464	7651.13909
____ Y2A	206615.00282	206,615.00	0.167	206297.76848	206563.38591	206983.85406
____ Y2R	18834.70691	18,834.71	0.796	19001.57217	18711.69757	18790.85098
____ ZN	3.29491	11,490.53	0.098	3.29362	3.29860	3.29252
____ ZR	0.35733	499.10	0.759	0.35506	0.36034	0.35660

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 19 Date/Time: 10/09/2015 09:52

Sample Number: **8064410** Class: UL** Batch: 152794792002

Initial Vol: 10.04 Final Vol: 250.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00162	-309.17	66.991	-0.00094	-0.00287	-0.00104
____ AL	4.75745	455.06	0.433	4.77963	4.75378	4.73894
____ AS	0.01744	-2.04	20.934	0.01739	0.02112	0.01382
____ B	0.01816	756.27	1.059	0.01799	0.01837	0.01813
____ BA	0.20348	90,272.86	0.356	0.20428	0.20332	0.20286
____ BE	0.00042	38.40	3.285	0.00043	0.00043	0.00041
____ CA	18.79021	11,141.32	0.332	18.75242	18.86227	18.75594
____ CD	0.00296	50.69	6.192	0.00312	0.00300	0.00276
____ CO	0.12069	321.99	0.130	0.12073	0.12051	0.12082
____ CR	0.02448	116.23	1.814	0.02452	0.02402	0.02491
____ CU	0.08309	535.05	0.850	0.08338	0.08361	0.08229
____ FE	96.18613	18,585.81	0.389	96.30657	96.48553	95.76628
____ K	0.45837	273.09	3.027	0.47205	0.45875	0.44431
____ LI	0.00671	97.63	18.663	0.00545	0.00795	0.00672
____ MG	2.83816	3,862.36	0.088	2.83655	2.84103	2.83691
____ MN	3.54288	94,872.27	0.054	3.54437	3.54354	3.54072
____ MO	-0.00109	-0.76	77.293	-0.00042	-0.00204	-0.00081
____ NA	2.18495	2,569.10	0.293	2.18167	2.18086	2.19233
____ NI	0.07137	113.64	1.298	0.07210	0.07168	0.07032
____ P	2.74465	304.68	1.807	2.76252	2.68859	2.78284
____ PB	0.18544	81.47	2.151	0.18935	0.18561	0.18138
____ S	0.23687	25.04	7.432	0.24737	0.21654	0.24668
____ SB	-0.00157	2.46	208.821	0.00207	-0.00249	-0.00429
____ SI	7.50460	1,033.07	0.453	7.48598	7.54381	7.48401
____ SN	0.00768	4.03	9.181	0.00697	0.00769	0.00838
____ SR	0.06924	36,563.85	0.202	0.06939	0.06921	0.06912
____ TI	0.14901	3,678.59	0.549	0.14971	0.14811	0.14921
____ TL	-0.00195	0.09	201.558	0.00257	-0.00457	-0.00386
____ V	0.02367	190.99	1.892	0.02399	0.02387	0.02316
____ Y1	7770.65055	7,770.65	0.079	7776.66367	7770.93563	7764.35234
____ Y2A	208955.18158	208,955.18	0.111	209183.96745	208720.13847	208961.43882
____ Y2R	18654.29382	18,654.29	0.356	18710.66154	18671.14963	18581.07029
____ ZN	0.58144	2,061.33	0.190	0.58025	0.58242	0.58166
____ ZR	0.00443	-17.36	80.141	0.00411	0.00813	0.00105

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 20 Date/Time: 10/09/2015 09:55

Sample Number: **8064406** Class: **** Batch: 152794792002

Initial Vol: 10.00 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.02240	-1,008.07	5.250	0.02126	0.02233	0.02361
____ AL	32.34693	3,083.34	0.204	32.36036	32.40505	32.27539
____ AS	0.08668	-5.08	3.755	0.08704	0.08975	0.08327
____ B	0.00463	2,721.61	78.811	0.00884	0.00241	0.00264
____ BA	1.37493	595,387.39	0.287	1.37577	1.37839	1.37063
____ BE	0.00494	810.57	0.612	0.00492	0.00492	0.00497
____ CA	193.06361	111,601.48	0.169	192.90975	193.43896	192.84211
____ CD	0.01466	223.73	2.276	0.01457	0.01438	0.01503
____ CO	0.05889	156.75	0.846	0.05921	0.05831	0.05914
____ CR	0.22290	1,071.11	0.950	0.22046	0.22398	0.22426
____ CU	0.76398	4,798.07	0.304	0.76533	0.76531	0.76129
____ FE	394.18818	65,486.31	0.348	392.68725	394.49666	395.38063
____ K	3.22421	1,263.42	0.825	3.20799	3.25490	3.20975
____ LI	0.03978	346.36	6.302	0.03701	0.04044	0.04190
____ MG	48.19260	64,918.39	0.323	48.01270	48.27944	48.28567
____ MN	30.97793	810,084.16	0.369	30.89814	30.92694	31.10871
____ MO	-0.01520	-12.69	8.327	-0.01649	-0.01396	-0.01516
____ NA	30.86588	36,630.84	0.526	30.69457	30.88538	31.01769
____ NI	0.11226	157.25	0.638	0.11235	0.11151	0.11293
____ P	14.34792	1,545.24	0.722	14.25714	14.32582	14.46080
____ PB	0.70321	295.67	0.141	0.70352	0.70401	0.70209
____ S	1.48462	120.96	1.712	1.45528	1.49851	1.50007
____ SB	-0.00690	3.04	81.071	-0.01235	-0.00118	-0.00717
____ SI	32.41280	4,470.68	0.162	32.35282	32.43630	32.44929
____ SN	0.01439	6.03	32.775	0.01051	0.01302	0.01964
____ SR	0.51837	267,986.54	0.082	0.51792	0.51842	0.51877
____ TI	1.10067	26,399.83	0.040	1.10062	1.10113	1.10026
____ TL	0.00840	-0.16	117.057	-0.00293	0.01350	0.01462
____ V	0.17429	1,436.84	0.933	0.17594	0.17269	0.17424
____ Y1	7580.73867	7,580.74	0.209	7576.21038	7598.38906	7567.61658
____ Y2A	204222.79343	204,222.79	0.088	204021.58955	204366.70000	204280.09075
____ Y2R	18743.43766	18,743.44	0.302	18801.56312	18688.68395	18740.06589
____ ZN	7.26890	24,775.44	0.276	7.28670	7.24715	7.27284
____ ZR	0.01517	-38.54	9.892	0.01633	0.01571	0.01347

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 21 Date/Time: 10/09/2015 09:58

Sample Number: **8064408** Class: **** Batch: 152794792002

Initial Vol: 10.33 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00181	-239.20	18.279	-0.00169	-0.00156	-0.00219
____ AL	8.72472	836.65	0.881	8.64559	8.72945	8.79913
____ AS	0.01868	-0.72	42.565	0.02780	0.01500	0.01323
____ B	0.09460	919.86	0.387	0.09438	0.09502	0.09440
____ BA	0.34643	153,625.00	0.529	0.34839	0.34477	0.34613
____ BE	0.00084	110.83	4.190	0.00080	0.00084	0.00087
____ CA	58.28381	34,411.18	0.520	57.99855	58.25097	58.60188
____ CD	0.00443	47.69	4.983	0.00440	0.00467	0.00423
____ CO	0.02115	54.86	2.618	0.02152	0.02051	0.02141
____ CR	0.02810	134.11	1.027	0.02835	0.02778	0.02816
____ CU	0.12556	811.23	1.037	0.12597	0.12661	0.12410
____ FE	71.97522	14,172.94	0.240	71.81855	71.94675	72.16036
____ K	1.16879	529.65	3.934	1.11598	1.19051	1.19989
____ LI	0.00943	119.78	18.353	0.00916	0.01128	0.00785
____ MG	11.75311	16,062.31	0.288	11.74208	11.72617	11.79108
____ MN	2.50607	67,148.13	0.351	2.51430	2.49682	2.50710
____ MO	-0.00616	-5.38	2.389	-0.00630	-0.00616	-0.00601
____ NA	9.16278	10,890.79	0.257	9.18833	9.14184	9.15818
____ NI	0.05983	96.38	2.386	0.05843	0.05976	0.06128
____ P	3.77586	417.79	5.563	3.86373	3.92768	3.53616
____ PB	0.66915	302.93	0.383	0.67176	0.66905	0.66664
____ S	0.85854	68.19	3.395	0.86891	0.88109	0.82563
____ SB	-0.00470	1.53	40.368	-0.00689	-0.00362	-0.00359
____ SI	7.59934	1,053.52	0.436	7.60923	7.56241	7.62637
____ SN	0.01126	5.18	23.659	0.01018	0.01430	0.00931
____ SR	0.22349	118,095.63	0.353	0.22432	0.22276	0.22339
____ TI	0.25469	6,269.11	0.289	0.25552	0.25412	0.25441
____ TL	0.00669	0.70	199.917	-0.00647	0.02026	0.00627
____ V	0.03743	300.94	2.154	0.03822	0.03661	0.03746
____ Y1	7759.65825	7,759.66	0.106	7764.84927	7763.91369	7750.21179
____ Y2A	208999.26820	208,999.27	0.250	208987.64723	209528.36365	208481.79370
____ Y2R	18787.21206	18,787.21	0.101	18806.59625	18786.50200	18768.53792
____ ZN	1.19182	4,169.78	0.290	1.19542	1.18853	1.19152
____ ZR	0.00575	-12.15	36.918	0.00481	0.00818	0.00426

LANCASTER LABORATORIES

Run Name: 1528203T73

Instrument ID: 18255

Tube: 22

Date/Time: 10/09/2015 10:00

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49917	3,158.83	0.158	0.49943	0.49829	0.49980
____ AL	24.78610	2,314.09	0.691	24.98116	24.66045	24.71669
____ AS	0.50254	70.41	0.312	0.50073	0.50331	0.50357
____ B	0.47909	2,213.05	0.429	0.48145	0.47775	0.47806
____ BA	0.50912	220,968.67	0.307	0.50841	0.50803	0.51090
____ BE	0.48356	82,918.34	0.312	0.48405	0.48187	0.48477
____ CA	25.03609	14,559.83	0.791	25.26314	24.89960	24.94554
____ CD	0.49309	2,363.79	0.147	0.49371	0.49327	0.49229
____ CO	0.49138	1,303.55	0.232	0.49016	0.49156	0.49242
____ CR	0.48215	2,326.61	0.279	0.48340	0.48073	0.48233
____ CU	0.50372	3,157.30	0.630	0.50361	0.50060	0.50695
____ FE	24.77485	4,879.04	1.198	25.11552	24.63778	24.57126
____ K	24.85534	8,809.79	1.350	25.23672	24.72388	24.60540
____ LI	0.50094	3,631.64	1.126	0.50746	0.49774	0.49762
____ MG	24.95686	33,168.93	1.221	25.30835	24.76939	24.79284
____ MN	0.49797	13,131.84	0.494	0.50080	0.49671	0.49640
____ MO	0.47789	401.62	0.185	0.47882	0.47779	0.47706
____ NA	24.86867	28,891.88	1.388	25.26461	24.71077	24.63063
____ NI	0.49008	786.73	0.109	0.48956	0.49063	0.49005
____ P	0.50010	56.74	0.835	0.49653	0.50469	0.49907
____ PB	0.49577	226.17	0.858	0.49721	0.49098	0.49911
____ S	25.04053	1,737.33	0.860	24.81705	25.24646	25.05810
____ SB	0.47723	95.76	1.460	0.47582	0.48479	0.47107
____ SI	25.42850	3,435.16	1.217	25.77419	25.17761	25.33369
____ SN	0.48377	154.91	0.347	0.48211	0.48546	0.48374
____ SR	0.50580	261,161.83	0.244	0.50692	0.50448	0.50600
____ TI	0.49780	12,003.16	0.556	0.50041	0.49490	0.49808
____ TL	0.51943	36.38	2.530	0.51017	0.53447	0.51365
____ V	0.49558	3,829.62	0.564	0.49788	0.49247	0.49639
____ Y1	7672.13677	7,672.14	0.227	7691.43970	7667.39964	7657.57097
____ Y2A	204613.90107	204,613.90	0.024	204557.07500	204639.32629	204645.30191
____ Y2R	18351.43496	18,351.43	0.815	18179.60487	18421.47500	18453.22500
____ ZN	0.49235	1,718.41	0.023	0.49229	0.49229	0.49248
____ ZR	0.50802	804.26	0.656	0.51185	0.50578	0.50643

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 23 Date/Time: 10/09/2015 10:03

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00050	-17.66	31.935	-0.00048	-0.00036	-0.00068
____ AL	-0.01278	3.38	69.847	-0.00591	-0.00956	-0.02287
____ AS	0.00138	-0.06	439.738	0.00451	-0.00560	0.00521
____ B	0.00074	6.91	88.861	-0.00002	0.00109	0.00115
____ BA	0.00000	137.91	1081.009	0.00005	-0.00002	-0.00001
____ BE	0.00004	-29.23	43.938	0.00003	0.00006	0.00002
____ CA	0.00084	106.95	874.523	0.00280	0.00705	-0.00732
____ CD	0.00029	-1.68	108.261	0.00066	0.00008	0.00014
____ CO	0.00050	-1.85	8.754	0.00052	0.00045	0.00053
____ CR	0.00040	-2.69	147.300	0.00089	0.00054	-0.00025
____ CU	-0.00026	0.37	360.259	-0.00130	-0.00003	0.00054
____ FE	-0.01649	6.90	17.977	-0.01352	-0.01649	-0.01945
____ K	0.00666	110.97	407.266	0.03094	0.01167	-0.02263
____ LI	-0.00224	31.52	11.801	-0.00246	-0.00230	-0.00195
____ MG	0.00971	12.67	8.556	0.00992	0.00879	0.01041
____ MN	-0.00076	67.72	20.766	-0.00058	-0.00085	-0.00086
____ MO	0.00024	0.17	484.880	0.00044	-0.00102	0.00130
____ NA	0.04253	37.33	17.623	0.04534	0.03403	0.04821
____ NI	0.00076	5.32	29.484	0.00050	0.00085	0.00092
____ P	-0.00470	1.57	63.867	-0.00620	-0.00124	-0.00665
____ PB	-0.00028	1.91	1223.121	0.00357	-0.00175	-0.00265
____ S	-0.00084	6.88	1441.286	-0.01476	0.00619	0.00606
____ SB	0.00046	2.27	890.225	0.00348	0.00212	-0.00421
____ SI	0.01006	5.09	174.136	0.02995	-0.00308	0.00331
____ SN	0.00214	2.24	110.526	-0.00056	0.00383	0.00314
____ SR	0.00011	27.46	11.342	0.00012	0.00010	0.00011
____ TI	-0.00020	18.39	30.527	-0.00021	-0.00014	-0.00026
____ TL	0.01205	1.14	22.639	0.01057	0.01038	0.01519
____ V	0.00054	-3.95	51.530	0.00084	0.00030	0.00048
____ Y1	7723.79043	7,723.79	0.251	7711.73922	7746.14277	7713.48930
____ Y2A	209149.87050	209,149.87	0.465	209536.49362	209869.77092	208043.34698
____ Y2R	18432.12586	18,432.13	0.665	18501.12096	18290.59188	18504.66474
____ ZN	0.00010	10.66	224.870	0.00034	-0.00009	0.00004
____ ZR	0.00291	-7.33	64.165	0.00154	0.00503	0.00215

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 24 Date/Time: 10/09/2015 10:06

Sample Number: **8064416** Class: **** Batch: 152794792002

Initial Vol: 10.36 Final Vol: 250.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.03799	-1,275.33	3.155	0.03844	0.03889	0.03663
____ AL	22.73611	2,191.90	0.198	22.68607	22.77334	22.74892
____ AS	0.12546	-5.13	3.427	0.12261	0.13040	0.12336
____ B	-0.08240	3,226.83	8.914	-0.09071	-0.07677	-0.07973
____ BA	0.84728	373,293.80	0.548	0.84743	0.85185	0.84256
____ BE	0.00190	294.89	0.408	0.00189	0.00190	0.00191
____ CA	90.64934	53,702.94	0.242	90.89095	90.59374	90.46331
____ CD	0.00507	230.97	10.267	0.00476	0.00478	0.00567
____ CO	1.40586	3,757.76	0.144	1.40819	1.40469	1.40468
____ CR	0.12479	607.97	0.746	0.12584	0.12406	0.12446
____ CU	0.55310	3,530.66	0.239	0.55290	0.55452	0.55190
____ FE	514.50484	80,536.55	0.300	516.14119	514.30276	513.07059
____ K	2.07043	860.13	0.494	2.05905	2.07337	2.07888
____ LI	0.03098	281.18	4.429	0.02940	0.03188	0.03165
____ MG	12.93903	17,827.20	0.234	12.95742	12.95565	12.90401
____ MN	14.12482	375,803.17	0.416	14.05724	14.16407	14.15315
____ MO	-0.01274	-9.93	15.423	-0.01069	-0.01461	-0.01293
____ NA	9.40105	11,269.76	0.567	9.42475	9.43835	9.34005
____ NI	0.90326	1,426.04	0.183	0.90483	0.90154	0.90341
____ P	14.39882	1,580.24	2.077	14.41307	14.09287	14.69051
____ PB	0.75449	316.55	0.634	0.75793	0.75652	0.74903
____ S	1.17898	94.90	2.138	1.17142	1.15842	1.20710
____ SB	-0.00671	3.98	99.937	0.00103	-0.01042	-0.01072
____ SI	34.05975	4,748.79	0.304	34.12609	34.11264	33.94051
____ SN	0.01237	5.50	20.897	0.01319	0.00947	0.01444
____ SR	0.32664	171,615.01	0.295	0.32616	0.32775	0.32601
____ TI	0.75003	18,315.40	0.438	0.75009	0.75329	0.74672
____ TL	0.00197	0.47	219.274	0.00583	-0.00270	0.00278
____ V	0.11192	924.08	0.534	0.11256	0.11183	0.11137
____ Y1	7724.99951	7,725.00	0.287	7738.61910	7736.99451	7699.38492
____ Y2A	207754.75088	207,754.75	0.242	208040.34273	207173.87500	208050.03490
____ Y2R	18947.78027	18,947.78	0.188	18906.94777	18964.05719	18972.33586
____ ZN	2.49365	8,797.10	0.088	2.49601	2.49168	2.49325
____ ZR	0.02358	-40.79	10.607	0.02645	0.02235	0.02193

LANCASTER LABORATORIES

Run Name: 1528203T73

Instrument ID: 18255

Tube: 25

Date/Time: 10/09/2015 10:08

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00539	22.00	12.317	0.00606	0.00538	0.00473
____ AL	0.18167	21.63	12.279	0.18966	0.19888	0.15647
____ AS	0.02283	3.02	24.822	0.01647	0.02469	0.02734
____ B	0.04749	212.29	1.357	0.04764	0.04805	0.04678
____ BA	0.00515	2,417.05	1.405	0.00522	0.00513	0.00508
____ BE	0.00494	830.80	1.713	0.00502	0.00485	0.00496
____ CA	0.23945	246.37	1.841	0.24451	0.23738	0.23646
____ CD	0.00575	24.78	12.457	0.00537	0.00657	0.00530
____ CO	0.00538	11.29	14.144	0.00625	0.00507	0.00483
____ CR	0.01485	68.72	4.243	0.01557	0.01443	0.01455
____ CU	0.01047	69.03	7.982	0.01142	0.01013	0.00985
____ FE	0.23379	57.01	5.170	0.24775	0.22698	0.22665
____ K	0.48102	278.54	9.394	0.43132	0.51962	0.49212
____ LI	0.01636	165.58	10.217	0.01529	0.01828	0.01550
____ MG	0.11624	156.45	1.079	0.11750	0.11499	0.11622
____ MN	0.00521	227.60	4.661	0.00546	0.00519	0.00498
____ MO	0.00972	8.21	0.915	0.00961	0.00977	0.00977
____ NA	1.05696	1,224.69	0.109	1.05822	1.05597	1.05670
____ NI	0.01053	21.14	7.304	0.01045	0.01133	0.00980
____ P	0.10421	13.56	5.511	0.10973	0.10464	0.09827
____ PB	0.01565	9.15	4.318	0.01487	0.01610	0.01597
____ S	0.49861	41.80	2.190	0.49609	0.48918	0.51057
____ SB	0.01503	5.15	23.149	0.01697	0.01102	0.01711
____ SI	0.07038	13.31	11.831	0.06239	0.07900	0.06976
____ SN	0.01983	7.92	5.028	0.01904	0.01949	0.02095
____ SR	0.00541	2,824.05	0.187	0.00540	0.00542	0.00540
____ TI	0.01013	272.03	2.781	0.01007	0.01043	0.00988
____ TL	0.03805	2.97	35.121	0.02885	0.03193	0.05338
____ V	0.00510	31.49	10.474	0.00449	0.00532	0.00549
____ Y1	7757.52241	7,757.52	0.315	7734.19529	7782.93448	7755.43748
____ Y2A	209121.34034	209,121.34	0.225	208714.42116	209635.47486	209014.12500
____ Y2R	18478.43550	18,478.44	0.632	18406.01259	18613.19389	18416.10000
____ ZN	0.02098	83.45	0.489	0.02101	0.02106	0.02086
____ ZR	0.04926	67.89	4.272	0.05006	0.04687	0.05085

LANCASTER LABORATORIES

Run Name: 1528203T73 Instrument ID: 18255

Tube: 26 Date/Time: 10/09/2015 10:11

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00164	-549.35	80.111	-0.00265	-0.00211	-0.00016
____ AL	491.55322	44,339.56	0.213	490.47357	492.56657	491.61953
____ AS	-0.00290	-3.93	332.123	-0.01145	-0.00479	0.00754
____ B	-0.03807	1,105.46	7.427	-0.04053	-0.03870	-0.03498
____ BA	0.00044	294.42	11.237	0.00040	0.00049	0.00041
____ BE	-0.00088	-169.39	2.618	-0.00090	-0.00085	-0.00089
____ CA	502.52055	262,357.99	0.098	502.23130	503.09063	502.23973
____ CD	0.00305	73.96	2.293	0.00313	0.00299	0.00303
____ CO	0.00160	0.98	9.427	0.00159	0.00176	0.00145
____ CR	0.00263	7.44	27.248	0.00239	0.00207	0.00344
____ CU	-0.00337	48.79	7.700	-0.00362	-0.00310	-0.00340
____ FE	199.82535	34,627.21	0.328	199.63057	199.28842	200.55706
____ K	-0.01742	98.02	282.851	0.02809	-0.01061	-0.06974
____ LI	0.00404	91.16	43.711	0.00259	0.00601	0.00352
____ MG	506.64621	543,082.95	0.551	506.18464	504.11398	509.64001
____ MN	0.00088	99.60	26.377	0.00066	0.00112	0.00085
____ MO	-0.00781	-9.77	9.058	-0.00753	-0.00861	-0.00728
____ NA	0.26483	283.67	1.918	0.25899	0.26723	0.26826
____ NI	-0.00125	-9.44	102.955	0.00022	-0.00179	-0.00217
____ P	0.00463	2.35	143.665	0.01152	-0.00175	0.00411
____ PB	0.00284	35.09	132.054	-0.00028	0.00699	0.00180
____ S	-0.02900	6.27	19.184	-0.02613	-0.03541	-0.02546
____ SB	-0.01089	3.89	61.150	-0.01856	-0.00746	-0.00664
____ SI	0.00865	4.67	97.824	-0.00112	0.01362	0.01343
____ SN	0.01214	4.93	29.851	0.01543	0.00825	0.01273
____ SR	0.00008	2,330.84	70.674	0.00003	0.00008	0.00014
____ TI	-0.00049	10.17	14.410	-0.00045	-0.00045	-0.00057
____ TL	-0.00035	0.27	3956.581	0.00913	-0.01621	0.00603
____ V	0.00094	0.40	56.371	0.00117	0.00131	0.00033
____ Y1	7006.67800	7,006.68	0.271	7028.43200	6998.06400	6993.53800
____ Y2A	186644.81624	186,644.82	0.615	187430.67500	187176.80068	185326.97303
____ Y2R	17616.15663	17,616.16	0.417	17684.45244	17625.67312	17538.34432
____ ZN	0.00751	85.83	3.372	0.00775	0.00752	0.00725
____ ZR	0.00374	-30.14	57.809	0.00285	0.00621	0.00217

LANCASTER LABORATORIES

Run Name: 1528203T73

Instrument ID: 18255

Tube: 27

Date/Time: 10/09/2015 10:14

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.20807	687.09	0.399	0.20832	0.20714	0.20875
____ AL	489.36316	43,900.41	0.448	487.50328	488.80665	491.77955
____ AS	0.09869	9.25	4.950	0.09802	0.10387	0.09417
____ B	-0.03766	1,096.51	7.334	-0.03528	-0.03700	-0.04069
____ BA	0.50280	198,121.75	0.745	0.50548	0.49852	0.50441
____ BE	0.46569	72,493.99	0.831	0.46756	0.46124	0.46828
____ CA	499.43640	259,434.35	0.727	496.14663	498.83210	503.33046
____ CD	0.90465	3,987.93	0.012	0.90464	0.90456	0.90476
____ CO	0.45691	1,098.57	0.092	0.45691	0.45733	0.45649
____ CR	0.45984	2,014.29	0.760	0.46327	0.45628	0.45996
____ CU	0.52164	3,042.94	0.642	0.52468	0.51806	0.52218
____ FE	199.10408	34,327.32	0.808	197.80713	198.60117	200.90396
____ K	-0.02091	96.25	131.443	-0.03373	-0.03964	0.01064
____ LI	0.00565	101.52	42.655	0.00456	0.00841	0.00397
____ MG	505.19415	538,891.17	0.936	501.56813	503.47301	510.54132
____ MN	0.44124	10,572.73	0.447	0.44171	0.43908	0.44294
____ MO	-0.00851	-10.24	34.318	-0.00548	-0.01131	-0.00875
____ NA	0.26547	282.86	1.498	0.26427	0.26223	0.26991
____ NI	0.89590	1,293.84	0.138	0.89712	0.89465	0.89593
____ P	-0.01199	0.98	58.990	-0.01226	-0.01893	-0.00479
____ PB	0.04891	53.59	2.685	0.05035	0.04860	0.04778
____ S	-0.03474	6.01	20.059	-0.04217	-0.02835	-0.03370
____ SB	0.55938	107.64	1.942	0.56863	0.54742	0.56210
____ SI	0.00219	3.79	962.561	-0.02212	0.01587	0.01283
____ SN	0.00992	4.24	26.230	0.00695	0.01181	0.01098
____ SR	0.00011	2,315.96	50.396	0.00016	0.00009	0.00006
____ TI	-0.00070	16.16	48.469	-0.00032	-0.00096	-0.00083
____ TL	0.09039	6.14	9.670	0.09699	0.08048	0.09371
____ V	0.48665	3,472.39	0.931	0.48634	0.48228	0.49132
____ Y1	6967.64533	6,967.65	0.140	6956.44400	6974.05400	6972.43800
____ Y2A	185765.28736	185,765.29	0.739	185384.00699	187288.83011	184623.02500
____ Y2R	17520.96629	17,520.97	0.826	17682.18987	17478.31073	17402.39828
____ ZN	0.94046	3,010.55	0.169	0.93862	0.94140	0.94134
____ ZR	0.00536	-27.42	48.903	0.00242	0.00620	0.00745

LANCASTER LABORATORIES

Run Name: 1528203T73

Instrument ID: 18255

Tube: 28

Date/Time: 10/09/2015 10:16

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49992	3,187.22	0.045	0.49967	0.49997	0.50011
____ AL	24.98496	2,342.43	0.216	25.04633	24.96375	24.94482
____ AS	0.50222	70.45	0.936	0.50165	0.50719	0.49784
____ B	0.47617	2,216.10	0.371	0.47471	0.47813	0.47566
____ BA	0.50732	221,813.65	0.388	0.50828	0.50862	0.50505
____ BE	0.48256	83,357.23	0.181	0.48285	0.48325	0.48158
____ CA	25.14506	14,683.99	0.370	25.13745	25.05605	25.24167
____ CD	0.49254	2,363.82	0.349	0.49411	0.49070	0.49282
____ CO	0.49215	1,307.07	0.212	0.49255	0.49293	0.49096
____ CR	0.48005	2,333.54	0.546	0.48185	0.48126	0.47704
____ CU	0.50267	3,174.03	0.384	0.50358	0.50046	0.50399
____ FE	24.66765	4,878.77	0.172	24.71391	24.63075	24.65829
____ K	24.56747	8,745.99	0.807	24.79018	24.50209	24.41013
____ LI	0.50087	3,646.47	0.353	0.49884	0.50203	0.50174
____ MG	24.94879	33,298.67	0.223	25.01102	24.93128	24.90406
____ MN	0.49598	13,176.19	0.192	0.49535	0.49708	0.49551
____ MO	0.47679	401.14	0.732	0.48081	0.47492	0.47463
____ NA	24.57306	28,669.45	0.389	24.68273	24.50733	24.52910
____ NI	0.48976	787.13	0.310	0.49142	0.48844	0.48943
____ P	0.48439	55.09	1.342	0.49156	0.47886	0.48276
____ PB	0.49141	224.49	0.197	0.49089	0.49253	0.49082
____ S	24.86109	1,726.90	1.582	25.26676	24.48119	24.83533
____ SB	0.47813	96.06	0.517	0.47623	0.48093	0.47723
____ SI	25.26567	3,427.61	0.138	25.29458	25.22688	25.27554
____ SN	0.48298	154.84	0.618	0.48639	0.48087	0.48167
____ SR	0.50534	262,849.43	0.033	0.50552	0.50519	0.50530
____ TI	0.49675	12,066.32	0.055	0.49699	0.49645	0.49681
____ TL	0.51520	36.13	3.793	0.53301	0.49430	0.51828
____ V	0.49502	3,853.55	0.302	0.49535	0.49632	0.49338
____ Y1	7680.90650	7,680.91	0.175	7681.73296	7693.91044	7667.07609
____ Y2A	206123.51428	206,123.51	0.178	206546.39868	205914.58666	205909.55750
____ Y2R	18427.86808	18,427.87	0.205	18458.50830	18439.52096	18385.57500
____ ZN	0.49288	1,722.16	0.195	0.49342	0.49177	0.49346
____ ZR	0.50553	803.61	0.150	0.50568	0.50471	0.50620

LANCASTER LABORATORIES

Run Name: 1528203T73

Instrument ID: 18255

Tube: 29

Date/Time: 10/09/2015 10:19

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00023	-15.74	188.963	0.00023	-0.00030	-0.00063
____ AL	0.02678	7.06	59.815	0.02884	0.04166	0.00983
____ AS	0.00262	0.12	42.476	0.00372	0.00150	0.00262
____ B	0.00032	4.97	87.345	0.00018	0.00064	0.00013
____ BA	-0.00008	100.70	37.283	-0.00011	-0.00005	-0.00007
____ BE	0.00009	-19.57	15.438	0.00009	0.00011	0.00008
____ CA	0.03070	124.00	8.249	0.03285	0.03133	0.02791
____ CD	0.00015	-2.39	58.415	0.00016	0.00022	0.00005
____ CO	0.00014	-2.83	524.977	0.00095	-0.00038	-0.00017
____ CR	0.00045	-2.39	91.727	0.00000	0.00082	0.00054
____ CU	0.00016	3.05	474.420	0.00027	0.00084	-0.00064
____ FE	-0.02622	4.95	34.200	-0.02911	-0.01616	-0.03339
____ K	0.01974	115.27	13.618	0.02284	0.01831	0.01808
____ LI	-0.00062	43.05	198.134	0.00003	0.00014	-0.00203
____ MG	0.05159	68.87	5.705	0.05405	0.05239	0.04833
____ MN	-0.00278	13.53	5.040	-0.00294	-0.00270	-0.00270
____ MO	-0.00005	-0.08	1041.143	-0.00067	0.00008	0.00043
____ NA	0.03566	29.21	22.299	0.03223	0.04475	0.03000
____ NI	-0.00012	3.91	417.681	0.00046	-0.00033	-0.00051
____ P	-0.00253	1.81	217.689	-0.00192	0.00264	-0.00830
____ PB	0.00024	2.15	1423.313	-0.00363	0.00217	0.00217
____ S	-0.00432	6.65	33.761	-0.00419	-0.00294	-0.00585
____ SB	0.00464	3.12	63.895	0.00662	0.00605	0.00123
____ SI	-0.00091	3.59	433.826	-0.00366	0.00359	-0.00264
____ SN	0.00068	1.78	100.583	0.00125	-0.00008	0.00088
____ SR	0.00009	15.02	11.933	0.00010	0.00008	0.00008
____ TI	0.00005	24.49	370.873	-0.00010	-0.00001	0.00027
____ TL	0.00637	0.75	113.531	-0.00196	0.01008	0.01100
____ V	0.00066	-2.93	17.310	0.00078	0.00055	0.00065
____ Y1	7740.78373	7,740.78	0.202	7752.41613	7746.96364	7722.97141
____ Y2A	207590.39276	207,590.39	0.348	206773.61222	208142.66467	207854.90137
____ Y2R	18382.40875	18,382.41	0.526	18478.08506	18384.24815	18284.89302
____ ZN	-0.00007	10.07	457.450	-0.00020	-0.00033	0.00031
____ ZR	0.00193	-8.86	87.183	0.00386	0.00120	0.00073

Mercury Data

Metals in Solid

eurofins | Lancaster Laboratories Environmental

Mercury Run Data Report

Data File Name: 1528003.M07

Run Name: 1528002M07

Instrument No.: 17384

Element: Hg

Analyst Employee ID: 0354

Reviewed By	Reviewed Date
Damary Valentin	10/07/2015 11:18AM
Jennifer L Moyer	10/15/2015 9:56AM

Verified By:	Verified Date
Jennifer L Moyer	10/15/2015 10:20AM

Method Reference Name(s):

SW-846 7471A

LANCASTER LABORATORIES

Run Name: 1528002M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

1 Burn Date/Time: 10/07/2015 09:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0		1	1	1.00

AVG (ppb)	Intensity
0.0000	-28.0

2 Burn Date/Time: 10/07/2015 09:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.2		1	1	1.00

AVG (ppb)	Intensity
0.0000	1803.0

3 Burn Date/Time: 10/07/2015 09:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	4385.0

4 Burn Date/Time: 10/07/2015 09:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S1.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	8419.0

5 Burn Date/Time: 10/07/2015 09:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S2.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	20920.0

6 Burn Date/Time: 10/07/2015 09:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S5.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	41406.0

CorrelationCoefficient = 1.00000
Slope = 8266.6057900000
Y-Intercept = 142.0377900000

LANCASTER LABORATORIES

Run Name: 1528002M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

7 Burn Date/Time: 10/07/2015 09:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICV		1	1	1.00

AVG (ppb)	Intensity
2.6658	22180.0

8 Burn Date/Time: 10/07/2015 09:19

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICB		1	1	1.00

AVG (ppb)	Intensity
-0.0251	-66.0

9 Burn Date/Time: 10/07/2015 09:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.2075	1857.0

10 Burn Date/Time: 10/07/2015 09:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 1		1	1	1.00

AVG (ppb)	Intensity
0.9817	8257.0

11 Burn Date/Time: 10/07/2015 09:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 1		1	1	1.00

AVG (ppb)	Intensity
-0.0310	-115.0

12 Burn Date/Time: 10/07/2015 09:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	10.0000	250	1.00	152794792002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0493	549.0		

LANCASTER LABORATORIES

Run Name: 1528002M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

13 Burn Date/Time: 10/07/2015 09:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	10.0000	250	1.00	152794792002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	3.8229	31745.0		

14 Burn Date/Time: 10/07/2015 09:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064410	U*********	10.0400	250	1.00	152794792002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0610	-363.0		

15 Burn Date/Time: 10/07/2015 09:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064410	UP********	10.0400	250	1.00	152794792002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0543	590.0		

16 Burn Date/Time: 10/07/2015 09:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064415	D*********	10.0400	250	1.00	152794792002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0211	-33.0		

17 Burn Date/Time: 10/07/2015 09:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064413	R*********	10.3600	250	1.00	152794792002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0132	32.0		

18 Burn Date/Time: 10/07/2015 09:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064414	M*********	10.3700	250	1.00	152794792002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0143	23.0		

LANCASTER LABORATORIES

Run Name: 1528002M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

19 Burn Date/Time: 10/07/2015 09:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064406	**********	10.0000	250	1.00	152794792002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0073	81.0		

20 Burn Date/Time: 10/07/2015 09:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064408	**********	10.3300	250	1.00	152794792002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0147	20.0		

21 Burn Date/Time: 10/07/2015 09:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064416	**********	10.3600	250	1.00	152794792002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0141	25.0		

22 Burn Date/Time: 10/07/2015 09:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 2		1	1	1.00

AVG (ppb)	Intensity
0.9756	8207.0

23 Burn Date/Time: 10/07/2015 09:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 2		1	1	1.00

AVG (ppb)	Intensity
-0.0269	-81.0

24 Burn Date/Time: 10/07/2015 09:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	10.0000	250	1.00	152794792003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0119	240.0		

LANCASTER LABORATORIES

Run Name: 1528002M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

25 Burn Date/Time: 10/07/2015 09:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	10.0000	250	1.00	152794792003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	3.4118	28347.0		

26 Burn Date/Time: 10/07/2015 09:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8068344	U*********	10.1500	250	1.00	152794792003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0102	226.0		

27 Burn Date/Time: 10/07/2015 09:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8068344	UP********	10.1500	250	1.00	152794792003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0482	540.0		

28 Burn Date/Time: 10/07/2015 10:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8068347	D*********	10.1800	250	1.00	152794792003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0089	215.0		

29 Burn Date/Time: 10/07/2015 10:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8068345	R*********	10.1800	250	1.00	152794792003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0084	72.0		

30 Burn Date/Time: 10/07/2015 10:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8068346	M*********	10.1400	250	1.00	152794792003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0054	97.0		

LANCASTER LABORATORIES

Run Name: 1528002M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

31 Burn Date/Time: 10/07/2015 10:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8066557	**********	10.4300	250	1.00	152794792003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0053	98.0		

32 Burn Date/Time: 10/07/2015 10:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8066559	**********	10.1000	250	1.00	152794792003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0102	226.0		

33 Burn Date/Time: 10/07/2015 10:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8068340	**********	10.1100	250	1.00	152794792003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0070	199.0		

34 Burn Date/Time: 10/07/2015 10:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 3		1	1	1.00

AVG (ppb)	Intensity
0.9853	8287.0

35 Burn Date/Time: 10/07/2015 10:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 3		1	1	1.00

AVG (ppb)	Intensity
-0.0278	-88.0

36 Burn Date/Time: 10/07/2015 10:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8068349	**********	10.2500	250	1.00	152794792003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0051	184.0		

LANCASTER LABORATORIES

Run Name: 1528002M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

37 Burn Date/Time: 10/07/2015 10:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8068351	**********	10.4000	250	1.00	152794792003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0047	103.0		

38 Burn Date/Time: 10/07/2015 10:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8068353	**********	10.0300	250	1.00	152794792003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0113	48.0		

39 Burn Date/Time: 10/07/2015 10:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8068355	**********	10.4600	250	1.00	152794792003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0084	211.0		

40 Burn Date/Time: 10/07/2015 10:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.2084	1864.0

41 Burn Date/Time: 10/07/2015 10:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 4		1	1	1.00

AVG (ppb)	Intensity
0.9817	8257.0

42 Burn Date/Time: 10/07/2015 10:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 4		1	1	1.00

AVG (ppb)	Intensity
-0.0291	-99.0

Extraction/Distillation/Digestion Logs

Metals in Solid

LLENS Worksheet for 4792 Non-Digest

Batch# 15 279 4792 002

Balance ID#: **Start Time:** **End Time:** **Hot Block:**

Pipette ID:

Spike/Reagent **Lot#** **Volume Added(mL)**

Method Ref: SW-846 3005A

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.								
2)	LCSW	.								
3)	8064406	10/07/15 09:25		SW	N8					
4)	8064408	10/07/15 09:25		SW	N8					
5)	**8064410U**	10/07/15 09:25		SW	N8					
6)	**8064413R**	10/07/15 09:25		SW	N8					
7)	**8064414M**	10/07/15 09:25		SW	N8					
8)	**8064415D**	10/07/15 09:25		SW	N8					
9)	8064416FD	10/07/15 09:25		SW	N8					

Prep Employee: 420

10/6/2015

v 1.0.1

Batch# 15 279 4792 002

LLENS Batch Chronology and Change Log - Non-Digest

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		10/6/15 15:19	420
2)	Sample Vol		10/6/15 15:21	420
3)	Final Vol	CLEAR	10/6/15 15:21	420
4)	Trial		10/6/15 15:21	420
5)	Upload Prep	US19VDIELD05	10/6/15 15:21	420

					Original Entry				Data Changed		
Sample ID	Analysis	D	Operation	Measurement	Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason
8064408	04792	1	Sample Vol	Initial Volume	10/6/15 15:20	10	(mL)	420	10/6/15 15:21	420	Wrong entry
8064410BKG	04792	1	Sample Vol	Initial Volume	10/6/15 15:20	10	(mL)	420	10/6/15 15:21	420	Wrong entry
8064413MS	04792	1	Sample Vol	Initial Volume	10/6/15 15:21	10	(mL)	420	10/6/15 15:21	420	Wrong entry
8064414MSD	04792	1	Sample Vol	Initial Volume	10/6/15 15:21	10	(mL)	420	10/6/15 15:21	420	Wrong entry
8064415DUP	04792	1	Sample Vol	Initial Volume	10/6/15 15:21	10	(mL)	420	10/6/15 15:21	420	Wrong entry
8064416FD	04792	1	Sample Vol	Initial Volume	10/6/15 15:21	10	(mL)	420	10/6/15 15:21	420	Wrong entry

Analysis: 4792 Non-Digest

Batch# 15 279 4792 002

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					10.0000	250.0000	1
LCSW					10.0000	250.0000	1
8064406	10/07/15	N8	49813	PSC26-01	10.0000	250.0000	1
8064408	10/07/15	N8	47913	PSC26-03	10.3300	250.0000	1
8064410U	10/07/15	N8	48913	PSC26-05BKG	10.0400	250.0000	1
8064413R	10/07/15	N8	48913	PSC26-05MS	10.3600	250.0000	1
8064414M	10/07/15	N8	48913	PSC26-05MSD	10.3700	250.0000	1
8064415D	10/07/15	N8	48913	PSC26-05DUP	10.0400	250.0000	1
8064416FD	10/07/15	N8	FD-13	PSC26-08FD	10.3600	250.0000	1

LLENS Worksheet for 4792 Non-Digest

Batch# 15 279 4792 002

Balance ID#: **Start Time:** **End Time:** **Hot Block:**

Pipette ID:

Spike/Reagent **Lot#** **Volume Added(mL)**

Method Ref: SW-846 3005A

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.								
2)	LCSW	.								
3)	8064406	10/07/15 09:25		SW	N8					
4)	8064408	10/07/15 09:25		SW	N8					
5)	**8064410U**	10/07/15 09:25		SW	N8					
6)	**8064413R**	10/07/15 09:25		SW	N8					
7)	**8064414M**	10/07/15 09:25		SW	N8					
8)	**8064415D**	10/07/15 09:25		SW	N8					
9)	8064416FD	10/07/15 09:25		SW	N8					

Prep Employee: 420

10/6/2015

v 1.0.1

Batch# 15 279 4792 002

LLENS Batch Chronology and Change Log - Non-Digest

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		10/6/15 15:19	420
2)	Sample Vol		10/6/15 15:21	420
3)	Final Vol	CLEAR	10/6/15 15:21	420
4)	Trial		10/6/15 15:21	420
5)	Upload Prep	US19VDIELD05	10/6/15 15:21	420

					Original Entry				Data Changed		
Sample ID	Analysis	D	Operation	Measurement	Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason
8064408	04792	1	Sample Vol	Initial Volume	10/6/15 15:20	10	(mL)	420	10/6/15 15:21	420	Wrong entry
8064410BKG	04792	1	Sample Vol	Initial Volume	10/6/15 15:20	10	(mL)	420	10/6/15 15:21	420	Wrong entry
8064413MS	04792	1	Sample Vol	Initial Volume	10/6/15 15:21	10	(mL)	420	10/6/15 15:21	420	Wrong entry
8064414MSD	04792	1	Sample Vol	Initial Volume	10/6/15 15:21	10	(mL)	420	10/6/15 15:21	420	Wrong entry
8064415DUP	04792	1	Sample Vol	Initial Volume	10/6/15 15:21	10	(mL)	420	10/6/15 15:21	420	Wrong entry
8064416FD	04792	1	Sample Vol	Initial Volume	10/6/15 15:21	10	(mL)	420	10/6/15 15:21	420	Wrong entry

Analysis: 4792 Non-Digest

Batch# 15 279 4792 002

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					10.0000	250.0000	1
LCSW					10.0000	250.0000	1
8064406	10/07/15	N8	49813	PSC26-01	10.0000	250.0000	1
8064408	10/07/15	N8	47913	PSC26-03	10.3300	250.0000	1
8064410U	10/07/15	N8	48913	PSC26-05BKG	10.0400	250.0000	1
8064413R	10/07/15	N8	48913	PSC26-05MS	10.3600	250.0000	1
8064414M	10/07/15	N8	48913	PSC26-05MSD	10.3700	250.0000	1
8064415D	10/07/15	N8	48913	PSC26-05DUP	10.0400	250.0000	1
8064416FD	10/07/15	N8	FD-13	PSC26-08FD	10.3600	250.0000	1

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Aqua Regia	HI5-268E						21.5	14	54295
2	4792 ICV	FF	Hg-1.0mg/L Cont	7	10-02-15	HI5-268C	0.25 ml			
3	CCV	GG	Hg-1.0mg/L Cal			HI5-268A	0.10			
4	CCV	HH	↓			↓	0.10			
5	CRA	II	Hg-0.1mg/L Cont			HI5-268D	0.20			
6	Std Cal	JJ	Hg-1.0mg/L Cal			HI5-268D	0.20			
7		KK	↓			↓	0.50			
8		LL	Hg-1.0mg/L Cal			HI5-268A	0.10			
9		MM	↓			↓	0.25			
10		NN	↓		↓	↓	0.50			
11	↓	OO								
12	CRA	PP	Hg-0.1mg/L Cont	7	10-02-15	HI5-268D	0.4ml			
13	Hg-1.0mg/L Inter Cal	HI5-271A	Hg-10mg/L Cal	7	12-22-15	HI5-1730	1.0ml			
14	Hg-1.0mg/L Inter Cal	271B	Hg-1.0mg/L Cal		10-05-15	HI5-271A	1.0ml			
15	Hg-1.0mg/L Inter Cal	HI5-272A	Hg-10mg/L Cal	7	12-22-15	HI5-1730	1.0ml			
16	0.1mg/L Inter Cal	B	1.0mg/L Cal		10-06-15	HI5-272A				
17	1.0mg/L Inter Cont	C	10mg/L Cont		12-22-15	HI5-1731				
18	0.1mg/L Inter Cont	D	1.0mg/L Cont		10-06-15	HI5-272C				
19	Hg-2700 ICV		↓			↓	0.25ml	1	14	54295
20	↓ CCV		Hg-1.0mg/L Cal		↓	HI5-272A	0.20 ml	↓	↓	↓

9-29-15 DVB3Y (3)

Key – Manufacturer (Mo)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

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Document Title: Standard/Reagent Preparation Log

Eurofins Document Reference: 1-P-QM-FOR-9009818 | Revision: 2 | Historical Reference: Form 1105

Effective date: Feb 20, 2015 | Status: Effective

	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M∘	Lot #	Vol (mL*)	∘∘ M∘	Lot #						
1	64.5	6	92325				86	1:3	DU 354	9-25-15	9-25-15	RT
2	5						100	2.5 µg/L			10-02-15	
3								1.0				
4								1.0				
5								0.2				
6								0.2				
7								0.5				
8								1.0				
9								2.5				
10								5.0				
11								0.0				
12	↓	↓	↓				↓	0.4	↓	↓	↓	↓
13				To vol w/ 0.15% HNO3		H15-1880	10	1.0	DU 354	9-28-15	10-05-15	RT
14				↓	↓	↓	↓	0.1	↓	↓	↓	↓
15				To vol w/ 0.15% HNO3		H15-1880	10	1.0	DU 354	9-29-15	10-06-15	RT
16								0.1				
17								1.0				
18				↓	↓	↓	↓	0.1	↓	↓	↓	↓
19	2mlHNO3	4	153383	153383								9-29-15
20	↓	↓	↓	3.2mlHNO3								DU 354

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Footnotes

Key (∘∘) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Hg-5700 ICV	H15-272E	Hg-1.0mg/L Cont	7	10-06-15	H15-272C	0.25 ml	1	14	54295
2	CCV	F	Hg-1.0mg/L Cal			H15-272A	0.20			
3	CRA	G	Hg-0.1mg/L Cont			H15-272D	0.20			
4	Std Cal	H	Hg-0.1mg/L Cal			H15-272B	0.20			
5		I	↓			↓	0.50			
6		J	Hg-1.0mg/L Cal			H15-272A	0.20			
7		K					0.25			
8		L	↓	↓	↓	↓	0.50 ↓			
9	↓	M								
10	ICV	N	Hg-1.0mg/L Cont	—	10-6-15	H15-272C	0.25ml			
11	CCV	O	Hg-1.0mg/L Cal	—	10-06-15	H15-272A	0.20ml	↓	↓	↓
12	Stannous Chloride	P	$SnCl_2$	6	1-28-16	116747 #3	500.02g			
13	↓	Q	↓	↓	↓	↓ #3-4	200.03g			
14	Waters - Blank	H15-274A						25	14	54295
15	↓	↓								
16	Soils - Blank	H15-274B						12.5	14	54295
17	Hg-1.0mg/L InterCal	H15-275A	Hg-1.0mg/L Cal	7	12-22-15	H15-1730	1.0ml			
18	0.1mg/L InterCal	B	1.0mg/L Cal		10-09-15	H15-275A	↓			
19	1.0mg/L InterCont	C	10mg/L Cont		12-22-15	H15-1731				
20	0.1mg/L InterCont	↓ D	↓ 1.0mg/L Cont	↓	10-09-15	H15-275C	↓			

Key – Manufacturer (Mo)

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2 – Conostan Specialty Products
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10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
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15 – Prepared in house
XX – Other (footnote Manuf.)

a

eurofins — Lancaster Laboratories Environmental	Document Title: Standard/Reagent Preparation Log		
	Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
	Effective date: Feb 20, 2015		Status: Effective

	HCl Used			Other Used								
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	153388	3.2ml $K_2S_2O_8$ 6ml $KMnO_4$		H15-236E H15-236C	100	2.5ug/L	DU354	9-29-15	10-06-15	RT
2							200	1.0				
3							100	0.2				
4								0.2				
5								0.5				
6							200	1.0				
7							100	2.5				
8								5.0				
9								0.0				
10								2.5				
11							200	1.0				
12	200	6	93325				2000	10.1			3-29-16	
13												
14	50ml H_2SO_4	4	153388	80ml $K_2S_2O_8$ 150ml $KMnO_4$		H15-236E H15-236C	1000	0.0	DU354	10-01-15	2-24-16	RT
15				60ml Hydrox		H15-236F					2-24-16	
16	37.5	6	93325	60ml Hydrox 150ml $KMnO_4$		H15-236F H15-236C						
17				To vol w/ 0.5% HNO_3		H15-1880	10	1.0	DU354	10-02-15	10-09-15	RT
18								0.1				
19								1.0				
20								0.1				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
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RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

b

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Hg-5700 ICV	H15-275E	Hg-1.0mg/L Cont	7	10-09-15	H15-275C	0.25 mL	1	14	54295
2	CCV	F	Hg-1.0mg/L Cal			H15-275A	0.20			
3	CBA	G	Hg-0.1mg/L Cont			H15-275D	0.20			
4	Std Cal	H	Hg-0.1mg/L Cal			H15-275B	0.20			
5		I	↓			↓	0.50			
6		J	Hg-1.0mg/L Cal			H15-275A	0.20			
7		K					0.25			
8		L	↓	L	↓	↓	0.50 ↓			
9	↓	M								
10	ICV	N	Hg-1.0mg/L Cont	7	10-09-15	H15-275C	0.25 mL			
11	CCV	O	Hg-1.0mg/L Cal			H15-275A	0.20	↓	↓	↓
12	Hg-5701 ICV	P	Hg-1.0mg/L Cont			H15-275C	0.25			
13	CCV	Q	Hg-1.0mg/L Cal			H15-275A	0.10			
14	CCV	R					0.10			
15	CCV	S					0.10			
16	CCV	T	↓			↓	0.10			
17	CBA	U	Hg-0.1mg/L Cont			H15-275D	0.20			
18	Std Cal	V	Hg-0.1mg/L Cal			H15-275B	0.20			
19	↓	W	↓			↓	0.50			
20	↓	X	Hg-1.0mg/L Cal	L	↓	H15-275A	0.10 ↓			

Key – Manufacturer (Mo)

1 – Aldrich Chemical
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XX – Other (footnote Manuf.)

a

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used									
	Vol (mL)	M∘	Lot #	Vol (mL*)	∘∘ M∘	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	153388	3.2ml $K_2S_2O_8$ 1ml NH_4NO_3		H15-236E H15-236C	100	2.5	DJ	10-02-15	10-09-15	RT
2							200	1.0				
3							100	0.2				
4							↓	0.2				
5							↓	0.5				
6							200	1.0				
7							100	2.5				
8							↓	5.0				
9							↓	0.0				
10							↓	2.5				
11	↓	↓	↓	↓	↓	↓	200	1.0				
12	—	—	—	5ml Aqua Regia 15ml $KMnO_4$		H15-275F H15-236D	100	2.5				
13							↓	1.0				
14							↓	1.0				
15							↓	1.0				
16							↓	1.0				
17							↓	0.2				
18							↓	0.2				
19							↓	0.5				
20	—	—	—	↓	↓	↓	↓	1.0	↓	↓	↓	↓

Footnotes

Key (∘∘) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Hg-5701 Std Cal	H15:275Y	Hg-1.0mg/L Cal	7	10-09-15	H15:275A	0.25ml			
2	↓ ↓	Z	↓			↓	0.50ml			
3	↓	AA								
4	SI	BB	Hg-0.1mg/L Cal		10-09-15	H15-275B	0.10ml			
5	CRA	CC	Hg-0.1mg/L Cont		↓	H15-275D	0.10			
6	CRA	DD	↓			↓	0.40			
7	↓ ICV	EE	Hg-1.0mg/L Cont		↓	H15-275C	0.25 ↓			
8	Aqua Regia	FF						21.5	14	54295
9	Permanganate	GG	KMnO4	6	97834#3	4-29-20	100.02g			
10	↓	HH	↓	↓	↓	↓	100.03g			
11	Hg-1.0mg/L InterCont	H15-278A	Hg-10mg/L Cont	7	12-22-15	H15-273P	1.0ml			
12	Hg-0.1mg/L InterCont	B	Hg-1.0mg/L Cont		10-13-15	H15-278A	1.0ml			
13	Stannous Chloride	C	SnCl2	6	6-28-16	116747#4	200.00g			
14	Stannous Chloride	D	↓	↓	↓	↓	300.00g			
15	Hg-1.0mg/L InterCal	H15-279A	Hg-10mg/L Cal	7	12-22-15	H15-173O	1.0ml			
16	0.1mg/L InterCont	B	1.0mg/L Cal		10-13-15	H15-279A	↓			
17	1.0mg/L InterCont	C	10mg/L Cont		12-22-15	H15-173P				
18	↓ 0.1mg/L InterCont	D	↓ 1.0mg/L Cont		10-13-15	H15-279C	↓			
19	Hg-5700 ICV	E	↓		↓	↓	0.25ml	1	14	54295
20	↓ CCV	F	Hg-1.0mg/L Cal		↓	H15-279A	0.20ml	↓	↓	↓

Key – Manufacturer (Mo)

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11 – Solutions Plus
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15 – Prepared in house
XX – Other (footnote Manuf.)

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used									
	Vol (mL)	M∘	Lot #	Vol (mL*)	∘∘ M∘	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				5ml Aqua Regia 15ml 5M HNO3		H15-275 F H15-236 D	100	2.5ug/L	DU354	10-02-15	10-09-15	RT
2								50				
3								0.0				
4								0.1				
5								0.1				
6								0.4				
7								2.5				
8	64.5	6	93325				86	1:3			10-02-15	
9							2000				4-02-16	
10												
11				To vol w/ 0.15% HNO3		H15-1884	10	1.0	DU354	10-05-15	16-12-15	RT
12							10	0.1				
13	200	6	93325				2000	10:1			4-05-16	
14												
15				To vol w/ 0.15% HNO3		H15-1884	10	1.0	DU354	10-01-15	10-13-15	RT
16								0.1				
17								1.0				
18								0.1				
19	2ml H2SO4	4		3.2ml 32% 1ml 5M HNO3	08	H15-236 E H15-236 D	100	2.5ug/L				
20							200	10ug/L				

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Footnotes

Key (∘∘) – Other Used

A = $CaCl_2$ (0.053%)
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C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
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b

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Hg-5700 CRA	H15-279G	Hg-0.1mg/L Cont	7	10-13-15	H15-279D	0.20 ml	1	14	54295
2	Std Cal	H	Hg-0.1mg/L Cal			H15-279B	0.20			
3		I	↓			↓	0.50			
4		J	Hg-1.0mg/L Cal			H15-279A	0.20			
5		K	↓			↓	0.25			
6		L	↓		↓	↓	0.50			
7	↓	M	—		—	—	—			
8	ICV	N	Hg-1.0mg/L Cont	7	10-13-15	H15-279C	0.25ml			
9	CCV	O	Hg-1.0mg/L Cal	↓	↓	H15-279A	0.20 ml	↓	↓	↓
10	Hg-1.0mg/L InterCal	H15-280A	Hg-10mg/L Cal	7	12-22-15	H15-173D	1.0ml	—	—	—
11	0.1mg/L InterCal	B	1.0mg/L Cal		10-14-15	H15-280A				
12	1.0mg/L InterCont	C	10mg/L Cont		12-22-15	H15-173P				
13	↓ 0.1mg/L InterCont	D	↓ 1.0mg/L Cont		10-14-15	H15-280C	↓			
14	Hg-4792 ICV	E	↓	7	↓	↓	0.25ml			
15	CCV	F	Hg-1.0mg/L Cal			H15-280A	0.10			
16	CCV	G	↓			↓	0.10			
17	CRA	H	Hg-0.1mg/L Cont			H15-280D	0.20			
18	Std Cal	I	Hg-0.1mg/L Cal			H15-280B	0.20			
19	↓	J	↓			↓	0.50			
20	↓	M	Hg-1.0mg/L Cal	7	↓	H15-280A	0.10			

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eurofins Lancaster Laboratories Environmental	Document Title: Standard/Reagent Preparation Log		
	Eurofins Document Reference 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
	Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used								
	Vol (mL)	M∘	Lot #	Vol (mL*)	∘∘ M∘	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H2SO4	4	53388	3.2ml K2S2O8 1ml KMnO4		H15 234E H15-23.8D (3)	100	0.2ug/L	DU354	10-06-15	10-13-15	RT
2								0.2				
3								0.5				
4							200	1.0				
5							100	2.5				
6								5.0				
7								0.0				
8								2.5				
9							200	1.0				
10				To vol w/ 0.15% HNO3		H15-188D	10	1.0	DU354	10-07-15	10-14-15	RT
11								0.1				
12								1.0				
13								0.1				
14	5	6	93325				100	2.5ug/L				
15								1.0				
16								1.0				
17								0.2				
18								0.2				
19								0.5				
20								1.0				

10-6-15 DU354

Footnotes

Key (∘∘) – Other Used

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B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
* * units are mg/L unless otherwise specified

b

Instrumental Wet Chemistry Data

eurofins | Spectrum Analytical

Quality Assurance/Quality Control Data Deliverable

Level IV (REVISED)

Prepared for

Eurofins Lancaster Laboratories Environmental, LLC

Project/Number: See Chain of Custody / 1596019

Work Order: SC13118

SDG# 13118

Submitted on October 2nd, 2015

Table of Contents

Laboratory Name: Eurofins Spectrum Analytical, Inc.
City/Sate: Agawam, MA
Client Name: Eurofins Lancaster Laboratories Environmental, LLC
Project Name/Number: See Chain of Custody / 1596019
SDG#: 13118
Associated Work Orders: SC13118

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NY Lab ID #11393/11840
NJ Lab ID#MA011/MA012

Eurofins Lancaster Laboratories Environmental, LLC

Client Project: See Chain of Custody

Project Number: 1596019
Eurofins Spectrum Analytical, Inc. Project ID: SC13118

11/04/2015

Prepared for: Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17605-2425
Attn: Kathy Binkley

Prepared By: Eurofins Spectrum Analytical, Inc.
830 Silver Street
Agawam, MA 01001
(800)789-9115

SDG13118

SC13118 General Narrative

Eurofins Spectrum Analytical, Inc. submits the enclosed data package for the site characterization of See Chain of Custody. Samples submitted for analysis by Eurofins Lancaster Laboratories Environmental, LLC. Under this deliverable, analysis results are presented for four Sediment samples submitted on October 2nd, 2015.

The analyses were performed according to USEPA SW846 method analytical guidelines and other methods. In addition the analyses were performed according to criteria dictated by National Environmental Laboratory Accreditation Conference (NELAC) and in accordance with project contract requirements and chain of custody forms.

Observations and/or deviations observed for specific analyses can be found in the analysis narrative:

1. Overall Observations:

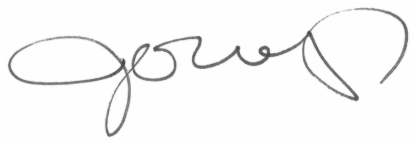
Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual Integrations are coded to provide the data reviewer justification for such action. The codes are labeled on corresponding raw data for GC/MS and GC analysis as follows:

- M1 peak tailing or fronting
- M2 peak co-elution
- M3 rising or failing baseline
- M4 retention time shift
- M5 miscellaneous - under this category, the justification is explained
- M6 software did not integrate peak
- M7 partial peak integration

The enclosed report includes the originals of all data with the exception of logbook pages and certain initial calibrations. Scanned copies of logbook pages are included, with the originals are archived within the laboratory.

The pages in this report have been numbered consecutively, starting with the general narrative and ending with the page labeled as "Last Page of data Report".

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this electronic data package, has been authorized by the laboratory director as verified by the following signature.



June O'Connor Date: 11/04/2015

Laboratory Director

Executive Summary - Detection Highlights

Sample ID: 0182-13 DP

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	54800		769	mg/kg	Lloyd Kahn

Sample ID: 0479-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	192000		1900	mg/kg	Lloyd Kahn

Sample ID: 0489-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	50000		1380	mg/kg	Lloyd Kahn

Sample ID: 0499-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	219000		5000	mg/kg	Lloyd Kahn

Please note that this summary does not include hits from hazardous waste characterizations or micro analyses, because they do not have minimum detection limits.

Sample Identification and Analytical Requirements Summary

Project Name: See Chain of Custody SDG: SC13118

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		VOC Method #	SVOC Method #	GC Method #	Metals	Other
0499-13	SC13118-01					Lloyd Kahn
0479-13	SC13118-02					Lloyd Kahn
0489-13	SC13118-03					Lloyd Kahn
0182-13 DP	SC13118-04					Lloyd Kahn

eurofins | Spectrum Analytical

Sample Transmittal Documentation

Analysis Request / Environmental Services Subcontracting Form

eurofins | Lancaster Laboratories

For Lancaster Laboratories Use Only

Acct: _____ Group No.: 1596019 Sample Nos.: 8064407, 09, 12, 17

Date: 10/1/2015

SC13118

Subcontractor: EUROFINS SPECTRUM ANALYTICAL, INC.

LLI P.O.# : _____ Courier: FED EX

Submit report to: Kathy Binkley Ext.: 1393

Submit invoice to: Kathy Binkley

State where samples were collected: VT

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Sediment	Matrix: Potable / NPDES / Water	Matrix: Other	Total # of Containers	Analyses Requested: TOC by Lloyd Kahn	Temperature of samples upon receipt (if requested)	
0498-13 13118-01	09/22/15	10:45	X		X				X		8064407
0479-13 -02	09/23/15	10:45	X		X				X		8064409
0489-13 -03	09/23/15	13:30	X		X				X		8064412
0489-13 DP -04	09/23/15	13:40	X		X				X		8064417

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments: Type 1 DP Level 4 and EDD. EDD format will follow.

Turnaround Time Requested (TAT): Standard Rush

Date Results are Needed:

Email Results to: KathyBinkley@EurofinsUS.com

Data Package Options (circled when required)
Type I (validation/NJ Reg) Type VI(Raw Data)
Type II (Tier II) Type III (Reduced NJ)
Type IV (CLP SOW) TX TRRP-13

SDG Complete? Yes No

MA MCP
CT RCP

Site-specific QC Required (MS/MSD/DUP)? Yes No
Internal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
[illegible]	10/1/15	1700			
Fed Ex	10/2		AA	10/2	12:49

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

AA 10/2/15

07-1-1/03/01 Rec'd custody sealed

PSC26 Page 248 of 326

SDG 13118 Page 6 / 55 REVISED

Analysis Request / Environmental Services Subcontracting Form

eurofins | Lancaster Laboratories

For Lancaster Laboratories Use Only

Acct: _____ Group No.: 1596019 Sample Nos.: 8064407, 09, 12, 17

Date: 10/1/2015

SC 13118

Subcontractor: EUROFINS SPECTRUM ANALYTICAL, INC.

LLI P.O.# : _____ Courier: FED EX

Submit report to: Kathy Binkley Ext.: 1393

Submit invoice to: Kathy Binkley

State where samples were collected: VT

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Sediment	Matrix: Potable / NPDES / Water	Matrix: Other	Total # of Containers	Analyses Requested / Preservation Codes: TOC by Lloyd Kahn											Comments: Type 1 DP Level 4 and EDD. EDD format will follow.	Temperature of samples upon receipt (if requested)
~~0498-13~~ 0499-13	09/22/15	10:45	X	X	X				X											8064407	
0479-13	09/23/15	10:45	X	X	X				X											8064409	
0489-13	09/23/15	13:30	X	X	X				X											8064412	
~~0489-13 DP~~ 0182-13DP	09/23/15	13:40	X	X	X				X											8064417	

Preservation Codes: H=HCl T=Thiosulfate; N=HNO_3 B=NaOH; S=H_2SO_4 O=Other

Turnaround Time Requested (TAT): Standard Rush

Date Results are Needed:

Email Results to: KathyBinkley@EurofinsUS.com

Data Package Options (circled when required)
Type I (validation/NJ Reg) Type VI(Raw Data)
Type II (Tier II) Type III (Reduced NJ)
Type IV (CLP SOW) TX TRRP-13

SDG Complete? Yes No

MA MCP
CT RCP

Site-specific QC Required (MS/MSD/DUP)? Yes No
Internal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	10/1/15	1700			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

SC13118

Eurofins Spectrum Analytical, Inc. - MA

Report To:

Eurofins Lancaster Laboratories Environmental, LLC
Kathy Binkley
2425 New Holland Pike
Lancaster, PA 17605-2425
Phone: (717) 656-2300
Fax: -

Project #:	1596019
Project:	See Chain of Custody
Date Due:	09-Oct-15 17:00
Received By:	Arshik Ahamed
Date Received:	02-Oct-15 12:49
Temperature:	-0.3°C
PO #:	

✓ Containers Intact	Frozen vials
✓ Properly Labeled	Frozen soil jars
✓ COC/Labels Agree	State EDD
✓ Received On Ice	✓ COC present
✓ Recd within hold time	✓ Custody seal present
Air-tight containers (Encore device)	✓ Custody seal intact
Refrigerated	COC complete
DW Field QC	

Lab ID	Client ID	Sampled	Lab Matrix / Report Matrix	Containers
SC13118-01	0499-13	22-Sep-15 10:45	Soil/Sediment / Sediment	A - 2 oz. jar
SC13118-02	0479-13	23-Sep-15 10:45	Soil/Sediment / Sediment	A - 2 oz. jar
SC13118-03	0489-13	23-Sep-15 13:30	Soil/Sediment / Sediment	A - 2 oz. jar
SC13118-04	0182-13 DP	23-Sep-15 13:40	Soil/Sediment / Sediment	A - 2 oz. jar

SC13118

Eurofins Spectrum Analytical, Inc. - MA

Analysis	Due	TAT	Comments
SC13118-01 0499-13			
wc-TOC-Lloyd Kahn	09-Oct-15 15:00	5	Type 1 DP Level 4
SC13118-02 0479-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13118-03 0489-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13118-04 0182-13 DP			
wc-TOC-Lloyd Kahn	"	"	"

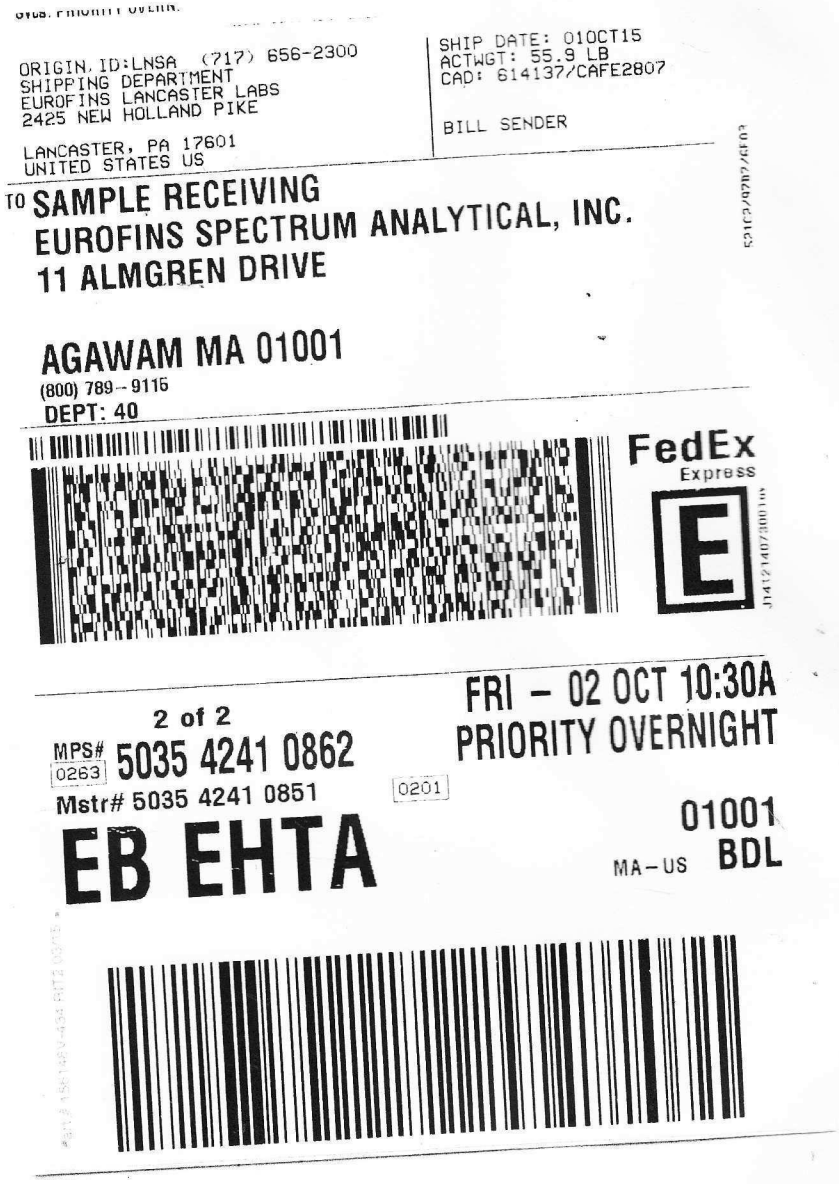
EUROFINS SPECTRUM ANALYTICAL, INC.

SAMPLE INTEGRITY FORM

Sample ID			Preservative Added						Notes
	Initial pH	Sample split	50% HCl - Element # 15D1359	50% H2SO4 - Element # 15H0773	50% NaOH - Element # 15B0084	Final pH	Chlorinated? (Y/N)	10% Na2S2O3 - Element # 15D0952	Work Order No. SC13118 Solid samples for VOC analyses: _____ Submitted in SA provided CH3OH/DI/NaHSO4 vials _____ Submitted in CH3OH/DI/NaHSO4, not SA _____ Not submitted in CH3OH/DI/NaHSO4

Notes:

COC login reviewed by: _____ Login Analyst Initials: _____ Date: 10/2/2015 (Rev. 2/5/2013)


ORIGIN ID:LNSA (717) 656-2300
SHIPPING DEPARTMENT
EUROFINS LANCASTER LABS
2425 NEW HOLLAND PIKE
LANCASTER, PA 17601
UNITED STATES US
SHIP DATE: 01OCT15
ACTWGT: 55.9 LB
CAD: 614137/CAFE2807
BILL SENDER
TO SAMPLE RECEIVING
EUROFINS SPECTRUM ANALYTICAL, INC.
11 ALMGREN DRIVE
AGAWAM MA 01001
(800) 789-9115
DEPT: 40
FedEx
Express
2 of 2
MPS# 0263 5035 4241 0862
Mstr# 5035 4241 0851
0201
FRI - 02 OCT 10:30A
PRIORITY OVERNIGHT
EB EHTA
01001
MA-US BDL

Form I Summary Pack

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0499-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596019			Received:	10/02/15 12:49
Matrix:	Sediment	Laboratory ID:	SC13118-01	File ID:	10031353
Sampled:	09/22/15 10:45	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 13:58
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0008 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MRL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	219000	1	4950	5000	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0479-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596019			Received:	10/02/15 12:49
Matrix:	Sediment	Laboratory ID:	SC13118-02	File ID:	10031400
Sampled:	09/23/15 10:45	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 14:05
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0021 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MRL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	192000	1	1890	1900	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0489-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596019			Received:	10/02/15 12:49
Matrix:	Sediment	Laboratory ID:	SC13118-03	File ID:	10031406
Sampled:	09/23/15 13:30	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 14:10
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0029 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MRL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	50000	1	1370	1380	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0182-13 DP

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596019			Received:	10/02/15 12:49
Matrix:	Sediment	Laboratory ID:	SC13118-04	File ID:	10031411
Sampled:	09/23/15 13:40	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 14:15
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0052 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MRL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	54800	1	762	769	

Lloyd Kahn

CROSS REFERENCE TABLE

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Project Number:	1596019		

Client Sample ID:	Lab Sample ID:
0499-13	SC13118-01
0479-13	SC13118-02
0489-13	SC13118-03
0182-13 DP	SC13118-04

CASE NARRATIVE

Spectrum Analytical, Inc. Lab Reference No. SC13118

Client: Eurofins Lancaster Laboratories Environmental, LLC

Project: See Chain of Custody / 1596019

SDG #: 13118

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception or a communication form is included in the addendum with this package.

II. HOLDING TIMES

All samples were prepared and analyzed within the method-specific holding time.

III. METHODS

Analyses were performed according to Lloyd Kahn.

IV. PREPARATION

Soil/Sediment samples were prepared according to General Preparation.

V. INSTRUMENTATION

The following equipment was used to analyze Lloyd Kahn:

TOC2 details: Teledyne Tekmar Apollo 9000 / TOC Boat Sampler Model 183

VI. ANALYSIS

A. Calibration:

All quality control samples were within the acceptance criteria.

B. Blanks:

All blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Samples (LCS):

All method criteria were met.

2. Matrix Spike / Matrix Spike Duplicate Samples (MS/MSD):

No matrix spike or matrix spike duplicates were analyzed.

3. Reference:

All method criteria were met.

D. Duplicates:

No client requested duplicate. However, the method criteria may have been fulfilled with non-SDG source samples.

E. Samples:

All method criteria were met with the following exceptions:

October 28, 2015 Report Revision Case Narrative:

This report has been revised to include sample ID correction per client request.

Lloyd Kahn

QC Summary

FORM IIa - INITIAL AND CONTINUING CALIBRATION CHECK

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Instrument ID: TOC2

SDG: 13118
Project: See Chain of Custody
Calibration: 1507063
Sequence: S506983

Lab Sample ID	Analyte	True	Found	%R	QC Limits	Units	Method
S506983-ICV1	Total Organic Carbon	5430	5860	108	85 - 115	µg	Lloyd Kahn

* Values outside of QC limits

FORM IIa - INITIAL AND CONTINUING CALIBRATION CHECK

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Instrument ID: TOC2

SDG: 13118
Project: See Chain of Custody
Calibration: 1507063
Sequence: S508898

Lab Sample ID	Analyte	True	Found	%R	QC Limits	Units	Method
1518708-CCV1	Total Organic Carbon	8000	9140	114	85 - 115	mg/kg	Lloyd Kahn
1518708-CCV2	Total Organic Carbon	8000	8840	111	85 - 115	mg/kg	Lloyd Kahn
1518708-CCV3	Total Organic Carbon	8000	8540	107	85 - 115	mg/kg	Lloyd Kahn

* Values outside of QC limits

FORM III - BLANKS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13118
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Instrument ID: TOC2
Calibration: 1507063
Sequence: S506983
Matrix: Soil/Sediment

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
S506983-ICB1	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn

FORM III - BLANKS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13118
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Instrument ID: TOC2
Calibration: 1507063
Sequence: S508898
Matrix: Soil/Sediment

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
1518708-CCB1	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn
1518708-BLK1	Total Organic Carbon	BRL	100	mg/kg	U	Lloyd Kahn
1518708-CCB2	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn
1518708-CCB3	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn

FORM IIIa - LCS / LCS DUPLICATE RECOVERY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Matrix:	Soil/Sediment	Instrument:	TOC2
Batch:	1518708	Laboratory ID:	1518708-BS1
Preparation:	General Preparation	Initial/Final:	0.04 g / 1 ml
Analyzed:	10/03/15 11:54	Spike ID:	15G0891
		File ID:	10031149

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	8000	9060	113	75 - 125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VIIb(Inorganics) - STANDARD REFERENCE MATERIAL RECOVERY

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13118
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Matrix: Soil/Sediment
Spike ID: 15C0320
Batch: 1518708
Laboratory ID: 1518708-SRM1
Preparation: General Preparation
Initial/Final: 0.0206 g / 1 ml

ANALYTE	TRUE (mg/kg)	FOUND (mg/kg)	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	5430	5830	107	49 - 151

* Values outside of QC limits

Organic/FORM IX(Inorganic) - METHOD DETECTION AND REPORTING LIMITS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA **SDG:** 13118

Client: Eurofins Lancaster Laboratories Environmental, LLC **Project:** See Chain of Custody

Analyte	MDL	MRL	Units
Total Organic Carbon	99.0	100	mg/kg

Lloyd Kahn

Sample Data

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0499-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596019			Received:	10/02/15 12:49
Matrix:	Sediment	Laboratory ID:	SC13118-01	File ID:	10031353
Sampled:	09/22/15 10:45	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 13:58
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0008 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MRL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	219000	1	4950	5000	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0479-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596019			Received:	10/02/15 12:49
Matrix:	Sediment	Laboratory ID:	SC13118-02	File ID:	10031400
Sampled:	09/23/15 10:45	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 14:05
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0021 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MRL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	192000	1	1890	1900	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0489-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596019			Received:	10/02/15 12:49
Matrix:	Sediment	Laboratory ID:	SC13118-03	File ID:	10031406
Sampled:	09/23/15 13:30	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 14:10
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0029 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MRL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	50000	1	1370	1380	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0182-13 DP

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596019			Received:	10/02/15 12:49
Matrix:	Sediment	Laboratory ID:	SC13118-04	File ID:	10031411
Sampled:	09/23/15 13:40	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 14:15
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0052 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MRL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	54800	1	762	769	

Lloyd Kahn

Standards Data

FORM VI - INITIAL CALIBRATION DATA

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	0	0	1000	2110.995	2000	2020.206	4000	1984.608	8000	1905.392	12500	1875.863

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	15000	1812.287										

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

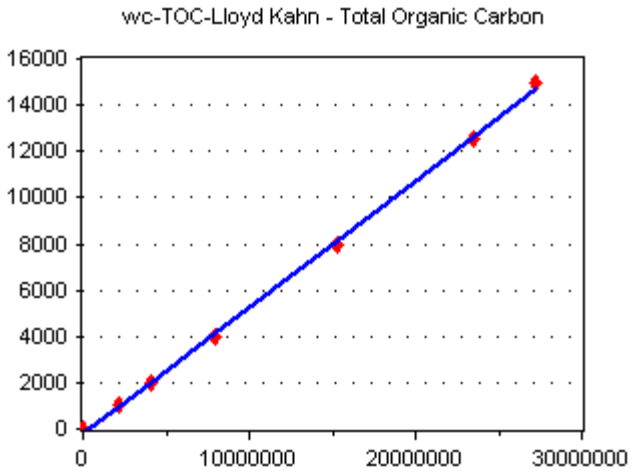
Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Total Organic Carbon	1672.765	44.48907	0	0	0.9990526		0.997	

Individual peaks for multi-component analytes are indicated by a number in parentheses

Instrument:	TOC2	Calibration Date:	23-Jul-15 11:19 By RLT
Calibration ID:	1507063	Last Edit Date:	24-Jul-15 11:20 By RLT

wc-TOC-Lloyd Kahn

Total Organic Carbon



Linear Regression

r2: 0.9990526

[Conc] = 5.486597E-04 * [Response] + -197.7798

Lloyd Kahn

Raw Quality Control Data

Detailed Analysis Report Print Date/Time: 2015/10/03 15:09:17

Sample ID: CLN Mode: TOC
Method: Filename: 10031115
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:19
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	706.0037	28.2401	1285560	102.169	103.169	149

Sample ID: CLN Mode: TOC
Method: Filename: 10031121
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:24
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	27.7574	1.1103	50543	101.598	101.667	120

Last Message: Low Sample Detected

Sample ID: SEQ-CCV1 Mode: TOC
Method: Filename: 10031134
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:38
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	9142.5049	365.7002	16647557	101.747	102.746	217

Sample ID: SEQ-CCB1 Mode: TOC
Method: Filename: 10031141
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:43
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	36.0305	1.4412	65608	101.271	102.268	42

Sample ID: 1518708-BLK1 Mode: TOC
Method: Filename: 10031145
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:48
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2.7114	0.1085	4937	101.993	101.452	120

Last Message: Low Sample Detected

Sample ID: 1518708-BS1 Mode: TOC
Method: Filename: 10031149
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:54
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	9058.7637	362.3505	16495072	101.237	102.235	234

Sample ID: 1518708-SRM1 Mode: TOC
Method: Filename: 10031155
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:59
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5825.3506	120.0022	5462791	102.545	103.544	166

Sample ID: SC12113-01A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031201
Timestamp: 2015/10/03 12:05
Sample Type: Sample

over range, see rr

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	96906.3984	978.7546	44555276	104.192	105.191	230

Sample ID: SC12113-01A RR
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031207
Timestamp: 2015/10/03 12:12
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	86197.0625	387.8868	17657544	103.485	104.485	211

over range, see rr

Sample ID: SC12115-04A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031213
Timestamp: 2015/10/03 12:17
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	64879.8438	772.0701	35146500	104.695	105.695	173

sample

Sample ID: SC12115-04A RR
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031218
Timestamp: 2015/10/03 12:24
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	73127.5000	336.3865	15313127	102.676	103.675	217

Sample ID: SC12115-08A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031226
Timestamp: 2015/10/03 12:31
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	64498.0742	264.4421	12038044	103.048	104.046	196

over range, see rr

Sample ID: SC12115-09A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031232
Timestamp: 2015/10/03 12:39
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	181495.7188	707.8333	32222282	103.205	104.204	283

Sample ID: SC12115-09A RR
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031240
Timestamp: 2015/10/03 12:46
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	174037.5938	295.8639	13468441	103.393	104.391	271

Sample ID: SEQ-CCV2 Mode: TOC
Method: Filename: 10031247
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 12:51
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	8841.3281	353.6531	16099145	104.933	105.931	187

Sample ID: SEQ-CCB2 Mode: TOC
Method: Filename: 10031252
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 12:55
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	32.6277	1.3051	59412	104.387	105.385	76

Sample ID: SC12115-02A Mode: TOC
Method: Filename: 10031255
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 12:59
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	111551.0156	524.2898	23866938	103.959	104.955	183

Sample ID: SC12115-010A Mode: TOC
Method: Filename: 10031303
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 13:09
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	203915.0938	244.6981	11139250	103.982	104.980	199

1518708-dup1

Sample ID: SC12115-04(2) Mode: TOC
Method: Filename: 10031331
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 13:35
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	68953.5859	372.3493	16950244	101.922	102.922	156

Sample ID: SC12115-04(3) Mode: TOC
Method: Filename: 10031336
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 13:39
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	64234.0234	295.4765	13450805	103.302	104.288	135

Sample ID: SC12115-04(4) Mode: TOC
Method: Filename: 10031341
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 13:46
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	85188.7969	442.9818	20165600	101.044	102.042	177

Sample ID: SC12118-01A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031353
Timestamp: 2015/10/03 13:58
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	219100.1094	175.2801	7979173	100.897	101.896	201

Sample ID: SC13118-02A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031400
Timestamp: 2015/10/03 14:05
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	192264.0312	403.7544	18379880	100.916	101.916	183

Sample ID: SC13118-03A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031406
Timestamp: 2015/10/03 14:10
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	50033.4922	145.0971	6605172	100.906	101.906	144

Sample ID: SC13118-04A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031411
Timestamp: 2015/10/03 14:15
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	54797.3906	284.9464	12971450	101.007	102.005	168

Sample ID: SC13115-03A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031418
Timestamp: 2015/10/03 14:22
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	106298.5312	297.6359	13549105	101.340	102.337	156

Sample ID: SEQ-CCV3
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031424
Timestamp: 2015/10/03 14:28
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	8543.1475	341.7259	15556188	101.420	102.420	196

Sample ID: SEQ-CCB3
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031429
Timestamp: 2015/10/03 14:32
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	68.1085	2.7243	124018	101.882	102.614	120

Last Message: Low Sample Detected

Lloyd Kahn

Data Processing Summary

PREPARATION BENCH SHEET

1518708

Eurofins Spectrum Analytical, Inc. - Agawam, MA

Temp °C	Correction Factor	Corrected Temp °C
10.4	-2	10.2

Balance ID: NS 10.280 KG

Thermometer ID: NT44D

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **Sequence: S508898**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518708-BLK1	Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-BS1	LCS		QC	0.04	1	15G0891			02-Oct-15 17:28	
1518708-CCB1	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB2	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB3	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCV1	Calibration Check		QC	0.04	1	15G0891			02-Oct-15 17:28	
1518708-CCV2	Calibration Check		QC	0.04	1	15G0891			02-Oct-15 17:28	
1518708-CCV3	Calibration Check		QC	0.04	1	15G0891			02-Oct-15 17:28	
1518708-DUP1	Duplicate		QC	0.0054	1		SC13115-04		24-Sep-15 13:00	
1518708-SRM1	Reference		QC	0.0206	1	15C0320			02-Oct-15 17:28	
SC13113-01	BCP-SED-OF7(12-24)	A	wc-TOC-Lloyd	0.0045	1			09-Oct-15 15:00	22-Sep-15 11:30	DP-NYSDEC Cat B
SC13115-02	0493-13	A	wc-TOC-Lloyd	0.0047	1			09-Oct-15 15:00	24-Sep-15 12:00	Type 1 DP Level 4
SC13115-03	0164-13 DP	A	wc-TOC-Lloyd	0.0028	1			09-Oct-15 15:00	24-Sep-15 12:15	Type 1 DP Level 4
SC13115-04	0495-13	A	wc-TOC-Lloyd	0.0046	1			09-Oct-15 15:00	24-Sep-15 13:00	Type 1 DP Level 4
SC13115-08	0498-13	A	wc-TOC-Lloyd	0.0041	1			09-Oct-15 15:00	22-Sep-15 10:30	Type 1 DP Level 4
SC13115-09	0499-13	A	wc-TOC-Lloyd	0.0017	1			09-Oct-15 15:00	22-Sep-15 10:45	Type 1 DP Level 4
SC13115-10	0497-13	A	wc-TOC-Lloyd	0.0012	1			09-Oct-15 15:00	22-Sep-15 13:25	Type 1 DP Level 4
SC13118-01	0498-13	A	wc-TOC-Lloyd	0.0008	1			09-Oct-15 15:00	22-Sep-15 10:45	Type 1 DP Level 4
SC13118-02	0479-13	A	wc-TOC-Lloyd	0.0021	1			09-Oct-15 15:00	23-Sep-15 10:45	Type 1 DP Level 4
SC13118-03	0489-13	A	wc-TOC-Lloyd	0.0029	1			09-Oct-15 15:00	23-Sep-15 13:30	Type 1 DP Level 4

Analyst Reviewed 10/8/15 Date

Manager Reviewed 10/9/15 Date

Extracts Received By Date

Printed: 10/8/2015 6:47:07PM

PREPARATION BENCH SHEET

1518708

Eurofins Spectrum Analytical, Inc. - Agawam, MA

Temp °C	Correction Factor	Corrected Temp °C
104	-2	102

Balance ID: C

Thermometer ID: N7440

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **Sequence: S508898**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
SC13118-04	0489-13 DP Low	A	wc-TOC-Lloyd	0.0052	1			09-Oct-15 15:00	23-Sep-15 13:40	Type 1 DP Level 4

10.02.15
rlt
toc soil

Reagents Used:

15G0336 Nitric Acid 50%

Analyst Reviewed 10/8/15 Date

Manager Reviewed 10/9/15 Date

Extracts Received By Date

Printed: 10/8/2015 6:47:07PM

PREPARATION BENCH SHEET

1518708

Balance ID _____

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **(No Surrogate)**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518708-BLK1	Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-BS1	LCS		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB1	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB2	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB3	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCV1	Calibration Check		QC	0.04	1				02-Oct-15 17:28	
1518708-CCV2	Calibration Check		QC	0.04	1				02-Oct-15 17:28	
1518708-CCV3	Calibration Check		QC	0.04	1				02-Oct-15 17:28	
1518708-DUP1	Duplicate		QC	0.04	1				02-Oct-15 17:28	
1518708-SRM1	Reference		QC	0.04	1	0.0206			02-Oct-15 17:28	
SC13113-01	BCP-SED-DF7(12-24)	A	wc-TOC-Lloyd	0.04	1	0.0181	0.0045	09-Oct-15 15:00	22-Sep-15 11:30	**DP-NYSDEC Cat B**
SC13114-01	0481-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	21-Sep-15 11:10	**Type 1 DP Level 4**
SC13114-02	0488-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	21-Sep-15 13:30	**Type 1 DP Level 4**
SC13114-03	0163-13DP	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	21-Sep-15 13:50	**Type 1 DP Level 4**
SC13114-04	0485-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	21-Sep-15 14:40	**Type 1 DP Level 4**
SC13115-04	0495-13	A	wc-TOC-Lloyd	0.04	1	0.0119	0.0046	09-Oct-15 15:00	24-Sep-15 13:00	**Type 1 DP Level 4**
SC13115-05	0479-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	23-Sep-15 10:45	**Type 1 DP Level 4**
SC13115-06	0489-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	23-Sep-15 13:30	**Type 1 DP Level 4**
SC13115-07	0487-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	23-Sep-15 14:50	**Type 1 DP Level 4**
SC13115-08	0498-13	A	wc-TOC-Lloyd	0.04	1	0.0041		09-Oct-15 15:00	22-Sep-15 10:30	**Type 1 DP Level 4**
SC13115-09	0499-13	A	wc-TOC-Lloyd	0.04	1	0.0039	0.0017	09-Oct-15 15:00	22-Sep-15 10:45	**Type 1 DP Level 4**
SC13115-10	0497-13	A	wc-TOC-Lloyd	0.04	1	0.0012		09-Oct-15 15:00	22-Sep-15 13:35	**Type 1 DP Level 4**

09 (2) 0.0004 (3) 0.0046 [4] 0.0052

Analyst Reviewed Date

Manager Reviewed Date

Extracts Received By Date

PREPARATION BENCH SHEET

1518720

Balance ID _____

Matrix: Soil/Sediment

Prepared using: Wet Chem - General Preparation

(No Surrogate)

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518720-BLK1	Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-BS1	LCS		QC	0.04	1				03-Oct-15 10:08	
1518720-DUP1	Duplicate		QC	0.04	1				03-Oct-15 10:08	
1518720-SRM1	Reference		QC	0.04	1				03-Oct-15 10:08	
SC13118-01	0498-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	22-Sep-15 10:45	**Type 1 DP Level 4**
SC13118-02	0479-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	23-Sep-15 10:45	**Type 1 DP Level 4**
SC13118-03	0489-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	23-Sep-15 13:30	**Type 1 DP Level 4**
SC13118-04	0489-13 DP	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	23-Sep-15 13:40	**Type 1 DP Level 4**

10.03.15
rlt
toc soil

Reagents Used:

15G0336 Nitric Acid 50%

Analyst Reviewed Date

Manager Reviewed Date

Extracts Received By Date

Printed: 10/3/2015 10:09:35AM

Lloyd Kahn Method - TOC							
10/3/2015							
Sample ID:	Replicate 1	Replicate 2	Replicate 3	Replicate 4	Standard Deviation	Mean	% RSD
SC13115-04A	73127.5	68953.5859	64234.0234	85188.7969	8976.586428	72875.98	12.31762
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
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Rev. 4/15/09

FORM VIII(Organics)/FORM XIII(Inorganics)
ANALYSIS BATCH (SEQUENCE) SUMMARY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Sequence:	S506983	Instrument:	TOC2
		Calibration:	1507063

Sample Name	Lab Sample ID	Lab File ID	Analyzed
Cal Standard	S506983-CAL1	07231501	07/23/15 15:04
Cal Standard	S506983-CAL2	07231505	07/23/15 15:08
Cal Standard	S506983-CAL3	07231508	07/23/15 15:11
Cal Standard	S506983-CAL4	07231512	07/23/15 15:15
Cal Standard	S506983-CAL5	07231516	07/23/15 15:19
Cal Standard	S506983-CAL6	07231520	07/23/15 15:23
Cal Standard	S506983-CAL7	07231545	07/23/15 15:49
Initial Cal Check	S506983-ICV1	07231605	07/23/15 16:08
Initial Cal Blank	S506983-ICB1	07231608	07/23/15 16:11

FORM VIII(Organics)/FORM XIII(Inorganics)
ANALYSIS BATCH (SEQUENCE) SUMMARY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13118
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Sequence:	S508898	Instrument:	TOC2
		Calibration:	1507063

Sample Name	Lab Sample ID	Lab File ID	Analyzed
Calibration Check	1518708-CCV1	10031134	10/03/15 11:38
Calibration Blank	1518708-CCB1	10031141	10/03/15 11:43
Blank	1518708-BLK1	10031145	10/03/15 11:48
LCS	1518708-BS1	10031149	10/03/15 11:54
Reference	1518708-SRM1	10031155	10/03/15 11:59
Calibration Check	1518708-CCV2	10031247	10/03/15 12:51
Calibration Blank	1518708-CCB2	10031252	10/03/15 12:55
0499-13	SC13118-01	10031353	10/03/15 13:58
0479-13	SC13118-02	10031400	10/03/15 14:05
0489-13	SC13118-03	10031406	10/03/15 14:10
0182-13 DP	SC13118-04	10031411	10/03/15 14:15
Calibration Check	1518708-CCV3	10031424	10/03/15 14:28
Calibration Blank	1518708-CCB3	10031429	10/03/15 14:32

Multiple Analysis Report Print Date/Time: 2015/10/22 12:35:01

Sample ID	Result	Std. Dev.	RSD	Mode	ALT	Method ID	Sample Type	Vial	Timestamp	Message
CLN	706.0037			TOC			Sample		2015/10/03 11:19	
CLN	27.7574			TOC			Sample		2015/10/03 11:24	Low Sample Detected
SEQ-CCV1	9142.5049			TOC			Sample		2015/10/03 11:38	
SEQ-CCB1	36.0305			TOC			Sample		2015/10/03 11:43	
1518708-BLK1	2.7114			TOC			Sample		2015/10/03 11:48	Low Sample Detected
1518708-BS1	9058.7637			TOC			Sample		2015/10/03 11:54	
1518708-SRM1	5825.3506			TOC			Sample		2015/10/03 11:59	
SC12113-01A	96906.3984			TOC			Sample		2015/10/03 12:05	
SC12113-01A RR	86197.0625			TOC			Sample		2015/10/03 12:12	
SC12115-04A	64879.8438			TOC			Sample		2015/10/03 12:17	
SC12115-04A RR	73127.5000			TOC			Sample		2015/10/03 12:24	
SC12115-08A	64498.0742			TOC			Sample		2015/10/03 12:31	
SC12115-09A	181495.7188			TOC			Sample		2015/10/03 12:39	
SC12115-09A RR	174037.5938			TOC			Sample		2015/10/03 12:46	
SEQ-CCV2	8841.3281			TOC			Sample		2015/10/03 12:51	
SEQ-CCB2	32.6277			TOC			Sample		2015/10/03 12:55	
SC12115-02A	111551.0156			TOC			Sample		2015/10/03 12:59	
SC12115-010A	203915.0938			TOC			Sample		2015/10/03 13:09	
SC12115-04(2)	68953.5859			TOC			Sample		2015/10/03 13:35	
SC12115-04(3)	64234.0234			TOC			Sample		2015/10/03 13:39	
SC12115-04(4)	85188.7969			TOC			Sample		2015/10/03 13:46	
SC12118-01A	219100.1094			TOC			Sample		2015/10/03 13:58	
SC13118-02A	192264.0312			TOC			Sample		2015/10/03 14:05	
SC13118-03A	50033.4922			TOC			Sample		2015/10/03 14:10	
SC13118-04A	54797.3906			TOC			Sample		2015/10/03 14:15	
SC13115-03A	106298.5312			TOC			Sample		2015/10/03 14:22	
SEQ-CCV3	8543.1475			TOC			Sample		2015/10/03 14:28	
SEQ-CCB3	68.1085			TOC			Sample		2015/10/03 14:32	Low Sample Detected

Notes & Definitions

BRL Below the reporting limit and also indicates there are no detections between the MDL and MRL

Form I 'Q' column

B The analyte was found in the associated blank as well as the sample

D All identified compounds in the analysis are at a secondary dilution factor

E The identified compound's concentration exceeds the calibration range of the instrument for this specific analysis

J Compound detected but below the reporting limit and above the minimum detection limit (MDL); therefore, the result is an estimated concentration

N Included for TIC that indicates presumptive evidence of a compound

P Used for a Dual Column target analyte when the concentration difference between the two GC columns is greater than 40%.

U Compound was analyzed for but not detected

Form IIa 'Method' column

This column refers to the instrument used for analysis

IR Iris ICP
MS Thermo ICP/MS
AV Mercury analyzer

Form VI 'Q' column

***** indicates that:
Mean RF is above the value in the LIMIT column, or
Linear COD is below the value in the LIMIT column, or
Quad COD is below the value in the LIMIT column

Form VII 'Type' column

A average of response factor
L linear regression
Q quadratic equation

Form VIII 'Q' column for Inorganics

E The dilution analysis is not within a control limit of 10%, therefore a chemical or physical interference effect must be suspected

Last Page of Data Report

Case Narrative/Conformance Summary

Instrumental Wet Chemistry

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC26

Instrumental Water Quality

Fraction: Instrumental Wet Chemistry

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8064407	0499-13		X	1	
8064409	0479-13		X	1	
8064412	0489-13		X	1	
8064417	0182-13 DP		X	1	Field Duplicate Sample

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

SAMPLE ANALYSIS:

The TOC analysis was subcontracted to another laboratory.

Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC26

Instrumental Water Quality

Fraction: Instrumental Wet Chemistry

Abbreviation Key

U = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
R = Matrix Spike (MS)	MDL = Method Detection Limit
M = Matrix Spike Duplicate (MSD)	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	NA = Not Applicable
HS = High Spike	ME = Method
LS = Low Spike	CO = Colorimetric
SS = Soluble Spike	G = Gravimetric
IS = Insoluble Spike	IR = Infrared Spectrophotometry
ISD = Insoluble Spike Duplicate	MTR = Meter
PDS = Post Digestion Spike	OD = Oven Dried
* = Out of Specification	TI = Titration
V = Visual	TOC = Total Organic Carbon
AK = Alpkem	IC = Ion Chromatography
TC = Total Carbon	RA = Rapid Analyzer

Quality Control and Calibration Summary Forms

Instrumental Wet Chemistry

eurofins | Lancaster Laboratories Environmental

Quality Control Reference List
Instrumental Water Quality

CLIENT: The Johnson Company, Inc.
SDG: PSC26

Fraction: Instrumental Wet Chemistry

Analysis	Batch Number	Sample Number	Analysis Date
TOC Subcontracted - Spectrum	1518708	P123456B	10/03/2015 00:00:00
		P123456Q	10/03/2015 00:00:00
		8064407	10/03/2015 00:00:00
		8064409	10/03/2015 00:00:00
		8064412	10/03/2015 00:00:00
		8064417	10/03/2015 00:00:00

Quality Control Summary
Method Blank
Instrumental Water Quality
SDG: PSC26
Matrix: SOLID

Fraction: Instrumental Wet Chemistry

1518708 / P123456B Parameter	ME	Analysis Date	Blank Results	Units	MDL	LOQ
TOC Subcontracted - Spectrum	TOC	10/03/15	N.D.	mg/kg	99.0	100

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: PSC26
Matrix: SOLID

Instrumental Water Quality

Fraction: Instrumental Wet Chemistry

LCS: P123456Q	Batch: **1518708** (Sample number(s): 8064407, 8064409, 8064412, 8064417)								
Parameter	**ME**	**Spike Added mg/kg**	**LCS Conc mg/kg**	**LCSD Conc mg/kg**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
TOC Subcontracted - Spectrum	TOC	8000	9060	NA	113	NA	75-125	NA	NA

Fraction: Instrumental Wet Chemistry

13994: TOC Subcontracted - Spectrum Analyte Name	Default MDL	Default LOQ	Units
TOC Subcontracted - Spectrum	99.0	100	mg/kg

Wet Chemistry Data

Case Narrative/Conformance Summary

Wet Chemistry

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC26

Water Quality

Fraction: Wet Chemistry

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8064406	0499-13		X	1	
8064408	0479-13		X	1	
8064410	0489-13		X	1	Background/Unspiked
8064411	0489-13		X	1	
8064413	0489-13 MS		X	1	Matrix Spike
8064414	0489-13 MSD		X	1	Matrix Spike Duplicate
8064415	0489-13 DUP		X	1	Duplicate
8064416	0182-13 DP		X	1	Field Duplicate Sample

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Sample Duplicate

Method defined actions are taken for any failed matrix QC.

Batch#: 15278163001A (Sample number(s): 8064406, 8064408, 8064410, 8064413-8064416, UNSPK: 8064410, BKG: 8064410)
The duplicate RPD for the following analyte(s) is outside the acceptance window: Acid Volatile Sulfide

Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC26

Water Quality

Fraction: Wet Chemistry

SAMPLE ANALYSIS:

Sample #	AVS Result umole/g	LOQ umole/g	AVS Result mg/kg	LOQ mg/kg
8064406	18.2	2.0	583.5	64.1
8064408	11.1	2.0	355.9	64.1
8064410	3.1	2.0	99.4	64.1
8064413	32.5	2.0	1042.0	64.1
8064414	37.4	2.0	1199.0	64.1
8064415	2.0	2.0	64.1	64.1
8064416	2.8	2.0	89.8	64.1

No problems were encountered with the analysis of the samples.

Abbreviation Key

U = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
R = Matrix Spike (MS)	MDL = Method Detection Limit
M = Matrix Spike Duplicate (MSD)	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	NA = Not Applicable
HS = High Spike	ME = Method
LS = Low Spike	CO = Colorimetric
SS = Soluble Spike	G = Gravimetric
IS = Insoluble Spike	IR = Infrared Spectrophotometry
ISD = Insoluble Spike Duplicate	MTR = Meter
PDS = Post Digestion Spike	OD = Oven Dried
* = Out of Specification	TI = Titration
V = Visual	TOC = Total Organic Carbon
AK = Alpkem	IC = Ion Chromatography
TC = Total Carbon	RA = Rapid Analyzer

QC Summary

Wet Chemistry

eurofins | Lancaster Laboratories Environmental

Quality Control Reference List
Water Quality

CLIENT: The Johnson Company, Inc.
SDG: PSC26

Fraction: Wet Chemistry

Analysis	Batch Number	Sample Number	Analysis Date
Acid Volatile Sulfide	15278163001A	P278163B	10/05/2015 09:00:00
		P278163Q	10/05/2015 09:00:00
		8064406	10/05/2015 09:00:00
		8064408	10/05/2015 09:00:00
		8064410 UNSPK/BKG	10/05/2015 09:00:00
		8064413 MS	10/05/2015 09:00:00
		8064414 MSD	10/05/2015 09:00:00
		8064415 DUP	10/05/2015 09:00:00
		8064416	10/05/2015 09:00:00
Grain Size to 1 um	15269710301A	8064411	09/26/2015 13:00:00

Quality Control Summary
Method Blank
Water Quality
SDG: PSC26
Matrix: SOLID

Fraction: Wet Chemistry

15278163001A / P278163B Parameter	ME	Analysis Date	Blank Results	Units	MDL	LOQ
Acid Volatile Sulfide	MTR	10/05/15	N.D.	umoles/g	0.63	2.0

Water Quality
Fraction: Wet Chemistry

UNSPK: 8064410 MS: 8064413 MSD: 8064414 **Parameter**	Batch: **15278163001A** (Sample number(s): 8064406, 8064408, 8064410, 8064413-8064416)									
	ME	**Spike Added umoles/g MS/MSD**	**Unspiked Conc umoles/g**	**MS Conc umoles/g**	**MSD Conc umoles/g**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Acid Volatile Sulfide	MTR	47.4 / 47.2	3.11	32.47	37.37	62	73	40-95	14	20

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

Water Quality
Fraction: Wet Chemistry

BKG: 8064410 DUP: 8064415	Batch: **15278163001A** (Sample number(s): 8064406, 8064408, 8064410, 8064413-8064416)				
Parameter	**ME**	**Unspiked Conc umoles/g**	**DUP Conc umoles/g**	**%RPD**	**%RPD Limits**
Acid Volatile Sulfide	MTR	3.11	2.05	41* (1)	20

Comments:
(1) The sample and/or duplicate result is less than five times the LOQ.
* = Out of Specification

Results are being reported on an as received basis.

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: PSC26
Matrix: SOLID

Water Quality
Fraction: Wet Chemistry

LCS: P278163Q	Batch: **15278163001A** (Sample number(s): 8064406, 8064408, 8064410, 8064413-8064416)								
Parameter	**ME**	**Spike Added umoles/g**	**LCS Conc umoles/g**	**LCSD Conc umoles/g**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Acid Volatile Sulfide	MTR	50	24	NA	48	NA	40-95	NA	NA

Raw Data

Wet Chemistry

Fraction: Wet Chemistry

01630: Acid Volatile Sulfide Analyte Name	Default MDL	Default LOQ	Units
Acid Volatile Sulfide	0.63	2.0	umoles/g

07103: Grain Size to 1 um Analyte Name	Default MDL	Default LOQ	Units
75 mm	0.50	0.50	% Passing
37.5 mm	0.50	0.50	% Passing
19 mm	0.50	0.50	% Passing
4.75 mm	0.50	0.50	% Passing
3.35 mm	0.50	0.50	% Passing
2.36 mm	0.50	0.50	% Passing
1.18 mm	0.50	0.50	% Passing
0.6 mm	0.50	0.50	% Passing
0.3 mm	0.50	0.50	% Passing
0.15 mm	0.50	0.50	% Passing
0.075 mm	0.50	0.50	% Passing
0.064 mm	0.50	0.50	% Passing
0.05 mm	0.50	0.50	% Passing
0.02 mm	0.50	0.50	% Passing
0.005 mm	0.50	0.50	% Passing
0.002 mm	0.50	0.50	% Passing
0.001 mm	0.50	0.50	% Passing

eurofins | Lancaster Laboratories Environmental	Document Title: Raw Data Logbook Acid Volatile Sulfide Analysis #1630		
	Eurofins Document Reference: 1-P-QM-FOR-9009949	Revision: 3	Historical Reference: Form 1907
	Effective date: Jul 31, 2014	Status: Effective	

Batch #												

1630 CURVE

Date/Time: 10/5/15 (0700)
Init./Emp. #: SEH 416
Std. Ref. (Book/pg.): 216613 p. 24 SPECTRUM
1+1 HCl: 216613 p. 23
SAOB: 216613 p. 23

Name of Curve: 9703 10/5/15 SEH
Corr. Coeff: .999880
Inst #: 9703
Balance #: NA

Sample Number	Sample Wt. (g)	Relative mV Reading	Dil. Factor	Calc. Value (µmoles/g)	LOQ (µmoles /g)	Bottle Code	Comments
20	—	-882.0	1	19.7	2	—	0.4mL of 49.4µmoles/mL
250	—	-913.8	1	258.1	2	—	5.1mL of 49.4 µmoles/mL
500	—	-922.2	1	509.0	2	—	10.1 mL of 49.4 µmoles/mL
750	—	-926.9	1	744.4	2	—	15.2mL of 49.4µmoles/mL
1000	—	-930.2	1	972.1	2	—	20.2mL of 49.4µmoles/mL

N/A

Verified by: RH/355 Date: 10/8/15

Batch #	1	5	2	7	8	1	6	3	0	0	1	A

Date/Time: 10/5/15 (0900)
Init./Emp. #: SEH416
Std. Ref. (Book/pg.): 216613 p. 24 (ACROS)
1+1 HCl: 216613 p. 23
SAOB: 216613 p. 23

Name of Curve: 9703 10/5/15 SEH
Corr. Coeff: .999880
Inst #: 9703
Balance #: 12071

Sample Number	Sample Wt. (g)	Relative mV Reading	Dil. Factor	Calc. Value (µmoles/g)	LOQ (µmoles /g)	Bottle Code	Comments
METALS LCS	10.00	—	1	—	—	—	5mL OF SPIKE A, LOT# 1517023 5mL OF SPIKE B, LOT# 1517025
8064413 R	10.36	—	1	—	—	074A	0.1mL OF 10ppm Hg LOT # H2-HG02129
8064414 M	10.37	—	1	—	—	074A	↓
250 µmoles CCV	—	-913.2	1	245.9	2	—	(15) 98% 5.1mL OF 49.2 µmoles/mL
50 µmoles/g LCS	10.00	-912.9	1	24.0	2	—	(15) 48% 10.2mL OF 49.2 µmoles/mL
BLANK	10.00	-745.1	1	0	2	—	(15)
8064406	10.00	-909.5	1	18.2	2	074A	
8064408	10.33	-903.8	1	11.1	2	074A	
8064410 M	10.04	-887.7	1	3.1	2	074A	
8064413 R	10.38	-917.1	1	32.5	2	074A	SA = 47.4 (15) 62% + 10mL OF 49.2 µmoles/mL
8064414 M	10.43	-918.9	1	37.4	2	074A	SA = 47.2 (15) 73% R = 14 + 10mL OF 49.2 µmoles/mL
8064415 D	10.04	-882.5	1	2.0	2	074A	P.D.
8064416	10.36	-886.8	1	2.8	2	074A	
500 µmoles CCV	—	-921.9	1	496.8	2	—	(15) 99% 10.2mL OF 49.2 µmoles/mL

N/A

Verified by: RH/355 Date: 10/8/15

eurofins | Lancaster Laboratories Environmental	Document Title: #7103 Particle Size Distribution		
	Eurofins Document Reference: 1-P-QM-FOR-9029072	Revision: 1	Historical Reference: N/A
	Effective date: Sep 2, 2014	Status: Effective	

Sample: 8064411 Date/Time: 9.26.15 1300 Init./Emp. #: JMG/239 Batch #: 152697103011A

Pan Balance ID#: 9458

Sieve Size (Mr)	Tare+Sample Wt.(g)	Tare Weight (g)
3 Inch	539.02	539.02
1.5 Inch	559.34	559.34
0.75 Inch	556.06	556.06
#4	504.37	503.45
#6	485.04	482.58
#8	435.78	429.64
PAN	582.17	396.50

Bottle code: 73A

Comments:

Sieve Size (Mr)	Tare+Sample Wt.(g)	Tare Weight (g)
#16	450.39	449.77
#30	291.77	291.32
#50	267.64	264.04
#100	330.64	317.98
#200	225.35	216.31
PAN	387.76	386.51

Balance ID#: 18958 Oven ID# 18961

Oven Date/Time/Temp In: 10.17.15 1200 108° Oven Date/Time/Temp Out: 10.18.15 1300 108°

Moisture

Tare Weight (g)	Sample Weight (g)	Oven Dry Wt. (g)
1.0992	5.0042	6.0269

Init./Emp. #: JMG/239

Bulk Density

Tare Weight (g)	Sample Weight (g)	DI H_2O+Sple Wt. (g)
60.5835	15.0029	108.8143

Init./Emp. #: JMG/239

Hydrometer Readings Sample Wt. 50.07 Hydrometer ID #: 237666 Init./Emp #: JMG/239

Time	Temp	Reading
2 minutes	20°	1.014
5 minutes	20°	1.011
15 minutes	20°	1.008
30 minutes	20°	1.007
60 minutes	20°	1.0065
250 minutes	20°	1.0055
1440 minutes	20°	1.005

Comments : Foam

Oven ID#: 16459

Oven Date/Time/Temp In: 10.18.15 1400 108°

Oven Date/Time/Temp Out: 10.20.15 1500 109°

Verified by: [signature] **Date:** 10/21/15

Particle Size Distribution

Sample:	Date:	Init/Emp #
8064411	09/26/15	lmg/239

Sieve Size (Mr)	Tare + Smp. Wt.	Tare Weight	Diff. (Mr)	% Passing
3 inch	539.02	539.02	0.00	100
1.5 inch	559.34	559.34	0.00	100
0.75 inch	556.06	556.06	0.00	100
# 4	504.37	503.45	0.92	99.55163507
# 6	485.04	482.58	2.46	98.35274624
# 8	435.78	429.64	6.14	95.36039768
PAN	582.17	386.50	195.67	

Sieve Size (Mr)	Tare + Smp. Wt.	Tare Weight	Diff. (Mr)	% Passing
# 16	450.39	449.97	0.42	94.54807206
# 30	291.77	291.32	0.45	93.67772318
# 50	267.64	264.04	3.60	86.71493214
# 100	330.64	317.48	13.16	61.26206269
# 200	225.35	216.31	9.04	43.77772076
PAN	387.76	386.51	1.25	

Moisture Tare Weight	Sample Weight	Oven Dry Weight	Ratio
1.0992	5.0042	6.0269	0.9847

Bulk Density Tare Weight	Sample Weight	DI H2O + Smp. Wt.	Vol H2O	Vol Soil	Result
60.5835	15.0029	108.8143	93.8114	6.1886	2.4243

Hydrometer Readings	Sample Weight	50.07	Hydrometer #:	237666	
Time	Temp	Reading	Corr. Rdng.	Part. Size	% Passing
2 minutes	20.0	1.0140	1.009	0.0369	30.45159044
5 minutes	20.0	1.0110	1.006	0.0240	20.57539895
15 minutes	20.0	1.0080	1.003	0.0143	10.69920745
30 minutes	20.0	1.0070	1.002	0.0102	7.407143621
60 minutes	20.0	1.0065	1.002	0.0073	5.761111705
250 minutes	20.0	1.0055	1.001	0.0036	2.469047874
1440 minutes	20.0	1.0050	1.000	0.0015	0.823015958

Particle Size Distribution

Sample:	Date:	Init/Emp #
8064411	09/26/15	lmg/239

Percent Passing		Particle Size
100.00		75
100.00		37.5
100.00		19
99.55		4.75
98.35		3.35
95.36		2.36
94.55		1.18
93.68		0.6
86.71		0.3
61.26		0.15
43.78	*	0.075
30.45	*	0.03687
20.58	***	0.02405
10.70	**	0.01429
7.41	**	0.01018
5.76	**	0.00727
2.47	**	0.00360
0.82	**	0.00150

* Used for line 1
** Used for line 2
*** Used for lines 1 and 2
\+ Calculated from line 1
++ Calculated from line 2

Log(particle size)
-1.124939
-1.433349
-1.618952
-1.844921
-1.992399
-2.138439
-2.443946
-2.824155

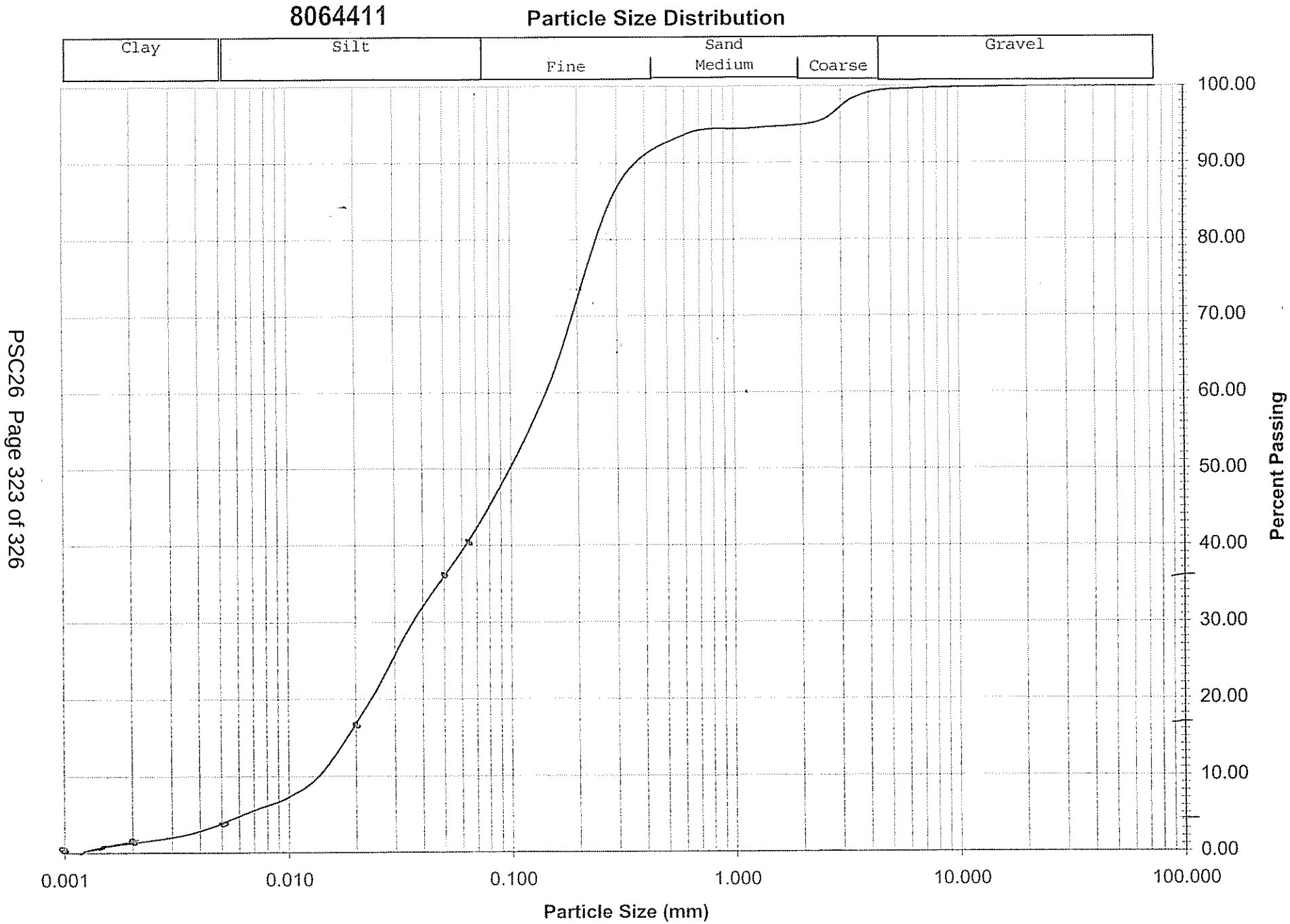
Line 1 Regression Output:	
Constant	96.4685717
Std Err of Y Est	0.9367084
R Squared	0.9967642
No. of Observations	3
Degrees of Freedom	1
X Coefficient(s)	46.5860212
Std Err of Coef.	2.6543182

Line 2 Regression Output:	
Constant	39.5144111
Std Err of Y Est	3.5008196
R Squared	0.8061409
No. of Observations	6
Degrees of Freedom	4
X Coefficient(s)	14.7208507
Std Err of Coef.	3.6094458

Particle Size	Calculated % Passing	
0.064 40	+	40.85
0.05 36	+	35.86
0.02 17	++	14.50
0.005 4	++	5.64
0.002 1	++	-0.22
0.001 0	++	-4.65

10/21/15

M102 10-20-15


8064411
Particle Size Distribution
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Percent Passing
0.001
0.010
0.100
1.000
10.000
100.000
Particle Size (mm)

Moisture Data

MOISTURE

SAMPLE NUMBERS:

Sample #	Sample Code
8064406	49813
8064407	-9813
8064408	47913
8064409	-7913
8064410	48913BKG
8064412	8913-
8064413	48913MS
8064414	48913MSD
8064415	48913DUP
8064416	FD-13FD
8064417	-FD13FD

COMMENTS:

Method defined actions are taken for any failed matrix QC.

Laboratory Compliance Quality Control

Analysis Name	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 15278820002A	Sample number(s): 8064406-8064410, 8064412-8064417				
Moisture	100		99-101		
Moisture	100		99-101		
Moisture Duplicate	100		99-101		

Sample Matrix Quality Control

Analysis Name	BKG Conc	DUP Conc	RPD	RPD Max
Batch number: 15278820002A	Sample number(s): 8064406-8064410, 8064412-8064417			
Moisture	66.8	60.8	9*	5
Moisture	66.8	60.8	9*	5
Moisture Duplicate	66.8	60.8	9*	5

* - Outside of specification

(1) - The result for one or both determinations was less than five times the LOQ.

MOISTURE

Moisture Data Report

Batch #: 15278820002

Sample ID	Batch ID	Analysis#	Tare Wt	Sample Wt	Dry Wt	%Moisture	Analysis Date (Emp#)	Verified Date (Emp#)
8064406	A	00111	1.0861	8.8299	3.6520	70.94	10/ 5/15 (1201/SWF)	10/ 6/15 (236/CW)
8064407	A	00111	1.0819	7.5774	3.5063	68.00	10/ 5/15 (1201/SWF)	10/ 6/15 (236/CW)
8064408	A	00111	1.0768	7.2556	2.5309	79.96	10/ 5/15 (1201/SWF)	10/ 6/15 (236/CW)
8064409	A	00111	1.0800	6.1600	2.4132	78.36	10/ 5/15 (1201/SWF)	10/ 6/15 (236/CW)
8064410BKG	A	00111	1.0561	8.8597	3.9994	66.78	10/ 5/15 (1201/SWF)	10/ 6/15 (236/CW)
8064412	A	00111	1.0843	6.8116	3.7991	60.14	10/ 5/15 (1201/SWF)	10/ 6/15 (236/CW)
8064413MS	A	00118				66.78	10/ 5/15 (1201/SWF)	10/ 6/15 (236/CW)
8064414MSD	A	00118				66.78	10/ 5/15 (1201/SWF)	10/ 6/15 (236/CW)
8064415DUP	A	00118				66.78	10/ 5/15 (1201/SWF)	10/ 6/15 (236/CW)
8064415DUP	A	00121	1.0833	6.3372	3.5646	60.85	10/ 5/15 (1201/SWF)	10/ 6/15 (236/CW)
8064416FD	A	00111	1.0958	6.8445	3.9102	58.88	10/ 5/15 (1201/SWF)	10/ 6/15 (236/CW)
8064417FD	A	00111	1.0885	6.7262	3.3753	66.00	10/ 5/15 (1201/SWF)	10/ 6/15 (236/CW)
LCS 89.5% Std.		00111	1.0736	5.0354	1.6035	89.48	10/ 5/15 (1201/SWF)	10/ 6/15 (236/CW)

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Type I Data Package

Prepared for:

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

Project: Pine Street Canal - Sand Cap Sampling
Sediment and Water Samples
Collected on 09/21/15

SDG# PSC24-V.2

GROUP	SAMPLE NUMBERS
1594773	8057359-8057369

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-13-10
AZ Cert. # AZ0780

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman **Date:** **12/22/2015**

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Wendy Kozma at Ext. 1522.

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Sample Reference List for SDG Number PSC24
with a Data Package Type of I

06556 - The Johnson Company, Inc.

Project: Pine Street Canal - Sand Cap Sampling

Lab Sample Number	Client Sample ID	Collection Date	Date Received
8057359	0481-13	09/21/2015 11:10	09/22/2015 09:20
8057360	0482-13	09/21/2015 11:20	09/22/2015 09:20
8057361	0483-13	09/21/2015 13:30	09/22/2015 09:20
8057362	0484-13	09/21/2015 13:40	09/22/2015 09:20
8057363	0484-13MS	09/21/2015 13:40	09/22/2015 09:20
8057364	0484-13MSD	09/21/2015 13:40	09/22/2015 09:20
8057365	0484-13DUP	09/21/2015 13:40	09/22/2015 09:20
8057366	0163-13DP	09/21/2015 13:50	09/22/2015 09:20
8057367	0485-13	09/21/2015 14:40	09/22/2015 09:20
8057368	0486-13	09/21/2015 14:50	09/22/2015 09:20
8057369	0160-13FB	09/21/2015 15:30	09/22/2015 09:20

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Sample pH Log

SDG: PSC24

LLI Sample Number	Bottle Code	Actual pH	Exp. pH	pH Check Code	Adj. pH	Adjusted Date	Adjusted Time	Preservative Added	Preservative Lot #	LLI Supplied Bottle?	Sulfide Present?	Corrective Substance	CS Lot #	Res. Cl. Present?	Corrective Substance	CS Lot #
8057369	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA

Check Code Key
PK = Original container checked - pH is within the correct range. (No preservative was added)
PA = Original container checked - pH adjusted to correct range. (Preservative was added)
PV = Volatile container checked
PC = pH checked (unpreserved container)
SPK = Subsampled from an original container. Original container checked - pH is within correct range
SPA = Subsampled from an original container. Subsample container checked - pH adjusted to correct range.
SPC = Subsampled from an original container. pH checked (unpreserved container).
SUP = Subsampled from original container. Unable to be preserved due to the matrix of the sample.
UP = Unable to preserve due to matrix of the sample.
NA = Not applicable

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

00259 Mercury

The solution resulting from the mercury digestion is analyzed by Cold Vapor AA.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7470A, September 1994

00159 Mercury

The solution resulting from the mercury digestion is analyzed by Cold Vapor AA.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7471A, September 1994

01848 ICP-WW, 3005A (tot rec) - U3

The sample is digested with nitric acid and hydrochloric acid.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3005A, July 1992

05713 WW SW846 Hg Digest

The sample is heated at 95 c with nitric acid, sulfuric acid, potassium persulfate, and potassium permanganate. Excess potassium permanganate is reduced with sodium chloride/hydroxylamine hydrochloride. Mercuric ions are reduced to mercury metal using stannous chloride.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7470A, September 1994

05711 Hg-SW, 7471A - U3

The sample is heated at 95 c with nitric acid, sulfuric acid, potassium persulfate, and potassium permanganate. Excess potassium permanganate is reduced with sodium chloride/hydroxylamine hydrochloride. Mercuric ions are reduced to mercury metal using stannous chloride.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7471A Modified, September 1994.

06935 Arsenic
06946 Barium
07046 Barium
07049 Cadmium
06949 Cadmium
06951 Chromium
07053 Copper
06953 Copper
06955 Lead
06936 Selenium
07066 Silver
06966 Silver
07072 Zinc
06972 Zinc

The solution resulting from the metals digestion is analyzed by Trace ICP.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6010B, December 1996.

06025 Arsenic
06031 Chromium

06035 Lead
06041 Selenium

The solution resulting from the metals digestion is analyzed by ICP/MS.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6020, September 1994.

05708 ICP-ICPMS - SW, 3050B - U3

The sample is digested with nitric acid, hydrochloric acid and hydrogen peroxide.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3050B, December 1996

06050 ICPMS-Water, 3020A - U3

The sample is digested with nitric acid.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3020A, July 1992

07807 BNA Water Extraction

The sample aliquot is extracted with methylene chloride by either separatory funnel or liquid/liquid apparatus. Extraction is performed at a pH of 2. The extract is concentrated prior to analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3510C, Rev 3, December 1996

10724 PAH 8270 (microwave)
07805 PAHs in Water by GC/MS

The sample extract is analyzed by capillary column Gas Chromatography/Mass Spectrometry.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8270C, December 1996

10814 BNA Soil Microwave PAH

The sample aliquot is extracted using microwave extraction with 1:1 methylene chloride and acetone. The extract is concentrated prior to analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3546, Revision 0, February 2007.

13994 TOC Subcontracted - Spectrum

Total organic carbon is determined by acidifying a sample aliquot and heating it to remove any inorganic carbon. The sample is then heated to 900oC for combustion of the remaining organic carbon. The resulting carbon dioxide from the organic carbon is detected by a nondispersive infrared detector that has been calibrated to directly display the mass of carbon dioxide detected. The mass is proportional to the mass of total organic carbon in the sample.

Reference: Lloyd Kahn (modified)

00111 Moisture
00118 Moisture
00121 Moisture Duplicate
07400 Percent Solids

A well-mixed sample is placed in a tared container and dried to a constant weight in an oven at 103-105C. The increase in weight is the total solids.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 2540 G-1997

12815 Sample Decanting

Decanting is used to separate the liquid from an insoluble solid. As the solid settles to the bottom of the container, the liquid is carefully poured into another container leaving the solid behind.

Analysis Reports / Field Chain of Custody

REVISED

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

December 16, 2015

Project: Pine Street Canal - Sand Cap Sampling

Submittal Date: 09/22/2015
Group Number: 1594773
SDG: PSC24
PO Number: 1-0870-2
State of Sample Origin: VT

Client Sample Description	Lancaster Labs (LL) #
0481-13 Composite Sediment	8057359
0482-13 Composite Sediment	8057360
0483-13 Composite Sediment	8057361
0484-13 Composite Sediment	8057362
0484-13MS Composite Sediment	8057363
0484-13MSD Composite Sediment	8057364
0484-13DUP Composite Sediment	8057365
0163-13DP Composite Sediment	8057366
0485-13 Composite Sediment	8057367
0486-13 Composite Sediment	8057368
0160-13FB Water	8057369

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	The Johnson Company, Inc.	Attn: Jim Bowes
ELECTRONIC COPY TO	Phoenix Chemistry Services	Attn: Deborah H. Gaynor

REVISED

Respectfully Submitted,

Wendy A. Kozma
Principal Specialist Group Leader

(717) 556-7257

REVISED

Sample Description: 0481-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8057359
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 11:10 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS481 SDG#: PSC24-01

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	5	J	21	4	1
10724	Acenaphthylene	208-96-8	30		21	4	1
10724	Anthracene	120-12-7	21		21	4	1
10724	Benzo(a)anthracene	56-55-3	61		21	4	1
10724	Benzo(a)pyrene	50-32-8	71		21	4	1
10724	Benzo(b)fluoranthene	205-99-2	120		21	4	1
10724	Benzo(g,h,i)perylene	191-24-2	70		21	4	1
10724	Benzo(k)fluoranthene	207-08-9	54		21	4	1
10724	Chrysene	218-01-9	87		21	4	1
10724	Dibenz(a,h)anthracene	53-70-3	13	J	21	4	1
10724	Fluoranthene	206-44-0	110		21	4	1
10724	Fluorene	86-73-7	8	J	21	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	55		21	4	1
10724	2-Methylnaphthalene	91-57-6	4	J	21	4	1
10724	Naphthalene	91-20-3	6	J	21	4	1
10724	Phenanthrene	85-01-8	42		21	4	1
10724	Pyrene	129-00-0	130		21	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	1.68	J	2.39	0.693	1
06946	Barium	7440-39-3	25.5		0.597	0.0800	1
06949	Cadmium	7440-43-9	0.597	U	0.597	0.0513	1
06951	Chromium	7440-47-3	15.4		1.79	0.117	1
06953	Copper	7440-50-8	11.8		1.19	0.334	1
06955	Lead	7439-92-1	7.16		1.79	0.382	1
06936	Selenium	7782-49-2	4.39		2.39	0.991	1
06966	Silver	7440-22-4	0.670		0.597	0.143	1
06972	Zinc	7440-66-6	38.5		2.39	0.919	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.118	U	0.118	0.0118	1
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**		**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	2,750		202	200	1
	The TOC analysis was subcontracted to Eurofins Spectrum Analytical, Inc. This data entry is to enable EDD generation in the client required format. The original laboratory data report is attached. All relevant certification information is provided in that report.						
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	5.2				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	17.9		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	82.1		0.50	0.50	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0481-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8057359
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 11:10 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS481 SDG#: PSC24-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	%	

The total residue is calculated by subtracting the moisture value from 100%.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15266SLE026	09/26/2015 05:21	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15266SLE026	09/23/2015 17:55	Benjamin J Rosenberger	1
06935	Arsenic	SW-846 6010B	1	152715708002	09/30/2015 11:36	Katlin N Cataldi	1
06946	Barium	SW-846 6010B	1	152715708002	09/29/2015 13:22	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	152715708002	09/29/2015 13:22	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	152715708002	09/29/2015 13:22	Eric L Eby	1
06953	Copper	SW-846 6010B	1	152715708002	09/29/2015 13:22	Eric L Eby	1
06955	Lead	SW-846 6010B	1	152715708002	09/29/2015 13:22	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	152715708002	09/29/2015 13:22	Eric L Eby	1
06966	Silver	SW-846 6010B	1	152715708002	09/29/2015 13:22	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152715708002	09/29/2015 13:22	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	152715711001	09/29/2015 07:07	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152715708002	09/28/2015 21:30	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152715711001	09/29/2015 03:15	Annamaria Kuhns	1
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518720	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15266128151A	09/23/2015 08:00	William C Schwebel	1
00111	Moisture	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0482-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8057360
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 11:20 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS482 SDG#: PSC24-02

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	20	U	20	4	1
10724	Acenaphthylene	208-96-8	20	U	20	4	1
10724	Anthracene	120-12-7	20	U	20	4	1
10724	Benzo(a)anthracene	56-55-3	20	U	20	4	1
10724	Benzo(a)pyrene	50-32-8	20	U	20	4	1
10724	Benzo(b)fluoranthene	205-99-2	20	U	20	4	1
10724	Benzo(g,h,i)perylene	191-24-2	20	U	20	4	1
10724	Benzo(k)fluoranthene	207-08-9	20	U	20	4	1
10724	Chrysene	218-01-9	20	U	20	4	1
10724	Dibenz(a,h)anthracene	53-70-3	20	U	20	4	1
10724	Fluoranthene	206-44-0	20	U	20	4	1
10724	Fluorene	86-73-7	20	U	20	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	20	U	20	4	1
10724	2-Methylnaphthalene	91-57-6	20	U	20	4	1
10724	Naphthalene	91-20-3	20	U	20	4	1
10724	Phenanthrene	85-01-8	20	U	20	4	1
10724	Pyrene	129-00-0	20	U	20	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	7.03		2.29	0.664	1
06946	Barium	7440-39-3	11.6		0.572	0.0767	1
06949	Cadmium	7440-43-9	0.572	U	0.572	0.0492	1
06951	Chromium	7440-47-3	12.4		1.72	0.112	1
06953	Copper	7440-50-8	8.80		1.14	0.321	1
06955	Lead	7439-92-1	3.67		1.72	0.366	1
06936	Selenium	7782-49-2	3.60		2.29	0.950	1
06966	Silver	7440-22-4	0.484	J	0.572	0.137	1
06972	Zinc	7440-66-6	22.0		2.29	0.881	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.112	U	0.112	0.0112	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	U				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	16.0		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	84.0		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0482-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8057360
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 11:20 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS482 SDG#: PSC24-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15266SLE026	09/26/2015 05:47	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15266SLE026	09/23/2015 17:55	Benjamin J Rosenberger	1
06935	Arsenic	SW-846 6010B	1	152715708002	09/30/2015 11:39	Katlin N Cataldi	1
06946	Barium	SW-846 6010B	1	152715708002	09/29/2015 13:25	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	152715708002	09/29/2015 13:25	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	152715708002	09/29/2015 13:25	Eric L Eby	1
06953	Copper	SW-846 6010B	1	152715708002	09/29/2015 13:25	Eric L Eby	1
06955	Lead	SW-846 6010B	1	152715708002	09/29/2015 13:25	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	152715708002	09/29/2015 13:25	Eric L Eby	1
06966	Silver	SW-846 6010B	1	152715708002	09/29/2015 13:25	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152715708002	09/29/2015 13:25	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	152715711001	09/29/2015 07:09	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152715708002	09/28/2015 21:30	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152715711001	09/29/2015 03:15	Annamaria Kuhns	1
12815	Sample Decanting	LLI In House	1	15266128151A	09/23/2015 08:00	William C Schwebel	1
00111	Moisture	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0483-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8057361
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 13:30 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS483 SDG#: PSC24-03

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	21	U	21	4	1
10724	Acenaphthylene	208-96-8	5	J	21	4	1
10724	Anthracene	120-12-7	21	U	21	4	1
10724	Benzo(a)anthracene	56-55-3	7	J	21	4	1
10724	Benzo(a)pyrene	50-32-8	8	J	21	4	1
10724	Benzo(b)fluoranthene	205-99-2	17	J	21	4	1
10724	Benzo(g,h,i)perylene	191-24-2	10	J	21	4	1
10724	Benzo(k)fluoranthene	207-08-9	7	J	21	4	1
10724	Chrysene	218-01-9	11	J	21	4	1
10724	Dibenz(a,h)anthracene	53-70-3	21	U	21	4	1
10724	Fluoranthene	206-44-0	13	J	21	4	1
10724	Fluorene	86-73-7	21	U	21	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	10	J	21	4	1
10724	2-Methylnaphthalene	91-57-6	21	U	21	4	1
10724	Naphthalene	91-20-3	21	U	21	4	1
10724	Phenanthrene	85-01-8	5	J	21	4	1
10724	Pyrene	129-00-0	13	J	21	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	6.62		2.43	0.705	1
06946	Barium	7440-39-3	13.1		0.607	0.0814	1
06949	Cadmium	7440-43-9	0.607	U	0.607	0.0522	1
06951	Chromium	7440-47-3	12.9		1.82	0.119	1
06953	Copper	7440-50-8	10.7		1.21	0.340	1
06955	Lead	7439-92-1	3.94		1.82	0.389	1
06936	Selenium	7782-49-2	4.24		2.43	1.01	1
06966	Silver	7440-22-4	0.537	J	0.607	0.146	1
06972	Zinc	7440-66-6	25.4		2.43	0.935	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.119	U	0.119	0.0119	1
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**		**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	846		190	188	1
	The TOC analysis was subcontracted to Eurofins Spectrum Analytical, Inc. This data entry is to enable EDD generation in the client required format. The original laboratory data report is attached. All relevant certification information is provided in that report.						
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	U				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	19.3		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	80.7		0.50	0.50	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0483-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8057361
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 13:30 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS483 SDG#: PSC24-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	%	

The total residue is calculated by subtracting the moisture value from 100%.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15266SLE026	09/26/2015 06:12	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15266SLE026	09/23/2015 17:55	Benjamin J Rosenberger	1
06935	Arsenic	SW-846 6010B	1	152715708002	09/30/2015 11:41	Katlin N Cataldi	1
06946	Barium	SW-846 6010B	1	152715708002	09/29/2015 13:28	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	152715708002	09/29/2015 13:28	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	152715708002	09/29/2015 13:28	Eric L Eby	1
06953	Copper	SW-846 6010B	1	152715708002	09/29/2015 13:28	Eric L Eby	1
06955	Lead	SW-846 6010B	1	152715708002	09/29/2015 13:28	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	152715708002	09/29/2015 13:28	Eric L Eby	1
06966	Silver	SW-846 6010B	1	152715708002	09/29/2015 13:28	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152715708002	09/29/2015 13:28	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	152715711001	09/29/2015 07:11	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152715708002	09/28/2015 21:30	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152715711001	09/29/2015 03:15	Annamaria Kuhns	1
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518720	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15266128151A	09/23/2015 08:00	William C Schwebel	1
00111	Moisture	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0484-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8057362
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 13:40 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS484 SDG#: PSC24-04BKG

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	20	U	20	4	1
10724	Acenaphthylene	208-96-8	20	U	20	4	1
10724	Anthracene	120-12-7	4	J	20	4	1
10724	Benzo(a)anthracene	56-55-3	5	J	20	4	1
10724	Benzo(a)pyrene	50-32-8	7	J	20	4	1
10724	Benzo(b)fluoranthene	205-99-2	7	J	20	4	1
10724	Benzo(g,h,i)perylene	191-24-2	20	U	20	4	1
10724	Benzo(k)fluoranthene	207-08-9	20	U	20	4	1
10724	Chrysene	218-01-9	5	J	20	4	1
10724	Dibenz(a,h)anthracene	53-70-3	20	U	20	4	1
10724	Fluoranthene	206-44-0	9	J	20	4	1
10724	Fluorene	86-73-7	20	U	20	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	20	U	20	4	1
10724	2-Methylnaphthalene	91-57-6	20	U	20	4	1
10724	Naphthalene	91-20-3	20	U	20	4	1
10724	Phenanthrene	85-01-8	10	J	20	4	1
10724	Pyrene	129-00-0	15	J	20	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	7.26		2.34	0.678	1
06946	Barium	7440-39-3	16.0		0.584	0.0783	1
06949	Cadmium	7440-43-9	0.584	U	0.584	0.0502	1
06951	Chromium	7440-47-3	14.7		1.75	0.115	1
06953	Copper	7440-50-8	9.82		1.17	0.327	1
06955	Lead	7439-92-1	4.02		1.75	0.374	1
06936	Selenium	7782-49-2	4.10		2.34	0.970	1
06966	Silver	7440-22-4	0.543	J	0.584	0.140	1
06972	Zinc	7440-66-6	24.3		2.34	0.900	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.112	U	0.112	0.0112	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	U				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	16.1		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	83.9		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0484-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8057362
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 13:40 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS484 SDG#: PSC24-04BKG

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15266SLE026	09/26/2015 00:13	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15266SLE026	09/23/2015 17:55	Benjamin J Rosenberger	1
06935	Arsenic	SW-846 6010B	1	152715708002	09/30/2015 11:05	Katlin N Cataldi	1
06946	Barium	SW-846 6010B	1	152715708002	09/29/2015 12:36	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	152715708002	09/29/2015 12:36	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	152715708002	09/29/2015 12:36	Eric L Eby	1
06953	Copper	SW-846 6010B	1	152715708002	09/29/2015 12:36	Eric L Eby	1
06955	Lead	SW-846 6010B	1	152715708002	09/29/2015 12:36	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	152715708002	09/29/2015 12:36	Eric L Eby	1
06966	Silver	SW-846 6010B	1	152715708002	09/29/2015 12:36	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152715708002	09/29/2015 12:36	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	152715711001	09/29/2015 06:38	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152715708002	09/28/2015 21:30	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152715711001	09/29/2015 03:15	Annamaria Kuhns	1
12815	Sample Decanting	LLI In House	1	15266128151A	09/23/2015 08:00	William C Schwebel	1
00111	Moisture	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0484-13MS Composite Sediment
Pine Street Canal

LL Sample # SW 8057363
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 13:40 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS484 SDG#: PSC24-04MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		ug/kg	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	1,900	20	4	1
10724	Acenaphthylene	208-96-8	1,900	20	4	1
10724	Anthracene	120-12-7	2,000	20	4	1
10724	Benzo(a)anthracene	56-55-3	1,700	20	4	1
10724	Benzo(a)pyrene	50-32-8	1,800	20	4	1
10724	Benzo(b)fluoranthene	205-99-2	1,900	20	4	1
10724	Benzo(g,h,i)perylene	191-24-2	2,000	20	4	1
10724	Benzo(k)fluoranthene	207-08-9	2,100	20	4	1
10724	Chrysene	218-01-9	1,700	20	4	1
10724	Dibenz(a,h)anthracene	53-70-3	1,900	20	4	1
10724	Fluoranthene	206-44-0	1,700	20	4	1
10724	Fluorene	86-73-7	1,900	20	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	1,900	20	4	1
10724	2-Methylnaphthalene	91-57-6	1,800	20	4	1
10724	Naphthalene	91-20-3	1,800	20	4	1
10724	Phenanthrene	85-01-8	1,900	20	4	1
10724	Pyrene	129-00-0	1,800	20	4	1
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06935	Arsenic	7440-38-2	24.0	2.34	0.678	1
06946	Barium	7440-39-3	244	0.584	0.0783	1
06949	Cadmium	7440-43-9	5.71	0.584	0.0502	1
06951	Chromium	7440-47-3	36.5	1.75	0.115	1
06953	Copper	7440-50-8	40.0	1.17	0.327	1
06955	Lead	7439-92-1	21.4	1.75	0.374	1
06936	Selenium	7782-49-2	20.7	2.34	0.970	1
06966	Silver	7440-22-4	5.72	0.584	0.140	1
06972	Zinc	7440-66-6	81.4	2.34	0.900	1
	SW-846 7471A		mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.187	0.117	0.0117	1
Wet Chemistry	**LLI In House**		g	g	g	
12815	Sample Decanting	n.a.	U			1
	SM 2540 G-1997		%	%	%	
00118	Moisture	n.a.	16.1	0.50	0.50	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0484-13MS Composite Sediment
Pine Street Canal

LL Sample # SW 8057363
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 13:40 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS484 SDG#: PSC24-04MS

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15266SLE026	09/26/2015 00:38	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15266SLE026	09/23/2015 17:55	Benjamin J Rosenberger	1
06935	Arsenic	SW-846 6010B	1	152715708002	09/30/2015 11:13	Katlin N Cataldi	1
06946	Barium	SW-846 6010B	1	152715708002	09/29/2015 12:45	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	152715708002	09/29/2015 12:45	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	152715708002	09/29/2015 12:45	Eric L Eby	1
06953	Copper	SW-846 6010B	1	152715708002	09/29/2015 12:45	Eric L Eby	1
06955	Lead	SW-846 6010B	1	152715708002	09/29/2015 12:45	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	152715708002	09/29/2015 12:45	Eric L Eby	1
06966	Silver	SW-846 6010B	1	152715708002	09/29/2015 12:45	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152715708002	09/29/2015 12:45	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	152715711001	09/29/2015 06:44	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152715708002	09/28/2015 21:30	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152715711001	09/29/2015 03:15	Annamaria Kuhns	1
12815	Sample Decanting	LLI In House	1	15266128151A	09/23/2015 08:00	William C Schwebel	1
00118	Moisture	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0484-13MSD Composite Sediment
Pine Street Canal

LL Sample # SW 8057364
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 13:40 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS484 SDG#: PSC24-04MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**	**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	1,900	20	4	1
10724	Acenaphthylene	208-96-8	2,000	20	4	1
10724	Anthracene	120-12-7	2,100	20	4	1
10724	Benzo(a)anthracene	56-55-3	1,700	20	4	1
10724	Benzo(a)pyrene	50-32-8	1,900	20	4	1
10724	Benzo(b)fluoranthene	205-99-2	2,000	20	4	1
10724	Benzo(g,h,i)perylene	191-24-2	2,000	20	4	1
10724	Benzo(k)fluoranthene	207-08-9	2,000	20	4	1
10724	Chrysene	218-01-9	1,700	20	4	1
10724	Dibenz(a,h)anthracene	53-70-3	2,000	20	4	1
10724	Fluoranthene	206-44-0	1,800	20	4	1
10724	Fluorene	86-73-7	2,000	20	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	1,900	20	4	1
10724	2-Methylnaphthalene	91-57-6	1,900	20	4	1
10724	Naphthalene	91-20-3	1,900	20	4	1
10724	Phenanthrene	85-01-8	2,000	20	4	1
10724	Pyrene	129-00-0	1,900	20	4	1
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	23.8	2.34	0.678	1
06946	Barium	7440-39-3	244	0.584	0.0783	1
06949	Cadmium	7440-43-9	5.68	0.584	0.0502	1
06951	Chromium	7440-47-3	37.2	1.75	0.115	1
06953	Copper	7440-50-8	40.2	1.17	0.327	1
06955	Lead	7439-92-1	21.6	1.75	0.374	1
06936	Selenium	7782-49-2	20.9	2.34	0.970	1
06966	Silver	7440-22-4	5.72	0.584	0.140	1
06972	Zinc	7440-66-6	82.6	2.34	0.900	1
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.194	0.117	0.0117	1
Wet Chemistry	**LLI In House**		**g**	**g**	**g**	
12815	Sample Decanting	n.a.	U			1
	SM 2540 G-1997		**%**	**%**	**%**	
00118	Moisture	n.a.	16.1	0.50	0.50	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0484-13MSD Composite Sediment
Pine Street Canal

LL Sample # SW 8057364
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 13:40 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS484 SDG#: PSC24-04MSD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15266SLE026	09/26/2015 01:04	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15266SLE026	09/23/2015 17:55	Benjamin J Rosenberger	1
06935	Arsenic	SW-846 6010B	1	152715708002	09/30/2015 11:15	Katlin N Cataldi	1
06946	Barium	SW-846 6010B	1	152715708002	09/29/2015 12:48	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	152715708002	09/29/2015 12:48	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	152715708002	09/29/2015 12:48	Eric L Eby	1
06953	Copper	SW-846 6010B	1	152715708002	09/29/2015 12:48	Eric L Eby	1
06955	Lead	SW-846 6010B	1	152715708002	09/29/2015 12:48	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	152715708002	09/29/2015 12:48	Eric L Eby	1
06966	Silver	SW-846 6010B	1	152715708002	09/29/2015 12:48	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152715708002	09/29/2015 12:48	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	152715711001	09/29/2015 06:46	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152715708002	09/28/2015 21:30	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152715711001	09/29/2015 03:15	Annamaria Kuhns	1
12815	Sample Decanting	LLI In House	1	15266128151A	09/23/2015 08:00	William C Schwebel	1
00118	Moisture	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

REVISED

Sample Description: 0484-13DUP Composite Sediment
Pine Street Canal

LL Sample # SW 8057365
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 13:40 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS484 SDG#: PSC24-04DUP

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	6.77		2.34	0.678	1
06946	Barium	7440-39-3	18.0		0.584	0.0783	1
06949	Cadmium	7440-43-9	0.584	U	0.584	0.0502	1
06951	Chromium	7440-47-3	13.1		1.75	0.115	1
06953	Copper	7440-50-8	11.6		1.17	0.327	1
06955	Lead	7439-92-1	4.37		1.75	0.374	1
06936	Selenium	7782-49-2	4.42		2.34	0.970	1
06966	Silver	7440-22-4	0.595		0.584	0.140	1
06972	Zinc	7440-66-6	25.8		2.34	0.900	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.118	U	0.118	0.0118	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	U				1
	SM 2540 G-1997		**%**		**%**	**%**	
00118	Moisture	n.a.	16.1		0.50	0.50	1
00121	Moisture Duplicate	n.a.	15.8		0.50	0.50	1

The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06935	Arsenic	SW-846 6010B	1	152715708002	09/30/2015 11:10	Katlin N Cataldi	1
06946	Barium	SW-846 6010B	1	152715708002	09/29/2015 12:42	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	152715708002	09/29/2015 12:42	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	152715708002	09/29/2015 12:42	Eric L Eby	1
06953	Copper	SW-846 6010B	1	152715708002	09/29/2015 12:42	Eric L Eby	1
06955	Lead	SW-846 6010B	1	152715708002	09/29/2015 12:42	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	152715708002	09/29/2015 12:42	Eric L Eby	1
06966	Silver	SW-846 6010B	1	152715708002	09/29/2015 12:42	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152715708002	09/29/2015 12:42	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	152715711001	09/29/2015 06:42	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152715708002	09/28/2015 21:30	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152715711001	09/29/2015 03:15	Annamaria Kuhns	1
12815	Sample Decanting	LLI In House	1	15266128151A	09/23/2015 08:00	William C Schwebel	1

*=This limit was used in the evaluation of the final result

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Analysis Report

REVISED

Sample Description: 0484-13DUP Composite Sediment
Pine Street Canal

LL Sample # SW 8057365
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 13:40 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS484 SDG#: PSC24-04DUP

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00118	Moisture	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1
00121	Moisture Duplicate	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0163-13DP Composite Sediment
Pine Street Canal

LL Sample # SW 8057366
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 13:50 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS3DP SDG#: PSC24-05

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	21	U	21	4	1
10724	Acenaphthylene	208-96-8	21	U	21	4	1
10724	Anthracene	120-12-7	21	U	21	4	1
10724	Benzo(a)anthracene	56-55-3	7	J	21	4	1
10724	Benzo(a)pyrene	50-32-8	11	J	21	4	1
10724	Benzo(b)fluoranthene	205-99-2	15	J	21	4	1
10724	Benzo(g,h,i)perylene	191-24-2	9	J	21	4	1
10724	Benzo(k)fluoranthene	207-08-9	7	J	21	4	1
10724	Chrysene	218-01-9	11	J	21	4	1
10724	Dibenz(a,h)anthracene	53-70-3	21	U	21	4	1
10724	Fluoranthene	206-44-0	11	J	21	4	1
10724	Fluorene	86-73-7	21	U	21	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	8	J	21	4	1
10724	2-Methylnaphthalene	91-57-6	21	U	21	4	1
10724	Naphthalene	91-20-3	21	U	21	4	1
10724	Phenanthrene	85-01-8	4	J	21	4	1
10724	Pyrene	129-00-0	11	J	21	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	6.51		2.43	0.705	1
06946	Barium	7440-39-3	14.1		0.608	0.0814	1
06949	Cadmium	7440-43-9	0.608	U	0.608	0.0522	1
06951	Chromium	7440-47-3	13.9		1.82	0.119	1
06953	Copper	7440-50-8	10.8		1.22	0.340	1
06955	Lead	7439-92-1	4.34		1.82	0.389	1
06936	Selenium	7782-49-2	4.14		2.43	1.01	1
06966	Silver	7440-22-4	0.554	J	0.608	0.146	1
06972	Zinc	7440-66-6	25.6		2.43	0.936	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.119	U	0.119	0.0119	1
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**		**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	709		193	191	1
	The TOC analysis was subcontracted to Eurofins Spectrum Analytical, Inc. This data entry is to enable EDD generation in the client required format. The original laboratory data report is attached. All relevant certification information is provided in that report.						
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	U				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	20.1		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	79.9		0.50	0.50	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0163-13DP Composite Sediment
Pine Street Canal

LL Sample # SW 8057366
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 13:50 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS3DP SDG#: PSC24-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	%	

The total residue is calculated by subtracting the moisture value from 100%.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15266SLE026	09/26/2015 06:38	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15266SLE026	09/23/2015 17:55	Benjamin J Rosenberger	1
06935	Arsenic	SW-846 6010B	1	152715708002	09/30/2015 11:44	Katlin N Cataldi	1
06946	Barium	SW-846 6010B	1	152715708002	09/29/2015 13:31	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	152715708002	09/29/2015 13:31	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	152715708002	09/29/2015 13:31	Eric L Eby	1
06953	Copper	SW-846 6010B	1	152715708002	09/29/2015 13:31	Eric L Eby	1
06955	Lead	SW-846 6010B	1	152715708002	09/29/2015 13:31	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	152715708002	09/29/2015 13:31	Eric L Eby	1
06966	Silver	SW-846 6010B	1	152715708002	09/29/2015 13:31	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152715708002	09/29/2015 13:31	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	152715711001	09/29/2015 07:13	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152715708002	09/28/2015 21:30	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152715711001	09/29/2015 03:15	Annamaria Kuhns	1
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518720	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15266128151A	09/23/2015 08:00	William C Schwebel	1
00111	Moisture	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0485-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8057367
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 14:40 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS485 SDG#: PSC24-06

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	4	J	21	4	1
10724	Acenaphthylene	208-96-8	15	J	21	4	1
10724	Anthracene	120-12-7	15	J	21	4	1
10724	Benzo(a)anthracene	56-55-3	33		21	4	1
10724	Benzo(a)pyrene	50-32-8	40		21	4	1
10724	Benzo(b)fluoranthene	205-99-2	84		21	4	1
10724	Benzo(g,h,i)perylene	191-24-2	46		21	4	1
10724	Benzo(k)fluoranthene	207-08-9	34		21	4	1
10724	Chrysene	218-01-9	59		21	4	1
10724	Dibenz(a,h)anthracene	53-70-3	7	J	21	4	1
10724	Fluoranthene	206-44-0	78		21	4	1
10724	Fluorene	86-73-7	6	J	21	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	35		21	4	1
10724	2-Methylnaphthalene	91-57-6	8	J	21	4	1
10724	Naphthalene	91-20-3	7	J	21	4	1
10724	Phenanthrene	85-01-8	30		21	4	1
10724	Pyrene	129-00-0	86		21	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	6.64		2.40	0.697	1
06946	Barium	7440-39-3	19.3		0.601	0.0805	1
06949	Cadmium	7440-43-9	0.601	U	0.601	0.0517	1
06951	Chromium	7440-47-3	13.4		1.80	0.118	1
06953	Copper	7440-50-8	12.0		1.20	0.336	1
06955	Lead	7439-92-1	14.4		1.80	0.384	1
06936	Selenium	7782-49-2	4.46		2.40	0.997	1
06966	Silver	7440-22-4	0.561	J	0.601	0.144	1
06972	Zinc	7440-66-6	36.2		2.40	0.925	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.121	U	0.121	0.0121	1
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**		**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	1,730		194	192	1
	The TOC analysis was subcontracted to Eurofins Spectrum Analytical, Inc. This data entry is to enable EDD generation in the client required format. The original laboratory data report is attached. All relevant certification information is provided in that report.						
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	15				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	18.4		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	81.6		0.50	0.50	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0485-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8057367
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 14:40 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS485 SDG#: PSC24-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	%	

The total residue is calculated by subtracting the moisture value from 100%.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15266SLE026	09/26/2015 07:04	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15266SLE026	09/23/2015 17:55	Benjamin J Rosenberger	1
06935	Arsenic	SW-846 6010B	1	152715708002	09/30/2015 11:47	Katlin N Cataldi	1
06946	Barium	SW-846 6010B	1	152715708002	09/29/2015 13:34	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	152715708002	09/29/2015 13:34	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	152715708002	09/29/2015 13:34	Eric L Eby	1
06953	Copper	SW-846 6010B	1	152715708002	09/29/2015 13:34	Eric L Eby	1
06955	Lead	SW-846 6010B	1	152715708002	09/29/2015 13:34	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	152715708002	09/29/2015 13:34	Eric L Eby	1
06966	Silver	SW-846 6010B	1	152715708002	09/29/2015 13:34	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152715708002	09/29/2015 13:34	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	152715711001	09/29/2015 07:15	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152715708002	09/28/2015 21:30	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152715711001	09/29/2015 03:15	Annamaria Kuhns	1
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518720	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15266128151A	09/23/2015 08:00	William C Schwebel	1
00111	Moisture	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0486-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8057368
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 14:50 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS486 SDG#: PSC24-07

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	20	U	20	4	1
10724	Acenaphthylene	208-96-8	20	U	20	4	1
10724	Anthracene	120-12-7	20	U	20	4	1
10724	Benzo(a)anthracene	56-55-3	20	U	20	4	1
10724	Benzo(a)pyrene	50-32-8	20	U	20	4	1
10724	Benzo(b)fluoranthene	205-99-2	20	U	20	4	1
10724	Benzo(g,h,i)perylene	191-24-2	20	U	20	4	1
10724	Benzo(k)fluoranthene	207-08-9	20	U	20	4	1
10724	Chrysene	218-01-9	20	U	20	4	1
10724	Dibenz(a,h)anthracene	53-70-3	20	U	20	4	1
10724	Fluoranthene	206-44-0	20	U	20	4	1
10724	Fluorene	86-73-7	20	U	20	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	20	U	20	4	1
10724	2-Methylnaphthalene	91-57-6	20	U	20	4	1
10724	Naphthalene	91-20-3	20	U	20	4	1
10724	Phenanthrene	85-01-8	20	U	20	4	1
10724	Pyrene	129-00-0	20	U	20	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	3.37		2.32	0.674	1
06946	Barium	7440-39-3	20.1		0.581	0.0778	1
06949	Cadmium	7440-43-9	0.581	U	0.581	0.0499	1
06951	Chromium	7440-47-3	12.3		1.74	0.114	1
06953	Copper	7440-50-8	11.7		1.16	0.325	1
06955	Lead	7439-92-1	4.17		1.74	0.372	1
06936	Selenium	7782-49-2	3.83		2.32	0.964	1
06966	Silver	7440-22-4	0.410	J	0.581	0.139	1
06972	Zinc	7440-66-6	27.6		2.32	0.894	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.115	U	0.115	0.0115	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	9.2				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	16.4		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	83.6		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0486-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8057368
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 14:50 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS486 SDG#: PSC24-07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15266SLE026	09/26/2015 07:29	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15266SLE026	09/23/2015 17:55	Benjamin J Rosenberger	1
06935	Arsenic	SW-846 6010B	1	152715708002	09/29/2015 13:44	Eric L Eby	1
06946	Barium	SW-846 6010B	1	152715708002	09/29/2015 13:44	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	152715708002	09/29/2015 13:44	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	152715708002	09/29/2015 13:44	Eric L Eby	1
06953	Copper	SW-846 6010B	1	152715708002	09/29/2015 13:44	Eric L Eby	1
06955	Lead	SW-846 6010B	1	152715708002	09/29/2015 13:44	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	152715708002	09/29/2015 13:44	Eric L Eby	1
06966	Silver	SW-846 6010B	1	152715708002	09/29/2015 13:44	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	152715708002	09/29/2015 13:44	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	152715711001	09/29/2015 07:17	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152715708002	09/28/2015 21:30	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152715711001	09/29/2015 03:15	Annamaria Kuhns	1
12815	Sample Decanting	LLI In House	1	15266128151A	09/23/2015 08:00	William C Schwebel	1
00111	Moisture	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15267820008B	09/24/2015 22:10	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0160-13FB Water
Pine Street Canal

LL Sample # WW 8057369
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 15:30 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS3FB SDG#: PSC24-08FB

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Acenaphthene	83-32-9	0.5 U	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5 U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5 U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5 U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5 U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5 U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5 U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5 U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5 U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5 U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5 U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5 U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5 U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5 U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.5 U	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.5 U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5 U	0.5	0.1	1
Metals	**SW-846 6010B**		mg/l	mg/l	mg/l	
07046	Barium	7440-39-3	0.0050 U	0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.00040 J	0.0050	0.00030	1
07053	Copper	7440-50-8	0.0100 U	0.0100	0.0025	1
07066	Silver	7440-22-4	0.0050 U	0.0050	0.0014	1
07072	Zinc	7440-66-6	0.0200 U	0.0200	0.0039	1
	SW-846 6020		mg/l	mg/l	mg/l	
06025	Arsenic	7440-38-2	0.0020 U	0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0020 U	0.0020	0.00070	1
06035	Lead	7439-92-1	0.0010 U	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020 U	0.0020	0.00050	1
	SW-846 7470A		mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.000072 J	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07805	PAHs 8270C (17)	SW-846 8270C	1	15268WAB026	09/29/2015 11:03	Ankitaben A Patel	1
07807	BNA Water Extraction	SW-846 3510C	1	15268WAB026	09/25/2015 16:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152681848004	10/01/2015 06:33	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	152681848004	10/01/2015 06:33	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	152681848004	10/01/2015 06:33	Tara L Snyder	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0160-13FB Water
Pine Street Canal

LL Sample # WW 8057369
LL Group # 1594773
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/21/2015 15:30 by AR

Submitted: 09/22/2015 09:20
Reported: 12/16/2015 08:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

PS3FB SDG#: PSC24-08FB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07066	Silver	SW-846 6010B	1	152681848004	10/01/2015 06:33	Tara L Snyder	1
07072	Zinc	SW-846 6010B	1	152681848004	10/01/2015 06:33	Tara L Snyder	1
06025	Arsenic	SW-846 6020	1	152736050003A	10/02/2015 09:50	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152736050003A	10/02/2015 09:50	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152736050003A	10/02/2015 09:50	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152736050003B	10/02/2015 09:50	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152685713012	09/29/2015 09:27	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152681848004	09/28/2015 09:42	James L Mertz	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152736050003	10/01/2015 11:08	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152685713012	09/28/2015 12:35	James L Mertz	1

*=This limit was used in the evaluation of the final result

REVISED

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1594773
Reported: 12/16/2015 08:46

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result		Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 15266SLE026	Sample number(s): 8057359-8057364,8057366-8057368									
Acenaphthene	17	U	17.	3	ug/kg	98		83-116		
Acenaphthylene	17	U	17.	3	ug/kg	98		83-127		
Anthracene	17	U	17.	3	ug/kg	100		82-118		
Benzo(a)anthracene	17	U	17.	3	ug/kg	91		76-119		
Benzo(a)pyrene	17	U	17.	3	ug/kg	91		85-117		
Benzo(b)fluoranthene	17	U	17.	3	ug/kg	100		78-129		
Benzo(g,h,i)perylene	17	U	17.	3	ug/kg	93		82-119		
Benzo(k)fluoranthene	17	U	17.	3	ug/kg	96		79-120		
Chrysene	17	U	17.	3	ug/kg	92		80-121		
Dibenz(a,h)anthracene	17	U	17.	3	ug/kg	92		81-123		
Fluoranthene	17	U	17.	3	ug/kg	94		81-117		
Fluorene	17	U	17.	3	ug/kg	100		86-118		
Indeno(1,2,3-cd)pyrene	17	U	17.	3	ug/kg	89		81-118		
2-Methylnaphthalene	17	U	17.	3	ug/kg	92		83-109		
Naphthalene	17	U	17.	3	ug/kg	95		77-115		
Phenanthrene	17	U	17.	3	ug/kg	95		80-114		
Pyrene	17	U	17.	3	ug/kg	94		81-114		
Batch number: 15268WAB026	Sample number(s): 8057369									
Acenaphthene	0.5	U	0.5	0.1	ug/l	95		75-111		
Acenaphthylene	0.5	U	0.5	0.1	ug/l	94		78-117		
Anthracene	0.5	U	0.5	0.1	ug/l	90		82-116		
Benzo(a)anthracene	0.5	U	0.5	0.1	ug/l	98		76-122		
Benzo(a)pyrene	0.5	U	0.5	0.1	ug/l	100		73-115		
Benzo(b)fluoranthene	0.5	U	0.5	0.1	ug/l	105		75-123		
Benzo(g,h,i)perylene	0.5	U	0.5	0.1	ug/l	115		70-126		
Benzo(k)fluoranthene	0.5	U	0.5	0.1	ug/l	101		74-119		
Chrysene	0.5	U	0.5	0.1	ug/l	103		77-126		
Dibenz(a,h)anthracene	0.5	U	0.5	0.1	ug/l	111		72-127		
Fluoranthene	0.5	U	0.5	0.1	ug/l	91		76-117		
Fluorene	0.5	U	0.5	0.1	ug/l	96		80-117		
Indeno(1,2,3-cd)pyrene	0.5	U	0.5	0.1	ug/l	110		70-121		
2-Methylnaphthalene	0.5	U	0.5	0.1	ug/l	89		69-103		
Naphthalene	0.5	U	0.5	0.1	ug/l	92		69-109		
Phenanthrene	0.5	U	0.5	0.1	ug/l	87		75-110		
Pyrene	0.5	U	0.5	0.1	ug/l	92		76-111		
Batch number: 152681848004	Sample number(s): 8057369									
Barium	0.00072	J	0.0050	0.00030	mg/l	104		80-120		
Cadmium	0.00041	J	0.0050	0.00030	mg/l	106		80-120		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1594773
Reported: 12/16/2015 08:46

Analysis Name	Blank Result		Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Copper	0.0100	U	0.0100	0.0025	mg/l	107		80-120		
Silver	0.0050	U	0.0050	0.0014	mg/l	99		80-120		
Zinc	0.0200	U	0.0200	0.0039	mg/l	103		80-120		
Batch number: 152685713012	Sample number(s): 8057369									
Mercury	0.00020	U	0.00020	0.00005 0	mg/l	101		80-120		
Batch number: 152715708002	Sample number(s): 8057359-8057368									
Arsenic	2.00	U	2.00	0.580	mg/kg	99		80-120		
Barium	0.500	U	0.500	0.0670	mg/kg	100		80-120		
Cadmium	0.500	U	0.500	0.0430	mg/kg	100		80-120		
Chromium	0.135	J	1.50	0.0980	mg/kg	99		80-120		
Copper	1.00	U	1.00	0.280	mg/kg	101		80-120		
Lead	1.50	U	1.50	0.320	mg/kg	103		80-120		
Selenium	2.00	U	2.00	0.830	mg/kg	99		80-120		
Silver	0.500	U	0.500	0.120	mg/kg	93		80-120		
Zinc	2.00	U	2.00	0.770	mg/kg	98		80-120		
Batch number: 152715711001	Sample number(s): 8057359-8057368									
Mercury	0.100	U	0.100	0.0100	mg/kg	103		80-120		
Batch number: 152736050003A	Sample number(s): 8057369									
Arsenic	0.0020	U	0.0020	0.00054	mg/l	99		80-120		
Chromium	0.0020	U	0.0020	0.00070	mg/l	95		80-120		
Lead	0.0010	U	0.0010	0.00013	mg/l	100		80-120		
Batch number: 152736050003B	Sample number(s): 8057369									
Selenium	0.0020	U	0.0020	0.00050	mg/l	102		80-120		
Batch number: 1518720	Sample number(s): 8057359,8057361,8057366-8057367									
TOC Subcontracted - Spectrum	100 U		100.	99.0	mg/kg	88		75-125		
Batch number: 15267820008B	Sample number(s): 8057359-8057368									
Moisture						100		99-101		
Moisture						100		99-101		
Moisture Duplicate						100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 15266SLE026	Sample number(s): 8057359-8057364,8057366-8057368 UNSPK: 8057362								
Acenaphthene	98	98	83-116	1	30				
Acenaphthylene	99	100	83-127	2	30				
Anthracene	101	105	82-118	5	30				

*- Outside of specification
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(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1594773
Reported: 12/16/2015 08:46

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Benzo(a)anthracene	84	86	76-119	3	30				
Benzo(a)pyrene	92	93	85-117	3	30				
Benzo(b)fluoranthene	95	100	78-129	6	30				
Benzo(g,h,i)perylene	100	102	82-119	3	30				
Benzo(k)fluoranthene	106	100	79-120	4	30				
Chrysene	86	87	80-121	2	30				
Dibenz(a,h)anthracene	98	99	81-123	2	30				
Fluoranthene	88	91	81-117	4	30				
Fluorene	98	100	86-118	3	30				
Indeno(1,2,3-cd)pyrene	95	97	81-118	3	30				
2-Methylnaphthalene	90	94	83-109	6	30				
Naphthalene	94	97	77-115	4	30				
Phenanthrene	95	100	80-114	6	30				
Pyrene	93	95	81-114	3	30				
Batch number: 15268WAB026	Sample number(s): 8057369 UNSPK: P059065								
Acenaphthene	101	94	75-111	6	30				
Acenaphthylene	101	95	78-117	5	30				
Anthracene	97	91	82-116	6	30				
Benzo(a)anthracene	109	101	76-122	8	30				
Benzo(a)pyrene	108	100	73-115	7	30				
Benzo(b)fluoranthene	109	102	75-123	6	30				
Benzo(g,h,i)perylene	107	97	70-126	10	30				
Benzo(k)fluoranthene	107	101	74-119	6	30				
Chrysene	109	102	77-126	7	30				
Dibenz(a,h)anthracene	110	101	72-127	8	30				
Fluoranthene	98	91	76-117	7	30				
Fluorene	103	97	80-117	6	30				
Indeno(1,2,3-cd)pyrene	110	98	70-121	11	30				
2-Methylnaphthalene	94	90	69-103	5	30				
Naphthalene	97	92	69-109	5	30				
Phenanthrene	97	87	75-110	10	30				
Pyrene	95	90	76-111	5	30				
Batch number: 152681848004	Sample number(s): 8057369 UNSPK: P059551 BKG: P059551								
Barium	102	99	75-125	3	20	0.0135	0.0143	5 (1)	20
Cadmium	103	101	75-125	2	20	0.00030 J	0.00041 J	31* (1)	20
Copper	109	104	75-125	4	20	0.0175	0.0177	1 (1)	20
Silver	97	95	75-125	3	20	0.0050 U	0.0050 U	0 (1)	20
Zinc	102	99	75-125	3	20	0.0320	0.0327	2 (1)	20
Batch number: 152685713012	Sample number(s): 8057369 UNSPK: P053085 BKG: P053085								
Mercury	99	101	80-120	2	20	0.00020 U	0.00020 U	0 (1)	20
Batch number: 152715708002	Sample number(s): 8057359-8057368 UNSPK: 8057362 BKG: 8057362								
Arsenic	95	95	75-125	1	20	6.09	5.68	7 (1)	20
Barium	97	98	75-125	0	20	13.4	15.1	11	20
Cadmium	98	97	75-125	1	20	0.490 U	0.490 U	0 (1)	20
Chromium	93	96	75-125	2	20	12.4	11.0	12	20

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(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1594773
Reported: 12/16/2015 08:46

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Copper	103	104	75-125	1	20	8.24	9.76	17	20
Lead	99	100	75-125	1	20	3.37	3.66	8 (1)	20
Selenium	95	96	75-125	1	20	3.44	3.71	7 (1)	20
Silver	89	89	75-125	0	20	0.456 J	0.499	9 (1)	20
Zinc	98	100	75-125	1	20	20.4	21.6	6	20
Batch number: 152715711001	Sample number(s): 8057359-8057368 UNSPK: 8057362 BKG: 8057362								
Mercury	96	100	80-120	4	20	0.0938 U	0.0991 U	0 (1)	20
Batch number: 152736050003A	Sample number(s): 8057369 UNSPK: P063110 BKG: P063110								
Arsenic	107	99	75-125	8	20	0.0020 U	0.0020 U	0 (1)	20
Chromium	97	98	75-125	1	20	0.0020 U	0.0020 U	0 (1)	20
Lead	101	101	75-125	0	20	0.0010 U	0.0010 U	0 (1)	20
Batch number: 152736050003B	Sample number(s): 8057369 UNSPK: P063110 BKG: P063110								
Selenium	102	99	75-125	3	20	0.0020 U	0.0020 U	0 (1)	20
Batch number: 1518720	Sample number(s): 8057359,8057361,8057366-8057367 BKG: P064463								
TOC Subcontracted - Spectrum						2,790	2,490	11	20
Batch number: 15267820008B	Sample number(s): 8057359-8057368 BKG: 8057362								
Moisture						16.1	15.8	2	5
Moisture						16.1	15.8	2	5
Moisture Duplicate						16.1	15.8	2	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PAHs 8270C (17)
Batch number: 15266SLE026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8057359	92	100	94
8057360	88	95	94
8057361	92	98	94
8057362	94	99	99
8057363	88	91	91
8057364	92	93	94
8057366	94	101	96
8057367	89	95	93
8057368	91	95	93
Blank	67	67	70
LCS	90	89	90
MS	88	91	91
MSD	92	93	94

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1594773
Reported: 12/16/2015 08:46

Surrogate Quality Control

Limits: 54-123 63-117 59-129

Analysis Name: PAHs 8270C (17)
Batch number: 15268WAB026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8057369	92	87	85
Blank	96	90	94
LCS	93	85	87
MS	97	91	91
MSD	94	87	86
Limits:	46-128	61-112	43-131

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 6556 For Eurofins Lancaster Laboratories Environmental use only Group # 1594773 Sample # 8057359-69

Instructions on reverse side correspond with circled numbers.

384521

1 Client Information

Client: The Johnson Company	Acct. #: 06556
Project Name/#: Pine Street Canal / 1-0870-2	PWSID #:
Project Manager: Jim Bowles	P.O. #:
Sampler: Adam Robby	Quote #: 174980
Name of state where samples were collected:	

4 Matrix

Soil ☐ Sediment ☒ Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other: ____

5 Analysis Requested

Preservation Codes: 0 | 0 | | 0 | | 0 | | | | |

For Lab Use Only

FSC: ____

SCR#: 174980

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

2 Sample Identification SLID	SIN	Collected Date	Collected Time	3 Grab	3 Composite	Soil	Water	Total # of Containers	Pine Street PAHs	RCRA8+Cu,Zn metals		TOC - Lloyd Kahn		% Solids					6 Remarks
J-T2+00E100	0481-13	9/21/15	1110		X	X		2	X	X		X		XX					0-10 cm
J-T2+00E100	0482-13	9/21/15	1120		X	X		1	X	X				X					11-22"
J-T3+00E100	0483-13	9/21/15	1330		X	X		2	X	X		X		X					0-10 cm
J-T3+00E100	0484-13	9/21/15	1340		X	X		1	X	X				X					15-30"
J-0162-13DP	0163-13DP	9/21/15	1350		X	X		2	X	X		X		X					0-10 cm
J-T3+00E100 MS	0484-13 MS	9/21/15	1340		X	X		1	X	X				X					15-30"
J-T3+00E100 MSD	0484-13 MSD	9/21/15	1340		X	X		1	X	X				X					15-30"
J-T3+00E300	0485-13	9/21/15	1440		X	X		2	X	X		X		X					0-10 cm
J-T3+00E300	0486-13	9/21/15	1450		X	X		1	X	X				X					15-30"
J-0160-13FB	0160-13FB	9/21/15	1530				DI	3	X	X									Equip. Blank

7 Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: JRBE@comail.com

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP)
Type VI (Raw Data Only)
Type III (Reduced non-CLP)
TX TRRP-13
NYSDEC Category A or B
MA MCP
CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Angela S Montgomery	9/22/15	1130		9/18/15	1600
	9/21/15	1700			
				Date 9/22/15	Time 0920

EDD Required? Yes No

If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ✓ Other ____

Temperature upon receipt 1.0 °C

9

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Sample Administration Receipt Documentation Log

Doc Log ID: 106906

Group Number(s): 1594773

Client: JOHNSON CO

PINE ST CANAL 1-0870-2

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/22/2015 9:30
Number of Packages:	1	Number of Projects:	1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Corey Eshleman (3647) at 11:38 on 09/22/2015

Samples Chilled Details: PINE ST CANAL 1-0870-2

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	1.0	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

eurofins | Spectrum Analytical

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

Report Date:
09-Oct-15 13:18

Laboratory Report

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17605-2425
Attn: Kathy Binkley

Project: See Chain of Custody
Project #: 1594773

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC13114-01	0481-13	Sediment	21-Sep-15 11:10	02-Oct-15 12:46
SC13114-02	0483-13	Sediment	21-Sep-15 13:30	02-Oct-15 12:46
SC13114-03	0163-13DP	Sediment	21-Sep-15 13:50	02-Oct-15 12:46
SC13114-04	0485-13	Sediment	21-Sep-15 14:40	02-Oct-15 12:46

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00098
USDA # S-51435

Authorized by:

June O'Connor
Laboratory Director

Eurofins Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 7 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received -0.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

There is no relevant protocol-specific QC and/or performance standards non-conformances to report.

Sample Acceptance Check Form

Client:	Eurofins Lancaster Laboratories Environmental, LLC
Project:	See Chain of Custody / 1594773
Work Order:	SC13114
Sample(s) received on:	10/2/2015

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☑	☐	☐
Were custody seals intact?	☑	☐	☐
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☐	☑	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC13114-01 **Client ID:** 0481-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	2750		202	mg/kg	Lloyd Kahn

Lab ID: SC13114-02 **Client ID:** 0483-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	846		190	mg/kg	Lloyd Kahn

Lab ID: SC13114-03 **Client ID:** 0163-13DP

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	709		193	mg/kg	Lloyd Kahn

Lab ID: SC13114-04 **Client ID:** 0485-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	1730		194	mg/kg	Lloyd Kahn

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification
0481-13
SC13114-01

Client Project #	Matrix	Collection Date/Time	Received
1594773	Sediment	21-Sep-15 11:10	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	**2,750**		mg/kg	202	200	1	Lloyd Kahn	02-Oct-15	03-Oct-15	rlt	1518720	X

Sample Identification
0483-13
SC13114-02

Client Project #	Matrix	Collection Date/Time	Received
1594773	Sediment	21-Sep-15 13:30	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	**846**		mg/kg	190	188	1	Lloyd Kahn	02-Oct-15	03-Oct-15	rlt	1518720	X

Sample Identification
0163-13DP
SC13114-03

Client Project #	Matrix	Collection Date/Time	Received
1594773	Sediment	21-Sep-15 13:50	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	**709**		mg/kg	193	191	1	Lloyd Kahn	02-Oct-15	03-Oct-15	rlt	1518720	X

Sample Identification
0485-13
SC13114-04

Client Project #	Matrix	Collection Date/Time	Received
1594773	Sediment	21-Sep-15 14:40	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	**1,730**		mg/kg	194	192	1	Lloyd Kahn	02-Oct-15	03-Oct-15	rlt	1518720	X

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1518720 - General Preparation										
Blank (1518720-BLK1)						Prepared & Analyzed: 03-Oct-15				
Total Organic Carbon	< 100		mg/kg	100						
LCS (1518720-BS1)						Prepared & Analyzed: 03-Oct-15				
Total Organic Carbon	**877**		mg/kg	100	1000		88	75-125		
Calibration Blank (1518720-CCB1)						Prepared & Analyzed: 03-Oct-15				
Total Organic Carbon	**-4.59**		mg/kg							
Calibration Blank (1518720-CCB2)						Prepared & Analyzed: 03-Oct-15				
Total Organic Carbon	**0.130**		mg/kg							
Calibration Blank (1518720-CCB3)						Prepared & Analyzed: 03-Oct-15				
Total Organic Carbon	**-2.93**		mg/kg							
Calibration Check (1518720-CCV1)						Prepared & Analyzed: 03-Oct-15				
Total Organic Carbon	**947**		mg/kg	100	1000		95	85-115		
Calibration Check (1518720-CCV2)						Prepared & Analyzed: 03-Oct-15				
Total Organic Carbon	**944**		mg/kg	100	1000		94	85-115		
Calibration Check (1518720-CCV3)						Prepared & Analyzed: 03-Oct-15				
Total Organic Carbon	**1010**		mg/kg	100	1000		101	85-115		
Reference (1518720-SRM1)						Prepared & Analyzed: 03-Oct-15				
Total Organic Carbon	**6430**		mg/kg	263	5430		118	49-151		

Notes and Definitions

dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
June O'Connor

Analysis Request / Environmental Services Subcontracting Form

eurofins | Lancaster Laboratories

For Lancaster Laboratories Use Only

Acct: _____ Group No.: 1594773 Sample Nos.: 8057359, 61, 66-67

Date: 10/1/2015

SC 13114e

Subcontractor: **EUROFINS SPECTRUM ANALYTICAL, INC.**

LLI P.O.# : _____ Courier: FED EX

Submit report to: Kathy Binkley Ext.: 1393

Submit invoice to: Kathy Binkley

State where samples were collected: VT

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Sediment	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Other	Total # of Containers	Analyses Requested / Preservation Codes: TOC by Lloyd Kahn											
0481-13 13114-01	09/21/15	11:10		X	X			1	X											
0483-13 -02	09/21/15	13:30		X	X			1	X											
0163-13DP -03	09/21/15	13:50		X	X			1	X											
0485-13 -04	09/21/15	14:40		X	X			1	X											

Preservation Codes	Comments	Temperature of samples upon receipt (if requested)
H=HCl T=Thiosulfate N=HNO_3 B=NaOH S=H_2SO_4 O=Other	Type 1 DP Level 4 and EDD. EDD format will follow.	
	8057359	
	8057361	
	8057366	
	8057367	

Turnaround Time Requested (TAT): Standard Rush

Date Results are Needed:

Email Results to: KathyBinkley@EurofinsUS.com

Data Package Options (circled when required)
Type I (validation/NJ Reg) Type VI(Raw Data)
Type II (Tier II) Type III (Reduced NJ)
Type IV (CLP SOW) TX TRRP-13

SDG Complete? Yes No

MA MCP
CT RCP

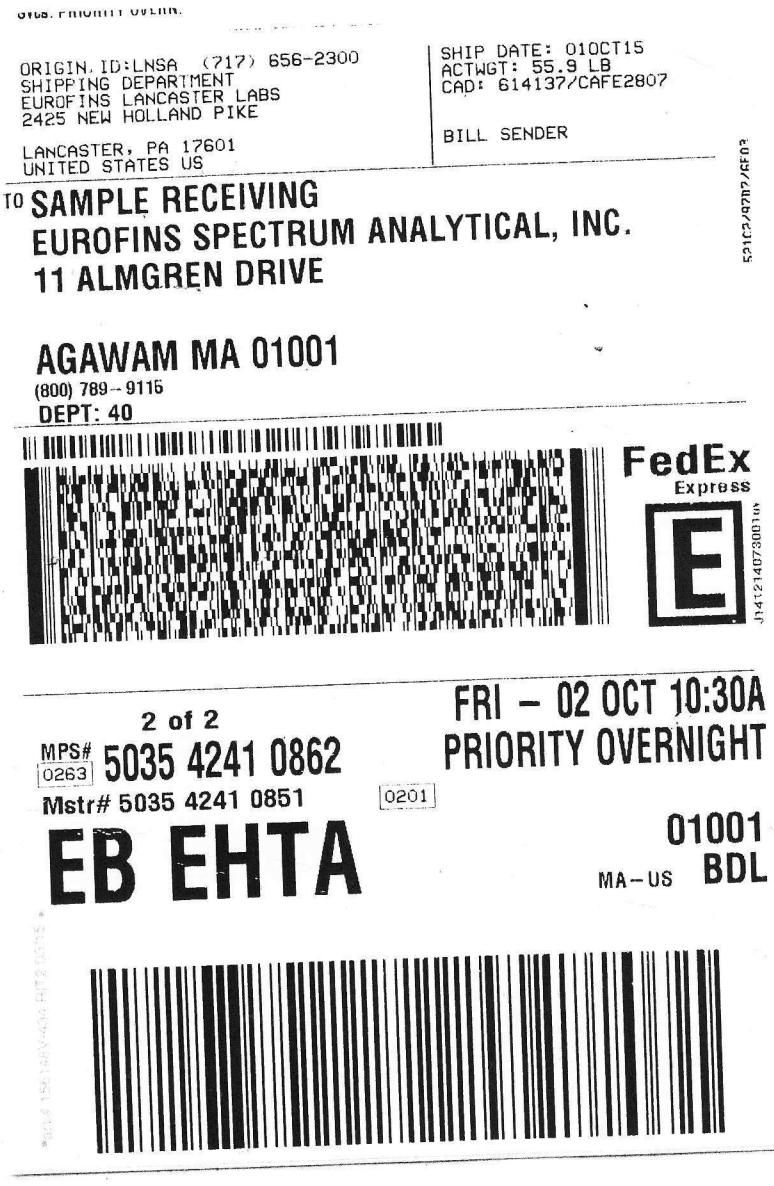
Site-specific QC Required (MS/MSD/DUP)? Yes No
Internal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
Kathy Binkley	10/1/15	1700			
Fed Ex	10/2		AA	10/2/15	12:46

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

Lead custody seal 0-7/-1/0.3/01 AA 10/2


ORIGIN ID:LNSA (717) 656-2300
SHIPPING DEPARTMENT
EUROFINS LANCASTER LABS
2425 NEW HOLLAND PIKE
LANCASTER, PA 17601
UNITED STATES US
SHIP DATE: 01OCT15
ACTWGT: 55.9 LB
CAD: 614137/CAFE2807
BILL SENDER
TO SAMPLE RECEIVING
EUROFINS SPECTRUM ANALYTICAL, INC.
11 ALMGREN DRIVE
AGAWAM MA 01001
(800) 789-9115
DEPT: 40
FedEx
Express
2 of 2
MPS# 0263 5035 4241 0862
Mstr# 5035 4241 0851
0201
FRI - 02 OCT 10:30A
PRIORITY OVERNIGHT
EB EHTA
01001
MA-US BDL

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Quality Assurance/Quality Control Data Deliverable

Level IV

Prepared for

Eurofins Lancaster Laboratories Environmental, LLC

Project/Number: See Chain of Custody / 1594773

Work Order: SC13114

SDG# 13114

Submitted on October 2nd, 2015

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Laboratory Name: Eurofins Spectrum Analytical, Inc.
City/Sate: Agawam, MA
Client Name: Eurofins Lancaster Laboratories Environmental, LLC
Project Name/Number: See Chain of Custody / 1594773
SDG#: 13114
Associated Work Orders: SC13114

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NY Lab ID #11393/11840
NJ Lab ID#MA011/MA012

Eurofins Lancaster Laboratories Environmental, LLC

Client Project: See Chain of Custody

Project Number: 1594773
Eurofins Spectrum Analytical, Inc. Project ID: SC13114

10/22/2015

Prepared for: Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17605-2425
Attn: Kathy Binkley

Prepared By: Eurofins Spectrum Analytical, Inc.
830 Silver Street
Agawam, MA 01001
(800)789-9115

SDG13114

SC13114 General Narrative

Eurofins Spectrum Analytical, Inc. submits the enclosed data package for the site characterization of See Chain of Custody. Samples submitted for analysis by Eurofins Lancaster Laboratories Environmental, LLC. Under this deliverable, analysis results are presented for four Sediment samples submitted on October 2nd, 2015.

The analyses were performed according to USEPA SW846 method analytical guidelines and other methods. In addition the analyses were performed according to criteria dictated by National Environmental Laboratory Accreditation Conference (NELAC) and in accordance with project contract requirements and chain of custody forms.

Observations and/or deviations observed for specific analyses can be found in the analysis narrative:

1. Overall Observations:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual Integrations are coded to provide the data reviewer justification for such action. The codes are labeled on corresponding raw data for GC/MS and GC analysis as follows:

- M1 peak tailing or fronting
- M2 peak co-elution
- M3 rising or failing baseline
- M4 retention time shift
- M5 miscellaneous - under this category, the justification is explained
- M6 software did not integrate peak
- M7 partial peak integration

The enclosed report includes the originals of all data with the exception of logbook pages and certain initial calibrations. Scanned copies of logbook pages are included, with the originals are archived within the laboratory.

The pages in this report have been numbered consecutively, starting with the general narrative and ending with the page labeled as "Last Page of data Report".

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this electronic data package, has been authorized by the laboratory director as verified by the following signature.

Nicole Leja Date: 10/22/2015

Laboratory Director

Executive Summary - Detection Highlights

Sample ID: 0163-13DP

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	709		193	mg/kg	Lloyd Kahn

Sample ID: 0481-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	2750		202	mg/kg	Lloyd Kahn

Sample ID: 0483-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	846		190	mg/kg	Lloyd Kahn

Sample ID: 0485-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	1730		194	mg/kg	Lloyd Kahn

Please note that this summary does not include hits from hazardous waste characterizations or micro analyses, because they do not have minimum detection limits.

Sample Identification and Analytical Requirements Summary

Project Name: See Chain of Custody SDG: SC13114

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		VOC Method #	SVOC Method #	GC Method #	Metals	Other
0481-13	SC13114-01					Lloyd Kahn
0483-13	SC13114-02					Lloyd Kahn
0163-13DP	SC13114-03					Lloyd Kahn
0485-13	SC13114-04					Lloyd Kahn

eurofins | Spectrum Analytical

Sample Transmittal Documentation

Analysis Request / Environmental Services Subcontracting Form

eurofins | Lancaster Laboratories

For Lancaster Laboratories Use Only

Acct: _____ Group No.: 1594773 Sample Nos.: 8057359, 61, 66-67

Date: 10/1/2015

SC 13114

Subcontractor: **EUROFINS SPECTRUM ANALYTICAL, INC.**

LLI P.O.# : _____ Courier: FED EX

Submit report to: Kathy Binkley Ext.: 1393

Submit invoice to: Kathy Binkley

State where samples were collected: VT

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Sediment	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Other	Total # of Containers	Analyses Requested / Preservation Codes: TOC by Lloyd Kahn											Comments
0481-13 13114-01	09/21/15	11:10		X	X			1	X											8057359
0483-13 -02	09/21/15	13:30		X	X			1	X											8057361
0163-13DP -03	09/21/15	13:50		X	X			1	X											8057366
0485-13 -04	09/21/15	14:40		X	X			1	X											8057367

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments: Type 1 DP Level 4 and EDD. EDD format will follow.

Temperature of samples upon receipt (if requested)

Turnaround Time Requested (TAT): (Standard) Rush

Date Results are Needed:

Email Results to: KathyBinkley@EurofinsUS.com

Relinquished by:	Date	Time	Received by:	Date	Time
Kathy Binkley	10/1/15	1700			
Fed Ex	10/2		AA	10/2/15	12:46

Data Package Options (circled when required)
Type I (validation/NJ Reg) Type VI(Raw Data)
Type II (Tier II) Type III (Reduced NJ)
Type IV (CLP SOW) TX TRRP-13

SDG Complete? Yes No

MA MCP
CT RCP

Site-specific QC Required (MS/MSD/DUP)? Yes No
Internal Chain of Custody Required? Yes No

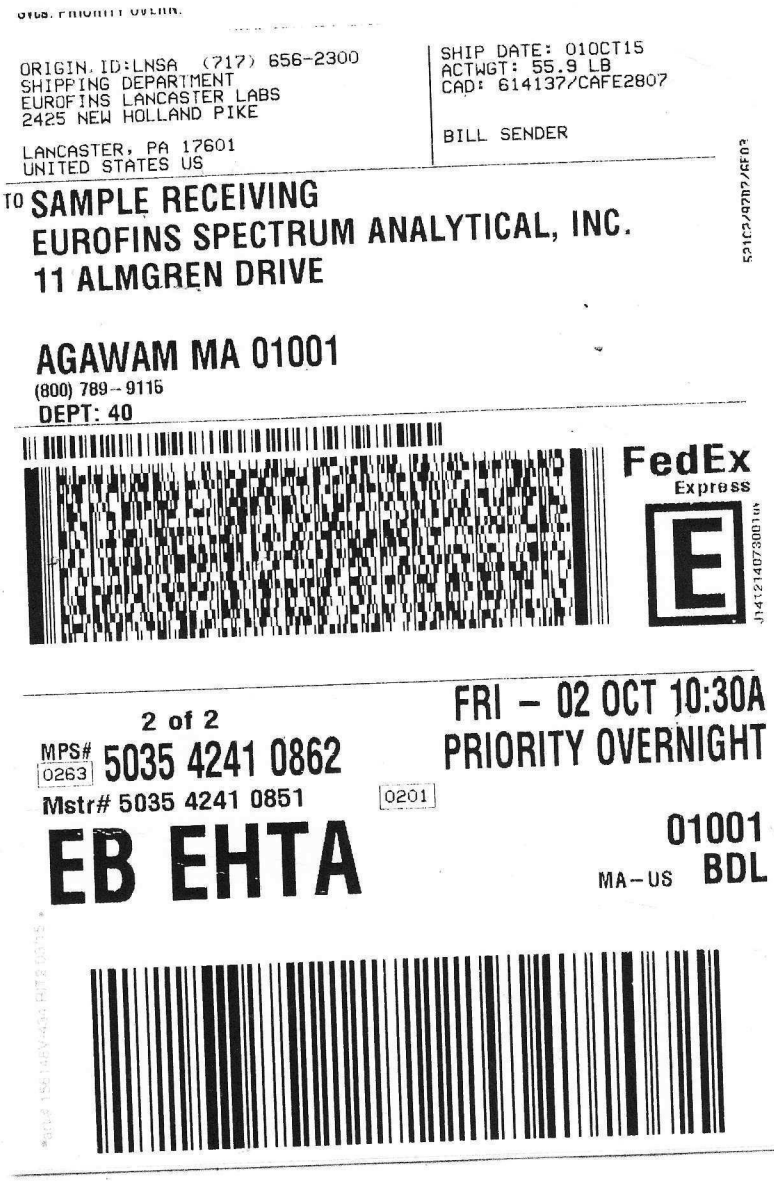
Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

Lab custody sealed 0-7/-1/0.3/01 AA 10/2

PSC24 Page 55 of 1169
Page 48 of 95

SDG 13114 Page 6 / 52



ORIGIN ID:LNSA (717) 656-2300
SHIPPING DEPARTMENT
EUROFINS LANCASTER LABS
2425 NEW HOLLAND PIKE

LANCASTER, PA 17601
UNITED STATES US

SHIP DATE: 01OCT15
ACTWGT: 55.9 LB
CAD: 614137/CAFE2807

BILL SENDER

TO SAMPLE RECEIVING
EUROFINS SPECTRUM ANALYTICAL, INC.
11 ALMGREN DRIVE

AGAWAM MA 01001
(800) 789-9115
DEPT: 40

FedEx Express

2 of 2
MPS# 5035 4241 0862
Mstr# 5035 4241 0851

FRI - 02 OCT 10:30A
PRIORITY OVERNIGHT

0263
0201

EB EHTA

01001
MA-US BDL

SC13114

Eurofins Spectrum Analytical, Inc. - MA

Report To:

Eurofins Lancaster Laboratories Environmental, LLC
Kathy Binkley
2425 New Holland Pike
Lancaster, PA 17605-2425
Phone: (717) 656-2300
Fax: -

Project #:	1594773
Project:	See Chain of Custody
Date Due:	09-Oct-15 17:00
Received By:	Arshik Ahamed
Date Received:	02-Oct-15 12:46
Temperature:	-0.3°C
PO #:	

✓ Containers Intact	Frozen vials
✓ Properly Labeled	Frozen soil jars
✓ COC/Labels Agree	State EDD
✓ Received On Ice	✓ COC present
✓ Recd within hold time	✓ Custody seal present
Air-tight containers (Encore device)	✓ Custody seal intact
Refrigerated	COC complete
DW Field QC	

Lab ID	Client ID	Sampled	Lab Matrix / Report Matrix	Containers
SC13114-01	0481-13	21-Sep-15 11:10	Soil/Sediment / Sediment	A - 16 oz. jar
SC13114-02	0483-13	21-Sep-15 13:30	Soil/Sediment / Sediment	A - 16 oz. jar
SC13114-03	0163-13DP	21-Sep-15 13:50	Soil/Sediment / Sediment	A - 16 oz. jar
SC13114-04	0485-13	21-Sep-15 14:40	Soil/Sediment / Sediment	A - 16 oz. jar

SC13114

Eurofins Spectrum Analytical, Inc. - MA

Analysis	Due	TAT	Comments
SC13114-01 0481-13			
wc-TOC-Lloyd Kahn	09-Oct-15 15:00	5	Type 1 DP Level 4
SC13114-02 0483-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13114-03 0163-13DP			
wc-TOC-Lloyd Kahn	"	"	"
SC13114-04 0485-13			
wc-TOC-Lloyd Kahn	"	"	"

EUROFINS SPECTRUM ANALYTICAL, INC.

SAMPLE INTEGRITY FORM

Sample ID			Preservative Added						Notes
	Initial pH	Sample split	50% HCl - Element # 15D1359	50% H2SO4 - Element # 15H0773	50% NaOH - Element # 15B0084	Final pH	Chlorinated? (Y/N)	10% Na2S2O3 - Element # 15D0952	Work Order No. SC13114 Solid samples for VOC analyses: _____ Submitted in SA provided CH3OH/DI/NaHSO4 vials _____ Submitted in CH3OH/DI/NaHSO4, not SA _____ Not submitted in CH3OH/DI/NaHSO4

Notes:

COC login reviewed by: _____ Login Analyst Initials: _____ Date: 10/2/2015 (Rev. 2/5/2013)

Form I Summary Pack

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0481-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1594773			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13114-01	File ID:	10031545
Sampled:	09/21/15 11:10	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 15:48
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0198 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	2750	1	200	202	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0483-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1594773			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13114-02	File ID:	10031550
Sampled:	09/21/15 13:30	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 15:54
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0211 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	846	1	188	190	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0163-13DP

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1594773			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13114-03	File ID:	10031556
Sampled:	09/21/15 13:50	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 15:59
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0207 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	709	1	191	193	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0485-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1594773			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13114-04	File ID:	10031602
Sampled:	09/21/15 14:40	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 16:05
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0206 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	1730	1	192	194	

Lloyd Kahn

CROSS REFERENCE TABLE

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Project Number:	1594773		

Client Sample ID:	Lab Sample ID:
0481-13	SC13114-01
0483-13	SC13114-02
0163-13DP	SC13114-03
0485-13	SC13114-04

CASE NARRATIVE

Spectrum Analytical, Inc. Lab Reference No. SC13114

Client: Eurofins Lancaster Laboratories Environmental, LLC

Project: See Chain of Custody / 1594773

SDG #: 13114

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception or a communication form is included in the addendum with this package.

II. HOLDING TIMES

All samples were prepared and analyzed within the method-specific holding time.

III. METHODS

Analyses were performed according to Lloyd Kahn.

IV. PREPARATION

Soil/Sediment samples were prepared according to General Preparation.

V. INSTRUMENTATION

The following equipment was used to analyze Lloyd Kahn:

TOC2 details: Teledyne Tekmar Apollo 9000 / TOC Boat Sampler Model 183

VI. ANALYSIS

A. Calibration:

All quality control samples were within the acceptance criteria.

B. Blanks:

All blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Samples (LCS):

All method criteria were met.

2. Matrix Spike / Matrix Spike Duplicate Samples (MS/MSD):

No matrix spike or matrix spike duplicates were analyzed.

3. Reference:

All method criteria were met.

D. Duplicates:

No client requested duplicate. However, the method criteria may have been fulfilled with non-SDG source samples.

E. Samples:

All method criteria were met.

Lloyd Kahn

QC Summary

FORM IIa - INITIAL AND CONTINUING CALIBRATION CHECK

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Instrument ID: TOC2

SDG: 13114
Project: See Chain of Custody
Calibration: 1507063
Sequence: S506983

Lab Sample ID	Analyte	True	Found	%R	QC Limits	Units	Method
S506983-ICV1	Total Organic Carbon	5430	5860	108	85 - 115	µg	Lloyd Kahn

* Values outside of QC limits

FORM IIa - INITIAL AND CONTINUING CALIBRATION CHECK

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Instrument ID: TOC2

SDG: 13114
Project: See Chain of Custody
Calibration: 1507063
Sequence: S508901

Lab Sample ID	Analyte	True	Found	%R	QC Limits	Units	Method
1518720-CCV1	Total Organic Carbon	1000	947	95	85 - 115	mg/kg	Lloyd Kahn
1518720-CCV2	Total Organic Carbon	1000	944	94	85 - 115	mg/kg	Lloyd Kahn
1518720-CCV3	Total Organic Carbon	1000	1010	101	85 - 115	mg/kg	Lloyd Kahn

* Values outside of QC limits

FORM III - BLANKS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13114
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Instrument ID: TOC2
Calibration: 1507063
Sequence: S506983
Matrix: Soil/Sediment

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
S506983-ICB1	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn

FORM III - BLANKS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13114
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Instrument ID: TOC2
Calibration: 1507063
Sequence: S508901
Matrix: Soil/Sediment

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
1518720-CCB1	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn
1518720-BLK1	Total Organic Carbon	BRL	100	mg/kg	U	Lloyd Kahn
1518720-CCB2	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn
1518720-CCB3	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn

FORM IIIa - LCS / LCS DUPLICATE RECOVERY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Matrix:	Soil/Sediment	Instrument:	TOC2
Batch:	1518720	Laboratory ID:	1518720-BS1
Preparation:	General Preparation	Initial/Final:	0.04 g / 1 ml
Analyzed:	10/03/15 15:30	Spike ID:	15G0890
		File ID:	10031528

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	1000	877	88	75 - 125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VIIb(Inorganics) - STANDARD REFERENCE MATERIAL RECOVERY

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13114
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Matrix: Soil/Sediment
Spike ID: 15C0320
Batch: 1518720
Laboratory ID: 1518720-SRM1
Preparation: General Preparation
Initial/Final: 0.0152 g / 1 ml

ANALYTE	TRUE (mg/kg)	FOUND (mg/kg)	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	5430	6430	118	49 - 151

* Values outside of QC limits

Organic/FORM IX(Inorganic) - METHOD DETECTION AND REPORTING LIMITS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA **SDG:** 13114

Client: Eurofins Lancaster Laboratories Environmental, LLC **Project:** See Chain of Custody

Analyte	MDL	MRL	Units
Total Organic Carbon	99.0	100	mg/kg

Lloyd Kahn

Sample Data

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0481-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1594773			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13114-01	File ID:	10031545
Sampled:	09/21/15 11:10	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 15:48
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0198 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	2750	1	200	202	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0483-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1594773			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13114-02	File ID:	10031550
Sampled:	09/21/15 13:30	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 15:54
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0211 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	846	1	188	190	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0163-13DP

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1594773			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13114-03	File ID:	10031556
Sampled:	09/21/15 13:50	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 15:59
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0207 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	709	1	191	193	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0485-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1594773			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13114-04	File ID:	10031602
Sampled:	09/21/15 14:40	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 16:05
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0206 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	1730	1	192	194	

Lloyd Kahn

Standards Data

FORM VI - INITIAL CALIBRATION DATA

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	0	0	1000	2110.995	2000	2020.206	4000	1984.608	8000	1905.392	12500	1875.863

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	15000	1812.287										

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

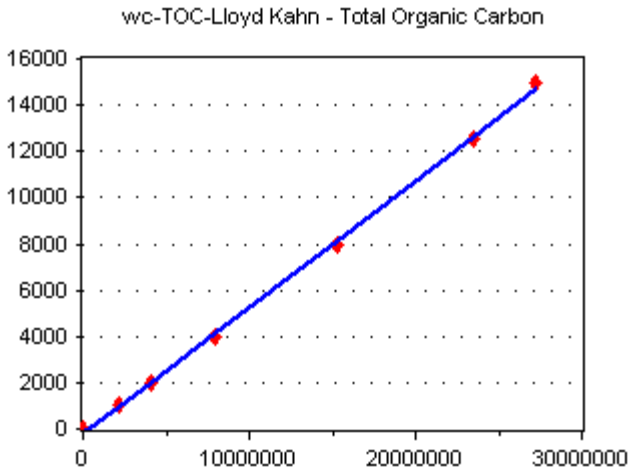
Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Total Organic Carbon	1672.765	44.48907	0	0	0.9990526		0.997	

Individual peaks for multi-component analytes are indicated by a number in parentheses

Instrument:	TOC2	Calibration Date:	23-Jul-15 11:19 By RLT
Calibration ID:	1507063	Last Edit Date:	24-Jul-15 11:20 By RLT

wc-TOC-Lloyd Kahn

Total Organic Carbon



Linear Regression

r2: 0.9990526

[Conc] = 5.486597E-04 * [Response] + -197.7798

Lloyd Kahn

Raw Quality Control Data

Detailed Analysis Report Print Date/Time: 2015/10/03 17:52:11

Sample ID: SEQ-CCV1 Mode: TOC
Method: Filename: 10031456
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 14:58
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	947.2405	37.8896	1808740	104.576	105.570	109

Sample ID: SEQ-CCB1 Mode: TOC
Method: Filename: 10031508
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 15:11
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-114.6453	-4.5858	-218913	108.548	106.883	120

Last Message: Low Sample Detected

Sample ID: 1518720-BLK1 Mode: TOC
Method: Filename: 10031513
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 15:19
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-79.9042	-3.1962	-152576	106.297	105.680	120

Last Message: Low Sample Detected

Sample ID: 1518720-BS1 Mode: TOC
Method: Filename: 10031528
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 15:30
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	877.4440	35.0978	1675465	108.949	109.948	95

accidentally used CN SRM, see rr

Sample ID: 1518720-SRM1 Mode: TOC
Method: Filename: 10031532
Cal. Curve: 063015 LOW Timestamp: 2015/10/03 15:36
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2060.2559	23.4869	1121197	108.414	109.392	~~92~~

Sample ID: 1518720-SRM1 RR Mode: TOC
Method: Filename: 10031539
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 15:43
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6433.6226	97.7911	4668261	107.295	108.268	106

Sample ID: SC13114-01A Mode: TOC
Method: Filename: 10031545
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 15:48
Operator ID: rlt Sample Type: Sample

*072415low 10.03.15 rlt

1518720 10.03.15 see curve raw data

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2748.1335	54.4130	2597520	104.276	105.272	133

Sample ID: SC13114-02A
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031550
Timestamp: 2015/10/03 15:54
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	846.0126	17.8509	852148	103.652	104.643	114

Sample ID: SC13114-03A
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031556
Timestamp: 2015/10/03 15:59
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	708.8113	14.6724	700417	104.108	105.100	112

Sample ID: SC13114-04A
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031602
Timestamp: 2015/10/03 16:05
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1729.8488	35.6349	1701105	105.388	106.380	119

Sample ID: SC13115-01A
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031610
Timestamp: 2015/10/03 16:14
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1031.0355	25.0542	1196013	106.511	107.499	112

Sample ID: SEQ-CCV2
Method:
Cal. Curve: ~~063015~~ ~~LOW~~ *
Operator ID: rlt
Mode: TOC
Filename: 10031613
Timestamp: 2015/10/03 16:15
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	943.9693	37.7588	1802494	107.763	108.760	108

Sample ID: SEQ-CCB2
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031614
Timestamp: 2015/10/03 16:17
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	3.2506	0.1300	6207	103.414	104.003	120

Last Message: Low Sample Detected

Sample ID: SC13115-05A
Method:
Mode: TOC
Filename: 10031615

*072415low 10.03.15 rlt

1518720 10.03.15 see curve raw data

*

Cal. Curve: 063015 LOW Timestamp: 2015/10/03 16:19
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2440.9529	81.5278	3891901	105.159	106.154	140

Sample ID: SC13115-06A Mode: TOC
Method: * Filename: 10031620
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 16:24
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2793.9929	59.5121	2840932	104.351	105.348	136

Sample ID: SC13115-06A(2) Mode: TOC
Method: * Filename: 10031625
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 16:28
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2189.5110	51.0156	2435336	105.822	106.816	113

1518708-dup1

Sample ID: SC13115-06A(3) Mode: TOC
Method: * Filename: 10031629
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 16:32
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2493.1526	52.3562	2499333	105.621	106.619	121

Sample ID: SC13115-06A(4) Mode: TOC
Method: Filename: 10031633
Cal. Curve: ~~063015~~ ~~LOW~~ * Timestamp: 2015/10/03 16:37
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2518.7451	64.4799	3078081	104.429	105.423	141

boat stuck

Sample ID: ~~SC13115-07A~~ Mode: TOC
Method: Filename: 10031639
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 16:41
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	0.4697	0.0121	576	105.715	106.024	2

Last Message: Canceled

Sample ID: SC13115-07A * Mode: TOC
Method: Filename: 10031720
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 17:25
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1014.0529	26.0612	1244084	106.248	107.238	123

*072415low 10.03.15 rlt

1518720 10.03.15 see curve raw data

Sample ID: SEQ-CCV3 *
Method:
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt

Mode: TOC
Filename: 10031728
Timestamp: 2015/10/03 17:31
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1007.2994	40.2920	1923421	105.497	106.487	110

Sample ID: SEQ-CCB3 *
Method:
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt

Mode: TOC
Filename: 10031742
Timestamp: 2015/10/03 17:45
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-73.1463	-2.9259	-139672	104.369	101.844	120

Last Message: Low Sample Detected

Lloyd Kahn

Data Processing Summary

PREPARATION BENCH SHEET

1518720

Eurofins Spectrum Analytical, Inc. - Agawam, MA

Temp °C	Correction Factor	Corrected Temp °C
10.4	-2	10.2

Balance ID: 5
Thermometer ID: IR71440

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **Sequence: S508901**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518720-BLK1	Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-BS1	LCS		QC	0.04	1	15G0890			03-Oct-15 10:08	
1518720-CCB1	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCB2	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCB3	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCV1	Calibration Check		QC	0.04	1	15G0890			03-Oct-15 10:08	
1518720-CCV2	Calibration Check		QC	0.04	1	15G0890			03-Oct-15 10:08	
1518720-CCV3	Calibration Check		QC	0.04	1	15G0890			03-Oct-15 10:08	
1518720-DUP1	Duplicate		QC	0.021	1		SC13115-06		23-Sep-15 13:30	
1518720-SRM1	Reference		QC	0.0152	1	15C0320			03-Oct-15 10:08	
SC13114-01	0481-13	A	wc-TOC-Lloyd	0.0198	1			09-Oct-15 15:00	21-Sep-15 11:10	Type 1 DP Level 4
SC13114-02	0483-13	A	wc-TOC-Lloyd	0.0211	1			09-Oct-15 15:00	21-Sep-15 13:30	Type 1 DP Level 4
SC13114-03	0163-13DP	A	wc-TOC-Lloyd	0.0207	1			09-Oct-15 15:00	21-Sep-15 13:50	Type 1 DP Level 4
SC13114-04	0485-13	A	wc-TOC-Lloyd	0.0206	1			09-Oct-15 15:00	21-Sep-15 14:40	Type 1 DP Level 4
SC13115-01	0491-13	A	wc-TOC-Lloyd	0.0243	1			09-Oct-15 15:00	24-Sep-15 10:10	Type 1 DP Level 4
SC13115-05	0479-13	A	wc-TOC-Lloyd	0.0334	1			09-Oct-15 15:00	23-Sep-15 10:45	Type 1 DP Level 4
SC13115-06	0489-13	A	wc-TOC-Lloyd	0.0213	1			09-Oct-15 15:00	23-Sep-15 13:30	Type 1 DP Level 4
SC13115-07	0487-13	A	wc-TOC-Lloyd	0.0257	1			09-Oct-15 15:00	23-Sep-15 14:50	Type 1 DP Level 4

10.03.15
rlt
toc soil

Analyst Reviewed 10/8/15 Date

Manager Reviewed 10/9/15 Date

Extracts Received By Date

Printed: 10/8/2015 7:10:57PM

PREPARATION BENCH SHEET

1518720

Eurofins Spectrum Analytical, Inc. - Agawam, MA

Temp °C	Correction Factor	Corrected Temp °C
104	-2	102

Balance ID: 5

Thermometer ID: NF/440

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **Sequence: S508901**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments

Reagents Used:

15G0336 Nitric Acid 50%

Analyst Reviewed 10/8/15 Date

Manager Reviewed 10/9/15 Date

Extracts Received By Date

Printed: 10/8/2015 7:10:57PM

PREPARATION BENCH SHEET

1518720

COMPLETE

JJ 08901

Balance ID _____

Matrix: Soil/Sediment

Prepared using: Wet Chem - General Preparation

(No Surrogate)

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518720-BLK1	Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-BS1	LCS		QC	0.04	1	15G0891			03-Oct-15 10:08	
1518720-CCB1	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCB2	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCB3	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCV1	Calibration Check		QC	0.04	1	15G0891			03-Oct-15 10:08	
1518720-CCV2	Calibration Check		QC	0.04	1	15G0891			03-Oct-15 10:08	
1518720-CCV3	Calibration Check		QC	0.04	1	15G0891			03-Oct-15 10:08	
1518720-DUP1	Duplicate		QC	0.0054	1		SC13115-06		23-Sep-15 13:30	
1518720-SRM1	Reference		QC	~~0.0206~~	1	~~15G0820~~	0.0152		03-Oct-15 10:08	
SC13114-01	0481-13	A	wc-TOC-Lloyd	0.04	1	0.0198		09-Oct-15 15:00	21-Sep-15 11:10	**Type 1 DP Level 4**
SC13114-02	0483-13	A	wc-TOC-Lloyd	0.04	1	0.0211		09-Oct-15 15:00	21-Sep-15 13:30	**Type 1 DP Level 4**
SC13114-03	0163-13DP	A	wc-TOC-Lloyd	0.04	1	0.0207		09-Oct-15 15:00	21-Sep-15 13:50	**Type 1 DP Level 4**
SC13114-04	0485-13	A	wc-TOC-Lloyd	0.04	1	0.0256		09-Oct-15 15:00	21-Sep-15 14:40	**Type 1 DP Level 4**
SC13115-01	0491-13	A	wc-TOC-Lloyd	0.04	1	0.0243		09-Oct-15 15:00	24-Sep-15 10:10	**Type 1 DP Level 4**
SC13115-05	0479-13	A	wc-TOC-Lloyd	0.04	1	0.0354		09-Oct-15 15:00	23-Sep-15 10:45	**Type 1 DP Level 4**
SC13115-06	0489-13	A	wc-TOC-Lloyd	0.04	1	0.0212		09-Oct-15 15:00	23-Sep-15 13:30	**Type 1 DP Level 4**
SC13115-07	0487-13	A	wc-TOC-Lloyd	0.04	1	0.0207		09-Oct-15 15:00	23-Sep-15 14:50	**Type 1 DP Level 4**

10.03.15
rlt
toc soil

(2) 0.0243 (3) 0.0210 (4) 0.0256

Reagents Used:

15G0336 Nitric Acid 50%

Analyst Reviewed Date

Manager Reviewed Date

Extracts Received By Date

Printed: 10/3/2015 3:13:16PM

Lloyd Kahn Method - TOC							
10/3/2015							
Sample ID:	Replicate 1	Replicate 2	Replicate 3	Replicate 4	Standard Deviation	Mean	% RSD
sc13152-06a	2793.9929	2189.511	2493.1526	2518.7451	247.1357412	2498.85	9.889977
					#DIV/0!	#DIV/0!	#DIV/0!
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Rev. 4/15/09

FORM VIII(Organics)/FORM XIII(Inorganics)
ANALYSIS BATCH (SEQUENCE) SUMMARY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Sequence:	S506983	Instrument:	TOC2
		Calibration:	1507063

Sample Name	Lab Sample ID	Lab File ID	Analyzed
Cal Standard	S506983-CAL1	07231501	07/23/15 15:04
Cal Standard	S506983-CAL2	07231505	07/23/15 15:08
Cal Standard	S506983-CAL3	07231508	07/23/15 15:11
Cal Standard	S506983-CAL4	07231512	07/23/15 15:15
Cal Standard	S506983-CAL5	07231516	07/23/15 15:19
Cal Standard	S506983-CAL6	07231520	07/23/15 15:23
Cal Standard	S506983-CAL7	07231545	07/23/15 15:49
Initial Cal Check	S506983-ICV1	07231605	07/23/15 16:08
Initial Cal Blank	S506983-ICB1	07231608	07/23/15 16:11

FORM VIII(Organics)/FORM XIII(Inorganics)
ANALYSIS BATCH (SEQUENCE) SUMMARY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Sequence:	S508901	Instrument:	TOC2
		Calibration:	1507063

Sample Name	Lab Sample ID	Lab File ID	Analyzed
Calibration Check	1518720-CCV1	10031456	10/03/15 14:58
Calibration Blank	1518720-CCB1	10031508	10/03/15 15:11
Blank	1518720-BLK1	10031513	10/03/15 15:19
LCS	1518720-BS1	10031528	10/03/15 15:30
Reference	1518720-SRM1	10031539	10/03/15 15:43
0481-13	SC13114-01	10031545	10/03/15 15:48
0483-13	SC13114-02	10031550	10/03/15 15:54
0163-13DP	SC13114-03	10031556	10/03/15 15:59
0485-13	SC13114-04	10031602	10/03/15 16:05
Calibration Check	1518720-CCV2	10031613	10/03/15 16:15
Calibration Blank	1518720-CCB2	10031614	10/03/15 16:17
Calibration Check	1518720-CCV3	10031728	10/03/15 17:31
Calibration Blank	1518720-CCB3	10031742	10/03/15 17:45

Multiple Analysis Report Print Date/Time: 2015/10/22 12:31:05

Sample ID	Result	Std. Dev.	RSD	Mode	ALT	Method ID	Sample Type	Vial	Timestamp	Message
SEQ-CCV1	947.2405			TOC			Sample		2015/10/03 14:58	
SEQ-CCB1	-114.6453			TOC			Sample		2015/10/03 15:11	Low Sample Detected
1518720-BLK1	-79.9042			TOC			Sample		2015/10/03 15:19	Low Sample Detected
1518720-BS1	877.4440			TOC			Sample		2015/10/03 15:30.	
1518720-SRM1	2060.2559			TOC			Sample		2015/10/03 15:36	
1518720-SRM1 RR	6433.6226			TOC			Sample		2015/10/03 15:43	
SC13114-01A	2748.1335			TOC			Sample		2015/10/03 15:48.	
SC13114-02A	846.0126			TOC			Sample		2015/10/03 15:54	
SC13114-03A	708.8113			TOC			Sample		2015/10/03 15:59	
SC13114-04A	1729.8488			TOC			Sample		2015/10/03 16:05.	
SC13115-01A	1031.0355			TOC			Sample		2015/10/03 16:14	
SEQ-CCV2	943.9693			TOC			Sample		2015/10/03 16:15	
SEQ-CCB2	3.2506			TOC			Sample		2015/10/03 16:17	Low Sample Detected
SC13115-05A	2440.9529			TOC			Sample		2015/10/03 16:19	
SC13115-06A	2793.9929			TOC			Sample		2015/10/03 16:24	
SC13115-06A(2)	2189.5110			TOC			Sample		2015/10/03 16:28.	
SC13115-06A(3)	2493.1526			TOC			Sample		2015/10/03 16:32	
SC13115-06A(4)	2518.7451			TOC			Sample		2015/10/03 16:37	
SC13115-07A	0.4697			TOC			Sample		2015/10/03 16:41	Canceled
SC13115-07A	1014.0529			TOC			Sample		2015/10/03 17:25	
SEQ-CCV3	1007.2994			TOC			Sample		2015/10/03 17:31	
SEQ-CCB3	-73.1463			TOC			Sample		2015/10/03 17:45	Low Sample Detected

Notes & Definitions

BRL Below the reporting limit and also indicates there are no detections between the MDL and MRL

Form I 'Q' column

B The analyte was found in the associated blank as well as the sample

D All identified compounds in the analysis are at a secondary dilution factor

E The identified compound's concentration exceeds the calibration range of the instrument for this specific analysis

J Compound detected but below the reporting limit and above the minimum detection limit (MDL); therefore, the result is an estimated concentration

N Included for TIC that indicates presumptive evidence of a compound

P Used for a Dual Column target analyte when the concentration difference between the two GC columns is greater than 40%.

U Compound was analyzed for but not detected

Form IIa 'Method' column

This column refers to the instrument used for analysis

IR Iris ICP
MS Thermo ICP/MS
AV Mercury analyzer

Form VI 'Q' column

***** indicates that:
Mean RF is above the value in the LIMIT column, or
Linear COD is below the value in the LIMIT column, or
Quad COD is below the value in the LIMIT column

Form VII 'Type' column

A average of response factor
L linear regression
Q quadratic equation

Form VIII 'Q' column for Inorganics

E The dilution analysis is not within a control limit of 10%, therefore a chemical or physical interference effect must be suspected

Last Page of Data Report

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Semivolatiles by GC/MS Data

Case Narrative/Conformance Summary

Semivolatiles by GC/MS

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC24

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8057359	0481-13		X	1	
8057360	0482-13		X	1	
8057361	0483-13		X	1	
8057362	0484-13		X	1	Unspiked
8057363	0484-13MS		X	1	Matrix Spike
8057364	0484-13MSD		X	1	Matrix Spike Duplicate
8057366	0163-13DP		X	1	
8057367	0485-13		X	1	
8057368	0486-13		X	1	
8057369	0160-13FB	X		1	Field Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC24

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Semivolatiles by GC/MS

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Quality Control Reference List
GC/MS Semivolatiles

CLIENT: The Johnson Company, Inc.
SDG: PSC24

Fraction: Semivolatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
PAHs 8270C (17)	15266SLE026	SBLKLE266	09/25/2015 20:48:00
		266LELCS	09/25/2015 21:13:00
		8057359	09/26/2015 05:21:00
		8057360	09/26/2015 05:47:00
		8057361	09/26/2015 06:12:00
		8057362 UNSPK	09/26/2015 00:13:00
		8057363 MS	09/26/2015 00:38:00
		8057364 MSD	09/26/2015 01:04:00
		8057366	09/26/2015 06:38:00
		8057367	09/26/2015 07:04:00
		8057368	09/26/2015 07:29:00
PAHs 8270C (17)	15268WAB026	SBLKWB268	09/29/2015 09:39:00
		268WBLCS	09/29/2015 10:07:00
		8057369	09/29/2015 11:03:00

Fraction: Semivolatiles by GC/MS

15266SLE026 / SBLKLE266 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Naphthalene	09/25/15	N.D.	ug/kg	3	17
2-Methylnaphthalene	09/25/15	N.D.	ug/kg	3	17
Acenaphthylene	09/25/15	N.D.	ug/kg	3	17
Acenaphthene	09/25/15	N.D.	ug/kg	3	17
Fluorene	09/25/15	N.D.	ug/kg	3	17
Phenanthrene	09/25/15	N.D.	ug/kg	3	17
Anthracene	09/25/15	N.D.	ug/kg	3	17
Fluoranthene	09/25/15	N.D.	ug/kg	3	17
Pyrene	09/25/15	N.D.	ug/kg	3	17
Benzo(a)anthracene	09/25/15	N.D.	ug/kg	3	17
Chrysene	09/25/15	N.D.	ug/kg	3	17
Benzo(b)fluoranthene	09/25/15	N.D.	ug/kg	3	17
Benzo(k)fluoranthene	09/25/15	N.D.	ug/kg	3	17
Benzo(a)pyrene	09/25/15	N.D.	ug/kg	3	17
Indeno(1,2,3-cd)pyrene	09/25/15	N.D.	ug/kg	3	17
Dibenz(a,h)anthracene	09/25/15	N.D.	ug/kg	3	17
Benzo(g,h,i)perylene	09/25/15	N.D.	ug/kg	3	17

Quality Control Summary
Method Blank
GC/MS Semivolatiles
SDG: PSC24
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

15268WAB026 / SBLKWB268 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Naphthalene	09/29/15	N.D.	ug/l	0.1	0.5
2-Methylnaphthalene	09/29/15	N.D.	ug/l	0.1	0.5
Acenaphthylene	09/29/15	N.D.	ug/l	0.1	0.5
Acenaphthene	09/29/15	N.D.	ug/l	0.1	0.5
Fluorene	09/29/15	N.D.	ug/l	0.1	0.5
Phenanthrene	09/29/15	N.D.	ug/l	0.1	0.5
Anthracene	09/29/15	N.D.	ug/l	0.1	0.5
Fluoranthene	09/29/15	N.D.	ug/l	0.1	0.5
Pyrene	09/29/15	N.D.	ug/l	0.1	0.5
Benzo(a)anthracene	09/29/15	N.D.	ug/l	0.1	0.5
Chrysene	09/29/15	N.D.	ug/l	0.1	0.5
Benzo(b)fluoranthene	09/29/15	N.D.	ug/l	0.1	0.5
Benzo(k)fluoranthene	09/29/15	N.D.	ug/l	0.1	0.5
Benzo(a)pyrene	09/29/15	N.D.	ug/l	0.1	0.5
Indeno(1,2,3-cd)pyrene	09/29/15	N.D.	ug/l	0.1	0.5
Dibenz(a,h)anthracene	09/29/15	N.D.	ug/l	0.1	0.5
Benzo(g,h,i)perylene	09/29/15	N.D.	ug/l	0.1	0.5

Quality Control Summary
Surrogates
GC/MS Semivolatiles
SDG: PSC24
Matrix: SOLID

Fraction: Semivolatiles by GC/MS

15266SLE026	2-Fluorobiphenyl		Nitrobenzene-d5		Terphenyl-d14	
	Spike Added	3333.333 ug/kg	Spike Added	3333.333 ug/kg	Spike Added	3333.333 ug/kg
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKLE266	67	63 - 117	67	54 - 123	70	59 - 129
266LELCS	89	63 - 117	90	54 - 123	90	59 - 129
8057359	100	63 - 117	92	54 - 123	94	59 - 129
8057360	95	63 - 117	88	54 - 123	94	59 - 129
8057361	98	63 - 117	92	54 - 123	94	59 - 129
8057362 UNSPK	99	63 - 117	94	54 - 123	99	59 - 129
8057363 MS	91	63 - 117	88	54 - 123	91	59 - 129
8057364 MSD	93	63 - 117	92	54 - 123	94	59 - 129
8057366	101	63 - 117	94	54 - 123	96	59 - 129
8057367	95	63 - 117	89	54 - 123	93	59 - 129
8057368	95	63 - 117	91	54 - 123	93	59 - 129

Quality Control Summary
Surrogates
GC/MS Semivolatiles
SDG: PSC24
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

15268WAB026	2-Fluorobiphenyl		Nitrobenzene-d5		Terphenyl-d14	
	Spike Added	100 ug/l	Spike Added	100 ug/l	Spike Added	100 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKWB268	90	61 - 112	96	46 - 128	94	43 - 131
268WBLCS	85	61 - 112	93	46 - 128	87	43 - 131
8057369	87	61 - 112	92	46 - 128	85	43 - 131

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

UNSPK: 8057362 MS: 8057363 MSD: 8057364 **Analyte**	Batch: **15266SLE026** (Sample number(s): 8057359-8057364, 8057366-8057368)								
	Spike Added ug/kg MS/MSD	**Unspiked Conc ug/kg**	**MS Conc ug/kg**	**MSD Conc ug/kg**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Naphthalene	1640.42 / 1658.92	N.D.	1542.88	1607.39	94	97	77-115	4	30
2-Methylnaphthalene	1640.42 / 1658.92	N.D.	1469.95	1556.08	90	94	83-109	6	30
Acenaphthylene	1640.42 / 1658.92	N.D.	1623.28	1661.36	99	100	83-127	2	30
Acenaphthene	1640.42 / 1658.92	N.D.	1611.63	1633.39	98	98	83-116	1	30
Fluorene	1640.42 / 1658.92	N.D.	1608.25	1653.32	98	100	86-118	3	30
Phenanthrene	1640.42 / 1658.92	8.04	1571.63	1670.4	95	100	80-114	6	30
Anthracene	1640.42 / 1658.92	3.74	1666.38	1746.74	101	105	82-118	5	30
Fluoranthene	1640.42 / 1658.92	7.86	1453.31	1519.14	88	91	81-117	4	30
Pyrene	1640.42 / 1658.92	12.6	1540.21	1594.22	93	95	81-114	3	30
Benzo(a)anthracene	1640.42 / 1658.92	3.83	1385.48	1432.91	84	86	76-119	3	30
Chrysene	1640.42 / 1658.92	3.84	1422.37	1447.01	86	87	80-121	2	30
Benzo(b)fluoranthene	1640.42 / 1658.92	5.50	1564.75	1668.8	95	100	78-129	6	30
Benzo(k)fluoranthene	1640.42 / 1658.92	N.D.	1732.09	1664.69	106	100	79-120	4	30
Benzo(a)pyrene	1640.42 / 1658.92	5.47	1514.97	1554.69	92	93	85-117	3	30
Indeno(1,2,3-cd)pyrene	1640.42 / 1658.92	N.D.	1554.27	1601.97	95	97	81-118	3	30
Dibenz(a,h)anthracene	1640.42 / 1658.92	N.D.	1614.28	1650.09	98	99	81-123	2	30
Benzo(g,h,i)perylene	1640.42 / 1658.92	N.D.	1646.82	1691.06	100	102	82-119	3	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 266LELCS	Batch: **15266SLE026** (Sample number(s): 8057359-8057364, 8057366-8057368)							
Analyte	**Spike Added ug/kg**	**LCS Conc ug/kg**	**LCSD Conc ug/kg**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Naphthalene	1666.67	1580.58	NA	95	NA	77-115	NA	NA
2-Methylnaphthalene	1666.67	1527.52	NA	92	NA	83-109	NA	NA
Acenaphthylene	1666.67	1640.84	NA	98	NA	83-127	NA	NA
Acenaphthene	1666.67	1625.61	NA	98	NA	83-116	NA	NA
Fluorene	1666.67	1670.93	NA	100	NA	86-118	NA	NA
Phenanthrene	1666.67	1590.13	NA	95	NA	80-114	NA	NA
Anthracene	1666.67	1667.95	NA	100	NA	82-118	NA	NA
Fluoranthene	1666.67	1562.37	NA	94	NA	81-117	NA	NA
Pyrene	1666.67	1559.55	NA	94	NA	81-114	NA	NA
Benzo(a)anthracene	1666.67	1509.58	NA	91	NA	76-119	NA	NA
Chrysene	1666.67	1535.24	NA	92	NA	80-121	NA	NA
Benzo(b)fluoranthene	1666.67	1669.77	NA	100	NA	78-129	NA	NA
Benzo(k)fluoranthene	1666.67	1595.75	NA	96	NA	79-120	NA	NA
Benzo(a)pyrene	1666.67	1510.27	NA	91	NA	85-117	NA	NA
Indeno(1,2,3-cd)pyrene	1666.67	1475.02	NA	89	NA	81-118	NA	NA
Dibenz(a,h)anthracene	1666.67	1538.52	NA	92	NA	81-123	NA	NA
Benzo(g,h,i)perylene	1666.67	1542.12	NA	93	NA	82-119	NA	NA

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 268WBLCS	Batch: **15268WAB026** (Sample number(s): 8057369)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Naphthalene	50	45.98	NA	92	NA	69-109	NA	NA
2-Methylnaphthalene	50	44.54	NA	89	NA	69-103	NA	NA
Acenaphthylene	50	47.11	NA	94	NA	78-117	NA	NA
Acenaphthene	50	47.71	NA	95	NA	75-111	NA	NA
Fluorene	50	48.06	NA	96	NA	80-117	NA	NA
Phenanthrene	50	43.42	NA	87	NA	75-110	NA	NA
Anthracene	50	45.14	NA	90	NA	82-116	NA	NA
Fluoranthene	50	45.26	NA	91	NA	76-117	NA	NA
Pyrene	50	46.02	NA	92	NA	76-111	NA	NA
Benzo(a)anthracene	50	49.03	NA	98	NA	76-122	NA	NA
Chrysene	50	51.58	NA	103	NA	77-126	NA	NA
Benzo(b)fluoranthene	50	52.32	NA	105	NA	75-123	NA	NA
Benzo(k)fluoranthene	50	50.31	NA	101	NA	74-119	NA	NA
Benzo(a)pyrene	50	49.83	NA	100	NA	73-115	NA	NA
Indeno(1,2,3-cd)pyrene	50	55.03	NA	110	NA	70-121	NA	NA
Dibenz(a,h)anthracene	50	55.3	NA	111	NA	72-127	NA	NA
Benzo(g,h,i)perylene	50	57.51	NA	115	NA	70-126	NA	NA

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: dh0420b.d DFTPP Injection Date: 08/13/15

Instrument ID: HP19760 DFTPP Injection Time: 21:05

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	45.7
68	Less than 2.0% of mass 69	0.76 (1.61)1
69	Mass 69 relative abundance	47.0
70	Less than 2.0% of mass 69	0.23 (0.5)1
127	40.0 - 60.0% of mass 198	46.7
197	Less than 1.0% of mass 198	0.93
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.87
275	10.0 - 30.0% of mass 198	23.0
365	Greater than 1.00% of mass 198	2.31
441	Present, and less than mass 443	10.3
442	Greater than 40.0 % of mass 198	63.7
443	17.0 - 23.0% of mass 442	12.2 (19.2)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD2065 - SSTD7.5	dh0421.d	08/13/15	21:20
02	RVSTD2065 - SSTD.125	dh0422.d	08/13/15	21:56
03	RVSTD2065 - SSTD30	dh0423.d	08/13/15	22:24
04	RVSTD2065 - SSTD20	dh0424.d	08/13/15	22:52
05	RVSTD2065 - SSTD12.5	dh0425.d	08/13/15	23:20
06	SSTD3.75	dh0426.d	08/13/15	23:48
07	RVSTD2065 - SSTD1.25	dh0427.d	08/14/15	00:16
08	RVSTD2065 - SSTD.25	dh0428.d	08/14/15	00:44
09	RVMDL2065 - SSTD0.125	dh0429.d	08/14/15	01:12
10	PAHMDL2065 - SSTD0.025	dh0430.d	08/14/15	01:40
11	RVICV1465 - SSTD12.5	dh0431.d	08/14/15	02:08
12	RVBASICV1045 - SSTD12.5	dh0432.d	08/14/15	02:36

FORM V SV

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: di0820.d DFTPP Injection Date: 09/29/15

Instrument ID: HP19760 DFTPP Injection Time: 08:52

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	44.7
68	Less than 2.0% of mass 69	0.85 (1.77)1
69	Mass 69 relative abundance	47.9
70	Less than 2.0% of mass 69	0.22 (0.45)1
127	40.0 - 60.0% of mass 198	43.8
197	Less than 1.0% of mass 198	0.4
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.62
275	10.0 - 30.0% of mass 198	25.8
365	Greater than 1.00% of mass 198	2.88
441	Present, and less than mass 443	13.7
442	Greater than 40.0 % of mass 198	81.8
443	17.0 - 23.0% of mass 442	15.5 (18.9)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD2065 - SSTD3.75	di0821.d	09/29/15	09:06
02	SBLKWB268	di0822.d	09/29/15	09:39
03	268WBLCS	di0823.d	09/29/15	10:07
04	8052865RE	di0824.d	09/29/15	10:35
05	8057369	di0825.d	09/29/15	11:03
06	8059054	di0826.d	09/29/15	11:32
07	8059055	di0827.d	09/29/15	12:00
08	8059056	di0828.d	09/29/15	12:28
09	8059057	di0829.d	09/29/15	12:56
10	8059058	di0830.d	09/29/15	13:24
11	8057742	di0843.d	09/29/15	13:52
12	8059059	di0831.d	09/29/15	14:21
13	8059060	di0832.d	09/29/15	14:49
14	8059063	di0834.d	09/29/15	15:45
15	8059064	di0835.d	09/29/15	16:13
16	8059065	di0836.d	09/29/15	16:42
17	8059066MS	di0837.d	09/29/15	17:10
18	8059067MSD	di0838.d	09/29/15	17:38

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: di0820.d DFTPP Injection Date: 09/29/15

Instrument ID: HP19760 DFTPP Injection Time: 08:52

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	44.7
68	Less than 2.0% of mass 69	0.85 (1.77)1
69	Mass 69 relative abundance	47.9
70	Less than 2.0% of mass 69	0.22 (0.45)1
127	40.0 - 60.0% of mass 198	43.8
197	Less than 1.0% of mass 198	0.4
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.62
275	10.0 - 30.0% of mass 198	25.8
365	Greater than 1.00% of mass 198	2.88
441	Present, and less than mass 443	13.7
442	Greater than 40.0 % of mass 198	81.8
443	17.0 - 23.0% of mass 442	15.5 (18.9)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	8059068	di0839.d	09/29/15	18:06
20	8059069	di0840.d	09/29/15	18:34
21	8062128	di0841.d	09/29/15	19:03
22	8062135	di0842.d	09/29/15	19:31

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: oi0980s.d DFTPP Injection Date: 09/22/15

Instrument ID: HP09910 DFTPP Injection Time: 08:46

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	40.3
68	Less than 2.0% of mass 69	0.7 (1.57)1
69	Mass 69 relative abundance	44.6
70	Less than 2.0% of mass 69	0.27 (0.61)1
127	40.0 - 60.0% of mass 198	47.0
197	Less than 1.0% of mass 198	0.0
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	22.6
365	Greater than 1.00% of mass 198	2.04
441	Present, and less than mass 443	10.9
442	Greater than 40.0 % of mass 198	73.2
443	17.0 - 23.0% of mass 442	14.2 (19.3)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	STD2575 - SSTD30	oi0981a.d	09/22/15	09:32
02	STD2575 - SSTD.5	oi0982.d	09/22/15	09:58
03	STD2575 - SSTD120	oi0983.d	09/22/15	10:23
04	STD2575 - SSTD80	oi0984.d	09/22/15	10:49
05	STD2575 - SSTD50	oi0985.d	09/22/15	11:15
06	STD2575 - SSTD15	oi0986.d	09/22/15	11:41
07	SSTD5	oi0987.d	09/22/15	12:07
08	STD2575 - SSTD1	oi0988.d	09/22/15	12:33
09	MDL2575 - SSTD0.5	oi0989.d	09/22/15	12:58
10	PAHMDL2575 - SSTD0.1	oi0990.d	09/22/15	13:24
11	ICV2465 - SSTD050	oi0991.d	09/22/15	13:50
12	BAS2475 - SSTD50	oi0992.d	09/22/15	15:33
13	BAS2475 - SSTD120	oi0993.d	09/22/15	15:59
14	BAS2475 - SSTD80	oi0994.d	09/22/15	16:25
15	BAS2475 - SSTD30	oi0995.d	09/22/15	16:51
16	BAS2475 - SSTD15	oi0996.d	09/22/15	17:16
17	BAS2475 - SSTD5	oi0997.d	09/22/15	17:42
18	BASMDL2475 - SSTD001	oi0998.d	09/22/15	18:08

FORM V SV

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: oi0980s.d DFTPP Injection Date: 09/22/15

Instrument ID: HP09910 DFTPP Injection Time: 08:46

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	40.3
68	Less than 2.0% of mass 69	0.7 (1.57)1
69	Mass 69 relative abundance	44.6
70	Less than 2.0% of mass 69	0.27 (0.61)1
127	40.0 - 60.0% of mass 198	47.0
197	Less than 1.0% of mass 198	0.0
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	22.6
365	Greater than 1.00% of mass 198	2.04
441	Present, and less than mass 443	10.9
442	Greater than 40.0 % of mass 198	73.2
443	17.0 - 23.0% of mass 442	14.2 (19.3)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	BASICV2475 - SSTD050	oi0999.d	09/22/15	18:34
20	SBLKWA261	oi1003.d	09/22/15	18:59
21	261WALCS	oi1004.d	09/22/15	19:26
22	261WALCSD	oi1005.d	09/22/15	19:51
23	8050557	oi1006.d	09/22/15	20:17

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: oi1160.d DFTPP Injection Date: 09/25/15

Instrument ID: HP09910 DFTPP Injection Time: 19:45

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	38.1
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	39.7
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	45.2
197	Less than 1.0% of mass 198	0.0
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.08
275	10.0 - 30.0% of mass 198	21.0
365	Greater than 1.00% of mass 198	1.37
441	Present, and less than mass 443	11.0
442	Greater than 40.0 % of mass 198	80.3
443	17.0 - 23.0% of mass 442	14.1 (17.6)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	STD2575 - SSTD30	oi1161.d	09/25/15	19:59
02	SBLKLE266	oi1162.d	09/25/15	20:48
03	266LELCS	oi1163.d	09/25/15	21:13
04	8051800	oi1164.d	09/25/15	21:39
05	8051803	oi1165.d	09/25/15	22:04
06	8051809	oi1166.d	09/25/15	22:30
07	8051812	oi1167.d	09/25/15	22:56
08	8051815	oi1168.d	09/25/15	23:21
09	8051816	oi1169.d	09/25/15	23:47
10	8057362	oi1170.d	09/26/15	00:13
11	8057363MS	oi1171.d	09/26/15	00:38
12	8057364MSD	oi1172.d	09/26/15	01:04
13	8051384	oi1173.d	09/26/15	01:30
14	8051385	oi1174.d	09/26/15	01:55
15	8056301	oi1175.d	09/26/15	02:21
16	8056302	oi1176.d	09/26/15	02:47
17	8056444	oi1177.d	09/26/15	03:12
18	8056447	oi1178.d	09/26/15	03:38

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: oi1160.d DFTPP Injection Date: 09/25/15

Instrument ID: HP09910 DFTPP Injection Time: 19:45

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	38.1
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	39.7
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	45.2
197	Less than 1.0% of mass 198	0.0
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.08
275	10.0 - 30.0% of mass 198	21.0
365	Greater than 1.00% of mass 198	1.37
441	Present, and less than mass 443	11.0
442	Greater than 40.0 % of mass 198	80.3
443	17.0 - 23.0% of mass 442	14.1 (17.6)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	8056449	oi1179.d	09/26/15	04:04
20	8056450	oi1180.d	09/26/15	04:30
21	8056453	oi1181.d	09/26/15	04:55
22	8057359	oi1182.d	09/26/15	05:21
23	8057360	oi1183.d	09/26/15	05:47
24	8057361	oi1184.d	09/26/15	06:12
25	8057366	oi1185.d	09/26/15	06:38
26	8057367	oi1186.d	09/26/15	07:04
27	8057368	oi1187.d	09/26/15	07:29

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date(s): 08/13/15 08/14/15

Calibration Times: 21:20 00:44

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = dh0422.d RRF0.25 = dh0428.d RRF1.25 = dh0427.d RRF3.75 = dh0426.d
RRF7.5 = dh0421.d RRF12.5 = dh0425.d RRF20 = dh0424.d RRF30 = dh0423.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1,4-Dioxane			0.505	0.576	0.653	0.636	0.611	0.655	0.606	10	AVG
N-Nitrosodimethylamine		0.765	0.943	1.046	1.113	1.105	1.107	1.160	1.034	13	AVG
Pyridine			1.663	1.755	1.853	1.852	1.845	1.889	1.809	5	AVG
2-Picoline		1.697	1.866	1.789	1.873	1.806	1.833	1.891	1.822	4	AVG
N-Nitrosomethylethylamine		0.777	0.782	0.770	0.779	0.759	0.776	0.793	0.777	1	AVG
Methyl methanesulfonate		0.798	0.950	0.906	0.967	0.938	0.948	0.970	0.925	6	AVG
N-Nitrosodiethylamine		0.671	0.742	0.743	0.753	0.746	0.759	0.777	0.742	5	AVG
Ethyl methanesulfonate		0.743	0.760	0.747	0.767	0.759	0.764	0.777	0.760	2	AVG
Benzaldehyde			1.391	1.412	1.447	1.414	1.344	1.195	1.367	7	AVG
Aniline		2.474	2.611	2.578	2.616	2.584	2.608	2.622	2.585	2	AVG
Phenol		2.127	2.285	2.253	2.299	2.227	2.267	2.269	2.247	3	AVG
bis(2-Chloroethyl)ether		1.649	1.708	1.687	1.696	1.645	1.674	1.695	1.679	1	AVG
2-Chlorophenol		1.364	1.396	1.415	1.438	1.422	1.444	1.459	1.420	2	AVG
1,3-Dichlorobenzene		1.563	1.532	1.519	1.537	1.506	1.533	1.545	1.534	1	AVG
1,4-Dichlorobenzene		1.582	1.640	1.531	1.565	1.521	1.556	1.554	1.564	3	AVG
Benzyl alcohol			0.925	0.926	1.013	0.992	1.002	1.020	0.979	4	AVG
1,2-Dichlorobenzene		1.510	1.530	1.464	1.467	1.435	1.458	1.462	1.475	2	AVG
Indene			2.415	2.342	2.430	2.409	2.397	2.410	2.401	1	AVG
2-Methylphenol		1.300	1.360	1.375	1.384	1.360	1.386	1.392	1.365	2	AVG
2,2'-oxybis(1-Chloropropane)		2.639	2.482	2.394	2.453	2.339	2.360	2.414	2.440	4	AVG
bis(2-Chloroisopropyl)ether		2.639	2.482	2.394	2.453	2.339	2.360	2.414	2.440	4	AVG
N-Nitrosopyrrolidine		0.682	0.771	0.770	0.795	0.789	0.810	0.825	0.777	6	AVG
Acetophenone		2.002	2.050	2.055	2.091	2.056	2.088	2.096	2.063	2	AVG
N-Nitroso-di-n-propylamine		1.223	1.254	1.259	1.303	1.269	1.281	1.300	1.270	2	AVG
N-Nitrosomorpholine		1.019	1.083	1.055	1.087	1.044	1.064	1.071	1.060	2	AVG
4-Methylphenol		1.451	1.566	1.566	1.600	1.558	1.586	1.577	1.558	3	AVG
o-Toluidine		2.314	2.456	2.369	2.390	2.387	2.393	2.405	2.388	2	AVG
Hexachloroethane		0.681	0.669	0.650	0.663	0.645	0.661	0.668	0.663	2	AVG
Nitrobenzene		0.498	0.478	0.485	0.488	0.492	0.496	0.492	0.490	1	AVG
N-Nitrosopiperidine		0.179	0.180	0.182	0.187	0.187	0.192	0.190	0.185	3	AVG
Isophorone		0.787	0.812	0.843	0.860	0.861	0.874	0.869	0.844	4	AVG
2-Nitrophenol		0.173	0.181	0.189	0.195	0.200	0.202	0.201	0.192	6	AVG
2,4-Dimethylphenol		0.355	0.379	0.400	0.404	0.403	0.406	0.399	0.392	5	AVG
O,O,O-triethylphosphorothioate		0.184	0.191	0.199	0.195	0.196	0.199	0.195	0.194	3	AVG
bis(2-Chloroethoxy)methane		0.498	0.513	0.524	0.546	0.509	0.531	0.525	0.521	3	AVG
Benzoic acid			0.148	0.241	0.266	0.298	0.314	0.318	0.264	24	1STDEG
2,4-Dichlorophenol		0.282	0.282	0.304	0.303	0.306	0.307	0.306	0.299	4	AVG
1,2,4-Trichlorobenzene		0.347	0.358	0.353	0.349	0.353	0.358	0.354	0.353	1	AVG
Naphthalene	1.113	1.096	1.036	1.065	1.046	1.049	1.057	1.048	1.064	3	AVG
4-Chloroaniline		0.564	0.443	0.446	0.455	0.458	0.461	0.459	0.470	9	AVG
2,6-Dichlorophenol		0.269	0.283	0.296	0.293	0.296	0.296	0.293	0.289	3	AVG
Hexachloropropene		0.235	0.230	0.231	0.236	0.249	0.250	0.249	0.240	4	AVG
Hexachlorobutadiene		0.206	0.211	0.209	0.201	0.207	0.210	0.209	0.208	2	AVG
Quinoline		0.656	0.642	0.664	0.673	0.670	0.680	0.660	0.664	2	AVG
Caprolactam			0.085	0.099	0.099	0.103	0.104	0.102	0.098	7	AVG
N-Nitrosodi-n-butylamine			0.290	0.299	0.307	0.306	0.382	0.378	0.327	13	AVG
4-Chloro-3-methylphenol		0.291	0.303	0.326	0.341	0.337	0.338	0.336	0.325	6	AVG
Safrole		0.251	0.256	0.266	0.269	0.271	0.273	0.269	0.265	3	AVG
2-Methylnaphthalene	0.703	0.700	0.690	0.687	0.701	0.702	0.705	0.695	0.698	1	AVG
1-Methylnaphthalene	0.676	0.642	0.618	0.632	0.627	0.635	0.636	0.625	0.636	3	AVG
Hexachlorocyclopentadiene			0.401	0.386	0.386	0.405	0.413	0.414	0.401	3	AVG
1,2,4,5-Tetrachlorobenzene		0.627	0.622	0.621	0.612	0.609	0.626	0.627	0.621	1	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date(s): 08/13/15 08/14/15

Calibration Times: 21:20 00:44

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = dh0422.d RRF0.25 = dh0428.d RRF1.25 = dh0427.d RRF3.75 = dh0426.d
RRF7.5 = dh0421.d RRF12.5 = dh0425.d RRF20 = dh0424.d RRF30 = dh0423.d

COMPOUND	RRF0.125	RF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
cis-Isosafrole		0.477	0.470	0.506	0.492	0.506	0.523	0.528	0.500	4	AVG
2,4,6-Trichlorophenol		0.340	0.383	0.396	0.401	0.404	0.419	0.425	0.395	7	AVG
2,4,5-Trichlorophenol		0.347	0.405	0.426	0.431	0.422	0.438	0.438	0.415	8	AVG
trans-Isosafrole		0.549	0.520	0.547	0.556	0.552	0.567	0.575	0.552	3	AVG
Isosafrole		0.456	0.431	0.454	0.461	0.458	0.471	0.477	0.458	3	AVG
1,1'-Biphenyl		1.393	1.358	1.372	1.395	1.379	1.407	1.405	1.387	1	AVG
2-Chloronaphthalene		1.141	1.188	1.151	1.120	1.163	1.151	1.209	1.160	3	AVG
1-Chloronaphthalene		1.085	1.104	1.102	1.127	1.044	1.129	1.082	1.096	3	AVG
Diphenyl ether		0.778	0.801	0.787	0.780	0.766	0.785	0.793	0.784	1	AVG
2-Nitroaniline		0.268	0.331	0.353	0.374	0.358	0.378	0.384	0.350	11	AVG
1,4-Naphthoquinone			0.413	0.466	0.485	0.485	0.494	0.502	0.474	7	AVG
1,4-Dinitrobenzene			0.176	0.189	0.195	0.197	0.206	0.216	0.196	7	AVG
Dimethylphthalate			1.313	1.316	1.317	1.278	1.324	1.337	1.314	2	AVG
1,3-Dinitrobenzene			0.185	0.214	0.214	0.217	0.224	0.233	0.215	8	AVG
2,6-Dinitrotoluene		0.220	0.279	0.303	0.294	0.299	0.306	0.316	0.288	11	AVG
Acenaphthylene	1.653	1.643	1.706	1.770	1.793	1.755	1.810	1.787	1.740	4	AVG
3-Nitroaniline		0.246	0.312	0.304	0.314	0.315	0.329	0.339	0.308	10	AVG
Acenaphthene	1.161	1.129	1.177	1.155	1.155	1.135	1.159	1.146	1.152	1	AVG
2,4-Dinitrophenol			0.144	0.171	0.187	0.197	0.210	0.223	0.188	15	AVG
Pentachlorobenzene		0.528	0.553	0.533	0.523	0.526	0.529	0.528	0.531	2	AVG
4-Nitrophenol			0.186	0.189	0.227	0.221	0.231	0.239	0.215	10	AVG
Dibenzofuran		1.651	1.628	1.620	1.615	1.580	1.596	1.596	1.612	1	AVG
2,4-Dinitrotoluene		0.302	0.368	0.387	0.397	0.405	0.420	0.430	0.387	11	AVG
2,4_2,6-Dinitrotoluenes		0.261	0.323	0.345	0.345	0.352	0.363	0.373	0.337	11	AVG
1-Naphthylamine		1.034	1.125	1.134	1.168	1.160	1.225	1.254	1.157	6	AVG
2,3,4,6-Tetrachlorophenol		0.304	0.309	0.327	0.333	0.335	0.351	0.362	0.332	6	AVG
2-Naphthylamine		1.044	1.159	1.126	1.142	1.163	1.213	1.246	1.156	6	AVG
Diethylphthalate			1.213	1.243	1.302	1.269	1.331	1.338	1.282	4	AVG
Thionazin		0.232	0.229	0.249	0.255	0.246	0.260	0.261	0.248	5	AVG
Fluorene	1.267	1.192	1.258	1.273	1.267	1.253	1.271	1.296	1.260	2	AVG
4-Chlorophenyl-phenylether		0.608	0.652	0.651	0.654	0.641	0.648	0.643	0.642	2	AVG
5-Nitro-o-toluidine		0.313	0.357	0.356	0.363	0.364	0.372	0.376	0.357	6	AVG
4-Nitroaniline		0.256	0.313	0.331	0.348	0.326	0.333	0.341	0.321	10	AVG
4,6-Dinitro-2-methylphenol			0.118	0.131	0.140	0.147	0.153	0.154	0.140	10	AVG
N-Nitrosodiphenylamine (1)		0.564	0.609	0.618	0.617	0.610	0.618	0.608	0.606	3	AVG
1,2-Diphenylhydrazine		0.841	0.880	0.898	0.927	0.894	0.893	0.895	0.890	3	AVG
Tetraethyldithiopyrophosphate		0.124	0.136	0.139	0.144	0.142	0.142	0.140	0.138	5	AVG
1,3,5-Trinitrobenzene			0.071	0.086	0.092	0.097	0.101	0.100	0.091	12	AVG
Diallate (peak 1)		0.366	0.374	0.385	0.402	0.391	0.390	0.385	0.385	3	AVG
Phorate		0.489	0.542	0.577	0.602	0.581	0.592	0.580	0.566	7	AVG
Phenacetin		0.304	0.370	0.410	0.423	0.409	0.422	0.417	0.394	11	AVG
4-Bromophenyl-phenylether		0.226	0.218	0.211	0.213	0.212	0.210	0.211	0.214	3	AVG
Diallate (peak 2)		0.301	0.380	0.375	0.379	0.369	0.378	0.378	0.366	8	AVG
Hexachlorobenzene	0.218	0.240	0.227	0.233	0.226	0.226	0.225	0.224	0.227	3	AVG
Dimethoate			0.321	0.358	0.370	0.368	0.369	0.366	0.359	5	AVG
Atrazine		0.193	0.200	0.206	0.207	0.203	0.197	0.177	0.198	5	AVG
Pentachlorophenol			0.126	0.146	0.152	0.156	0.160	0.156	0.150	8	AVG
Pentachloronitrobenzene		0.092	0.097	0.101	0.105	0.103	0.105	0.103	0.101	5	AVG
4-Aminobiphenyl		0.665	0.705	0.738	0.756	0.744	0.732	0.695	0.719	4	AVG
Pronamide		0.266	0.309	0.343	0.360	0.355	0.360	0.353	0.335	10	AVG
Phenanthrene	1.081	1.099	1.080	1.071	1.087	1.062	1.067	1.060	1.076	1	AVG
Dinoseb			0.145	0.196	0.211	0.223	0.232	0.231	0.206	16	1STDEG

(1) Cannot be separated from Diphenylamine

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

FORM VI SV-1

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date(s): 08/13/15 08/14/15

Calibration Times: 21:20 00:44

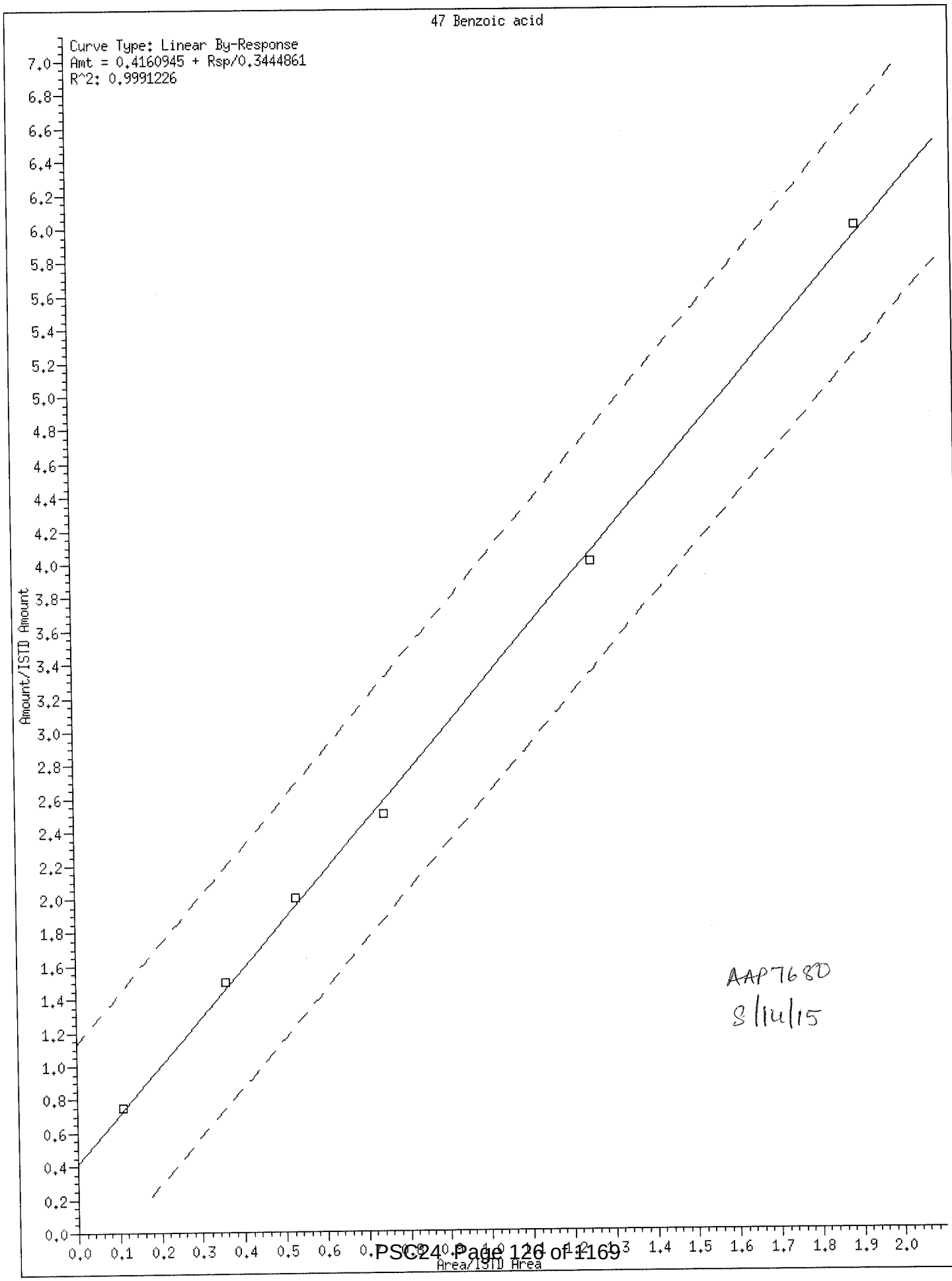
Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

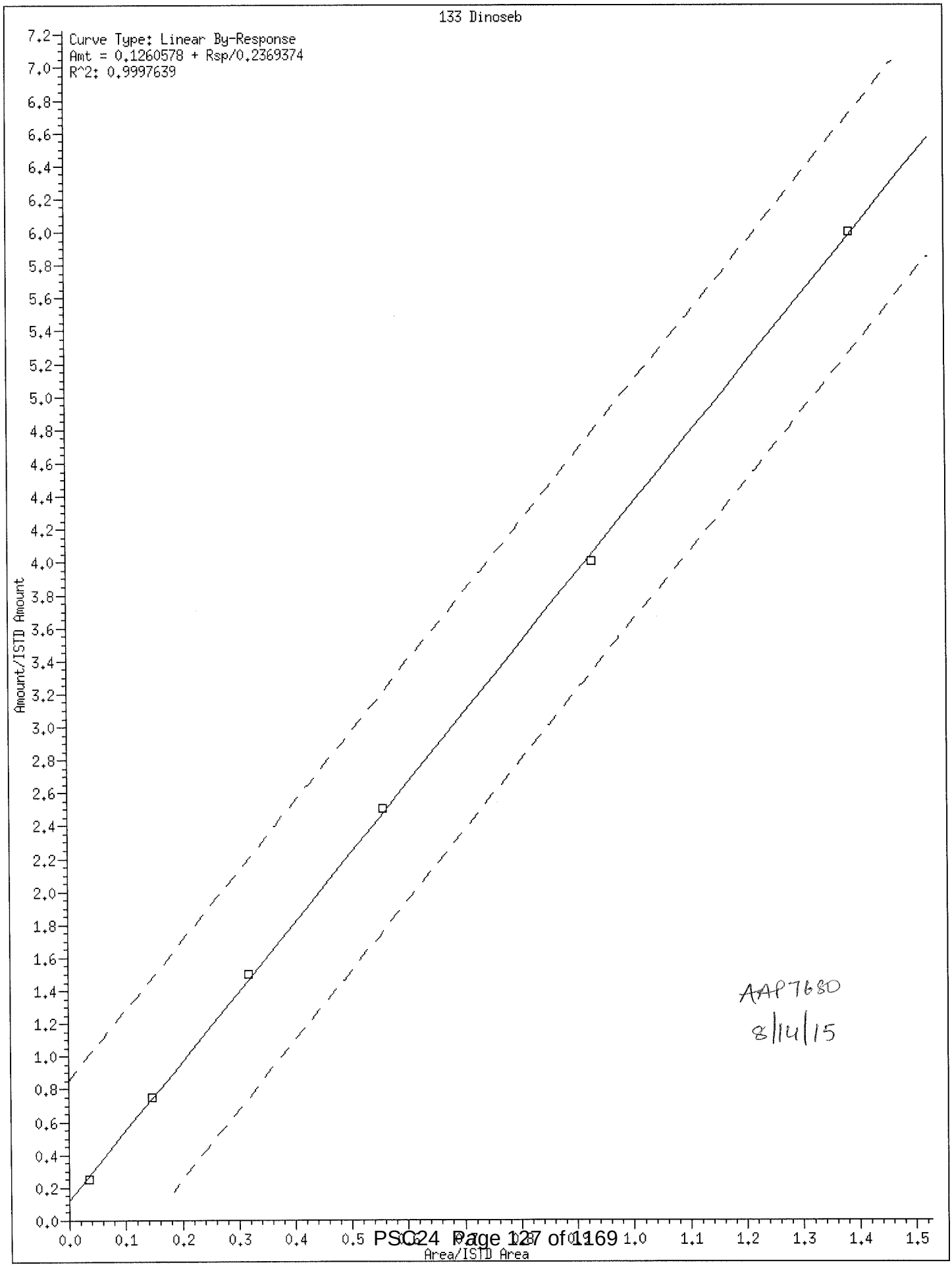
LAB FILE ID: RRF0.125 = dh0422.d RRF0.25 = dh0428.d RRF1.25 = dh0427.d RRF3.75 = dh0426.d
RRF7.5 = dh0421.d RRF12.5 = dh0425.d RRF20 = dh0424.d RRF30 = dh0423.d

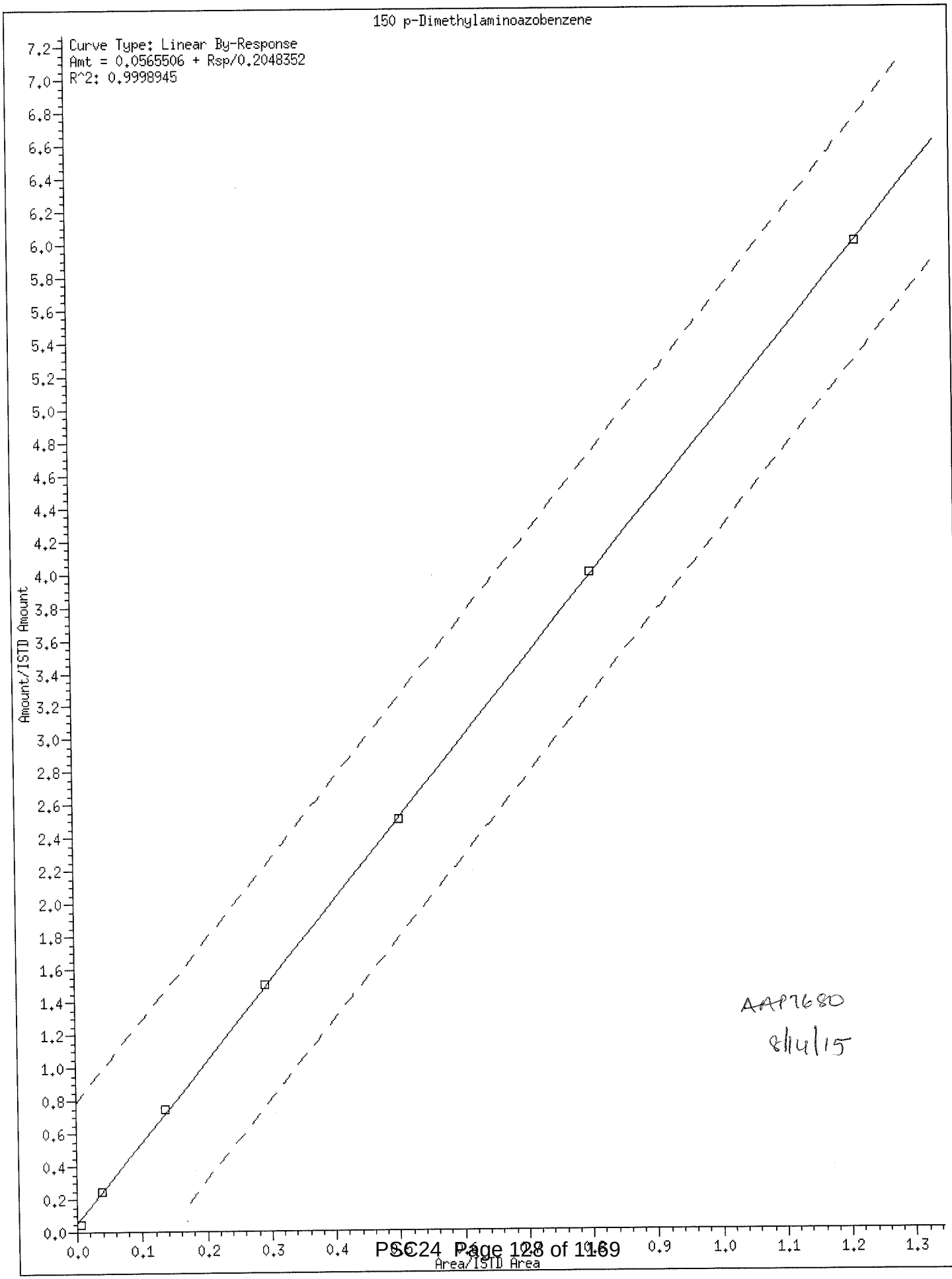
COMPOUND	RRF0.125	RF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
Anthracene	0.969	1.022	1.044	1.067	1.099	1.068	1.080	1.055	1.050	4	AVG
Carbazole		0.899	0.981	1.019	1.046	1.020	1.019	1.011	0.999	5	AVG
Methyl parathion			0.219	0.263	0.286	0.289	0.290	0.290	0.273	10	AVG
Di-n-butylphthalate			1.140	1.255	1.324	1.302	1.307	1.276	1.267	5	AVG
Parathion			0.131	0.167	0.179	0.180	0.181	0.179	0.169	12	AVG
4-Nitroquinoline-1-oxide				0.099	0.118	0.130	0.139	0.146	0.126	15	AVG
Isodrin		0.134	0.129	0.135	0.138	0.133	0.134	0.135	0.134	2	AVG
Fluoranthene	1.137	1.095	1.171	1.241	1.261	1.234	1.233	1.221	1.199	5	AVG
Benzidine			0.615	0.643	0.653	0.660	0.644	0.620	0.639	3	AVG
Pyrene	1.082	1.077	1.043	1.017	1.031	1.002	0.997	1.002	1.031	3	AVG
p-Dimethylaminoazobenzene		0.121	0.159	0.181	0.195	0.201	0.201	0.203	0.180	17	1STDEG
Chlorobenzilate			0.275	0.300	0.313	0.311	0.312	0.311	0.304	5	AVG
3,3'-Dimethylbenzidine			0.563	0.652	0.688	0.702	0.702	0.697	0.667	8	AVG
Butylbenzylphthalate			0.419	0.460	0.475	0.476	0.465	0.472	0.461	5	AVG
2-Acetylaminofluorene			0.289	0.360	0.388	0.413	0.413	0.446	0.385	14	AVG
Benzo(a)anthracene	0.800	0.852	0.930	0.988	1.009	1.008	0.993	1.005	0.948	9	AVG
3,3'-Dichlorobenzidine			0.324	0.367	0.376	0.385	0.381	0.384	0.370	6	AVG
4,4'-Methylenebis(2-Chloroanil			0.185	0.198	0.209	0.211	0.210	0.212	0.204	5	AVG
Chrysene	0.826	0.867	0.918	0.940	0.945	0.933	0.912	0.934	0.910	5	AVG
bis(2-Ethylhexyl)phthalate			0.568	0.662	0.700	0.703	0.707	0.711	0.675	8	AVG
6-Methylchrysene		0.554	0.628	0.671	0.702	0.707	0.700	0.720	0.669	9	AVG
Di-n-octylphthalate			1.056	1.284	1.415	1.415	1.487	1.461	1.353	12	AVG
7,12-Dimethylbenz[a]anthracene		0.395	0.464	0.500	0.528	0.532	0.544	0.536	0.500	11	AVG
Benzo(b)fluoranthene	0.998	1.003	1.096	1.130	1.203	1.173	1.192	1.188	1.123	7	AVG
Benzo(k)fluoranthene	1.019	1.003	1.113	1.173	1.164	1.149	1.167	1.158	1.118	6	AVG
Benzo(a)pyrene	0.864	0.860	0.994	1.044	1.093	1.123	1.144	1.136	1.032	11	AVG
3-Methylcholanthrene		0.384	0.462	0.506	0.532	0.537	0.562	0.553	0.505	12	AVG
NDPA as diphenylamine		0.564	0.609	0.618	0.617	0.610	0.618	0.608	0.606	3	AVG
Indeno(1,2,3-cd)pyrene	0.912	0.994	1.155	1.187	1.228	1.218	1.305	1.214	1.152	11	AVG
Dibenz(a,h)anthracene	0.751	0.775	0.963	1.006	1.050	1.040	1.091	1.022	0.962	13	AVG
Benzo(g,h,i)perylene	0.853	0.893	0.998	1.024	1.046	1.025	1.066	0.987	0.987	8	AVG
Diallate TRANS/CIS		0.355	0.375	0.383	0.398	0.388	0.388	0.384	0.382	4	AVG
2-Fluorophenol		1.421	1.475	1.458	1.505	1.467	1.483	1.514	1.475	2	AVG
Phenol-d5		1.755	1.851	1.870	1.932	1.884	1.901	1.934	1.875	3	AVG
Phenol-d6		1.755	1.851	1.870	1.932	1.884	1.901	1.934	1.875	3	AVG
Nitrobenzene-d5		0.458	0.459	0.464	0.470	0.477	0.479	0.479	0.470	2	AVG
2-Fluorobiphenyl		1.407	1.393	1.373	1.368	1.339	1.367	1.361	1.373	2	AVG
2,4,6-Tribromophenol			0.164	0.173	0.173	0.176	0.186	0.190	0.177	5	AVG
Terphenyl-d14		0.667	0.704	0.711	0.721	0.711	0.697	0.693	0.701	3	AVG

Average %RSD 6

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.


47 Benzoic acid
Curve Type: Linear By-Response
Amt = 0.4160945 + Rsp/0.3444861
R^2: 0.9991226
Amount/ISTD Amount
Area/ISTD Area
AAP7680
8/14/15


133 Dinoseb
Curve Type: Linear By-Response
Amt = 0.1260578 + Rsp/0.2369374
R^2: 0.9997639
Amount/ISTD Amount
Area/ISTD Area
AAP7680
8/14/15


150 p-Dimethylaminoazobenzene
Curve Type: Linear By-Response
Amt = 0.0565506 + Rsp/0.2048352
R^2: 0.9998945
Amount/ISTD Amount
Area/ISTD Area
AAP7680
8/14/15

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP19760.i/15aug13a.b/dh0421.d SSTD7.5
/chem/HP19760.i/15aug13a.b/dh0422.d SSTD0.125
/chem/HP19760.i/15aug13a.b/dh0423.d SSTD030
/chem/HP19760.i/15aug13a.b/dh0424.d SSTD020
/chem/HP19760.i/15aug13a.b/dh0425.d SSTD12.5
/chem/HP19760.i/15aug13a.b/dh0426.d SSTD3.75
/chem/HP19760.i/15aug13a.b/dh0427.d SSTD1.25
/chem/HP19760.i/15aug13a.b/dh0428.d SSTD0.25

Area Summary

	File ID:								
Internal Standard Name	dh0421.d	dh0422.d	dh0423.d	dh0424.d	dh0425.d	dh0426.d	dh0427.d	dh0428.d	Avg. Area	%RSD
1,4-Dichlorobenzene-d4	222949	199023	207161	187193	191780	207620	186303	199682	200214	6
Naphthalene-d8	857183	754902	797685	713150	723993	792084	731704	761178	766485	6
Acenaphthene-d10	490402	426721	444995	405831	423994	456295	413992	437991	437528	6
Phenanthrene-d10	850565	744612	825465	732779	745464	791119	717886	741138	768628	6
Pyrene-d10	1104282	956115	1045092	936599	961682	1034555	918592	955300	989027	7
Perylene-d12	935614	774868	904232	786295	830567	881245	762575	779433	831854	8

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

	File ID:							
Internal Standard Name	dh0421.d	dh0422.d	dh0423.d	dh0424.d	dh0425.d	dh0426.d	dh0427.d	dh0428.d
1,4-Dichlorobenzene-d4	6.936	6.936	6.942	6.936	6.936	6.936	6.936	6.936
Naphthalene-d8	8.871	8.865	8.871	8.871	8.871	8.865	8.866	8.866
Acenaphthene-d10	11.652	11.646	11.652	11.652	11.652	11.646	11.646	11.646
Phenanthrene-d10	13.534	13.528	13.540	13.534	13.534	13.528	13.529	13.528
Pyrene-d10	15.522	15.516	15.522	15.522	15.522	15.516	15.516	15.516
Perylene-d12	20.022	20.016	20.022	20.022	20.016	20.016	20.016	20.010

Comments: _____

_____

Report generated on 08/14/2015 at 10:11

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270C MINI File ID: dh0431.d

ICV SAMPLE ID: RVICV1465 BATCH: 15AUG13A026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	12.50	13.45	8	20	YES
N-Nitrosodimethylamine	12.50	13.79	10	20	YES
Pyridine	12.50	13.45	8	20	YES
2-Picoline	12.50	13.34	7	20	YES
N-Nitrosomethylethylamine	12.50	12.50	0	20	YES
Methyl methanesulfonate	12.50	13.17	5	20	YES
N-Nitrosodiethylamine	12.50	12.74	2	20	YES
Ethyl methanesulfonate	12.50	12.60	1	20	YES
Phenol	12.50	13.13	5	20	YES
Aniline	12.50	13.29	6	20	YES
bis(2-Chloroethyl)ether	12.50	13.10	5	20	YES
2-Chlorophenol	12.50	13.10	5	20	YES
1,3-Dichlorobenzene	12.50	13.12	5	20	YES
1,4-Dichlorobenzene	12.50	13.11	5	20	YES
Benzyl alcohol	12.50	13.75	10	20	YES
1,2-Dichlorobenzene	12.50	13.26	6	20	YES
Indene	12.50	14.31	15	20	YES
2-Methylphenol	12.50	13.52	8	20	YES
2,2'-oxybis(1-Chloropropane	12.50	13.40	7	20	YES
bis(2-Chloroisopropyl)ether	12.50	13.40	7	20	YES
N-Nitrosopyrrolidine	12.50	12.89	3	20	YES
Acetophenone	12.50	13.59	9	20	YES
N-Nitroso-di-n-propylamine	12.50	13.32	7	20	YES
N-Nitrosomorpholine	12.50	12.78	2	20	YES
4-Methylphenol	12.50	13.14	5	20	YES
o-Toluidine	12.50	13.15	5	20	YES
Hexachloroethane	12.50	13.26	6	20	YES
Nitrobenzene	12.50	13.00	4	20	YES
N-Nitrosopiperidine	12.50	12.35	-1	20	YES
Isophorone	12.50	13.47	8	20	YES
2-Nitrophenol	12.50	13.34	7	20	YES
2,4-Dimethylphenol	12.50	12.53	0	20	YES
O,O,O-triethylphosphorothio	12.50	12.68	1	20	YES
Benzoic acid	25.00	23.56	-6	20	YES
bis(2-Chloroethoxy)methane	12.50	12.80	2	20	YES
2,4-Dichlorophenol	12.50	13.18	5	20	YES
1,2,4-Trichlorobenzene	12.50	13.11	5	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270C MINI File ID: dh0431.d

ICV SAMPLE ID: RVICV1465 BATCH: 15AUG13A026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Naphthalene	12.50	13.01	4	20	YES
4-Chloroaniline	12.50	12.59	1	20	YES
2,6-Dichlorophenol	12.50	12.91	3	20	YES
Hexachloropropene	12.50	13.51	8	20	YES
Hexachlorobutadiene	12.50	13.17	5	20	YES
Quinoline	12.50	12.85	3	20	YES
N-Nitrosodi-n-butylamine	12.50	11.53	-8	20	YES
4-Chloro-3-methylphenol	12.50	13.51	8	20	YES
Safrole	12.50	12.88	3	20	YES
2-Methylnaphthalene	12.50	12.56	0	20	YES
1-Methylnaphthalene	12.50	12.90	3	20	YES
Hexachlorocyclopentadiene	25.00	26.44	6	20	YES
1,2,4,5-Tetrachlorobenzene	12.50	12.81	2	20	YES
2,4,6-Trichlorophenol	12.50	13.35	7	20	YES
2,4,5-Trichlorophenol	12.50	13.33	7	20	YES
Isosafrole	12.50	13.92	11	20	YES
1,1'-Biphenyl	12.50	13.42	7	20	YES
2-Chloronaphthalene	12.50	13.67	9	20	YES
Diphenyl ether	12.50	12.54	0	20	YES
2-Nitroaniline	12.50	13.83	11	20	YES
1,4-Naphthoquinone	15.63	16.08	3	20	YES
1,4-Dinitrobenzene	12.50	13.39	7	20	YES
Dimethylphthalate	12.50	12.94	4	20	YES
1,3-Dinitrobenzene	12.50	13.12	5	20	YES
2,6-Dinitrotoluene	12.50	13.83	11	20	YES
Acenaphthylene	12.50	13.39	7	20	YES
3-Nitroaniline	12.50	13.72	10	20	YES
Acenaphthene	12.50	13.27	6	20	YES
2,4-Dinitrophenol	25.00	27.30	9	20	YES
Pentachlorobenzene	12.50	12.32	-1	20	YES
4-Nitrophenol	12.50	13.53	8	20	YES
Dibenzofuran	12.50	12.74	2	20	YES
2,4-Dinitrotoluene	12.50	14.08	13	20	YES
1-Naphthylamine	25.00	26.25	5	20	YES
2,3,4,6-Tetrachlorophenol	12.50	13.45	8	20	YES
2-Naphthylamine	25.00	26.71	7	20	YES
Diethylphthalate	12.50	12.79	2	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270C MINI File ID: dh0431.d

ICV SAMPLE ID: RVICV1465 BATCH: 15AUG13A026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Fluorene	12.50	13.34	7	20	YES
Thionazin	12.50	12.91	3	20	YES
4-Chlorophenyl-phenylether	12.50	13.18	5	20	YES
5-Nitro-o-toluidine	12.50	13.30	6	20	YES
4-Nitroaniline	12.50	13.05	4	20	YES
4,6-Dinitro-2-methylphenol	12.50	13.48	8	20	YES
N-Nitrosodiphenylamine	12.50	12.95	4	20	YES
1,2-Diphenylhydrazine	12.50	13.38	7	20	YES
Tetraethyldithiopyrophospha	12.50	12.41	-1	20	YES
1,3,5-Trinitrobenzene	12.50	13.16	5	20	YES
Diallate (peak 1)	9.38	9.17	-2	20	YES
Phorate	12.50	12.52	0	20	YES
Phenacetin	12.50	12.89	3	20	YES
4-Bromophenyl-phenylether	12.50	12.91	3	20	YES
Diallate (peak 2)	3.13	3.05	-3	20	YES
Hexachlorobenzene	12.50	12.63	1	20	YES
Dimethoate	12.50	12.84	3	20	YES
Pentachlorophenol	12.50	14.30	14	20	YES
Pentachloronitrobenzene	12.50	12.66	1	20	YES
4-Aminobiphenyl	12.50	14.30	14	20	YES
Pronamide	12.50	13.14	5	20	YES
Phenanthrene	12.50	12.86	3	20	YES
Dinoseb	12.50	12.43	-1	20	YES
Anthracene	12.50	13.59	9	20	YES
Carbazole	12.50	13.13	5	20	YES
Methyl parathion	12.50	13.16	5	20	YES
Di-n-butylphthalate	12.50	13.46	8	20	YES
Parathion	12.50	14.00	12	20	YES
4-Nitroquinoline-1-oxide	150.00	193.60	29	20	NO *
Isodrin	12.50	12.60	1	20	YES
Fluoranthene	12.50	13.55	8	20	YES
Benzidine	62.50	62.87	1	20	YES
Pyrene	12.50	12.53	0	20	YES
p-Dimethylaminoazobenzene	12.50	13.62	9	20	YES
Chlorobenzilate	12.50	13.00	4	20	YES
3,3'-Dimethylbenzidine	25.00	25.20	1	20	YES
Butylbenzylphthalate	12.50	13.47	8	20	YES

NC = Could not calculate

Comments: * Non-CCC compound ; %D <50% ; passes this criteria.

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270C MINI File ID: dh0431.d

ICV SAMPLE ID: RVICV1465 BATCH: 15AUG13A026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
2-Acetylaminofluorene	12.50	13.39	7	20	YES
Benzo(a)anthracene	12.50	13.88	11	20	YES
3,3'-Dichlorobenzidine	12.50	12.84	3	20	YES
4,4'-Methylenebis(2-Chloroa	12.50	12.46	0	20	YES
Chrysene	12.50	14.07	13	20	YES
bis(2-Ethylhexyl)phthalate	12.50	13.54	8	20	YES
6-Methylchrysene	12.50	13.28	6	20	YES
Di-n-octylphthalate	12.50	14.32	15	20	YES
Benzo(b)fluoranthene	12.50	14.25	14	20	YES
7,12-Dimethylbenz[a]anthrac	12.50	13.78	10	20	YES
Benzo(k)fluoranthene	12.50	13.95	12	20	YES
Benzo(a)pyrene	12.50	13.74	10	20	YES
3-Methylcholanthrene	12.50	14.85	19	20	YES
Indeno(1,2,3-cd)pyrene	12.50	13.88	11	20	YES
Dibenz(a,h)anthracene	12.50	14.47	16	20	YES
Benzo(g,h,i)perylene	12.50	13.92	11	20	YES
Diallate TRANS/CIS	12.50	12.21	-2	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270C MINI File ID: dh0432.d

ICV SAMPLE ID: RVBASICV1045 BATCH: 15AUG13A026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzaldehyde	12.50	13.66	9	20	YES
Caprolactam	12.50	12.52	0	20	YES
Atrazine	12.50	13.29	6	20	YES

NC = Could not calculate

Comments: _____

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date(s): 09/22/15 09/22/15

Calibration Times: 09:32 12:33

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.5 = oi0982.d RRF1 = oi0988.d RRF5 = oi0987.d RRF15 = oi0986.d
RRF30 = oi0981a.d RRF50 = oi0985.d RRF80 = oi0984.d RRF120 = oi0983.d

COMPOUND		RRF0.5	RRF1	RRF5	RRF15	RRF30	RRF50	RRF80	RRF120	$\overline{RRF}$	% RSD	CAL. METHOD	
1,4-Dioxane				0.878	0.706	0.755	0.743	0.694	0.701	0.746	9	AVG	
N-Nitrosodimethylamine				1.286	1.125	1.262	1.261	1.197	1.233	1.227	5	AVG	
Pyridine				2.074	1.858	2.060	1.994	1.940	1.999	1.987	4	AVG	
2-Picoline				2.217	2.002	2.194	2.153	2.072	2.087	2.121	4	AVG	
N-Nitrosomethylethylamine				1.188	0.992	1.024	1.011	0.956	0.986	1.026	8	AVG	
Methyl methanesulfonate				1.074	0.958	1.072	1.010	0.973	0.979	1.011	5	AVG	
N-Nitrosodiethylamine			0.935	1.055	0.909	0.971	1.019	0.962	0.972	0.975	5	AVG	
Ethyl methanesulfonate			0.851	0.959	0.873	0.993	0.962	0.924	0.935	0.928	5	AVG	
Phenol		*	2.490	3.009	2.817	2.914	2.884	2.833	2.897	2.835	6	AVG	*
Aniline			3.084	3.246	3.018	3.258	3.302	3.139	3.214	3.180	3	AVG	
a-methylstyrene				1.692	1.567	1.772	1.741	1.644	1.695	1.685	4	AVG	
bis(2-Chloroethyl)ether			2.140	2.073	1.871	2.036	2.026	1.958	2.004	2.015	4	AVG	
2-Chlorophenol			1.668	1.713	1.578	1.649	1.685	1.613	1.687	1.656	3	AVG	
1,3-Dichlorobenzene			1.453	1.632	1.530	1.668	1.645	1.555	1.592	1.582	5	AVG	
1,4-Dichlorobenzene		*	1.796	1.794	1.600	1.681	1.690	1.605	1.635	1.686	5	AVG	*
Benzyl alcohol				1.305	1.204	1.411	1.359	1.326	1.335	1.323	5	AVG	
1,2-Dichlorobenzene			1.709	1.686	1.509	1.562	1.606	1.485	1.567	1.589	5	AVG	
Indene				2.853	2.657	3.041	3.023	2.931	3.021	2.921	5	AVG	
2-Methylphenol			1.621	1.895	1.745	1.797	1.851	1.781	1.846	1.791	5	AVG	
2,2'-oxybis(1-Chloropropane)			2.791	2.758	2.543	2.652	2.637	2.510	2.596	2.641	4	AVG	
bis(2-Chloroisopropyl)ether			2.791	2.758	2.543	2.652	2.637	2.510	2.596	2.641	4	AVG	
N-Nitrosopyrrolidine			0.802	1.117	1.072	1.155	1.167	1.125	1.161	1.086	12	AVG	
Acetophenone			2.239	2.805	2.571	2.714	2.707	2.609	2.718	2.623	7	AVG	
4-Methylphenol			1.828	2.240	2.079	2.000	2.265	2.175	2.251	2.119	8	AVG	
Total Cresols			1.725	2.068	1.912	1.898	2.058	1.978	2.048	1.955	6	AVG	
N-Nitroso-di-n-propylamine	#		1.592	1.615	1.530	1.625	1.630	1.560	1.603	1.594	2	AVG	#
N-Nitrosomorpholine				1.367	1.244	1.289	1.292	1.261	1.261	1.286	3	AVG	
o-Toluidine			2.716	3.233	2.851	3.188	3.172	3.031	3.156	3.049	6	AVG	
Hexachloroethane				0.705	0.621	0.664	0.671	0.626	0.655	0.657	5	AVG	
Nitrobenzene			0.396	0.506	0.456	0.486	0.450	0.455	0.476	0.461	8	AVG	
N-Nitrosopiperidine			0.177	0.208	0.221	0.218	0.210	0.212	0.219	0.209	7	AVG	
Isophorone			0.933	0.993	0.949	0.956	0.934	0.923	0.972	0.951	3	AVG	
2-Nitrophenol		*	0.181	0.177	0.191	0.200	0.195	0.195	0.204	0.192	5	AVG	*
2,4-Dimethylphenol			0.359	0.444	0.419	0.440	0.421	0.422	0.441	0.421	7	AVG	
O,O,O-Triethylphosphorothioate				0.198	0.190	0.191	0.184	0.179	0.186	0.188	3	AVG	
bis(2-Chloroethoxy)methane			0.501	0.546	0.537	0.549	0.541	0.527	0.537	0.534	3	AVG	
Benzoic acid				0.325	0.372	0.414	0.422	0.426	0.446	0.401	11	AVG	
1,2,3,4-Tetrahydronaphthalene				0.577	0.533	0.583	0.560	0.570	0.588	0.568	3	AVG	
2,4-Dichlorophenol		*	0.272	0.318	0.300	0.310	0.298	0.299	0.316	0.302	5	AVG	*
1,2,4-Trichlorobenzene				0.313	0.304	0.312	0.303	0.299	0.309	0.307	2	AVG	
Naphthalene		1.164	1.043	1.122	1.090	1.106	1.074	1.084	1.135	1.102	3	AVG	
4-Chloroaniline			0.500	0.515	0.478	0.503	0.481	0.472	0.505	0.493	3	AVG	
2,6-Dichlorophenol			0.284	0.302	0.296	0.305	0.292	0.292	0.302	0.296	2	AVG	
Hexachloropropene				0.147	0.154	0.160	0.158	0.159	0.165	0.157	4	AVG	
Hexachlorobutadiene		*	0.177	0.165	0.144	0.153	0.143	0.140	0.142	0.152	9	AVG	*
Quinoline				0.831	0.784	0.797	0.764	0.758	0.798	0.789	3	AVG	
Caprolactam				0.198	0.178	0.170	0.163	0.162	0.168	0.173	8	AVG	
N-Nitrosodi-n-butylamine			0.332	0.379	0.439	0.451	0.429	0.355	0.343	0.390	13	AVG	
4-Chloro-3-methylphenol		*	0.389	0.419	0.411	0.416	0.402	0.397	0.418	0.407	3	AVG	*
Safrole				0.304	0.291	0.299	0.288	0.285	0.297	0.294	2	AVG	
2-Methylnaphthalene		0.790	0.769	0.821	0.753	0.793	0.750	0.755	0.782	0.777	3	AVG	
1-Methylnaphthalene		0.721	0.691	0.665	0.703	0.704	0.675	0.691	0.720	0.696	3	AVG	

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date(s): 09/22/15 09/22/15

Calibration Times: 09:32 12:33

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.5 = oi0982.d RRF1 = oi0988.d RRF5 = oi0987.d RRF15 = oi0986.d
RRF30 = oi0981a.d RRF50 = oi0985.d RRF80 = oi0984.d RRF120 = oi0983.d

COMPOUND		RRF0.5	RRF1	RRF5	RRF15	RRF30	RRF50	RRF80	RRF120	$\overline{RRF}$	% RSD	CAL. METHOD	
Hexachlorocyclopentadiene	#			0.209	0.228	0.245	0.230	0.225	0.220	0.226	5	AVG	#
1,2,4,5-Tetrachlorobenzene			0.457	0.484	0.486	0.478	0.464	0.468	0.455	0.470	3	AVG	
cis-Isosafrole				0.546	0.467	0.515	0.474	0.475	0.481	0.493	6	AVG	
2,4,6-Trichlorophenol	*		0.357	0.330	0.337	0.349	0.345	0.343	0.339	0.343	3	AVG	*
2,4,5-Trichlorophenol			0.356	0.409	0.385	0.404	0.378	0.373	0.370	0.382	5	AVG	
trans-Isosafrole				0.541	0.556	0.594	0.570	0.554	0.559	0.562	3	AVG	
Isosafrole				0.541	0.541	0.580	0.554	0.540	0.546	0.550	3	AVG	
1,1'-Biphenyl			1.394	1.564	1.526	1.600	1.512	1.473	1.516	1.512	4	AVG	
2-Chloronaphthalene			1.002	1.114	1.100	1.418	1.314	1.077	1.127	1.165	13	AVG	
1-Chloronaphthalene			0.960	1.115	1.106	1.146	1.096	1.105	1.067	1.085	6	AVG	
Diphenyl ether			0.710	0.806	0.769	0.807	0.749	0.760	0.756	0.765	4	AVG	
2-Nitroaniline			0.316	0.406	0.414	0.444	0.421	0.411	0.421	0.405	10	AVG	
1,4-Naphthoquinone				0.462	0.496	0.531	0.516	0.490	0.482	0.496	5	AVG	
1,4-Dinitrobenzene				0.184	0.209	0.224	0.226	0.224	0.227	0.216	8	AVG	
Dimethylphthalate				1.439	1.377	1.424	1.377	1.350	1.357	1.387	3	AVG	
1,3-Dinitrobenzene				0.214	0.245	0.256	0.261	0.251	0.255	0.247	7	AVG	
2,6-Dinitrotoluene			0.308	0.288	0.315	0.344	0.335	0.326	0.327	0.320	6	AVG	
Acenaphthylene		1.558	1.698	1.835	1.813	1.875	1.809	1.799	1.818	1.776	6	AVG	
3-Nitroaniline			0.337	0.348	0.361	0.405	0.386	0.367	0.371	0.368	6	AVG	
Acenaphthene	*	1.202	1.206	1.244	1.256	1.291	1.208	1.207	1.219	1.229	3	AVG	*
2,4-Dinitrophenol	#		0.141	0.171	0.196	0.226	0.233	0.237	0.253	0.208	19	1STDEG	#
4-Nitrophenol	#			0.179	0.194	0.211	0.206	0.199	0.203	0.199	6	AVG	#
Pentachlorobenzene			0.422	0.467	0.422	0.440	0.415	0.402	0.404	0.425	5	AVG	
2,4-Dinitrotoluene				0.443	0.462	0.462	0.454	0.445	0.449	0.453	2	AVG	
2,4_2,6-Dinitrotoluenes				0.366	0.389	0.403	0.395	0.385	0.388	0.387	3	AVG	
Dibenzofuran			1.674	1.673	1.667	1.766	1.697	1.661	1.671	1.687	2	AVG	
1-Naphthylamine				1.387	1.331	1.457	1.367	1.333	1.352	1.371	3	AVG	
2,3,4,6-Tetrachlorophenol			0.345	0.315	0.324	0.335	0.325	0.317	0.316	0.325	3	AVG	
2-Naphthylamine				1.360	1.383	1.450	1.377	1.319	1.257	1.357	5	AVG	
Diethylphthalate				1.416	1.315	1.419	1.339	1.332	1.338	1.360	3	AVG	
Thionazin				0.306	0.255	0.275	0.277	0.258	0.312	0.280	9	AVG	
Fluorene		1.322	1.408	1.488	1.382	1.495	1.402	1.403	1.401	1.413	4	AVG	
4-Chlorophenyl-phenylether			0.661	0.689	0.660	0.666	0.664	0.634	0.624	0.657	3	AVG	
5-Nitro-o-toluidine			0.375	0.452	0.407	0.449	0.421	0.417	0.418	0.420	6	AVG	
4-Nitroaniline			0.296	0.426	0.418	0.467	0.429	0.409	0.415	0.409	13	AVG	
4,6-Dinitro-2-methylphenol				0.128	0.136	0.156	0.156	0.150	0.165	0.148	9	AVG	
N-Nitrosodiphenylamine (1)	*		0.566	0.662	0.635	0.672	0.631	0.635	0.661	0.637	6	AVG	*
NDPA as diphenylamine				0.662	0.635	0.672	0.631	0.635	0.661	0.649	3	AVG	
1,2-Diphenylhydrazine			0.856	0.891	0.819	0.891	0.863	0.864	0.904	0.870	3	AVG	
Tetraethyldithiopyrophosphate				0.123	0.127	0.125	0.123	0.122	0.125	0.124	2	AVG	
1,3,5-Trinitrobenzene				0.064	0.076	0.091	0.095	0.095	0.102	0.087	16	1STDEG	
Diallate (peak 1)				0.454	0.414	0.445	0.425	0.423	0.440	0.433	4	AVG	
Phorate			0.513	0.601	0.576	0.613	0.589	0.588	0.618	0.585	6	AVG	
Phenacetin			0.389	0.437	0.443	0.465	0.451	0.440	0.462	0.441	6	AVG	
4-Bromophenyl-phenylether				0.193	0.165	0.185	0.179	0.173	0.175	0.178	6	AVG	
Diallate (peak 2)				0.469	0.448	0.418	0.399	0.405	0.415	0.426	6	AVG	
Diallate trans/cis				0.456	0.419	0.441	0.420	0.420	0.436	0.432	3	AVG	
Hexachlorobenzene		0.242	0.184	0.197	0.184	0.189	0.171	0.174	0.176	0.190	12	AVG	
Dimethoate				0.390	0.413	0.419	0.391	0.371	0.357	0.390	6	AVG	
Pentachlorophenol	*			0.115	0.119	0.135	0.130	0.128	0.130	0.126	6	AVG	*
4-Aminobiphenyl			0.679	0.789	0.736	0.726	0.641	0.556	0.508	0.662	15	2NDDEG	
Pentachloronitrobenzene				0.080	0.067	0.068	0.070	0.068	0.069	0.070	7	AVG	

(1) Cannot be separated from Diphenylamine
4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date(s): 09/22/15 09/22/15

Calibration Times: 09:32 12:33

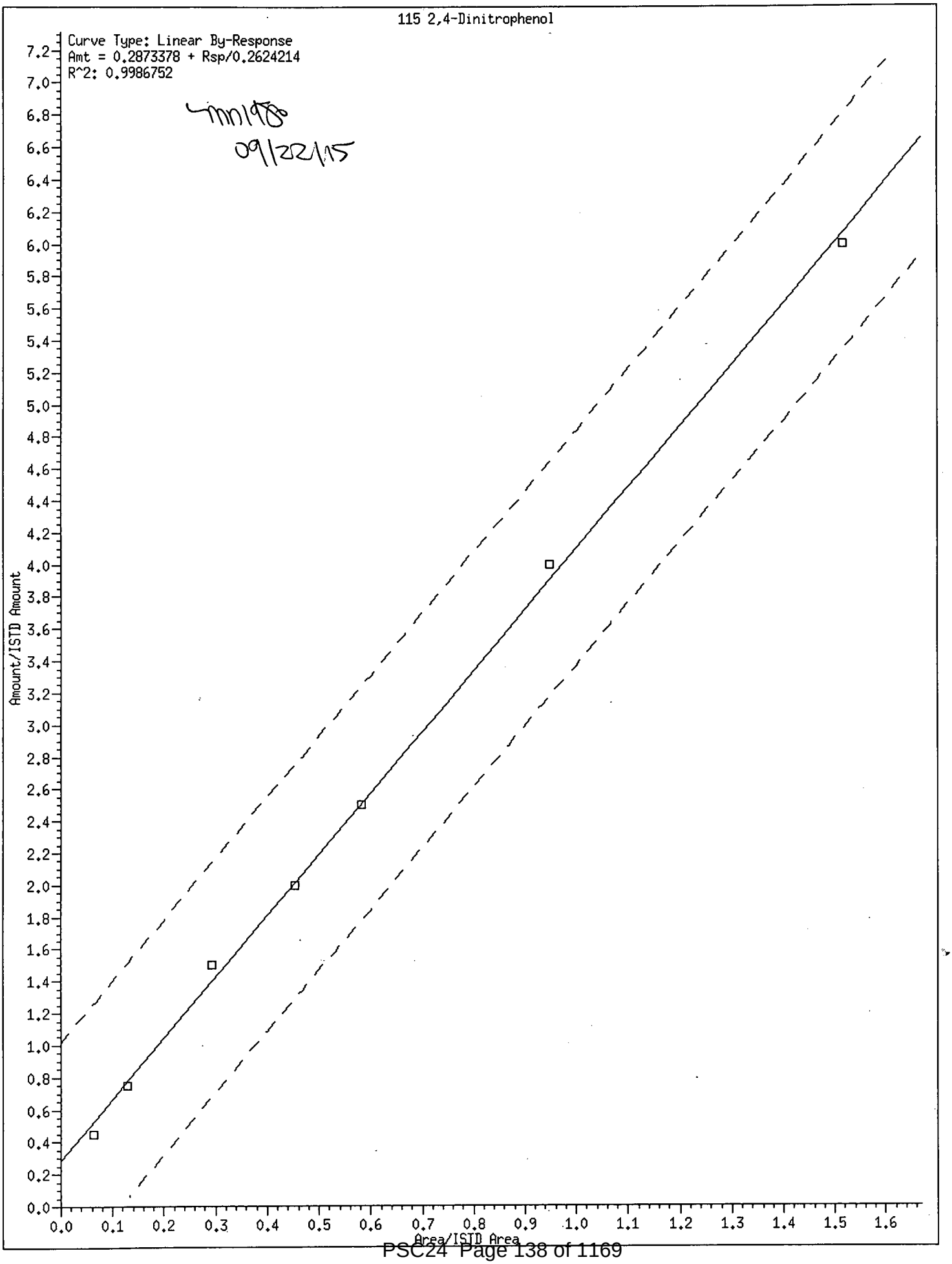
Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

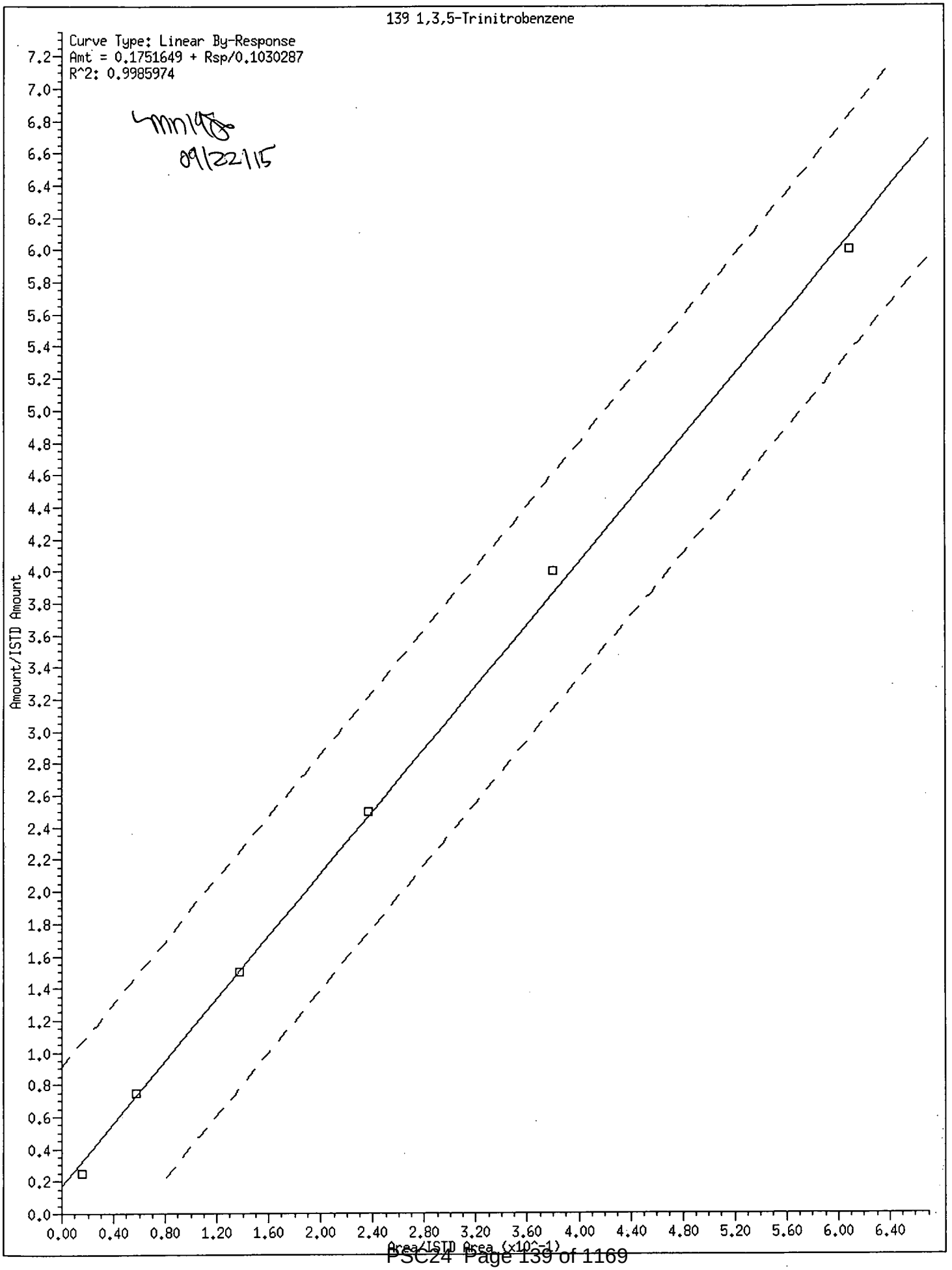
LAB FILE ID: RRF0.5 = oi0982.d RRF1 = oi0988.d RRF5 = oi0987.d RRF15 = oi0986.d
RRF30 = oi0981a.d RRF50 = oi0985.d RRF80 = oi0984.d RRF120 = oi0983.d

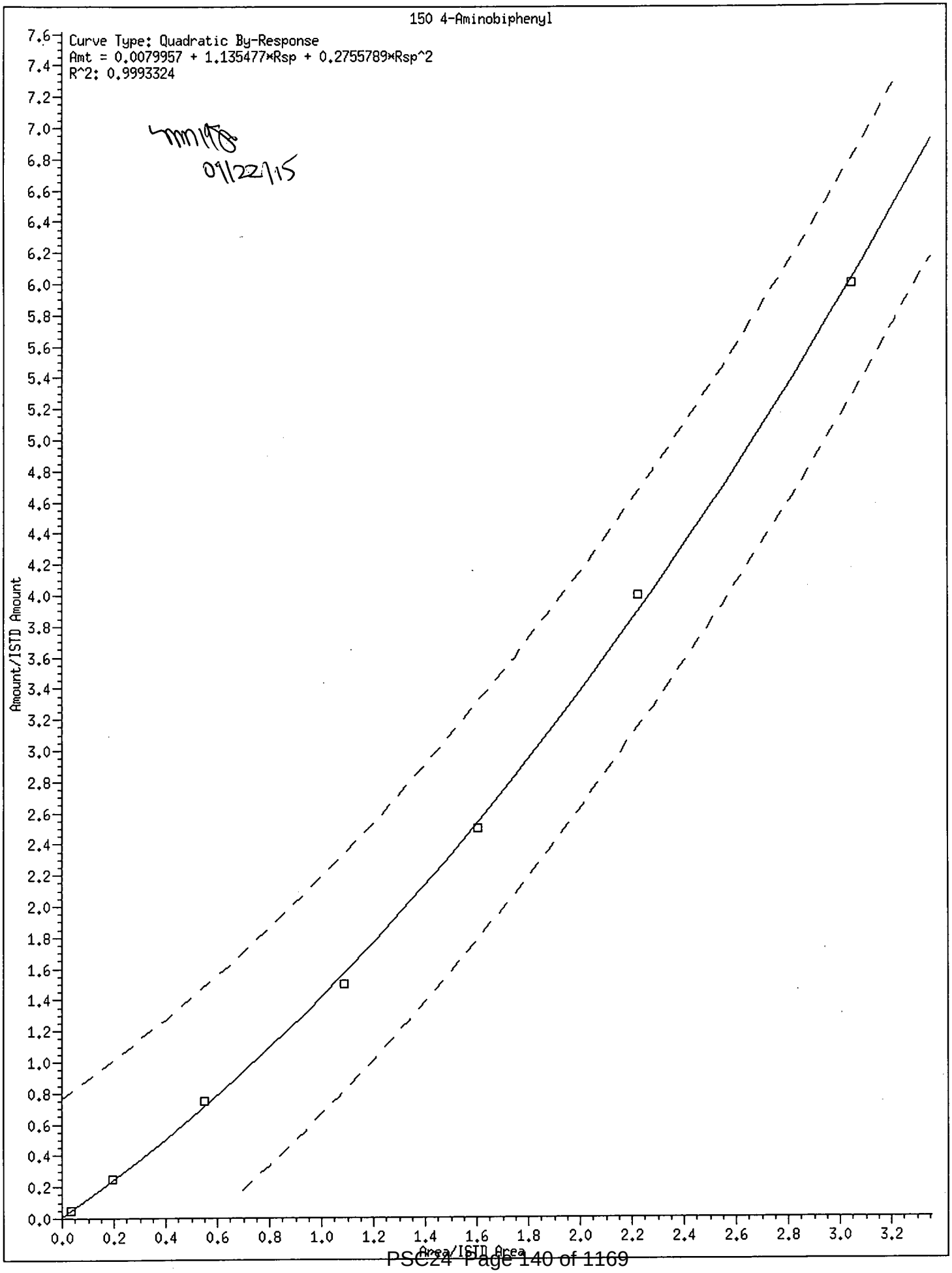
COMPOUND	RRF0.5	RRF1	RRF5	RRF15	RRF30	RRF50	RRF80	RRF120	$\overline{RRF}$	% RSD	CAL. METHOD	
Pronamide		0.218	0.319	0.307	0.318	0.310	0.303	0.320	0.299	12	AVG	
Dinoseb			0.144	0.171	0.196	0.201	0.208	0.223	0.191	15	AVG	
Phenanthrene	1.155	1.184	1.211	1.107	1.185	1.136	1.129	1.185	1.161	3	AVG	
Anthracene	1.122	1.056	1.193	1.118	1.191	1.151	1.155	1.196	1.148	4	AVG	
Carbazole		0.993	1.154	1.059	1.125	1.080	1.060	1.121	1.085	5	AVG	
Methyl parathion			0.241	0.274	0.295	0.280	0.268	0.263	0.270	7	AVG	
Di-n-butylphthalate			1.263	1.207	1.283	1.284	1.273	1.262	1.262	2	AVG	
Parathion			0.156	0.162	0.176	0.175	0.168	0.177	0.169	5	AVG	
4-Nitroquinoline-1-oxide			0.054	0.083	0.109	0.117	0.117	0.112	0.099	26	1STDEG	
Octachlorostyrene			0.062	0.056	0.063	0.063	0.061	0.060	0.061	4	AVG	
Isodrin		0.120	0.127	0.110	0.120	0.114	0.113	0.112	0.117	5	AVG	
Fluoranthene	* 1.216	1.239	1.313	1.229	1.310	1.265	1.240	1.287	1.262	3	AVG	*
Benzidine			0.645	0.690	0.796	0.741	0.697	0.597	0.694	10	AVG	
Pyrene	1.252	1.194	1.224	1.179	1.177	1.168	1.167	1.184	1.193	3	AVG	
p-Dimethylaminoazobenzene		0.169	0.218	0.228	0.228	0.238	0.230	0.228	0.220	11	AVG	
Chlorobenzilate		0.253	0.318	0.322	0.311	0.322	0.325	0.319	0.310	8	AVG	
3,3'-Dimethylbenzidine			0.604	0.606	0.644	0.649	0.620	0.592	0.619	4	AVG	
Butylbenzylphthalate			0.502	0.533	0.526	0.536	0.526	0.523	0.524	2	AVG	
2-Acetylaminofluorene			0.437	0.478	0.472	0.494	0.491	0.483	0.476	4	AVG	
3,3'-Dichlorobenzidine			0.364	0.354	0.364	0.358	0.348	0.334	0.354	3	AVG	
4,4'-Methylenebis(2-chloroanil			0.201	0.209	0.210	0.198	0.189	0.183	0.198	5	AVG	
Benzo(a)anthracene	1.037	1.063	1.057	1.045	1.029	1.056	1.016	1.017	1.040	2	AVG	
Chrysene	1.019	1.014	1.069	1.001	0.985	0.963	0.953	0.923	0.991	5	AVG	
bis(2-Ethylhexyl)phthalate			0.708	0.729	0.733	0.747	0.740	0.739	0.733	2	AVG	
6-Methylchrysene			0.729	0.697	0.699	0.707	0.685	0.678	0.699	3	AVG	
Di-n-octylphthalate	*		1.472	1.517	1.661	1.727	1.741	1.766	1.647	8	AVG	*
Benzo(b)fluoranthene	0.938	1.364	1.308	1.229	1.304	1.348	1.274	1.276	1.255	11	AVG	
7,12-Dimethylbenz[a]anthracene		0.581	0.595	0.601	0.620	0.624	0.595	0.622	0.605	3	AVG	
Benzo(k)fluoranthene	1.209	1.236	1.330	1.317	1.331	1.269	1.216	1.338	1.281	4	AVG	
Benzo(a)pyrene	* 1.252	1.308	1.259	1.196	1.237	1.225	1.204	1.237	1.240	3	AVG	*
3-Methylcholanthrene		0.554	0.584	0.566	0.608	0.600	0.581	0.586	0.583	3	AVG	
Indeno(1,2,3-cd)pyrene	1.342	1.241	1.290	1.307	1.319	1.281	1.278	1.272	1.291	2	AVG	
Dibenz(a,h)anthracene	1.145	1.023	1.031	1.094	1.130	1.100	1.093	1.074	1.086	4	AVG	
Benzo(g,h,i)perylene	1.051	1.047	1.044	1.059	1.085	1.064	1.066	1.068	1.061	1	AVG	
Total PAHs	0.952	0.956	0.979	0.974	1.020	1.015	1.021	1.085	1.000	4	AVG	
2-Fluorophenol			1.770	1.593	1.687	1.678	1.593	1.668	1.665	4	AVG	
Phenol-d6			2.416	2.228	2.464	2.440	2.325	2.412	2.381	4	AVG	
Nitrobenzene-d5			0.485	0.456	0.468	0.450	0.456	0.478	0.465	3	AVG	
2-Fluorobiphenyl			1.281	1.260	1.308	1.265	1.249	1.253	1.269	2	AVG	
2,4,6-Tribromophenol			0.185	0.163	0.167	0.160	0.154	0.154	0.164	7	AVG	
Terphenyl-d14			0.764	0.740	0.716	0.743	0.736	0.716	0.736	2	AVG	

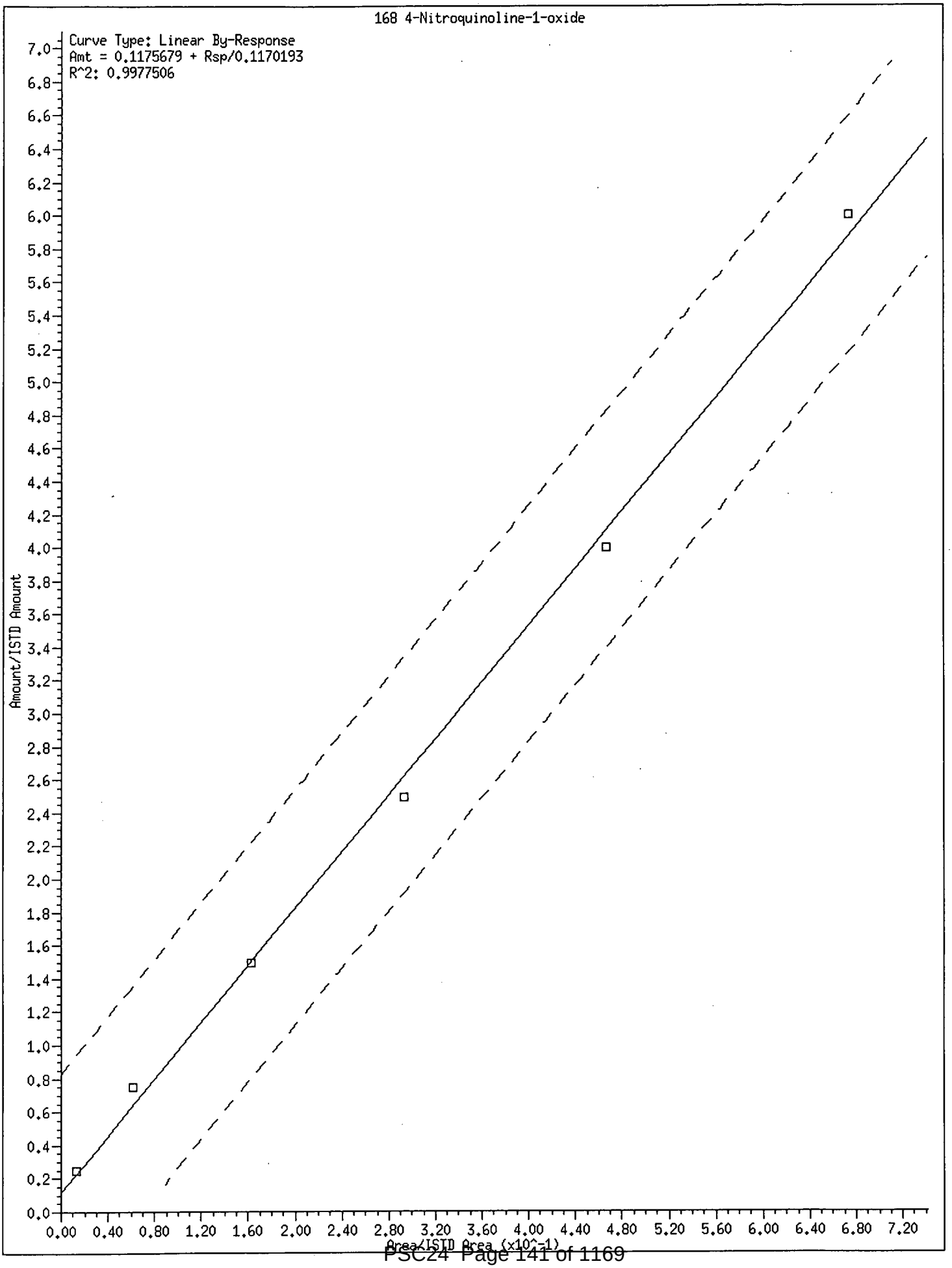
Average %RSD 5

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.


115 2,4-Dinitrophenol
Curve Type: Linear By-Response
Amt = 0.2873378 + Rsp/0.2624214
R^2: 0.9986752
09/22/15
Amount/ISTD Amount
Area/ISTD Area
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0 3.2 3.4 3.6 3.8 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6


139 1,3,5-Trinitrobenzene
Curve Type: Linear By-Response
Amt = 0.1751649 + Rsp/0.1030287
R^2: 0.9985974
09/22/15
Amount/ISTD Amount
Area/ISTD Area (x10^-1)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0
3.2
3.4
3.6
3.8
4.0
4.2
4.4
4.6
4.8
5.0
5.2
5.4
5.6
5.8
6.0
6.2
6.4
6.6
6.8
7.0
7.2
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
3.20
3.60
4.00
4.40
4.80
5.20
5.60
6.00
6.40


150 4-Aminobiphenyl
Curve Type: Quadratic By-Response
Amt = 0.0079957 + 1.135477*Rsp + 0.2755789*Rsp^2
R^2: 0.9993324
09/22/15
Amount/ISTD Amount
Area/ISTD Area


168 4-Nitroquinoline-1-oxide
Curve Type: Linear By-Response
Amt = 0.1175679 + Rsp/0.1170193
R^2: 0.9977506
Amount/ISTD Amount
Area/ISTD Area (x10^-1)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0
3.2
3.4
3.6
3.8
4.0
4.2
4.4
4.6
4.8
5.0
5.2
5.4
5.6
5.8
6.0
6.2
6.4
6.6
6.8
7.0
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
3.20
3.60
4.00
4.40
4.80
5.20
5.60
6.00
6.40
6.80
7.20

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP09910.i/15sep22.b/oi0981a.d SSTD030
/chem/HP09910.i/15sep22.b/oi0982.d SSTD0.5
/chem/HP09910.i/15sep22.b/oi0983.d SSTD120
/chem/HP09910.i/15sep22.b/oi0984.d SSTD080
/chem/HP09910.i/15sep22.b/oi0985.d SSTD050
/chem/HP09910.i/15sep22.b/oi0986.d SSTD015
/chem/HP09910.i/15sep22.b/oi0987.d SSTD005
/chem/HP09910.i/15sep22.b/oi0988.d SSTD001

Area Summary

	File ID:									
Internal Standard Name	oi0981a.d	oi0982.d	oi0983.d	oi0984.d	oi0985.d	oi0986.d	oi0987.d	oi0988.d	Avg. Area	%RSD
1,4-Dichlorobenzene-d4	148855	145955	184589	167159	153134	156170	144627	147552	156005	9
Naphthalene-d8	699436	665113	862356	785182	747728	703346	664957	639198	720914	10
Acenaphthene-d10	437487	434746	570021	500529	470855	449218	440105	409271	464029	11
Phenanthrene-d10	865313	855654	1081770	978908	932951	899352	847407	808649	908750	10
Pyrene-d10	1011712	989275	1213947	1058679	1054682	1007925	997132	951211	1035570	8
Perylene-d12	755977	795393	844884	797867	781395	787934	786883	738400	786092	4

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

	File ID:							
Internal Standard Name	oi0981a.d	oi0982.d	oi0983.d	oi0984.d	oi0985.d	oi0986.d	oi0987.d	oi0988.d
1,4-Dichlorobenzene-d4	6.640	6.639	6.646	6.645	6.639	6.639	6.640	6.639
Naphthalene-d8	7.916	7.916	7.922	7.922	7.922	7.916	7.916	7.916
Acenaphthene-d10	9.657	9.651	9.663	9.657	9.657	9.651	9.651	9.651
Phenanthrene-d10	11.122	11.116	11.128	11.121	11.121	11.116	11.116	11.116
Pyrene-d10	12.516	12.515	12.522	12.521	12.515	12.516	12.516	12.516
Perylene-d12	15.262	15.256	15.268	15.268	15.262	15.262	15.263	15.257

Comments: _____

_____

Report generated on 09/22/2015 at 13:11

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP09910

Method: SW-846 8270C File ID: oi0991.d

ICV SAMPLE ID: ICV2465 BATCH: 15SEP22026 Sample Name: SSTD050

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	50.00	51.50	3	20	YES
N-Nitrosodimethylamine	50.00	47.64	-5	20	YES
Pyridine	50.00	51.42	3	20	YES
2-Picoline	50.00	49.65	-1	20	YES
N-Nitrosomethylethylamine	50.00	47.11	-6	20	YES
Methyl methanesulfonate	50.00	48.86	-2	20	YES
N-Nitrosodiethylamine	50.00	46.80	-6	20	YES
Ethyl methanesulfonate	50.00	48.65	-3	20	YES
Phenol	50.00	49.73	-1	20	YES
Aniline	50.00	50.76	2	20	YES
bis(2-Chloroethyl)ether	50.00	48.15	-4	20	YES
2-Chlorophenol	50.00	49.52	-1	20	YES
1,3-Dichlorobenzene	50.00	50.53	1	20	YES
1,4-Dichlorobenzene	50.00	48.80	-2	20	YES
Benzyl alcohol	50.00	51.58	3	20	YES
1,2-Dichlorobenzene	50.00	50.02	0	20	YES
Indene	50.00	50.16	0	20	YES
2-Methylphenol	50.00	50.97	2	20	YES
2,2'-oxybis(1-Chloropropane	50.00	52.25	5	20	YES
bis(2-Chloroisopropyl)ether	50.00	52.25	5	20	YES
N-Nitrosopyrrolidine	50.00	50.33	1	20	YES
Acetophenone	50.00	49.27	-1	20	YES
4-Methylphenol	50.00	51.09	2	20	YES
N-Nitroso-di-n-propylamine	50.00	50.15	0	20	YES
N-Nitrosomorpholine	50.00	48.83	-2	20	YES
o-Toluidine	50.00	50.72	1	20	YES
Total Cresols	100.00	102.06	2	20	YES
Hexachloroethane	50.00	48.94	-2	20	YES
Nitrobenzene	50.00	47.51	-5	20	YES
N-Nitrosopiperidine	50.00	47.56	-5	20	YES
Isophorone	50.00	49.28	-1	20	YES
2-Nitrophenol	50.00	49.11	-2	20	YES
2,4-Dimethylphenol	50.00	47.93	-4	20	YES
bis(2-Chloroethoxy)methane	50.00	51.36	3	20	YES
Benzoic acid	100.00	95.95	-4	20	YES
O,O,O-Triethylphosphorothio	50.00	46.66	-7	20	YES
2,4-Dichlorophenol	50.00	48.72	-3	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP09910

Method: SW-846 8270C File ID: oi0991.d

ICV SAMPLE ID: ICV2465 BATCH: 15SEP22026 Sample Name: SSTD050

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,2,4-Trichlorobenzene	50.00	49.62	-1	20	YES
Naphthalene	50.00	49.06	-2	20	YES
4-Chloroaniline	50.00	48.47	-3	20	YES
2,6-Dichlorophenol	50.00	48.32	-3	20	YES
Hexachloropropene	50.00	51.14	2	20	YES
Hexachlorobutadiene	50.00	46.10	-8	20	YES
Quinoline	50.00	48.10	-4	20	YES
N-Nitrosodi-n-butylamine	50.00	40.82	-18	20	YES
4-Chloro-3-methylphenol	50.00	48.12	-4	20	YES
Safrole	50.00	46.68	-7	20	YES
2-Methylnaphthalene	50.00	44.81	-10	20	YES
1-Methylnaphthalene	50.00	47.61	-5	20	YES
Hexachlorocyclopentadiene	100.00	102.85	3	20	YES
1,2,4,5-Tetrachlorobenzene	50.00	50.05	0	20	YES
cis-Isosafrole	6.00	6.39	7	20	YES
2,4,6-Trichlorophenol	50.00	52.58	5	20	YES
2,4,5-Trichlorophenol	50.00	48.83	-2	20	YES
trans-Isosafrole	44.00	45.62	4	20	YES
1,1'-Biphenyl	50.00	49.16	-2	20	YES
2-Chloronaphthalene	50.00	59.31	19	20	YES
Isosafrole	50.00	52.01	4	20	YES
1-Chloronaphthalene	50.00	49.50	-1	20	YES
Diphenyl ether	50.00	50.34	1	20	YES
2-Nitroaniline	50.00	52.51	5	20	YES
1,4-Naphthoquinone	62.50	64.60	3	20	YES
1,4-Dinitrobenzene	50.00	49.74	-1	20	YES
Dimethylphthalate	50.00	50.12	0	20	YES
1,3-Dinitrobenzene	50.00	50.48	1	20	YES
2,6-Dinitrotoluene	50.00	52.54	5	20	YES
Acenaphthylene	50.00	51.51	3	20	YES
3-Nitroaniline	50.00	52.13	4	20	YES
Acenaphthene	50.00	51.49	3	20	YES
2,4-Dinitrophenol	100.00	95.61	-4	20	YES
4-Nitrophenol	50.00	52.36	5	20	YES
Pentachlorobenzene	50.00	49.43	-1	20	YES
2,4-Dinitrotoluene	50.00	50.69	1	20	YES
Dibenzofuran	50.00	50.37	1	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP09910

Method: SW-846 8270C File ID: oi0991.d

ICV SAMPLE ID: ICV2465 BATCH: 15SEP22026 Sample Name: SSTD050

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
2,4_2,6-Dinitrotoluenes	100.00	103.22	3	20	YES
1-Naphthylamine	100.00	101.45	1	20	YES
2,3,4,6-Tetrachlorophenol	50.00	51.23	2	20	YES
2-Naphthylamine	100.00	104.53	5	20	YES
Diethylphthalate	50.00	51.18	2	20	YES
Thionazin	50.00	49.06	-2	20	YES
Fluorene	50.00	52.51	5	20	YES
4-Chlorophenyl-phenylether	50.00	50.64	1	20	YES
5-Nitro-o-toluidine	50.00	53.74	7	20	YES
4-Nitroaniline	50.00	53.22	6	20	YES
4,6-Dinitro-2-methylphenol	50.00	50.59	1	20	YES
N-Nitrosodiphenylamine	50.00	49.03	-2	20	YES
NDPA as diphenylamine	50.00	48.13	-4	20	YES
1,2-Diphenylhydrazine	50.00	50.10	0	20	YES
Tetraethyldithiopyrophospha	50.00	48.21	-4	20	YES
1,3,5-Trinitrobenzene	50.00	44.62	-11	20	YES
Diallate (peak 1)	37.50	33.59	-10	20	YES
Phorate	50.00	48.79	-2	20	YES
Phenacetin	50.00	49.77	0	20	YES
4-Bromophenyl-phenylether	50.00	49.36	-1	20	YES
Diallate (peak 2)	12.50	11.15	-11	20	YES
Hexachlorobenzene	50.00	46.47	-7	20	YES
Diallate trans/cis	50.00	44.74	-11	20	YES
Dimethoate	50.00	45.85	-8	20	YES
Pentachlorophenol	50.00	53.56	7	20	YES
4-Aminobiphenyl	50.00	69.94	40	20	NO *
Pentachloronitrobenzene	50.00	46.23	-8	20	YES
Pronamide	50.00	49.09	-2	20	YES
Dinoseb	50.00	51.16	2	20	YES
Phenanthrene	50.00	47.64	-5	20	YES
Anthracene	50.00	50.20	0	20	YES
Carbazole	50.00	48.97	-2	20	YES
Methyl parathion	50.00	48.62	-3	20	YES
Di-n-butylphthalate	50.00	50.25	1	20	YES
Parathion	50.00	51.89	4	20	YES
4-Nitroquinoline-1-oxide	600.00	736.39	23	20	NO *
Isodrin	50.00	46.88	-6	20	YES

NC = Could not calculate

Comments:

* non-CCC, OK if greater than 20% D

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP09910

Method: SW-846 8270C File ID: oi0991.d

ICV SAMPLE ID: ICV2465 BATCH: 15SEP22026 Sample Name: SSTD050

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Fluoranthene	50.00	48.94	-2	20	YES
Benzidine	250.00	269.85	8	20	YES
Pyrene	50.00	47.12	-6	20	YES
p-Dimethylaminoazobenzene	50.00	52.89	6	20	YES
Chlorobenzilate	50.00	49.74	-1	20	YES
3,3'-Dimethylbenzidine	100.00	102.95	3	20	YES
Butylbenzylphthalate	50.00	49.59	-1	20	YES
2-Acetylaminofluorene	50.00	50.00	0	20	YES
3,3'-Dichlorobenzidine	50.00	48.03	-4	20	YES
Benzo(a)anthracene	50.00	48.95	-2	20	YES
Chrysene	50.00	50.34	1	20	YES
4,4'-Methylenebis(2-chloroa	50.00	47.62	-5	20	YES
bis(2-Ethylhexyl)phthalate	50.00	49.10	-2	20	YES
6-Methylchrysene	50.00	48.71	-3	20	YES
Di-n-octylphthalate	50.00	51.74	3	20	YES
Benzo(b)fluoranthene	50.00	52.82	6	20	YES
7,12-Dimethylbenz[a]anthrac	50.00	47.90	-4	20	YES
Benzo(k)fluoranthene	50.00	48.42	-3	20	YES
Benzo(a)pyrene	50.00	47.17	-6	20	YES
3-Methylcholanthrene	50.00	53.85	8	20	YES
Indeno(1,2,3-cd)pyrene	50.00	48.83	-2	20	YES
Dibenz(a,h)anthracene	50.00	50.60	1	20	YES
Benzo(g,h,i)perylene	50.00	50.08	0	20	YES
Total PAHs	900.00	786.86	-13	20	YES

NC = Could not calculate

Comments: _____

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 09/29/15 Time: 09:06

Lab File ID: di0821.d Init. Calib. Date(s): 08/13/15 08/14/15

Init. Calib. Times(s): 21:20 00:44

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF3.7	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.606	0.677	4.190	3.8	12
N-Nitrosodimethylamine	1.034	1.078	3.910	3.8	4
Pyridine	1.809	1.561	3.230	3.8	-14
2-Picoline	1.822	1.711	3.520	3.8	-6
N-Nitrosomethylethylamine	0.777	0.791	3.820	3.8	2
Methyl methanesulfonate	0.925	0.918	3.720	3.8	-1
N-Nitrosodiethylamine	0.742	0.725	3.670	3.8	-2
Ethyl methanesulfonate	0.760	0.739	3.650	3.8	-3
Benzaldehyde	1.367	1.394	3.830	3.8	2
Aniline	2.585	2.589	3.760	3.8	0
Phenol	2.247	2.344	3.910	3.8	4
bis(2-Chloroethyl)ether	1.679	1.701	3.800	3.8	1
2-Chlorophenol	1.420	1.419	3.750	3.8	0
1,3-Dichlorobenzene	1.534	1.504	3.680	3.8	-2
1,4-Dichlorobenzene	1.564	1.548	3.710	3.8	-1
Benzyl alcohol	0.979	0.872	3.340	3.8	-11
1,2-Dichlorobenzene	1.475	1.451	3.690	3.8	-2
Indene	2.401	2.277	3.560	3.8	-5
2-Methylphenol	1.365	1.354	3.720	3.8	-1
2,2'-oxybis(1-Chloropropane)	2.440	2.341	3.600	3.8	-4
bis(2-Chloroisopropyl)ether	2.440	2.341	3.600	3.8	-4
N-Nitrosopyrrolidine	0.777	0.790	3.810	3.8	2
Acetophenone	2.063	1.987	3.610	3.8	-4
N-Nitroso-di-n-propylamine	1.270	1.241	3.660	3.8	-2
N-Nitrosomorpholine	1.060	1.052	3.720	3.8	-1
4-Methylphenol	1.558	1.554	3.740	3.8	0
o-Toluidine	2.388	2.353	3.700	3.8	-1
Hexachloroethane	0.663	0.645	3.650	3.8	-3
Nitrobenzene	0.490	0.495	3.790	3.8	1
N-Nitrosopiperidine	0.185	0.185	3.740	3.8	0
Isophorone	0.844	0.840	3.730	3.8	0
2-Nitrophenol	0.192	0.195	3.820	3.8	2
2,4-Dimethylphenol	0.392	0.396	3.790	3.8	1
O,O,O-triethylphosphorothioate	0.194	0.196	3.790	3.8	1
bis(2-Chloroethoxy)methane	0.521	0.535	3.860	3.8	3
Benzoic acid	0.264	0.238	7.260	7.5	-3

7C
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 09/29/15 Time: 09:06

Lab File ID: di0821.d Init. Calib. Date(s): 08/13/15 08/14/15

Init. Calib. Times(s): 21:20 00:44

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF3.7	ACTUAL CONC.	TRUE CONC.	% DRIFT
2,4-Dichlorophenol	0.299	0.302	3.790	3.8	1
1,2,4-Trichlorobenzene	0.353	0.362	3.850	3.8	3
Naphthalene	1.064	1.041	3.670	3.8	-2
4-Chloroaniline	0.470	0.446	3.570	3.8	-5
2,6-Dichlorophenol	0.289	0.294	3.810	3.8	2
Hexachloropropene	0.240	0.251	3.910	3.8	4
Hexachlorobutadiene	0.208	0.216	3.900	3.8	4
Quinoline	0.664	0.656	3.700	3.8	-1
Caprolactam	0.098	0.101	3.850	3.8	3
N-Nitrosodi-n-butylamine	0.327	0.307	3.530	3.8	-6
4-Chloro-3-methylphenol	0.325	0.335	3.870	3.8	3
Safrole	0.265	0.268	3.800	3.8	1
2-Methylnaphthalene	0.698	0.704	3.790	3.8	1
1-Methylnaphthalene	0.636	0.631	3.720	3.8	-1
Hexachlorocyclopentadiene	0.401	0.359	3.360	3.8	-10
1,2,4,5-Tetrachlorobenzene	0.621	0.636	3.840	3.8	2
cis-Isosafrole	0.500	0.470	0.600	.6	-6
2,4,6-Trichlorophenol	0.395	0.407	3.860	3.8	3
2,4,5-Trichlorophenol	0.415	0.439	3.960	3.8	6
trans-Isosafrole	0.552	0.543	3.060	3.1	-2
Isosafrole	0.458	0.451	3.690	3.8	-2
1,1'-Biphenyl	1.387	1.352	3.650	3.8	-3
2-Chloronaphthalene	1.160	1.130	3.650	3.8	-3
1-Chloronaphthalene	1.096	1.099	3.760	3.8	0
Diphenyl ether	0.784	0.766	3.660	3.8	-2
2-Nitroaniline	0.350	0.359	3.850	3.8	3
1,4-Naphthoquinone	0.474	0.452	3.570	3.8	-5
1,4-Dinitrobenzene	0.196	0.196	3.750	3.8	0
Dimethylphthalate	1.314	1.330	3.790	3.8	1
1,3-Dinitrobenzene	0.215	0.216	3.770	3.8	1
2,6-Dinitrotoluene	0.288	0.309	4.030	3.8	7
Acenaphthylene	1.740	1.756	3.790	3.8	1
3-Nitroaniline	0.308	0.305	3.710	3.8	-1
Acenaphthene	1.152	1.150	3.740	3.8	0
2,4-Dinitrophenol	0.188	0.195	7.750	7.5	3
Pentachlorobenzene	0.531	0.553	3.900	3.8	4

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 09/29/15 Time: 09:06

Lab File ID: di0821.d Init. Calib. Date(s): 08/13/15 08/14/15

Init. Calib. Times(s): 21:20 00:44

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF3.7	ACTUAL CONC.	TRUE CONC.	% DRIFT
4-Nitrophenol	0.215	0.189	3.290	3.8	-12
Dibenzofuran	1.612	1.644	3.820	3.8	2
2,4-Dinitrotoluene	0.387	0.407	3.940	3.8	5
2,4_2,6-Dinitrotoluenes	0.337	0.358	7.970	7.5	6
1-Naphthylamine	1.157	1.107	3.590	3.8	-4
2,3,4,6-Tetrachlorophenol	0.332	0.344	3.890	3.8	4
2-Naphthylamine	1.156	1.118	3.630	3.8	-3
Diethylphthalate	1.283	1.248	3.650	3.8	-3
Thionazin	0.248	0.246	3.730	3.8	-1
Fluorene	1.260	1.297	3.860	3.8	3
4-Chlorophenyl-phenylether	0.642	0.678	3.960	3.8	6
5-Nitro-o-toluidine	0.357	0.343	3.600	3.8	-4
4-Nitroaniline	0.321	0.321	3.740	3.8	0
4,6-Dinitro-2-methylphenol	0.140	0.144	3.850	3.8	3
N-Nitrosodiphenylamine (1)	0.606	0.605	3.740	3.8	0
1,2-Diphenylhydrazine	0.890	0.889	3.750	3.8	0
Tetraethyldithiopyrophosphate	0.138	0.136	3.690	3.8	-2
1,3,5-Trinitrobenzene	0.091	0.090	3.720	3.8	-1
Diallate (peak 1)	0.385	0.378	3.060	3.1	-2
Phorate	0.566	0.564	3.740	3.8	0
Phenacetin	0.394	0.380	3.620	3.8	-4
4-Bromophenyl-phenylether	0.214	0.219	3.840	3.8	2
Diallate (peak 2)	0.366	0.360	0.630	.6	-1
Hexachlorobenzene	0.227	0.230	3.790	3.8	1
Dimethoate	0.359	0.350	3.660	3.8	-2
Atrazine	0.198	0.196	3.720	3.8	-1
Pentachlorophenol	0.150	0.143	3.580	3.8	-5
Pentachloronitrobenzene	0.101	0.105	3.910	3.8	4
4-Aminobiphenyl	0.719	0.713	3.720	3.8	-1
Pronamide	0.335	0.332	3.710	3.8	-1
Phenanthrene	1.076	1.060	3.690	3.8	-1
Dinoseb	0.206	0.211	3.960	3.8	6
Anthracene	1.050	1.057	3.770	3.8	1
Carbazole	0.999	0.993	3.730	3.8	-1
Methyl parathion	0.273	0.260	3.570	3.8	-5
Di-n-butylphthalate	1.267	1.213	3.590	3.8	-4

(1) Cannot be Separated from Diphenylamine

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 09/29/15 Time: 09:06

Lab File ID: di0821.d Init. Calib. Date(s): 08/13/15 08/14/15

Init. Calib. Times(s): 21:20 00:44

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF3.7	ACTUAL CONC.	TRUE CONC.	% DRIFT
Parathion	0.169	0.169	3.750	3.8	0
4-Nitroquinoline-1-oxide	0.126	0.091	2.690	3.8	-28
Isodrin	0.134	0.132	3.700	3.8	-1
Fluoranthene	1.199	1.240	3.880	3.8	3
Benzidine	0.639	0.615	10.820	11.3	-4
Pyrene	1.031	1.005	3.660	3.8	-3
p-Dimethylaminoazobenzene	0.180	0.183	3.640	3.8	-3
Chlorobenzilate	0.304	0.287	3.540	3.8	-6
3,3'-Dimethylbenzidine	0.667	0.649	3.640	3.8	-3
Butylbenzylphthalate	0.461	0.438	3.560	3.8	-5
2-Acetylaminofluorene	0.385	0.377	3.670	3.8	-2
Benzo(a)anthracene	0.948	0.989	3.910	3.8	4
3,3'-Dichlorobenzidine	0.370	0.380	3.860	3.8	3
4,4'-Methylenebis(2-Chloroanil	0.204	0.208	3.820	3.8	2
Chrysene	0.910	0.946	3.900	3.8	4
bis(2-Ethylhexyl)phthalate	0.675	0.657	3.650	3.8	-3
6-Methylchrysene	0.669	0.697	3.910	3.8	4
Di-n-octylphthalate	1.353	1.282	3.550	3.8	-5
7,12-Dimethylbenz[a]anthracene	0.500	0.465	3.490	3.8	-7
Benzo(b)fluoranthene	1.123	1.144	3.820	3.8	2
Benzo(k)fluoranthene	1.118	1.150	3.860	3.8	3
Benzo(a)pyrene	1.032	1.074	3.900	3.8	4
3-Methylcholanthrene	0.505	0.523	3.890	3.8	4
NDPA as diphenylamine	0.606	0.605	3.740	3.8	0
Indeno(1,2,3-cd)pyrene	1.152	1.279	4.160	3.8	11
Dibenz(a,h)anthracene	0.962	1.041	4.060	3.8	8
Benzo(g,h,i)perylene	0.987	1.119	4.250	3.8	13
Diallate TRANS/CIS	0.382	0.375	3.680	3.8	-2
2-Fluorophenol	1.475	1.489	7.570	7.5	1
Phenol-d5	1.875	1.924	7.690	7.5	3
Phenol-d6	1.875	1.924	7.690	7.5	3
Nitrobenzene-d5	0.470	0.479	7.660	7.5	2
2-Fluorobiphenyl	1.373	1.362	7.440	7.5	-1
2,4,6-Tribromophenol	0.177	0.190	8.060	7.5	7
Terphenyl-d14	0.701	0.720	7.710	7.5	3

FORM VII SV-1

Continuing Calibration
Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP19760.i/15aug13a.b/dh0421.d **
/chem/HP19760.i/15aug13a.b/dh0422.d
/chem/HP19760.i/15aug13a.b/dh0423.d
/chem/HP19760.i/15aug13a.b/dh0424.d
/chem/HP19760.i/15aug13a.b/dh0425.d
/chem/HP19760.i/15aug13a.b/dh0426.d
/chem/HP19760.i/15aug13a.b/dh0427.d
/chem/HP19760.i/15aug13a.b/dh0428.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP19760.i/15sep29.b/di0821.d

Area Summary

Internal Standard Name	File ID: di0821.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	256715	222949	111474	445898	Yes
Naphthalene-d8	958476	857183	428592	1714366	Yes
Acenaphthene-d10	563091	490402	245201	980804	Yes
Phenanthrene-d10	1010368	850565	425282	1701130	Yes
Pyrene-d10	1297152	1104282	552141	2208564	Yes
Perylene-d12	1150209	935614	467807	1871228	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

Internal Standard Name	File ID: di0821.d	ICAL RT	In Spec	
1,4-Dichlorobenzene-d4	6.160	6.936	No	*
Naphthalene-d8	8.090	8.871	No	*
Acenaphthene-d10	10.870	11.652	No	*
Phenanthrene-d10	12.846	13.534	No	*
Pyrene-d10	14.682	15.522	No	*
Perylene-d12	19.024	20.022	No	*

A "No" indicates the retention time is greater than 30 seconds from the RT of the referenced standard.

Comments: * Due to maintenance. AAP 1680 9/29/15

Report generated on 09/29/2015 at 09:33

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date: 09/25/15 Time: 19:59

Lab File ID: oi1161.d Init. Calib. Date(s): 09/22/15 09/22/15

Init. Calib. Times(s): 09:32 17:42

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

	COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
	1,4-Dioxane	0.746	0.753	30.260	30.0	1
	N-Nitrosodimethylamine	1.227	1.260	30.800	30.0	3
	Pyridine	1.987	1.949	29.420	30.0	-2
	2-Picoline	2.121	2.145	30.340	30.0	1
	N-Nitrosomethylethylamine	1.026	0.906	26.480	30.0	-12
	Methyl methanesulfonate	1.011	0.986	29.250	30.0	-3
	N-Nitrosodiethylamine	0.975	1.020	31.390	30.0	5
	Ethyl methanesulfonate	0.928	0.965	31.190	30.0	4
	Benzaldehyde	1.606	0.920	17.190	30.0	-43
*	Phenol	2.835	2.974	31.470	30.0	5*
	Aniline	3.180	3.315	31.270	30.0	4
	a-methylstyrene	1.685	1.762	31.370	30.0	5
	bis(2-Chloroethyl)ether	2.015	1.995	29.700	30.0	-1
	2-Chlorophenol	1.656	1.674	30.320	30.0	1
	1,3-Dichlorobenzene	1.582	1.585	30.060	30.0	0
*	1,4-Dichlorobenzene	1.686	1.652	29.400	30.0	-2*
	Benzyl alcohol	1.323	1.370	31.050	30.0	4
	1,2-Dichlorobenzene	1.589	1.582	29.870	30.0	0
	Indene	2.921	3.064	31.470	30.0	5
	2-Methylphenol	1.791	1.855	31.080	30.0	4
	2,2'-oxybis(1-Chloropropane)	2.641	2.544	28.900	30.0	-4
	bis(2-Chloroisopropyl)ether	2.641	2.544	28.900	30.0	-4
	N-Nitrosopyrrolidine	1.086	1.221	33.740	30.0	12
	Acetophenone	2.623	2.772	31.700	30.0	6
	4-Methylphenol	2.119	2.218	31.400	30.0	5
	Total Cresols	1.955	2.037	62.470	60.0	4
#	N-Nitroso-di-n-propylamine	1.594	1.591	29.950	30.0	0#
	N-Nitrosomorpholine	1.286	1.238	28.880	30.0	-4
	o-Toluidine	3.049	3.186	31.340	30.0	4
	Hexachloroethane	0.657	0.667	30.450	30.0	1
	Nitrobenzene	0.461	0.480	31.240	30.0	4
	N-Nitrosopiperidine	0.209	0.232	33.300	30.0	11
	Isophorone	0.951	0.966	30.460	30.0	2
*	2-Nitrophenol	0.192	0.211	33.050	30.0	10*
	2,4-Dimethylphenol	0.421	0.453	32.300	30.0	8
	O,O,O-Triethylphosphorothioate	0.188	0.183	29.160	30.0	-3

FORM VII SV-1

7C
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date: 09/25/15 Time: 19:59

Lab File ID: oi1161.d Init. Calib. Date(s): 09/22/15 09/22/15

Init. Calib. Times(s): 09:32 17:42

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
bis(2-Chloroethoxy)methane	0.534	0.558	31.380	30.0	5
Benzoic acid	0.401	0.376	37.570	40.0	-6
1,2,3,4-Tetrahydronaphthalene	0.568	0.591	31.170	30.0	4
* 2,4-Dichlorophenol	0.302	0.311	30.900	30.0	3*
1,2,4-Trichlorobenzene	0.307	0.302	29.510	30.0	-2
Naphthalene	1.102	1.120	30.490	30.0	2
4-Chloroaniline	0.493	0.515	31.330	30.0	4
2,6-Dichlorophenol	0.296	0.302	30.550	30.0	2
Hexachloropropene	0.157	0.165	31.420	30.0	5
* Hexachlorobutadiene	0.152	0.141	27.770	30.0	-7*
Quinoline	0.789	0.817	31.080	30.0	4
Caprolactam	0.173	0.182	31.540	30.0	5
N-Nitrosodi-n-butylamine	0.390	0.471	36.270	30.0	21
* 4-Chloro-3-methylphenol	0.407	0.428	31.510	30.0	5*
Safrole	0.294	0.304	31.040	30.0	3
2-Methylnaphthalene	0.777	0.781	30.160	30.0	1
1-Methylnaphthalene	0.696	0.708	30.530	30.0	2
# Hexachlorocyclopentadiene	0.226	0.201	26.630	30.0	-11#
1,2,4,5-Tetrachlorobenzene	0.470	0.473	30.170	30.0	1
cis-Isosafrole	0.493	0.521	5.390	5.1	6
* 2,4,6-Trichlorophenol	0.343	0.359	31.420	30.0	5*
2,4,5-Trichlorophenol	0.382	0.390	30.650	30.0	2
trans-Isosafrole	0.562	0.577	25.570	24.9	3
Isosafrole	0.550	0.568	30.960	30.0	3
1,1'-Biphenyl	1.512	1.567	31.090	30.0	4
2-Chloronaphthalene	1.165	1.154	29.730	30.0	-1
1-Chloronaphthalene	1.085	1.086	30.040	30.0	0
Diphenyl ether	0.765	0.779	30.520	30.0	2
2-Nitroaniline	0.405	0.451	33.420	30.0	11
1,4-Naphthoquinone	0.496	0.521	31.500	30.0	5
1,4-Dinitrobenzene	0.216	0.230	32.030	30.0	7
Dimethylphthalate	1.387	1.402	30.320	30.0	1
1,3-Dinitrobenzene	0.247	0.260	31.600	30.0	5
2,6-Dinitrotoluene	0.320	0.344	32.200	30.0	7
Acenaphthylene	1.776	1.832	30.960	30.0	3
3-Nitroaniline	0.368	0.394	32.080	30.0	7

FORM VII SV-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date: 09/25/15 Time: 19:59

Lab File ID: oi1161.d Init. Calib. Date(s): 09/22/15 09/22/15

Init. Calib. Times(s): 09:32 17:42

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
* Acenaphthene	1.229	1.275	31.130	30.0	4*
# 2,4-Dinitrophenol	0.208	0.192	35.030	40.0	-12#
# 4-Nitrophenol	0.199	0.205	30.970	30.0	3#
Pentachlorobenzene	0.425	0.426	30.130	30.0	0
2,4-Dinitrotoluene	0.453	0.473	31.370	30.0	5
2,4_2,6-Dinitrotoluenes	0.387	0.409	63.570	60.0	6
Dibenzofuran	1.687	1.689	30.040	30.0	0
1-Naphthylamine	1.371	1.450	31.730	30.0	6
2,3,4,6-Tetrachlorophenol	0.325	0.302	27.890	30.0	-7
2-Naphthylamine	1.357	1.413	31.240	30.0	4
Diethylphthalate	1.360	1.395	30.790	30.0	3
Thionazin	0.280	0.281	30.020	30.0	0
Fluorene	1.413	1.476	31.350	30.0	5
4-Chlorophenyl-phenylether	0.657	0.646	29.490	30.0	-2
5-Nitro-o-toluidine	0.420	0.450	32.120	30.0	7
4-Nitroaniline	0.409	0.451	33.090	30.0	10
4,6-Dinitro-2-methylphenol	0.148	0.148	29.930	30.0	0
* N-Nitrosodiphenylamine (1)	0.637	0.678	31.890	30.0	6*
NDPA as diphenylamine	0.649	0.678	31.310	30.0	4
1,2-Diphenylhydrazine	0.870	0.919	31.700	30.0	6
Tetraethyldithiopyrophosphate	0.124	0.137	33.030	30.0	10
1,3,5-Trinitrobenzene	0.087	0.094	30.830	30.0	3
Diallate (peak 1)	0.433	0.462	26.550	24.9	7
Phorate	0.585	0.613	31.430	30.0	5
Phenacetin	0.441	0.487	33.140	30.0	10
4-Bromophenyl-phenylether	0.178	0.182	30.560	30.0	2
Diallate (peak 2)	0.426	0.463	5.550	5.1	9
Diallate trans/cis	0.432	0.462	32.100	30.0	7
Hexachlorobenzene	0.190	0.182	28.800	30.0	-4
Dimethoate	0.390	0.432	33.250	30.0	11
Atrazine	0.206	0.203	29.520	30.0	-2
* Pentachlorophenol	0.126	0.098	23.420	30.0	-22*
4-Aminobiphenyl	0.662	0.717	30.940	30.0	3
Pentachloronitrobenzene	0.070	0.071	30.340	30.0	1
Pronamide	0.299	0.323	32.380	30.0	8
Dinoseb	0.191	0.199	31.360	30.0	5

(1) Cannot be Separated from Diphenylamine

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date: 09/25/15 Time: 19:59

Lab File ID: oi1161.d Init. Calib. Date(s): 09/22/15 09/22/15

Init. Calib. Times(s): 09:32 17:42

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenanthrene	1.161	1.186	30.640	30.0	2
Anthracene	1.148	1.216	31.770	30.0	6
Carbazole	1.085	1.119	30.960	30.0	3
Methyl parathion	0.270	0.314	34.860	30.0	16
Di-n-butylphthalate	1.262	1.427	33.930	30.0	13
Parathion	0.169	0.190	33.680	30.0	12
4-Nitroquinoline-1-oxide	0.099	0.091	25.650	30.0	-14
Octachlorostyrene	0.061	0.065	31.810	30.0	6
Isodrin	0.117	0.120	30.760	30.0	3
* Fluoranthene	1.262	1.301	30.920	30.0	3*
Benzidine	0.694	0.747	96.810	90.0	8
Pyrene	1.193	1.197	30.100	30.0	0
p-Dimethylaminoazobenzene	0.220	0.234	31.910	30.0	6
Chlorobenzilate	0.310	0.333	32.190	30.0	7
3,3'-Dimethylbenzidine	0.619	0.654	31.710	30.0	6
Butylbenzylphthalate	0.524	0.538	30.800	30.0	3
2-Acetylaminofluorene	0.476	0.524	33.020	30.0	10
3,3'-Dichlorobenzidine	0.354	0.369	31.330	30.0	4
4,4'-Methylenebis(2-chloroanil	0.198	0.210	31.800	30.0	6
Benzo(a)anthracene	1.040	1.057	30.490	30.0	2
Chrysene	0.991	0.956	28.930	30.0	-4
bis(2-Ethylhexyl)phthalate	0.733	0.780	31.930	30.0	6
6-Methylchrysene	0.699	0.721	30.940	30.0	3
* Di-n-octylphthalate	1.647	1.789	32.580	30.0	9*
Benzo(b)fluoranthene	1.255	1.289	30.800	30.0	3
7,12-Dimethylbenz[a]anthracene	0.605	0.609	30.180	30.0	1
Benzo(k)fluoranthene	1.281	1.244	29.140	30.0	-3
* Benzo(a)pyrene	1.240	1.224	29.610	30.0	-1*
3-Methylcholanthrene	0.583	0.599	30.830	30.0	3
Indeno(1,2,3-cd)pyrene	1.291	1.329	30.880	30.0	3
Dibenz(a,h)anthracene	1.086	1.091	30.140	30.0	0
Benzo(g,h,i)perylene	1.061	1.109	31.360	30.0	5
Total PAHs	1.000	1.028	489.470	540.0	-9
2-Fluorophenol	1.665	1.691	60.930	60.0	2
Phenol-d6	2.381	2.470	62.260	60.0	4

FORM VII SV-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date: 09/25/15 Time: 19:59

Lab File ID: oi1161.d Init. Calib. Date(s): 09/22/15 09/22/15

Init. Calib. Times(s): 09:32 17:42

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
Nitrobenzene-d5	0.465	0.464	59.760	60.0	0
2-Fluorobiphenyl	1.270	1.296	61.250	60.0	2
2,4,6-Tribromophenol	0.164	0.166	60.840	60.0	1
Terphenyl-d14	0.736	0.747	60.900	60.0	2
			Average %Drift:		5

Continuing Calibration
Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP09910.i/15sep22.b/oi0981a.d **
/chem/HP09910.i/15sep22.b/oi0982.d
/chem/HP09910.i/15sep22.b/oi0983.d
/chem/HP09910.i/15sep22.b/oi0984.d
/chem/HP09910.i/15sep22.b/oi0985.d
/chem/HP09910.i/15sep22.b/oi0986.d
/chem/HP09910.i/15sep22.b/oi0987.d
/chem/HP09910.i/15sep22.b/oi0988.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP09910.i/15sep23a.b/oi1061.d

Area Summary

File ID:

Internal Standard Name	oi1061.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	194119	148855	74428	297710	Yes
Naphthalene-d8	891558	699436	349718	1398872	Yes
Acenaphthene-d10	553038	437487	218744	874974	Yes
Phenanthrene-d10	1045741	865313	432656	1730626	Yes
Pyrene-d10	1131523	1011712	505856	2023424	Yes
Perylene-d12	831712	755977	377988	1511954	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

File ID:

Internal Standard Name	oi1061.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	6.540	6.640	Yes
Naphthalene-d8	7.816	7.916	Yes
Acenaphthene-d10	9.557	9.657	Yes
Phenanthrene-d10	11.016	11.122	Yes
Pyrene-d10	12.416	12.516	Yes
Perylene-d12	15.133	15.262	Yes

A "No" indicates the retention time is greater than 30 seconds from the RT of the referenced standard.

Comments: _____

Report generated on 11/23/2015 at 10:05

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): di0821.d Date Analyzed: 09/29/15

Instrument ID: HP19760 Time Analyzed: 09:06

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	256715	6.160	958476	8.090	563091	10.870
UPPER LIMIT	513430	6.660	1916952	8.590	1126182	11.370
LOWER LIMIT	128358	5.660	479238	7.590	281546	10.370
LLI SAMPLE NO.						
01 SBLKWB268	155337	6.161	583814	8.090	337589	10.864
02 268WBLCS	159434	6.166	593973	8.090	350085	10.870
03 8052865RE	160768	6.161	599497	8.090	598881	10.870
04 8057369	154557	6.161	584192	8.090	342914	10.864
05 8059054	158281	6.160	591751	8.090	343440	10.870
06 8059055	159523	6.161	599036	8.090	352186	10.870
07 8059056	158314	6.160	598446	8.090	346706	10.864
08 8059057	166725	6.161	619435	8.090	365990	10.870
09 8059058	157896	6.160	591187	8.090	484223	10.870
10 8057742	158467	6.160	616273	8.090	355202	10.870
11 8059059	152509	6.160	584895	8.090	339443	10.870
12 8059060	155628	6.160	588637	8.090	339502	10.870
13 8059063	148130	6.161	561100	8.090	323543	10.870
14 8059064	146926	6.161	541710	8.096	311178	10.876
15 8059065	153337	6.161	585580	8.090	342187	10.870
16 8059066MS	150232	6.166	560099	8.096	329619	10.870
17 8059067MSD	151043	6.166	564175	8.096	335142	10.870

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): di0821.d Date Analyzed: 09/29/15

Instrument ID: HP19760 Time Analyzed: 09:06

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	1010368	12.846	1297152	14.682	1150209	19.024
UPPER LIMIT	2020736	13.346	2594304	15.182	2300418	19.524
LOWER LIMIT	505184	12.346	648576	14.182	575105	18.524
LLI SAMPLE NO.						
01 SBLKWB268	649203	12.846	727773	14.682	579453	19.024
02 268WBLCS	638679	12.846	760078	14.682	641902	19.024
03 8052865RE	683822	12.852	909942	14.694	656882	19.030
04 8057369	651230	12.840	759503	14.682	638499	19.024
05 8059054	645054	12.846	771437	14.682	631732	19.024
06 8059055	594970	12.846	814244	14.688	664516	19.030
07 8059056	666317	12.846	774130	14.682	652298	19.024
08 8059057	682774	12.846	802901	14.682	662130	19.024
09 8059058	642212	12.857	888689	14.705	653192	19.042
10 8057742	673394	12.846	799628	14.682	675198	19.024
11 8059059	655969	12.846	759155	14.682	631889	19.024
12 8059060	635604	12.846	730843	14.682	666629	19.024
13 8059063	601485	12.846	725807	14.682	660378	19.024
14 8059064	552293	12.852	711902	14.688	623486	19.024
15 8059065	642930	12.846	760633	14.682	634180	19.024
16 8059066MS	574374	12.846	719756	14.682	627844	19.024
17 8059067MSD	605062	12.846	737108	14.682	623275	19.024

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): di0821.d Date Analyzed: 09/29/15

Instrument ID: HP19760 Time Analyzed: 09:06

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	256715	6.160	958476	8.090	563091	10.870
UPPER LIMIT	513430	6.660	1916952	8.590	1126182	11.370
LOWER LIMIT	128358	5.660	479238	7.590	281546	10.370
LLI SAMPLE NO.						
18 8059068	156703	6.161	588193	8.090	347776	10.864
19 8059069	153390	6.161	563893	8.096	322866	10.876
20 8062128	150576	6.172	565290	8.107	396051	10.882
21 8062135	149662	6.166	546001	8.096	332780	10.870

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): di0821.d Date Analyzed: 09/29/15

Instrument ID: HP19760 Time Analyzed: 09:06

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	1010368	12.846	1297152	14.682	1150209	19.024
UPPER LIMIT	2020736	13.346	2594304	15.182	2300418	19.524
LOWER LIMIT	505184	12.346	648576	14.182	575105	18.524
LLI SAMPLE NO.						
18 8059068	636773	12.846	757040	14.682	670248	19.024
19 8059069	580004	12.852	719005	14.688	618542	19.024
20 8062128	631143	12.852	733995	14.688	645981	19.024
21 8062135	566027	12.846	722829	14.682	633774	19.024

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): oi1161.d Date Analyzed: 09/25/15

Instrument ID: HP09910 Time Analyzed: 19:59

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	169350	6.440	794861	7.716	509145	9.451
UPPER LIMIT	338700	6.940	1589722	8.216	1018290	9.951
LOWER LIMIT	84675	5.940	397431	7.216	254573	8.951
LLI SAMPLE NO.						
01 SBLKLE266	164651	6.439	713679	7.716	448144	9.451
02 266LELCS	180471	6.440	866628	7.716	579539	9.451
03 8051800	150903	6.439	731358	7.716	467765	9.445
04 8051803	170958	6.439	848441	7.716	540696	9.445
05 8051809	168611	6.439	794729	7.716	503707	9.445
06 8051812	179091	6.440	862797	7.716	567211	9.445
07 8051815	165581	6.439	788723	7.716	494622	9.445
08 8051816	162779	6.440	777534	7.716	507445	9.445
09 8057362	165463	6.439	813215	7.716	495470	9.445
10 8057363MS	198109	6.439	1002805	7.716	632631	9.451
11 8057364MSD	172069	6.440	871522	7.716	555432	9.451
12 8051384	164555	6.440	812597	7.716	518666	9.445
13 8051385	166597	6.440	790324	7.716	501200	9.445
14 8056301	161302	6.439	779038	7.716	482197	9.445
15 8056302	213695	6.439	1022266	7.716	604425	9.445
16 8056444	187961	6.439	884514	7.716	528479	9.451
17 8056447	162765	6.439	777900	7.716	480513	9.451

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): oi1161.d Date Analyzed: 09/25/15

Instrument ID: HP09910 Time Analyzed: 19:59

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	973727	10.910	1088690	12.304	836730	14.998
UPPER LIMIT	1947454	11.410	2177380	12.804	1673460	15.498
LOWER LIMIT	486864	10.410	544345	11.804	418365	14.498
LLI SAMPLE NO.						
01 SBLKLE266	926467	10.910	1064351	12.304	850781	14.998
02 266LELCS	1120348	10.910	1217794	12.304	827056	14.998
03 8051800	874578	10.904	919126	12.304	620063	14.992
04 8051803	1007100	10.904	1035305	12.304	670909	14.992
05 8051809	934814	10.904	964808	12.298	603815	14.992
06 8051812	1031325	10.904	1023402	12.298	640218	14.992
07 8051815	934332	10.904	961613	12.304	619775	14.992
08 8051816	901694	10.904	896492	12.304	594815	14.992
09 8057362	909481	10.904	899713	12.298	556952	14.992
10 8057363MS	1126613	10.910	1142560	12.304	695977	14.998
11 8057364MSD	960591	10.910	979599	12.304	586119	14.998
12 8051384	974105	10.904	989436	12.298	594636	14.992
13 8051385	960888	10.904	965848	12.298	588223	14.992
14 8056301	871737	10.904	894717	12.304	633587	14.992
15 8056302	997947	10.904	946296	12.304	643682	15.004
16 8056444	892254	10.916	886847	12.315	645067	15.021
17 8056447	842652	10.910	896725	12.304	650470	15.004

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): oi1161.d Date Analyzed: 09/25/15

Instrument ID: HP09910 Time Analyzed: 19:59

		IS1(DCB)		IS2(NPT)		IS3(ANT)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	169350	6.440	794861	7.716	509145	9.451
	UPPER LIMIT	338700	6.940	1589722	8.216	1018290	9.951
	LOWER LIMIT	84675	5.940	397431	7.216	254573	8.951
	LLI SAMPLE NO.						
18	8056449	194831	6.439	903672	7.716	518389	9.451
19	8056450	196471	6.439	923695	7.716	531513	9.451
20	8056453	171893	6.439	767811	7.716	474539	9.451
21	8057359	185230	6.446	848511	7.716	479623	9.451
22	8057360	184667	6.445	867750	7.716	496950	9.451
23	8057361	192330	6.445	863988	7.716	496963	9.451
24	8057366	165388	6.439	791447	7.716	453591	9.451
25	8057367	201393	6.439	947195	7.716	547201	9.451
26	8057368	177480	6.440	815564	7.716	469760	9.451

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): oi1161.d Date Analyzed: 09/25/15

Instrument ID: HP09910 Time Analyzed: 19:59

		IS4(PHN)		IS5(PYR)		IS6(PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	973727	10.910	1088690	12.304	836730	14.998
	UPPER LIMIT	1947454	11.410	2177380	12.804	1673460	15.498
	LOWER LIMIT	486864	10.410	544345	11.804	418365	14.498
	LLI SAMPLE NO.						
18	8056449	842483	10.910	819104	12.310	613654	15.015
19	8056450	899142	10.910	878039	12.316	693552	15.021
20	8056453	859249	10.916	905260	12.315	642197	15.015
21	8057359	822231	10.910	776658	12.310	578511	15.004
22	8057360	817069	10.910	809596	12.310	597327	15.004
23	8057361	838326	10.910	827679	12.310	594620	15.004
24	8057366	785879	10.910	738359	12.304	547150	15.004
25	8057367	908579	10.910	876575	12.310	619114	15.004
26	8057368	775901	10.910	767112	12.304	578650	15.004

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

Sample Data

Semivolatiles by GC/MS

Fraction: Semivolatiles by GC/MS

10724: PAHs 8270C (17) Analyte Name	Default MDL	Default LOQ	Units
Naphthalene	3	17	ug/kg
2-Methylnaphthalene	3	17	ug/kg
Acenaphthylene	3	17	ug/kg
Acenaphthene	3	17	ug/kg
Fluorene	3	17	ug/kg
Phenanthrene	3	17	ug/kg
Anthracene	3	17	ug/kg
Fluoranthene	3	17	ug/kg
Pyrene	3	17	ug/kg
Benzo(a)anthracene	3	17	ug/kg
Chrysene	3	17	ug/kg
Benzo(b)fluoranthene	3	17	ug/kg
Benzo(k)fluoranthene	3	17	ug/kg
Benzo(a)pyrene	3	17	ug/kg
Indeno(1,2,3-cd)pyrene	3	17	ug/kg
Dibenz(a,h)anthracene	3	17	ug/kg
Benzo(g,h,i)perylene	3	17	ug/kg

07805: PAHs 8270C (17) Analyte Name	Default MDL	Default LOQ	Units
Naphthalene	0.1	0.5	ug/l
2-Methylnaphthalene	0.1	0.5	ug/l
Acenaphthylene	0.1	0.5	ug/l
Acenaphthene	0.1	0.5	ug/l
Fluorene	0.1	0.5	ug/l
Phenanthrene	0.1	0.5	ug/l
Anthracene	0.1	0.5	ug/l
Fluoranthene	0.1	0.5	ug/l
Pyrene	0.1	0.5	ug/l
Benzo(a)anthracene	0.1	0.5	ug/l
Chrysene	0.1	0.5	ug/l
Benzo(b)fluoranthene	0.1	0.5	ug/l
Benzo(k)fluoranthene	0.1	0.5	ug/l
Benzo(a)pyrene	0.1	0.5	ug/l
Indeno(1,2,3-cd)pyrene	0.1	0.5	ug/l
Dibenz(a,h)anthracene	0.1	0.5	ug/l
Benzo(g,h,i)perylene	0.1	0.5	ug/l

PS481 Lancaster Laboratories, Inc. 8057359
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1182.d Injection date and time: **26-SEP-2015 05:21**
Data file Sample Info. Line: PS481;8057359;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.3 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.446(-0.006)	742	152	185230 (9)	20.00	
65) Naphthalene-d8	7.716(0.000)	958	136	848511 (7)	20.00	
113) Acenaphthene-d10	9.451(0.000)	1253	164	479623 (-6)	20.00	
153) Phenanthrene-d10	10.910(0.000)	1501	188	822231 (-16)	20.00	
175) Pyrene-d10	12.310(-0.006)	1739	212	776658 (-29)	20.00	
213) Perylene-d12	15.004(-0.006)	2197	264	578511 (-31)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.004(0.000)	82	1808825	91.607	92%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.798(-0.001)	172	3036951	99.756	100%		63 - 117
179) Terphenyl-d14	(5)	12.492(0.000)	244	2695088	94.292	94%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	7.740(0.000)	128	6648M	0.142	4.69			0.1
83) 2-Methylnaphthalene	(2)	8.428(0.000)	142	3651M	0.111	3.66			0.1
109) Acenaphthylene	(3)	9.310(-0.000)	152	31378M	0.737	24.32			0.1
114) Acenaphthene	(3)	9.481(-0.000)	153	3877	0.132	4.34			0.1
126) Fluorene	(3)	9.998(-0.000)	166	6328M	0.187	6.17			0.1
155) Phenanthrene	(4)	10.933(0.000)	178	50064	1.048	34.60			0.1
157) Anthracene	(4)	10.986(-0.000)	178	24687	0.523	17.27			0.1
173) Fluoranthene	(4)	12.110(-0.001)	202	145423	2.802	92.48			0.1
177) Pyrene	(5)	12.327(0.000)	202	149519	3.227	106.50			0.1
195) Benzo(a)anthracene	(5)	13.527(0.000)	228	61247	1.516	50.05			0.1
196) Chrysene	(5)	13.563(0.000)	228	83094	2.159	71.26			0.1
206) Benzo(b)fluoranthene	(6)	14.627(-0.000)	252	108880M	2.999	98.98			0.1
208) Benzo(k)fluoranthene	(6)	14.639(0.000)	252	49836M	1.345	44.40			0.1
211) Benzo(a)pyrene	(6)	14.945(-0.000)	252	63228M	1.763	58.19			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	16.233(0.000)	276	50703M	1.358	44.81			0.1
220) Dibenz(a,h)anthracene	(6)	16.257(0.000)	278	10123M	0.322	10.63			0.1
221) Benzo(g,h,i)perylene	(6)	16.592(-0.000)	276	53098M	1.731	57.13			0.1

M = Compound was manually integrated.

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13. Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1182.d Injection date and time: **26-SEP-2015 05:21**
Data file Sample Info. Line: PS481;8057359;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.3 g

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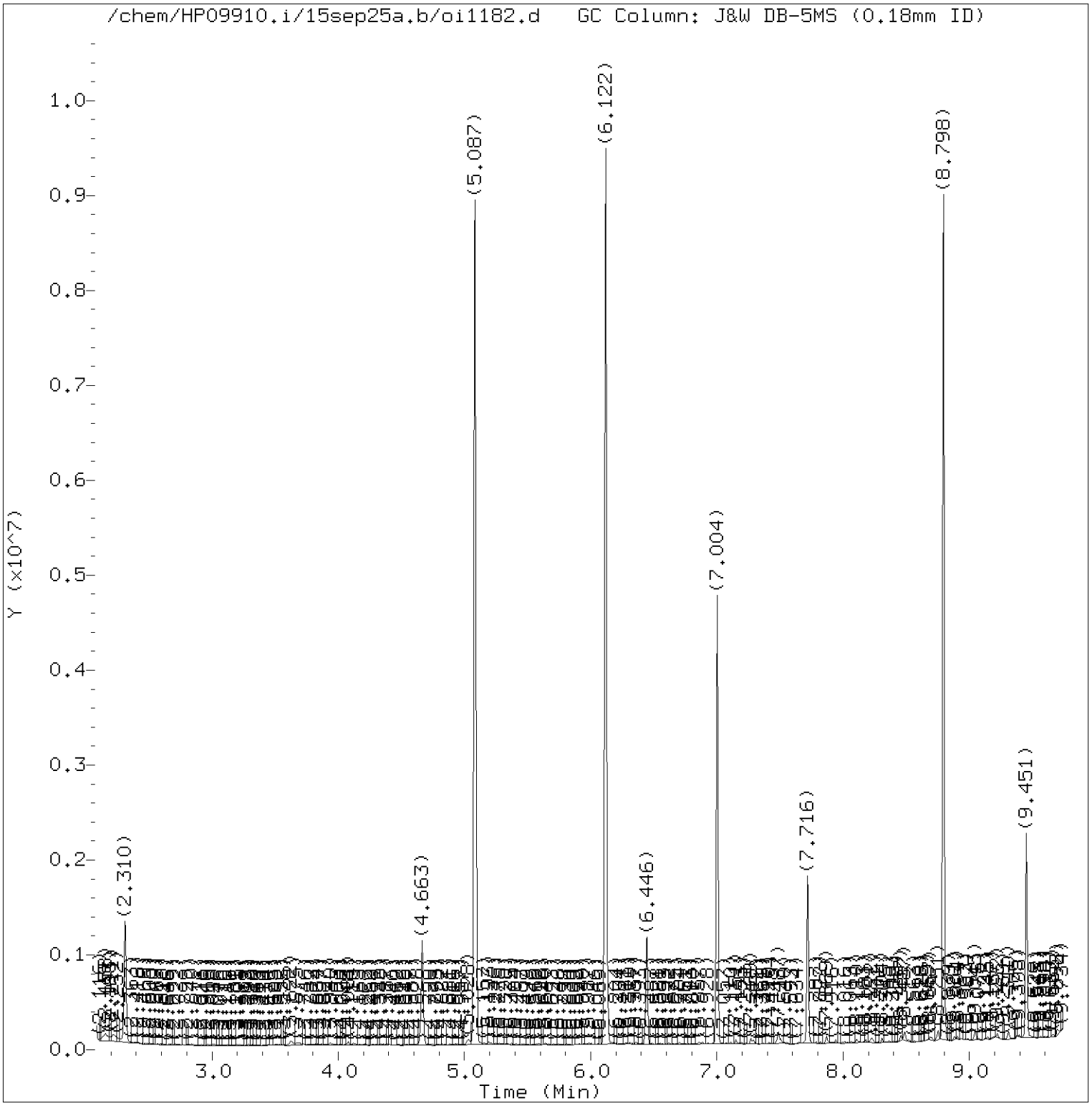
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

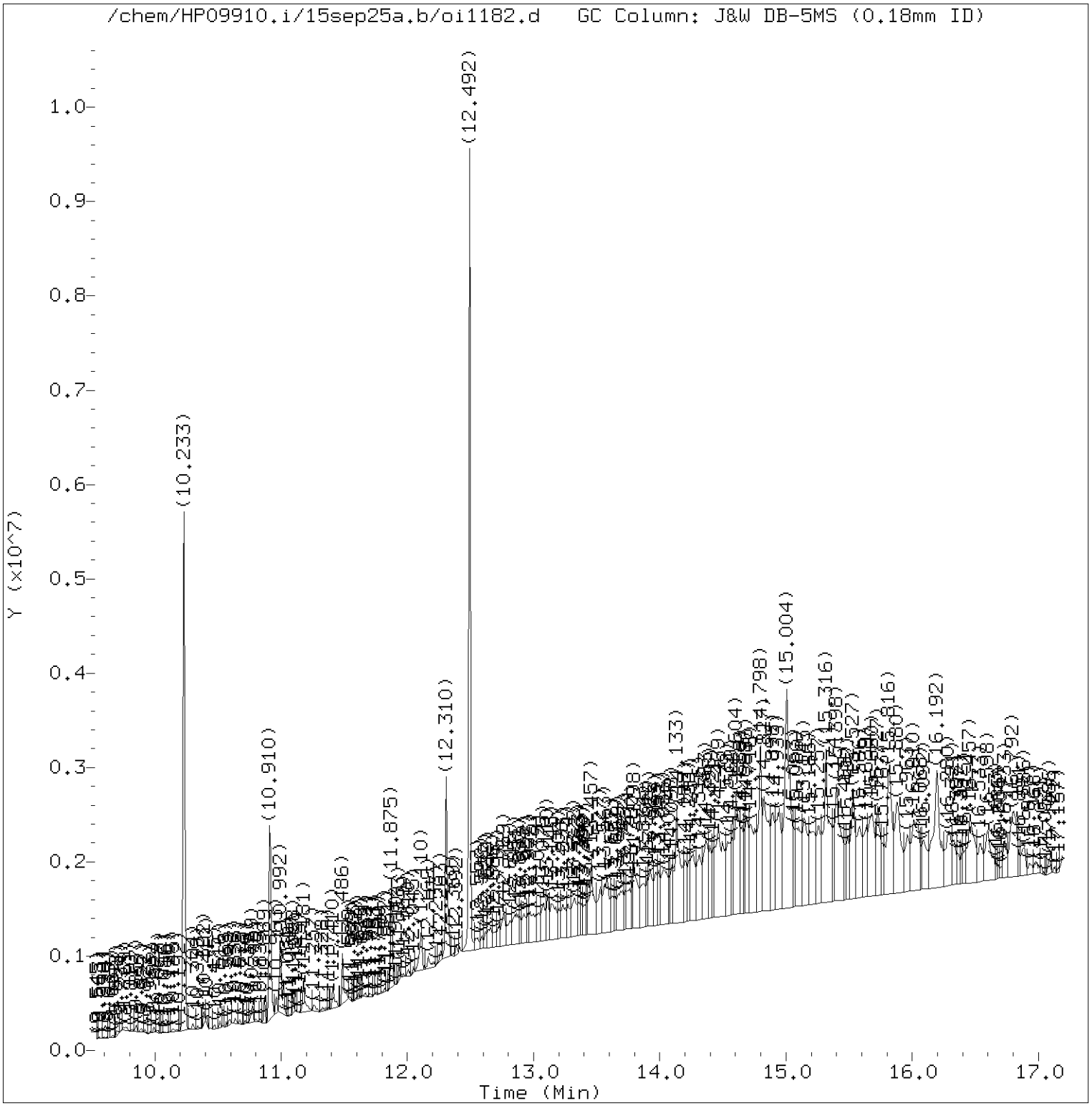
Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

Digitally signed by Linda M. Hartenstine
on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

Digitally signed by Linda M. Hartenstine
on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.446	152	185230	20.000
44)$Nitrobenzene-d5	(2)	7.004	82	1808825	91.607
65)*Naphthalene-d8	(2)	7.716	136	848511	20.000
66) Naphthalene	(2)	7.740	128	6648M	0.142
83) 2-Methylnaphthalene	(2)	8.428	142	3651M	0.111
93)$2-Fluorobiphenyl	(3)	8.798	172	3036951	99.756
109) Acenaphthylene	(3)	9.310	152	31378M	0.737
113)*Acenaphthene-d10	(3)	9.451	164	479623	20.000
114) Acenaphthene	(3)	9.481	153	3877	0.132
126) Fluorene	(3)	9.998	166	6328M	0.187
153)*Phenanthrene-d10	(4)	10.910	188	822231	20.000
155) Phenanthrene	(4)	10.933	178	50064	1.048
157) Anthracene	(4)	10.986	178	24687	0.523
173) Fluoranthene	(4)	12.110	202	145423	2.802
175)*Pyrene-d10	(5)	12.310	212	776658	20.000
177) Pyrene	(5)	12.327	202	149519	3.227
179)$Terphenyl-d14	(5)	12.492	244	2695088	94.292
195) Benzo(a)anthracene	(5)	13.527	228	61247	1.516
196) Chrysene	(5)	13.563	228	83094	2.159
206) Benzo(b)fluoranthene	(6)	14.627	252	108880M	2.999
208) Benzo(k)fluoranthene	(6)	14.639	252	49836M	1.345
211) Benzo(a)pyrene	(6)	14.945	252	63228M	1.763
213)*Perylene-d12	(6)	15.004	264	578511	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	16.233	276	50703M	1.358
220) Dibenz(a,h)anthracene	(6)	16.257	278	10123M	0.322
221) Benzo(g,h,i)perylene	(6)	16.592	276	53098M	1.731

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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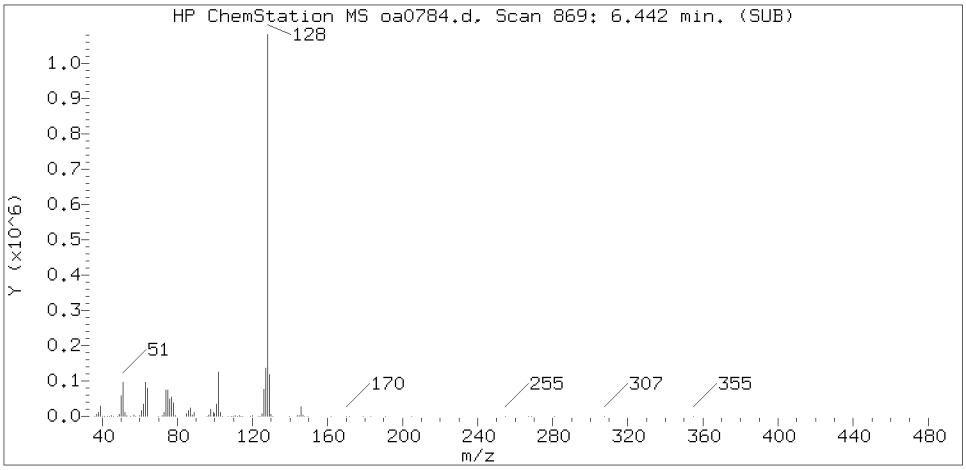
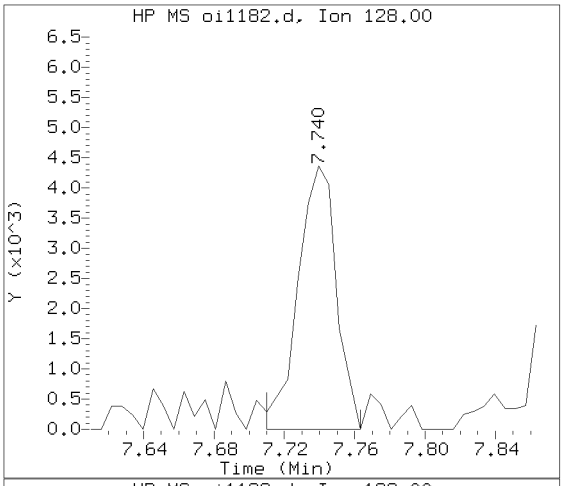
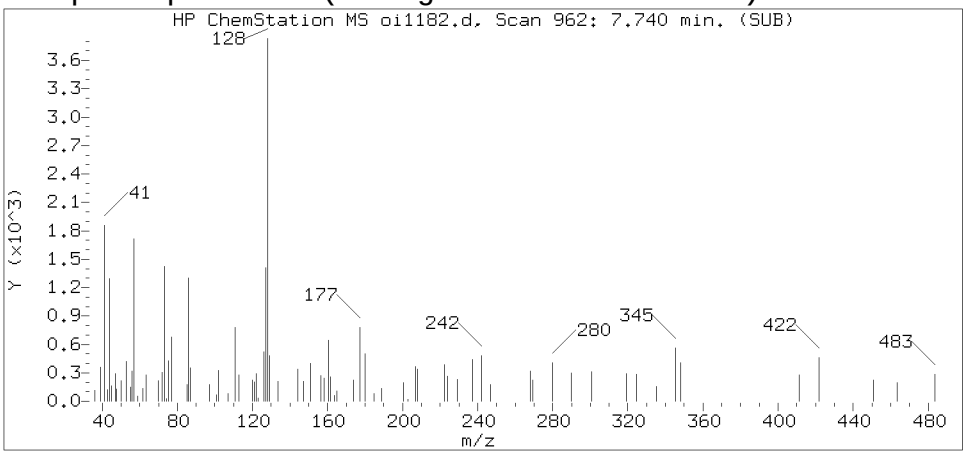
on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

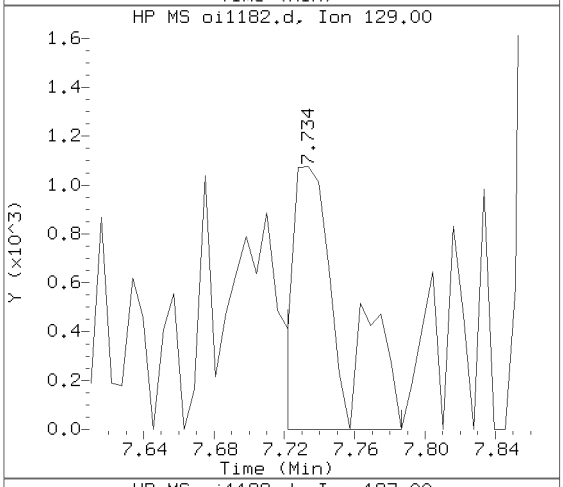
Reference Standard Spectrum for Naphthalene



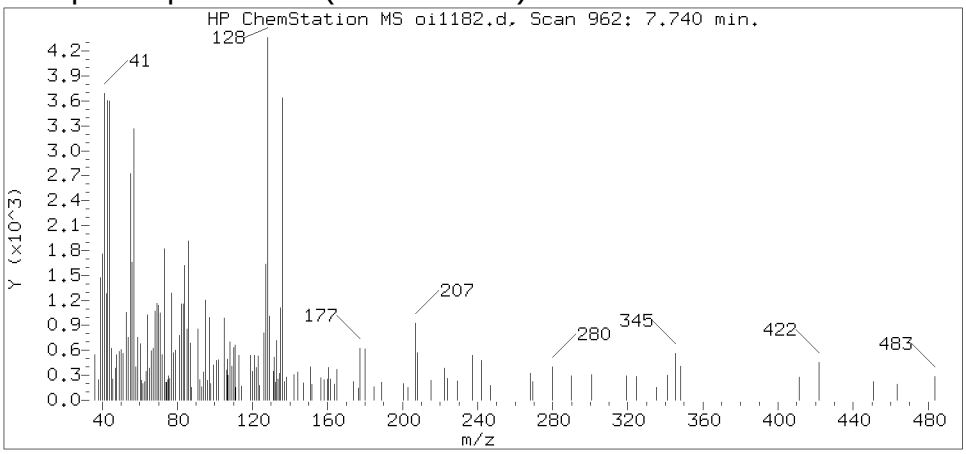


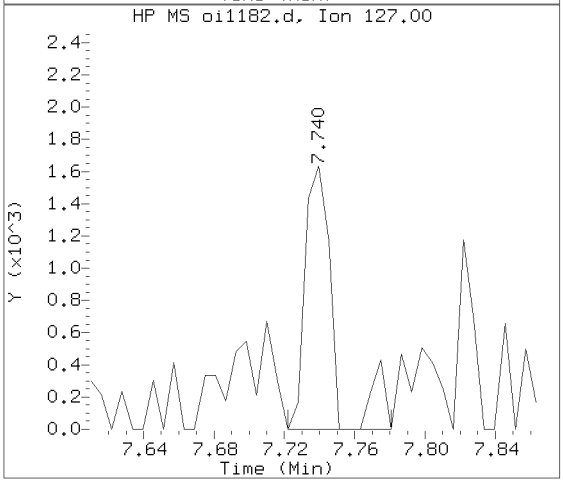
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

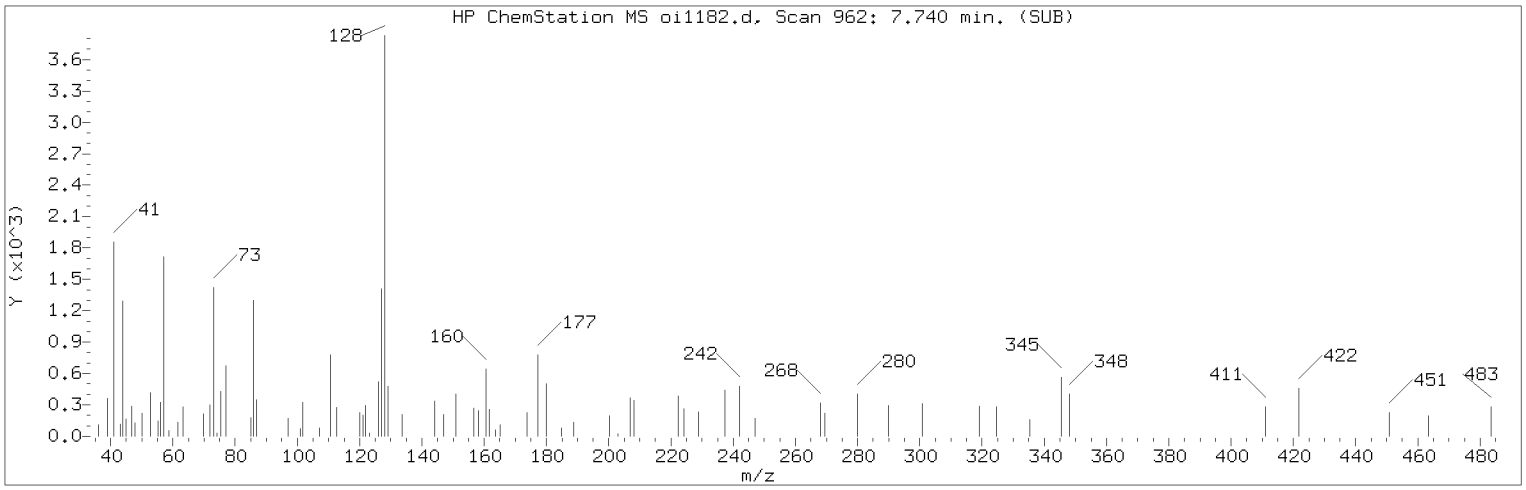
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

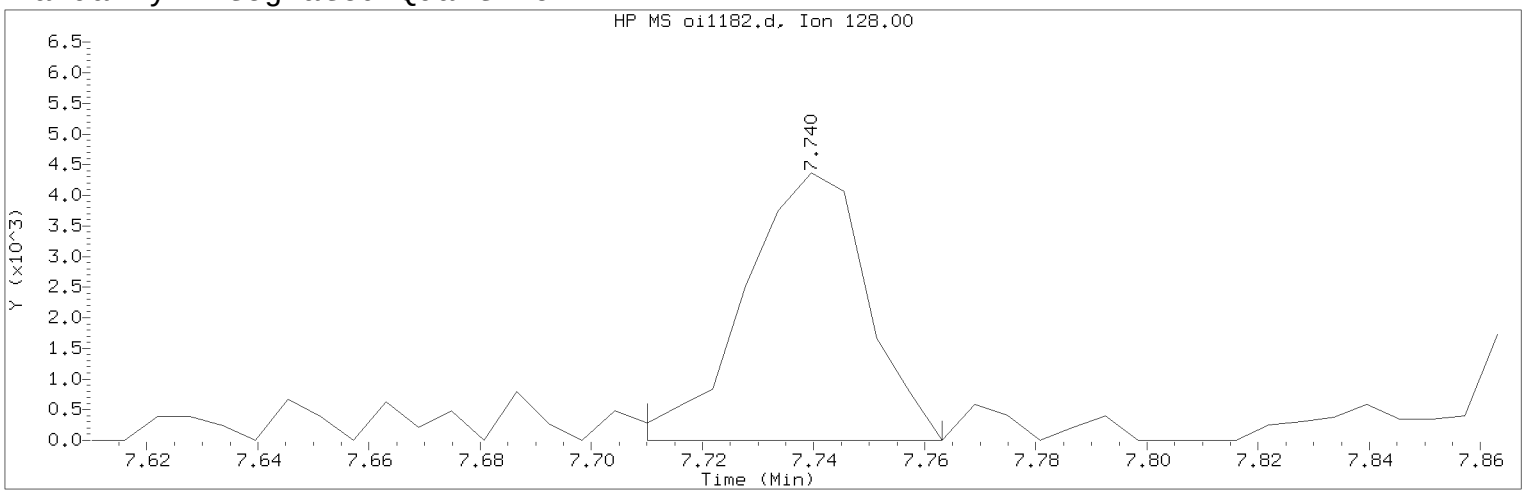
Compound Number	: 66
Compound Name	: Naphthalene
Scan Number	: 962
Retention Time (minutes)	: 7.740
Relative Retention Time	: 0.00000
Quant Ion	: 128.00
Area (flag)	: 6648M
On-column Amount (ng/ul)	: 0.1422

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

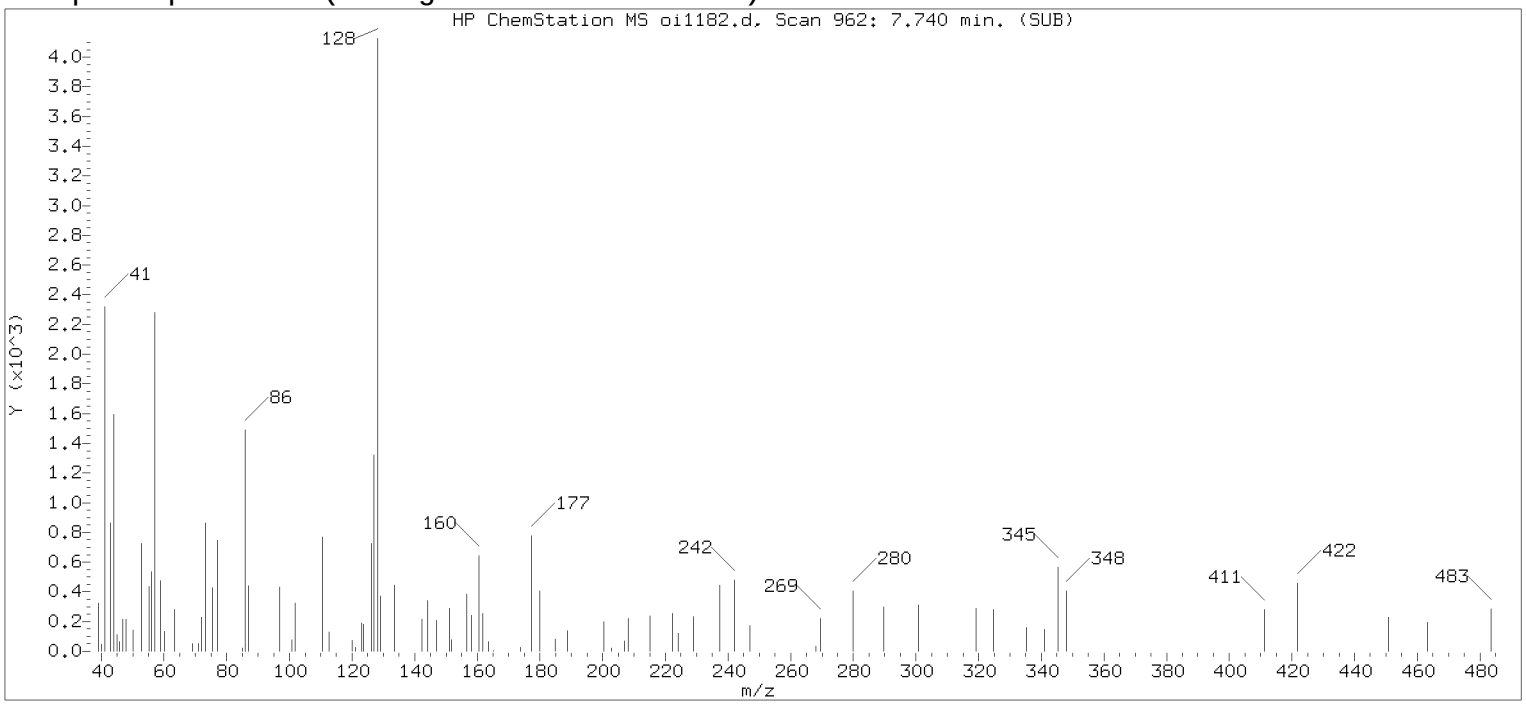
Compound Number : 66
Compound Name : Naphthalene
Scan Number : 962
Retention Time (minutes) : 7.740
Quant Ion : 128.00
Area (flag) : 6648M
On-column Amount (ng/ul) : 0.1422
Integration start scan : 956 Integration stop scan: 965
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

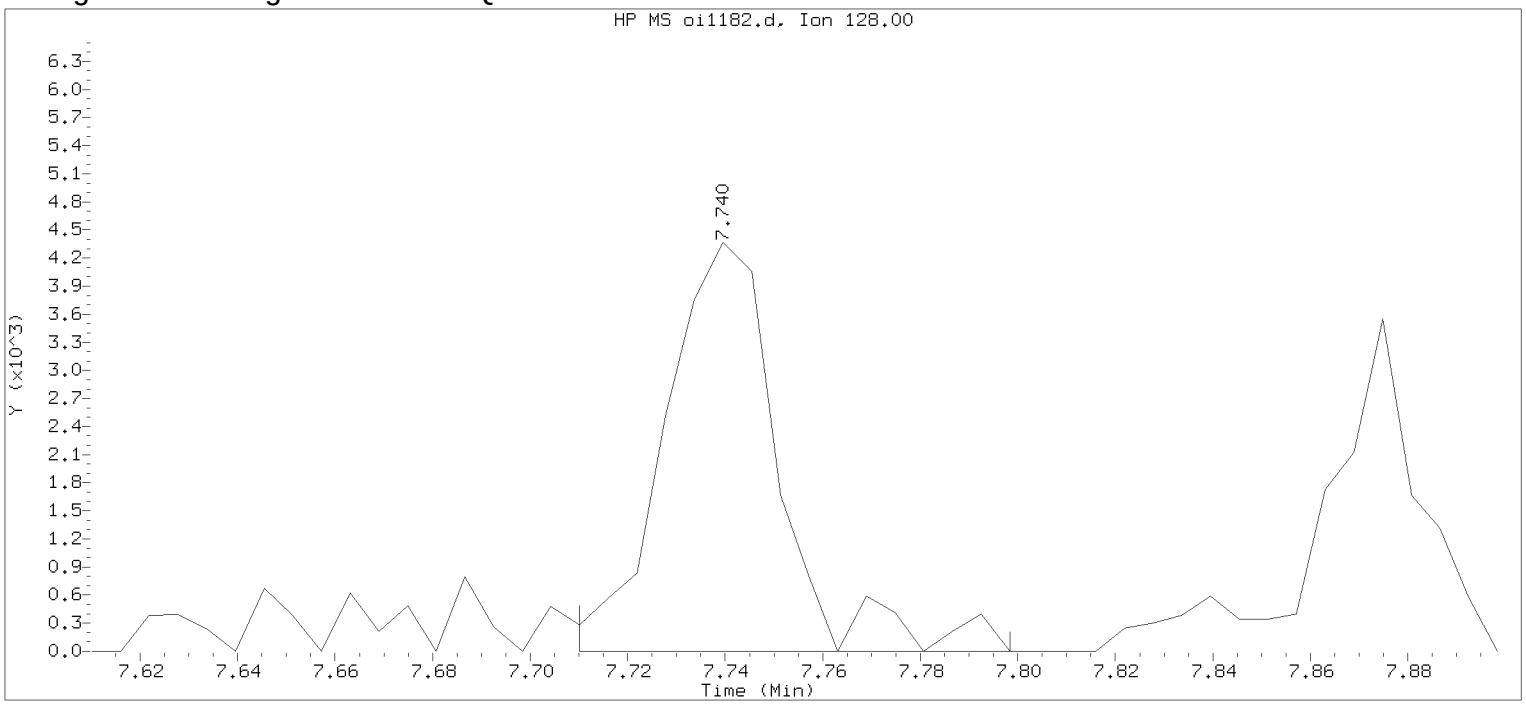
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

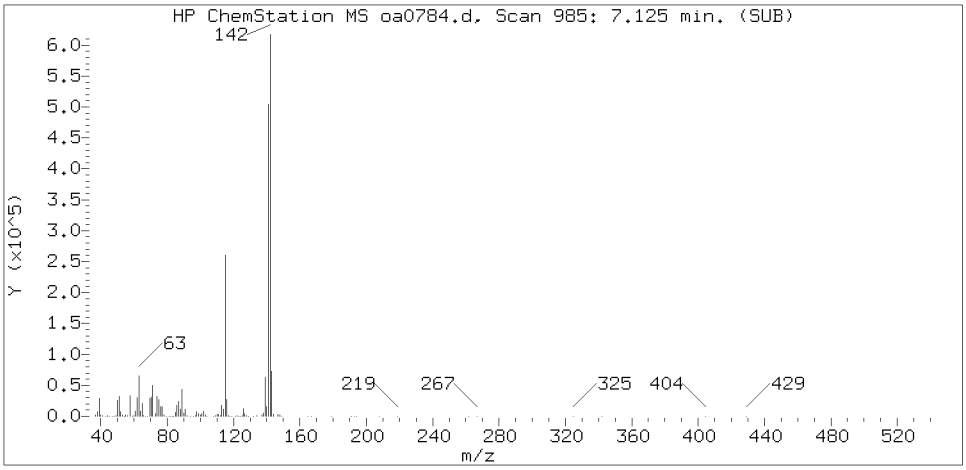
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 05:37 Automation

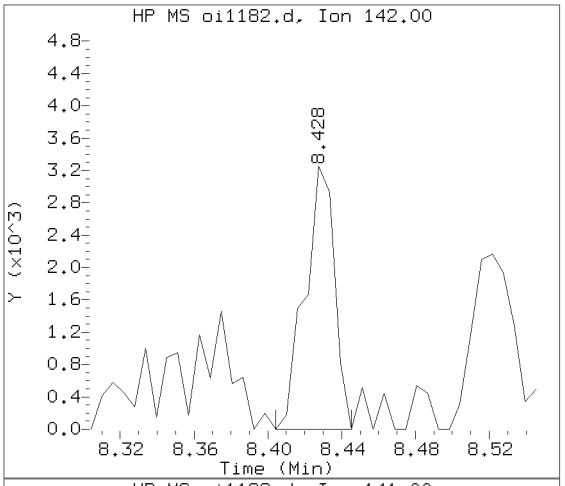
Sample Name: PS481 Lab Sample ID: 8057359

Compound Number	: 66		
Compound Name	: Naphthalene		
Scan Number	: 962		
Retention Time (minutes)	: 7.740		
Quant Ion	: 128.00		
Area	: 7166		
On-column Amount (ng/ul)	: 0.1533		
Integration start scan	: 956	Integration stop scan:	971
Y at integration start	: 0	Y at integration end:	0

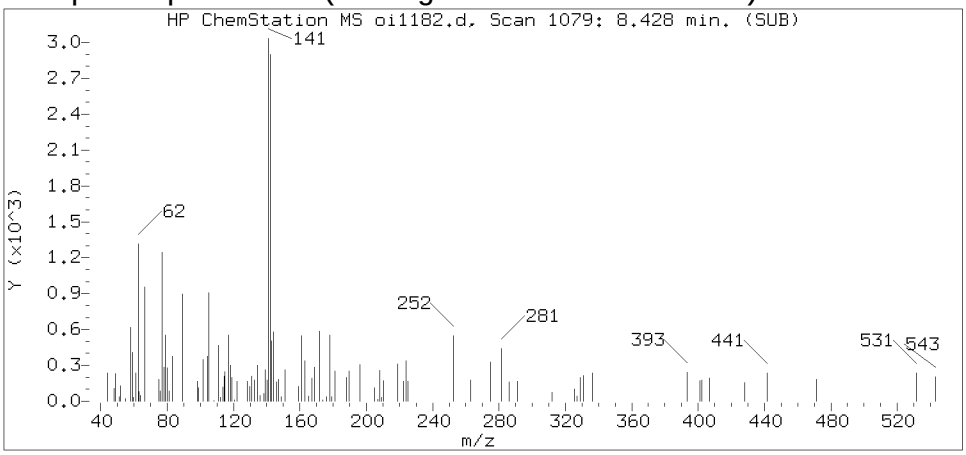
Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: LMH0975

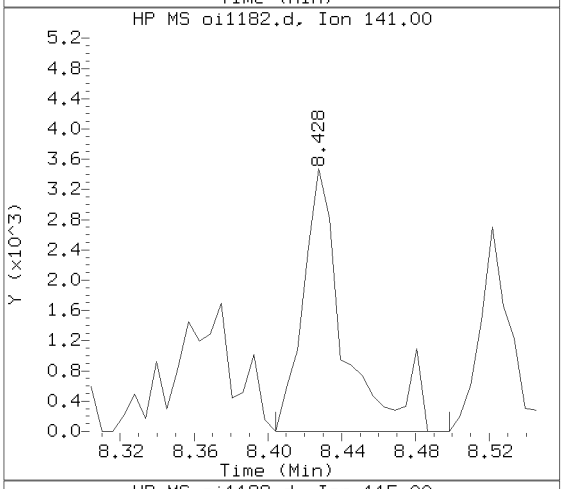
Reference Standard Spectrum for 2-Methylnaphthalene



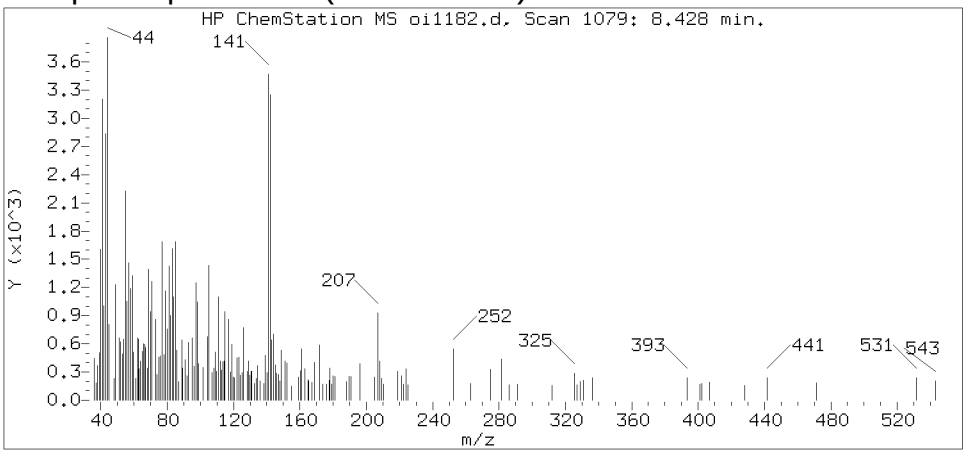


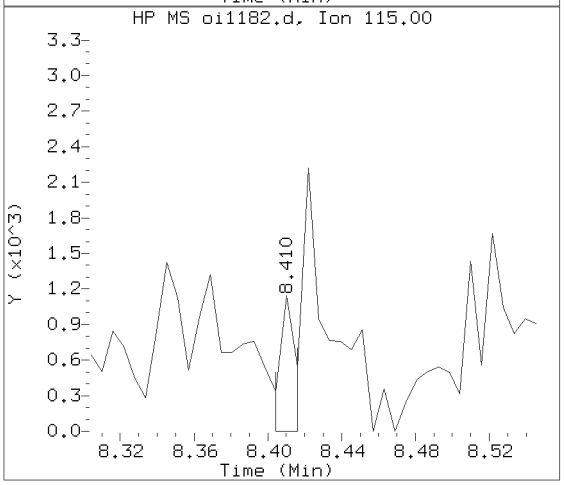
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

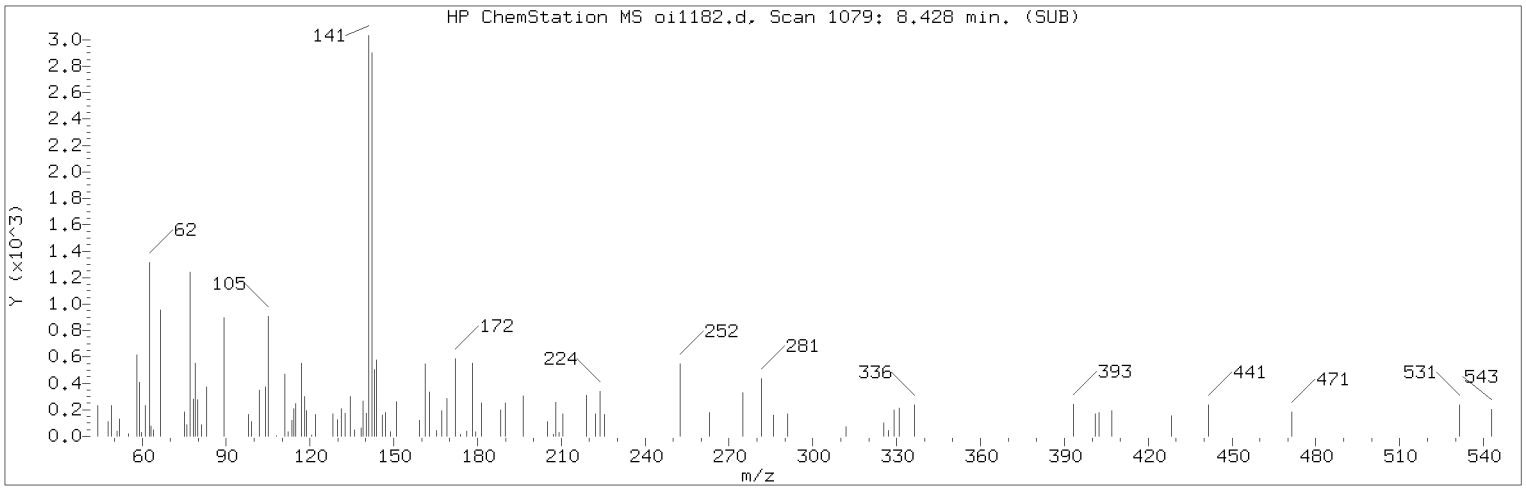
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

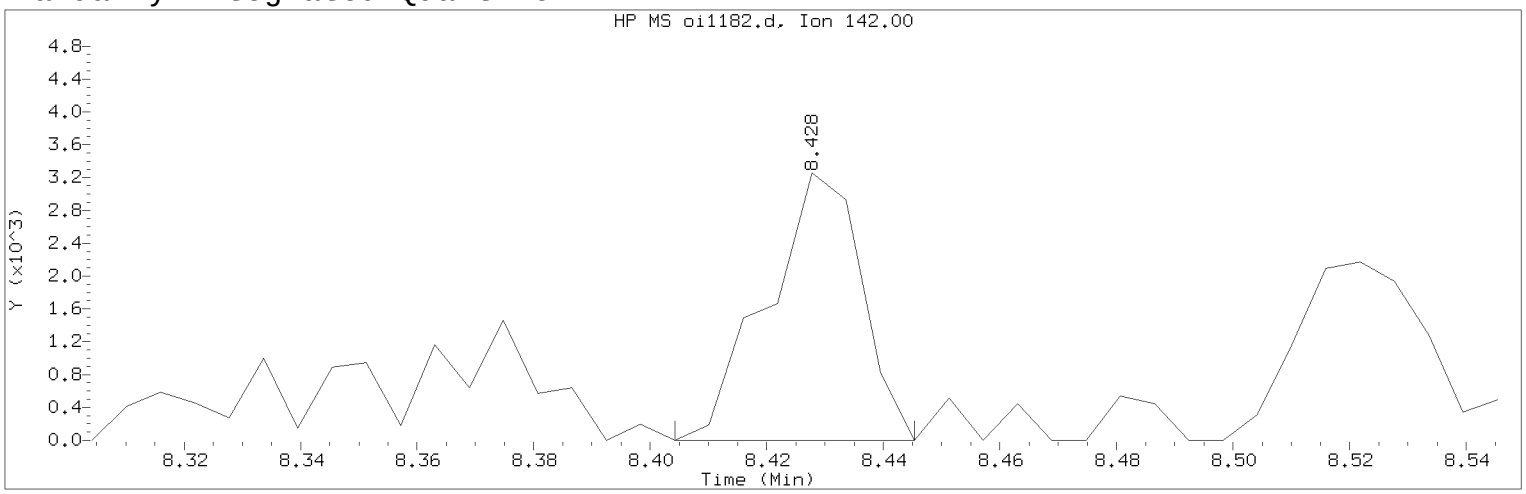
Compound Number	: 83
Compound Name	: 2-Methylnaphthalene
Scan Number	: 1079
Retention Time (minutes)	: 8.428
Relative Retention Time	: 0.00000
Quant Ion	: 142.00
Area (flag)	: 3651M
On-column Amount (ng/ul)	: 0.1108

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

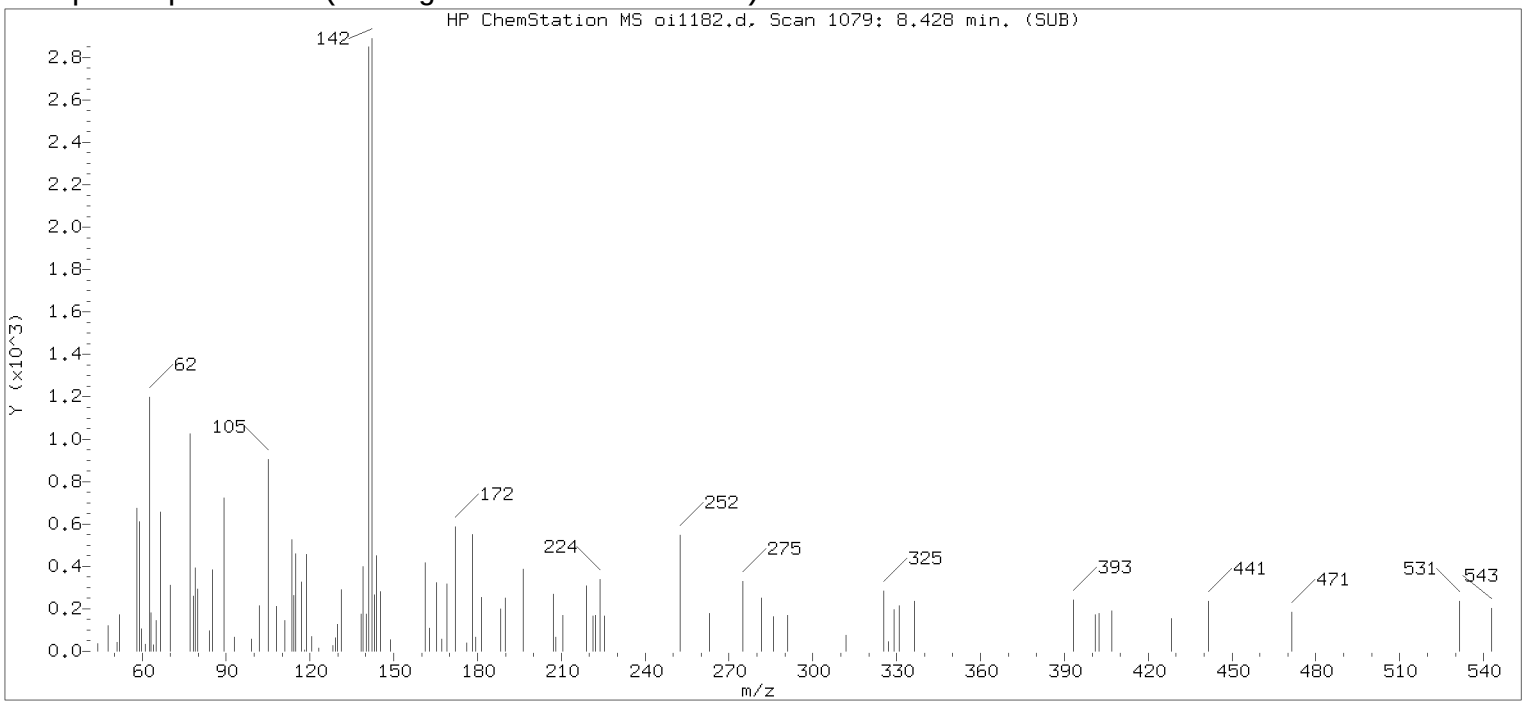
Compound Number : 83
Compound Name : 2-Methylnaphthalene
Scan Number : 1079
Retention Time (minutes) : 8.428
Quant Ion : 142.00
Area (flag) : 3651M
On-column Amount (ng/ul) : 0.1108
Integration start scan : 1074 Integration stop scan: 1081
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

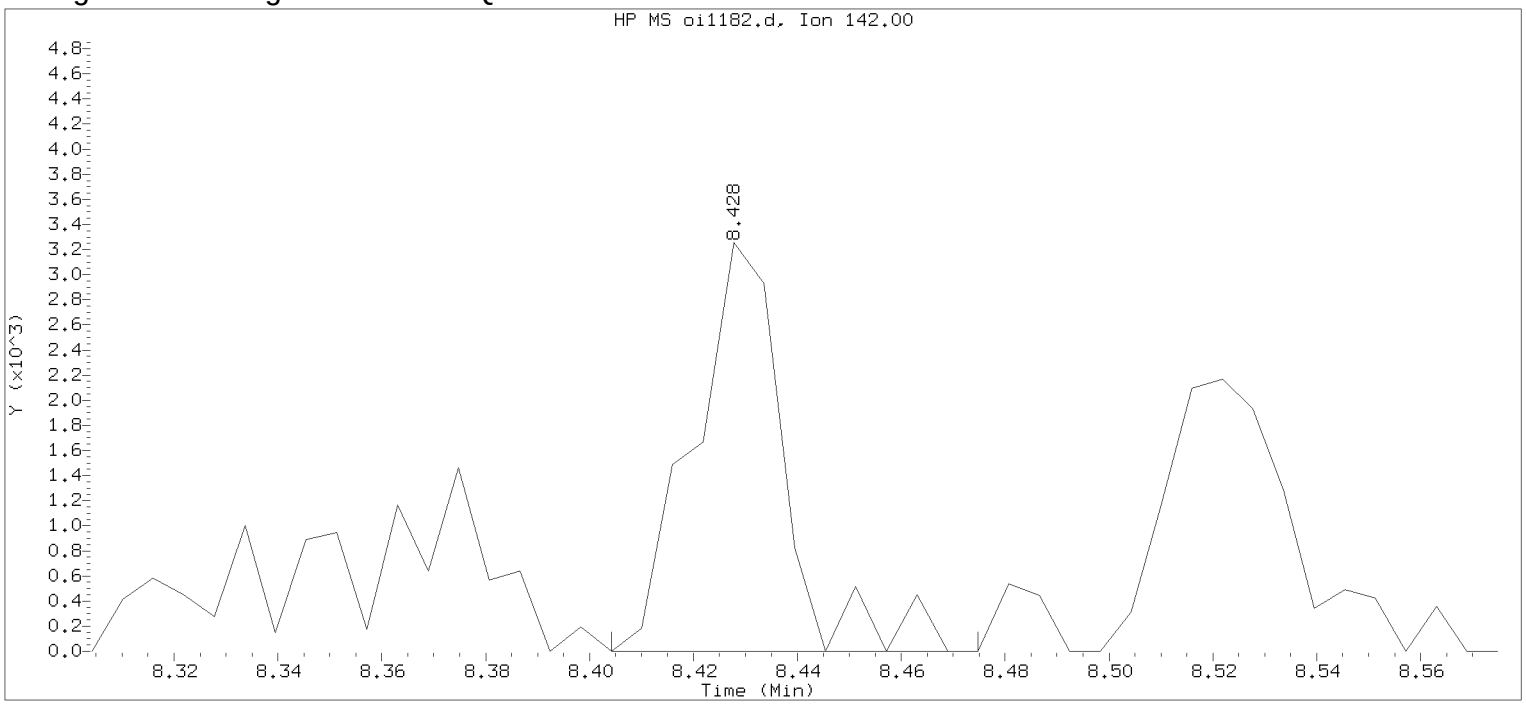
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

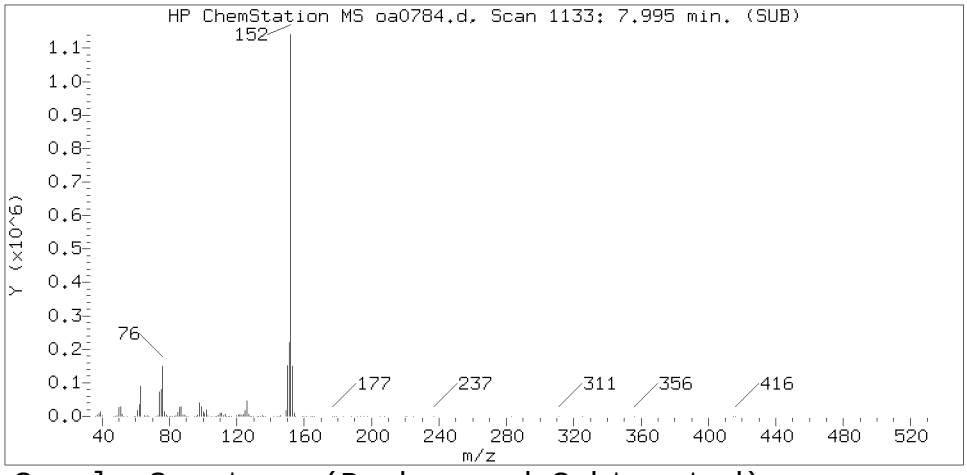
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 05:37 Automation

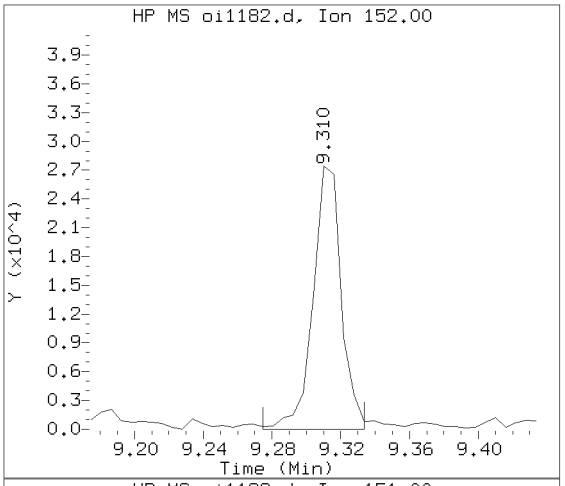
Sample Name: PS481 Lab Sample ID: 8057359

Compound Number : 83
Compound Name : 2-Methylnaphthalene
Scan Number : 1079
Retention Time (minutes) : 8.428
Quant Ion : 142.00
Area : 3990
On-column Amount (ng/ul) : 0.1211
Integration start scan : 1074 Integration stop scan: 1086
Y at integration start : 0 Y at integration end: 0

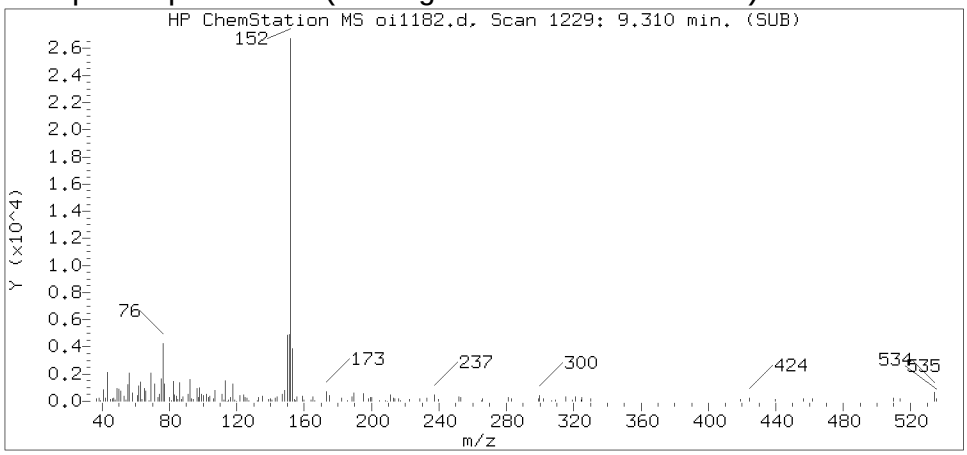
Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: LMH0976

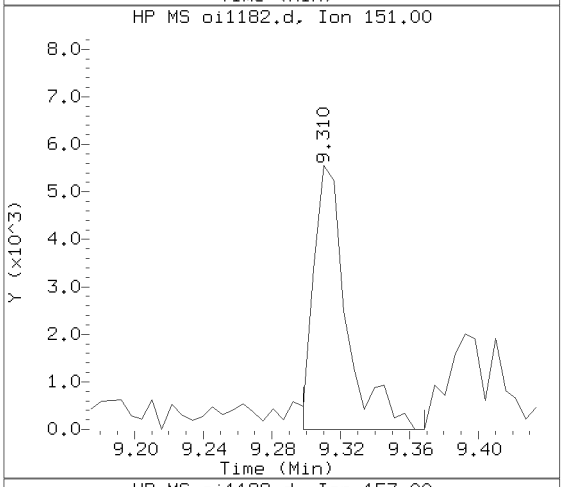
Reference Standard Spectrum for Acenaphthylene



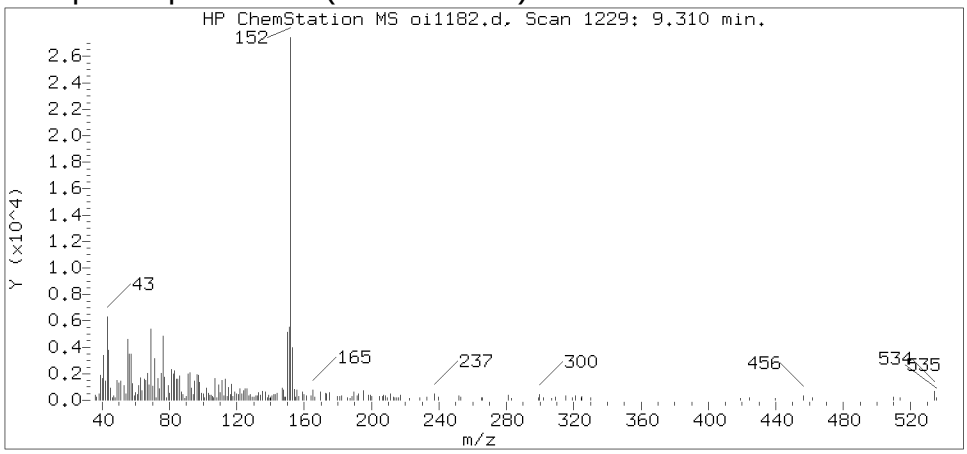


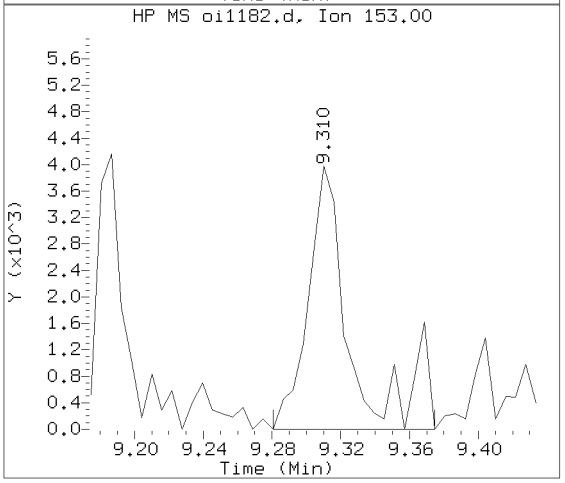
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

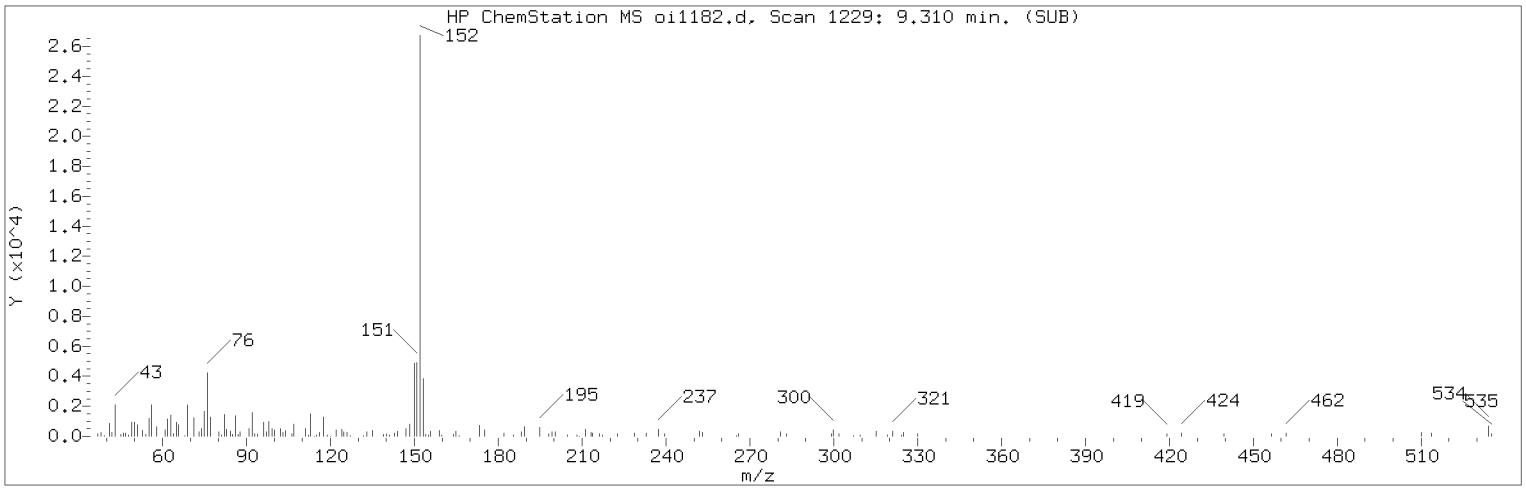
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

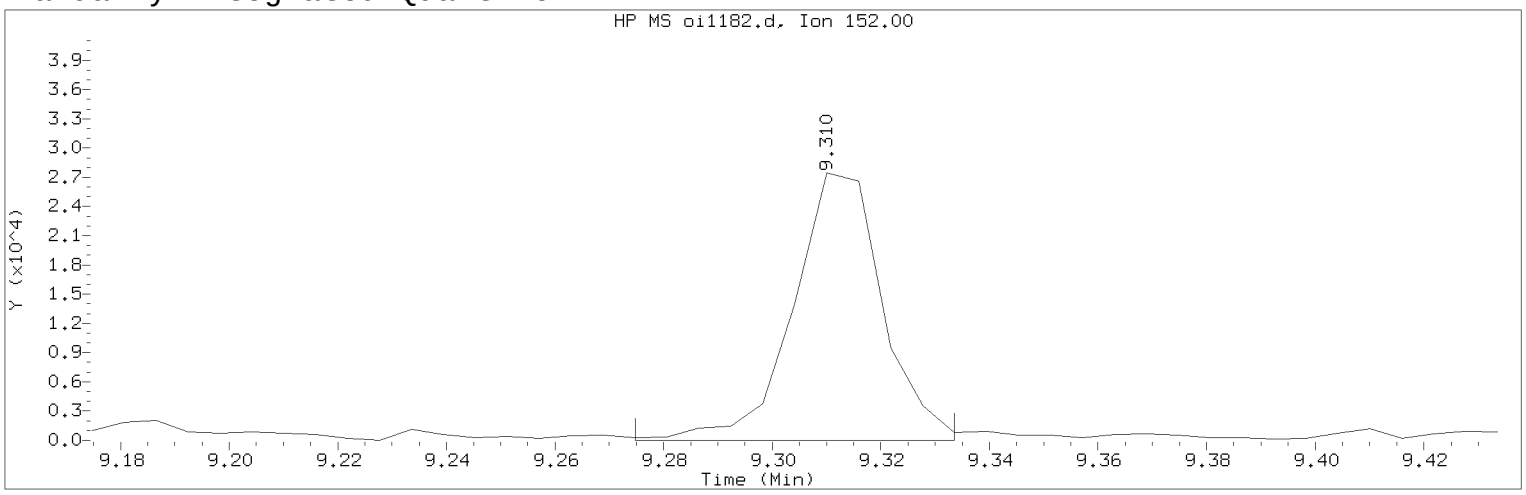
Compound Number : 109
Compound Name : Acenaphthylene
Scan Number : 1229
Retention Time (minutes) : 9.310
Relative Retention Time :-0.00000
Quant Ion : 152.00
Area (flag) : 31378M
On-column Amount (ng/ul) : 0.7369

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
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Sample Name: PS481 Lab Sample ID: 8057359

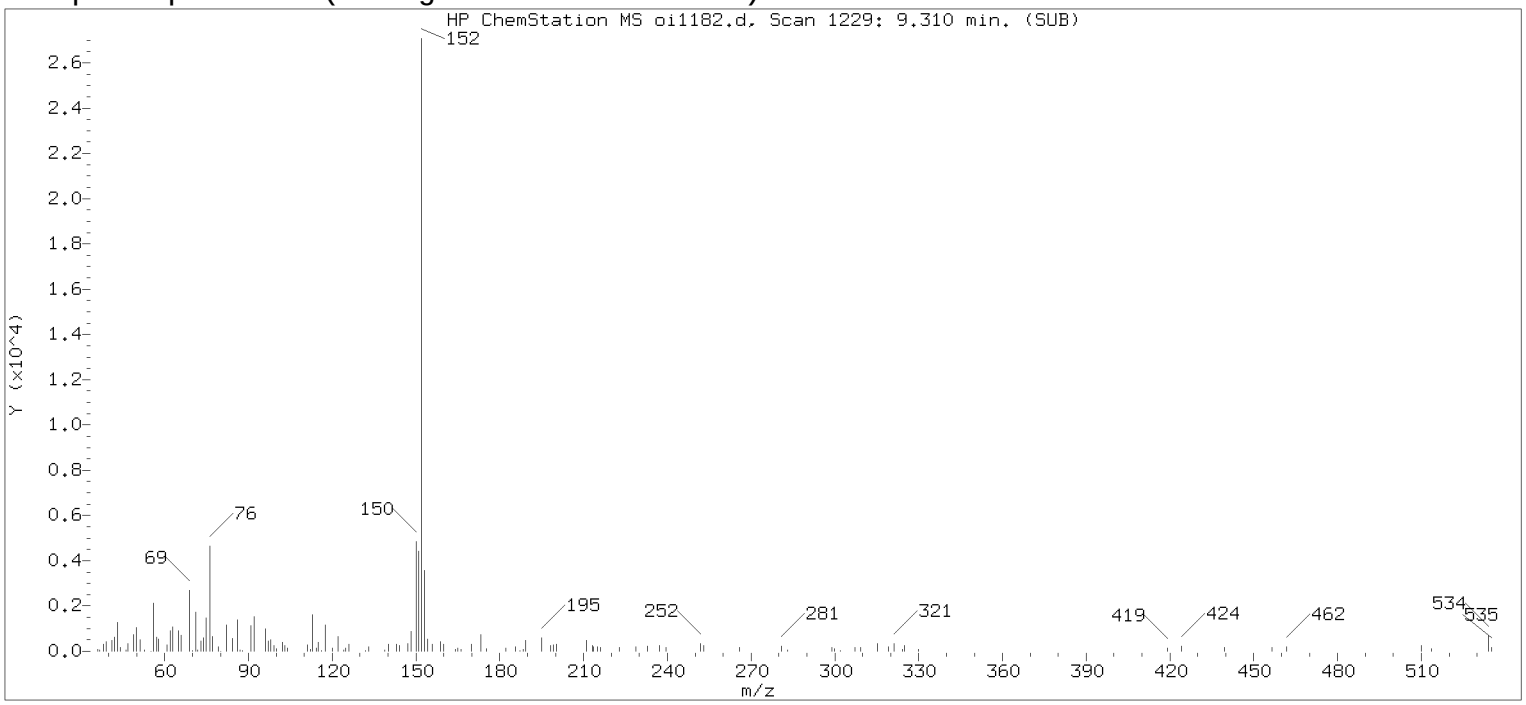
Compound Number : 109
Compound Name : Acenaphthylene
Scan Number : 1229
Retention Time (minutes) : 9.310
Quant Ion : 152.00
Area (flag) : 31378M
On-column Amount (ng/ul) : 0.7369
Integration start scan : 1222 Integration stop scan: 1232
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

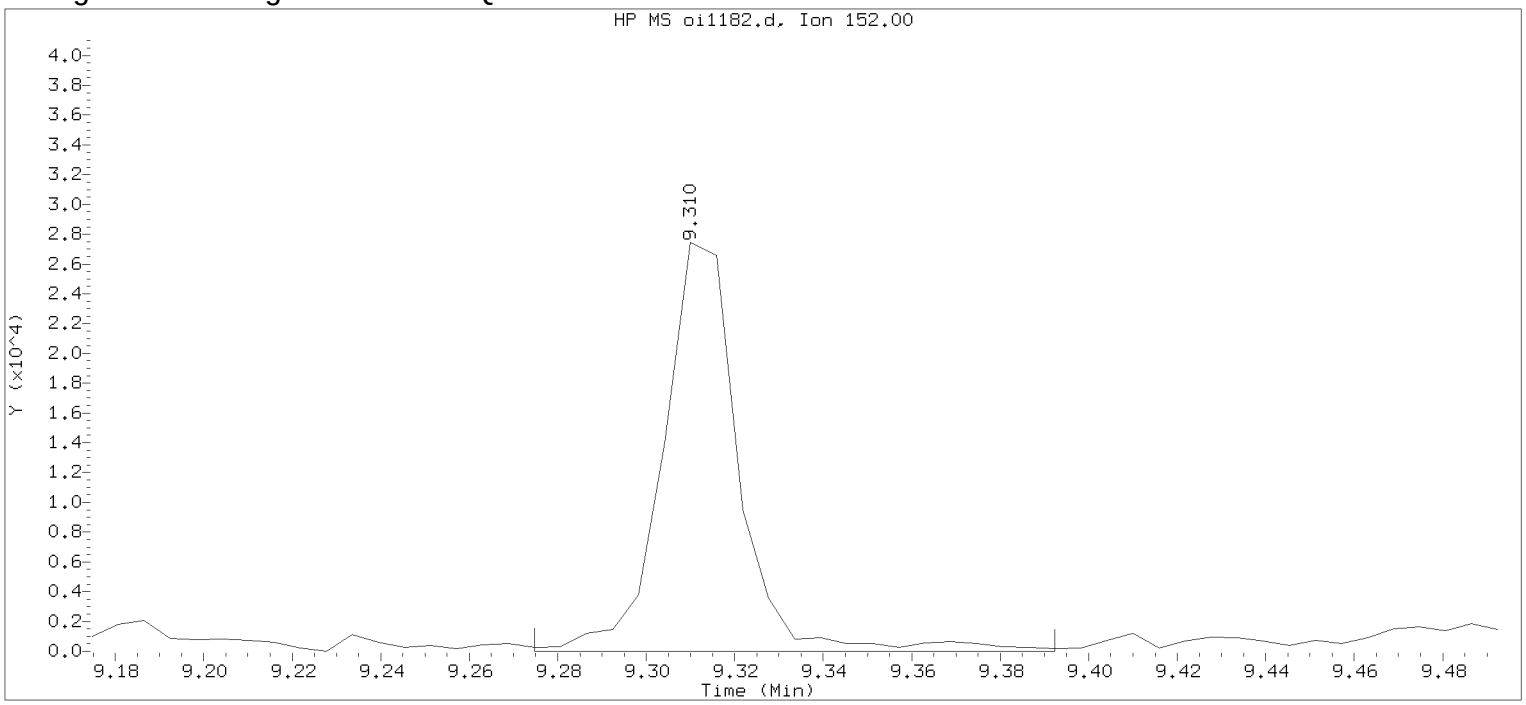
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 05:37 Automation

Sample Name: PS481 Lab Sample ID: 8057359

Compound Number	: 109		
Compound Name	: Acenaphthylene		
Scan Number	: 1229		
Retention Time (minutes)	: 9.310		
Quant Ion	: 152.00		
Area	: 32927		
On-column Amount (ng/ul)	: 0.7733		
Integration start scan	: 1222	Integration stop scan:	1242
Y at integration start	: 0	Y at integration end:	0

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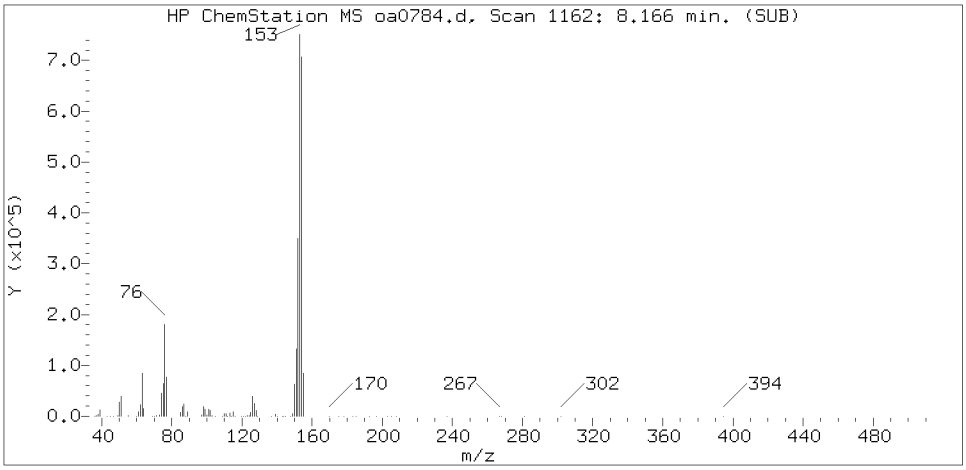
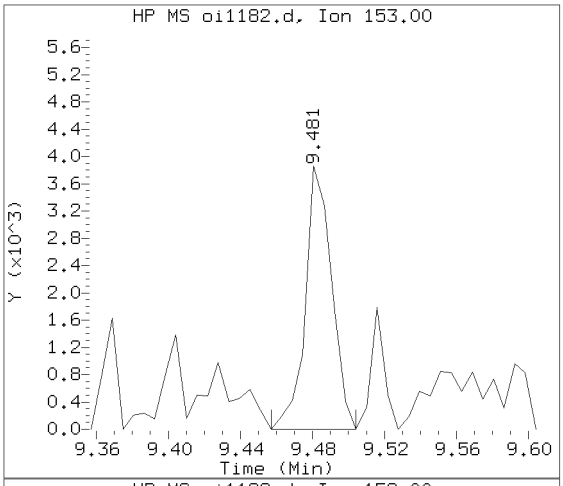
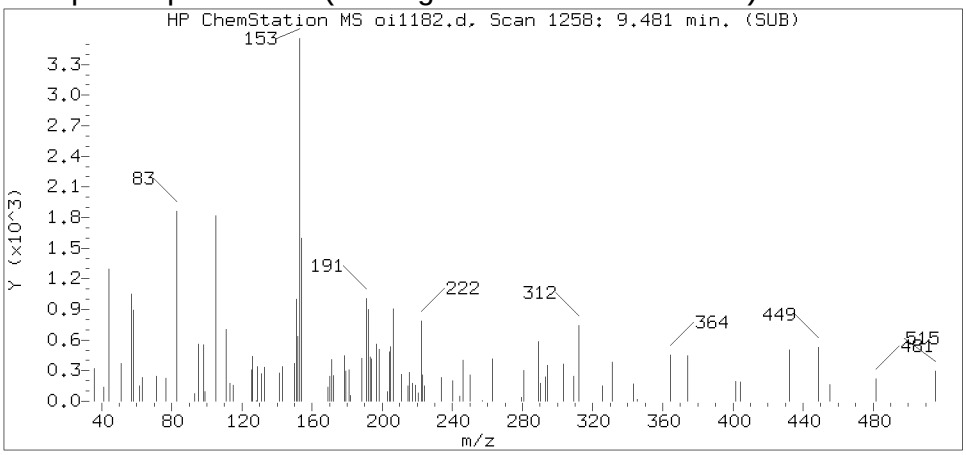
Target 3.5 esignature user ID: LMH0951

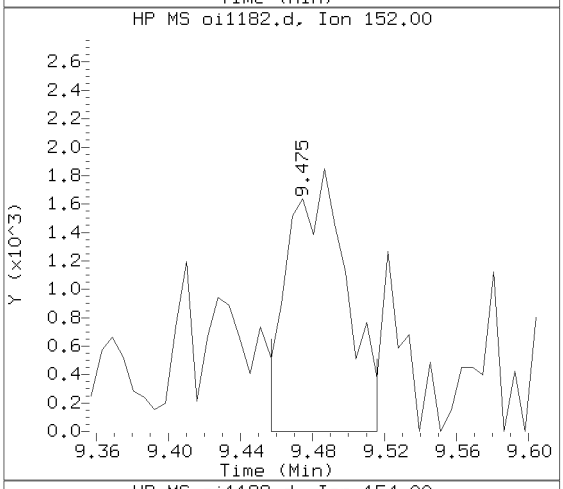
Reference Standard Spectrum for Acenaphthene



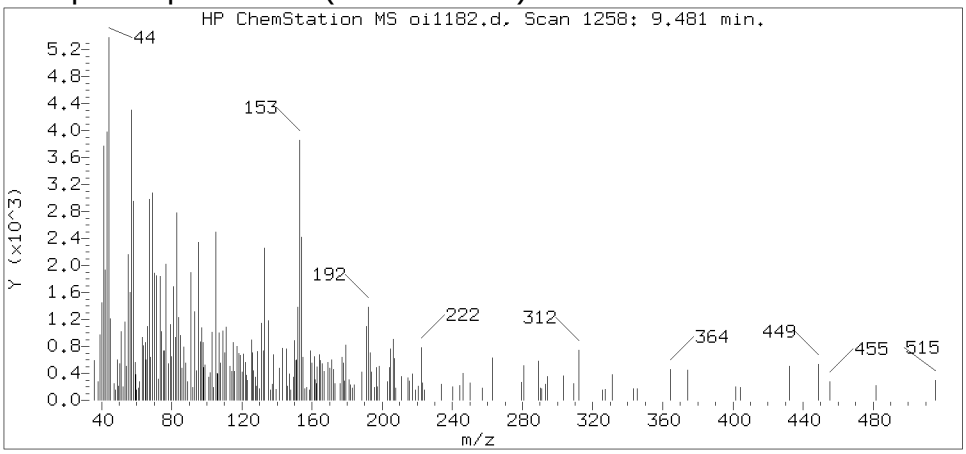


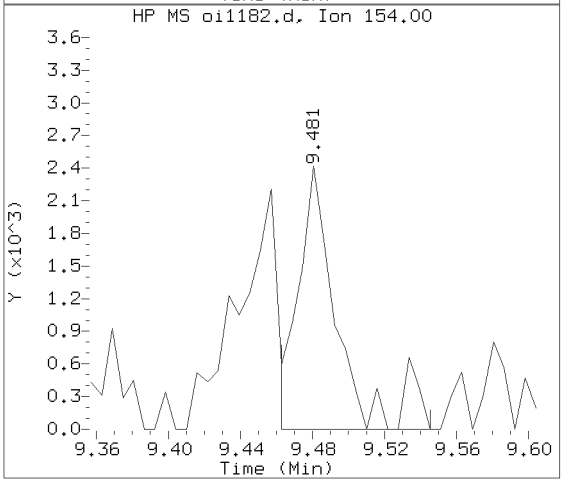
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1258
Retention Time (minutes) : 9.481
Relative Retention Time :-0.00000
Quant Ion : 153.00
Area (flag) : 3877
On-column Amount (ng/ul) : 0.1315

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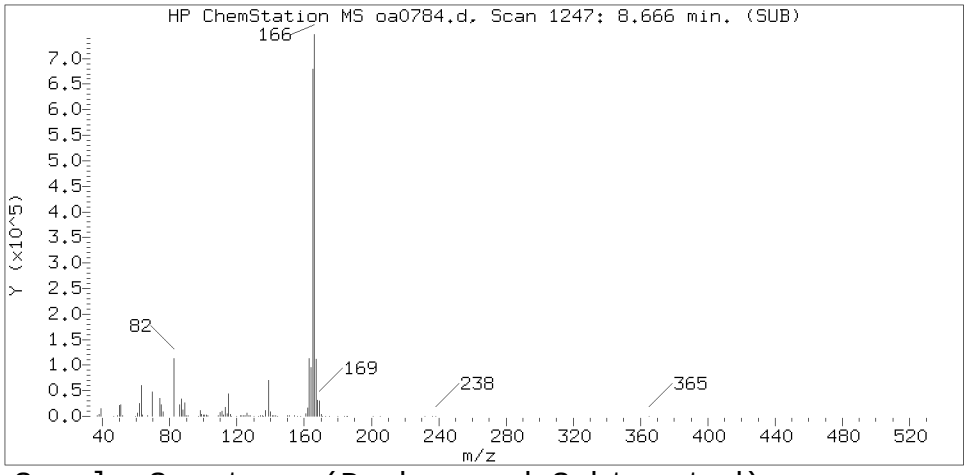
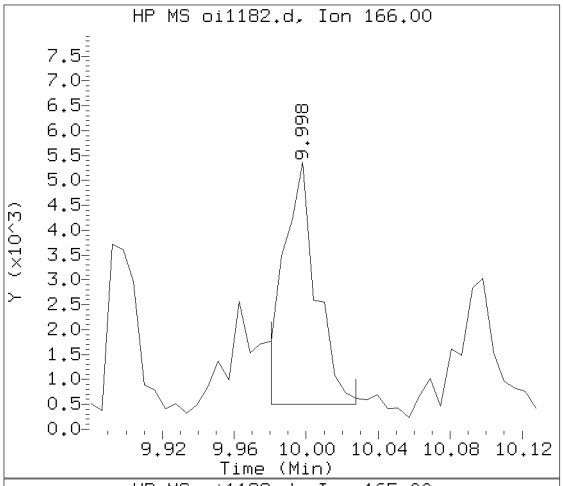
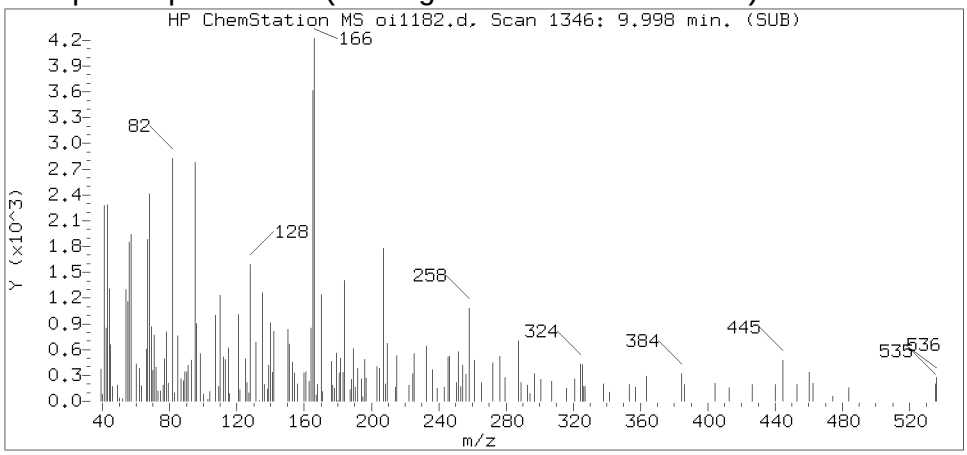
Target 3.5 esignature user ID: lmh00956

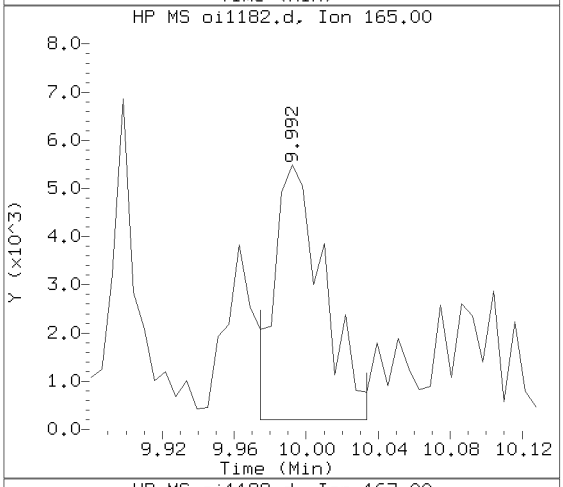
Reference Standard Spectrum for Fluorene



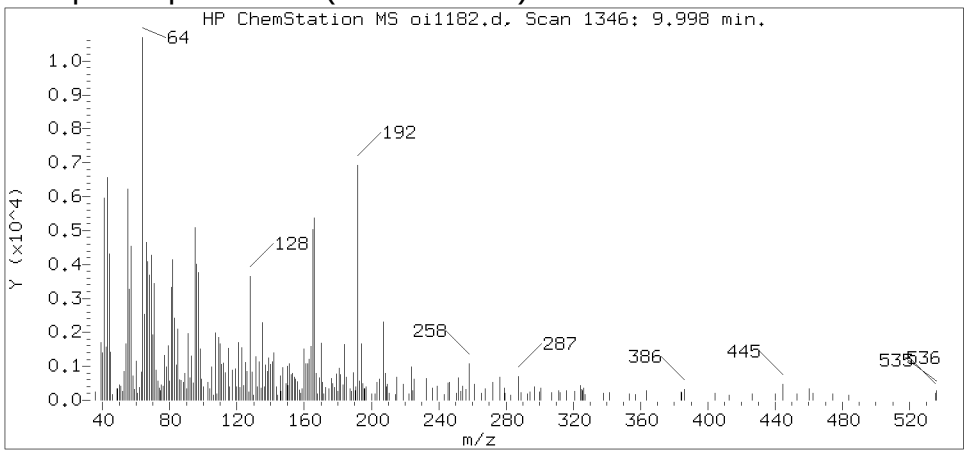


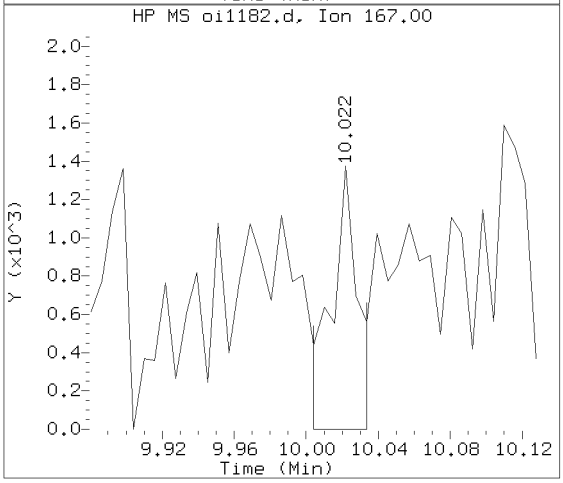
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

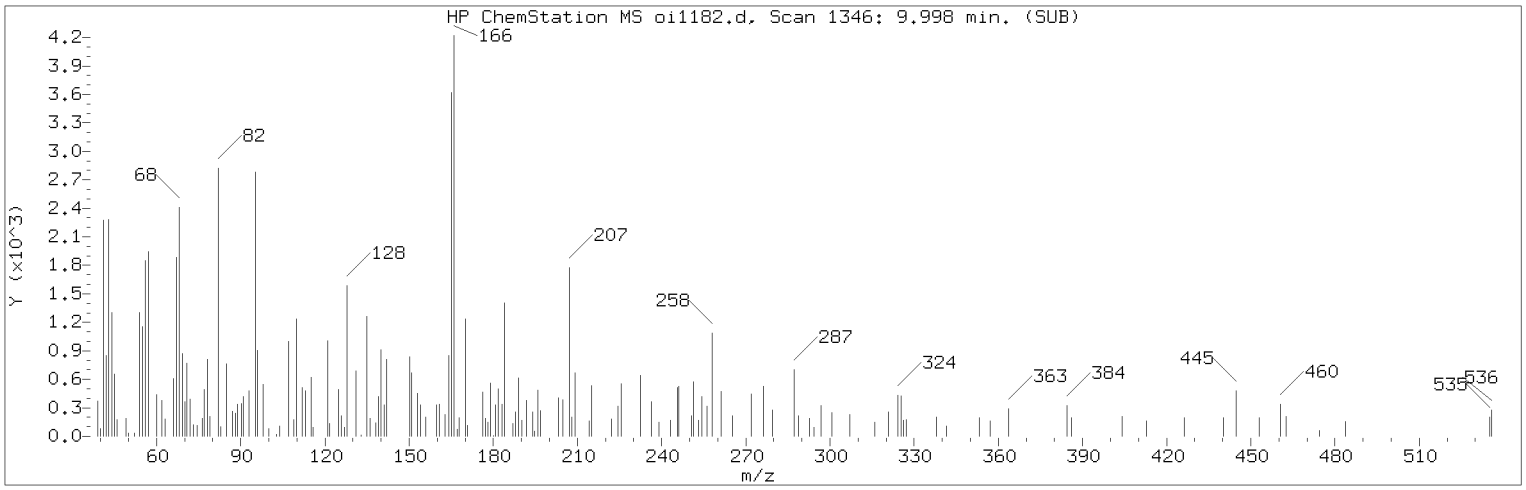
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

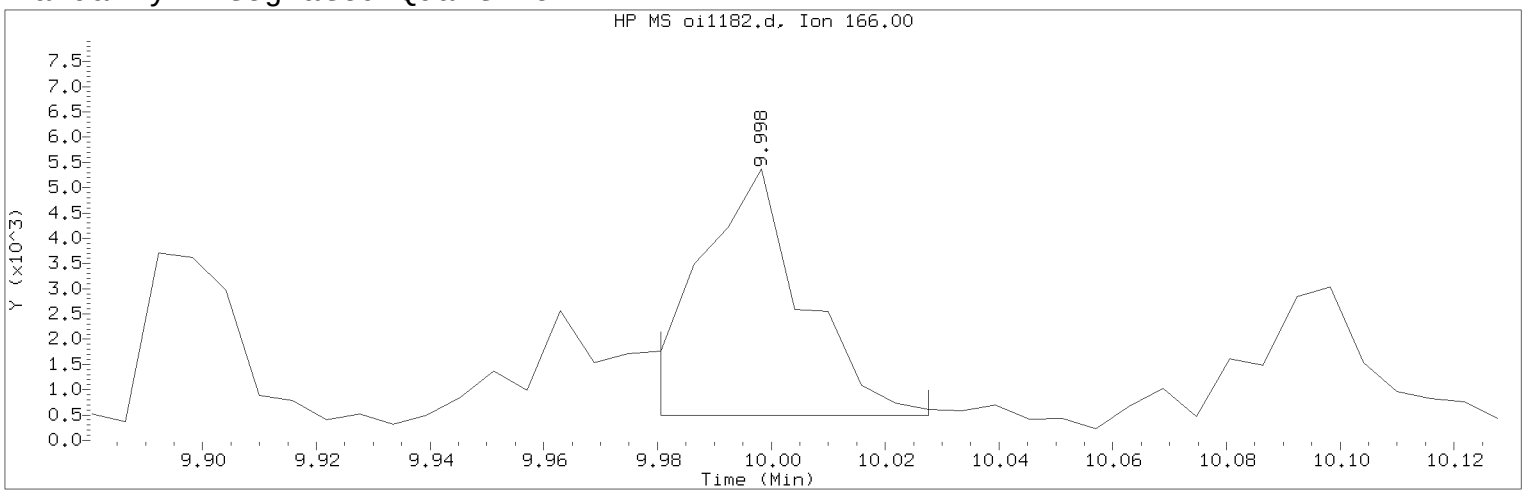
Compound Number : 126
Compound Name : Fluorene
Scan Number : 1346
Retention Time (minutes) : 9.998
Relative Retention Time :-0.00062
Quant Ion : 166.00
Area (flag) : 6328M
On-column Amount (ng/ul) : 0.1868

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

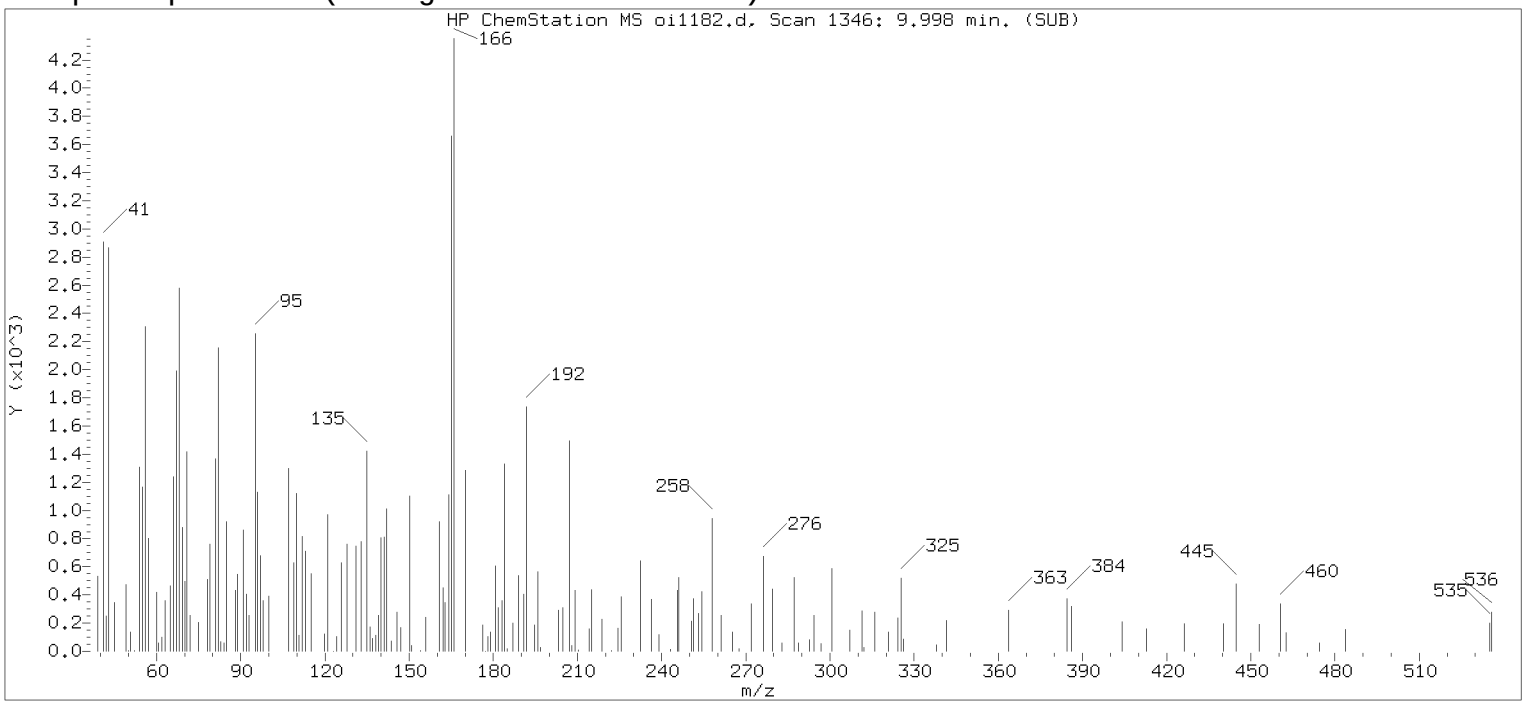
Compound Number : 126
Compound Name : Fluorene
Scan Number : 1346
Retention Time (minutes) : 9.998
Quant Ion : 166.00
Area (flag) : 6328M
On-column Amount (ng/ul) : 0.1868
Integration start scan : 1342 Integration stop scan: 1350
Y at integration start : 500 Y at integration end: 500

Reason for manual integration: improper integration

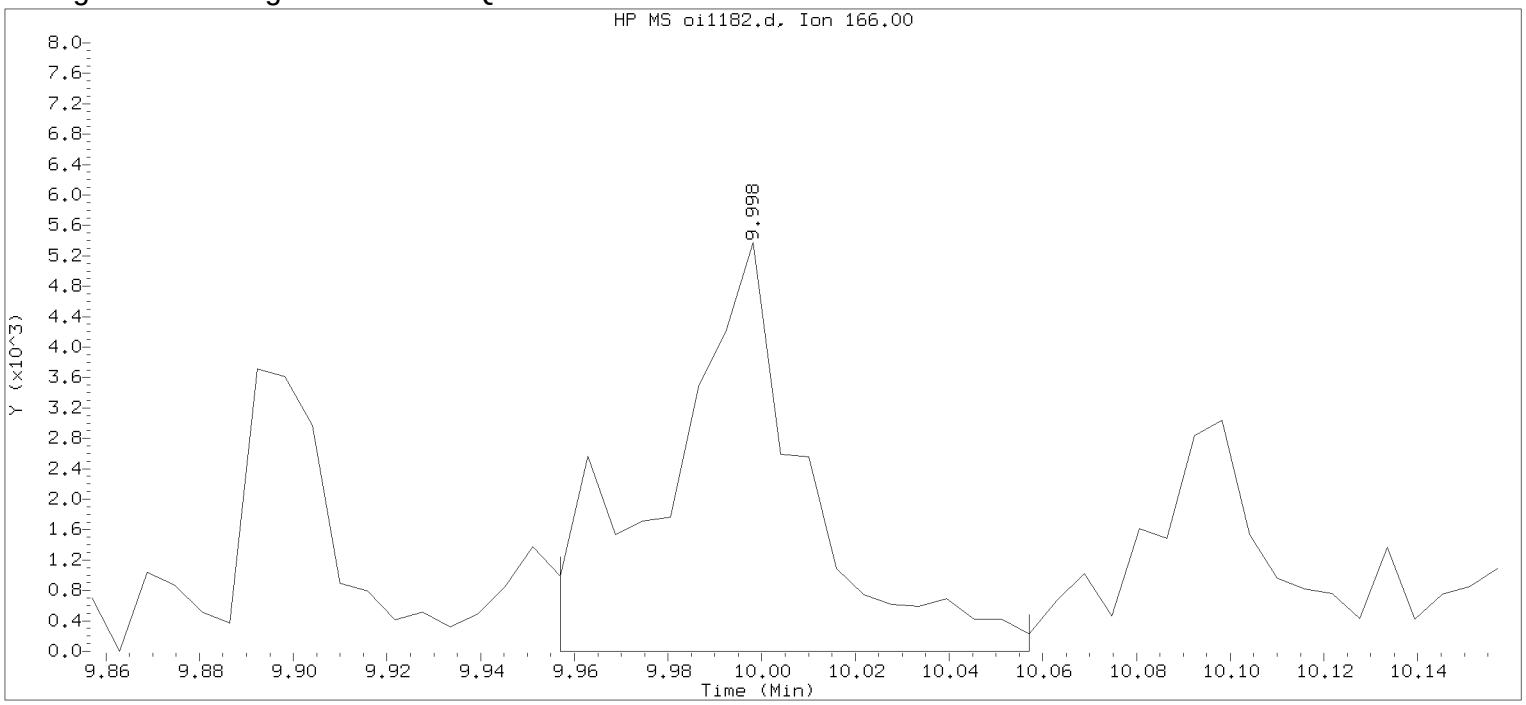
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

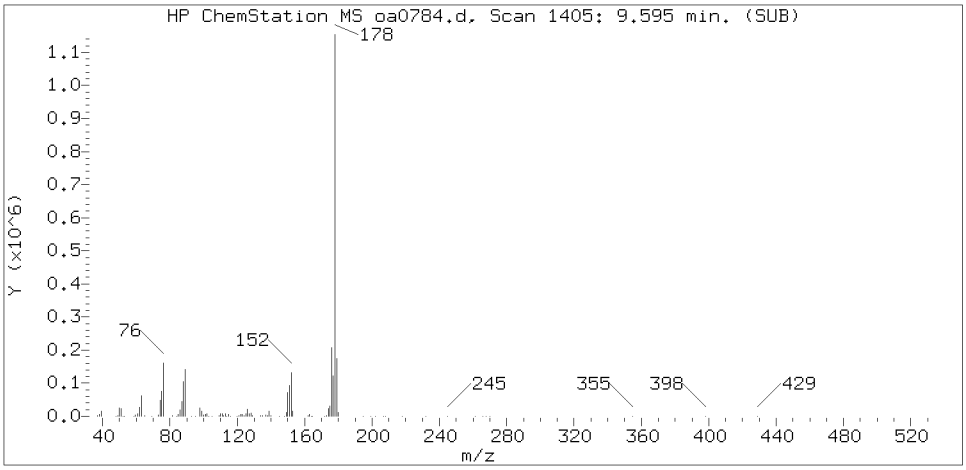
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 05:37 Automation

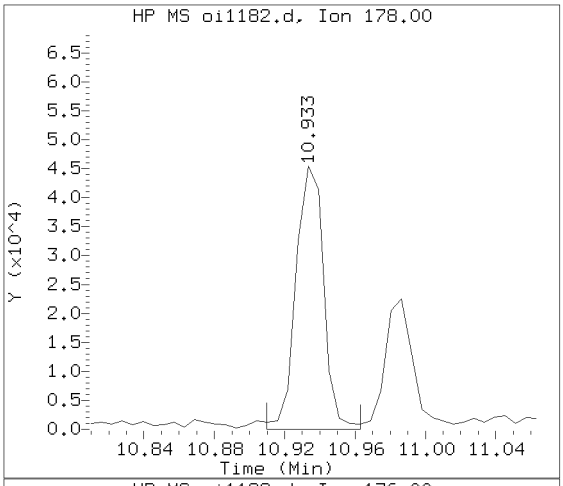
Sample Name: PS481 Lab Sample ID: 8057359

Compound Number	: 126		
Compound Name	: Fluorene		
Scan Number	: 1346		
Retention Time (minutes)	: 9.998		
Quant Ion	: 166.00		
Area	: 10935		
On-column Amount (ng/ul)	: 0.3228		
Integration start scan	: 1338	Integration stop scan:	1355
Y at integration start	: 0	Y at integration end:	0

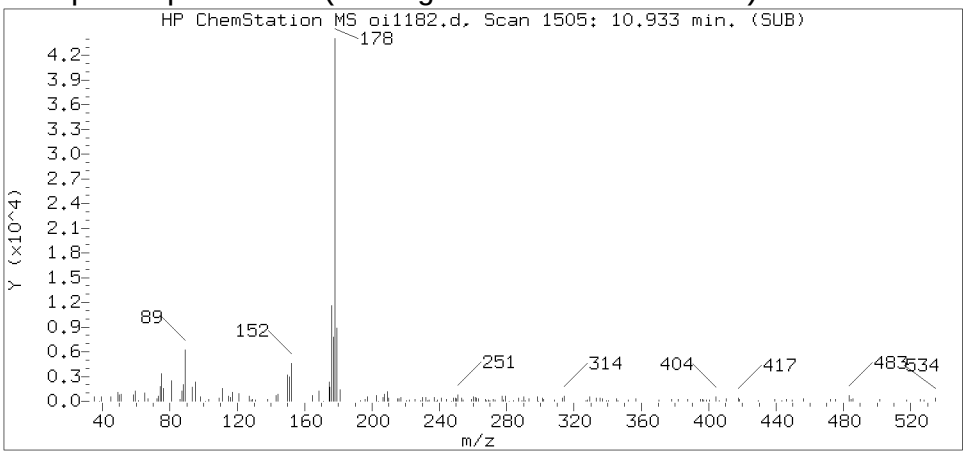
Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: LMH0955

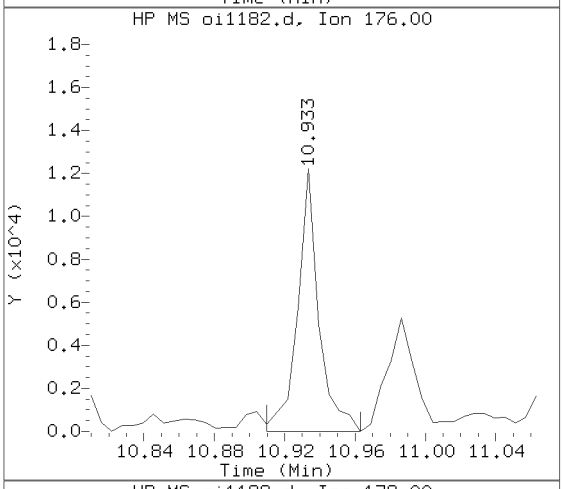
Reference Standard Spectrum for Phenanthrene



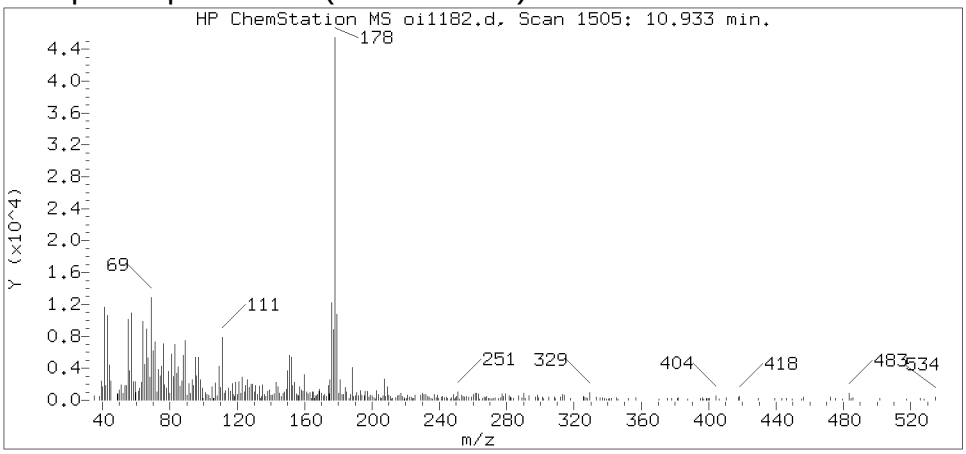


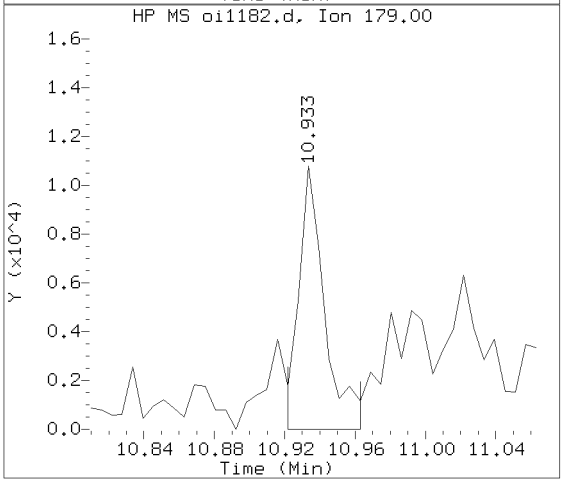
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

Compound Number	: 155
Compound Name	: Phenanthrene
Scan Number	: 1505
Retention Time (minutes)	: 10.933
Relative Retention Time	: 0.00000
Quant Ion	: 178.00
Area (flag)	: 50064
On-column Amount (ng/ul)	: 1.0485

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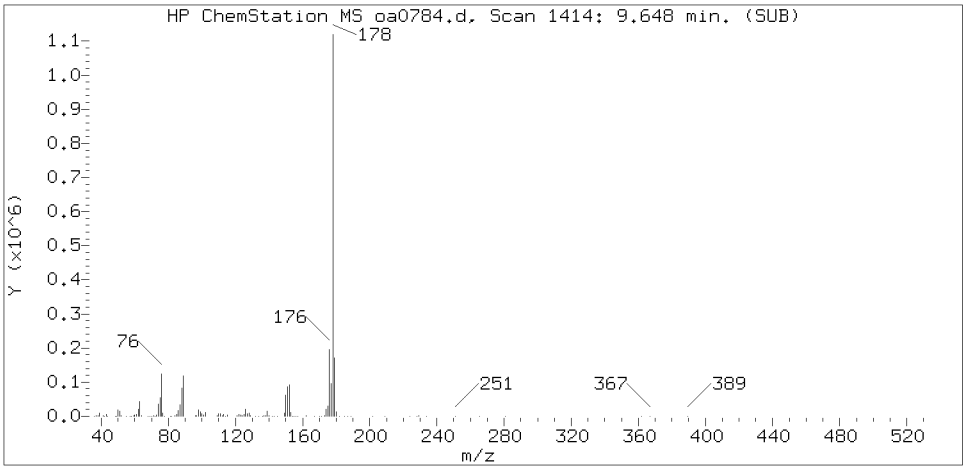
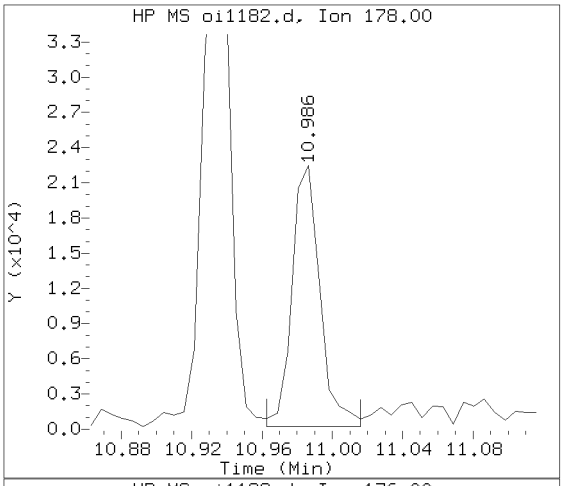
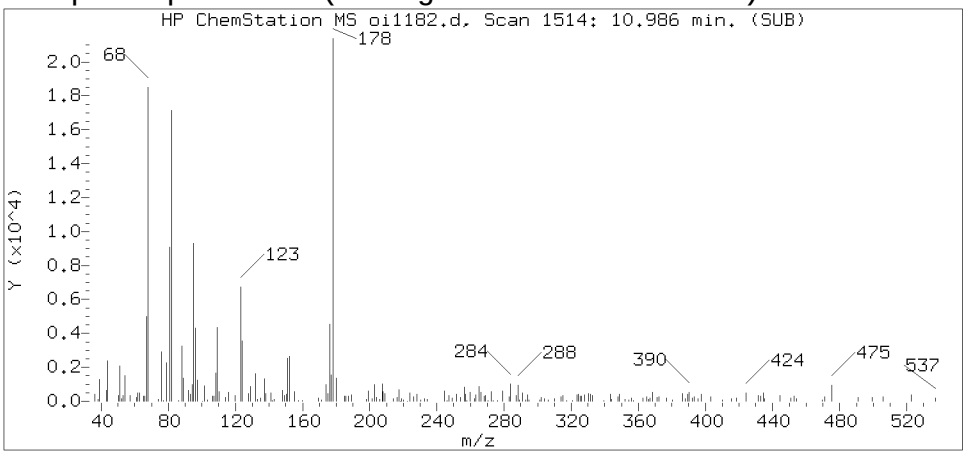
Target 3.5 esignature user ID: lmh00956

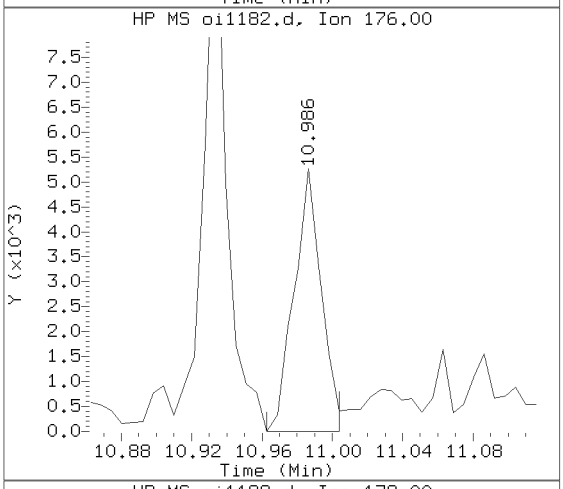
Reference Standard Spectrum for Anthracene



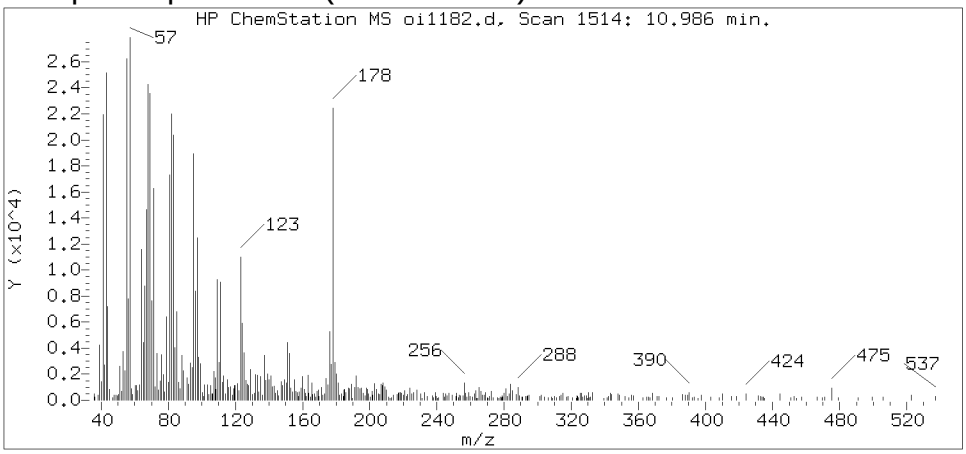


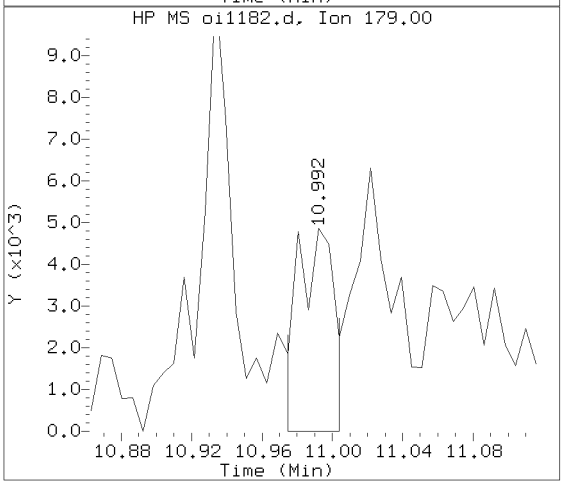
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

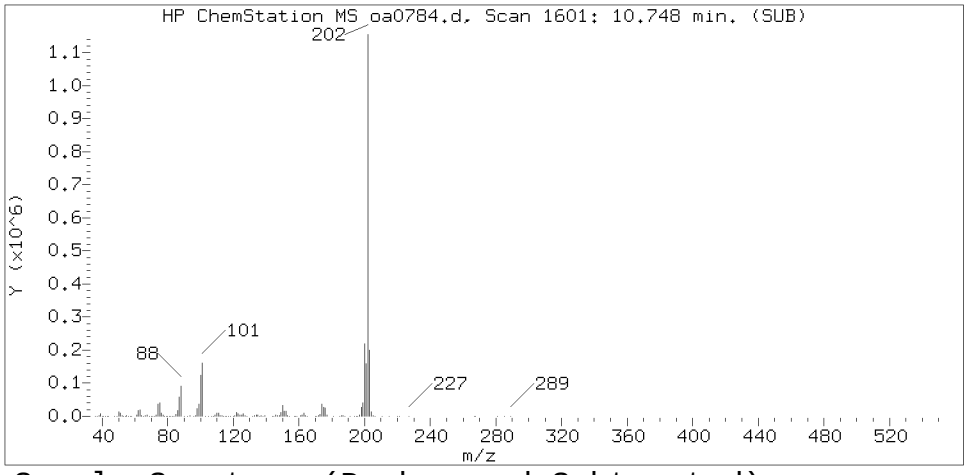
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

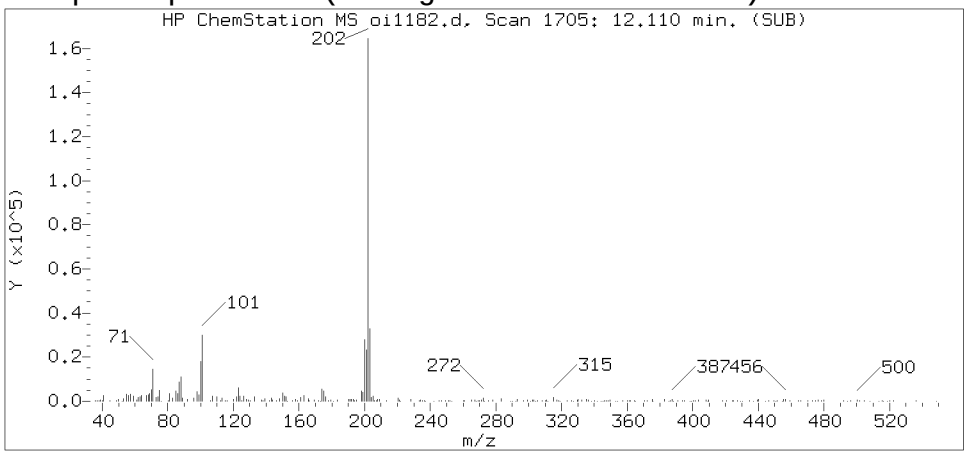
Compound Number : 157
Compound Name : Anthracene
Scan Number : 1514
Retention Time (minutes) : 10.986
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 24687
On-column Amount (ng/ul) : 0.5232

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

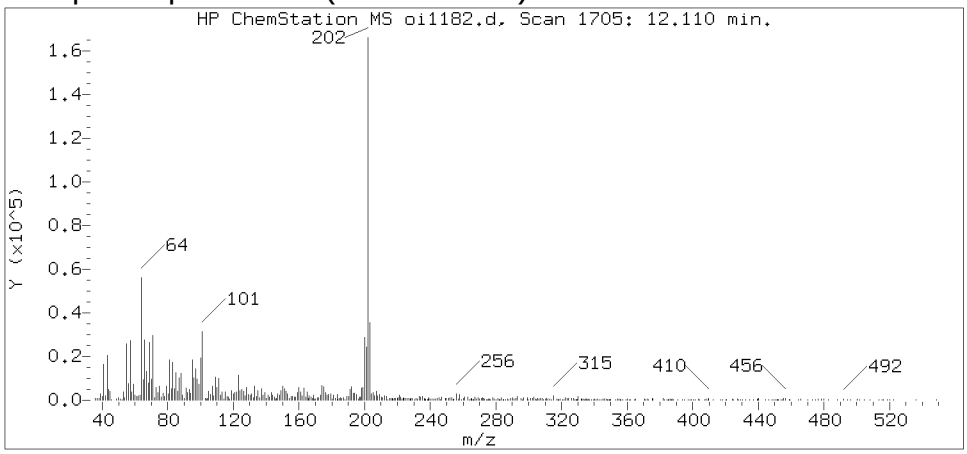
Reference Standard Spectrum for Fluoranthene

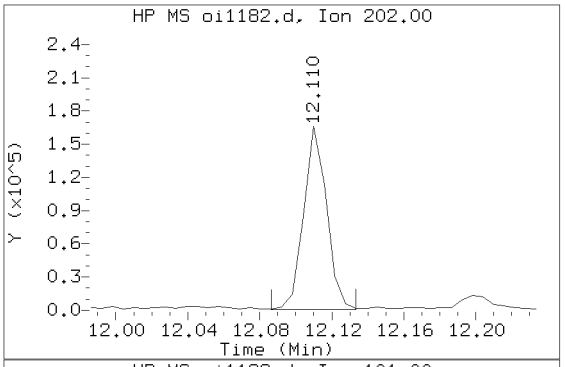


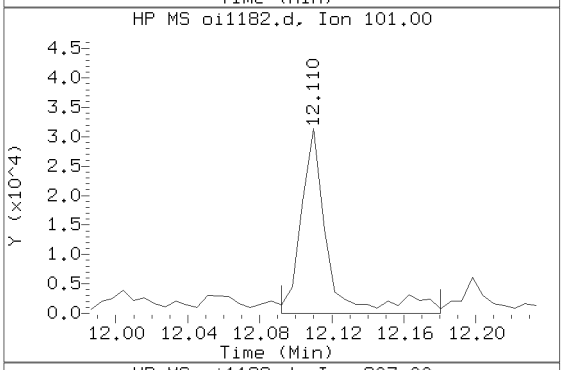
Sample Spectrum (Background Subtracted)

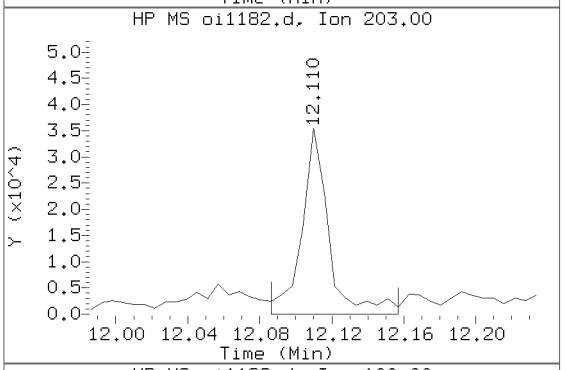


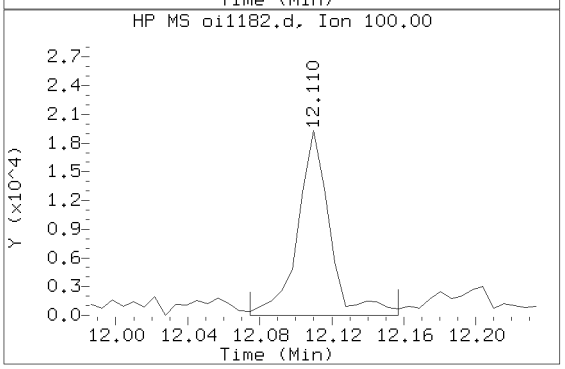
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

Compound Number	: 173
Compound Name	: Fluoranthene
Scan Number	: 1705
Retention Time (minutes)	: 12.110
Relative Retention Time	:-0.00108
Quant Ion	: 202.00
Area (flag)	: 145423
On-column Amount (ng/ul)	: 2.8022

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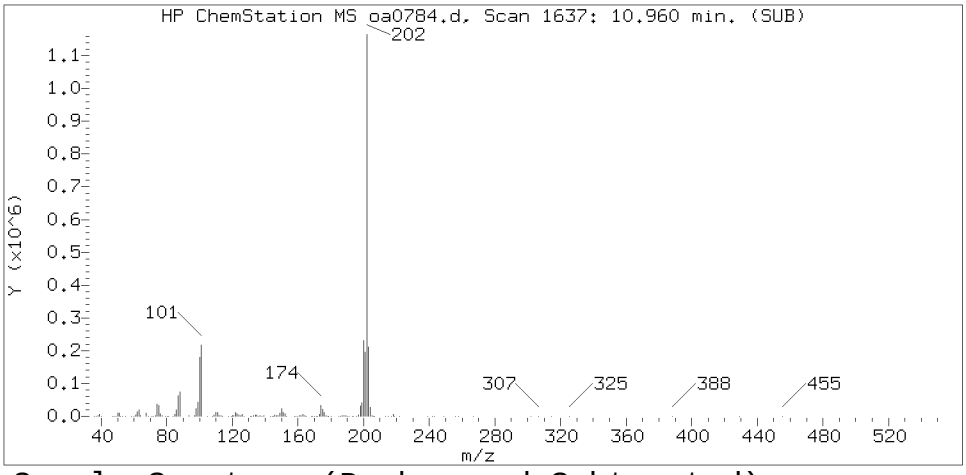
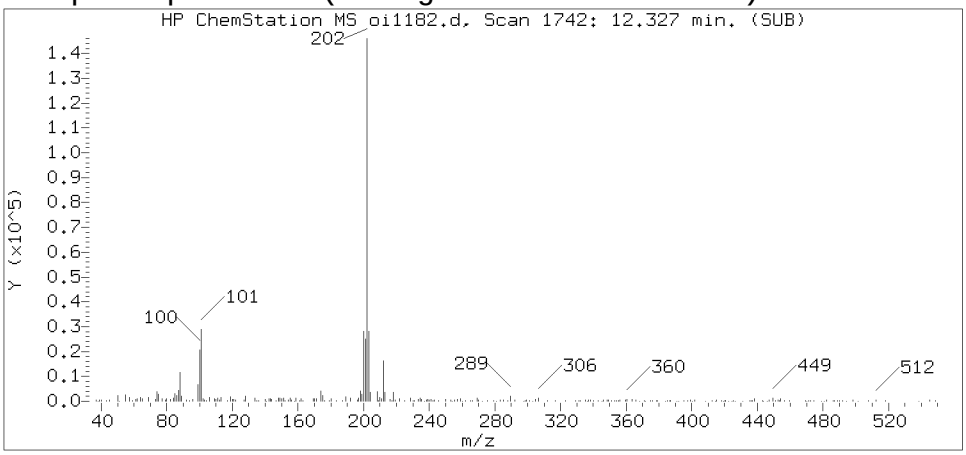
Target 3.5 esignature user ID: lmh00956

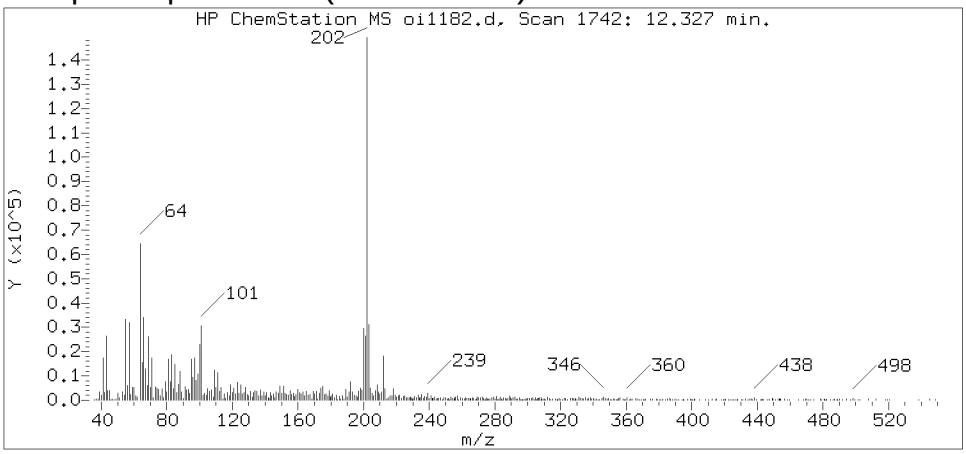
Reference Standard Spectrum for Pyrene

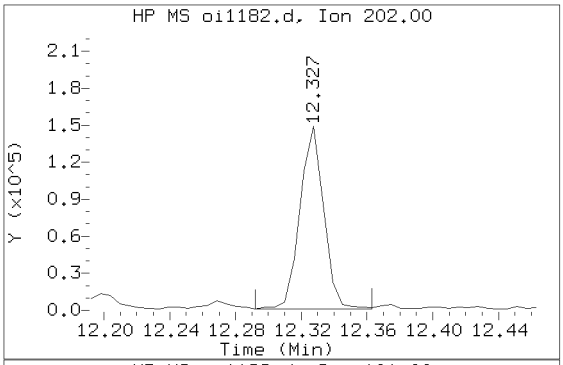


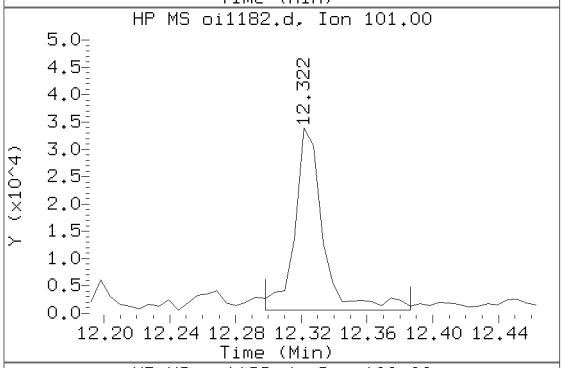
Sample Spectrum (Background Subtracted)

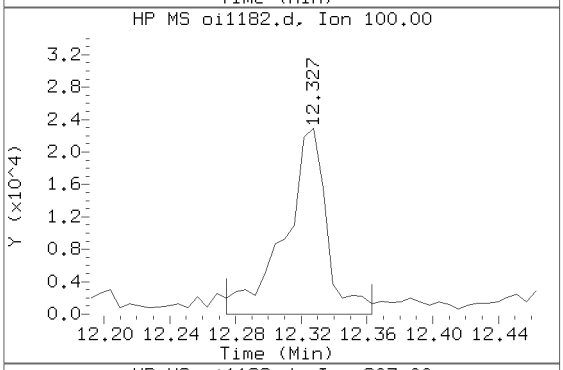


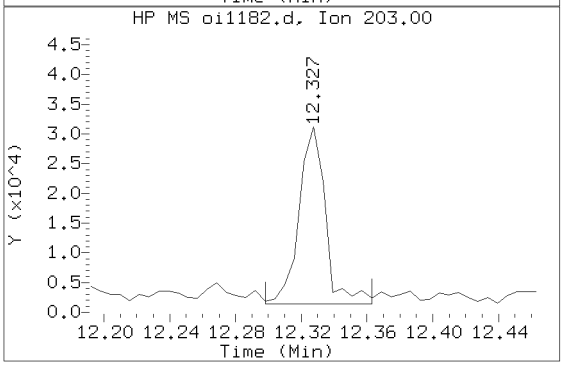
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1742
Retention Time (minutes)	: 12.327
Relative Retention Time	: 0.00000
Quant Ion	: 202.00
Area (flag)	: 149519
On-column Amount (ng/ul)	: 3.2270

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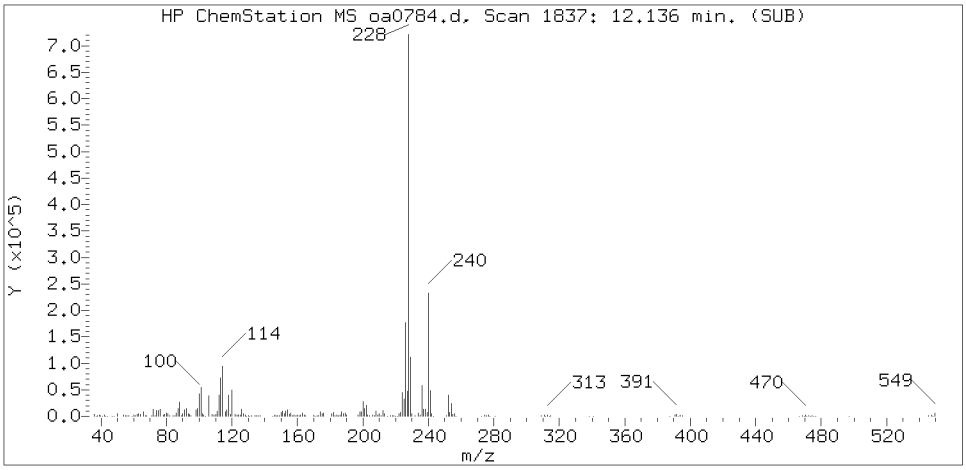
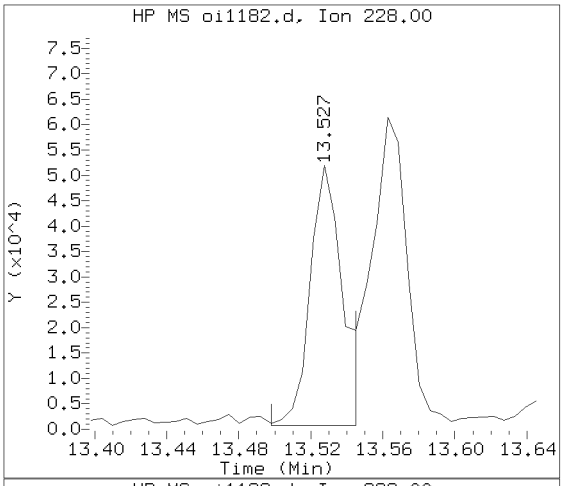
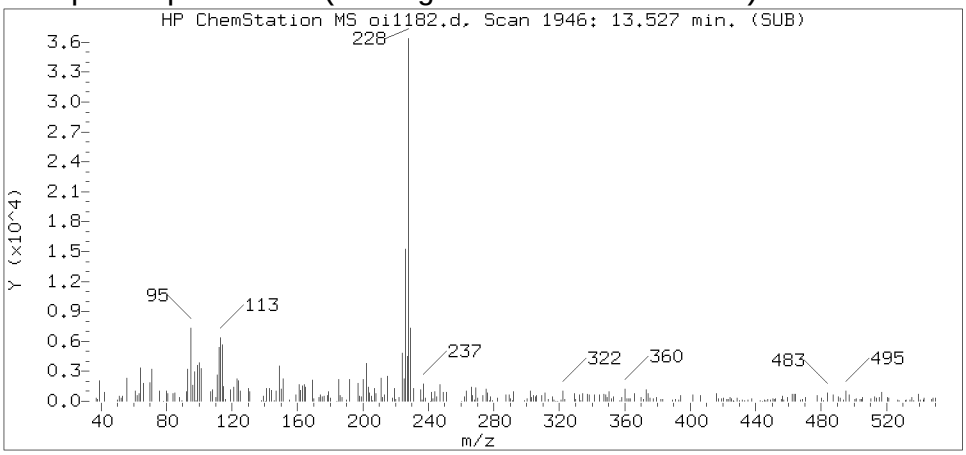
Target 3.5 esignature user ID: lmh00956

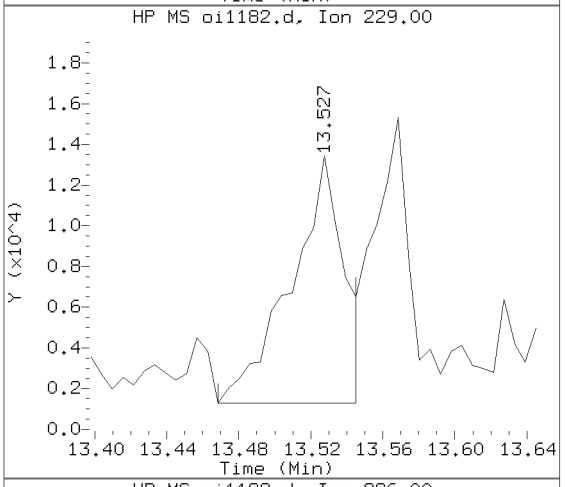
Reference Standard Spectrum for Benzo(a)anthracene



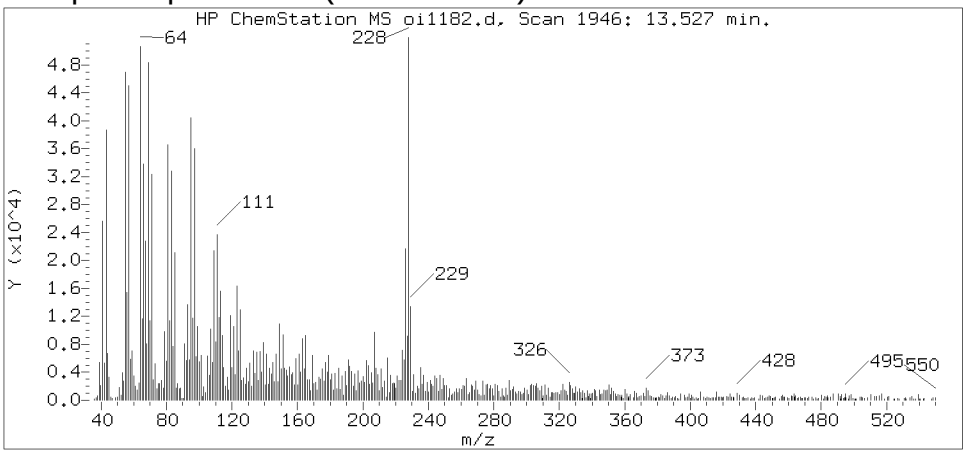


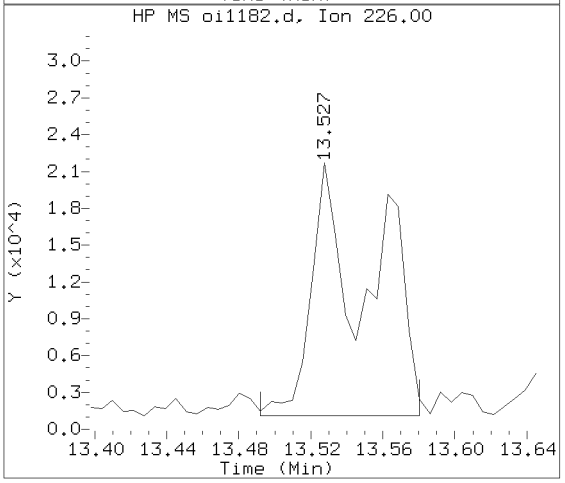
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

Compound Number	: 195
Compound Name	: Benzo(a)anthracene
Scan Number	: 1946
Retention Time (minutes)	: 13.527
Relative Retention Time	: 0.00053
Quant Ion	: 228.00
Area (flag)	: 61247
On-column Amount (ng/ul)	: 1.5164

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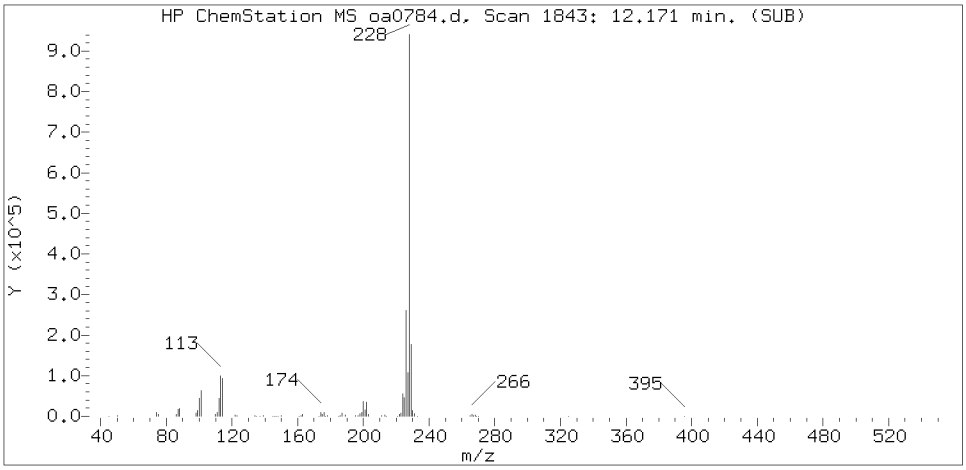
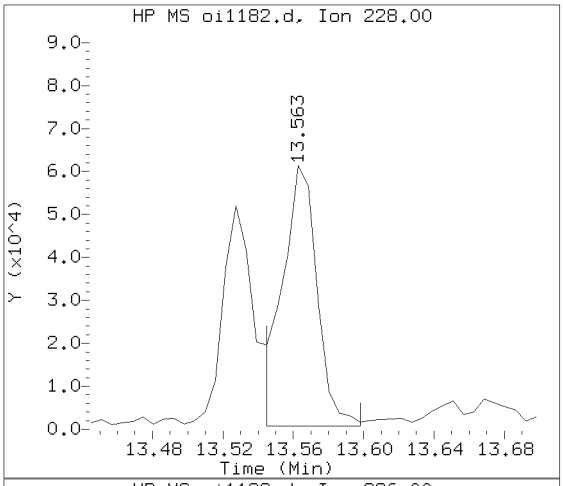
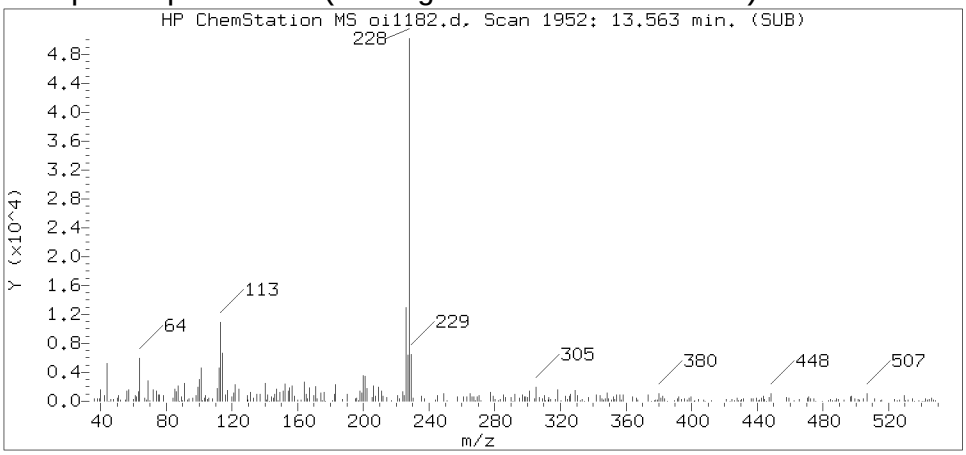
Target 3.5 esignature user ID: lmh00956

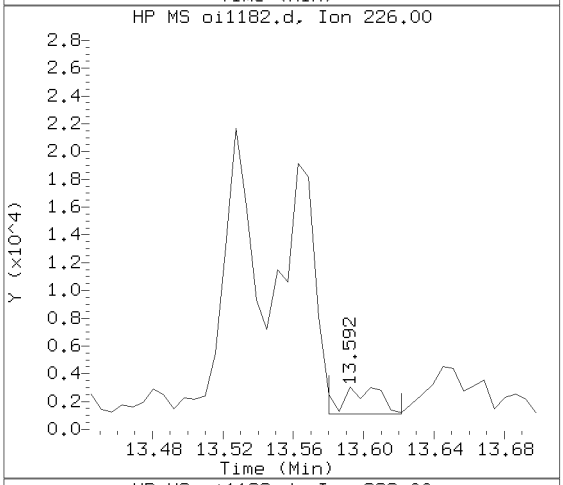
Reference Standard Spectrum for Chrysene



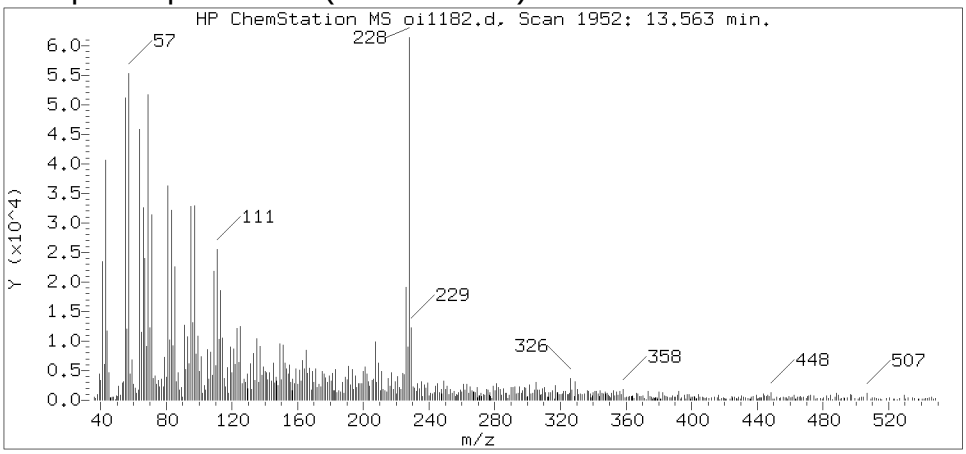


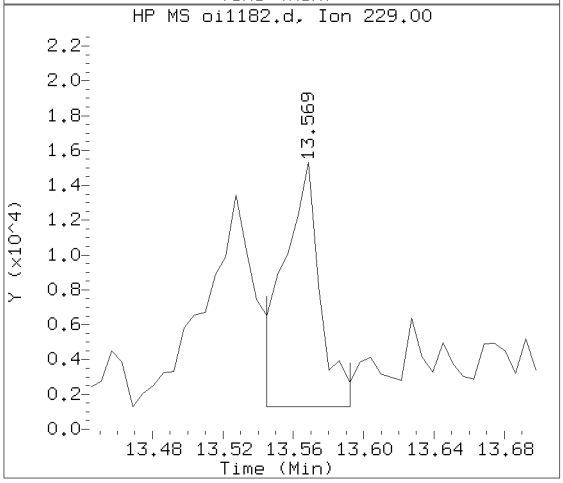
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

Compound Number	: 196
Compound Name	: Chrysene
Scan Number	: 1952
Retention Time (minutes)	: 13.563
Relative Retention Time	: 0.00053
Quant Ion	: 228.00
Area (flag)	: 83094
On-column Amount (ng/ul)	: 2.1592

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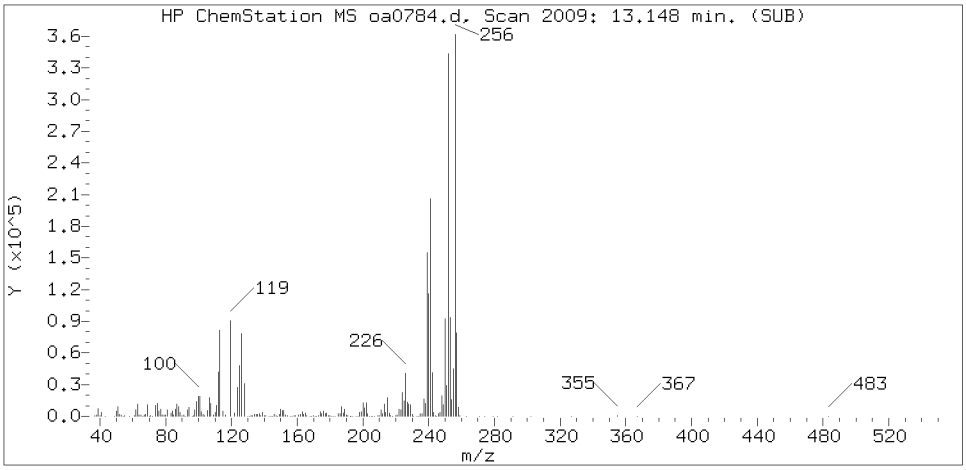
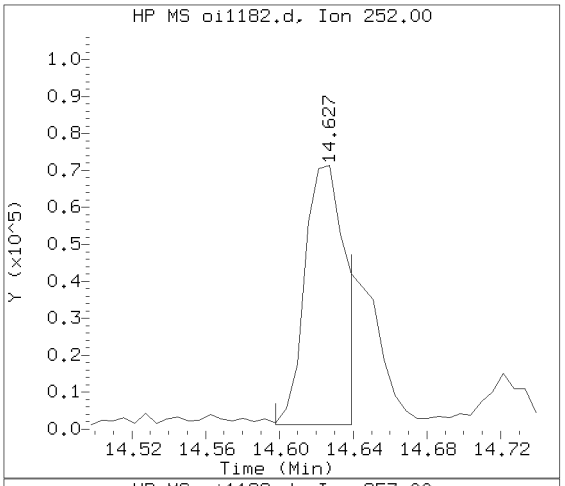
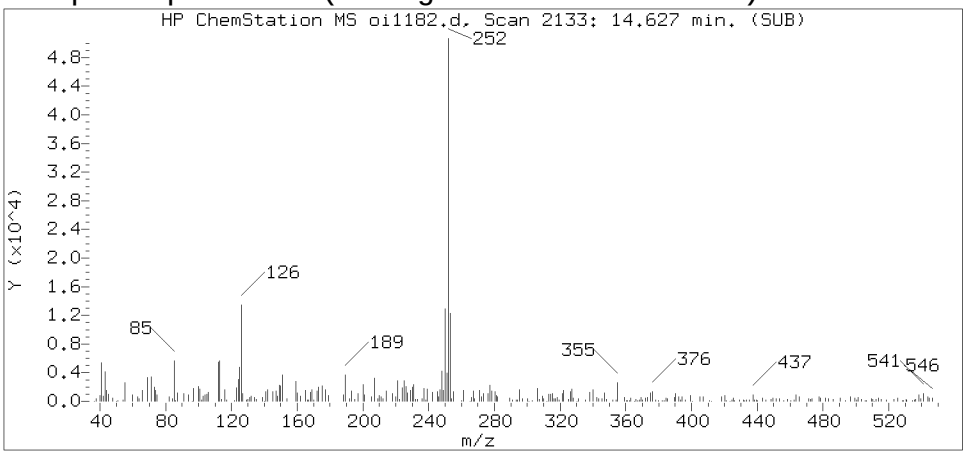
Target 3.5 esignature user ID: lmh00956

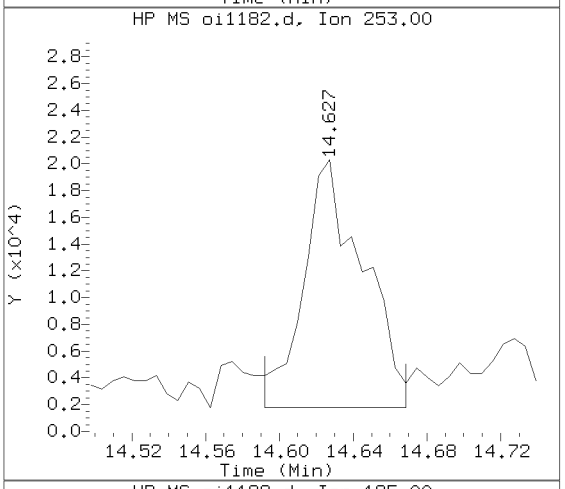
Reference Standard Spectrum for Benzo(b)fluoranthene



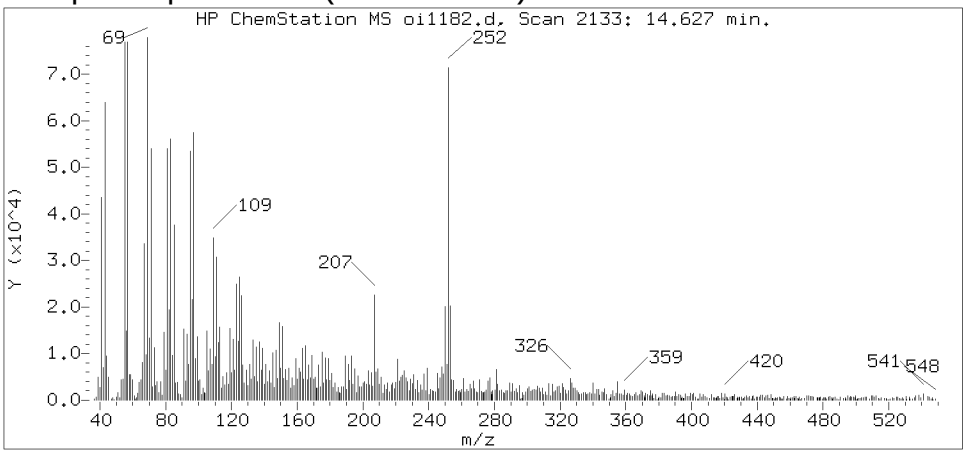


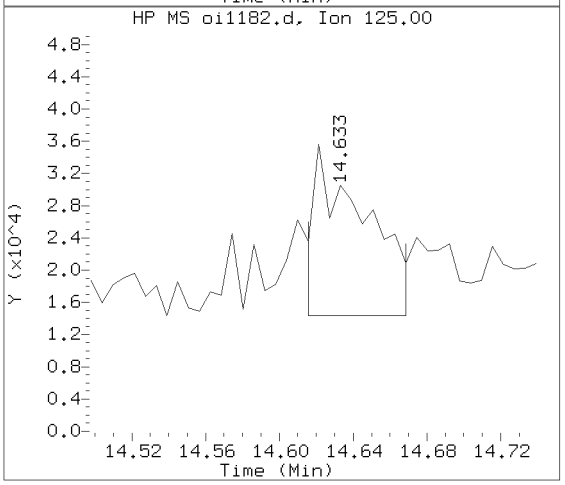
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

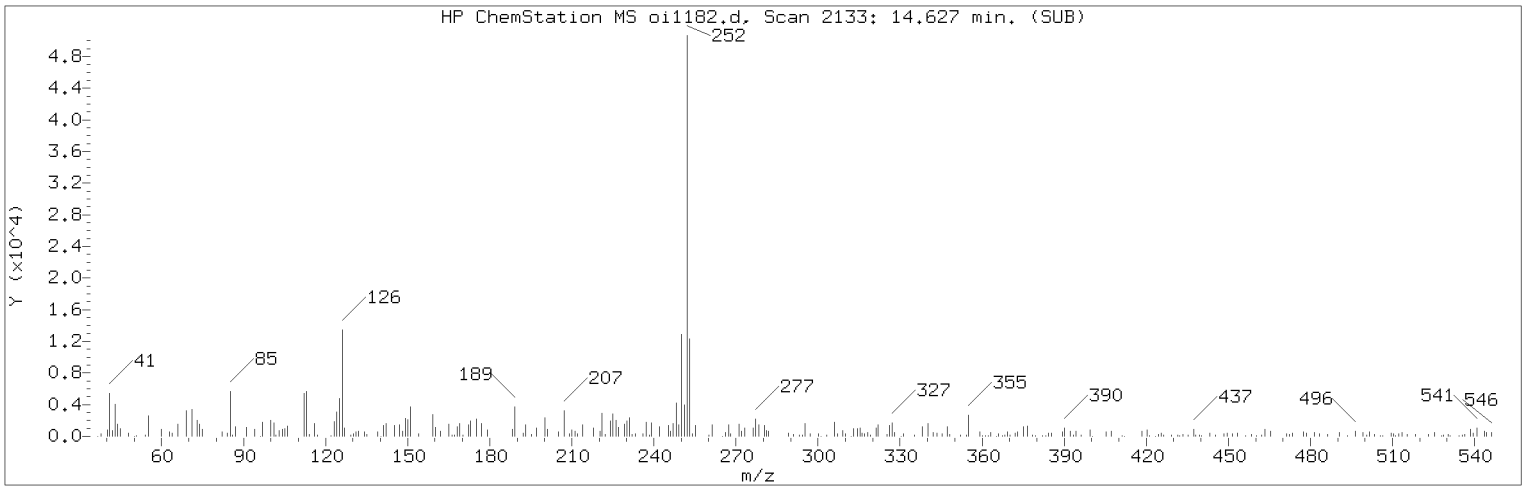
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

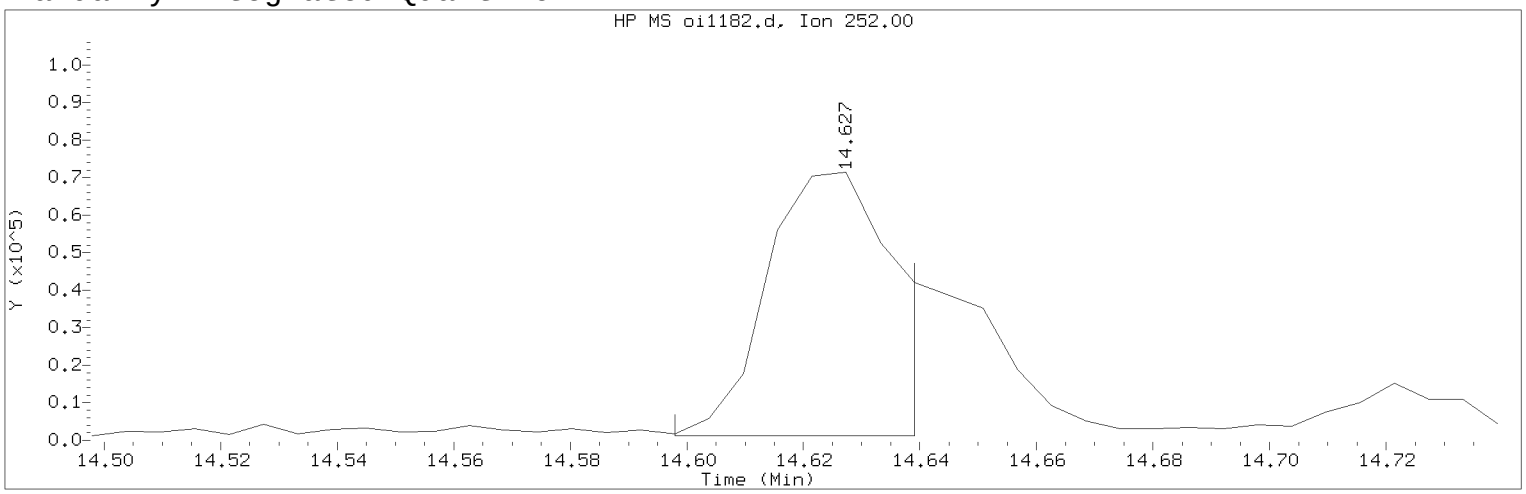
Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2133
Retention Time (minutes)	: 14.627
Relative Retention Time	:-0.00001
Quant Ion	: 252.00
Area (flag)	: 108880M
On-column Amount (ng/ul)	: 2.9990

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

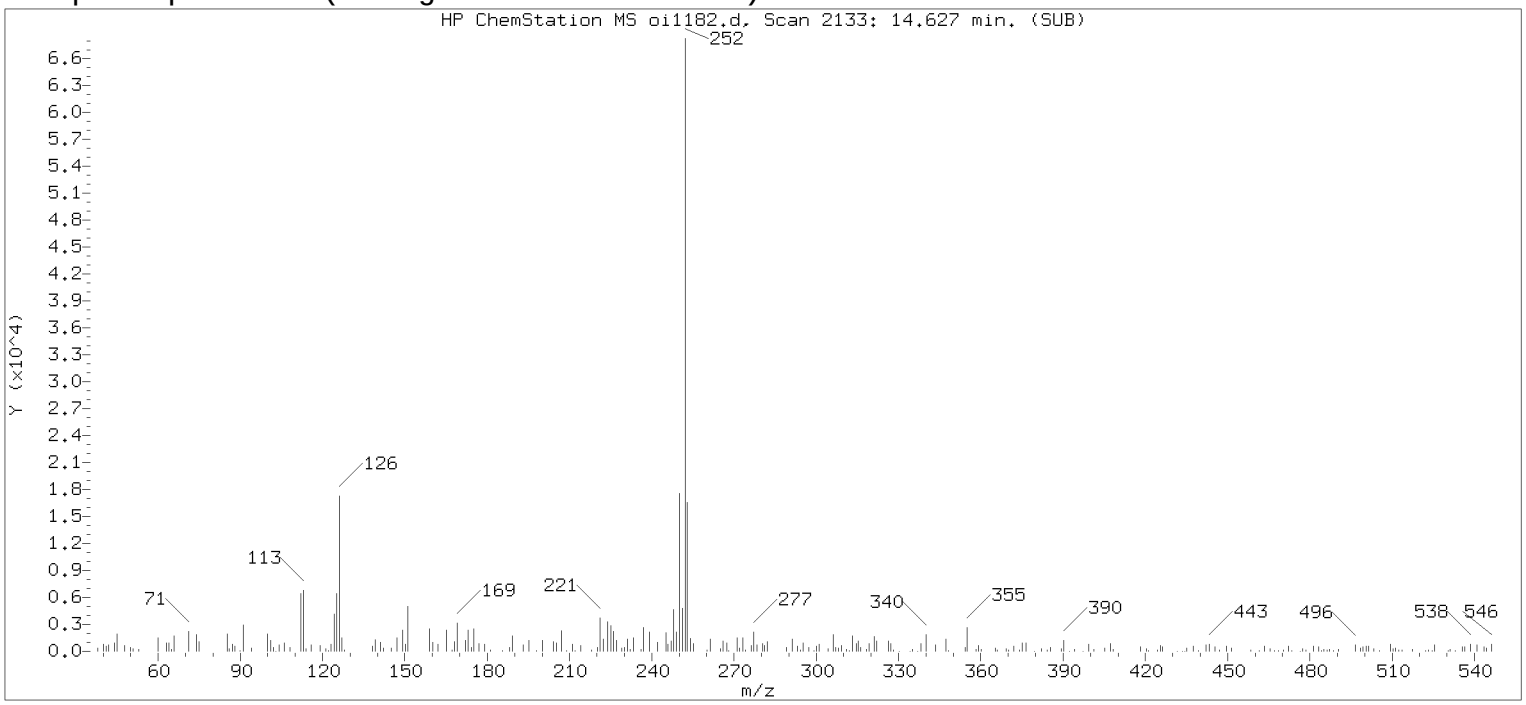
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2133
Retention Time (minutes) : 14.627
Quant Ion : 252.00
Area (flag) : 108880M
On-column Amount (ng/ul) : 2.9990
Integration start scan : 2127 Integration stop scan: 2134
Y at integration start : 1153 Y at integration end: 1153

Reason for manual integration: improper integration

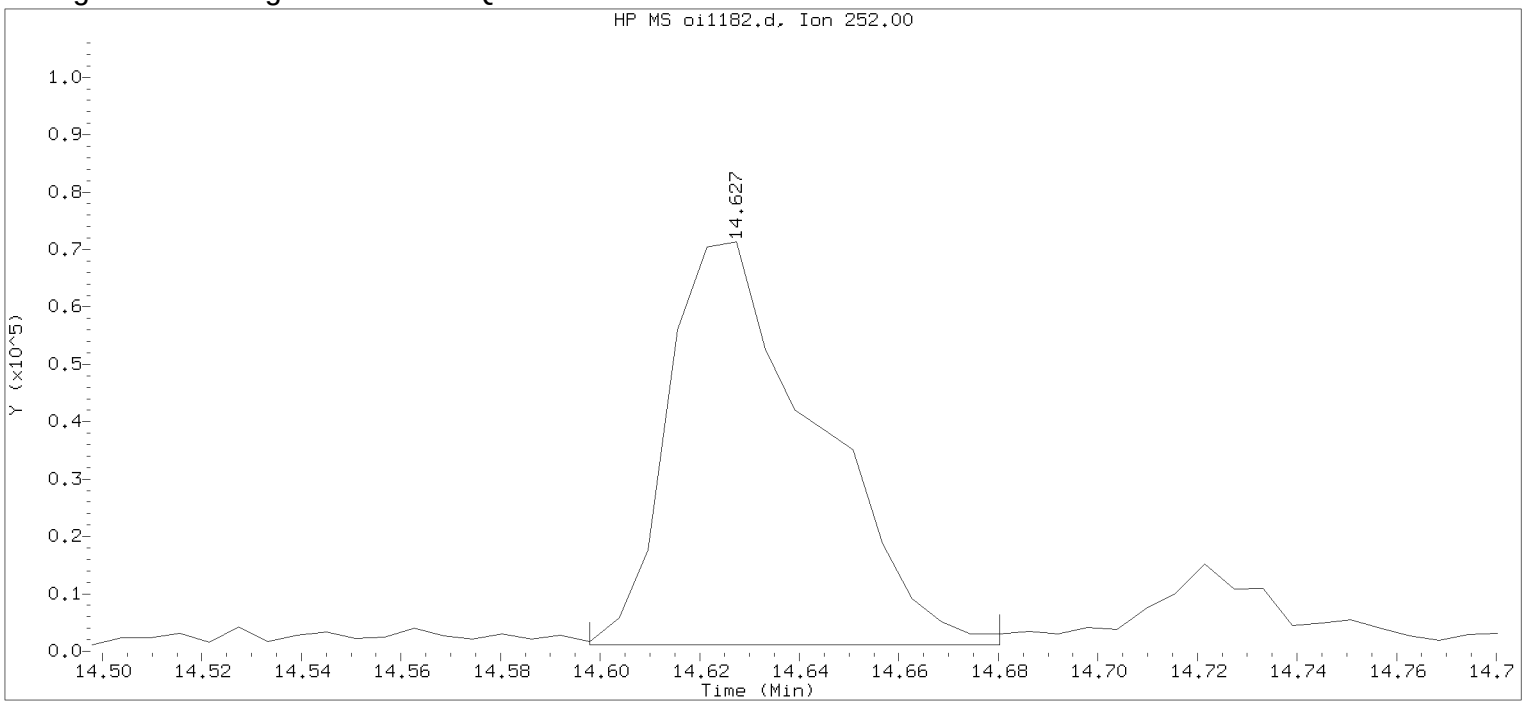
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

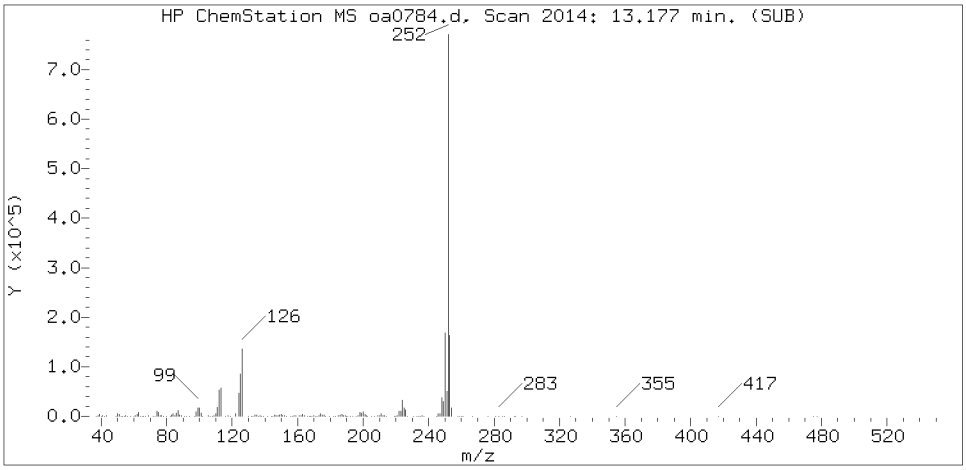
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 05:37 Automation

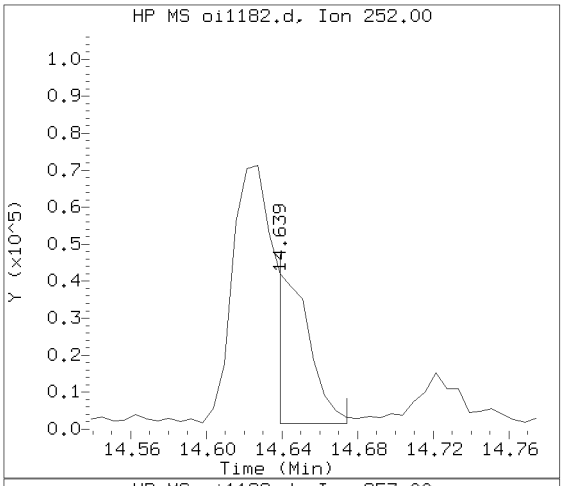
Sample Name: PS481 Lab Sample ID: 8057359

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2133		
Retention Time (minutes)	: 14.627		
Quant Ion	: 252.00		
Area	: 145421		
On-column Amount (ng/ul)	: 4.0055		
Integration start scan	: 2127	Integration stop scan:	2141
Y at integration start	: 1153	Y at integration end:	1153

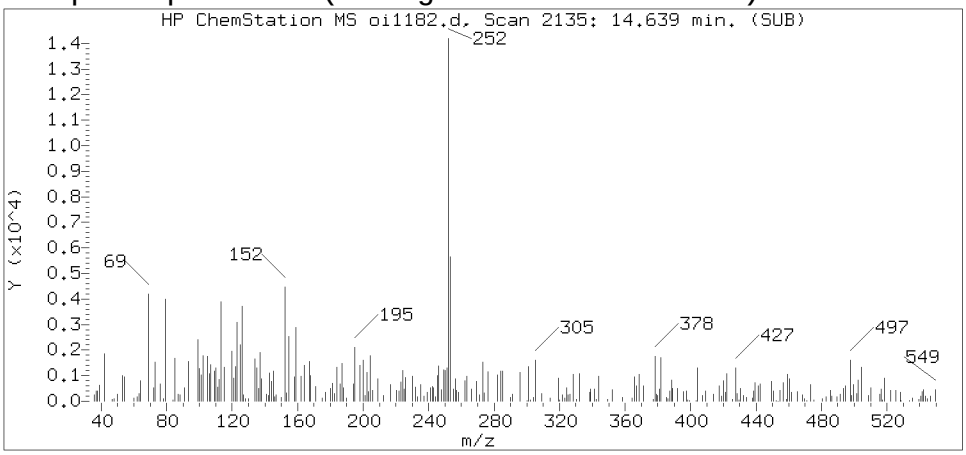
Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: LMH0956

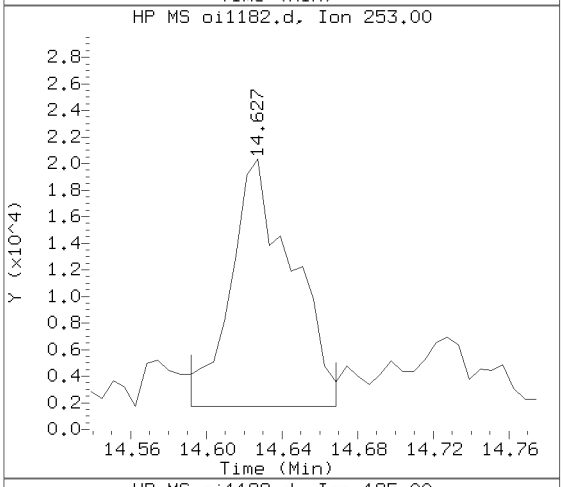
Reference Standard Spectrum for Benzo(k)fluoranthene



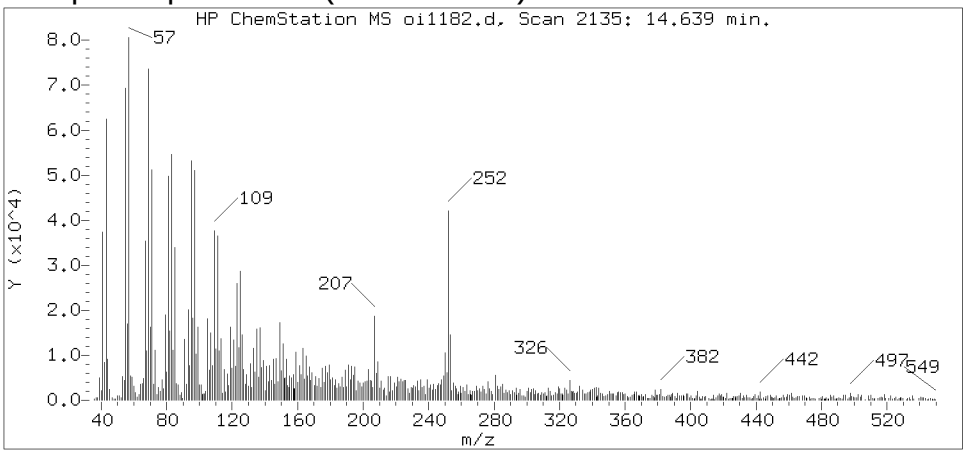


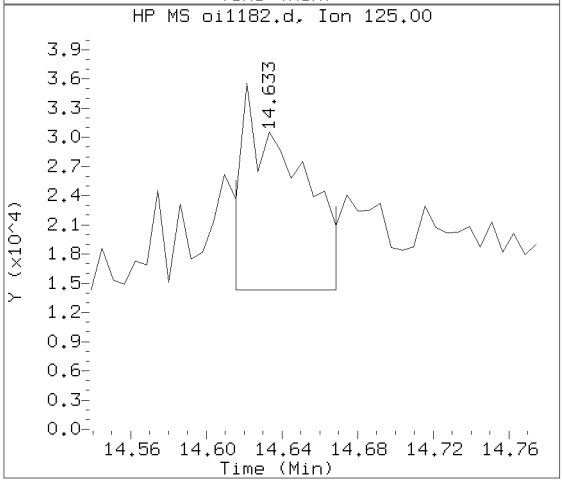
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

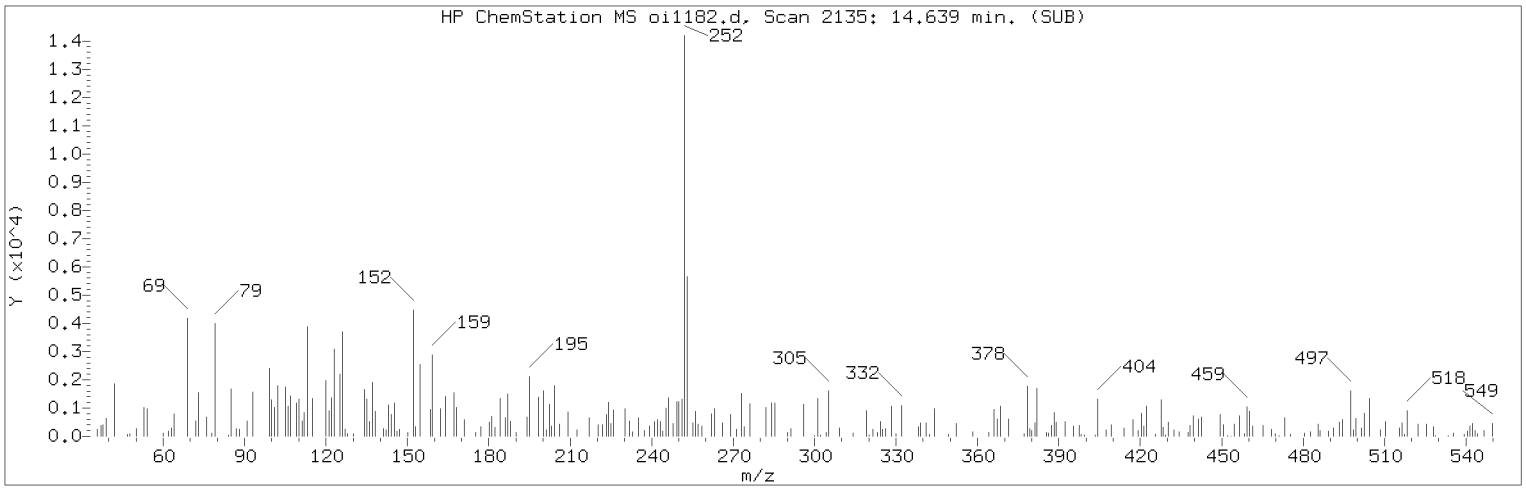
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

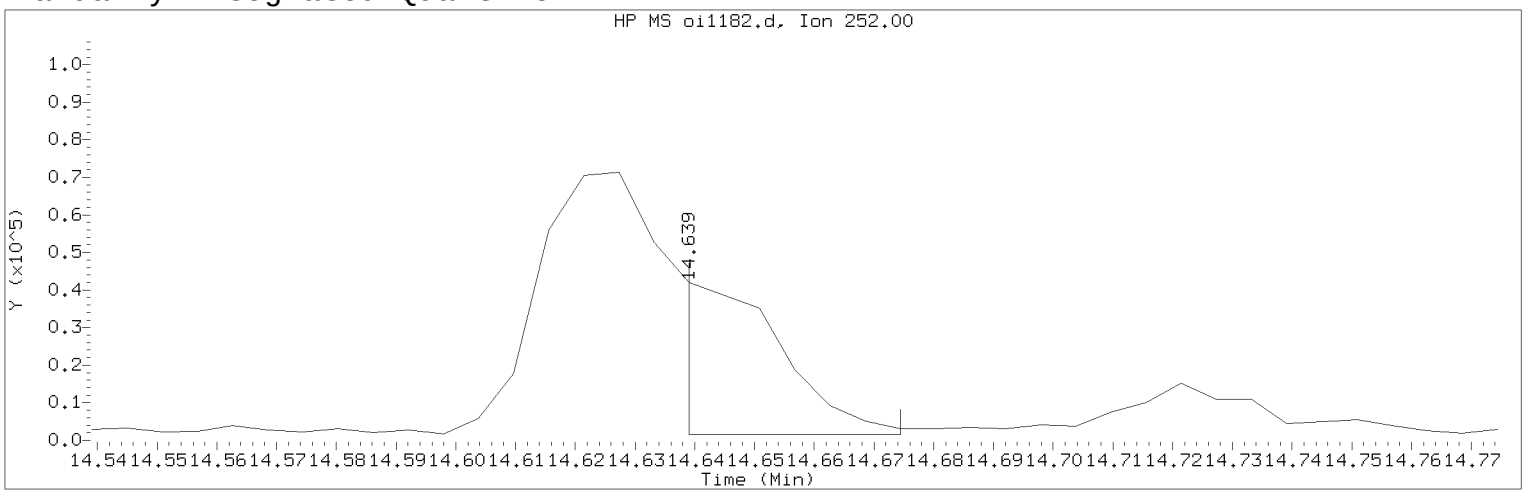
Compound Number	: 208
Compound Name	: Benzo(k)fluoranthene
Scan Number	: 2135
Retention Time (minutes)	: 14.639
Relative Retention Time	: 0.00077
Quant Ion	: 252.00
Area (flag)	: 49836M
On-column Amount (ng/ul)	: 1.3453

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

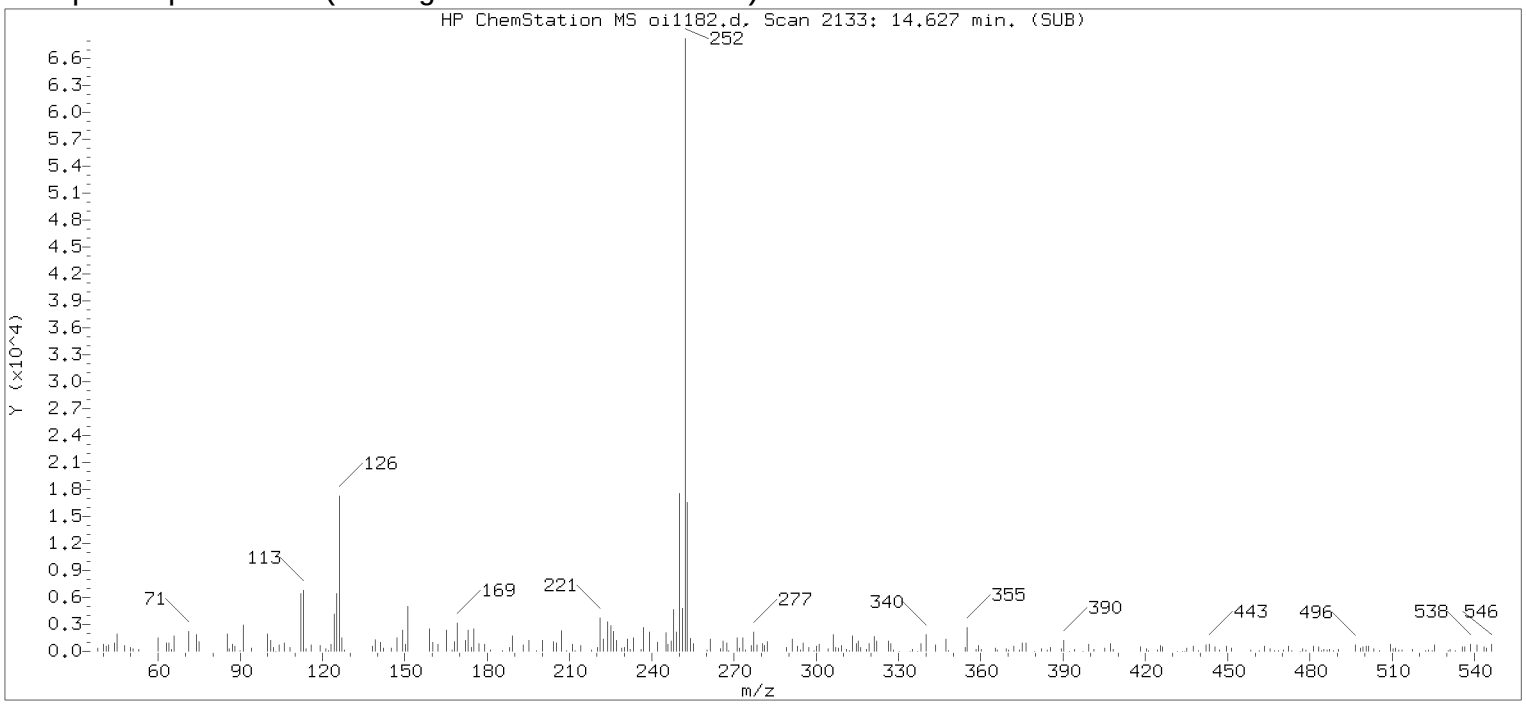
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2135
Retention Time (minutes) : 14.639
Quant Ion : 252.00
Area (flag) : 49836M
On-column Amount (ng/ul) : 1.3453
Integration start scan : 2134 Integration stop scan: 2140
Y at integration start : 1517 Y at integration end: 1517

Reason for manual integration: improper integration

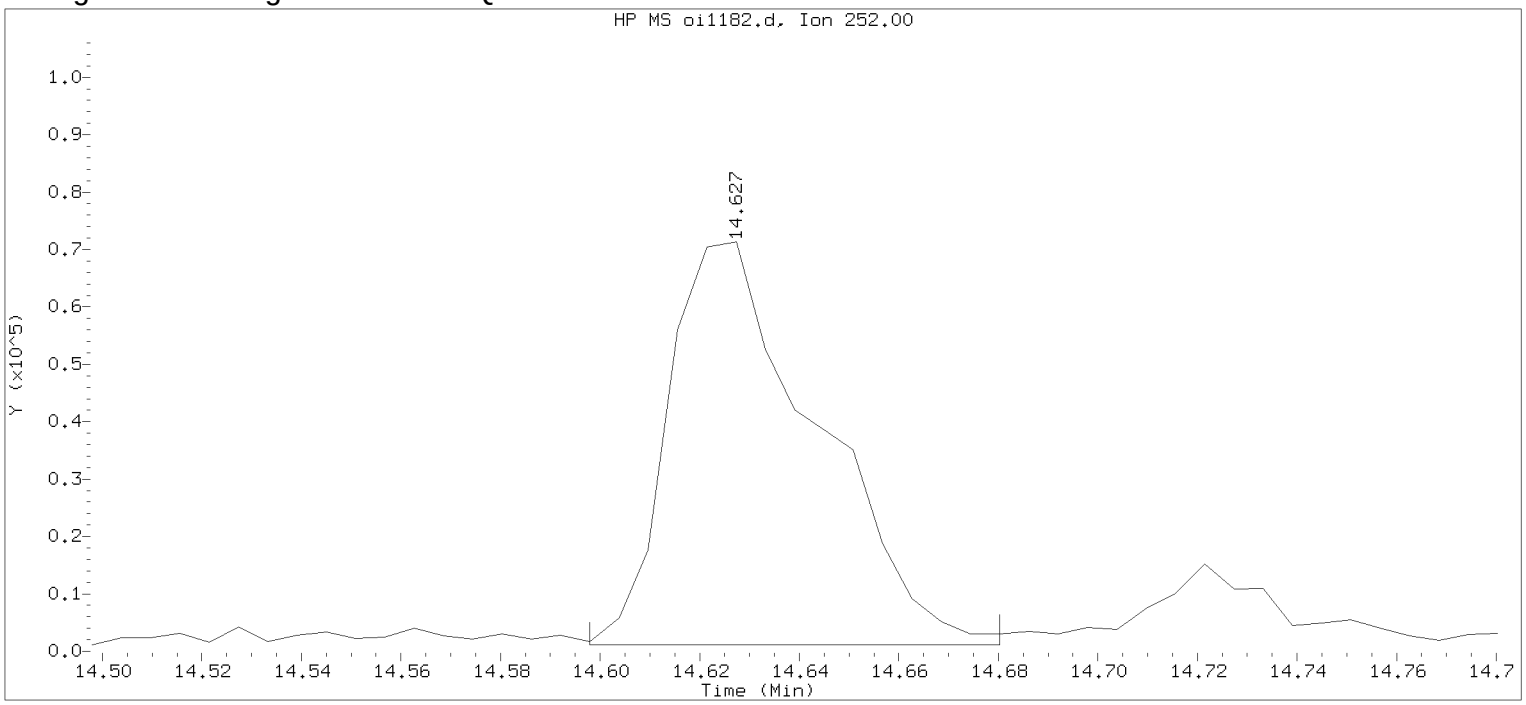
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

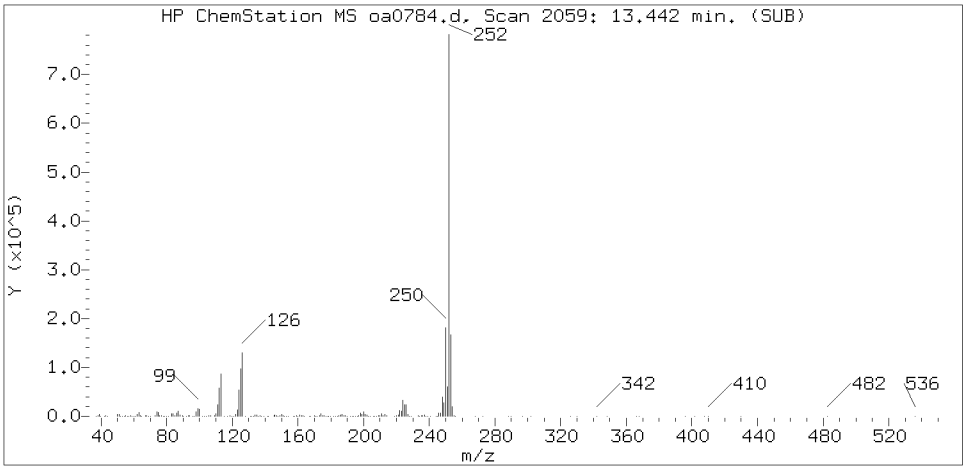
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 05:37 Automation

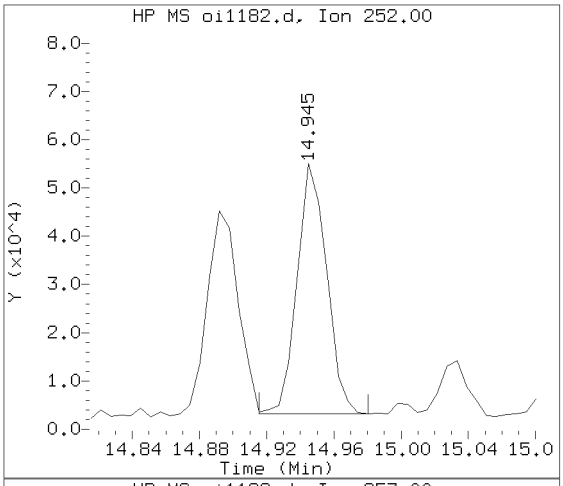
Sample Name: PS481 Lab Sample ID: 8057359

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2133		
Retention Time (minutes)	: 14.627		
Quant Ion	: 252.00		
Area	: 145421		
On-column Amount (ng/ul)	: 3.9255		
Integration start scan	: 2127	Integration stop scan:	2141
Y at integration start	: 1153	Y at integration end:	1153

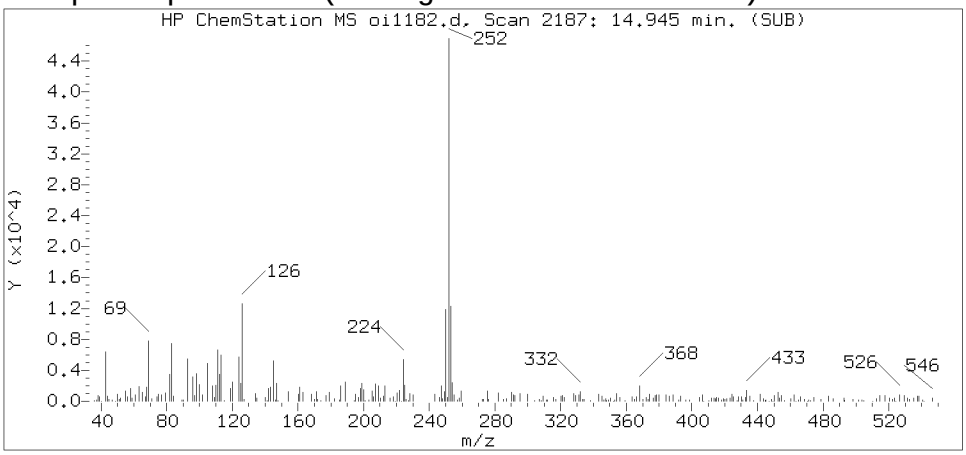
Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: LMH0957

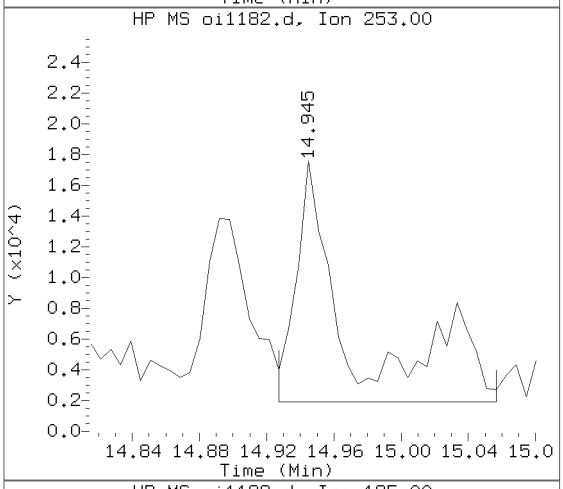
Reference Standard Spectrum for Benzo(a)pyrene



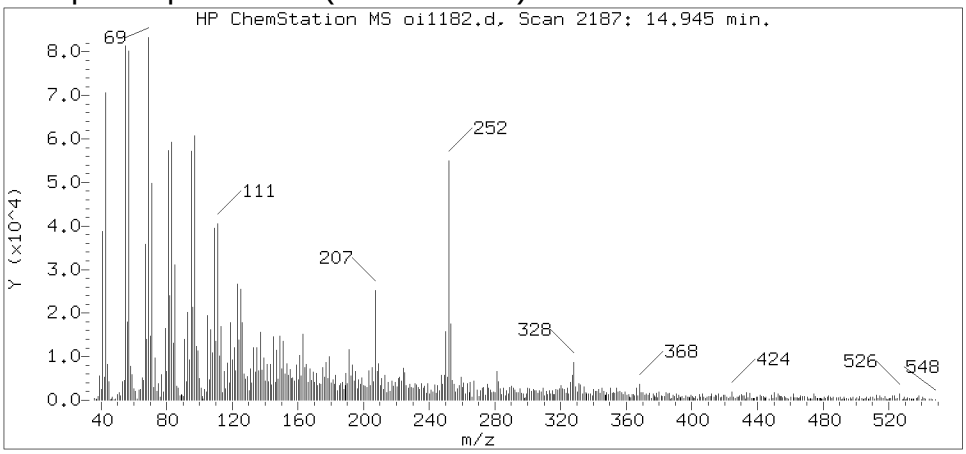


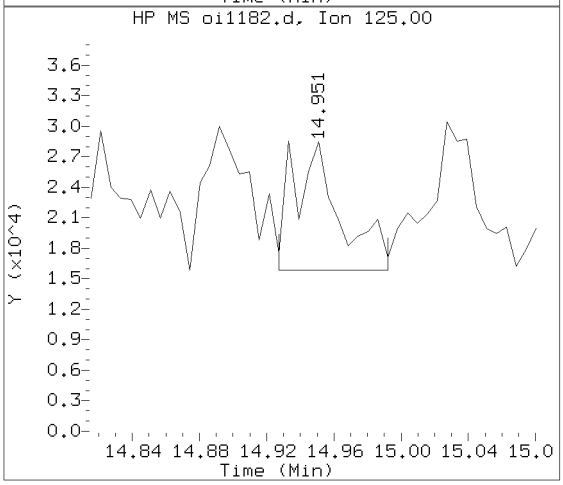
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

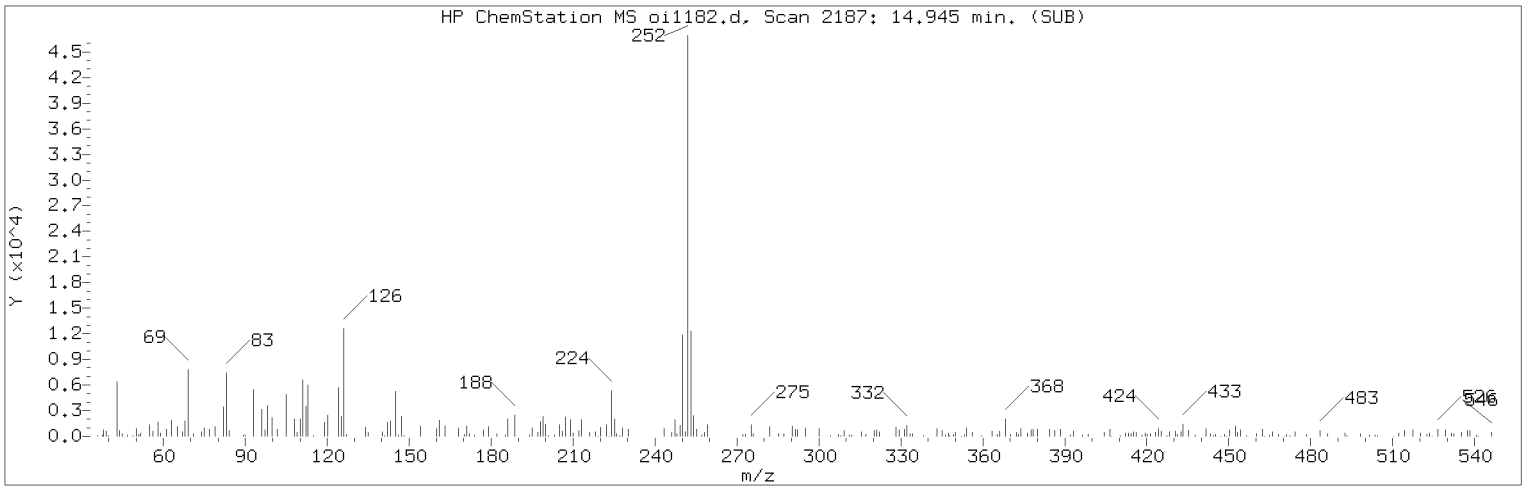
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

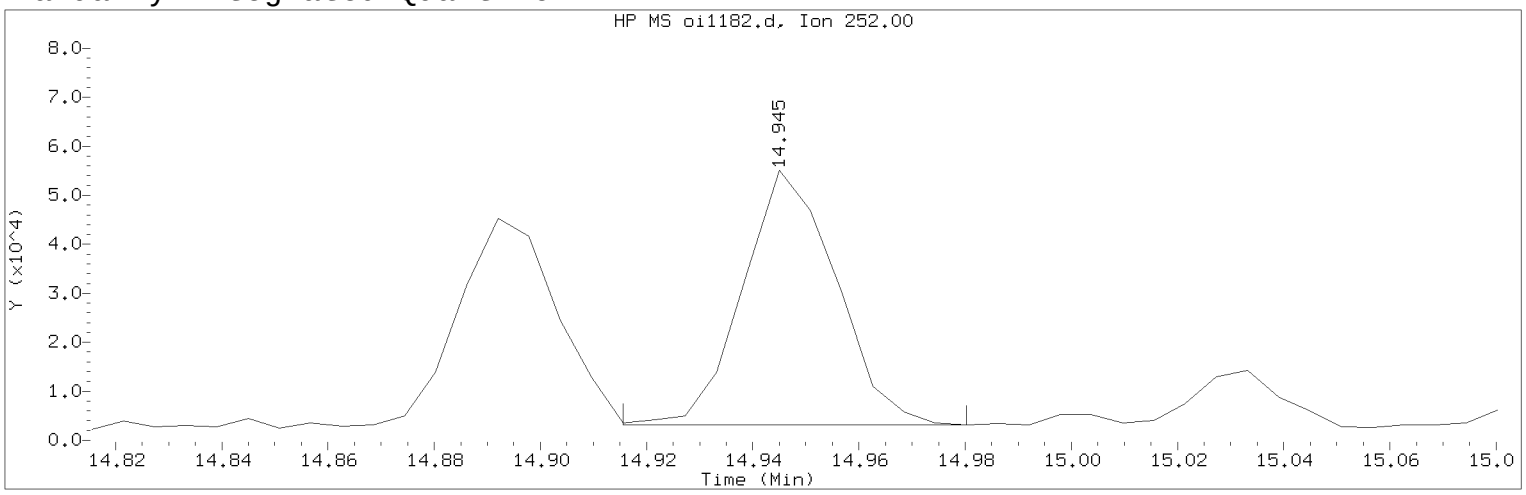
Compound Number : 211
Compound Name : Benzo(a)pyrene
Scan Number : 2187
Retention Time (minutes) : 14.945
Relative Retention Time :-0.00000
Quant Ion : 252.00
Area (flag) : 63228M
On-column Amount (ng/ul) : 1.7633

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

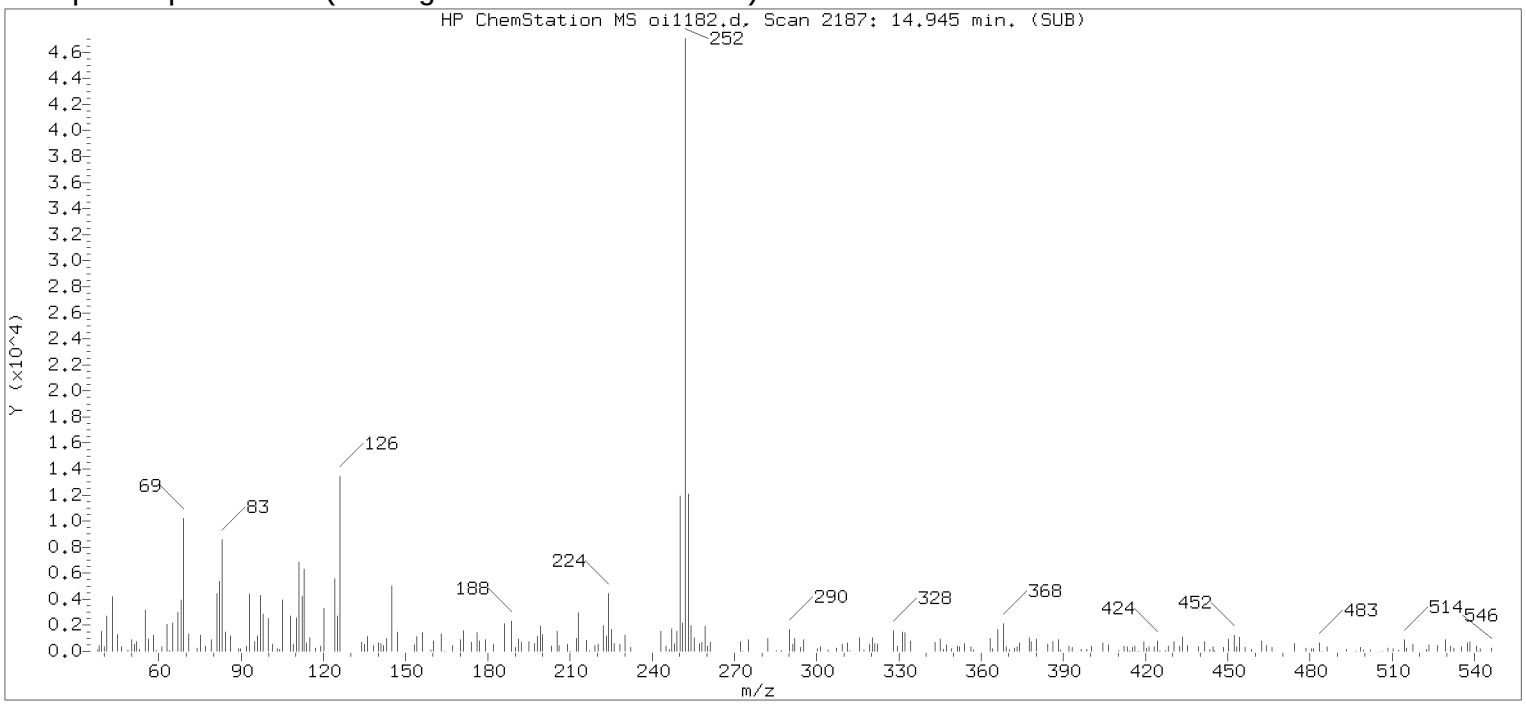
Compound Number : 211
Compound Name : Benzo(a)pyrene
Scan Number : 2187
Retention Time (minutes) : 14.945
Quant Ion : 252.00
Area (flag) : 63228M
On-column Amount (ng/ul) : 1.7633
Integration start scan : 2181 Integration stop scan: 2192
Y at integration start : 3162 Y at integration end: 3162

Reason for manual integration: improper integration

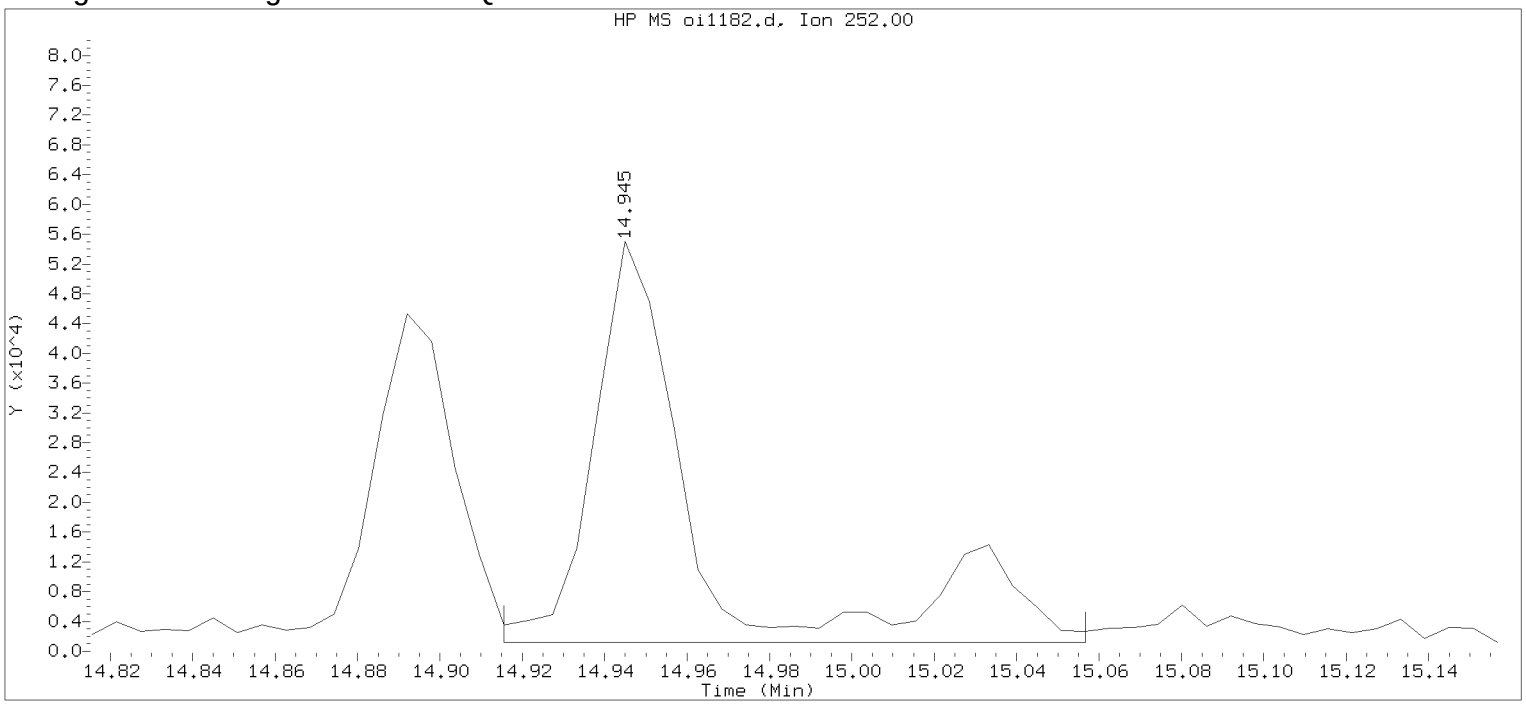
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

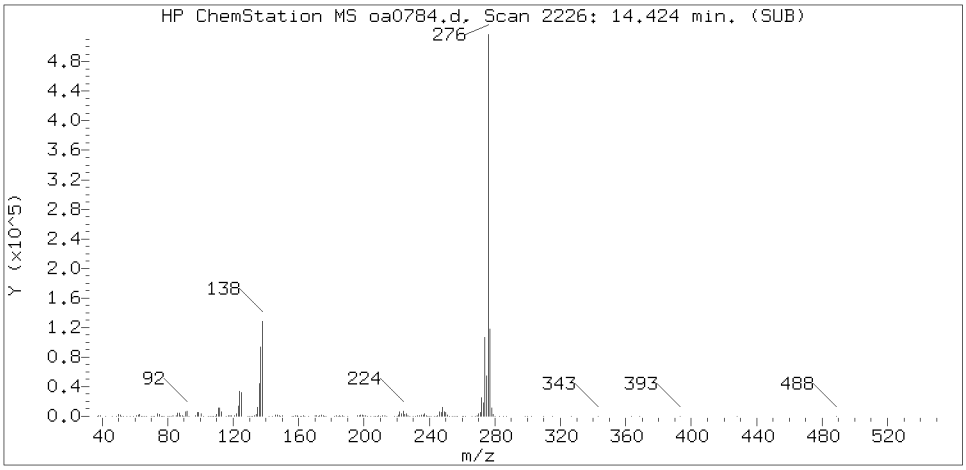
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 05:37 Automation

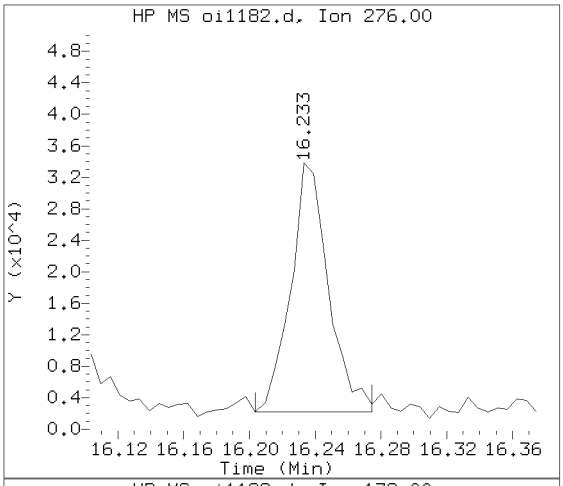
Sample Name: PS481 Lab Sample ID: 8057359

Compound Number	: 211		
Compound Name	: Benzo(a)pyrene		
Scan Number	: 2187		
Retention Time (minutes)	: 14.945		
Quant Ion	: 252.00		
Area	: 93656		
On-column Amount (ng/ul)	: 2.6119		
Integration start scan	: 2181	Integration stop scan:	2205
Y at integration start	: 1168	Y at integration end:	1168

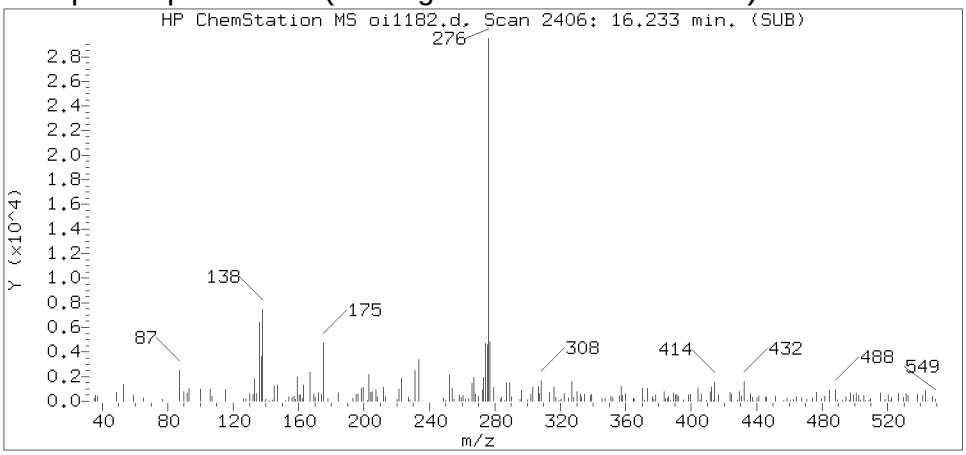
Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: LMH0256

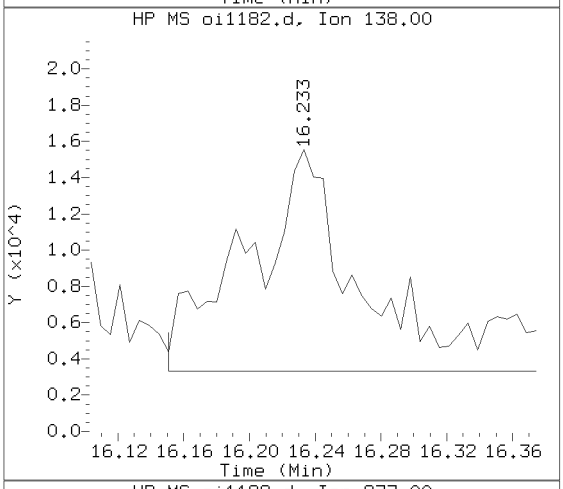
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



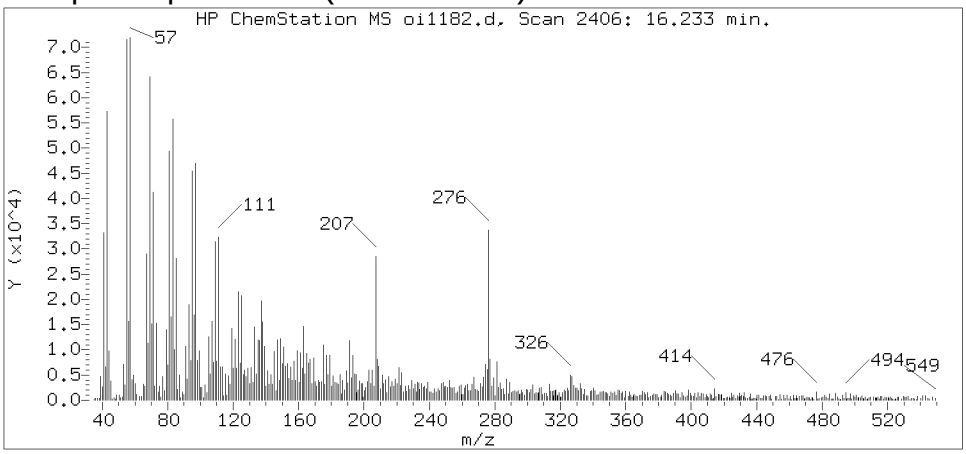


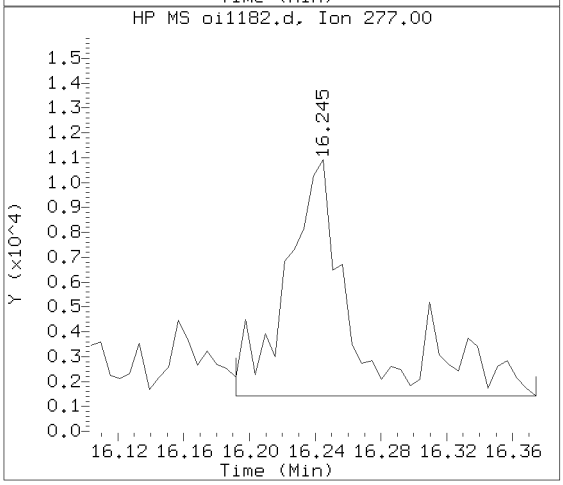
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

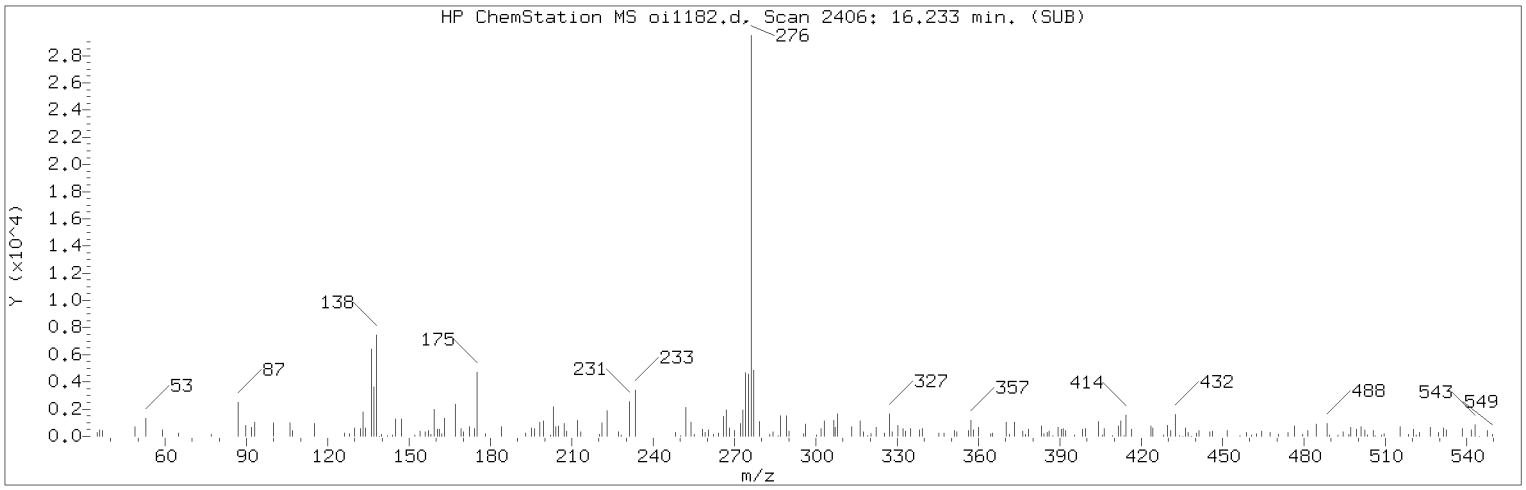
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

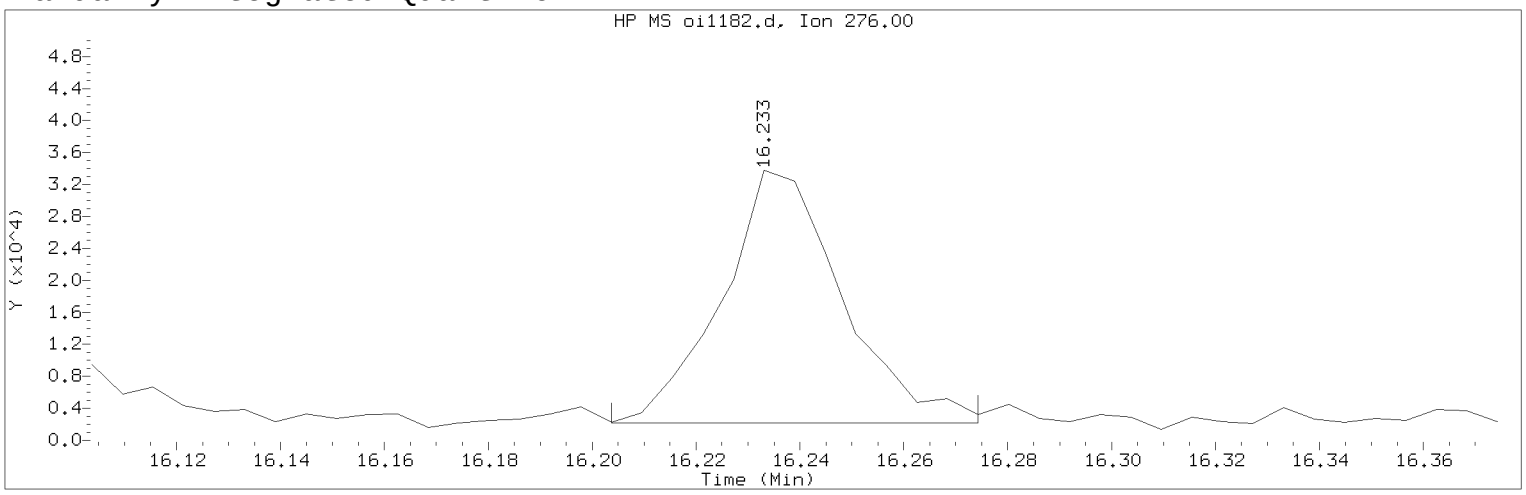
Compound Number	: 219
Compound Name	: Indeno(1,2,3-cd)pyrene
Scan Number	: 2406
Retention Time (minutes)	: 16.233
Relative Retention Time	: 0.00043
Quant Ion	: 276.00
Area (flag)	: 50703M
On-column Amount (ng/ul)	: 1.3576

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

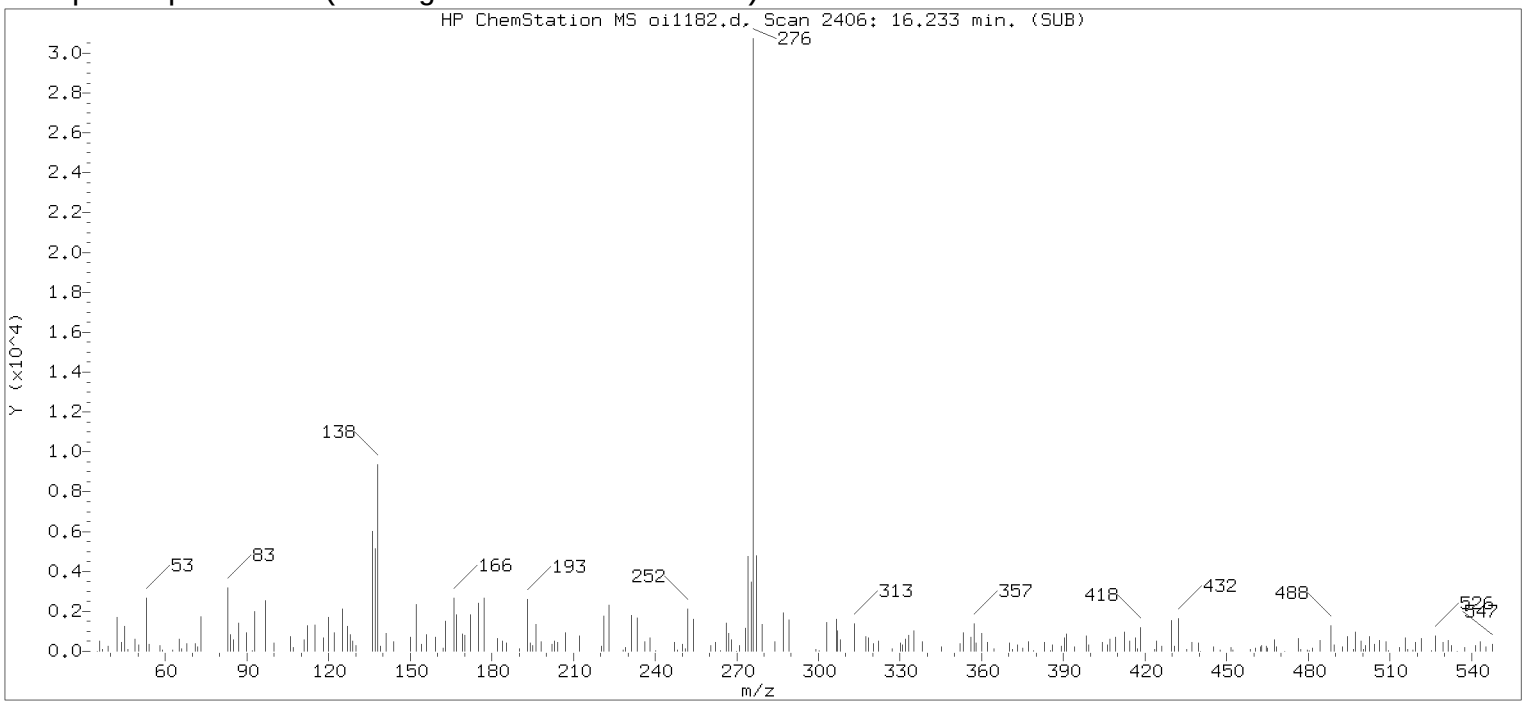
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2406
Retention Time (minutes) : 16.233
Quant Ion : 276.00
Area (flag) : 50703M
On-column Amount (ng/ul) : 1.3576
Integration start scan : 2400 Integration stop scan: 2412
Y at integration start : 2203 Y at integration end: 2203

Reason for manual integration: improper integration

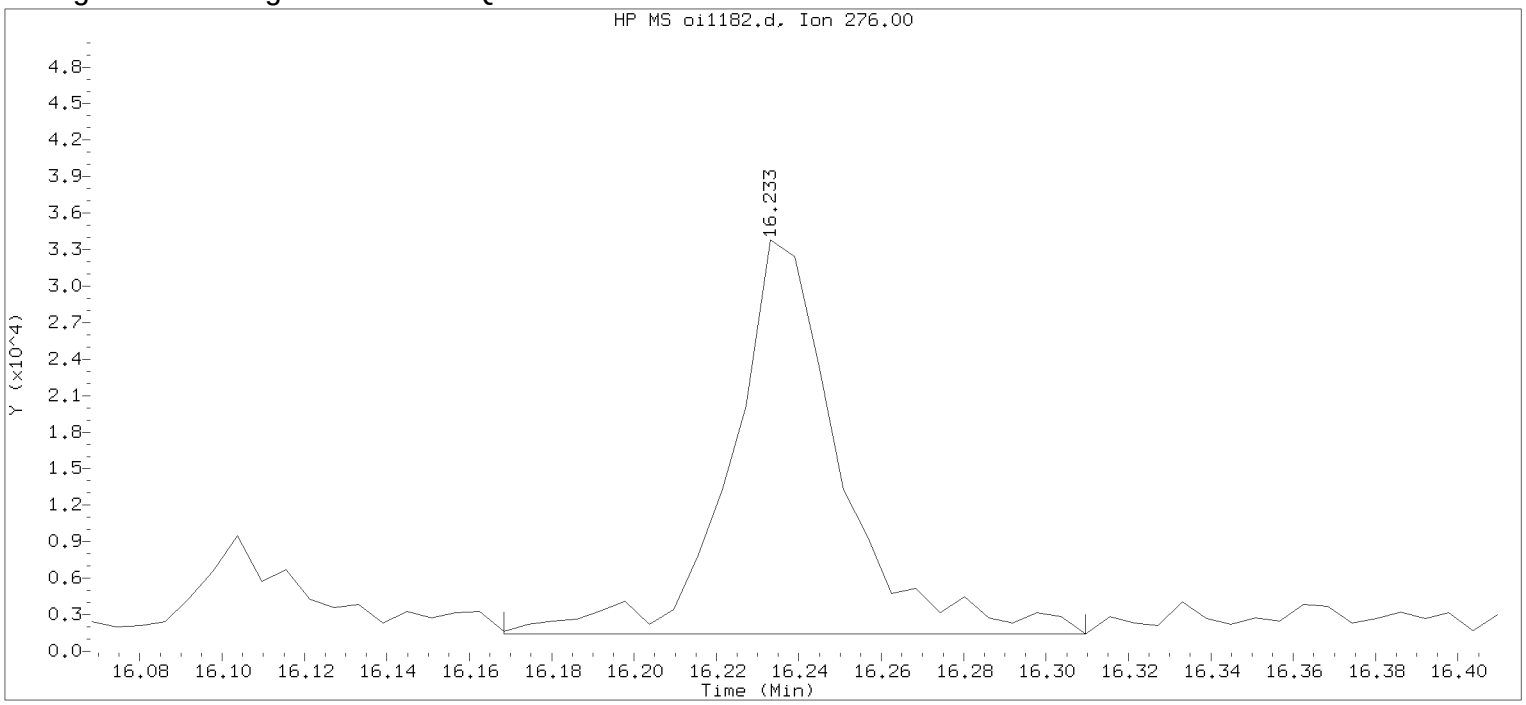
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

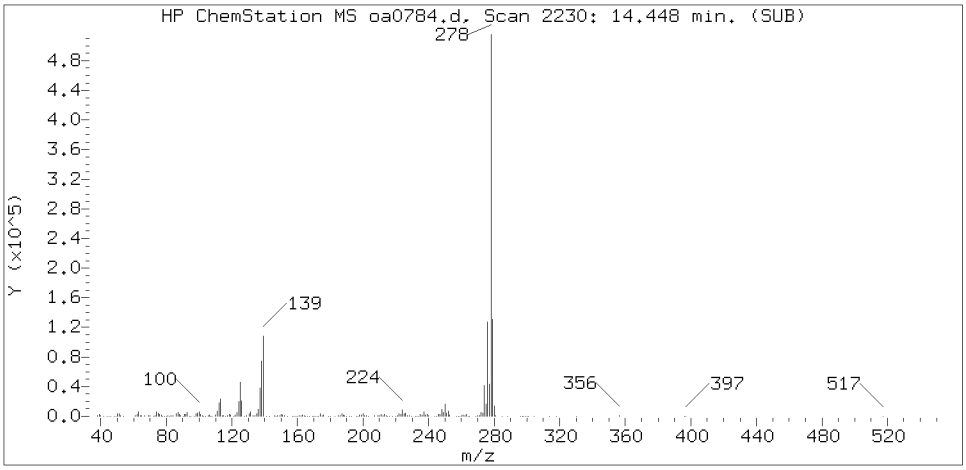
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 05:37 Automation

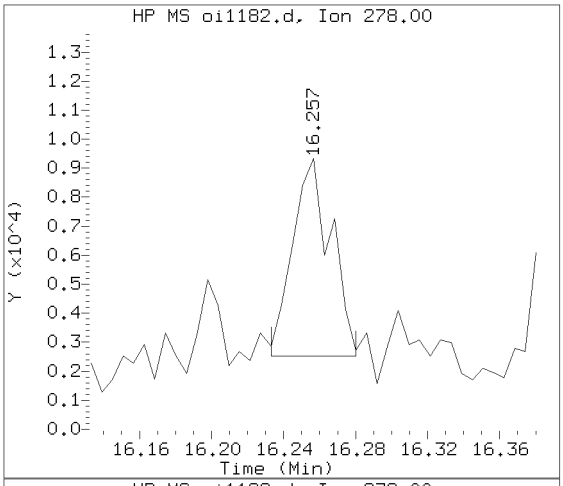
Sample Name: PS481 Lab Sample ID: 8057359

Compound Number	: 219		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 2406		
Retention Time (minutes)	: 16.233		
Quant Ion	: 276.00		
Area	: 60186		
On-column Amount (ng/ul)	: 1.6115		
Integration start scan	: 2394	Integration stop scan:	2418
Y at integration start	: 1400	Y at integration end:	1400

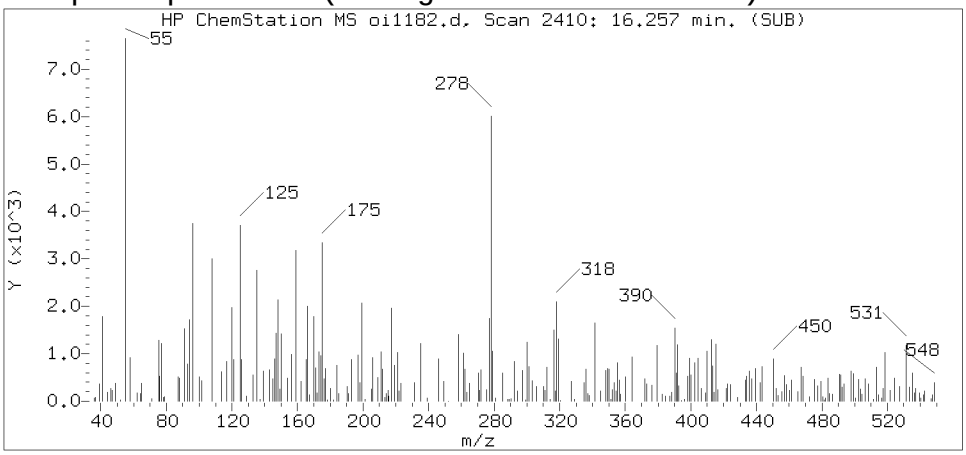
Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: LMH0253

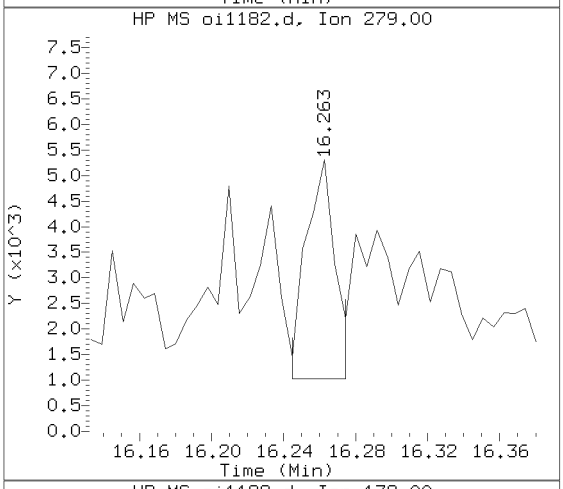
Reference Standard Spectrum for Dibenz(a,h)anthracene



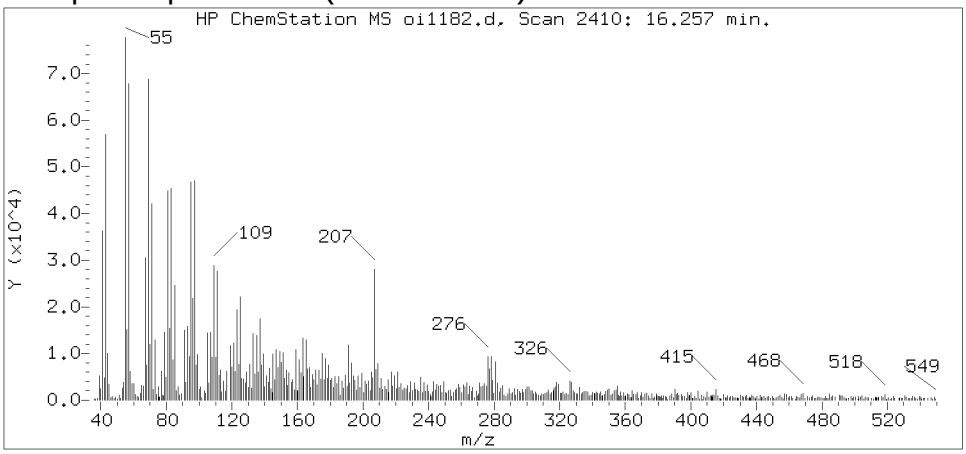


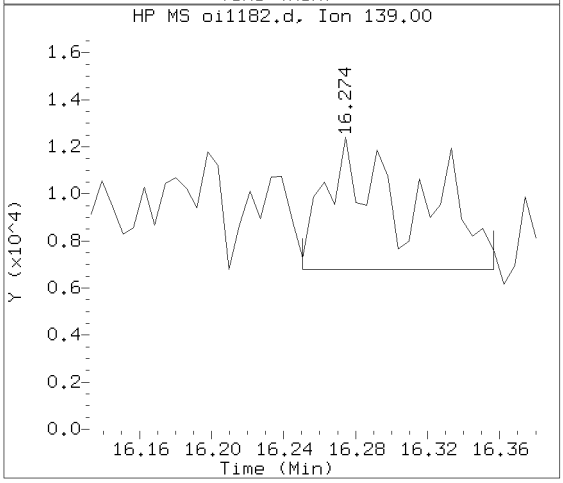
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

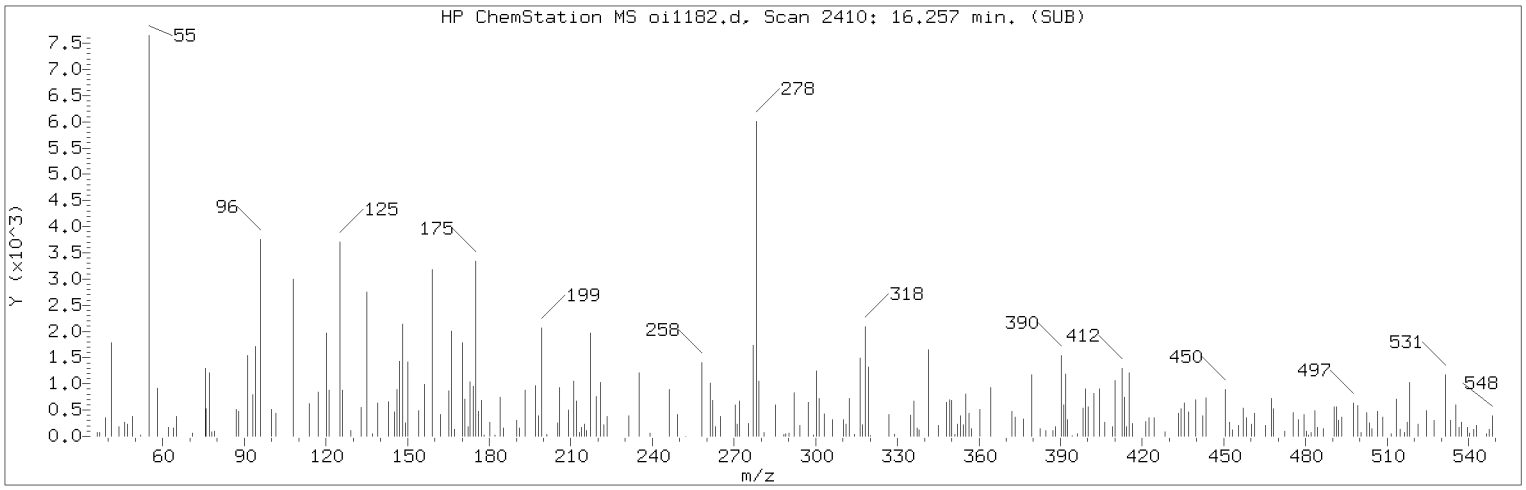
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

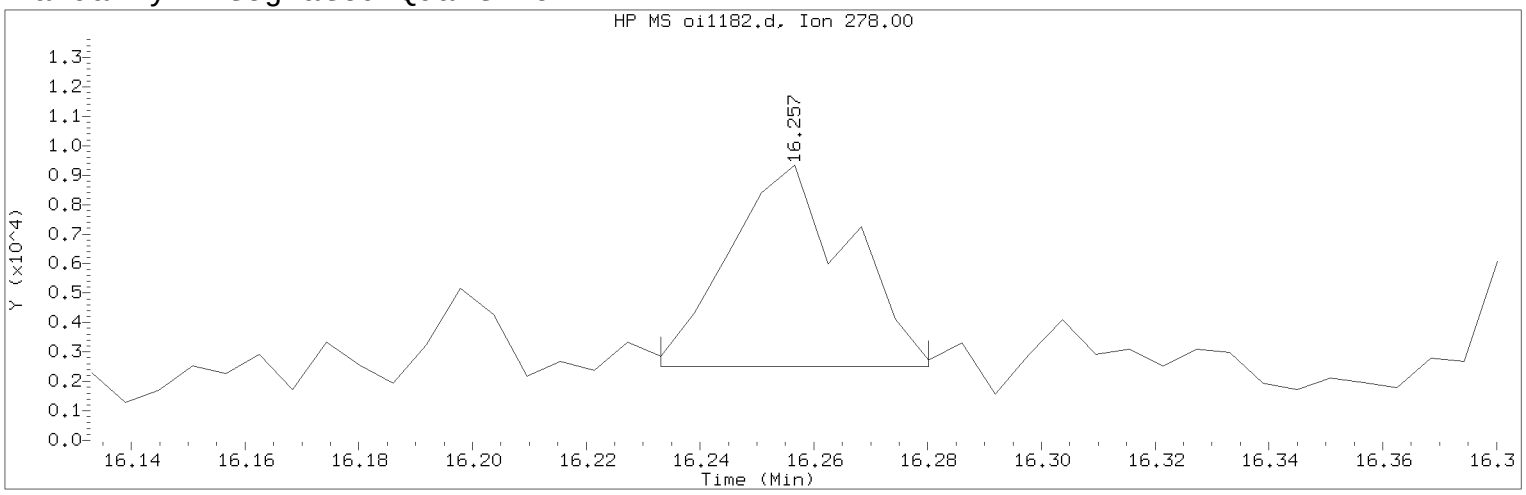
Compound Number	: 220
Compound Name	: Dibenz(a,h)anthracene
Scan Number	: 2410
Retention Time (minutes)	: 16.257
Relative Retention Time	: 0.00003
Quant Ion	: 278.00
Area (flag)	: 10123M
On-column Amount (ng/ul)	: 0.3222

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

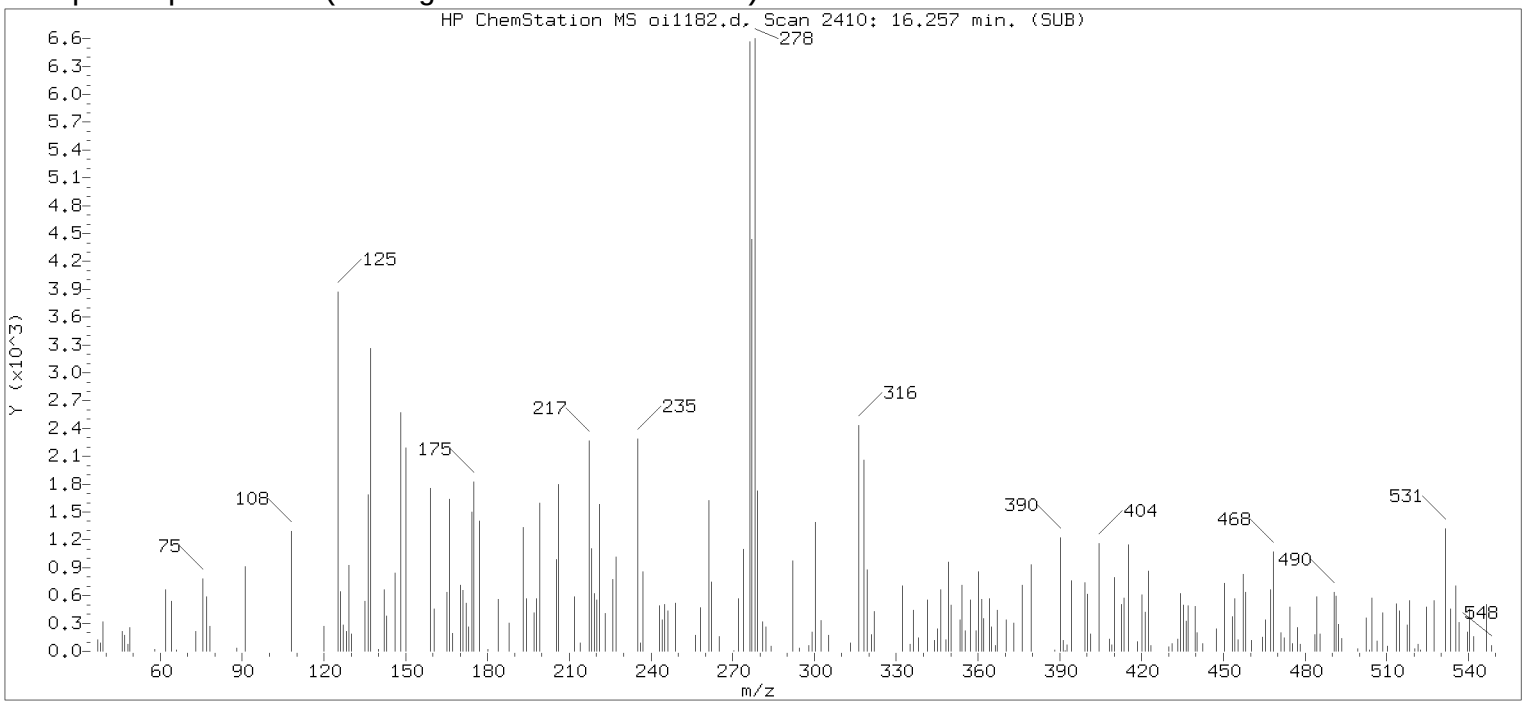
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 2410
Retention Time (minutes) : 16.257
Quant Ion : 278.00
Area (flag) : 10123M
On-column Amount (ng/ul) : 0.3222
Integration start scan : 2405 Integration stop scan: 2413
Y at integration start : 2515 Y at integration end: 2515

Reason for manual integration: improper integration

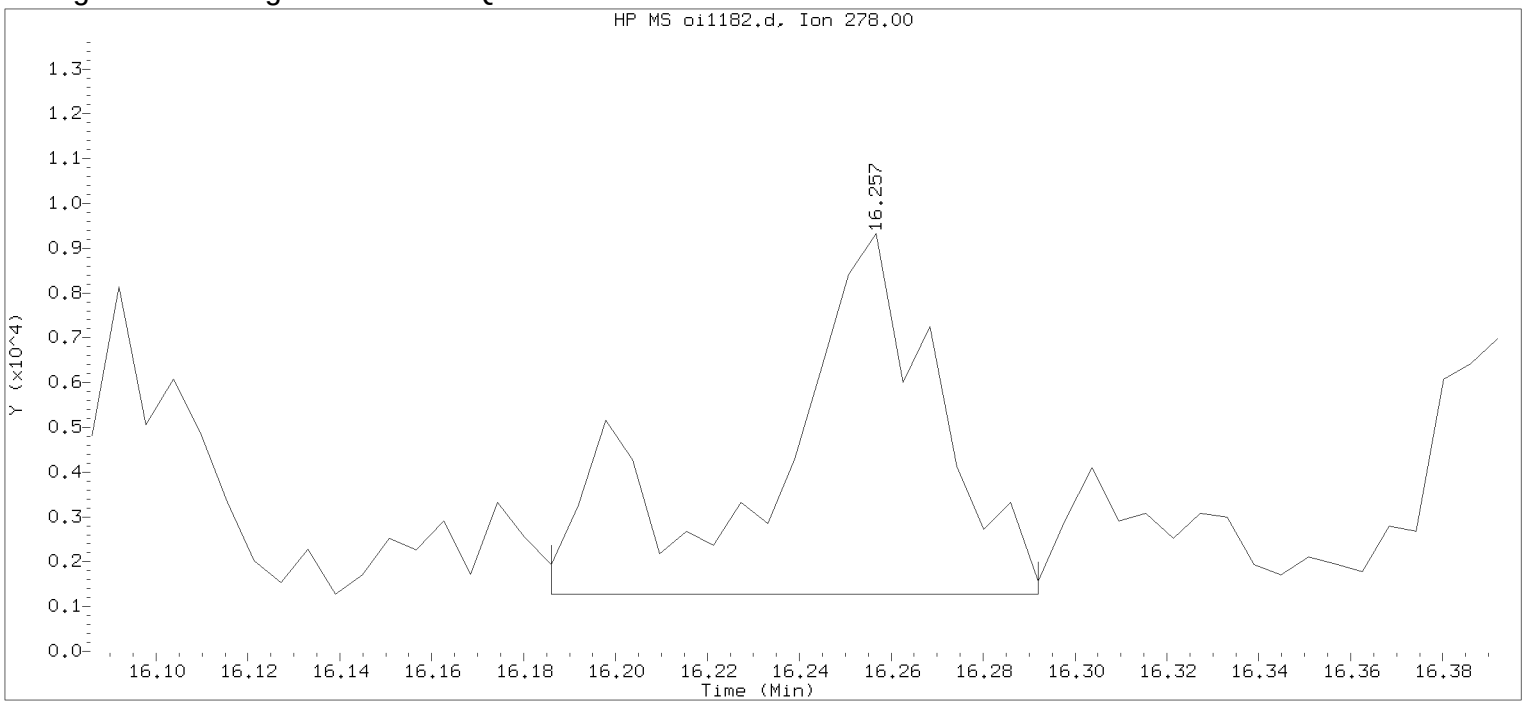
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

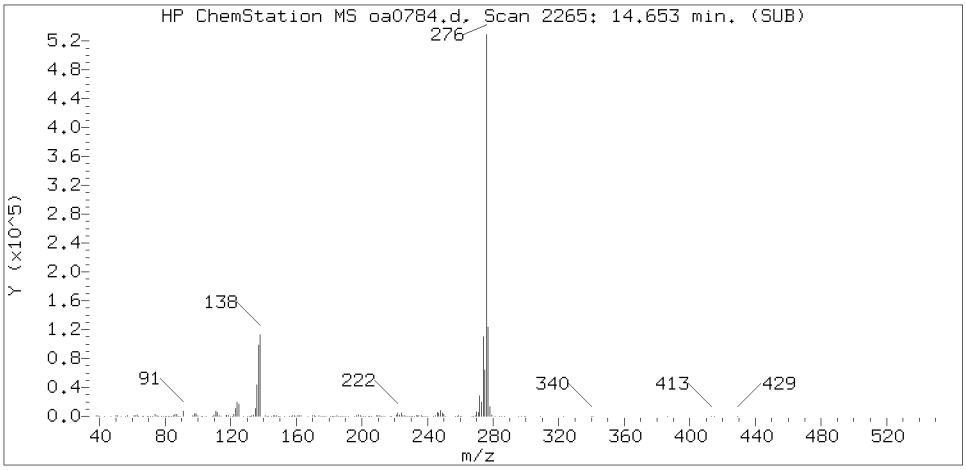
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 05:37 Automation

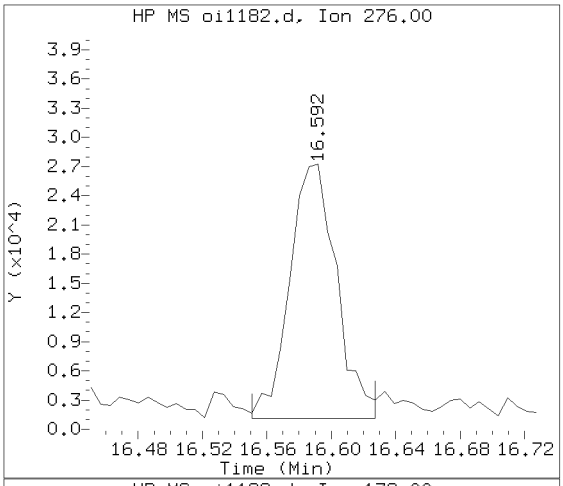
Sample Name: PS481 Lab Sample ID: 8057359

Compound Number	: 220		
Compound Name	: Dibenz(a,h)anthracene		
Scan Number	: 2410		
Retention Time (minutes)	: 16.257		
Quant Ion	: 278.00		
Area	: 20003		
On-column Amount (ng/ul)	: 0.6367		
Integration start scan	: 2397	Integration stop scan:	2415
Y at integration start	: 1275	Y at integration end:	1275

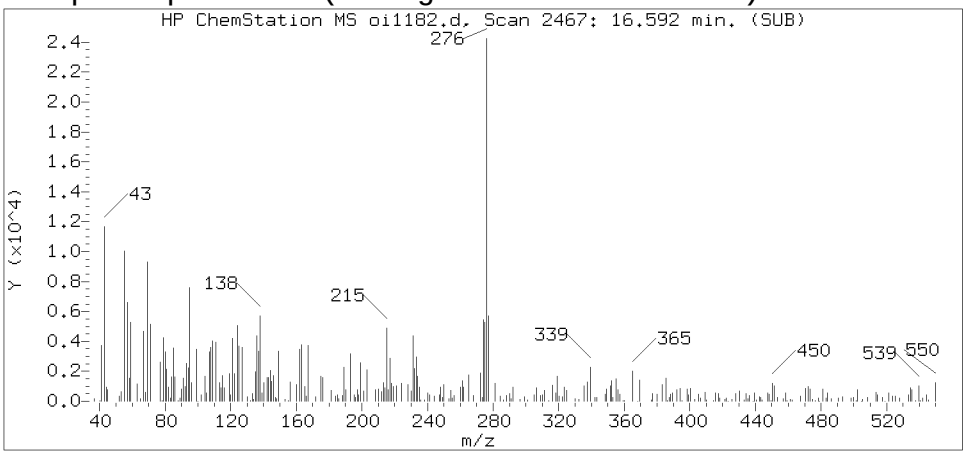
Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: LMH0256

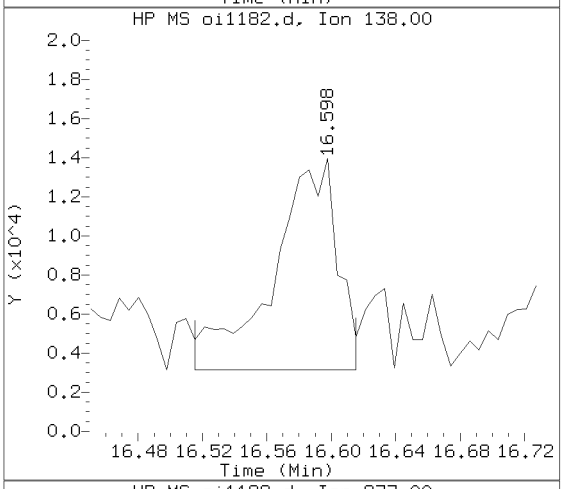
Reference Standard Spectrum for Benzo(g,h,i)perylene



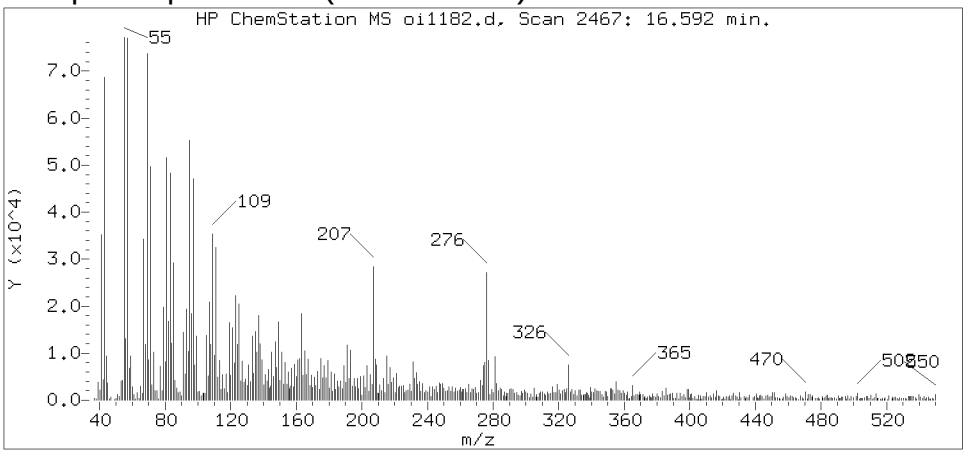


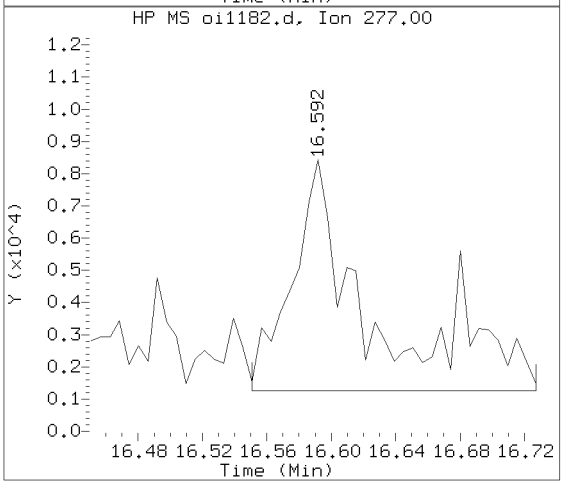
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

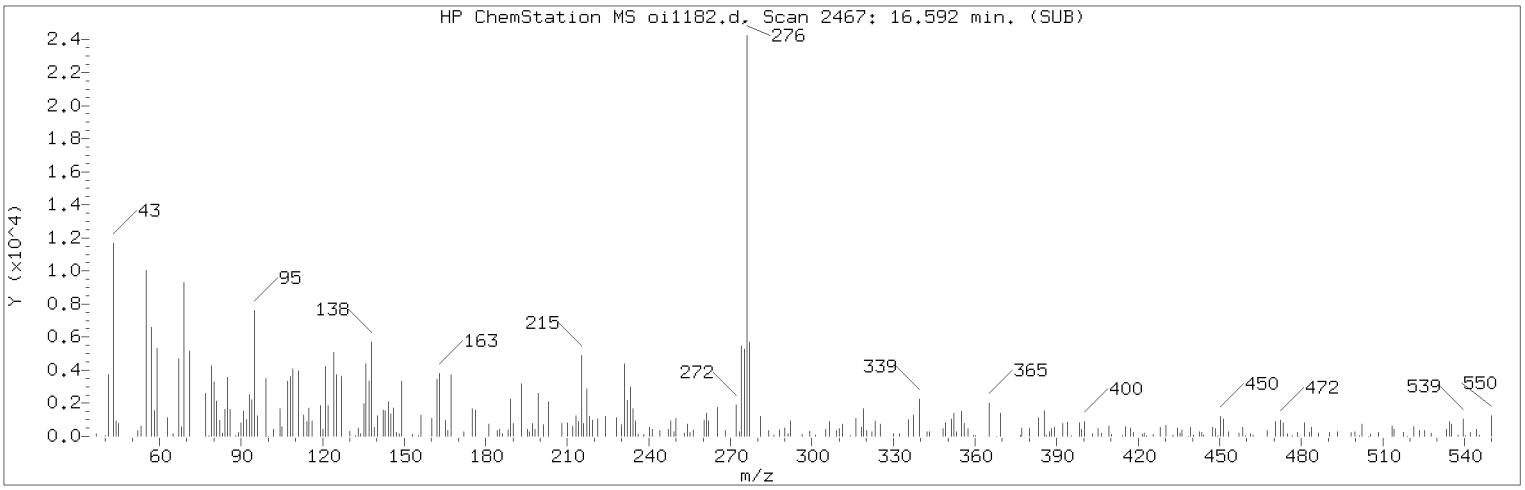
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

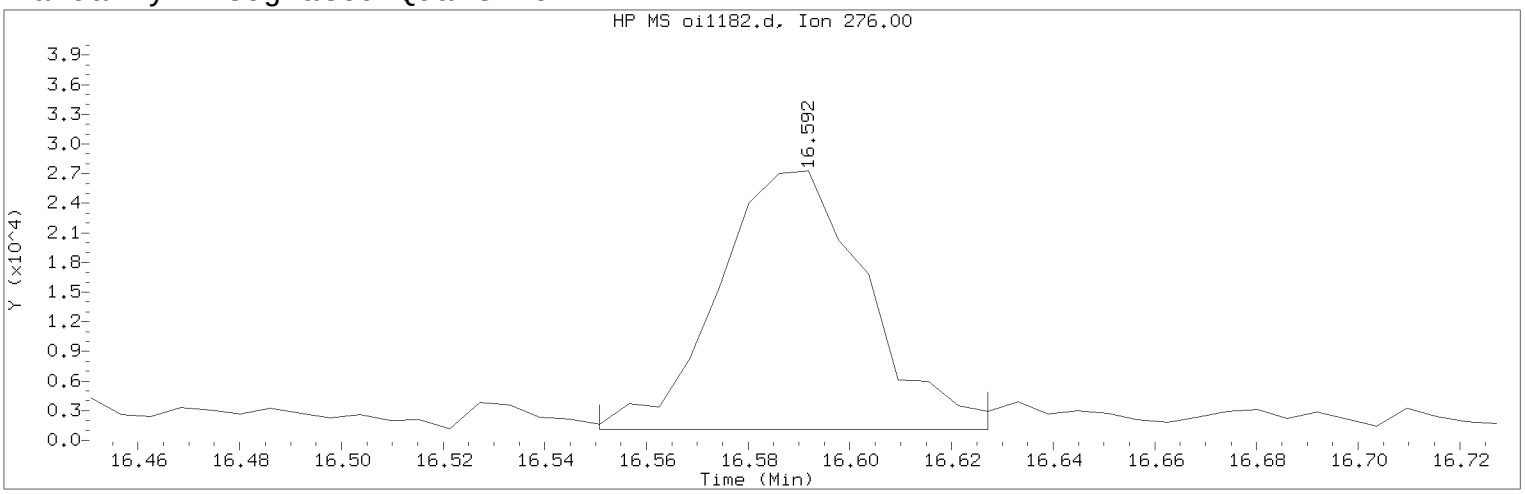
Compound Number : 221
Compound Name : Benzo(g,h,i)perylene
Scan Number : 2467
Retention Time (minutes) : 16.592
Relative Retention Time :-0.00035
Quant Ion : 276.00
Area (flag) : 53098M
On-column Amount (ng/ul) : 1.7310

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:09 lmh00956

Sample Name: PS481 Lab Sample ID: 8057359

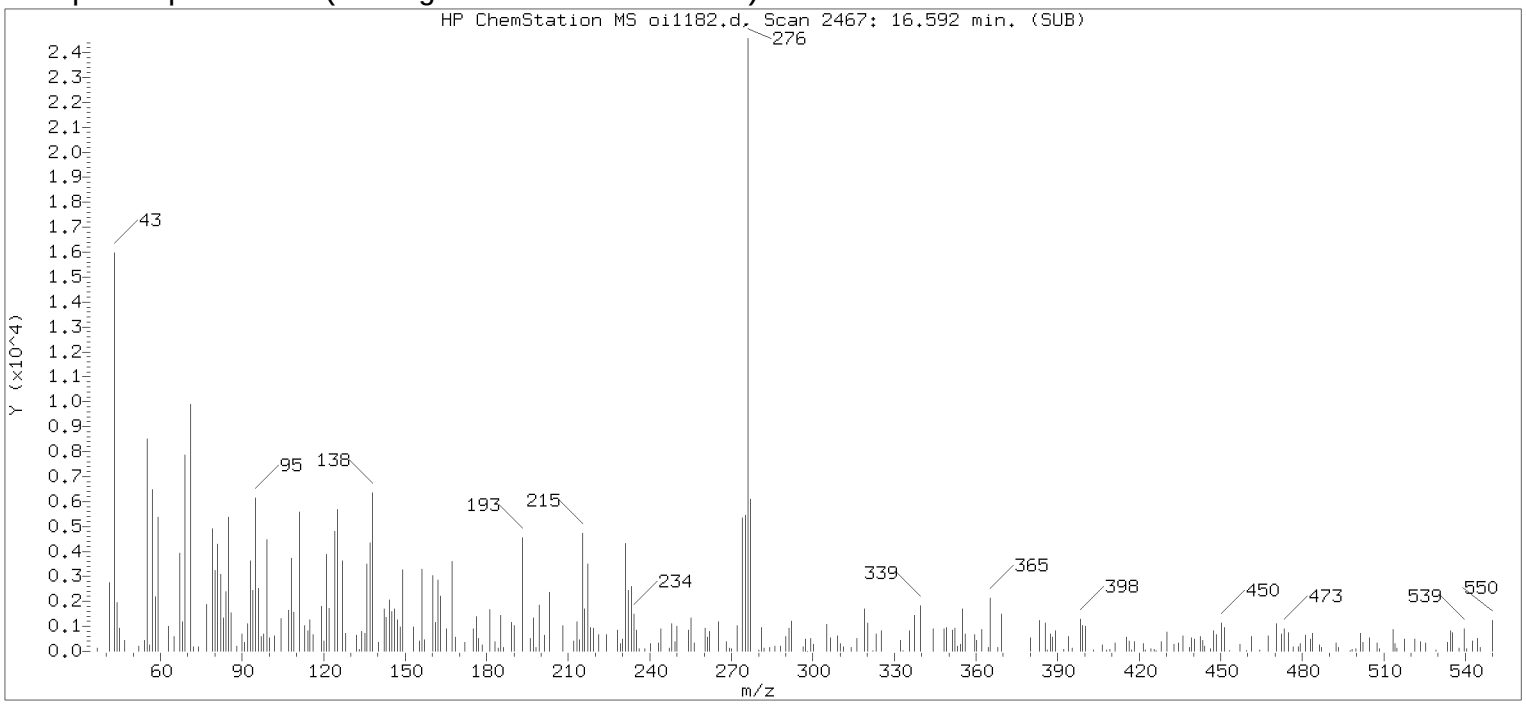
Compound Number : 221
Compound Name : Benzo(g,h,i)perylene
Scan Number : 2467
Retention Time (minutes) : 16.592
Quant Ion : 276.00
Area (flag) : 53098M
On-column Amount (ng/ul) : 1.7310
Integration start scan : 2459 Integration stop scan: 2472
Y at integration start : 1118 Y at integration end: 1118

Reason for manual integration: improper integration

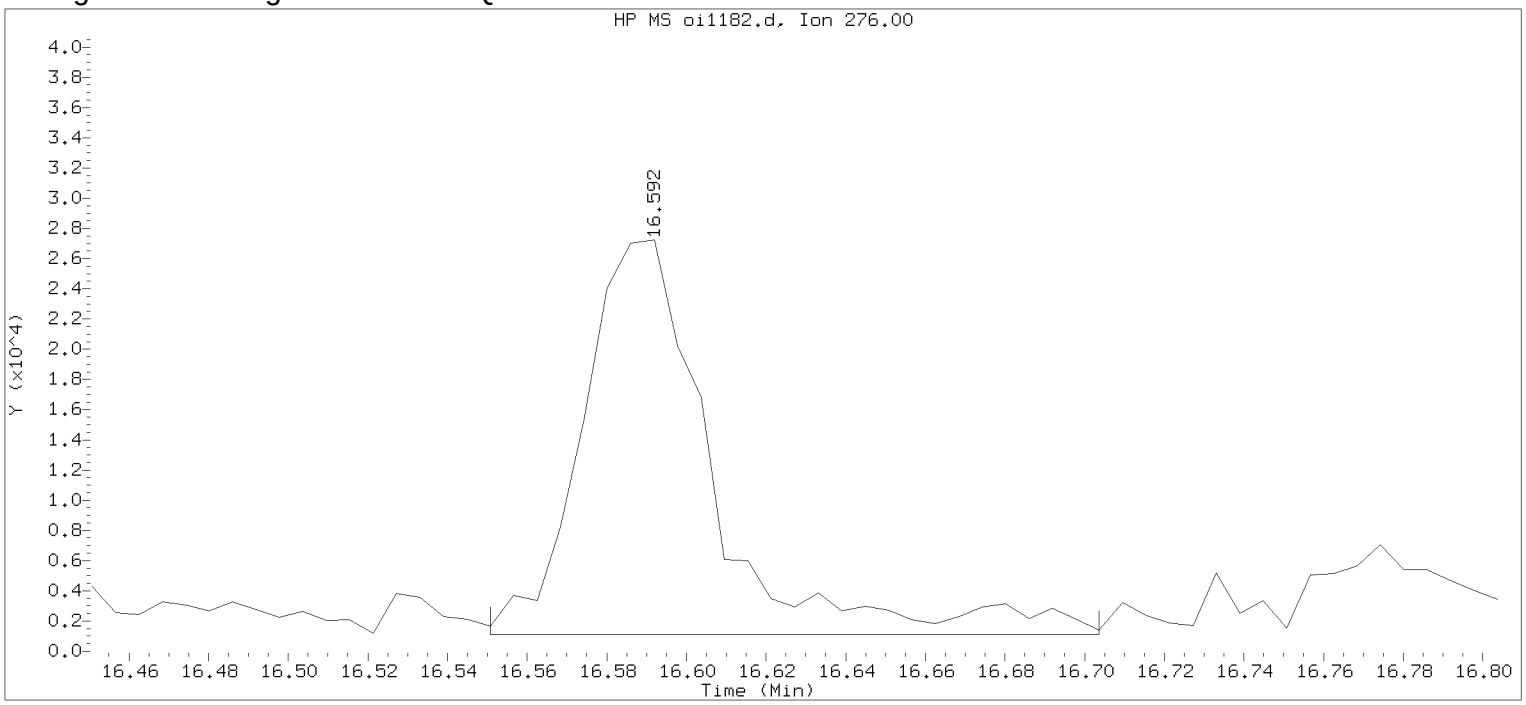
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1182.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:21 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 05:37 Automation

Sample Name: PS481 Lab Sample ID: 8057359

Compound Number	: 221		
Compound Name	: Benzo(g,h,i)perylene		
Scan Number	: 2467		
Retention Time (minutes)	: 16.592		
Quant Ion	: 276.00		
Area	: 59501		
On-column Amount (ng/ul)	: 1.9397		
Integration start scan	: 2459	Integration stop scan:	2485
Y at integration start	: 1118	Y at integration end:	1118

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:13.
Target 3.5 esignature user ID: LMH0256

PS482 Lancaster Laboratories, Inc. 8057360
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1183.d Injection date and time: **26-SEP-2015 05:47**
Data file Sample Info. Line: PS482;8057360;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 26-Sep-2015 10:10 lmh00956

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.32 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.445(-0.006)	742	152	184667 (9)	20.00	
65) Naphthalene-d8	7.716(0.000)	958	136	867750 (9)	20.00	
113) Acenaphthene-d10	9.451(0.000)	1253	164	496950 (-2)	20.00	
153) Phenanthrene-d10	10.910(0.000)	1501	188	817069 (-16)	20.00	
175) Pyrene-d10	12.310(-0.006)	1739	212	809596 (-26)	20.00	
213) Perylene-d12	15.004(-0.006)	2197	264	597327 (-29)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.004(0.000)	82	1786215	88.456	88%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.798(-0.001)	172	3008424	95.374	95%		63 - 117
179) Terphenyl-d14	(5)	12.492(0.000)	244	2785815	93.501	94%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)			Not Detected					0.1
157) Anthracene	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.1
177) Pyrene	(5)			Not Detected					0.1
195) Benzo(a)anthracene	(5)			Not Detected					0.1
196) Chrysene	(5)			Not Detected					0.1
206) Benzo(b)fluoranthene	(6)			Not Detected					0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.1
211) Benzo(a)pyrene	(6)			Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.1

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:14. Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1183.d Injection date and time: **26-SEP-2015 05:47**
Data file Sample Info. Line: PS482;8057360;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 26-Sep-2015 10:10 lmh00956

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.32 g

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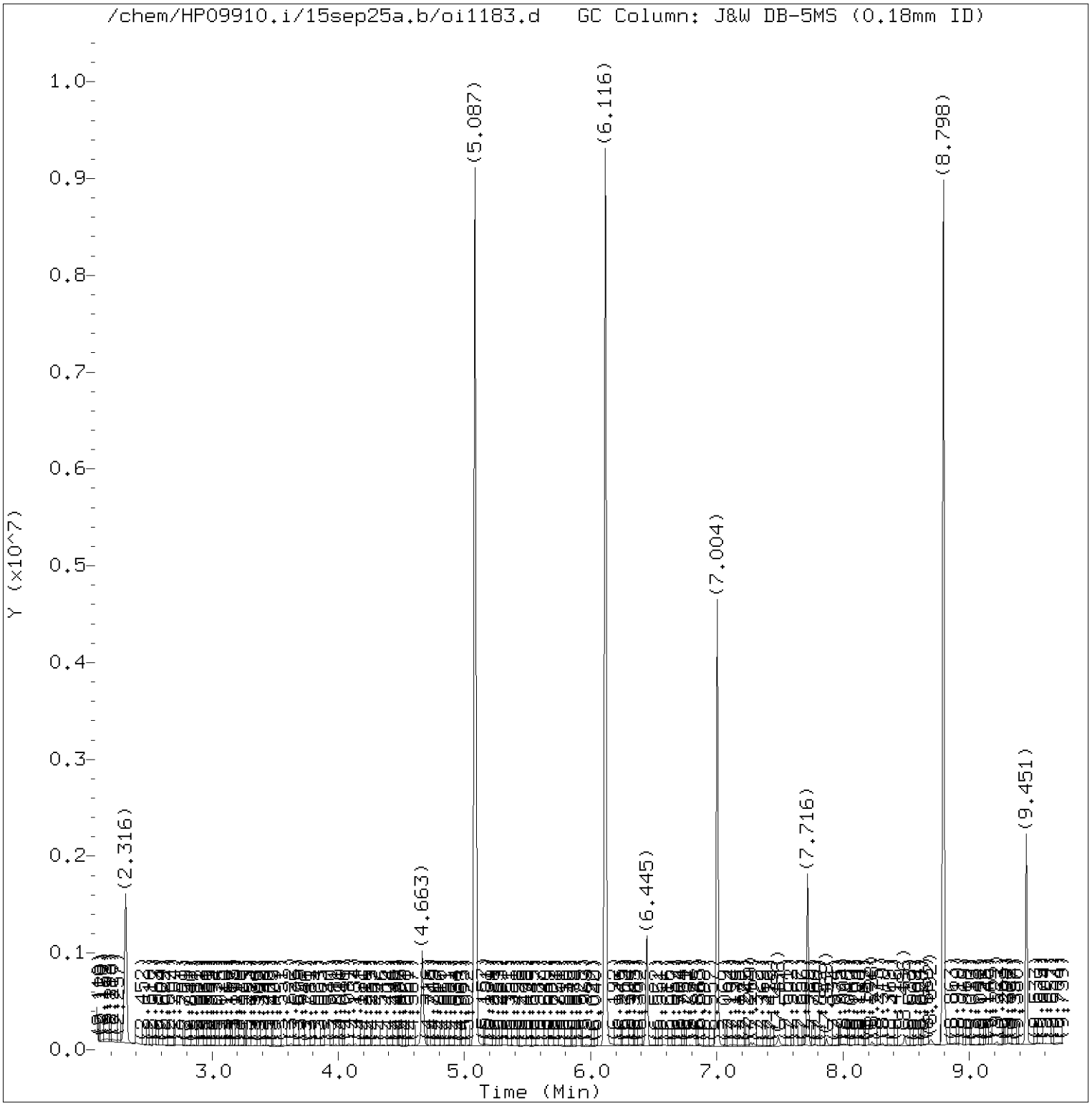
Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 10:14. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

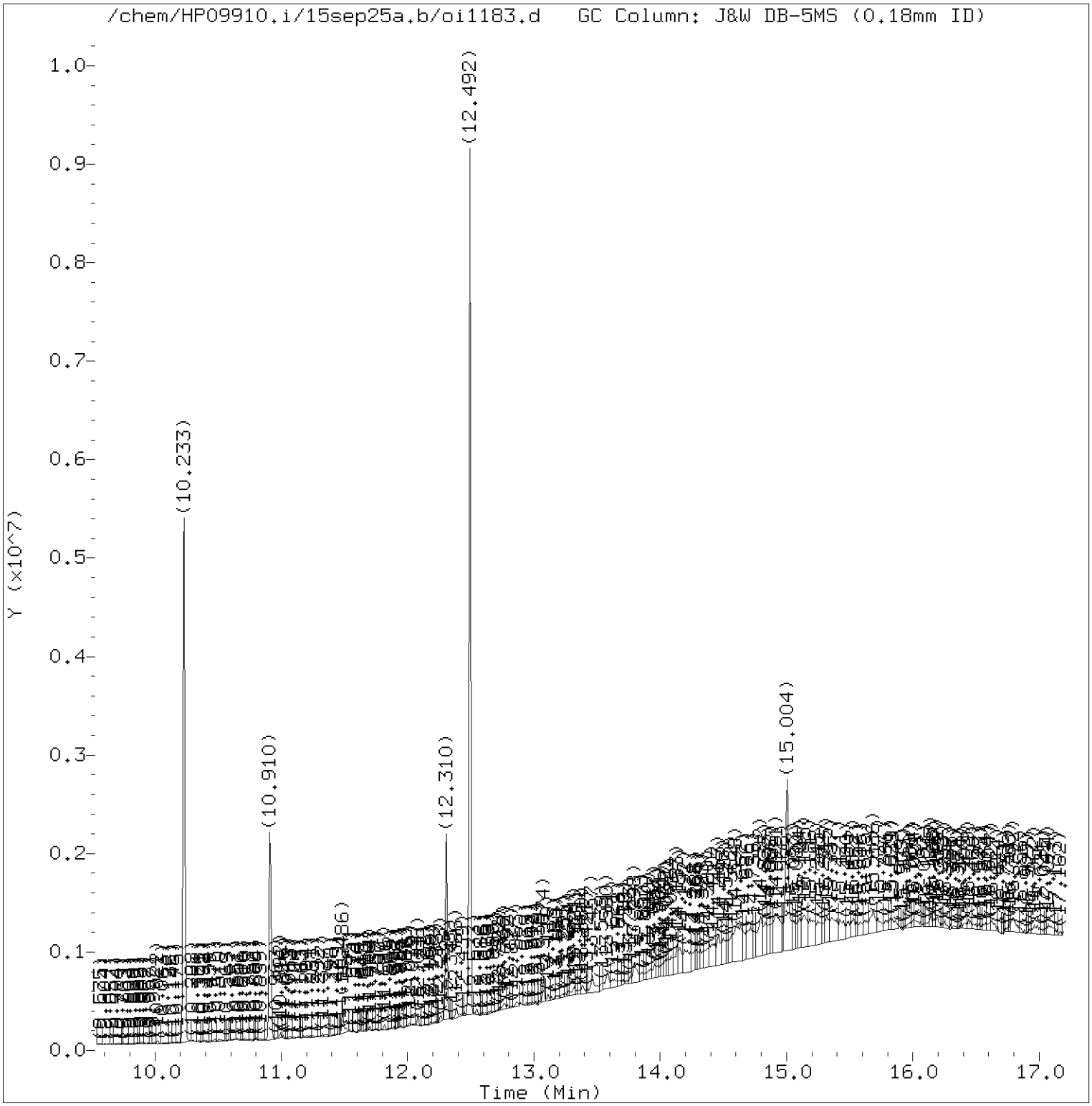
Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1183.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:47 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:10 lmh00956

Sample Name: PS482 Lab Sample ID: 8057360

Digitally signed by Linda M. Hartenstine
on 09/26/2015 at 10:14.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1183.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:47 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:10 lmh00956

Sample Name: PS482 Lab Sample ID: 8057360

Digitally signed by Linda M. Hartenstine
on 09/26/2015 at 10:14.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1183.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 05:47 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 10:10 lmh00956

Sample Name: PS482 Lab Sample ID: 8057360

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.445	152	184667	20.000
44)$Nitrobenzene-d5	(2)	7.004	82	1786215	88.456
65)*Naphthalene-d8	(2)	7.716	136	867750	20.000
93)$2-Fluorobiphenyl	(3)	8.798	172	3008424	95.374
113)*Acenaphthene-d10	(3)	9.451	164	496950	20.000
153)*Phenanthrene-d10	(4)	10.910	188	817069	20.000
175)*Pyrene-d10	(5)	12.310	212	809596	20.000
179)$Terphenyl-d14	(5)	12.492	244	2785815	93.501
213)*Perylene-d12	(6)	15.004	264	597327	20.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/26/2015 at 10:14.
Target 3.5 esignature user ID: lmh00956

PS483 Lancaster Laboratories, Inc. 8057361
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1184.d Injection date and time: **26-SEP-2015 06:12**
Data file Sample Info. Line: PS483;8057361;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.27 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.445(-0.006)	742	152	192330 (14)	20.00	
65) Naphthalene-d8	7.716(0.000)	958	136	863988 (9)	20.00	
113) Acenaphthene-d10	9.451(0.000)	1253	164	496963 (-2)	20.00	
153) Phenanthrene-d10	10.910(0.000)	1501	188	838326 (-14)	20.00	
175) Pyrene-d10	12.310(-0.006)	1739	212	827679 (-24)	20.00	
213) Perylene-d12	15.004(-0.006)	2197	264	594620 (-29)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.004(0.000)	82	1840477	91.540	92%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.798(-0.001)	172	3097466	98.194	98%		63 - 117
179) Terphenyl-d14	(5)	12.492(0.000)	244	2877112	94.455	94%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)	9.310(-0.000)	152	5853M	0.133	4.38			0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)	10.933(-0.000)	178	6070	0.125	4.12			0.1
157) Anthracene	(4)			Not Detected					0.1
173) Fluoranthene	(4)	12.104(-0.000)	202	17219M	0.325	10.75			0.1
177) Pyrene	(5)	12.322(0.000)	202	16260M	0.329	10.88			0.1
195) Benzo(a)anthracene	(5)	13.527(0.000)	228	7030	0.163	5.40			0.1
196) Chrysene	(5)	13.557(0.001)	228	10909	0.266	8.79			0.1
206) Benzo(b)fluoranthene	(6)	14.621(0.000)	252	15345M	0.411	13.59			0.1
208) Benzo(k)fluoranthene	(6)	14.645(0.000)	252	6651M	0.175	5.77			0.1
211) Benzo(a)pyrene	(6)	14.945(-0.000)	252	7587M	0.206	6.80			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	16.233(0.000)	276	9775M	0.255	8.41			0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)	16.586(0.000)	276	7712M	0.245	8.08			0.1

M = Compound was manually integrated.

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59. Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1184.d Injection date and time: **26-SEP-2015 06:12**
Data file Sample Info. Line: PS483;8057361;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.27 g

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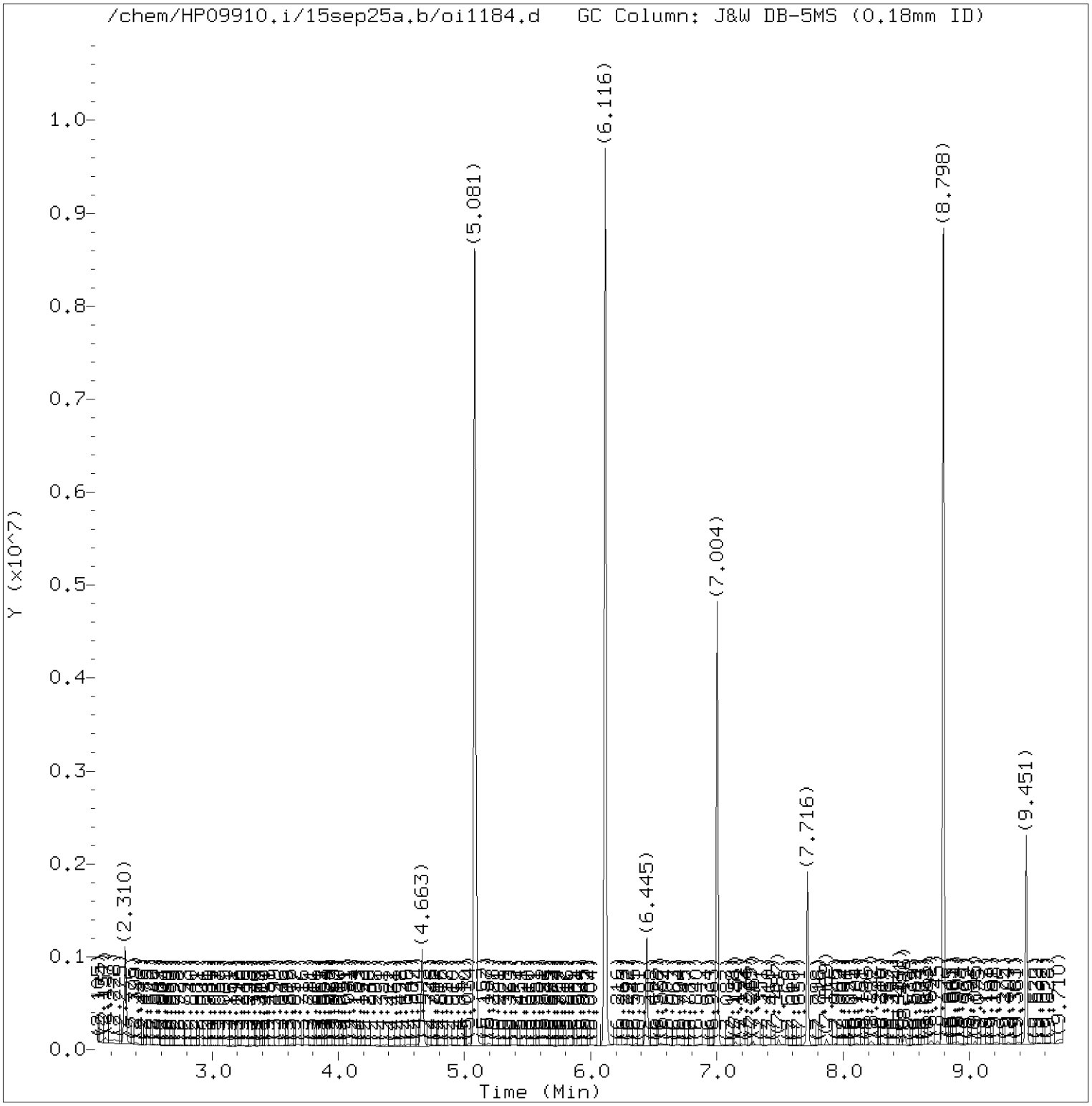
Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

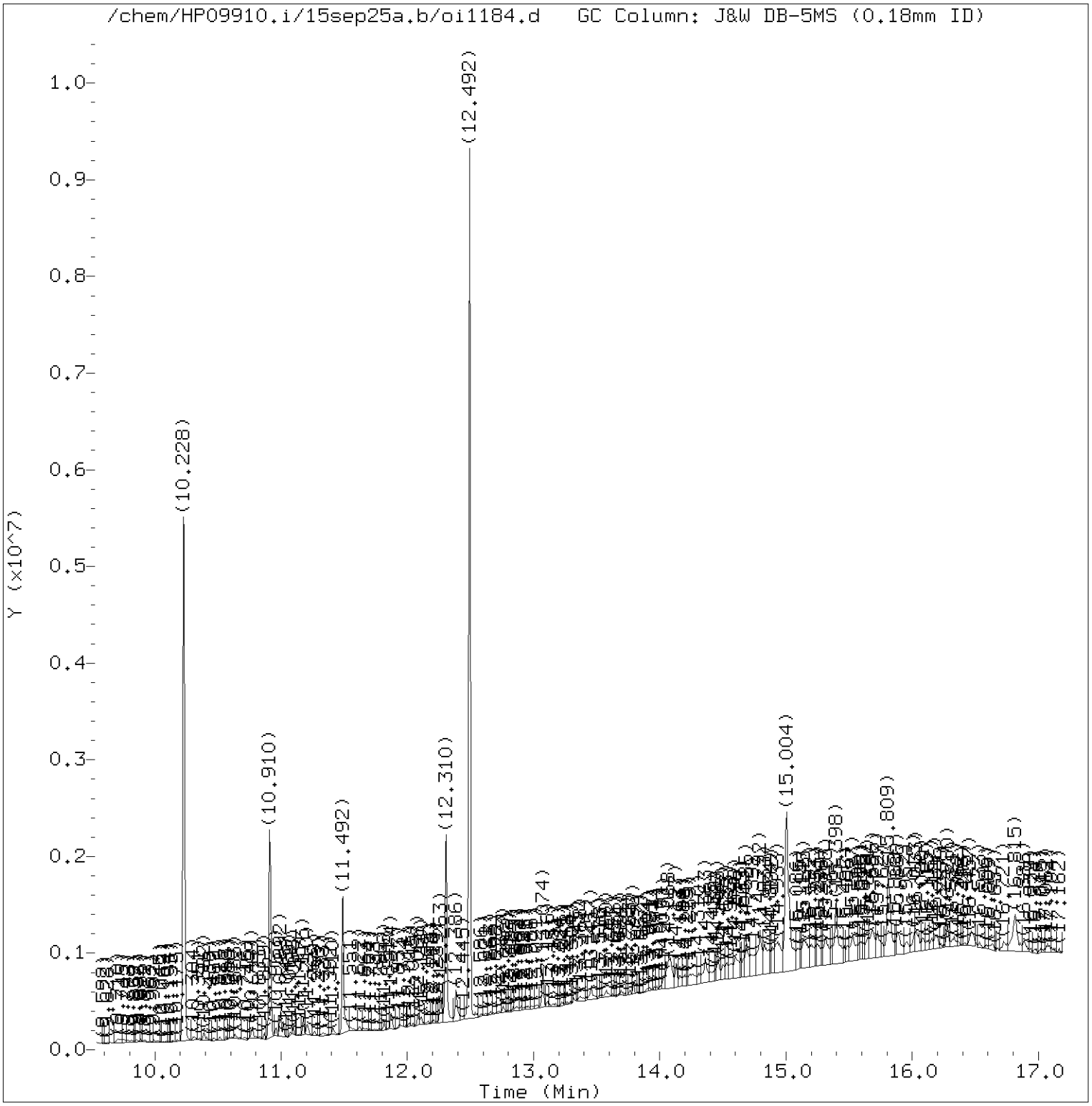
Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

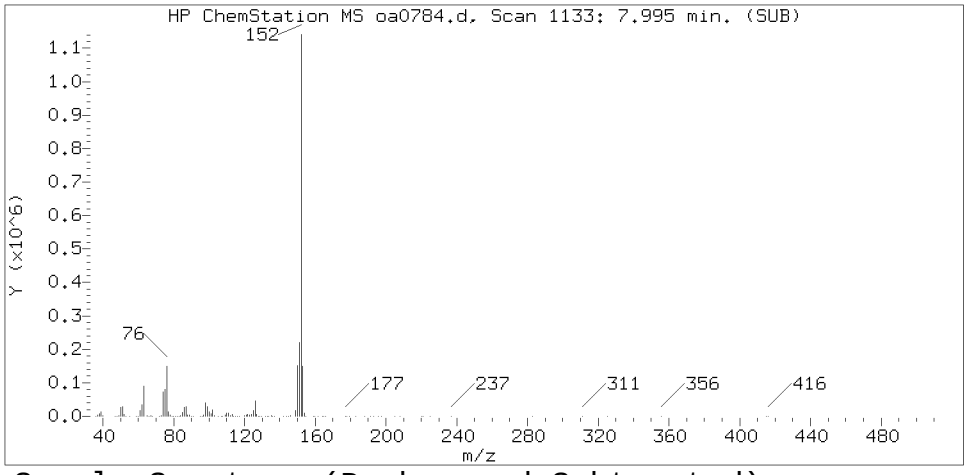
Sample Name: PS483 Lab Sample ID: 8057361

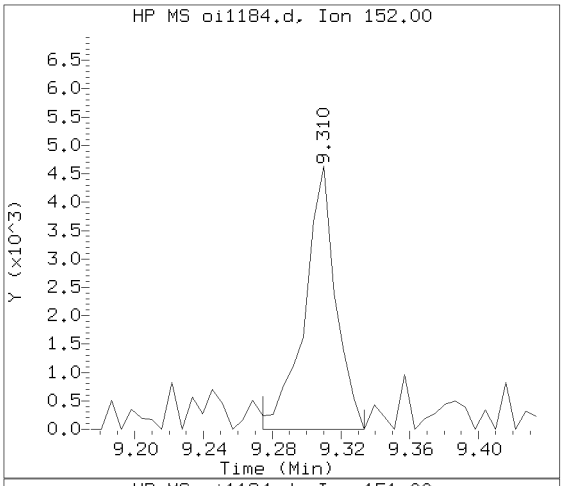
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.445	152	192330	20.000
44)$Nitrobenzene-d5	(2)	7.004	82	1840477	91.540
65)*Naphthalene-d8	(2)	7.716	136	863988	20.000
93)$2-Fluorobiphenyl	(3)	8.798	172	3097466	98.194
109) Acenaphthylene	(3)	9.310	152	5853M	0.133
113)*Acenaphthene-d10	(3)	9.451	164	496963	20.000
153)*Phenanthrene-d10	(4)	10.910	188	838326	20.000
155) Phenanthrene	(4)	10.933	178	6070	0.125
173) Fluoranthene	(4)	12.104	202	17219M	0.325
175)*Pyrene-d10	(5)	12.310	212	827679	20.000
177) Pyrene	(5)	12.322	202	16260M	0.329
179)$Terphenyl-d14	(5)	12.492	244	2877112	94.455
195) Benzo(a)anthracene	(5)	13.527	228	7030	0.163
196) Chrysene	(5)	13.557	228	10909	0.266
206) Benzo(b)fluoranthene	(6)	14.621	252	15345M	0.411
208) Benzo(k)fluoranthene	(6)	14.645	252	6651M	0.175
211) Benzo(a)pyrene	(6)	14.945	252	7587M	0.206
213)*Perylene-d12	(6)	15.004	264	594620	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	16.233	276	9775M	0.255
221) Benzo(g,h,i)perylene	(6)	16.586	276	7712M	0.245

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

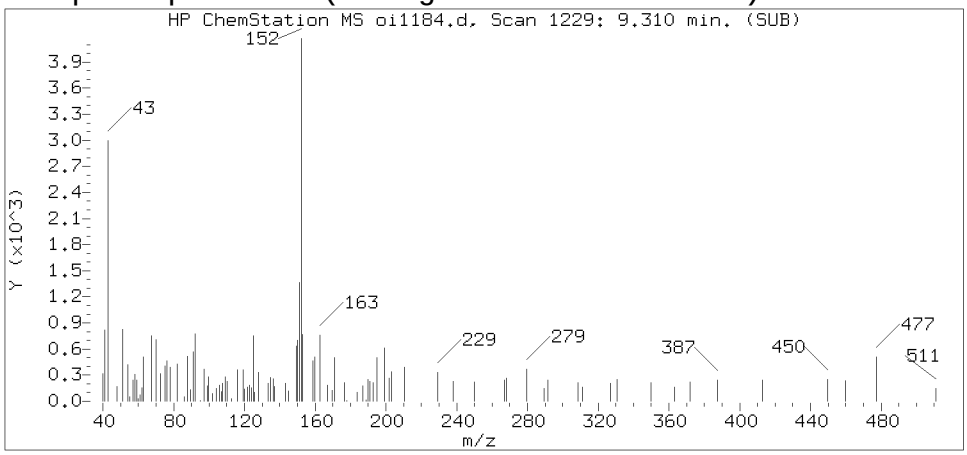
Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

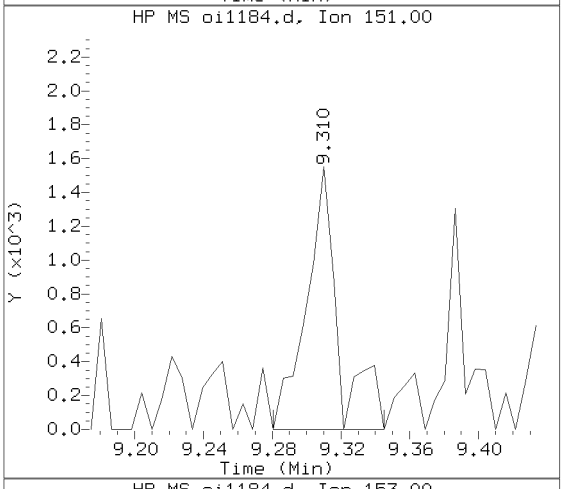
Reference Standard Spectrum for Acenaphthylene



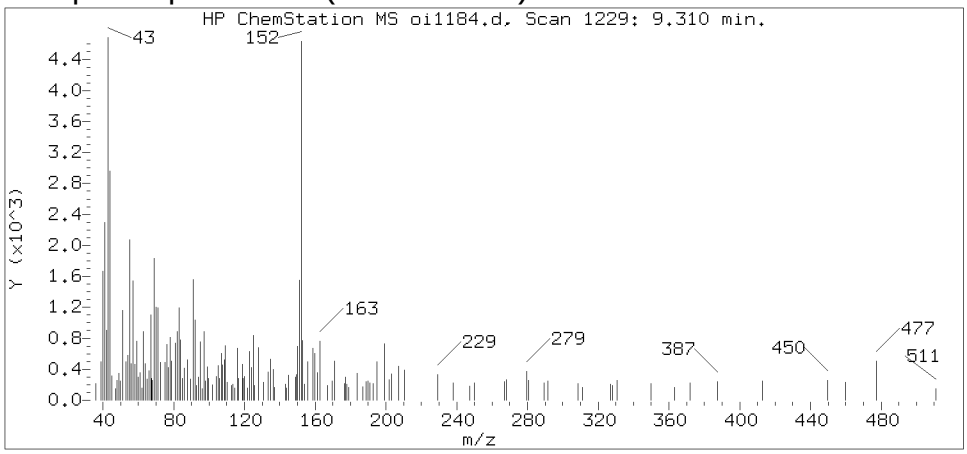


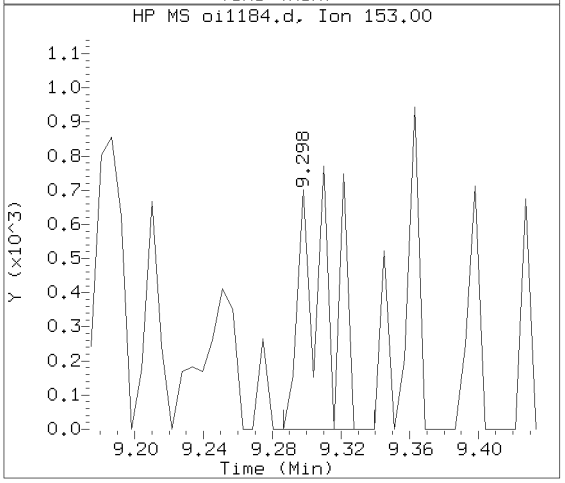
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

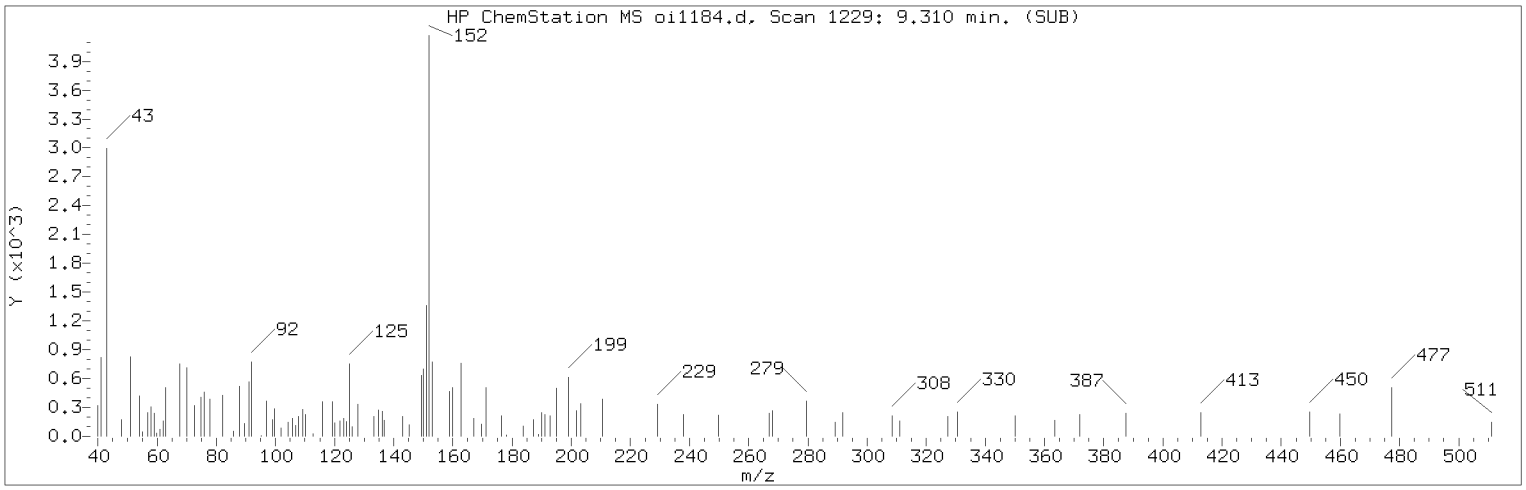
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

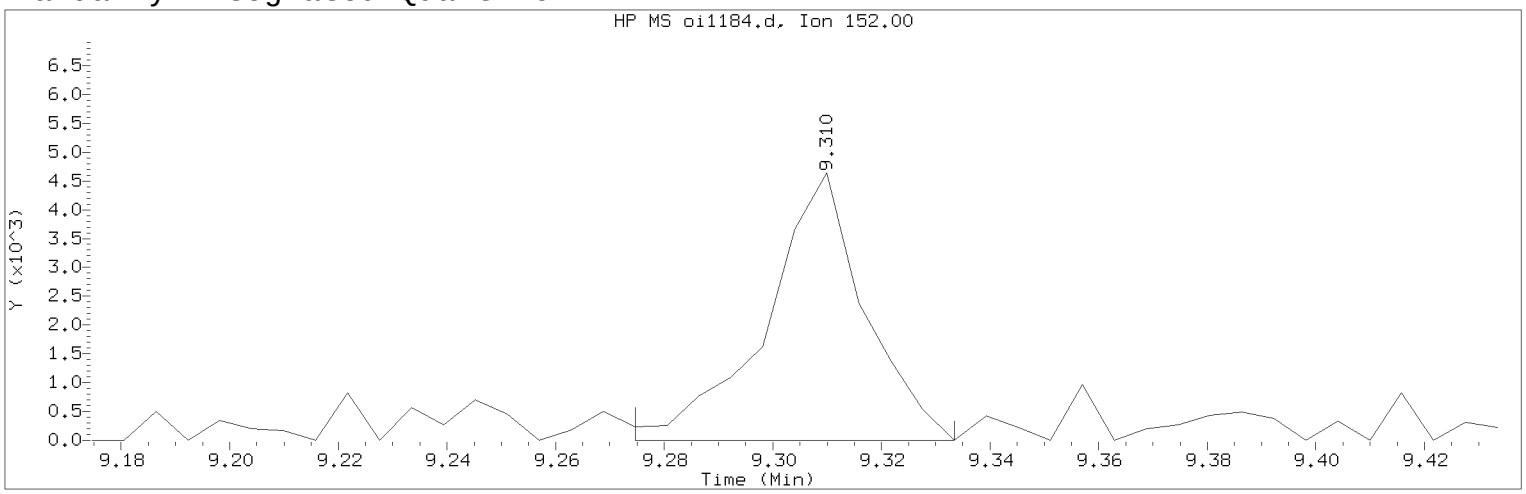
Compound Number : 109
Compound Name : Acenaphthylene
Scan Number : 1229
Retention Time (minutes) : 9.310
Relative Retention Time :-0.00000
Quant Ion : 152.00
Area (flag) : 5853M
On-column Amount (ng/ul) : 0.1327

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

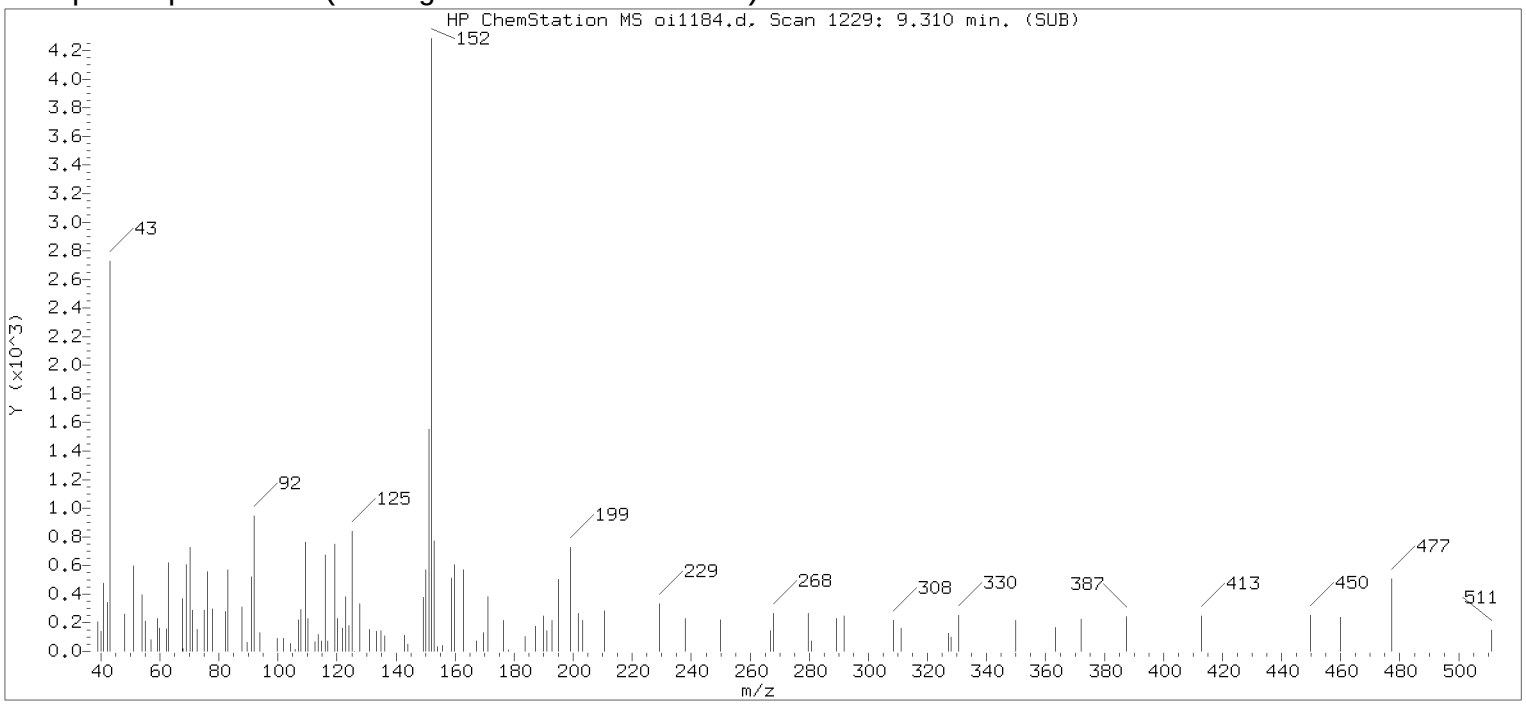
Compound Number : 109
Compound Name : Acenaphthylene
Scan Number : 1229
Retention Time (minutes) : 9.310
Quant Ion : 152.00
Area (flag) : 5853M
On-column Amount (ng/ul) : 0.1327
Integration start scan : 1222 Integration stop scan: 1232
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

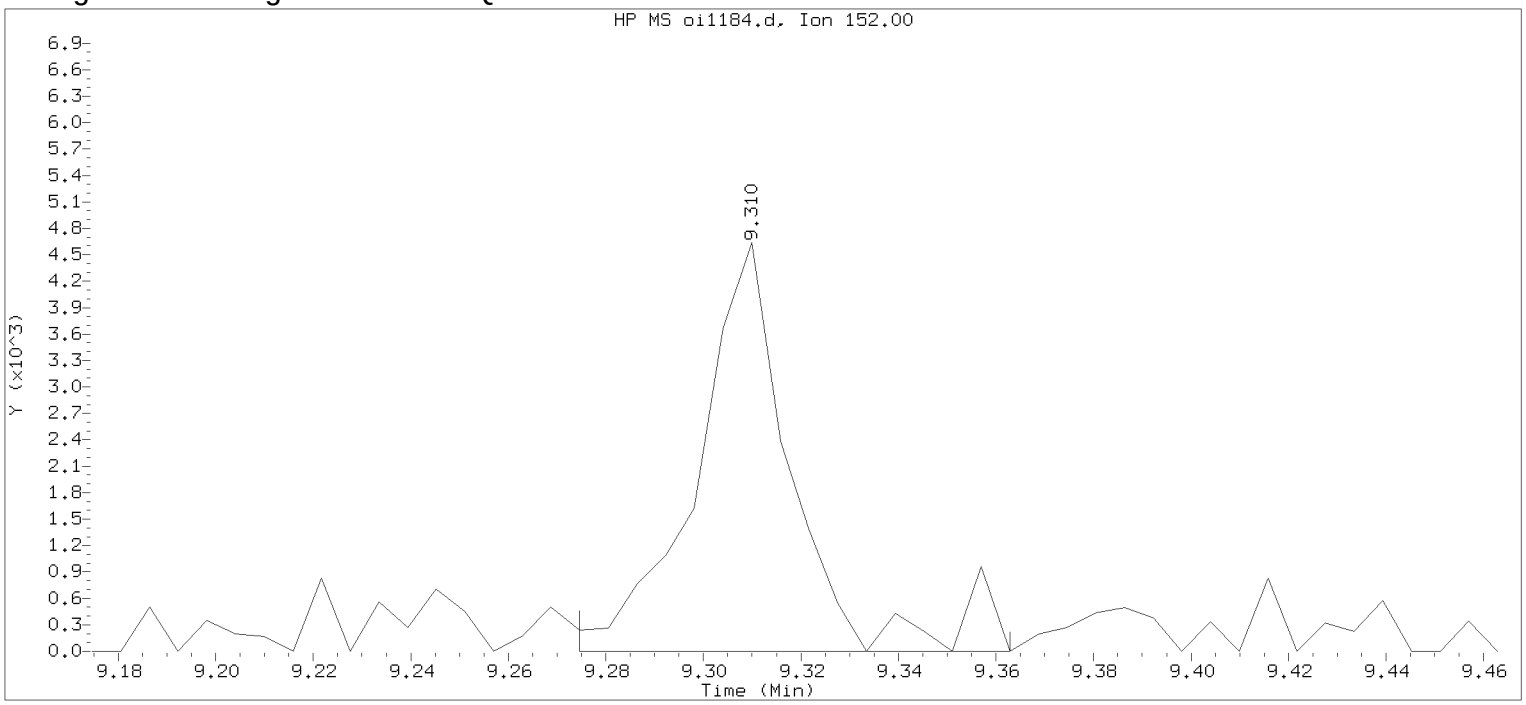
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

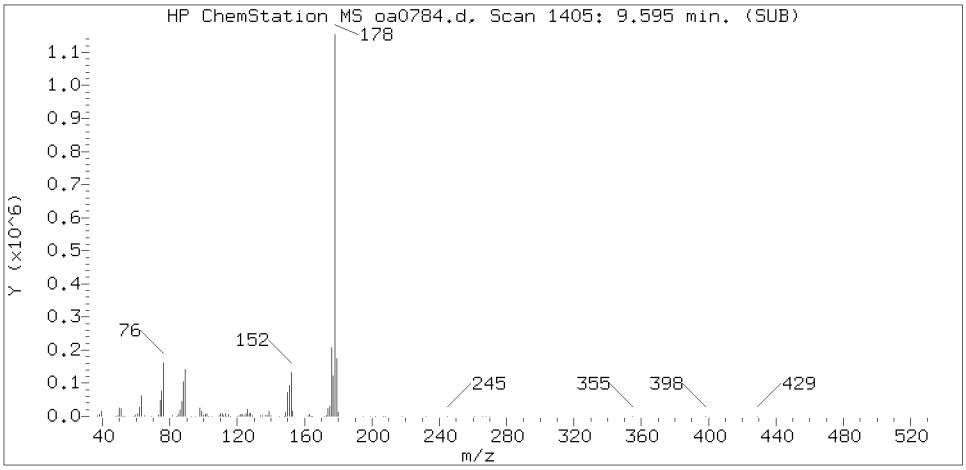
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 06:29 Automation

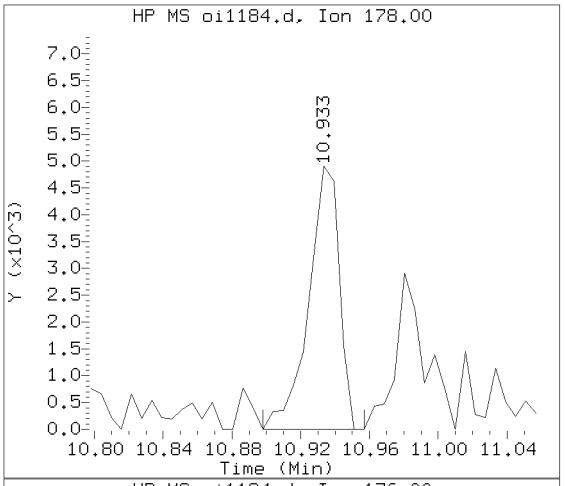
Sample Name: PS483 Lab Sample ID: 8057361

Compound Number : 109
Compound Name : Acenaphthylene
Scan Number : 1229
Retention Time (minutes) : 9.310
Quant Ion : 152.00
Area : 6382
On-column Amount (ng/ul) : 0.1447
Integration start scan : 1222 Integration stop scan: 1237
Y at integration start : 0 Y at integration end: 0

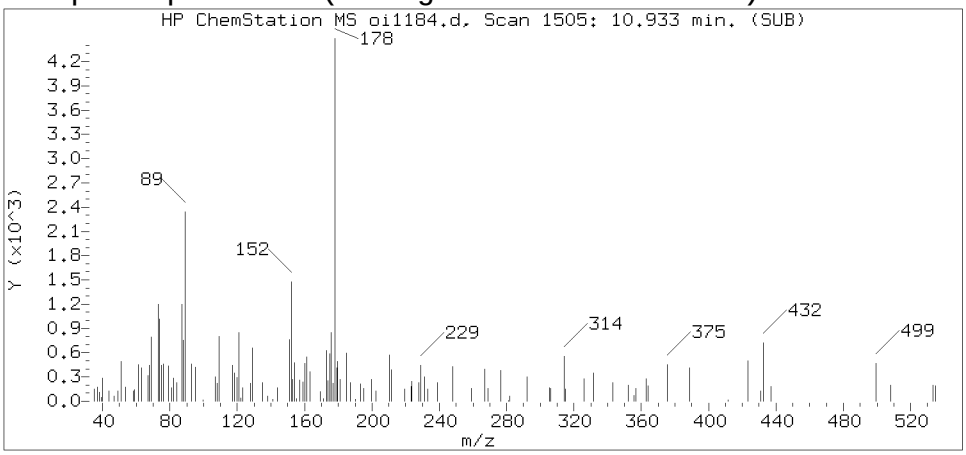
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: LMH0253

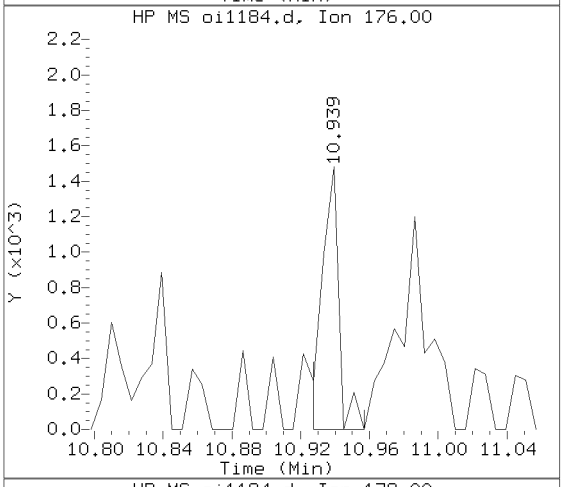
Reference Standard Spectrum for Phenanthrene



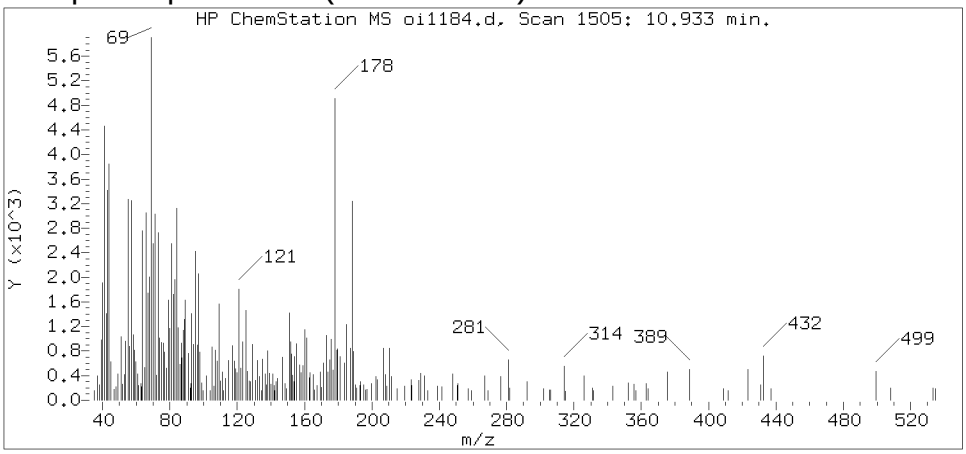


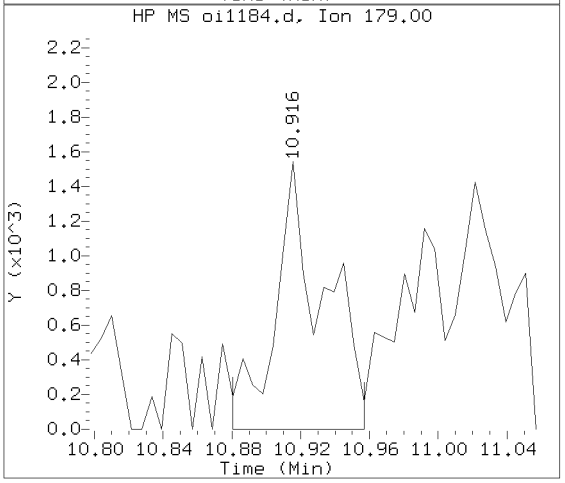
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

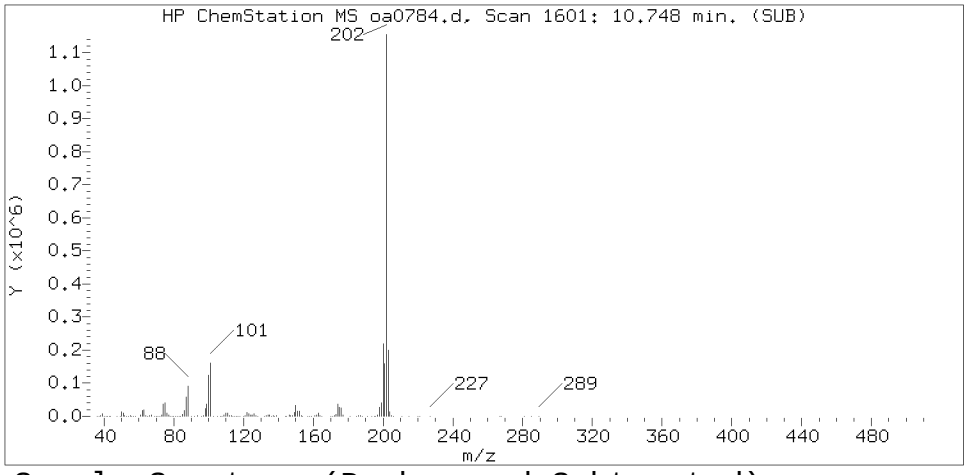
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

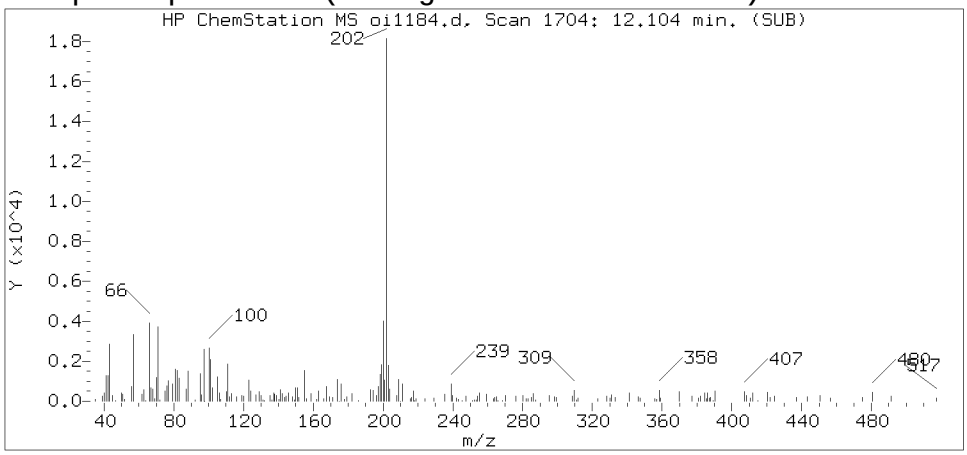
Compound Number : 155
Compound Name : Phenanthrene
Scan Number : 1505
Retention Time (minutes) : 10.933
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 6070
On-column Amount (ng/ul) : 0.1247

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

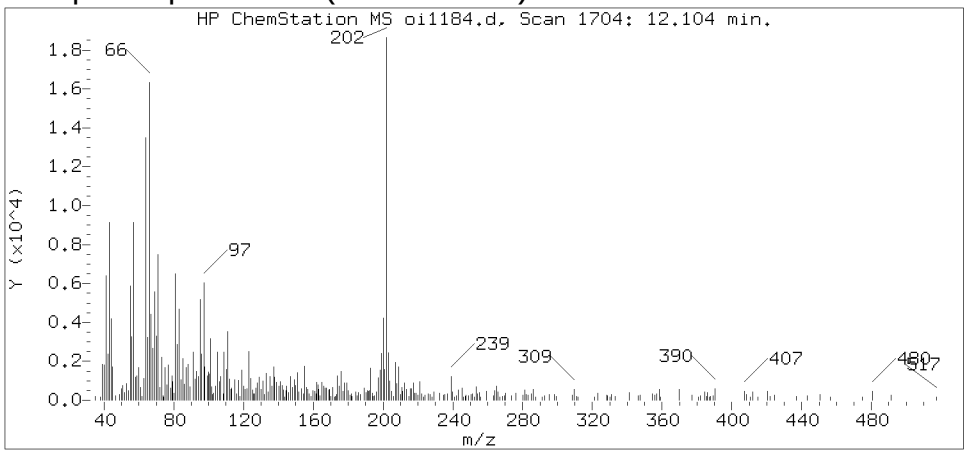
Reference Standard Spectrum for Fluoranthene

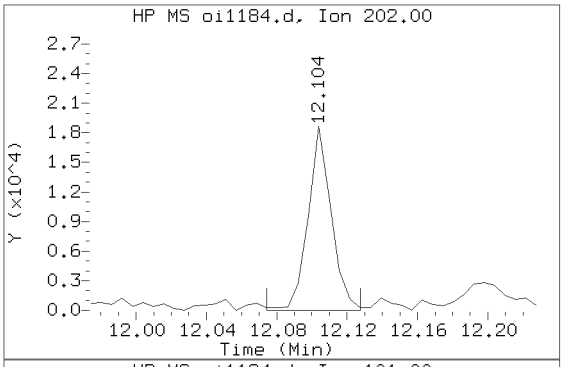


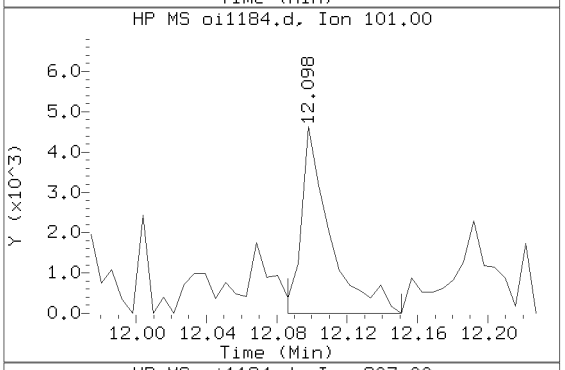
Sample Spectrum (Background Subtracted)

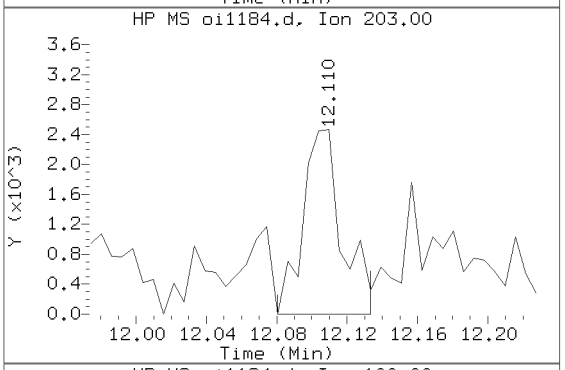


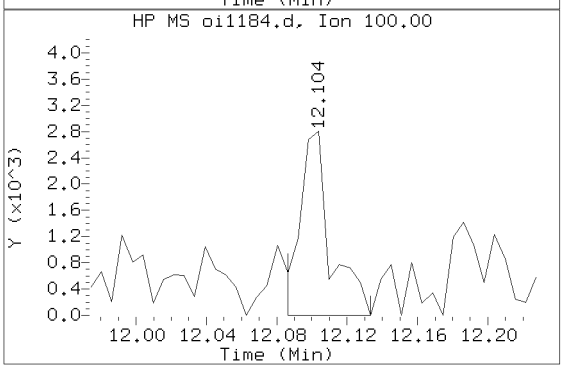
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

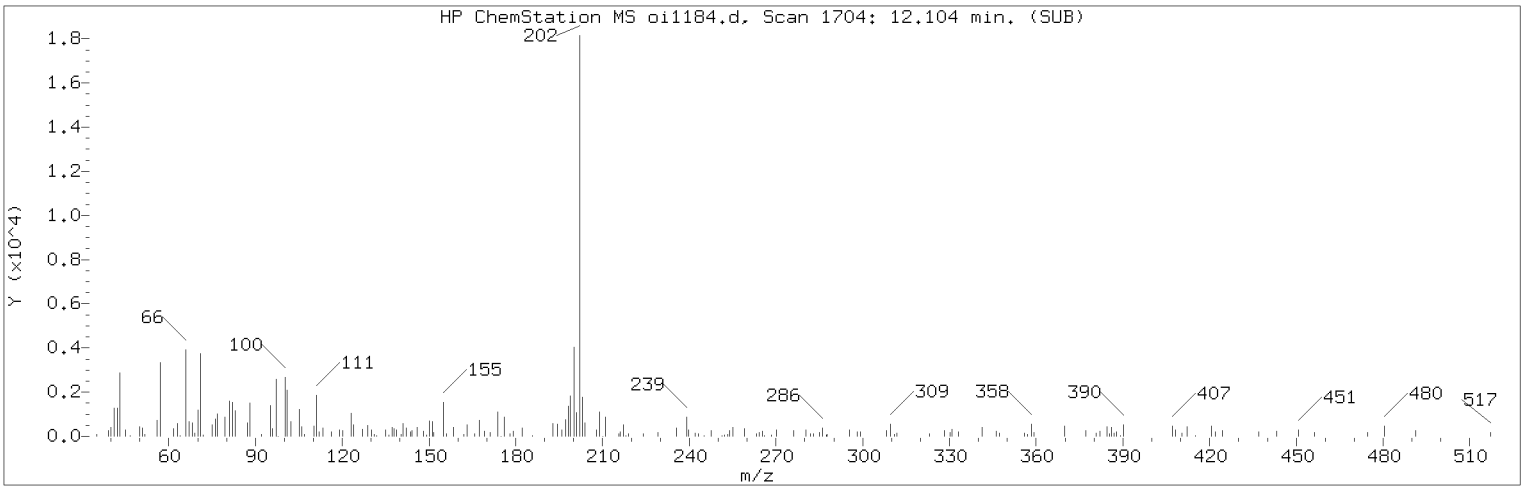
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

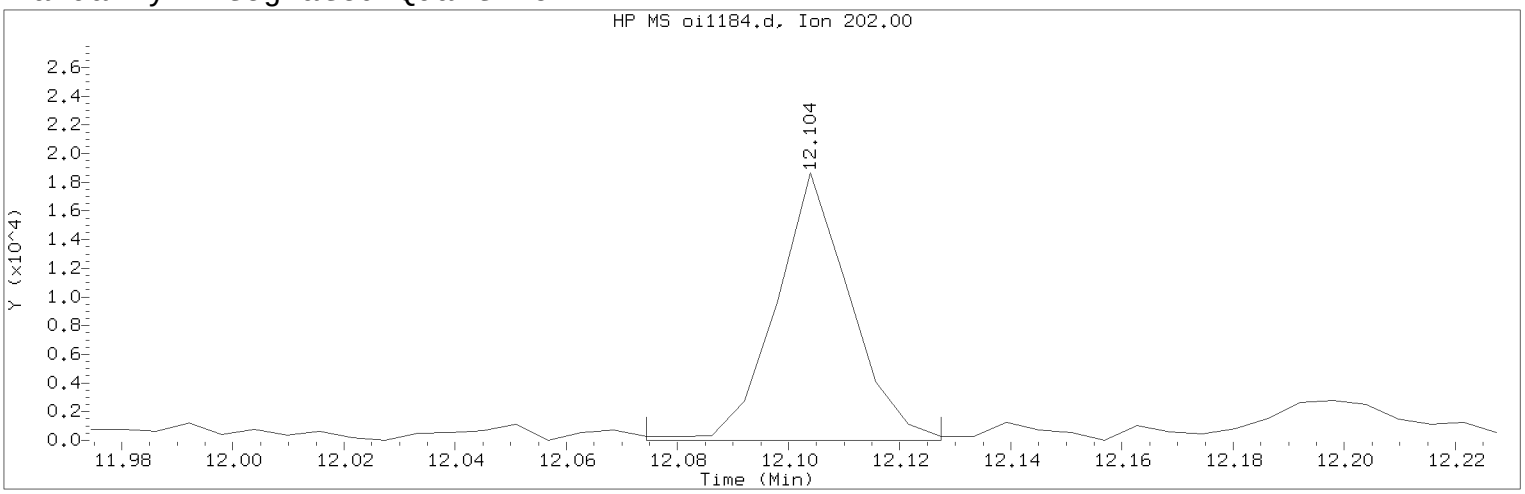
Compound Number	: 173
Compound Name	: Fluoranthene
Scan Number	: 1704
Retention Time (minutes)	: 12.104
Relative Retention Time	:-0.00054
Quant Ion	: 202.00
Area (flag)	: 17219M
On-column Amount (ng/ul)	: 0.3254

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

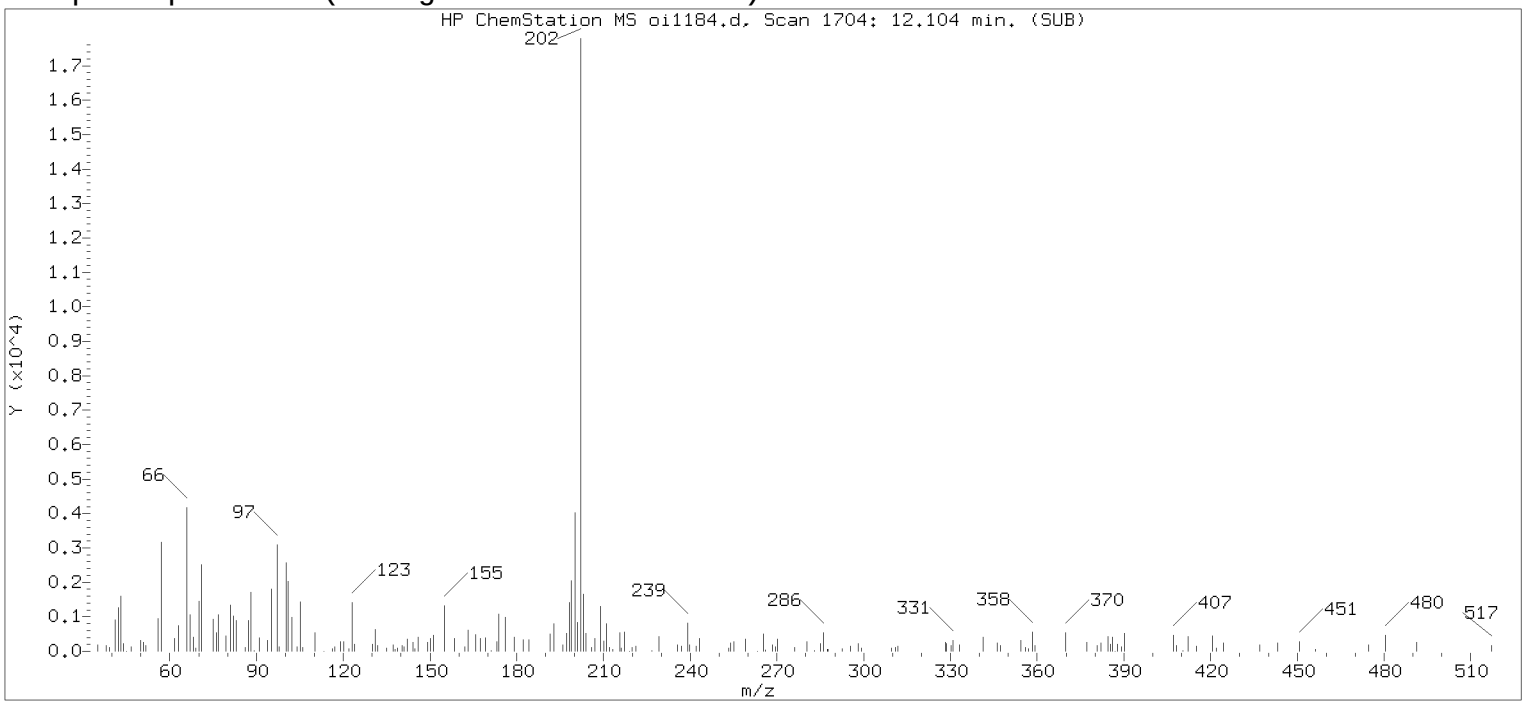
Compound Number : 173
Compound Name : Fluoranthene
Scan Number : 1704
Retention Time (minutes) : 12.104
Quant Ion : 202.00
Area (flag) : 17219M
On-column Amount (ng/ul) : 0.3254
Integration start scan : 1698 Integration stop scan: 1707
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

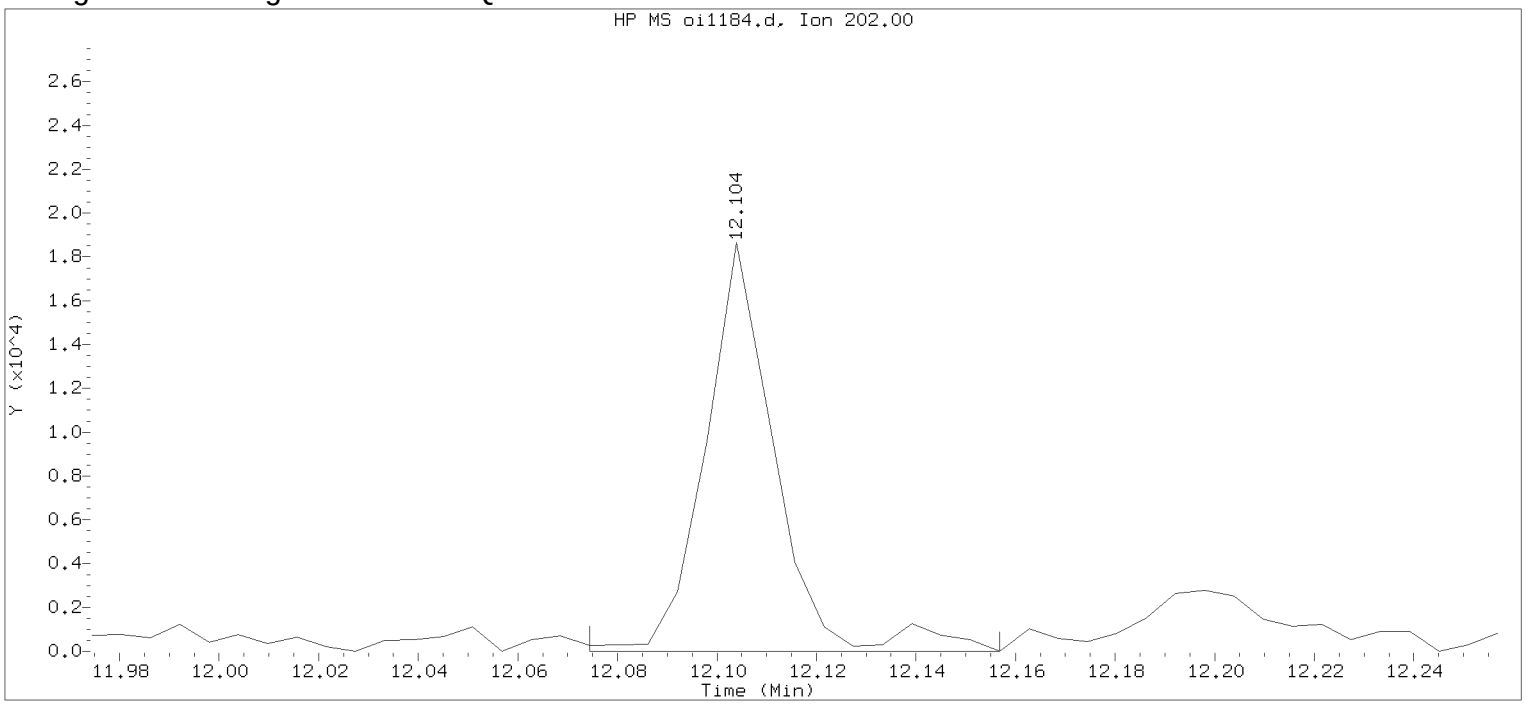
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

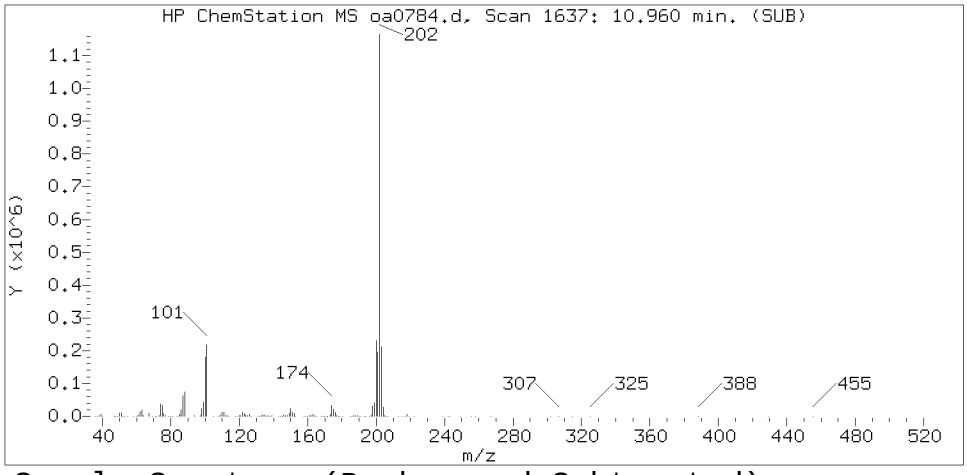
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 06:29 Automation

Sample Name: PS483 Lab Sample ID: 8057361

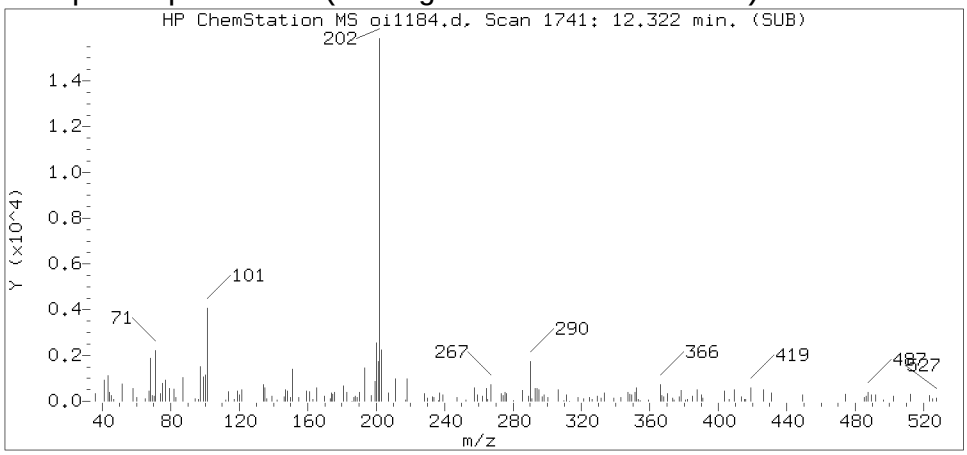
Compound Number : 173
Compound Name : Fluoranthene
Scan Number : 1704
Retention Time (minutes) : 12.104
Quant Ion : 202.00
Area : 18162
On-column Amount (ng/ul) : 0.3433
Integration start scan : 1698 Integration stop scan: 1712
Y at integration start : 0 Y at integration end: 0

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: LMH0256

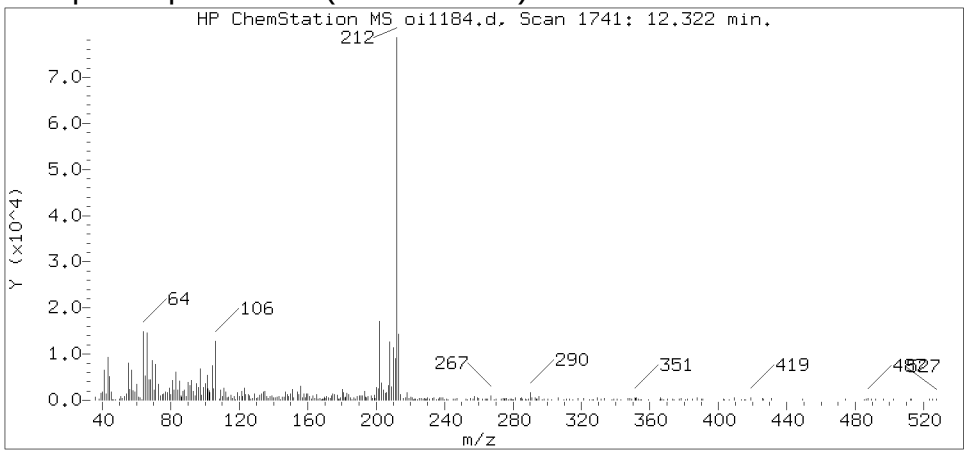
Reference Standard Spectrum for Pyrene

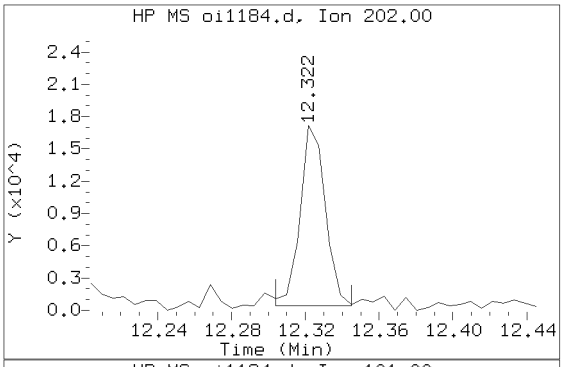


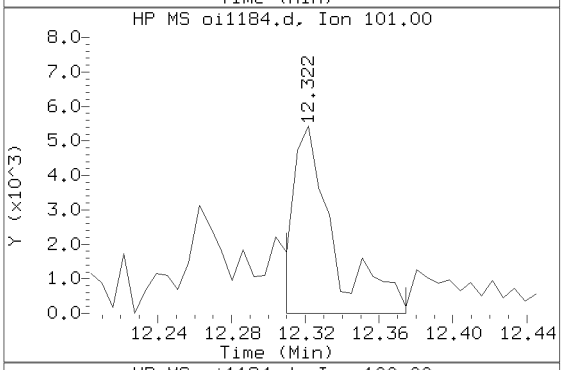
Sample Spectrum (Background Subtracted)

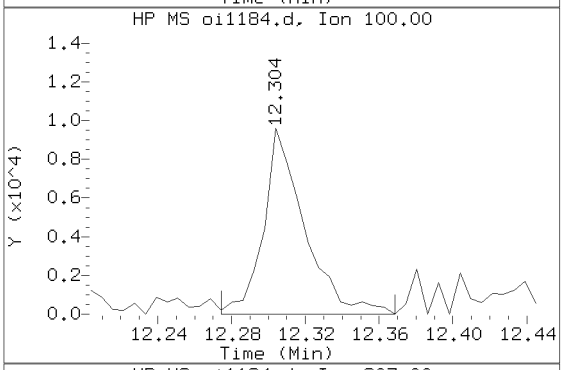


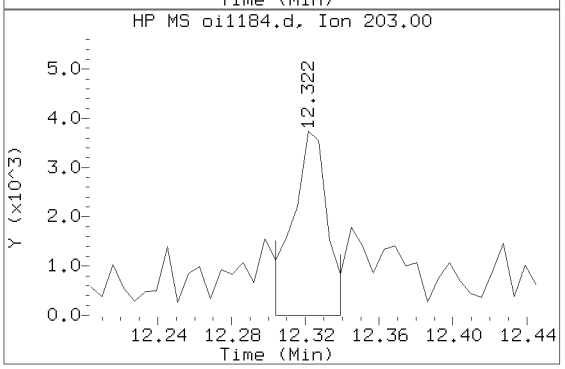
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

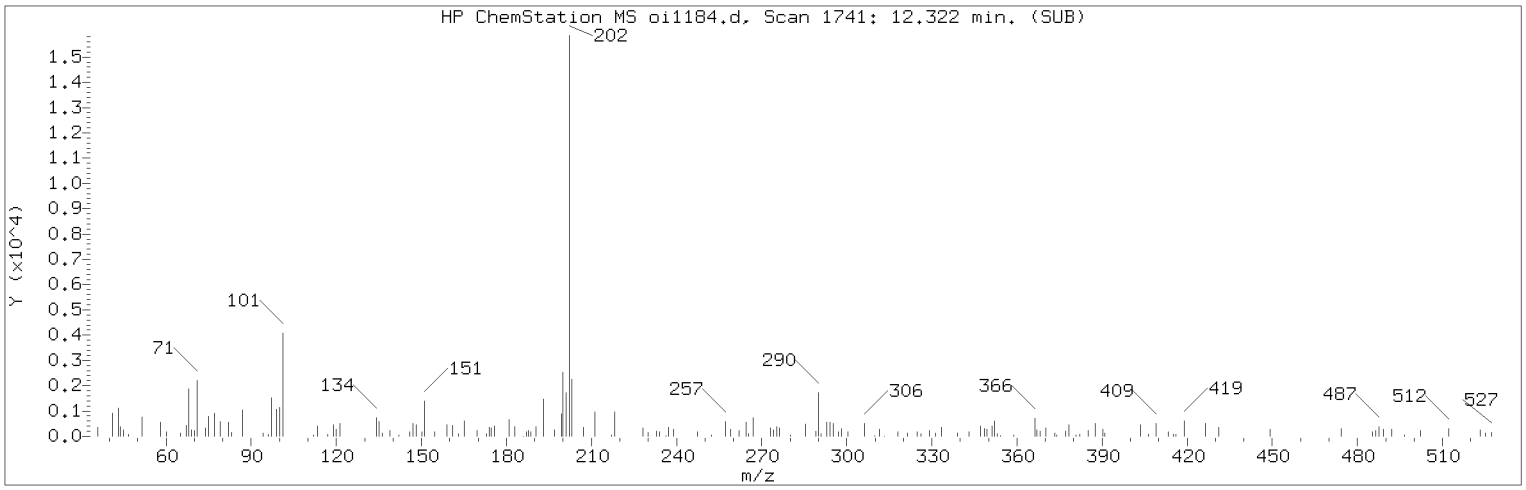
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

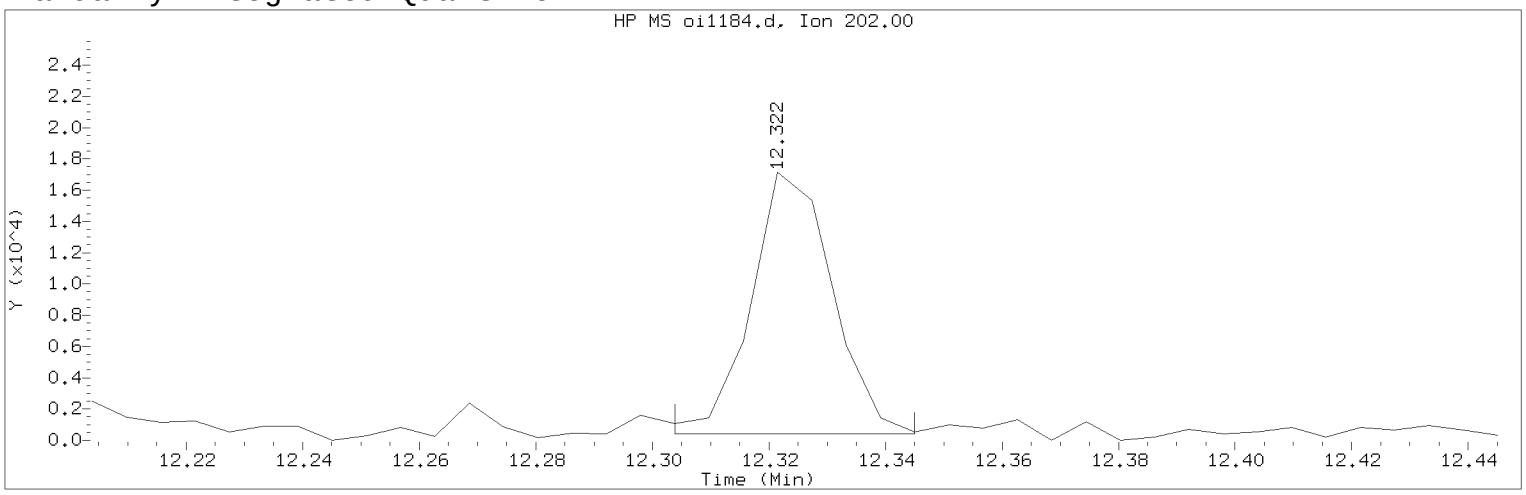
Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1741
Retention Time (minutes)	: 12.322
Relative Retention Time	: 0.00048
Quant Ion	: 202.00
Area (flag)	: 16260M
On-column Amount (ng/ul)	: 0.3293

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

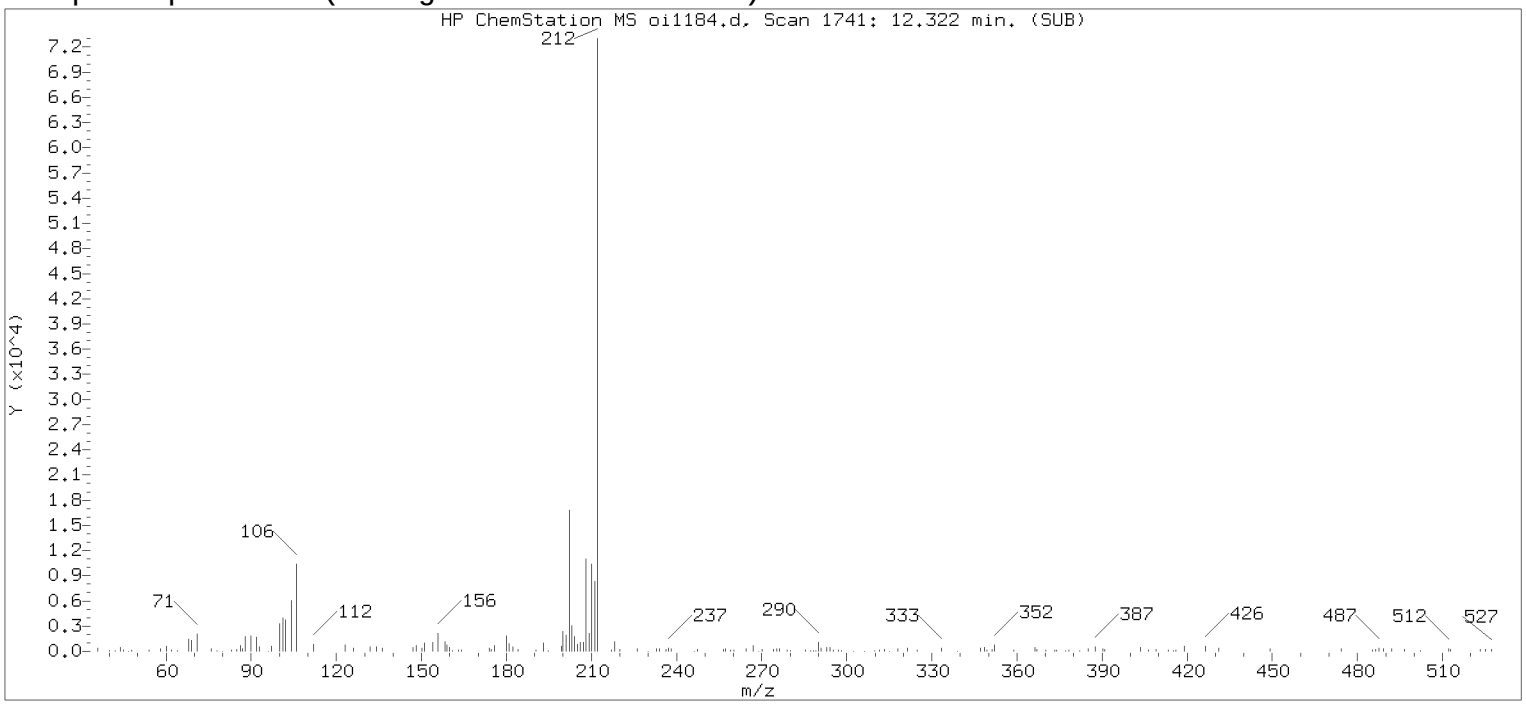
Compound Number : 177
Compound Name : Pyrene
Scan Number : 1741
Retention Time (minutes) : 12.322
Quant Ion : 202.00
Area (flag) : 16260M
On-column Amount (ng/ul) : 0.3293
Integration start scan : 1737 Integration stop scan: 1744
Y at integration start : 420 Y at integration end: 420

Reason for manual integration: improper integration

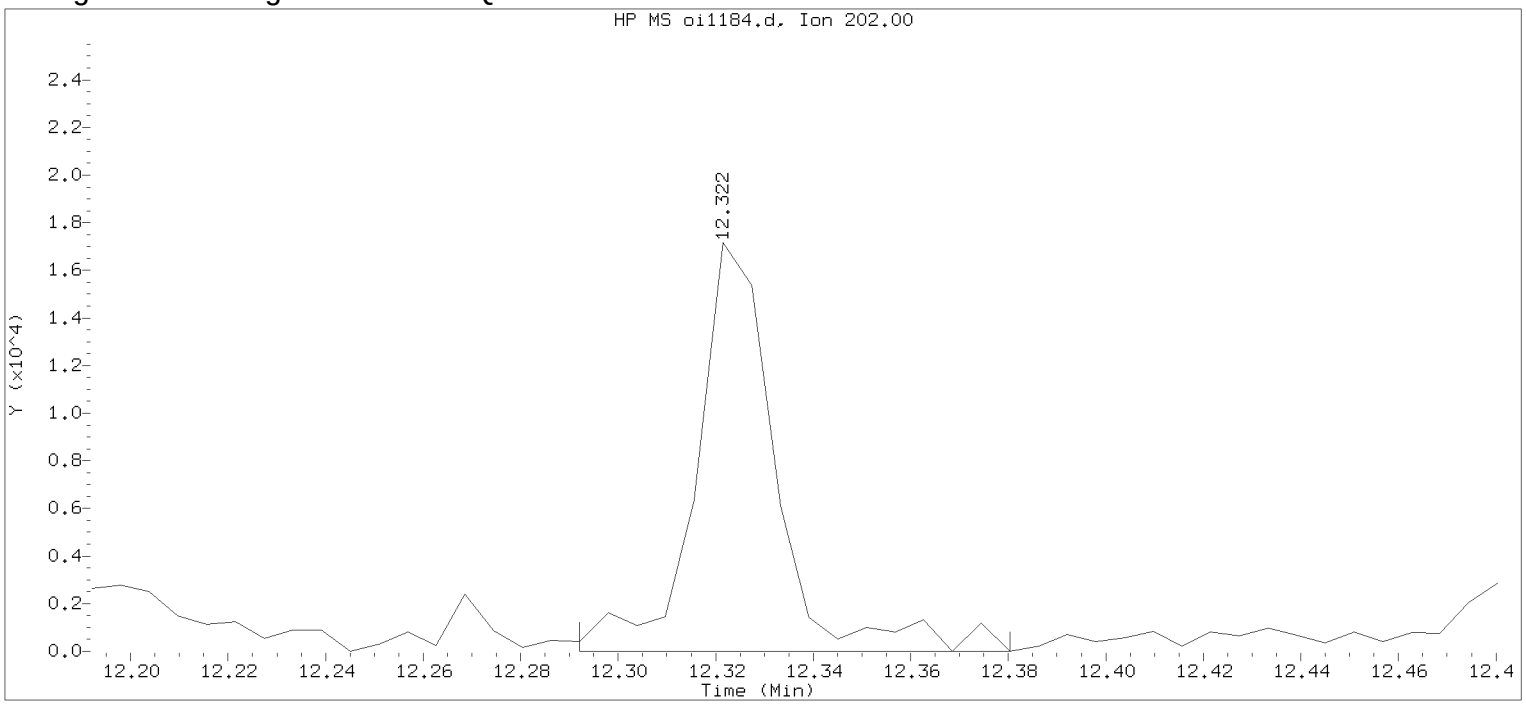
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

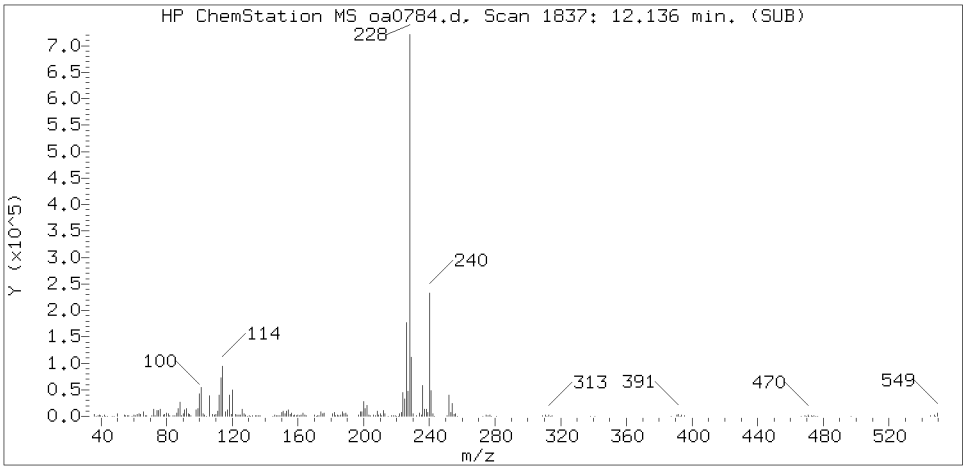
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 06:29 Automation

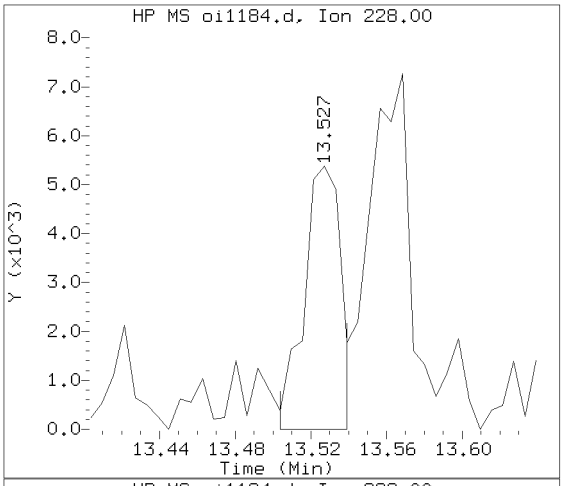
Sample Name: PS483 Lab Sample ID: 8057361

Compound Number	: 177		
Compound Name	: Pyrene		
Scan Number	: 1741		
Retention Time (minutes)	: 12.322		
Quant Ion	: 202.00		
Area	: 19604		
On-column Amount (ng/ul)	: 0.3970		
Integration start scan	: 1735	Integration stop scan:	1750
Y at integration start	: 0	Y at integration end:	0

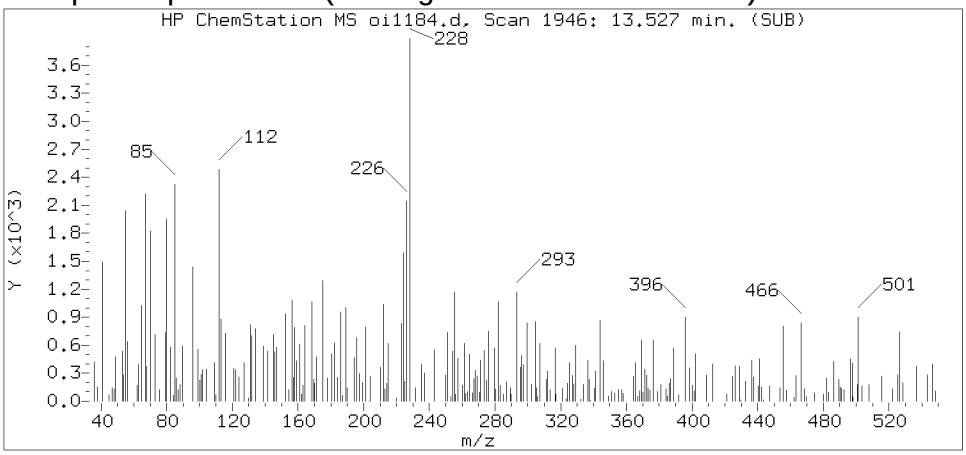
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: LMH0256

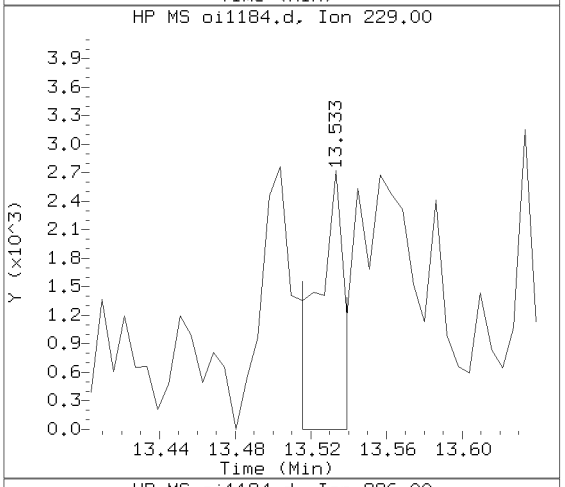
Reference Standard Spectrum for Benzo(a)anthracene



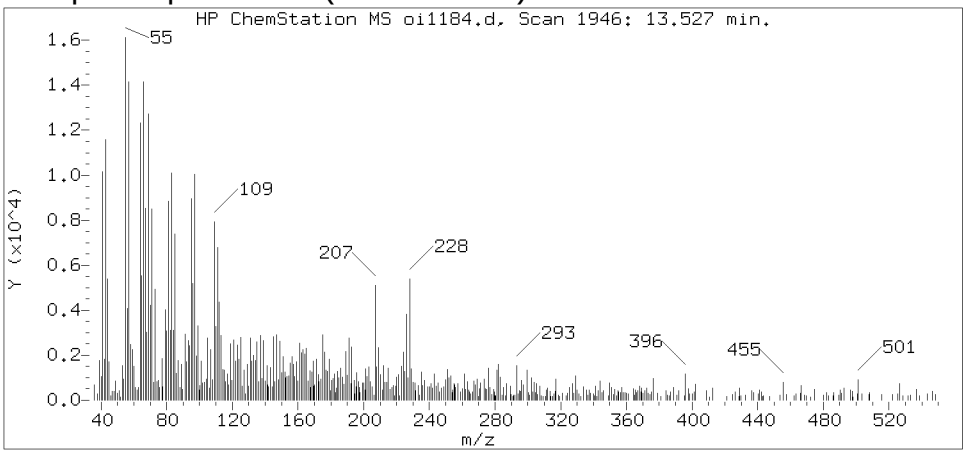


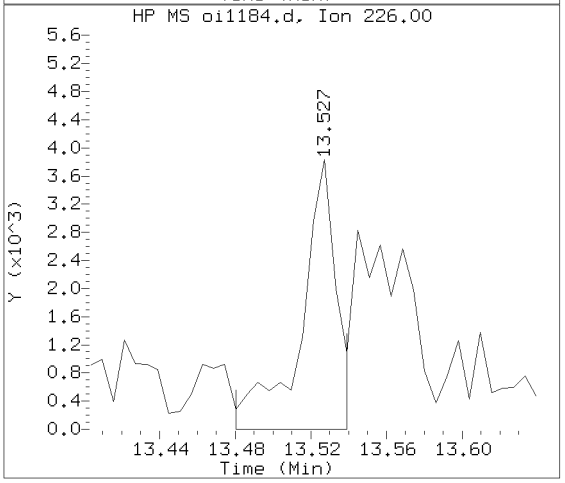
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

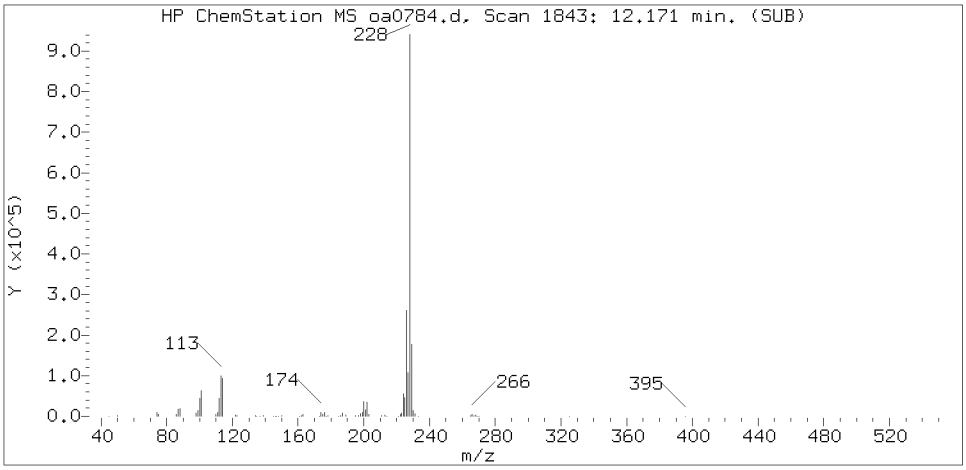
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

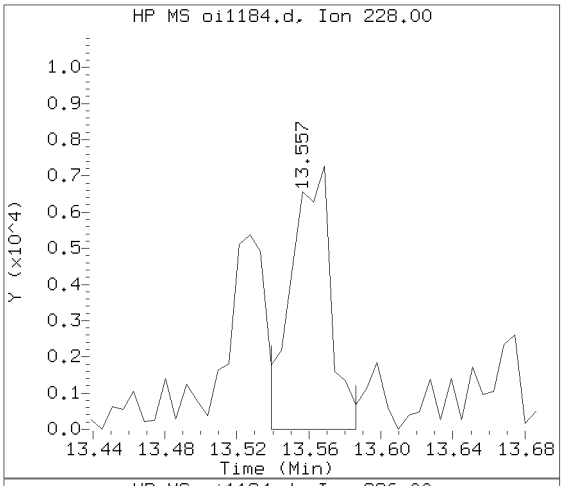
Sample Name: PS483 Lab Sample ID: 8057361

Compound Number	: 195
Compound Name	: Benzo(a)anthracene
Scan Number	: 1946
Retention Time (minutes)	: 13.527
Relative Retention Time	: 0.00053
Quant Ion	: 228.00
Area (flag)	: 7030
On-column Amount (ng/ul)	: 0.1633

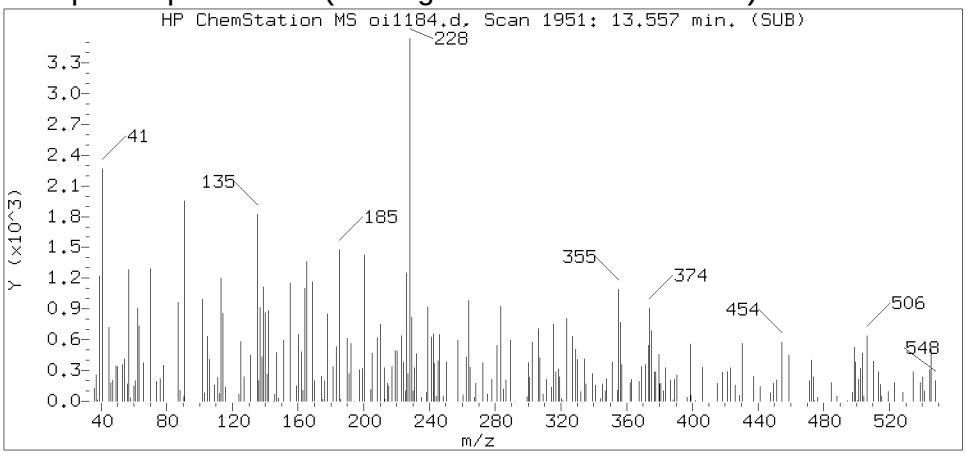
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

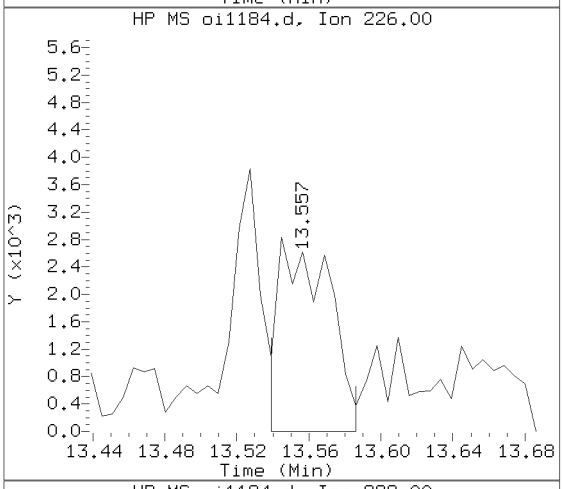
Reference Standard Spectrum for Chrysene



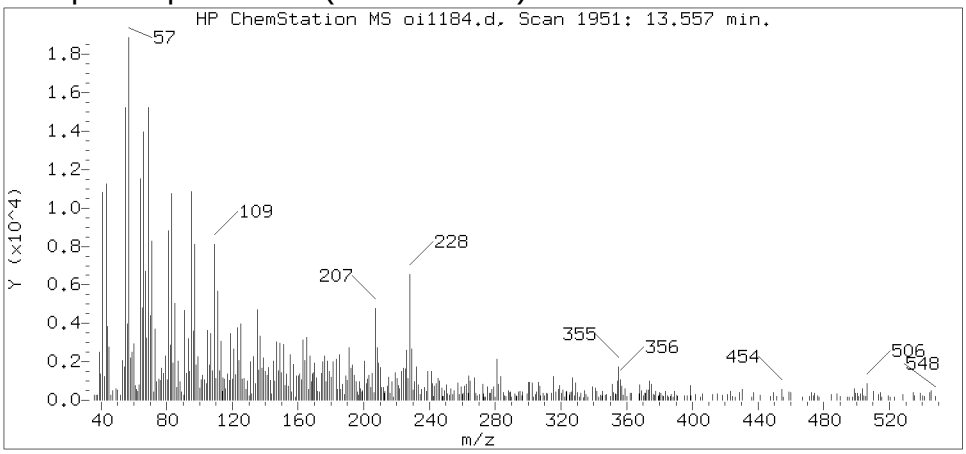


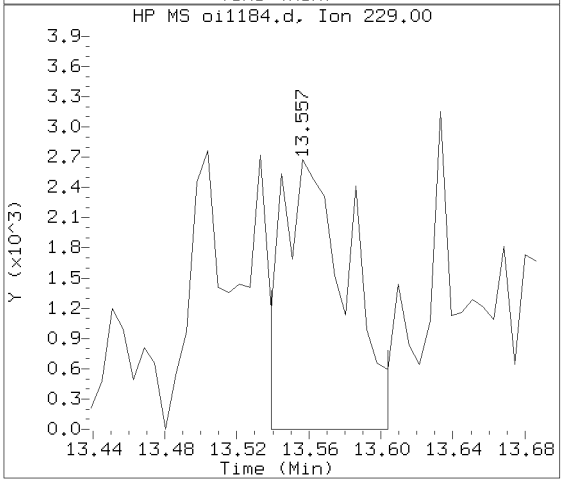
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

Compound Number	: 196
Compound Name	: Chrysene
Scan Number	: 1951
Retention Time (minutes)	: 13.557
Relative Retention Time	: 0.00101
Quant Ion	: 228.00
Area (flag)	: 10909
On-column Amount (ng/ul)	: 0.2660

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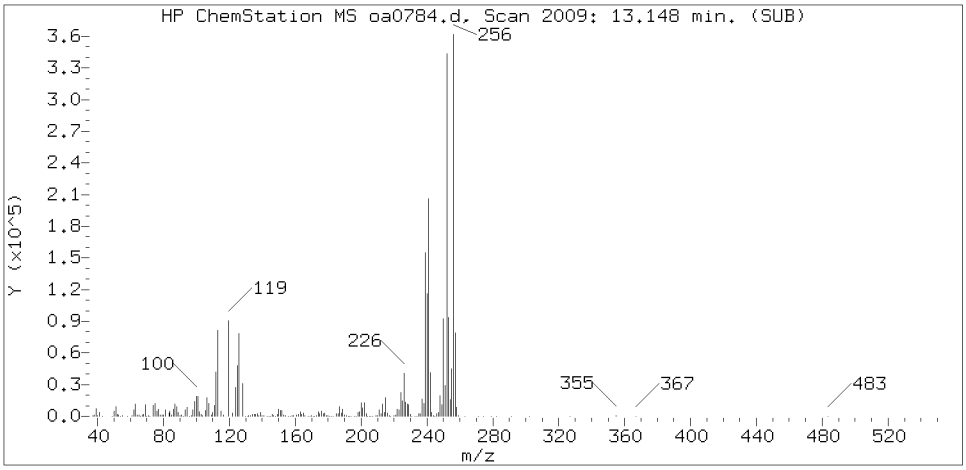
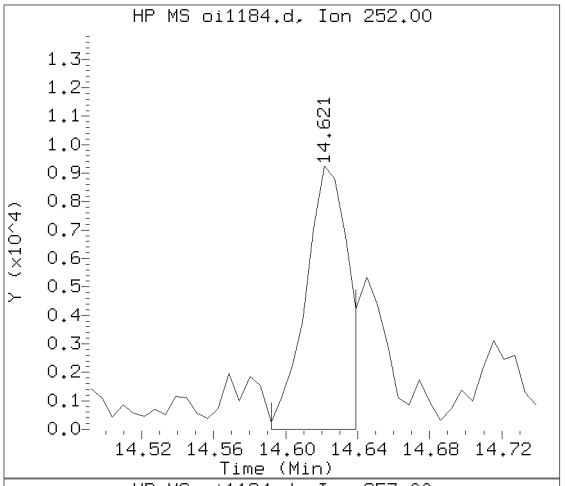
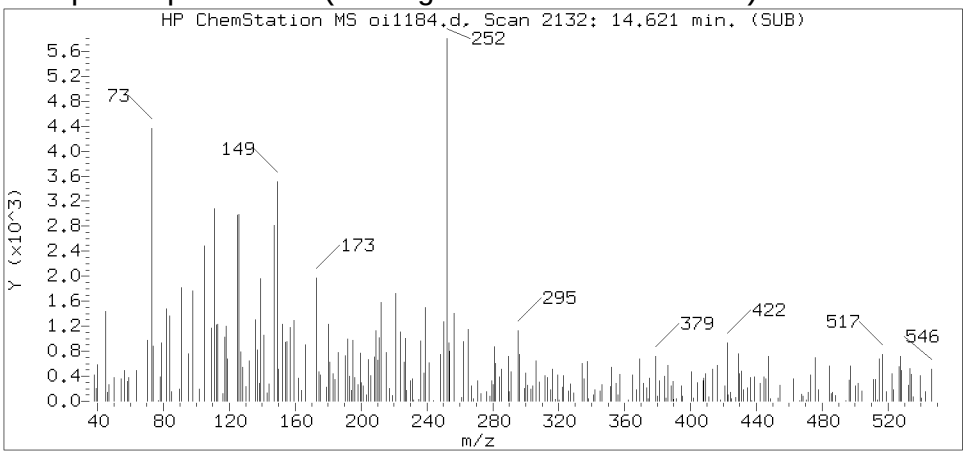
Target 3.5 esignature user ID: lmh00956

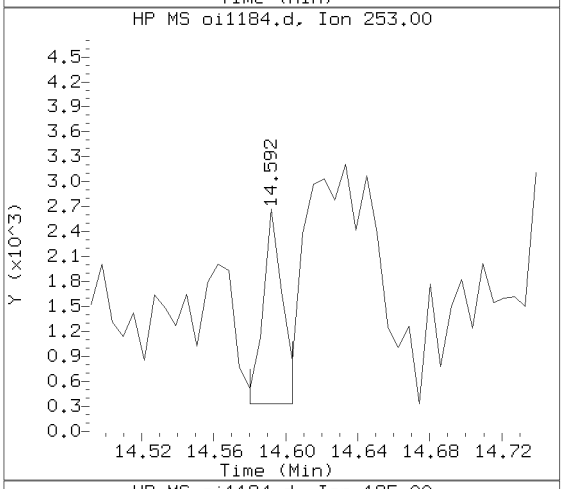
Reference Standard Spectrum for Benzo(b)fluoranthene



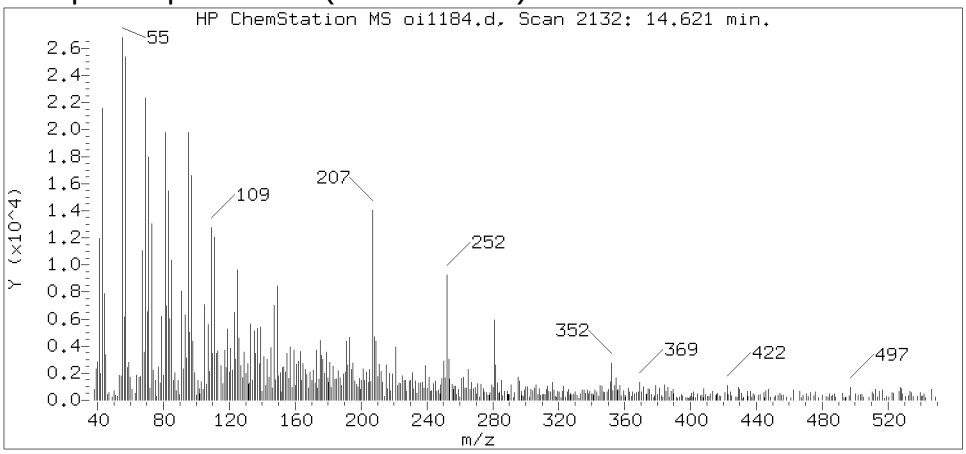


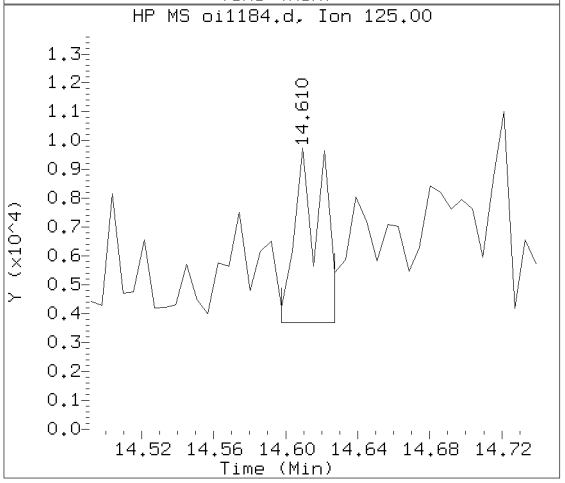
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

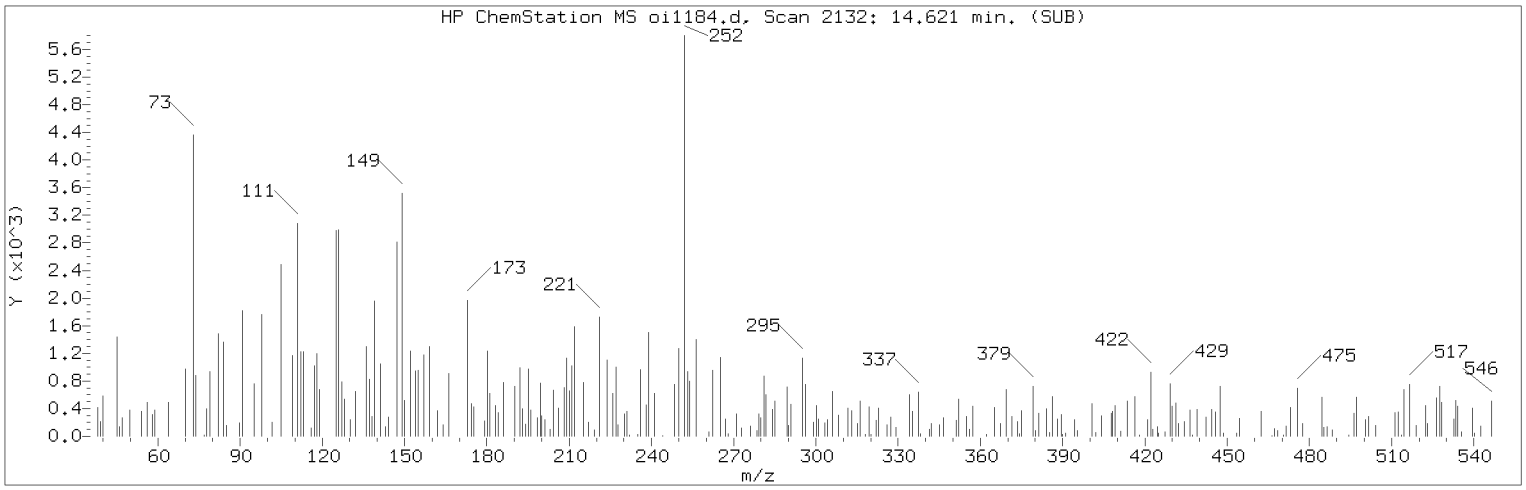
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

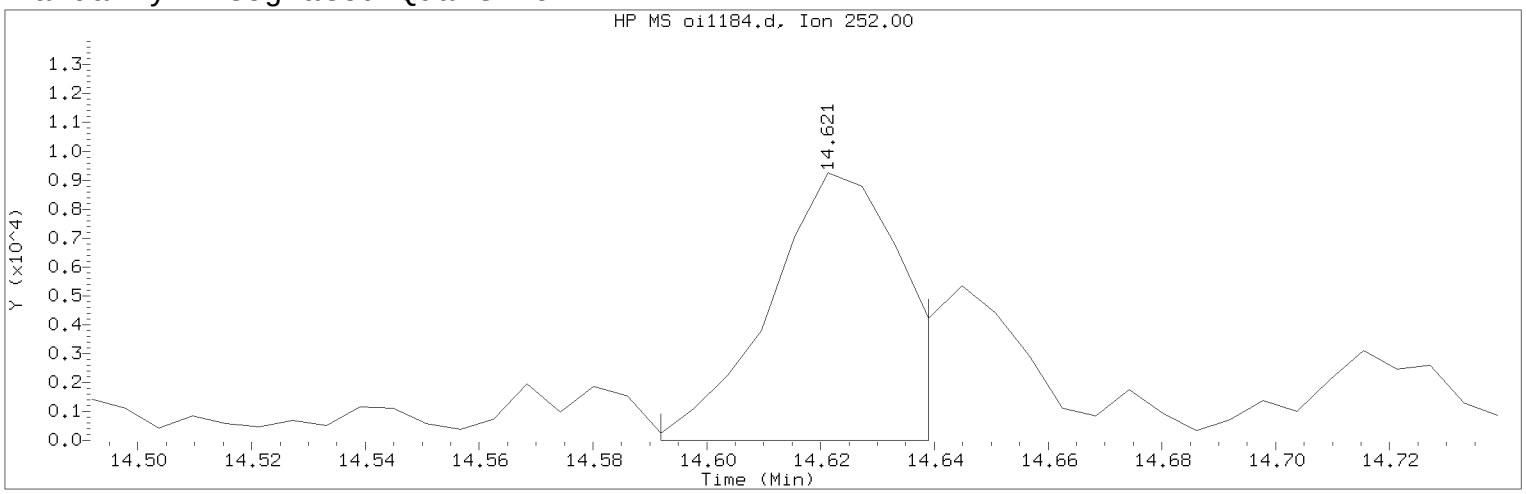
Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2132
Retention Time (minutes)	: 14.621
Relative Retention Time	: 0.00038
Quant Ion	: 252.00
Area (flag)	: 15345M
On-column Amount (ng/ul)	: 0.4112

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

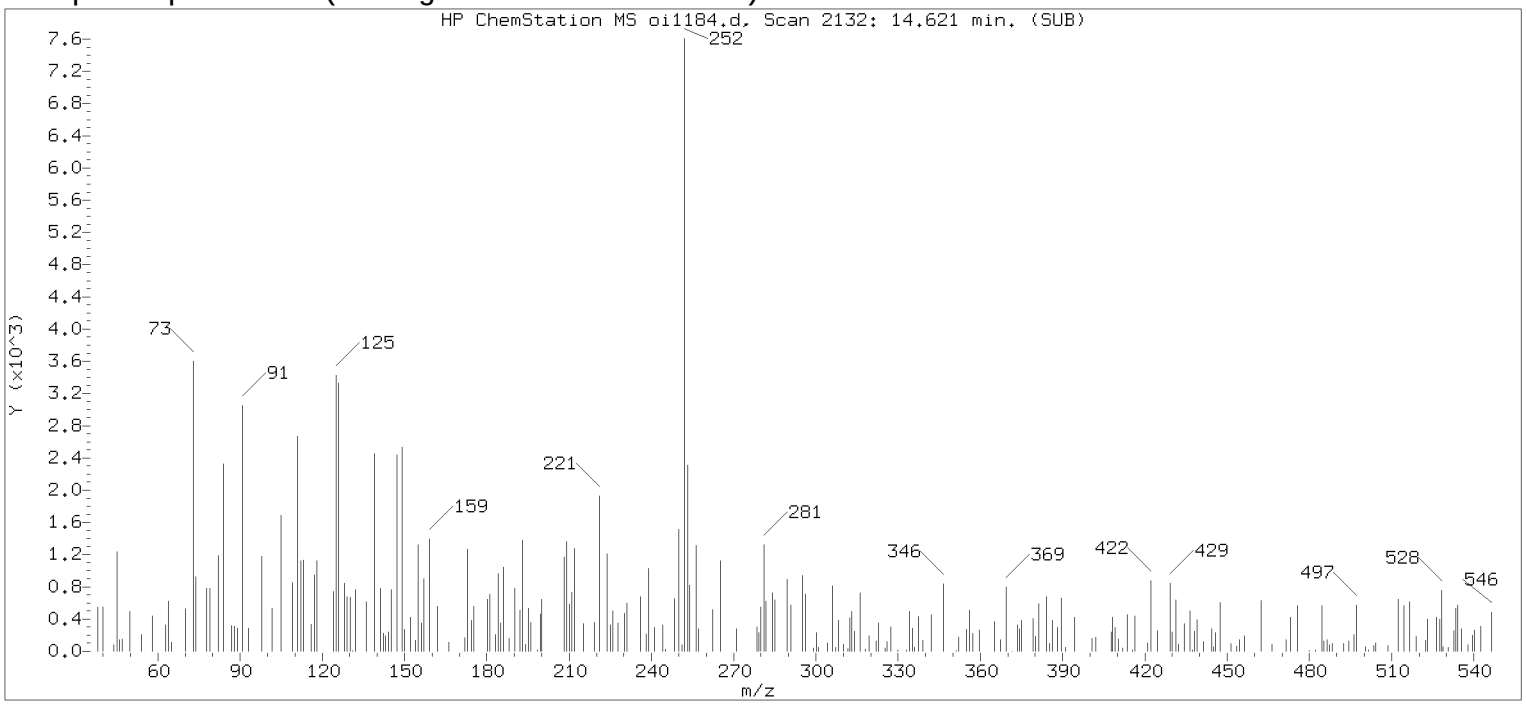
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2132
Retention Time (minutes) : 14.621
Quant Ion : 252.00
Area (flag) : 15345M
On-column Amount (ng/ul) : 0.4112
Integration start scan : 2126 Integration stop scan: 2134
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

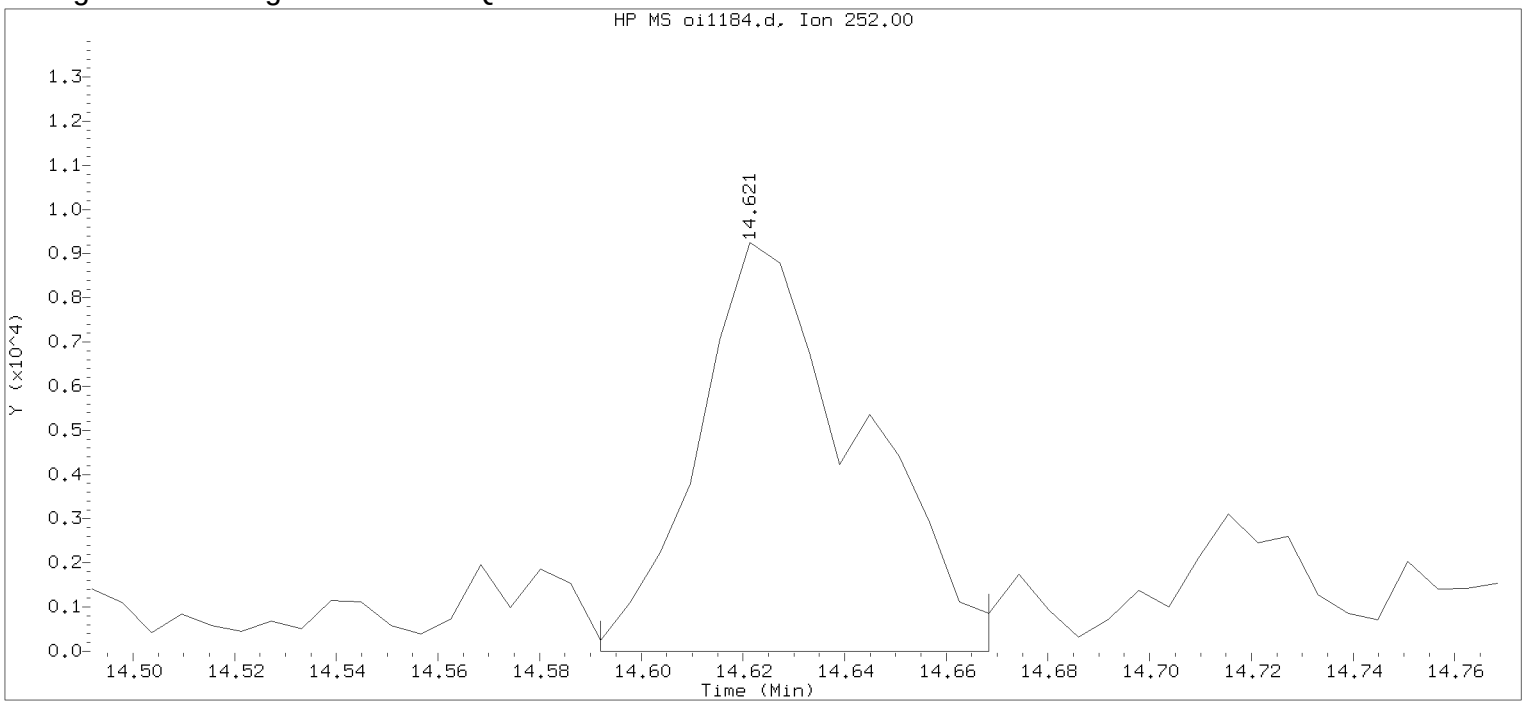
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

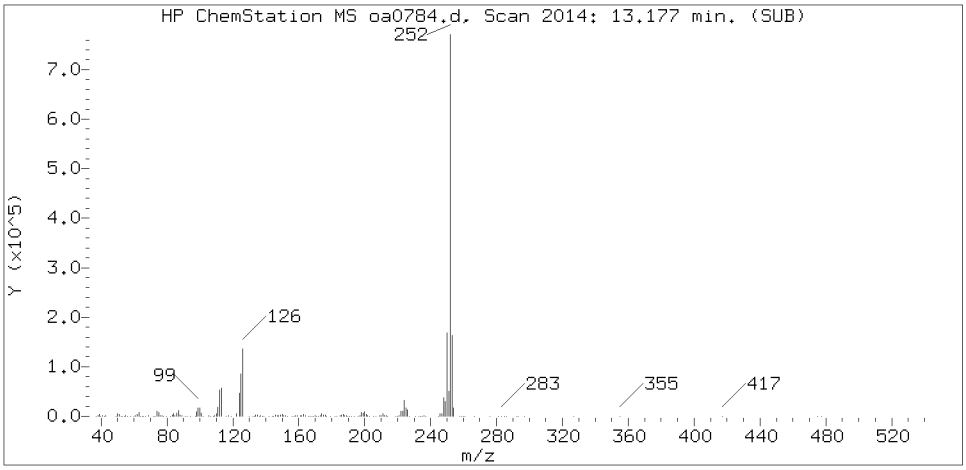
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 06:29 Automation

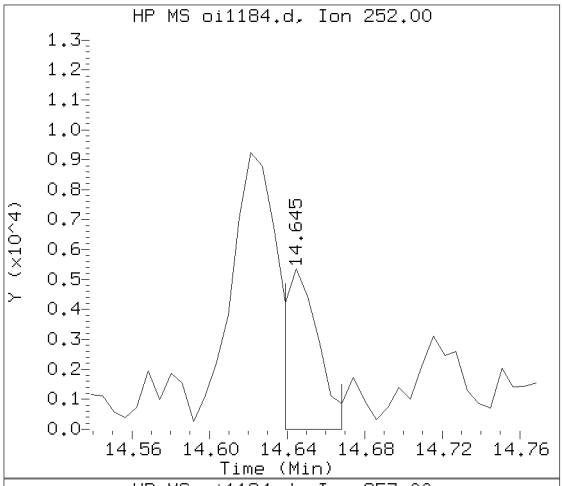
Sample Name: PS483 Lab Sample ID: 8057361

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2132		
Retention Time (minutes)	: 14.621		
Quant Ion	: 252.00		
Area	: 20328		
On-column Amount (ng/ul)	: 0.5448		
Integration start scan	: 2126	Integration stop scan:	2139
Y at integration start	: 0	Y at integration end:	0

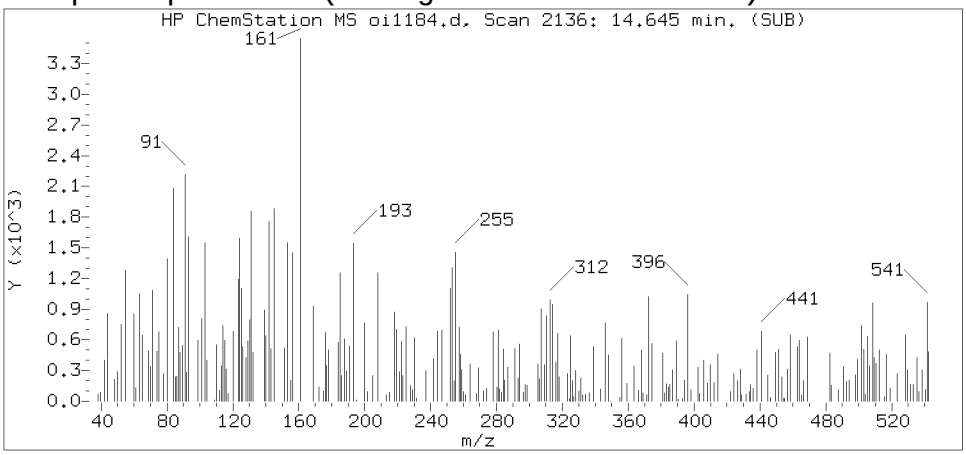
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: LMH0254

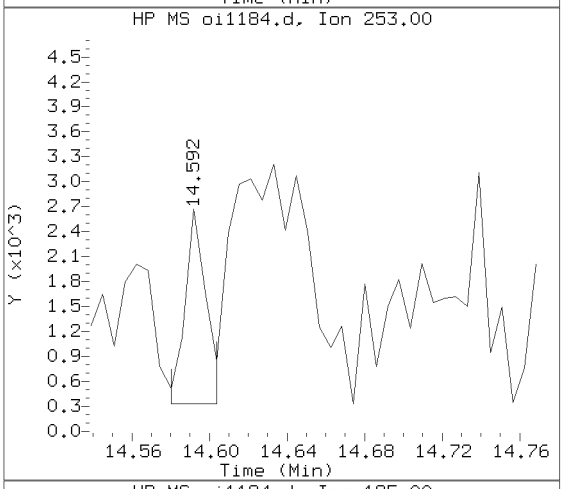
Reference Standard Spectrum for Benzo(k)fluoranthene



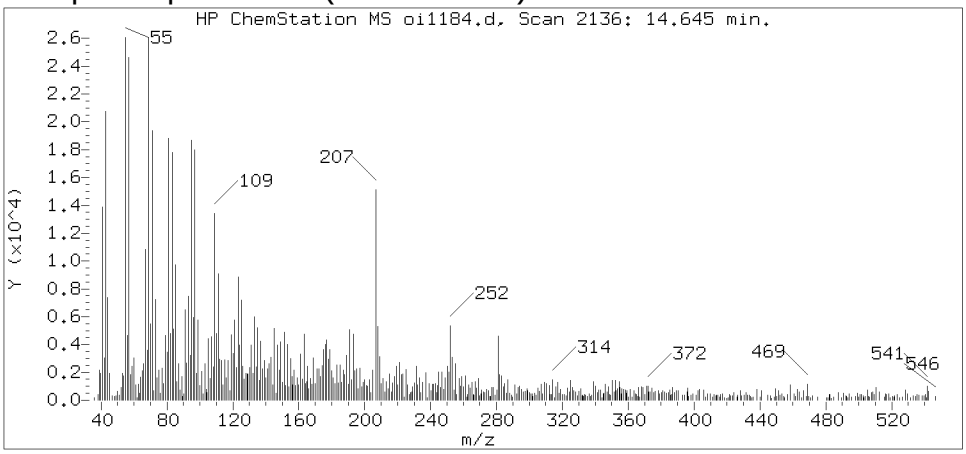


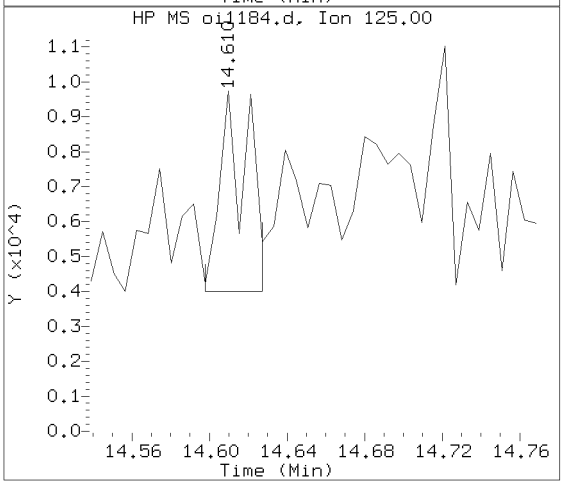
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

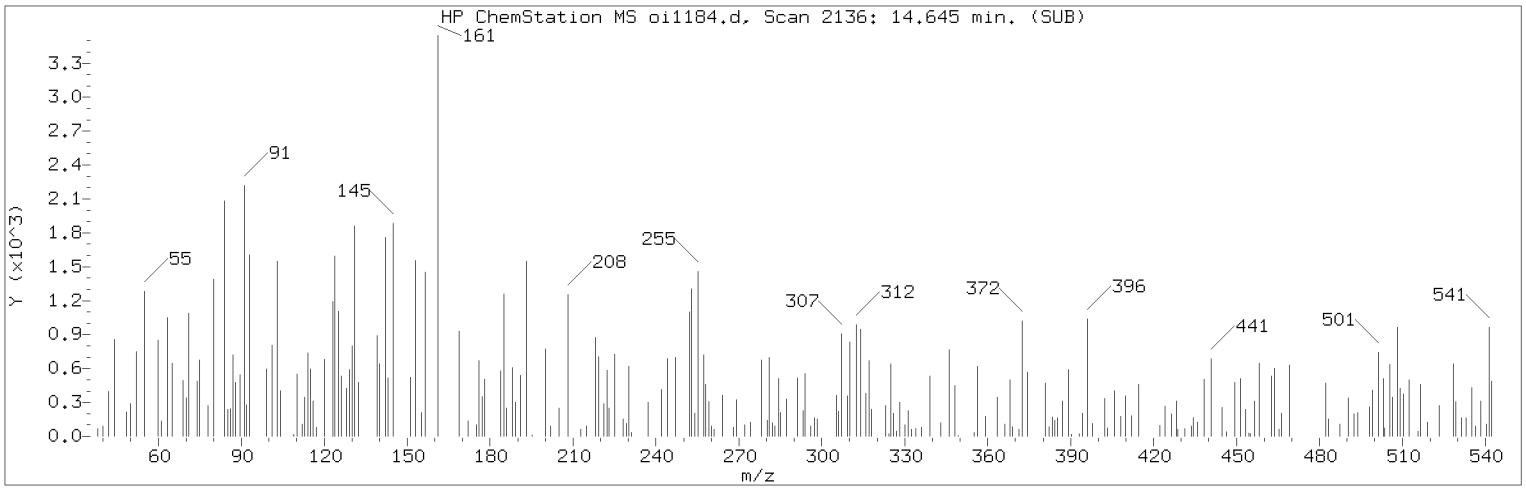
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

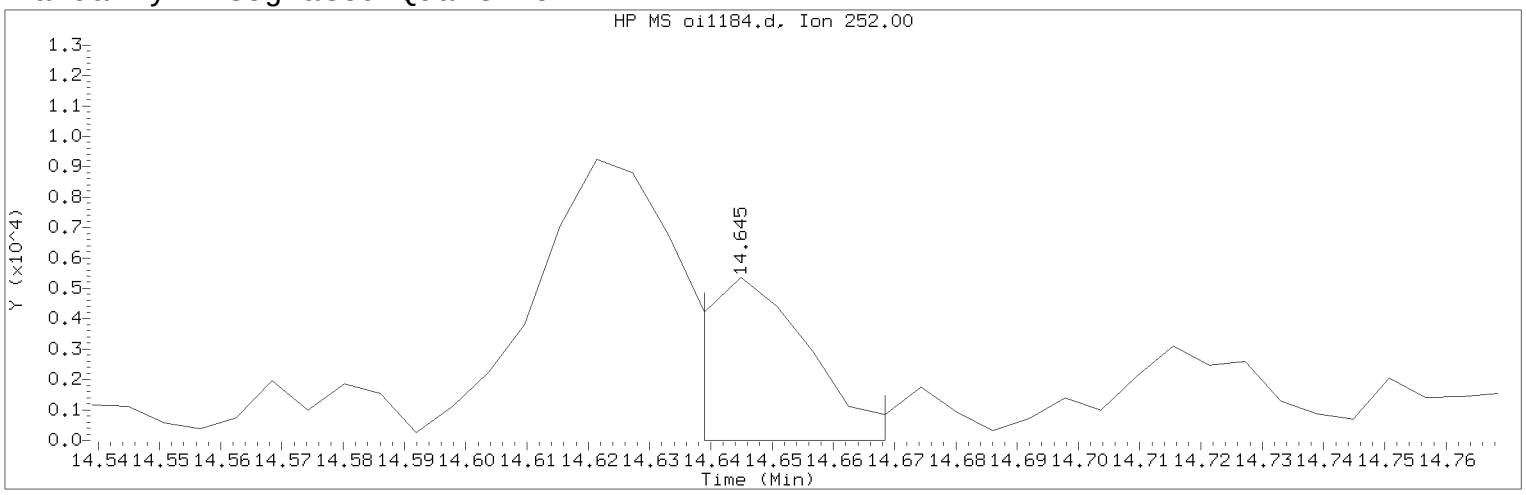
Compound Number	: 208
Compound Name	: Benzo(k)fluoranthene
Scan Number	: 2136
Retention Time (minutes)	: 14.645
Relative Retention Time	: 0.00038
Quant Ion	: 252.00
Area (flag)	: 6651M
On-column Amount (ng/ul)	: 0.1747

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

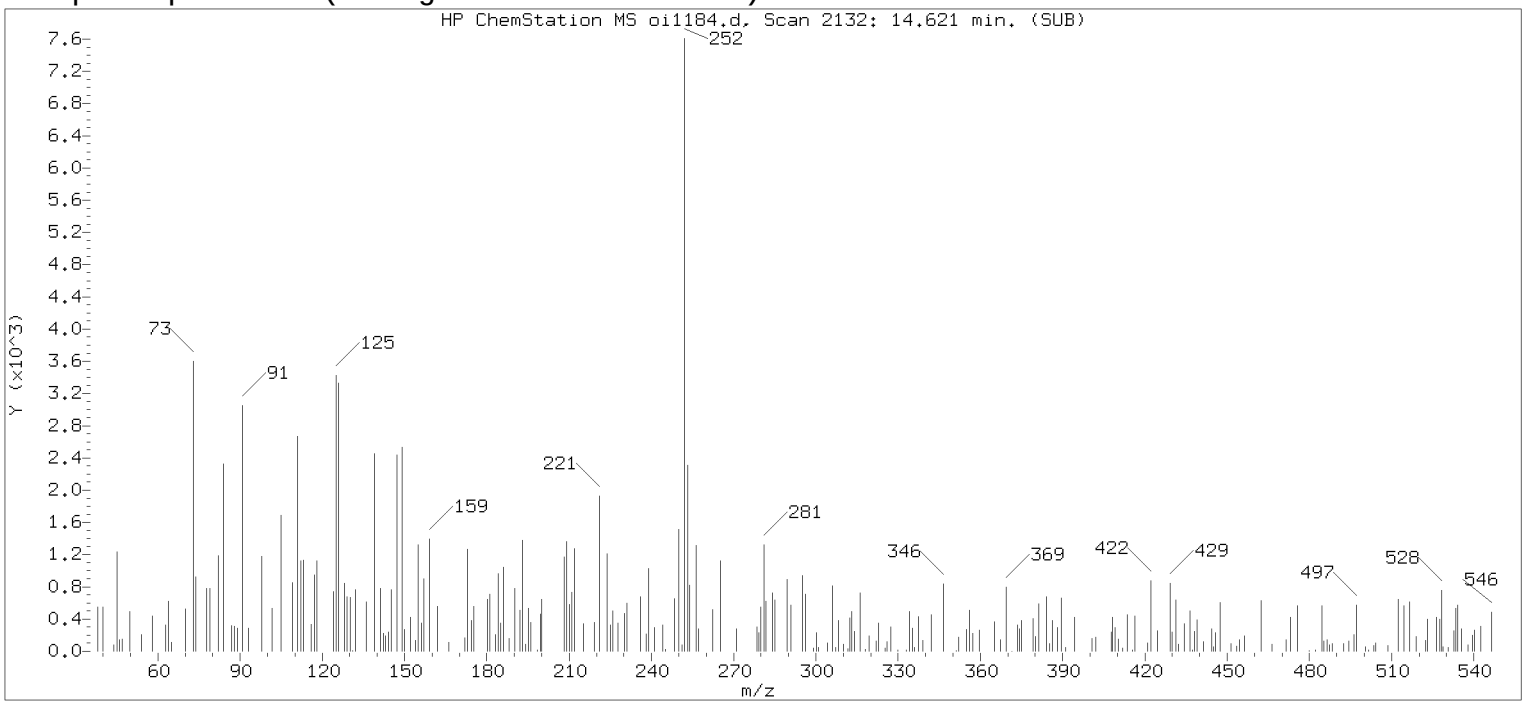
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2136
Retention Time (minutes) : 14.645
Quant Ion : 252.00
Area (flag) : 6651M
On-column Amount (ng/ul) : 0.1747
Integration start scan : 2134 Integration stop scan: 2139
Y at integration start : 9 Y at integration end: 9

Reason for manual integration: improper integration

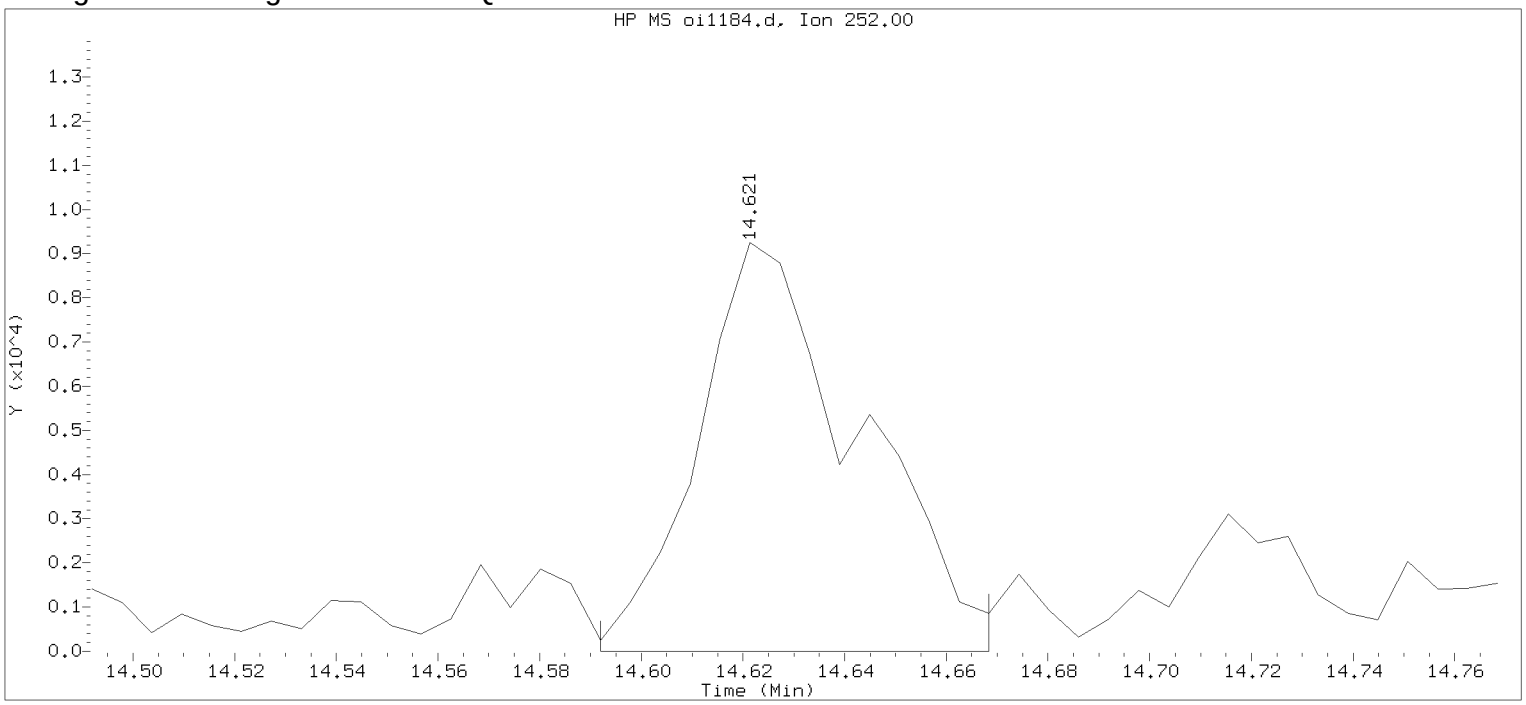
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

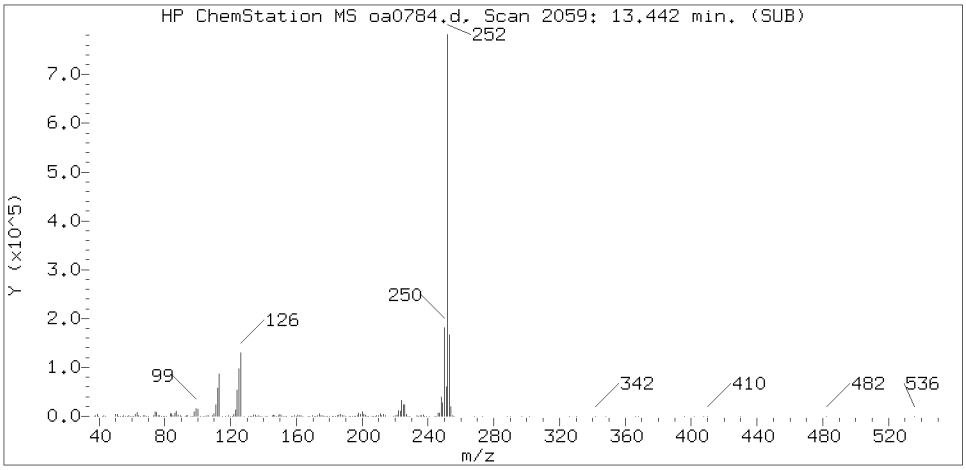
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 06:29 Automation

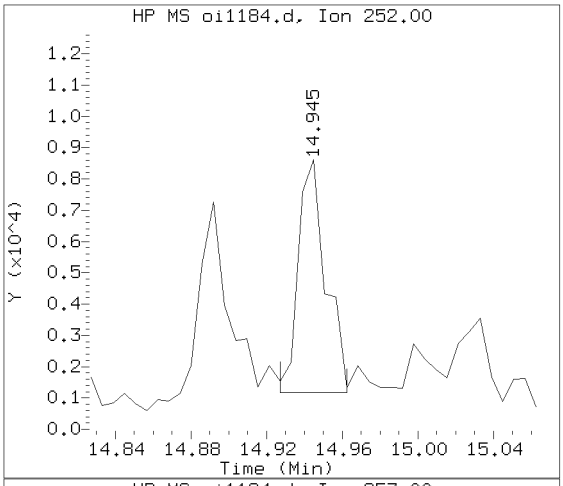
Sample Name: PS483 Lab Sample ID: 8057361

Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2132
Retention Time (minutes) : 14.621
Quant Ion : 252.00
Area : 20328
On-column Amount (ng/ul) : 0.5339
Integration start scan : 2126 Integration stop scan: 2139
Y at integration start : 0 Y at integration end: 0

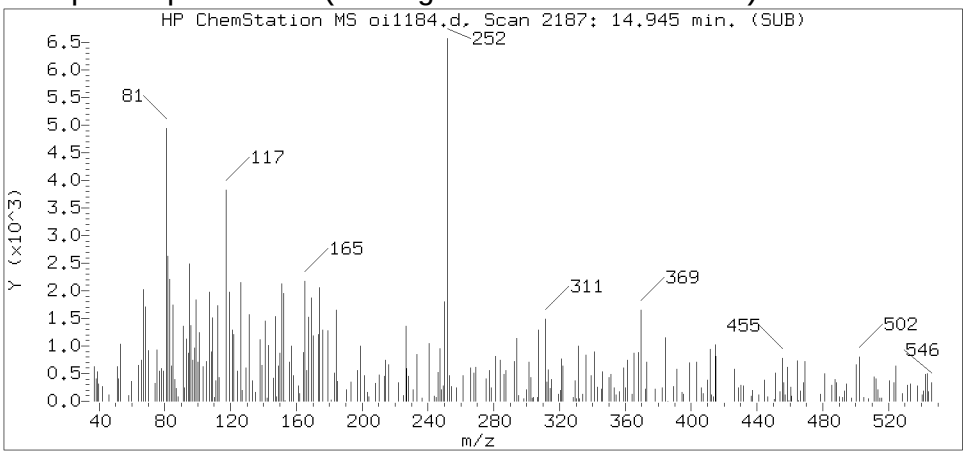
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: LMH0257

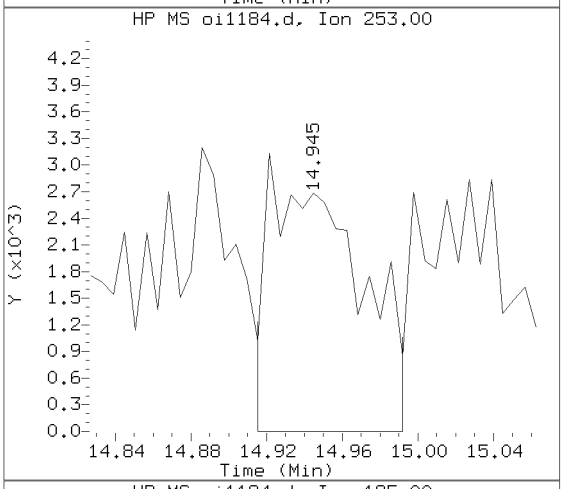
Reference Standard Spectrum for Benzo(a)pyrene



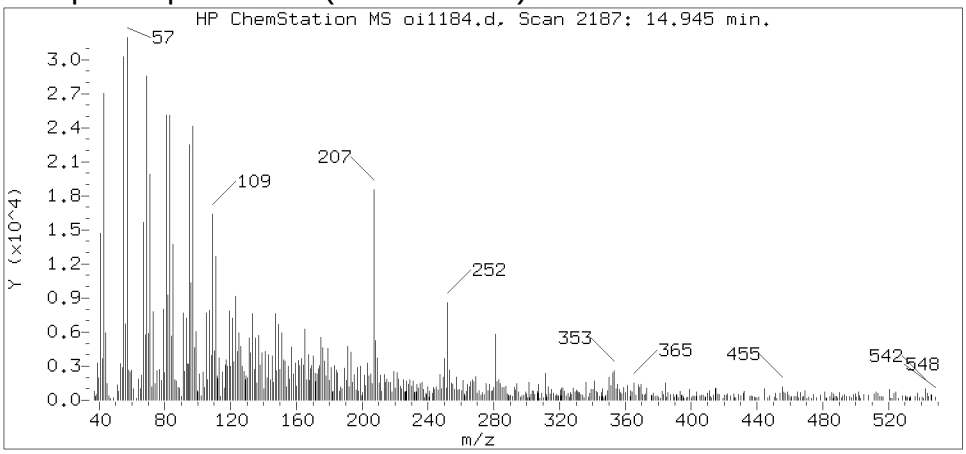


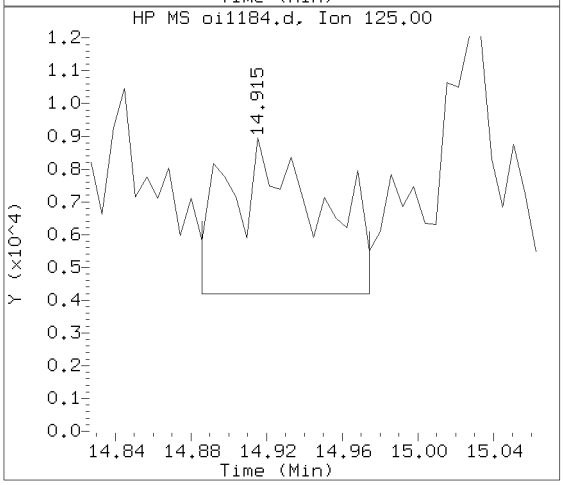
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

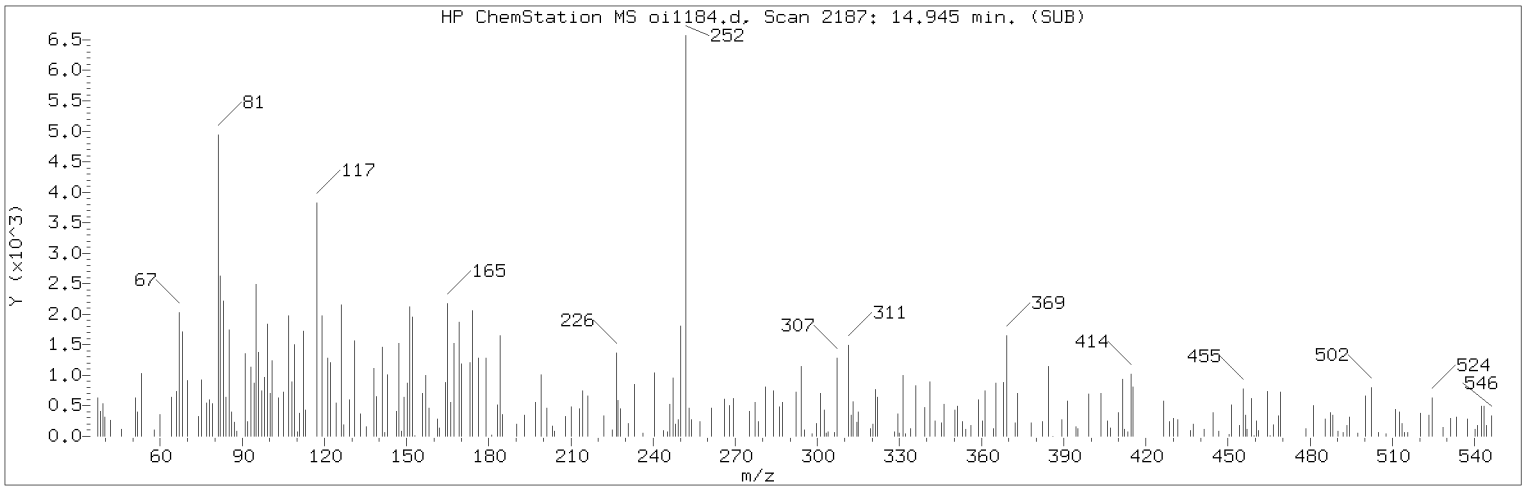
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

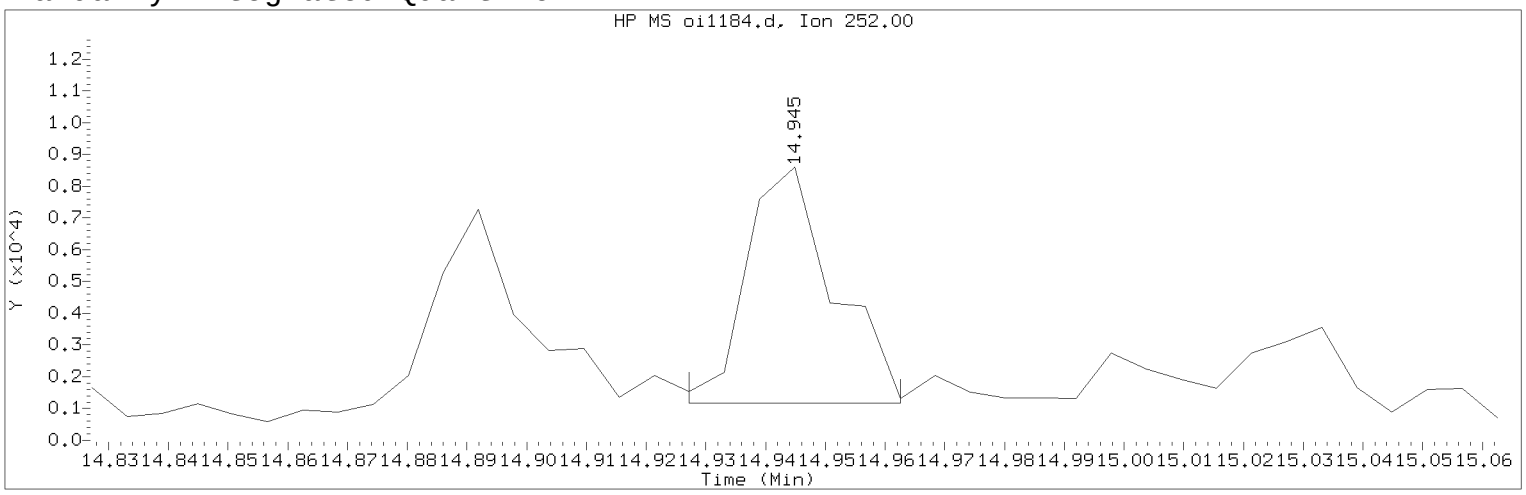
Compound Number : 211
Compound Name : Benzo(a)pyrene
Scan Number : 2187
Retention Time (minutes) : 14.945
Relative Retention Time :-0.00000
Quant Ion : 252.00
Area (flag) : 7587M
On-column Amount (ng/ul) : 0.2059

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

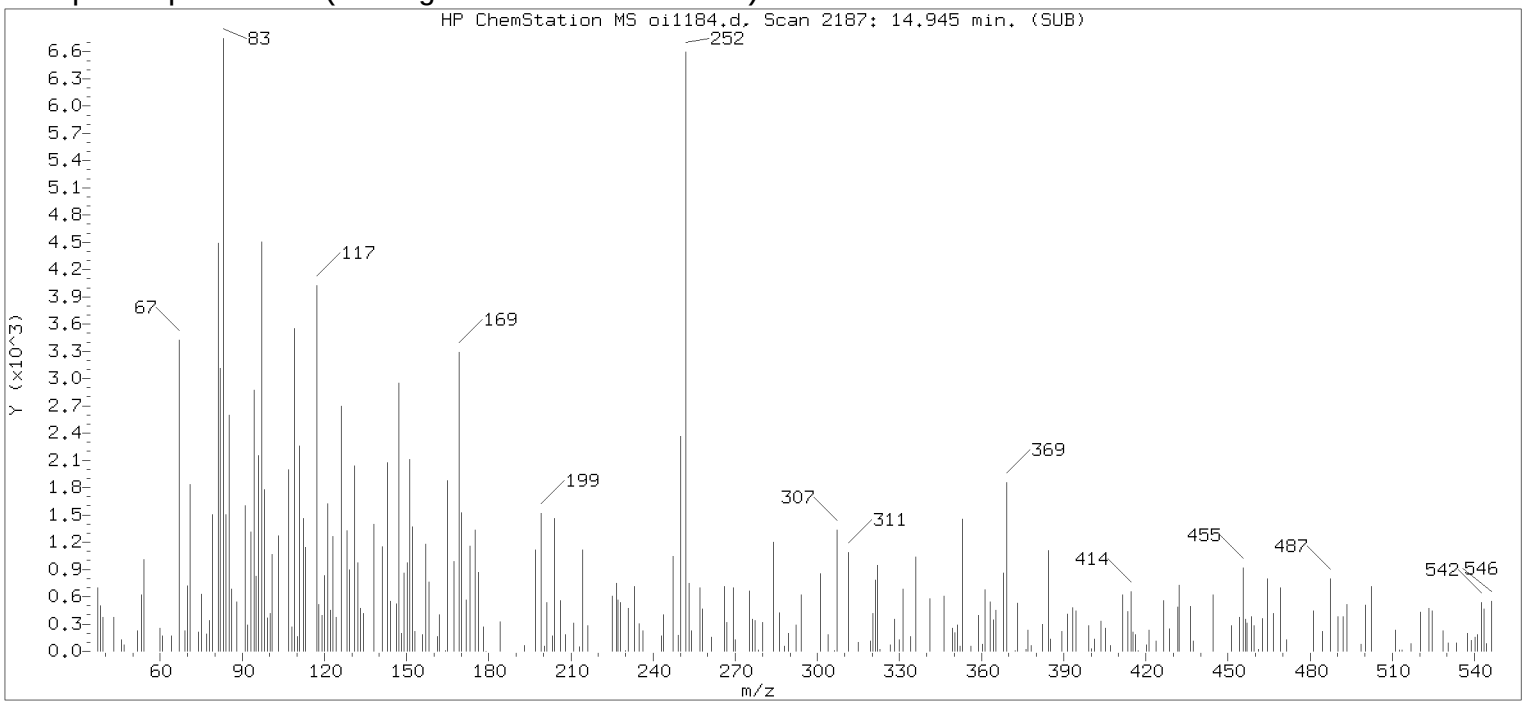
Compound Number : 211
Compound Name : Benzo(a)pyrene
Scan Number : 2187
Retention Time (minutes) : 14.945
Quant Ion : 252.00
Area (flag) : 7587M
On-column Amount (ng/ul) : 0.2059
Integration start scan : 2183 Integration stop scan: 2189
Y at integration start : 1177 Y at integration end: 1177

Reason for manual integration: improper integration

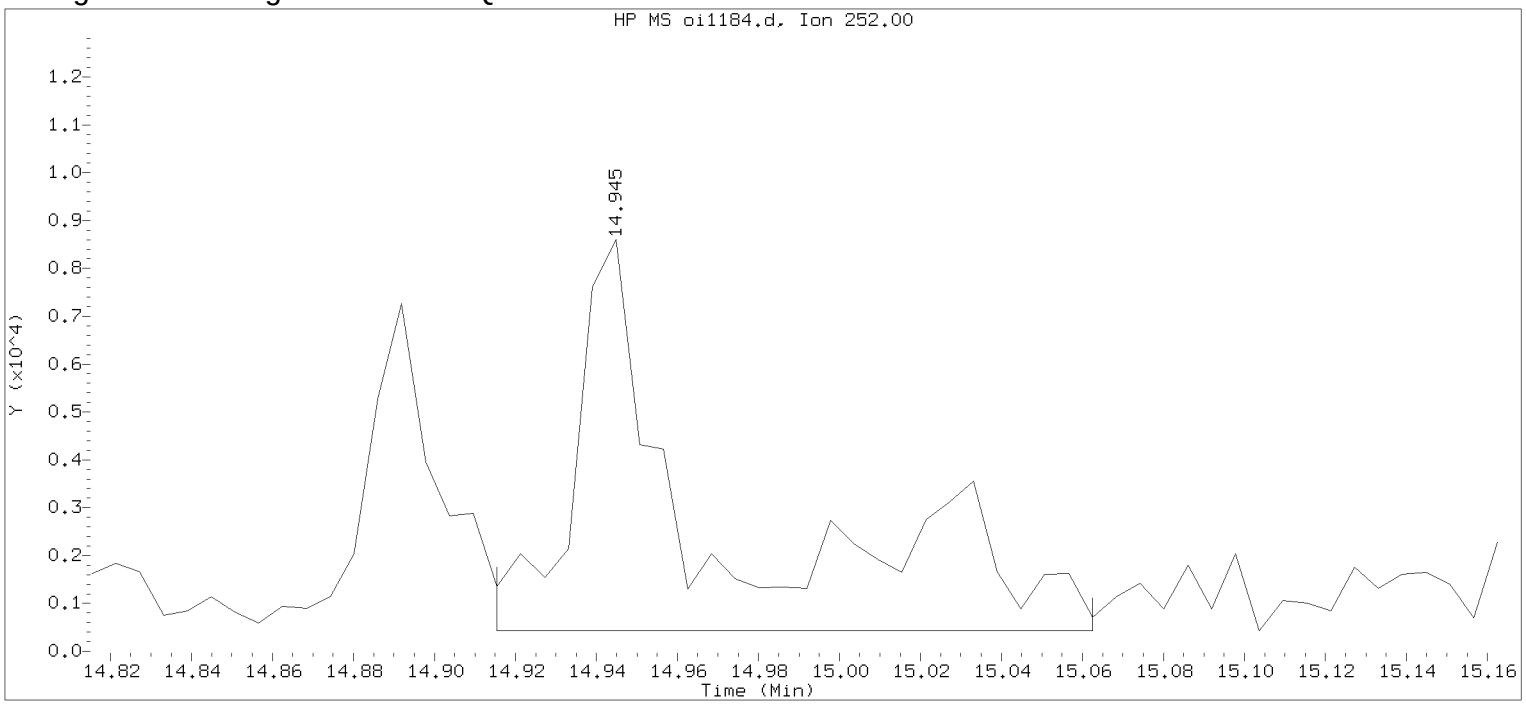
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

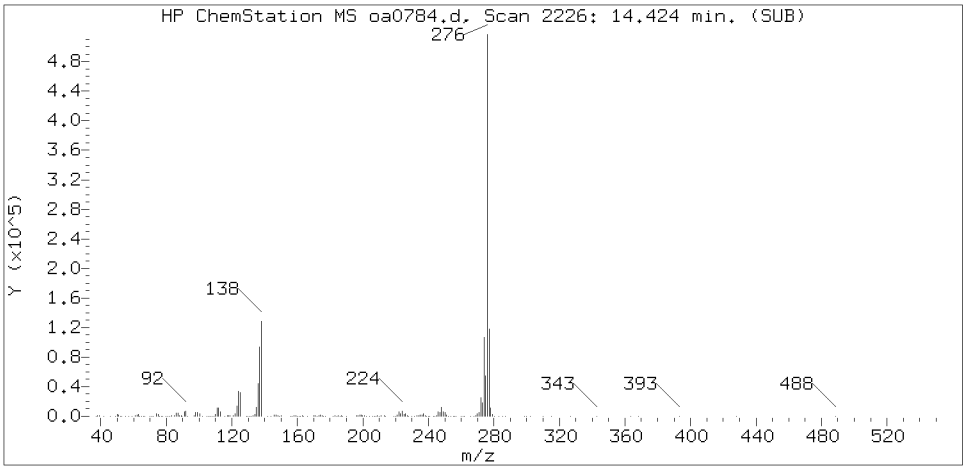
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 06:29 Automation

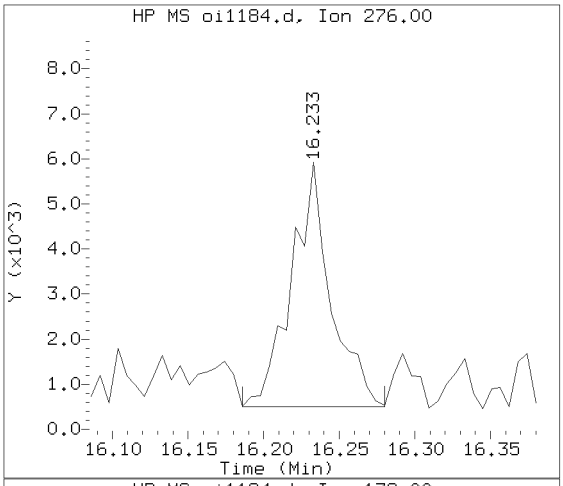
Sample Name: PS483 Lab Sample ID: 8057361

Compound Number	: 211		
Compound Name	: Benzo(a)pyrene		
Scan Number	: 2187		
Retention Time (minutes)	: 14.945		
Quant Ion	: 252.00		
Area	: 18824		
On-column Amount (ng/ul)	: 0.5107		
Integration start scan	: 2181	Integration stop scan:	2206
Y at integration start	: 429	Y at integration end:	429

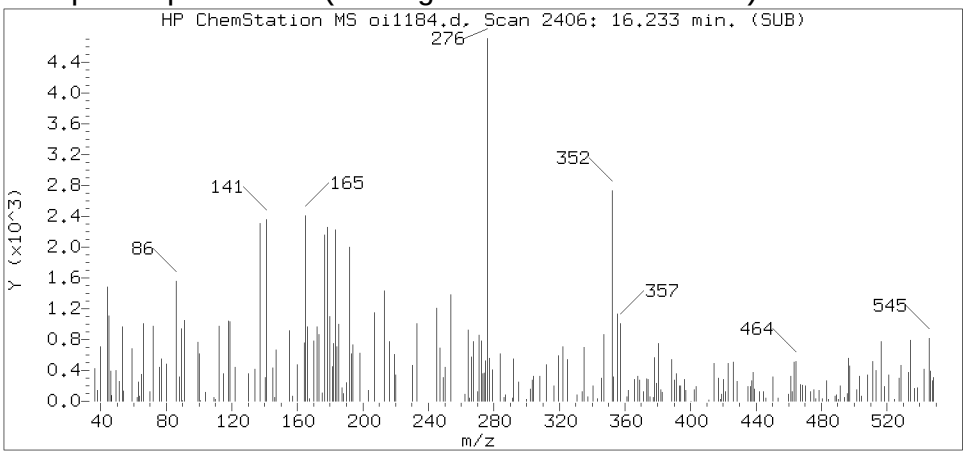
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: LMH0256

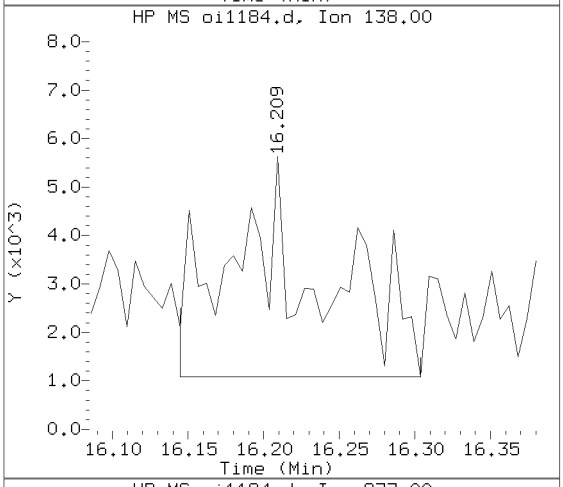
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



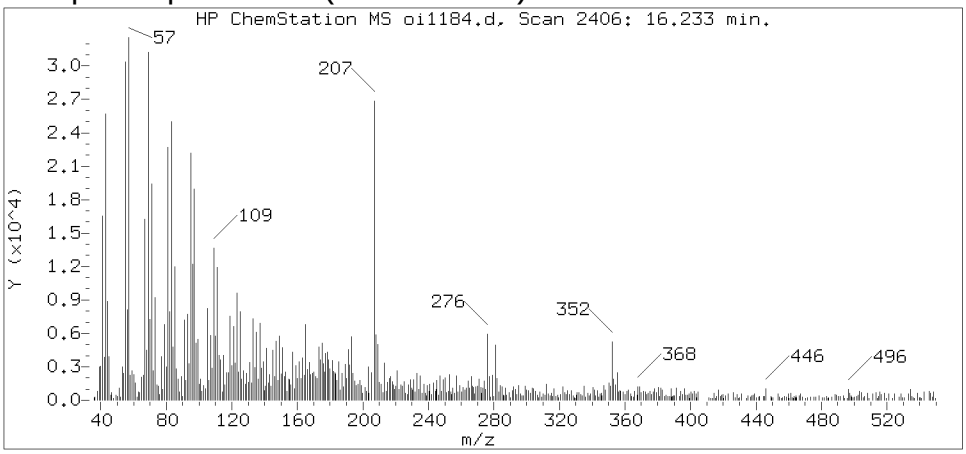


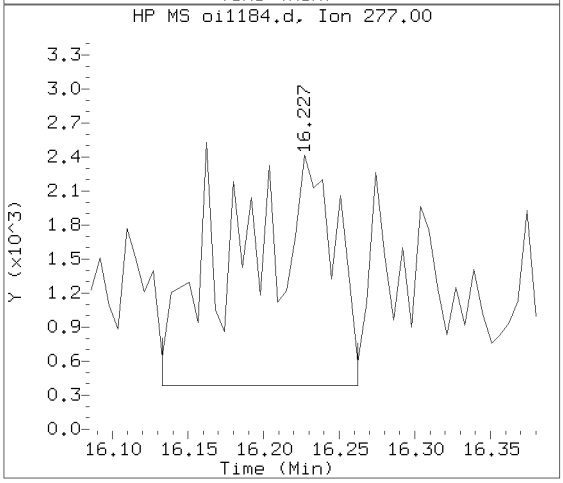
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

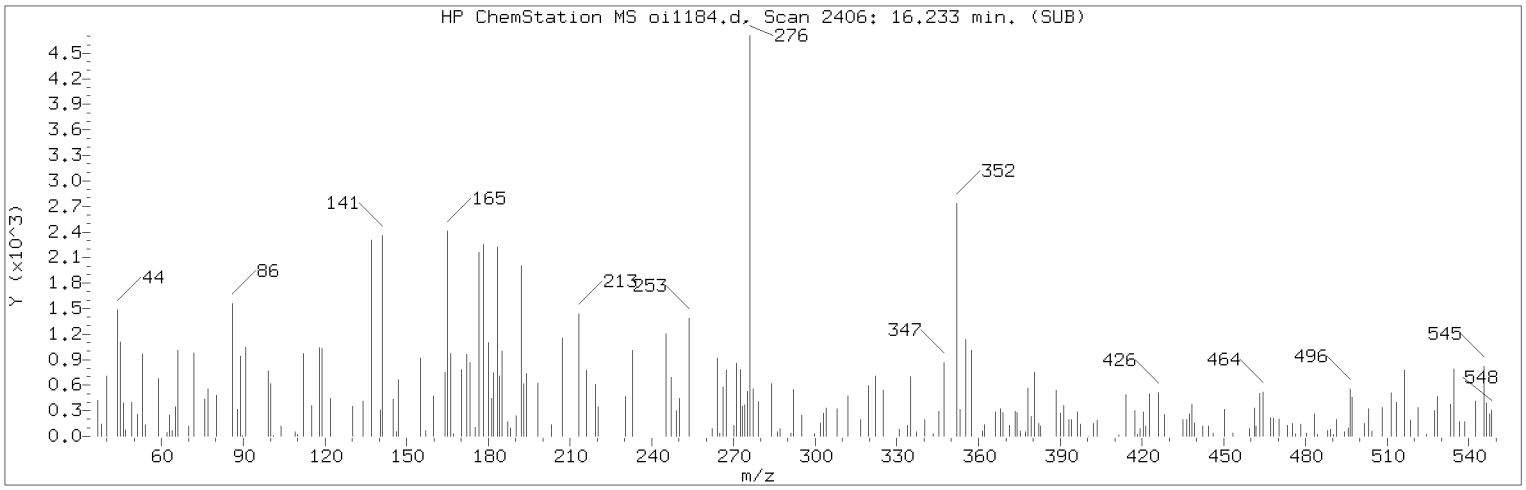
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

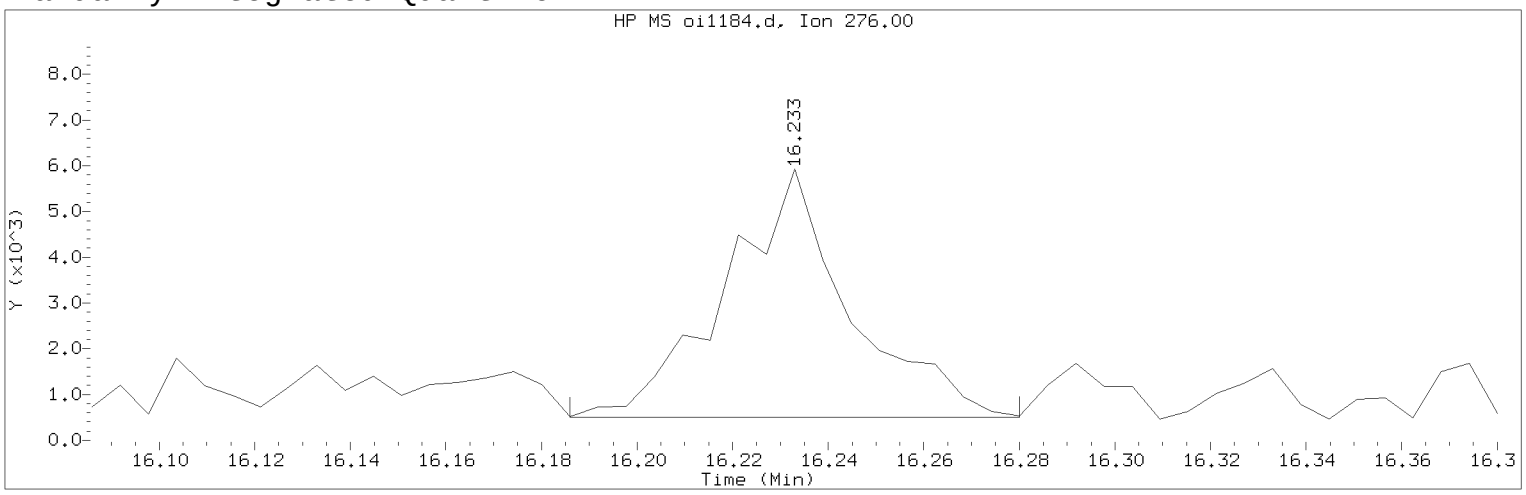
Compound Number	: 219
Compound Name	: Indeno(1,2,3-cd)pyrene
Scan Number	: 2406
Retention Time (minutes)	: 16.233
Relative Retention Time	: 0.00043
Quant Ion	: 276.00
Area (flag)	: 9775M
On-column Amount (ng/ul)	: 0.2547

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

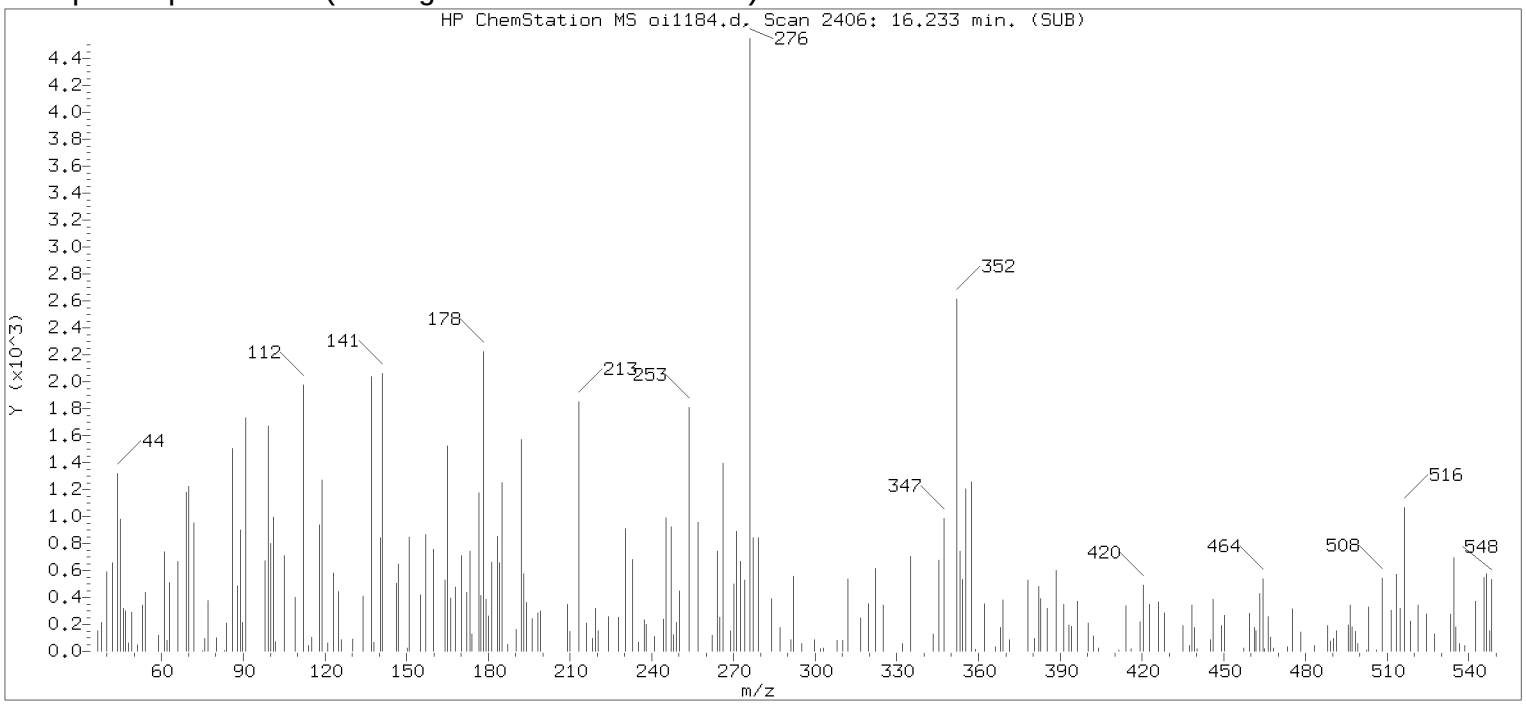
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2406
Retention Time (minutes) : 16.233
Quant Ion : 276.00
Area (flag) : 9775M
On-column Amount (ng/ul) : 0.2547
Integration start scan : 2397 Integration stop scan: 2413
Y at integration start : 505 Y at integration end: 505

Reason for manual integration: improper integration

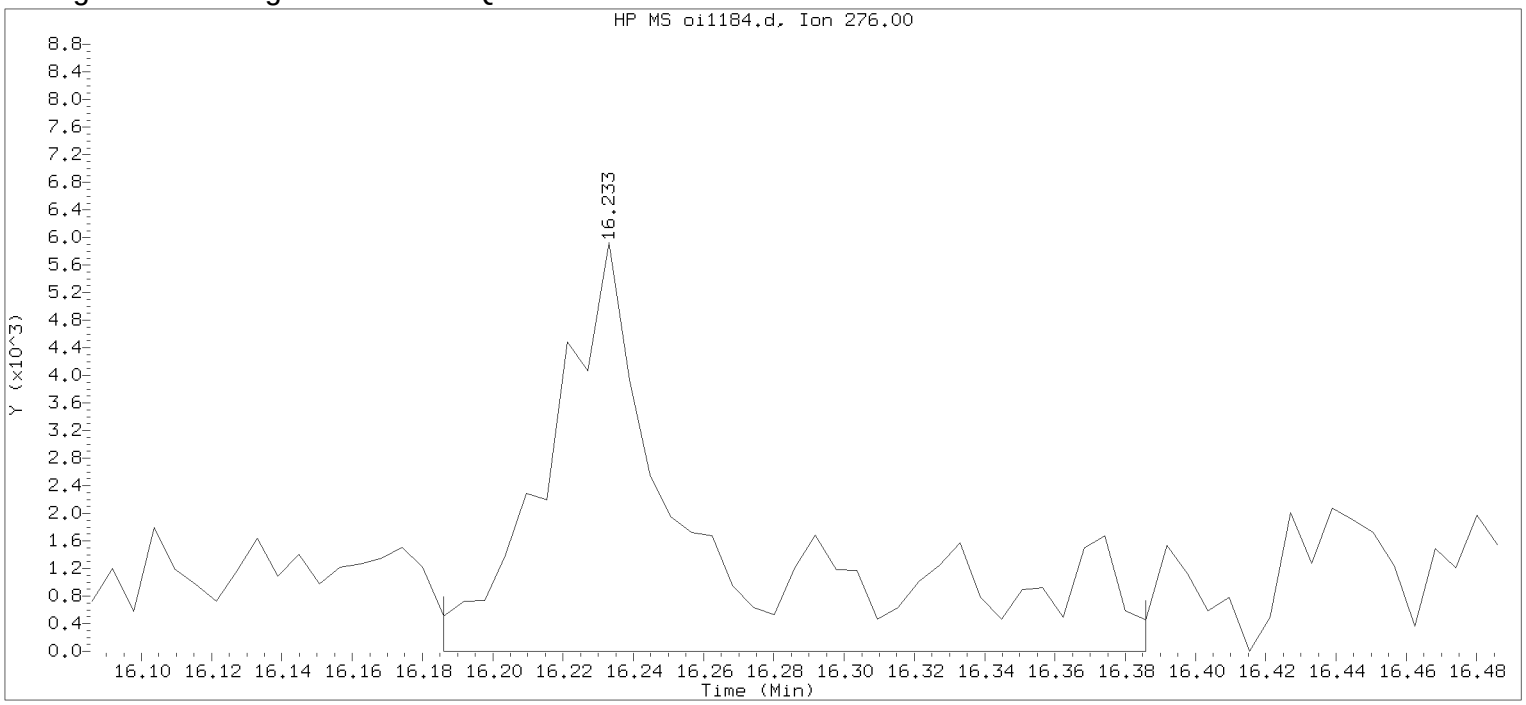
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

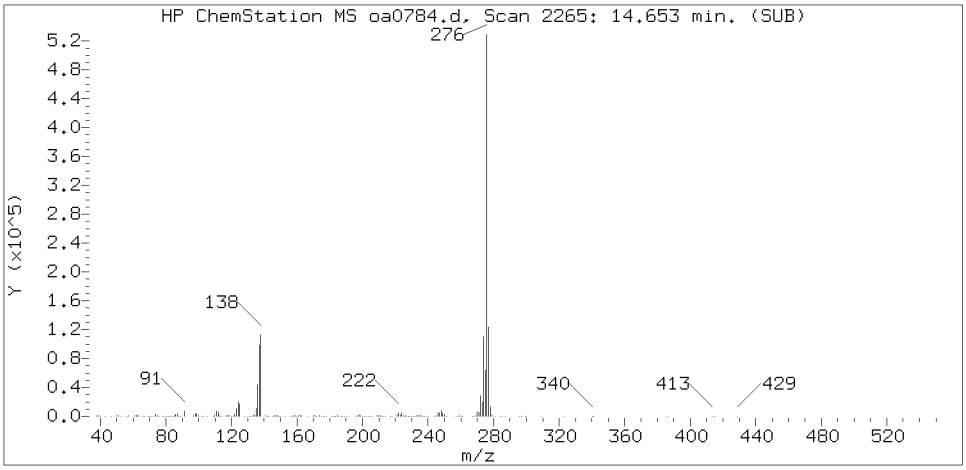
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 06:29 Automation

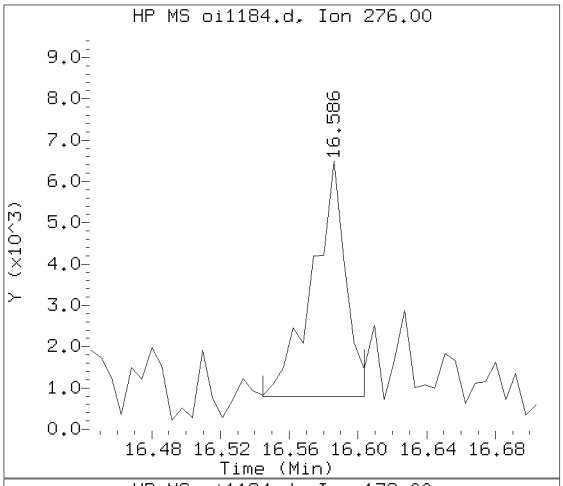
Sample Name: PS483 Lab Sample ID: 8057361

Compound Number	: 219		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 2406		
Retention Time (minutes)	: 16.233		
Quant Ion	: 276.00		
Area	: 18976		
On-column Amount (ng/ul)	: 0.4943		
Integration start scan	: 2397	Integration stop scan:	2431
Y at integration start	: 0	Y at integration end:	0

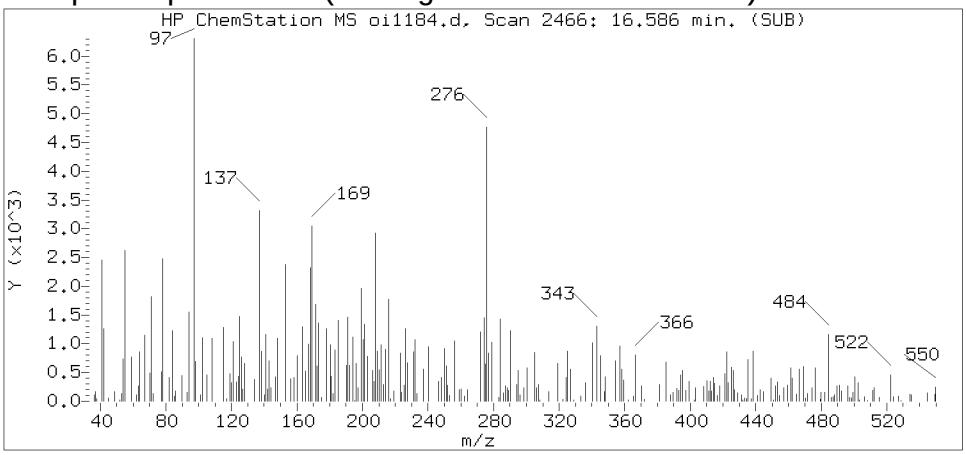
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: LMH0253

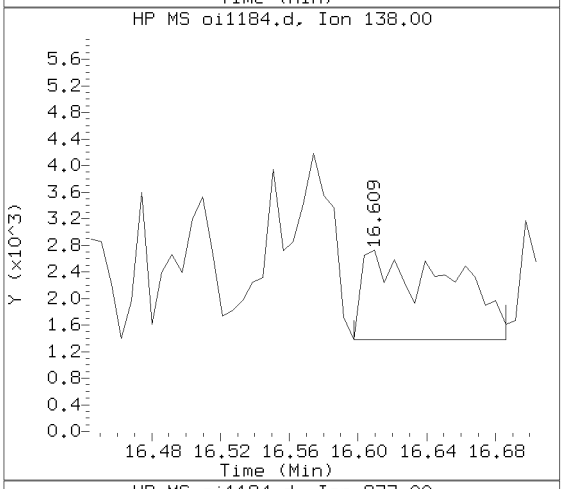
Reference Standard Spectrum for Benzo(g,h,i)perylene



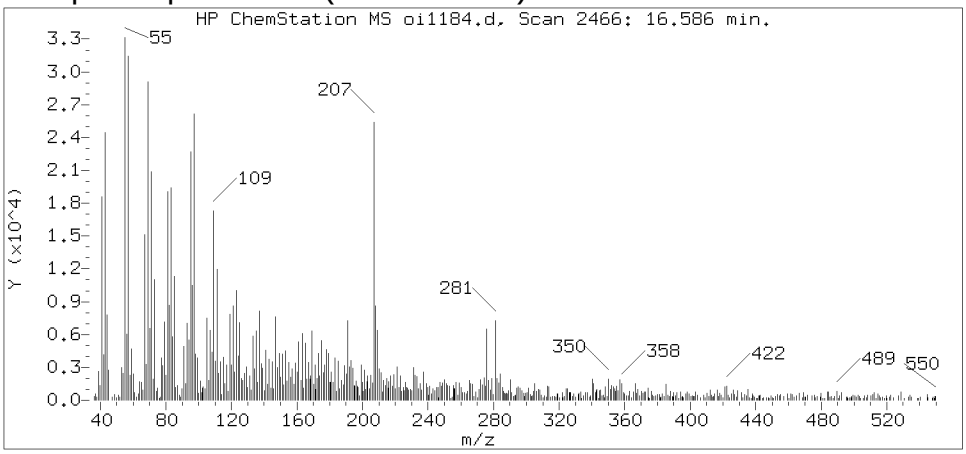


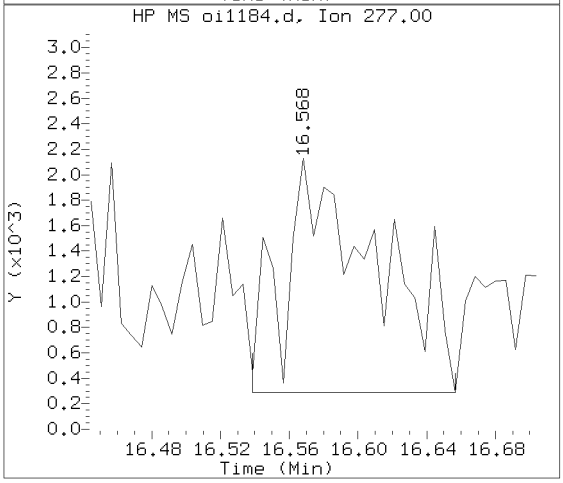
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

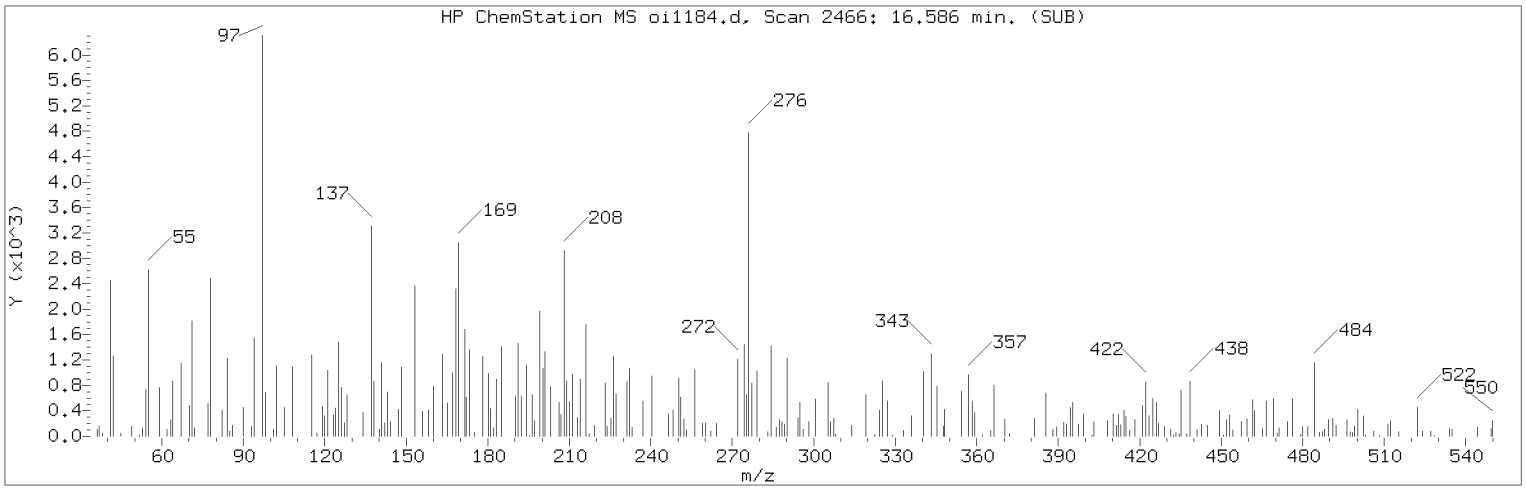
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

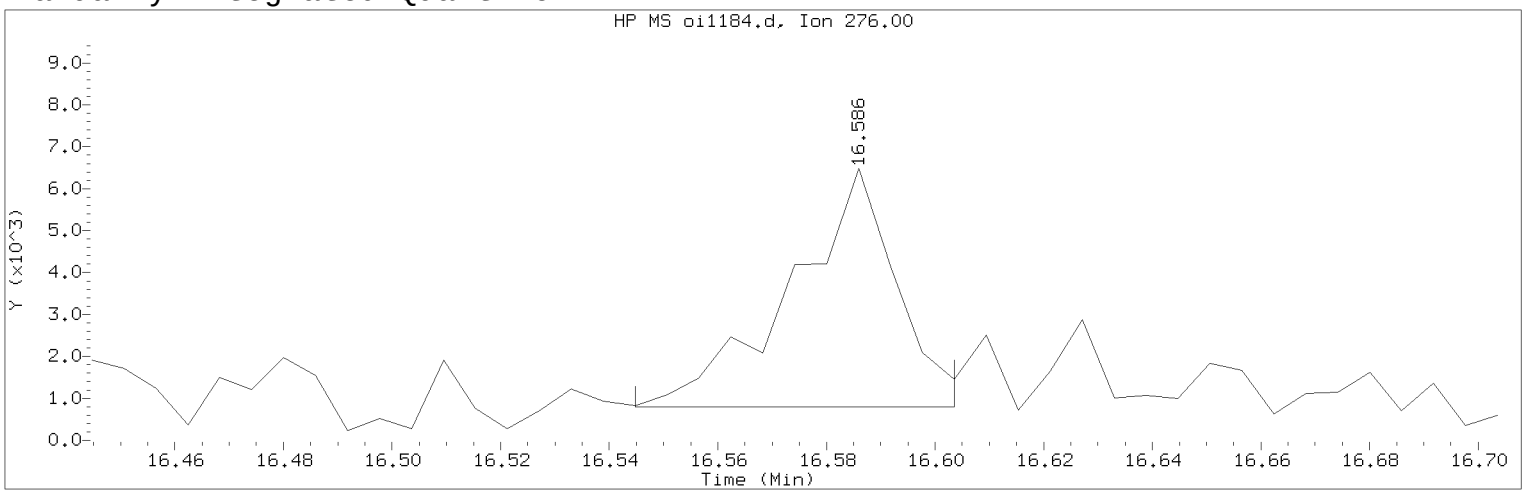
Compound Number	: 221
Compound Name	: Benzo(g,h,i)perylene
Scan Number	: 2466
Retention Time (minutes)	: 16.586
Relative Retention Time	: 0.00004
Quant Ion	: 276.00
Area (flag)	: 7712M
On-column Amount (ng/ul)	: 0.2446

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:55 lmh00956

Sample Name: PS483 Lab Sample ID: 8057361

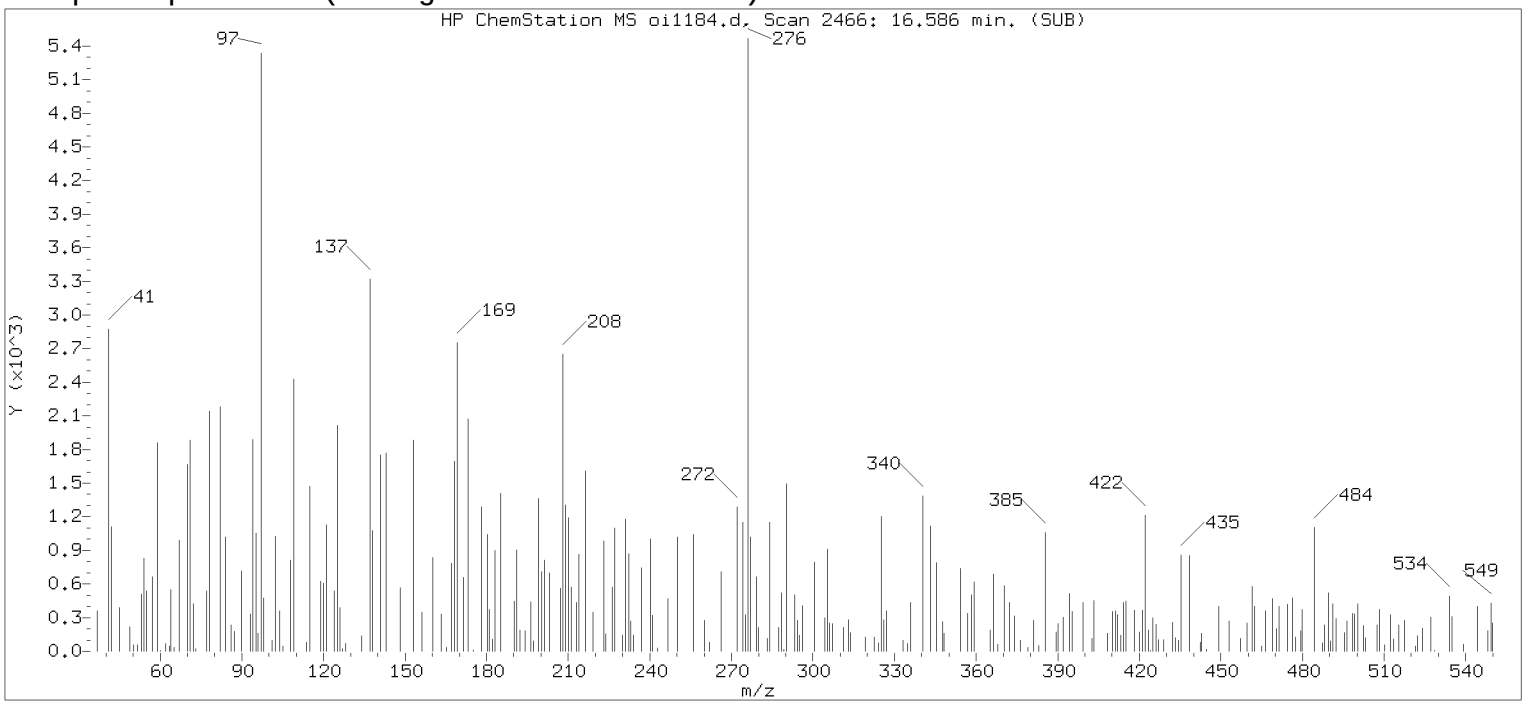
Compound Number	: 221		
Compound Name	: Benzo(g,h,i)perylene		
Scan Number	: 2466		
Retention Time (minutes)	: 16.586		
Quant Ion	: 276.00		
Area (flag)	: 7712M		
On-column Amount (ng/ul)	: 0.2446		
Integration start scan	: 2458	Integration stop scan:	2468
Y at integration start	: 788	Y at integration end:	788

Reason for manual integration: improper integration

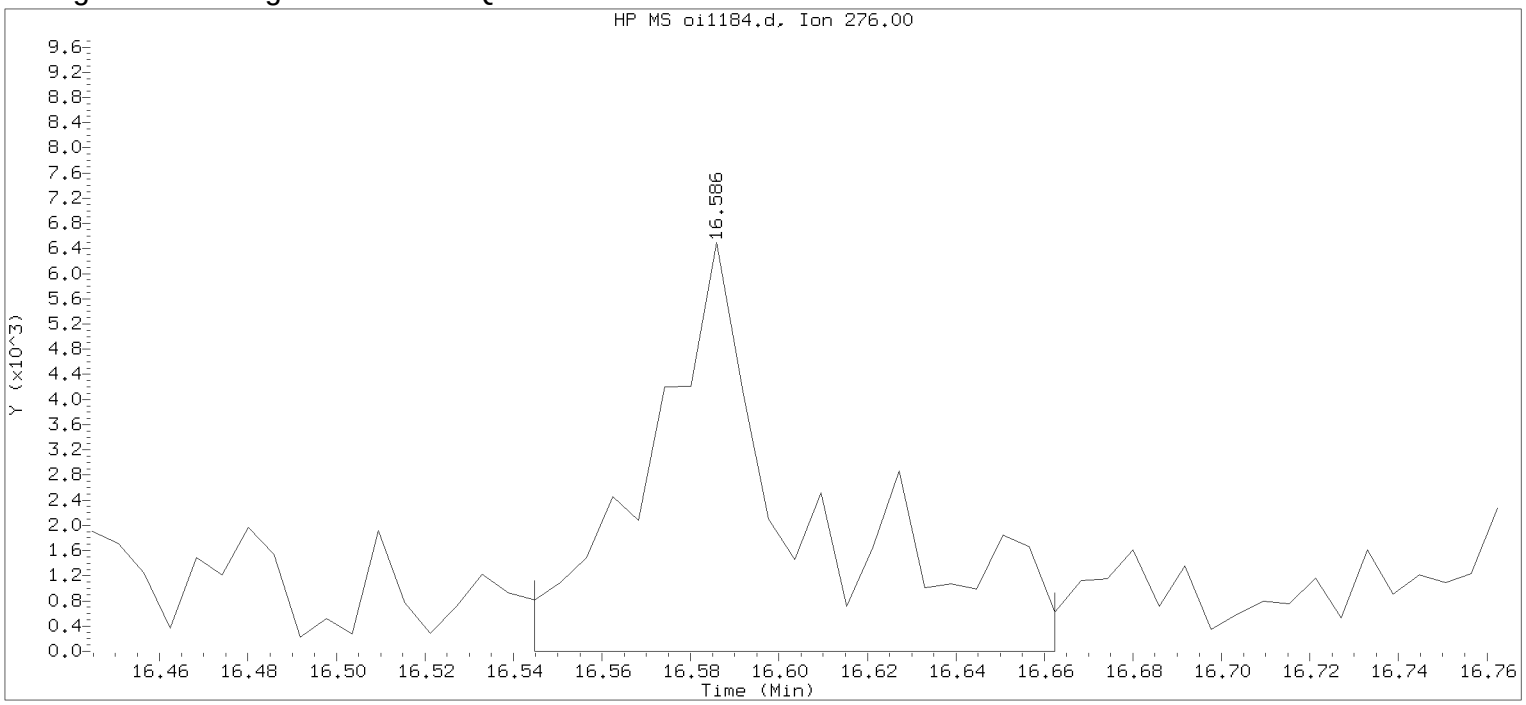
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1184.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:12 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 06:29 Automation

Sample Name: PS483 Lab Sample ID: 8057361

Compound Number	: 221		
Compound Name	: Benzo(g,h,i)perylene		
Scan Number	: 2466		
Retention Time (minutes)	: 16.586		
Quant Ion	: 276.00		
Area	: 15796		
On-column Amount (ng/ul)	: 0.5010		
Integration start scan	: 2458	Integration stop scan:	2478
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 14:59.
Target 3.5 esignature user ID: LMH0256

PS484 Lancaster Laboratories, Inc. 8057362
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1170.d Injection date and time: **26-SEP-2015 00:13**
Data file Sample Info. Line: PS484;8057362;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.17 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.439(0.000)	741	152	165463 (-2)	20.00	
65) Naphthalene-d8	7.716(0.000)	958	136	813215 (2)	20.00	
113) Acenaphthene-d10	9.445(0.006)	1252	164	495470 (-3)	20.00	
153) Phenanthrene-d10	10.904(0.006)	1500	188	909481 (-7)	20.00	
175) Pyrene-d10	12.298(0.006)	1737	212	899713 (-17)	20.00	
213) Perylene-d12	14.992(0.006)	2195	264	556952 (-33)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.998(0.001)	82	1769936	93.528	94%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.792(-0.001)	172	3124978	99.365	99%		63 - 117
179) Terphenyl-d14	(5)	12.486(0.000)	244	3294516	99.499	99%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)	10.927(-0.000)	178	12811	0.243	8.04			0.1
157) Anthracene	(4)	10.980(-0.000)	178	5891M	0.113	3.74			0.1
173) Fluoranthene	(4)	12.098(-0.000)	202	13609M	0.237	7.86			0.1
177) Pyrene	(5)	12.321(-0.000)	202	20398M	0.380	12.60			0.1
195) Benzo(a)anthracene	(5)	13.521(-0.000)	228	5404M	0.115	3.83			0.1
196) Chrysene	(5)	13.557(-0.000)	228	5171M	0.116	3.84			0.1
206) Benzo(b)fluoranthene	(6)	14.610(0.000)	252	5795M	0.166	5.50			0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.1
211) Benzo(a)pyrene	(6)	14.927(0.000)	252	5697	0.165	5.47			0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.1

M = Compound was manually integrated.

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25. Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1170.d Injection date and time: **26-SEP-2015 00:13**
Data file Sample Info. Line: PS484;8057362;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.17 g

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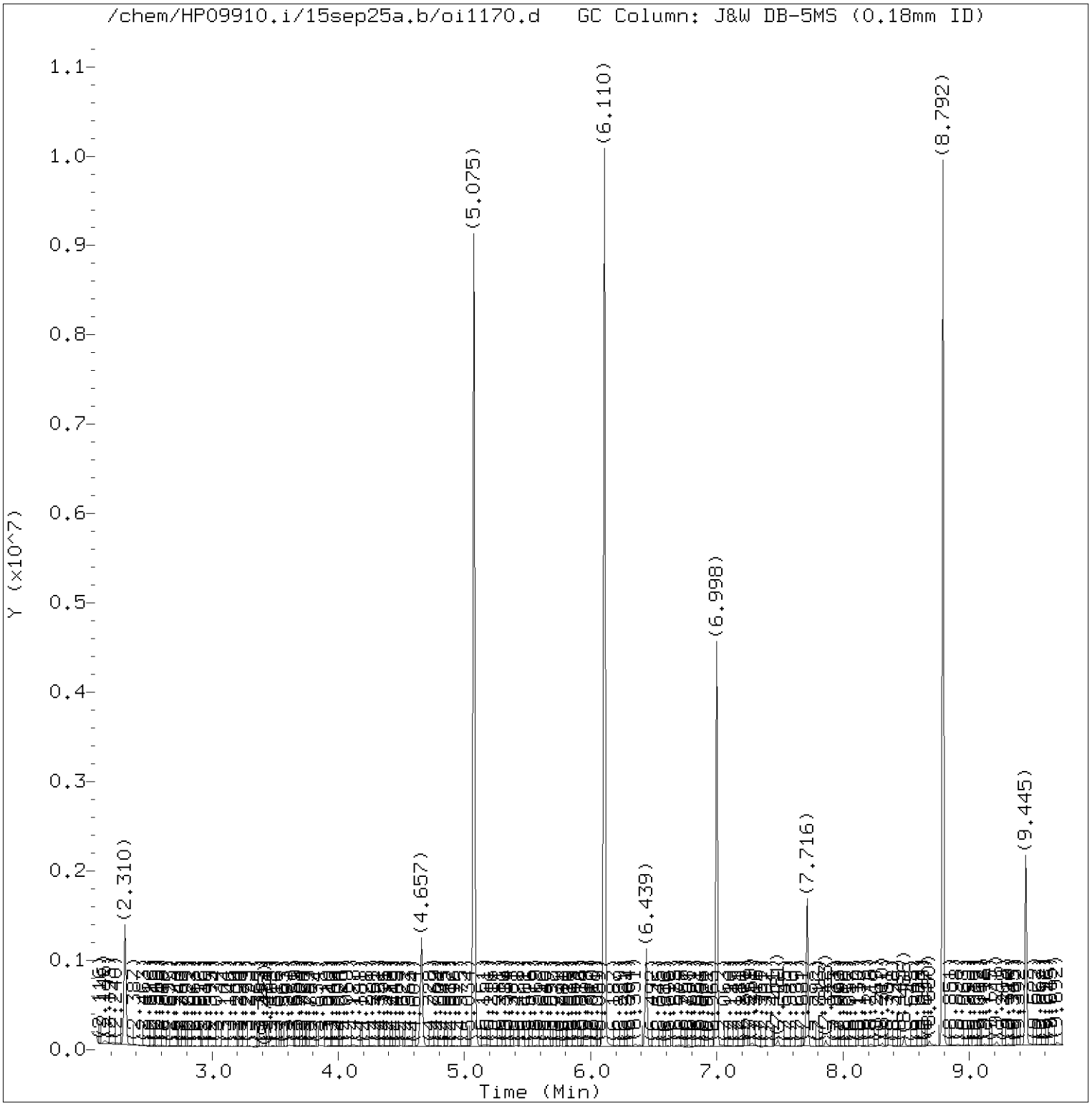
Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

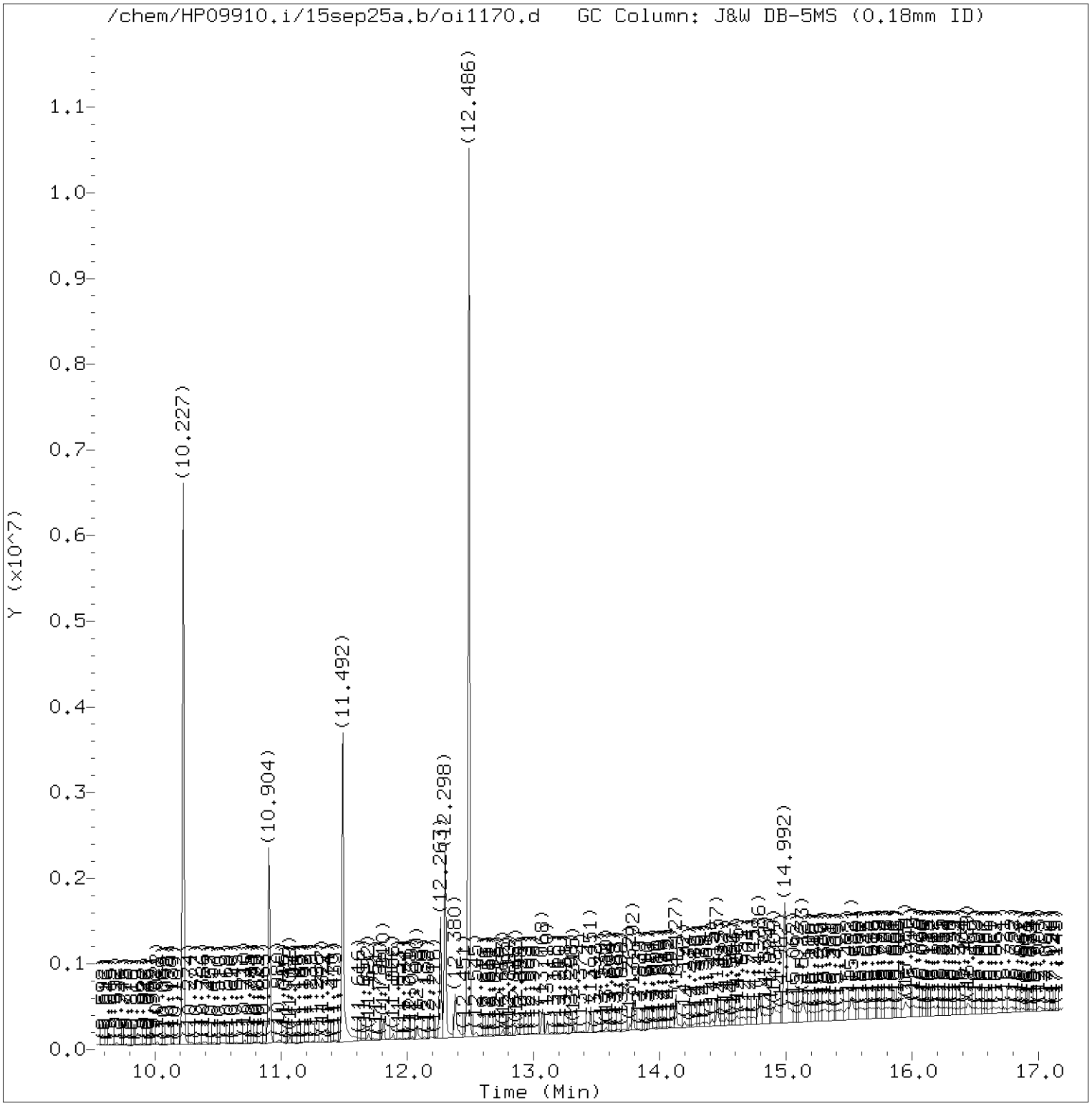
Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484 Lab Sample ID: 8057362

Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484 Lab Sample ID: 8057362

Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

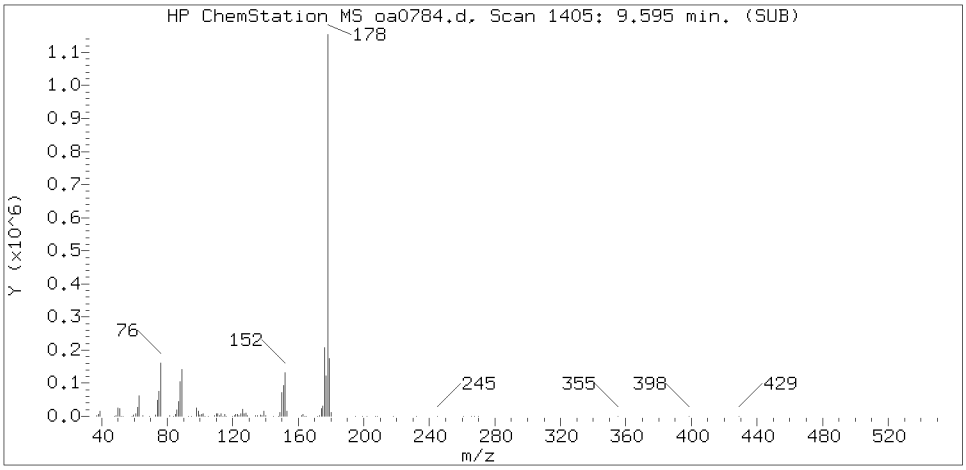
Sample Name: PS484 Lab Sample ID: 8057362

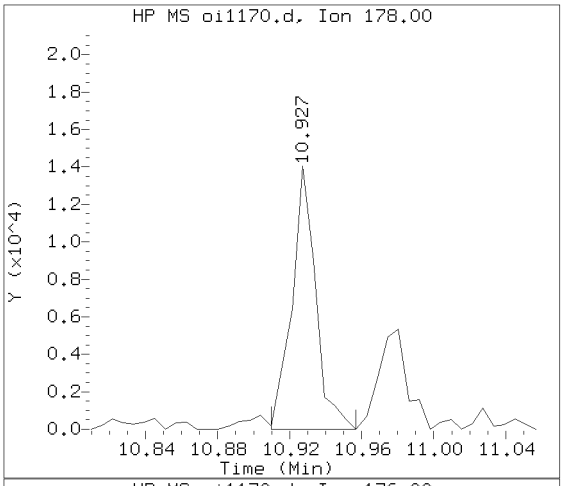
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.439	152	165463	20.000
44)$Nitrobenzene-d5	(2)	6.998	82	1769936	93.528
65)*Naphthalene-d8	(2)	7.716	136	813215	20.000
93)$2-Fluorobiphenyl	(3)	8.792	172	3124978	99.365
113)*Acenaphthene-d10	(3)	9.445	164	495470	20.000
153)*Phenanthrene-d10	(4)	10.904	188	909481	20.000
155) Phenanthrene	(4)	10.927	178	12811	0.243
157) Anthracene	(4)	10.980	178	5891M	0.113
173) Fluoranthene	(4)	12.098	202	13609M	0.237
175)*Pyrene-d10	(5)	12.298	212	899713	20.000
177) Pyrene	(5)	12.321	202	20398M	0.380
179)$Terphenyl-d14	(5)	12.486	244	3294516	99.499
195) Benzo(a)anthracene	(5)	13.521	228	5404M	0.115
196) Chrysene	(5)	13.557	228	5171M	0.116
206) Benzo(b)fluoranthene	(6)	14.610	252	5795M	0.166
211) Benzo(a)pyrene	(6)	14.927	252	5697	0.165
213)*Perylene-d12	(6)	14.992	264	556952	20.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

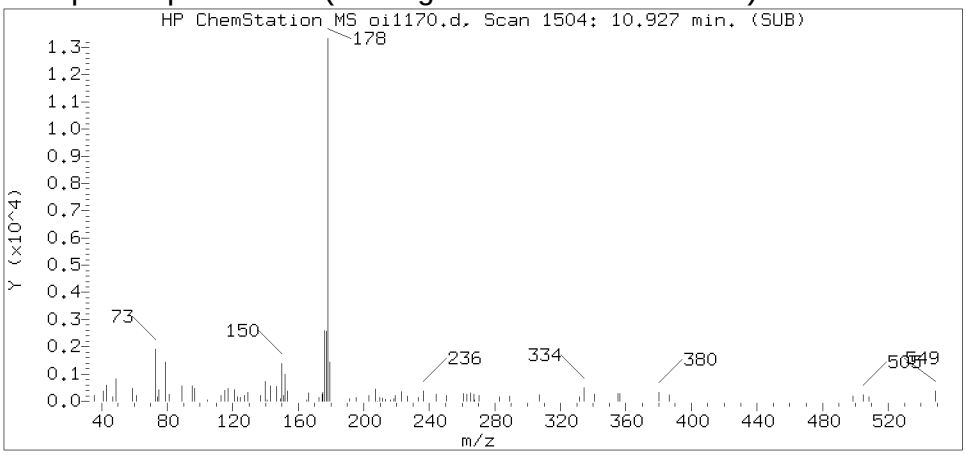
Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

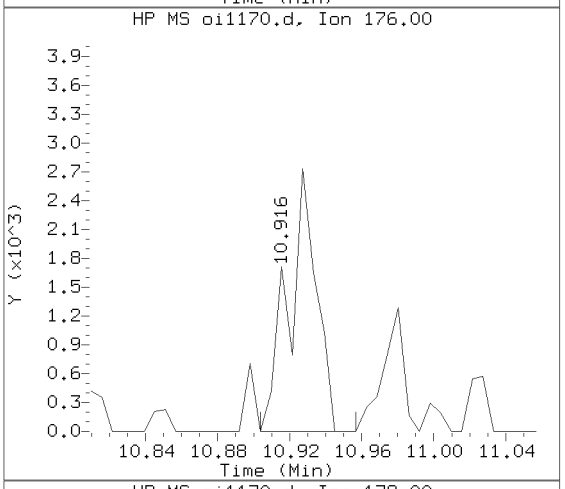
Reference Standard Spectrum for Phenanthrene



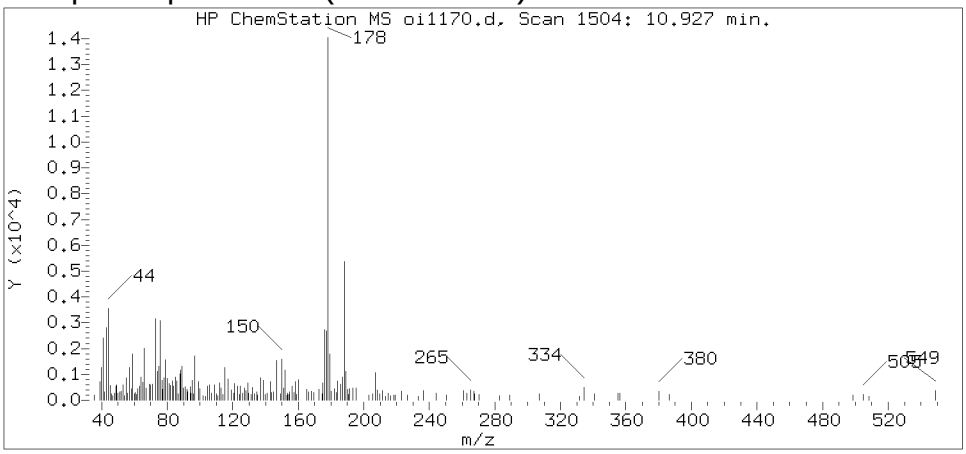


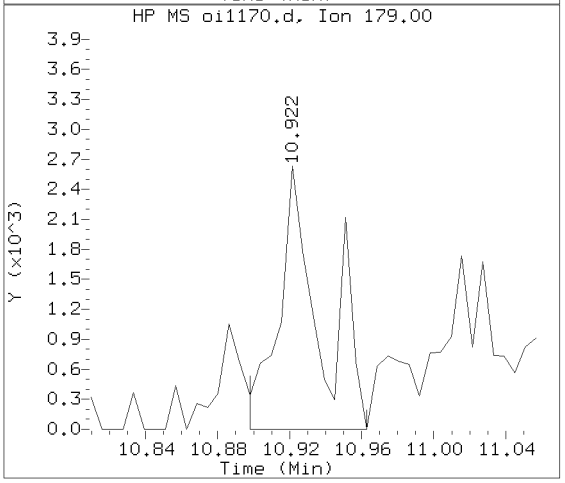
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484 Lab Sample ID: 8057362

Compound Number : 155
Compound Name : Phenanthrene
Scan Number : 1504
Retention Time (minutes) : 10.927
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 12811
On-column Amount (ng/ul) : 0.2426

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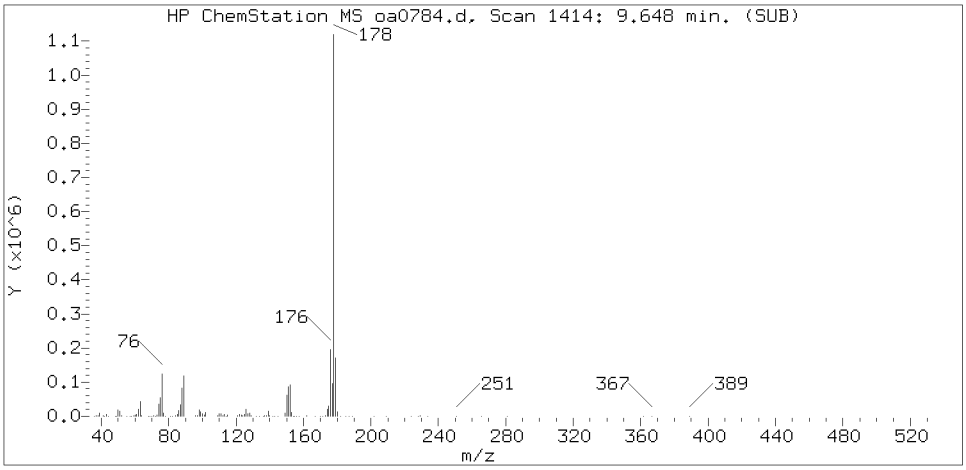
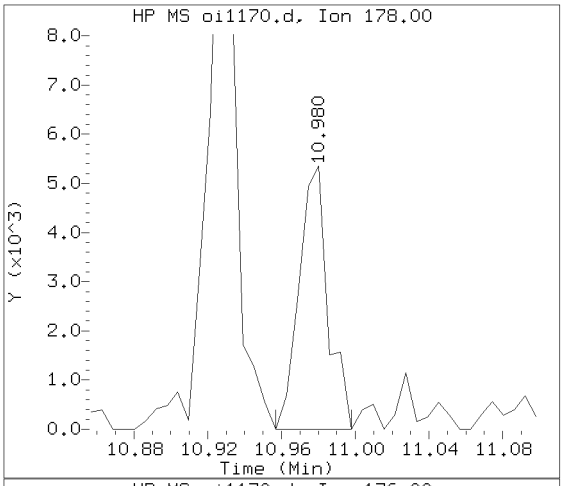
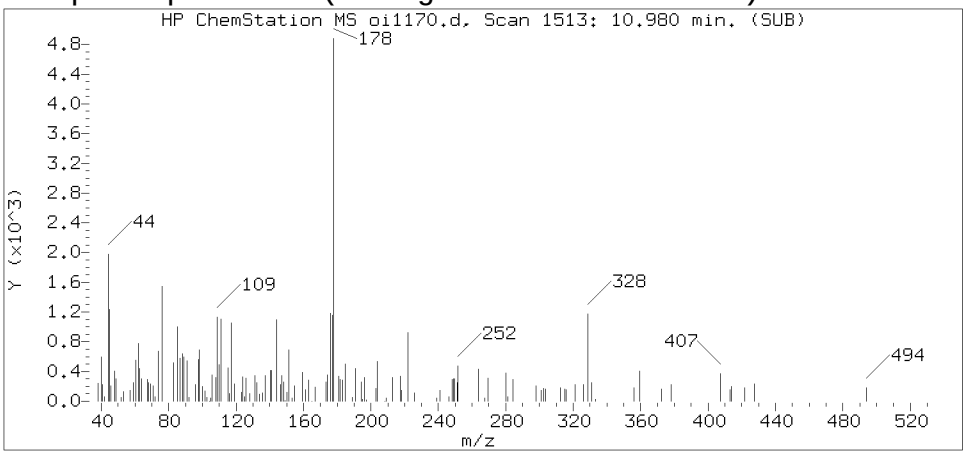
Target 3.5 esignature user ID: lmh00956

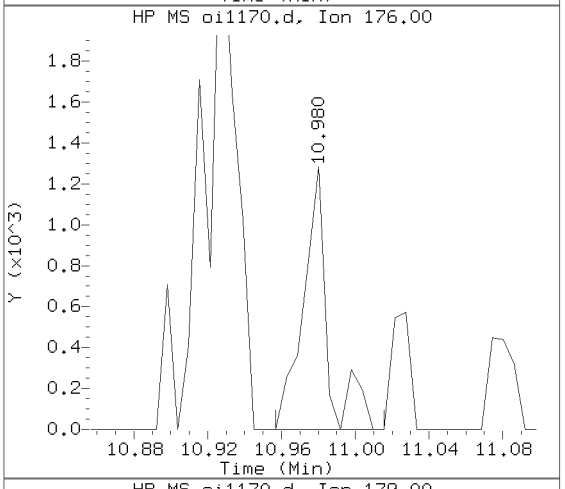
Reference Standard Spectrum for Anthracene



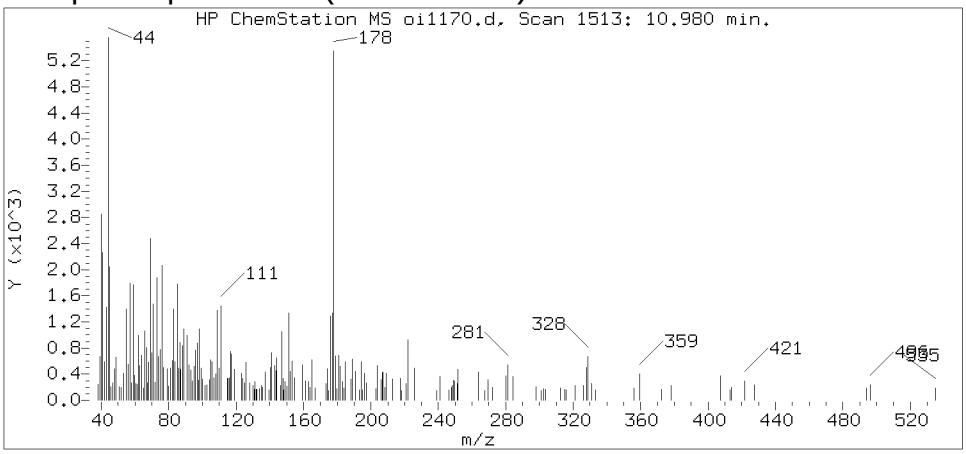


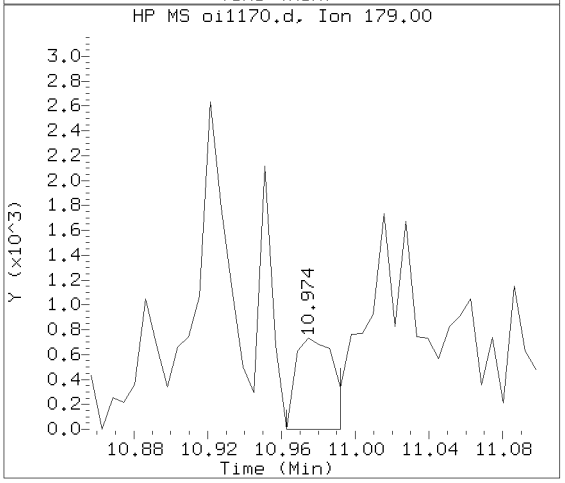
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484 Lab Sample ID: 8057362

Compound Number : 157
Compound Name : Anthracene
Scan Number : 1513
Retention Time (minutes) : 10.980
Relative Retention Time :-0.00001
Quant Ion : 178.00
Area (flag) : 5891M
On-column Amount (ng/ul) : 0.1129

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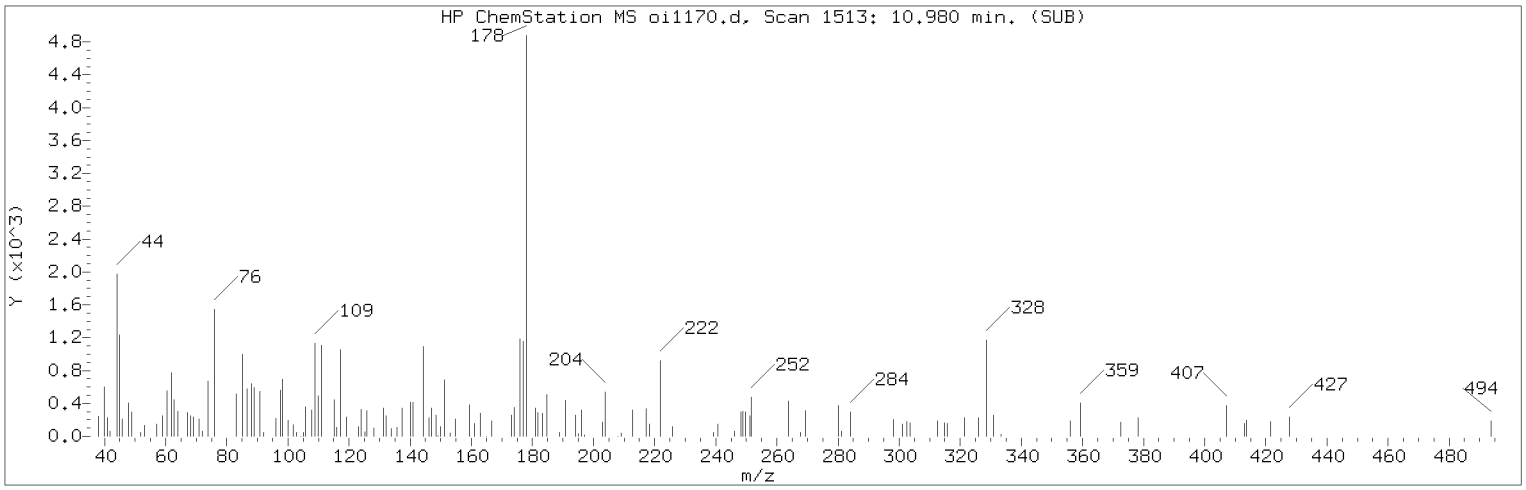
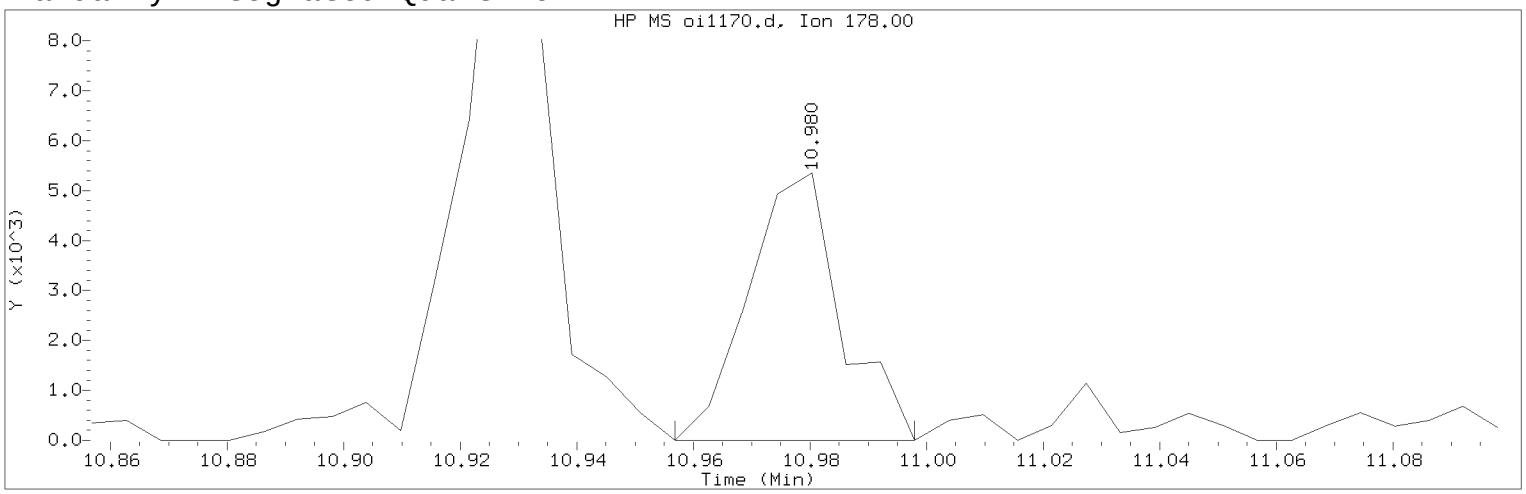
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484 Lab Sample ID: 8057362

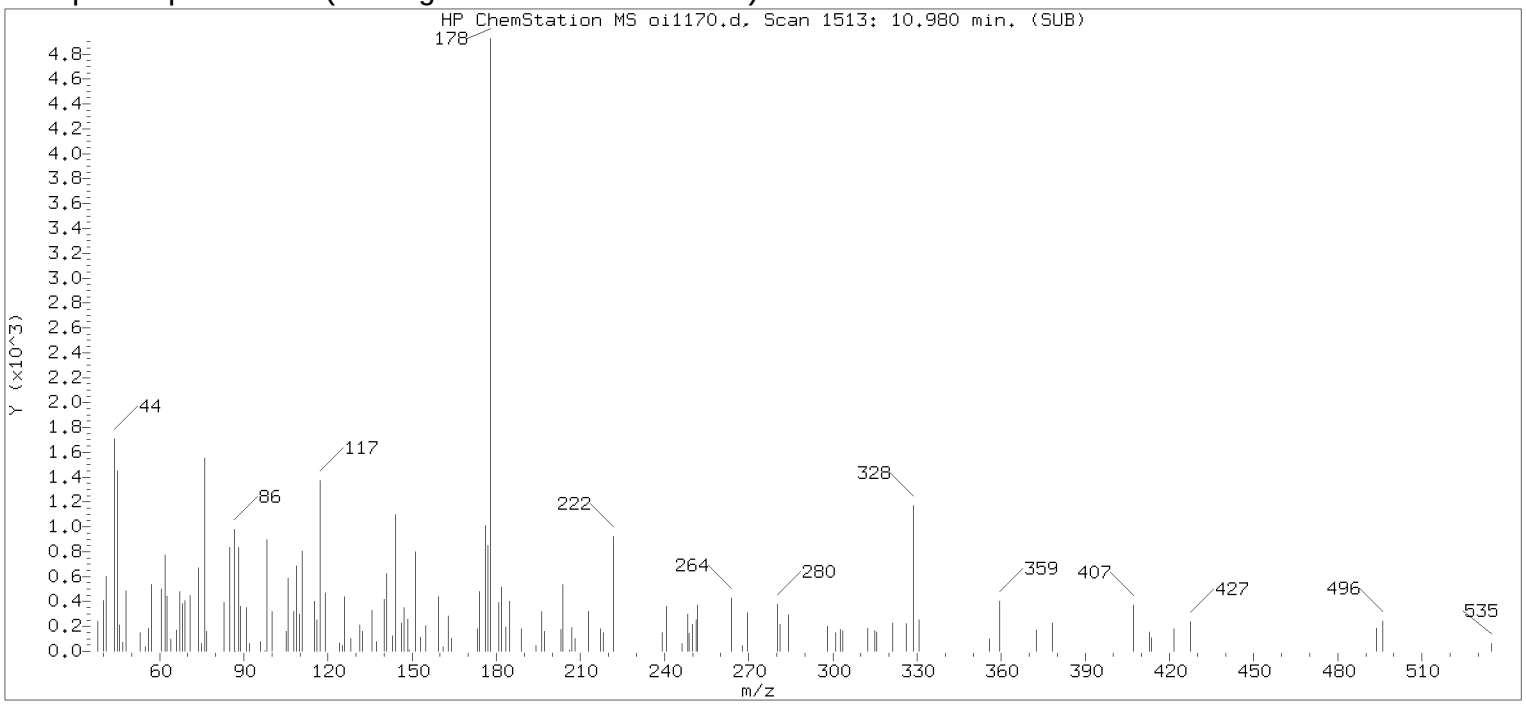
Compound Number : 157
Compound Name : Anthracene
Scan Number : 1513
Retention Time (minutes) : 10.980
Quant Ion : 178.00
Area (flag) : 5891M
On-column Amount (ng/ul) : 0.1129
Integration start scan : 1508 Integration stop scan: 1515
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

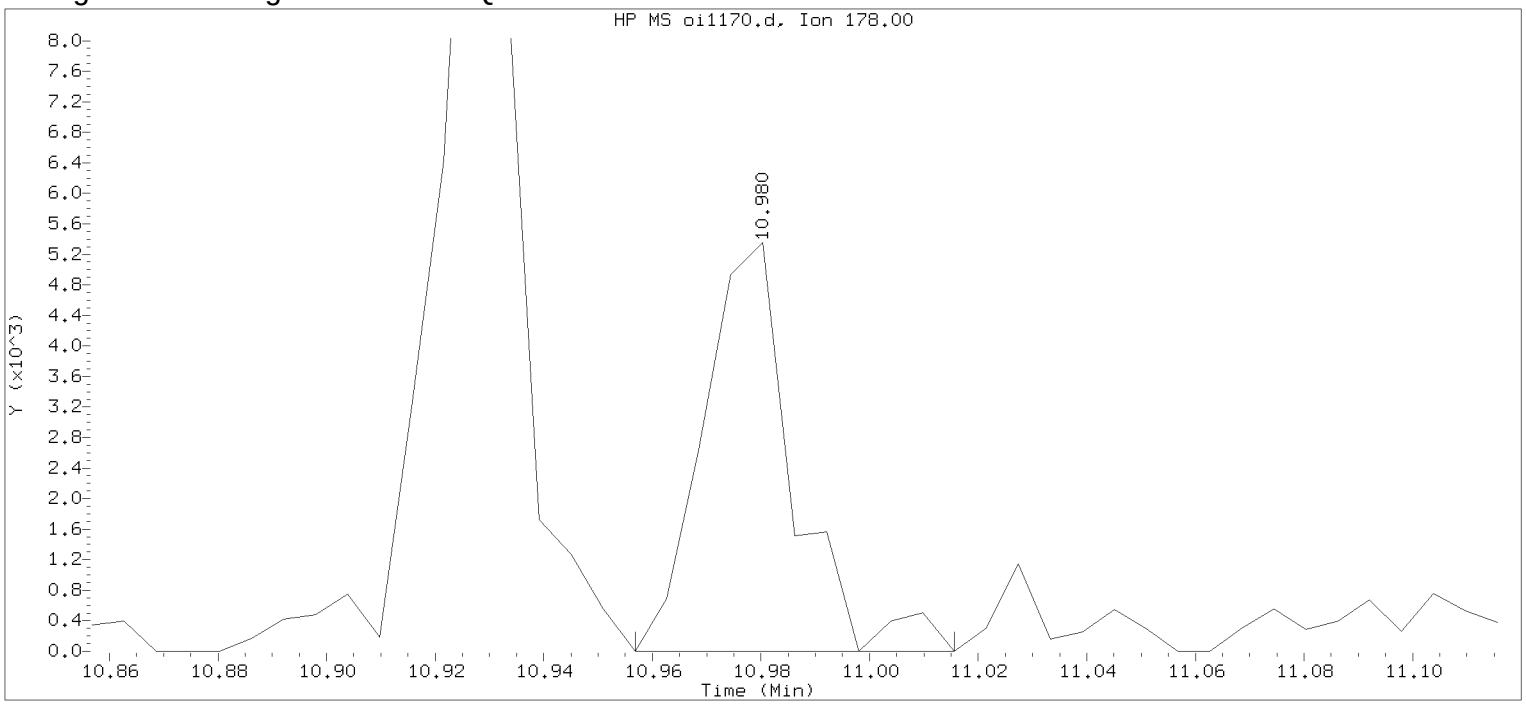
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

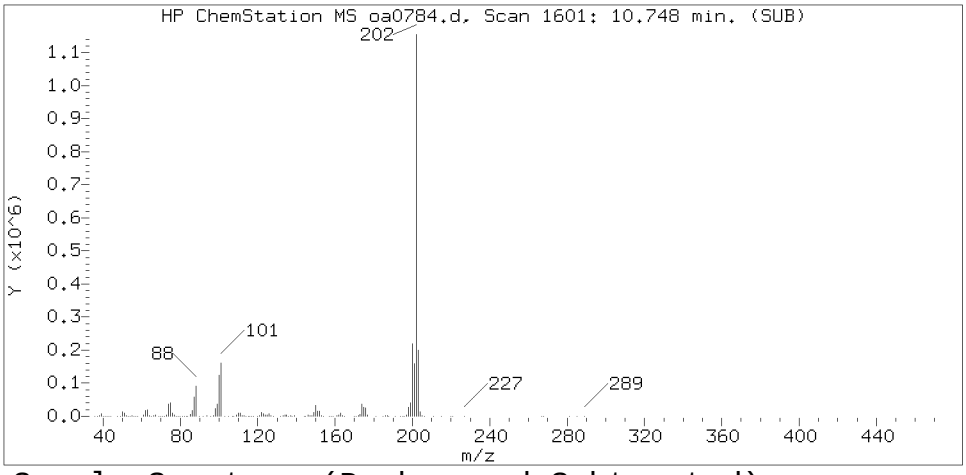
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4677
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 00:29 Automation

Sample Name: PS484 Lab Sample ID: 8057362

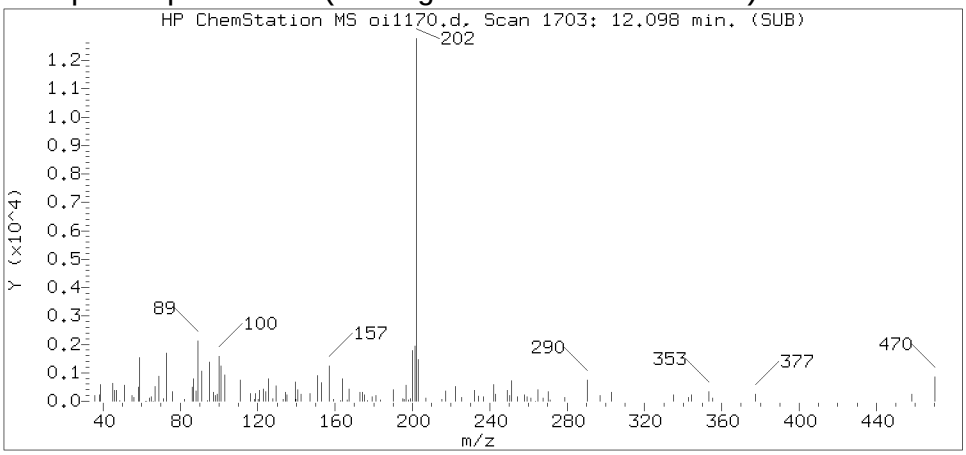
Compound Number	: 157		
Compound Name	: Anthracene		
Scan Number	: 1513		
Retention Time (minutes)	: 10.980		
Quant Ion	: 178.00		
Area	: 6209		
On-column Amount (ng/ul)	: 0.1190		
Integration start scan	: 1508	Integration stop scan:	1518
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: LMH0255

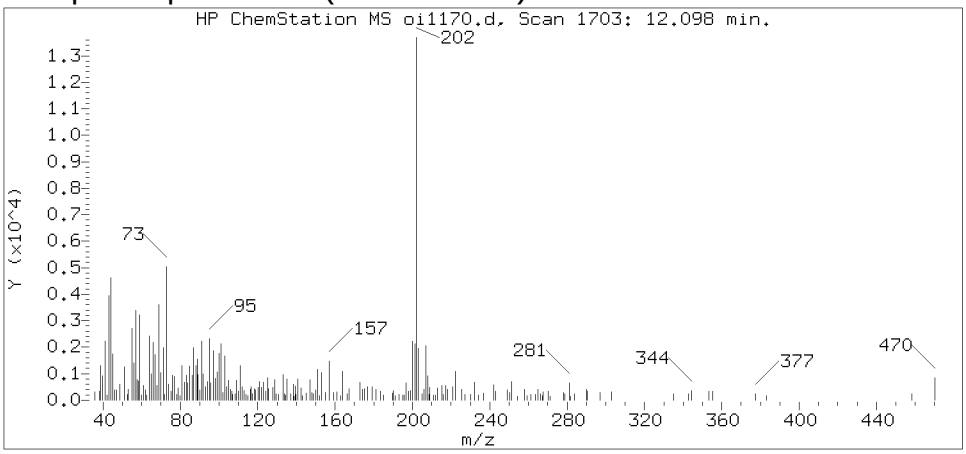
Reference Standard Spectrum for Fluoranthene

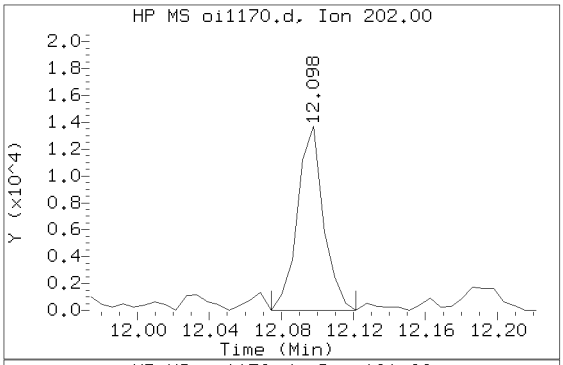


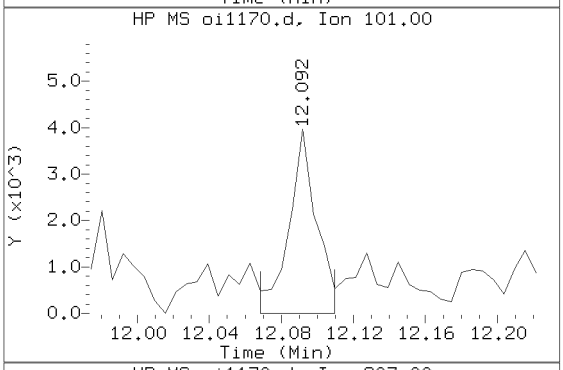
Sample Spectrum (Background Subtracted)

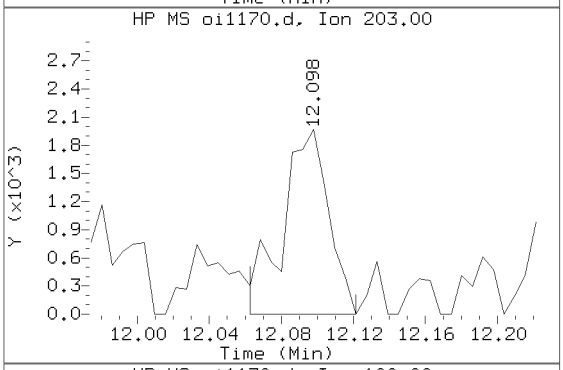


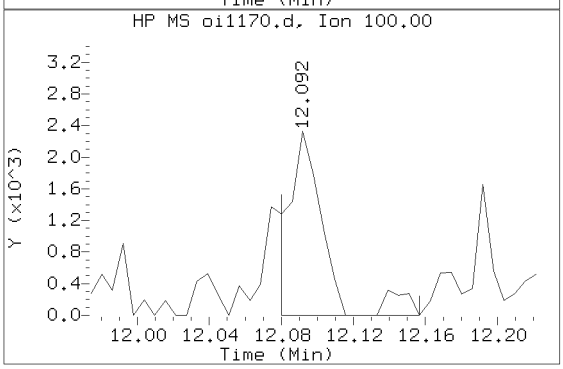
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

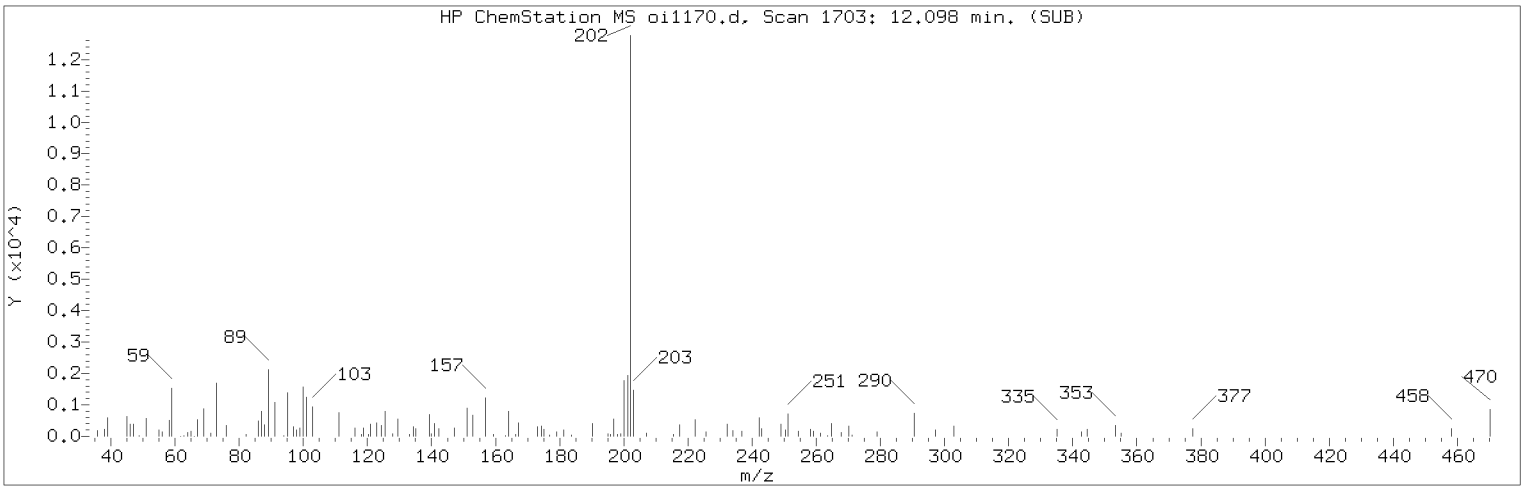
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484 Lab Sample ID: 8057362

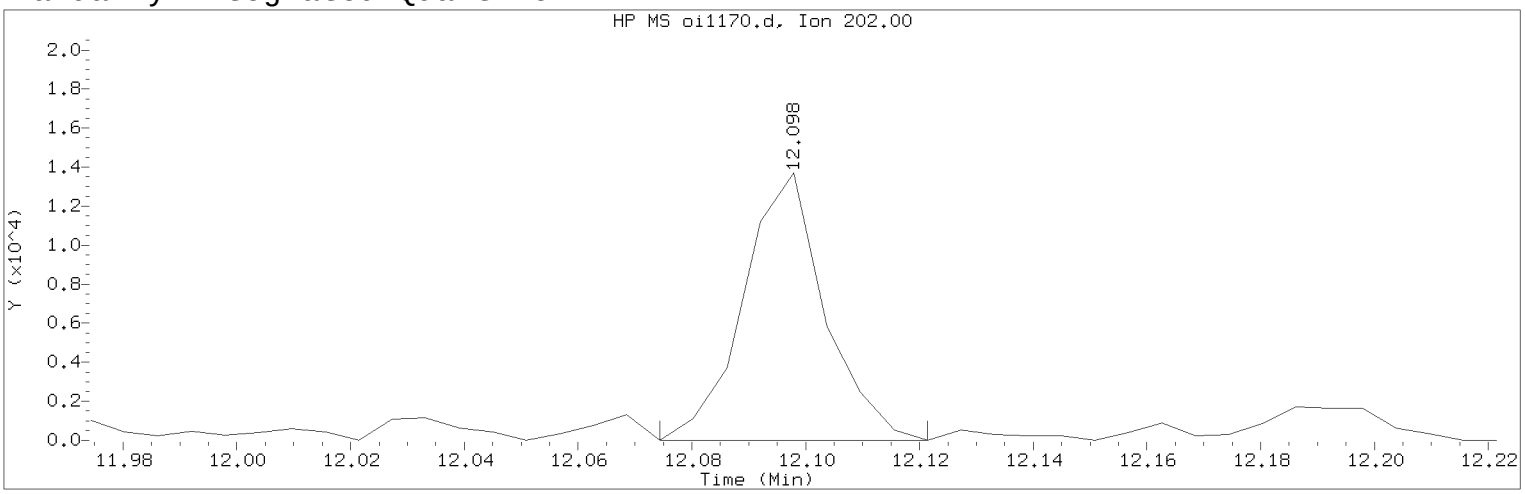
Compound Number : 173
Compound Name : Fluoranthene
Scan Number : 1703
Retention Time (minutes) : 12.098
Relative Retention Time :-0.00060
Quant Ion : 202.00
Area (flag) : 13609M
On-column Amount (ng/ul) : 0.2371

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484 Lab Sample ID: 8057362

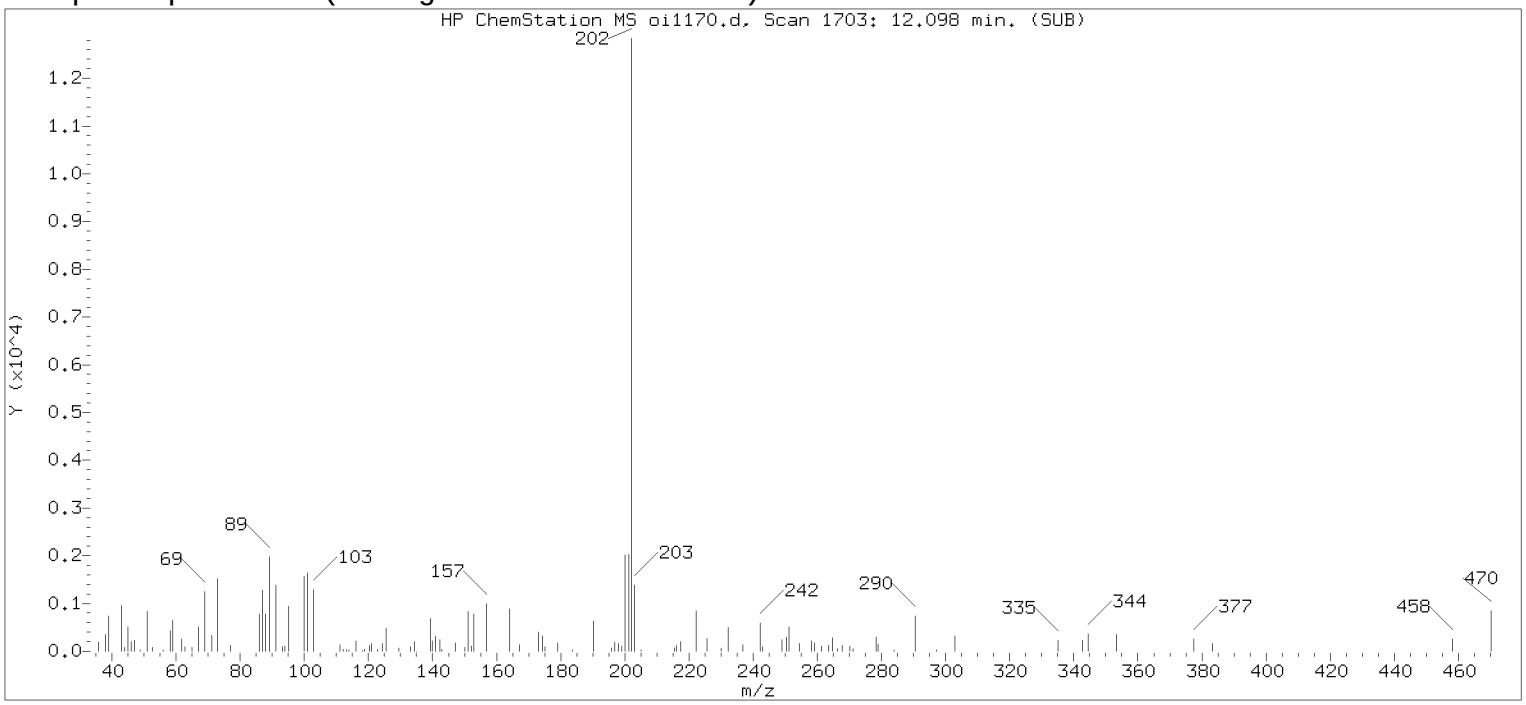
Compound Number : 173
Compound Name : Fluoranthene
Scan Number : 1703
Retention Time (minutes) : 12.098
Quant Ion : 202.00
Area (flag) : 13609M
On-column Amount (ng/ul) : 0.2371
Integration start scan : 1698 Integration stop scan: 1706
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

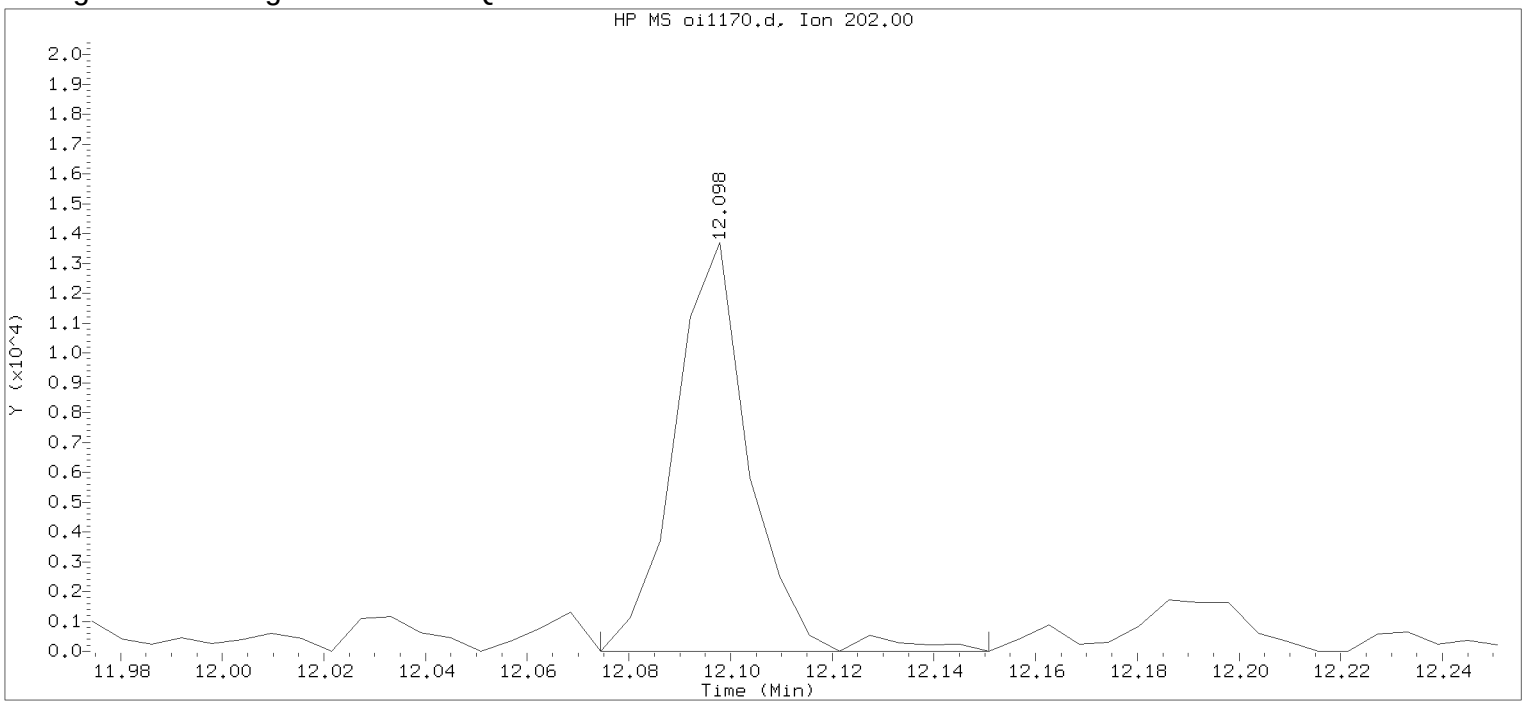
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

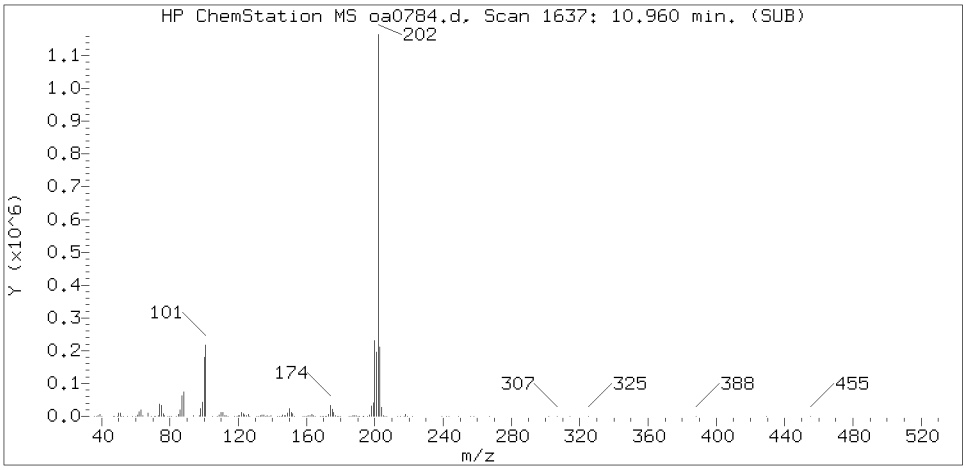
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4677
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 00:29 Automation

Sample Name: PS484 Lab Sample ID: 8057362

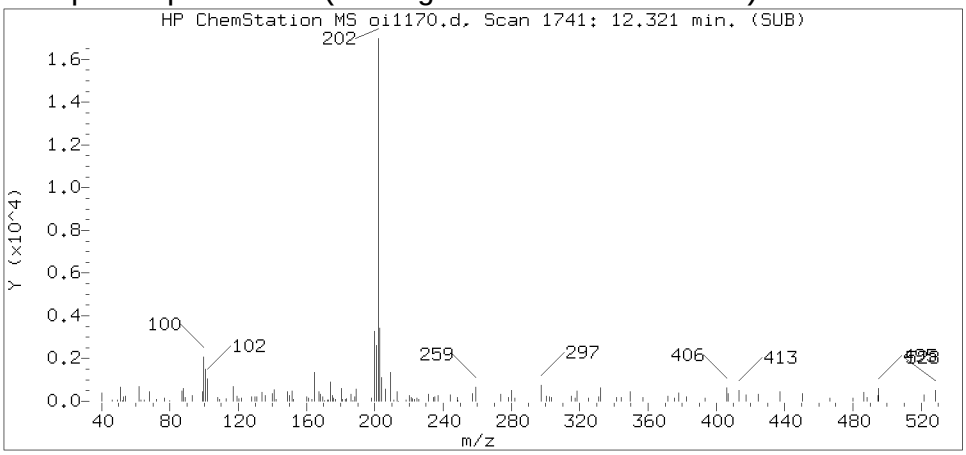
Compound Number	: 173		
Compound Name	: Fluoranthene		
Scan Number	: 1703		
Retention Time (minutes)	: 12.098		
Quant Ion	: 202.00		
Area	: 14054		
On-column Amount (ng/ul)	: 0.2448		
Integration start scan	: 1698	Integration stop scan:	1711
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: LMH0258

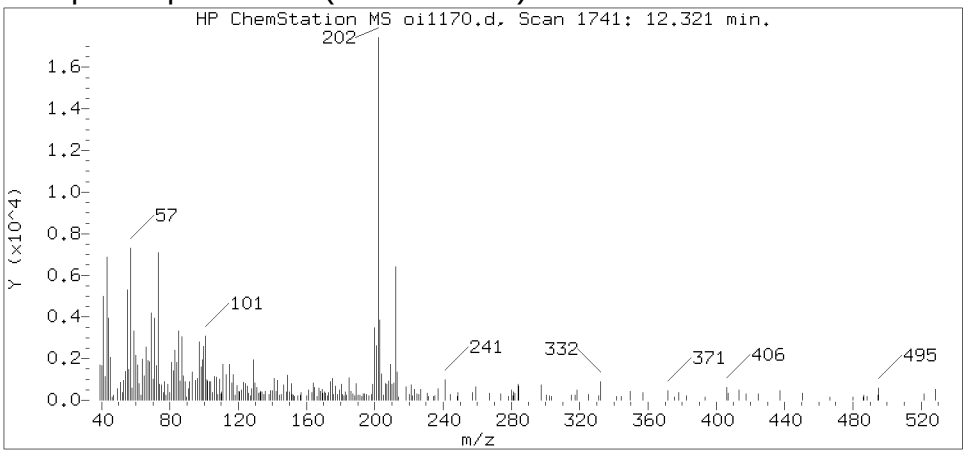
Reference Standard Spectrum for Pyrene

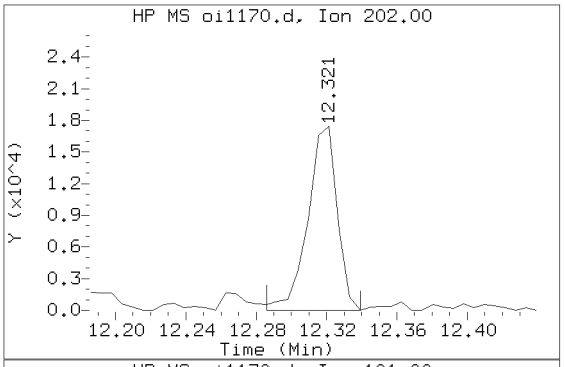


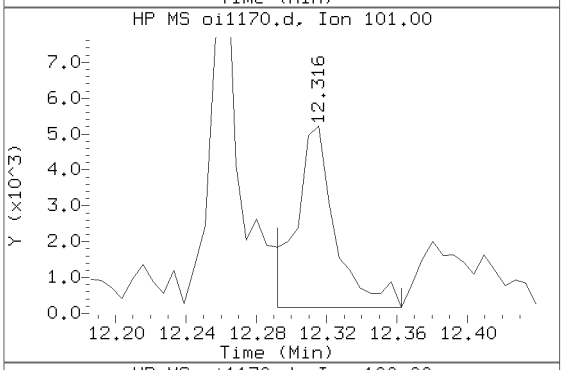
Sample Spectrum (Background Subtracted)

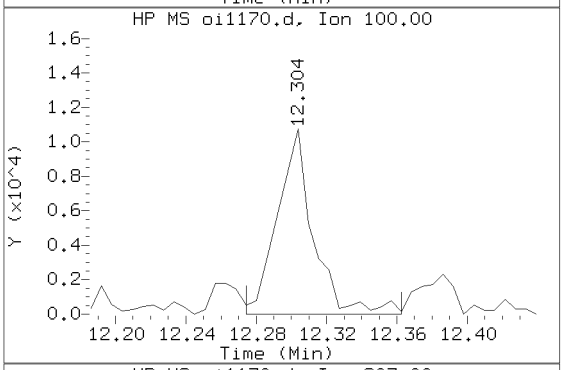


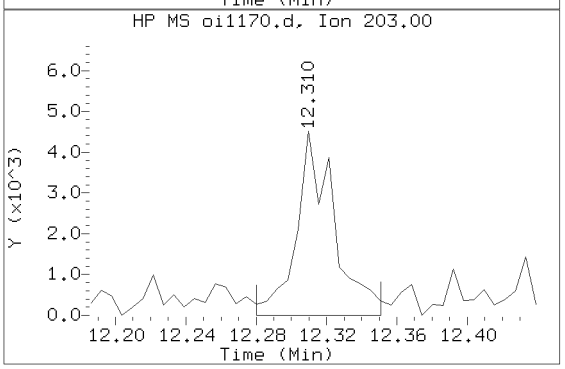
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

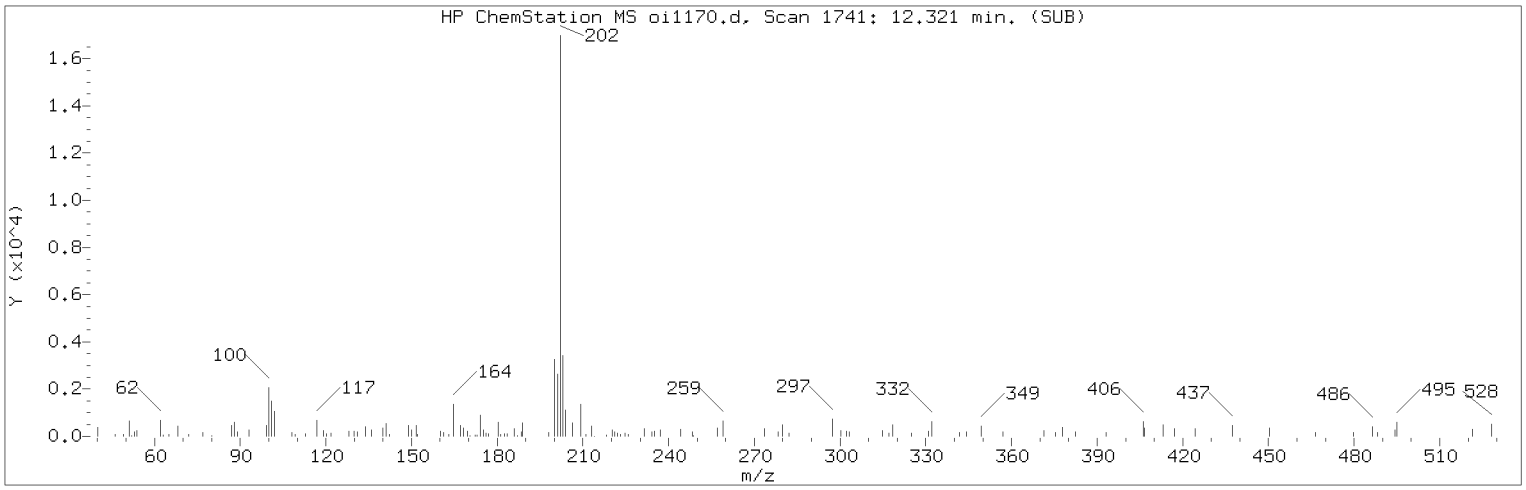
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484 Lab Sample ID: 8057362

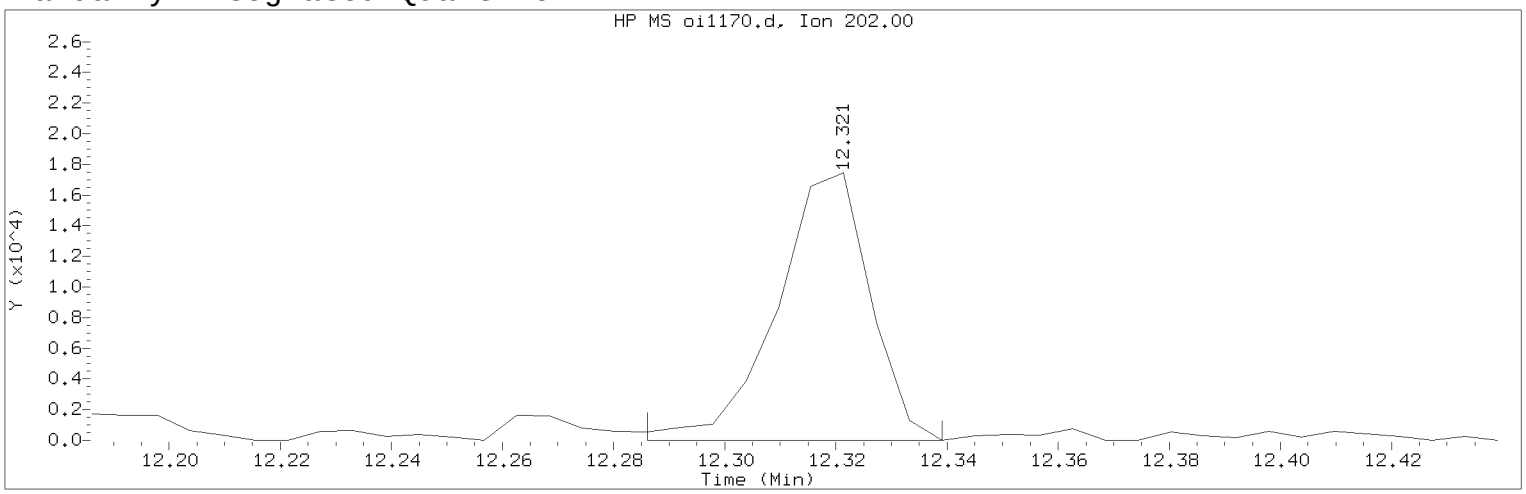
Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1741
Retention Time (minutes)	: 12.321
Relative Retention Time	:-0.00048
Quant Ion	: 202.00
Area (flag)	: 20398M
On-column Amount (ng/ul)	: 0.3800

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484 Lab Sample ID: 8057362

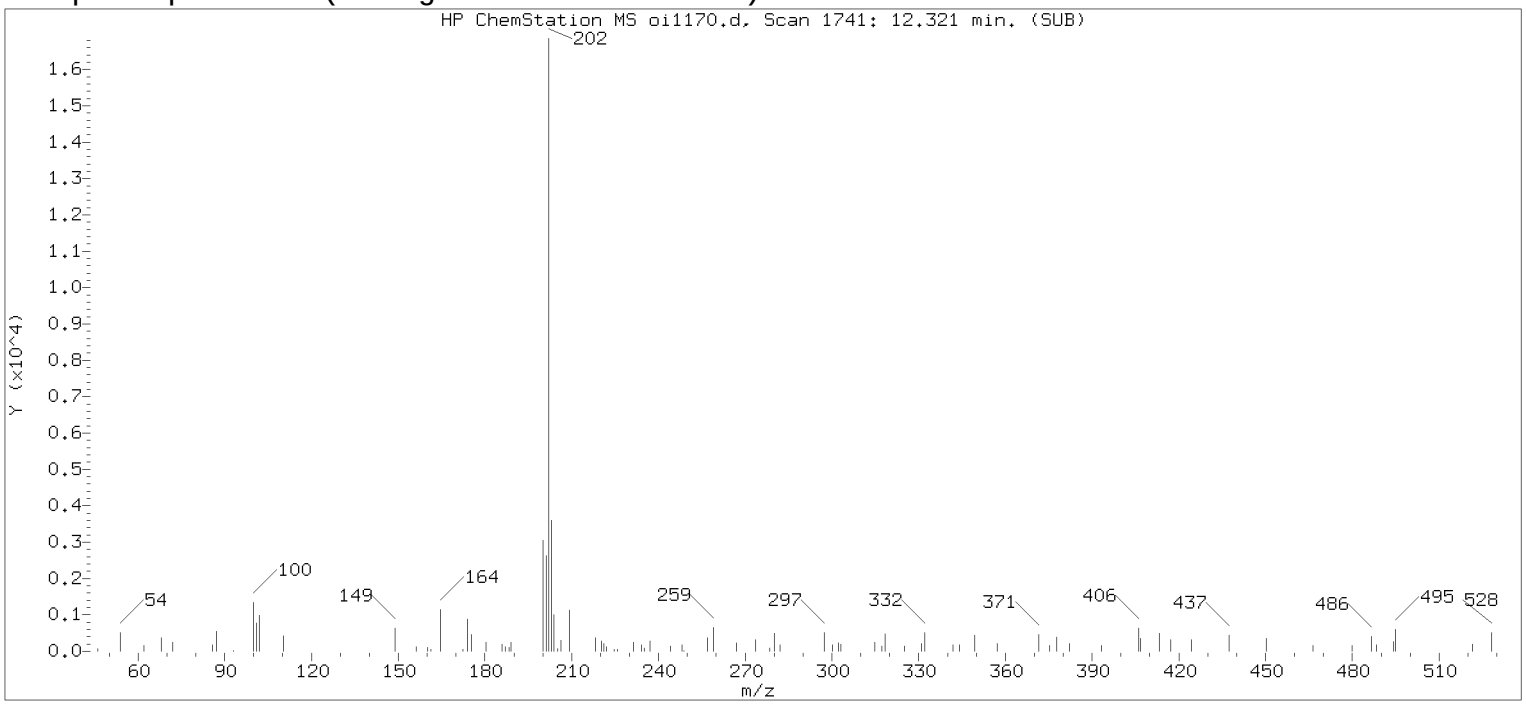
Compound Number : 177
Compound Name : Pyrene
Scan Number : 1741
Retention Time (minutes) : 12.321
Quant Ion : 202.00
Area (flag) : 20398M
On-column Amount (ng/ul) : 0.3800
Integration start scan : 1734 Integration stop scan: 1743
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

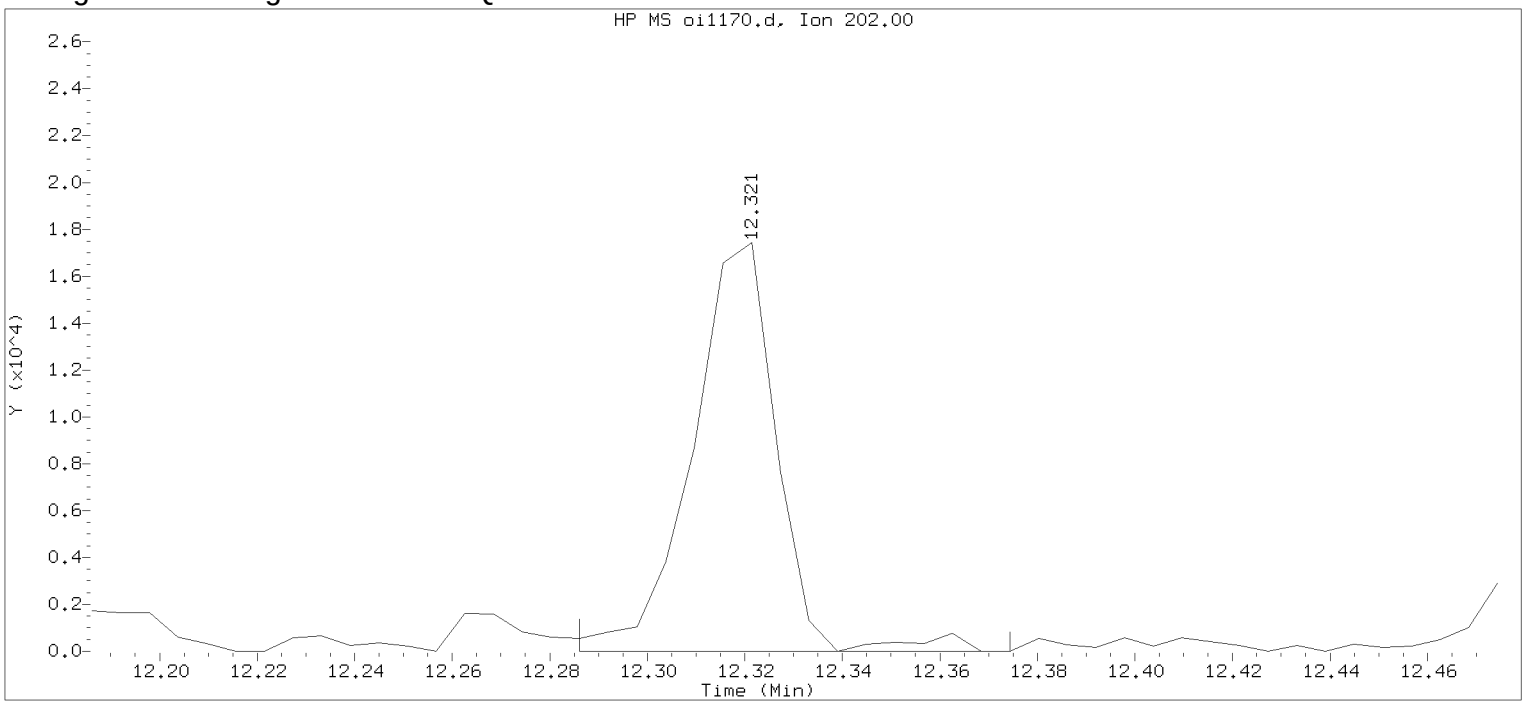
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

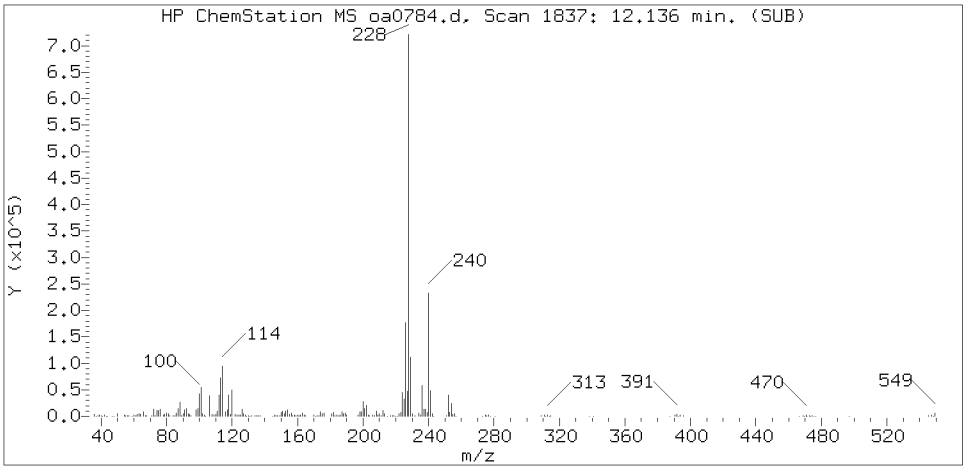
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4677
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 00:29 Automation

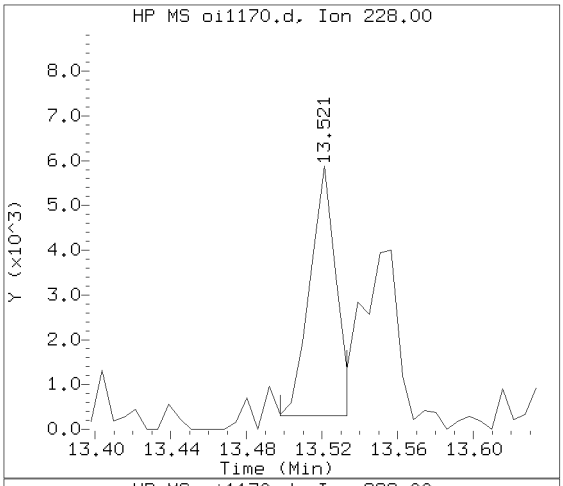
Sample Name: PS484 Lab Sample ID: 8057362

Compound Number	: 177		
Compound Name	: Pyrene		
Scan Number	: 1741		
Retention Time (minutes)	: 12.321		
Quant Ion	: 202.00		
Area	: 20929		
On-column Amount (ng/ul)	: 0.3899		
Integration start scan	: 1734	Integration stop scan:	1749
Y at integration start	: 0	Y at integration end:	0

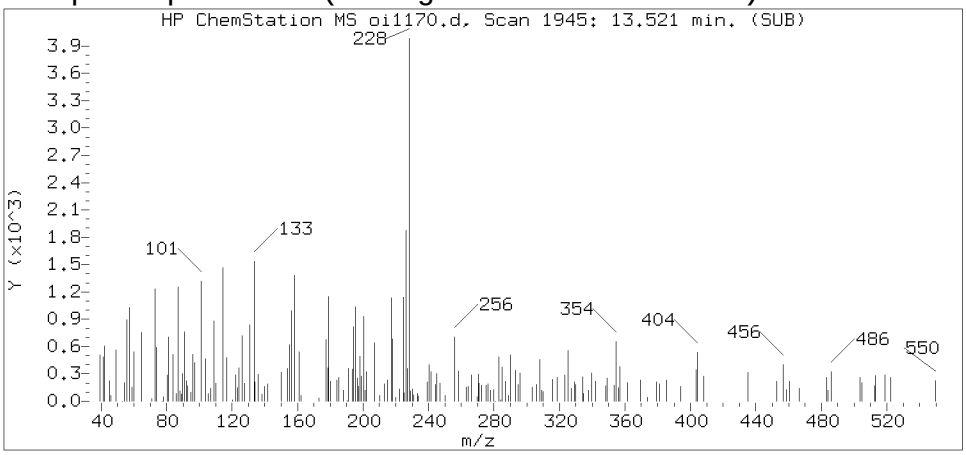
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: LMH0251

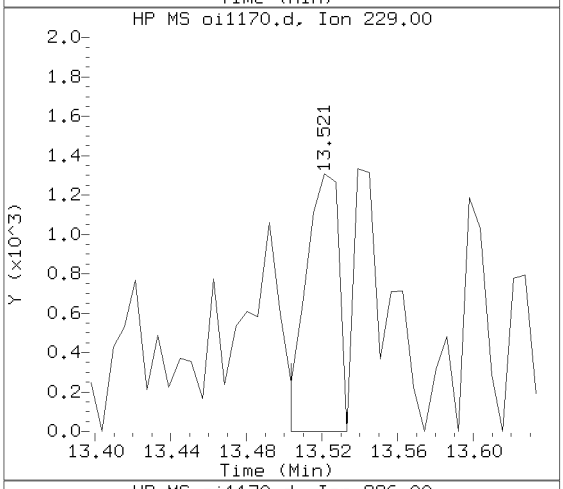
Reference Standard Spectrum for Benzo(a)anthracene



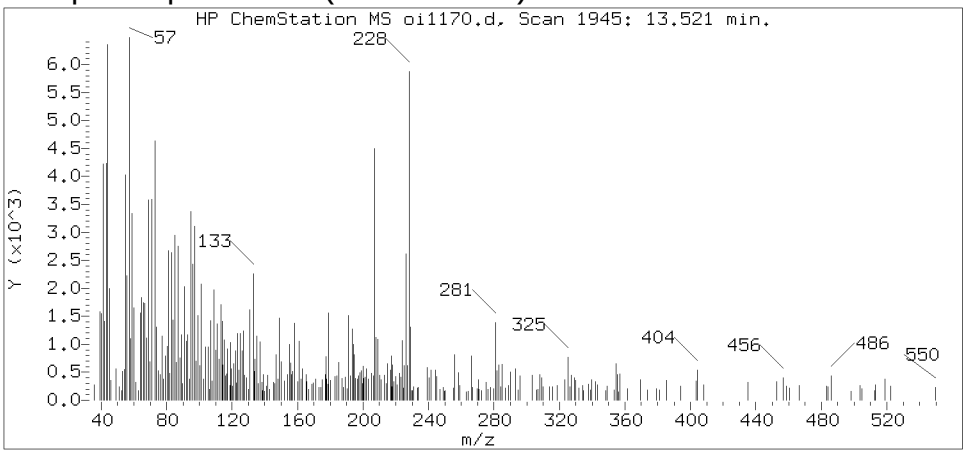


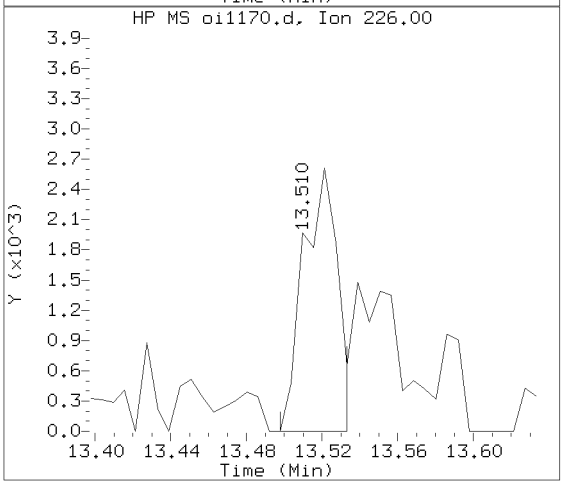
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

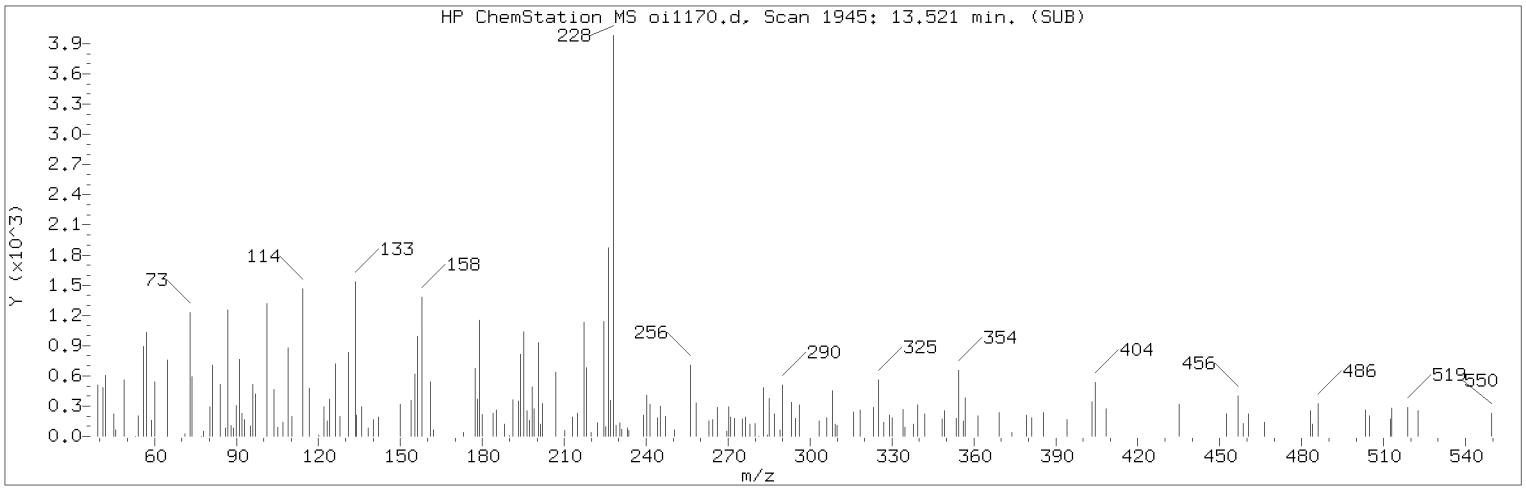
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484 Lab Sample ID: 8057362

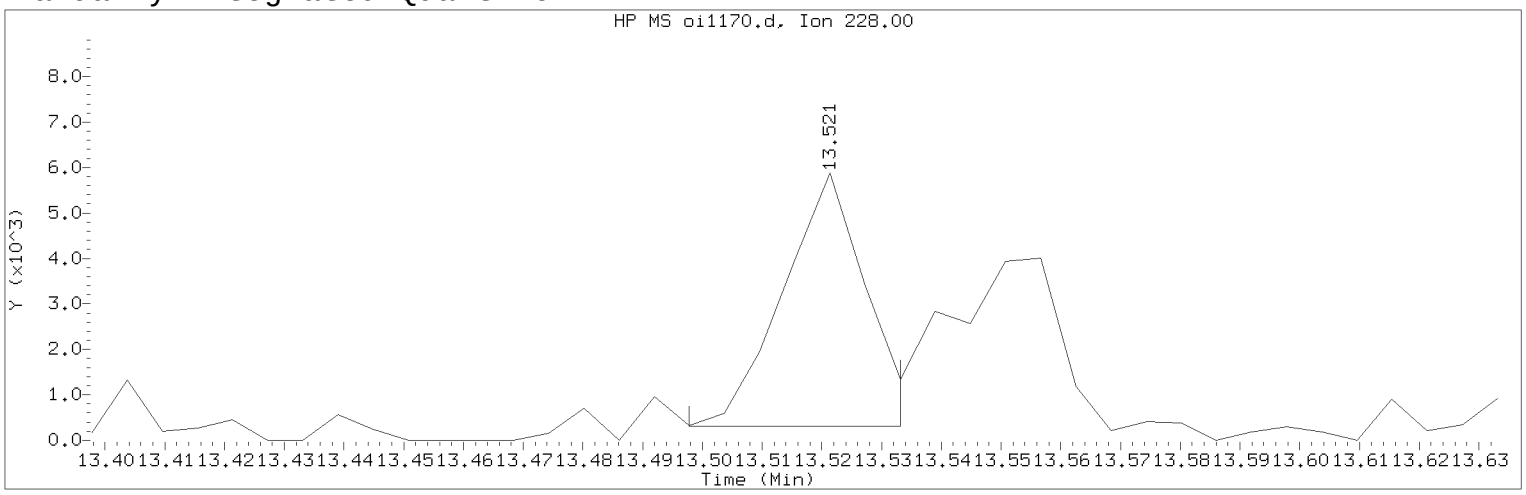
Compound Number	: 195
Compound Name	: Benzo(a)anthracene
Scan Number	: 1945
Retention Time (minutes)	: 13.521
Relative Retention Time	:-0.00005
Quant Ion	: 228.00
Area (flag)	: 5404M
On-column Amount (ng/ul)	: 0.1155

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484 Lab Sample ID: 8057362

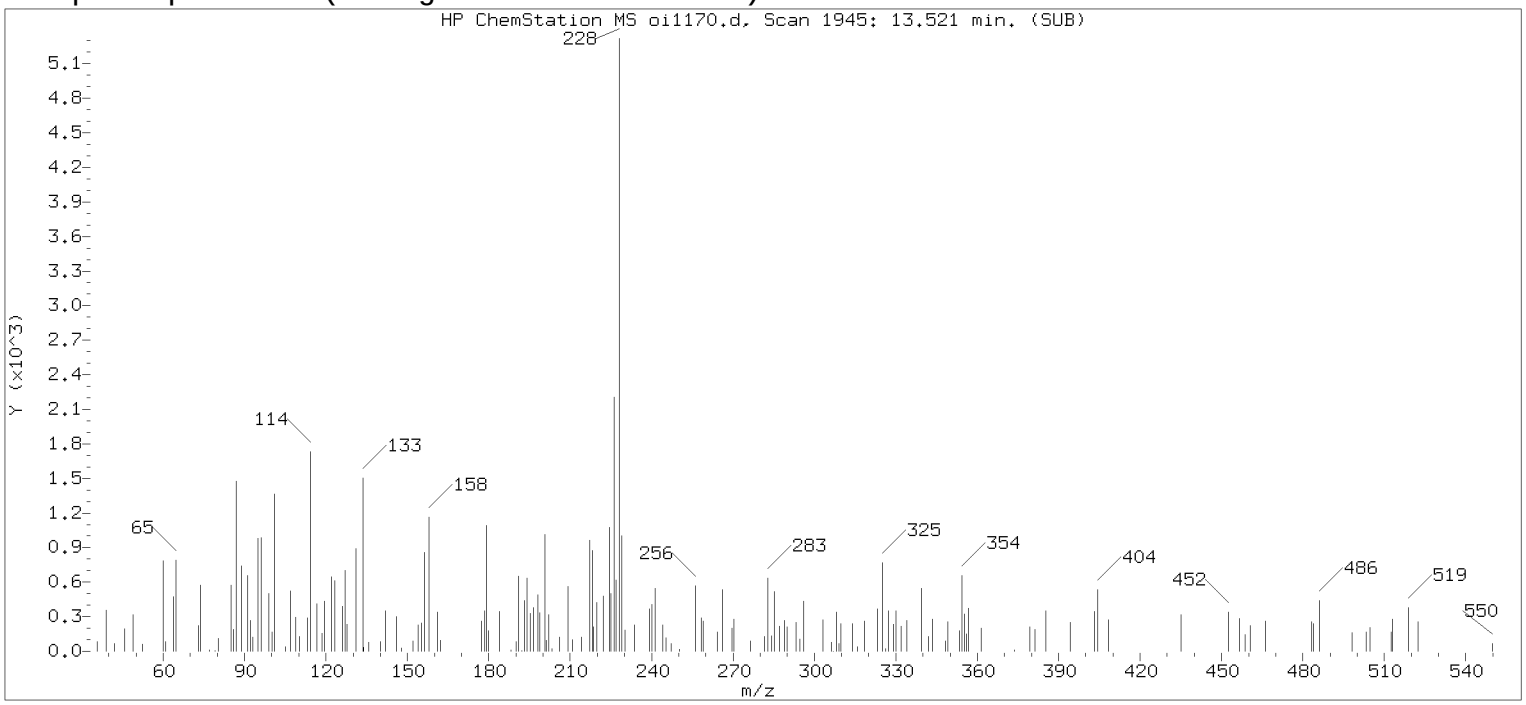
Compound Number : 195
Compound Name : Benzo(a)anthracene
Scan Number : 1945
Retention Time (minutes) : 13.521
Quant Ion : 228.00
Area (flag) : 5404M
On-column Amount (ng/ul) : 0.1155
Integration start scan : 1940 Integration stop scan: 1946
Y at integration start : 307 Y at integration end: 307

Reason for manual integration: improper integration

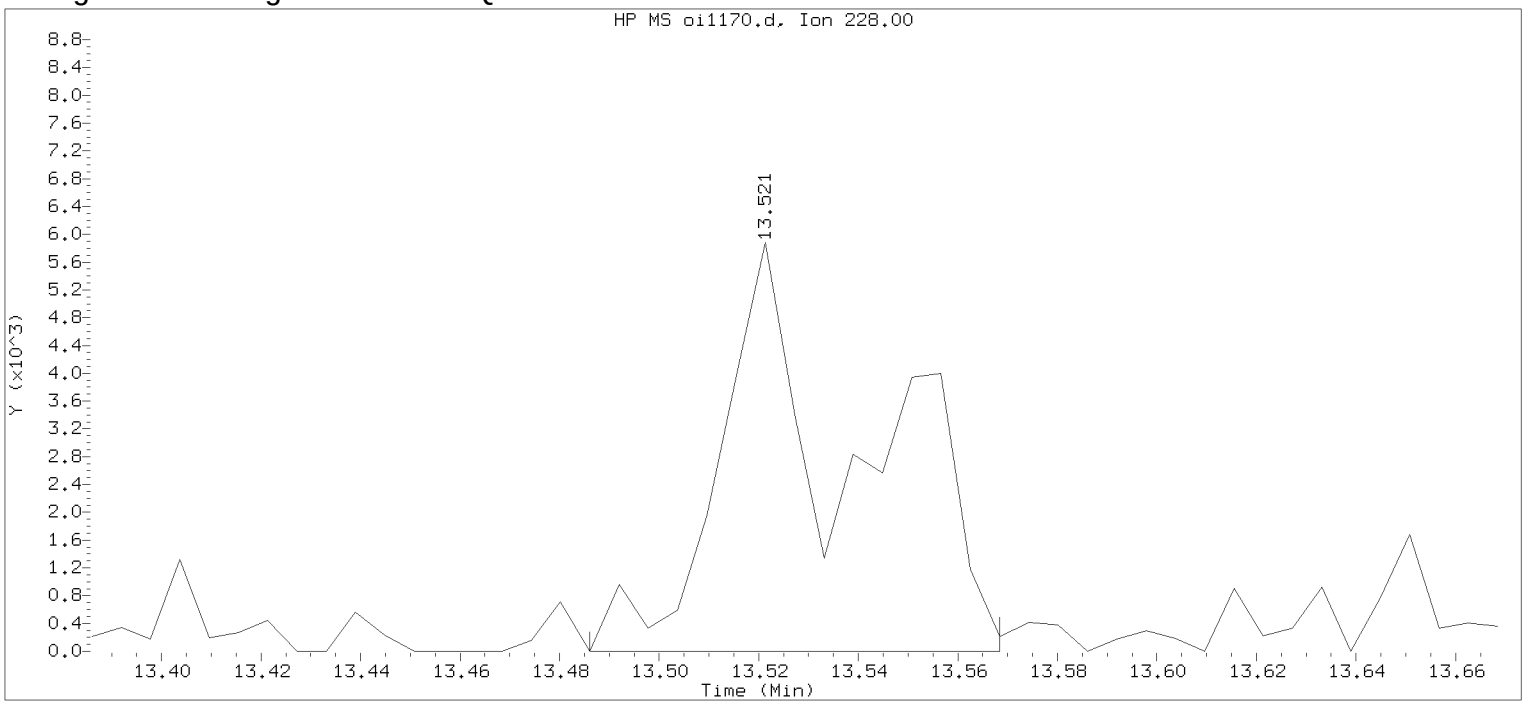
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

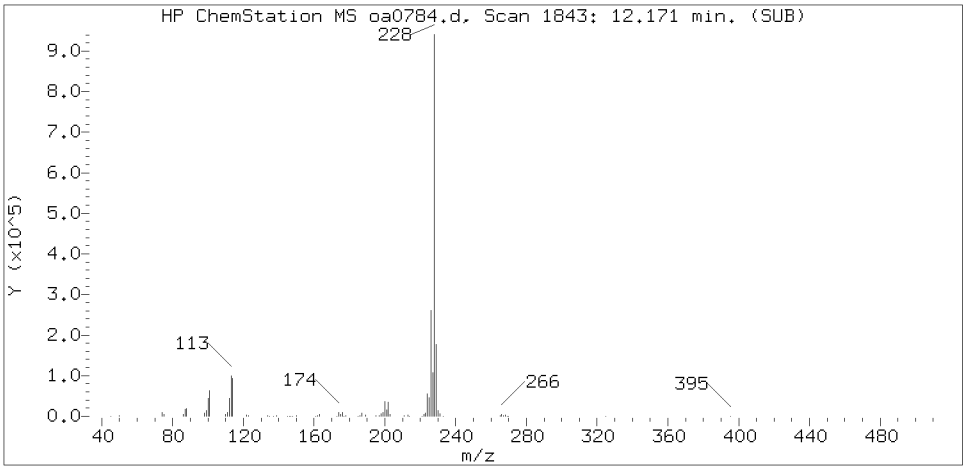
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4677
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 00:29 Automation

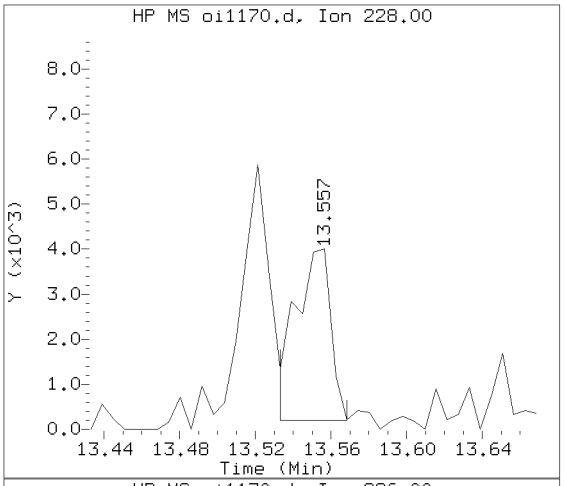
Sample Name: PS484 Lab Sample ID: 8057362

Compound Number : 195
Compound Name : Benzo(a)anthracene
Scan Number : 1945
Retention Time (minutes) : 13.521
Quant Ion : 228.00
Area : 11664
On-column Amount (ng/ul) : 0.2493
Integration start scan : 1938 Integration stop scan: 1952
Y at integration start : 0 Y at integration end: 0

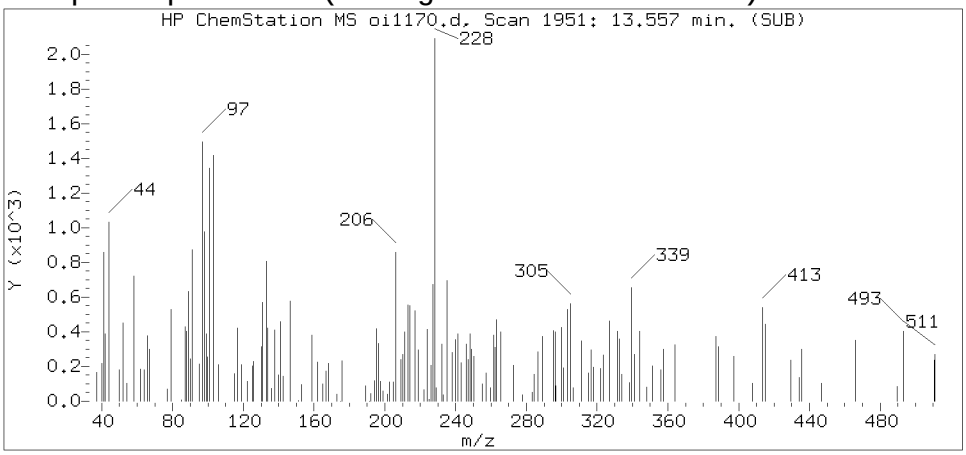
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: LMH0256

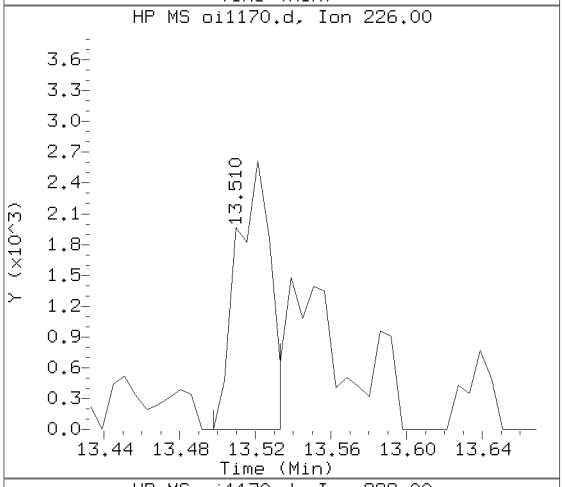
Reference Standard Spectrum for Chrysene



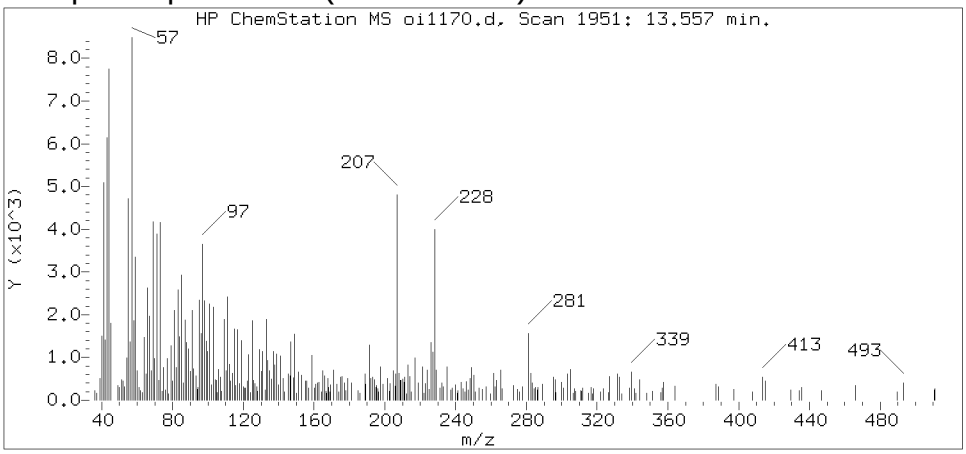


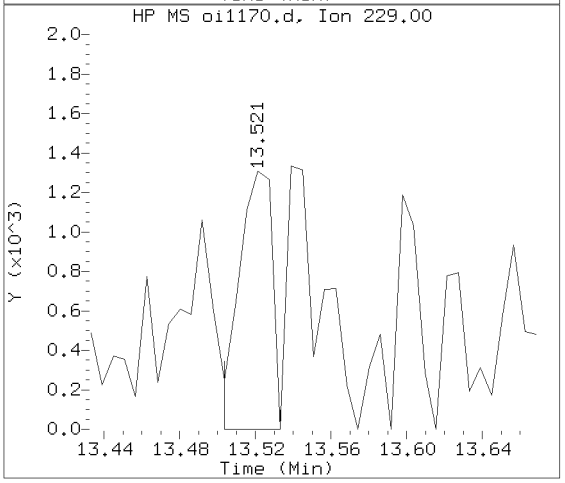
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

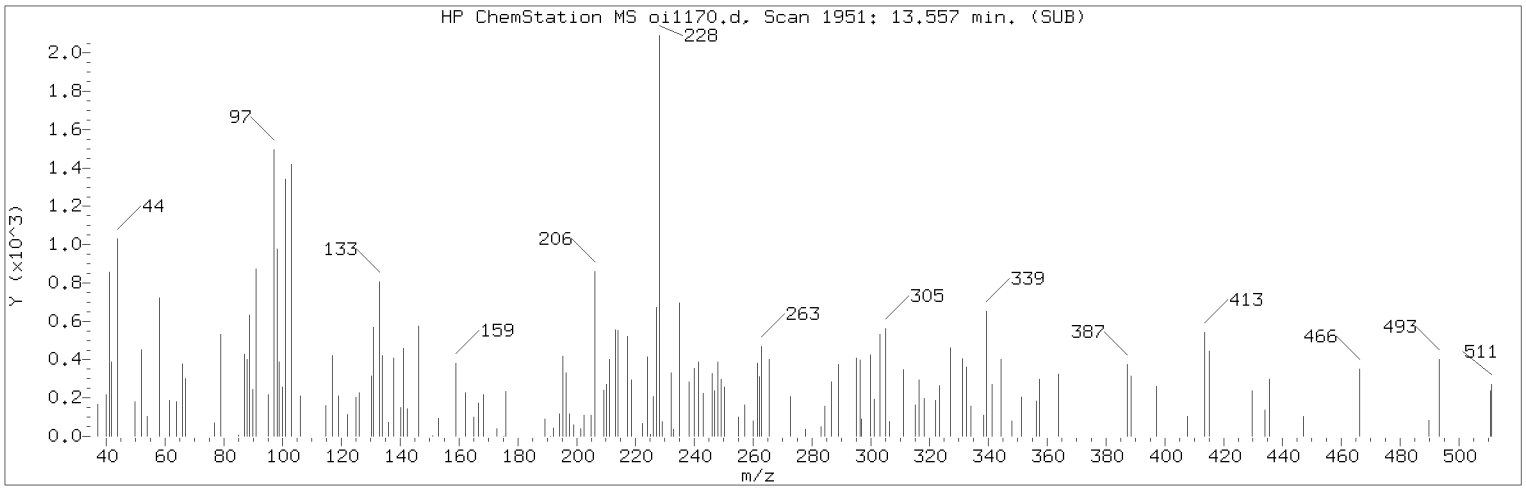
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484 Lab Sample ID: 8057362

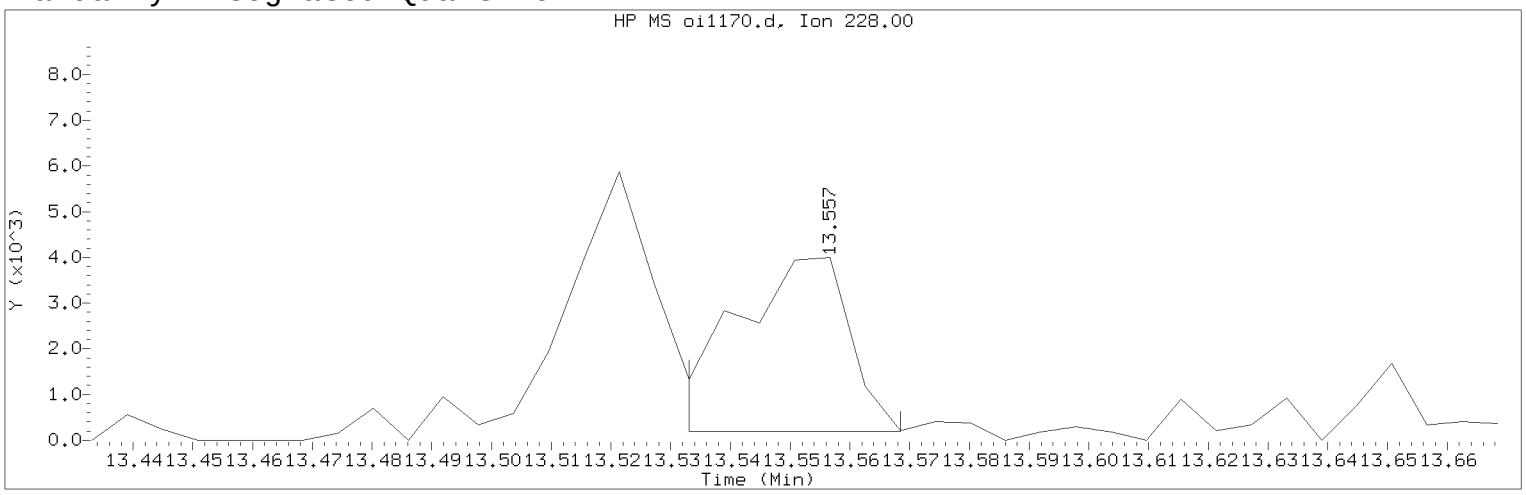
Compound Number : 196
Compound Name : Chrysene
Scan Number : 1951
Retention Time (minutes) : 13.557
Relative Retention Time :-0.00005
Quant Ion : 228.00
Area (flag) : 5171M
On-column Amount (ng/ul) : 0.1160

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484 Lab Sample ID: 8057362

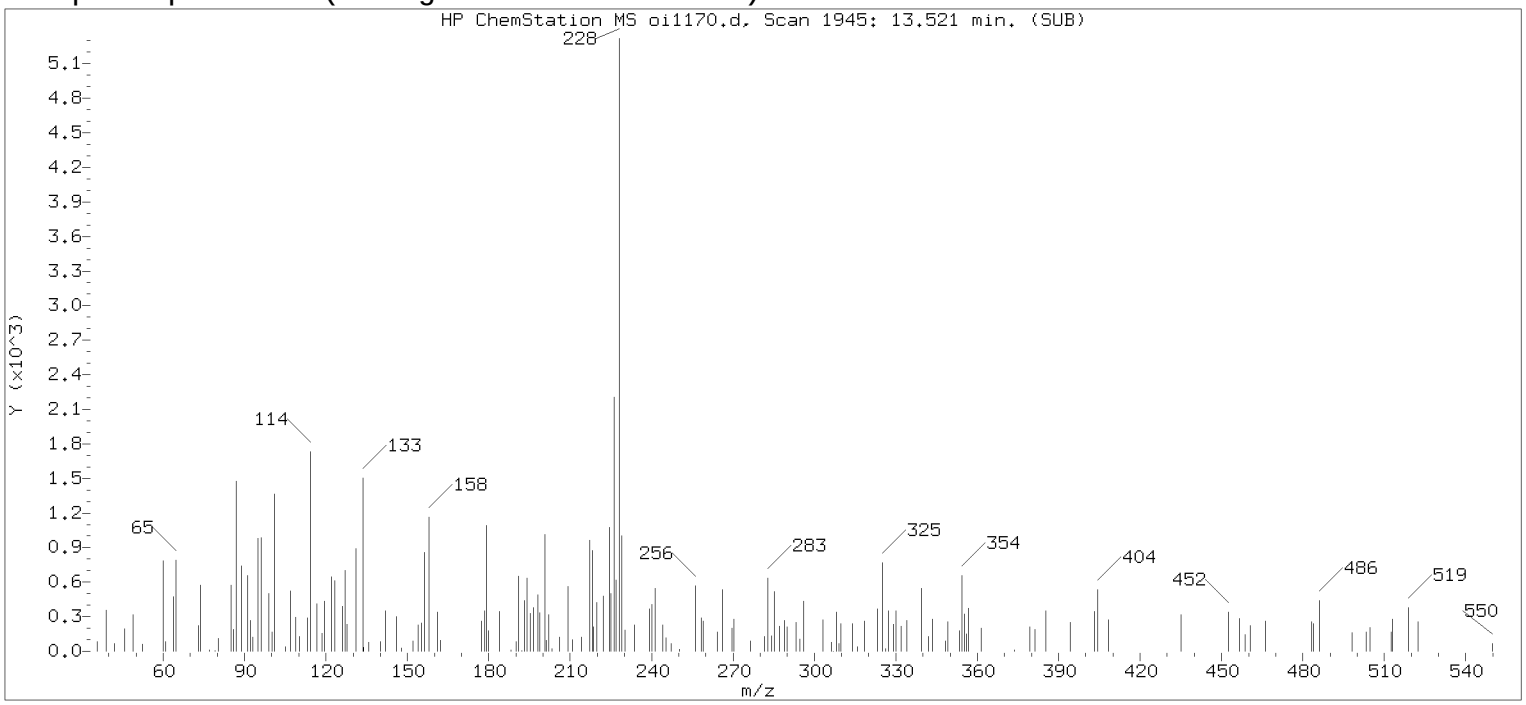
Compound Number : 196
Compound Name : Chrysene
Scan Number : 1951
Retention Time (minutes) : 13.557
Quant Ion : 228.00
Area (flag) : 5171M
On-column Amount (ng/ul) : 0.1160
Integration start scan : 1946 Integration stop scan: 1952
Y at integration start : 203 Y at integration end: 203

Reason for manual integration: improper integration

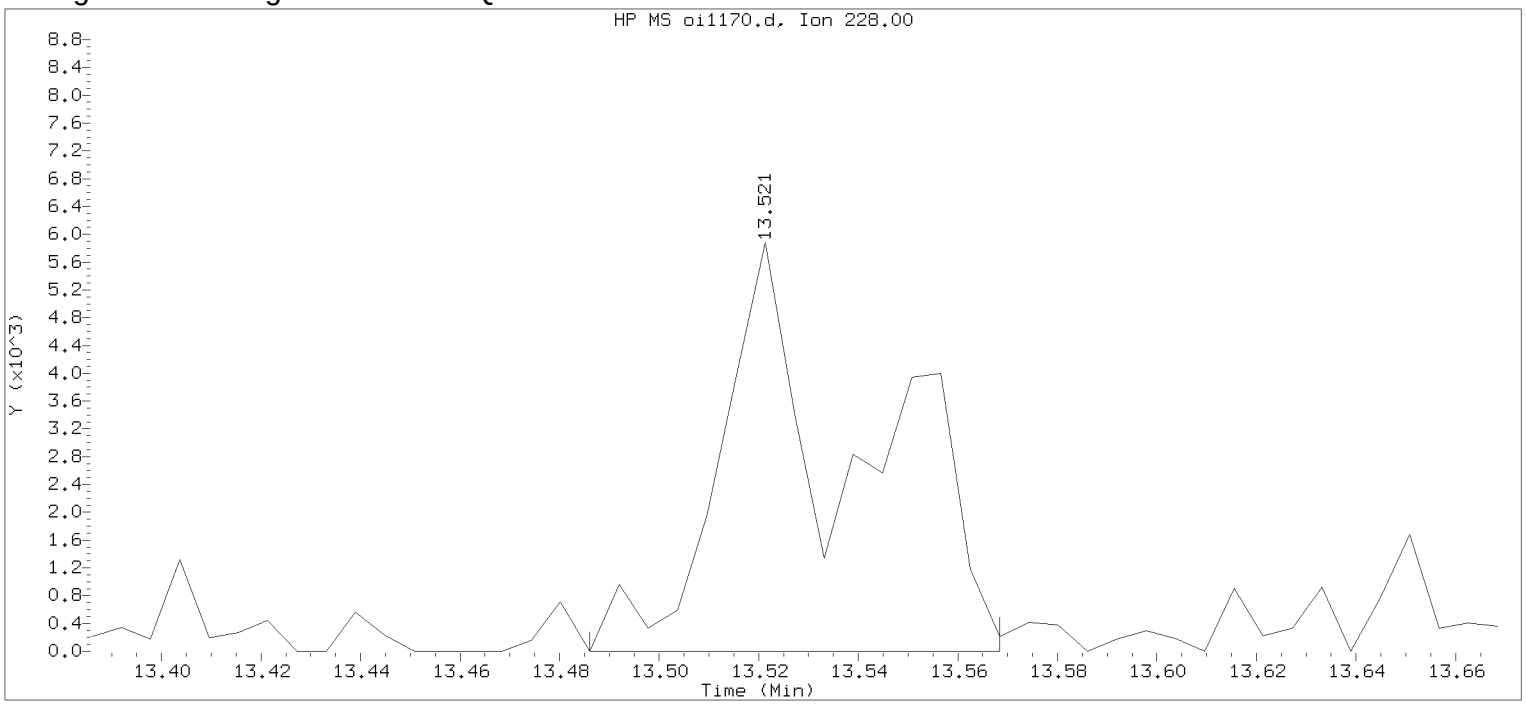
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

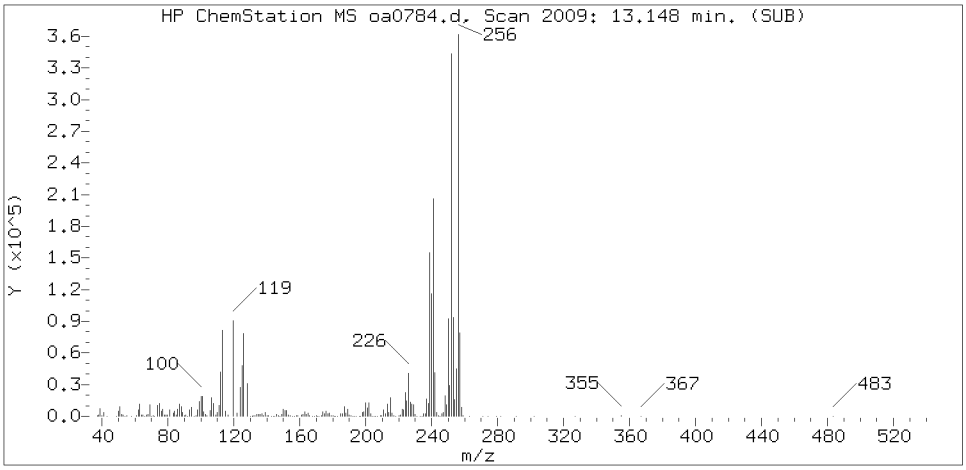
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4677
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 00:29 Automation

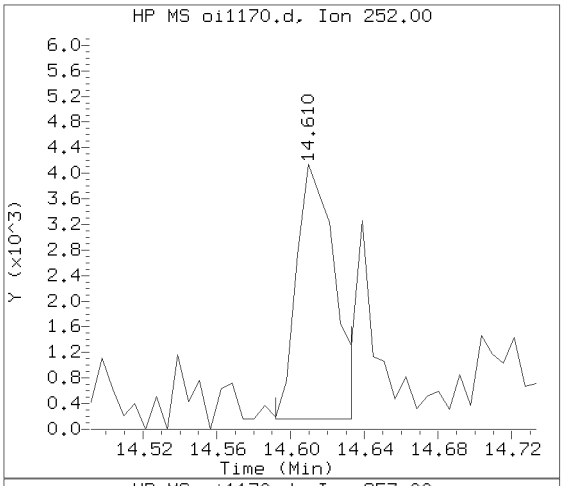
Sample Name: PS484 Lab Sample ID: 8057362

Compound Number	: 196		
Compound Name	: Chrysene		
Scan Number	: 1945		
Retention Time (minutes)	: 13.521		
Quant Ion	: 228.00		
Area	: 11664		
On-column Amount (ng/ul)	: 0.2617		
Integration start scan	: 1938	Integration stop scan:	1952
Y at integration start	: 0	Y at integration end:	0

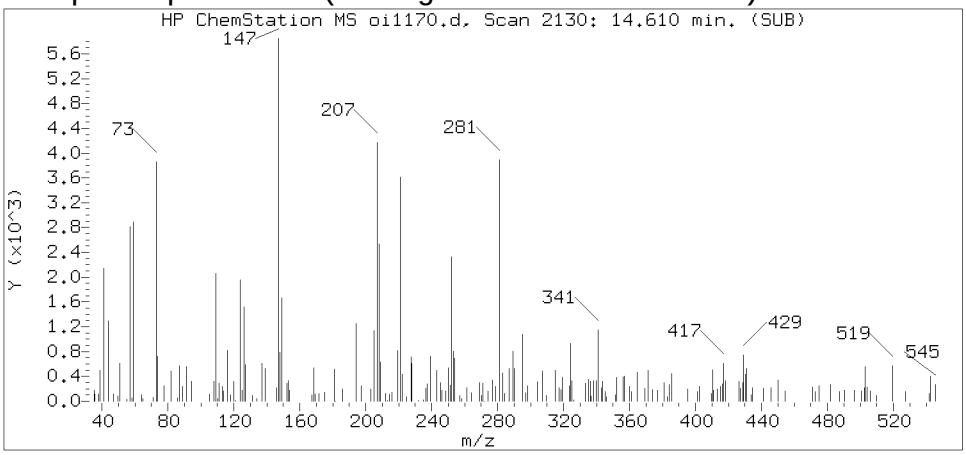
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: LMH0257

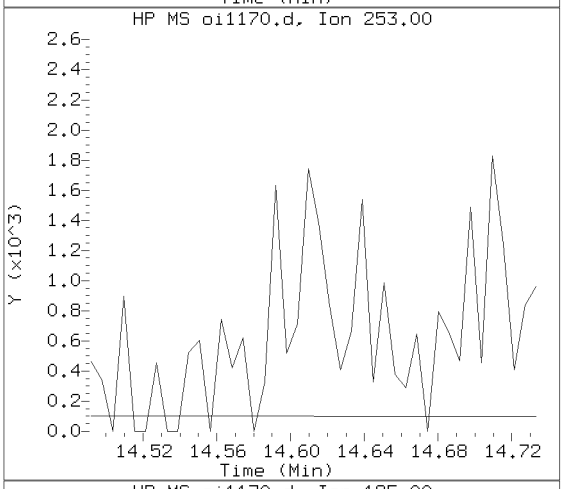
Reference Standard Spectrum for Benzo(b)fluoranthene



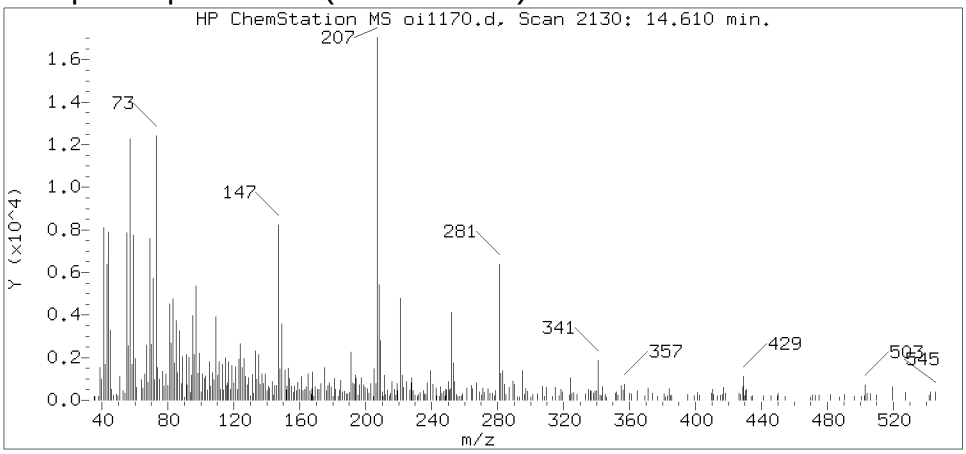


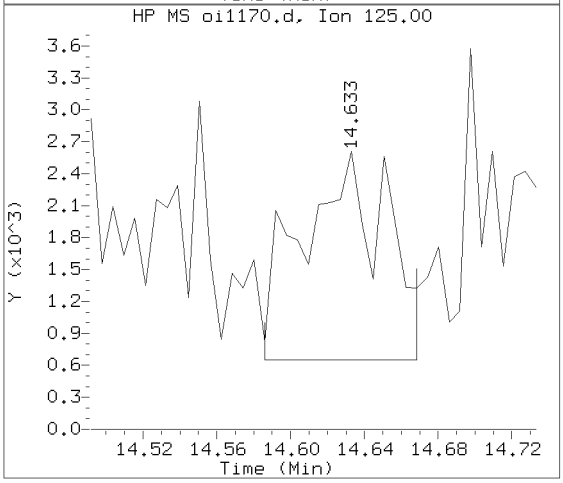
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

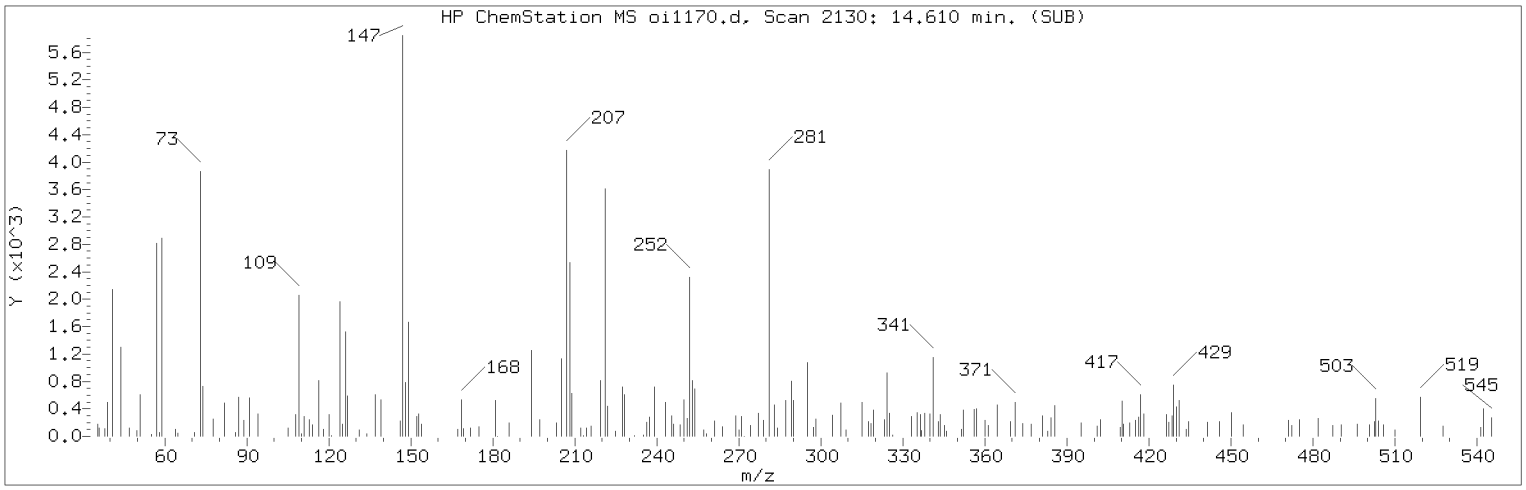
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484 Lab Sample ID: 8057362

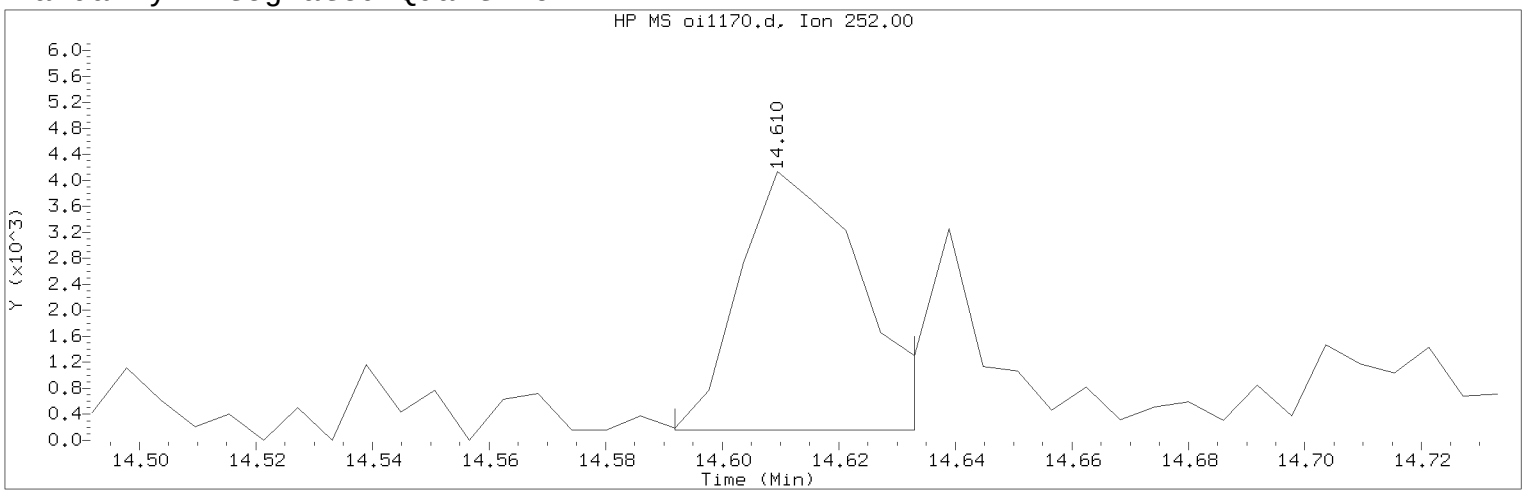
Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2130
Retention Time (minutes)	: 14.610
Relative Retention Time	: 0.00040
Quant Ion	: 252.00
Area (flag)	: 5795M
On-column Amount (ng/ul)	: 0.1658

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484 Lab Sample ID: 8057362

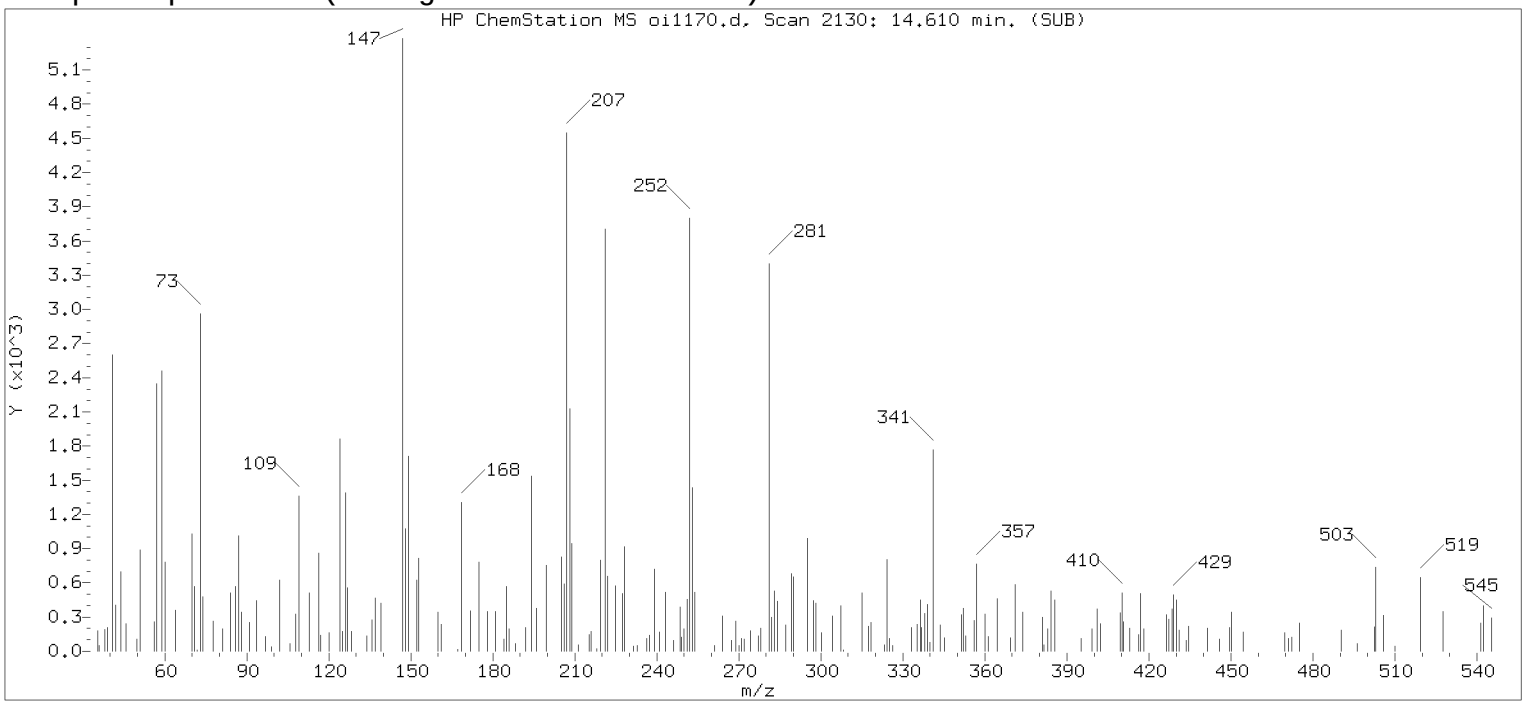
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2130
Retention Time (minutes) : 14.610
Quant Ion : 252.00
Area (flag) : 5795M
On-column Amount (ng/ul) : 0.1658
Integration start scan : 2126 Integration stop scan: 2133
Y at integration start : 160 Y at integration end: 160

Reason for manual integration: improper integration

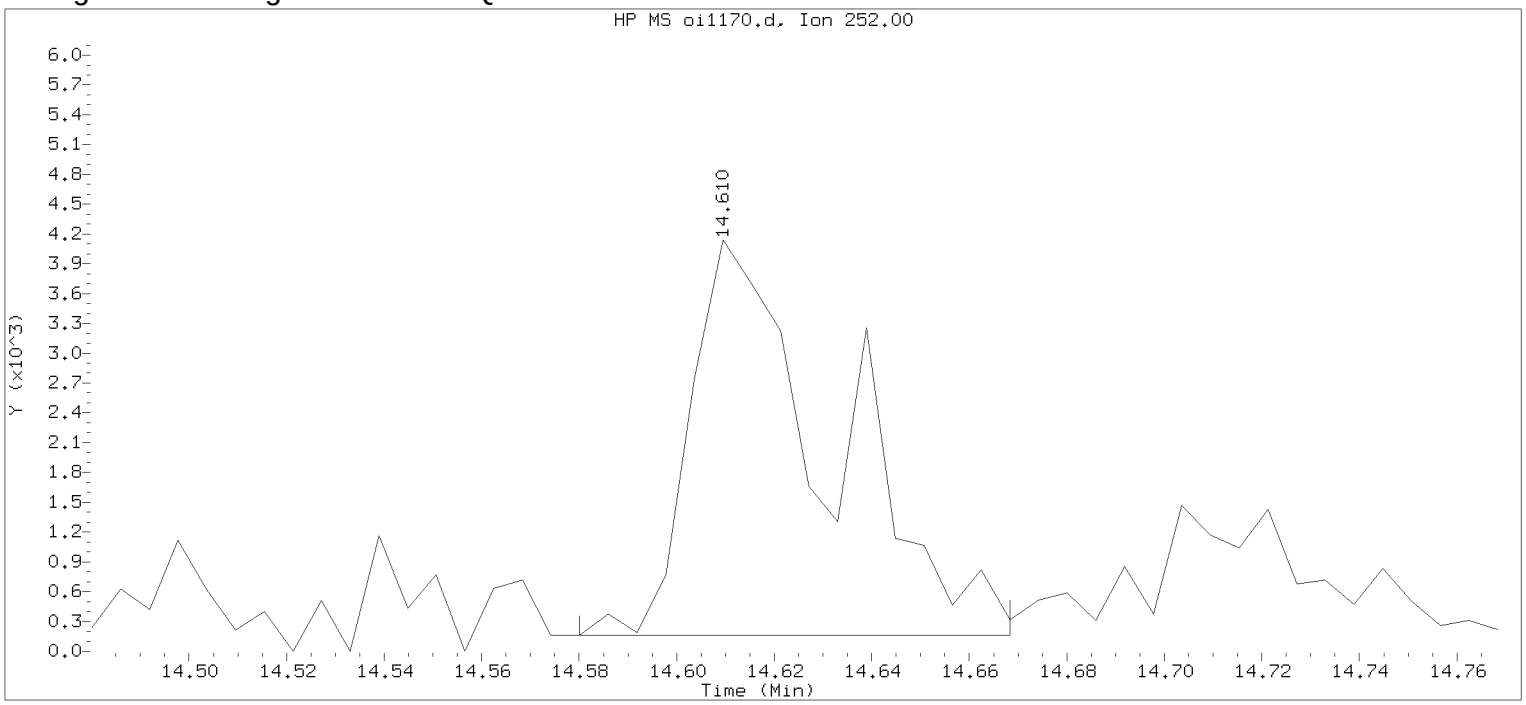
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

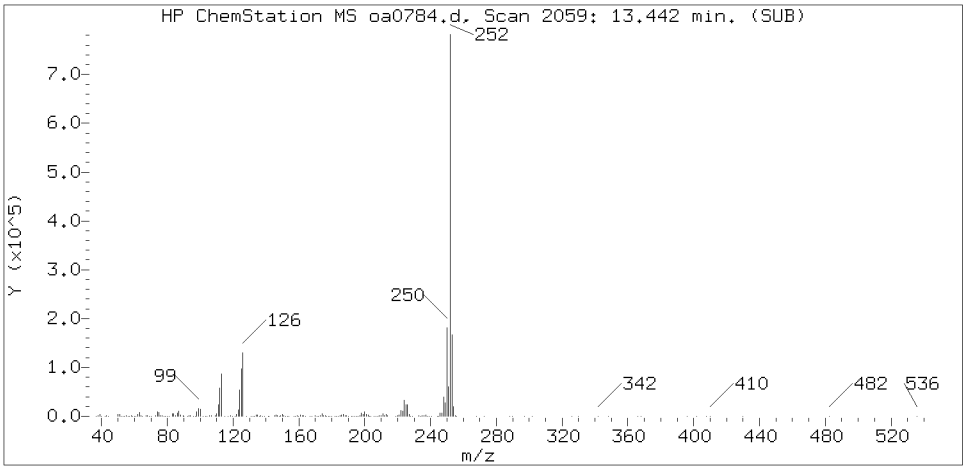
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4677
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 00:29 Automation

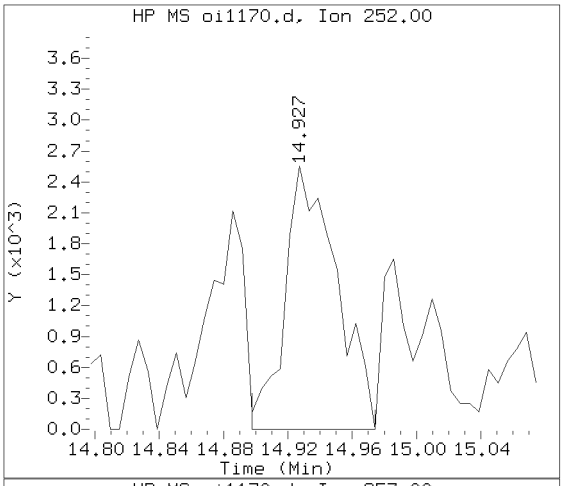
Sample Name: PS484 Lab Sample ID: 8057362

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2130		
Retention Time (minutes)	: 14.610		
Quant Ion	: 252.00		
Area	: 7992		
On-column Amount (ng/ul)	: 0.2287		
Integration start scan	: 2124	Integration stop scan:	2139
Y at integration start	: 161	Y at integration end:	161

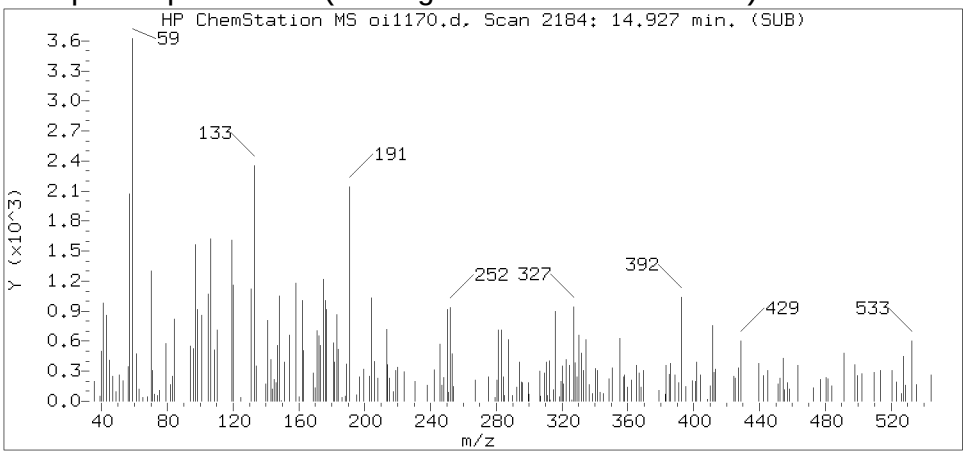
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: LMH0276

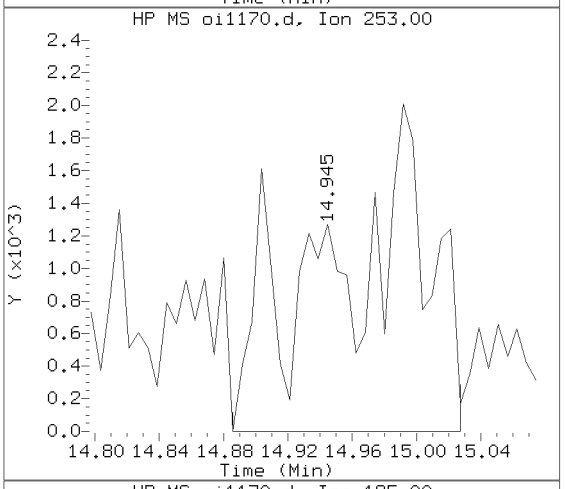
Reference Standard Spectrum for Benzo(a)pyrene



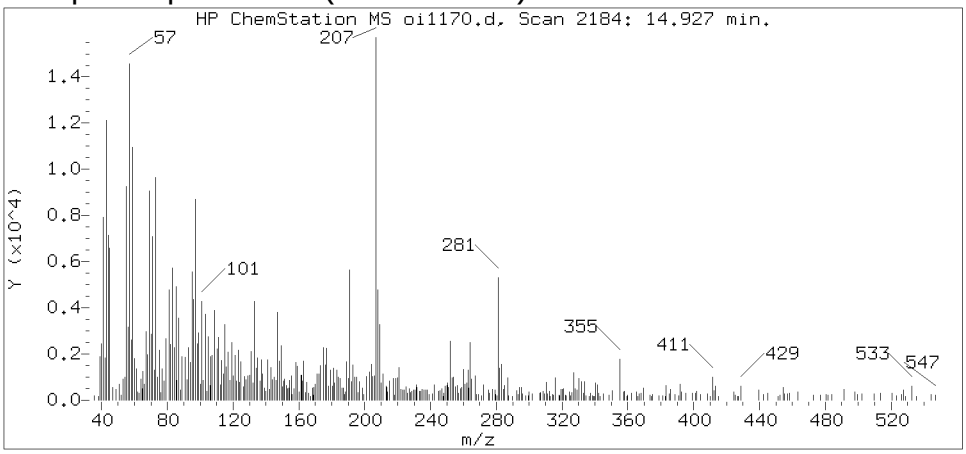


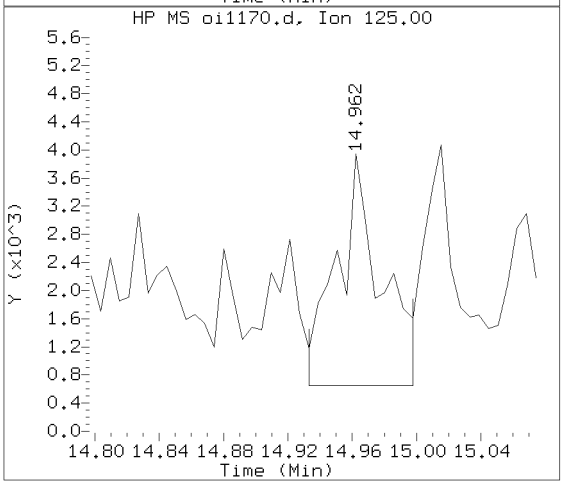
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1170.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:13 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484 Lab Sample ID: 8057362

Compound Number	: 211
Compound Name	: Benzo(a)pyrene
Scan Number	: 2184
Retention Time (minutes)	: 14.927
Relative Retention Time	: 0.00039
Quant Ion	: 252.00
Area (flag)	: 5697
On-column Amount (ng/ul)	: 0.1650

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

PS3DP

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8057366

Data file: /chem/HP09910.i/15sep25a.b/oi1185.d
Data file Sample Info. Line: PS3DP;8057366;2;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Injection date and time: **26-SEP-2015 06:38**
Instrument ID: **HP09910.i** Batch: **15266SLE**

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.36 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.439(0.000)	741	152	165388 (-2)	20.00	
65) Naphthalene-d8	7.716(0.000)	958	136	791447 (0)	20.00	
113) Acenaphthene-d10	9.451(0.000)	1253	164	453591 (-11)	20.00	
153) Phenanthrene-d10	10.910(0.000)	1501	188	785879 (-19)	20.00	
175) Pyrene-d10	12.304(0.000)	1738	212	738359 (-32)	20.00	
213) Perylene-d12	15.004(-0.006)	2197	264	547150 (-35)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.004(0.000)	82	1728797	93.867	94%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.798(-0.001)	172	2908659	101.025	101%		63 - 117
179) Terphenyl-d14	(5)	12.492(0.000)	244	2605828	95.898	96%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)	10.927(0.000)	178	4609	0.101	3.33			0.1
157) Anthracene	(4)			Not Detected					0.1
173) Fluoranthene	(4)	12.098(-0.000)	202	13254M	0.267	8.80			0.1
177) Pyrene	(5)	12.321(0.000)	202	11571M	0.263	8.65			0.1
195) Benzo(a)anthracene	(5)	13.521(0.000)	228	6774	0.176	5.81			0.1
196) Chrysene	(5)	13.562(0.000)	228	10116M	0.277	9.11			0.1
206) Benzo(b)fluoranthene	(6)	14.621(0.000)	252	12735M	0.371	12.22			0.1
208) Benzo(k)fluoranthene	(6)	14.645(0.000)	252	6046M	0.173	5.68			0.1
211) Benzo(a)pyrene	(6)	14.945(-0.000)	252	8905M	0.263	8.65			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	16.227(0.000)	276	6501M	0.184	6.06			0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)	16.580(0.000)	276	6605M	0.228	7.50			0.1

M = Compound was manually integrated.

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00. Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1185.d Injection date and time: **26-SEP-2015 06:38**
Data file Sample Info. Line: PS3DP;8057366;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.36 g

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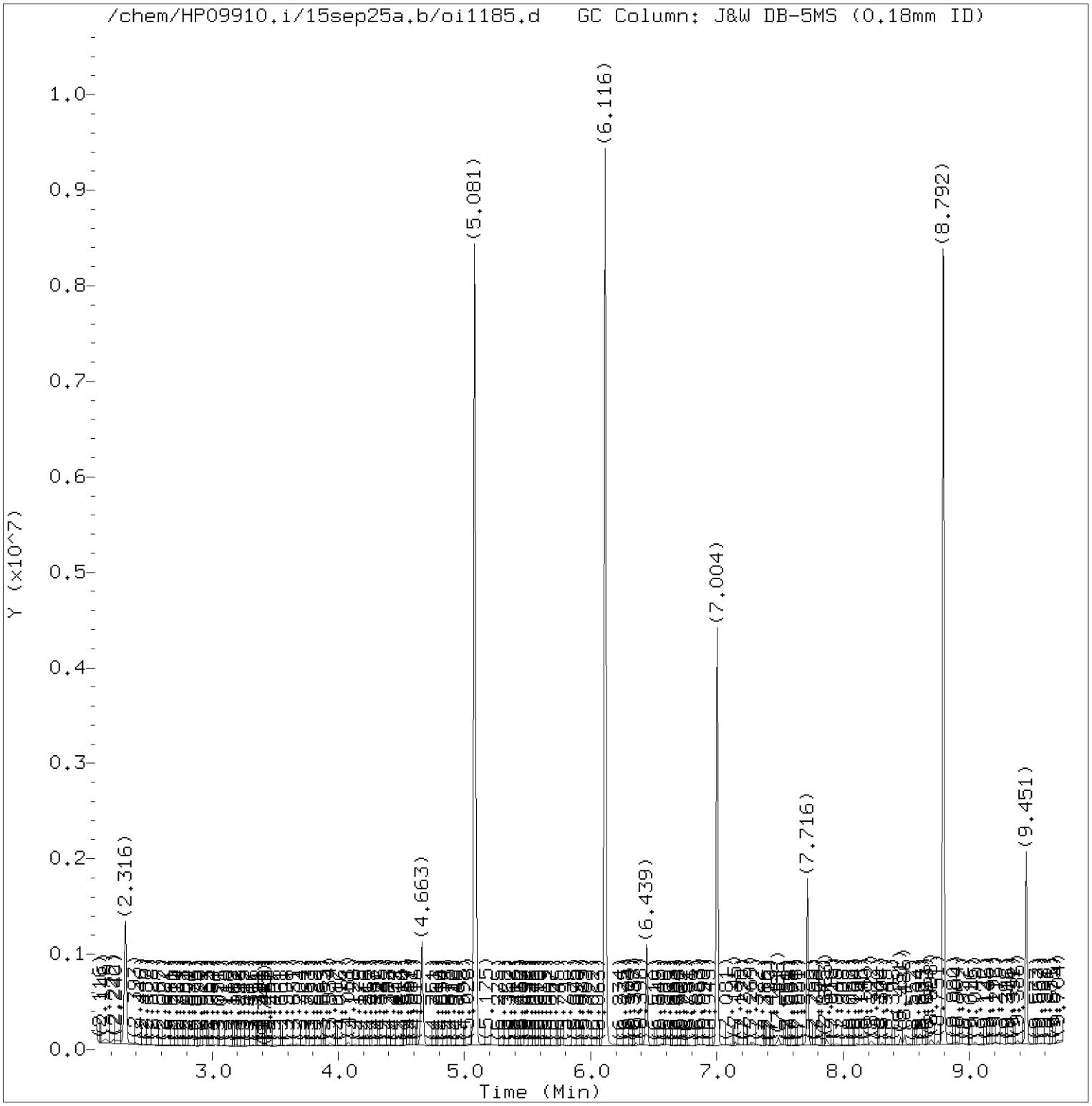
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

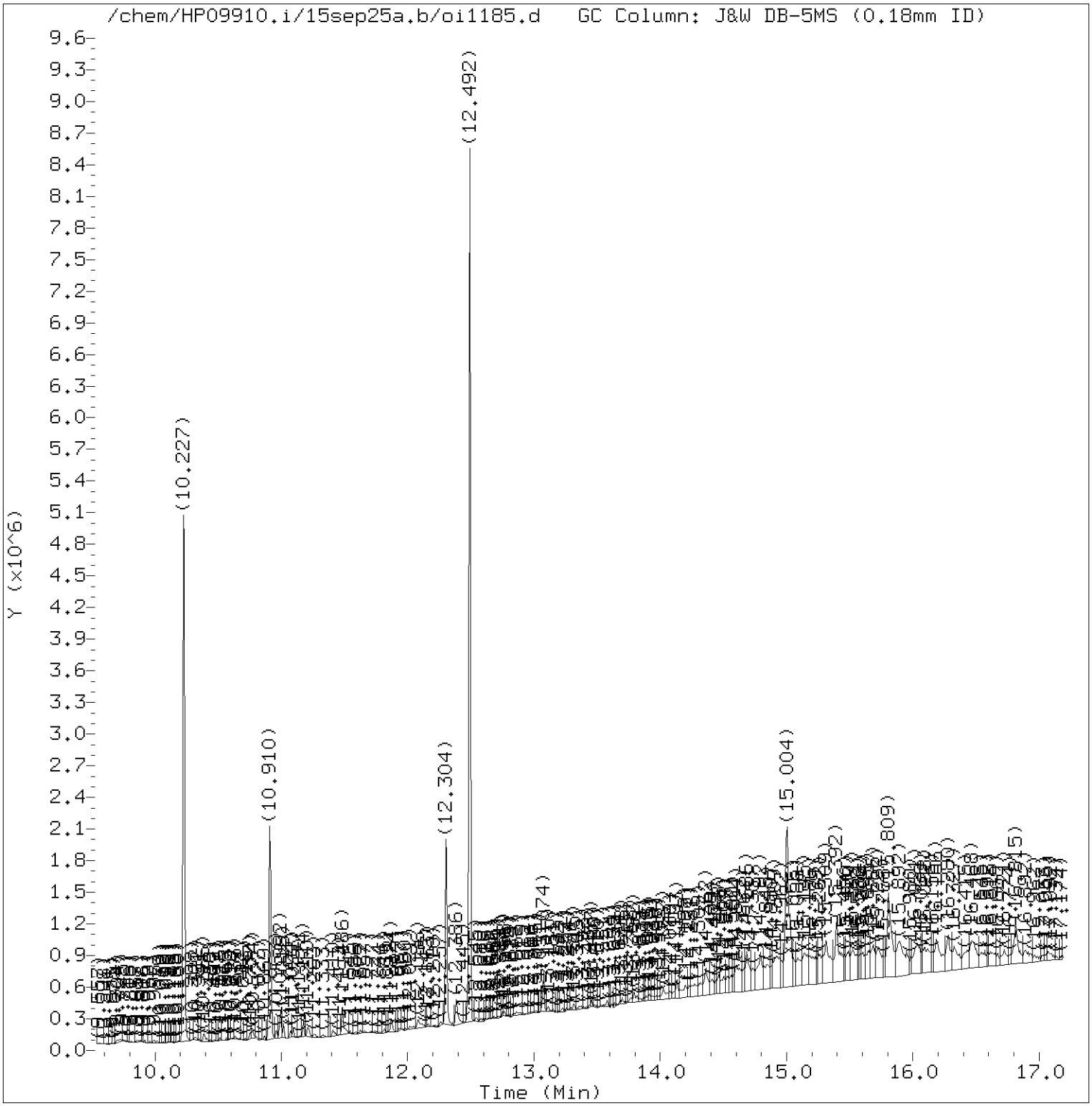
Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

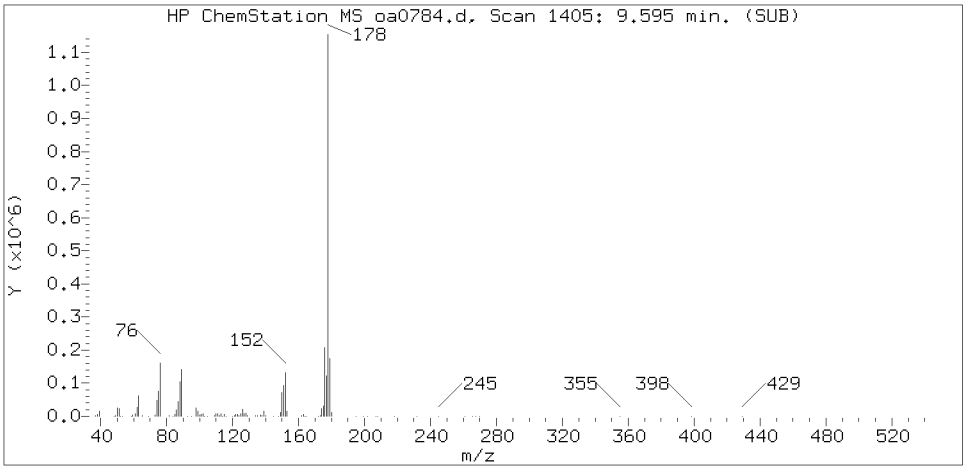
Sample Name: PS3DP Lab Sample ID: 8057366

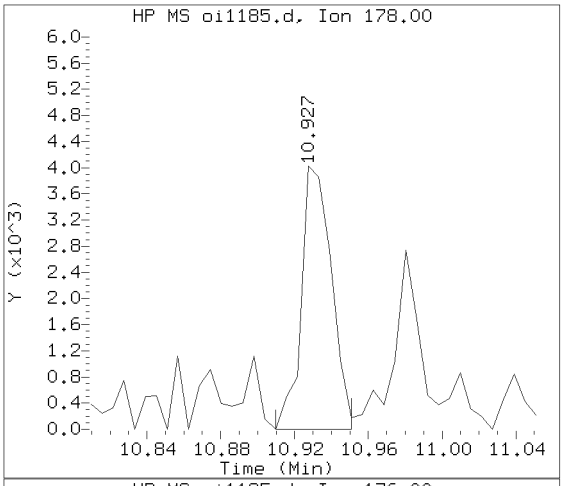
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.439	152	165388	20.000
44)$Nitrobenzene-d5	(2)	7.004	82	1728797	93.867
65)*Naphthalene-d8	(2)	7.716	136	791447	20.000
93)$2-Fluorobiphenyl	(3)	8.798	172	2908659	101.025
113)*Acenaphthene-d10	(3)	9.451	164	453591	20.000
153)*Phenanthrene-d10	(4)	10.910	188	785879	20.000
155) Phenanthrene	(4)	10.927	178	4609	0.101
173) Fluoranthene	(4)	12.098	202	13254M	0.267
175)*Pyrene-d10	(5)	12.304	212	738359	20.000
177) Pyrene	(5)	12.321	202	11571M	0.263
179)$Terphenyl-d14	(5)	12.492	244	2605828	95.898
195) Benzo(a)anthracene	(5)	13.521	228	6774	0.176
196) Chrysene	(5)	13.562	228	10116M	0.277
206) Benzo(b)fluoranthene	(6)	14.621	252	12735M	0.371
208) Benzo(k)fluoranthene	(6)	14.645	252	6046M	0.173
211) Benzo(a)pyrene	(6)	14.945	252	8905M	0.263
213)*Perylene-d12	(6)	15.004	264	547150	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	16.227	276	6501M	0.184
221) Benzo(g,h,i)perylene	(6)	16.580	276	6605M	0.228

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

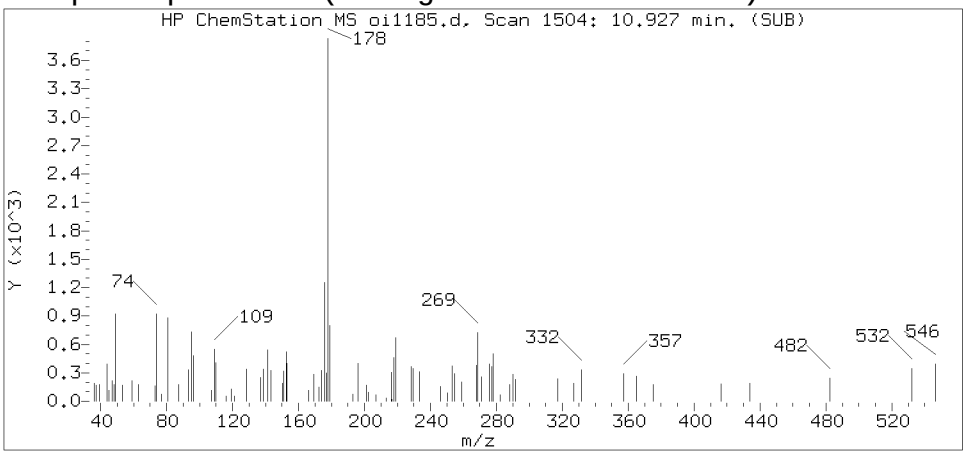
Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

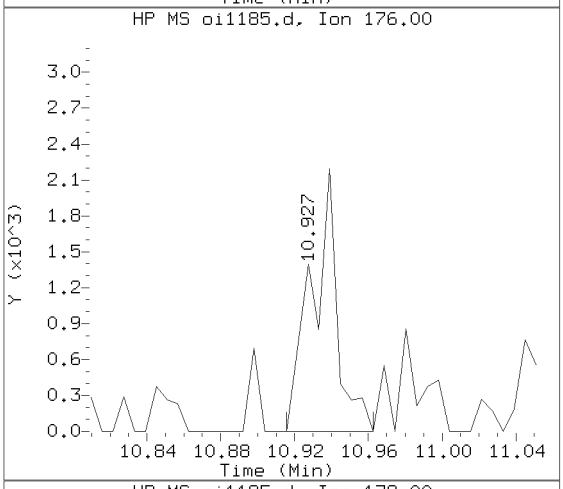
Reference Standard Spectrum for Phenanthrene



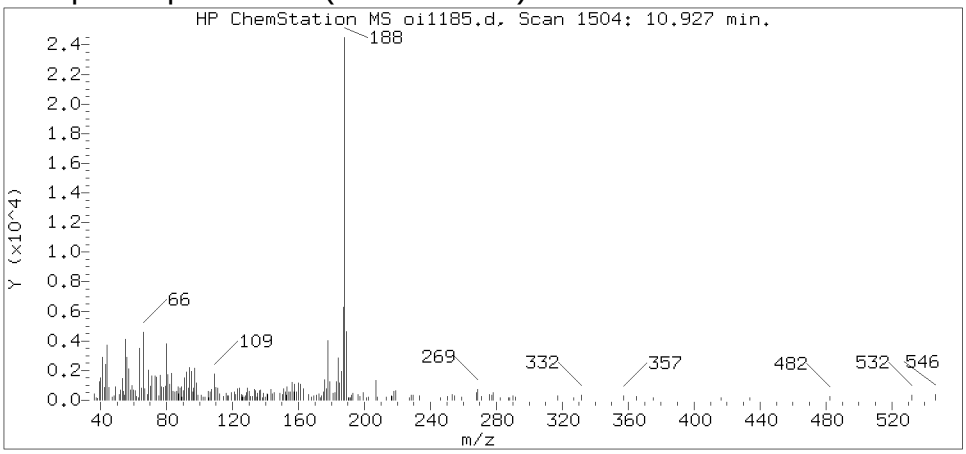


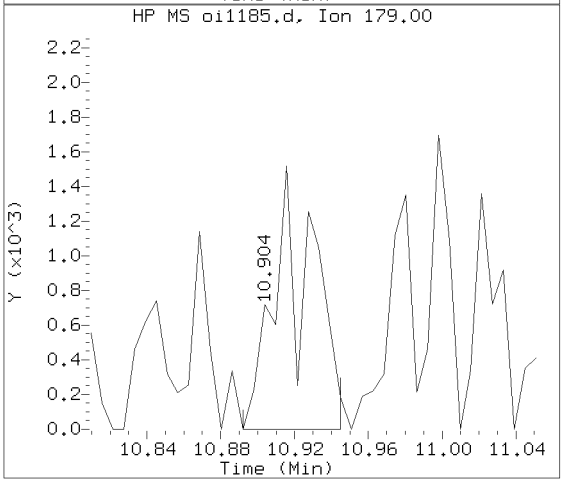
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

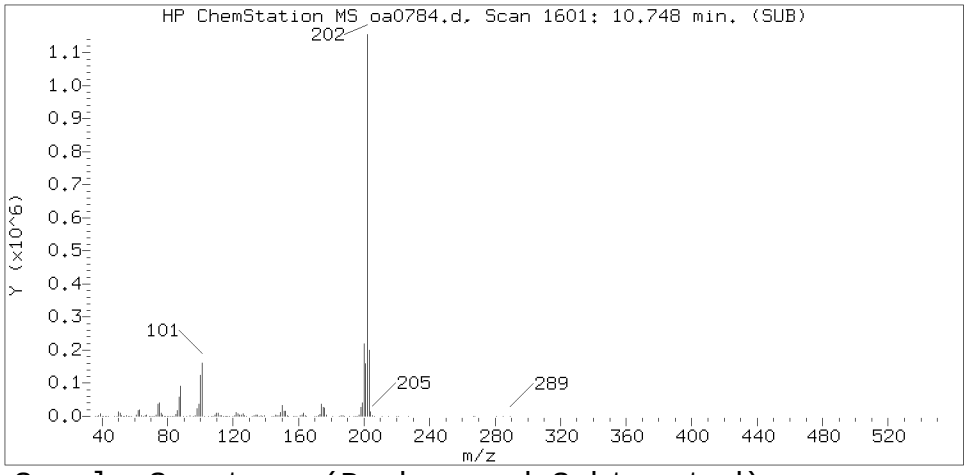
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

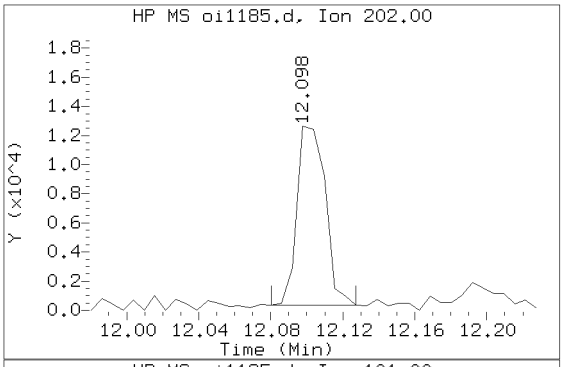
Sample Name: PS3DP Lab Sample ID: 8057366

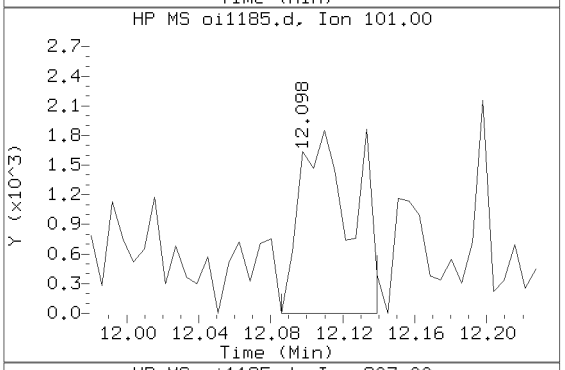
Compound Number : 155
Compound Name : Phenanthrene
Scan Number : 1504
Retention Time (minutes) : 10.927
Relative Retention Time : 0.00054
Quant Ion : 178.00
Area (flag) : 4609
On-column Amount (ng/ul) : 0.1010

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

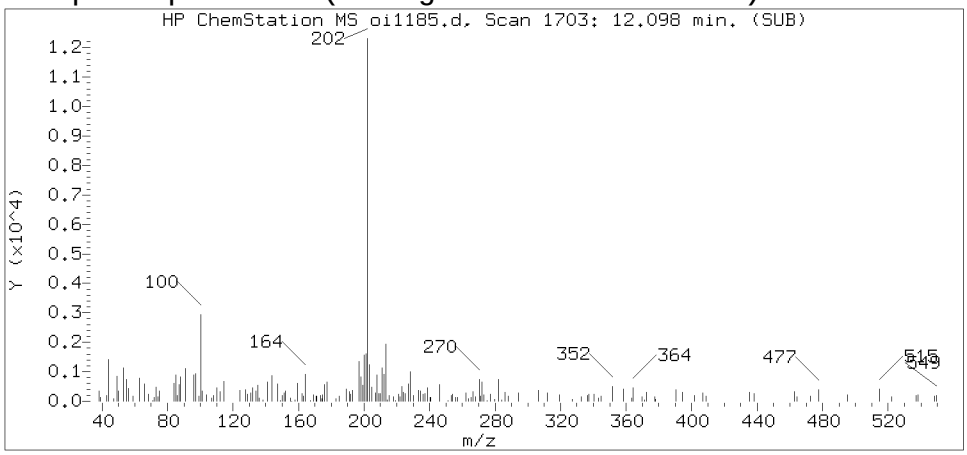
Reference Standard Spectrum for Fluoranthene

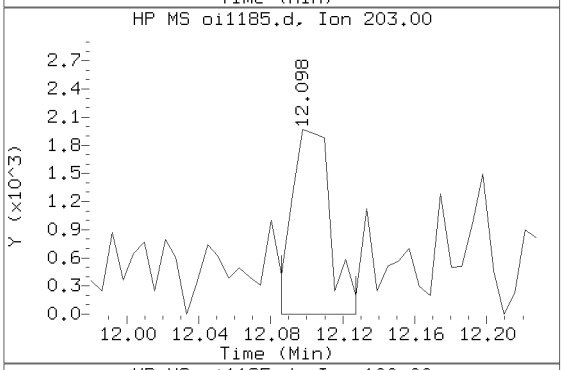




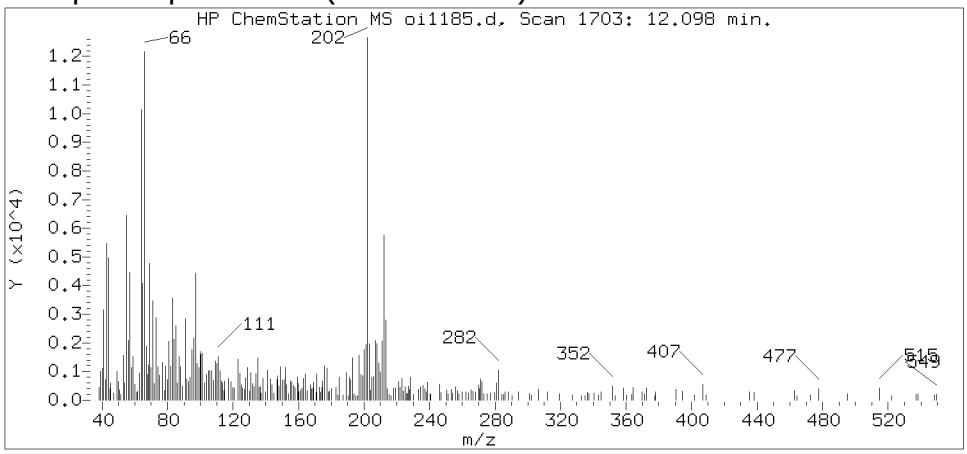


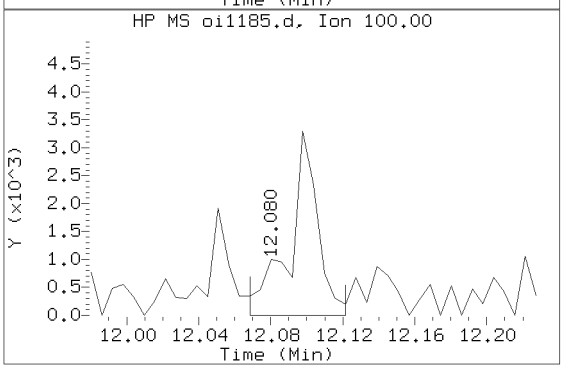
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

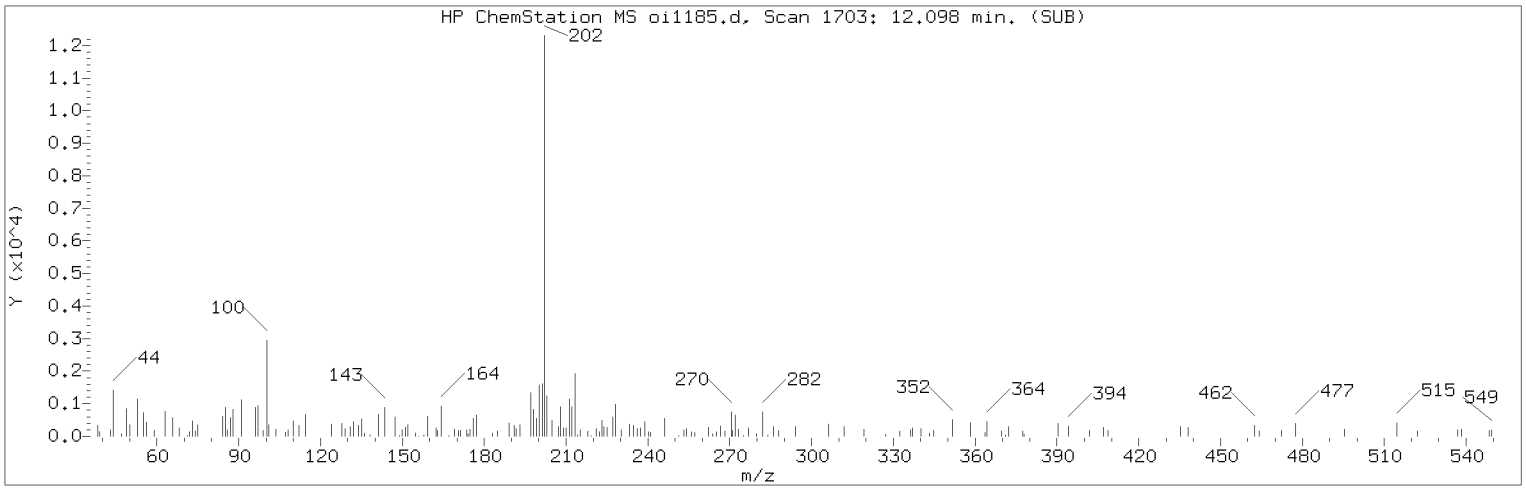
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

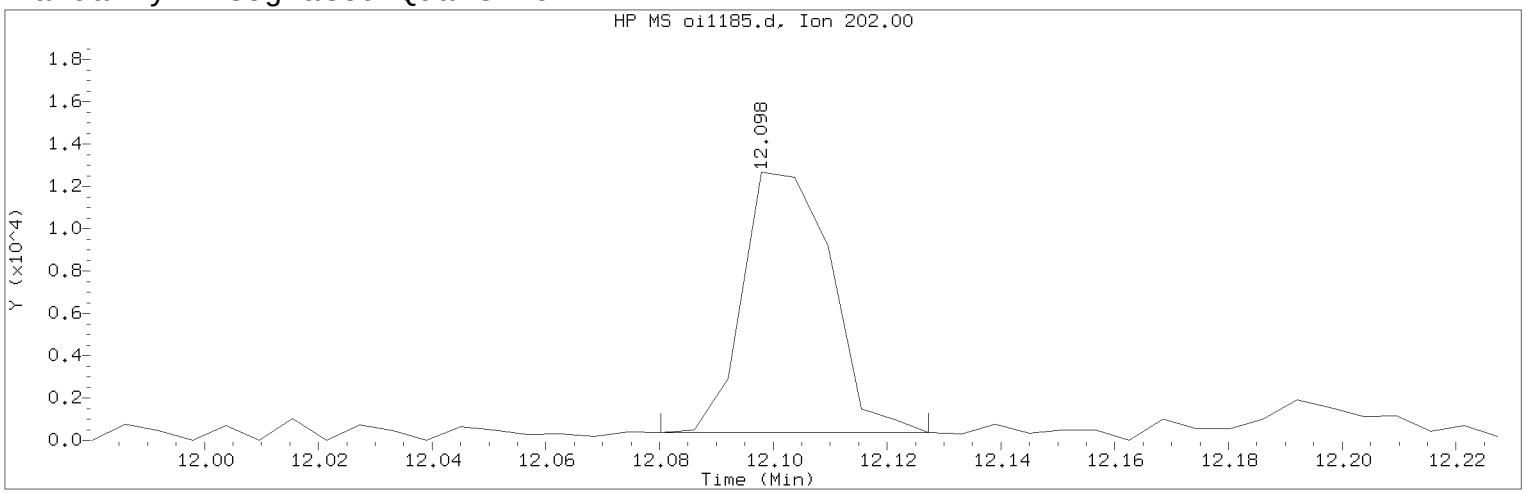
Compound Number : 173
Compound Name : Fluoranthene
Scan Number : 1703
Retention Time (minutes) : 12.098
Relative Retention Time :-0.00000
Quant Ion : 202.00
Area (flag) : 13254M
On-column Amount (ng/ul) : 0.2672

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

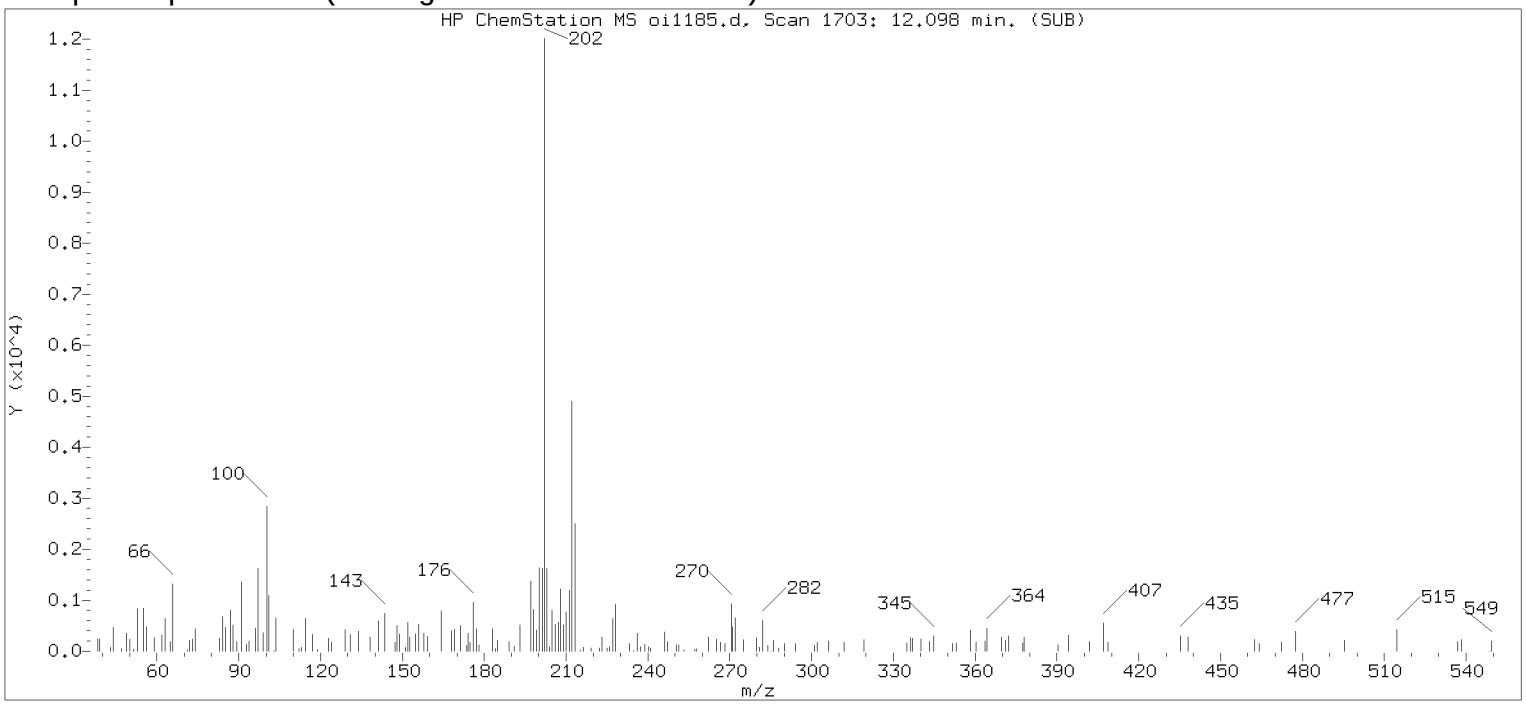
Compound Number : 173
Compound Name : Fluoranthene
Scan Number : 1703
Retention Time (minutes) : 12.098
Quant Ion : 202.00
Area (flag) : 13254M
On-column Amount (ng/ul) : 0.2672
Integration start scan : 1699 Integration stop scan: 1707
Y at integration start : 365 Y at integration end: 365

Reason for manual integration: improper integration

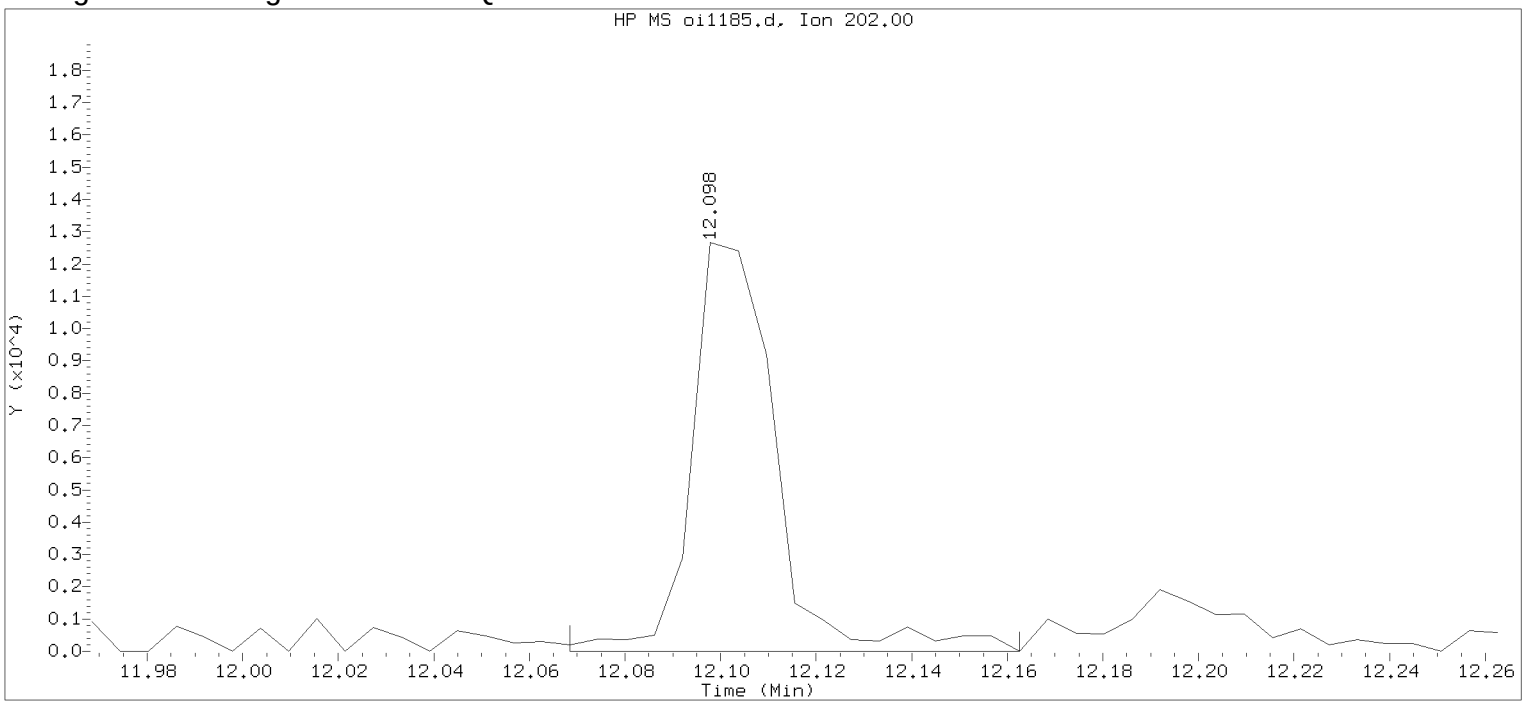
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

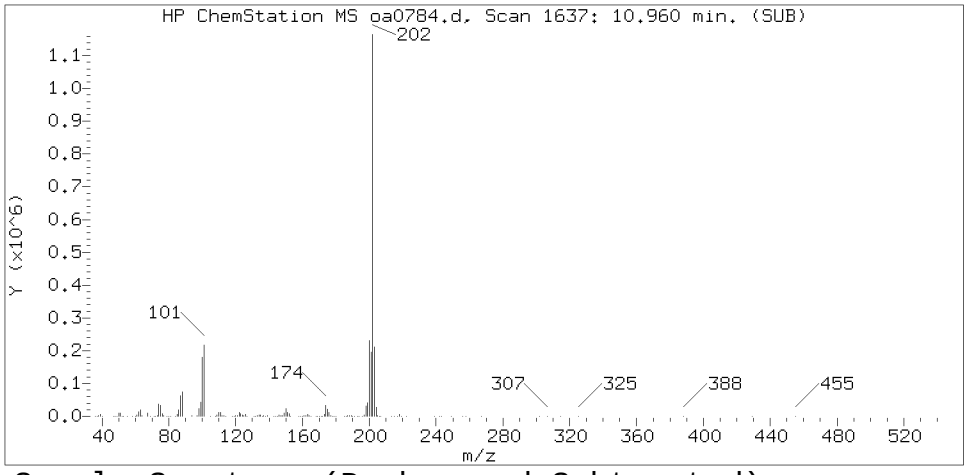
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 06:55 Automation

Sample Name: PS3DP Lab Sample ID: 8057366

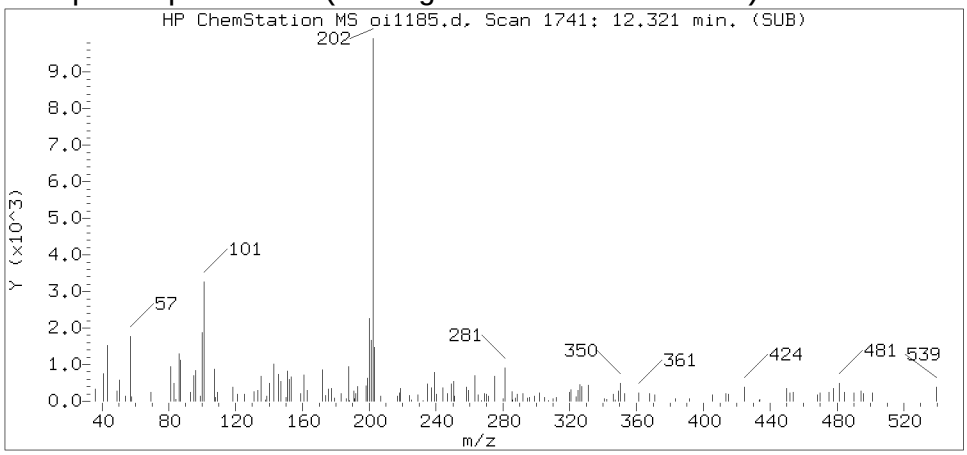
Compound Number	: 173		
Compound Name	: Fluoranthene		
Scan Number	: 1703		
Retention Time (minutes)	: 12.098		
Quant Ion	: 202.00		
Area	: 15407		
On-column Amount (ng/ul)	: 0.3106		
Integration start scan	: 1697	Integration stop scan:	1713
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0286

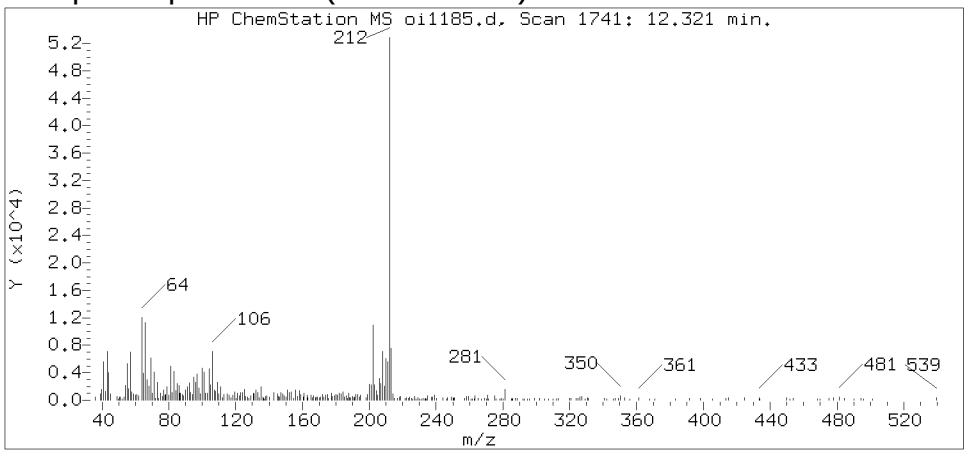
Reference Standard Spectrum for Pyrene

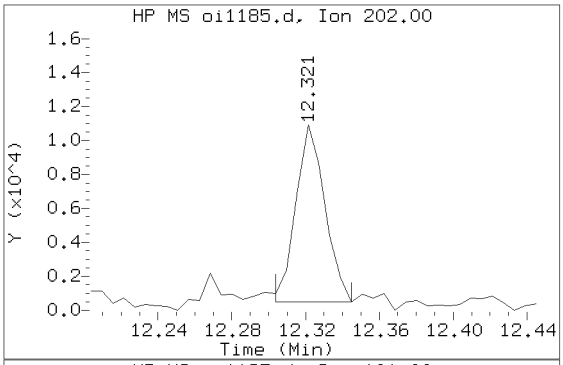


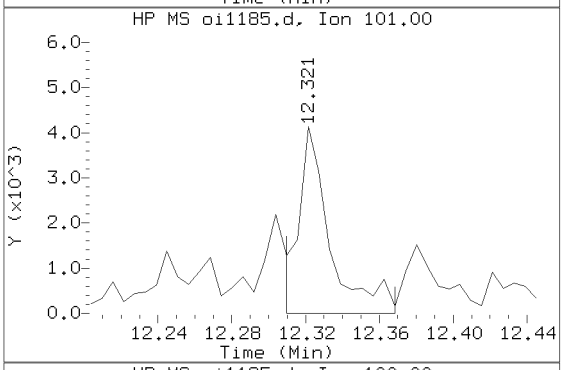
Sample Spectrum (Background Subtracted)

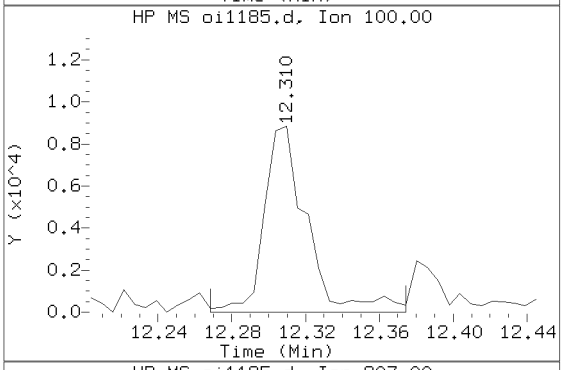


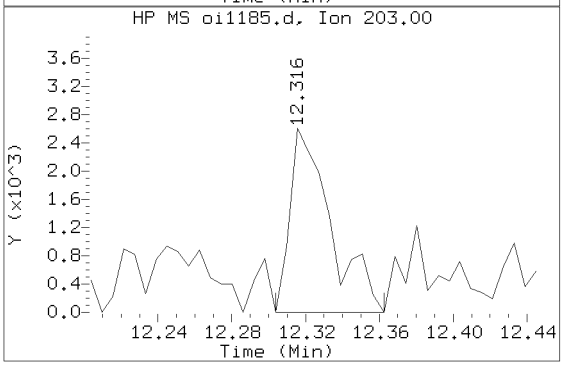
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

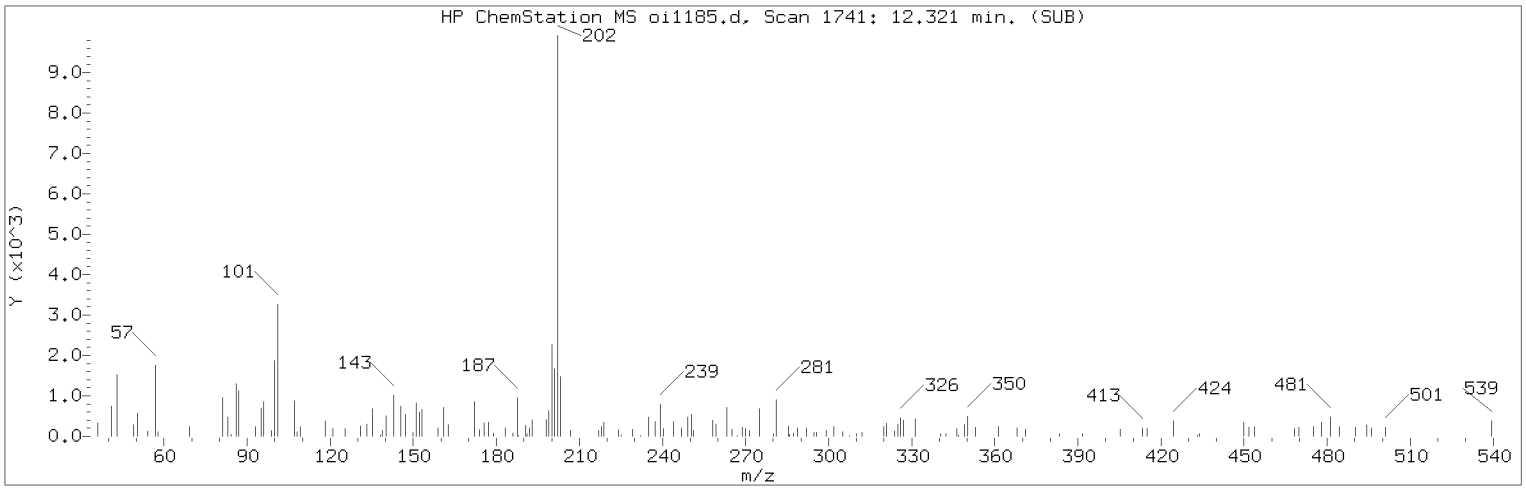
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

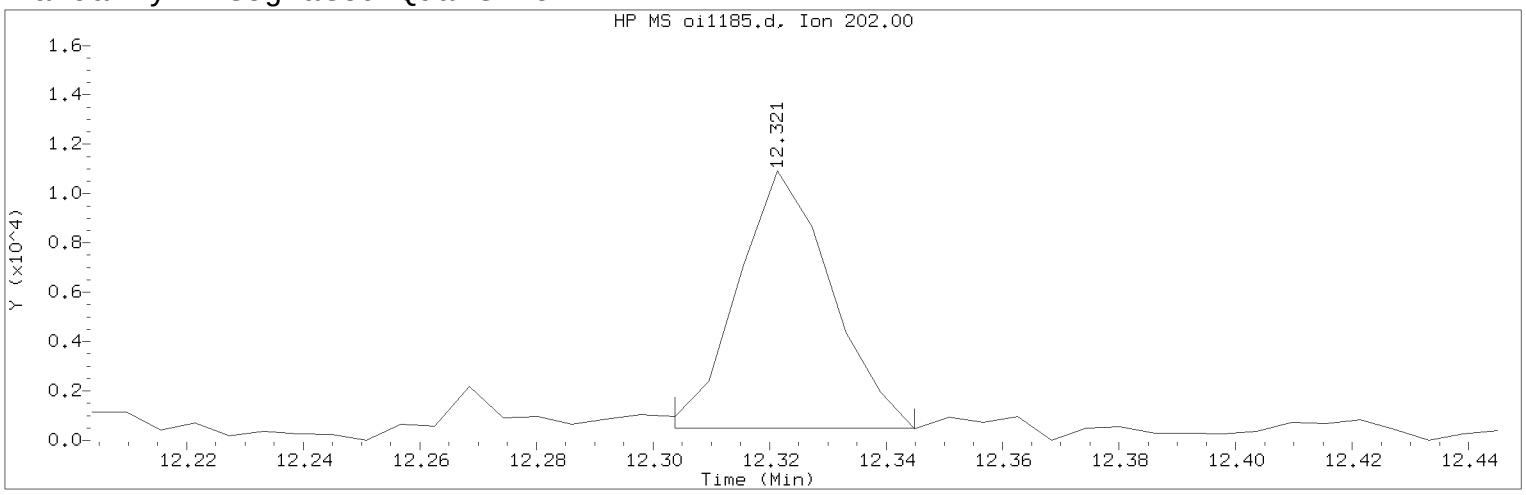
Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1741
Retention Time (minutes)	: 12.321
Relative Retention Time	: 0.00000
Quant Ion	: 202.00
Area (flag)	: 11571M
On-column Amount (ng/ul)	: 0.2627

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

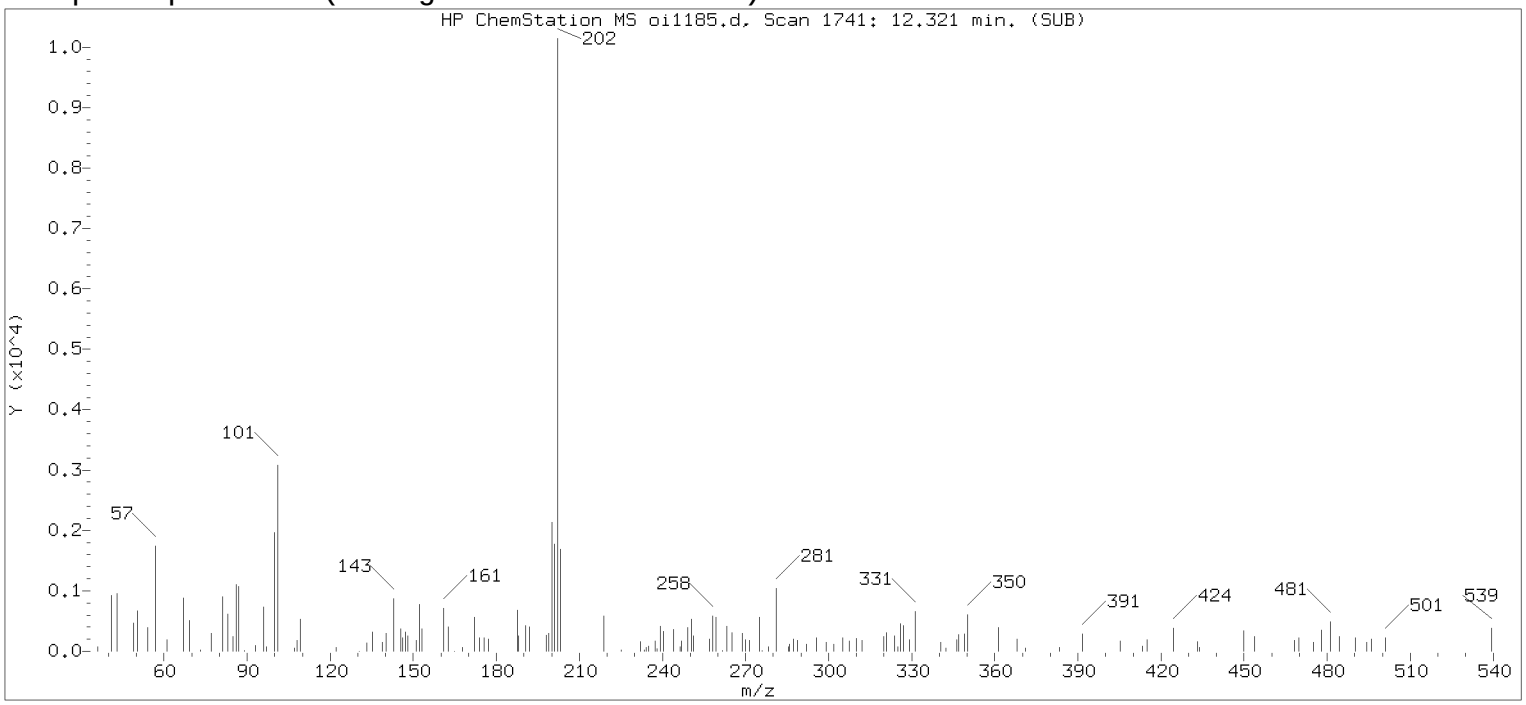
Compound Number : 177
Compound Name : Pyrene
Scan Number : 1741
Retention Time (minutes) : 12.321
Quant Ion : 202.00
Area (flag) : 11571M
On-column Amount (ng/ul) : 0.2627
Integration start scan : 1737 Integration stop scan: 1744
Y at integration start : 503 Y at integration end: 503

Reason for manual integration: improper integration

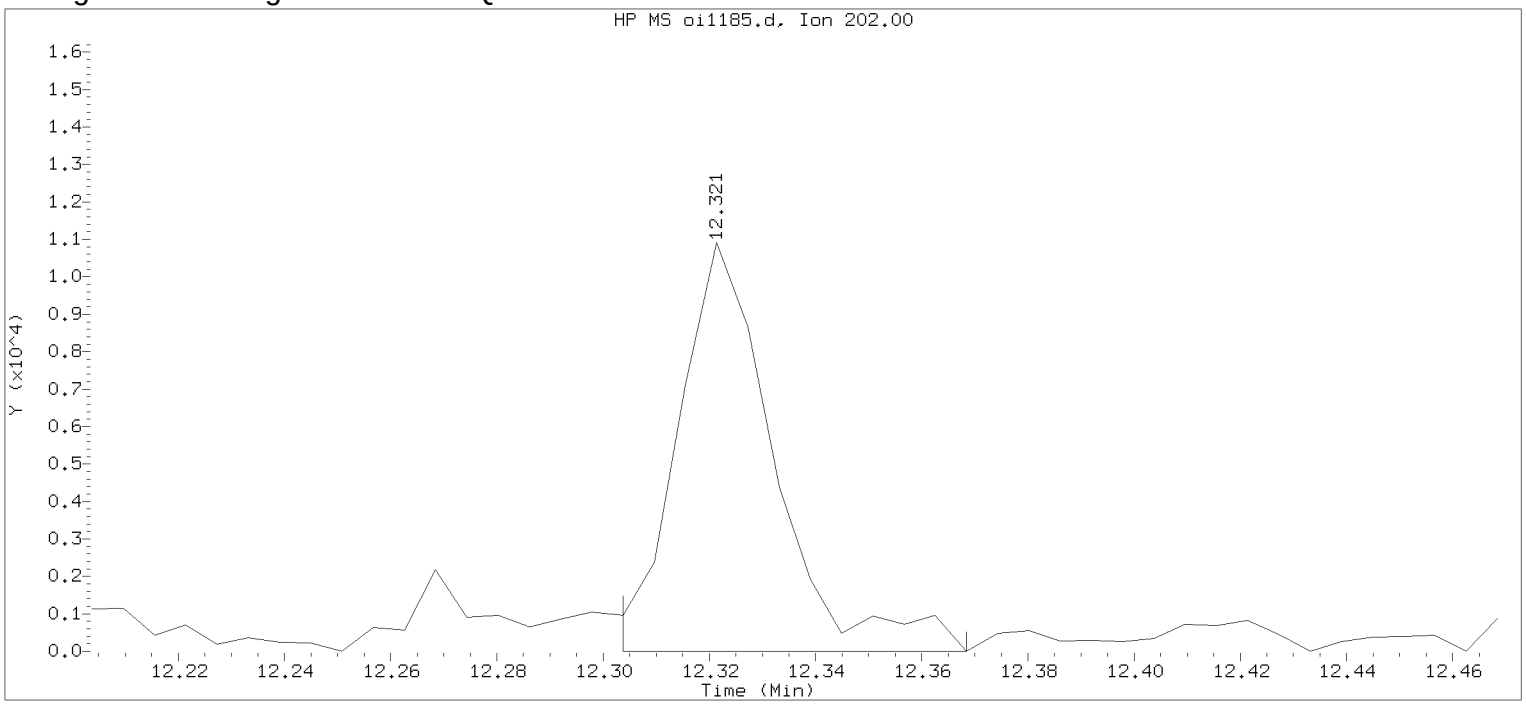
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

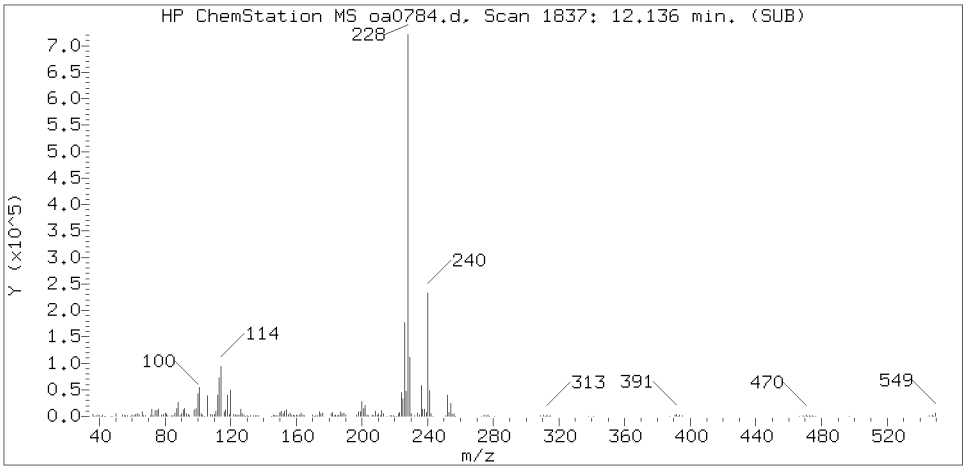
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 06:55 Automation

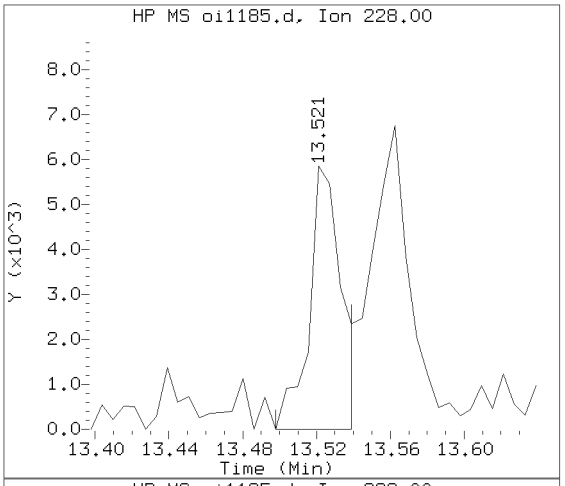
Sample Name: PS3DP Lab Sample ID: 8057366

Compound Number	: 177		
Compound Name	: Pyrene		
Scan Number	: 1741		
Retention Time (minutes)	: 12.321		
Quant Ion	: 202.00		
Area	: 13749		
On-column Amount (ng/ul)	: 0.3121		
Integration start scan	: 1737	Integration stop scan:	1748
Y at integration start	: 0	Y at integration end:	0

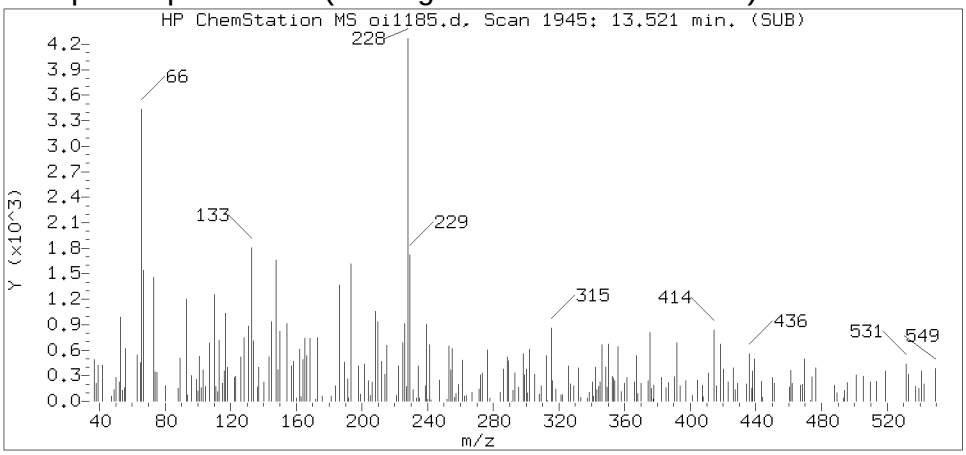
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0253

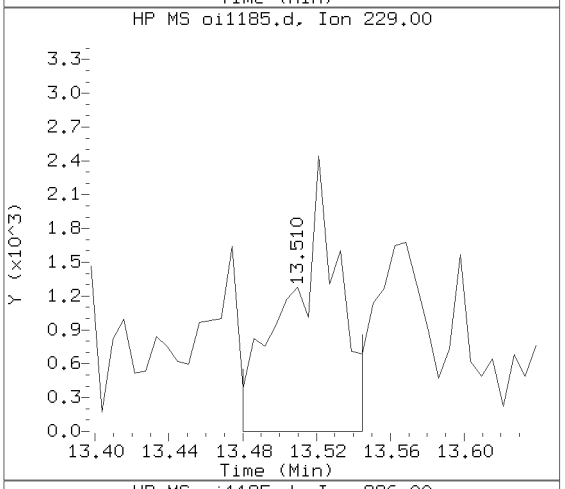
Reference Standard Spectrum for Benzo(a)anthracene



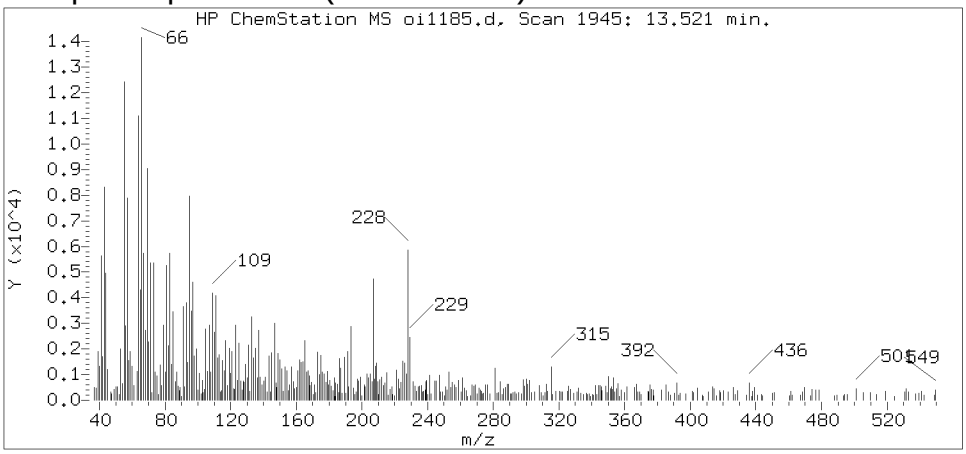


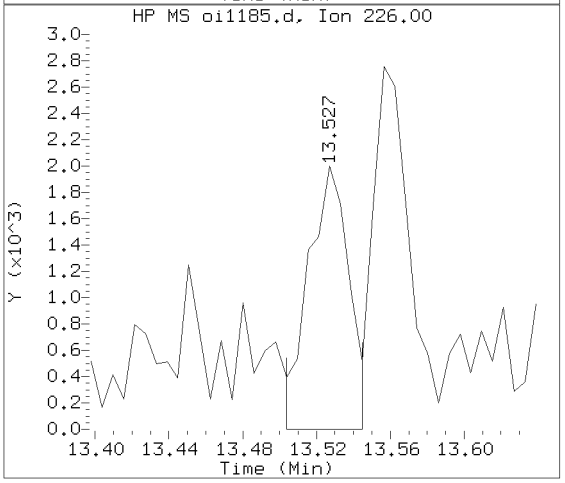
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

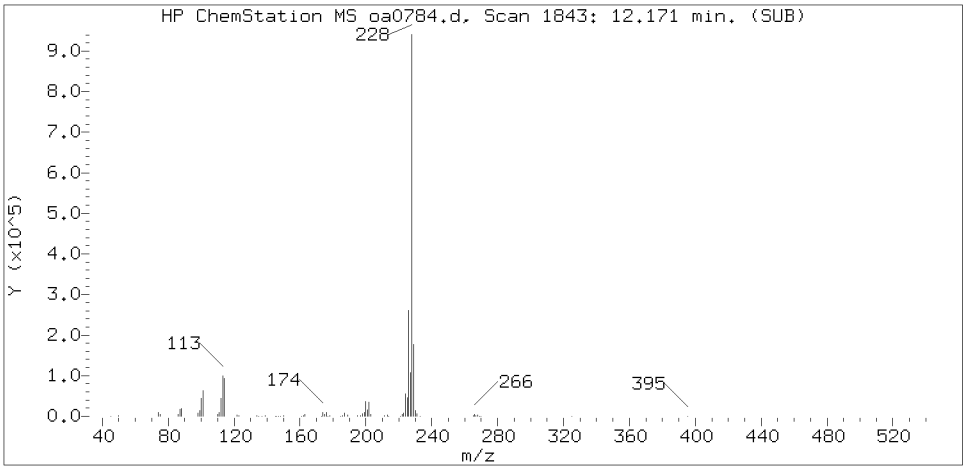
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

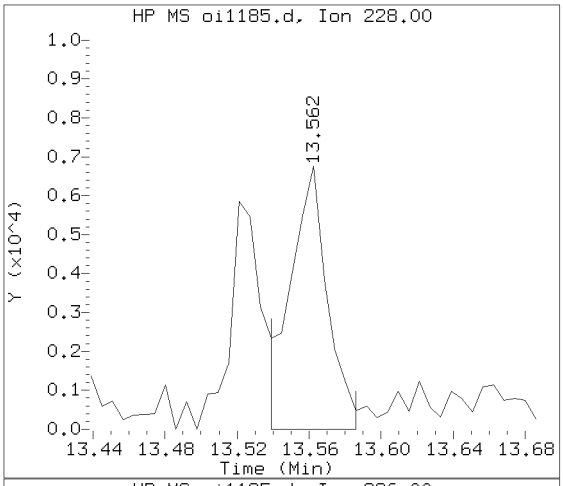
Sample Name: PS3DP Lab Sample ID: 8057366

Compound Number	: 195
Compound Name	: Benzo(a)anthracene
Scan Number	: 1945
Retention Time (minutes)	: 13.521
Relative Retention Time	: 0.00048
Quant Ion	: 228.00
Area (flag)	: 6774
On-column Amount (ng/ul)	: 0.1764

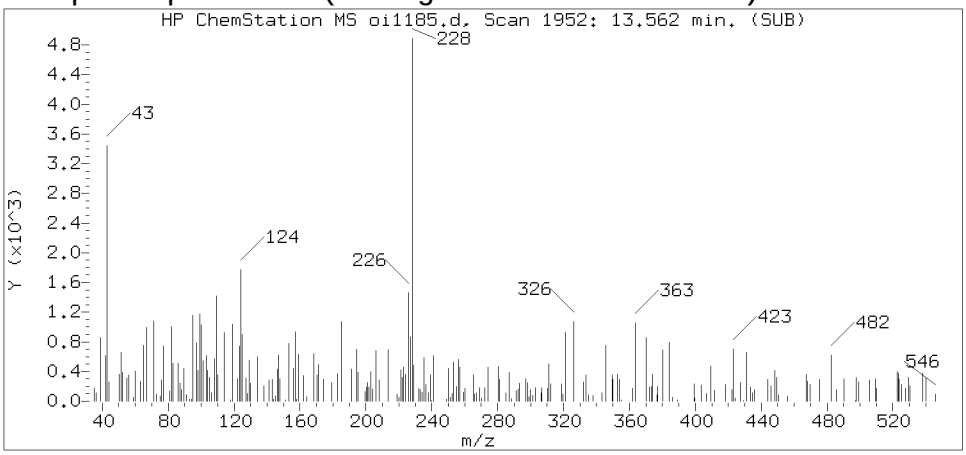
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

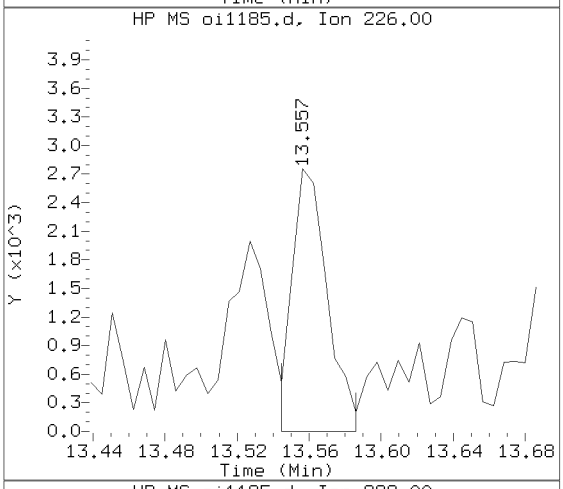
Reference Standard Spectrum for Chrysene



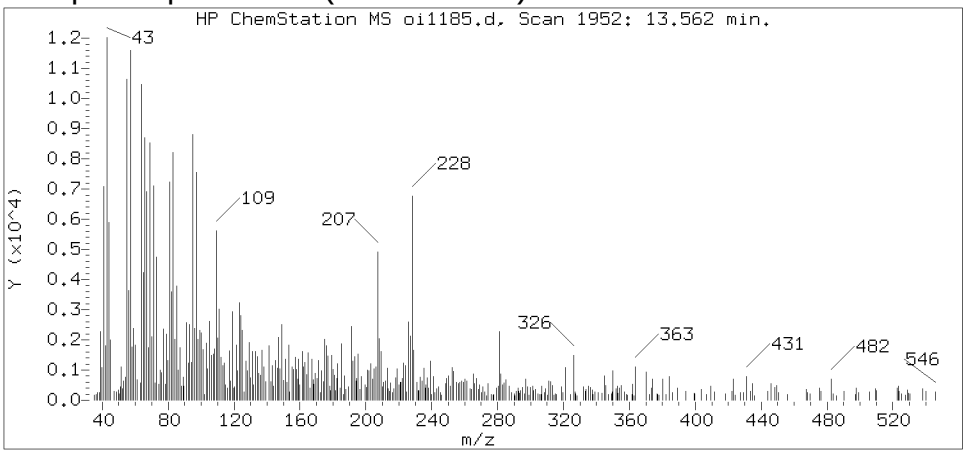


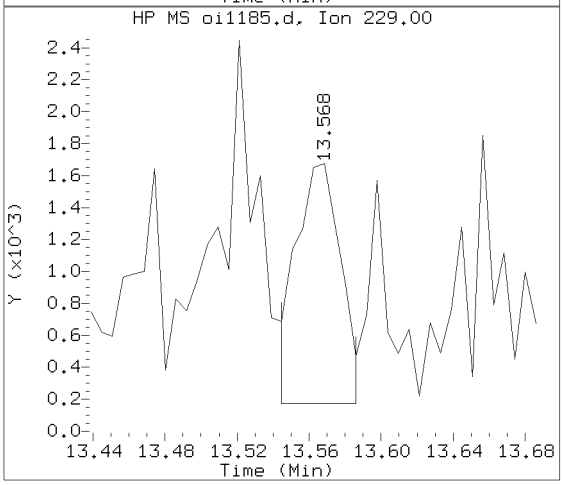
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

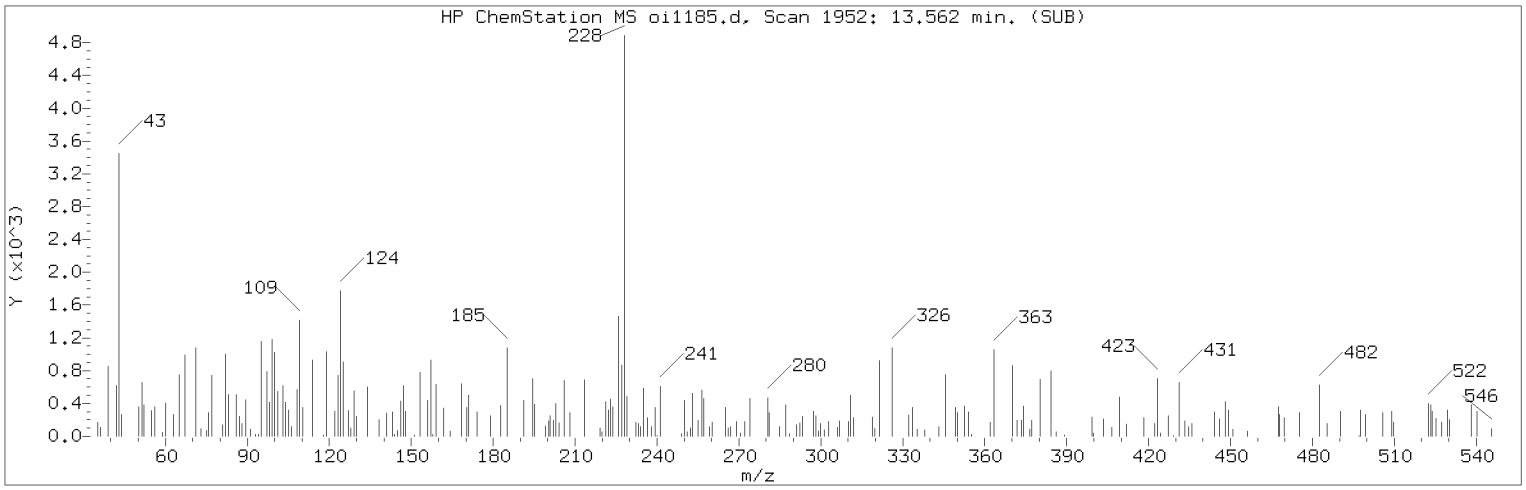
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

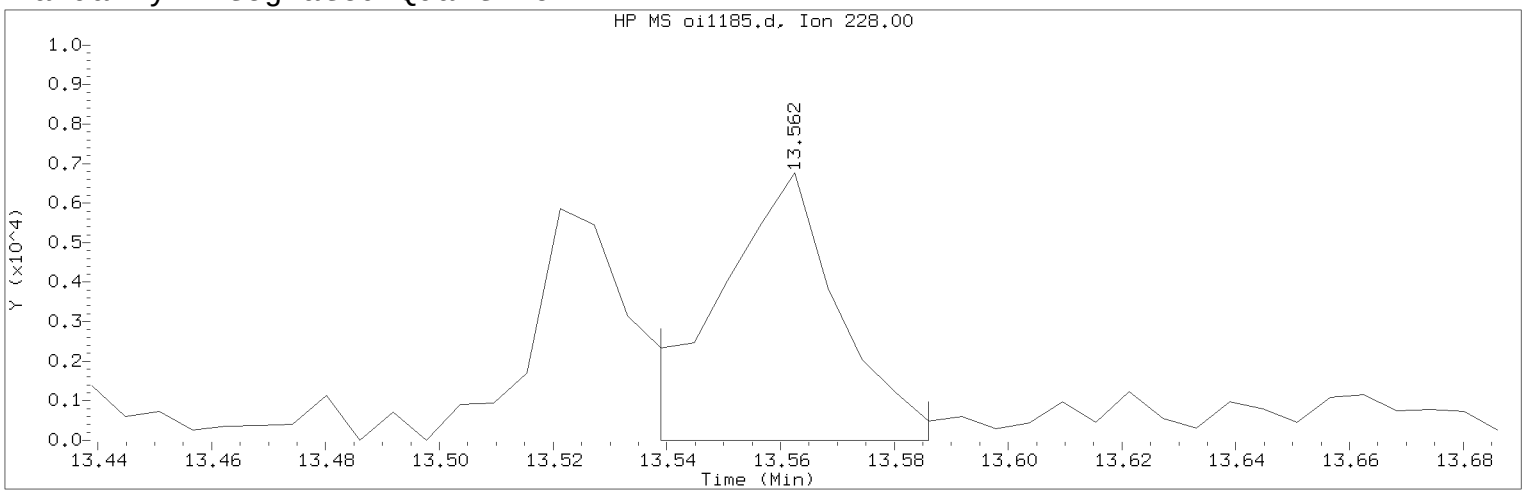
Compound Number	: 196
Compound Name	: Chrysene
Scan Number	: 1952
Retention Time (minutes)	: 13.562
Relative Retention Time	: 0.00000
Quant Ion	: 228.00
Area (flag)	: 10116M
On-column Amount (ng/ul)	: 0.2765

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

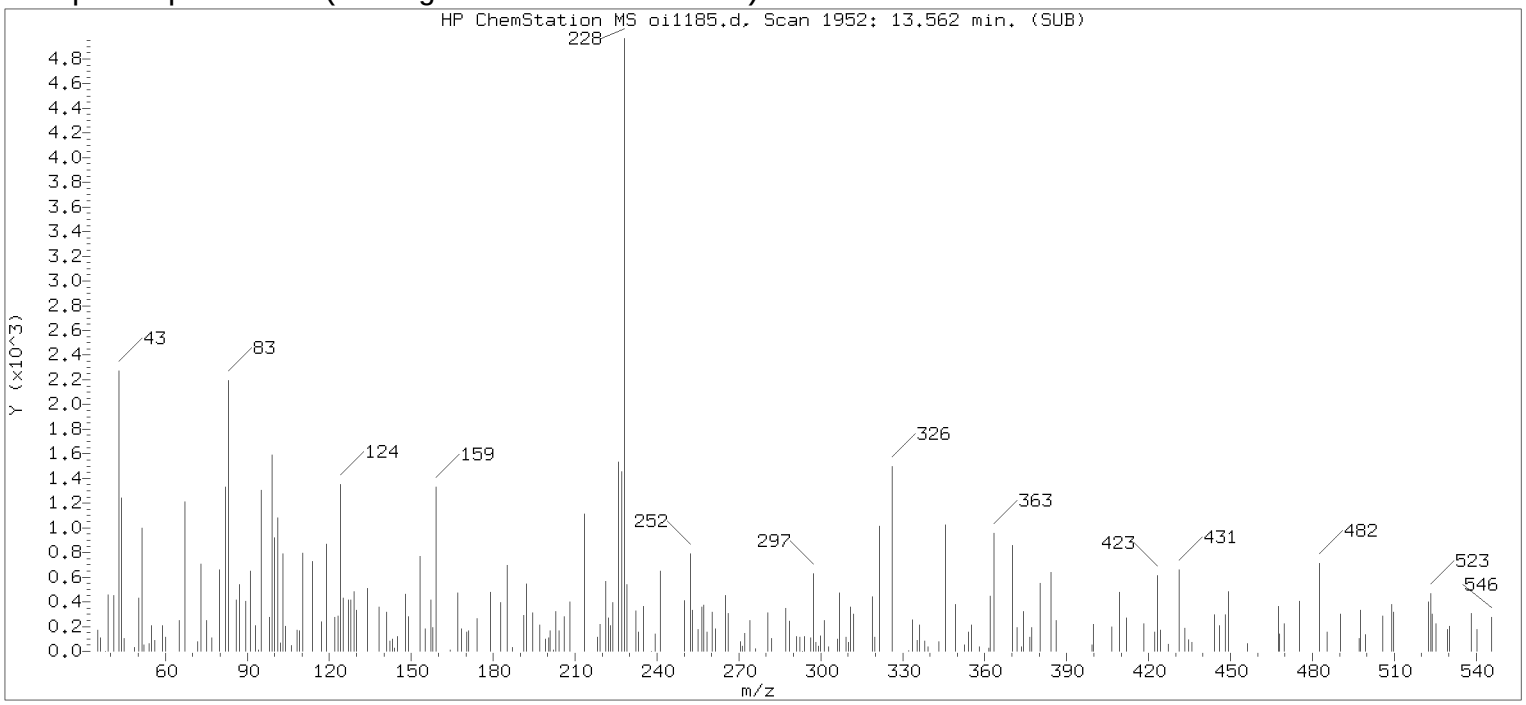
Compound Number : 196
Compound Name : Chrysene
Scan Number : 1952
Retention Time (minutes) : 13.562
Quant Ion : 228.00
Area (flag) : 10116M
On-column Amount (ng/ul) : 0.2765
Integration start scan : 1947 Integration stop scan: 1955
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

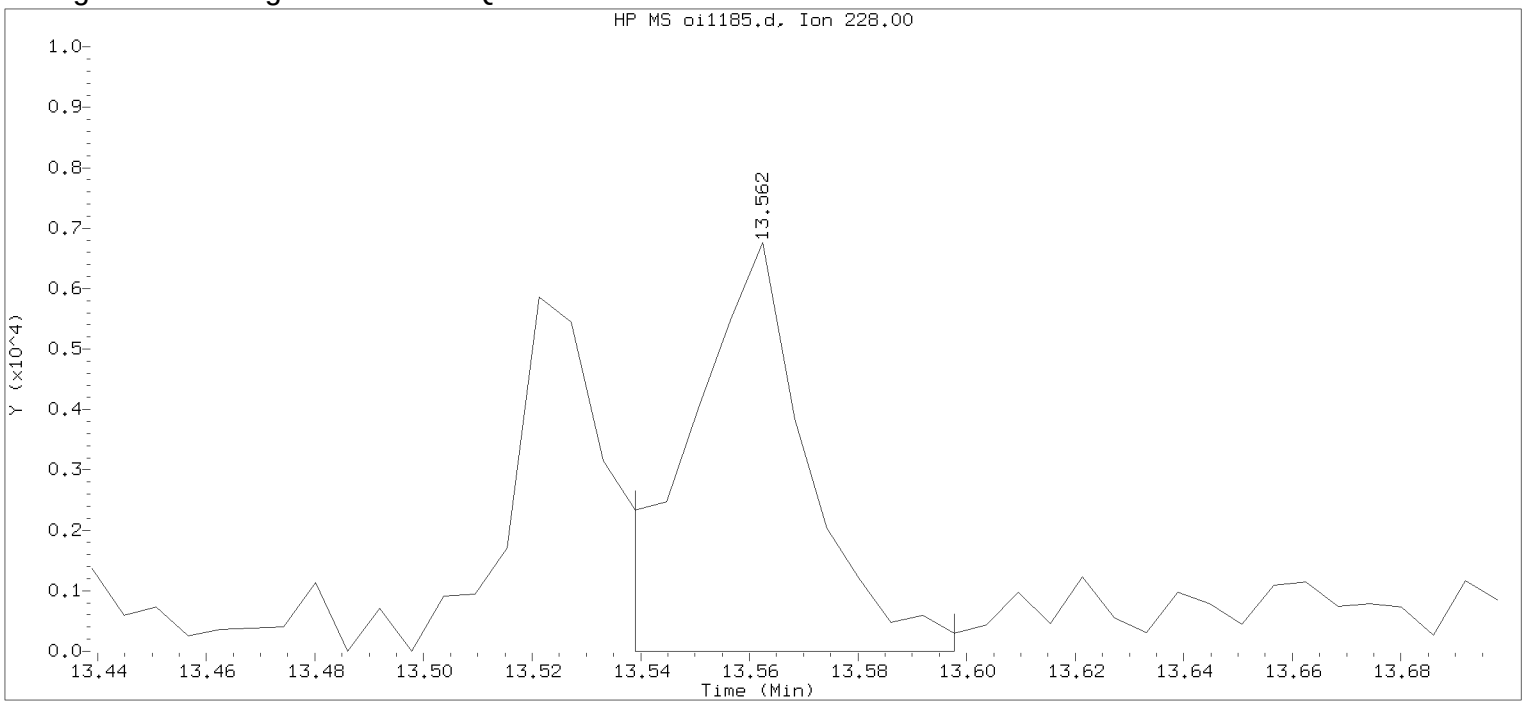
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

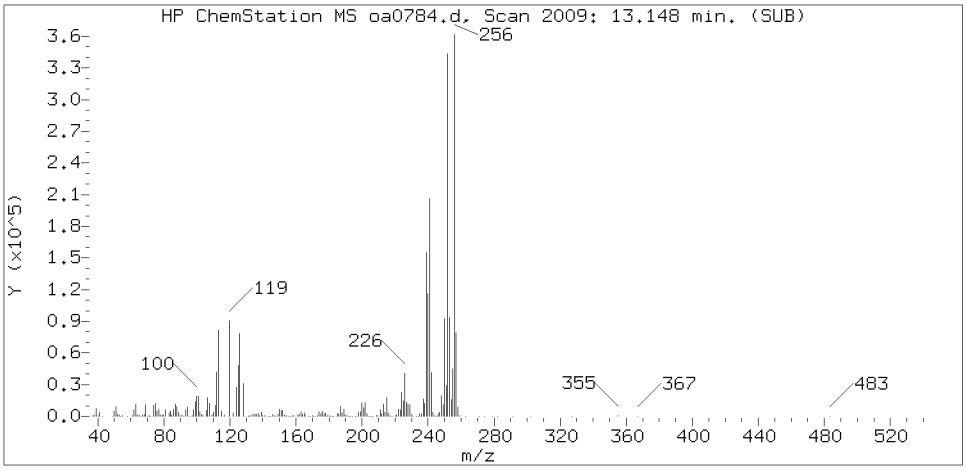
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 06:55 Automation

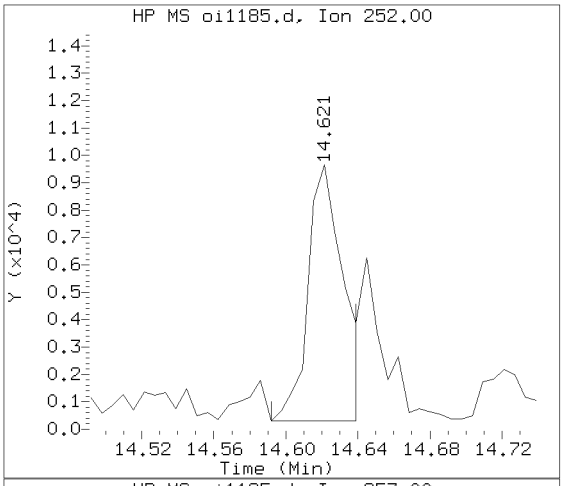
Sample Name: PS3DP Lab Sample ID: 8057366

Compound Number	: 196		
Compound Name	: Chrysene		
Scan Number	: 1952		
Retention Time (minutes)	: 13.562		
Quant Ion	: 228.00		
Area	: 9965		
On-column Amount (ng/ul)	: 0.2724		
Integration start scan	: 1947	Integration stop scan:	1957
Y at integration start	: 0	Y at integration end:	0

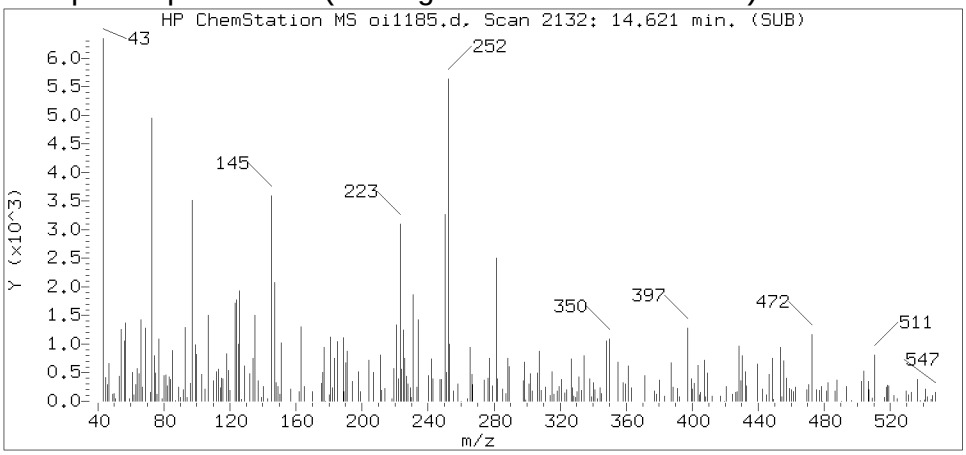
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0257

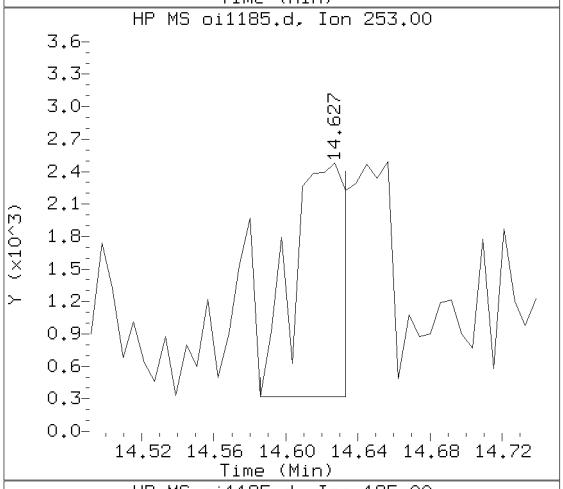
Reference Standard Spectrum for Benzo(b)fluoranthene



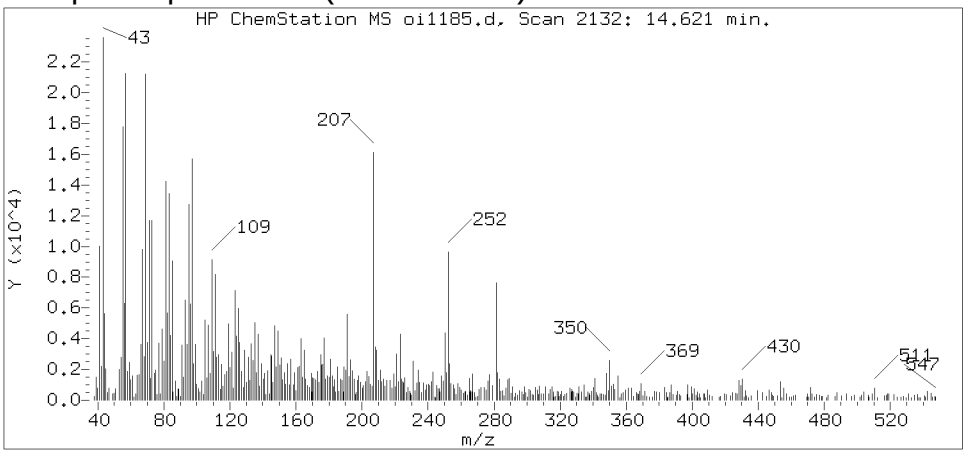


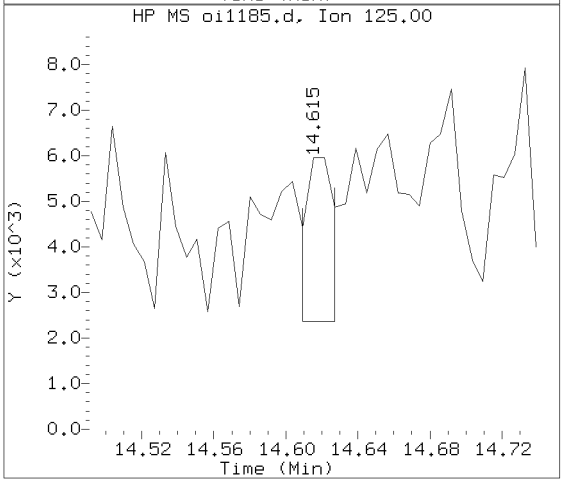
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

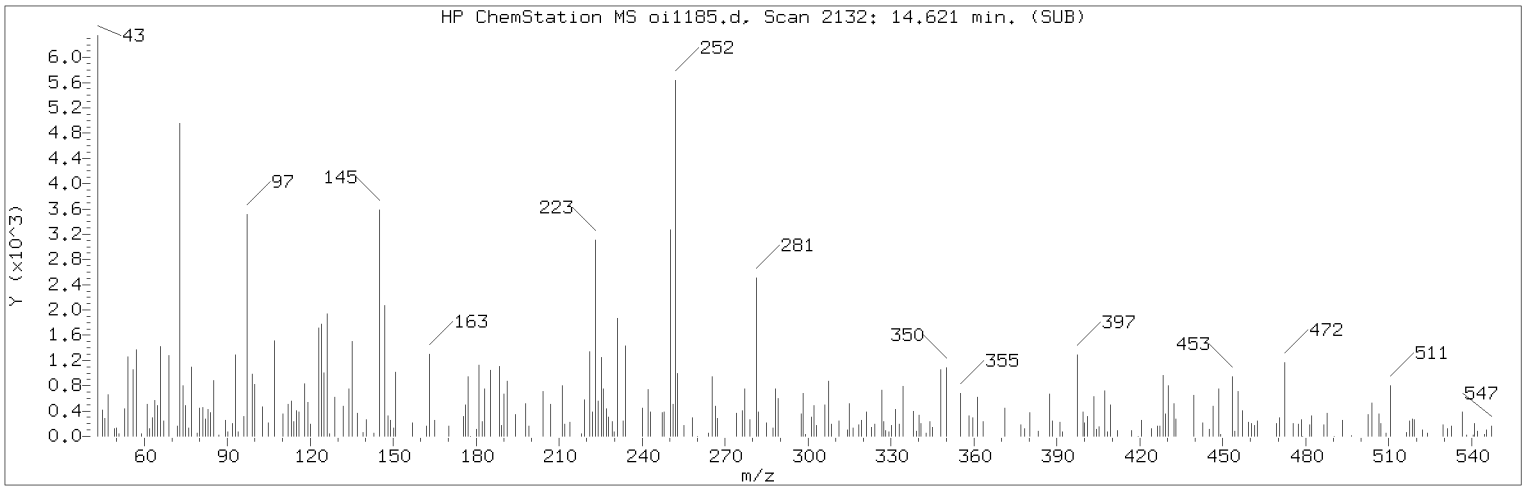
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

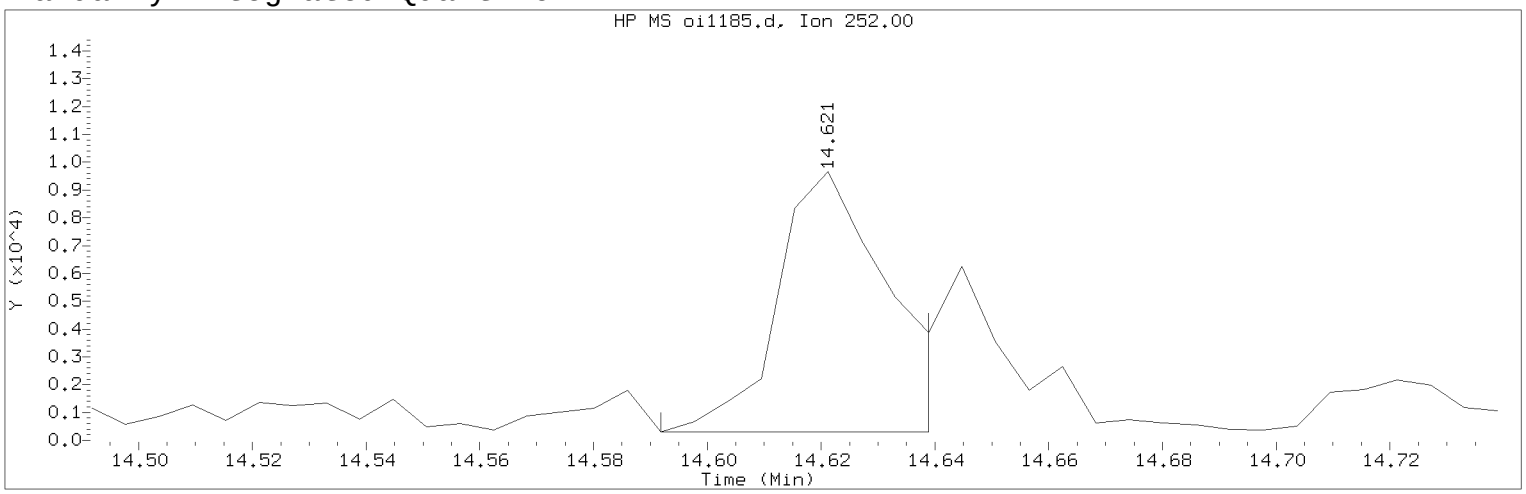
Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2132
Retention Time (minutes)	: 14.621
Relative Retention Time	: 0.00038
Quant Ion	: 252.00
Area (flag)	: 12735M
On-column Amount (ng/ul)	: 0.3709

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

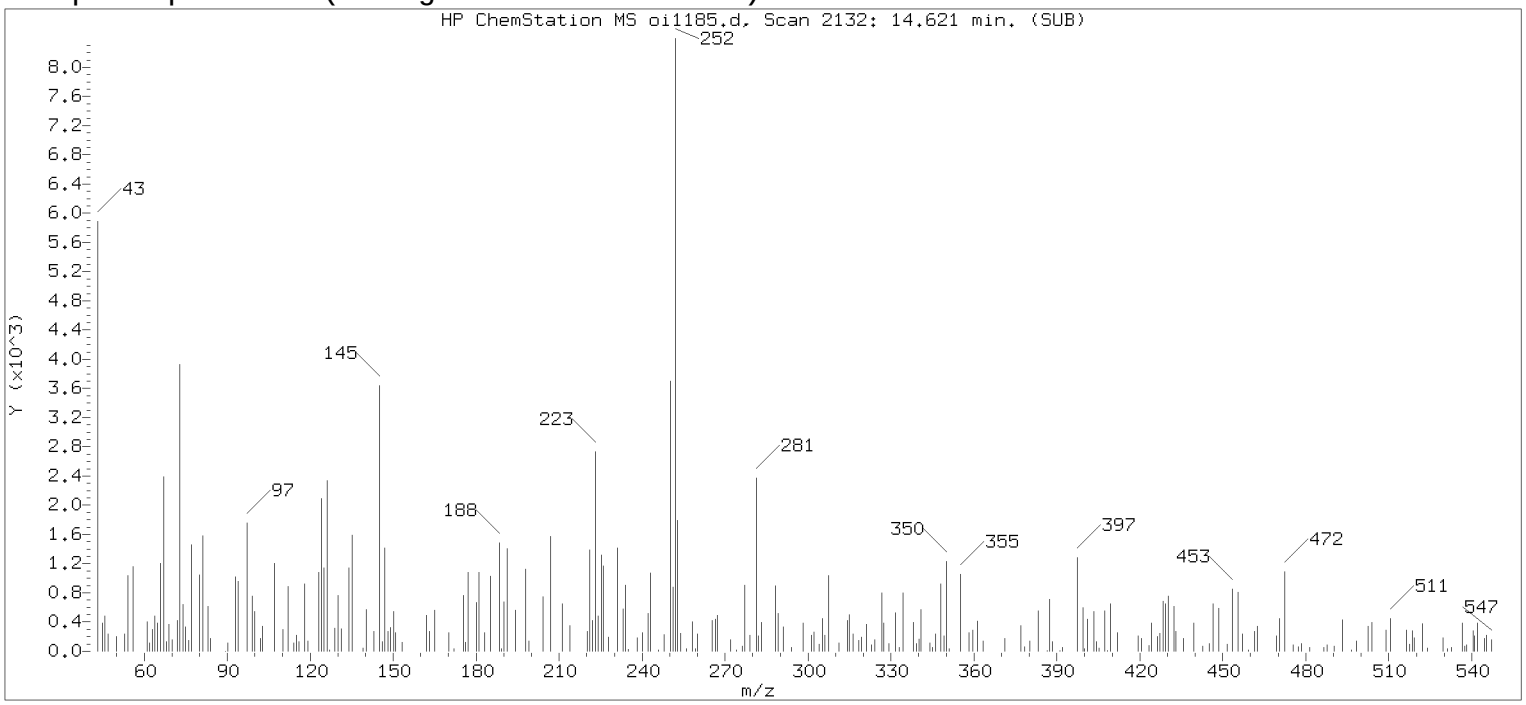
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2132
Retention Time (minutes) : 14.621
Quant Ion : 252.00
Area (flag) : 12735M
On-column Amount (ng/ul) : 0.3709
Integration start scan : 2126 Integration stop scan: 2134
Y at integration start : 302 Y at integration end: 302

Reason for manual integration: improper integration

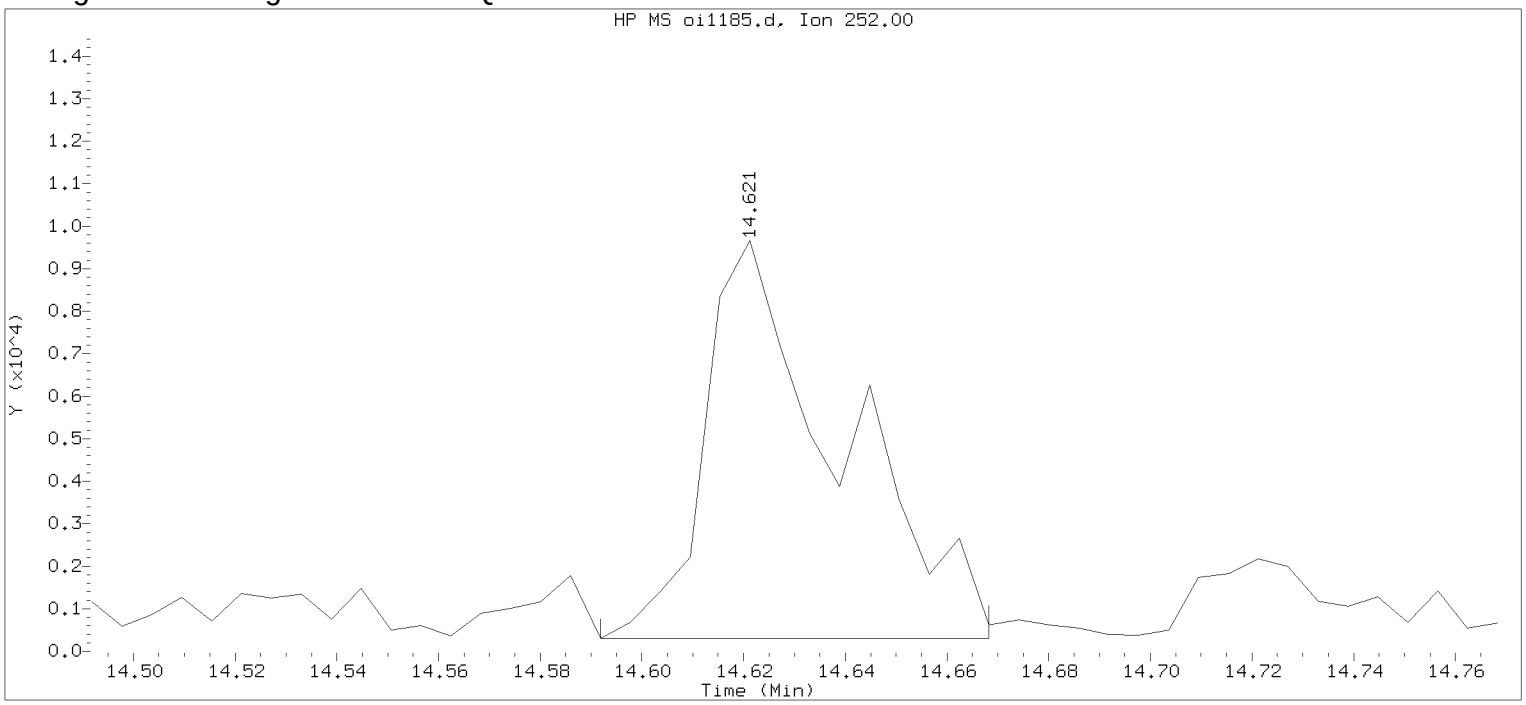
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

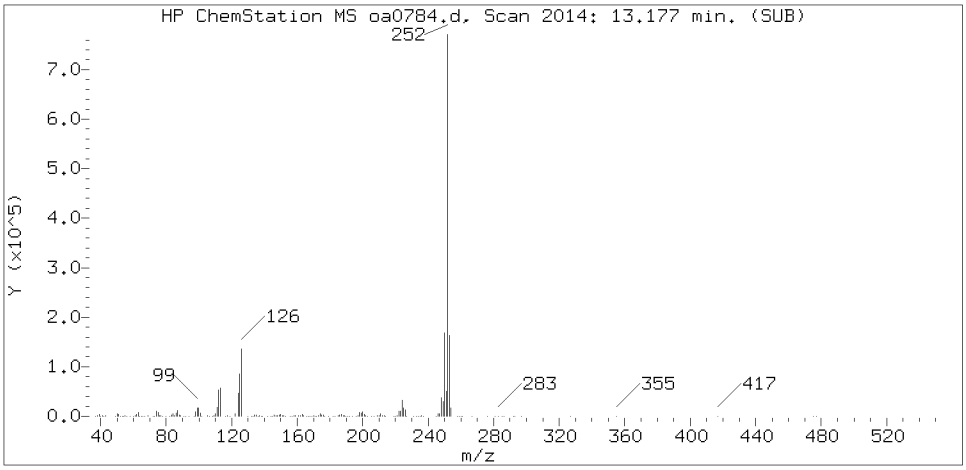
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 06:55 Automation

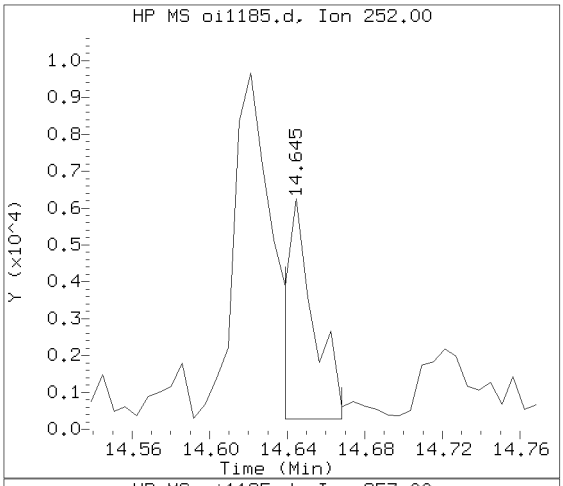
Sample Name: PS3DP Lab Sample ID: 8057366

Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2132
Retention Time (minutes) : 14.621
Quant Ion : 252.00
Area : 17406
On-column Amount (ng/ul) : 0.5069
Integration start scan : 2126 Integration stop scan: 2139
Y at integration start : 302 Y at integration end: 302

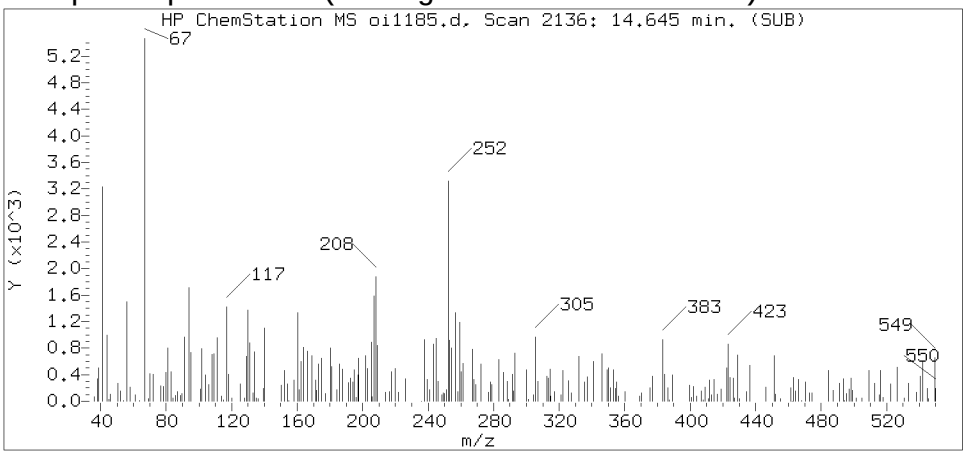
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0256

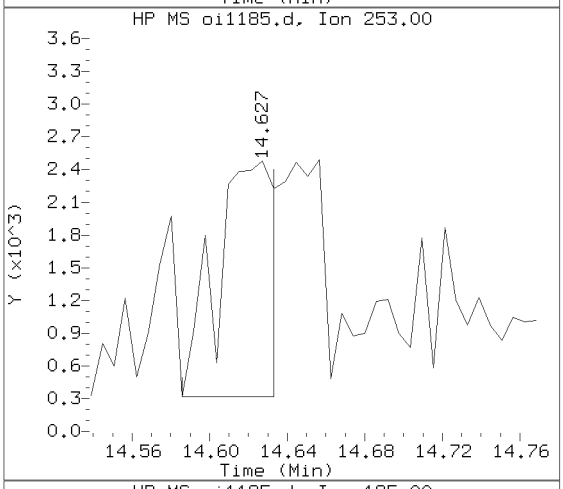
Reference Standard Spectrum for Benzo(k)fluoranthene



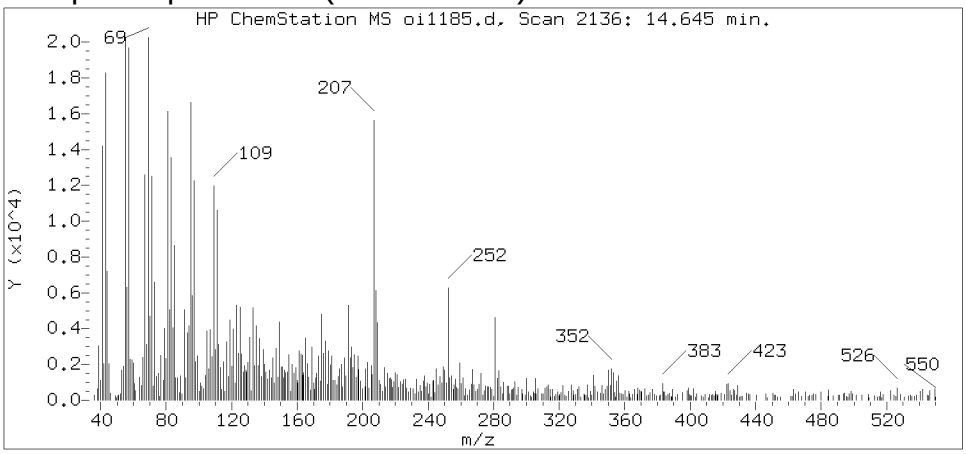


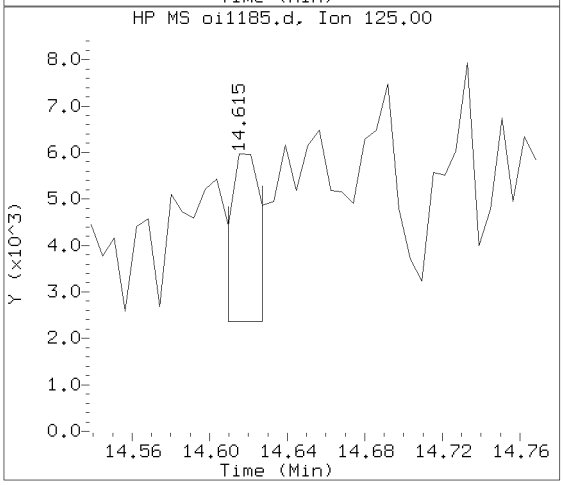
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

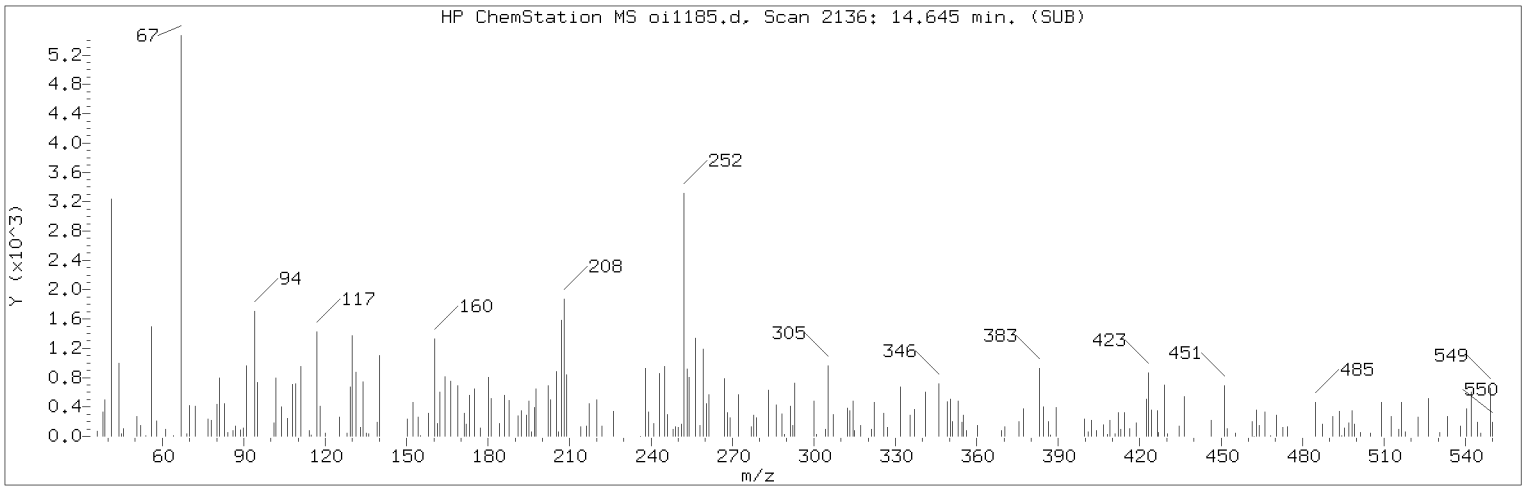
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

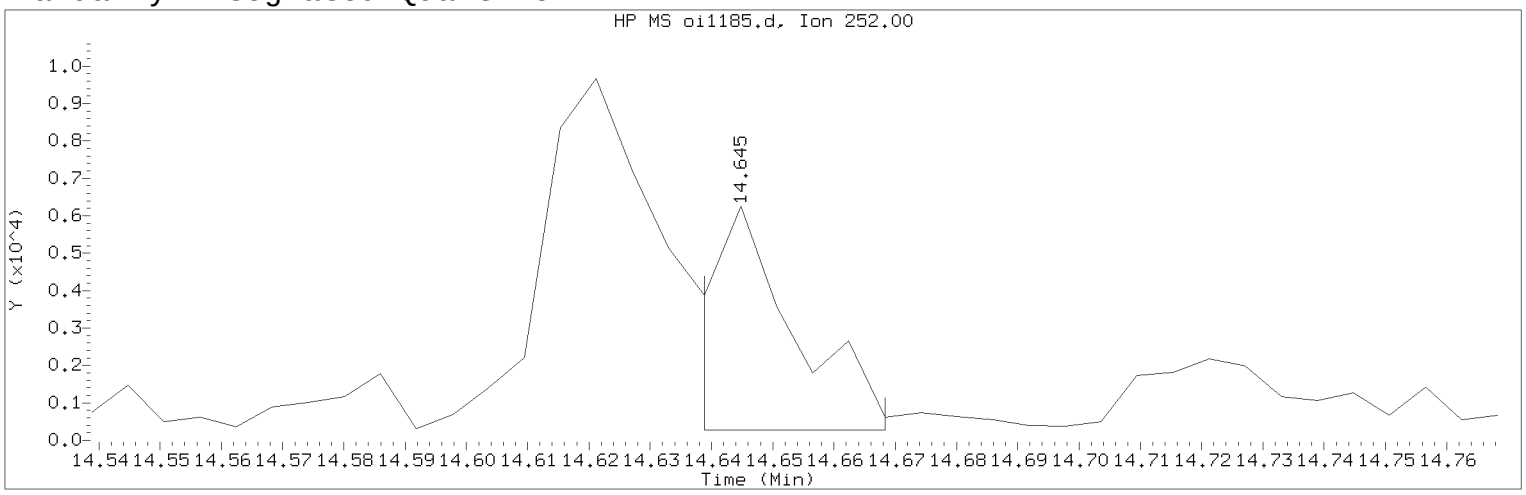
Compound Number	: 208
Compound Name	: Benzo(k)fluoranthene
Scan Number	: 2136
Retention Time (minutes)	: 14.645
Relative Retention Time	: 0.00038
Quant Ion	: 252.00
Area (flag)	: 6046M
On-column Amount (ng/ul)	: 0.1726

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

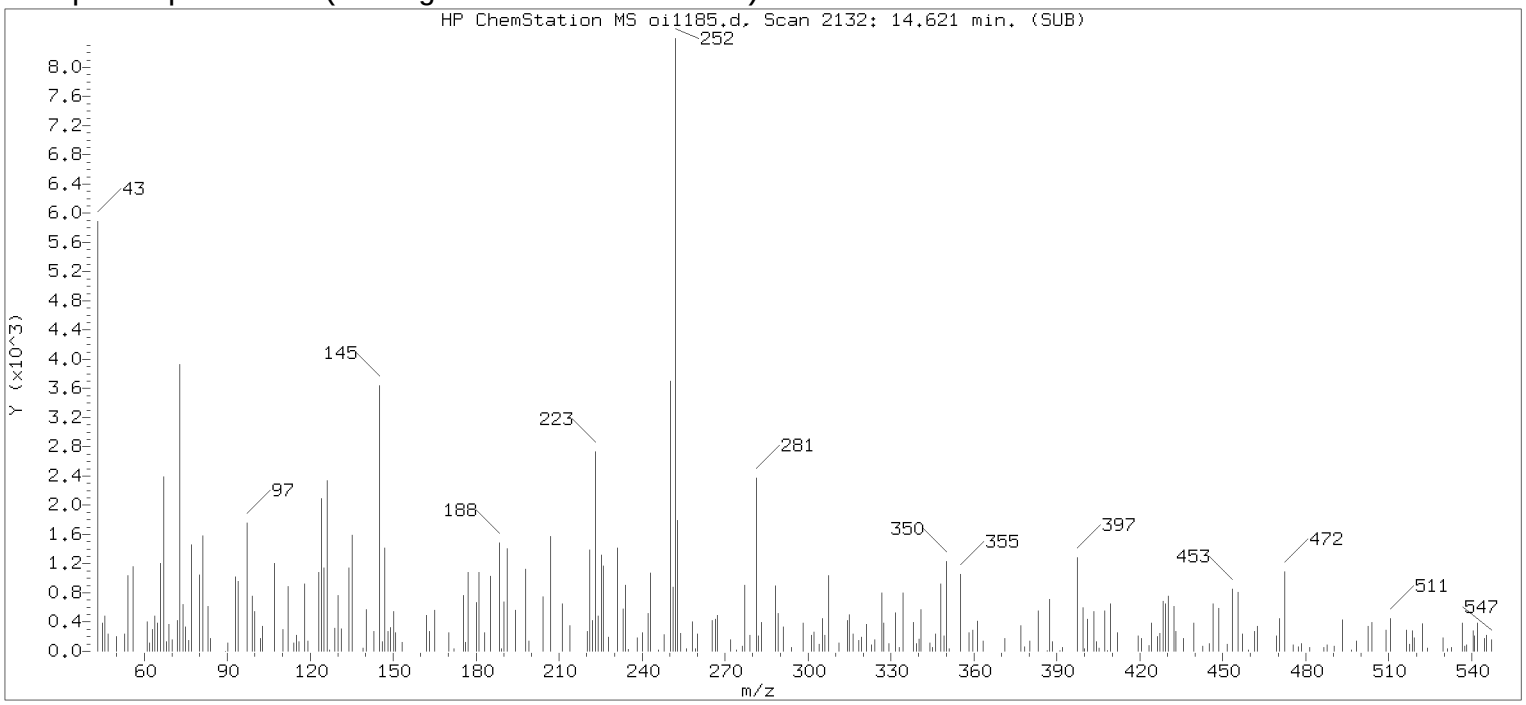
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2136
Retention Time (minutes) : 14.645
Quant Ion : 252.00
Area (flag) : 6046M
On-column Amount (ng/ul) : 0.1726
Integration start scan : 2134 Integration stop scan: 2139
Y at integration start : 275 Y at integration end: 275

Reason for manual integration: improper integration

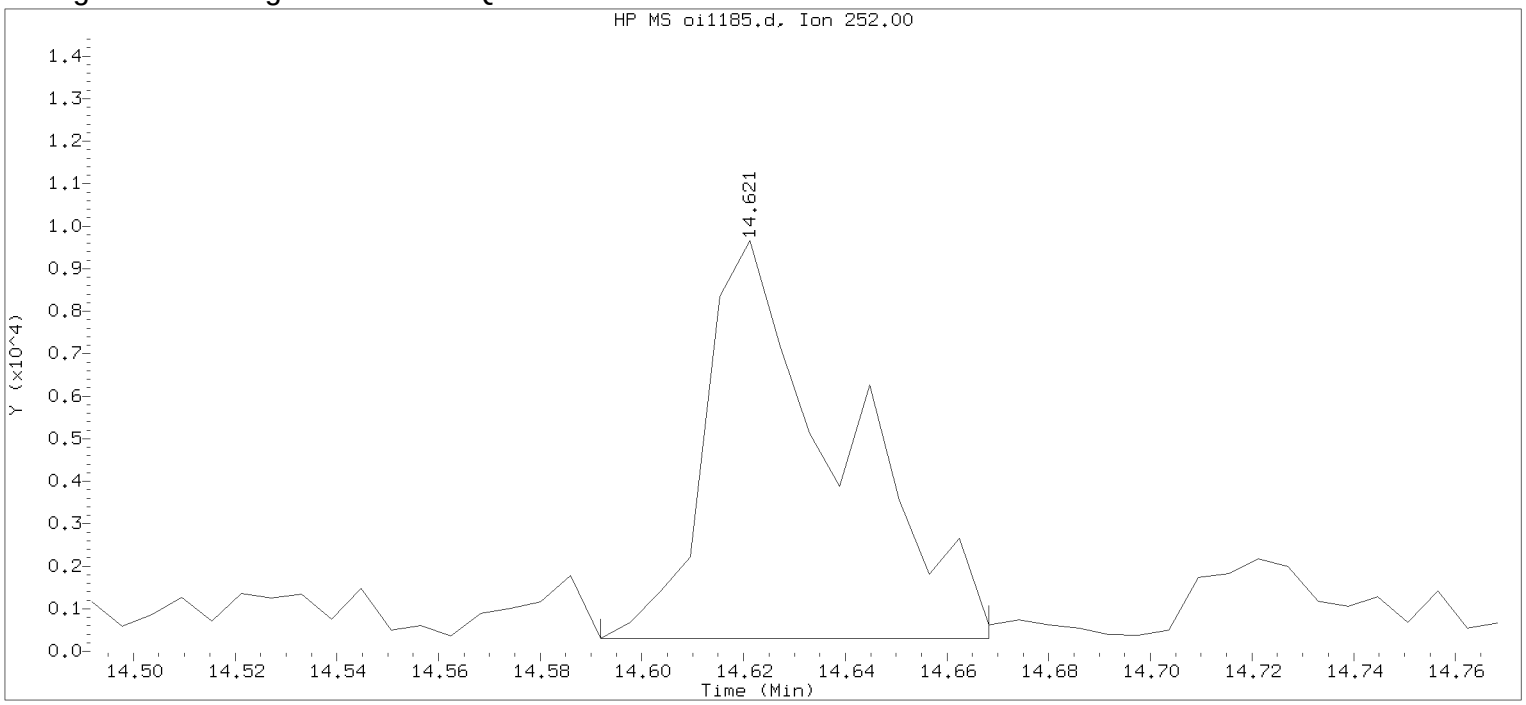
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

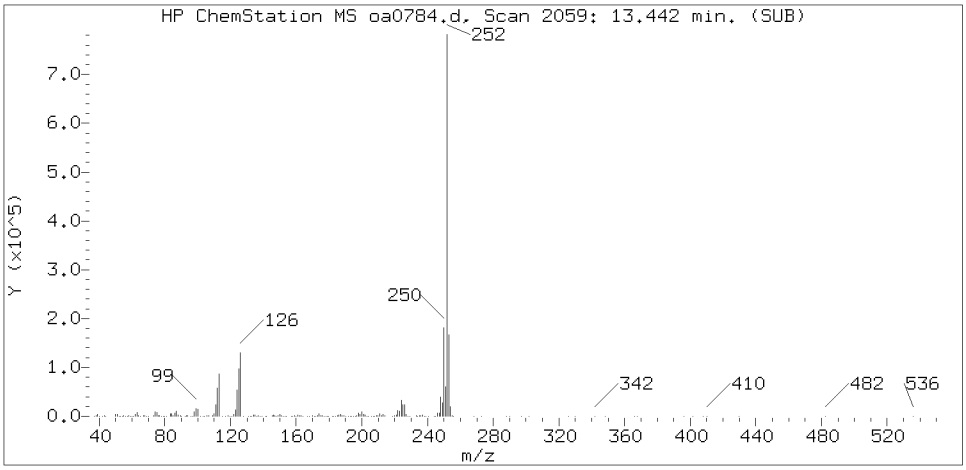
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 06:55 Automation

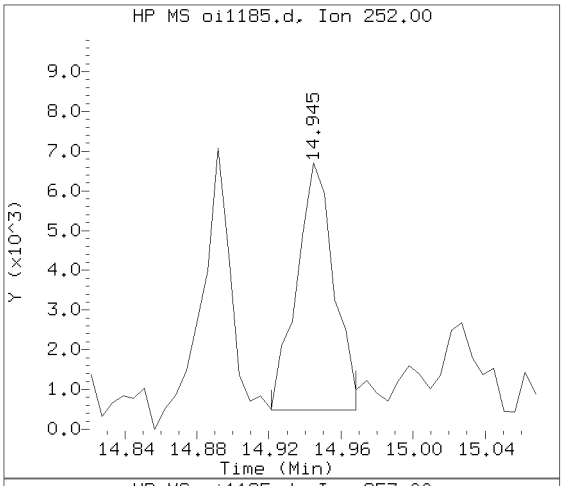
Sample Name: PS3DP Lab Sample ID: 8057366

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2132		
Retention Time (minutes)	: 14.621		
Quant Ion	: 252.00		
Area	: 17406		
On-column Amount (ng/ul)	: 0.4968		
Integration start scan	: 2126	Integration stop scan:	2139
Y at integration start	: 302	Y at integration end:	302

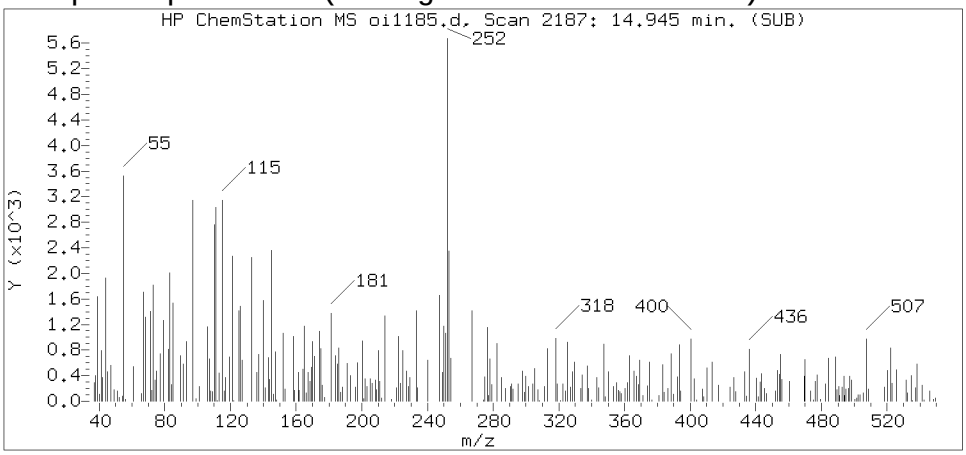
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0253

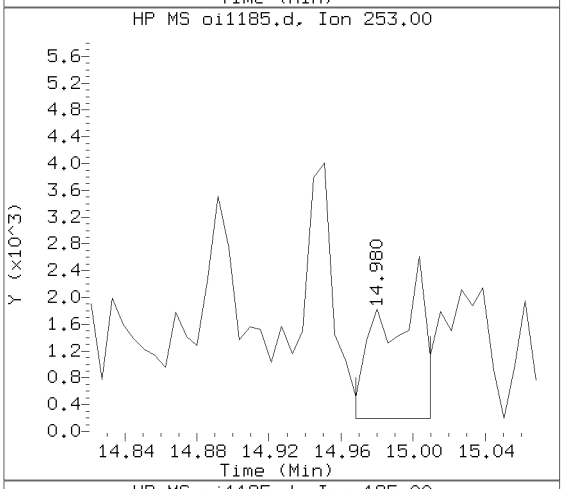
Reference Standard Spectrum for Benzo(a)pyrene



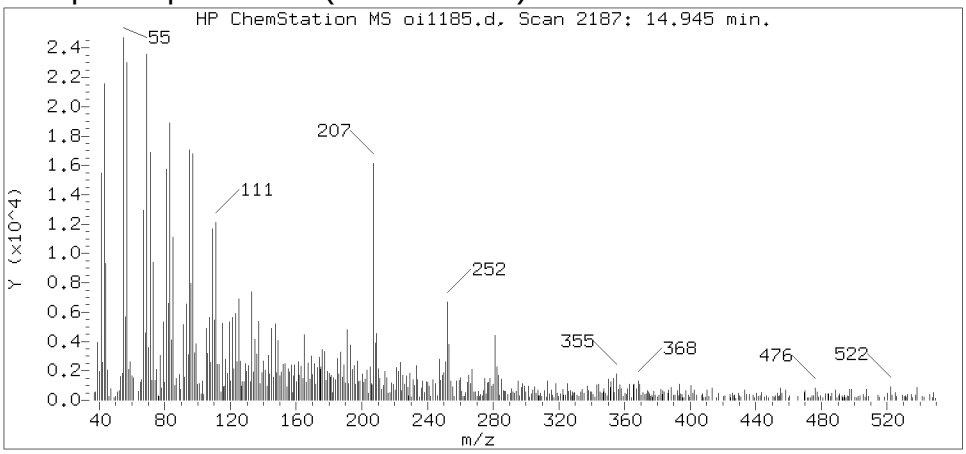


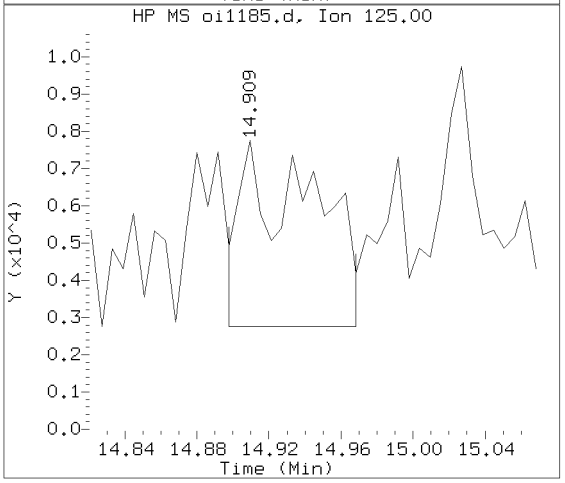
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

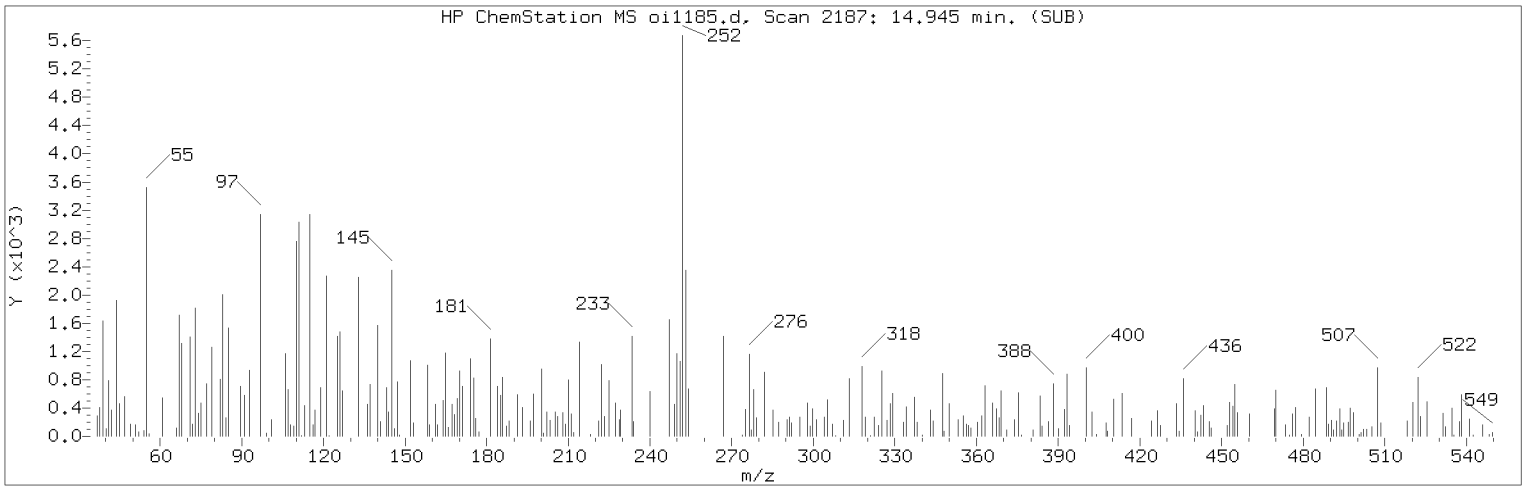
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

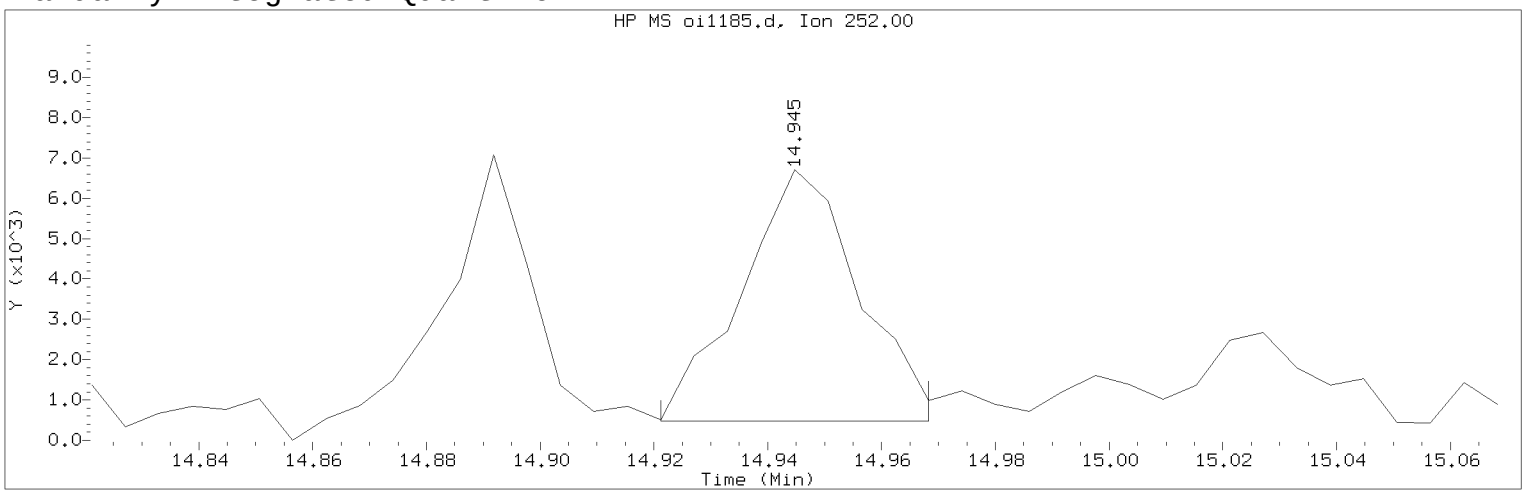
Compound Number : 211
Compound Name : Benzo(a)pyrene
Scan Number : 2187
Retention Time (minutes) : 14.945
Relative Retention Time :-0.00000
Quant Ion : 252.00
Area (flag) : 8905M
On-column Amount (ng/ul) : 0.2626

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

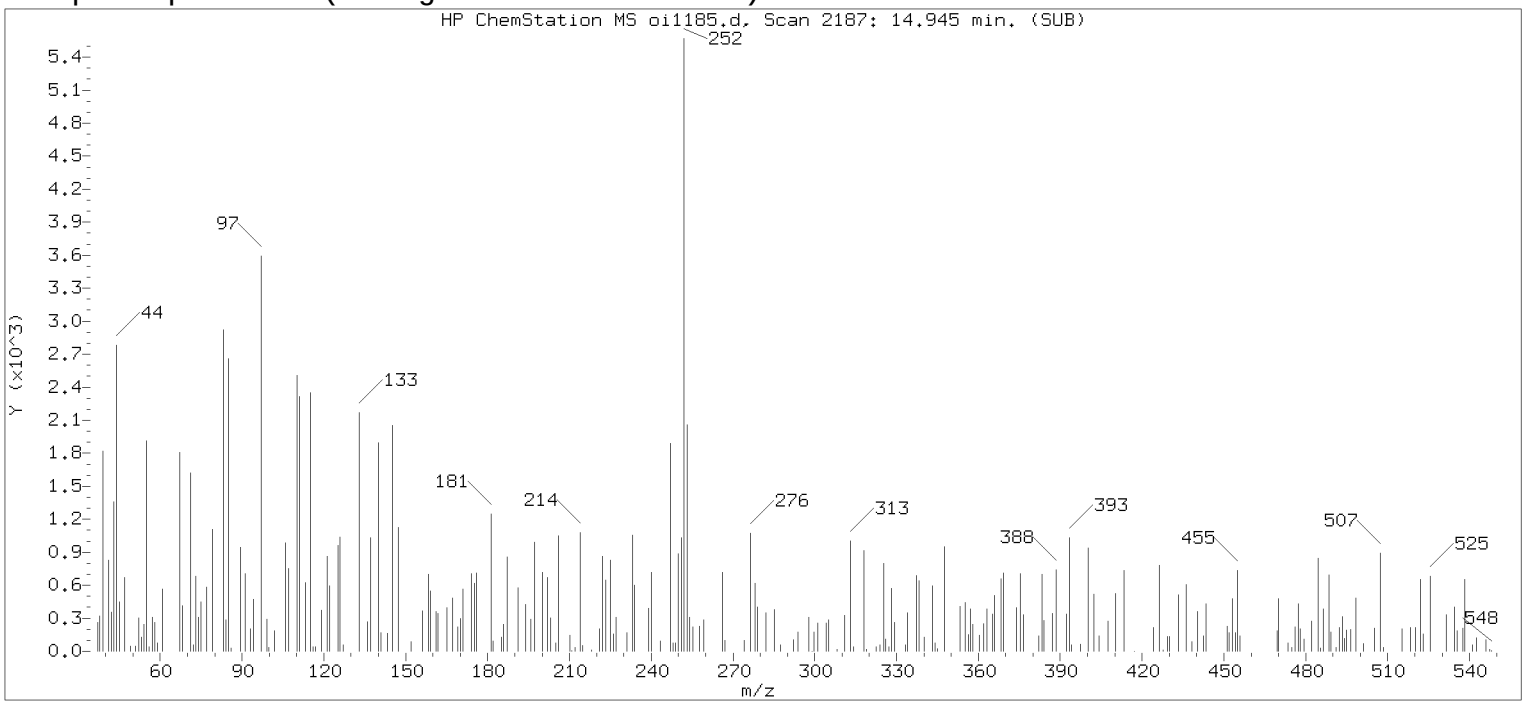
Compound Number : 211
Compound Name : Benzo(a)pyrene
Scan Number : 2187
Retention Time (minutes) : 14.945
Quant Ion : 252.00
Area (flag) : 8905M
On-column Amount (ng/ul) : 0.2626
Integration start scan : 2182 Integration stop scan: 2190
Y at integration start : 485 Y at integration end: 485

Reason for manual integration: improper integration

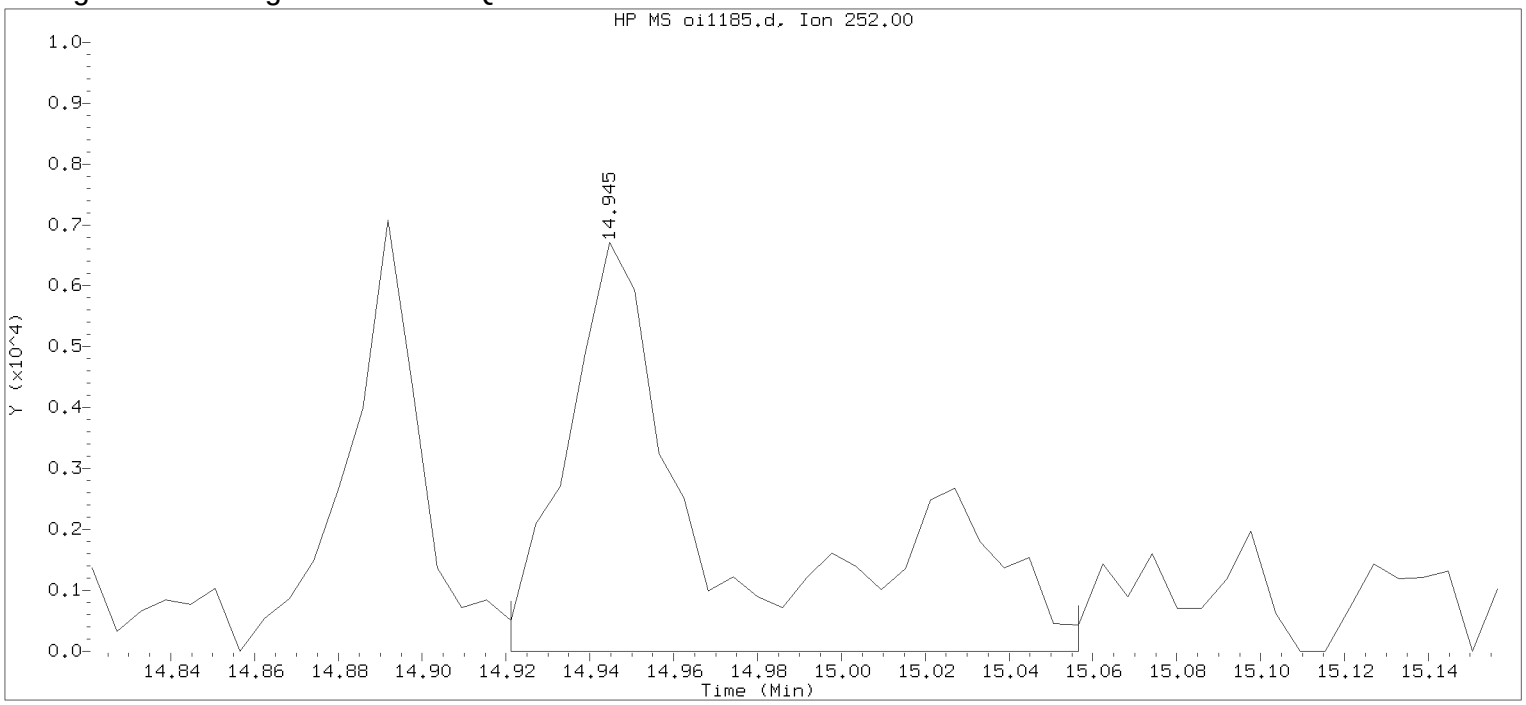
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

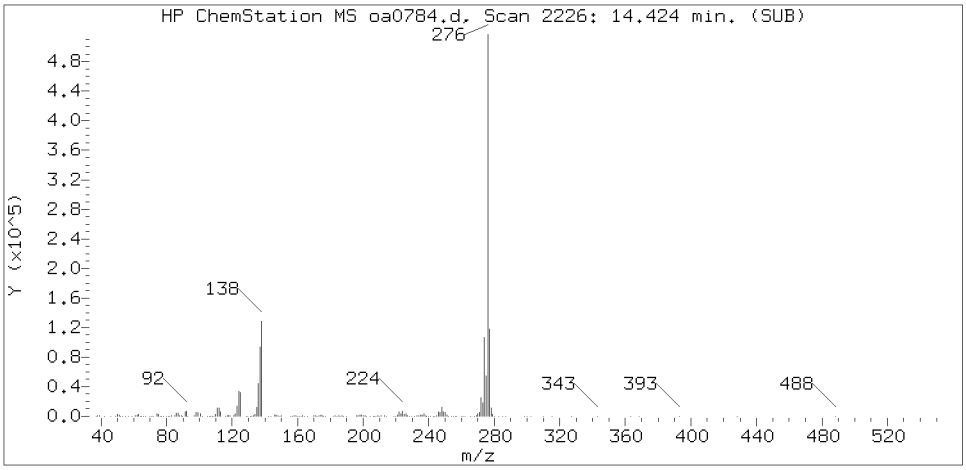
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 06:55 Automation

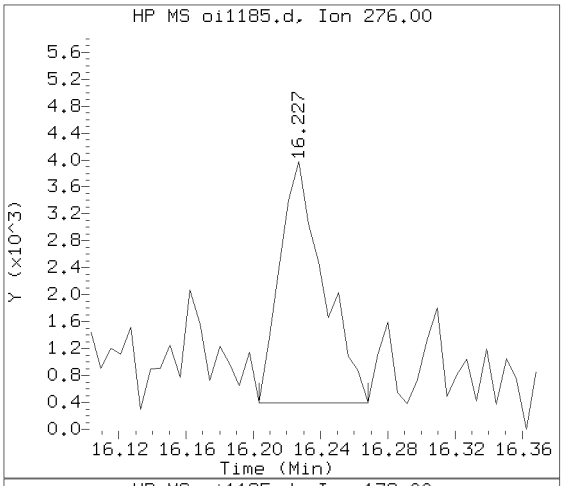
Sample Name: PS3DP Lab Sample ID: 8057366

Compound Number	: 211		
Compound Name	: Benzo(a)pyrene		
Scan Number	: 2187		
Retention Time (minutes)	: 14.945		
Quant Ion	: 252.00		
Area	: 17399		
On-column Amount (ng/ul)	: 0.5131		
Integration start scan	: 2182	Integration stop scan:	2205
Y at integration start	: 0	Y at integration end:	0

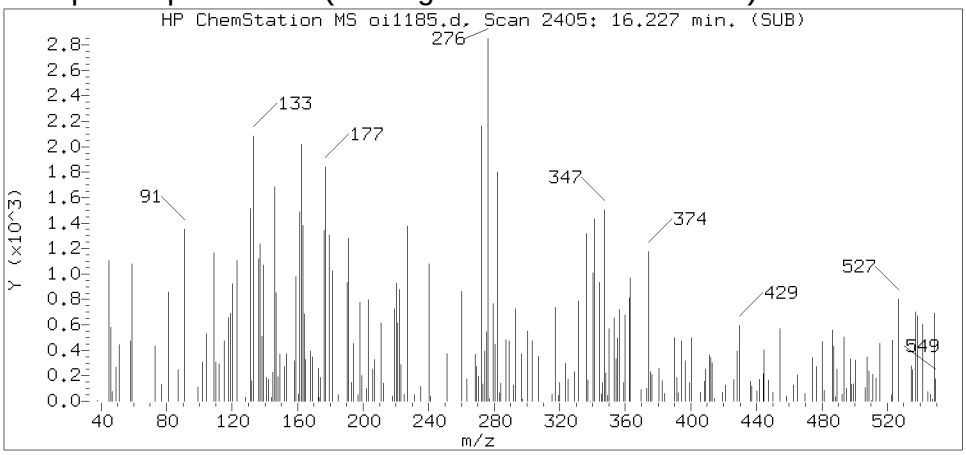
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0256

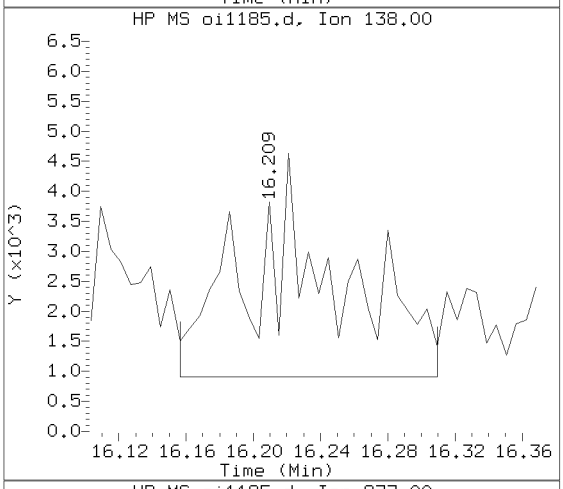
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



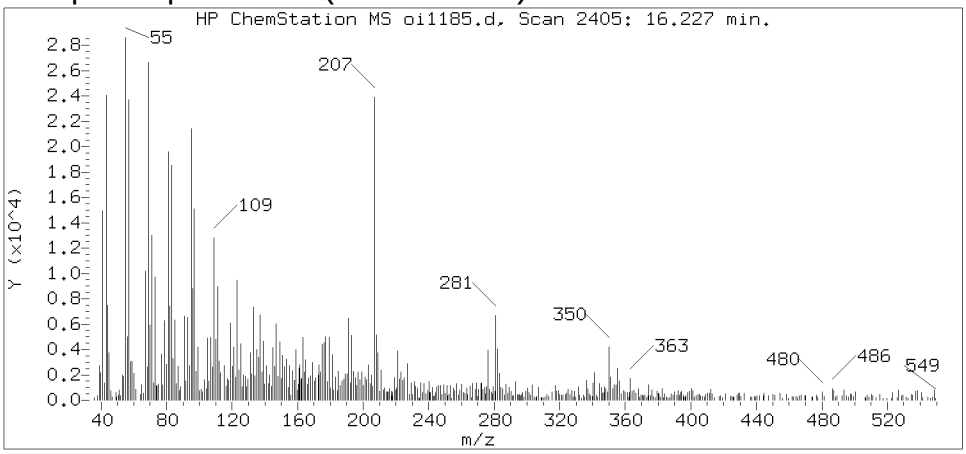


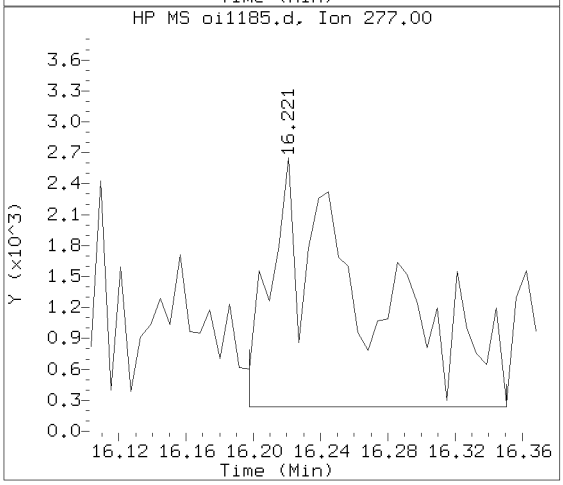
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

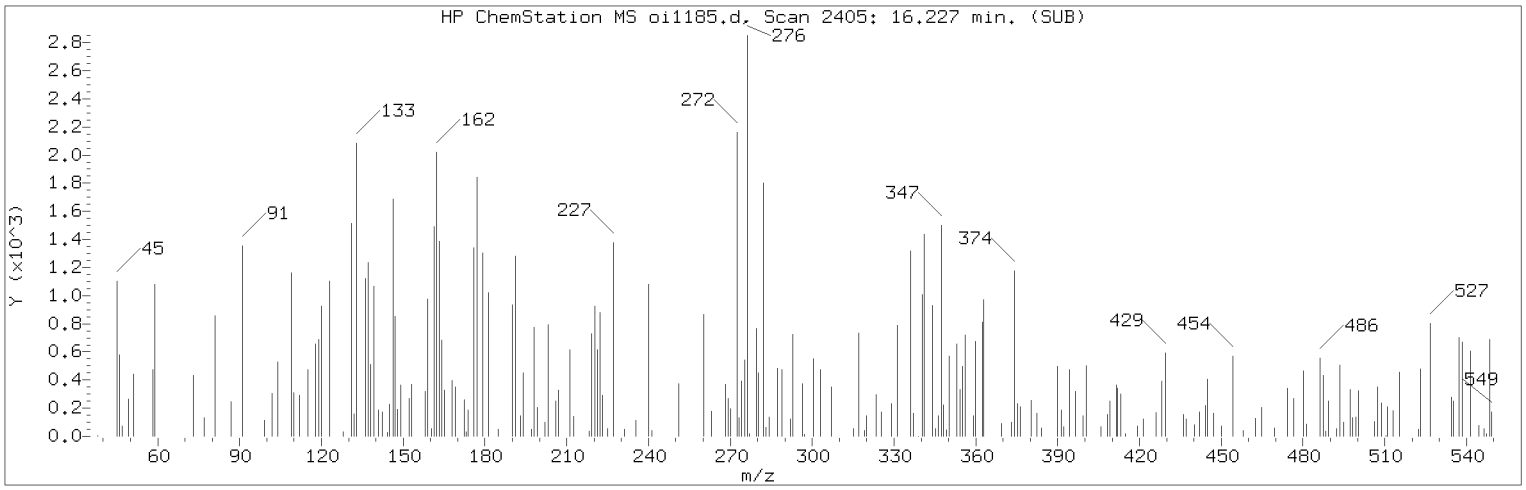
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

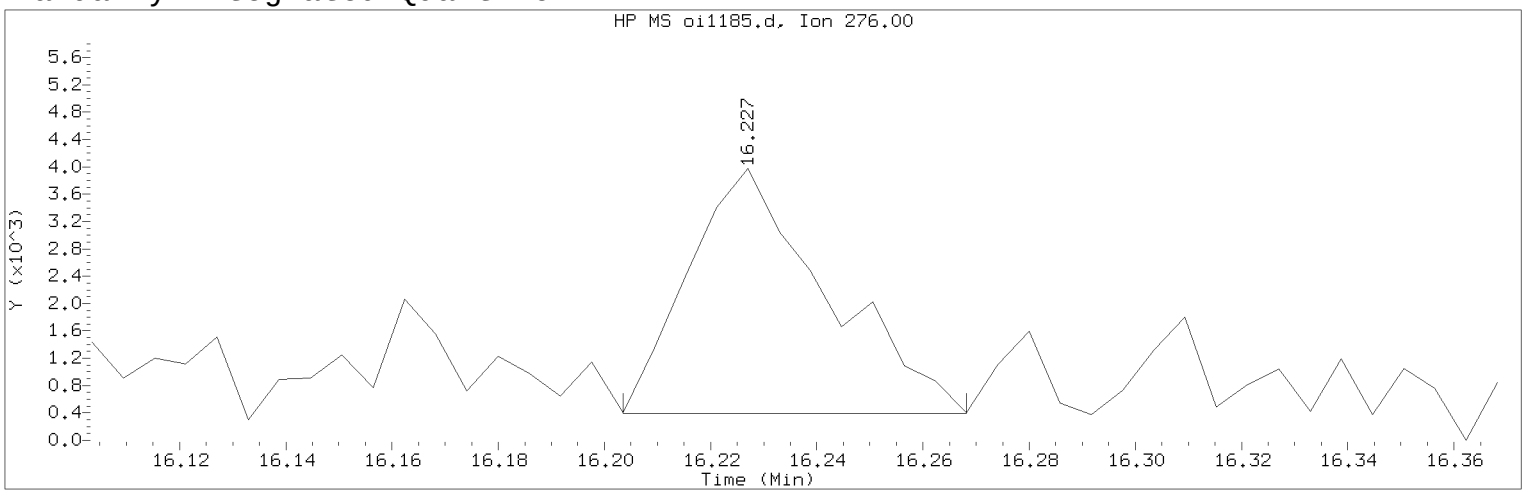
Compound Number	: 219
Compound Name	: Indeno(1,2,3-cd)pyrene
Scan Number	: 2405
Retention Time (minutes)	: 16.227
Relative Retention Time	: 0.00082
Quant Ion	: 276.00
Area (flag)	: 6501M
On-column Amount (ng/ul)	: 0.1841

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

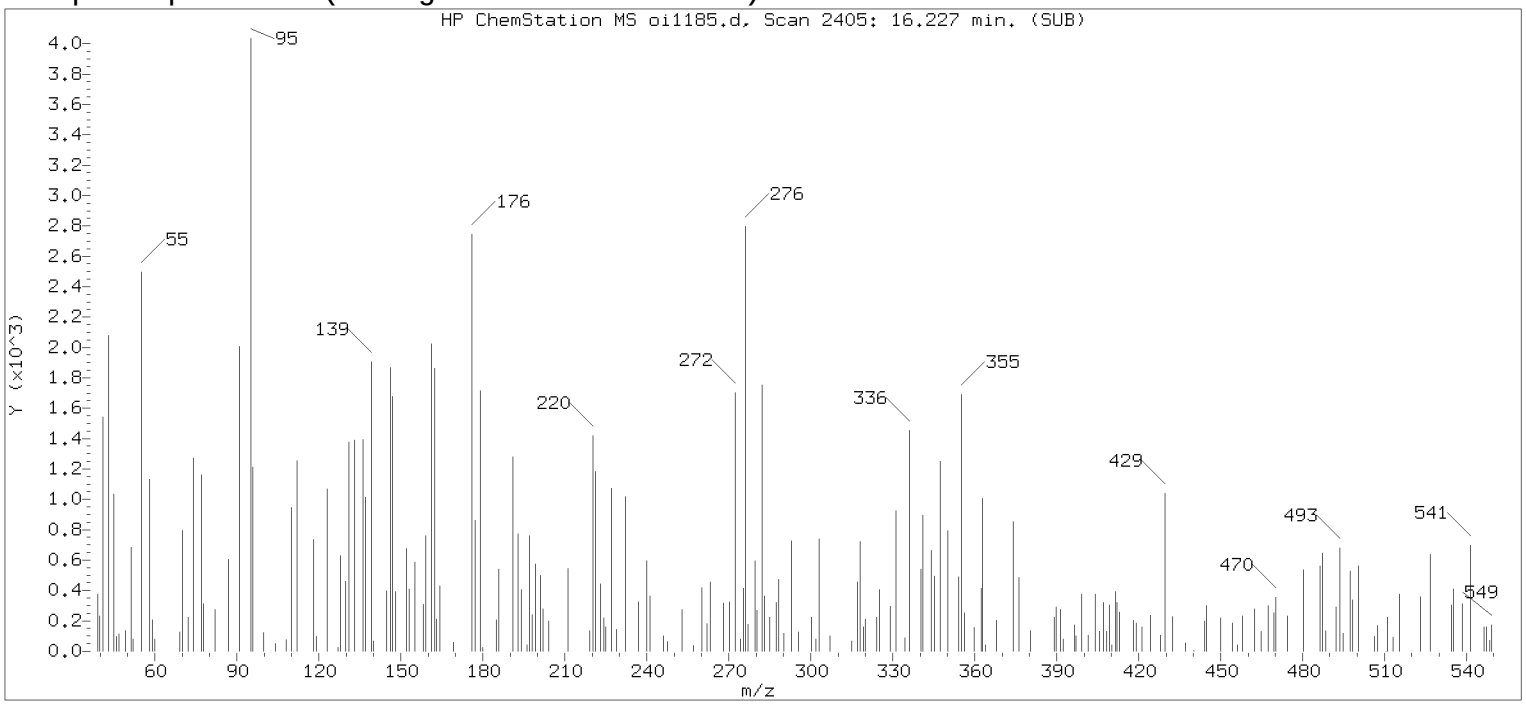
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2405
Retention Time (minutes) : 16.227
Quant Ion : 276.00
Area (flag) : 6501M
On-column Amount (ng/ul) : 0.1841
Integration start scan : 2400 Integration stop scan: 2411
Y at integration start : 391 Y at integration end: 391

Reason for manual integration: improper integration

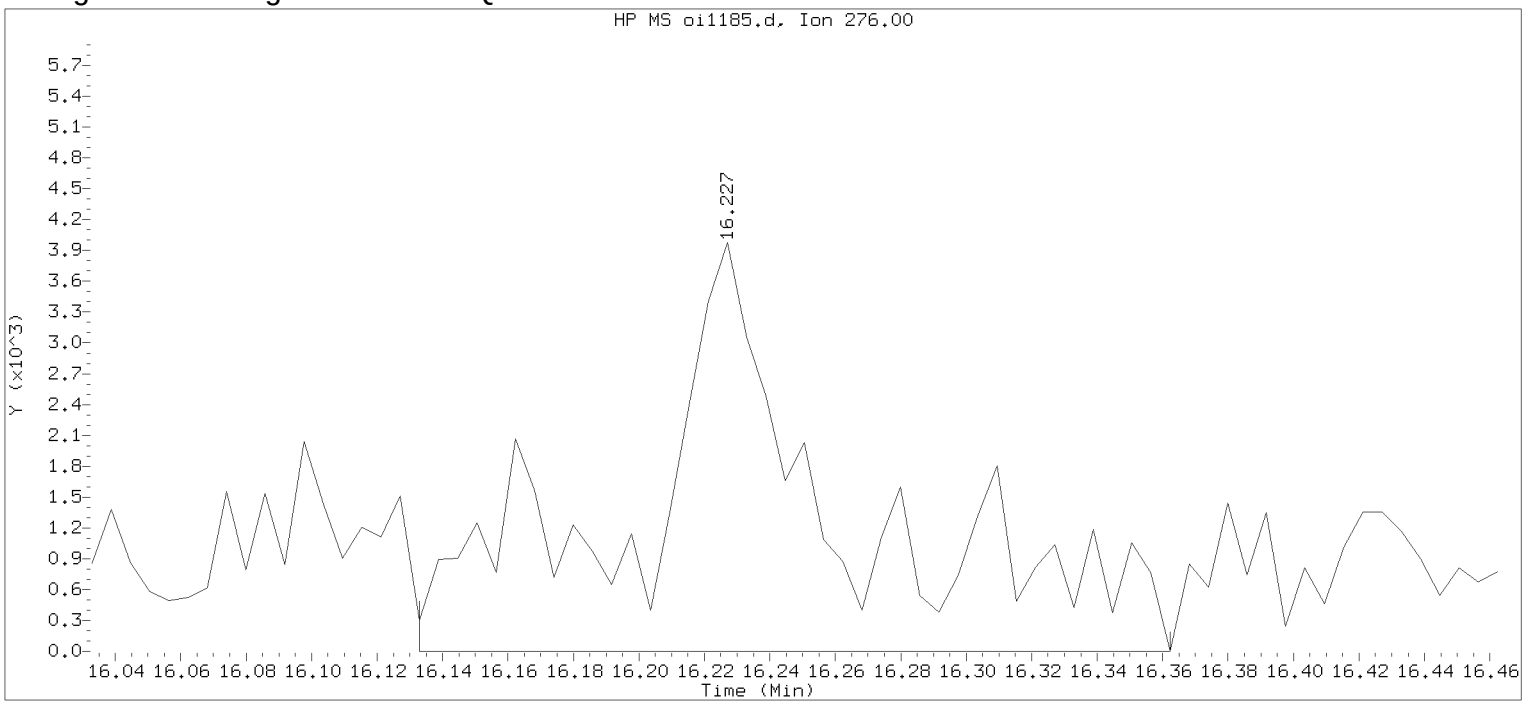
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

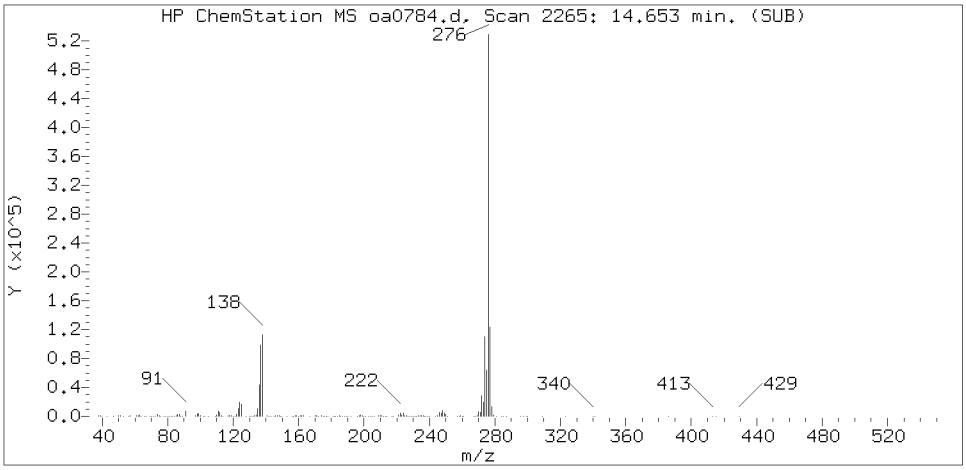
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 06:55 Automation

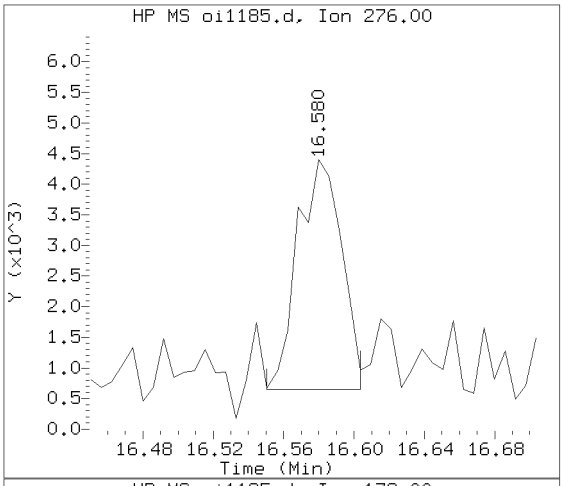
Sample Name: PS3DP Lab Sample ID: 8057366

Compound Number	: 219		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 2405		
Retention Time (minutes)	: 16.227		
Quant Ion	: 276.00		
Area	: 17310		
On-column Amount (ng/ul)	: 0.4901		
Integration start scan	: 2388	Integration stop scan:	2427
Y at integration start	: 0	Y at integration end:	0

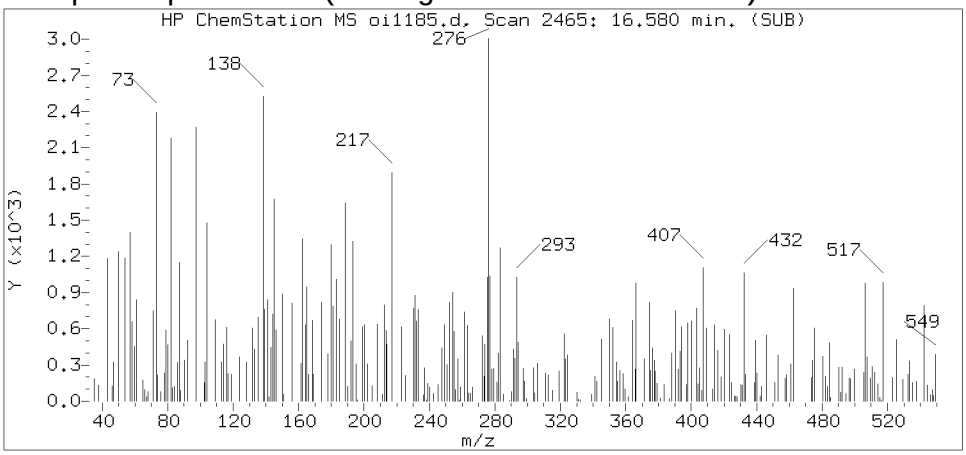
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0256

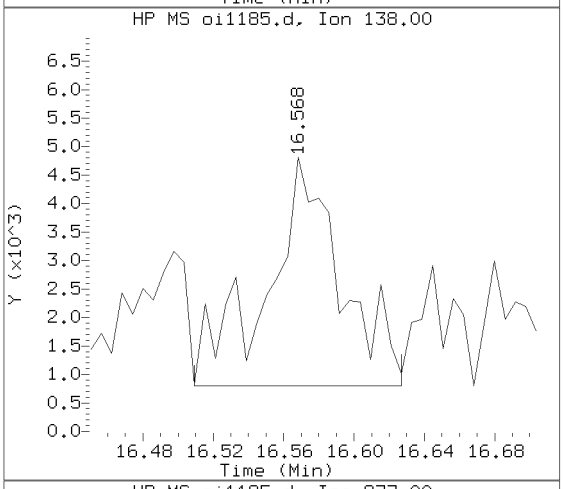
Reference Standard Spectrum for Benzo(g,h,i)perylene



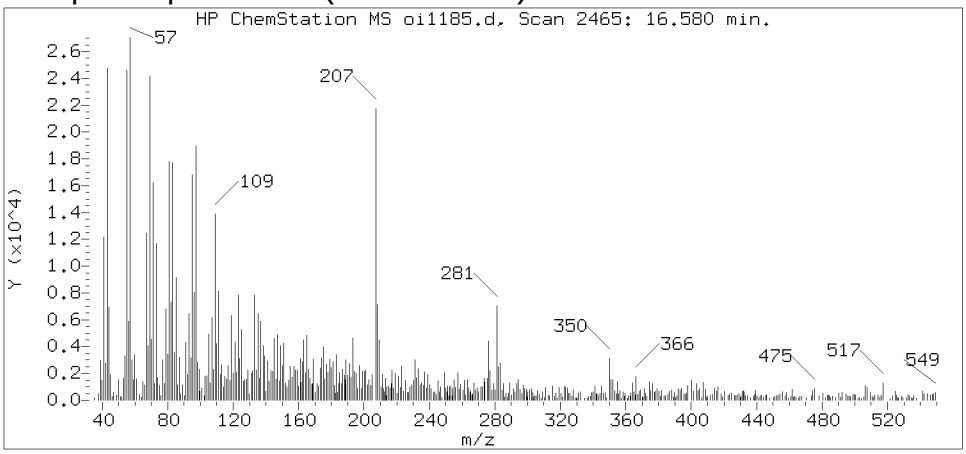


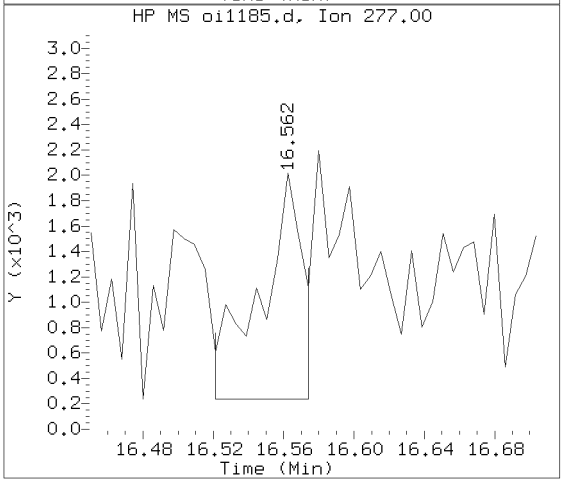
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

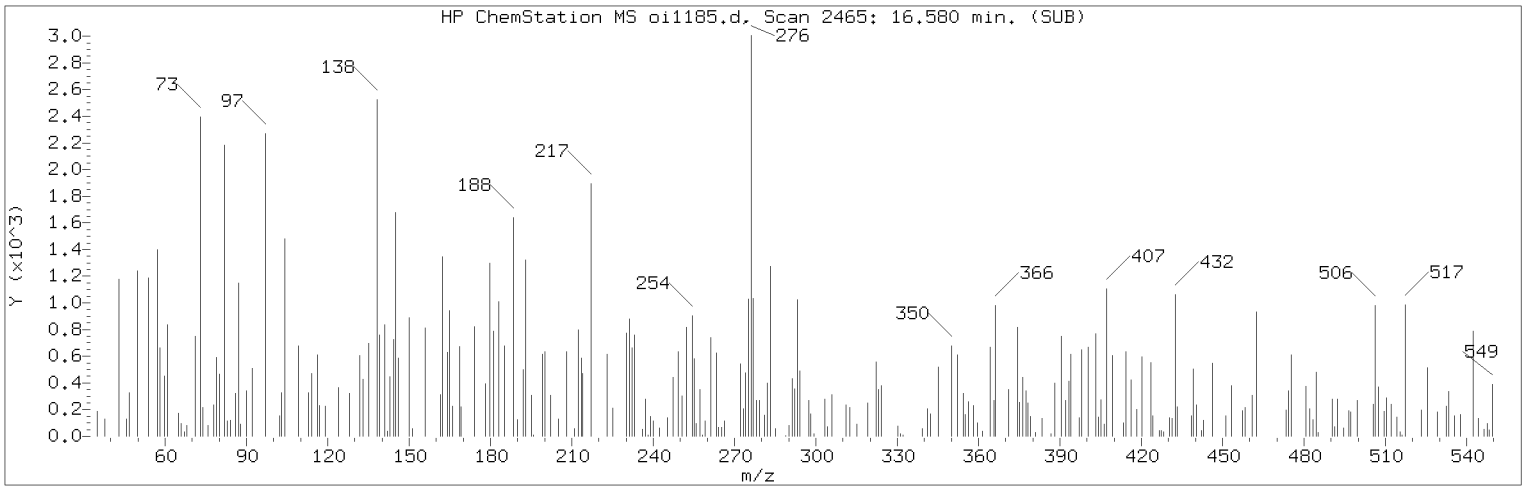
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

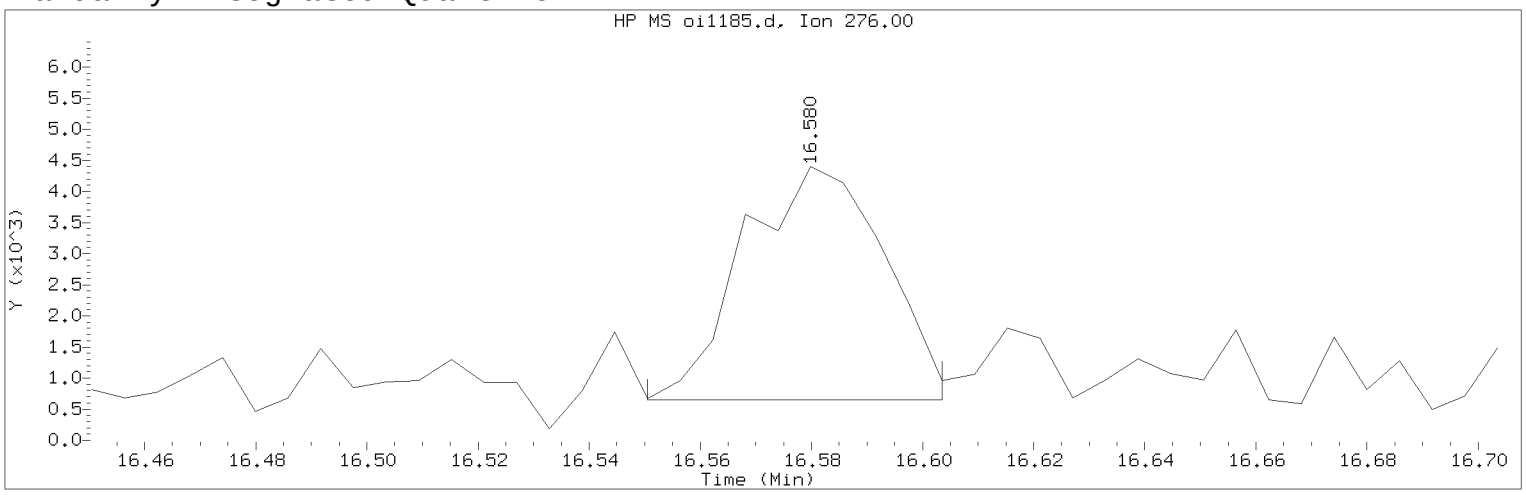
Compound Number	: 221
Compound Name	: Benzo(g,h,i)perylene
Scan Number	: 2465
Retention Time (minutes)	: 16.580
Relative Retention Time	: 0.00043
Quant Ion	: 276.00
Area (flag)	: 6605M
On-column Amount (ng/ul)	: 0.2277

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:57 lmh00956

Sample Name: PS3DP Lab Sample ID: 8057366

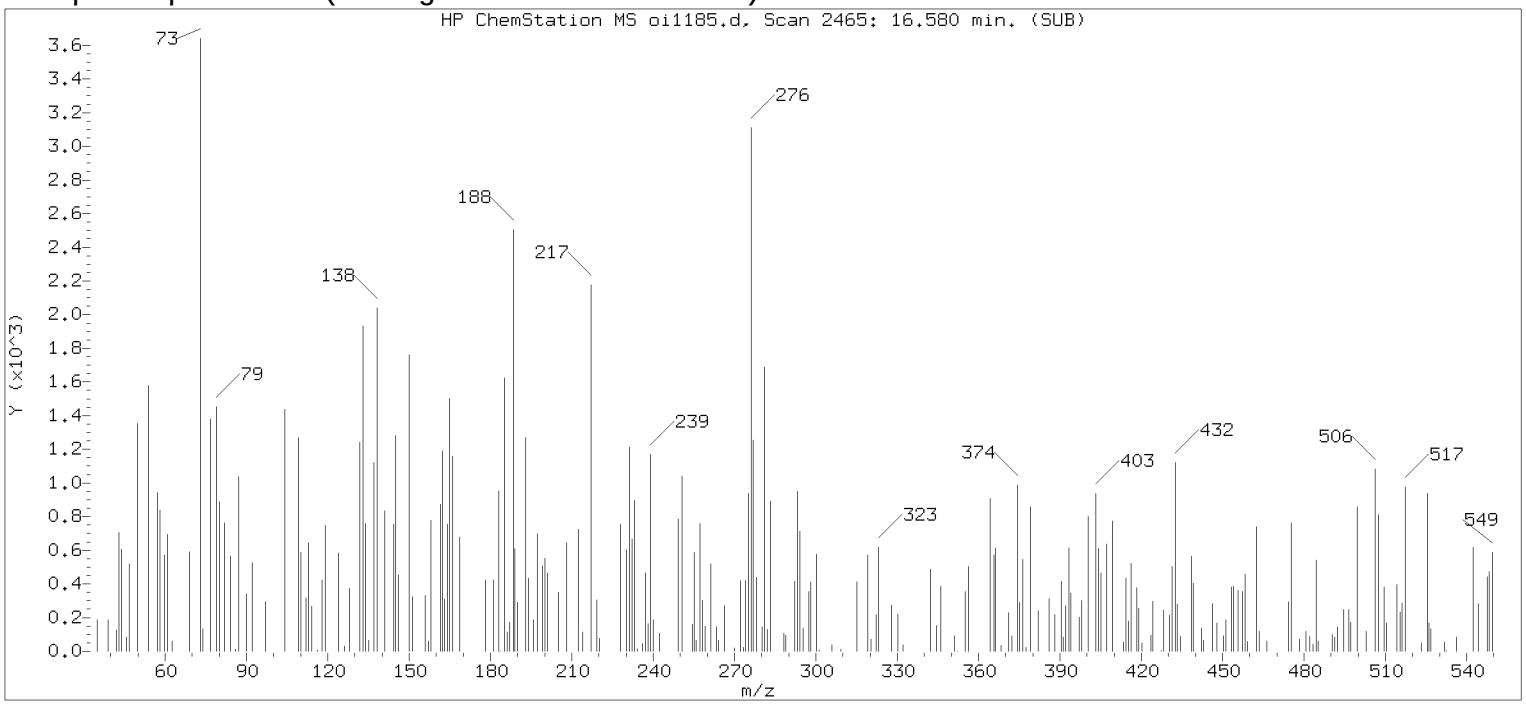
Compound Number : 221
Compound Name : Benzo(g,h,i)perylene
Scan Number : 2465
Retention Time (minutes) : 16.580
Quant Ion : 276.00
Area (flag) : 6605M
On-column Amount (ng/ul) : 0.2277
Integration start scan : 2459 Integration stop scan: 2468
Y at integration start : 645 Y at integration end: 645

Reason for manual integration: improper integration

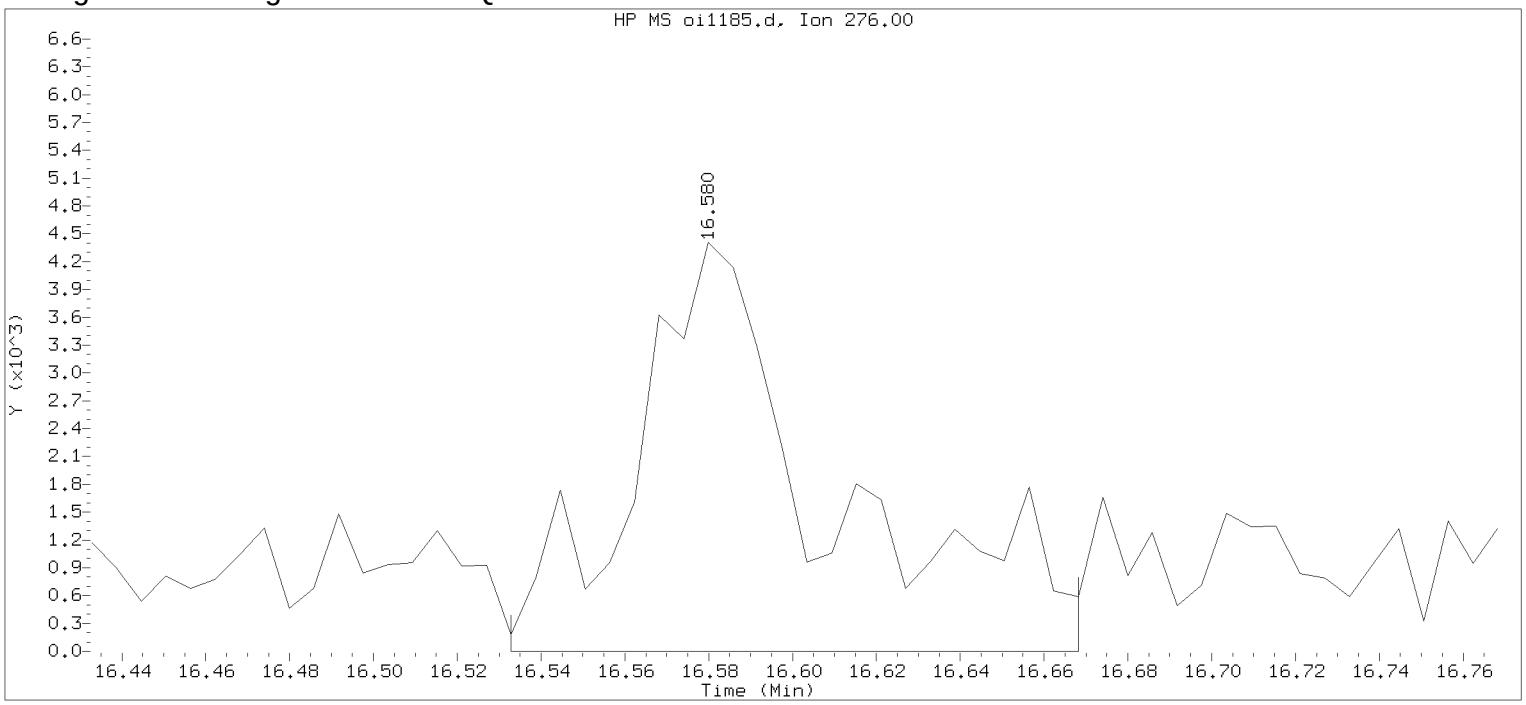
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1185.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 06:38 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 06:55 Automation

Sample Name: PS3DP Lab Sample ID: 8057366

Compound Number	: 221		
Compound Name	: Benzo(g,h,i)perylene		
Scan Number	: 2465		
Retention Time (minutes)	: 16.580		
Quant Ion	: 276.00		
Area	: 14119		
On-column Amount (ng/ul)	: 0.4867		
Integration start scan	: 2456	Integration stop scan:	2479
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0352

PS485 Lancaster Laboratories, Inc. 8057367
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1186.d Injection date and time: **26-SEP-2015 07:04**
Data file Sample Info. Line: PS485;8057367;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.39 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.439(0.000)	741	152	201393 (19)	20.00	
65) Naphthalene-d8	7.716(0.000)	958	136	947195 (19)	20.00	
113) Acenaphthene-d10	9.451(0.000)	1253	164	547201 (7)	20.00	
153) Phenanthrene-d10	10.910(0.000)	1501	188	908579 (-7)	20.00	
175) Pyrene-d10	12.310(-0.006)	1739	212	876575 (-19)	20.00	
213) Perylene-d12	15.004(-0.006)	2197	264	619114 (-26)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.004(0.000)	82	1962203	89.021	89%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.798(-0.001)	172	3286561	94.623	95%		63 - 117
179) Terphenyl-d14	(5)	12.492(0.000)	244	2997577	92.921	93%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	7.739(0.000)	128	9570M	0.183	6.03			0.1
83) 2-Methylnaphthalene	(2)	8.422(0.000)	142	7383	0.201	6.61			0.1
109) Acenaphthylene	(3)	9.310(0.000)	152	17943M	0.369	12.15			0.1
114) Acenaphthene	(3)	9.480(-0.000)	153	3690M	0.110	3.61			0.1
126) Fluorene	(3)	9.992(-0.000)	166	5539M	0.143	4.72			0.1
155) Phenanthrene	(4)	10.933(-0.000)	178	39330	0.745	24.53			0.1
157) Anthracene	(4)	10.980(0.000)	178	19165	0.368	12.09			0.1
173) Fluoranthene	(4)	12.110(-0.001)	202	111483	1.944	63.97			0.1
177) Pyrene	(5)	12.327(0.000)	202	111379M	2.130	70.08			0.1
195) Benzo(a)anthracene	(5)	13.527(0.000)	228	37617	0.825	27.15			0.1
196) Chrysene	(5)	13.562(0.000)	228	64070	1.475	48.54			0.1
206) Benzo(b)fluoranthene	(6)	14.621(0.000)	252	80923M	2.083	68.53			0.1
208) Benzo(k)fluoranthene	(6)	14.645(0.000)	252	33058M	0.834	27.44			0.1
211) Benzo(a)pyrene	(6)	14.945(-0.000)	252	38333M	0.999	32.87			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	16.227(0.000)	276	35047M	0.877	28.85			0.1
220) Dibenz(a,h)anthracene	(6)	16.250(0.000)	278	5775M	0.172	5.65			0.1
221) Benzo(g,h,i)perylene	(6)	16.586(0.000)	276	37375M	1.138	37.46			0.1

M = Compound was manually integrated.

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00. Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1186.d Injection date and time: **26-SEP-2015 07:04**
Data file Sample Info. Line: PS485;8057367;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1	GpcCleanup (No = 0, Yes = 1): 0	Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul	Volume Injected (Vi): 1 ul	Sample Weight (Ws): 30.39 g

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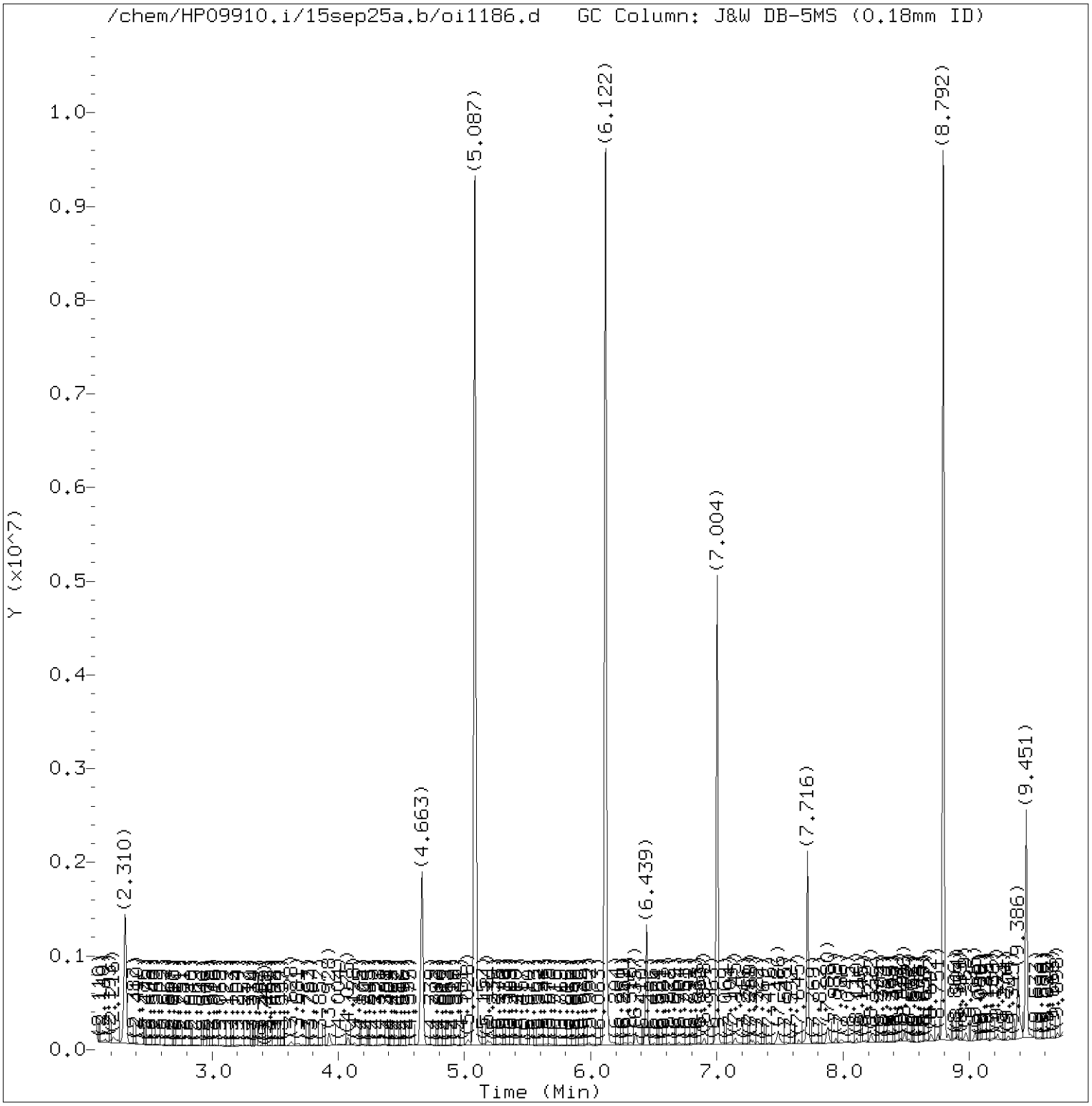
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

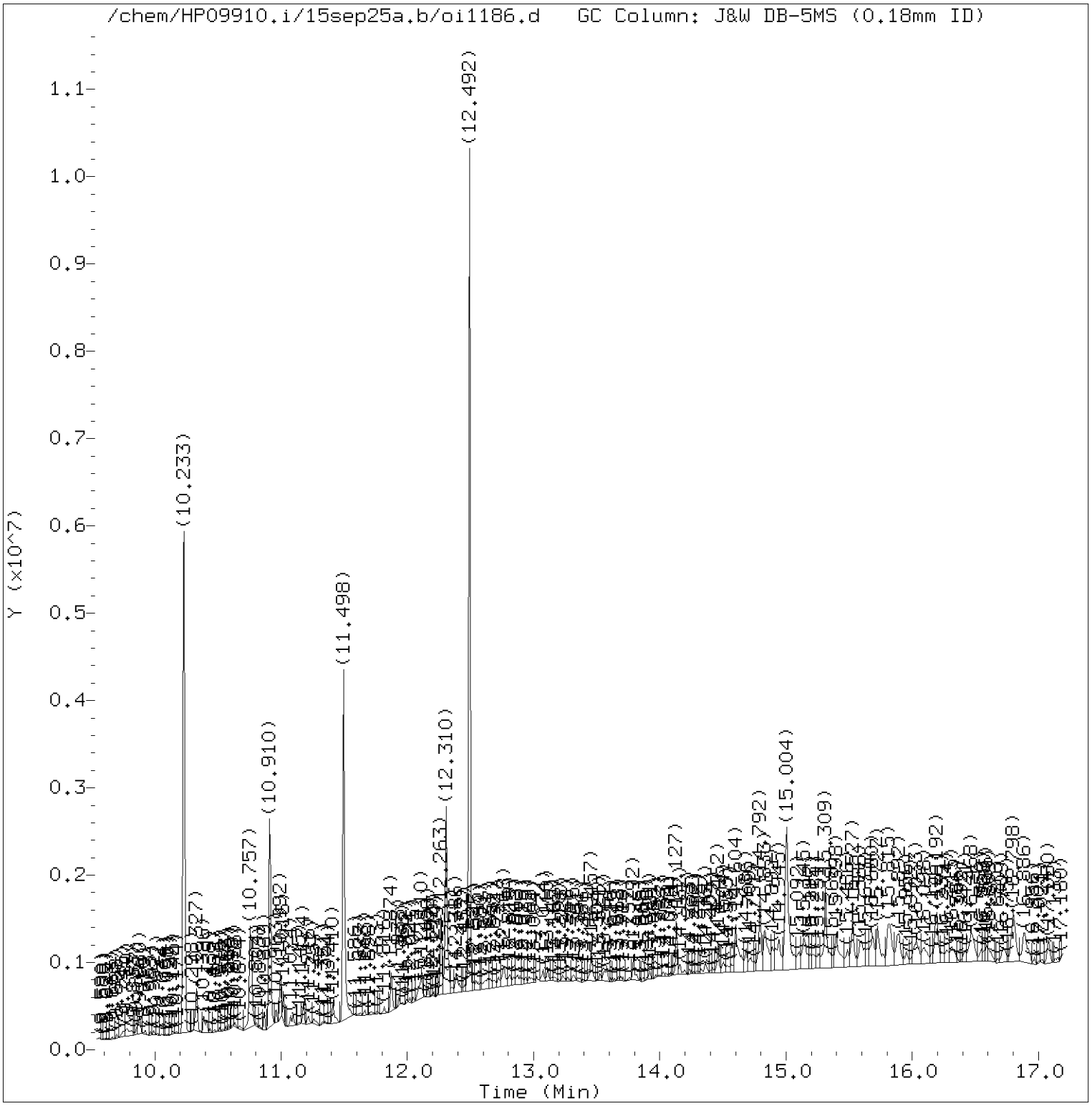
Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

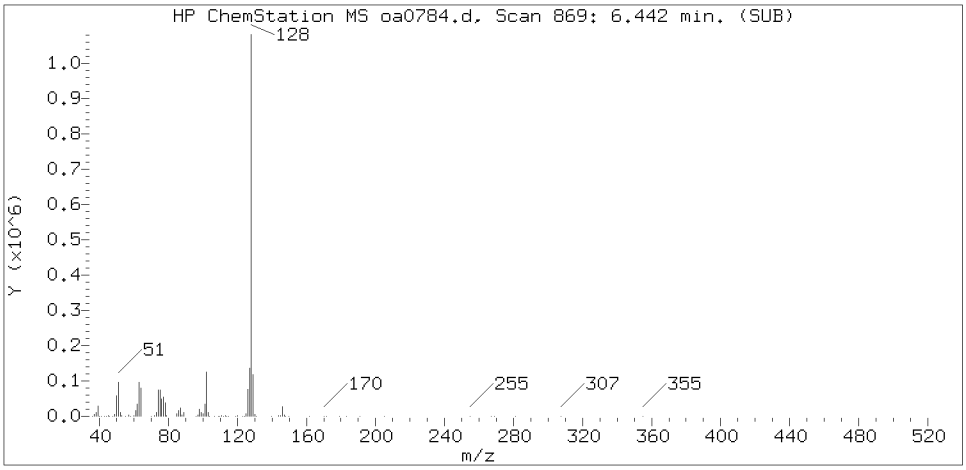
Sample Name: PS485 Lab Sample ID: 8057367

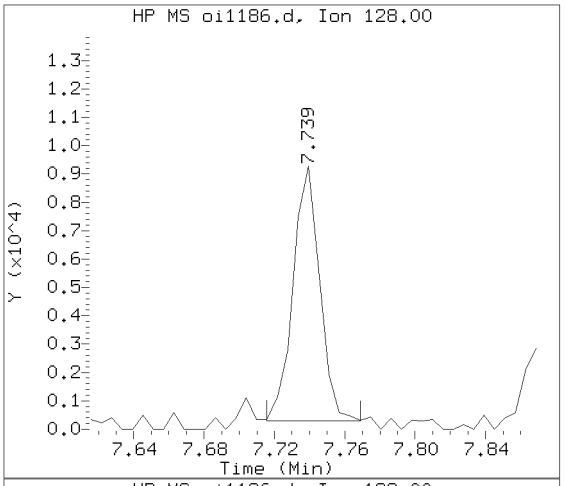
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.439	152	201393	20.000
44)$Nitrobenzene-d5	(2)	7.004	82	1962203	89.021
65)*Naphthalene-d8	(2)	7.716	136	947195	20.000
66) Naphthalene	(2)	7.739	128	9570M	0.183
83) 2-Methylnaphthalene	(2)	8.422	142	7383	0.201
93)$2-Fluorobiphenyl	(3)	8.798	172	3286561	94.623
109) Acenaphthylene	(3)	9.310	152	17943M	0.369
113)*Acenaphthene-d10	(3)	9.451	164	547201	20.000
114) Acenaphthene	(3)	9.480	153	3690M	0.110
126) Fluorene	(3)	9.992	166	5539M	0.143
153)*Phenanthrene-d10	(4)	10.910	188	908579	20.000
155) Phenanthrene	(4)	10.933	178	39330	0.745
157) Anthracene	(4)	10.980	178	19165	0.368
173) Fluoranthene	(4)	12.110	202	111483	1.944
175)*Pyrene-d10	(5)	12.310	212	876575	20.000
177) Pyrene	(5)	12.327	202	111379M	2.130
179)$Terphenyl-d14	(5)	12.492	244	2997577	92.921
195) Benzo(a)anthracene	(5)	13.527	228	37617	0.825
196) Chrysene	(5)	13.562	228	64070	1.475
206) Benzo(b)fluoranthene	(6)	14.621	252	80923M	2.083
208) Benzo(k)fluoranthene	(6)	14.645	252	33058M	0.834
211) Benzo(a)pyrene	(6)	14.945	252	38333M	0.999
213)*Perylene-d12	(6)	15.004	264	619114	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	16.227	276	35047M	0.877
220) Dibenz(a,h)anthracene	(6)	16.251	278	5775M	0.172
221) Benzo(g,h,i)perylene	(6)	16.586	276	37375M	1.138

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

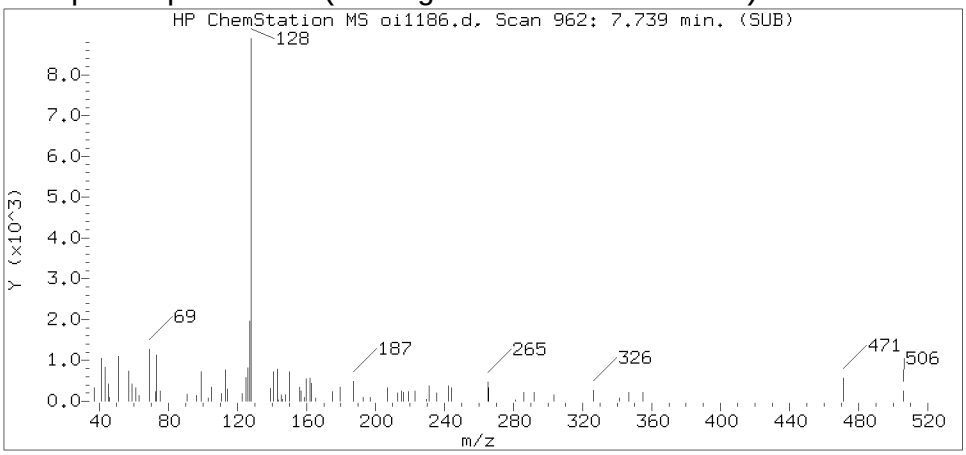
Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

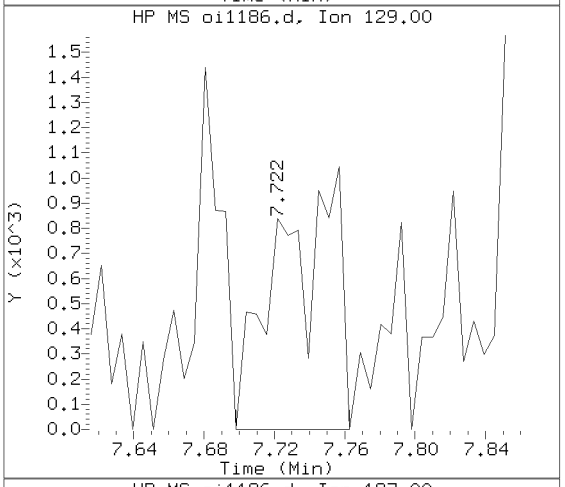
Reference Standard Spectrum for Naphthalene



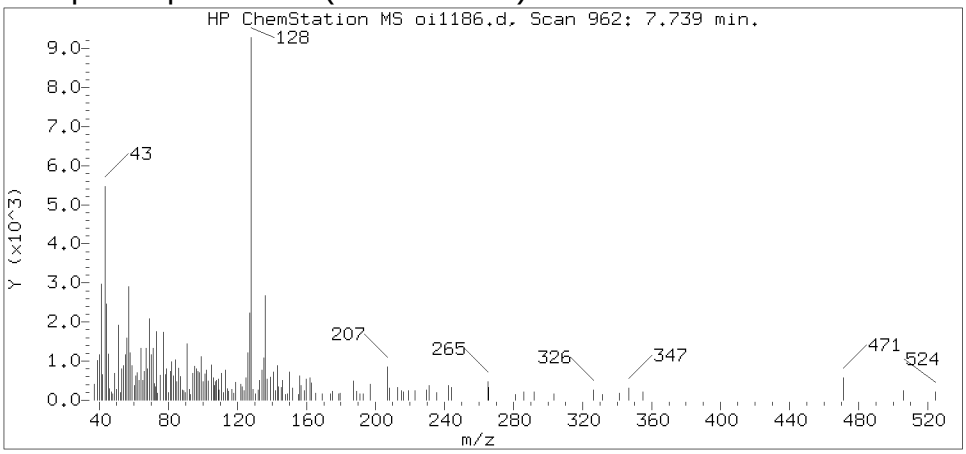


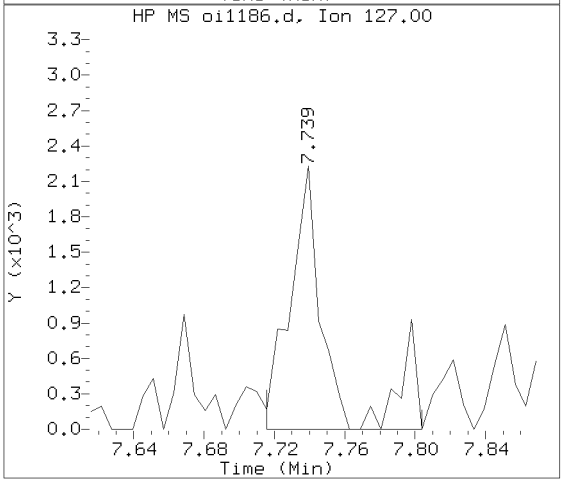
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

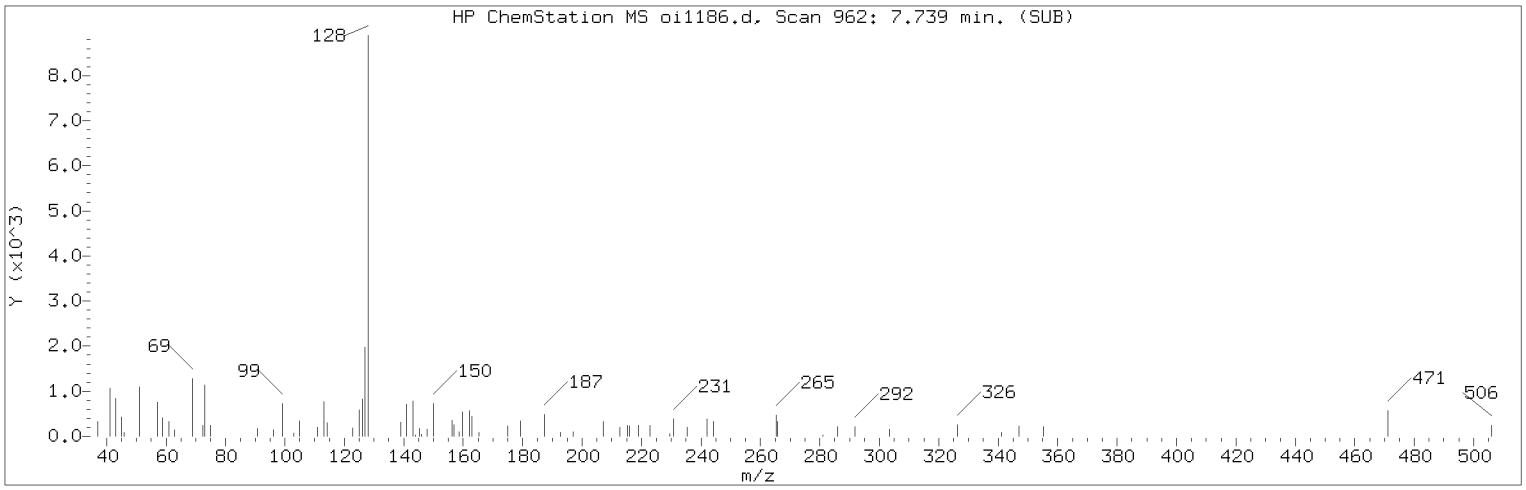
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

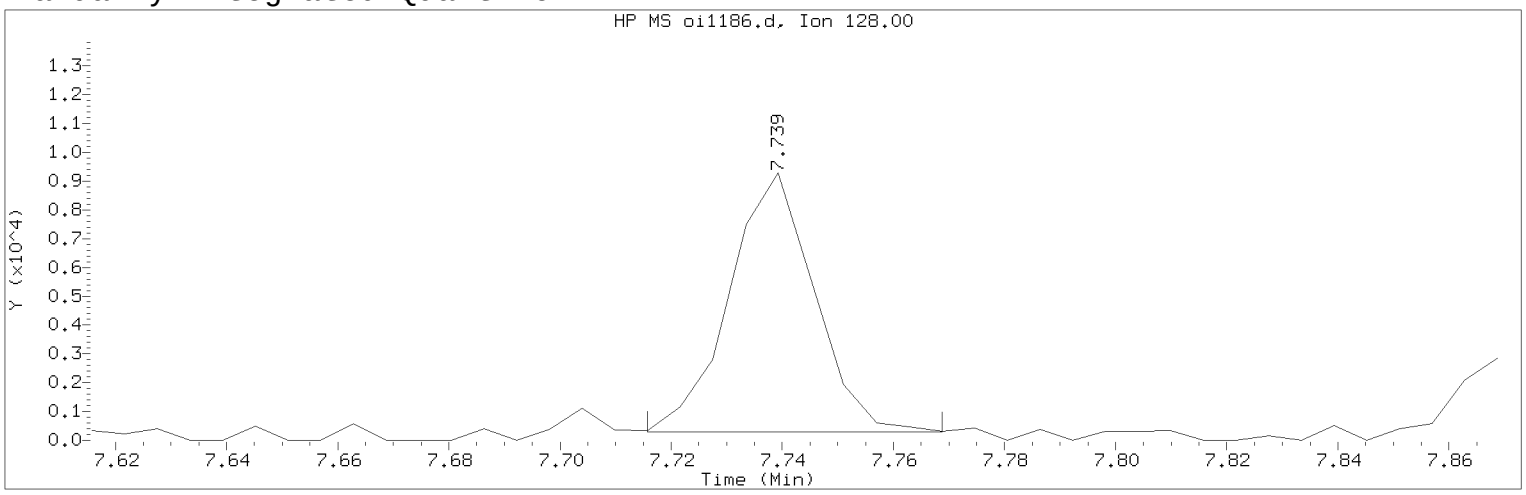
Compound Number	: 66
Compound Name	: Naphthalene
Scan Number	: 962
Retention Time (minutes)	: 7.739
Relative Retention Time	: 0.00000
Quant Ion	: 128.00
Area (flag)	: 9570M
On-column Amount (ng/ul)	: 0.1834

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

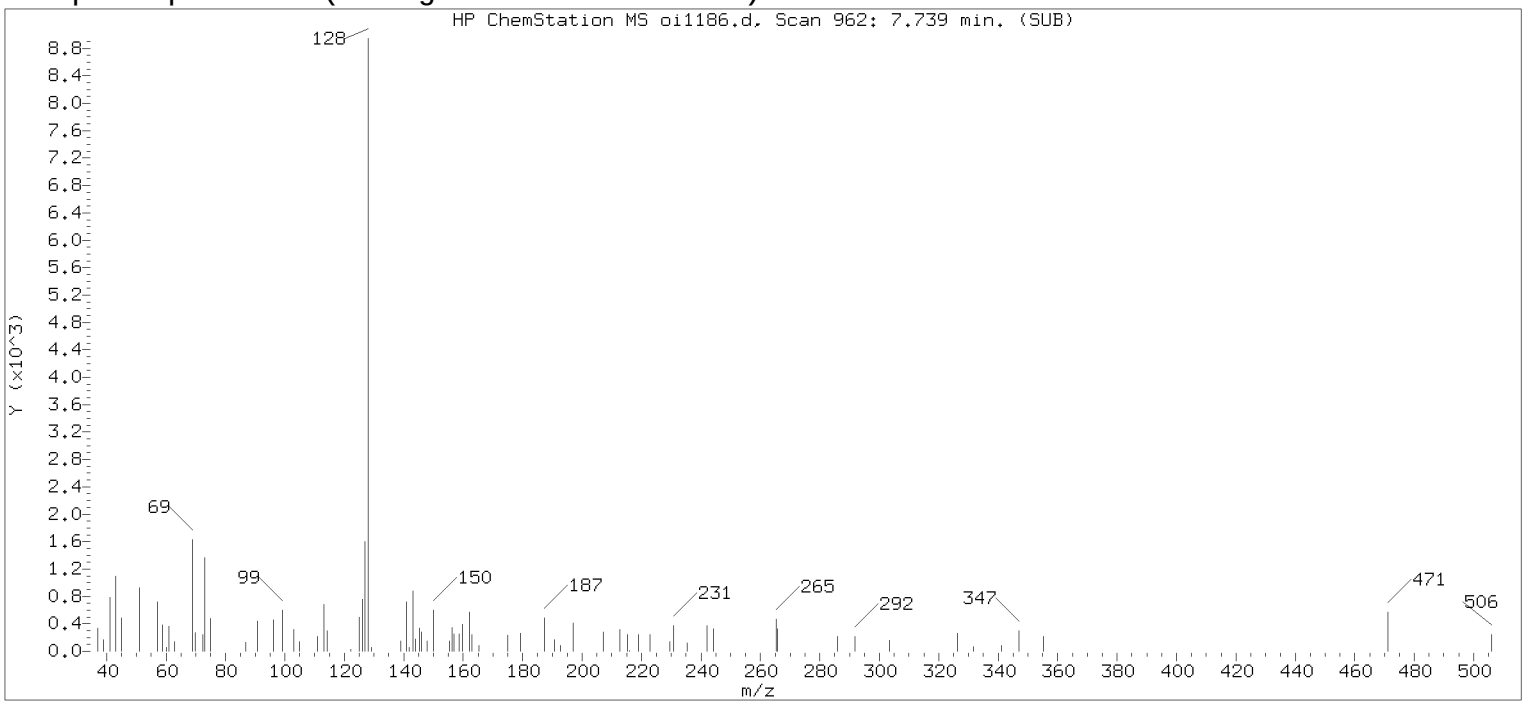
Compound Number : 66
Compound Name : Naphthalene
Scan Number : 962
Retention Time (minutes) : 7.739
Quant Ion : 128.00
Area (flag) : 9570M
On-column Amount (ng/ul) : 0.1834
Integration start scan : 957 Integration stop scan: 966
Y at integration start : 288 Y at integration end: 288

Reason for manual integration: improper integration

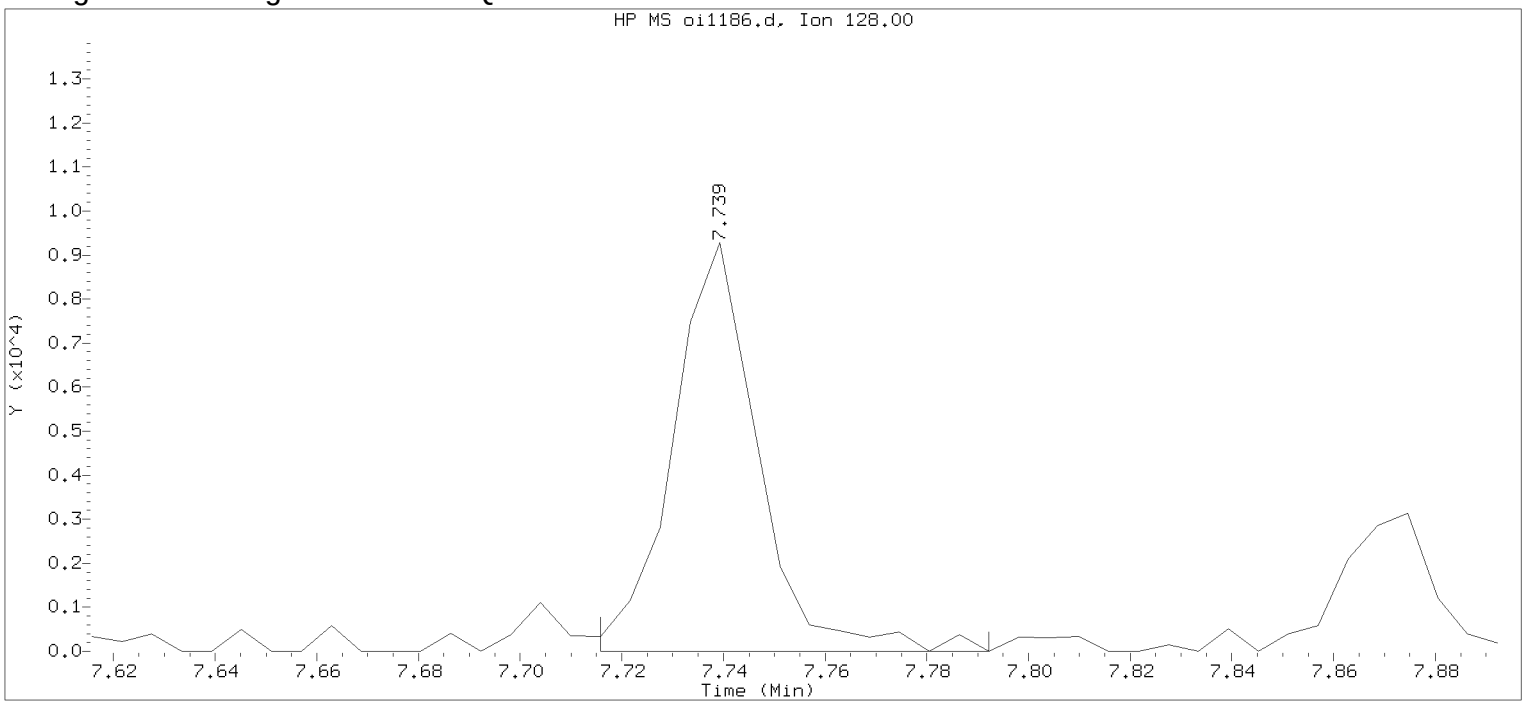
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

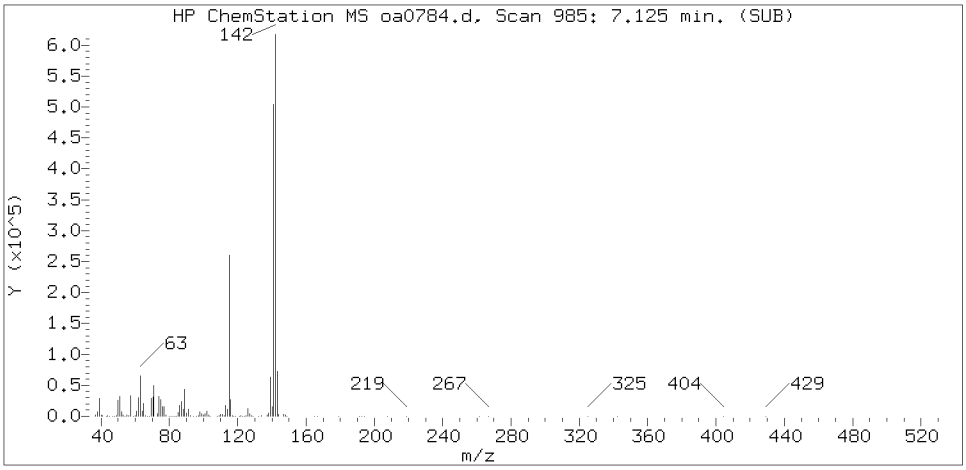
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 07:20 Automation

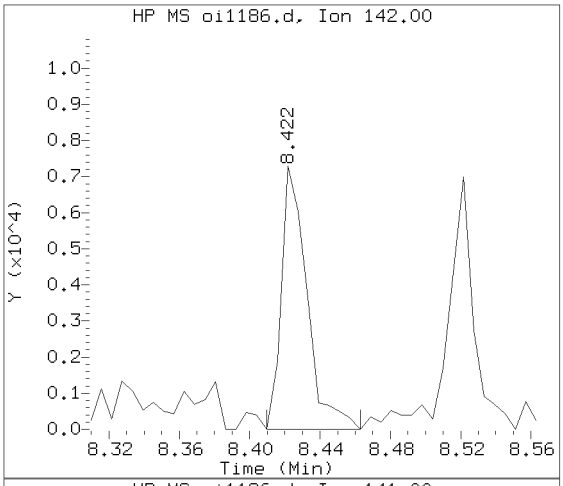
Sample Name: PS485 Lab Sample ID: 8057367

Compound Number	: 66		
Compound Name	: Naphthalene		
Scan Number	: 962		
Retention Time (minutes)	: 7.739		
Quant Ion	: 128.00		
Area	: 10813		
On-column Amount (ng/ul)	: 0.2072		
Integration start scan	: 957	Integration stop scan:	970
Y at integration start	: 0	Y at integration end:	0

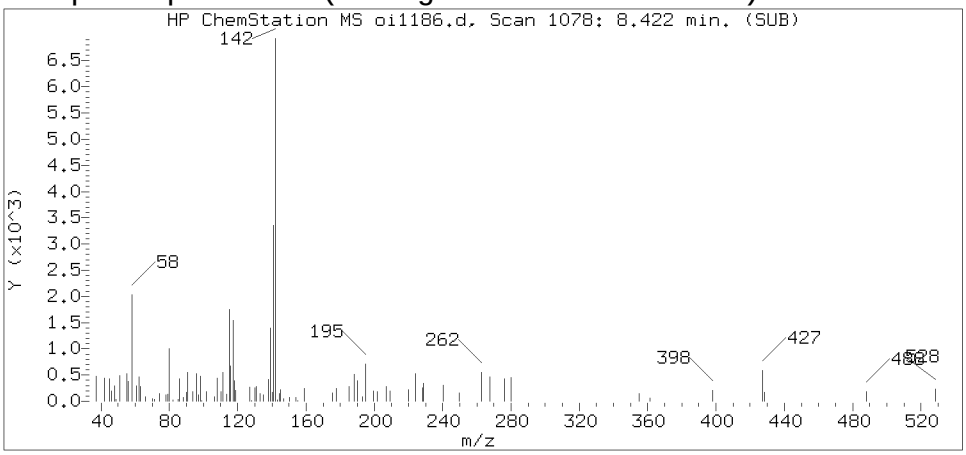
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0956

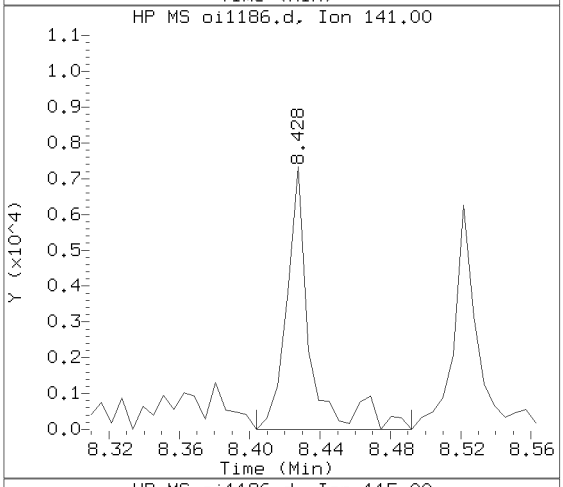
Reference Standard Spectrum for 2-Methylnaphthalene



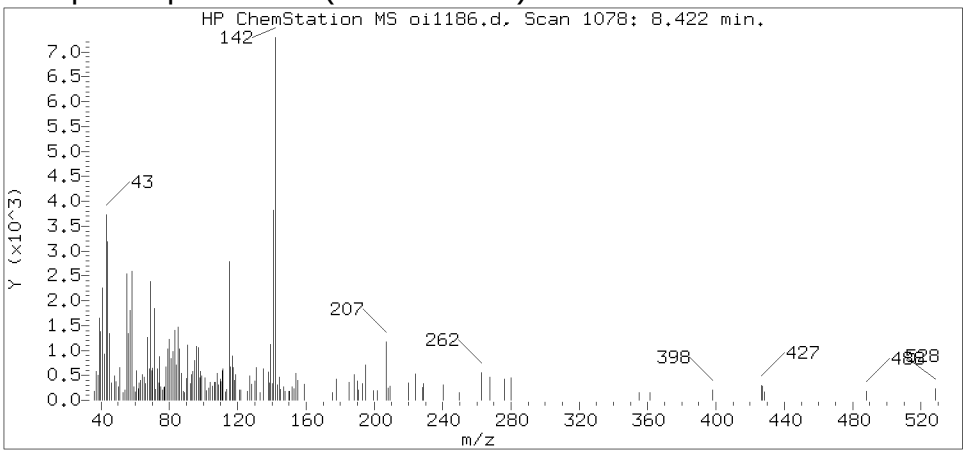


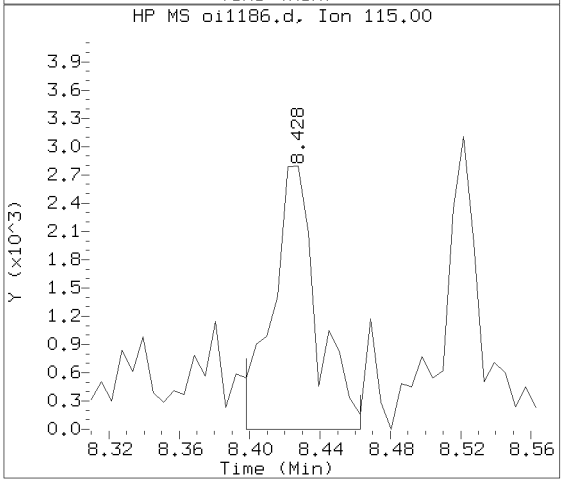
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

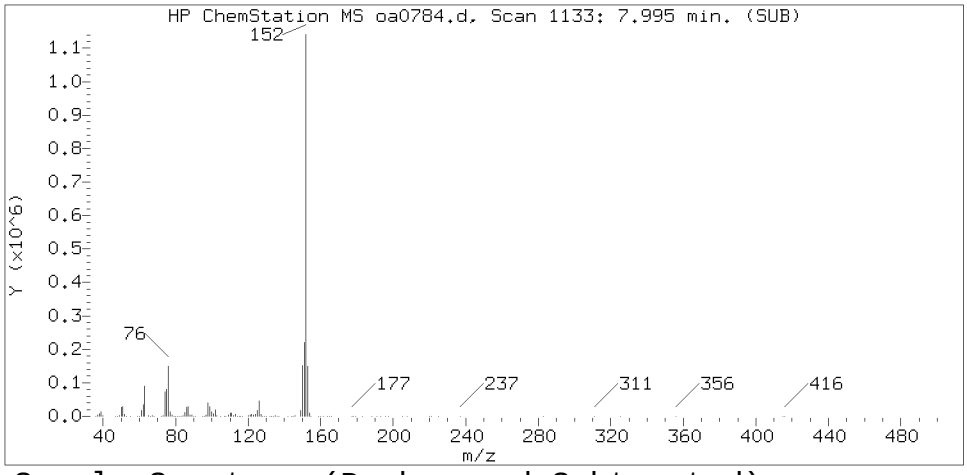
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

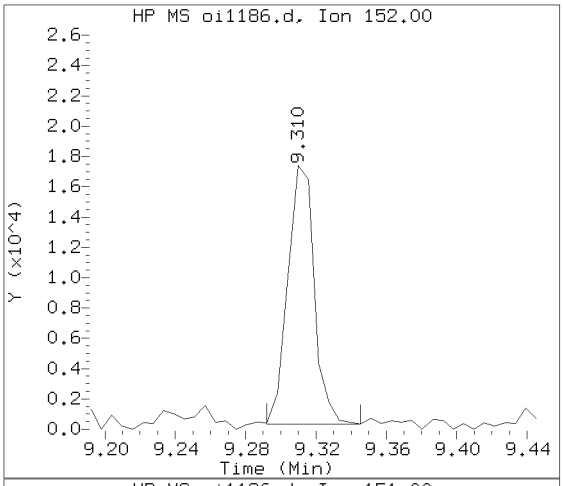
Sample Name: PS485 Lab Sample ID: 8057367

Compound Number	: 83
Compound Name	: 2-Methylnaphthalene
Scan Number	: 1078
Retention Time (minutes)	: 8.422
Relative Retention Time	: 0.00076
Quant Ion	: 142.00
Area (flag)	: 7383
On-column Amount (ng/ul)	: 0.2007

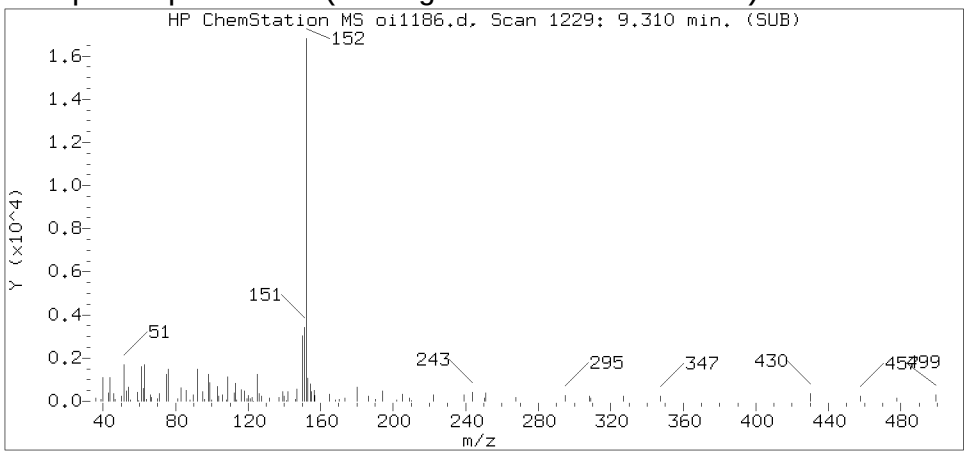
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

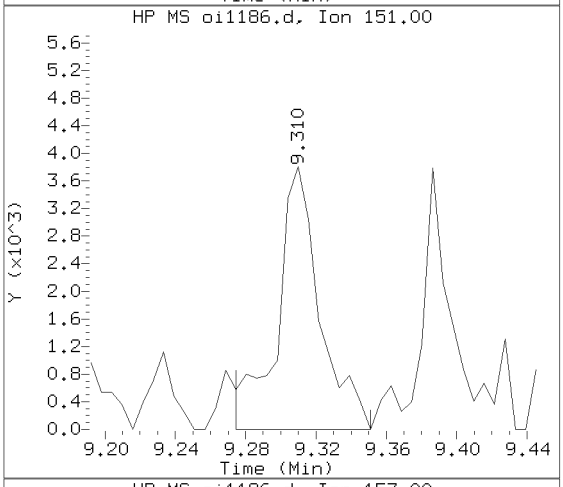
Reference Standard Spectrum for Acenaphthylene



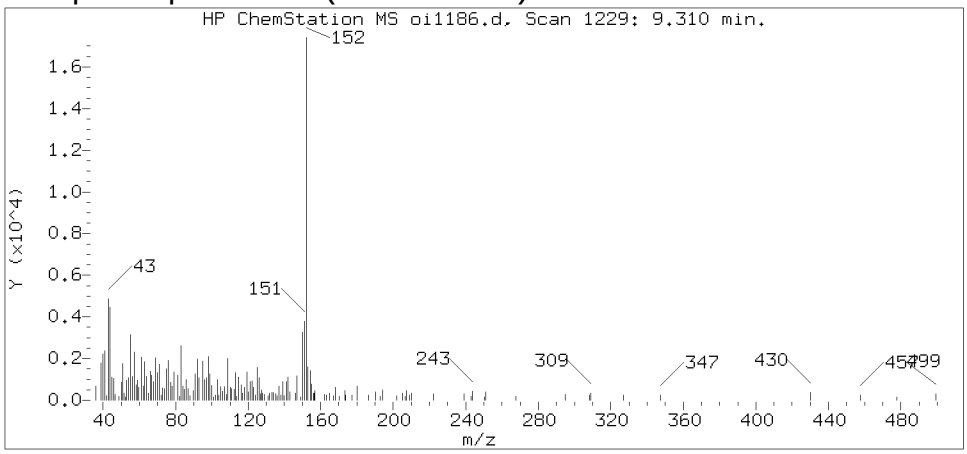


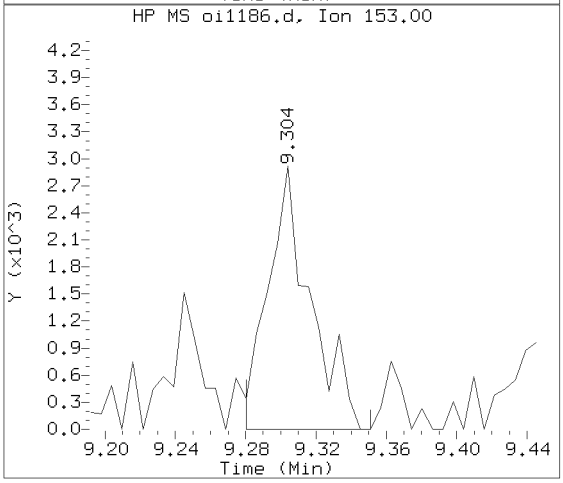
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

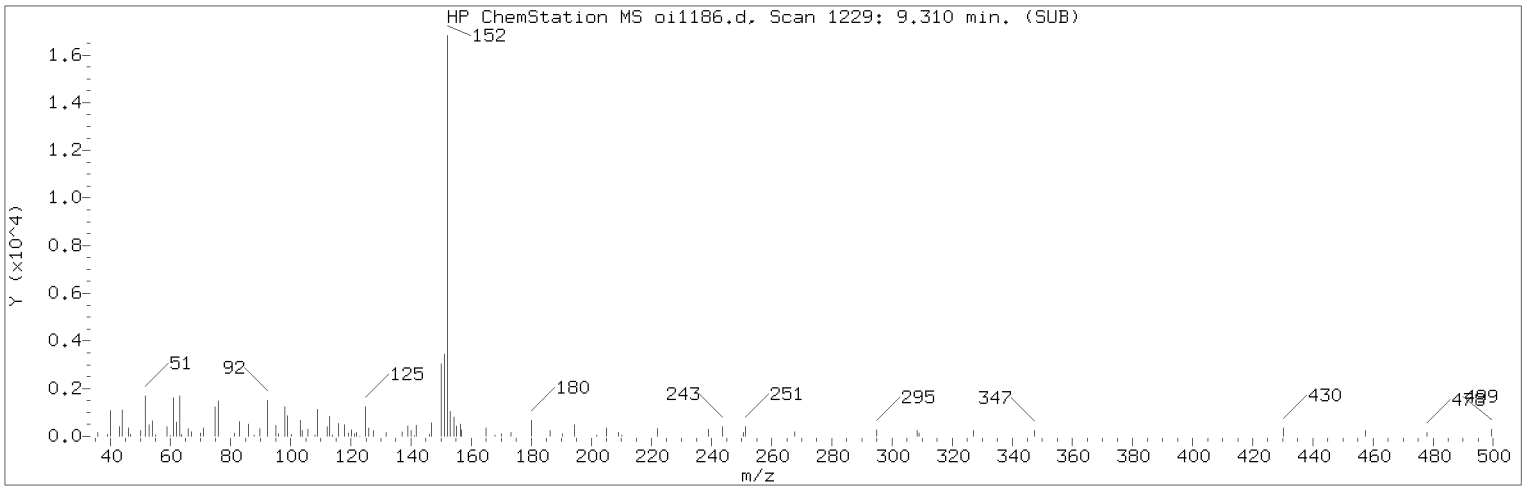
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

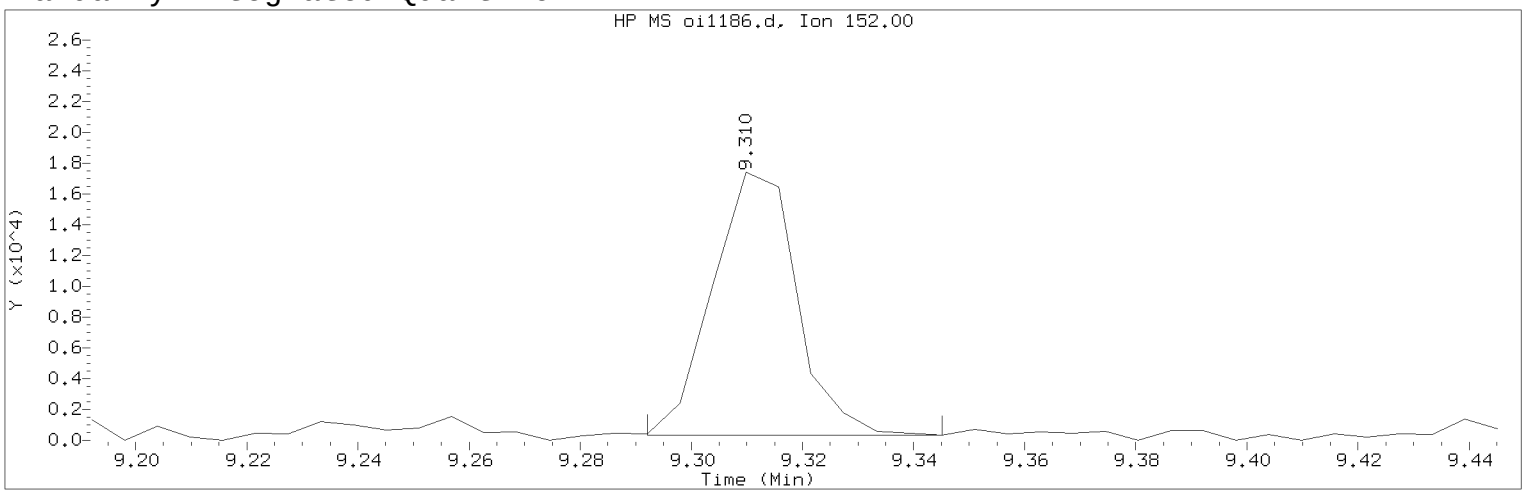
Compound Number	: 109
Compound Name	: Acenaphthylene
Scan Number	: 1229
Retention Time (minutes)	: 9.310
Relative Retention Time	: 0.00000
Quant Ion	: 152.00
Area (flag)	: 17943M
On-column Amount (ng/ul)	: 0.3693

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

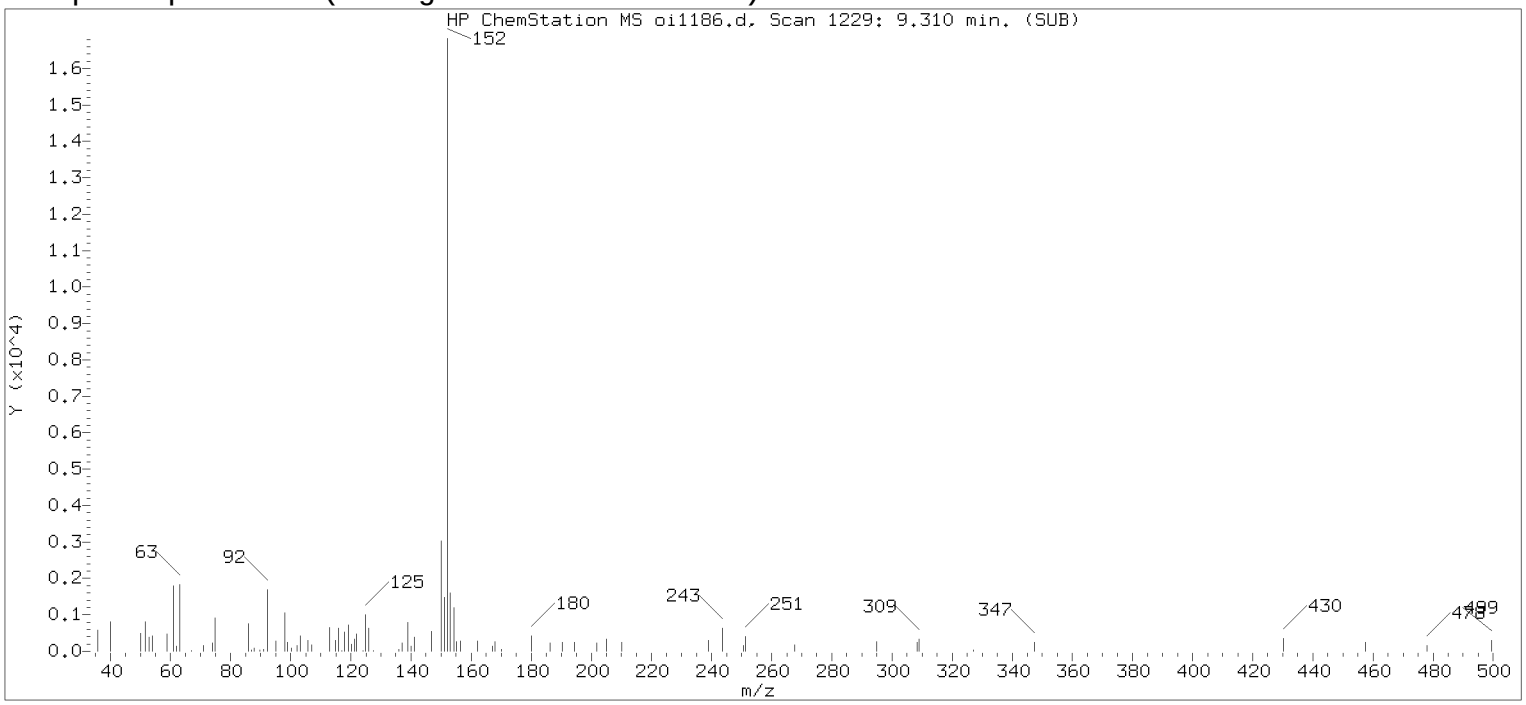
Compound Number : 109
Compound Name : Acenaphthylene
Scan Number : 1229
Retention Time (minutes) : 9.310
Quant Ion : 152.00
Area (flag) : 17943M
On-column Amount (ng/ul) : 0.3693
Integration start scan : 1225 Integration stop scan: 1234
Y at integration start : 349 Y at integration end: 349

Reason for manual integration: improper integration

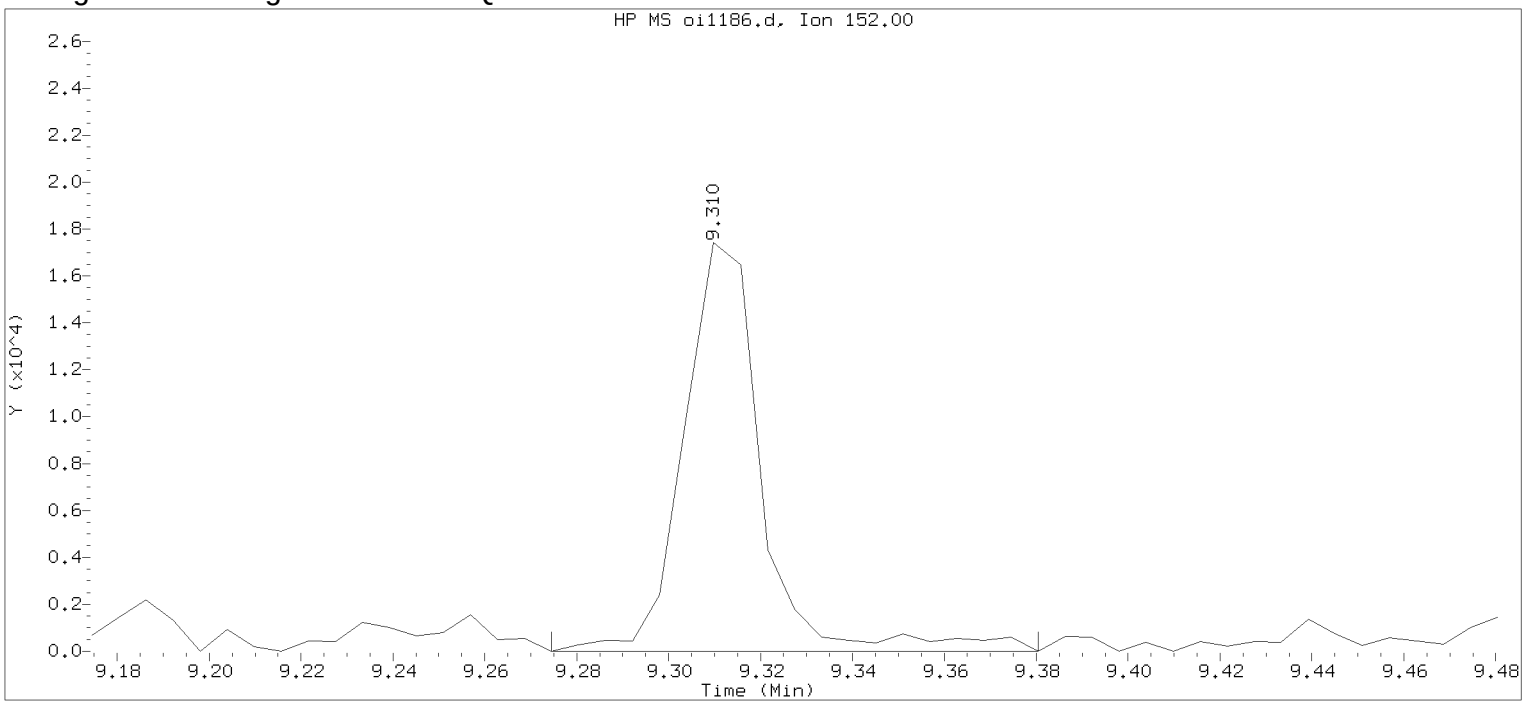
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

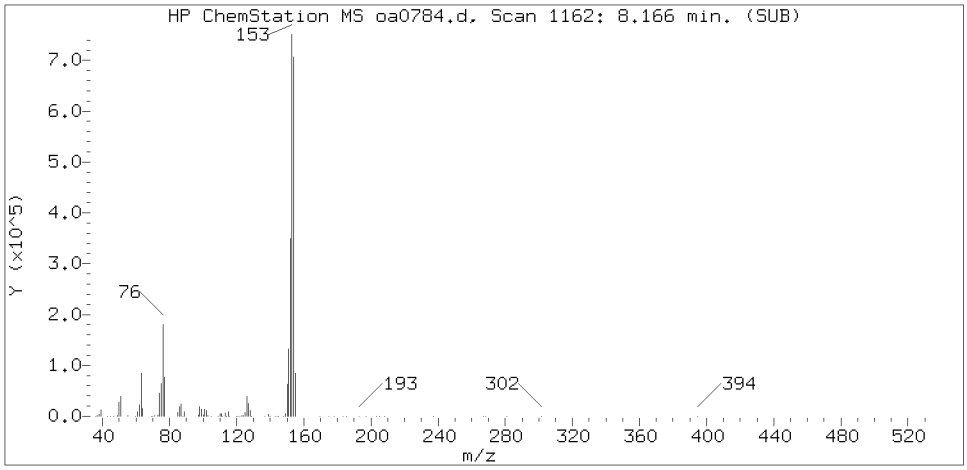
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 07:20 Automation

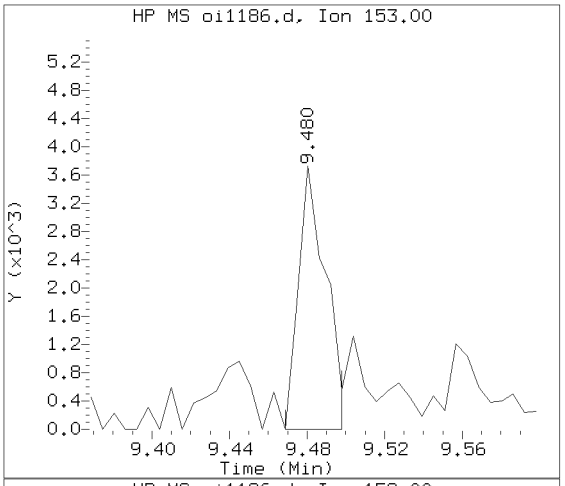
Sample Name: PS485 Lab Sample ID: 8057367

Compound Number : 109
Compound Name : Acenaphthylene
Scan Number : 1229
Retention Time (minutes) : 9.310
Quant Ion : 152.00
Area : 20405
On-column Amount (ng/ul) : 0.4200
Integration start scan : 1222 Integration stop scan: 1240
Y at integration start : 0 Y at integration end: 0

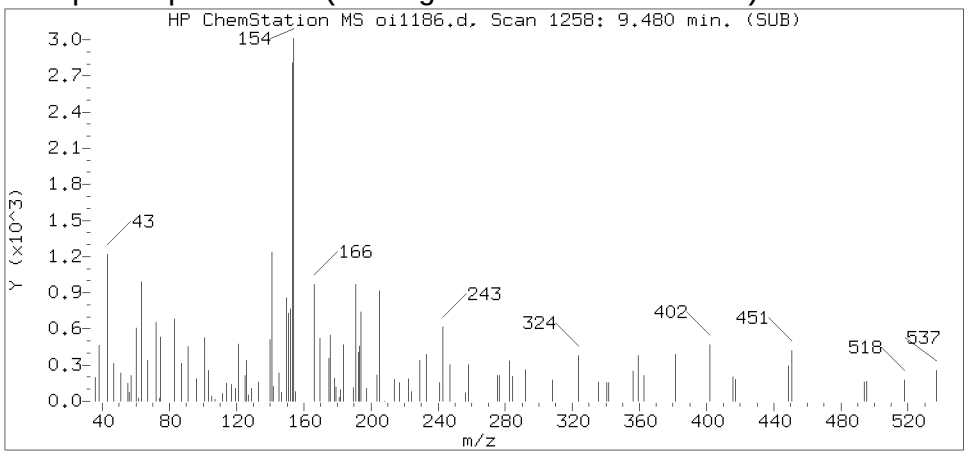
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0356

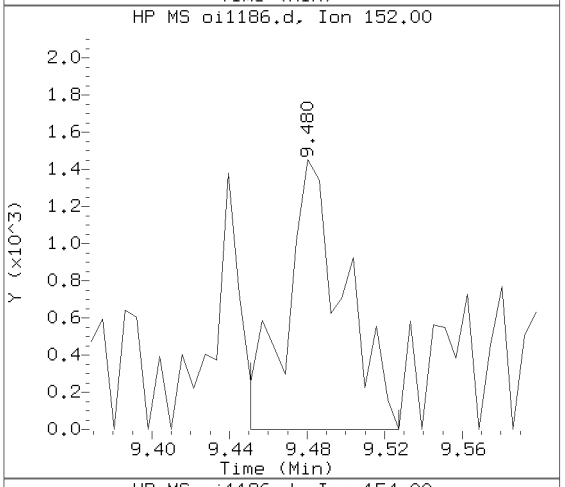
Reference Standard Spectrum for Acenaphthene



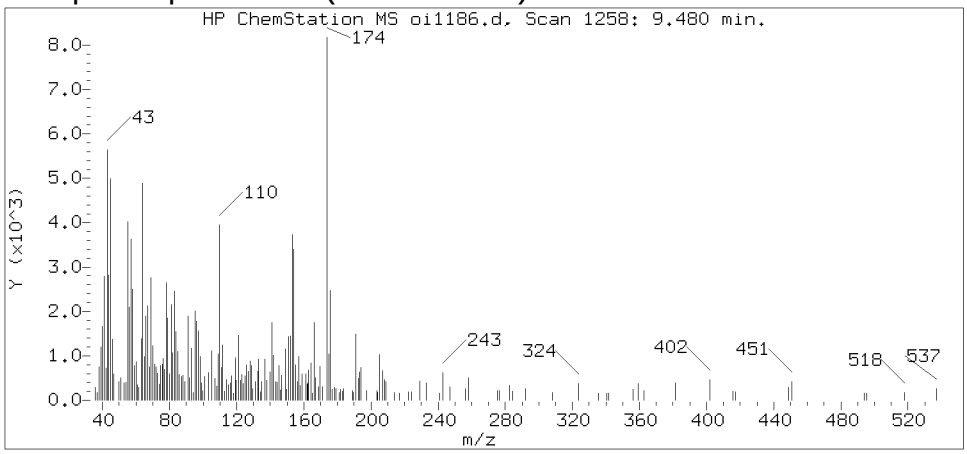


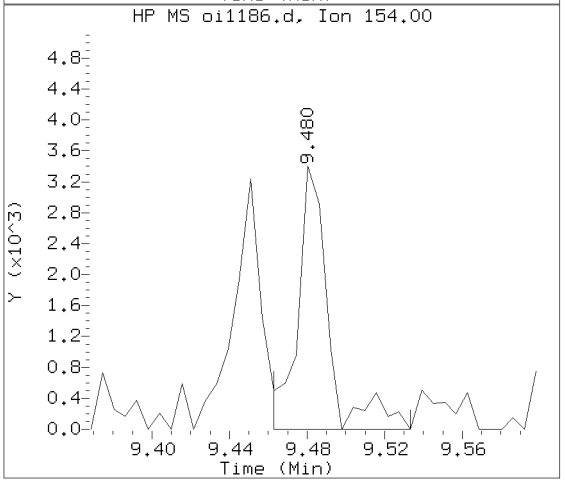
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

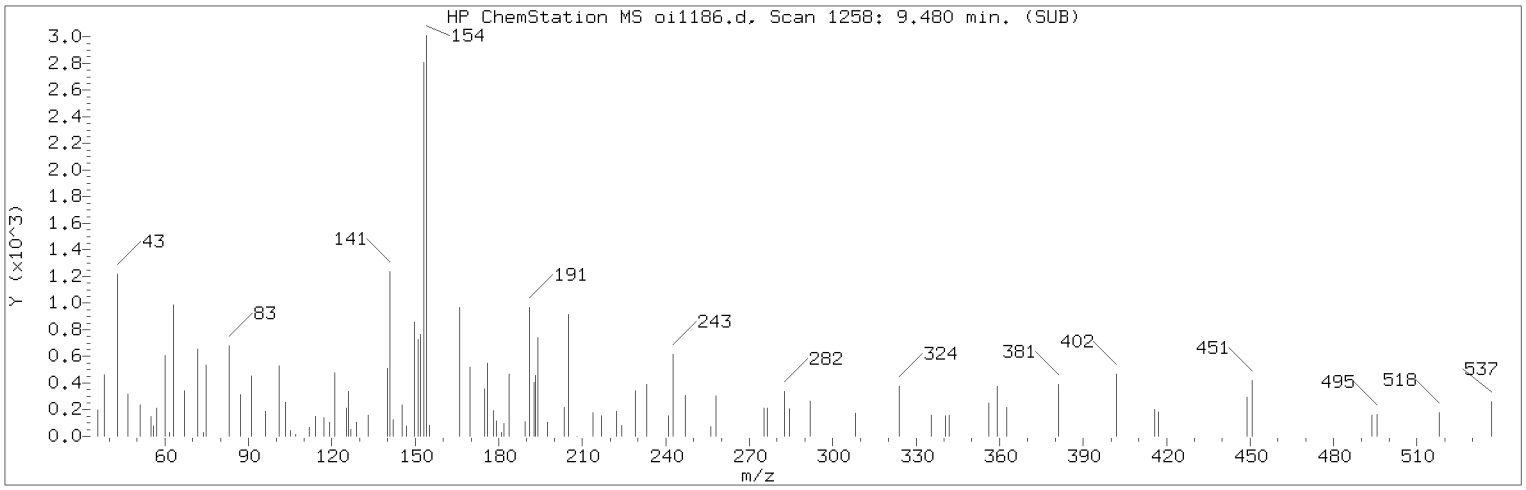
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

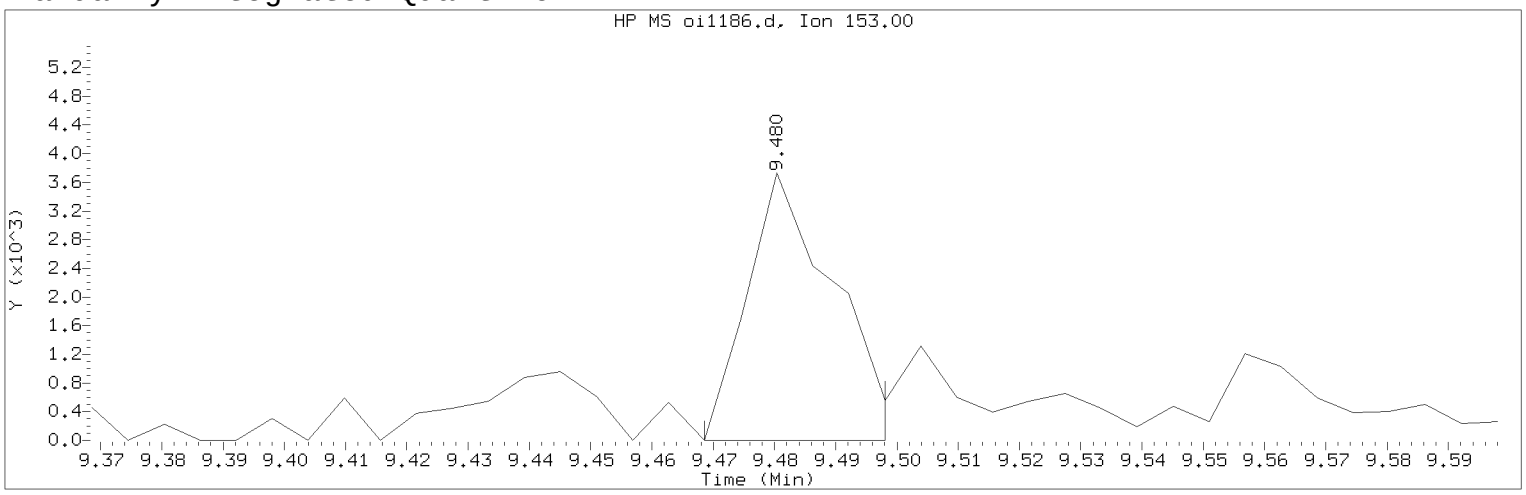
Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1258
Retention Time (minutes) : 9.480
Relative Retention Time :-0.00000
Quant Ion : 153.00
Area (flag) : 3690M
On-column Amount (ng/ul) : 0.1098

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

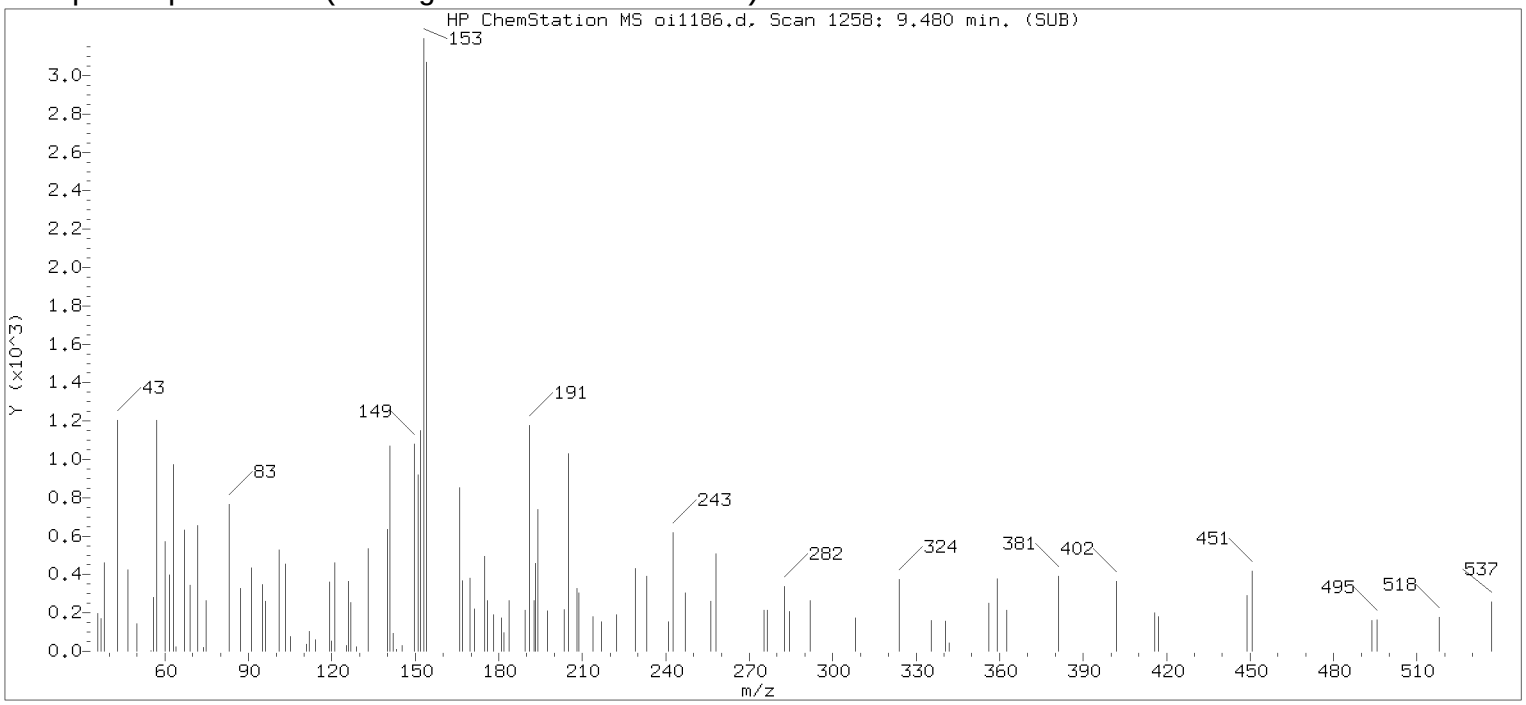
Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1258
Retention Time (minutes) : 9.480
Quant Ion : 153.00
Area (flag) : 3690M
On-column Amount (ng/ul) : 0.1098
Integration start scan : 1255 Integration stop scan: 1260
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

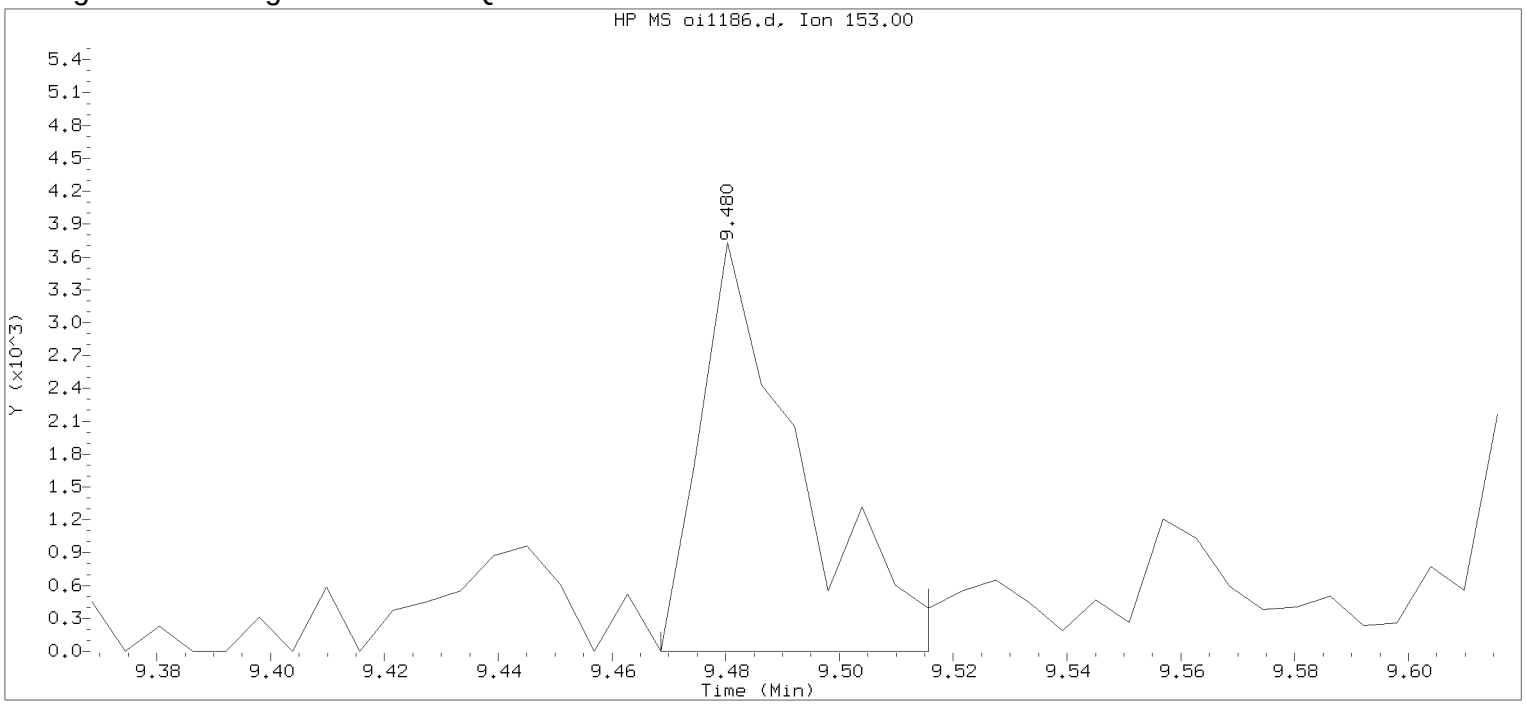
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

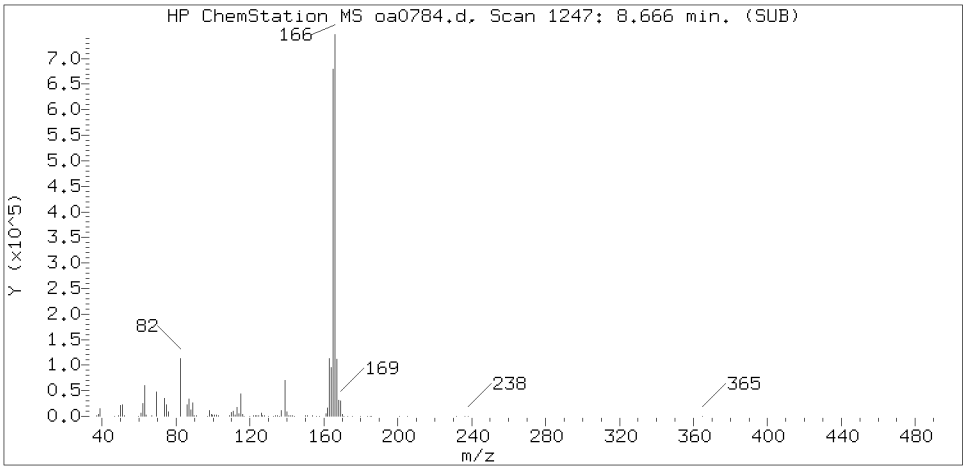
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 07:20 Automation

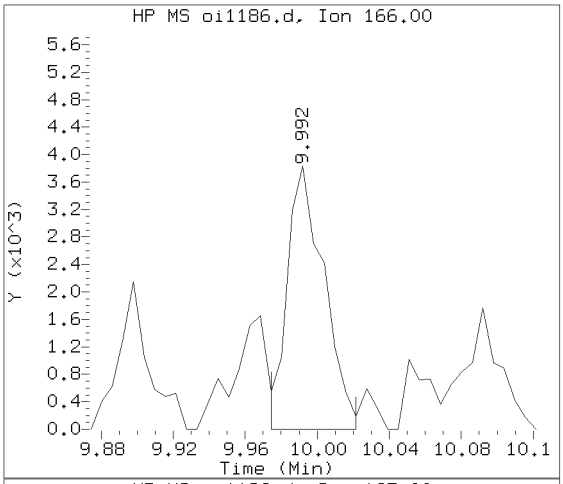
Sample Name: PS485 Lab Sample ID: 8057367

Compound Number	: 114		
Compound Name	: Acenaphthene		
Scan Number	: 1258		
Retention Time (minutes)	: 9.480		
Quant Ion	: 153.00		
Area	: 4437		
On-column Amount (ng/ul)	: 0.1320		
Integration start scan	: 1255	Integration stop scan:	1263
Y at integration start	: 0	Y at integration end:	0

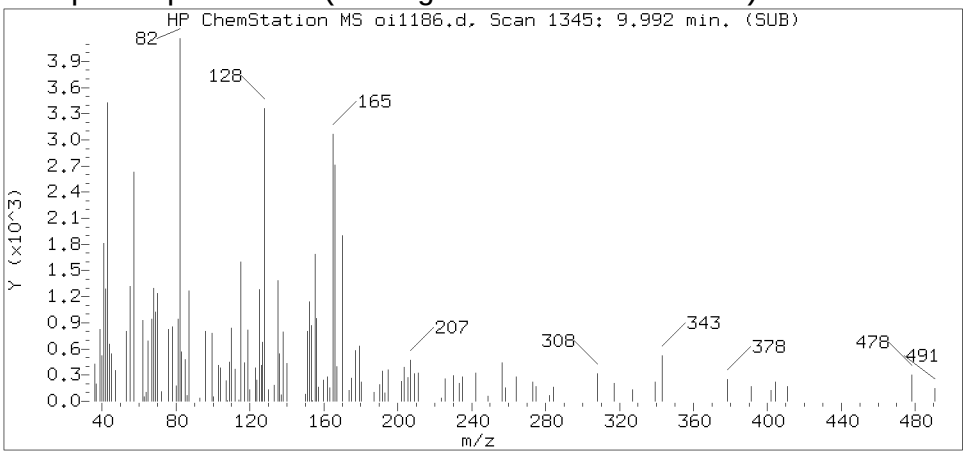
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0957

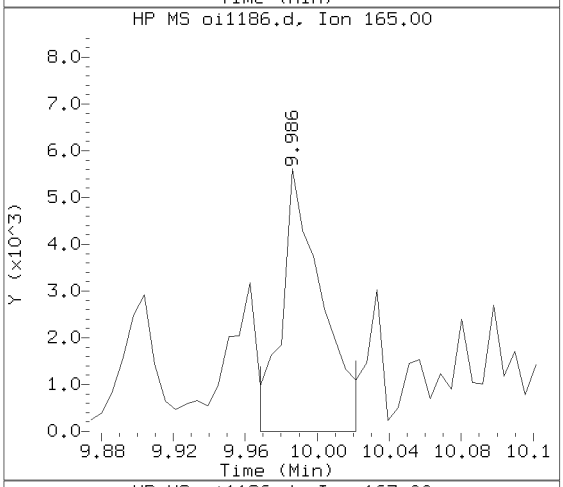
Reference Standard Spectrum for Fluorene



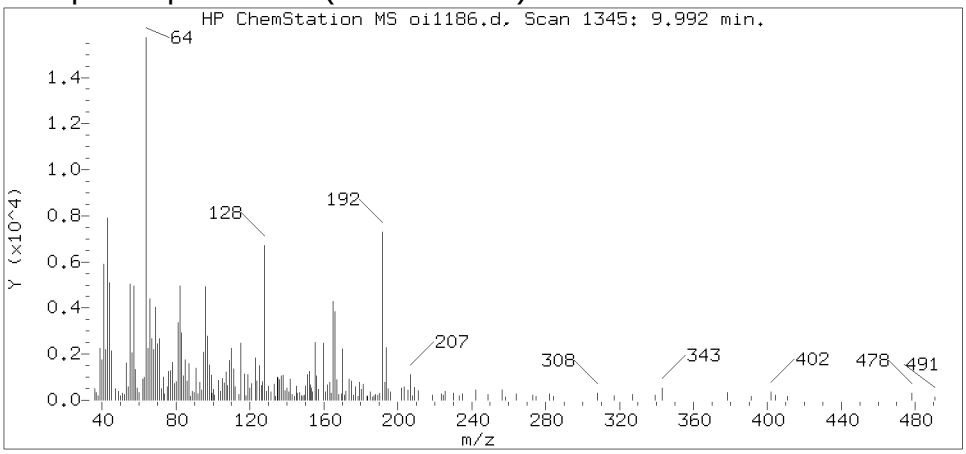


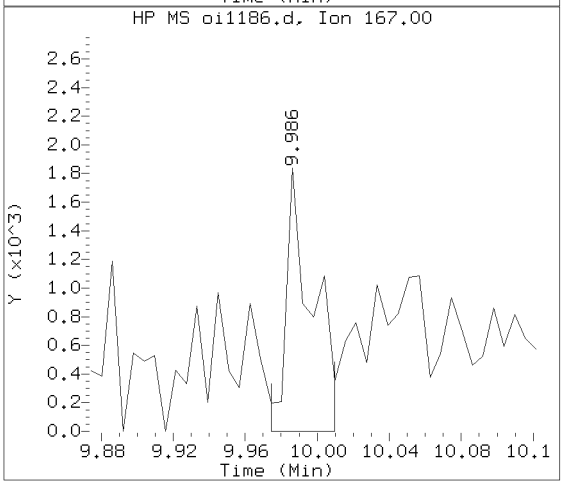
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

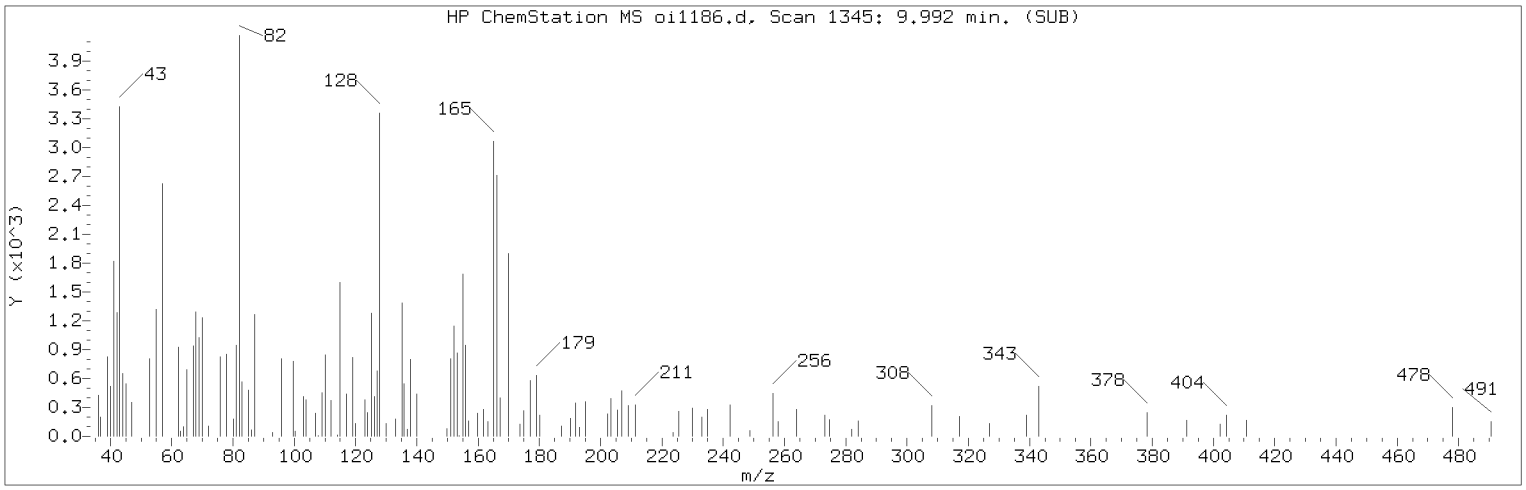
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

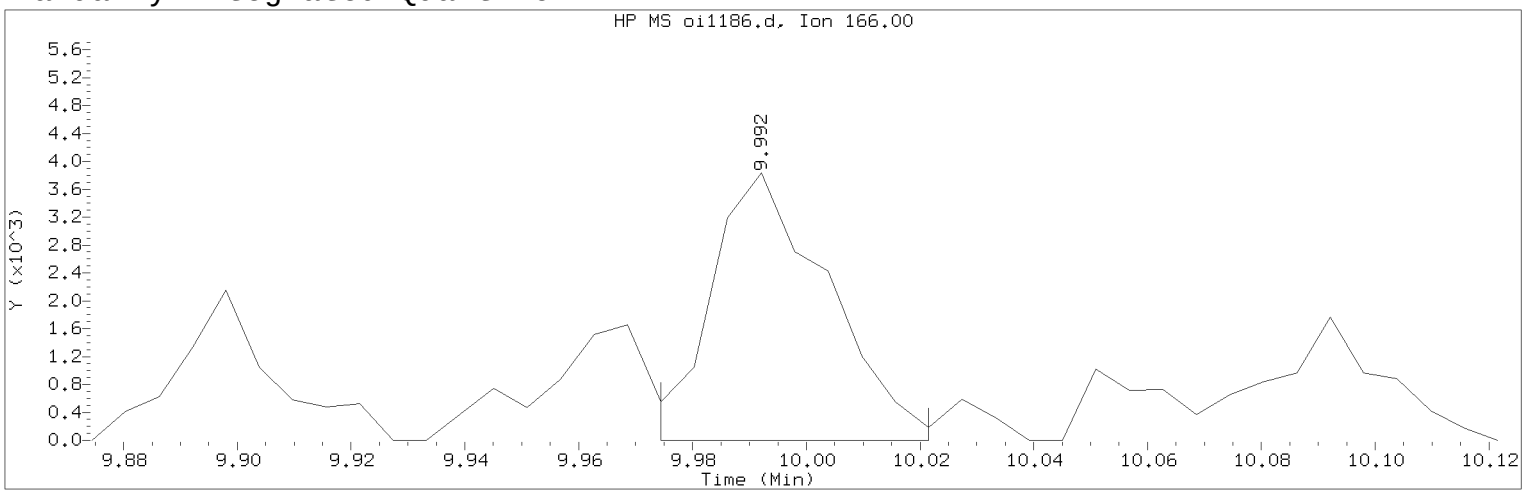
Compound Number : 126
Compound Name : Fluorene
Scan Number : 1345
Retention Time (minutes) : 9.992
Relative Retention Time :-0.00000
Quant Ion : 166.00
Area (flag) : 5539M
On-column Amount (ng/ul) : 0.1433

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

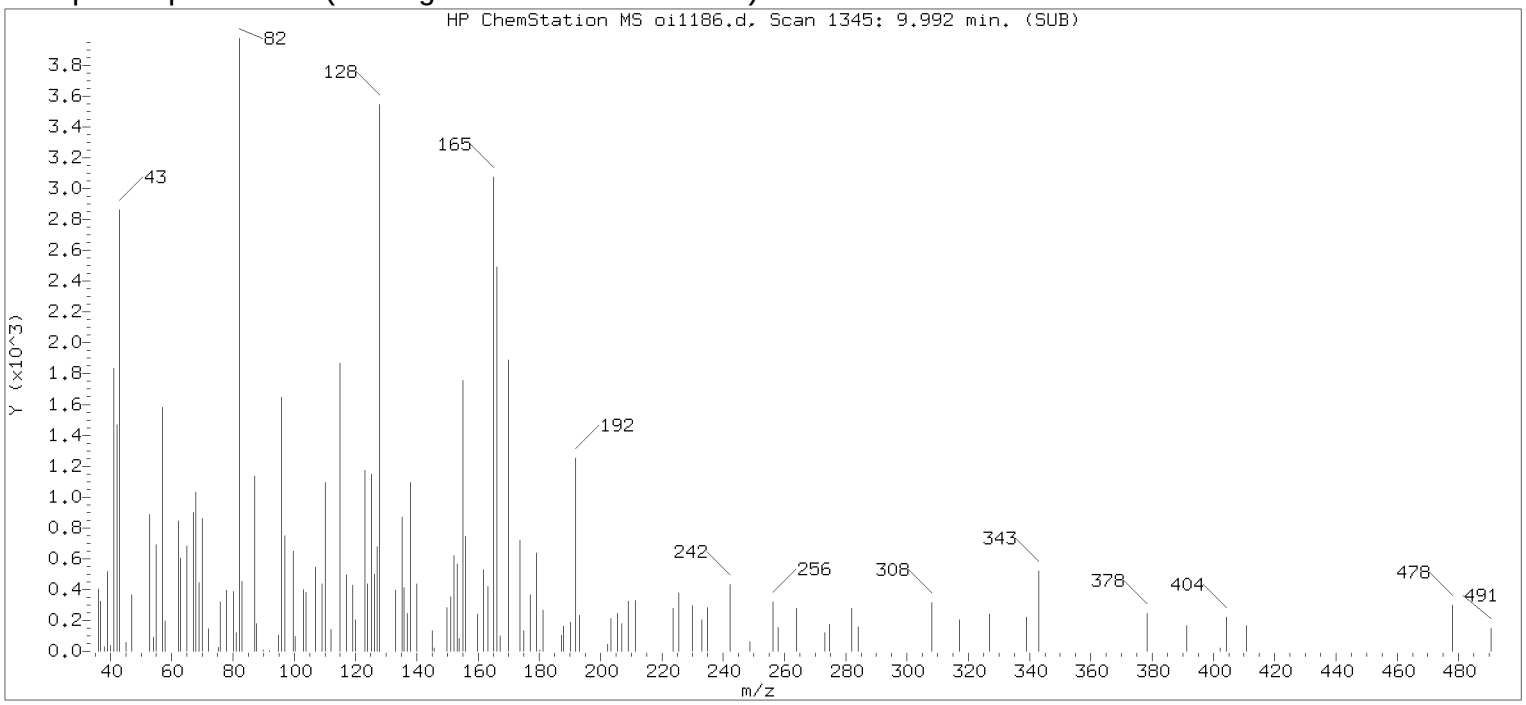
Compound Number : 126
Compound Name : Fluorene
Scan Number : 1345
Retention Time (minutes) : 9.992
Quant Ion : 166.00
Area (flag) : 5539M
On-column Amount (ng/ul) : 0.1433
Integration start scan : 1341 Integration stop scan: 1349
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

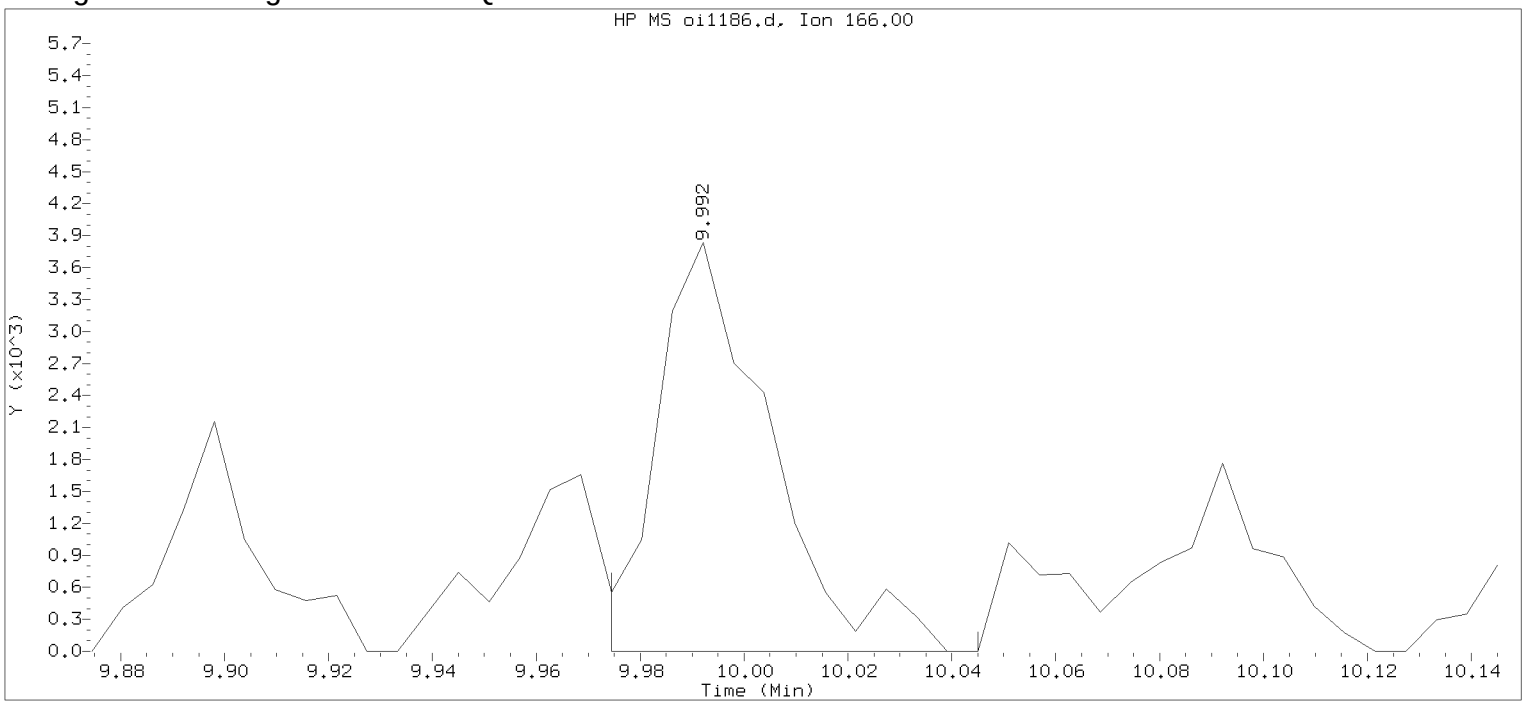
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

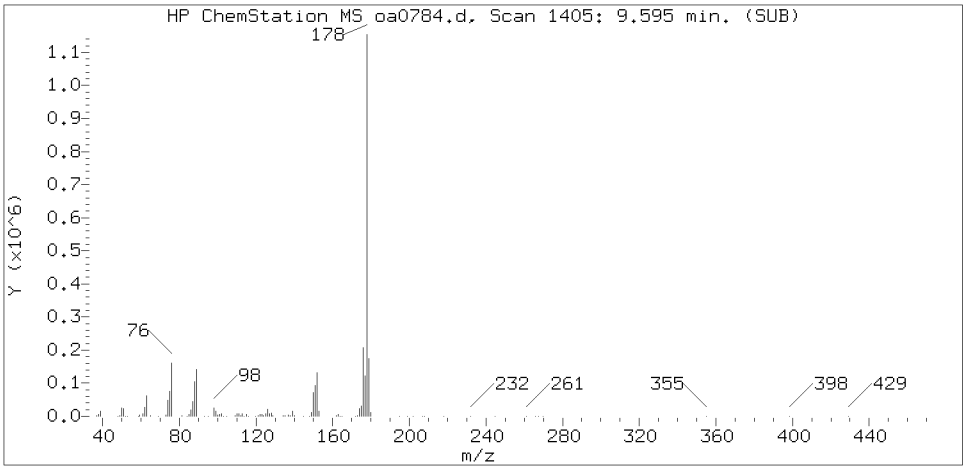
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 07:20 Automation

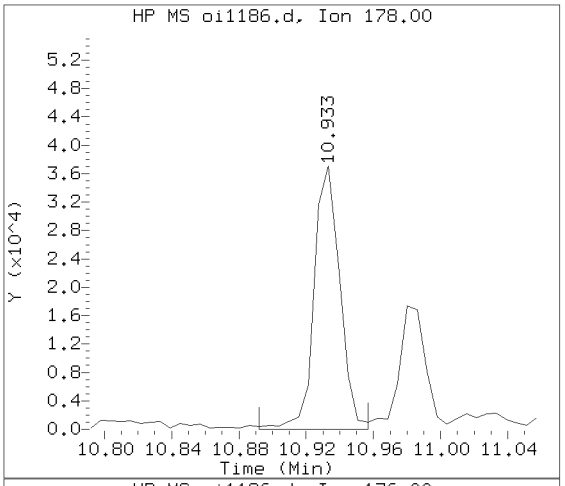
Sample Name: PS485 Lab Sample ID: 8057367

Compound Number	: 126		
Compound Name	: Fluorene		
Scan Number	: 1345		
Retention Time (minutes)	: 9.992		
Quant Ion	: 166.00		
Area	: 5762		
On-column Amount (ng/ul)	: 0.1491		
Integration start scan	: 1341	Integration stop scan:	1353
Y at integration start	: 0	Y at integration end:	0

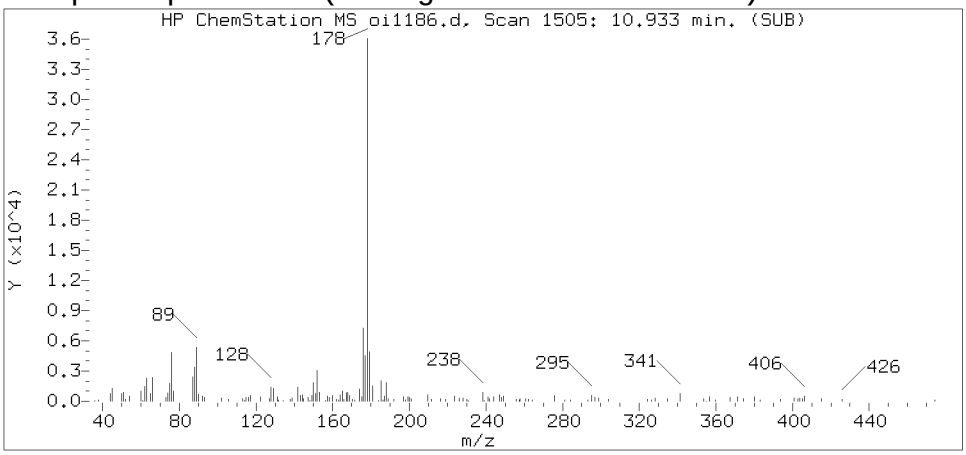
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0356

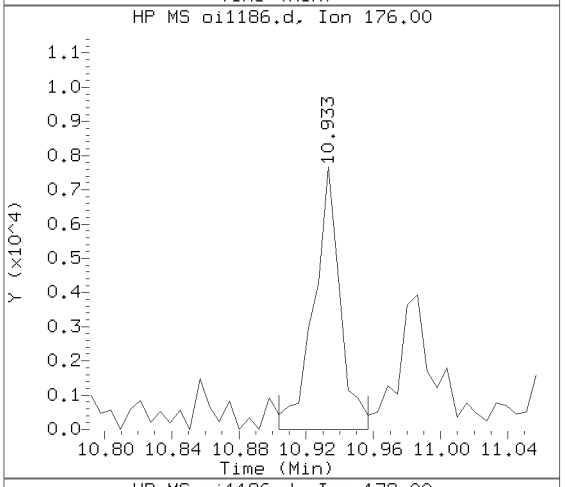
Reference Standard Spectrum for Phenanthrene



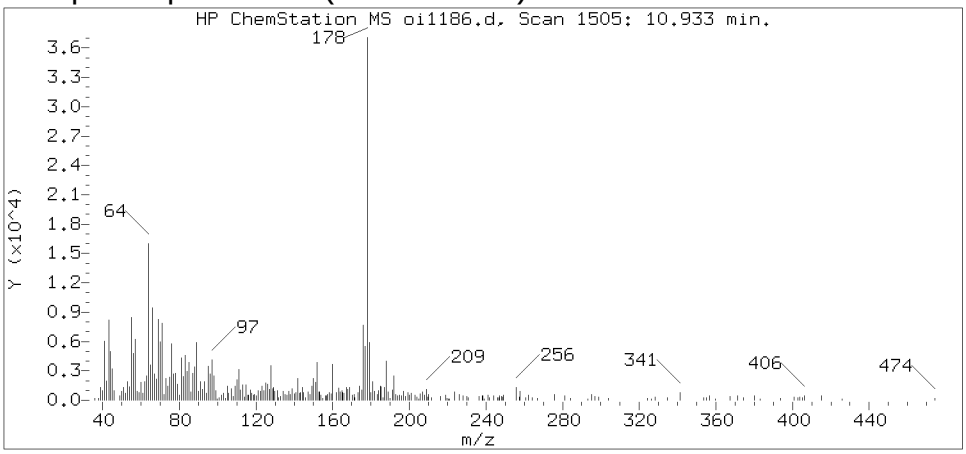


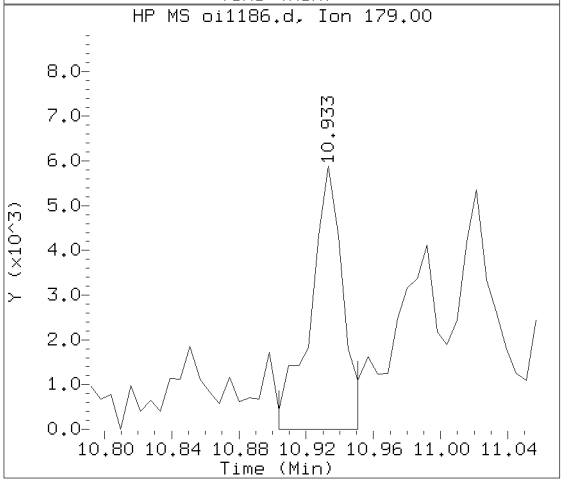
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

Compound Number : 155
Compound Name : Phenanthrene
Scan Number : 1505
Retention Time (minutes) : 10.933
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 39330
On-column Amount (ng/ul) : 0.7454

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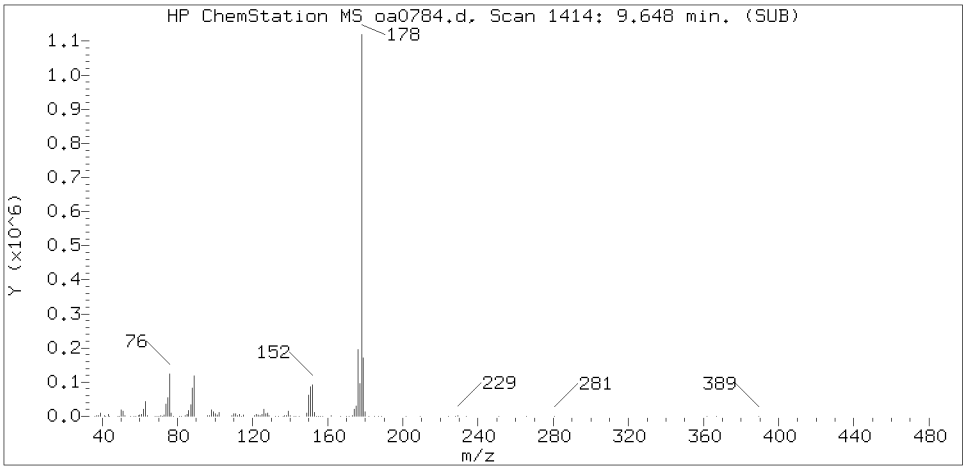
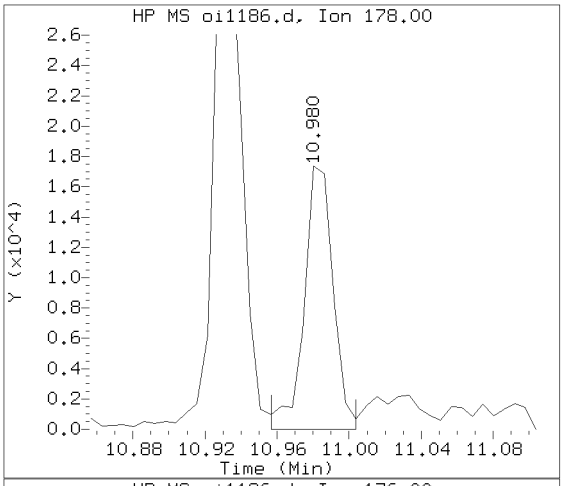
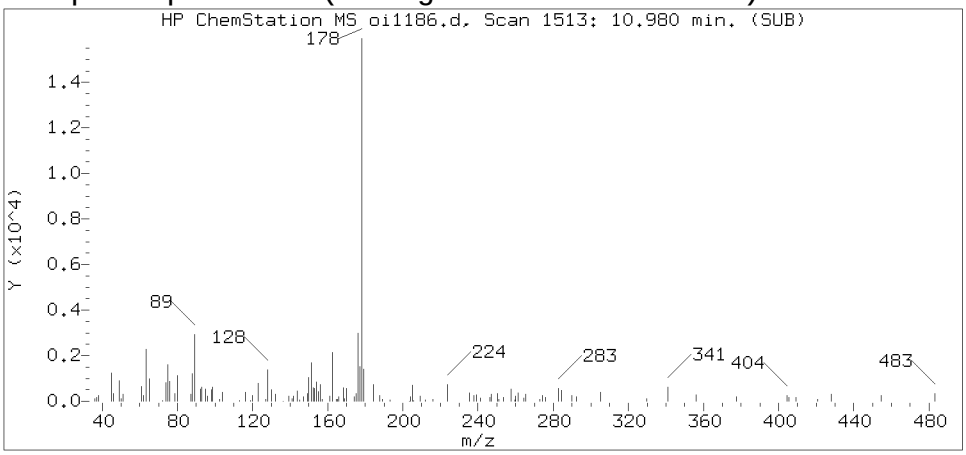
Target 3.5 esignature user ID: lmh00956

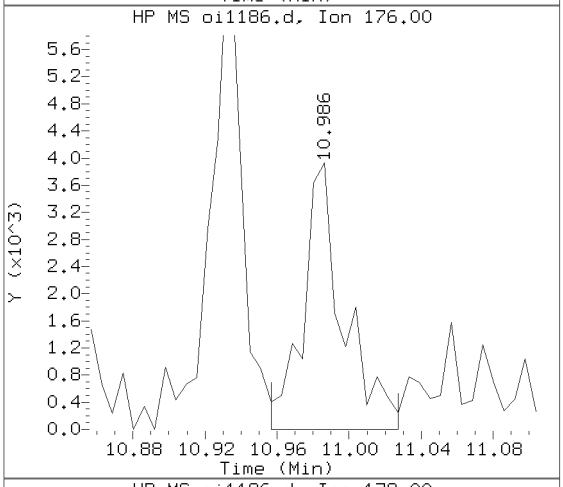
Reference Standard Spectrum for Anthracene



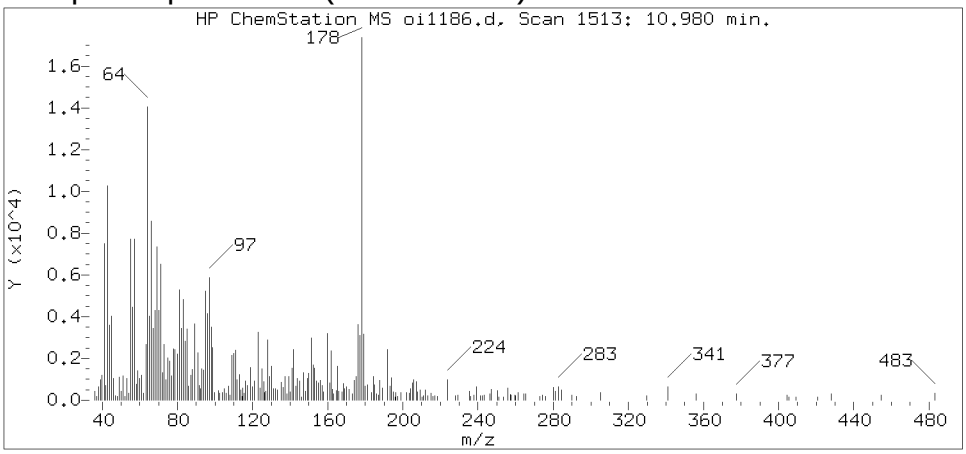


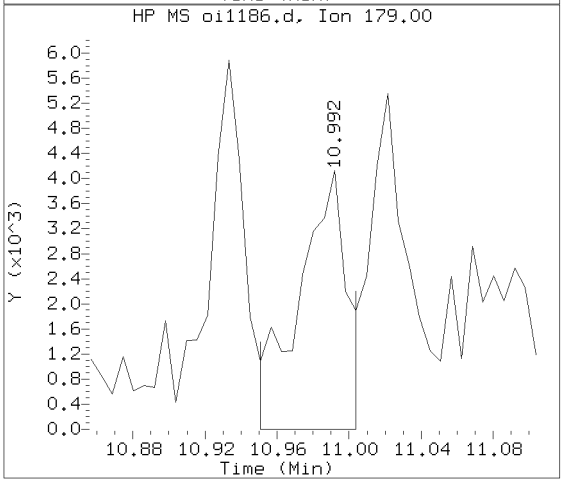
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

Compound Number	: 157
Compound Name	: Anthracene
Scan Number	: 1513
Retention Time (minutes)	: 10.980
Relative Retention Time	: 0.00054
Quant Ion	: 178.00
Area (flag)	: 19165
On-column Amount (ng/ul)	: 0.3675

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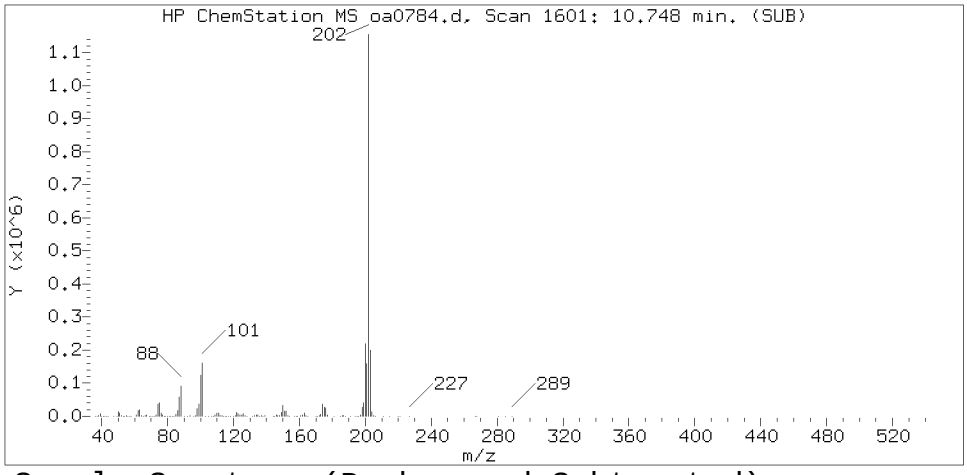
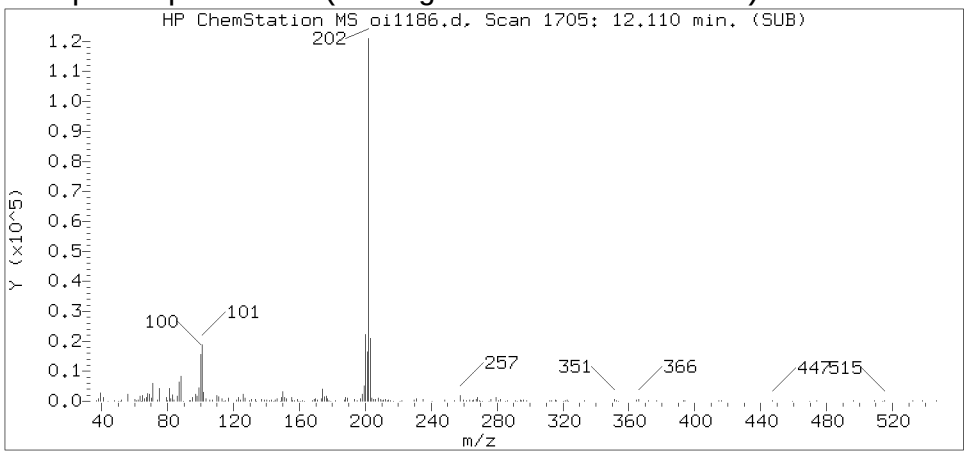
Target 3.5 esignature user ID: lmh00956

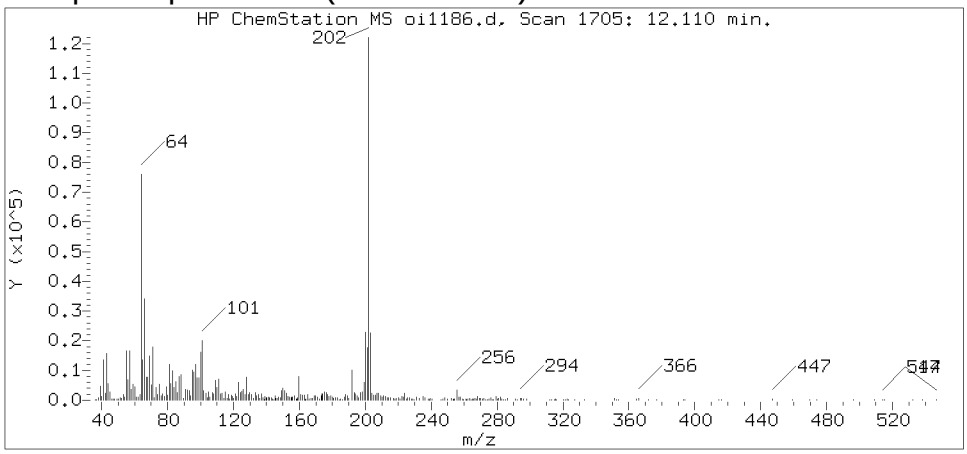
Reference Standard Spectrum for Fluoranthene

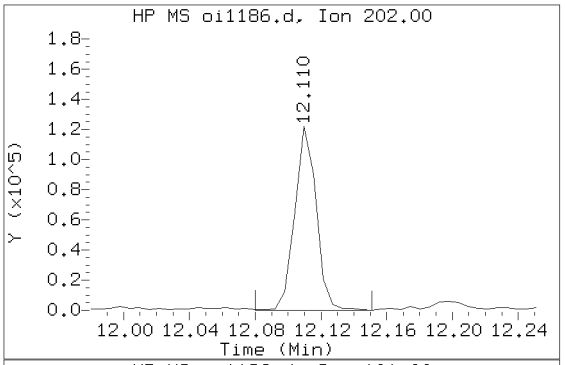


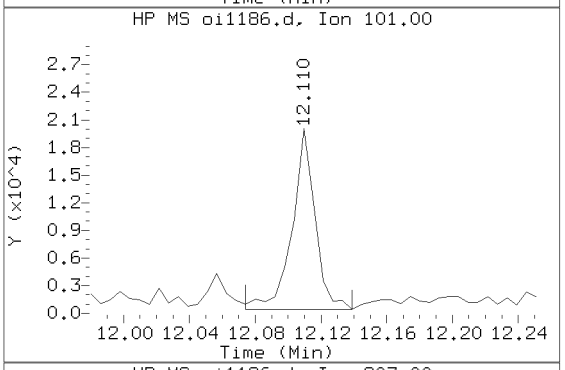
Sample Spectrum (Background Subtracted)

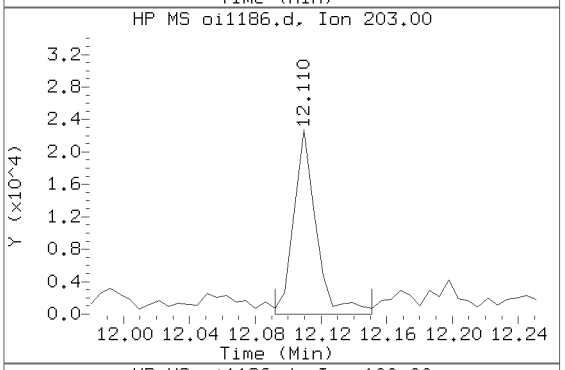


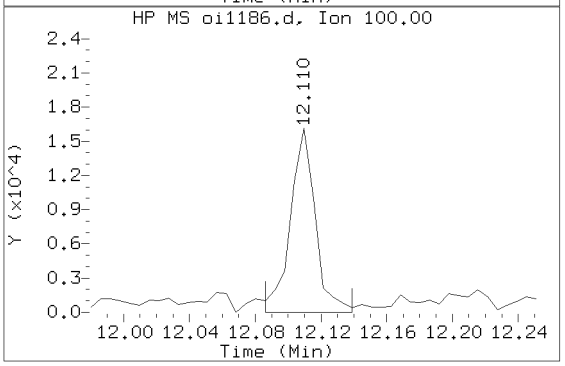
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

Compound Number	: 173
Compound Name	: Fluoranthene
Scan Number	: 1705
Retention Time (minutes)	: 12.110
Relative Retention Time	:-0.00108
Quant Ion	: 202.00
Area (flag)	: 111483
On-column Amount (ng/ul)	: 1.9440

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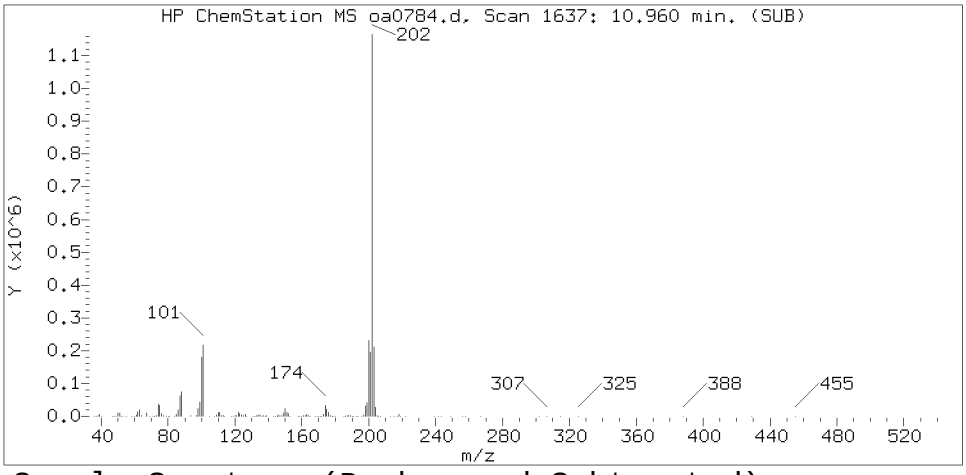
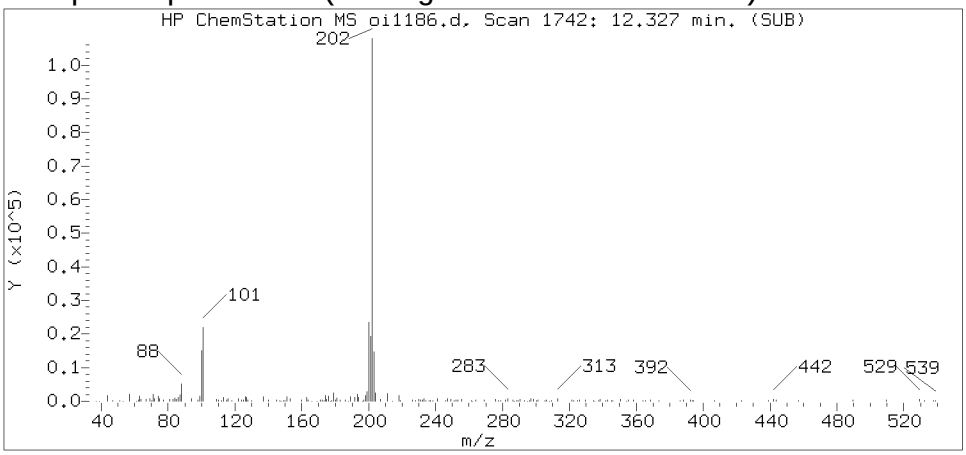
Target 3.5 esignature user ID: lmh00956

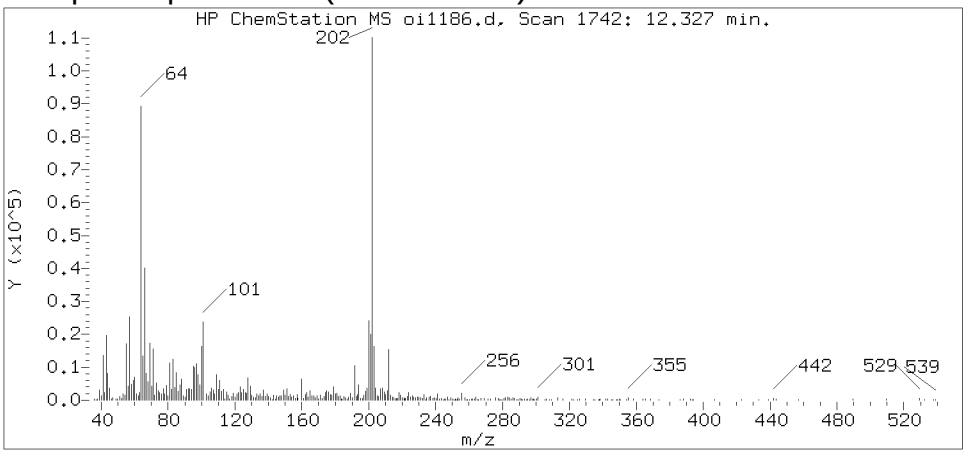
Reference Standard Spectrum for Pyrene

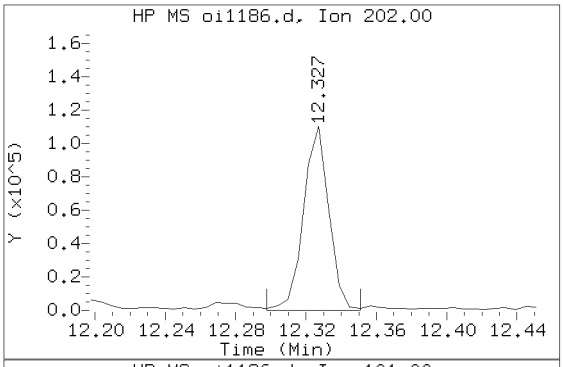


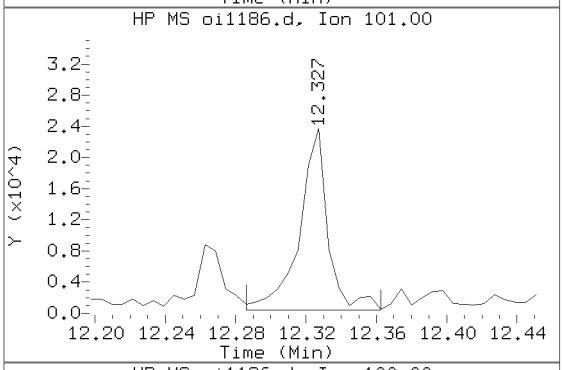
Sample Spectrum (Background Subtracted)

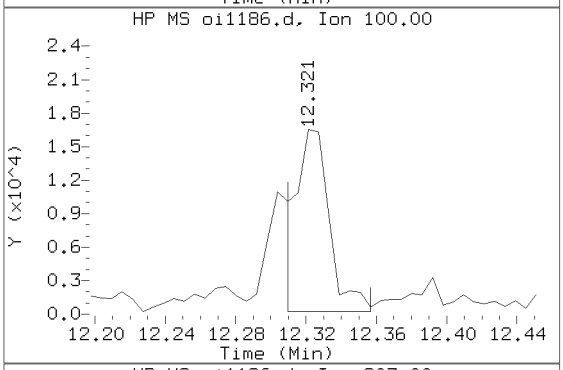


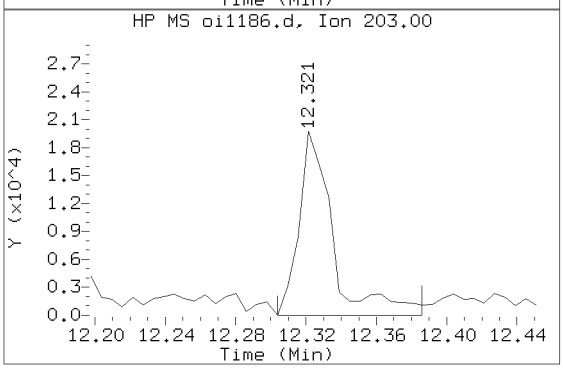
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

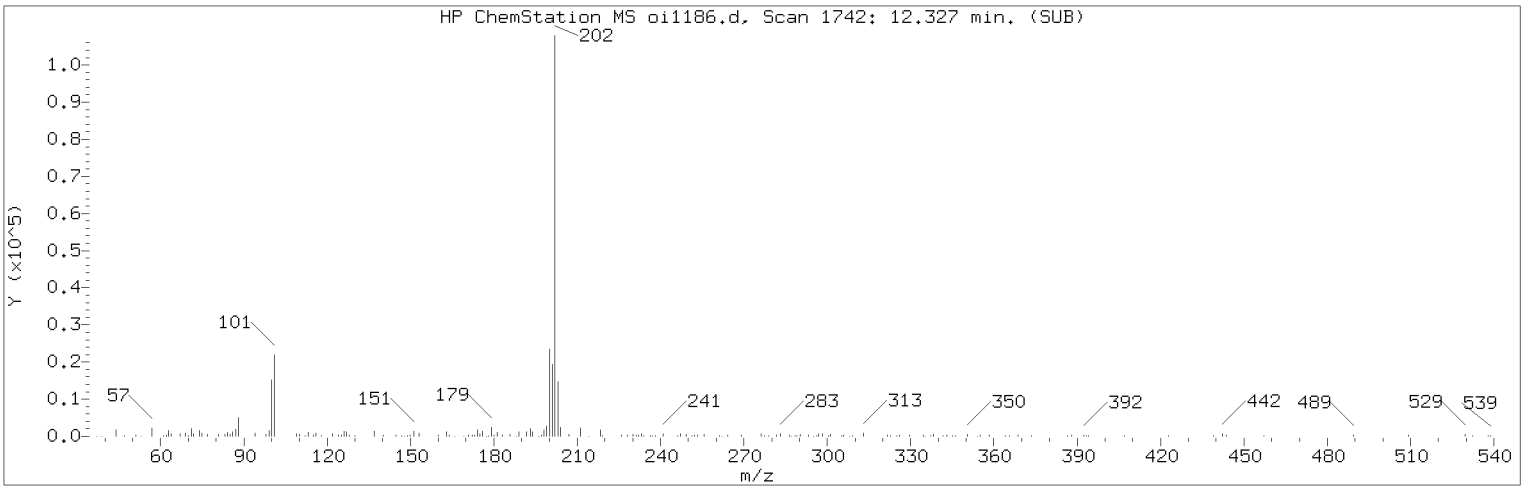
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

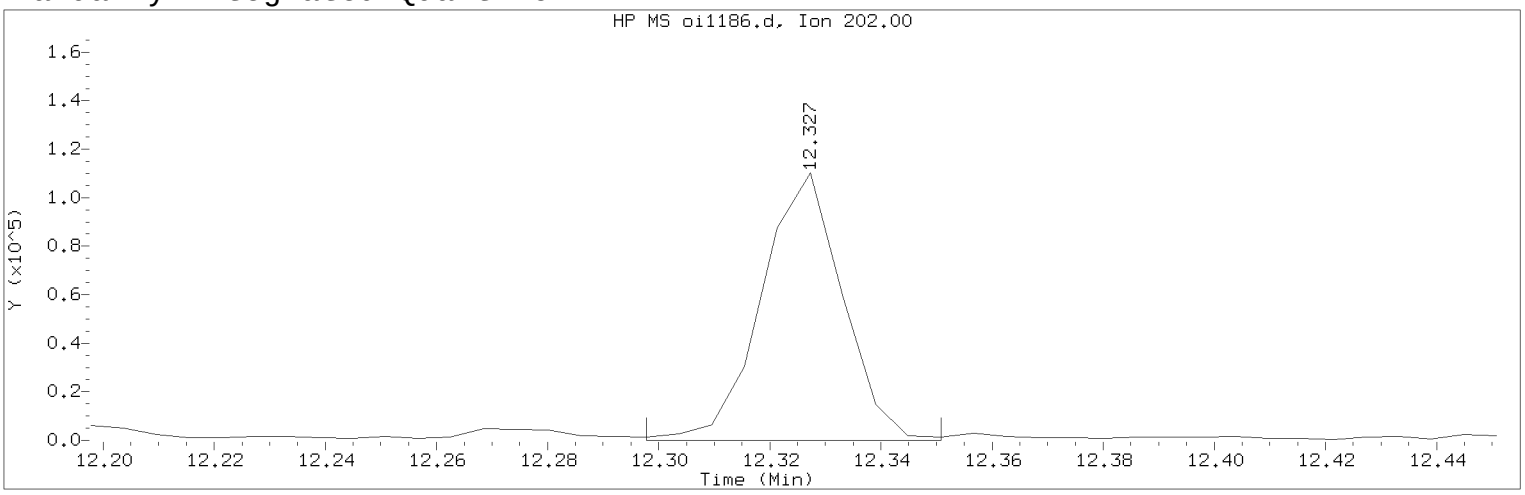
Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1742
Retention Time (minutes)	: 12.327
Relative Retention Time	: 0.00000
Quant Ion	: 202.00
Area (flag)	: 111379M
On-column Amount (ng/ul)	: 2.1299

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

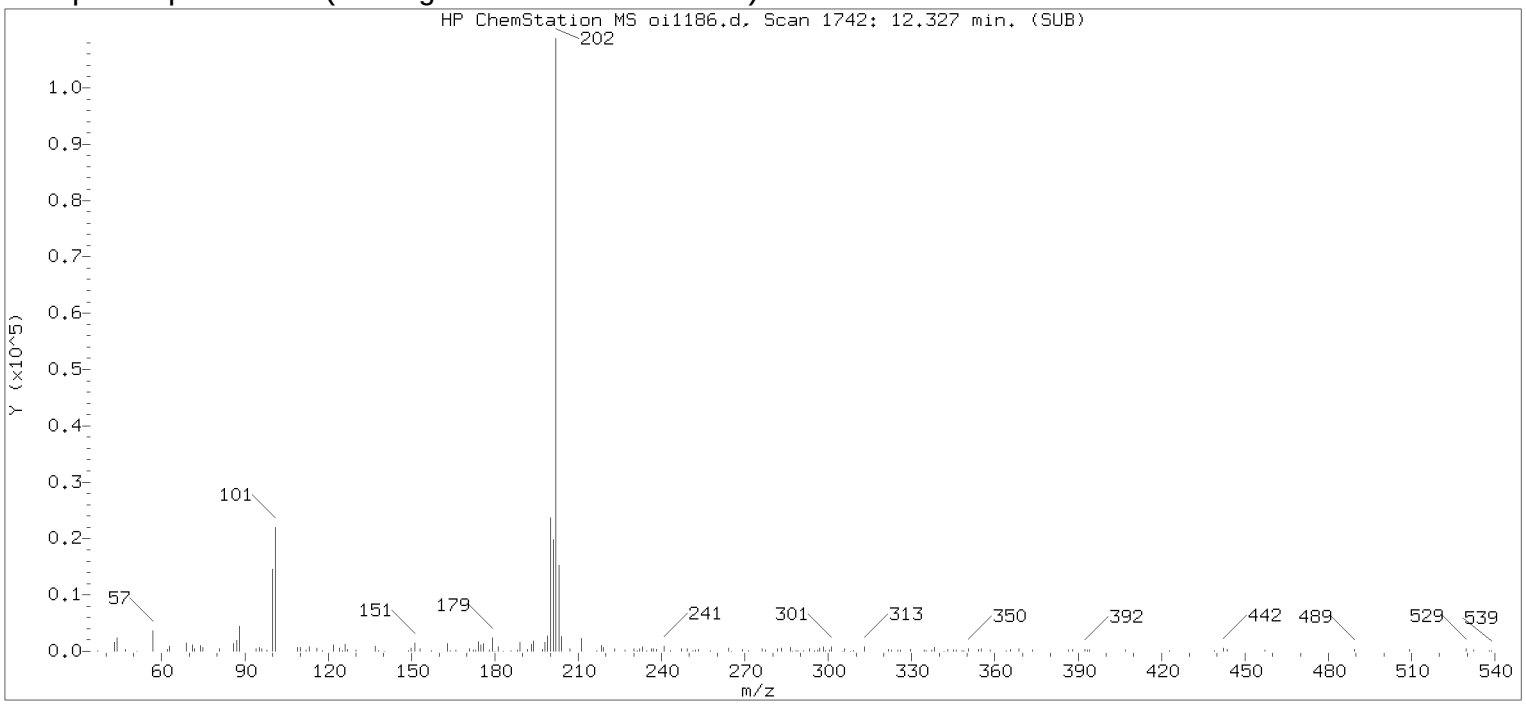
Compound Number : 177
Compound Name : Pyrene
Scan Number : 1742
Retention Time (minutes) : 12.327
Quant Ion : 202.00
Area (flag) : 111379M
On-column Amount (ng/ul) : 2.1299
Integration start scan : 1736 Integration stop scan: 1745
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

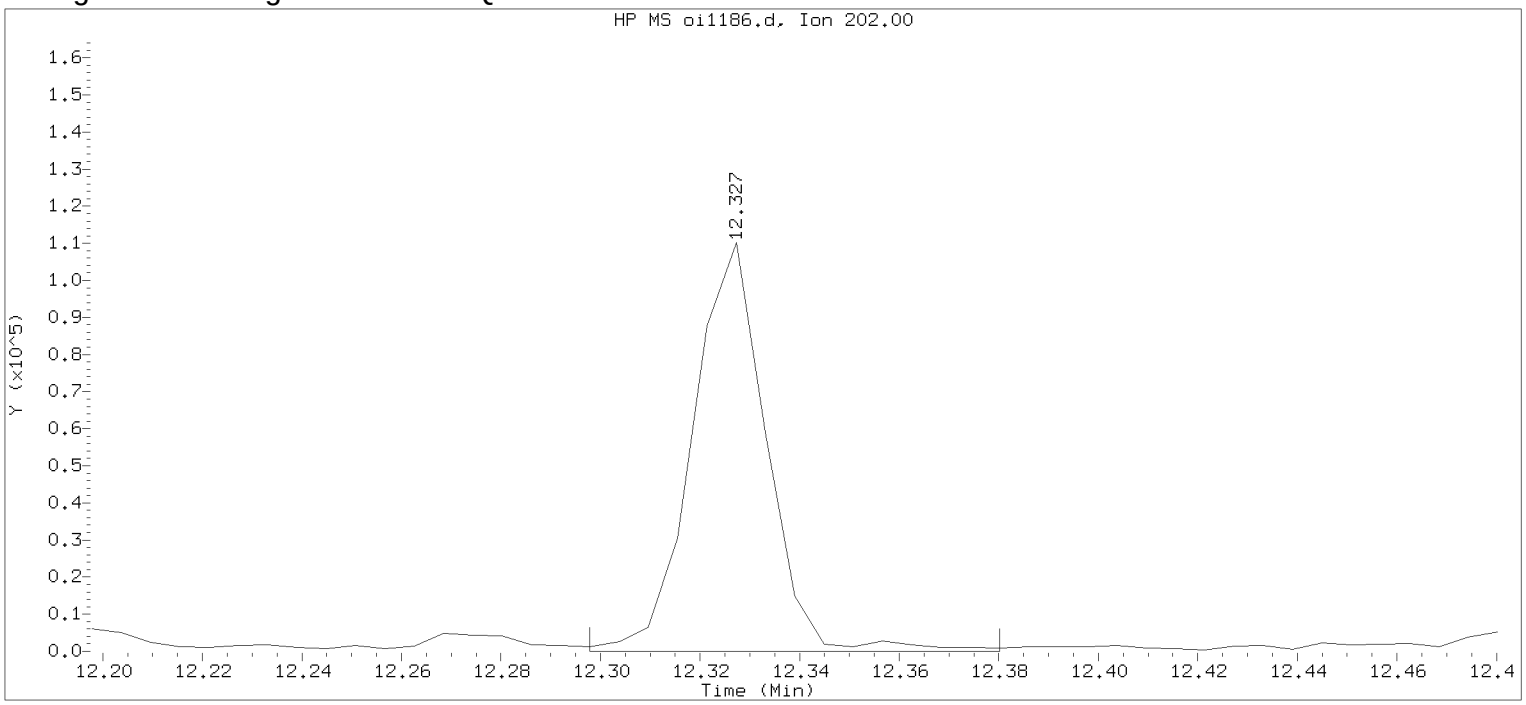
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

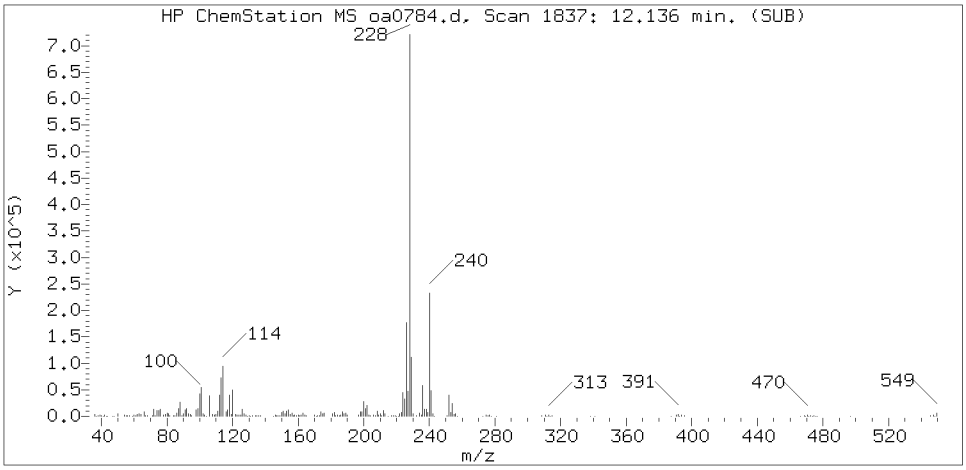
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 07:20 Automation

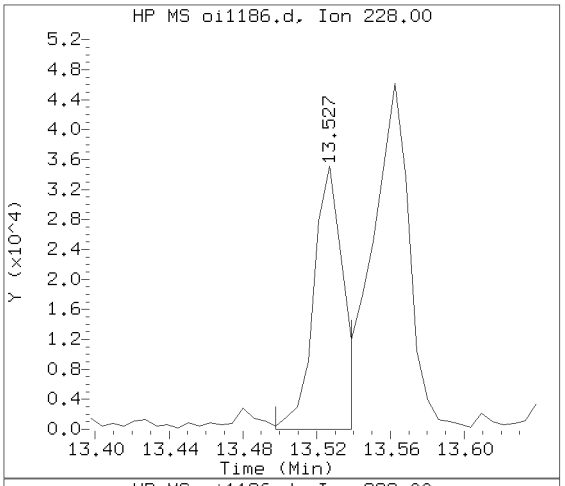
Sample Name: PS485 Lab Sample ID: 8057367

Compound Number	: 177		
Compound Name	: Pyrene		
Scan Number	: 1742		
Retention Time (minutes)	: 12.327		
Quant Ion	: 202.00		
Area	: 113674		
On-column Amount (ng/ul)	: 2.1738		
Integration start scan	: 1736	Integration stop scan:	1750
Y at integration start	: 0	Y at integration end:	0

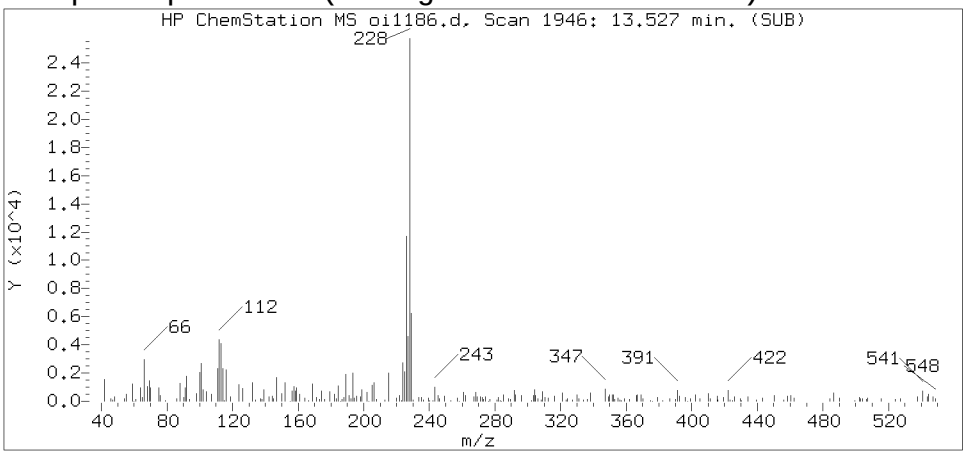
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0356

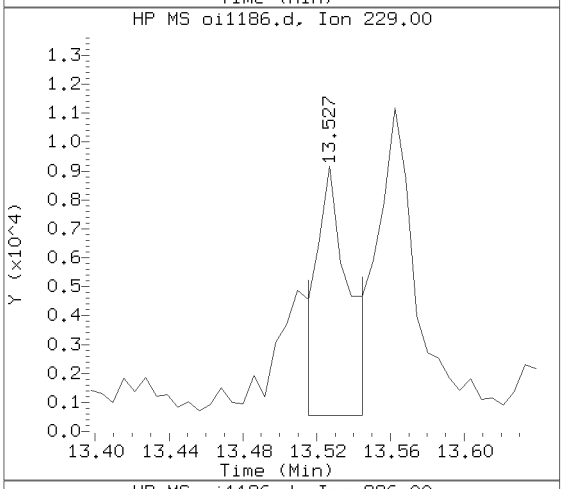
Reference Standard Spectrum for Benzo(a)anthracene



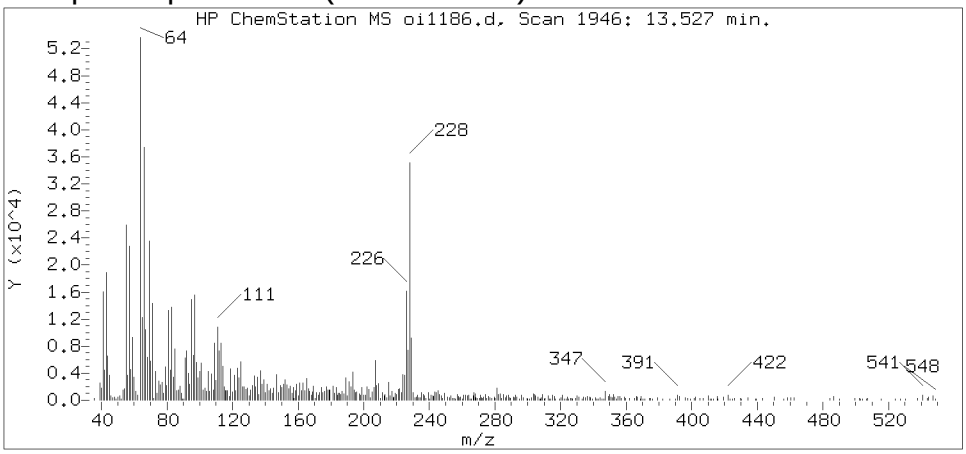


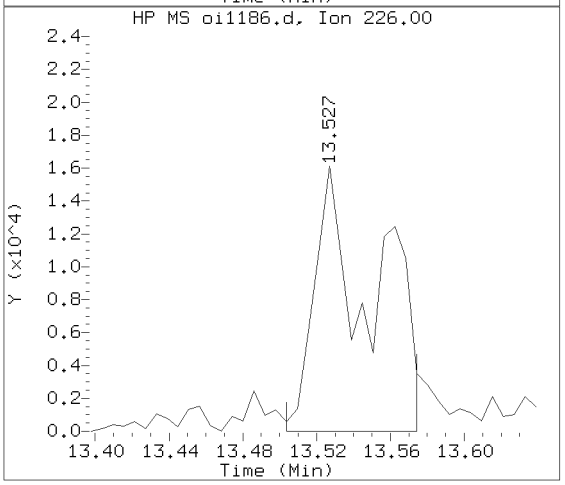
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

Compound Number	: 195
Compound Name	: Benzo(a)anthracene
Scan Number	: 1946
Retention Time (minutes)	: 13.527
Relative Retention Time	: 0.00052
Quant Ion	: 228.00
Area (flag)	: 37617
On-column Amount (ng/ul)	: 0.8252

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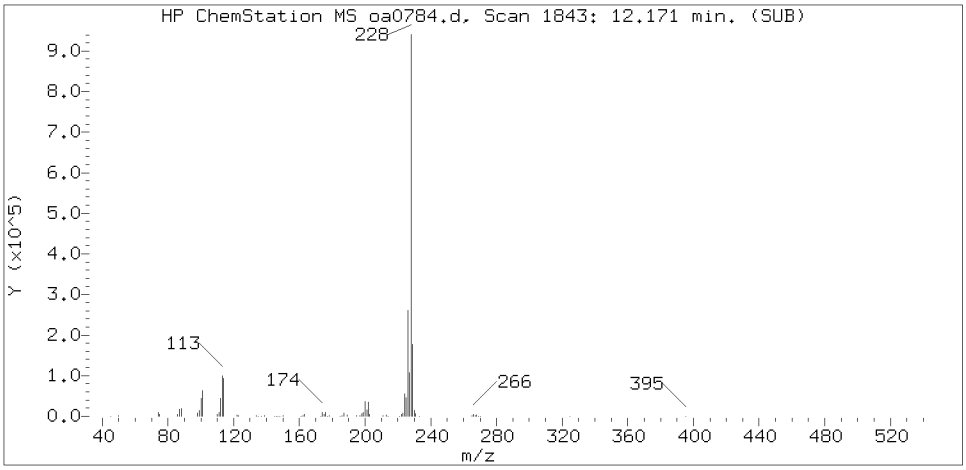
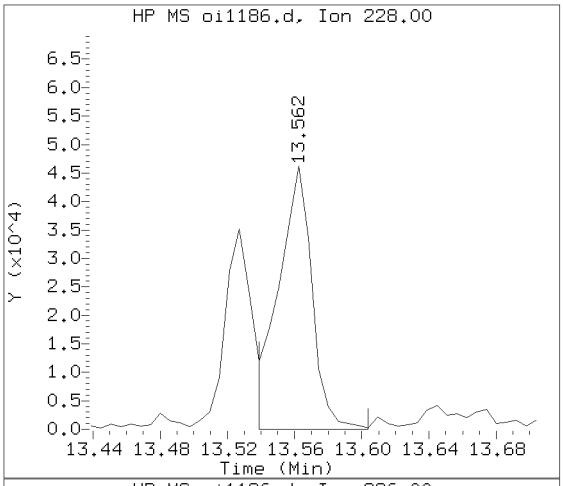
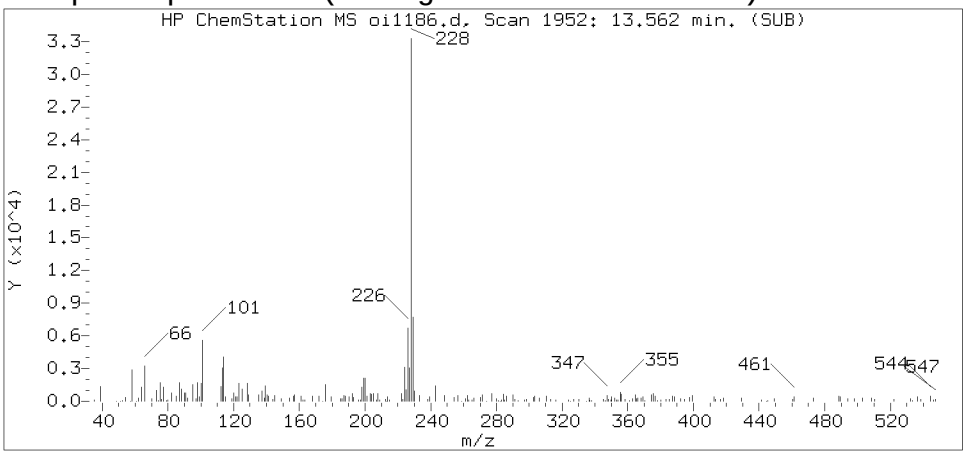
Target 3.5 esignature user ID: lmh00956

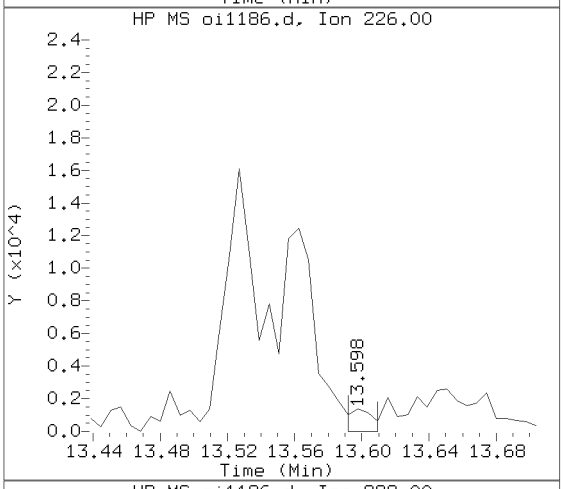
Reference Standard Spectrum for Chrysene



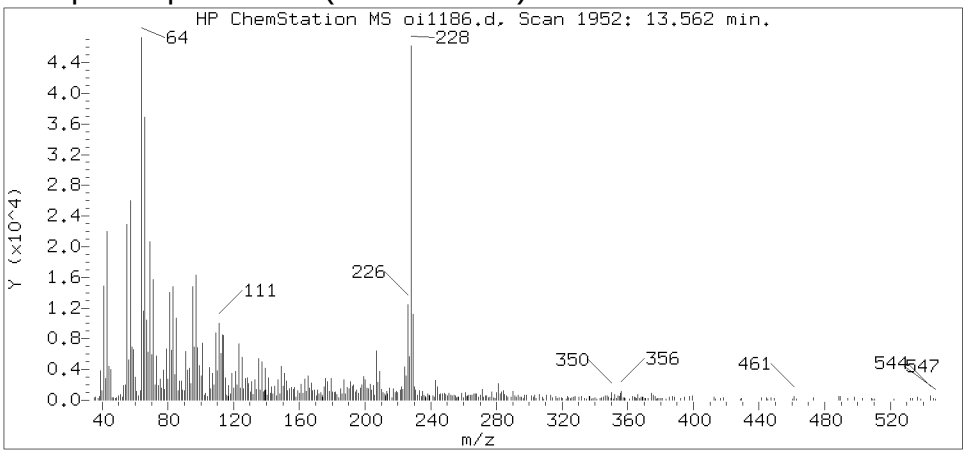


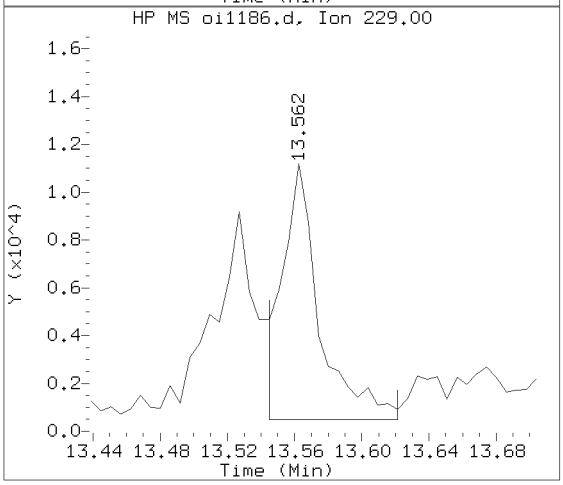
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

Compound Number	: 196
Compound Name	: Chrysene
Scan Number	: 1952
Retention Time (minutes)	: 13.562
Relative Retention Time	: 0.00053
Quant Ion	: 228.00
Area (flag)	: 64070
On-column Amount (ng/ul)	: 1.4751

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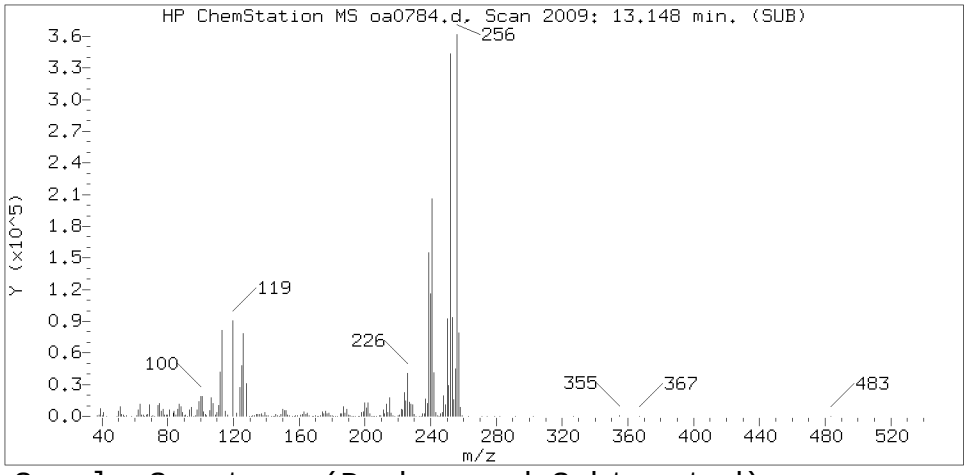
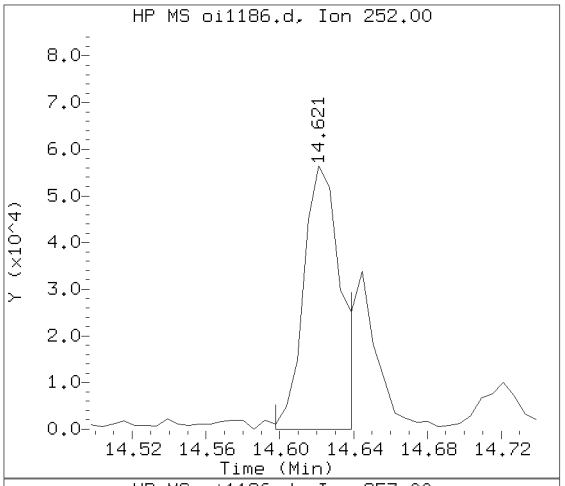
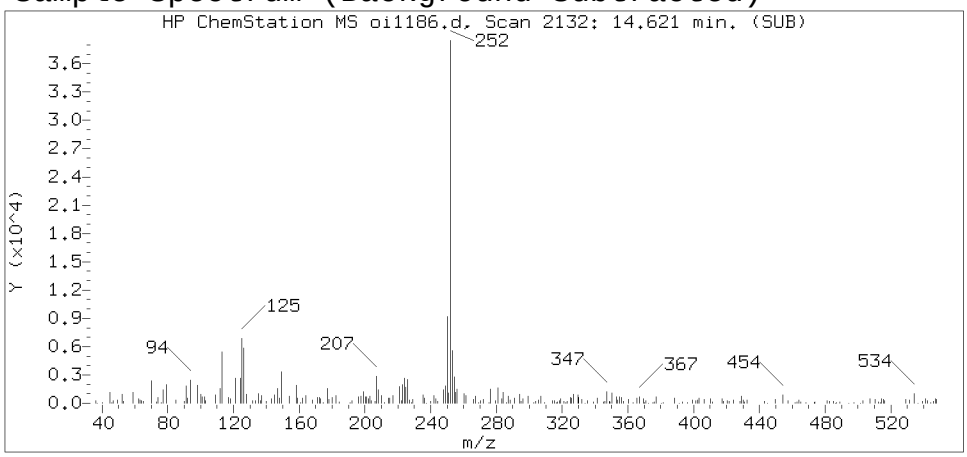
Target 3.5 esignature user ID: lmh00956

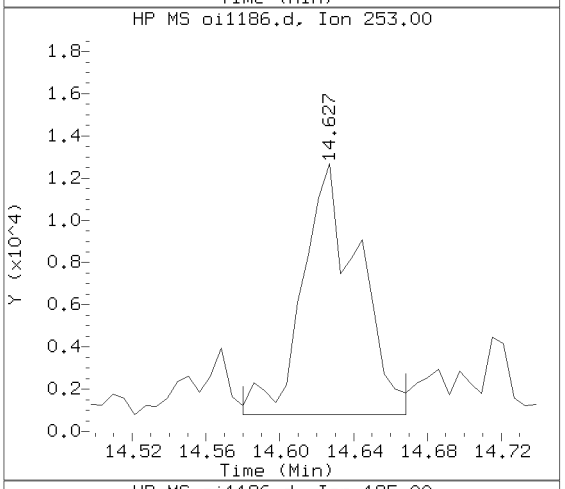
Reference Standard Spectrum for Benzo(b)fluoranthene



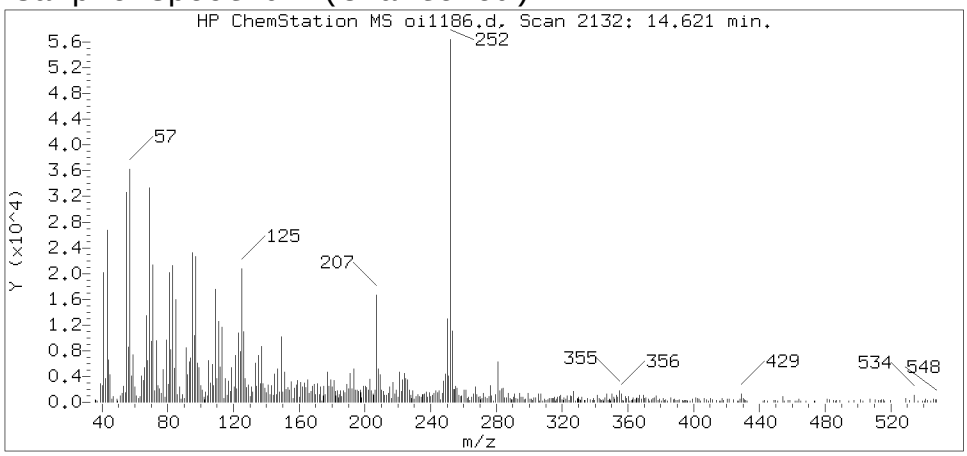


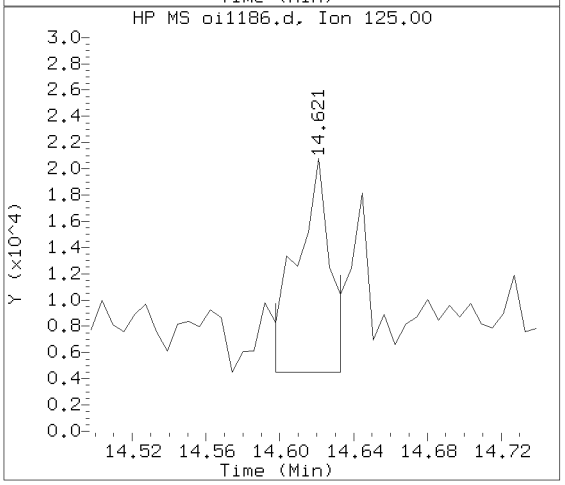
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

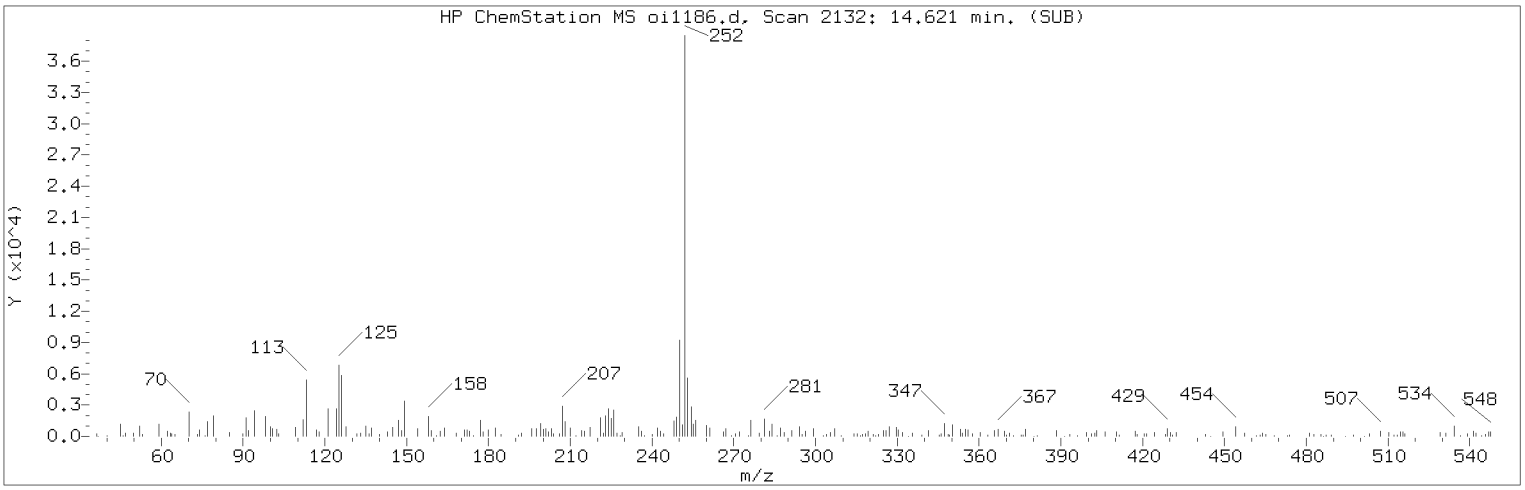
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

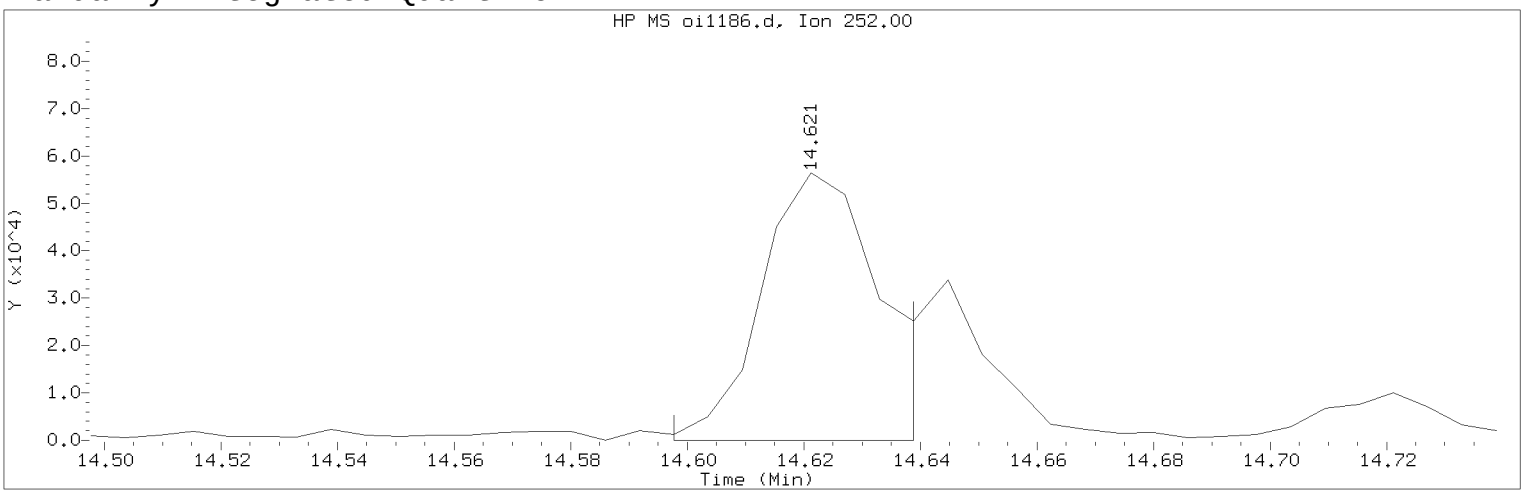
Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2132
Retention Time (minutes)	: 14.621
Relative Retention Time	: 0.00038
Quant Ion	: 252.00
Area (flag)	: 80923M
On-column Amount (ng/ul)	: 2.0828

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

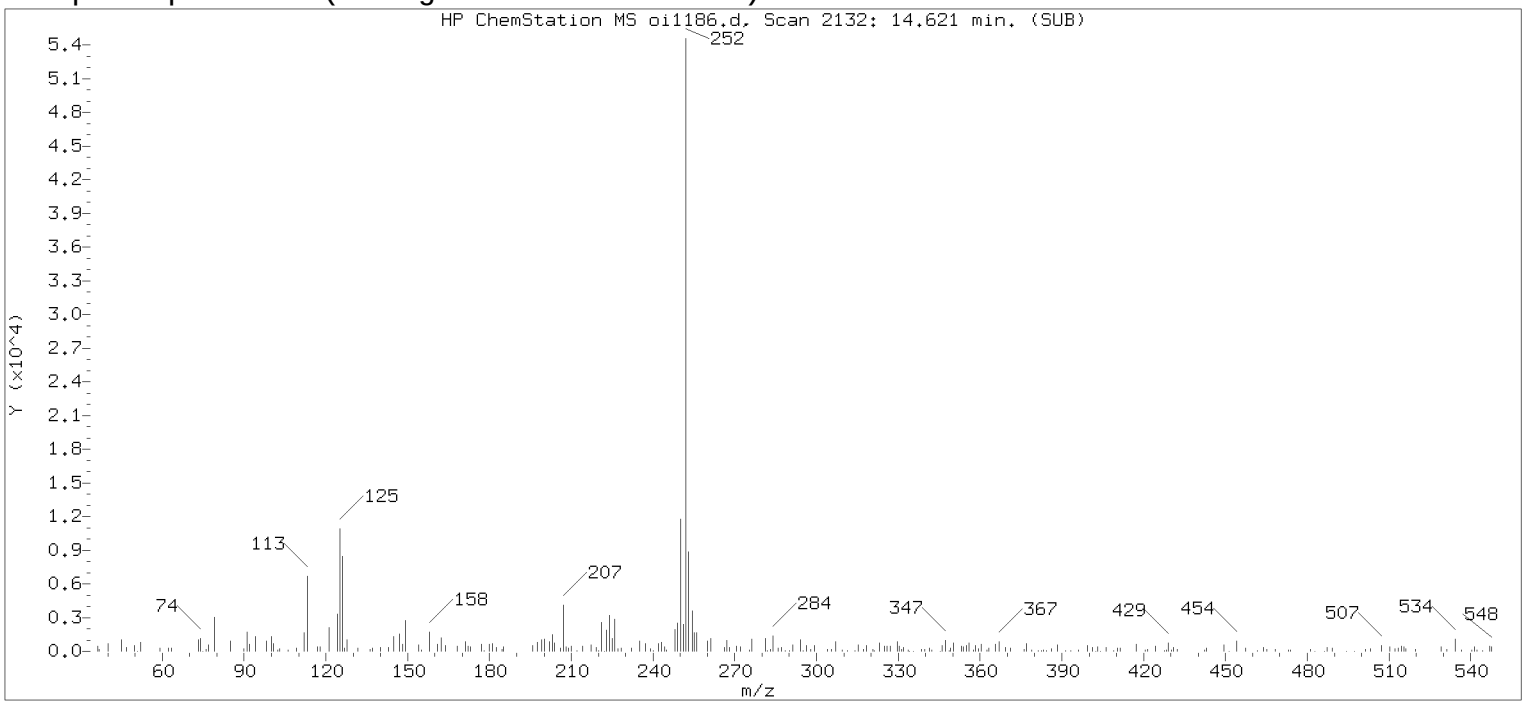
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2132
Retention Time (minutes) : 14.621
Quant Ion : 252.00
Area (flag) : 80923M
On-column Amount (ng/ul) : 2.0828
Integration start scan : 2127 Integration stop scan: 2134
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

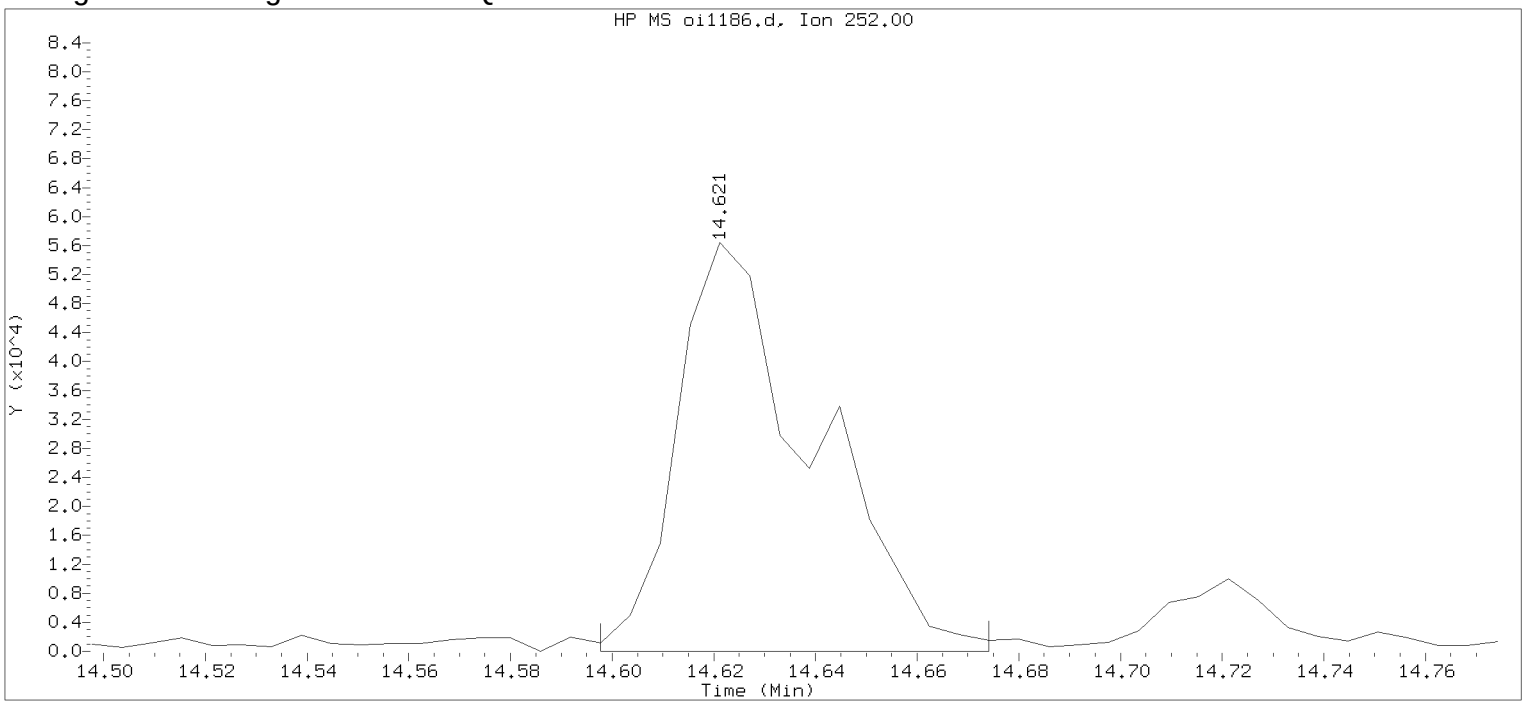
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

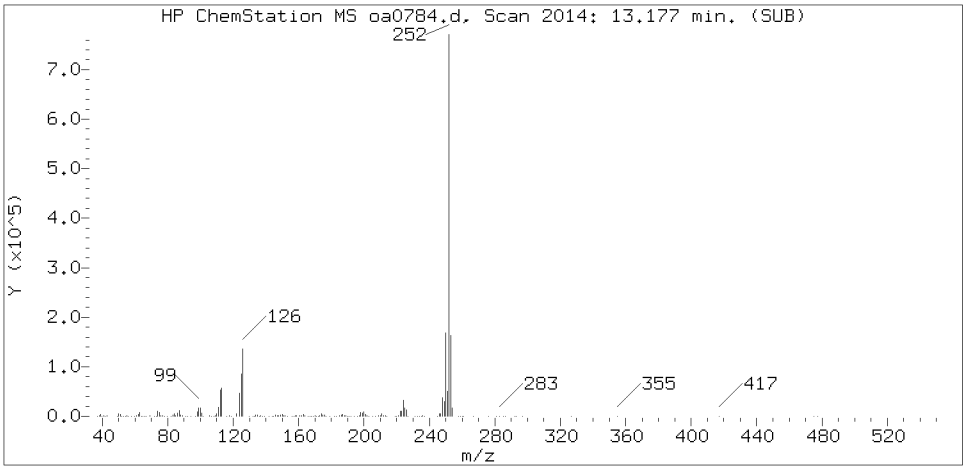
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 07:20 Automation

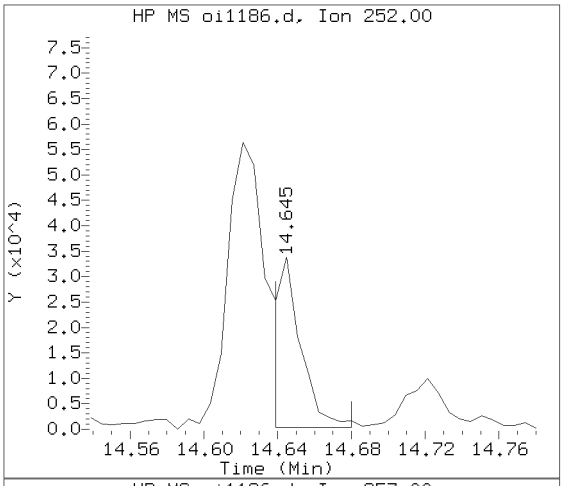
Sample Name: PS485 Lab Sample ID: 8057367

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2132		
Retention Time (minutes)	: 14.621		
Quant Ion	: 252.00		
Area	: 105209		
On-column Amount (ng/ul)	: 2.7078		
Integration start scan	: 2127	Integration stop scan:	2140
Y at integration start	: 0	Y at integration end:	0

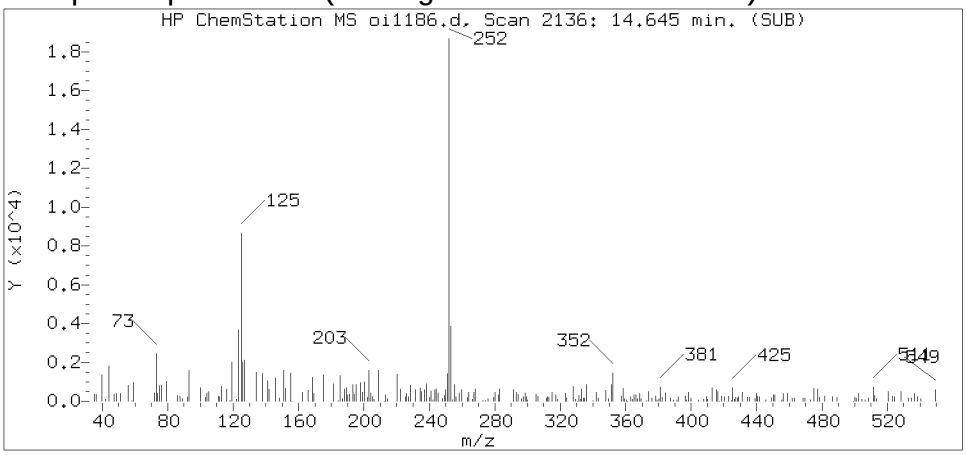
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0351

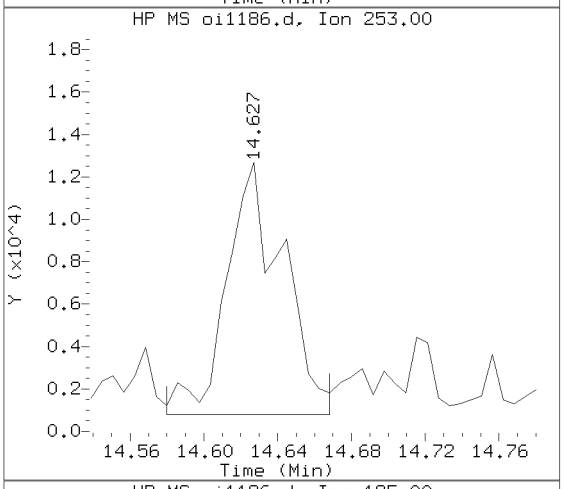
Reference Standard Spectrum for Benzo(k)fluoranthene



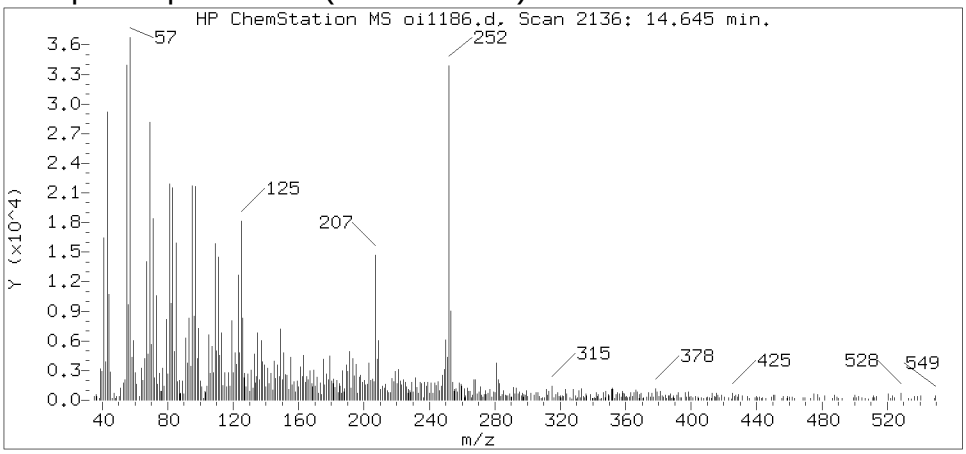


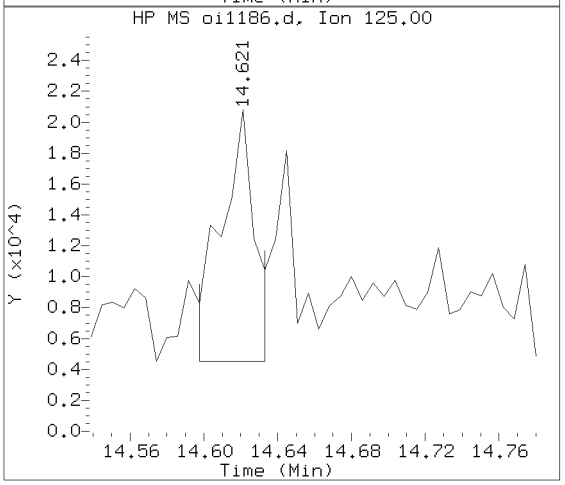
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

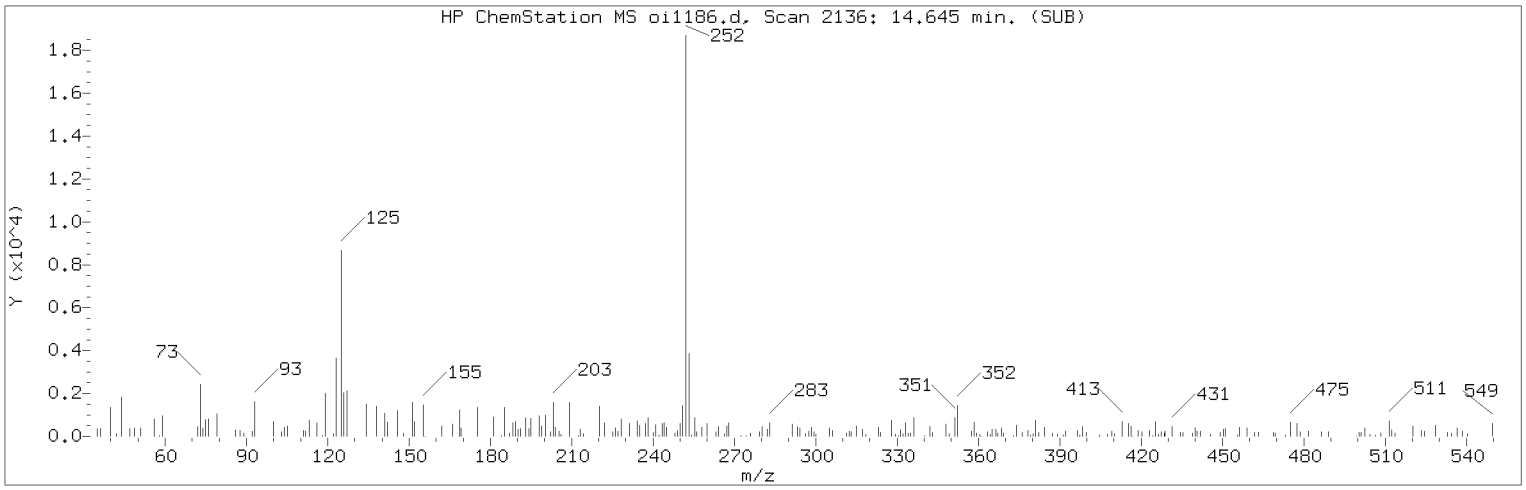
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

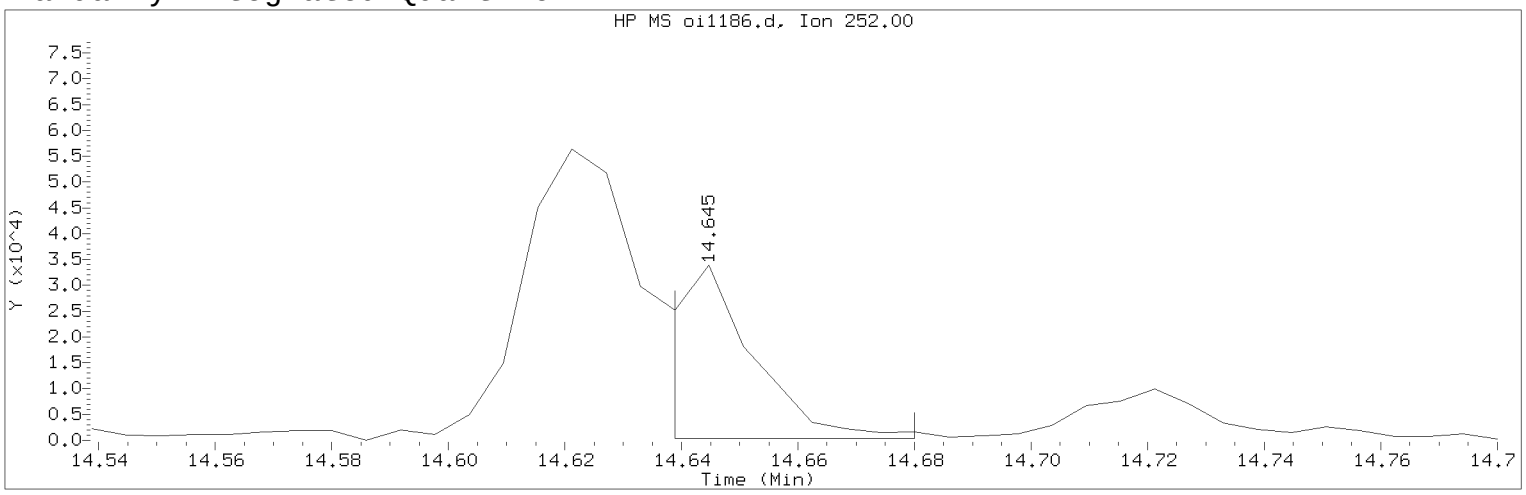
Compound Number	: 208
Compound Name	: Benzo(k)fluoranthene
Scan Number	: 2136
Retention Time (minutes)	: 14.645
Relative Retention Time	: 0.00038
Quant Ion	: 252.00
Area (flag)	: 33058M
On-column Amount (ng/ul)	: 0.8339

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

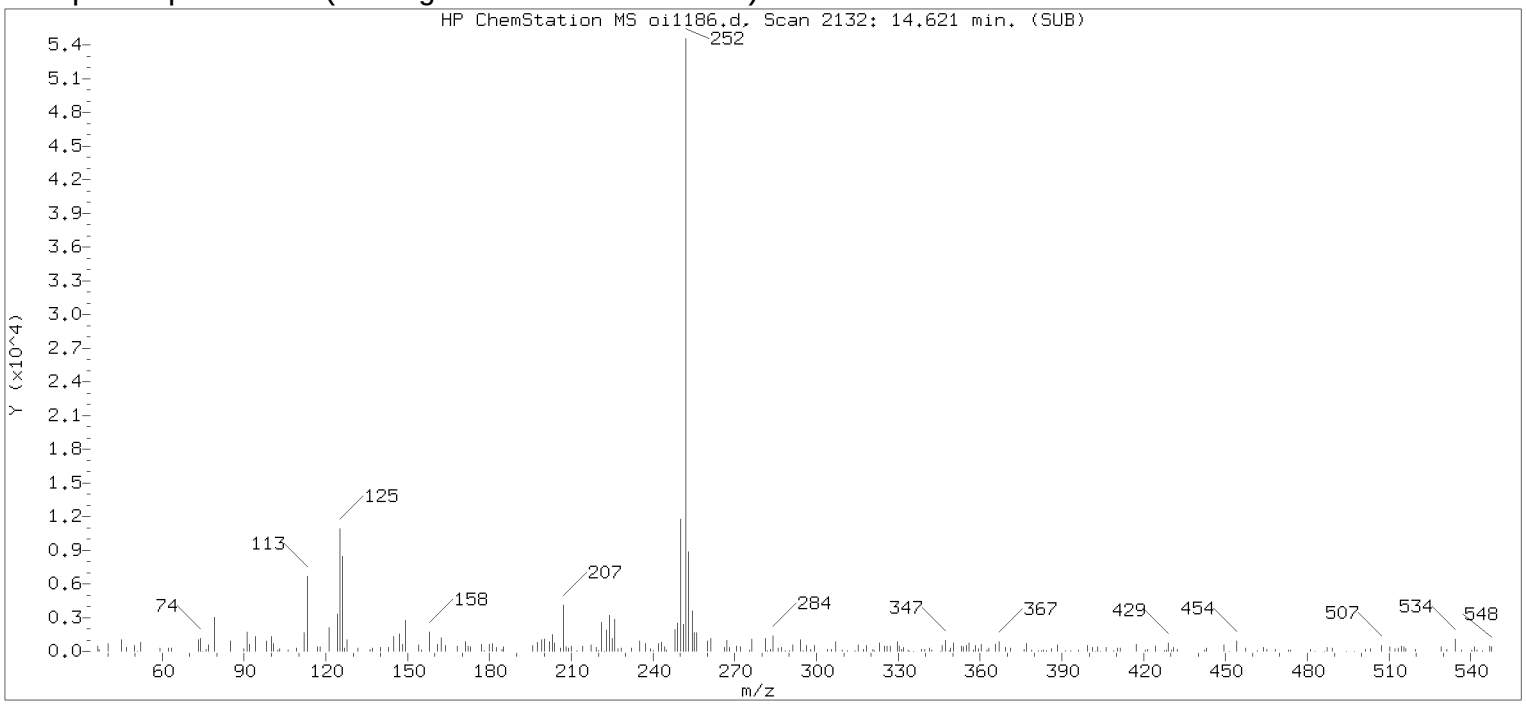
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2136
Retention Time (minutes) : 14.645
Quant Ion : 252.00
Area (flag) : 33058M
On-column Amount (ng/ul) : 0.8339
Integration start scan : 2134 Integration stop scan: 2141
Y at integration start : 422 Y at integration end: 422

Reason for manual integration: improper integration

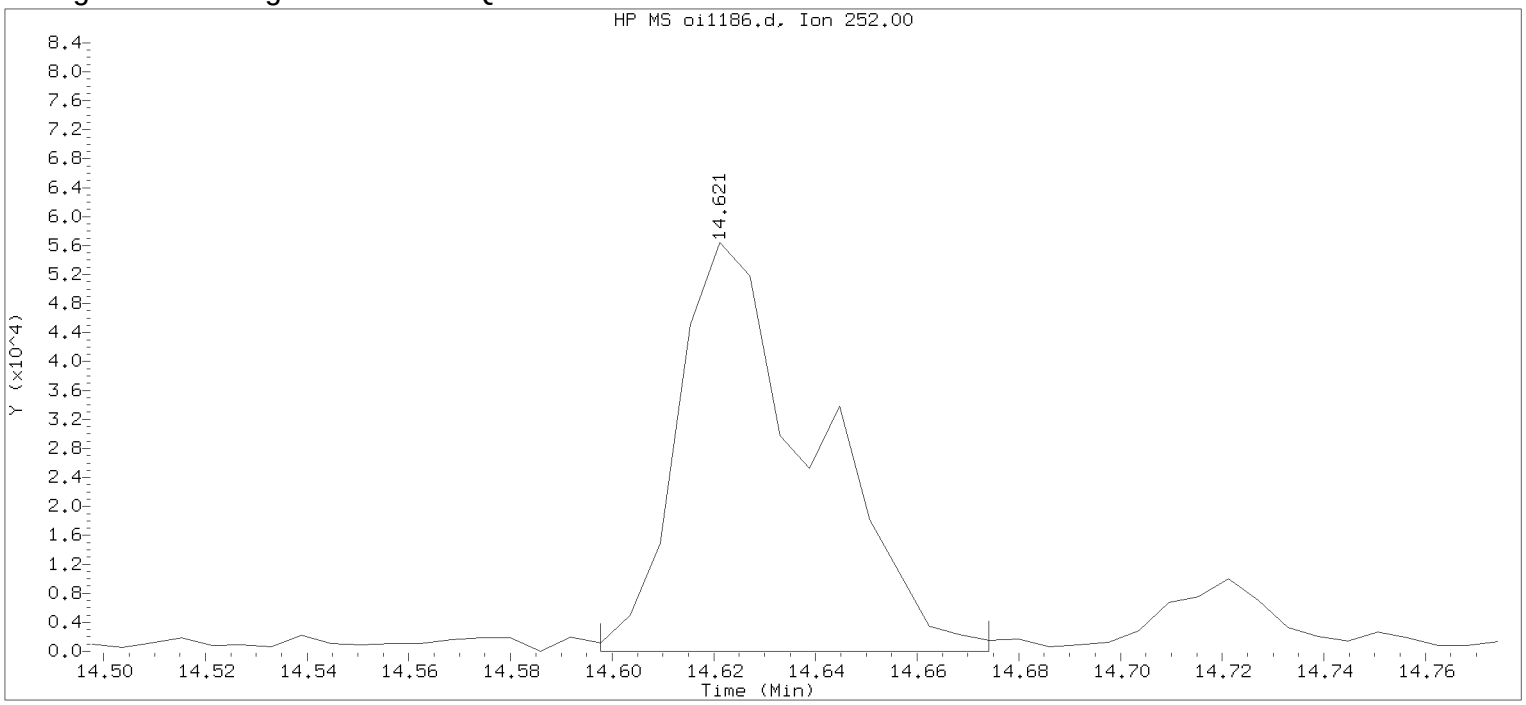
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

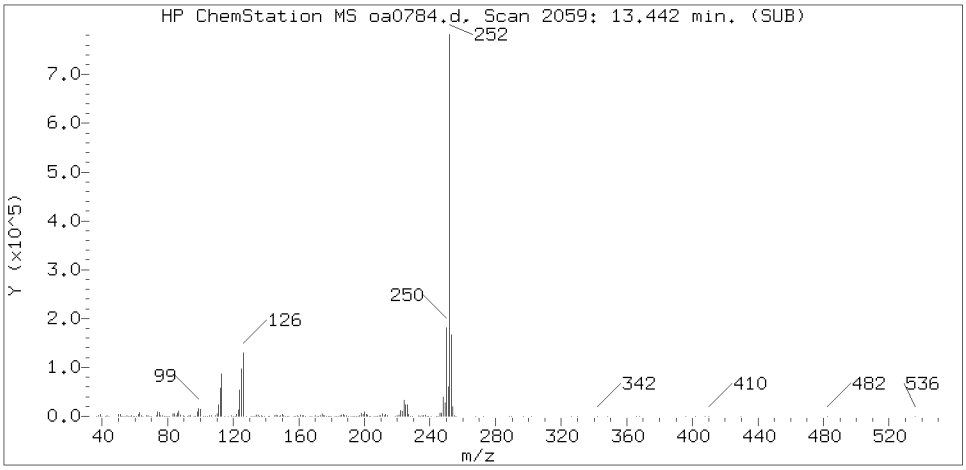
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 07:20 Automation

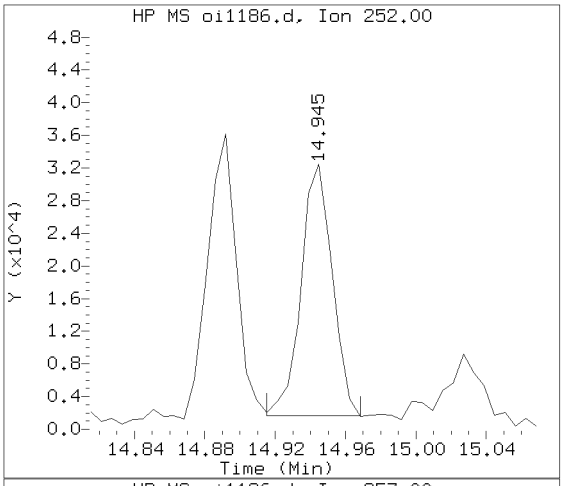
Sample Name: PS485 Lab Sample ID: 8057367

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2132		
Retention Time (minutes)	: 14.621		
Quant Ion	: 252.00		
Area	: 105209		
On-column Amount (ng/ul)	: 2.6538		
Integration start scan	: 2127	Integration stop scan:	2140
Y at integration start	: 0	Y at integration end:	0

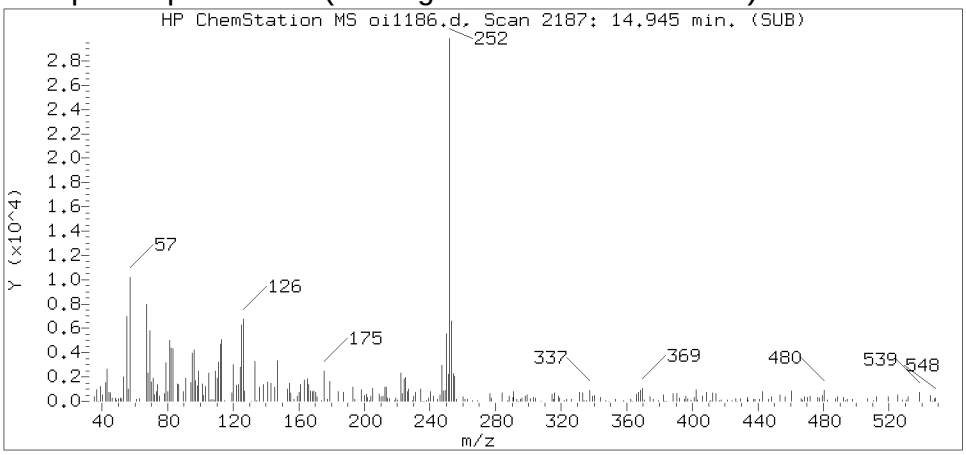
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0356

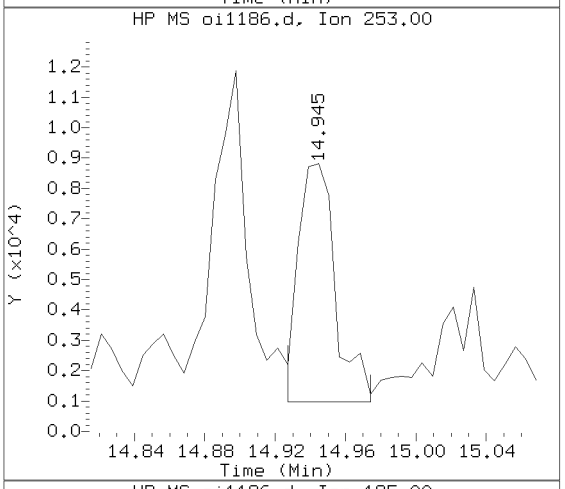
Reference Standard Spectrum for Benzo(a)pyrene



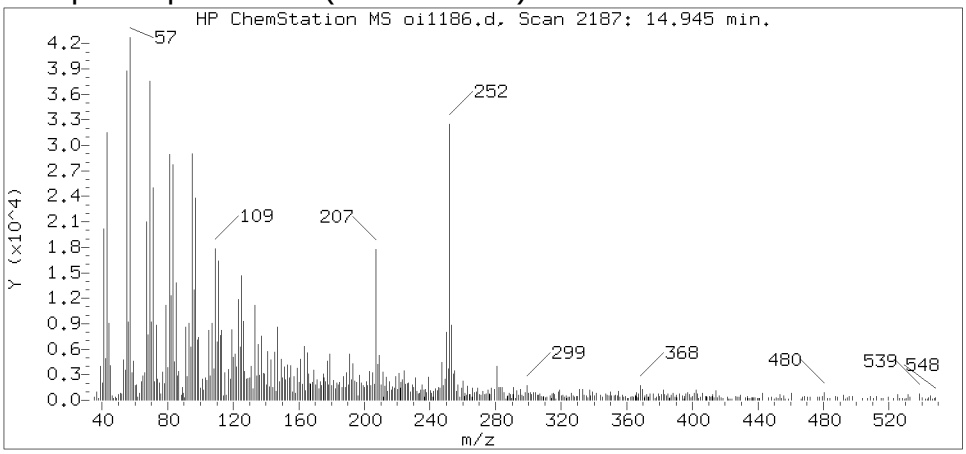


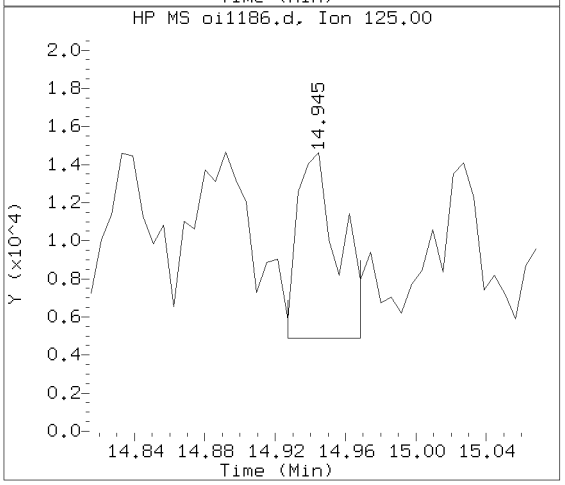
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

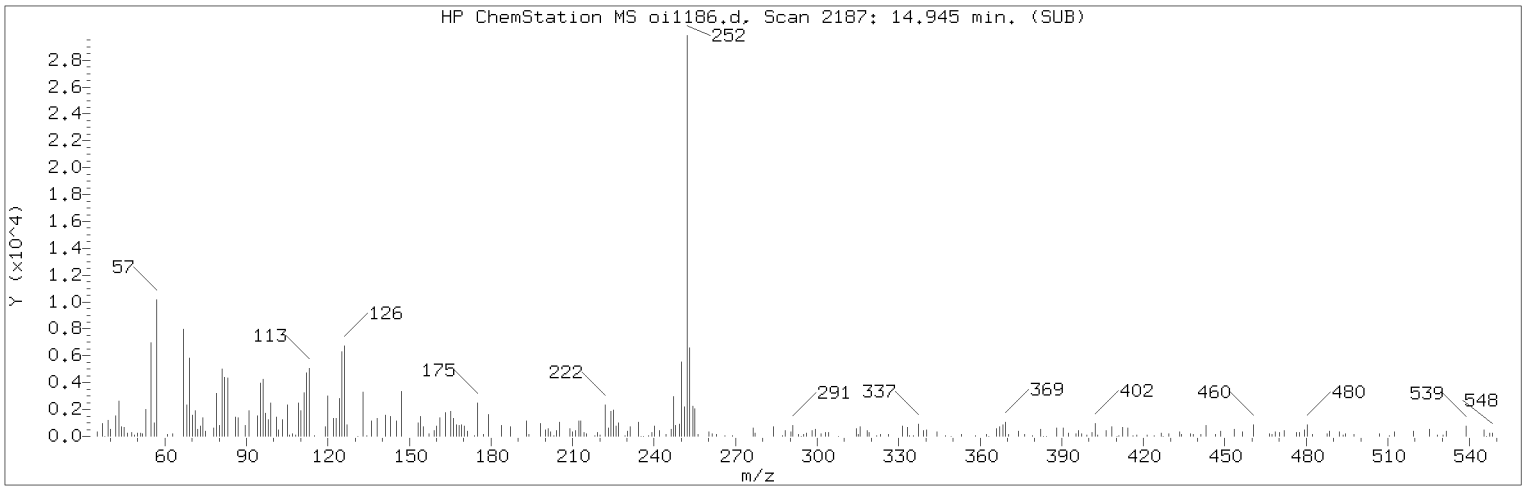
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

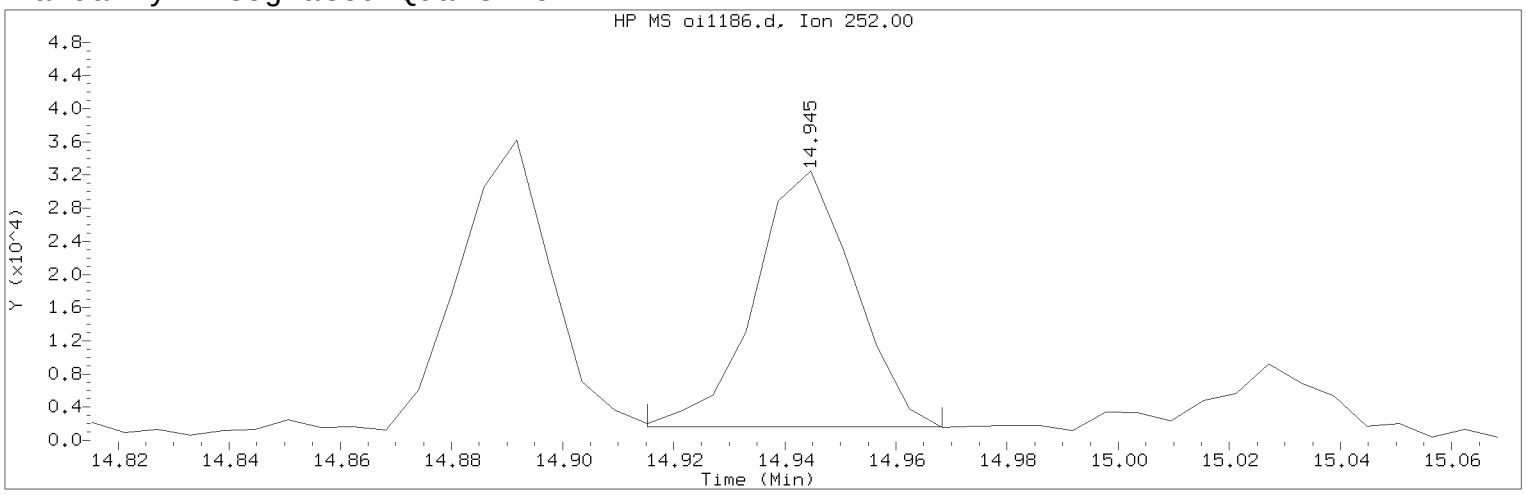
Compound Number	: 211
Compound Name	: Benzo(a)pyrene
Scan Number	: 2187
Retention Time (minutes)	: 14.945
Relative Retention Time	:-0.00000
Quant Ion	: 252.00
Area (flag)	: 38333M
On-column Amount (ng/ul)	: 0.9989

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

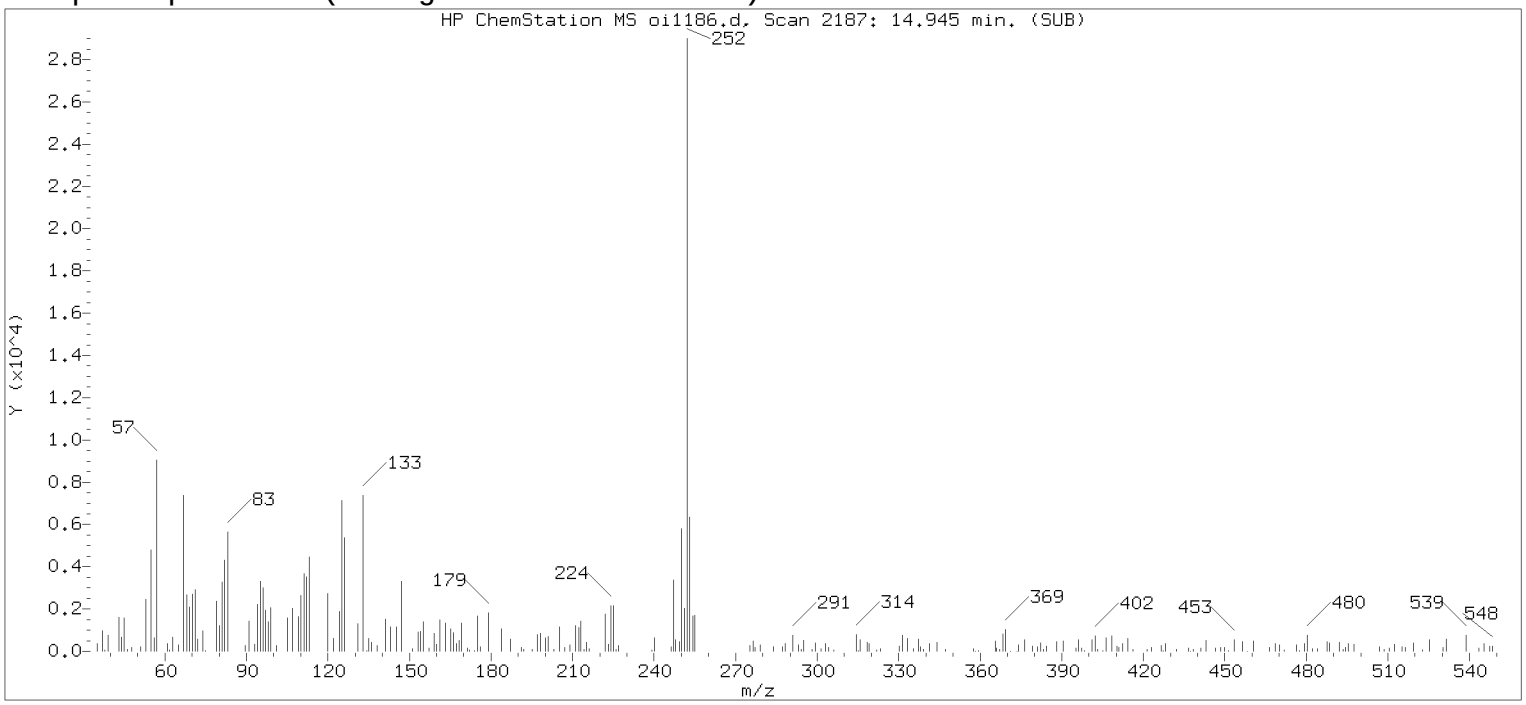
Compound Number : 211
Compound Name : Benzo(a)pyrene
Scan Number : 2187
Retention Time (minutes) : 14.945
Quant Ion : 252.00
Area (flag) : 38333M
On-column Amount (ng/ul) : 0.9989
Integration start scan : 2181 Integration stop scan: 2190
Y at integration start : 1639 Y at integration end: 1639

Reason for manual integration: improper integration

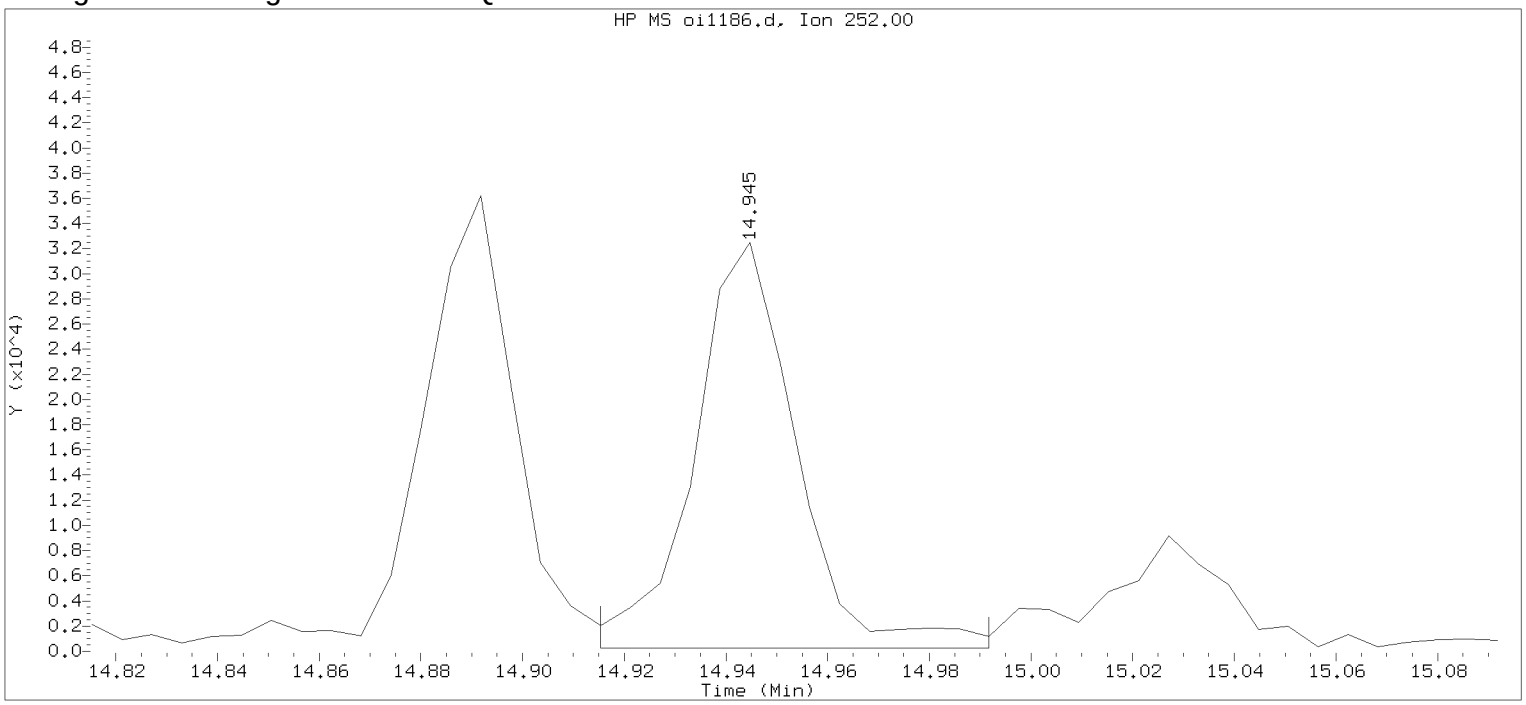
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

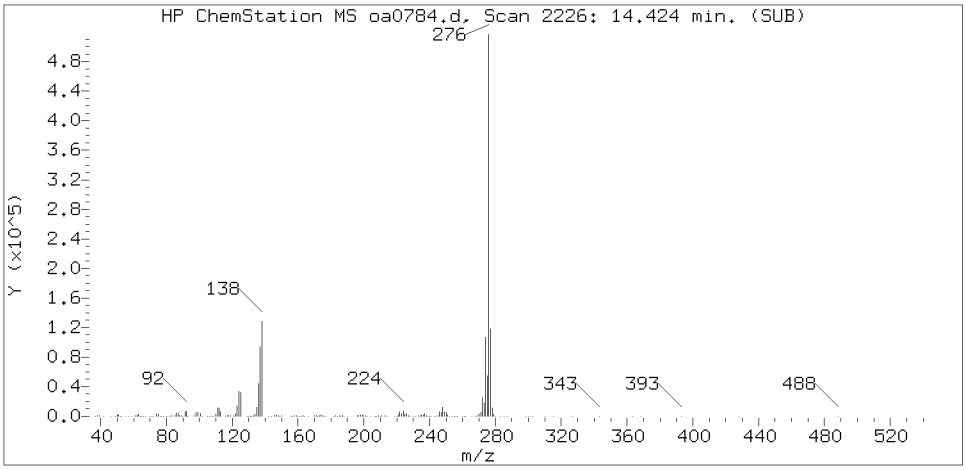
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 07:20 Automation

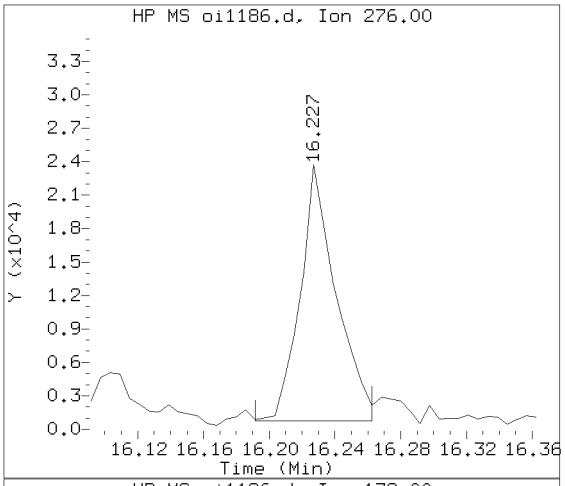
Sample Name: PS485 Lab Sample ID: 8057367

Compound Number	: 211		
Compound Name	: Benzo(a)pyrene		
Scan Number	: 2187		
Retention Time (minutes)	: 14.945		
Quant Ion	: 252.00		
Area	: 44688		
On-column Amount (ng/ul)	: 1.1645		
Integration start scan	: 2181	Integration stop scan:	2194
Y at integration start	: 250	Y at integration end:	250

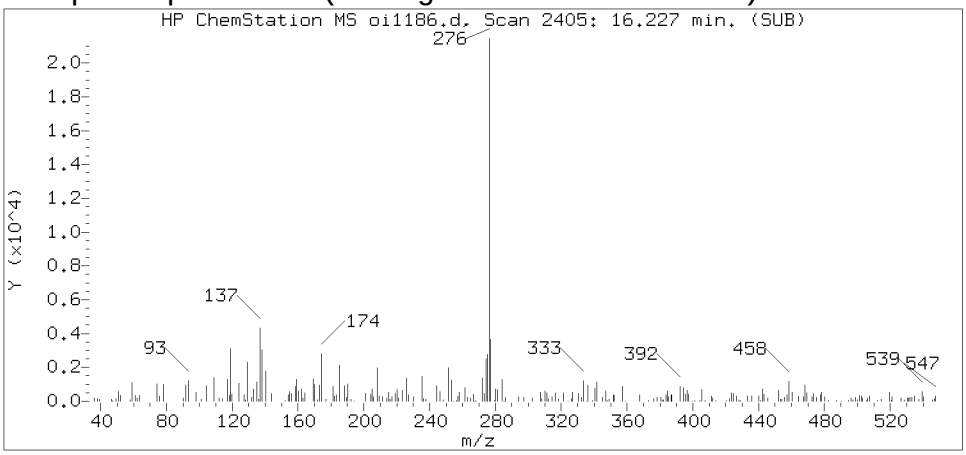
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0357

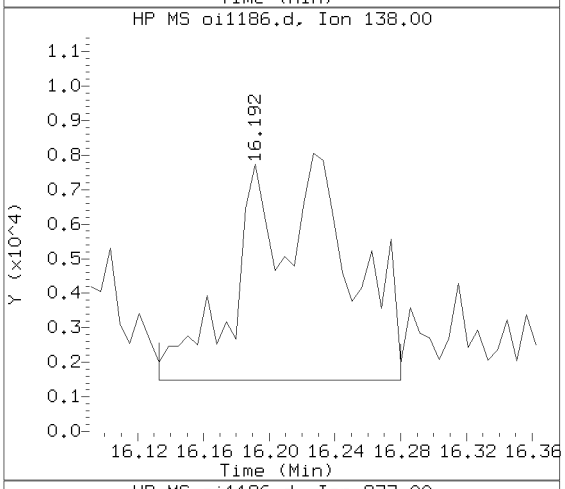
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



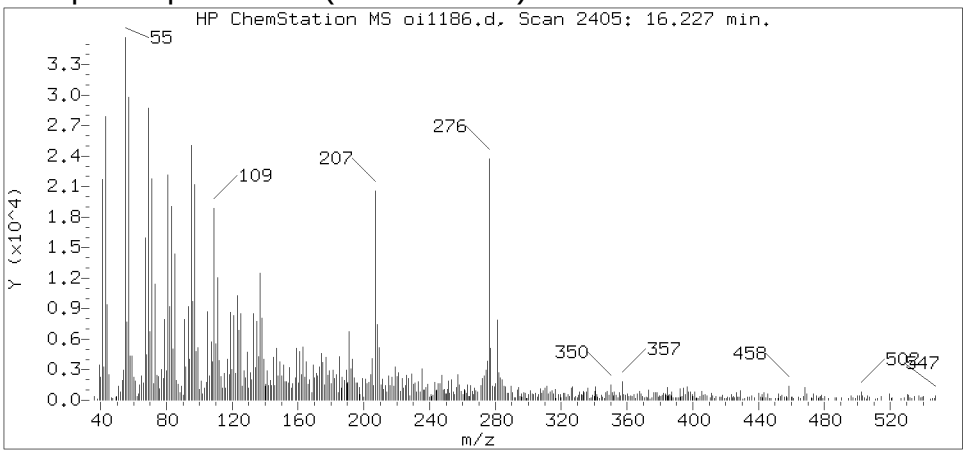


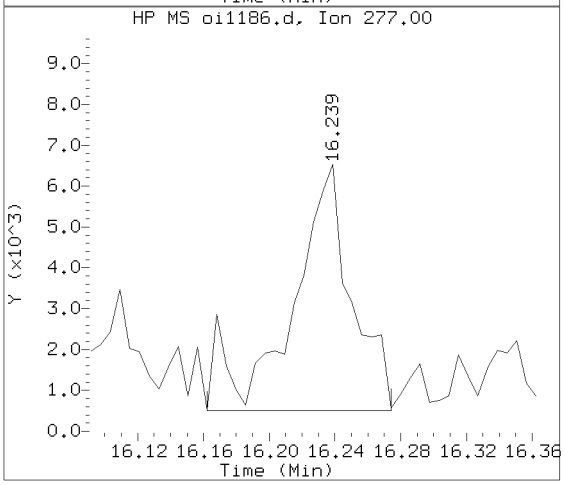
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

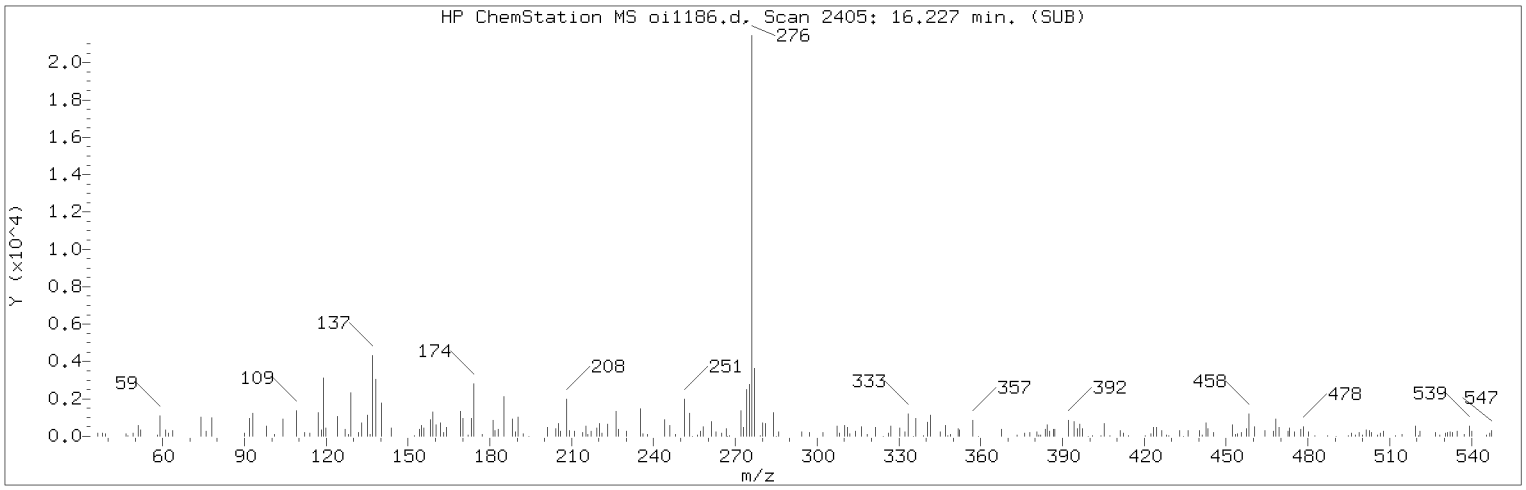
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

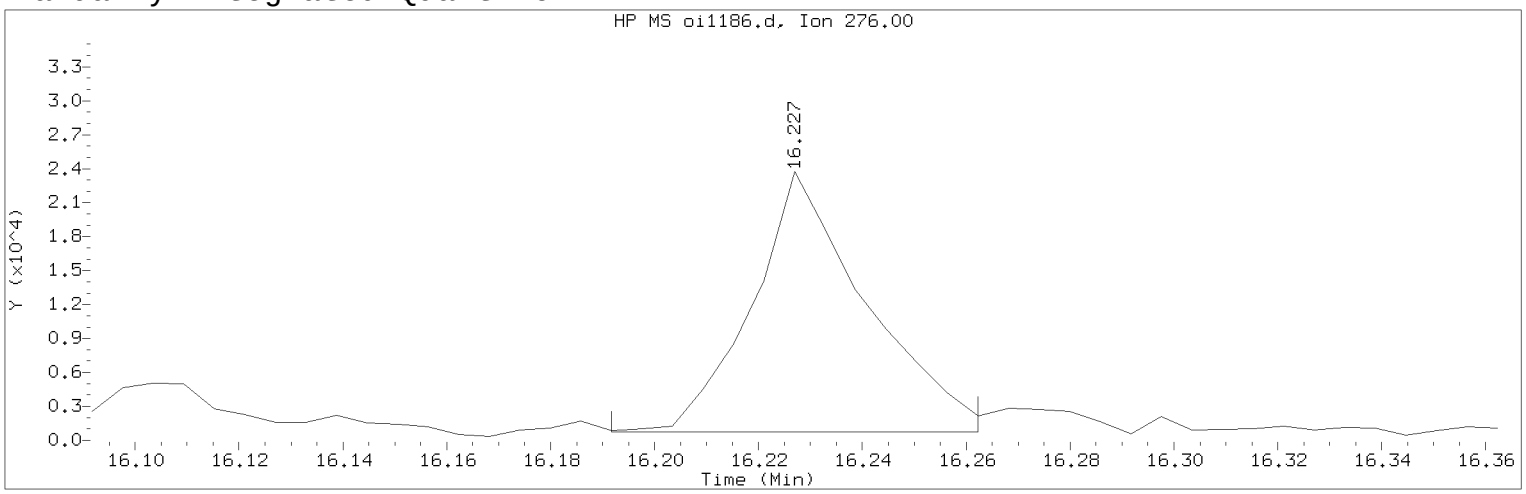
Compound Number	: 219
Compound Name	: Indeno(1,2,3-cd)pyrene
Scan Number	: 2405
Retention Time (minutes)	: 16.227
Relative Retention Time	: 0.00082
Quant Ion	: 276.00
Area (flag)	: 35047M
On-column Amount (ng/ul)	: 0.8769

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

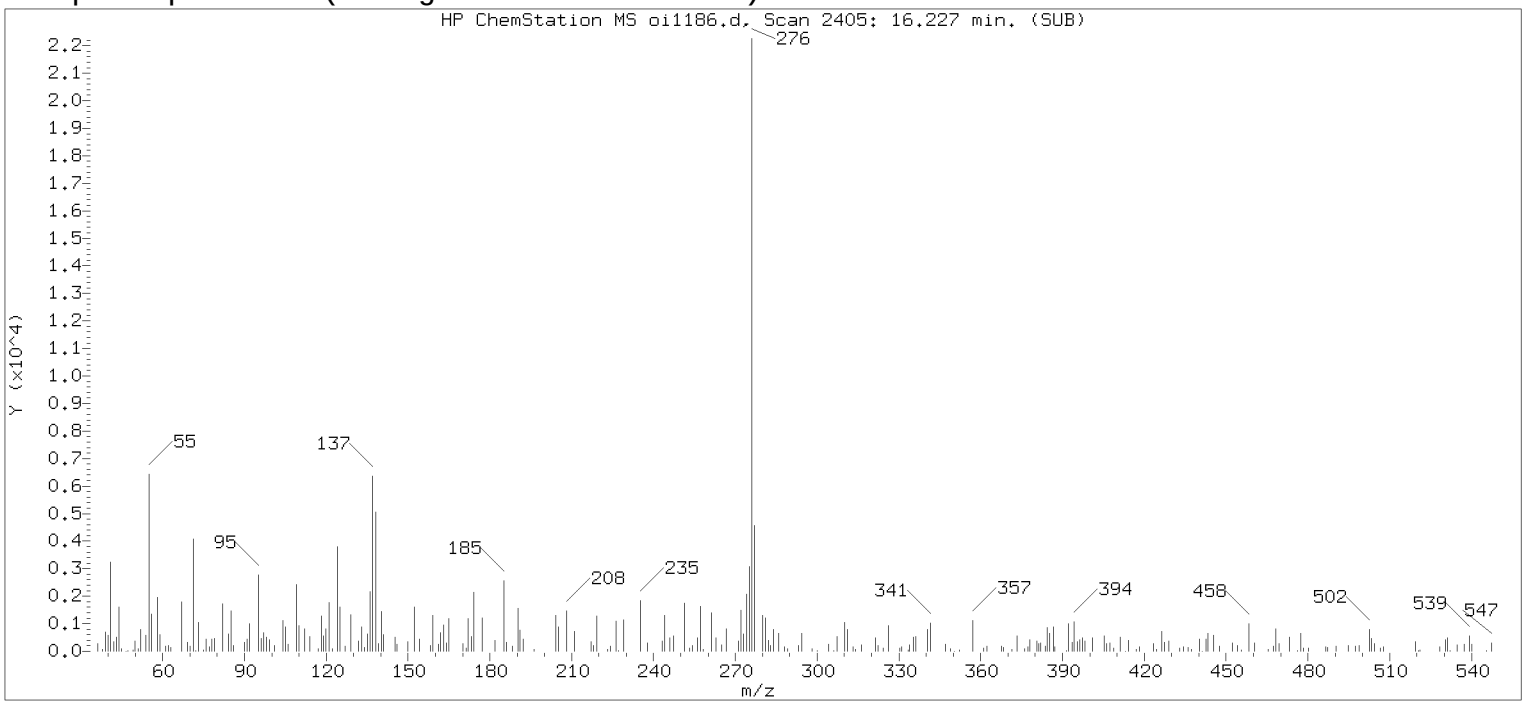
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2405
Retention Time (minutes) : 16.227
Quant Ion : 276.00
Area (flag) : 35047M
On-column Amount (ng/ul) : 0.8769
Integration start scan : 2398 Integration stop scan: 2410
Y at integration start : 734 Y at integration end: 734

Reason for manual integration: improper integration

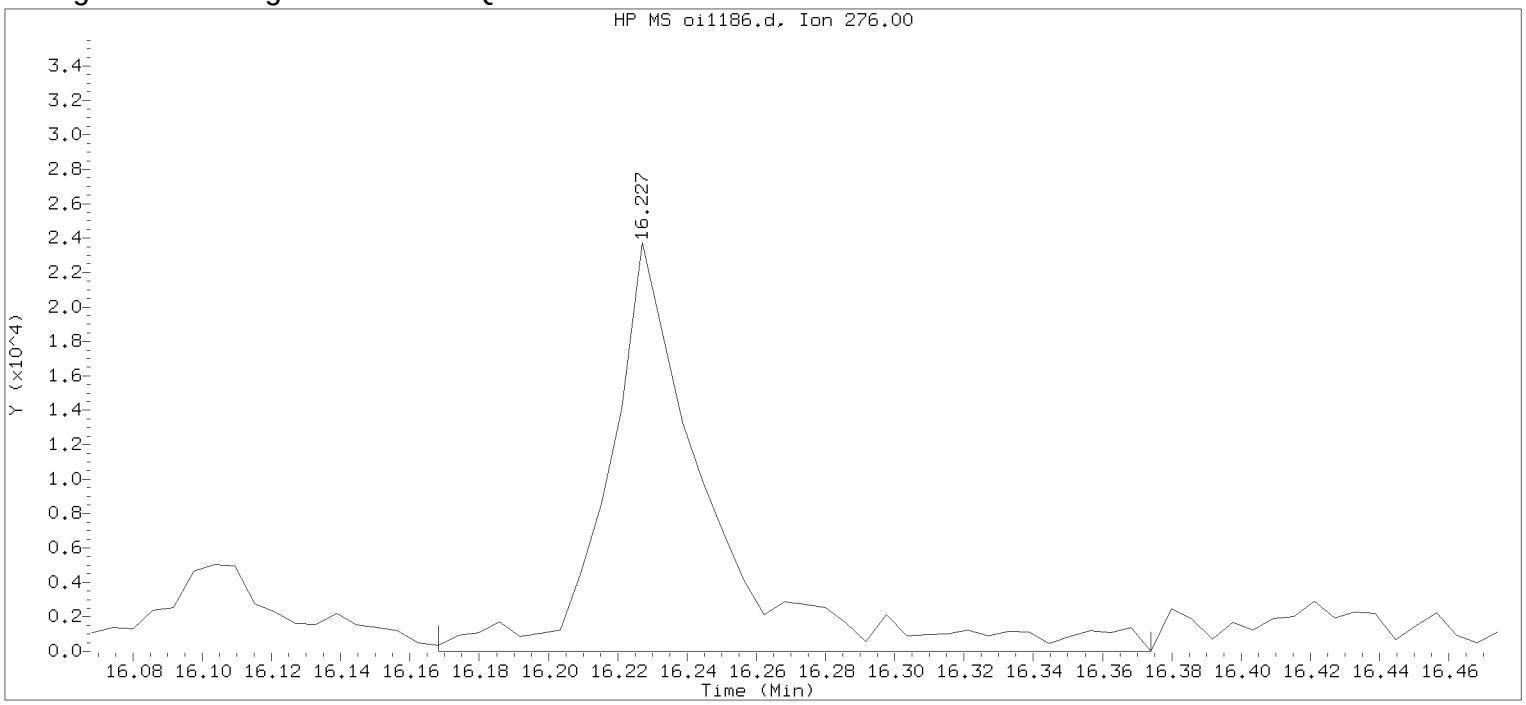
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

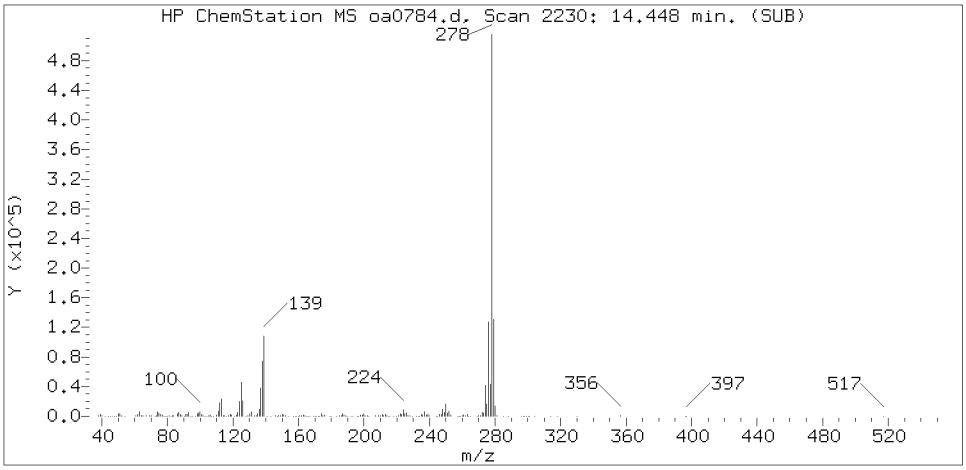
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 07:20 Automation

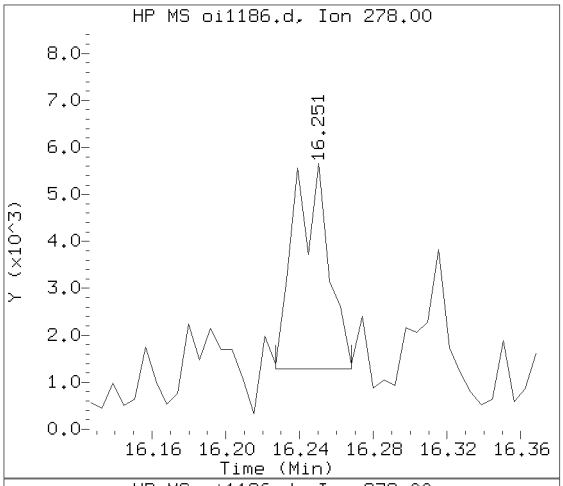
Sample Name: PS485 Lab Sample ID: 8057367

Compound Number	: 219		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 2405		
Retention Time (minutes)	: 16.227		
Quant Ion	: 276.00		
Area	: 48475		
On-column Amount (ng/ul)	: 1.2128		
Integration start scan	: 2394	Integration stop scan:	2429
Y at integration start	: 0	Y at integration end:	0

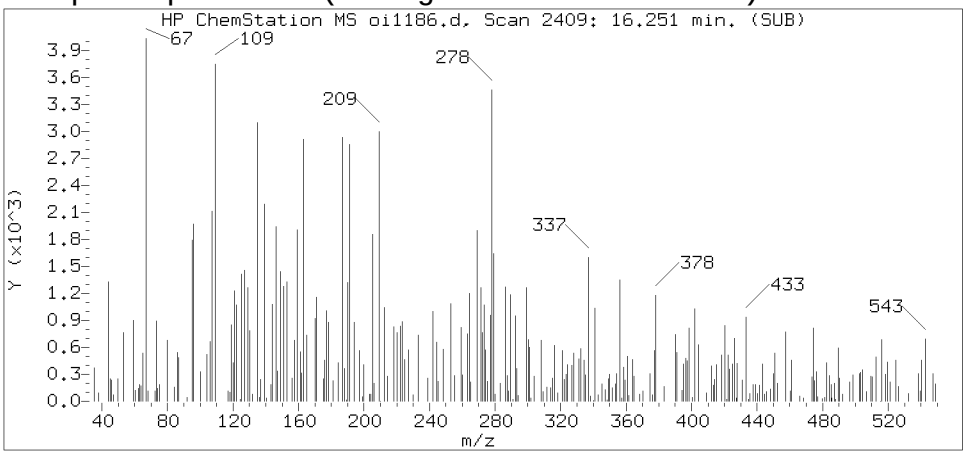
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0346

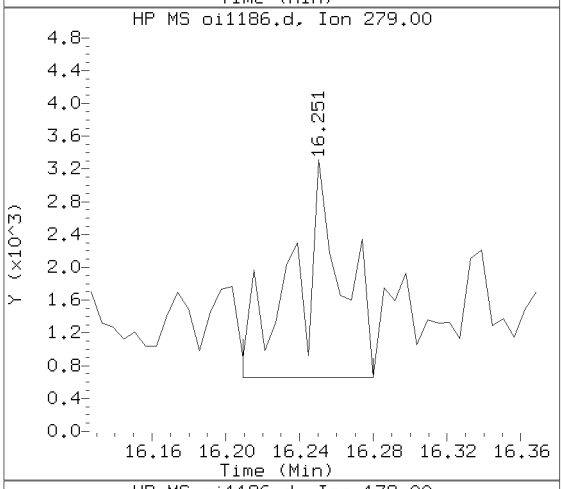
Reference Standard Spectrum for Dibenz(a,h)anthracene



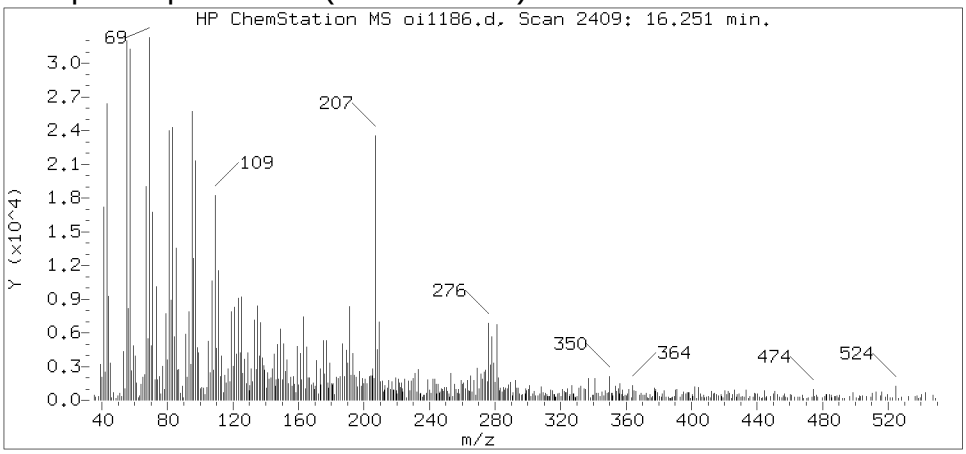


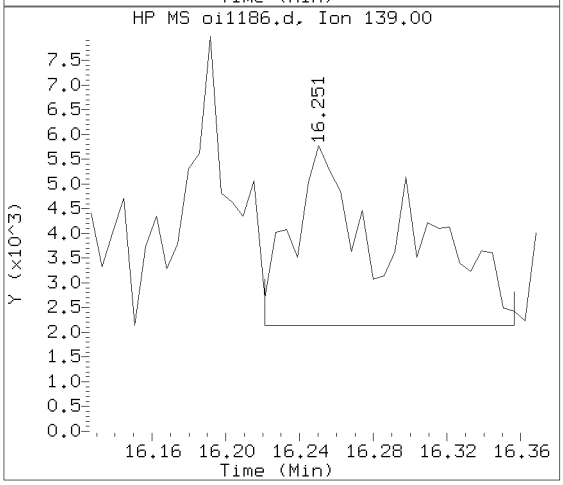
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

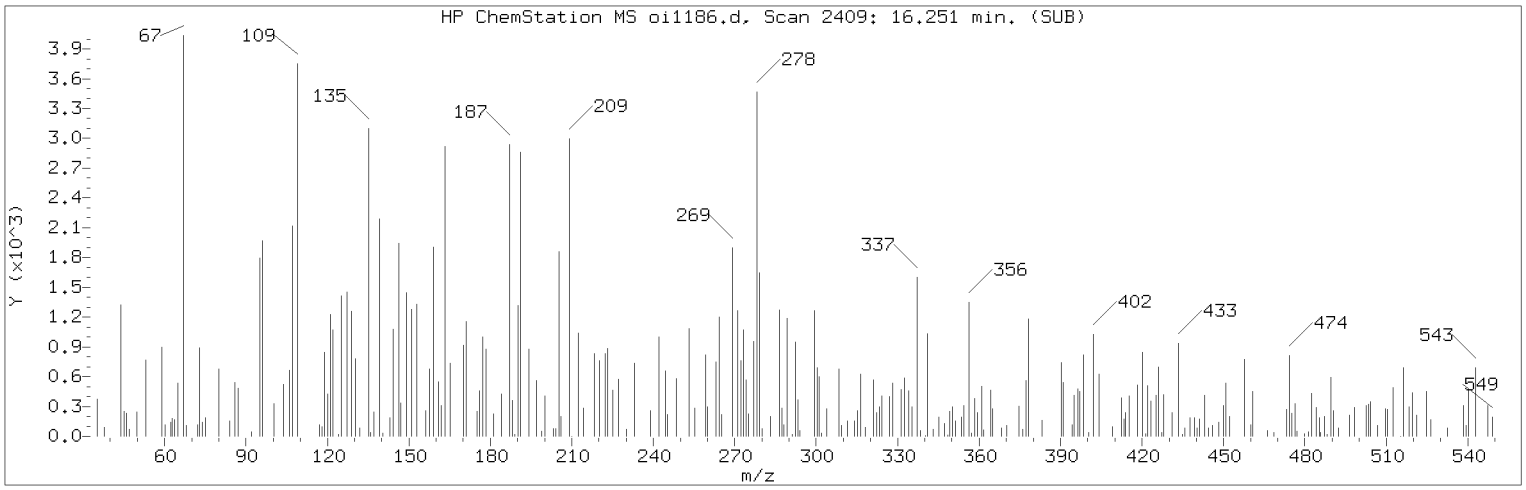
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

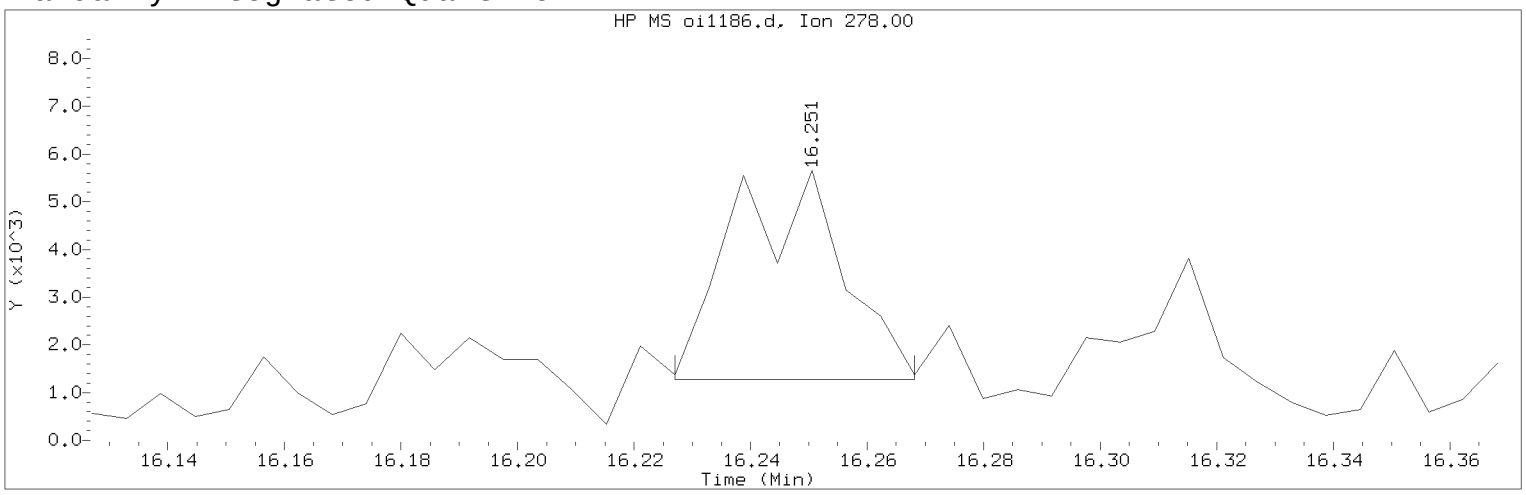
Compound Number	: 220
Compound Name	: Dibenz(a,h)anthracene
Scan Number	: 2409
Retention Time (minutes)	: 16.251
Relative Retention Time	: 0.00042
Quant Ion	: 278.00
Area (flag)	: 5775M
On-column Amount (ng/ul)	: 0.1718

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

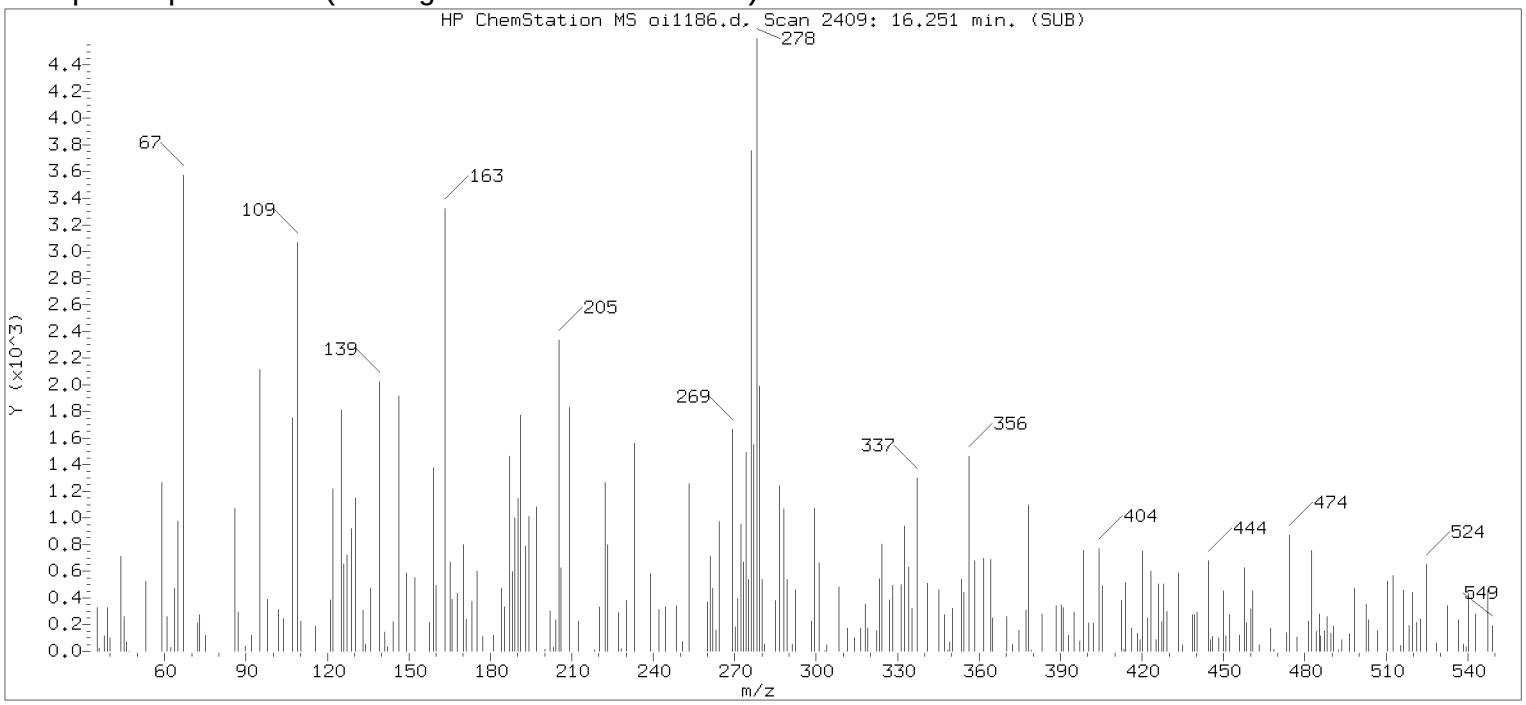
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 2409
Retention Time (minutes) : 16.251
Quant Ion : 278.00
Area (flag) : 5775M
On-column Amount (ng/ul) : 0.1718
Integration start scan : 2404 Integration stop scan: 2411
Y at integration start : 1283 Y at integration end: 1283

Reason for manual integration: improper integration

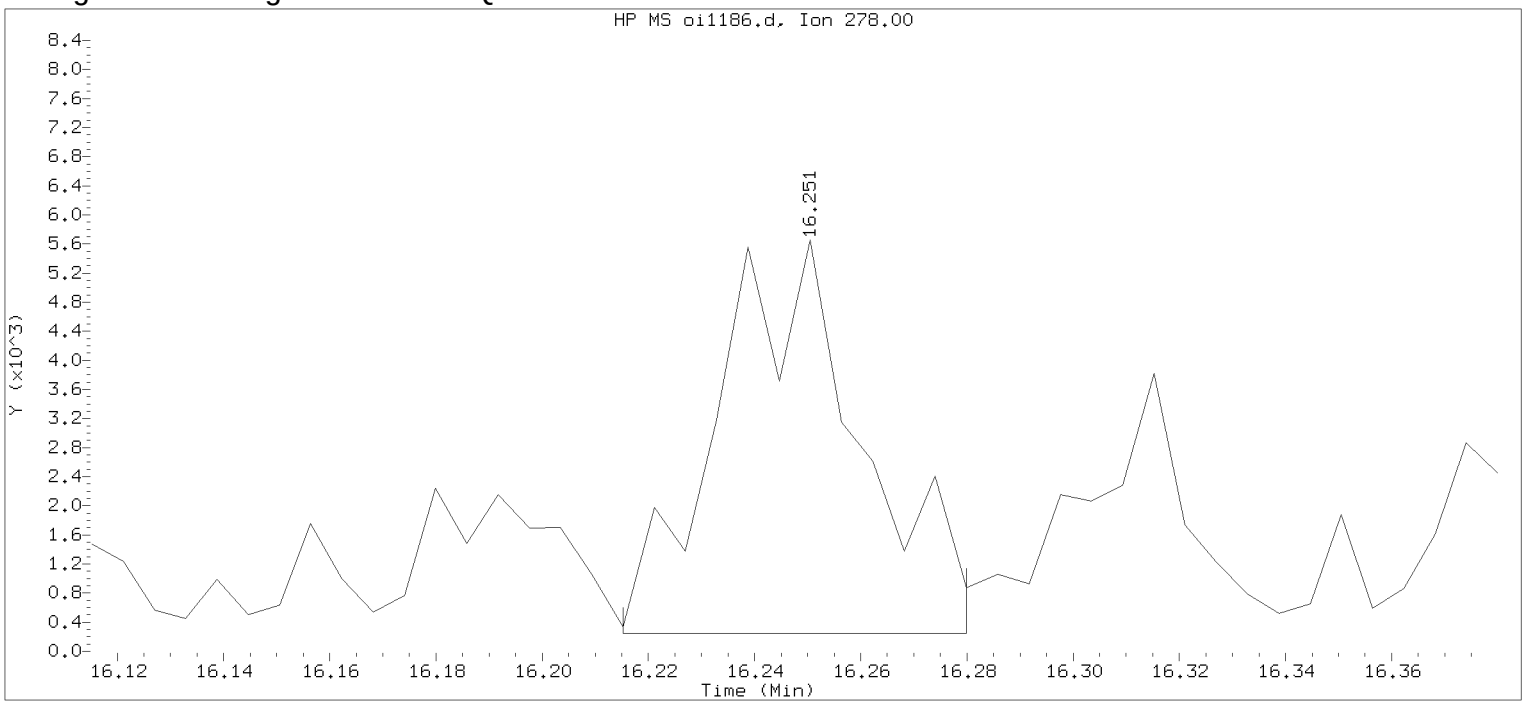
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

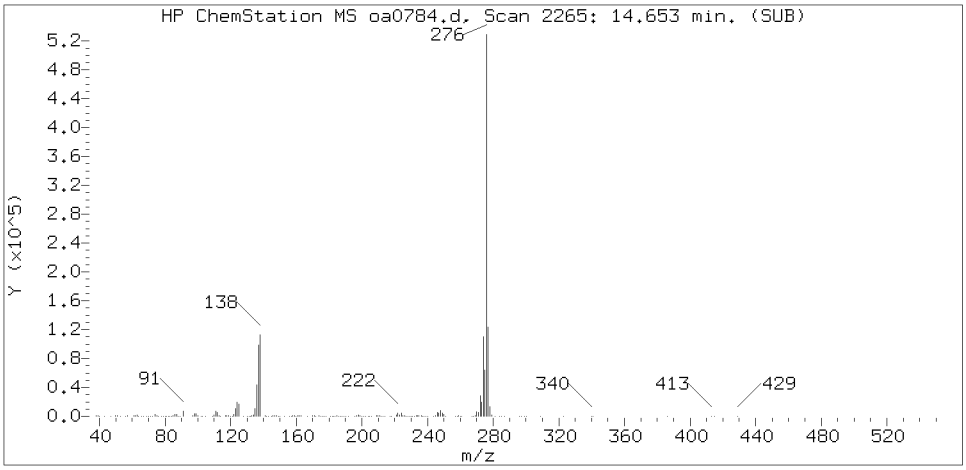
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 07:20 Automation

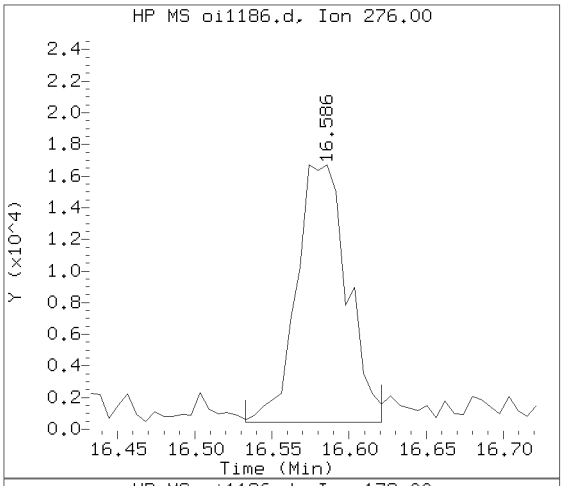
Sample Name: PS485 Lab Sample ID: 8057367

Compound Number	: 220		
Compound Name	: Dibenz(a,h)anthracene		
Scan Number	: 2409		
Retention Time (minutes)	: 16.251		
Quant Ion	: 278.00		
Area	: 10205		
On-column Amount (ng/ul)	: 0.3035		
Integration start scan	: 2402	Integration stop scan:	2413
Y at integration start	: 246	Y at integration end:	246

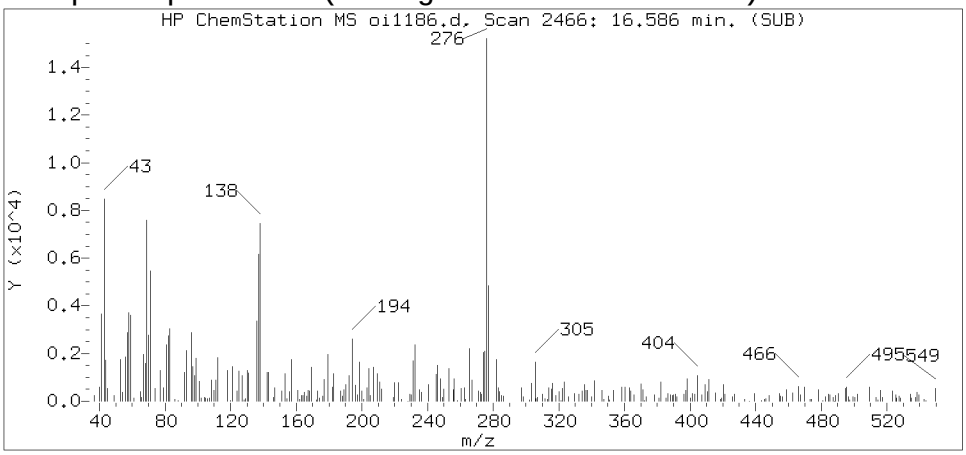
Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: 24 Page 345 of 1169

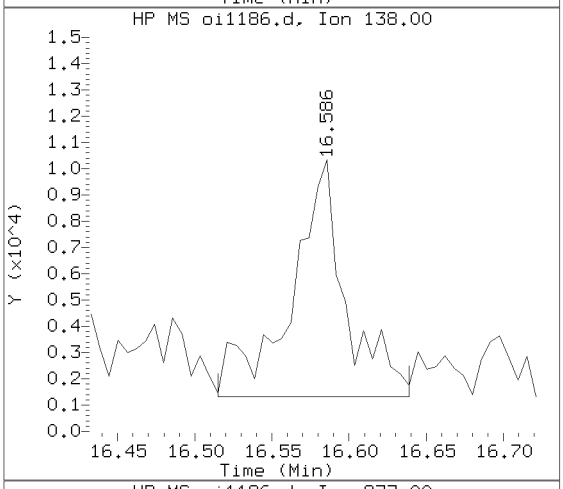
Reference Standard Spectrum for Benzo(g,h,i)perylene



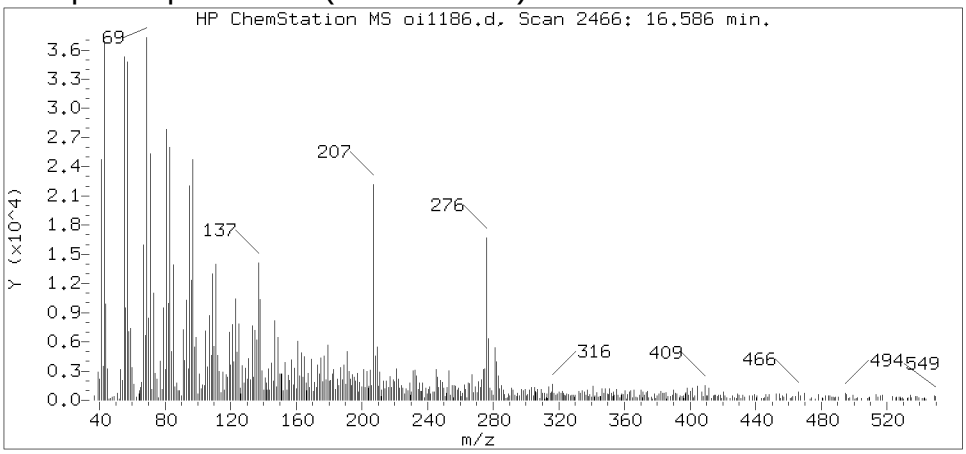


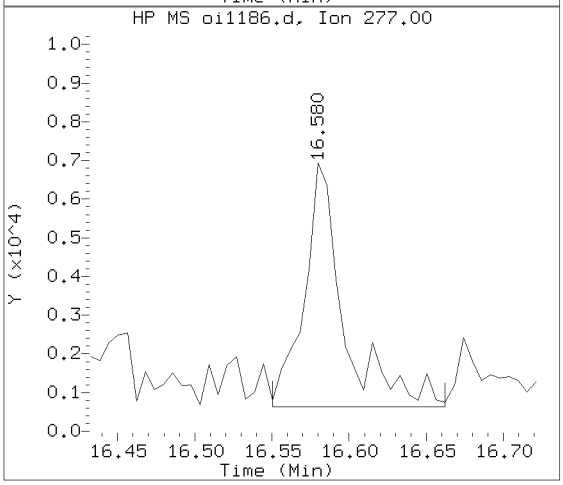
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

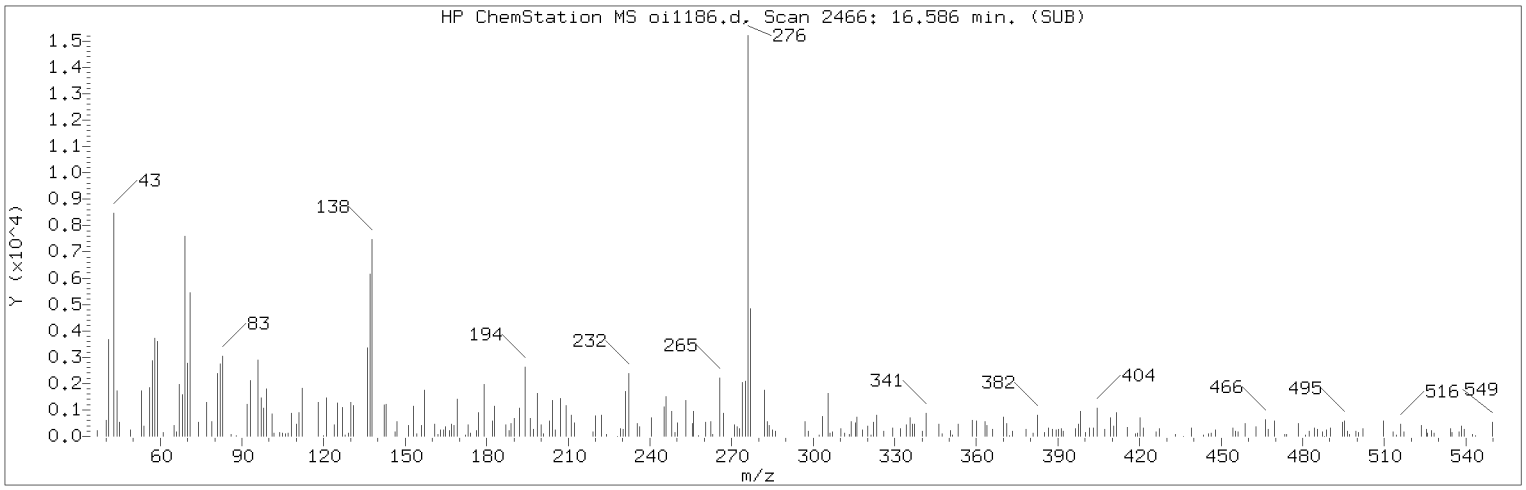
Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

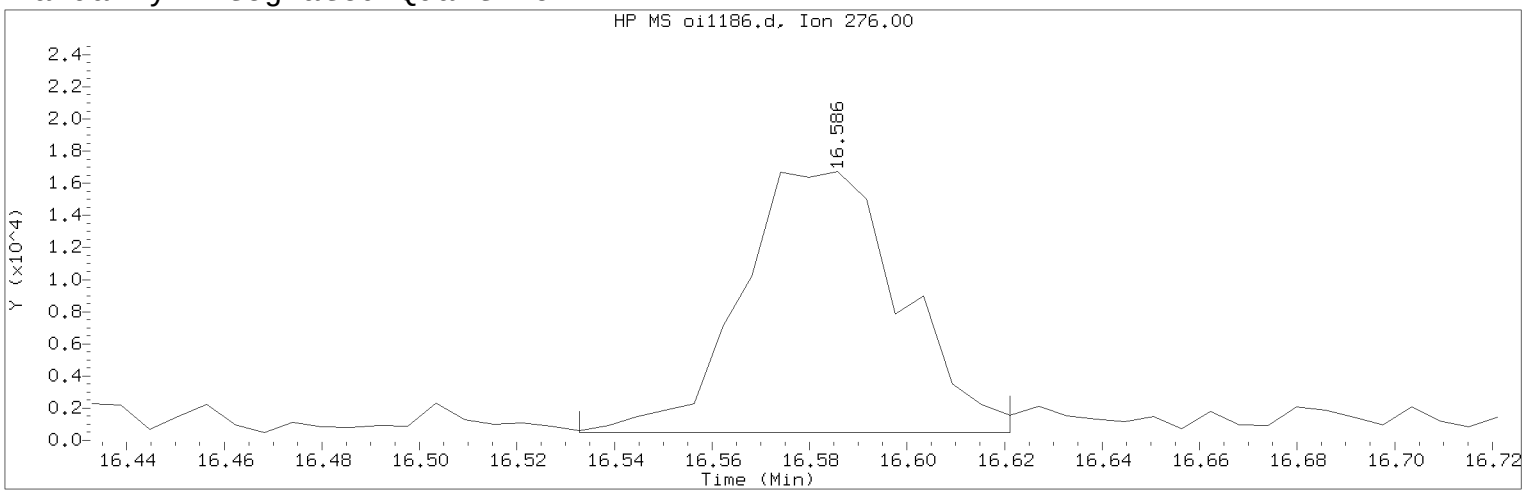
Compound Number : 221
Compound Name : Benzo(g,h,i)perylene
Scan Number : 2466
Retention Time (minutes) : 16.586
Relative Retention Time : 0.00004
Quant Ion : 276.00
Area (flag) : 37375M
On-column Amount (ng/ul) : 1.1385

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:58 lmh00956

Sample Name: PS485 Lab Sample ID: 8057367

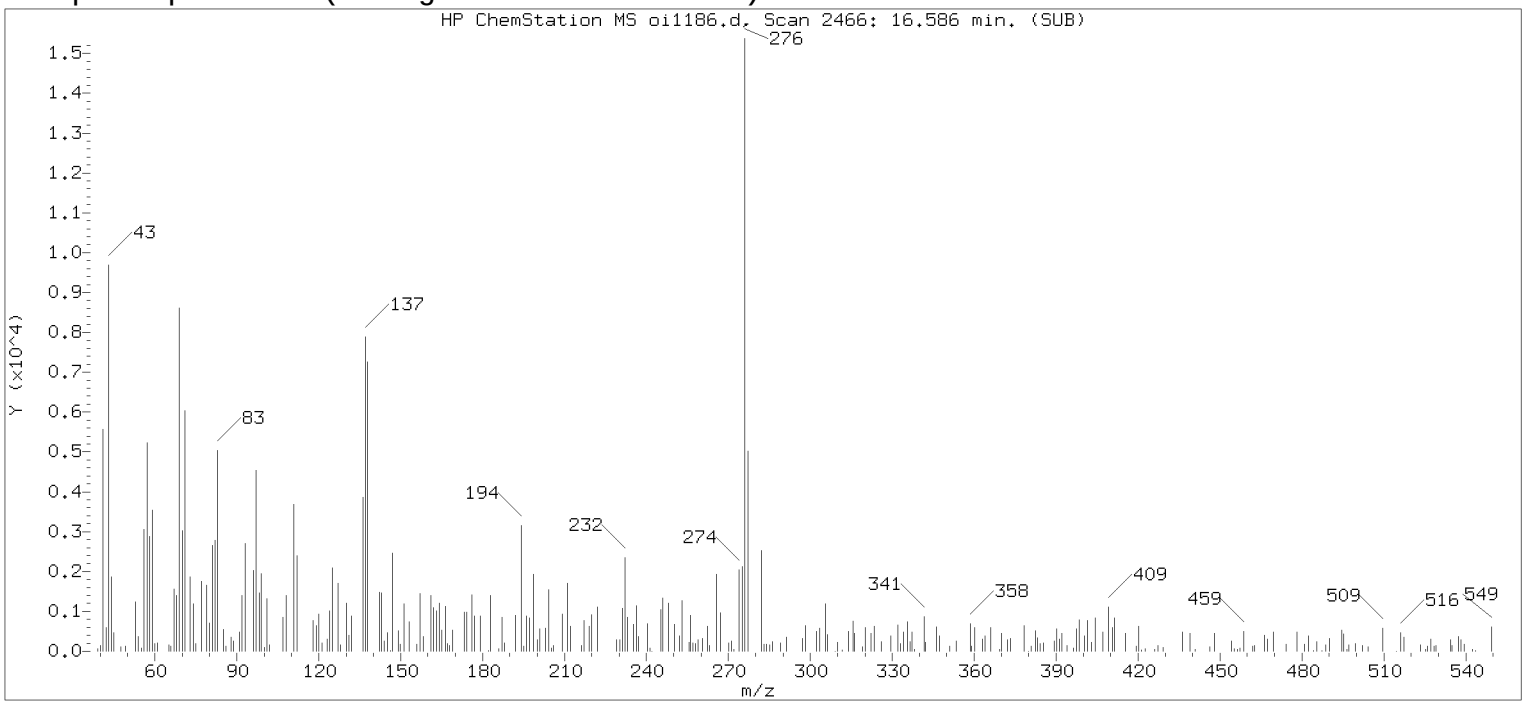
Compound Number : 221
Compound Name : Benzo(g,h,i)perylene
Scan Number : 2466
Retention Time (minutes) : 16.586
Quant Ion : 276.00
Area (flag) : 37375M
On-column Amount (ng/ul) : 1.1385
Integration start scan : 2456 Integration stop scan: 2471
Y at integration start : 465 Y at integration end: 465

Reason for manual integration: improper integration

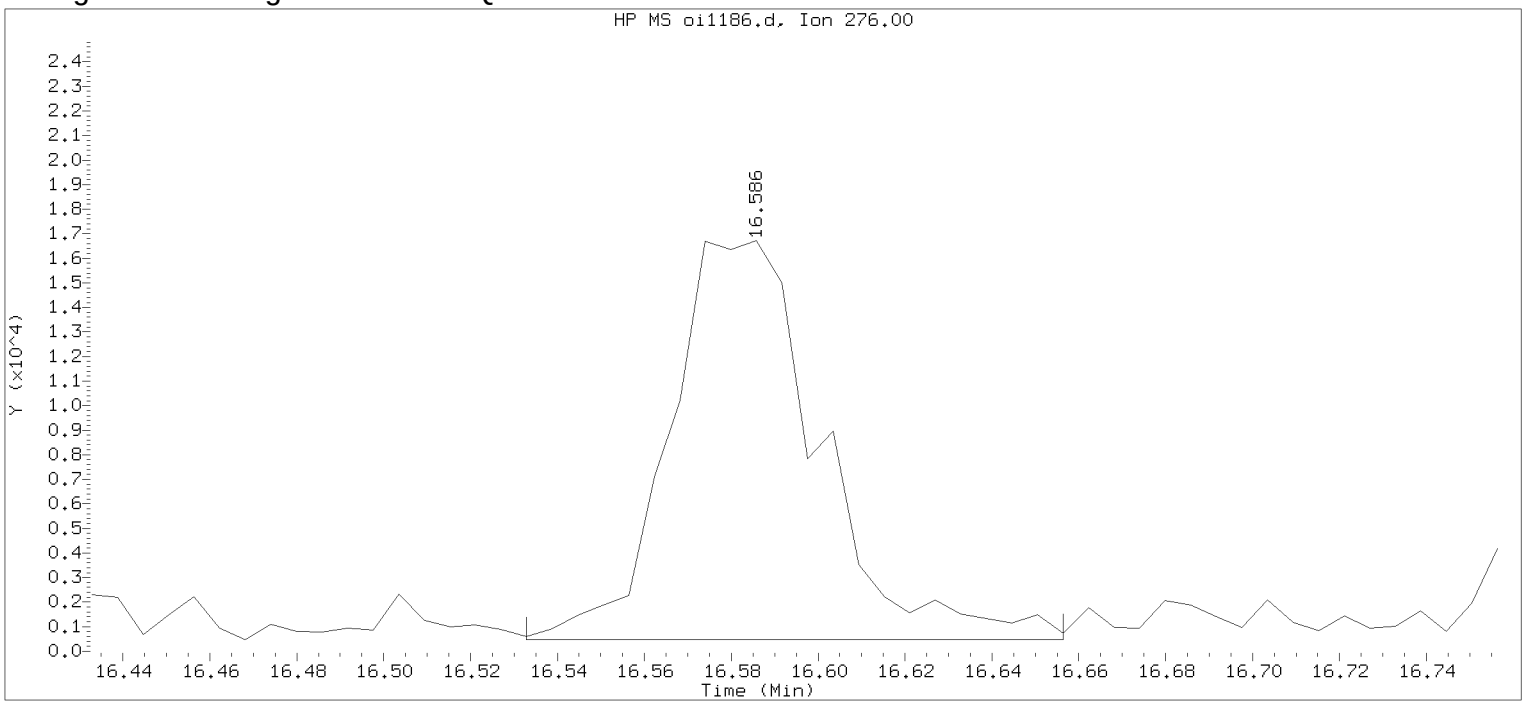
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep25a.b/oi1186.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 26-Sep-2015 07:20 Automation

Sample Name: PS485 Lab Sample ID: 8057367

Compound Number	: 221		
Compound Name	: Benzo(g,h,i)perylene		
Scan Number	: 2466		
Retention Time (minutes)	: 16.586		
Quant Ion	: 276.00		
Area	: 39258		
On-column Amount (ng/ul)	: 1.1958		
Integration start scan	: 2456	Integration stop scan:	2477
Y at integration start	: 465	Y at integration end:	465

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:00.
Target 3.5 esignature user ID: LMH0346

PS486 Lancaster Laboratories, Inc. 8057368
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1187.d Injection date and time: **26-SEP-2015 07:29**
Data file Sample Info. Line: PS486;8057368;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 27-Sep-2015 14:59 lmh00956

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.04 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.440(0.000)	741	152	177480 (5)	20.00	
65) Naphthalene-d8	7.716(0.000)	958	136	815564 (3)	20.00	
113) Acenaphthene-d10	9.451(0.000)	1253	164	469760 (-8)	20.00	
153) Phenanthrene-d10	10.910(0.000)	1501	188	775901 (-20)	20.00	
175) Pyrene-d10	12.304(0.000)	1738	212	767112 (-30)	20.00	
213) Perylene-d12	15.004(-0.006)	2197	264	578650 (-31)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.004(0.000)	82	1730791	91.196	91%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.792(0.000)	172	2832664	95.000	95%		63 - 117
179) Terphenyl-d14	(5)	12.492(0.000)	244	2628002	93.089	93%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)			Not Detected					0.1
157) Anthracene	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.1
177) Pyrene	(5)			Not Detected					0.1
195) Benzo(a)anthracene	(5)			Not Detected					0.1
196) Chrysene	(5)			Not Detected					0.1
206) Benzo(b)fluoranthene	(6)			Not Detected					0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.1
211) Benzo(a)pyrene	(6)			Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.1

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:01. Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1187.d Injection date and time: **26-SEP-2015 07:29**
Data file Sample Info. Line: PS486;8057368;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 27-Sep-2015 14:59 lmh00956

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.04 g

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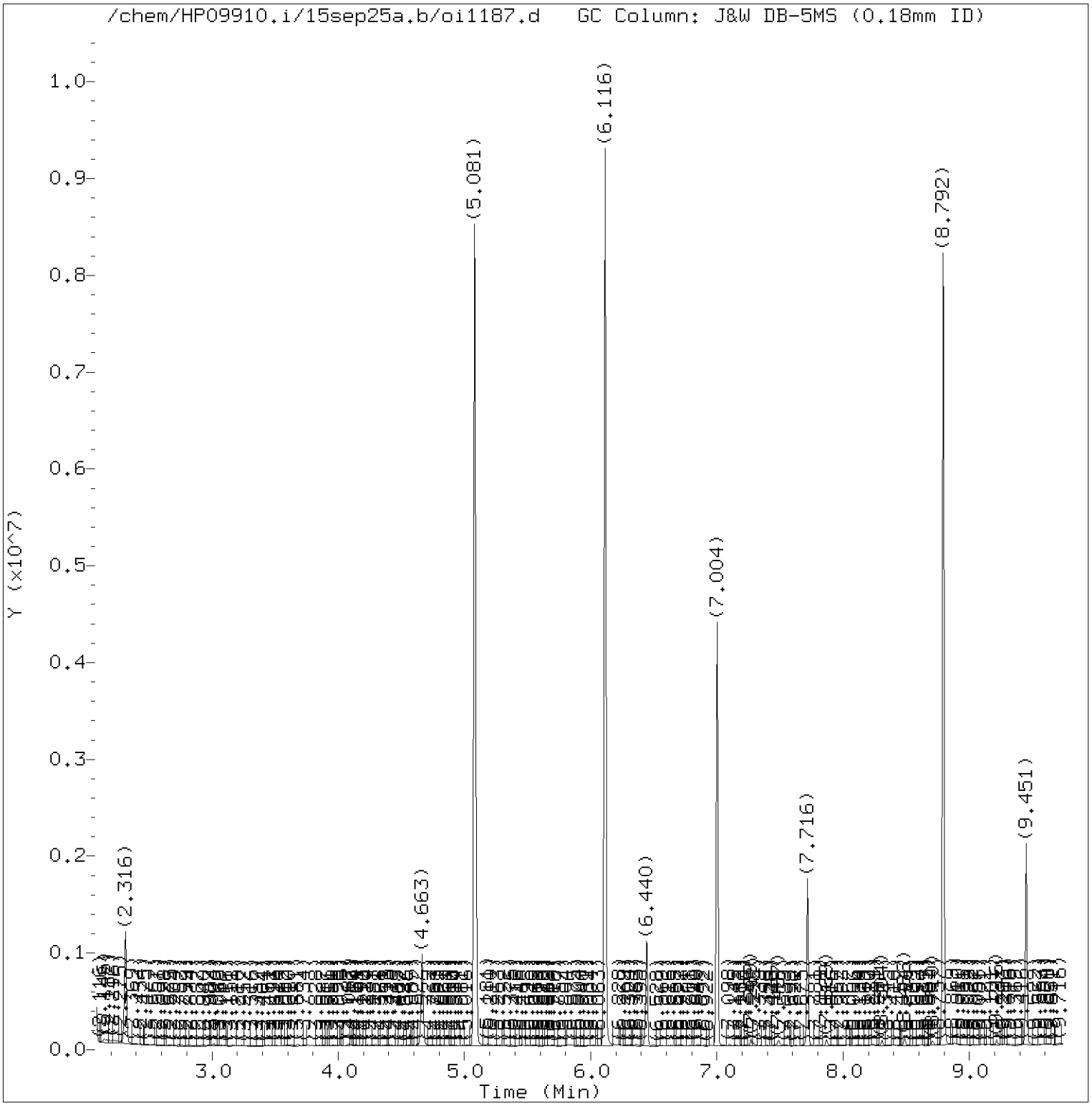
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:01. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

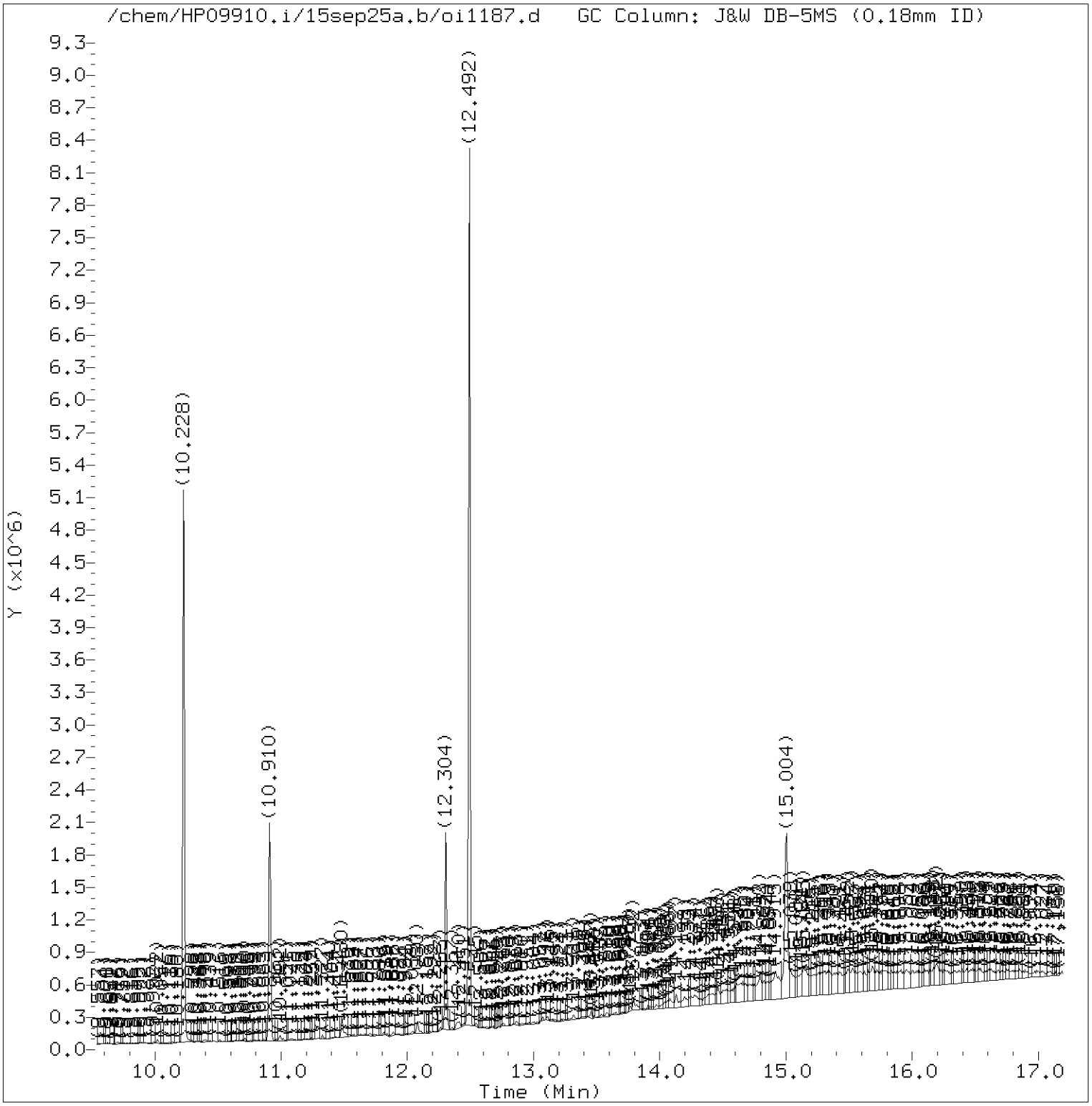
Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1187.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:29 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:59 lmh00956

Sample Name: PS486 Lab Sample ID: 8057368

Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 15:01.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1187.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:29 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:59 lmh00956

Sample Name: PS486 Lab Sample ID: 8057368

Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 15:01.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1187.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 07:29 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 14:59 lmh00956

Sample Name: PS486 Lab Sample ID: 8057368

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.440	152	177480	20.000
44)$Nitrobenzene-d5	(2)	7.004	82	1730791	91.196
65)*Naphthalene-d8	(2)	7.716	136	815564	20.000
93)$2-Fluorobiphenyl	(3)	8.792	172	2832664	95.000
113)*Acenaphthene-d10	(3)	9.451	164	469760	20.000
153)*Phenanthrene-d10	(4)	10.910	188	775901	20.000
175)*Pyrene-d10	(5)	12.304	212	767112	20.000
179)$Terphenyl-d14	(5)	12.492	244	2628002	93.089
213)*Perylene-d12	(6)	15.004	264	578650	20.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 15:01.
Target 3.5 esignature user ID: lmh00956

PS3FB

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8057369

Data file: /chem/HP19760.i/15sep29.b/di0825.d
Data file Sample Info. Line: PS3FB;8057369;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 29-Sep-2015 13:02 kvd02804

Injection date and time: **29-SEP-2015 11:03**
Instrument ID: **HP19760.i** Batch: **15268WAB**

Blank Data file reference: **/chem/HP19760.i/15sep29.b/di0822.d**

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 29-SEP-2015 10:31
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/15sep29.b/di0821.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 245 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
19) 1,4-Dichlorobenzene-d4	6.161(0.000)	819	152	154557 (-40)	5.00	
52) Naphthalene-d8	8.090(0.000)	1150	136	584192 (-39)	5.00	
92) Acenaphthene-d10	10.864(0.006)	1626	164	342914 (-39)	5.00	
130) Phenanthrene-d10	12.840(0.006)	1965	188	651230 (-36)	5.00	
145) Pyrene-d10	14.682(0.000)	2281	212	759503 (-41)	5.00	
172) Perylene-d12	19.024(0.000)	3026	264	638499 (-44)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
36) Nitrobenzene-d5	(2)	7.000(0.000)	82	1266576	23.087	92%		46 - 128
72) 2-Fluorobiphenyl	(3)	9.844(0.000)	172	2054817	21.828	87%		61 - 112
149) Terphenyl-d14	(5)	15.008(0.000)	244	2259465	21.232	85%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
53) Naphthalene	(2)			Not Detected					0.03
65) 2-Methylnaphthalene	(2)			Not Detected					0.03
90) Acenaphthylene	(3)			Not Detected					0.03
93) Acenaphthene	(3)			Not Detected					0.03
103) Fluorene	(3)			Not Detected					0.03
131) Phenanthrene	(4)			Not Detected					0.03
134) Anthracene	(4)			Not Detected					0.03
142) Fluoranthene	(4)			Not Detected					0.03
146) Pyrene	(5)			Not Detected					0.03
158) Benzo(a)anthracene	(5)			Not Detected					0.03
161) Chrysene	(5)			Not Detected					0.03
168) Benzo(b)fluoranthene	(6)			Not Detected					0.03
170) Benzo(k)fluoranthene	(6)			Not Detected					0.03
171) Benzo(a)pyrene	(6)			Not Detected					0.03
176) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
177) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
178) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Katheryne V. Dinan on 09/29/2015 at 13:12. Target 3.5 esignature user ID: kvd02804

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/15sep29.b/di0825.d Injection date and time: **29-SEP-2015 11:03**
Data file Sample Info. Line: PS3FB;8057369;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **15268WAB**
Date, time and analyst ID of latest file update: 29-Sep-2015 13:02 kvd02804

Blank Data file reference: **/chem/HP19760.i/15sep29.b/di0822.d**

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 29-SEP-2015 10:31
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/15sep29.b/di0821.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 245 ml Volume Injected (Vi): 0.5 ul

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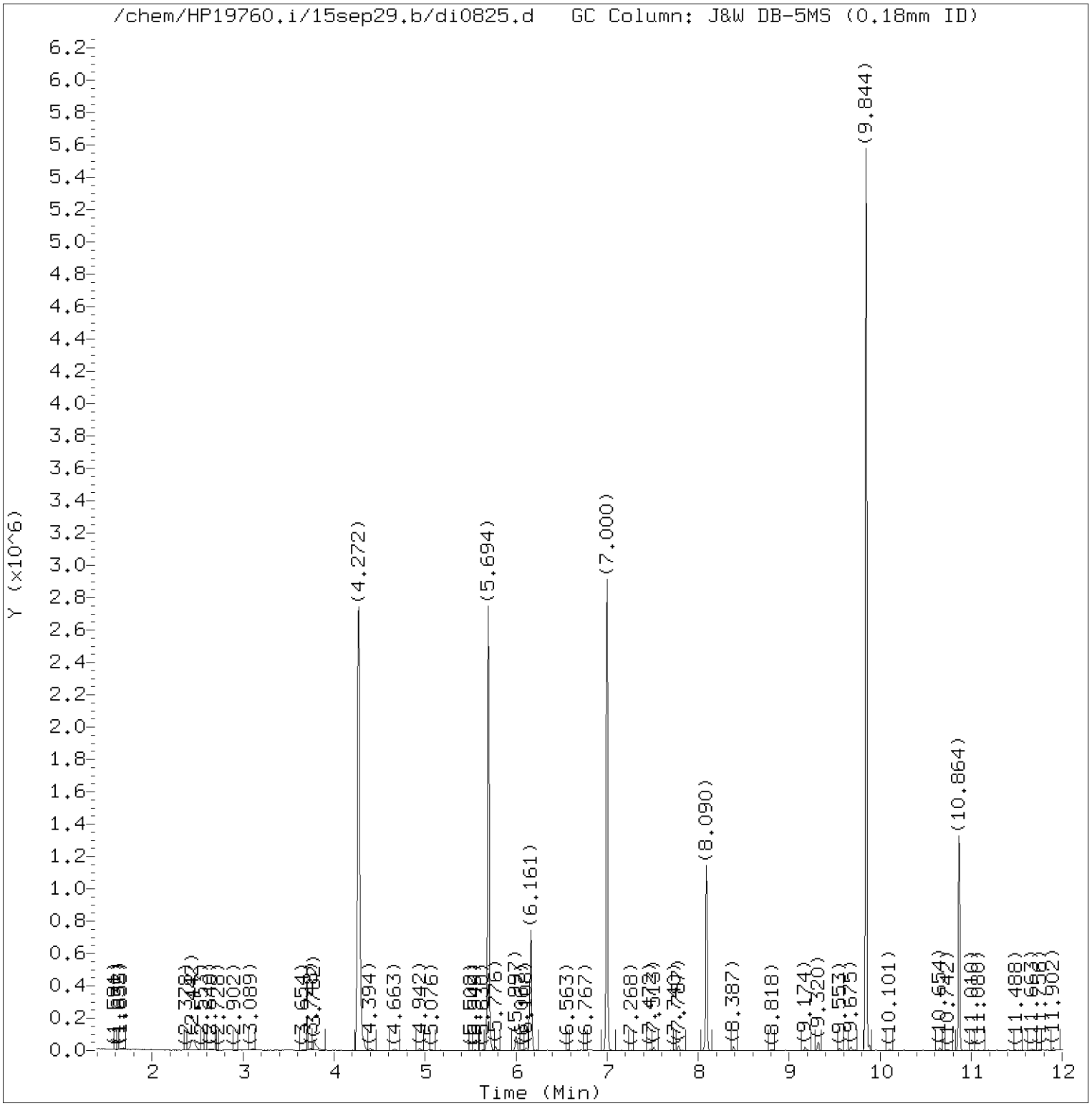
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Katheryne V. Dinan on 09/29/2015 at 13:12. Target 3.5 esignature user ID: kvd02804

Secondary review performed and digitally signed by Matthew E. Barton on 09/30/2015 at 12:44. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

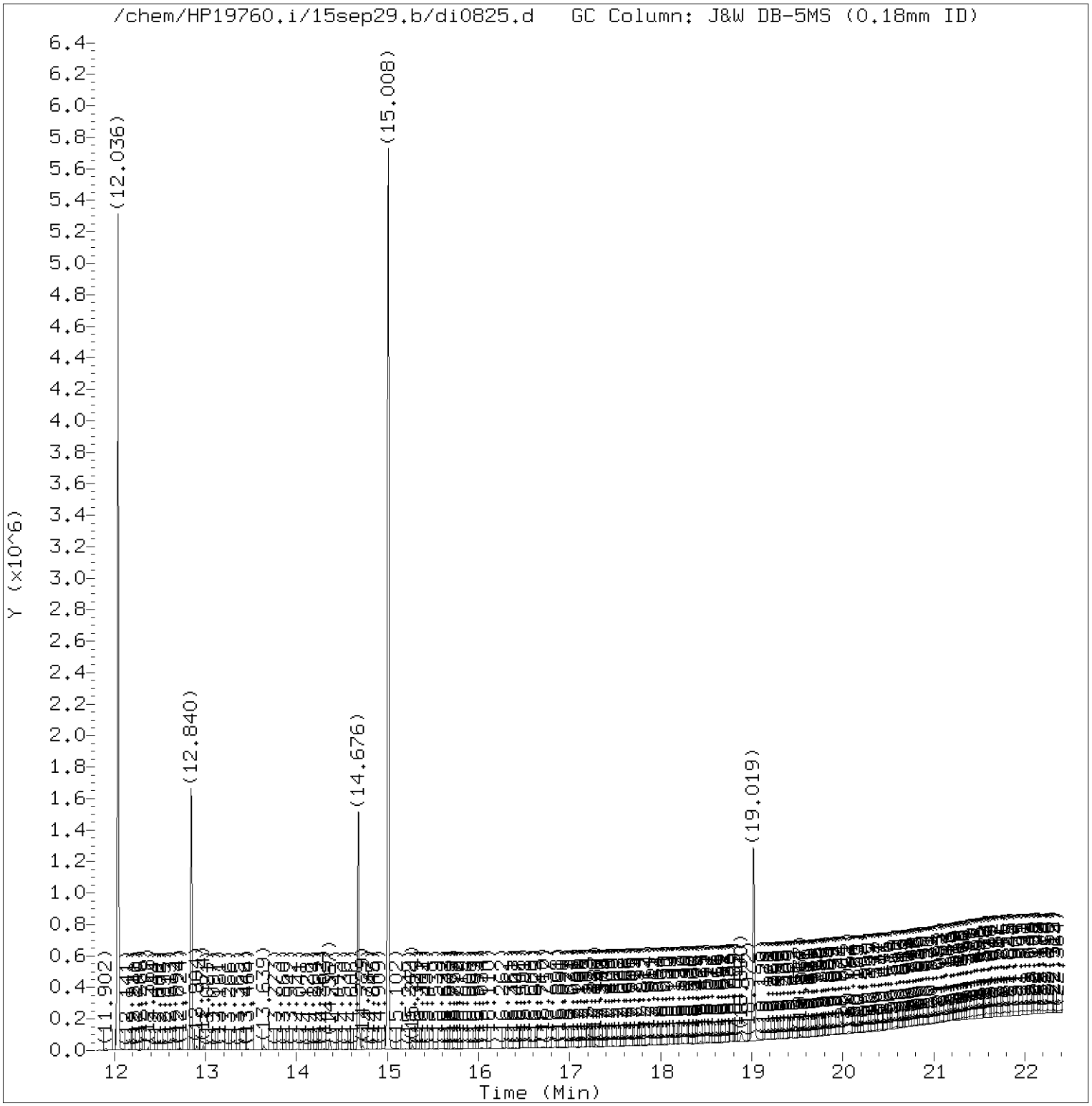
Target Revision 3.5

Data File: /chem/HP19760.i/15sep29.b/di0825.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 11:03 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: 4656
Calibration date and time: 29-SEP-2015 10:31
Date, time and analyst ID of latest file update: 29-Sep-2015 13:02 kvd02804

Sample Name: PS3FB Lab Sample ID: 8057369

Digitally signed by Katheryne V. Dinan
on 09/29/2015 at 13:12.
Target 3.5 esignature user ID: kvd02804



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15sep29.b/di0825.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 11:03 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: 4656
Calibration date and time: 29-SEP-2015 10:31
Date, time and analyst ID of latest file update: 29-Sep-2015 13:02 kvd02804

Sample Name: PS3FB Lab Sample ID: 8057369

Digitally signed by Katheryne V. Dinan
on 09/29/2015 at 13:12.
Target 3.5 esignature user ID: kvd02804

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15sep29.b/di0825.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 11:03 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: 4656
Calibration date and time: 29-SEP-2015 10:31
Date, time and analyst ID of latest file update: 29-Sep-2015 13:02 kvd02804

Sample Name: PS3FB Lab Sample ID: 8057369

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
19)*1,4-Dichlorobenzene-d4	(1)	6.161	152	154557	5.000
36)$Nitrobenzene-d5	(2)	7.000	82	1266576	23.087
52)*Naphthalene-d8	(2)	8.090	136	584192	5.000
72)$2-Fluorobiphenyl	(3)	9.844	172	2054817	21.828
92)*Acenaphthene-d10	(3)	10.864	164	342914	5.000
130)*Phenanthrene-d10	(4)	12.840	188	651230	5.000
145)*Pyrene-d10	(5)	14.682	212	759503	5.000
149)$Terphenyl-d14	(5)	15.008	244	2259465	21.232
172)*Perylene-d12	(6)	19.024	264	638499	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Katheryne V. Dinan
on 09/29/2015 at 13:12.
Target 3.5 esignature user ID: kvd02804

Standards Data

Semivolatiles by GC/MS

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP19760 **HP #04**

Data Directory Path is - C:\msdchem\1\data\15aug13a\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
ceb05247	DH0420.D	DFTPP1915	08/13/2015	20:10		
ceb05247	DH0420a.D	DFTPP1915	08/13/2015	20:25		
ceb05247	DH0420b.D	DFTPP1915	08/13/2015	21:05		
ceb05247	DH0421.D	RVSTD2065	08/13/2015	21:20		
ceb05247	DH0422.D	RVSTD2065	08/13/2015	21:56		
ceb05247	DH0423.D	RVSTD2065	08/13/2015	22:24		
ceb05247	DH0424.D	RVSTD2065	08/13/2015	22:52		
ceb05247	DH0425.D	RVSTD2065	08/13/2015	23:20		
ceb05247	DH0426.D	RVSTD2065	08/13/2015	23:48		
ceb05247	DH0427.D	RVSTD2065	08/14/2015	00:16		
ceb05247	DH0428.D	RVSTD2065	08/14/2015	00:44		
ceb05247	DH0429.D	RVMDL2065	08/14/2015	01:12		
ceb05247	DH0430.D	PAHMDL2065	08/14/2015	01:40		
ceb05247	DH0431.D	RVICV1465	08/14/2015	02:08		
ceb05247	DH0432.D	RVBASICV1045	08/14/2015	02:36		

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP19760 **HP #04**

Data Directory Path is - C:\msdchem\1\data\15sep29\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
aap07680	DI0820.D	DFTPP2435	09/29/2015	08:52		
aap07680	DI0821.D	RVSTD2065	09/29/2015	09:06		
aap07680	DI0822.D	SBLKWB268	09/29/2015	09:39	15268WAB	
aap07680	DI0823.D	268WBLCS	09/29/2015	10:07	15268WAB	
aap07680	DI0824.D	8052865RE	09/29/2015	10:35	15268WAB	
aap07680	DI0825.D	8057369	09/29/2015	11:03	15268WAB	
aap07680	DI0826.D	8059054	09/29/2015	11:32	15268WAB	
aap07680	DI0827.D	8059055	09/29/2015	12:00	15268WAB	
aap07680	DI0828.D	8059056	09/29/2015	12:28	15268WAB	
aap07680	DI0829.D	8059057	09/29/2015	12:56	15268WAB	
aap07680	DI0830.D	8059058	09/29/2015	13:24	15268WAB	
aap07680	DI0843.D	8057742	09/29/2015	13:52	15268WAH	
aap07680	DI0831.D	8059059	09/29/2015	14:21	15268WAB	
aap07680	DI0832.D	8059060	09/29/2015	14:49	15268WAB	
aap07680	DI0833.D	8059061	09/29/2015	15:17	15268WAB	
aap07680	DI0834.D	8059063	09/29/2015	15:45	15268WAB	
aap07680	DI0835.D	8059064	09/29/2015	16:13	15268WAB	
aap07680	DI0836.D	8059065	09/29/2015	16:42	15268WAB	
aap07680	DI0837.D	8059066	09/29/2015	17:10	15268WAB	
aap07680	DI0838.D	8059067	09/29/2015	17:38	15268WAB	
aap07680	DI0839.D	8059068	09/29/2015	18:06	15268WAB	
aap07680	DI0840.D	8059069	09/29/2015	18:34	15268WAB	
aap07680	DI0841.D	8062128	09/29/2015	19:03	15268WAB	
aap07680	DI0842.D	8062135	09/29/2015	19:31	15268WAB	

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP09910 **HP #15**

Data Directory Path is - C:\msdchem\1\data\15sep22\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
lmh00956	OI0980.D	DFTPP2245	09/22/2015	07:02		
lmh00956	OI0980z.D	DFTPP2245	09/22/2015	07:14		
lmh00956	OI0980y.D	DFTPP2245	09/22/2015	07:26		
lmh00956	OI0980x.D	DFTPP2245	09/22/2015	07:45		
lmh00956	OI0980w.D	DFTPP2245	09/22/2015	08:06		
lmh00956	OI0980u.D	DFTPP2245	09/22/2015	08:24		
lmh00956	OI0980s.D	DFTPP2245	09/22/2015	08:46		
lmh00956	OI0981.D	STD2575	09/22/2015	09:00		
lmh00956	OI0981a.D	STD2575	09/22/2015	09:32		
lmh00956	OI0982.D	STD2575	09/22/2015	09:58		
lmh00956	OI0983.D	STD2575	09/22/2015	10:23		
lmh00956	OI0984.D	STD2575	09/22/2015	10:49		
lmh00956	OI0985.D	STD2575	09/22/2015	11:15		
lmh00956	OI0986.D	STD2575	09/22/2015	11:41		
lmh00956	OI0987.D	STD2575	09/22/2015	12:07		
lmh00956	OI0988.D	STD2575	09/22/2015	12:33		
lmh00956	OI0989.D	MDL2575	09/22/2015	12:58		
lmh00956	OI0990.D	PAHMDL2575	09/22/2015	13:24		
lmh00956	OI0991.D	ICV2465	09/22/2015	13:50		
lmh00956	OI1000.D	09/22/15	09/22/2015	14:16		
lmh00956	OI1001.D	09/22/15	09/22/2015	14:41		
lmh00956	OI1002.D	09/22/15	09/22/2015	15:07		
lmh00956	OI0992.D	BAS2475	09/22/2015	15:33		
lmh00956	OI0993.D	BAS2475	09/22/2015	15:59		
lmh00956	OI0994.D	BAS2475	09/22/2015	16:25		
lmh00956	OI0995.D	BAS2475	09/22/2015	16:51		
lmh00956	OI0996.D	BAS2475	09/22/2015	17:16		
lmh00956	OI0997.D	BAS2475	09/22/2015	17:42		
lmh00956	OI0998.D	BASMDL2475	09/22/2015	18:08		
lmh00956	OI0999.D	BASICV2475	09/22/2015	18:34		
lmh00956	OI1003.D	SBLKWA261	09/22/2015	18:59	15261WAA	
lmh00956	OI1004.D	261WALCS	09/22/2015	19:26	15261WAA	
lmh00956	OI1005.D	261WALCSD	09/22/2015	19:51	15261WAA	
lmh00956	OI1006.D	8050557	09/22/2015	20:17	15261WAA	

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP09910 **HP #15**

Data Directory Path is - C:\msdchem\1\data\15sep25a\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
ceb05247	OI1160.D	DFTPP2245	09/25/2015	19:45		
ceb05247	OI1161.D	STD2575	09/25/2015	19:59		
ceb05247	OI1162.D	SBLKLE266	09/25/2015	20:48	15266SLE	
ceb05247	OI1163.D	266LELCS	09/25/2015	21:13	15266SLE	
ceb05247	OI1164.D	8051800	09/25/2015	21:39	15265SLA	
ceb05247	OI1165.D	8051803	09/25/2015	22:04	15265SLA	
ceb05247	OI1166.D	8051809	09/25/2015	22:30	15265SLA	
ceb05247	OI1167.D	8051812	09/25/2015	22:56	15265SLA	
ceb05247	OI1168.D	8051815	09/25/2015	23:21	15265SLA	
ceb05247	OI1169.D	8051816	09/25/2015	23:47	15265SLA	
ceb05247	OI1170.D	8057362	09/26/2015	00:13	15266SLE	
ceb05247	OI1171.D	8057363	09/26/2015	00:38	15266SLE	
ceb05247	OI1172.D	8057364	09/26/2015	01:04	15266SLE	
ceb05247	OI1173.D	8051384	09/26/2015	01:30	15266SLE	
ceb05247	OI1174.D	8051385	09/26/2015	01:55	15266SLE	
ceb05247	OI1175.D	8056301	09/26/2015	02:21	15266SLE	
ceb05247	OI1176.D	8056302	09/26/2015	02:47	15266SLE	
ceb05247	OI1177.D	8056444	09/26/2015	03:12	15266SLE	
ceb05247	OI1178.D	8056447	09/26/2015	03:38	15266SLE	
ceb05247	OI1179.D	8056449	09/26/2015	04:04	15266SLE	
ceb05247	OI1180.D	8056450	09/26/2015	04:30	15266SLE	
ceb05247	OI1181.D	8056453	09/26/2015	04:55	15266SLE	
ceb05247	OI1182.D	8057359	09/26/2015	05:21	15266SLE	
ceb05247	OI1183.D	8057360	09/26/2015	05:47	15266SLE	
ceb05247	OI1184.D	8057361	09/26/2015	06:12	15266SLE	
ceb05247	OI1185.D	8057366	09/26/2015	06:38	15266SLE	
ceb05247	OI1186.D	8057367	09/26/2015	07:04	15266SLE	
ceb05247	OI1187.D	8057368	09/26/2015	07:29	15266SLE	

Data File: /chem/HP19760.i/15aug13a.b/dh0420b.d

Date : 13-AUG-2015 21:05

Client ID: DFTPP12.5

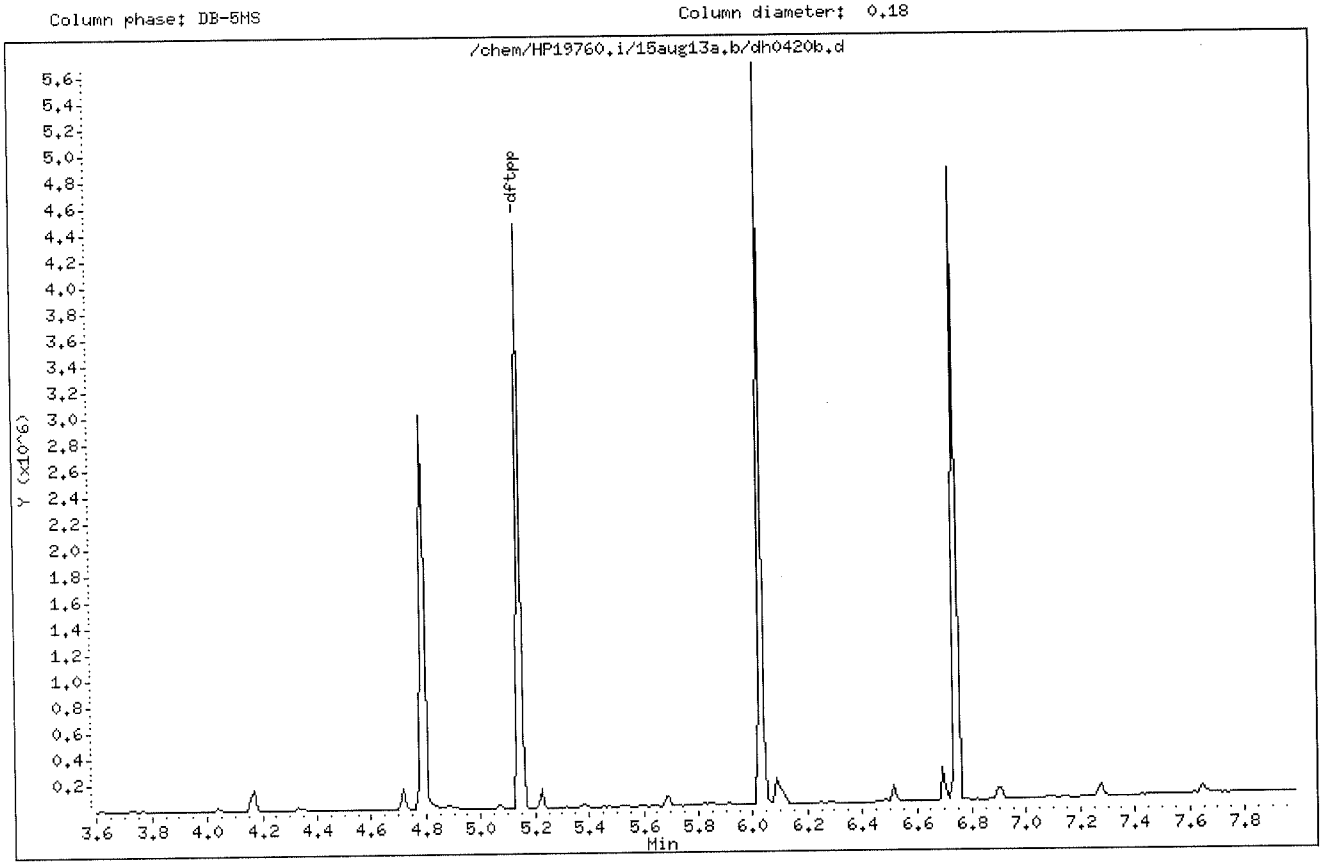
Instrument: HP19760.i

Sample Info: DFTPP12.5;DFTPP1915;1;3;DFTPP;

Operator: oeb05247

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Ankita A. Patel on 08/14/2015 at 10:06.
Target 3.5 esignature user ID: aap07680

Data File: /chem/HP19760.i/15aug13a.b/dh0420b.d

Date : 13-AUG-2015 21:05

Client ID: DFTPP12.5

Instrument: HP19760.i

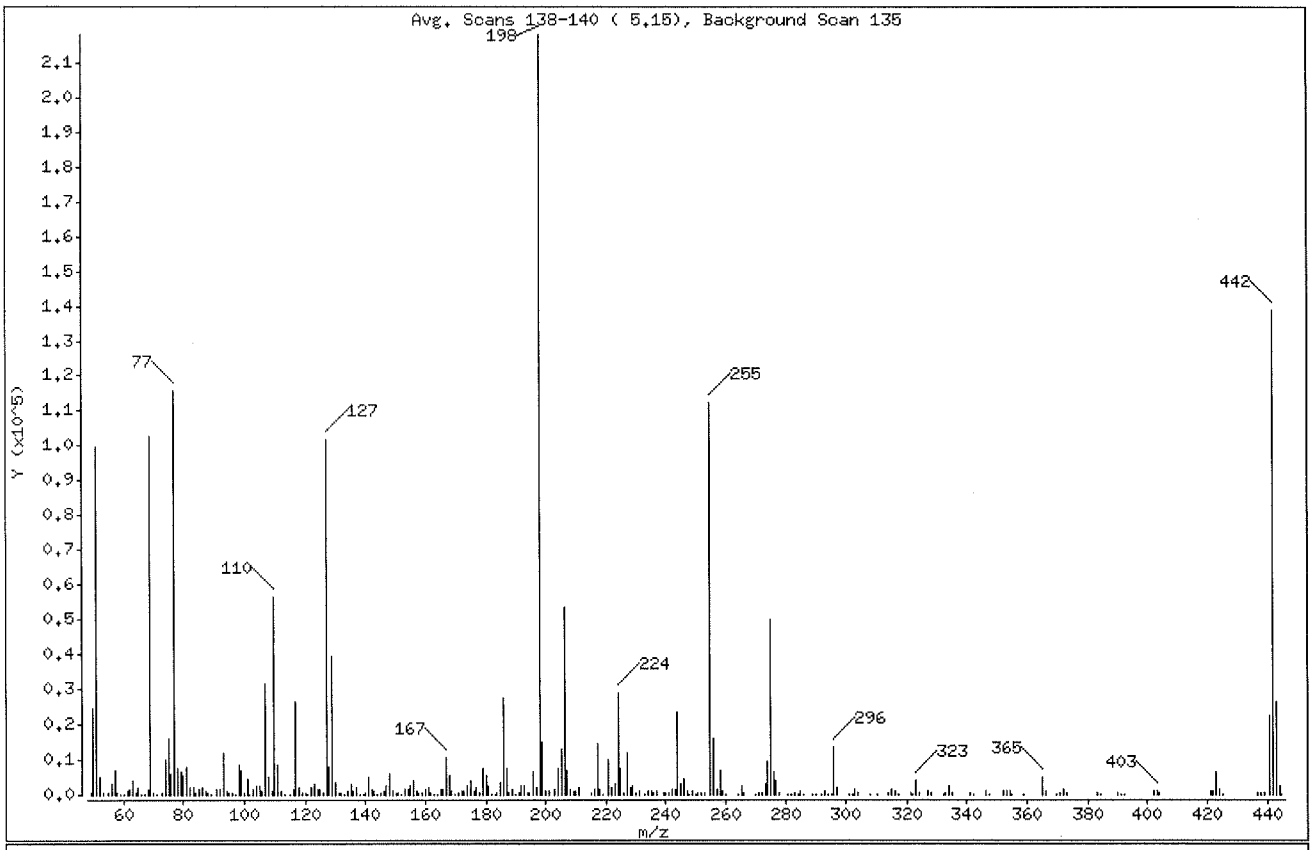
Sample Info: DFTPP12.5;DFTPP1915;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	45.71
68	Less than 2.00% of mass 69	0.76 (1.61)
69	Mass 69 relative abundance	47.03
70	Less than 2.00% of mass 69	0.23 (0.50)
127	40.00 - 60.00% of mass 198	46.71
197	Less than 1.00% of mass 198	0.93
199	5.00 - 9.00% of mass 198	6.87
275	10.00 - 30.00% of mass 198	23.04
365	Greater than 1.00% of mass 198	2.31
441	Present, but less than mass 443	10.27
442	40.00 - 99.99% of mass 198	63.68
443	17.00 - 23.00% of mass 442	12.21 (19.17)

Digitally signed by Ankita A. Patel on 08/14/2015 at 10:06.
Target 3.5 esignature user ID: aap07680

Data File: /chem/HP19760.i/15aug13a.b/dh0420b.d

Date : 13-AUG-2015 21:05

Client ID: DFTPP12.5

Instrument: HP19760.i

Sample Info: DFTPP12.5;DFTPP1915;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18

Data File: dh0420b.d

Spectrum: Avg. Scans 138-140 (5.15), Background Scan 135

Location of Maximum: 198.00

Number of points: 282

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49.00	696	124.00	1254	195.00	431	282.00	158
50.00	24784	125.00	1307	196.00	6421	283.00	552
51.00	99616	126.00	518	197.00	2034	284.00	209
52.00	4776	127.00	101792	198.00	217920	285.00	760
53.00	324	128.00	7822	199.00	14975	286.00	103
55.00	441	129.00	39528	200.00	1155	289.00	152
56.00	3175	130.00	3295	201.00	1155	290.00	87
57.00	7079	131.00	629	203.00	1520	292.00	210
58.00	263	132.00	318	204.00	7591	293.00	955
59.00	102	133.00	181	205.00	13198	294.00	184
60.00	103	134.00	1141	206.00	53664	295.00	94
61.00	1187	135.00	3100	207.00	6924	296.00	13435
62.00	1522	136.00	1227	208.00	1656	297.00	1773
63.00	4054	137.00	1788	209.00	805	301.00	151
64.00	543	138.00	248	210.00	881	302.00	122
65.00	2091	139.00	185	211.00	2217	303.00	1558
66.00	156	140.00	426	215.00	519	304.00	311
67.00	244	141.00	4796	216.00	1344	308.00	112
68.00	1649	142.00	1524	217.00	14382	310.00	116
69.00	102504	143.00	1108	218.00	1676	314.00	633
70.00	508	144.00	134	219.00	188	315.00	1473
71.00	101	145.00	274	221.00	9781	316.00	801
73.00	458	146.00	763	222.00	1912	317.00	104
74.00	10083	147.00	2293	223.00	3214	321.00	302
75.00	15813	148.00	5908	224.00	29136	322.00	218
76.00	5787	149.00	1133	225.00	7473	323.00	4034
77.00	115648	150.00	344	226.00	747	324.00	740
78.00	7596	151.00	535	227.00	11836	327.00	784
79.00	6580	152.00	231	228.00	1790	328.00	264
80.00	5488	153.00	1502	229.00	2574	332.00	209
81.00	8092	154.00	1255	230.00	326	333.00	296
82.00	1890	155.00	2698	231.00	981	334.00	2586
83.00	1978	156.00	4061	233.00	181	335.00	612
84.00	418	157.00	847	234.00	815	341.00	565
85.00	1318	158.00	696	235.00	930	342.00	87

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Target 3.5 esignature user ID: aap07680

Data File: /chem/HP19760.i/15aug13a.b/dh0420b.d

Date : 13-AUG-2015 21:05

Client ID: DFTPP12.5

Instrument: HP19760.i

Sample Info: DFTPP12.5;DFTPP1915;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18

Data File: dh0420b.d
Spectrum: Avg. Scans 138-140 (5.15), Background Scan 135
Location of Maximum: 198.00
Number of points: 282

m/z	Y	m/z	Y	m/z	Y	m/z	Y
86.00	2057	159.00	611	236.00	528	346.00	861
87.00	985	160.00	1370	237.00	970	347.00	116
88.00	411	161.00	2231	239.00	382	352.00	1235
89.00	174	162.00	628	240.00	340	353.00	808
91.00	1489	163.00	240	241.00	544	354.00	1206
92.00	1553	164.00	202	242.00	1615	355.00	161
93.00	11891	165.00	1727	243.00	1653	359.00	85
94.00	820	166.00	1363	244.00	23760	365.00	5026
95.00	439	167.00	10667	245.00	3127	366.00	774
96.00	658	168.00	5677	246.00	4360	370.00	102
97.00	240	169.00	926	247.00	799	371.00	259
98.00	8744	170.00	230	248.00	111	372.00	1745
99.00	6838	171.00	358	249.00	829	373.00	522
100.00	606	172.00	828	250.00	98	383.00	501
101.00	4432	173.00	1085	251.00	298	384.00	101
102.00	99	174.00	2283	252.00	263	390.00	255
103.00	1524	175.00	3779	253.00	653	391.00	156
104.00	2468	176.00	923	255.00	112448	392.00	84
105.00	2271	177.00	1757	256.00	16004	402.00	836
106.00	815	178.00	404	257.00	1342	403.00	1008
107.00	31784	179.00	7727	258.00	6981	404.00	466
108.00	4838	180.00	5486	259.00	906	421.00	1020
109.00	877	181.00	2637	260.00	94	422.00	911
110.00	56512	182.00	165	264.00	148	423.00	6633
111.00	8443	183.00	159	265.00	2715	424.00	1442
112.00	1085	184.00	432	266.00	470	425.00	131
113.00	225	185.00	3574	270.00	84	437.00	429
115.00	105	186.00	27680	271.00	270	438.00	605
116.00	1511	187.00	7648	272.00	290	439.00	663
117.00	26408	188.00	688	273.00	3216	441.00	22384
118.00	1978	189.00	1728	274.00	9434	442.00	138752
119.00	261	190.00	249	275.00	50224	443.00	26600
120.00	364	191.00	737	276.00	6402	444.00	2374
121.00	122	192.00	2310	277.00	4225	445.00	124
122.00	1766	193.00	2695	278.00	689		

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Target 3.5 esignature user ID: aap07680

Data File: /chem/HP19760.i/15aug13a.b/dh0420b.d

Date : 13-AUG-2015 21:05

Client ID: DFTPP12.5

Instrument: HP19760.i

Sample Info: DFTPP12.5;DFTPP1915;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18

Data File: dh0420b.d

Spectrum: Avg. Scans 138-140 (5.15), Background Scan 135

Location of Maximum: 198.00

Number of points: 282

m/z	Y	m/z	Y	m/z	Y	m/z	Y
123.00	2882	194.00	541	281.00	212		

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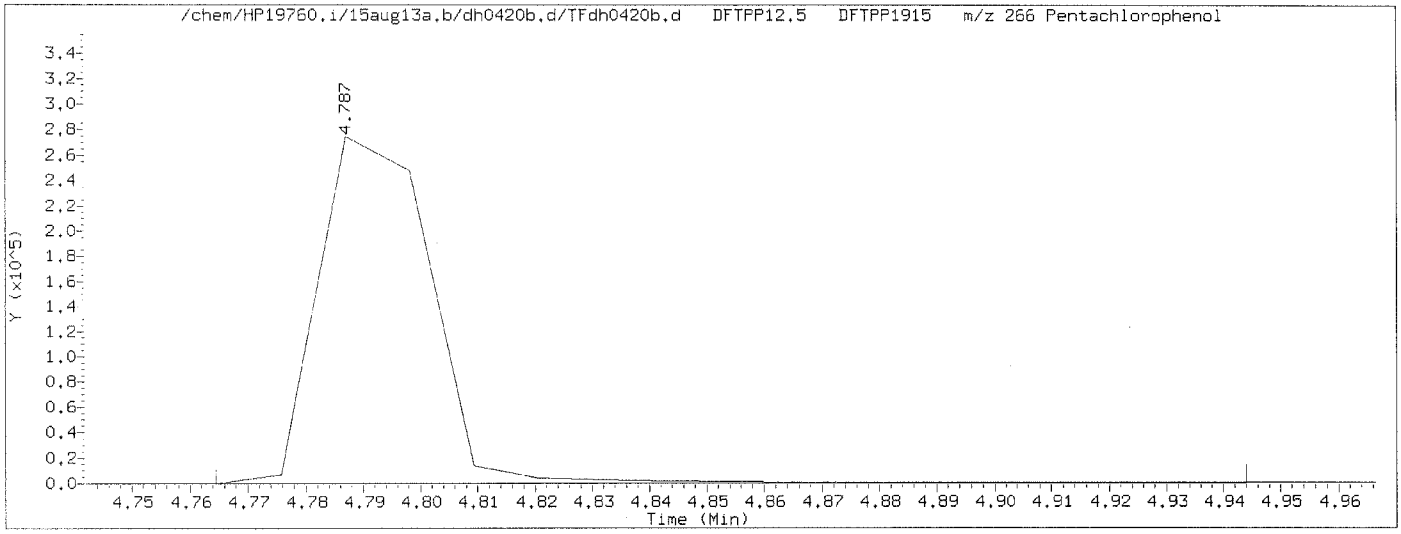
Target 3.5 esignature user ID: aap07680

Assessment of GC Column Performance and Injection Port Inertness for

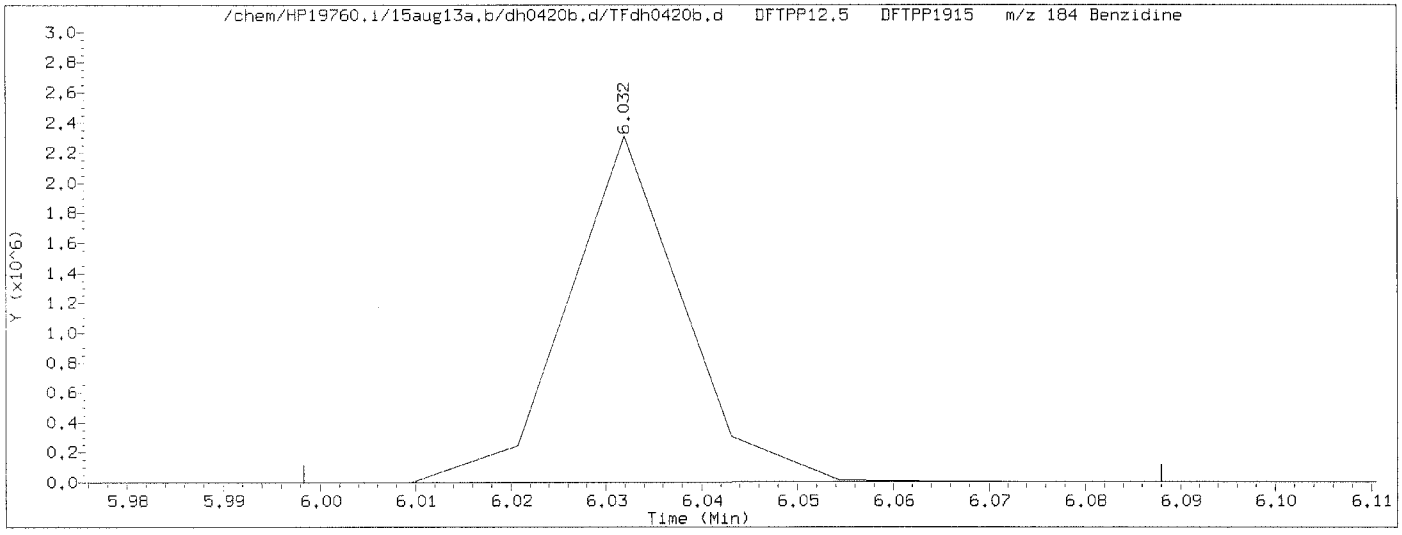
Instrument ID: HP19760.i Injection Date: 13-AUG-2015 21:05 Operator: ceb05247



Pentachlorophenol EICP peak height = 274688 EICP peak height at 10% = 27469 Pentachlorophenol EICP area = 376392

Pentachlorophenol EICP peak apex (min.) = 4.787
RT at 10% of front half of EICP (min.) = 4.777 'Front' peak width (min.) = 0.0103500000
RT at 10% of back half of EICP (min.) = 4.809 'Tailing' peak width (min.) = 0.0217666667

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0217666667}{0.0103500000} = 2.103$$



Benzidine EICP peak height = 2310093 EICP peak height at 10% = 231009 Benzidine EICP area = 1937871

Benzidine EICP peak apex (min.) = 6.032
RT at 10% of front half of EICP (min.) = 6.020 'Front' peak width (min.) = 0.0117500000
RT at 10% of back half of EICP (min.) = 6.046 'Tailing' peak width (min.) = 0.0140666667

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0140666667}{0.0117500000} = 1.197$$

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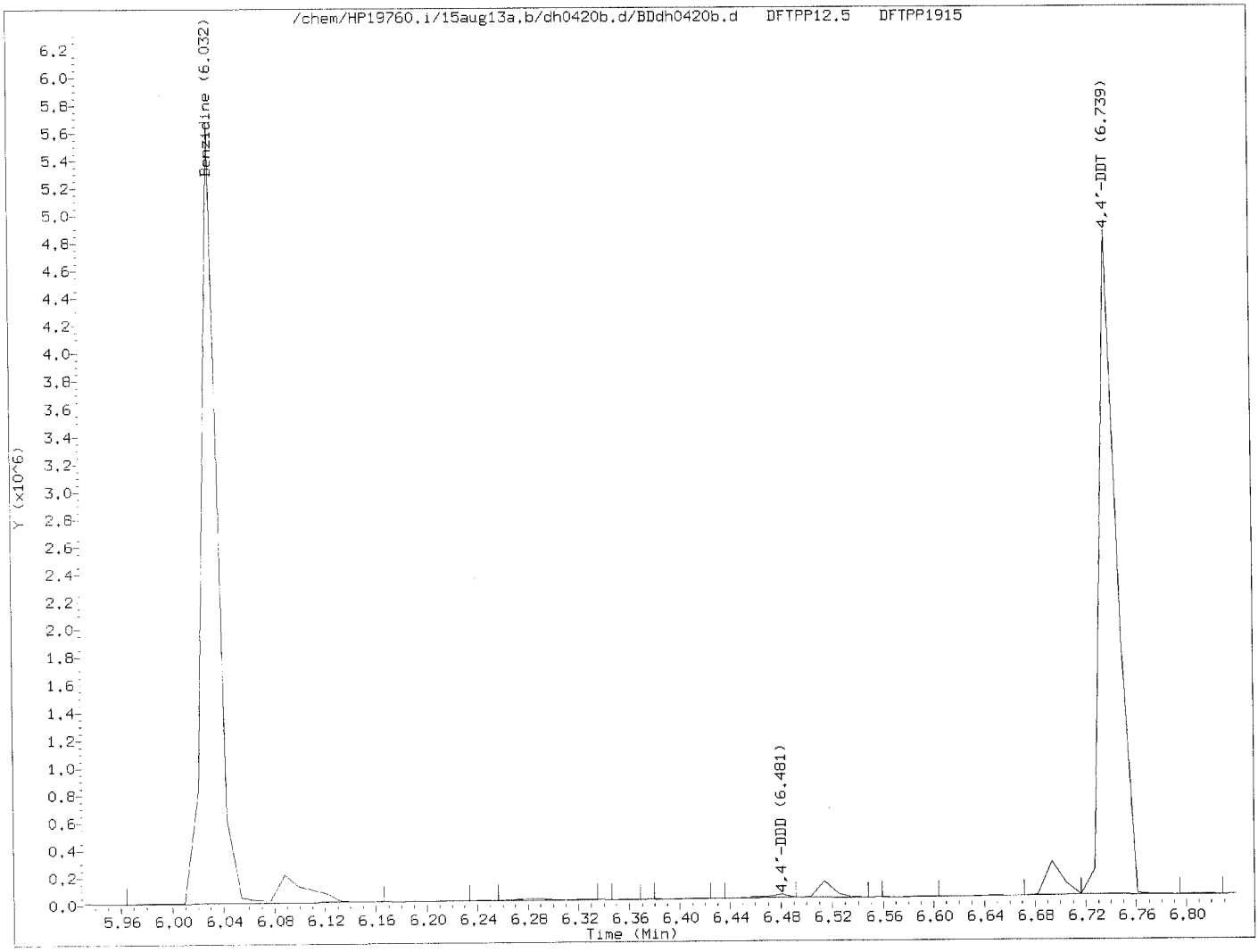
Target 3.5 esignature user ID: aap07680

Assessment of GC Column Performance and Injection Port Inertness for

Instrument ID: HP19760.i Injection Date: 13-AUG-2015 21:05 Operator: ceb05247



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{0 + 28752}{0 + 28752 + 4622927} \times 100 = 0.6$$

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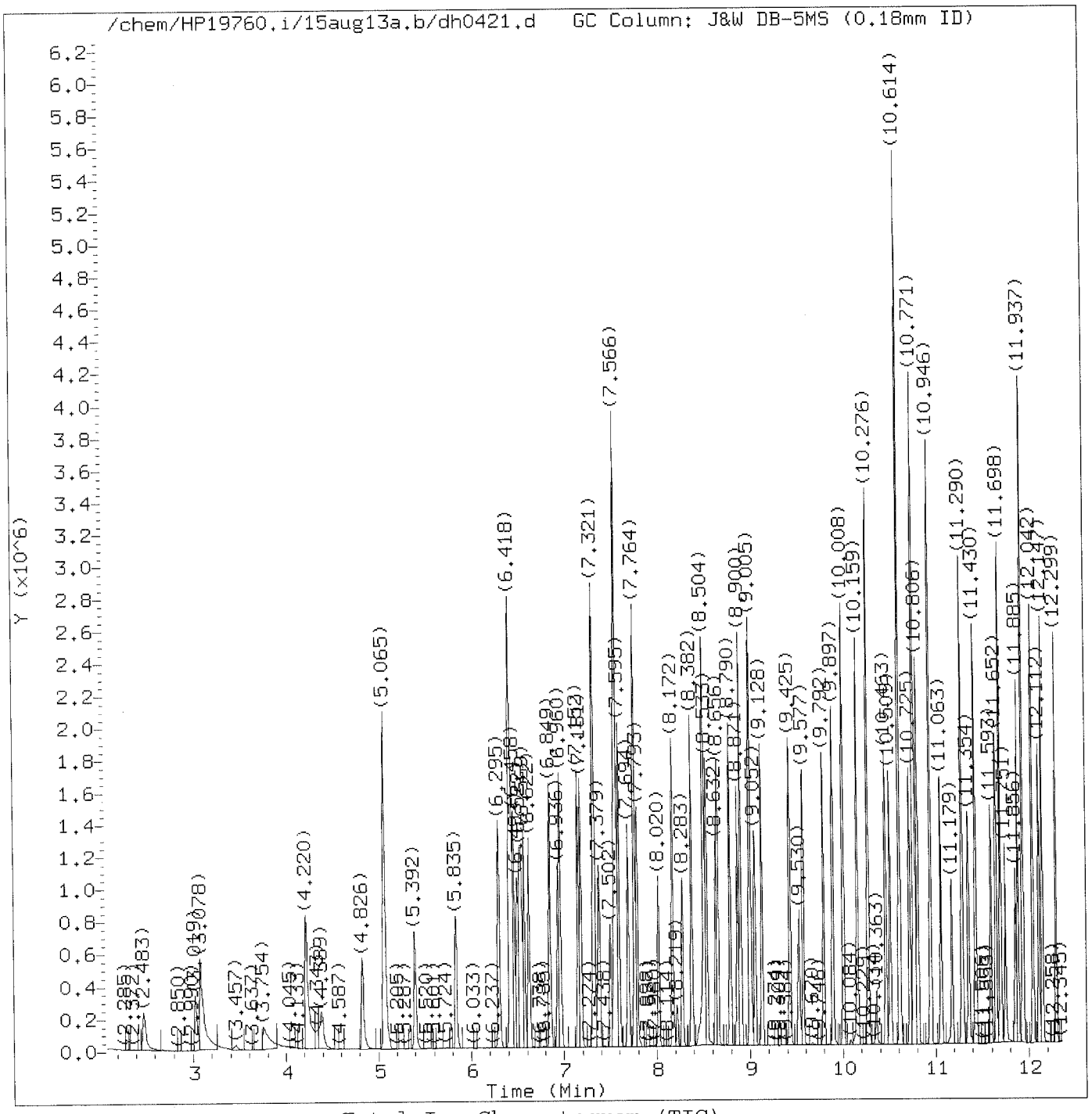
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0421.d
Injection date and time: 13-AUG-2015 21:20

Instrument ID: HP19760.i
Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m
Calibration date and time: 14-AUG-2015 09:52

Sublist used: newall1-d

Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2065

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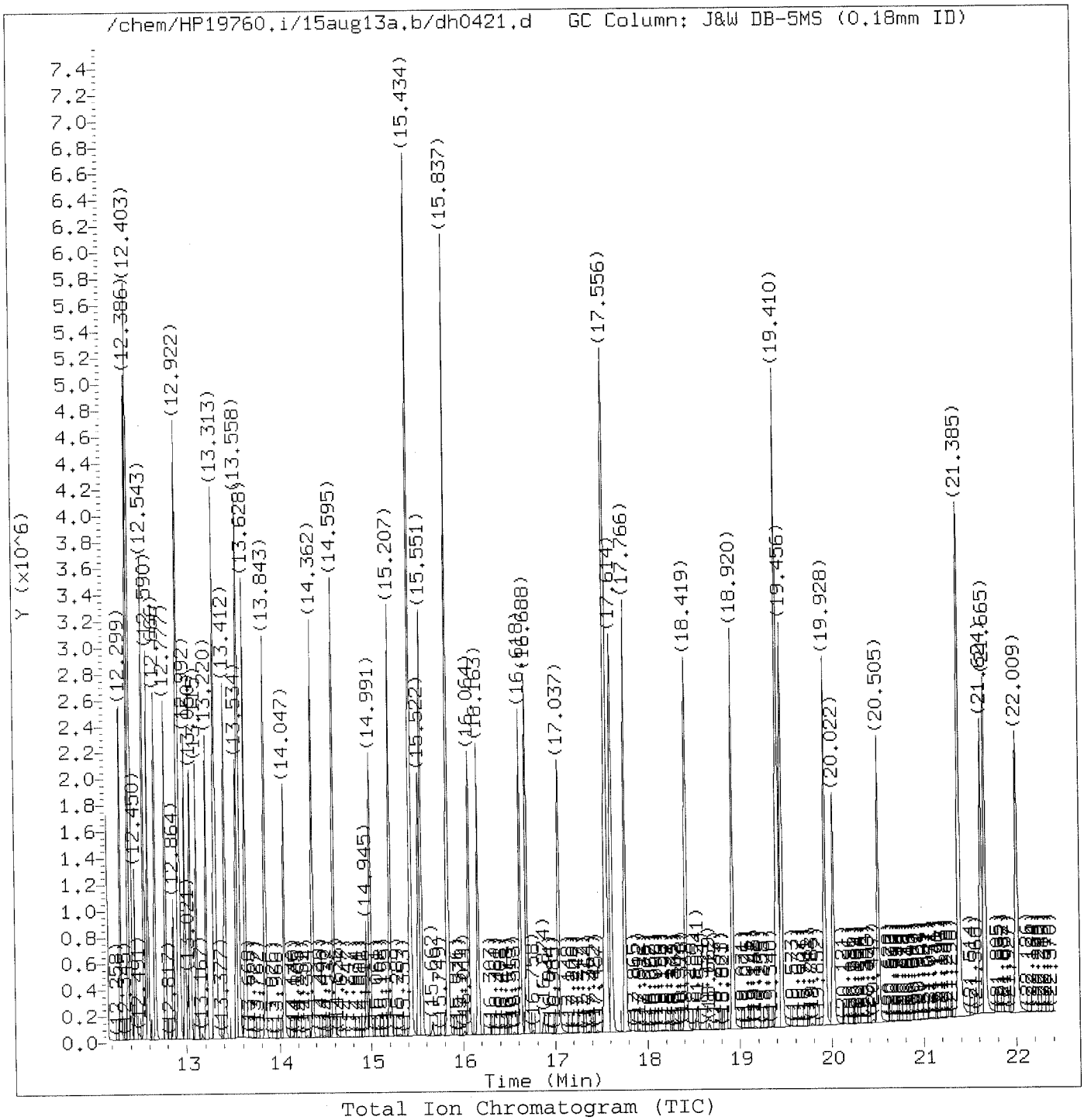
on 08/14/2015 at 10:06.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0421.d
Injection date and time: 13-AUG-2015 21:20

Instrument ID: HP19760.i
Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m
Calibration date and time: 14-AUG-2015 09:52

Sublist used: newall1-d

Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2065

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:06.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0421.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 21:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.483	88	218399	7.500
2) N-Nitrosodimethylamine	(1)	3.019	74	372369	7.500
3) Pyridine	(1)	3.078	79	619660	7.500
4) 2-Picoline	(1)	4.220	93	626333	7.500
5) N-Nitrosomethylethylamine	(1)	4.389	88	260408	7.500
6) Methyl methanesulfonate	(1)	4.826	80	323322	7.500
7)$2-Fluorophenol	(1)	5.065	112	1006877	15.000
8) N-Nitrosodiethylamine	(1)	5.397	102	251968	7.500
10) Ethyl methanesulfonate	(1)	5.835	109	256503	7.500
11) Benzaldehyde	(1)	6.295	77	483890	7.500
12)$Phenol-d5	(1)	6.418	99	1292128	15.000
13)$Phenol-d6	(1)	6.418	99	1292128	15.000
14) Phenol	(1)	6.435	94	768894	7.500
15) Aniline	(1)	6.458	93	874884	7.500
16) bis(2-Chloroethyl)ether	(1)	6.569	93	567189	7.500
17) 2-Chlorophenol	(1)	6.622	128	480872	7.500
18) 1,3-Dichlorobenzene	(1)	6.849	146	513870	7.500
19)*1,4-Dichlorobenzene-d4	(1)	6.936	152	222949	5.000
20) 1,4-Dichlorobenzene	(1)	6.960	146	523231	7.500
23) Benzyl alcohol	(1)	7.152	108	338756	7.500
24) 1,2-Dichlorobenzene	(1)	7.181	146	490588	7.500
25) Indene	(1)	7.315	115	812670	7.500
26) 2-Methylphenol	(1)	7.333	108	462992	7.500
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.379	45	820444	7.500
28) bis(2-Chloroisopropyl)ether	(1)	7.379	45	820444	7.500
29) N-Nitrosopyrrolidine	(1)	7.502	100	265944	7.500
30) Acetophenone	(1)	7.542	105	699322	7.500
33) 4-Methylphenol	(1)	7.566	108	535076	7.500
31) N-Nitroso-di-n-propylamine	(1)	7.566	70	435863	7.500
32) N-Nitrosomorpholine	(1)	7.572	56	363615	7.500
34) o-Toluidine	(1)	7.595	106	799212	7.500
35) Hexachloroethane	(1)	7.694	117	221649	7.500
36)$Nitrobenzene-d5	(2)	7.764	82	1208142	15.000
37) Nitrobenzene	(2)	7.793	77	627562	7.500
39) N-Nitrosopiperidine	(2)	8.020	114	240631	7.500
40) Isophorone	(2)	8.172	82	1105899	7.500
42) 2-Nitrophenol	(2)	8.283	139	250247	7.500
45) 2,4-Dimethylphenol	(2)	8.382	107	519300	7.500
46) O,O,O-triethylphosphorothioate	(2)	8.510	198	251064	7.500
47) Benzoic acid	(2)	8.516	105	455644M	10.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 10:06.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0421.d
Injection date and time: 13-AUG-2015 21:20
Instrument ID: HP19760.i
Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m
Calibration date and time: 14-AUG-2015 09:52
Sublist used: newall1-d
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD7.5
Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
48) bis(2-Chloroethoxy)methane	(2)	8.533	93	701543M	7.500
49) 2,4-Dichlorophenol	(2)	8.656	162	390034	7.500
51) 1,2,4-Trichlorobenzene	(2)	8.790	180	449119	7.500
52)*Naphthalene-d8	(2)	8.871	136	857183	5.000
53) Naphthalene	(2)	8.900	128	1345551	7.500
55) 4-Chloroaniline	(2)	9.000	127	584938	7.500
56) 2,6-Dichlorophenol	(2)	9.011	162	376997	7.500
57) Hexachloropropene	(2)	9.058	213	303789	7.500
58) Hexachlorobutadiene	(2)	9.128	225	258983	7.500
60) Quinoline	(2)	9.425	129	865774	7.500
61) Caprolactam	(2)	9.530	113	126685	7.500
62) N-Nitrosodi-n-butylamine	(2)	9.577	84	395144	7.500
63) 4-Chloro-3-methylphenol	(2)	9.792	107	438061	7.500
64) Safrole	(2)	9.897	162	345248	7.500
65) 2-Methylnaphthalene	(2)	10.008	142	900830	7.500
66) 1-Methylnaphthalene	(2)	10.159	142	806469	7.500
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.276	216	450252	7.500
67) Hexachlorocyclopentadiene	(3)	10.276	237	283667	7.500
69) cis-Isosafrole	(3)	10.363	162	61555	1.275
70) 2,4,6-Trichlorophenol	(3)	10.463	196	294830	7.500
71) 2,4,5-Trichlorophenol	(3)	10.509	196	316684	7.500
72)$2-Fluorobiphenyl	(3)	10.614	172	2012019	15.000
73) trans-Isosafrole	(3)	10.725	162	339308	6.225
74) Isosafrole	(3)	10.725	162	339308	7.500
75) 1,1'-Biphenyl	(3)	10.766	154	1026513	7.500
83) 2-Nitroaniline	(3)	10.771	138	275039	7.500
76) 2-Chloronaphthalene	(3)	10.777	162	823554	7.500
77) 1-Chloronaphthalene	(3)	10.806	162	828741	7.500
82) Diphenyl ether	(3)	10.946	170	573934	7.500
84) 1,4-Naphthoquinone	(3)	11.063	158	356868	7.500
85) 1,4-Dinitrobenzene	(3)	11.179	168	143164	7.500
86) Dimethylphthalate	(3)	11.290	163	968525	7.500
87) 1,3-Dinitrobenzene	(3)	11.290	168	157412	7.500
88) 2,6-Dinitrotoluene	(3)	11.360	165	216119	7.500
90) Acenaphthylene	(3)	11.430	152	1318977	7.500
91) 3-Nitroaniline	(3)	11.593	138	230648	7.500
92)*Acenaphthene-d10	(3)	11.652	164	490402	5.000
93) Acenaphthene	(3)	11.698	153	849389	7.500
94) 2,4-Dinitrophenol	(3)	11.751	184	183048	10.000
96) 4-Nitrophenol	(3)	11.856	109	167263	7.500

M = Compound was manually integrated.
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$ = Compound is a surrogate standard.

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on 08/14/2015 at 10:06.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0421.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 21:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
95) Pentachlorobenzene	(3)	11.885	250	384722	7.500
98) 2,4-Dinitrotoluene	(3)	11.937	165	291727	7.500
97) Dibenzofuran	(3)	11.943	168	1188242	7.500
99) 1-Naphthylamine	(3)	12.042	143	859514	7.500
100) 2,3,4,6-Tetrachlorophenol	(3)	12.112	232	244776	7.500
101) 2-Naphthylamine	(3)	12.147	143	840376	7.500
102) Diethylphthalate	(3)	12.299	149	957745	7.500
103) Fluorene	(3)	12.380	166	931900	7.500
104) Thionazin	(3)	12.386	107	187682	7.500
106) 5-Nitro-o-toluidine	(3)	12.398	152	267106	7.500
107) 4-Nitroaniline	(3)	12.403	138	255886	7.500
105) 4-Chlorophenyl-phenylether	(3)	12.403	204	481337	7.500
108) 4,6-Dinitro-2-methylphenol	(4)	12.450	198	178429	7.500
110) NDPA as diphenylamine	(4)	12.543	169	787804	7.500
109) N-Nitrosodiphenylamine	(4)	12.543	169	787804	7.500
111) 1,2-Diphenylhydrazine	(4)	12.590	77	1183062	7.500
112)$2,4,6-Tribromophenol	(3)	12.666	330	254262	15.000
115) Tetraethyldithiopyrophosphate	(4)	12.777	97	184321	7.500
116) 1,3,5-Trinitrobenzene	(4)	12.864	213	117014	7.500
117) Diallate (peak 1)	(4)	12.916	86	425949	6.225
118) Phorate	(4)	12.922	75	768261	7.500
119) Phenacetin	(4)	12.934	108	539852	7.500
120) 4-Bromophenyl-phenylether	(4)	12.992	248	271627	7.500
121) Diallate (peak 2)	(4)	13.021	86	82245	1.275
122) Hexachlorobenzene	(4)	13.050	284	288295	7.500
123) Dimethoate	(4)	13.115	87	471583	7.500
124) Atrazine	(4)	13.220	200	264609	7.500
125) Pentachlorophenol	(4)	13.301	266	194445	7.500
127) 4-Aminobiphenyl	(4)	13.313	169	964183	7.500
126) Pentachloronitrobenzene	(4)	13.319	237	133524	7.500
129) Pronamide	(4)	13.412	173	458773	7.500
130)*Phenanthrene-d10	(4)	13.534	188	850565	5.000
133) Dinoseb	(4)	13.552	211	268967	7.500
131) Phenanthrene	(4)	13.563	178	1386253	7.500
134) Anthracene	(4)	13.628	178	1401731	7.500
135) Carbazole	(4)	13.843	167	1334823	7.500
136) Methyl parathion	(4)	14.047	109	365096	7.500
137) Di-n-butylphthalate	(4)	14.362	149	1689850	7.500
139) 4-Nitroquinoline-1-oxide	(4)	14.595	190	150602	7.500
138) Parathion	(4)	14.595	109	227987	7.500

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Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:06.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0421.d
Injection date and time: 13-AUG-2015 21:20
Instrument ID: HP19760.i
Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m
Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD7.5
Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	14.991	193	175450	7.500
142) Fluoranthene	(4)	15.207	202	1609130	7.500
144) Benzidine	(5)	15.434	184	3244692	22.500
145)*Pyrene-d10	(5)	15.522	212	1104282	5.000
146) Pyrene	(5)	15.551	202	1708441	7.500
149)$Terphenyl-d14	(5)	15.837	244	2388147	15.000
150) p-Dimethylaminoazobenzene	(5)	16.064	225	323743	7.500
151) Chlorobenzilate	(5)	16.163	139	519116	7.500
152) 3,3'-Dimethylbenzidine	(5)	16.623	212	1139741	7.500
153) Butylbenzylphthalate	(5)	16.688	149	786271	7.500
156) 2-Acetylaminofluorene	(5)	17.037	181	643278	7.500
159) 3,3'-Dichlorobenzidine	(5)	17.544	252	623239	7.500
158) Benzo(a)anthracene	(5)	17.556	228	1671927	7.500
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.568	231	345752	7.500
161) Chrysene	(5)	17.614	228	1565907	7.500
162) bis(2-Ethylhexyl)phthalate	(5)	17.766	149	1160052	7.500
165) 6-Methylchrysene	(5)	18.419	242	1163188	7.500
166) Di-n-octylphthalate	(6)	18.926	149	1985530	7.500
168) Benzo(b)fluoranthene	(6)	19.410	252	1688964	7.500
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.415	256	741307	7.500
170) Benzo(k)fluoranthene	(6)	19.456	252	1633716	7.500
171) Benzo(a)pyrene	(6)	19.928	252	1534013	7.500
172)*Perylene-d12	(6)	20.022	264	935614	5.000
173) 3-Methylcholanthrene	(6)	20.505	268	746373	7.500
176) Indeno(1,2,3-cd)pyrene	(6)	21.624	276	1723131	7.500
177) Dibenz(a,h)anthracene	(6)	21.665	278	1473789	7.500
178) Benzo(g,h,i)perylene	(6)	22.009	276	1468112	7.500
179) Diallate TRANS/CIS	(4)			508194	7.500
182) 2,4_2,6-Dinitrotoluenes	(3)			507846	15.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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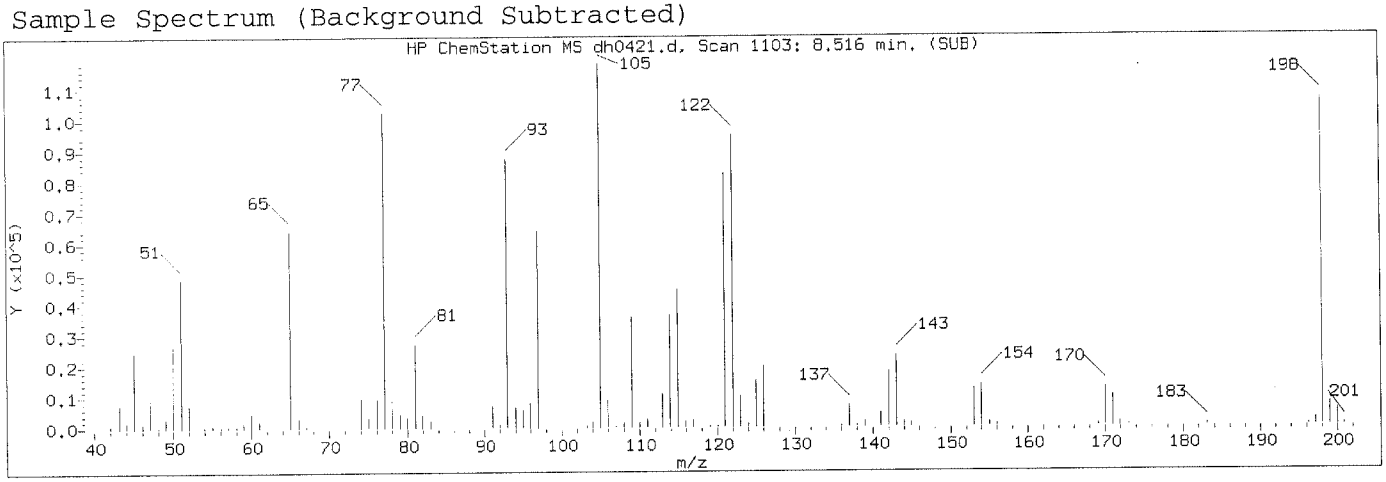
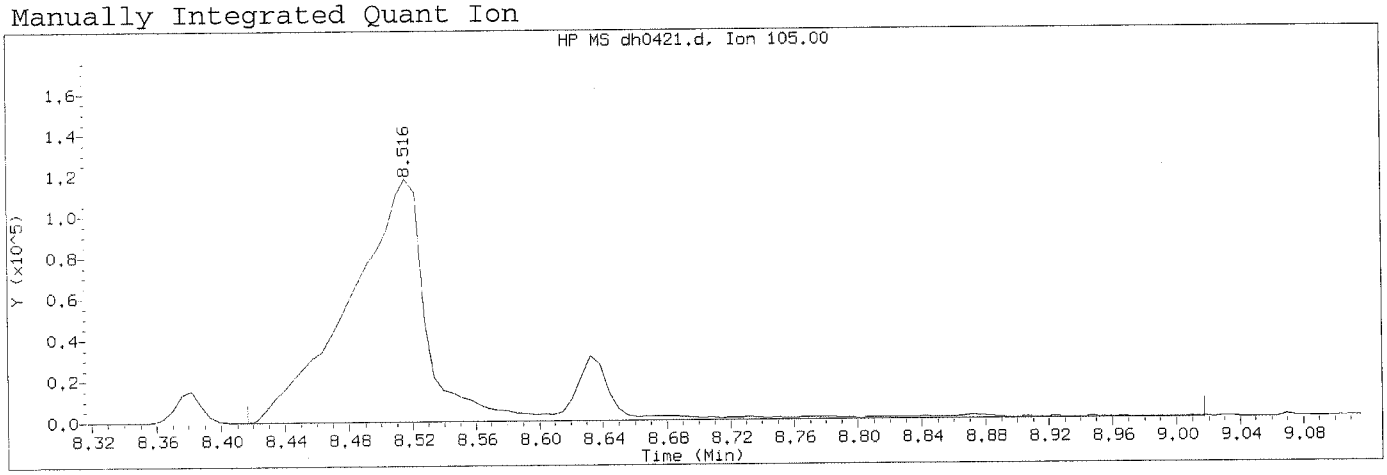
on 08/14/2015 at 10:06.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0421.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 21:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1103		
Retention Time (minutes)	: 8.516		
Quant Ion	: 105.00		
Area (flag)	: 455644M		
On-Column Amount (ng/ul)	: 10.0000		
Integration start scan	: 1085	Integration stop scan:	1188
Y at integration start	: -3	Y at integration end:	-3

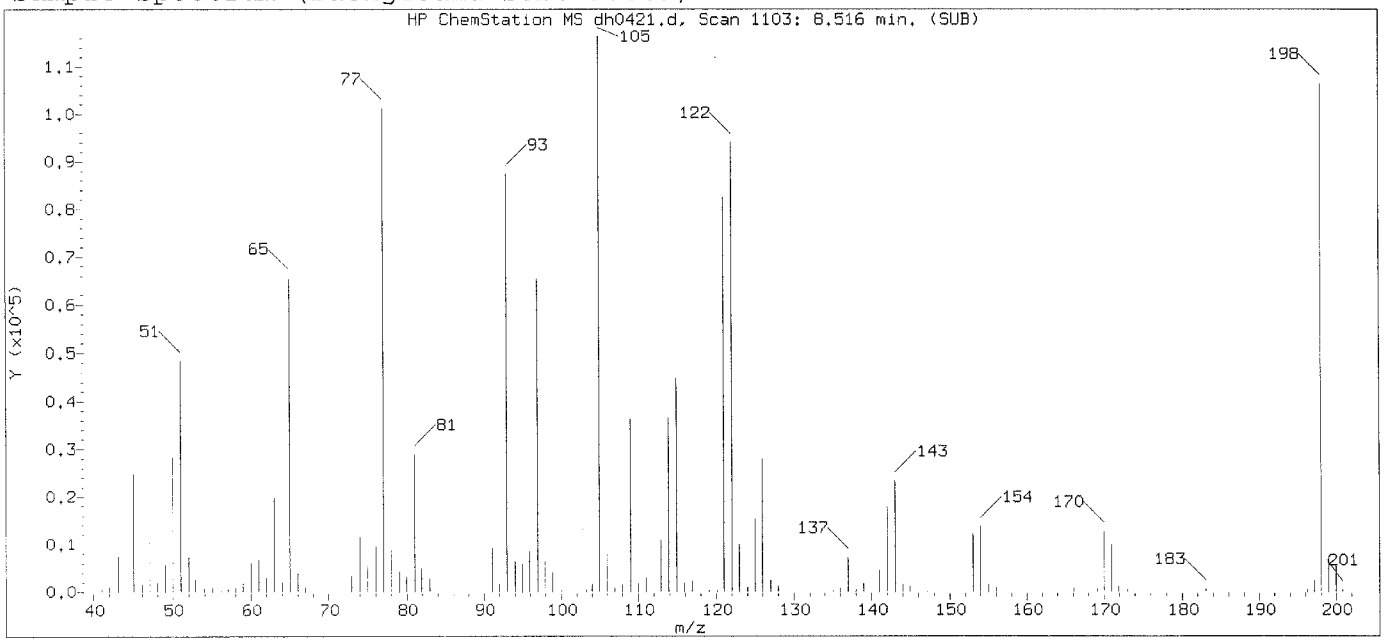
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel on 08/14/2015 at 10:06. Target 3.5 Signature User ID: aap07680

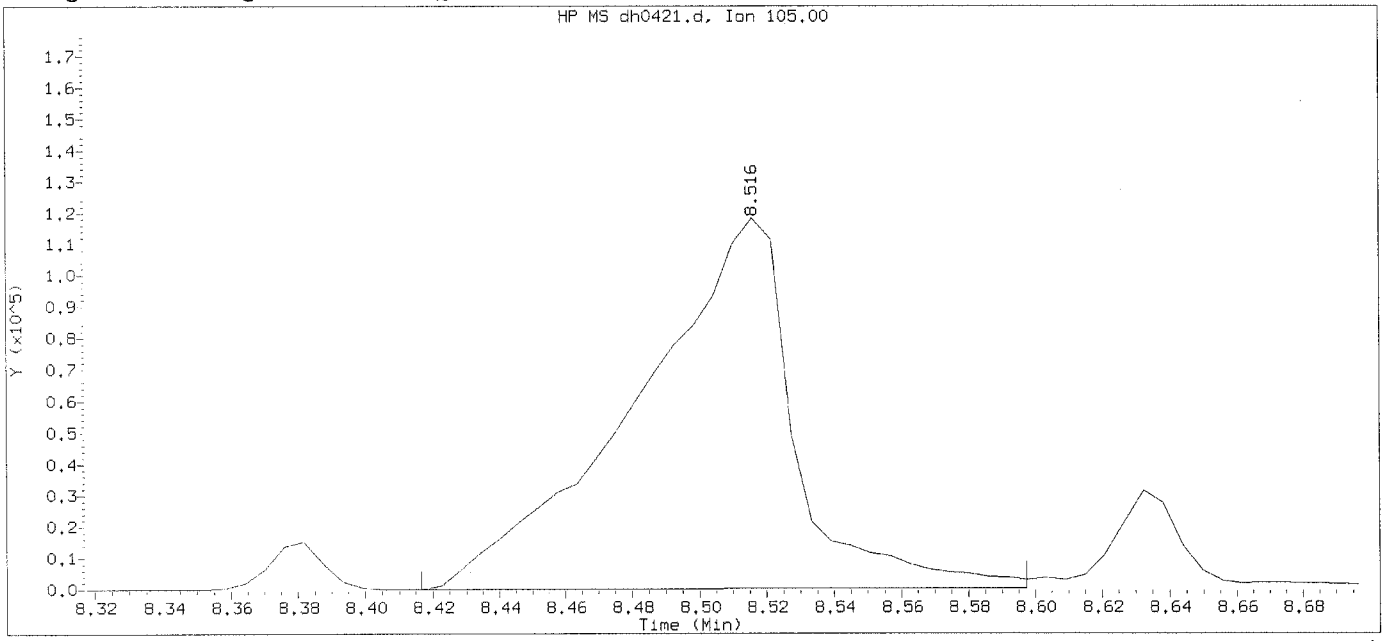
AUG 18 2015

GC/MS audit/management approval: Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0421.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 21:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:03
Date, time and analyst ID of latest file update: 14-Aug-2015 09:03 aap07680

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1103		
Retention Time (minutes)	: 8.516		
Quant Ion	: 105.00		
Area	: 390029		
On-column Amount (ng/ul)	: 9.7176		
Integration start scan	: 1085	Integration stop scan:	1116
Y at integration start	: 0	Y at integration end:	134

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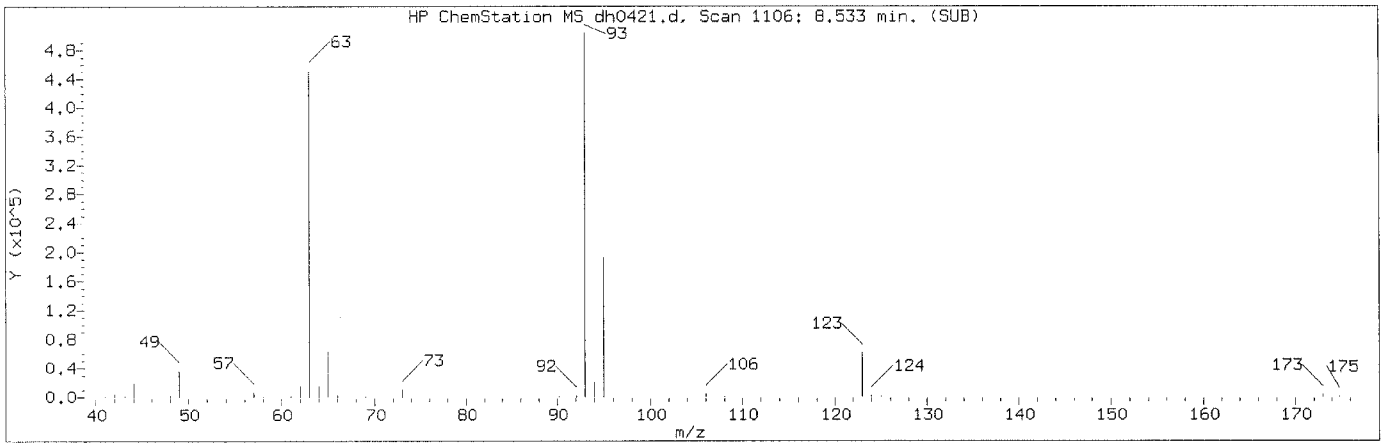
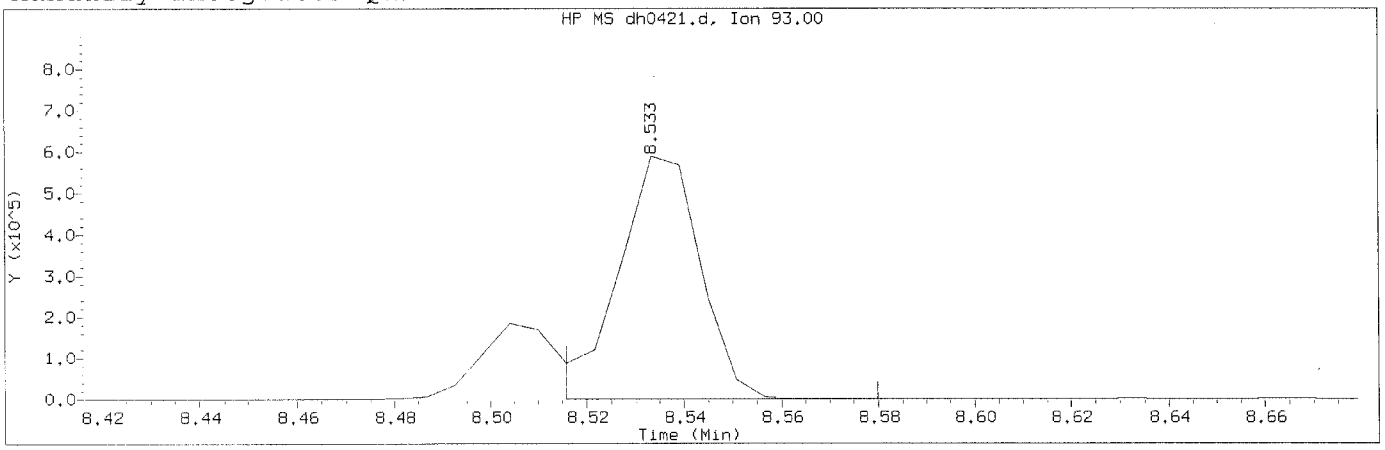
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0421.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 21:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2065

Compound Number	: 48		
Compound Name	: bis(2-Chloroethoxy)methane		
Scan Number	: 1106		
Retention Time (minutes)	: 8.533		
Quant Ion	: 93.00		
Area (flag)	: 701543M		
On-Column Amount (ng/ul)	: 7.5000		
Integration start scan	: 1102	Integration stop scan:	1113
Y at integration start	: -98	Y at integration end:	-98

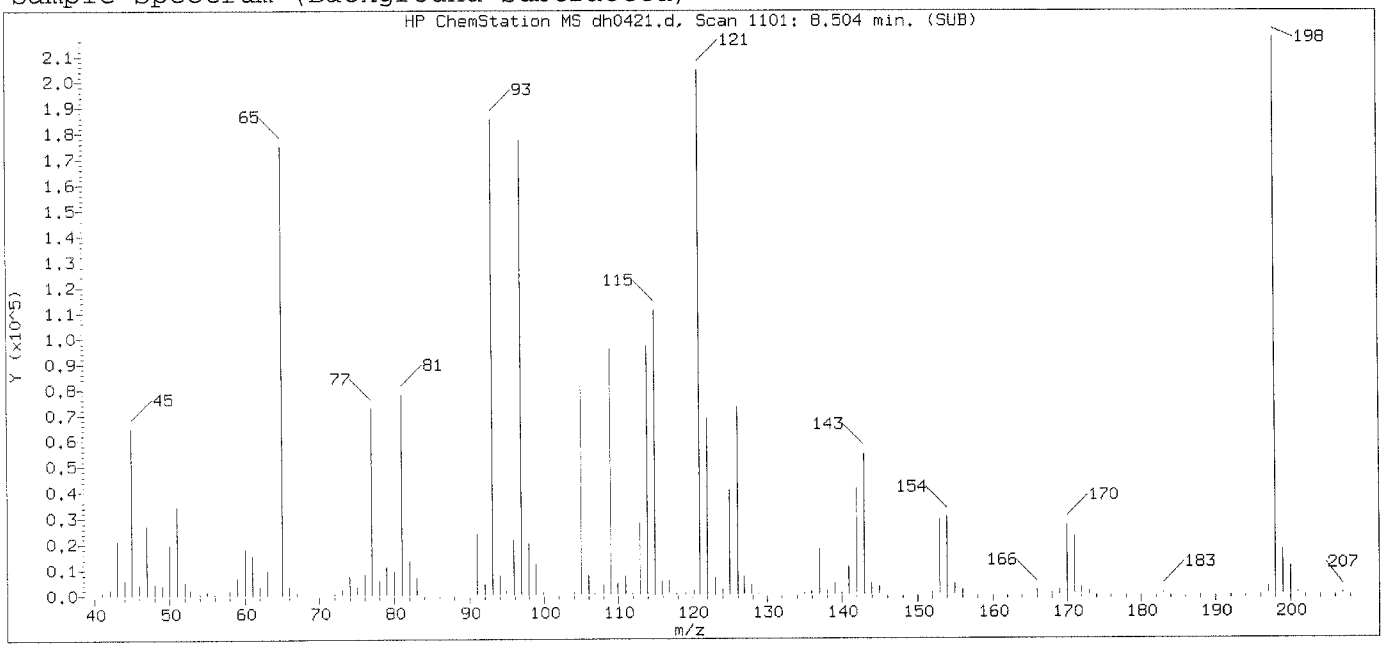
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:06.
Target 3.5 signature user ID: aap07680

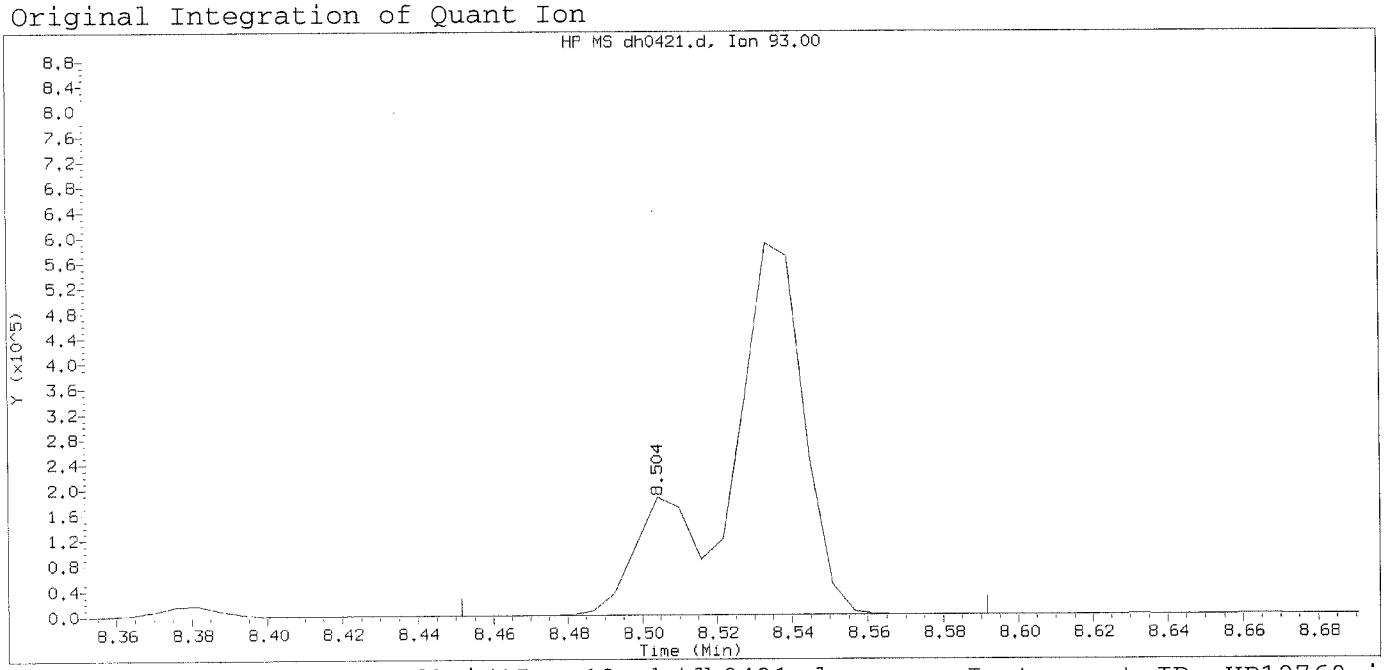
AUG 18 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0421.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 21:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:03
Date, time and analyst ID of latest file update: 14-Aug-2015 09:03 aap07680

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2065

Compound Number	: 48		
Compound Name	: bis(2-Chloroethoxy)methane		
Scan Number	: 1101		
Retention Time (minutes)	: 8.504		
Quant Ion	: 93.00		
Area	: 878324		
On-column Amount (ng/ul)	: 0.0241		
Integration start scan	: 1091	Integration stop scan:	1115
Y at integration start	: 0	Y at integration end:	0

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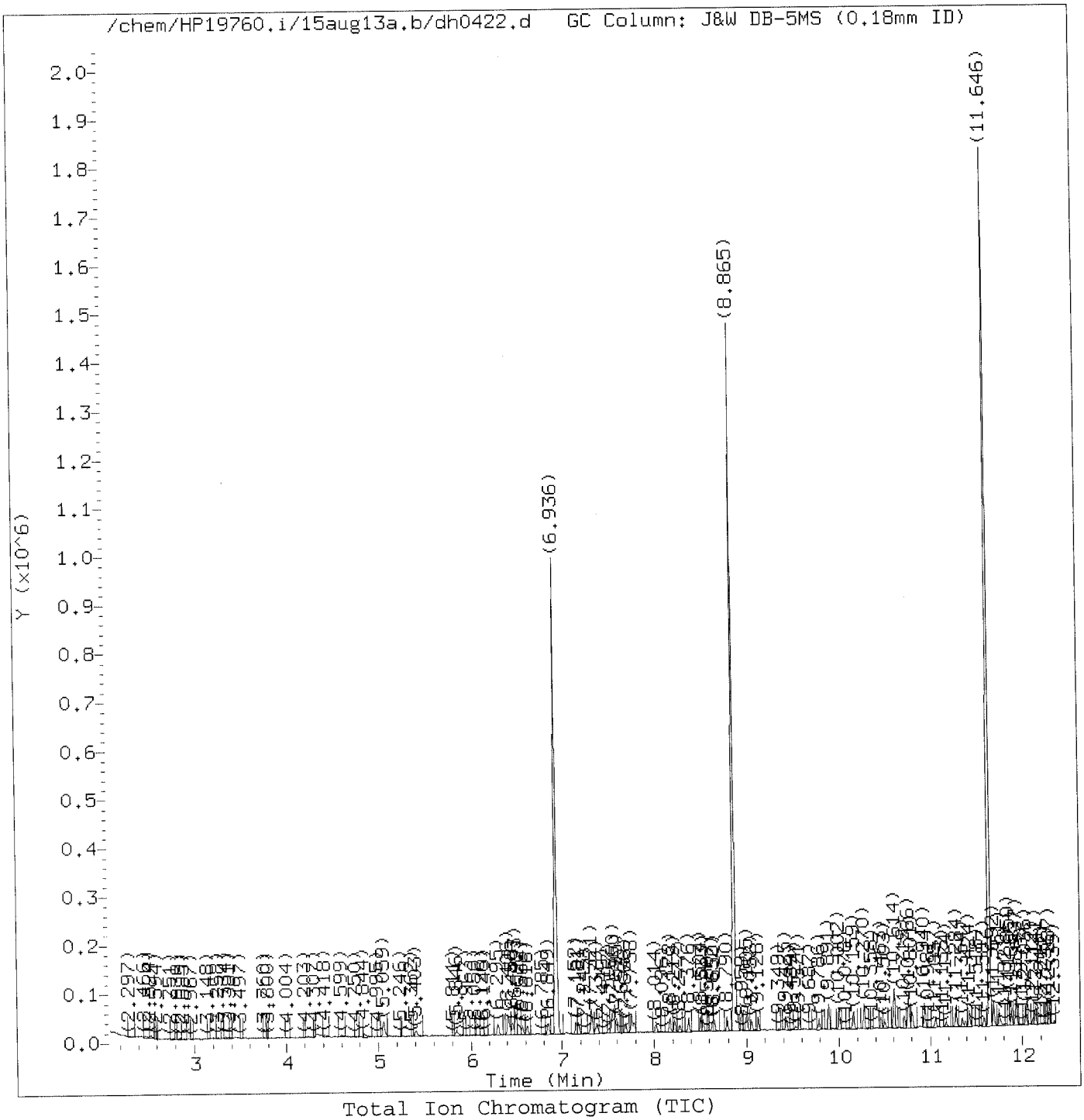
Target 3.5 esignature used: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0422.d
Injection date and time: 13-AUG-2015 21:56

Instrument ID: HP19760.i
Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m
Calibration date and time: 14-AUG-2015 09:52

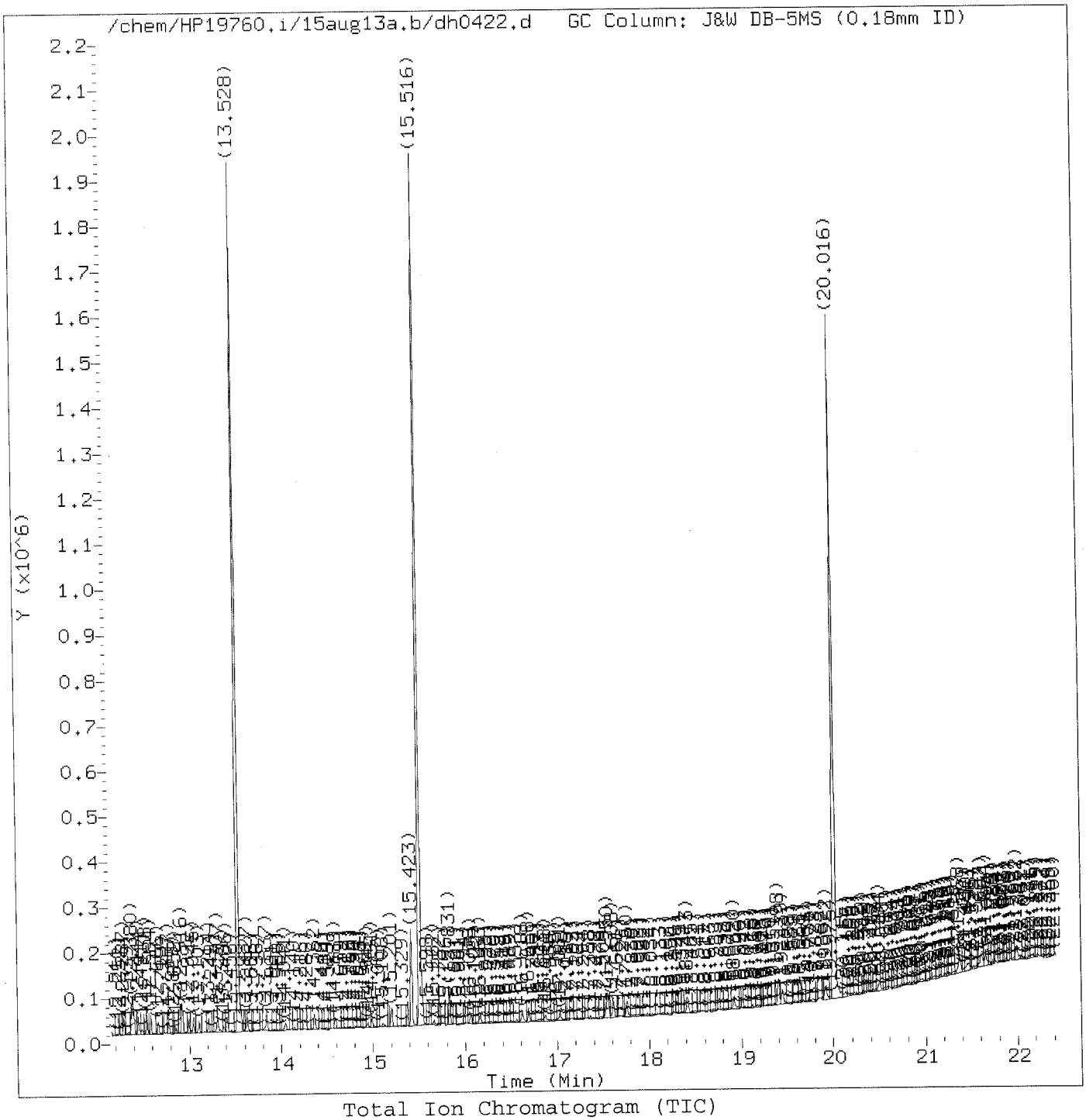
Sublist used: newall1-d

Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2065

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:06.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0422.d
Injection date and time: 13-AUG-2015 21:56

Instrument ID: HP19760.i
Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m
Calibration date and time: 14-AUG-2015 09:52

Sublist used: newall1-d

Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2065

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:06.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0422.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 21:56 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.536	88	1386	0.053
2) N-Nitrosodimethylamine	(1)	3.159	74	4610	0.104
3) Pyridine	(1)	3.340	79	6072	0.082
4) 2-Picoline	(1)	4.319	93	7696	0.103
5) N-Nitrosomethylethylamine	(1)	4.418	88	3255	0.105
6) Methyl methanesulfonate	(1)	4.855	80	3179	0.083
7)$2-Fluorophenol	(1)	5.059	112	13497	0.225
8) N-Nitrosodiethylamine	(1)	5.403	102	3508	0.117
10) Ethyl methanesulfonate	(1)	5.846	109	3385	0.111
11) Benzaldehyde	(1)	6.295	77	6877	0.119
12)$Phenol-d5	(1)	6.406	99	17861	0.232
13)$Phenol-d6	(1)	6.406	99	17861	0.232
14) Phenol	(1)	6.429	94	10371	0.113
15) Aniline	(1)	6.458	93	12703	0.122
16) bis(2-Chloroethyl)ether	(1)	6.569	93	8707	0.129
17) 2-Chlorophenol	(1)	6.621	128	6071	0.106
18) 1,3-Dichlorobenzene	(1)	6.849	146	7340	0.120
19)*1,4-Dichlorobenzene-d4	(1)	6.936	152	199023	5.000
20) 1,4-Dichlorobenzene	(1)	6.960	146	8319	0.134
23) Benzyl alcohol	(1)	7.152	108	4237	0.105
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.158	45	14741	0.151
28) bis(2-Chloroisopropyl)ether	(1)	7.158	45	14741	0.151
24) 1,2-Dichlorobenzene	(1)	7.175	146	7730	0.132
25) Indene	(1)	7.315	115	11339	0.117
26) 2-Methylphenol	(1)	7.321	108	6150	0.112
29) N-Nitrosopyrrolidine	(1)	7.502	100	3844	0.121
30) Acetophenone	(1)	7.542	105	10162	0.122
33) 4-Methylphenol	(1)	7.554	108	7508	0.118
31) N-Nitroso-di-n-propylamine	(1)	7.560	70	5891	0.114
32) N-Nitrosomorpholine	(1)	7.572	56	5859	0.135
34) o-Toluidine	(1)	7.589	106	11733	0.123
35) Hexachloroethane	(1)	7.694	117	3453	0.131
36)$Nitrobenzene-d5	(2)	7.758	82	17591	0.248
37) Nitrobenzene	(2)	7.787	77	8865	0.120
39) N-Nitrosopiperidine	(2)	8.020	114	3015	0.107
40) Isophorone	(2)	8.172	82	15363	0.118
42) 2-Nitrophenol	(2)	8.277	139	2742	0.093
45) 2,4-Dimethylphenol	(2)	8.376	107	7061	0.116
46) O,O,O-triethylphosphorothioate	(2)	8.504	198	3452	0.117
48) bis(2-Chloroethoxy)methane	(2)	8.533	93	9902M	0.120

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:06.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0422.d
Injection date and time: 13-AUG-2015 21:56

Instrument ID: HP19760.i
Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sublist used: newall1-d

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
47) Benzoic acid	(2)	8.632	105	591	0.015
49) 2,4-Dichlorophenol	(2)	8.650	162	5321	0.116
51) 1,2,4-Trichlorobenzene	(2)	8.790	180	6375	0.121
52)*Naphthalene-d8	(2)	8.865	136	754902	5.000
55) 4-Chloroaniline	(2)	8.900	127	10923	0.159
53) Naphthalene	(2)	8.900	128	21006	0.129
56) 2,6-Dichlorophenol	(2)	9.011	162	4526	0.102
57) Hexachloropropene	(2)	9.052	213	4053	0.114
58) Hexachlorobutadiene	(2)	9.128	225	4084	0.134
60) Quinoline	(2)	9.425	129	12149	0.120
61) Caprolactam	(2)	9.524	113	1436	0.097
62) N-Nitrosodi-n-butylamine	(2)	9.571	84	5900	0.127
63) 4-Chloro-3-methylphenol	(2)	9.786	107	5222	0.102
64) Safrole	(2)	9.891	162	4705	0.116
65) 2-Methylnaphthalene	(2)	10.002	142	13268	0.125
66) 1-Methylnaphthalene	(2)	10.159	142	12753	0.130
67) Hexachlorocyclopentadiene	(3)	10.270	237	4032	0.123
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.270	216	6480	0.124
69) cis-Isosafrole	(3)	10.358	162	715	0.017
70) 2,4,6-Trichlorophenol	(3)	10.463	196	3546	0.104
71) 2,4,5-Trichlorophenol	(3)	10.509	196	3860	0.105
72)$2-Fluorobiphenyl	(3)	10.614	172	30017	0.257
74) Isosafrole	(3)	10.719	162	5025	0.128
73) trans-Isosafrole	(3)	10.719	162	5025	0.106
75) 1,1'-Biphenyl	(3)	10.766	154	15800	0.133
76) 2-Chloronaphthalene	(3)	10.771	162	12670	0.133
77) 1-Chloronaphthalene	(3)	10.806	162	11721	0.122
83) 2-Nitroaniline	(3)	10.940	138	3119	0.098
82) Diphenyl ether	(3)	10.940	170	8511	0.128
84) 1,4-Naphthoquinone	(3)	11.057	158	3565	0.086
85) 1,4-Dinitrobenzene	(3)	11.168	168	1714	0.103
86) Dimethylphthalate	(3)	11.284	163	13531	0.120
87) 1,3-Dinitrobenzene	(3)	11.290	168	1779	0.097
88) 2,6-Dinitrotoluene	(3)	11.354	165	2594	0.103
90) Acenaphthylene	(3)	11.424	152	17631	0.120
91) 3-Nitroaniline	(3)	11.587	138	2501	0.093
92)*Acenaphthene-d10	(3)	11.646	164	426721	5.000
93) Acenaphthene	(3)	11.692	153	12389	0.125
94) 2,4-Dinitrophenol	(3)	11.751	184	6348	0.399
96) 4-Nitrophenol	(3)	11.850	109	7944	0.409

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:06.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0422.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 21:56 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
95) Pentachlorobenzene	(3)	11.885	250	5766	0.129
98) 2,4-Dinitrotoluene	(3)	11.937	165	3367	0.099
97) Dibenzofuran	(3)	11.937	168	17336	0.126
99) 1-Naphthylamine	(3)	12.036	143	11604	0.116
100) 2,3,4,6-Tetrachlorophenol	(3)	12.112	232	2711	0.095
101) 2-Naphthylamine	(3)	12.141	143	11899	0.122
102) Diethylphthalate	(3)	12.287	149	12369	0.111
103) Fluorene	(3)	12.380	166	13517	0.125
104) Thionazin	(3)	12.380	107	2063	0.095
107) 4-Nitroaniline	(3)	12.392	138	2757	0.093
106) 5-Nitro-o-toluidine	(3)	12.392	152	3341	0.108
105) 4-Chlorophenyl-phenylether	(3)	12.403	204	7180	0.129
108) 4,6-Dinitro-2-methylphenol	(4)	12.450	198	5735	0.275
109) N-Nitrosodiphenylamine	(4)	12.538	169	10676	0.116
110) NDPA as diphenylamine	(4)	12.538	169	10676	0.116
111) 1,2-Diphenylhydrazine	(4)	12.584	77	16251	0.118
112)$2,4,6-Tribromophenol	(3)	12.666	330	2816	0.191
115) Tetraethyldithiopyrophosphate	(4)	12.777	97	2375	0.110
116) 1,3,5-Trinitrobenzene	(4)	12.858	213	1165	0.085
117) Diallate (peak 1)	(4)	12.916	86	5434	0.091
121) Diallate (peak 2)	(4)	12.916	86	5434	0.096
118) Phorate	(4)	12.922	75	8459	0.094
119) Phenacetin	(4)	12.928	108	5224	0.083
120) 4-Bromophenyl-phenylether	(4)	12.992	248	3724	0.117
122) Hexachlorobenzene	(4)	13.045	284	4055	0.123
123) Dimethoate	(4)	13.103	87	5272	0.096
124) Atrazine	(4)	13.214	200	3482	0.113
125) Pentachlorophenol	(4)	13.301	266	1486	0.065
127) 4-Aminobiphenyl	(4)	13.307	169	11653	0.104
126) Pentachloronitrobenzene	(4)	13.313	237	1613	0.103
129) Pronamide	(4)	13.406	173	5046	0.094
130)*Phenanthrene-d10	(4)	13.528	188	744612	5.000
131) Phenanthrene	(4)	13.558	178	20121	0.125
133) Dinoseb	(4)	13.563	211	1140	0.036
134) Anthracene	(4)	13.622	178	18047	0.117
135) Carbazole	(4)	13.837	167	16892	0.108
136) Methyl parathion	(4)	14.047	109	3023	0.071
137) Di-n-butylphthalate	(4)	14.362	149	19714	0.100
138) Parathion	(4)	14.589	109	1790	0.067
139) 4-Nitroquinoline-1-oxide	(4)	14.589	190	834	0.047

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 10:06.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0422.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 21:56 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	14.991	193	2880	0.141
142) Fluoranthene	(4)	15.201	202	21162	0.119
144) Benzidine	(5)	15.423	184	95179	0.762
145)*Pyrene-d10	(5)	15.516	212	956115	5.000
146) Pyrene	(5)	15.545	202	25859	0.128
149)$Terphenyl-d14	(5)	15.831	244	31570	0.229
150) p-Dimethylaminoazobenzene	(5)	16.064	225	2692	0.072
151) Chlorobenzilate	(5)	16.157	139	5647	0.094
152) 3,3'-Dimethylbenzidine	(5)	16.612	212	12070	0.092
153) Butylbenzylphthalate	(5)	16.688	149	8093	0.089
156) 2-Acetylaminofluorene	(5)	17.026	181	5128	0.069
159) 3,3'-Dichlorobenzidine	(5)	17.538	252	6127	0.085
158) Benzo(a)anthracene	(5)	17.550	228	19127	0.111
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.562	231	3262	0.082
161) Chrysene	(5)	17.608	228	19739	0.117
162) bis(2-Ethylhexyl)phthalate	(5)	17.760	149	11043	0.082
165) 6-Methylchrysene	(5)	18.413	242	13084	0.097
166) Di-n-octylphthalate	(6)	18.920	149	16430	0.075
168) Benzo(b)fluoranthene	(6)	19.398	252	19331	0.113
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.404	256	6916	0.084
170) Benzo(k)fluoranthene	(6)	19.444	252	19739	0.117
171) Benzo(a)pyrene	(6)	19.922	252	16732	0.110
172)*Perylene-d12	(6)	20.016	264	774868	5.000
173) 3-Methylcholanthrene	(6)	20.494	268	7738	0.094
176) Indeno(1,2,3-cd)pyrene	(6)	21.607	276	17672	0.107
177) Dibenz(a,h)anthracene	(6)	21.654	278	14540	0.104
178) Benzo(g,h,i)perylene	(6)	21.997	276	16528	0.112
179) Diallate TRANS/CIS	(4)			10868	0.187
182) 2,4_2,6-Dinitrotoluenes	(3)			5961	0.203

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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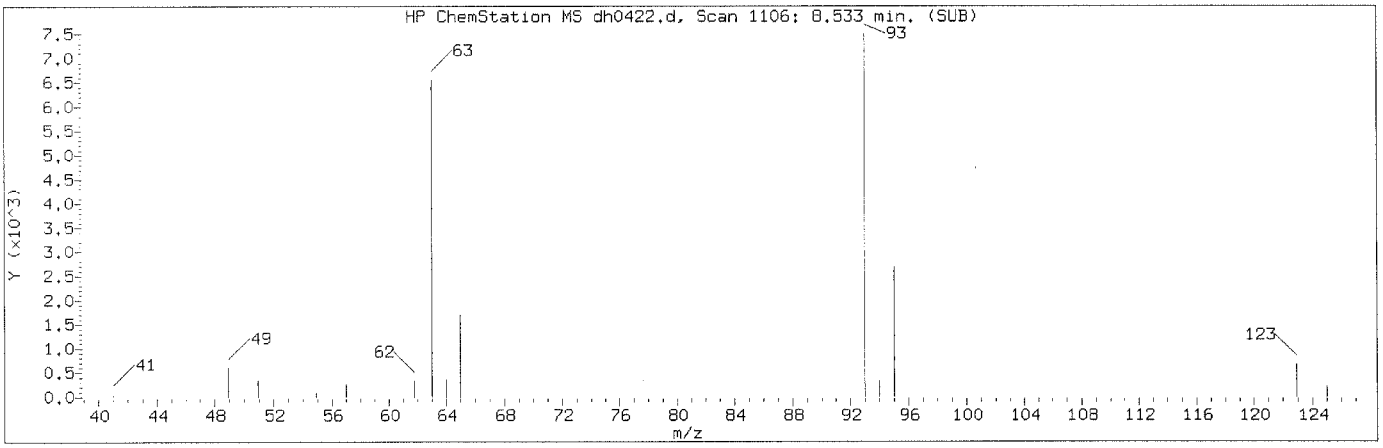
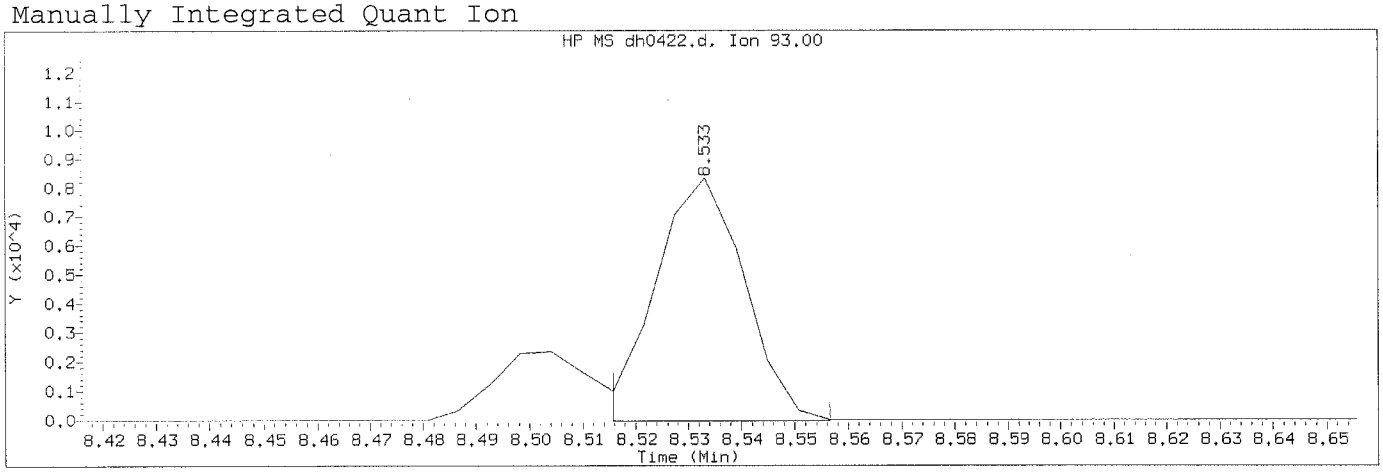
on 08/14/2015 at 10:06.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0422.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 21:56 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2065

Compound Number	:	48
Compound Name	:	bis(2-Chloroethoxy)methane
Scan Number	:	1106
Retention Time (minutes)	:	8.533
Quant Ion	:	93.00
Area (flag)	:	9902M
On-Column Amount (ng/ul)	:	0.1202
Integration start scan	:	1102 Integration stop scan: 1109
Y at integration start	:	-49 Y at integration end: -49

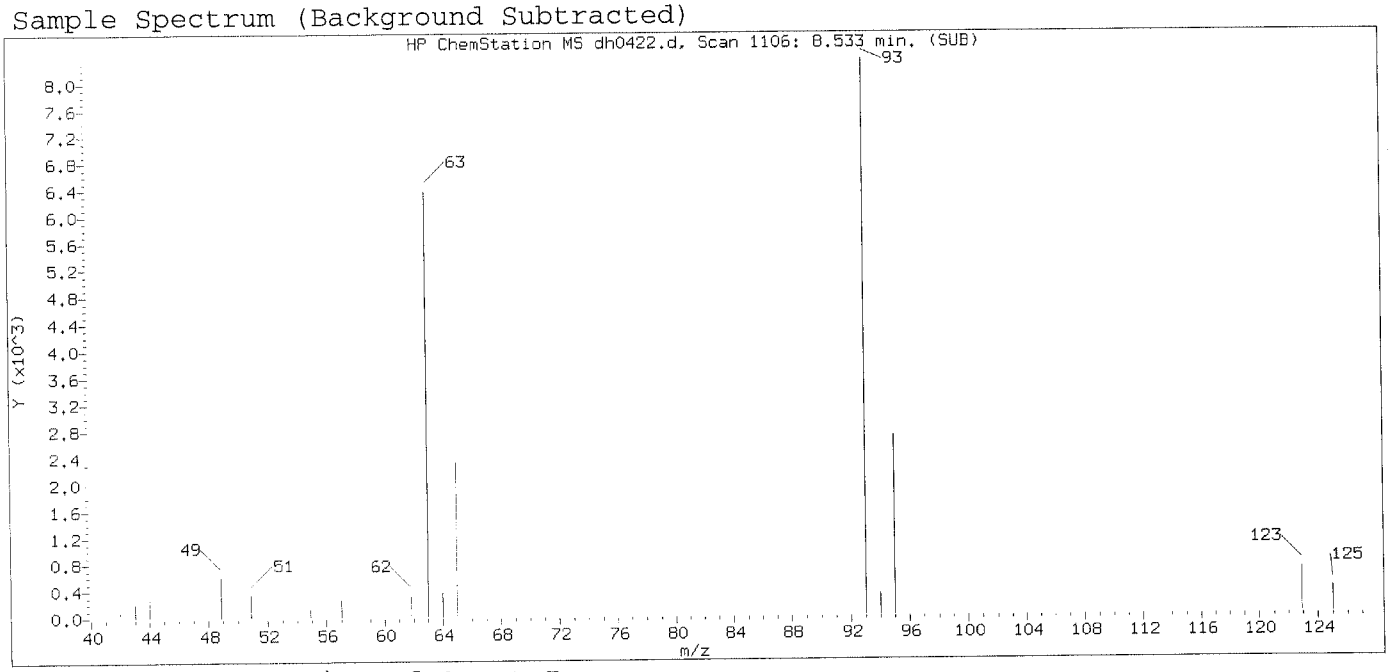
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:06.
Target 3.5 signature user ID: aap07680

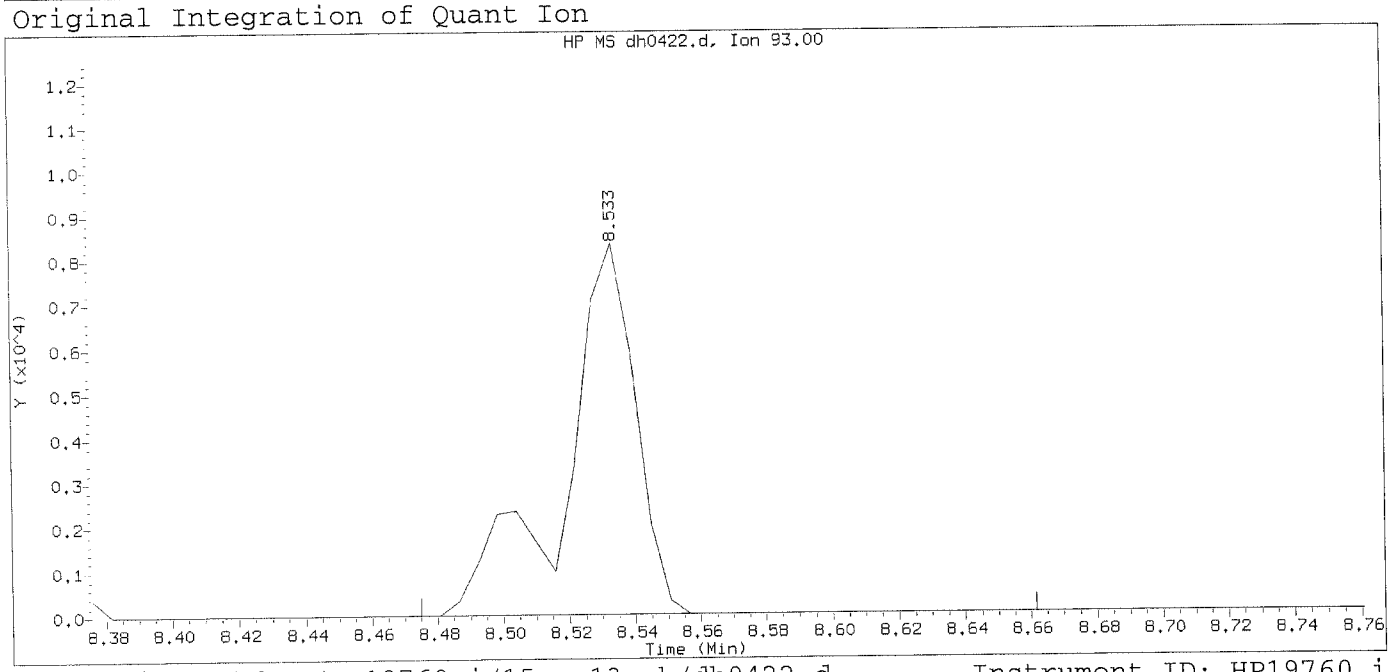
AUG 18 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0422.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 21:56 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2065

Compound Number	: 48		
Compound Name	: bis(2-Chloroethoxy)methane		
Scan Number	: 1106		
Retention Time (minutes)	: 8.533		
Quant Ion	: 93.00		
Area	: 12490		
On-column Amount (ng/ul)	: 0.0004		
Integration start scan	: 1095	Integration stop scan:	1127
Y at integration start	: 0	Y at integration end:	0

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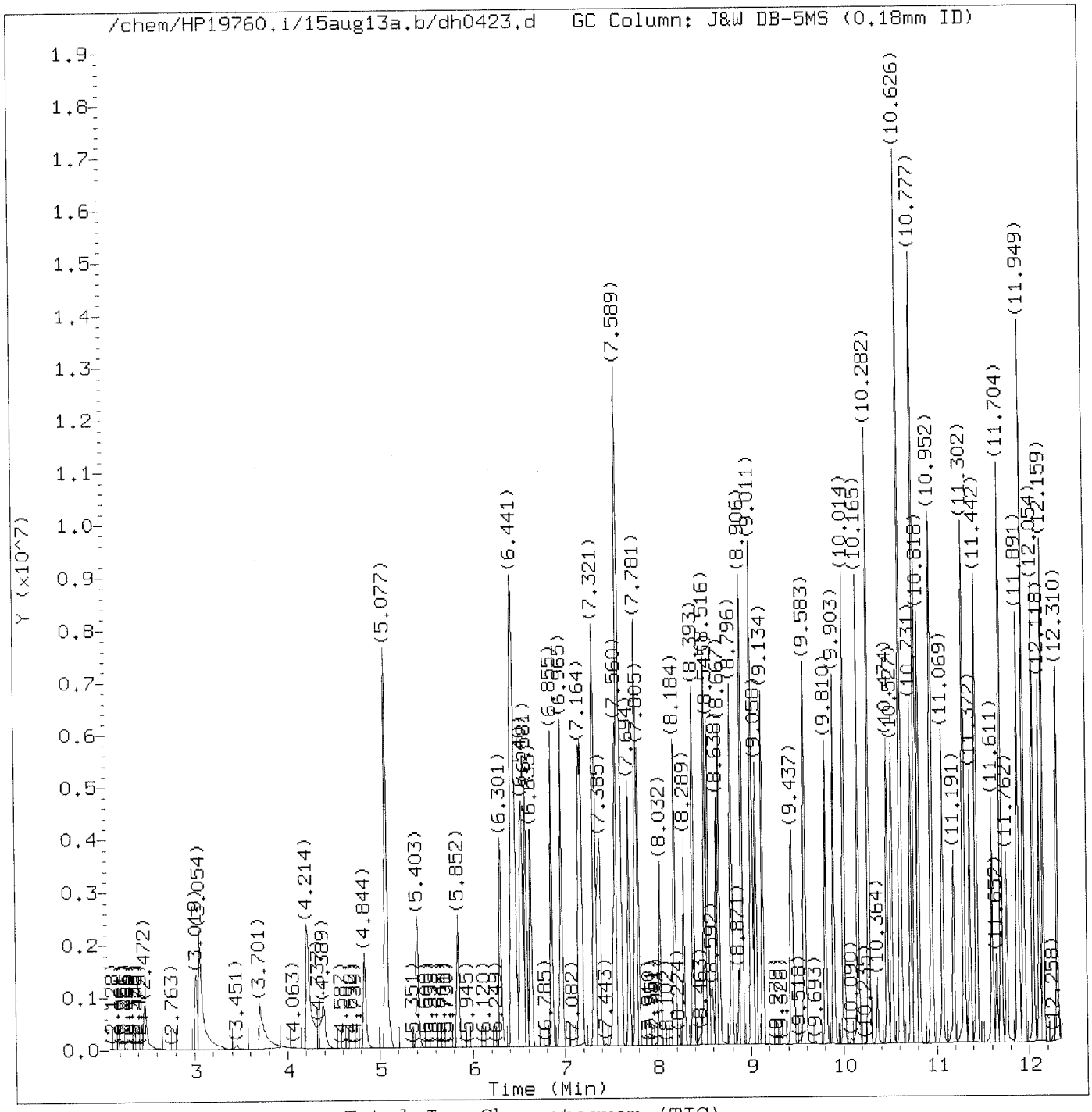
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0423.d
Injection date and time: 13-AUG-2015 22:24

Instrument ID: HP19760.i
Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m
Calibration date and time: 14-AUG-2015 09:52

Sublist used: newall1-d

Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD030

Lab Sample ID: RVSTD2065

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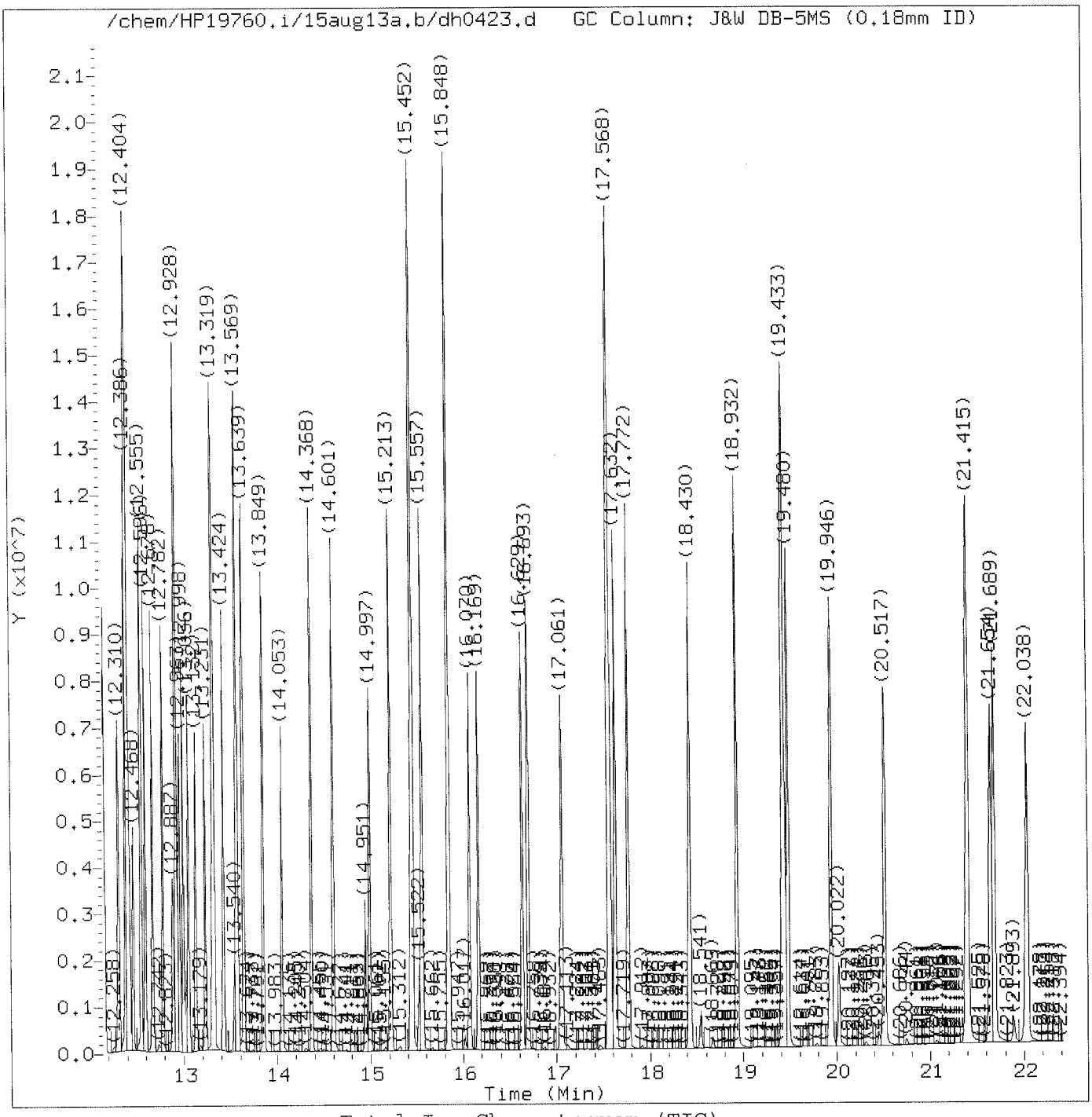
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0423.d
Injection date and time: 13-AUG-2015 22:24

Instrument ID: HP19760.i
Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m
Calibration date and time: 14-AUG-2015 09:52

Sublist used: newall1-d

Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD030

Lab Sample ID: RVSTD2065

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on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0423.d
Injection date and time: 13-AUG-2015 22:24

Instrument ID: HP19760.i
Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sublist used: newall1-d

Sample Name: SSTD030

Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.472	88	814708	30.055
2) N-Nitrosodimethylamine	(1)	3.019	74	1442362	30.619
3) Pyridine	(1)	3.054	79	2347776	30.288
4) 2-Picoline	(1)	4.214	93	2349871	30.141
5) N-Nitrosomethylethylamine	(1)	4.389	88	985088	30.264
6) Methyl methanesulfonate	(1)	4.844	80	1205543	30.048
7)$2-Fluorophenol	(1)	5.077	112	3764285	60.176
8) N-Nitrosodiethylamine	(1)	5.403	102	965248	30.453
10) Ethyl methanesulfonate	(1)	5.852	109	966338	30.203
11) Benzaldehyde	(1)	6.301	77	1485099	27.137
12)$Phenol-d5	(1)	6.435	99	4808346	60.036
13)$Phenol-d6	(1)	6.435	99	4808346	60.036
14) Phenol	(1)	6.453	94	2820260	29.802
15) Aniline	(1)	6.464	93	3259675	30.037
16) bis(2-Chloroethyl)ether	(1)	6.581	93	2106267	29.987
17) 2-Chlorophenol	(1)	6.633	128	1813446	30.218
18) 1,3-Dichlorobenzene	(1)	6.855	146	1920100	30.080
19)*1,4-Dichlorobenzene-d4	(1)	6.942	152	207161	5.000
20) 1,4-Dichlorobenzene	(1)	6.965	146	1931088	29.895
23) Benzyl alcohol	(1)	7.164	108	1267892	30.105
24) 1,2-Dichlorobenzene	(1)	7.187	146	1817604	29.952
25) Indene	(1)	7.321	115	2996138	29.879
26) 2-Methylphenol	(1)	7.338	108	1729792	30.078
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.385	45	3000878	29.760
28) bis(2-Chloroisopropyl)ether	(1)	7.385	45	3000878	29.760
29) N-Nitrosopyrrolidine	(1)	7.531	100	1025358	30.550
30) Acetophenone	(1)	7.560	105	2605869	30.038
33) 4-Methylphenol	(1)	7.583	108	1960268	29.784
31) N-Nitroso-di-n-propylamine	(1)	7.589	70	1615770	29.961
32) N-Nitrosomorpholine	(1)	7.595	56	1331814	29.780
34) o-Toluidine	(1)	7.612	106	2989731	30.097
35) Hexachloroethane	(1)	7.694	117	829748	30.108
36)$Nitrobenzene-d5	(2)	7.776	82	4586269	60.589
37) Nitrobenzene	(2)	7.805	77	2354319	30.117
39) N-Nitrosopiperidine	(2)	8.038	114	910038	30.238
40) Isophorone	(2)	8.184	82	4157984	30.150
42) 2-Nitrophenol	(2)	8.289	139	962951	30.498
45) 2,4-Dimethylphenol	(2)	8.393	107	1908568	29.809
46) O,O,O-triethylphosphorothioate	(2)	8.522	198	933998	29.991
48) bis(2-Chloroethoxy)methane	(2)	8.545	93	2511100M	29.413

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on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0423.d
Injection date and time: 13-AUG-2015 22:24

Instrument ID: HP19760.i
Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sublist used: newall1-d

Sample Name: SSTD030

Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
47) Benzoic acid	(2)	8.592	105	1519974M	32.664
49) 2,4-Dichlorophenol	(2)	8.667	162	1463495	30.120
51) 1,2,4-Trichlorobenzene	(2)	8.796	180	1693463	30.193
52)*Naphthalene-d8	(2)	8.871	136	797685	5.000
53) Naphthalene	(2)	8.906	128	5014898	29.402
55) 4-Chloroaniline	(2)	9.011	127	2198623	30.146
56) 2,6-Dichlorophenol	(2)	9.023	162	1402028	29.986
57) Hexachloropropene	(2)	9.058	213	1189984	30.765
58) Hexachlorobutadiene	(2)	9.134	225	999339	30.540
60) Quinoline	(2)	9.443	129	3160508	29.708
62) N-Nitrosodi-n-butylamine	(2)	9.583	84	1809309	33.095
61) Caprolactam	(2)	9.594	113	486704M	30.474
63) 4-Chloro-3-methylphenol	(2)	9.810	107	1606143	29.773
64) Safrole	(2)	9.903	162	1289796	30.054
65) 2-Methylnaphthalene	(2)	10.014	142	3326631	29.807
66) 1-Methylnaphthalene	(2)	10.165	142	2992422	29.183
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.282	216	1674098	30.361
67) Hexachlorocyclopentadiene	(3)	10.282	237	1104749	31.056
69) cis-Isosafrole	(3)	10.364	162	239593	5.278
70) 2,4,6-Trichlorophenol	(3)	10.474	196	1134478	30.876
71) 2,4,5-Trichlorophenol	(3)	10.527	196	1170298	30.270
72)$2-Fluorobiphenyl	(3)	10.626	172	7265579	59.846
74) Isosafrole	(3)	10.731	162	1273277	30.500
73) trans-Isosafrole	(3)	10.731	162	1273277	25.315
75) 1,1'-Biphenyl	(3)	10.777	154	3750233	30.098
76) 2-Chloronaphthalene	(3)	10.783	162	3228529	31.155
77) 1-Chloronaphthalene	(3)	10.818	162	2888392	29.391
82) Diphenyl ether	(3)	10.952	170	2116607	30.239
83) 2-Nitroaniline	(3)	10.964	138	1025391M	30.402
84) 1,4-Naphthoquinone	(3)	11.069	158	1341450	30.525
85) 1,4-Dinitrobenzene	(3)	11.191	168	575435	31.529
86) Dimethylphthalate	(3)	11.302	163	3570299	30.232
87) 1,3-Dinitrobenzene	(3)	11.308	168	623303	31.305
88) 2,6-Dinitrotoluene	(3)	11.372	165	842762	31.075
90) Acenaphthylene	(3)	11.442	152	4771985	30.738
91) 3-Nitroaniline	(3)	11.611	138	903871	31.149
92)*Acenaphthene-d10	(3)	11.652	164	444995	5.000
93) Acenaphthene	(3)	11.704	153	3060639	29.798
94) 2,4-Dinitrophenol	(3)	11.762	184	594413	32.639
96) 4-Nitrophenol	(3)	11.879	109	637090	30.723

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on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0423.d
Injection date and time: 13-AUG-2015 22:24
Instrument ID: HP19760.i
Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m
Calibration date and time: 14-AUG-2015 09:52
Sublist used: newall1-d
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD030
Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
95) Pentachlorobenzene	(3)	11.891	250	1410826	30.154
97) Dibenzofuran	(3)	11.949	168	4260919	29.818
98) 2,4-Dinitrotoluene	(3)	11.955	165	1147793	31.209
99) 1-Naphthylamine	(3)	12.054	143	3348523	31.061
100) 2,3,4,6-Tetrachlorophenol	(3)	12.118	232	966762	31.266
101) 2-Naphthylamine	(3)	12.159	143	3327357	31.303
102) Diethylphthalate	(3)	12.310	149	3571729	30.406
103) Fluorene	(3)	12.386	166	3460957	30.459
104) Thionazin	(3)	12.404	107	696926	30.342
105) 4-Chlorophenyl-phenylether	(3)	12.409	204	1717676	29.745
106) 5-Nitro-o-toluidine	(3)	12.415	152	1002894	30.508
107) 4-Nitroaniline	(3)	12.427	138	911544M	29.719
108) 4,6-Dinitro-2-methylphenol	(4)	12.468	198	762467	31.439
110) NDPA as diphenylamine	(4)	12.555	169	3010331	29.763
109) N-Nitrosodiphenylamine	(4)	12.555	169	3010331	29.763
111) 1,2-Diphenylhydrazine	(4)	12.596	77	4431804	29.465
112)$2,4,6-Tribromophenol	(3)	12.678	330	1013156	62.798
115) Tetraethyldithiopyrophosphate	(4)	12.782	97	692494	29.509
116) 1,3,5-Trinitrobenzene	(4)	12.893	213	496054	31.320
117) Diallate (peak 1)	(4)	12.922	86	1583436	24.361
118) Phorate	(4)	12.928	75	2873455	29.442
119) Phenacetin	(4)	12.963	108	2064594	29.776
120) 4-Bromophenyl-phenylether	(4)	12.998	248	1046489	29.886
121) Diallate (peak 2)	(4)	13.021	86	318301	5.092
122) Hexachlorobenzene	(4)	13.056	284	1108173	30.166
123) Dimethoate	(4)	13.132	87	1811150	29.839
124) Atrazine	(4)	13.231	200	878587	27.661
125) Pentachlorophenol	(4)	13.307	266	773941	30.375
127) 4-Aminobiphenyl	(4)	13.319	169	3442317	28.745
126) Pentachloronitrobenzene	(4)	13.325	237	510211	29.763
129) Pronamide	(4)	13.424	173	1746415	29.706
130)*Phenanthrene-d10	(4)	13.540	188	825465	5.000
133) Dinoseb	(4)	13.563	211	1145453	31.388
131) Phenanthrene	(4)	13.569	178	5249396	29.557
134) Anthracene	(4)	13.639	178	5222792	30.393
135) Carbazole	(4)	13.849	167	5005654	29.481
136) Methyl parathion	(4)	14.053	109	1436021	30.197
137) Di-n-butylphthalate	(4)	14.368	149	6317976	29.436
138) Parathion	(4)	14.601	109	887684	30.045
139) 4-Nitroquinoline-1-oxide	(4)	14.607	190	720860	33.131

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on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0423.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:24 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

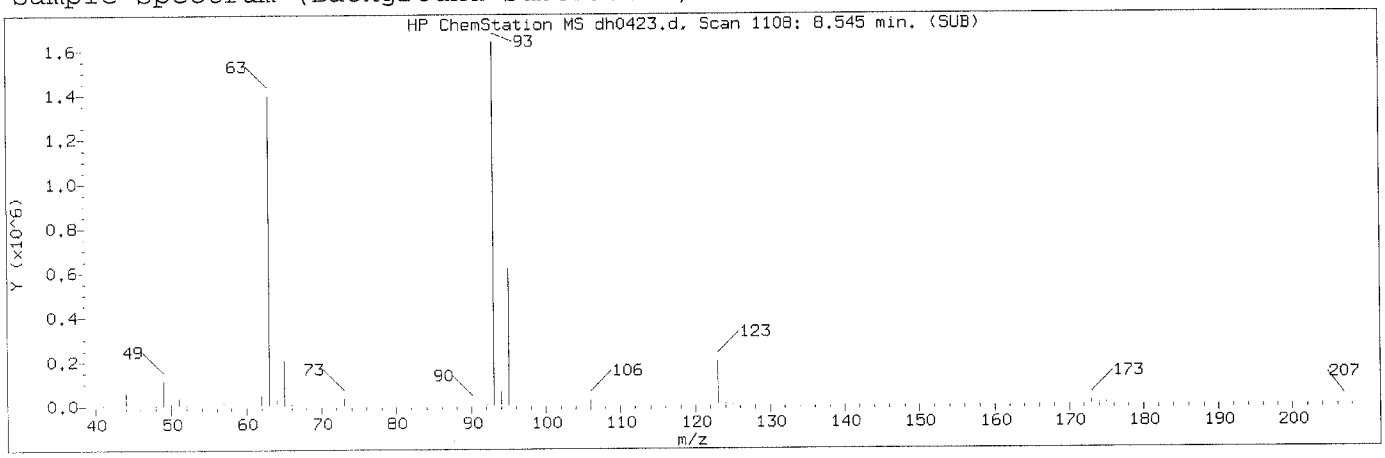
Sample Name: SSTD030 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	14.997	193	667642	29.701
142) Fluoranthene	(4)	15.213	202	6049398	30.371
144) Benzidine	(5)	15.452	184	11666887	87.684
145)*Pyrene-d10	(5)	15.522	212	1045092	5.000
146) Pyrene	(5)	15.557	202	6280096	28.939
149)$Terphenyl-d14	(5)	15.848	244	8690498	58.815
150) p-Dimethylaminoazobenzene	(5)	16.070	225	1275161	30.595
151) Chlorobenzilate	(5)	16.169	139	1951532	29.896
152) 3,3'-Dimethylbenzidine	(5)	16.629	212	4369168	30.189
153) Butylbenzylphthalate	(5)	16.693	149	2958300	29.908
156) 2-Acetylaminofluorene	(5)	17.061	181	2798457	32.082
159) 3,3'-Dichlorobenzidine	(5)	17.556	252	2408433	30.309
158) Benzo(a)anthracene	(5)	17.568	228	6303480	32.142
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.579	231	1330186	30.242
161) Chrysene	(5)	17.632	228	5859509	31.084
162) bis(2-Ethylhexyl)phthalate	(5)	17.772	149	4455478	30.217
165) 6-Methylchrysene	(5)	18.430	242	4516622	30.381
166) Di-n-octylphthalate	(6)	18.932	149	7925088	30.480
168) Benzo(b)fluoranthene	(6)	19.427	252	6442755	31.537
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.433	256	2910688	30.233
170) Benzo(k)fluoranthene	(6)	19.480	252	6284615	31.200
171) Benzo(a)pyrene	(6)	19.946	252	6163921	33.060
172)*Perylene-d12	(6)	20.022	264	904232	5.000
173) 3-Methylcholanthrene	(6)	20.523	268	3001095	30.590
176) Indeno(1,2,3-cd)pyrene	(6)	21.654	276	6584851	32.570
177) Dibenz(a,h)anthracene	(6)	21.689	278	5542955	32.579
178) Benzo(g,h,i)perylene	(6)	22.038	276	5356254	30.782
179) Diallate TRANS/CIS	(4)			1901737	29.453
182) 2,4_2,6-Dinitrotoluenes	(3)			1990555	62.284

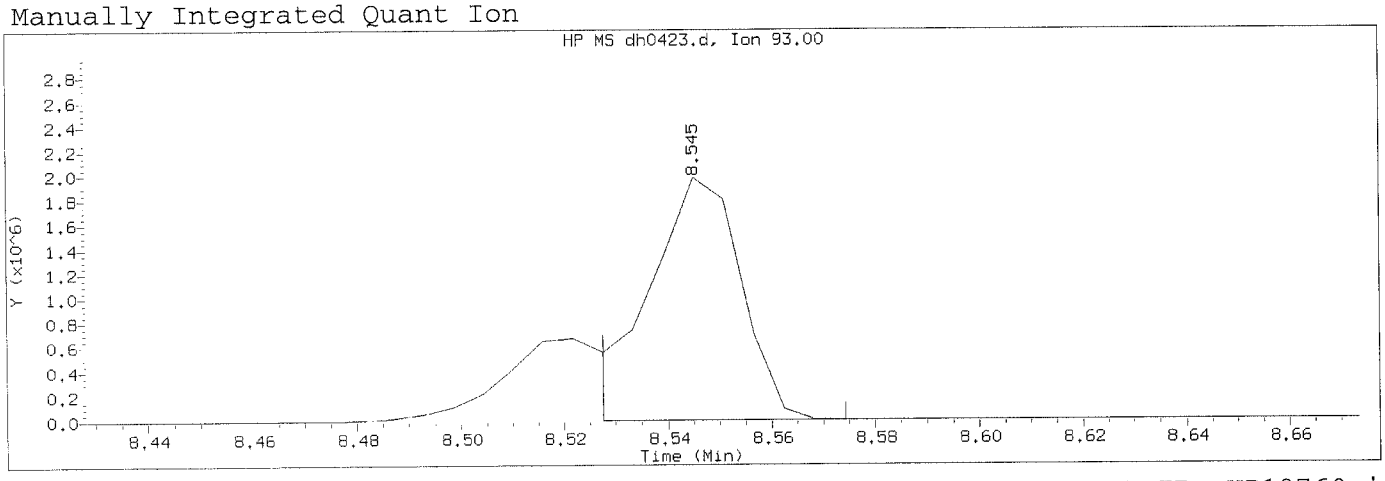
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0423.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:24 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

Compound Number	: 48		
Compound Name	: bis(2-Chloroethoxy)methane		
Scan Number	: 1108		
Retention Time (minutes)	: 8.545		
Quant Ion	: 93.00		
Area (flag)	: 2511100M		
On-Column Amount (ng/ul)	: 29.4126		
Integration start scan	: 1104	Integration stop scan:	1112
Y at integration start	: 716	Y at integration end:	716

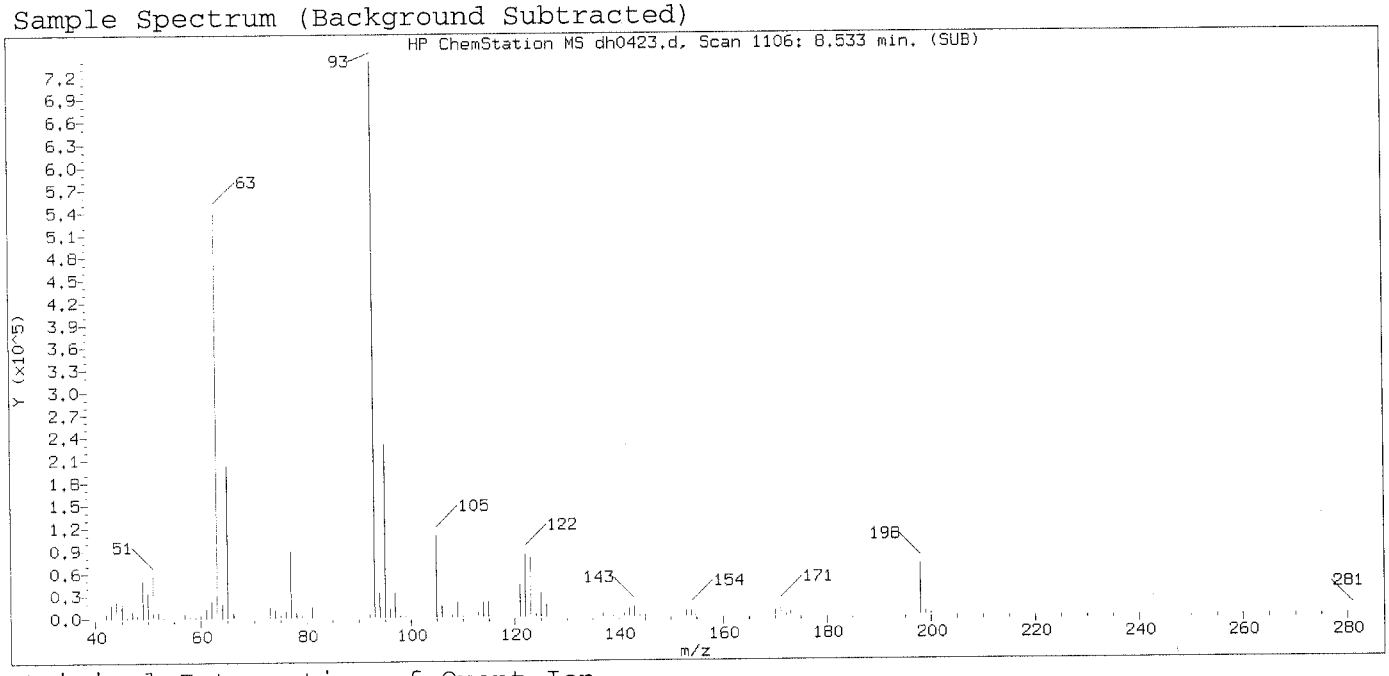
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

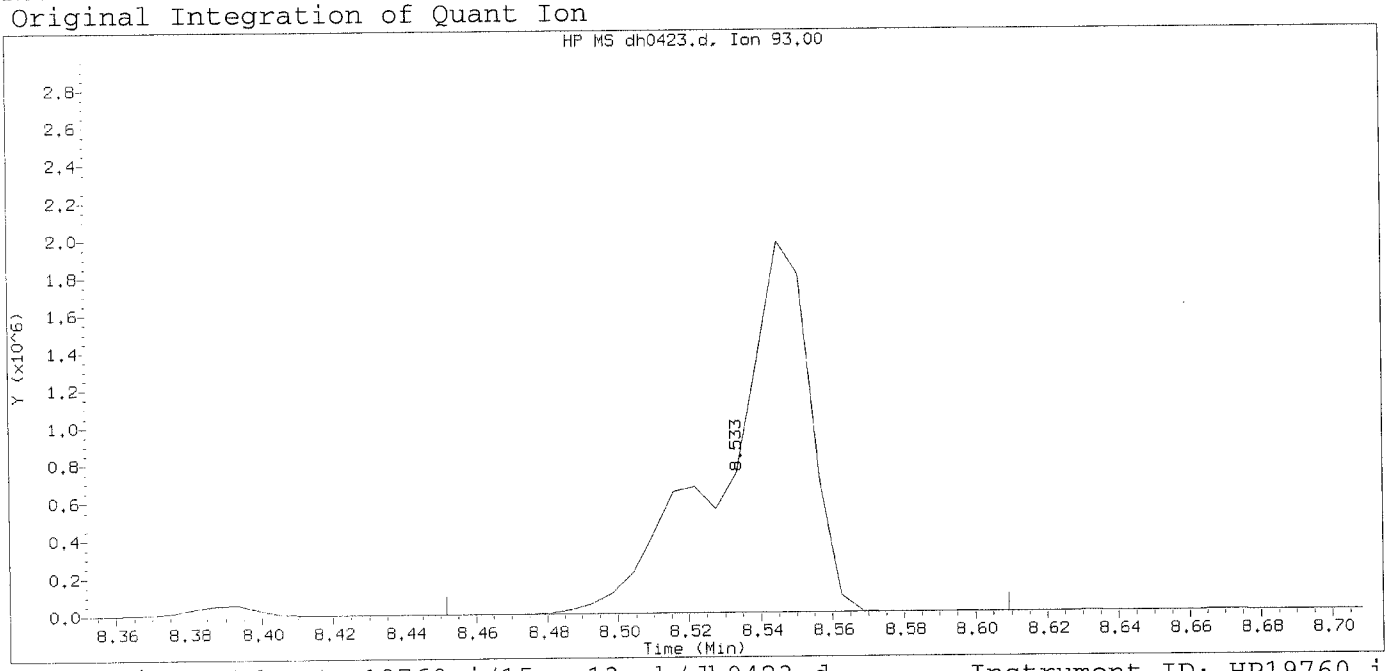
AUG 18 2015

GC/MS audit/management approval: Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0423.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:24 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

Compound Number	: 48		
Compound Name	: bis(2-Chloroethoxy)methane		
Scan Number	: 1106		
Retention Time (minutes)	: 8.533		
Quant Ion	: 93.00		
Area	: 3264731		
On-column Amount (ng/ul)	: 0.1021		
Integration start scan	: 1091	Integration stop scan:	1118
Y at integration start	: 0	Y at integration end:	0

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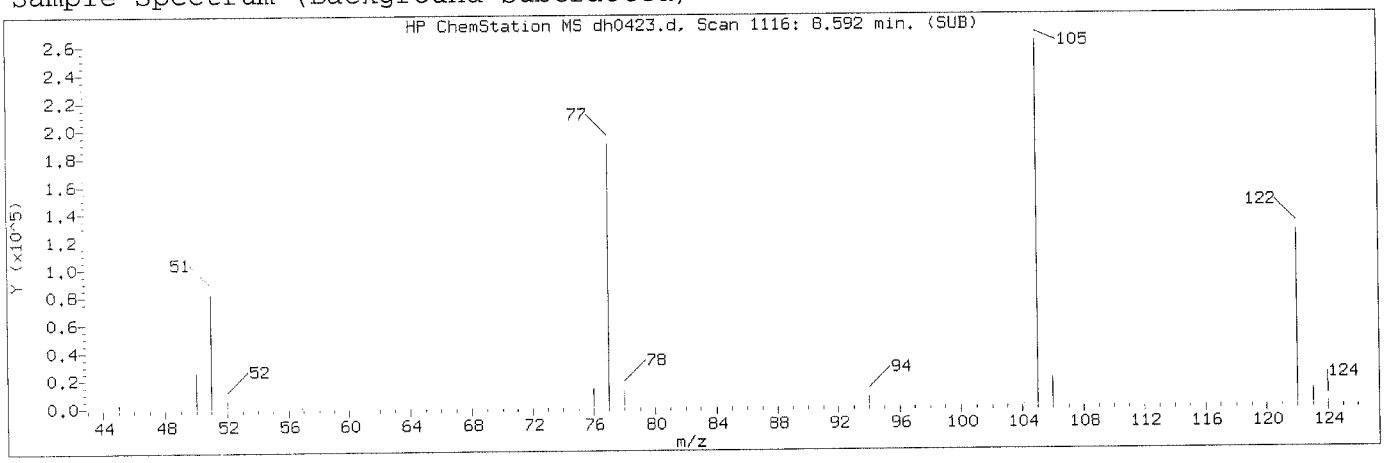
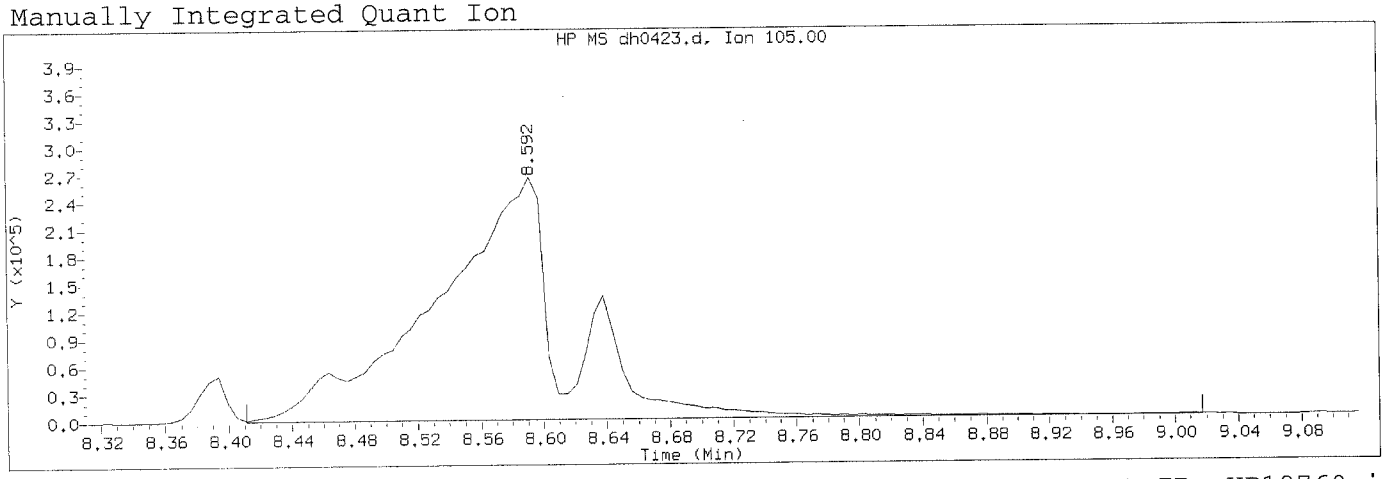
Target 3.5 esignature used. [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0423.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:24 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1116		
Retention Time (minutes)	: 8.592		
Quant Ion	: 105.00		
Area (flag)	: 1519974M		
On-Column Amount (ng/ul)	: 32.6639		
Integration start scan	: 1084	Integration stop scan:	1188
Y at integration start	: 754	Y at integration end:	754

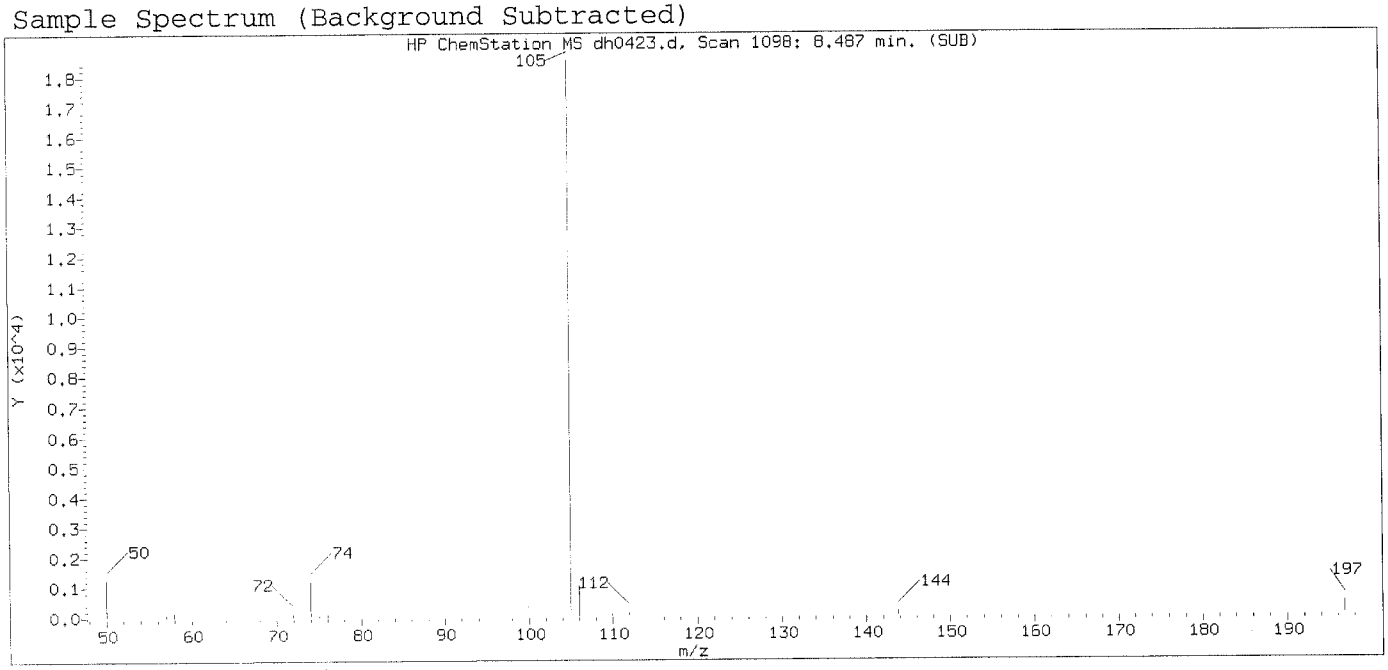
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07
Target 3.5 esignature user ID: aap07680

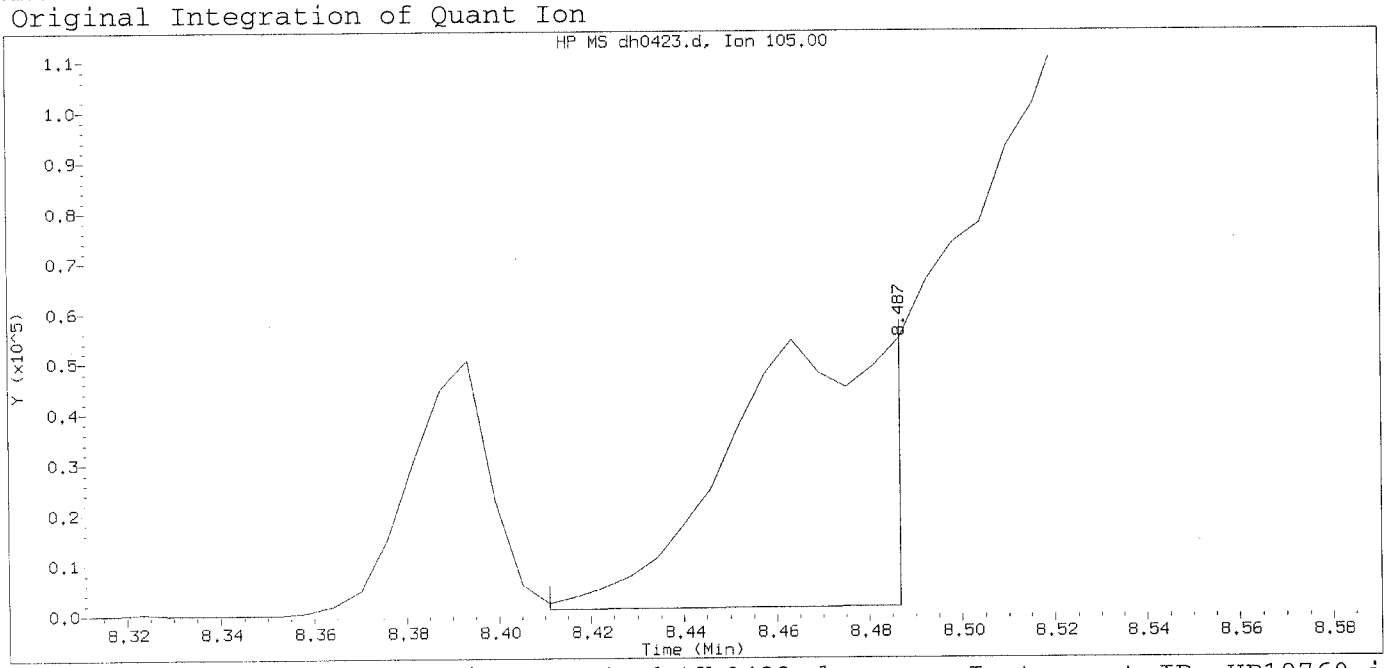
AUG 18 2015

GC/MS audit/management approval: Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0423.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:24 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1098		
Retention Time (minutes)	: 8.487		
Quant Ion	: 105.00		
Area	: 126874		
On-column Amount (ng/ul)	: 0.0000		
Integration start scan	: 1084	Integration stop scan:	1097
Y at integration start	: 1088	Y at integration end:	1373

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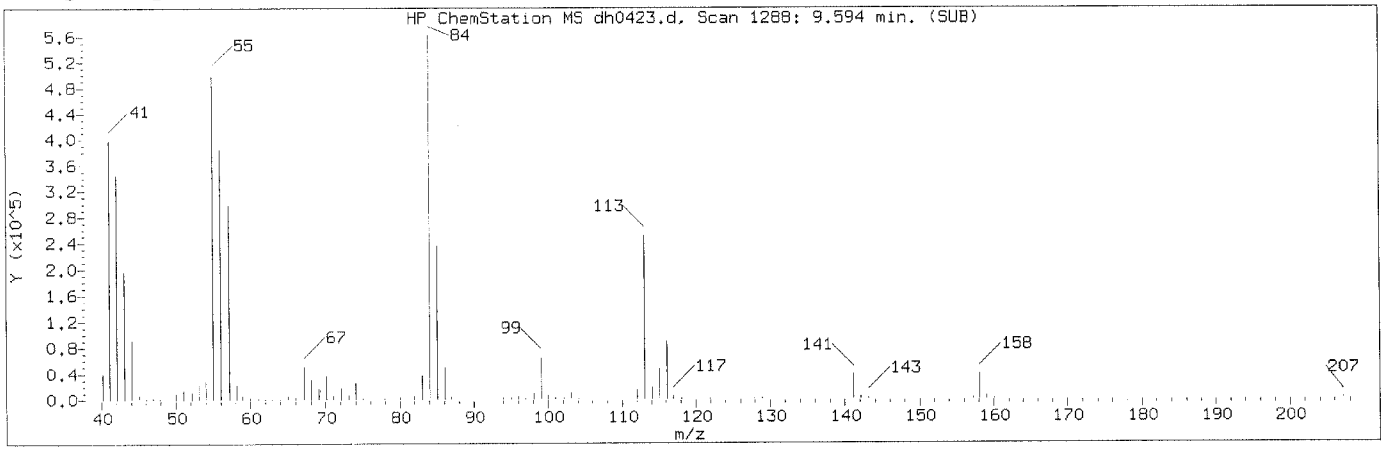
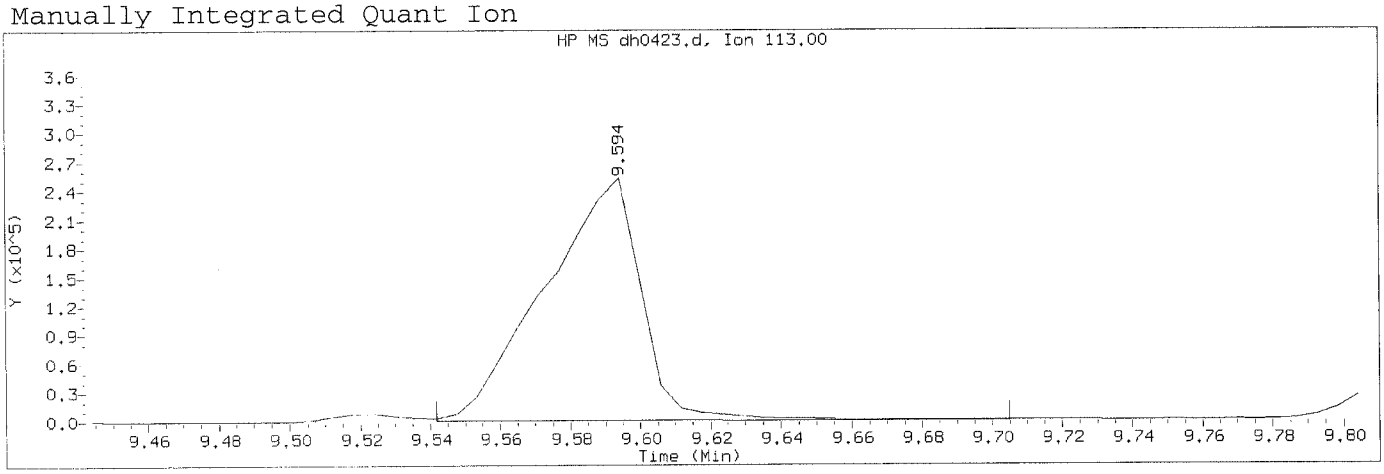
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0423.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:24 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

Compound Number	: 61		
Compound Name	: Caprolactam		
Scan Number	: 1288		
Retention Time (minutes)	: 9.594		
Quant Ion	: 113.00		
Area (flag)	: 486704M		
On-Column Amount (ng/ul)	: 30.4739		
Integration start scan	: 1278	Integration stop scan:	1306
Y at integration start	: 318	Y at integration end:	-132

Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

GC/MS audit/management approval: AUG 18 2015

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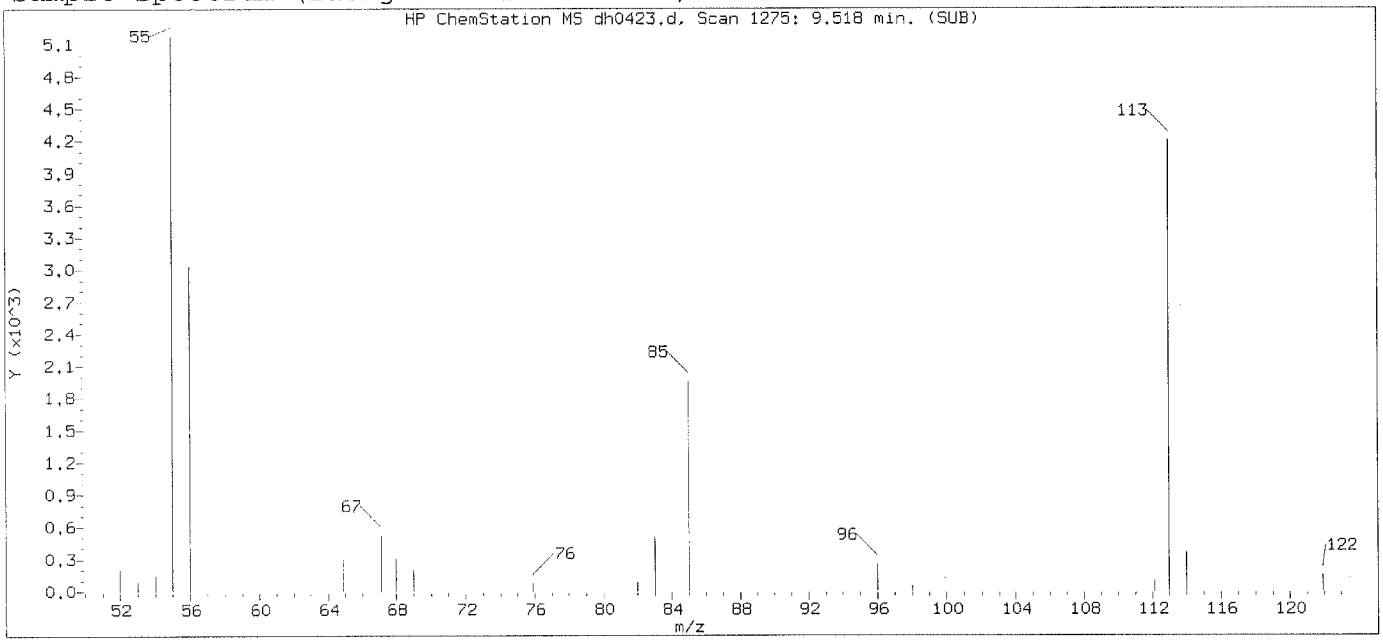
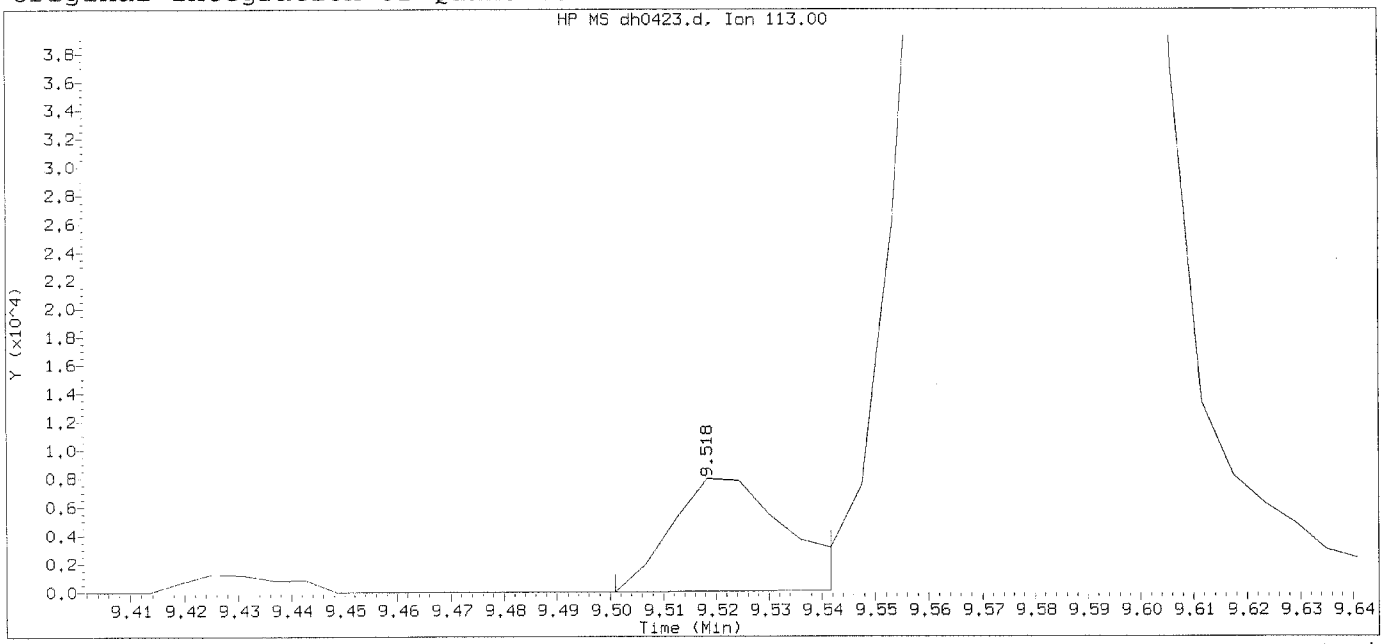
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0423.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:24 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

Compound Number	: 61		
Compound Name	: Caprolactam		
Scan Number	: 1275		
Retention Time (minutes)	: 9.518		
Quant Ion	: 113.00		
Area	: 11725		
On-column Amount (ng/ul)	: 0.0018		
Integration start scan	: 1271	Integration stop scan:	1278
Y at integration start	: 0	Y at integration end:	62

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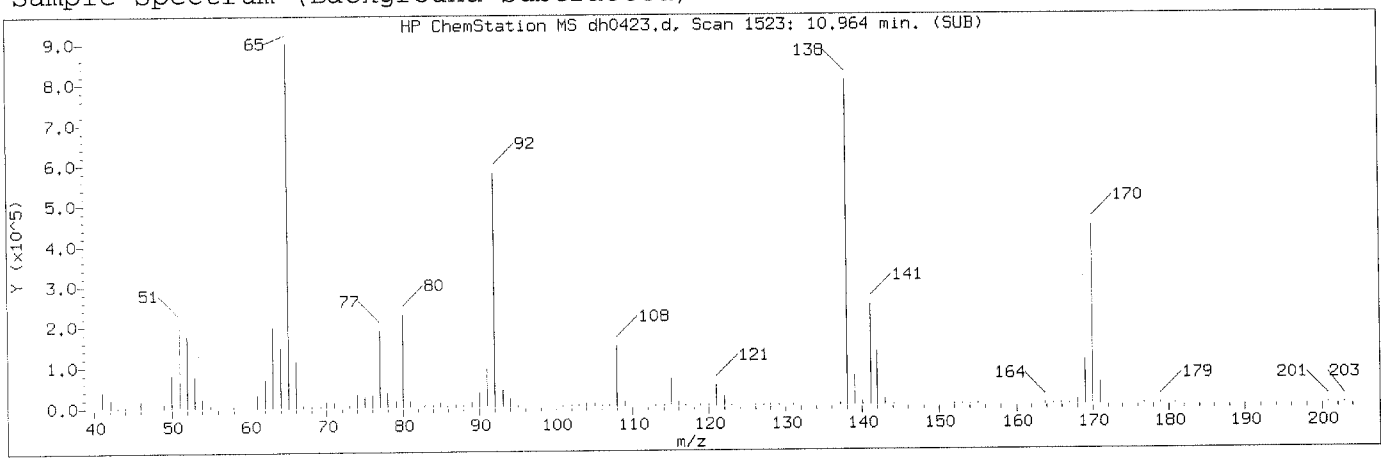
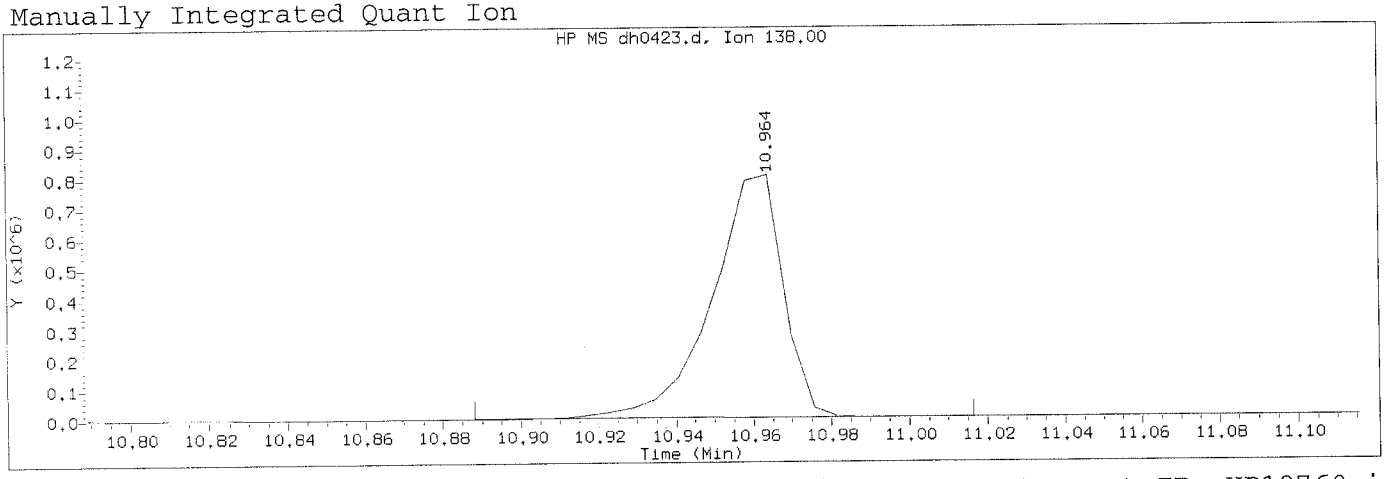
Target 3.5 esignature used. Page 398

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0423.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:24 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

Compound Number	: 83		
Compound Name	: 2-Nitroaniline		
Scan Number	: 1523		
Retention Time (minutes)	: 10.964		
Quant Ion	: 138.00		
Area (flag)	: 1025391M		
On-Column Amount (ng/ul)	: 30.4017		
Integration start scan	: 1509	Integration stop scan:	1531
Y at integration start	: 1522	Y at integration end:	-84

Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

GC/MS audit/management approval: AUG 18 2015

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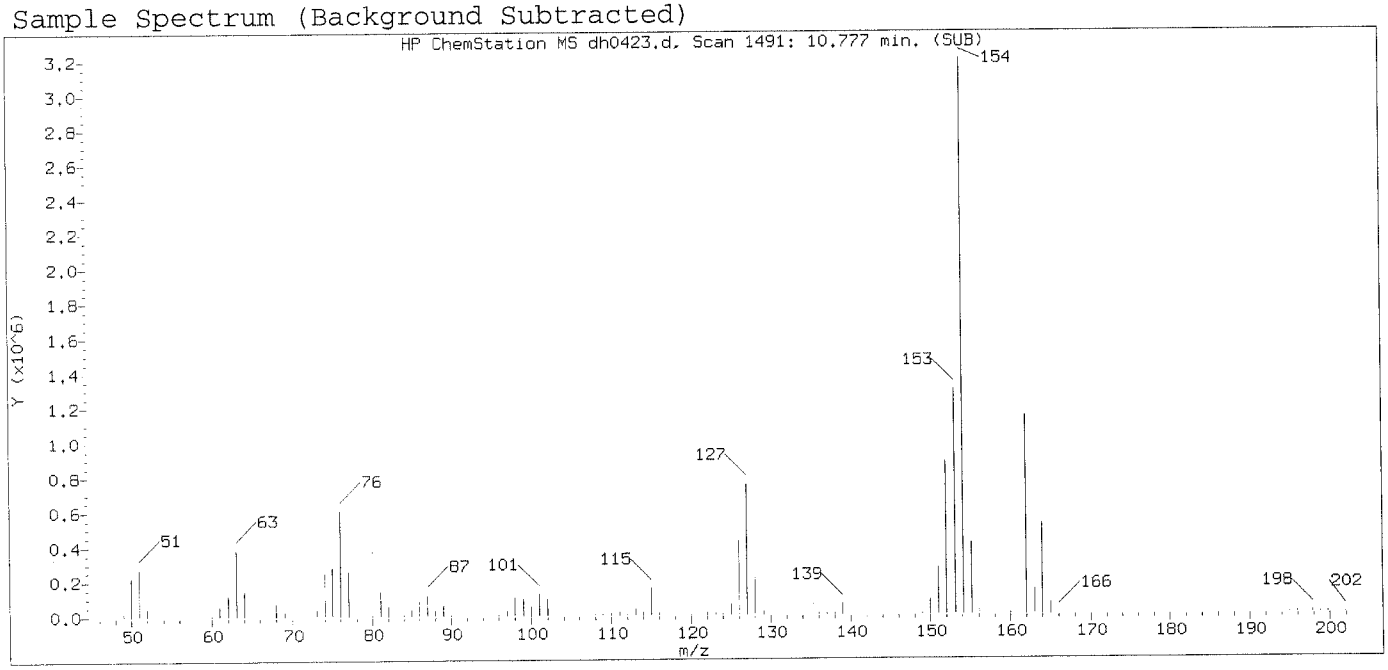
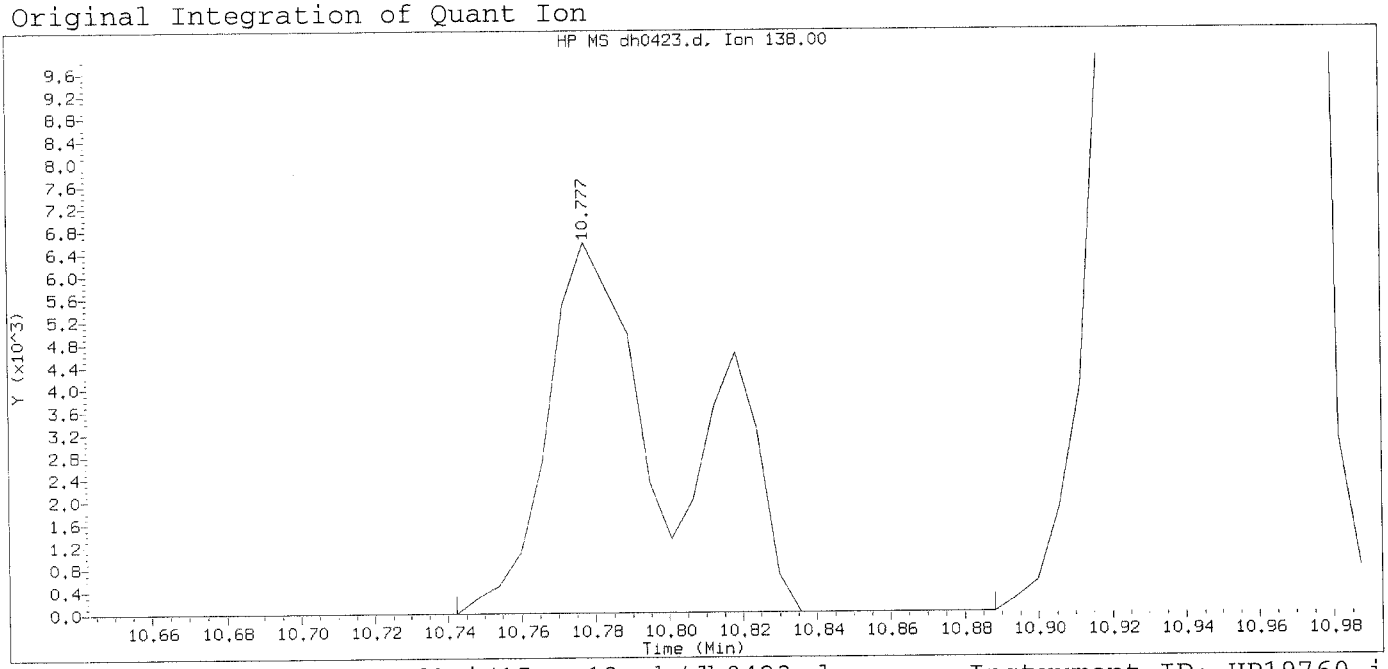
Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0423.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:24 Analyst ID: ceb05247

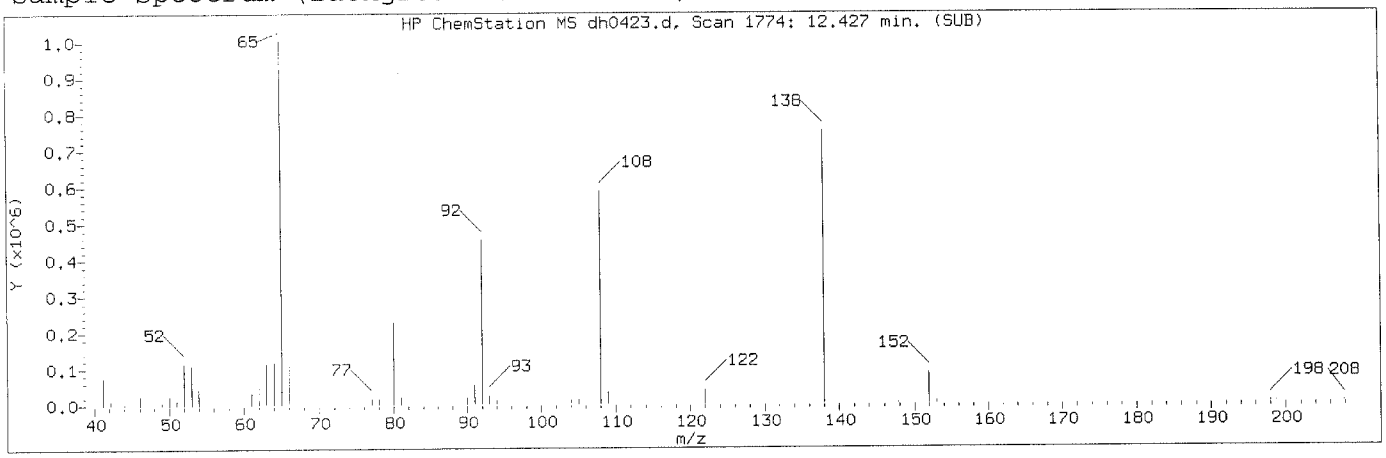
Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

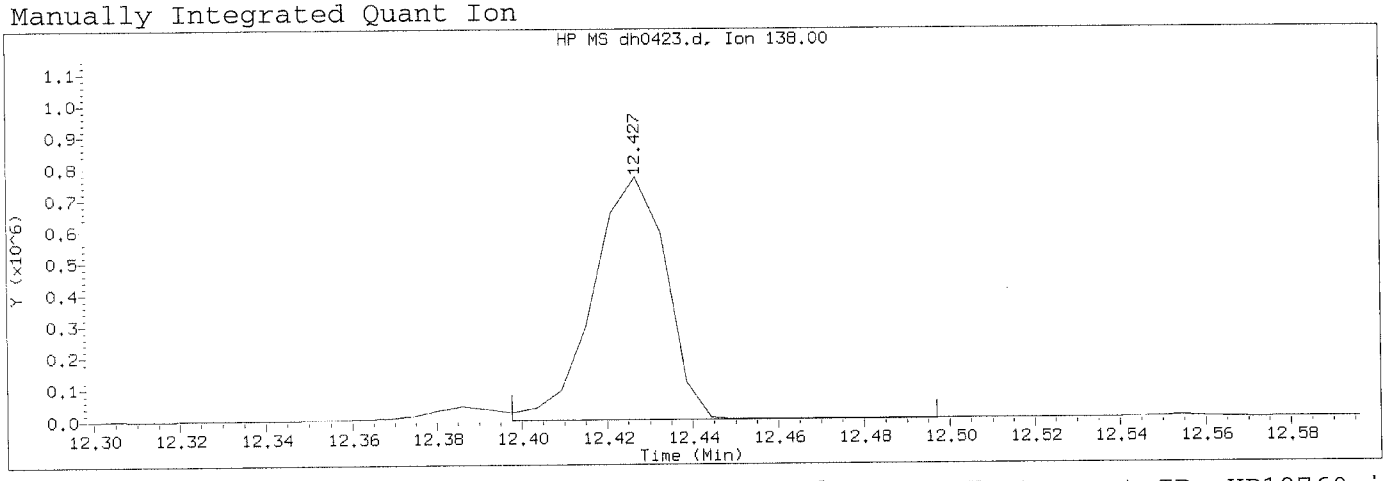
Compound Number	: 83		
Compound Name	: 2-Nitroaniline		
Scan Number	: 1491		
Retention Time (minutes)	: 10.777		
Quant Ion	: 138.00		
Area	: 15784		
On-column Amount (ng/ul)	: 0.0477		
Integration start scan	: 1484	Integration stop scan:	1509
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Ankita A. Patel on 08/14/2015 at 10:07.
Target 3.5 esignature [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0423.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:24 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

Compound Number	: 107		
Compound Name	: 4-Nitroaniline		
Scan Number	: 1774		
Retention Time (minutes)	: 12.427		
Quant Ion	: 138.00		
Area (flag)	: 911544M		
On-Column Amount (ng/ul)	: 29.7191		
Integration start scan	: 1768	Integration stop scan:	1785
Y at integration start	: -604	Y at integration end:	-604

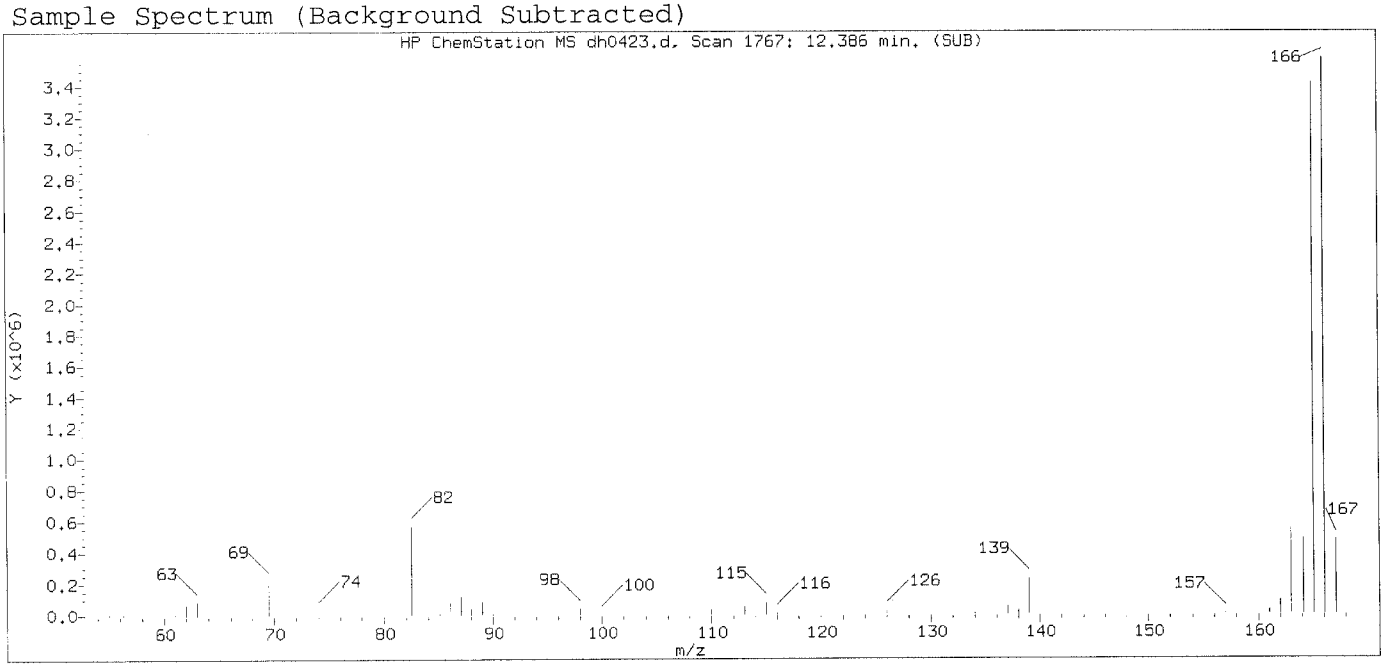
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

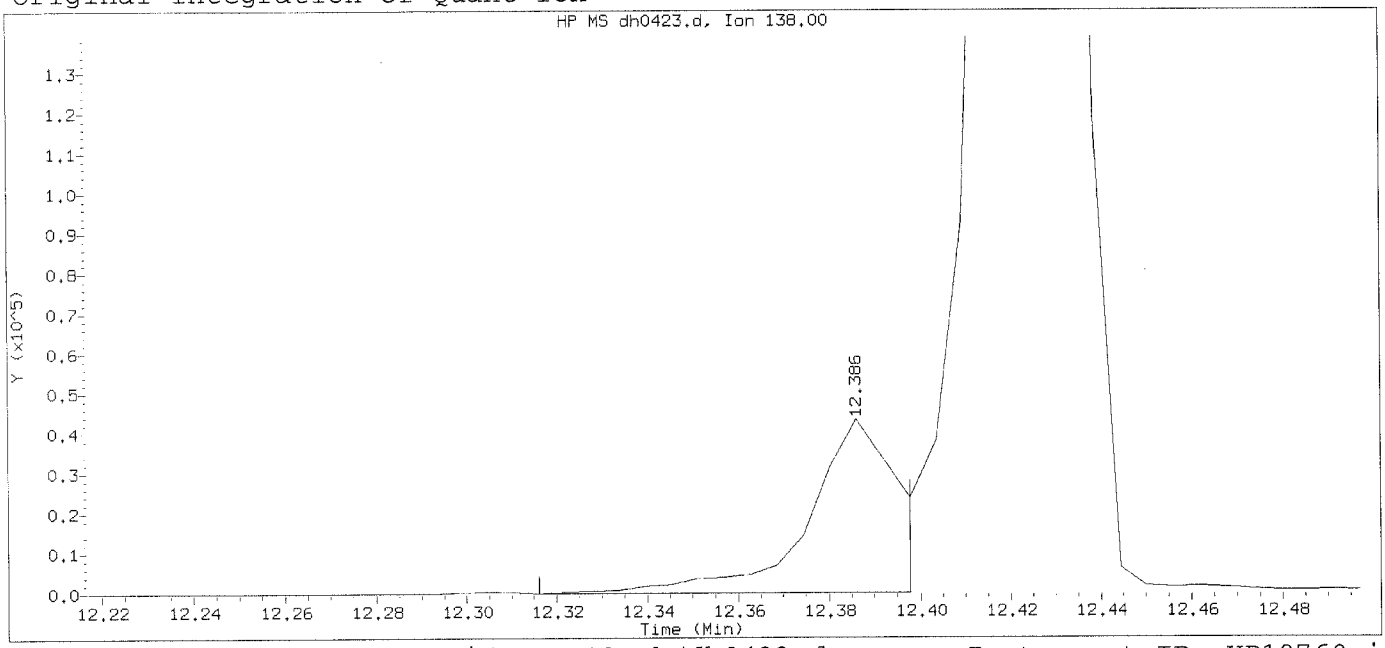
GC/MS audit/management approval: AUG 18 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



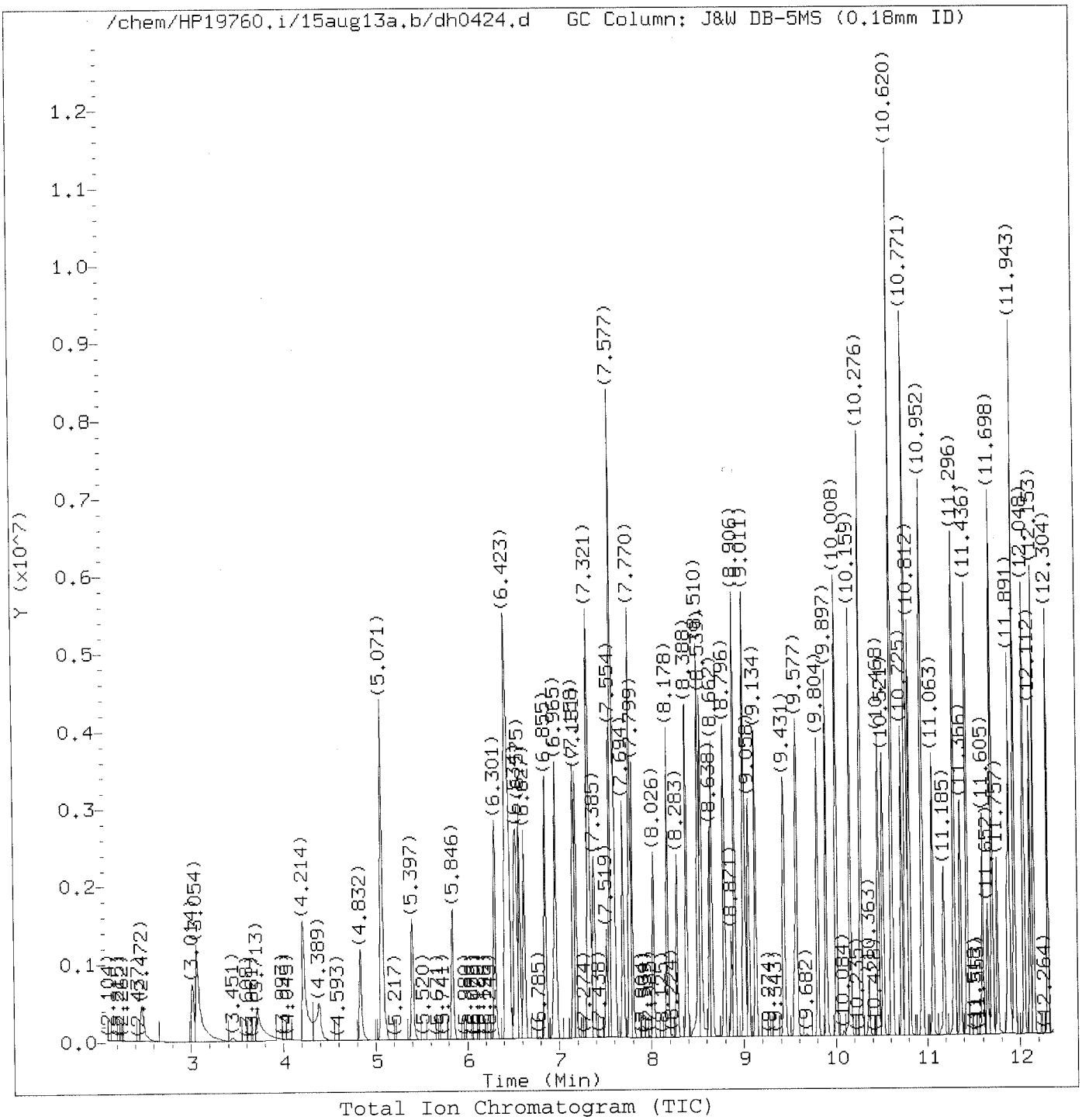
Data File: /chem/HP19760.i/15aug13a.b/dh0423.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:24 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

Compound Number	: 107		
Compound Name	: 4-Nitroaniline		
Scan Number	: 1767		
Retention Time (minutes)	: 12.386		
Quant Ion	: 138.00		
Area	: 55806		
On-column Amount (ng/ul)	: 0.0194		
Integration start scan	: 1754	Integration stop scan:	1768
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Ankita A. Patel on 08/14/2015 at 10:07.
Target 3.5 esignature used: 20150814100728



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0424.d
Injection date and time: 13-AUG-2015 22:52

Instrument ID: HP19760.i
Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m
Calibration date and time: 14-AUG-2015 09:52

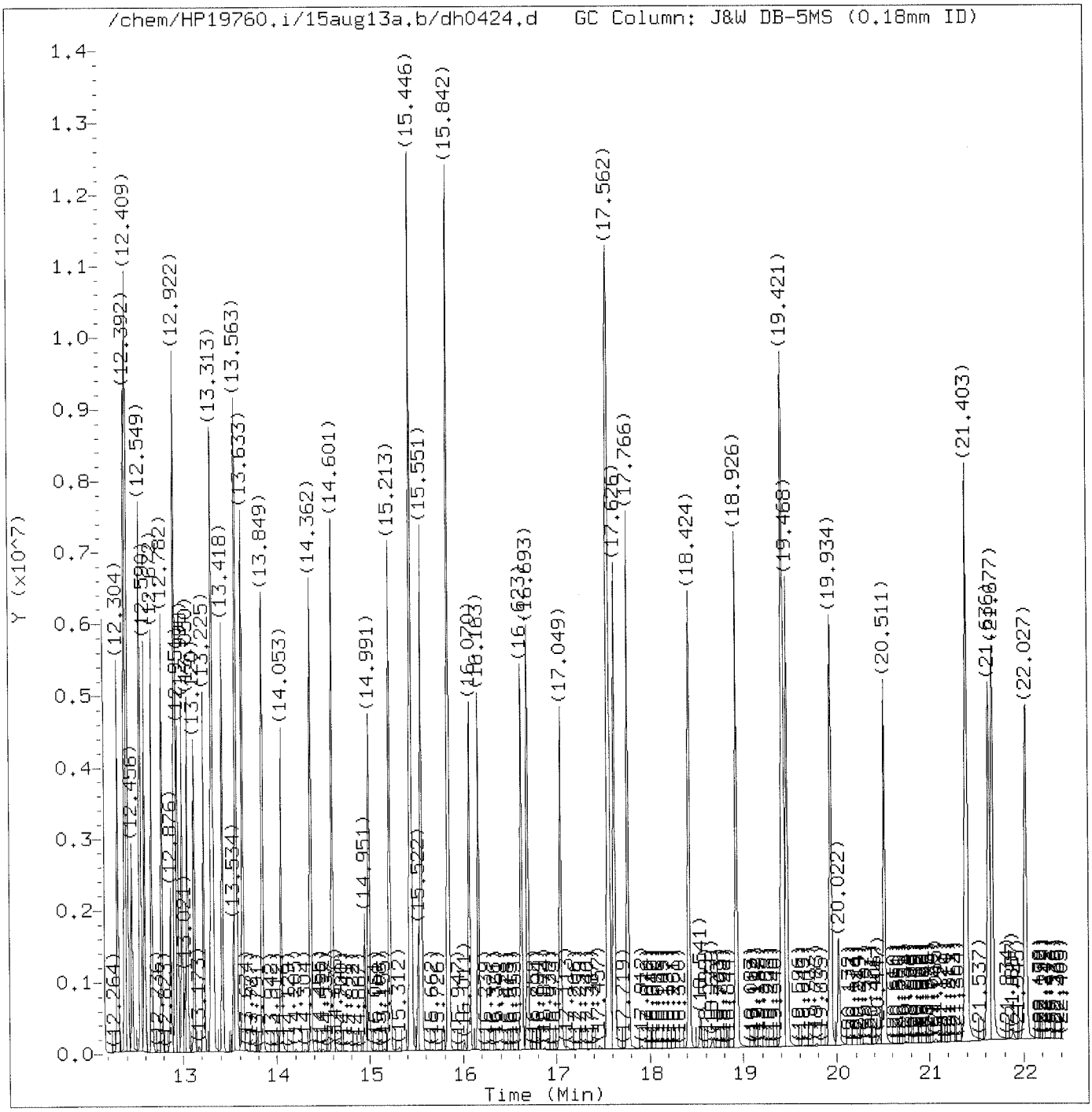
Sublist used: newall1-d

Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD020

Lab Sample ID: RVSTD2065

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0424.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:52 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0424.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:52 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.472	88	457238	19.091
2) N-Nitrosodimethylamine	(1)	3.014	74	828656	19.642
3) Pyridine	(1)	3.060	79	1381493	19.815
4) 2-Picoline	(1)	4.214	93	1372650	19.653
5) N-Nitrosomethylethylamine	(1)	4.389	88	581388	19.844
6) Methyl methanesulfonate	(1)	4.832	80	710139	19.723
7)$2-Fluorophenol	(1)	5.071	112	2220830	39.523
8) N-Nitrosodiethylamine	(1)	5.397	102	568302	19.895
10) Ethyl methanesulfonate	(1)	5.846	109	572352	19.864
11) Benzaldehyde	(1)	6.301	77	1006048	20.228
12)$Phenol-d5	(1)	6.423	99	2846377	39.551
13)$Phenol-d6	(1)	6.423	99	2846377	39.551
14) Phenol	(1)	6.441	94	1697133	19.897
15) Aniline	(1)	6.458	93	1952977	19.944
16) bis(2-Chloroethyl)ether	(1)	6.575	93	1253505	19.833
17) 2-Chlorophenol	(1)	6.627	128	1081485	19.962
18) 1,3-Dichlorobenzene	(1)	6.855	146	1147504	19.929
19)*1,4-Dichlorobenzene-d4	(1)	6.936	152	187193	5.000
20) 1,4-Dichlorobenzene	(1)	6.965	146	1164847	19.971
23) Benzyl alcohol	(1)	7.158	108	750348	19.810
24) 1,2-Dichlorobenzene	(1)	7.181	146	1091772	19.940
25) Indene	(1)	7.321	115	1795054	19.873
26) 2-Methylphenol	(1)	7.333	108	1038095	19.984
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.385	45	1766754	19.589
28) bis(2-Chloroisopropyl)ether	(1)	7.385	45	1766754	19.589
29) N-Nitrosopyrrolidine	(1)	7.519	100	606503	19.999
30) Acetophenone	(1)	7.554	105	1563437	19.963
31) N-Nitroso-di-n-propylamine	(1)	7.577	70	959538	19.793
33) 4-Methylphenol	(1)	7.577	108	1187716	19.980
32) N-Nitrosomorpholine	(1)	7.583	56	796369	19.804
34) o-Toluidine	(1)	7.601	106	1791917	19.975
35) Hexachloroethane	(1)	7.694	117	495107	19.921
36)$Nitrobenzene-d5	(2)	7.770	82	2732567	40.252
37) Nitrobenzene	(2)	7.799	77	1416243	20.176
39) N-Nitrosopiperidine	(2)	8.026	114	548523	20.256
40) Isophorone	(2)	8.178	82	2493559	20.149
42) 2-Nitrophenol	(2)	8.283	139	576340	20.276
45) 2,4-Dimethylphenol	(2)	8.388	107	1159298	20.168
46) O,O,O-triethylphosphorothioate	(2)	8.516	198	566786	20.237
48) bis(2-Chloroethoxy)methane	(2)	8.539	93	1515839	19.906

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: aap07680.

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0424.d
Injection date and time: 13-AUG-2015 22:52

Instrument ID: HP19760.i
Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sublist used: newall1-d

Sample Name: SSTD020

Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
47) Benzoic acid	(2)	8.557	105	895299M	20.989
49) 2,4-Dichlorophenol	(2)	8.662	162	876209	20.113
51) 1,2,4-Trichlorobenzene	(2)	8.796	180	1020096	20.228
52) *Naphthalene-d8	(2)	8.871	136	713150	5.000
53) Naphthalene	(2)	8.906	128	3015419	19.831
55) 4-Chloroaniline	(2)	9.005	127	1314466	20.106
56) 2,6-Dichlorophenol	(2)	9.017	162	845546	20.151
57) Hexachloropropene	(2)	9.058	213	713045	20.409
58) Hexachlorobutadiene	(2)	9.134	225	598544	20.304
60) Quinoline	(2)	9.431	129	1938549	20.253
61) Caprolactam	(2)	9.565	113	297240	20.537
62) N-Nitrosodi-n-butylamine	(2)	9.577	84	1088650	21.460
63) 4-Chloro-3-methylphenol	(2)	9.804	107	965152	20.008
64) Safrole	(2)	9.897	162	778495	20.193
65) 2-Methylnaphthalene	(2)	10.008	142	2010117	20.109
66) 1-Methylnaphthalene	(2)	10.159	142	1813589	19.837
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.276	216	1016357	20.140
67) Hexachlorocyclopentadiene	(3)	10.276	237	670914	20.449
69) cis-Isosafrole	(3)	10.363	162	144446	3.459
70) 2,4,6-Trichlorophenol	(3)	10.468	196	680185	20.198
71) 2,4,5-Trichlorophenol	(3)	10.521	196	711750	20.124
72) $2-Fluorobiphenyl	(3)	10.620	172	4439401	40.064
74) Isosafrole	(3)	10.725	162	763884	20.042
73) trans-Isosafrole	(3)	10.725	162	763884	16.635
75) 1,1'-Biphenyl	(3)	10.771	154	2283946	20.066
76) 2-Chloronaphthalene	(3)	10.783	162	1868613	19.847
77) 1-Chloronaphthalene	(3)	10.812	162	1832534	20.296
82) Diphenyl ether	(3)	10.946	170	1273994	19.972
83) 2-Nitroaniline	(3)	10.952	138	614105M	19.976
84) 1,4-Naphthoquinone	(3)	11.063	158	801337	19.996
85) 1,4-Dinitrobenzene	(3)	11.185	168	334531	20.065
86) Dimethylphthalate	(3)	11.296	163	2148674	19.967
87) 1,3-Dinitrobenzene	(3)	11.302	168	364275	20.041
88) 2,6-Dinitrotoluene	(3)	11.366	165	496793	20.057
90) Acenaphthylene	(3)	11.436	152	2938152	20.559
91) 3-Nitroaniline	(3)	11.605	138	534061	20.120
92) *Acenaphthene-d10	(3)	11.652	164	405831	5.000
93) Acenaphthene	(3)	11.698	153	1881539	20.064
94) 2,4-Dinitrophenol	(3)	11.757	184	340667	20.338
96) 4-Nitrophenol	(3)	11.867	109	375782	19.913

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Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0424.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:52 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
95) Pentachlorobenzene	(3)	11.891	250	858262	20.076
97) Dibenzofuran	(3)	11.943	168	2590264	19.917
98) 2,4-Dinitrotoluene	(3)	11.949	165	681931	20.220
99) 1-Naphthylamine	(3)	12.048	143	1987877	20.146
100) 2,3,4,6-Tetrachlorophenol	(3)	12.112	232	570311	20.149
101) 2-Naphthylamine	(3)	12.153	143	1968302	20.202
102) Diethylphthalate	(3)	12.304	149	2160218	20.110
103) Fluorene	(3)	12.380	166	2063495	19.935
104) Thionazin	(3)	12.392	107	422277	20.106
105) 4-Chlorophenyl-phenylether	(3)	12.409	204	1051145	19.973
106) 5-Nitro-o-toluidine	(3)	12.409	152	604083	20.099
107) 4-Nitroaniline	(3)	12.415	138	541046M	19.557
108) 4,6-Dinitro-2-methylphenol	(4)	12.456	198	447947	20.531
110) NDPA as diphenylamine	(4)	12.549	169	1812829	20.127
109) N-Nitrosodiphenylamine	(4)	12.549	169	1812829	20.127
111) 1,2-Diphenylhydrazine	(4)	12.590	77	2616083	19.727
112)$2,4,6-Tribromophenol	(3)	12.672	330	602410	40.623
115) Tetraethyldithiopyrophosphate	(4)	12.782	97	416014	19.980
116) 1,3,5-Trinitrobenzene	(4)	12.876	213	295383	20.661
117) Diallate (peak 1)	(4)	12.922	86	949703	16.506
118) Phorate	(4)	12.928	75	1735205	20.019
119) Phenacetin	(4)	12.951	108	1235660	20.050
120) 4-Bromophenyl-phenylether	(4)	12.998	248	616179	19.882
121) Diallate (peak 2)	(4)	13.021	86	188178	3.394
122) Hexachlorobenzene	(4)	13.050	284	660002	20.179
123) Dimethoate	(4)	13.120	87	1080759	20.039
124) Atrazine	(4)	13.225	200	577647	20.322
125) Pentachlorophenol	(4)	13.301	266	470313	20.522
127) 4-Aminobiphenyl	(4)	13.313	169	2146410	20.127
126) Pentachloronitrobenzene	(4)	13.319	237	308366	20.175
129) Pronamide	(4)	13.418	173	1054318	20.134
130)*Phenanthrene-d10	(4)	13.534	188	732779	5.000
133) Dinoseb	(4)	13.558	211	681320	20.676
131) Phenanthrene	(4)	13.569	178	3126617	19.873
134) Anthracene	(4)	13.633	178	3165218	20.557
135) Carbazole	(4)	13.849	167	2987405	19.880
136) Methyl parathion	(4)	14.053	109	850267	20.094
137) Di-n-butylphthalate	(4)	14.362	149	3830334	20.069
139) 4-Nitroquinoline-1-oxide	(4)	14.601	190	406219	20.676
138) Parathion	(4)	14.601	109	531037	20.164

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Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0424.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:52 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	14.991	193	392865	19.791
142) Fluoranthene	(4)	15.213	202	3615128	20.332
144) Benzidine	(5)	15.446	184	7233999	60.442
145)*Pyrene-d10	(5)	15.522	212	936599	5.000
146) Pyrene	(5)	15.551	202	3735070	19.398
149)$Terphenyl-d14	(5)	15.842	244	5221229	39.618
150) p-Dimethylaminoazobenzene	(5)	16.070	225	753206	20.110
151) Chlorobenzilate	(5)	16.163	139	1168364	19.981
152) 3,3'-Dimethylbenzidine	(5)	16.623	212	2631291	20.190
153) Butylbenzylphthalate	(5)	16.693	149	1740630	19.756
156) 2-Acetylaminofluorene	(5)	17.049	181	1548513	19.872
159) 3,3'-Dichlorobenzidine	(5)	17.550	252	1427515	20.030
158) Benzo(a)anthracene	(5)	17.562	228	3719601	20.860
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.568	231	787653	19.988
161) Chrysene	(5)	17.626	228	3417547	20.172
162) bis(2-Ethylhexyl)phthalate	(5)	17.766	149	2647102	20.021
165) 6-Methylchrysene	(5)	18.424	242	2622688	19.789
166) Di-n-octylphthalate	(6)	18.926	149	4677391	20.453
168) Benzo(b)fluoranthene	(6)	19.415	252	3748225	20.814
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.421	256	1710206	20.284
170) Benzo(k)fluoranthene	(6)	19.468	252	3669464	20.704
171) Benzo(a)pyrene	(6)	19.934	252	3597200	21.597
172)*Perylene-d12	(6)	20.022	264	786295	5.000
173) 3-Methylcholanthrene	(6)	20.511	268	1768203	20.478
176) Indeno(1,2,3-cd)pyrene	(6)	21.636	276	4105251M	22.412
177) Dibenz(a,h)anthracene	(6)	21.677	278	3430039	22.297
178) Benzo(g,h,i)perylene	(6)	22.027	276	3353964	21.582
179) Diallate TRANS/CIS	(4)			1137881	19.900
182) 2,4_2,6-Dinitrotoluenes	(3)			1178724	40.277

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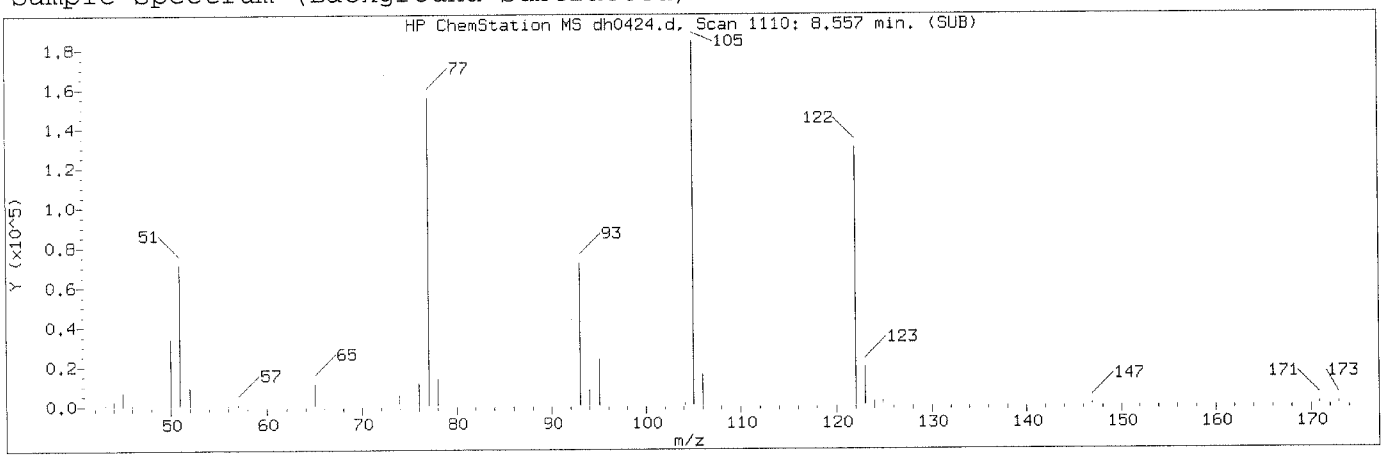
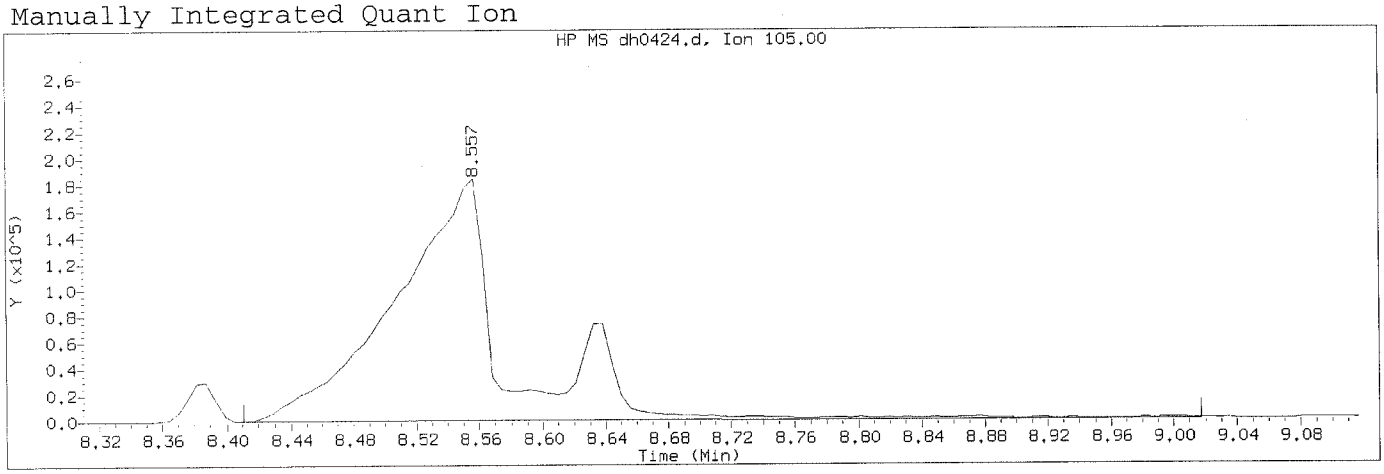
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0424.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:52 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1110		
Retention Time (minutes)	: 8.557		
Quant Ion	: 105.00		
Area (flag)	: 895299M		
On-Column Amount (ng/ul)	: 20.9886		
Integration start scan	: 1084	Integration stop scan:	1188
Y at integration start	: 377	Y at integration end:	-116

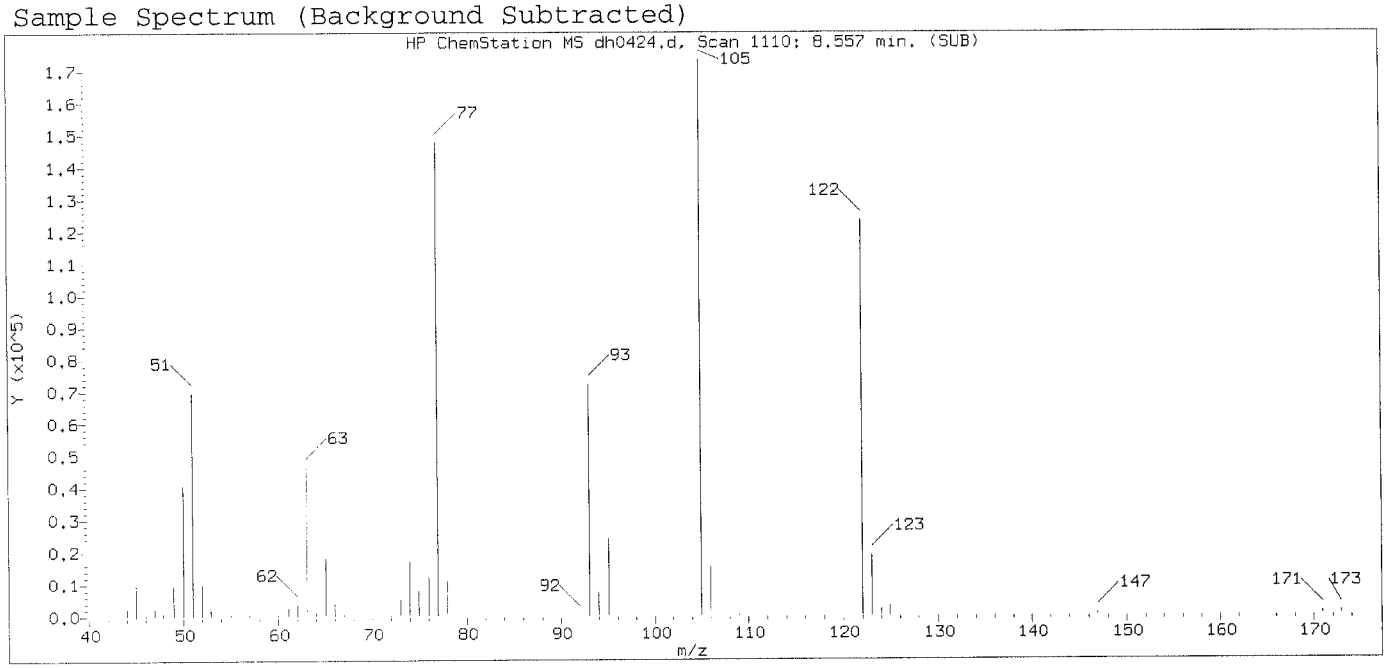
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature User ID: aap07680

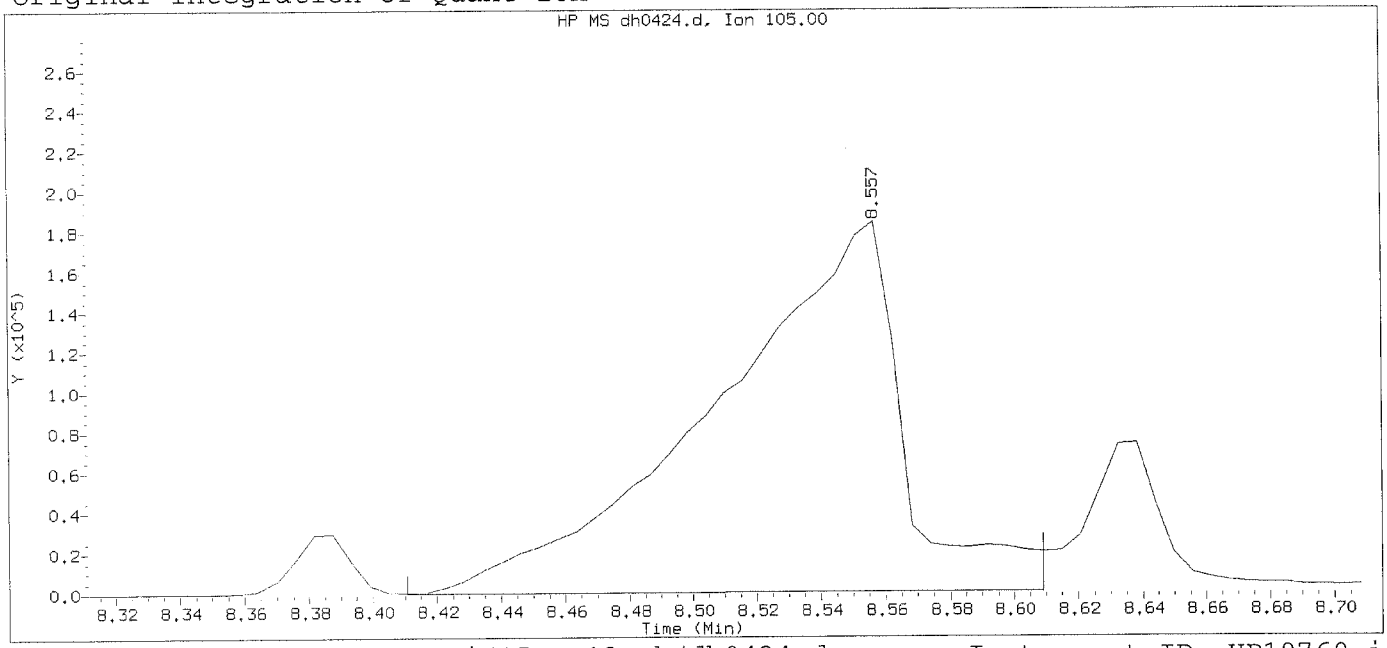
AUG 18 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0424.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:52 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1110		
Retention Time (minutes)	: 8.557		
Quant Ion	: 105.00		
Area	: 744037		
On-column Amount (ng/ul)	: 0.0000		
Integration start scan	: 1084	Integration stop scan:	1118
Y at integration start	: 122	Y at integration end:	308

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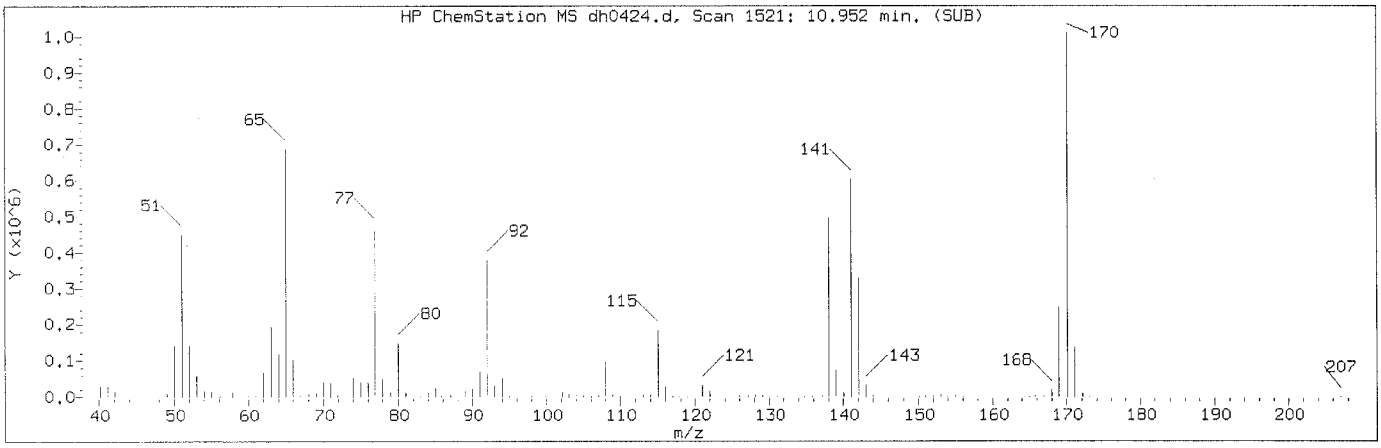
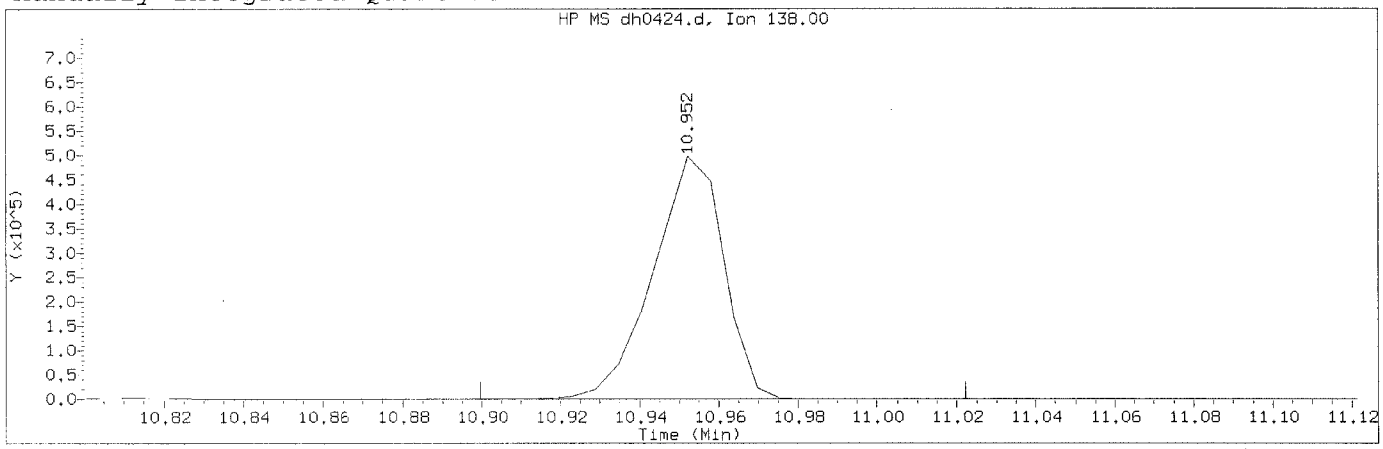
Target 3.5 esignature [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0424.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:52 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Compound Number	: 83		
Compound Name	: 2-Nitroaniline		
Scan Number	: 1521		
Retention Time (minutes)	: 10.952		
Quant Ion	: 138.00		
Area (flag)	: 614105M		
On-Column Amount (ng/ul)	: 19.9764		
Integration start scan	: 1511	Integration stop scan:	1532
Y at integration start	: 105	Y at integration end:	105

Reason for manual integration: improper integration

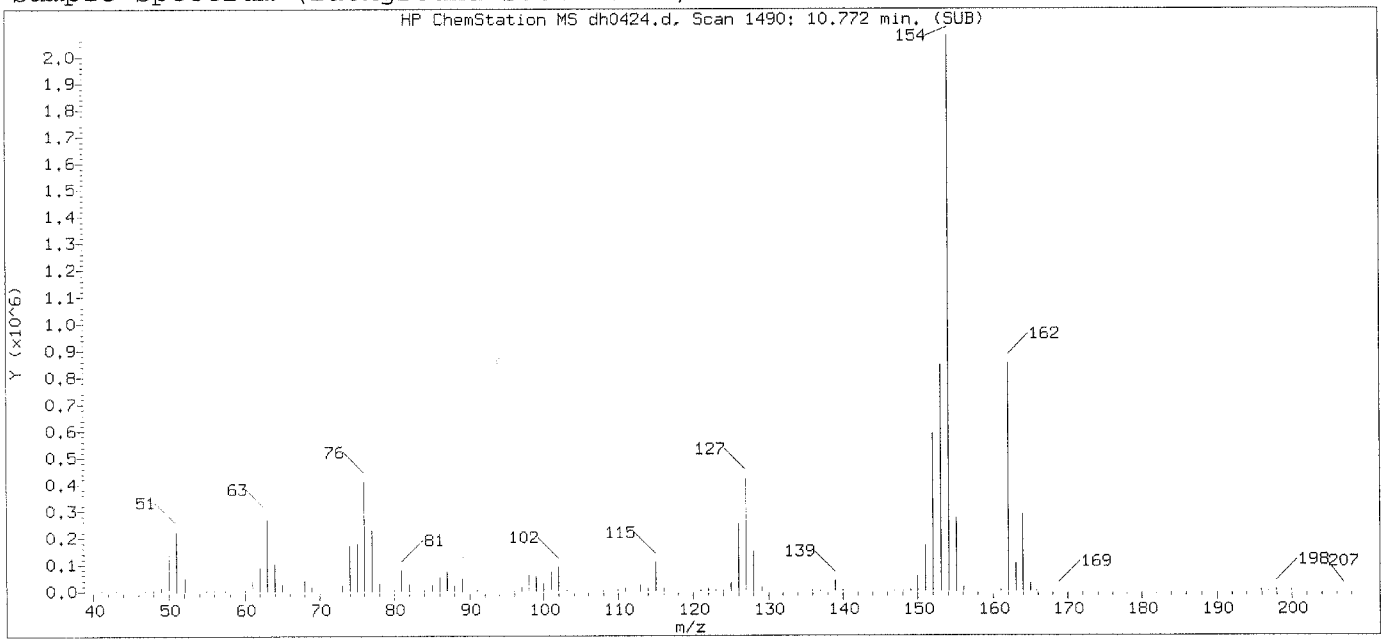
Analyst responsible for change: Digitally signed by Ankita A. Patel on 08/14/2015 at 10:07. Target 3.5 signature user ID: aap07680

AUG 18 2015

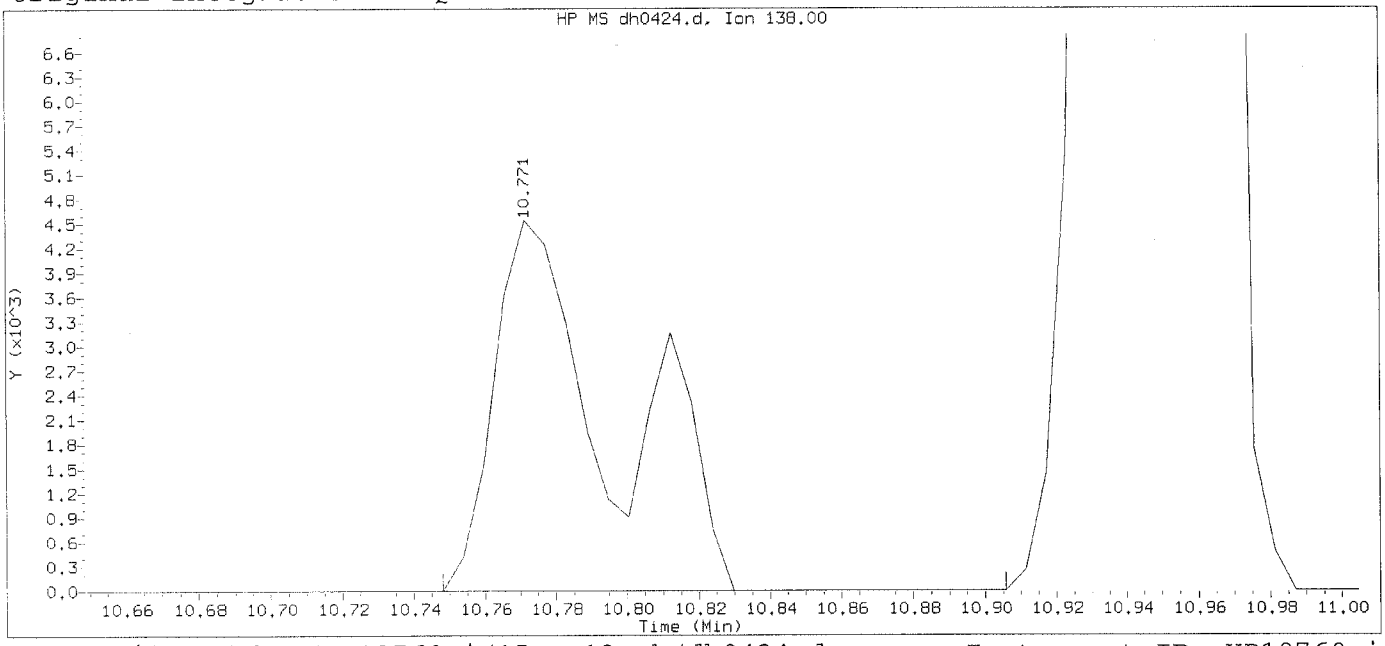
GC/MS audit/management approval:_____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0424.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:52 Analyst ID: ceb05247

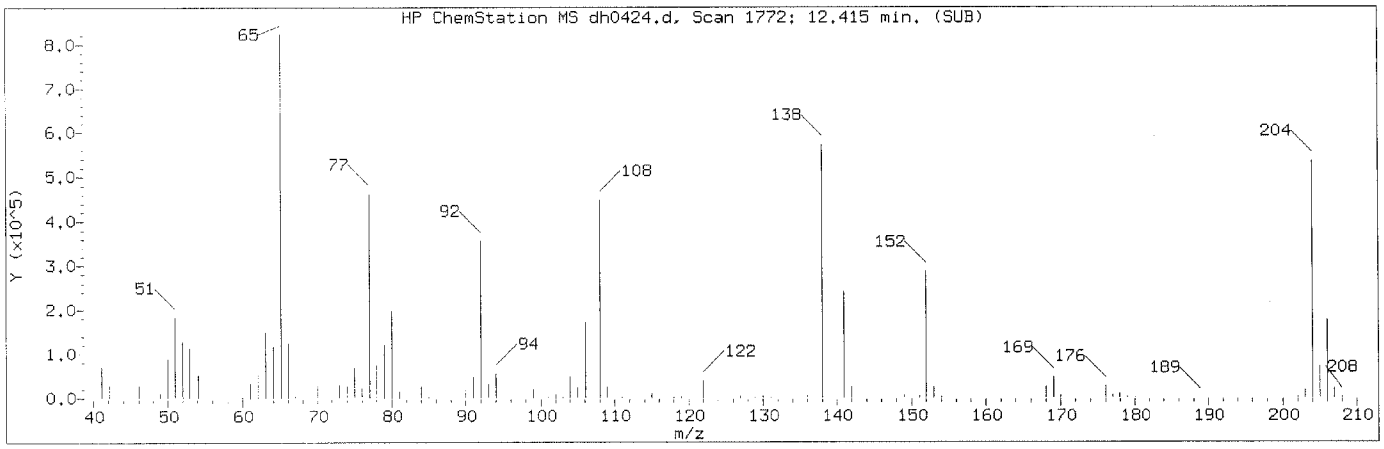
Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

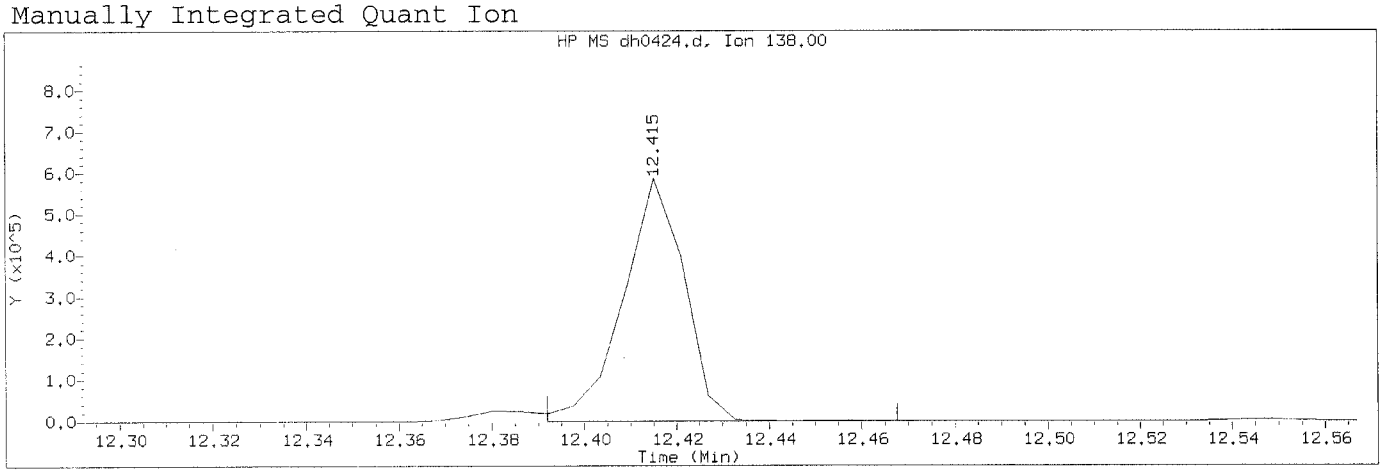
Compound Number	: 83		
Compound Name	: 2-Nitroaniline		
Scan Number	: 1490		
Retention Time (minutes)	: 10.771		
Quant Ion	: 138.00		
Area	: 10520		
On-column Amount (ng/ul)	: 0.0358		
Integration start scan	: 1485	Integration stop scan:	1512
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Ankita A. Patel on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0424.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:52 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Compound Number : 107
Compound Name : 4-Nitroaniline
Scan Number : 1772
Retention Time (minutes) : 12.415
Quant Ion : 138.00
Area (flag) : 541046M
On-Column Amount (ng/ul) : 19.5565
Integration start scan : 1767 Integration stop scan: 1780
Y at integration start : 93 Y at integration end: 545

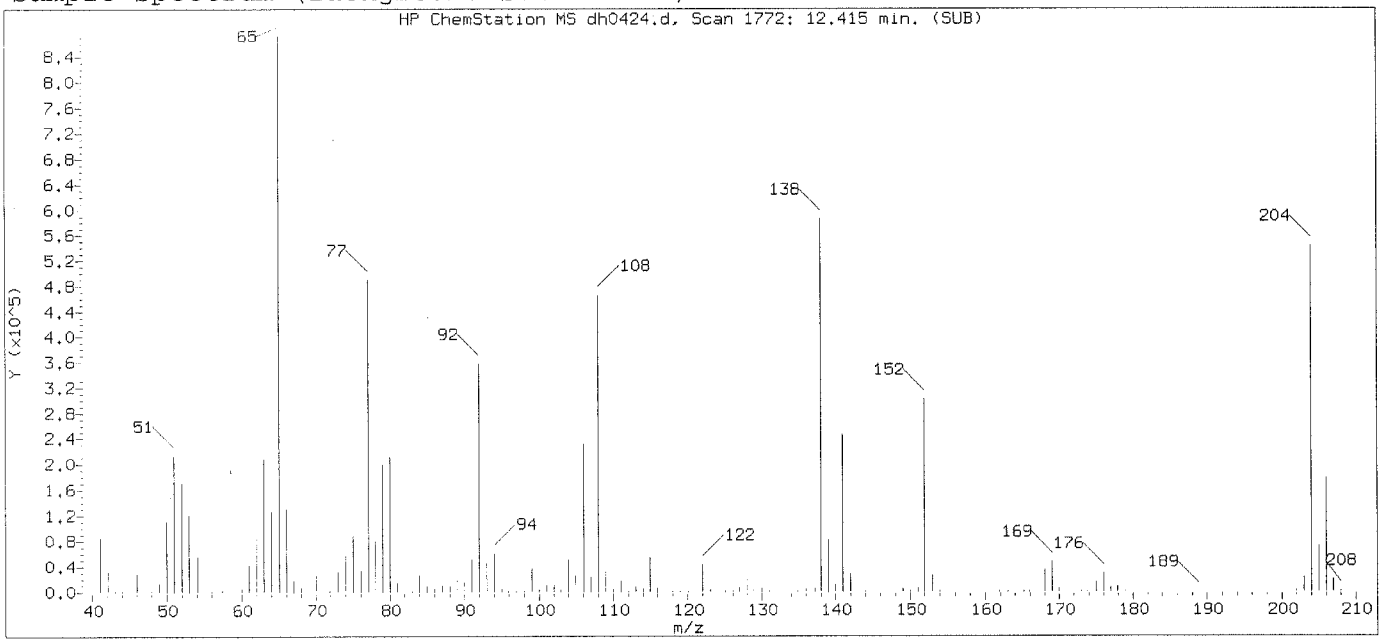
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07
Target 3.5 signature user ID: aap07680

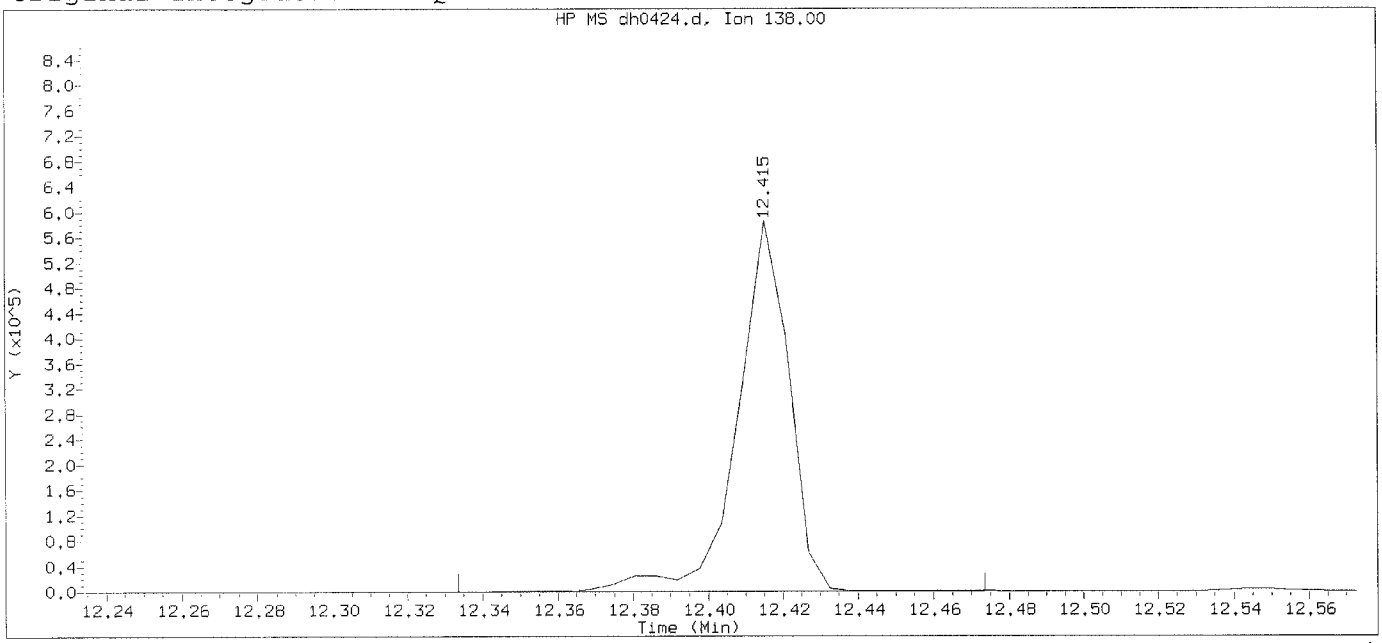
AUG 18 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0424.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:52 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Compound Number	: 107		
Compound Name	: 4-Nitroaniline		
Scan Number	: 1772		
Retention Time (minutes)	: 12.415		
Quant Ion	: 138.00		
Area	: 565901		
On-column Amount (ng/ul)	: 0.2153		
Integration start scan	: 1757	Integration stop scan:	1781
Y at integration start	: 0	Y at integration end:	75

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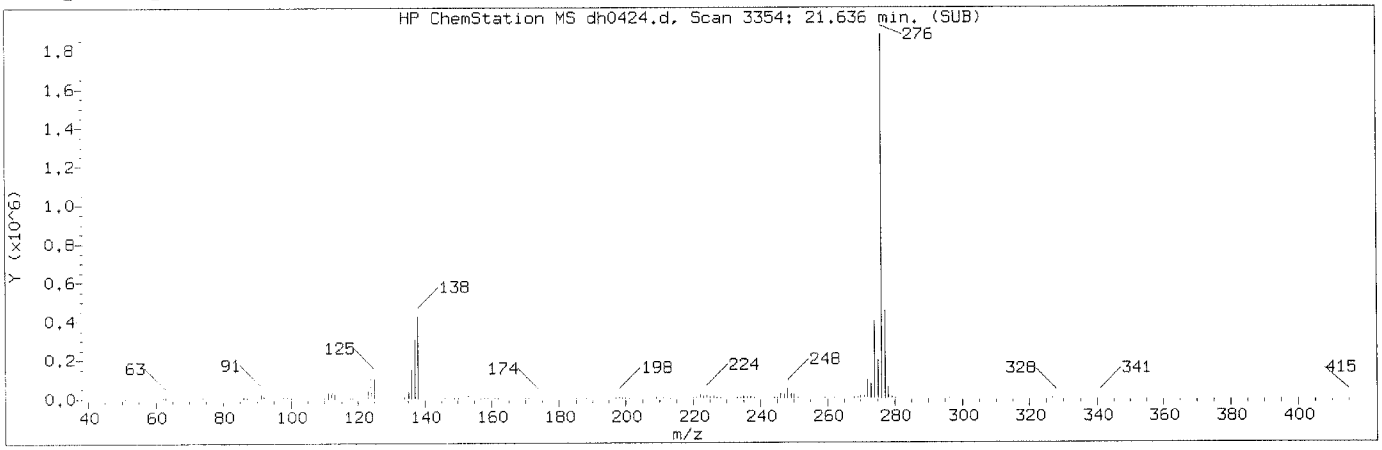
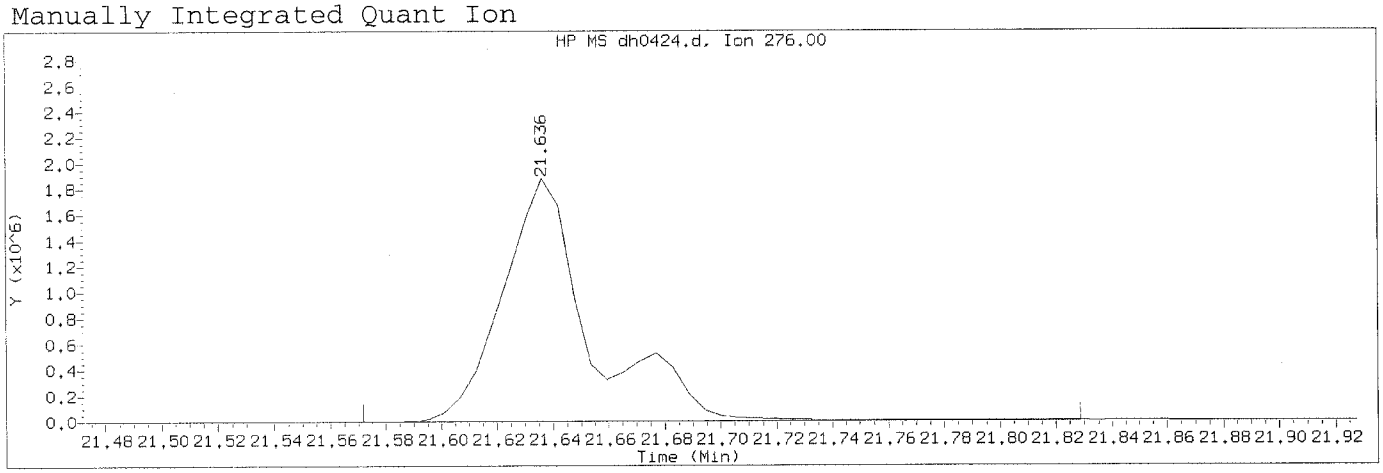
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0424.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:52 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3354		
Retention Time (minutes)	: 21.636		
Quant Ion	: 276.00		
Area (flag)	: 4105251M		
On-Column Amount (ng/ul)	: 22.4124		
Integration start scan	: 3342	Integration stop scan:	3386
Y at integration start	: 0	Y at integration end:	0

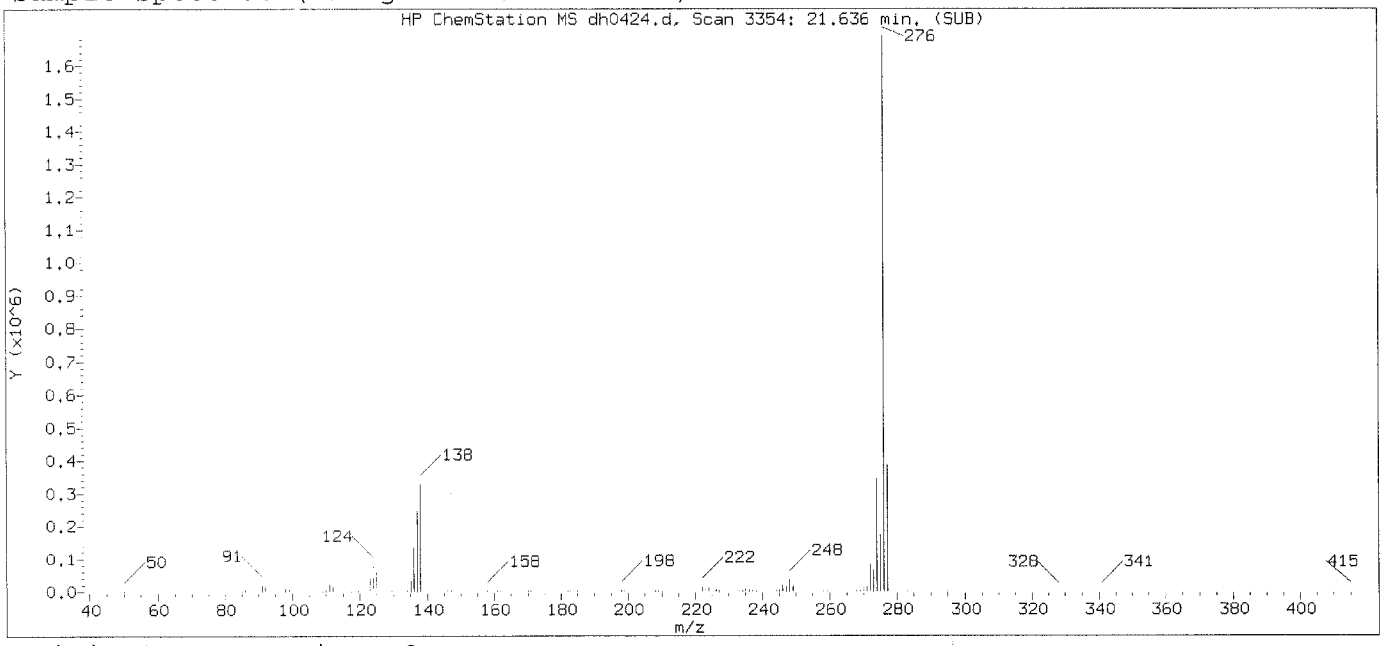
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel on 08/14/2015 at 10:07 Target 3.5 signature user ID: aap07680

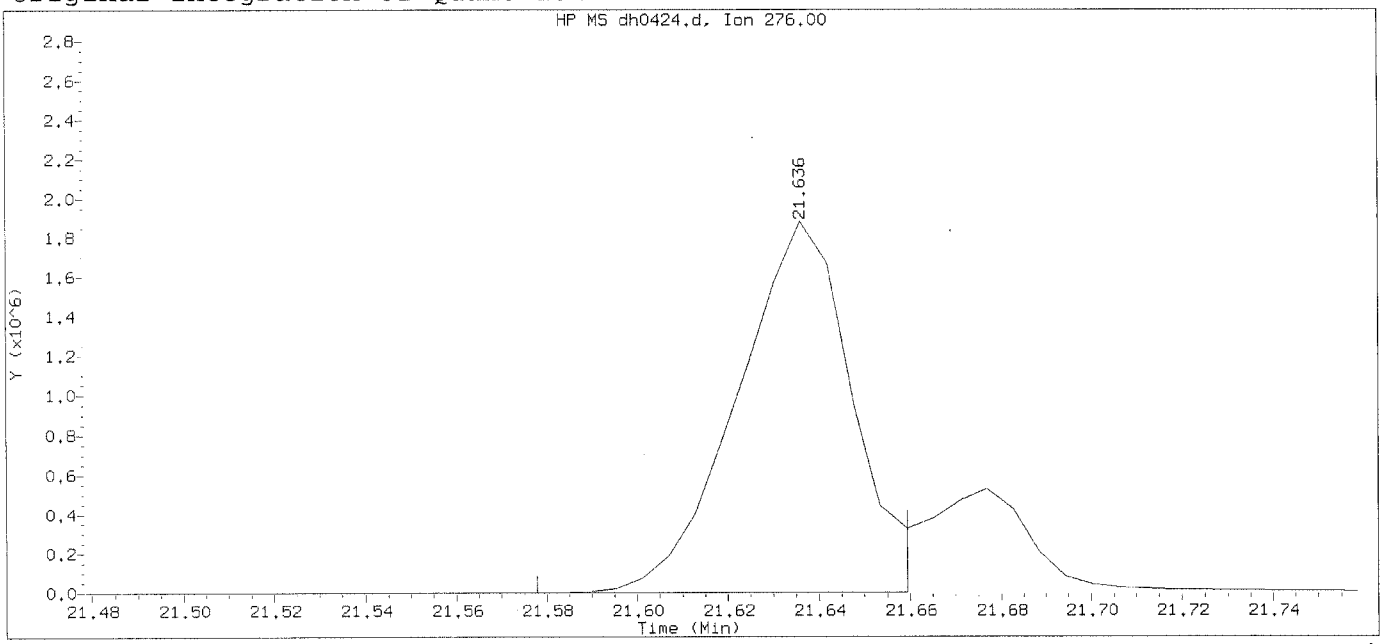
AUG 18 2015

GC/MS audit/management approval: Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0424.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 22:52 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3354		
Retention Time (minutes)	: 21.636		
Quant Ion	: 276.00		
Area	: 3240734		
On-column Amount (ng/ul)	: 16.7999		
Integration start scan	: 3343	Integration stop scan:	3357
Y at integration start	: 0	Y at integration end:	0

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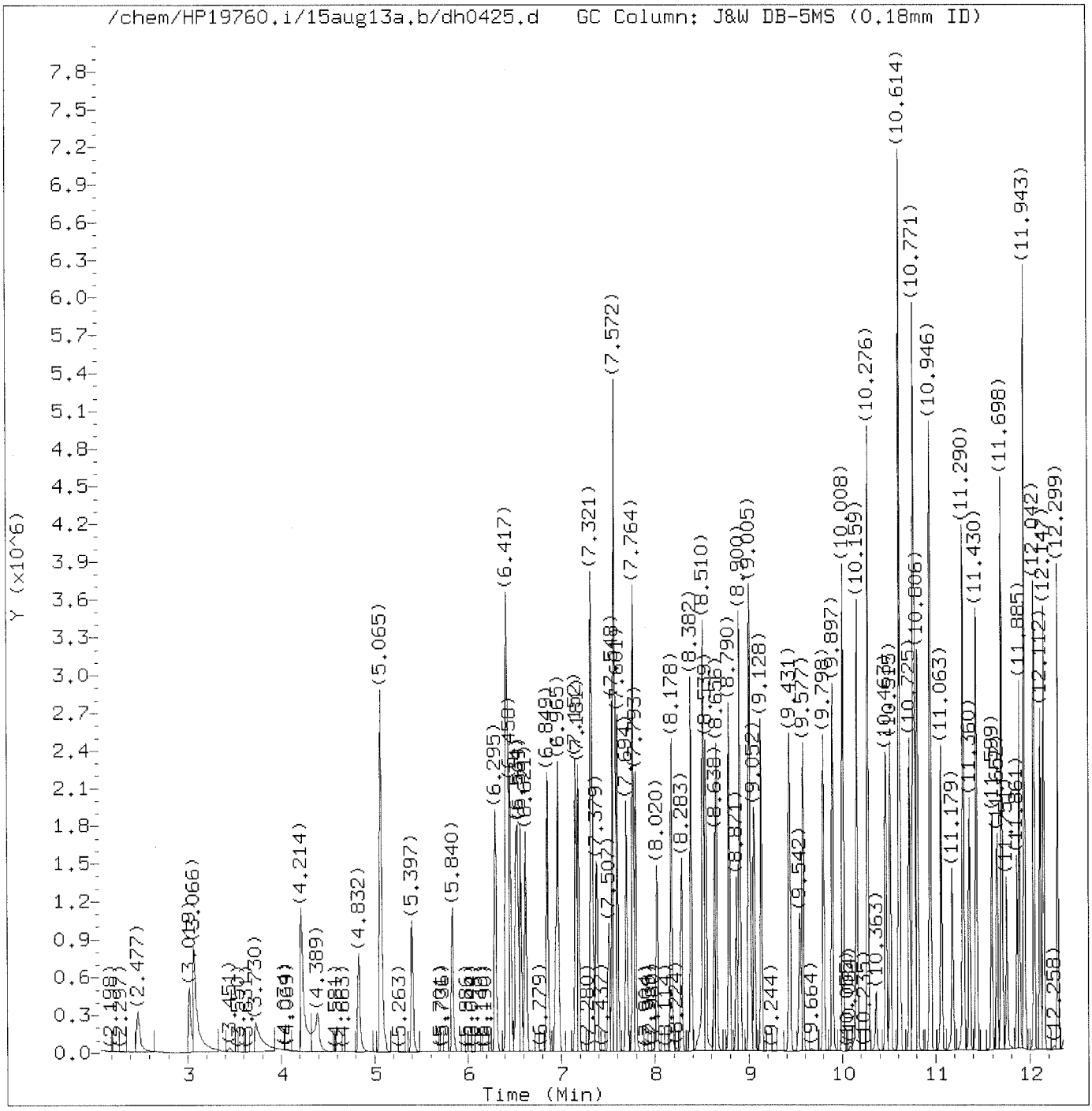
Target 3.5 esignature ID: 4168



Total Ion Chromatogram (TIC)

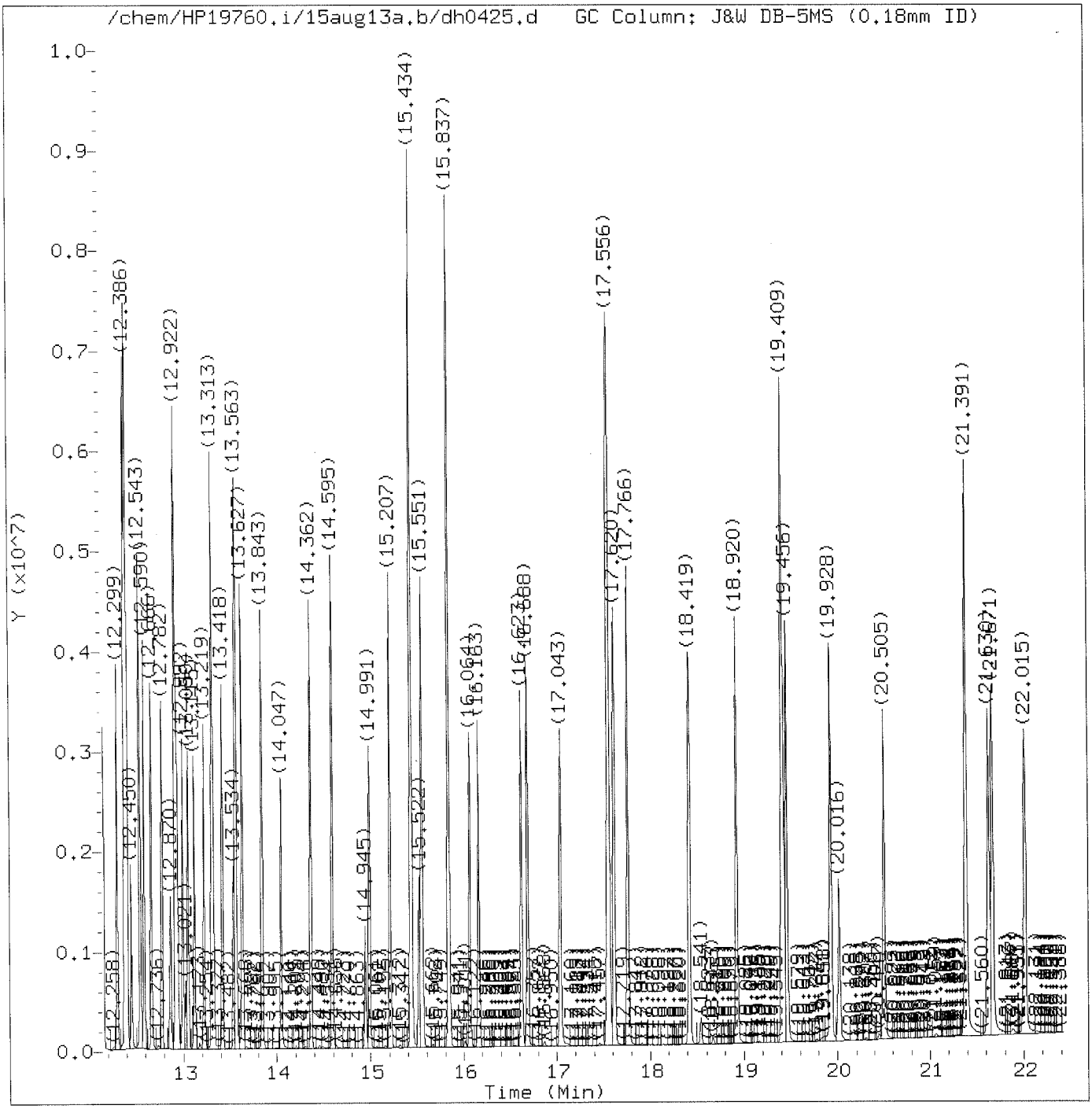
Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0425.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0425.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

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on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0425.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.477	88	304831	12.442
2) N-Nitrosodimethylamine	(1)	3.019	74	529970	12.320
3) Pyridine	(1)	3.066	79	887862	12.447
4) 2-Picoline	(1)	4.214	93	865666	12.196
5) N-Nitrosomethylethylamine	(1)	4.389	88	364122	12.221
6) Methyl methanesulfonate	(1)	4.832	80	449898	12.271
7)$2-Fluorophenol	(1)	5.065	112	1407060	24.579
8) N-Nitrosodiethylamine	(1)	5.397	102	357727	12.291
10) Ethyl methanesulfonate	(1)	5.840	109	364113	12.376
11) Benzaldehyde	(1)	6.295	77	677961	13.094
12)$Phenol-d5	(1)	6.417	99	1807029	24.630
13)$Phenol-d6	(1)	6.417	99	1807029	24.630
14) Phenol	(1)	6.435	94	1067770	12.288
15) Aniline	(1)	6.458	93	1238846	12.386
16) bis(2-Chloroethyl)ether	(1)	6.569	93	788752	12.259
17) 2-Chlorophenol	(1)	6.621	128	681927	12.339
18) 1,3-Dichlorobenzene	(1)	6.849	146	722046	12.304
19)*1,4-Dichlorobenzene-d4	(1)	6.936	152	191780	5.000
20) 1,4-Dichlorobenzene	(1)	6.965	146	729205	12.276
23) Benzyl alcohol	(1)	7.152	108	475384	12.312
24) 1,2-Dichlorobenzene	(1)	7.181	146	687910	12.322
25) Indene	(1)	7.321	115	1154891	12.485
26) 2-Methylphenol	(1)	7.333	108	652135	12.314
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.379	45	1121663	12.227
28) bis(2-Chloroisopropyl)ether	(1)	7.379	45	1121663	12.227
29) N-Nitrosopyrrolidine	(1)	7.507	100	378176	12.252
30) Acetophenone	(1)	7.548	105	985977	12.341
31) N-Nitroso-di-n-propylamine	(1)	7.572	70	608567	12.314
32) N-Nitrosomorpholine	(1)	7.572	56	500383	12.232
33) 4-Methylphenol	(1)	7.572	108	747099	12.325
34) o-Toluidine	(1)	7.601	106	1144600	12.466
35) Hexachloroethane	(1)	7.694	117	309204	12.231
36)$Nitrobenzene-d5	(2)	7.764	82	1727999	25.055
37) Nitrobenzene	(2)	7.793	77	890273	12.495
39) N-Nitrosopiperidine	(2)	8.020	114	338540	12.360
40) Isophorone	(2)	8.178	82	1558078	12.426
42) 2-Nitrophenol	(2)	8.283	139	362885	12.556
45) 2,4-Dimethylphenol	(2)	8.382	107	729132	12.496
46) O,O,O-triethylphosphorothioate	(2)	8.510	198	354203	12.468
47) Benzoic acid	(2)	8.527	105	539908M	12.476

M = Compound was manually integrated.
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on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0425.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
48) bis(2-Chloroethoxy)methane	(2)	8.539	93	920766	12.053
49) 2,4-Dichlorophenol	(2)	8.656	162	554130	12.522
51) 1,2,4-Trichlorobenzene	(2)	8.790	180	638644	12.481
52)*Naphthalene-d8	(2)	8.871	136	723993	5.000
53) Naphthalene	(2)	8.900	128	1897850	12.335
55) 4-Chloroaniline	(2)	9.000	127	829859	12.503
56) 2,6-Dichlorophenol	(2)	9.011	162	535106	12.546
57) Hexachloropropene	(2)	9.052	213	450900	12.659
58) Hexachlorobutadiene	(2)	9.128	225	375194	12.528
60) Quinoline	(2)	9.431	129	1212885	12.486
61) Caprolactam	(2)	9.542	113	185871	12.612
62) N-Nitrosodi-n-butylamine	(2)	9.577	84	553453	11.137
63) 4-Chloro-3-methylphenol	(2)	9.798	107	610021	12.467
64) Safrole	(2)	9.897	162	489972	12.514
65) 2-Methylnaphthalene	(2)	10.008	142	1270164	12.513
66) 1-Methylnaphthalene	(2)	10.159	142	1149136	12.405
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.276	216	645565	12.308
67) Hexachlorocyclopentadiene	(3)	10.276	237	429788	12.529
69) cis-Isosafrole	(3)	10.363	162	91179	2.099
70) 2,4,6-Trichlorophenol	(3)	10.468	196	428066	12.248
71) 2,4,5-Trichlorophenol	(3)	10.515	196	447684	12.209
72)$2-Fluorobiphenyl	(3)	10.620	172	2838967	24.641
74) Isosafrole	(3)	10.725	162	485420	12.266
73) trans-Isosafrole	(3)	10.725	162	485420	10.181
75) 1,1'-Biphenyl	(3)	10.766	154	1461768	12.344
76) 2-Chloronaphthalene	(3)	10.777	162	1232867	12.525
77) 1-Chloronaphthalene	(3)	10.812	162	1106526	11.913
82) Diphenyl ether	(3)	10.946	170	812435	12.266
83) 2-Nitroaniline	(3)	10.946	138	379952M	11.991
84) 1,4-Naphthoquinone	(3)	11.063	158	514303	12.337
85) 1,4-Dinitrobenzene	(3)	11.179	168	208403	12.094
86) Dimethylphthalate	(3)	11.290	163	1354149	12.155
87) 1,3-Dinitrobenzene	(3)	11.296	168	230166	12.213
88) 2,6-Dinitrotoluene	(3)	11.360	165	316986	12.311
90) Acenaphthylene	(3)	11.436	152	1860478	12.468
91) 3-Nitroaniline	(3)	11.599	138	334196	12.160
92)*Acenaphthene-d10	(3)	11.652	164	423994	5.000
93) Acenaphthene	(3)	11.698	153	1203459	12.326
94) 2,4-Dinitrophenol	(3)	11.751	184	208329	12.048
96) 4-Nitrophenol	(3)	11.861	109	234046	12.022

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on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0425.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
95) Pentachlorobenzene	(3)	11.891	250	557520	12.487
98) 2,4-Dinitrotoluene	(3)	11.943	165	429030	12.255
97) Dibenzofuran	(3)	11.943	168	1674356	12.367
99) 1-Naphthylamine	(3)	12.042	143	1229677	12.066
100) 2,3,4,6-Tetrachlorophenol	(3)	12.112	232	355251	12.131
101) 2-Naphthylamine	(3)	12.147	143	1232541	12.204
102) Diethylphthalate	(3)	12.299	149	1345118	12.110
103) Fluorene	(3)	12.380	166	1327853	12.322
104) Thionazin	(3)	12.386	107	261261	12.049
105) 4-Chlorophenyl-phenylether	(3)	12.403	204	679302	12.391
106) 5-Nitro-o-toluidine	(3)	12.403	152	385750	12.338
107) 4-Nitroaniline	(3)	12.409	138	345732M	12.092
108) 4,6-Dinitro-2-methylphenol	(4)	12.450	198	274178	12.389
110) NDPA as diphenylamine	(4)	12.543	169	1137445	12.435
109) N-Nitrosodiphenylamine	(4)	12.543	169	1137445	12.435
111) 1,2-Diphenylhydrazine	(4)	12.590	77	1666486	12.389
112)$2,4,6-Tribromophenol	(3)	12.672	330	374131	24.356
115) Tetraethyldithiopyrophosphate	(4)	12.777	97	263947	12.471
116) 1,3,5-Trinitrobenzene	(4)	12.870	213	180221	12.419
117) Diallate (peak 1)	(4)	12.916	86	605421	10.351
118) Phorate	(4)	12.922	75	1082361	12.330
119) Phenacetin	(4)	12.940	108	762306	12.242
120) 4-Bromophenyl-phenylether	(4)	12.998	248	394393	12.507
121) Diallate (peak 2)	(4)	13.021	86	116760	2.084
122) Hexachlorobenzene	(4)	13.050	284	421181	12.626
123) Dimethoate	(4)	13.115	87	685757	12.499
124) Atrazine	(4)	13.219	200	378035	12.925
125) Pentachlorophenol	(4)	13.301	266	291350	12.497
127) 4-Aminobiphenyl	(4)	13.313	169	1386867	12.711
126) Pentachloronitrobenzene	(4)	13.319	237	192876	12.428
129) Pronamide	(4)	13.418	173	661097	12.433
130)*Phenanthrene-d10	(4)	13.534	188	745464	5.000
133) Dinoseb	(4)	13.558	211	415899	12.430
131) Phenanthrene	(4)	13.563	178	1980060	12.397
134) Anthracene	(4)	13.627	178	1990182	12.664
135) Carbazole	(4)	13.843	167	1900464	12.449
136) Methyl parathion	(4)	14.047	109	537976	12.498
137) Di-n-butylphthalate	(4)	14.362	149	2426772	12.499
139) 4-Nitroquinoline-1-oxide	(4)	14.595	190	242751	12.232
138) Parathion	(4)	14.595	109	335104	12.506

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on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0425.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	14.991	193	248366	12.348
142) Fluoranthene	(4)	15.207	202	2299117	12.668
144) Benzidine	(5)	15.440	184	4758697	38.410
145)*Pyrene-d10	(5)	15.522	212	961682	5.000
146) Pyrene	(5)	15.551	202	2408148	12.243
149)$Terphenyl-d14	(5)	15.837	244	3420694	25.208
150) p-Dimethylaminoazobenzene	(5)	16.064	225	483447	12.553
151) Chlorobenzilate	(5)	16.163	139	748140	12.471
152) 3,3'-Dimethylbenzidine	(5)	16.623	212	1687148	12.581
153) Butylbenzylphthalate	(5)	16.688	149	1145357	12.620
156) 2-Acetylaminofluorene	(5)	17.043	181	992139	12.425
159) 3,3'-Dichlorobenzidine	(5)	17.544	252	926409	12.620
158) Benzo(a)anthracene	(5)	17.556	228	2422617	13.079
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.568	231	508448	12.550
161) Chrysene	(5)	17.620	228	2244260	12.819
162) bis(2-Ethylhexyl)phthalate	(5)	17.766	149	1690108	12.462
165) 6-Methylchrysene	(5)	18.419	242	1700666	12.498
166) Di-n-octylphthalate	(6)	18.926	149	2937613	12.244
168) Benzo(b)fluoranthene	(6)	19.409	252	2434618	12.738
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.415	256	1104917	12.429
170) Benzo(k)fluoranthene	(6)	19.456	252	2386718	12.698
171) Benzo(a)pyrene	(6)	19.934	252	2332390	13.098
172)*Perylene-d12	(6)	20.016	264	830567	5.000
173) 3-Methylcholanthrene	(6)	20.505	268	1115666	12.298
176) Indeno(1,2,3-cd)pyrene	(6)	21.630	276	2528060	12.949
177) Dibenz(a,h)anthracene	(6)	21.671	278	2160314	13.128
178) Benzo(g,h,i)perylene	(6)	22.015	276	2129108	12.873
179) Diallate TRANS/CIS	(4)			722181	12.435
182) 2,4_2,6-Dinitrotoluenes	(3)			746016	24.567

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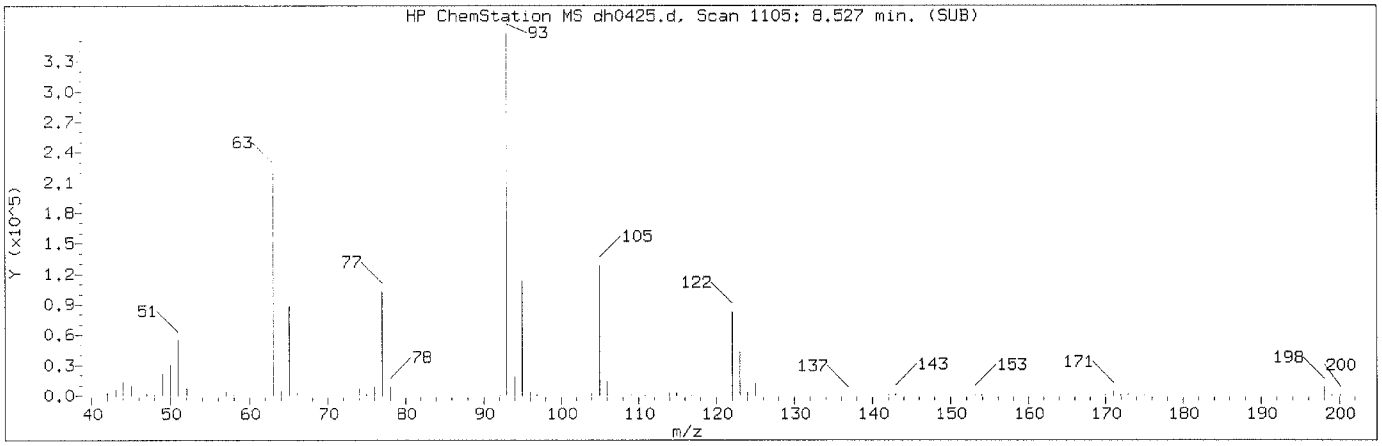
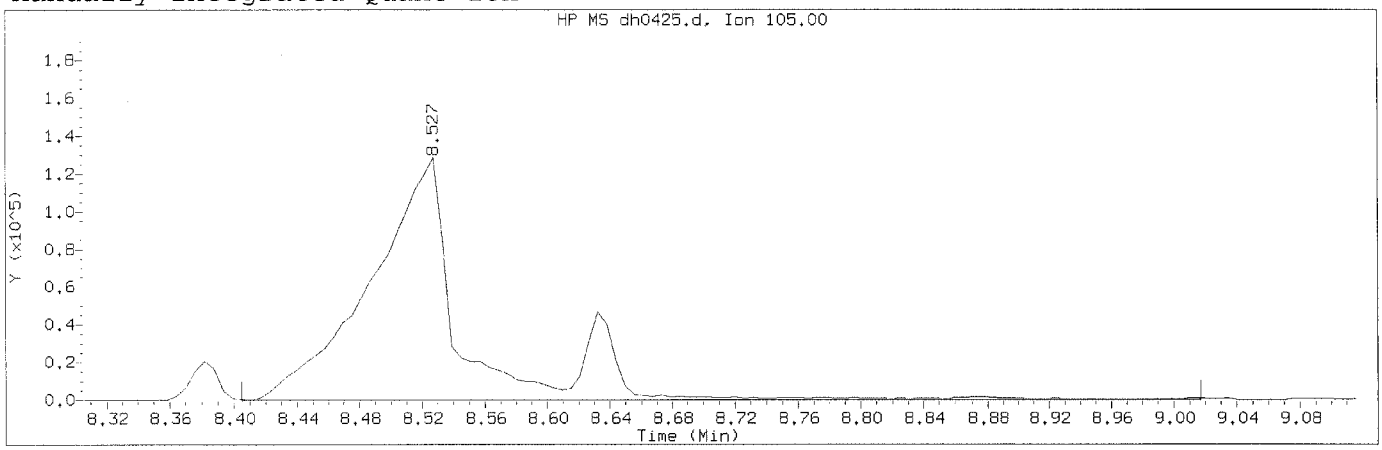
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0425.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1105		
Retention Time (minutes)	: 8.527		
Quant Ion	: 105.00		
Area (flag)	: 539908M		
On-Column Amount (ng/ul)	: 12.4756		
Integration start scan	: 1083	Integration stop scan:	1188
Y at integration start	: 40	Y at integration end:	40

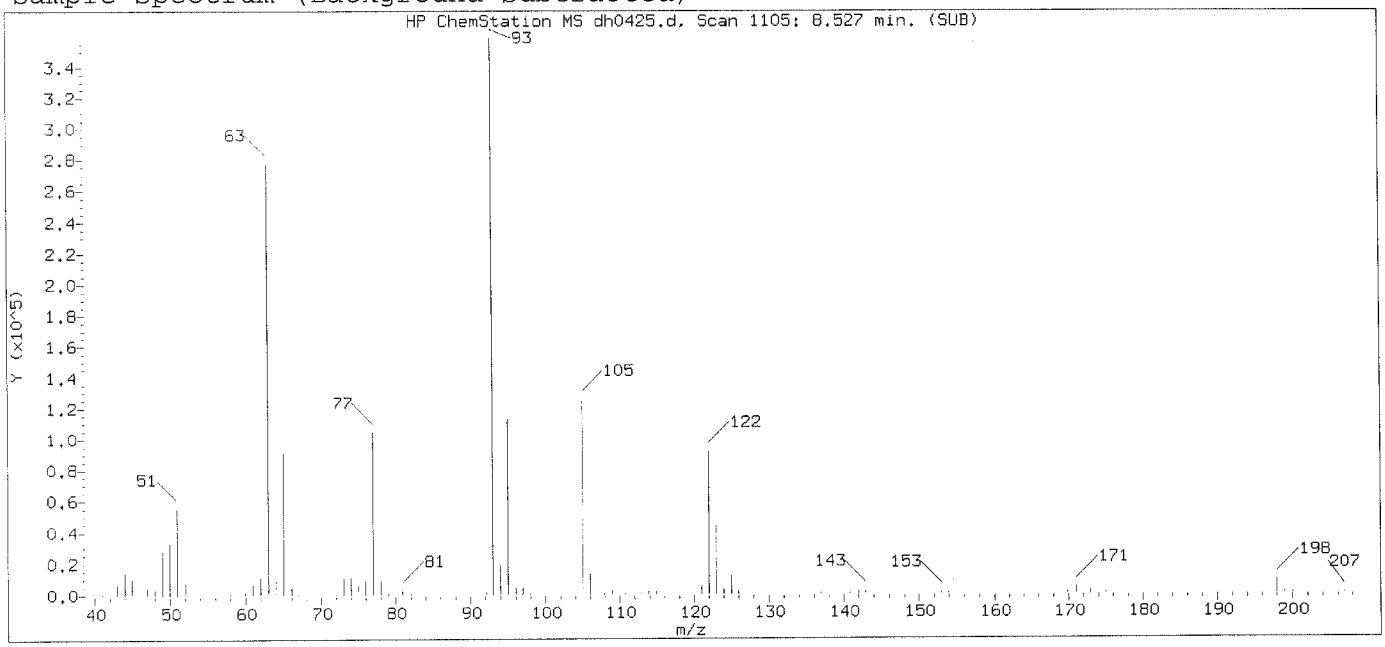
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 signature user ID: aap07680

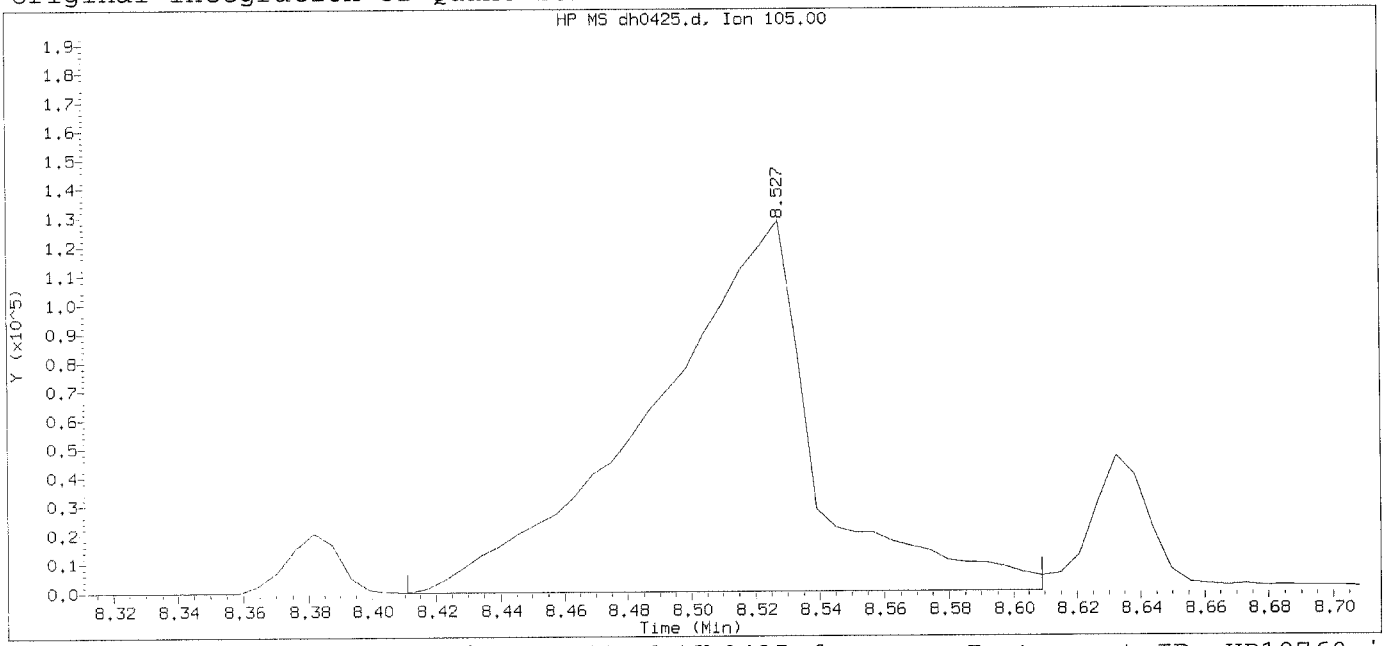
AUG 18 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0425.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1105		
Retention Time (minutes)	: 8.527		
Quant Ion	: 105.00		
Area	: 459846		
On-column Amount (ng/ul)	: 0.0000		
Integration start scan	: 1084	Integration stop scan:	1118
Y at integration start	: 0	Y at integration end:	0

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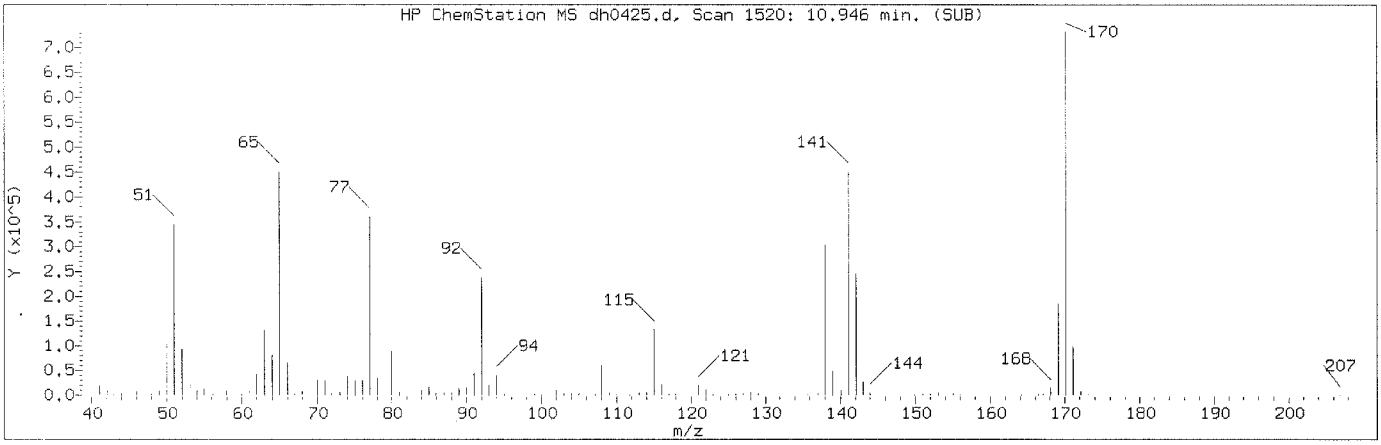
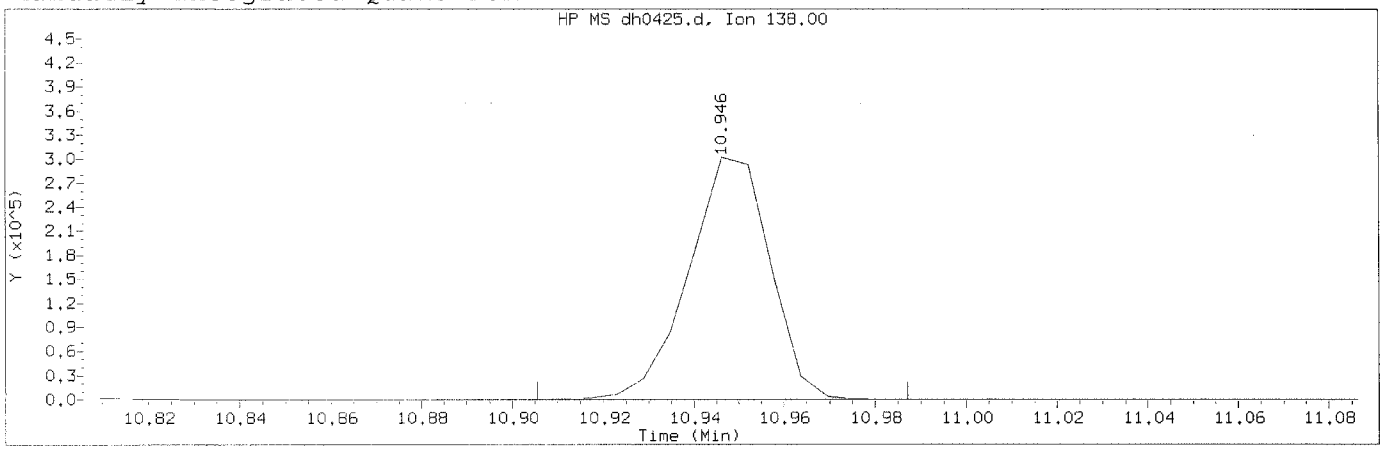
Target 3.5 esignature u[illegible] aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0425.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compound Number	: 83		
Compound Name	: 2-Nitroaniline		
Scan Number	: 1520		
Retention Time (minutes)	: 10.946		
Quant Ion	: 138.00		
Area (flag)	: 379952M		
On-Column Amount (ng/ul)	: 11.9908		
Integration start scan	: 1512	Integration stop scan:	1526
Y at integration start	: -63	Y at integration end:	-63

Reason for manual integration: improper integration

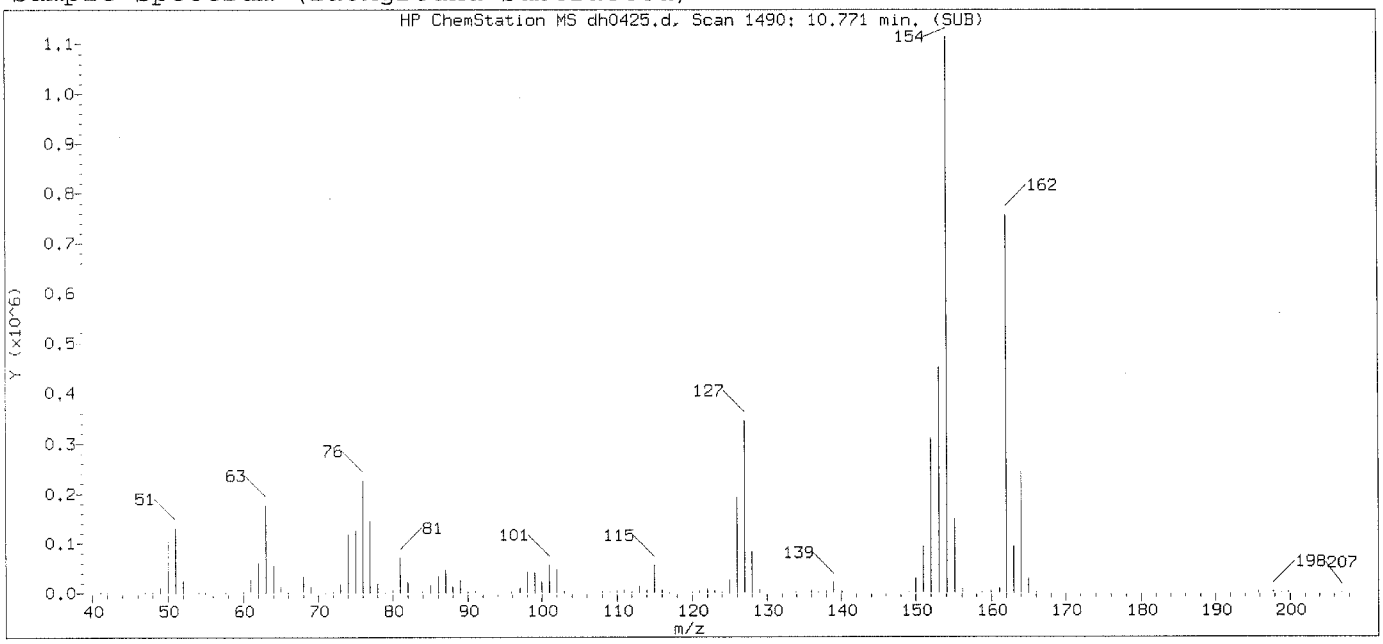
Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 signature user ID: aap07680

AUG 18 2015

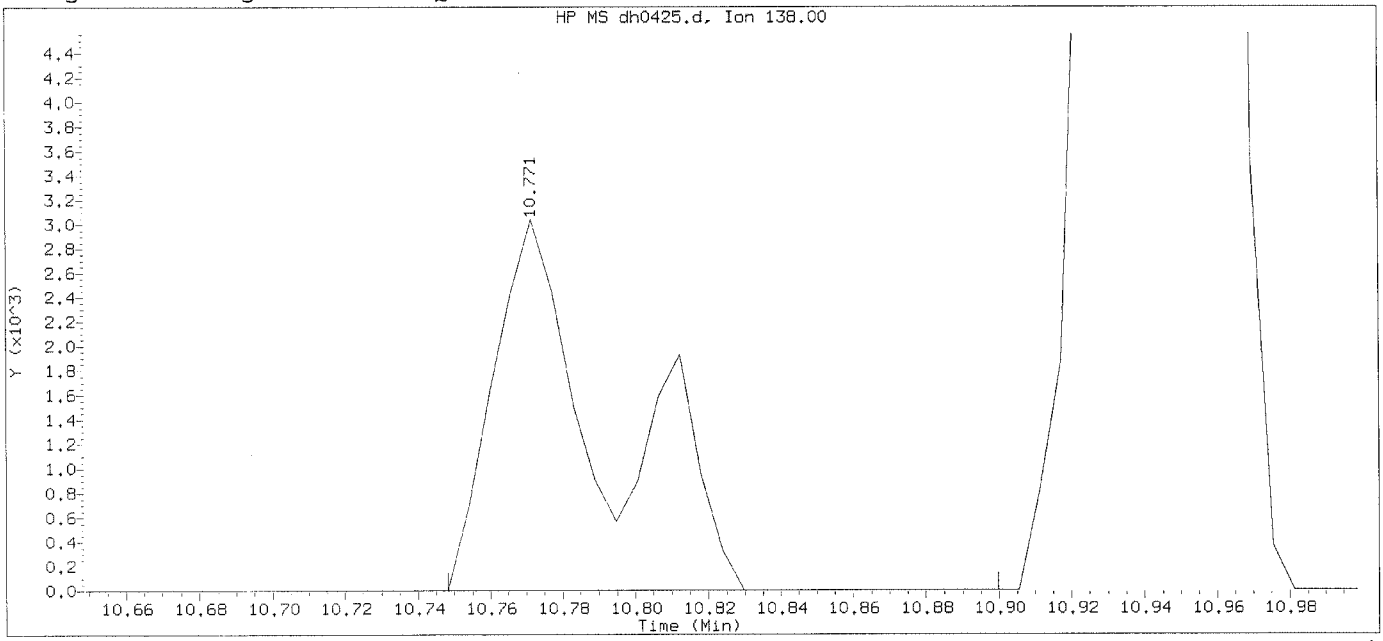
GC/MS audit/management approval:_____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0425.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compound Number	: 83		
Compound Name	: 2-Nitroaniline		
Scan Number	: 1490		
Retention Time (minutes)	: 10.771		
Quant Ion	: 138.00		
Area	: 6599		
On-column Amount (ng/ul)	: 0.0224		
Integration start scan	: 1485	Integration stop scan:	1511
Y at integration start	: 0	Y at integration end:	0

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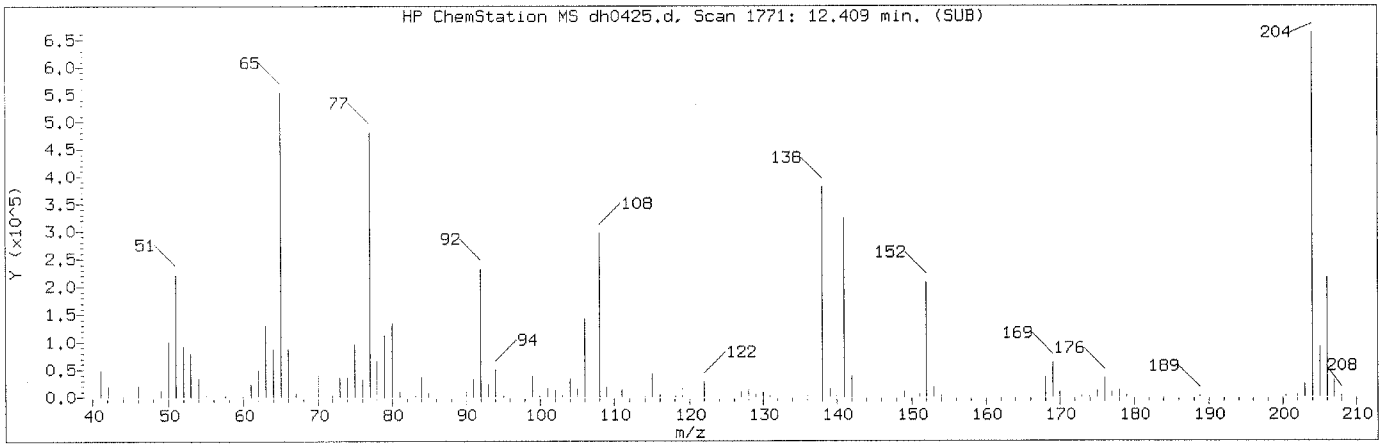
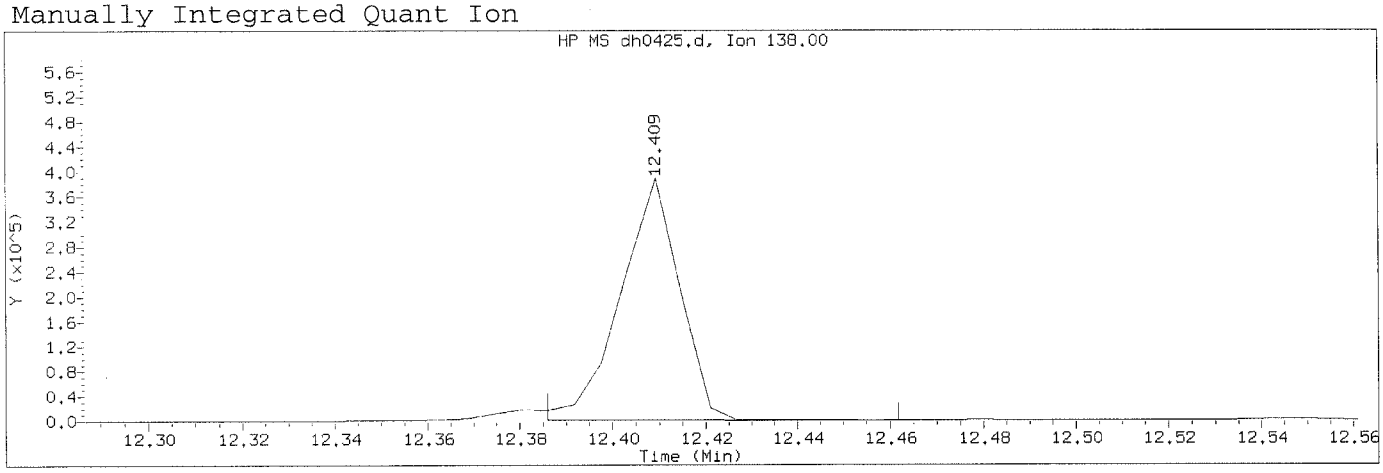
Target 3.5 esignature up[illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0425.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:52
Date, time and analyst ID of latest file update: 14-Aug-2015 09:52 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compound Number	: 107		
Compound Name	: 4-Nitroaniline		
Scan Number	: 1771		
Retention Time (minutes)	: 12.409		
Quant Ion	: 138.00		
Area (flag)	: 345732M		
On-Column Amount (ng/ul)	: 12.0917		
Integration start scan	: 1766	Integration stop scan:	1779
Y at integration start	: 490	Y at integration end:	61

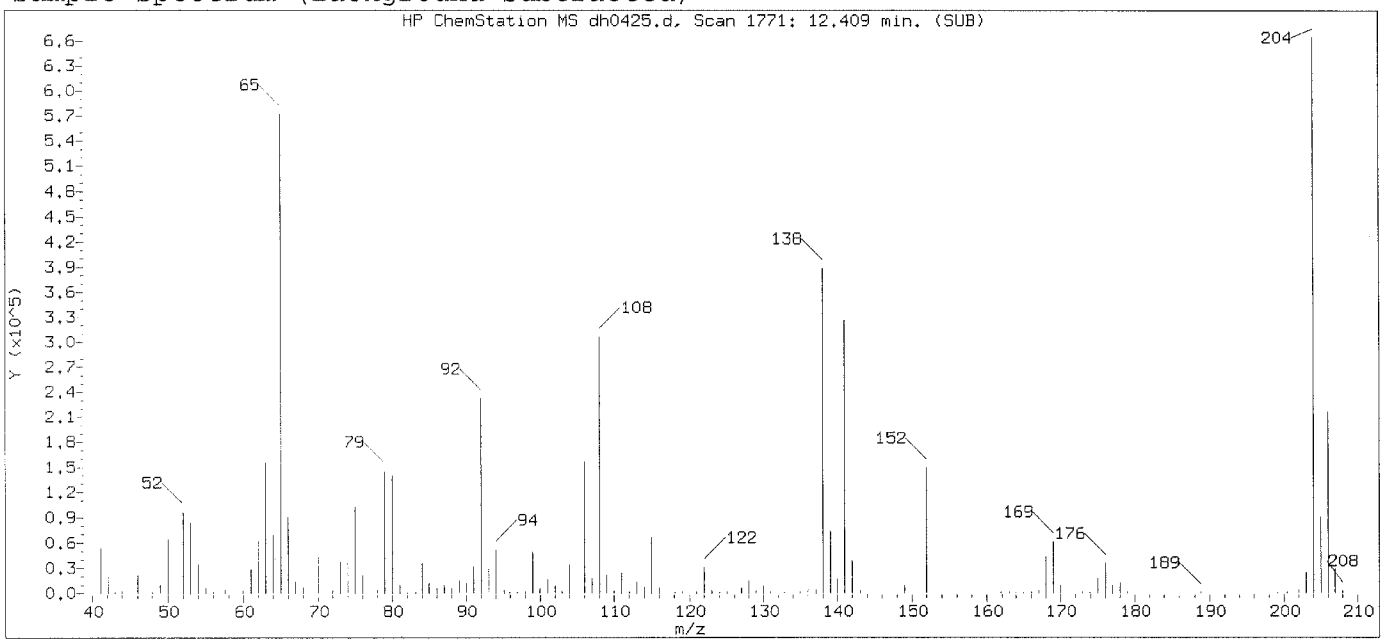
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

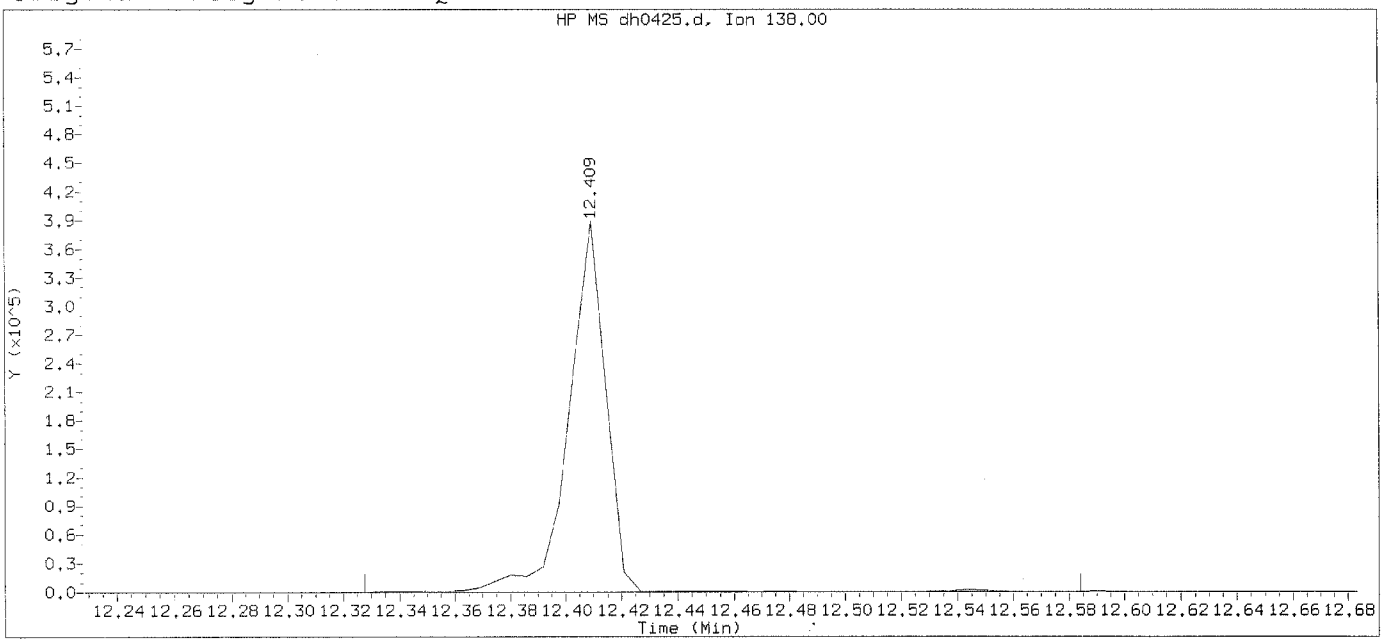
GC/MS audit/management approval: AUG 18 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0425.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compound Number	: 107		
Compound Name	: 4-Nitroaniline		
Scan Number	: 1771		
Retention Time (minutes)	: 12.409		
Quant Ion	: 138.00		
Area	: 363019		
On-column Amount (ng/ul)	: 0.1322		
Integration start scan	: 1756	Integration stop scan:	1800
Y at integration start	: 0	Y at integration end:	0

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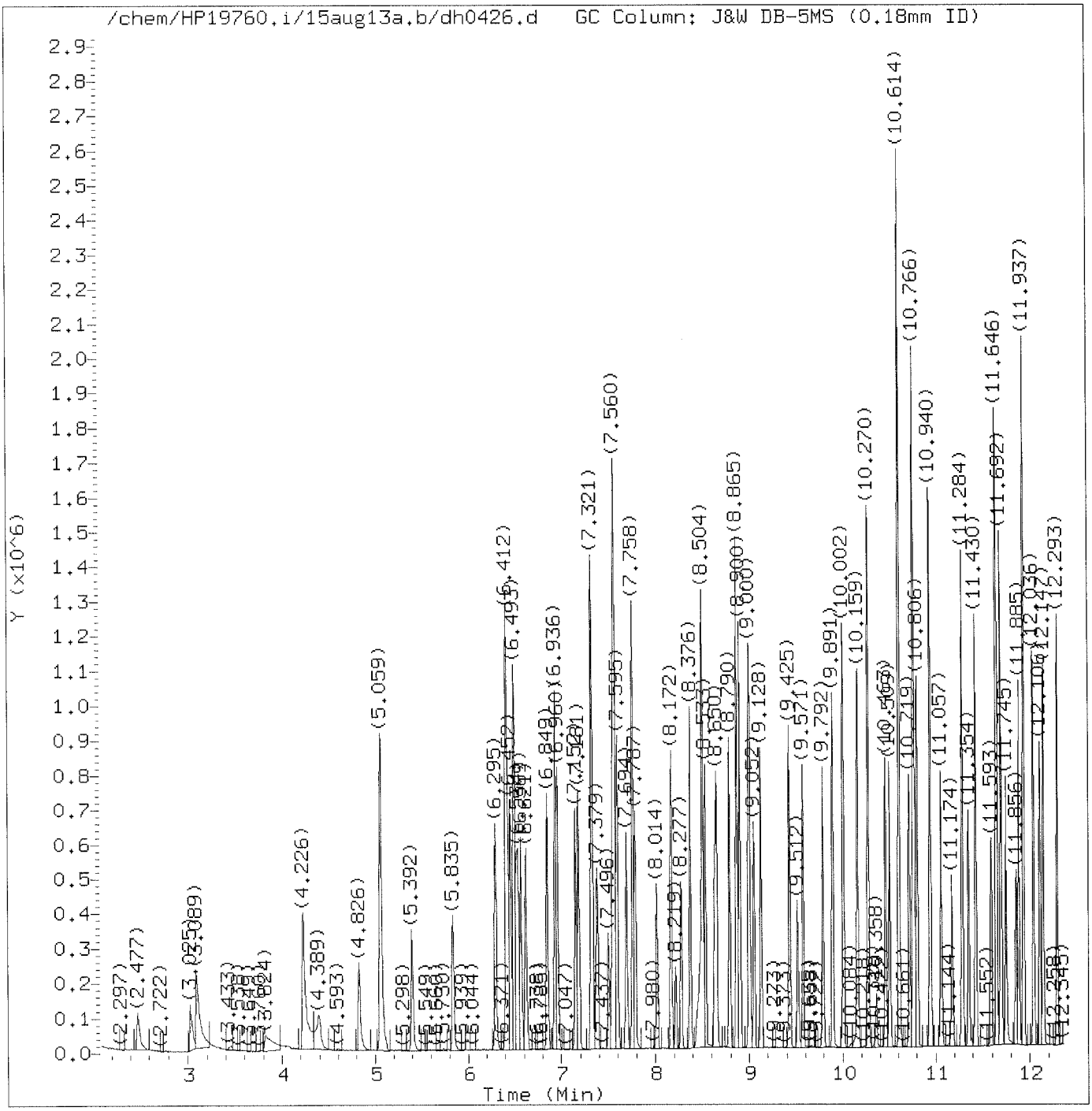
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

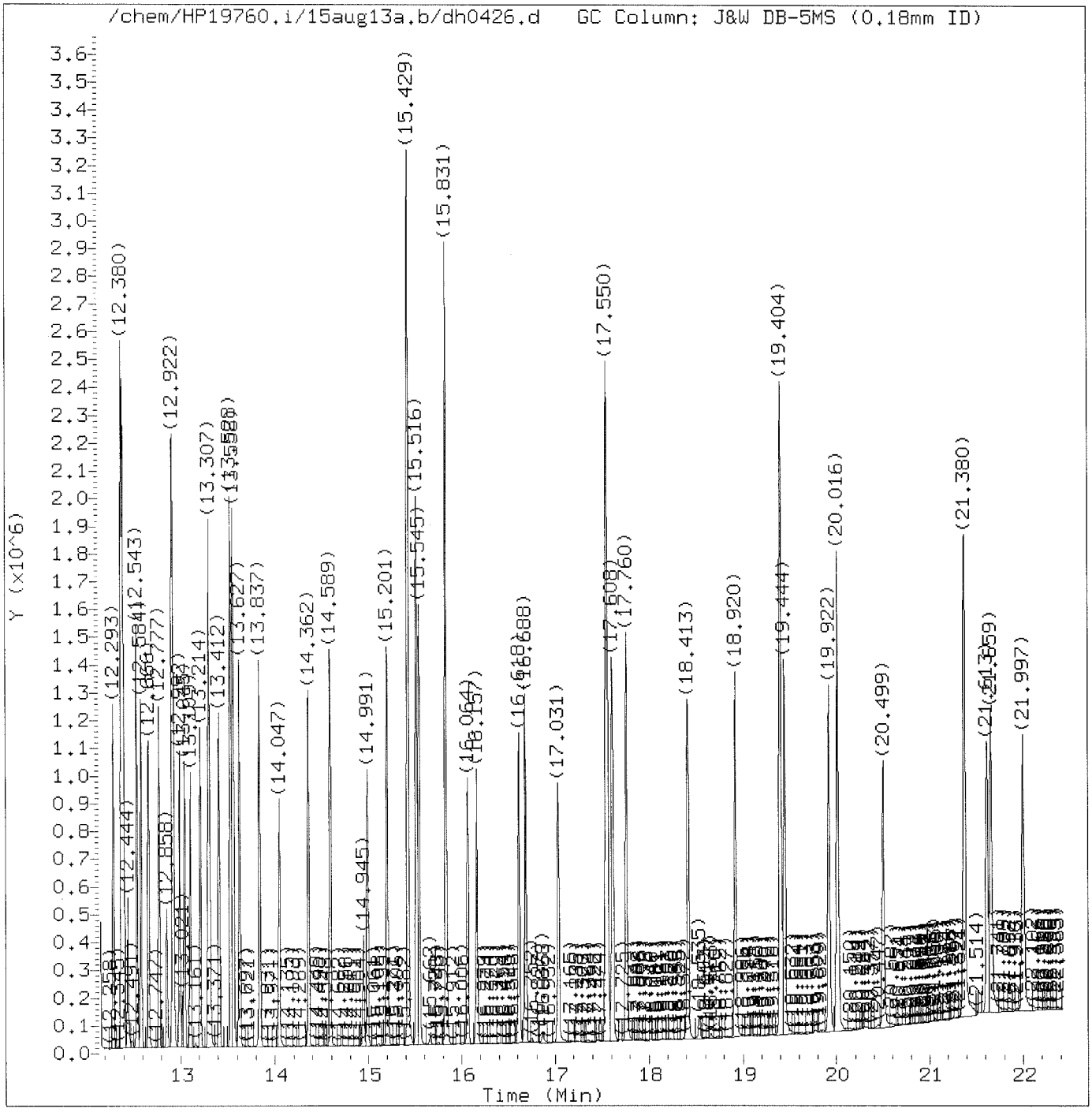
Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0426.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0426.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0426.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.477	88	89733	3.451
2) N-Nitrosodimethylamine	(1)	3.025	74	162934	3.546
3) Pyridine	(1)	3.089	79	273347	3.580
4) 2-Picoline	(1)	4.226	93	278610	3.650
5) N-Nitrosomethylethylamine	(1)	4.395	88	119883	3.723
6) Methyl methanesulfonate	(1)	4.826	80	141088	3.592
7)$2-Fluorophenol	(1)	5.059	112	453959	7.359
8) N-Nitrosodiethylamine	(1)	5.392	102	115752	3.689
10) Ethyl methanesulfonate	(1)	5.835	109	116355	3.672
11) Benzaldehyde	(1)	6.295	77	219860	3.887
12)$Phenol-d5	(1)	6.412	99	582443	7.366
13)$Phenol-d6	(1)	6.412	99	582443	7.366
14) Phenol	(1)	6.429	94	350784	3.733
15) Aniline	(1)	6.452	93	401411	3.716
16) bis(2-Chloroethyl)ether	(1)	6.569	93	262665	3.767
17) 2-Chlorophenol	(1)	6.621	128	220269	3.695
18) 1,3-Dichlorobenzene	(1)	6.849	146	236597	3.729
19)*1,4-Dichlorobenzene-d4	(1)	6.936	152	207620	5.000
20) 1,4-Dichlorobenzene	(1)	6.960	146	238391	3.716
23) Benzyl alcohol	(1)	7.152	108	144117	3.504
24) 1,2-Dichlorobenzene	(1)	7.181	146	227959	3.767
25) Indene	(1)	7.315	115	364672	3.663
26) 2-Methylphenol	(1)	7.327	108	214146	3.738
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.379	45	372780	3.753
28) bis(2-Chloroisopropyl)ether	(1)	7.379	45	372780	3.753
29) N-Nitrosopyrrolidine	(1)	7.496	100	119841	3.618
30) Acetophenone	(1)	7.542	105	319926	3.709
33) 4-Methylphenol	(1)	7.560	108	243790	3.722
31) N-Nitroso-di-n-propylamine	(1)	7.560	70	196055	3.681
32) N-Nitrosomorpholine	(1)	7.566	56	164256	3.717
34) o-Toluidine	(1)	7.595	106	368887	3.719
35) Hexachloroethane	(1)	7.694	117	101256	3.710
36)$Nitrobenzene-d5	(2)	7.758	82	551484	7.346
37) Nitrobenzene	(2)	7.787	77	288123	3.707
39) N-Nitrosopiperidine	(2)	8.014	114	108143	3.636
40) Isophorone	(2)	8.172	82	500598	3.669
42) 2-Nitrophenol	(2)	8.277	139	112517	3.595
45) 2,4-Dimethylphenol	(2)	8.376	107	237773	3.730
47) Benzoic acid	(2)	8.498	105	285916M	6.284
46) O,O,O-triethylphosphorothioate	(2)	8.504	198	118379	3.797

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0426.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
48) bis(2-Chloroethoxy)methane	(2)	8.533	93	311015M	3.727
49) 2,4-Dichlorophenol	(2)	8.656	162	180412	3.731
51) 1,2,4-Trichlorobenzene	(2)	8.790	180	209859	3.749
52)*Naphthalene-d8	(2)	8.865	136	792084	5.000
53) Naphthalene	(2)	8.900	128	632381	3.756
55) 4-Chloroaniline	(2)	9.000	127	264943	3.668
56) 2,6-Dichlorophenol	(2)	9.011	162	175596	3.761
57) Hexachloropropene	(2)	9.052	213	137388	3.568
58) Hexachlorobutadiene	(2)	9.128	225	124142	3.781
60) Quinoline	(2)	9.425	129	394617	3.721
61) Caprolactam	(2)	9.512	113	58702	3.662
62) N-Nitrosodi-n-butylamine	(2)	9.571	84	177830	3.357
63) 4-Chloro-3-methylphenol	(2)	9.792	107	193753	3.645
64) Safrole	(2)	9.891	162	157957	3.700
65) 2-Methylnaphthalene	(2)	10.002	142	407955	3.686
66) 1-Methylnaphthalene	(2)	10.159	142	375192	3.710
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.276	216	212428	3.761
67) Hexachlorocyclopentadiene	(3)	10.276	237	132232	3.614
69) cis-Isosafrole	(3)	10.358	162	29419	0.631
70) 2,4,6-Trichlorophenol	(3)	10.463	196	135611	3.634
71) 2,4,5-Trichlorophenol	(3)	10.509	196	145936	3.708
72)$2-Fluorobiphenyl	(3)	10.614	172	939976	7.565
73) trans-Isosafrole	(3)	10.719	162	155365	3.044
74) Isosafrole	(3)	10.719	162	155365	3.668
75) 1,1'-Biphenyl	(3)	10.766	154	469510	3.697
76) 2-Chloronaphthalene	(3)	10.771	162	393784	3.724
77) 1-Chloronaphthalene	(3)	10.806	162	376991	3.767
83) 2-Nitroaniline	(3)	10.940	138	120692M	3.579
82) Diphenyl ether	(3)	10.946	170	269184	3.771
84) 1,4-Naphthoquinone	(3)	11.057	158	159556	3.594
85) 1,4-Dinitrobenzene	(3)	11.174	168	64584	3.533
86) Dimethylphthalate	(3)	11.284	163	450517	3.756
87) 1,3-Dinitrobenzene	(3)	11.290	168	73279	3.640
88) 2,6-Dinitrotoluene	(3)	11.354	165	103609	3.741
90) Acenaphthylene	(3)	11.430	152	605741	3.768
91) 3-Nitroaniline	(3)	11.593	138	103892	3.558
92)*Acenaphthene-d10	(3)	11.646	164	456295	5.000
93) Acenaphthene	(3)	11.692	153	395158	3.759
94) 2,4-Dinitrophenol	(3)	11.751	184	116767	6.487
96) 4-Nitrophenol	(3)	11.856	109	64543	3.195

M = Compound was manually integrated.
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Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0426.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
95) Pentachlorobenzene	(3)	11.885	250	182246	3.784
98) 2,4-Dinitrotoluene	(3)	11.937	165	132331	3.558
97) Dibenzofuran	(3)	11.937	168	554456	3.794
99) 1-Naphthylamine	(3)	12.042	143	388238	3.580
100) 2,3,4,6-Tetrachlorophenol	(3)	12.106	232	111777	3.586
101) 2-Naphthylamine	(3)	12.147	143	385241	3.584
102) Diethylphthalate	(3)	12.293	149	425303	3.595
103) Fluorene	(3)	12.380	166	435520	3.754
104) Thionazin	(3)	12.386	107	85376	3.677
106) 5-Nitro-o-toluidine	(3)	12.398	152	121971	3.649
107) 4-Nitroaniline	(3)	12.398	138	113314	3.696
105) 4-Chlorophenyl-phenylether	(3)	12.403	204	222851	3.772
108) 4,6-Dinitro-2-methylphenol	(4)	12.444	198	77939	3.397
110) NDPA as diphenylamine	(4)	12.543	169	366515	3.770
109) N-Nitrosodiphenylamine	(4)	12.543	169	366515	3.770
111) 1,2-Diphenylhydrazine	(4)	12.584	77	532692	3.735
112)$2,4,6-Tribromophenol	(3)	12.666	330	118332	7.224
115) Tetraethyldithiopyrophosphate	(4)	12.777	97	82308	3.681
116) 1,3,5-Trinitrobenzene	(4)	12.858	213	50851	3.383
117) Diallate (peak 1)	(4)	12.916	86	189664	3.067
118) Phorate	(4)	12.922	75	342357	3.690
119) Phenacetin	(4)	12.928	108	243291	3.695
120) 4-Bromophenyl-phenylether	(4)	12.992	248	125194	3.743
121) Diallate (peak 2)	(4)	13.021	86	37785	0.636
122) Hexachlorobenzene	(4)	13.045	284	138126	3.876
123) Dimethoate	(4)	13.109	87	212486	3.669
124) Atrazine	(4)	13.214	200	122144	3.897
125) Pentachlorophenol	(4)	13.295	266	86872	3.557
127) 4-Aminobiphenyl	(4)	13.307	169	437790	3.775
126) Pentachloronitrobenzene	(4)	13.313	237	59673	3.648
129) Pronamide	(4)	13.412	173	203294	3.631
130)*Phenanthrene-d10	(4)	13.528	188	791119	5.000
133) Dinoseb	(4)	13.552	211	116388	3.362
131) Phenanthrene	(4)	13.558	178	635404	3.749
134) Anthracene	(4)	13.627	178	632984	3.788
135) Carbazole	(4)	13.837	167	604872	3.737
136) Methyl parathion	(4)	14.047	109	156179	3.480
137) Di-n-butylphthalate	(4)	14.362	149	744838	3.641
139) 4-Nitroquinoline-1-oxide	(4)	14.595	190	58605	2.934
138) Parathion	(4)	14.595	109	99288	3.540

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0426.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	14.991	193	79862	3.743
142) Fluoranthene	(4)	15.201	202	736468	3.811
144) Benzidine	(5)	15.429	184	1495795	11.228
145)*Pyrene-d10	(5)	15.516	212	1034555	5.000
146) Pyrene	(5)	15.545	202	789149	3.733
149)$Terphenyl-d14	(5)	15.831	244	1103797	7.549
150) p-Dimethylaminoazobenzene	(5)	16.064	225	140282	3.453
151) Chlorobenzilate	(5)	16.157	139	233093	3.639
152) 3,3'-Dimethylbenzidine	(5)	16.618	212	506048	3.554
153) Butylbenzylphthalate	(5)	16.688	149	356910	3.674
156) 2-Acetylaminofluorene	(5)	17.031	181	279599	3.343
159) 3,3'-Dichlorobenzidine	(5)	17.538	252	284888	3.635
158) Benzo(a)anthracene	(5)	17.550	228	766816	3.831
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.562	231	153404	3.563
161) Chrysene	(5)	17.608	228	729737	3.853
162) bis(2-Ethylhexyl)phthalate	(5)	17.760	149	513343	3.563
165) 6-Methylchrysene	(5)	18.413	242	520788	3.594
166) Di-n-octylphthalate	(6)	18.920	149	848388	3.409
168) Benzo(b)fluoranthene	(6)	19.398	252	746741	3.693
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.404	256	330382	3.550
170) Benzo(k)fluoranthene	(6)	19.444	252	775462	3.865
171) Benzo(a)pyrene	(6)	19.922	252	690140	3.669
172)*Perylene-d12	(6)	20.016	264	881245	5.000
173) 3-Methylcholanthrene	(6)	20.499	268	334347	3.526
176) Indeno(1,2,3-cd)pyrene	(6)	21.619	276	784741	3.782
177) Dibenz(a,h)anthracene	(6)	21.659	278	664712	3.797
178) Benzo(g,h,i)perylene	(6)	21.997	276	677039	3.840
179) Diallate TRANS/CIS	(4)			227449	3.703
182) 2,4_2,6-Dinitrotoluenes	(3)			235940	7.299

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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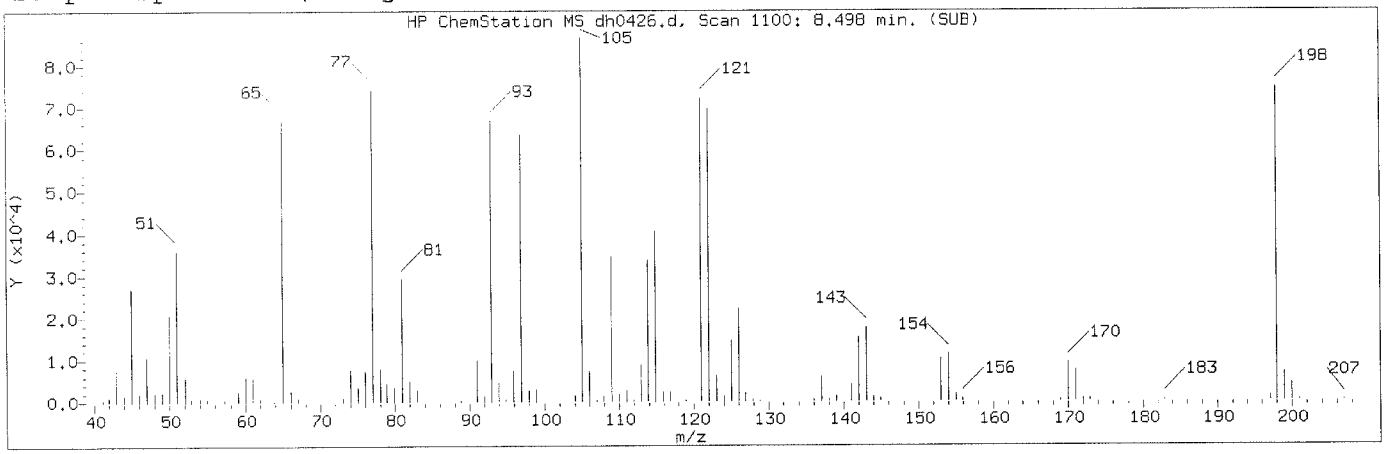
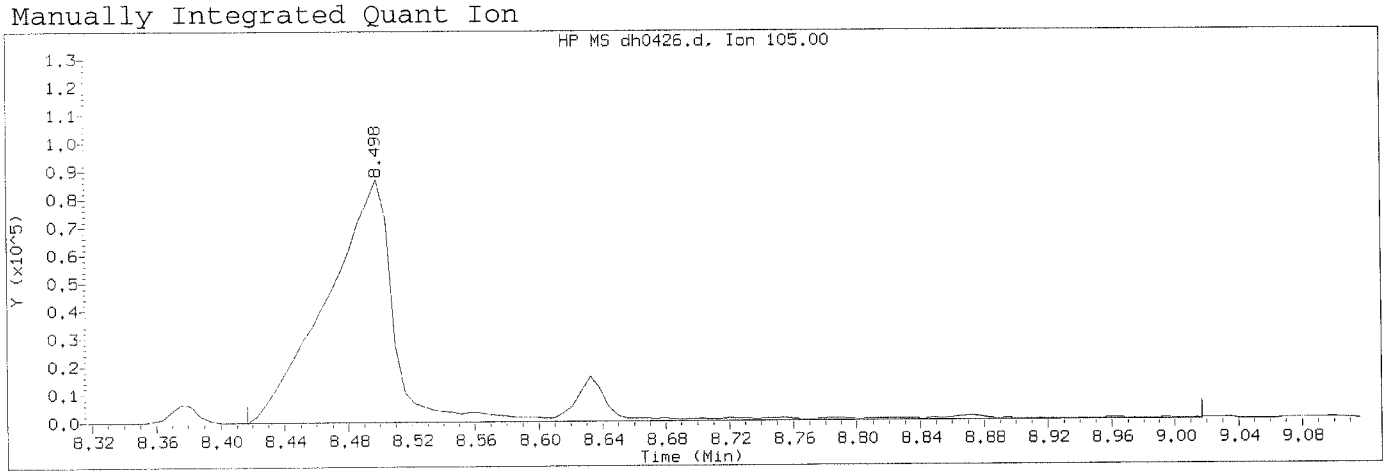
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0426.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1100		
Retention Time (minutes)	: 8.498		
Quant Ion	: 105.00		
Area (flag)	: 285916M		
On-Column Amount (ng/ul)	: 6.2836		
Integration start scan	: 1085	Integration stop scan:	1188
Y at integration start	: 0	Y at integration end:	0

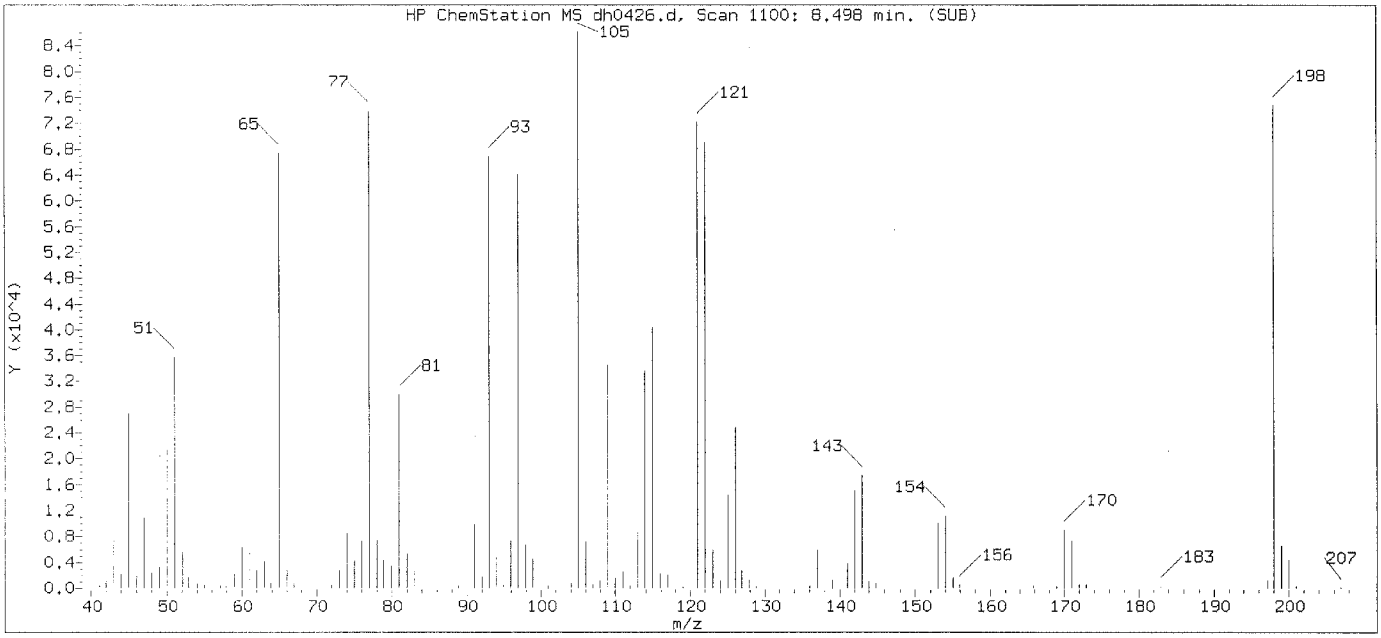
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

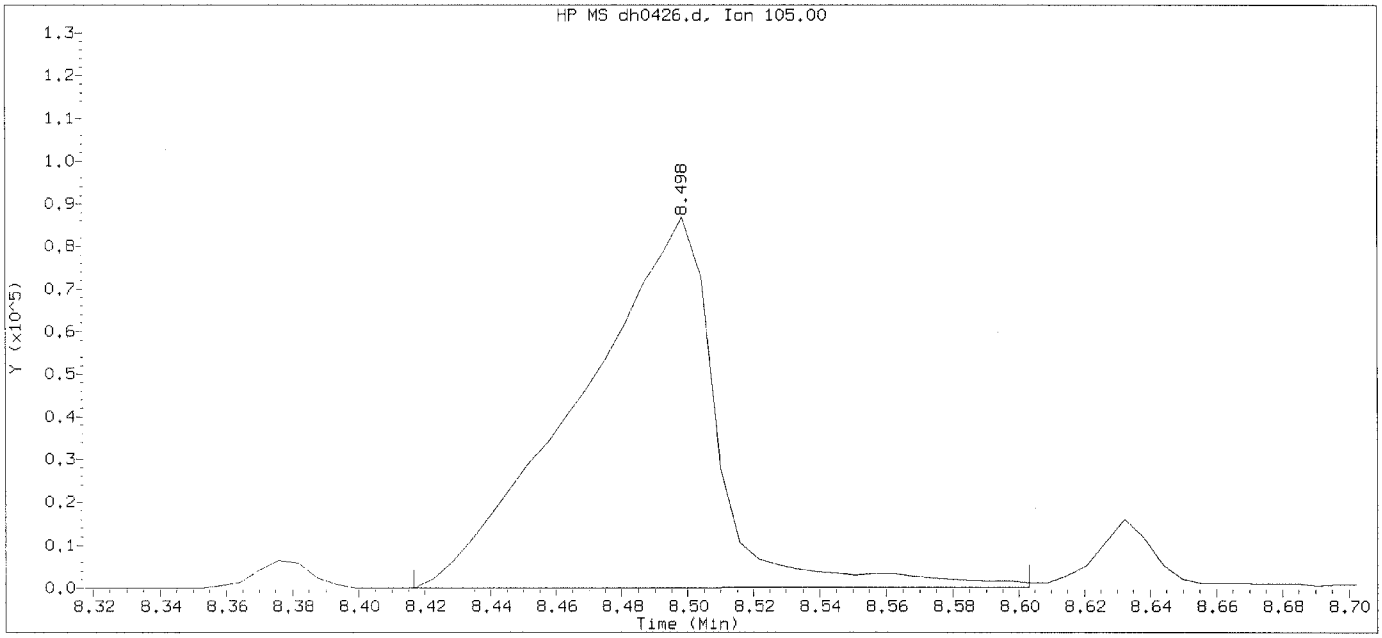
GC/MS audit/management approval: AUG 18 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0426.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1100		
Retention Time (minutes)	: 8.498		
Quant Ion	: 105.00		
Area	: 251068		
On-column Amount (ng/ul)	: 13.2824		
Integration start scan	: 1085	Integration stop scan:	1117
Y at integration start	: 0	Y at integration end:	110

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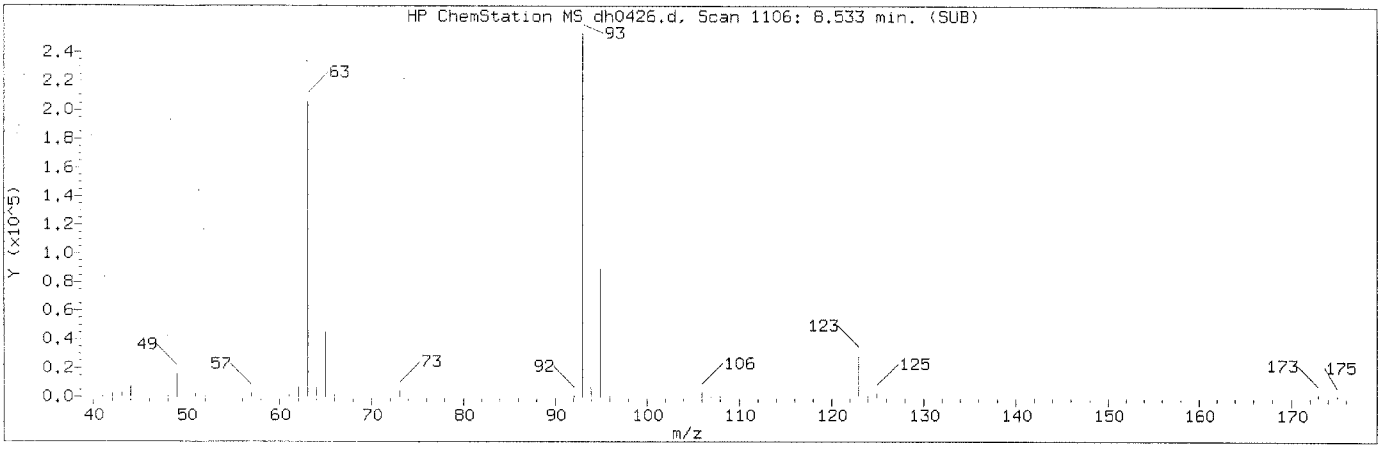
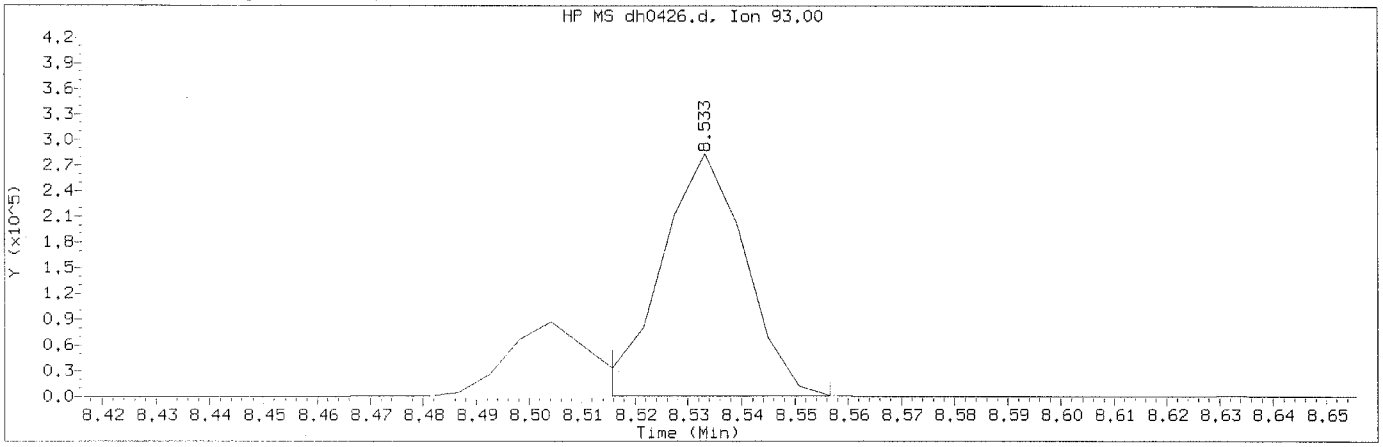
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0426.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compound Number	: 48		
Compound Name	: bis(2-Chloroethoxy)methane		
Scan Number	: 1106		
Retention Time (minutes)	: 8.533		
Quant Ion	: 93.00		
Area (flag)	: 311015M		
On-Column Amount (ng/ul)	: 3.7269		
Integration start scan	: 1102	Integration stop scan:	1109
Y at integration start	: 864	Y at integration end:	864

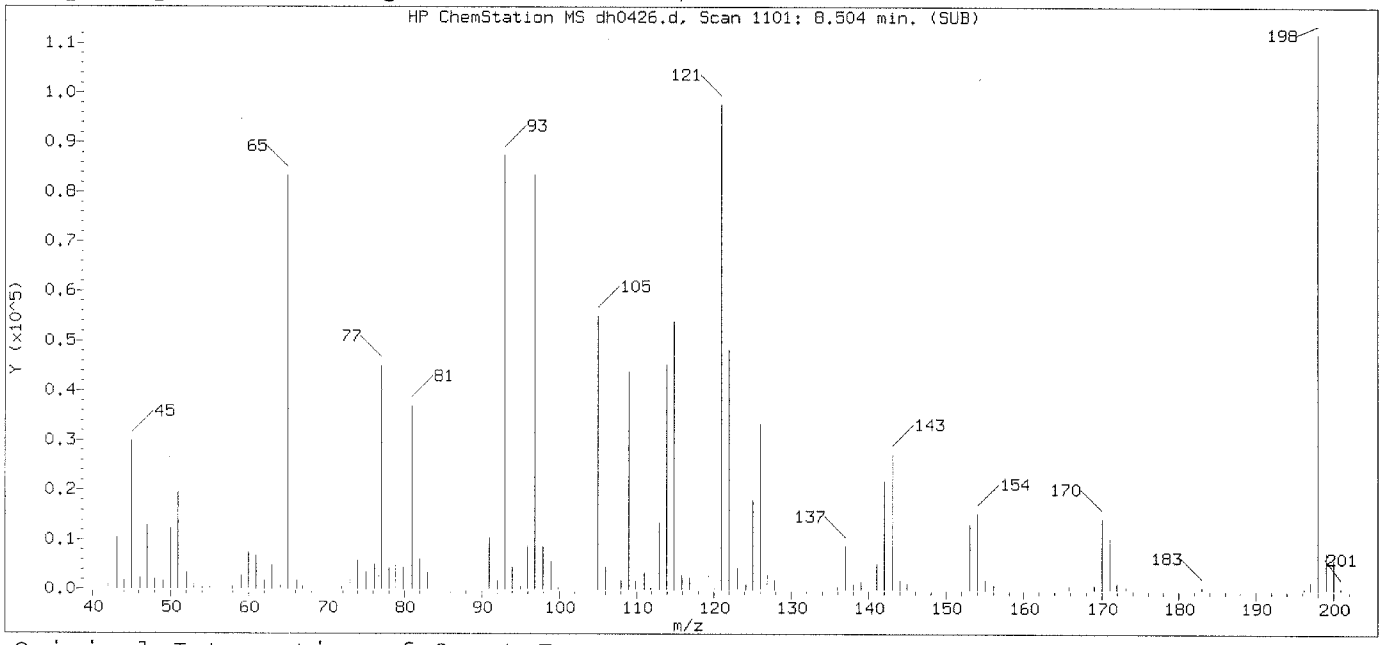
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 designature user ID: aap07680

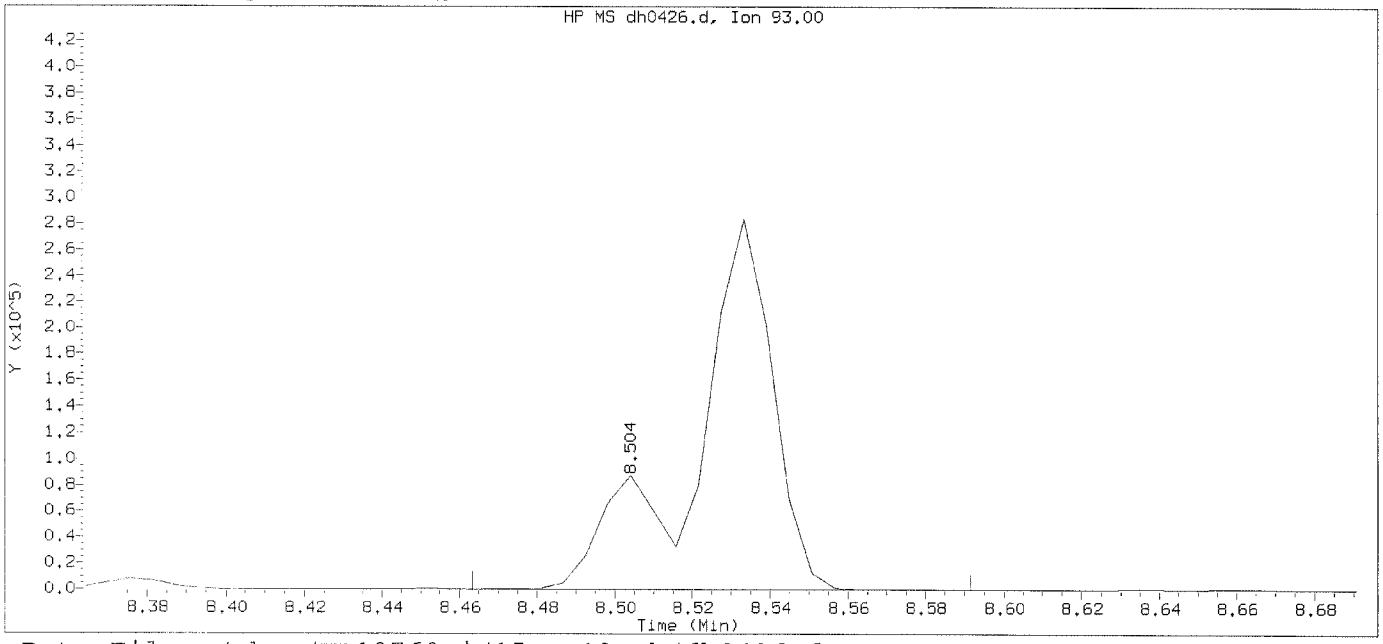
AUG 18 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0426.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compound Number	: 48		
Compound Name	: bis(2-Chloroethoxy)methane		
Scan Number	: 1101		
Retention Time (minutes)	: 8.504		
Quant Ion	: 93.00		
Area	: 399974		
On-column Amount (ng/ul)	: 5.1819		
Integration start scan	: 1093	Integration stop scan:	1115
Y at integration start	: 0	Y at integration end:	0

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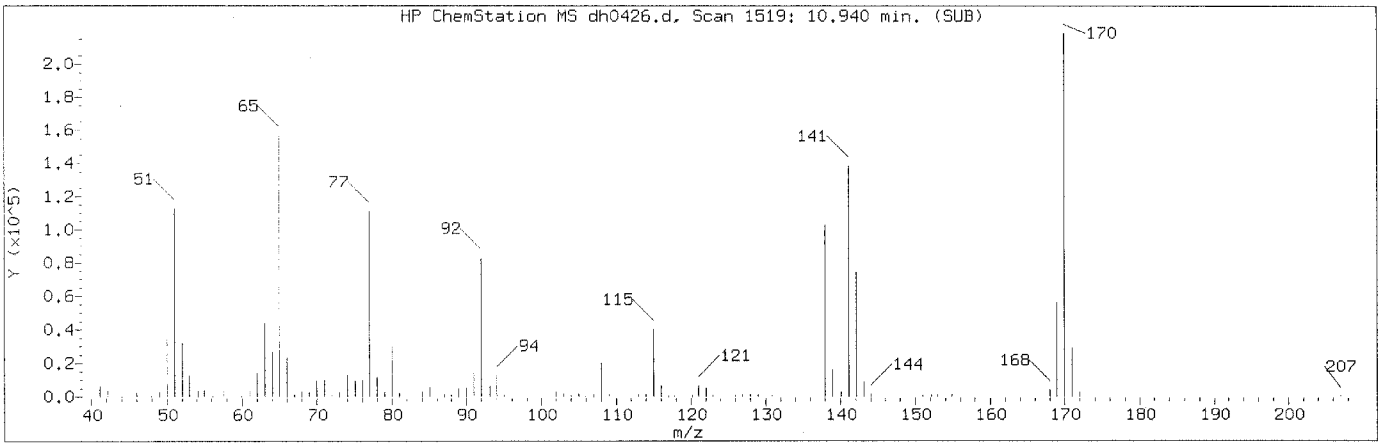
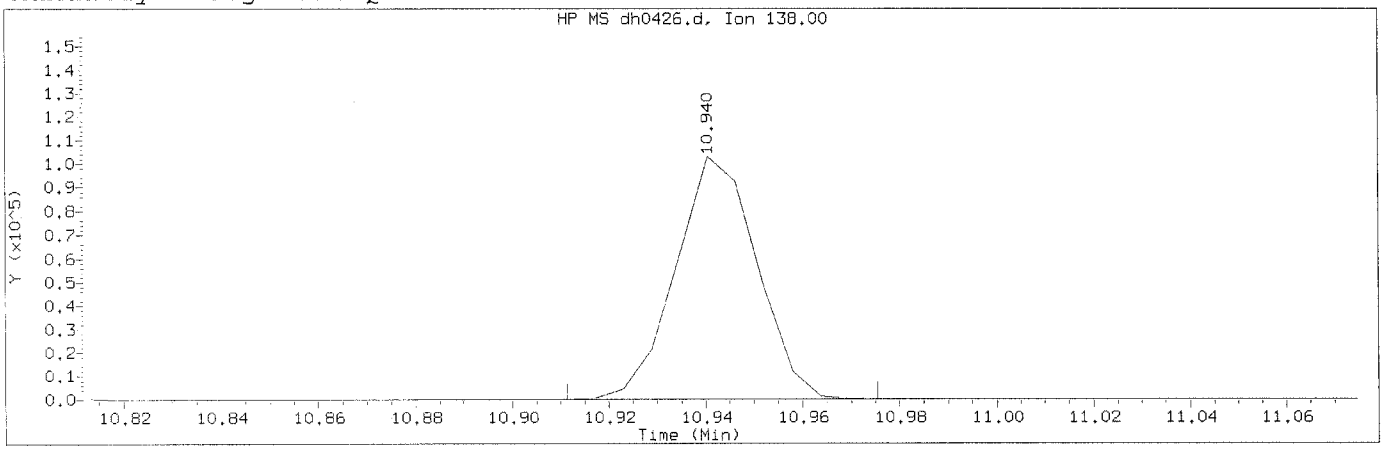
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0426.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compound Number	: 83		
Compound Name	: 2-Nitroaniline		
Scan Number	: 1519		
Retention Time (minutes)	: 10.940		
Quant Ion	: 138.00		
Area (flag)	: 120692M		
On-Column Amount (ng/ul)	: 3.5795		
Integration start scan	: 1513	Integration stop scan:	1524
Y at integration start	: -37	Y at integration end:	-37

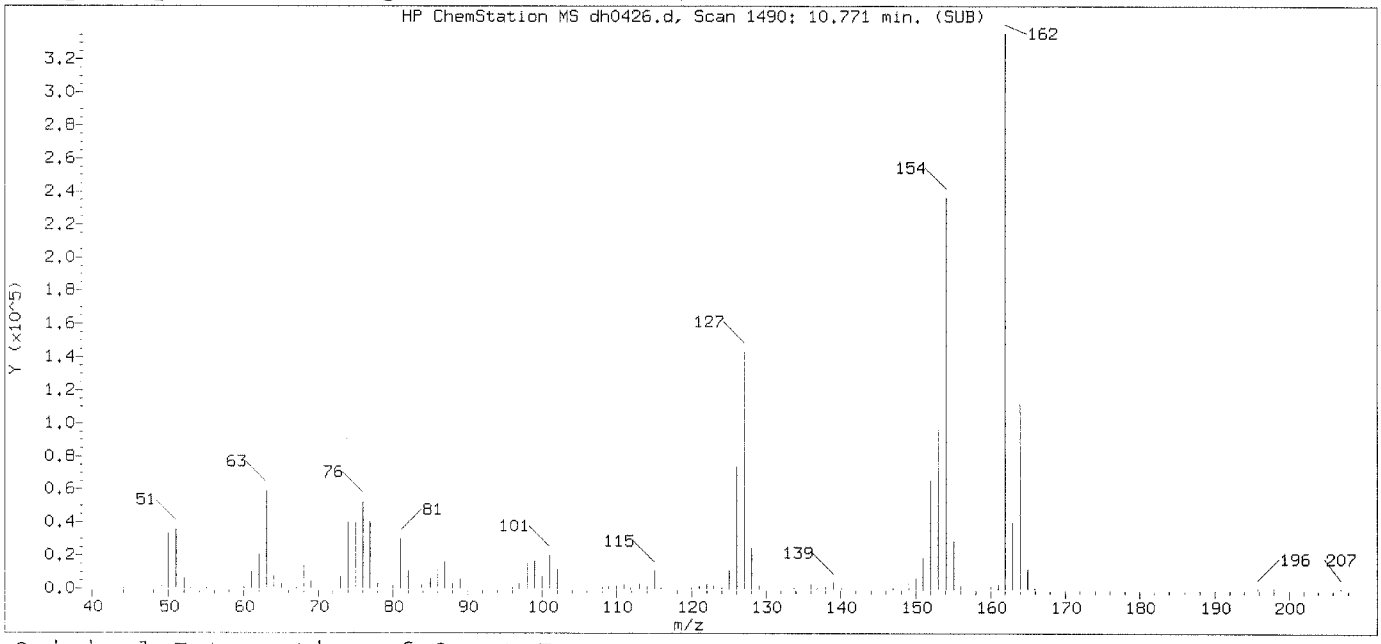
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 signature user ID: aap07680

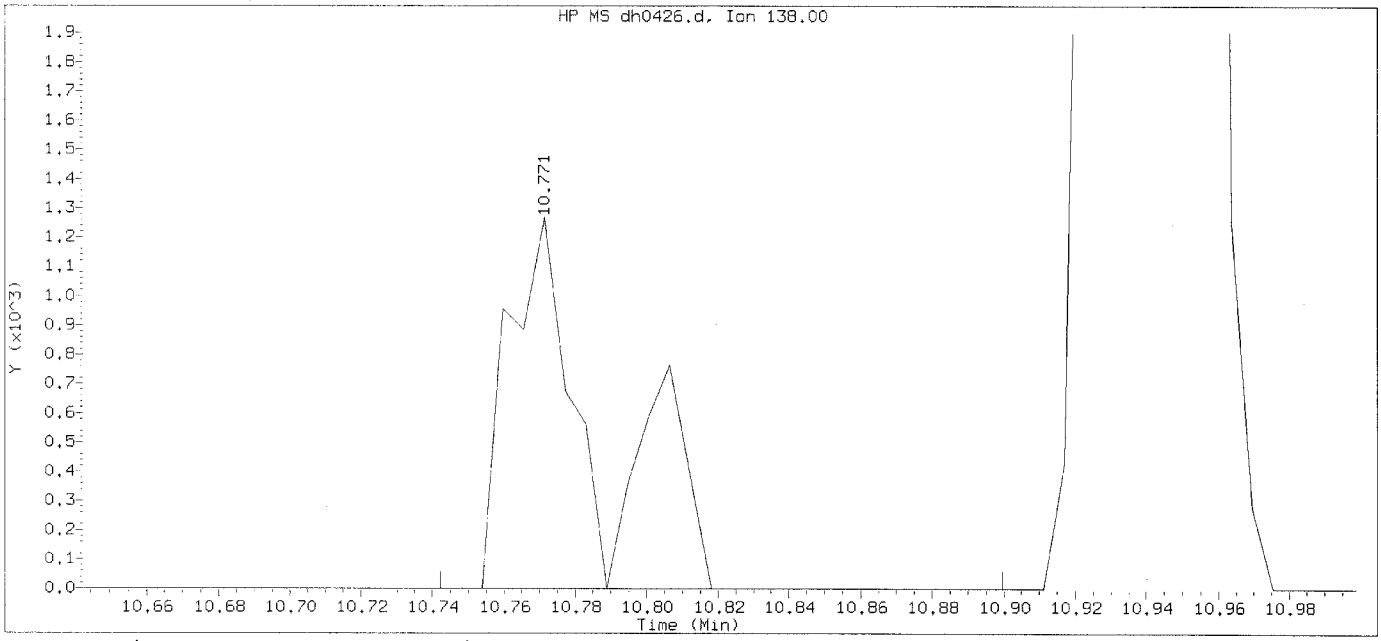
AUG 18 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0426.d Instrument ID: HP19760.i
Injection date and time: 13-AUG-2015 23:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compound Number	: 83		
Compound Name	: 2-Nitroaniline		
Scan Number	: 1490		
Retention Time (minutes)	: 10.771		
Quant Ion	: 138.00		
Area	: 2251		
On-column Amount (ng/ul)	: 0.0084		
Integration start scan	: 1484	Integration stop scan:	1511
Y at integration start	: 0	Y at integration end:	0

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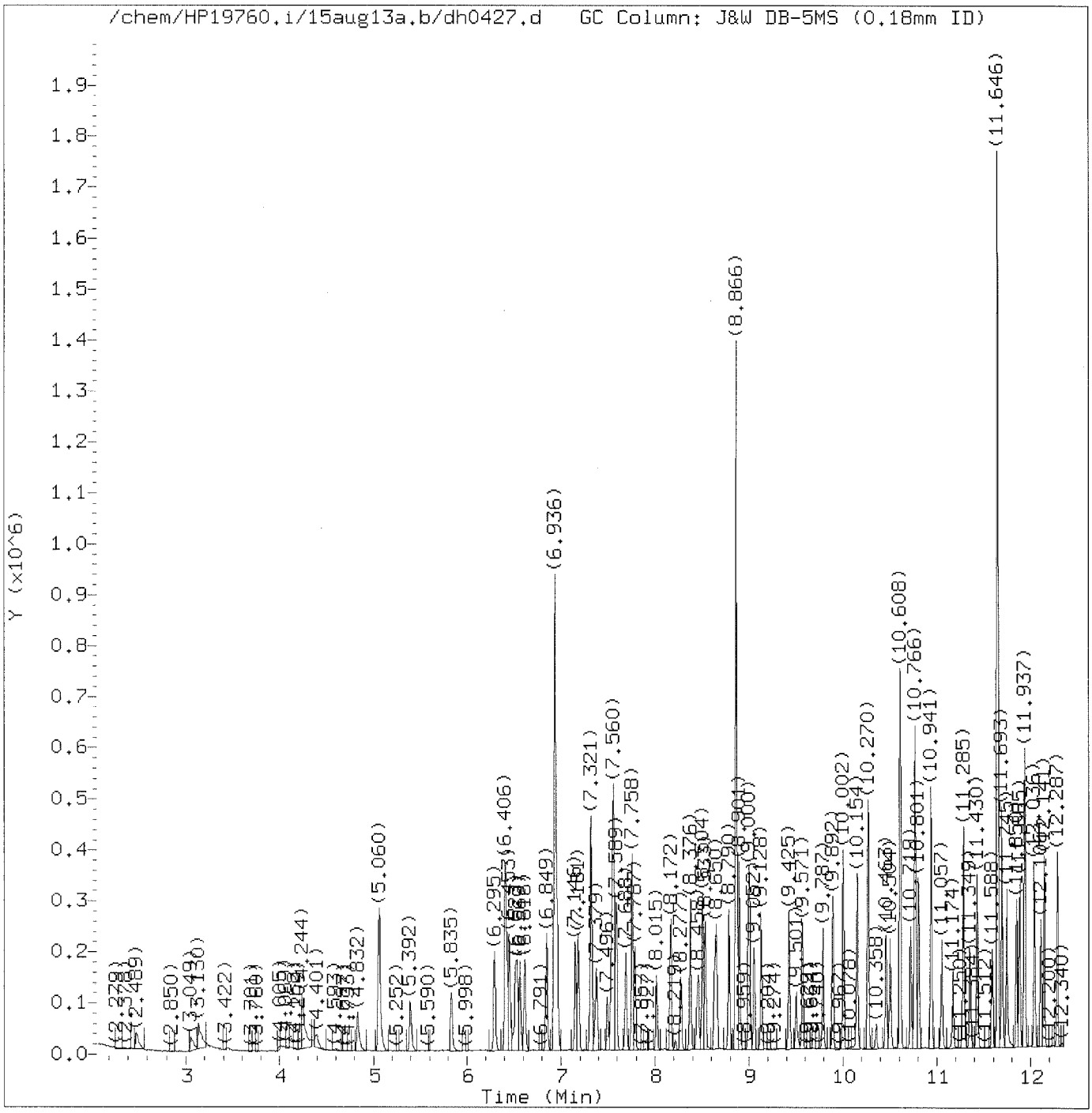
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

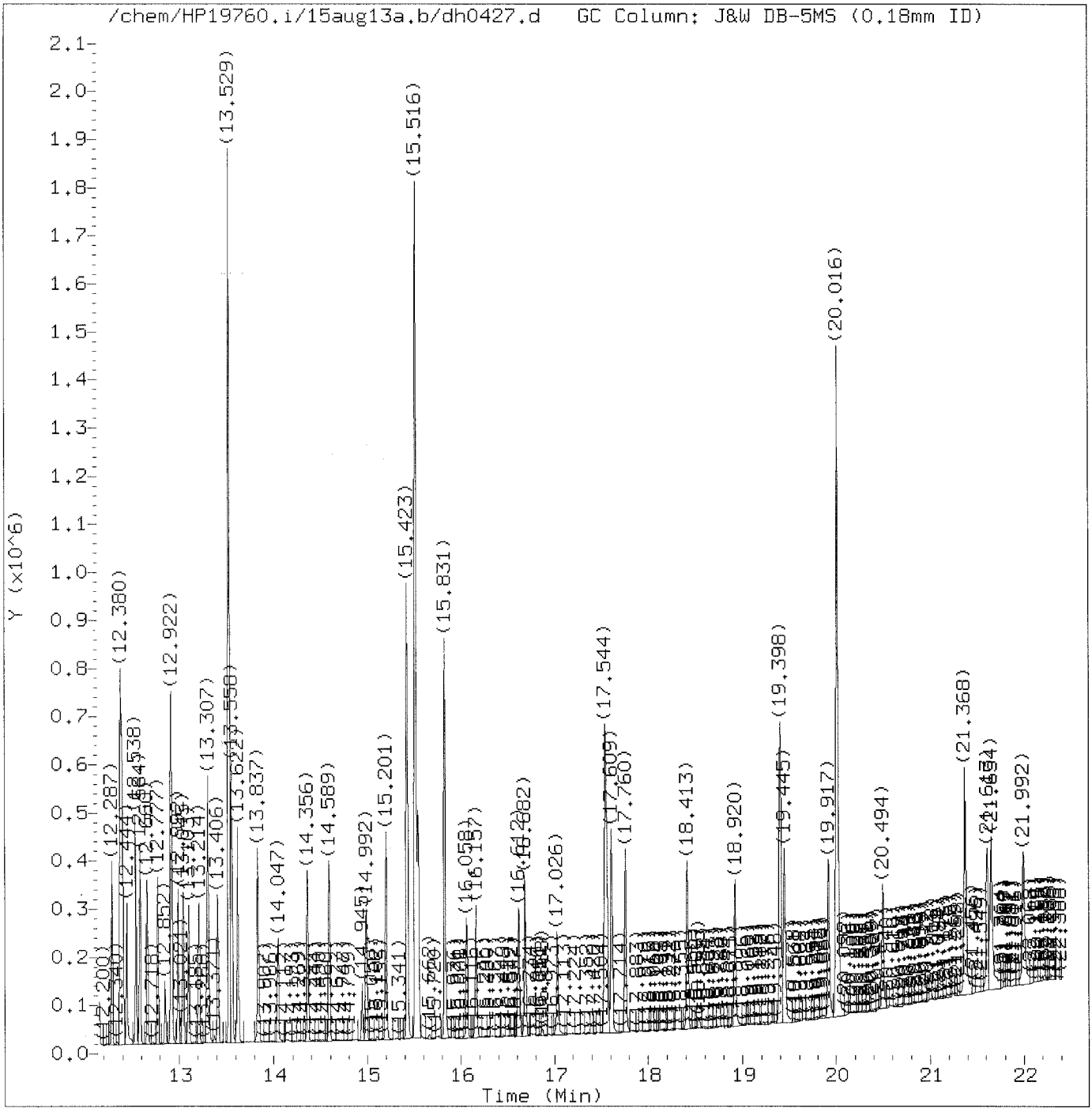
Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0427.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:16 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0427.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:16 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0427.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:16 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.489	88	23505	1.041
2) N-Nitrosodimethylamine	(1)	3.049	74	43932	1.092
3) Pyridine	(1)	3.130	79	77444	1.149
4) 2-Picoline	(1)	4.244	93	86909	1.266
5) N-Nitrosomethylethylamine	(1)	4.395	88	36425	1.259
6) Methyl methanesulfonate	(1)	4.832	80	44245	1.254
7)$2-Fluorophenol	(1)	5.060	112	137424	2.486
8) N-Nitrosodiethylamine	(1)	5.398	102	34582	1.232
10) Ethyl methanesulfonate	(1)	5.835	109	35404	1.246
11) Benzaldehyde	(1)	6.295	77	64789	1.272
12)$Phenol-d5	(1)	6.406	99	172438	2.442
13)$Phenol-d6	(1)	6.406	99	172438	2.442
14) Phenol	(1)	6.429	94	106435	1.260
15) Aniline	(1)	6.453	93	121600	1.254
16) bis(2-Chloroethyl)ether	(1)	6.569	93	79554	1.268
17) 2-Chlorophenol	(1)	6.622	128	65043	1.221
18) 1,3-Dichlorobenzene	(1)	6.849	146	71376	1.253
19)*1,4-Dichlorobenzene-d4	(1)	6.936	152	186303	5.000
20) 1,4-Dichlorobenzene	(1)	6.960	146	76377	1.313
23) Benzyl alcohol	(1)	7.146	108	43080	1.180
24) 1,2-Dichlorobenzene	(1)	7.181	146	71263	1.302
25) Indene	(1)	7.315	115	112467	1.257
26) 2-Methylphenol	(1)	7.321	108	63351	1.235
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.379	45	115591	1.289
28) bis(2-Chloroisopropyl)ether	(1)	7.379	45	115591	1.289
29) N-Nitrosopyrrolidine	(1)	7.496	100	35890	1.214
30) Acetophenone	(1)	7.543	105	95473	1.236
33) 4-Methylphenol	(1)	7.560	108	72948	1.243
31) N-Nitroso-di-n-propylamine	(1)	7.560	70	58387	1.226
32) N-Nitrosomorpholine	(1)	7.566	56	50422	1.268
34) o-Toluidine	(1)	7.589	106	114403	1.279
35) Hexachloroethane	(1)	7.688	117	31181	1.269
36)$Nitrobenzene-d5	(2)	7.758	82	167929	2.434
37) Nitrobenzene	(2)	7.787	77	87390	1.222
39) N-Nitrosopiperidine	(2)	8.015	114	32969	1.208
40) Isophorone	(2)	8.172	82	148480	1.189
42) 2-Nitrophenol	(2)	8.277	139	33040	1.159
45) 2,4-Dimethylphenol	(2)	8.376	107	69273	1.188
47) Benzoic acid	(2)	8.458	105	81183M	2.101
46) O,O,O-triethylphosphorothioate	(2)	8.504	198	34922	1.219

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0427.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:16 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
48) bis(2-Chloroethoxy)methane	(2)	8.533	93	93916M	1.223
49) 2,4-Dichlorophenol	(2)	8.650	162	51668	1.171
51) 1,2,4-Trichlorobenzene	(2)	8.790	180	65442	1.263
52)*Naphthalene-d8	(2)	8.866	136	731704	5.000
53) Naphthalene	(2)	8.901	128	189592	1.223
55) 4-Chloroaniline	(2)	9.000	127	81032	1.220
56) 2,6-Dichlorophenol	(2)	9.011	162	51751	1.208
57) Hexachloropropene	(2)	9.052	213	42109	1.194
58) Hexachlorobutadiene	(2)	9.128	225	38554	1.268
60) Quinoline	(2)	9.425	129	117462	1.207
61) Caprolactam	(2)	9.501	113	15497	1.076
62) N-Nitrosodi-n-butylamine	(2)	9.571	84	53009	1.108
63) 4-Chloro-3-methylphenol	(2)	9.787	107	55409	1.147
64) Safrole	(2)	9.892	162	46774	1.196
65) 2-Methylnaphthalene	(2)	10.002	142	126208	1.237
66) 1-Methylnaphthalene	(2)	10.154	142	113106	1.216
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.270	216	64354	1.255
67) Hexachlorocyclopentadiene	(3)	10.276	237	41526	1.251
69) cis-Isosafrole	(3)	10.358	162	8265	0.198
70) 2,4,6-Trichlorophenol	(3)	10.463	196	39617	1.183
71) 2,4,5-Trichlorophenol	(3)	10.509	196	41883	1.185
72)$2-Fluorobiphenyl	(3)	10.614	172	288249	2.547
74) Isosafrole	(3)	10.719	162	44629	1.175
73) trans-Isosafrole	(3)	10.719	162	44629	0.975
75) 1,1'-Biphenyl	(3)	10.760	154	140572	1.225
76) 2-Chloronaphthalene	(3)	10.772	162	122999	1.277
77) 1-Chloronaphthalene	(3)	10.801	162	114290	1.257
82) Diphenyl ether	(3)	10.941	170	82903	1.275
83) 2-Nitroaniline	(3)	10.941	138	34276	1.140
84) 1,4-Naphthoquinone	(3)	11.057	158	42786	1.089
85) 1,4-Dinitrobenzene	(3)	11.174	168	18189	1.120
86) Dimethylphthalate	(3)	11.285	163	135922	1.249
87) 1,3-Dinitrobenzene	(3)	11.285	168	19137	1.077
88) 2,6-Dinitrotoluene	(3)	11.354	165	28865	1.165
90) Acenaphthylene	(3)	11.430	152	176531	1.216
91) 3-Nitroaniline	(3)	11.588	138	32286	1.224
92)*Acenaphthene-d10	(3)	11.646	164	413992	5.000
93) Acenaphthene	(3)	11.693	153	121814	1.273
94) 2,4-Dinitrophenol	(3)	11.745	184	44789	2.871
96) 4-Nitrophenol	(3)	11.850	109	38575	2.162

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0427.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:16 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
95) Pentachlorobenzene	(3)	11.885	250	57256	1.300
98) 2,4-Dinitrotoluene	(3)	11.932	165	38059	1.146
97) Dibenzofuran	(3)	11.937	168	168469	1.267
99) 1-Naphthylamine	(3)	12.036	143	116394	1.194
100) 2,3,4,6-Tetrachlorophenol	(3)	12.106	232	32019	1.150
101) 2-Naphthylamine	(3)	12.141	143	119949	1.233
102) Diethylphthalate	(3)	12.287	149	125505	1.182
103) Fluorene	(3)	12.374	166	130179	1.239
104) Thionazin	(3)	12.380	107	23739	1.146
106) 5-Nitro-o-toluidine	(3)	12.392	152	36992	1.225
107) 4-Nitroaniline	(3)	12.392	138	32414	1.179
105) 4-Chlorophenyl-phenylether	(3)	12.404	204	67474	1.257
108) 4,6-Dinitro-2-methylphenol	(4)	12.444	198	42298	2.097
110) NDPA as diphenylamine	(4)	12.538	169	109241	1.240
109) N-Nitrosodiphenylamine	(4)	12.538	169	109241	1.240
111) 1,2-Diphenylhydrazine	(4)	12.584	77	157874	1.225
112)$2,4,6-Tribromophenol	(3)	12.666	330	33856	2.312
115) Tetraethyldithiopyrophosphate	(4)	12.777	97	24344	1.208
116) 1,3,5-Trinitrobenzene	(4)	12.858	213	12768	0.977
117) Diallate (peak 1)	(4)	12.917	86	55714	1.000
119) Phenacetin	(4)	12.922	108	66346	1.132
118) Phorate	(4)	12.922	75	97240	1.170
120) 4-Bromophenyl-phenylether	(4)	12.992	248	39130	1.282
121) Diallate (peak 2)	(4)	13.021	86	11584	0.214
122) Hexachlorobenzene	(4)	13.045	284	40678	1.257
123) Dimethoate	(4)	13.103	87	57608	1.119
124) Atrazine	(4)	13.214	200	35805	1.257
125) Pentachlorophenol	(4)	13.295	266	22544	1.050
127) 4-Aminobiphenyl	(4)	13.307	169	126528	1.210
126) Pentachloronitrobenzene	(4)	13.313	237	17334	1.181
129) Pronamide	(4)	13.406	173	55419	1.114
130)*Phenanthrene-d10	(4)	13.529	188	717886	5.000
133) Dinoseb	(4)	13.552	211	25978	0.876
131) Phenanthrene	(4)	13.558	178	193802	1.259
134) Anthracene	(4)	13.622	178	187289	1.237
135) Carbazole	(4)	13.837	167	176006	1.207
136) Methyl parathion	(4)	14.047	109	39227	1.002
137) Di-n-butylphthalate	(4)	14.356	149	204527	1.124
139) 4-Nitroquinoline-1-oxide	(4)	14.589	190	12394	0.684
138) Parathion	(4)	14.589	109	23509	0.966

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0427.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:16 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	14.992	193	23072	1.201
142) Fluoranthene	(4)	15.201	202	210177	1.206
144) Benzidine	(5)	15.423	184	423684	3.609
145)*Pyrene-d10	(5)	15.516	212	918592	5.000
146) Pyrene	(5)	15.545	202	239454	1.272
149)$Terphenyl-d14	(5)	15.831	244	323410	2.493
150) p-Dimethylaminoazobenzene	(5)	16.064	225	36588	1.047
151) Chlorobenzilate	(5)	16.157	139	63058	1.130
152) 3,3'-Dimethylbenzidine	(5)	16.612	212	129399	1.055
153) Butylbenzylphthalate	(5)	16.682	149	96291	1.137
156) 2-Acetylaminofluorene	(5)	17.026	181	66311	0.938
159) 3,3'-Dichlorobenzidine	(5)	17.539	252	74297	1.094
158) Benzo(a)anthracene	(5)	17.544	228	213510	1.208
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.562	231	42470	1.132
161) Chrysene	(5)	17.609	228	210764	1.253
162) bis(2-Ethylhexyl)phthalate	(5)	17.760	149	130441	1.052
165) 6-Methylchrysene	(5)	18.413	242	144159	1.140
166) Di-n-octylphthalate	(6)	18.920	149	201392	0.976
168) Benzo(b)fluoranthene	(6)	19.398	252	208972	1.202
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.404	256	88389	1.120
170) Benzo(k)fluoranthene	(6)	19.445	252	212180	1.226
171) Benzo(a)pyrene	(6)	19.917	252	189496	1.176
172)*Perylene-d12	(6)	20.016	264	762575	5.000
173) 3-Methylcholanthrene	(6)	20.494	268	88049	1.099
176) Indeno(1,2,3-cd)pyrene	(6)	21.613	276	220257M	1.230
177) Dibenz(a,h)anthracene	(6)	21.654	278	183677	1.218
178) Benzo(g,h,i)perylene	(6)	21.992	276	190182	1.247
179) Diallate TRANS/CIS	(4)			67298	1.214
182) 2,4_2,6-Dinitrotoluenes	(3)			66924	2.311

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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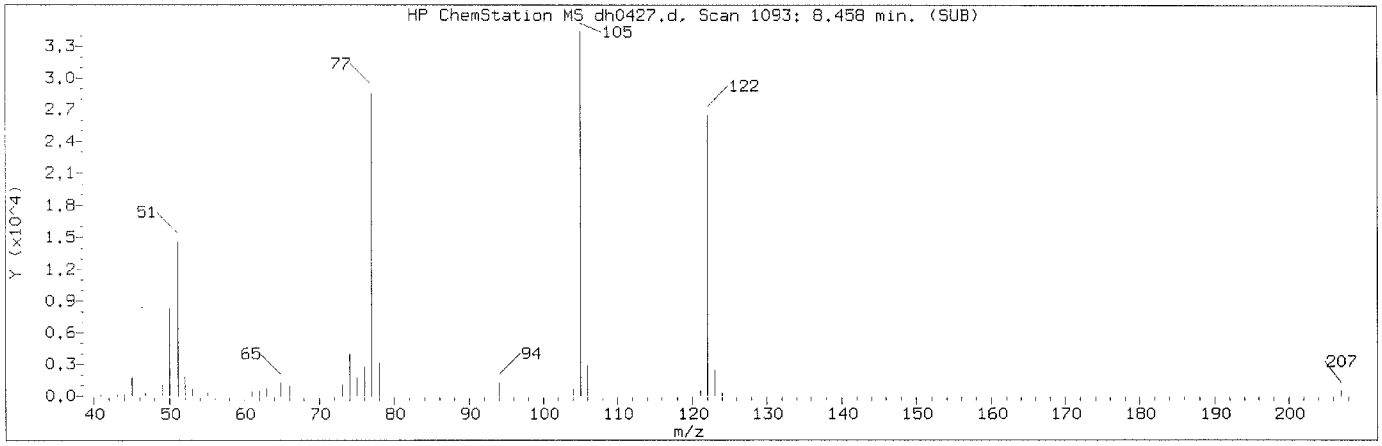
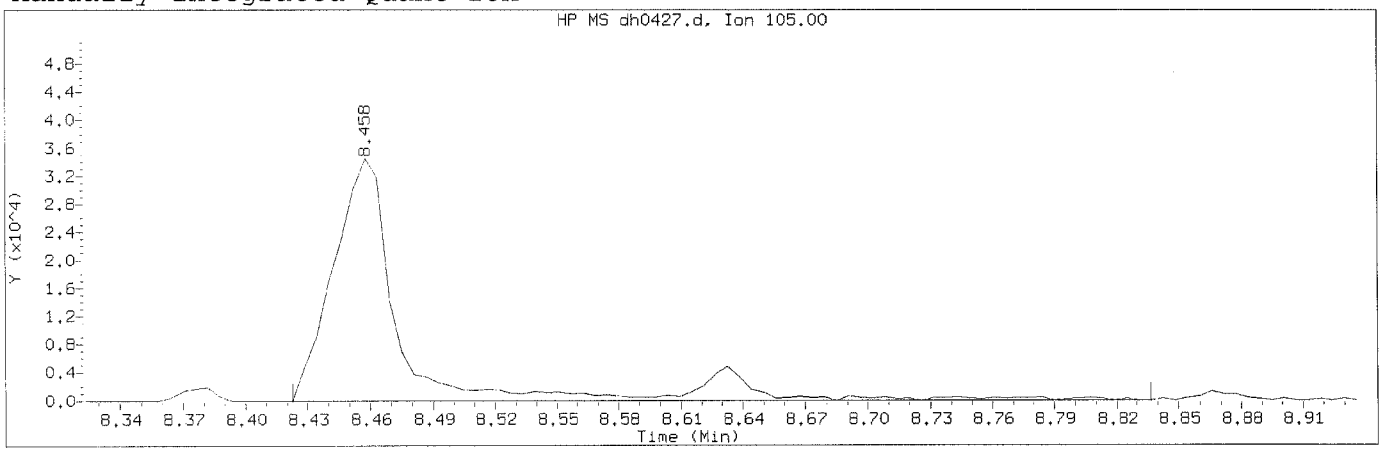
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0427.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:16 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1093		
Retention Time (minutes)	: 8.458		
Quant Ion	: 105.00		
Area (flag)	: 81183M		
On-Column Amount (ng/ul)	: 2.1012		
Integration start scan	: 1086	Integration stop scan:	1157
Y at integration start	: -25	Y at integration end:	-25

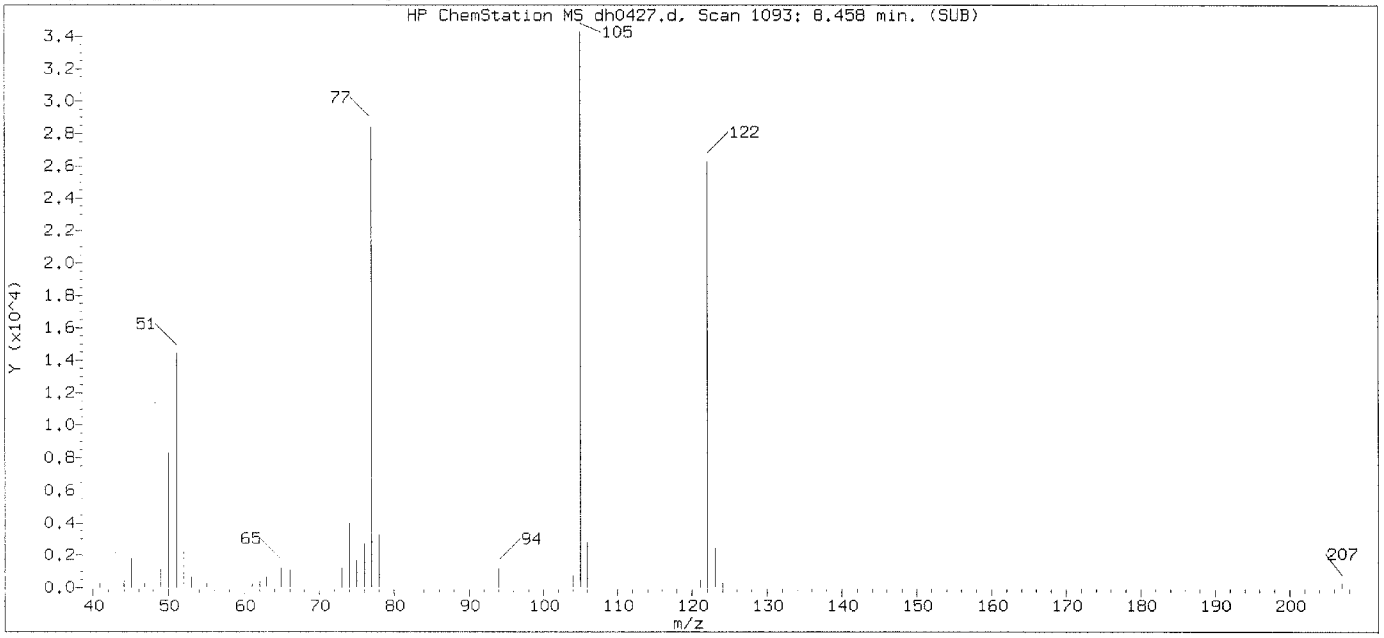
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 ~~signature user ID:~~ aap07680

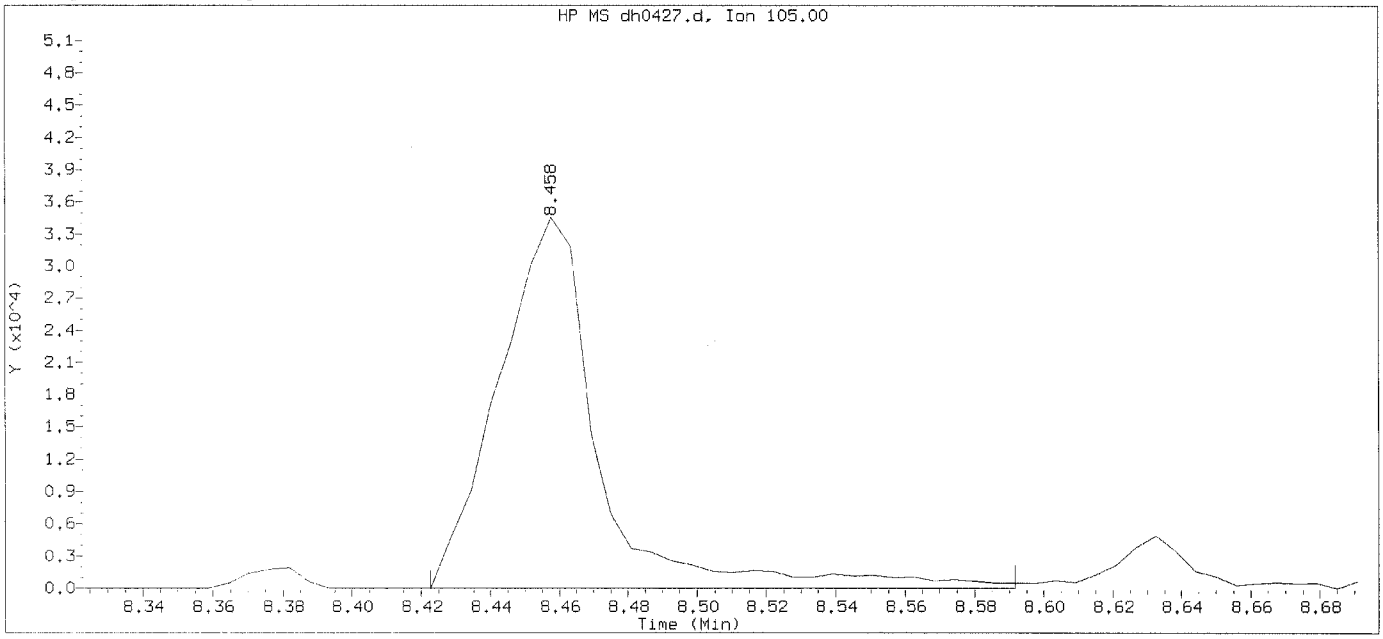
AUG 18 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0427.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:16 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1093		
Retention Time (minutes)	: 8.458		
Quant Ion	: 105.00		
Area	: 70078		
On-column Amount (ng/ul)	: 12.1816		
Integration start scan	: 1086	Integration stop scan:	1115
Y at integration start	: 0	Y at integration end:	0

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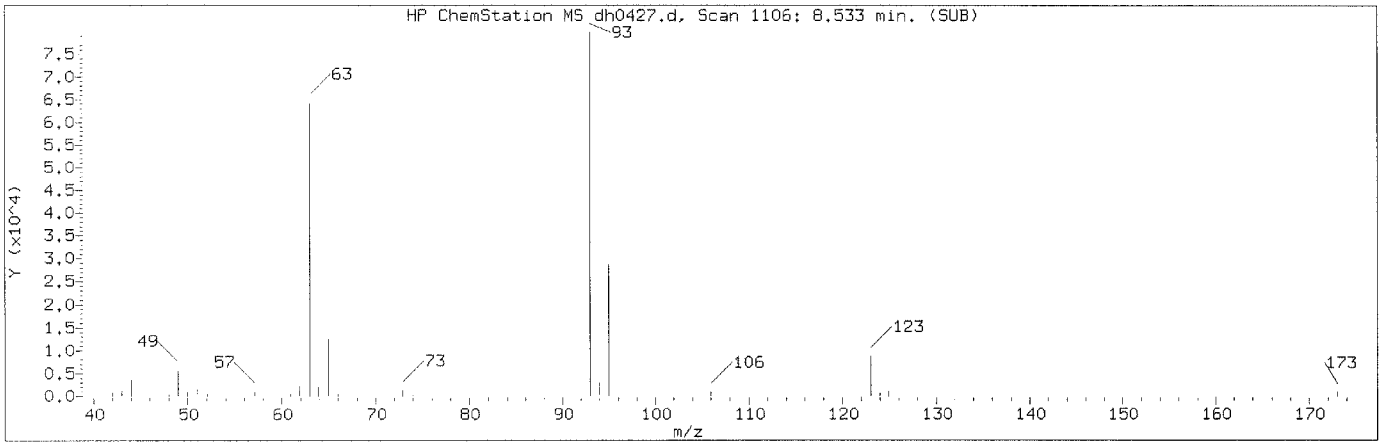
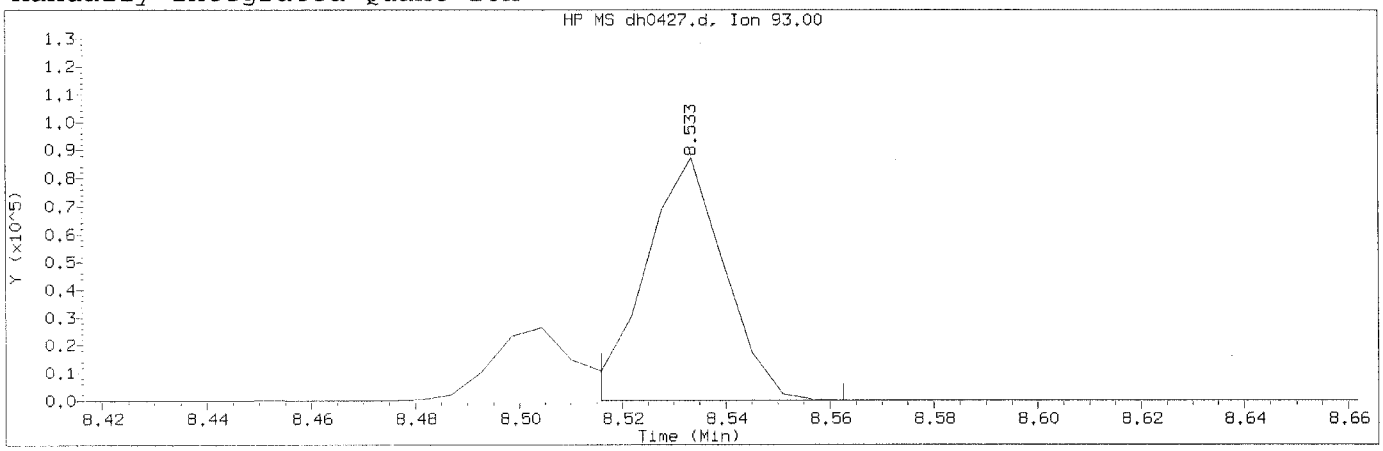
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0427.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:16 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compound Number	: 48		
Compound Name	: bis(2-Chloroethoxy)methane		
Scan Number	: 1106		
Retention Time (minutes)	: 8.533		
Quant Ion	: 93.00		
Area (flag)	: 93916M		
On-Column Amount (ng/ul)	: 1.2234		
Integration start scan	: 1102	Integration stop scan:	1110
Y at integration start	: -5	Y at integration end:	-5

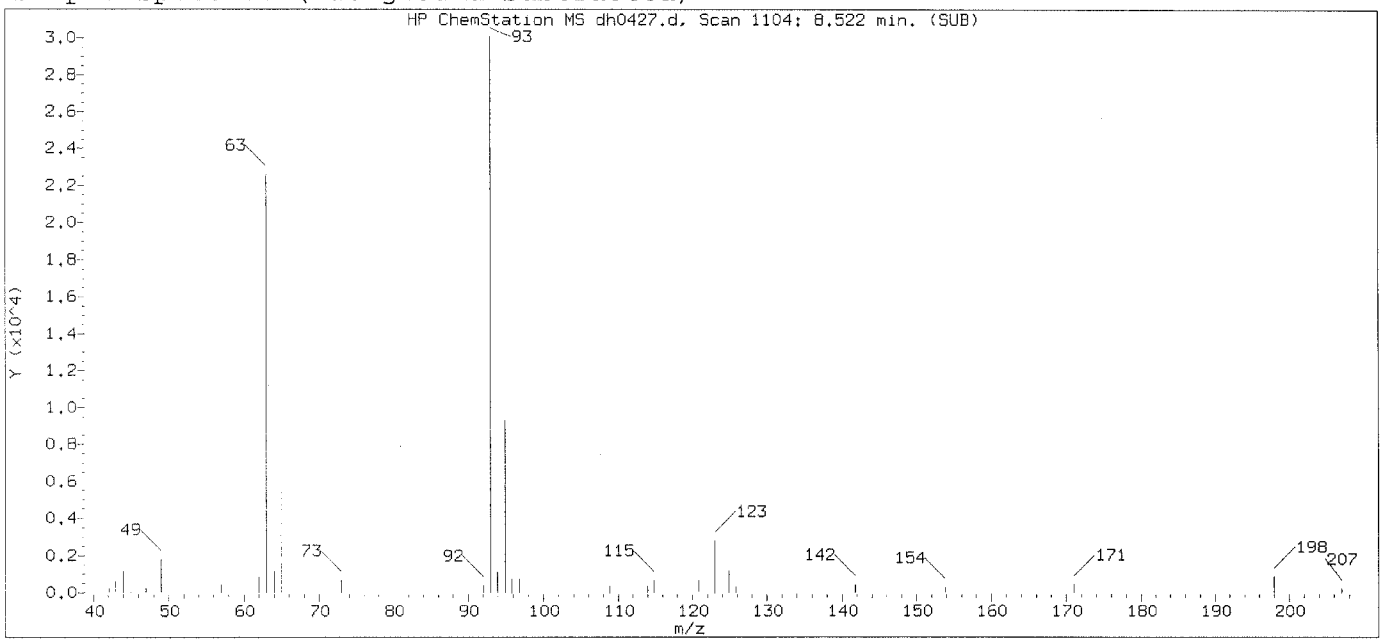
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

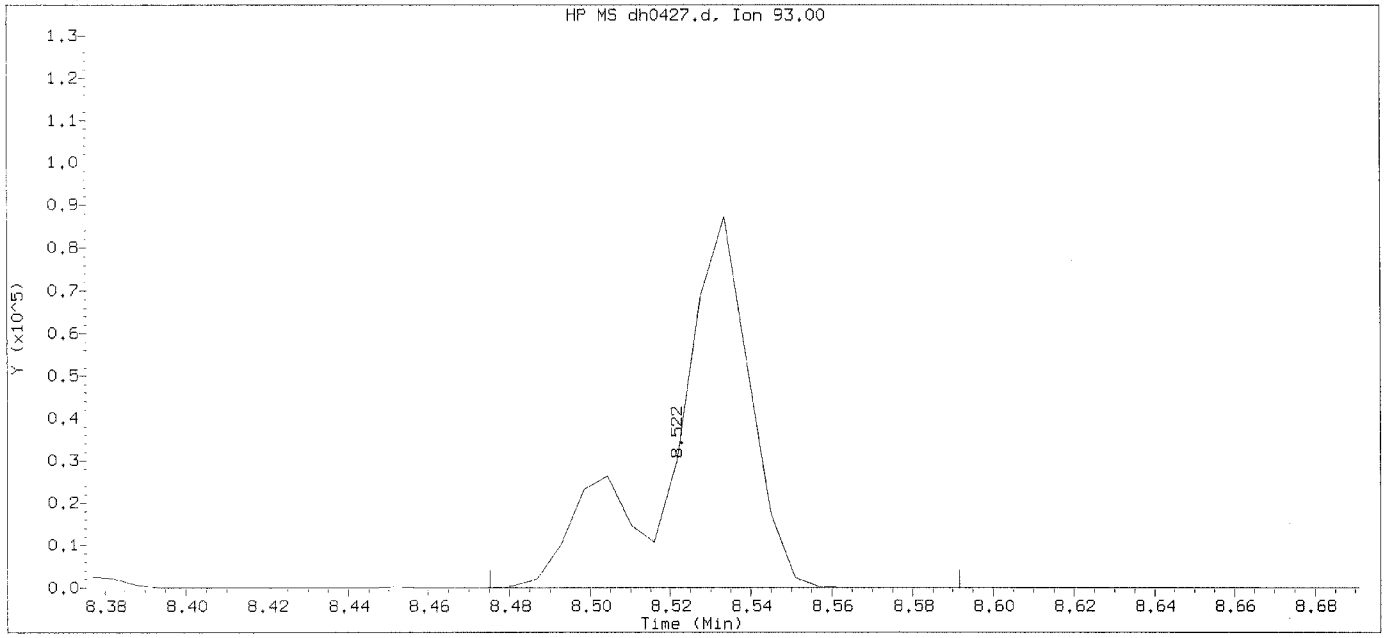
AUG 18 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0427.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:16 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newal11-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compound Number	: 48		
Compound Name	: bis(2-Chloroethoxy)methane		
Scan Number	: 1104		
Retention Time (minutes)	: 8.522		
Quant Ion	: 93.00		
Area	: 120813		
On-column Amount (ng/ul)	: 1.3850		
Integration start scan	: 1095	Integration stop scan:	1115
Y at integration start	: 0	Y at integration end:	0

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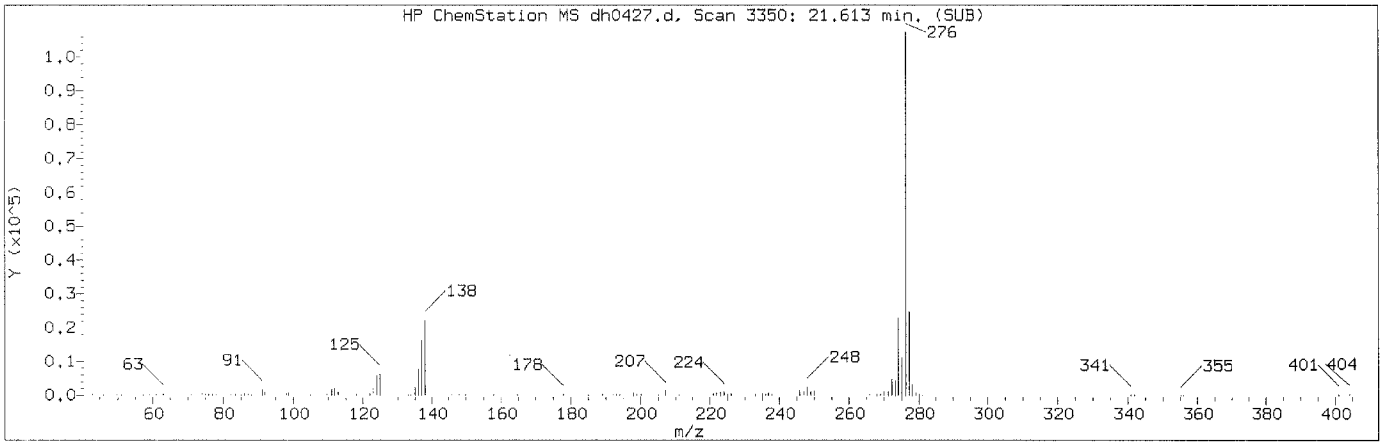
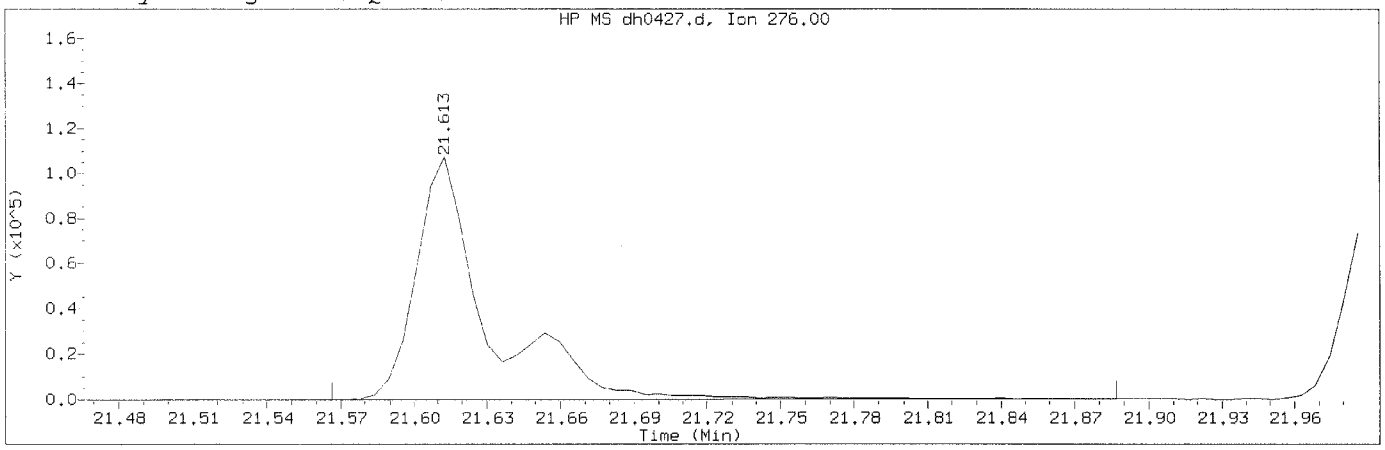
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0427.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:16 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3350		
Retention Time (minutes)	: 21.613		
Quant Ion	: 276.00		
Area (flag)	: 220257M		
On-Column Amount (ng/ul)	: 1.2299		
Integration start scan	: 3341	Integration stop scan:	3396
Y at integration start	: -129	Y at integration end:	129

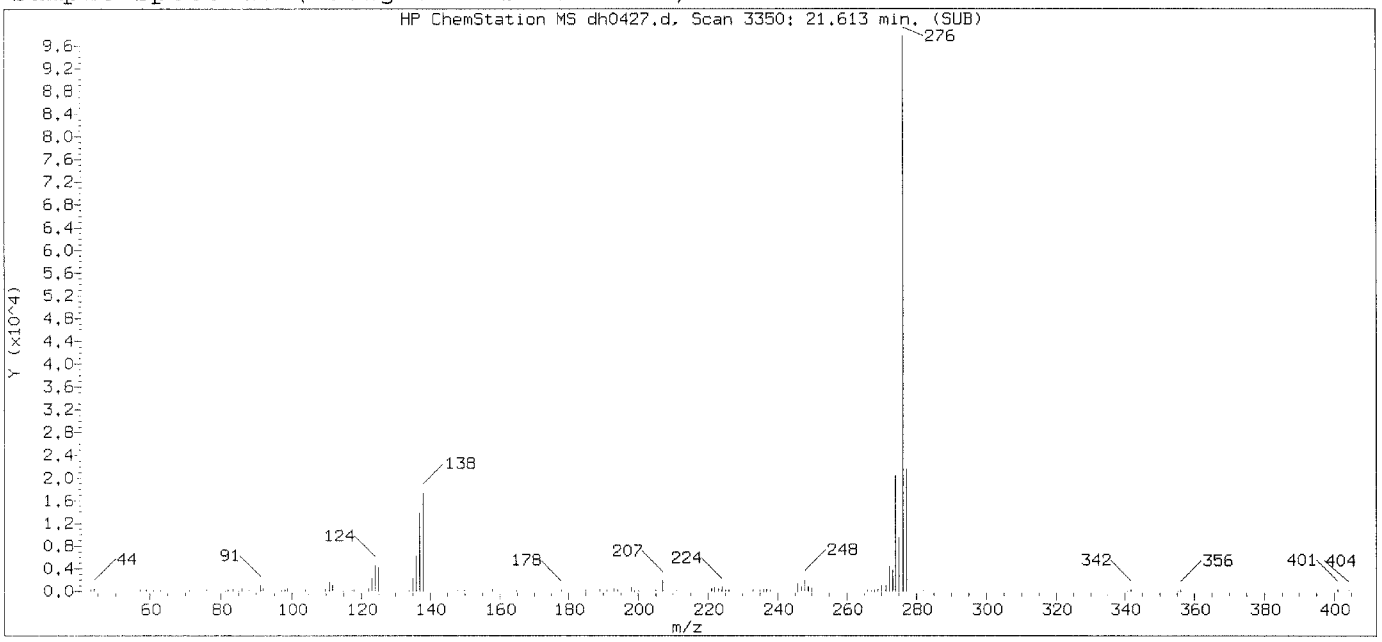
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07:
Target 3.5 signature user ID: aap07680

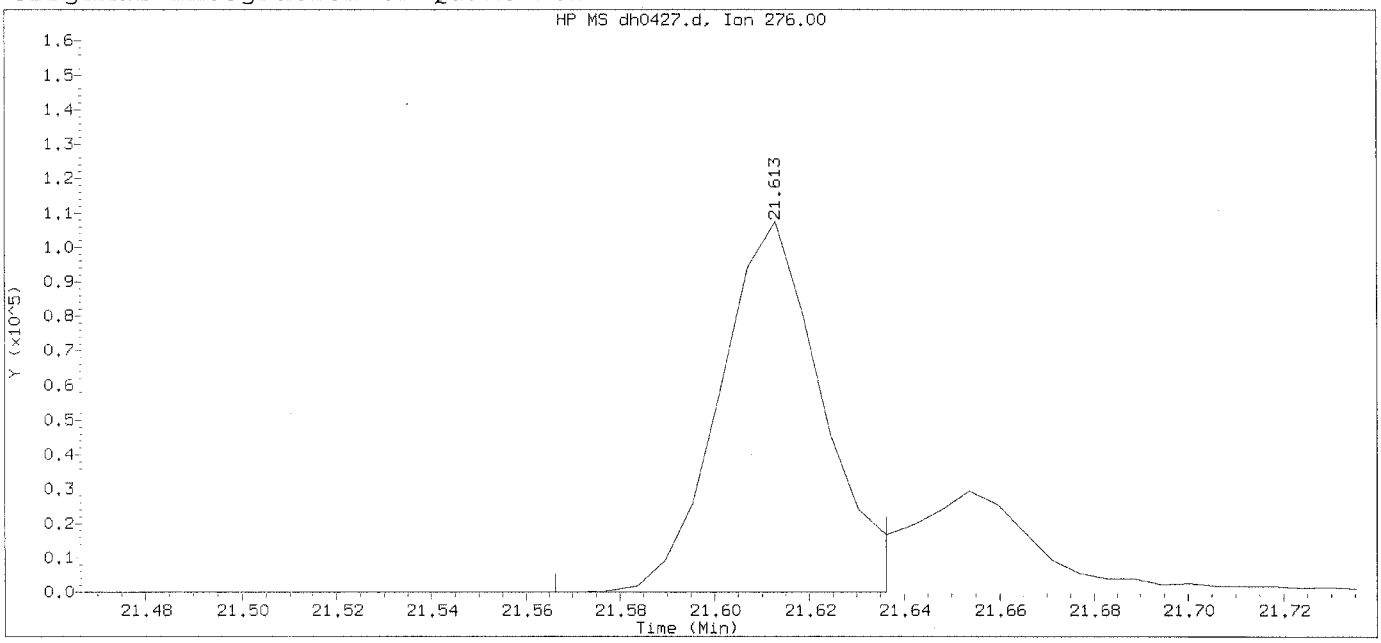
AUG 18 2015

GC/MS audit/management approval: Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



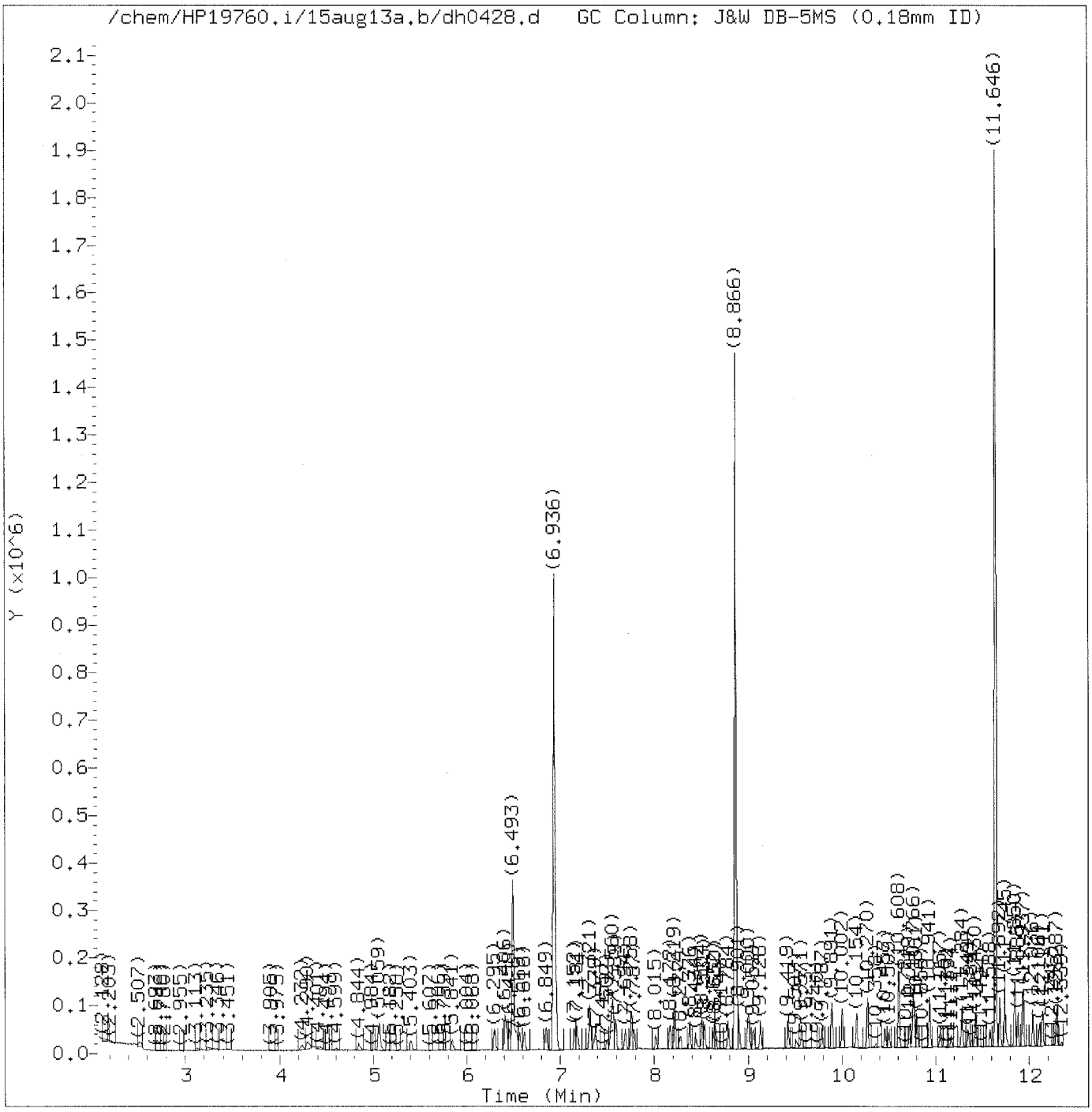
Data File: /chem/HP19760.i/15aug13a.b/dh0427.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:16 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:11
Date, time and analyst ID of latest file update: 14-Aug-2015 09:11 aap07680

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3350		
Retention Time (minutes)	: 21.613		
Quant Ion	: 276.00		
Area	: 159747		
On-column Amount (ng/ul)	: 0.9788		
Integration start scan	: 3341	Integration stop scan:	3353
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Ankita A. Patel on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

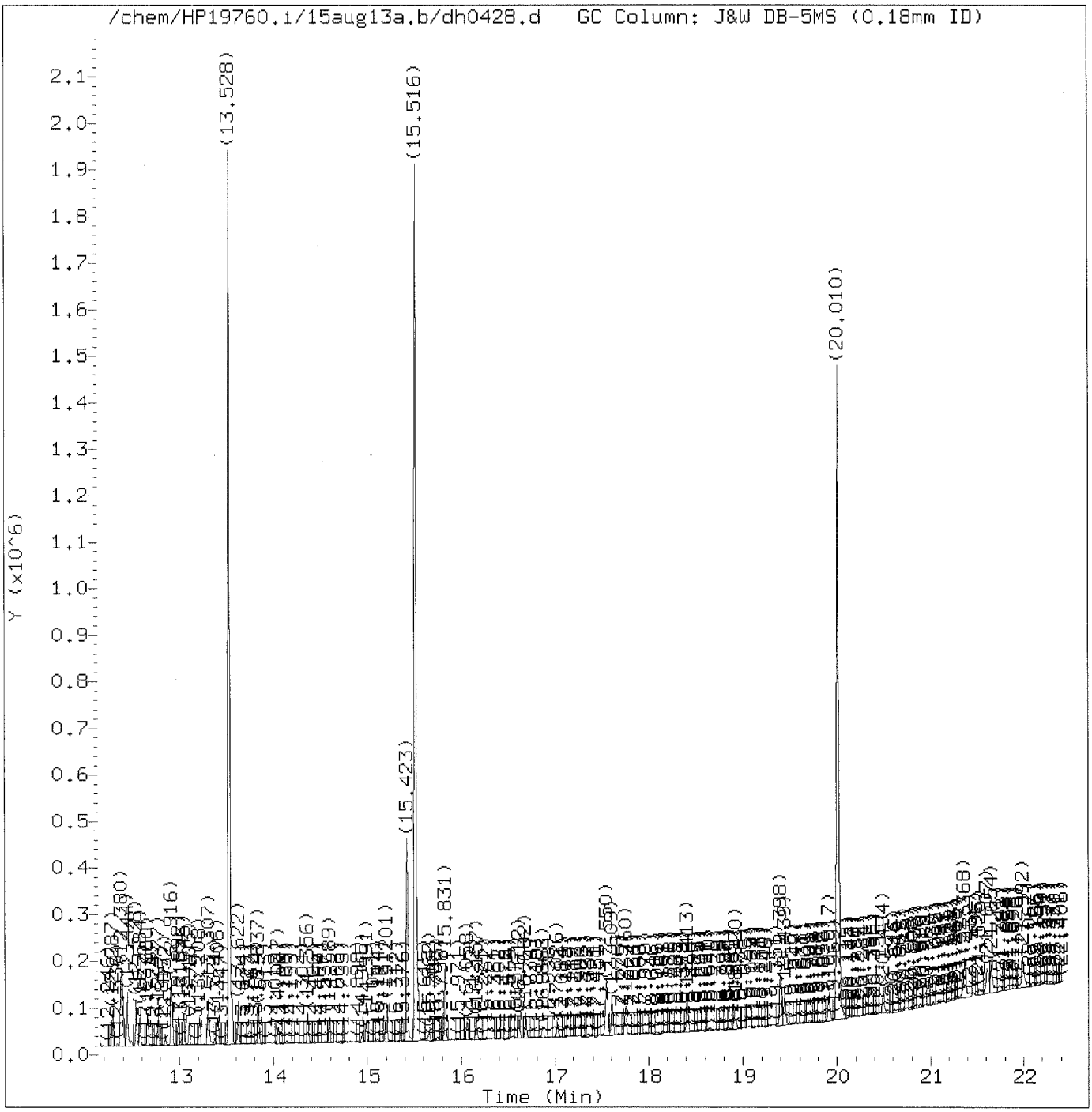
Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0428.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:44 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0428.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:44 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0428.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:44 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.518	88	5399	0.223
2) N-Nitrosodimethylamine	(1)	3.113	74	7636	0.185
3) Pyridine	(1)	3.241	79	14625	0.202
4) 2-Picoline	(1)	4.284	93	16942	0.233
5) N-Nitrosomethylethylamine	(1)	4.412	88	7758	0.250
6) Methyl methanesulfonate	(1)	4.844	80	7965	0.216
7)$2-Fluorophenol	(1)	5.059	112	28372	0.482
8) N-Nitrosodiethylamine	(1)	5.403	102	6697	0.226
10) Ethyl methanesulfonate	(1)	5.841	109	7417	0.244
11) Benzaldehyde	(1)	6.295	77	14652	0.268
12)$Phenol-d5	(1)	6.406	99	35053	0.468
13)$Phenol-d6	(1)	6.406	99	35053	0.468
14) Phenol	(1)	6.429	94	21232	0.237
15) Aniline	(1)	6.458	93	24699	0.239
16) bis(2-Chloroethyl)ether	(1)	6.569	93	16464	0.246
17) 2-Chlorophenol	(1)	6.616	128	13621	0.240
18) 1,3-Dichlorobenzene	(1)	6.849	146	15607	0.255
19)*1,4-Dichlorobenzene-d4	(1)	6.936	152	199682	5.000
20) 1,4-Dichlorobenzene	(1)	6.960	146	15794	0.253
23) Benzyl alcohol	(1)	7.152	108	9191	0.235
24) 1,2-Dichlorobenzene	(1)	7.181	146	15074	0.256
25) Indene	(1)	7.315	115	21558	0.225
26) 2-Methylphenol	(1)	7.327	108	12979	0.238
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.379	45	26344	0.270
28) bis(2-Chloroisopropyl)ether	(1)	7.379	45	26344	0.270
29) N-Nitrosopyrrolidine	(1)	7.502	100	6807	0.219
30) Acetophenone	(1)	7.542	105	19987	0.243
33) 4-Methylphenol	(1)	7.560	108	14483	0.233
31) N-Nitroso-di-n-propylamine	(1)	7.560	70	12210	0.241
32) N-Nitrosomorpholine	(1)	7.566	56	10171	0.240
34) o-Toluidine	(1)	7.589	106	23103	0.242
35) Hexachloroethane	(1)	7.694	117	6801	0.257
36)$Nitrobenzene-d5	(2)	7.752	82	34892	0.488
37) Nitrobenzene	(2)	7.787	77	18950	0.254
39) N-Nitrosopiperidine	(2)	8.015	114	6831	0.242
40) Isophorone	(2)	8.172	82	29959	0.233
42) 2-Nitrophenol	(2)	8.277	139	6580	0.226
45) 2,4-Dimethylphenol	(2)	8.376	107	13515	0.226
47) Benzoic acid	(2)	8.434	105	14951M	0.372
46) O,O,O-triethylphosphorothioate	(2)	8.498	198	7011	0.237

M = Compound was manually integrated.
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$ = Compound is a surrogate standard.

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on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0428.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:44 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
48) bis(2-Chloroethoxy)methane	(2)	8.533	93	18961	0.239
49) 2,4-Dichlorophenol	(2)	8.650	162	10727	0.236
51) 1,2,4-Trichlorobenzene	(2)	8.790	180	13211	0.246
52)*Naphthalene-d8	(2)	8.866	136	761178	5.000
55) 4-Chloroaniline	(2)	8.901	127	21457	0.300
53) Naphthalene	(2)	8.901	128	41726	0.258
56) 2,6-Dichlorophenol	(2)	9.005	162	10242	0.232
57) Hexachloropropene	(2)	9.052	213	8958	0.245
58) Hexachlorobutadiene	(2)	9.128	225	7837	0.248
60) Quinoline	(2)	9.425	129	24983	0.247
61) Caprolactam	(2)	9.507	113	3069	0.205
62) N-Nitrosodi-n-butylamine	(2)	9.571	84	10615	0.213
63) 4-Chloro-3-methylphenol	(2)	9.787	107	11081	0.224
64) Safrole	(2)	9.891	162	9565	0.237
65) 2-Methylnaphthalene	(2)	10.002	142	26638	0.251
66) 1-Methylnaphthalene	(2)	10.154	142	24444	0.252
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.270	216	13740	0.253
67) Hexachlorocyclopentadiene	(3)	10.276	237	7706	0.219
69) cis-Isosafrole	(3)	10.364	162	1776	0.041
70) 2,4,6-Trichlorophenol	(3)	10.463	196	7456	0.215
71) 2,4,5-Trichlorophenol	(3)	10.509	196	7602	0.209
72)$2-Fluorobiphenyl	(3)	10.614	172	61643	0.513
74) Isosafrole	(3)	10.719	162	9987	0.249
73) trans-Isosafrole	(3)	10.719	162	9987	0.206
75) 1,1'-Biphenyl	(3)	10.760	154	30515	0.251
76) 2-Chloronaphthalene	(3)	10.772	162	24987	0.246
77) 1-Chloronaphthalene	(3)	10.807	162	23760	0.247
83) 2-Nitroaniline	(3)	10.941	138	5879	0.192
82) Diphenyl ether	(3)	10.941	170	17038	0.248
84) 1,4-Naphthoquinone	(3)	11.057	158	7880	0.190
85) 1,4-Dinitrobenzene	(3)	11.168	168	2714	0.158
86) Dimethylphthalate	(3)	11.284	163	27340	0.238
87) 1,3-Dinitrobenzene	(3)	11.284	168	3508	0.187
88) 2,6-Dinitrotoluene	(3)	11.354	165	4823	0.191
90) Acenaphthylene	(3)	11.430	152	35972	0.236
91) 3-Nitroaniline	(3)	11.588	138	5390	0.200
92)*Acenaphthene-d10	(3)	11.646	164	437991	5.000
93) Acenaphthene	(3)	11.692	153	24734	0.245
94) 2,4-Dinitrophenol	(3)	11.745	184	20087	1.217
96) 4-Nitrophenol	(3)	11.850	109	16224	0.859

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0428.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:44 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
95) Pentachlorobenzene	(3)	11.885	250	11566	0.248
98) 2,4-Dinitrotoluene	(3)	11.931	165	6614	0.195
97) Dibenzofuran	(3)	11.937	168	36153	0.256
99) 1-Naphthylamine	(3)	12.036	143	22650	0.223
100) 2,3,4,6-Tetrachlorophenol	(3)	12.106	232	6653	0.229
101) 2-Naphthylamine	(3)	12.141	143	22871	0.226
102) Diethylphthalate	(3)	12.287	149	25963	0.231
103) Fluorene	(3)	12.374	166	26110	0.237
104) Thionazin	(3)	12.380	107	5090	0.235
106) 5-Nitro-o-toluidine	(3)	12.392	152	6846	0.219
107) 4-Nitroaniline	(3)	12.392	138	5597	0.199
105) 4-Chlorophenyl-phenylether	(3)	12.404	204	13320	0.237
108) 4,6-Dinitro-2-methylphenol	(4)	12.444	198	16213	0.779
110) NDPA as diphenylamine	(4)	12.538	169	20883	0.232
109) N-Nitrosodiphenylamine	(4)	12.538	169	20883	0.232
111) 1,2-Diphenylhydrazine	(4)	12.584	77	31160	0.236
112)$2,4,6-Tribromophenol	(3)	12.666	330	7114	0.459
115) Tetraethyldithiopyrophosphate	(4)	12.777	97	4584	0.224
116) 1,3,5-Trinitrobenzene	(4)	12.852	213	1891	0.140
117) Diallate (peak 1)	(4)	12.911	86	11272	0.198
118) Phorate	(4)	12.916	75	18122	0.216
119) Phenacetin	(4)	12.922	108	11283	0.193
120) 4-Bromophenyl-phenylether	(4)	12.992	248	8390	0.264
121) Diallate (peak 2)	(4)	13.016	86	1899	0.035
122) Hexachlorobenzene	(4)	13.045	284	8890	0.264
123) Dimethoate	(4)	13.103	87	9327	0.176
124) Atrazine	(4)	13.214	200	7167	0.245
125) Pentachlorophenol	(4)	13.295	266	3942	0.178
127) 4-Aminobiphenyl	(4)	13.307	169	24651	0.231
126) Pentachloronitrobenzene	(4)	13.313	237	3419	0.229
129) Pronamide	(4)	13.406	173	9872	0.199
130)*Phenanthrene-d10	(4)	13.528	188	741138	5.000
133) Dinoseb	(4)	13.552	211	4460	0.146
131) Phenanthrene	(4)	13.558	178	40717	0.255
134) Anthracene	(4)	13.622	178	37876	0.243
135) Carbazole	(4)	13.837	167	33332	0.225
136) Methyl parathion	(4)	14.047	109	6467	0.160
137) Di-n-butylphthalate	(4)	14.356	149	38953	0.207
139) 4-Nitroquinoline-1-oxide	(4)	14.589	190	1953	0.104
138) Parathion	(4)	14.589	109	3627	0.144

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Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0428.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:44 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	14.991	193	4971	0.251
142) Fluoranthene	(4)	15.201	202	40592	0.228
144) Benzidine	(5)	15.423	184	209202	1.713
145)*Pyrene-d10	(5)	15.516	212	955300	5.000
146) Pyrene	(5)	15.539	202	51464	0.261
149)$Terphenyl-d14	(5)	15.831	244	63671	0.476
150) p-Dimethylaminoazobenzene	(5)	16.064	225	5773	0.168
151) Chlorobenzilate	(5)	16.157	139	11436	0.197
152) 3,3'-Dimethylbenzidine	(5)	16.612	212	22544	0.177
153) Butylbenzylphthalate	(5)	16.682	149	16051	0.182
156) 2-Acetylaminofluorene	(5)	17.026	181	10083	0.137
159) 3,3'-Dichlorobenzidine	(5)	17.539	252	12546	0.178
158) Benzo(a)anthracene	(5)	17.550	228	40696	0.225
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.556	231	7017	0.180
161) Chrysene	(5)	17.609	228	41436	0.238
162) bis(2-Ethylhexyl)phthalate	(5)	17.760	149	20107	0.156
165) 6-Methylchrysene	(5)	18.413	242	26447	0.207
166) Di-n-octylphthalate	(6)	18.914	149	30023	0.142
168) Benzo(b)fluoranthene	(6)	19.398	252	39088	0.223
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.404	256	15407	0.198
170) Benzo(k)fluoranthene	(6)	19.439	252	39091	0.224
171) Benzo(a)pyrene	(6)	19.917	252	33526	0.208
172)*Perylene-d12	(6)	20.010	264	779433	5.000
173) 3-Methylcholanthrene	(6)	20.494	268	14960	0.190
176) Indeno(1,2,3-cd)pyrene	(6)	21.607	276	38736M	0.216
177) Dibenz(a,h)anthracene	(6)	21.654	278	30217	0.201
178) Benzo(g,h,i)perylene	(6)	21.992	276	34806	0.226
179) Diallate TRANS/CIS	(4)			13171	0.233
182) 2,4_2,6-Dinitrotoluenes	(3)			11437	0.386

M = Compound was manually integrated.
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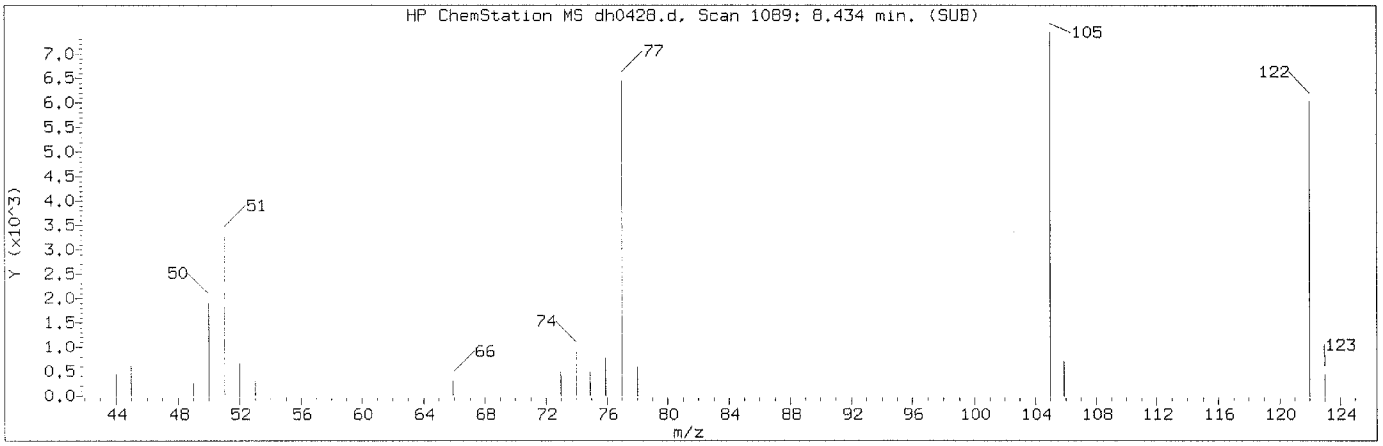
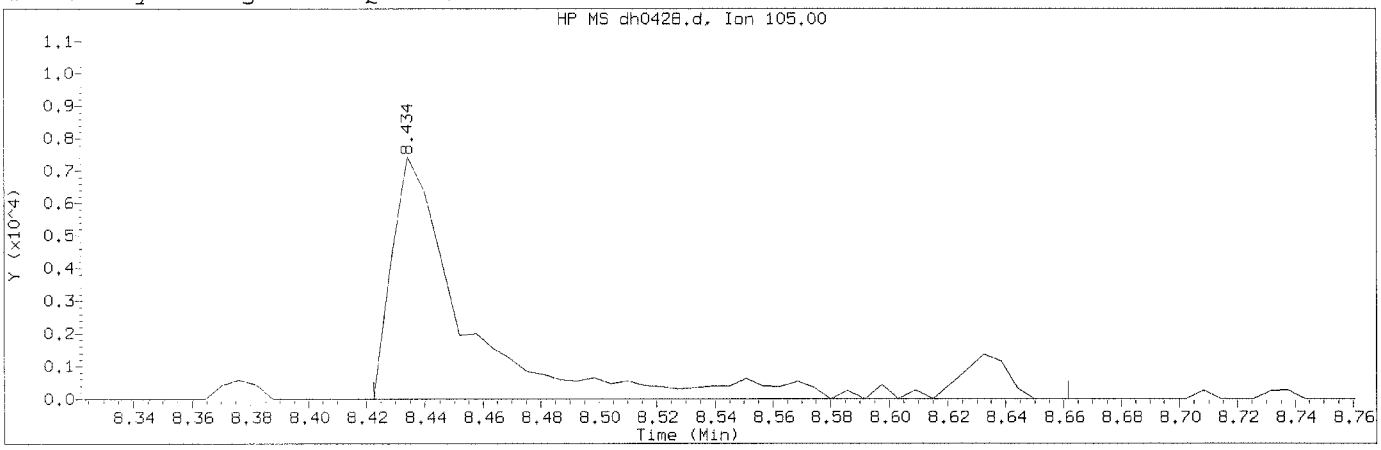
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0428.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:44 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1089		
Retention Time (minutes)	: 8.434		
Quant Ion	: 105.00		
Area (flag)	: 14951M		
On-Column Amount (ng/ul)	: 0.3720		
Integration start scan	: 1086	Integration stop scan:	1127
Y at integration start	: 5	Y at integration end:	5

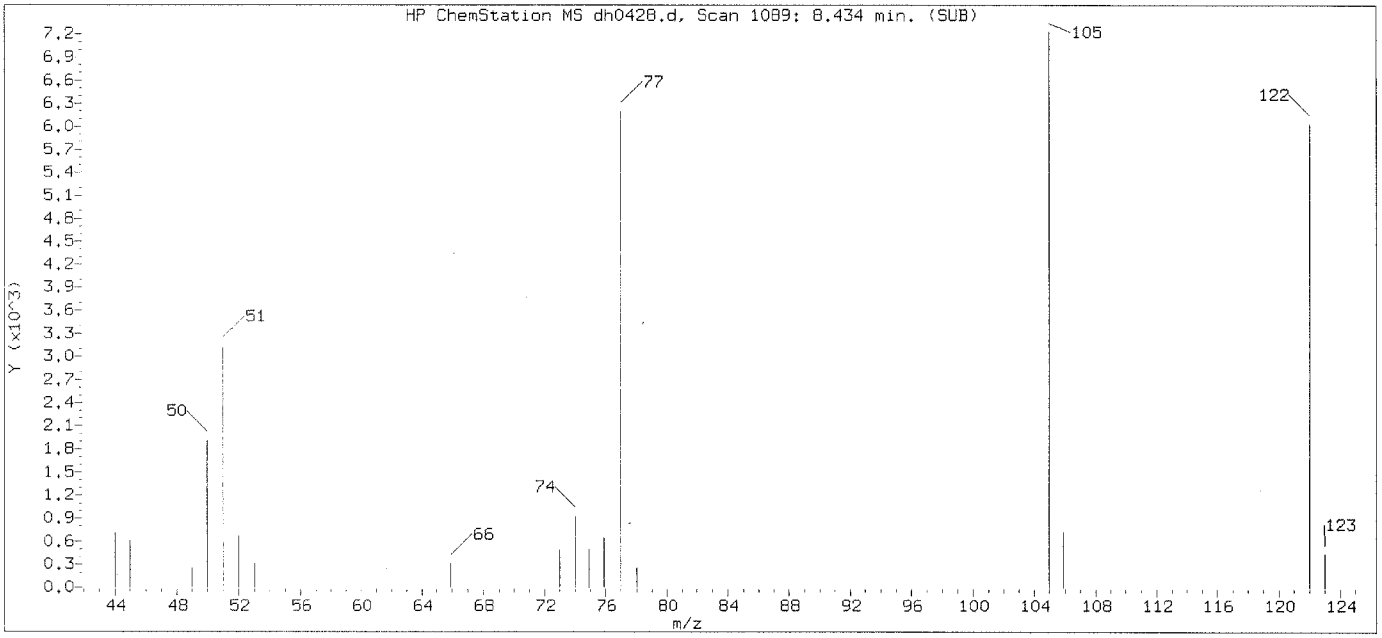
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

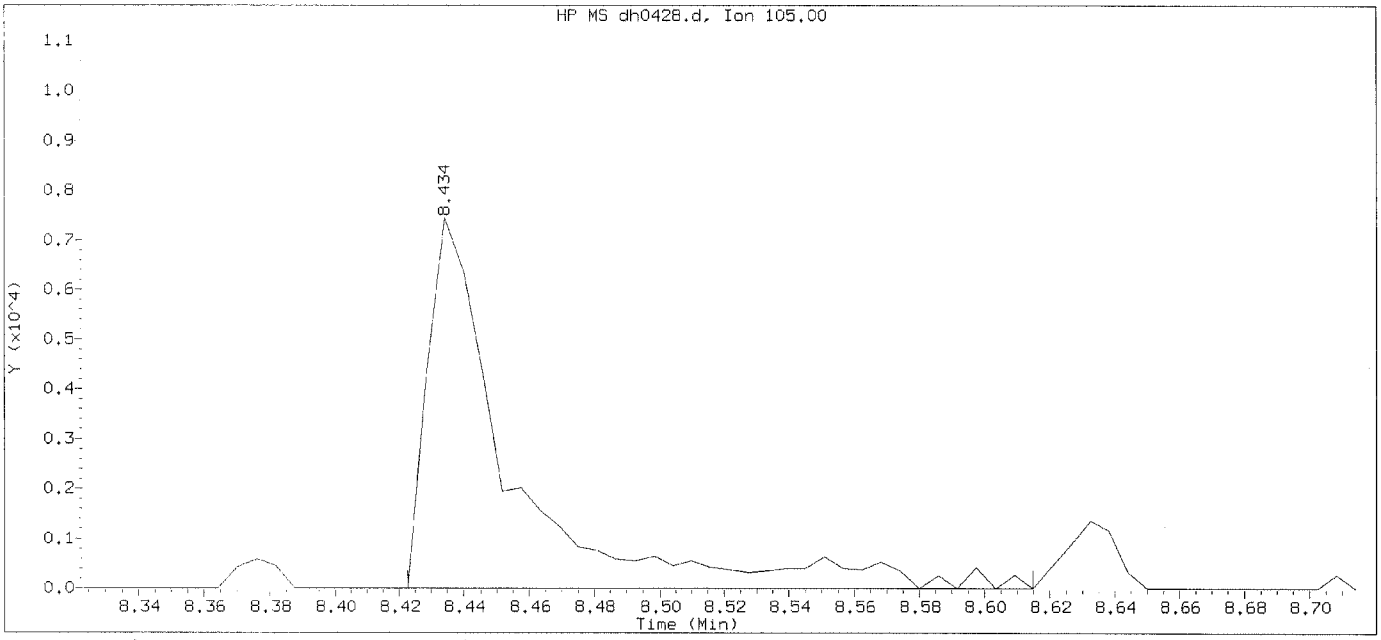
GC/MS audit/management approval: AUG 18 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0428.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:44 Analyst ID: ceb05247

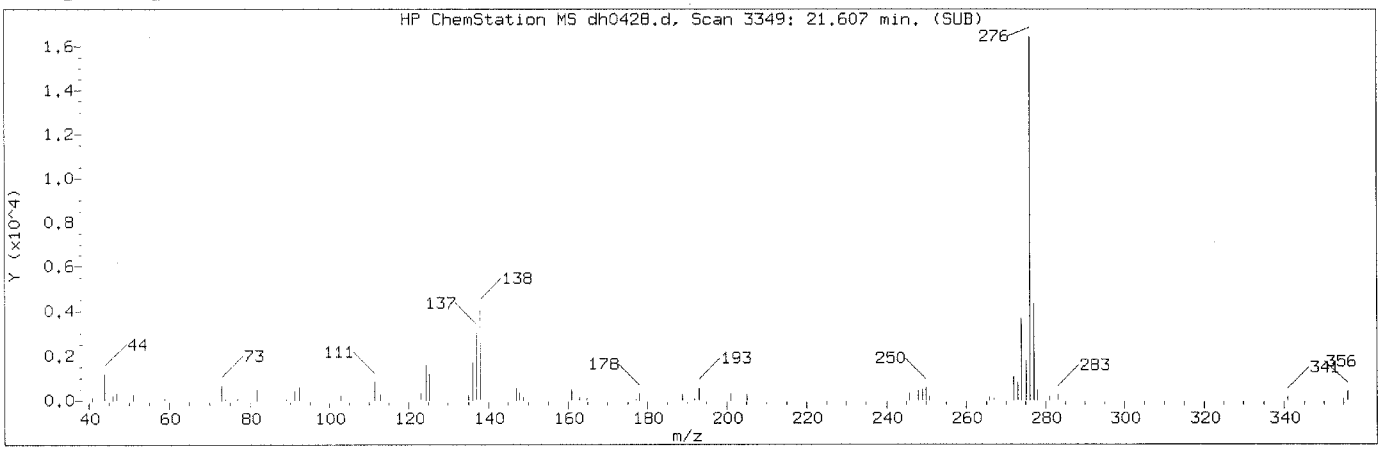
Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:12
Date, time and analyst ID of latest file update: 14-Aug-2015 09:12 aap07680

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

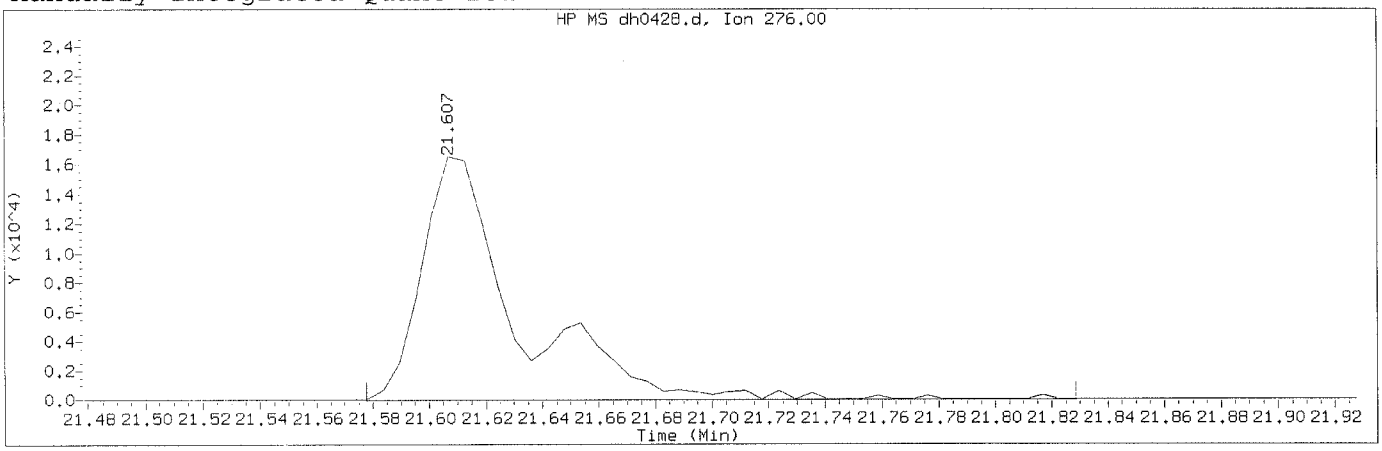
Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1089		
Retention Time (minutes)	: 8.434		
Quant Ion	: 105.00		
Area	: 13567		
On-column Amount (ng/ul)	: 11.7937		
Integration start scan	: 1086	Integration stop scan:	1119
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Ankita A. Patel on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0428.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:44 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:53
Date, time and analyst ID of latest file update: 14-Aug-2015 09:53 aap07680

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3349		
Retention Time (minutes)	: 21.607		
Quant Ion	: 276.00		
Area (flag)	: 38736M		
On-Column Amount (ng/ul)	: 0.2158		
Integration start scan	: 3343	Integration stop scan:	3386
Y at integration start	: -22	Y at integration end:	-22

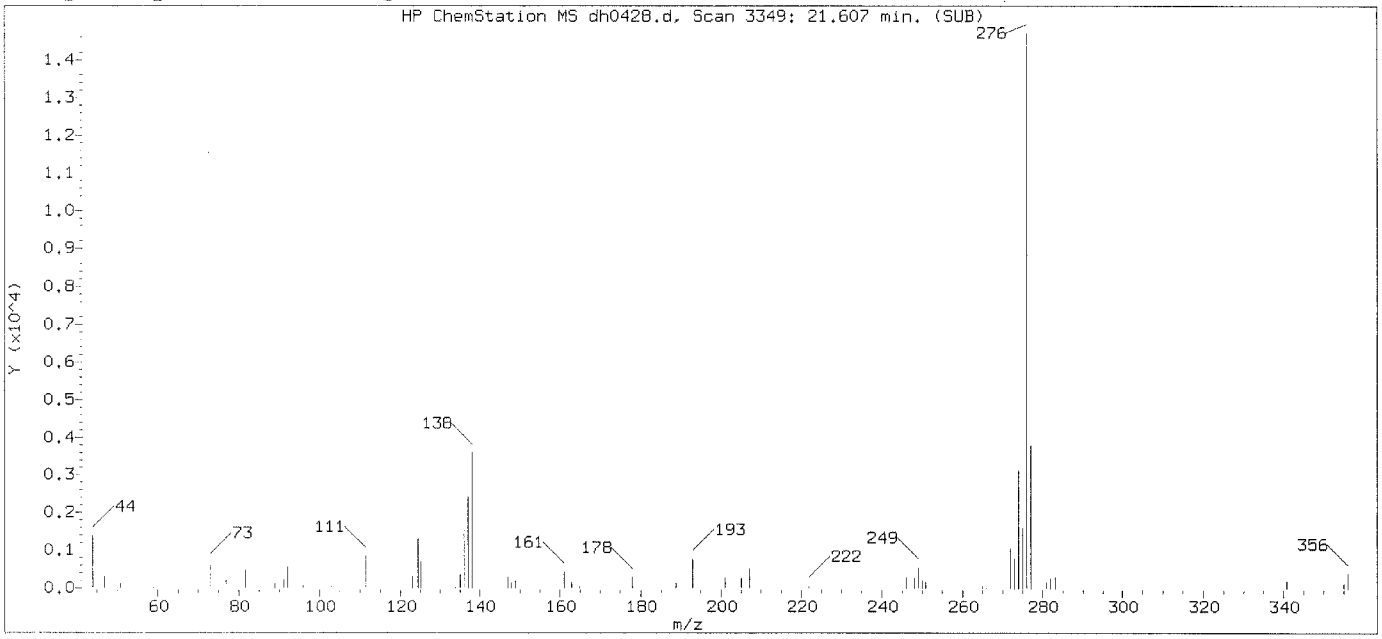
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:07.
Target 3.5 signature user ID: aap07680

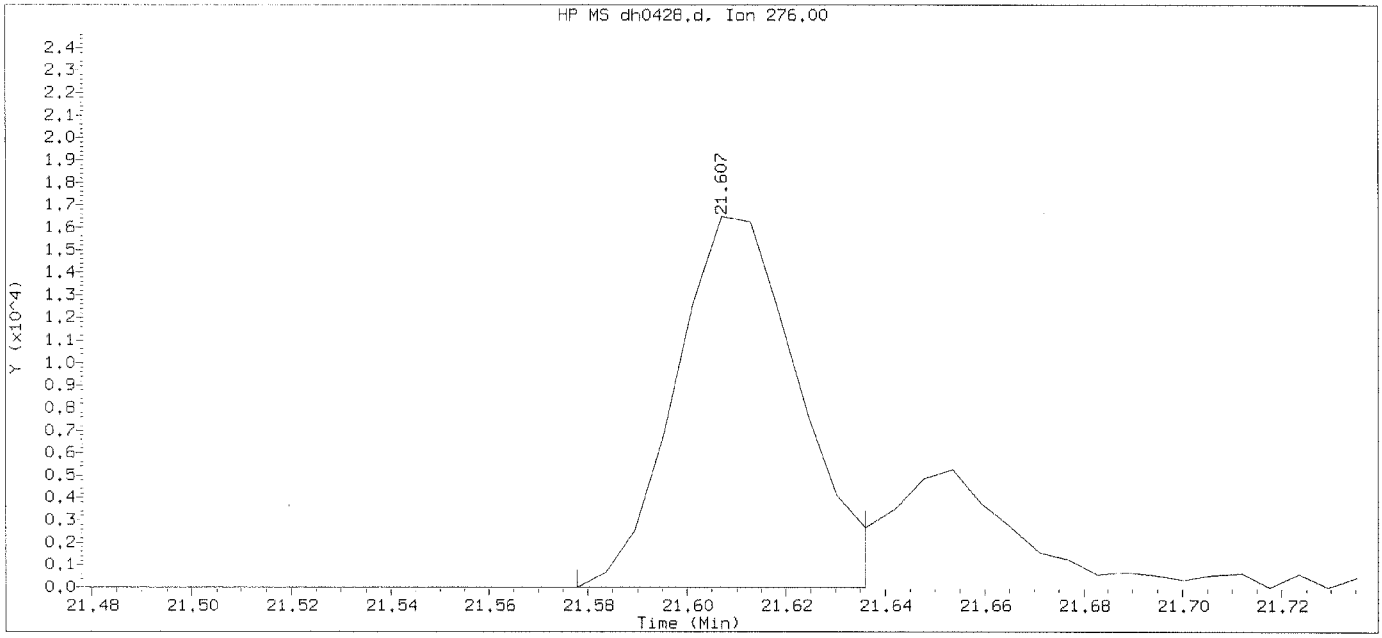
AUG 18 2015

GC/MS audit/management approval:_____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



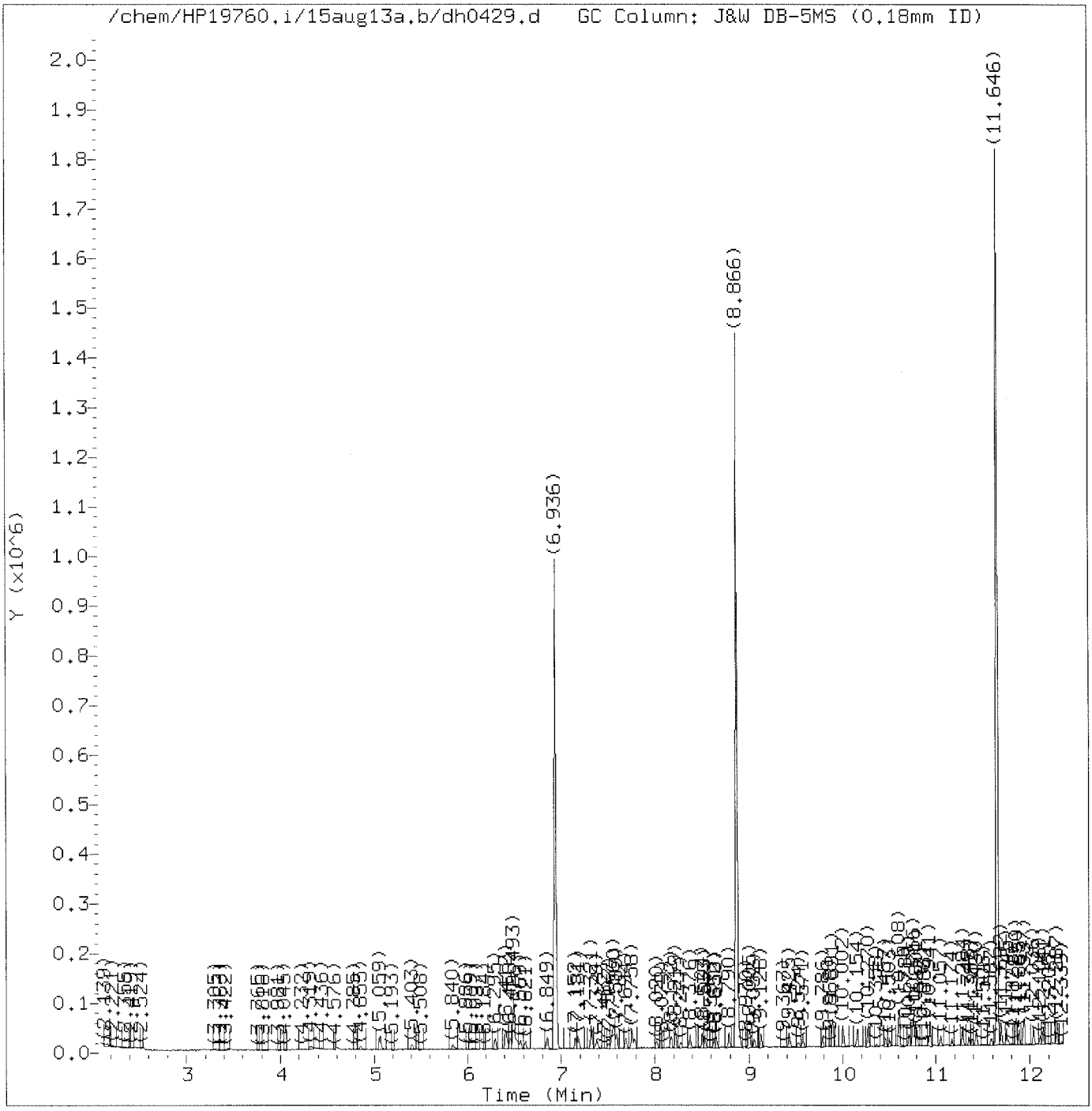
Data File: /chem/HP19760.i/15aug13a.b/dh0428.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 00:44 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 09:12
Date, time and analyst ID of latest file update: 14-Aug-2015 09:12 aap07680

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3349		
Retention Time (minutes)	: 21.607		
Quant Ion	: 276.00		
Area	: 28174		
On-column Amount (ng/ul)	: 0.1723		
Integration start scan	: 3343	Integration stop scan:	3353
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Ankita A. Patel on 08/14/2015 at 10:07.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

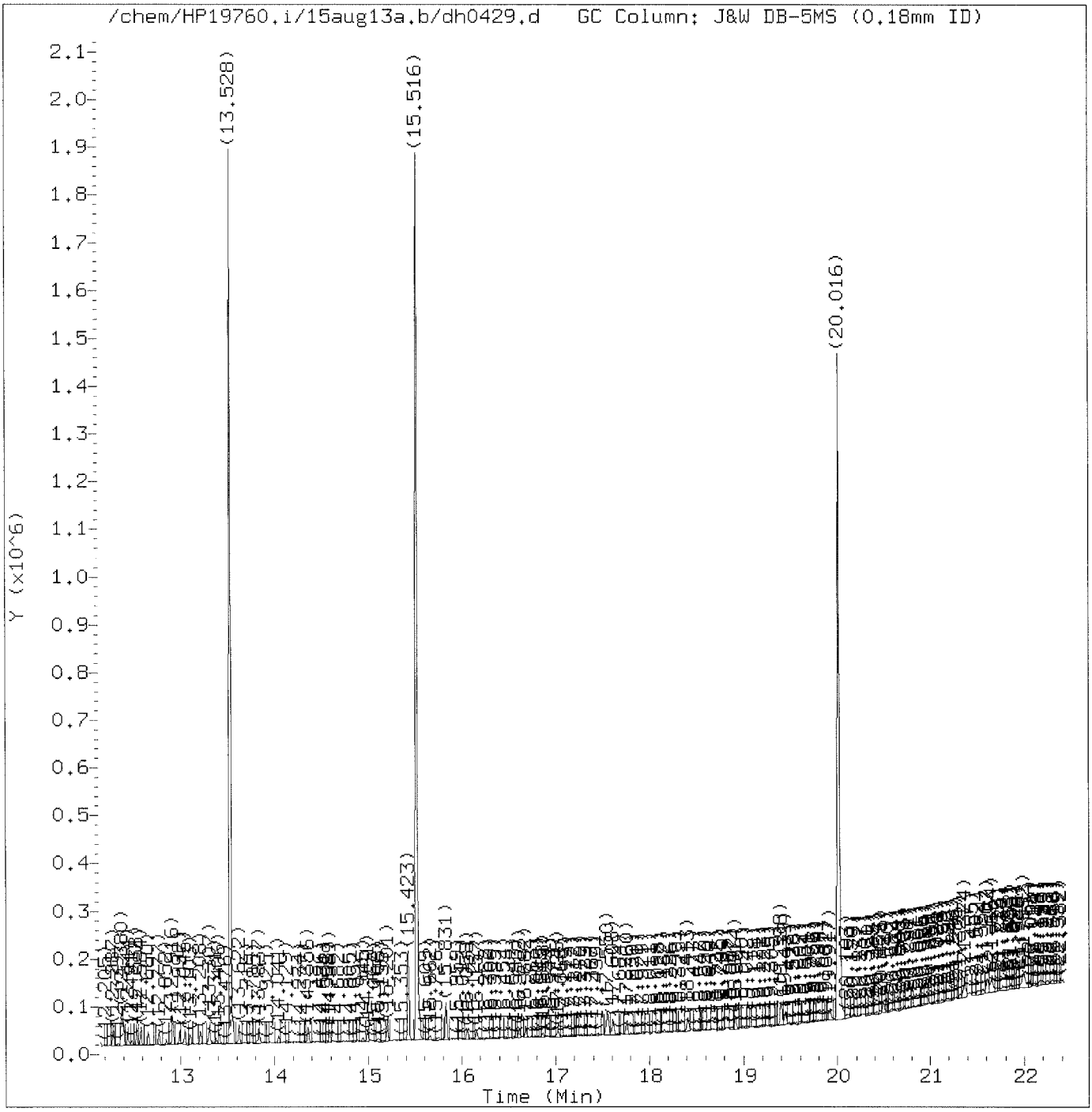
Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: 0.5mdlall1-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:23.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: 0.5mdlall1-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:23.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: 0.5md1all1-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.553	88	3273M	0.138
2) N-Nitrosodimethylamine	(1)	3.153	74	2716	0.067
3) Pyridine	(1)	3.328	79	6242	0.088
4) 2-Picoline	(1)	4.319	93	7482	0.105
5) N-Nitrosomethylethylamine	(1)	4.430	88	2606	0.086
6) Methyl methanesulfonate	(1)	4.855	80	3757	0.104
7)$2-Fluorophenol	(1)	5.059	112	12845	0.223
8) N-Nitrosodiethylamine	(1)	5.403	102	3261	0.113
10) Ethyl methanesulfonate	(1)	5.846	109	3311	0.112
11) Benzaldehyde	(1)	6.301	77	7188	0.135
12)$Phenol-d5	(1)	6.406	99	17181	0.235
13)$Phenol-d6	(1)	6.406	99	17181	0.235
14) Phenol	(1)	6.429	94	10168	0.116
15) Aniline	(1)	6.458	93	11429	0.113
16) bis(2-Chloroethyl)ether	(1)	6.563	93	8219	0.125
17) 2-Chlorophenol	(1)	6.621	128	5734	0.103
18) 1,3-Dichlorobenzene	(1)	6.849	146	7550	0.126
19)*1,4-Dichlorobenzene-d4	(1)	6.936	152	195125	5.000
20) 1,4-Dichlorobenzene	(1)	6.960	146	8002	0.131
23) Benzyl alcohol	(1)	7.152	108	4376	0.114
24) 1,2-Dichlorobenzene	(1)	7.181	146	7523	0.131
25) Indene	(1)	7.315	115	11103	0.119
26) 2-Methylphenol	(1)	7.327	108	5433	0.102
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.373	45	13940	0.146
28) bis(2-Chloroisopropyl)ether	(1)	7.373	45	13940	0.146
29) N-Nitrosopyrrolidine	(1)	7.507	100	3608	0.119
30) Acetophenone	(1)	7.542	105	9852	0.122
33) 4-Methylphenol	(1)	7.554	108	6980	0.115
31) N-Nitroso-di-n-propylamine	(1)	7.560	70	6204	0.125
32) N-Nitrosomorpholine	(1)	7.572	56	5330	0.129
34) o-Toluidine	(1)	7.595	106	11323	0.122
35) Hexachloroethane	(1)	7.694	117	3313	0.128
36)$Nitrobenzene-d5	(2)	7.758	82	16888	0.240
37) Nitrobenzene	(2)	7.781	77	8787	0.120
39) N-Nitrosopiperidine	(2)	8.020	114	2982	0.107
40) Isophorone	(2)	8.172	82	14427	0.114
42) 2-Nitrophenol	(2)	8.283	139	2527	0.088
45) 2,4-Dimethylphenol	(2)	8.376	107	6284	0.107
47) Benzoic acid	(2)	8.452	105	358M	2.087
46) O,O,O-triethylphosphorothioate	(2)	8.504	198	3504	0.120

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 10:23.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: 0.5mdlall1-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
48) bis(2-Chloroethoxy)methane	(2)	8.533	93	9373M	0.120
49) 2,4-Dichlorophenol	(2)	8.650	162	4981	0.111
51) 1,2,4-Trichlorobenzene	(2)	8.790	180	6650	0.125
52)*Naphthalene-d8	(2)	8.866	136	750328	5.000
55) 4-Chloroaniline	(2)	8.994	127	7400M	0.105
56) 2,6-Dichlorophenol	(2)	9.005	162	4633	0.107
57) Hexachloropropene	(2)	9.052	213	3913	0.109
58) Hexachlorobutadiene	(2)	9.128	225	3512	0.113
60) Quinoline	(2)	9.425	129	11552	0.116
61) Caprolactam	(2)	9.524	113	1142M	0.077
62) N-Nitrosodi-n-butylamine	(2)	9.571	84	5535	0.113
63) 4-Chloro-3-methylphenol	(2)	9.786	107	4734	0.097
64) Safrole	(2)	9.891	162	4181	0.105
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.270	216	6882	0.131
67) Hexachlorocyclopentadiene	(3)	10.276	237	3945	0.116
69) cis-Isosafrole	(3)	10.358	162	746	0.018
70) 2,4,6-Trichlorophenol	(3)	10.463	196	3165	0.095
71) 2,4,5-Trichlorophenol	(3)	10.503	196	3397	0.097
72)$2-Fluorobiphenyl	(3)	10.614	172	28820	0.248
73) trans-Isosafrole	(3)	10.719	162	4593	0.098
74) Isosafrole	(3)	10.719	162	4593	0.118
75) 1,1'-Biphenyl	(3)	10.760	154	15321	0.131
76) 2-Chloronaphthalene	(3)	10.771	162	12611	0.128
77) 1-Chloronaphthalene	(3)	10.801	162	11398	0.123
82) Diphenyl ether	(3)	10.941	170	7715	0.116
83) 2-Nitroaniline	(3)	10.941	138	2763	0.093
84) 1,4-Naphthoquinone	(3)	11.051	158	3787	0.094
85) 1,4-Dinitrobenzene	(3)	11.174	168	1371	0.083
87) 1,3-Dinitrobenzene	(3)	11.284	168	1698	0.093
86) Dimethylphthalate	(3)	11.284	163	13285	0.119
88) 2,6-Dinitrotoluene	(3)	11.354	165	2342	0.096
91) 3-Nitroaniline	(3)	11.593	138	2659	0.102
92)*Acenaphthene-d10	(3)	11.646	164	423177	5.000
94) 2,4-Dinitrophenol	(3)	11.745	184	5679	0.356
96) 4-Nitrophenol	(3)	11.850	109	6301	0.345
95) Pentachlorobenzene	(3)	11.885	250	5570	0.124
98) 2,4-Dinitrotoluene	(3)	11.931	165	3125	0.095
97) Dibenzofuran	(3)	11.937	168	17158	0.126
99) 1-Naphthylamine	(3)	12.036	143	10299	0.105
100) 2,3,4,6-Tetrachlorophenol	(3)	12.106	232	2609	0.093

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on 08/14/2015 at 10:23.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: 0.5mdlall1-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
101) 2-Naphthylamine	(3)	12.141	143	10779	0.110
102) Diethylphthalate	(3)	12.287	149	12101	0.111
104) Thionazin	(3)	12.380	107	2075	0.099
107) 4-Nitroaniline	(3)	12.392	138	2208	0.081
106) 5-Nitro-o-toluidine	(3)	12.392	152	3056	0.101
105) 4-Chlorophenyl-phenylether	(3)	12.403	204	6512	0.120
108) 4,6-Dinitro-2-methylphenol	(4)	12.444	198	5357	0.262
109) N-Nitrosodiphenylamine	(4)	12.538	169	10009	0.114
110) NDPA as diphenylamine	(4)	12.538	169	10009	0.114
111) 1,2-Diphenylhydrazine	(4)	12.584	77	13963	0.108
112)$2,4,6-Tribromophenol	(3)	12.660	330	2972	0.199
115) Tetraethyldithiopyrophosphate	(4)	12.777	97	2145	0.107
116) 1,3,5-Trinitrobenzene	(4)	12.852	213	751M	0.057
117) Diallate (peak 1)	(4)	12.911	86	5191	0.093
118) Phorate	(4)	12.916	75	8420	0.102
119) Phenacetin	(4)	12.922	108	4892	0.086
120) 4-Bromophenyl-phenylether	(4)	12.992	248	3856	0.124
121) Diallate (peak 2)	(4)	13.015	86	1153M	0.022
123) Dimethoate	(4)	13.103	87	4215	0.081
124) Atrazine	(4)	13.214	200	3303	0.115
125) Pentachlorophenol	(4)	13.295	266	1730	0.080
127) 4-Aminobiphenyl	(4)	13.307	169	11177	0.107
126) Pentachloronitrobenzene	(4)	13.313	237	1392	0.095
129) Pronamide	(4)	13.406	173	4584	0.094
130)*Phenanthrene-d10	(4)	13.528	188	726797	5.000
133) Dinoseb	(4)	13.558	211	1350M	0.669
135) Carbazole	(4)	13.837	167	15366	0.106
136) Methyl parathion	(4)	14.047	109	2873	0.072
137) Di-n-butylphthalate	(4)	14.356	149	18182	0.099
139) 4-Nitroquinoline-1-oxide	(4)	14.583	190	808	0.044
138) Parathion	(4)	14.589	109	1625M	0.066
140) Isodrin	(4)	14.991	193	2653	0.136
144) Benzidine	(5)	15.423	184	88802	0.754
145)*Pyrene-d10	(5)	15.516	212	921431	5.000
149)$Terphenyl-d14	(5)	15.831	244	30339	0.235
150) p-Dimethylaminoazobenzene	(5)	16.064	225	2476	0.348
151) Chlorobenzilate	(5)	16.157	139	4858	0.087
152) 3,3'-Dimethylbenzidine	(5)	16.612	212	9850	0.080
153) Butylbenzylphthalate	(5)	16.682	149	6757	0.080
156) 2-Acetylaminofluorene	(5)	17.026	181	4028	0.057

M = Compound was manually integrated.
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on 08/14/2015 at 10:23.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: 0.5md1all1-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
159) 3,3'-Dichlorobenzidine	(5)	17.539	252	5529	0.081
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.562	231	2729	0.073
162) bis(2-Ethylhexyl)phthalate	(5)	17.760	149	9377	0.075
165) 6-Methylchrysene	(5)	18.413	242	12175	0.099
166) Di-n-octylphthalate	(6)	18.914	149	13840	0.068
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.398	256	6696	0.089
172)*Perylene-d12	(6)	20.016	264	756324	5.000
173) 3-Methylcholanthrene	(6)	20.499	268	7208	0.094
179) Diallate TRANS/CIS	(4)			6344	0.114

* = Compound is an internal standard.

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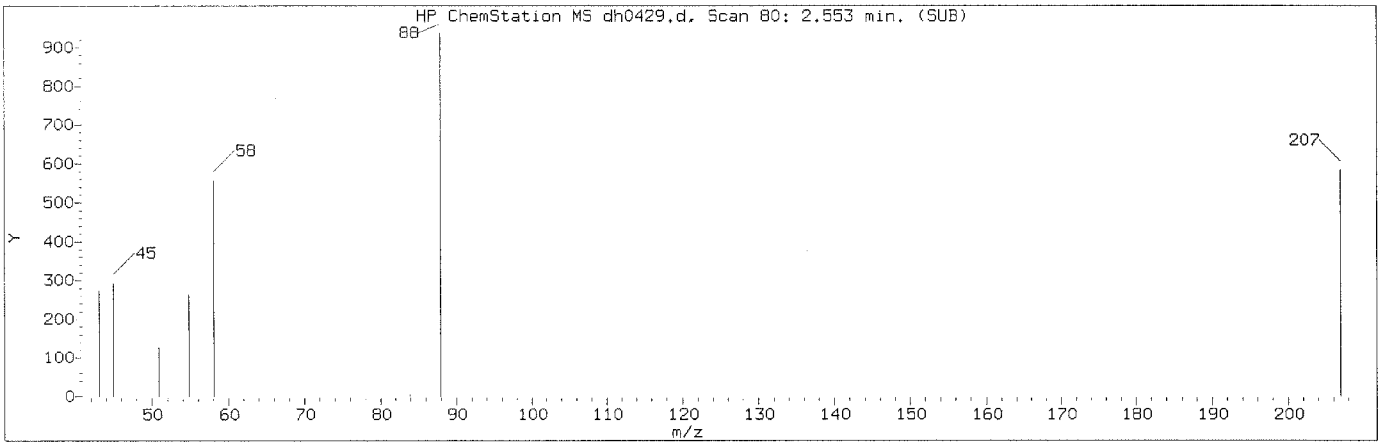
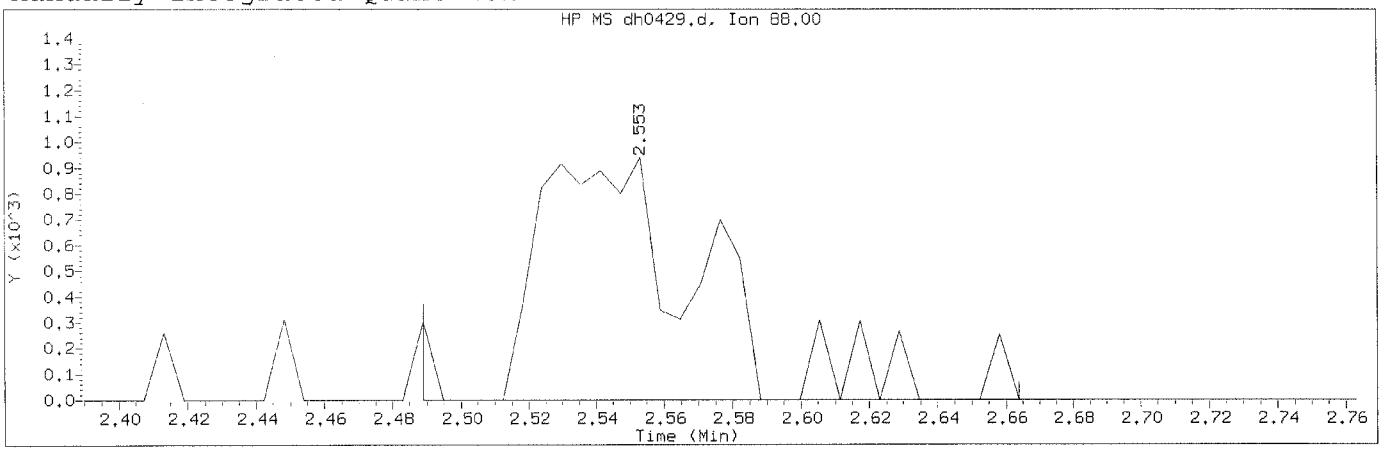
on 08/14/2015 at 10:23.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5md1all1-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 80		
Retention Time (minutes)	: 2.553		
Quant Ion	: 88.00		
Area (flag)	: 3273M		
On-Column Amount (ng/ul)	: 0.1384		
Integration start scan	: 68	Integration stop scan:	98
Y at integration start	: 0	Y at integration end:	0

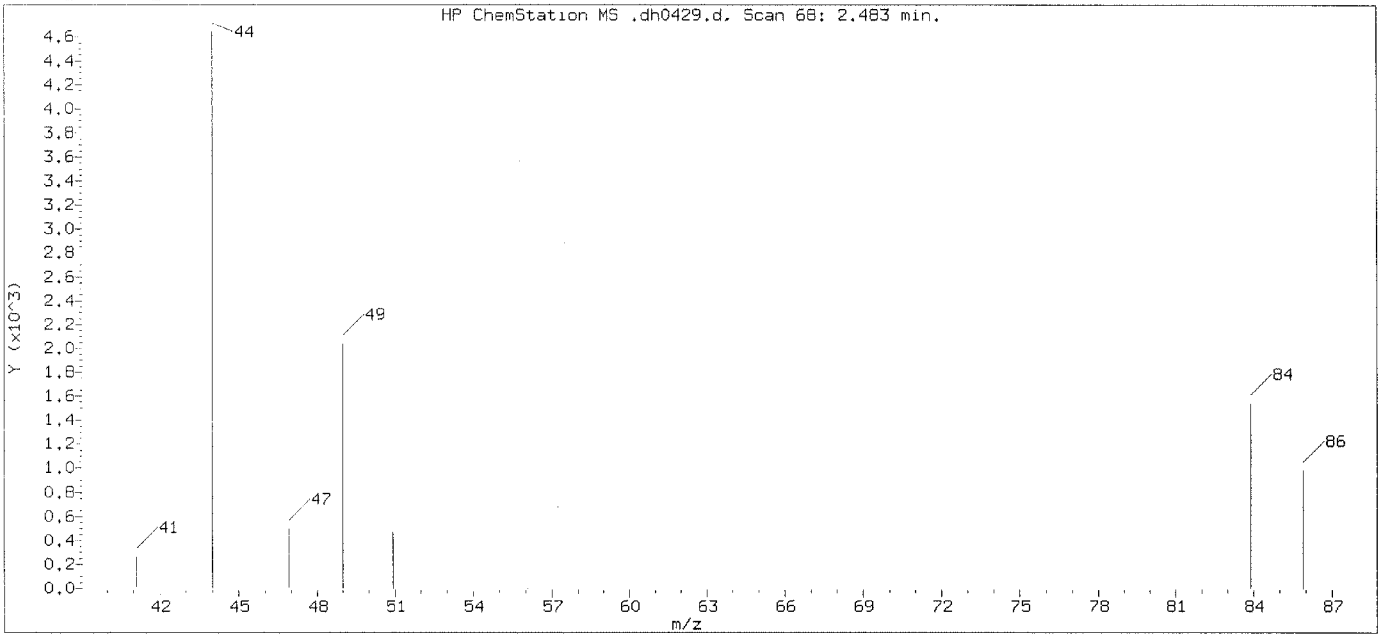
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Ankita A. Patel on 08/14/2015 at 10:23. Target 3.5 signature user ID: aap07680

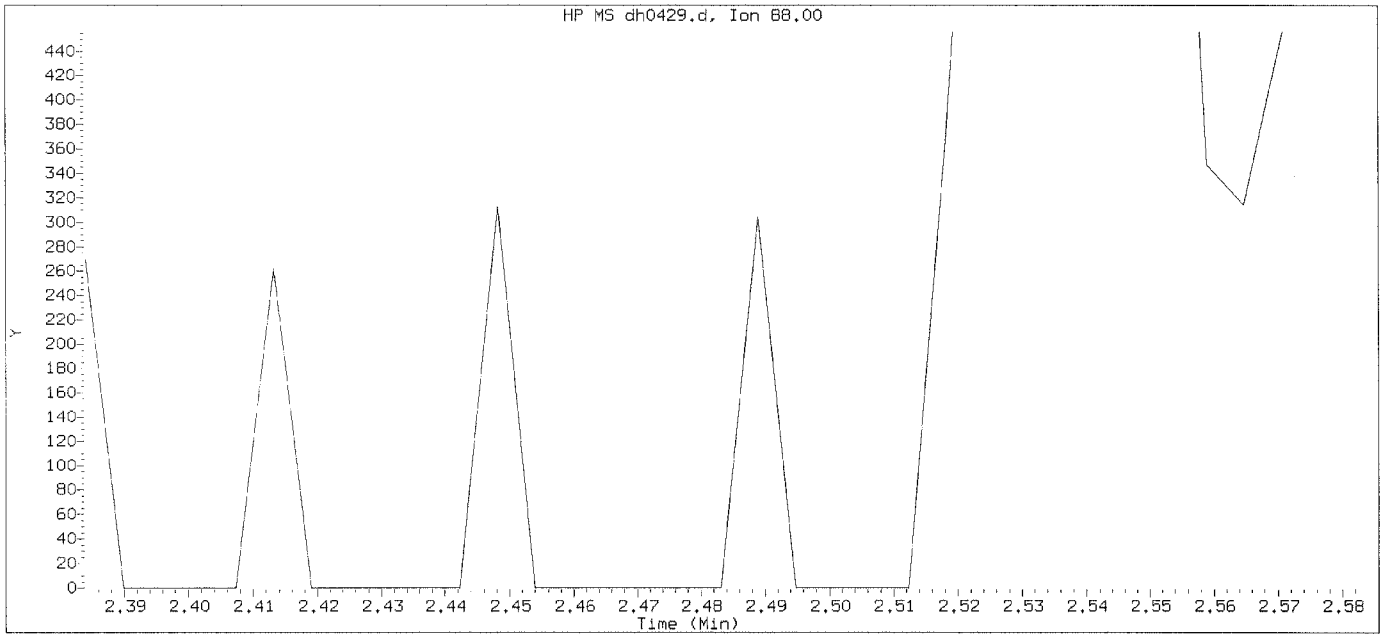
AUG 18 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 09:12
Date, time and analyst ID of latest file update: 14-Aug-2015 09:12 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compound Number : 1
Compound Name : 1,4-Dioxane
Expected RT (minutes) : 2.483
Quant Ion : 88.00

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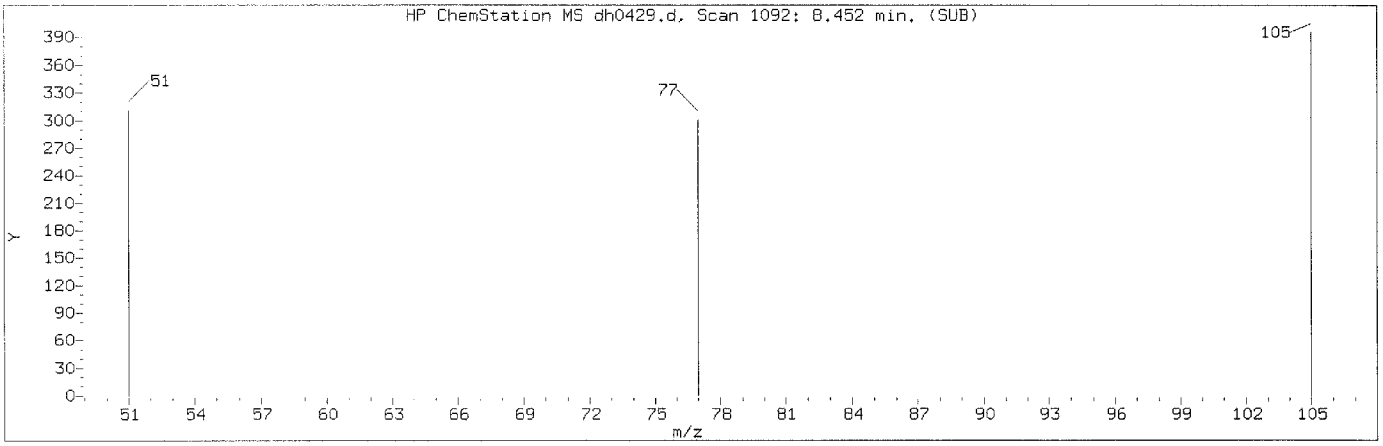
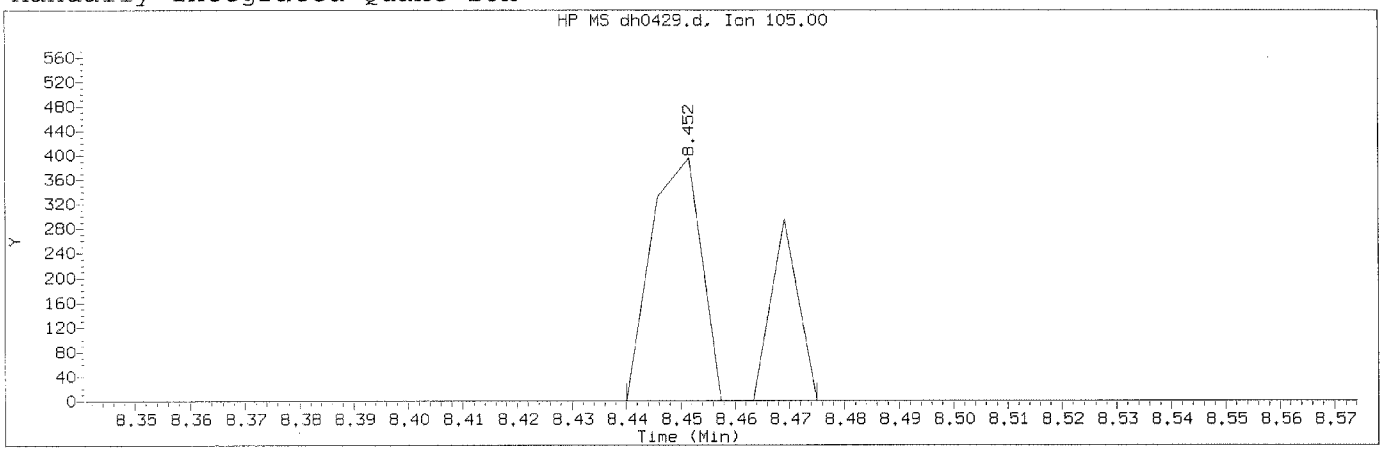
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1092		
Retention Time (minutes)	: 8.452		
Quant Ion	: 105.00		
Area (flag)	: 358M		
On-Column Amount (ng/ul)	: 2.0874		
Integration start scan	: 1089	Integration stop scan:	1095
Y at integration start	: 0	Y at integration end:	0

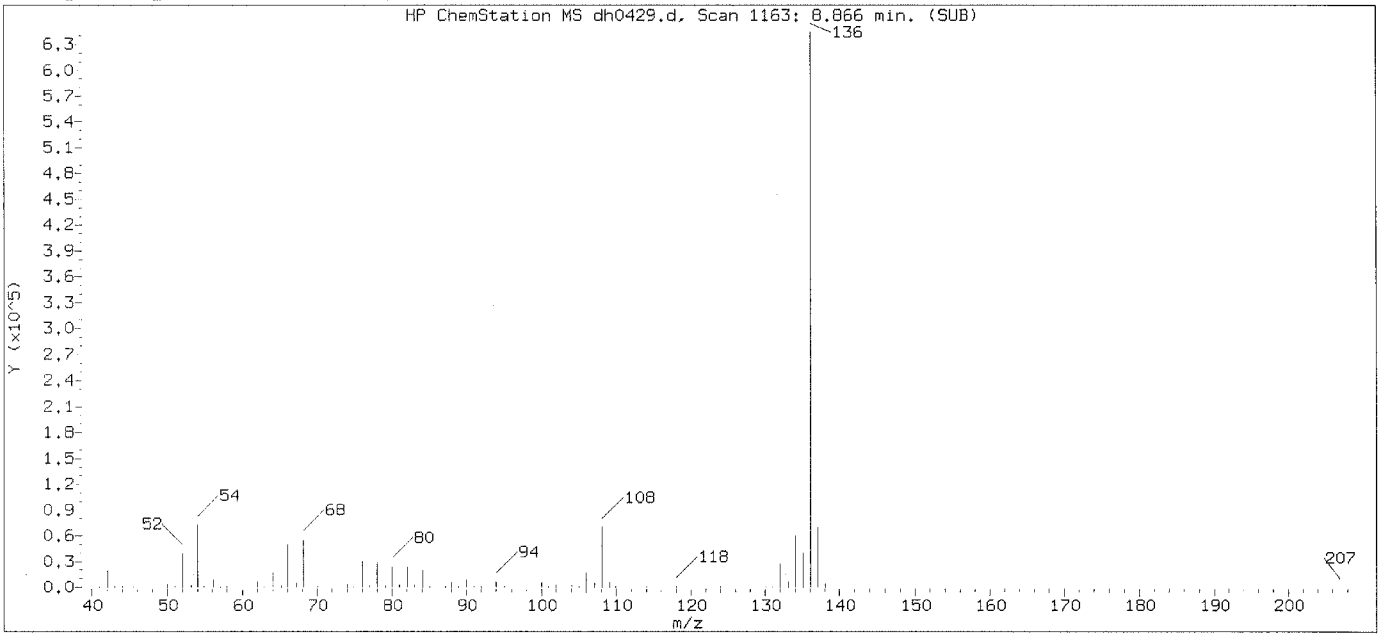
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:23.
Target 3.5 signature user ID: aap07680

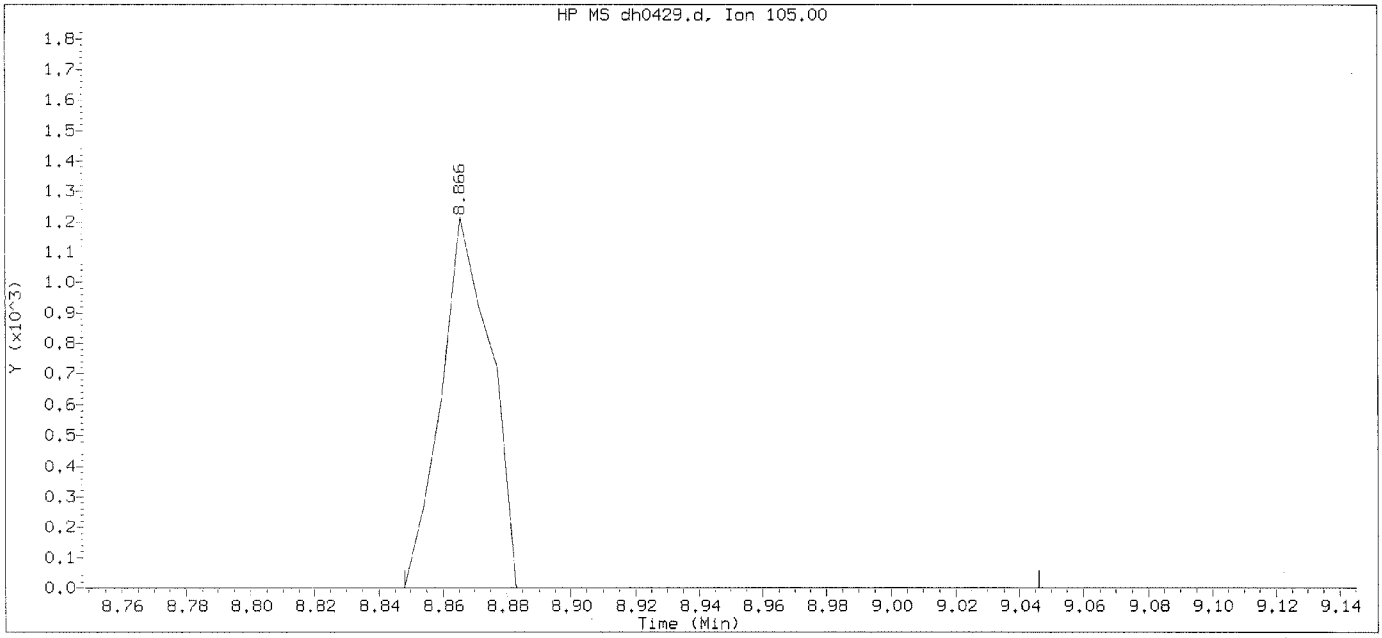
AUG 18 2015

GC/MS audit/management approval:_____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 09:12
Date, time and analyst ID of latest file update: 14-Aug-2015 09:12 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1163		
Retention Time (minutes)	: 8.866		
Quant Ion	: 105.00		
Area	: 1308		
On-column Amount (ng/ul)	: 11.7136		
Integration start scan	: 1159	Integration stop scan:	1193
Y at integration start	: 0	Y at integration end:	0

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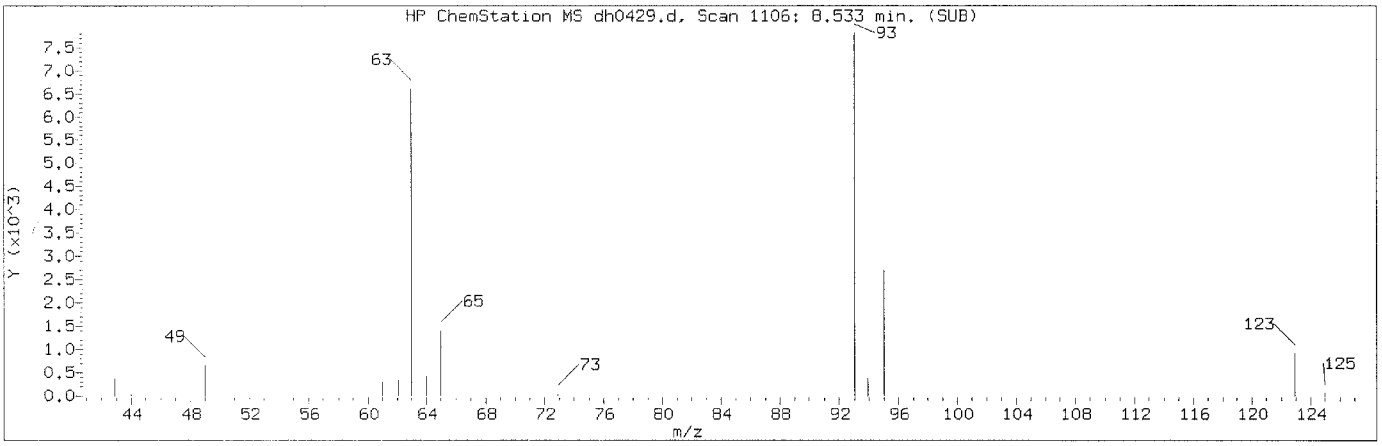
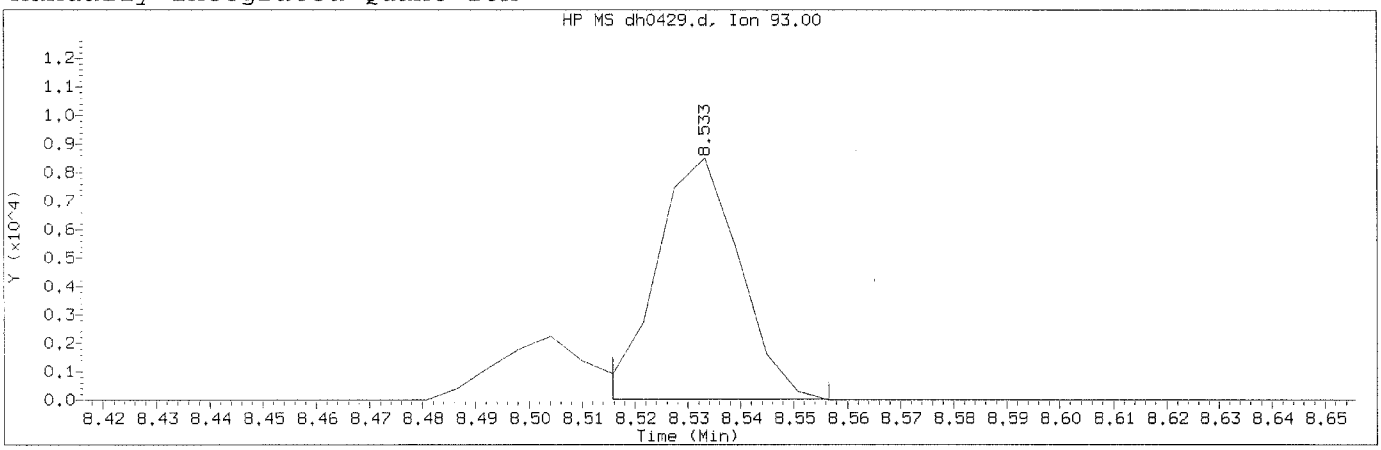
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compound Number	: 48	
Compound Name	: bis(2-Chloroethoxy)methane	
Scan Number	: 1106	
Retention Time (minutes)	: 8.533	
Quant Ion	: 93.00	
Area (flag)	: 9373M	
On-Column Amount (ng/ul)	: 0.1199	
Integration start scan	: 1102	Integration stop scan: 1109
Y at integration start	: 14	Y at integration end: 14

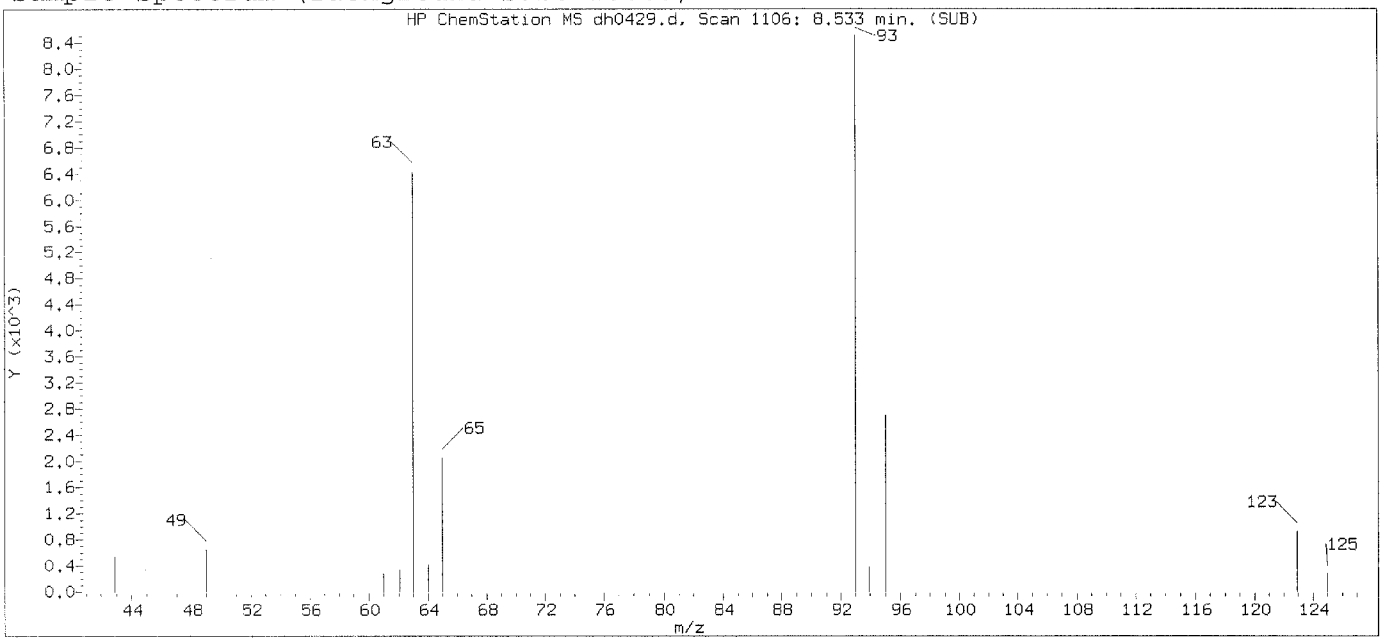
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel on 08/14/2015 at 10:23. Target 3.5 signature user ID: aap07680

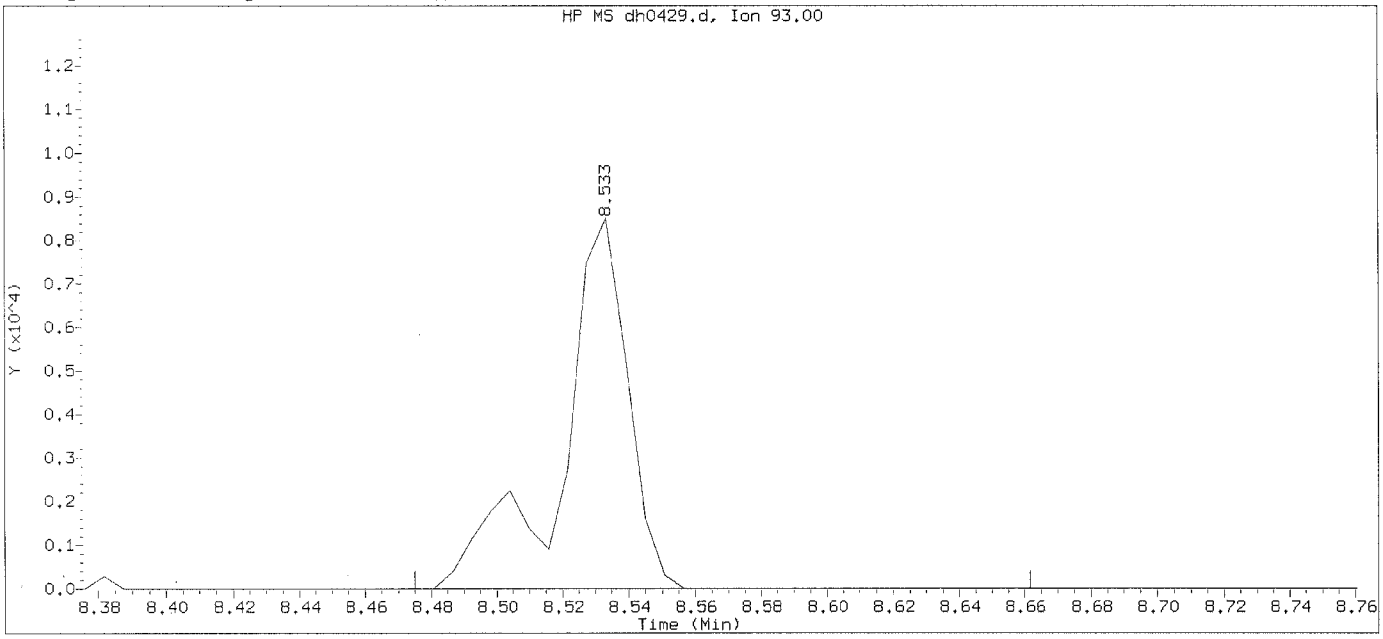
AUG 18 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 09:12
Date, time and analyst ID of latest file update: 14-Aug-2015 09:12 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compound Number	: 48	
Compound Name	: bis(2-Chloroethoxy)methane	
Scan Number	: 1106	
Retention Time (minutes)	: 8.533	
Quant Ion	: 93.00	
Area	: 11845	
On-column Amount (ng/ul)	: 0.1356	
Integration start scan	: 1095	Integration stop scan: 1127
Y at integration start	: 0	Y at integration end: 0

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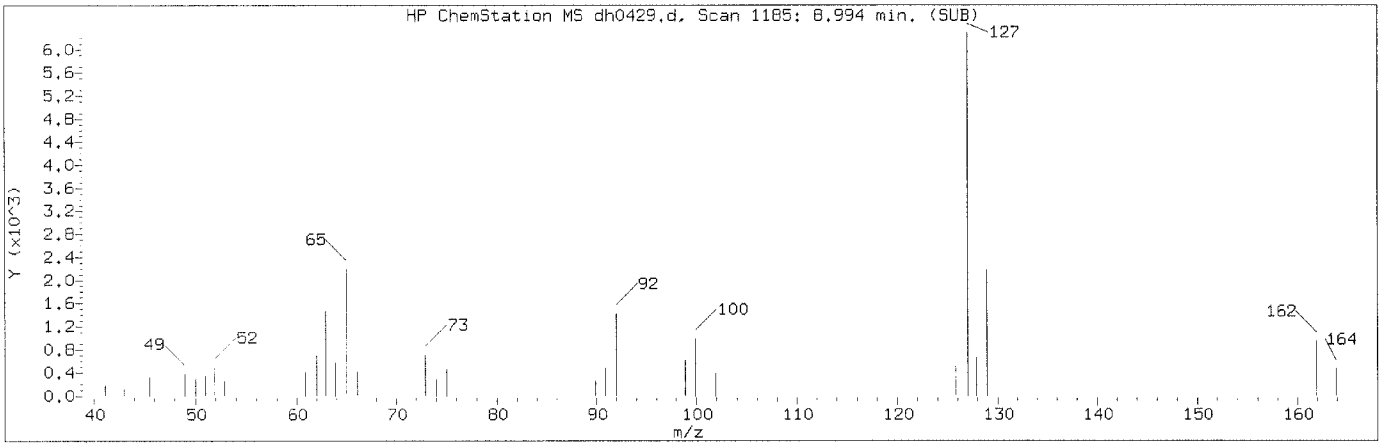
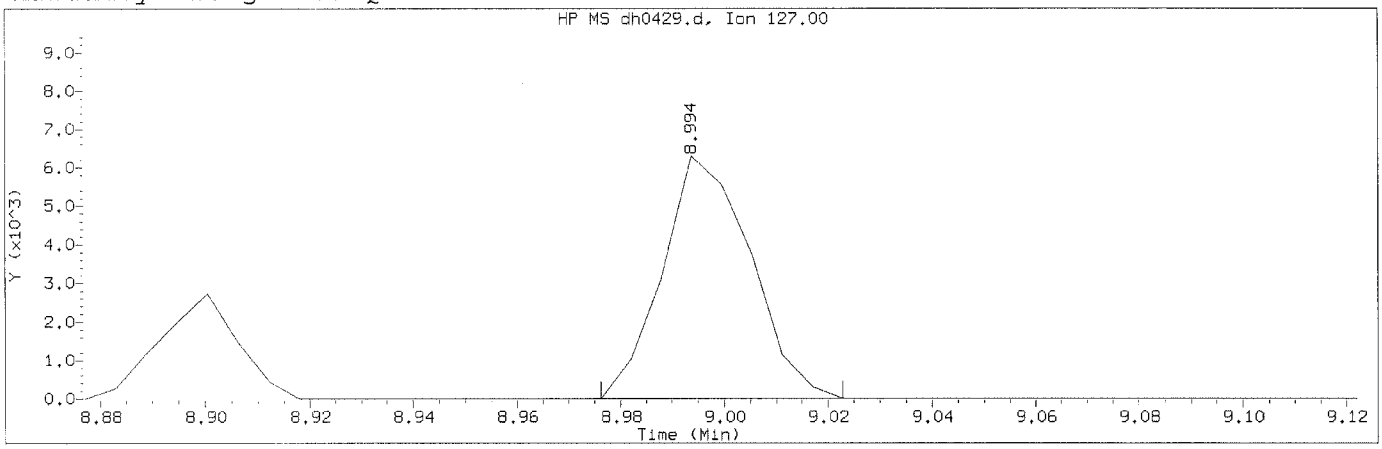
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5md1all1-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compound Number	: 55		
Compound Name	: 4-Chloroaniline		
Scan Number	: 1185		
Retention Time (minutes)	: 8.994		
Quant Ion	: 127.00		
Area (flag)	: 7400M		
On-Column Amount (ng/ul)	: 0.1050		
Integration start scan	: 1181	Integration stop scan:	1189
Y at integration start	: -1	Y at integration end:	-1

Reason for manual integration: improper integration

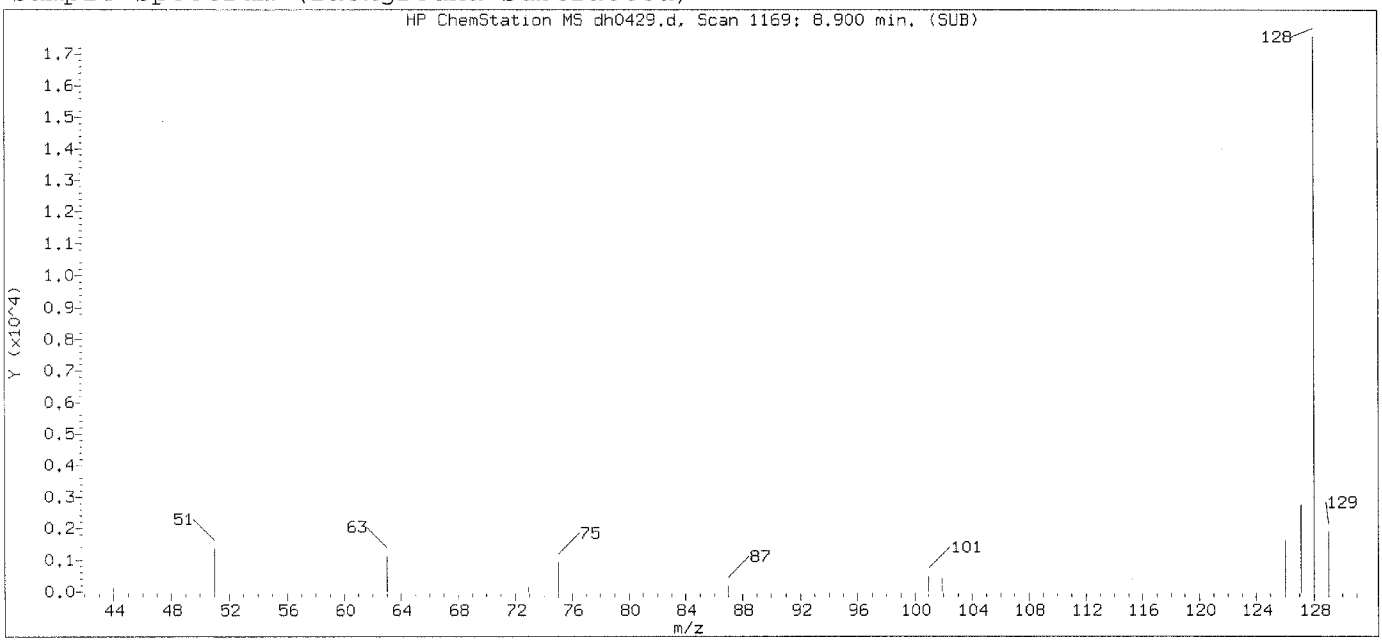
Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:23.
Target 3.5 esignature user ID: aap07680

AUG 18 2015

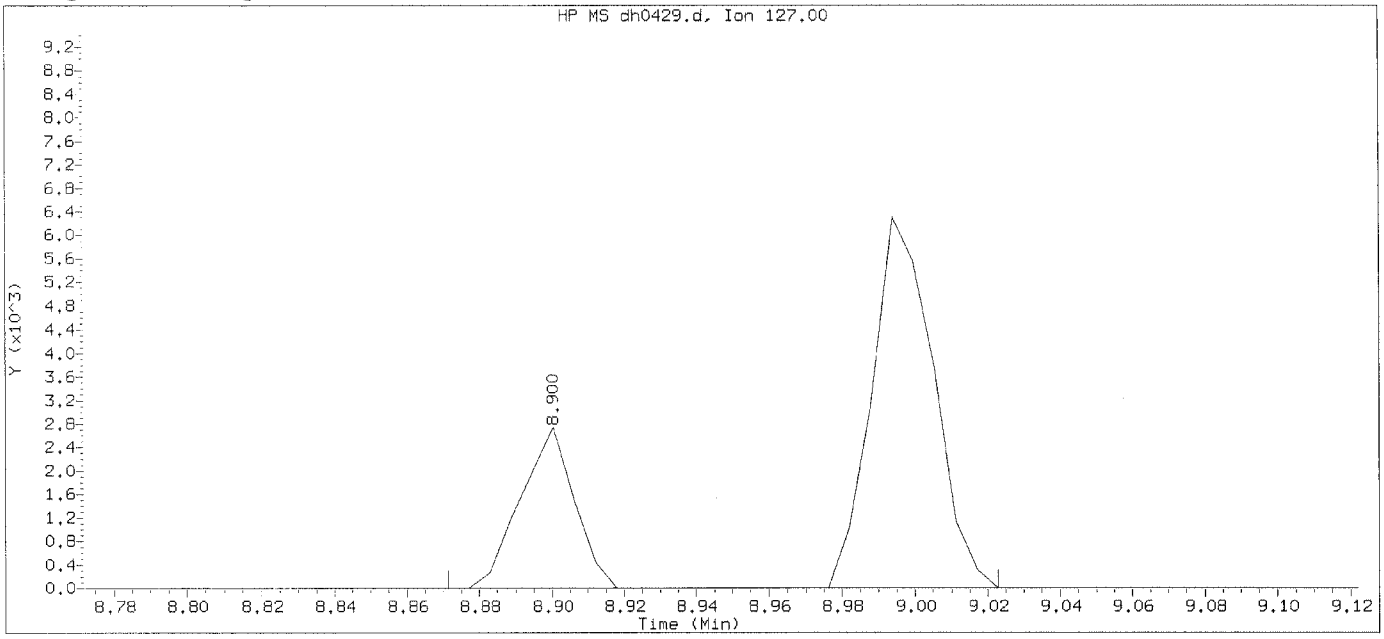
GC/MS audit/management approval:_____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 09:12
Date, time and analyst ID of latest file update: 14-Aug-2015 09:12 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compound Number	: 55		
Compound Name	: 4-Chloroaniline		
Scan Number	: 1169		
Retention Time (minutes)	: 8.900		
Quant Ion	: 127.00		
Area	: 10219		
On-column Amount (ng/ul)	: 0.1450		
Integration start scan	: 1163	Integration stop scan:	1189
Y at integration start	: 0	Y at integration end:	0

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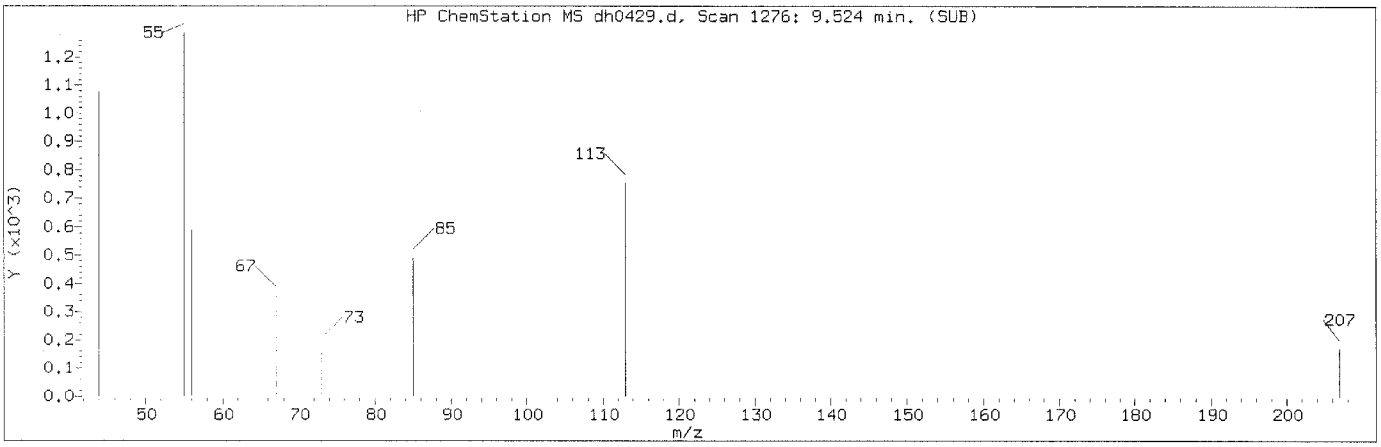
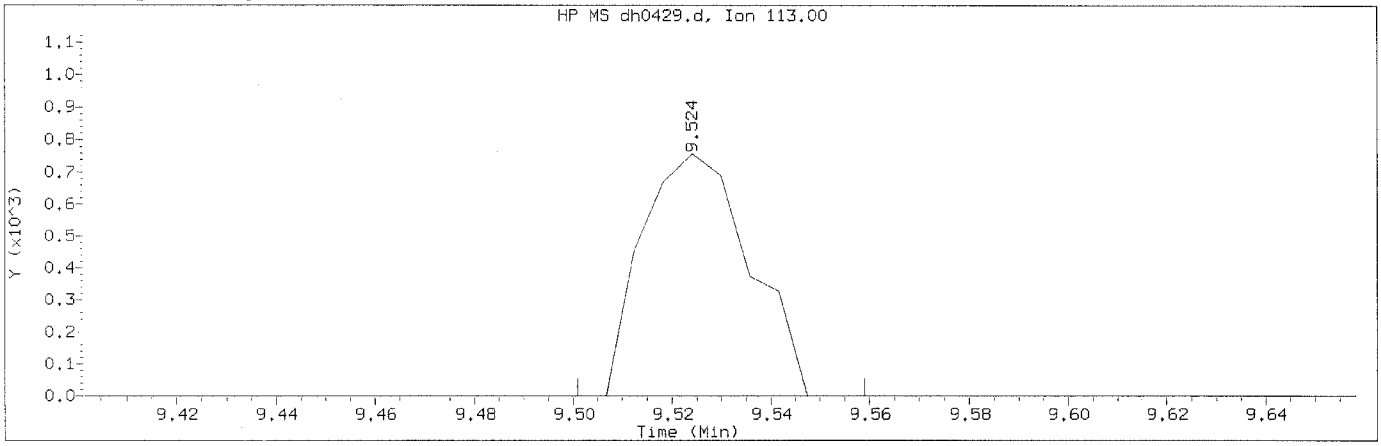
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compound Number	: 61		
Compound Name	: Caprolactam		
Scan Number	: 1276		
Retention Time (minutes)	: 9.524		
Quant Ion	: 113.00		
Area (flag)	: 1142M		
On-Column Amount (ng/ul)	: 0.0773		
Integration start scan	: 1271	Integration stop scan:	1281
Y at integration start	: 0	Y at integration end:	0

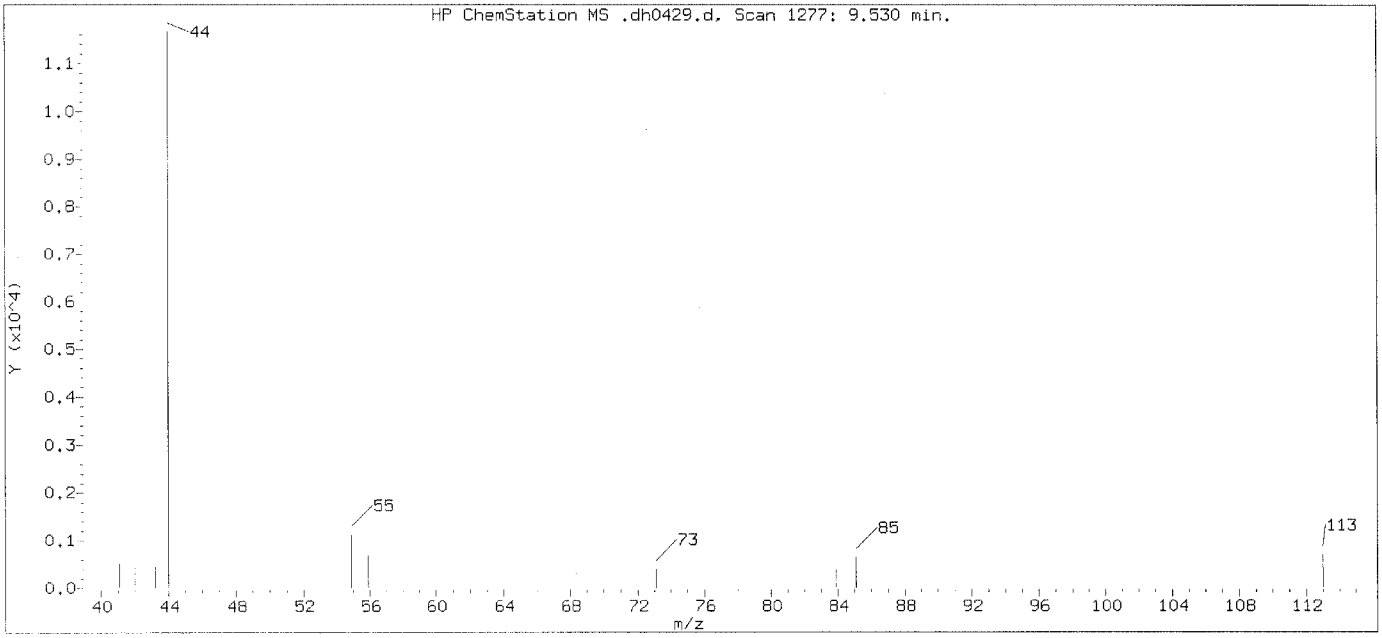
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:23
Target 3.5 signature user ID: aap07680

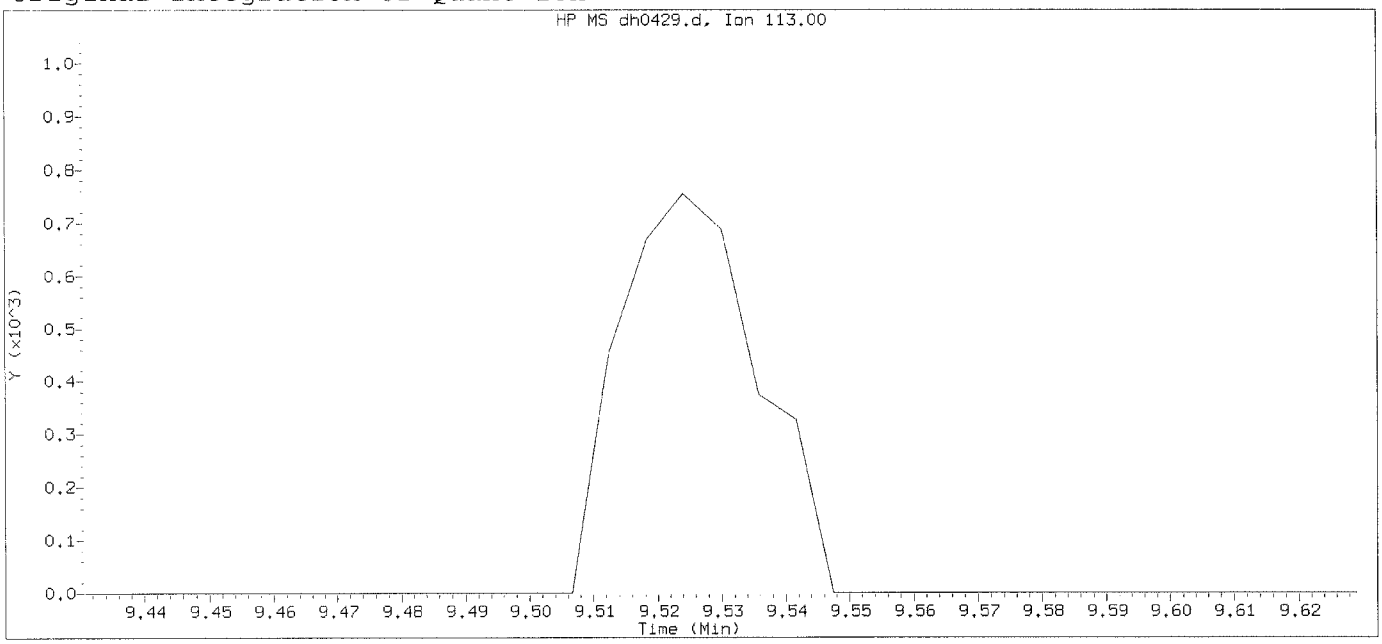
AUG 18 2015

GC/MS audit/management approval: Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5md1a11-d
Calibration date and time: 14-AUG-2015 09:12
Date, time and analyst ID of latest file update: 14-Aug-2015 09:12 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compound Number : 61
Compound Name : Caprolactam
Expected RT (minutes) : 9.530
Quant Ion : 113.00

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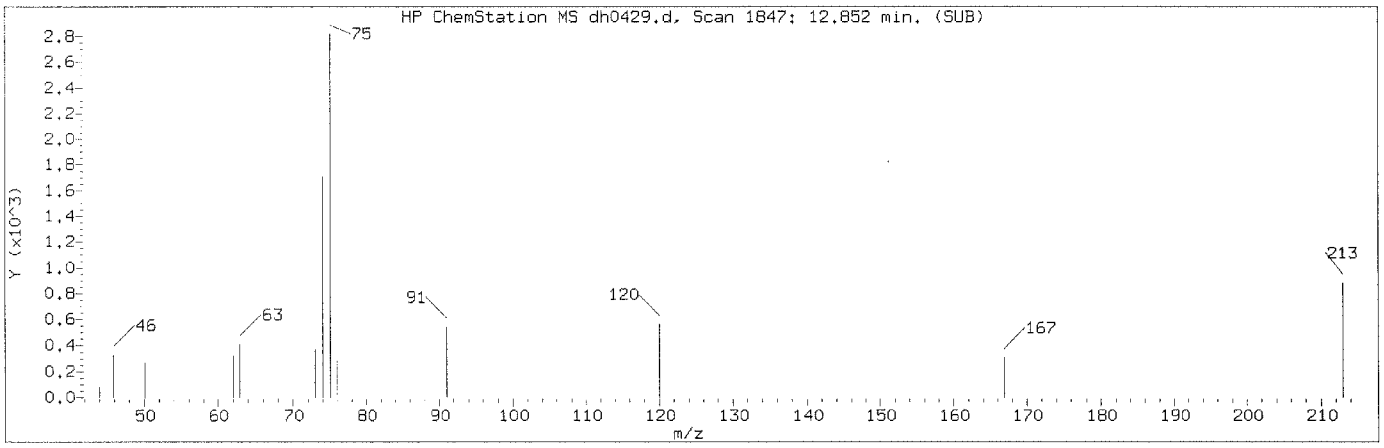
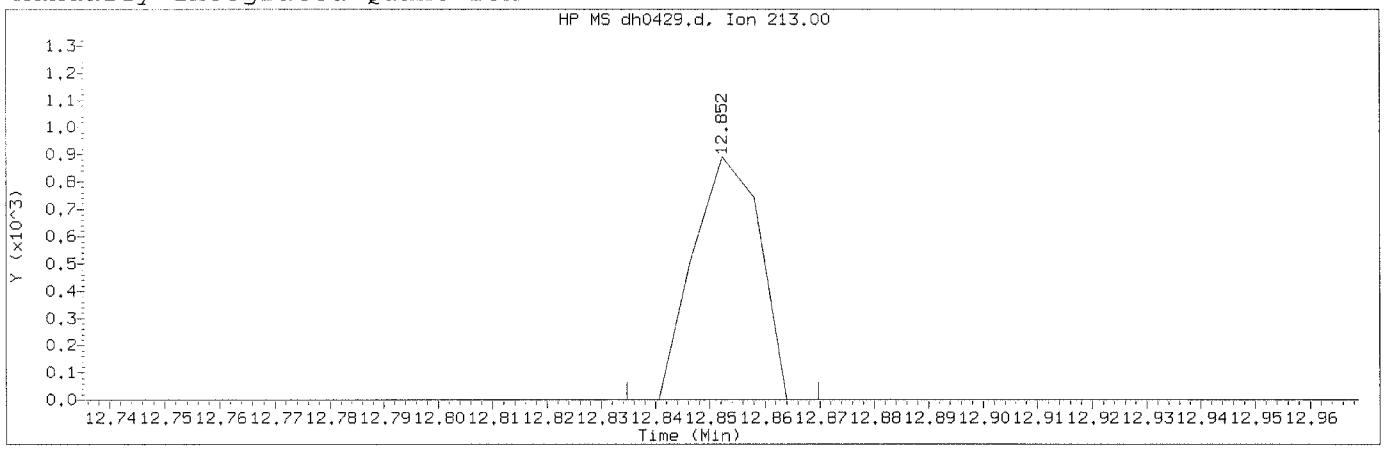
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5mdla111-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compound Number	: 116		
Compound Name	: 1,3,5-Trinitrobenzene		
Scan Number	: 1847		
Retention Time (minutes)	: 12.852		
Quant Ion	: 213.00		
Area (flag)	: 751M		
On-Column Amount (ng/ul)	: 0.0568		
Integration start scan	: 1843	Integration stop scan:	1849
Y at integration start	: 0	Y at integration end:	0

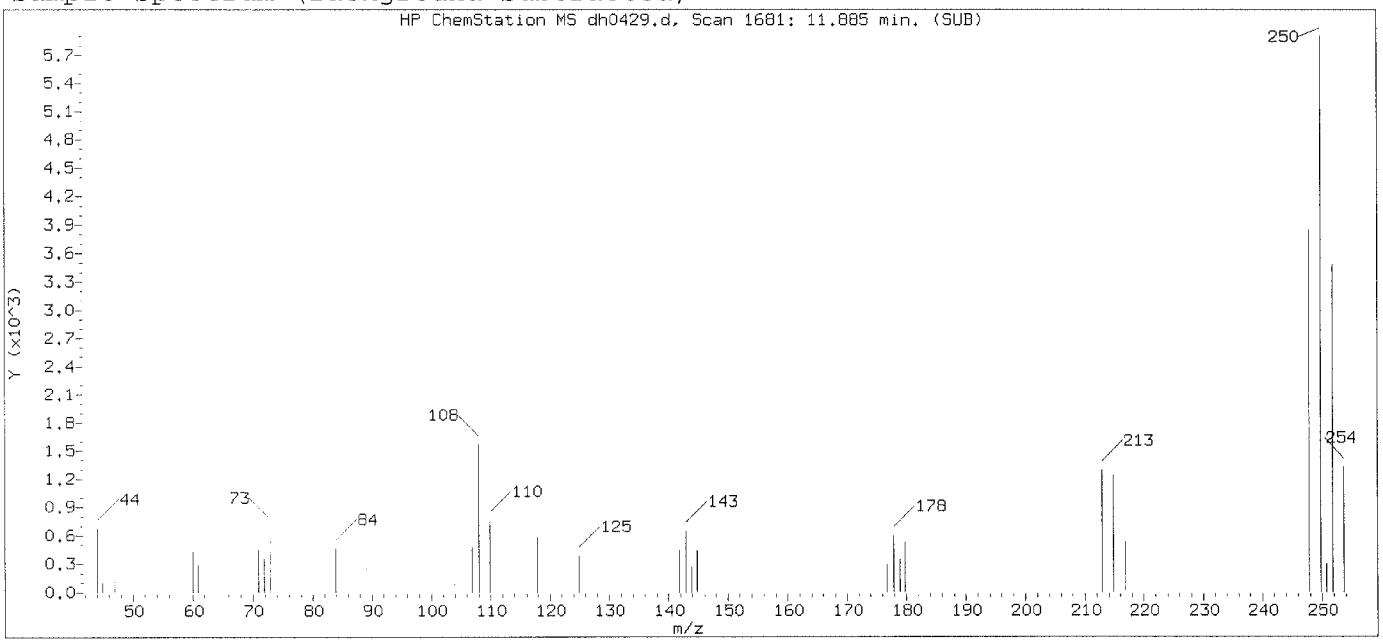
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:23.
Target 3.5 signature user ID: aap07680

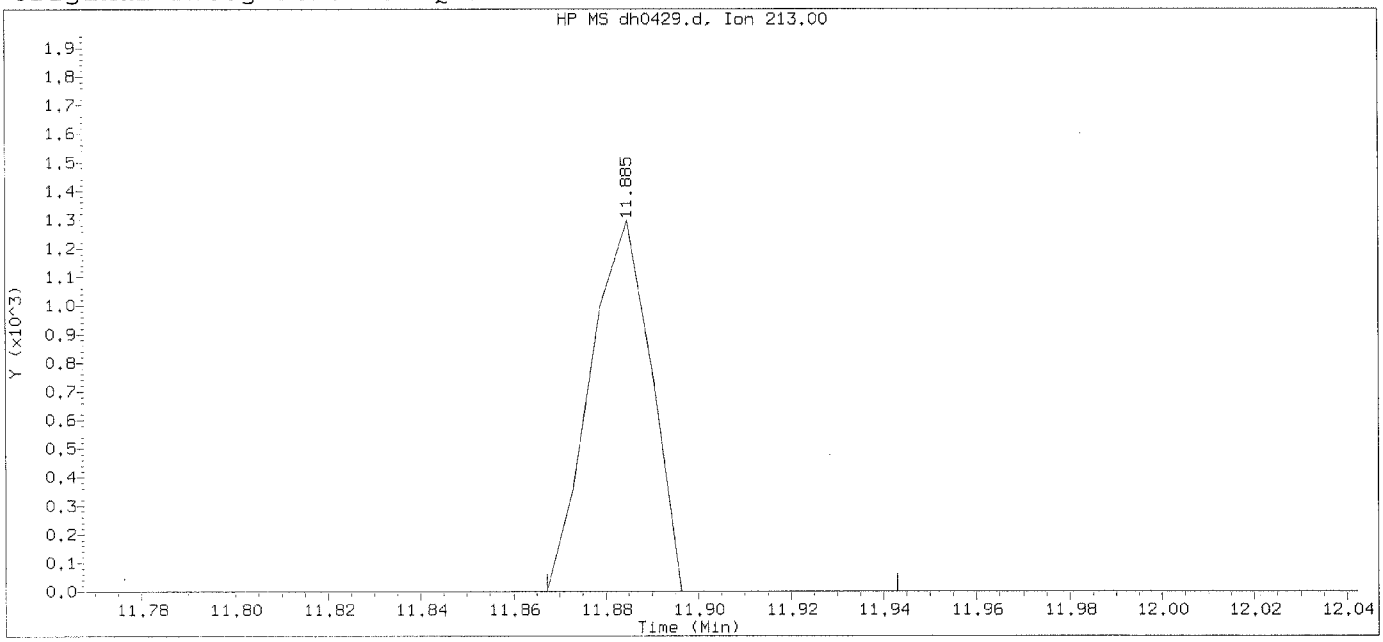
AUG 18 2015

GC/MS audit/management approval:_____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

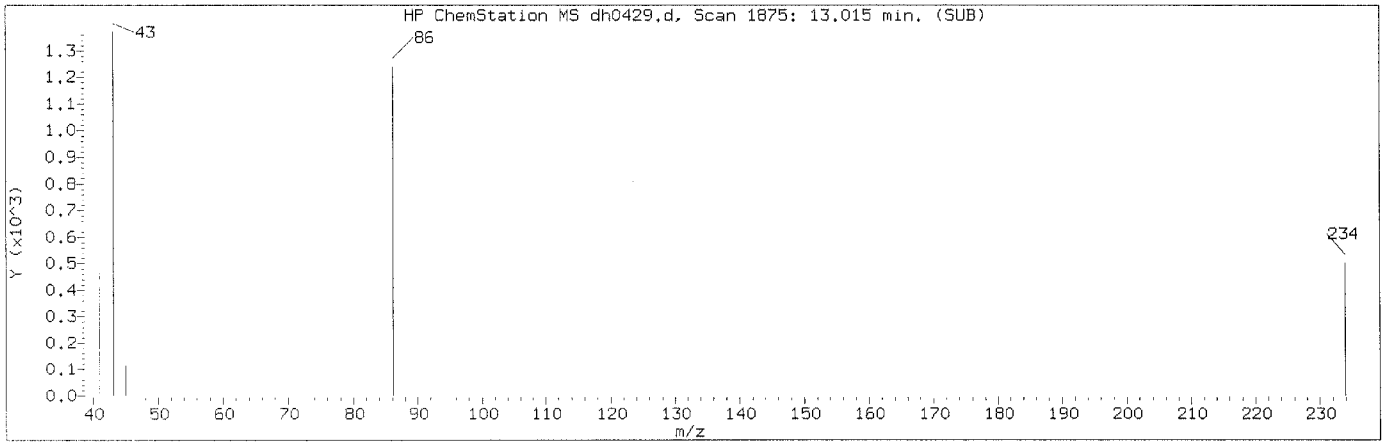
Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5mdla111-d
Calibration date and time: 14-AUG-2015 09:12
Date, time and analyst ID of latest file update: 14-Aug-2015 09:12 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

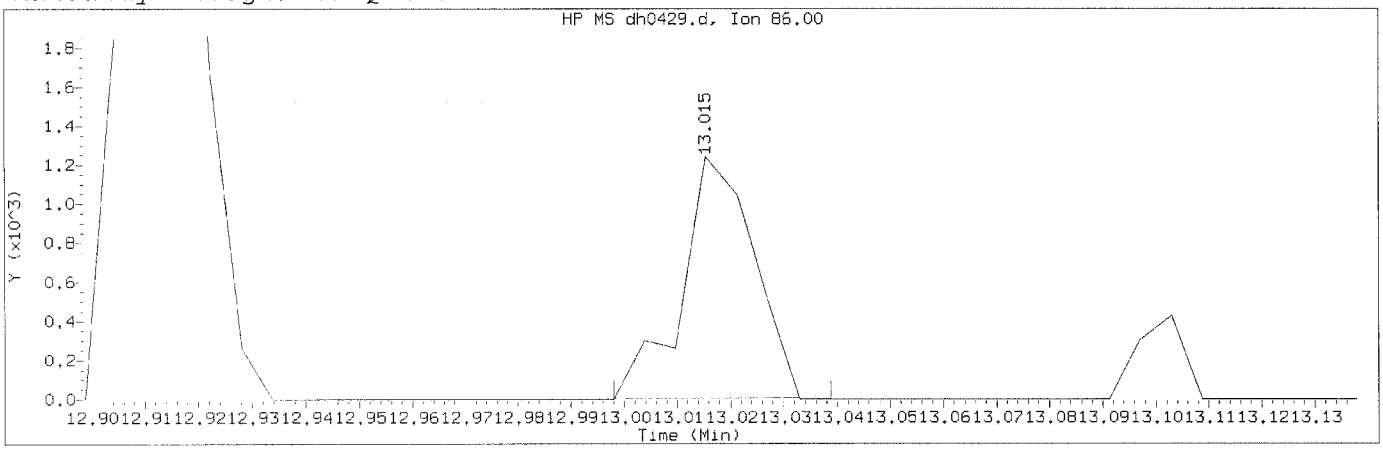
Compound Number	: 116		
Compound Name	: 1,3,5-Trinitrobenzene		
Scan Number	: 1681		
Retention Time (minutes)	: 11.885		
Quant Ion	: 213.00		
Area	: 1184		
On-column Amount (ng/ul)	: 0.0898		
Integration start scan	: 1677	Integration stop scan:	1690
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Ankita A. Patel on 08/14/2015 at 10:23.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compound Number	: 121		
Compound Name	: Diallate (peak 2)		
Scan Number	: 1875		
Retention Time (minutes)	: 13.015		
Quant Ion	: 86.00		
Area (flag)	: 1153M		
On-Column Amount (ng/ul)	: 0.0217		
Integration start scan	: 1871	Integration stop scan:	1878
Y at integration start	: 7	Y at integration end:	7

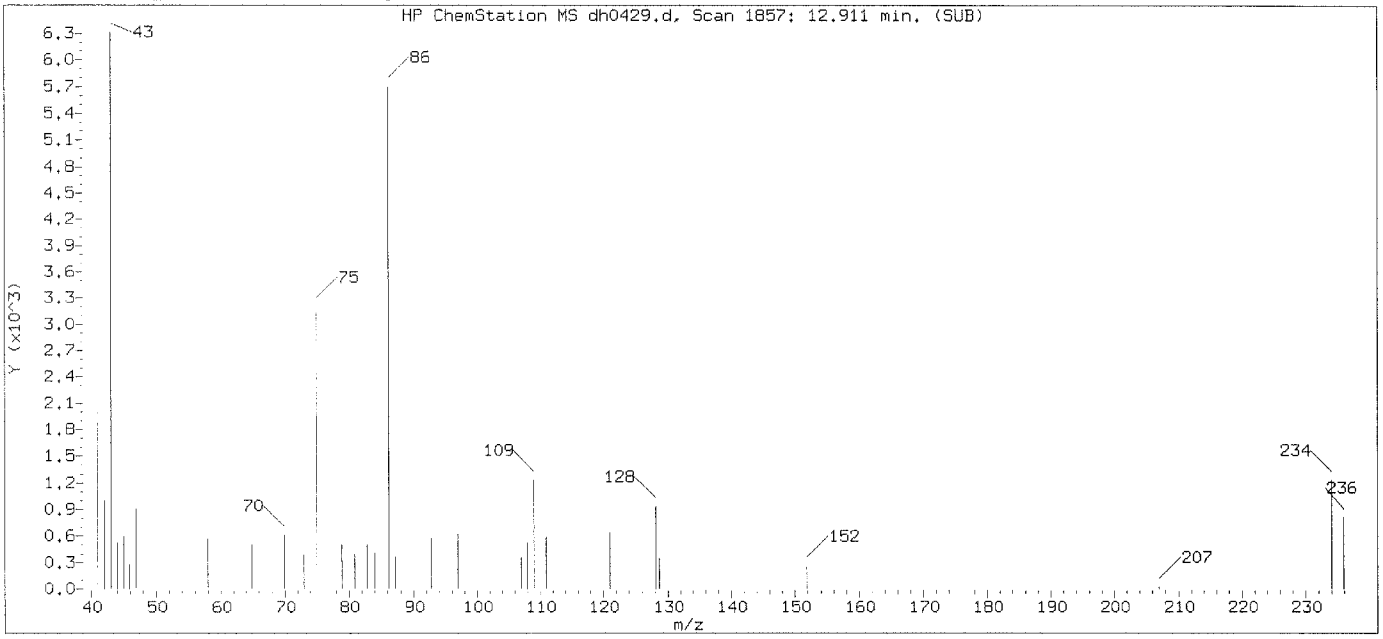
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:23.
Target 3.5 signature user ID: aap07680

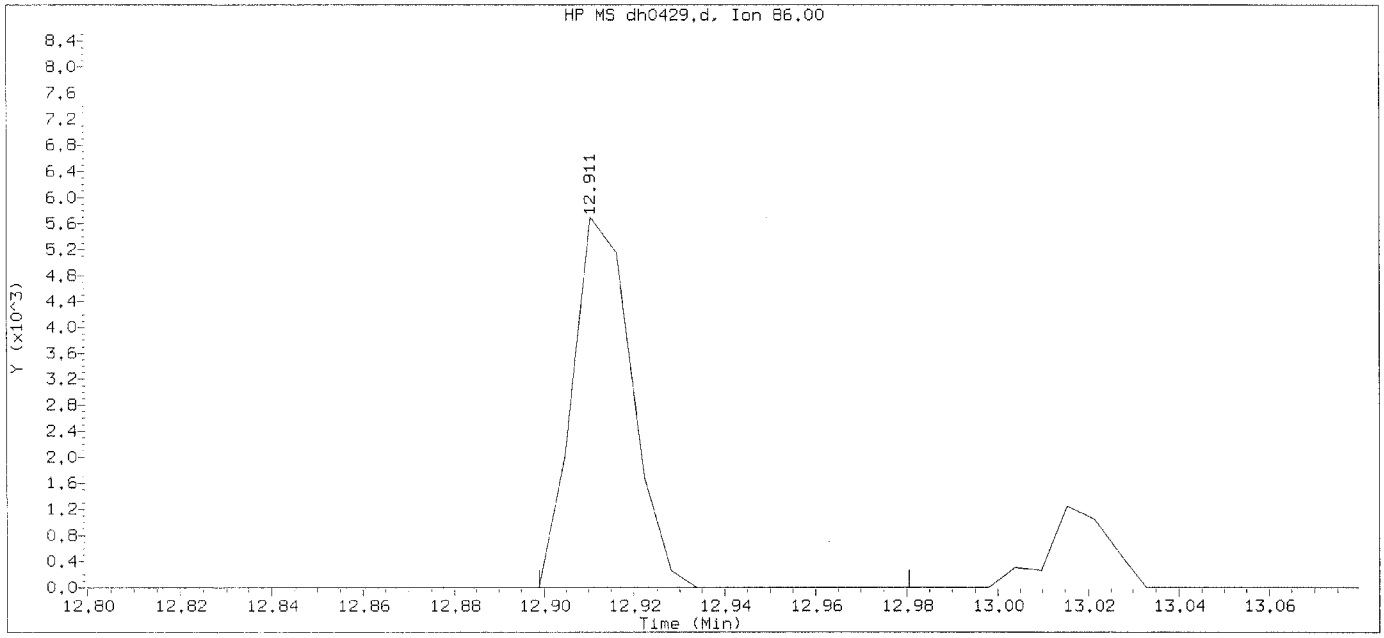
AUG 18 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

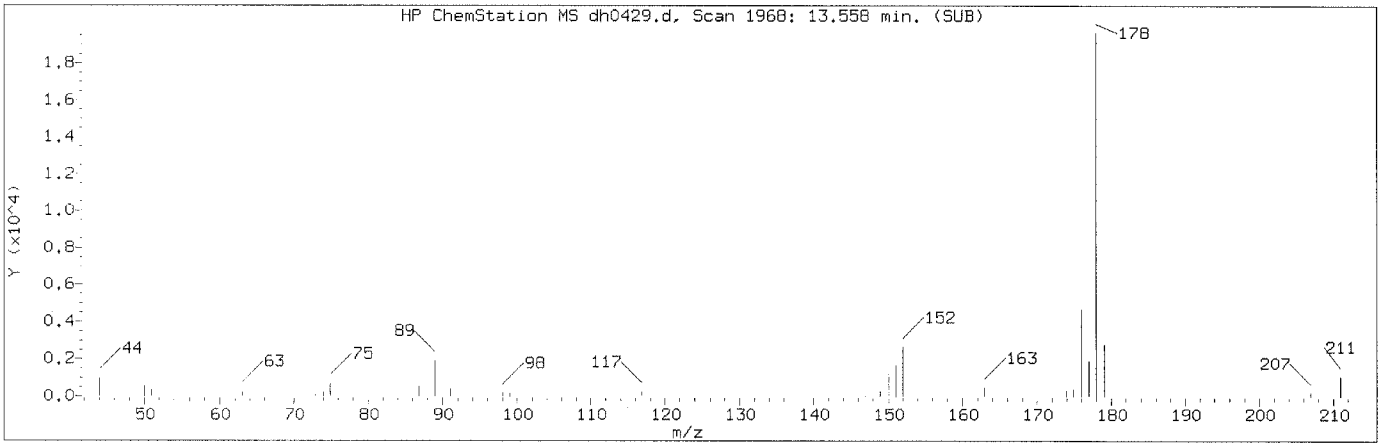
Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5mdlal11-d
Calibration date and time: 14-AUG-2015 09:12
Date, time and analyst ID of latest file update: 14-Aug-2015 09:12 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

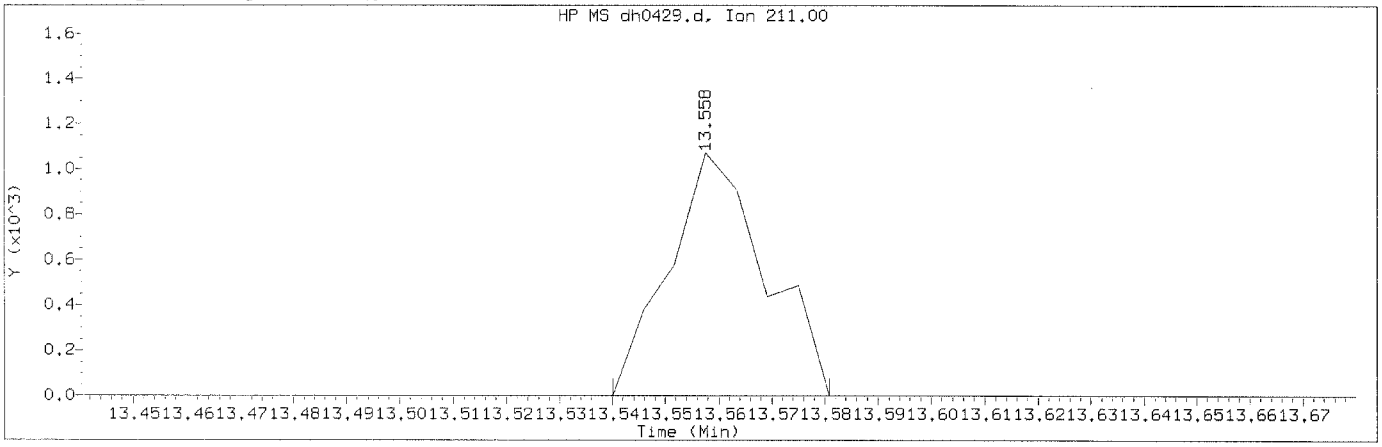
Compound Number	: 121		
Compound Name	: Diallate (peak 2)		
Scan Number	: 1857		
Retention Time (minutes)	: 12.911		
Quant Ion	: 86.00		
Area	: 5191		
On-column Amount (ng/ul)	: 0.0983		
Integration start scan	: 1854	Integration stop scan:	1868
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Ankita A. Patel on 08/14/2015 at 10:23.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compound Number	: 133		
Compound Name	: Dinoseb		
Scan Number	: 1968		
Retention Time (minutes)	: 13.558		
Quant Ion	: 211.00		
Area (flag)	: 1350M		
On-Column Amount (ng/ul)	: 0.6695		
Integration start scan	: 1964	Integration stop scan:	1971
Y at integration start	: 0	Y at integration end:	0

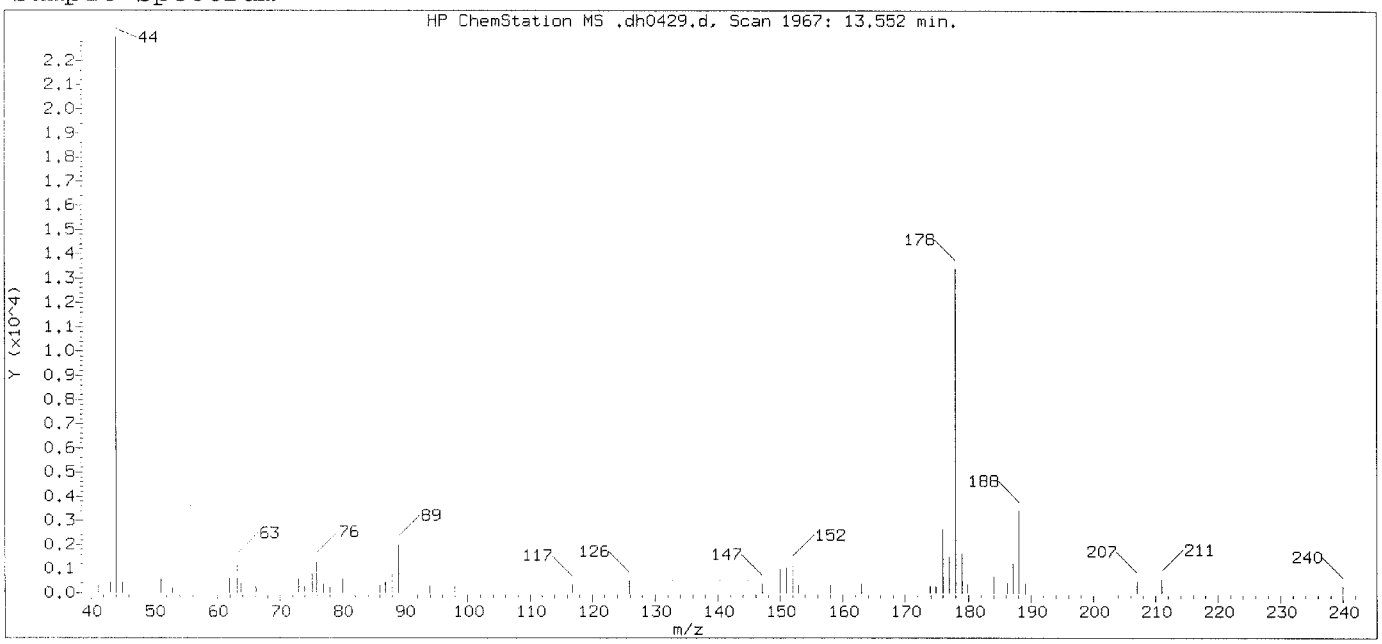
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Ankita A. Patel on 08/14/2015 at 10:23. Target 3.5 esignature user ID: aap07680

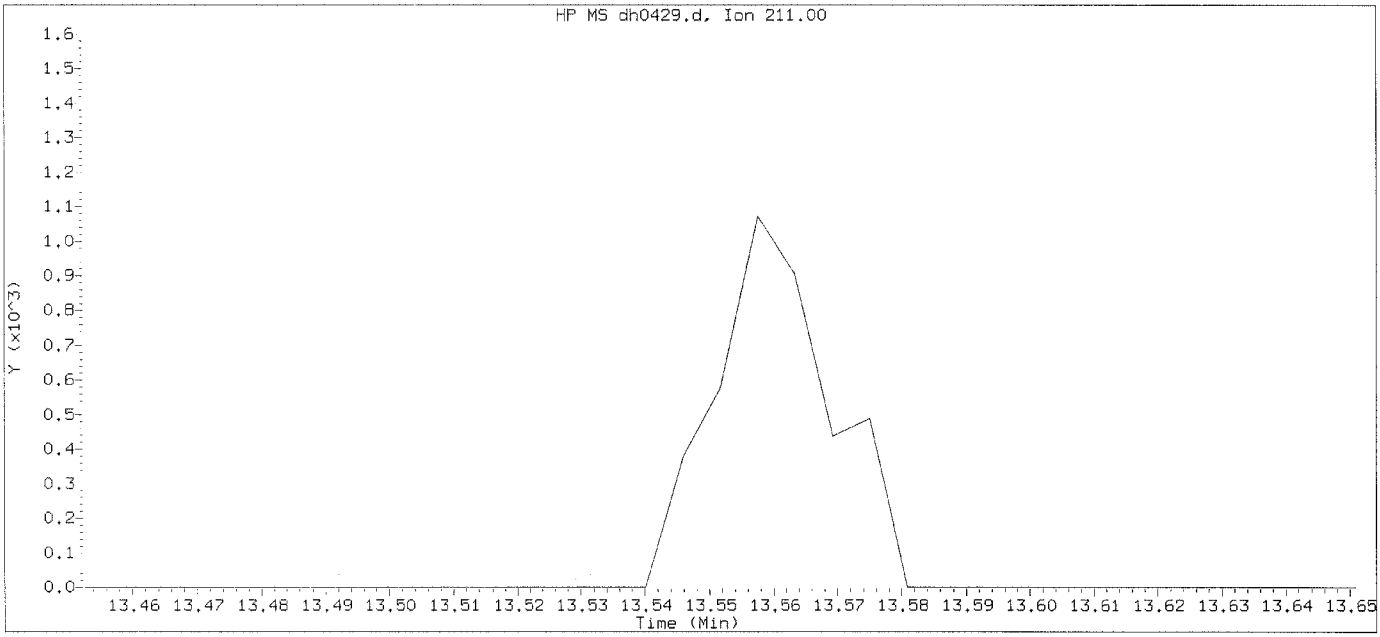
AUG 18 2015

GC/MS audit/management approval: Matthew E. Barton Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

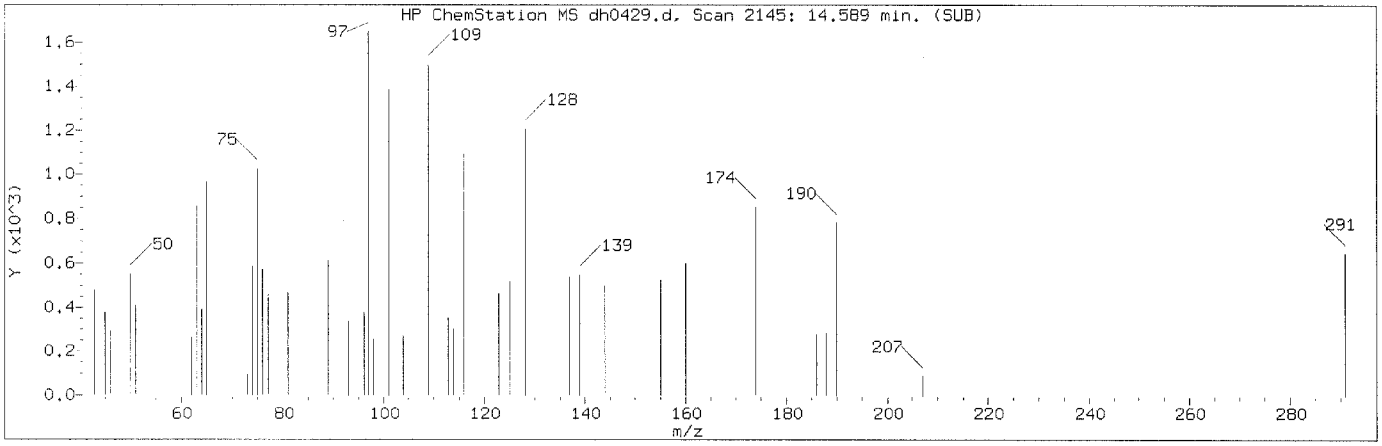
Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5md1a11-d
Calibration date and time: 14-AUG-2015 09:12
Date, time and analyst ID of latest file update: 14-Aug-2015 09:12 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

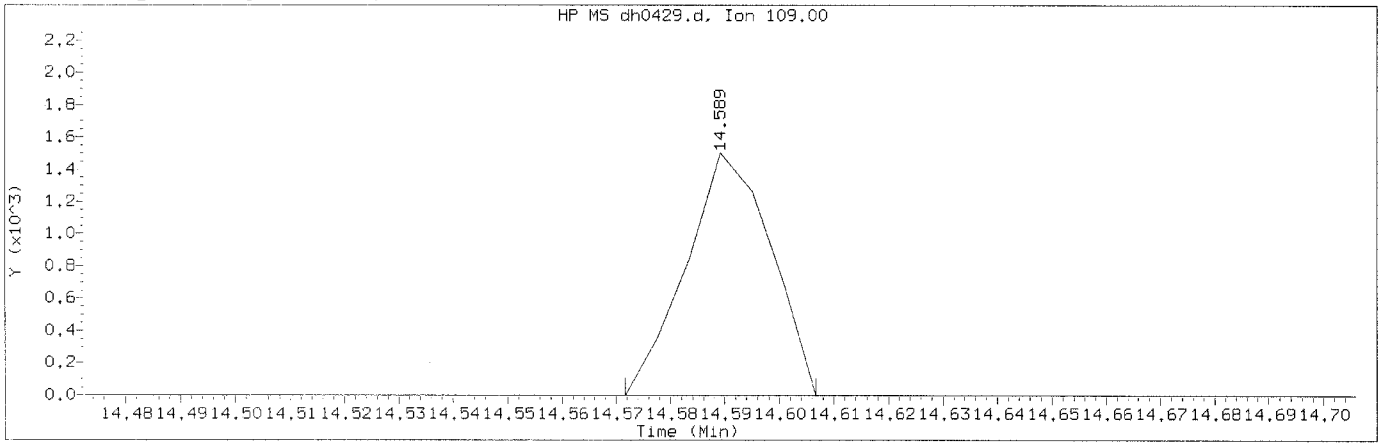
Compound Number : 133
Compound Name : Dinoseb
Expected RT (minutes) : 13.552
Quant Ion : 211.00

Digitally signed by Ankita A. Patel on 08/14/2015 at 10:23.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compound Number	: 138		
Compound Name	: Parathion		
Scan Number	: 2145		
Retention Time (minutes)	: 14.589		
Quant Ion	: 109.00		
Area (flag)	: 1625M		
On-Column Amount (ng/ul)	: 0.0659		
Integration start scan	: 2141	Integration stop scan:	2147
Y at integration start	: -1	Y at integration end:	-1

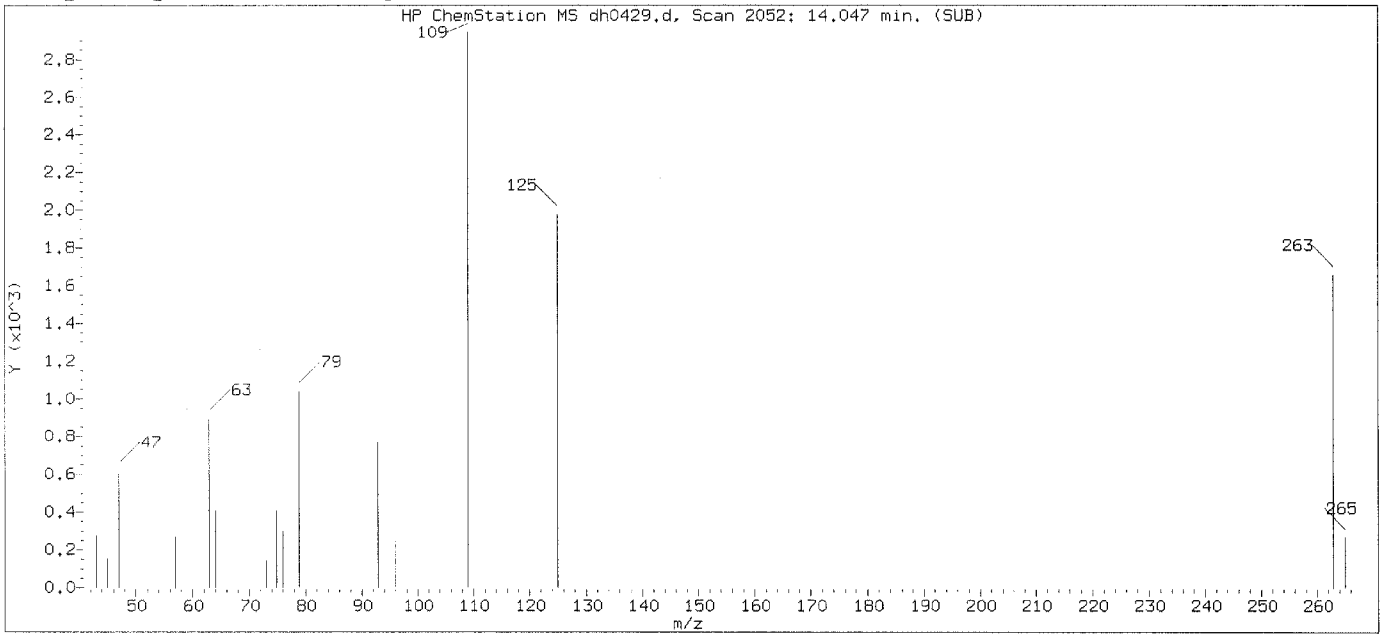
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:23.
Target 3.5 signature user ID: aap07680

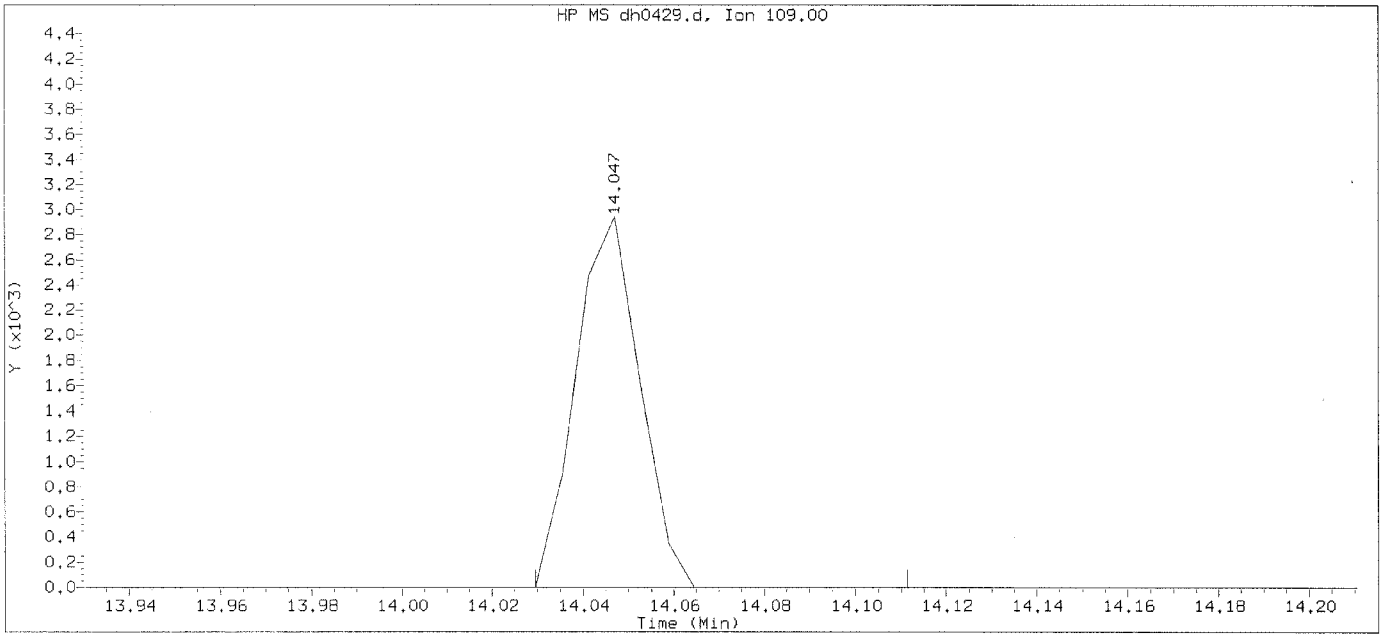
AUG 18 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



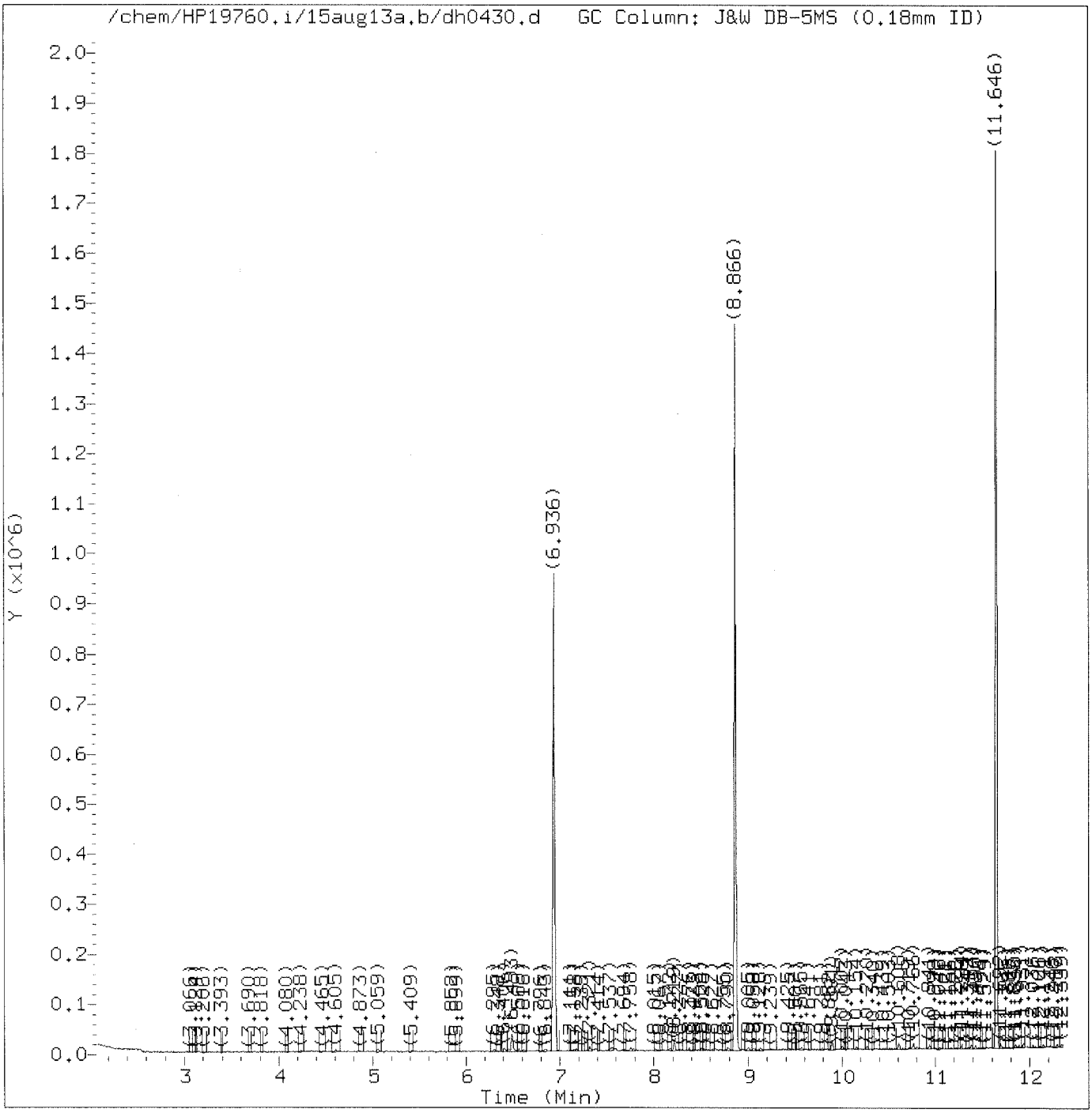
Data File: /chem/HP19760.i/15aug13a.b/dh0429.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 09:12
Date, time and analyst ID of latest file update: 14-Aug-2015 09:12 aap07680

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2065

Compound Number	: 138		
Compound Name	: Parathion		
Scan Number	: 2052		
Retention Time (minutes)	: 14.047		
Quant Ion	: 109.00		
Area	: 2873		
On-column Amount (ng/ul)	: 0.1172		
Integration start scan	: 2048	Integration stop scan:	2062
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Ankita A. Patel on 08/14/2015 at 10:23.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

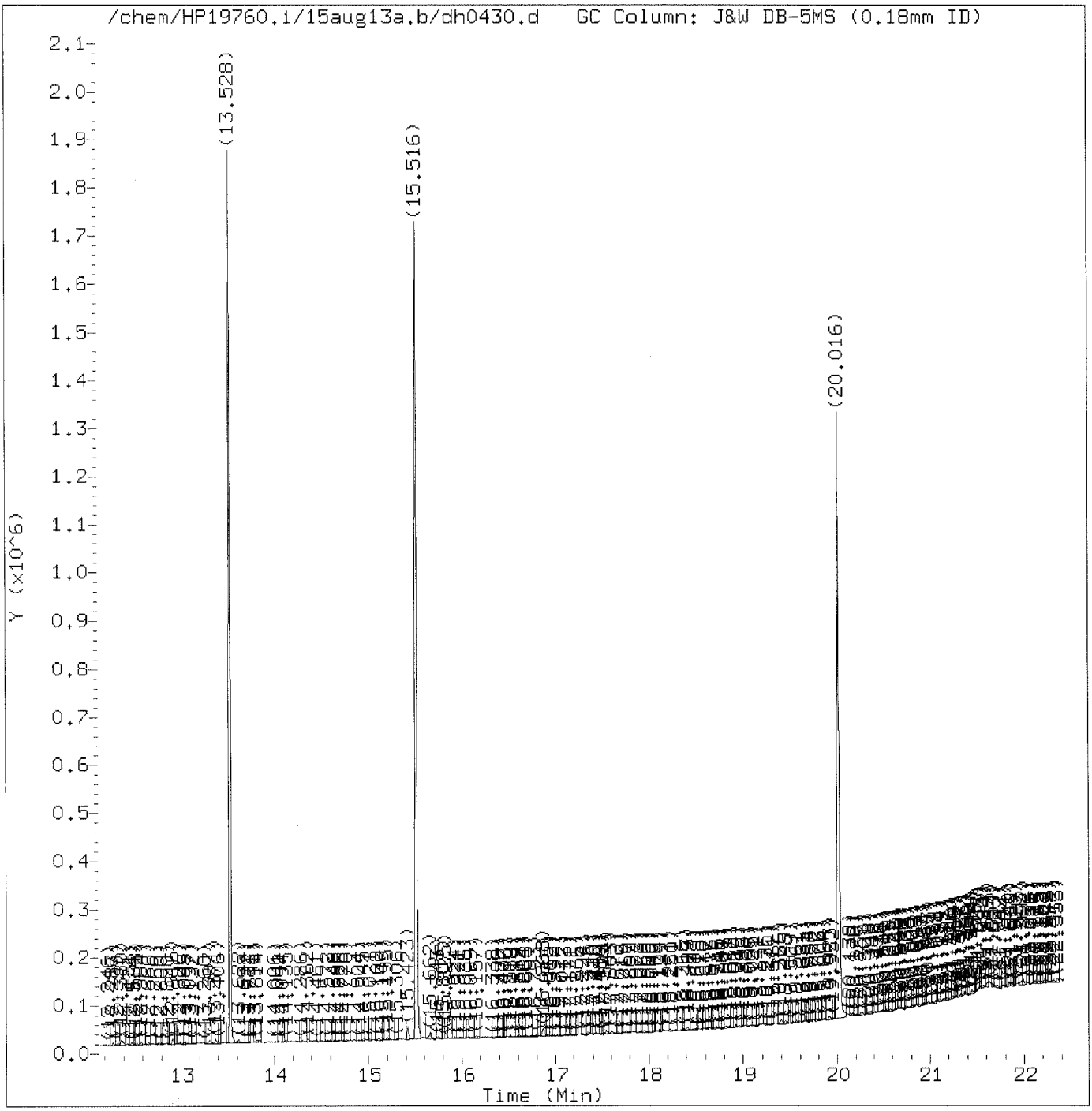
Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0430.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:40 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: 0.1mdlall1
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL2065

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:23.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0430.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:40 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: 0.1mdlall1
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL2065

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:23.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0430.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:40 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: 0.1mdlall1
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
7)$2-Fluorophenol	(1)	5.059	112	2415	0.043
12)$Phenol-d5	(1)	6.412	99	3257	0.045
13)$Phenol-d6	(1)	6.412	99	3257	0.045
19)*1,4-Dichlorobenzene-d4	(1)	6.936	152	191029	5.000
36)$Nitrobenzene-d5	(2)	7.752	82	3112	0.045
52)*Naphthalene-d8	(2)	8.866	136	732190	5.000
53) Naphthalene	(2)	8.901	128	3850	0.025
65) 2-Methylnaphthalene	(2)	10.002	142	2609	0.026
66) 1-Methylnaphthalene	(2)	10.160	142	2182	0.023
72)$2-Fluorobiphenyl	(3)	10.608	172	5746	0.051
90) Acenaphthylene	(3)	11.424	152	3053	0.021
92)*Acenaphthene-d10	(3)	11.646	164	411321	5.000
93) Acenaphthene	(3)	11.687	153	2464	0.026
103) Fluorene	(3)	12.374	166	2285	0.022
112)$2,4,6-Tribromophenol	(3)	12.666	330	347	0.024
122) Hexachlorobenzene	(4)	13.045	284	779	0.025
130)*Phenanthrene-d10	(4)	13.528	188	696998	5.000
131) Phenanthrene	(4)	13.558	178	4001	0.027
134) Anthracene	(4)	13.622	178	2926	0.020
142) Fluoranthene	(4)	15.201	202	3521	0.021
145)*Pyrene-d10	(5)	15.516	212	860863	5.000
146) Pyrene	(5)	15.545	202	5138	0.029
149)$Terphenyl-d14	(5)	15.825	244	6139	0.051
158) Benzo(a)anthracene	(5)	17.544	228	3070	0.019
161) Chrysene	(5)	17.609	228	3033	0.019
168) Benzo(b)fluoranthene	(6)	19.392	252	3194	0.020
170) Benzo(k)fluoranthene	(6)	19.445	252	3138	0.020
171) Benzo(a)pyrene	(6)	19.917	252	2749M	0.019
172)*Perylene-d12	(6)	20.016	264	695558	5.000
176) Indeno(1,2,3-cd)pyrene	(6)	21.607	276	3096	0.019
177) Dibenz(a,h)anthracene	(6)	21.654	278	2627	0.020
178) Benzo(g,h,i)perylene	(6)	21.998	276	2980	0.022

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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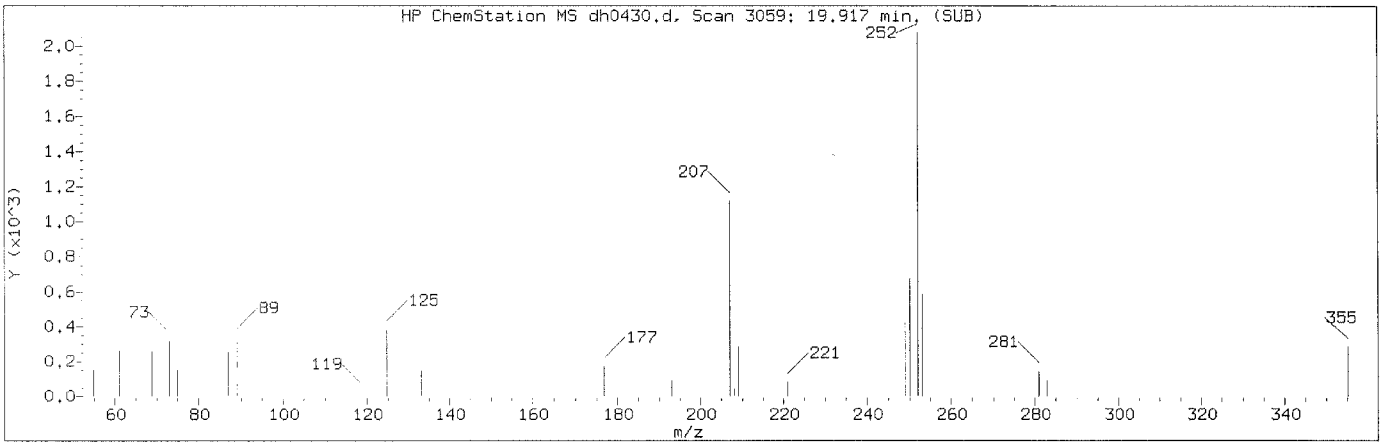
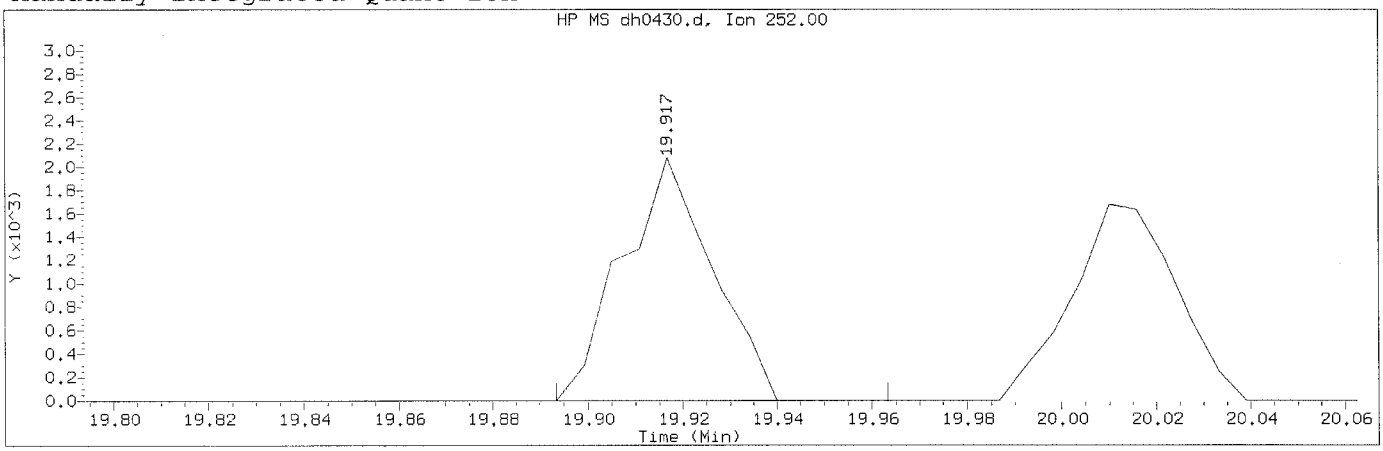
on 08/14/2015 at 10:23.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0430.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:40 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: 0.1mdlall1
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:22 aap07680

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL2065

Compound Number	: 171		
Compound Name	: Benzo(a)pyrene		
Scan Number	: 3059		
Retention Time (minutes)	: 19.917		
Quant Ion	: 252.00		
Area (flag)	: 2749M		
On-Column Amount (ng/ul)	: 0.0191		
Integration start scan	: 3054	Integration stop scan:	3066
Y at integration start	: 0	Y at integration end:	0

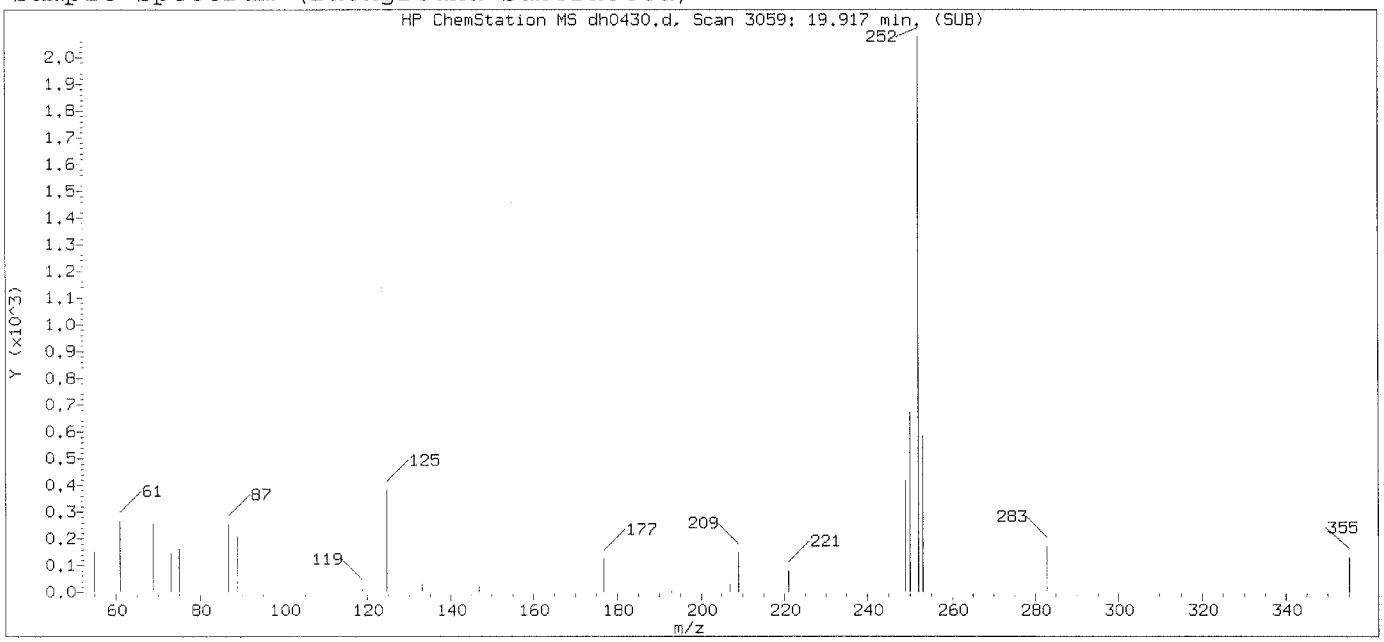
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel on 08/14/2015 at 10:23. Target 3.5 esignature user ID: aap07680

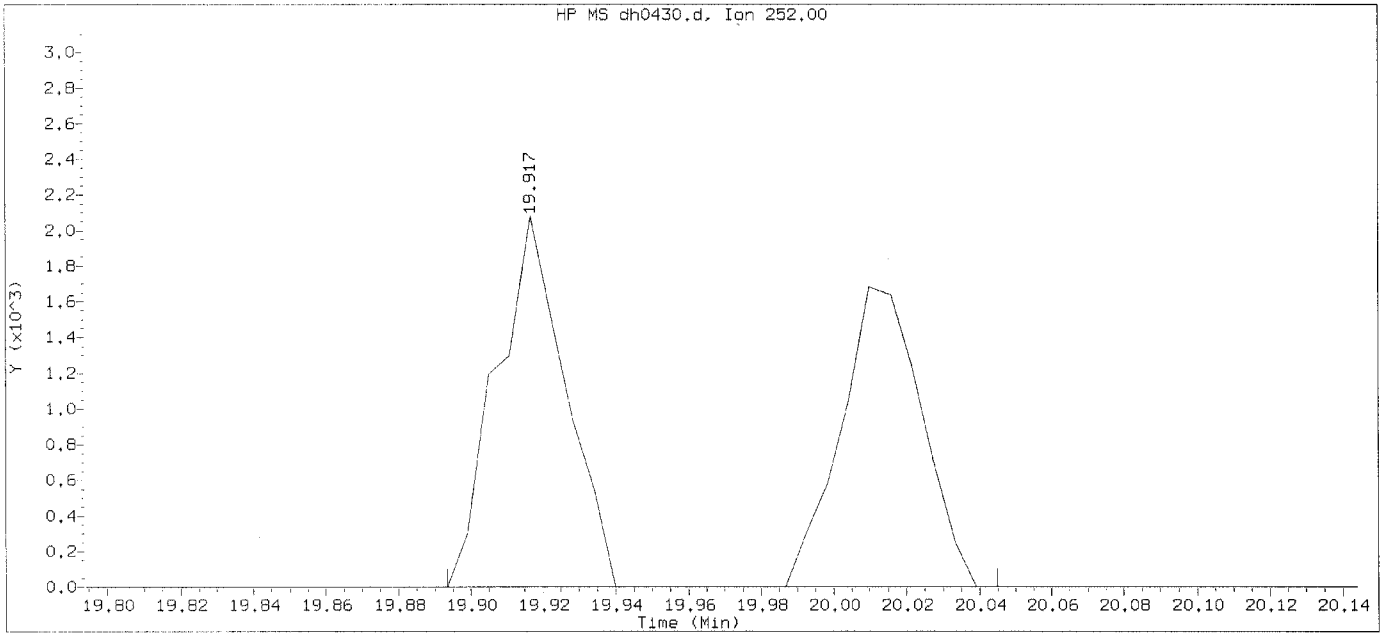
AUG 18 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0430.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 01:40 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: 0.1mdlall1
Calibration date and time: 14-AUG-2015 09:12
Date, time and analyst ID of latest file update: 14-Aug-2015 09:12 aap07680

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL2065

Compound Number	: 171		
Compound Name	: Benzo(a)pyrene		
Scan Number	: 3059		
Retention Time (minutes)	: 19.917		
Quant Ion	: 252.00		
Area	: 5336		
On-column Amount (ng/ul)	: 0.0370		
Integration start scan	: 3054	Integration stop scan:	3080
Y at integration start	: 0	Y at integration end:	0

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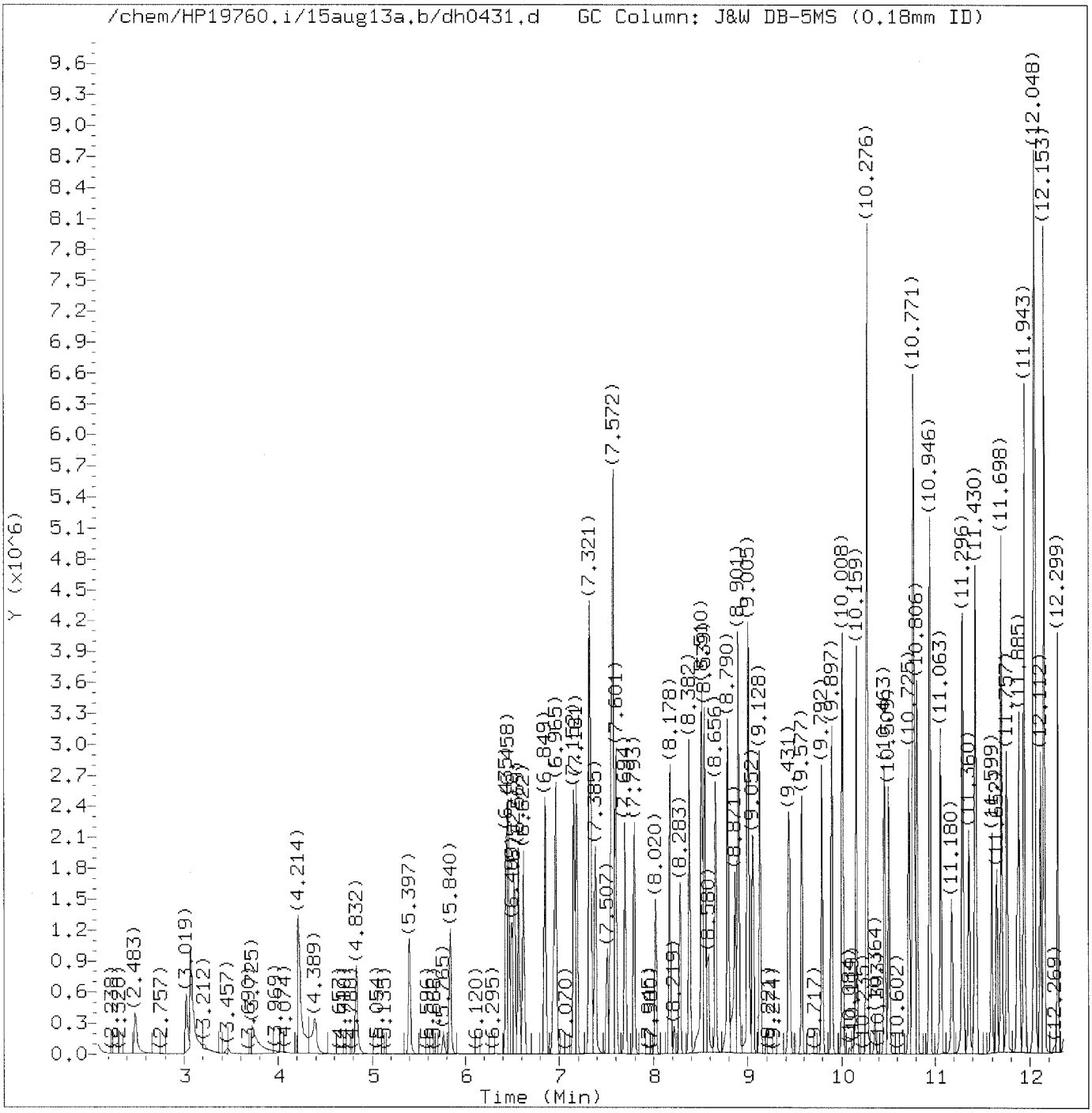
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0431.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 02:08 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newicval11-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:23 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVICV1465

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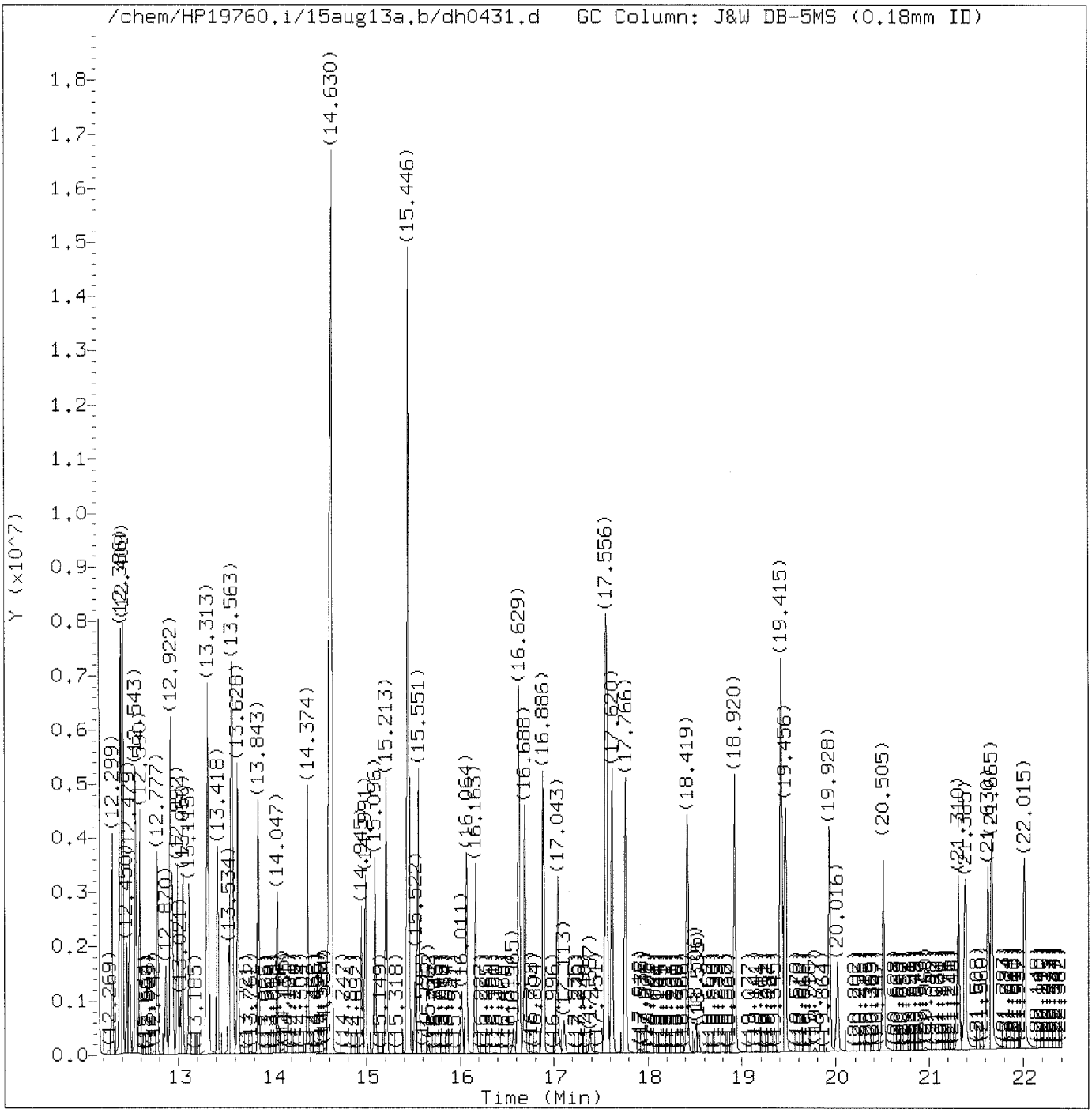
on 08/14/2015 at 10:24.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0431.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 02:08 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newicval11-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:23 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVICV1465

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:24.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0431.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 02:08 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newicval11-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:23 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVICV1465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.483	88	325884	13.447
2) N-Nitrosodimethylamine	(1)	3.019	74	570449	13.791
3) Pyridine	(1)	3.072	79	973529	13.453
4) 2-Picoline	(1)	4.214	93	971766	13.336
5) N-Nitrosomethylethylamine	(1)	4.389	88	388242	12.501
6) Methyl methanesulfonate	(1)	4.832	80	487259	13.167
8) N-Nitrosodiethylamine	(1)	5.397	102	377971	12.743
10) Ethyl methanesulfonate	(1)	5.840	109	382981	12.604
14) Phenol	(1)	6.435	94	1179694	13.130
15) Aniline	(1)	6.458	93	1373271	13.285
16) bis(2-Chloroethyl)ether	(1)	6.569	93	879655	13.100
17) 2-Chlorophenol	(1)	6.622	128	743826	13.100
18) 1,3-Dichlorobenzene	(1)	6.849	146	804463	13.117
19)*1,4-Dichlorobenzene-d4	(1)	6.936	152	199957	5.000
20) 1,4-Dichlorobenzene	(1)	6.965	146	819846	13.108
23) Benzyl alcohol	(1)	7.152	108	538570	13.749
24) 1,2-Dichlorobenzene	(1)	7.181	146	782269	13.260
25) Indene	(1)	7.321	115	1374030	14.313
26) 2-Methylphenol	(1)	7.333	108	738482	13.524
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.385	45	1307658	13.400
28) bis(2-Chloroisopropyl)ether	(1)	7.385	45	1307658	13.400
29) N-Nitrosopyrrolidine	(1)	7.507	100	400785	12.894
30) Acetophenone	(1)	7.548	105	1121247	13.593
33) 4-Methylphenol	(1)	7.566	108	818652	13.142
32) N-Nitrosomorpholine	(1)	7.572	56	541732	12.776
31) N-Nitroso-di-n-propylamine	(1)	7.572	70	676566	13.322
34) o-Toluidine	(1)	7.601	106	1255806	13.151
35) Hexachloroethane	(1)	7.694	117	351290	13.259
37) Nitrobenzene	(2)	7.793	77	981541	13.000
39) N-Nitrosopiperidine	(2)	8.020	114	353096	12.351
40) Isophorone	(2)	8.178	82	1751907	13.473
42) 2-Nitrophenol	(2)	8.283	139	393864	13.336
45) 2,4-Dimethylphenol	(2)	8.382	107	757541	12.529
46) O,O,O-triethylphosphorothioate	(2)	8.510	198	379397	12.677
48) bis(2-Chloroethoxy)methane	(2)	8.539	93	1027113	12.795
47) Benzoic acid	(2)	8.580	105	1140367	23.557
49) 2,4-Dichlorophenol	(2)	8.656	162	606733	13.181
51) 1,2,4-Trichlorobenzene	(2)	8.790	180	713329	13.107
52)*Naphthalene-d8	(2)	8.871	136	770677	5.000
53) Naphthalene	(2)	8.901	128	2133596	13.012

* = Compound is an internal standard.

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:24.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0431.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 02:08 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newicval11-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:23 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVICV1465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) 4-Chloroaniline	(2)	9.000	127	910917	12.588
56) 2,6-Dichlorophenol	(2)	9.011	162	575997	12.913
57) Hexachloropropene	(2)	9.058	213	500014	13.510
58) Hexachlorobutadiene	(2)	9.128	225	421205	13.165
60) Quinoline	(2)	9.431	129	1314367	12.847
62) N-Nitrosodi-n-butylamine	(2)	9.577	84	580913	11.526
63) 4-Chloro-3-methylphenol	(2)	9.792	107	675783	13.509
64) Safrole	(2)	9.897	162	526107	12.884
65) 2-Methylnaphthalene	(2)	10.008	142	1350588	12.559
66) 1-Methylnaphthalene	(2)	10.159	142	1265000	12.897
67) Hexachlorocyclopentadiene	(3)	10.276	237	942375	26.438
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.276	216	706700	12.810
70) 2,4,6-Trichlorophenol	(3)	10.463	196	469202	13.347
71) 2,4,5-Trichlorophenol	(3)	10.509	196	492234	13.329
74) Isosafrole	(3)	10.725	162	567166	13.922
75) 1,1'-Biphenyl	(3)	10.766	154	1654897	13.421
76) 2-Chloronaphthalene	(3)	10.777	162	1410440	13.673
83) 2-Nitroaniline	(3)	10.777	138	429928	13.835
77) 1-Chloronaphthalene	(3)	10.806	162	1188447	12.198
82) Diphenyl ether	(3)	10.946	170	873964	12.536
84) 1,4-Naphthoquinone	(3)	11.063	158	677870	16.076
85) 1,4-Dinitrobenzene	(3)	11.180	168	233600	13.392
86) Dimethylphthalate	(3)	11.290	163	1511897	12.942
87) 1,3-Dinitrobenzene	(3)	11.296	168	250297	13.116
88) 2,6-Dinitrotoluene	(3)	11.360	165	354144	13.830
90) Acenaphthylene	(3)	11.430	152	2070575	13.390
91) 3-Nitroaniline	(3)	11.599	138	376018	13.720
92) *Acenaphthene-d10	(3)	11.652	164	444482	5.000
93) Acenaphthene	(3)	11.698	153	1359555	13.273
94) 2,4-Dinitrophenol	(3)	11.757	184	457314	27.303
96) 4-Nitrophenol	(3)	11.867	109	259175	13.526
95) Pentachlorobenzene	(3)	11.885	250	582236	12.325
97) Dibenzofuran	(3)	11.943	168	1825333	12.736
98) 2,4-Dinitrotoluene	(3)	11.949	165	484013	14.076
99) 1-Naphthylamine	(3)	12.048	143	2700567	26.251
100) 2,3,4,6-Tetrachlorophenol	(3)	12.112	232	396347	13.446
101) 2-Naphthylamine	(3)	12.153	143	2745066	26.709
102) Diethylphthalate	(3)	12.299	149	1458107	12.790
103) Fluorene	(3)	12.380	166	1494221	13.344
104) Thionazin	(3)	12.386	107	284370	12.913

* = Compound is an internal standard.

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:24.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0431.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 02:08 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newicval11-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:23 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVICV1465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
106) 5-Nitro-o-toluidine	(3)	12.404	152	422415	13.298
107) 4-Nitroaniline	(3)	12.409	138	372792M	13.055
105) 4-Chlorophenyl-phenylether	(3)	12.409	204	752883	13.182
108) 4,6-Dinitro-2-methylphenol	(4)	12.456	198	300680	13.478
109) N-Nitrosodiphenylamine	(4)	12.543	169	1246961	12.952
111) 1,2-Diphenylhydrazine	(4)	12.590	77	1890433	13.382
115) Tetraethyldithiopyrophosphate	(4)	12.777	97	271958	12.411
116) 1,3,5-Trinitrobenzene	(4)	12.870	213	190268	13.162
117) Diallate (peak 1)	(4)	12.916	86	560536	9.169
118) Phorate	(4)	12.922	75	1125260	12.517
119) Phenacetin	(4)	12.940	108	805738	12.893
120) 4-Bromophenyl-phenylether	(4)	12.992	248	439577	12.906
121) Diallate (peak 2)	(4)	13.021	86	176812	3.046
122) Hexachlorobenzene	(4)	13.050	284	455874	12.632
123) Dimethoate	(4)	13.115	87	730820	12.837
125) Pentachlorophenol	(4)	13.301	266	339642	14.299
127) 4-Aminobiphenyl	(4)	13.313	169	1633109	14.297
126) Pentachloronitrobenzene	(4)	13.319	237	202696	12.660
129) Pronamide	(4)	13.418	173	698849	13.140
130)*Phenanthrene-d10	(4)	13.534	188	793980	5.000
133) Dinoseb	(4)	13.558	211	443899	12.428
131) Phenanthrene	(4)	13.563	178	2196133	12.856
134) Anthracene	(4)	13.628	178	2266145	13.587
135) Carbazole	(4)	13.843	167	2084353	13.134
136) Methyl parathion	(4)	14.047	109	569885	13.157
137) Di-n-butylphthalate	(4)	14.374	149	2709132	13.462
138) Parathion	(4)	14.601	109	376784	13.995
139) 4-Nitroquinoline-1-oxide	(4)	14.630	190	3881008	193.601
140) Isodrin	(4)	14.991	193	267752	12.598
142) Fluoranthene	(4)	15.213	202	2579635	13.546
144) Benzidine	(5)	15.446	184	8217738	62.872
145)*Pyrene-d10	(5)	15.522	212	1022703	5.000
146) Pyrene	(5)	15.551	202	2642806	12.528
150) p-Dimethylaminoazobenzene	(5)	16.064	225	558814	13.621
151) Chlorobenzilate	(5)	16.163	139	807654	12.998
152) 3,3'-Dimethylbenzidine	(5)	16.629	212	3439750	25.196
153) Butylbenzylphthalate	(5)	16.688	149	1270368	13.469
156) 2-Acetylaminofluorene	(5)	17.043	181	1054477	13.392
159) 3,3'-Dichlorobenzidine	(5)	17.550	252	970456	12.838
158) Benzo(a)anthracene	(5)	17.556	228	2691994	13.881

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:24.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0431.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 02:08 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: newicval11-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:23 aap07680

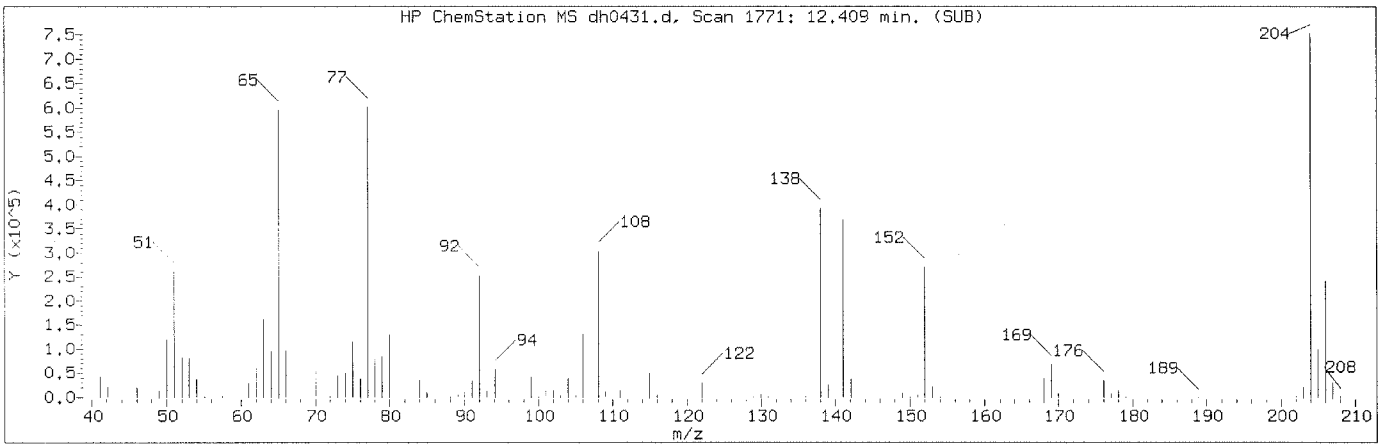
Sample Name: SSTD12.5 Lab Sample ID: RVICV1465

	Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
160)	4,4'-Methylenebis(2-Chloroanil	(5)	17.568	231	520446	12.460
161)	Chrysene	(5)	17.620	228	2618650	14.074
162)	bis(2-Ethylhexyl)phthalate	(5)	17.766	149	1868913	13.536
165)	6-Methylchrysene	(5)	18.419	242	1817299	13.282
166)	Di-n-octylphthalate	(6)	18.920	149	3336835	14.323
168)	Benzo(b)fluoranthene	(6)	19.410	252	2755728	14.253
169)	7,12-Dimethylbenz[a]anthracene	(6)	19.415	256	1186661	13.784
170)	Benzo(k)fluoranthene	(6)	19.462	252	2687531	13.955
171)	Benzo(a)pyrene	(6)	19.934	252	2443253	13.744
172)	*Perylene-d12	(6)	20.016	264	861027	5.000
173)	3-Methylcholanthrene	(6)	20.505	268	1291978	14.852
176)	Indeno(1,2,3-cd)pyrene	(6)	21.630	276	2751960	13.876
177)	Dibenz(a,h)anthracene	(6)	21.671	278	2396893	14.465
178)	Benzo(g,h,i)perylene	(6)	22.015	276	2365863	13.924
179)	Diallate TRANS/CIS	(4)	23.156	86	737348	12.215

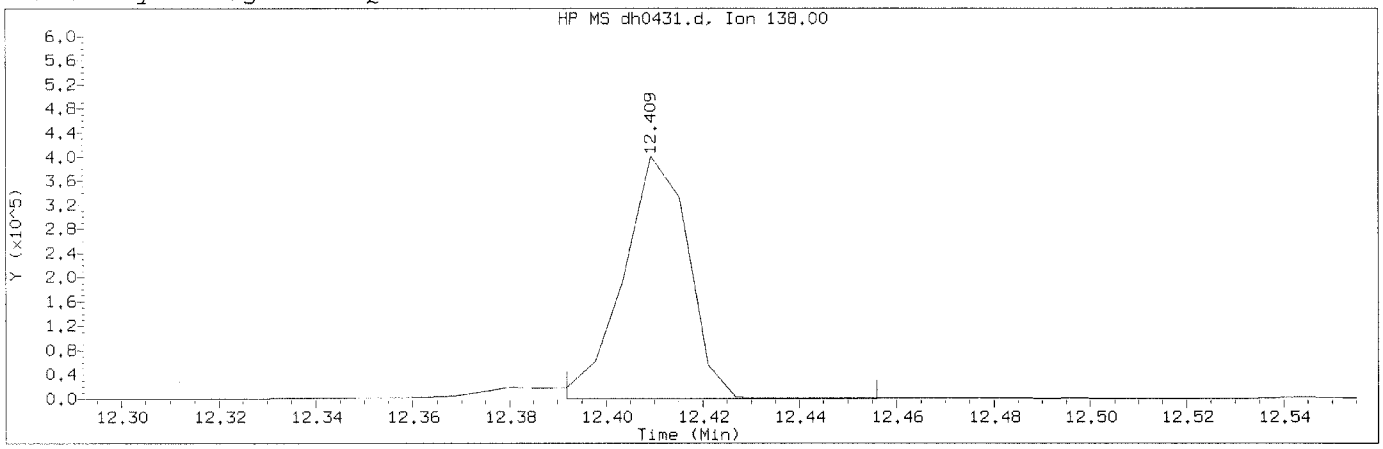
* = Compound is an internal standard.

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:24.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15aug13a.b/dh0431.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 02:08 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:newicval11-d
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:23 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVICV1465

Compound Number	: 107		
Compound Name	: 4-Nitroaniline		
Scan Number	: 1771		
Retention Time (minutes)	: 12.409		
Quant Ion	: 138.00		
Area (flag)	: 372792M		
On-Column Amount (ng/ul)	: 13.0547		
Integration start scan	: 1767	Integration stop scan:	1778
Y at integration start	: 160	Y at integration end:	395

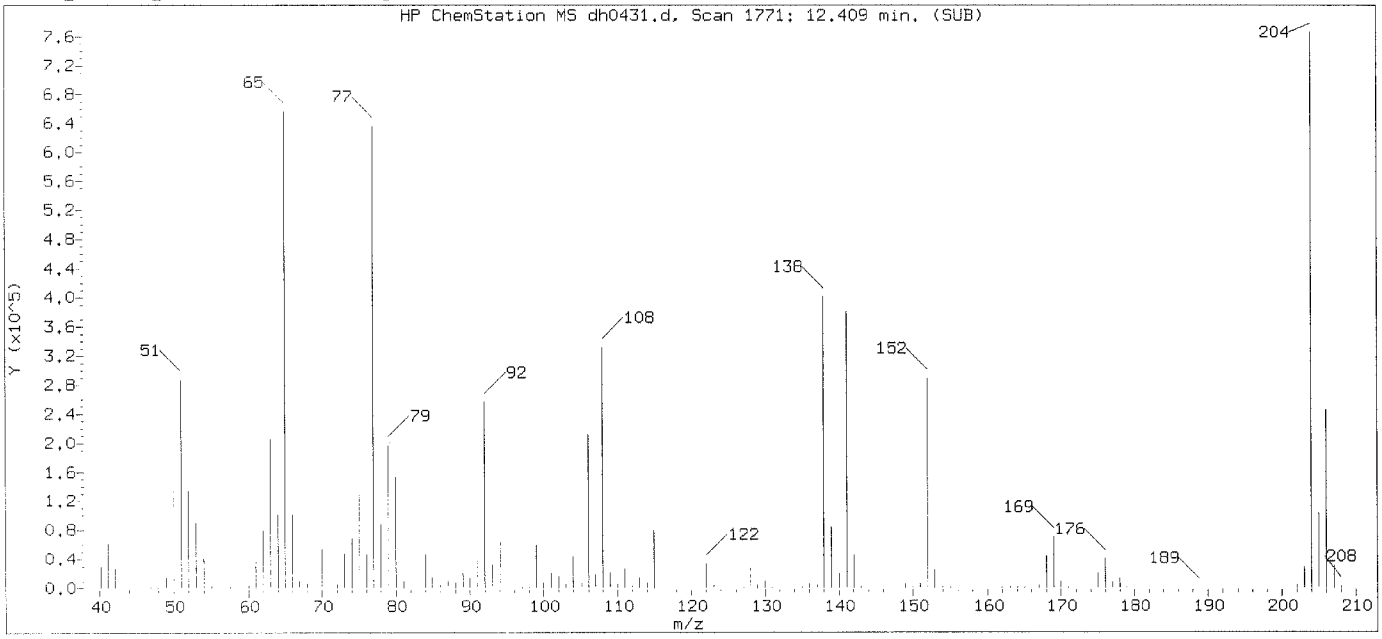
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Ankita A. Patel on 08/14/2015 at 10:24. Target 3.5 signature used ID: aap07680

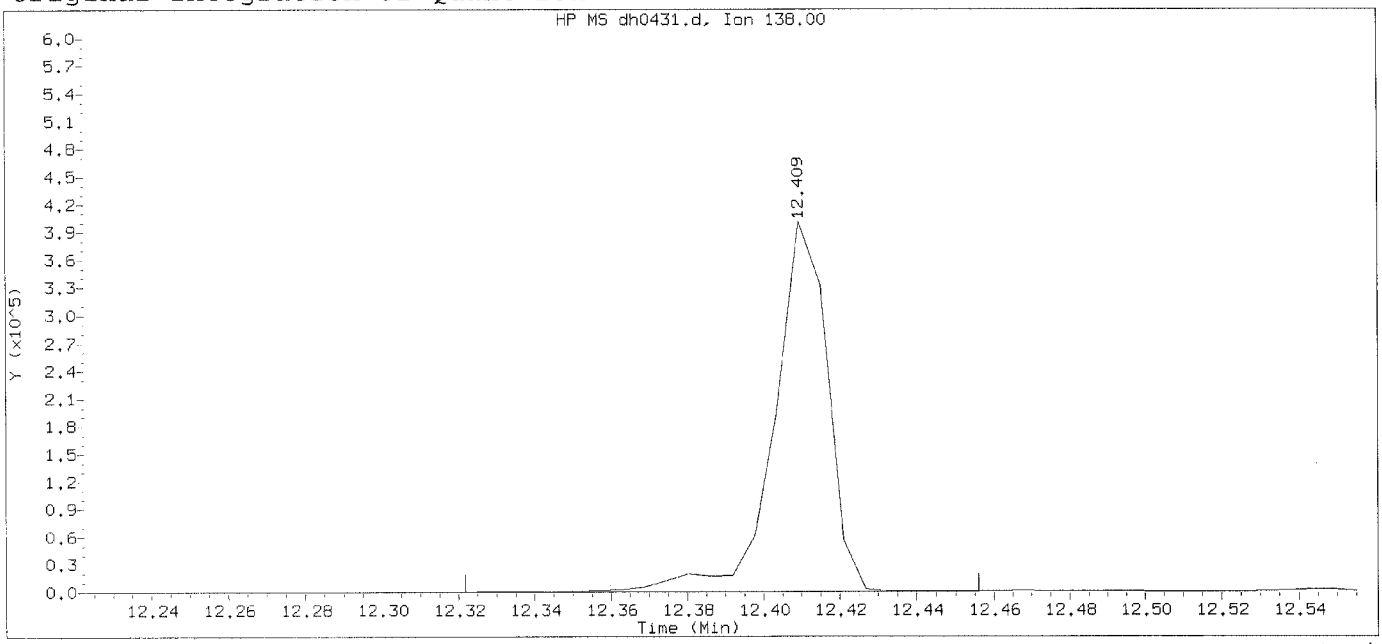
AUG 18 2015

GC/MS audit/management approval:_____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



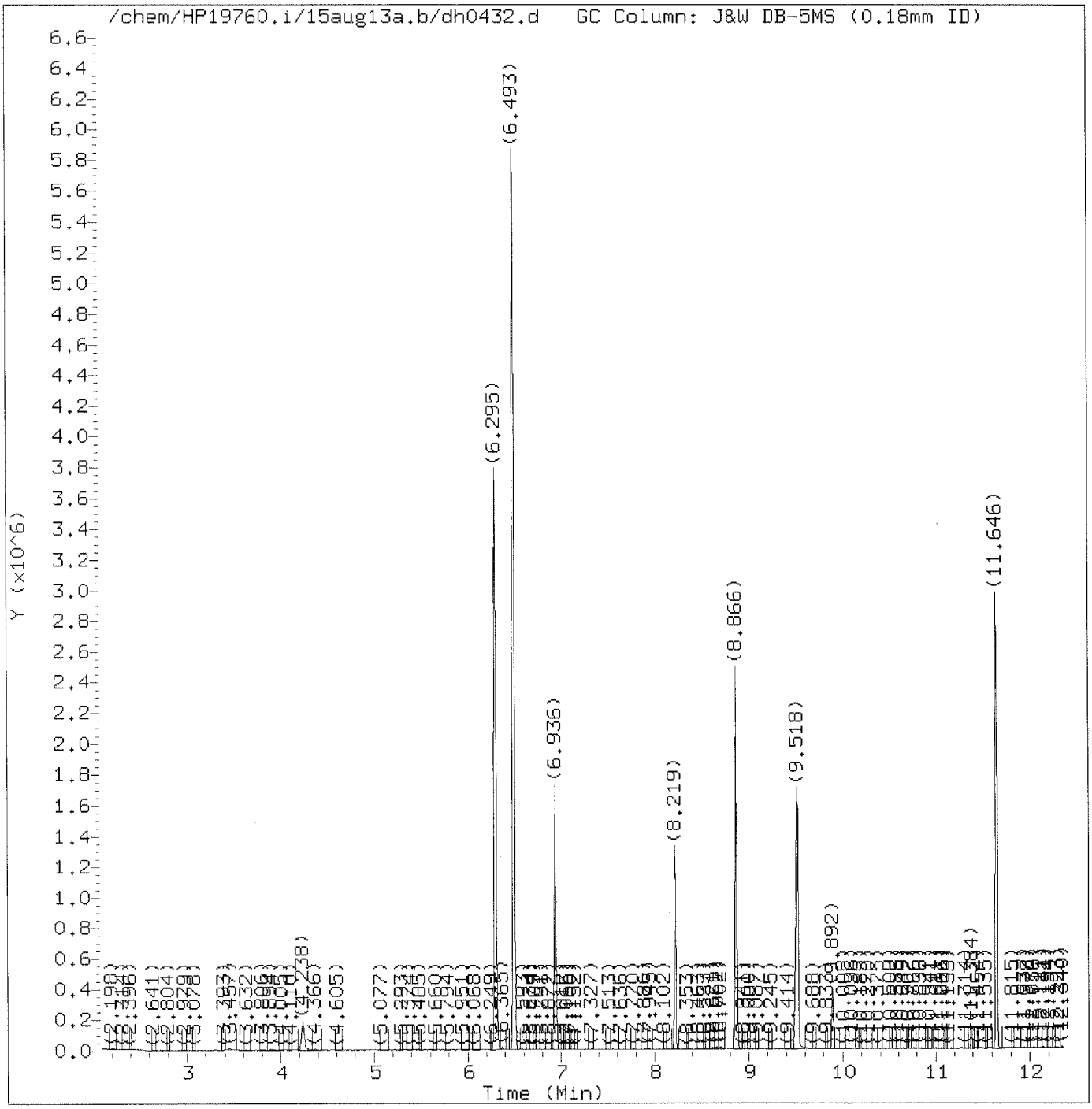
Data File: /chem/HP19760.i/15aug13a.b/dh0431.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 02:08 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used:newicval11-d
Calibration date and time: 14-AUG-2015 09:12
Date, time and analyst ID of latest file update: 14-Aug-2015 09:12 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVICV1465

Compound Number	: 107		
Compound Name	: 4-Nitroaniline		
Scan Number	: 1771		
Retention Time (minutes)	: 12.409		
Quant Ion	: 138.00		
Area	: 395192		
On-column Amount (ng/ul)	: 15.8657		
Integration start scan	: 1755	Integration stop scan:	1778
Y at integration start	: 0	Y at integration end:	98

Digitally signed by Ankita A. Patel on 08/14/2015 at 10:24.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

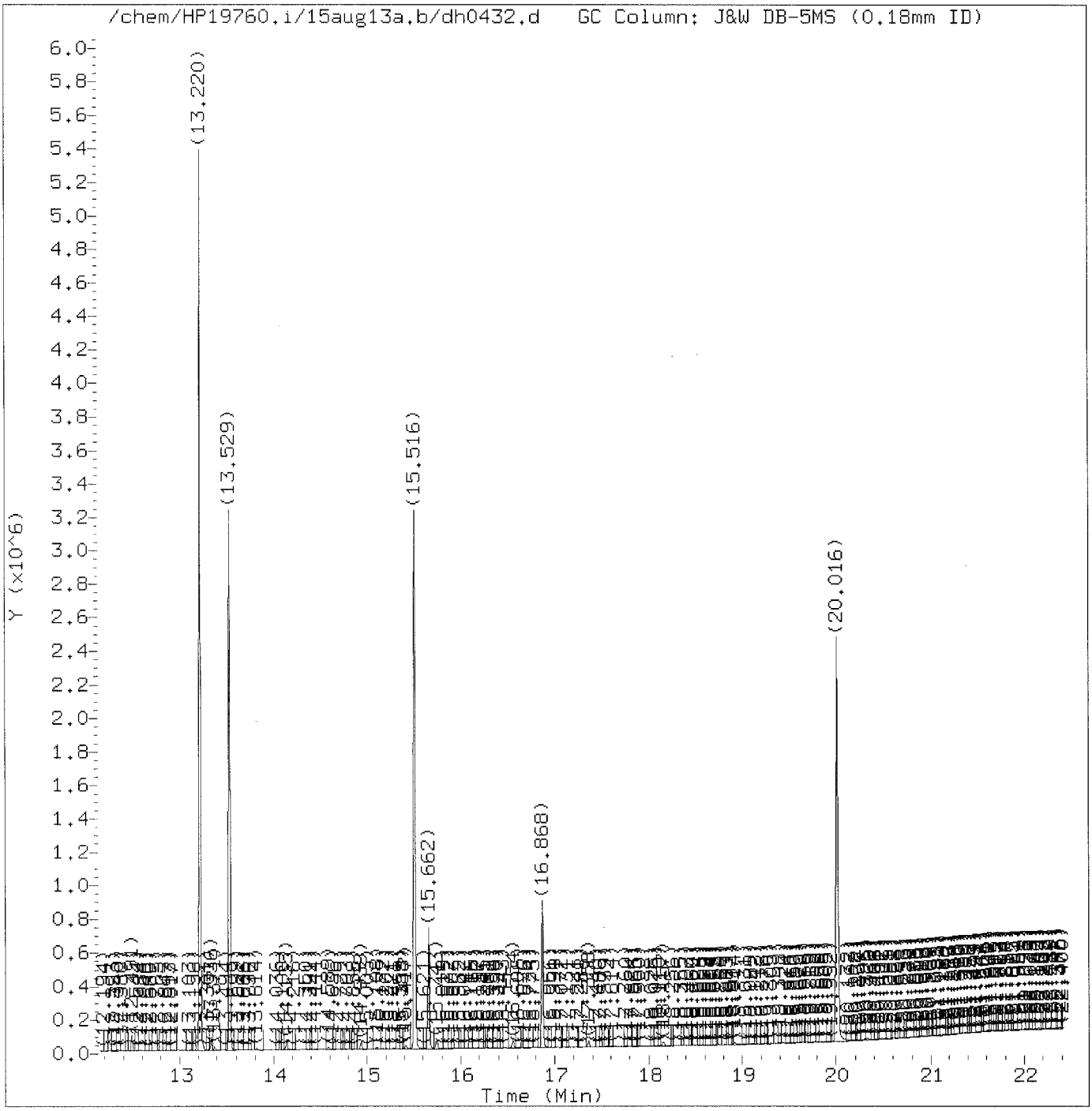
Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0432.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 02:36 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: basicvall1
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:34 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV1045

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:35.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0432.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 02:36 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: basicval11
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:34 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV1045

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:35.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15aug13a.b/dh0432.d Instrument ID: HP19760.i
Injection date and time: 14-AUG-2015 02:36 Analyst ID: ceb05247

Method used: /chem/HP19760.i/15aug13a.b/rv8270c.m Sublist used: basicvall1
Calibration date and time: 14-AUG-2015 10:06
Date, time and analyst ID of latest file update: 14-Aug-2015 10:34 aap07680

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV1045

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11) Benzaldehyde	(1)	6.295	77	1279648	13.659
19)*1,4-Dichlorobenzene-d4	(1)	6.936	152	342652	5.000
52)*Naphthalene-d8	(2)	8.866	136	1289274	5.000
61) Caprolactam	(2)	9.518	113	317866	12.523
92)*Acenaphthene-d10	(3)	11.646	164	709711	5.000
124) Atrazine	(4)	13.220	200	659420	13.287
130)*Phenanthrene-d10	(4)	13.529	188	1255547	5.000
145)*Pyrene-d10	(5)	15.516	212	1601055	5.000
172)*Perylene-d12	(6)	20.016	264	1289830	5.000

* = Compound is an internal standard.

Digitally signed by Ankita A. Patel
on 08/14/2015 at 10:35.
Target 3.5 esignature user ID: aap07680

Data File: /chem/HP19760.i/15sep29.b/di0820.d

Page 1

Date : 29-SEP-2015 08:52

Client ID: DFTPP

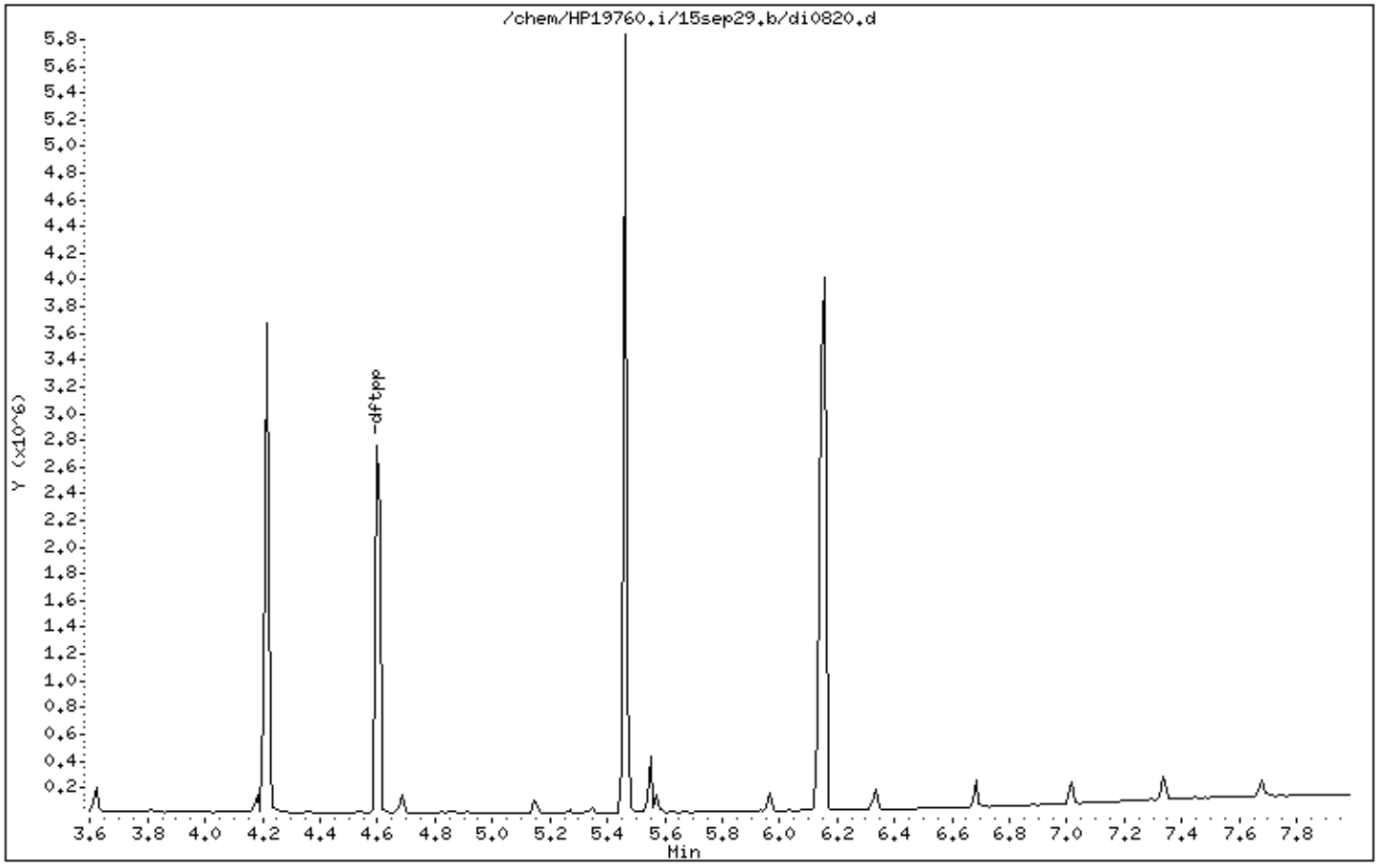
Instrument: HP19760.i

Sample Info: DFTPP;DFTPP2435;1;3;DFTPP;

Operator: aap07680

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Ankita A. Patel on 09/29/2015 at 10:44.
Target 3.5 esignature user ID: aap07680

Data File: /chem/HP19760.i/15sep29.b/di0820.d

Date : 29-SEP-2015 08:52

Client ID: DFTPP

Instrument: HP19760.i

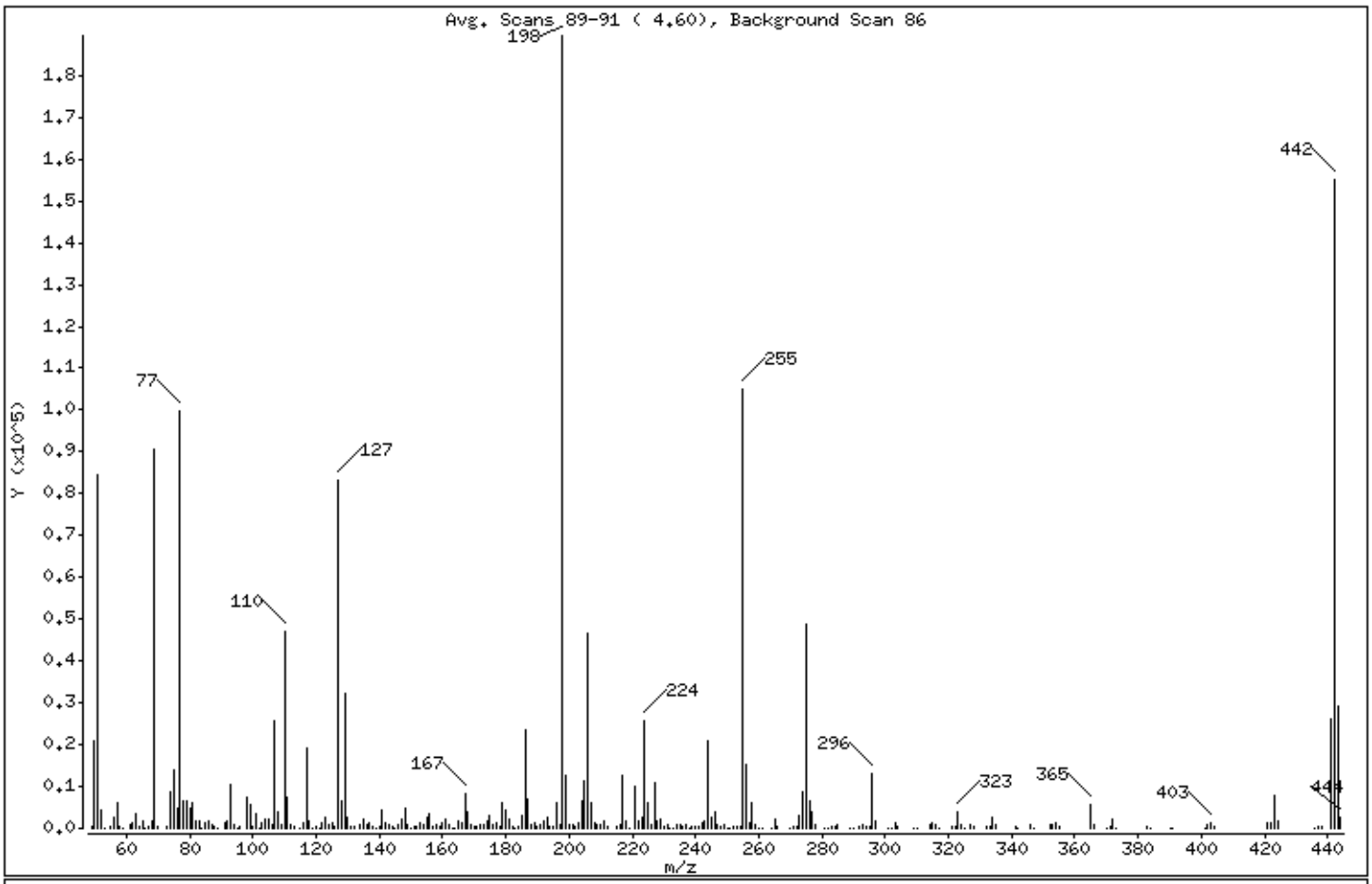
Sample Info: DFTPP;DFTPP2435;1;3;DFTPP;

Operator: aap07680

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	44.65
68	Less than 2.00% of mass 69	0.85 (1.77)
69	Mass 69 relative abundance	47.91
70	Less than 2.00% of mass 69	0.22 (0.45)
127	40.00 - 60.00% of mass 198	43.83
197	Less than 1.00% of mass 198	0.40
199	5.00 - 9.00% of mass 198	6.62
275	10.00 - 30.00% of mass 198	25.79
365	Greater than 1.00% of mass 198	2.88
441	Present, but less than mass 443	13.74
442	40.00 - 99.99% of mass 198	81.79
443	17.00 - 23.00% of mass 442	15.48 (18.92)

Digitally signed by Ankita A. Patel on 09/29/2015 at 10:44.
Target 3.5 esignature user ID: aap07680

Date : 29-SEP-2015 08:52

Client ID: DFTPP Instrument: HP19760.i

Sample Info: DFTPP;DFTPP2435;1;3;DFTPP;

Operator: aap07680

Column phase: DB-5MS Column diameter: 0.18

Data File: di0820.d
Spectrum: Avg. Scans 89-91 (4.60), Background Scan 86
Location of Maximum: 198.00
Number of points: 281

m/z	Y	m/z	Y	m/z	Y	m/z	Y
49.00	519	127.00	83080	199.00	12549	278.00	732
50.00	20776	128.00	6443	200.00	1009	281.00	135
51.00	84632	129.00	32288	201.00	1054	282.00	208
52.00	4204	130.00	2688	202.00	267	283.00	538
53.00	213	131.00	565	203.00	1258	284.00	308
55.00	372	132.00	343	204.00	6494	285.00	701
56.00	2515	134.00	826	205.00	11332	289.00	94
57.00	5994	135.00	2221	206.00	46400	290.00	85
58.00	381	136.00	898	207.00	6224	292.00	224
59.00	186	137.00	1225	208.00	1406	293.00	903
61.00	1059	138.00	343	209.00	676	294.00	242
62.00	1232	139.00	150	210.00	706	295.00	388
63.00	3395	140.00	389	211.00	1797	296.00	12892
64.00	545	141.00	4156	212.00	262	297.00	1722
65.00	1771	142.00	1195	215.00	650	301.00	216
66.00	120	143.00	895	216.00	1043	302.00	170
67.00	416	144.00	231	217.00	12445	303.00	1387
68.00	1604	145.00	181	218.00	1730	304.00	456
69.00	90800	146.00	820	219.00	169	309.00	106
70.00	411	147.00	2073	221.00	9858	310.00	130
73.00	623	148.00	4830	222.00	1838	314.00	680
74.00	8626	149.00	1055	223.00	2825	315.00	1297
75.00	13882	150.00	206	224.00	25880	316.00	813
76.00	4599	151.00	519	225.00	6229	317.00	109
77.00	99656	152.00	351	226.00	791	321.00	300
78.00	6657	153.00	1312	227.00	10708	322.00	357
79.00	6579	154.00	1063	228.00	1535	323.00	4000
80.00	4777	155.00	2443	229.00	2214	324.00	731
81.00	6105	156.00	3477	230.00	322	325.00	92
82.00	1918	157.00	644	231.00	1028	327.00	866
83.00	1740	158.00	797	232.00	99	328.00	456
84.00	47	159.00	648	233.00	89	332.00	328
85.00	1110	160.00	1216	234.00	822	333.00	362
86.00	1799	161.00	1991	235.00	706	334.00	2671
87.00	822	162.00	713	236.00	422	335.00	729

Digitally signed by Ankita A. Patel on 09/29/2015 at 10:44.
Target 3.5 esignature user ID: aap07680

Date : 29-SEP-2015 08:52

Client ID: DFTPP Instrument: HP19760.i

Sample Info: DFTPP;DFTPP2435;1;3;DFTPP;

Operator: aap07680

Column phase: DB-5MS Column diameter: 0.18

Data File: di0820.d
Spectrum: Avg. Scans 89-91 (4.60), Background Scan 86
Location of Maximum: 198.00
Number of points: 281

m/z	Y	m/z	Y	m/z	Y	m/z	Y
88.00	255	163.00	89	237.00	812	341.00	615
89.00	171	164.00	147	238.00	90	342.00	92
91.00	1135	165.00	1649	239.00	394	346.00	853
92.00	1661	166.00	1164	240.00	313	347.00	118
93.00	10298	167.00	8167	241.00	646	352.00	1045
94.00	744	168.00	4064	242.00	1386	353.00	825
95.00	173	169.00	929	243.00	1685	354.00	1227
96.00	350	170.00	307	244.00	21048	355.00	237
98.00	7480	171.00	328	245.00	2597	365.00	5451
99.00	5732	172.00	720	246.00	3785	366.00	738
100.00	470	173.00	925	247.00	847	370.00	89
101.00	3451	174.00	1722	248.00	218	371.00	298
102.00	84	175.00	3164	249.00	776	372.00	2205
103.00	1118	176.00	846	250.00	107	373.00	210
104.00	2106	177.00	1456	251.00	138	383.00	555
105.00	2197	178.00	536	252.00	256	384.00	149
106.00	741	179.00	6301	253.00	631	390.00	127
107.00	25704	180.00	4272	254.00	579	391.00	91
108.00	3869	181.00	2091	255.00	104952	401.00	175
109.00	719	182.00	454	256.00	15130	402.00	873
110.00	47056	183.00	210	257.00	1238	403.00	1236
111.00	7325	184.00	467	258.00	5994	404.00	377
112.00	1045	185.00	3265	259.00	999	421.00	1149
113.00	276	186.00	23664	260.00	106	422.00	1117
115.00	206	187.00	6932	261.00	127	423.00	7639
116.00	1374	188.00	741	264.00	110	424.00	1704
117.00	19144	189.00	1506	265.00	2305	436.00	87
118.00	1532	190.00	276	266.00	413	437.00	330
119.00	204	191.00	904	270.00	117	438.00	268
120.00	396	192.00	1933	271.00	313	441.00	26032
121.00	112	193.00	2433	272.00	375	442.00	155008
122.00	1463	194.00	547	273.00	3159	443.00	29328
123.00	2601	195.00	408	274.00	8712	444.00	2526
124.00	1011	196.00	6001	275.00	48888		
125.00	1179	197.00	749	276.00	6383		

Digitally signed by Ankita A. Patel on 09/29/2015 at 10:44.
Target 3.5 esignature user ID: aap07680

Date : 29-SEP-2015 08:52

Client ID: DFTPP Instrument: HP19760.i

Sample Info: DFTPP;DFTPP2435;1;3;DFTPP;

Operator: aap07680

Column phase: DB-5MS Column diameter: 0.18

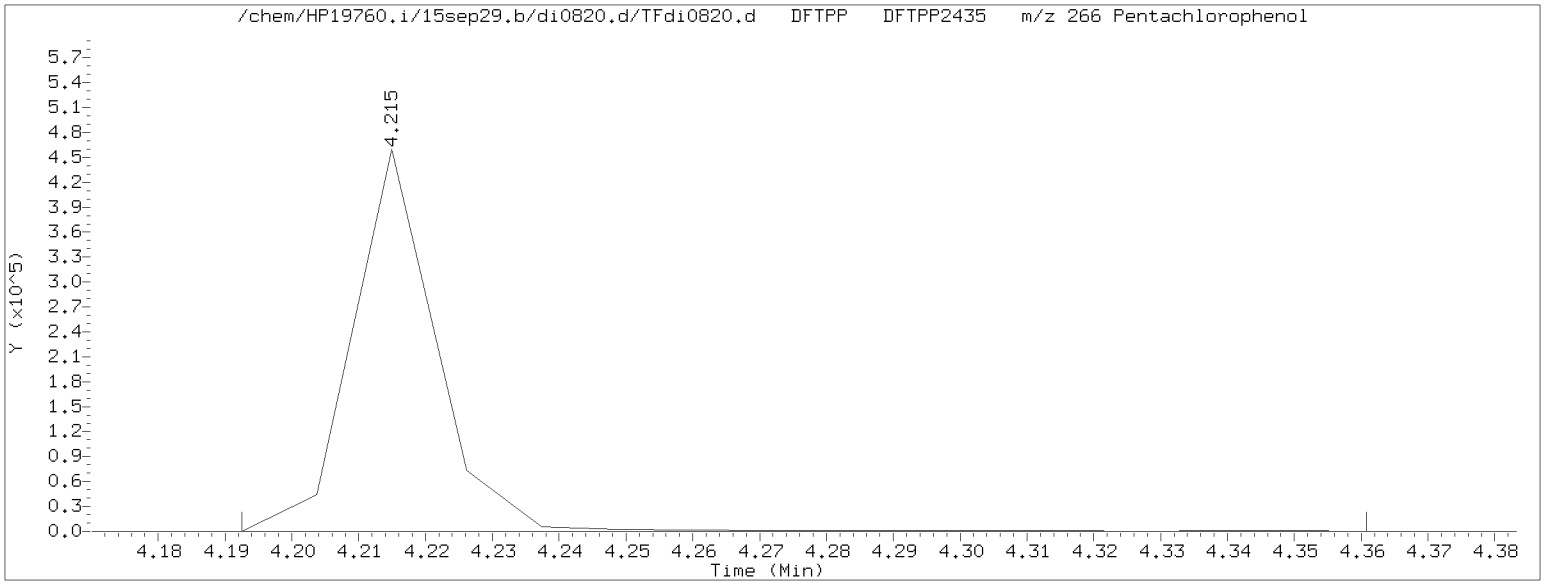
Data File: di0820.d
Spectrum: Avg. Scans 89-91 (4.60), Background Scan 86
Location of Maximum: 198.00
Number of points: 281

m/z	Y	m/z	Y	m/z	Y	m/z	Y
126.00	245	198.00	189504	277.00	4031		

Digitally signed by Ankita A. Patel on 09/29/2015 at 10:44.
Target 3.5 esignature user ID: aap07680

Assessment of GC Column Performance and Injection Port Inertness for

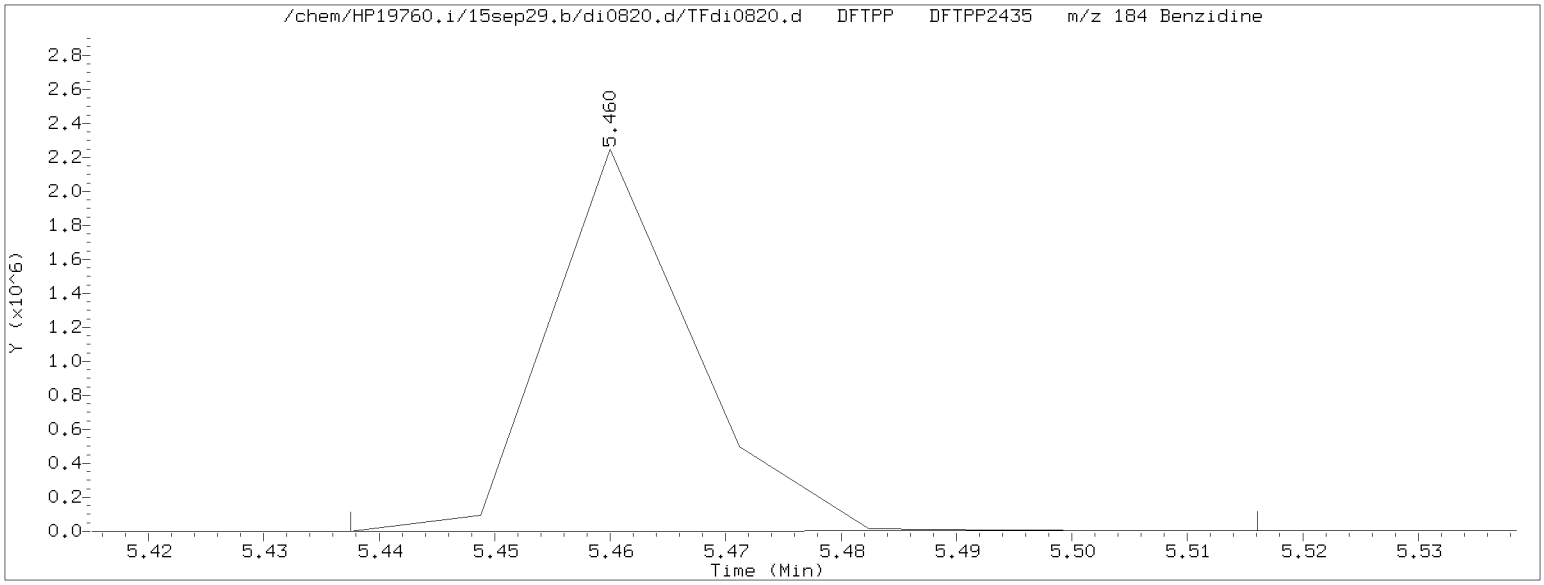
Instrument ID: HP19760.i Injection Date: 29-SEP-2015 08:52 Operator: aap07680



Pentachlorophenol EICP peak height = 460032 EICP peak height at 10% = 46003 Pentachlorophenol EICP area = 397716

Pentachlorophenol EICP peak apex (min.) = 4.215
RT at 10% of front half of EICP (min.) = 4.204 'Front' peak width (min.) = 0.0111500000
RT at 10% of back half of EICP (min.) = 4.231 'Tailing' peak width (min.) = 0.0156833333

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0156833333}{0.0111500000} = 1.407$$



Benzidine EICP peak height = 2248890 EICP peak height at 10% = 224889 Benzidine EICP area = 1925511

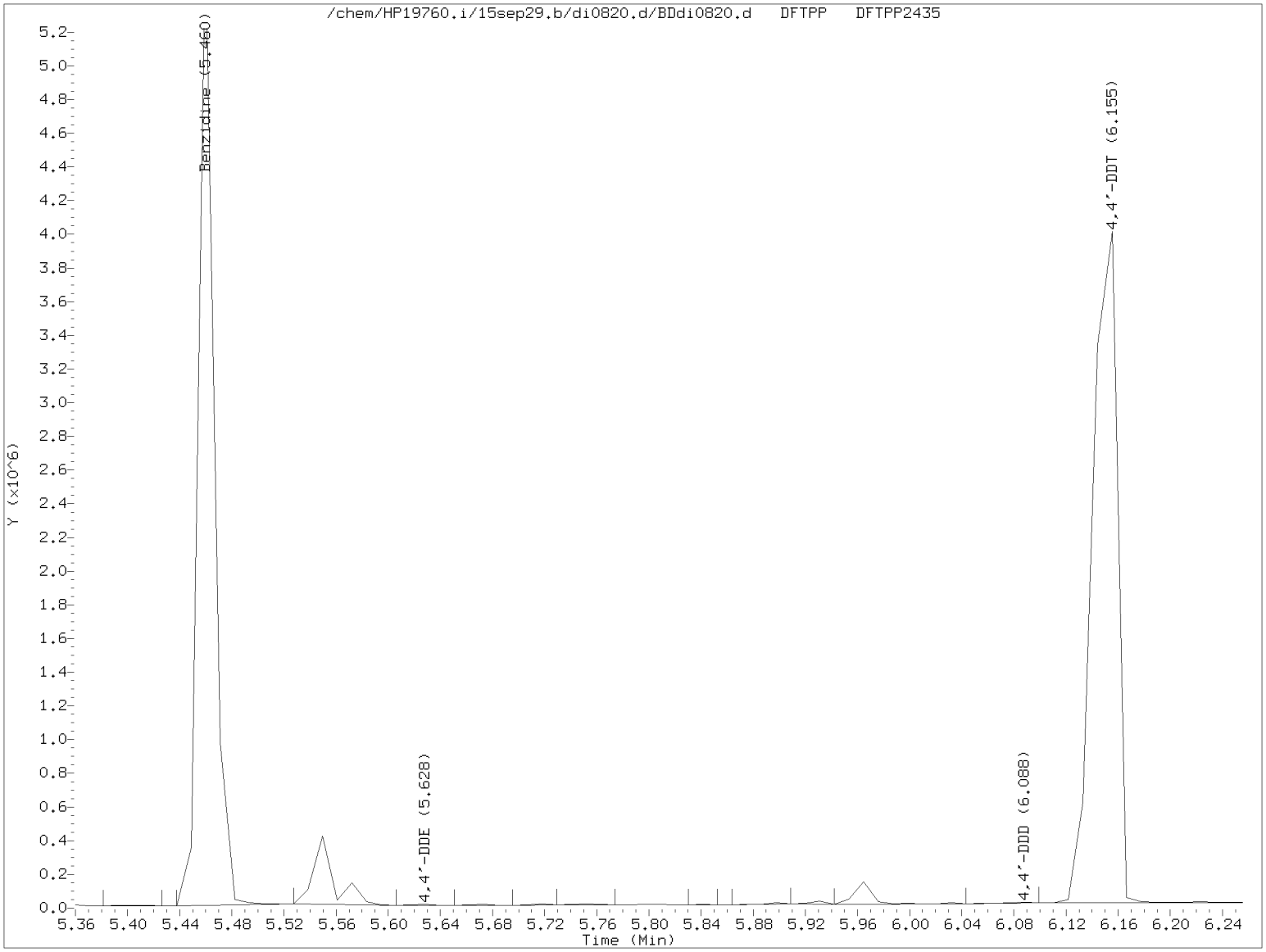
Benzidine EICP peak apex (min.) = 5.460
RT at 10% of front half of EICP (min.) = 5.449 'Front' peak width (min.) = 0.0105166667
RT at 10% of back half of EICP (min.) = 5.478 'Tailing' peak width (min.) = 0.0175500000

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0175500000}{0.0105166667} = 1.669$$

Secondary review performed and digitally signed by Matthew E. Barton on 09/30/2015 at 10:38. Parallax ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

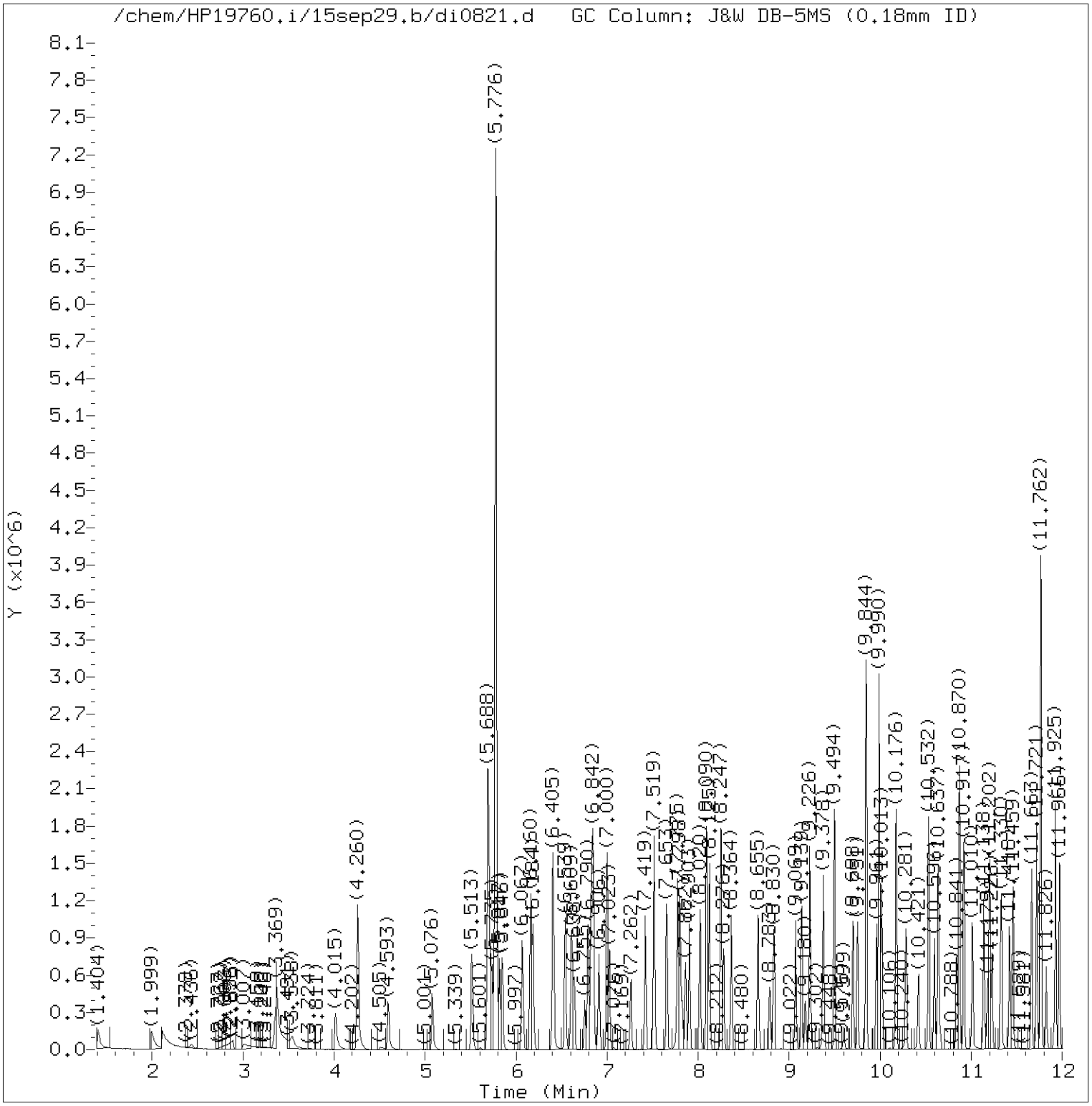
Instrument ID: HP19760.i Injection Date: 29-SEP-2015 08:52 Operator: aap07680



$$\%\ 4,4'\text{-DDT breakdown} = \frac{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area}}{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area} + 4,4'\text{-DDT TIC area}} \times 100$$

$$\%\ 4,4'\text{-DDT breakdown} = \frac{5190 + 5064}{5190 + 5064 + 5363774} \times 100 = 0.2$$

Secondary review performed and digitally signed by Matthew E. Barton on 09/30/2015 at 10:38. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

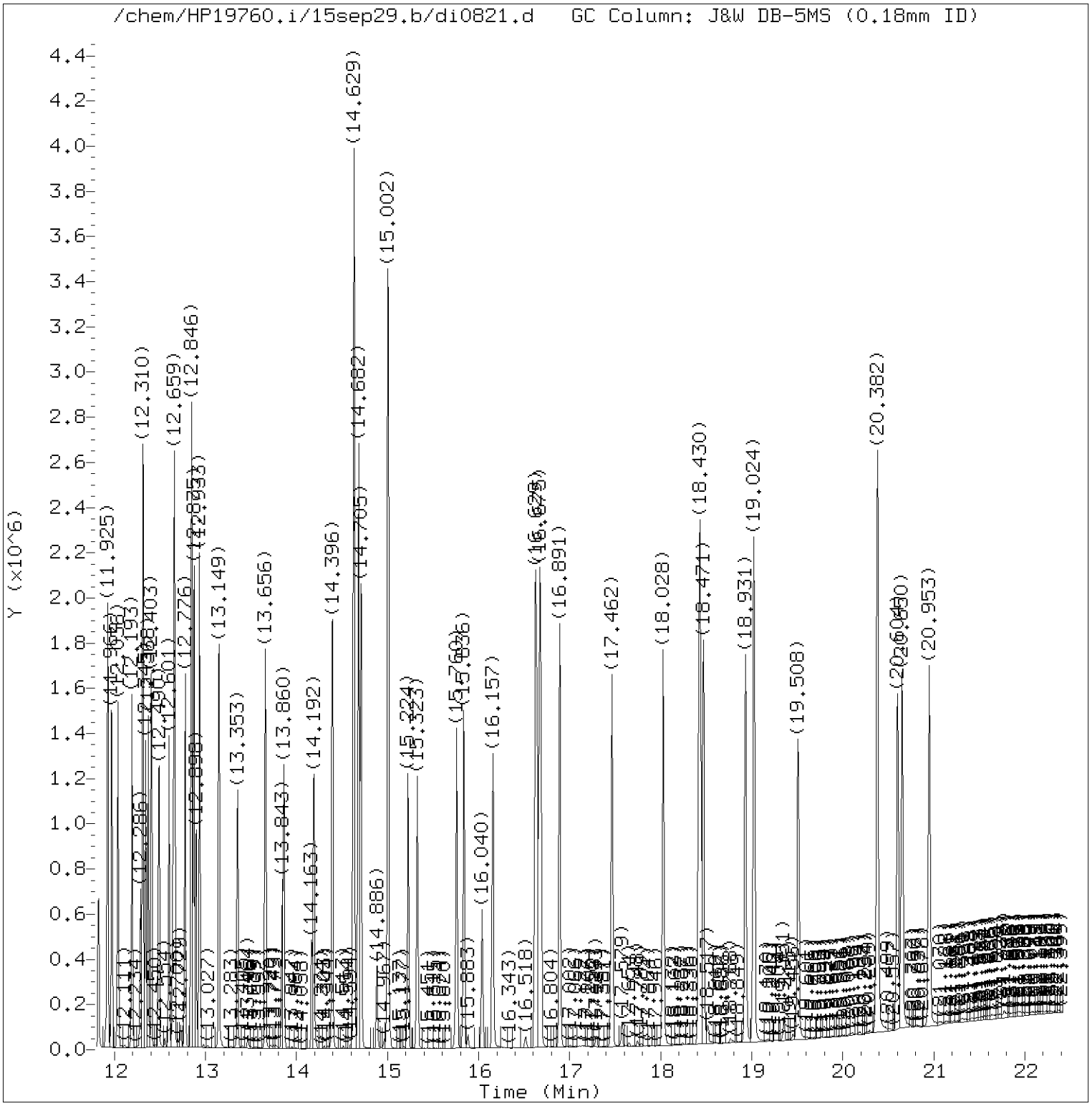
Target Revision 3.5

Data File: /chem/HP19760.i/15sep29.b/di0821.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 09:06 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 29-SEP-2015 09:33
Date, time and analyst ID of latest file update: 29-Sep-2015 09:33 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Digitally signed by Ankita A. Patel
on 09/29/2015 at 10:44.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15sep29.b/di0821.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 09:06 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 29-SEP-2015 09:33
Date, time and analyst ID of latest file update: 29-Sep-2015 09:33 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Digitally signed by Ankita A. Patel
on 09/29/2015 at 10:44.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15sep29.b/di0821.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 09:06 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 29-SEP-2015 09:33
Date, time and analyst ID of latest file update: 29-Sep-2015 09:33 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	1.410	88	130276	4.187
2) N-Nitrosodimethylamine	(1)	1.999	74	207555	3.908
3) Pyridine	(1)	2.115	79	300466	3.234
4) 2-Picoline	(1)	3.369	93	329397	3.521
5) N-Nitrosomethylethylamine	(1)	3.543	88	152244	3.818
6) Methyl methanesulfonate	(1)	4.015	80	176693	3.719
7)$2-Fluorophenol	(1)	4.260	112	573279	7.571
8) N-Nitrosodiethylamine	(1)	4.593	102	139643	3.667
10) Ethyl methanesulfonate	(1)	5.076	109	142315	3.648
11) Benzaldehyde	(1)	5.513	77	268480	3.825
15) Aniline	(1)	5.688	93	498462	3.756
13)$Phenol-d6	(1)	5.694	99	740797	7.693
12)$Phenol-d5	(1)	5.694	99	740797	7.693
14) Phenol	(1)	5.712	94	451329	3.913
16) bis(2-Chloroethyl)ether	(1)	5.817	93	327589	3.800
17) 2-Chlorophenol	(1)	5.846	128	273135	3.747
18) 1,3-Dichlorobenzene	(1)	6.067	146	289575	3.678
19)*1,4-Dichlorobenzene-d4	(1)	6.160	152	256715	5.000
20) 1,4-Dichlorobenzene	(1)	6.184	146	298053	3.712
24) 1,2-Dichlorobenzene	(1)	6.399	146	279330	3.688
23) Benzyl alcohol	(1)	6.405	108	167963	3.340
25) Indene	(1)	6.539	115	438361	3.557
26) 2-Methylphenol	(1)	6.609	108	260742	3.719
28) bis(2-Chloroisopropyl)ether	(1)	6.638	45	450722	3.598
27) 2,2'-oxybis(1-Chloropropane)	(1)	6.638	45	450722	3.598
29) N-Nitrosopyrrolidine	(1)	6.755	100	152023	3.809
30) Acetophenone	(1)	6.790	105	382561	3.612
32) N-Nitrosomorpholine	(1)	6.825	56	202594	3.721
31) N-Nitroso-di-n-propylamine	(1)	6.825	70	238887	3.664
34) o-Toluidine	(1)	6.837	106	453046	3.695
33) 4-Methylphenol	(1)	6.848	108	299119	3.740
35) Hexachloroethane	(1)	6.906	117	124231	3.652
36)$Nitrobenzene-d5	(2)	7.000	82	689175	7.657
37) Nitrobenzene	(2)	7.029	77	356124	3.792
39) N-Nitrosopiperidine	(2)	7.262	114	133131	3.744
40) Isophorone	(2)	7.419	82	603851	3.734
42) 2-Nitrophenol	(2)	7.519	139	140374	3.822
45) 2,4-Dimethylphenol	(2)	7.653	107	284955	3.789
46) O,O,O-triethylphosphorothioate	(2)	7.775	198	141143	3.792
48) bis(2-Chloroethoxy)methane	(2)	7.798	93	384930M	3.856

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Ankita A. Patel
on 09/29/2015 at 10:44.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15sep29.b/di0821.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 09:06 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 29-SEP-2015 09:33
Date, time and analyst ID of latest file update: 29-Sep-2015 09:33 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
47) Benzoic acid	(2)	7.827	105	341826	7.257
49) 2,4-Dichlorophenol	(2)	7.903	162	217227	3.795
51) 1,2,4-Trichlorobenzene	(2)	8.020	180	260532	3.849
52)*Naphthalene-d8	(2)	8.090	136	958476	5.000
53) Naphthalene	(2)	8.125	128	748406	3.670
55) 4-Chloroaniline	(2)	8.247	127	320938	3.566
56) 2,6-Dichlorophenol	(2)	8.253	162	211310	3.809
57) Hexachloropropene	(2)	8.276	213	180090	3.913
58) Hexachlorobutadiene	(2)	8.364	225	155109	3.898
60) Quinoline	(2)	8.655	129	471303	3.704
61) Caprolactam	(2)	8.789	113	72701	3.853
62) N-Nitrosodi-n-butylamine	(2)	8.830	84	220959	3.525
63) 4-Chloro-3-methylphenol	(2)	9.069	107	240684	3.869
64) Safrole	(2)	9.139	162	192791	3.796
65) 2-Methylnaphthalene	(2)	9.226	142	506345	3.786
66) 1-Methylnaphthalene	(2)	9.378	142	453324	3.716
68) 1,2,4,5-Tetrachlorobenzene	(3)	9.494	216	268622	3.843
67) Hexachlorocyclopentadiene	(3)	9.500	237	151633	3.358
69) cis-Isosafrole	(3)	9.605	162	33777	0.600
70) 2,4,6-Trichlorophenol	(3)	9.704	196	171877	3.860
71) 2,4,5-Trichlorophenol	(3)	9.751	196	185351	3.962
72)$2-Fluorobiphenyl	(3)	9.844	172	1150553	7.443
74) Isosafrole	(3)	9.961	162	190352	3.688
73) trans-Isosafrole	(3)	9.961	162	190352	3.061
75) 1,1'-Biphenyl	(3)	9.990	154	570828	3.654
76) 2-Chloronaphthalene	(3)	9.990	162	477126	3.651
77) 1-Chloronaphthalene	(3)	10.019	162	464085	3.760
82) Diphenyl ether	(3)	10.171	170	323671	3.665
83) 2-Nitroaniline	(3)	10.182	138	151545	3.849
84) 1,4-Naphthoquinone	(3)	10.281	158	190906	3.574
85) 1,4-Dinitrobenzene	(3)	10.421	168	82809	3.747
87) 1,3-Dinitrobenzene	(3)	10.532	168	91175	3.771
86) Dimethylphthalate	(3)	10.532	163	561630	3.795
88) 2,6-Dinitrotoluene	(3)	10.596	165	130585	4.025
90) Acenaphthylene	(3)	10.637	152	741716	3.786
91) 3-Nitroaniline	(3)	10.841	138	128929	3.714
92)*Acenaphthene-d10	(3)	10.870	164	563091	5.000
93) Acenaphthene	(3)	10.917	153	485635	3.743
94) 2,4-Dinitrophenol	(3)	11.016	184	164483	7.752
95) Pentachlorobenzene	(3)	11.138	250	233368	3.899

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Ankita A. Patel
on 09/29/2015 at 10:44.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15sep29.b/di0821.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 09:06 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 29-SEP-2015 09:33
Date, time and analyst ID of latest file update: 29-Sep-2015 09:33 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
96) 4-Nitrophenol	(3)	11.179	109	79830	3.289
97) Dibenzofuran	(3)	11.202	168	694410	3.825
98) 2,4-Dinitrotoluene	(3)	11.231	165	171829	3.944
99) 1-Naphthylamine	(3)	11.330	143	467343	3.586
100) 2,3,4,6-Tetrachlorophenol	(3)	11.418	232	145394	3.894
101) 2-Naphthylamine	(3)	11.459	143	472085	3.626
102) Diethylphthalate	(3)	11.663	149	527169	3.650
103) Fluorene	(3)	11.721	166	547566	3.860
106) 5-Nitro-o-toluidine	(3)	11.762	152	144754	3.597
104) Thionazin	(3)	11.762	107	103994	3.728
105) 4-Chlorophenyl-phenylether	(3)	11.768	204	286421	3.959
107) 4-Nitroaniline	(3)	11.768	138	135417	3.743
108) 4,6-Dinitro-2-methylphenol	(4)	11.826	198	109273	3.849
109) N-Nitrosodiphenylamine	(4)	11.925	169	458818	3.745
110) NDPA as diphenylamine	(4)	11.925	169	458818	3.745
111) 1,2-Diphenylhydrazine	(4)	11.966	77	673389	3.746
112)$2,4,6-Tribromophenol	(3)	12.042	330	160493	8.059
115) Tetraethyldithiopyrophosphate	(4)	12.193	97	102987	3.693
116) 1,3,5-Trinitrobenzene	(4)	12.286	213	68385	3.718
117) Diallate (peak 1)	(4)	12.310	86	237780	3.057
118) Phorate	(4)	12.315	75	427515	3.737
119) Phenacetin	(4)	12.345	108	287668	3.617
120) 4-Bromophenyl-phenylether	(4)	12.368	248	166312	3.837
121) Diallate (peak 2)	(4)	12.403	86	46419	0.628
122) Hexachlorobenzene	(4)	12.409	284	174188	3.793
123) Dimethoate	(4)	12.490	87	265345	3.663
124) Atrazine	(4)	12.601	200	148642	3.722
125) Pentachlorophenol	(4)	12.642	266	108087	3.576
126) Pentachloronitrobenzene	(4)	12.654	237	79731	3.913
127) 4-Aminobiphenyl	(4)	12.659	169	540390	3.718
129) Pronamide	(4)	12.776	173	251221	3.712
130)*Phenanthrene-d10	(4)	12.846	188	1010368	5.000
131) Phenanthrene	(4)	12.875	178	803110	3.694
133) Dinoseb	(4)	12.898	211	159543	3.963
134) Anthracene	(4)	12.933	178	800785	3.773
135) Carbazole	(4)	13.149	167	752604	3.727
136) Methyl parathion	(4)	13.353	109	196791	3.570
137) Di-n-butylphthalate	(4)	13.656	149	918914	3.588
139) 4-Nitroquinoline-1-oxide	(4)	13.843	190	68744	2.695
138) Parathion	(4)	13.860	109	128364	3.747

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$ = Compound is a surrogate standard.

Digitally signed by Ankita A. Patel
on 09/29/2015 at 10:44.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15sep29.b/di0821.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 09:06 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 29-SEP-2015 09:33
Date, time and analyst ID of latest file update: 29-Sep-2015 09:33 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	14.192	193	100188	3.704
142) Fluoranthene	(4)	14.396	202	939955	3.879
144) Benzidine	(5)	14.629	184	1794522	10.825
145)*Pyrene-d10	(5)	14.682	212	1297152	5.000
146) Pyrene	(5)	14.711	202	977993	3.655
149)$Terphenyl-d14	(5)	15.002	244	1400673	7.707
150) p-Dimethylaminoazobenzene	(5)	15.224	225	178348	3.639
151) Chlorobenzilate	(5)	15.323	139	279060	3.541
152) 3,3'-Dimethylbenzidine	(5)	15.760	212	631090	3.645
153) Butylbenzylphthalate	(5)	15.836	149	425811	3.559
156) 2-Acetylaminofluorene	(5)	16.157	181	366428	3.669
158) Benzo(a)anthracene	(5)	16.623	228	962033	3.911
159) 3,3'-Dichlorobenzidine	(5)	16.640	252	369689	3.856
160) 4,4'-Methylenebis(2-Chloroanil	(5)	16.664	231	202513	3.823
161) Chrysene	(5)	16.681	228	920807	3.902
162) bis(2-Ethylhexyl)phthalate	(5)	16.891	149	638958	3.649
165) 6-Methylchrysene	(5)	17.462	242	678191	3.908
166) Di-n-octylphthalate	(6)	18.028	149	1106284	3.555
168) Benzo(b)fluoranthene	(6)	18.424	252	987243	3.822
169) 7,12-Dimethylbenz[a]anthracene	(6)	18.436	256	401535	3.492
170) Benzo(k)fluoranthene	(6)	18.471	252	992346	3.857
171) Benzo(a)pyrene	(6)	18.931	252	926851	3.903
172)*Perylene-d12	(6)	19.024	264	1150209	5.000
173) 3-Methylcholanthrene	(6)	19.508	268	451560	3.886
176) Indeno(1,2,3-cd)pyrene	(6)	20.604	276	1102973	4.163
177) Dibenz(a,h)anthracene	(6)	20.650	278	898035	4.057
178) Benzo(g,h,i)perylene	(6)	20.953	276	965669	4.255
179) Diallate TRANS/CIS	(4)			284199	3.685
182) 2,4_2,6-Dinitrotoluenes	(3)			302414	7.970

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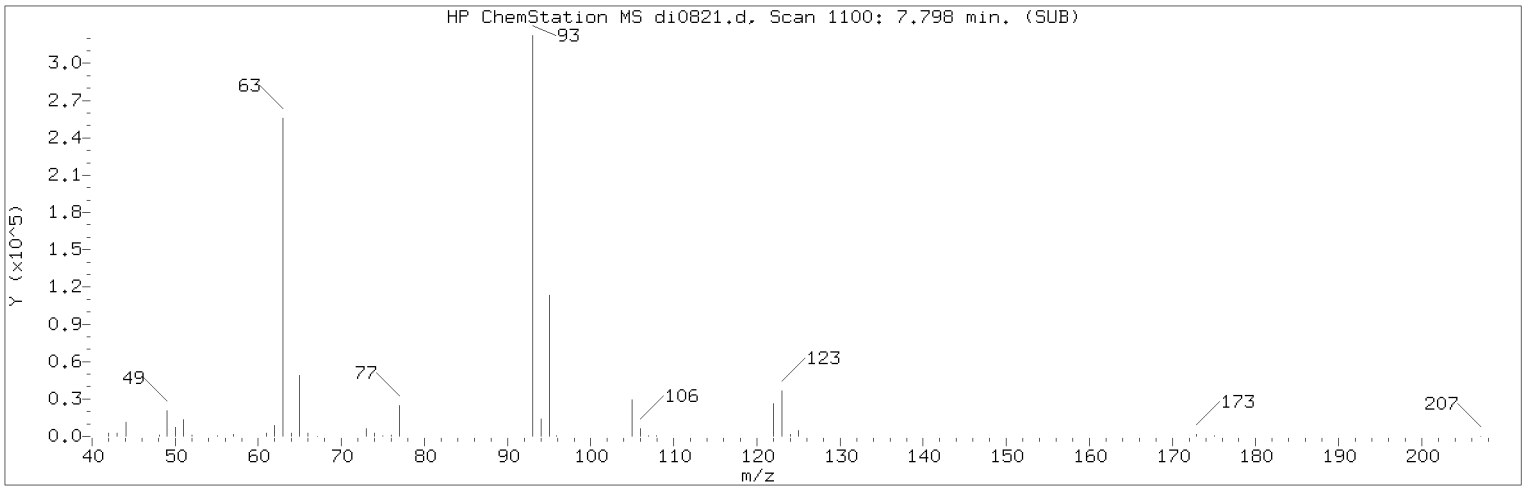
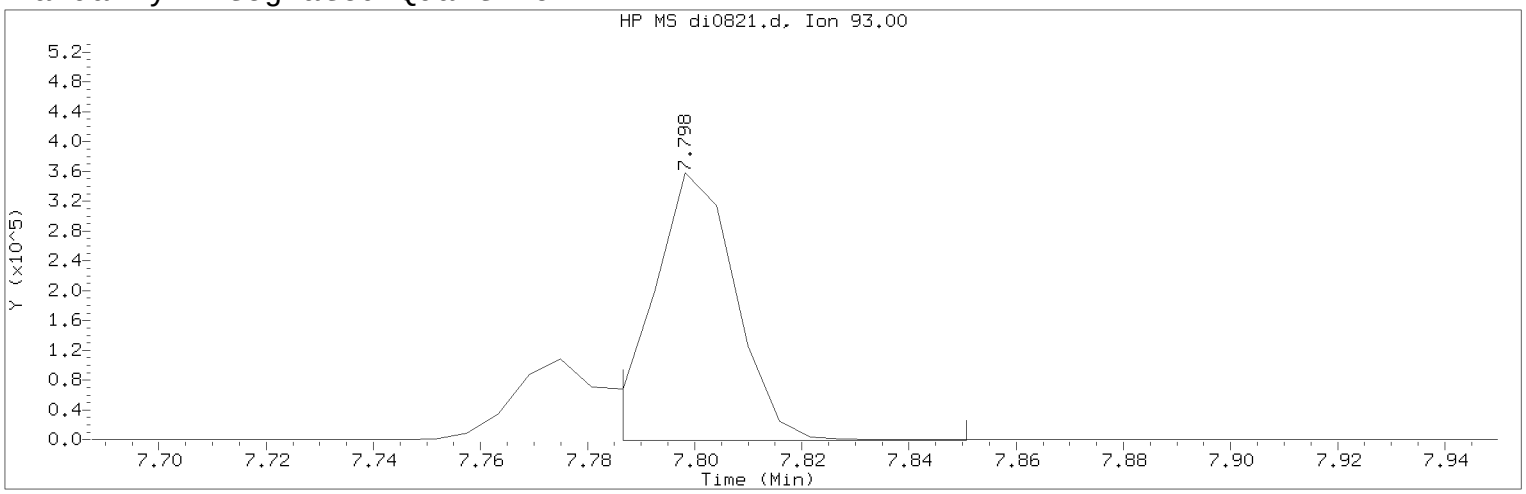
$ = Compound is a surrogate standard.

Digitally signed by Ankita A. Patel
on 09/29/2015 at 10:44.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15sep29.b/di0821.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 09:06 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 29-SEP-2015 09:33
Date, time and analyst ID of latest file update: 29-Sep-2015 09:33 aap07680

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

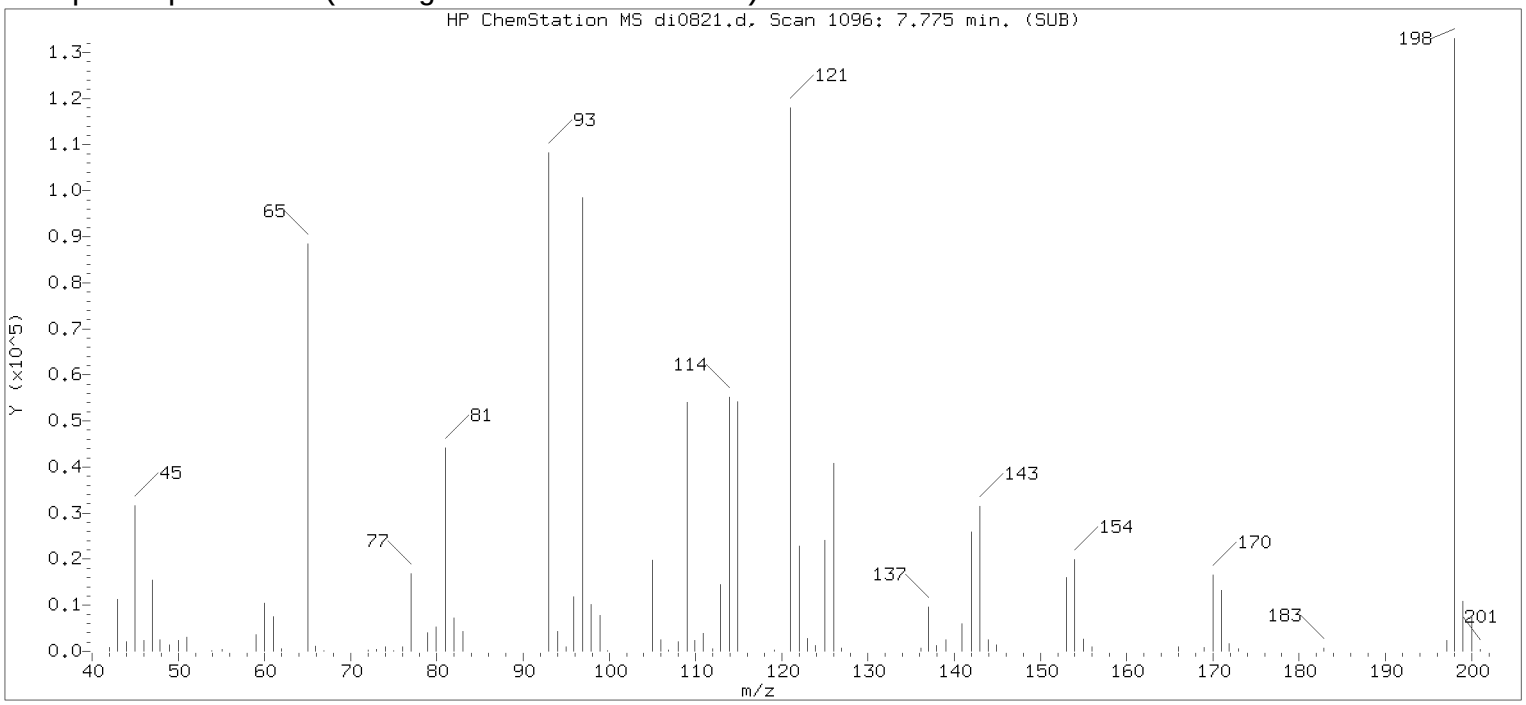
Compound Number : 48
Compound Name : bis(2-Chloroethoxy)methane
Scan Number : 1100
Retention Time (minutes) : 7.798
Quant Ion : 93.00
Area (flag) : 384930M
On-Column Amount (ng/ul) : 3.8557
Integration start scan : 1097 Integration stop scan: 1108
Y at integration start : -620 Y at integration end: -620

Reason for manual integration: improper integration

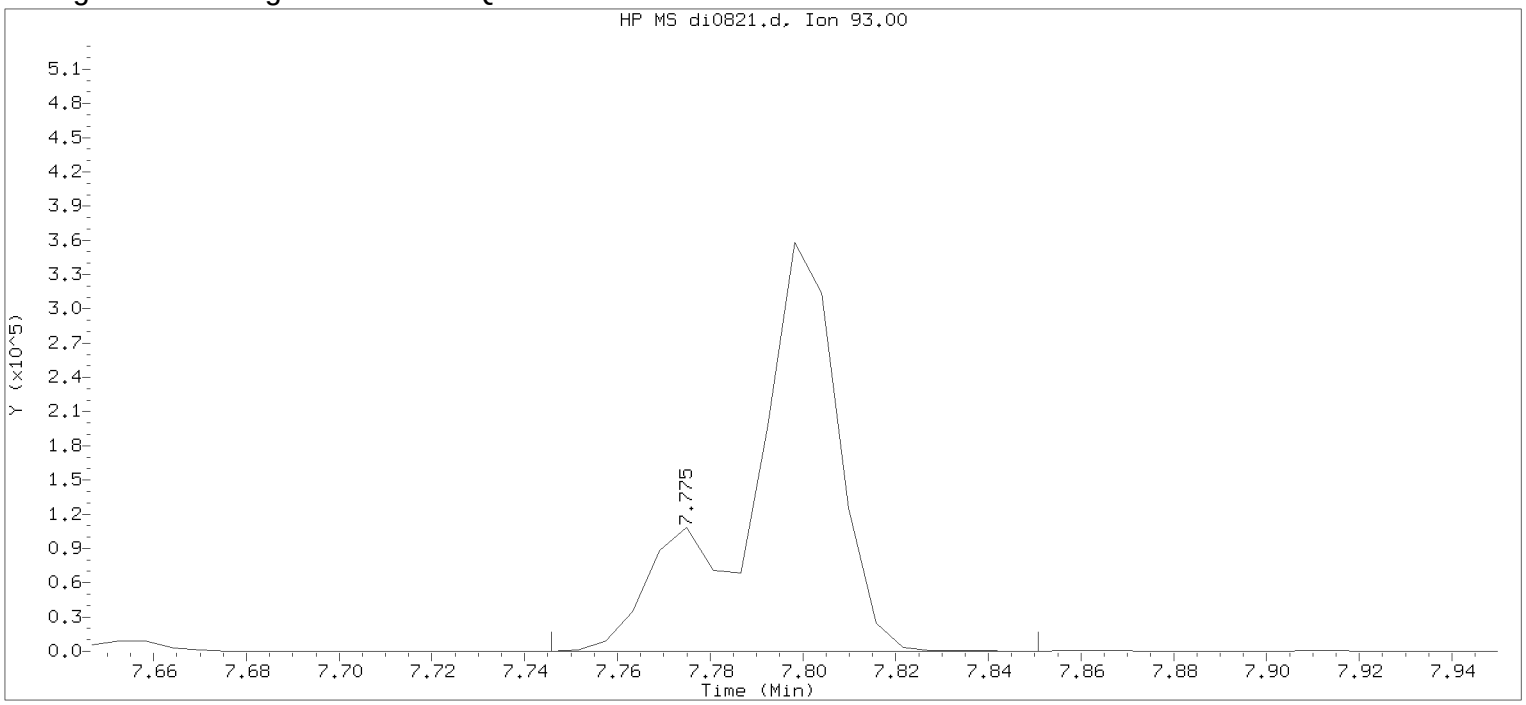
Analyst responsible for change: Digitally signed by Ankita A. Patel
on 09/29/2015 at 10:44.
Target 3.5 esignature user ID: aap07680

Secondary review performed and digitally signed by Matthew E. Barton on 09/30/2015 at 10:38.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15sep29.b/di0821.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 09:06 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 29-SEP-2015 09:30
Date, time and analyst ID of latest file update: 29-Sep-2015 09:30 Automation

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compound Number	: 48		
Compound Name	: bis(2-Chloroethoxy)methane		
Scan Number	: 1096		
Retention Time (minutes)	: 7.775		
Quant Ion	: 93.00		
Area	: 491725		
On-column Amount (ng/ul)	: 4.9255		
Integration start scan	: 1090	Integration stop scan:	1108
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Ankita A. Patel on 09/29/2015 at 10:44.
Target 3.5 esignature user ID: aap07680

Data File: /chem/HP09910.i/15sep22.b/oi0980s.d

Date : 22-SEP-2015 08:46

Client ID: DFTPP50

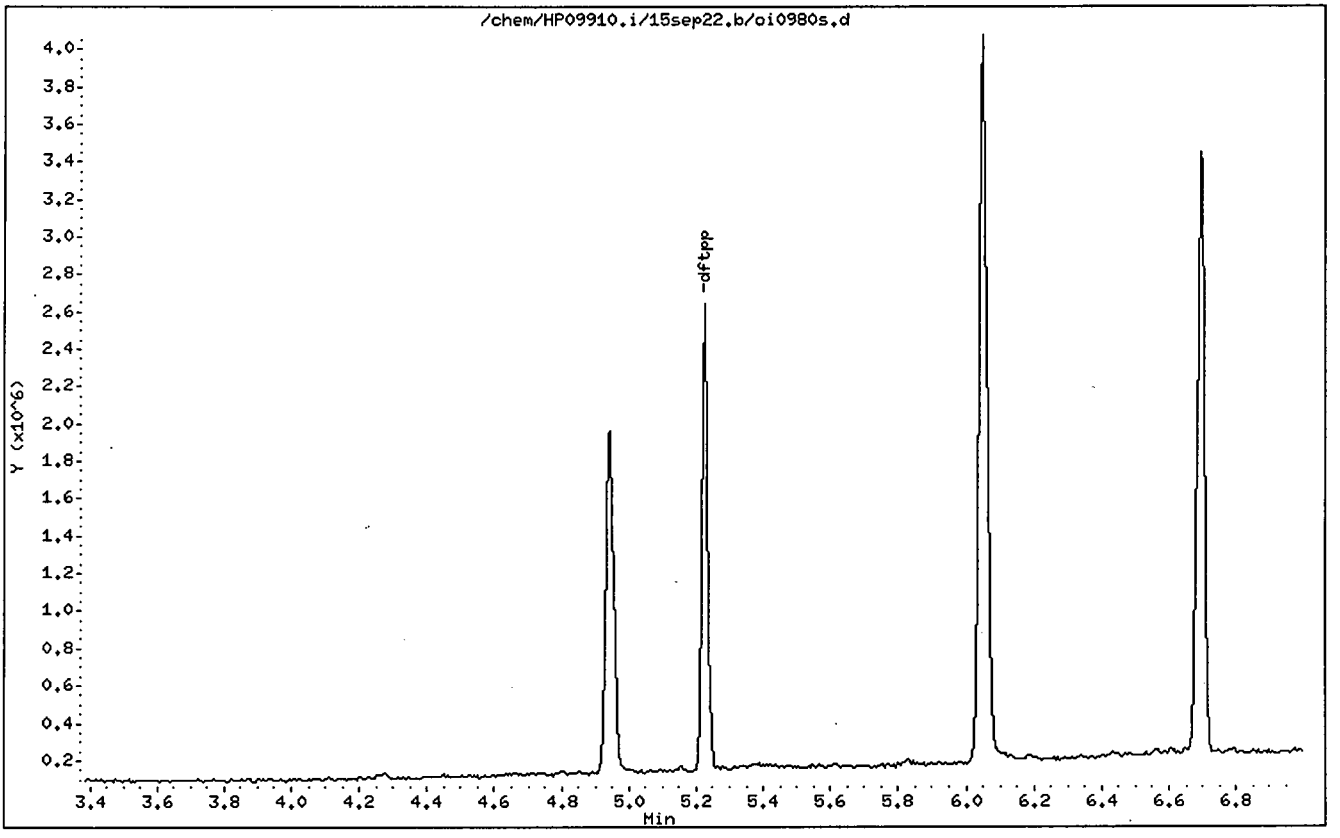
Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: JW DB-5MS

Column diameter: 0.18



Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Data File: /chem/HP09910.i/15sep22.b/oi0980s.d

Date : 22-SEP-2015 08:46

Client ID: DFTPP50

Instrument: HP09910.i

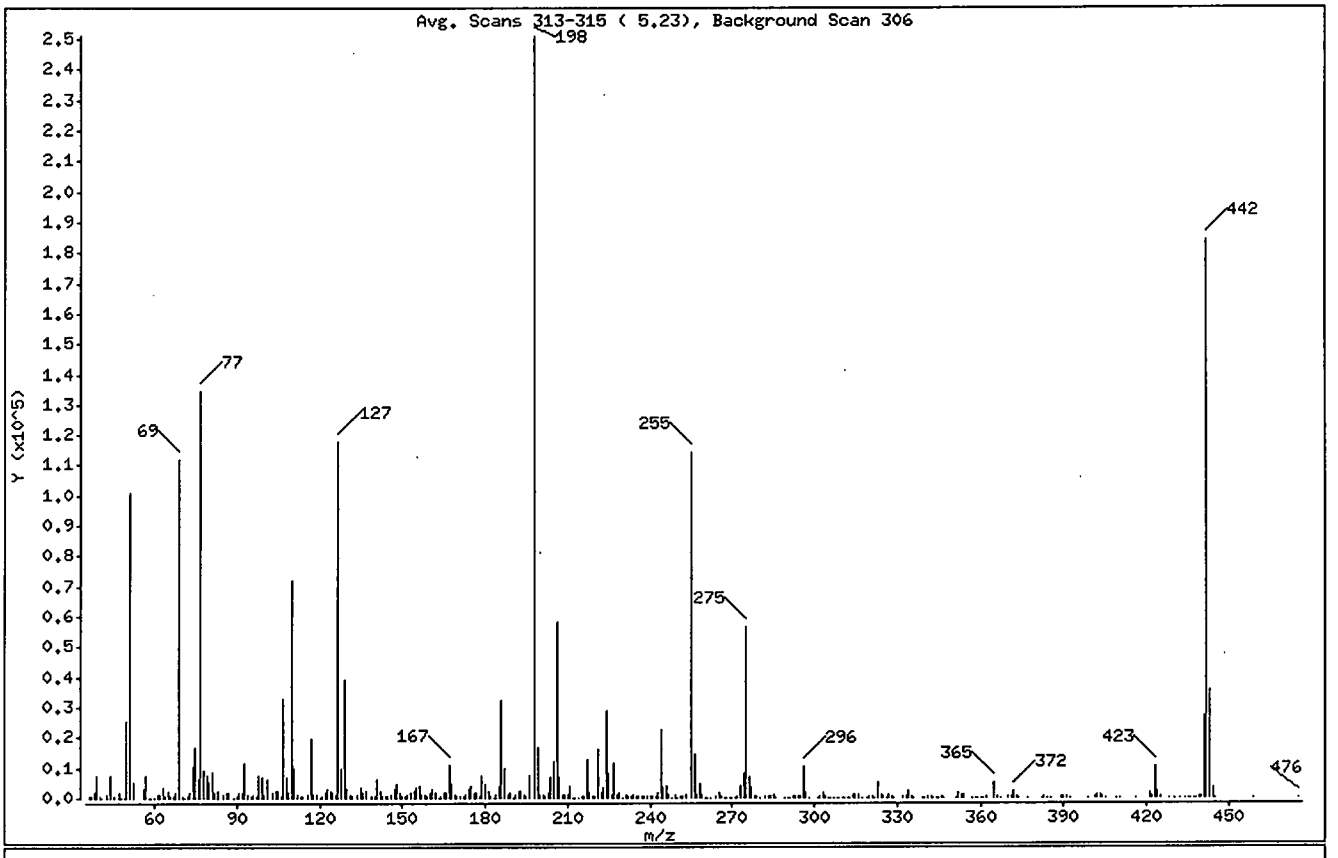
Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: JW DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	40.26
68	Less than 2.00% of mass 69	0.70 (1.57)
69	Mass 69 relative abundance	44.58
70	Less than 2.00% of mass 69	0.27 (0.61)
127	40.00 - 60.00% of mass 198	47.00
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.60
275	10.00 - 30.00% of mass 198	22.59
365	Greater than 1.00% of mass 198	2.04
441	Present, but less than mass 443	10.87
442	40.00 - 99.99% of mass 198	73.24
443	17.00 - 23.00% of mass 442	14.16 (19.33)

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Data File: /chem/HP09910.i/15sep22.b/oi0980s.d

Date : 22-SEP-2015 08:46

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: JW DB-5MS Column diameter: 0.18

Data File: oi0980s.d
Spectrum: Avg. Scans 313-315 (5.23), Background Scan 306
Location of Maximum: 198.00
Number of points: 346

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	798	132.00	569	222.00	1591	316.00	1151
37.00	338	134.00	1070	223.00	3187	317.00	145
38.00	1814	135.00	3571	224.00	28776	319.00	179
39.00	7257	136.00	1896	225.00	8050	320.00	405
40.00	384	137.00	2028	226.00	1151	321.00	389
41.00	10	139.00	325	227.00	11402	322.00	288
43.00	1083	140.00	730	228.00	1250	323.00	4989
44.00	7477	141.00	6131	229.00	1956	324.00	1220
45.00	705	142.00	2379	230.00	84	325.00	398
47.00	1514	143.00	847	231.00	1438	326.00	209
48.00	53	144.00	485	232.00	295	327.00	1086
49.00	104	145.00	363	233.00	478	328.00	451
50.00	25512	146.00	1033	234.00	999	329.00	62
51.00	101104	147.00	2961	235.00	705	332.00	551
52.00	5128	148.00	4620	236.00	848	333.00	650
56.00	2875	149.00	1615	237.00	404	334.00	2496
57.00	7746	150.00	459	238.00	403	335.00	628
58.00	103	151.00	817	239.00	451	336.00	115
59.00	110	152.00	1117	240.00	508	339.00	102
60.00	34	153.00	1957	241.00	507	340.00	93
61.00	1427	154.00	2348	242.00	368	341.00	723
62.00	1390	155.00	3227	243.00	1790	342.00	442
63.00	3450	156.00	3834	244.00	22248	343.00	129
64.00	818	157.00	1443	245.00	3551	344.00	87
65.00	2180	158.00	1290	246.00	3905	345.00	89
66.00	305	159.00	535	247.00	1413	346.00	763
67.00	369	160.00	1703	248.00	150	347.00	66
68.00	1762	161.00	2649	249.00	1318	351.00	68
69.00	111976	162.00	1483	250.00	264	352.00	1653
70.00	684	163.00	66	251.00	297	353.00	1136
71.00	251	164.00	783	252.00	394	354.00	1336
72.00	301	165.00	1847	253.00	1085	357.00	83
73.00	1718	166.00	1802	255.00	114072	358.00	99
74.00	10230	167.00	10731	256.00	14564	359.00	181
75.00	16608	168.00	4766	257.00	1208	360.00	152

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Data File: /chem/HP09910.i/15sep22.b/oi0980s.d

Date : 22-SEP-2015 08:46

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: JW DB-5MS Column diameter: 0.18

Data File: oi0980s.d
Spectrum: Avg. Scans 313-315 (5.23), Background Scan 306
Location of Maximum: 198.00
Number of points: 346

m/z	Y	m/z	Y	m/z	Y	m/z	Y
76.00	6385	169.00	896	258.00	4758	361.00	85
77.00	134336	170.00	609	259.00	1428	362.00	310
78.00	9000	171.00	835	260.00	220	365.00	5128
79.00	7569	172.00	726	261.00	176	366.00	599
80.00	5437	173.00	1131	262.00	67	367.00	94
81.00	8885	174.00	2636	264.00	496	370.00	382
82.00	1640	175.00	4042	265.00	1640	371.00	682
83.00	2475	176.00	1628	266.00	350	372.00	2533
85.00	1387	177.00	1694	267.00	35	373.00	503
86.00	1472	178.00	607	268.00	177	374.00	105
87.00	1567	179.00	7738	269.00	67	377.00	63
89.00	283	180.00	4497	270.00	148	382.00	61
90.00	441	181.00	2306	271.00	231	383.00	836
91.00	1793	182.00	463	272.00	648	384.00	149
92.00	1697	183.00	179	273.00	3840	385.00	74
93.00	11437	184.00	1005	274.00	7982	389.00	294
94.00	1107	185.00	3796	275.00	56736	390.00	445
95.00	401	186.00	32352	276.00	7101	391.00	315
96.00	985	187.00	9607	277.00	3545	392.00	150
97.00	704	188.00	1266	278.00	849	399.00	117
98.00	7455	189.00	1519	279.00	588	401.00	322
99.00	6738	190.00	245	280.00	96	402.00	1225
100.00	921	191.00	1193	282.00	497	403.00	1182
101.00	6407	192.00	2025	283.00	746	404.00	527
103.00	1926	193.00	2204	284.00	391	405.00	95
104.00	2073	194.00	896	285.00	1135	409.00	69
105.00	2264	195.00	387	286.00	263	410.00	174
106.00	775	196.00	7492	289.00	210	416.00	136
107.00	32800	198.00	251136	290.00	181	421.00	1760
108.00	6663	199.00	16576	291.00	79	422.00	557
109.00	1547	200.00	1403	292.00	413	423.00	10193
110.00	71888	201.00	1372	293.00	538	424.00	2076
111.00	10016	202.00	362	294.00	420	425.00	445
112.00	1109	203.00	1680	295.00	322	428.00	76
113.00	519	204.00	7044	296.00	10615	430.00	229

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Target 3.5 esignature user ID: lmh00956

Data File: /chem/HP09910.i/15sep22.b/oi0980s.d

Date : 22-SEP-2015 08:46

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: JW DB-5MS Column diameter: 0.18

Data File: oi0980s.d
Spectrum: Avg. Scans 313-315 (5.23), Background Scan 306
Location of Maximum: 198.00
Number of points: 346

m/z	Y	m/z	Y	m/z	Y	m/z	Y
114.00	332	205.00	12152	297.00	1591	432.00	248
116.00	1386	206.00	58400	298.00	140	434.00	75
117.00	19448	207.00	6770	301.00	244	435.00	164
118.00	1367	208.00	1338	302.00	447	436.00	257
119.00	988	209.00	951	303.00	1640	437.00	131
120.00	251	210.00	1421	304.00	695	438.00	149
121.00	476	211.00	3790	305.00	142	439.00	507
122.00	1996	212.00	117	306.00	68	440.00	440
123.00	2821	213.00	272	307.00	79	441.00	27296
124.00	2541	214.00	94	308.00	157	442.00	183936
125.00	1663	215.00	532	309.00	70	443.00	35560
126.00	1360	216.00	480	310.00	251	444.00	3306
127.00	118040	217.00	12549	311.00	63	445.00	113
128.00	9803	218.00	1988	312.00	206	459.00	149
129.00	39440	219.00	502	313.00	247	476.00	91
130.00	3163	220.00	452	314.00	943		
131.00	1311	221.00	15977	315.00	1375		

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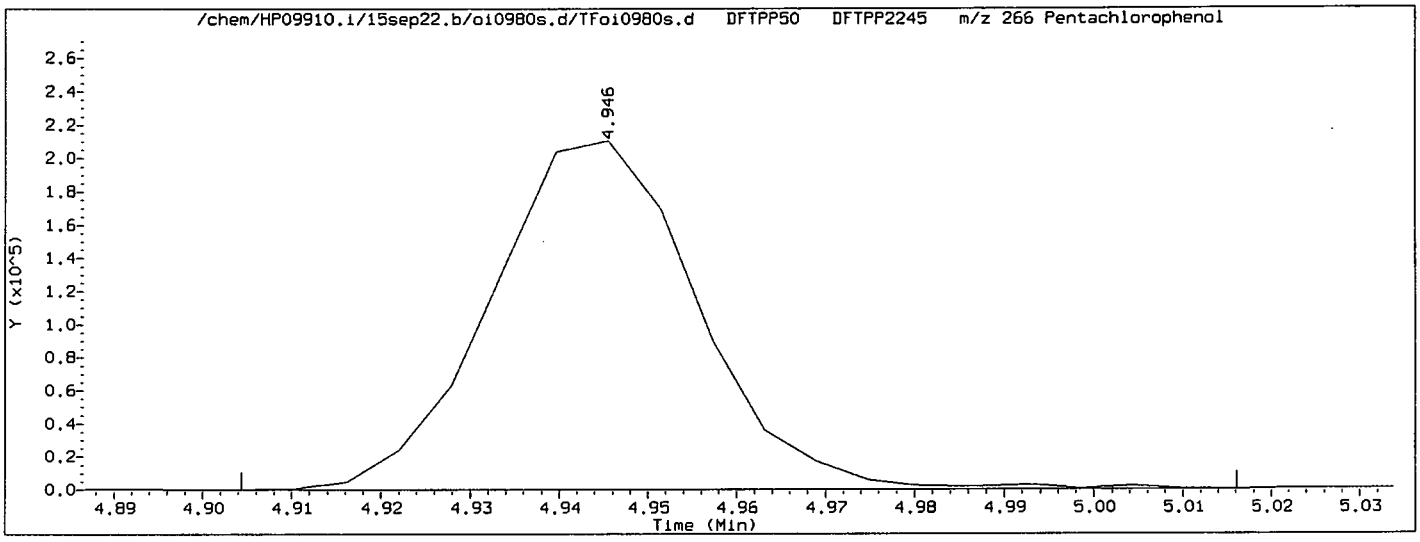
Target 3.5 esignature user ID: lmh00956

Assessment of GC Column Performance and Injection Port Inertness for

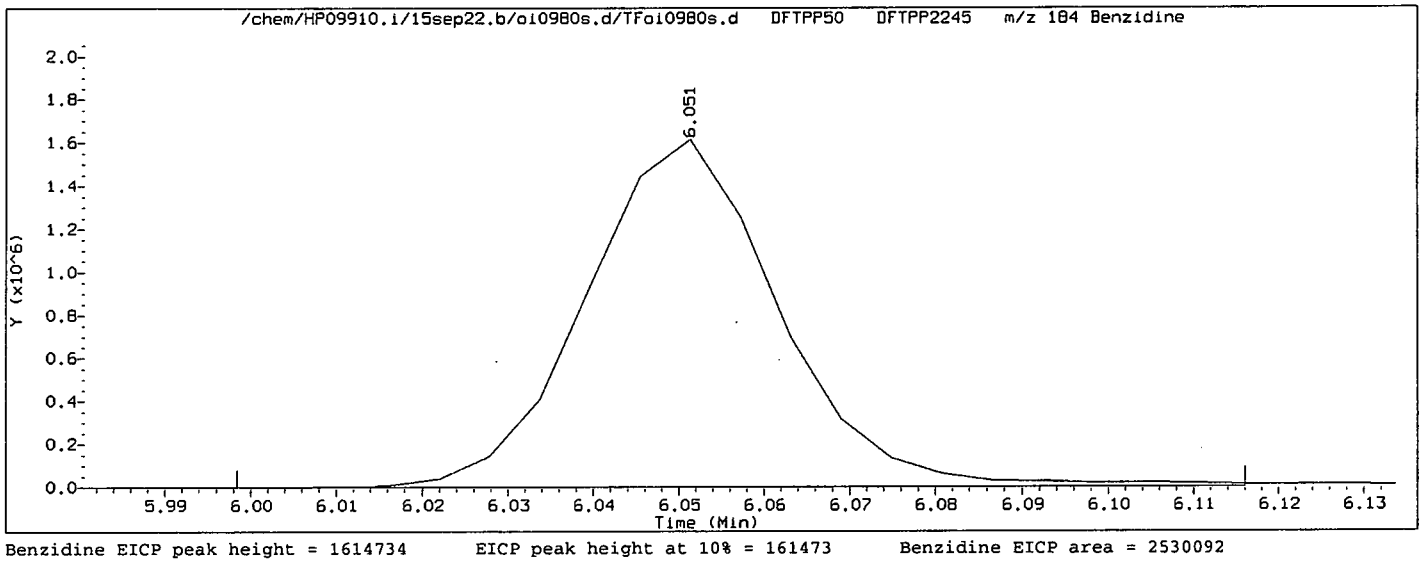
Instrument ID: HP09910.i Injection Date: 22-SEP-2015 08:46 Operator: lmh00956



Pentachlorophenol EICP peak height = 210432 EICP peak height at 10% = 21043 Pentachlorophenol EICP area = 342137

Pentachlorophenol EICP peak apex (min.) = 4.946
RT at 10% of front half of EICP (min.) = 4.921 'Front' peak width (min.) = 0.0244166667
RT at 10% of back half of EICP (min.) = 4.968 'Tailing' peak width (min.) = 0.0222666667

PCP tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0222666667}{0.0244166667} = 0.912$



Benzidine EICP peak height = 1614734 EICP peak height at 10% = 161473 Benzidine EICP area = 2530092

Benzidine EICP peak apex (min.) = 6.051
RT at 10% of front half of EICP (min.) = 6.028 'Front' peak width (min.) = 0.0230166667
RT at 10% of back half of EICP (min.) = 6.074 'Tailing' peak width (min.) = 0.0225333333

Benzidine tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0225333333}{0.0230166667} = 0.979$

printed on 09/22/2015 at 08:51

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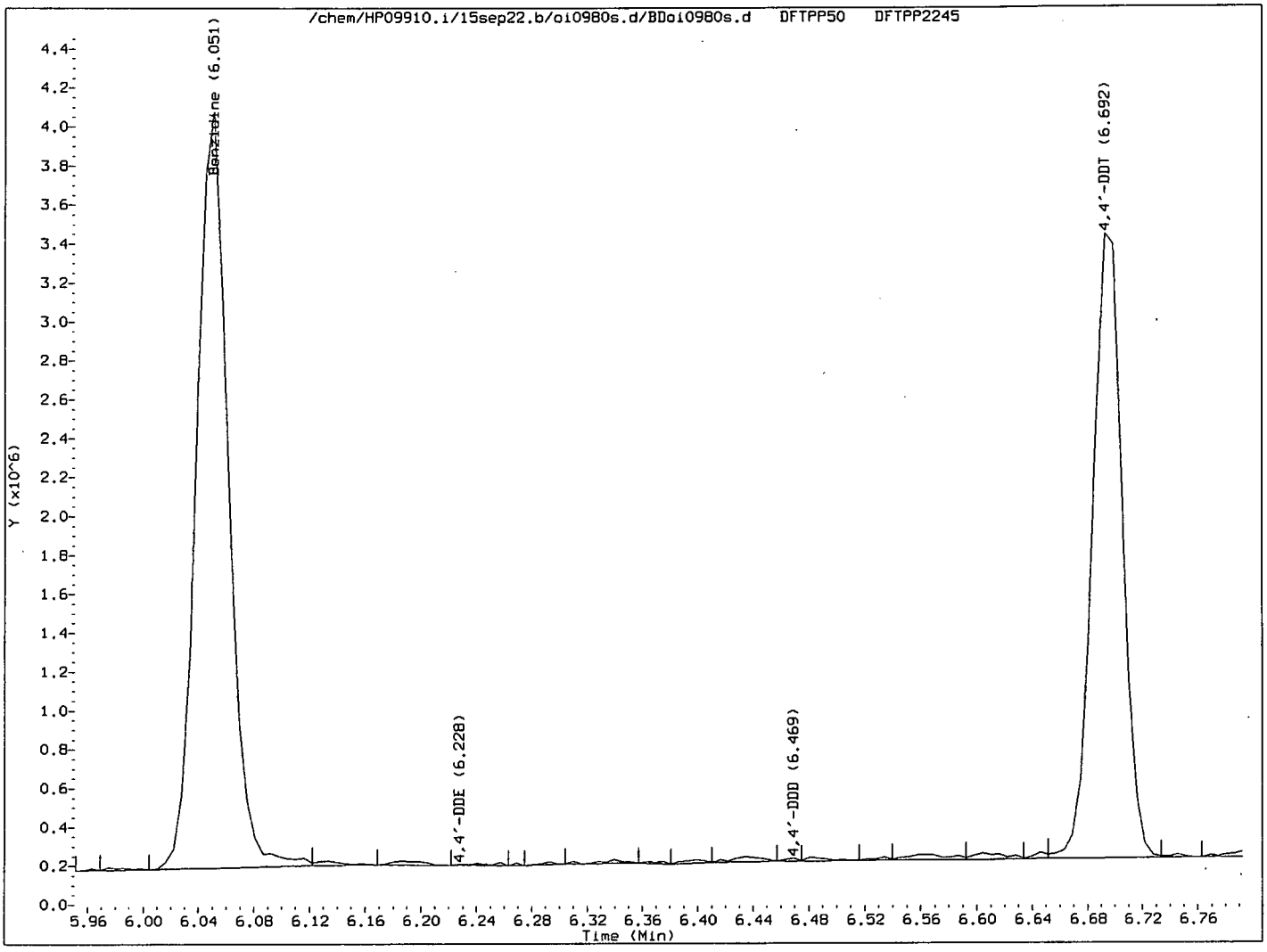
Target 3.5 esignature user ID: lmh00956

Assessment of GC Column Performance and Injection Port Inertness for

Instrument ID: HP09910.i Injection Date: 22-SEP-2015 08:46 Operator: lmh00956



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{15927 + 9633}{15927 + 9633 + 4865991} \times 100 = 0.5$$

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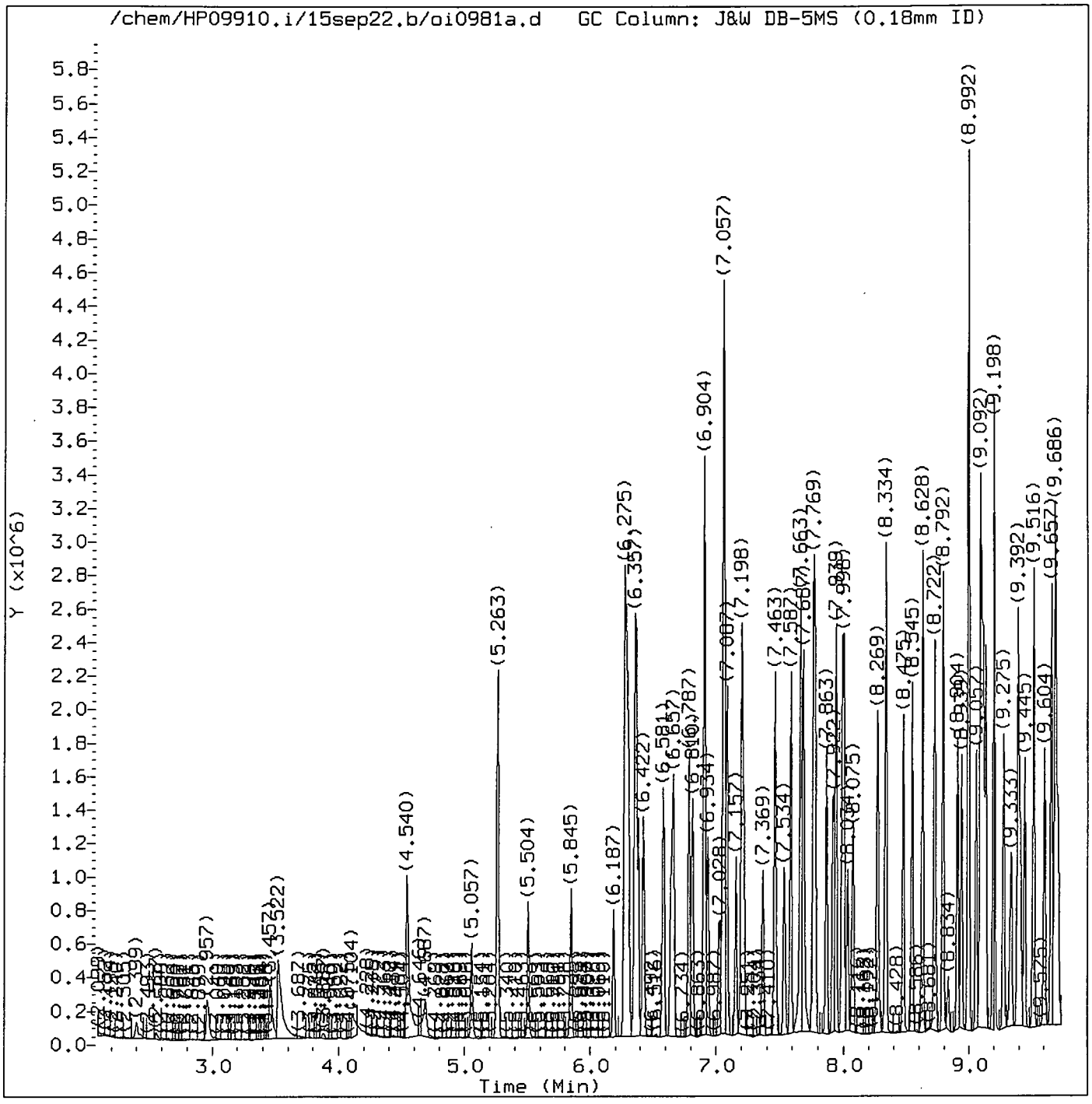
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

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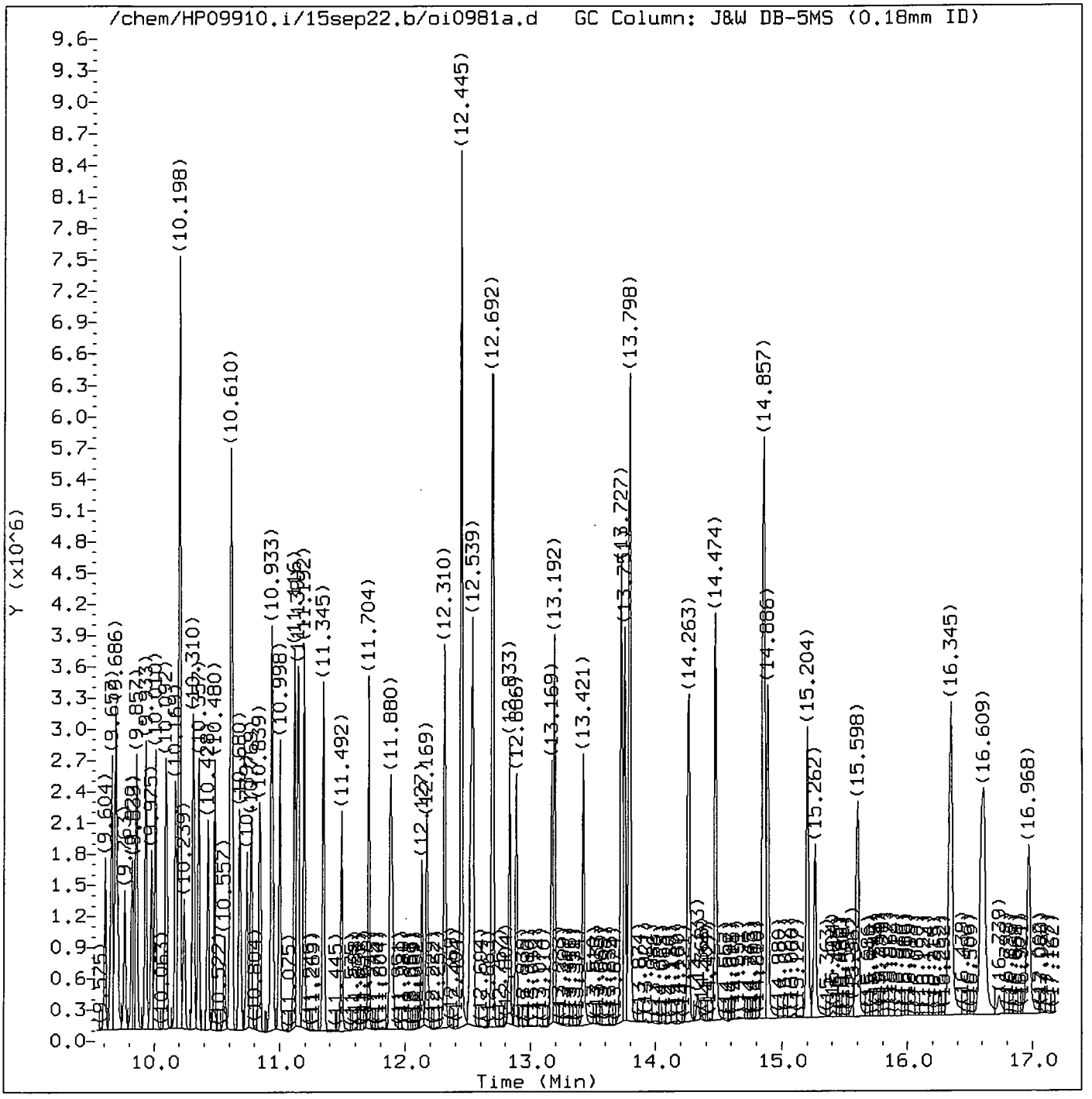
on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.957	88	168601	30.363
4) N-Nitrosodimethylamine	(1)	3.457	74	281729	30.850
5) Pyridine	(1)	3.522	79	459864	31.090
7) 2-Picoline	(1)	4.540	93	489857	31.033
8) N-Nitrosomethylethylamine	(1)	4.687	88	228725	29.948
9) Methyl methanesulfonate	(1)	5.057	80	239446	31.826
11)$2-Fluorophenol	(1)	5.263	112	753398	60.804
13) N-Nitrosodiethylamine	(1)	5.504	102	216787	29.889
15) Ethyl methanesulfonate	(1)	5.845	109	221709	32.094
17)$Phenol-d6	(1)	6.275	99	1100210	62.094
18) Phenol	(1)	6.287	94	650715	30.840
19) Aniline	(1)	6.304	93	727463	30.734
20) a-methylstyrene	(1)	6.363	118	395553	31.537
22) bis(2-Chloroethyl)ether	(1)	6.381	93	454618	30.309
23) 2-Chlorophenol	(1)	6.422	128	368127	29.867
24) 1,3-Dichlorobenzene	(1)	6.581	146	372406	31.627
25)*1,4-Dichlorobenzene-d4	(1)	6.640	152	148855	20.000
26) 1,4-Dichlorobenzene	(1)	6.657	146	375287	29.907
42) Total Cresols	(1)			847769	58.409
27) Benzyl alcohol	(1)	6.787	108	315007	31.983
28) 1,2-Dichlorobenzene	(1)	6.810	146	348796	29.490
30) Indene	(1)	6.904	115	679064	31.235
31) 2-Methylphenol	(1)	6.904	108	401263	30.104
34) bis(2-Chloroisopropyl)ether	(1)	6.934	45	592051	30.119
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.934	45	592051	30.119
35) N-Nitrosopyrrolidine	(1)	7.028	100	257934	31.922
36) Acetophenone	(1)	7.051	105	605977	31.038
37) 4-Methylphenol	(1)	7.057	108	446506	28.305
38) N-Nitroso-di-n-propylamine	(1)	7.063	70	362841	30.593
39) N-Nitrosomorpholine	(1)	7.069	56	287878	30.089
40) o-Toluidine	(1)	7.087	106	711811	31.362
43) Hexachloroethane	(1)	7.157	117	148300	30.327
44)$Nitrobenzene-d5	(2)	7.198	82	982238	60.347
45) Nitrobenzene	(2)	7.216	77	509434	31.621
48) N-Nitrosopiperidine	(2)	7.369	114	228562	31.254
50) Isophorone	(2)	7.463	82	1002973	30.149
51) 2-Nitrophenol	(2)	7.539	139	209430	31.243
53) 2,4-Dimethylphenol	(2)	7.587	107	461820	31.369
57) O,O,O-Triethylphosphorothioate	(2)	7.663	198	200399	30.481
55) bis(2-Chloroethoxy)methane	(2)	7.687	93	575652	30.828

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	7.687	105	578442	41.281
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.763	104	611138	30.740
60) 2,4-Dichlorophenol	(2)	7.775	162	325017	30.788
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	327164	30.498
65)*Naphthalene-d8	(2)	7.916	136	699436	20.000
66) Naphthalene	(2)	7.939	128	1160324	30.103
67) 4-Chloroaniline	(2)	7.992	127	528096	30.610
68) 2,6-Dichlorophenol	(2)	8.004	162	320338	30.916
69) Hexachloropropene	(2)	8.034	213	167512	30.472
71) Hexachlorobutadiene	(2)	8.075	225	160538	30.200
75) Quinoline	(2)	8.269	129	836295	30.323
77) N-Nitrosodi-n-butylamine	(2)	8.334	84	473091	34.719
76) Caprolactam	(2)	8.334	113	178151	29.413
80) 4-Chloro-3-methylphenol	(2)	8.475	107	436741	30.654
82) Safrole	(2)	8.545	162	313497	30.482
83) 2-Methylnaphthalene	(2)	8.628	142	831691	30.623
97) Isosafrole	(3)			380860	31.627
84) 1-Methylnaphthalene	(2)	8.728	142	738118	30.314
85) Hexachlorocyclopentadiene	(3)	8.792	237	160583	32.478
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.792	216	313812	30.505
88) cis-Isosafrole	(3)	8.834	162	57487	5.330
90) 2,4,6-Trichlorophenol	(3)	8.904	196	229193	30.567
92) 2,4,5-Trichlorophenol	(3)	8.939	196	265220	31.729
93)$2-Fluorobiphenyl	(3)	8.992	172	1716590	61.816
94) trans-Isosafrole	(3)	9.057	162	323373	26.297
95) 1,1'-Biphenyl	(3)	9.092	154	1049732	31.734
96) 2-Chloronaphthalene	(3)	9.110	162	930554M	36.530
98) 1-Chloronaphthalene	(3)	9.128	162	752069M	31.693
99) Diphenyl ether	(3)	9.198	170	529822	31.649
100) 2-Nitroaniline	(3)	9.204	138	291312	32.908
104) 1,4-Naphthoquinone	(3)	9.275	158	348537	32.102
105) 1,4-Dinitrobenzene	(3)	9.339	168	147115	31.181
106) Dimethylphthalate	(3)	9.392	163	934633	30.798
120) 2,4_2,6-Dinitrotoluenes	(3)			528496	62.783
107) 1,3-Dinitrobenzene	(3)	9.410	168	168049	31.082
108) 2,6-Dinitrotoluene	(3)	9.445	165	225538	32.187
109) Acenaphthylene	(3)	9.516	152	1230437	31.679
112) 3-Nitroaniline	(3)	9.604	138	265679	33.002
113)*Acenaphthene-d10	(3)	9.657	164	437487	20.000
114) Acenaphthene	(3)	9.686	153	846881	31.501

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	9.710	184	197980	40.236
116) 4-Nitrophenol	(3)	9.763	109	138229	31.797
117) Pentachlorobenzene	(3)	9.822	250	288985	31.115
118) 2,4-Dinitrotoluene	(3)	9.839	165	302958	30.595
119) Dibenzofuran	(3)	9.857	168	1158963	31.408
121) 1-Naphthylamine	(3)	9.933	143	955864	31.872
122) 2,3,4,6-Tetrachlorophenol	(3)	9.975	232	219829	30.887
123) 2-Naphthylamine	(3)	10.010	143	951297	32.037
124) Diethylphthalate	(3)	10.092	149	930973	31.301
125) Thionazin	(3)	10.169	107	180225	29.380
127) 4-Chlorophenyl-phenylether	(3)	10.198	204	437042	30.411
126) Fluorene	(3)	10.198	166	981050	31.750
146) Diallate trans/cis	(4)			571980	30.596
129) 4-Nitroaniline	(3)	10.204	138	306268	34.254
128) 5-Nitro-o-toluidine	(3)	10.204	152	294941	32.104
130) 4,6-Dinitro-2-methylphenol	(4)	10.239	198	202494	31.523
131) N-Nitrosodiphenylamine	(4)	10.310	169	872630	31.642
132) NDPA as diphenylamine	(4)	10.310	169	872630	31.065
134) 1,2-Diphenylhydrazine	(4)	10.357	77	1156029	30.722
135)$2,4,6-Tribromophenol	(3)	10.433	330	219075	61.145
137) Tetraethyldithiopyrophosphate	(4)	10.480	97	162341	30.247
139) 1,3,5-Trinitrobenzene	(4)	10.563	213	118618	30.114
140) Diallate (peak 1)	(4)	10.604	86	479791	25.589
141) Phorate	(4)	10.610	75	795638	31.413
142) Phenacetin	(4)	10.616	108	603035	31.610
143) 4-Bromophenyl-phenylether	(4)	10.680	248	240379	31.145
144) Diallate (peak 2)	(4)	10.692	86	92189	5.007
145) Hexachlorobenzene	(4)	10.739	284	245904	29.939
147) Dimethoate	(4)	10.769	87	543588	32.218
149) Pentachlorophenol	(4)	10.927	266	175017	32.115
150) 4-Aminobiphenyl	(4)	10.933	169	942362	31.428
151) Pentachloronitrobenzene	(4)	10.945	237	88905	29.275
152) Pronamide	(4)	10.998	173	413334	31.921
154) Dinoseb	(4)	11.116	211	254387	30.846
153)*Phenanthrene-d10	(4)	11.122	188	865313	20.000
155) Phenanthrene	(4)	11.145	178	1537485	30.595
157) Anthracene	(4)	11.192	178	1545838	31.128
163) Carbazole	(4)	11.345	167	1460652	31.126
164) Methyl parathion	(4)	11.492	109	383513	32.816
165) Di-n-butylphthalate	(4)	11.704	149	1665085	30.497

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on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	11.880	109	227796	31.140
168) 4-Nitroquinoline-1-oxide	(4)	11.898	190	141076	30.216
169) Octachlorostyrene	(4)	12.127	308	82385	31.185
171) Isodrin	(4)	12.169	193	156217	30.967
173) Fluoranthene	(4)	12.310	202	1699710	31.121
174) Benzidine	(5)	12.445	184	3625829	103.223
175)*Pyrene-d10	(5)	12.516	212	1011712	20.000
177) Pyrene	(5)	12.539	202	1786360	29.597
179)$Terphenyl-d14	(5)	12.698	244	2174249	58.396
182) p-Dimethylaminoazobenzene	(5)	12.833	225	345381	31.080
185) Chlorobenzilate	(5)	12.880	139	471221	30.060
187) 3,3'-Dimethylbenzidine	(5)	13.169	212	976649	31.182
188) Butylbenzylphthalate	(5)	13.192	149	798137	30.099
191) 2-Acetylaminofluorene	(5)	13.421	181	716714	29.768
193) 3,3'-Dichlorobenzidine	(5)	13.721	252	553107	30.920
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.727	231	318261	31.730
195) Benzo(a)anthracene	(5)	13.751	228	1561979	29.688
196) Chrysene	(5)	13.786	228	1494978	29.822
199) bis(2-Ethylhexyl)phthalate	(5)	13.798	149	1113117	30.022
203) 6-Methylchrysene	(5)	14.263	242	1061141	30.006
205) Di-n-octylphthalate	(6)	14.474	149	1883709	30.252
206) Benzo(b)fluoranthene	(6)	14.857	252	1478206	31.158
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.857	256	702547	30.698
208) Benzo(k)fluoranthene	(6)	14.886	252	1508935	31.170
211) Benzo(a)pyrene	(6)	15.204	252	1402208M	29.925
213)*Perylene-d12	(6)	15.262	264	755977	20.000
215) 3-Methylcholanthrene	(6)	15.598	268	689675	31.312
222) Total PAHs	(6)			20824457	490.396
219) Indeno(1,2,3-cd)pyrene	(6)	16.592	276	1495947	30.652
220) Dibenz(a,h)anthracene	(6)	16.615	278	1280922	31.200
221) Benzo(g,h,i)perylene	(6)	16.968	276	1230529	30.697

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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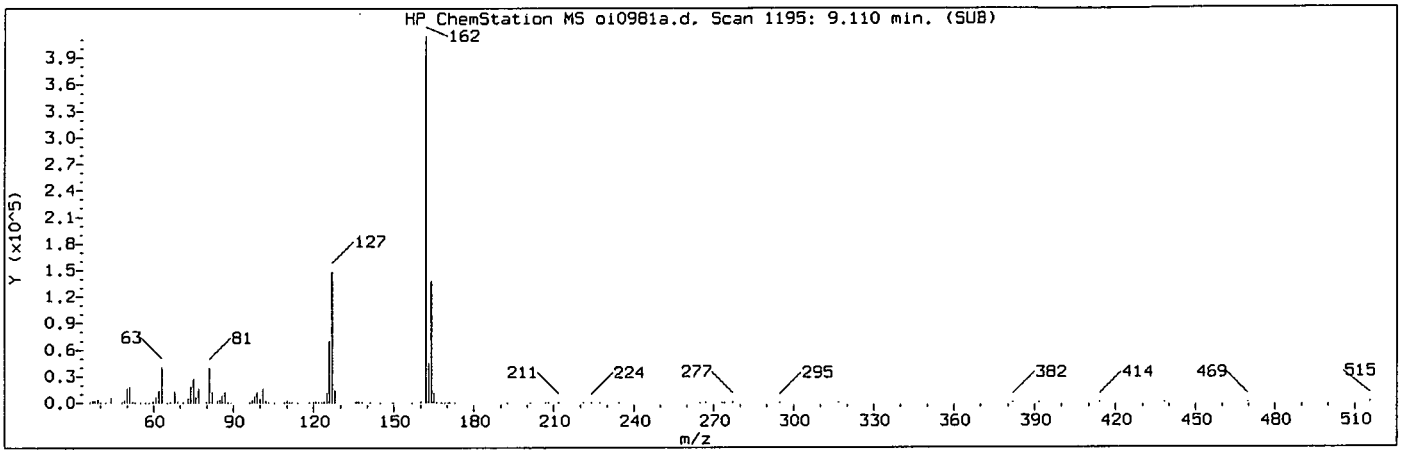
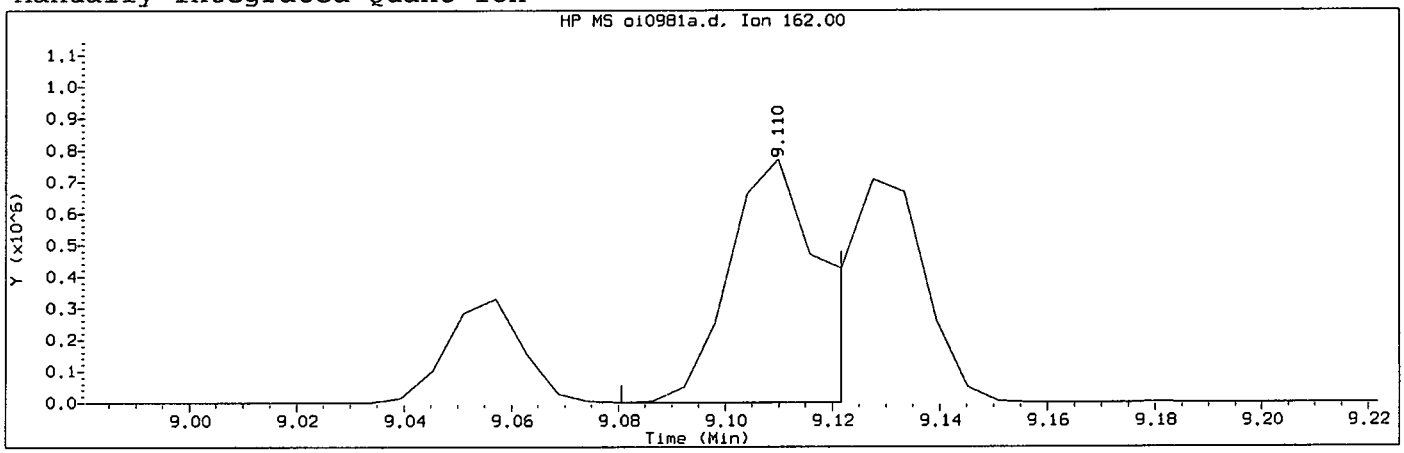
on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area (flag)	: 930554M		
On-Column Amount (ng/ul)	: 36.5299		
Integration start scan	: 1189	Integration stop scan:	1196
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

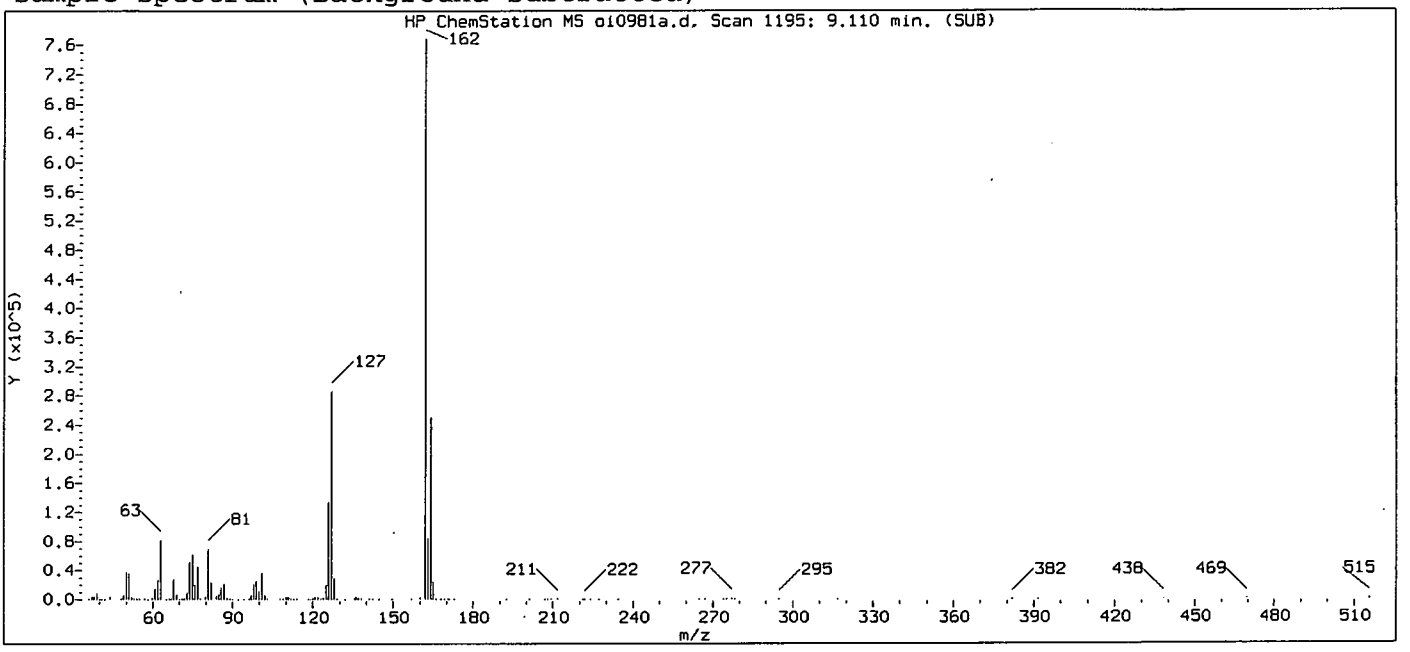
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22. Target 3.5 signature user ID: lmh00956

SEP 23 2015

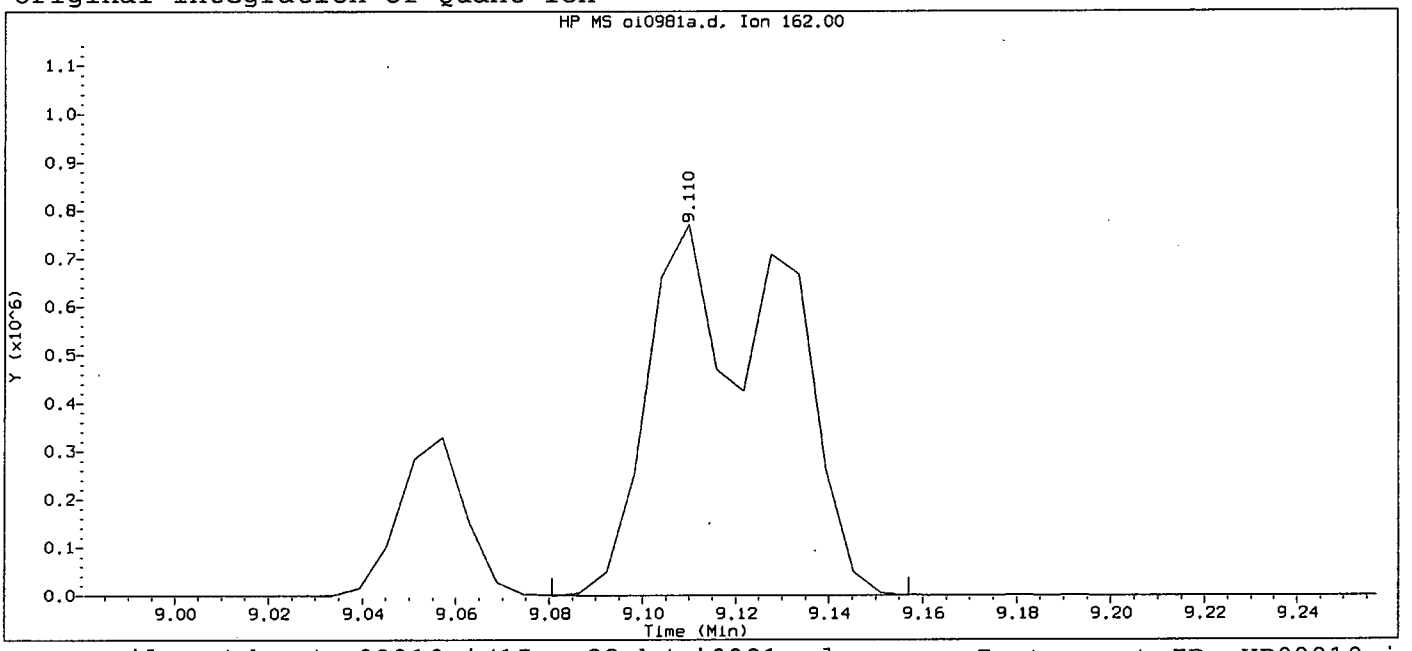
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 10:08
Date, time and analyst ID of latest file update: 22-Sep-2015 10:08 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area	: 1528444		
On-column Amount (ng/ul)	: 59.5538		
Integration start scan	: 1189	Integration stop scan:	1202
Y at integration start	: 0	Y at integration end:	0

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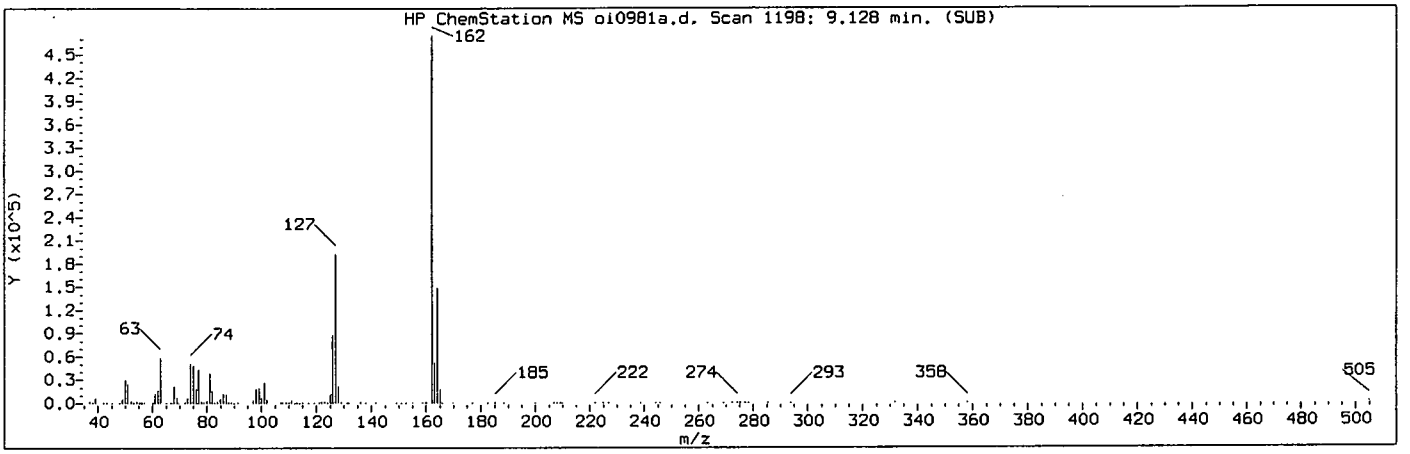
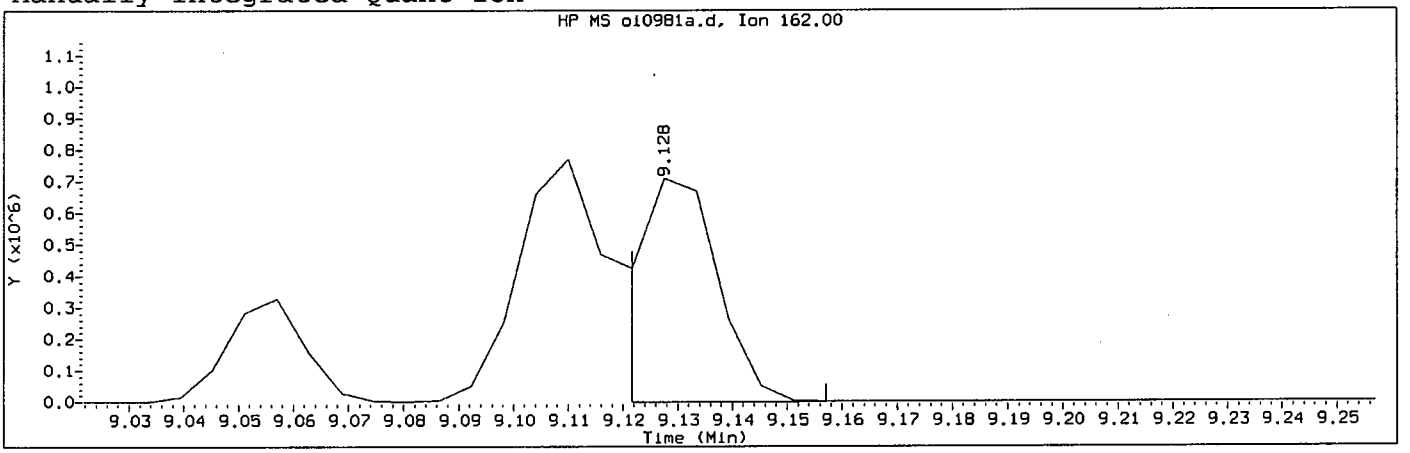
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1198		
Retention Time (minutes)	: 9.128		
Quant Ion	: 162.00		
Area (flag)	: 752069M		
On-Column Amount (ng/ul)	: 31.6927		
Integration start scan	: 1196	Integration stop scan:	1202
Y at integration start	: -1555	Y at integration end:	-1555

Reason for manual integration: improper integration

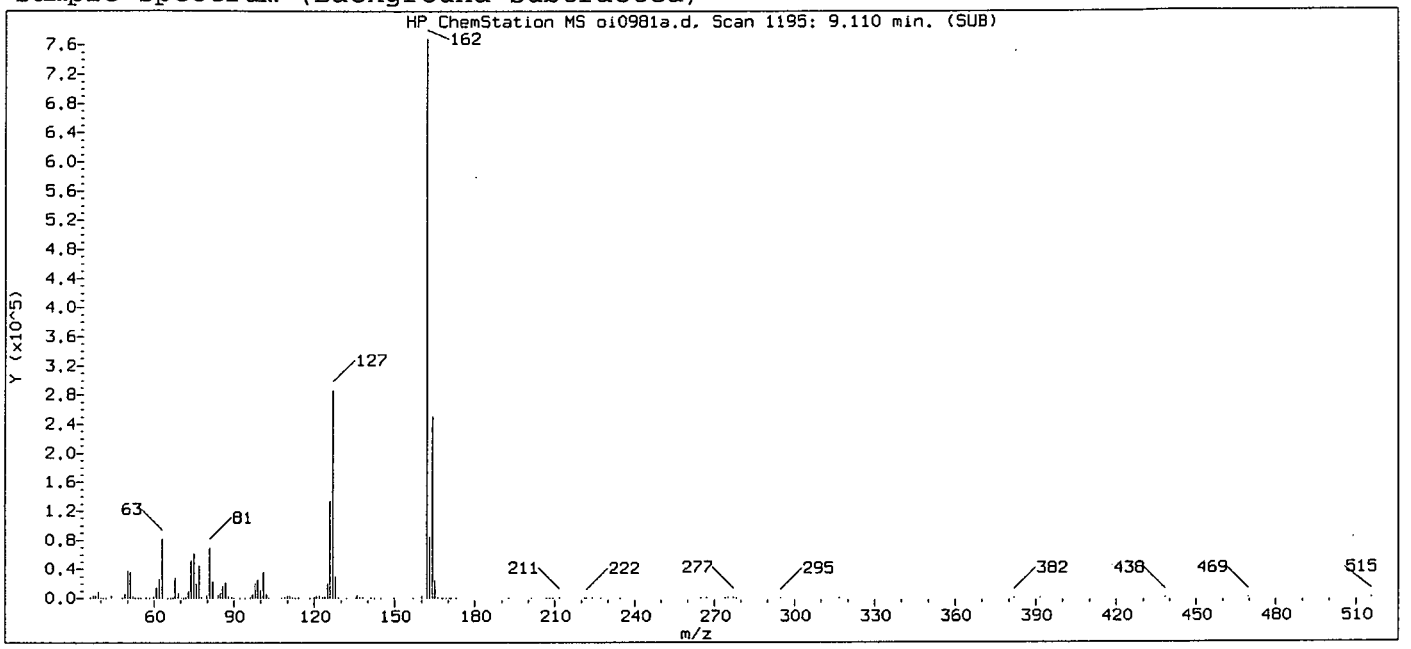
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22. Target 3.5 signature User ID: lmh00956

SEP 23 2015

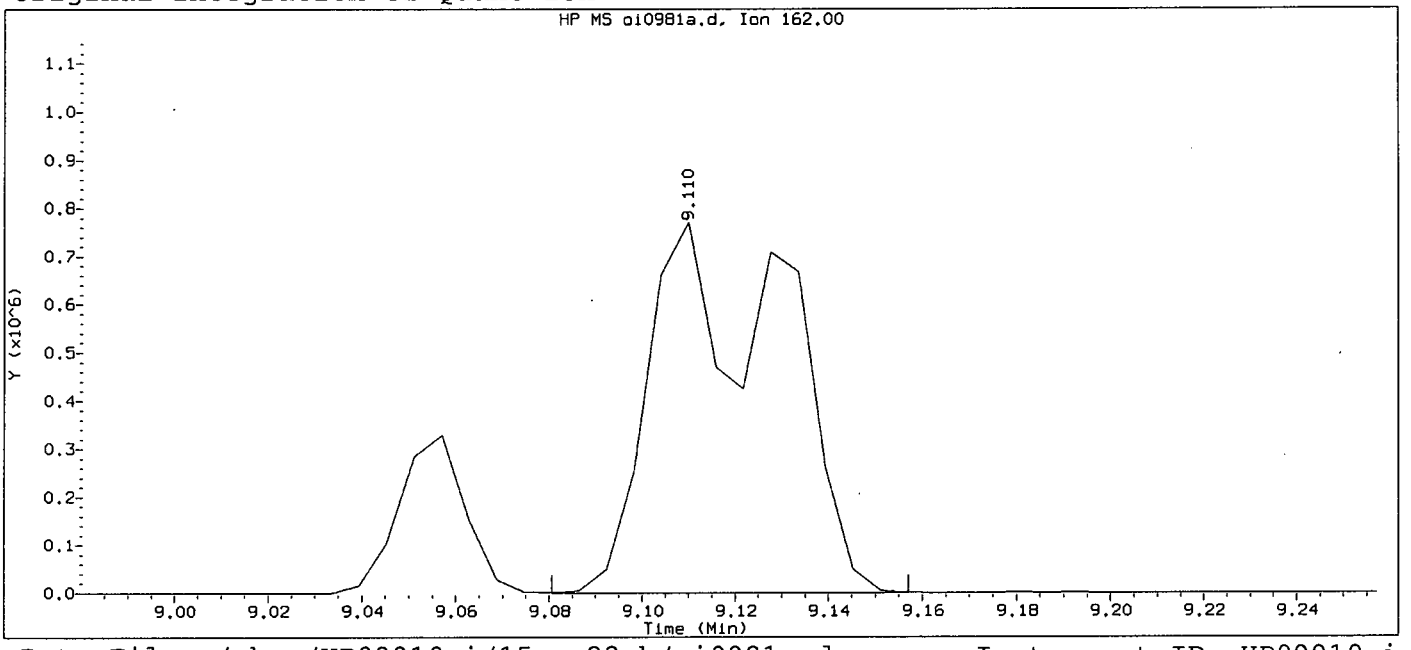
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 10:08
Date, time and analyst ID of latest file update: 22-Sep-2015 10:08 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area	: 1528444		
On-column Amount (ng/ul)	: 67.4626		
Integration start scan	: 1189	Integration stop scan:	1202
Y at integration start	: 0	Y at integration end:	0

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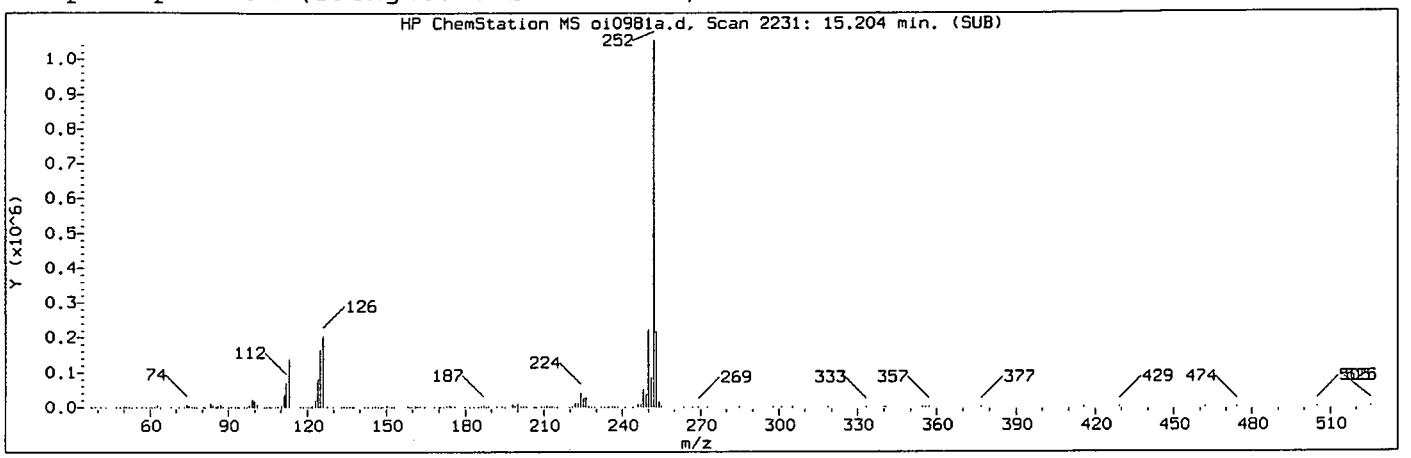
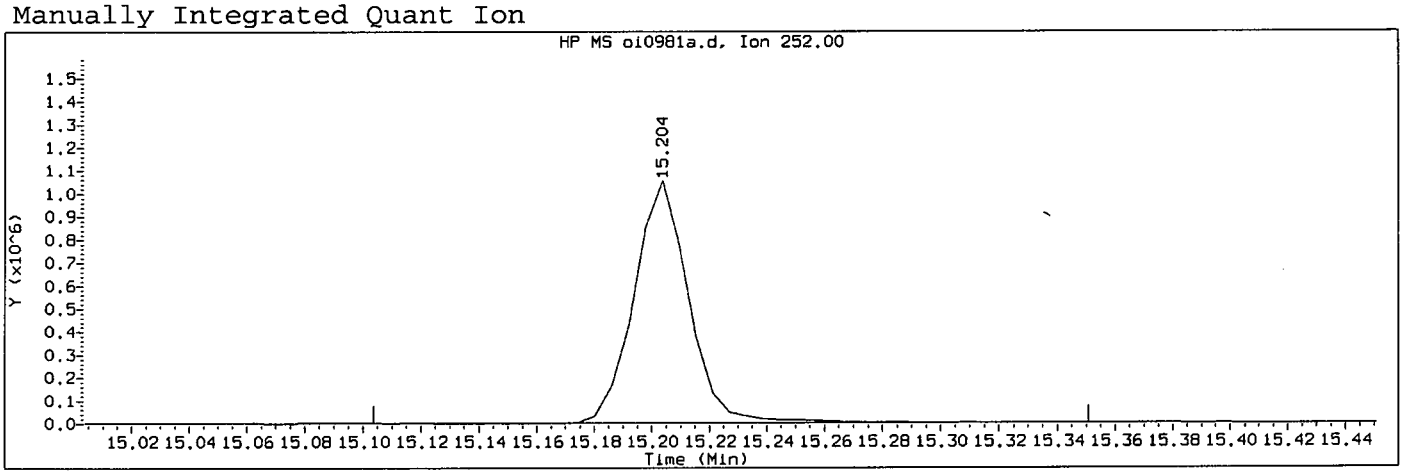
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compound Number	: 211		
Compound Name	: Benzo(a)pyrene		
Scan Number	: 2231		
Retention Time (minutes)	: 15.204		
Quant Ion	: 252.00		
Area (flag)	: 1402208M		
On-Column Amount (ng/ul)	: 29.9249		
Integration start scan	: 2213	Integration stop scan:	2255
Y at integration start	: 1647	Y at integration end:	2185

Reason for manual integration: improper integration

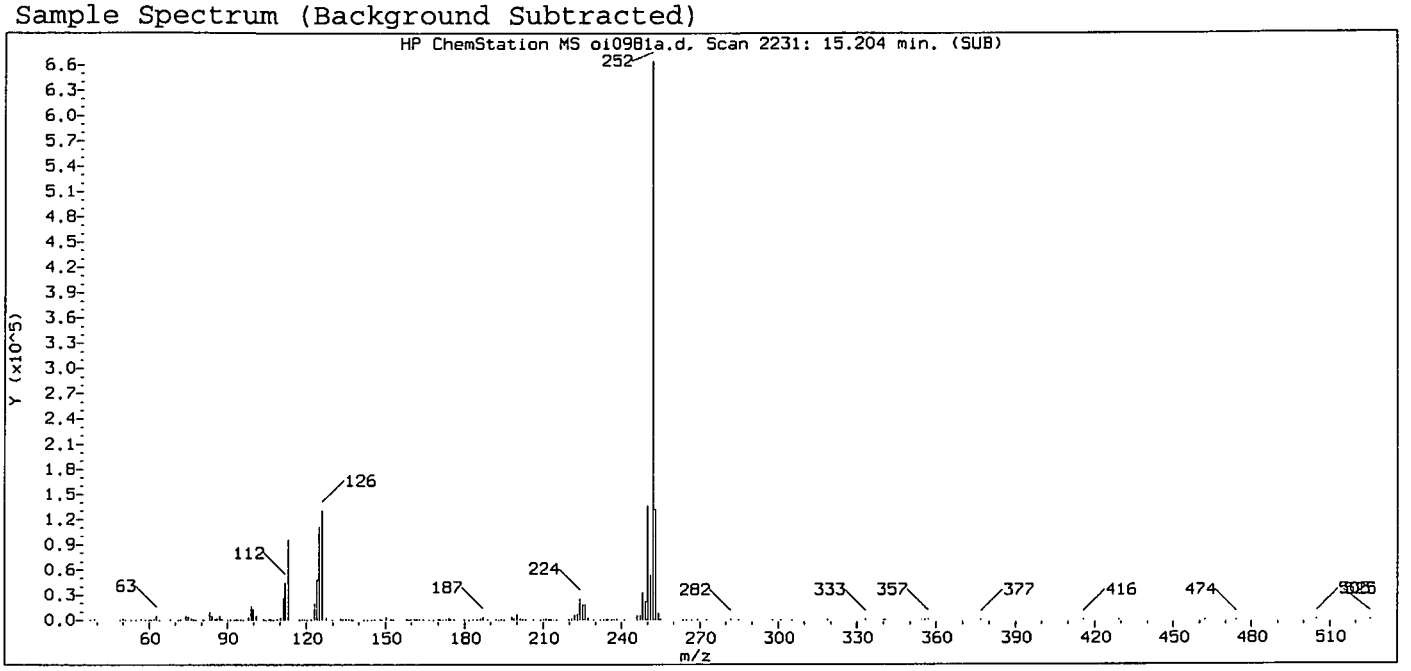
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22. Target 3.5, esignature user ID: lmh00956

SEP 23 2015

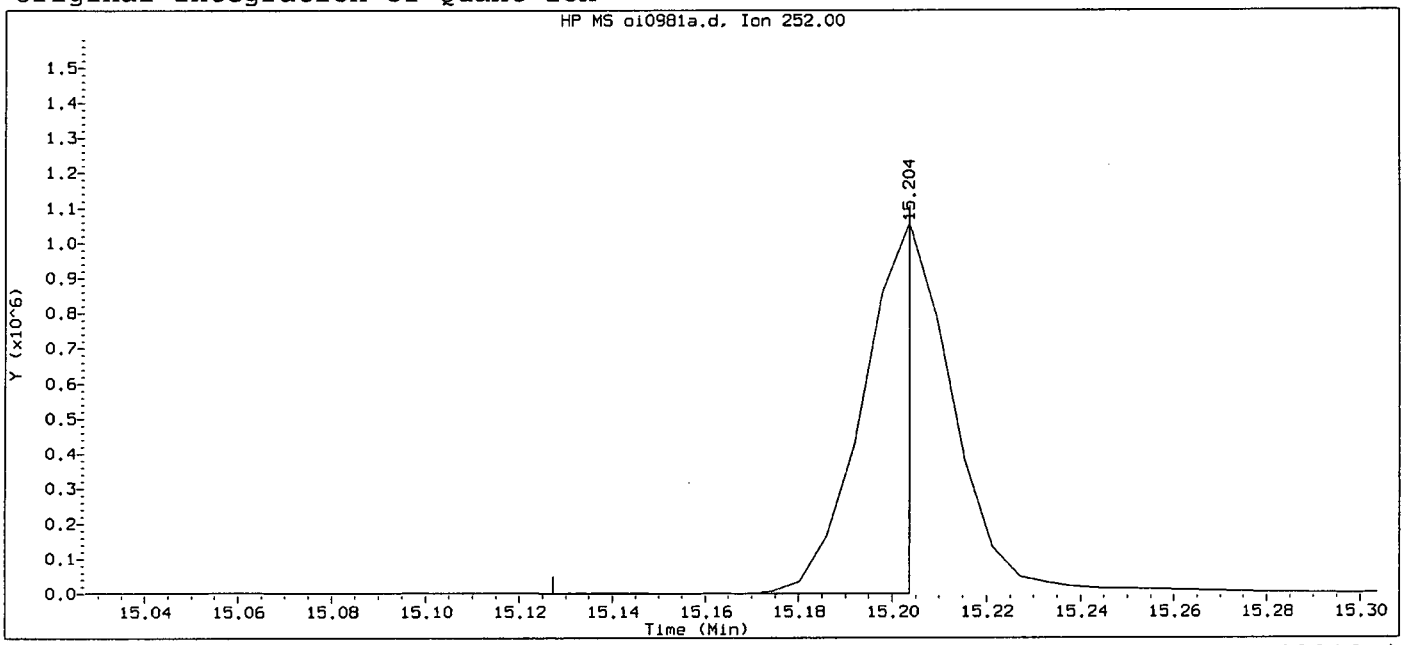
GC/MS audit/management approval:_____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 10:08
Date, time and analyst ID of latest file update: 22-Sep-2015 10:08 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compound Number	: 211		
Compound Name	: Benzo(a)pyrene		
Scan Number	: 2231		
Retention Time (minutes)	: 15.204		
Quant Ion	: 252.00		
Area	: 710741		
On-column Amount (ng/ul)	: 15.5161		
Integration start scan	: 2217	Integration stop scan:	2230
Y at integration start	: 806	Y at integration end:	806

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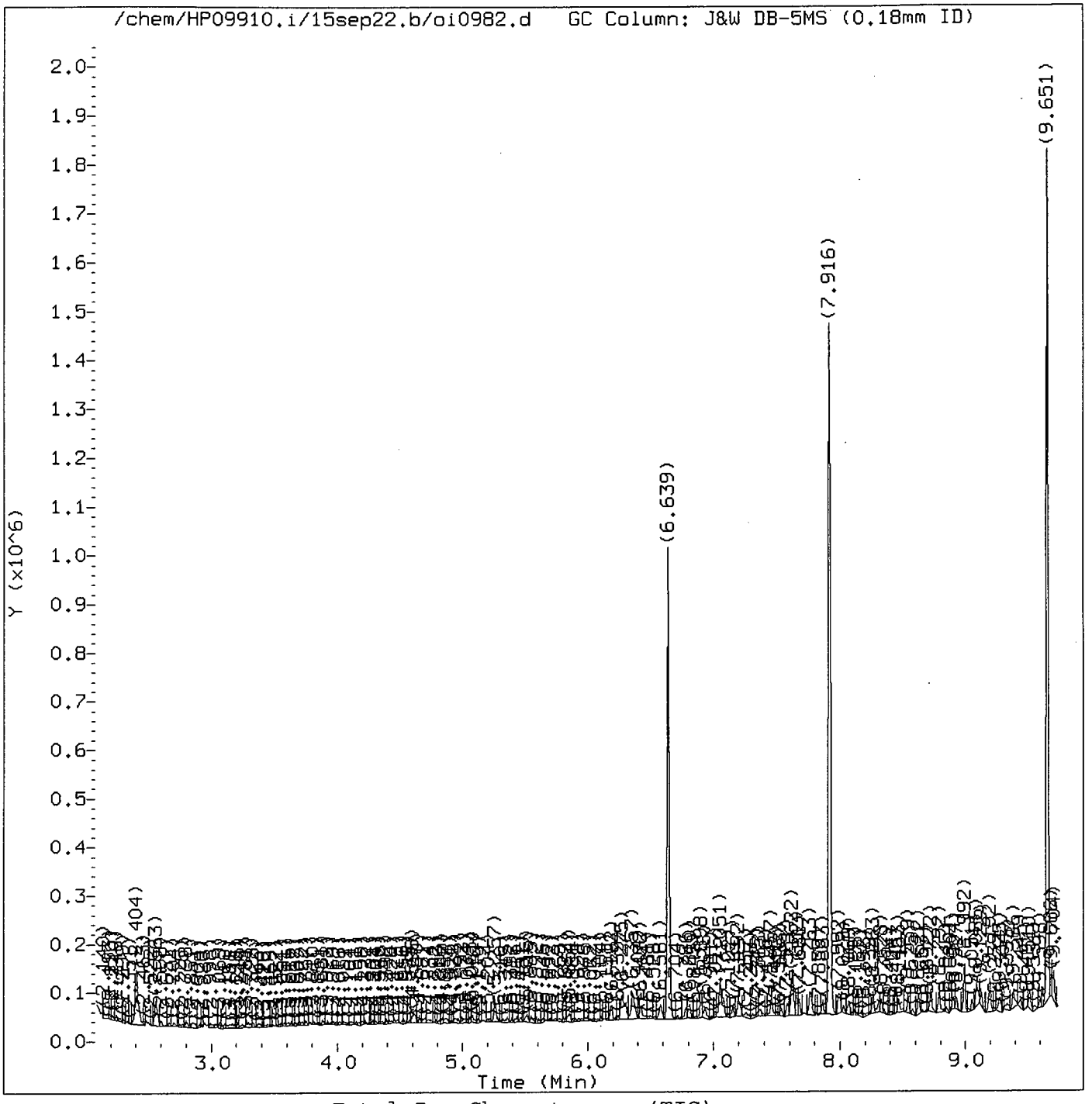
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

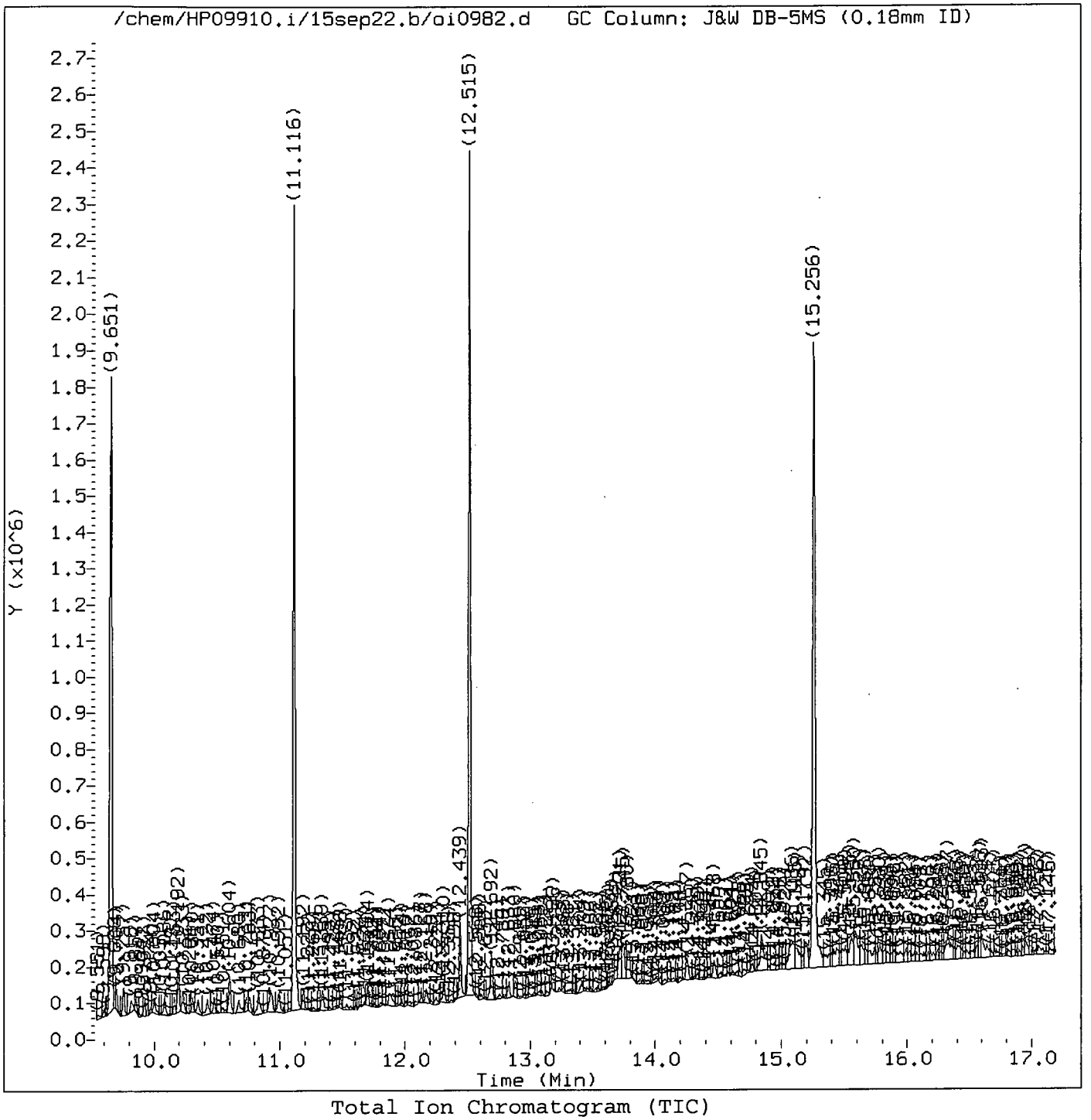
Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0982.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0982.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0982.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	3.004	88	5277	0.958
4) N-Nitrosodimethylamine	(1)	3.528	74	378	0.041
5) Pyridine	(1)	3.575	79	1197	0.080
7) 2-Picoline	(1)	4.545	93	297	0.019
9) Methyl methanesulfonate	(1)	5.063	80	3768	0.481
11)$2-Fluorophenol	(1)	5.257	112	11806	0.959
13) N-Nitrosodiethylamine	(1)	5.510	102	4001	0.565
15) Ethyl methanesulfonate	(1)	5.845	109	3985	0.550
17)$Phenol-d6	(1)	6.269	99	16314	0.907
18) Phenol	(1)	6.281	94	10829	0.509
19) Aniline	(1)	6.298	93	12172	0.512
20) a-methylstyrene	(1)	6.357	118	6845	0.529
22) bis(2-Chloroethyl)ether	(1)	6.381	93	8207	0.552
23) 2-Chlorophenol	(1)	6.422	128	6865	0.571
24) 1,3-Dichlorobenzene	(1)	6.581	146	7578	0.623
25)*1,4-Dichlorobenzene-d4	(1)	6.639	152	145955	20.000
26) 1,4-Dichlorobenzene	(1)	6.657	146	6365	0.519
42) Total Cresols	(1)			14600	1.053
27) Benzyl alcohol	(1)	6.781	108	4497	0.437
28) 1,2-Dichlorobenzene	(1)	6.810	146	6501	0.570
30) Indene	(1)	6.898	115	9595	0.432
31) 2-Methylphenol	(1)	6.898	108	6784	0.517
34) bis(2-Chloroisopropyl)ether	(1)	6.934	45	10521	0.544
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.934	45	10521	0.544
35) N-Nitrosopyrrolidine	(1)	7.022	100	5300	0.629
36) Acetophenone	(1)	7.045	105	10007	0.505
37) 4-Methylphenol	(1)	7.051	108	7816	0.536
38) N-Nitroso-di-n-propylamine	(1)	7.051	70	5932	0.500
39) N-Nitrosomorpholine	(1)	7.063	56	6190	0.658
40) o-Toluidine	(1)	7.081	106	11113	0.478
43) Hexachloroethane	(1)	7.151	117	2294	0.473
44)$Nitrobenzene-d5	(2)	7.192	82	14180	0.911
45) Nitrobenzene	(2)	7.210	77	7207	0.446
48) N-Nitrosopiperidine	(2)	7.363	114	2928	0.404
50) Isophorone	(2)	7.457	82	15090	0.475
51) 2-Nitrophenol	(2)	7.516	139	3170	0.478
53) 2,4-Dimethylphenol	(2)	7.581	107	7042	0.481
56) Benzoic acid	(2)	7.622	105	39396	2.865
57) O,O,O-Triethylphosphorothioate	(2)	7.657	198	4132	0.650
55) bis(2-Chloroethoxy)methane	(2)	7.681	93	8451	0.463

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0982.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.763	104	10232	0.528
60) 2,4-Dichlorophenol	(2)	7.775	162	5308	0.515
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	4482	0.432
65)*Naphthalene-d8	(2)	7.916	136	665113	20.000
66) Naphthalene	(2)	7.939	128	19361	0.513
67) 4-Chloroaniline	(2)	7.986	127	7542	0.451
68) 2,6-Dichlorophenol	(2)	7.998	162	5171	0.509
69) Hexachloropropene	(2)	8.028	213	1548	0.292
71) Hexachlorobutadiene	(2)	8.063	225	1913	0.376
75) Quinoline	(2)	8.263	129	12406	0.468
76) Caprolactam	(2)	8.298	113	1961	0.347
77) N-Nitrosodi-n-butylamine	(2)	8.333	84	6202	0.414
80) 4-Chloro-3-methylphenol	(2)	8.463	107	6696	0.484
82) Safrole	(2)	8.539	162	5431	0.547
83) 2-Methylnaphthalene	(2)	8.627	142	13140	0.499
97) Isosafrole	(3)			5418	0.428
84) 1-Methylnaphthalene	(2)	8.722	142	11983	0.506
85) Hexachlorocyclopentadiene	(3)	8.786	237	1488	0.280
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.792	216	5103	0.491
88) cis-Isosafrole	(3)	8.827	162	654	0.058
90) 2,4,6-Trichlorophenol	(3)	8.892	196	2981	0.393
92) 2,4,5-Trichlorophenol	(3)	8.933	196	3971	0.452
93)$2-Fluorobiphenyl	(3)	8.992	172	27224	0.958
94) trans-Isosafrole	(3)	9.057	162	4764	0.369
95) 1,1'-Biphenyl	(3)	9.086	154	19304	0.555
98) 1-Chloronaphthalene	(3)	9.104	162	21114	0.848
96) 2-Chloronaphthalene	(3)	9.104	162	10715	0.348
100) 2-Nitroaniline	(3)	9.198	138	3061	0.317
99) Diphenyl ether	(3)	9.198	170	9886	0.563
104) 1,4-Naphthoquinone	(3)	9.275	158	4812	0.417
105) 1,4-Dinitrobenzene	(3)	9.333	168	1832	0.376
106) Dimethylphthalate	(3)	9.386	163	15197	0.491
120) 2,4_2,6-Dinitrotoluenes	(3)			5673	0.639
107) 1,3-Dinitrobenzene	(3)	9.404	168	2117	0.380
108) 2,6-Dinitrotoluene	(3)	9.439	165	2155	0.288
109) Acenaphthylene	(3)	9.510	152	16931	0.454
112) 3-Nitroaniline	(3)	9.580	138	3338	0.379
113)*Acenaphthene-d10	(3)	9.651	164	434746	20.000
114) Acenaphthene	(3)	9.686	153	13066	0.482
115) 2,4-Dinitrophenol	(3)	9.704	184	8594	1.747

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0982.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
116) 4-Nitrophenol	(3)	9.757	109	7933	1.733
117) Pentachlorobenzene	(3)	9.816	250	5284	0.552
118) 2,4-Dinitrotoluene	(3)	9.833	165	3518	0.351
119) Dibenzofuran	(3)	9.857	168	17182	0.448
121) 1-Naphthylamine	(3)	9.927	143	13342	0.421
122) 2,3,4,6-Tetrachlorophenol	(3)	9.974	232	3184	0.437
123) 2-Naphthylamine	(3)	10.004	143	14951	0.474
124) Diethylphthalate	(3)	10.086	149	14471	0.469
125) Thionazin	(3)	10.163	107	3397	0.569
129) 4-Nitroaniline	(3)	10.186	138	4831	0.476
128) 5-Nitro-o-toluidine	(3)	10.192	152	5551	0.568
126) Fluorene	(3)	10.192	166	14364	0.469
127) 4-Chlorophenyl-phenylether	(3)	10.198	204	5860	0.405
146) Diallate trans/cis	(4)			14530	0.773
130) 4,6-Dinitro-2-methylphenol	(4)	10.227	198	7136	1.069
132) NDPA as diphenylamine	(4)	10.310	169	14693	0.511
131) N-Nitrosodiphenylamine	(4)	10.310	169	14693	0.511
134) 1,2-Diphenylhydrazine	(4)	10.351	77	14950	0.392
135)$2,4,6-Tribromophenol	(3)	10.427	330	3722	1.026
137) Tetraethyldithiopyrophosphate	(4)	10.474	97	3591	0.671
139) 1,3,5-Trinitrobenzene	(4)	10.545	213	1115	0.285
140) Diallate (peak 1)	(4)	10.604	86	11592	0.608
142) Phenacetin	(4)	10.604	108	9249	0.465
141) Phorate	(4)	10.610	75	10022	0.382
143) 4-Bromophenyl-phenylether	(4)	10.680	248	3923	0.495
144) Diallate (peak 2)	(4)	10.692	86	2938	0.164
145) Hexachlorobenzene	(4)	10.733	284	5183	0.561
147) Dimethoate	(4)	10.763	87	6788	0.379
149) Pentachlorophenol	(4)	10.927	266	3328	0.577
150) 4-Aminobiphenyl	(4)	10.927	169	15465	0.498
151) Pentachloronitrobenzene	(4)	10.945	237	1887	0.644
152) Pronamide	(4)	10.992	173	5811	0.427
153)*Phenanthrene-d10	(4)	11.116	188	855654	20.000
155) Phenanthrene	(4)	11.139	178	24699	0.494
157) Anthracene	(4)	11.192	178	24000	0.485
163) Carbazole	(4)	11.345	167	22663	0.471
164) Methyl parathion	(4)	11.480	109	3523	0.279
165) Di-n-butylphthalate	(4)	11.704	149	24798	0.452
167) Parathion	(4)	11.874	109	3131	0.417
168) 4-Nitroquinoline-1-oxide	(4)	11.880	190	1243	0.267

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0982.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
171) Isodrin	(4)	12.168	193	2746	0.533
173) Fluoranthene	(4)	12.310	202	26022	0.482
174) Benzidine	(5)	12.439	184	96684	2.454
175)*Pyrene-d10	(5)	12.515	212	989275	20.000
177) Pyrene	(5)	12.527	202	30971	0.515
179)$Terphenyl-d14	(5)	12.692	244	36350	1.026
182) p-Dimethylaminoazobenzene	(5)	12.833	225	4430	0.394
185) Chlorobenzilate	(5)	12.880	139	7153	0.466
187) 3,3'-Dimethylbenzidine	(5)	13.162	212	10742	0.337
188) Butylbenzylphthalate	(5)	13.186	149	9950	0.382
191) 2-Acetylaminofluorene	(5)	13.415	181	8243	0.353
193) 3,3'-Dichlorobenzidine	(5)	13.721	252	8190	0.454
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.727	231	2963	0.286
195) Benzo(a)anthracene	(5)	13.745	228	25642	0.502
196) Chrysene	(5)	13.780	228	25199	0.508
199) bis(2-Ethylhexyl)phthalate	(5)	13.798	149	16904	0.466
203) 6-Methylchrysene	(5)	14.251	242	17008	0.492
205) Di-n-octylphthalate	(6)	14.468	149	20744	0.314
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.845	256	10597	0.430
206) Benzo(b)fluoranthene	(6)	14.851	252	18656	0.419
208) Benzo(k)fluoranthene	(6)	14.886	252	24046	0.476
211) Benzo(a)pyrene	(6)	15.192	252	24891	0.503
213)*Perylene-d12	(6)	15.256	264	795393	20.000
215) 3-Methylcholanthrene	(6)	15.592	268	10712	0.443
222) Total PAHs	(6)			340619	7.912
219) Indeno(1,2,3-cd)pyrene	(6)	16.586	276	26683	0.504
220) Dibenz(a,h)anthracene	(6)	16.598	278	22775	0.503
221) Benzo(g,h,i)perylene	(6)	16.956	276	20892	0.492

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$ = Compound is a surrogate standard.

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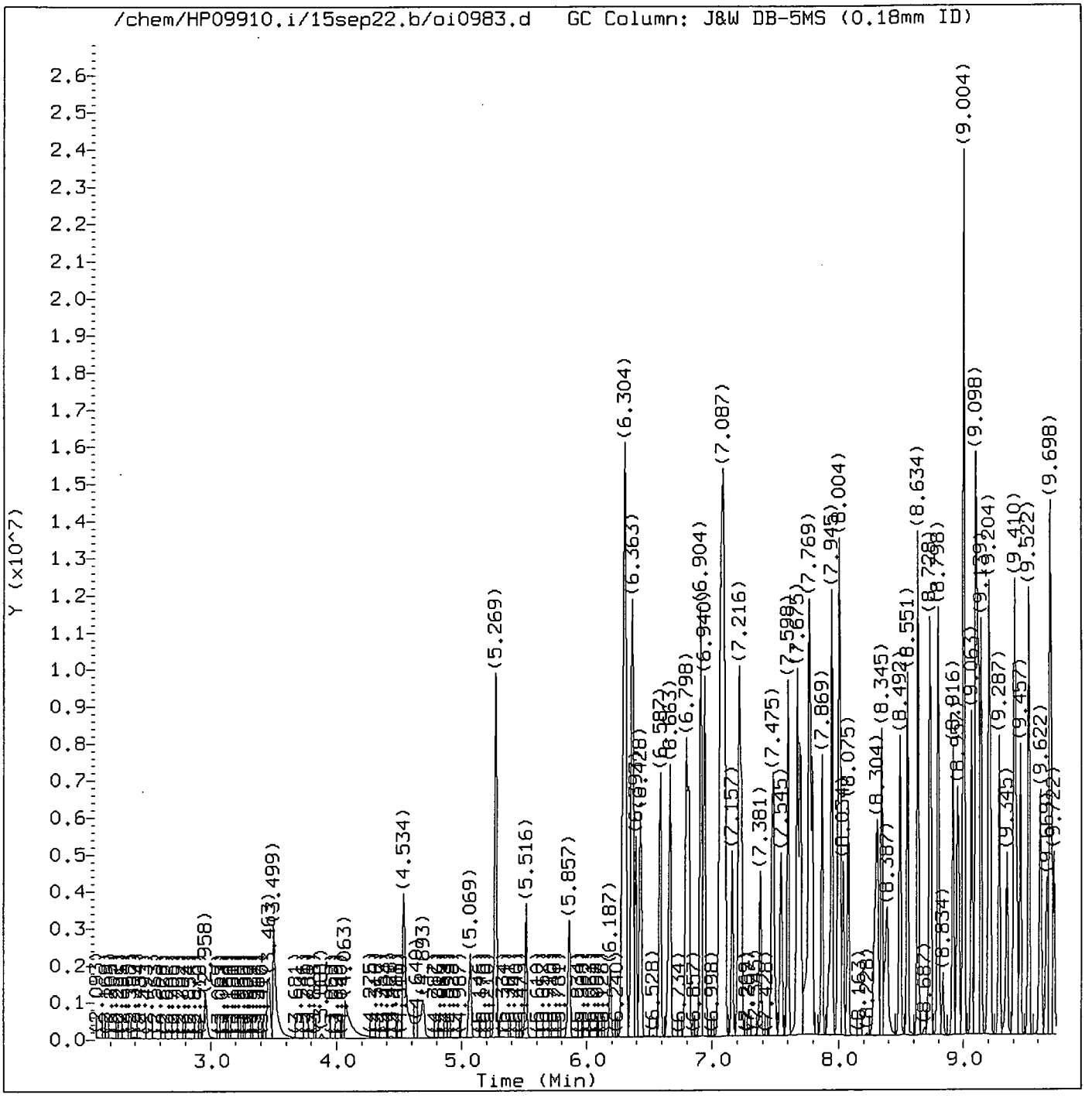
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

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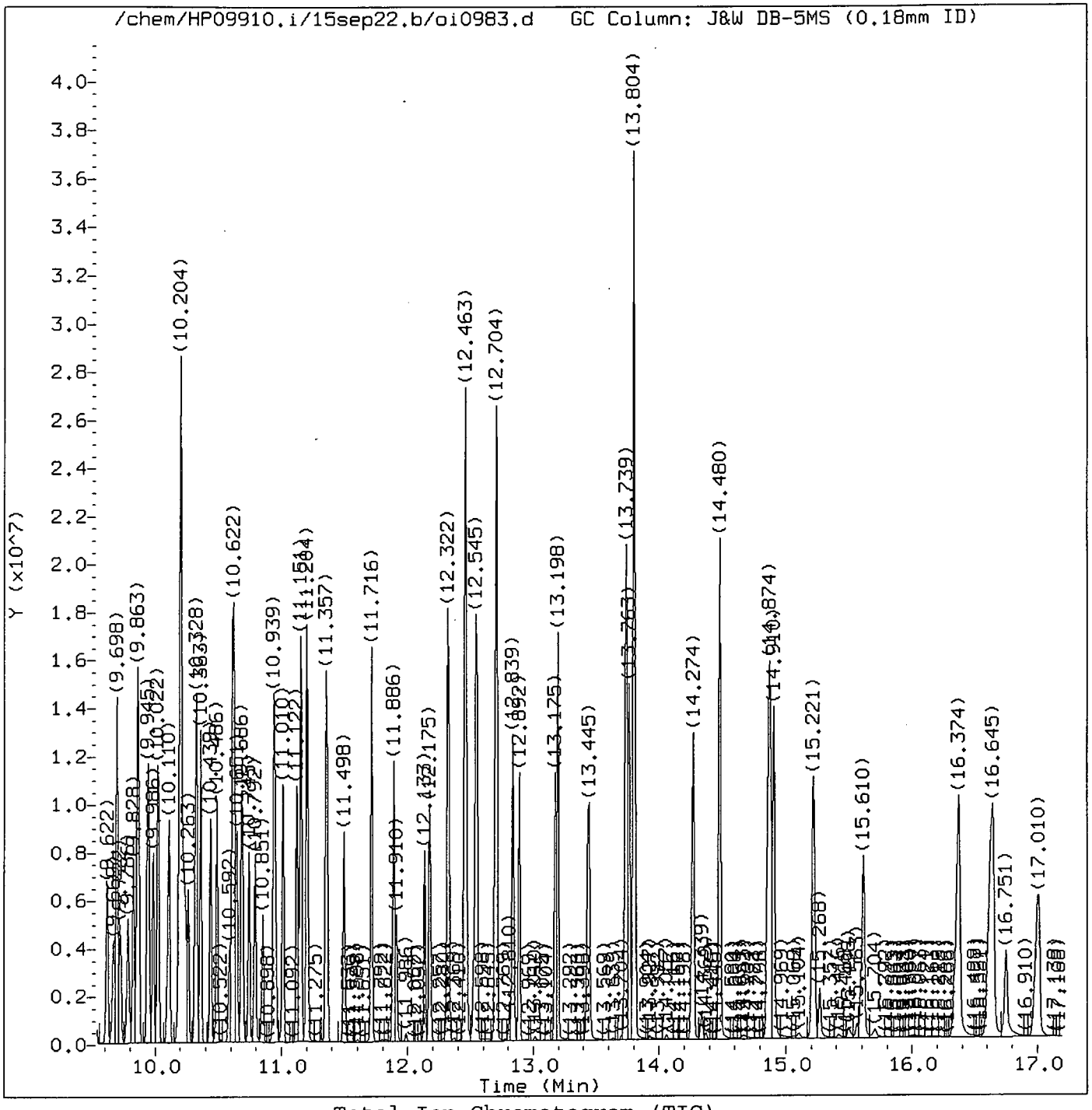
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.958	88	776391	115.542
4) N-Nitrosodimethylamine	(1)	3.463	74	1365243	118.601
5) Pyridine	(1)	3.499	79	2213912	118.208
7) 2-Picoline	(1)	4.534	93	2311426	117.004
8) N-Nitrosomethylethylamine	(1)	4.693	88	1091802	117.697
9) Methyl methanesulfonate	(1)	5.069	80	1083979	114.521
11)$2-Fluorophenol	(1)	5.275	112	3694362	238.622
13) N-Nitrosodiethylamine	(1)	5.516	102	1076159	120.047
15) Ethyl methanesulfonate	(1)	5.857	109	1036056	116.423
17)$Phenol-d6	(1)	6.293	99	5342051	237.439
19) Aniline	(1)	6.310	93	3560013	119.190
18) Phenol	(1)	6.310	94	3208801	119.648
20) a-methylstyrene	(1)	6.363	118	1877668	117.363
22) bis(2-Chloroethyl)ether	(1)	6.393	93	2219123	119.037
23) 2-Chlorophenol	(1)	6.428	128	1868409	121.378
24) 1,3-Dichlorobenzene	(1)	6.587	146	1762863	117.196
25)*1,4-Dichlorobenzene-d4	(1)	6.646	152	184589	20.000
42) Total Cresols	(1)			4537063	248.691
26) 1,4-Dichlorobenzene	(1)	6.663	146	1810499	118.333
27) Benzyl alcohol	(1)	6.798	108	1478409	116.681
28) 1,2-Dichlorobenzene	(1)	6.816	146	1735794	120.197
30) Indene	(1)	6.904	115	3345646	119.595
31) 2-Methylphenol	(1)	6.916	108	2044429	121.608
34) bis(2-Chloroisopropyl)ether	(1)	6.940	45	2875251	118.731
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.940	45	2875251	118.731
35) N-Nitrosopyrrolidine	(1)	7.057	100	1286316	120.323
36) Acetophenone	(1)	7.063	105	3010057	120.085
37) 4-Methylphenol	(1)	7.075	108	2492634	127.083
38) N-Nitroso-di-n-propylamine	(1)	7.087	70	1775284	119.178
39) N-Nitrosomorpholine	(1)	7.093	56	1396136	118.648
40) o-Toluidine	(1)	7.098	106	3495749	119.402
43) Hexachloroethane	(1)	7.157	117	725308	119.154
44)$Nitrobenzene-d5	(2)	7.216	82	4948164	242.550
45) Nitrobenzene	(2)	7.234	77	2465314	118.865
48) N-Nitrosopiperidine	(2)	7.381	114	1133787	120.349
50) Isophorone	(2)	7.475	82	5027424	120.975
51) 2-Nitrophenol	(2)	7.545	139	1054502	121.245
53) 2,4-Dimethylphenol	(2)	7.598	107	2281233	120.096
57) O,O,O-Triethylphosphorothioate	(2)	7.675	198	960173	118.267
55) bis(2-Chloroethoxy)methane	(2)	7.692	93	2778338	118.705

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$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	7.757	105	2308294	124.553
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.769	104	3042238	120.560
60) 2,4-Dichlorophenol	(2)	7.793	162	1637502	121.282
62) 1,2,4-Trichlorobenzene	(2)	7.869	180	1601173	119.541
65)*Naphthalene-d8	(2)	7.922	136	862356	20.000
66) Naphthalene	(2)	7.945	128	5871417	119.971
67) 4-Chloroaniline	(2)	8.004	127	2614475	120.231
68) 2,6-Dichlorophenol	(2)	8.010	162	1561095	119.285
69) Hexachloropropene	(2)	8.034	213	853803	121.977
71) Hexachlorobutadiene	(2)	8.075	225	736014	115.624
75) Quinoline	(2)	8.304	129	4128625	120.062
77) N-Nitrosodi-n-butylamine	(2)	8.345	84	1775552	103.715
76) Caprolactam	(2)	8.387	113	870255	119.428
80) 4-Chloro-3-methylphenol	(2)	8.492	107	2162457	120.238
82) Safrole	(2)	8.551	162	1536817	119.639
97) Isosafrole	(3)			1866778	116.309
83) 2-Methylnaphthalene	(2)	8.634	142	4046785	119.050
84) 1-Methylnaphthalene	(2)	8.734	142	3727235	120.924
85) Hexachlorocyclopentadiene	(3)	8.792	237	751620	113.556
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.798	216	1557810	117.080
88) cis-Isosafrole	(3)	8.834	162	279837	19.704
90) 2,4,6-Trichlorophenol	(3)	8.916	196	1157748	118.125
92) 2,4,5-Trichlorophenol	(3)	8.957	196	1266065	114.735
93)$2-Fluorobiphenyl	(3)	9.004	172	8571516	234.863
94) trans-Isosafrole	(3)	9.063	162	1586941	96.605
95) 1,1'-Biphenyl	(3)	9.098	154	5186276	116.794
96) 2-Chloronaphthalene	(3)	9.116	162	3855276	106.290
98) 1-Chloronaphthalene	(3)	9.139	162	3648565	115.702
99) Diphenyl ether	(3)	9.204	170	2585463	116.053
100) 2-Nitroaniline	(3)	9.216	138	1439878	116.821
104) 1,4-Naphthoquinone	(3)	9.287	158	1648362	114.177
105) 1,4-Dinitrobenzene	(3)	9.351	168	775855	120.710
120) 2,4_2,6-Dinitrotoluenes	(3)			2653336	235.303
106) Dimethylphthalate	(3)	9.410	163	4640929	117.096
107) 1,3-Dinitrobenzene	(3)	9.428	168	871392	119.695
108) 2,6-Dinitrotoluene	(3)	9.457	165	1117279	116.955
109) Acenaphthylene	(3)	9.522	152	6217409	124.639
112) 3-Nitroaniline	(3)	9.622	138	1270145	114.824
113)*Acenaphthene-d10	(3)	9.663	164	570021	20.000
114) Acenaphthene	(3)	9.698	153	4168027	118.211

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$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	9.722	184	865027	126.674
116) 4-Nitrophenol	(3)	9.786	109	694943	117.840
117) Pentachlorobenzene	(3)	9.828	250	1381586	114.825
118) 2,4-Dinitrotoluene	(3)	9.857	165	1536057	118.348
119) Dibenzofuran	(3)	9.869	168	5715867	116.689
121) 1-Naphthylamine	(3)	9.945	143	4622446	115.511
122) 2,3,4,6-Tetrachlorophenol	(3)	9.986	232	1080472	116.484
123) 2-Naphthylamine	(3)	10.022	143	4298103	111.445
124) Diethylphthalate	(3)	10.110	149	4574934	116.473
125) Thionazin	(3)	10.192	107	1067949	127.692
146) Diallate trans/cis	(4)			2827996	119.322
127) 4-Chlorophenyl-phenylether	(3)	10.204	204	2135536	116.133
126) Fluorene	(3)	10.204	166	4790341	119.564
128) 5-Nitro-o-toluidine	(3)	10.222	152	1428837	115.617
129) 4-Nitroaniline	(3)	10.239	138	1419687	112.977
130) 4,6-Dinitro-2-methylphenol	(4)	10.263	198	1068222	123.208
132) NDPA as diphenylamine	(4)	10.328	169	4288110	118.952
131) N-Nitrosodiphenylamine	(4)	10.328	169	4288110	118.952
134) 1,2-Diphenylhydrazine	(4)	10.363	77	5866954	120.887
135)$2,4,6-Tribromophenol	(3)	10.445	330	1051880	230.165
137) Tetraethyldithiopyrophosphate	(4)	10.486	97	813166	120.101
139) 1,3,5-Trinitrobenzene	(4)	10.592	213	659261	126.333
140) Diallate (peak 1)	(4)	10.616	86	2370432	98.998
141) Phorate	(4)	10.622	75	4011484	120.493
142) Phenacetin	(4)	10.651	108	2997991A	119.650
143) 4-Bromophenyl-phenylether	(4)	10.686	248	1137478	116.689
144) Diallate (peak 2)	(4)	10.698	86	457564	20.324
145) Hexachlorobenzene	(4)	10.745	284	1144636	104.402
147) Dimethoate	(4)	10.792	87	2315484	110.398
149) Pentachlorophenol	(4)	10.939	266	842384	117.708
150) 4-Aminobiphenyl	(4)	10.945	169	3300089	98.849
151) Pentachloronitrobenzene	(4)	10.957	237	448738	120.559
152) Pronamide	(4)	11.016	173	2079685	120.370
153)*Phenanthrene-d10	(4)	11.128	188	1081770	20.000
154) Dinoseb	(4)	11.128	211	1445972	127.677
155) Phenanthrene	(4)	11.151	178	7694101	121.079
157) Anthracene	(4)	11.204	178	7764413	122.722
163) Carbazole	(4)	11.357	167	7273715	119.750
164) Methyl parathion	(4)	11.498	109	1704891	112.948
165) Di-n-butylphthalate	(4)	11.716	149	8189275	119.004

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	11.886	109	1151315	120.639
168) 4-Nitroquinoline-1-oxide	(4)	11.910	190	729181	121.984
169) Octachlorostyrene	(4)	12.133	308	391032	116.870
171) Isodrin	(4)	12.175	193	726601	115.656
173) Fluoranthene	(4)	12.322	202	8351433	121.492
174) Benzidine	(5)	12.463	184	13044309	308.470
175)*Pyrene-d10	(5)	12.522	212	1213947	20.000
177) Pyrene	(5)	12.545	202	8620778	117.933
179)$Terphenyl-d14	(5)	12.704	244	10434439	239.988
182) p-Dimethylaminoazobenzene	(5)	12.839	225	1661003	120.120
185) Chlorobenzilate	(5)	12.886	139	2323212	121.611
187) 3,3'-Dimethylbenzidine	(5)	13.175	212	4310722	114.975
188) Butylbenzylphthalate	(5)	13.198	149	3807858	119.641
191) 2-Acetylaminofluorene	(5)	13.445	181	3517672	121.341
193) 3,3'-Dichlorobenzidine	(5)	13.739	252	2433040	114.772
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.739	231	1330174	111.713
195) Benzo(a)anthracene	(5)	13.763	228	7410055	118.779
199) bis(2-Ethylhexyl)phthalate	(5)	13.804	149	5385379	120.480
196) Chrysene	(5)	13.804	228	6720158	113.491
203) 6-Methylchrysene	(5)	14.274	242	4936588	118.128
205) Di-n-octylphthalate	(6)	14.480	149	8951092	123.662
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.868	256	3154903	120.271
206) Benzo(b)fluoranthene	(6)	14.886	252	6467993	130.577
208) Benzo(k)fluoranthene	(6)	14.910	252	6782094A	124.203
211) Benzo(a)pyrene	(6)	15.221	252	6272433	119.561
213)*Perylene-d12	(6)	15.268	264	844884	20.000
215) 3-Methylcholanthrene	(6)	15.616	268	2968329	117.723
222) Total PAHs	(6)			98958810	1909.266
219) Indeno(1,2,3-cd)pyrene	(6)	16.621	276	6448459	116.431
220) Dibenz(a,h)anthracene	(6)	16.645	278	5443109	115.432
221) Benzo(g,h,i)perylene	(6)	17.010	276	5412657	119.987

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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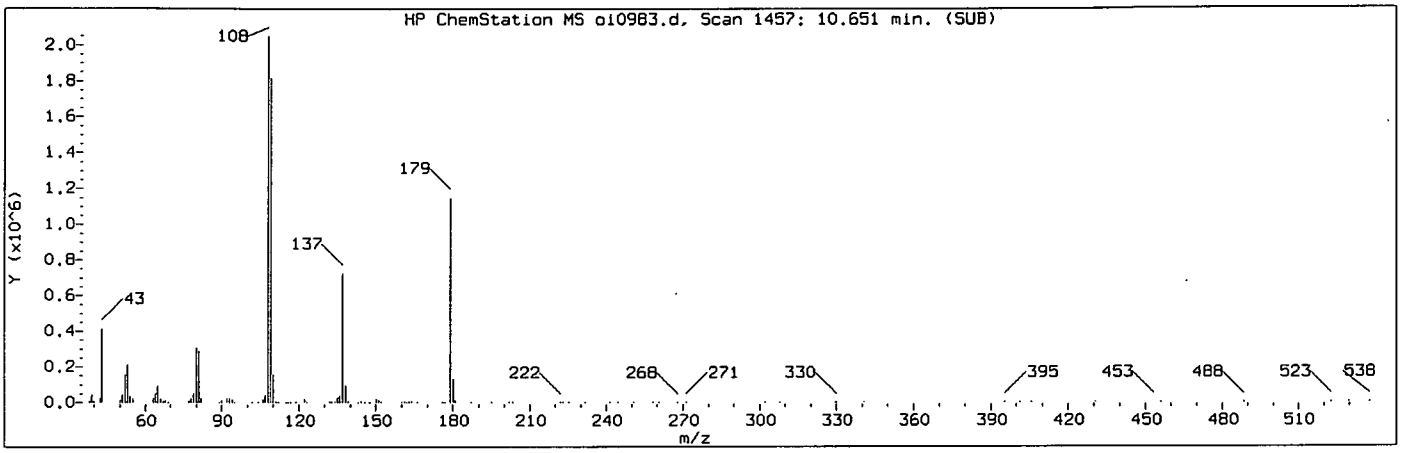
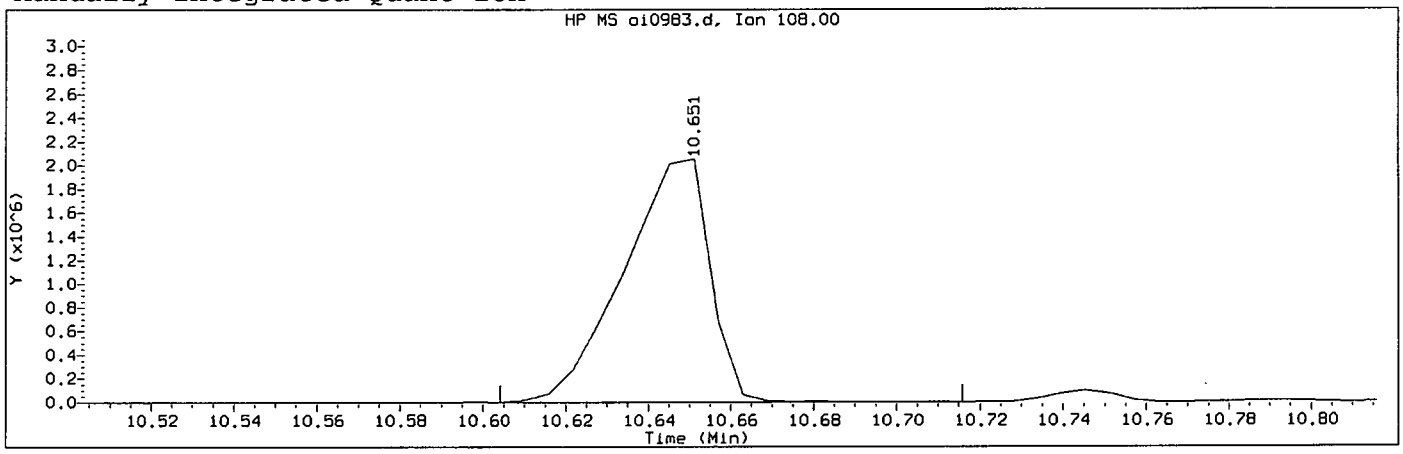
on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compound Number	: 142		
Compound Name	: Phenacetin		
Scan Number	: 1457		
Retention Time (minutes)	: 10.651		
Quant Ion	: 108.00		
Area (flag)	: 2997991A		
On-Column Amount (ng/ul)	: 119.6499		
Integration start scan	: 1448	Integration stop scan:	1467
Y at integration start	: 0	Y at integration end:	0

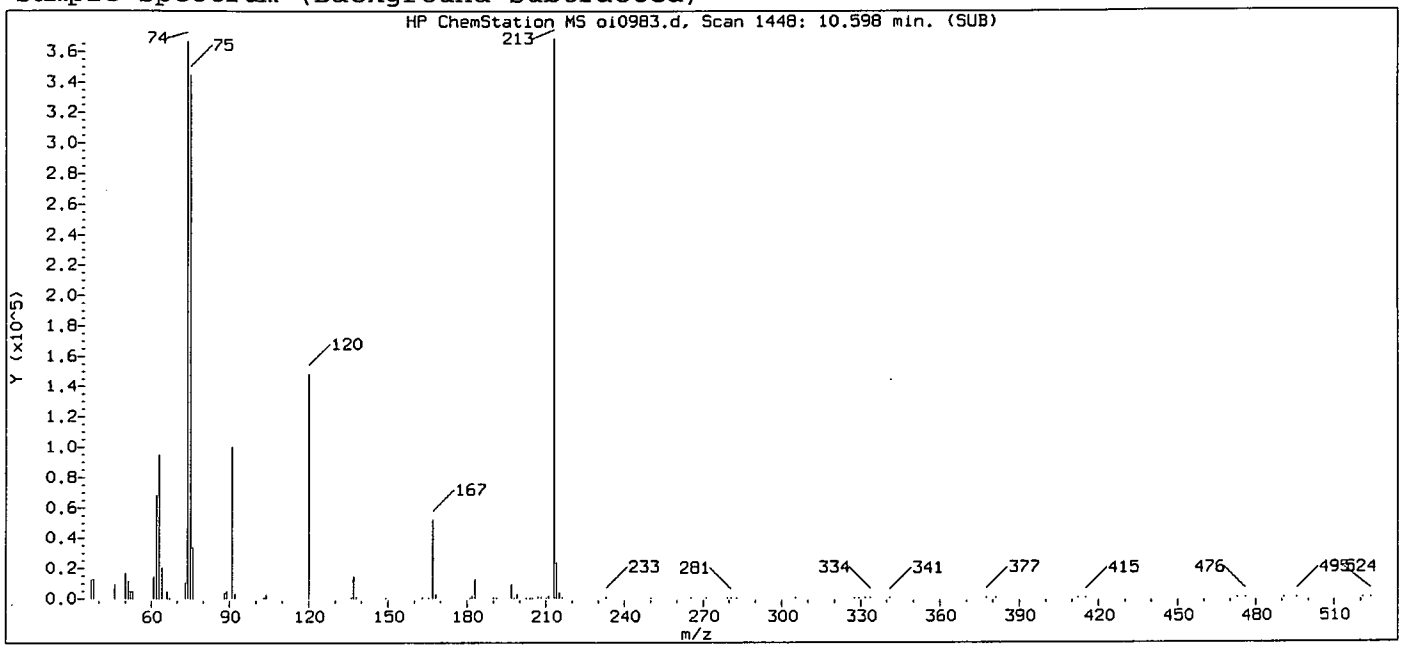
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22. Target 3.5 signature user ID: lmh00956

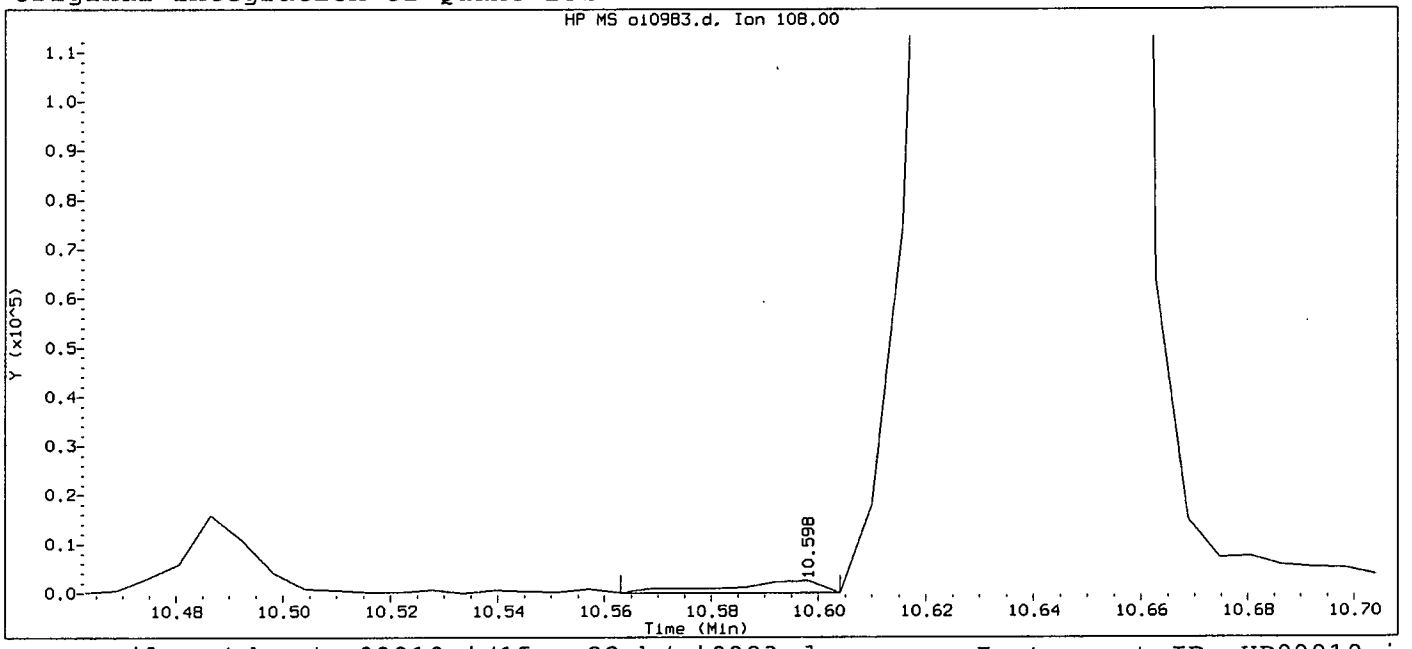
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 10:40
Date, time and analyst ID of latest file update: 22-Sep-2015 10:40 Automation

Sample Name: SSTD120 Lab Sample ID: STD2575

Compound Number	: 142		
Compound Name	: Phenacetin		
Scan Number	: 1448		
Retention Time (minutes)	: 10.598		
Quant Ion	: 108.00		
Area	: 3146		
On-column Amount (ng/ul)	: 0.1387		
Integration start scan	: 1441	Integration stop scan:	1448
Y at integration start	: 0	Y at integration end:	0

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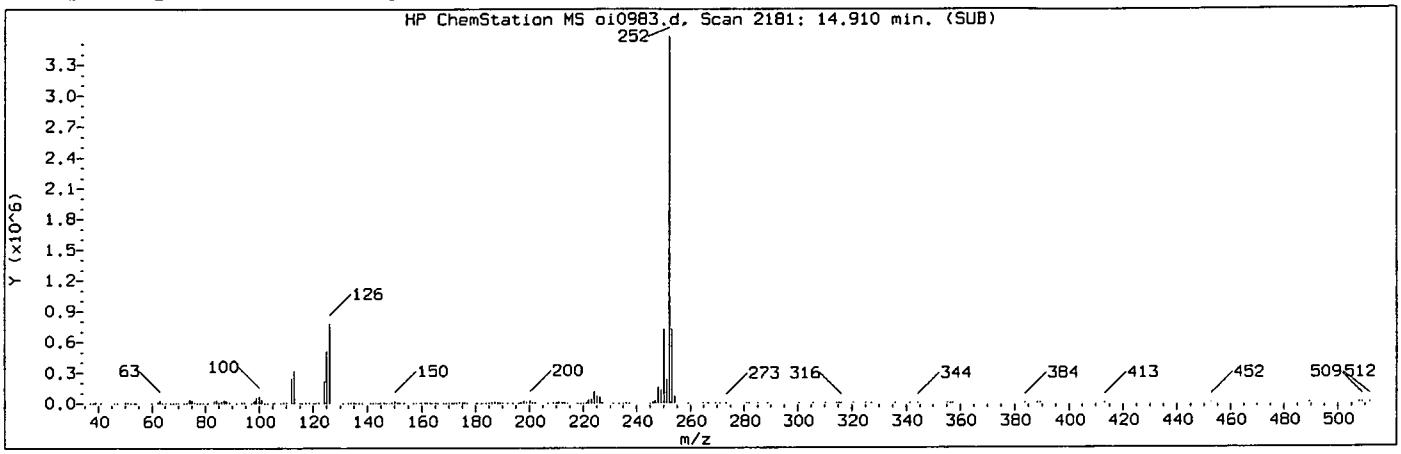
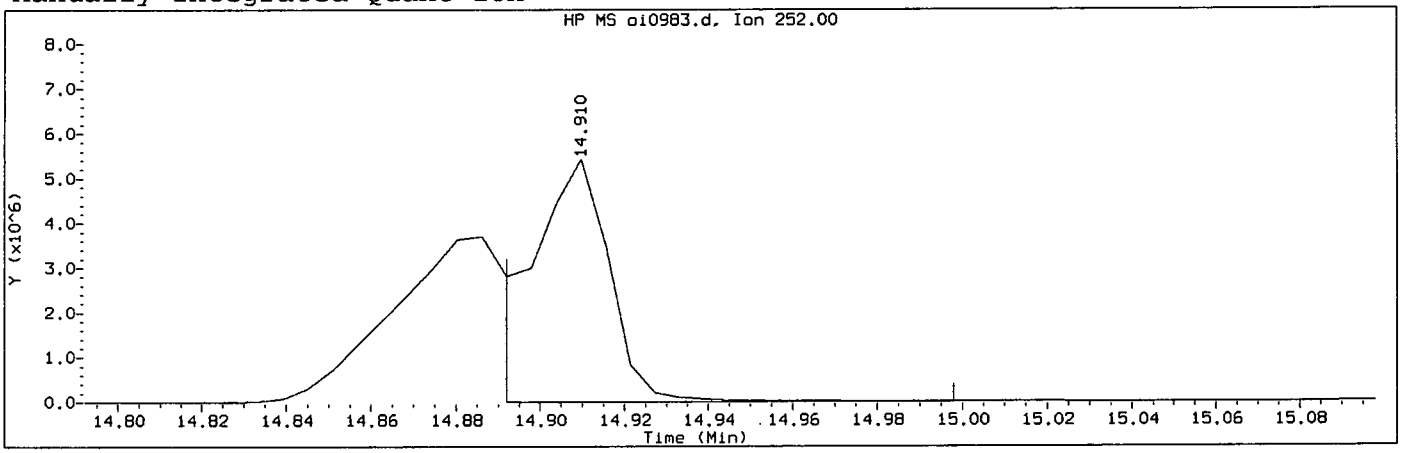
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2181		
Retention Time (minutes)	: 14.910		
Quant Ion	: 252.00		
Area (flag)	: 6782094A		
On-Column Amount (ng/ul)	: 124.2028		
Integration start scan	: 2177	Integration stop scan:	2195
Y at integration start	: 440	Y at integration end:	440

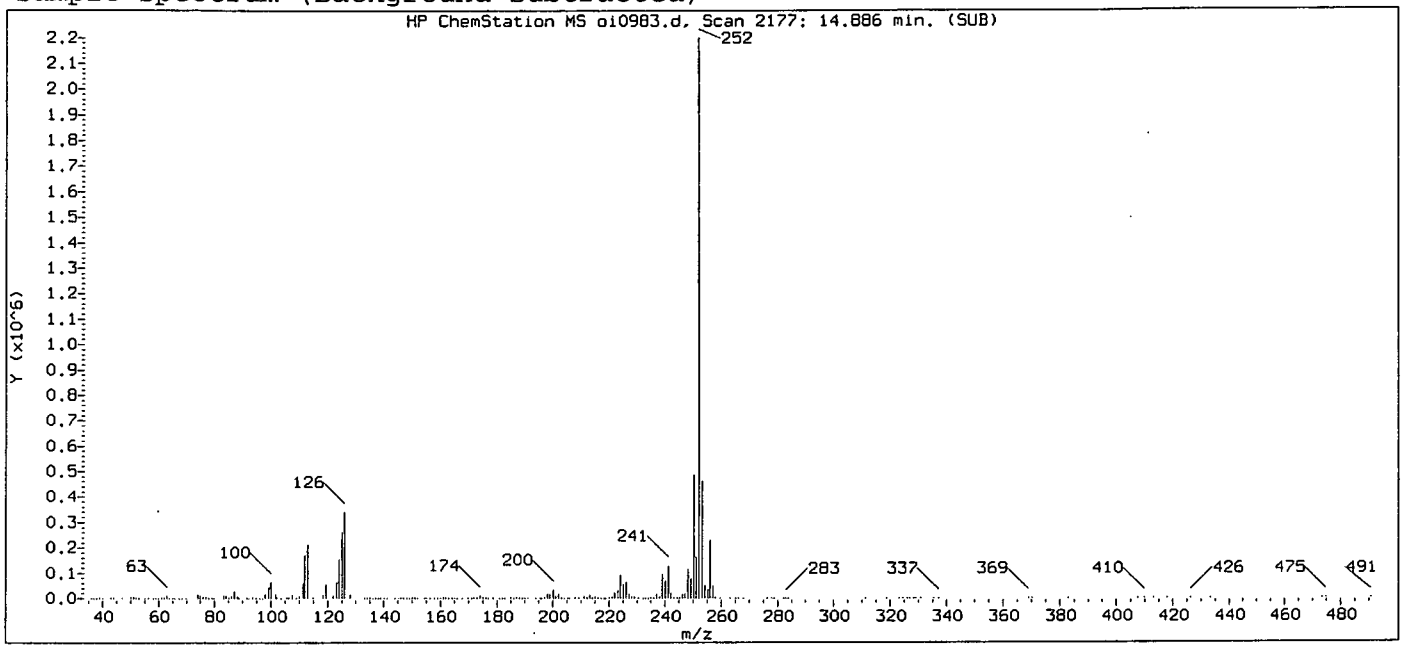
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22. Target 3.3 signature user ID: lmh00956

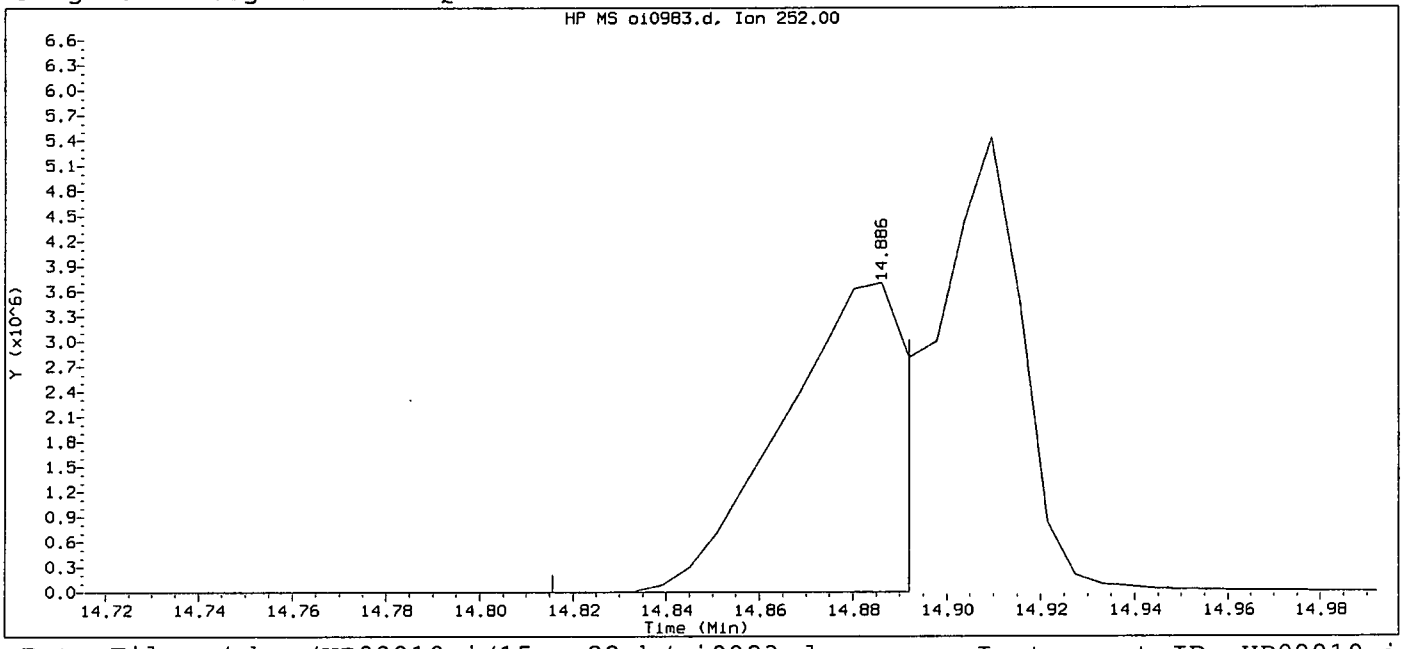
SEP 23 2015

GC/MS audit/management approval: Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 10:40
Date, time and analyst ID of latest file update: 22-Sep-2015 10:40 Automation

Sample Name: SSTD120 Lab Sample ID: STD2575

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2177		
Retention Time (minutes)	: 14.886		
Quant Ion	: 252.00		
Area	: 6467993		
On-column Amount (ng/ul)	: 119.7777		
Integration start scan	: 2164	Integration stop scan:	2177
Y at integration start	: 440	Y at integration end:	440

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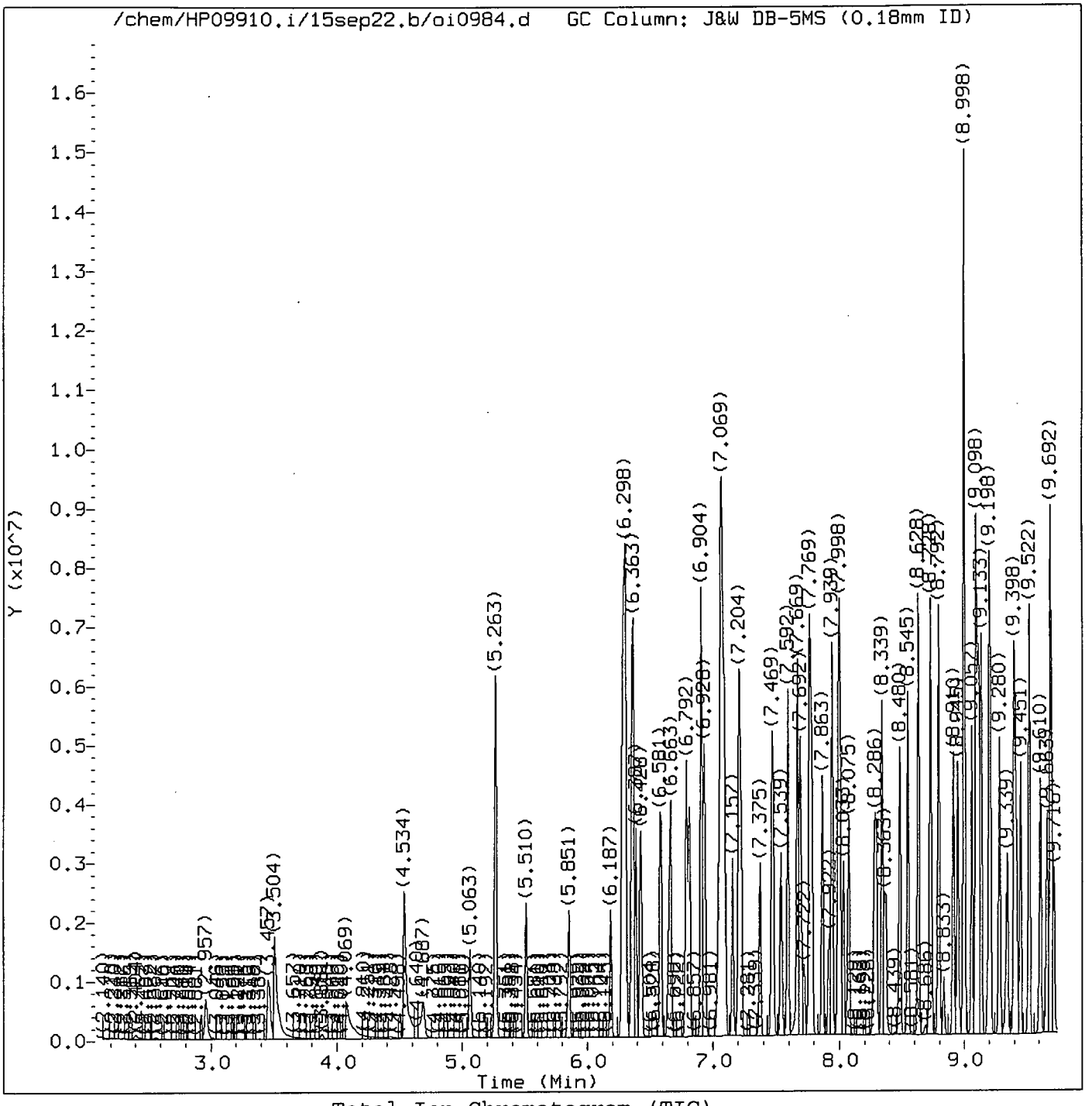
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

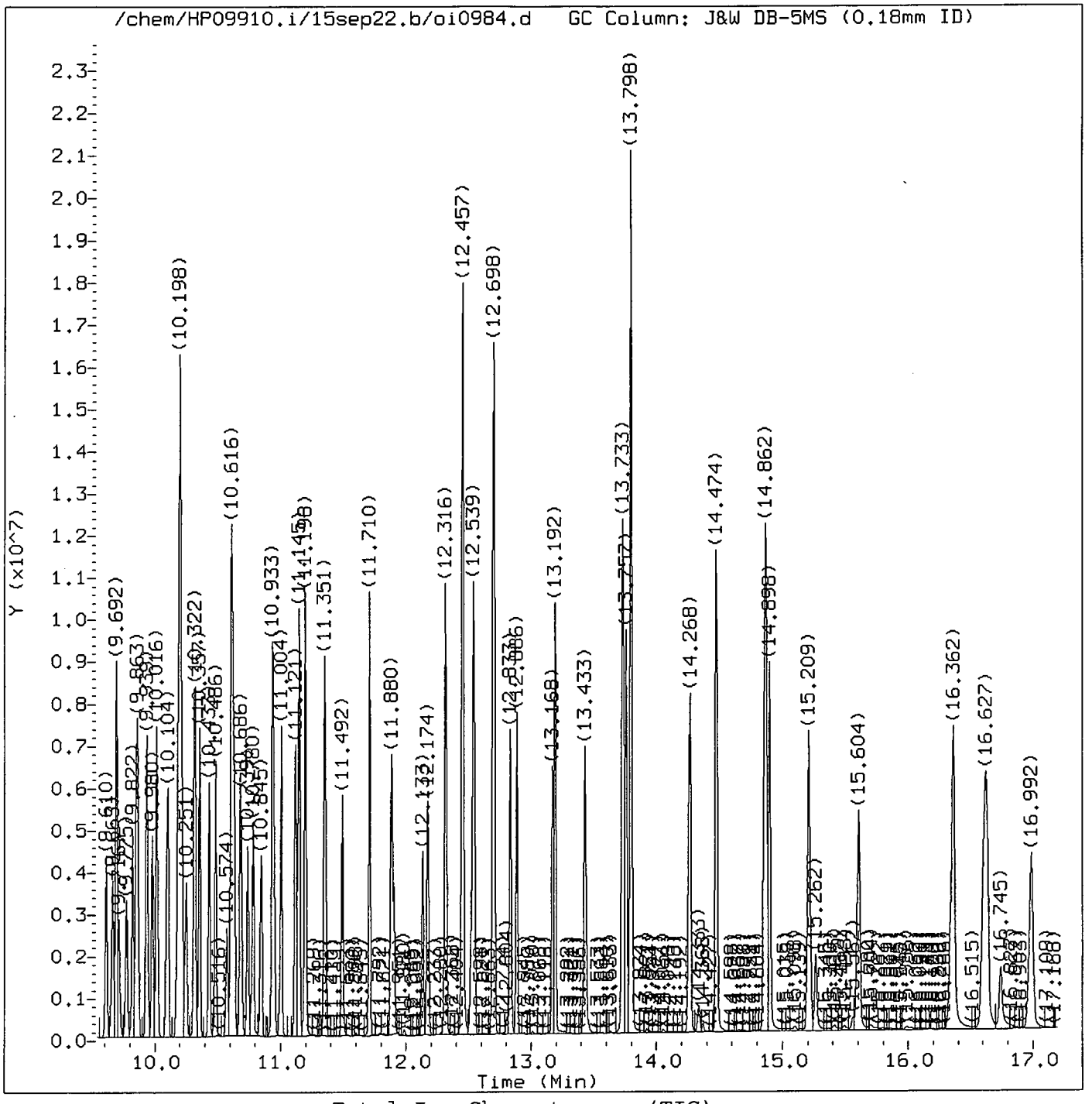
Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0984.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:49 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0984.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:49 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0984.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:49 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.957	88	463715	77.430
4) N-Nitrosodimethylamine	(1)	3.457	74	800114	77.807
5) Pyridine	(1)	3.504	79	1297372	77.628
7) 2-Picoline	(1)	4.534	93	1385173	78.267
8) N-Nitrosomethylethylamine	(1)	4.687	88	638913	77.327
9) Methyl methanesulfonate	(1)	5.063	80	650408	77.205
11)$2-Fluorophenol	(1)	5.269	112	2130084	154.528
13) N-Nitrosodiethylamine	(1)	5.510	102	643224	79.488
15) Ethyl methanesulfonate	(1)	5.851	109	617707	77.735
17)$Phenol-d6	(1)	6.287	99	3108750	154.978
18) Phenol	(1)	6.298	94	1894077	78.648
19) Aniline	(1)	6.304	93	2098891	78.383
20) a-methylstyrene	(1)	6.363	118	1099373	77.206
22) bis(2-Chloroethyl)ether	(1)	6.387	93	1308951	78.340
23) 2-Chlorophenol	(1)	6.428	128	1078239	78.213
24) 1,3-Dichlorobenzene	(1)	6.586	146	1039870	77.522
25)*1,4-Dichlorobenzene-d4	(1)	6.645	152	167159	20.000
42) Total Cresols	(1)			2644755	160.031
26) 1,4-Dichlorobenzene	(1)	6.663	146	1073108	78.282
27) Benzyl alcohol	(1)	6.792	108	886602	78.159
28) 1,2-Dichlorobenzene	(1)	6.810	146	993201	77.251
30) Indene	(1)	6.904	115	1959930	78.224
31) 2-Methylphenol	(1)	6.922	108	1190790	78.803
34) bis(2-Chloroisopropyl)ether	(1)	6.934	45	1678489	77.659
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.934	45	1678489	77.659
35) N-Nitrosopyrrolidine	(1)	7.039	100	751959	78.434
36) Acetophenone	(1)	7.057	105	1744368	77.870
37) 4-Methylphenol	(1)	7.069	108	1453965	81.229
38) N-Nitroso-di-n-propylamine	(1)	7.075	70	1043050	78.195
39) N-Nitrosomorpholine	(1)	7.081	56	842820	79.394
40) o-Toluidine	(1)	7.092	106	2026322	77.583
43) Hexachloroethane	(1)	7.157	117	418742	77.264
44)$Nitrobenzene-d5	(2)	7.204	82	2861678	155.991
45) Nitrobenzene	(2)	7.228	77	1428842	77.055
48) N-Nitrosopiperidine	(2)	7.375	114	665376	78.364
50) Isophorone	(2)	7.469	82	2897441	77.683
51) 2-Nitrophenol	(2)	7.539	139	612482	78.209
53) 2,4-Dimethylphenol	(2)	7.592	107	1326069	77.751
57) O,O,O-Triethylphosphorothioate	(2)	7.669	198	563668	77.462
55) bis(2-Chloroethoxy)methane	(2)	7.692	93	1653770	78.386

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0984.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:49 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	7.722	105	1336656	79.474
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.769	104	1790362	78.604
60) 2,4-Dichlorophenol	(2)	7.781	162	939214	77.564
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	939484	77.998
65)*Naphthalene-d8	(2)	7.922	136	785182	20.000
66) Naphthalene	(2)	7.939	128	3404502	77.271
67) 4-Chloroaniline	(2)	7.998	127	1481267	76.466
68) 2,6-Dichlorophenol	(2)	8.004	162	918551	78.033
69) Hexachloropropene	(2)	8.033	213	500802	79.047
71) Hexachlorobutadiene	(2)	8.075	225	438282	77.025
75) Quinoline	(2)	8.286	129	2381844	77.338
77) N-Nitrosodi-n-butylamine	(2)	8.339	84	1115151	74.155
76) Caprolactam	(2)	8.369	113	507582	77.635
80) 4-Chloro-3-methylphenol	(2)	8.480	107	1246435	77.369
82) Safrole	(2)	8.545	162	895752	77.692
83) 2-Methylnaphthalene	(2)	8.628	142	2369861	77.399
97) Isosafrole	(3)			1081403	77.786
84) 1-Methylnaphthalene	(2)	8.728	142	2170253	77.981
85) Hexachlorocyclopentadiene	(3)	8.792	237	450488	78.323
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.798	216	937071	80.137
88) cis-Isosafrole	(3)	8.833	162	161573	13.164
90) 2,4,6-Trichlorophenol	(3)	8.910	196	687028	79.886
92) 2,4,5-Trichlorophenol	(3)	8.945	196	746494	78.003
93)$2-Fluorobiphenyl	(3)	8.998	172	5002786	157.385
94) trans-Isosafrole	(3)	9.057	162	919830	64.622
95) 1,1'-Biphenyl	(3)	9.092	154	2949928	77.050
96) 2-Chloronaphthalene	(3)	9.110	162	2156891	71.373
98) 1-Chloronaphthalene	(3)	9.133	162	2211763	79.918
99) Diphenyl ether	(3)	9.198	170	1520923	78.484
100) 2-Nitroaniline	(3)	9.210	138	822936	77.313
104) 1,4-Naphthoquinone	(3)	9.280	158	981609	78.270
105) 1,4-Dinitrobenzene	(3)	9.345	168	447661	79.544
106) Dimethylphthalate	(3)	9.398	163	2703330	78.437
120) 2,4_2,6-Dinitrotoluenes	(3)			1543330	157.263
107) 1,3-Dinitrobenzene	(3)	9.416	168	502489	79.065
108) 2,6-Dinitrotoluene	(3)	9.451	165	651860	78.458
109) Acenaphthylene	(3)	9.522	152	3602642	81.675
112) 3-Nitroaniline	(3)	9.610	138	735282	77.081
113)*Acenaphthene-d10	(3)	9.657	164	500529	20.000
114) Acenaphthene	(3)	9.692	153	2416538	78.530

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$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0984.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:49 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	9.716	184	474401	79.409
116) 4-Nitrophenol	(3)	9.775	109	399089	78.021
117) Pentachlorobenzene	(3)	9.822	250	805274	77.439
118) 2,4-Dinitrotoluene	(3)	9.851	165	891470	78.805
119) Dibenzofuran	(3)	9.863	168	3325104	78.184
121) 1-Naphthylamine	(3)	9.939	143	2668684	77.251
122) 2,3,4,6-Tetrachlorophenol	(3)	9.980	232	635148	78.643
123) 2-Naphthylamine	(3)	10.016	143	2640988	78.646
124) Diethylphthalate	(3)	10.104	149	2665913	78.176
125) Thionazin	(3)	10.180	107	517297	73.362
126) Fluorene	(3)	10.198	166	2809252	79.889
146) Diallate trans/cis	(4)			1644470	77.759
127) 4-Chlorophenyl-phenylether	(3)	10.204	204	1268733	79.044
128) 5-Nitro-o-toluidine	(3)	10.210	152	835184	77.950
129) 4-Nitroaniline	(3)	10.222	138	819078	76.059
130) 4,6-Dinitro-2-methylphenol	(4)	10.251	198	587965	76.555
132) NDPA as diphenylamine	(4)	10.322	169	2484579	77.401
131) N-Nitrosodiphenylamine	(4)	10.322	169	2484579	77.401
134) 1,2-Diphenylhydrazine	(4)	10.357	77	3384352	78.017
135)$2,4,6-Tribromophenol	(3)	10.433	330	617790	155.914
137) Tetraethyldithiopyrophosphate	(4)	10.486	97	477678	78.631
139) 1,3,5-Trinitrobenzene	(4)	10.574	213	372337	79.228
140) Diallate (peak 1)	(4)	10.610	86	1374914	64.408
141) Phorate	(4)	10.616	75	2302217	77.576
142) Phenacetin	(4)	10.633	108	1724504	77.327
143) 4-Bromophenyl-phenylether	(4)	10.686	248	679177	77.971
144) Diallate (peak 2)	(4)	10.692	86	269556	13.352
145) Hexachlorobenzene	(4)	10.745	284	682588	71.296
147) Dimethoate	(4)	10.780	87	1452157	77.640
149) Pentachlorophenol	(4)	10.933	266	500383	78.157
150) 4-Aminobiphenyl	(4)	10.939	169	2177602	74.540
151) Pentachloronitrobenzene	(4)	10.951	237	264652	79.043
152) Pronamide	(4)	11.004	173	1185479	77.167
153)*Phenanthrene-d10	(4)	11.121	188	978908	20.000
154) Dinoseb	(4)	11.121	211	815052	79.686
155) Phenanthrene	(4)	11.145	178	4419928	77.624
157) Anthracene	(4)	11.198	178	4522972	79.248
163) Carbazole	(4)	11.351	167	4152079	76.970
164) Methyl parathion	(4)	11.492	109	1048068	77.790
165) Di-n-butylphthalate	(4)	11.710	149	4985787	80.043

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0984.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:49 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	11.880	109	658914	77.494
168) 4-Nitroquinoline-1-oxide	(4)	11.904	190	457325	82.973
169) Octachlorostyrene	(4)	12.133	308	238318	79.137
171) Isodrin	(4)	12.174	193	442456	78.539
173) Fluoranthene	(4)	12.316	202	4854847	78.526
174) Benzidine	(5)	12.457	184	8860910	240.182
175)*Pyrene-d10	(5)	12.521	212	1058679	20.000
177) Pyrene	(5)	12.539	202	4943660	78.147
179)$Terphenyl-d14	(5)	12.698	244	6229336	162.831
182) p-Dimethylaminoazobenzene	(5)	12.839	225	972982	80.454
185) Chlorobenzilate	(5)	12.886	139	1374923	81.667
187) 3,3'-Dimethylbenzidine	(5)	13.174	212	2627302	80.235
188) Butylbenzylphthalate	(5)	13.192	149	2225594	80.122
191) 2-Acetylaminofluorene	(5)	13.433	181	2079173	81.479
193) 3,3'-Dichlorobenzidine	(5)	13.727	252	1472499	79.765
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.733	231	801312	78.089
195) Benzo(a)anthracene	(5)	13.757	228	4302715	79.312
196) Chrysene	(5)	13.798	228	4036754	78.621
199) bis(2-Ethylhexyl)phthalate	(5)	13.804	149	3135291	80.285
203) 6-Methylchrysene	(5)	14.268	242	2900835	79.730
205) Di-n-octylphthalate	(6)	14.474	149	5557490	80.864
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.862	256	1899234	77.748
206) Benzo(b)fluoranthene	(6)	14.874	252	4066870	85.095
208) Benzo(k)fluoranthene	(6)	14.898	252	3881612	76.403
211) Benzo(a)pyrene	(6)	15.209	252	3841655	78.142
213)*Perylene-d12	(6)	15.268	264	797867	20.000
215) 3-Methylcholanthrene	(6)	15.604	268	1854578	78.578
222) Total PAHs	(6)			58661135	1259.428
219) Indeno(1,2,3-cd)pyrene	(6)	16.609	276	4077206	78.456
220) Dibenz(a,h)anthracene	(6)	16.633	278	3486990	78.723
221) Benzo(g,h,i)perylene	(6)	16.992	276	3401360	79.883

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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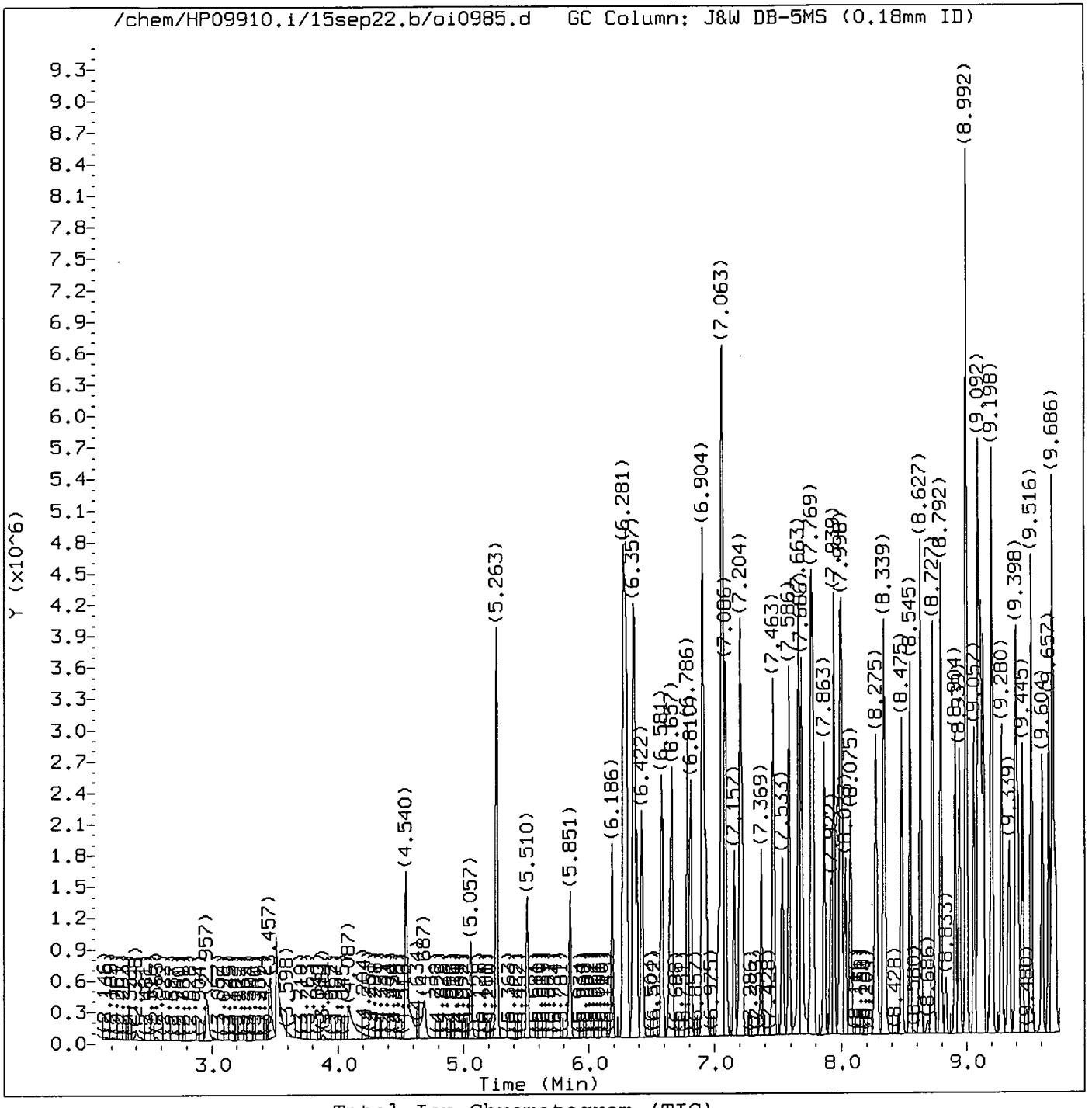
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0985.d
Injection date and time: 22-SEP-2015 11:15

Instrument ID: HP09910.i
Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m
Calibration date and time: 22-SEP-2015 13:12

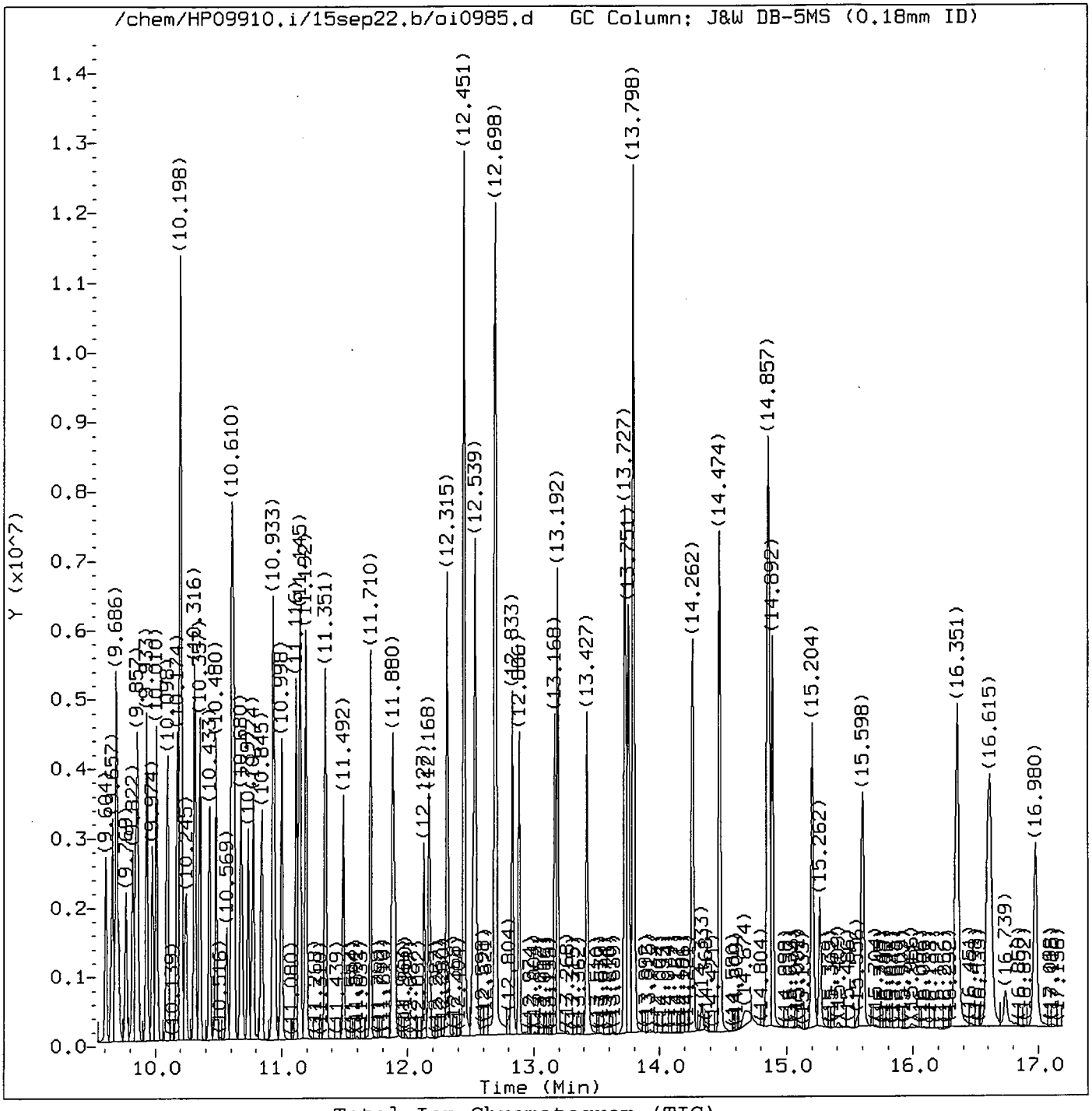
Sublist used: all1-b

Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD050

Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.963	88	284532	51.383
4) N-Nitrosodimethylamine	(1)	3.457	74	482668	50.921
5) Pyridine	(1)	3.510	79	763396	49.896
7) 2-Picoline	(1)	4.540	93	824405	50.633
8) N-Nitrosomethylethylamine	(1)	4.687	88	386943	50.836
9) Methyl methanesulfonate	(1)	5.057	80	386628	50.073
11)$2-Fluorophenol	(1)	5.263	112	1284650	101.293
13) N-Nitrosodiethylamine	(1)	5.510	102	390065	51.938
15) Ethyl methanesulfonate	(1)	5.851	109	368294	50.443
17)$Phenol-d6	(1)	6.281	99	1868382	101.250
18) Phenol	(1)	6.292	94	1104061	50.032
19) Aniline	(1)	6.304	93	1263931	51.135
20) a-methylstyrene	(1)	6.363	118	666515	50.817
22) bis(2-Chloroethyl)ether	(1)	6.381	93	775681	50.505
23) 2-Chlorophenol	(1)	6.422	128	645158	50.809
24) 1,3-Dichlorobenzene	(1)	6.581	146	629582	50.920
25)*1,4-Dichlorobenzene-d4	(1)	6.639	152	153134	20.000
26) 1,4-Dichlorobenzene	(1)	6.657	146	647162	51.142
42) Total Cresols	(1)			1575570	103.008
27) Benzyl alcohol	(1)	6.786	108	520413	50.059
28) 1,2-Dichlorobenzene	(1)	6.810	146	614791	51.631
30) Indene	(1)	6.904	115	1157465	50.320
31) 2-Methylphenol	(1)	6.910	108	708520	50.881
34) bis(2-Chloroisopropyl)ether	(1)	6.933	45	1009520	50.735
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.933	45	1009520	50.735
35) N-Nitrosopyrrolidine	(1)	7.033	100	446770	50.649
36) Acetophenone	(1)	7.051	105	1036316	50.373
37) 4-Methylphenol	(1)	7.063	108	867050	52.126
38) N-Nitroso-di-n-propylamine	(1)	7.069	70	624103	50.800
39) N-Nitrosomorpholine	(1)	7.069	56	494467	50.631
40) o-Toluidine	(1)	7.086	106	1214388	50.564
43) Hexachloroethane	(1)	7.157	117	256780	51.278
44)$Nitrobenzene-d5	(2)	7.204	82	1682387	97.200
45) Nitrobenzene	(2)	7.222	77	841409	48.216
48) N-Nitrosopiperidine	(2)	7.369	114	391770	48.829
50) Isophorone	(2)	7.463	82	1746772	49.381
51) 2-Nitrophenol	(2)	7.539	139	364339	49.135
53) 2,4-Dimethylphenol	(2)	7.586	107	786571	48.812
57) O,O,O-Triethylphosphorothioate	(2)	7.663	198	344461	49.781
55) bis(2-Chloroethoxy)methane	(2)	7.686	93	1012007	50.277

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$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	7.692	105	788189	49.406
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.763	104	1046874	48.687
60) 2,4-Dichlorophenol	(2)	7.780	162	556697	48.696
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	566762	49.557
65)*Naphthalene-d8	(2)	7.922	136	747728	20.000
66) Naphthalene	(2)	7.939	128	2006897	48.250
67) 4-Chloroaniline	(2)	7.992	127	898227	49.012
68) 2,6-Dichlorophenol	(2)	8.004	162	546423	49.053
69) Hexachloropropene	(2)	8.033	213	295449	49.223
71) Hexachlorobutadiene	(2)	8.075	225	267076	49.464
75) Quinoline	(2)	8.275	129	1427335	48.993
77) N-Nitrosodi-n-butylamine	(2)	8.339	84	801377	54.340
76) Caprolactam	(2)	8.345	113	305469	49.293
80) 4-Chloro-3-methylphenol	(2)	8.475	107	750741	49.196
82) Safrole	(2)	8.545	162	538716	49.296
83) 2-Methylnaphthalene	(2)	8.627	142	1401899	48.452
97) Isosafrole	(3)			651952	49.863
84) 1-Methylnaphthalene	(2)	8.727	142	1262214	48.082
85) Hexachlorocyclopentadiene	(3)	8.792	237	271160	50.086
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.792	216	545828	49.714
88) cis-Isosafrole	(3)	8.833	162	94855	8.285
90) 2,4,6-Trichlorophenol	(3)	8.904	196	405558	50.097
92) 2,4,5-Trichlorophenol	(3)	8.939	196	444522	49.531
93)$2-Fluorobiphenyl	(3)	8.992	172	2977945	99.691
94) trans-Isosafrole	(3)	9.057	162	557097	41.579
95) 1,1'-Biphenyl	(3)	9.092	154	1780310	49.572
96) 2-Chloronaphthalene	(3)	9.110	162	1546626M	53.232
98) 1-Chloronaphthalene	(3)	9.127	162	1289915M	49.659
99) Diphenyl ether	(3)	9.198	170	881632	48.761
100) 2-Nitroaniline	(3)	9.204	138	495595	49.620
104) 1,4-Naphthoquinone	(3)	9.280	158	607568	51.116
105) 1,4-Dinitrobenzene	(3)	9.339	168	266162	50.206
106) Dimethylphthalate	(3)	9.392	163	1621286	50.005
120) 2,4_2,6-Dinitrotoluenes	(3)			929227	100.534
107) 1,3-Dinitrobenzene	(3)	9.410	168	307615	51.081
108) 2,6-Dinitrotoluene	(3)	9.445	165	394239	50.330
109) Acenaphthylene	(3)	9.516	152	2128857	51.038
112) 3-Nitroaniline	(3)	9.604	138	454757	50.506
113)*Acenaphthene-d10	(3)	9.657	164	470855	20.000
114) Acenaphthene	(3)	9.686	153	1421801	49.290

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	9.710	184	273837	49.038
116) 4-Nitrophenol	(3)	9.769	109	242908	50.360
117) Pentachlorobenzene	(3)	9.822	250	487931	49.909
118) 2,4-Dinitrotoluene	(3)	9.845	165	534988	50.204
119) Dibenzofuran	(3)	9.857	168	1997125	49.939
121) 1-Naphthylamine	(3)	9.933	143	1609574	49.646
122) 2,3,4,6-Tetrachlorophenol	(3)	9.974	232	382762	50.284
123) 2-Naphthylamine	(3)	10.010	143	1620551	50.968
124) Diethylphthalate	(3)	10.098	149	1576341	49.351
125) Thionazin	(3)	10.174	107	325721	49.325
127) 4-Chlorophenyl-phenylether	(3)	10.198	204	782119	51.336
126) Fluorene	(3)	10.198	166	1650367	49.913
146) Diallate trans/cis	(4)			980345	48.968
128) 5-Nitro-o-toluidine	(3)	10.204	152	495379	49.359
129) 4-Nitroaniline	(3)	10.216	138	505196	49.901
130) 4,6-Dinitro-2-methylphenol	(4)	10.245	198	364564	49.854
131) N-Nitrosodiphenylamine	(4)	10.316	169	1472750	48.592
132) NDPA as diphenylamine	(4)	10.316	169	1472750	48.592
134) 1,2-Diphenylhydrazine	(4)	10.357	77	2012267	48.997
135)$2,4,6-Tribromophenol	(3)	10.433	330	376127	100.679
137) Tetraethyldithiopyrophosphate	(4)	10.480	97	285994	49.546
139) 1,3,5-Trinitrobenzene	(4)	10.569	213	221311	49.557
140) Diallate (peak 1)	(4)	10.604	86	821949	40.670
141) Phorate	(4)	10.616	75	1373219	48.906
142) Phenacetin	(4)	10.627	108	1051070	49.588
143) 4-Bromophenyl-phenylether	(4)	10.680	248	416513	50.129
144) Diallate (peak 2)	(4)	10.692	86	158396	8.298
145) Hexachlorobenzene	(4)	10.739	284	399063	44.859
147) Dimethoate	(4)	10.774	87	912628	50.893
149) Pentachlorophenol	(4)	10.927	266	302339	49.662
150) 4-Aminobiphenyl	(4)	10.933	169	1495192	52.726
151) Pentachloronitrobenzene	(4)	10.945	237	162146	50.608
152) Pronamide	(4)	11.004	173	722168	49.491
154) Dinoseb	(4)	11.116	211	469591	48.617
153)*Phenanthrene-d10	(4)	11.121	188	932951	20.000
155) Phenanthrene	(4)	11.145	178	2649340	49.052
157) Anthracene	(4)	11.192	178	2684212	49.477
163) Carbazole	(4)	11.351	167	2520019	49.259
164) Methyl parathion	(4)	11.492	109	652869	50.630
165) Di-n-butylphthalate	(4)	11.710	149	2995492	50.344

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	11.880	109	408353	50.293
168) 4-Nitroquinoline-1-oxide	(4)	11.898	190	273466	51.529
169) Octachlorostyrene	(4)	12.127	308	147505	51.038
171) Isodrin	(4)	12.168	193	266375	49.709
173) Fluoranthene	(4)	12.315	202	2950330	50.057
174) Benzidine	(5)	12.451	184	5859272	156.957
175)*Pyrene-d10	(5)	12.515	212	1054682	20.000
177) Pyrene	(5)	12.539	202	3078822	49.078
179)$Terphenyl-d14	(5)	12.698	244	3920764	102.141
182) p-Dimethylaminoazobenzene	(5)	12.833	225	627167	51.526
185) Chlorobenzilate	(5)	12.886	139	849011	50.464
187) 3,3'-Dimethylbenzidine	(5)	13.168	212	1710149	51.796
188) Butylbenzylphthalate	(5)	13.192	149	1412647	50.782
191) 2-Acetylaminofluorene	(5)	13.427	181	1301962	50.906
193) 3,3'-Dichlorobenzidine	(5)	13.727	252	943570	50.974
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.733	231	521055	50.724
195) Benzo(a)anthracene	(5)	13.751	228	2784580	51.211
196) Chrysene	(5)	13.792	228	2539550	49.718
199) bis(2-Ethylhexyl)phthalate	(5)	13.798	149	1970920	50.494
203) 6-Methylchrysene	(5)	14.262	242	1864394	51.070
205) Di-n-octylphthalate	(6)	14.474	149	3373252	50.088
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.857	256	1218957	50.710
206) Benzo(b)fluoranthene	(6)	14.862	252	2633622	54.891
208) Benzo(k)fluoranthene	(6)	14.892	252	2479816	49.872
211) Benzo(a)pyrene	(6)	15.209	252	2393402	49.768
213)*Perylene-d12	(6)	15.262	264	781395	20.000
215) 3-Methylcholanthrene	(6)	15.604	268	1172251	50.535
222) Total PAHs	(6)			35682500	792.231
219) Indeno(1,2,3-cd)pyrene	(6)	16.598	276	2501932	49.325
220) Dibenz(a,h)anthracene	(6)	16.621	278	2149540	49.641
221) Benzo(g,h,i)perylene	(6)	16.980	276	2078757	49.880

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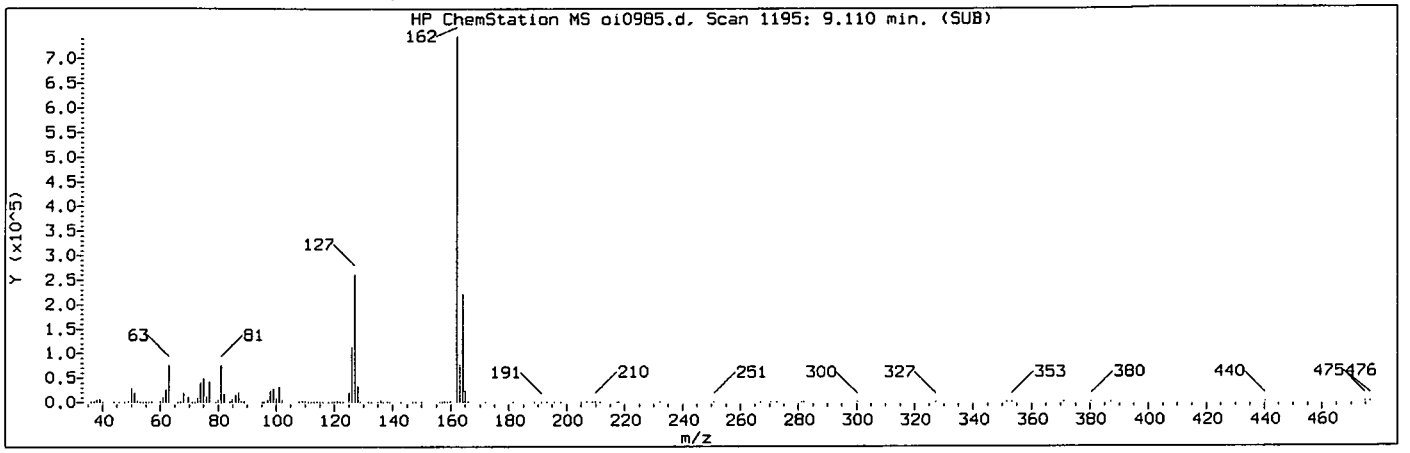
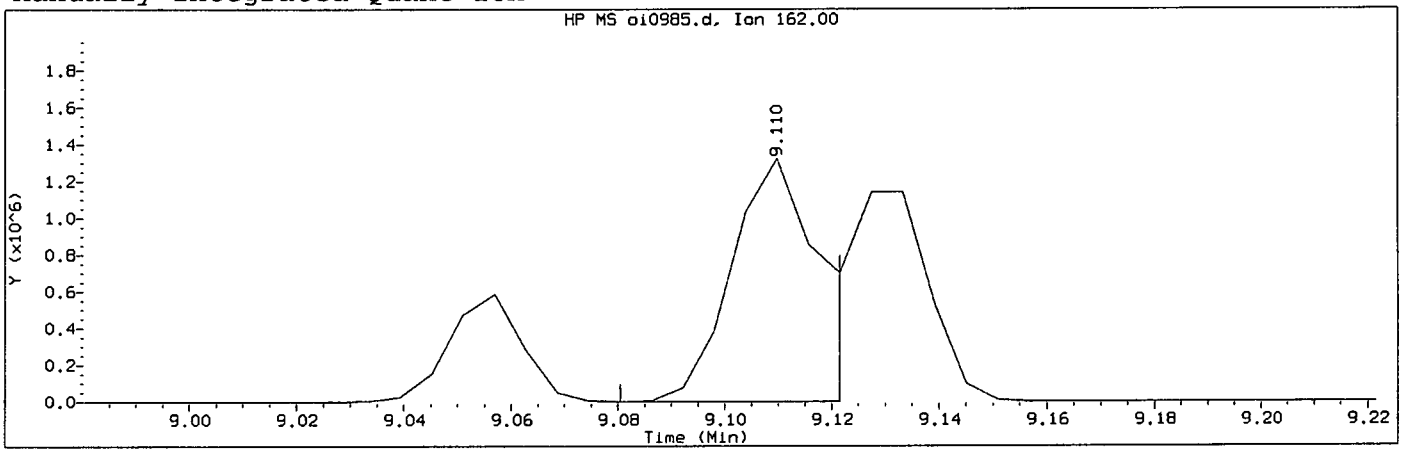
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area (flag)	: 1546626M		
On-Column Amount (ng/ul)	: 53.2320		
Integration start scan	: 1189	Integration stop scan:	1196
Y at integration start	: 0	Y at integration end:	0

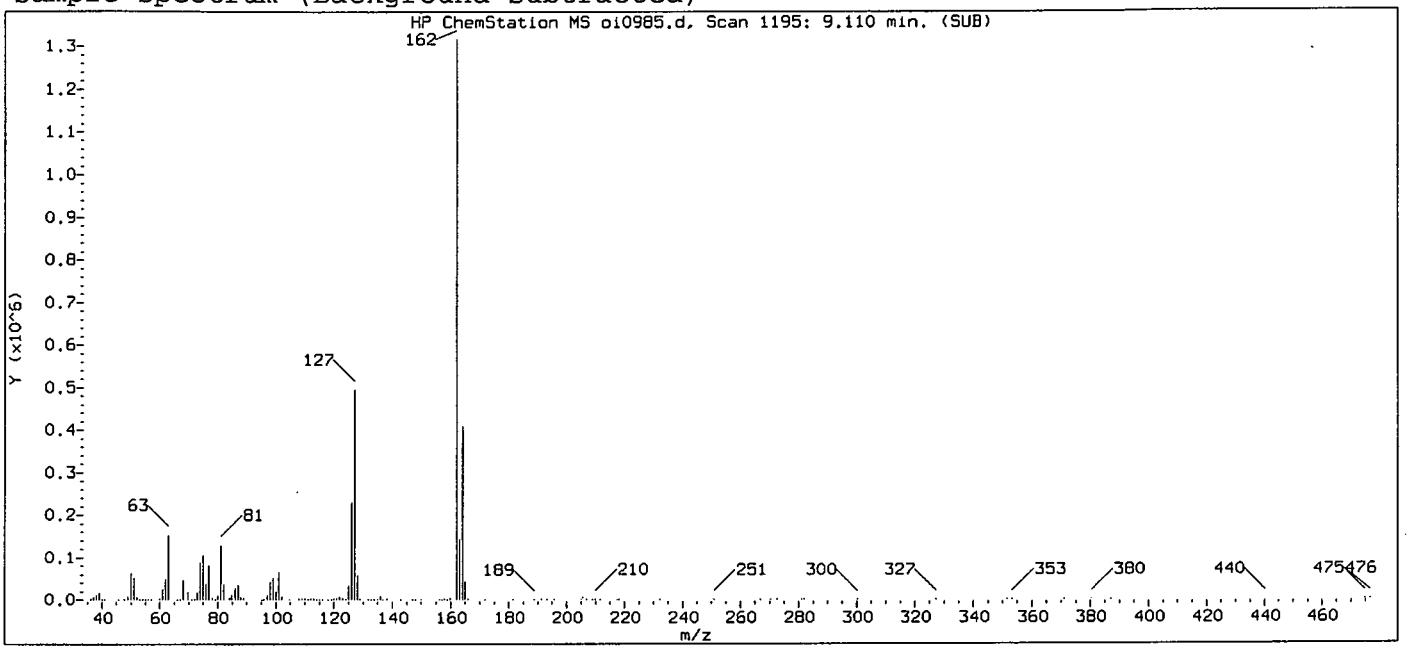
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 designature user ID: lmh00956

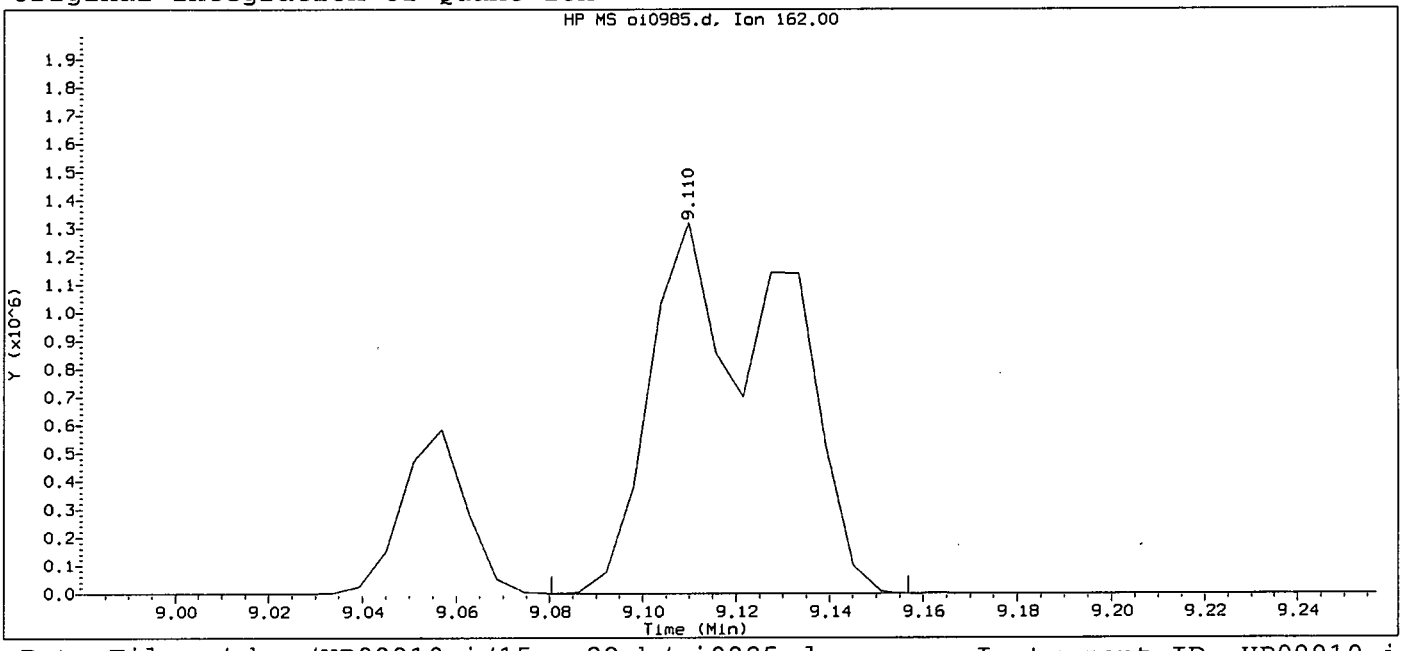
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 11:32
Date, time and analyst ID of latest file update: 22-Sep-2015 11:32 Automation

Sample Name: SSTD050 Lab Sample ID: STD2575

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area	: 2577575		
On-column Amount (ng/ul)	: 84.2946		
Integration start scan	: 1189	Integration stop scan:	1202
Y at integration start	: 0	Y at integration end:	0

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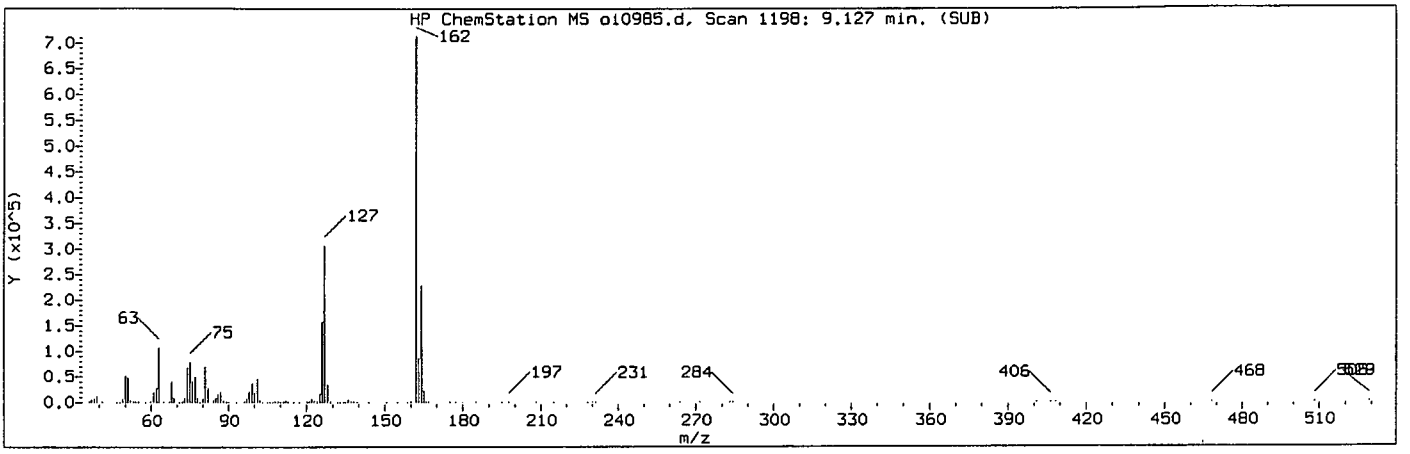
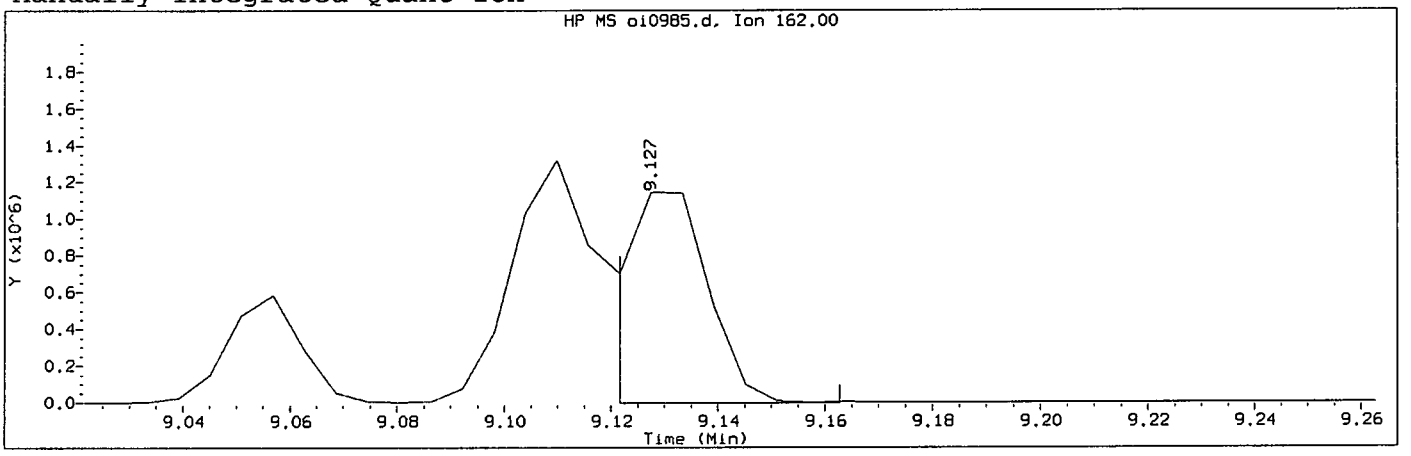
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compound Number	:	98
Compound Name	:	1-Chloronaphthalene
Scan Number	:	1198
Retention Time (minutes)	:	9.127
Quant Ion	:	162.00
Area (flag)	:	1289915M
On-Column Amount (ng/ul)	:	49.6587
Integration start scan	:	1196 Integration stop scan: 1203
Y at integration start	:	-3811 Y at integration end: -3811

Reason for manual integration: improper integration

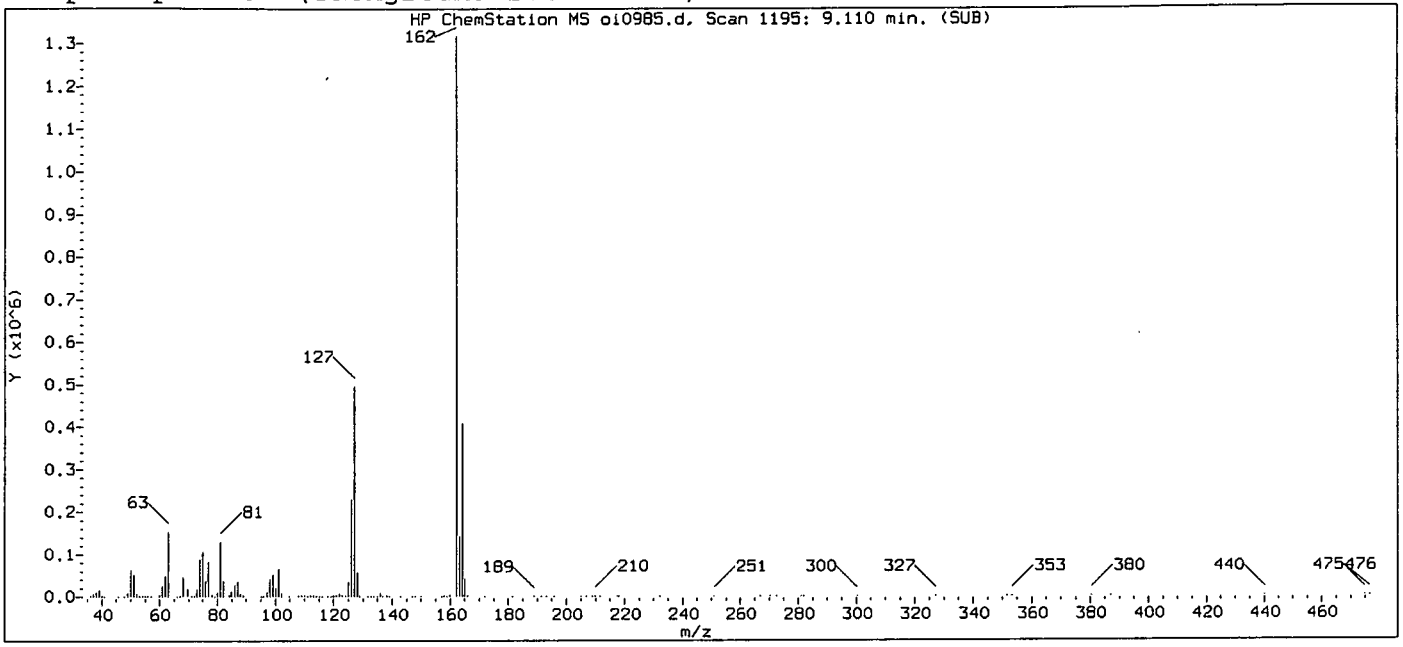
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

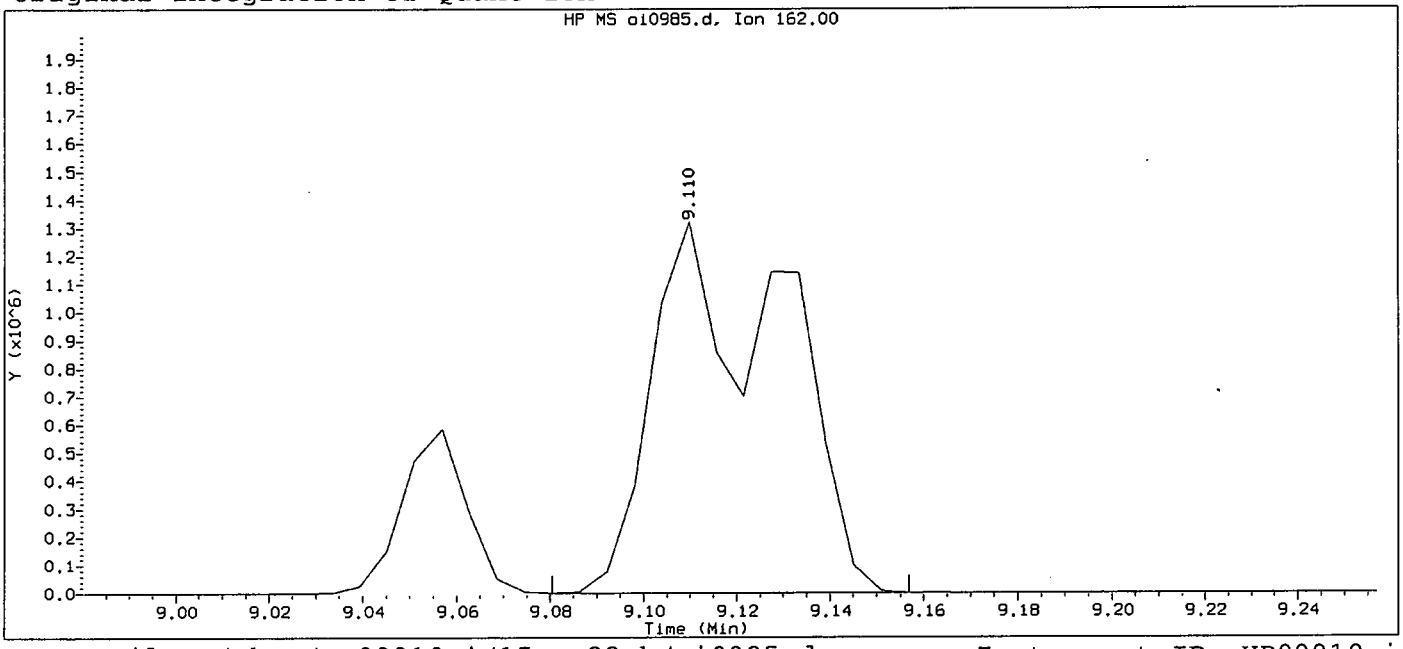
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 11:32
Date, time and analyst ID of latest file update: 22-Sep-2015 11:32 Automation

Sample Name: SSTD050 Lab Sample ID: STD2575

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area	: 2577575		
On-column Amount (ng/ul)	: 88.9268		
Integration start scan	: 1189	Integration stop scan:	1202
Y at integration start	: 0	Y at integration end:	0

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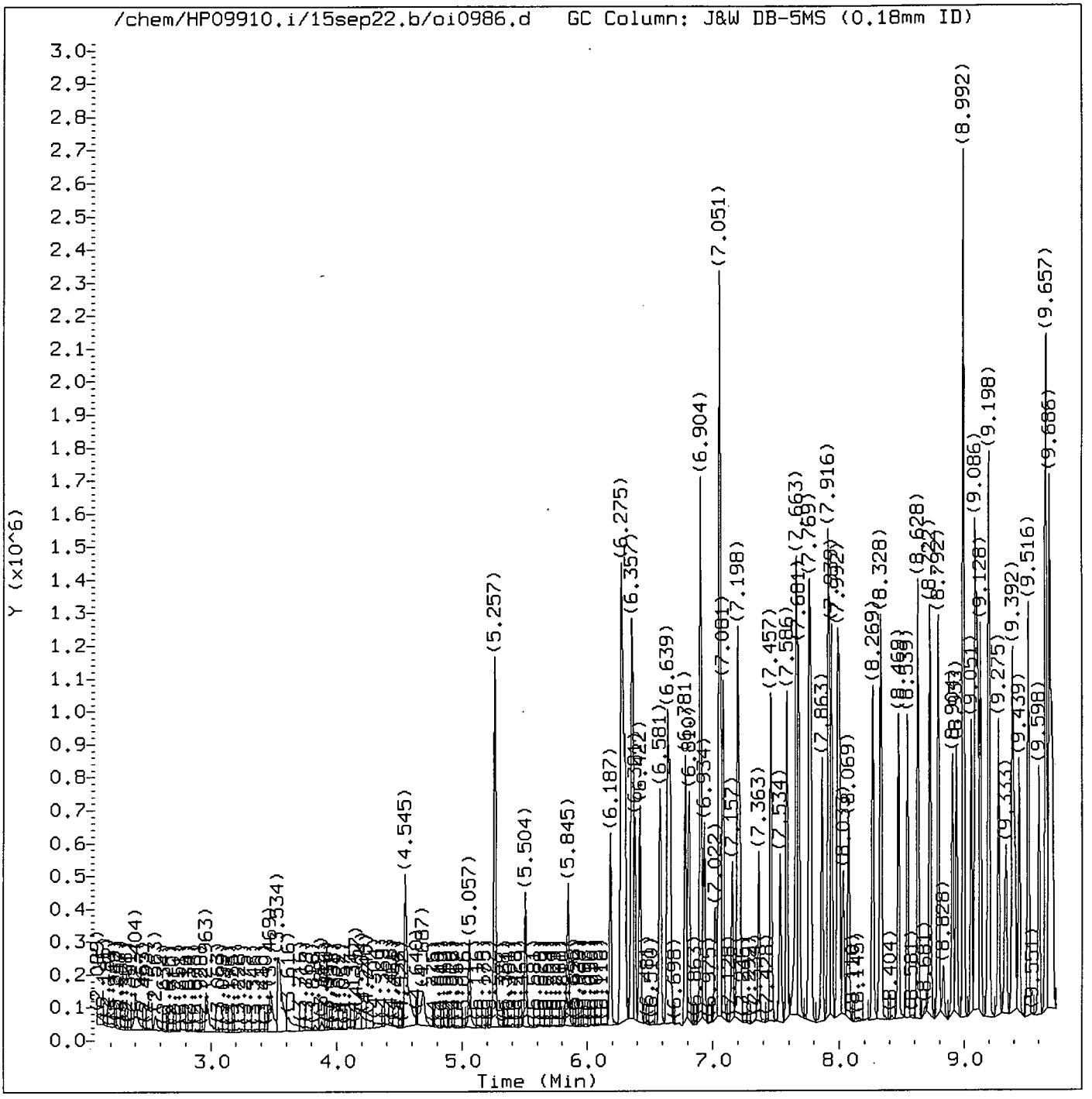
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

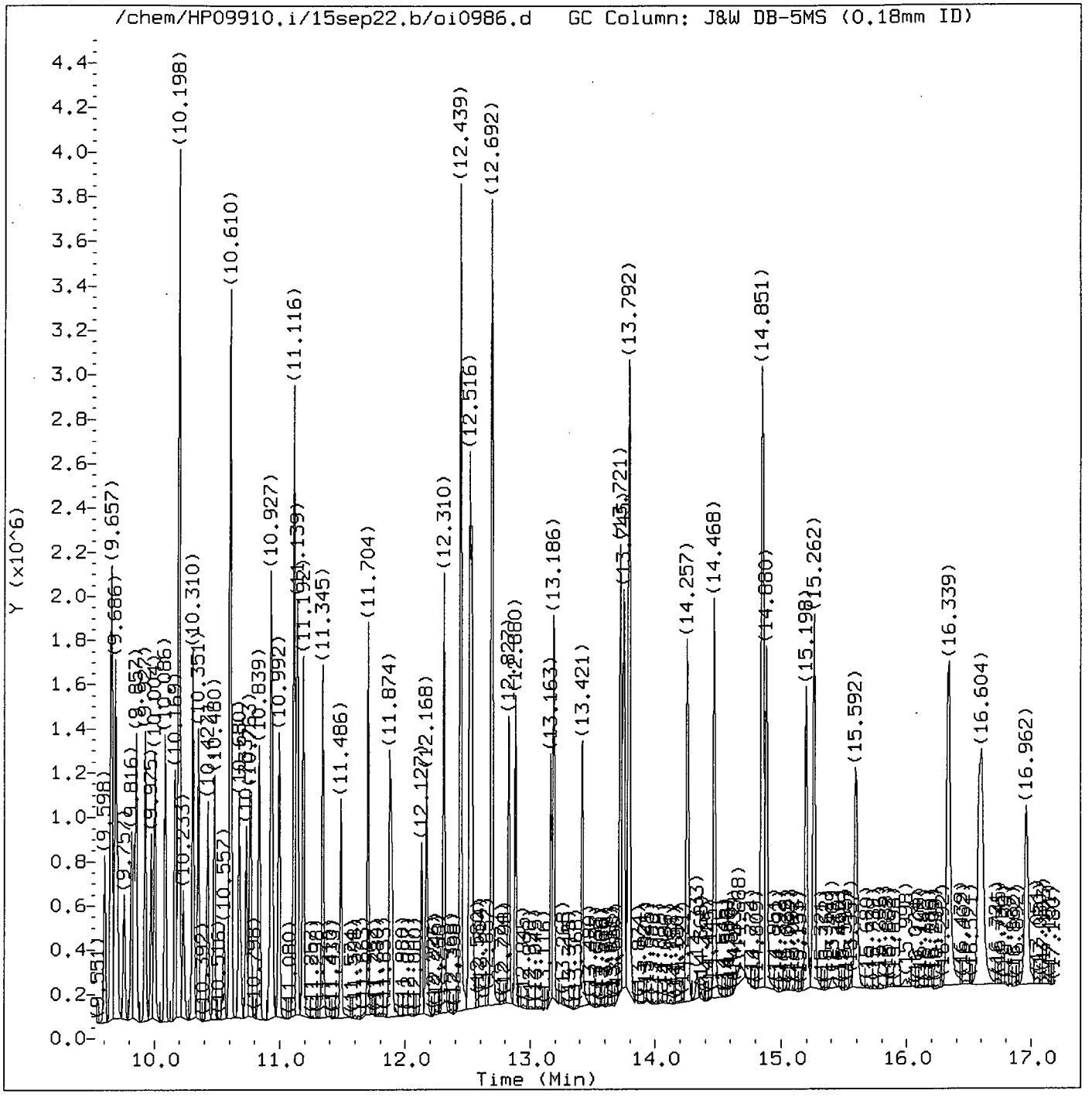
Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.963	88	82638	14.705
4) N-Nitrosodimethylamine	(1)	3.469	74	131725	13.881
5) Pyridine	(1)	3.534	79	217572	14.143
7) 2-Picoline	(1)	4.545	93	234479	14.289
8) N-Nitrosomethylethylamine	(1)	4.693	88	116247M	14.980
9) Methyl methanesulfonate	(1)	5.057	80	112186	14.391
11)$2-Fluorophenol	(1)	5.257	112	373249	29.079
13) N-Nitrosodiethylamine	(1)	5.504	102	106469	14.108
15) Ethyl methanesulfonate	(1)	5.845	109	102202	13.963
17)$Phenol-d6	(1)	6.269	99	521837	28.155
18) Phenol	(1)	6.287	94	329975	14.729
19) Aniline	(1)	6.298	93	353506	14.209
20) a-methylstyrene	(1)	6.363	118	183528	13.959
22) bis(2-Chloroethyl)ether	(1)	6.381	93	219178	14.184
23) 2-Chlorophenol	(1)	6.422	128	184775	14.409
24) 1,3-Dichlorobenzene	(1)	6.581	146	179196	14.362
25)*1,4-Dichlorobenzene-d4	(1)	6.639	152	156170	20.000
26) 1,4-Dichlorobenzene	(1)	6.657	146	187438	14.617
42) Total Cresols	(1)			447889	28.989
27) Benzyl alcohol	(1)	6.781	108	141054	13.612
28) 1,2-Dichlorobenzene	(1)	6.810	146	176704	14.639
30) Indene	(1)	6.898	115	311179	13.579
31) 2-Methylphenol	(1)	6.904	108	204405	14.511
34) bis(2-Chloroisopropyl)ether	(1)	6.934	45	297885	14.743
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.934	45	297885	14.743
35) N-Nitrosopyrrolidine	(1)	7.022	100	125534	14.152
36) Acetophenone	(1)	7.051	105	301092	14.476
37) 4-Methylphenol	(1)	7.057	108	243484	14.478
38) N-Nitroso-di-n-propylamine	(1)	7.057	70	179149	14.434
39) N-Nitrosomorpholine	(1)	7.063	56	145667	14.699
40) o-Toluidine	(1)	7.081	106	333875	13.885
43) Hexachloroethane	(1)	7.157	117	72743	14.389
44)$Nitrobenzene-d5	(2)	7.198	82	481050	29.636
45) Nitrobenzene	(2)	7.216	77	240729	14.731
48) N-Nitrosopiperidine	(2)	7.363	114	116712	15.369
50) Isophorone	(2)	7.457	82	500472	15.033
51) 2-Nitrophenol	(2)	7.534	139	100725	14.550
53) 2,4-Dimethylphenol	(2)	7.586	107	221191	14.672
57) O,O,O-Triethylphosphorothioate	(2)	7.663	198	100252	15.320
56) Benzoic acid	(2)	7.675	105	392540M	26.846

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	7.681	93	283319	14.971
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.763	104	281319	14.114
60) 2,4-Dichlorophenol	(2)	7.775	162	158339	14.779
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	160142	14.909
65)*Naphthalene-d8	(2)	7.916	136	703346	20.000
66) Naphthalene	(2)	7.939	128	575017	14.747
67) 4-Chloroaniline	(2)	7.986	127	252068	14.696
68) 2,6-Dichlorophenol	(2)	7.998	162	156321	14.935
69) Hexachloropropene	(2)	8.033	213	81237	14.507
71) Hexachlorobutadiene	(2)	8.069	225	76005	14.972
75) Quinoline	(2)	8.269	129	413346	15.067
76) Caprolactam	(2)	8.322	113	94158	15.908
77) N-Nitrosodi-n-butylamine	(2)	8.333	84	231588	16.326
80) 4-Chloro-3-methylphenol	(2)	8.469	107	216873	15.087
82) Safrole	(2)	8.545	162	153505	14.946
83) 2-Methylnaphthalene	(2)	8.628	142	397135	14.658
97) Isosafrole	(3)			182228	14.688
84) 1-Methylnaphthalene	(2)	8.722	142	371008	15.021
85) Hexachlorocyclopentadiene	(3)	8.786	237	76713	14.882
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.792	216	163744	15.502
88) cis-Isosafrole	(3)	8.833	162	26739	2.468
90) 2,4,6-Trichlorophenol	(3)	8.904	196	113505	14.756
92) 2,4,5-Trichlorophenol	(3)	8.933	196	129729	15.121
93)$2-Fluorobiphenyl	(3)	8.992	172	849186	29.837
94) trans-Isosafrole	(3)	9.051	162	155489	12.220
95) 1,1'-Biphenyl	(3)	9.086	154	514072	15.003
96) 2-Chloronaphthalene	(3)	9.104	162	370526	13.665
98) 1-Chloronaphthalene	(3)	9.128	162	372497	15.025
99) Diphenyl ether	(3)	9.192	170	259175	15.020
100) 2-Nitroaniline	(3)	9.198	138	139582	14.717
104) 1,4-Naphthoquinone	(3)	9.275	158	167230	14.797
105) 1,4-Dinitrobenzene	(3)	9.333	168	70432	14.128
106) Dimethylphthalate	(3)	9.386	163	463847	14.996
120) 2,4_2,6-Dinitrotoluenes	(3)			261883	29.609
107) 1,3-Dinitrobenzene	(3)	9.404	168	82664	14.506
108) 2,6-Dinitrotoluene	(3)	9.439	165	106132	14.355
109) Acenaphthylene	(3)	9.516	152	610987	15.293
112) 3-Nitroaniline	(3)	9.598	138	121679	14.324
113)*Acenaphthene-d10	(3)	9.651	164	449218	20.000
114) Acenaphthene	(3)	9.686	153	423073	15.310

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$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	9.704	184	132292	25.718
116) 4-Nitrophenol	(3)	9.763	109	65445	14.371
117) Pentachlorobenzene	(3)	9.816	250	142277	15.203
118) 2,4-Dinitrotoluene	(3)	9.833	165	155751	15.255
119) Dibenzofuran	(3)	9.857	168	561564	14.774
121) 1-Naphthylamine	(3)	9.927	143	448570	14.599
122) 2,3,4,6-Tetrachlorophenol	(3)	9.975	232	109149	15.024
123) 2-Naphthylamine	(3)	10.004	143	465927	15.286
124) Diethylphthalate	(3)	10.086	149	443154	14.631
125) Thionazin	(3)	10.169	107	85774	13.871
126) Fluorene	(3)	10.192	166	465590	14.799
127) 4-Chlorophenyl-phenylether	(3)	10.198	204	222263	15.232
128) 5-Nitro-o-toluidine	(3)	10.198	152	137292	14.466
129) 4-Nitroaniline	(3)	10.198	138	140970	14.674
146) Diallate trans/cis	(4)			282916	14.733
130) 4,6-Dinitro-2-methylphenol	(4)	10.233	198	91714	13.365
132) NDPA as diphenylamine	(4)	10.310	169	428206	14.724
131) N-Nitrosodiphenylamine	(4)	10.310	169	428206	14.724
134) 1,2-Diphenylhydrazine	(4)	10.351	77	552642	14.156
135)$2,4,6-Tribromophenol	(3)	10.427	330	109900	30.664
137) Tetraethyldithiopyrophosphate	(4)	10.475	97	85516	15.293
139) 1,3,5-Trinitrobenzene	(4)	10.557	213	51397	12.447
140) Diallate (peak 1)	(4)	10.604	86	231579	11.995
142) Phenacetin	(4)	10.610	108	298634	14.691
141) Phorate	(4)	10.610	75	388504	14.478
143) 4-Bromophenyl-phenylether	(4)	10.680	248	111050	14.078
144) Diallate (peak 2)	(4)	10.692	86	51337	2.738
145) Hexachlorobenzene	(4)	10.733	284	124006	14.548
147) Dimethoate	(4)	10.763	87	278266	15.865
149) Pentachlorophenol	(4)	10.927	266	79940	13.876
150) 4-Aminobiphenyl	(4)	10.927	169	496679	17.433
151) Pentachloronitrobenzene	(4)	10.939	237	45029	14.661
152) Pronamide	(4)	10.992	173	206834	14.762
154) Dinoseb	(4)	11.110	211	115386	12.839
153)*Phenanthrene-d10	(4)	11.116	188	899352	20.000
155) Phenanthrene	(4)	11.139	178	746906	14.451
157) Anthracene	(4)	11.192	178	753923	14.510
163) Carbazole	(4)	11.345	167	714040	14.580
164) Methyl parathion	(4)	11.486	109	184982	14.905
165) Di-n-butylphthalate	(4)	11.704	149	814053	14.347

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	11.874	109	109412	14.172
168) 4-Nitroquinoline-1-oxide	(4)	11.892	190	55656	11.512
169) Octachlorostyrene	(4)	12.127	308	37897	13.861
171) Isodrin	(4)	12.168	193	73894	14.439
173) Fluoranthene	(4)	12.310	202	828884	14.656
174) Benzidine	(5)	12.439	184	1564736	44.084
175)*Pyrene-d10	(5)	12.516	212	1007925	20.000
177) Pyrene	(5)	12.533	202	891158	14.887
179)$Terphenyl-d14	(5)	12.692	244	1119131	30.404
182) p-Dimethylaminoazobenzene	(5)	12.833	225	172307	14.850
185) Chlorobenzilate	(5)	12.880	139	243110	15.096
187) 3,3'-Dimethylbenzidine	(5)	13.163	212	458324	14.618
188) Butylbenzylphthalate	(5)	13.192	149	402873	15.123
191) 2-Acetylaminofluorene	(5)	13.421	181	361717	14.839
193) 3,3'-Dichlorobenzidine	(5)	13.721	252	267357	15.090
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.727	231	158312	15.888
195) Benzo(a)anthracene	(5)	13.745	228	789966	15.168
196) Chrysene	(5)	13.786	228	757038	15.421
199) bis(2-Ethylhexyl)phthalate	(5)	13.798	149	551163	14.820
203) 6-Methylchrysene	(5)	14.257	242	526751	15.079
205) Di-n-octylphthalate	(6)	14.468	149	896361	13.524
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.851	256	355318	14.726
206) Benzo(b)fluoranthene	(6)	14.857	252	726107	15.007
208) Benzo(k)fluoranthene	(6)	14.886	252	777991	15.428
211) Benzo(a)pyrene	(6)	15.198	252	706722	14.643
213)*Perylene-d12	(6)	15.262	264	787934	20.000
215) 3-Methylcholanthrene	(6)	15.592	268	334589	14.438
222) Total PAHs	(6)			10362255	238.397
219) Indeno(1,2,3-cd)pyrene	(6)	16.586	276	772650	15.088
220) Dibenz(a,h)anthracene	(6)	16.604	278	646249	14.833
221) Benzo(g,h,i)perylene	(6)	16.962	276	625949	14.912

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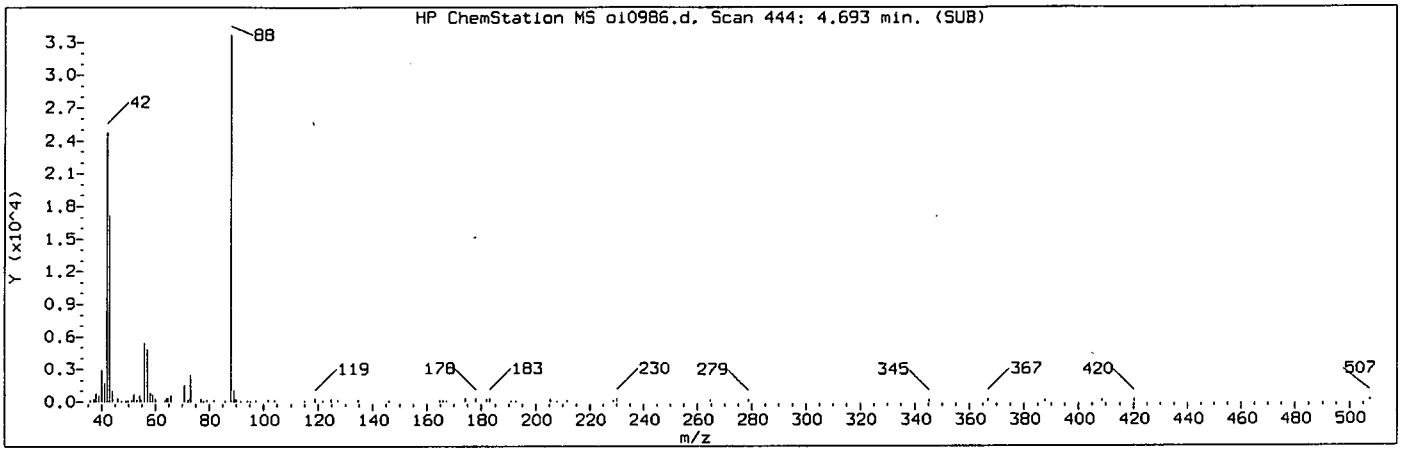
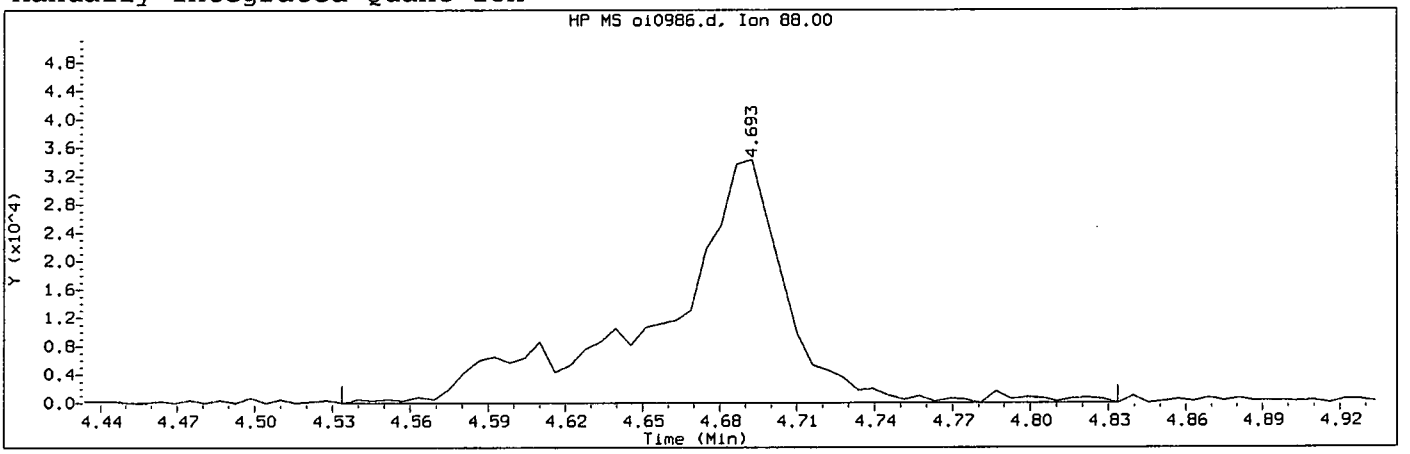
Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 444		
Retention Time (minutes)	: 4.693		
Quant Ion	: 88.00		
Area (flag)	: 116247M		
On-Column Amount (ng/ul)	: 14.9803		
Integration start scan	: 416	Integration stop scan:	467
Y at integration start	: 13	Y at integration end:	13

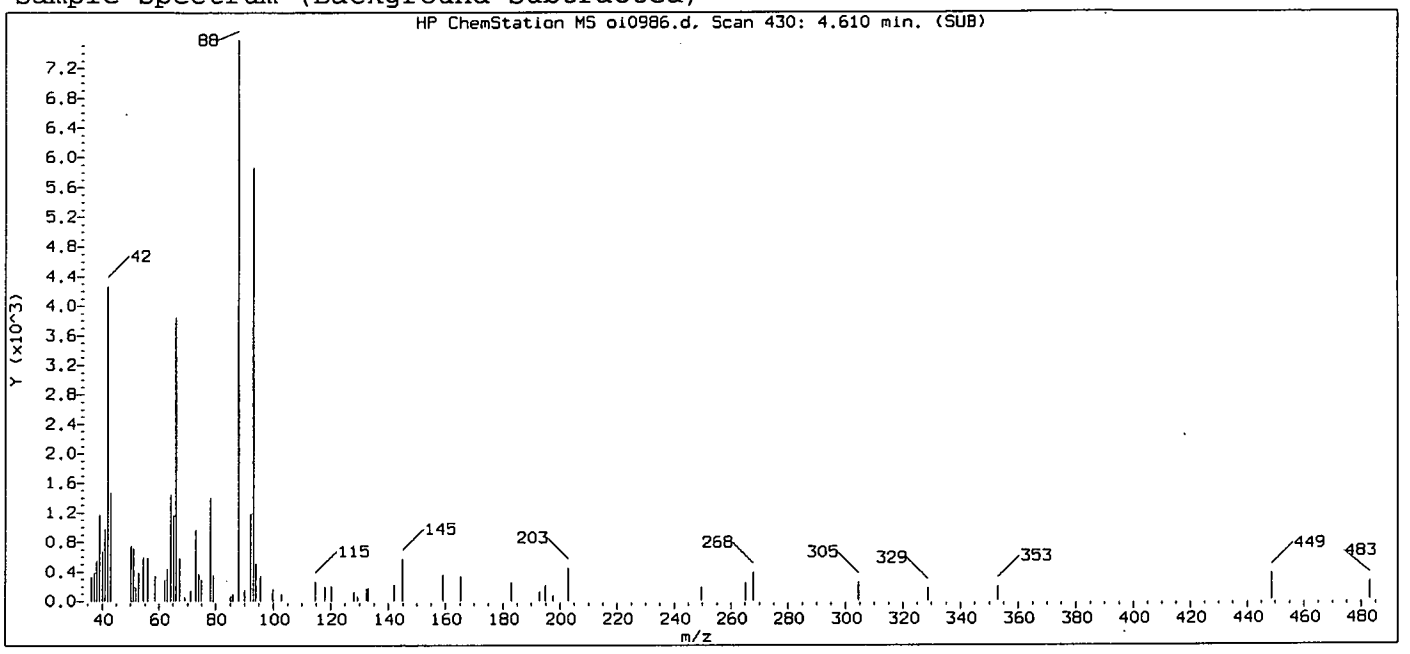
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 designated user ID: lmh00956

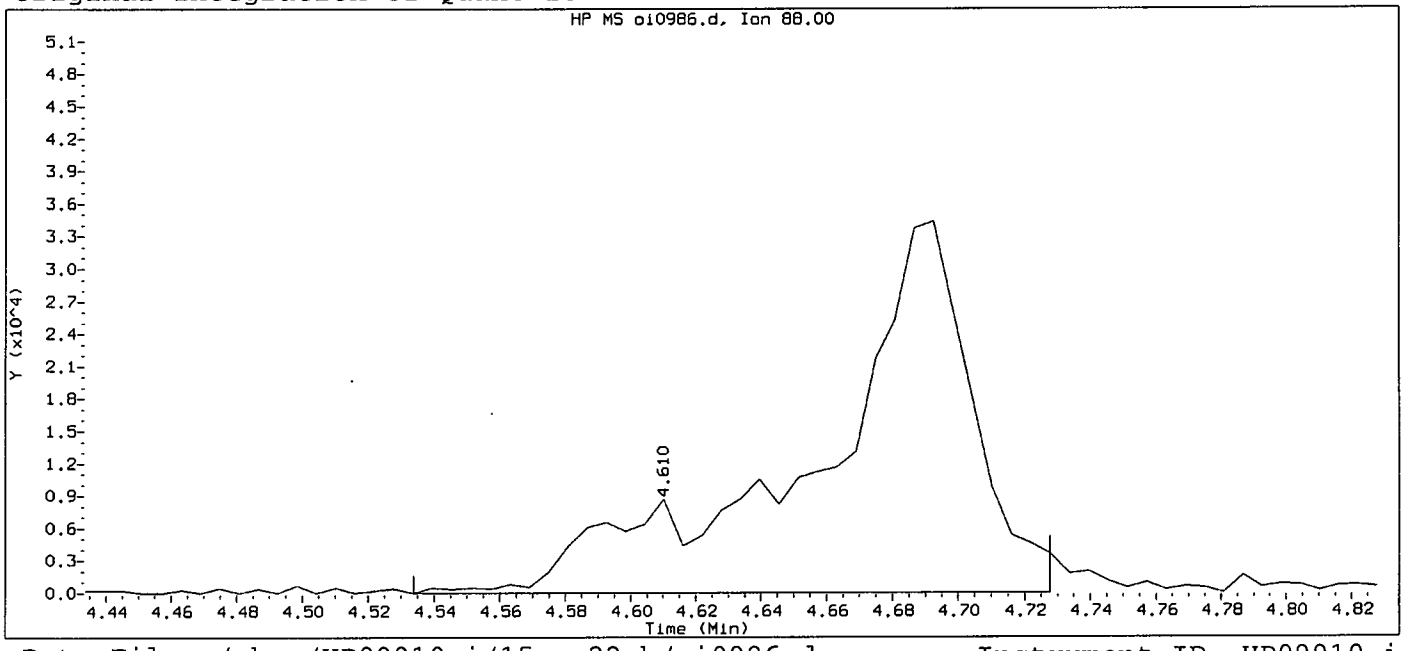
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 11:57
Date, time and analyst ID of latest file update: 22-Sep-2015 11:57 Automation

Sample Name: SSTD015 Lab Sample ID: STD2575

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 430		
Retention Time (minutes)	: 4.610		
Quant Ion	: 88.00		
Area	: 111063		
On-column Amount (ng/ul)	: 13.8354		
Integration start scan	: 416	Integration stop scan:	449
Y at integration start	: 0	Y at integration end:	0

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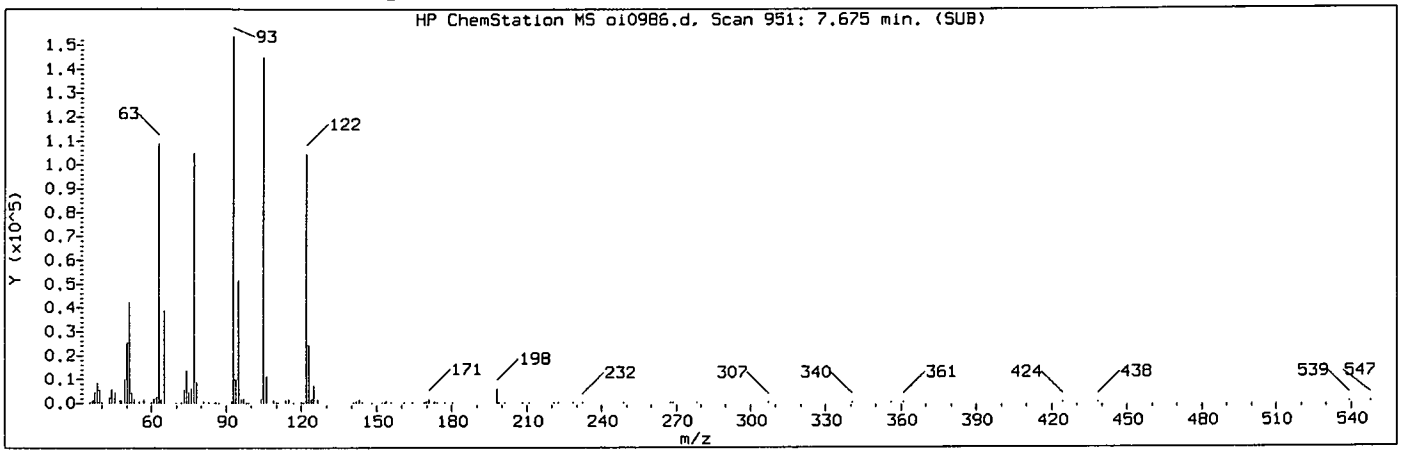
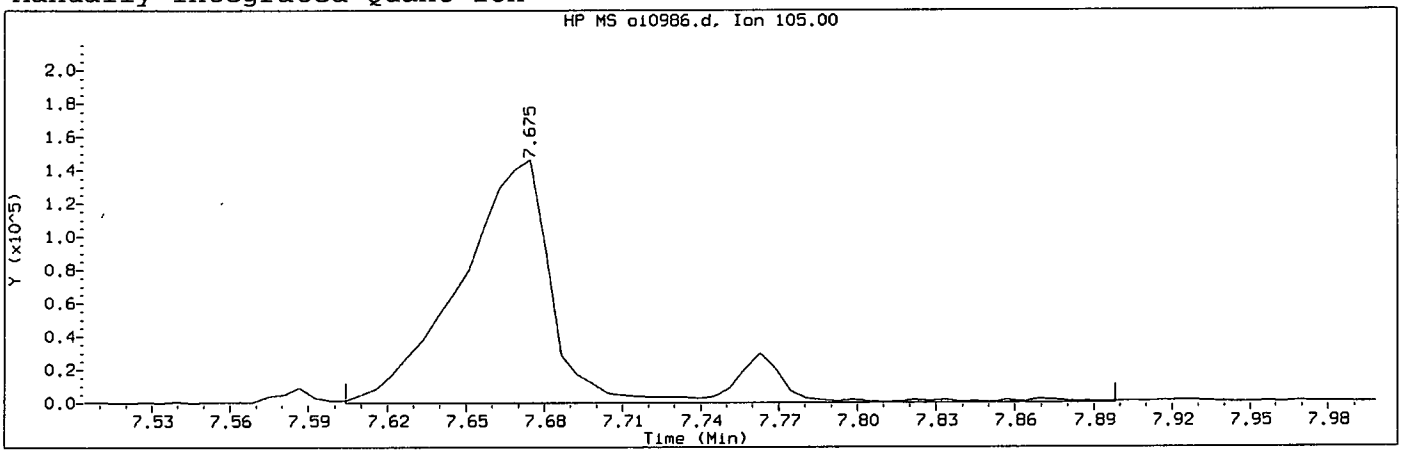
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 951		
Retention Time (minutes)	: 7.675		
Quant Ion	: 105.00		
Area (flag)	: 392540M		
On-Column Amount (ng/ul)	: 26.8457		
Integration start scan	: 938	Integration stop scan:	988
Y at integration start	: 0	Y at integration end:	0

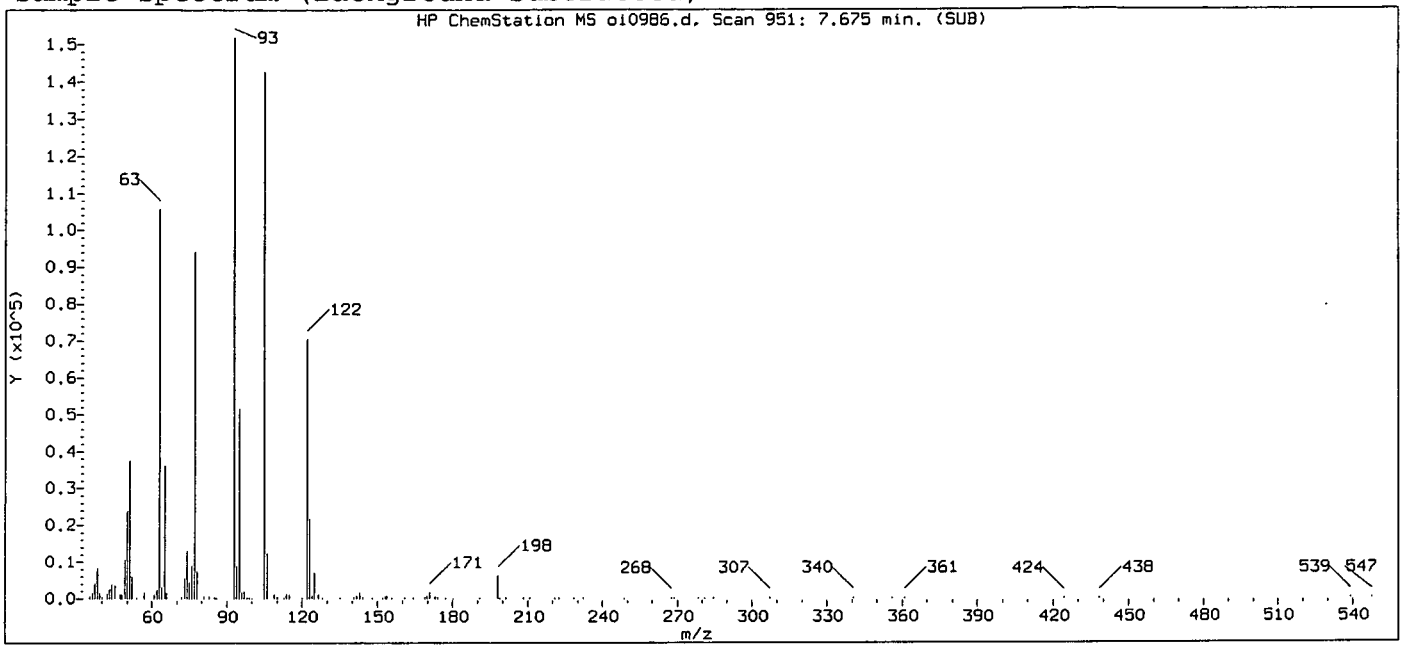
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 esignature user ID: lmh00956

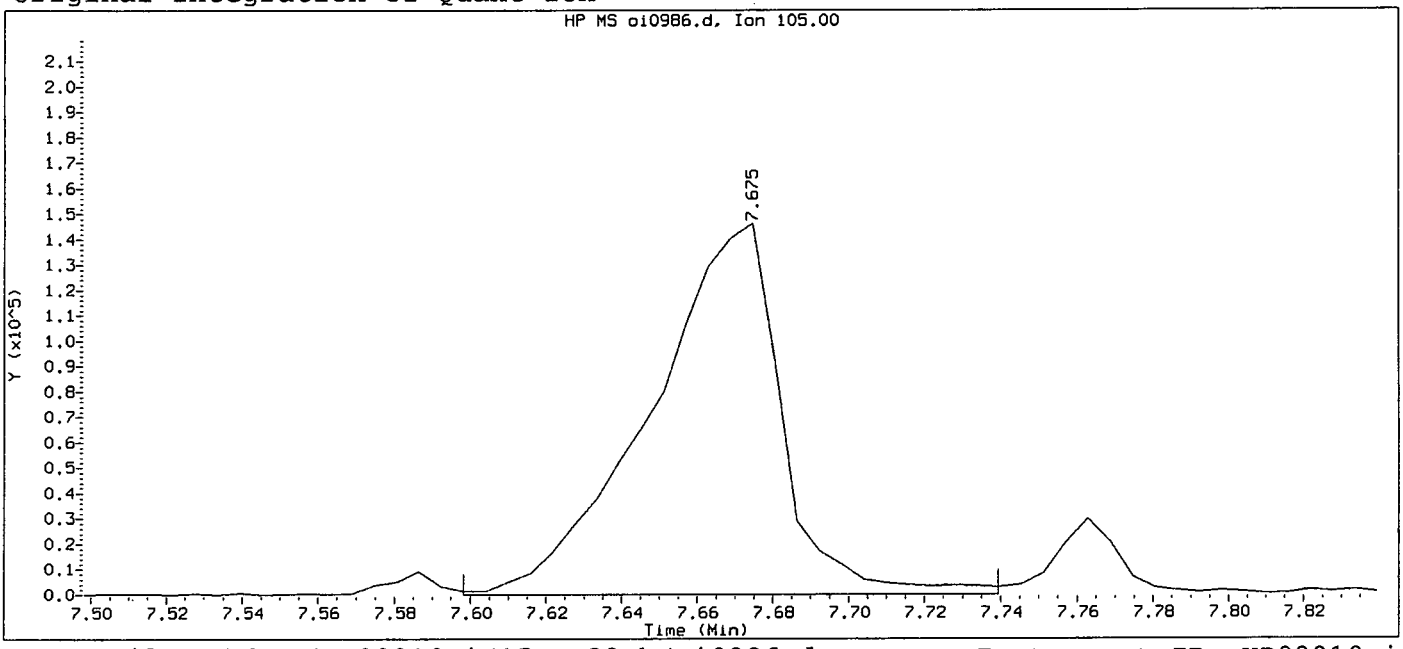
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 11:57
Date, time and analyst ID of latest file update: 22-Sep-2015 11:57 Automation

Sample Name: SSTD015 Lab Sample ID: STD2575

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 951		
Retention Time (minutes)	: 7.675		
Quant Ion	: 105.00		
Area	: 351279		
On-column Amount (ng/ul)	: 25.6550		
Integration start scan	: 937	Integration stop scan:	961
Y at integration start	: 0	Y at integration end:	0

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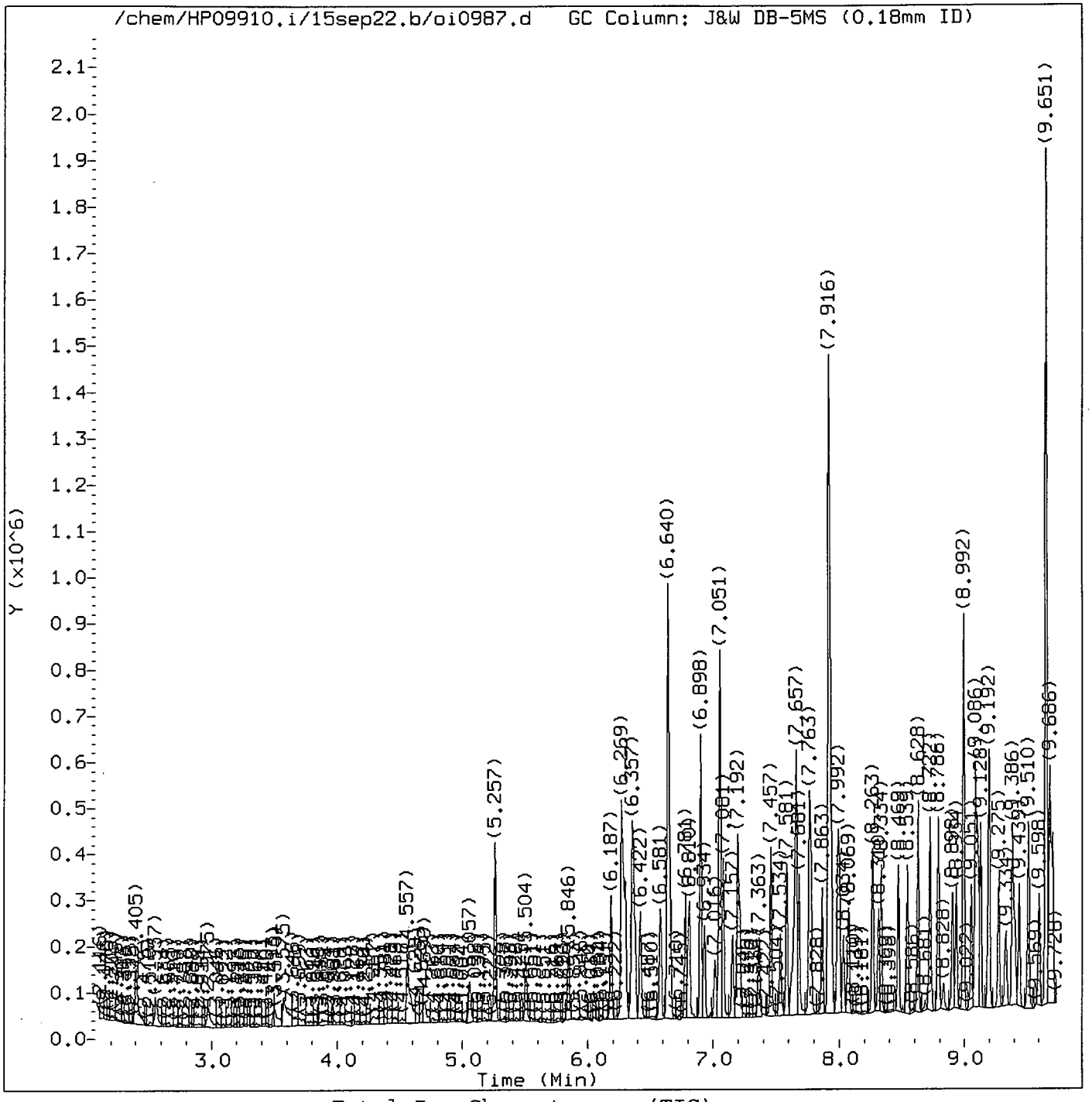
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

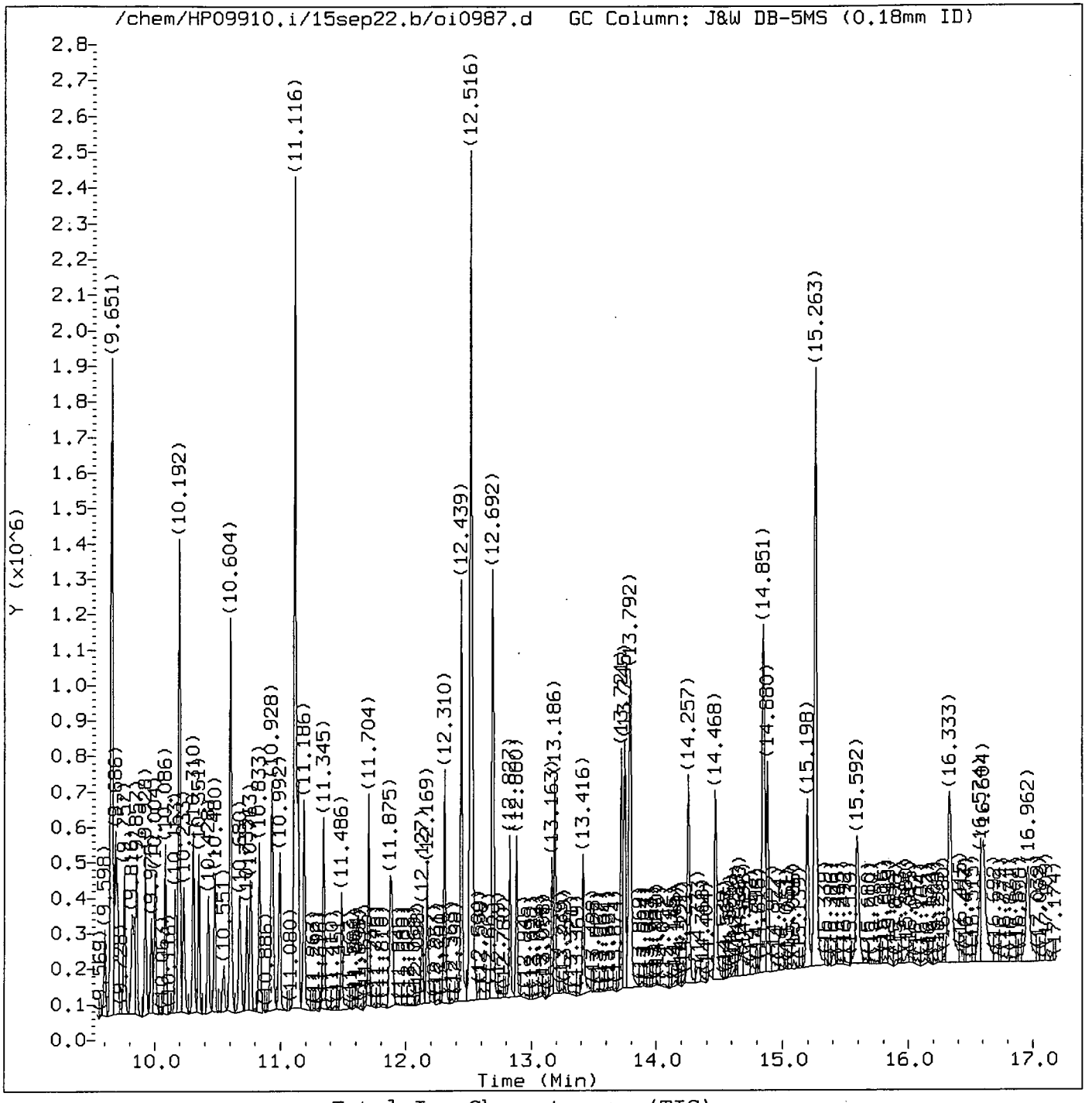
Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.975	88	31749	5.885
4) N-Nitrosodimethylamine	(1)	3.487	74	46480M	5.238
5) Pyridine	(1)	3.569	79	74980M	5.217
7) 2-Picoline	(1)	4.557	93	80165	5.227
8) N-Nitrosomethylethylamine	(1)	4.693	88	42952M	5.788
9) Methyl methanesulfonate	(1)	5.057	80	38821	5.311
11)$2-Fluorophenol	(1)	5.257	112	127979	10.631
13) N-Nitrosodiethylamine	(1)	5.504	102	38128	5.374
15) Ethyl methanesulfonate	(1)	5.846	109	34670	5.095
17)$Phenol-d6	(1)	6.269	99	174701	10.148
18) Phenol	(1)	6.287	94	108809	5.202
19) Aniline	(1)	6.298	93	117378	5.078
20) a-methylstyrene	(1)	6.363	118	61183	5.021
22) bis(2-Chloroethyl)ether	(1)	6.375	93	74947	5.196
23) 2-Chlorophenol	(1)	6.422	128	61943	5.179
24) 1,3-Dichlorobenzene	(1)	6.581	146	59021	5.090
25)*1,4-Dichlorobenzene-d4	(1)	6.640	152	144627	20.000
26) 1,4-Dichlorobenzene	(1)	6.657	146	64878	5.380
42) Total Cresols	(1)			149514	10.375
27) Benzyl alcohol	(1)	6.781	108	47176	4.930
28) 1,2-Dichlorobenzene	(1)	6.810	146	60945	5.371
30) Indene	(1)	6.898	115	103150	4.883
31) 2-Methylphenol	(1)	6.898	108	68532	5.209
34) bis(2-Chloroisopropyl)ether	(1)	6.934	45	99728	5.272
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.934	45	99728	5.272
35) N-Nitrosopyrrolidine	(1)	7.016	100	40401	4.932
36) Acetophenone	(1)	7.045	105	101432	5.220
37) 4-Methylphenol	(1)	7.051	108	80982	5.165
38) N-Nitroso-di-n-propylamine	(1)	7.051	70	58391	5.066
39) N-Nitrosomorpholine	(1)	7.063	56	49440	5.318
40) o-Toluidine	(1)	7.081	106	116898	5.206
43) Hexachloroethane	(1)	7.157	117	25490	5.365
44)$Nitrobenzene-d5	(2)	7.192	82	161146	10.414
45) Nitrobenzene	(2)	7.210	77	84055	5.362
48) N-Nitrosopiperidine	(2)	7.363	114	34506	4.838
50) Isophorone	(2)	7.457	82	164996	5.200
51) 2-Nitrophenol	(2)	7.534	139	29391	4.568
53) 2,4-Dimethylphenol	(2)	7.581	107	73857	5.151
56) Benzoic acid	(2)	7.651	105	162147M	12.172
57) O,O,O-Triethylphosphorothioate	(2)	7.657	198	32847	5.255

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	7.681	93	90802	5.062
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.763	104	95927	5.075
60) 2,4-Dichlorophenol	(2)	7.775	162	52816	5.177
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	52077	5.106
65)*Naphthalene-d8	(2)	7.916	136	664957	20.000
66) Naphthalene	(2)	7.939	128	186497	5.050
67) 4-Chloroaniline	(2)	7.987	127	85595	5.230
68) 2,6-Dichlorophenol	(2)	7.998	162	50191	5.060
69) Hexachloropropene	(2)	8.034	213	24433	4.675
71) Hexachlorobutadiene	(2)	8.069	225	27418	5.580
75) Quinoline	(2)	8.263	129	138174	5.270
76) Caprolactam	(2)	8.310	113	32855	5.706
77) N-Nitrosodi-n-butylamine	(2)	8.334	84	62988	4.745
80) 4-Chloro-3-methylphenol	(2)	8.469	107	69726	5.108
82) Safrole	(2)	8.539	162	50583	5.173
83) 2-Methylnaphthalene	(2)	8.628	142	136529	5.280
97) Isosafrole	(3)			59578	4.932
84) 1-Methylnaphthalene	(2)	8.722	142	110525	4.769
85) Hexachlorocyclopentadiene	(3)	8.792	237	22960	4.616
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.792	216	53212	5.118
88) cis-Isosafrole	(3)	8.834	162	10216	0.942
90) 2,4,6-Trichlorophenol	(3)	8.898	196	36289	4.845
92) 2,4,5-Trichlorophenol	(3)	8.934	196	45012	5.292
93)$2-Fluorobiphenyl	(3)	8.992	172	281967	10.094
94) trans-Isosafrole	(3)	9.051	162	49362	3.990
95) 1,1'-Biphenyl	(3)	9.086	154	172037	5.104
96) 2-Chloronaphthalene	(3)	9.104	162	122537	4.673
98) 1-Chloronaphthalene	(3)	9.128	162	122691	5.043
99) Diphenyl ether	(3)	9.192	170	88658	5.202
100) 2-Nitroaniline	(3)	9.198	138	44658	4.837
104) 1,4-Naphthoquinone	(3)	9.275	158	50855	4.656
105) 1,4-Dinitrobenzene	(3)	9.334	168	20285	4.274
106) Dimethylphthalate	(3)	9.386	163	158287	5.185
120) 2,4_2,6-Dinitrotoluenes	(3)			80506	9.369
107) 1,3-Dinitrobenzene	(3)	9.404	168	23599	4.339
108) 2,6-Dinitrotoluene	(3)	9.439	165	31735	4.473
109) Acenaphthylene	(3)	9.510	152	201868	5.134
112) 3-Nitroaniline	(3)	9.598	138	38309	4.665
113)*Acenaphthene-d10	(3)	9.651	164	440105	20.000
114) Acenaphthene	(3)	9.686	153	136860	5.047

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$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	9.704	184	56458	11.696
116) 4-Nitrophenol	(3)	9.757	109	39310	8.989
117) Pentachlorobenzene	(3)	9.816	250	51381	5.493
118) 2,4-Dinitrotoluene	(3)	9.833	165	48771	4.896
119) Dibenzofuran	(3)	9.857	168	184061	4.952
121) 1-Naphthylamine	(3)	9.928	143	152552	5.056
122) 2,3,4,6-Tetrachlorophenol	(3)	9.975	232	34660	4.891
123) 2-Naphthylamine	(3)	10.004	143	149610	5.008
124) Diethylphthalate	(3)	10.086	149	155793	5.207
125) Thionazin	(3)	10.169	107	33671	5.456
128) 5-Nitro-o-toluidine	(3)	10.192	152	49761	5.290
126) Fluorene	(3)	10.192	166	163734	5.265
129) 4-Nitroaniline	(3)	10.192	138	46912	4.987
127) 4-Chlorophenyl-phenylether	(3)	10.198	204	75856	5.253
146) Diallate trans/cis	(4)			96626	5.279
130) 4,6-Dinitro-2-methylphenol	(4)	10.233	198	54153	8.608
132) NDPA as diphenylamine	(4)	10.310	169	140191	5.096
131) N-Nitrosodiphenylamine	(4)	10.310	169	140191	5.096
134) 1,2-Diphenylhydrazine	(4)	10.351	77	188859	5.111
135)$2,4,6-Tribromophenol	(3)	10.428	330	40691	11.290
137) Tetraethyldithiopyrophosphate	(4)	10.475	97	25966	4.940
139) 1,3,5-Trinitrobenzene	(4)	10.551	213	13486	3.653
140) Diallate (peak 1)	(4)	10.604	86	79748	4.343
142) Phenacetin	(4)	10.604	108	92577	4.860
141) Phorate	(4)	10.610	75	127319	5.030
143) 4-Bromophenyl-phenylether	(4)	10.680	248	40933	5.416
144) Diallate (peak 2)	(4)	10.686	86	16878	0.936
145) Hexachlorobenzene	(4)	10.733	284	41728	5.167
147) Dimethoate	(4)	10.763	87	82524	4.995
149) Pentachlorophenol	(4)	10.928	266	24407	4.573
150) 4-Aminobiphenyl	(4)	10.928	169	167251	5.985
151) Pentachloronitrobenzene	(4)	10.939	237	16874	5.674
152) Pronamide	(4)	10.992	173	67682	5.105
154) Dinoseb	(4)	11.110	211	30582	3.787
153)*Phenanthrene-d10	(4)	11.116	188	847407	20.000
155) Phenanthrene	(4)	11.139	178	256601	5.229
157) Anthracene	(4)	11.186	178	252772	5.139
163) Carbazole	(4)	11.345	167	244545	5.247
164) Methyl parathion	(4)	11.486	109	50997	4.456
165) Di-n-butylphthalate	(4)	11.704	149	267480	5.003

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	11.875	109	33049	4.613
168) 4-Nitroquinoline-1-oxide	(4)	11.886	190	11409	2.732
169) Octachlorostyrene	(4)	12.127	308	13209	5.106
171) Isodrin	(4)	12.169	193	26969	5.484
173) Fluoranthene	(4)	12.310	202	278249	5.189
174) Benzidine	(5)	12.439	184	482188	13.928
175)*Pyrene-d10	(5)	12.516	212	997132	20.000
177) Pyrene	(5)	12.533	202	305242	5.132
179)$Terphenyl-d14	(5)	12.692	244	381076	10.385
182) p-Dimethylaminoazobenzene	(5)	12.827	225	54335	4.776
185) Chlorobenzilate	(5)	12.880	139	79354	4.984
187) 3,3'-Dimethylbenzidine	(5)	13.163	212	150654	4.880
188) Butylbenzylphthalate	(5)	13.186	149	125185	4.790
191) 2-Acetylaminofluorene	(5)	13.416	181	109005	4.594
193) 3,3'-Dichlorobenzidine	(5)	13.721	252	90728	5.146
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.727	231	50128	5.071
195) Benzo(a)anthracene	(5)	13.745	228	263370	5.095
196) Chrysene	(5)	13.786	228	266496	5.412
199) bis(2-Ethylhexyl)phthalate	(5)	13.798	149	176457	4.829
203) 6-Methylchrysene	(5)	14.257	242	181646	5.212
205) Di-n-octylphthalate	(6)	14.468	149	289593	4.468
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.845	256	116961	4.878
206) Benzo(b)fluoranthene	(6)	14.851	252	257347	5.277
208) Benzo(k)fluoranthene	(6)	14.880	252	261598	5.166
211) Benzo(a)pyrene	(6)	15.198	252	247585	5.117
213)*Perylene-d12	(6)	15.263	264	786883	20.000
215) 3-Methylcholanthrene	(6)	15.592	268	114934	4.972
222) Total PAHs	(6)			3468164	81.445
219) Indeno(1,2,3-cd)pyrene	(6)	16.580	276	253737	4.967
220) Dibenz(a,h)anthracene	(6)	16.604	278	202721	4.705
221) Benzo(g,h,i)perylene	(6)	16.962	276	205378	4.914

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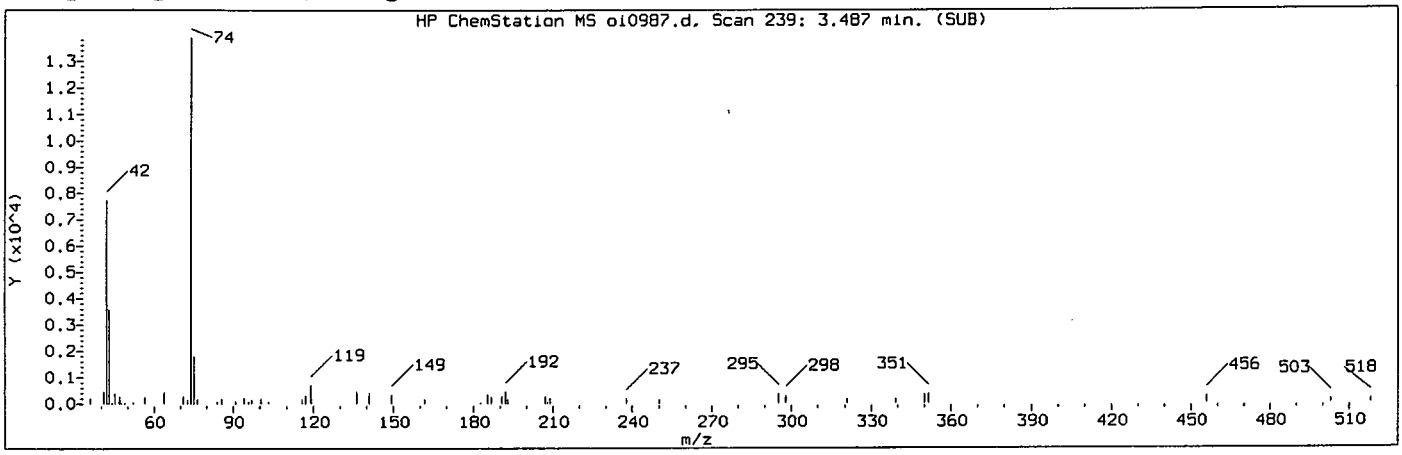
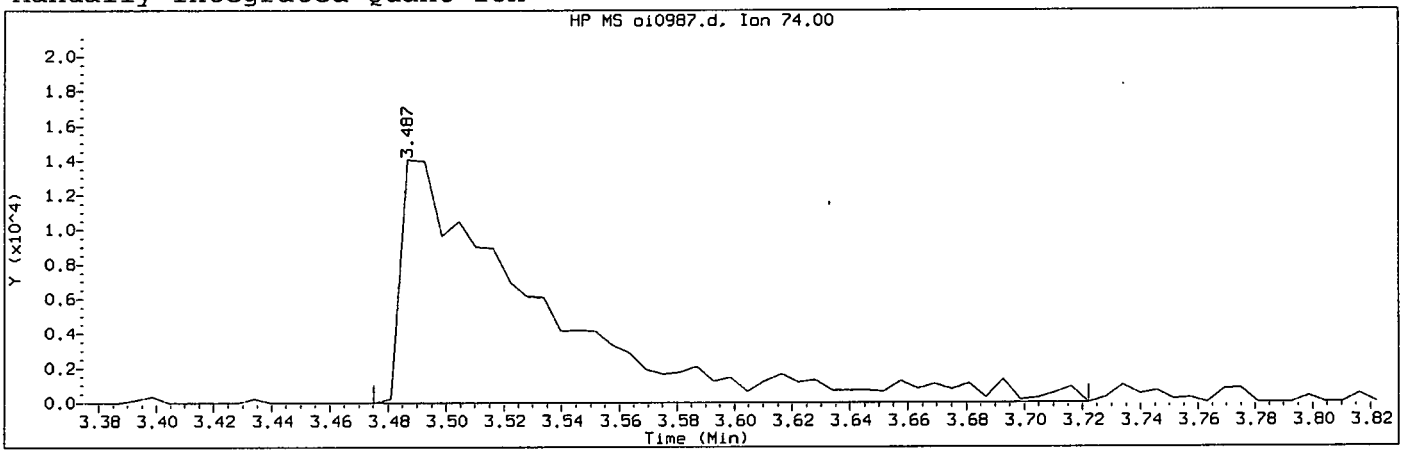
Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 239		
Retention Time (minutes)	: 3.487		
Quant Ion	: 74.00		
Area (flag)	: 46480M		
On-Column Amount (ng/ul)	: 5.2384		
Integration start scan	: 236	Integration stop scan:	278
Y at integration start	: -4	Y at integration end:	-4

Reason for manual integration: improper integration

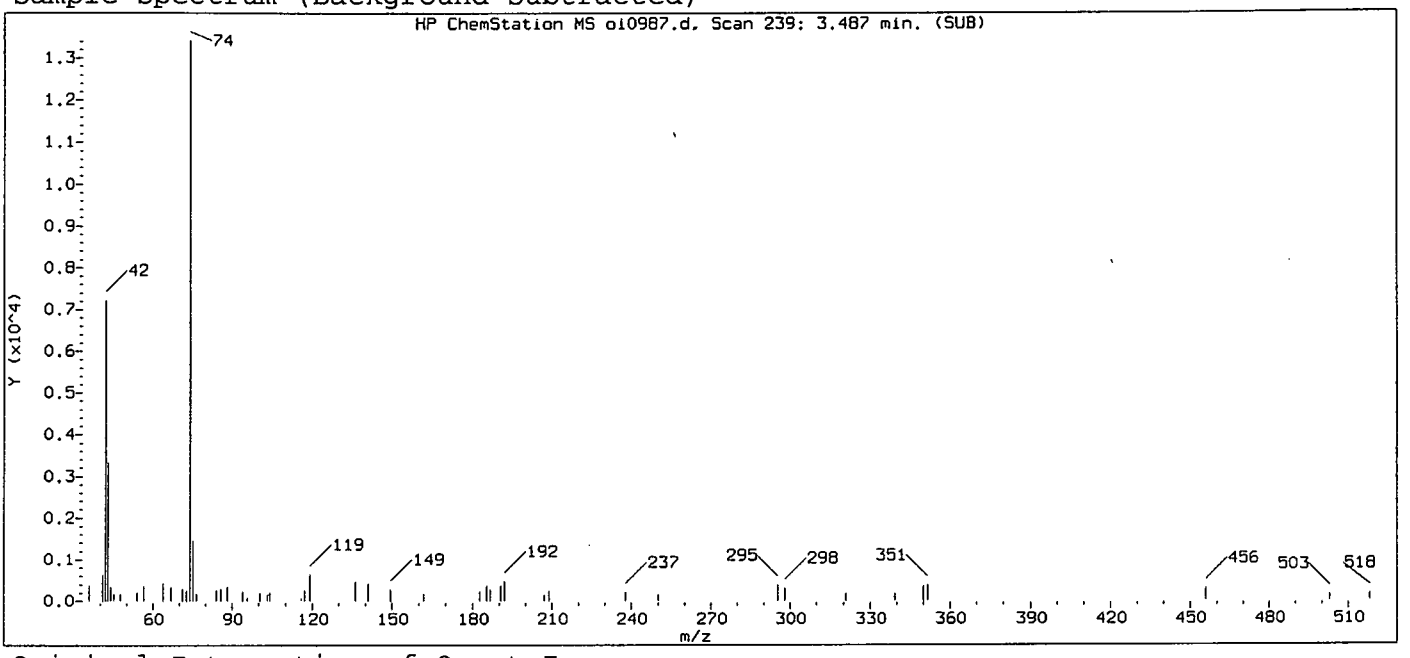
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 signature User ID: lmh00956

SEP 23 2015

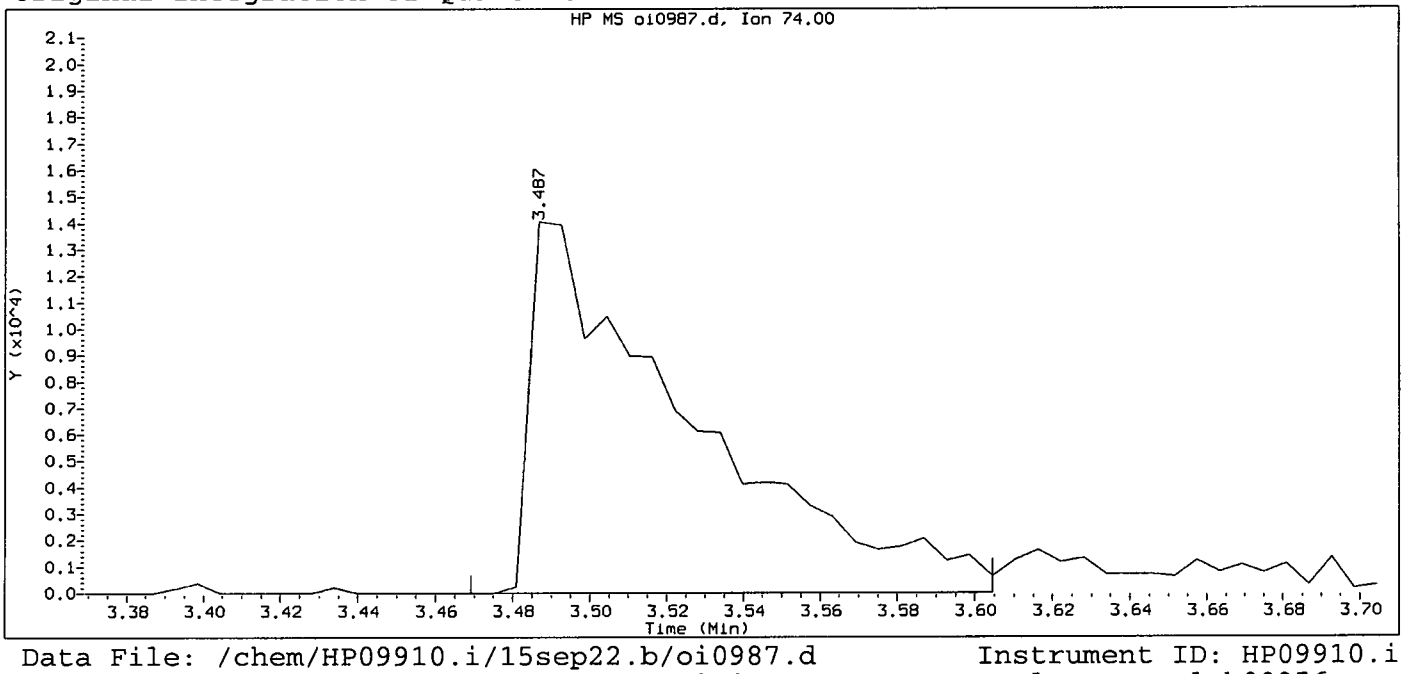
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:23
Date, time and analyst ID of latest file update: 22-Sep-2015 12:23 Automation

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 239		
Retention Time (minutes)	: 3.487		
Quant Ion	: 74.00		
Area	: 40427		
On-column Amount (ng/ul)	: 4.5792		
Integration start scan	: 235	Integration stop scan:	258
Y at integration start	: 0	Y at integration end:	0

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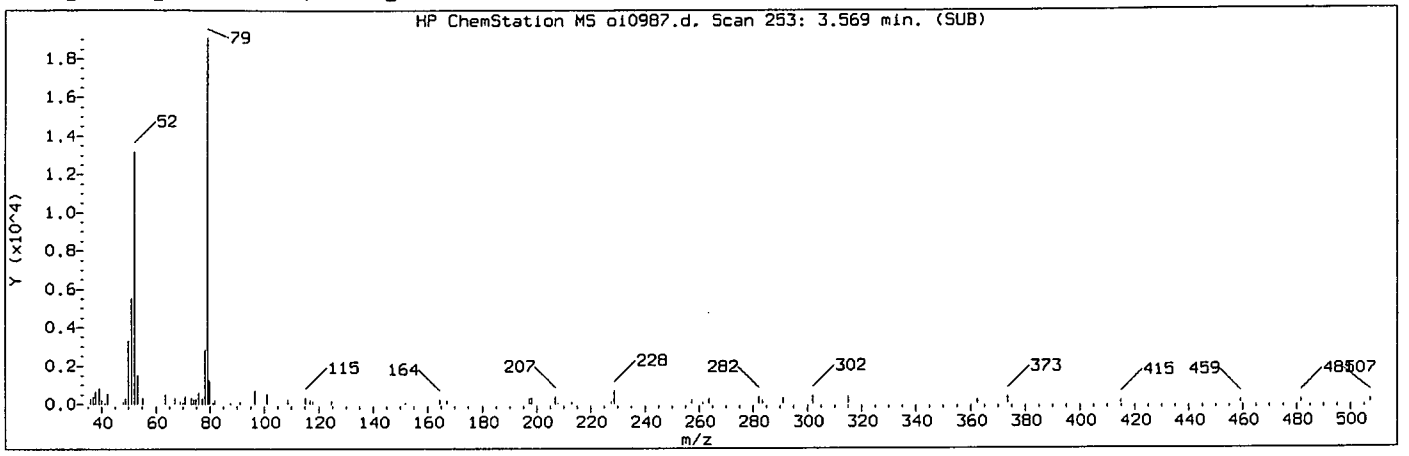
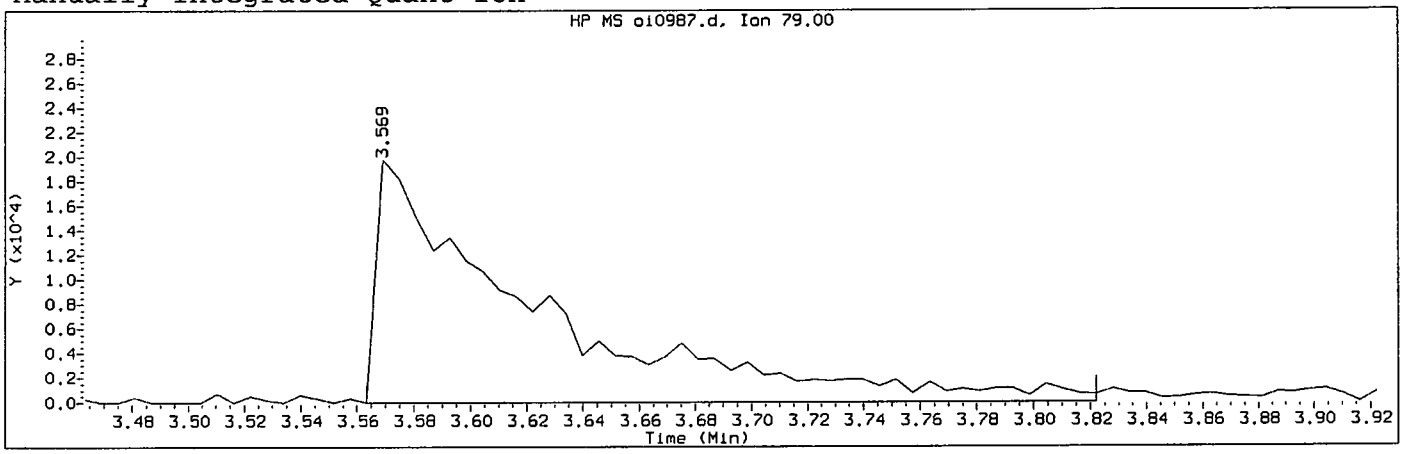
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 253		
Retention Time (minutes)	: 3.569		
Quant Ion	: 79.00		
Area (flag)	: 74980M		
On-Column Amount (ng/ul)	: 5.2173		
Integration start scan	: 251	Integration stop scan:	295
Y at integration start	: -22	Y at integration end:	-22

Reason for manual integration: improper integration

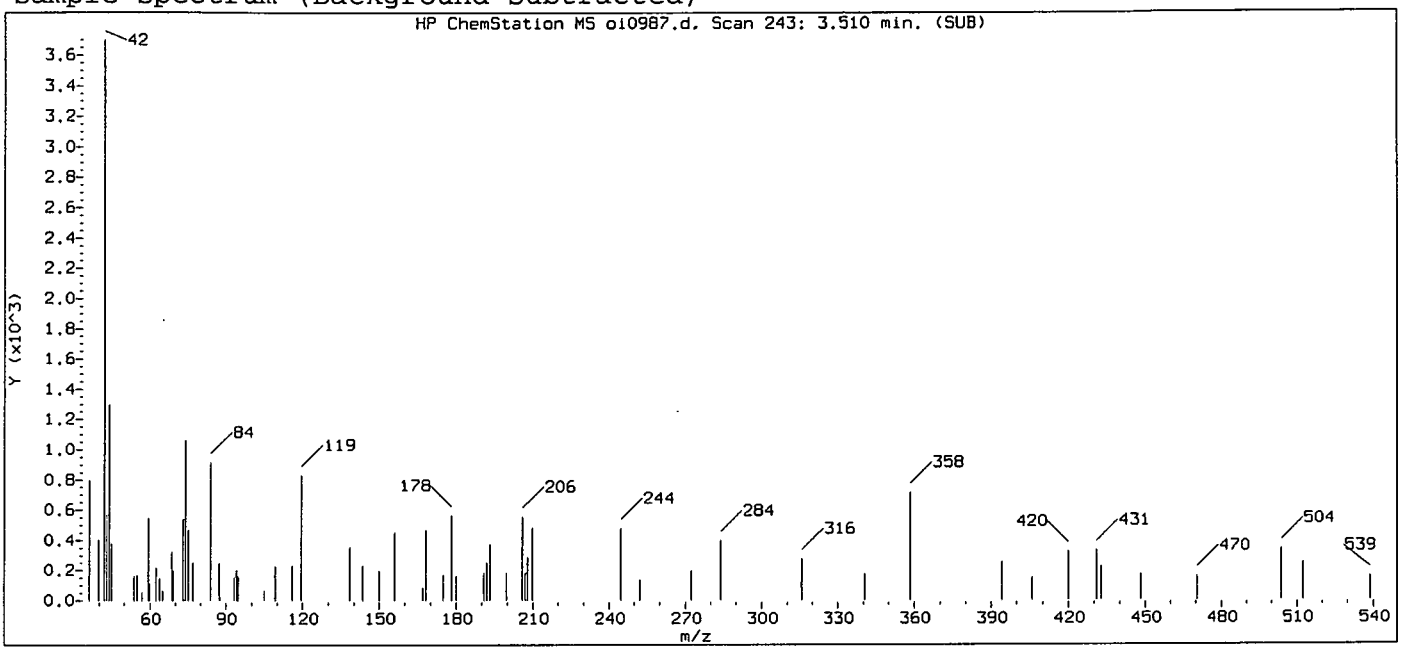
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

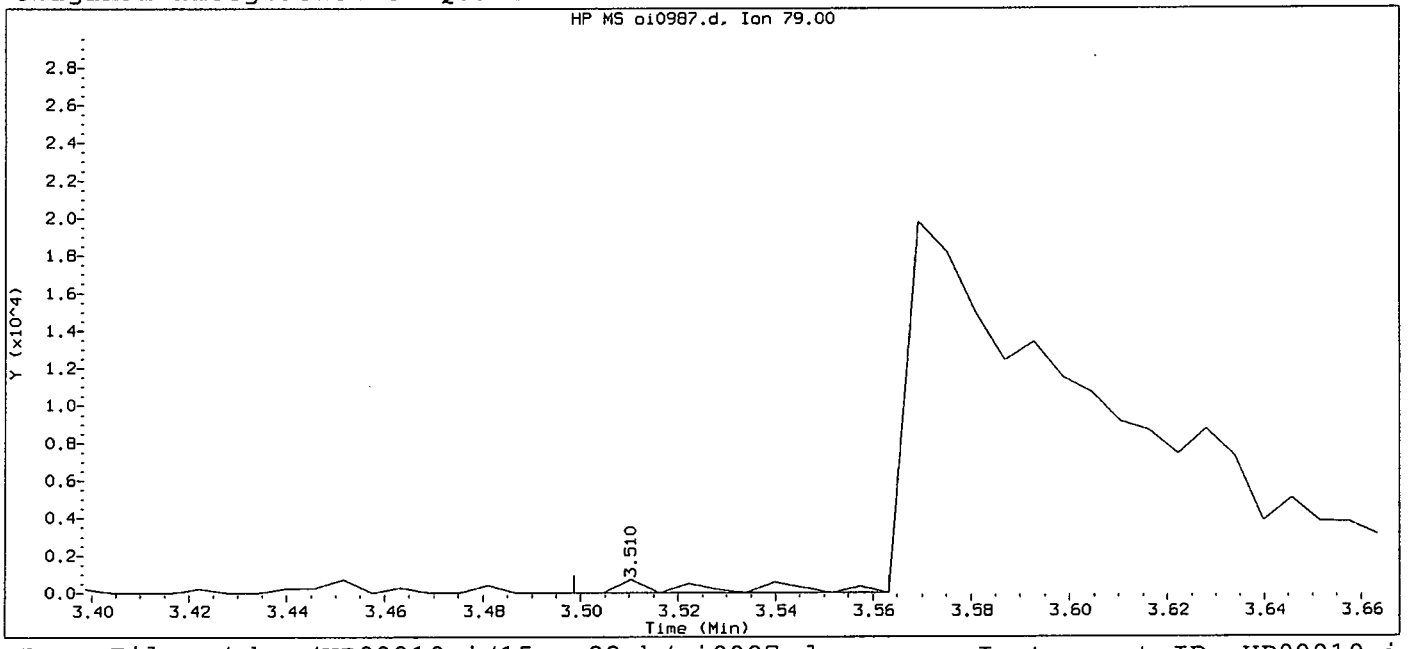
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:23
Date, time and analyst ID of latest file update: 22-Sep-2015 12:23 Automation

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 243		
Retention Time (minutes)	: 3.510		
Quant Ion	: 79.00		
Area	: 915		
On-column Amount (ng/ul)	: 0.0754		
Integration start scan	: 240	Integration stop scan:	251
Y at integration start	: 0	Y at integration end:	0

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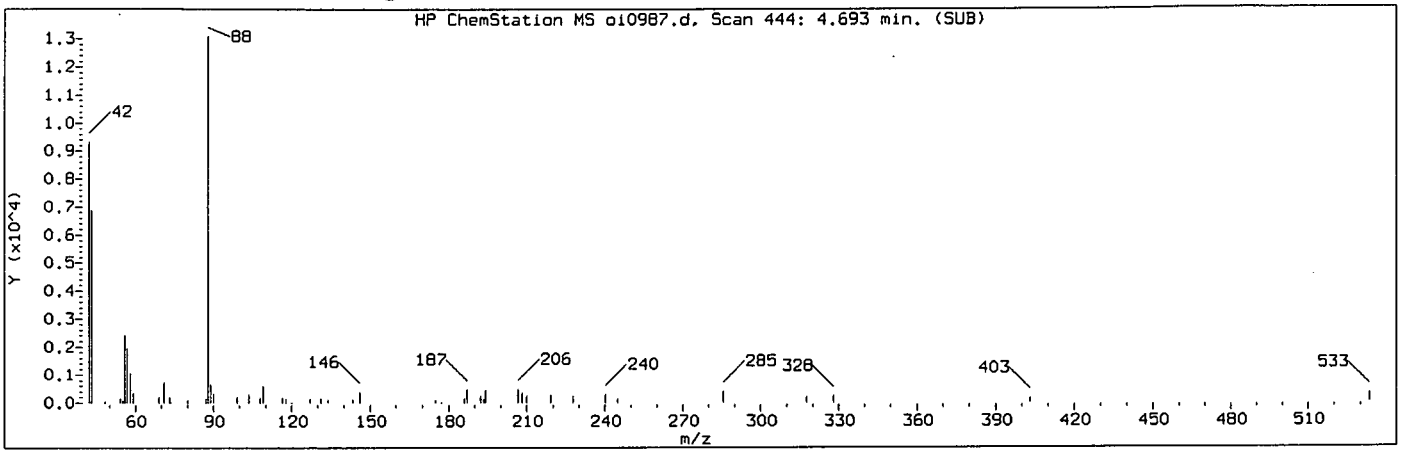
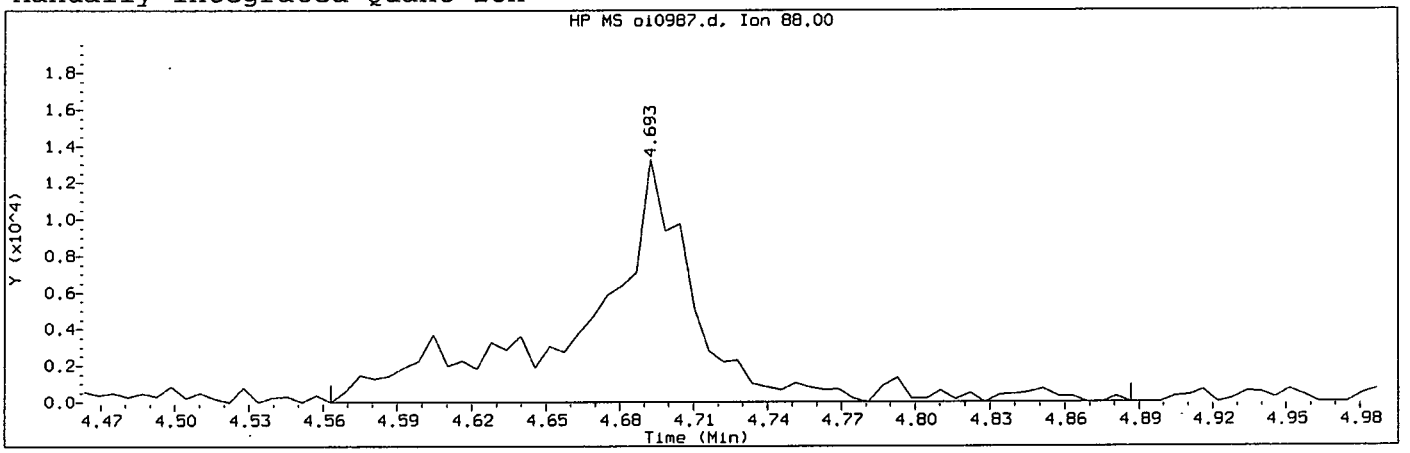
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 444		
Retention Time (minutes)	: 4.693		
Quant Ion	: 88.00		
Area (flag)	: 42952M		
On-Column Amount (ng/ul)	: 5.7884		
Integration start scan	: 421	Integration stop scan:	476
Y at integration start	: -7	Y at integration end:	-7

Reason for manual integration: improper integration

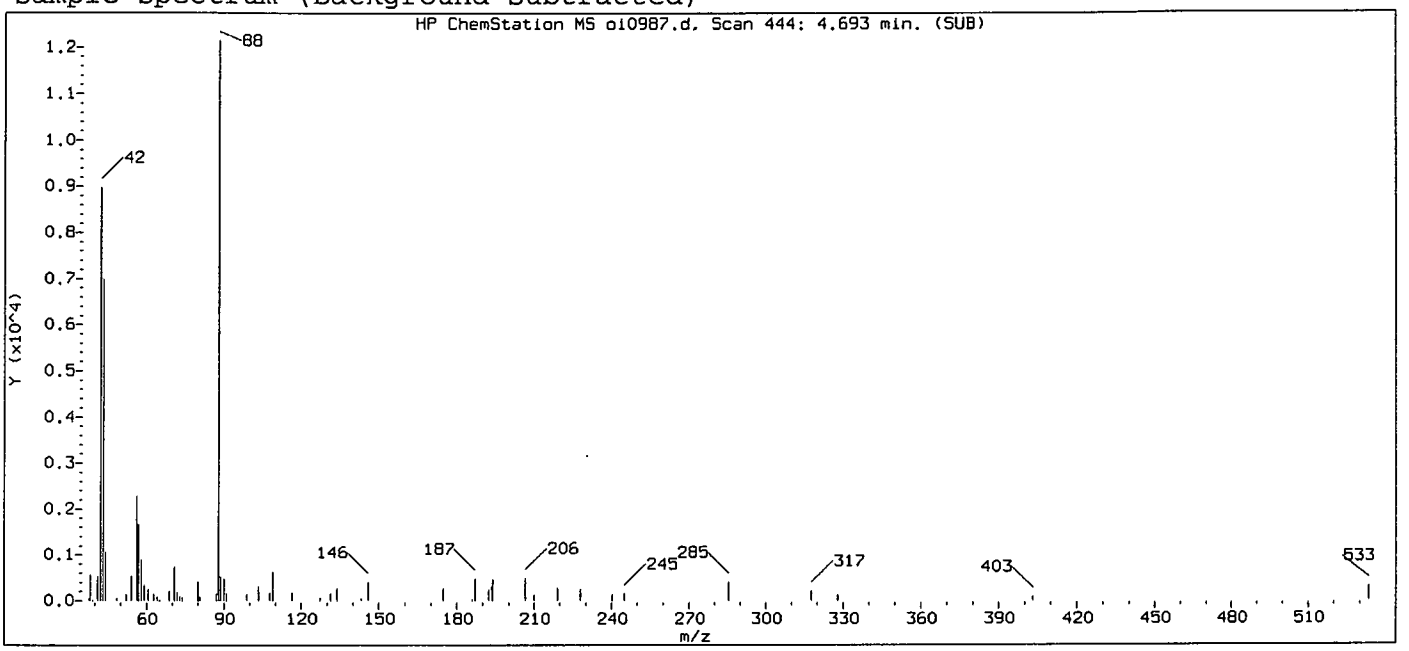
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 signature user ID: lmh00956

SEP 23 2015

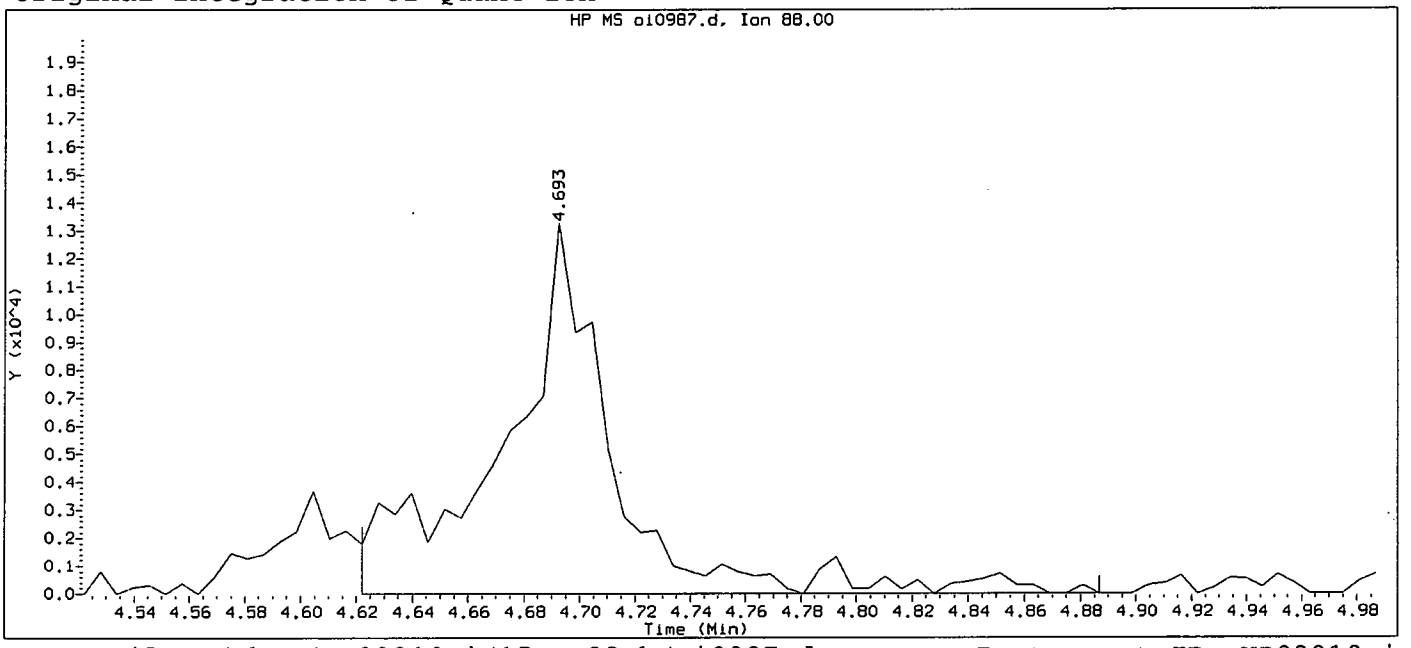
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:23
Date, time and analyst ID of latest file update: 22-Sep-2015 12:23 Automation

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 444		
Retention Time (minutes)	: 4.693		
Quant Ion	: 88.00		
Area	: 36565		
On-column Amount (ng/ul)	: 5.0491		
Integration start scan	: 431	Integration stop scan:	476
Y at integration start	: 0	Y at integration end:	0

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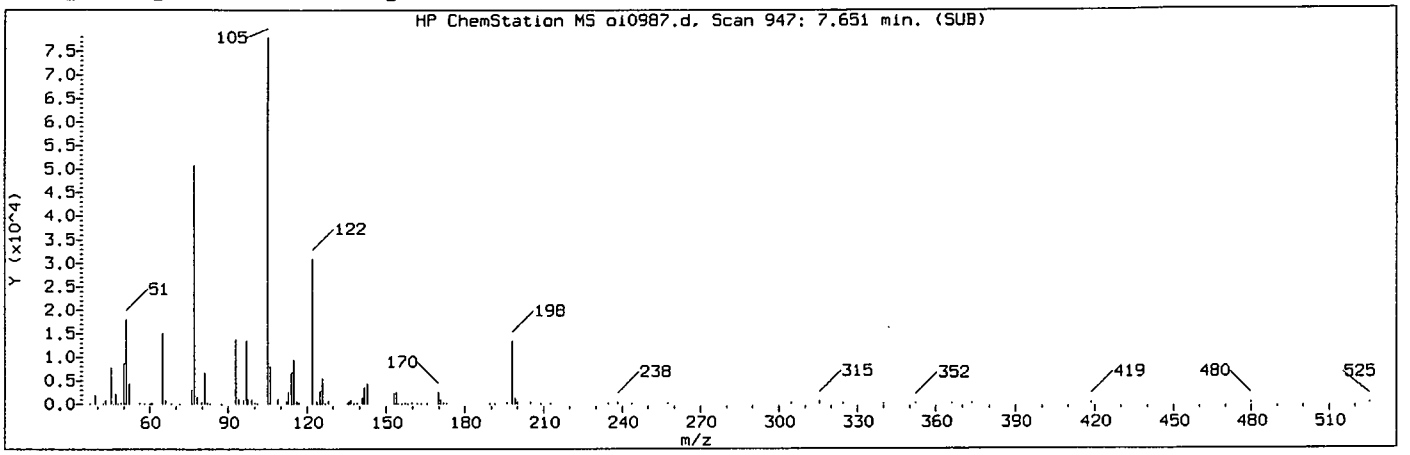
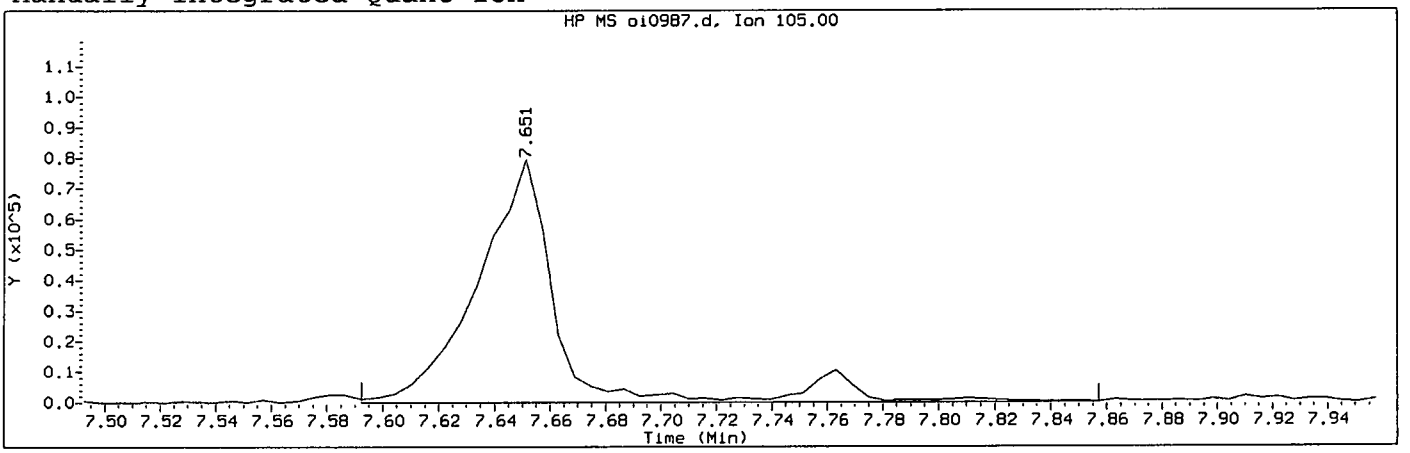
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 947		
Retention Time (minutes)	: 7.651		
Quant Ion	: 105.00		
Area (flag)	: 162147M		
On-Column Amount (ng/ul)	: 12.1717		
Integration start scan	: 936	Integration stop scan:	981
Y at integration start	: -91	Y at integration end:	-91

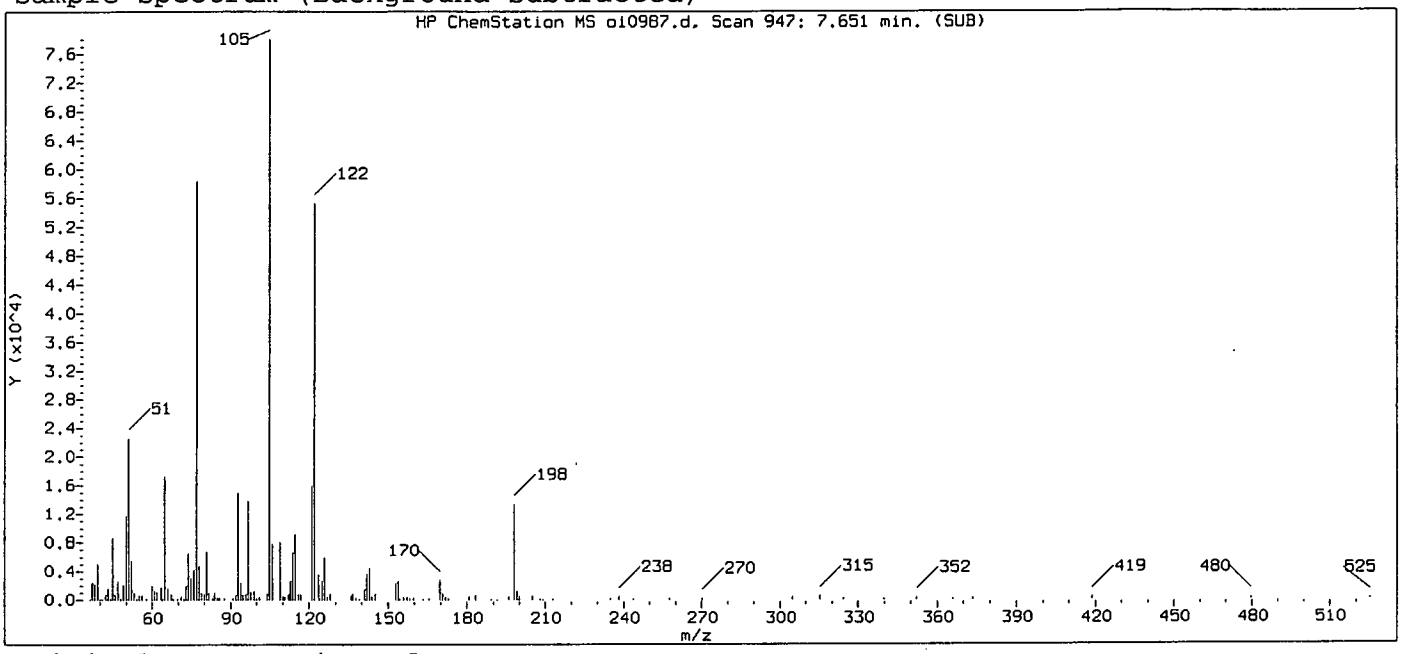
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 esignature user ID: lmh00956

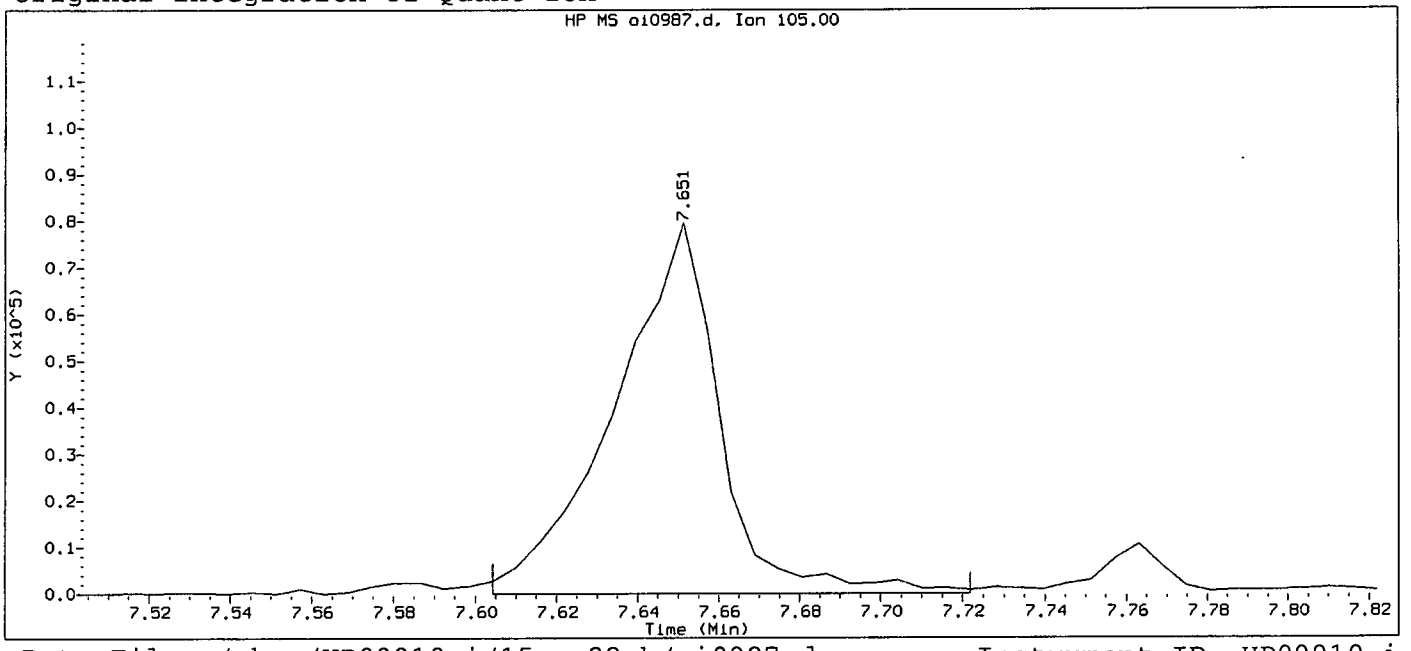
GC/MS audit/management approval: SEP 23 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



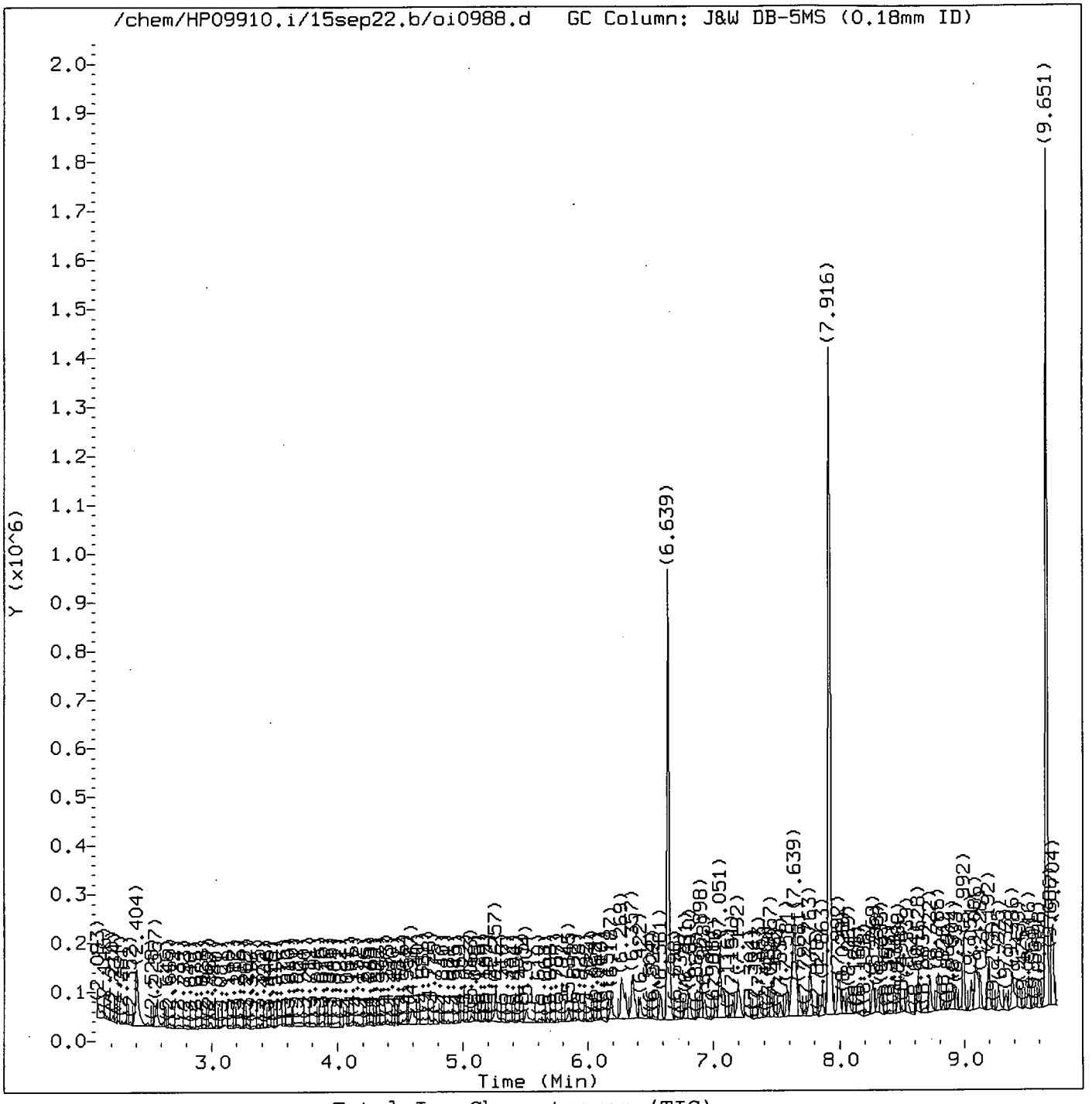
Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:23
Date, time and analyst ID of latest file update: 22-Sep-2015 12:23 Automation

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 947		
Retention Time (minutes)	: 7.651		
Quant Ion	: 105.00		
Area	: 144043		
On-column Amount (ng/ul)	: 11.2961		
Integration start scan	: 938	Integration stop scan:	958
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

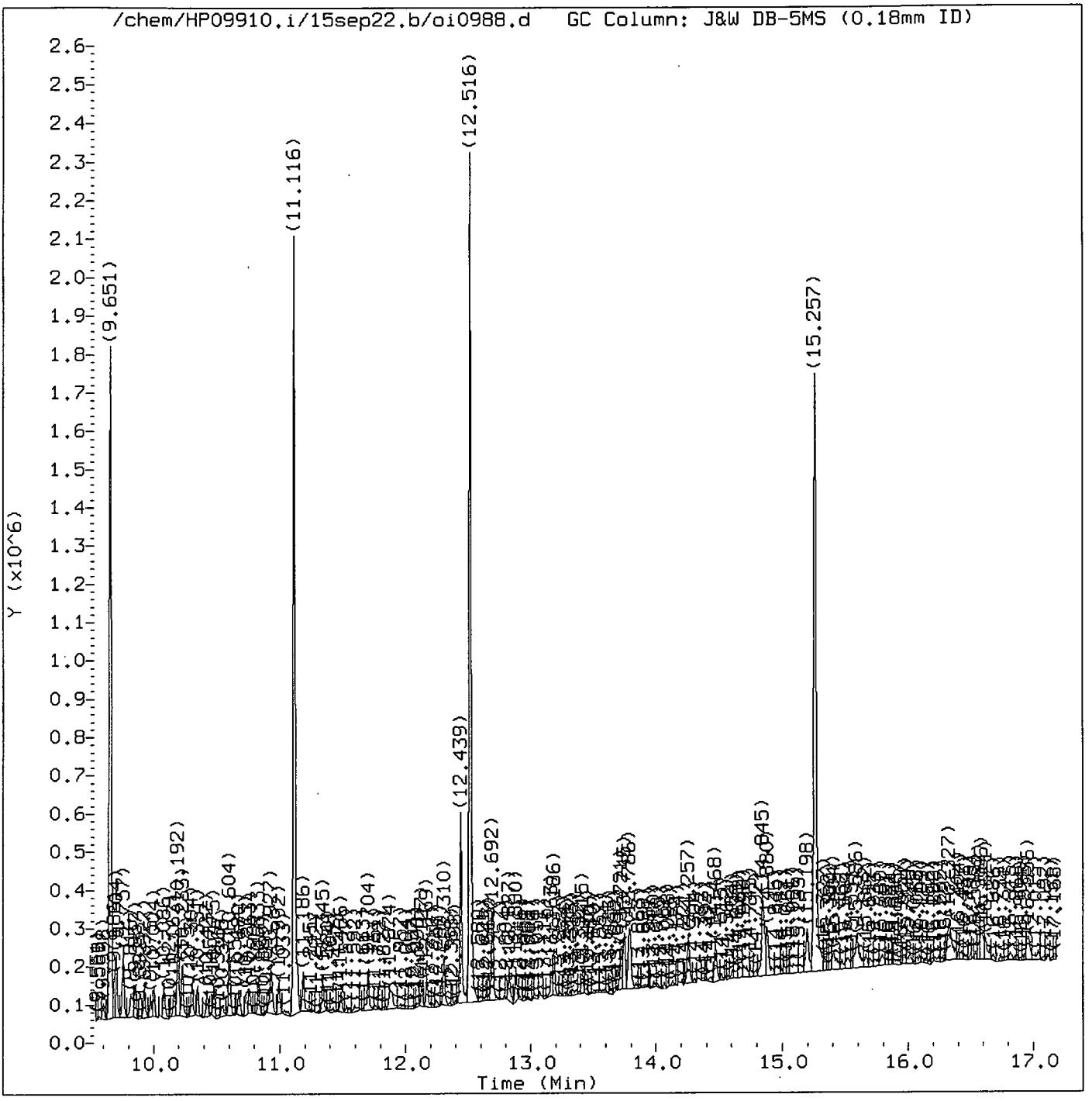
Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.987	88	9126	1.658
4) N-Nitrosodimethylamine	(1)	3.557	74	9461M	1.045
5) Pyridine	(1)	3.698	79	11887M	0.811
7) 2-Picoline	(1)	4.587	93	16864M	1.078
8) N-Nitrosomethylethylamine	(1)	4.710	88	13083M	1.728
9) Methyl methanesulfonate	(1)	5.057	80	8390M	1.125
11)$2-Fluorophenol	(1)	5.257	112	21270	1.732
13) N-Nitrosodiethylamine	(1)	5.510	102	6896	0.959
15) Ethyl methanesulfonate	(1)	5.845	109	6282	0.917
17)$Phenol-d6	(1)	6.269	99	30579	1.741
18) Phenol	(1)	6.281	94	18369	0.878
19) Aniline	(1)	6.298	93	22752	0.970
20) a-methylstyrene	(1)	6.357	118	12001	0.965
22) bis(2-Chloroethyl)ether	(1)	6.381	93	15785	1.062
23) 2-Chlorophenol	(1)	6.422	128	12307	1.007
24) 1,3-Dichlorobenzene	(1)	6.581	146	10720	0.918
25)*1,4-Dichlorobenzene-d4	(1)	6.639	152	147552	20.000
26) 1,4-Dichlorobenzene	(1)	6.657	146	13253	1.065
42) Total Cresols	(1)			25448	1.768
27) Benzyl alcohol	(1)	6.781	108	8111	0.831
28) 1,2-Dichlorobenzene	(1)	6.810	146	12610	1.076
31) 2-Methylphenol	(1)	6.898	108	11960	0.905
30) Indene	(1)	6.904	115	20271	0.941
34) bis(2-Chloroisopropyl)ether	(1)	6.934	45	20591	1.057
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.934	45	20591	1.057
35) N-Nitrosopyrrolidine	(1)	7.016	100	5917	0.739
36) Acetophenone	(1)	7.045	105	16517	0.853
37) 4-Methylphenol	(1)	7.051	108	13488	0.863
38) N-Nitroso-di-n-propylamine	(1)	7.051	70	11747	0.999
39) N-Nitrosomorpholine	(1)	7.057	56	9530	1.005
40) o-Toluidine	(1)	7.081	106	20036	0.891
43) Hexachloroethane	(1)	7.151	117	5371	1.108
44)$Nitrobenzene-d5	(2)	7.192	82	26427	1.777
45) Nitrobenzene	(2)	7.210	77	12644	0.859
48) N-Nitrosopiperidine	(2)	7.363	114	5643	0.844
50) Isophorone	(2)	7.457	82	29816	0.981
51) 2-Nitrophenol	(2)	7.539	139	5773	0.942
53) 2,4-Dimethylphenol	(2)	7.581	107	11479	0.853
56) Benzoic acid	(2)	7.639	105	100717	7.865
57) O,O,O-Triethylphosphorothioate	(2)	7.657	198	6370	1.060

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	7.681	93	16004	0.938
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.763	104	17412	0.958
60) 2,4-Dichlorophenol	(2)	7.775	162	8695	0.901
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	9297	0.948
65)*Naphthalene-d8	(2)	7.916	136	639198	20.000
66) Naphthalene	(2)	7.939	128	33332	0.946
67) 4-Chloroaniline	(2)	7.986	127	15970	1.013
68) 2,6-Dichlorophenol	(2)	7.998	162	9073	0.958
69) Hexachloropropene	(2)	8.033	213	4580	0.912
71) Hexachlorobutadiene	(2)	8.069	225	5667	1.167
75) Quinoline	(2)	8.269	129	25091	0.996
76) Caprolactam	(2)	8.304	113	6257	1.130
77) N-Nitrosodi-n-butylamine	(2)	8.333	84	10600	0.851
80) 4-Chloro-3-methylphenol	(2)	8.469	107	12417	0.954
82) Safrole	(2)	8.539	162	9365	0.996
83) 2-Methylnaphthalene	(2)	8.622	142	24581	0.990
97) Isosafrole	(3)			10140	0.912
84) 1-Methylnaphthalene	(2)	8.722	142	22085	0.992
85) Hexachlorocyclopentadiene	(3)	8.786	237	3895	0.842
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.792	216	9350	0.972
88) cis-Isosafrole	(3)	8.833	162	2501	0.248
90) 2,4,6-Trichlorophenol	(3)	8.904	196	7312	1.042
92) 2,4,5-Trichlorophenol	(3)	8.928	196	7285	0.932
93)$2-Fluorobiphenyl	(3)	8.986	172	49638	1.911
94) trans-Isosafrole	(3)	9.051	162	7639	0.664
95) 1,1'-Biphenyl	(3)	9.086	154	28535	0.922
96) 2-Chloronaphthalene	(3)	9.104	162	20503	0.860
98) 1-Chloronaphthalene	(3)	9.128	162	19640	0.885
99) Diphenyl ether	(3)	9.192	170	14532	0.928
100) 2-Nitroaniline	(3)	9.198	138	6459	0.780
104) 1,4-Naphthoquinone	(3)	9.275	158	9640	0.949
105) 1,4-Dinitrobenzene	(3)	9.333	168	3096	0.701
106) Dimethylphthalate	(3)	9.386	163	30941	1.090
120) 2,4_2,6-Dinitrotoluenes	(3)			14346	1.830
107) 1,3-Dinitrobenzene	(3)	9.410	168	4173	0.825
108) 2,6-Dinitrotoluene	(3)	9.439	165	6303	0.962
109) Acenaphthylene	(3)	9.510	152	34754	0.956
112) 3-Nitroaniline	(3)	9.598	138	6898	0.916
113)*Acenaphthene-d10	(3)	9.651	164	409271	20.000
114) Acenaphthene	(3)	9.680	153	24687	0.982

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	9.704	184	26029	6.109
116) 4-Nitrophenol	(3)	9.757	109	19449	4.782
117) Pentachlorobenzene	(3)	9.816	250	8631	0.993
118) 2,4-Dinitrotoluene	(3)	9.833	165	8043	0.868
119) Dibenzofuran	(3)	9.857	168	34260	0.992
121) 1-Naphthylamine	(3)	9.927	143	27177	0.969
122) 2,3,4,6-Tetrachlorophenol	(3)	9.975	232	7065	1.061
123) 2-Naphthylamine	(3)	10.004	143	27023	0.973
124) Diethylphthalate	(3)	10.086	149	27089	0.974
125) Thionazin	(3)	10.163	107	4938	0.860
128) 5-Nitro-o-toluidine	(3)	10.192	152	7673	0.893
126) Fluorene	(3)	10.192	166	28816	0.997
129) 4-Nitroaniline	(3)	10.192	138	6065	0.725
127) 4-Chlorophenyl-phenylether	(3)	10.198	204	13533	1.007
146) Diallate trans/cis	(4)			18721	1.073
130) 4,6-Dinitro-2-methylphenol	(4)	10.233	198	19571	3.260
131) N-Nitrosodiphenylamine	(4)	10.310	169	22901	0.889
132) NDPA as diphenylamine	(4)	10.310	169	22901	0.872
134) 1,2-Diphenylhydrazine	(4)	10.351	77	34594	0.984
135)$2,4,6-Tribromophenol	(3)	10.416	330	4331	1.292
137) Tetraethyldithiopyrophosphate	(4)	10.475	97	5166	1.030
139) 1,3,5-Trinitrobenzene	(4)	10.551	213	2070	0.588
140) Diallate (peak 1)	(4)	10.598	86	14759	0.842
142) Phenacetin	(4)	10.604	108	15738	0.883
141) Phorate	(4)	10.610	75	20750	0.877
143) 4-Bromophenyl-phenylether	(4)	10.674	248	8443	1.171
144) Diallate (peak 2)	(4)	10.692	86	3962	0.230
145) Hexachlorobenzene	(4)	10.733	284	7455	0.971
147) Dimethoate	(4)	10.763	87	13740	0.871
150) 4-Aminobiphenyl	(4)	10.927	169	27456	1.025
149) Pentachlorophenol	(4)	10.927	266	4386	0.861
151) Pentachloronitrobenzene	(4)	10.945	237	2514	0.886
152) Pronamide	(4)	10.992	173	8800	0.727
154) Dinoseb	(4)	11.110	211	3990	0.518
153)*Phenanthrene-d10	(4)	11.116	188	808649	20.000
155) Phenanthrene	(4)	11.139	178	47874	1.019
157) Anthracene	(4)	11.186	178	42716	0.920
163) Carbazole	(4)	11.345	167	40135	0.915
164) Methyl parathion	(4)	11.486	109	6793	0.622
165) Di-n-butylphthalate	(4)	11.704	149	45158	0.885

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
168) 4-Nitroquinoline-1-oxide	(4)	11.874	190	1697	0.426
167) Parathion	(4)	11.874	109	4458	0.652
169) Octachlorostyrene	(4)	12.133	308	3340	1.353
171) Isodrin	(4)	12.169	193	4844	1.028
173) Fluoranthene	(4)	12.310	202	50094	0.981
174) Benzidine	(5)	12.439	184	216031	6.541
175)*Pyrene-d10	(5)	12.516	212	951211	20.000
177) Pyrene	(5)	12.527	202	56776	1.001
179)$Terphenyl-d14	(5)	12.692	244	68258	1.950
182) p-Dimethylaminoazobenzene	(5)	12.827	225	8018	0.767
185) Chlorobenzilate	(5)	12.880	139	12040	0.817
187) 3,3'-Dimethylbenzidine	(5)	13.163	212	22427	0.762
188) Butylbenzylphthalate	(5)	13.186	149	20526	0.823
191) 2-Acetylaminofluorene	(5)	13.415	181	15636	0.691
193) 3,3'-Dichlorobenzidine	(5)	13.715	252	15258	0.907
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.727	231	6647	0.705
195) Benzo(a)anthracene	(5)	13.745	228	50579	1.022
196) Chrysene	(5)	13.786	228	48248	1.024
199) bis(2-Ethylhexyl)phthalate	(5)	13.798	149	27482	0.788
203) 6-Methylchrysene	(5)	14.257	242	31291	0.941
205) Di-n-octylphthalate	(6)	14.468	149	46058	0.757
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.845	256	21465	0.960
206) Benzo(b)fluoranthene	(6)	14.851	252	50362	1.087
208) Benzo(k)fluoranthene	(6)	14.880	252	45627	0.965
211) Benzo(a)pyrene	(6)	15.198	252	48299	1.055
213)*Perylene-d12	(6)	15.257	264	738400	20.000
215) 3-Methylcholanthrene	(6)	15.592	268	20441	0.950
222) Total PAHs	(6)			635093	15.778
219) Indeno(1,2,3-cd)pyrene	(6)	16:574	276	45801	0.961
220) Dibenz(a,h)anthracene	(6)	16.604	278	37783	0.942
221) Benzo(g,h,i)perylene	(6)	16.956	276	38668	0.988

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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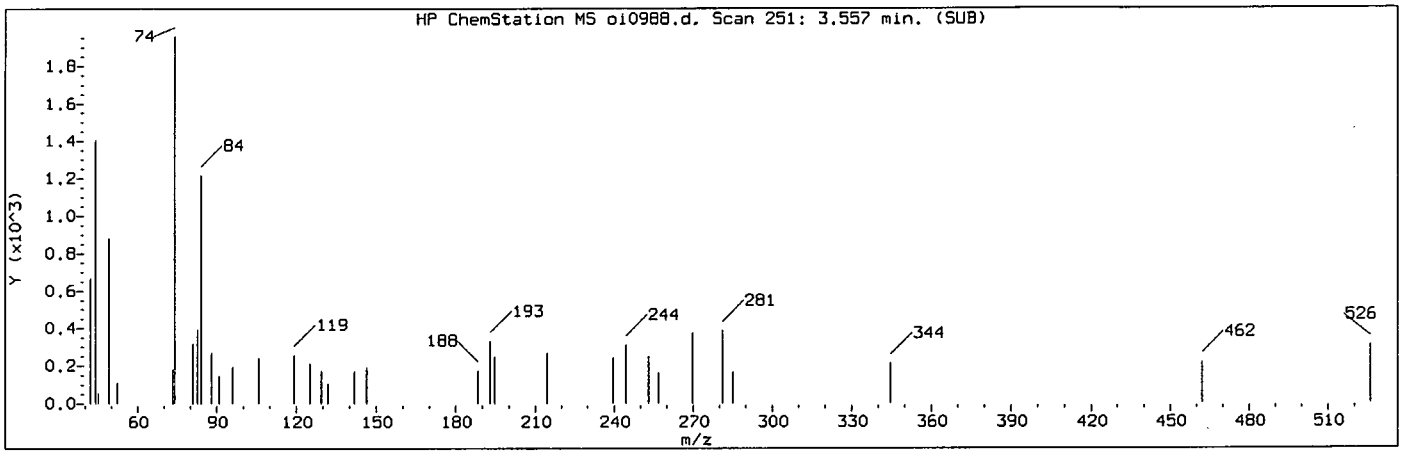
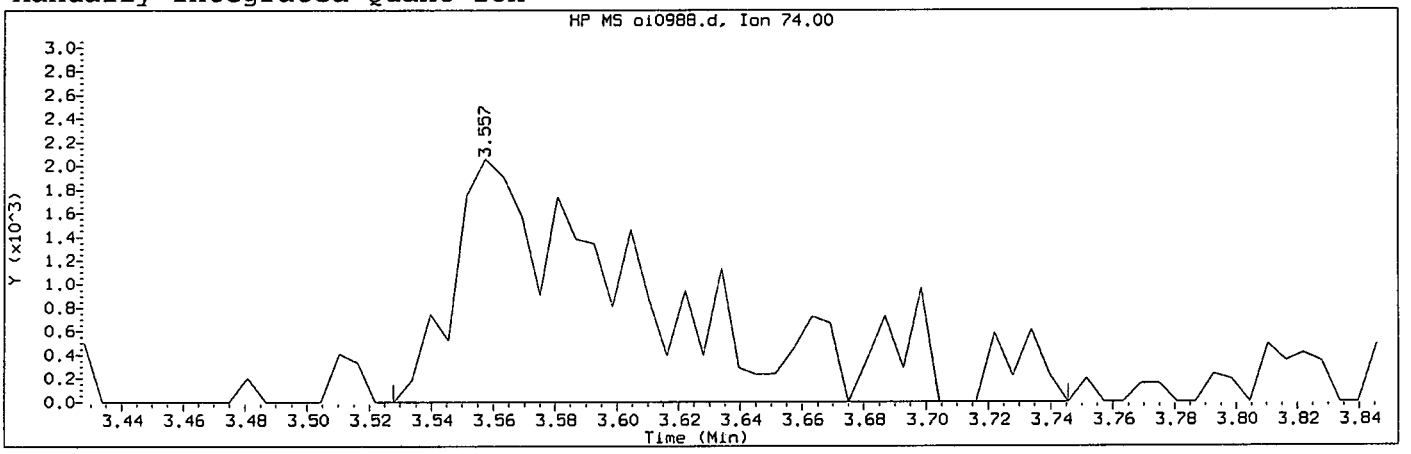
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 251		
Retention Time (minutes)	: 3.557		
Quant Ion	: 74.00		
Area (flag)	: 9461M		
On-Column Amount (ng/ul)	: 1.0451		
Integration start scan	: 245	Integration stop scan:	282
Y at integration start	: -2	Y at integration end:	-2

Reason for manual integration: improper integration

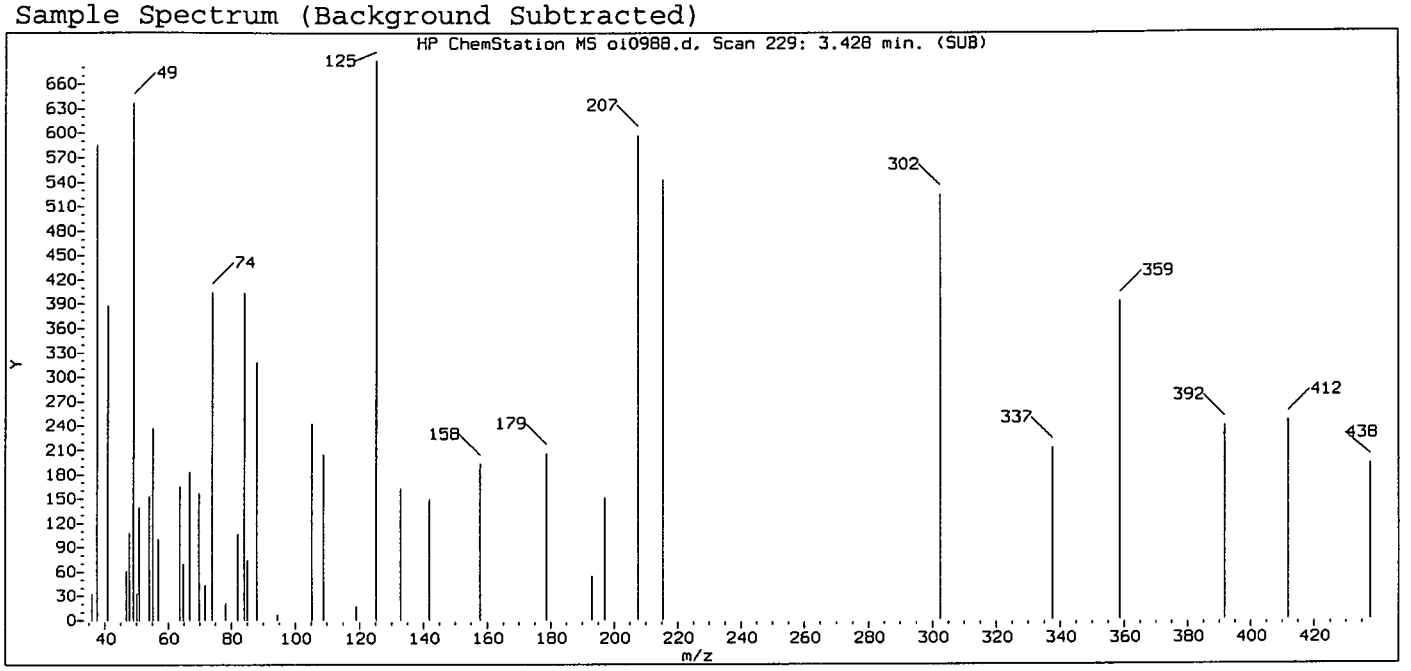
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 ~~signature user ID: lmh00956~~

SEP 23 2015

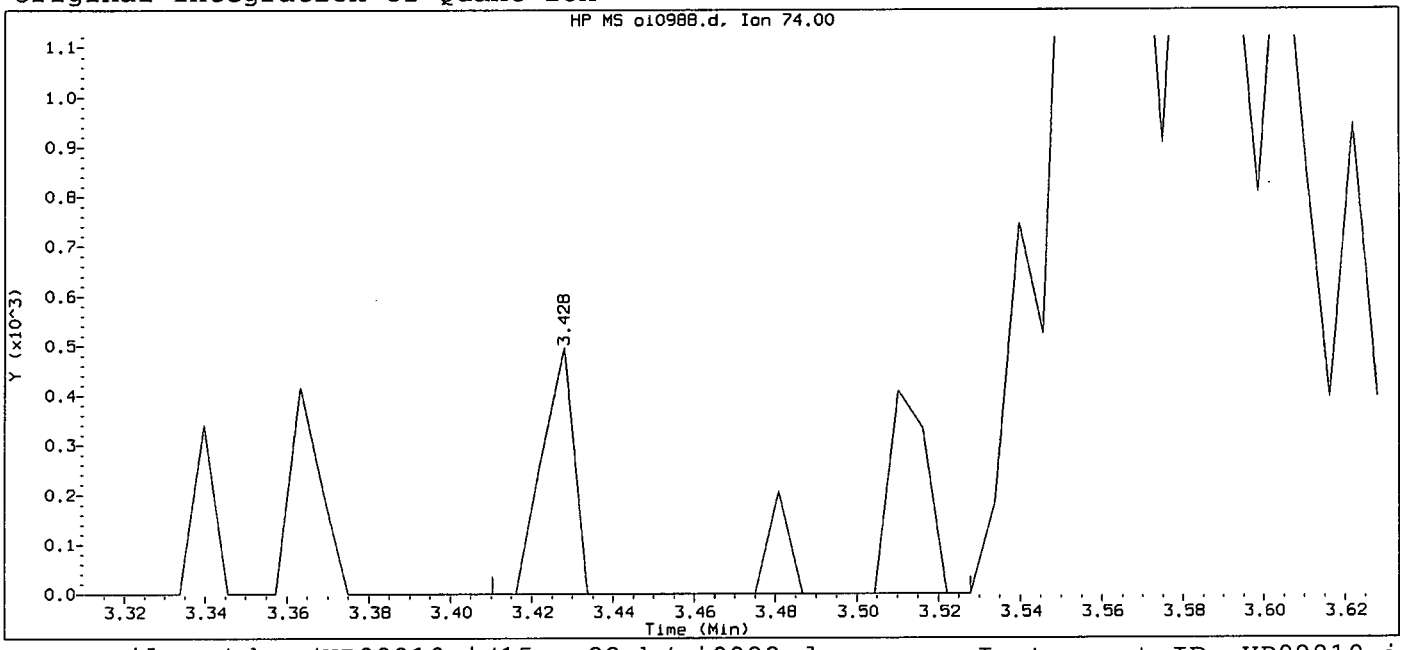
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:49
Date, time and analyst ID of latest file update: 22-Sep-2015 12:49 Automation

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 229		
Retention Time (minutes)	: 3.428		
Quant Ion	: 74.00		
Area	: 604		
On-column Amount (ng/ul)	: 0.0671		
Integration start scan	: 225	Integration stop scan:	245
Y at integration start	: 0	Y at integration end:	0

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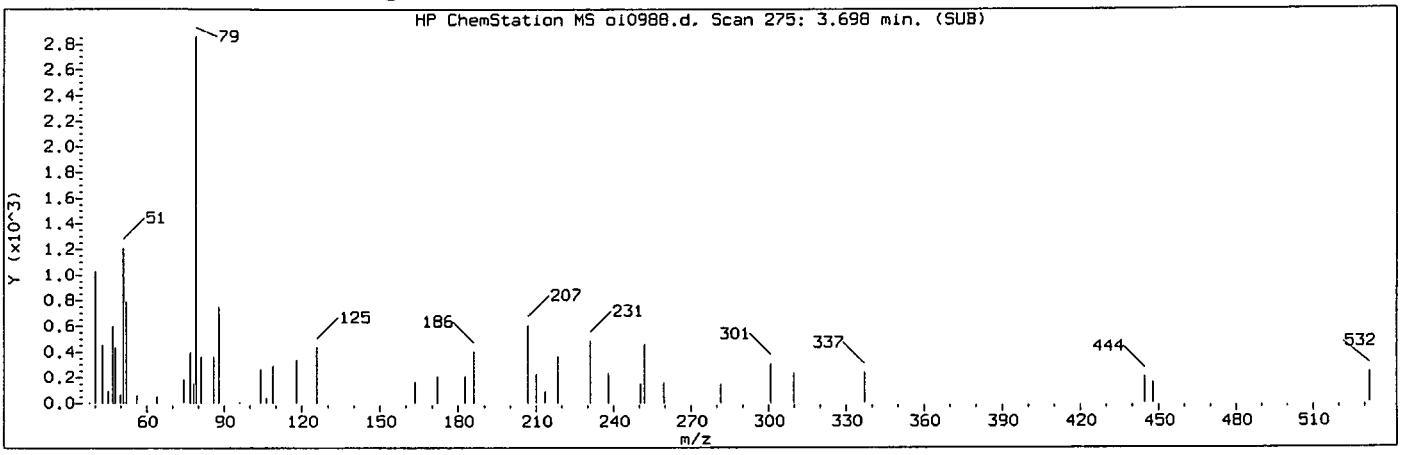
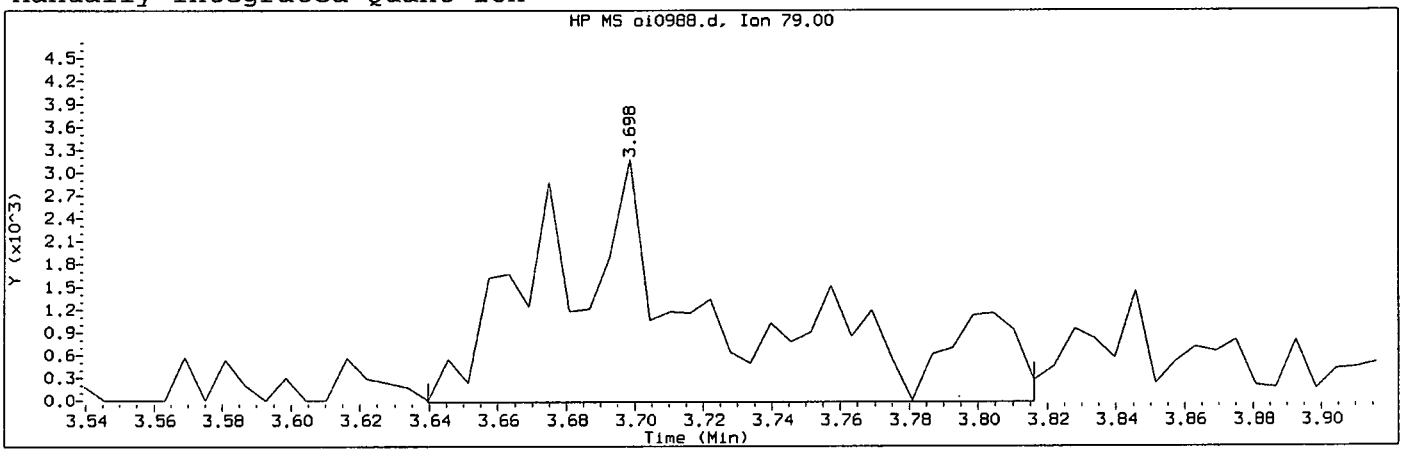
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 275		
Retention Time (minutes)	: 3.698		
Quant Ion	: 79.00		
Area (flag)	: 11887M		
On-Column Amount (ng/ul)	: 0.8107		
Integration start scan	: 264	Integration stop scan:	294
Y at integration start	: -21	Y at integration end:	-21

Reason for manual integration: improper integration

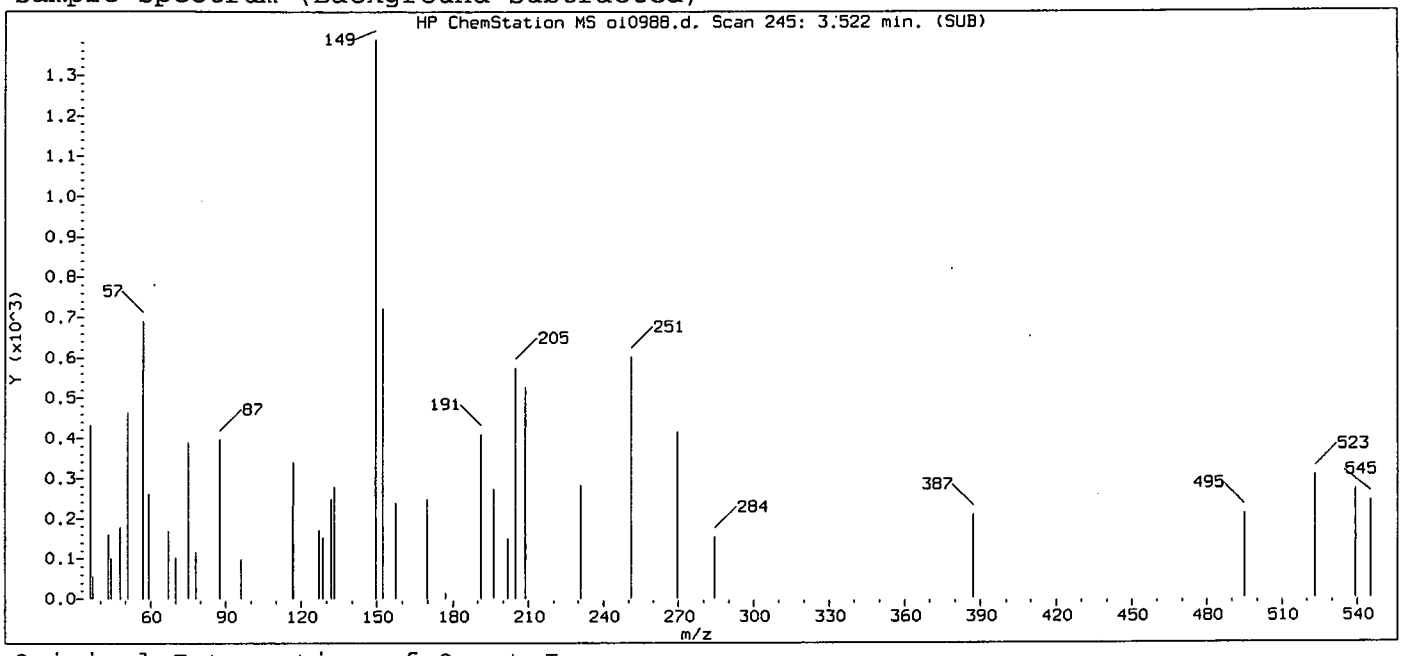
Analyst responsible for change: Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

SEP 23 2015

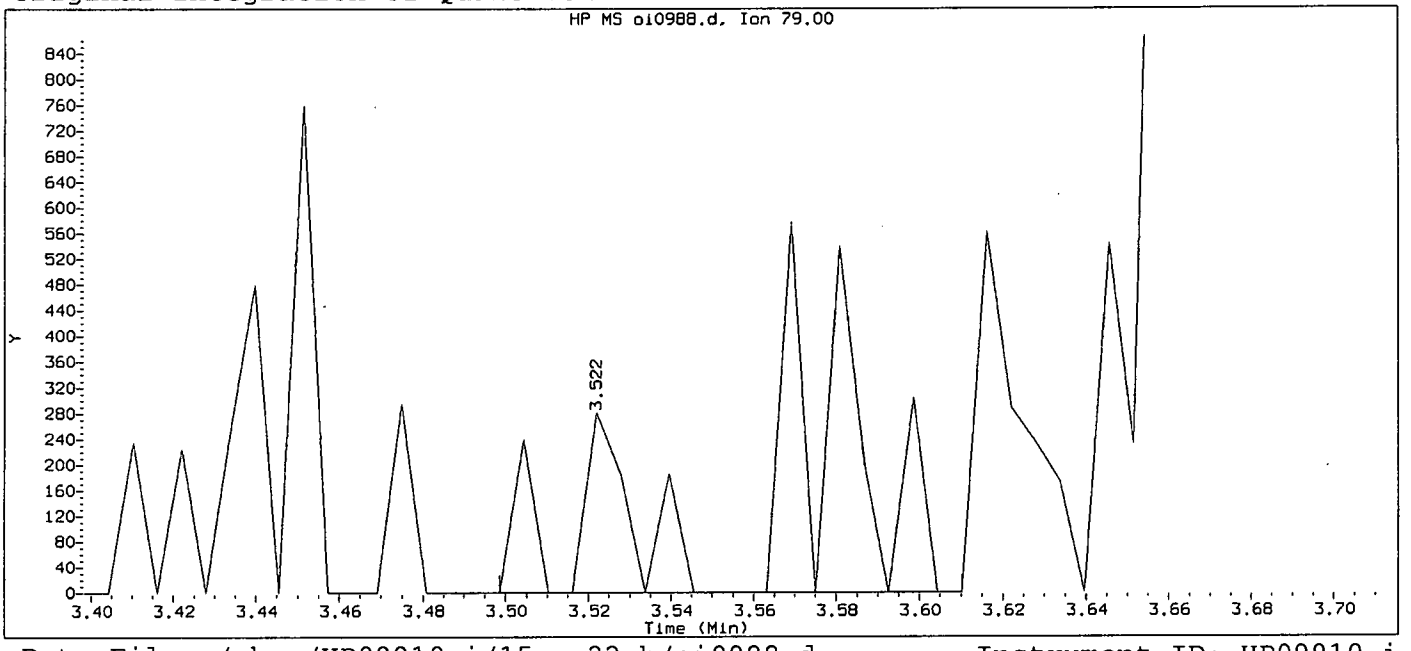
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

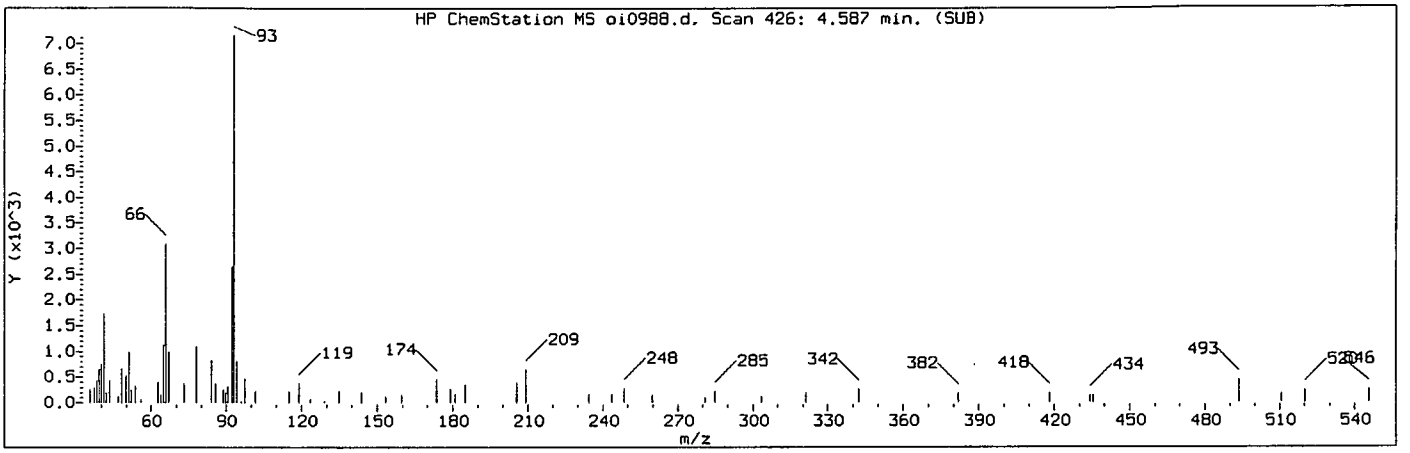
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:49
Date, time and analyst ID of latest file update: 22-Sep-2015 12:49 Automation

Sample Name: SSTD001 Lab Sample ID: STD2575

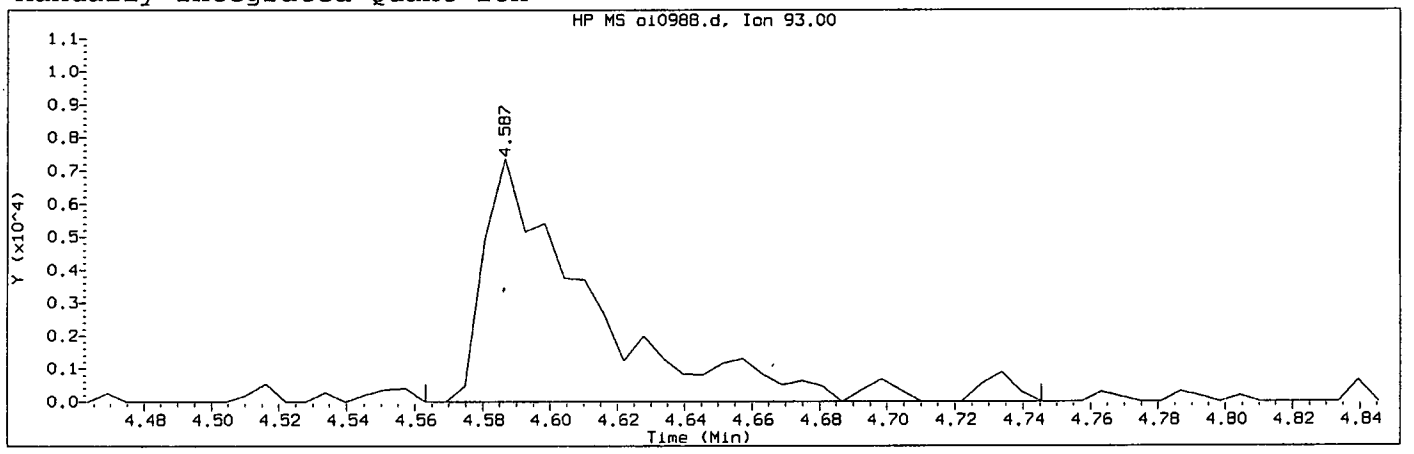
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 245		
Retention Time (minutes)	: 3.522		
Quant Ion	: 79.00		
Area	: 886		
On-column Amount (ng/ul)	: 0.0716		
Integration start scan	: 240	Integration stop scan:	259
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 426		
Retention Time (minutes)	: 4.587		
Quant Ion	: 93.00		
Area (flag)	: 16864M		
On-Column Amount (ng/ul)	: 1.0778		
Integration start scan	: 421	Integration stop scan:	452
Y at integration start	: 0	Y at integration end:	0

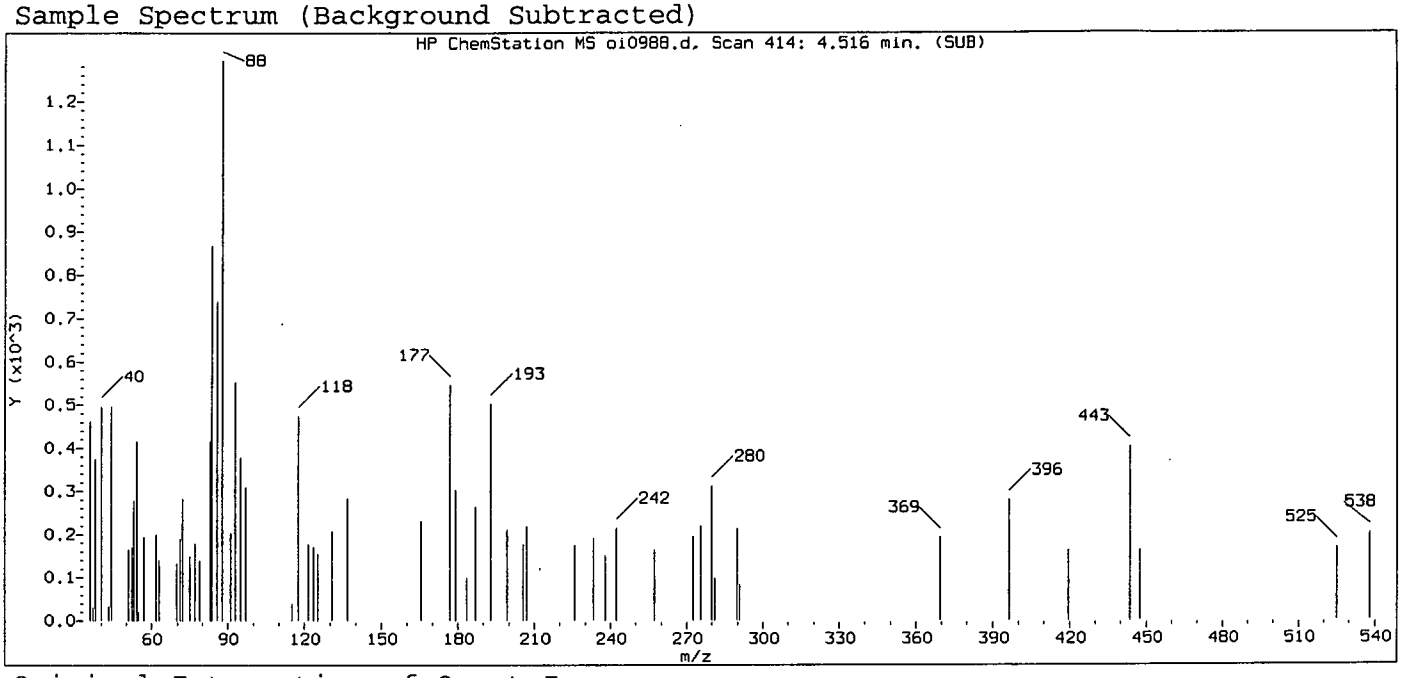
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 esignature user ID: lmh00956

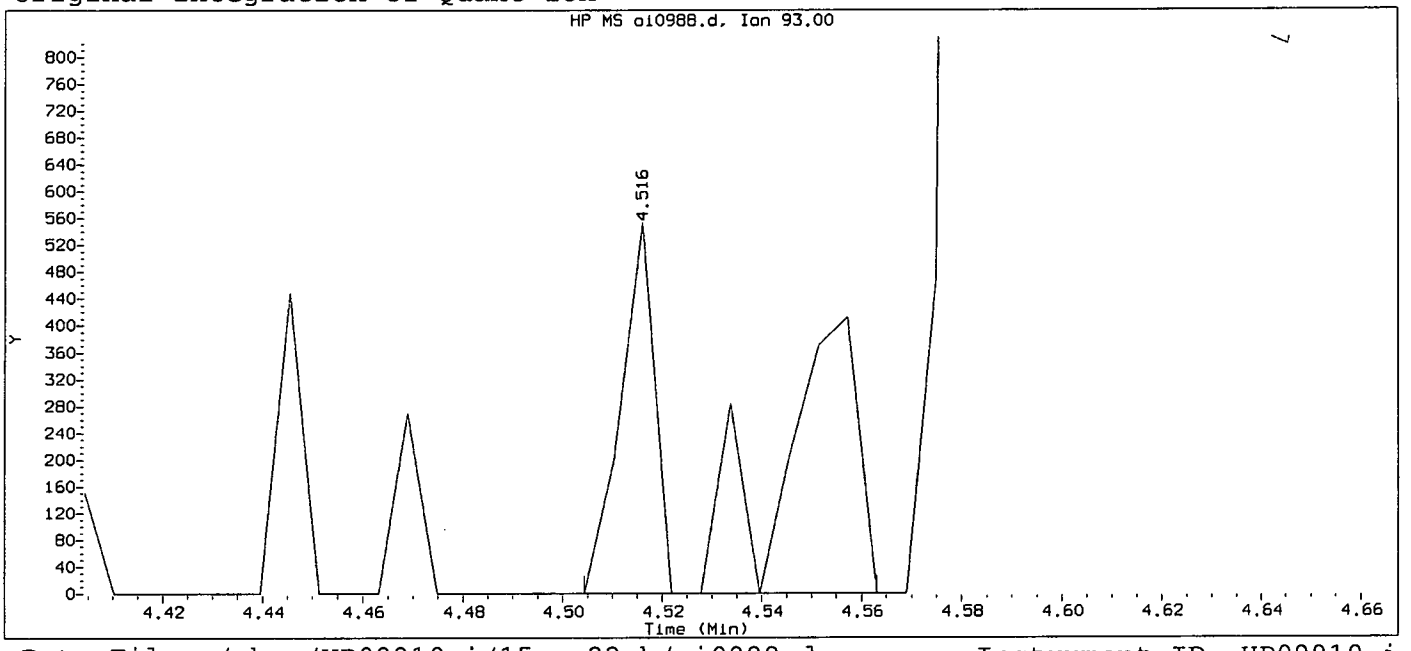
GC/MS audit/management approval: SEP 23 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

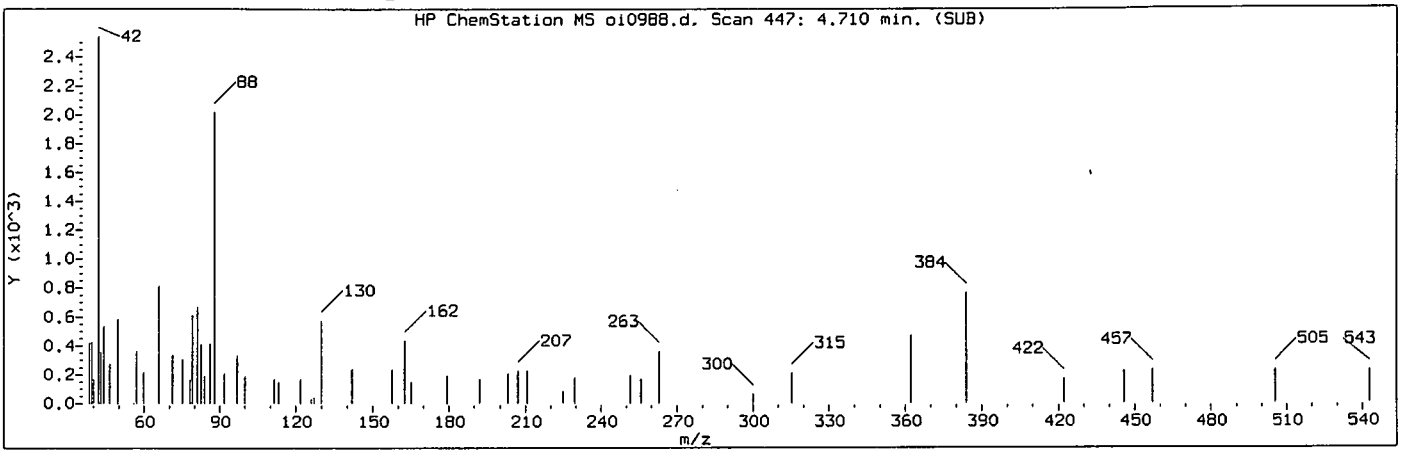
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:49
Date, time and analyst ID of latest file update: 22-Sep-2015 12:49 Automation

Sample Name: SSTD001 Lab Sample ID: STD2575

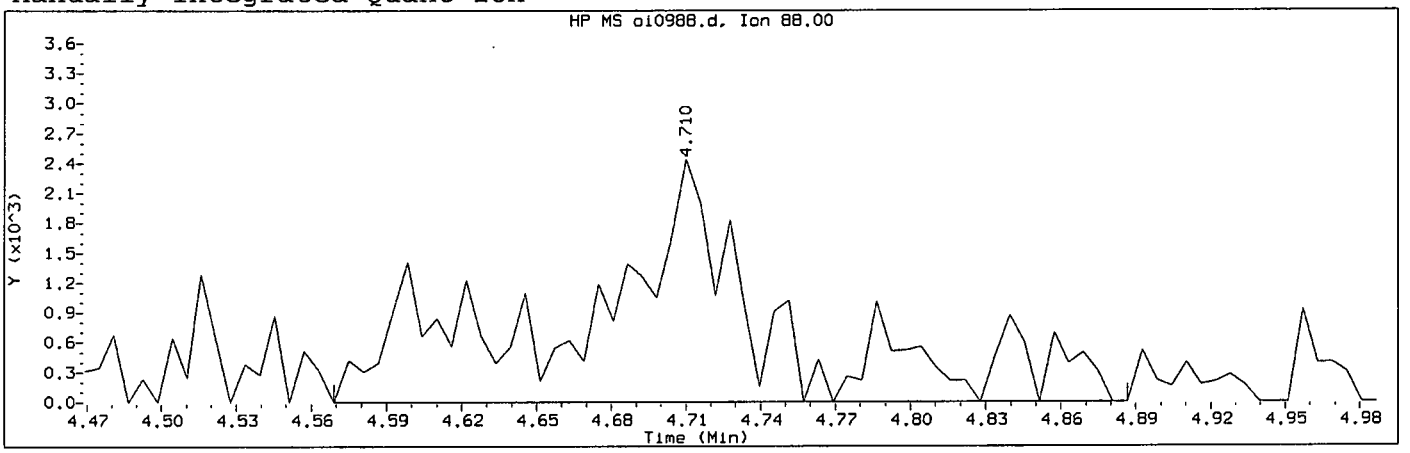
Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 414		
Retention Time (minutes)	: 4.516		
Quant Ion	: 93.00		
Area	: 713		
On-column Amount (ng/ul)	: 0.0450		
Integration start scan	: 411	Integration stop scan:	421
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 447		
Retention Time (minutes)	: 4.710		
Quant Ion	: 88.00		
Area (flag)	: 13083M		
On-Column Amount (ng/ul)	: 1.7282		
Integration start scan	: 422	Integration stop scan:	476
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

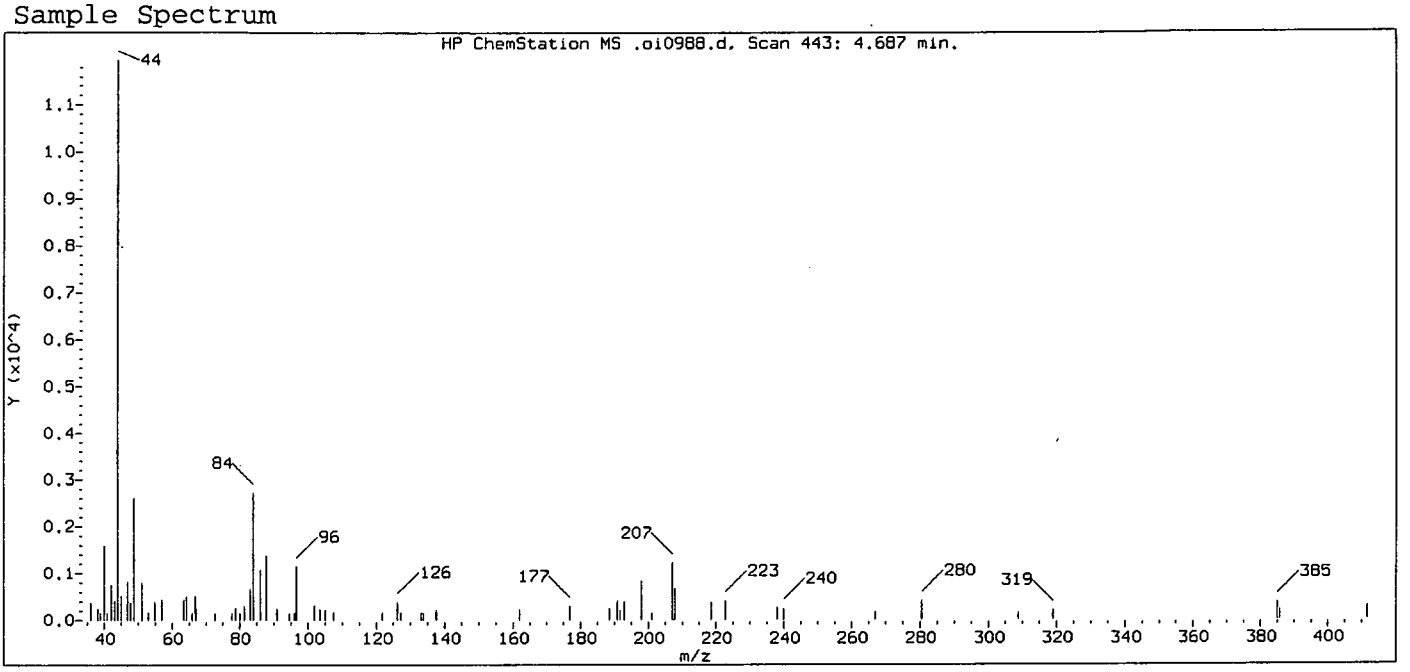
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 signature user ID: lmh00956

SEP 23 2015

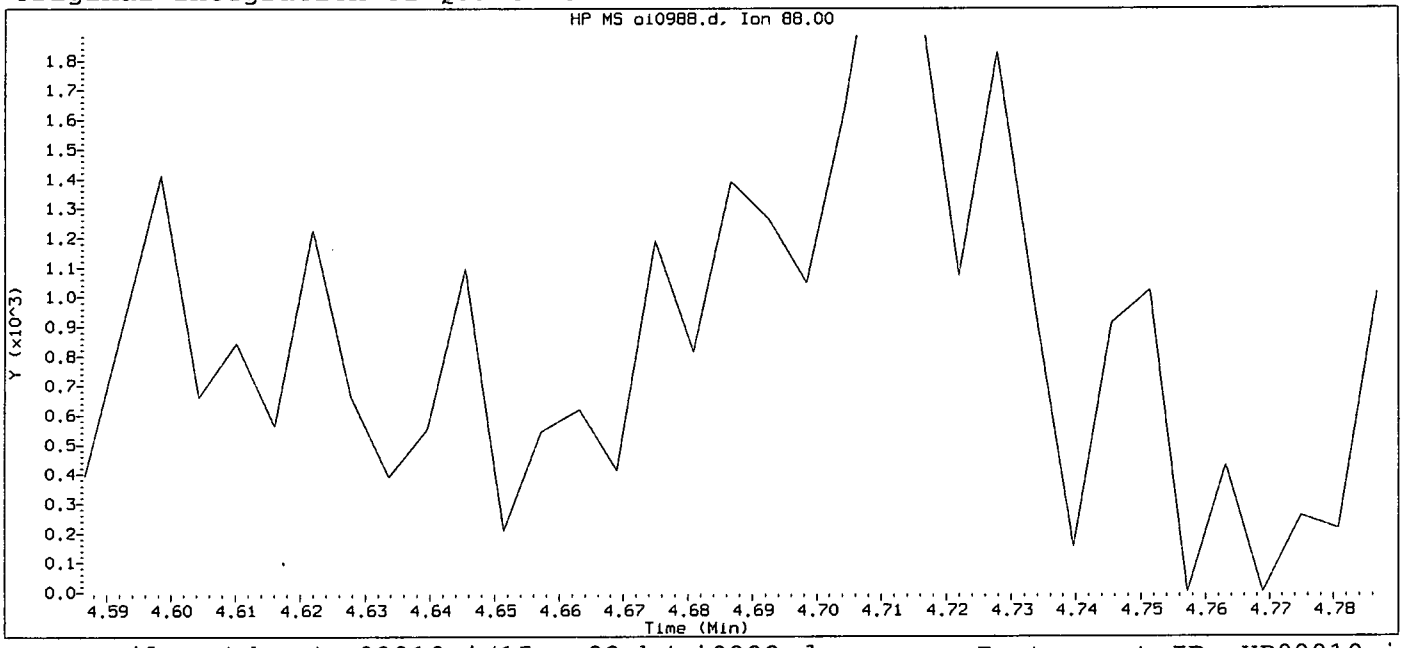
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

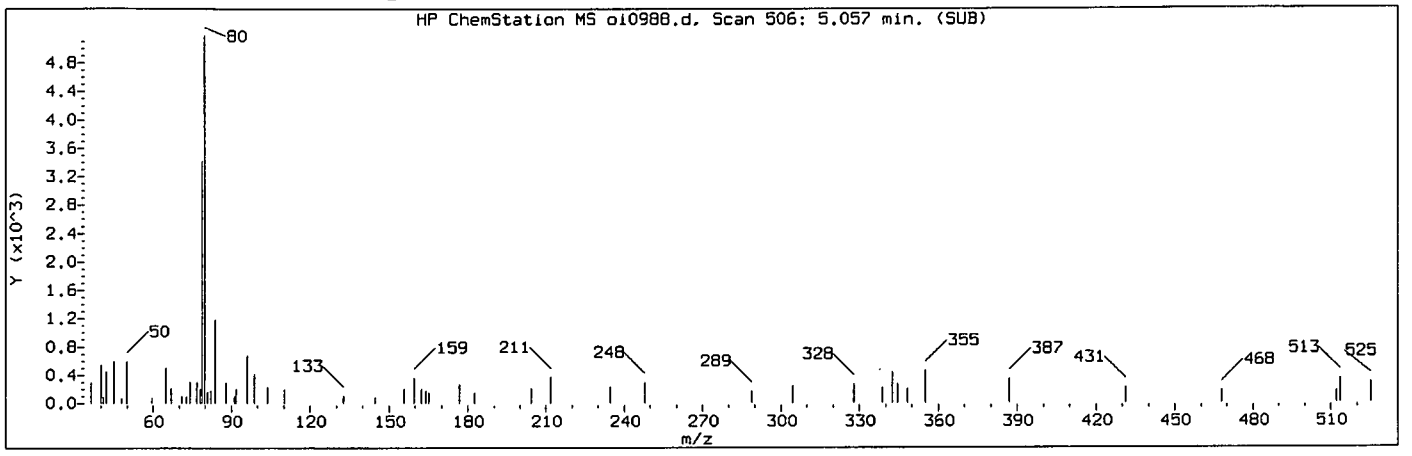
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:49
Date, time and analyst ID of latest file update: 22-Sep-2015 12:49 Automation

Sample Name: SSTD001 Lab Sample ID: STD2575

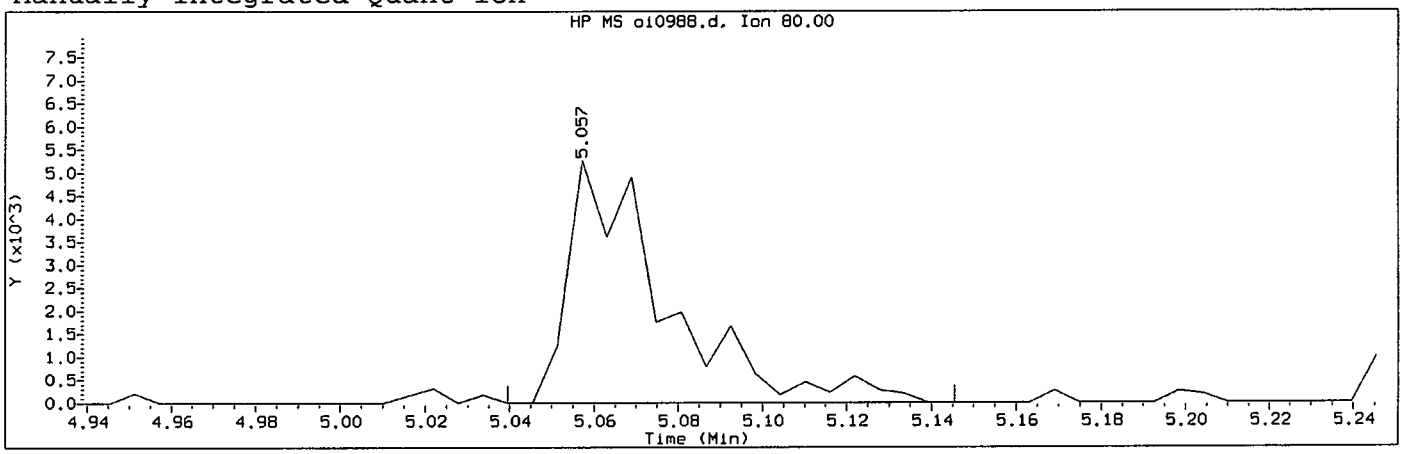
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.687
Quant Ion : 88.00

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 506		
Retention Time (minutes)	: 5.057		
Quant Ion	: 80.00		
Area (flag)	: 8390M		
On-Column Amount (ng/ul)	: 1.1250		
Integration start scan	: 502	Integration stop scan:	520
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

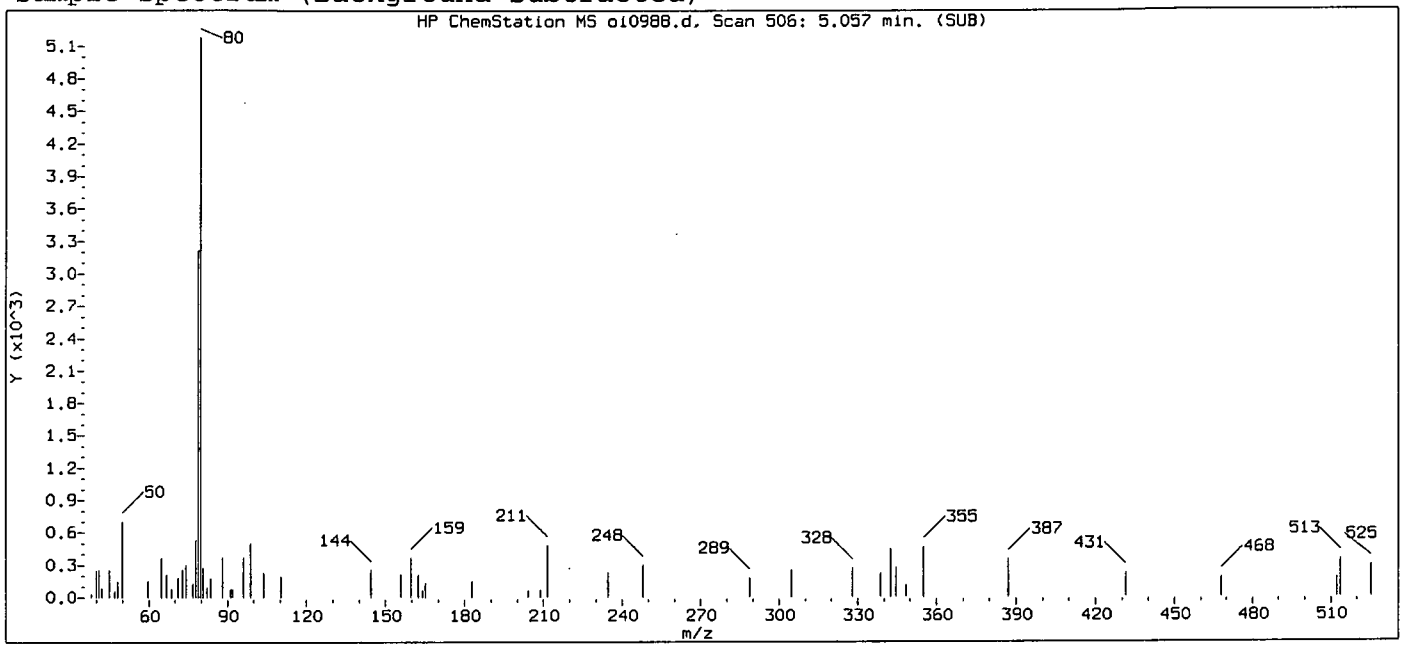
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

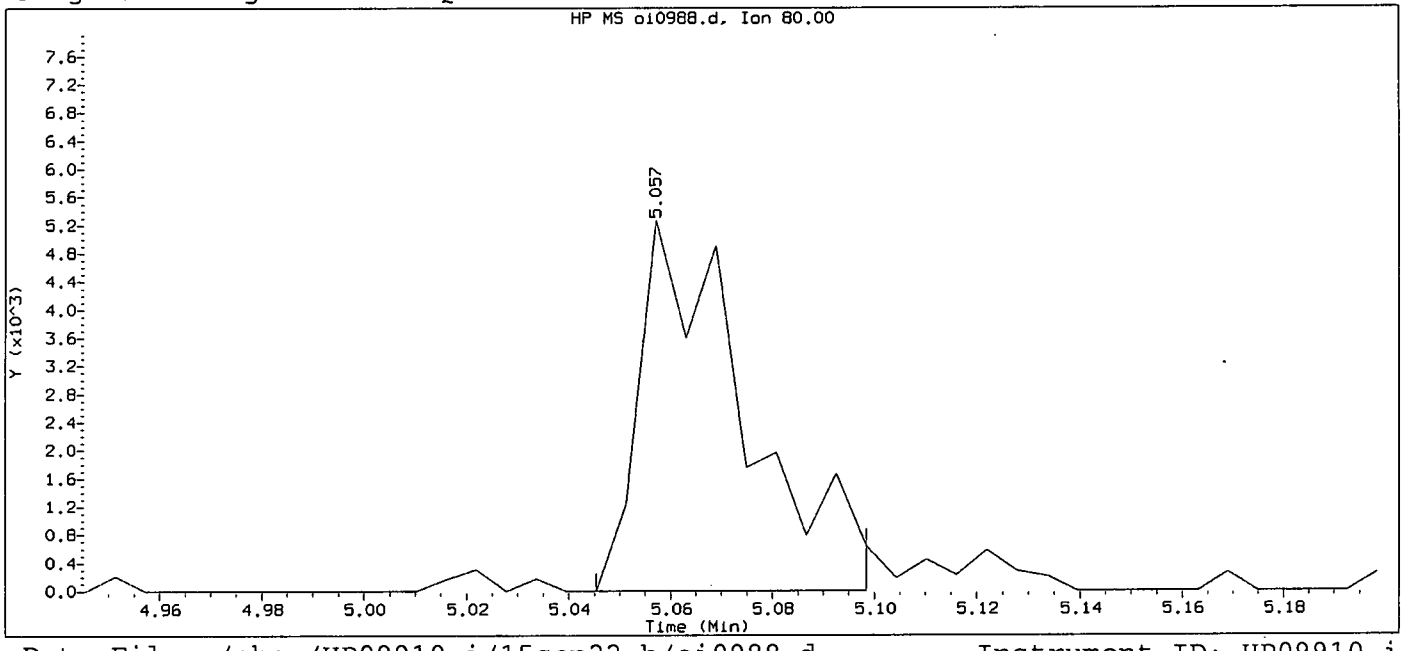
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:49
Date, time and analyst ID of latest file update: 22-Sep-2015 12:49 Automation

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 506		
Retention Time (minutes)	: 5.057		
Quant Ion	: 80.00		
Area	: 7600		
On-column Amount (ng/ul)	: 1.0032		
Integration start scan	: 503	Integration stop scan:	512
Y at integration start	: 0	Y at integration end:	0

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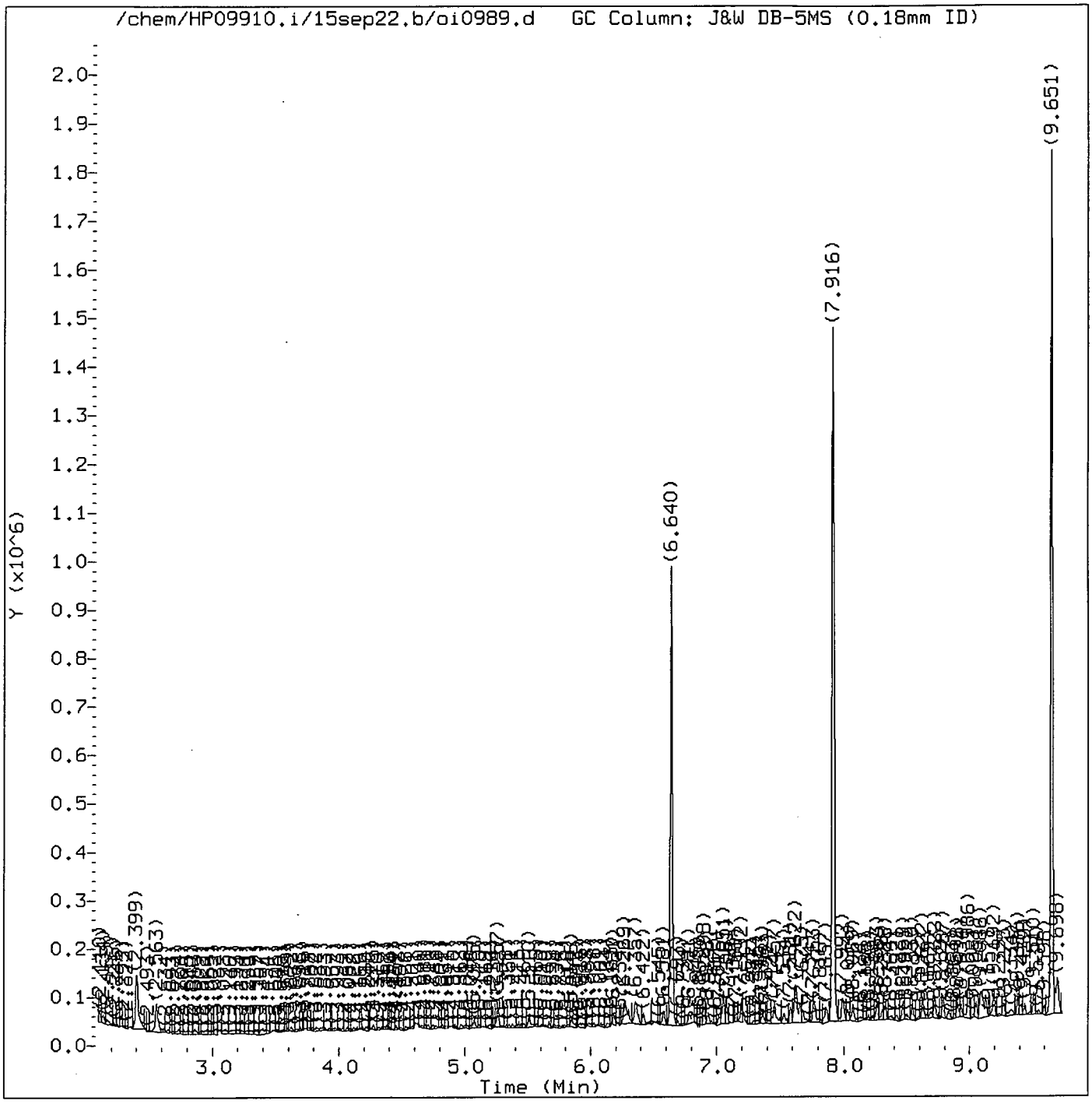
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

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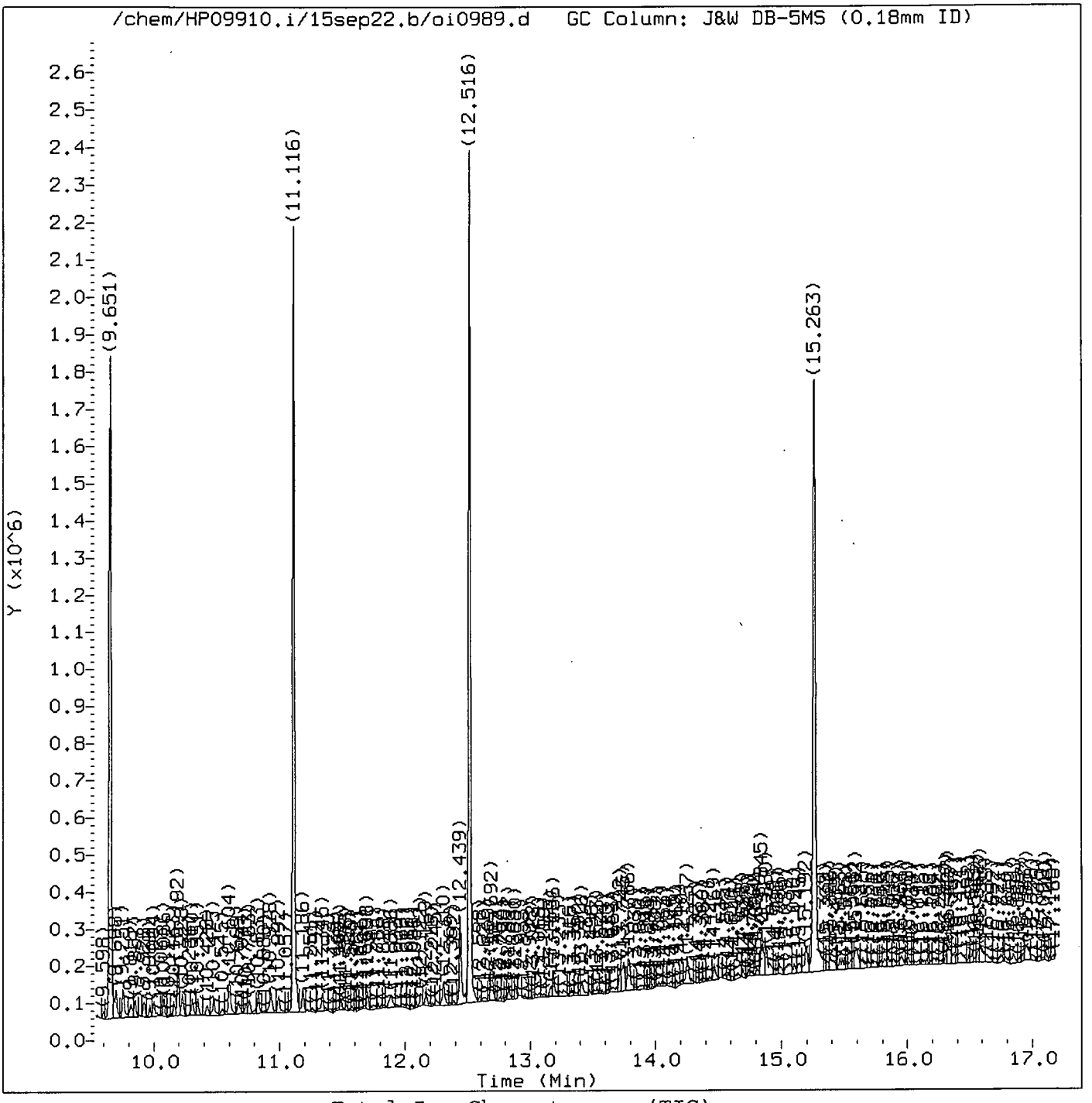
on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdla11-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

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on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	3.005	88	2917	0.527
4) N-Nitrosodimethylamine	(1)	3.599	74	2397	0.263
5) Pyridine	(1)	3.716	79	5838M	0.396
7) 2-Picoline	(1)	4.610	93	8940M	0.568
8) N-Nitrosomethylethylamine	(1)	4.716	88	8030M	1.054
9) Methyl methanesulfonate	(1)	5.063	80	2933	0.391
11)$2-Fluorophenol	(1)	5.257	112	9895	0.801
13) N-Nitrosodiethylamine	(1)	5.510	102	2814	0.389
15) Ethyl methanesulfonate	(1)	5.846	109	3629	0.527
17)$Phenol-d6	(1)	6.269	99	18061	1.022
18) Phenol	(1)	6.281	94	8981	0.427
19) Aniline	(1)	6.298	93	12166	0.515
20) a-methylstyrene	(1)	6.363	118	8012	0.641
22) bis(2-Chloroethyl)ether	(1)	6.375	93	7517	0.503
23) 2-Chlorophenol	(1)	6.422	128	5543	0.451
24) 1,3-Dichlorobenzene	(1)	6.581	146	5521	0.470
25)*1,4-Dichlorobenzene-d4	(1)	6.640	152	148447	20.000
26) 1,4-Dichlorobenzene	(1)	6.657	146	5454	0.436
42) Total Cresols	(1)			11631	0.805
27) Benzyl alcohol	(1)	6.781	108	3980	0.405
28) 1,2-Dichlorobenzene	(1)	6.810	146	5647	0.479
30) Indene	(1)	6.898	115	9664	0.446
31) 2-Methylphenol	(1)	6.898	108	5631	0.424
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.934	45	9119	0.465
34) bis(2-Chloroisopropyl)ether	(1)	6.934	45	9119	0.465
35) N-Nitrosopyrrolidine	(1)	7.022	100	5322	0.660
36) Acetophenone	(1)	7.045	105	8768	0.450
37) 4-Methylphenol	(1)	7.051	108	6000	0.381
38) N-Nitroso-di-n-propylamine	(1)	7.051	70	5281	0.446
39) N-Nitrosomorpholine	(1)	7.057	56	4690	0.492
40) o-Toluidine	(1)	7.081	106	10941	0.483
43) Hexachloroethane	(1)	7.157	117	2473	0.507
44)$Nitrobenzene-d5	(2)	7.192	82	15597	1.018
45) Nitrobenzene	(2)	7.210	77	7081	0.467
48) N-Nitrosopiperidine	(2)	7.363	114	3964	0.576
50) Isophorone	(2)	7.457	82	13020	0.416
51) 2-Nitrophenol	(2)	7.534	139	2885	0.457
53) 2,4-Dimethylphenol	(2)	7.587	107	6606	0.477
56) Benzoic acid	(2)	7.622	105	28512	2.162
57) O,O,O-Triethylphosphorothioate	(2)	7.657	198	3140	0.507

M = Compound was manually integrated.
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$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	7.681	93	8557	0.487
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.757	104	8161	0.436
60) 2,4-Dichlorophenol	(2)	7.775	162	4049	0.408
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	6127	0.607
65)*Naphthalene-d8	(2)	7.916	136	658298	20.000
67) 4-Chloroaniline	(2)	7.992	127	7573	0.466
68) 2,6-Dichlorophenol	(2)	7.992	162	6204	0.636
69) Hexachloropropene	(2)	8.028	213	3022	0.584
71) Hexachlorobutadiene	(2)	8.075	225	1674	0.335
75) Quinoline	(2)	8.263	129	12418	0.478
76) Caprolactam	(2)	8.298	113	3043	0.534
77) N-Nitrosodi-n-butylamine	(2)	8.328	84	8240	0.643
80) 4-Chloro-3-methylphenol	(2)	8.463	107	6886	0.514
82) Safrole	(2)	8.545	162	5292	0.547
97) Isosafrole	(3)			6177	0.545
85) Hexachlorocyclopentadiene	(3)	8.787	237	2104	0.451
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.787	216	4693	0.483
88) cis-Isosafrole	(3)	8.822	162	1083	0.106
90) 2,4,6-Trichlorophenol	(3)	8.904	196	3011	0.426
92) 2,4,5-Trichlorophenol	(3)	8.934	196	3255	0.413
93)$2-Fluorobiphenyl	(3)	8.986	172	24913	0.951
94) trans-Isosafrole	(3)	9.057	162	5094	0.439
95) 1,1'-Biphenyl	(3)	9.086	154	15754	0.505
96) 2-Chloronaphthalene	(3)	9.104	162	12517M	0.521
98) 1-Chloronaphthalene	(3)	9.122	162	11826M	0.528
99) Diphenyl ether	(3)	9.192	170	7852	0.497
100) 2-Nitroaniline	(3)	9.198	138	3620	0.433
104) 1,4-Naphthoquinone	(3)	9.269	158	5241	0.512
105) 1,4-Dinitrobenzene	(3)	9.334	168	1441	0.324
106) Dimethylphthalate	(3)	9.386	163	13314	0.465
107) 1,3-Dinitrobenzene	(3)	9.398	168	1386M	0.272
120) 2,4_2,6-Dinitrotoluenes	(3)			5307	0.662
108) 2,6-Dinitrotoluene	(3)	9.434	165	2128	0.322
112) 3-Nitroaniline	(3)	9.592	138	2744	0.361
113)*Acenaphthene-d10	(3)	9.651	164	412830	20.000
115) 2,4-Dinitrophenol	(3)	9.704	184	9002	7.409
116) 4-Nitrophenol	(3)	9.751	109	8856	2.159
117) Pentachlorobenzene	(3)	9.816	250	4927	0.562
118) 2,4-Dinitrotoluene	(3)	9.834	165	3179	0.340
119) Dibenzofuran	(3)	9.857	168	18929	0.544

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on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
121) 1-Naphthylamine	(3)	9.922	143	12971	0.458
122) 2,3,4,6-Tetrachlorophenol	(3)	9.975	232	3292	0.490
123) 2-Naphthylamine	(3)	10.004	143	11819	0.422
124) Diethylphthalate	(3)	10.086	149	13668	0.487
125) Thionazin	(3)	10.163	107	3259	0.563
128) 5-Nitro-o-toluidine	(3)	10.192	152	5031	0.580
129) 4-Nitroaniline	(3)	10.192	138	4439	0.526
127) 4-Chlorophenyl-phenylether	(3)	10.198	204	6537	0.482
146) Diallate trans/cis	(4)			12496	0.690
130) 4,6-Dinitro-2-methylphenol	(4)	10.233	198	7106	1.140
131) N-Nitrosodiphenylamine	(4)	10.310	169	13443	0.502
132) NDPA as diphenylamine	(4)	10.310	169	13443	0.493
134) 1,2-Diphenylhydrazine	(4)	10.351	77	14472	0.396
135)$2,4,6-Tribromophenol	(3)	10.422	330	2688	0.795
137) Tetraethyldithiopyrophosphate	(4)	10.475	97	3404	0.654
139) 1,3,5-Trinitrobenzene	(4)	10.533	213	1181M	3.776
140) Diallate (peak 1)	(4)	10.604	86	9548	0.525
142) Phenacetin	(4)	10.604	108	7831	0.423
141) Phorate	(4)	10.610	75	10396	0.423
144) Diallate (peak 2)	(4)	10.675	86	2948	0.165
143) 4-Bromophenyl-phenylether	(4)	10.681	248	4724	0.631
147) Dimethoate	(4)	10.763	87	8168	0.499
149) Pentachlorophenol	(4)	10.922	266	1651	0.312
150) 4-Aminobiphenyl	(4)	10.928	169	12613	0.502
151) Pentachloronitrobenzene	(4)	10.939	237	1142	0.388
152) Pronamide	(4)	10.992	173	4371	0.348
154) Dinoseb	(4)	11.110	211	2564	0.320
153)*Phenanthrene-d10	(4)	11.116	188	839560	20.000
163) Carbazole	(4)	11.345	167	19693	0.433
164) Methyl parathion	(4)	11.486	109	3328	0.294
165) Di-n-butylphthalate	(4)	11.704	149	20780	0.392
168) 4-Nitroquinoline-1-oxide	(4)	11.880	190	1117	2.579
167) Parathion	(4)	11.880	109	2495M	0.352
169) Octachlorostyrene	(4)	12.133	308	1634	0.637
171) Isodrin	(4)	12.169	193	2591	0.529
174) Benzidine	(5)	12.439	184	99400	2.912
175)*Pyrene-d10	(5)	12.516	212	983047	20.000
179)$Terphenyl-d14	(5)	12.692	244	35251	0.974
182) p-Dimethylaminoazobenzene	(5)	12.827	225	4371	0.405
185) Chlorobenzilate	(5)	12.880	139	5505	0.361

M = Compound was manually integrated.
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on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
187) 3,3'-Dimethylbenzidine	(5)	13.163	212	10984	0.361
188) Butylbenzylphthalate	(5)	13.186	149	11313	0.439
191) 2-Acetylaminofluorene	(5)	13.416	181	8099	0.346
193) 3,3'-Dichlorobenzidine	(5)	13.722	252	6740	0.388
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.727	231	4818	0.494
199) bis(2-Ethylhexyl)phthalate	(5)	13.798	149	13867	0.385
203) 6-Methylchrysene	(5)	14.251	242	17219	0.501
205) Di-n-octylphthalate	(6)	14.469	149	22103	0.349
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.845	256	12254	0.526
213)*Perylene-d12	(6)	15.263	264	769434	20.000
215) 3-Methylcholanthrene	(6)	15.592	268	11452	0.511

* = Compound is an internal standard.

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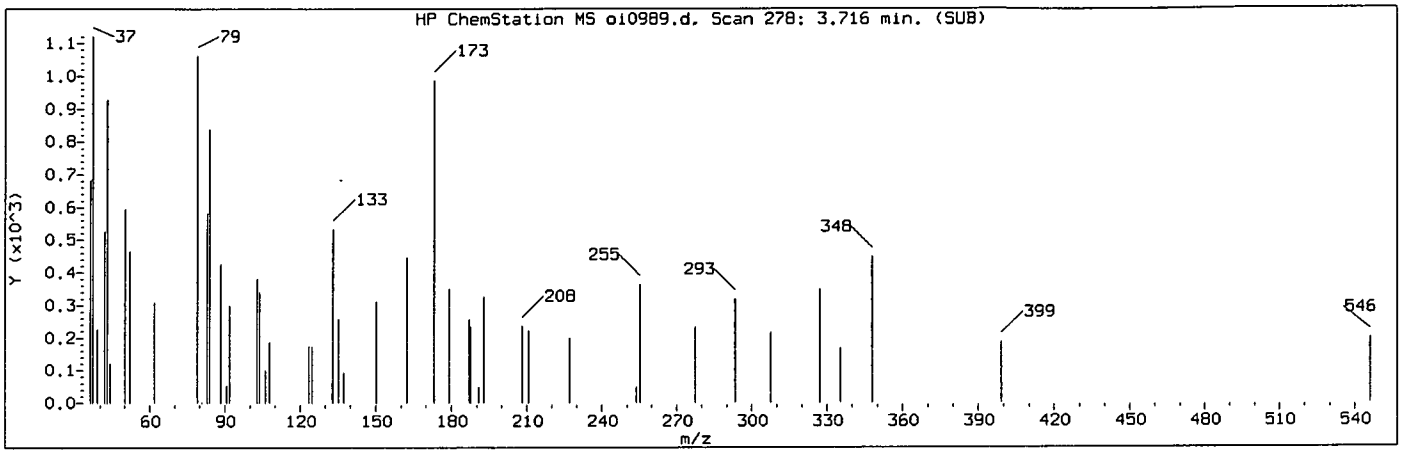
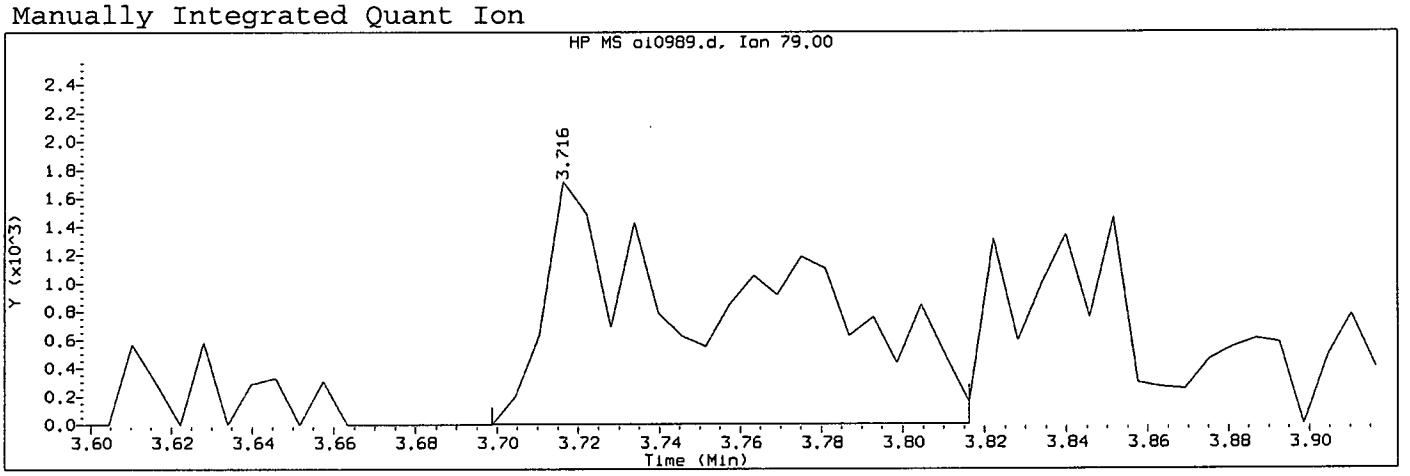
on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 278		
Retention Time (minutes)	: 3.716		
Quant Ion	: 79.00		
Area (flag)	: 5838M		
On-Column Amount (ng/ul)	: 0.3958		
Integration start scan	: 274	Integration stop scan:	294
Y at integration start	: 3	Y at integration end:	3

Reason for manual integration: improper integration

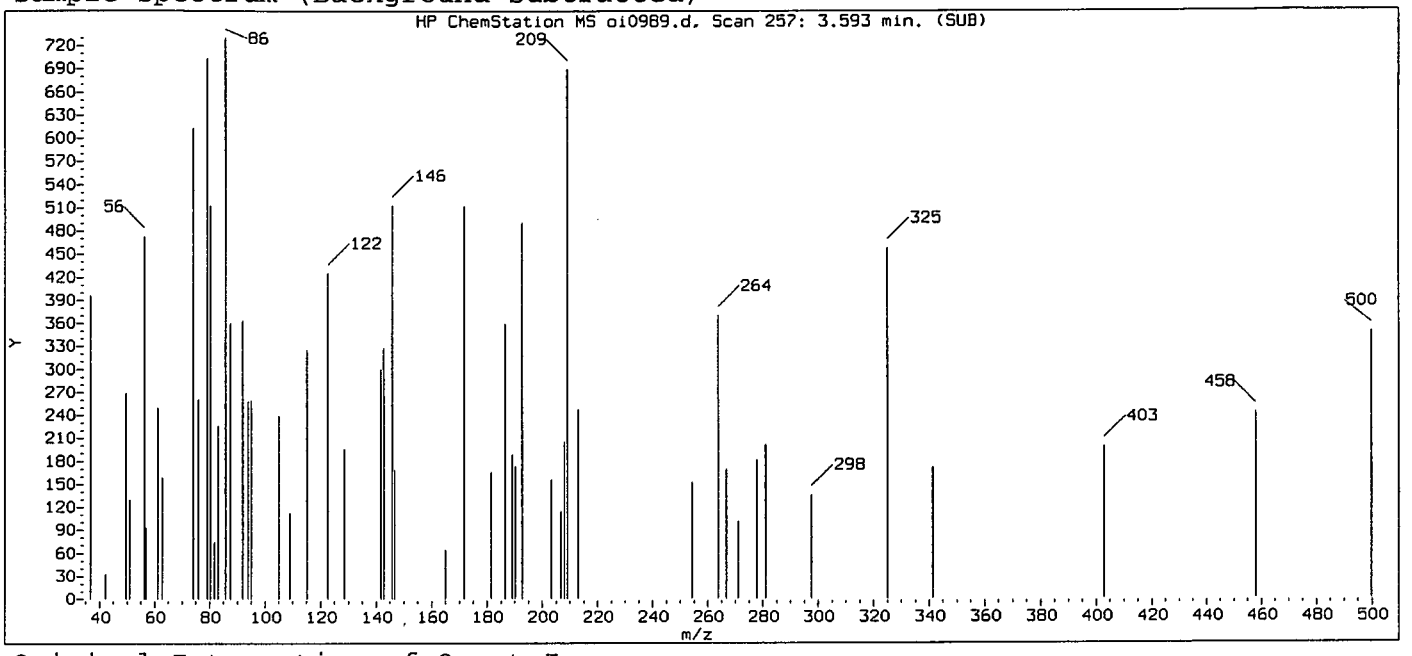
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50. Target 3.5 signature user ID: lmh00956

SEP 23 2015

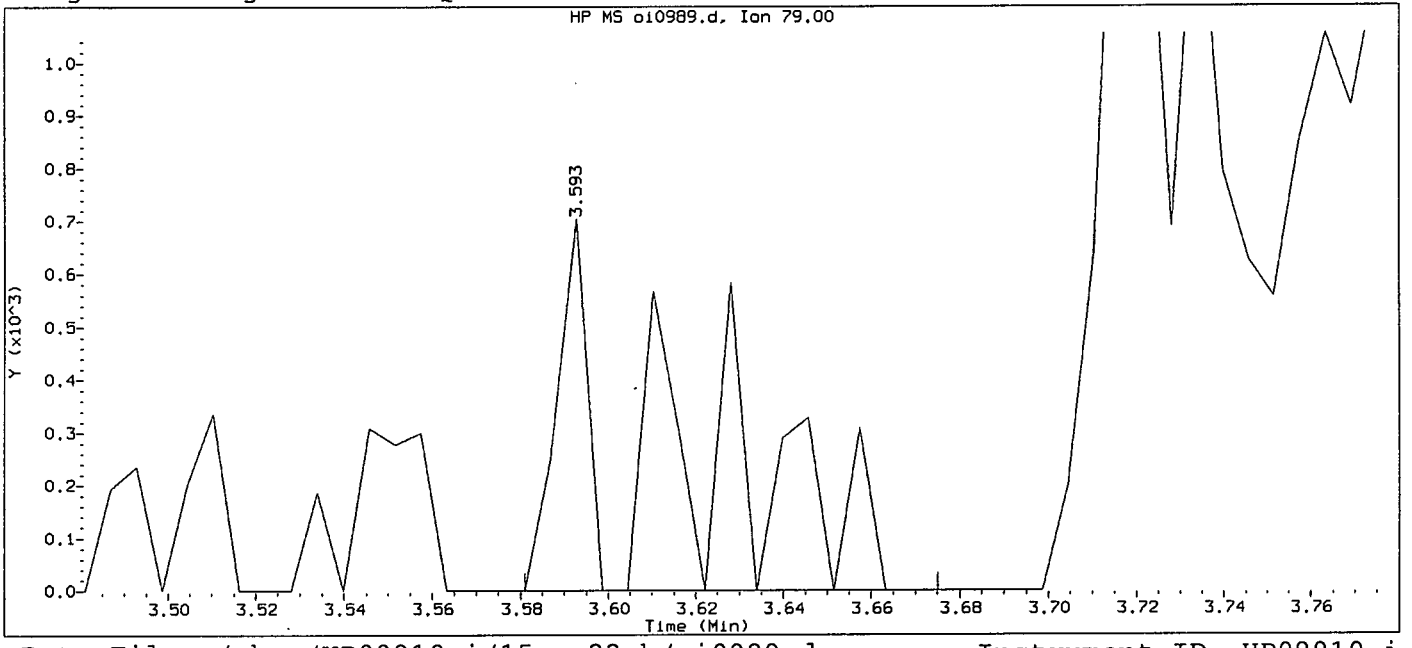
GC/MS audit/management approval:_____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 22-SEP-2015 13:14
Date, time and analyst ID of latest file update: 22-Sep-2015 13:15 Automation

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 257		
Retention Time (minutes)	: 3.593		
Quant Ion	: 79.00		
Area	: 1175		
On-column Amount (ng/ul)	: 0.0797		
Integration start scan	: 254	Integration stop scan:	270
Y at integration start	: 0	Y at integration end:	0

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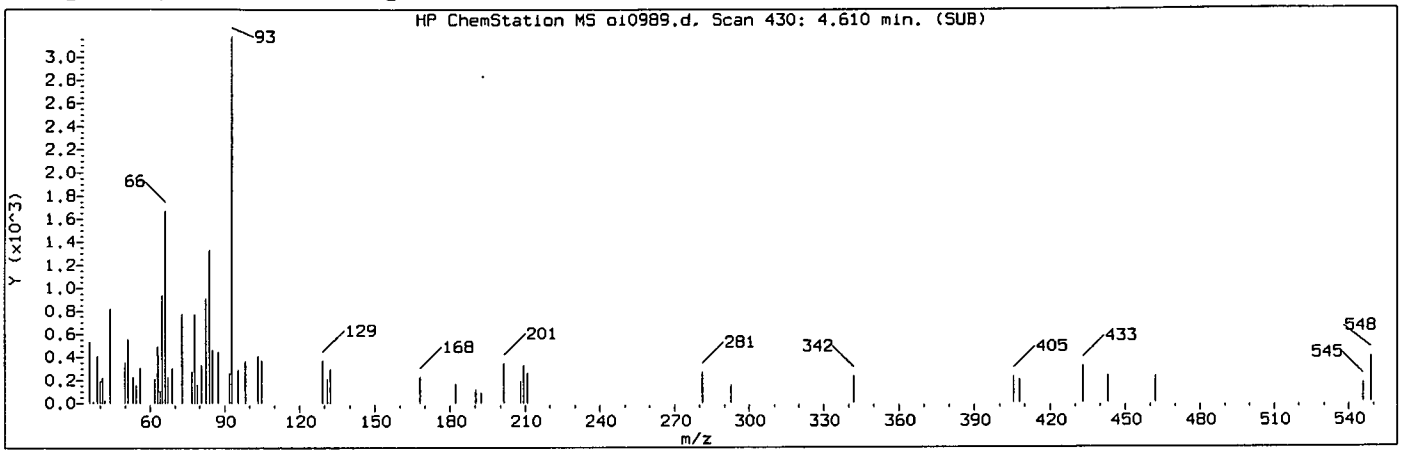
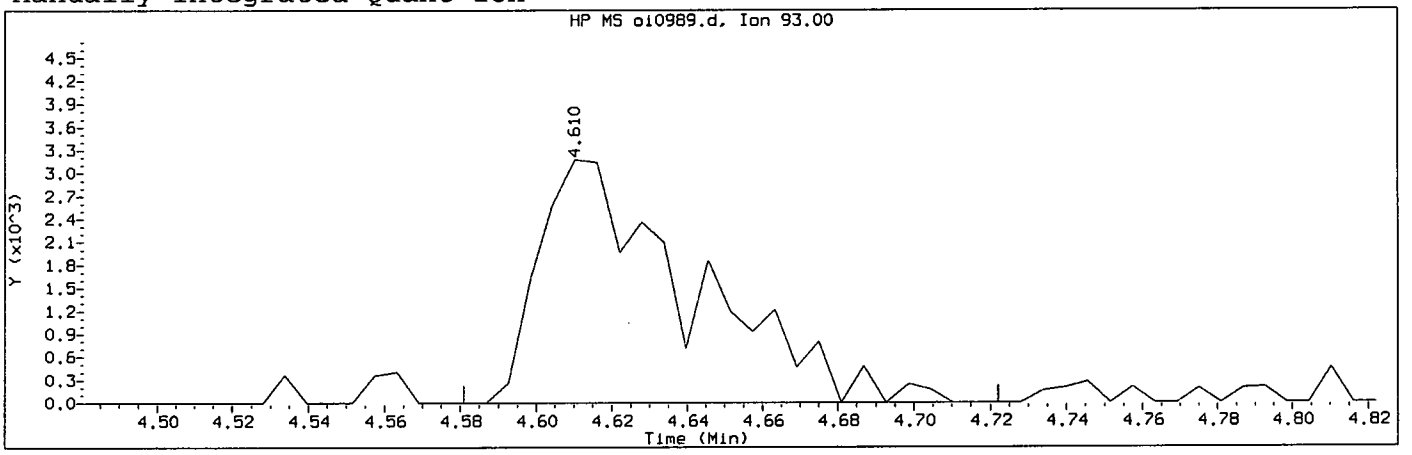
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 430		
Retention Time (minutes)	: 4.610		
Quant Ion	: 93.00		
Area (flag)	: 8940M		
On-Column Amount (ng/ul)	: 0.5679		
Integration start scan	: 424	Integration stop scan:	448
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

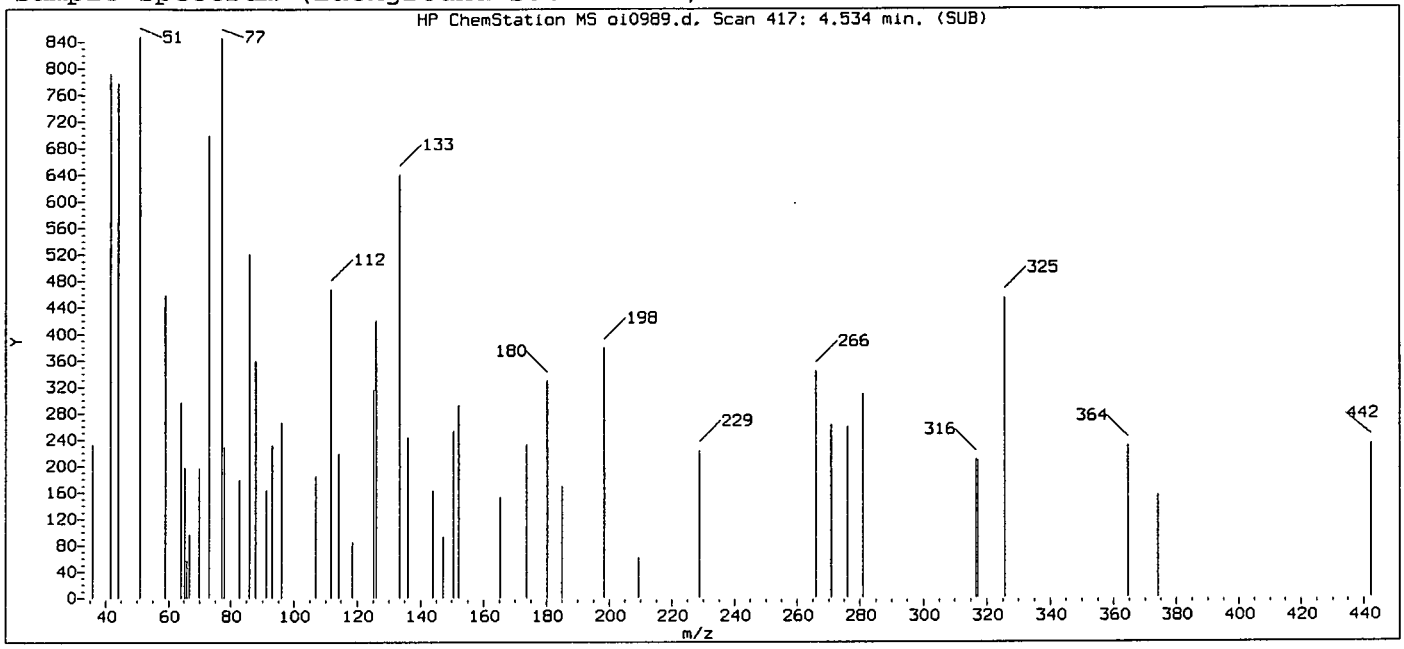
Analyst responsible for change: Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

SEP 23 2015

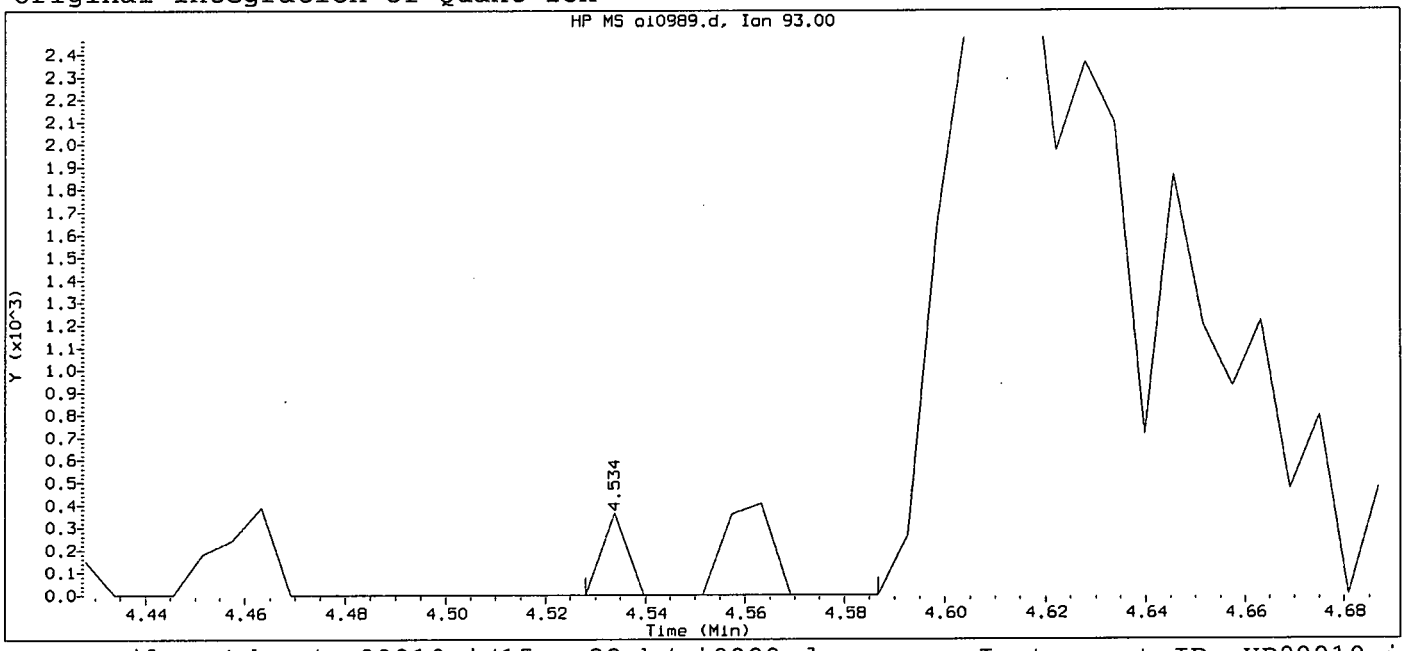
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

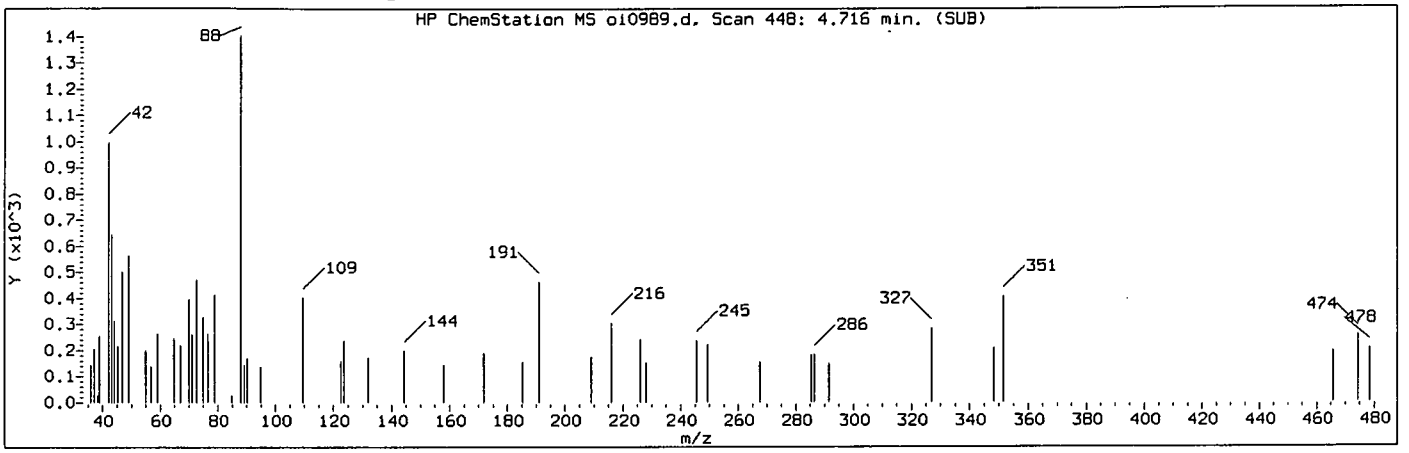
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlal11
Calibration date and time: 22-SEP-2015 13:14
Date, time and analyst ID of latest file update: 22-Sep-2015 13:15 Automation

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

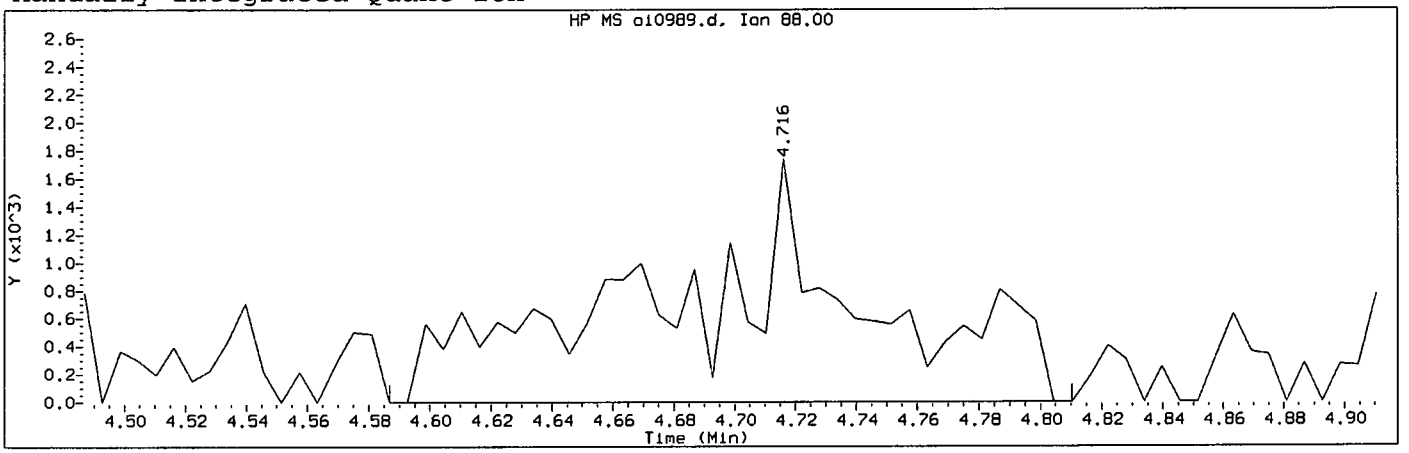
Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 417		
Retention Time (minutes)	: 4.534		
Quant Ion	: 93.00		
Area	: 399		
On-column Amount (ng/ul)	: 0.0254		
Integration start scan	: 415	Integration stop scan:	425
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 448		
Retention Time (minutes)	: 4.716		
Quant Ion	: 88.00		
Area (flag)	: 8030M		
On-Column Amount (ng/ul)	: 1.0543		
Integration start scan	: 425	Integration stop scan:	463
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

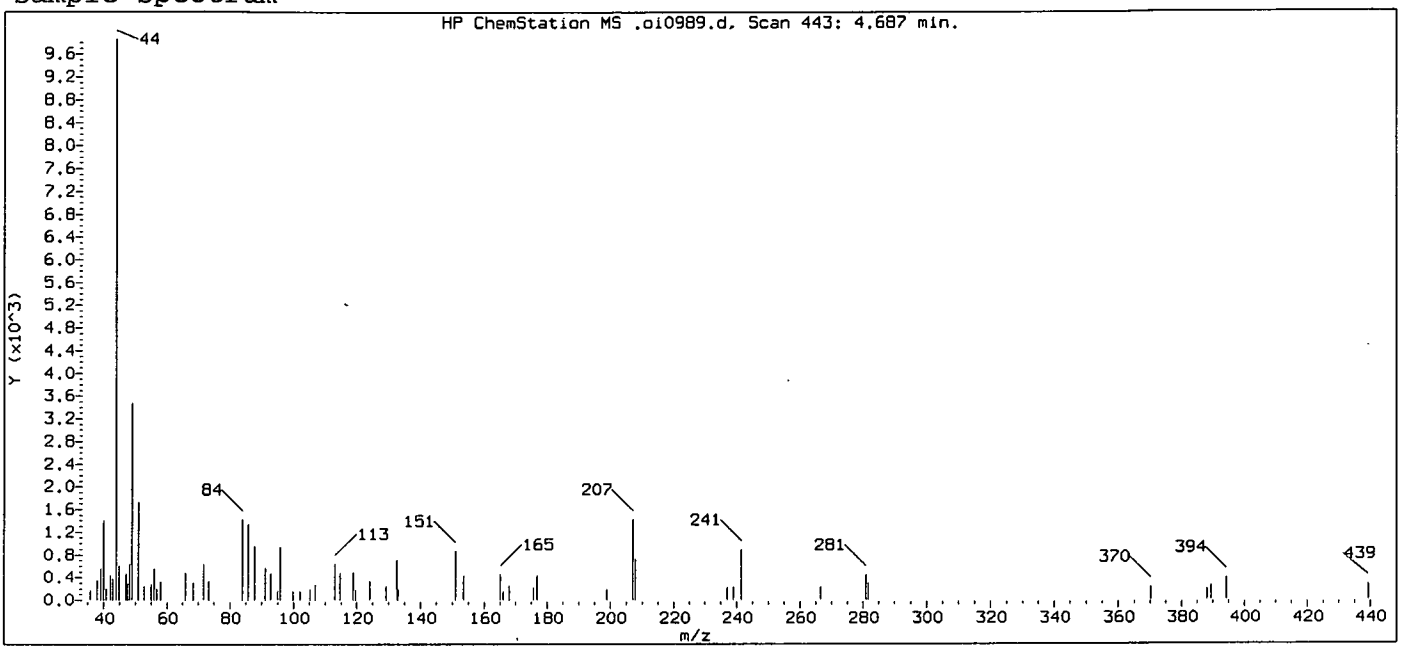
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50. Target 3.5 Designature User ID: lmh00956

SEP 23 2015

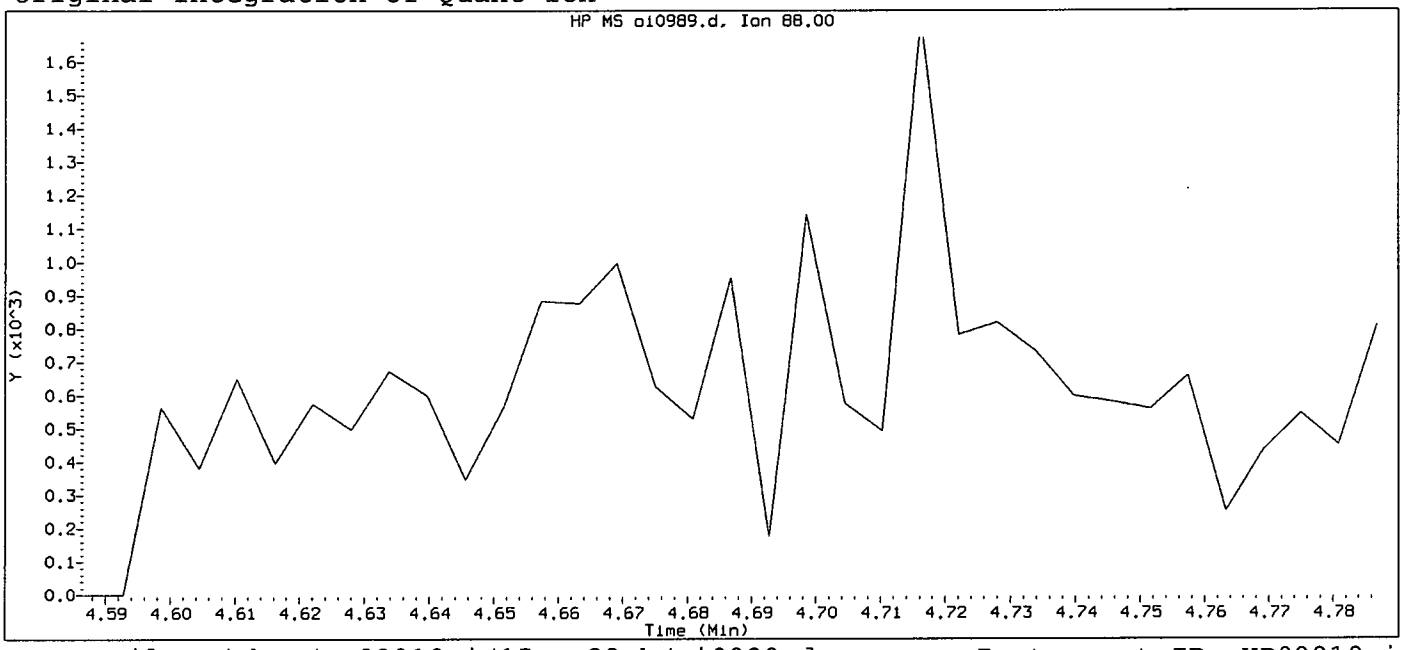
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

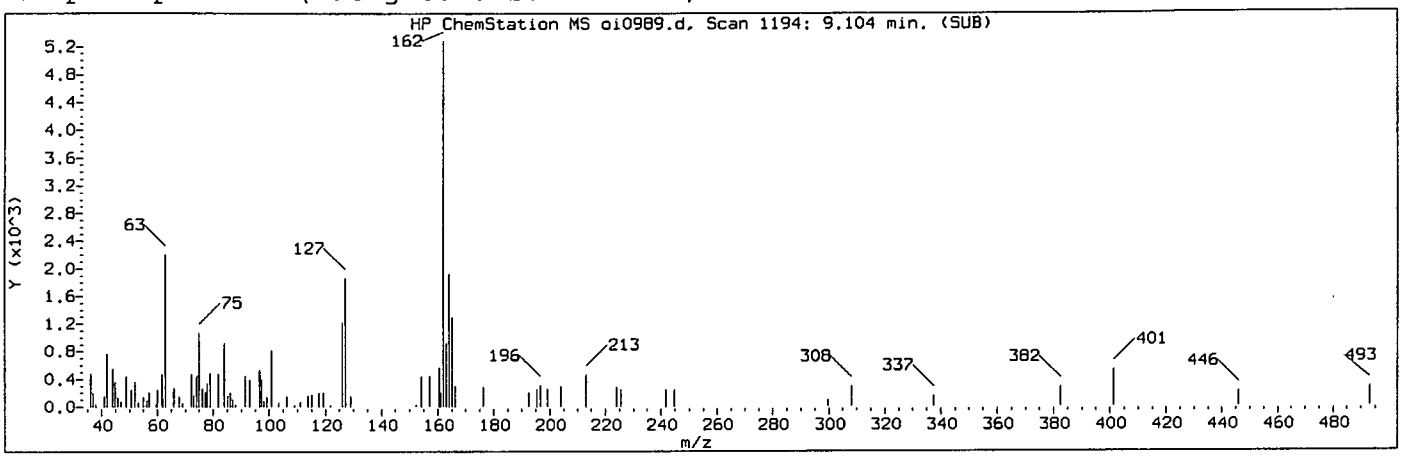
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 22-SEP-2015 13:14
Date, time and analyst ID of latest file update: 22-Sep-2015 13:15 Automation

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

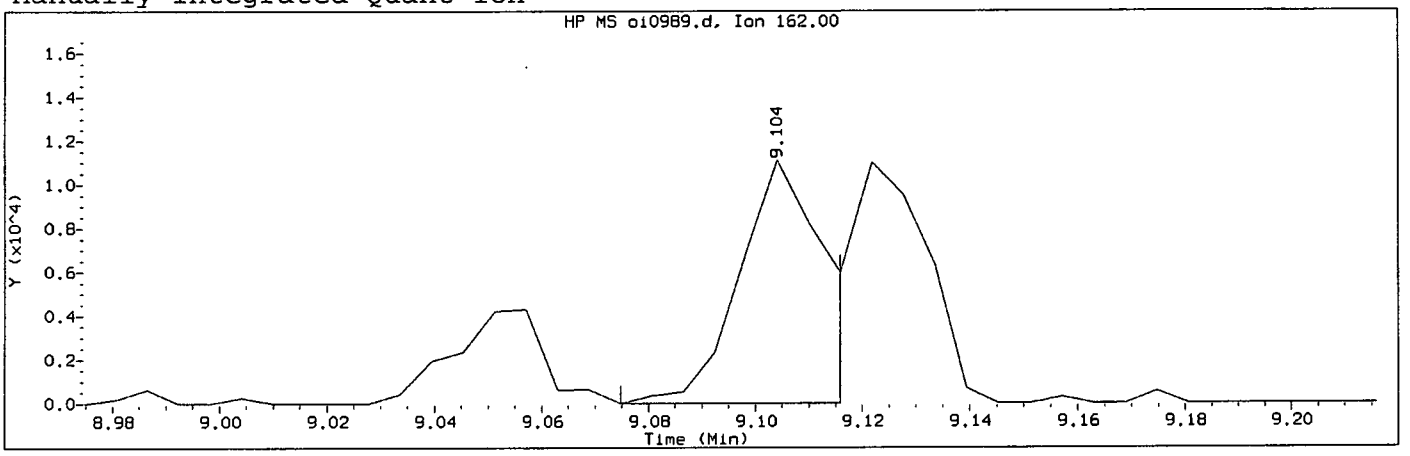
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.687
Quant Ion : 88.00

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1194		
Retention Time (minutes)	: 9.104		
Quant Ion	: 162.00		
Area (flag)	: 12517M		
On-Column Amount (ng/ul)	: 0.5207		
Integration start scan	: 1188	Integration stop scan:	1195
Y at integration start	: -12	Y at integration end:	-12

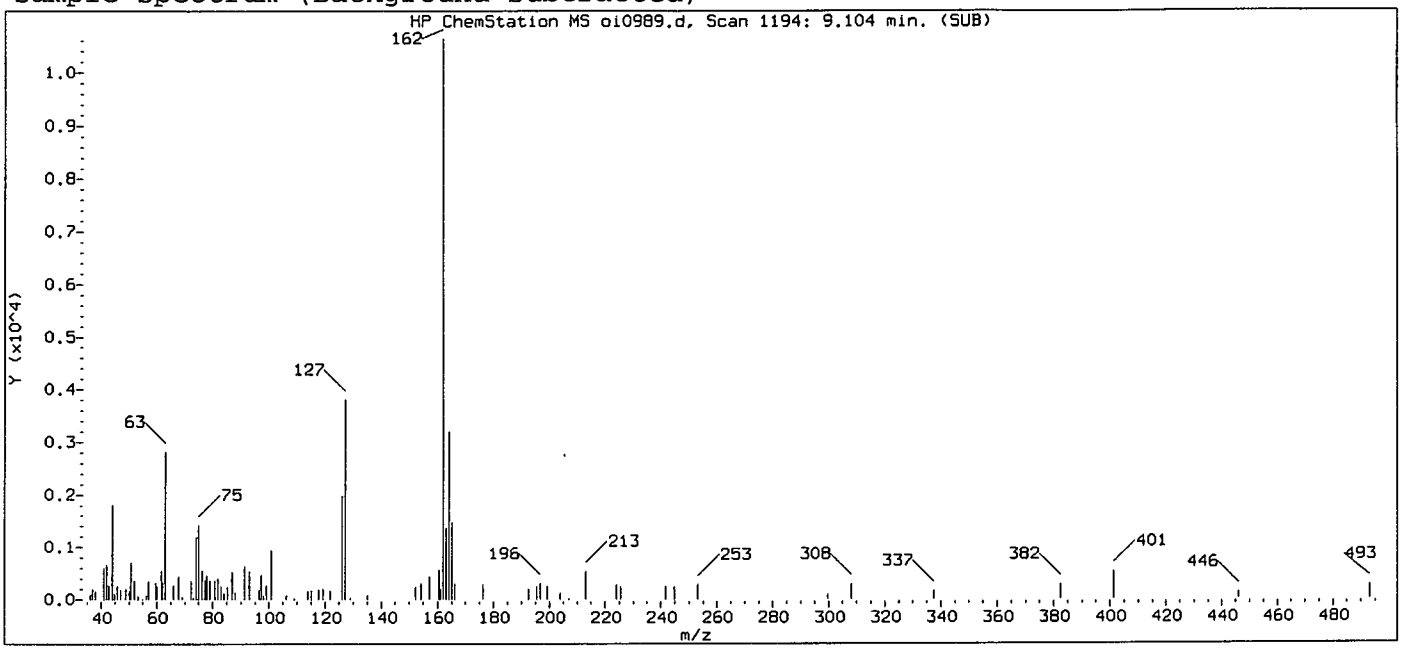
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50. Target 3.5 signature user ID: lmh00956

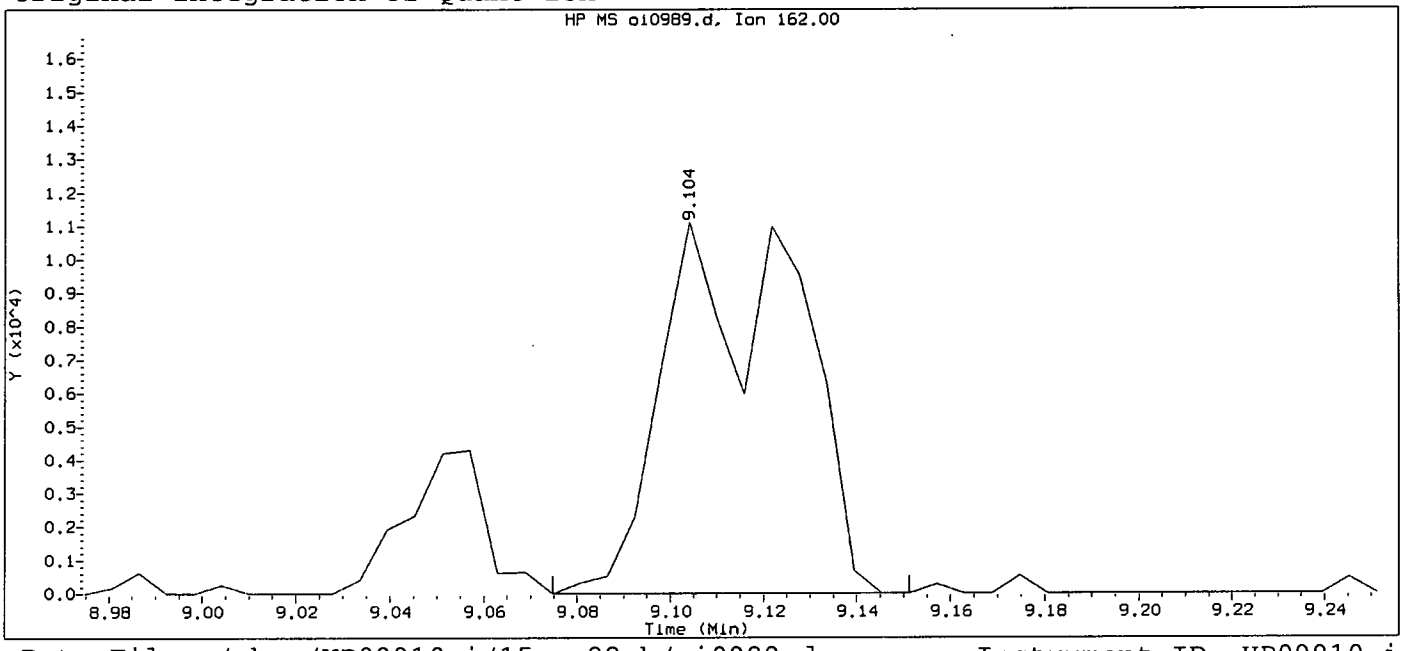
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

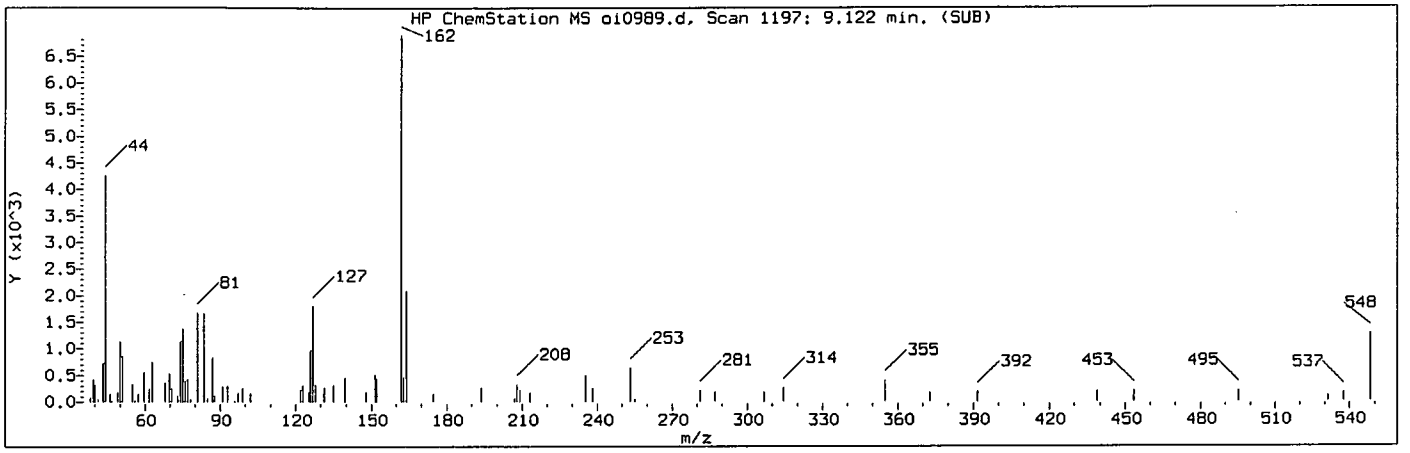
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 22-SEP-2015 13:14
Date, time and analyst ID of latest file update: 22-Sep-2015 13:15 Automation

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

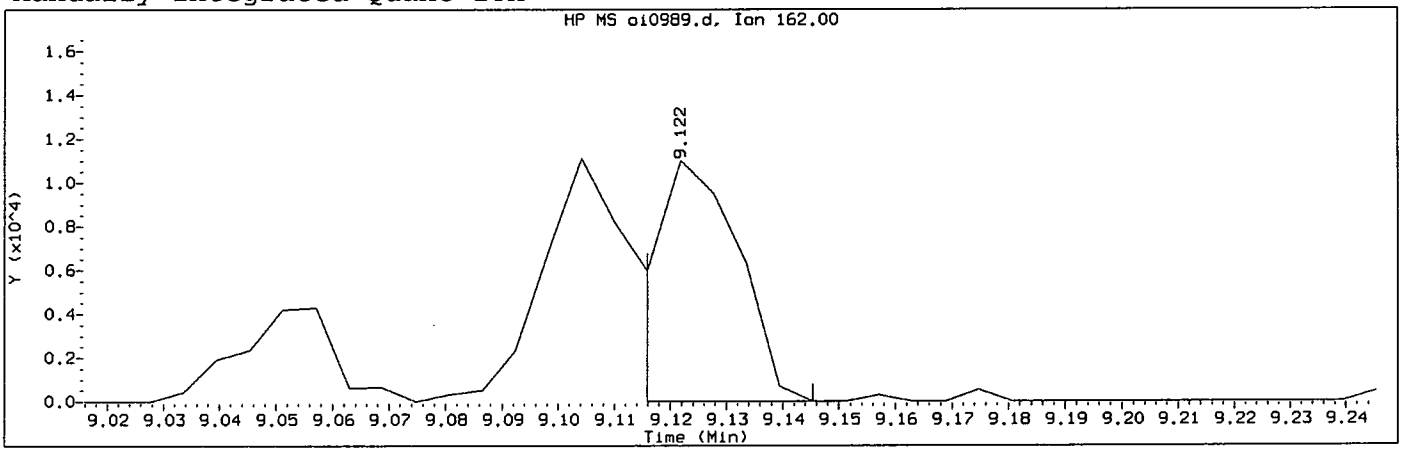
Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1194		
Retention Time (minutes)	: 9.104		
Quant Ion	: 162.00		
Area	: 22202		
On-column Amount (ng/ul)	: 0.9236		
Integration start scan	: 1188	Integration stop scan:	1201
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1197		
Retention Time (minutes)	: 9.122		
Quant Ion	: 162.00		
Area (flag)	: 11826M		
On-Column Amount (ng/ul)	: 0.5281		
Integration start scan	: 1195	Integration stop scan:	1200
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

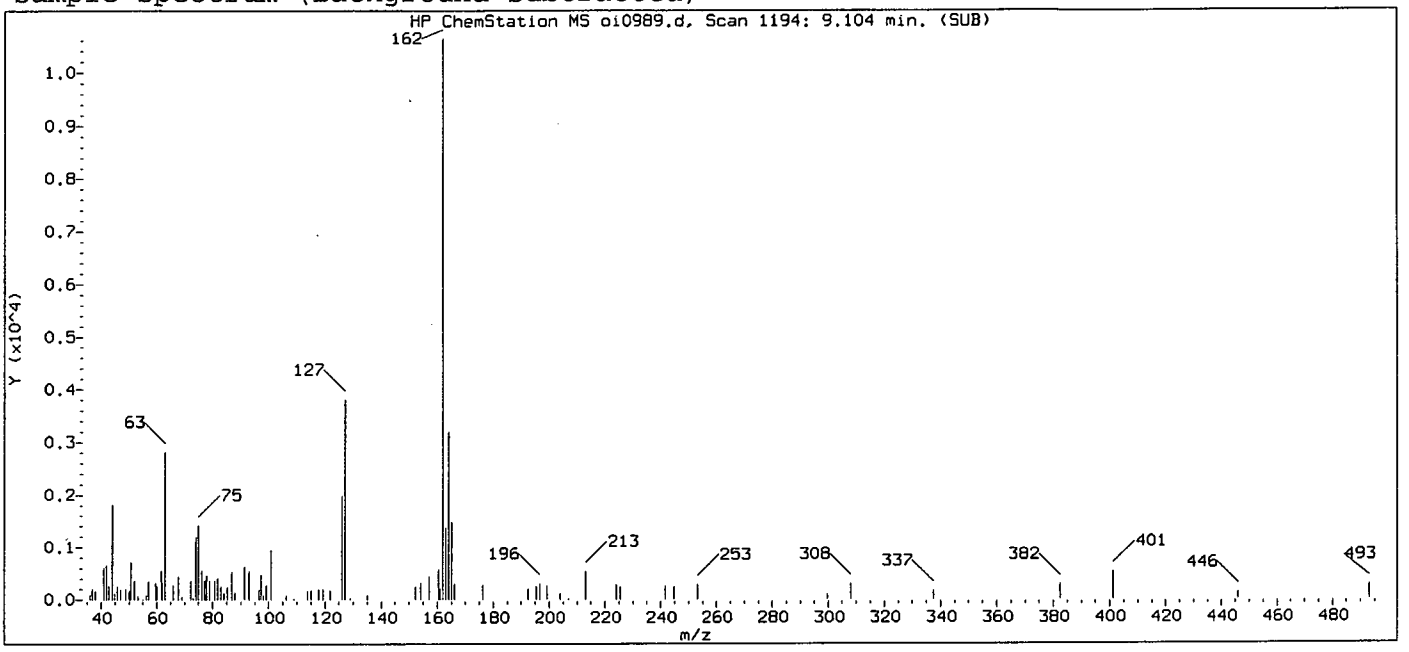
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50. Target 3.5 signature user ID: lmh00956

SEP 23 2015

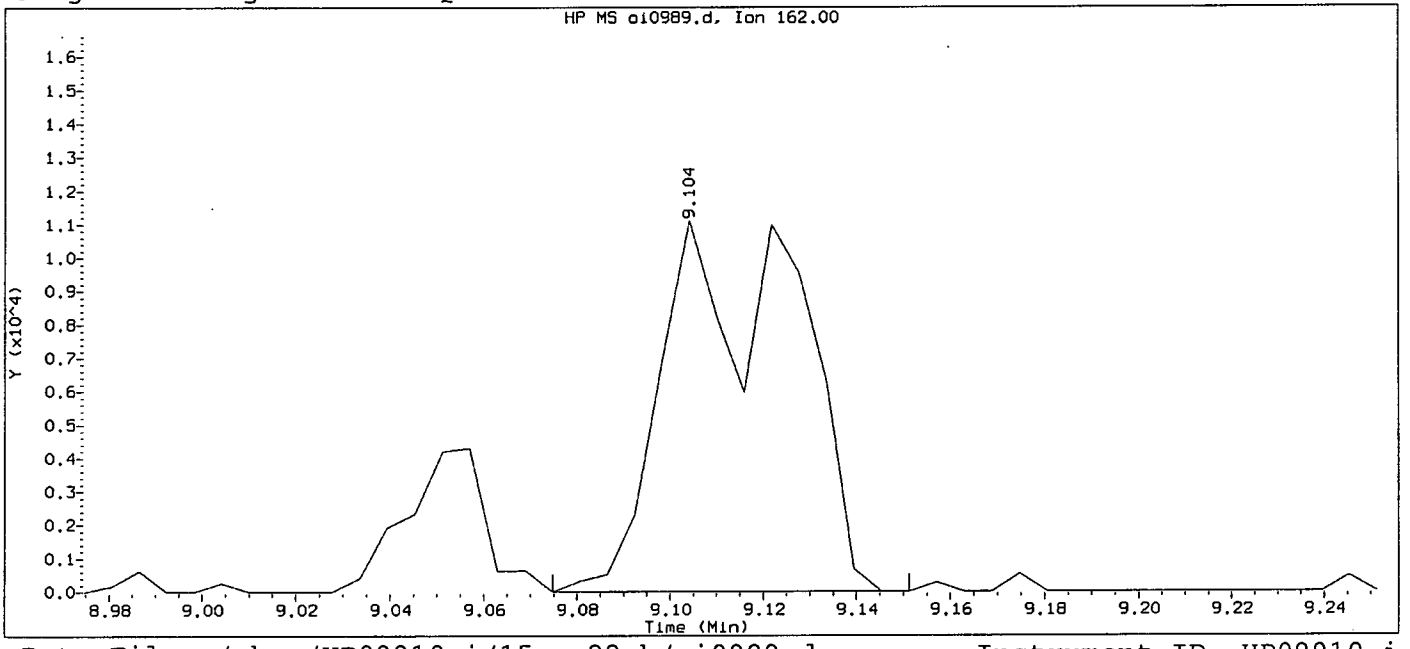
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

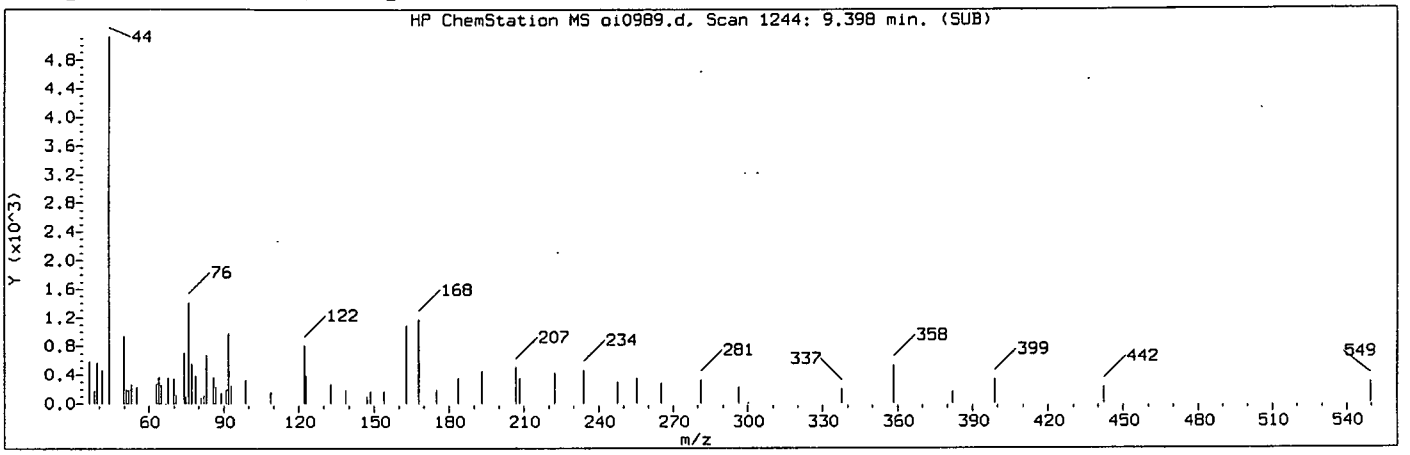
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 22-SEP-2015 13:14
Date, time and analyst ID of latest file update: 22-Sep-2015 13:15 Automation

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

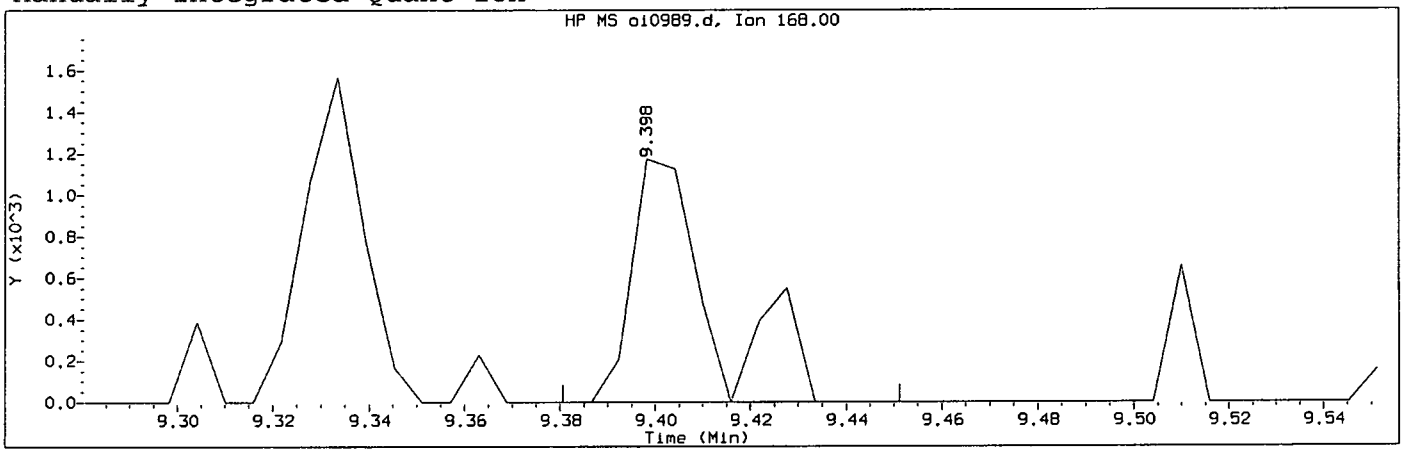
Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1194		
Retention Time (minutes)	: 9.104		
Quant Ion	: 162.00		
Area	: 22202		
On-column Amount (ng/ul)	: 0.9915		
Integration start scan	: 1188	Integration stop scan:	1201
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 107		
Compound Name	: 1,3-Dinitrobenzene		
Scan Number	: 1244		
Retention Time (minutes)	: 9.398		
Quant Ion	: 168.00		
Area (flag)	: 1386M		
On-Column Amount (ng/ul)	: 0.2717		
Integration start scan	: 1240	Integration stop scan:	1252
Y at integration start	: 0	Y at integration end:	0

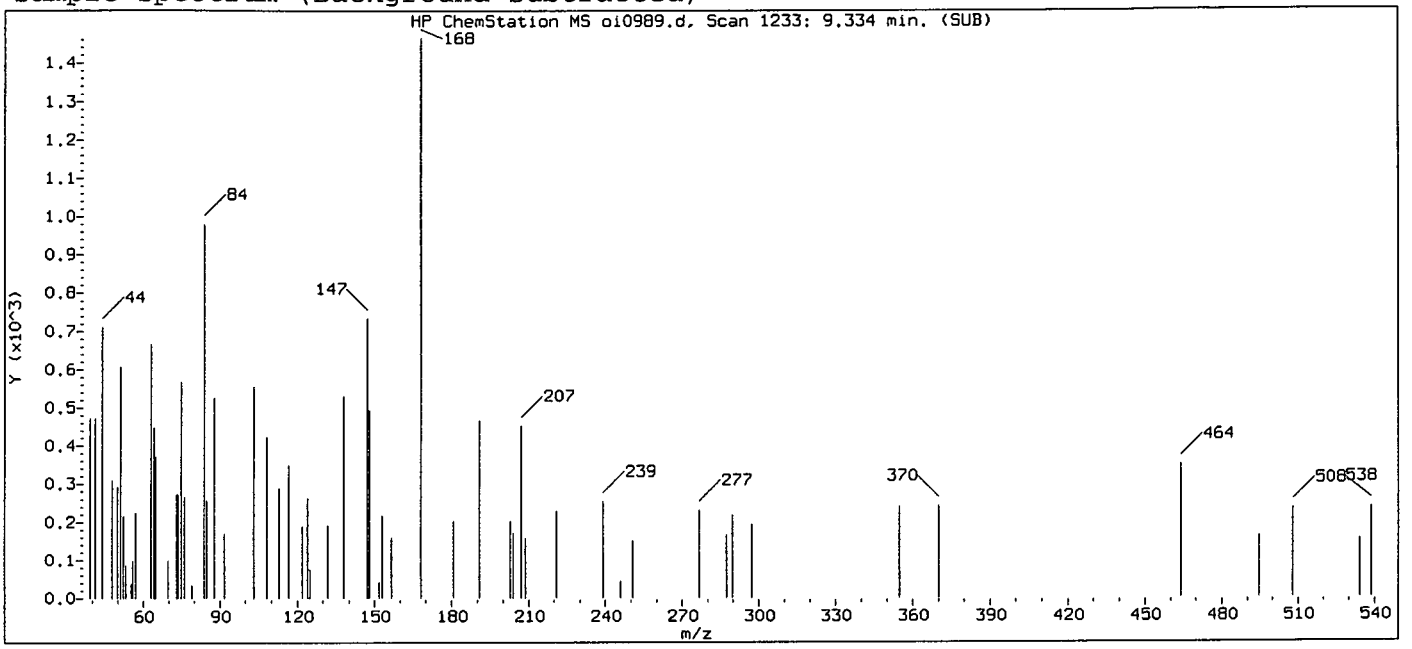
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50. Target 3.5 esignature user ID: lmh00956

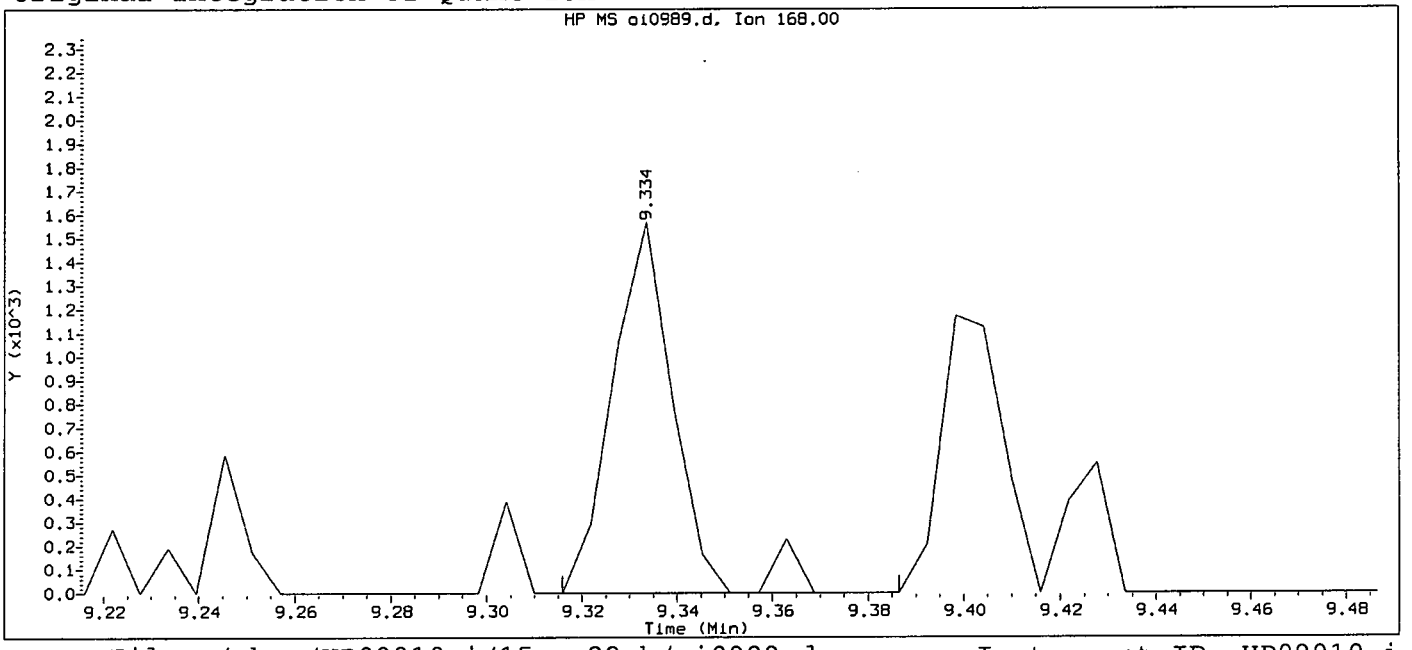
GC/MS audit/management approval: SEP 23 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

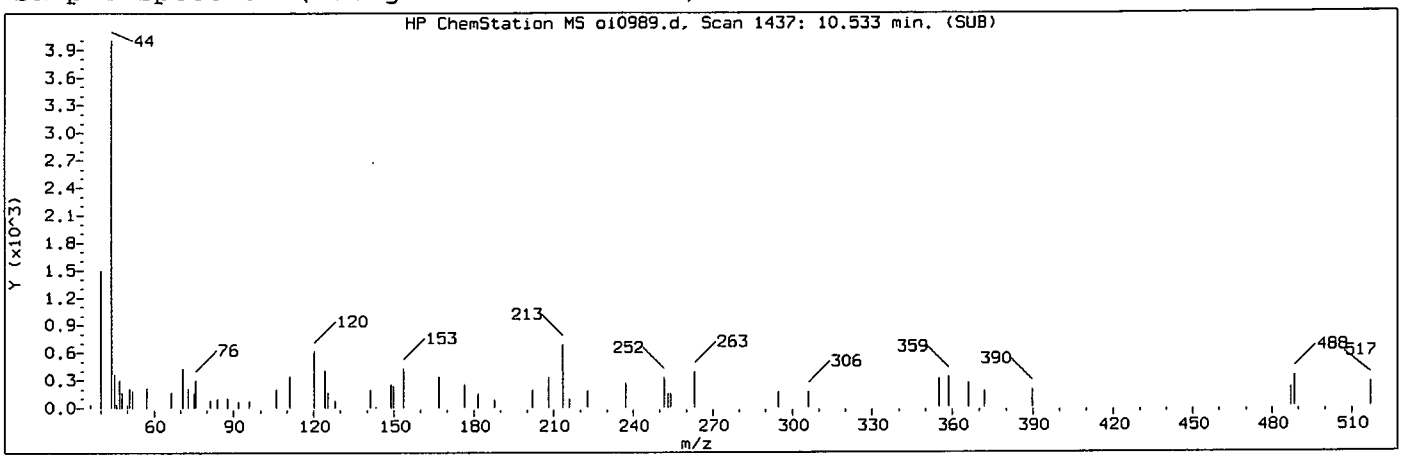
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 22-SEP-2015 13:14
Date, time and analyst ID of latest file update: 22-Sep-2015 13:15 Automation

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

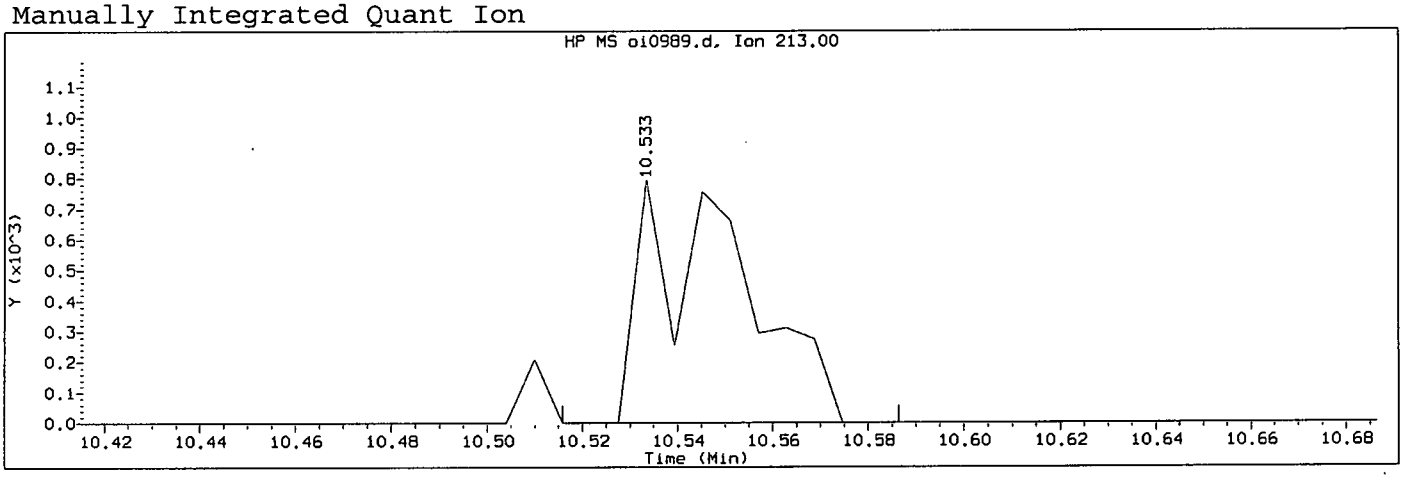
Compound Number	: 107		
Compound Name	: 1,3-Dinitrobenzene		
Scan Number	: 1233		
Retention Time (minutes)	: 9.334		
Quant Ion	: 168.00		
Area	: 1441		
On-column Amount (ng/ul)	: 0.2825		
Integration start scan	: 1229	Integration stop scan:	1241
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 139		
Compound Name	: 1,3,5-Trinitrobenzene		
Scan Number	: 1437		
Retention Time (minutes)	: 10.533		
Quant Ion	: 213.00		
Area (flag)	: 1181M		
On-Column Amount (ng/ul)	: 3.7764		
Integration start scan	: 1433	Integration stop scan:	1445
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

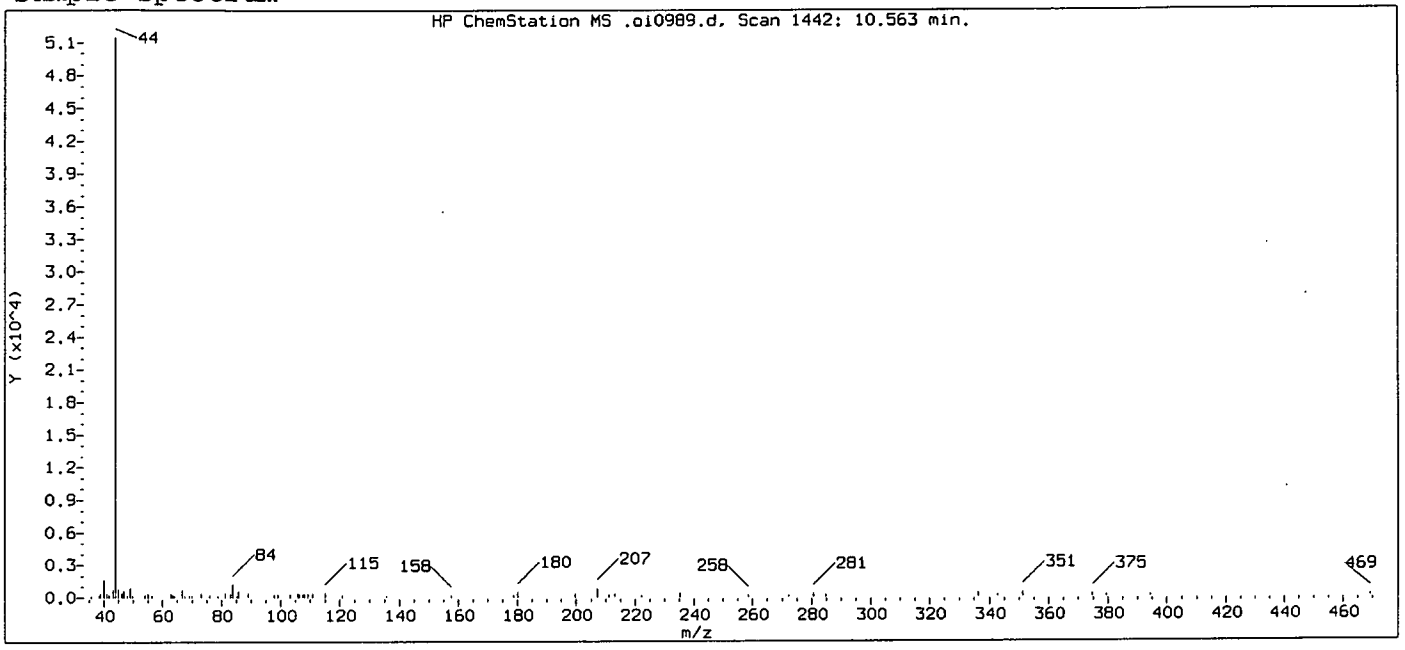
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50. Target 3.5 signature user ID: lmh00956

SEP 23 2015

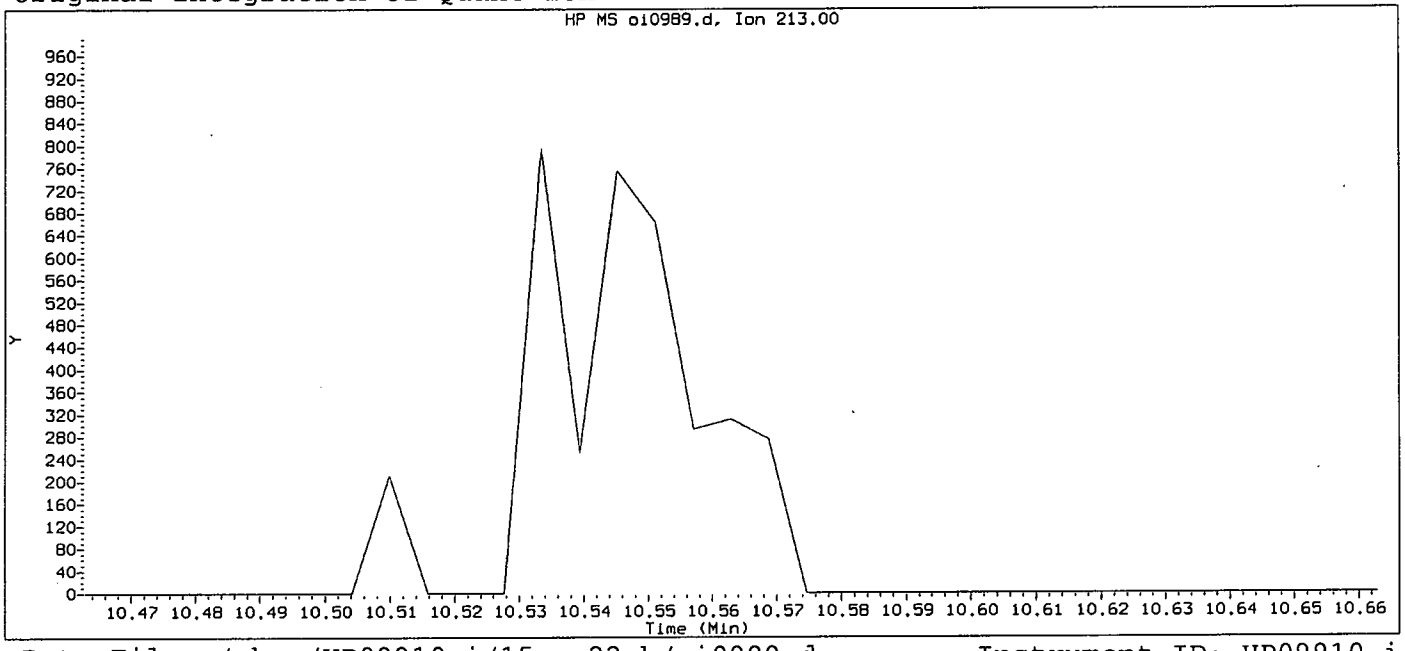
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

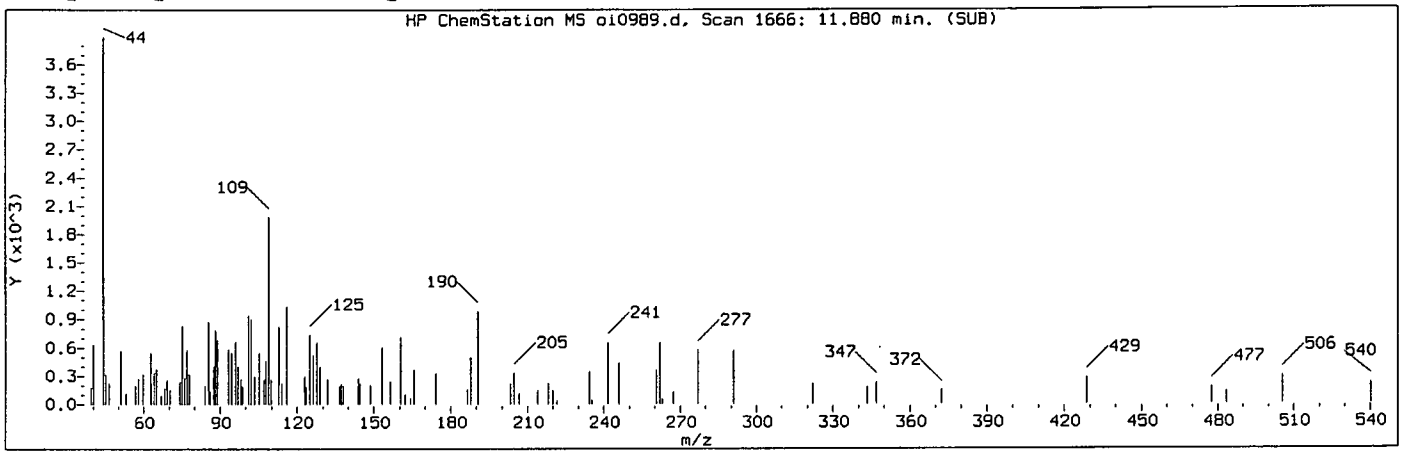
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 22-SEP-2015 13:14
Date, time and analyst ID of latest file update: 22-Sep-2015 13:15 Automation

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

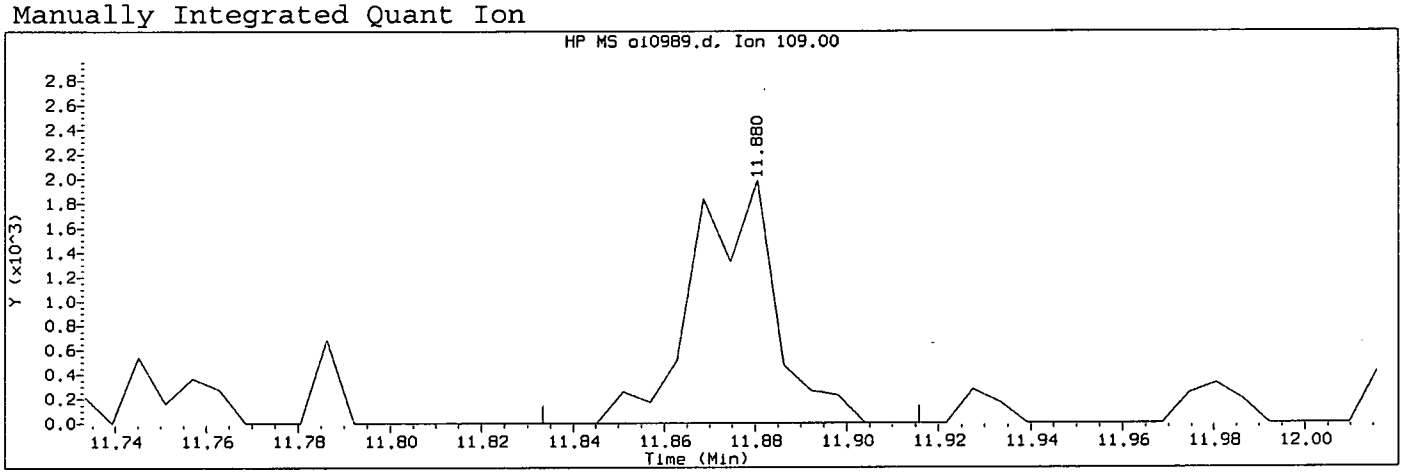
Compound Number : 139
Compound Name : 1,3,5-Trinitrobenzene
Expected RT (minutes) : 10.563
Quant Ion : 213.00

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 167		
Compound Name	: Parathion		
Scan Number	: 1666		
Retention Time (minutes)	: 11.880		
Quant Ion	: 109.00		
Area (flag)	: 2495M		
On-Column Amount (ng/ul)	: 0.3515		
Integration start scan	: 1657	Integration stop scan:	1671
Y at integration start	: 0	Y at integration end:	0

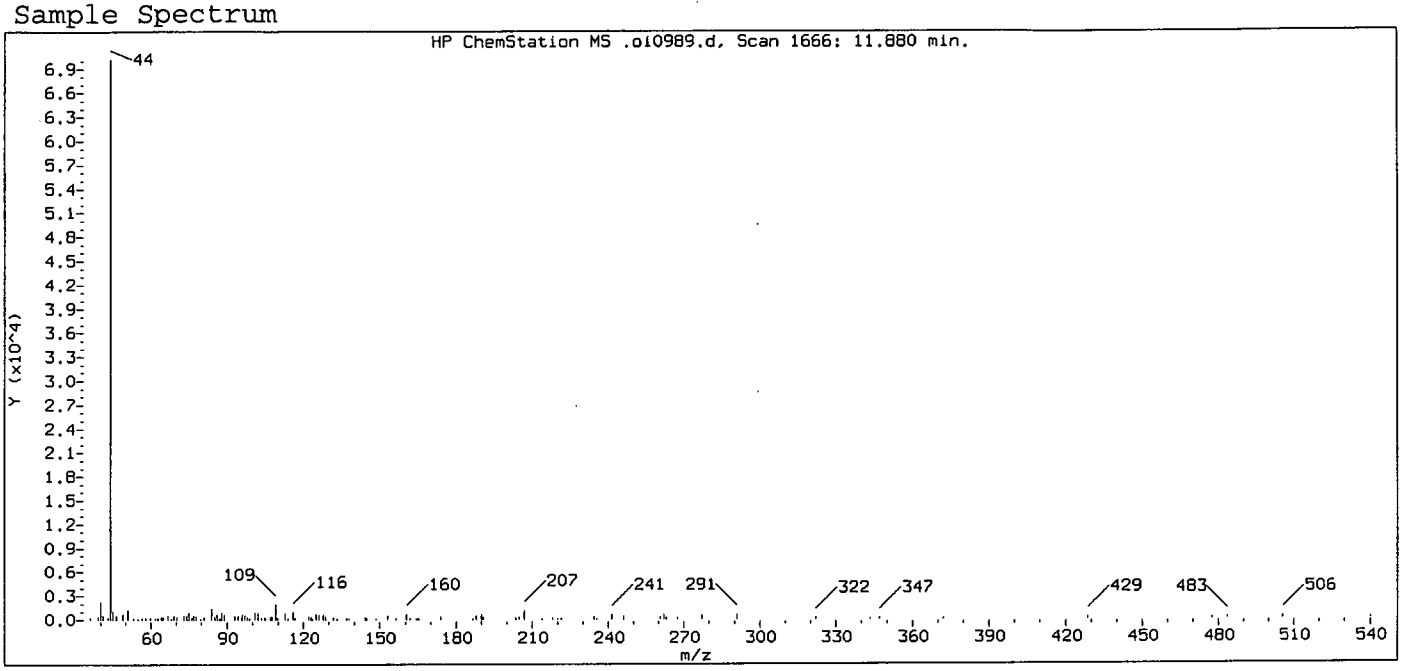
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50 Target 3.5 signature user ID: lmh00956

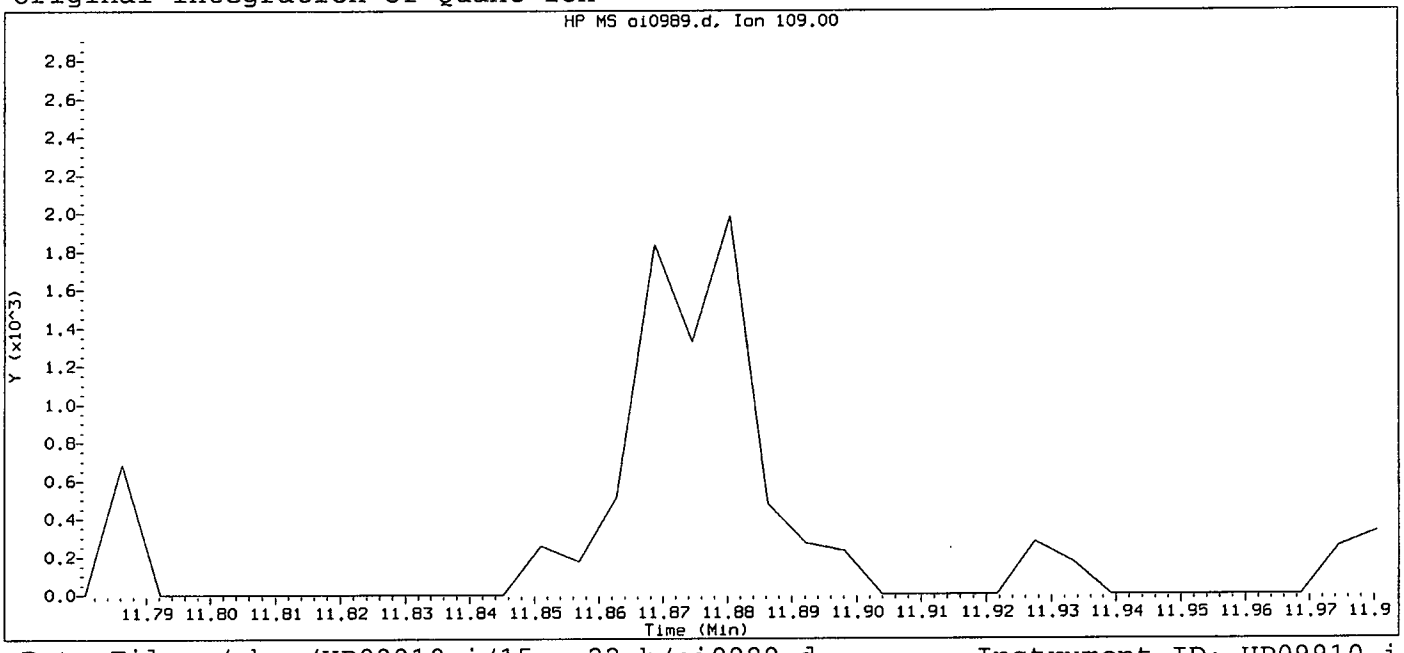
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



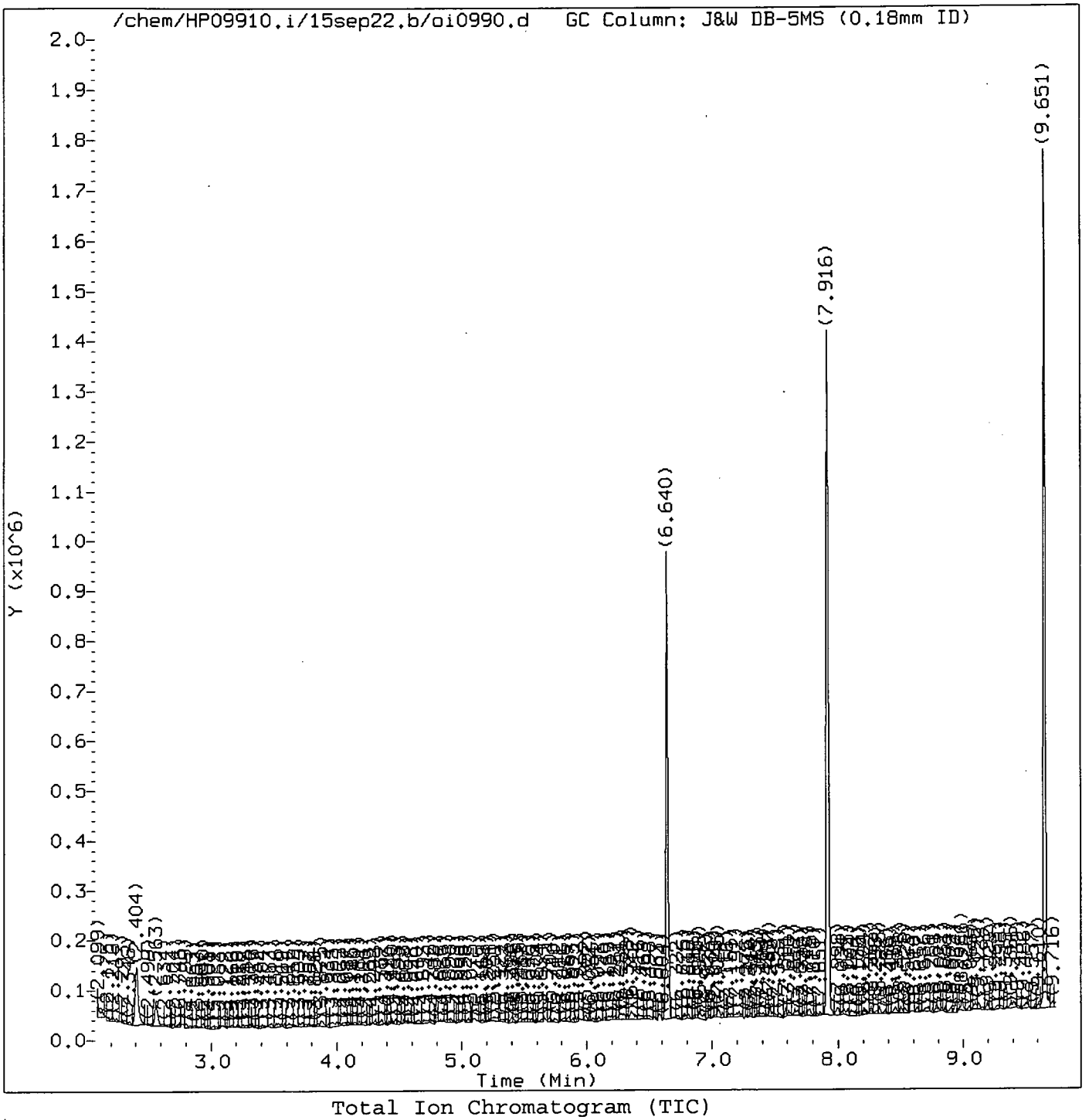
Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 22-SEP-2015 13:14
Date, time and analyst ID of latest file update: 22-Sep-2015 13:15 Automation

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number : 167
Compound Name : Parathion
Expected RT (minutes) : 11.880
Quant Ion : 109.00

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

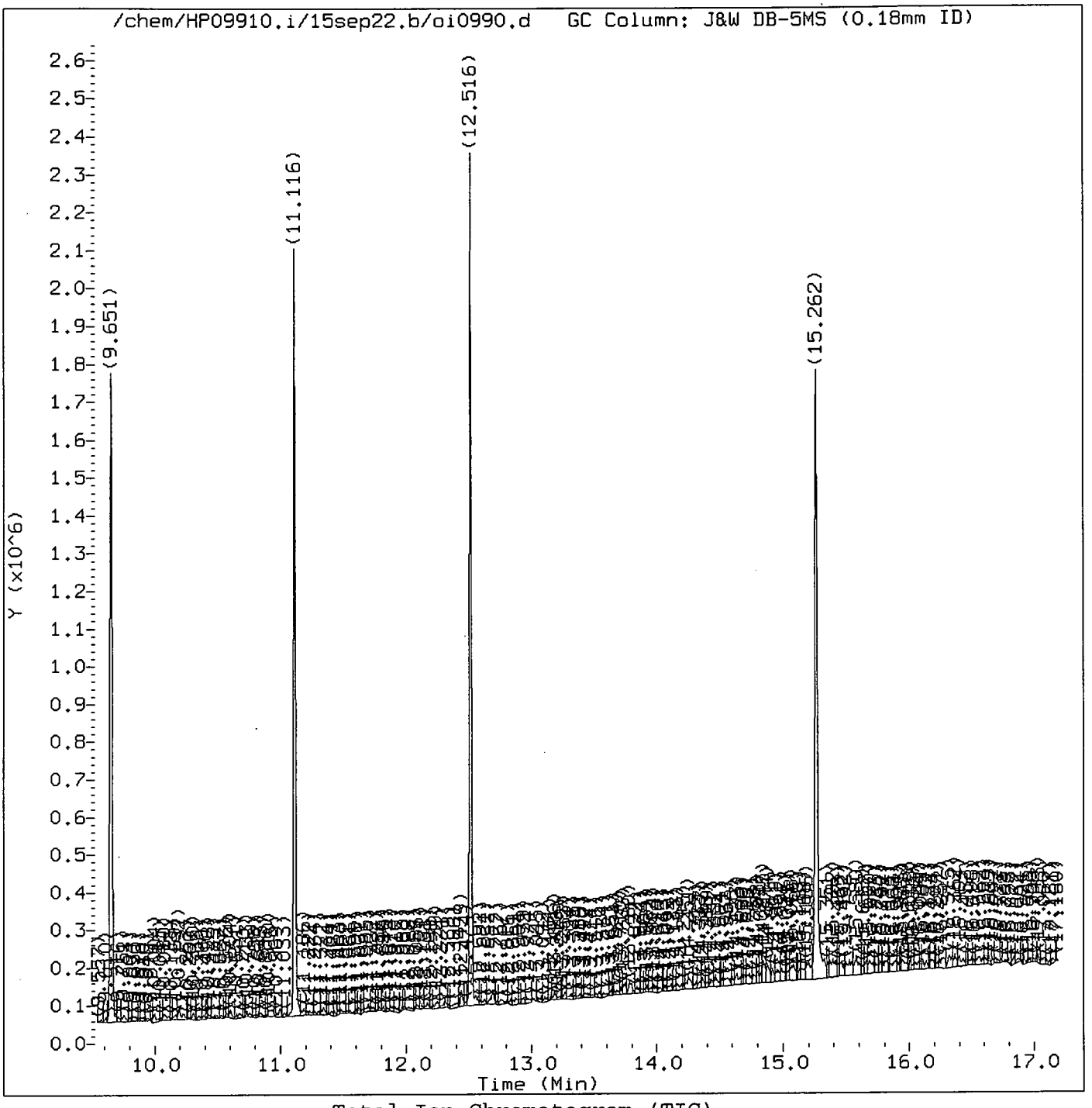
Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0990.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:24 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: pahmdlall1
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:41 Automation

Sample Name: SSTD0.1 Lab Sample ID: PAHMDL2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:49.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0990.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:24 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: pahmdlall1
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:41 Automation

Sample Name: SSTD0.1 Lab Sample ID: PAHMDL2575

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on 09/22/2015 at 13:49.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0990.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:24 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: pahmdlall1
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:41 Automation

Sample Name: SSTD0.1 Lab Sample ID: PAHMDL2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.640	152	146525	20.000
44)$Nitrobenzene-d5	(2)	7.198	82	3287	0.224
65)*Naphthalene-d8	(2)	7.916	136	630649	20.000
66) Naphthalene	(2)	7.934	128	4498	0.129
83) 2-Methylnaphthalene	(2)	8.628	142	3054	0.125
84) 1-Methylnaphthalene	(2)	8.722	142	2170	0.099
93)$2-Fluorobiphenyl	(3)	8.992	172	5584	0.216
109) Acenaphthylene	(3)	9.516	152	3758	0.104
113)*Acenaphthene-d10	(3)	9.651	164	407876	20.000
114) Acenaphthene	(3)	9.686	153	2541	0.101
126) Fluorene	(3)	10.192	166	3594	0.125
145) Hexachlorobenzene	(4)	10.727	284	1863	0.242
153)*Phenanthrene-d10	(4)	11.116	188	811108	20.000
155) Phenanthrene	(4)	11.139	178	4868	0.103
157) Anthracene	(4)	11.186	178	3972	0.085
173) Fluoranthene	(4)	12.310	202	5708	0.111
175)*Pyrene-d10	(5)	12.516	212	927901	20.000
177) Pyrene	(5)	12.533	202	8994	0.162
179)$Terphenyl-d14	(5)	12.692	244	8477	0.248
195) Benzo(a)anthracene	(5)	13.751	228	5657	0.117
196) Chrysene	(5)	13.780	228	7798	0.170
206) Benzo(b)fluoranthene	(6)	14.845	252	8322	0.183
208) Benzo(k)fluoranthene	(6)	14.874	252	8842	0.190
211) Benzo(a)pyrene	(6)	15.192	252	10559	0.235
213)*Perylene-d12	(6)	15.262	264	726160	20.000
222) Total PAHs	(6)			88116	2.168
219) Indeno(1,2,3-cd)pyrene	(6)	16.580	276	8521	0.182
220) Dibenz(a,h)anthracene	(6)	16.586	278	6304	0.160
221) Benzo(g,h,i)perylene	(6)	16.956	276	6120	0.159

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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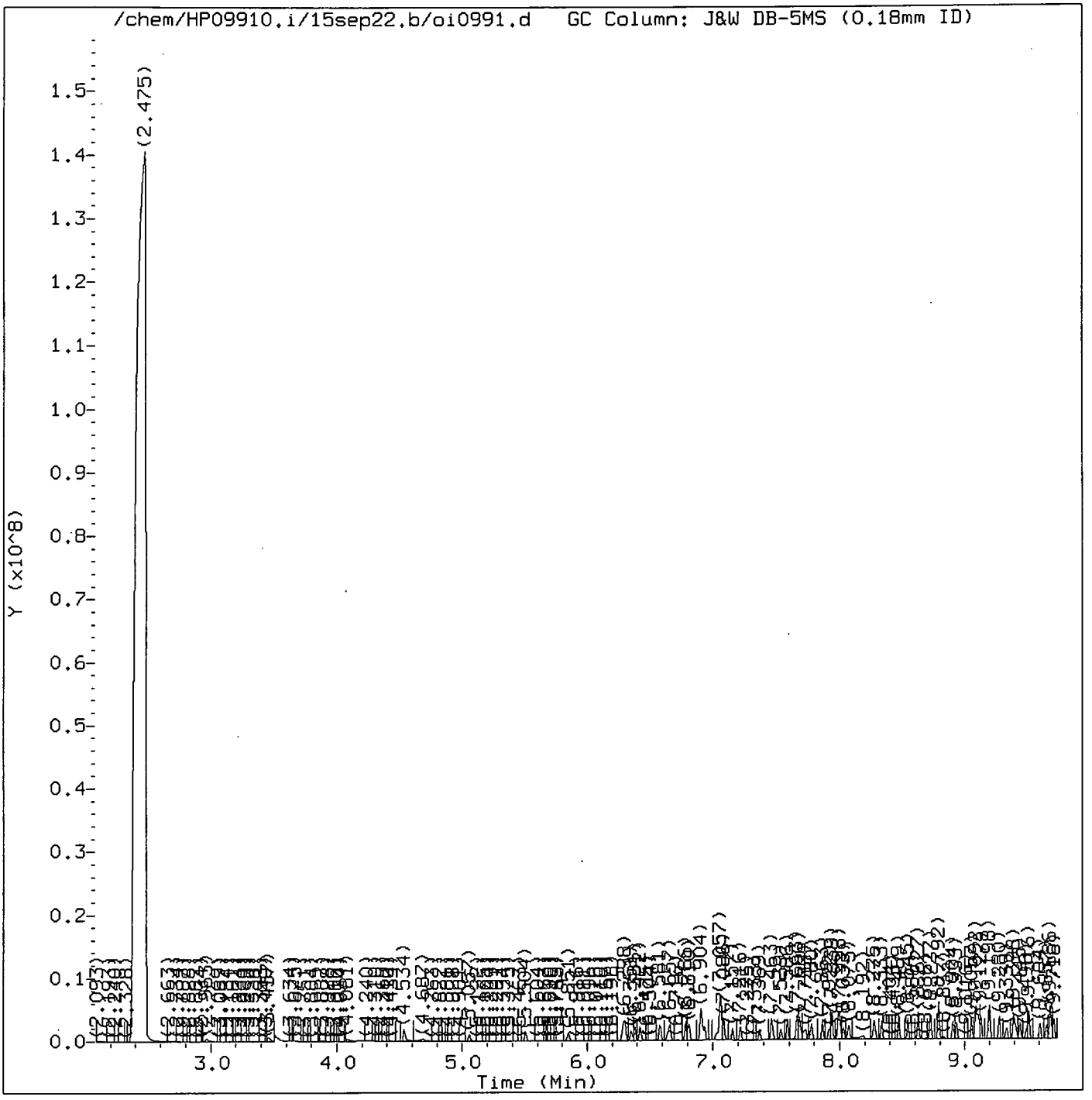
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

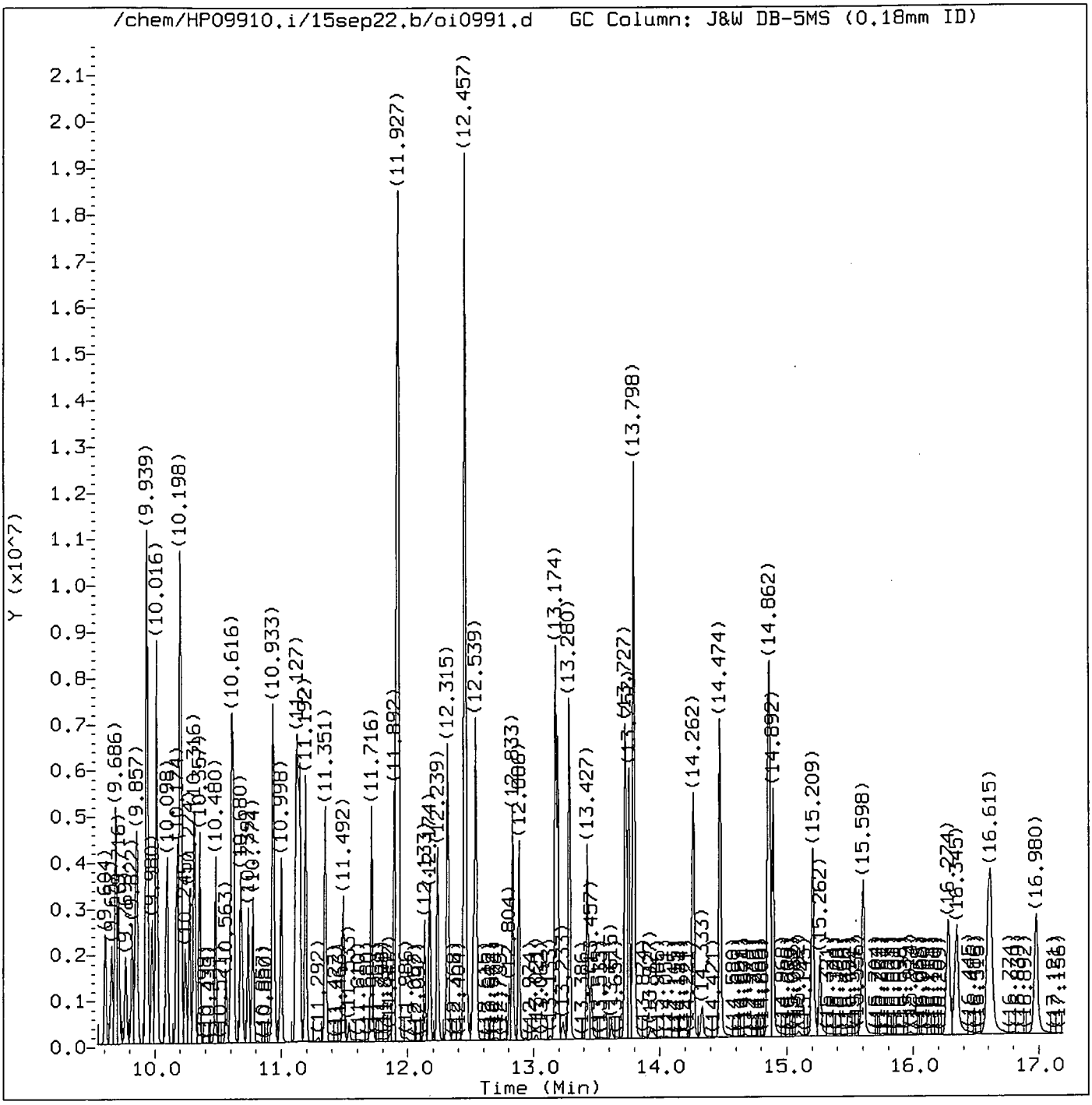
Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icval11
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:08 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 14:09.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icvall1
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:08 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

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on 09/22/2015 at 14:09.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icvall1
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:08 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.963	88	295486	51.497
4) N-Nitrosodimethylamine	(1)	3.457	74	449516	47.635
5) Pyridine	(1)	3.510	79	785979	51.423
7) 2-Picoline	(1)	4.534	93	809798	49.648
8) N-Nitrosomethylethylamine	(1)	4.687	88	371759	47.107
9) Methyl methanesulfonate	(1)	5.057	80	379848	48.858
13) N-Nitrosodiethylamine	(1)	5.510	102	350795	46.804
15) Ethyl methanesulfonate	(1)	5.845	109	347267	48.648
18) Phenol	(1)	6.286	94	1084293	49.731
19) Aniline	(1)	6.304	93	1241559	50.762
22) bis(2-Chloroethyl)ether	(1)	6.381	93	746223	48.145
23) 2-Chlorophenol	(1)	6.422	128	630673	49.517
24) 1,3-Dichlorobenzene	(1)	6.581	146	614855	50.532
25)*1,4-Dichlorobenzene-d4	(1)	6.645	152	153816	20.000
26) 1,4-Dichlorobenzene	(1)	6.657	146	632731	48.797
42) Total Cresols	(1)	6.660	100	1534907	102.064
27) Benzyl alcohol	(1)	6.786	108	524971	51.581
28) 1,2-Dichlorobenzene	(1)	6.810	146	611283	50.015
30) Indene	(1)	6.904	115	1126788	50.157
31) 2-Methylphenol	(1)	6.916	108	702039	50.970
34) bis(2-Chloroisopropyl)ether	(1)	6.933	45	1061323	52.251
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.933	45	1061323	52.251
35) N-Nitrosopyrrolidine	(1)	7.028	100	420186	50.325
36) Acetophenone	(1)	7.051	105	994088	49.275
37) 4-Methylphenol	(1)	7.057	108	832868	51.094
38) N-Nitroso-di-n-propylamine	(1)	7.063	70	614591	50.148
39) N-Nitrosomorpholine	(1)	7.069	56	482780	48.832
40) o-Toluidine	(1)	7.086	106	1189472	50.718
43) Hexachloroethane	(1)	7.157	117	247287	48.939
45) Nitrobenzene	(2)	7.216	77	801858	47.508
48) N-Nitrosopiperidine	(2)	7.369	114	364395	47.561
50) Isophorone	(2)	7.463	82	1717447	49.278
51) 2-Nitrophenol	(2)	7.539	139	344891	49.111
53) 2,4-Dimethylphenol	(2)	7.586	107	739320	47.933
57) O,O,O-Triethylphosphorothioate	(2)	7.663	198	321353	46.656
55) bis(2-Chloroethoxy)methane	(2)	7.686	93	1004766	51.360
56) Benzoic acid	(2)	7.733	105	1408586	95.952
60) 2,4-Dichlorophenol	(2)	7.780	162	538815	48.718
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	557658	49.620
65)*Naphthalene-d8	(2)	7.916	136	732769	20.000

* = Compound is an internal standard.

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on 09/22/2015 at 14:09.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icval11
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:08 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
66) Naphthalene	(2)	7.939	128	1981306	49.063
67) 4-Chloroaniline	(2)	7.992	127	876072	48.470
68) 2,6-Dichlorophenol	(2)	8.004	162	524544	48.322
69) Hexachloropropene	(2)	8.033	213	294525	51.139
71) Hexachlorobutadiene	(2)	8.075	225	256756	46.103
75) Quinoline	(2)	8.275	129	1389790	48.100
77) N-Nitrosodi-n-butylamine	(2)	8.333	84	582780	40.824
80) 4-Chloro-3-methylphenol	(2)	8.469	107	718249	48.120
82) Safrole	(2)	8.545	162	502985	46.682
83) 2-Methylnaphthalene	(2)	8.627	142	1275129	44.814
97) Isosafrole	(3)	8.630	162	639194	52.011
84) 1-Methylnaphthalene	(2)	8.727	142	1214526	47.611
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.792	216	522467	50.052
85) Hexachlorocyclopentadiene	(3)	8.792	237	516008	102.850
88) cis-Isosafrole	(3)	8.827	162	69954	6.392
90) 2,4,6-Trichlorophenol	(3)	8.904	196	400082	52.584
92) 2,4,5-Trichlorophenol	(3)	8.933	196	414138	48.825
94) trans-Isosafrole	(3)	9.057	162	569240	45.619
95) 1,1'-Biphenyl	(3)	9.092	154	1650015	49.157
96) 2-Chloronaphthalene	(3)	9.110	162	1533068M	59.309
98) 1-Chloronaphthalene	(3)	9.127	162	1191993M	49.503
99) Diphenyl ether	(3)	9.198	170	855196	50.344
100) 2-Nitroaniline	(3)	9.204	138	471666	52.510
104) 1,4-Naphthoquinone	(3)	9.280	158	711702	64.600
105) 1,4-Dinitrobenzene	(3)	9.339	168	238146	49.743
106) Dimethylphthalate	(3)	9.398	163	1543517	50.124
120) 2,4_2,6-Dinitrotoluenes	(3)	9.400	165	882832	103.223
107) 1,3-Dinitrobenzene	(3)	9.416	168	276930	50.477
108) 2,6-Dinitrotoluene	(3)	9.445	165	373535	52.535
109) Acenaphthylene	(3)	9.516	152	2029957	51.505
112) 3-Nitroaniline	(3)	9.610	138	425886	52.135
113)*Acenaphthene-d10	(3)	9.657	164	443925	20.000
114) Acenaphthene	(3)	9.686	153	1404666	51.491
115) 2,4-Dinitrophenol	(3)	9.716	184	523418	95.607
116) 4-Nitrophenol	(3)	9.769	109	230962	52.358
117) Pentachlorobenzene	(3)	9.822	250	465837	49.430
118) 2,4-Dinitrotoluene	(3)	9.845	165	509297	50.687
119) Dibenzofuran	(3)	9.857	168	1886164	50.373
121) 1-Naphthylamine	(3)	9.939	143	3087267	101.447
122) 2,3,4,6-Tetrachlorophenol	(3)	9.980	232	369942	51.226

M = Compound was manually integrated.
* = Compound is an internal standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icvall1
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:08 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
123) 2-Naphthylamine	(3)	10.016	143	3149473	104.527
124) Diethylphthalate	(3)	10.098	149	1544510	51.176
125) Thionazin	(3)	10.174	107	305362	49.058
126) Fluorene	(3)	10.198	166	1646319	52.508
146) Diallate trans/cis	(4)	10.200	86	870719	44.745
128) 5-Nitro-o-toluidine	(3)	10.204	152	500966	53.739
127) 4-Chlorophenyl-phenylether	(3)	10.204	204	738547	50.645
129) 4-Nitroaniline	(3)	10.216	138	482858	53.221
130) 4,6-Dinitro-2-methylphenol	(4)	10.245	198	338794	50.588
131) N-Nitrosodiphenylamine	(4)	10.316	169	1409571	49.026
132) NDPA as diphenylamine	(4)	10.316	169	1409571	48.132
134) 1,2-Diphenylhydrazine	(4)	10.357	77	1965548	50.103
137) Tetraethyldithiopyrophosphate	(4)	10.480	97	269790	48.215
139) 1,3,5-Trinitrobenzene	(4)	10.569	213	191069	44.618
140) Diallate (peak 1)	(4)	10.604	86	656633	33.591
141) Phorate	(4)	10.616	75	1288228	48.785
142) Phenacetin	(4)	10.621	108	989788	49.766
143) 4-Bromophenyl-phenylether	(4)	10.680	248	397137	49.355
144) Diallate (peak 2)	(4)	10.692	86	214086	11.153
145) Hexachlorobenzene	(4)	10.739	284	397941	46.472
147) Dimethoate	(4)	10.774	87	806481	45.849
149) Pentachlorophenol	(4)	10.933	266	304302	53.559
150) 4-Aminobiphenyl	(4)	10.933	169	1850582	69.938
151) Pentachloronitrobenzene	(4)	10.945	237	146375	46.232
152) Pronamide	(4)	10.998	173	662685	49.088
154) Dinoseb	(4)	11.116	211	439901	51.164
153)*Phenanthrene-d10	(4)	11.121	188	902132	20.000
155) Phenanthrene	(4)	11.145	178	2495714	47.637
157) Anthracene	(4)	11.192	178	2598881	50.197
163) Carbazole	(4)	11.351	167	2395578	48.965
164) Methyl parathion	(4)	11.492	109	592405	48.622
165) Di-n-butylphthalate	(4)	11.716	149	2860222	50.248
167) Parathion	(4)	11.886	109	395742	51.891
168) 4-Nitroquinoline-1-oxide	(4)	11.927	190	3874504	736.389
171) Isodrin	(4)	12.174	193	246560	46.882
173) Fluoranthene	(4)	12.315	202	2786484	48.937
174) Benzidine	(5)	12.457	184	9702682	269.849
175)*Pyrene-d10	(5)	12.521	212	1035615	20.000
177) Pyrene	(5)	12.539	202	2911225	47.121
182) p-Dimethylaminoazobenzene	(5)	12.833	225	601605	52.888

* = Compound is an internal standard.

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on 09/22/2015 at 14:09.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icvall1
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:08 lmh00956

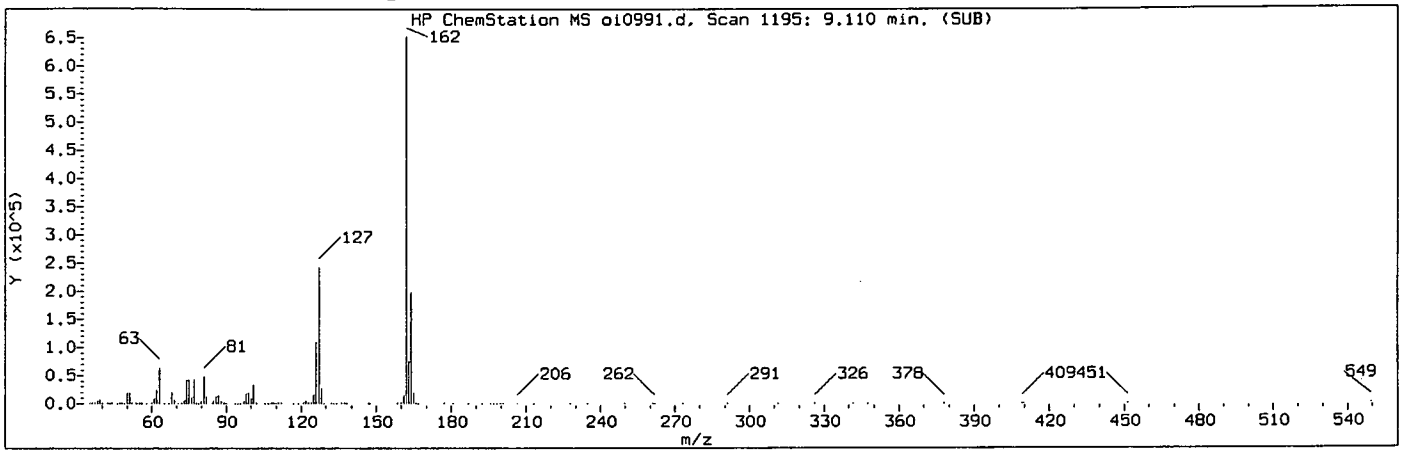
Sample Name: SSTD050 Lab Sample ID: ICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
185) Chlorobenzilate	(5)	12.886	139	798203	49.744
187) 3,3'-Dimethylbenzidine	(5)	13.174	212	3300853	102.954
188) Butylbenzylphthalate	(5)	13.192	149	1346008	49.589
191) 2-Acetylaminofluorene	(5)	13.427	181	1232222	49.998
193) 3,3'-Dichlorobenzidine	(5)	13.727	252	879551	48.035
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.733	231	488900	47.618
195) Benzo(a)anthracene	(5)	13.757	228	2636252	48.951
196) Chrysene	(5)	13.792	228	2583213	50.341
199) bis(2-Ethylhexyl)phthalate	(5)	13.798	149	1863610	49.104
203) 6-Methylchrysene	(5)	14.262	242	1763276	48.710
205) Di-n-octylphthalate	(6)	14.474	149	3273794	51.743
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.856	256	1113777	47.896
206) Benzo(b)fluoranthene	(6)	14.862	252	2546425	52.823
208) Benzo(k)fluoranthene	(6)	14.892	252	2381606	48.418
211) Benzo(a)pyrene	(6)	15.209	252	2245839	47.170
213)*Perylene-d12	(6)	15.262	264	768149	20.000
215) 3-Methylcholanthrene	(6)	15.604	268	1205260	53.853
222) Total PAHs	(6)	16.000	100	34381958	786.863
219) Indeno(1,2,3-cd)pyrene	(6)	16.598	276	2421540	48.831
220) Dibenz(a,h)anthracene	(6)	16.621	278	2110913	50.602
221) Benzo(g,h,i)perylene	(6)	16.980	276	2039994	50.084

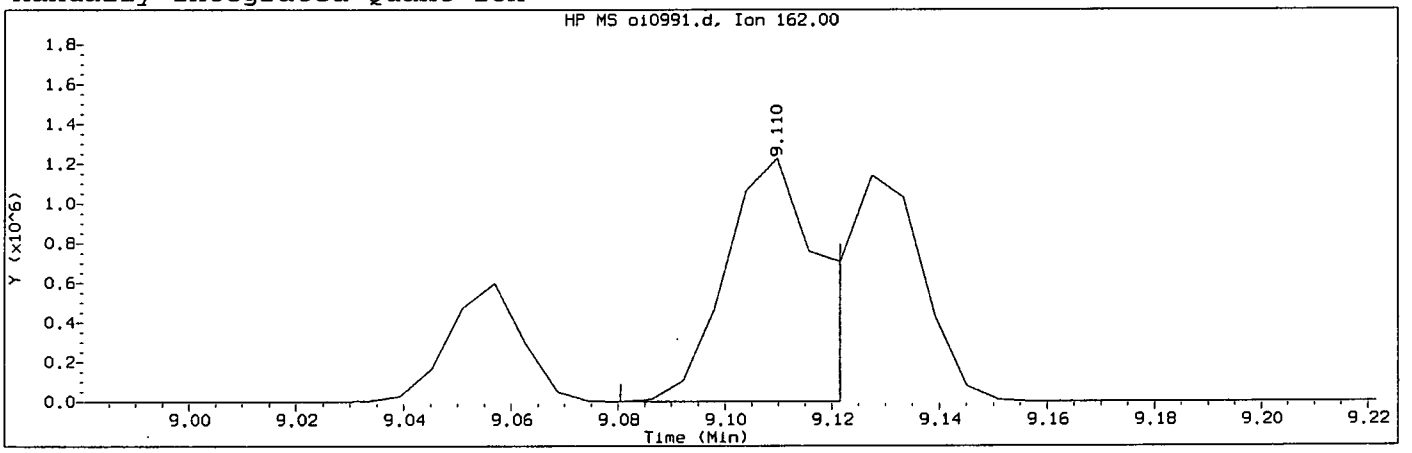
* = Compound is an internal standard.

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 14:09.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icval11
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:08 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area (flag)	: 1533068M		
On-Column Amount (ng/ul)	: 59.3094		
Integration start scan	: 1189	Integration stop scan:	1196
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

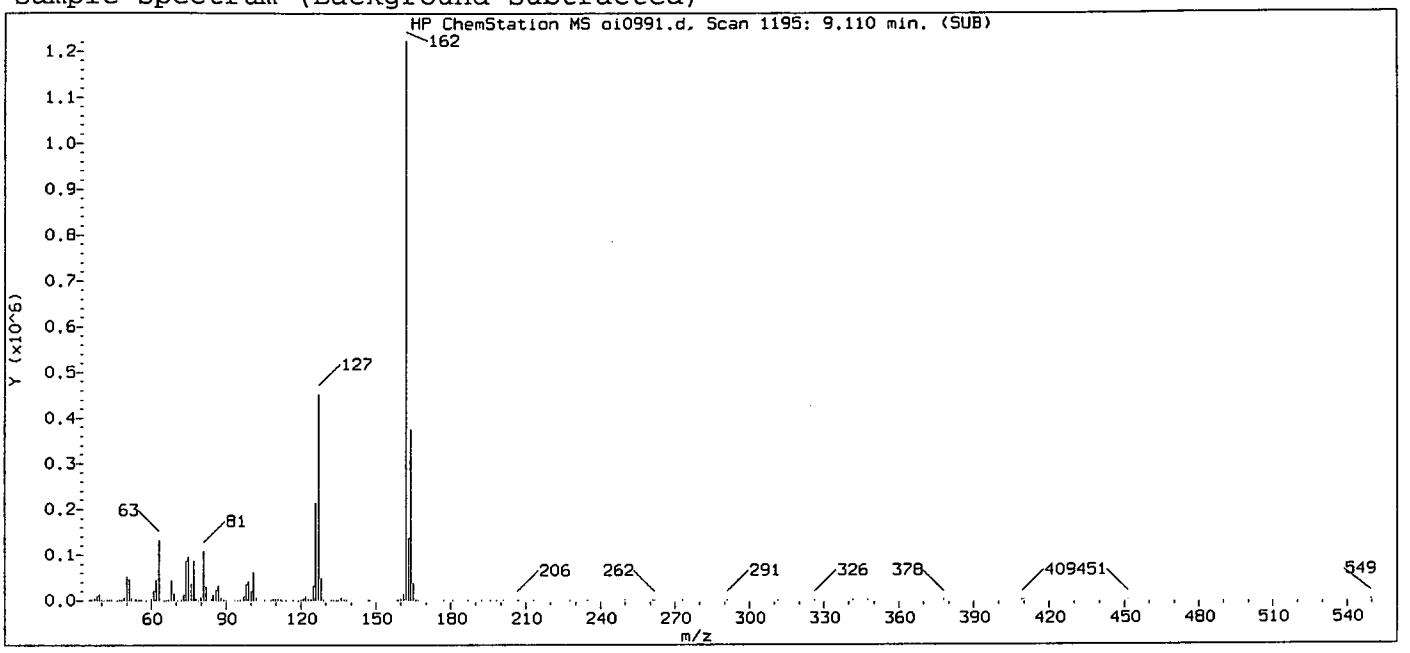
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 14:09. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

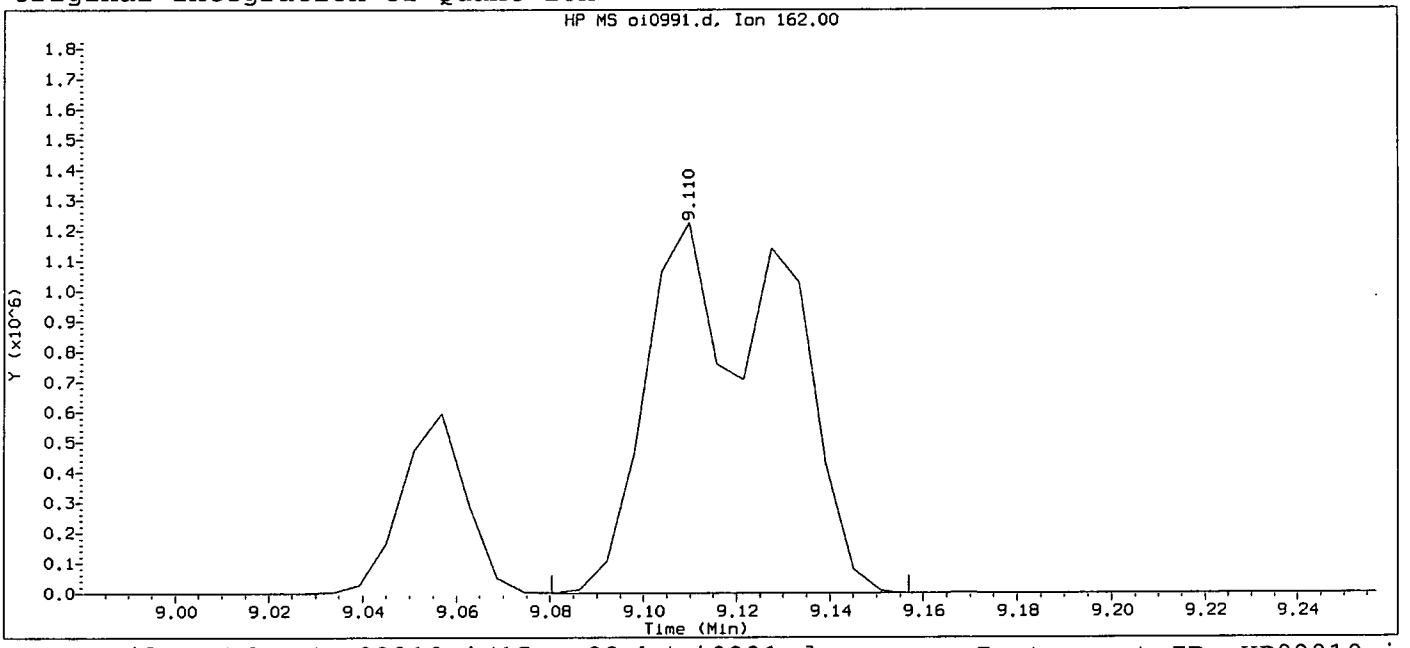
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

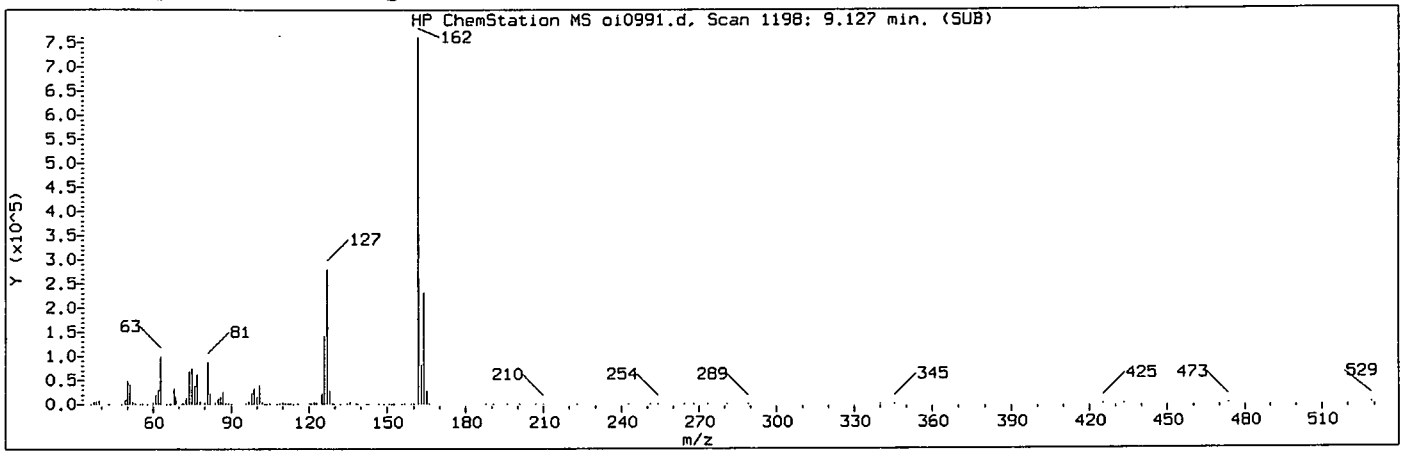
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icval11
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:07 Automation

Sample Name: SSTD050 Lab Sample ID: ICV2465

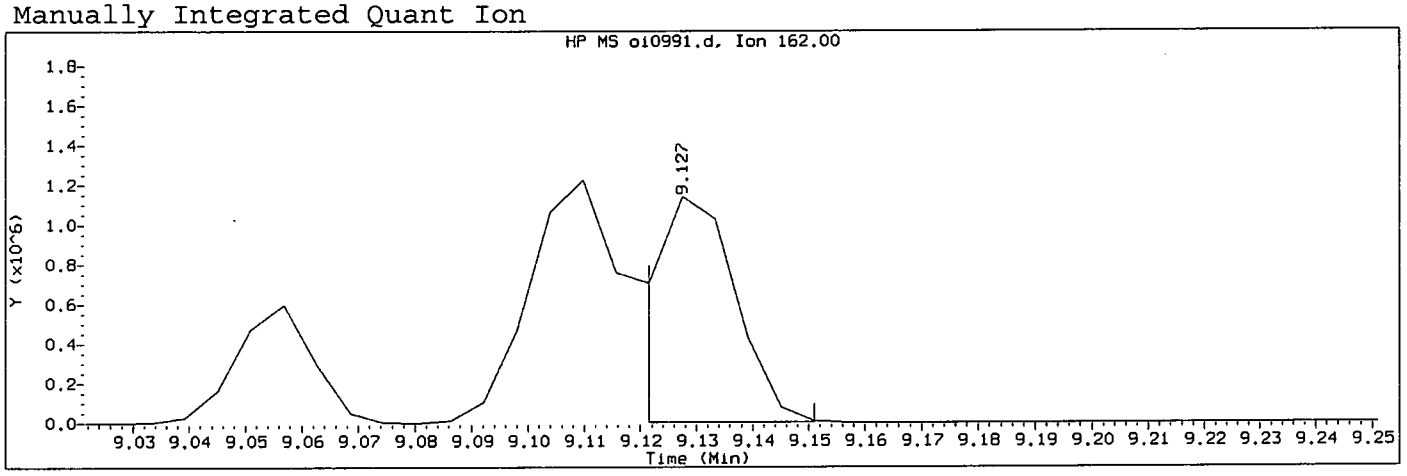
Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area	: 2481340		
On-column Amount (ng/ul)	: 95.9949		
Integration start scan	: 1189	Integration stop scan:	1202
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 14:09.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icvall1
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:08 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1198		
Retention Time (minutes)	: 9.127		
Quant Ion	: 162.00		
Area (flag)	: 1191993M		
On-Column Amount (ng/ul)	: 49.5029		
Integration start scan	: 1196	Integration stop scan:	1201
Y at integration start	: 2828	Y at integration end:	2828

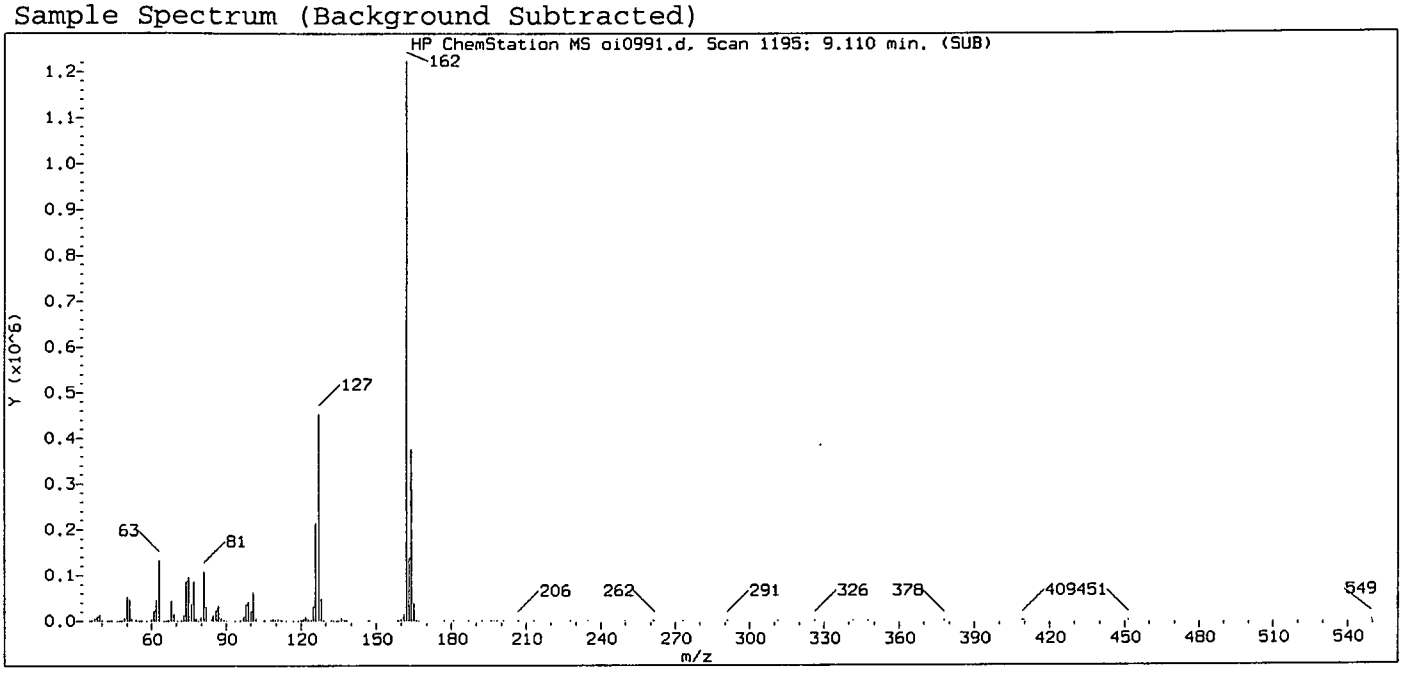
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 14:09. Target 3.5 esignature user ID: lmh00956

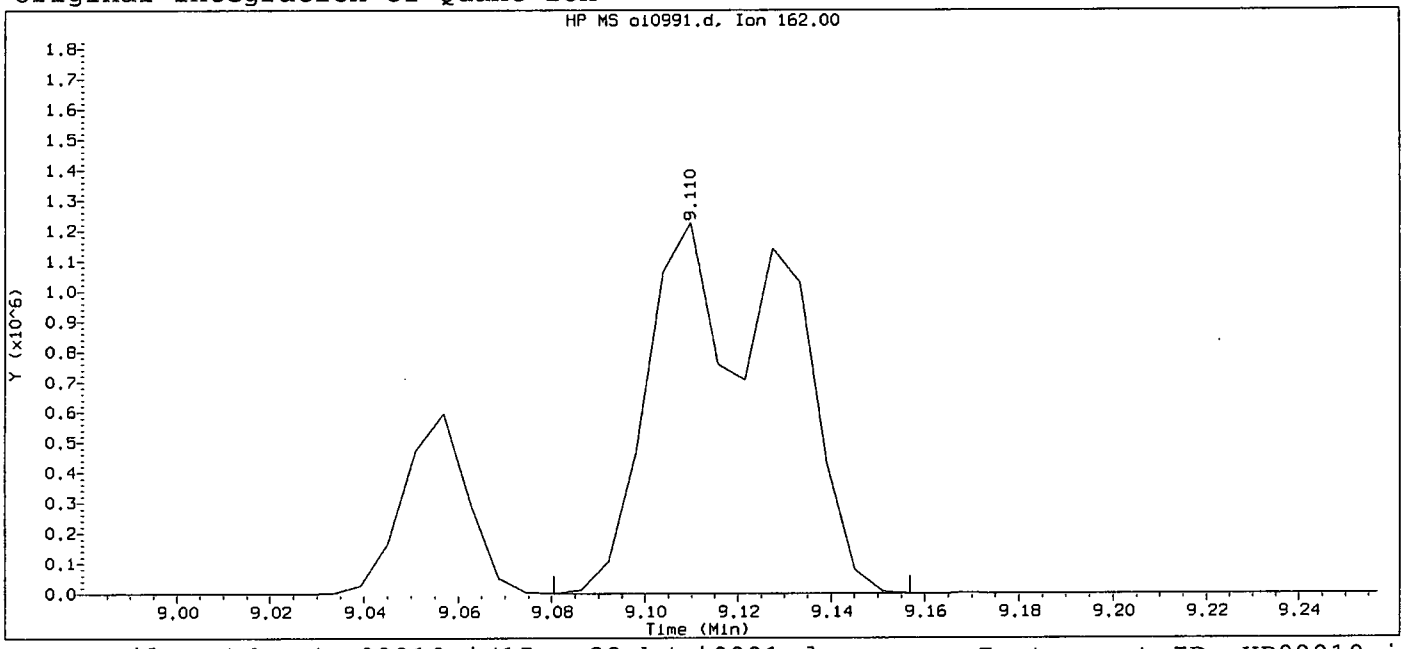
GC/MS audit/management approval: SEP 23 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icval11
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:07 Automation

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area	: 2481340		
On-column Amount (ng/ul)	: 103.0490		
Integration start scan	: 1189	Integration stop scan:	1202
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 14:09.
Target 3.5 esignature user ID: lmh00956

Data File: /chem/HP09910.i/15sep25a.b/oi1160.d

Date : 25-SEP-2015 19:45

Client ID: DFTPP50

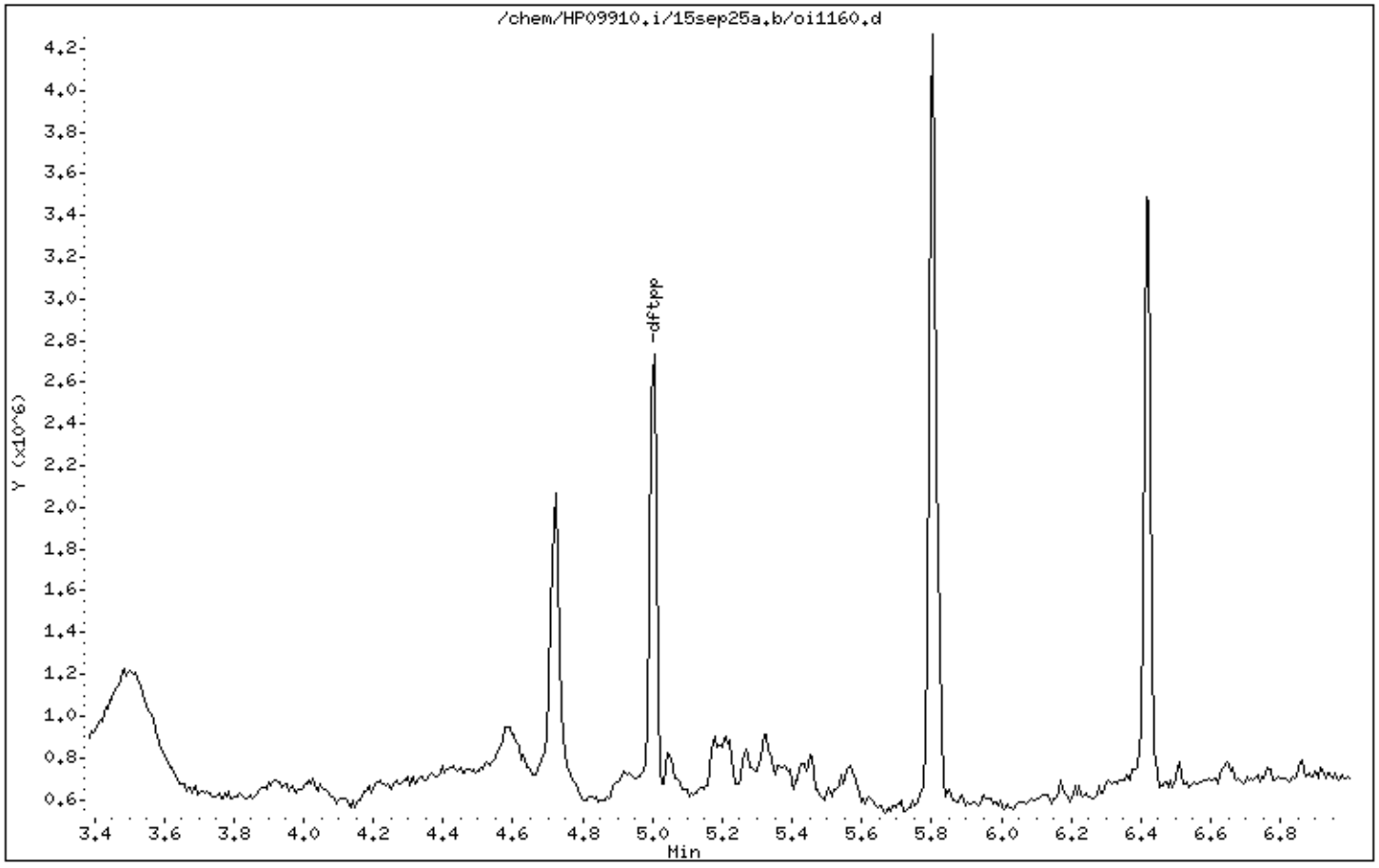
Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: ceb05247

Column phase: JW DB-5MS

Column diameter: 0.18



Digitally signed by Catherine E. Bachman on 09/25/2015 at 20:21.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP09910.i/15sep25a.b/oi1160.d

Date : 25-SEP-2015 19:45

Client ID: DFTPP50

Instrument: HP09910.i

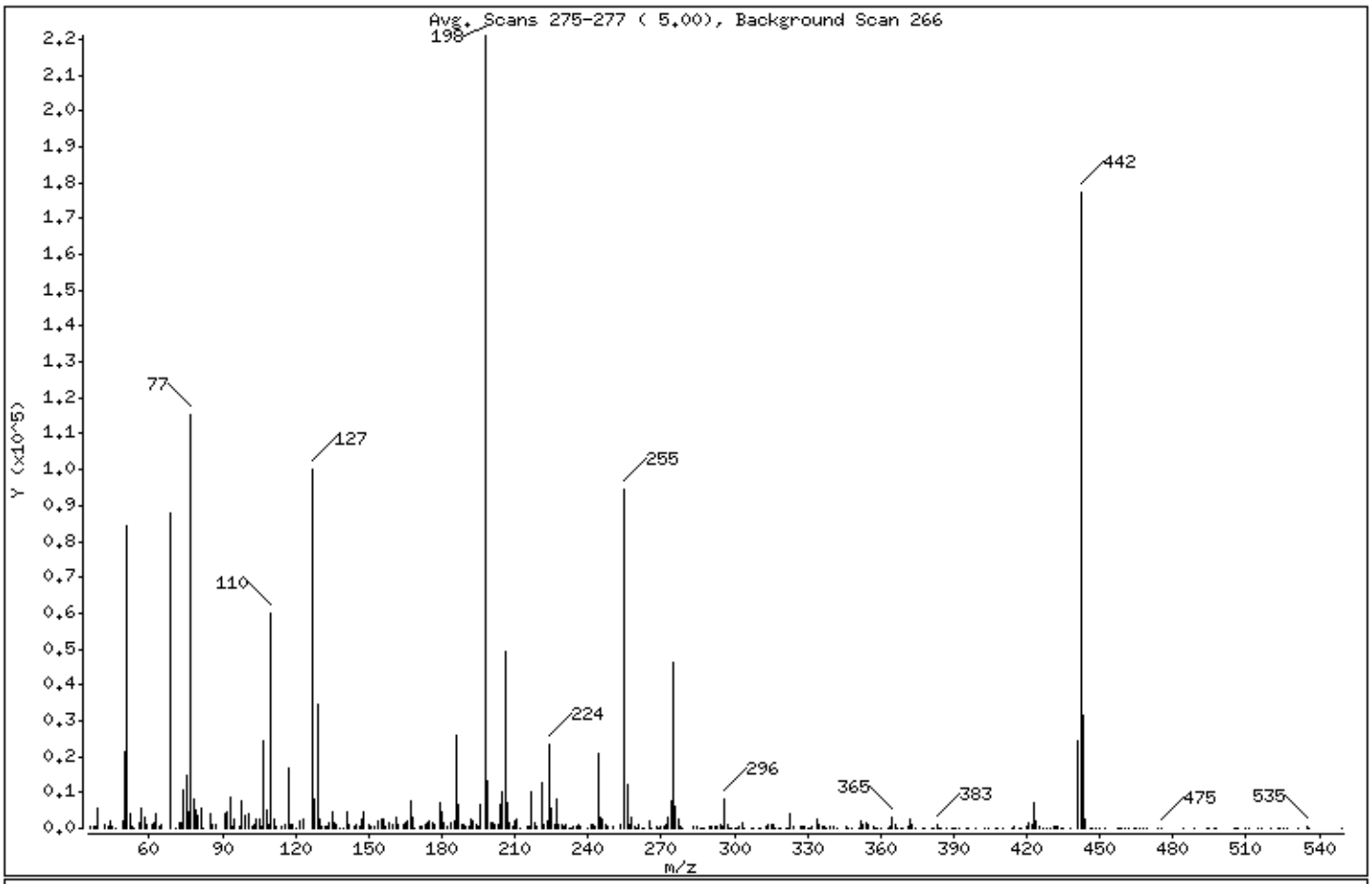
Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: ceb05247

Column phase: JW DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	38.09
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	39.66
70	Less than 2.00% of mass 69	0.00 (0.00)
127	40.00 - 60.00% of mass 198	45.22
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.08
275	10.00 - 30.00% of mass 198	21.01
365	Greater than 1.00% of mass 198	1.37
441	Present, but less than mass 443	10.99
442	40.00 - 99.99% of mass 198	80.31
443	17.00 - 23.00% of mass 442	14.14 (17.61)

Digitally signed by Catherine E. Bachman on 09/25/2015 at 20:21.
Target 3.5 esignature user ID: ceb05247

Date : 25-SEP-2015 19:45

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: ceb05247

Column phase: JW DB-5MS Column diameter: 0.18

Data File: oi1160.d
Spectrum: Avg. Scans 275-277 (5.00), Background Scan 266
Location of Maximum: 198.00
Number of points: 354

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	362	151.00	387	256.00	12307	369.00	145
37.00	354	152.00	330	257.00	920	371.00	455
38.00	706	154.00	2079	258.00	2936	372.00	2640
39.00	5365	155.00	2519	259.00	560	373.00	841
42.00	845	156.00	2656	260.00	152	374.00	230
43.00	256	157.00	598	261.00	1063	377.00	183
44.00	1991	158.00	1711	262.00	55	378.00	197
45.00	283	160.00	1182	263.00	243	381.00	210
46.00	79	161.00	2888	265.00	1977	382.00	138
49.00	1960	162.00	1101	266.00	163	383.00	776
50.00	21264	164.00	841	268.00	762	384.00	251
51.00	84184	165.00	1336	269.00	167	385.00	58
52.00	4044	166.00	1823	270.00	597	387.00	167
53.00	404	167.00	7704	271.00	583	389.00	73
54.00	187	168.00	3225	272.00	1097	390.00	169
56.00	1666	169.00	43	273.00	3212	391.00	217
57.00	5618	171.00	751	274.00	7484	392.00	113
58.00	2854	172.00	713	275.00	46432	395.00	169
59.00	933	173.00	980	276.00	6194	396.00	166
61.00	1180	174.00	1684	277.00	2717	399.00	215
62.00	1284	175.00	2145	278.00	649	403.00	236
63.00	4113	176.00	1369	279.00	118	404.00	239
64.00	502	177.00	1027	283.00	398	407.00	121
65.00	1221	179.00	6940	285.00	664	408.00	84
69.00	87640	180.00	4671	286.00	77	410.00	143
71.00	245	181.00	1630	287.00	109	414.00	154
72.00	1408	182.00	620	288.00	129	415.00	353
73.00	1482	184.00	1480	290.00	304	417.00	52
74.00	10425	185.00	1934	291.00	384	418.00	53
75.00	14489	186.00	26040	292.00	399	420.00	353
76.00	4679	187.00	6719	293.00	758	421.00	1352
77.00	115344	188.00	1157	294.00	1051	422.00	1007
78.00	8152	189.00	1162	295.00	608	423.00	7036
79.00	4981	190.00	282	296.00	8377	424.00	1859
80.00	3806	191.00	546	297.00	1050	425.00	329

Digitally signed by Catherine E. Bachman on 09/25/2015 at 20:21.
Target 3.5 esignature user ID: ceb05247

Date : 25-SEP-2015 19:45

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: ceb05247

Column phase: JW DB-5MS Column diameter: 0.18

Data File: oi1160.d
Spectrum: Avg. Scans 275-277 (5.00), Background Scan 266
Location of Maximum: 198.00
Number of points: 354

m/z	Y	m/z	Y	m/z	Y	m/z	Y
81.00	5588	192.00	2298	298.00	109	427.00	66
82.00	73	193.00	2235	299.00	243	428.00	140
85.00	3973	194.00	1164	300.00	81	430.00	245
86.00	768	195.00	581	301.00	212	431.00	338
87.00	779	196.00	6718	302.00	282	432.00	499
91.00	4123	198.00	220992	303.00	1315	433.00	404
92.00	4802	199.00	13429	304.00	67	434.00	65
93.00	8474	200.00	1418	307.00	224	435.00	58
94.00	655	201.00	1409	308.00	118	438.00	237
95.00	2650	202.00	782	310.00	247	441.00	24288
97.00	581	203.00	889	311.00	158	442.00	177472
98.00	7574	204.00	6822	313.00	354	443.00	31248
99.00	3540	205.00	10285	314.00	904	444.00	2620
101.00	4128	206.00	49304	315.00	993	446.00	179
102.00	491	207.00	6895	316.00	950	447.00	62
103.00	1029	208.00	1382	317.00	93	448.00	139
104.00	2444	209.00	474	318.00	107	450.00	104
105.00	2353	210.00	1801	319.00	213	452.00	84
106.00	449	211.00	2714	321.00	138	457.00	82
107.00	24136	212.00	225	322.00	189	458.00	69
108.00	5033	215.00	741	323.00	4223	459.00	69
109.00	1215	216.00	693	324.00	426	460.00	114
110.00	60104	217.00	10023	327.00	506	462.00	84
111.00	2392	218.00	1542	328.00	729	464.00	89
112.00	567	219.00	635	329.00	267	465.00	51
114.00	310	221.00	12905	330.00	91	466.00	79
116.00	886	222.00	781	331.00	55	468.00	112
117.00	16696	223.00	1905	332.00	296	469.00	83
118.00	953	224.00	23600	334.00	2689	474.00	55
119.00	1195	225.00	5551	335.00	798	475.00	235
120.00	240	226.00	783	336.00	264	484.00	56
122.00	1948	227.00	8374	337.00	257	489.00	147
123.00	2313	228.00	878	338.00	78	494.00	67
127.00	99928	229.00	1124	339.00	385	495.00	67
128.00	8263	230.00	276	341.00	346	497.00	111

Digitally signed by Catherine E. Bachman on 09/25/2015 at 20:21.
Target 3.5 esignature user ID: ceb05247

Date : 25-SEP-2015 19:45

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: ceb05247

Column phase: JW DB-5MS Column diameter: 0.18

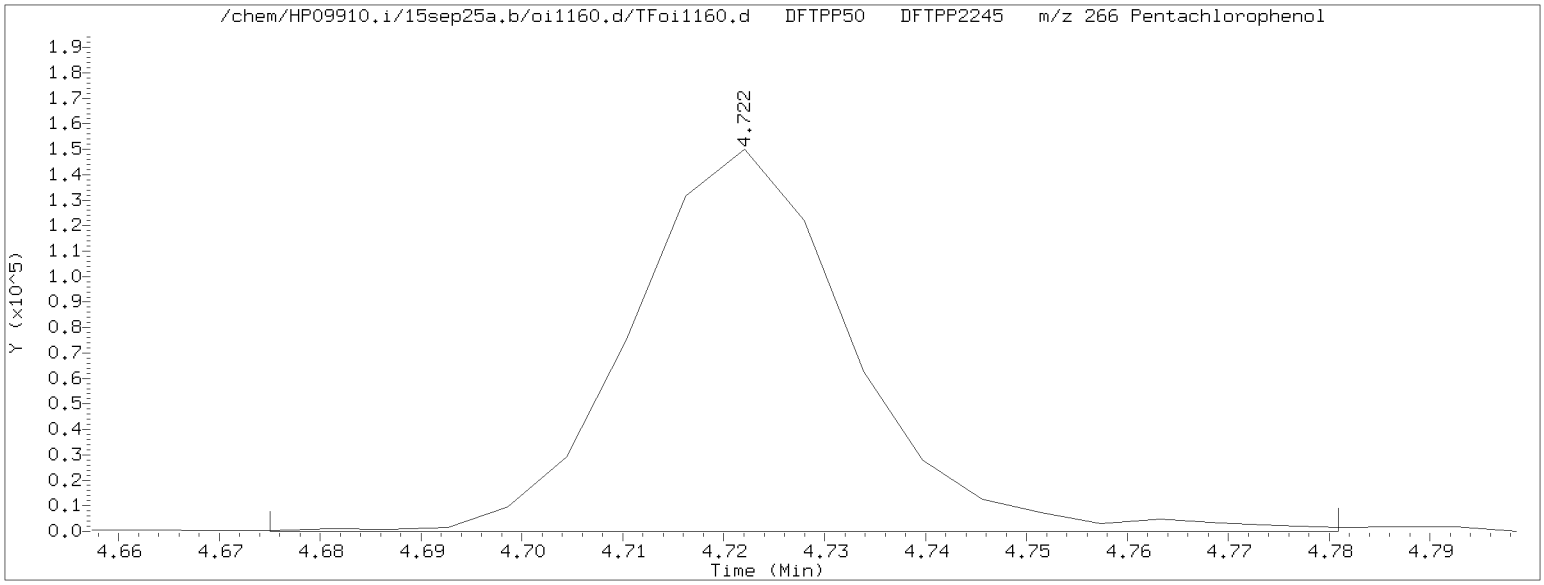
Data File: oi1160.d
Spectrum: Avg. Scans 275-277 (5.00), Background Scan 266
Location of Maximum: 198.00
Number of points: 354

m/z	Y	m/z	Y	m/z	Y	m/z	Y
129.00	34616	231.00	1145	342.00	2	498.00	72
130.00	2595	232.00	179	346.00	557	505.00	130
131.00	365	233.00	137	347.00	52	506.00	155
132.00	275	234.00	267	348.00	81	507.00	59
133.00	366	235.00	391	351.00	203	510.00	74
134.00	1754	236.00	888	352.00	1837	511.00	100
135.00	4616	237.00	310	353.00	916	515.00	77
136.00	1537	240.00	15	354.00	1658	516.00	69
137.00	831	241.00	881	355.00	842	520.00	92
138.00	222	242.00	1059	357.00	314	523.00	106
140.00	194	243.00	432	358.00	146	524.00	184
141.00	4458	244.00	20616	359.00	184	525.00	55
142.00	1252	245.00	2918	360.00	69	527.00	144
144.00	414	246.00	2480	363.00	178	531.00	59
145.00	944	247.00	1186	364.00	338	535.00	257
146.00	364	248.00	541	365.00	3019	536.00	97
147.00	2581	250.00	274	366.00	941	549.00	208
148.00	4584	253.00	815	367.00	92		
150.00	960	255.00	94576	368.00	84		

Digitally signed by Catherine E. Bachman on 09/25/2015 at 20:21.
Target 3.5 esignature user ID: ceb05247

Assessment of GC Column Performance and Injection Port Inertness for

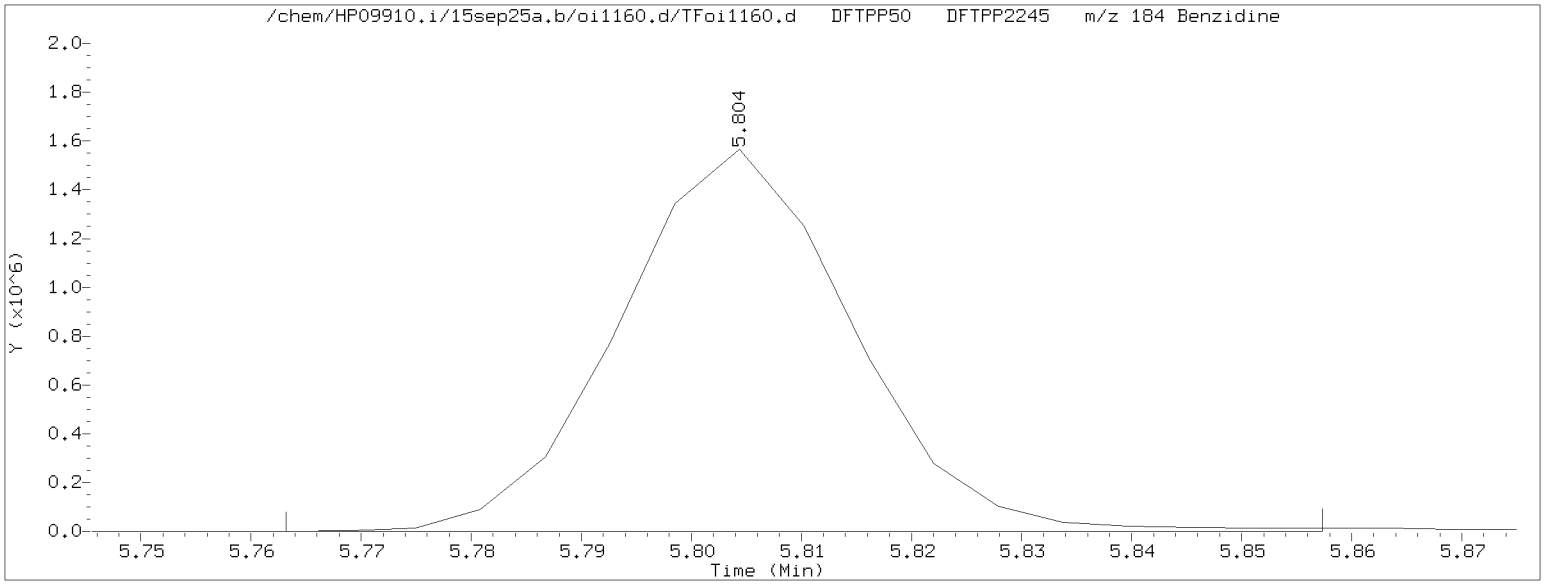
Instrument ID: HP09910.i Injection Date: 25-SEP-2015 19:45 Operator: ceb05247



Pentachlorophenol EICP peak height = 150080 EICP peak height at 10% = 15008 Pentachlorophenol EICP area = 227825

Pentachlorophenol EICP peak apex (min.) = 4.722
RT at 10% of front half of EICP (min.) = 4.700 'Front' peak width (min.) = 0.0216666667
RT at 10% of back half of EICP (min.) = 4.744 'Tailing' peak width (min.) = 0.0222833333

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0222833333}{0.0216666667} = 1.028$$



Benzidine EICP peak height = 1567113 EICP peak height at 10% = 156711 Benzidine EICP area = 2303847

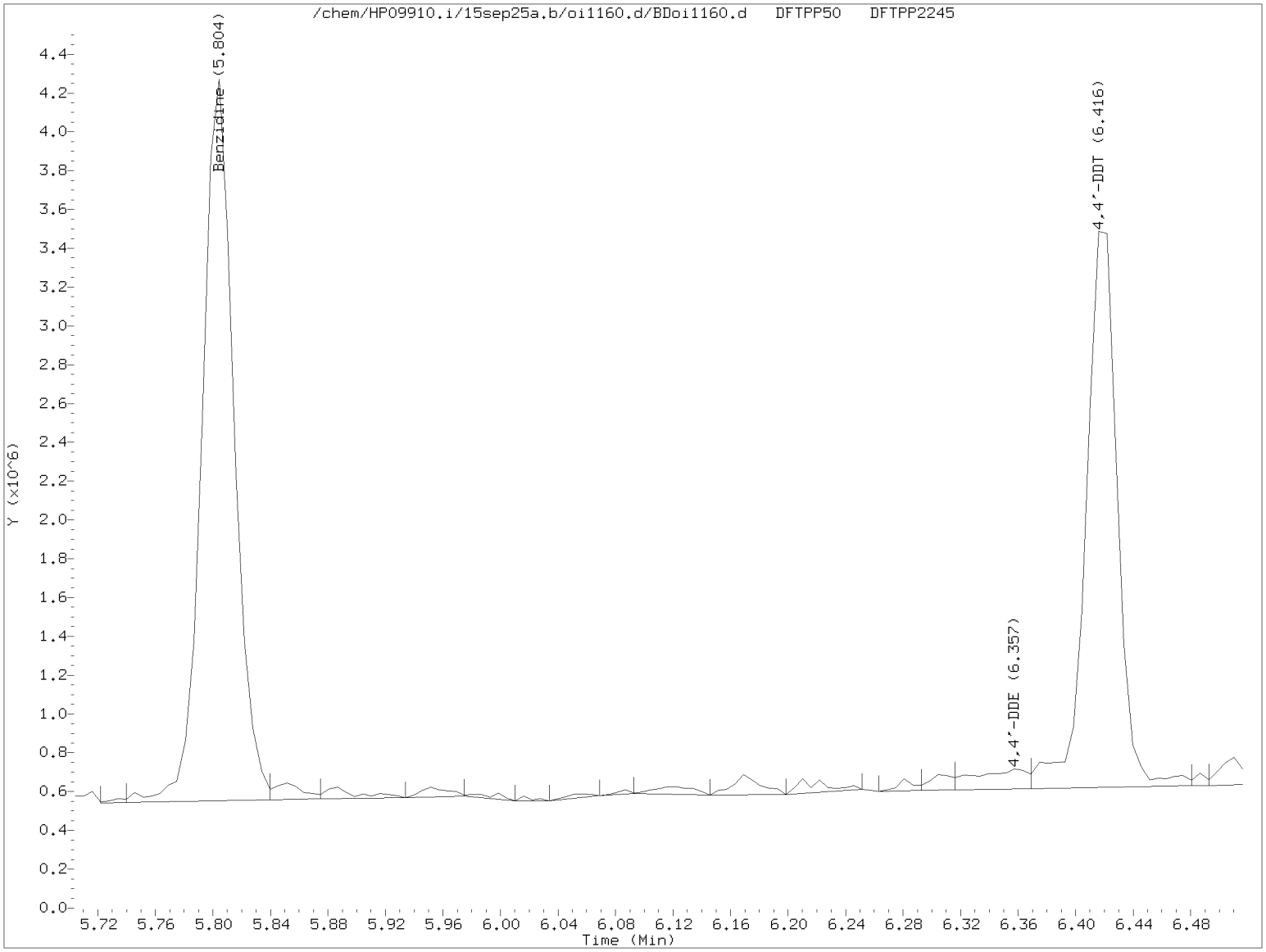
Benzidine EICP peak apex (min.) = 5.804
RT at 10% of front half of EICP (min.) = 5.783 'Front' peak width (min.) = 0.0215500000
RT at 10% of back half of EICP (min.) = 5.826 'Tailing' peak width (min.) = 0.0214833333

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0214833333}{0.0215500000} = 0.997$$

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28. Parallax ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

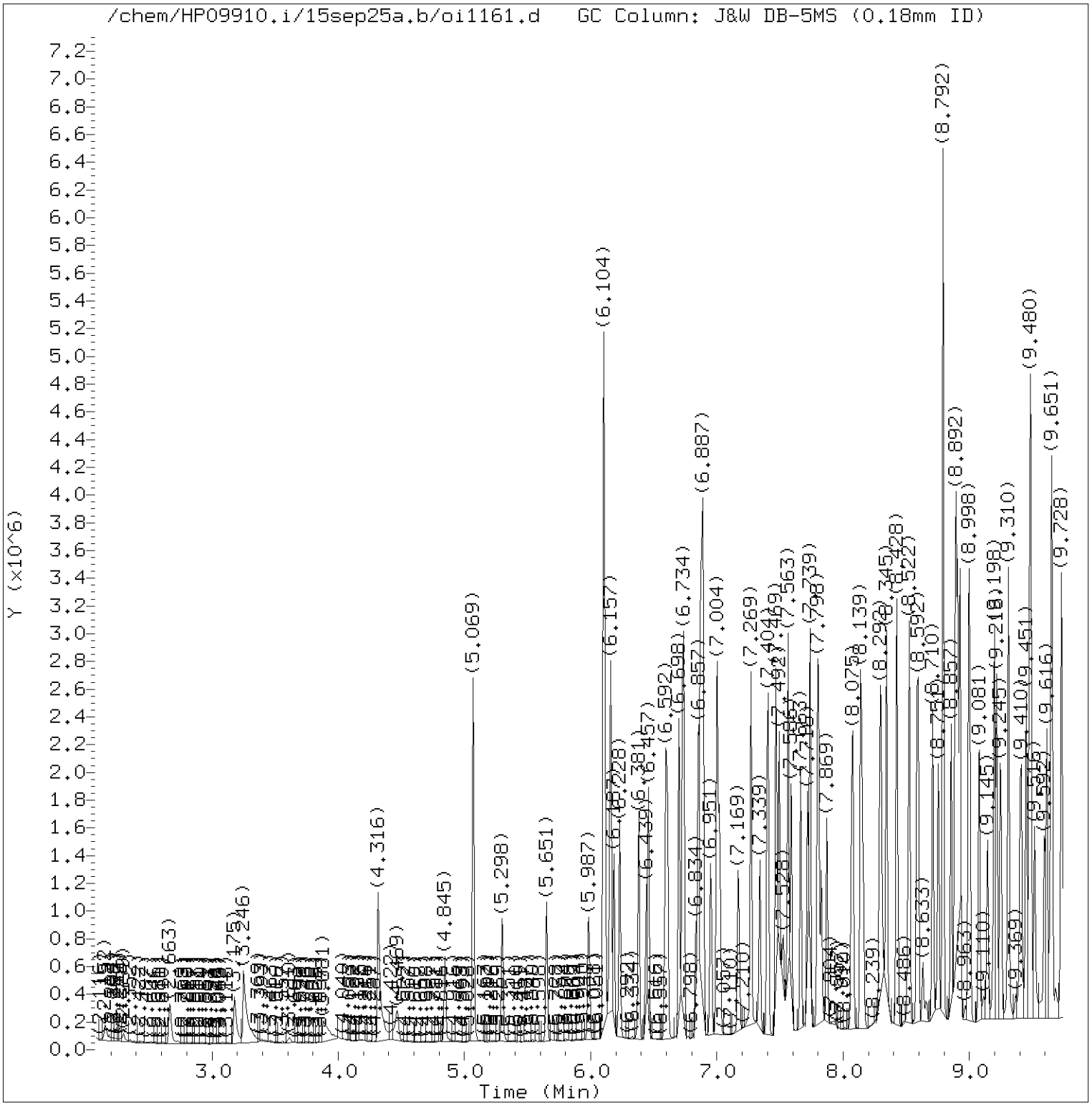
Instrument ID: HP09910.i Injection Date: 25-SEP-2015 19:45 Operator: ceb05247



$$\%\ 4,4'\text{-DDT breakdown} = \frac{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area}}{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area} + 4,4'\text{-DDT TIC area}} \times 100$$

$$\%\ 4,4'\text{-DDT breakdown} = \frac{254868 + 0}{254868 + 0 + 4424679} \times 100 = 5.4$$

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

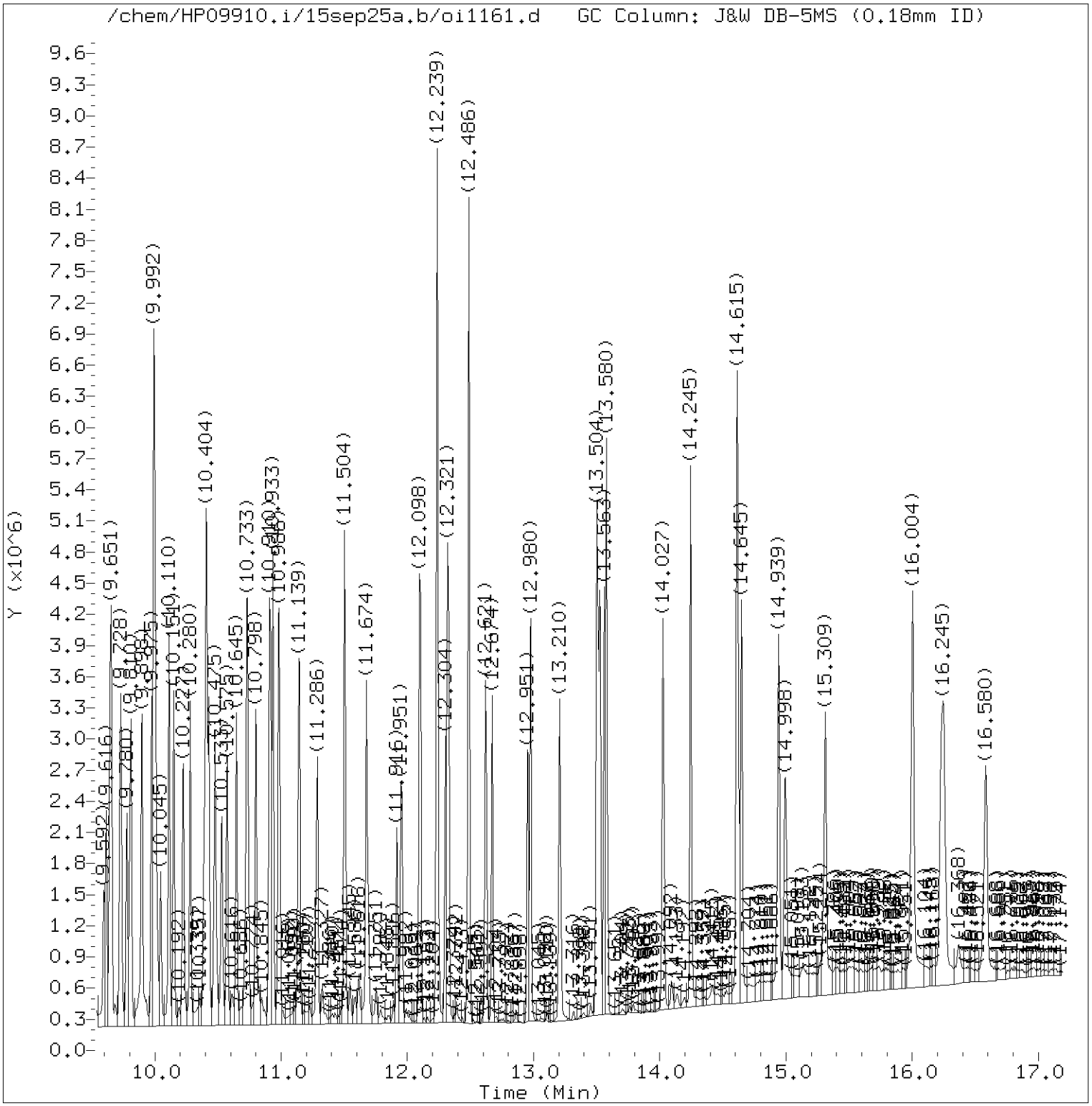
Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1161.d Instrument ID: HP09910.i
Injection date and time: 25-SEP-2015 19:59 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: all1
Calibration date and time: 25-SEP-2015 20:19
Date, time and analyst ID of latest file update: 25-Sep-2015 20:19 ceb05247

Sample Name: SSTD030 Lab Sample ID: STD2575

Digitally signed by Catherine E. Bachman
on 09/25/2015 at 20:22.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1161.d Instrument ID: HP09910.i
Injection date and time: 25-SEP-2015 19:59 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: all1
Calibration date and time: 25-SEP-2015 20:19
Date, time and analyst ID of latest file update: 25-Sep-2015 20:19 ceb05247

Sample Name: SSTD030 Lab Sample ID: STD2575

Digitally signed by Catherine E. Bachman
on 09/25/2015 at 20:22.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1161.d Instrument ID: HP09910.i
Injection date and time: 25-SEP-2015 19:59 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: all1
Calibration date and time: 25-SEP-2015 20:19
Date, time and analyst ID of latest file update: 25-Sep-2015 20:19 ceb05247

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.663	88	191170	30.261
4) N-Nitrosodimethylamine	(1)	3.175	74	319969	30.797
5) Pyridine	(1)	3.251	79	495110	29.422
7) 2-Picoline	(1)	4.316	93	544776	30.336
8) N-Nitrosomethylethylamine	(1)	4.469	88	230040	26.475
9) Methyl methanesulfonate	(1)	4.845	80	250344	29.247
11)$2-Fluorophenol	(1)	5.069	112	858873	60.928
13) N-Nitrosodiethylamine	(1)	5.298	102	259066	31.395
15) Ethyl methanesulfonate	(1)	5.651	109	245103	31.186
16) Benzaldehyde	(1)	5.987	77	233689	17.185
19) Aniline	(1)	6.104	93	842078	31.271
17)$Phenol-d6	(1)	6.104	99	1255113	62.263
18) Phenol	(1)	6.116	94	755509	31.473
20) a-methylstyrene	(1)	6.157	118	447629	31.370
22) bis(2-Chloroethyl)ether	(1)	6.187	93	506783	29.698
23) 2-Chlorophenol	(1)	6.228	128	425209	30.323
24) 1,3-Dichlorobenzene	(1)	6.381	146	402757	30.065
25)*1,4-Dichlorobenzene-d4	(1)	6.439	152	169350	20.000
26) 1,4-Dichlorobenzene	(1)	6.457	146	419684	29.398
27) Benzyl alcohol	(1)	6.592	108	347950	31.052
28) 1,2-Dichlorobenzene	(1)	6.610	146	401989	29.874
42) Total Cresols	(1)			1034752	62.474
30) Indene	(1)	6.698	115	778330	31.468
31) 2-Methylphenol	(1)	6.734	108	471286	31.078
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.739	45	646267	28.899
34) bis(2-Chloroisopropyl)ether	(1)	6.739	45	646267	28.899
35) N-Nitrosopyrrolidine	(1)	6.834	100	310114	33.735
36) Acetophenone	(1)	6.851	105	704042	31.697
38) N-Nitroso-di-n-propylamine	(1)	6.869	70	404062	29.945
39) N-Nitrosomorpholine	(1)	6.875	56	314358	28.880
37) 4-Methylphenol	(1)	6.881	108	563466	31.396
40) o-Toluidine	(1)	6.887	106	809205	31.338
43) Hexachloroethane	(1)	6.951	117	169399	30.449
44)$Nitrobenzene-d5	(2)	7.004	82	1105367	59.759
45) Nitrobenzene	(2)	7.022	77	571951	31.240
48) N-Nitrosopiperidine	(2)	7.169	114	276771	33.302
50) Isophorone	(2)	7.269	82	1151598	30.461
51) 2-Nitrophenol	(2)	7.339	139	251770	33.051
53) 2,4-Dimethylphenol	(2)	7.404	107	540430	32.301
57) O,O,O-Triethylphosphorothioate	(2)	7.469	198	217879	29.162

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/25/2015 at 20:22.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1161.d Instrument ID: HP09910.i
Injection date and time: 25-SEP-2015 19:59 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: all1
Calibration date and time: 25-SEP-2015 20:19
Date, time and analyst ID of latest file update: 25-Sep-2015 20:19 ceb05247

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	7.492	93	665855	31.378
56) Benzoic acid	(2)	7.528	105	598325	37.574
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.563	104	704255	31.171
60) 2,4-Dichlorophenol	(2)	7.586	162	370668	30.897
62) 1,2,4-Trichlorobenzene	(2)	7.663	180	359796	29.513
65)*Naphthalene-d8	(2)	7.716	136	794861	20.000
66) Naphthalene	(2)	7.739	128	1335503	30.488
67) 4-Chloroaniline	(2)	7.798	127	614182	31.326
68) 2,6-Dichlorophenol	(2)	7.804	162	359730	30.550
69) Hexachloropropene	(2)	7.828	213	196307	31.423
71) Hexachlorobutadiene	(2)	7.869	225	167754	27.769
75) Quinoline	(2)	8.075	129	974264	31.085
77) N-Nitrosodi-n-butylamine	(2)	8.139	84	561606	36.267
76) Caprolactam	(2)	8.157	113	217112	31.542
80) 4-Chloro-3-methylphenol	(2)	8.292	107	510232	31.513
82) Safrole	(2)	8.345	162	362824	31.043
83) 2-Methylnaphthalene	(2)	8.428	142	930814	30.158
84) 1-Methylnaphthalene	(2)	8.522	142	844702	30.527
85) Hexachlorocyclopentadiene	(3)	8.586	237	153262	26.635
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.592	216	361181	30.169
97) Isosafrole	(3)			433625	30.962
88) cis-Isosafrole	(3)	8.633	162	67682	5.392
90) 2,4,6-Trichlorophenol	(3)	8.710	196	274181	31.420
92) 2,4,5-Trichlorophenol	(3)	8.751	196	298170	30.650
93)$2-Fluorobiphenyl	(3)	8.792	172	1979380	61.248
94) trans-Isosafrole	(3)	8.857	162	365943	25.570
95) 1,1'-Biphenyl	(3)	8.892	154	1196955	31.092
96) 2-Chloronaphthalene	(3)	8.904	162	881495	29.734
98) 1-Chloronaphthalene	(3)	8.928	162	829549	30.038
99) Diphenyl ether	(3)	8.992	170	594701	30.525
100) 2-Nitroaniline	(3)	9.004	138	344248	33.415
104) 1,4-Naphthoquinone	(3)	9.081	158	398016	31.500
105) 1,4-Dinitrobenzene	(3)	9.145	168	175861	32.028
106) Dimethylphthalate	(3)	9.198	163	1070799	30.319
107) 1,3-Dinitrobenzene	(3)	9.216	168	198841	31.601
108) 2,6-Dinitrotoluene	(3)	9.251	165	262584	32.200
109) Acenaphthylene	(3)	9.310	152	1399454	30.959
120) 2,4_2,6-Dinitrotoluenes	(3)			624050	63.566
112) 3-Nitroaniline	(3)	9.410	138	300574	32.081
113)*Acenaphthene-d10	(3)	9.451	164	509145	20.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1161.d Instrument ID: HP09910.i
Injection date and time: 25-SEP-2015 19:59 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: all1
Calibration date and time: 25-SEP-2015 20:19
Date, time and analyst ID of latest file update: 25-Sep-2015 20:19 ceb05247

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
114) Acenaphthene	(3)	9.480	153	974074	31.133
115) 2,4-Dinitrophenol	(3)	9.516	184	195599	35.026
116) 4-Nitrophenol	(3)	9.592	109	156696	30.972
117) Pentachlorobenzene	(3)	9.616	250	325637	30.127
118) 2,4-Dinitrotoluene	(3)	9.645	165	361466	31.366
119) Dibenzofuran	(3)	9.651	168	1289978	30.038
121) 1-Naphthylamine	(3)	9.728	143	1107440	31.729
122) 2,3,4,6-Tetrachlorophenol	(3)	9.780	232	231019	27.891
123) 2-Naphthylamine	(3)	9.810	143	1079406	31.235
124) Diethylphthalate	(3)	9.898	149	1065735	30.789
125) Thionazin	(3)	9.975	107	214300	30.018
126) Fluorene	(3)	9.992	166	1127453	31.353
127) 4-Chlorophenyl-phenylether	(3)	9.998	204	493267	29.492
128) 5-Nitro-o-toluidine	(3)	10.004	152	343406	32.119
129) 4-Nitroaniline	(3)	10.010	138	344327	33.090
130) 4,6-Dinitro-2-methylphenol	(4)	10.045	198	216385	29.935
132) NDPA as diphenylamine	(4)	10.110	169	989721	31.311
131) N-Nitrosodiphenylamine	(4)	10.110	169	989721	31.892
134) 1,2-Diphenylhydrazine	(4)	10.151	77	1342389	31.702
146) Diallate trans/cis	(4)			675088	32.096
135)$2,4,6-Tribromophenol	(3)	10.227	330	253705	60.845
137) Tetraethyldithiopyrophosphate	(4)	10.280	97	199517	33.034
139) 1,3,5-Trinitrobenzene	(4)	10.392	213	137062	30.828
140) Diallate (peak 1)	(4)	10.404	86	560181	26.550
141) Phorate	(4)	10.410	75	895770	31.429
142) Phenacetin	(4)	10.427	108	711374	33.137
143) 4-Bromophenyl-phenylether	(4)	10.475	248	265425	30.561
144) Diallate (peak 2)	(4)	10.486	86	114906	5.546
145) Hexachlorobenzene	(4)	10.533	284	266178	28.799
147) Dimethoate	(4)	10.575	87	631291	33.251
148) Atrazine	(4)	10.645	200	296876	29.522
150) 4-Aminobiphenyl	(4)	10.727	169	1046636	30.938
149) Pentachlorophenol	(4)	10.733	266	143632	23.421
151) Pentachloronitrobenzene	(4)	10.739	237	103672	30.337
152) Pronamide	(4)	10.798	173	471760	32.376
153)*Phenanthrene-d10	(4)	10.910	188	973727	20.000
154) Dinoseb	(4)	10.916	211	291018	31.359
155) Phenanthrene	(4)	10.933	178	1732824	30.643
157) Anthracene	(4)	10.986	178	1775540	31.773
163) Carbazole	(4)	11.145	167	1634755	30.957

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$ = Compound is a surrogate standard.

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on 09/25/2015 at 20:22.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1161.d Instrument ID: HP09910.i
Injection date and time: 25-SEP-2015 19:59 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: all1
Calibration date and time: 25-SEP-2015 20:19
Date, time and analyst ID of latest file update: 25-Sep-2015 20:19 ceb05247

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	11.286	109	458502	34.865
165) Di-n-butylphthalate	(4)	11.504	149	2084757	33.932
167) Parathion	(4)	11.674	109	277204	33.675
168) 4-Nitroquinoline-1-oxide	(4)	11.692	190	132754	25.653
169) Octachlorostyrene	(4)	11.916	308	94574	31.813
171) Isodrin	(4)	11.957	193	174605	30.759
173) Fluoranthene	(4)	12.098	202	1900602	30.925
174) Benzidine	(5)	12.239	184	3659300	96.810
175)*Pyrene-d10	(5)	12.304	212	1088690	20.000
177) Pyrene	(5)	12.321	202	1954918	30.100
179)$Terphenyl-d14	(5)	12.486	244	2440129	60.903
182) p-Dimethylaminoazobenzene	(5)	12.621	225	381617	31.913
185) Chlorobenzilate	(5)	12.674	139	543028	32.192
187) 3,3'-Dimethylbenzidine	(5)	12.957	212	1068640	31.706
188) Butylbenzylphthalate	(5)	12.980	149	878930	30.803
191) 2-Acetylaminofluorene	(5)	13.210	181	855603	33.024
193) 3,3'-Dichlorobenzidine	(5)	13.504	252	603094	31.331
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.510	231	343221	31.799
195) Benzo(a)anthracene	(5)	13.527	228	1726312	30.492
196) Chrysene	(5)	13.563	228	1560484	28.928
199) bis(2-Ethylhexyl)phthalate	(5)	13.580	149	1274123	31.935
203) 6-Methylchrysene	(5)	14.027	242	1177393	30.939
205) Di-n-octylphthalate	(6)	14.245	149	2245324	32.579
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.615	256	764592	30.185
206) Benzo(b)fluoranthene	(6)	14.621	252	1617422	30.802
208) Benzo(k)fluoranthene	(6)	14.645	252	1561219	29.138
211) Benzo(a)pyrene	(6)	14.939	252	1535880	29.614
213)*Perylene-d12	(6)	14.998	264	836730	20.000
215) 3-Methylcholanthrene	(6)	15.309	268	751603	30.830
222) Total PAHs	(6)			23227689	489.474
219) Indeno(1,2,3-cd)pyrene	(6)	16.233	276	1668105	30.881
220) Dibenz(a,h)anthracene	(6)	16.251	278	1369615	30.141
221) Benzo(g,h,i)perylene	(6)	16.580	276	1391401	31.361

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/25/2015 at 20:22.
Target 3.5 esignature user ID: ceb05247

Raw QC Data

Semivolatiles by GC/MS

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1162.d Injection date and time: **25-SEP-2015 20:48**
Data file Sample Info. Line: SBLKLE266O;SBLKLE266;2;3;BLANK;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 25-Sep-2015 21:05 ceb05247

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4677**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.439(0.000)	741	152	164651 (-3)	20.00	
65) Naphthalene-d8	7.716(0.000)	958	136	713679 (-10)	20.00	
113) Acenaphthene-d10	9.451(0.000)	1253	164	448144 (-12)	20.00	
153) Phenanthrene-d10	10.910(0.000)	1501	188	926467 (-5)	20.00	
175) Pyrene-d10	12.304(0.000)	1738	212	1064351 (-2)	20.00	
213) Perylene-d12	14.998(0.000)	2196	264	850781 (2)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.998(0.001)	82	1110738	66.880	67%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.792(0.000)	172	1908545	67.095	67%		63 - 117
179) Terphenyl-d14	(5)	12.486(0.000)	244	2756801	70.380	70%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
84) 1-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)			Not Detected					0.1
157) Anthracene	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.1
177) Pyrene	(5)			Not Detected					0.1
195) Benzo(a)anthracene	(5)			Not Detected					0.1
196) Chrysene	(5)			Not Detected					0.1
206) Benzo(b)fluoranthene	(6)			Not Detected					0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.1
211) Benzo(a)pyrene	(6)			Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.1

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1162.d Injection date and time: **25-SEP-2015 20:48**
Data file Sample Info. Line: SBLKLE266O;SBLKLE266;2;3;BLANK;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 25-Sep-2015 21:05 ceb05247

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4677**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30 g

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Total number of targets = 18

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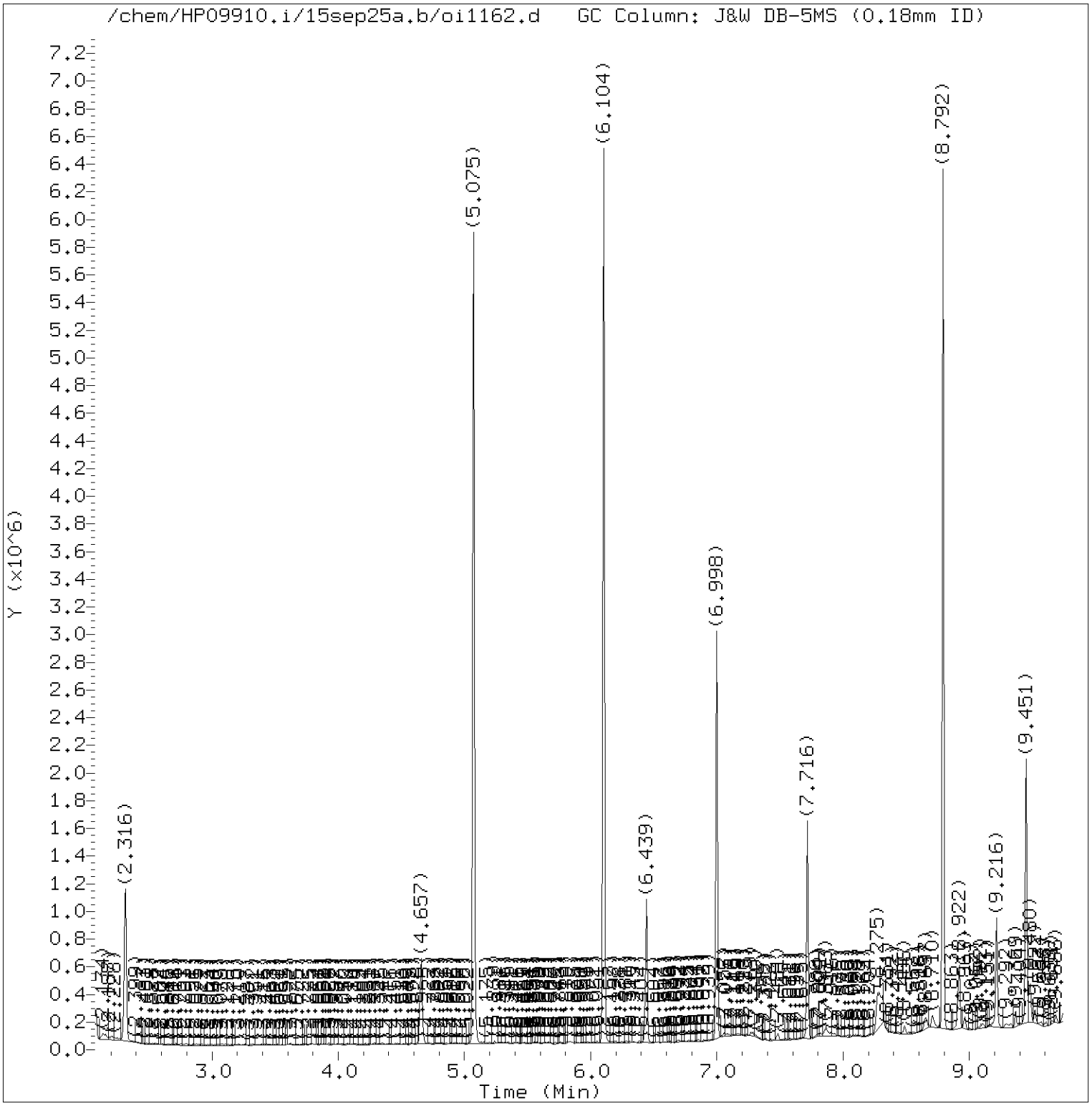
Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

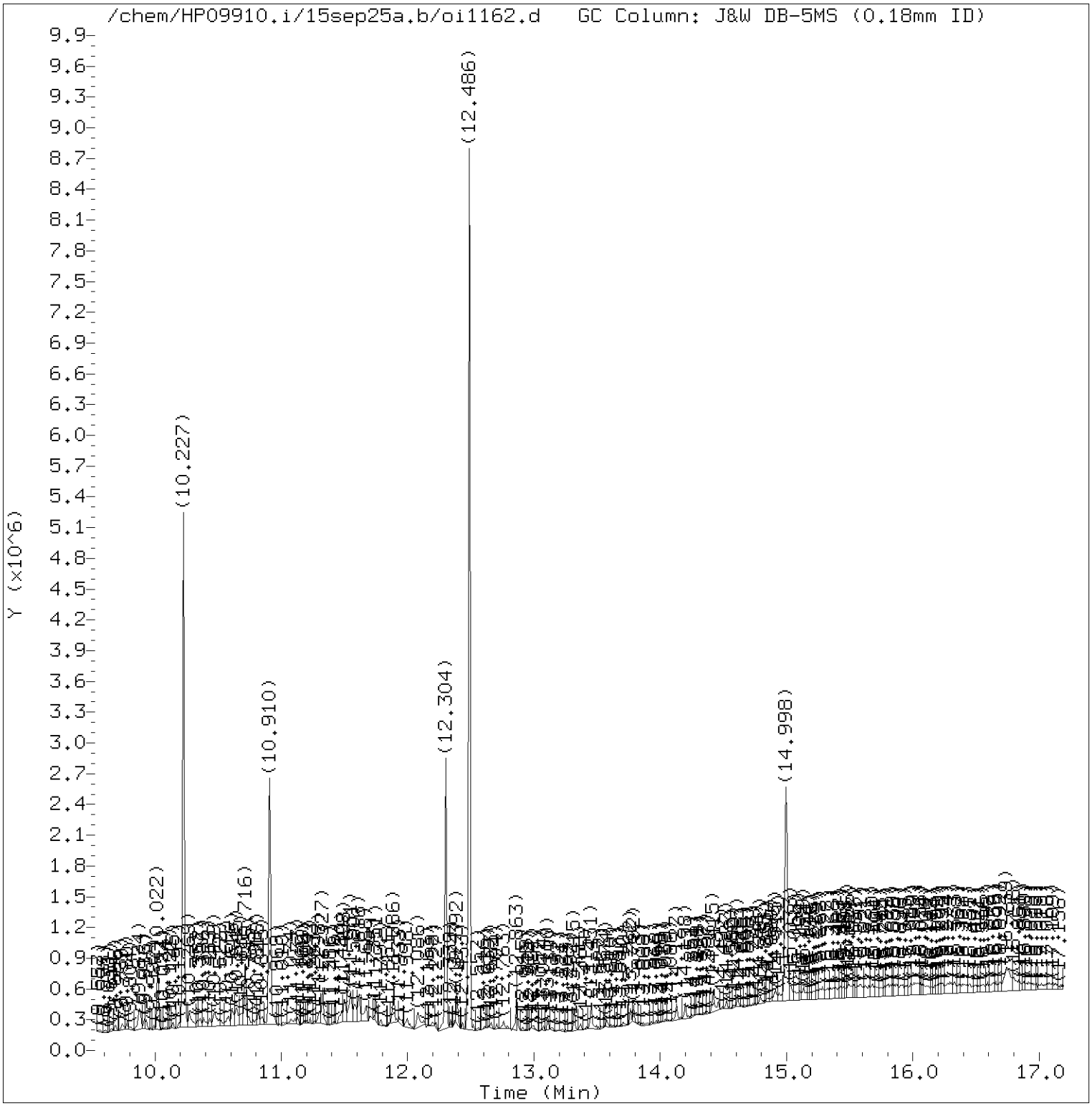
Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1162.d Instrument ID: HP09910.i
Injection date and time: 25-SEP-2015 20:48 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4677
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 25-Sep-2015 21:05 ceb05247

Sample Name: SBLKLE266O Lab Sample ID: SBLKLE266

Digitally signed by Linda M. Hartenstine
on 09/26/2015 at 07:02.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1162.d Instrument ID: HP09910.i
Injection date and time: 25-SEP-2015 20:48 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4677
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 25-Sep-2015 21:05 ceb05247

Sample Name: SBLKLE266O Lab Sample ID: SBLKLE266

Digitally signed by Linda M. Hartenstine
on 09/26/2015 at 07:02.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1162.d Instrument ID: HP09910.i
Injection date and time: 25-SEP-2015 20:48 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4677
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 25-Sep-2015 21:05 ceb05247

Sample Name: SBLKLE266O Lab Sample ID: SBLKLE266

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.439	152	164651	20.000
44)$Nitrobenzene-d5	(2)	6.998	82	1110738	66.880
65)*Naphthalene-d8	(2)	7.716	136	713679	20.000
93)$2-Fluorobiphenyl	(3)	8.792	172	1908545	67.095
113)*Acenaphthene-d10	(3)	9.451	164	448144	20.000
153)*Phenanthrene-d10	(4)	10.910	188	926467	20.000
175)*Pyrene-d10	(5)	12.304	212	1064351	20.000
179)$Terphenyl-d14	(5)	12.486	244	2756801	70.380
213)*Perylene-d12	(6)	14.998	264	850781	20.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/26/2015 at 07:02.
Target 3.5 esignature user ID: lmh00956

SBLKWB2684 Lancaster Laboratories, Inc. SBLKWB268

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/15sep29.b/di0822.d Injection date and time: **29-SEP-2015 09:39**
Data file Sample Info. Line: SBLKWB2684;SBLKWB268;1;3;BLANK;;; Instrument ID: **HP19760.i** Batch: **15268WAB**
Date, time and analyst ID of latest file update: 29-Sep-2015 10:31 aap07680

Blank Data file reference: **/chem/HP19760.i/15sep29.b/di0822.d**

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 29-SEP-2015 10:31
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/15sep29.b/di0821.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
19) 1,4-Dichlorobenzene-d4	6.160(0.000)	819	152	155337 (-39)	5.00	
52) Naphthalene-d8	8.090(0.000)	1150	136	583814 (-39)	5.00	
92) Acenaphthene-d10	10.864(0.006)	1626	164	337589 (-40)	5.00	
130) Phenanthrene-d10	12.846(0.000)	1966	188	649203 (-36)	5.00	
145) Pyrene-d10	14.682(0.000)	2281	212	727773 (-44)	5.00	
172) Perylene-d12	19.024(0.000)	3026	264	579453 (-50)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
36) Nitrobenzene-d5	(2)	7.000(0.000)	82	1311470	23.921	96%		46 - 128
72) 2-Fluorobiphenyl	(3)	9.844(0.000)	172	2081263	22.458	90%		61 - 112
149) Terphenyl-d14	(5)	15.008(0.000)	244	2395380	23.491	94%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
53) Naphthalene	(2)			Not Detected					0.03
65) 2-Methylnaphthalene	(2)			Not Detected					0.03
90) Acenaphthylene	(3)			Not Detected					0.03
93) Acenaphthene	(3)			Not Detected					0.03
103) Fluorene	(3)			Not Detected					0.03
131) Phenanthrene	(4)			Not Detected					0.03
134) Anthracene	(4)			Not Detected					0.03
142) Fluoranthene	(4)			Not Detected					0.03
146) Pyrene	(5)			Not Detected					0.03
158) Benzo(a)anthracene	(5)			Not Detected					0.03
161) Chrysene	(5)			Not Detected					0.03
168) Benzo(b)fluoranthene	(6)			Not Detected					0.03
170) Benzo(k)fluoranthene	(6)			Not Detected					0.03
171) Benzo(a)pyrene	(6)			Not Detected					0.03
176) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
177) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
178) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Ankita A. Patel on 09/29/2015 at 11:46. Target 3.5 esignature user ID: aap07680

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/15sep29.b/di0822.d Injection date and time: **29-SEP-2015 09:39**
Data file Sample Info. Line: SBLKWB2684;SBLKWB268;1;3;BLANK;;; Instrument ID: **HP19760.i** Batch: **15268WAB**
Date, time and analyst ID of latest file update: 29-Sep-2015 10:31 aap07680

Blank Data file reference: **/chem/HP19760.i/15sep29.b/di0822.d**

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 29-SEP-2015 10:31
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/15sep29.b/di0821.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

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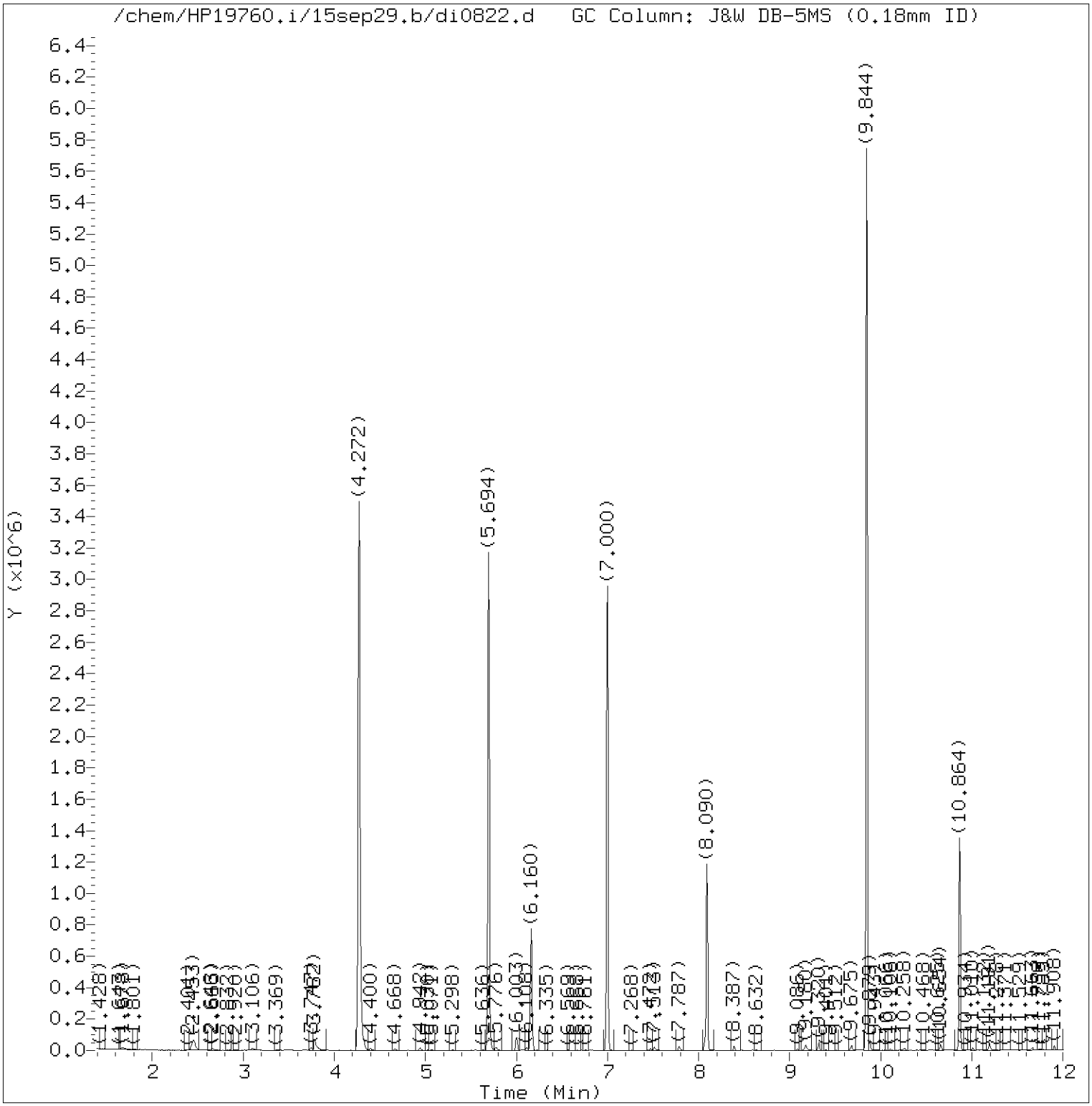
Total number of targets = 17

Digitally signed by Ankita A. Patel on 09/29/2015 at 11:46. Target 3.5 esignature user ID: aap07680

Secondary review performed and digitally signed by Matthew E. Barton on 09/30/2015 at 12:44. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

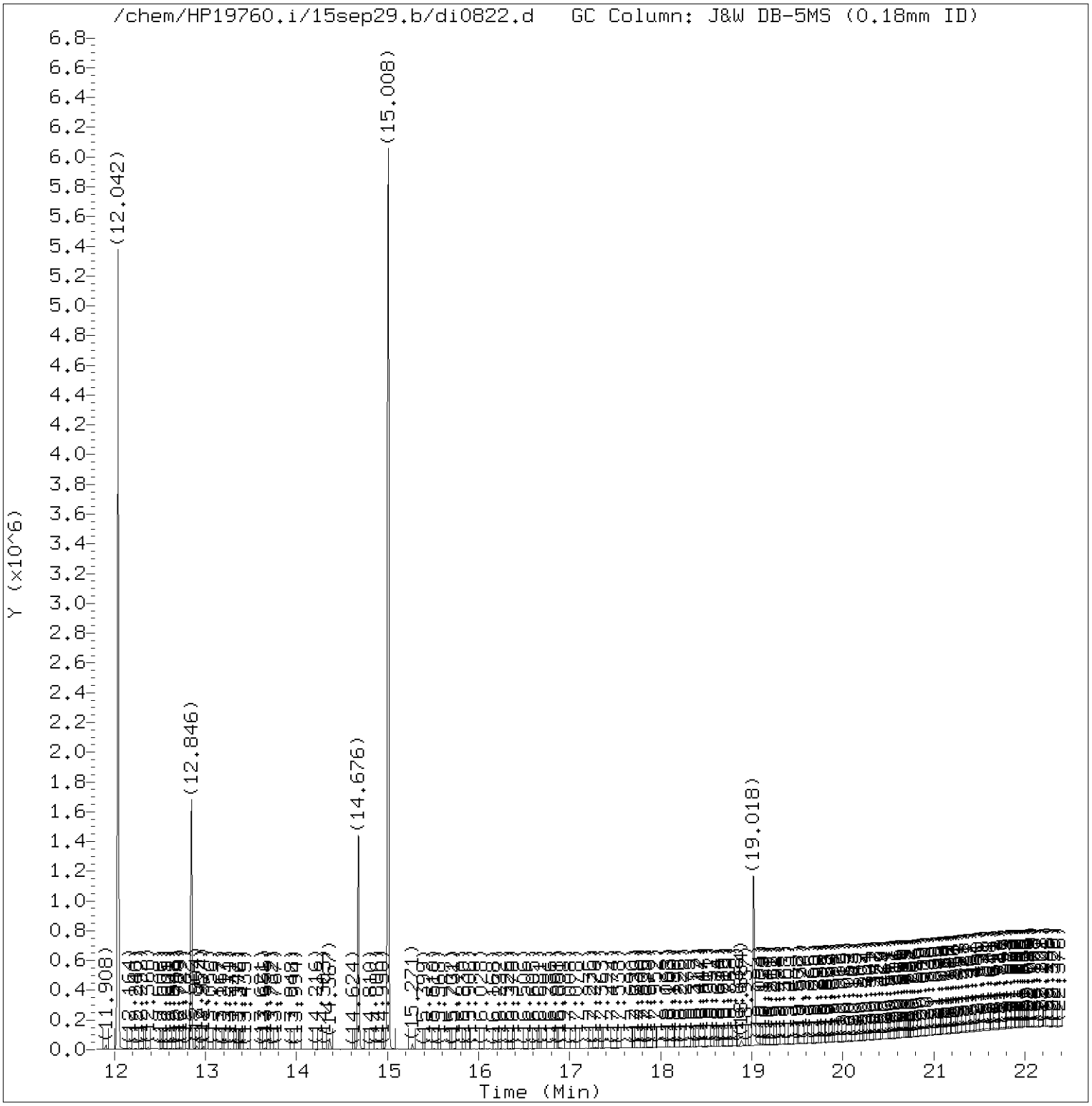
Target Revision 3.5

Data File: /chem/HP19760.i/15sep29.b/di0822.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 09:39 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: 4656
Calibration date and time: 29-SEP-2015 10:31
Date, time and analyst ID of latest file update: 29-Sep-2015 10:31 aap07680

Sample Name: SBLKWB2684 Lab Sample ID: SBLKWB268

Digitally signed by Ankita A. Patel
on 09/29/2015 at 11:46.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15sep29.b/di0822.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 09:39 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: 4656
Calibration date and time: 29-SEP-2015 10:31
Date, time and analyst ID of latest file update: 29-Sep-2015 10:31 aap07680

Sample Name: SBLKWB2684 Lab Sample ID: SBLKWB268

Digitally signed by Ankita A. Patel
on 09/29/2015 at 11:46.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15sep29.b/di0822.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 09:39 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: 4656
Calibration date and time: 29-SEP-2015 10:31
Date, time and analyst ID of latest file update: 29-Sep-2015 10:31 aap07680

Sample Name: SBLKWB2684 Lab Sample ID: SBLKWB268

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
19)*1,4-Dichlorobenzene-d4	(1)	6.160	152	155337	5.000
36)$Nitrobenzene-d5	(2)	7.000	82	1311470	23.921
52)*Naphthalene-d8	(2)	8.090	136	583814	5.000
72)$2-Fluorobiphenyl	(3)	9.844	172	2081263	22.458
92)*Acenaphthene-d10	(3)	10.864	164	337589	5.000
130)*Phenanthrene-d10	(4)	12.846	188	649203	5.000
145)*Pyrene-d10	(5)	14.682	212	727773	5.000
149)$Terphenyl-d14	(5)	15.008	244	2395380	23.491
172)*Perylene-d12	(6)	19.024	264	579453	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Ankita A. Patel
on 09/29/2015 at 11:46.
Target 3.5 esignature user ID: aap07680

PS484MS

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8057363

Data file: /chem/HP09910.i/15sep25a.b/oi1171.d
Data file Sample Info. Line: PS484MS;8057363;2;3;MS;;;
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Injection date and time: **26-SEP-2015 00:38**
Instrument ID: **HP09910.i** Batch: **15266SLE**

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.48 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.439(0.000)	741	152	198109 (17)	20.00	
65) Naphthalene-d8	7.716(0.000)	958	136	1002805 (26)	20.00	
113) Acenaphthene-d10	9.451(0.000)	1253	164	632631 (24)	20.00	
153) Phenanthrene-d10	10.910(0.000)	1501	188	1126613 (16)	20.00	
175) Pyrene-d10	12.304(0.000)	1738	212	1142560 (5)	20.00	
213) Perylene-d12	14.998(0.000)	2196	264	695977 (-17)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.004(0.000)	82	2059649	88.260	88%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.798(-0.001)	172	3649945	90.895	91%		63 - 117
179) Terphenyl-d14	(5)	12.486(0.000)	244	3841317	91.355	91%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	7.739(0.000)	128	2598906	47.027	1542.88			0.1
83) 2-Methylnaphthalene	(2)	8.428(-0.000)	142	1744633	44.804	1469.95			0.1
109) Acenaphthylene	(3)	9.310(0.000)	152	2778985	49.478	1623.29			0.1
114) Acenaphthene	(3)	9.486(-0.000)	153	1909688	49.123	1611.63			0.1
126) Fluorene	(3)	9.992(-0.000)	166	2190285	49.019	1608.25			0.1
155) Phenanthrene	(4)	10.933(-0.000)	178	3134174	47.903	1571.63			0.1
157) Anthracene	(4)	10.986(-0.000)	178	3284006	50.791	1666.38			0.1
173) Fluoranthene	(4)	12.104(-0.000)	202	3149885	44.297	1453.31			0.1
177) Pyrene	(5)	12.327(-0.000)	202	3199902	46.946	1540.21			0.1
195) Benzo(a)anthracene	(5)	13.527(-0.000)	228	2509145	42.229	1385.48			0.1
196) Chrysene	(5)	13.562(0.000)	228	2454422	43.354	1422.37			0.1
206) Benzo(b)fluoranthene	(6)	14.621(-0.000)	252	2083130	47.693	1564.75			0.1
208) Benzo(k)fluoranthene	(6)	14.651(-0.000)	252	2352873	52.794	1732.09			0.1
211) Benzo(a)pyrene	(6)	14.945(-0.000)	252	1991975	46.176	1514.97			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	16.227(0.000)	276	2128560	47.374	1554.27			0.1
220) Dibenz(a,h)anthracene	(6)	16.256(-0.000)	278	1859708	49.203	1614.29			0.1
221) Benzo(g,h,i)perylene	(6)	16.586(-0.000)	276	1852413	50.195	1646.82			0.1

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25. Target 3.5 esignature user ID: lmh00956

Data file: /chem/HP09910.i/15sep25a.b/oi1171.d Injection date and time: **26-SEP-2015 00:38**
Data file Sample Info. Line: PS484MS;8057363;2;3;MS;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.48 g

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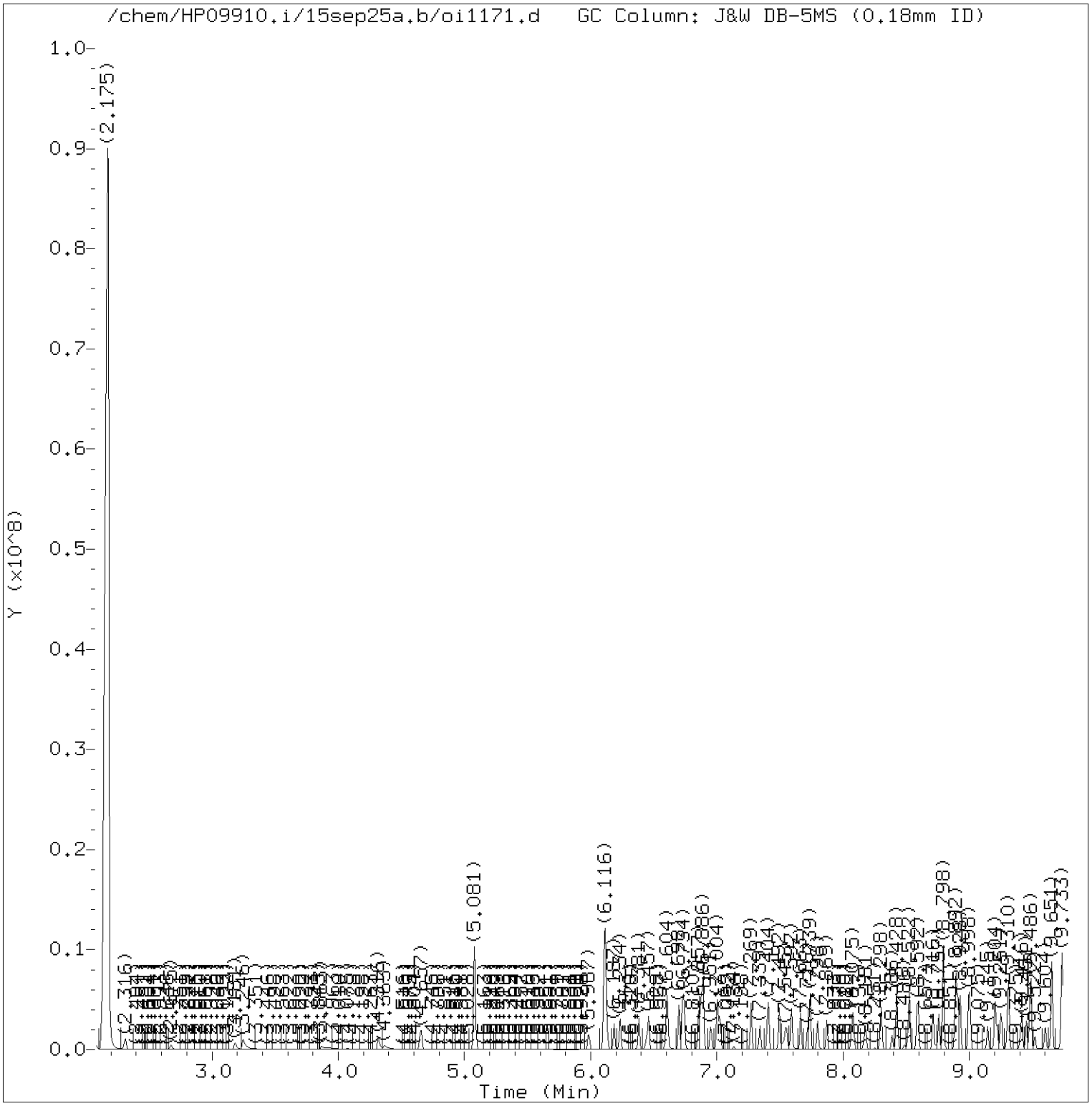
Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

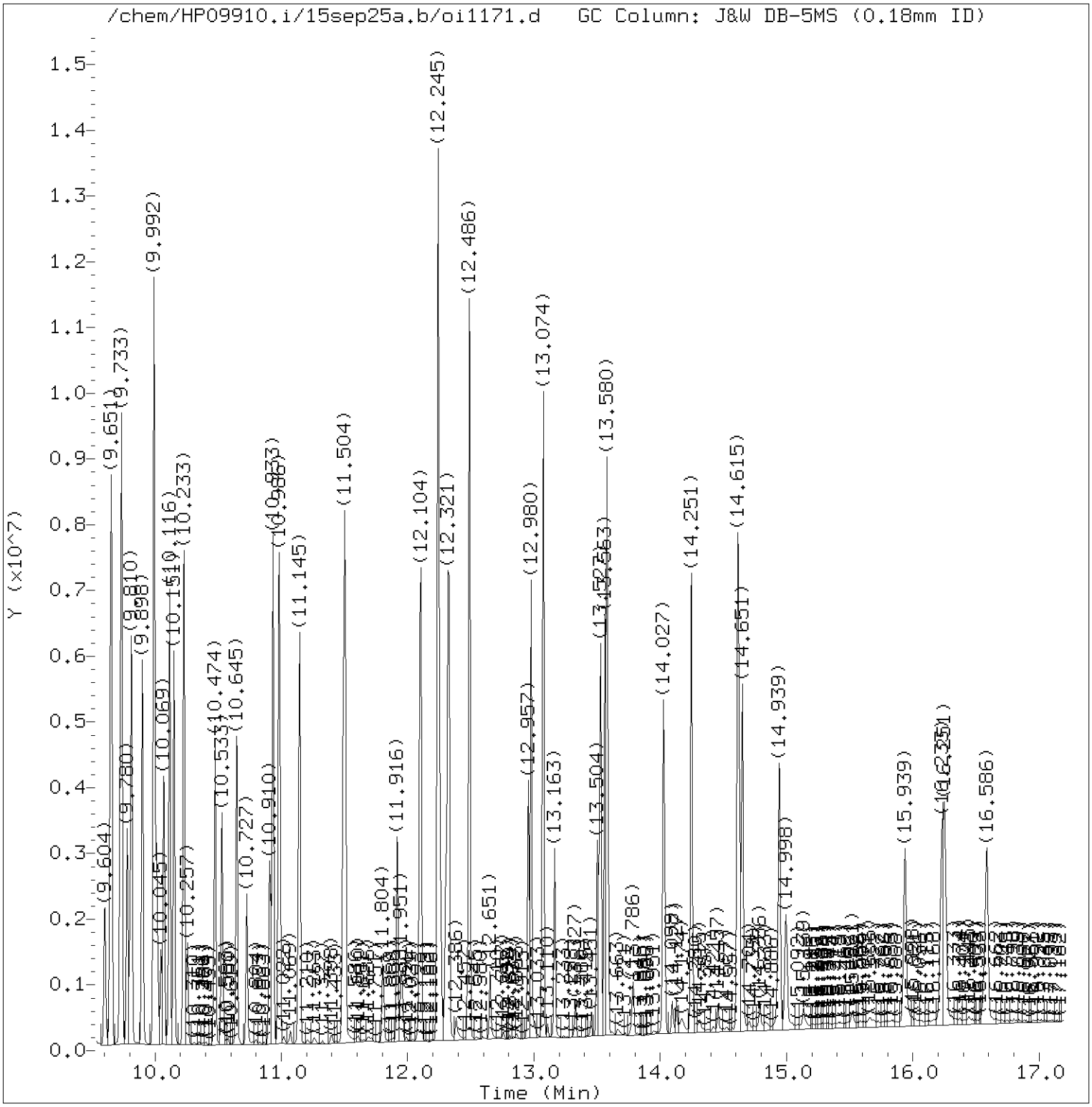
Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1171.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:38 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484MS Lab Sample ID: 8057363

Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1171.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:38 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484MS Lab Sample ID: 8057363

Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1171.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 00:38 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484MS Lab Sample ID: 8057363

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.439	152	198109	20.000
44)$Nitrobenzene-d5	(2)	7.004	82	2059649	88.260
65)*Naphthalene-d8	(2)	7.716	136	1002805	20.000
66) Naphthalene	(2)	7.739	128	2598906	47.027
83) 2-Methylnaphthalene	(2)	8.428	142	1744633	44.804
93)$2-Fluorobiphenyl	(3)	8.798	172	3649945	90.895
109) Acenaphthylene	(3)	9.310	152	2778985	49.478
113)*Acenaphthene-d10	(3)	9.451	164	632631	20.000
114) Acenaphthene	(3)	9.486	153	1909688	49.123
126) Fluorene	(3)	9.992	166	2190285	49.019
153)*Phenanthrene-d10	(4)	10.910	188	1126613	20.000
155) Phenanthrene	(4)	10.933	178	3134174	47.903
157) Anthracene	(4)	10.986	178	3284006	50.791
173) Fluoranthene	(4)	12.104	202	3149885	44.297
175)*Pyrene-d10	(5)	12.304	212	1142560	20.000
177) Pyrene	(5)	12.327	202	3199902	46.946
179)$Terphenyl-d14	(5)	12.486	244	3841317	91.355
195) Benzo(a)anthracene	(5)	13.527	228	2509145	42.229
196) Chrysene	(5)	13.563	228	2454422	43.354
206) Benzo(b)fluoranthene	(6)	14.621	252	2083130	47.693
208) Benzo(k)fluoranthene	(6)	14.651	252	2352873	52.794
211) Benzo(a)pyrene	(6)	14.945	252	1991975	46.176
213)*Perylene-d12	(6)	14.998	264	695977	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	16.227	276	2128560	47.374
220) Dibenz(a,h)anthracene	(6)	16.256	278	1859708	49.203
221) Benzo(g,h,i)perylene	(6)	16.586	276	1852413	50.195

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

PS484MSD

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8057364

Data file: /chem/HP09910.i/15sep25a.b/oi1172.d
Data file Sample Info. Line: PS484MSD;8057364;2;3;MSD;;;
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Injection date and time: **26-SEP-2015 01:04**
Instrument ID: **HP09910.i** Batch: **15266SLE**

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.14 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.440(0.000)	741	152	172069 (2)	20.00	
65) Naphthalene-d8	7.716(0.000)	958	136	871522 (10)	20.00	
113) Acenaphthene-d10	9.451(0.000)	1253	164	555432 (9)	20.00	
153) Phenanthrene-d10	10.910(0.000)	1501	188	960591 (-1)	20.00	
175) Pyrene-d10	12.304(0.000)	1738	212	979599 (-10)	20.00	
213) Perylene-d12	14.998(0.000)	2196	264	586119 (-30)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.004(0.000)	82	1858453	91.635	92%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.792(0.000)	172	3284200	93.154	93%		63 - 117
179) Terphenyl-d14	(5)	12.486(0.000)	244	3375349	93.627	94%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	7.739(0.000)	128	2326852	48.447	1607.39			0.1
83) 2-Methylnaphthalene	(2)	8.428(0.000)	142	1587167	46.900	1556.08			0.1
109) Acenaphthylene	(3)	9.310(-0.000)	152	2469236	50.073	1661.36			0.1
114) Acenaphthene	(3)	9.486(-0.000)	153	1680329	49.230	1633.39			0.1
126) Fluorene	(3)	9.992(-0.000)	166	1954851	49.831	1653.32			0.1
155) Phenanthrene	(4)	10.933(-0.000)	178	2808577	50.346	1670.40			0.1
157) Anthracene	(4)	10.986(-0.000)	178	2902358	52.647	1746.74			0.1
173) Fluoranthene	(4)	12.104(-0.000)	202	2776041	45.787	1519.14			0.1
177) Pyrene	(5)	12.322(0.000)	202	2808049	48.050	1594.22			0.1
195) Benzo(a)anthracene	(5)	13.527(0.000)	228	2200090	43.188	1432.91			0.1
196) Chrysene	(5)	13.563(0.000)	228	2116934	43.613	1447.01			0.1
206) Benzo(b)fluoranthene	(6)	14.621(-0.000)	252	1850107	50.298	1668.80			0.1
208) Benzo(k)fluoranthene	(6)	14.651(-0.000)	252	1883139	50.174	1664.70			0.1
211) Benzo(a)pyrene	(6)	14.939(-0.000)	252	1702333	46.858	1554.69			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	16.227(0.000)	276	1826979	48.283	1601.97			0.1
220) Dibenz(a,h)anthracene	(6)	16.251(-0.000)	278	1583041	49.734	1650.09			0.1
221) Benzo(g,h,i)perylene	(6)	16.580(0.000)	276	1584051	50.969	1691.06			0.1

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25. Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1172.d Injection date and time: **26-SEP-2015 01:04**
Data file Sample Info. Line: PS484MSD;8057364;2;3;MSD;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.14 g

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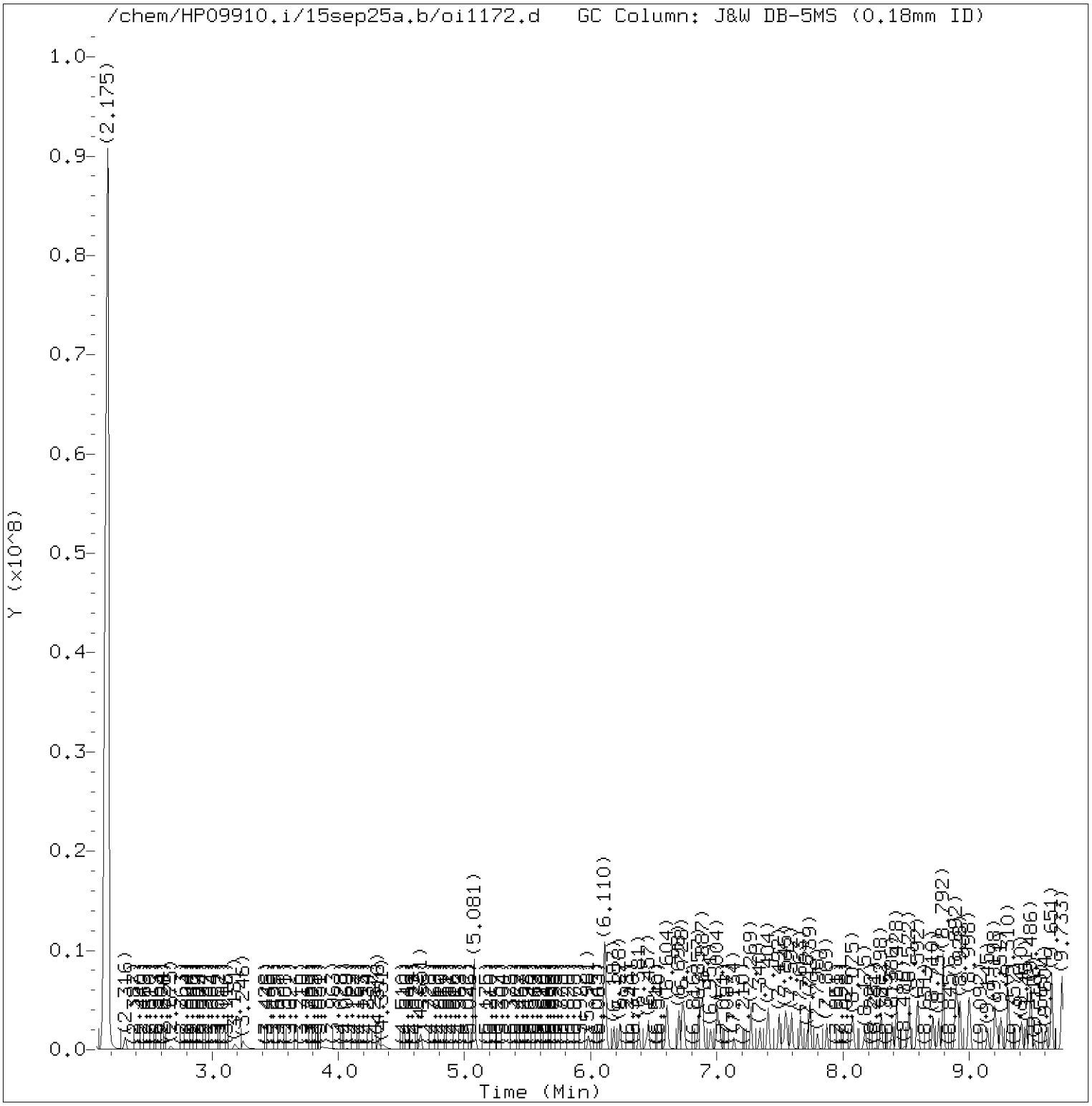
Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 09/27/2015 at 15:25. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

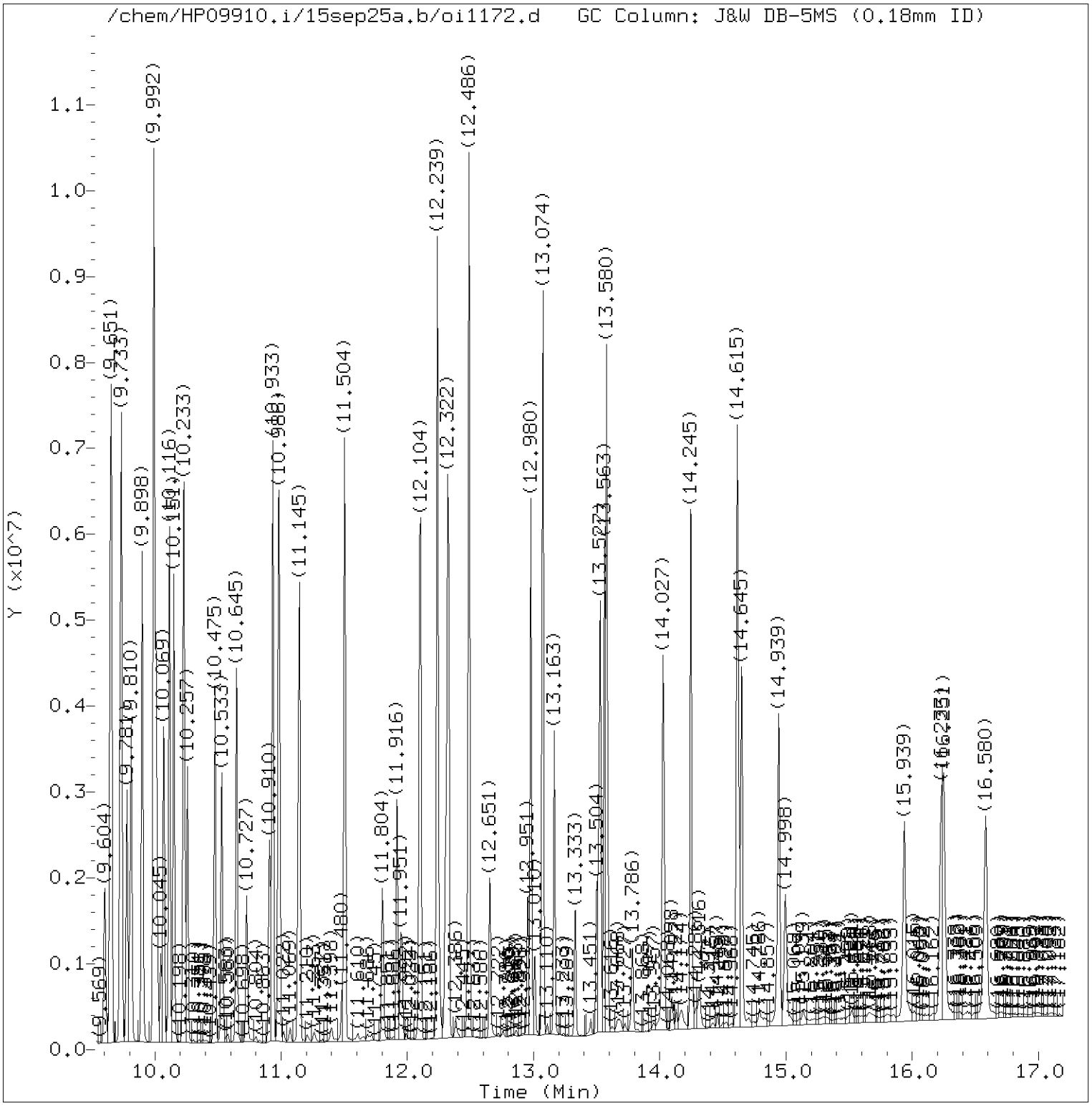
Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1172.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 01:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484MSD Lab Sample ID: 8057364

Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1172.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 01:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484MSD Lab Sample ID: 8057364

Digitally signed by Linda M. Hartenstine
on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1172.d Instrument ID: HP09910.i
Injection date and time: 26-SEP-2015 01:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4676
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 27-Sep-2015 15:24 lmh00956

Sample Name: PS484MSD Lab Sample ID: 8057364

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.440	152	172069	20.000
44)$Nitrobenzene-d5	(2)	7.004	82	1858453	91.635
65)*Naphthalene-d8	(2)	7.716	136	871522	20.000
66) Naphthalene	(2)	7.739	128	2326852	48.447
83) 2-Methylnaphthalene	(2)	8.428	142	1587167	46.900
93)$2-Fluorobiphenyl	(3)	8.792	172	3284200	93.154
109) Acenaphthylene	(3)	9.310	152	2469236	50.073
113)*Acenaphthene-d10	(3)	9.451	164	555432	20.000
114) Acenaphthene	(3)	9.486	153	1680329	49.230
126) Fluorene	(3)	9.992	166	1954851	49.831
153)*Phenanthrene-d10	(4)	10.910	188	960591	20.000
155) Phenanthrene	(4)	10.933	178	2808577	50.346
157) Anthracene	(4)	10.986	178	2902358	52.647
173) Fluoranthene	(4)	12.104	202	2776041	45.787
175)*Pyrene-d10	(5)	12.304	212	979599	20.000
177) Pyrene	(5)	12.322	202	2808049	48.050
179)$Terphenyl-d14	(5)	12.486	244	3375349	93.627
195) Benzo(a)anthracene	(5)	13.527	228	2200090	43.188
196) Chrysene	(5)	13.563	228	2116934	43.613
206) Benzo(b)fluoranthene	(6)	14.621	252	1850107	50.298
208) Benzo(k)fluoranthene	(6)	14.651	252	1883139	50.174
211) Benzo(a)pyrene	(6)	14.939	252	1702333	46.858
213)*Perylene-d12	(6)	14.998	264	586119	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	16.227	276	1826979	48.283
220) Dibenz(a,h)anthracene	(6)	16.251	278	1583041	49.734
221) Benzo(g,h,i)perylene	(6)	16.580	276	1584051	50.969

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/27/2015 at 15:25.
Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1163.d
Injection date and time: **25-SEP-2015 21:13**
Data file Sample Info. Line: 266LELCSO;266LELCS;2;3;LCS;;;
Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 25-Sep-2015 21:30 Automation

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4677**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.440(0.000)	741	152	180471 (7)	20.00	
65) Naphthalene-d8	7.716(0.000)	958	136	866628 (9)	20.00	
113) Acenaphthene-d10	9.451(0.000)	1253	164	579539 (14)	20.00	
153) Phenanthrene-d10	10.910(0.000)	1501	188	1120348 (15)	20.00	
175) Pyrene-d10	12.304(0.000)	1738	212	1217794 (12)	20.00	
213) Perylene-d12	14.998(0.000)	2196	264	827056 (-1)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.004(0.000)	82	1810225	89.761	90%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.798(-0.001)	172	3278518	89.124	89%		63 - 117
179) Terphenyl-d14	(5)	12.492(0.000)	244	4048407	90.332	90%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	7.739(0.000)	128	2264640	47.418	1580.59			0.1
83) 2-Methylnaphthalene	(2)	8.428(0.000)	142	1542093	45.826	1527.52			0.1
84) 1-Methylnaphthalene	(2)	8.522(0.000)	142	1471619	48.779	1625.95			0.1
109) Acenaphthylene	(3)	9.310(-0.000)	152	2532780	49.225	1640.84			0.1
114) Acenaphthene	(3)	9.486(-0.000)	153	1736809	48.768	1625.61			0.1
126) Fluorene	(3)	9.992(0.000)	166	2051838	50.128	1670.93			0.1
155) Phenanthrene	(4)	10.933(-0.000)	178	3103782	47.704	1590.13			0.1
157) Anthracene	(4)	10.986(-0.000)	178	3217341	50.038	1667.95			0.1
173) Fluoranthene	(4)	12.104(-0.000)	202	3314390	46.871	1562.37			0.1
177) Pyrene	(5)	12.327(-0.000)	202	3399050	46.786	1559.55			0.1
195) Benzo(a)anthracene	(5)	13.527(0.000)	228	2868016	45.287	1509.58			0.1
196) Chrysene	(5)	13.568(-0.000)	228	2779171	46.057	1535.24			0.1
206) Benzo(b)fluoranthene	(6)	14.627(-0.000)	252	2600015	50.093	1669.77			0.1
208) Benzo(k)fluoranthene	(6)	14.651(-0.000)	252	2535358	47.872	1595.75			0.1
211) Benzo(a)pyrene	(6)	14.945(-0.000)	252	2322633	45.308	1510.27			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	16.233(0.000)	276	2362684	44.251	1475.02			0.1
220) Dibenz(a,h)anthracene	(6)	16.256(-0.000)	278	2073073	46.156	1538.52			0.1
221) Benzo(g,h,i)perylene	(6)	16.586(-0.000)	276	2028879	46.264	1542.12			0.1

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15sep25a.b/oi1163.d Injection date and time: **25-SEP-2015 21:13**
Data file Sample Info. Line: 266LELCSO;266LELCS;2;3;LCS;;; Instrument ID: **HP09910.i** Batch: **15266SLE**
Date, time and analyst ID of latest file update: 25-Sep-2015 21:30 Automation

Blank Data file reference: **/chem/HP09910.i/15sep25a.b/oi1162.d**

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: **4677**
Calibration date and time (Last Method Edit): 25-SEP-2015 20:56
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15sep25a.b/oi1161.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30 g

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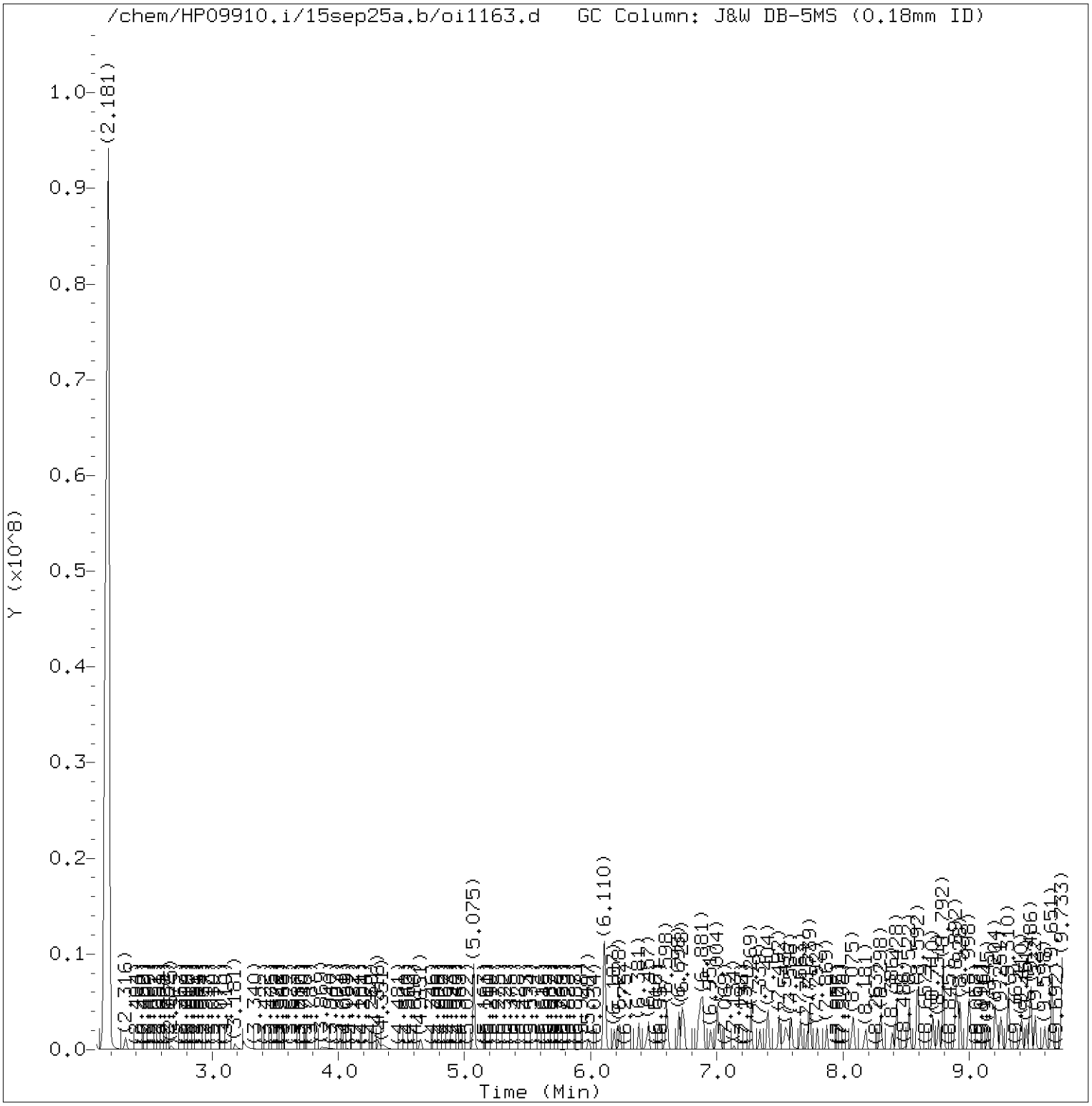
Total number of targets = 18

Digitally signed by Linda M. Hartenstine on 09/26/2015 at 07:02. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 09/28/2015 at 09:28. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

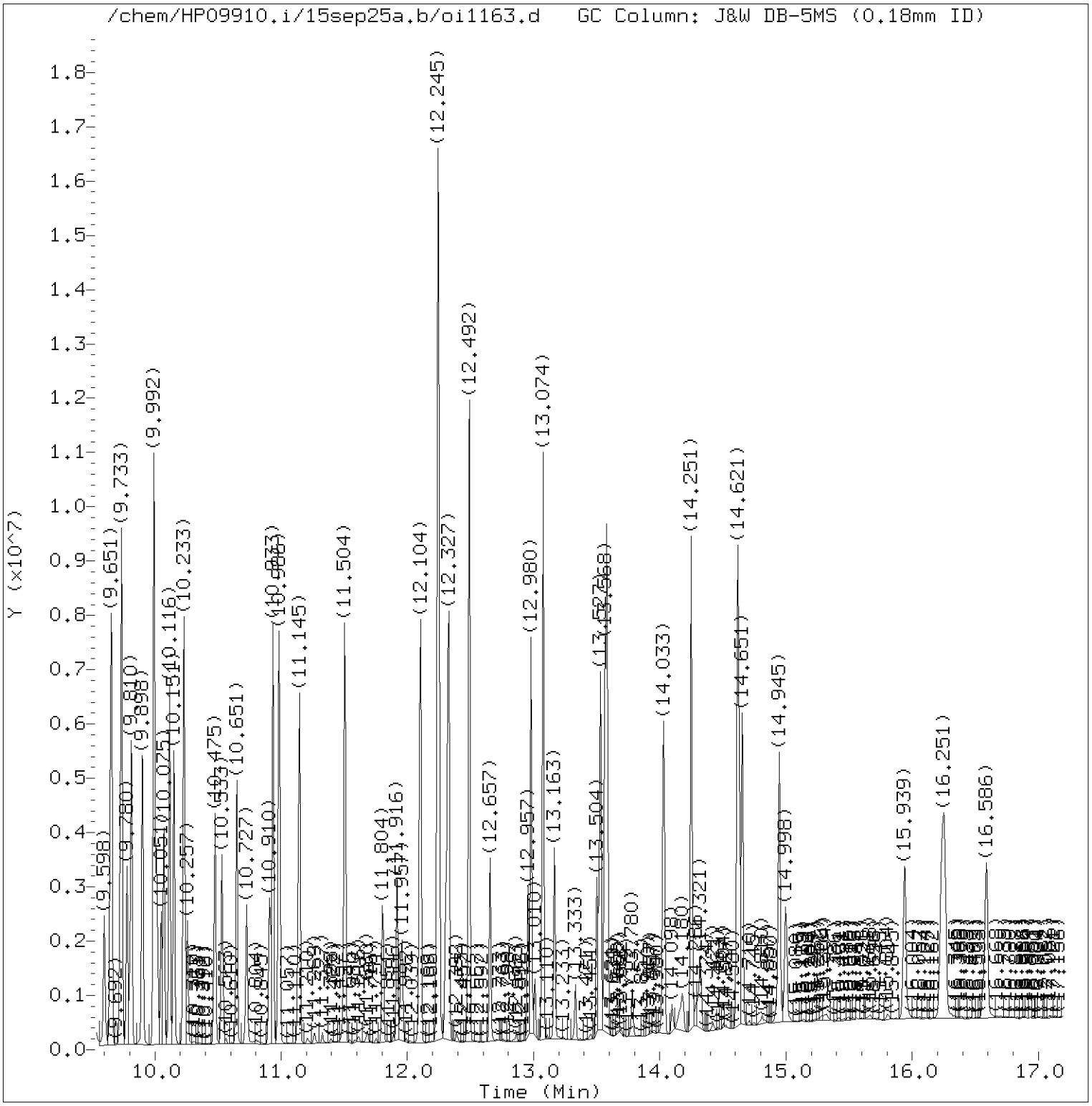
Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1163.d Instrument ID: HP09910.i
Injection date and time: 25-SEP-2015 21:13 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4677
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 25-Sep-2015 21:30 Automation

Sample Name: 266LELCSO Lab Sample ID: 266LELCS

Digitally signed by Linda M. Hartenstine
on 09/26/2015 at 07:02.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1163.d Instrument ID: HP09910.i
Injection date and time: 25-SEP-2015 21:13 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4677
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 25-Sep-2015 21:30 Automation

Sample Name: 266LELCSO Lab Sample ID: 266LELCS

Digitally signed by Linda M. Hartenstine
on 09/26/2015 at 07:02.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep25a.b/oi1163.d Instrument ID: HP09910.i
Injection date and time: 25-SEP-2015 21:13 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15sep25a.b/m8270c.m Sublist used: 4677
Calibration date and time: 25-SEP-2015 20:56
Date, time and analyst ID of latest file update: 25-Sep-2015 21:30 Automation

Sample Name: 266LELCSO Lab Sample ID: 266LELCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.440	152	180471	20.000
44)$Nitrobenzene-d5	(2)	7.004	82	1810225	89.761
65)*Naphthalene-d8	(2)	7.716	136	866628	20.000
66) Naphthalene	(2)	7.739	128	2264640	47.418
83) 2-Methylnaphthalene	(2)	8.428	142	1542093	45.826
84) 1-Methylnaphthalene	(2)	8.522	142	1471619	48.779
93)$2-Fluorobiphenyl	(3)	8.798	172	3278518	89.124
109) Acenaphthylene	(3)	9.310	152	2532780	49.225
113)*Acenaphthene-d10	(3)	9.451	164	579539	20.000
114) Acenaphthene	(3)	9.486	153	1736809	48.768
126) Fluorene	(3)	9.992	166	2051838	50.128
153)*Phenanthrene-d10	(4)	10.910	188	1120348	20.000
155) Phenanthrene	(4)	10.933	178	3103782	47.704
157) Anthracene	(4)	10.986	178	3217341	50.038
173) Fluoranthene	(4)	12.104	202	3314390	46.871
175)*Pyrene-d10	(5)	12.304	212	1217794	20.000
177) Pyrene	(5)	12.327	202	3399050	46.786
179)$Terphenyl-d14	(5)	12.492	244	4048407	90.332
195) Benzo(a)anthracene	(5)	13.527	228	2868016	45.287
196) Chrysene	(5)	13.568	228	2779171	46.057
206) Benzo(b)fluoranthene	(6)	14.627	252	2600015	50.093
208) Benzo(k)fluoranthene	(6)	14.651	252	2535358	47.872
211) Benzo(a)pyrene	(6)	14.945	252	2322633	45.308
213)*Perylene-d12	(6)	14.998	264	827056	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	16.233	276	2362684	44.251
220) Dibenz(a,h)anthracene	(6)	16.257	278	2073073	46.156
221) Benzo(g,h,i)perylene	(6)	16.586	276	2028879	46.264

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/26/2015 at 07:02.
Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/15sep29.b/di0823.d Injection date and time: **29-SEP-2015 10:07**
Data file Sample Info. Line: 268WBLCS4;268WBLCS;1;3;LCS;;; Instrument ID: **HP19760.i** Batch: **15268WAB**
Date, time and analyst ID of latest file update: 29-Sep-2015 11:45 aap07680

Blank Data file reference: **/chem/HP19760.i/15sep29.b/di0822.d**

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 29-SEP-2015 10:31
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/15sep29.b/di0821.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
19) 1,4-Dichlorobenzene-d4	6.166(-0.006)	820	152	159434 (-38)	5.00	
52) Naphthalene-d8	8.090(0.000)	1150	136	593973 (-38)	5.00	
92) Acenaphthene-d10	10.870(0.000)	1627	164	350085 (-38)	5.00	
130) Phenanthrene-d10	12.846(0.000)	1966	188	638679 (-37)	5.00	
145) Pyrene-d10	14.682(0.000)	2281	212	760078 (-41)	5.00	
172) Perylene-d12	19.024(0.000)	3026	264	641902 (-44)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
36) Nitrobenzene-d5	(2)	7.000(0.000)	82	1289995	23.127	93%		46 - 128
72) 2-Fluorobiphenyl	(3)	9.850(-0.001)	172	2045697	21.286	85%		61 - 112
149) Terphenyl-d14	(5)	15.008(0.000)	244	2326008	21.841	87%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
53) Naphthalene	(2)	8.125(0.000)	128	1452763	11.496	45.98			0.03
65) 2-Methylnaphthalene	(2)	9.226(0.000)	142	923012	11.136	44.54			0.03
90) Acenaphthylene	(3)	10.637(-0.000)	152	1434609	11.779	47.11			0.03
93) Acenaphthene	(3)	10.922(-0.000)	153	962305	11.928	47.71			0.03
103) Fluorene	(3)	11.721(0.000)	166	1059718	12.016	48.06			0.03
131) Phenanthrene	(4)	12.875(0.000)	178	1491463	10.854	43.42			0.03
134) Anthracene	(4)	12.933(0.000)	178	1514248	11.286	45.14			0.03
142) Fluoranthene	(4)	14.396(0.000)	202	1733359	11.315	45.26			0.03
146) Pyrene	(5)	14.711(0.000)	202	1803654	11.505	46.02			0.03
158) Benzo(a)anthracene	(5)	16.623(0.000)	228	1766788	12.258	49.03			0.03
161) Chrysene	(5)	16.687(-0.000)	228	1782960	12.894	51.58			0.03
168) Benzo(b)fluoranthene	(6)	18.430(-0.000)	252	1885296	13.080	52.32			0.03
170) Benzo(k)fluoranthene	(6)	18.476(-0.000)	252	1805867	12.578	50.31			0.03
171) Benzo(a)pyrene	(6)	18.937(-0.000)	252	1650809	12.456	49.83			0.03
176) Indeno(1,2,3-cd)pyrene	(6)	20.604(0.000)	276	2034055M	13.758	55.03			0.03
177) Dibenz(a,h)anthracene	(6)	20.656(-0.000)	278	1707758	13.824	55.30			0.03
178) Benzo(g,h,i)perylene	(6)	20.959(-0.000)	276	1821175	14.377	57.51			0.03

M = Compound was manually integrated.

Digitally signed by Ankita A. Patel on 09/29/2015 at 11:46. Target 3.5 esignature user ID: aap07680

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/15sep29.b/di0823.d Injection date and time: **29-SEP-2015 10:07**
Data file Sample Info. Line: 268WBLCS4;268WBLCS;1;3;LCS;;; Instrument ID: **HP19760.i** Batch: **15268WAB**
Date, time and analyst ID of latest file update: 29-Sep-2015 11:45 aap07680

Blank Data file reference: **/chem/HP19760.i/15sep29.b/di0822.d**

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 29-SEP-2015 10:31
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/15sep29.b/di0821.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

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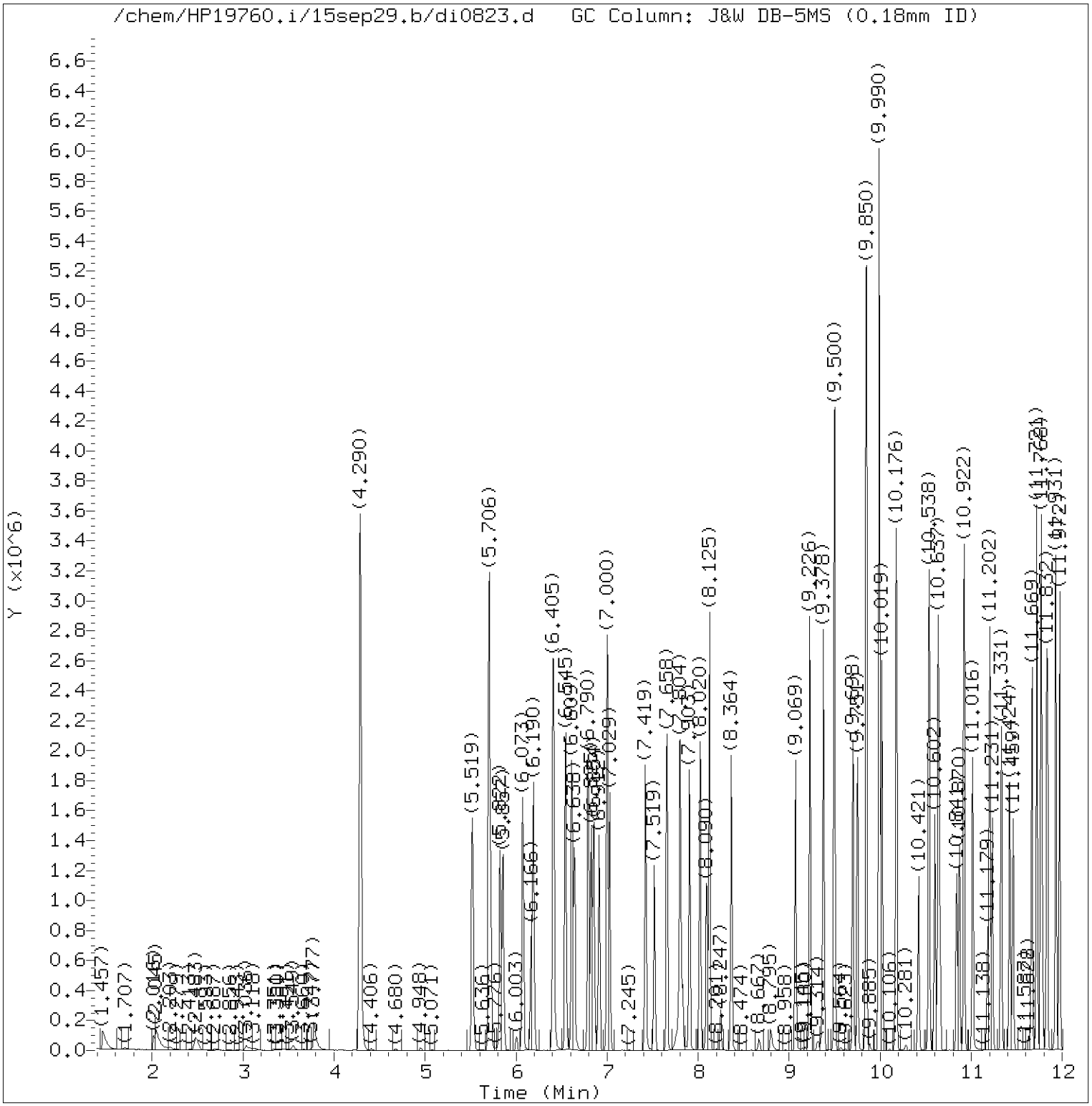
Total number of targets = 17

Digitally signed by Ankita A. Patel on 09/29/2015 at 11:46. Target 3.5 esignature user ID: aap07680

Secondary review performed and digitally signed by Matthew E. Barton on 09/30/2015 at 12:44. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

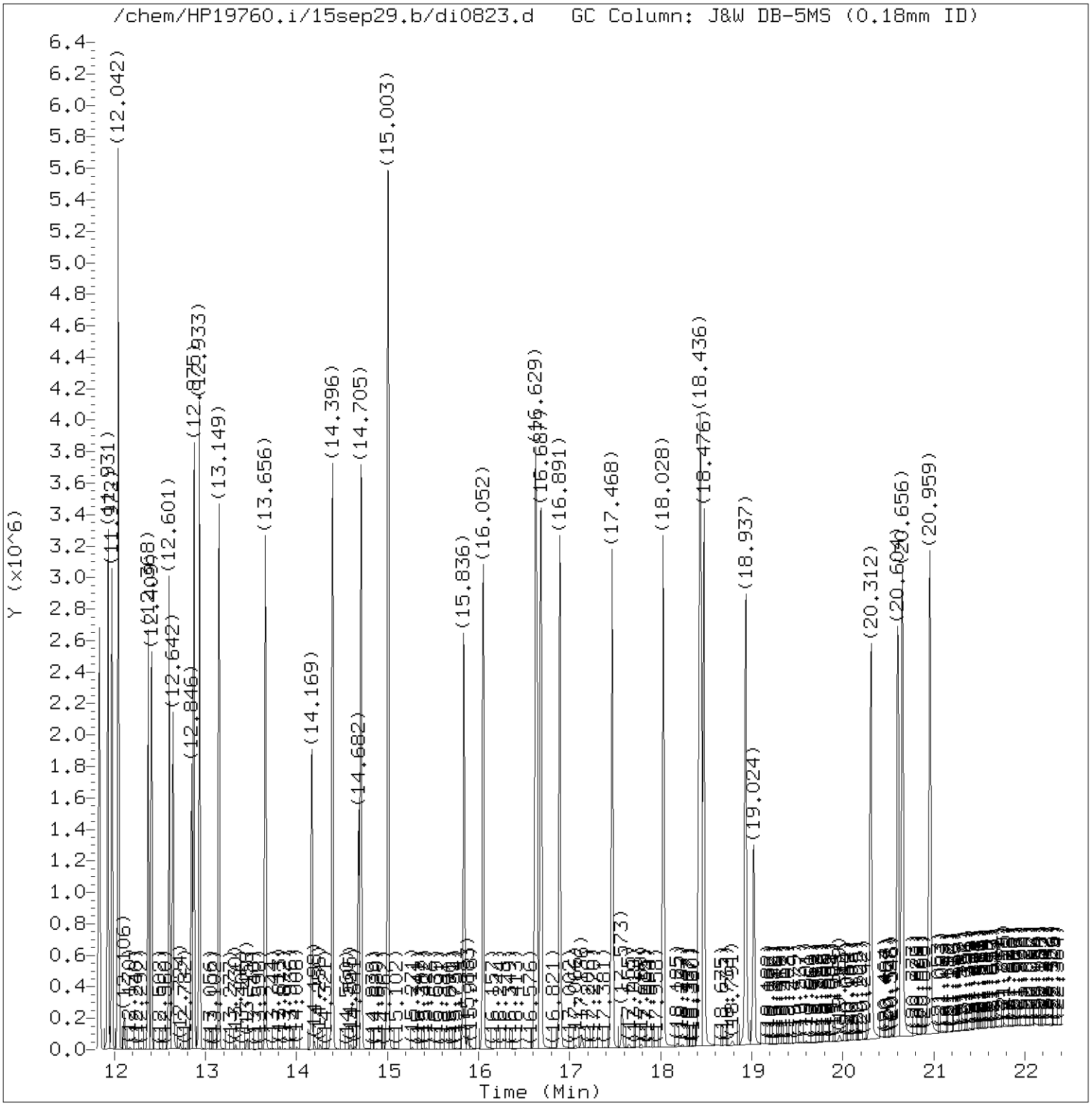
Target Revision 3.5

Data File: /chem/HP19760.i/15sep29.b/di0823.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 10:07 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: 4656
Calibration date and time: 29-SEP-2015 10:31
Date, time and analyst ID of latest file update: 29-Sep-2015 11:45 aap07680

Sample Name: 268WBLCS4 Lab Sample ID: 268WBLCS

Digitally signed by Ankita A. Patel
on 09/29/2015 at 11:46.
Target 3.5 esignature user ID: aap07680



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/15sep29.b/di0823.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 10:07 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: 4656
Calibration date and time: 29-SEP-2015 10:31
Date, time and analyst ID of latest file update: 29-Sep-2015 11:45 aap07680

Sample Name: 268WBLCS4 Lab Sample ID: 268WBLCS

Digitally signed by Ankita A. Patel
on 09/29/2015 at 11:46.
Target 3.5 esignature user ID: aap07680

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/15sep29.b/di0823.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 10:07 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: 4656
Calibration date and time: 29-SEP-2015 10:31
Date, time and analyst ID of latest file update: 29-Sep-2015 11:45 aap07680

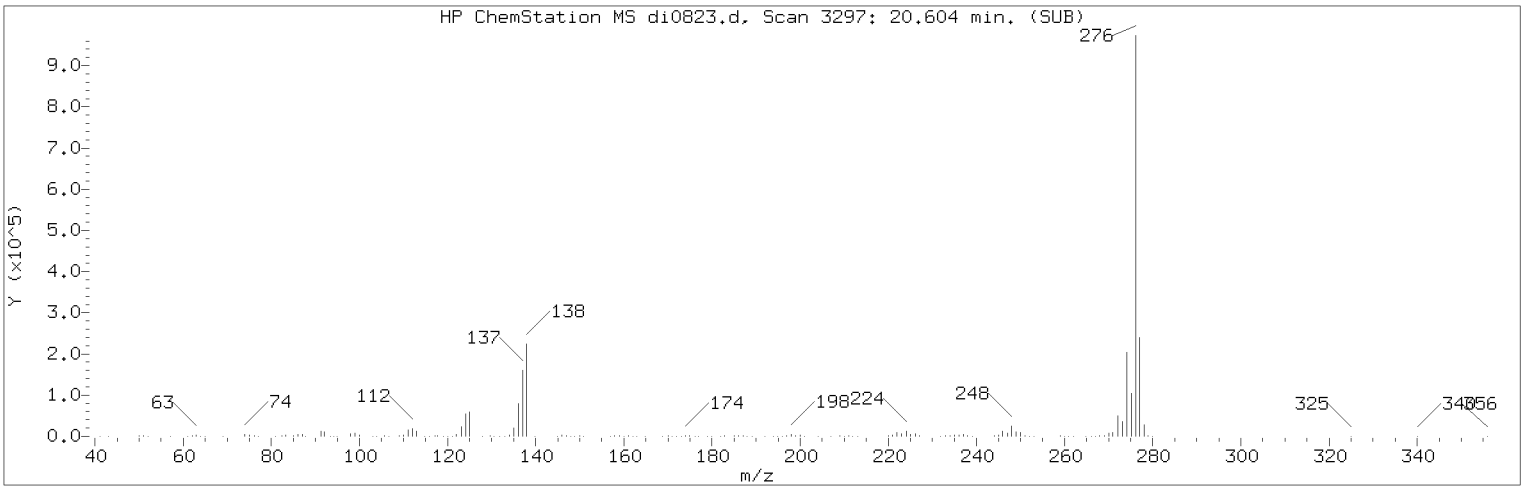
Sample Name: 268WBLCS4 Lab Sample ID: 268WBLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
19)*1,4-Dichlorobenzene-d4	(1)	6.166	152	159434	5.000
36)$Nitrobenzene-d5	(2)	7.000	82	1289995	23.127
52)*Naphthalene-d8	(2)	8.090	136	593973	5.000
53) Naphthalene	(2)	8.125	128	1452763	11.496
65) 2-Methylnaphthalene	(2)	9.226	142	923012	11.136
72)$2-Fluorobiphenyl	(3)	9.850	172	2045697	21.286
90) Acenaphthylene	(3)	10.637	152	1434609	11.779
92)*Acenaphthene-d10	(3)	10.870	164	350085	5.000
93) Acenaphthene	(3)	10.922	153	962305	11.928
103) Fluorene	(3)	11.721	166	1059718	12.016
130)*Phenanthrene-d10	(4)	12.846	188	638679	5.000
131) Phenanthrene	(4)	12.875	178	1491463	10.854
134) Anthracene	(4)	12.933	178	1514248	11.286
142) Fluoranthene	(4)	14.396	202	1733359	11.315
145)*Pyrene-d10	(5)	14.682	212	760078	5.000
146) Pyrene	(5)	14.711	202	1803654	11.505
149)$Terphenyl-d14	(5)	15.008	244	2326008	21.841
158) Benzo(a)anthracene	(5)	16.623	228	1766788	12.258
161) Chrysene	(5)	16.687	228	1782960	12.894
168) Benzo(b)fluoranthene	(6)	18.430	252	1885296	13.080
170) Benzo(k)fluoranthene	(6)	18.476	252	1805867	12.578
171) Benzo(a)pyrene	(6)	18.937	252	1650809	12.456
172)*Perylene-d12	(6)	19.024	264	641902	5.000
176) Indeno(1,2,3-cd)pyrene	(6)	20.604	276	2034055M	13.758
177) Dibenz(a,h)anthracene	(6)	20.656	278	1707758	13.824
178) Benzo(g,h,i)perylene	(6)	20.959	276	1821175	14.377

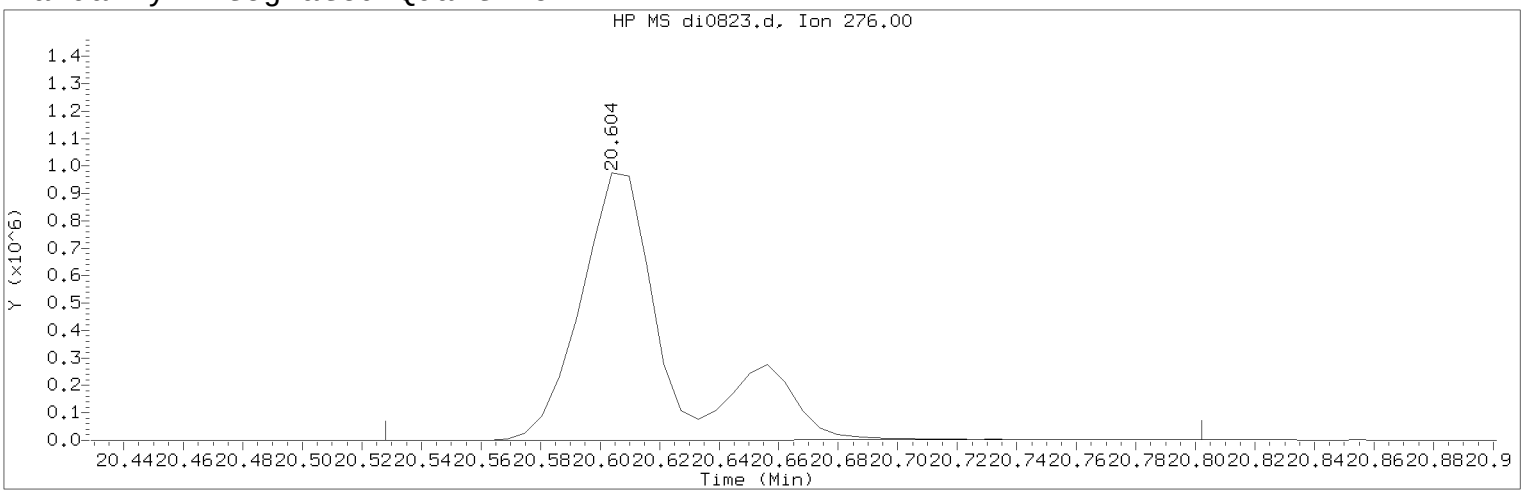
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Ankita A. Patel
on 09/29/2015 at 11:46.
Target 3.5 esignature user ID: aap07680

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/15sep29.b/di0823.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 10:07 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: 4656
Calibration date and time: 29-SEP-2015 10:31
Date, time and analyst ID of latest file update: 29-Sep-2015 11:45 aap07680

Sample Name: 268WBLCS4 Lab Sample ID: 268WBLCS

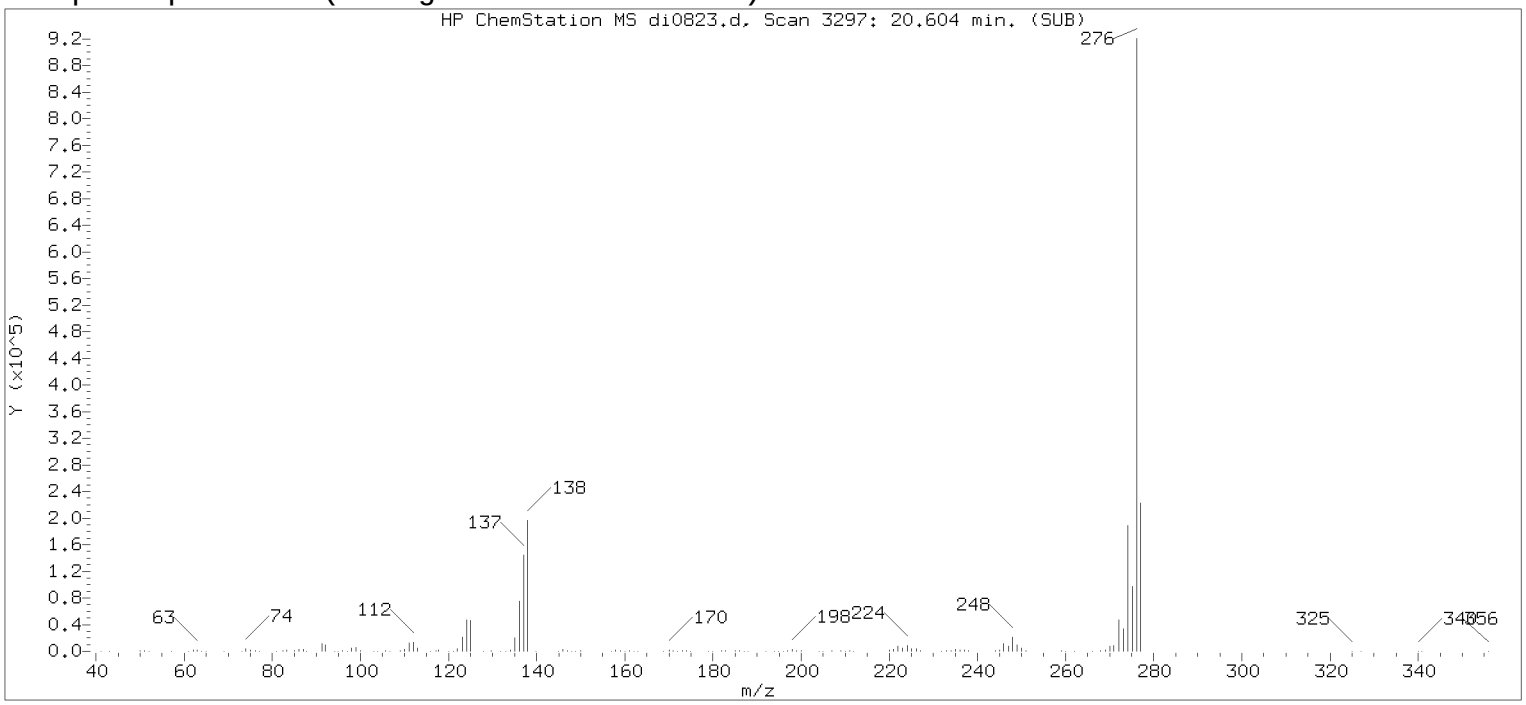
Compound Number : 176
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3297
Retention Time (minutes) : 20.604
Quant Ion : 276.00
Area (flag) : 2034055M
On-Column Amount (ng/ul) : 13.7577
Integration start scan : 3283 Integration stop scan: 3330
Y at integration start : 0 Y at integration end: 1213

Reason for manual integration: improper integration

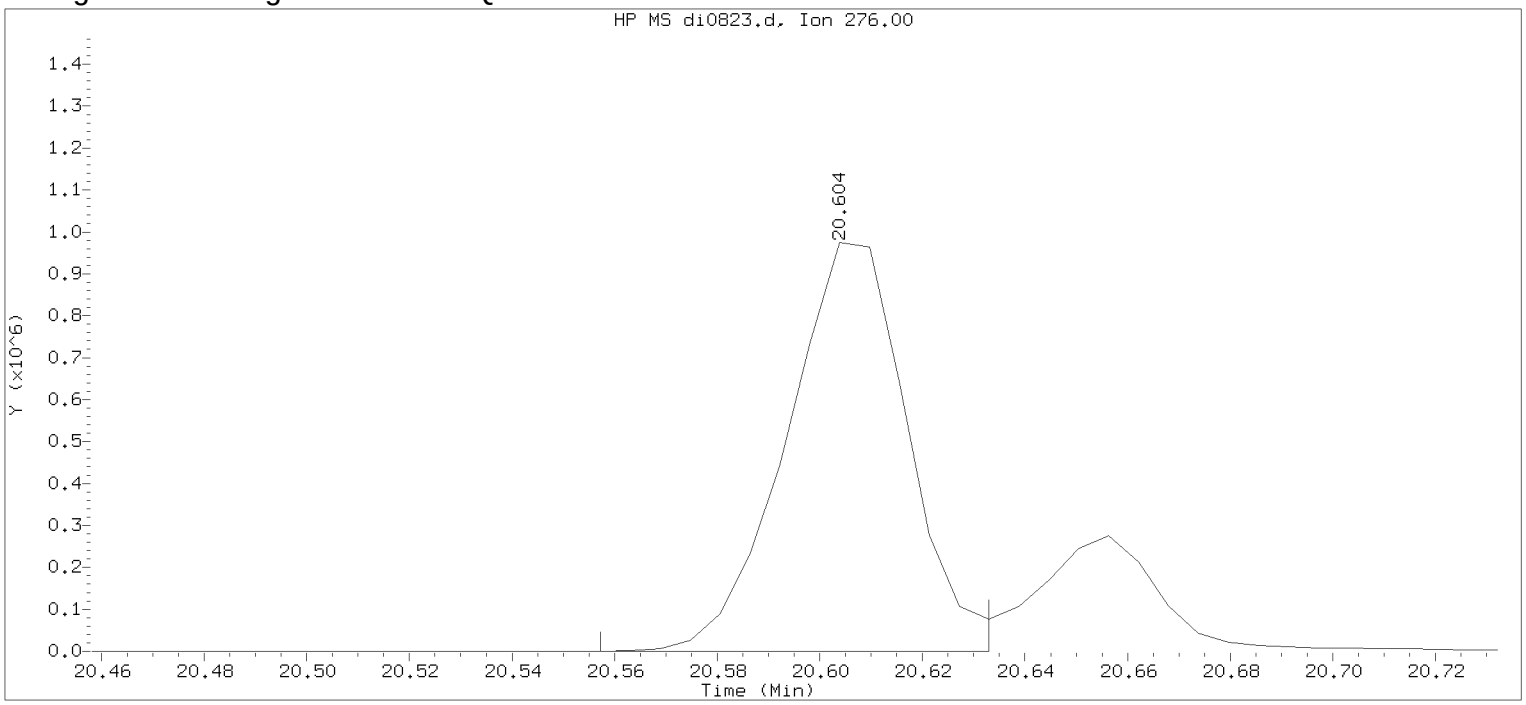
Analyst responsible for change: Digitally signed by Ankita A. Patel
on 09/29/2015 at 11:46.
Target 3.5 esignature user ID: aap07680

Secondary review performed and digitally signed by Matthew E. Barton on 09/30/2015 at 12:44.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/15sep29.b/di0823.d Instrument ID: HP19760.i
Injection date and time: 29-SEP-2015 10:07 Analyst ID: aap07680

Method used: /chem/HP19760.i/15sep29.b/rv8270c.m Sublist used: 4656
Calibration date and time: 29-SEP-2015 09:33
Date, time and analyst ID of latest file update: 29-Sep-2015 10:31 Automation

Sample Name: 268WBLCS4 Lab Sample ID: 268WBLCS

Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3297		
Retention Time (minutes)	: 20.604		
Quant Ion	: 276.00		
Area	: 1585091		
On-column Amount (ng/ul)	: 10.7211		
Integration start scan	: 3288	Integration stop scan:	3301
Y at integration start	: 0	Y at integration end:	223

Digitally signed by Ankita A. Patel on 09/29/2015 at 11:46.
Target 3.5 esignature user ID: aap07680

Extraction/Distillation/Digestion Logs

Semivolatiles by GC/MS

Organic Extraction Batchlog Assigned to: 7964 Shawn McMullen Reviewed by: CeB52417 9/25/15 Start Date: 9/23/15 Start time: 17:55

15266SLE026 Tech 1: BR7963 Tech 2: SM 7964

Dept: 26	Prep Analysis: 10814 BNA Soil Microwave PAH							PAH 8270 (microwave)			
QC	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	BC	Comments
8057363MS	PS484	30.48	SS1525426A	1.0	MS1525926A	1.0	1	Z	Z	301A	Black soil
8057364MSD	PS484	30.14	SS1525426A	↓	MS1525926A	1.0	1	Z	Z	301A	↓
BLANKA	SBLKLE266	30.0	SS1525426A		—	—	1	Z	Z	—	Na_2SO_4
LCSA	266LELCS	30.0	SS1525426A	↓	MS1525926A	1.0	1	Z	Z	—	↓

Solvent Used	Lot No.
1:1 Methylene Chloride/Acetone	185091515A
Methylene Chloride	118253
Sodium Sulfate	15262A
—	—

Spike Solutions: Witness:_____
MS1525926A LCS SPIKE MIX
SS1525426A BNA SURROGATE STANDARD

Sample #	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	FV (mL)	pH	pH	BC	Comments	Analyses	List	Due Date	Prio
1 8051384	EOS05	30.14	SS1525426A	1.0	1	Z	Z	301a	Soil;Brown	10724	3611	09/29/2015	N
2 8051385	EOS06	30.47	SS1525426A	↓	1	Z	Z	301A	Soil;Brown	10724	3611	09/29/2015	N
3 8056301	R-101	30.21	SS1525426A		1	Z	Z	301A	Organic Matter;Soil;Brown	10724	4677	09/28/2015	S
4 8056302	R-102	30.37	SS1525426A		1	Z	Z	301A	Organic Matter;Soil;Brown	10724	4677	09/28/2015	S
5 8056444	HRR05	30.44	SS1525426A		1	Z	Z	301a	Soil;Sandy;Rocks;Brown	10724	4676	10/01/2015	S
6 8056447	HRR08	30.43	SS1525426A		1	Z	Z	301A	Soil;Sandy;Brown	10724	4676	10/01/2015	S
7 8056449	HRR10	30.24	SS1525426A		1	Z	Z	301A	Soil;Sandy;Brown	10724	4676	10/01/2015	S
8 8056450	HRR11	30.08	SS1525426A		1	Z	Z	301A	Soil;Sandy;Brown	10724	4676	10/01/2015	S
9 8056453	HRR14	30.10	SS1525426A		1	Z	Z	301A	Soil;Wet;Rocks;Brown	10724	4676	10/01/2015	S
10 8057359	PS481	30.30	SS1525426A		1	Z	Z	301A	Wet;Sandy;Black	10724	4676	10/02/2015	N
11 8057360	PS482	30.32	SS1525426A		1	Z	Z	301A	Sandy;Black	10724	4676	10/02/2015	N
12 8057361	PS483	30.27	SS1525426A		1	Z	Z	301A	Sandy;Black	10724	4676	10/02/2015	N
13 8057362BKG	PS484	30.17	SS1525426A		1	Z	Z	301A	Sandy;Black	10724	4676	10/02/2015	N
14 8057366	PS3DP	30.36	SS1525426A		1	Z	Z	301A	Sandy;Black	10724	4676	10/02/2015	N
15 8057367	PS485	30.39	SS1525426A		1	Z	Z	301A	Wet;Sandy;Black	10724	4676	10/02/2015	N
16 8057368	PS486	30.04	SS1525426A	↓	1	Z	Z	301A	Sandy;Black	10724	4676	10/02/2015	N

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NA
BR7963 9/23/15

Rack ID:		Work Station	17425	Micro Temp 100?	S-bath ID 13	94 C	S-bath ID —	— C	N-Evap —	— C	M-vap —	— C	15266SLE026
Internal Standard	LC150911V	Balance #	13	✓									

Documented temps are NIST corrected.

DF = Dilution Factor FV = Final Volume

Organic Extraction Batchlog Assigned to: 7673 Ryan Schafran Reviewed by: AAP7680 9/29/15 Start Date: 9/25/15 Start time: 16:00

15268WAB026

Tech 1: RS 7673 Tech 2: _____

Dept: 26 Prep Analysis: 07807 BNA Water Extraction PAHs in Water by GC/MS

QC	Sample Code	Amt (ml)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH 2	BC	Comments
8059066MS	C8-12	247	SS1525426B	1	MS1525926B	1	1	7	✓	153A	Yellow
8059067MSD	C8-12	246	SS1525426B	1	MS1525926B	1	1		✓	153A	✓
BLANKA	SBLKWB268	250	SS1525426B	1	—	—	1		✓	2	Top Bad
LCSA	268WBLCS	250	SS1525426B	1	MS1525926B	1	1		✓		✓

Solvent Used	Lot No.
Methylene Chloride	118257
Sodium Sulfate	152684
Sulfuric Acid	155108

Spike Solutions: Witness: _____
MS1525926B MINI SEP. LCS SPIKE
SS1525426B MINI SEP. BNA SURROGATE

Sample #		Sample Code	Amt (ml)	SS/IS Sol.	Amt (mL)	FV (mL)	pH	pH 2	BC	Comments	Analyses	List	Due Date	Prio
1	8052865 R	C0603	246	SS1525426B	1	1	7	✓	153B	Yellow	07805	3607	09/30/2015	N
2	8057369	PS3FB	245	SS1525426B	↓	1	↓	✓	043A	↓	07805	4656	10/02/2015	N
3	8059054	C8-01	241	SS1525426B	↓	1	↓	✓	153A	↓	07805	3607	10/05/2015	N
4	8059055	C8-02	240	SS1525426B	↓	1	↓	✓	153A	↓	07805	3607	10/05/2015	N
5	8059056	C8--3	247	SS1525426B	↓	1	↓	✓	153A	↓	07805	3607	10/05/2015	N
6	8059057	C8--4	246	SS1525426B	↓	1	↓	✓	153A	↓	07805	3607	10/05/2015	N
7	8059058	C8-05	242	SS1525426B	↓	1	↓	✓	153A	↓	07805	3607	10/05/2015	N
8	8059059	C8-06	249	SS1525426B	↓	1	↓	✓	153A	↓	07805	3607	10/05/2015	N
9	8059060	C8-07	248	SS1525426B	↓	1	↓	✓	153A	↓	07805	3607	10/05/2015	N
10	8059061	C8-08	247	SS1525426B	↓	1	↓	✓	153A	↓	07805	3607	10/05/2015	N
(8) 11	~~8059062~~	~~C8-09~~		~~SS1525426B~~					A		07805	3607	10/05/2015	N
12	8059063	C8-10	246	SS1525426B	1	1	7	✓	153A		07805	3607	10/05/2015	N
13	8059064	C8-11	245	SS1525426B	↓	1	↓	✓	153A	↓	07805	3607	10/05/2015	N
14	8059065BKG	C8-12	242	SS1525426B	↓	1	↓	✓	153A	↓	07805	3607	10/05/2015	N
15	8059068	C8-13	241	SS1525426B	↓	1	↓	✓	153A	↓	07805	3607	10/05/2015	N
16	8059069	C8-14	243	SS1525426B	↓	1	↓	✓	153A	↓	07805	3607	10/05/2015	N
17	8062128	EXH06	247	SS1525426B	↓	1	↓	✓	153A	↓	07805	4426	10/06/2015	N
18	8062135	EX23S	246	SS1525426B	↓	1	↓	✓	153A	✓	07805	4426	10/06/2015	N

(8) Sample last on bench RS 7673 9/25/15

PSC24 Page 692 of 1169

Rack ID:	—	Work Station	5	Micro Temp 100?	—
Internal Standard	RVISTD25I5	Balance #	7		

S-bath ID	98 C	S-bath ID	C	N-Evap	C	M-vap	C	15268WAB026

Documented temps are NIST corrected.

DF = Dilution Factor FV = Final Volume

Metals in Liquid Data

Case Narrative/Conformance Summary

Metals in Liquid

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC24

ICP Metals

Fraction: Metals in Liquid

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8057369	0160-13FB	X		1	Field Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

The instrument detection limits (IDLs) are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The method detection limits (MDLs) are used for determining all other U flags.

Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC24

ICP Metals

Fraction: Metals in Liquid

Abbreviation Key

BKG – Background	AF - Cold Vapor Atomic Fluorescence
DUP – Duplicate	U - Below MDL
MS - Matrix Spike	B - Below LOQ
MSD - Matrix Spike Dup	N - Matrix Spike out of specifications
B – Blank	* - Duplicate out of specifications
Q - Laboratory Control Sample	E - Matrix Effects exist as proven by Serial Dilution or Spiked Dilution
Y - Laboratory Control Sample Duplicate	A - Post Digestion Spike
P - ICP Atomic Emission Spectrometer	L - Serial Dilution
MS - ICP Mass Spectrometry	R - Internal Standard Relative Intensity OOS
CV - Cold Vapor	NR - Not Required

Sample Data

Metals in Liquid

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC24
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8057369 % Solids: 0.0
Concentration Units: UG/L Date Received: 09/22/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.54	U		MS
7440-39-3	Barium	0.30	U		P
7440-43-9	Cadmium	0.40	B		P
7440-47-3	Chromium	0.70	U		MS
7440-50-8	Copper	2.5	U		P
7439-92-1	Lead	0.13	U		MS
7439-97-6	Mercury	0.072	B		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P
7440-66-6	Zinc	3.9	U		P

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

Quality Control and Calibration Summary Forms

Metals in Liquid

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QUALITY CONTROL REFERENCE LIST

SDG No.: PSC24
Matrix: WATER

Analyte	Batch ID	Lab Sample ID
Barium	P26848D	8057369
Cadmium		P26848DB
Copper		P26848DQ
Silver		
Zinc		

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

QUALITY CONTROL REFERENCE LIST

SDG No.: PSC24
Matrix: WATER

Analyte	Batch ID	Lab Sample ID
Arsenic	P27350C	8057369
Chromium		P27350CB
Lead		P27350CQ
Selenium		

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

QUALITY CONTROL REFERENCE LIST

SDG No.: PSC24
Matrix: WATER

Analyte	Batch ID	Lab Sample ID
Mercury	P26813L	8057369
		P26813LB
		P26813LQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: P
Run Name: 1527404T71
Calibration Date(s): 10/01/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Barium		600.0	610.49	101.7	500.0	513.02	102.6	500.0	492.04	98.4
Cadmium		600.0	604.98	100.8	500.0	500.52	100.1	500.0	488.10	97.6
Copper		600.0	610.59	101.8	500.0	519.55	103.9	500.0	501.09	100.2
Silver		600.0	606.36	101.1	500.0	505.64	101.1	500.0	488.66	97.7
Zinc		600.0	600.77	100.1	500.0	498.39	99.7	500.0	486.94	97.4

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: P
Run Name: 1527404T71
Calibration Date(s): 10/01/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Barium					500.0	505.00	101.0	500.0	489.90	98.0
Cadmium					500.0	496.87	99.4	500.0	486.64	97.3
Copper					500.0	513.12	102.6	500.0	501.88	100.4
Silver					500.0	501.09	100.2	500.0	486.48	97.3
Zinc					500.0	495.59	99.1	500.0	485.14	97.0

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: MS
Run Name: 1527504E03
Calibration Date(s): 10/02/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Arsenic	75	500.0	512.80	102.6	250.0	253.30	101.3	250.0	252.10	100.8
Chromium	52	500.0	484.50	96.9	250.0	247.70	99.1	250.0	249.60	99.8
Lead	208	50.0	49.53	99.1	25.0	24.70	98.8	25.0	24.62	98.5
Selenium	78	50.0	51.05	102.1	25.0	25.06	100.2	25.0	25.58	102.3

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: MS
Run Name: 1527504E03
Calibration Date(s): 10/02/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Arsenic	75				250.0	259.60	103.8	250.0	248.00	99.2
Chromium	52				250.0	246.10	98.4	250.0	248.30	99.3
Lead	208				25.0	24.73	98.9	25.0	24.66	98.6
Selenium	78				25.0	25.11	100.4	25.0	25.74	103.0

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: CV
Run Name: 1527201M07
Calibration Date(s): 09/29/2015
Concentration Units: UG/L

		Initial Calibration			Continuing Calibration					
Analyte	Mass	True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury		2.5	2.56	102.4	1.0	1.00	100.0	1.0	1.00	100.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: CV
Run Name: 1527201M07
Calibration Date(s): 09/29/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.99	99.0	1.0	0.98	98.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: CV
Run Name: 1527201M07
Calibration Date(s): 09/29/2015
Concentration Units: UG/L

		Initial Calibration			Continuing Calibration					
Analyte	Mass	True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.98	98.0	1.0	0.98	98.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: CV
Run Name: 1527201M07
Calibration Date(s): 09/29/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.98	98.0	1.0	0.98	98.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: CV
Run Name: 1527201M07
Calibration Date(s): 09/29/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.98	98.0	1.0	0.98	98.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: P
Run Name: 1527404T71
Calibration Date(s): 10/01/2015
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Barium		5.0	5.33	106.6	5.25	105.0
Cadmium		5.0	5.61	112.2	5.41	108.2
Copper		10.0	9.07	90.7	8.51	85.1
Silver		5.0	4.99	99.8	5.21	104.2
Zinc		20.0	20.38	101.9	19.85	99.3

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: PSC24

Method: MS
Run Name: 1527504E03
Calibration Date(s): 10/02/2015
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Arsenic	75	2.0	2.24	112.0	1.70	85.0
Chromium	52	2.0	2.12	106.0	1.88	94.0
Lead	208	1.0	1.00	100.0	0.97	97.0
Selenium	78	2.0	2.08	104.0	1.87	93.5

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Run Name: 1527201M07
Calibration Date(s): 09/29/2015
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Mercury		0.2	0.20	100.0	0.17	85.0

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC24

Method: P
Run Name: 1527404T71
Calibration Date(s): 10/01/2015
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Barium		0.33	U	0.33	U	0.33	U	0.33	U		0.720	B	P26848DB
Cadmium		0.33	U	0.33	U	0.39	B	0.33	U		0.410	B	P26848DB
Copper		-1.8	B	1.7	U	-1.7	B	1.7	U		2.500	U	P26848DB
Silver		0.83	U	0.83	U	0.83	U	0.83	U		1.400	U	P26848DB
Zinc		2.0	U	2.0	U	2.0	U	2.0	U		3.900	U	P26848DB

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC24

Method: P
Run Name: 1527404T71
Calibration Date(s): 10/01/2015

Analyte	Mass	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank (UG/L) Mass		C	Lab Sample ID
Barium				0.33	U								
Cadmium				0.39	B								
Copper				1.7	U								
Silver				0.83	U								
Zinc				2.0	U								

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC24

Method: MS
Run Name: 1527504E03
Calibration Date(s): 10/02/2015
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Arsenic	75	0.31	U	0.31	U	0.31	U	0.31	U	75	0.540	U	P27350CB
Chromium	52	0.28	U	0.28	U	0.28	U	0.28	U	52	0.700	U	P27350CB
Lead	208	0.14	U	0.14	U	0.14	U	0.14	U	208	0.130	U	P27350CB
Selenium	78	0.55	U	0.55	U	0.55	U	0.55	U	78	0.500	U	P27350CB

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC24

Method: MS
Run Name: 1527504E03
Calibration Date(s): 10/02/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Arsenic	75			0.31	U								
Chromium	52			0.28	U								
Lead	208			0.14	U								
Selenium	78			0.55	U								

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC24

Method: CV
Run Name: 1527201M07
Calibration Date(s): 09/29/2015
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury		0.050	U	0.050	U	0.050	U	0.050	U		0.050	U	P26813LB

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC24

Method: CV
Run Name: 1527201M07
Calibration Date(s): 09/29/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury				0.050	U	0.050	U	0.050	U				

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC24

Method: CV
Run Name: 1527201M07
Calibration Date(s): 09/29/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury				0.050	U	0.050	U	0.050	U				

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC24

Method: CV
Run Name: 1527201M07
Calibration Date(s): 09/29/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury				0.050	U								

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: PSC24

Instrument ID: 16315
Run Name: 1527404T71
Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	500000	500000	485102	97.0	484771.2	97.0	470280	94.1	469070.2	93.8
Barium	0	500	1		515.4	103.1	1		499.1	99.8
Cadmium	0	1000	1		924.4	92.4	1		939.5	94.0
Calcium	500000	500000	485511	97.1	487000.8	97.4	474836	95.0	473083.6	94.6
Copper	0	500	1		536.6	107.3	1		525.4	105.1
Iron	200000	200000	194079	97.0	194594.9	97.3	188944	94.5	188611.8	94.3
Magnesium	500000	500000	465492	93.1	471189.4	94.2	452265	90.5	451331.1	90.3
Silver	0	200	2		219.6	109.8	3		214.2	107.1
Zinc	0	1000	4		979.9	98.0	4		997.2	99.7

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: PSC24

Instrument ID: 11332
Run Name: 1527504E03
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	10000	10000	9876	98.8	9918.0	99.2
Arsenic	75	0	20	0		19.6	98.0
Calcium	44	10000	10000	9974	99.7	9731.0	97.3
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium	52	0	20	0		19.6	98.0
Iron	57	10000	10000	9959	99.6	9993.0	99.9
Lead	208	0	0	0		0.0	
Magnesium	24	10000	10000	9777	97.8	9731.0	97.3
Molybdenum	98	200	200	197	98.5	195.1	97.6
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	10000	10000	10090	100.9	10000.0	100.0
Selenium	78	0	0	0		0.0	
Sodium	23	10000	10000	9931	99.3	9863.0	98.6
Sulfur	34	10000	10000	NA		NA	
Titanium	47	200	200	203	101.5	197.5	98.8

Control Limits: All Metals 80%-120%

Instrument ID: 11332
Run Name: 1527504E03
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	10000	10000	9912	99.1	9956.0	99.6
Arsenic	75	0	20	0		20.1	100.5
Calcium	44	10000	10000	9827	98.3	9977.0	99.8
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium	52	0	20	0		19.7	98.5
Iron	57	10000	10000	9985	99.9	10010.0	100.1
Lead	208	0	0	0		0.0	
Magnesium	24	10000	10000	9830	98.3	9853.0	98.5
Molybdenum	98	200	200	200	100.0	201.0	100.5
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	10000	10000	9984	99.8	10040.0	100.4
Selenium	78	0	0	0		0.0	
Sodium	23	10000	10000	9883	98.8	9899.0	99.0
Sulfur	34	10000	10000	NA		NA	
Titanium	47	200	200	195	97.5	210.3	105.2

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: PSC24
Matrix: WATER

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Arsenic	75	P27350CQ	UG/L	10.000	9.909		80 - 120	99	MS	Yes
Barium		P26848DQ	UG/L	2000.000	2070.850		80 - 120	104	P	Yes
Cadmium		P26848DQ	UG/L	50.000	52.790		80 - 120	106	P	Yes
Chromium	52	P27350CQ	UG/L	50.000	47.560		80 - 120	95	MS	Yes
Copper		P26848DQ	UG/L	250.000	267.820		80 - 120	107	P	Yes
Lead	208	P27350CQ	UG/L	15.000	14.930		80 - 120	100	MS	Yes
Mercury		P26813LQ	UG/L	1.000	1.008		80 - 120	101	CV	Yes
Selenium	78	P27350CQ	UG/L	10.000	10.210		80 - 120	102	MS	Yes
Silver		P26848DQ	UG/L	50.000	49.560		80 - 120	99	P	Yes
Zinc		P26848DQ	UG/L	500.000	515.490		80 - 120	103	P	Yes

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ

Method: P
Instrument ID: 16315
Date: 07/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Barium	455.40		0.33
Cadmium	226.50		0.33
Copper	327.40		1.7
Silver	328.06		0.83
Zinc	213.86		2.0

Comments:

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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: PSC24

Method: MS
Instrument ID: 11332
Date: 08/2015

Analyte	MASS (amu)	Background	IDL (UG/L)
Arsenic	75		0.31
Chromium	52		0.28
Lead	208		0.14
Selenium	78		0.55

Comments:

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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Instrument ID: 17384
Date: 07/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Mercury	254.00		0.050

Comments:

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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC24
Matrix: WATER

Method: P
Date: 07/2015

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Barium	455.40		5.0	0.30
Cadmium	226.50		5.0	0.30
Copper	327.40		10.0	2.5
Silver	328.06		5.0	1.4
Zinc	213.86		20.0	3.9

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC24
Matrix: WATER

Method: MS
Date: 07/2015

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Arsenic	75		2.0	0.54
Chromium	52		2.0	0.70
Lead	208		1.0	0.13
Selenium	78		2.0	0.50

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC24
Matrix: WATER

Method: CV
Date: 07/2015

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Mercury	254.00		0.20	0.050

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC24

Instrument ID: 16315
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: AL	CA	FE	MG	CO
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	-0.0000060	0.0000000	0.0000880	0.0000000	0.0000120
Copper	327.40	0.0000000	0.0000400	-0.0000290	0.0000000	0.0003000
Silver	328.06	0.0000000	0.0000000	-0.0006200	0.0000000	0.0000000
Zinc	213.86	0.0000000	0.0000000	0.0000900	0.0000000	0.0000000

Comments:
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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC24

Instrument ID: 16315
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: CR	CU	MO	NI	TH
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	0.0000200	0.0000000	0.0000000	-0.0000540	0.0000000
Copper	327.40	0.0000000	0.0000000	-0.0007830	0.0000000	0.0236840
Silver	328.06	0.0000000	0.0000000	0.0000000	0.0000000	-0.0212540
Zinc	213.86	0.0000000	0.0010800	0.0000000	0.0054370	0.0000000

Comments:
_____
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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC24

Instrument ID: 16315
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: TI	W	ZR	--	--
Barium	455.40	0.0000000	0.0000000	0.0003190		
Cadmium	226.50	0.0000000	0.0001040	0.0000000		
Copper	327.40	-0.0132100	0.0000000	-0.0006400		
Silver	328.06	-0.0004520	0.0000000	0.0019920		
Zinc	213.86	0.0000000	0.0000000	0.0000000		

Comments:
_____
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_____

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QUALITY ASSURANCE SUMMARY
FORM 12
LINEAR RANGES
SDG No.: PSC24

Method: P
Instrument ID: 16315
Date: 07/2015

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Barium	455.4	10.00	5000.0
Cadmium	226.5	10.00	20000.0
Copper	327.4	10.00	10000.0
Silver	328.06	10.00	10000.0
Zinc	213.86	10.00	10000.0

Comments:
_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: P
Batch ID: P26848D

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
8057369	09/28/2015	50.00	50
P26848DB	09/28/2015	50.00	50
P26848DQ	09/28/2015	1.00	1

METHODS:	LEGEND:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	BKG = Background DUP = Duplicate MS = Matrix Spike MSD = Matrix Spike Duplicate B = Blank Q = Laboratory Control Sample Y = Laboratory Control Sample Duplicate

Method: MS
Batch ID: P27350C

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
8057369	10/01/2015	50.00	50
P27350CB	10/01/2015	50.00	50
P27350CQ	10/01/2015	1.00	1

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

Method: CV
Batch ID: P26813L

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
8057369	09/28/2015	40.00	40
P26813LB	09/28/2015	40.00	40
P26813LQ	09/28/2015	1.00	1

METHODS:	LEGEND:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	BKG = Background DUP = Duplicate MS = Matrix Spike MSD = Matrix Spike Duplicate B = Blank Q = Laboratory Control Sample Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC24

Method: P
Instrument ID: 16315
Run Name: 1527404T71

Run Start Date: 10/01/2015
Run End Date: 10/01/2015

Lab Sample ID	D/F	Time	Analytes																																			
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																											
S0	1.00	04:50		X	X		X				X	X																											
S	1.00	04:53																																					
S	1.00	04:56		X	X		X				X	X																											
S	1.00	04:59																																					
ICV	1.00	05:02		X	X		X				X	X																											
ICB	1.00	05:05		X	X		X				X	X																											
LLC	1.00	05:07		X	X		X				X	X																											
ICSA	1.00	05:10		X	X		X				X	X																											
ICSAB	1.00	05:14		X	X		X				X	X																											
CCV	1.00	05:17		X	X		X				X	X																											
CCB	1.00	05:20		X	X		X				X	X																											
P26848DB	1.00	05:23		X	X		X				X	X																											
P26848DQ	1.00	05:25		X	X		X				X	X																											
ZZZZZZ	1.00	05:28																																					
ZZZZZZ	1.00	05:31																																					
ZZZZZZ	1.00	05:34																																					
ZZZZZZ	1.00	05:37																																					
ZZZZZZ	1.00	05:40																																					
ZZZZZZ	5.00	05:43																																					
ZZZZZZ	1.00	05:46																																					
ZZZZZZ	1.00	05:49																																					
CCV	1.00	05:52		X	X		X				X	X																											
CCB	1.00	05:55		X	X		X				X	X																											
ZZZZZZ	1.00	05:57																																					
ZZZZZZ	1.00	06:00																																					
ZZZZZZ	1.00	06:03																																					
ZZZZZZ	1.00	06:06																																					
ZZZZZZ	1.00	06:10																																					
ZZZZZZ	1.00	06:13																																					
ZZZZZZ	1.00	06:16																																					
ZZZZZZ	1.00	06:19																																					
ZZZZZZ	1.00	06:21																																					
ZZZZZZ	1.00	06:24																																					
CCV	1.00	06:27		X	X		X				X	X																											
CCB	1.00	06:30		X	X		X				X	X																											
8057369	1.00	06:33		X	X		X				X	X																											
ZZZZZZ	1.00	06:36																																					
ZZZZZZ	1.00	06:39																																					

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC24

Method: P
Instrument ID: 16315
Run Name: 1527404T71

Run Start Date: 10/01/2015
Run End Date: 10/01/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																				
ZZZZZZ	1.00	06:42																														
ZZZZZZ	1.00	06:45																														
ZZZZZZ	1.00	06:48																														
ZZZZZZ	1.00	06:51																														
LLC	1.00	06:54		X	X		X				X	X																				
ICSA	1.00	06:57		X	X		X				X	X																				
ICSAB	1.00	07:00		X	X		X				X	X																				
CCV	1.00	07:03		X	X		X				X	X																				
CCB	1.00	07:06		X	X		X				X	X																				

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC24

Method: MS
Instrument ID: 11332
Run Name: 1527504E03

Run Start Date: 10/02/2015
Run End Date: 10/02/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																				
S0	1.00	09:03	X			X		X		X																						
S	1.00	09:06	X			X		X		X																						
CCS	1.00	09:08	X			X		X		X																						
CCS	1.00	09:10	X			X		X		X																						
ICV	1.00	09:13	X			X		X		X																						
ICB	1.00	09:15	X			X		X		X																						
LLC	1.00	09:17	X			X		X		X																						
ICSA	1.00	09:20	X			X		X		X																						
ICSAB	1.00	09:22	X			X		X		X																						
CCV	1.00	09:24	X			X		X		X																						
CCB	1.00	09:27	X			X		X		X																						
P27350CB	1.00	09:29	X			X		X		X																						
P27350CQ	1.00	09:31	X			X		X		X																						
ZZZZZZ	1.00	09:34																														
ZZZZZZ	1.00	09:36																														
ZZZZZZ	1.00	09:38																														
ZZZZZZ	1.00	09:41																														
ZZZZZZ	1.00	09:43																														
ZZZZZZ	5.00	09:45																														
ZZZZZZ	1.00	09:48																														
8057369	1.00	09:50	X			X		X		X																						
CCV	1.00	09:52	X			X		X		X																						
CCB	1.00	09:55	X			X		X		X																						
ZZZZZZ	1.00	09:57																														
ZZZZZZ	1.00	09:59																														
ZZZZZZ	1.00	10:02																														
ZZZZZZ	1.00	10:04																														
ZZZZZZ	1.00	10:06																														
ZZZZZZ	1.00	10:09																														
ZZZZZZ	1.00	10:11																														
ZZZZZZ	1.00	10:13																														
ZZZZZZ	1.00	10:16																														
ZZZZZZ	1.00	10:18																														
CCV	1.00	10:20	X			X		X		X																						
CCB	1.00	10:23	X			X		X		X																						
ZZZZZZ	1.00	10:25																														
ZZZZZZ	1.00	10:27																														
ZZZZZZ	1.00	10:29																														

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC24

Method: MS
Instrument ID: 11332
Run Name: 1527504E03

Run Start Date: 10/02/2015
Run End Date: 10/02/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																				
ZZZZZZ	1.00	10:32																														
ZZZZZZ	1.00	10:34																														
ZZZZZZ	1.00	10:36																														
ZZZZZZ	1.00	10:39																														
LLC	1.00	10:41	X			X		X		X																						
ICSA	1.00	10:43	X			X		X		X																						
ICSAB	1.00	10:46	X			X		X		X																						
CCV	1.00	10:48	X			X		X		X																						
CCB	1.00	10:50	X			X		X		X																						

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC24

Method: CV
Instrument ID: 17384
Run Name: 1527201M07

Run Start Date: 09/29/2015
Run End Date: 09/29/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																				
S0	1.00	05:52							X																							
S0.2	1.00	05:54							X																							
S0.5	1.00	05:56							X																							
S1.0	1.00	05:58							X																							
S2.5	1.00	06:00							X																							
S5.0	1.00	06:02							X																							
ICV	1.00	06:04							X																							
ICB	1.00	06:06							X																							
CRA	1.00	06:08							X																							
CCV	1.00	06:10							X																							
CCB	1.00	06:12							X																							
ZZZZZZ	1.00	06:19																														
ZZZZZZ	1.00	06:21																														
ZZZZZZ	1.00	06:23																														
ZZZZZZ	1.00	06:25																														
ZZZZZZ	1.00	06:27																														
ZZZZZZ	1.00	06:29																														
ZZZZZZ	1.00	06:31																														
ZZZZZZ	1.00	06:33																														
ZZZZZZ	1.00	06:35																														
ZZZZZZ	1.00	06:37																														
CCV	1.00	06:39							X																							
CCB	1.00	06:41							X																							
ZZZZZZ	1.00	06:43																														
ZZZZZZ	1.00	06:45																														
ZZZZZZ	1.00	06:47																														
ZZZZZZ	1.00	06:49																														
ZZZZZZ	1.00	06:51																														
ZZZZZZ	1.00	06:53																														
ZZZZZZ	1.00	06:55																														
ZZZZZZ	1.00	06:57																														
ZZZZZZ	1.00	06:59																														
ZZZZZZ	1.00	07:01																														
CCV	1.00	07:03							X																							
CCB	1.00	07:06							X																							
ZZZZZZ	1.00	07:08																														
ZZZZZZ	1.00	07:10																														
ZZZZZZ	1.00	07:12																														

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC24

Method: CV
Instrument ID: 17384
Run Name: 1527201M07

Run Start Date: 09/29/2015
Run End Date: 09/29/2015

Lab Sample ID	D/F	Time	Analytes																														
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																						
ZZZZZZ	1.00	07:14																															
ZZZZZZ	1.00	07:16																															
ZZZZZZ	1.00	07:18																															
ZZZZZZ	1.00	07:20																															
ZZZZZZ	1.00	07:22																															
ZZZZZZ	1.00	07:24																															
ZZZZZZ	1.00	07:26																															
CCV	1.00	07:28							X																								
CCB	1.00	07:30							X																								
ZZZZZZ	1.00	07:32																															
ZZZZZZ	1.00	07:34																															
ZZZZZZ	1.00	07:36																															
ZZZZZZ	1.00	07:38																															
ZZZZZZ	1.00	07:40																															
ZZZZZZ	1.00	07:42																															
ZZZZZZ	1.00	07:44																															
ZZZZZZ	1.00	07:46																															
ZZZZZZ	1.00	07:48																															
ZZZZZZ	1.00	07:51																															
CCV	1.00	07:53							X																								
CCB	1.00	07:55							X																								
ZZZZZZ	1.00	07:57																															
ZZZZZZ	1.00	07:59																															
ZZZZZZ	1.00	08:01																															
ZZZZZZ	1.00	08:03																															
ZZZZZZ	1.00	08:05																															
ZZZZZZ	1.00	08:07																															
ZZZZZZ	1.00	08:10																															
ZZZZZZ	1.00	08:12																															
ZZZZZZ	1.00	08:14																															
ZZZZZZ	1.00	08:16																															
CCV	1.00	08:18							X																								
CCB	1.00	08:20							X																								
ZZZZZZ	1.00	08:22																															
ZZZZZZ	1.00	08:24																															
ZZZZZZ	1.00	08:26																															
ZZZZZZ	1.00	08:28																															
ZZZZZZ	1.00	08:30																															

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC24

Method: CV
Instrument ID: 17384
Run Name: 1527201M07

Run Start Date: 09/29/2015
Run End Date: 09/29/2015

Lab Sample ID	D/F	Time	Analytes																														
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																						
ZZZZZZ	1.00	08:32																															
ZZZZZZ	1.00	08:34																															
ZZZZZZ	1.00	08:36																															
ZZZZZZ	1.00	08:38																															
ZZZZZZ	1.00	08:40																															
CCV	1.00	08:42							X																								
CCB	1.00	08:45							X																								
P26813LB	1.00	08:50							X																								
P26813LQ	1.00	08:52							X																								
ZZZZZZ	1.00	08:54																															
ZZZZZZ	1.00	08:56																															
ZZZZZZ	1.00	08:58																															
ZZZZZZ	1.00	09:00																															
ZZZZZZ	1.00	09:02																															
ZZZZZZ	1.00	09:04																															
ZZZZZZ	1.00	09:06																															
ZZZZZZ	1.00	09:08																															
CCV	1.00	09:10							X																								
CCB	1.00	09:12							X																								
ZZZZZZ	1.00	09:14																															
ZZZZZZ	1.00	09:16																															
ZZZZZZ	1.00	09:18																															
ZZZZZZ	1.00	09:20																															
ZZZZZZ	1.00	09:23																															
ZZZZZZ	1.00	09:25																															
8057369	1.00	09:27							X																								
ZZZZZZ	1.00	09:29																															
ZZZZZZ	1.00	09:31																															
ZZZZZZ	1.00	09:33																															
CCV	1.00	09:35							X																								
CCB	1.00	09:37							X																								
ZZZZZZ	1.00	09:39																															
ZZZZZZ	1.00	09:41																															
ZZZZZZ	1.00	09:43																															
ZZZZZZ	1.00	09:45																															
ZZZZZZ	1.00	09:47																															
ZZZZZZ	1.00	09:49																															
ZZZZZZ	1.00	09:51																															

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC24

Method: CV
Instrument ID: 17384
Run Name: 1527201M07

Run Start Date: 09/29/2015
Run End Date: 09/29/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																				
CRA	1.00	09:53							X																							
CCV	1.00	09:55							X																							
CCB	1.00	09:57							X																							

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 15
ICP-MS TUNE
SDG No.: PSC24
Matrix: WATER

Instrument ID: 11332
Date: 10/02/2015

Analyte	Mass	Avg. Measured Mass (amu)	Avg. Peak Width at 5% Peak Height (amu)	%RSD
Lithium	6.000	6.05	0.70	2.3
Magnesium	24.000	24.00	0.70	1.8
Rhodium	103.000	103.05	0.65	1.0
Indium	115.000	115.05	0.65	1.2
Cerium	140.000	140.05	0.60	1.2
Lead	208.000	208.00	0.60	0.7
Uranium	238.000	238.00	0.60	1.6

Comments:

_____
_____
_____
_____

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: PSC24

Instrument ID: 11332
Run Name: 1527504E03

Start Date: 10/02/2015
End Date: 10/02/2015

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	PB	IN-1-115	SE
IN-2-115	AS	SC-2-45	CR

Lab Sample ID	Time	Internal Standards %RI For: Element SC-2-45	Q	Element IN-1-115	Q	Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q	Element	Q
S0	09:03	100		100		100		100							
S	09:06	95		97		95		94							
CCS	09:08	97		99		99		99							
CCS	09:10	99		98		101		100							
ICV	09:13	100		98		98		98							
ICB	09:15	98		99		99		100							
LLC	09:17	99		98		98		100							
ICSA	09:20	97		99		100		97							
ICSAB	09:22	98		98		101		98							
CCV	09:24	97		99		98		98							
CCB	09:27	98		99		101		100							
P27350CB	09:29	100		101		101		103							
P27350CQ	09:31	102		101		100		99							
ZZZZZZ	09:34														
ZZZZZZ	09:36														
ZZZZZZ	09:38														
ZZZZZZ	09:41														
ZZZZZZ	09:43														
ZZZZZZ	09:45														
ZZZZZZ	09:48														
8057369	09:50	101		101		102		103							
CCV	09:52	98		99		99		100							
CCB	09:55	99		99		100		100							
ZZZZZZ	09:57														
ZZZZZZ	09:59														
ZZZZZZ	10:02														
ZZZZZZ	10:04														
ZZZZZZ	10:06														
ZZZZZZ	10:09														
ZZZZZZ	10:11														
ZZZZZZ	10:13														
ZZZZZZ	10:16														

LEGEND:
BKG = Background
DUP = Duplicate
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike

FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
BI = Bismuth
GE = Germanium
HO = Holmium
IN = Indium
LI = Lithium
SC = Scandium
TB = Terbium
Y = Yttrium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: PSC24

Instrument ID: 11332
Run Name: 1527504E03

Start Date: 10/02/2015
End Date: 10/02/2015

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	PB	IN-1-115	SE
IN-2-115	AS	SC-2-45	CR

Lab Sample ID	Time	Internal Standards %RI For: Element SC-2-45	Q	Element IN-1-115	Q	Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	10:18														
CCV	10:20	99		99		96		101							
CCB	10:23	99		98		100		101							
ZZZZZZ	10:25														
ZZZZZZ	10:27														
ZZZZZZ	10:29														
ZZZZZZ	10:32														
ZZZZZZ	10:34														
ZZZZZZ	10:36														
ZZZZZZ	10:39														
LLC	10:41	99		99		98		98							
ICSA	10:43	96		98		97		96							
ICSAB	10:46	96		97		98		97							
CCV	10:48	95		96		97		98							
CCB	10:50	98		98		101		100							

LEGEND:
BKG = Background
DUP = Duplicate
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike

FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
BI = Bismuth
GE = Germanium
HO = Holmium
IN = Indium
LI = Lithium
SC = Scandium
TB = Terbium
Y = Yttrium

Raw Data

Metals in Liquid

ICP Data

Metals in Liquid

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ICP-AES Run Data Report

Reviewed By	Reviewed Date
Eric L Eby	10/01/2015 8:55AM

Verified By:	Verified Date
Jennifer L Moyer	10/06/2015 7:34AM
Nina C Haller	10/23/2015 7:18AM

Data File Name 1527404T71.TXT
Run Name: 1527404T71

Method Reference Name(s):

Analyst Employee: 2106

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 1 Date/Time: 10/01/2015 04:50

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	0.00110	86.886	0.00204	0.00111	0.00014
AL	0.000	0.02680	29.071	0.03560	0.02401	0.02078
AS	0.000	0.00936	5.204	0.00895	0.00922	0.00990
B	0.000	0.00005	18.317	0.00005	0.00004	0.00005
BA	0.000	0.00037	7.766	0.00038	0.00040	0.00034
BE	0.000	-0.00883	6.403	-0.00820	-0.00930	-0.00899
CA	0.000	0.00279	1.325	0.00279	0.00276	0.00283
CD	0.000	-0.04861	5.454	-0.04967	-0.05056	-0.04559
CO	0.000	0.01466	22.281	0.01611	0.01695	0.01092
CR	0.000	-0.00001	64.220	-0.00001	-0.00001	0.00000
CU	0.000	-0.00270	46.943	-0.00149	-0.00259	-0.00402
FE	0.000	0.00015	67.999	0.00005	0.00025	0.00015
K	0.000	0.10312	12.152	0.11187	0.10873	0.08877
LI	0.000	0.00094	21.366	0.00073	0.00096	0.00113
MG	0.000	0.00009	227.756	0.00016	0.00026	-0.00014
MN	0.000	0.00224	18.932	0.00180	0.00226	0.00265
MO	0.000	0.01096	22.574	0.01333	0.01115	0.00839
NA	0.000	-0.00274	14.576	-0.00270	-0.00237	-0.00316
NI	0.000	0.03735	31.426	0.05003	0.03514	0.02687
P	0.000	-0.00012	28.486	-0.00014	-0.00014	-0.00008
PB	0.000	0.03064	33.412	0.02950	0.04140	0.02102
S	0.000	0.00006	74.053	0.00009	0.00009	0.00001
SB	0.000	-0.00009	82.864	-0.00012	0.00000	-0.00013
SE	0.000	-0.00318	87.239	-0.00414	-0.00005	-0.00533
SI	0.000	0.00002	422.615	0.00009	-0.00008	0.00006
SN	0.000	0.01040	5.021	0.01069	0.01071	0.00979
SR	0.000	-0.00036	3.287	-0.00037	-0.00035	-0.00035
TI	0.000	0.00124	61.546	0.00114	0.00205	0.00053
TL	0.000	-0.00572	61.101	-0.00440	-0.00968	-0.00308
V	0.000	-0.00146	57.693	-0.00049	-0.00196	-0.00194
Y1	0.000	9760.10798	0.121	9772.32054	9759.36313	9748.64027
Y2A	0.000	436119.86415	0.964	440295.47714	436177.35255	431886.76276
Y2R	0.000	20838.52376	0.968	21064.19390	20675.77345	20775.60391
ZN	0.000	0.07394	10.076	0.08139	0.06649	0.07394
ZR	0.000	0.00045	54.513	0.00074	0.00034	0.00029

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 2 Date/Time: 10/01/2015 04:53

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	15.19163	0.288	15.14908	15.18926	15.23655
CA	50.000	2.16701	0.193	2.16231	2.16836	2.17037
FE	50.000	0.73407	0.218	0.73349	0.73588	0.73284
K	50.000	33.94390	0.250	33.85730	34.02689	33.94752
MG	50.000	4.10288	0.264	4.09047	4.10764	4.11053
NA	50.000	2.67531	0.232	2.66834	2.67737	2.68023
S	50.000	0.72269	0.373	0.71979	0.72513	0.72317
SI	50.000	0.45313	0.621	0.45083	0.45229	0.45626
Y1	50.000	9407.53267	0.302	9436.13832	9379.37182	9407.08787
Y2R	50.000	20497.34779	0.366	20563.67406	20512.52500	20415.84430

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 3 Date/Time: 10/01/2015 04:56

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	1.80826	0.407	1.80076	1.81549	1.80852
AS	1.000	1.31719	0.444	1.32155	1.31055	1.31948
B	1.000	0.01752	0.415	0.01743	0.01757	0.01755
BA	1.000	1.81949	0.875	1.80296	1.82082	1.83470
BE	1.000	59.15708	0.302	58.95562	59.21948	59.29614
CD	1.000	44.27160	0.241	44.14823	44.33065	44.33593
CO	1.000	19.55428	0.148	19.58773	19.53602	19.53909
CU	1.000	1.47615	0.320	1.47078	1.47803	1.47965
LI	1.000	0.27914	1.023	0.27634	0.28205	0.27904
MN	1.000	6.92496	0.433	6.89389	6.95368	6.92732
NI	1.000	11.72636	0.352	11.68195	11.73355	11.76358
P	1.000	0.02783	0.096	0.02780	0.02785	0.02785
PB	1.000	4.18024	0.152	4.18591	4.17338	4.18142
SE	1.000	0.89739	0.770	0.90449	0.89068	0.89701
SR	1.000	1.82653	0.784	1.81501	1.82201	1.84257
TL	1.000	1.64327	0.276	1.64729	1.63835	1.64415
Y1	1.000	9718.66454	0.282	9749.96507	9698.69734	9707.33120
Y2A	1.000	431543.90325	0.604	434398.11133	429288.43605	430945.16236
Y2R	1.000	21413.46642	0.656	21546.22331	21266.46572	21427.71024
ZN	1.000	34.42876	0.335	34.31436	34.42694	34.54498

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 4 Date/Time: 10/01/2015 04:59

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	0.02445	0.735	0.02450	0.02425	0.02460
MO	1.000	10.82229	0.641	10.74267	10.86967	10.85454
SB	1.000	0.03541	0.618	0.03516	0.03547	0.03559
SN	1.000	3.44536	0.835	3.41802	3.47539	3.44266
TI	1.000	7.02270	0.810	7.03662	6.96017	7.07130
V	1.000	2.03638	0.609	2.04042	2.02246	2.04625
Y1	1.000	10012.91839	0.545	10072.36264	10001.34960	9965.04292
Y2A	1.000	436465.42964	0.570	436850.64612	438736.49768	433809.14513
Y2R	1.000	21570.45649	0.653	21667.81368	21409.02293	21634.53284
ZR	1.000	0.11092	1.358	0.10934	0.11234	0.11108

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 5 Date/Time: 10/01/2015 05:02

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.60636	9,229.27	2.637	0.62296	0.59106	0.60507
____ AL	29.57572	3,757.92	0.220	29.64454	29.51517	29.56746
____ AS	0.59268	150.54	1.319	0.59594	0.59834	0.58376
____ B	0.60423	4,559.01	2.441	0.62095	0.59305	0.59870
____ BA	0.61049	466,682.14	2.734	0.62687	0.59351	0.61108
____ BE	0.60103	297,629.39	2.399	0.61689	0.58872	0.59747
____ CA	29.77649	26,961.84	0.246	29.71510	29.75689	29.85747
____ CD	0.60498	5,135.50	0.416	0.60700	0.60577	0.60216
____ CO	0.59389	2,228.11	0.451	0.59552	0.59535	0.59080
____ CR	0.57767	5,923.87	2.511	0.59405	0.56644	0.57253
____ CU	0.61059	7,470.33	2.657	0.62775	0.59552	0.60848
____ FE	29.44528	9,068.76	0.096	29.41261	29.46345	29.45978
____ K	29.51088	8,369.61	0.187	29.46053	29.56984	29.50226
____ LI	0.60723	3,545.82	0.529	0.61078	0.60452	0.60638
____ MG	29.41868	50,955.62	0.161	29.46724	29.37279	29.41602
____ MN	0.60693	35,321.68	2.328	0.62235	0.59462	0.60382
____ MO	0.59504	1,232.58	0.628	0.59846	0.59560	0.59105
____ NA	29.52878	32,887.30	0.266	29.45849	29.51422	29.61364
____ NI	0.59456	1,333.19	0.355	0.59605	0.59548	0.59214
____ P	0.61250	162.46	0.703	0.61573	0.61415	0.60761
____ PB	0.59306	488.42	0.906	0.59802	0.59381	0.58734
____ S	29.48502	4,075.64	0.602	29.60528	29.56854	29.28122
____ SB	0.59123	199.98	0.315	0.59298	0.59144	0.58927
____ SE	0.60703	103.82	1.557	0.61404	0.61078	0.59628
____ SI	29.77031	5,625.49	0.224	29.69333	29.80455	29.81304
____ SN	0.58549	386.67	0.481	0.58855	0.58493	0.58300
____ SR	0.60604	465,273.53	2.345	0.61915	0.59094	0.60804
____ TI	0.60358	35,634.53	2.398	0.61936	0.59092	0.60044
____ TL	0.57718	180.45	0.600	0.57669	0.58087	0.57400
____ V	0.60198	10,303.83	2.127	0.61648	0.59219	0.59728
____ Y1	9563.84677	9,563.85	0.477	9517.51548	9565.20719	9608.81766
____ Y2A	420257.67617	420,257.68	2.264	410324.22134	429293.24056	421155.56660
____ Y2R	20844.23866	20,844.24	0.176	20858.04070	20872.07909	20802.59617
____ ZN	0.60077	3,979.01	0.499	0.60336	0.60145	0.59749
____ ZR	0.60977	1,413.51	0.299	0.60793	0.61158	0.60980

LANCASTER LABORATORIES

Run Name: 1527404T71

Instrument ID: 16315

Tube: 6

Date/Time: 10/01/2015 05:05

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00054	1.03	109.342	-0.00081	-0.00094	0.00014
____ AL	-0.02243	8.59	63.233	-0.03309	-0.02785	-0.00633
____ AS	0.00045	1.97	195.190	-0.00046	0.00052	0.00129
____ B	0.00102	28.47	66.766	0.00059	0.00066	0.00180
____ BA	-0.00002	153.02	147.316	0.00001	-0.00003	-0.00003
____ BE	0.00002	-61.17	99.173	0.00003	0.00003	0.00000
____ CA	0.00384	63.52	106.473	-0.00071	0.00720	0.00503
____ CD	0.00020	-10.46	87.487	0.00017	0.00004	0.00039
____ CO	-0.00021	2.09	201.690	-0.00024	-0.00061	0.00022
____ CR	0.00028	0.33	91.976	0.00033	0.00050	0.00000
____ CU	-0.00177	-33.33	43.264	-0.00112	-0.00262	-0.00157
____ FE	-0.00631	1.20	48.260	-0.00928	-0.00647	-0.00319
____ K	0.10813	75.69	29.080	0.14031	0.07748	0.10660
____ LI	0.00004	20.45	2096.405	0.00079	-0.00094	0.00027
____ MG	0.00138	4.47	109.411	0.00299	0.00117	-0.00001
____ MN	-0.00012	12.35	61.506	-0.00004	-0.00020	-0.00013
____ MO	-0.00059	0.90	48.671	-0.00037	-0.00049	-0.00092
____ NA	0.06346	-42.57	24.050	0.06103	0.07980	0.04956
____ NI	-0.00063	5.94	134.692	-0.00129	0.00033	-0.00092
____ P	0.00328	-0.62	40.842	0.00472	0.00307	0.00206
____ PB	-0.00175	4.62	24.396	-0.00196	-0.00204	-0.00126
____ S	0.00717	1.65	72.095	0.01065	0.00123	0.00963
____ SB	-0.00163	-1.90	142.335	-0.00017	-0.00431	-0.00041
____ SE	-0.00004	-1.04	2805.583	-0.00123	0.00027	0.00084
____ SI	0.00802	2.04	72.034	0.00939	0.00168	0.01298
____ SN	0.00009	2.12	243.859	-0.00007	0.00033	0.00000
____ SR	-0.00014	-140.74	17.111	-0.00012	-0.00014	-0.00017
____ TI	0.00004	13.67	259.060	0.00000	-0.00004	0.00016
____ TL	-0.00143	-0.60	23.207	-0.00179	-0.00113	-0.00138
____ V	-0.00007	-15.22	654.177	-0.00028	-0.00038	0.00046
____ Y1	9892.23265	9,892.23	0.510	9873.48682	9949.42070	9853.79045
____ Y2A	447004.19704	447,004.20	0.450	449207.00795	445269.21803	446536.36514
____ Y2R	21469.17906	21,469.18	0.268	21403.29813	21509.11406	21495.12500
____ ZN	-0.00023	13.04	22.305	-0.00019	-0.00029	-0.00021
____ ZR	-0.00061	8.28	388.171	-0.00317	-0.00014	0.00149

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 7 Date/Time: 10/01/2015 05:07

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00499	95.22	15.376	0.00566	0.00415	0.00516
____ AL	0.21724	39.15	5.883	0.20569	0.21505	0.23097
____ AS	0.01724	6.32	6.032	0.01800	0.01605	0.01766
____ B	0.04839	395.82	1.924	0.04852	0.04924	0.04739
____ BA	0.00533	4,456.23	0.733	0.00534	0.00536	0.00528
____ BE	0.00503	2,557.32	0.491	0.00505	0.00504	0.00501
____ CA	0.21175	252.89	0.325	0.21190	0.21100	0.21235
____ CD	0.00561	37.14	1.591	0.00567	0.00565	0.00551
____ CO	0.00488	21.91	11.217	0.00488	0.00434	0.00543
____ CR	0.01479	157.40	4.404	0.01522	0.01510	0.01404
____ CU	0.00907	106.97	7.234	0.00974	0.00903	0.00843
____ FE	0.19231	63.61	3.639	0.18930	0.18732	0.20031
____ K	0.59093	212.23	5.341	0.61898	0.55675	0.59705
____ LI	0.02288	154.11	4.746	0.02198	0.02256	0.02408
____ MG	0.10219	184.23	1.064	0.10248	0.10099	0.10311
____ MN	0.00522	339.78	1.389	0.00514	0.00523	0.00528
____ MO	0.00973	23.01	2.248	0.00970	0.00997	0.00953
____ NA	1.07910	1,106.71	1.511	1.06204	1.08073	1.09454
____ NI	0.01007	30.71	3.831	0.00964	0.01039	0.01018
____ P	0.10096	26.37	1.755	0.10255	0.10128	0.09905
____ PB	0.01604	19.30	27.893	0.02056	0.01161	0.01595
____ S	0.47951	69.26	1.710	0.48004	0.48743	0.47106
____ SB	0.01780	4.93	14.273	0.02072	0.01613	0.01655
____ SE	0.02140	2.79	27.652	0.01518	0.02206	0.02697
____ SI	0.05889	11.76	3.519	0.06086	0.05906	0.05673
____ SN	0.02005	15.70	1.408	0.02019	0.02024	0.01973
____ SR	0.00506	4,071.27	0.908	0.00508	0.00510	0.00501
____ TI	0.00990	626.95	1.164	0.00983	0.00984	0.01003
____ TL	0.02943	9.42	2.922	0.02995	0.02990	0.02844
____ V	0.00495	75.00	7.911	0.00490	0.00459	0.00537
____ Y1	9903.46141	9,903.46	0.038	9899.62008	9907.07858	9903.68558
____ Y2A	442879.44555	442,879.45	0.412	442249.50298	441452.61763	444936.21604
____ Y2R	21093.25850	21,093.26	0.265	21139.54010	21109.14123	21031.09416
____ ZN	0.02038	152.94	0.852	0.02034	0.02056	0.02022
____ ZR	0.04780	120.91	4.407	0.04542	0.04856	0.04942

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 8 Date/Time: 10/01/2015 05:10

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00170	-295.72	28.086	0.00194	0.00115	0.00200
____ AL	485.10218	58,867.04	0.157	485.94611	484.46022	484.90022
____ AS	0.00332	4.66	67.563	0.00259	0.00153	0.00583
____ B	0.01464	848.17	4.610	0.01541	0.01436	0.01416
____ BA	0.00060	547.85	2.450	0.00058	0.00061	0.00060
____ BE	-0.00033	-203.43	9.915	-0.00034	-0.00029	-0.00036
____ CA	485.51082	404,671.31	0.231	486.77958	485.10715	484.64574
____ CD	0.00111	85.49	36.139	0.00069	0.00114	0.00149
____ CO	0.00181	8.58	24.293	0.00232	0.00160	0.00152
____ CR	0.00632	3.23	0.747	0.00634	0.00636	0.00627
____ CU	0.00130	170.77	60.575	0.00097	0.00221	0.00074
____ FE	194.07888	54,106.73	0.315	194.77132	193.61065	193.85467
____ K	0.09734	67.15	35.427	0.13671	0.08277	0.07252
____ LI	-0.00286	79.64	32.715	-0.00393	-0.00240	-0.00224
____ MG	465.49183	565,095.39	0.397	467.44443	463.77045	465.26061
____ MN	0.00244	143.60	3.638	0.00254	0.00240	0.00238
____ MO	0.00044	2.70	298.194	-0.00096	0.00167	0.00061
____ NA	0.28364	195.12	3.941	0.29463	0.27228	0.28401
____ NI	0.00056	-16.94	96.850	0.00065	0.00104	-0.00002
____ P	0.00842	0.70	37.836	0.01050	0.00475	0.01000
____ PB	0.00815	85.60	45.696	0.00421	0.01162	0.00862
____ S	0.00976	1.07	78.803	0.01255	0.01567	0.00106
____ SB	0.00257	-1.25	354.164	-0.00765	0.00555	0.00981
____ SE	-0.00038	-2.25	1280.512	0.00017	0.00418	-0.00549
____ SI	0.01452	1.91	27.745	0.01788	0.01005	0.01562
____ SN	0.00420	4.26	26.142	0.00538	0.00322	0.00399
____ SR	-0.00026	3,262.60	24.178	-0.00025	-0.00020	-0.00032
____ TI	-0.00060	-22.02	17.299	-0.00052	-0.00071	-0.00056
____ TL	-0.01118	-0.84	24.860	-0.00797	-0.01277	-0.01281
____ V	-0.00197	4.10	11.383	-0.00188	-0.00181	-0.00223
____ Y1	8578.42529	8,578.43	0.514	8550.90482	8555.06399	8629.30707
____ Y2A	375151.03056	375,151.03	1.073	372689.94691	372968.97810	379794.16667
____ Y2R	19866.03200	19,866.03	0.099	19864.02415	19847.44918	19886.62268
____ ZN	0.00404	138.54	1.833	0.00407	0.00409	0.00396
____ ZR	0.00377	17.25	39.229	0.00391	0.00222	0.00517

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 9 Date/Time: 10/01/2015 05:14

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21964	2,602.35	3.574	0.22793	0.21233	0.21865
____ AL	484.77118	57,383.15	4.751	468.21539	475.02563	511.07253
____ AS	0.09407	24.99	1.071	0.09520	0.09373	0.09327
____ B	0.01682	844.06	49.172	0.02606	0.01430	0.01010
____ BA	0.51540	344,470.32	3.838	0.53759	0.49962	0.50900
____ BE	0.50662	219,330.19	3.576	0.52684	0.49186	0.50117
____ CA	487.00083	395,942.71	4.153	473.95169	476.75023	510.30058
____ CD	0.92442	7,087.43	0.273	0.92175	0.92677	0.92474
____ CO	0.46368	1,552.51	0.417	0.46146	0.46501	0.46457
____ CR	0.48062	4,263.04	3.890	0.50094	0.46416	0.47674
____ CU	0.53656	5,975.26	4.089	0.56115	0.51898	0.52955
____ FE	194.59488	52,900.07	5.044	187.66196	190.29574	205.82694
____ K	0.11591	70.61	30.318	0.10626	0.15486	0.08660
____ LI	-0.00150	85.15	57.968	-0.00156	-0.00234	-0.00060
____ MG	471.18935	554,370.38	7.993	442.80978	456.84097	513.91729
____ MN	0.46500	23,661.72	3.661	0.48401	0.45118	0.45980
____ MO	-0.00041	1.11	149.770	0.00003	-0.00015	-0.00112
____ NA	0.28238	188.99	3.367	0.27223	0.28381	0.29109
____ NI	0.91264	1,807.25	0.581	0.90733	0.91792	0.91268
____ P	0.01140	2.02	43.004	0.01565	0.01253	0.00603
____ PB	0.05018	115.50	15.861	0.05047	0.05800	0.04208
____ S	0.01788	2.07	59.751	0.00565	0.02539	0.02260
____ SB	0.60122	181.00	0.632	0.59689	0.60400	0.60276
____ SE	0.04374	4.61	13.159	0.04112	0.03975	0.05033
____ SI	0.01187	1.37	57.883	0.00394	0.01589	0.01579
____ SN	0.00472	4.51	21.973	0.00368	0.00472	0.00575
____ SR	-0.00028	3,188.94	116.071	0.00007	-0.00035	-0.00056
____ TI	-0.00023	7.47	46.013	-0.00011	-0.00027	-0.00030
____ TL	0.08026	24.32	5.332	0.07597	0.08453	0.08028
____ V	0.50130	7,587.94	3.985	0.52324	0.48416	0.49650
____ Y1	8552.79213	8,552.79	0.347	8582.38319	8523.01358	8552.97964
____ Y2A	367523.72263	367,523.72	2.850	356300.18248	377038.73590	369232.24950
____ Y2R	19403.34392	19,403.34	4.373	20065.18160	19698.03315	18446.81700
____ ZN	0.97987	5,868.12	0.446	0.97613	0.98467	0.97882
____ ZR	0.00349	16.12	64.586	0.00151	0.00302	0.00594

LANCASTER LABORATORIES

Run Name: 1527404T71

Instrument ID: 16315

Tube: 10

Date/Time: 10/01/2015 05:17

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50564	7,693.03	1.488	0.50229	0.51425	0.50037
____ AL	24.56854	3,128.37	1.074	24.26401	24.73208	24.70951
____ AS	0.49550	128.16	1.526	0.50133	0.49820	0.48695
____ B	0.50485	3,809.90	1.095	0.50228	0.51120	0.50108
____ BA	0.51302	391,928.58	1.393	0.50953	0.52124	0.50829
____ BE	0.50250	248,628.90	0.995	0.49902	0.50823	0.50024
____ CA	24.79568	22,504.20	0.936	24.53680	24.86488	24.98535
____ CD	0.50052	4,314.62	0.725	0.50135	0.50367	0.49655
____ CO	0.49842	1,900.26	0.742	0.50011	0.50098	0.49418
____ CR	0.50189	5,142.95	1.243	0.49734	0.50900	0.49933
____ CU	0.51955	6,350.30	1.425	0.51606	0.52805	0.51454
____ FE	24.68799	7,626.81	0.865	24.47359	24.68968	24.90069
____ K	24.73768	7,033.65	1.004	24.46068	24.81188	24.94047
____ LI	0.50969	2,983.95	0.824	0.50601	0.50879	0.51426
____ MG	24.66515	42,912.09	0.717	24.47867	24.68657	24.83021
____ MN	0.51503	29,954.36	1.046	0.51233	0.52123	0.51152
____ MO	0.50488	1,062.80	0.854	0.50490	0.50918	0.50055
____ NA	24.79215	27,636.65	0.834	24.57152	24.82318	24.98175
____ NI	0.49800	1,135.62	0.914	0.49901	0.50196	0.49302
____ P	0.49674	133.59	1.018	0.49790	0.50112	0.49121
____ PB	0.49661	416.44	0.808	0.49965	0.49812	0.49206
____ S	24.41080	3,428.07	0.890	24.40812	24.62928	24.19499
____ SB	0.50254	172.51	0.725	0.50373	0.50544	0.49845
____ SE	0.49218	85.33	1.625	0.49451	0.49874	0.48327
____ SI	24.87066	4,707.01	0.773	24.68394	24.86009	25.06796
____ SN	0.49879	334.94	1.752	0.49985	0.50694	0.48956
____ SR	0.50924	390,669.34	0.674	0.50710	0.51319	0.50741
____ TI	0.51509	30,389.95	1.015	0.51141	0.52107	0.51278
____ TL	0.48761	154.84	0.666	0.49080	0.48772	0.48431
____ V	0.51411	8,791.44	1.011	0.51071	0.52010	0.51153
____ Y1	9716.28523	9,716.29	0.564	9713.25970	9663.05000	9772.54598
____ Y2A	419832.91915	419,832.92	0.951	422693.17429	415273.19417	421532.38900
____ Y2R	20877.29991	20,877.30	0.772	21015.09481	20916.87488	20699.93004
____ ZN	0.49839	3,356.39	0.719	0.49929	0.50143	0.49444
____ ZR	0.51772	1,203.39	1.301	0.51036	0.51923	0.52358

LANCASTER LABORATORIES

Run Name: 1527404T71

Instrument ID: 16315

Tube: 11

Date/Time: 10/01/2015 05:20

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00020	5.92	426.303	0.00075	-0.00041	-0.00095
____ AL	-0.01422	9.49	172.565	0.01373	-0.03221	-0.02418
____ AS	0.00167	2.28	167.091	0.00164	-0.00110	0.00447
____ B	0.00062	24.60	32.825	0.00043	0.00058	0.00083
____ BA	0.00000	163.56	462.960	0.00002	-0.00001	0.00000
____ BE	0.00000	-71.05	724.881	0.00001	0.00001	-0.00003
____ CA	0.00529	63.69	160.394	0.00309	0.01466	-0.00188
____ CD	0.00028	-9.70	49.639	0.00012	0.00037	0.00036
____ CO	-0.00054	0.83	12.001	-0.00055	-0.00046	-0.00059
____ CR	0.00058	3.55	35.370	0.00035	0.00065	0.00074
____ CU	-0.00090	-21.18	35.560	-0.00087	-0.00060	-0.00123
____ FE	0.00198	3.78	201.055	0.00437	0.00417	-0.00261
____ K	0.08436	67.63	61.551	0.08579	0.03173	0.13555
____ LI	0.00249	34.41	64.025	0.00313	0.00366	0.00067
____ MG	0.00631	13.15	67.238	0.00593	0.01072	0.00227
____ MN	-0.00012	11.97	41.140	-0.00007	-0.00014	-0.00016
____ MO	-0.00048	1.13	65.584	-0.00040	-0.00083	-0.00022
____ NA	0.05885	-47.10	29.667	0.06779	0.07002	0.03873
____ NI	-0.00053	6.15	132.956	-0.00133	0.00000	-0.00025
____ P	0.00214	-0.93	118.804	0.00504	0.00104	0.00033
____ PB	-0.00050	5.64	75.015	-0.00092	-0.00021	-0.00037
____ S	0.00326	1.09	189.819	-0.00096	0.00038	0.01035
____ SB	-0.00547	-3.24	56.849	-0.00404	-0.00904	-0.00333
____ SE	0.00135	-0.79	185.841	0.00303	-0.00153	0.00254
____ SI	0.00721	1.85	32.139	0.00613	0.00563	0.00987
____ SN	-0.00044	1.76	182.348	-0.00064	-0.00112	0.00044
____ SR	-0.00015	-140.98	6.279	-0.00014	-0.00015	-0.00016
____ TI	0.00009	16.00	91.203	0.00006	0.00003	0.00018
____ TL	-0.00089	-0.42	368.550	-0.00290	0.00288	-0.00264
____ V	0.00011	-11.53	106.423	0.00010	0.00000	0.00023
____ Y1	9868.34277	9,868.34	0.233	9869.35113	9844.82621	9890.85098
____ Y2A	432927.38016	432,927.38	0.248	433455.84824	433636.01723	431690.27502
____ Y2R	21088.63338	21,088.63	0.538	21122.00479	20962.22034	21181.67500
____ ZN	-0.00019	13.31	52.241	-0.00013	-0.00030	-0.00013
____ ZR	-0.00334	1.75	74.300	-0.00525	-0.00054	-0.00422

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 12 Date/Time: 10/01/2015 05:23

Sample Number: **PBW** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00018	6.77	274.797	0.00036	-0.00063	-0.00028
____ AL	-0.00941	10.61	284.927	0.02155	-0.02421	-0.02558
____ AS	-0.00370	0.92	55.379	-0.00383	-0.00569	-0.00159
____ B	0.00074	26.62	61.161	0.00048	0.00126	0.00048
____ BA	0.00072	757.10	1.211	0.00072	0.00072	0.00071
____ BE	0.00001	-68.87	186.910	-0.00001	0.00001	0.00002
____ CA	0.02397	84.81	20.261	0.02500	0.02824	0.01869
____ CD	0.00041	-8.83	17.970	0.00033	0.00047	0.00044
____ CO	-0.00043	1.27	124.090	0.00016	-0.00058	-0.00089
____ CR	0.00030	0.50	189.441	0.00011	0.00092	-0.00015
____ CU	-0.00136	-28.25	48.126	-0.00064	-0.00192	-0.00152
____ FE	-0.00108	2.96	282.220	-0.00386	-0.00159	0.00220
____ K	0.05338	61.63	58.066	0.06868	0.07376	0.01771
____ LI	0.00229	34.90	53.585	0.00131	0.00366	0.00189
____ MG	0.00355	8.68	67.685	0.00584	0.00376	0.00105
____ MN	0.00029	38.58	24.640	0.00037	0.00026	0.00024
____ MO	0.00040	3.11	144.355	0.00105	-0.00003	0.00017
____ NA	0.07337	-32.15	17.420	0.06793	0.06420	0.08796
____ NI	-0.00031	6.89	235.907	0.00044	-0.00099	-0.00037
____ P	0.00287	-0.75	101.784	0.00509	0.00397	-0.00044
____ PB	-0.00011	6.15	1612.411	-0.00099	0.00191	-0.00125
____ S	0.00955	2.05	34.617	0.01334	0.00809	0.00723
____ SB	0.00025	-1.28	1345.773	0.00046	-0.00318	0.00346
____ SE	0.00132	-0.82	137.343	0.00210	0.00263	-0.00075
____ SI	0.02241	4.99	43.137	0.03093	0.02441	0.01190
____ SN	0.00132	3.04	85.496	0.00204	0.00190	0.00002
____ SR	0.00025	181.41	5.540	0.00024	0.00027	0.00024
____ TI	0.00036	33.88	13.047	0.00041	0.00032	0.00034
____ TL	-0.00068	-0.36	386.366	-0.00072	0.00197	-0.00328
____ V	0.00050	-4.98	40.851	0.00053	0.00068	0.00028
____ Y1	10187.95112	10,187.95	0.231	10212.31023	10186.11167	10165.43148
____ Y2A	452655.17029	452,655.17	1.070	457037.03395	447452.36912	453476.10780
____ Y2R	22126.82314	22,126.82	0.138	22156.25000	22129.06200	22095.15743
____ ZN	0.00062	19.32	30.372	0.00043	0.00080	0.00062
____ ZR	-0.00168	5.90	86.285	-0.00312	-0.00171	-0.00022

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 13 Date/Time: 10/01/2015 05:25

Sample Number: **LCSW** Class: **** Batch: 152681848004

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04956	901.98	2.297	0.05087	0.04892	0.04888
____ AL	2.01250	276.11	2.208	2.06232	1.99819	1.97700
____ AS	0.15162	40.43	0.509	0.15246	0.15146	0.15095
____ B	1.94046	14,693.22	1.904	1.98189	1.91095	1.92854
____ BA	2.07085	1,629,259.52	2.331	2.12640	2.03926	2.04688
____ BE	0.05262	25,955.28	1.690	0.05362	0.05190	0.05236
____ CA	4.13235	3,828.89	0.935	4.16837	4.13717	4.09152
____ CD	0.05279	441.72	0.134	0.05280	0.05272	0.05286
____ CO	0.51935	1,978.00	0.253	0.52085	0.51843	0.51877
____ CR	0.19645	2,074.95	1.711	0.20022	0.19377	0.19535
____ CU	0.26782	3,222.85	1.585	0.27223	0.26376	0.26746
____ FE	1.01026	319.36	1.673	1.02169	1.01825	0.99085
____ K	10.21643	2,948.90	1.011	10.32522	10.20442	10.11964
____ LI	1.04485	6,127.76	0.840	1.04805	1.05158	1.03492
____ MG	2.05488	3,648.92	0.955	2.07434	2.05521	2.03508
____ MN	0.52332	31,354.48	1.824	0.53406	0.51583	0.52006
____ MO	2.05551	4,305.81	0.221	2.06059	2.05180	2.05415
____ NA	10.28115	11,468.07	0.721	10.34209	10.30273	10.19864
____ NI	0.53076	1,211.59	0.168	0.53176	0.53003	0.53049
____ P	1.01358	272.55	0.174	1.01535	1.01183	1.01355
____ PB	0.15885	132.21	0.506	0.15794	0.15915	0.15946
____ S	0.98672	137.34	0.671	0.98664	0.99337	0.98014
____ SB	0.48044	162.10	0.671	0.48365	0.47721	0.48047
____ SE	0.14705	24.73	1.128	0.14891	0.14651	0.14573
____ SI	1.04428	203.93	1.525	1.05171	1.05514	1.02601
____ SN	4.02844	2,682.15	0.163	4.03409	4.02126	4.02997
____ SR	1.04724	827,330.00	1.250	1.06079	1.03466	1.04627
____ TI	1.01851	61,859.45	1.668	1.03755	1.00494	1.01303
____ TL	0.12300	37.99	1.881	0.12328	0.12516	0.12056
____ V	0.48952	8,425.02	1.583	0.49830	0.48362	0.48664
____ Y1	9683.05370	9,683.05	0.200	9669.26266	9674.64500	9705.25342
____ Y2A	432556.24586	432,556.25	1.562	424893.96952	437670.06296	435104.70510
____ Y2R	21011.00988	21,011.01	0.573	20917.35806	20968.86839	21146.80320
____ ZN	0.51549	3,443.31	0.261	0.51698	0.51512	0.51436
____ ZR	1.02891	2,397.65	0.811	1.03478	1.03260	1.01936

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 14 Date/Time: 10/01/2015 05:28

Sample Number: **8059551** Class: U*** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00047	1.62	79.039	-0.00023	-0.00090	-0.00028
____ AL	0.00824	12.81	528.212	-0.04030	0.02124	0.04378
____ AS	0.00170	2.32	55.007	0.00069	0.00188	0.00254
____ B	0.01699	149.36	1.973	0.01708	0.01728	0.01662
____ BA	0.01352	10,894.80	0.539	0.01351	0.01359	0.01345
____ BE	-0.00002	-79.23	144.959	-0.00002	-0.00004	0.00001
____ CA	12.95276	12,367.33	0.252	12.91518	12.96962	12.97348
____ CD	0.00030	-9.63	26.703	0.00021	0.00036	0.00032
____ CO	-0.00009	2.61	313.929	-0.00003	0.00015	-0.00038
____ CR	0.00354	35.15	16.333	0.00355	0.00296	0.00411
____ CU	0.01745	221.61	0.992	0.01728	0.01763	0.01745
____ FE	0.12067	42.63	10.134	0.11350	0.11372	0.13479
____ K	1.46034	477.89	6.388	1.39526	1.56722	1.41854
____ LI	0.00417	48.10	120.809	-0.00098	0.00439	0.00908
____ MG	5.03511	9,296.78	0.780	5.00908	5.01596	5.08030
____ MN	0.00394	257.45	1.721	0.00392	0.00388	0.00401
____ MO	0.00108	4.53	38.198	0.00149	0.00110	0.00066
____ NA	13.67521	15,933.24	0.170	13.64838	13.68955	13.68769
____ NI	0.00054	8.70	35.624	0.00035	0.00073	0.00052
____ P	0.04056	9.78	5.515	0.03807	0.04239	0.04123
____ PB	0.00064	6.98	293.770	-0.00150	0.00138	0.00205
____ S	12.60639	1,821.42	0.427	12.66715	12.56457	12.58745
____ SB	-0.00290	-2.36	46.804	-0.00446	-0.00202	-0.00221
____ SE	0.00762	0.33	55.741	0.00355	0.01202	0.00727
____ SI	1.35045	268.41	0.732	1.34272	1.34705	1.36158
____ SN	0.00144	3.07	39.919	0.00082	0.00153	0.00196
____ SR	0.07165	57,205.54	0.353	0.07137	0.07187	0.07170
____ TI	0.00190	127.46	4.919	0.00201	0.00183	0.00186
____ TL	-0.00138	-0.58	167.408	-0.00232	0.00125	-0.00308
____ V	0.00022	-9.78	221.466	0.00069	0.00027	-0.00029
____ Y1	9992.96449	9,992.96	0.217	9970.08492	10013.19784	9995.61071
____ Y2A	436493.15220	436,493.15	0.440	438030.31809	434339.29755	437109.84095
____ Y2R	21892.60557	21,892.61	0.645	22042.00779	21874.35246	21761.45647
____ ZN	0.03195	232.95	1.081	0.03223	0.03156	0.03206
____ ZR	-0.00204	4.97	124.211	-0.00190	-0.00463	0.00042

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 15 Date/Time: 10/01/2015 05:31

Sample Number: **8059551** Class: UP** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01672	409.03	3.111	0.01690	0.01614	0.01713
____ AL	0.96205	141.09	4.815	0.99694	0.97971	0.90949
____ AS	0.48111	128.24	0.611	0.48124	0.48398	0.47811
____ B	0.19447	1,569.34	2.209	0.19191	0.19208	0.19943
____ BA	0.06153	51,124.63	1.577	0.06078	0.06118	0.06262
____ BE	0.01963	10,318.85	1.424	0.01940	0.01954	0.01994
____ CA	13.48795	12,894.85	3.627	14.02406	13.37416	13.06563
____ CD	0.04963	429.68	0.596	0.04930	0.04975	0.04986
____ CO	0.09728	385.54	0.111	0.09735	0.09732	0.09715
____ CR	0.18703	2,079.73	0.964	0.18582	0.18616	0.18910
____ CU	0.50354	6,749.36	1.635	0.49813	0.49947	0.51302
____ FE	0.58372	193.96	4.576	0.60698	0.58963	0.55455
____ K	3.30456	1,026.06	3.611	3.39912	3.34406	3.17049
____ LI	0.99180	6,073.20	3.168	1.02562	0.98627	0.96351
____ MG	5.84411	10,802.23	3.240	6.05242	5.79736	5.68253
____ MN	0.06164	3,905.81	1.972	0.06086	0.06102	0.06304
____ MO	0.19486	425.12	0.229	0.19524	0.19437	0.19497
____ NA	15.17531	17,721.10	3.475	15.75222	15.05571	14.71800
____ NI	0.14891	357.20	0.229	0.14905	0.14915	0.14852
____ P	0.99231	276.55	0.472	0.99748	0.99109	0.98837
____ PB	0.48551	411.16	0.738	0.48232	0.48481	0.48939
____ S	13.28448	1,927.82	0.212	13.28233	13.25748	13.31362
____ SB	0.38461	135.62	0.777	0.38135	0.38723	0.38524
____ SE	0.83916	150.93	0.212	0.83768	0.84114	0.83867
____ SI	2.26342	450.68	3.702	2.35748	2.23606	2.19672
____ SN	0.55977	388.13	0.496	0.56258	0.55971	0.55703
____ SR	0.08600	71,610.39	1.634	0.08494	0.08547	0.08760
____ TI	0.09679	6,201.24	1.633	0.09588	0.09588	0.09862
____ TL	0.98829	325.11	0.406	0.98449	0.98787	0.99249
____ V	0.09409	1,718.63	2.021	0.09261	0.09343	0.09623
____ Y1	10037.70853	10,037.71	0.046	10033.65634	10042.80791	10036.66133
____ Y2A	455355.31257	455,355.31	1.567	461106.19616	457590.45726	447369.28429
____ Y2R	21939.52305	21,939.52	2.650	21325.88394	22010.62075	22482.06446
____ ZN	0.14745	1,034.80	0.226	0.14767	0.14706	0.14761
____ ZR	0.96687	2,351.61	3.927	1.00848	0.95801	0.93411

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 16 Date/Time: 10/01/2015 05:34

Sample Number: **8059551** Class: D*** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00014	7.66	118.870	0.00004	-0.00028	-0.00016
____ AL	-0.00266	11.55	1886.732	0.05259	-0.01501	-0.04556
____ AS	0.00537	3.31	61.678	0.00407	0.00290	0.00913
____ B	0.01564	143.96	3.618	0.01550	0.01627	0.01516
____ BA	0.01427	11,903.55	0.935	0.01415	0.01425	0.01442
____ BE	0.00002	-61.44	43.674	0.00003	0.00001	0.00002
____ CA	12.99407	12,578.96	0.780	13.04030	12.87788	13.06404
____ CD	0.00041	-8.71	25.604	0.00045	0.00029	0.00050
____ CO	0.00032	4.25	59.010	0.00025	0.00017	0.00053
____ CR	0.00383	39.53	22.046	0.00325	0.00344	0.00480
____ CU	0.01770	232.71	4.920	0.01785	0.01677	0.01849
____ FE	0.11183	40.31	8.183	0.10256	0.11207	0.12085
____ K	1.48883	493.09	2.309	1.47929	1.46023	1.52697
____ LI	0.00153	32.61	43.242	0.00126	0.00105	0.00228
____ MG	5.10107	9,549.29	0.598	5.11451	5.06615	5.12254
____ MN	0.00410	276.61	0.366	0.00408	0.00411	0.00411
____ MO	0.00170	5.94	5.042	0.00178	0.00173	0.00161
____ NA	13.75532	16,249.86	0.899	13.77576	13.62268	13.86752
____ NI	0.00079	9.40	23.691	0.00059	0.00096	0.00081
____ P	0.04284	10.54	9.137	0.04479	0.04540	0.03834
____ PB	0.00069	7.10	358.074	0.00258	0.00162	-0.00212
____ S	12.73068	1,861.53	0.757	12.84170	12.66909	12.68125
____ SB	-0.00205	-2.09	155.474	0.00140	-0.00488	-0.00266
____ SE	0.00477	-0.18	36.659	0.00484	0.00299	0.00649
____ SI	1.36013	274.10	0.947	1.37352	1.34782	1.35906
____ SN	0.00238	3.75	47.974	0.00155	0.00368	0.00190
____ SR	0.07148	59,102.98	0.941	0.07094	0.07127	0.07224
____ TI	0.00242	164.89	6.660	0.00252	0.00223	0.00251
____ TL	-0.00353	-1.31	33.522	-0.00269	-0.00489	-0.00303
____ V	0.00034	-8.04	105.291	0.00013	0.00075	0.00014
____ Y1	10113.47082	10,113.47	0.308	10078.41000	10138.05858	10123.94387
____ Y2A	452028.74420	452,028.74	1.098	456739.64546	452499.91716	446846.66998
____ Y2R	22197.17788	22,197.18	0.518	22203.97103	22308.67958	22078.88301
____ ZN	0.03266	240.65	0.066	0.03263	0.03266	0.03268
____ ZR	0.00141	13.48	128.914	0.00338	-0.00018	0.00102

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 17 Date/Time: 10/01/2015 05:37

Sample Number: **8059551** Class: R*** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04864	899.77	0.684	0.04898	0.04831	0.04863
____ AL	1.97812	281.58	2.821	1.98441	1.91944	2.03050
____ AS	0.15465	41.94	4.264	0.15138	0.16224	0.15034
____ B	1.92355	14,807.81	2.004	1.94724	1.87908	1.94432
____ BA	2.04582	1,636,478.48	2.091	2.07619	1.99689	2.06439
____ BE	0.05313	26,654.95	0.967	0.05346	0.05254	0.05340
____ CA	17.15389	16,263.93	0.200	17.17971	17.11486	17.16709
____ CD	0.05193	442.19	0.467	0.05201	0.05166	0.05213
____ CO	0.50842	1,971.50	0.111	0.50901	0.50789	0.50835
____ CR	0.19819	2,128.35	1.461	0.19954	0.19486	0.20016
____ CU	0.28893	3,557.74	1.452	0.29225	0.28421	0.29031
____ FE	1.08538	355.30	0.672	1.08292	1.07964	1.09359
____ K	11.41455	3,408.89	0.647	11.49083	11.34350	11.40932
____ LI	1.02611	6,238.66	0.376	1.02166	1.02812	1.02856
____ MG	7.08936	13,001.16	0.120	7.09709	7.08030	7.09069
____ MN	0.51811	31,560.53	1.854	0.52449	0.50706	0.52277
____ MO	2.04549	4,361.97	0.326	2.04967	2.03780	2.04900
____ NA	23.74498	27,599.71	0.231	23.72930	23.69970	23.80594
____ NI	0.51901	1,206.31	0.087	0.51939	0.51852	0.51914
____ P	1.04318	285.60	0.546	1.04198	1.03818	1.04938
____ PB	0.15276	129.92	1.356	0.15475	0.15292	0.15062
____ S	14.10993	2,009.54	0.369	14.15000	14.05105	14.12874
____ SB	0.46965	161.27	0.704	0.47285	0.46985	0.46625
____ SE	0.16513	28.39	1.644	0.16200	0.16693	0.16644
____ SI	2.33206	465.38	1.097	2.32340	2.31193	2.36084
____ SN	3.91775	2,655.47	0.405	3.92850	3.89952	3.92523
____ SR	1.09947	883,222.46	0.903	1.10519	1.08801	1.10521
____ TI	1.01804	62,861.93	1.907	1.02915	0.99563	1.02935
____ TL	0.11955	37.55	1.437	0.12030	0.12076	0.11758
____ V	0.49022	8,579.31	1.954	0.49546	0.47917	0.49604
____ Y1	9857.41770	9,857.42	0.208	9849.63026	9880.71314	9841.90971
____ Y2A	439771.73073	439,771.73	1.488	434850.06627	447197.15043	437267.97548
____ Y2R	21771.98869	21,771.99	0.306	21764.17732	21842.22333	21709.56543
____ ZN	0.54007	3,670.53	0.087	0.54061	0.53982	0.53978
____ ZR	1.00748	2,432.99	0.396	1.00668	1.00395	1.01181

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 18 Date/Time: 10/01/2015 05:40

Sample Number: **8059551** Class: M*** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04729	896.11	2.682	0.04600	0.04854	0.04733
____ AL	1.92115	279.78	1.194	1.90173	1.91526	1.94645
____ AS	0.15432	42.48	1.844	0.15327	0.15215	0.15754
____ B	1.85356	14,633.28	1.608	1.81961	1.87540	1.86569
____ BA	1.99471	1,636,260.89	1.529	1.95964	2.01503	2.00946
____ BE	0.05121	26,331.80	1.496	0.05033	0.05172	0.05158
____ CA	16.88943	16,362.07	0.330	16.82671	16.90867	16.93292
____ CD	0.05076	438.46	0.701	0.05036	0.05086	0.05105
____ CO	0.49952	1,966.17	0.434	0.49895	0.49769	0.50191
____ CR	0.19124	2,105.78	1.835	0.18719	0.19313	0.19340
____ CU	0.27858	3,517.18	1.651	0.27336	0.28200	0.28039
____ FE	1.07775	360.49	0.176	1.07943	1.07569	1.07814
____ K	11.03832	3,369.61	0.343	11.04744	10.99675	11.07078
____ LI	0.99796	6,199.75	0.710	0.99072	0.99828	1.00487
____ MG	7.01304	13,140.97	0.233	6.99875	7.00948	7.03088
____ MN	0.49933	31,191.25	1.738	0.48934	0.50498	0.50366
____ MO	2.00752	4,345.86	0.491	1.99993	2.00398	2.01865
____ NA	23.34944	27,727.05	0.406	23.27723	23.31422	23.45686
____ NI	0.50817	1,199.13	0.635	0.50456	0.50917	0.51077
____ P	1.02312	284.32	0.631	1.01711	1.02230	1.02994
____ PB	0.14785	127.83	0.745	0.14810	0.14664	0.14880
____ S	13.97404	2,020.34	0.511	13.90165	13.97606	14.04442
____ SB	0.45742	159.40	0.401	0.45940	0.45707	0.45579
____ SE	0.16812	29.36	2.605	0.16928	0.17180	0.16328
____ SI	2.30987	470.91	0.455	2.30462	2.30302	2.32197
____ SN	3.83536	2,639.02	0.572	3.82359	3.82185	3.86066
____ SR	1.07439	884,983.23	1.443	1.05761	1.07740	1.08817
____ TI	0.98085	62,108.21	1.531	0.96359	0.99091	0.98806
____ TL	0.12000	38.31	1.359	0.12016	0.11830	0.12155
____ V	0.47557	8,531.39	1.563	0.46699	0.48003	0.47970
____ Y1	10006.76527	10,006.77	0.460	10038.72289	10027.61686	9953.95604
____ Y2A	450948.47581	450,948.48	1.371	458086.06693	447418.90325	447340.45726
____ Y2R	22244.58615	22,244.59	0.226	22258.31170	22286.53846	22188.90828
____ ZN	0.52516	3,623.73	0.531	0.52336	0.52374	0.52837
____ ZR	0.97117	2,396.58	0.288	0.96859	0.97078	0.97413

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 19 Date/Time: 10/01/2015 05:43

Sample Number: **8059551** Class: UL** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00008	8.12	668.016	-0.00065	-0.00004	0.00045
____ AL	0.00030	11.59	9904.879	-0.03325	0.00946	0.02470
____ AS	-0.00159	1.41	112.016	-0.00325	-0.00179	0.00028
____ B	0.00628	69.06	5.797	0.00630	0.00664	0.00591
____ BA	0.00274	2,375.99	2.532	0.00281	0.00273	0.00267
____ BE	-0.00002	-79.73	126.621	0.00000	-0.00001	-0.00003
____ CA	2.63100	2,524.24	0.610	2.63242	2.61431	2.64629
____ CD	0.00033	-9.22	71.260	0.00042	0.00006	0.00050
____ CO	-0.00032	1.59	119.218	-0.00065	-0.00042	0.00010
____ CR	0.00114	9.62	58.294	0.00166	0.00136	0.00039
____ CU	0.00231	21.61	14.036	0.00214	0.00210	0.00268
____ FE	0.01849	9.17	31.436	0.02417	0.01255	0.01875
____ K	0.35405	147.82	4.706	0.37237	0.33981	0.34996
____ LI	0.00087	25.98	220.364	-0.00050	0.00304	0.00005
____ MG	1.04594	1,908.41	0.819	1.04819	1.03647	1.05316
____ MN	0.00075	65.93	6.161	0.00070	0.00080	0.00075
____ MO	-0.00028	1.55	84.595	-0.00001	-0.00045	-0.00037
____ NA	2.85199	3,181.13	1.229	2.87053	2.81156	2.87389
____ NI	-0.00076	5.54	77.307	-0.00139	-0.00023	-0.00066
____ P	0.00853	0.81	20.491	0.00881	0.00666	0.01012
____ PB	-0.00008	5.92	3581.554	-0.00342	0.00116	0.00202
____ S	2.67750	376.73	5.608	2.58818	2.59345	2.85087
____ SB	-0.00241	-2.10	169.614	0.00028	-0.00040	-0.00713
____ SE	-0.00135	-1.24	144.518	-0.00060	0.00011	-0.00356
____ SI	0.27720	54.66	2.386	0.27086	0.28405	0.27669
____ SN	0.00087	2.62	46.129	0.00123	0.00096	0.00043
____ SR	0.01403	11,368.92	1.365	0.01418	0.01409	0.01381
____ TI	0.00064	50.88	23.256	0.00054	0.00081	0.00057
____ TL	-0.00224	-0.81	164.254	0.00044	-0.00072	-0.00645
____ V	0.00051	-4.64	34.906	0.00031	0.00055	0.00065
____ Y1	9734.35039	9,734.35	4.304	9983.21015	9969.17616	9250.66487
____ Y2A	443895.81953	443,895.82	0.943	441060.96753	441923.45924	448703.03181
____ Y2R	21565.30947	21,565.31	0.908	21597.78708	21742.92406	21355.21726
____ ZN	0.00697	60.61	7.366	0.00660	0.00675	0.00756
____ ZR	-0.00239	4.05	46.346	-0.00142	-0.00360	-0.00215

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 20 Date/Time: 10/01/2015 05:46

Sample Number: **8061483** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00015	-5.37	164.870	0.00042	0.00006	-0.00004
____ AL	10.77272	1,481.24	0.481	10.73095	10.75657	10.83064
____ AS	0.00483	3.12	56.229	0.00793	0.00288	0.00368
____ B	0.03547	319.97	2.257	0.03560	0.03620	0.03461
____ BA	0.03775	30,683.23	0.137	0.03776	0.03780	0.03770
____ BE	0.00032	38.66	2.158	0.00031	0.00033	0.00032
____ CA	61.37800	59,765.51	0.141	61.31692	61.47674	61.34035
____ CD	0.00051	-2.74	12.849	0.00053	0.00044	0.00057
____ CO	0.00682	30.00	5.738	0.00655	0.00726	0.00664
____ CR	0.03652	391.61	1.598	0.03591	0.03658	0.03708
____ CU	0.01096	129.84	3.917	0.01128	0.01112	0.01047
____ FE	8.38157	2,805.49	0.240	8.35885	8.39702	8.38885
____ K	4.14153	1,307.23	0.398	4.15279	4.12263	4.14916
____ LI	0.00239	47.11	92.583	0.00391	-0.00015	0.00342
____ MG	3.95266	7,503.07	0.427	3.96132	3.96346	3.93319
____ MN	0.74972	46,143.08	1.093	0.75711	0.75114	0.74091
____ MO	0.00309	8.46	4.693	0.00319	0.00315	0.00292
____ NA	11.25640	13,451.82	0.285	11.22150	11.28448	11.26320
____ NI	0.12708	289.40	3.210	0.12247	0.13024	0.12852
____ P	5.09552	1,353.43	3.075	4.91720	5.21111	5.15825
____ PB	0.01136	20.86	25.446	0.00906	0.01460	0.01041
____ S	14.34107	1,977.35	2.898	13.86908	14.65245	14.50167
____ SB	-0.00237	-1.96	107.631	-0.00532	-0.00089	-0.00091
____ SE	0.00328	-0.37	111.829	0.00279	0.00716	-0.00012
____ SI	18.90522	3,853.86	0.362	18.82802	18.95882	18.92881
____ SN	0.00211	3.36	49.733	0.00257	0.00284	0.00091
____ SR	0.16504	134,445.22	1.049	0.16652	0.16547	0.16314
____ TI	0.19443	12,160.22	23.712	0.14685	0.19754	0.23889
____ TL	-0.01462	-4.50	12.876	-0.01265	-0.01481	-0.01640
____ V	0.03087	552.14	2.204	0.03053	0.03043	0.03165
____ Y1	9541.07971	9,541.08	2.653	9827.97702	9349.30590	9445.95621
____ Y2A	444370.58206	444,370.58	0.970	440312.12724	443905.89795	448893.72101
____ Y2R	22490.55185	22,490.55	0.489	22606.04549	22478.70056	22386.90951
____ ZN	0.40918	2,687.20	3.144	0.39445	0.41822	0.41488
____ ZR	0.00571	24.38	38.061	0.00819	0.00413	0.00481

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 21 Date/Time: 10/01/2015 05:49

Sample Number: **8061484** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00030	-8.25	248.876	-0.00004	-0.00022	0.00116
____ AL	1.13994	164.29	2.324	1.15669	1.15373	1.10940
____ AS	0.00239	2.62	120.079	0.00460	-0.00085	0.00340
____ B	0.22412	1,789.86	0.396	0.22513	0.22347	0.22376
____ BA	0.03509	28,252.23	0.452	0.03517	0.03491	0.03520
____ BE	0.00002	-72.45	80.285	0.00003	0.00000	0.00001
____ CA	106.34995	101,184.57	0.482	106.26011	106.90125	105.88851
____ CD	0.00049	-0.62	31.824	0.00031	0.00055	0.00060
____ CO	0.00379	17.97	6.504	0.00371	0.00407	0.00360
____ CR	0.00651	63.83	8.478	0.00629	0.00610	0.00714
____ CU	0.00488	97.87	6.343	0.00515	0.00455	0.00495
____ FE	11.32503	3,712.99	0.242	11.33540	11.34570	11.29400
____ K	3.48029	1,084.55	0.665	3.50479	3.45877	3.47732
____ LI	0.00192	51.19	42.926	0.00274	0.00191	0.00110
____ MG	6.85636	12,739.53	0.109	6.85319	6.86490	6.85098
____ MN	1.06351	64,809.81	0.416	1.06696	1.05853	1.06505
____ MO	0.00374	10.15	1.521	0.00380	0.00369	0.00372
____ NA	21.06395	24,788.95	0.429	21.02438	21.16725	21.00022
____ NI	0.03893	95.63	1.542	0.03941	0.03913	0.03826
____ P	16.16099	4,446.49	0.509	16.16573	16.24070	16.07654
____ PB	0.00452	12.10	33.700	0.00502	0.00572	0.00281
____ S	26.10779	3,725.64	0.439	26.11088	26.22087	25.99164
____ SB	-0.00075	-1.33	375.556	0.00249	-0.00233	-0.00239
____ SE	-0.00069	-0.98	428.845	-0.00080	0.00233	-0.00360
____ SI	6.83487	1,366.59	0.671	6.83341	6.88146	6.78974
____ SN	0.00059	2.45	236.756	0.00220	-0.00038	-0.00004
____ SR	0.28421	229,285.45	0.218	0.28360	0.28484	0.28418
____ TI	0.04514	2,799.58	1.715	0.04497	0.04447	0.04599
____ TL	-0.00369	-0.88	38.933	-0.00529	-0.00252	-0.00325
____ V	0.00556	89.58	4.480	0.00584	0.00549	0.00535
____ Y1	9870.99563	9,871.00	0.289	9880.58606	9838.90499	9893.49585
____ Y2A	440011.87321	440,011.87	0.425	438903.24718	442173.21074	438959.16170
____ Y2R	22055.68087	22,055.68	0.329	22112.42515	21973.97390	22080.64355
____ ZN	0.07133	503.59	0.696	0.07109	0.07191	0.07101
____ ZR	0.00052	11.25	135.724	0.00009	0.00013	0.00134

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 22 Date/Time: 10/01/2015 05:52

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.48866	7,719.05	1.880	0.48408	0.48266	0.49923
____ AL	23.86599	3,120.76	0.753	23.93408	24.00171	23.66217
____ AS	0.48714	127.99	1.388	0.48018	0.49369	0.48755
____ B	0.48504	3,801.73	2.402	0.47977	0.47696	0.49839
____ BA	0.49204	390,271.85	1.976	0.48386	0.48947	0.50279
____ BE	0.48146	247,304.13	2.212	0.47630	0.47438	0.49371
____ CA	24.00966	22,379.58	0.720	24.04734	24.16062	23.82102
____ CD	0.48810	4,272.83	0.829	0.48373	0.48886	0.49171
____ CO	0.48304	1,870.37	0.873	0.47828	0.48450	0.48633
____ CR	0.48026	5,109.10	1.841	0.47556	0.47476	0.49046
____ CU	0.50109	6,358.54	2.144	0.49638	0.49350	0.51338
____ FE	23.97973	7,608.90	0.474	23.96692	24.09918	23.87310
____ K	24.07286	7,029.79	0.663	24.16654	24.16338	23.88866
____ LI	0.49687	2,987.60	0.516	0.49908	0.49746	0.49406
____ MG	24.05037	42,983.16	0.466	24.03128	24.17069	23.94913
____ MN	0.49450	29,857.44	2.259	0.48991	0.48635	0.50723
____ MO	0.49033	1,048.37	0.621	0.48766	0.48969	0.49365
____ NA	24.13793	27,627.55	0.549	24.16143	24.25723	23.99513
____ NI	0.48597	1,125.70	0.745	0.48218	0.48636	0.48939
____ P	0.49043	133.93	0.335	0.48870	0.49198	0.49062
____ PB	0.48016	409.14	1.257	0.47412	0.48016	0.48620
____ S	23.89494	3,408.02	0.868	23.67483	23.92345	24.08653
____ SB	0.49110	171.16	1.738	0.48196	0.49247	0.49887
____ SE	0.48295	85.02	0.630	0.48146	0.48093	0.48645
____ SI	24.06757	4,677.46	0.577	24.15679	24.13822	23.90770
____ SN	0.48404	330.19	0.404	0.48258	0.48328	0.48627
____ SR	0.48895	389,441.09	1.476	0.48524	0.48434	0.49726
____ TI	0.49356	30,231.16	2.165	0.48851	0.48634	0.50584
____ TL	0.47321	152.63	0.450	0.47108	0.47533	0.47321
____ V	0.49144	8,722.98	2.032	0.48574	0.48562	0.50297
____ Y1	9867.99564	9,868.00	0.657	9937.92931	9856.15262	9809.90500
____ Y2A	435949.33179	435,949.33	2.110	440769.63221	441736.49768	425341.86547
____ Y2R	21437.99959	21,438.00	0.546	21390.16736	21352.36358	21571.46783
____ ZN	0.48694	3,330.62	0.800	0.48274	0.48763	0.49044
____ ZR	0.50195	1,198.39	0.714	0.50275	0.50506	0.49803

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 23 Date/Time: 10/01/2015 05:55

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00013	7.98	260.172	-0.00032	0.00026	-0.00033
____ AL	-0.01846	9.43	139.961	-0.04574	0.00564	-0.01528
____ AS	-0.00519	0.53	67.706	-0.00830	-0.00591	-0.00137
____ B	0.00163	34.22	36.347	0.00178	0.00212	0.00097
____ BA	-0.00002	158.18	59.829	-0.00001	-0.00001	-0.00002
____ BE	0.00000	-74.02	3897.124	0.00002	-0.00001	-0.00001
____ CA	0.00514	67.01	85.671	0.00058	0.00936	0.00548
____ CD	0.00039	-9.18	10.497	0.00043	0.00035	0.00040
____ CO	-0.00026	1.99	39.292	-0.00018	-0.00037	-0.00022
____ CR	0.00042	1.98	35.289	0.00034	0.00033	0.00060
____ CU	-0.00169	-33.20	18.492	-0.00160	-0.00143	-0.00204
____ FE	-0.00107	2.98	507.647	0.00218	0.00195	-0.00734
____ K	0.07721	69.06	35.868	0.05671	0.06621	0.10871
____ LI	-0.00028	19.17	1062.644	0.00041	-0.00350	0.00226
____ MG	-0.00122	-0.26	203.462	-0.00021	-0.00405	0.00059
____ MN	-0.00013	12.42	49.633	-0.00019	-0.00013	-0.00006
____ MO	-0.00045	1.26	80.258	-0.00016	-0.00034	-0.00086
____ NA	0.06007	-48.14	21.173	0.05565	0.05015	0.07441
____ NI	-0.00050	6.54	26.807	-0.00056	-0.00035	-0.00059
____ P	0.00104	-1.29	44.430	0.00112	0.00146	0.00055
____ PB	-0.00003	6.32	5618.649	-0.00200	0.00009	0.00180
____ S	0.00528	1.45	113.036	0.01108	0.00560	-0.00084
____ SB	0.00027	-1.29	505.612	0.00072	0.00136	-0.00127
____ SE	-0.00152	-1.37	142.544	-0.00394	0.00021	-0.00082
____ SI	0.00764	2.04	43.086	0.00423	0.00789	0.01080
____ SN	-0.00022	2.00	340.776	0.00052	-0.00021	-0.00097
____ SR	-0.00012	-131.19	2.342	-0.00012	-0.00012	-0.00013
____ TI	0.00011	18.15	119.423	0.00025	0.00001	0.00006
____ TL	0.00004	-0.13	3598.499	-0.00147	0.00041	0.00118
____ V	0.00046	-5.60	56.911	0.00039	0.00025	0.00076
____ Y1	10367.89186	10,367.89	0.629	10359.61346	10436.82581	10307.23632
____ Y2A	459391.98144	459,391.98	0.648	461601.88867	460570.16236	456003.89331
____ Y2R	22225.19516	22,225.20	0.259	22199.14534	22291.25125	22185.18889
____ ZN	-0.00028	13.29	52.548	-0.00045	-0.00016	-0.00024
____ ZR	0.00048	11.24	396.590	0.00267	-0.00033	-0.00089

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 24 Date/Time: 10/01/2015 05:57

Sample Number: **8053084** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00000	6.98	3614.829	-0.00005	0.00094	-0.00090
____ AL	0.41705	67.31	5.996	0.43738	0.38913	0.42464
____ AS	-0.00388	0.88	37.293	-0.00460	-0.00221	-0.00482
____ B	0.05460	443.04	2.396	0.05383	0.05611	0.05385
____ BA	0.04814	38,801.35	1.783	0.04761	0.04913	0.04769
____ BE	0.00001	-72.57	340.914	-0.00002	0.00002	0.00002
____ CA	48.09928	45,772.93	0.334	47.95255	48.07427	48.27101
____ CD	0.00028	-9.19	17.157	0.00034	0.00025	0.00026
____ CO	0.00835	35.62	4.734	0.00875	0.00835	0.00796
____ CR	0.10286	1,106.82	2.513	0.10133	0.10585	0.10142
____ CU	0.00431	69.51	18.791	0.00522	0.00365	0.00408
____ FE	1.15212	380.08	1.019	1.14036	1.15217	1.16383
____ K	3.03557	947.38	0.943	3.06807	3.01412	3.02452
____ LI	0.02158	160.83	15.590	0.01894	0.02044	0.02537
____ MG	15.86718	29,184.53	0.158	15.84095	15.86973	15.89085
____ MN	0.11012	6,746.40	1.964	0.10848	0.11257	0.10931
____ MO	0.00267	7.91	16.880	0.00257	0.00316	0.00228
____ NA	35.83302	42,057.34	0.208	35.76971	35.81420	35.91514
____ NI	0.38673	905.60	0.276	0.38720	0.38551	0.38748
____ P	0.08069	20.99	4.644	0.07985	0.08478	0.07743
____ PB	-0.00118	6.30	205.926	-0.00290	-0.00224	0.00160
____ S	38.11971	5,472.11	0.101	38.12911	38.07746	38.15255
____ SB	-0.00268	-2.07	82.490	-0.00487	-0.00045	-0.00272
____ SE	0.00184	-0.69	204.056	0.00302	0.00485	-0.00236
____ SI	4.87486	970.34	0.340	4.85576	4.88349	4.88532
____ SN	0.00078	2.59	101.363	0.00010	0.00059	0.00164
____ SR	0.41608	335,730.99	0.909	0.41548	0.42013	0.41264
____ TI	0.01053	664.29	3.337	0.01014	0.01061	0.01083
____ TL	0.00012	-0.04	1662.195	-0.00205	0.00036	0.00206
____ V	0.00275	36.03	4.192	0.00286	0.00263	0.00277
____ Y1	9930.63380	9,930.63	0.225	9954.49230	9927.15513	9910.25397
____ Y2A	441291.08681	441,291.09	1.832	446909.87409	432028.41286	444934.97349
____ Y2R	21953.42116	21,953.42	0.470	22071.17952	21910.34071	21878.74326
____ ZN	0.00336	52.46	4.992	0.00327	0.00355	0.00325
____ ZR	-0.00107	7.33	174.148	-0.00252	-0.00171	0.00103

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 25 Date/Time: 10/01/2015 06:00

Sample Number: **8053085** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00062	-0.50	83.156	-0.00004	-0.00079	-0.00103
____ AL	0.00494	12.39	598.348	0.01297	0.02967	-0.02782
____ AS	-0.00246	1.23	94.027	-0.00221	-0.00028	-0.00489
____ B	0.05325	426.29	1.513	0.05409	0.05318	0.05248
____ BA	0.04326	34,716.34	1.562	0.04404	0.04283	0.04292
____ BE	-0.00001	-77.62	143.980	-0.00002	0.00001	-0.00001
____ CA	47.11607	44,601.17	0.515	46.92879	47.39019	47.02924
____ CD	0.00037	-9.01	21.462	0.00034	0.00046	0.00031
____ CO	0.00043	4.63	91.047	0.00042	0.00004	0.00083
____ CR	0.00099	7.97	33.190	0.00110	0.00125	0.00062
____ CU	-0.00027	10.74	232.119	-0.00010	-0.00096	0.00025
____ FE	0.00646	5.36	119.870	-0.00185	0.01346	0.00777
____ K	2.90195	902.70	2.143	2.83305	2.95388	2.91891
____ LI	0.02209	162.88	9.421	0.02075	0.02449	0.02103
____ MG	15.55541	28,462.96	0.547	15.49958	15.65328	15.51338
____ MN	0.00115	89.67	10.758	0.00122	0.00101	0.00123
____ MO	0.00258	7.75	17.329	0.00310	0.00237	0.00228
____ NA	34.92806	40,772.13	0.559	34.77214	35.14692	34.86512
____ NI	0.00108	9.98	65.218	0.00032	0.00122	0.00171
____ P	0.05378	13.43	2.525	0.05486	0.05423	0.05225
____ PB	0.00122	7.96	76.828	0.00227	0.00046	0.00094
____ S	37.46002	5,400.96	0.200	37.50653	37.37358	37.49994
____ SB	0.00022	-1.26	1642.867	-0.00169	0.00442	-0.00206
____ SE	0.00002	-1.04	9650.810	0.00295	0.00229	-0.00518
____ SI	3.82402	757.20	0.302	3.81194	3.83494	3.82517
____ SN	-0.00068	1.60	72.441	-0.00125	-0.00050	-0.00031
____ SR	0.41184	330,657.71	1.010	0.41661	0.40896	0.40995
____ TI	0.00278	182.11	7.527	0.00255	0.00281	0.00297
____ TL	0.00087	0.15	221.980	0.00091	0.00279	-0.00108
____ V	0.00169	16.31	14.216	0.00165	0.00147	0.00194
____ Y1	9974.10896	9,974.11	0.220	9972.26664	9996.88935	9953.17088
____ Y2A	439106.44467	439,106.44	1.583	431089.71173	443463.05500	442766.56726
____ Y2R	21835.82387	21,835.82	0.668	22004.18410	21750.02491	21753.26260
____ ZN	0.00157	25.50	11.884	0.00172	0.00163	0.00136
____ ZR	-0.00131	6.71	33.766	-0.00168	-0.00082	-0.00144

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 26 Date/Time: 10/01/2015 06:03

Sample Number: **8053086** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00006	10.26	542.621	-0.00034	0.00028	0.00025
____ AL	0.24603	45.79	11.085	0.26881	0.21581	0.25347
____ AS	0.00005	1.91	1890.408	-0.00101	0.00044	0.00072
____ B	0.05295	431.29	1.282	0.05222	0.05308	0.05356
____ BA	0.04611	37,575.48	1.255	0.04544	0.04641	0.04648
____ BE	-0.00001	-78.39	68.770	-0.00001	0.00000	0.00000
____ CA	47.15321	46,138.79	0.439	47.36196	47.14938	46.94830
____ CD	0.00022	-10.35	87.604	0.00001	0.00039	0.00027
____ CO	0.00013	3.54	199.452	-0.00005	0.00001	0.00042
____ CR	0.00160	14.60	44.514	0.00078	0.00194	0.00207
____ CU	-0.00007	12.68	525.481	-0.00025	0.00038	-0.00035
____ FE	0.23879	83.70	2.298	0.23379	0.23793	0.24466
____ K	2.90941	935.45	1.380	2.95576	2.88659	2.88589
____ LI	0.02207	168.26	7.447	0.02078	0.02392	0.02150
____ MG	15.60206	29,508.42	0.341	15.61265	15.64925	15.54429
____ MN	0.02564	1,603.01	1.267	0.02526	0.02581	0.02584
____ MO	0.00171	5.96	16.021	0.00193	0.00179	0.00140
____ NA	34.21716	41,284.42	0.363	34.28258	34.29483	34.07407
____ NI	0.00043	8.54	147.591	0.00094	-0.00027	0.00061
____ P	0.07103	18.50	1.419	0.06994	0.07193	0.07122
____ PB	-0.00176	5.78	116.749	-0.00124	-0.00401	-0.00001
____ S	37.92176	5,549.66	0.274	38.03488	37.83020	37.90021
____ SB	0.00041	-1.21	585.985	-0.00182	0.00298	0.00008
____ SE	0.00130	-0.82	78.424	0.00035	0.00118	0.00237
____ SI	4.48282	917.44	0.374	4.49246	4.49253	4.46348
____ SN	-0.00072	1.60	103.757	-0.00129	0.00013	-0.00100
____ SR	0.41899	341,709.74	0.987	0.41452	0.41978	0.42268
____ TI	0.00711	456.31	1.791	0.00713	0.00723	0.00697
____ TL	0.00025	-0.05	450.594	-0.00003	0.00151	-0.00072
____ V	0.00223	26.59	17.311	0.00183	0.00225	0.00260
____ Y1	10123.96259	10,123.96	0.200	10102.41114	10142.51972	10126.95691
____ Y2A	446036.25469	446,036.25	1.255	452362.57455	444031.72631	441714.46322
____ Y2R	22570.62330	22,570.62	0.254	22577.45567	22510.11158	22624.30265
____ ZN	0.00176	27.28	2.438	0.00173	0.00181	0.00174
____ ZR	0.00005	10.34	2318.109	0.00150	-0.00055	-0.00079

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 27 Date/Time: 10/01/2015 06:06

Sample Number: **8053087** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00188	-143.06	39.367	0.00102	0.00228	0.00232
____ AL	0.04058	17.51	36.234	0.05730	0.03472	0.02970
____ AS	-0.00326	3.21	111.378	-0.00442	-0.00618	0.00081
____ B	0.06311	913.69	1.289	0.06402	0.06247	0.06283
____ BA	0.04239	34,411.80	0.909	0.04283	0.04212	0.04222
____ BE	0.00008	-73.05	1.977	0.00008	0.00008	0.00008
____ CA	46.67591	44,461.38	0.779	46.41207	47.09070	46.52495
____ CD	0.00043	32.28	53.360	0.00068	0.00023	0.00038
____ CO	0.95319	3,657.61	0.219	0.95078	0.95434	0.95445
____ CR	11.02831	119,764.42	0.763	11.12392	10.99544	10.96556
____ CU	0.48969	6,412.97	0.660	0.49289	0.48643	0.48975
____ FE	91.80855	29,233.82	0.856	91.36611	92.71544	91.34410
____ K	2.88609	903.64	2.846	2.79166	2.94112	2.92549
____ LI	0.02326	171.03	2.697	0.02391	0.02323	0.02265
____ MG	15.48650	28,514.37	0.799	15.47061	15.61746	15.37144
____ MN	8.60983	529,437.62	1.915	8.78597	8.45919	8.58431
____ MO	0.00959	22.37	0.706	0.00952	0.00966	0.00959
____ NA	34.49048	40,510.22	0.876	34.35307	34.83697	34.28139
____ NI	44.19274	100,820.43	0.187	44.09796	44.24796	44.23231
____ P	0.08456	40.98	4.825	0.08351	0.08110	0.08906
____ PB	0.00575	16.00	7.553	0.00525	0.00599	0.00601
____ S	38.41149	5,414.99	0.379	38.26967	38.40447	38.56034
____ SB	-0.09521	-12.13	5.944	-0.10103	-0.09488	-0.08972
____ SE	-0.00195	0.09	349.155	0.00007	0.00362	-0.00953
____ SI	4.11884	820.03	0.621	4.09161	4.14231	4.12261
____ SN	0.00084	1.59	98.013	0.00051	0.00024	0.00178
____ SR	0.40739	330,873.98	0.838	0.41130	0.40497	0.40591
____ TI	0.00352	365.51	1.108	0.00353	0.00356	0.00348
____ TL	-0.00071	4.86	114.626	-0.00131	-0.00105	0.00022
____ V	0.02344	432.38	0.772	0.02361	0.02325	0.02346
____ Y1	9753.60899	9,753.61	0.306	9780.34269	9759.07639	9721.40789
____ Y2A	444170.94654	444,170.95	1.022	438935.88469	446970.51027	446606.44467
____ Y2R	21972.18236	21,972.18	0.743	22060.62800	21783.91608	22072.00300
____ ZN	0.06020	2,073.50	0.460	0.06034	0.06037	0.05988
____ ZR	0.00304	17.33	61.228	0.00500	0.00130	0.00281

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 28 Date/Time: 10/01/2015 06:10

Sample Number: **8053088** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00044	2.01	49.187	-0.00064	-0.00048	-0.00021
____ AL	0.27121	47.68	4.320	0.26185	0.28435	0.26743
____ AS	0.00091	2.08	464.734	0.00127	-0.00348	0.00494
____ B	0.05314	424.97	2.396	0.05262	0.05459	0.05221
____ BA	0.04580	36,652.84	1.775	0.04522	0.04673	0.04545
____ BE	-0.00002	-81.89	112.145	-0.00003	0.00000	-0.00002
____ CA	47.88500	45,383.03	0.539	48.09711	47.95997	47.59791
____ CD	0.00043	-8.27	15.353	0.00048	0.00035	0.00045
____ CO	0.00007	3.22	596.847	0.00019	-0.00039	0.00040
____ CR	0.00240	22.98	18.824	0.00232	0.00289	0.00200
____ CU	-0.00001	13.74	4958.411	0.00068	0.00019	-0.00089
____ FE	0.25535	86.46	2.973	0.26173	0.25735	0.24695
____ K	2.98782	929.35	1.357	2.94392	2.99572	3.02382
____ LI	0.02265	166.65	9.152	0.02501	0.02112	0.02182
____ MG	15.73174	28,819.00	0.470	15.79704	15.74681	15.65138
____ MN	0.02527	1,551.75	1.207	0.02507	0.02562	0.02511
____ MO	0.00185	6.10	33.936	0.00194	0.00118	0.00243
____ NA	34.62849	40,472.87	0.384	34.75803	34.63507	34.49238
____ NI	0.00969	29.58	85.118	0.00559	0.00430	0.01918
____ P	0.07174	18.19	2.106	0.07157	0.07333	0.07032
____ PB	0.00075	7.68	199.775	-0.00074	0.00073	0.00225
____ S	38.20298	5,438.18	0.759	37.87289	38.31950	38.41656
____ SB	-0.00009	-1.35	2505.629	-0.00239	0.00212	0.00001
____ SE	0.00077	-0.89	403.632	0.00426	-0.00171	-0.00024
____ SI	4.52439	896.93	0.274	4.51164	4.53640	4.52513
____ SN	-0.00038	1.79	358.561	-0.00110	-0.00121	0.00118
____ SR	0.41664	333,687.55	1.180	0.41227	0.42196	0.41569
____ TI	0.00709	446.52	4.719	0.00699	0.00746	0.00681
____ TL	-0.00302	-1.10	174.227	-0.00041	0.00042	-0.00908
____ V	0.00187	19.82	11.349	0.00199	0.00201	0.00163
____ Y1	9847.85214	9,847.85	0.675	9916.17030	9844.01278	9783.37333
____ Y2A	438034.76364	438,034.76	1.613	443128.97614	429969.10205	441006.21272
____ Y2R	21863.33551	21,863.34	0.269	21849.27131	21812.78641	21927.94879
____ ZN	0.00205	28.83	4.452	0.00195	0.00207	0.00212
____ ZR	-0.00046	8.77	285.473	0.00103	-0.00145	-0.00097

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 29 Date/Time: 10/01/2015 06:13

Sample Number: **8053089** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00005	8.96	381.145	-0.00012	0.00016	-0.00018
____ AL	0.00073	12.01	3177.161	-0.02591	0.01646	0.01164
____ AS	-0.00118	1.56	32.741	-0.00137	-0.00142	-0.00073
____ B	0.05040	420.96	2.287	0.04923	0.05153	0.05042
____ BA	0.04136	34,543.33	3.181	0.03993	0.04252	0.04163
____ BE	-0.00003	-93.81	49.458	-0.00005	-0.00001	-0.00004
____ CA	46.81318	45,030.32	0.430	46.93740	46.58080	46.92135
____ CD	0.00043	-8.47	8.993	0.00041	0.00041	0.00048
____ CO	0.00001	3.01	1858.000	-0.00013	-0.00015	0.00032
____ CR	0.00172	16.57	39.883	0.00223	0.00094	0.00198
____ CU	-0.00014	13.01	190.021	0.00016	-0.00032	-0.00024
____ FE	0.03148	13.74	29.371	0.04133	0.03013	0.02299
____ K	2.82835	895.22	0.712	2.84047	2.80510	2.83949
____ LI	0.02202	165.05	3.807	0.02163	0.02145	0.02298
____ MG	15.56130	28,932.26	0.759	15.59144	15.43105	15.66139
____ MN	0.00270	190.96	6.213	0.00251	0.00283	0.00276
____ MO	0.00185	6.18	11.642	0.00174	0.00210	0.00171
____ NA	34.24633	40,618.58	0.558	34.38265	34.02806	34.32828
____ NI	0.00456	18.11	9.550	0.00505	0.00440	0.00423
____ P	0.05473	13.71	2.295	0.05401	0.05618	0.05401
____ PB	-0.00140	5.79	118.889	-0.00304	0.00030	-0.00147
____ S	37.90079	5,471.52	0.431	37.76357	38.08162	37.85718
____ SB	-0.00011	-1.38	1718.834	0.00137	-0.00211	0.00043
____ SE	0.00285	-0.53	116.811	-0.00096	0.00522	0.00428
____ SI	3.80575	765.72	0.629	3.80917	3.78030	3.82778
____ SN	-0.00036	1.83	77.708	-0.00056	-0.00046	-0.00004
____ SR	0.40200	335,845.00	2.857	0.38877	0.40951	0.40771
____ TI	0.00218	151.33	2.998	0.00211	0.00224	0.00219
____ TL	-0.00196	-0.78	83.597	-0.00278	-0.00302	-0.00007
____ V	0.00147	12.80	29.505	0.00098	0.00163	0.00179
____ Y1	9987.04378	9,987.04	0.513	10034.38437	9932.62021	9994.12676
____ Y2A	457122.59190	457,122.59	3.108	472478.36218	444440.52353	454448.88999
____ Y2R	22187.80142	22,187.80	0.564	22222.59932	22291.76629	22049.03865
____ ZN	0.00127	23.64	6.579	0.00121	0.00137	0.00124
____ ZR	-0.00121	7.08	105.071	0.00026	-0.00189	-0.00199

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 30 Date/Time: 10/01/2015 06:16

Sample Number: **8053090** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00029	5.00	83.850	-0.00031	-0.00004	-0.00052
____ AL	-0.01629	9.73	77.801	-0.01815	-0.00279	-0.02793
____ AS	-0.00160	1.48	171.303	-0.00441	0.00104	-0.00141
____ B	0.00163	33.82	30.931	0.00105	0.00199	0.00184
____ BA	0.00087	886.73	1.701	0.00088	0.00085	0.00087
____ BE	0.00000	-73.17	1752.243	0.00000	-0.00001	0.00002
____ CA	0.07449	134.08	4.253	0.07105	0.07511	0.07729
____ CD	0.00050	-8.00	16.652	0.00057	0.00041	0.00052
____ CO	0.00008	3.28	308.596	0.00029	0.00011	-0.00017
____ CR	-0.00012	-4.08	531.433	0.00037	-0.00083	0.00011
____ CU	0.00727	87.78	11.432	0.00814	0.00720	0.00648
____ FE	0.00128	3.76	48.980	0.00088	0.00201	0.00096
____ K	0.03803	57.34	136.331	0.01420	0.09750	0.00238
____ LI	0.00116	28.11	95.188	0.00240	0.00032	0.00074
____ MG	0.01533	30.87	8.649	0.01531	0.01401	0.01666
____ MN	0.00050	51.75	9.402	0.00044	0.00053	0.00051
____ MO	-0.00002	2.19	1867.294	0.00033	-0.00041	0.00002
____ NA	0.37677	329.58	0.813	0.37643	0.37388	0.37998
____ NI	-0.00015	7.24	184.267	-0.00031	0.00017	-0.00030
____ P	0.00112	-1.24	87.175	0.00222	0.00036	0.00078
____ PB	-0.00261	4.09	49.694	-0.00294	-0.00371	-0.00118
____ S	0.02278	3.99	7.492	0.02155	0.02206	0.02473
____ SB	0.00032	-1.25	564.904	0.00127	-0.00178	0.00147
____ SE	-0.00014	-1.09	2863.923	0.00322	0.00091	-0.00455
____ SI	0.22050	44.96	2.919	0.21912	0.22751	0.21486
____ SN	0.00055	2.50	107.119	-0.00011	0.00101	0.00074
____ SR	0.00011	62.37	12.941	0.00011	0.00011	0.00009
____ TI	0.00023	25.87	35.501	0.00031	0.00022	0.00015
____ TL	-0.00177	-0.73	59.865	-0.00172	-0.00074	-0.00285
____ V	0.00035	-7.83	98.288	0.00073	0.00019	0.00011
____ Y1	10161.28961	10,161.29	0.443	10184.81804	10109.39373	10189.65707
____ Y2A	456090.26950	456,090.27	0.283	454962.49174	457499.91716	455808.39960
____ Y2R	22248.28415	22,248.28	0.404	22344.04928	22235.13392	22165.66926
____ ZN	0.00045	18.21	5.525	0.00043	0.00048	0.00045
____ ZR	-0.00173	5.82	46.716	-0.00169	-0.00255	-0.00094

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 31 Date/Time: 10/01/2015 06:19

Sample Number: **8053091** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00058	0.32	51.311	-0.00027	-0.00086	-0.00060
____ AL	0.00501	12.50	701.793	0.04486	-0.00829	-0.02155
____ AS	-0.00390	0.87	29.422	-0.00274	-0.00503	-0.00393
____ B	0.00194	36.35	41.060	0.00102	0.00245	0.00235
____ BA	0.00040	497.90	2.875	0.00041	0.00039	0.00039
____ BE	-0.00001	-77.70	60.657	0.00000	-0.00001	-0.00001
____ CA	0.10574	163.19	3.715	0.10729	0.10866	0.10128
____ CD	0.00023	-10.49	52.151	0.00035	0.00011	0.00023
____ CO	-0.00028	1.87	149.383	-0.00052	-0.00052	0.00020
____ CR	0.00073	5.45	16.481	0.00061	0.00075	0.00085
____ CU	0.00446	50.07	20.558	0.00506	0.00340	0.00491
____ FE	0.00213	4.01	95.353	0.00349	-0.00020	0.00309
____ K	0.08514	71.04	42.650	0.08845	0.11968	0.04728
____ LI	0.00204	33.37	107.784	0.00317	-0.00049	0.00346
____ MG	0.01199	24.44	5.693	0.01241	0.01120	0.01236
____ MN	0.00067	62.60	44.676	0.00100	0.00054	0.00045
____ MO	-0.00058	0.95	40.740	-0.00082	-0.00057	-0.00035
____ NA	0.35013	295.80	1.632	0.35517	0.35130	0.34392
____ NI	-0.00012	7.35	144.137	-0.00020	0.00008	-0.00022
____ P	0.00211	-0.97	38.532	0.00294	0.00207	0.00131
____ PB	-0.00262	4.09	16.557	-0.00213	-0.00296	-0.00278
____ S	0.00950	2.05	37.648	0.00617	0.01328	0.00905
____ SB	-0.00134	-1.86	163.575	-0.00104	-0.00367	0.00069
____ SE	-0.00333	-1.68	131.836	0.00166	-0.00660	-0.00504
____ SI	0.22185	44.92	4.881	0.23428	0.21446	0.21681
____ SN	-0.00061	1.69	244.236	-0.00229	-0.00017	0.00062
____ SR	0.00008	39.11	154.371	0.00021	0.00002	-0.00001
____ TI	0.00004	13.98	392.449	-0.00015	0.00017	0.00011
____ TL	-0.00094	-0.45	185.467	-0.00043	-0.00289	0.00049
____ V	-0.00007	-15.53	408.193	-0.00039	0.00010	0.00008
____ Y1	10208.65084	10,208.65	0.266	10197.74770	10239.55254	10188.65227
____ Y2A	456904.15838	456,904.16	0.670	460211.48111	454175.86150	456325.13254
____ Y2R	22098.67174	22,098.67	0.265	22032.68693	22118.97861	22144.34969
____ ZN	0.00123	23.70	8.178	0.00131	0.00127	0.00112
____ ZR	-0.00114	7.23	139.032	-0.00251	0.00059	-0.00148

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 32 Date/Time: 10/01/2015 06:21

Sample Number: **8053092** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00122	-96.29	22.767	0.00098	0.00115	0.00152
____ AL	0.35227	58.83	1.061	0.35120	0.35642	0.34918
____ AS	-0.00034	3.27	651.613	-0.00256	-0.00034	0.00188
____ B	0.06255	772.18	1.789	0.06347	0.06288	0.06130
____ BA	0.04746	37,909.74	1.036	0.04800	0.04734	0.04704
____ BE	0.00006	-71.63	6.808	0.00006	0.00006	0.00006
____ CA	48.73392	46,330.12	0.600	48.89470	48.91056	48.39650
____ CD	0.00046	19.59	5.412	0.00049	0.00044	0.00045
____ CO	0.67793	2,598.07	0.447	0.67476	0.67822	0.68080
____ CR	7.67077	82,002.10	1.095	7.75518	7.66992	7.58720
____ CU	0.35002	4,516.97	1.124	0.35425	0.34935	0.34646
____ FE	63.71714	20,430.03	0.653	63.97099	63.94334	63.23708
____ K	3.04249	948.56	1.576	3.07324	2.98724	3.06699
____ LI	0.02306	169.86	4.075	0.02402	0.02214	0.02302
____ MG	16.01507	29,426.42	0.115	16.02161	16.02937	15.99423
____ MN	6.25228	378,499.14	1.180	6.32444	6.25541	6.17698
____ MO	0.00710	17.08	6.620	0.00707	0.00758	0.00665
____ NA	35.32141	41,416.14	0.457	35.46122	35.35815	35.14486
____ NI	31.68346	72,165.53	0.556	31.48600	31.73951	31.82488
____ P	0.09190	37.40	2.912	0.08973	0.09107	0.09489
____ PB	0.00549	14.57	41.645	0.00492	0.00354	0.00800
____ S	39.12960	5,507.41	0.453	38.93416	39.17430	39.28035
____ SB	-0.05545	-5.11	7.194	-0.05341	-0.05290	-0.06005
____ SE	0.00215	0.39	373.477	-0.00076	0.01120	-0.00401
____ SI	4.87576	969.21	0.568	4.90722	4.86508	4.85497
____ SN	0.00077	1.84	247.149	0.00292	-0.00059	-0.00004
____ SR	0.42188	337,306.33	1.060	0.42466	0.42427	0.41672
____ TI	0.00889	648.94	1.526	0.00880	0.00882	0.00905
____ TL	0.00102	3.90	397.077	0.00004	0.00547	-0.00245
____ V	0.01750	313.32	0.751	0.01765	0.01742	0.01743
____ Y1	9737.71097	9,737.71	0.467	9790.20860	9713.68316	9709.24114
____ Y2A	437253.92092	437,253.92	1.081	432424.45328	437463.96620	441873.34327
____ Y2R	21932.91853	21,932.92	0.570	21913.56118	21818.74377	22066.45065
____ ZN	0.04452	1,496.03	0.874	0.04488	0.04458	0.04411
____ ZR	0.00113	12.66	164.742	-0.00101	0.00201	0.00239

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 33 Date/Time: 10/01/2015 06:24

Sample Number: **8053093** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00075	-3.34	29.616	-0.00065	-0.00100	-0.00059
____ AL	-0.00020	11.58	3528.411	0.03139	0.00306	-0.03505
____ AS	-0.00101	1.60	192.129	-0.00255	-0.00166	0.00117
____ B	0.05200	416.48	1.804	0.05150	0.05308	0.05141
____ BA	0.04263	34,014.98	0.421	0.04248	0.04283	0.04259
____ BE	-0.00002	-85.05	46.189	-0.00003	-0.00003	-0.00001
____ CA	47.30338	44,366.62	0.631	47.64763	47.12149	47.14101
____ CD	0.00024	-9.84	97.693	0.00051	0.00013	0.00008
____ CO	0.00508	22.64	2.600	0.00501	0.00523	0.00500
____ CR	0.06635	705.49	0.372	0.06630	0.06661	0.06613
____ CU	0.00276	49.78	34.115	0.00295	0.00173	0.00358
____ FE	0.52037	170.99	1.076	0.52591	0.52049	0.51472
____ K	2.84743	878.52	2.305	2.84693	2.78205	2.91331
____ LI	0.02284	165.95	2.949	0.02323	0.02206	0.02323
____ MG	15.68246	28,429.46	0.939	15.85248	15.59870	15.59621
____ MN	0.05111	3,108.42	0.175	0.05102	0.05120	0.05112
____ MO	0.00171	5.81	16.848	0.00162	0.00147	0.00203
____ NA	34.42485	39,814.03	0.783	34.73624	34.27222	34.26609
____ NI	0.24806	579.91	0.938	0.24988	0.24544	0.24887
____ P	0.05072	12.55	1.202	0.05122	0.05089	0.05004
____ PB	-0.00126	5.87	52.812	-0.00201	-0.00073	-0.00105
____ S	37.95358	5,414.12	0.547	38.12788	37.72373	38.00913
____ SB	-0.00251	-2.07	144.037	0.00156	-0.00535	-0.00374
____ SE	0.00197	-0.67	400.879	0.00135	-0.00561	0.01018
____ SI	3.81803	749.06	0.855	3.84666	3.78251	3.82491
____ SN	-0.00015	1.95	749.052	-0.00089	0.00112	-0.00067
____ SR	0.41636	332,319.35	0.979	0.41611	0.42055	0.41241
____ TI	0.00229	151.66	6.271	0.00222	0.00218	0.00245
____ TL	-0.00237	-0.87	127.456	-0.00580	-0.00014	-0.00116
____ V	0.00151	13.19	13.894	0.00130	0.00150	0.00172
____ Y1	9868.54019	9,868.54	0.407	9845.28754	9914.91754	9845.41550
____ Y2A	436493.45593	436,493.46	0.403	435685.30484	435284.95693	438510.10603
____ Y2R	21635.60591	21,635.61	0.618	21486.29966	21743.96087	21676.55720
____ ZN	0.00189	36.71	1.273	0.00191	0.00186	0.00189
____ ZR	-0.00065	8.25	369.338	-0.00342	0.00056	0.00091

LANCASTER LABORATORIES

Run Name: 1527404T71

Instrument ID: 16315

Tube: 34

Date/Time: 10/01/2015 06:27

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50109	7,748.61	1.106	0.49899	0.49691	0.50738
____ AL	24.15742	3,148.53	0.233	24.21871	24.10771	24.14585
____ AS	0.49705	129.63	0.105	0.49709	0.49755	0.49651
____ B	0.49821	3,821.28	1.086	0.49414	0.49613	0.50434
____ BA	0.50500	392,122.21	0.882	0.50295	0.50194	0.51011
____ BE	0.49509	248,969.25	0.995	0.49192	0.49258	0.50076
____ CA	24.40532	22,672.46	0.384	24.31969	24.50545	24.39082
____ CD	0.49687	4,318.84	0.168	0.49782	0.49627	0.49652
____ CO	0.49030	1,885.04	0.246	0.49108	0.48891	0.49091
____ CR	0.49454	5,150.54	0.780	0.49238	0.49224	0.49899
____ CU	0.51312	6,374.24	0.930	0.51013	0.51061	0.51863
____ FE	24.29201	7,681.99	0.330	24.23727	24.38396	24.25482
____ K	24.50444	7,131.61	0.257	24.43334	24.52632	24.55364
____ LI	0.50439	3,022.56	0.424	0.50211	0.50635	0.50470
____ MG	24.22723	43,153.00	0.380	24.18395	24.33287	24.16488
____ MN	0.50888	30,080.73	0.964	0.50545	0.50670	0.51450
____ MO	0.49848	1,058.17	0.147	0.49772	0.49854	0.49918
____ NA	24.43230	27,874.53	0.184	24.41602	24.48300	24.39787
____ NI	0.49443	1,137.04	0.222	0.49539	0.49323	0.49466
____ P	0.49167	133.32	0.737	0.49461	0.49277	0.48762
____ PB	0.48905	413.59	0.308	0.48848	0.48790	0.49076
____ S	24.16169	3,421.56	0.167	24.17864	24.11564	24.19078
____ SB	0.50510	174.83	0.342	0.50552	0.50320	0.50658
____ SE	0.49142	85.91	1.177	0.49364	0.48485	0.49575
____ SI	24.36703	4,720.18	0.158	24.37242	24.32616	24.40252
____ SN	0.49166	332.97	0.270	0.49232	0.49254	0.49013
____ SR	0.50306	392,242.13	0.539	0.50033	0.50310	0.50575
____ TI	0.50887	30,513.63	1.015	0.50533	0.50648	0.51479
____ TL	0.48098	154.02	0.835	0.48167	0.47667	0.48461
____ V	0.50353	8,750.61	0.939	0.50048	0.50115	0.50898
____ Y1	9797.48232	9,797.48	0.038	9795.92071	9801.75185	9794.77441
____ Y2A	426692.70488	426,692.70	0.909	429545.72565	428254.63883	422277.75017
____ Y2R	21367.51288	21,367.51	0.507	21469.18048	21379.82018	21253.53797
____ ZN	0.49559	3,365.42	0.054	0.49589	0.49553	0.49537
____ ZR	0.50913	1,211.42	0.688	0.50555	0.51256	0.50927

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 35 Date/Time: 10/01/2015 06:30

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00010	11.70	475.580	-0.00008	-0.00026	0.00065
____ AL	-0.01887	9.24	61.049	-0.01591	-0.00912	-0.03158
____ AS	-0.00338	1.00	86.642	-0.00033	-0.00617	-0.00364
____ B	0.00059	26.03	182.997	0.00070	0.00162	-0.00054
____ BA	0.00000	168.59	408.866	0.00000	-0.00002	0.00001
____ BE	0.00001	-71.52	117.593	0.00001	0.00000	0.00001
____ CA	-0.00183	59.38	361.935	0.00492	-0.00211	-0.00830
____ CD	0.00032	-9.58	40.805	0.00020	0.00030	0.00046
____ CO	-0.00019	2.20	217.118	-0.00063	0.00018	-0.00012
____ CR	0.00003	-2.42	1628.755	-0.00030	0.00063	-0.00023
____ CU	-0.00158	-31.90	50.811	-0.00151	-0.00242	-0.00082
____ FE	-0.00227	2.54	189.536	0.00105	-0.00072	-0.00714
____ K	0.07778	68.15	70.986	0.02077	0.13100	0.08158
____ LI	0.00068	24.72	248.019	-0.00066	0.00013	0.00258
____ MG	-0.00118	-0.18	140.656	-0.00299	-0.00081	0.00027
____ MN	-0.00010	14.62	9.564	-0.00008	-0.00010	-0.00010
____ MO	-0.00015	1.87	158.314	-0.00026	-0.00032	0.00012
____ NA	0.05318	-55.50	26.635	0.04516	0.06953	0.04484
____ NI	0.00067	9.10	13.848	0.00071	0.00074	0.00057
____ P	0.00060	-1.38	473.715	0.00371	-0.00192	0.00003
____ PB	-0.00067	5.60	385.170	0.00028	-0.00361	0.00131
____ S	0.00986	2.08	84.779	0.01928	0.00694	0.00335
____ SB	0.00050	-1.18	610.128	0.00113	-0.00279	0.00315
____ SE	0.00334	-0.44	15.362	0.00392	0.00314	0.00296
____ SI	0.00581	1.65	300.946	0.01979	-0.01380	0.01144
____ SN	0.00066	2.55	124.970	0.00161	0.00014	0.00023
____ SR	-0.00014	-143.16	8.768	-0.00012	-0.00015	-0.00014
____ TI	-0.00010	5.05	124.605	-0.00024	-0.00001	-0.00004
____ TL	-0.00192	-0.77	118.739	-0.00323	0.00071	-0.00325
____ V	0.00064	-2.23	38.050	0.00037	0.00082	0.00074
____ Y1	10065.44613	10,065.45	0.674	10128.61566	10074.00020	9993.72253
____ Y2A	461994.14623	461,994.15	0.218	460934.72498	462939.03247	462108.68125
____ Y2R	21887.90062	21,887.90	0.478	22007.63168	21842.32417	21813.74601
____ ZN	-0.00010	14.20	174.651	-0.00029	0.00006	-0.00007
____ ZR	-0.00101	7.46	55.986	-0.00036	-0.00139	-0.00128

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 36 Date/Time: 10/01/2015 06:33

Sample Number: **8057369** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00008	7.88	530.168	0.00030	0.00000	-0.00053
____ AL	0.00109	11.81	2105.963	0.02226	-0.02319	0.00419
____ AS	-0.00452	0.70	21.443	-0.00473	-0.00536	-0.00346
____ B	0.00330	49.35	8.292	0.00337	0.00353	0.00300
____ BA	0.00019	333.37	2.431	0.00019	0.00020	0.00019
____ BE	-0.00001	-78.02	146.407	0.00000	-0.00002	0.00000
____ CA	0.03107	90.17	19.264	0.03087	0.03716	0.02519
____ CD	0.00040	-8.73	19.909	0.00048	0.00040	0.00032
____ CO	0.00560	25.16	7.544	0.00548	0.00607	0.00525
____ CR	0.03399	379.77	1.222	0.03400	0.03357	0.03440
____ CU	0.00205	17.40	12.350	0.00220	0.00218	0.00175
____ FE	0.36219	120.75	4.089	0.36658	0.34568	0.37431
____ K	0.08951	71.26	27.290	0.07271	0.07828	0.11753
____ LI	-0.00052	17.38	389.375	0.00109	0.00014	-0.00278
____ MG	0.00271	6.99	48.196	0.00198	0.00194	0.00422
____ MN	0.05326	3,415.05	0.478	0.05304	0.05354	0.05320
____ MO	-0.00035	1.44	120.633	-0.00005	-0.00084	-0.00016
____ NA	0.10436	4.54	7.530	0.09627	0.10484	0.11196
____ NI	0.26933	642.59	0.581	0.26753	0.27003	0.27042
____ P	0.00350	-0.44	31.252	0.00231	0.00447	0.00372
____ PB	0.00019	6.36	599.811	0.00042	-0.00104	0.00117
____ S	0.01565	2.92	21.851	0.01292	0.01455	0.01949
____ SB	-0.00164	-1.87	310.621	-0.00625	-0.00248	0.00382
____ SE	0.00157	-0.76	510.074	0.00864	0.00316	-0.00710
____ SI	0.03266	6.93	3.198	0.03287	0.03358	0.03152
____ SN	0.00021	2.24	138.377	0.00006	0.00056	0.00003
____ SR	-0.00001	-35.56	117.654	-0.00002	0.00000	0.00000
____ TI	0.00022	25.87	12.046	0.00025	0.00020	0.00020
____ TL	-0.00076	-0.36	317.012	0.00201	-0.00219	-0.00210
____ V	0.00026	-9.35	203.419	0.00053	-0.00035	0.00060
____ Y1	10081.30397	10,081.30	0.288	10108.73951	10084.35313	10050.81926
____ Y2A	460294.34504	460,294.35	0.419	459814.69516	458651.75613	462416.58383
____ Y2R	21769.60576	21,769.61	0.309	21792.28235	21822.61762	21693.91730
____ ZN	0.00109	32.73	16.906	0.00097	0.00100	0.00130
____ ZR	-0.00095	7.57	178.543	0.00047	-0.00281	-0.00049

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 37 Date/Time: 10/01/2015 06:36

Sample Number: **8058455** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00037	13.85	147.869	0.00082	0.00054	-0.00024
____ AL	0.00219	11.81	573.982	-0.01109	0.00380	0.01384
____ AS	0.26966	65.14	0.190	0.27004	0.26908	0.26986
____ B	0.52848	3,655.56	0.625	0.53208	0.52560	0.52775
____ BA	0.06689	48,158.90	0.465	0.06724	0.06665	0.06677
____ BE	-0.00010	-131.26	17.072	-0.00012	-0.00009	-0.00010
____ CA	200.83551	182,242.96	0.118	200.87662	200.58139	201.04851
____ CD	0.00058	-6.45	29.423	0.00056	0.00076	0.00042
____ CO	0.00099	6.13	41.155	0.00070	0.00081	0.00145
____ CR	0.00300	26.54	6.022	0.00295	0.00284	0.00320
____ CU	0.00296	119.37	19.823	0.00305	0.00233	0.00349
____ FE	0.02434	10.86	14.048	0.02086	0.02769	0.02446
____ K	11.48322	3,336.47	0.238	11.45450	11.48638	11.50879
____ LI	0.03181	241.23	5.151	0.03320	0.03222	0.03000
____ MG	106.73526	179,065.30	0.284	106.91979	106.38581	106.90018
____ MN	0.02728	1,508.16	0.805	0.02753	0.02714	0.02717
____ MO	0.00961	20.66	5.784	0.00940	0.01023	0.00918
____ NA	547.74116	621,975.87	0.843	552.96261	544.18693	546.07394
____ NI	0.00426	15.69	24.750	0.00309	0.00514	0.00456
____ P	0.47027	116.60	0.225	0.46975	0.46958	0.47149
____ PB	-0.00032	7.99	338.326	-0.00151	0.00060	-0.00005
____ S	95.61136	12,433.97	0.152	95.60085	95.47162	95.76160
____ SB	0.00277	-0.33	85.465	0.00530	0.00060	0.00241
____ SE	-0.00336	-1.48	263.388	-0.01235	0.00533	-0.00306
____ SI	13.71096	2,632.63	0.252	13.67113	13.72983	13.73192
____ SN	-0.00034	1.66	329.382	0.00084	-0.00141	-0.00046
____ SR	1.56668	1,130,711.42	0.252	1.57040	1.56713	1.56253
____ TI	0.00177	107.88	3.013	0.00172	0.00183	0.00176
____ TL	-0.00259	-0.90	93.124	-0.00018	-0.00500	-0.00257
____ V	0.01238	186.94	4.054	0.01283	0.01245	0.01184
____ Y1	8996.89366	8,996.89	0.269	9022.70638	8993.18704	8974.78756
____ Y2A	394603.70958	394,603.71	0.511	392812.45842	396789.83699	394208.83333
____ Y2R	21183.59949	21,183.60	0.131	21192.54334	21205.82951	21152.42563
____ ZN	0.01300	93.32	1.025	0.01311	0.01285	0.01304
____ ZR	-0.00071	7.92	306.134	-0.00235	0.00176	-0.00155

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 38 Date/Time: 10/01/2015 06:39

Sample Number: **8058456** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00015	6.14	199.961	0.00003	0.00002	-0.00048
____ AL	0.00962	12.42	430.856	0.05693	-0.02021	-0.00787
____ AS	0.27302	64.91	1.486	0.26871	0.27358	0.27677
____ B	0.53798	3,647.25	1.825	0.54924	0.53348	0.53121
____ BA	0.06839	48,266.97	1.928	0.06991	0.06771	0.06755
____ BE	-0.00011	-134.94	13.388	-0.00013	-0.00010	-0.00010
____ CA	208.57510	182,851.55	4.031	202.17424	205.45287	218.09818
____ CD	0.00058	-6.39	15.899	0.00061	0.00065	0.00047
____ CO	0.00144	7.60	8.338	0.00146	0.00131	0.00155
____ CR	0.00333	29.27	31.894	0.00265	0.00456	0.00280
____ CU	0.00255	115.93	18.229	0.00279	0.00201	0.00284
____ FE	0.00136	3.54	654.573	0.00985	0.00208	-0.00786
____ K	12.01874	3,373.39	4.472	11.57871	11.85969	12.61783
____ LI	0.03415	247.77	5.804	0.03194	0.03473	0.03578
____ MG	111.63879	180,470.60	4.245	108.17890	109.69655	117.04091
____ MN	0.02664	1,443.83	2.110	0.02728	0.02640	0.02623
____ MO	0.00966	20.44	5.472	0.00956	0.01023	0.00918
____ NA	562.23411	617,277.23	3.330	554.44529	548.66351	583.59353
____ NI	0.00476	16.49	10.369	0.00511	0.00497	0.00419
____ P	0.47609	116.23	0.389	0.47402	0.47759	0.47665
____ PB	-0.00234	6.48	108.508	-0.00132	-0.00047	-0.00524
____ S	97.32276	12,460.00	0.665	96.77000	97.16378	98.03449
____ SB	-0.00454	-2.61	66.376	-0.00407	-0.00179	-0.00777
____ SE	0.00141	-0.70	421.055	0.00259	-0.00502	0.00665
____ SI	14.19668	2,635.06	3.922	13.79687	13.96052	14.83264
____ SN	0.00048	2.13	167.402	0.00010	-0.00006	0.00140
____ SR	1.59993	1,131,972.96	1.387	1.62499	1.59203	1.58276
____ TI	0.00184	109.59	9.355	0.00191	0.00197	0.00164
____ TL	0.00175	0.37	125.257	0.00132	-0.00019	0.00413
____ V	0.01317	195.90	2.776	0.01358	0.01287	0.01307
____ Y1	8857.40196	8,857.40	0.599	8887.64741	8888.38848	8796.16998
____ Y2A	386880.69588	386,880.70	1.541	380008.12873	389995.12558	390638.83333
____ Y2R	20495.10759	20,495.11	3.242	21031.69295	20701.81174	19751.81809
____ ZN	0.01260	89.45	3.234	0.01221	0.01257	0.01302
____ ZR	-0.00243	3.95	142.749	0.00098	-0.00231	-0.00594

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 39 Date/Time: 10/01/2015 06:42

Sample Number: **8062189** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00046	-10.92	122.752	-0.00012	-0.00111	-0.00014
____ AL	-0.01816	9.09	104.433	-0.03133	-0.02673	0.00358
____ AS	-0.00277	1.31	104.962	-0.00438	-0.00451	0.00059
____ B	0.00395	80.02	8.174	0.00359	0.00406	0.00421
____ BA	0.00061	660.17	2.433	0.00059	0.00061	0.00062
____ BE	-0.00001	-77.46	208.067	0.00000	0.00000	-0.00002
____ CA	0.14718	194.70	5.467	0.15559	0.14639	0.13956
____ CD	0.00034	-6.59	12.720	0.00030	0.00038	0.00032
____ CO	0.06957	277.36	0.173	0.06963	0.06965	0.06943
____ CR	0.73814	8,065.02	0.987	0.73024	0.73958	0.74460
____ CU	0.03651	470.29	0.883	0.03614	0.03675	0.03663
____ FE	6.46725	2,042.48	3.016	6.63262	6.51695	6.25217
____ K	0.11987	78.26	26.994	0.11590	0.08968	0.15403
____ LI	-0.00113	13.18	209.591	-0.00131	0.00132	-0.00341
____ MG	0.02953	54.84	9.716	0.03260	0.02907	0.02691
____ MN	0.67547	41,824.89	1.117	0.66838	0.67463	0.68340
____ MO	-0.00016	1.84	176.253	0.00009	-0.00048	-0.00010
____ NA	0.53162	489.68	6.727	0.56904	0.52801	0.49779
____ NI	3.37831	7,933.88	0.264	3.36850	3.38591	3.38053
____ P	0.00501	1.39	12.343	0.00461	0.00572	0.00471
____ PB	-0.00122	5.52	147.688	0.00062	-0.00296	-0.00131
____ S	0.05171	8.09	10.202	0.05685	0.05197	0.04631
____ SB	-0.00778	-2.59	13.674	-0.00896	-0.00690	-0.00749
____ SE	-0.00062	-1.05	758.895	-0.00557	0.00383	-0.00013
____ SI	0.28400	54.99	3.644	0.29407	0.28453	0.27339
____ SN	-0.00112	1.24	19.561	-0.00132	-0.00089	-0.00116
____ SR	0.00023	163.75	6.453	0.00025	0.00023	0.00022
____ TI	0.00012	27.61	61.274	0.00005	0.00019	0.00012
____ TL	-0.00263	-0.60	29.917	-0.00271	-0.00181	-0.00338
____ V	0.00144	13.87	18.489	0.00117	0.00145	0.00170
____ Y1	10031.62015	10,031.62	0.322	10059.90415	9996.38145	10038.57485
____ Y2A	447031.39496	447,031.39	0.764	450912.85620	445705.01988	444476.30881
____ Y2R	21210.51456	21,210.51	2.354	20747.50200	21144.53748	21739.50420
____ ZN	0.00783	198.50	2.992	0.00807	0.00782	0.00760
____ ZR	-0.00253	3.66	6.993	-0.00237	-0.00249	-0.00272

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 40 Date/Time: 10/01/2015 06:45

Sample Number: **8056367** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00010	-0.91	655.894	-0.00083	0.00007	0.00046
____ AL	0.03528	16.66	60.872	0.01218	0.05464	0.03901
____ AS	0.04092	11.56	2.218	0.04157	0.04131	0.03988
____ B	0.37780	2,558.30	0.810	0.38034	0.37866	0.37440
____ BA	0.07317	51,111.79	0.609	0.07368	0.07294	0.07289
____ BE	0.00009	-71.01	14.781	0.00009	0.00010	0.00008
____ CA	49.24474	46,264.08	0.913	49.76376	48.99045	48.98000
____ CD	0.00009	-8.30	111.552	0.00015	0.00016	-0.00003
____ CO	0.04957	180.21	0.595	0.04982	0.04925	0.04965
____ CR	0.62794	5,877.31	0.524	0.63160	0.62701	0.62521
____ CU	0.02852	332.31	2.028	0.02918	0.02813	0.02824
____ FE	5.05020	1,632.08	0.494	5.06990	5.05853	5.02217
____ K	18.75892	5,548.61	0.430	18.84519	18.68557	18.74599
____ LI	0.02221	162.84	8.375	0.02007	0.02335	0.02322
____ MG	16.00522	29,063.05	0.900	16.16515	15.96512	15.88540
____ MN	0.80927	42,924.04	0.617	0.81494	0.80734	0.80554
____ MO	0.00162	5.19	13.806	0.00137	0.00171	0.00179
____ NA	1493.22456	1,735,123.67	1.307	1515.31000	1478.31903	1486.04464
____ NI	2.20616	4,704.18	0.466	2.19988	2.20055	2.21803
____ P	0.87703	222.14	0.207	0.87696	0.87526	0.87888
____ PB	-0.00072	7.90	288.167	0.00059	-0.00312	0.00037
____ S	781.56869	102,839.11	0.455	777.67943	782.37820	784.64844
____ SB	-0.00622	-2.06	48.384	-0.00969	-0.00430	-0.00468
____ SE	-0.00160	-1.11	126.590	0.00071	-0.00308	-0.00244
____ SI	13.03693	2,561.29	0.875	13.16731	12.98771	12.95576
____ SN	0.00151	2.79	90.531	0.00294	0.00021	0.00139
____ SR	0.28987	203,090.70	0.545	0.29169	0.28892	0.28900
____ TI	0.01918	1,047.05	0.604	0.01904	0.01926	0.01922
____ TL	-0.00282	-0.66	84.521	-0.00290	-0.00515	-0.00039
____ V	0.03029	464.87	1.168	0.03064	0.03031	0.02993
____ Y1	9103.93091	9,103.93	0.440	9142.83789	9106.07000	9062.88485
____ Y2A	382943.22477	382,943.22	0.486	380911.16457	383358.24486	384560.26490
____ Y2R	21675.34530	21,675.35	0.331	21625.97131	21757.64595	21642.41865
____ ZN	0.01467	182.18	2.804	0.01443	0.01443	0.01514
____ ZR	0.00798	28.91	19.340	0.00673	0.00751	0.00970

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 41 Date/Time: 10/01/2015 06:48

Sample Number: **8056368** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00025	3.63	259.781	-0.00023	-0.00093	0.00039
____ AL	-0.02560	8.58	43.843	-0.03407	-0.01287	-0.02987
____ AS	-0.00048	1.82	431.635	-0.00092	-0.00228	0.00177
____ B	0.00098	33.23	45.057	0.00134	0.00049	0.00111
____ BA	0.00019	329.37	11.450	0.00017	0.00020	0.00021
____ BE	0.00000	-72.12	446.016	-0.00001	0.00000	0.00001
____ CA	0.04148	103.49	15.225	0.04824	0.03573	0.04046
____ CD	0.00037	-8.90	19.458	0.00045	0.00032	0.00033
____ CO	0.01063	46.04	1.974	0.01062	0.01043	0.01085
____ CR	0.13042	1,448.15	0.239	0.13014	0.13075	0.13037
____ CU	0.00498	56.55	13.291	0.00422	0.00530	0.00543
____ FE	1.01023	342.46	0.563	1.00507	1.00929	1.01632
____ K	0.13851	88.71	27.231	0.17206	0.14578	0.09768
____ LI	0.00231	35.68	78.130	0.00433	0.00173	0.00087
____ MG	0.00773	16.80	2.786	0.00765	0.00798	0.00757
____ MN	0.10520	6,646.87	0.348	0.10532	0.10478	0.10548
____ MO	-0.00053	1.08	12.063	-0.00046	-0.00059	-0.00053
____ NA	0.72057	749.06	9.177	0.77330	0.74203	0.64638
____ NI	0.51730	1,252.89	0.503	0.51429	0.51890	0.51870
____ P	0.00514	0.13	27.991	0.00628	0.00352	0.00561
____ PB	-0.00076	5.72	108.229	-0.00081	-0.00155	0.00009
____ S	0.12270	18.90	7.987	0.13202	0.12362	0.11248
____ SB	-0.00315	-2.26	78.452	-0.00212	-0.00597	-0.00136
____ SE	-0.00117	-1.27	198.202	0.00123	-0.00340	-0.00134
____ SI	0.06093	12.94	9.494	0.06650	0.05495	0.06135
____ SN	-0.00101	1.41	35.872	-0.00106	-0.00134	-0.00062
____ SR	0.00003	2.22	46.924	0.00005	0.00003	0.00002
____ TI	0.00003	15.07	443.387	0.00012	0.00012	-0.00014
____ TL	-0.00212	-0.79	105.543	-0.00380	-0.00298	0.00042
____ V	0.00044	-5.78	116.829	0.00034	0.00099	-0.00002
____ Y1	10291.95854	10,291.96	0.392	10328.48930	10298.67593	10248.71039
____ Y2A	454971.50431	454,971.50	0.289	453547.54805	455230.03645	456136.92843
____ Y2R	22530.02776	22,530.03	0.072	22546.66301	22514.33772	22529.08255
____ ZN	0.00143	45.68	11.408	0.00160	0.00140	0.00128
____ ZR	-0.00077	8.28	259.126	-0.00219	0.00150	-0.00160

LANCASTER LABORATORIES

Run Name: 1527404T71 Instrument ID: 16315

Tube: 42 Date/Time: 10/01/2015 06:51

Sample Number: **8060797** Class: **** Batch: 152681848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00077	-57.99	40.948	0.00097	0.00041	0.00092
____ AL	1.03645	150.96	0.254	1.03900	1.03660	1.03375
____ AS	0.00549	3.80	83.347	0.00821	0.00021	0.00805
____ B	0.12520	1,138.49	1.140	0.12362	0.12640	0.12557
____ BA	0.19722	156,013.12	1.463	0.19396	0.19943	0.19827
____ BE	0.00001	-79.98	149.887	0.00001	0.00000	0.00001
____ CA	111.53502	106,415.46	0.386	111.99092	111.13498	111.47915
____ CD	0.00015	15.44	132.634	0.00015	-0.00005	0.00033
____ CO	0.00603	26.61	6.190	0.00568	0.00599	0.00642
____ CR	0.00680	56.91	3.230	0.00655	0.00688	0.00697
____ CU	0.00463	83.48	15.482	0.00540	0.00398	0.00452
____ FE	40.60364	13,228.27	0.398	40.78353	40.55612	40.47127
____ K	3.77598	1,176.56	0.659	3.80192	3.75229	3.77372
____ LI	0.00309	59.46	119.229	0.00237	-0.00018	0.00707
____ MG	21.99227	40,617.77	0.683	22.10458	22.05068	21.82155
____ MN	2.08585	125,474.54	1.326	2.05525	2.10906	2.09325
____ MO	-0.00022	1.68	323.116	0.00046	-0.00016	-0.00097
____ NA	51.63913	61,138.75	0.336	51.83747	51.51662	51.56331
____ NI	0.01740	41.37	0.590	0.01729	0.01741	0.01750
____ P	0.14749	38.83	0.400	0.14690	0.14808	0.14751
____ PB	-0.00118	10.88	226.233	-0.00020	0.00086	-0.00420
____ S	9.40152	1,333.01	0.426	9.35803	9.43686	9.40966
____ SB	-0.00259	-1.28	59.190	-0.00233	-0.00120	-0.00424
____ SE	-0.00328	-1.14	19.138	-0.00318	-0.00396	-0.00271
____ SI	14.82689	2,973.31	0.636	14.91507	14.72742	14.83818
____ SN	-0.00004	2.01	4443.335	0.00029	-0.00208	0.00166
____ SR	0.66849	531,333.76	1.237	0.65898	0.67401	0.67247
____ TI	0.06702	4,097.92	2.124	0.06538	0.06795	0.06772
____ TL	-0.00368	-0.17	90.931	-0.00057	-0.00721	-0.00325
____ V	0.00754	132.35	5.636	0.00705	0.00784	0.00772
____ Y1	9804.69144	9,804.69	0.313	9839.43000	9793.29372	9781.35059
____ Y2A	434453.72211	434,453.72	1.217	439998.01193	429462.80649	433900.34791
____ Y2R	22126.17187	22,126.17	0.080	22105.73656	22136.70627	22136.07279
____ ZN	0.01455	136.98	1.194	0.01451	0.01474	0.01440
____ ZR	0.00166	14.07	47.507	0.00194	0.00227	0.00077

LANCASTER LABORATORIES

Run Name: 1527404T71

Instrument ID: 16315

Tube: 43

Date/Time: 10/01/2015 06:54

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00521	99.33	7.826	0.00538	0.00475	0.00551
____ AL	0.18039	36.63	15.680	0.20757	0.18248	0.15112
____ AS	0.01897	6.90	17.726	0.02067	0.01510	0.02115
____ B	0.04669	386.77	1.039	0.04696	0.04699	0.04613
____ BA	0.00525	4,442.80	0.141	0.00525	0.00525	0.00526
____ BE	0.00492	2,523.27	0.304	0.00491	0.00493	0.00490
____ CA	0.20958	267.00	2.478	0.21540	0.20790	0.20543
____ CD	0.00541	36.02	3.428	0.00551	0.00552	0.00519
____ CO	0.00506	22.99	7.448	0.00464	0.00538	0.00515
____ CR	0.01434	154.25	2.875	0.01394	0.01476	0.01433
____ CU	0.00851	100.78	4.391	0.00881	0.00863	0.00809
____ FE	0.18311	64.61	3.159	0.18978	0.17988	0.17965
____ K	0.55603	215.30	4.547	0.53511	0.54888	0.58412
____ LI	0.02087	151.53	4.077	0.02051	0.02026	0.02184
____ MG	0.09826	188.57	2.611	0.09892	0.10043	0.09543
____ MN	0.00527	346.85	1.970	0.00539	0.00520	0.00523
____ MO	0.00938	22.66	4.740	0.00956	0.00887	0.00971
____ NA	1.15766	1,272.27	1.804	1.17964	1.15529	1.13807
____ NI	0.00967	30.32	2.017	0.00981	0.00945	0.00976
____ P	0.09914	26.33	1.719	0.09971	0.10049	0.09723
____ PB	0.01602	19.62	20.008	0.01234	0.01822	0.01749
____ S	0.50002	73.51	0.975	0.50505	0.49969	0.49532
____ SB	0.01710	4.77	12.891	0.01554	0.01962	0.01613
____ SE	0.01893	2.39	39.438	0.01297	0.02731	0.01651
____ SI	0.05883	12.49	7.687	0.05859	0.06347	0.05444
____ SN	0.01873	15.07	4.389	0.01959	0.01865	0.01795
____ SR	0.00505	4,103.01	0.306	0.00504	0.00504	0.00507
____ TI	0.00976	624.43	0.988	0.00968	0.00972	0.00986
____ TL	0.03047	9.94	5.894	0.03036	0.03232	0.02873
____ V	0.00468	70.80	1.599	0.00474	0.00459	0.00470
____ Y1	10083.46331	10,083.46	0.136	10091.23175	10091.56169	10067.59648
____ Y2A	447586.75723	447,586.76	0.266	447583.83035	448778.16435	446398.27700
____ Y2R	22447.74573	22,447.75	0.964	22394.62789	22262.84229	22685.76701
____ ZN	0.01985	152.09	1.080	0.01970	0.02010	0.01976
____ ZR	0.04414	119.56	10.274	0.04905	0.04323	0.04012

LANCASTER LABORATORIES

Run Name: 1527404T71

Instrument ID: 16315

Tube: 44

Date/Time: 10/01/2015 06:57

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00253	-274.40	14.386	0.00242	0.00294	0.00224
____ AL	470.28025	57,630.00	0.718	470.64233	466.73490	473.46353
____ AS	0.00063	4.03	746.966	0.00044	-0.00399	0.00545
____ B	0.02162	869.92	8.975	0.01939	0.02249	0.02296
____ BA	0.00057	526.47	5.583	0.00054	0.00060	0.00058
____ BE	-0.00036	-212.35	7.969	-0.00032	-0.00038	-0.00036
____ CA	474.83593	400,076.26	1.437	482.58770	469.75043	472.16967
____ CD	0.00124	84.90	14.780	0.00103	0.00128	0.00139
____ CO	0.00206	9.50	14.039	0.00240	0.00191	0.00188
____ CR	0.00584	0.20	4.516	0.00567	0.00571	0.00615
____ CU	0.00147	168.38	45.614	0.00165	0.00073	0.00203
____ FE	188.94404	53,292.70	0.800	188.90232	187.45319	190.47660
____ K	0.15108	82.43	14.074	0.12889	0.17127	0.15308
____ LI	-0.00297	78.11	48.197	-0.00238	-0.00193	-0.00461
____ MG	452.26474	560,626.74	0.302	453.06399	450.68817	453.04205
____ MN	0.00246	143.55	3.873	0.00249	0.00235	0.00253
____ MO	-0.00027	1.39	205.096	-0.00006	-0.00090	0.00015
____ NA	0.46258	389.58	4.577	0.43814	0.47524	0.47436
____ NI	0.00063	-16.27	251.415	0.00058	-0.00093	0.00224
____ P	0.00649	0.24	16.505	0.00695	0.00526	0.00724
____ PB	0.00478	81.63	38.623	0.00338	0.00688	0.00410
____ S	0.08266	10.22	7.754	0.08519	0.07537	0.08742
____ SB	-0.00572	-3.76	58.517	-0.00956	-0.00421	-0.00339
____ SE	-0.00403	-2.79	276.880	-0.01681	0.00105	0.00368
____ SI	0.00686	0.56	105.529	0.01514	0.00372	0.00172
____ SN	0.00445	4.44	14.088	0.00384	0.00440	0.00509
____ SR	-0.00013	3,255.80	99.511	-0.00028	-0.00008	-0.00003
____ TI	-0.00056	-19.87	25.435	-0.00043	-0.00054	-0.00071
____ TL	-0.00758	0.11	71.819	-0.01216	-0.00903	-0.00156
____ V	-0.00260	-6.65	22.205	-0.00277	-0.00196	-0.00308
____ Y1	8648.70413	8,648.70	0.118	8653.90032	8636.96761	8655.24448
____ Y2A	373228.07454	373,228.07	0.896	376552.50498	373266.75514	369864.96350
____ Y2R	20066.42281	20,066.42	0.397	20076.75965	20140.49422	19982.01457
____ ZN	0.00424	138.11	9.583	0.00384	0.00465	0.00422
____ ZR	0.00300	15.73	30.288	0.00314	0.00383	0.00203

LANCASTER LABORATORIES

Run Name: 1527404T71

Instrument ID: 16315

Tube: 45

Date/Time: 10/01/2015 07:00

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21419	2,652.31	2.885	0.21718	0.21831	0.20709
____ AL	469.07019	57,434.46	0.176	468.68641	470.01756	468.50660
____ AS	0.10182	26.49	7.165	0.10588	0.09340	0.10618
____ B	0.01716	860.54	19.965	0.01860	0.01964	0.01325
____ BA	0.49912	348,316.28	3.301	0.50500	0.51185	0.48051
____ BE	0.48909	221,062.59	3.453	0.49808	0.49958	0.46960
____ CA	473.08355	398,285.56	0.329	474.21529	471.31009	473.72525
____ CD	0.93954	7,153.23	4.415	0.98740	0.91402	0.91719
____ CO	0.46945	1,561.77	4.257	0.49253	0.45809	0.45774
____ CR	0.46235	4,281.24	3.639	0.47066	0.47340	0.44298
____ CU	0.52541	6,108.20	3.316	0.53327	0.53751	0.50544
____ FE	188.61184	53,156.49	0.249	188.16598	189.10313	188.56640
____ K	0.15229	82.67	24.693	0.12527	0.13636	0.19524
____ LI	-0.00276	78.92	46.275	-0.00236	-0.00419	-0.00173
____ MG	451.33110	559,370.05	0.882	452.44766	454.63480	446.91084
____ MN	0.45121	23,971.22	3.589	0.45891	0.46212	0.43260
____ MO	0.00046	2.70	93.708	0.00086	0.00000	0.00052
____ NA	0.43231	356.69	2.631	0.43175	0.44395	0.42123
____ NI	0.93023	1,831.39	4.289	0.97630	0.90720	0.90719
____ P	0.00685	0.92	47.899	0.00904	0.00844	0.00308
____ PB	0.05375	114.85	17.806	0.06450	0.05059	0.04615
____ S	0.07088	8.57	24.195	0.08292	0.07847	0.05125
____ SB	0.61552	184.15	4.684	0.64624	0.58904	0.61128
____ SE	0.04421	4.71	13.710	0.03983	0.04168	0.05113
____ SI	0.00816	0.80	56.225	0.00692	0.00432	0.01323
____ SN	0.00534	4.87	21.475	0.00459	0.00666	0.00478
____ SR	-0.00028	3,230.36	55.780	-0.00019	-0.00018	-0.00045
____ TI	-0.00040	-1.60	18.136	-0.00046	-0.00042	-0.00032
____ TL	0.08282	24.85	2.177	0.08482	0.08229	0.08133
____ V	0.48423	7,652.56	3.529	0.49345	0.49474	0.46452
____ Y1	8507.40276	8,507.40	3.848	8130.17190	8717.27618	8674.76019
____ Y2A	383757.72674	383,757.73	3.470	377441.27405	374774.30325	399057.60292
____ Y2R	20047.85018	20,047.85	0.113	20072.28554	20027.52248	20043.74253
____ ZN	0.99716	5,928.14	4.470	1.04854	0.96886	0.97409
____ ZR	0.00386	17.62	28.163	0.00317	0.00512	0.00331

LANCASTER LABORATORIES

Run Name: 1527404T71

Instrument ID: 16315

Tube: 46

Date/Time: 10/01/2015 07:03

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.48648	7,667.52	0.900	0.49036	0.48173	0.48735
____ AL	23.22171	3,103.85	0.739	23.17808	23.07602	23.41104
____ AS	0.48766	128.86	1.126	0.48143	0.49181	0.48974
____ B	0.48049	3,757.08	0.699	0.48252	0.47661	0.48234
____ BA	0.48990	387,709.21	0.969	0.48963	0.48529	0.49477
____ BE	0.47735	244,664.64	0.709	0.47952	0.47344	0.47907
____ CA	23.41343	22,307.64	0.579	23.34795	23.32312	23.56920
____ CD	0.48664	4,284.34	0.514	0.48675	0.48409	0.48908
____ CO	0.47775	1,860.63	0.433	0.47862	0.47538	0.47923
____ CR	0.47510	5,043.03	0.951	0.47840	0.46995	0.47695
____ CU	0.50188	6,355.30	1.328	0.50733	0.49445	0.50387
____ FE	23.42417	7,597.87	0.495	23.39307	23.32700	23.55244
____ K	23.39710	6,984.64	0.295	23.47100	23.33414	23.38615
____ LI	0.48596	2,986.96	0.279	0.48681	0.48440	0.48667
____ MG	23.67900	43,261.66	0.775	23.58073	23.56565	23.89060
____ MN	0.49403	29,764.94	0.781	0.49623	0.48958	0.49628
____ MO	0.48570	1,044.48	0.681	0.48693	0.48195	0.48821
____ NA	23.69746	27,719.45	0.519	23.66718	23.59243	23.83277
____ NI	0.48177	1,122.53	0.539	0.48207	0.47903	0.48420
____ P	0.48170	132.28	0.409	0.48381	0.48141	0.47990
____ PB	0.47871	410.03	1.073	0.47786	0.47406	0.48422
____ S	23.62212	3,388.62	0.389	23.64834	23.51991	23.69812
____ SB	0.49623	173.95	1.018	0.50132	0.49122	0.49614
____ SE	0.47779	84.58	0.854	0.48223	0.47421	0.47692
____ SI	23.31476	4,631.25	0.060	23.30426	23.30944	23.33058
____ SN	0.47916	328.76	0.356	0.47908	0.47749	0.48090
____ SR	0.49025	389,589.19	0.664	0.49263	0.48654	0.49157
____ TI	0.48994	29,944.30	0.598	0.49208	0.48660	0.49112
____ TL	0.47123	152.87	0.428	0.47271	0.46893	0.47205
____ V	0.48485	8,586.58	1.093	0.48943	0.47904	0.48608
____ Y1	9924.80731	9,924.81	0.278	9914.92403	9955.96926	9903.52865
____ Y2A	434892.14712	434,892.15	0.875	433338.13784	439229.95361	432108.34990
____ Y2R	21910.98757	21,910.99	0.835	22015.19461	22017.91766	21699.85045
____ ZN	0.48514	3,337.27	0.307	0.48494	0.48377	0.48672
____ ZR	0.49072	1,197.73	0.500	0.49039	0.49333	0.48845

LANCASTER LABORATORIES

Run Name: 1527404T71

Instrument ID: 16315

Tube: 47

Date/Time: 10/01/2015 07:06

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00053	1.45	119.456	-0.00108	0.00015	-0.00064
____ AL	-0.01651	9.49	146.607	-0.03827	-0.02080	0.00955
____ AS	-0.00488	0.60	60.460	-0.00158	-0.00727	-0.00579
____ B	0.00019	22.23	351.835	0.00054	-0.00058	0.00061
____ BA	0.00000	168.28	4030.894	-0.00001	0.00001	-0.00001
____ BE	0.00002	-63.45	110.160	0.00004	0.00001	0.00000
____ CA	0.00328	63.84	125.598	-0.00108	0.00382	0.00710
____ CD	0.00039	-8.97	3.730	0.00038	0.00040	0.00038
____ CO	-0.00002	2.88	3330.730	-0.00059	0.00058	-0.00003
____ CR	0.00036	1.28	65.370	0.00034	0.00014	0.00061
____ CU	-0.00135	-28.10	32.928	-0.00120	-0.00100	-0.00185
____ FE	-0.00380	2.03	221.709	-0.00851	0.00593	-0.00883
____ K	0.06837	65.01	11.130	0.07454	0.05987	0.07070
____ LI	0.00217	33.57	120.163	0.00446	-0.00066	0.00271
____ MG	0.00316	7.81	41.320	0.00463	0.00214	0.00271
____ MN	-0.00006	16.32	143.885	-0.00002	0.00000	-0.00017
____ MO	-0.00058	0.94	51.044	-0.00058	-0.00088	-0.00029
____ NA	0.13292	37.88	5.497	0.12450	0.13665	0.13762
____ NI	0.00001	7.54	3308.095	-0.00030	-0.00022	0.00056
____ P	0.00187	-1.02	49.613	0.00218	0.00083	0.00261
____ PB	-0.00229	4.25	98.401	-0.00221	-0.00458	-0.00008
____ S	0.02626	4.45	10.519	0.02945	0.02458	0.02475
____ SB	-0.00149	-1.88	179.680	-0.00257	-0.00347	0.00156
____ SE	0.00339	-0.43	48.808	0.00257	0.00230	0.00529
____ SI	0.00493	1.46	98.377	0.01054	0.00208	0.00218
____ SN	-0.00027	1.90	416.065	-0.00011	-0.00149	0.00077
____ SR	-0.00014	-143.27	5.034	-0.00015	-0.00013	-0.00014
____ TI	0.00003	12.90	442.421	-0.00010	0.00006	0.00012
____ TL	-0.00085	-0.42	286.057	0.00007	0.00098	-0.00360
____ V	0.00012	-11.83	200.227	-0.00003	0.00039	0.00000
____ Y1	10044.65499	10,044.65	0.498	10015.73685	10015.79604	10102.43208
____ Y2A	452372.00184	452,372.00	1.910	445147.03446	461940.88955	450028.08151
____ Y2R	21757.16375	21,757.16	0.206	21707.69192	21768.70138	21795.09794
____ ZN	-0.00021	13.40	92.244	-0.00001	-0.00040	-0.00021
____ ZR	-0.00023	9.29	1481.718	-0.00326	-0.00098	0.00354

ICP-MS Data

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 15J02D00.E03

Run Name: 1527504E03

Analyst: 1242

Reviewed By: Mallory L Clark

Reviewed Date: 10/02/2015 15:06

Verified By: Deborah A Krady

Verified Date: 10/03/2015 11:04

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-2		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
IN-1		115
	SE	78
IN-2		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
BI-2		209
	TL	203
	PB	208

Run Name: 1527504E03 Date/Time: 10/02/2015 9:03:00
Tube Number: 1
Sample Number: **S0**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
NA	23	0.00001	226984.00000	177200000	-14.11531	1.84162	12.27471
MG	24	0.00000	163.34300	-659463000	-0.04522	-0.41503	0.46025
AL	27	0.00000	30.00160	-550417000	0.22997	0.00184	-0.23181
K	39	-0.00001	13954.60000	-55054500	-0.80780	-3.98560	4.79194
CA	44	0.00000	246.68000	-529385000	8.52081	-13.47252	4.95168
SC-1	45	383924.00000	0.00000	0.755	381339.00000	383376.00000	387057.00000
SC-2	45	45430.50000	0.00000	1.414	46062.40000	45450.60000	44778.50000
TI	47	0.00000	3.33346	-7631580000	-0.14232	-0.14232	0.28463
V	51	0.00000	40.00150	-33238500	-0.00063	-0.00003	0.00066
CR	52	0.00000	1210.11000	-475048000	-0.05700	0.02487	0.03214
MN	55	0.00000	23.33420	-1816040000	0.02937	-0.00579	-0.02358
FE	57	0.00000	6.66692	-6963640000	0.13870	-0.28967	0.15098
CO	59	0.00000	33.33460	-370111000	-0.00652	0.00357	0.00295
NI	60	0.00000	90.00770	-1496370000	-0.05313	0.11176	-0.05863
CU	63	0.00000	270.01500	-313250000	0.04941	-0.02558	-0.02382
ZN	66	0.00000	40.00180	-45839500	0.00456	0.00074	-0.00530
GE-1	72	426163.00000	0.00000	1.652	422627.00000	434272.00000	421590.00000
GE-2	72	112594.00000	0.00000	0.523	113065.00000	111934.00000	112782.00000
AS	75	0.00000	48.00050	1262470000	-0.05237	0.08585	-0.03347
SE	78	0.00000	2.66667	1305540000	0.00775	-0.01423	0.00648
SR	88	0.00000	6.66692	3435700000	-0.01240	0.00648	0.00591
MO	98	0.00000	80.00310	3932340000	0.04880	-0.02822	-0.02058
AG	107	0.00000	20.00100	-1627190000	-0.00820	0.00837	-0.00017
CD	111	0.00000	36.00040	4341900000	-0.01786	0.04069	-0.02283
IN-1	115	301345.00000	0.00000	1.981	297531.00000	298277.00000	308226.00000
IN-2	115	52674.10000	0.00000	2.514	51471.90000	52457.00000	54093.60000
SN	120	0.00000	2393.74000	-915220000	0.18785	0.12007	-0.30792
SB	121	0.00000	23.33450	-1622410000	-0.03521	0.04090	-0.00569
BA	137	0.00000	6.66693	17151900000	0.01511	-0.02813	0.01302
TB-2	159	220830.00000	0.00000	0.235	221114.00000	220232.00000	221144.00000
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
PB	208	0.00000	203.34300	304595000	0.00215	-0.00157	-0.00059
BI-2	209	196488.00000	0.00000	0.939	194531.00000	196738.00000	198195.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:06:00
Tube Number: 2
Sample Number: **S1**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	43102.40000	0.00000	2.164	42811.60000	42349.70000	44145.90000
AL	27	10000.00000	393671.00000	1.384	9939.90018	10158.26586	9901.84948
CA	44	10000.00000	33113.10000	3.547	10247.75972	10158.60588	9593.67617
CR	52	1000.00000	1105940.00000	2.675	1018.23085	1012.47693	969.29562
FE	57	10000.00000	218381.00000	2.814	10234.03154	10078.13355	9687.81962
K	39	10000.00000	619606.00000	2.061	10089.09890	10146.54902	9764.27983
MG	24	10000.00000	1227550.00000	1.418	10076.56296	10087.07714	9836.38336
MN	55	1000.00000	524888.00000	2.347	1007.50180	1018.80298	973.69619
NA	23	10000.00000	2573910.00000	2.366	10073.43712	10191.23537	9735.37728
TI	47	1000.00000	22540.30000	3.669	981.80661	1042.23593	975.95831
V	51	1000.00000	835889.00000	1.389	998.88425	986.70526	1014.41231
IN-1	115	293400.00000	0.00000	2.027	299855.00000	292198.00000	288146.00000
IN-2	115	50128.00000	0.00000	0.760	50024.00000	49810.00000	50550.10000
AG	107	100.00000	230776.00000	1.080	99.70521	101.19727	99.09759
AS	75	1000.00000	91277.70000	0.818	1008.65759	998.94671	992.38973
BA	137	1000.00000	225185.00000	1.563	1006.35815	1011.44163	982.19372
CD	111	100.00000	28476.80000	0.369	99.74548	100.42292	99.83121
CO	59	1000.00000	1856360.00000	0.948	1005.89705	1005.04162	989.06065
CU	63	1000.00000	1484930.00000	1.092	1012.51461	995.05946	992.41724
MO	98	100.00000	102430.00000	0.699	100.40481	100.40192	99.19243
NI	60	1000.00000	515046.00000	1.775	1013.92755	1006.06126	980.01280
SB	121	100.00000	62808.40000	0.577	100.13005	99.36831	100.50039
SE	78	100.00000	8986.91000	1.598	98.59406	101.73766	99.66843
SN	120	100.00000	84080.70000	0.691	100.16461	100.59364	99.24186
SR	88	100.00000	50618.10000	2.483	100.89759	101.90950	97.19243
ZN	66	1000.00000	191575.00000	1.035	1003.44945	988.36709	1008.17944
BI-2	209	184561.00000	0.00000	1.683	187497.00000	181307.00000	184880.00000
PB	208	100.00000	819580.00000	1.000	99.51620	101.15015	99.33361
TL	203	100.00000	252754.00000	1.284	98.60051	101.12481	100.27581
SC-1	45	378170.00000	0.00000	0.689	381172.00000	376465.00000	376874.00000
GE-1	72	411216.00000	0.00000	3.040	424217.00000	410157.00000	399275.00000
GE-2	72	108270.00000	0.00000	2.372	110968.00000	105853.00000	107990.00000
TB-2	159	214082.00000	0.00000	0.618	215599.00000	213178.00000	213467.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:08:00
Tube Number: 3
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	44139.00000	0.00000	1.881	43182.10000	44667.70000	44567.30000
AL	27	1.26100	80.00420	69.389	1.05398	2.22053	0.50748
CA	44	2.09000	246.68100	137.512	1.69571	5.14071	-0.56791
CR	52	-0.01140	1163.45000	-835.000	-0.01858	0.08717	-0.10280
FE	57	3.72000	90.00440	30.081	2.45200	4.56953	4.13776
K	39	8.43800	14084.80000	17.706	6.78122	8.84851	9.68232
MG	24	0.33100	200.00900	129.063	0.76792	-0.08575	0.31085
MN	55	0.18080	120.00600	43.479	0.12919	0.14188	0.27124
NA	23	30.40000	227854.00000	55.888	50.01399	20.68002	20.49581
TI	47	0.57630	16.66750	84.990	0.30042	1.14175	0.28666
V	51	0.07520	103.33800	21.689	0.06208	0.07005	0.09346
IN-1	115	296830.00000	0.00000	2.278	300827.00000	289021.00000	300640.00000
IN-2	115	52177.50000	0.00000	2.583	52411.20000	50728.00000	53393.40000
AG	107	0.02358	76.67040	70.187	0.04154	0.00893	0.02028
AS	75	0.20780	67.33410	72.810	0.04443	0.23581	0.34312
BA	137	0.04281	16.66730	149.988	-0.02813	0.05963	0.09694
CD	111	-0.03972	24.00020	-98.943	-0.08023	-0.03720	-0.00175
CO	59	0.04191	113.33800	43.522	0.02935	0.06283	0.03356
CU	63	0.17170	533.36600	16.738	0.20003	0.17249	0.14256
MO	98	0.21150	306.68300	42.104	0.18675	0.13750	0.31036
NI	60	0.01312	96.67090	300.000	0.03769	-0.03228	0.03394
SB	121	0.66420	456.69100	8.719	0.60464	0.72030	0.66764
SE	78	0.05438	7.55558	17.573	0.04353	0.06155	0.05806
SN	120	0.76580	3030.52000	56.999	1.22203	0.35209	0.72339
SR	88	0.01928	16.66730	57.624	0.00650	0.02665	0.02470
ZN	66	0.94120	226.68000	28.814	1.14954	1.03950	0.63452
BI-2	209	195111.00000	0.00000	1.191	192609.00000	195526.00000	197199.00000
PB	208	0.00285	226.67800	99.473	0.00358	-0.00028	0.00524
TL	203	0.00627	16.66740	70.479	0.01137	0.00373	0.00370
SC-1	45	377795.00000	0.00000	1.420	382200.00000	371824.00000	379362.00000
GE-1	72	415309.00000	0.00000	1.039	419792.00000	411181.00000	414954.00000
GE-2	72	110003.00000	0.00000	1.398	108406.00000	110130.00000	111473.00000
TB-2	159	216938.00000	0.00000	1.395	214221.00000	216394.00000	220200.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:10:00
Tube Number: 4
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	44998.30000	0.00000	2.556	46122.50000	45048.30000	43824.10000
AL	27	0.89380	66.66960	51.891	1.41558	0.73740	0.52833
CA	44	10.58000	280.01600	151.134	8.41673	-4.23064	27.54004
CR	52	-0.06580	1120.11000	-235.562	-0.21896	-0.06952	0.09107
FE	57	1.47200	40.00150	32.880	0.99375	1.46237	1.96156
K	39	7.97200	14331.70000	44.017	12.01728	6.14221	5.75560
MG	24	0.16910	183.34500	127.676	0.02933	0.06020	0.41773
MN	55	0.20080	133.34200	16.091	0.22508	0.21323	0.16415
NA	23	13.10000	227984.00000	177.481	-10.00255	12.80878	36.49574
TI	47	-0.14230	0.00000	0.000	-0.14232	-0.14232	-0.14232
V	51	0.00047	40.00150	4266.780	0.01050	-0.02252	0.01343
IN-1	115	294841.00000	0.00000	2.229	299264.00000	297971.00000	287288.00000
IN-2	115	53231.10000	0.00000	1.647	54241.40000	52674.20000	52777.70000
AG	107	0.00683	36.66840	126.761	-0.00019	0.00417	0.01650
AS	75	0.15880	64.00070	71.725	0.26915	0.04170	0.16557
BA	137	0.06885	23.33430	124.967	0.13603	0.09865	-0.02813
CD	111	-0.03484	26.00030	-95.781	0.00289	-0.04697	-0.06047
CO	59	0.04182	116.67200	77.953	0.07757	0.01374	0.03415
CU	63	0.13950	493.36500	28.502	0.11894	0.18535	0.11426
MO	98	-0.01053	70.00300	-490.029	-0.00267	0.03667	-0.06562
NI	60	0.04633	116.67200	156.400	0.08464	-0.03724	0.09161
SB	121	0.11940	103.33800	36.708	0.15615	0.07090	0.13120
SE	78	-0.00689	2.00001	-277.665	0.01481	-0.01422	-0.02125
SN	120	0.64360	2989.53000	124.549	1.56923	0.17787	0.18368
SR	88	0.03105	23.33450	152.303	0.02412	-0.01240	0.08143
ZN	66	0.97970	240.01400	25.457	1.15230	1.09310	0.69384
BI-2	209	196988.00000	0.00000	0.613	198367.00000	196114.00000	196482.00000
PB	208	-0.00657	146.67300	-105.316	-0.00061	-0.00494	-0.01415
TL	203	0.00493	13.33390	42.631	0.00736	0.00372	0.00372
SC-1	45	375924.00000	0.00000	1.312	376165.00000	380731.00000	370875.00000
GE-1	72	410771.00000	0.00000	0.920	410404.00000	414718.00000	407189.00000
GE-2	72	111731.00000	0.00000	2.229	113036.00000	108860.00000	113297.00000
TB-2	159	218010.00000	0.00000	1.491	219974.00000	214257.00000	219800.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:13:00
Tube Number: 5
Sample Number: **ICV**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	45272.80000	0.00000	2.165	45580.50000	44175.50000	46062.30000
AL	27	4891.00000	202227.00000	1.744	4815.25177	4983.16933	4873.32958
CA	44	4997.00000	17502.20000	3.910	4908.49238	5221.28722	4862.03917
CR	52	484.50000	563549.00000	1.721	481.69158	493.93457	478.01226
FE	57	4868.00000	111683.00000	1.063	4860.29949	4922.97030	4820.29625
K	39	4900.00000	325952.00000	2.714	4830.99354	5053.18075	4815.39003
MG	24	4752.00000	612680.00000	2.700	4692.80255	4899.18637	4664.07810
MN	55	496.40000	273704.00000	1.530	494.12289	504.84085	490.15883
NA	23	4993.00000	1463220.00000	1.923	4930.13127	5103.47903	4945.24378
TI	47	490.10000	11598.90000	6.715	486.61455	524.63842	459.09881
V	51	484.80000	425413.00000	2.469	483.43434	497.36246	473.53892
IN-1	115	295689.00000	0.00000	1.897	302076.00000	293420.00000	291570.00000
IN-2	115	51439.90000	0.00000	0.886	51730.30000	50914.40000	51675.00000
AG	107	50.60000	119832.00000	0.684	50.19965	50.83570	50.75361
AS	75	512.80000	48051.10000	0.720	511.90866	516.80701	509.57663
BA	137	498.80000	115264.00000	1.031	501.99379	501.47830	492.83453
CD	111	49.87000	14591.20000	0.741	49.94964	50.19748	49.47049
CO	59	511.10000	973547.00000	2.270	513.59640	521.21129	498.43360
CU	63	502.30000	765512.00000	1.735	500.14019	511.92494	494.91024
MO	98	50.58000	53216.30000	3.470	52.16669	48.69460	50.88014
NI	60	509.20000	269221.00000	1.005	515.15381	506.20024	506.37761
SB	121	51.08000	32927.50000	2.212	50.62546	52.36485	50.24598
SE	78	51.05000	4624.84000	1.673	50.07220	51.62443	51.46668
SN	120	49.53000	43918.00000	1.473	49.50954	50.27493	48.81592
SR	88	49.85000	25900.60000	2.271	48.54816	50.49551	50.52039
ZN	66	509.70000	100215.00000	1.304	516.44649	503.16583	509.37676
BI-2	209	192958.00000	0.00000	1.247	193282.00000	195186.00000	190406.00000
PB	208	49.53000	424553.00000	0.536	49.30565	49.46659	49.82435
TL	203	49.06000	129654.00000	1.347	49.55794	48.31181	49.31490
SC-1	45	377020.00000	0.00000	1.583	382276.00000	370533.00000	378252.00000
GE-1	72	416657.00000	0.00000	3.295	432469.00000	407703.00000	409800.00000
GE-2	72	110651.00000	0.00000	0.437	110544.00000	110231.00000	111179.00000
TB-2	159	217109.00000	0.00000	0.774	216305.00000	215980.00000	219040.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:15:00
Tube Number: 6
Sample Number: **ICB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	44610.70000	0.00000	2.065	45390.00000	43593.70000	44848.30000
AL	27	0.18740	36.66850	339.168	-0.47960	0.78608	0.25568
CA	44	5.37900	260.01600	193.344	-4.73401	16.03858	4.83327
CR	52	-0.10930	1063.43000	-34.364	-0.09402	-0.08190	-0.15217
FE	57	3.09100	76.67030	27.706	4.05755	2.42608	2.79007
K	39	6.56300	14108.00000	148.880	-1.97419	17.21921	4.44313
MG	24	-0.47730	100.00400	-59.187	-0.72334	-0.53995	-0.16879
MN	55	0.13590	96.67160	38.425	0.10278	0.10874	0.19605
NA	23	23.61000	228644.00000	50.741	15.49169	37.37716	17.97566
TI	47	0.00387	3.33346	6546.020	-0.14232	0.29624	-0.14232
V	51	0.05131	83.33700	56.402	0.03413	0.08473	0.03509
IN-1	115	298176.00000	0.00000	1.777	304028.00000	296794.00000	293706.00000
IN-2	115	52204.50000	0.00000	1.320	52877.30000	51500.60000	52235.70000
AG	107	0.00974	43.33530	104.885	0.02056	0.00024	0.00844
AS	75	0.09509	56.66730	99.180	0.12275	-0.00995	0.17248
BA	137	0.00010	6.66693	23362.000	0.01397	-0.02813	0.01448
CD	111	-0.02835	27.33360	-71.570	-0.03392	-0.04529	-0.00586
CO	59	0.03812	106.67100	19.614	0.03916	0.03017	0.04502
CU	63	0.09399	413.35600	34.833	0.06263	0.12796	0.09140
MO	98	0.10980	196.67600	79.572	0.03625	0.08677	0.20638
NI	60	-0.04202	66.66970	-96.050	-0.05615	0.00351	-0.07343
SB	121	0.24030	180.00800	19.705	0.19129	0.24385	0.28579
SE	78	0.03698	6.00002	53.461	0.02129	0.05919	0.03046
SN	120	0.92050	3157.99000	32.906	0.63056	1.23485	0.89600
SR	88	0.00009	6.66692	23937.600	0.02506	-0.01240	-0.01240
ZN	66	0.25400	90.00390	73.740	0.09815	0.46185	0.20201
BI-2	209	196001.00000	0.00000	1.181	198662.00000	194879.00000	194461.00000
PB	208	-0.00838	130.00600	-27.904	-0.00858	-0.01060	-0.00594
TL	203	0.00368	10.00070	173.224	0.01103	0.00000	0.00000
SC-1	45	382847.00000	0.00000	1.453	389180.00000	380614.00000	378747.00000
GE-1	72	419238.00000	0.00000	2.162	423209.00000	425638.00000	408868.00000
GE-2	72	110143.00000	0.00000	0.627	110180.00000	110814.00000	109434.00000
TB-2	159	220226.00000	0.00000	1.964	225216.00000	217540.00000	217922.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:17:00
Tube Number: 7
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	44777.50000	0.00000	0.875	44526.70000	45229.10000	44576.60000
AL	27	101.60000	4184.16000	6.137	108.46894	99.99378	96.30874
CA	44	202.20000	933.41500	35.317	164.30539	157.74997	284.57667
CR	52	2.11500	3620.66000	12.307	2.41237	1.92752	2.00593
FE	57	107.10000	2437.01000	2.190	106.51751	109.66010	105.07050
K	39	210.70000	27035.30000	2.393	206.34126	209.66532	216.24865
MG	24	97.26000	12566.50000	1.262	96.00853	98.46074	97.31738
MN	55	2.24300	1246.79000	9.951	2.13383	2.49941	2.09458
NA	23	209.70000	275128.00000	5.746	216.81779	195.77164	216.46710
TI	47	18.50000	436.69200	3.241	19.17951	18.03404	18.30010
V	51	0.62650	583.37000	10.249	0.55695	0.63883	0.68357
IN-1	115	293915.00000	0.00000	1.664	292162.00000	290142.00000	299441.00000
IN-2	115	51701.70000	0.00000	2.176	50429.90000	52108.30000	52566.90000
AG	107	0.52050	1256.78000	14.411	0.56043	0.56713	0.43400
AS	75	2.24100	258.00500	1.501	2.22312	2.21975	2.27964
BA	137	2.05600	483.36800	20.302	2.22315	2.36428	1.58110
CD	111	0.45900	170.00300	15.410	0.48053	0.38000	0.51645
CO	59	0.56800	1120.09000	17.606	0.54525	0.67743	0.48129
CU	63	2.20800	3650.66000	6.051	2.05619	2.26307	2.30607
MO	98	0.47050	576.70700	12.814	0.40098	0.50785	0.50277
NI	60	2.14200	1226.78000	4.373	2.03391	2.18728	2.20373
SB	121	1.18500	790.05800	2.814	1.21562	1.19064	1.14958
SE	78	2.08300	190.00200	3.194	2.14688	2.08700	2.01402
SN	120	2.67600	4609.44000	28.819	2.64379	3.46295	1.92149
SR	88	1.11600	590.04000	11.765	0.96953	1.22301	1.15572
ZN	66	15.12000	3027.15000	2.104	14.90613	14.97220	15.48736
BI-2	209	195589.00000	0.00000	0.396	194727.00000	196222.00000	195818.00000
PB	208	0.99590	8851.68000	0.518	0.99236	1.00185	0.99361
TL	203	0.49150	1316.80000	6.739	0.46872	0.47631	0.52950
SC-1	45	381570.00000	0.00000	1.434	380310.00000	376839.00000	387560.00000
GE-1	72	416169.00000	0.00000	1.769	412605.00000	411270.00000	424633.00000
GE-2	72	110946.00000	0.00000	0.961	109726.00000	111702.00000	111410.00000
TB-2	159	221756.00000	0.00000	1.633	217581.00000	223640.00000	224048.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:20:00
Tube Number: 8
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	44219.30000	0.00000	0.871	44516.90000	44356.70000	43784.40000
AL	27	9876.00000	398928.00000	0.642	9884.54219	9809.07848	9935.15069
CA	44	9974.00000	33898.40000	3.556	10200.73989	9565.41045	10156.48605
CR	52	0.02823	1210.10000	258.094	0.05595	-0.05442	0.08317
FE	57	9959.00000	223189.00000	1.617	10090.54635	9779.13930	10005.92479
K	39	10090.00000	641290.00000	1.831	10152.42379	9879.76827	10231.82143
MG	24	9777.00000	1231610.00000	0.901	9876.64372	9708.34042	9747.12661
MN	55	0.66920	383.35300	28.422	0.60355	0.88350	0.52059
NA	23	9931.00000	2624660.00000	1.045	9812.47070	10005.53203	9975.04602
TI	47	203.40000	4707.73000	0.336	202.60144	203.76424	203.80840
V	51	0.00504	43.33500	345.971	0.02410	0.00109	-0.01008
IN-1	115	297648.00000	0.00000	1.918	295789.00000	304054.00000	293101.00000
IN-2	115	52432.20000	0.00000	2.655	54013.00000	51391.60000	51891.90000
AG	107	0.00284	26.66800	82.013	0.00387	0.00448	0.00017
AS	75	0.13120	60.00060	155.488	-0.09381	0.18354	0.30400
BA	137	0.04252	16.66730	56.750	0.05429	0.05850	0.01476
CD	111	0.02300	42.66720	74.652	0.00994	0.01660	0.04245
CO	59	0.03128	93.33820	45.045	0.01798	0.04604	0.02982
CU	63	0.04315	336.68800	72.491	0.05142	0.06947	0.00856
MO	98	196.60000	210481.00000	1.256	193.91790	198.80345	196.97852
NI	60	-0.05479	60.00250	-62.876	-0.07649	-0.01507	-0.07281
SB	121	0.00024	23.33420	7287.570	0.00914	0.01140	-0.01982
SE	78	0.01018	3.55557	110.511	0.02269	0.00697	0.00088
SN	120	1.83500	3939.99000	168.011	-0.00917	0.12071	5.39371
SR	88	0.10810	63.33580	62.951	0.04261	0.10323	0.17845
ZN	66	0.11830	63.33650	68.664	0.04345	0.10674	0.20467
BI-2	209	190419.00000	0.00000	1.454	193588.00000	188479.00000	189188.00000
PB	208	0.00391	230.01000	61.928	0.00112	0.00536	0.00525
TL	203	0.00637	16.66740	92.203	0.00754	0.00000	0.01158
SC-1	45	386050.00000	0.00000	0.423	384224.00000	386557.00000	387367.00000
GE-1	72	420292.00000	0.00000	1.478	419902.00000	426688.00000	414286.00000
GE-2	72	111808.00000	0.00000	3.176	115414.00000	108314.00000	111694.00000
TB-2	159	221859.00000	0.00000	2.253	225586.00000	223813.00000	216178.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:22:00
Tube Number: 9
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	44540.30000	0.00000	0.734	44807.50000	44175.80000	44637.60000
AL	27	9918.00000	403510.00000	0.685	9864.72853	9994.35178	9894.30747
CA	44	9731.00000	33323.40000	3.137	10057.76749	9453.27297	9681.33585
CR	52	19.61000	23588.80000	1.331	19.90481	19.39933	19.53833
FE	57	9993.00000	225582.00000	0.275	9973.27312	10024.28516	9981.08857
K	39	10000.00000	640772.00000	1.351	9849.55667	10077.07565	10089.53295
MG	24	9731.00000	1234540.00000	0.760	9695.27963	9815.65729	9681.06067
MN	55	21.54000	11712.50000	0.907	21.67960	21.32066	21.63354
NA	23	9863.00000	2627180.00000	1.490	9727.13238	9842.80621	10019.08712
TI	47	197.50000	4604.31000	0.352	197.44235	196.80481	198.19526
V	51	0.01254	50.00210	95.774	0.00063	0.02464	0.01236
IN-1	115	294208.00000	0.00000	0.336	294999.00000	294523.00000	293102.00000
IN-2	115	53199.60000	0.00000	0.436	53403.90000	52947.10000	53247.70000
AG	107	19.58000	47965.60000	2.382	19.67652	19.06750	19.98368
AS	75	19.61000	1947.49000	2.680	19.11055	19.57041	20.15887
BA	137	0.04154	16.66730	57.607	0.05523	0.01391	0.05548
CD	111	19.51000	5926.10000	2.133	19.55974	19.90269	19.07436
CO	59	20.02000	39474.60000	3.268	19.90534	19.42754	20.72150
CU	63	19.77000	31425.80000	1.627	19.58869	20.14281	19.58313
MO	98	195.10000	212008.00000	0.730	194.21844	194.32412	196.73732
NI	60	20.69000	11398.80000	2.008	20.25659	20.72711	21.08480
SB	121	0.02478	40.00180	59.564	0.03955	0.01003	0.02477
SE	78	-0.01403	1.33334	-0.354	-0.01407	-0.01405	-0.01398
SN	120	0.29440	2677.96000	302.276	0.02258	-0.42778	1.28851
SR	88	0.08685	53.33570	32.412	0.11742	0.08113	0.06200
ZN	66	20.64000	4237.54000	5.426	21.90902	19.77548	20.25285
BI-2	209	192036.00000	0.00000	1.058	194065.00000	190002.00000	192041.00000
PB	208	0.01576	333.35100	13.039	0.01730	0.01343	0.01656
TL	203	0.00252	6.66694	86.632	0.00376	0.00000	0.00380
SC-1	45	379090.00000	0.00000	0.140	378604.00000	379657.00000	379010.00000
GE-1	72	410840.00000	0.00000	1.029	415277.00000	410386.00000	406856.00000
GE-2	72	111370.00000	0.00000	0.836	112438.00000	110936.00000	110735.00000
TB-2	159	222522.00000	0.00000	0.737	222590.00000	220850.00000	224125.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:24:00
Tube Number: 10
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	44236.20000	0.00000	3.368	45741.50000	44206.00000	42761.20000
AL	27	2505.00000	101220.00000	2.768	2431.69958	2569.41139	2514.84265
CA	44	2469.00000	8569.78000	3.602	2384.72716	2461.11274	2562.03864
CR	52	247.70000	281983.00000	2.708	240.02826	250.65410	252.43194
FE	57	2517.00000	56403.90000	3.522	2415.41182	2560.26908	2576.33472
K	39	2505.00000	169428.00000	3.624	2407.48925	2522.08590	2586.75837
MG	24	2447.00000	308228.00000	3.064	2378.23903	2435.23759	2526.86397
MN	55	252.50000	136028.00000	2.488	246.48758	252.09623	259.02963
NA	23	2627.00000	856809.00000	3.057	2536.38200	2657.11854	2688.46224
TI	47	254.90000	5894.92000	5.916	244.41905	248.15811	272.20419
V	51	245.60000	210560.00000	3.546	236.07561	247.76354	253.10773
IN-1	115	297209.00000	0.00000	1.445	302126.00000	294182.00000	295318.00000
IN-2	115	51798.10000	0.00000	1.035	51579.60000	52408.90000	51405.60000
AG	107	25.03000	59706.00000	3.044	25.81203	24.98720	24.29016
AS	75	253.30000	23927.60000	2.303	256.48182	246.61791	256.94551
BA	137	250.20000	58230.70000	1.920	251.51812	244.93371	254.28568
CD	111	25.03000	7392.88000	2.792	25.84200	24.64384	24.61953
CO	59	253.20000	485732.00000	1.500	256.69008	249.16261	253.80689
CU	63	253.00000	388336.00000	1.126	255.47100	249.86675	253.56858
MO	98	25.66000	27226.80000	1.995	25.48463	26.24135	25.26581
NI	60	255.70000	136184.00000	1.558	260.15710	254.66904	252.40963
SB	121	25.52000	16578.20000	1.337	25.46116	25.88127	25.20530
SE	78	25.06000	2283.54000	0.782	24.84591	25.22903	25.10975
SN	120	25.28000	23723.40000	3.365	26.21689	25.05530	24.55949
SR	88	25.64000	13421.00000	3.666	25.17228	26.72251	25.02635
ZN	66	253.40000	50182.00000	0.622	254.72582	251.64332	253.74663
BI-2	209	193211.00000	0.00000	2.012	197540.00000	192072.00000	190021.00000
PB	208	24.70000	212075.00000	1.122	24.51130	24.57164	25.01881
TL	203	24.71000	65376.40000	1.127	24.39088	24.91329	24.81903
SC-1	45	384800.00000	0.00000	2.436	394905.00000	383113.00000	376383.00000
GE-1	72	418079.00000	0.00000	1.709	425678.00000	417069.00000	411491.00000
GE-2	72	110970.00000	0.00000	1.165	112146.00000	109586.00000	111178.00000
TB-2	159	218900.00000	0.00000	1.642	222132.00000	219540.00000	215028.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:27:00
Tube Number: 11
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	44600.40000	0.00000	3.428	42841.30000	45349.20000	45610.90000
AL	27	0.68350	56.66880	97.045	1.32363	0.72773	-0.00070
CA	44	-20.06000	173.34200	-31.421	-13.01911	-22.01175	-25.16669
CR	52	-0.02617	1156.77000	-265.686	0.05327	-0.07596	-0.05584
FE	57	2.50200	63.33650	23.973	2.01320	2.32098	3.17126
K	39	8.25000	14214.80000	42.194	11.55913	8.57203	4.61856
MG	24	0.14790	180.00900	255.646	-0.03547	-0.10347	0.58272
MN	55	0.11290	83.33730	69.991	0.18804	0.03050	0.12008
NA	23	29.52000	229843.00000	140.108	76.89740	11.09795	0.56539
TI	47	0.13710	6.66717	353.027	-0.14232	-0.14232	0.69603
V	51	0.01671	53.33580	119.988	0.03886	0.01145	-0.00018
IN-1	115	297310.00000	0.00000	2.531	304814.00000	297352.00000	289765.00000
IN-2	115	53386.60000	0.00000	2.160	52258.40000	54562.50000	53338.70000
AG	107	0.00809	40.00180	87.384	0.00427	0.00375	0.01624
AS	75	0.01540	50.00060	879.221	0.06705	-0.13819	0.11735
BA	137	0.05500	20.00080	75.127	0.01446	0.05346	0.09707
CD	111	-0.00203	36.00040	-1043.370	-0.01940	0.02155	-0.00823
CO	59	0.04506	123.33900	50.644	0.01915	0.06217	0.05386
CU	63	0.05050	353.35500	103.267	0.11067	0.01821	0.02261
MO	98	0.12410	216.67900	35.705	0.11254	0.08667	0.17302
NI	60	-0.03933	70.00270	-134.172	-0.03621	0.01180	-0.09360
SB	121	0.12950	110.00500	13.050	0.13286	0.11113	0.14442
SE	78	0.01030	3.55557	151.942	0.01402	-0.00687	0.02376
SN	120	0.44570	2814.37000	80.974	0.62555	0.03024	0.68128
SR	88	-0.01239	0.00000	0.000	-0.01240	-0.01240	-0.01240
ZN	66	0.25850	93.33770	38.491	0.30201	0.32884	0.14465
BI-2	209	196605.00000	0.00000	1.301	198852.00000	197142.00000	193821.00000
PB	208	-0.01110	106.67200	-20.964	-0.01199	-0.00846	-0.01286
TL	203	0.00992	26.66780	86.630	0.01469	0.00000	0.01507
SC-1	45	378162.00000	0.00000	1.425	382433.00000	379944.00000	372110.00000
GE-1	72	418413.00000	0.00000	1.358	421663.00000	421725.00000	411852.00000
GE-2	72	111420.00000	0.00000	1.497	112398.00000	112369.00000	109494.00000
TB-2	159	220243.00000	0.00000	0.857	219533.00000	218812.00000	222383.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:29:00
Tube Number: 12 Batch: 152736050003A
Sample Number: **PBW** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	45597.30000	0.00000	0.760	45249.30000	45600.60000	45942.10000
AL	27	1.59600	96.67050	55.771	0.97290	1.19992	2.61548
CA	44	5.46300	266.68400	336.445	7.05784	-13.66161	22.99102
CR	52	-0.11820	1076.76000	-3.060	-0.11694	-0.11549	-0.12235
FE	57	1.87200	50.00240	22.244	1.45458	1.87389	2.28729
K	39	7.48800	14488.60000	52.230	7.81655	3.42223	11.22332
MG	24	0.45540	223.34500	21.959	0.51988	0.50612	0.34014
MN	55	0.18040	123.33900	33.054	0.24837	0.15612	0.13678
NA	23	-0.57770	227690.00000	-2220.880	7.16257	6.48869	-15.38843
TI	47	0.41570	13.33380	57.133	0.28019	0.27694	0.68996
V	51	-0.00800	33.33490	-810.655	-0.04542	-0.04542	0.06685
IN-1	115	303515.00000	0.00000	0.888	306314.00000	300936.00000	303293.00000
IN-2	115	53350.80000	0.00000	1.668	52843.00000	54378.60000	52830.90000
AG	107	0.00132	23.33420	479.179	0.00824	-0.00021	-0.00409
AS	75	-0.00569	48.00050	-1413.020	-0.02242	-0.07634	0.08170
BA	137	0.01400	10.00040	300.929	0.01399	-0.02813	0.05614
CD	111	-0.03893	24.66690	-56.871	-0.01385	-0.05576	-0.04719
CO	59	0.01501	63.33600	15.756	0.01364	0.01774	0.01365
CU	63	0.11290	453.35800	35.917	0.06918	0.14925	0.12036
MO	98	0.00456	86.67060	201.536	-0.00075	0.01517	-0.00074
NI	60	0.00922	96.67090	570.267	-0.00082	0.06611	-0.03763
SB	121	0.02467	40.00180	61.411	0.01012	0.02352	0.04036
SE	78	-0.00022	2.66667	-8590.270	0.00670	-0.02160	0.01423
SN	120	0.25750	2654.11000	68.777	0.12218	0.45787	0.19234
SR	88	0.04348	30.00120	44.342	0.04383	0.02403	0.06259
ZN	66	0.32440	106.67200	53.453	0.49461	0.33062	0.14795
BI-2	209	203240.00000	0.00000	0.795	201484.00000	204666.00000	203570.00000
PB	208	0.00476	253.34700	10.275	0.00463	0.00530	0.00434
TL	203	0.00602	16.66740	91.887	0.01087	0.00000	0.00717
SC-1	45	387519.00000	0.00000	0.731	386663.00000	385215.00000	390680.00000
GE-1	72	423322.00000	0.00000	1.312	429725.00000	419787.00000	420453.00000
GE-2	72	114151.00000	0.00000	0.465	113640.00000	114113.00000	114699.00000
TB-2	159	227496.00000	0.00000	1.853	229278.00000	230528.00000	222681.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:31:00
Tube Number: 13 Batch: 152736050003A
Sample Number: **LCSW** Class: **********

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	46136.00000	0.00000	1.644	46092.70000	45400.10000	46915.20000
AL	27	1948.00000	82109.40000	2.283	1951.61095	1990.86196	1902.11028
CA	44	4043.00000	14485.20000	3.361	3896.81745	4165.35506	4067.69706
CR	52	47.56000	57487.80000	1.070	47.64498	48.02475	47.01675
FE	57	998.80000	23361.80000	0.816	989.90316	1005.86519	1000.76335
K	39	9806.00000	650726.00000	1.912	9974.77031	9839.10437	9604.20300
MG	24	1897.00000	249380.00000	1.656	1910.44794	1919.19574	1860.95481
MN	55	49.56000	27877.60000	2.667	50.95377	48.32525	49.39306
NA	23	9672.00000	2673170.00000	0.142	9670.48774	9687.07888	9659.78572
TI	47	253.10000	6108.32000	6.594	255.42072	268.58763	235.44831
V	51	48.48000	43396.70000	1.942	49.39824	48.51092	47.51680
IN-1	115	302987.00000	0.00000	1.640	304016.00000	307362.00000	297584.00000
IN-2	115	52776.30000	0.00000	2.888	53983.50000	51063.90000	53281.50000
AG	107	48.70000	118317.00000	1.665	47.76563	49.20520	49.13298
AS	75	9.90900	998.71400	9.867	8.78198	10.41035	10.53370
BA	137	51.65000	12239.90000	5.136	50.05669	54.70933	50.17347
CD	111	4.83300	1482.77000	3.164	4.65931	4.94640	4.89432
CO	59	255.50000	499320.00000	1.445	252.61179	259.67972	254.29065
CU	63	50.94000	79904.90000	0.419	50.83563	50.80484	51.18908
MO	98	49.73000	53651.60000	1.744	49.11111	50.71970	49.35316
NI	60	51.89000	28224.90000	0.691	51.89302	52.25296	51.53580
SB	121	5.77300	3834.08000	7.274	5.34928	6.18897	5.78004
SE	78	10.21000	949.37100	3.162	9.96040	10.08539	10.57135
SN	120	50.30000	45701.80000	2.596	50.01664	51.72129	49.15432
SR	88	40.53000	21579.00000	6.822	38.50776	43.68302	39.40634
ZN	66	521.30000	105111.00000	2.114	512.13255	533.50645	518.18514
BI-2	209	195302.00000	0.00000	0.627	194228.00000	195044.00000	196634.00000
PB	208	14.93000	129643.00000	2.385	15.24472	14.54217	14.99468
TL	203	2.01800	5398.12000	3.057	1.99657	1.96948	2.08728
SC-1	45	392455.00000	0.00000	1.051	391490.00000	396978.00000	388896.00000
GE-1	72	426271.00000	0.00000	1.614	423995.00000	434003.00000	420816.00000
GE-2	72	111242.00000	0.00000	0.309	111542.00000	110867.00000	111318.00000
TB-2	159	222239.00000	0.00000	2.127	224432.00000	216815.00000	225470.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:34:00
Tube Number: 14 Batch: 152736050003A
Sample Number: **8063110** Class: U*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	46199.60000	0.00000	1.848	46152.90000	47075.90000	45369.90000
AL	27	74.48000	3174.02000	14.192	86.59702	69.75636	67.09777
CA	44	36080.00000	127452.00000	1.171	36126.74135	35639.13866	36480.54846
CR	52	0.61080	1953.55000	21.202	0.73550	0.47699	0.61998
FE	57	213.20000	4994.50000	5.685	218.64767	199.26054	221.55678
K	39	274.80000	32046.70000	6.994	272.85878	256.71514	294.99959
MG	24	710.40000	93634.20000	1.512	706.49018	702.23524	722.60264
MN	55	9.47700	5358.00000	1.814	9.58343	9.56907	9.27880
NA	23	7707.00000	2179480.00000	2.040	7704.18984	7551.88625	7866.35364
TI	47	0.54000	16.66750	115.222	0.68616	1.07606	-0.14232
V	51	0.65000	623.37500	10.858	0.58044	0.72157	0.64808
IN-1	115	297758.00000	0.00000	3.112	308261.00000	294270.00000	290742.00000
IN-2	115	52657.30000	0.00000	2.002	52373.30000	53824.60000	51773.90000
AG	107	0.00691	36.66840	31.756	0.00839	0.00795	0.00439
AS	75	0.25590	72.66740	47.128	0.25464	0.37719	0.13603
BA	137	6.18800	1470.15000	2.755	6.05025	6.13454	6.37863
CD	111	-0.03341	26.00020	-43.400	-0.01962	-0.04854	-0.03207
CO	59	0.05825	146.67300	7.523	0.06032	0.05322	0.06122
CU	63	0.90190	1676.84000	3.424	0.89662	0.87403	0.93510
MO	98	0.35650	463.36100	9.924	0.38333	0.31637	0.36971
NI	60	0.33290	270.01400	16.080	0.39098	0.28552	0.32223
SB	121	0.10640	93.33750	44.314	0.05626	0.11313	0.14985
SE	78	0.04959	7.11113	62.351	0.02060	0.08213	0.04604
SN	120	2.44000	4525.63000	122.500	0.48753	5.88157	0.95168
SR	88	111.40000	59228.50000	2.039	113.63423	109.09138	111.47139
ZN	66	1.92200	426.69000	2.377	1.90016	1.89217	1.97500
BI-2	209	197710.00000	0.00000	0.324	197453.00000	198439.00000	197239.00000
PB	208	0.07279	843.38200	20.758	0.07364	0.05727	0.08745
TL	203	0.01231	33.33500	62.502	0.00370	0.01472	0.01851
SC-1	45	383161.00000	0.00000	3.317	394920.00000	384887.00000	369676.00000
GE-1	72	414320.00000	0.00000	3.471	427709.00000	416132.00000	399121.00000
GE-2	72	114389.00000	0.00000	0.954	114065.00000	115606.00000	113497.00000
TB-2	159	225447.00000	0.00000	1.779	227552.00000	227966.00000	220823.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:36:00
Tube Number: 15 Batch: 152736050003A
Sample Number: **8063110** Class: UP********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	46486.90000	0.00000	0.886	46011.70000	46744.60000	46704.60000
AL	27	274.50000	11685.60000	0.338	275.18451	273.43258	274.83942
CA	44	35630.00000	126666.00000	0.748	35322.83189	35795.80561	35772.37692
CR	52	4.36500	6441.86000	2.440	4.41242	4.24349	4.44022
FE	57	416.20000	9814.04000	3.484	399.96033	427.90491	420.65382
K	39	661.30000	57537.00000	1.122	667.37388	663.41149	653.00322
MG	24	883.40000	117140.00000	0.502	880.56301	881.20319	888.54425
MN	55	13.12000	7452.42000	4.220	13.59379	13.25690	12.51198
NA	23	7966.00000	2259230.00000	1.027	8045.41445	7882.05655	7970.71527
TI	47	31.51000	770.05600	13.894	27.69744	30.53330	36.29069
V	51	1.54500	1433.47000	7.003	1.62497	1.42222	1.58915
IN-1	115	297149.00000	0.00000	0.642	299234.00000	296720.00000	295492.00000
IN-2	115	53265.50000	0.00000	2.268	51870.80000	53943.20000	53982.50000
AG	107	1.09300	2700.41000	0.649	1.08498	1.09533	1.09855
AS	75	4.40400	475.34600	5.926	4.56264	4.10327	4.54779
BA	137	10.41000	2497.01000	3.177	10.74468	10.08334	10.40574
CD	111	1.01700	343.34100	10.206	1.13660	0.95107	0.96335
CO	59	1.10600	2213.60000	5.420	1.17525	1.06935	1.07358
CU	63	5.03000	8206.27000	4.133	5.19827	4.79773	5.09456
MO	98	1.30000	1493.49000	8.915	1.40757	1.31431	1.17718
NI	60	4.94600	2797.08000	5.979	5.05086	5.17530	4.61229
SB	121	2.20200	1493.48000	4.186	2.11993	2.18514	2.30187
SE	78	4.16800	382.00700	4.119	4.36528	4.05034	4.08940
SN	120	4.97700	6746.57000	8.913	5.30612	4.47236	5.15164
SR	88	111.90000	60166.50000	0.875	112.83764	110.88012	111.86872
ZN	66	33.46000	6852.12000	1.333	33.06253	33.38674	33.94433
BI-2	209	196661.00000	0.00000	0.497	196688.00000	197624.00000	195670.00000
PB	208	2.19300	19352.70000	3.218	2.27192	2.13592	2.17130
TL	203	1.08800	2930.49000	5.848	1.09894	1.01982	1.14570
SC-1	45	380732.00000	0.00000	1.380	379331.00000	386545.00000	376321.00000
GE-1	72	416704.00000	0.00000	1.778	417347.00000	423771.00000	408994.00000
GE-2	72	114818.00000	0.00000	1.432	114811.00000	116465.00000	113177.00000
TB-2	159	226366.00000	0.00000	1.060	223755.00000	228473.00000	226869.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:38:00
Tube Number: 16 Batch: 152736050003A
Sample Number: **8063110** Class: D*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	46253.30000	0.00000	0.818	46303.60000	46604.10000	45852.10000
AL	27	71.02000	3030.63000	2.195	72.35096	69.30374	71.39841
CA	44	36030.00000	127418.00000	2.998	37031.63252	34885.01740	36167.59798
CR	52	0.33830	1633.51000	31.097	0.44332	0.23287	0.33881
FE	57	214.00000	5024.51000	1.758	218.36166	212.29218	211.47420
K	39	247.70000	30332.60000	1.857	250.33462	242.42740	250.44859
MG	24	716.90000	94610.80000	0.938	709.15176	721.03584	720.53779
MN	55	9.22100	5217.94000	4.446	9.49888	8.75002	9.41362
NA	23	7686.00000	2177230.00000	0.958	7742.46786	7713.51086	7602.98086
TI	47	1.09700	30.00140	65.123	1.92215	0.67814	0.69159
V	51	0.60540	583.37200	8.563	0.58953	0.56331	0.66329
IN-1	115	296699.00000	0.00000	2.591	301975.00000	300240.00000	287881.00000
IN-2	115	53881.50000	0.00000	1.342	54274.70000	54322.90000	53046.90000
AG	107	0.00117	23.33420	787.863	0.01181	-0.00420	-0.00410
AS	75	0.19280	68.00080	52.853	0.28892	0.08593	0.20362
BA	137	5.75400	1400.15000	4.293	5.87836	5.91418	5.46952
CD	111	-0.01592	32.00030	-429.334	0.05477	-0.08165	-0.02091
CO	59	0.03294	100.00500	79.023	0.02279	0.06252	0.01353
CU	63	0.69760	1390.13000	9.127	0.75337	0.62821	0.71116
MO	98	0.26470	373.35300	11.847	0.23191	0.26770	0.29441
NI	60	0.10400	150.00900	49.221	0.10243	0.15594	0.05360
SB	121	0.02419	40.00180	64.448	0.02364	0.00889	0.04005
SE	78	0.03977	6.22225	24.114	0.02884	0.04367	0.04679
SN	120	0.28330	2704.02000	219.944	-0.09025	1.00258	-0.06247
SR	88	111.70000	60759.50000	1.748	111.35926	109.90321	113.76825
ZN	66	0.78810	203.34300	14.250	0.91032	0.76480	0.68929
BI-2	209	199198.00000	0.00000	1.766	203196.00000	197819.00000	196577.00000
PB	208	0.05135	660.03600	6.298	0.04762	0.05297	0.05345
TL	203	0.00732	20.00080	50.259	0.00719	0.01107	0.00371
SC-1	45	385725.00000	0.00000	1.275	387559.00000	389463.00000	380153.00000
GE-1	72	422554.00000	0.00000	2.342	418342.00000	433860.00000	415459.00000
GE-2	72	112369.00000	0.00000	0.682	111723.00000	113216.00000	112169.00000
TB-2	159	223126.00000	0.00000	0.846	225291.00000	221825.00000	222262.00000

Run Name: 1527504E03
Tube Number: 17
Sample Number: **8063110**

Date/Time: 10/02/2015 9:41:00
Batch: 152736050003A
Class: R*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	45396.40000	0.00000	1.922	44406.10000	46052.00000	45731.10000
AL	27	2049.00000	84984.50000	1.036	2034.45601	2038.48155	2073.07979
CA	44	39740.00000	137894.00000	2.244	40730.68000	39488.94853	39001.52210
CR	52	48.33000	57464.40000	1.007	48.89449	48.09620	48.01220
FE	57	1207.00000	27787.30000	0.285	1208.26455	1203.69534	1210.42233
K	39	10270.00000	670158.00000	1.078	10388.81688	10168.08471	10263.60760
MG	24	2631.00000	340284.00000	1.429	2643.04836	2588.52060	2660.64295
MN	55	59.38000	32852.40000	1.520	60.30297	59.32527	58.49998
NA	23	17240.00000	4509450.00000	1.519	17524.32685	17176.94969	17011.10511
TI	47	253.90000	6031.64000	0.553	253.93049	255.22980	252.42499
V	51	50.17000	44182.50000	2.208	51.43913	49.64398	49.41565
IN-1	115	291389.00000	0.00000	0.842	294204.00000	290248.00000	289715.00000
IN-2	115	52209.60000	0.00000	0.805	52125.00000	51838.00000	52665.60000
AG	107	48.76000	117226.00000	0.665	48.45133	48.74099	49.09847
AS	75	10.67000	1061.39000	7.356	11.49540	10.58659	9.93235
BA	137	57.08000	13394.50000	5.755	53.29569	59.22347	58.71462
CD	111	4.87800	1480.76000	3.856	4.66064	4.98633	4.98639
CO	59	252.20000	487680.00000	1.459	249.72148	256.44706	250.50089
CU	63	51.12000	79304.00000	2.625	51.14189	52.44844	49.76379
MO	98	50.85000	54290.20000	1.383	50.54340	51.65890	50.35988
NI	60	50.89000	27383.10000	1.791	50.34332	51.94035	50.38133
SB	121	5.79900	3814.09000	7.437	5.52596	6.29640	5.57505
SE	78	10.17000	909.81200	4.075	10.22693	10.54673	9.72458
SN	120	48.46000	43667.40000	0.572	48.28741	48.78499	48.32419
SR	88	151.20000	79695.50000	2.048	147.90785	154.07212	151.49641
ZN	66	506.40000	101041.00000	1.680	504.26957	515.71642	499.09132
BI-2	209	190810.00000	0.00000	0.801	189067.00000	191917.00000	191445.00000
PB	208	15.13000	128418.00000	0.631	15.03718	15.13648	15.22809
TL	203	1.97000	5147.98000	4.576	1.94287	2.07008	1.89585
SC-1	45	380091.00000	0.00000	0.314	378754.00000	380462.00000	381056.00000
GE-1	72	411616.00000	0.00000	0.379	413410.00000	410827.00000	410611.00000
GE-2	72	110743.00000	0.00000	2.213	111019.00000	113045.00000	108165.00000
TB-2	159	221275.00000	0.00000	1.302	219261.00000	224574.00000	219989.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:43:00
Tube Number: 18 Batch: 152736050003A
Sample Number: **8063110** Class: M*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	45707.80000	0.00000	3.242	47417.30000	44908.10000	44797.90000
AL	27	2042.00000	85211.20000	3.833	1952.35561	2076.42846	2097.03454
CA	44	39590.00000	138330.00000	1.979	39108.70408	39175.16703	40497.84720
CR	52	48.95000	58529.10000	5.747	46.44159	48.41369	51.99073
FE	57	1234.00000	28572.40000	2.853	1193.22136	1253.29973	1255.07537
K	39	10140.00000	665679.00000	2.103	9927.74365	10123.68551	10353.58201
MG	24	2617.00000	340741.00000	1.348	2576.11991	2637.60825	2636.84228
MN	55	58.49000	32565.40000	4.071	56.17598	58.36470	60.93280
NA	23	16980.00000	4475740.00000	2.154	16580.64600	17294.38969	17075.77570
TI	47	256.80000	6141.70000	7.262	252.31576	240.86542	277.32789
V	51	49.60000	43982.10000	3.667	48.55187	48.55913	51.70566
IN-1	115	299129.00000	0.00000	1.371	300834.00000	302102.00000	294449.00000
IN-2	115	52102.90000	0.00000	2.530	53414.30000	50778.20000	52116.00000
AG	107	49.58000	118939.00000	1.154	49.90956	49.90988	48.91818
AS	75	9.86400	982.04500	5.285	9.27181	10.25529	10.06357
BA	137	55.59000	13017.30000	1.696	55.84630	56.37801	54.54568
CD	111	4.98800	1510.77000	2.514	5.02043	4.84993	5.09436
CO	59	255.70000	493285.00000	0.831	253.41775	255.88855	257.64684
CU	63	51.98000	80464.00000	1.038	51.42951	52.50866	51.99198
MO	98	50.51000	53818.90000	1.029	50.73073	50.88966	49.92018
NI	60	51.82000	27814.00000	3.020	50.03763	52.97038	52.44851
SB	121	5.80900	3807.42000	10.637	5.28704	6.49146	5.64956
SE	78	9.88100	907.81200	0.647	9.82723	9.95161	9.86351
SN	120	50.43000	45231.20000	2.937	48.97768	51.93784	50.38545
SR	88	153.00000	80515.10000	0.965	151.44591	153.30616	154.36086
ZN	66	517.00000	102950.00000	0.825	512.29529	518.07234	520.61291
BI-2	209	191965.00000	0.00000	1.098	194398.00000	190694.00000	190804.00000
PB	208	15.09000	128826.00000	1.056	14.92563	15.24304	15.10758
TL	203	2.02200	5318.09000	0.909	2.04367	2.01057	2.01325
SC-1	45	387233.00000	0.00000	1.861	386948.00000	394580.00000	380172.00000
GE-1	72	421456.00000	0.00000	0.701	418288.00000	424139.00000	421942.00000
GE-2	72	110354.00000	0.00000	0.791	110694.00000	109362.00000	111006.00000
TB-2	159	220549.00000	0.00000	1.755	224067.00000	216404.00000	221176.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:45:00
Tube Number: 19 Batch: 152736050003A
Sample Number: **8063110** Class: UL********

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	45417.00000	0.00000	2.448	44606.70000	46684.90000	44959.40000
AL	27	15.87000	690.05700	17.322	13.02425	18.51077	16.08230
CA	44	7384.00000	25839.80000	0.370	7374.09022	7363.21794	7414.97841
CR	52	0.01117	1223.45000	342.793	0.03625	0.03016	-0.03290
FE	57	45.33000	1050.10000	16.135	51.91055	46.62793	37.45521
K	39	69.19000	18366.80000	13.032	79.34552	62.13027	66.08867
MG	24	146.20000	19070.90000	2.828	150.83814	142.86391	144.95390
MN	55	2.60500	1463.47000	12.307	2.95817	2.52567	2.33202
NA	23	1551.00000	612486.00000	2.625	1583.36585	1505.61594	1565.48565
TI	47	0.14230	6.66692	173.226	0.28628	-0.14232	0.28292
V	51	0.11680	143.33900	27.509	0.09334	0.15345	0.10372
IN-1	115	298077.00000	0.00000	0.350	296871.00000	298662.00000	298697.00000
IN-2	115	53647.40000	0.00000	1.589	53530.60000	54552.00000	52859.50000
AG	107	0.00935	43.33500	25.497	0.01209	0.00773	0.00824
AS	75	0.02662	51.33380	571.375	0.01250	-0.11798	0.18532
BA	137	1.35500	333.35300	9.926	1.51052	1.27769	1.27739
CD	111	-0.03089	27.33360	-71.965	-0.05473	-0.01073	-0.02722
CO	59	0.03500	103.33800	16.554	0.02838	0.03743	0.03918
CU	63	0.19150	580.03700	23.164	0.24267	0.16680	0.16492
MO	98	0.14410	240.01300	27.176	0.09894	0.16751	0.16600
NI	60	0.09818	146.67500	131.188	0.05161	0.24381	-0.00087
SB	121	0.06802	70.00350	133.505	0.03937	0.16970	-0.00500
SE	78	0.02964	5.33335	74.595	0.05183	0.02948	0.00761
SN	120	0.40500	2791.16000	218.963	-0.30473	0.12069	1.39914
SR	88	22.48000	12179.70000	4.724	23.27297	21.27432	22.89358
ZN	66	0.55030	153.34000	22.388	0.48568	0.47287	0.69245
BI-2	209	196878.00000	0.00000	1.942	194329.00000	201273.00000	195030.00000
PB	208	0.00794	273.34500	26.029	0.00914	0.00913	0.00555
TL	203	0.00496	13.33390	44.559	0.00751	0.00363	0.00374
SC-1	45	388457.00000	0.00000	0.637	388345.00000	390986.00000	386041.00000
GE-1	72	423815.00000	0.00000	0.642	423987.00000	421015.00000	426444.00000
GE-2	72	114309.00000	0.00000	2.299	115415.00000	116203.00000	111309.00000
TB-2	159	221887.00000	0.00000	1.236	221121.00000	224931.00000	219609.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:48:00
Tube Number: 20 Batch: 152736050003A
Sample Number: **8058549** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	44931.70000	0.00000	2.835	43724.10000	44807.80000	46263.20000
AL	27	41.88000	1746.86000	5.127	44.35373	40.57521	40.69665
CA	44	207800.00000	712385.00000	2.435	211870.52024	209325.58655	202117.30731
CR	52	-0.00052	1193.45000	-30341.200	0.11150	0.06626	-0.17931
FE	57	32.52000	746.71700	8.327	32.20306	35.38088	29.99316
K	39	4728.00000	312684.00000	1.430	4803.76429	4707.32894	4673.42807
MG	24	45560.00000	5829630.00000	1.809	46509.12064	45203.78735	44984.10265
MN	55	186.90000	102294.00000	2.514	190.23387	189.02869	181.55997
NA	23	47370.00000	11874000.00000	0.721	47714.54129	47371.02005	47031.58902
TI	47	0.14120	6.66692	174.079	0.29493	-0.14232	0.27093
V	51	0.44080	423.35800	22.119	0.39106	0.55317	0.37825
IN-1	115	288277.00000	0.00000	1.995	286040.00000	283980.00000	294811.00000
IN-2	115	50800.20000	0.00000	0.142	50820.50000	50720.30000	50859.80000
AG	107	0.00463	30.00140	244.281	-0.00820	0.01322	0.00889
AS	75	0.66750	108.00100	17.378	0.58044	0.79923	0.62282
BA	137	71.30000	16278.00000	2.488	71.10984	69.62436	73.15787
CD	111	0.00433	36.00040	324.405	0.00427	0.01841	-0.00969
CO	59	0.16730	346.68500	4.839	0.15833	0.16933	0.17413
CU	63	1.67000	2773.74000	11.419	1.56057	1.89028	1.55926
MO	98	0.24000	326.68500	2.144	0.24313	0.23410	0.24288
NI	60	1.70500	976.74400	9.953	1.74884	1.84858	1.51768
SB	121	0.10100	86.67060	54.545	0.15333	0.04350	0.10608
SE	78	0.03885	6.00002	74.620	0.00922	0.04016	0.06716
SN	120	0.64270	2844.57000	102.116	0.06903	1.35845	0.50065
SR	88	440.10000	225774.00000	1.418	436.19532	436.83838	447.30942
ZN	66	4.36900	886.73400	18.684	3.97297	3.82637	5.30788
BI-2	209	184108.00000	0.00000	0.179	184164.00000	183754.00000	184405.00000
PB	208	0.10840	1076.73000	7.814	0.11733	0.10048	0.10737
TL	203	0.01453	36.66820	62.925	0.01982	0.00397	0.01980
SC-1	45	376405.00000	0.00000	1.938	368437.00000	378022.00000	382755.00000
GE-1	72	401310.00000	0.00000	0.506	399829.00000	400479.00000	403623.00000
GE-2	72	107119.00000	0.00000	0.578	106712.00000	106813.00000	107832.00000
TB-2	159	221093.00000	0.00000	0.839	218974.00000	221887.00000	222418.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:50:00
Tube Number: 21 Batch: 152736050003A
Sample Number: **8057369** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	45784.70000	0.00000	0.314	45751.10000	45942.10000	45660.90000
AL	27	8.52700	386.68900	13.393	9.80873	7.62003	8.15107
CA	44	16.62000	306.68400	54.025	20.51882	22.99102	6.35156
CR	52	-0.02244	1193.44000	-741.979	-0.15264	-0.07990	0.16518
FE	57	7.89900	190.01000	14.458	9.19869	7.44122	7.05667
K	39	9.06400	14648.70000	60.316	14.82049	3.94265	8.42706
MG	24	4.69100	776.71900	19.981	3.64688	5.46075	4.96396
MN	55	0.47820	290.01600	6.809	0.49642	0.44056	0.49748
NA	23	11.52000	231672.00000	103.819	-1.41123	13.81106	22.17476
TI	47	-0.00303	3.33346	-7976.860	0.27556	-0.14232	-0.14232
V	51	0.08979	120.00600	12.852	0.10114	0.07808	0.09014
IN-1	115	304789.00000	0.00000	1.916	310982.00000	299378.00000	304006.00000
IN-2	115	53555.80000	0.00000	2.054	53797.60000	54514.50000	52355.20000
AG	107	0.01342	53.33570	14.948	0.01199	0.01571	0.01255
AS	75	-0.02246	46.66710	-573.464	-0.15346	0.10402	-0.01796
BA	137	0.12380	36.66840	36.559	0.09600	0.17604	0.09942
CD	111	0.00005	36.66710	17227.600	-0.00919	0.00874	0.00061
CO	59	0.00822	50.00190	62.909	0.01310	0.00280	0.00877
CU	63	0.53500	1123.43000	10.824	0.47285	0.54486	0.58741
MO	98	0.01641	100.00400	105.119	0.03434	0.01494	-0.00006
NI	60	0.28950	250.01300	42.763	0.24955	0.19052	0.42836
SB	121	-0.00051	23.33450	-6753.500	0.03900	-0.02056	-0.01996
SE	78	0.00700	3.33334	208.232	-0.00783	0.00753	0.02129
SN	120	2.41400	4537.09000	74.068	4.01156	0.48260	2.74749
SR	88	0.22190	126.67300	12.533	0.19011	0.24194	0.23351
ZN	66	0.58490	160.00800	24.432	0.62826	0.42532	0.70103
BI-2	209	202200.00000	0.00000	1.498	204837.00000	202870.00000	198893.00000
PB	208	0.01372	333.35000	66.246	0.02176	0.01554	0.00386
TL	203	0.00245	6.66694	173.233	0.00000	0.00000	0.00734
SC-1	45	391667.00000	0.00000	1.996	400592.00000	388372.00000	386037.00000
GE-1	72	423545.00000	0.00000	1.882	432507.00000	417246.00000	420882.00000
GE-2	72	113188.00000	0.00000	0.263	113296.00000	113417.00000	112852.00000
TB-2	159	223285.00000	0.00000	0.351	224188.00000	222782.00000	222885.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:52:00
Tube Number: 22
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	44744.60000	0.00000	2.420	45902.10000	44577.50000	43754.30000
AL	27	2520.00000	103001.00000	2.046	2472.96530	2512.60250	2575.22662
CA	44	2488.00000	8739.95000	2.829	2498.97600	2551.80100	2412.38682
CR	52	249.60000	287577.00000	1.022	251.05418	246.66680	251.11237
FE	57	2507.00000	56828.60000	3.473	2446.20920	2467.76996	2606.62599
K	39	2517.00000	172217.00000	1.607	2536.17809	2470.25091	2543.84752
MG	24	2450.00000	312336.00000	1.508	2414.46072	2447.70491	2488.22736
MN	55	253.80000	138355.00000	2.188	253.51920	248.44803	259.53986
NA	23	2612.00000	863039.00000	3.064	2519.82046	2653.37831	2662.98018
TI	47	257.60000	6031.63000	2.487	251.89933	264.53838	256.40109
V	51	247.70000	214895.00000	2.164	241.56319	251.15256	250.51042
IN-1	115	298744.00000	0.00000	3.458	298314.00000	309282.00000	288637.00000
IN-2	115	52280.80000	0.00000	1.502	52806.00000	51378.40000	52658.20000
AG	107	24.90000	59967.80000	1.305	24.86122	24.60507	25.25027
AS	75	252.10000	24035.80000	1.305	254.47464	253.50252	248.35283
BA	137	249.30000	58562.50000	2.300	255.50673	244.23070	248.06460
CD	111	24.67000	7351.52000	5.197	25.28579	25.52490	23.19373
CO	59	253.70000	491274.00000	1.821	256.08664	256.72202	248.42135
CU	63	251.80000	390193.00000	1.840	253.37514	255.51466	246.63572
MO	98	24.65000	26391.70000	0.753	24.43547	24.77279	24.73770
NI	60	254.40000	136741.00000	1.223	255.25032	257.05981	251.00044
SB	121	25.05000	16428.20000	1.186	24.88444	24.87632	25.39469
SE	78	25.58000	2341.77000	3.285	26.26592	24.64349	25.83497
SN	120	24.68000	23439.50000	1.963	25.24093	24.38289	24.42202
SR	88	24.89000	13143.90000	3.306	25.43224	25.28999	23.94140
ZN	66	256.30000	51249.20000	2.990	264.12794	256.13062	248.80387
BI-2	209	195689.00000	0.00000	2.375	201038.00000	192644.00000	193386.00000
PB	208	24.62000	214067.00000	0.710	24.42643	24.77008	24.65317
TL	203	24.46000	65578.00000	0.383	24.54734	24.36327	24.48589
SC-1	45	385106.00000	0.00000	3.043	389457.00000	394030.00000	371832.00000
GE-1	72	415247.00000	0.00000	2.767	418975.00000	424410.00000	402355.00000
GE-2	72	110093.00000	0.00000	1.455	111914.00000	109462.00000	108901.00000
TB-2	159	221222.00000	0.00000	2.121	225746.00000	216376.00000	221543.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:55:00
Tube Number: 23
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	45132.40000	0.00000	2.973	43753.90000	45209.20000	46434.10000
AL	27	0.49340	50.00210	86.056	0.78056	0.00570	0.69388
CA	44	-14.57000	193.34300	-162.320	12.72378	-27.65717	-28.80405
CR	52	-0.04392	1150.10000	-182.901	0.04831	-0.08161	-0.09848
FE	57	2.17400	56.66960	80.773	0.61230	4.07489	1.83505
K	39	12.06000	14628.70000	30.954	15.38238	8.01869	12.77033
MG	24	-0.04440	156.67400	-1129.050	-0.22161	0.52146	-0.43306
MN	55	0.05498	53.33590	14.723	0.05190	0.04888	0.06417
NA	23	-17.08000	221188.00000	-140.808	9.07524	-22.09023	-38.23165
TI	47	-0.00507	3.33346	-4684.670	-0.14232	-0.14232	0.26941
V	51	0.02664	63.33570	84.835	0.00173	0.04585	0.03234
IN-1	115	296987.00000	0.00000	1.358	296112.00000	293463.00000	301387.00000
IN-2	115	52902.70000	0.00000	1.015	53143.20000	52287.70000	53277.30000
AG	107	0.00687	36.66810	35.397	0.00406	0.00842	0.00811
AS	75	0.09508	57.33390	156.079	0.22302	0.12978	-0.06757
BA	137	0.01395	10.00040	3.078	0.01375	0.01444	0.01365
CD	111	-0.04481	22.66690	-92.859	-0.08078	0.00077	-0.05442
CO	59	0.01694	66.66970	140.850	-0.00177	0.00880	0.04381
CU	63	0.04317	340.02000	72.180	0.06145	0.00718	0.06086
MO	98	0.00859	90.00450	296.439	-0.00117	0.03750	-0.01055
NI	60	-0.03793	70.00320	-254.943	0.07152	-0.07352	-0.11179
SB	121	0.21660	166.67600	22.470	0.17514	0.27020	0.20458
SE	78	0.01262	3.77779	84.707	0.01528	0.00084	0.02173
SN	120	0.31200	2677.10000	12.631	0.26702	0.34055	0.32837
SR	88	0.01865	16.66730	208.043	0.06215	-0.01240	0.00619
ZN	66	0.26380	93.33820	58.794	0.29368	0.40184	0.09592
BI-2	209	196638.00000	0.00000	1.613	193828.00000	196011.00000	200076.00000
PB	208	-0.00960	120.00600	-45.974	-0.00937	-0.01412	-0.00531
TL	203	0.00990	26.66780	21.507	0.01130	0.00745	0.01095
SC-1	45	379430.00000	0.00000	1.401	378513.00000	374631.00000	385145.00000
GE-1	72	417383.00000	0.00000	0.271	418689.00000	416777.00000	416683.00000
GE-2	72	112837.00000	0.00000	2.037	110725.00000	115284.00000	112502.00000
TB-2	159	223721.00000	0.00000	1.020	225615.00000	221186.00000	224363.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:57:00
Tube Number: 24 Batch: 152736050003A
Sample Number: **8058550** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	44931.60000	0.00000	3.091	44798.10000	46382.70000	43614.10000
AL	27	5.22700	243.34500	17.622	5.38907	4.23615	6.05705
CA	44	133300.00000	456941.00000	2.857	133584.19629	129303.65711	136898.30868
CR	52	-0.11580	1063.42000	-84.655	-0.00317	-0.18153	-0.16285
FE	57	23.10000	533.36600	17.000	27.01936	23.10834	19.16451
K	39	5188.00000	341701.00000	2.313	5130.21765	5107.85590	5326.07107
MG	24	37310.00000	4772050.00000	2.814	37240.07819	36295.24117	38392.43597
MN	55	1586.00000	867568.00000	2.877	1579.91855	1543.69004	1634.34075
NA	23	30870.00000	7811330.00000	3.177	30796.18872	29924.36306	31881.81181
TI	47	-0.00006	3.33346	-395951.000	0.28445	-0.14232	-0.14232
V	51	0.11570	140.00700	32.403	0.08123	0.11027	0.15563
IN-1	115	286442.00000	0.00000	3.603	294318.00000	290251.00000	274758.00000
IN-2	115	51121.90000	0.00000	0.536	51421.10000	50883.50000	51061.10000
AG	107	0.00880	40.00180	1.035	0.00870	0.00888	0.00882
AS	75	0.56640	99.33450	26.412	0.73879	0.47112	0.48926
BA	137	27.24000	6261.85000	4.020	26.55893	28.50355	26.65915
CD	111	0.05864	52.00060	53.018	0.08507	0.06646	0.02439
CO	59	1.15300	2213.63000	7.781	1.05437	1.23025	1.17301
CU	63	0.42310	903.40000	6.911	0.40422	0.45678	0.40829
MO	98	4.32000	4587.71000	3.410	4.36437	4.44015	4.15575
NI	60	1.94700	1110.09000	5.886	2.02939	1.99517	1.81609
SB	121	0.03253	43.33500	56.348	0.01137	0.04325	0.04298
SE	78	0.02494	4.66668	145.870	0.03034	-0.01383	0.05832
SN	120	0.34910	2617.42000	64.853	0.11949	0.57221	0.35569
SR	88	503.60000	259985.00000	0.192	503.83940	502.55916	504.45927
ZN	66	1.56000	343.35300	28.378	1.37911	2.06450	1.23643
BI-2	209	186254.00000	0.00000	1.165	186689.00000	183898.00000	188173.00000
PB	208	0.02176	373.35300	44.081	0.02494	0.01098	0.02935
TL	203	0.06788	173.34200	23.217	0.05475	0.06353	0.08536
SC-1	45	377249.00000	0.00000	2.147	386303.00000	374761.00000	370684.00000
GE-1	72	403667.00000	0.00000	1.782	411010.00000	403359.00000	396631.00000
GE-2	72	109686.00000	0.00000	0.809	108778.00000	110552.00000	109727.00000
TB-2	159	219607.00000	0.00000	0.582	219635.00000	220871.00000	218314.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 9:59:00
Tube Number: 25 Batch: 152736050003A
Sample Number: **8062097** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	45761.30000	0.00000	4.036	45931.60000	47517.60000	43834.60000
AL	27	11.75000	520.03100	12.238	12.38937	10.10847	12.76682
CA	44	26300.00000	91956.80000	5.278	26005.82575	25077.13046	27806.98318
CR	52	0.99100	2383.64000	4.882	0.97337	1.04574	0.95393
FE	57	16020.00000	371240.00000	2.866	16031.20404	15553.50435	16471.57068
K	39	3331.00000	228256.00000	5.419	3306.92127	3163.95575	3522.43146
MG	24	7785.00000	1013470.00000	5.105	7684.11726	7447.84680	8223.18374
MN	55	2586.00000	1439920.00000	4.884	2530.24102	2497.77202	2730.91810
NA	23	17070.00000	4497320.00000	5.772	17030.11136	16102.12282	18071.40521
TI	47	0.28720	10.00040	151.915	0.27392	-0.14232	0.72997
V	51	0.45700	446.69300	9.796	0.43746	0.50819	0.42526
IN-1	115	295359.00000	0.00000	1.146	293083.00000	293745.00000	299247.00000
IN-2	115	52229.10000	0.00000	0.875	52464.30000	51702.20000	52520.70000
AG	107	-0.00544	6.66693	-87.778	-0.00820	-0.00820	0.00007
AS	75	2.59700	294.67300	13.758	2.70399	2.19861	2.88886
BA	137	78.11000	18330.90000	2.212	76.35810	79.81369	78.14388
CD	111	-0.01923	30.00030	-97.868	-0.02652	0.00214	-0.03333
CO	59	0.45840	920.07400	14.280	0.43080	0.41127	0.53315
CU	63	1.45600	2520.35000	9.663	1.48050	1.58329	1.30510
MO	98	0.06856	153.34100	101.415	0.13981	0.00088	0.06498
NI	60	0.83340	536.70800	9.938	0.92811	0.77478	0.79717
SB	121	0.08194	76.66970	20.808	0.07132	0.07289	0.10161
SE	78	0.16530	17.55560	3.355	0.16429	0.17126	0.16031
SN	120	0.58710	2874.80000	97.019	0.27157	1.24462	0.24517
SR	88	98.21000	51799.80000	1.367	99.23653	98.69939	96.68813
ZN	66	6.25100	1286.79000	7.927	6.48661	6.58511	5.68200
BI-2	209	194044.00000	0.00000	1.417	197196.00000	192802.00000	192135.00000
PB	208	0.05101	640.03700	8.726	0.04636	0.05145	0.05522
TL	203	0.00253	6.66694	86.595	0.00000	0.00379	0.00380
SC-1	45	381948.00000	0.00000	1.684	375264.00000	388093.00000	382488.00000
GE-1	72	416757.00000	0.00000	0.587	413939.00000	418030.00000	418304.00000
GE-2	72	111677.00000	0.00000	1.334	112703.00000	112360.00000	109967.00000
TB-2	159	221400.00000	0.00000	0.721	220156.00000	223199.00000	220846.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:02:00
Tube Number: 26 Batch: 152736050003A
Sample Number: **8063111** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	45988.90000	0.00000	1.192	46243.20000	46363.60000	45359.80000
AL	27	1141.00000	47947.90000	1.047	1144.41001	1150.20855	1127.22102
CA	44	1797.00000	6555.22000	4.032	1722.97912	1800.32418	1867.78077
CR	52	0.20200	1463.48000	16.530	0.16691	0.20582	0.23337
FE	57	46.19000	1083.42000	11.422	41.10099	51.63390	45.82274
K	39	1319.00000	99496.10000	0.777	1311.74555	1330.77824	1314.69180
MG	24	1090.00000	142948.00000	1.272	1095.93454	1074.32761	1100.16588
MN	55	4.88400	2760.40000	6.001	5.17807	4.88118	4.59189
NA	23	7095.00000	2015790.00000	0.415	7080.66705	7075.43387	7128.84928
TI	47	0.27340	10.00040	1.824	0.27111	0.27004	0.27916
V	51	12.60000	11278.70000	3.360	13.02166	12.17497	12.61619
IN-1	115	300143.00000	0.00000	2.521	308571.00000	297924.00000	293932.00000
IN-2	115	53779.00000	0.00000	1.440	54168.30000	54281.40000	52887.30000
AG	107	-0.00146	16.66730	-420.919	-0.00820	0.00381	0.00002
AS	75	0.18650	67.33400	104.879	0.41219	0.06613	0.08107
BA	137	20.73000	5011.26000	7.897	21.14055	18.92187	22.11651
CD	111	0.32730	136.66900	10.874	0.28938	0.35996	0.33263
CO	59	0.10540	243.34600	21.641	0.09764	0.08745	0.13106
CU	63	2.81200	4754.42000	2.461	2.85008	2.73173	2.85309
MO	98	0.17100	270.01700	2.088	0.16923	0.16871	0.17514
NI	60	0.25070	230.01200	64.380	0.31859	0.06652	0.36716
SB	121	0.21190	166.67600	32.081	0.28908	0.18544	0.16105
SE	78	2.68600	249.55900	4.628	2.74373	2.54321	2.77071
SN	120	0.28430	2697.13000	92.613	0.54878	0.02227	0.28183
SR	88	32.43000	17616.20000	1.687	32.84690	31.80967	32.63034
ZN	66	1.47200	343.35200	7.031	1.58899	1.39238	1.43434
BI-2	209	201830.00000	0.00000	0.818	200327.00000	203597.00000	201567.00000
PB	208	0.39090	3710.38000	6.636	0.41969	0.36943	0.38344
TL	203	0.02651	73.33660	28.076	0.02916	0.03228	0.01811
SC-1	45	387057.00000	0.00000	1.991	395841.00000	383891.00000	381440.00000
GE-1	72	424793.00000	0.00000	1.465	430434.00000	425828.00000	418118.00000
GE-2	72	113869.00000	0.00000	0.551	114114.00000	113156.00000	114336.00000
TB-2	159	227215.00000	0.00000	0.986	228599.00000	228416.00000	224631.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:04:00
Tube Number: 27 Batch: 152736050003A
Sample Number: **8063112** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	45132.50000	0.00000	1.695	45931.60000	44406.70000	45059.10000
AL	27	98.14000	4077.46000	4.366	101.07623	93.22697	100.13079
CA	44	34790.00000	120042.00000	2.966	33611.57118	35527.43365	35235.34401
CR	52	3.57900	5344.68000	0.888	3.61495	3.55507	3.56656
FE	57	1853.00000	42390.50000	1.817	1818.95955	1854.24344	1886.24434
K	39	1303.00000	96638.70000	0.960	1301.53776	1316.69191	1291.88223
MG	24	6482.00000	833224.00000	2.024	6422.16196	6632.18356	6390.88942
MN	55	83.79000	46069.20000	4.000	80.59913	87.28303	83.49498
NA	23	36370.00000	9209050.00000	1.896	35828.65523	37146.82353	36137.81775
TI	47	29.53000	700.04700	16.671	29.82728	34.30093	24.46710
V	51	4.98300	4397.59000	6.129	4.84032	5.33336	4.77454
IN-1	115	296387.00000	0.00000	1.498	291583.00000	297242.00000	300336.00000
IN-2	115	52426.90000	0.00000	1.107	52496.00000	52969.50000	51815.10000
AG	107	0.00008	20.00080	5337.170	-0.00406	0.00410	0.00019
AS	75	0.07166	54.66730	132.054	0.14821	0.10092	-0.03413
BA	137	89.31000	21038.50000	2.513	87.94855	88.08832	91.90263
CD	111	-0.01318	32.00030	-216.009	0.00700	-0.00080	-0.04575
CO	59	0.09986	226.67700	27.098	0.12187	0.06965	0.10806
CU	63	0.28790	716.71800	3.744	0.27661	0.29808	0.28905
MO	98	-0.00633	73.33640	-562.846	-0.04691	0.00831	0.01962
NI	60	5.68200	3150.52000	1.165	5.61936	5.75139	5.67655
SB	121	-0.00970	16.66730	-184.975	-0.02000	-0.02014	0.01102
SE	78	0.26270	26.44450	12.455	0.29220	0.22750	0.26835
SN	120	0.36670	2700.53000	25.615	0.36339	0.46223	0.27445
SR	88	210.30000	111365.00000	2.089	205.64165	214.34406	211.03900
ZN	66	0.98510	236.68000	44.929	0.59890	0.88825	1.46814
BI-2	209	193862.00000	0.00000	0.114	194108.00000	193798.00000	193681.00000
PB	208	0.03051	463.35700	4.258	0.03122	0.03131	0.02901
TL	203	0.00628	16.66820	124.889	0.00000	0.01507	0.00377
SC-1	45	381085.00000	0.00000	1.178	376565.00000	381148.00000	385544.00000
GE-1	72	416793.00000	0.00000	0.504	415000.00000	416274.00000	419106.00000
GE-2	72	111583.00000	0.00000	1.303	110183.00000	113085.00000	111480.00000
TB-2	159	224463.00000	0.00000	0.978	224301.00000	226734.00000	222353.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:06:00
Tube Number: 28 Batch: 152736050003A
Sample Number: **8063113** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	46868.40000	0.00000	0.914	47025.50000	47195.90000	46383.70000
AL	27	72.53000	3133.85000	12.665	63.54399	72.12951	81.90339
CA	44	34960.00000	125308.00000	0.934	34726.69526	34827.88441	35335.87187
CR	52	0.32880	1643.50000	48.358	0.14682	0.39875	0.44075
FE	57	3868.00000	91881.70000	1.489	3808.08247	3873.07462	3922.95207
K	39	9698.00000	653973.00000	1.091	9721.27682	9582.25080	9789.95812
MG	24	5337.00000	712456.00000	2.228	5271.06899	5264.87334	5473.77644
MN	55	108.00000	61687.10000	2.107	105.64601	108.21934	110.18478
NA	23	4246.00000	1323380.00000	1.724	4181.29440	4231.02922	4325.39475
TI	47	0.39830	13.33380	155.310	0.26423	1.07293	-0.14232
V	51	0.61510	600.03600	5.741	0.60173	0.58846	0.65517
IN-1	115	302321.00000	0.00000	1.081	302146.00000	305673.00000	299144.00000
IN-2	115	52442.80000	0.00000	2.122	51583.40000	53700.20000	52045.00000
AG	107	-0.00404	10.00040	-104.206	0.00022	-0.00415	-0.00820
AS	75	0.18910	66.00070	60.920	0.09578	0.31783	0.15383
BA	137	23.88000	5628.19000	6.616	24.23051	22.15423	25.25612
CD	111	-0.02455	28.66700	-103.340	-0.05224	-0.00243	-0.01899
CO	59	0.06536	160.00800	13.175	0.07198	0.06847	0.05562
CU	63	0.30140	736.72000	19.907	0.31731	0.23508	0.35188
MO	98	-0.03728	40.00180	-51.931	-0.01793	-0.05666	-0.03726
NI	60	0.06859	126.67300	42.616	0.09759	0.06905	0.03914
SB	121	0.00073	23.33420	4413.790	0.01123	-0.03521	0.02616
SE	78	0.24460	25.33340	31.390	0.15849	0.30589	0.26953
SN	120	0.40070	2727.35000	153.307	0.06235	0.02985	1.10977
SR	88	142.10000	75283.10000	1.670	139.88309	141.93753	144.61542
ZN	66	0.60080	160.00800	16.506	0.71449	0.53228	0.55552
BI-2	209	195040.00000	0.00000	1.160	192442.00000	196571.00000	196108.00000
PB	208	-0.00523	156.67400	-131.372	-0.00576	0.00189	-0.01183
TL	203	0.00746	20.00110	49.411	0.00379	0.00743	0.01117
SC-1	45	394174.00000	0.00000	0.767	395814.00000	396020.00000	390687.00000
GE-1	72	425138.00000	0.00000	1.730	422715.00000	433396.00000	419301.00000
GE-2	72	113563.00000	0.00000	0.843	112480.00000	114296.00000	113913.00000
TB-2	159	224780.00000	0.00000	0.775	224202.00000	226736.00000	223400.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:09:00
Tube Number: 29 Batch: 152736050003A
Sample Number: **8063114** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	44945.30000	0.00000	1.789	45098.80000	44075.50000	45661.50000
AL	27	19.82000	843.39500	3.691	19.18643	19.64861	20.61968
CA	44	149000.00000	511061.00000	1.948	148560.45920	152035.31628	146271.69744
CR	52	0.69320	1996.91000	12.713	0.60402	0.69527	0.78024
FE	57	9218.00000	209936.00000	2.141	9270.01014	9384.24624	8999.77718
K	39	1339.00000	98485.60000	2.305	1338.81961	1370.25701	1308.51265
MG	24	20150.00000	2578770.00000	2.085	19707.58744	20545.05898	20185.79966
MN	55	222.90000	122091.00000	0.750	222.23592	221.74182	224.84896
NA	23	25440.00000	6482420.00000	0.877	25178.84712	25561.87084	25569.07899
TI	47	11.58000	276.68000	33.532	10.87962	8.09913	15.76840
V	51	4.24400	3737.36000	1.618	4.18688	4.32023	4.22509
IN-1	115	296792.00000	0.00000	0.998	295392.00000	300196.00000	294788.00000
IN-2	115	51932.90000	0.00000	1.879	52432.90000	52557.40000	50808.50000
AG	107	-0.00259	13.33380	-188.012	0.00009	-0.00820	0.00035
AS	75	0.25460	71.33410	50.275	0.10707	0.33563	0.32116
BA	137	104.40000	24361.40000	2.850	103.74956	101.84857	107.68211
CD	111	-0.02792	27.33360	-31.400	-0.02646	-0.01998	-0.03733
CO	59	0.01264	56.66930	130.934	-0.00157	0.00867	0.03082
CU	63	0.57120	1143.43000	21.534	0.47678	0.52665	0.71028
MO	98	0.02318	103.33900	252.890	0.02785	-0.03763	0.07933
NI	60	0.15770	173.34100	38.567	0.14900	0.22233	0.10162
SB	121	0.01649	33.33490	241.844	-0.01998	0.01037	0.05908
SE	78	0.03719	6.00002	1.763	0.03749	0.03643	0.03763
SN	120	1.23000	3388.35000	139.837	0.48385	0.00956	3.19806
SR	88	801.80000	420358.00000	2.947	805.32600	776.62985	823.50314
ZN	66	1.01300	240.01200	21.964	0.79954	0.99637	1.24357
BI-2	209	192315.00000	0.00000	0.843	192797.00000	190507.00000	193641.00000
PB	208	0.01961	366.68500	12.081	0.02108	0.01688	0.02088
TL	203	0.00507	13.33390	44.226	0.00379	0.00767	0.00377
SC-1	45	388819.00000	0.00000	1.358	392958.00000	390624.00000	382875.00000
GE-1	72	418514.00000	0.00000	3.097	429755.00000	421453.00000	404334.00000
GE-2	72	110164.00000	0.00000	1.058	110865.00000	108819.00000	110807.00000
TB-2	159	225134.00000	0.00000	1.631	229186.00000	224183.00000	222032.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:11:00
Tube Number: 30 Batch: 152736050003A
Sample Number: **8063115** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	45811.80000	0.00000	1.593	46654.50000	45370.70000	45410.30000
AL	27	18730.00000	783750.00000	1.266	18477.69322	18947.56532	18768.81284
CA	44	84200.00000	294615.00000	1.142	83587.34801	85309.05931	83705.57770
CR	52	0.83760	2203.62000	10.370	0.74152	0.86069	0.91056
FE	57	1148.00000	26664.90000	1.409	1129.66211	1156.85130	1158.45357
K	39	9127.00000	602462.00000	0.376	9089.15544	9136.89105	9155.74285
MG	24	4705.00000	614129.00000	0.237	4709.68230	4713.67278	4692.66735
MN	55	34.32000	19174.90000	0.660	34.54381	34.09104	34.31509
NA	23	12620.00000	3392730.00000	1.627	12403.33278	12812.13726	12640.65338
TI	47	1.65600	43.33500	75.604	2.72616	0.27906	1.96274
V	51	3.54000	3183.85000	2.371	3.45964	3.62706	3.53291
IN-1	115	303135.00000	0.00000	2.655	311866.00000	296011.00000	301526.00000
IN-2	115	53655.00000	0.00000	3.541	55801.10000	52976.50000	52187.40000
AG	107	0.00122	23.33450	378.023	0.00348	-0.00410	0.00429
AS	75	2.64100	306.00600	13.272	2.23665	2.85970	2.82629
BA	137	40.08000	9660.81000	3.982	39.08202	39.23307	41.91870
CD	111	-0.05216	20.66680	-59.356	-0.08268	-0.02077	-0.05304
CO	59	0.47880	986.74900	8.459	0.51049	0.49273	0.43317
CU	63	0.33750	813.39300	10.883	0.37701	0.30440	0.33104
MO	98	0.01978	103.33800	85.541	0.00409	0.01755	0.03772
NI	60	4.55400	2597.03000	11.535	4.02035	5.07061	4.57148
SB	121	0.12370	106.67200	26.015	0.10788	0.16072	0.10249
SE	78	0.47090	46.44470	15.392	0.52959	0.49331	0.38991
SN	120	0.42040	2817.89000	93.720	0.87051	0.13799	0.25282
SR	88	326.10000	176597.00000	2.486	317.14473	332.94077	328.21957
ZN	66	9.07100	1903.55000	7.350	9.83977	8.64546	8.72904
BI-2	209	193202.00000	0.00000	0.931	194147.00000	191127.00000	194331.00000
PB	208	0.01400	320.01500	37.336	0.01729	0.01675	0.00798
TL	203	0.00629	16.66740	68.820	0.01128	0.00382	0.00376
SC-1	45	386893.00000	0.00000	1.169	391971.00000	385412.00000	383295.00000
GE-1	72	417084.00000	0.00000	1.833	425074.00000	416341.00000	409837.00000
GE-2	72	111159.00000	0.00000	2.031	112341.00000	112580.00000	108556.00000
TB-2	159	228771.00000	0.00000	1.752	229174.00000	224577.00000	232561.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:13:00
Tube Number: 31 Batch: 152736050003A
Sample Number: **8063116** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	45410.00000	0.00000	1.693	46152.90000	44617.40000	45459.80000
AL	27	17.50000	756.71800	8.589	18.96890	15.96562	17.58334
CA	44	7086.00000	24804.50000	1.147	7150.27108	7113.33970	6994.64728
CR	52	0.01440	1226.77000	351.319	0.04247	0.04474	-0.04399
FE	57	93.14000	2150.26000	3.732	95.05682	95.24214	89.13115
K	39	334.80000	35341.60000	3.790	337.22637	346.12610	321.08857
MG	24	830.10000	107492.00000	2.653	807.96928	852.01354	830.26253
MN	55	2.08000	1173.43000	2.077	2.03936	2.07419	2.12527
NA	23	6902.00000	1942050.00000	2.811	6679.65135	6987.78923	7038.01923
TI	47	0.27610	10.00040	152.336	0.27192	-0.14232	0.69879
V	51	0.17890	196.67700	44.578	0.11104	0.26671	0.15881
IN-1	115	298002.00000	0.00000	1.212	301422.00000	294226.00000	298358.00000
IN-2	115	52581.10000	0.00000	0.420	52685.40000	52327.20000	52730.90000
AG	107	-0.00407	10.00040	-101.402	0.00005	-0.00405	-0.00820
AS	75	0.00787	48.66710	318.754	-0.02098	0.02430	0.02028
BA	137	6.18200	1466.81000	4.489	5.88745	6.43846	6.22018
CD	111	-0.02444	28.66690	-70.704	-0.02691	-0.00606	-0.04036
CO	59	-0.00848	16.66750	-92.344	-0.00164	-0.01702	-0.00677
CU	63	0.34220	803.39200	14.459	0.39676	0.32969	0.30022
MO	98	-0.05003	26.66770	-21.767	-0.05631	-0.03746	-0.05632
NI	60	0.08640	136.67300	96.354	-0.00032	0.09383	0.16568
SB	121	-0.02507	6.66693	-35.022	-0.02005	-0.01995	-0.03521
SE	78	0.02239	4.66668	58.464	0.00728	0.03036	0.02954
SN	120	0.88570	3153.02000	85.311	1.62694	0.91375	0.11654
SR	88	11.67000	6201.72000	3.036	11.34387	12.04657	11.61597
ZN	66	0.56410	153.34100	35.277	0.44699	0.45142	0.79390
BI-2	209	198483.00000	0.00000	1.227	197269.00000	196895.00000	201287.00000
PB	208	0.00810	276.68100	46.155	0.01208	0.00757	0.00466
TL	203	0.00617	16.66740	124.842	0.01480	0.00371	0.00000
SC-1	45	380253.00000	0.00000	0.798	383744.00000	378258.00000	378759.00000
GE-1	72	415721.00000	0.00000	1.826	424429.00000	410503.00000	412230.00000
GE-2	72	112957.00000	0.00000	0.811	112379.00000	112479.00000	114013.00000
TB-2	159	224846.00000	0.00000	0.624	225237.00000	226013.00000	223289.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:16:00
Tube Number: 32 Batch: 152736050003A
Sample Number: **8063117** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	44242.90000	0.00000	2.098	43403.80000	44085.40000	45239.50000
AL	27	230.80000	9357.08000	3.069	224.61042	238.52564	229.26973
CA	44	10250.00000	34864.10000	1.177	10339.93696	10116.40726	10306.67140
CR	52	0.29230	1510.14000	23.411	0.36260	0.22591	0.28848
FE	57	45.85000	1036.89000	22.901	44.71819	35.96530	56.86855
K	39	2680.00000	180407.00000	2.539	2752.45345	2671.09288	2617.28379
MG	24	2163.00000	272659.00000	1.305	2181.77270	2176.37304	2130.41978
MN	55	4.51700	2456.99000	3.135	4.59257	4.35328	4.60416
NA	23	42850.00000	10598200.00000	1.594	43609.26239	42277.76377	42678.16641
TI	47	-0.00145	3.33346	-16827.600	-0.14232	-0.14232	0.28028
V	51	0.51460	480.02700	5.915	0.54877	0.50449	0.49045
IN-1	115	295246.00000	0.00000	1.414	300013.00000	293487.00000	292239.00000
IN-2	115	51454.20000	0.00000	1.864	50414.50000	51643.20000	52304.90000
AG	107	-0.00398	10.00040	-1.991	-0.00389	-0.00399	-0.00405
AS	75	0.25500	70.66780	35.059	0.34939	0.24404	0.17159
BA	137	45.87000	10608.30000	1.466	46.35502	46.15706	45.10379
CD	111	-0.01995	29.33360	-123.509	-0.01570	0.00228	-0.04645
CO	59	0.01437	60.00280	93.111	0.00976	0.00390	0.02945
CU	63	0.99410	1780.19000	5.309	0.97839	0.95098	1.05296
MO	98	-0.02698	50.00380	-97.405	0.00282	-0.03697	-0.04681
NI	60	0.09296	136.67300	87.887	0.18095	0.07843	0.01950
SB	121	-0.01949	10.00040	-81.272	-0.00353	-0.01975	-0.03521
SE	78	0.04498	6.66669	30.036	0.03647	0.03793	0.06056
SN	120	0.63590	2878.86000	111.433	0.06784	1.42996	0.40983
SR	88	44.81000	23292.30000	1.293	44.71810	44.28821	45.43500
ZN	66	1.11800	260.01700	44.025	0.68375	1.01754	1.65273
BI-2	209	191728.00000	0.00000	0.114	191826.00000	191881.00000	191477.00000
PB	208	0.05617	676.70500	17.981	0.04713	0.06707	0.05432
TL	203	0.00888	23.33430	65.399	0.00381	0.01522	0.00763
SC-1	45	385980.00000	0.00000	1.252	390270.00000	380744.00000	386927.00000
GE-1	72	416437.00000	0.00000	0.969	420101.00000	412114.00000	417097.00000
GE-2	72	110590.00000	0.00000	1.932	111169.00000	108223.00000	112378.00000
TB-2	159	223138.00000	0.00000	1.695	223949.00000	219015.00000	226451.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:18:00
Tube Number: 33 Batch: 152736050003A
Sample Number: **8063118** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	44864.60000	0.00000	0.620	45159.30000	44606.90000	44827.50000
AL	27	111.10000	4581.02000	3.355	113.24666	113.18468	106.76108
CA	44	174300.00000	597187.00000	0.427	173499.38219	174894.78513	174644.67248
CR	52	0.31380	1556.82000	22.862	0.39451	0.28982	0.25718
FE	57	359.20000	8176.26000	3.861	375.16019	352.81351	349.75277
K	39	3120.00000	210767.00000	0.338	3118.34575	3110.48774	3131.37533
MG	24	3866.00000	494184.00000	0.732	3837.80036	3894.42540	3866.41963
MN	55	88.86000	48585.30000	1.886	88.19984	90.77078	87.62161
NA	23	2620.00000	867689.00000	1.884	2566.49728	2631.72146	2663.28864
TI	47	1.13400	30.00140	74.533	1.97447	1.14346	0.28417
V	51	0.85900	786.72200	3.105	0.85692	0.83340	0.88661
IN-1	115	303123.00000	0.00000	1.346	299425.00000	307500.00000	302443.00000
IN-2	115	52605.40000	0.00000	2.249	53695.10000	51347.20000	52774.10000
AG	107	0.01521	56.66910	16.529	0.01608	0.01718	0.01238
AS	75	3.12800	347.34100	5.681	2.93752	3.15895	3.28904
BA	137	29.94000	7079.00000	2.946	29.04194	30.80493	29.97114
CD	111	0.06728	56.00060	30.574	0.04354	0.07850	0.07980
CO	59	0.10120	230.01200	7.708	0.09362	0.10920	0.10067
CU	63	0.51770	1076.75000	14.831	0.44893	0.50369	0.60055
MO	98	0.52790	646.70600	18.534	0.53623	0.62140	0.42624
NI	60	0.36340	286.68200	23.899	0.44977	0.36421	0.27608
SB	121	0.16630	133.34000	34.348	0.21758	0.10474	0.17661
SE	78	0.25350	26.22230	5.617	0.24017	0.26850	0.25188
SN	120	1.91900	4066.20000	122.616	4.63635	0.52921	0.59172
SR	88	790.50000	419812.00000	2.163	782.64555	810.13815	778.77575
ZN	66	1.16200	273.34900	15.861	0.97104	1.17747	1.33867
BI-2	209	192109.00000	0.00000	0.222	192583.00000	191983.00000	191759.00000
PB	208	0.02280	393.35200	30.425	0.01996	0.01774	0.03071
TL	203	0.02533	66.66940	34.524	0.03033	0.03042	0.01523
SC-1	45	386829.00000	0.00000	1.431	383177.00000	393196.00000	384114.00000
GE-1	72	418155.00000	0.00000	0.947	419557.00000	421220.00000	413687.00000
GE-2	72	110642.00000	0.00000	1.800	112854.00000	110080.00000	108991.00000
TB-2	159	223255.00000	0.00000	2.150	228429.00000	218947.00000	222389.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:20:00
Tube Number: 34
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	44922.10000	0.00000	2.544	45651.40000	45510.10000	43604.90000
AL	27	2461.00000	100962.00000	1.749	2433.38273	2438.07748	2510.16227
CA	44	2513.00000	8853.33000	4.899	2418.30547	2469.25682	2652.39873
CR	52	246.10000	284634.00000	0.173	245.71782	245.96807	246.54733
FE	57	2501.00000	56936.40000	0.794	2497.87317	2482.55599	2521.95083
K	39	2480.00000	170511.00000	2.361	2442.97914	2449.50869	2547.49330
MG	24	2440.00000	312256.00000	2.261	2413.36042	2403.54547	2503.60901
MN	55	252.20000	138012.00000	1.695	247.39134	253.75509	255.51739
NA	23	2594.00000	862166.00000	1.412	2554.23471	2600.87886	2626.47279
TI	47	251.60000	5914.90000	3.744	241.96992	260.79311	252.01896
V	51	248.20000	216071.00000	2.890	242.12965	246.24297	256.08956
IN-1	115	298016.00000	0.00000	3.267	308446.00000	296433.00000	289168.00000
IN-2	115	50782.10000	0.00000	3.606	52415.10000	51127.80000	48803.20000
AG	107	25.96000	60630.50000	5.447	24.58005	25.89552	27.40605
AS	75	259.60000	24027.80000	2.842	251.25130	262.45699	265.16836
BA	137	255.50000	58258.00000	3.276	247.85202	254.30999	264.45835
CD	111	25.90000	7493.60000	2.941	25.02443	26.41634	26.25668
CO	59	260.70000	489878.00000	3.522	251.23451	261.24378	269.57222
CU	63	256.80000	386231.00000	3.529	248.17399	256.07650	266.25036
MO	98	26.25000	27280.10000	3.063	25.32061	26.69912	26.72747
NI	60	261.20000	136301.00000	2.756	253.60825	262.24808	267.90048
SB	121	26.26000	16708.40000	3.686	25.22245	26.40604	27.14100
SE	78	25.11000	2294.43000	0.960	25.02096	24.93435	25.38841
SN	120	26.07000	23908.90000	4.599	26.37112	24.75567	27.09933
SR	88	25.79000	13220.60000	4.824	24.37350	26.32553	26.68640
ZN	66	259.60000	50386.10000	1.721	254.52116	261.24320	262.98117
BI-2	209	197497.00000	0.00000	1.040	196315.00000	199869.00000	196307.00000
PB	208	24.73000	217071.00000	0.712	24.87675	24.53597	24.78334
TL	203	24.66000	66721.30000	1.512	24.37517	25.08418	24.52924
SC-1	45	378433.00000	0.00000	2.131	386346.00000	378728.00000	370225.00000
GE-1	72	412653.00000	0.00000	1.831	421369.00000	408617.00000	407975.00000
GE-2	72	111400.00000	0.00000	1.530	109867.00000	113235.00000	111098.00000
TB-2	159	219626.00000	0.00000	1.022	219233.00000	222041.00000	217603.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:23:00
Tube Number: 35
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	45002.00000	0.00000	2.424	45861.60000	45369.50000	43775.00000
AL	27	0.41950	46.66890	74.398	0.23409	0.24447	0.77984
CA	44	3.52200	256.68100	367.973	-2.55942	18.40190	-5.27819
CR	52	-0.04216	1150.10000	-155.954	-0.11224	0.01816	-0.03242
FE	57	1.75300	46.66870	11.871	1.86158	1.88487	1.51333
K	39	10.75000	14491.80000	126.884	-0.32191	6.58939	25.99521
MG	24	0.05991	170.00800	176.264	0.11323	0.12820	-0.06169
MN	55	0.04402	46.66840	132.349	0.02969	-0.00573	0.10812
NA	23	-11.25000	222000.00000	-227.200	-26.65981	-25.36647	18.24627
TI	47	0.13710	6.66692	176.513	0.27455	0.27907	-0.14232
V	51	0.00371	43.33520	1486.000	0.06705	-0.03405	-0.02185
IN-1	115	295488.00000	0.00000	0.385	294657.00000	295022.00000	296785.00000
IN-2	115	52502.00000	0.00000	1.009	52393.10000	52035.00000	53077.80000
AG	107	0.00013	20.00080	6344.220	0.00009	0.00850	-0.00820
AS	75	0.11300	58.66730	37.451	0.08656	0.09060	0.16180
BA	137	0.00001	6.66693	269401.000	0.01435	-0.02813	0.01381
CD	111	-0.06681	16.00010	-30.609	-0.08694	-0.04606	-0.06745
CO	59	0.02412	80.00300	36.725	0.01391	0.02969	0.02877
CU	63	0.05107	350.02100	115.489	0.04548	-0.00492	0.11264
MO	98	0.01204	93.33830	308.389	-0.02816	0.01922	0.04506
NI	60	-0.08616	43.33500	-33.241	-0.05513	-0.09177	-0.11158
SB	121	0.14190	116.67200	31.388	0.13243	0.10289	0.19044
SE	78	0.01050	3.55557	177.810	0.03027	0.00806	-0.00683
SN	120	0.22970	2587.08000	46.321	0.18218	0.15540	0.35164
SR	88	0.00643	10.00040	294.163	0.02541	-0.01240	0.00626
ZN	66	0.16570	73.33610	133.494	-0.04897	0.15326	0.39290
BI-2	209	197724.00000	0.00000	1.356	199437.00000	194634.00000	199099.00000
PB	208	-0.01235	96.67100	-46.445	-0.00751	-0.01869	-0.01087
TL	203	0.01101	30.00230	114.896	0.02563	0.00375	0.00367
SC-1	45	379812.00000	0.00000	1.346	374001.00000	381823.00000	383611.00000
GE-1	72	414501.00000	0.00000	0.610	413973.00000	417252.00000	412279.00000
GE-2	72	111858.00000	0.00000	0.609	112329.00000	112168.00000	111078.00000
TB-2	159	221478.00000	0.00000	1.777	221592.00000	217487.00000	225355.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:25:00
Tube Number: 36 Batch: 152736050003A
Sample Number: **8063121** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	44282.90000	0.00000	1.235	44838.10000	43744.40000	44266.20000
AL	27	453.60000	18376.80000	1.160	459.63359	450.84149	450.22507
CA	44	398200.00000	1345710.00000	1.700	392066.51249	405450.24700	397008.43663
CR	52	4.12900	5868.19000	2.334	4.08517	4.24004	4.06328
FE	57	43.08000	973.40700	6.931	41.07791	41.66100	46.51577
K	39	17220.00000	1086350.00000	0.997	17030.04003	17368.20116	17250.31257
MG	24	22220.00000	2802550.00000	1.745	21804.20307	22570.02338	22291.98150
MN	55	237.90000	128365.00000	0.741	237.81829	239.75113	236.22905
NA	23	9013.00000	2405750.00000	0.929	8941.04625	9104.72448	8992.37571
TI	47	31.63000	736.71600	16.235	37.38060	30.01462	27.49946
V	51	6.03800	5224.61000	4.316	6.08724	5.75691	6.27130
IN-1	115	292285.00000	0.00000	1.380	296901.00000	290510.00000	289443.00000
IN-2	115	51322.60000	0.00000	0.628	51674.70000	51250.10000	51042.80000
AG	107	0.00872	40.00160	47.609	0.01282	0.00452	0.00882
AS	75	6.24500	630.02100	5.009	5.90039	6.51093	6.32410
BA	137	55.98000	12913.90000	3.687	57.20993	53.59748	57.13399
CD	111	-0.02455	28.00030	-125.499	0.00903	-0.03117	-0.05152
CO	59	0.31090	623.37300	3.278	0.32266	0.30440	0.30571
CU	63	0.43800	930.07200	13.043	0.49941	0.38638	0.42835
MO	98	0.75850	873.39900	4.591	0.77812	0.71830	0.77909
NI	60	2.46900	1390.13000	8.821	2.71561	2.30263	2.38894
SB	121	0.62350	423.36000	23.208	0.53650	0.79052	0.54358
SE	78	1.98100	180.00200	7.431	2.14881	1.87450	1.91912
SN	120	0.77110	2981.72000	146.933	0.33034	2.05857	-0.07556
SR	88	929.50000	481699.00000	1.083	929.59908	919.35149	939.49522
ZN	66	0.92130	220.01200	46.478	1.37137	0.87366	0.51905
BI-2	209	188781.00000	0.00000	1.240	190182.00000	186078.00000	190082.00000
PB	208	0.02954	443.35600	14.330	0.03353	0.02510	0.03000
TL	203	0.00646	16.66760	35.099	0.00768	0.00785	0.00384
SC-1	45	385580.00000	0.00000	1.532	390859.00000	386684.00000	379198.00000
GE-1	72	406438.00000	0.00000	1.637	414070.00000	403385.00000	401858.00000
GE-2	72	108216.00000	0.00000	0.168	108091.00000	108425.00000	108133.00000
TB-2	159	228320.00000	0.00000	2.150	233736.00000	224160.00000	227065.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:27:00
Tube Number: 37 Batch: 152736050003A
Sample Number: **8063123** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	44610.50000	0.00000	1.021	45029.00000	44677.30000	44125.20000
AL	27	165.60000	6775.40000	3.739	158.57573	167.92059	170.28198
CA	44	49610.00000	169131.00000	1.987	48818.65082	49304.69451	50716.24803
CR	52	0.70120	1990.24000	15.473	0.68450	0.60205	0.81709
FE	57	93.32000	2116.93000	5.368	92.61662	98.64799	88.70476
K	39	10470.00000	671143.00000	1.513	10349.41465	10419.59299	10652.09359
MG	24	5492.00000	697962.00000	1.768	5380.50048	5553.87571	5542.88256
MN	55	149.40000	81208.30000	2.471	146.60781	148.06101	153.60226
NA	23	4736.00000	1379410.00000	1.754	4644.99058	4807.24383	4756.96747
TI	47	2.72400	66.67040	80.910	0.28226	4.56495	3.32386
V	51	0.85250	776.72300	3.111	0.88245	0.83202	0.84299
IN-1	115	301365.00000	0.00000	1.885	303225.00000	305882.00000	294988.00000
IN-2	115	52091.60000	0.00000	0.907	52636.40000	51795.30000	51843.00000
AG	107	0.00012	20.00100	3385.120	0.00418	0.00019	-0.00401
AS	75	0.41410	86.66770	44.023	0.29262	0.62374	0.32596
BA	137	17.01000	3987.48000	3.339	17.06024	17.55292	16.42005
CD	111	-0.03249	26.00030	-57.279	-0.05361	-0.01850	-0.02539
CO	59	0.02785	86.67050	37.163	0.03942	0.01948	0.02465
CU	63	0.21310	596.70500	1.861	0.21768	0.21099	0.21064
MO	98	0.09435	180.00900	20.180	0.09258	0.11422	0.07625
NI	60	0.08270	133.33900	36.675	0.05531	0.11530	0.07749
SB	121	0.01076	30.00120	429.368	0.01030	-0.03521	0.05720
SE	78	0.23410	24.22230	17.881	0.20090	0.22026	0.28111
SN	120	0.17140	2517.15000	278.180	0.24998	-0.33983	0.60406
SR	88	202.90000	106713.00000	0.830	201.22301	202.79111	204.58732
ZN	66	1.00900	240.01300	35.758	0.59677	1.26664	1.16432
BI-2	209	195291.00000	0.00000	0.695	196562.00000	193861.00000	195449.00000
PB	208	0.02439	413.35700	39.209	0.01335	0.03013	0.02969
TL	203	0.01121	30.00120	33.051	0.01114	0.00753	0.01494
SC-1	45	385018.00000	0.00000	1.196	387190.00000	388134.00000	379730.00000
GE-1	72	419347.00000	0.00000	1.080	424345.00000	418182.00000	415514.00000
GE-2	72	112002.00000	0.00000	0.214	111852.00000	112279.00000	111875.00000
TB-2	159	225988.00000	0.00000	1.815	229729.00000	226635.00000	221601.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:29:00
Tube Number: 38 Batch: 152736050003A
Sample Number: **8063119** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	44403.00000	0.00000	0.606	44195.70000	44305.80000	44707.40000
AL	27	305.40000	12416.30000	1.461	303.37595	310.53731	302.34909
CA	44	87780.00000	297710.00000	0.807	87406.45116	88600.35556	87341.63513
CR	52	4.86800	6725.38000	4.509	5.09563	4.65761	4.85080
FE	57	111.70000	2520.36000	10.591	98.38633	115.51404	121.09556
K	39	1776.00000	124592.00000	0.957	1791.43733	1778.00660	1757.68980
MG	24	9611.00000	1215690.00000	0.848	9551.62097	9704.20096	9578.38014
MN	55	89.35000	48350.70000	2.623	91.46526	86.82987	89.75558
NA	23	27130.00000	6815900.00000	0.180	27130.21920	27080.98392	27178.53236
TI	47	16.93000	396.69000	18.848	16.29592	14.09745	20.38472
V	51	5.81800	5047.85000	4.811	5.52253	6.07934	5.85114
IN-1	115	295996.00000	0.00000	0.910	296302.00000	298525.00000	293161.00000
IN-2	115	51889.00000	0.00000	1.025	52197.20000	51274.80000	52195.20000
AG	107	-0.00681	3.33346	-35.281	-0.00404	-0.00820	-0.00820
AS	75	3.52400	380.00900	6.453	3.54146	3.74278	3.28897
BA	137	124.50000	29018.50000	2.195	121.31430	125.89095	126.19181
CD	111	-0.01634	30.66700	-159.364	0.00098	-0.00371	-0.04629
CO	59	0.01245	56.66930	21.839	0.01402	0.00932	0.01402
CU	63	1.16800	2063.58000	11.858	1.27546	1.01175	1.21730
MO	98	0.05412	136.67300	11.475	0.05646	0.05883	0.04708
NI	60	0.36500	283.35100	41.123	0.20637	0.38395	0.50479
SB	121	0.02644	40.00210	101.740	0.04128	0.04265	-0.00461
SE	78	0.62830	59.55590	6.400	0.66178	0.58371	0.63948
SN	120	1.12100	3305.81000	84.514	0.52214	2.21368	0.62832
SR	88	223.50000	117130.00000	0.302	223.20362	224.31432	223.09453
ZN	66	11.30000	2280.30000	1.050	11.23506	11.44075	11.23530
BI-2	209	195682.00000	0.00000	1.877	199514.00000	192194.00000	195337.00000
PB	208	0.03426	500.02600	16.632	0.03426	0.03997	0.02857
TL	203	0.00877	23.33430	109.224	0.00732	0.01899	0.00000
SC-1	45	379711.00000	0.00000	2.016	370904.00000	384760.00000	383470.00000
GE-1	72	413319.00000	0.00000	2.014	405034.00000	421679.00000	413242.00000
GE-2	72	111208.00000	0.00000	0.481	110766.00000	111056.00000	111802.00000
TB-2	159	231941.00000	0.00000	0.791	233442.00000	229896.00000	232484.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:32:00
Tube Number: 39 Batch: 152736050003A
Sample Number: **8063120** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	43908.40000	0.00000	1.397	43955.40000	43272.80000	44496.90000
AL	27	455.40000	18283.30000	5.233	452.91548	480.33387	432.85664
CA	44	402900.00000	1350430.00000	0.913	402346.98359	406902.27082	399623.01278
CR	52	4.39500	6115.01000	6.405	4.42783	4.65828	4.09819
FE	57	51.83000	1160.10000	8.678	46.84673	53.06276	55.58673
K	39	17270.00000	1080310.00000	2.002	16958.50302	17640.98830	17203.98148
MG	24	22440.00000	2806130.00000	2.308	22223.80271	23032.88907	22068.22168
MN	55	243.90000	130454.00000	2.096	247.04740	246.65003	238.00206
NA	23	9225.00000	2436170.00000	1.908	9179.70294	9419.12116	9075.89147
TI	47	35.26000	813.39300	5.051	33.78483	34.76136	37.23891
V	51	6.19900	5314.60000	4.993	6.48030	6.24936	5.86744
IN-1	115	288574.00000	0.00000	0.790	287423.00000	287097.00000	291201.00000
IN-2	115	51704.10000	0.00000	1.209	51050.90000	52296.20000	51765.30000
AG	107	0.00160	23.33420	150.623	0.00031	0.00011	0.00439
AS	75	5.88900	601.35200	2.478	5.78485	6.05546	5.82549
BA	137	53.86000	12516.80000	3.141	53.23946	52.56736	55.77586
CD	111	-0.00925	32.66700	-107.740	-0.01701	-0.01274	0.00199
CO	59	0.30880	623.37400	9.760	0.33739	0.27732	0.31163
CU	63	0.42120	910.06500	16.420	0.50101	0.38164	0.38081
MO	98	0.72760	846.72900	9.759	0.80774	0.70243	0.67256
NI	60	2.26300	1290.12000	5.541	2.40764	2.19740	2.18404
SB	121	0.75700	513.36600	37.807	0.82502	1.00302	0.44295
SE	78	2.30300	206.00200	9.726	2.28878	2.53406	2.08678
SN	120	0.39130	2683.85000	65.091	0.45236	0.60983	0.11161
SR	88	926.90000	483945.00000	1.262	922.00188	918.47562	940.27321
ZN	66	0.94980	226.68000	23.026	1.03166	0.70204	1.11580
BI-2	209	188209.00000	0.00000	1.277	190224.00000	188853.00000	185548.00000
PB	208	0.02056	366.68600	40.822	0.02760	0.01127	0.02281
TL	203	0.01285	33.33470	74.778	0.02303	0.01160	0.00394
SC-1	45	380637.00000	0.00000	1.467	378121.00000	376752.00000	387037.00000
GE-1	72	398401.00000	0.00000	0.778	395459.00000	398110.00000	401635.00000
GE-2	72	108334.00000	0.00000	0.276	108303.00000	108646.00000	108051.00000
TB-2	159	225903.00000	0.00000	0.872	225241.00000	228120.00000	224349.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:34:00
Tube Number: 40 Batch: 152736050003A
Sample Number: **8063122** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	44493.30000	0.00000	1.097	44958.20000	44536.90000	43984.90000
AL	27	172.40000	7039.05000	8.573	189.28936	161.81885	166.09432
CA	44	49820.00000	169434.00000	1.384	50614.33210	49351.78599	49502.54017
CR	52	0.59980	1870.21000	7.464	0.62649	0.62474	0.54808
FE	57	100.10000	2263.64000	4.600	94.95816	101.61891	103.79635
K	39	10560.00000	675035.00000	0.781	10651.42285	10488.42253	10547.98702
MG	24	5614.00000	711704.00000	0.744	5643.64973	5633.24844	5566.68930
MN	55	152.20000	82519.20000	1.647	155.08929	150.84321	150.65483
NA	23	4762.00000	1382080.00000	1.312	4705.47188	4829.09105	4751.58579
TI	47	2.58600	63.33620	59.435	2.40918	1.14548	4.20428
V	51	0.97120	876.73200	4.886	0.91832	0.98536	1.01000
IN-1	115	292719.00000	0.00000	0.485	291389.00000	292554.00000	294215.00000
IN-2	115	51200.80000	0.00000	3.277	53129.00000	50073.60000	50399.70000
AG	107	-0.00684	3.33346	-34.543	-0.00411	-0.00820	-0.00820
AS	75	0.46120	89.33440	46.574	0.30595	0.70631	0.37143
BA	137	18.43000	4244.25000	0.539	18.32712	18.42410	18.52572
CD	111	-0.01696	30.00030	-98.762	-0.03433	-0.00091	-0.01567
CO	59	0.03269	93.33760	76.721	0.00840	0.05848	0.03120
CU	63	0.29210	706.72000	25.642	0.31574	0.35234	0.20824
MO	98	0.09019	173.34100	36.212	0.12790	0.07181	0.07086
NI	60	0.41130	303.34900	41.114	0.32808	0.29995	0.60596
SB	121	0.04292	50.00200	111.859	0.03993	0.09235	-0.00352
SE	78	0.28350	28.00010	9.587	0.30735	0.25393	0.28933
SN	120	0.91040	3092.81000	80.053	1.10129	1.52476	0.10509
SR	88	208.00000	107510.00000	1.994	204.19050	212.42025	207.41655
ZN	66	0.67180	170.00800	11.469	0.58939	0.74203	0.68402
BI-2	209	194836.00000	0.00000	2.012	199297.00000	193276.00000	191934.00000
PB	208	0.02535	420.02200	46.469	0.01737	0.01980	0.03888
TL	203	0.01002	26.66780	23.313	0.00733	0.01133	0.01141
SC-1	45	377011.00000	0.00000	0.451	377759.00000	375063.00000	378209.00000
GE-1	72	412622.00000	0.00000	0.526	414157.00000	413568.00000	410139.00000
GE-2	72	111078.00000	0.00000	1.649	112591.00000	109040.00000	111602.00000
TB-2	159	221143.00000	0.00000	1.241	223680.00000	218230.00000	221518.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:36:00
Tube Number: 41 Batch: 152736050003A
Sample Number: **8063124** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	44015.10000	0.00000	0.816	43683.90000	43964.70000	44396.80000
AL	27	5.24800	240.01500	3.821	5.04370	5.25595	5.44445
CA	44	90560.00000	304423.00000	1.872	92517.90348	89648.34258	89519.76192
CR	52	-0.09993	1060.08000	-45.872	-0.06604	-0.15209	-0.08166
FE	57	397.20000	8866.73000	8.603	426.71275	359.76741	405.18006
K	39	734.80000	59026.60000	2.750	758.02102	724.83921	721.44451
MG	24	5951.00000	746178.00000	1.114	6000.64077	5875.61171	5976.30913
MN	55	49.16000	26374.40000	5.472	52.16482	48.35139	46.97213
NA	23	14260.00000	3654970.00000	0.887	14399.63224	14218.26777	14156.26206
TI	47	0.29300	10.00040	149.386	0.73298	-0.14232	0.28831
V	51	0.08713	113.33800	86.388	0.08446	0.01324	0.16370
IN-1	115	292060.00000	0.00000	1.252	296121.00000	291030.00000	289029.00000
IN-2	115	51172.30000	0.00000	2.109	51375.90000	50006.40000	52134.70000
AG	107	0.00174	23.33450	153.731	0.00026	0.00483	0.00013
AS	75	0.10580	56.66730	176.560	-0.00876	0.00472	0.32133
BA	137	23.80000	5471.40000	9.735	22.24736	26.46489	22.69207
CD	111	-0.03132	26.00030	-71.424	-0.01766	-0.05714	-0.01916
CO	59	0.00393	40.00150	350.051	0.01452	-0.01162	0.00888
CU	63	0.47590	983.42300	12.187	0.50332	0.51512	0.40927
MO	98	0.01386	93.33800	298.341	0.01090	-0.02593	0.05662
NI	60	-0.02763	73.33660	-211.944	-0.07187	-0.04981	0.03878
SB	121	-0.00902	16.66730	-264.214	0.01141	-0.00328	-0.03521
SE	78	0.03839	6.00002	90.623	0.02998	0.00857	0.07661
SN	120	1.15000	3305.41000	143.304	0.33642	0.06659	3.04721
SR	88	210.80000	108917.00000	0.361	211.55946	210.04410	210.68357
ZN	66	0.46820	130.00600	32.144	0.41250	0.63861	0.35341
BI-2	209	189957.00000	0.00000	1.327	192063.00000	187165.00000	190642.00000
PB	208	0.00282	220.01200	264.233	-0.00573	0.00797	0.00622
TL	203	0.00385	10.00040	99.403	0.00000	0.00390	0.00766
SC-1	45	376482.00000	0.00000	1.821	383734.00000	370110.00000	375601.00000
GE-1	72	402859.00000	0.00000	1.364	408814.00000	397978.00000	401786.00000
GE-2	72	106567.00000	0.00000	1.359	107870.00000	105008.00000	106824.00000
TB-2	159	217538.00000	0.00000	2.400	220187.00000	211524.00000	220902.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:39:00
Tube Number: 42 Batch: 152736050003A
Sample Number: **8063127** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	43376.30000	0.00000	2.697	44205.40000	43885.00000	42038.40000
AL	27	1.73500	96.67100	77.464	2.00360	0.27710	2.92532
CA	44	35.78000	353.35700	28.871	32.61840	27.40490	47.31684
CR	52	0.00420	1160.10000	522.598	-0.01575	0.00062	0.02774
FE	57	4.10500	96.67110	3.618	4.17396	4.20664	3.93467
K	39	13.23000	14121.40000	84.429	8.80954	4.95727	25.93289
MG	24	1.65200	360.02200	15.599	1.35630	1.77560	1.82551
MN	55	0.13550	93.33710	54.140	0.05094	0.18257	0.17290
NA	23	7.28400	218364.00000	369.028	-10.55341	-5.79722	38.20276
TI	47	0.14810	6.66692	339.635	-0.14232	0.72897	-0.14232
V	51	0.05356	83.33750	69.604	0.02459	0.09562	0.04047
IN-1	115	298073.00000	0.00000	0.457	296614.00000	298296.00000	299309.00000
IN-2	115	51484.90000	0.00000	2.090	52357.50000	51814.10000	50282.90000
AG	107	-0.00116	16.66730	-214.286	0.00010	-0.00401	0.00044
AS	75	0.01242	48.00050	654.509	-0.08095	0.05071	0.06750
BA	137	0.02958	13.33390	221.400	-0.02813	0.10075	0.01614
CD	111	-0.00952	32.66700	-629.949	0.05446	-0.01853	-0.06450
CO	59	-0.00831	16.66730	-34.713	-0.00670	-0.00659	-0.01165
CU	63	0.22820	613.37400	16.477	0.27135	0.21085	0.20241
MO	98	-0.04645	30.00120	-19.744	-0.04684	-0.03709	-0.05542
NI	60	0.04820	113.33900	126.120	0.05650	-0.01631	0.10442
SB	121	-0.00948	16.66730	-90.070	-0.00471	-0.00439	-0.01933
SE	78	0.00036	2.66668	1990.010	-0.00681	0.00036	0.00753
SN	120	0.10600	2433.73000	336.415	0.47690	-0.23423	0.07521
SR	88	0.07757	46.66850	38.533	0.04435	0.10229	0.08608
ZN	66	0.59550	156.67400	37.179	0.85096	0.45785	0.47785
BI-2	209	197743.00000	0.00000	0.539	197880.00000	198733.00000	196617.00000
PB	208	-0.00432	166.67400	-94.929	-0.00397	-0.00858	-0.00041
TL	203	0.00368	10.00040	100.163	0.00738	0.00367	0.00000
SC-1	45	378310.00000	0.00000	1.438	372462.00000	379246.00000	383222.00000
GE-1	72	412305.00000	0.00000	0.477	413602.00000	413272.00000	410042.00000
GE-2	72	110328.00000	0.00000	1.308	110119.00000	109001.00000	111863.00000
TB-2	159	219415.00000	0.00000	0.332	219028.00000	220255.00000	218961.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:41:00
Tube Number: 43
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	44911.60000	0.00000	1.231	44466.50000	44737.70000	45530.70000
AL	27	95.70000	3954.08000	4.770	99.99685	96.20454	90.90771
CA	44	173.40000	836.72700	35.588	176.40934	233.49601	110.18360
CR	52	1.88000	3360.58000	9.952	2.08367	1.71594	1.83931
FE	57	100.20000	2286.98000	12.345	94.67933	114.39651	91.59289
K	39	196.00000	26183.40000	4.982	194.26557	206.56225	187.27419
MG	24	94.36000	12229.50000	4.082	98.74742	91.54338	92.78321
MN	55	2.18800	1220.11000	4.228	2.09985	2.17862	2.28419
NA	23	139.70000	258734.00000	9.878	148.42523	146.84689	123.77935
TI	47	14.47000	343.35200	5.641	13.61606	15.24225	14.55433
V	51	0.47470	453.35900	14.731	0.44177	0.42729	0.55500
IN-1	115	297117.00000	0.00000	0.941	300347.00000	295486.00000	295519.00000
IN-2	115	51683.70000	0.00000	2.032	50923.10000	51246.20000	52881.90000
AG	107	0.50480	1220.12000	9.439	0.47814	0.55986	0.47655
AS	75	1.70000	206.67000	16.618	1.76515	1.94386	1.39030
BA	137	1.83300	433.36200	23.470	1.58933	1.57911	2.32927
CD	111	0.43170	162.00200	10.104	0.38472	0.47096	0.43933
CO	59	0.59770	1176.77000	4.124	0.57162	0.62061	0.60089
CU	63	2.10500	3487.27000	4.898	2.20703	2.00090	2.10609
MO	98	0.44350	546.70200	8.201	0.44447	0.47942	0.40670
NI	60	1.99300	1146.77000	7.075	1.87880	2.15085	1.95032
SB	121	1.08400	726.71900	26.578	0.76445	1.16454	1.32371
SE	78	1.87400	173.11300	2.987	1.84840	1.83507	1.93800
SN	120	2.15900	4171.32000	26.248	2.76105	1.63612	2.07901
SR	88	0.90920	480.03100	14.661	0.97948	0.99255	0.75546
ZN	66	15.31000	3060.48000	15.252	14.29706	17.98620	13.66108
BI-2	209	192828.00000	0.00000	0.943	194616.00000	190980.00000	192889.00000
PB	208	0.96860	8491.58000	1.603	0.96169	0.98635	0.95765
TL	203	0.47790	1263.45000	15.062	0.55528	0.41291	0.46560
SC-1	45	375495.00000	0.00000	1.629	381733.00000	369509.00000	375243.00000
GE-1	72	410732.00000	0.00000	1.914	419082.00000	409641.00000	403473.00000
GE-2	72	110215.00000	0.00000	0.646	110454.00000	109414.00000	110777.00000
TB-2	159	219000.00000	0.00000	1.074	221503.00000	216835.00000	218662.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:43:00
Tube Number: 44
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	43503.50000	0.00000	1.920	43854.60000	42549.90000	44105.90000
AL	27	9912.00000	393825.00000	2.087	9677.51834	10070.04599	9987.13266
CA	44	9827.00000	32862.20000	0.566	9864.39459	9854.13876	9763.25260
CR	52	-0.00115	1156.76000	-7442.890	-0.05203	0.09741	-0.04881
FE	57	9985.00000	220123.00000	1.651	9871.75955	10174.51080	9909.81390
K	39	9984.00000	624441.00000	2.519	9725.66714	10228.13212	9998.89689
MG	24	9830.00000	1218140.00000	1.383	9674.35924	9892.48725	9923.95359
MN	55	0.61920	350.01900	7.392	0.59458	0.67198	0.59095
NA	23	9883.00000	2570430.00000	1.936	9663.55401	10017.13948	9967.04849
TI	47	195.20000	4444.27000	0.388	194.32393	195.79071	195.38359
V	51	0.02139	56.66960	164.236	0.01339	-0.00905	0.05983
IN-1	115	294388.00000	0.00000	0.892	296020.00000	291358.00000	295786.00000
IN-2	115	50836.10000	0.00000	0.714	51253.70000	50661.50000	50593.10000
AG	107	-0.00108	16.66730	-225.669	0.00028	0.00038	-0.00391
AS	75	0.06852	52.66720	127.846	0.07818	-0.02351	0.15090
BA	137	-0.01365	3.33347	-183.663	0.01530	-0.02813	-0.02813
CD	111	-0.02360	28.00020	-132.500	0.00321	-0.05796	-0.01607
CO	59	0.00068	33.33460	1627.940	0.00406	-0.01169	0.00967
CU	63	0.09876	410.02200	41.707	0.07671	0.14628	0.07330
MO	98	199.90000	207599.00000	2.288	198.21007	196.46296	205.11347
NI	60	0.01200	93.33760	325.667	0.04231	-0.03210	0.02580
SB	121	-0.00906	16.66730	-99.216	-0.00405	-0.00369	-0.01943
SE	78	0.00565	3.11112	70.428	0.00794	0.00106	0.00797
SN	120	0.28450	2550.42000	114.974	0.41571	0.52563	-0.08778
SR	88	0.07197	43.33580	30.860	0.08422	0.08535	0.04633
ZN	66	0.26420	90.00420	37.888	0.36290	0.16281	0.26676
BI-2	209	188627.00000	0.00000	0.822	187698.00000	190417.00000	187767.00000
PB	208	0.01252	300.01600	42.636	0.00908	0.00980	0.01867
TL	203	0.00776	20.00110	87.025	0.01556	0.00383	0.00389
SC-1	45	378484.00000	0.00000	0.928	374853.00000	378735.00000	381863.00000
GE-1	72	414605.00000	0.00000	1.050	414206.00000	410462.00000	419146.00000
GE-2	72	108490.00000	0.00000	1.438	109183.00000	106703.00000	109584.00000
TB-2	159	217248.00000	0.00000	0.551	217283.00000	216033.00000	218427.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:46:00
Tube Number: 45
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	43600.40000	0.00000	0.469	43553.80000	43423.10000	43824.20000
AL	27	9956.00000	396550.00000	0.336	9922.35191	9957.81666	9989.20531
CA	44	9977.00000	33437.10000	1.344	9824.58718	10032.80023	10075.17013
CR	52	19.69000	23178.10000	1.554	19.44945	19.59177	20.03613
FE	57	10010.00000	221190.00000	1.930	9788.49430	10091.99825	10147.16845
K	39	10040.00000	629321.00000	0.157	10049.46014	10046.11324	10020.64545
MG	24	9853.00000	1223720.00000	0.905	9852.83157	9763.39169	9941.84637
MN	55	20.65000	10988.40000	6.649	20.05961	22.22069	19.67332
NA	23	9899.00000	2580500.00000	0.695	9821.70683	9924.48748	9952.36002
TI	47	210.30000	4801.08000	4.536	201.81303	208.58675	220.64450
V	51	0.00581	43.33500	421.786	-0.02173	0.01397	0.02520
IN-1	115	292348.00000	0.00000	0.287	292971.00000	292680.00000	291394.00000
IN-2	115	51358.70000	0.00000	1.450	52100.30000	50610.90000	51364.90000
AG	107	19.83000	46911.80000	1.348	19.57054	19.82765	20.10519
AS	75	20.13000	1927.49000	4.998	19.13723	21.14838	20.10309
BA	137	0.04348	16.66730	150.414	0.10005	-0.02813	0.05854
CD	111	20.04000	5872.73000	2.562	19.47683	20.48553	20.14870
CO	59	20.23000	38494.90000	4.217	19.32263	21.01538	20.35316
CU	63	20.66000	31683.20000	4.745	19.82330	20.41198	21.73738
MO	98	201.00000	210806.00000	1.079	198.46040	202.33283	202.09041
NI	60	21.02000	11178.50000	4.838	21.81456	21.36424	19.87234
SB	121	-0.01973	10.00040	-77.699	-0.00456	-0.01943	-0.03521
SE	78	0.00345	2.88890	250.914	-0.00654	0.00836	0.00852
SN	120	0.39640	2675.35000	190.010	1.26302	-0.10055	0.02675
SR	88	0.11660	66.67050	36.132	0.08265	0.16372	0.10329
ZN	66	20.24000	4010.78000	5.030	19.54739	19.76634	21.41014
BI-2	209	190665.00000	0.00000	1.567	190366.00000	187839.00000	193790.00000
PB	208	0.00747	260.01300	115.094	0.01336	0.01146	-0.00240
TL	203	0.00381	10.00040	98.976	0.00000	0.00389	0.00754
SC-1	45	375683.00000	0.00000	0.828	377636.00000	377319.00000	372094.00000
GE-1	72	412892.00000	0.00000	1.734	415529.00000	418359.00000	404789.00000
GE-2	72	109042.00000	0.00000	0.882	108426.00000	110150.00000	108548.00000
TB-2	159	221425.00000	0.00000	0.989	220230.00000	220094.00000	223952.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:48:00
Tube Number: 46
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	43062.00000	0.00000	1.069	42530.60000	43342.90000	43312.60000
AL	27	2510.00000	98738.50000	2.606	2572.57934	2515.15827	2442.09223
CA	44	2599.00000	8776.67000	2.614	2533.17726	2668.90734	2595.09616
CR	52	248.30000	275330.00000	1.312	251.34048	248.79258	244.87491
FE	57	2492.00000	54391.40000	1.984	2517.15858	2523.91379	2435.08525
K	39	2524.00000	166139.00000	1.385	2562.55209	2513.30456	2494.93670
MG	24	2465.00000	302500.00000	1.271	2455.36117	2500.07078	2439.71933
MN	55	253.10000	132785.00000	2.424	259.46341	252.73433	247.20992
NA	23	2624.00000	833580.00000	0.779	2635.66579	2635.17211	2599.99239
TI	47	256.40000	5778.16000	4.115	257.48717	266.33707	245.33131
V	51	249.00000	207946.00000	0.700	250.98651	248.47142	247.63904
IN-1	115	289783.00000	0.00000	2.133	295712.00000	283376.00000	290260.00000
IN-2	115	51127.20000	0.00000	1.315	51487.10000	51543.10000	50351.30000
AG	107	24.99000	58828.40000	1.026	24.69668	25.18268	25.08074
AS	75	248.00000	23120.80000	1.221	245.07687	247.77882	251.11844
BA	137	247.30000	56798.00000	2.845	242.50448	244.06086	255.39365
CD	111	24.87000	7246.80000	3.335	24.71732	24.12235	25.76095
CO	59	253.30000	479584.00000	0.226	253.47958	252.62894	253.72076
CU	63	251.20000	380708.00000	1.072	248.27694	253.54279	251.90057
MO	98	24.54000	25696.90000	0.409	24.42480	24.58868	24.60716
NI	60	255.00000	134002.00000	1.795	253.42202	251.39403	260.13984
SB	121	25.58000	16401.30000	1.664	25.08750	25.83626	25.81309
SE	78	25.74000	2285.99000	3.789	25.06157	26.86064	25.30774
SN	120	25.14000	23299.60000	3.405	24.18235	25.83356	25.40037
SR	88	25.31000	13073.90000	3.406	26.04556	24.36317	25.53077
ZN	66	248.50000	48569.10000	1.284	244.82293	249.70665	250.82043
BI-2	209	191814.00000	0.00000	1.222	191070.00000	189933.00000	194438.00000
PB	208	24.66000	210158.00000	1.795	24.70923	25.06990	24.18943
TL	203	24.54000	64468.30000	1.702	24.99010	24.16597	24.45907
SC-1	45	373240.00000	0.00000	2.391	383044.00000	365589.00000	371087.00000
GE-1	72	405385.00000	0.00000	2.812	417954.00000	395724.00000	402477.00000
GE-2	72	107555.00000	0.00000	2.172	109232.00000	108546.00000	104886.00000
TB-2	159	215997.00000	0.00000	0.379	216940.00000	215465.00000	215585.00000

Run Name: 1527504E03 Date/Time: 10/02/2015 10:50:00
Tube Number: 47
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	44460.40000	0.00000	1.199	44858.00000	44668.40000	43854.70000
AL	27	0.67210	56.66930	54.144	0.74361	0.99493	0.27779
CA	44	-0.24860	240.01100	-7602.570	-12.71077	-9.52878	21.49369
CR	52	-0.08565	1086.76000	-67.461	-0.15237	-0.05255	-0.05204
FE	57	3.70500	90.00420	54.602	5.42866	1.47730	4.20965
K	39	11.12000	14351.70000	40.423	8.36170	8.68586	16.30524
MG	24	0.18090	183.34200	157.269	0.30063	0.38588	-0.14395
MN	55	0.05019	50.00220	72.226	0.04959	0.08674	0.01424
NA	23	-30.88000	214634.00000	-32.332	-31.30465	-40.65851	-20.70469
TI	47	0.28570	10.00060	259.468	-0.14232	1.14173	-0.14232
V	51	0.00869	46.66840	151.376	0.00057	0.02386	0.00163
IN-1	115	295127.00000	0.00000	0.302	296156.00000	294617.00000	294609.00000
IN-2	115	53011.10000	0.00000	1.673	53149.10000	52063.00000	53821.00000
AG	107	0.00409	30.00120	172.852	0.01224	0.00015	-0.00013
AS	75	0.14930	62.66740	46.497	0.07821	0.21693	0.15265
BA	137	0.02765	13.33390	84.376	0.01375	0.01462	0.05459
CD	111	-0.00970	33.33370	-55.685	-0.00783	-0.00548	-0.01579
CO	59	0.02562	83.33830	67.135	0.01855	0.04523	0.01309
CU	63	0.07490	390.02100	27.824	0.09319	0.07930	0.05222
MO	98	0.06969	156.67500	31.281	0.09097	0.04739	0.07070
NI	60	-0.00026	90.00440	-44701.000	-0.09334	0.13255	-0.04000
SB	121	0.17060	136.67300	25.229	0.22018	0.14883	0.14281
SE	78	0.01053	3.55557	162.488	0.00057	0.03028	0.00073
SN	120	1.18400	3428.37000	103.885	0.08223	2.51117	0.95851
SR	88	-0.00606	3.33346	-181.338	-0.01240	0.00663	-0.01240
ZN	66	0.16520	73.33660	128.692	-0.00186	0.40444	0.09294
BI-2	209	195935.00000	0.00000	0.668	197327.00000	194731.00000	195747.00000
PB	208	-0.01068	110.00600	-36.770	-0.00848	-0.01522	-0.00836
TL	203	0.01490	40.00170	24.846	0.01480	0.01125	0.01865
SC-1	45	375169.00000	0.00000	0.673	372460.00000	375590.00000	377457.00000
GE-1	72	414570.00000	0.00000	0.799	418389.00000	412866.00000	412456.00000
GE-2	72	112051.00000	0.00000	1.556	112188.00000	113721.00000	110242.00000
TB-2	159	220873.00000	0.00000	1.622	222623.00000	216753.00000	223244.00000

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Instrument Tuning Report (ICPMS #11332)

File Name: default.tun

File Path: C:\elandata\Tuning

Sample Date/Time: 10/2/2015 3:19:00AM

Number of Replicates: 6

Method File: c:\elandata\Method\dailytune.mth

Measured Mass must be within +/- 0.1 amu of the Exact Mass.

Measured Peak Width must be > or = to 0.640 AND < or = to 0.660.

Analyte	EXACT MASS	MEAS. MASS	Mass DAC	RES. DAC	MEAS. PK. WIDTH
Ce	140.000	140.050	0	0	0.600
In	115.000	115.050	0	0	0.650
Li	6.000	6.050	0	0	0.700
Mg	24.000	24.000	0	0	0.700
Pb	208.000	208.000	0	0	0.600
Rh	103.000	103.050	0	0	0.650
U	238.000	238.000	0	0	0.600

Summary: Verify that the RSD is less than 5 for the following masses.

Mass	Meas. Intens. Mean	Meas. Intens. RSD
140.000	66292.000	1.190
115.000	67668.000	1.160
6.000	33740.000	2.300
24.000	38959.000	1.750
208.000	44354.000	0.700
103.000	63585.000	1.010
238.000	94085.000	1.550

Mercury Data

Metals in Liquid

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Mercury Run Data Report

Data File Name: 1527201.M07

Run Name: 1527201M07

Instrument No.: 17384

Element: Hg

Analyst Employee ID: 0354

Method Reference Name(s):

Reviewed By
Damary Valentin

Reviewed Date
09/29/2015 10:36AM

Verified By:
Jennifer L Moyer

Verified Date
09/29/2015 12:02PM

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

1 Burn Date/Time: 09/29/2015 05:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0		1	1	1.00

AVG (ppb)	Intensity
0.0000	181.0

2 Burn Date/Time: 09/29/2015 05:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.2		1	1	1.00

AVG (ppb)	Intensity
0.0000	1753.0

3 Burn Date/Time: 09/29/2015 05:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	4332.0

4 Burn Date/Time: 09/29/2015 05:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S1.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	8896.0

5 Burn Date/Time: 09/29/2015 06:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S2.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	20591.0

6 Burn Date/Time: 09/29/2015 06:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S5.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	42188.0

CorrelationCoefficient = 1.00000
Slope = 8371.8209800000
Y-Intercept = 153.3745000000

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

7 Burn Date/Time: 09/29/2015 06:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICV		1	1	1.00

AVG (ppb)	Intensity
2.5631	21614.0

8 Burn Date/Time: 09/29/2015 06:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICB		1	1	1.00

AVG (ppb)	Intensity
-0.0177	1.0

9 Burn Date/Time: 09/29/2015 06:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.1987	1813.0

10 Burn Date/Time: 09/29/2015 06:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 1		1	1	1.00

AVG (ppb)	Intensity
0.9991	8516.0

11 Burn Date/Time: 09/29/2015 06:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 1		1	1	1.00

AVG (ppb)	Intensity
-0.0142	30.0

12 Burn Date/Time: 09/29/2015 06:19

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152685714004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0162	285.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

13 Burn Date/Time: 09/29/2015 06:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152685714004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0462	8911.0		

14 Burn Date/Time: 09/29/2015 06:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8056924	U*********	40	40	1.00	152685714004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0167	9.0		

15 Burn Date/Time: 09/29/2015 06:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8056927	D*********	40	40	1.00	152685714004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0016	136.0		

16 Burn Date/Time: 09/29/2015 06:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8056925	R*********	40	40	1.00	152685714004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.1039	9394.0		

17 Burn Date/Time: 09/29/2015 06:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8056926	M*********	40	40	1.00	152685714004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0209	8699.0		

18 Burn Date/Time: 09/29/2015 06:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054538	**********	40	40	1.00	152685714004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0122	251.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

19 Burn Date/Time: 09/29/2015 06:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054540	**********	40	40	1.00	152685714004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0044	186.0		

20 Burn Date/Time: 09/29/2015 06:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054542	**********	40	40	1.00	152685714004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0024	129.0		

21 Burn Date/Time: 09/29/2015 06:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054544	**********	40	40	1.00	152685714004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0015	162.0		

22 Burn Date/Time: 09/29/2015 06:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 2		1	1	1.00

AVG (ppb)	Intensity
0.9986	8512.0

23 Burn Date/Time: 09/29/2015 06:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 2		1	1	1.00

AVG (ppb)	Intensity
-0.0132	39.0

24 Burn Date/Time: 09/29/2015 06:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054546	**********	40	40	1.00	152685714004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0067	205.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

25 Burn Date/Time: 09/29/2015 06:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054548	**********	40	40	1.00	152685714004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0830	844.0		

26 Burn Date/Time: 09/29/2015 06:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054550	**********	40	40	1.00	152685714004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.4461	3885.0		

27 Burn Date/Time: 09/29/2015 06:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054552	**********	40	40	1.00	152685714004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0062	201.0		

28 Burn Date/Time: 09/29/2015 06:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054556	**********	40	40	1.00	152685714004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0192	310.0		

29 Burn Date/Time: 09/29/2015 06:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152685714005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0035	120.0		

30 Burn Date/Time: 09/29/2015 06:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152685714005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9888	8430.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

31 Burn Date/Time: 09/29/2015 06:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8056928	U*********	40	40	1.00	152685714005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0159	16.0		

32 Burn Date/Time: 09/29/2015 06:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8056931	D*********	40	40	1.00	152685714005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0040	116.0		

33 Burn Date/Time: 09/29/2015 07:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8056929	R*********	40	40	1.00	152685714005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0009	8531.0		

34 Burn Date/Time: 09/29/2015 07:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 3		1	1	1.00

AVG (ppb)	Intensity
0.9867	8412.0

35 Burn Date/Time: 09/29/2015 07:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 3		1	1	1.00

AVG (ppb)	Intensity
-0.0181	-2.0

36 Burn Date/Time: 09/29/2015 07:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8056930	M*********	40	40	1.00	152685714005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9741	8307.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

37 Burn Date/Time: 09/29/2015 07:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054539	**********	40	40	1.00	152685714005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0156	19.0		

38 Burn Date/Time: 09/29/2015 07:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054541	**********	40	40	1.00	152685714005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0009	142.0		

39 Burn Date/Time: 09/29/2015 07:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054543	**********	40	40	1.00	152685714005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0046	111.0		

40 Burn Date/Time: 09/29/2015 07:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054545	**********	40	40	1.00	152685714005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0030	124.0		

41 Burn Date/Time: 09/29/2015 07:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054547	**********	40	40	1.00	152685714005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0003	147.0		

42 Burn Date/Time: 09/29/2015 07:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054549	**********	40	40	1.00	152685714005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0308	407.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

43 Burn Date/Time: 09/29/2015 07:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054551	**********	40	40	1.00	152685714005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0012	139.0		

44 Burn Date/Time: 09/29/2015 07:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054553	**********	40	40	1.00	152685714005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0006	154.0		

45 Burn Date/Time: 09/29/2015 07:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054557	**********	40	40	1.00	152685714005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0001	148.0		

46 Burn Date/Time: 09/29/2015 07:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 4		1	1	1.00

AVG (ppb)	Intensity
0.9807	8362.0

47 Burn Date/Time: 09/29/2015 07:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 4		1	1	1.00

AVG (ppb)	Intensity
-0.0138	34.0

48 Burn Date/Time: 09/29/2015 07:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152685714006

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0022	168.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

49 Burn Date/Time: 09/29/2015 07:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152685714006

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0003	8526.0		

50 Burn Date/Time: 09/29/2015 07:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054568	U*********	40	40	1.00	152685714006

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0203	-21.0		

51 Burn Date/Time: 09/29/2015 07:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054571	D*********	40	40	1.00	152685714006

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0097	68.0		

52 Burn Date/Time: 09/29/2015 07:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054569	R*********	40	40	1.00	152685714006

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9735	8302.0		

53 Burn Date/Time: 09/29/2015 07:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054570	M*********	40	40	1.00	152685714006

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9791	8349.0		

54 Burn Date/Time: 09/29/2015 07:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054558	**********	40	40	1.00	152685714006

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0243	-54.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

55 Burn Date/Time: 09/29/2015 07:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054560	**********	40	40	1.00	152685714006

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0399	483.0		

56 Burn Date/Time: 09/29/2015 07:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054562	**********	40	40	1.00	152685714006

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0067	93.0		

57 Burn Date/Time: 09/29/2015 07:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054564	**********	40	40	1.00	152685714006

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0083	80.0		

58 Burn Date/Time: 09/29/2015 07:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 5		1	1	1.00

AVG (ppb)	Intensity
0.9803	8359.0

59 Burn Date/Time: 09/29/2015 07:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 5		1	1	1.00

AVG (ppb)	Intensity
-0.0146	27.0

60 Burn Date/Time: 09/29/2015 07:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054566	**********	40	40	1.00	152685714006

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0049	190.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

61 Burn Date/Time: 09/29/2015 07:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054576	**********	40	40	1.00	152685714006

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0047	110.0		

62 Burn Date/Time: 09/29/2015 08:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054578	**********	40	40	1.00	152685714006

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0023	130.0		

63 Burn Date/Time: 09/29/2015 08:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054580	**********	40	40	1.00	152685714006

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0033	122.0		

64 Burn Date/Time: 09/29/2015 08:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054582	**********	40	40	1.00	152685714006

V	AVG (ppb)	Intensity	Re-read	Re-digest
	4.3436	36525.0		

65 Burn Date/Time: 09/29/2015 08:07

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152685714007

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0990	-680.0		

66 Burn Date/Time: 09/29/2015 08:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152685714007

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0085	8595.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

67 Burn Date/Time: 09/29/2015 08:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054572	U*********	40	40	1.00	152685714007

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0209	-26.0		

68 Burn Date/Time: 09/29/2015 08:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054575	D*********	40	40	1.00	152685714007

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0085	78.0		

69 Burn Date/Time: 09/29/2015 08:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054573	R*********	40	40	1.00	152685714007

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9859	8406.0		

70 Burn Date/Time: 09/29/2015 08:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 6		1	1	1.00

AVG (ppb)	Intensity
0.9766	8328.0

71 Burn Date/Time: 09/29/2015 08:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 6		1	1	1.00

AVG (ppb)	Intensity
-0.0147	26.0

72 Burn Date/Time: 09/29/2015 08:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054574	M*********	40	40	1.00	152685714007

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0097	8605.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

73 Burn Date/Time: 09/29/2015 08:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054559	**********	40	40	1.00	152685714007

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0163	13.0		

74 Burn Date/Time: 09/29/2015 08:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054561	**********	40	40	1.00	152685714007

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0022	131.0		

75 Burn Date/Time: 09/29/2015 08:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054563	**********	40	40	1.00	152685714007

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0011	140.0		

76 Burn Date/Time: 09/29/2015 08:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054565	**********	40	40	1.00	152685714007

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0008	156.0		

77 Burn Date/Time: 09/29/2015 08:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054567	**********	40	40	1.00	152685714007

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0030	174.0		

78 Burn Date/Time: 09/29/2015 08:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054577	**********	40	40	1.00	152685714007

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0006	144.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

79 Burn Date/Time: 09/29/2015 08:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054579	**********	40	40	1.00	152685714007

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0037	118.0		

80 Burn Date/Time: 09/29/2015 08:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054581	**********	40	40	1.00	152685714007

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0015	137.0		

81 Burn Date/Time: 09/29/2015 08:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8054583	**********	40	40	1.00	152685714007

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0010	158.0		

82 Burn Date/Time: 09/29/2015 08:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 7		1	1	1.00

AVG (ppb)	Intensity
0.9844	8393.0

83 Burn Date/Time: 09/29/2015 08:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 7		1	1	1.00

AVG (ppb)	Intensity
-0.0153	21.0

84 Burn Date/Time: 09/29/2015 08:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0015	162.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

85 Burn Date/Time: 09/29/2015 08:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0080	8591.0		

86 Burn Date/Time: 09/29/2015 08:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8053085	U*********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0068	92.0		

87 Burn Date/Time: 09/29/2015 08:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8053085	D*********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0011	140.0		

88 Burn Date/Time: 09/29/2015 08:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8053085	R*********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9865	8411.0		

89 Burn Date/Time: 09/29/2015 09:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8053085	M*********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0097	8605.0		

90 Burn Date/Time: 09/29/2015 09:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8063778	**********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0461	535.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

91 Burn Date/Time: 09/29/2015 09:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8053084	**********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0012	159.0		

92 Burn Date/Time: 09/29/2015 09:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8053086	**********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0033	122.0		

93 Burn Date/Time: 09/29/2015 09:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8053087	**********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0054	104.0		

94 Burn Date/Time: 09/29/2015 09:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 8		1	1	1.00

AVG (ppb)	Intensity
0.9766	8328.0

95 Burn Date/Time: 09/29/2015 09:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 8		1	1	1.00

AVG (ppb)	Intensity
-0.0163	13.0

96 Burn Date/Time: 09/29/2015 09:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8053088	**********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0048	109.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

97 Burn Date/Time: 09/29/2015 09:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8053089	**********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0052	106.0		

98 Burn Date/Time: 09/29/2015 09:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8053090	**********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0649	693.0		

99 Burn Date/Time: 09/29/2015 09:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8053091	**********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0576	632.0		

100 Burn Date/Time: 09/29/2015 09:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8053092	**********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0827	842.0		

101 Burn Date/Time: 09/29/2015 09:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8053093	**********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0639	684.0		

102 Burn Date/Time: 09/29/2015 09:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8057369	**********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0719	751.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

103 Burn Date/Time: 09/29/2015 09:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8058455	**********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0950	945.0		

104 Burn Date/Time: 09/29/2015 09:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8058456	**********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0575	631.0		

105 Burn Date/Time: 09/29/2015 09:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8059551	**********	8	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0389	475.0		

106 Burn Date/Time: 09/29/2015 09:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 9		1	1	1.00

AVG (ppb)	Intensity
0.9804	8360.0

107 Burn Date/Time: 09/29/2015 09:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 9		1	1	1.00

AVG (ppb)	Intensity
-0.0152	22.0

108 Burn Date/Time: 09/29/2015 09:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062189	**********	40	40	1.00	152685713012

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.1163	1123.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

109 Burn Date/Time: 09/29/2015 09:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152685713010

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0442	519.0		

110 Burn Date/Time: 09/29/2015 09:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152685713010

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0633	9054.0		

111 Burn Date/Time: 09/29/2015 09:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8058727	U*********	40	40	1.00	152685713010

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0073	210.0		

112 Burn Date/Time: 09/29/2015 09:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8058727	D*********	40	40	1.00	152685713010

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0323	420.0		

113 Burn Date/Time: 09/29/2015 09:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8058727	R*********	4	40	1.00	152685713010

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.7152	14513.0		

114 Burn Date/Time: 09/29/2015 09:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8058727	M*********	4	40	1.00	152685713010

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.7445	14759.0		

LANCASTER LABORATORIES

Run Name: 1527201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

115 Burn Date/Time: 09/29/2015 09:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.1738	1605.0

116 Burn Date/Time: 09/29/2015 09:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 10		1	1	1.00

AVG (ppb)	Intensity
0.9807	8362.0

117 Burn Date/Time: 09/29/2015 09:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 10		1	1	1.00

AVG (ppb)	Intensity
-0.0153	21.0

Extraction/Distillation/Digestion Logs

Metals in Liquid

LLENS Worksheet for 1848 SW846 Water

Batch# 15 268 1848 004

Balance ID#: CLEAR **Start Time:** 9/28/15 9:42 **End Time:** 9/28/15 14:25 **Hot Block:** Deena4

Pipette ID: W/1000

Spike/Reagent	Lot#	Volume Added(mL)
1:1 HCL	P15221B	5.00
1:1 HNO3	P15191D	2.00
ICP Spike 1A	1517023#22	1.00
ICP Spike 1B	1517025#22	1.00
LCS A1	1517023#22	1.00
LCS B1	1517025#22	1.00

Method Ref: SW-846 3005A

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1501179	Filtered Reagent H2O Lot# P15267D used
2)	LCSW	.							1501179	Filtered Reagent H2O Lot# P15267D used
3)	8061483	10/02/15 09:30		WW	S6			008a	1501179	
4)	8061484	10/02/15 09:30		WW	S6			008a	1501179	
5)	8053084	09/30/15 09:30		WW	N8			008a	1501179	
6)	8053085	09/30/15 09:30		WW	N8			089a	1501179	
7)	8053086	09/30/15 09:30		WW	N8			008a	1501179	
8)	8053087	09/30/15 09:30		WW	N8			089a	1501179	
9)	8053088	09/30/15 09:30		WW	N8			008a	1501179	
10)	8053089	09/30/15 09:30		WW	N8			089a	1501179	
11)	8053090FB	09/30/15 09:30		WW	N8			008a	1501179	
12)	8053091FB	09/30/15 09:30		WW	N8			089a	1501179	
13)	8053092FD	09/30/15 09:30		WW	N8			008a	1501179	
14)	8053093FD	09/30/15 09:30		WW	N8			089a	1501179	
15)	8057369FB	10/02/15 09:20		WW	N8			008a	1501179	
16)	8058455	10/05/15 09:10		WW	N8			008a	1501179	
17)	8058456	10/05/15 09:10		WW	N8			008a	1501179	
18)	**8059551U**	10/05/15 16:22		WW	N8			008a	1501179	
19)	**8059551D**	10/05/15 16:22		WW	N8			008a	1501179	
20)	**8059551R**	10/05/15 16:22		WW	N8			008a	1501179	
21)	**8059551M**	10/05/15 16:22		WW	N8			008a	1501179	
22)	8062189FB	10/06/15 19:55		WW	N8			008a	1501179	
23)	8056367	10/01/15 16:06		WW	N8			008a	1501179	
24)	8056368FB	10/01/15 16:06		WW	N8			008a	1501179	

Prep Employee: 1184

9/28/2015

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
25)	8060797	10/02/15 09:30		WW	N6			008a	1501179	

Batch# 15 268 1848 004

LLENS Batch Chronology and Change Log - SW846 Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		9/25/15 20:49	1184
2)	Sample Vol		9/28/15 9:42	1184
3)	Final Vol	CLEAR	9/28/15 9:42	1184
4)	Trial		9/28/15 9:42	1184
5)	Upload Prep	US19VDIELD04	9/28/15 14:26	1184

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 1848 SW846 Water

Batch# 15 268 1848 004

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
8061483	10/02/15	S6	SYSIN		50.0000	50.0000	1
8061484	10/02/15	S6	SYSEF		50.0000	50.0000	1
8053084	09/30/15	N8	CSW10		50.0000	50.0000	1
8053085	09/30/15	N8			50.0000	50.0000	1
8053086	09/30/15	N8	CSW11		50.0000	50.0000	1
8053087	09/30/15	N8			50.0000	50.0000	1
8053088	09/30/15	N8	CSW12		50.0000	50.0000	1
8053089	09/30/15	N8			50.0000	50.0000	1
8053090FB	09/30/15	N8	CSWFB	FB	50.0000	50.0000	1
8053091FB	09/30/15	N8		FB	50.0000	50.0000	1
8053092FD	09/30/15	N8	CSWFD	FD	50.0000	50.0000	1
8053093FD	09/30/15	N8		FD	50.0000	50.0000	1
8057369FB	10/02/15	N8	PS3FB	PSC24-08FB	50.0000	50.0000	1
8058455	10/05/15	N8	CSTRO	TFB12-01	50.0000	50.0000	1
8058456	10/05/15	N8	CSTRF	TFB12-02	50.0000	50.0000	1
8059551U	10/05/15	N8	GLASR		50.0000	50.0000	1
8059551D	10/05/15	N8	GLASR		50.0000	50.0000	1
8059551R	10/05/15	N8	GLASR		50.0000	50.0000	1
8059551M	10/05/15	N8	GLASR		50.0000	50.0000	1
8062189FB	10/06/15	N8	F9243	CP401-04FB	50.0000	50.0000	1
8056367	10/01/15	N8	M233D	CS288-01	50.0000	50.0000	1
8056368FB	10/01/15	N8	M233F	CS288-02FB	50.0000	50.0000	1
8060797	10/02/15	N6	SHA6F	CAK41-07	50.0000	50.0000	1

LLENS Worksheet for 6050 ICP/MS SW846 Water

Batch# 15 273 6050 003

Balance ID#: CLEAR **Start Time:** 10/1/15 11:08 **End Time:** 10/1/15 15:51 **Hot Block:** 15

Pipette ID: JU06758
Reflux Cap Lot#: 15011795175KB

Spike/Reagent	Lot#	Volume Added(mL)
HNO3	54295	3.00
ICP/MS Spike	1512621#4	0.50
LCS	1512621#4	0.50

Method Ref: SW-846 3010A modified

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1501179	Filtered Reagent H20 Lot# P15267D used
2)	LCSW	.							1501179	Filtered Reagent H20 Lot# P15267D used
3)	8057369FB	10/02/15 09:20		WW	N8			008a	1501179	
4)	8058549	10/05/15 09:10		WW	N8			008a	1501179	
5)	8058550	10/05/15 09:10		WW	N8			008a	1501179	
6)	8062097	10/06/15 17:07		WW	N8			089a	1501179	
7)	**8063110U**	10/07/15 09:25		WW	N8			008a	1501179	
8)	**8063110D**	10/07/15 09:25		WW	N8			008a	1501179	
9)	**8063110R**	10/07/15 09:25		WW	N8			008a	1501179	
10)	**8063110M**	10/07/15 09:25		WW	N8			008a	1501179	
11)	8063111	10/07/15 09:25		WW	N8			008a	1501179	
12)	8063112	10/07/15 09:25		WW	N8			008a	1501179	
13)	8063113	10/07/15 09:25		WW	N8			008a	1501179	
14)	8063114	10/07/15 09:25		WW	N8			008a	1501179	
15)	8063115	10/07/15 09:25		WW	N8			008a	1501179	
16)	8063116	10/07/15 09:25		WW	N8			008a	1501179	
17)	8063117	10/07/15 09:25		WW	N8			008a	1501179	
18)	8063118	10/07/15 09:25		WW	N8			008a	1501179	
19)	8063119	10/07/15 09:25		WW	N8			008a	1501179	
20)	8063120	10/07/15 09:25		WW	N8			008a	1501179	
21)	8063121FD	10/07/15 09:25		WW	N8			008a	1501179	
22)	8063122	10/07/15 09:25		WW	N8			008a	1501179	
23)	8063123FD	10/07/15 09:25		WW	N8			008a	1501179	
24)	8063124	10/07/15 09:25		WW	N8			008a	1501179	
25)	8063127EB	10/07/15 09:25		WW	N8			008a	1501179	

Prep Employee: 1184
10/1/2015
v 1.0.1

Batch# 15 273 6050 003

LLENS Batch Chronology and Change Log - ICP/MS SW846 Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		9/30/15 18:36	1184
2)	Sample Vol		10/1/15 11:08	1184
3)	Final Vol	CLEAR	10/1/15 11:08	1184
4)	Trial		10/1/15 11:08	1184
5)	Upload Prep	US19VDIELD001	0/1/15 15:51	1184

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 6050 ICP/MS SW846 Water

Batch# 15 273 6050 003

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
8057369FB	10/02/15	N8	PS3FB	PSC24-08FB	50.0000	50.0000	1
8058549	10/05/15	N8	--88-		50.0000	50.0000	1
8058550	10/05/15	N8	--89-		50.0000	50.0000	1
8062097	10/06/15	N8	MSA38		50.0000	50.0000	1
8063110U	10/07/15	N8	WOO35	DWD81-01	50.0000	50.0000	1
8063110D	10/07/15	N8	WOO35	DWD81-01	50.0000	50.0000	1
8063110R	10/07/15	N8	WOO35	DWD81-01	50.0000	50.0000	1
8063110M	10/07/15	N8	WOO35	DWD81-01	50.0000	50.0000	1
8063111	10/07/15	N8	WOO36	DWD81-02	50.0000	50.0000	1
8063112	10/07/15	N8	WOO33	DWD81-03	50.0000	50.0000	1
8063113	10/07/15	N8	WOO34	DWD81-04	50.0000	50.0000	1
8063114	10/07/15	N8	WOO40	DWD81-05	50.0000	50.0000	1
8063115	10/07/15	N8	WOO45	DWD81-06	50.0000	50.0000	1
8063116	10/07/15	N8	WOO46	DWD81-07	50.0000	50.0000	1
8063117	10/07/15	N8	WOO43	DWD81-08	50.0000	50.0000	1
8063118	10/07/15	N8	WOO44	DWD81-09	50.0000	50.0000	1
8063119	10/07/15	N8	WOO48	DWD81-10	50.0000	50.0000	1
8063120	10/07/15	N8	WOO10	DWD81-11	50.0000	50.0000	1
8063121FD	10/07/15	N8	WO10D	DWD81-12FD	50.0000	50.0000	1
8063122	10/07/15	N8	WOO47	DWD81-13	50.0000	50.0000	1
8063123FD	10/07/15	N8	WO47D	DWD81-14FD	50.0000	50.0000	1
8063124	10/07/15	N8	WOO52	DWD81-15	50.0000	50.0000	1
8063127EB	10/07/15	N8	WOEB3	DWD81-18EB	50.0000	50.0000	1

LLENS Worksheet for 5713 Hg SW846 Digest Water

Batch# 15 268 5713 012

Balance ID#: CLEAR **Start Time:** 9/28/15 12:35 **End Time:** 9/28/15 15:54 **Hot Block:** 10

Pipette ID: W/1000

Spike/Reagent	Lot#	Volume Added(mL)
5%K2S2O8	P15269A	3.20
5%KMnO4	P15265C	6.00
H2SO4	153388	2.00
HNO3	54295	1.00
LCS 40ppb Hg	P15266A	1.00
NaCl/NH2OH.HCl	P15258E	2.40
Spike 40ppb Hg	P15266A	1.00

Method Ref: SW-846 7470A

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1501179	Filtered Reagent H2O Lot# P15267D used
2)	LCSW	.							1501179	Filtered Reagent H2O Lot# P15267D used
3)	8063778	09/30/15 09:25		WW	S3			008a	1501179	
4)	8053084	09/30/15 09:30		WW	N8			008a	1501179	
5)	**8053085U**	09/30/15 09:30		WW	N8			089a	1501179	
6)	**8053085D**	09/30/15 09:30		WW	N8			089a	1501179	
7)	**8053085R**	09/30/15 09:30		WW	N8			089a	1501179	
8)	**8053085M**	09/30/15 09:30		WW	N8			089a	1501179	
9)	8053086	09/30/15 09:30		WW	N8			008a	1501179	
10)	8053087	09/30/15 09:30		WW	N8			089a	1501179	
11)	8053088	09/30/15 09:30		WW	N8			138a	1501179	
12)	8053089	09/30/15 09:30		WW	N8			089a	1501179	
13)	8053090FB	09/30/15 09:30		WW	N8			008a	1501179	
14)	8053091FB	09/30/15 09:30		WW	N8			089a	1501179	
15)	8053092FD	09/30/15 09:30		WW	N8			008a	1501179	
16)	8053093FD	09/30/15 09:30		WW	N8			089a	1501179	
17)	8057369FB	10/02/15 09:20		WW	N8			008a	1501179	
18)	8058455	10/05/15 09:10		WW	N8			008a	1501179	
19)	8058456	10/05/15 09:10		WW	N8			008a	1501179	
20)	8059551	10/05/15 16:22		WW	N8			008a	1501179	8./40, didn't hold KMno4 @40/40 or 20/40
21)	8062189FB	10/06/15 19:55		WW	N8			008a	1501179	

Prep Employee: 1184

9/28/2015

v 1.0.1

Batch# 15 268 5713 012

LLENS Batch Chronology and Change Log - Hg SW846 Digest Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		9/25/15 20:45	1184
2)	Sample Vol		9/28/15 12:19	1184
3)	Final Vol	CLEAR	9/28/15 12:19	1184
4)	Trial		9/28/15 12:19	1184
5)	Upload Prep	US19VDIELD04	9/28/15 14:54	1184

					Original Entry				Data Changed		
Sample ID	Analysis	D	Operation	Measurement	Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason
8059551	05713	1	Sample Vol	Initial Volume	9/28/15 12:15	40	(mL)	1184	9/28/15 12:19	1184	bad matrix

Analysis: 5713 Hg SW846 Digest Water

Batch# 15 268 5713 012

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Dilution	Final Volume	Trial
PBW					40.0000		40.0000	1
LCSW					1.0000		1.0000	1
8063778	09/30/15	S3	NGFAQ		40.0000		40.0000	1
8053084	09/30/15	N8	CSW10		40.0000		40.0000	1
8053085U	09/30/15	N8			40.0000		40.0000	1
8053085D	09/30/15	N8			40.0000		40.0000	1
8053085R	09/30/15	N8			40.0000		40.0000	1
8053085M	09/30/15	N8			40.0000		40.0000	1
8053086	09/30/15	N8	CSW11		40.0000		40.0000	1
8053087	09/30/15	N8			40.0000		40.0000	1
8053088	09/30/15	N8	CSW12		40.0000		40.0000	1
8053089	09/30/15	N8			40.0000		40.0000	1
8053090FB	09/30/15	N8	CSWFB	FB	40.0000		40.0000	1
8053091FB	09/30/15	N8		FB	40.0000		40.0000	1
8053092FD	09/30/15	N8	CSWFD	FD	40.0000		40.0000	1
8053093FD	09/30/15	N8		FD	40.0000		40.0000	1
8057369FB	10/02/15	N8	PS3FB	PSC24-08FB	40.0000		40.0000	1
8058455	10/05/15	N8	CSTRO	TFB12-01	40.0000		40.0000	1
8058456	10/05/15	N8	CSTRF	TFB12-02	40.0000		40.0000	1
8059551	10/05/15	N8	GLASR		8.0000		40.0000	1
8062189FB	10/06/15	N8	F9243	CP401-04FB	40.0000		40.0000	1

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Aqua Regia	HI5-268E						21.5	14	54295
2	4792 ICV	FF	Hg-1.0mg/L Cont	7	10-02-15	HI5-268C	0.25 ml			
3	CCV	GG	Hg-1.0mg/L Cal			HI5-268A	0.10			
4	CCV	HH	↓			↓	0.10			
5	CRA	II	Hg-0.1mg/L Cont			HI5-268D	0.20			
6	Std Cal	JJ	Hg-0.1mg/L Cal			HI5-268D	0.20			
7		KK	↓			↓	0.50			
8		LL	Hg-1.0mg/L Cal			HI5-268A	0.10			
9		MM	↓			↓	0.25			
10	↓	NN	↓	↓	↓	↓	0.50			
11	↓	OO								
12	↓ CRA	↓ PP	Hg-0.1mg/L Cont	7	10-02-15	HI5-268D	0.4ml			
13	Hg-1.0mg/L Inter Cal	HI5-271A	Hg-10mg/L Cal	7	12-22-15	HI5-1730	1.0ml			
14	Hg-0.1mg/L Inter Cal	↓ 271B	Hg-1.0mg/L Cal		10-05-15	HI5-271A	1.0ml			
15	Hg-1.0mg/L Inter Cal	HI5-272A	Hg-10mg/L Cal		12-22-15	HI5-1730	1.0ml			
16	0.1mg/L Inter Cal	B	1.0mg/L Cal		10-06-15	HI5-272A				
17	1.0mg/L Inter Cont	C	10mg/L Cont		12-22-15	HI5-1737				
18	↓ 0.1mg/L Inter Cont	↓ D	↓ 1.0mg/L Cont		10-06-15	HI5-272C	↓			
19	Hg-2700 ICV		↓		↓	↓	0.25ml	1	14	54295
20	↓ CCV		Hg-1.0mg/L Cal		↓	HI5-272A	0.20 ml	↓	↓	↓

9-29-15 DVB

(3)

Key – Manufacturer (Mo)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

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Document Title: Standard/Reagent Preparation Log

Eurofins Document Reference: 1-P-QM-FOR-9009818 | Revision: 2 | Historical Reference: Form 1105

Effective date: Feb 20, 2015 | Status: Effective

	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M∘	Lot #	Vol (mL*)	∘∘ M∘	Lot #						
1	64.5	6	92325				86	1:3	DU 354	9-25-15	9-25-15	RT
2	5						100	2.5 µg/L			10-02-15	
3								1.0				
4								1.0				
5								0.2				
6								0.2				
7								0.5				
8								1.0				
9								2.5				
10								5.0				
11								0.0				
12	↓	↓	↓				↓	0.4	↓	↓	↓	↓
13				To vol w/ 0.15% HNO3		H15-1880	10	1.0	DU 354	9-28-15	10-05-15	RT
14				↓	↓	↓	↓	0.1	↓	↓	↓	↓
15				To vol w/ 0.15% HNO3		H15-1880	10	1.0	DU 354	9-29-15	10-06-15	RT
16								0.1				
17								1.0				
18				↓	↓	↓	↓	0.1	↓	↓	↓	↓
19	2mlHNO3	4	153383	153383								29-29-15
20	↓	↓	↓	3.2mlHNO3								3DU354

Footnotes

Key (∘∘) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Hg-5700 ICV	H15-272E	Hg-1.0mg/L Cont	7	10-06-15	H15-272C	0.25 ml	1	14	54295
2	CCV	F	Hg-1.0mg/L Cal			H15-272A	0.20			
3	CRA	G	Hg-0.1mg/L Cont			H15-272D	0.20			
4	Std Cal	H	Hg-0.1mg/L Cal			H15-272B	0.20			
5		I	↓			↓	0.50			
6		J	Hg-1.0mg/L Cal			H15-272A	0.20			
7		K					0.25			
8		L	↓		↓	↓	0.50 ↓			
9	↓	M								
10	ICV	N	Hg-1.0mg/L Cont	—	10-6-15	H15-272C	0.25ml			
11	CCV	O	Hg-1.0mg/L Cal	—	10-06-15	H15-272A	0.20ml	↓	↓	↓
12	Stannous Chloride	P	$SnCl_2$	6	1-28-16	116747 #3	500.02g			
13	↓	Q	↓	↓	↓	↓ #3-4	200.03g			
14	Waters - Blank	H15-274A						25	14	54295
15	↓	↓								
16	Soils - Blank	H15-274B						12.5	14	54295
17	Hg-1.0mg/L InterCal	H15-275A	Hg-1.0mg/L Cal	7	12-22-15	H15-1730	1.0ml			
18	0.1mg/L InterCal	B	1.0mg/L Cal		10-09-15	H15-275A	↓			
19	1.0mg/L InterCont	C	10mg/L Cont		12-22-15	H15-1731				
20	0.1mg/L InterCont	↓ D	↓ 1.0mg/L Cont	↓	10-09-15	H15-275C	↓			

Key – Manufacturer (Mo)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

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Document Title: Standard/Reagent Preparation Log

Eurofins Document Reference: 1-P-QM-FOR-9009818 | Revision: 2 | Historical Reference: Form 1105

Effective date: Feb 20, 2015 | Status: Effective

	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M∘	Lot #	Vol (mL*)	∘∘ M∘	Lot #						
1	2ml H_2SO_4	4	153388	1.2ml K2S2O8		H15-236E	100	2.5	DU354	9-29-15	10-06-15	RT
2				1ml KMnO4		H15-236C	200	1.0				
3							100	0.2				
4								0.2				
5							↓	0.5				
6							200	1.0				
7							100	2.5				
8								5.0				
9								0.0				
10							↓	2.5				
11	↓	↓	↓	↓	↓	↓	200	1.0			↓	
12	200	6	93329	—	—	—	2000	10.1			3-29-16	
13	↓	↓	↓	—	—	—	↓	↓	↓	↓	↓	↓
14	50ml H_2SO_4	4	153388	80ml K2S2O8		H15 236E	1000	0.0	DU354	10-01-15	3-24-16	RT
				150ml KMnO4		H15-236C						
15	—	—	—	60ml Hydrox		H15-2361F					2-24-16	
16	37.5	6	93329	60ml Hydrox		H15-2361F						
				150ml KMnO4		H15-236C	↓	↓	↓	↓	↓	↓
17	—	—	—	Tovol w/ 0.5% HNO_3		H15-1880	10	1.0	DU354	10-02-15	10-09-15	RT
18								0.1				
19								1.0				
20				↓	↓	↓	↓	0.1	↓	↓	↓	↓

Footnotes

Key (∘∘) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

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b

204342 40

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Hg-5700 ICV	H15-275E	Hg-1.0mg/L Cont	7	10-09-15	H15-275C	0.25 mL	1	14	54295
2	CCV	F	Hg-1.0mg/L Cal			H15-275A	0.20			
3	CRA	G	Hg-0.1mg/L Cont			H15-275D	0.20			
4	Std Cal	H	Hg-0.1mg/L Cal			H15-275B	0.20			
5		I	↓			↓	0.50			
6		J	Hg-1.0mg/L Cal			H15-275A	0.20			
7		K	↓			↓	0.25			
8		L	↓	L	↓	↓	0.50			
9	↓	M								
10	ICV	N	Hg-1.0mg/L Cont	7	10-09-15	H15-275C	0.25 mL			
11	CCV	O	Hg-1.0mg/L Cal			H15-275A	0.20	↓	↓	↓
12	Hg-5701 ICV	P	Hg-1.0mg/L Cont			H15-275C	0.25			
13	CCV	Q	Hg-1.0mg/L Cal			H15-275A	0.10			
14	CCV	R					0.10			
15	CCV	S					0.10			
16	CCV	T	↓			↓	0.10			
17	CRA	U	Hg-0.1mg/L Cont			H15-275D	0.20			
18	Std Cal	V	Hg-0.1mg/L Cal			H15-275B	0.20			
19		W	↓			↓	0.50			
20	↓	X	Hg-1.0mg/L Cal	L	↓	H15-275A	0.10			

Key – Manufacturer (Mo)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

a

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used									
	Vol (mL)	M∘	Lot #	Vol (mL*)	∘∘ M∘	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	153388	3.2ml $K_2S_2O_8$ 1ml NH_4NO_3		H15-236E H15-236C	100	2.5	DJ1354	10-02-15	10-09-15	RT
2							200	1.0				
3							100	0.2				
4							↓	0.2				
5							↓	0.5				
6							200	1.0				
7							100	2.5				
8							↓	5.0				
9							↓	0.0				
10							↓	2.5				
11	↓	↓	↓	↓	↓	↓	200	1.0				
12	—	—	—	5ml Aqua Regia 15ml $KMnO_4$		H15-275F H15-236D	100	2.5				
13							↓	1.0				
14							↓	1.0				
15							↓	1.0				
16							↓	1.0				
17							↓	0.2				
18							↓	0.2				
19							↓	0.5				
20	—	—	—	↓	↓	↓	↓	1.0	↓	↓	↓	↓

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Footnotes

Key (∘∘) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
* * units are mg/L unless otherwise specified

b

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Hg-5700 Std Cal	H15:275Y	Hg-1.0mg/L Cal	7	10-09-15	H15:275A	0.25ml			
2	↓	Z	↓			↓	0.50ml			
3	↓	AA								
4	SI	BB	Hg-0.1mg/L Cal	7	10-09-15	H15:275B	0.10ml			
5	CRA	CC	Hg-0.1mg/L Cont			H15:275D	0.10			
6	CRA	DD	↓			↓	0.40			
7	↓ ICV	EE	Hg-1.0mg/L Cont	↓	↓	H15:275C	0.25 ↓			
8	Aqua Regia	↓ FF						21.5	14	54295
9	Permanganate	GG	KMnO4	6	97834#3	4-29-20	100.02g			
10	↓	↓ HH	↓	↓	↓	↓	100.03g			
11	Hg-1.0mg/L InterCont	H15:278A	Hg-10mg/L Cont	7	12-22-15	H15:273P	1.0ml			
12	Hg-0.1mg/L InterCont	D	Hg-1.0mg/L Cont		10-13-15	H15:278A	1.0ml			
13	Stannous Chloride	E	SnCl2	6	6-28-16	116747#4	200.00g			
14	Stannous Chloride	↓ F	↓	↓	↓	↓	300.00g			
15	Hg-1.0mg/L InterCal	H15:279A	Hg-10mg/L Cal	7	12-22-15	H15-173O	1.0ml			
16	0.1mg/L InterCont	B	1.0mg/L Cal		10-13-15	H15:279A				
17	1.0mg/L InterCont	C	10mg/L Cont		12-22-15	H15-173P				
18	↓ 0.1mg/L InterCont	D	↓ 1.0mg/L Cont		10-13-15	H15:279C	↓			
19	Hg-5700 ICV	E	↓			↓	0.25ml	1	14	54295
20	↓ CCV	↓ F	Hg-1.0mg/L Cal	↓	↓	H15:279A	0.20ml	↓	↓	↓

Key – Manufacturer (Mo)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				5ml Aqua Regia 15ml 5M HNO3		H15-275 H15-236D	100	2.5ug/L	DU354	10-02-15	10-09-15	RT
2								50				
3								0.0				
4								0.1				
5								0.1				
6								0.4				
7								2.5				
8	64.5	6	93325				86	1:3			10-02-15	
9							2000				4-02-16	
10												
11				To vol w/ 0.15% HNO3		H15-1884	10	1.0	DU354	10-05-15	10-12-15	RT
12							10	0.1				
13	200	6	93325				2000	10:1			4-05-16	
14												
15				To vol w/ 0.15% HNO3		H15-1884	10	1.0	DU354	10-01-15	10-13-15	RT
16								0.1				
17								1.0				
18								0.1				
19	2ml H2SO4	4		3.2ml 32% HCl 4ml 5M HNO3		H15-236E H15-236D	100	2.5ug/L				
20							200	10ug/L				

PSC24 Page 892 of 1169

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
* * units are mg/L unless otherwise specified

b

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Hg-5700 CRA	H15-279G	Hg-0.1mg/L Cont	7	10-13-15	H15-279D	0.20 ml	1	14	54295
2	Std Cal	H	Hg-0.1mg/L Cal			H15-279B	0.20			
3		I	↓			↓	0.50			
4		J	Hg-1.0mg/L Cal			H15-279A	0.20			
5		K	↓			↓	0.25			
6		L	↓	L	↓	↓	0.50			
7	↓	M	—	—	—	—	—			
8	ICV	N	Hg-1.0mg/L Cont	7	10-13-15	H15-279C	0.25ml			
9	CCV	O	Hg-1.0mg/L Cal	L	↓	H15-279A	0.20 ml	↓	↓	↓
10	Hg-1.0mg/L InterCal	H15-280A	Hg-10mg/L Cal	7	12-22-15	H15-173O	1.0ml	—	—	—
11	0.1mg/L InterCal	B	1.0mg/L Cal		10-14-15	H15-280A				
12	1.0mg/L InterCont	C	10mg/L Cont		12-22-15	H15-173P				
13	0.1mg/L InterCont	D	1.0mg/L Cont	L	10-14-15	H15-280C	↓			
14	Hg-4792 ICV	E	↓	7		↓	0.25ml	—		
15	CCV	F	Hg-1.0mg/L Cal			H15-280A	0.10			
16	CCV	G	↓			↓	0.10			
17	CRA	H	Hg-0.1mg/L Cont			H15-280D	0.20			
18	Std Cal	I	Hg-0.1mg/L Cal			H15-280B	0.20			
19	↓	J	↓			↓	0.50			
20	↓	N	Hg-1.0mg/L Cal	L	↓	H15-280A	0.10			

Key – Manufacturer (Mo)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

a

eurofins — Lancaster Laboratories Environmental	Document Title: Standard/Reagent Preparation Log		
	Eurofins Document Reference 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
	Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used								
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H2SO4	4	53388	3.2ml K2S2O8 1ml KMnO4		H15 234E H15 2380D (3)	100 (10-6-15 DU354)	0.2ug/L	DU354	10-06-15	10-13-15	RT
2								0.2				
3								0.5				
4							200	1.0				
5							100	2.5				
6								5.0				
7								0.0				
8								2.5				
9							200	1.0				
10				To vol in 0.15% HNO3		H15 1884	10	1.0	DU354	10-07-15	10-14-15	RT
11								0.1				
12								1.0				
13								0.1				
14	5	6	93325				160	2.5ug/L				
15								1.0				
16								1.0				
17								0.2				
18								0.2				
19								0.5				
20								1.0				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
* * units are mg/L unless otherwise specified

b

Metals in Solid Data

Case Narrative/Conformance Summary

Metals in Solid

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC24

ICP Metals

Fraction: Metals in Solid

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8057359	0481-13		X	1	
8057360	0482-13		X	1	
8057361	0483-13		X	1	
8057362	0484-13		X	1	Background/Unspiked
8057363	0484-13MS		X	1	Matrix Spike
8057364	0484-13MSD		X	1	Matrix Spike Duplicate
8057365	0484-13DUP		X	1	Duplicate
8057366	0163-13DP		X	1	
8057367	0485-13		X	1	
8057368	0486-13		X	1	

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC24

ICP Metals

Fraction: Metals in Solid

The instrument detection limits (IDLs) are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The method detection limits (MDLs) are used for determining all other U flags.

Abbreviation Key

BKG – Background	AF - Cold Vapor Atomic Fluorescence
DUP – Duplicate	U - Below MDL
MS - Matrix Spike	B - Below LOQ
MSD - Matrix Spike Dup	N - Matrix Spike out of specifications
B – Blank	* - Duplicate out of specifications
Q - Laboratory Control Sample	E - Matrix Effects exist as proven by Serial Dilution or Spiked Dilution
Y - Laboratory Control Sample Duplicate	A - Post Digestion Spike
P - ICP Atomic Emission Spectrometer	L - Serial Dilution
MS - ICP Mass Spectrometry	R - Internal Standard Relative Intensity OOS
CV - Cold Vapor	NR - Not Required

Sample Data

Metals in Solid

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC24
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8057359 % Solids: 82.1
Concentration Units: MG/KG Date Received: 09/22/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	1.7	B		P
7440-39-3	Barium	25.5			P
7440-43-9	Cadmium	0.051	U		P
7440-47-3	Chromium	15.4			P
7440-50-8	Copper	11.8			P
7439-92-1	Lead	7.2			P
7439-97-6	Mercury	0.012	U		CV
7782-49-2	Selenium	4.4			P
7440-22-4	Silver	0.67			P
7440-66-6	Zinc	38.5			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC24
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8057360 % Solids: 84.0
Concentration Units: MG/KG Date Received: 09/22/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.0			P
7440-39-3	Barium	11.6			P
7440-43-9	Cadmium	0.049	U		P
7440-47-3	Chromium	12.4			P
7440-50-8	Copper	8.8			P
7439-92-1	Lead	3.7			P
7439-97-6	Mercury	0.011	U		CV
7782-49-2	Selenium	3.6			P
7440-22-4	Silver	0.48	B		P
7440-66-6	Zinc	22.0			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC24
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8057361 % Solids: 80.7
Concentration Units: MG/KG Date Received: 09/22/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	6.6			P
7440-39-3	Barium	13.1			P
7440-43-9	Cadmium	0.052	U		P
7440-47-3	Chromium	12.9			P
7440-50-8	Copper	10.7			P
7439-92-1	Lead	3.9			P
7439-97-6	Mercury	0.012	U		CV
7782-49-2	Selenium	4.2			P
7440-22-4	Silver	0.54	B		P
7440-66-6	Zinc	25.4			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC24
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8057362BKG % Solids: 83.9
Concentration Units: MG/KG Date Received: 09/22/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.3			P
7440-39-3	Barium	16.0			P
7440-43-9	Cadmium	0.050	U		P
7440-47-3	Chromium	14.7			P
7440-50-8	Copper	9.8			P
7439-92-1	Lead	4.0			P
7439-97-6	Mercury	0.011	U		CV
7782-49-2	Selenium	4.1			P
7440-22-4	Silver	0.54	B		P
7440-66-6	Zinc	24.3			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC24
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8057363MS % Solids: 83.9
Concentration Units: MG/KG Date Received: 09/22/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	24.0			P
7440-39-3	Barium	244			P
7440-43-9	Cadmium	5.7			P
7440-47-3	Chromium	36.5			P
7440-50-8	Copper	40.0			P
7439-92-1	Lead	21.4			P
7439-97-6	Mercury	0.19			CV
7782-49-2	Selenium	20.7			P
7440-22-4	Silver	5.7			P
7440-66-6	Zinc	81.4			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC24
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8057364MSD % Solids: 83.9
Concentration Units: MG/KG Date Received: 09/22/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	23.8			P
7440-39-3	Barium	244			P
7440-43-9	Cadmium	5.7			P
7440-47-3	Chromium	37.2			P
7440-50-8	Copper	40.2			P
7439-92-1	Lead	21.6			P
7439-97-6	Mercury	0.19			CV
7782-49-2	Selenium	20.9			P
7440-22-4	Silver	5.7			P
7440-66-6	Zinc	82.6			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC24
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8057365DUP % Solids: 83.9
Concentration Units: MG/KG Date Received: 09/22/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	6.8			P
7440-39-3	Barium	18.0			P
7440-43-9	Cadmium	0.050	U		P
7440-47-3	Chromium	13.1			P
7440-50-8	Copper	11.6			P
7439-92-1	Lead	4.4			P
7439-97-6	Mercury	0.012	U		CV
7782-49-2	Selenium	4.4			P
7440-22-4	Silver	0.59			P
7440-66-6	Zinc	25.8			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC24
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8057366 % Solids: 79.9
Concentration Units: MG/KG Date Received: 09/22/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	6.5			P
7440-39-3	Barium	14.1			P
7440-43-9	Cadmium	0.052	U		P
7440-47-3	Chromium	13.9			P
7440-50-8	Copper	10.8			P
7439-92-1	Lead	4.3			P
7439-97-6	Mercury	0.012	U		CV
7782-49-2	Selenium	4.1			P
7440-22-4	Silver	0.55	B		P
7440-66-6	Zinc	25.6			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC24
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8057367 % Solids: 81.6
Concentration Units: MG/KG Date Received: 09/22/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	6.6			P
7440-39-3	Barium	19.3			P
7440-43-9	Cadmium	0.052	U		P
7440-47-3	Chromium	13.4			P
7440-50-8	Copper	12.0			P
7439-92-1	Lead	14.4			P
7439-97-6	Mercury	0.012	U		CV
7782-49-2	Selenium	4.5			P
7440-22-4	Silver	0.56	B		P
7440-66-6	Zinc	36.2			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC24
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8057368 % Solids: 83.6
Concentration Units: MG/KG Date Received: 09/22/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	3.4			P
7440-39-3	Barium	20.1			P
7440-43-9	Cadmium	0.050	U		P
7440-47-3	Chromium	12.3			P
7440-50-8	Copper	11.7			P
7439-92-1	Lead	4.2			P
7439-97-6	Mercury	0.012	U		CV
7782-49-2	Selenium	3.8			P
7440-22-4	Silver	0.41	B		P
7440-66-6	Zinc	27.6			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

Quality Control and Calibration Summary Forms

Metals in Solid

QUALITY CONTROL REFERENCE LIST

SDG No.: PSC24
Matrix: SOIL

Analyte	Batch ID	Lab Sample ID
Arsenic	P27108B	8057359
Barium		8057360
Cadmium		8057361
Chromium		8057362BKG
Copper		8057363MS
Lead		8057364MSD
Selenium		8057365DUP
Silver		8057366
Zinc		8057367
		8057368
		P27108BB
		P27108BQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

QUALITY CONTROL REFERENCE LIST

SDG No.: PSC24
Matrix: SOIL

Analyte	Batch ID	Lab Sample ID
Mercury	P27111A	8057359
		8057360
		8057361
		8057362BKG
		8057363MS
		8057364MSD
		8057365DUP
		8057366
		8057367
		8057368
		P27111AB
		P27111AQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

Method: P
Run Name: 1527205T72
Calibration Date(s): 09/29/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Arsenic		600.0	590.40	98.4	500.0	499.13	99.8	500.0	513.27	102.7
Barium		600.0	599.30	99.9	500.0	504.21	100.8	500.0	504.91	101.0
Cadmium		600.0	590.89	98.5	500.0	493.27	98.7	500.0	507.16	101.4
Chromium		600.0	587.73	98.0	500.0	504.87	101.0	500.0	510.97	102.2
Copper		600.0	594.75	99.1	500.0	502.19	100.4	500.0	504.53	100.9
Lead		600.0	585.95	97.7	500.0	493.70	98.7	500.0	510.15	102.0
Selenium		600.0	601.47	100.2	500.0	499.88	100.0	500.0	514.33	102.9
Silver		600.0	604.74	100.8	500.0	500.95	100.2	500.0	501.13	100.2
Zinc		600.0	587.05	97.8	500.0	492.42	98.5	500.0	505.57	101.1

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: P
Run Name: 1527205T72
Calibration Date(s): 09/29/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Arsenic					500.0	505.88	101.2	500.0	508.35	101.7
Barium					500.0	510.56	102.1	500.0	511.01	102.2
Cadmium					500.0	494.41	98.9	500.0	498.38	99.7
Chromium					500.0	516.77	103.4	500.0	507.55	101.5
Copper					500.0	516.37	103.3	500.0	507.78	101.6
Lead					500.0	500.52	100.1	500.0	500.77	100.2
Selenium					500.0	503.28	100.7	500.0	507.29	101.5
Silver					500.0	509.05	101.8	500.0	507.46	101.5
Zinc					500.0	493.29	98.7	500.0	494.22	98.8

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: P
Run Name: 1527304T73
Calibration Date(s): 09/30/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Arsenic		600.0	596.36	99.4	500.0	499.89	100.0	500.0	498.63	99.7
Barium										
Cadmium										
Chromium										
Copper										
Lead										
Selenium										
Silver										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: P
Run Name: 1527304T73
Calibration Date(s): 09/30/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Arsenic					500.0	503.89	100.8	500.0	494.90	99.0
Barium										
Cadmium										
Chromium										
Copper										
Lead										
Selenium										
Silver										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: P
Run Name: 1527304T73
Calibration Date(s): 09/30/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Arsenic					500.0	502.28	100.5			
Barium										
Cadmium										
Chromium										
Copper										
Lead										
Selenium										
Silver										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: CV
Run Name: 1527201M08
Calibration Date(s): 09/29/2015
Concentration Units: UG/L

		Initial Calibration			Continuing Calibration					
Analyte	Mass	True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury		2.5	2.36	94.4	1.0	1.01	101.0	1.0	0.93	93.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: CV
Run Name: 1527201M08
Calibration Date(s): 09/29/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.96	96.0	1.0	0.94	94.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: CV
Run Name: 1527201M08
Calibration Date(s): 09/29/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.98	98.0	1.0	0.98	98.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC24

Method: CV
Run Name: 1527201M08
Calibration Date(s): 09/29/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.99	99.0	1.0	0.97	97.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: PSC24

Method: P
Run Name: 1527205T72
Calibration Date(s): 09/29/2015
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Arsenic		20.0	20.32	101.6	20.93	104.7
Barium		5.0	5.39	107.8	5.49	109.8
Cadmium		5.0	5.05	101.0	5.06	101.2
Chromium		15.0	15.29	101.9	15.48	103.2
Copper		10.0	9.83	98.3	9.78	97.8
Lead		15.0	15.94	106.3	15.95	106.3
Selenium		20.0	20.17	100.9	21.90	109.5
Silver		5.0	5.28	105.6	5.17	103.4
Zinc		20.0	18.63	93.2	18.83	94.2

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: PSC24

Method: P
Run Name: 1527304T73
Calibration Date(s): 09/30/2015
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Arsenic		20.0	22.38	111.9	21.23	106.2
Barium						
Cadmium						
Chromium						
Copper						
Lead						
Selenium						
Silver						
Zinc						

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: PSC24

Method: CV
Run Name: 1527201M08
Calibration Date(s): 09/29/2015
Concentration Units: UG/L

			Initial		Final	
Analyte	Mass	True	Found	%R	Found	%R
Mercury		0.2	0.19	95.0	0.19	95.0

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC24

Method: P
Run Name: 1527205T72
Calibration Date(s): 09/29/2015
Preparation Blank Matrix: SOIL

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)								Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Arsenic		3.4	U	3.4	U	3.5	B	3.4	U				
Barium		0.33	U	0.33	U	0.33	U	0.33	U		0.067	U	P27108BB
Cadmium		0.33	U	0.33	U	0.33	U	0.33	U		0.043	U	P27108BB
Chromium		0.70	U	0.70	U	1.9	B	0.70	U		0.135	B	P27108BB
Copper		1.7	U	1.7	U	1.7	U	1.7	U		0.280	U	P27108BB
Lead		1.6	U	1.6	U	-1.8	B	1.6	U		0.320	U	P27108BB
Selenium		3.4	U	3.4	U	3.7	B	3.4	U		0.830	U	P27108BB
Silver		0.60	U	0.60	U	0.60	U	0.60	U		0.120	U	P27108BB
Zinc		2.0	U	2.0	U	2.0	U	2.0	U		0.770	U	P27108BB

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC24

Method: P
Run Name: 1527205T72
Calibration Date(s): 09/29/2015

Analyte	Mass	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank (MG/KG) Mass		C	Lab Sample ID
Arsenic				3.4	U								
Barium				0.33	U								
Cadmium				0.33	U								
Chromium				0.70	U								
Copper				1.7	U								
Lead				1.6	U								
Selenium				3.4	U								
Silver				0.60	U								
Zinc				2.0	U								

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC24

Method: P
Run Name: 1527304T73
Calibration Date(s): 09/30/2015
Preparation Blank Matrix: SOIL

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Arsenic		3.4	U	3.6	B	4.3	B	3.4	U		0.580	U	P27108BB
Barium													
Cadmium													
Chromium													
Copper													
Lead													
Selenium													
Silver													
Zinc													

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC24

Method: P
Run Name: 1527304T73
Calibration Date(s): 09/30/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Arsenic				3.4	U	3.4	U						
Barium													
Cadmium													
Chromium													
Copper													
Lead													
Selenium													
Silver													
Zinc													

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC24

Method: CV
Run Name: 1527201M08
Calibration Date(s): 09/29/2015
Preparation Blank Matrix: SOIL

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury		0.050	U	0.050	U	0.050	U	0.050	U		0.010	U	P27111AB

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC24

Method: CV
Run Name: 1527201M08
Calibration Date(s): 09/29/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury				0.050	U	0.050	U	0.050	U				

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC24

Method: CV
Run Name: 1527201M08
Calibration Date(s): 09/29/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury				0.050	U	0.050	U						

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: PSC24

Instrument ID: 16417
Run Name: 1527205T72
Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	500000	500000	521087	104.2	513605.1	102.7	528305	105.7	522090.0	104.4
Arsenic	0	100	-3		100.1	100.1	-1		99.0	99.0
Barium	0	500	1		498.0	99.6	1		504.5	100.9
Cadmium	0	1000	1		922.4	92.2	1		929.6	93.0
Calcium	500000	500000	523083	104.6	515265.2	103.1	524987	105.0	516644.9	103.3
Chromium	0	500	3		475.5	95.1	3		483.7	96.7
Copper	0	500	-2		526.1	105.2	-1		538.3	107.7
Iron	200000	200000	208754	104.4	206519.4	103.3	209721	104.9	207434.4	103.7
Lead	0	50	-2		47.5	95.0	-2		45.3	90.6
Magnesium	500000	500000	530582	106.1	522023.3	104.4	534820	107.0	530456.5	106.1
Selenium	0	50	8		53.6	107.2	10		59.9	119.8
Silver	0	200	8		228.2	114.1	8		230.0	115.0
Zinc	0	1000	3		1000.0	100.0	2		1003.3	100.3

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: PSC24

Instrument ID: 18255
Run Name: 1527304T73
Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	500000	500000	495084	99.0	489076.4	97.8	496369	99.3	491028.3	98.2
Arsenic	0	100	9		113.5	113.5	6		112.9	112.9
Barium										
Cadmium										
Calcium	500000	500000	498036	99.6	494752.8	99.0	496562	99.3	492391.1	98.5
Chromium										
Copper										
Iron	200000	200000	200140	100.1	198198.9	99.1	200013	100.0	198226.1	99.1
Lead										
Magnesium	500000	500000	509925	102.0	501628.1	100.3	508835	101.8	505319.0	101.1
Selenium										
Silver										
Zinc										

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: PSC24
Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 8057362BKG Matrix Spike Lab Sample ID: 8057363MS Matrix Spike Duplicate Lab Sample ID: 8057364MSD
Batch Id(s): P27108B, P27111A

		BKG Sample		MS Sample		MSD Sample		MS Spike	MSD Spike		MS		MSD				Control Limit		
Analyte	Mass	Result	C	Result	C	Result	C	Added	Added	Units	%R	Q	%R	Q	RPD	Q	%R	RPD	M
Arsenic		6.0873		20.1088		20.0078		14.7059	14.7059	MG/KG	95		95		1		75 - 125	20	P
Barium		13.4451		204.4373		205.1353		196.0784	196.0784	MG/KG	97		98		0		75 - 125	20	P
Cadmium		0.0422	U	4.7941		4.7637		4.9020	4.9020	MG/KG	98		97		1		75 - 125	20	P
Chromium		12.3696		30.5853		31.2118		19.6078	19.6078	MG/KG	93		96		2		75 - 125	20	P
Copper		8.2353		33.5235		33.7422		24.5098	24.5098	MG/KG	103		104		1		75 - 125	20	P
Lead		3.3735		17.9186		18.0882		14.7059	14.7059	MG/KG	99		100		1		75 - 125	20	P
Mercury		0.0094	U	0.1565		0.1626		0.1636	0.1632	MG/KG	96		100		4		80 - 120	20	CV
Selenium		3.4431		17.4049		17.5627		14.7059	14.7059	MG/KG	95		96		1		75 - 125	20	P
Silver		0.4559	B	4.7961		4.7980		4.9020	4.9020	MG/KG	89		89		0		75 - 125	20	P
Zinc		20.4078		68.2863		69.2951		49.0196	49.0196	MG/KG	98		100		1		75 - 125	20	P

Note: Results shown are reported on an as-received basis.

METHODS:
P = ICP Atomic Emission Spectrometer CV = Cold Vapor
MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL, B= Below LOQ
FLAGS:
N = Matrix Spike OOS, * = Duplicate OOS

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QUALITY ASSURANCE SUMMARY
FORM 6
DUPLICATES
SDG No.: PSC24
Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 8057362BKG Duplicate Lab Sample ID: 8057365DUP
Batch ID(s): P27108B, P27111A
Concentration Units: MG/KG

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic		2.0	6.0873		5.6824		7		P
Barium			13.4451		15.0647		11		P
Cadmium			0.0422	U	0.0422	U			P
Chromium			12.3696		11.0029		12		P
Copper			8.2353		9.7569		17		P
Lead		1.5	3.3735		3.6637		8		P
Mercury			0.0094	U	0.0099	U			CV
Selenium		2.0	3.4431		3.7078		7		P
Silver		0.5	0.4559	B	0.4990		9		P
Zinc			20.4078		21.6461		6		P

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

Note: Results shown are reported on an as-received basis.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
* = Duplicate Out of Spec

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QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: PSC24
Matrix: SOIL

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Arsenic		P27108BQ	UG/L	15000.000	14887.000		80 - 120	99	P	Yes
Barium		P27108BQ	UG/L	200000.000	200015.000		80 - 120	100	P	Yes
Cadmium		P27108BQ	UG/L	5000.000	5002.000		80 - 120	100	P	Yes
Chromium		P27108BQ	UG/L	20000.000	19809.000		80 - 120	99	P	Yes
Copper		P27108BQ	UG/L	25000.000	25346.000		80 - 120	101	P	Yes
Lead		P27108BQ	UG/L	15000.000	15431.000		80 - 120	103	P	Yes
Mercury		P27111AQ	UG/L	100.000	103.220		80 - 120	103	CV	Yes
Selenium		P27108BQ	UG/L	15000.000	14915.000		80 - 120	99	P	Yes
Silver		P27108BQ	UG/L	5000.000	4666.000		80 - 120	93	P	Yes
Zinc		P27108BQ	UG/L	50000.000	49134.000		80 - 120	98	P	Yes

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 9
SERIAL DILUTIONS
SDG No.: PSC24
Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 8057362BKG Serial Dilution Lab Sample ID: 8057362L
Batch ID(s): P27108B
Concentration Units: UG/L

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Arsenic		62.0900		58.9500	B	5		P
Barium		137.1400		140.4000		2		P
Cadmium		0.4300	U	2.1500	U			P
Chromium		126.1700		129.9500		3		P
Copper		84.0000		82.9000		1		P
Lead		34.4100		46.4000	B	35		P
Selenium		35.1200		41.5000	U	100		P
Silver		4.6500	B	6.0000	U	100		P
Zinc		208.1600		212.4000		2		P

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
E = Matrix Effects exist as proven by Serial Dilution or Spiked Dilution

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QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: PSC24

Method: P
Instrument ID: 16417
Date: 07/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Arsenic	189.04		2.8
Barium	455.40		0.33
Cadmium	226.50		0.33
Chromium	267.72		0.70
Copper	327.40		1.7
Lead	220.35		1.6
Selenium	196.09		3.4
Silver	328.06		0.60
Zinc	213.86		2.0

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: PSC24

Method: P
Instrument ID: 18255
Date: 07/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Arsenic	189.04		3.4
Barium			
Cadmium			
Chromium			
Copper			
Lead			
Selenium			
Silver			
Zinc			

Comments:
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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Instrument ID: 19302
Date: 07/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Mercury			0.050

Comments:

_____
_____
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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC24
Matrix: SOIL

Method: P
Date: 07/2015

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Arsenic	189.04		20.0	5.8
Barium	455.40		5.0	0.67
Cadmium	226.50		5.0	0.43
Chromium	267.72		15.0	0.98
Copper	327.40		10.0	2.8
Lead	220.35		15.0	3.2
Selenium	196.09		20.0	8.3
Silver	328.06		5.0	1.2
Zinc	213.86		20.0	7.7

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:
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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC24
Matrix: SOIL

Method: CV
Date: 07/2015

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Mercury			0.60	0.060

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

_____
_____
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_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC24

Instrument ID: 16417
Date: 11/2014

Analyte	Wavelength (nm)	Interelement Correction Factor for: AL	CA	FE	MG	CO
Arsenic	189.04	0.0000000	0.0000000	-0.0001410	0.0000000	0.0000000
Cadmium	226.50	-0.0000060	0.0000000	0.0000930	0.0000000	0.0000120
Chromium	267.72	0.0000000	0.0000000	-0.0000290	0.0000000	0.0000000
Copper	327.40	0.0000000	0.0000290	0.0000170	0.0000000	0.0003000
Lead	220.35	0.0001930	0.0000000	0.0000360	0.0000000	-0.0000890
Selenium	196.09	-0.0000020	0.0000000	0.0000010	0.0000000	-0.0000160
Silver	328.06	0.0000000	0.0000000	0.0000010	0.0000000	0.0000000
Zinc	213.86	0.0000000	0.0000000	0.0000800	0.0000000	0.0000000

Comments:
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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC24

Instrument ID: 16417
Date: 11/2014

Analyte	Wavelength (nm)	Interelement Correction Factor for: CR	CU	MN	MO	NI
Arsenic	189.04	0.0003470	0.0000000	0.0000000	0.0015870	0.0000000
Cadmium	226.50	0.0000850	0.0000000	0.0000000	0.0000000	-0.0000540
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	327.40	0.0000000	0.0000000	0.0000000	-0.0007830	0.0000000
Lead	220.35	0.0000420	0.0010760	0.0000000	-0.0001780	-0.0000500
Selenium	196.09	0.0000000	0.0000000	0.0005870	0.0000000	0.0000000
Silver	328.06	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.86	0.0000000	0.0010800	0.0000000	0.0000000	0.0054370

Comments:
_____
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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC24

Instrument ID: 16417
Date: 11/2014

Analyte	Wavelength (nm)	Interelement Correction Factor for: SI	TH	TI	W	ZR
Arsenic	189.04	0.0000000	0.0000000	0.0000000	0.0009450	0.0000000
Cadmium	226.50	0.0000000	0.0000000	0.0000000	0.0004220	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0005050	0.0000000
Copper	327.40	0.0000000	0.0289010	-0.0017350	0.0000000	0.0000000
Lead	220.35	0.0001590	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000000	0.0000000	0.0072180	0.0000000
Silver	328.06	0.0000000	0.0011310	0.0000000	0.0000000	0.0080000
Zinc	213.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:
_____
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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC24

Instrument ID: 18255
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: AL	CA	FE	MG	CR
Arsenic	189.04	0.0000750	0.0000000	-0.0001110	0.0000000	0.0004820

Comments:
_____
_____
_____
_____

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC24

Instrument ID: 18255
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: MO	W	--	--	--
Arsenic	189.04	0.0001240	-0.0031360			

Comments:

QUALITY ASSURANCE SUMMARY
FORM 12
LINEAR RANGES
SDG No.: PSC24

Method: P
Instrument ID: 16417
Date: 07/2015

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Arsenic	189.04	10.00	20000.0
Barium	455.4	10.00	10000.0
Cadmium	226.5	10.00	10000.0
Chromium	267.72	10.00	20000.0
Copper	327.4	10.00	10000.0
Lead	220.35	10.00	10000.0
Selenium	196.09	10.00	10000.0
Silver	328.06	10.00	10000.0
Zinc	213.86	10.00	10000.0

Comments:
_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 12
LINEAR RANGES
SDG No.: PSC24

Method: P
Instrument ID: 18255
Date: 07/2015

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Arsenic	189.04	10.00	20000.0
Barium			
Cadmium			
Chromium			
Copper			
Lead			
Selenium			
Silver			
Zinc			

Comments:
_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: P
Batch ID: P27108B

Lab Sample ID	Date	Sample Weight(gram)	Final Volume(ml)
8057359	09/28/2015	1.02	100
8057360	09/28/2015	1.04	100
8057361	09/28/2015	1.02	100
8057366	09/28/2015	1.03	100
8057367	09/28/2015	1.02	100
8057368	09/28/2015	1.03	100
8057362BKG	09/28/2015	1.02	100
8057365DUP	09/28/2015	1.02	100
8057364MSD	09/28/2015	1.02	100
8057363MS	09/28/2015	1.02	100
P27108BB	09/28/2015	1.00	100
P27108BQ	09/28/2015	1.00	100

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

Method: CV
Batch ID: P27111A

Lab Sample ID	Date	Sample Weight(gram)	Final Volume(ml)
8057359	09/29/2015	0.62	100
8057360	09/29/2015	0.64	100
8057361	09/29/2015	0.62	100
8057366	09/29/2015	0.63	100
8057367	09/29/2015	0.61	100
8057368	09/29/2015	0.62	100
8057362BKG	09/29/2015	0.64	100
8057365DUP	09/29/2015	0.61	100
8057364MSD	09/29/2015	0.61	100
8057363MS	09/29/2015	0.61	100
P27111AB	09/29/2015	0.60	100
P27111AQ	09/29/2015	1.00	100

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC24

Method: P
Instrument ID: 16417
Run Name: 1527205T72

Run Start Date: 09/29/2015
Run End Date: 09/29/2015

Lab Sample ID	D/F	Time	Analytes																																					
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																													
S0	1.00	11:55	X	X	X	X	X	X		X	X	X																													
S	1.00	11:58																																						
S	1.00	12:01	X	X	X		X	X		X	X	X																													
S	1.00	12:04				X																																		
ICV	1.00	12:07	X	X	X	X	X	X		X	X	X																													
ICB	1.00	12:10	X	X	X	X	X	X		X	X	X																													
LLC	1.00	12:14	X	X	X	X	X	X		X	X	X																													
ICSA	1.00	12:17	X	X	X	X	X	X		X	X	X																													
ICSAB	1.00	12:20	X	X	X	X	X	X		X	X	X																													
CCV	1.00	12:23	X	X	X	X	X	X		X	X	X																													
CCB	1.00	12:26	X	X	X	X	X	X		X	X	X																													
P27108BB	1.00	12:30		X	X	X	X	X		X	X	X																													
P27108BQ	1.00	12:33		X	X	X	X	X		X	X	X																													
8057362BKG	1.00	12:36		X	X	X	X	X		X	X	X																													
8057362A	1.00	12:39																																						
8057365DUP	1.00	12:42		X	X	X	X	X		X	X	X																													
8057363MS	1.00	12:45		X	X	X	X	X		X	X	X																													
8057364MSD	1.00	12:48		X	X	X	X	X		X	X	X																													
8057362L	5.00	12:52		X	X	X	X	X		X	X	X																													
ZZZZZZ	10.00	12:55																																						
ZZZZZZ	1.00	12:58																																						
CCV	1.00	13:01	X	X	X	X	X	X		X	X	X																													
CCB	1.00	13:04	X	X	X	X	X	X		X	X	X																													
ZZZZZZ	1.00	13:07																																						
ZZZZZZ	1.00	13:10																																						
ZZZZZZ	1.00	13:13																																						
ZZZZZZ	1.00	13:16																																						
ZZZZZZ	1.00	13:19																																						
8057359	1.00	13:22		X	X	X	X	X		X	X	X																													
8057360	1.00	13:25		X	X	X	X	X		X	X	X																													
8057361	1.00	13:28		X	X	X	X	X		X	X	X																													
8057366	1.00	13:31		X	X	X	X	X		X	X	X																													
8057367	1.00	13:34		X	X	X	X	X		X	X	X																													
CCV	1.00	13:37	X	X	X	X	X	X		X	X	X																													
CCB	1.00	13:41	X	X	X	X	X	X		X	X	X																													
8057368	1.00	13:44	X	X	X	X	X	X		X	X	X																													
ZZZZZZ	1.00	13:47																																						
ZZZZZZ	1.00	13:50																																						

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC24

Method: P
Instrument ID: 16417
Run Name: 1527205T72

Run Start Date: 09/29/2015
Run End Date: 09/29/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																				
ZZZZZZ	1.00	13:53																														
ZZZZZZ	1.00	13:56																														
ZZZZZZ	1.00	13:59																														
ZZZZZZ	1.00	14:02																														
LLC	1.00	14:05	X	X	X	X	X	X		X	X	X																				
ICSA	1.00	14:08	X	X	X	X	X	X		X	X	X																				
ICSAB	1.00	14:11	X	X	X	X	X	X		X	X	X																				
CCV	1.00	14:14	X	X	X	X	X	X		X	X	X																				
CCB	1.00	14:17	X	X	X	X	X	X		X	X	X																				

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC24

Method: P
Instrument ID: 18255
Run Name: 1527304T73

Run Start Date: 09/30/2015
Run End Date: 09/30/2015

Lab Sample ID	D/F	Time	Analytes																														
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																						
S0	1.00	10:30	X																														
S	1.00	10:33																															
S	1.00	10:35	X																														
S	1.00	10:38																															
ICV	1.00	10:41	X																														
ICB	1.00	10:43	X																														
LLC	1.00	10:46	X																														
ICSA	1.00	10:49	X																														
ICSAB	1.00	10:52	X																														
CCV	1.00	10:54	X																														
CCB	1.00	10:57	X																														
P27108BB	1.00	10:59	X																														
P27108BQ	1.00	11:02	X																														
8057362BKG	1.00	11:05	X																														
8057362A	1.00	11:07																															
8057365DUP	1.00	11:10	X																														
8057363MS	1.00	11:13	X																														
8057364MSD	1.00	11:15	X																														
8057362L	5.00	11:18	X																														
ZZZZZZ	1.00	11:21																															
ZZZZZZ	1.00	11:23																															
CCV	1.00	11:26	X																														
CCB	1.00	11:28	X																														
ZZZZZZ	1.00	11:31																															
ZZZZZZ	1.00	11:34																															
8057359	1.00	11:36	X																														
8057360	1.00	11:39	X																														
8057361	1.00	11:41	X																														
8057366	1.00	11:44	X																														
8057367	1.00	11:47	X																														
ZZZZZZ	5.00	11:49																															
ZZZZZZ	1.00	11:52																															
ZZZZZZ	5.00	11:55																															
CCV	1.00	11:57	X																														
CCB	1.00	12:00	X																														
ZZZZZZ	5.00	12:02																															
ZZZZZZ	5.00	12:05																															
ZZZZZZ	25.00	12:08																															

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC24

Method: P
Instrument ID: 18255
Run Name: 1527304T73

Run Start Date: 09/30/2015
Run End Date: 09/30/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																				
ZZZZZZ	1.00	12:10																														
ZZZZZZ	1.00	12:13																														
ZZZZZZ	5.00	12:15																														
ZZZZZZ	1.00	12:18																														
ZZZZZZ	5.00	12:21																														
CCV	1.00	12:23	X																													
CCB	1.00	12:26	X																													
LLC	1.00	12:28	X																													
ICSA	1.00	12:31	X																													
ICSAB	1.00	12:34	X																													
CCV	1.00	12:37	X																													
CCB	1.00	12:39	X																													

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC24

Method: CV
Instrument ID: 19302
Run Name: 1527201M08

Run Start Date: 09/29/2015
Run End Date: 09/29/2015

Lab Sample ID	D/F	Time	Analytes																																		
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																										
S0	1.00	06:10							X																												
S0.2	1.00	06:12							X																												
S0.5	1.00	06:14							X																												
S1.0	1.00	06:16							X																												
S2.5	1.00	06:18							X																												
S5.0	1.00	06:20							X																												
ICV	1.00	06:22							X																												
ICB	1.00	06:24							X																												
CRA	1.00	06:26							X																												
CCV	1.00	06:28							X																												
CCB	1.00	06:30							X																												
P27111AB	1.00	06:34							X																												
P27111AQ	1.00	06:36							X																												
8057362BKG	1.00	06:38							X																												
8057362A	1.00	06:40																																			
8057365DUP	1.00	06:42							X																												
8057363MS	1.00	06:44							X																												
8057364MSD	1.00	06:46							X																												
ZZZZZZ	1.00	06:48																																			
ZZZZZZ	1.00	06:54																																			
ZZZZZZ	1.00	06:56																																			
CCV	1.00	06:58							X																												
CCB	1.00	07:00							X																												
ZZZZZZ	1.00	07:02																																			
ZZZZZZ	1.00	07:05																																			
8057359	1.00	07:07							X																												
8057360	1.00	07:09							X																												
8057361	1.00	07:11							X																												
8057366	1.00	07:13							X																												
8057367	1.00	07:15							X																												
8057368	1.00	07:17							X																												
ZZZZZZ	1.00	07:19																																			
ZZZZZZ	1.00	07:21																																			
CCV	1.00	07:23							X																												
CCB	1.00	07:25							X																												
ZZZZZZ	1.00	07:27																																			
ZZZZZZ	1.00	07:29																																			
ZZZZZZ	500.00	07:31																																			

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC24

Method: CV
Instrument ID: 19302
Run Name: 1527201M08

Run Start Date: 09/29/2015
Run End Date: 09/29/2015

Lab Sample ID	D/F	Time	Analytes																														
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																						
ZZZZZZ	5.00	07:33																															
ZZZZZZ	1.00	07:35																															
ZZZZZZ	1.00	07:37																															
ZZZZZZ	1.00	07:39																															
ZZZZZZ	1.00	07:42																															
ZZZZZZ	1.00	07:44																															
ZZZZZZ	1.00	07:46																															
CCV	1.00	07:48							X																								
CCB	1.00	07:50							X																								
ZZZZZZ	1.00	07:52																															
ZZZZZZ	1.00	07:54																															
ZZZZZZ	1.00	07:56																															
ZZZZZZ	1.00	07:58																															
ZZZZZZ	1.00	08:00																															
ZZZZZZ	1.00	08:02																															
ZZZZZZ	1.00	08:04																															
ZZZZZZ	1.00	08:06																															
ZZZZZZ	1.00	08:08																															
ZZZZZZ	1.00	08:10																															
CCV	1.00	08:12							X																								
CCB	1.00	08:14							X																								
ZZZZZZ	1.00	08:16																															
ZZZZZZ	1.00	08:18																															
ZZZZZZ	1.00	08:20																															
ZZZZZZ	1.00	08:22																															
ZZZZZZ	1.00	08:24																															
ZZZZZZ	1.00	08:26																															
ZZZZZZ	1.00	08:28																															
ZZZZZZ	1.00	08:30																															
ZZZZZZ	1.00	08:32																															
ZZZZZZ	1.00	08:34																															
CCV	1.00	08:36							X																								
CCB	1.00	08:38							X																								
ZZZZZZ	2.50	08:40																															
ZZZZZZ	1.00	08:48																															
ZZZZZZ	1.00	08:50																															
ZZZZZZ	1.00	08:52																															
ZZZZZZ	1.00	08:54																															

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC24

Method: CV
Instrument ID: 19302
Run Name: 1527201M08

Run Start Date: 09/29/2015
Run End Date: 09/29/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																				
ZZZZZZ	1.00	08:56																														
ZZZZZZ	1.00	08:58																														
ZZZZZZ	1.00	09:00																														
CCV	1.00	09:06							X																							
CCB	1.00	09:08							X																							
ZZZZZZ	1.00	09:10																														
ZZZZZZ	1.00	09:12																														
ZZZZZZ	1.00	09:27																														
ZZZZZZ	1.00	09:29																														
ZZZZZZ	1.00	09:31																														
CRA	1.00	09:33							X																							
CCV	1.00	09:35							X																							
CCB	1.00	09:37							X																							

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

Raw Data

Metals in Solid

ICP Data

Metals in Solid

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ICP-AES Run Data Report

Reviewed By	Reviewed Date
Eric L Eby	09/29/2015 3:14PM

Data File Name 1527205T72.TXT
Run Name: 1527205T72

Method Reference Name(s):

Verified By:	Verified Date
Deborah A Krady	09/30/2015 7:06AM
Jennifer L Moyer	09/30/2015 1:42PM

Analyst Employee: 0420

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 1 Date/Time: 09/29/2015 11:55

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-0.00190	37.157	-0.00109	-0.00222	-0.00239
AL	0.000	0.00795	70.976	0.01307	0.00886	0.00191
AS	0.000	-0.00128	126.817	-0.00213	-0.00231	0.00059
B	0.000	0.00015	5.794	0.00014	0.00015	0.00015
BA	0.000	0.00006	38.987	0.00003	0.00007	0.00007
BE	0.000	-0.01346	4.988	-0.01342	-0.01280	-0.01415
CA	0.000	0.00319	3.960	0.00333	0.00309	0.00315
CD	0.000	-0.00840	9.580	-0.00923	-0.00762	-0.00837
CO	0.000	-0.01207	16.714	-0.01302	-0.00975	-0.01343
CR	0.000	0.00001	54.995	0.00001	0.00002	0.00000
CU	0.000	-0.01565	6.008	-0.01670	-0.01536	-0.01489
FE	0.000	0.00010	5.112	0.00009	0.00010	0.00010
K	0.000	0.10570	13.006	0.09674	0.09883	0.12153
LI	0.000	0.00031	48.688	0.00040	0.00039	0.00013
MG	0.000	0.00148	4.811	0.00155	0.00146	0.00142
MN	0.000	0.00121	53.413	0.00188	0.00058	0.00118
MO	0.000	0.00424	48.889	0.00233	0.00645	0.00395
NA	0.000	0.00062	33.848	0.00046	0.00054	0.00086
NI	0.000	0.02306	11.372	0.02007	0.02498	0.02413
P	0.000	-0.00002	173.903	-0.00002	-0.00006	0.00002
PB	0.000	0.00255	210.029	0.00147	0.00836	-0.00218
S	0.000	0.00012	9.564	0.00013	0.00010	0.00012
SB	0.000	0.00004	182.553	0.00001	-0.00002	0.00012
SE	0.000	-0.00685	4.705	-0.00718	-0.00653	-0.00684
SI	0.000	0.00014	6.363	0.00014	0.00015	0.00014
SN	0.000	0.00569	25.717	0.00453	0.00733	0.00520
SR	0.000	-0.00011	6.593	-0.00010	-0.00012	-0.00011
TI	0.000	0.00203	5.399	0.00190	0.00206	0.00212
TL	0.000	-0.00990	7.092	-0.01050	-0.01008	-0.00913
V	0.000	-0.00082	47.201	-0.00045	-0.00122	-0.00079
Y1	0.000	16265.66607	0.098	16247.32143	16274.79003	16274.88676
Y2A	0.000	461329.99219	0.877	456927.51822	464889.99001	462172.46835
Y2R	0.000	36774.28119	0.397	36800.70802	36905.40743	36616.72812
ZN	0.000	0.09142	3.694	0.08987	0.09529	0.08908
ZR	0.000	0.00026	29.157	0.00020	0.00034	0.00024

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 2 Date/Time: 09/29/2015 11:58

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	9.38017	0.254	9.40166	9.38425	9.35458
CA	50.000	1.50933	0.189	1.51140	1.51052	1.50608
FE	50.000	0.42278	0.091	0.42322	0.42252	0.42260
K	50.000	24.62166	0.081	24.63056	24.63569	24.59871
MG	50.000	2.38214	0.099	2.37961	2.38427	2.38255
NA	50.000	1.78064	0.234	1.78529	1.77935	1.77728
S	50.000	0.61036	0.259	0.60975	0.60917	0.61215
SI	50.000	0.24450	0.478	0.24509	0.24525	0.24315
Y1	50.000	15636.08285	0.229	15627.45137	15675.34826	15605.44891
Y2R	50.000	36488.80617	0.473	36326.31684	36469.84649	36670.25518

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 3 Date/Time: 09/29/2015 12:01

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	1.81188	0.109	1.80996	1.81176	1.81391
AS	1.000	1.05035	0.341	1.04788	1.05445	1.04872
B	1.000	0.01807	0.457	0.01805	0.01800	0.01816
BA	1.000	1.67943	0.608	1.67063	1.69062	1.67705
BE	1.000	40.75620	0.174	40.68600	40.82798	40.75462
CD	1.000	36.62695	0.267	36.72448	36.52893	36.62744
CO	1.000	14.82824	0.255	14.85600	14.84359	14.78512
CU	1.000	1.40285	0.210	1.40603	1.40021	1.40231
LI	1.000	0.22990	0.359	0.23060	0.22899	0.23011
MN	1.000	7.71632	0.341	7.70076	7.74673	7.70147
NI	1.000	9.23007	0.229	9.22010	9.25438	9.21574
P	1.000	0.02365	0.442	0.02366	0.02376	0.02355
PB	1.000	3.16726	0.342	3.17068	3.17597	3.15513
SE	1.000	0.84671	0.415	0.84905	0.84842	0.84268
SR	1.000	1.90015	0.359	1.89431	1.90763	1.89850
TL	1.000	1.63675	0.600	1.63682	1.64654	1.62690
Y1	1.000	15830.68262	0.030	15830.79025	15825.85415	15835.40348
Y2A	1.000	447237.60216	0.295	447446.81909	445827.36912	448438.61829
Y2R	1.000	36862.28211	0.525	36822.22278	37072.80028	36691.82327
ZN	1.000	29.15679	0.143	29.20453	29.12694	29.13891

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 4 Date/Time: 09/29/2015 12:04

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	0.01952	0.371	0.01950	0.01959	0.01945
MO	1.000	10.77237	0.226	10.77873	10.74545	10.79292
SB	1.000	0.03346	0.356	0.03358	0.03334	0.03346
SN	1.000	2.73516	0.268	2.72745	2.73598	2.74207
TI	1.000	5.36009	0.298	5.35187	5.37851	5.34991
V	1.000	1.60243	0.163	1.59961	1.60289	1.60478
Y1	1.000	16358.46512	0.155	16386.25042	16336.62512	16352.51983
Y2A	1.000	467893.99962	0.185	468886.32578	467485.74271	467309.93037
Y2R	1.000	37462.31221	0.364	37578.20308	37312.25010	37496.48344
ZR	1.000	0.07971	0.872	0.07892	0.08022	0.08000

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 5 Date/Time: 09/29/2015 12:07

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.60474	9,522.84	0.235	0.60492	0.60607	0.60324
____ AL	30.20100	4,190.98	0.685	29.98778	30.21406	30.40116
____ AS	0.59040	196.37	0.505	0.59318	0.59076	0.58725
____ B	0.59597	4,968.92	0.634	0.59475	0.59295	0.60020
____ BA	0.59930	445,255.41	0.657	0.60384	0.59726	0.59680
____ BE	0.58870	211,435.87	0.339	0.59089	0.58821	0.58698
____ CA	30.37129	33,947.97	0.306	30.26802	30.44781	30.39804
____ CD	0.59089	6,876.49	0.037	0.59113	0.59070	0.59085
____ CO	0.58482	2,745.73	0.364	0.58638	0.58569	0.58240
____ CR	0.58773	5,068.41	0.717	0.59089	0.58294	0.58935
____ CU	0.59475	7,317.31	0.527	0.59826	0.59224	0.59375
____ FE	29.91760	9,445.92	0.486	29.74973	29.99525	30.00782
____ K	30.04624	10,932.85	0.114	30.01745	30.03693	30.08434
____ LI	0.58982	5,008.37	0.828	0.58632	0.58774	0.59540
____ MG	29.96250	53,048.38	0.282	29.86574	30.02087	30.00089
____ MN	0.59679	40,747.77	0.254	0.59762	0.59771	0.59504
____ MO	0.59361	2,021.91	0.282	0.59515	0.59385	0.59183
____ NA	30.14647	39,561.23	0.286	30.09367	30.09974	30.24601
____ NI	0.58485	1,709.43	0.439	0.58780	0.58362	0.58313
____ P	0.60110	224.62	0.690	0.60575	0.59778	0.59977
____ PB	0.58595	591.85	1.007	0.59048	0.58809	0.57927
____ S	29.75316	5,740.65	0.157	29.75251	29.70683	29.80015
____ SB	0.60567	319.47	0.922	0.61164	0.60481	0.60057
____ SE	0.60147	158.23	0.677	0.60561	0.59746	0.60134
____ SI	31.34933	5,650.41	1.466	30.91375	31.30458	31.82966
____ SN	0.58480	506.36	0.296	0.58536	0.58285	0.58617
____ SR	0.59777	502,706.79	0.404	0.59525	0.60007	0.59798
____ TI	0.60005	28,519.18	0.396	0.60238	0.60014	0.59763
____ TL	0.58831	301.66	0.619	0.58944	0.59125	0.58423
____ V	0.60841	8,632.31	0.691	0.61139	0.60360	0.61024
____ Y1	15805.19774	15,805.20	0.219	15834.21649	15814.47903	15766.89770
____ Y2A	442382.23437	442,382.23	0.320	441113.07157	442124.25447	443909.37707
____ Y2R	36841.03051	36,841.03	0.584	37048.40319	36855.83832	36618.85000
____ ZN	0.58705	5,452.44	0.186	0.58579	0.58758	0.58777
____ ZR	0.60603	1,783.50	0.398	0.60580	0.60375	0.60856

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 6 Date/Time: 09/29/2015 12:10

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00011	-23.53	157.933	0.00005	-0.00030	-0.00008
____ AL	-0.05344	-1.55	71.981	-0.07930	-0.07178	-0.00923
____ AS	0.00164	-0.12	23.708	0.00207	0.00131	0.00154
____ B	0.00062	72.83	61.470	0.00019	0.00093	0.00074
____ BA	0.00003	45.62	67.555	0.00002	0.00001	0.00004
____ BE	0.00006	-103.80	17.484	0.00006	0.00006	0.00008
____ CA	-0.04120	71.57	7.351	-0.03778	-0.04226	-0.04355
____ CD	0.00000	-3.45	1021.042	0.00018	-0.00010	-0.00008
____ CO	-0.00006	-3.30	111.593	-0.00003	-0.00001	-0.00013
____ CR	-0.00017	3.98	410.893	0.00048	-0.00089	-0.00009
____ CU	-0.00033	-146.03	156.016	0.00026	-0.00070	-0.00055
____ FE	-0.01149	-0.05	36.207	-0.00886	-0.01628	-0.00932
____ K	-0.04354	62.26	40.226	-0.05558	-0.05158	-0.02345
____ LI	0.00080	18.12	261.051	0.00126	0.00262	-0.00148
____ MG	-0.02853	3.29	5.487	-0.02714	-0.02823	-0.03023
____ MN	-0.00005	7.47	67.719	-0.00009	-0.00002	-0.00005
____ MO	0.00138	6.22	4.967	0.00132	0.00137	0.00146
____ NA	0.00346	27.47	194.864	0.00909	-0.00401	0.00529
____ NI	0.00026	8.27	158.250	-0.00019	0.00061	0.00035
____ P	0.00009	-0.22	1206.092	-0.00062	0.00132	-0.00044
____ PB	-0.00049	0.31	170.529	0.00036	-0.00051	-0.00132
____ S	0.00567	3.01	35.378	0.00709	0.00654	0.00337
____ SB	0.00192	1.71	28.040	0.00160	0.00162	0.00254
____ SE	0.00069	-1.80	255.774	0.00070	-0.00108	0.00245
____ SI	0.03135	10.92	15.778	0.03540	0.02584	0.03281
____ SN	0.00000	1.85	3915.953	0.00065	-0.00025	-0.00039
____ SR	0.00005	-8.91	20.559	0.00006	0.00004	0.00006
____ TI	0.00009	23.08	164.722	-0.00006	0.00025	0.00009
____ TL	0.00060	-2.95	108.397	0.00122	0.00065	-0.00007
____ V	0.00021	-2.65	48.223	0.00010	0.00029	0.00024
____ Y1	16241.35535	16,241.36	0.187	16219.87607	16228.05755	16276.13243
____ Y2A	458060.55232	458,060.55	1.466	459685.29314	450682.23989	463814.12392
____ Y2R	36904.66578	36,904.67	0.156	36971.12310	36873.18118	36869.69304
____ ZN	-0.00138	16.80	8.276	-0.00136	-0.00150	-0.00127
____ ZR	0.00009	9.86	2007.798	0.00143	0.00067	-0.00185

LANCASTER LABORATORIES

Run Name: 1527205T72

Instrument ID: 16417

Tube: 7

Date/Time: 09/29/2015 12:14

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00528	71.10	3.908	0.00551	0.00510	0.00525
____ AL	0.18119	31.14	11.475	0.16685	0.20504	0.17169
____ AS	0.02032	6.29	3.071	0.01960	0.02060	0.02074
____ B	0.04674	456.42	0.635	0.04658	0.04708	0.04656
____ BA	0.00539	4,205.40	0.575	0.00539	0.00542	0.00536
____ BE	0.00502	1,752.87	0.748	0.00501	0.00506	0.00499
____ CA	0.16653	305.22	1.516	0.16902	0.16658	0.16398
____ CD	0.00505	57.03	1.788	0.00515	0.00502	0.00498
____ CO	0.00512	21.80	2.960	0.00527	0.00497	0.00513
____ CR	0.01529	143.00	3.274	0.01541	0.01474	0.01571
____ CU	0.00983	-14.38	4.917	0.01035	0.00976	0.00939
____ FE	0.19477	66.55	0.960	0.19621	0.19544	0.19265
____ K	0.54451	275.56	2.592	0.55940	0.54280	0.53133
____ LI	0.02176	196.17	6.548	0.02198	0.02024	0.02306
____ MG	0.07358	186.76	4.077	0.07012	0.07548	0.07514
____ MN	0.00524	384.30	1.489	0.00527	0.00530	0.00515
____ MO	0.01025	37.31	1.053	0.01014	0.01035	0.01026
____ NA	1.04582	1,399.49	0.784	1.05044	1.03636	1.05066
____ NI	0.01074	39.71	3.740	0.01053	0.01048	0.01120
____ P	0.09613	36.66	1.827	0.09706	0.09723	0.09411
____ PB	0.01594	17.25	10.052	0.01499	0.01779	0.01504
____ S	0.48830	98.90	0.708	0.49096	0.48439	0.48955
____ SB	0.01965	11.47	7.264	0.01994	0.02092	0.01811
____ SE	0.02017	3.59	6.856	0.02170	0.01979	0.01902
____ SI	0.05528	15.28	8.851	0.05019	0.05568	0.05996
____ SN	0.01944	19.12	4.053	0.01860	0.02016	0.01955
____ SR	0.00530	4,594.41	0.968	0.00532	0.00534	0.00524
____ TI	0.01021	524.00	0.875	0.01022	0.01029	0.01012
____ TL	0.03062	13.09	5.148	0.03234	0.02925	0.03026
____ V	0.00564	77.20	3.301	0.00543	0.00572	0.00577
____ Y1	16278.74696	16,278.75	0.199	16241.96964	16291.04383	16303.22742
____ Y2A	461387.14536	461,387.15	0.486	460846.31283	459465.18987	463849.93338
____ Y2R	36970.44837	36,970.45	0.894	37071.26821	36601.40192	37238.67500
____ ZN	0.01863	205.80	1.193	0.01889	0.01849	0.01852
____ ZR	0.04688	147.34	0.744	0.04678	0.04660	0.04727

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 8 Date/Time: 09/29/2015 12:17

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00836	-1,399.00	3.194	0.00832	0.00864	0.00812
____ AL	521.08727	67,409.76	0.574	524.48594	519.91620	518.85968
____ AS	-0.00277	1.57	26.910	-0.00254	-0.00217	-0.00361
____ B	0.04445	1,624.17	0.626	0.04454	0.04467	0.04414
____ BA	0.00057	401.85	1.631	0.00056	0.00058	0.00058
____ BE	-0.00015	-158.02	13.010	-0.00016	-0.00013	-0.00017
____ CA	523.08290	509,461.56	1.320	530.11089	516.30911	522.82869
____ CD	0.00068	209.35	37.961	0.00098	0.00049	0.00058
____ CO	0.00124	2.53	16.977	0.00125	0.00144	0.00102
____ CR	0.00322	-17.95	7.591	0.00346	0.00297	0.00323
____ CU	-0.00191	18.63	17.181	-0.00190	-0.00159	-0.00225
____ FE	208.75405	56,055.31	0.481	209.90881	208.08038	208.27296
____ K	0.06465	97.62	9.054	0.06648	0.05810	0.06937
____ LI	-0.00594	100.27	19.401	-0.00469	-0.00616	-0.00696
____ MG	530.58230	718,761.34	0.423	533.16352	529.10057	529.48281
____ MN	0.00223	145.58	0.475	0.00223	0.00225	0.00223
____ MO	-0.00253	-6.52	16.302	-0.00263	-0.00208	-0.00288
____ NA	0.26086	352.00	1.922	0.25648	0.25976	0.26633
____ NI	0.00027	0.26	277.813	0.00113	-0.00022	-0.00010
____ P	0.01537	4.91	20.164	0.01237	0.01519	0.01856
____ PB	-0.00150	72.94	180.136	-0.00310	0.00162	-0.00302
____ S	-0.01165	-1.39	29.854	-0.00850	-0.01538	-0.01106
____ SB	0.00954	-1.24	30.456	0.00620	0.01146	0.01096
____ SE	0.00789	-5.33	99.798	0.01697	0.00286	0.00385
____ SI	0.01441	6.37	53.850	0.01293	0.00749	0.02280
____ SN	0.00633	6.51	30.850	0.00703	0.00784	0.00413
____ SR	-0.00021	3,640.21	22.494	-0.00025	-0.00016	-0.00021
____ TI	-0.00395	-150.27	3.948	-0.00408	-0.00400	-0.00378
____ TL	0.00176	-5.13	204.196	0.00090	-0.00133	0.00571
____ V	-0.00077	26.93	16.671	-0.00092	-0.00069	-0.00071
____ Y1	14172.91169	14,172.91	0.138	14150.91224	14179.71569	14188.10714
____ Y2A	394502.76121	394,502.76	0.178	393972.49834	394235.08946	395300.69583
____ Y2R	35526.01096	35,526.01	0.501	35320.43274	35634.22417	35623.37597
____ ZN	0.00252	234.13	8.475	0.00227	0.00266	0.00262
____ ZR	0.00454	22.07	20.444	0.00472	0.00537	0.00354

LANCASTER LABORATORIES

Run Name: 1527205T72

Instrument ID: 16417

Tube: 9

Date/Time: 09/29/2015 12:20

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.22821	1,767.56	0.077	0.22806	0.22818	0.22840
____ AL	513.60505	66,697.55	0.364	515.70302	512.10569	513.00644
____ AS	0.10006	32.28	9.230	0.09025	0.10859	0.10133
____ B	0.04235	1,596.57	5.062	0.04218	0.04029	0.04457
____ BA	0.49796	330,563.31	0.224	0.49859	0.49667	0.49861
____ BE	0.49661	159,375.23	0.006	0.49661	0.49658	0.49664
____ CA	515.26519	504,326.60	0.736	513.94061	519.54233	512.31264
____ CD	0.92237	9,782.80	0.047	0.92230	0.92283	0.92197
____ CO	0.45694	1,920.07	0.201	0.45604	0.45691	0.45788
____ CR	0.47545	3,622.85	0.731	0.47622	0.47165	0.47847
____ CU	0.52610	5,936.16	0.819	0.52768	0.52122	0.52940
____ FE	206.51943	55,729.52	0.133	206.82829	206.43175	206.29824
____ K	0.04846	92.28	28.296	0.03415	0.06149	0.04973
____ LI	-0.00618	96.60	22.668	-0.00633	-0.00471	-0.00750
____ MG	522.02329	712,620.00	0.333	521.30970	524.00381	520.75637
____ MN	0.44779	27,320.30	0.077	0.44790	0.44740	0.44807
____ MO	-0.00269	-7.01	17.351	-0.00309	-0.00218	-0.00281
____ NA	0.25665	347.79	6.133	0.23947	0.26009	0.27039
____ NI	0.89669	2,341.28	0.143	0.89530	0.89782	0.89696
____ P	0.01481	5.58	9.132	0.01636	0.01416	0.01390
____ PB	0.04749	116.04	5.491	0.05049	0.04576	0.04622
____ S	-0.00983	-1.07	27.699	-0.01275	-0.00737	-0.00936
____ SB	0.60340	286.99	0.934	0.59690	0.60687	0.60643
____ SE	0.05364	5.80	5.336	0.05686	0.05137	0.05270
____ SI	0.02528	8.29	14.048	0.02805	0.02128	0.02652
____ SN	0.00671	6.76	18.045	0.00759	0.00721	0.00533
____ SR	-0.00018	3,608.73	41.090	-0.00017	-0.00026	-0.00011
____ TI	-0.00399	-130.49	3.893	-0.00398	-0.00416	-0.00385
____ TL	0.09295	37.57	4.036	0.09149	0.09721	0.09014
____ V	0.49091	6,314.36	0.815	0.49170	0.48657	0.49444
____ Y1	14177.65231	14,177.65	0.132	14156.15667	14186.60786	14190.19242
____ Y2A	395262.75679	395,262.76	0.279	396492.04771	394941.76607	394354.45659
____ Y2R	35641.68350	35,641.68	0.082	35648.18609	35609.73968	35667.12473
____ ZN	1.00002	8,444.58	0.166	0.99879	1.00191	0.99937
____ ZR	0.00461	22.34	0.923	0.00461	0.00466	0.00457

LANCASTER LABORATORIES

Run Name: 1527205T72

Instrument ID: 16417

Tube: 10

Date/Time: 09/29/2015 12:23

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50095	7,945.55	0.424	0.49911	0.50327	0.50046
____ AL	25.37574	3,550.79	0.547	25.48997	25.41600	25.22126
____ AS	0.49913	165.98	0.518	0.49846	0.49695	0.50199
____ B	0.48911	4,128.02	0.932	0.48385	0.49170	0.49177
____ BA	0.50421	377,651.74	0.346	0.50234	0.50579	0.50450
____ BE	0.48936	177,149.67	0.515	0.48748	0.49223	0.48838
____ CA	25.53032	28,803.58	0.231	25.51840	25.59426	25.47831
____ CD	0.49327	5,742.65	0.238	0.49454	0.49222	0.49304
____ CO	0.49530	2,325.94	0.476	0.49291	0.49762	0.49537
____ CR	0.50487	4,389.98	0.371	0.50271	0.50590	0.50600
____ CU	0.50219	6,207.02	0.448	0.49996	0.50446	0.50213
____ FE	25.33823	8,087.09	0.250	25.32397	25.40747	25.28327
____ K	25.38959	9,322.28	0.416	25.38152	25.49912	25.28813
____ LI	0.49577	4,244.35	0.601	0.49232	0.49751	0.49746
____ MG	25.21299	45,082.32	0.151	25.19531	25.25660	25.18706
____ MN	0.49956	34,387.34	0.492	0.49799	0.50239	0.49830
____ MO	0.50521	1,721.71	0.297	0.50388	0.50684	0.50491
____ NA	25.43630	33,642.74	0.316	25.46537	25.49822	25.34531
____ NI	0.49326	1,443.48	0.718	0.49011	0.49710	0.49259
____ P	0.49695	185.74	0.718	0.49283	0.49890	0.49911
____ PB	0.49370	498.92	0.030	0.49383	0.49354	0.49371
____ S	25.24831	4,873.76	0.116	25.28017	25.24253	25.22222
____ SB	0.51913	274.07	0.115	0.51849	0.51968	0.51922
____ SE	0.49988	131.19	0.607	0.50338	0.49826	0.49801
____ SI	25.69986	4,669.33	0.426	25.62433	25.82544	25.64981
____ SN	0.50164	434.79	0.366	0.50296	0.50242	0.49954
____ SR	0.50105	424,778.99	0.271	0.50207	0.50158	0.49951
____ TI	0.50741	24,313.73	0.472	0.50603	0.51018	0.50604
____ TL	0.49867	255.32	0.323	0.49701	0.50023	0.49877
____ V	0.51485	7,362.88	0.406	0.51246	0.51632	0.51579
____ Y1	15811.70154	15,811.70	0.224	15771.01546	15835.48774	15828.60143
____ Y2A	445967.58339	445,967.58	0.339	446958.00199	444226.14314	446718.60504
____ Y2R	37126.63174	37,126.63	0.263	37014.51227	37191.21164	37174.17133
____ ZN	0.49242	4,580.50	0.159	0.49332	0.49201	0.49193
____ ZR	0.51294	1,522.74	0.317	0.51122	0.51445	0.51315

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 11 Date/Time: 09/29/2015 12:26

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00019	-18.90	432.640	0.00062	0.00068	-0.00074
____ AL	-0.00992	4.49	268.466	0.01315	-0.00385	-0.03905
____ AS	0.00215	0.06	30.126	0.00140	0.00254	0.00252
____ B	-0.00043	64.73	84.123	-0.00002	-0.00056	-0.00071
____ BA	0.00004	55.17	35.563	0.00004	0.00002	0.00005
____ BE	0.00008	-100.33	36.405	0.00009	0.00004	0.00009
____ CA	-0.02027	94.91	23.621	-0.01476	-0.02273	-0.02334
____ CD	-0.00004	-3.90	303.514	-0.00005	0.00009	-0.00016
____ CO	0.00015	-2.32	273.297	-0.00007	0.00061	-0.00010
____ CR	0.00011	6.42	237.992	-0.00012	0.00006	0.00039
____ CU	-0.00014	-144.43	51.728	-0.00013	-0.00022	-0.00008
____ FE	0.00385	4.89	70.742	0.00697	0.00261	0.00197
____ K	-0.01847	71.24	106.719	-0.02442	-0.03451	0.00353
____ LI	0.00248	32.35	4.182	0.00250	0.00237	0.00258
____ MG	-0.00828	39.57	19.854	-0.00638	-0.00909	-0.00935
____ MN	-0.00003	8.93	117.833	-0.00003	0.00001	-0.00007
____ MO	0.00110	5.22	13.844	0.00102	0.00128	0.00101
____ NA	-0.00017	22.65	4718.199	0.00052	0.00749	-0.00853
____ NI	0.00036	8.53	37.719	0.00027	0.00029	0.00051
____ P	-0.00147	-0.82	106.433	-0.00313	-0.00002	-0.00125
____ PB	-0.00072	0.08	109.049	-0.00016	-0.00039	-0.00162
____ S	0.00422	2.71	28.882	0.00444	0.00291	0.00533
____ SB	0.00127	1.35	89.445	0.00243	0.00122	0.00016
____ SE	-0.00067	-2.17	318.340	-0.00309	0.00101	0.00006
____ SI	0.01680	8.28	18.553	0.01375	0.01667	0.01998
____ SN	0.00044	2.23	148.591	0.00063	0.00098	-0.00029
____ SR	0.00004	-22.59	18.636	0.00004	0.00004	0.00003
____ TI	0.00008	22.45	50.602	0.00003	0.00011	0.00008
____ TL	-0.00006	-3.29	1035.863	0.00056	0.00001	-0.00076
____ V	0.00059	2.98	72.937	0.00082	0.00085	0.00009
____ Y1	16183.25668	16,183.26	0.350	16211.95029	16219.82747	16117.99227
____ Y2A	460775.06387	460,775.06	0.738	463785.55963	461451.16279	457088.46918
____ Y2R	36852.39205	36,852.39	0.233	36786.17371	36821.58162	36949.42081
____ ZN	-0.00139	16.64	7.721	-0.00130	-0.00151	-0.00135
____ ZR	-0.00061	7.81	101.341	-0.00051	-0.00127	-0.00005

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 12 Date/Time: 09/29/2015 12:30

Sample Number: **PBS** Class: **** Batch: 152715708002

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00013	-20.07	92.416	0.00006	0.00006	0.00027
____ AL	-0.00059	5.88	2691.265	-0.01586	0.01575	-0.00166
____ AS	-0.00089	-0.98	150.760	-0.00030	0.00005	-0.00243
____ B	0.00786	134.40	8.188	0.00748	0.00750	0.00860
____ BA	0.00021	188.23	4.985	0.00020	0.00022	0.00020
____ BE	0.00001	-126.72	133.552	0.00000	0.00002	0.00000
____ CA	0.06859	197.95	1.858	0.06718	0.06892	0.06966
____ CD	-0.00006	-4.16	11.846	-0.00005	-0.00006	-0.00007
____ CO	-0.00011	-3.53	162.210	-0.00006	-0.00030	0.00004
____ CR	0.00135	17.78	19.511	0.00161	0.00137	0.00108
____ CU	0.00035	-139.23	247.117	-0.00045	0.00024	0.00125
____ FE	0.00540	5.48	132.441	0.00871	-0.00281	0.01028
____ K	-0.00570	77.19	203.596	-0.01751	0.00569	-0.00527
____ LI	0.00211	29.76	153.511	0.00239	-0.00126	0.00521
____ MG	-0.01752	23.42	10.618	-0.01934	-0.01759	-0.01562
____ MN	0.00022	27.15	6.338	0.00024	0.00021	0.00022
____ MO	0.00028	2.36	63.107	0.00008	0.00038	0.00039
____ NA	0.01262	40.14	14.784	0.01054	0.01316	0.01415
____ NI	0.00074	9.67	77.014	0.00119	0.00094	0.00010
____ P	0.01139	4.09	9.042	0.01086	0.01072	0.01257
____ PB	0.00031	1.14	342.470	-0.00034	0.00155	-0.00027
____ S	0.00130	2.13	219.361	0.00458	-0.00056	-0.00012
____ SB	-0.00051	0.36	356.438	-0.00252	-0.00008	0.00106
____ SE	0.00250	-1.29	98.213	0.00465	-0.00018	0.00302
____ SI	0.00573	6.40	130.385	-0.00290	0.01008	0.01000
____ SN	0.01443	14.58	1.732	0.01471	0.01436	0.01422
____ SR	0.00094	775.19	1.698	0.00095	0.00095	0.00092
____ TI	0.00022	29.62	38.295	0.00028	0.00024	0.00012
____ TL	0.00040	-3.04	560.182	0.00131	-0.00215	0.00204
____ V	0.00032	-0.90	99.974	0.00052	-0.00005	0.00049
____ Y1	16176.26713	16,176.27	0.105	16194.99600	16171.71333	16162.09205
____ Y2A	464856.43689	464,856.44	0.482	462752.33178	467209.71761	464607.26127
____ Y2R	37506.18727	37,506.19	0.180	37583.21699	37458.01774	37477.32709
____ ZN	-0.00035	26.39	24.706	-0.00034	-0.00027	-0.00044
____ ZR	-0.00024	9.04	631.319	-0.00072	-0.00148	0.00148

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 13 Date/Time: 09/29/2015 12:33

Sample Number: **LCSW** Class: **** Batch: 152715708002

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04666	867.94	0.625	0.04699	0.04643	0.04656
____ AL	2.03751	300.61	1.366	2.01545	2.02833	2.06877
____ AS	0.14947	49.96	1.957	0.14767	0.14790	0.15285
____ B	1.89679	15,486.48	0.372	1.90480	1.89149	1.89410
____ BA	2.00015	1,522,147.51	0.272	2.00622	1.99569	1.99853
____ BE	0.05220	18,466.71	0.355	0.05235	0.05224	0.05199
____ CA	4.13131	4,801.55	0.377	4.12647	4.14873	4.11874
____ CD	0.05002	584.40	0.475	0.05026	0.04978	0.05002
____ CO	0.49791	2,372.08	0.295	0.49942	0.49649	0.49780
____ CR	0.19809	1,755.83	1.111	0.19586	0.19815	0.20026
____ CU	0.25346	3,078.17	0.577	0.25234	0.25293	0.25511
____ FE	1.01484	334.15	1.195	1.00120	1.02442	1.01890
____ K	10.15920	3,794.95	0.882	10.17775	10.23811	10.06173
____ LI	0.99889	8,567.01	0.751	1.00110	1.00503	0.99053
____ MG	2.00885	3,693.77	0.758	2.01095	2.02291	1.99269
____ MN	0.50391	35,245.22	0.194	0.50500	0.50311	0.50362
____ MO	1.95910	6,754.99	0.060	1.96039	1.95810	1.95880
____ NA	10.10774	13,445.45	0.616	10.10363	10.17195	10.04764
____ NI	0.50486	1,499.16	0.241	0.50606	0.50363	0.50487
____ P	0.99714	376.66	0.537	1.00306	0.99265	0.99572
____ PB	0.15431	150.42	1.821	0.15637	0.15111	0.15545
____ S	0.98201	191.89	0.416	0.98594	0.97778	0.98230
____ SB	0.52013	262.79	0.681	0.52421	0.51792	0.51826
____ SE	0.14915	38.78	0.453	0.14979	0.14844	0.14922
____ SI	1.31082	248.19	3.328	1.26446	1.31692	1.35108
____ SN	3.92101	3,428.51	0.434	3.93841	3.90438	3.92025
____ SR	1.01280	872,096.40	0.567	1.01913	1.00793	1.01134
____ TI	1.00736	48,932.26	0.371	1.00924	1.00978	1.00305
____ TL	0.15394	77.21	1.550	0.15653	0.15183	0.15346
____ V	0.51886	7,336.60	0.769	0.51584	0.51736	0.52338
____ Y1	16007.05632	16,007.06	0.147	16007.85652	16030.12799	15983.18445
____ Y2A	453150.63439	453,150.63	0.413	451008.20080	454459.32737	453984.37500
____ Y2R	37300.89124	37,300.89	0.258	37406.34358	37217.86998	37278.46016
____ ZN	0.49134	4,600.49	0.162	0.49197	0.49044	0.49159
____ ZR	0.99334	2,953.62	0.768	0.98602	1.00123	0.99276

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 14 Date/Time: 09/29/2015 12:36

Sample Number: **8057362** Class: U*** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00465	-1,131.72	11.702	0.00438	0.00428	0.00527
____ AL	42.42800	6,032.77	0.226	42.48080	42.48598	42.31722
____ AS	0.03528	13.61	7.965	0.03632	0.03210	0.03743
____ B	0.04834	1,451.62	3.014	0.04768	0.05001	0.04733
____ BA	0.13714	105,422.06	0.247	0.13711	0.13749	0.13681
____ BE	0.00153	282.45	0.674	0.00155	0.00153	0.00153
____ CA	18.31990	21,140.83	0.063	18.32159	18.33051	18.30760
____ CD	0.00010	180.00	137.957	-0.00004	0.00023	0.00011
____ CO	0.04881	269.01	0.577	0.04855	0.04877	0.04910
____ CR	0.12617	1,093.88	0.698	0.12708	0.12532	0.12613
____ CU	0.08400	854.11	0.591	0.08450	0.08400	0.08351
____ FE	143.11424	42,963.83	0.473	143.89120	142.79528	142.65623
____ K	4.59181	1,784.91	0.331	4.60891	4.57977	4.58676
____ LI	0.07563	674.24	1.918	0.07660	0.07633	0.07397
____ MG	25.80563	47,042.80	0.292	25.86014	25.83703	25.71972
____ MN	1.95897	138,340.18	0.395	1.96648	1.95942	1.95102
____ MO	0.00381	14.54	1.762	0.00388	0.00375	0.00380
____ NA	1.66445	2,266.97	0.847	1.67867	1.65049	1.66419
____ NI	0.16064	477.64	0.570	0.16011	0.16170	0.16012
____ P	4.48721	1,700.77	0.517	4.46601	4.51198	4.48364
____ PB	0.03441	44.24	4.873	0.03257	0.03478	0.03586
____ S	0.07036	14.18	1.520	0.06999	0.06953	0.07157
____ SB	0.01835	3.22	10.161	0.01871	0.02001	0.01633
____ SE	0.03512	-4.24	4.794	0.03698	0.03370	0.03468
____ SI	10.10012	1,873.40	1.324	10.20850	9.95064	10.14121
____ SN	0.01756	17.22	4.021	0.01814	0.01776	0.01677
____ SR	0.08597	74,859.53	0.436	0.08628	0.08607	0.08555
____ TI	4.23581	207,696.23	0.572	4.25055	4.24901	4.20786
____ TL	0.00773	-3.74	9.265	0.00728	0.00855	0.00734
____ V	0.12033	1,829.68	1.292	0.12190	0.12030	0.11879
____ Y1	16073.05523	16,073.06	0.177	16100.16319	16075.65938	16043.34311
____ Y2A	457632.89706	457,632.90	0.350	456389.41352	457067.18025	459442.09742
____ Y2R	37861.92705	37,861.93	0.466	37658.86613	37977.85757	37949.05745
____ ZN	0.20816	2,116.55	0.419	0.20734	0.20908	0.20807
____ ZR	0.04635	149.28	3.028	0.04674	0.04751	0.04479

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 15 Date/Time: 09/29/2015 12:39

Sample Number: **8057362** Class: UP** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.02046	-716.06	4.266	0.02015	0.02144	0.01978
____ AL	42.55891	6,069.22	0.441	42.40225	42.76712	42.50736
____ AS	0.50734	173.53	0.405	0.50924	0.50516	0.50763
____ B	0.23195	2,930.20	1.286	0.23456	0.22870	0.23260
____ BA	0.18272	140,155.44	0.670	0.18331	0.18132	0.18354
____ BE	0.02154	7,600.98	0.975	0.02164	0.02130	0.02169
____ CA	18.90747	21,871.43	0.368	18.87618	18.98718	18.85906
____ CD	0.04836	745.52	0.175	0.04826	0.04843	0.04839
____ CO	0.14310	720.01	0.614	0.14274	0.14410	0.14246
____ CR	0.31572	2,780.52	0.609	0.31704	0.31352	0.31661
____ CU	0.57296	7,182.39	0.824	0.57635	0.56757	0.57497
____ FE	140.06217	42,253.28	0.361	139.70423	140.64077	139.84150
____ K	6.40896	2,466.30	0.748	6.37139	6.39257	6.46292
____ LI	1.02671	8,966.00	0.201	1.02530	1.02907	1.02575
____ MG	26.12560	47,748.04	0.344	26.03576	26.21545	26.12559
____ MN	1.96948	138,785.11	0.752	1.97211	1.95354	1.98279
____ MO	0.19364	672.50	0.181	0.19330	0.19362	0.19400
____ NA	3.57543	4,855.96	0.674	3.54799	3.58517	3.59314
____ NI	0.29993	891.58	0.307	0.30095	0.29915	0.29970
____ P	5.36706	2,037.35	0.186	5.37209	5.37352	5.35559
____ PB	0.51156	529.69	0.230	0.51123	0.51059	0.51287
____ S	1.02533	201.64	0.224	1.02726	1.02278	1.02594
____ SB	0.39042	206.40	0.784	0.38743	0.39355	0.39028
____ SE	0.81227	209.25	0.418	0.81269	0.80869	0.81544
____ SI	10.77065	2,003.33	0.697	10.70279	10.85125	10.75793
____ SN	0.58096	512.26	0.077	0.58114	0.58046	0.58129
____ SR	0.10333	89,772.14	0.799	0.10360	0.10240	0.10399
____ TI	4.25738	208,311.79	0.869	4.26872	4.21602	4.28739
____ TL	0.96340	501.54	0.406	0.96788	0.96165	0.96066
____ V	0.21722	3,230.16	1.379	0.21886	0.21376	0.21903
____ Y1	16093.51914	16,093.52	0.110	16073.02237	16104.69104	16102.84401
____ Y2A	456666.57436	456,666.57	0.684	455381.04705	460229.01399	454389.66203
____ Y2R	37964.37773	37,964.38	0.374	37964.30711	37822.31322	38106.51286
____ ZN	0.31913	3,159.44	0.814	0.32097	0.31615	0.32026
____ ZR	0.99573	3,013.33	0.253	0.99308	0.99809	0.99603

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 16 Date/Time: 09/29/2015 12:42

Sample Number: **8057365** Class: D*** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00509	-1,121.93	11.773	0.00442	0.00558	0.00526
____ AL	45.82837	6,514.70	0.343	45.65859	45.85808	45.96844
____ AS	0.03661	14.02	8.419	0.03429	0.04011	0.03543
____ B	0.04434	1,414.38	6.943	0.04739	0.04123	0.04441
____ BA	0.15366	117,703.33	0.531	0.15459	0.15332	0.15308
____ BE	0.00159	310.47	1.307	0.00161	0.00160	0.00157
____ CA	19.88359	22,929.95	0.393	19.79373	19.92067	19.93636
____ CD	0.00006	179.00	80.964	0.00010	0.00004	0.00002
____ CO	0.04977	271.52	0.680	0.05015	0.04953	0.04962
____ CR	0.11223	965.93	0.947	0.11340	0.11198	0.11132
____ CU	0.09952	1,055.48	1.969	0.10119	0.09999	0.09736
____ FE	143.32258	43,023.78	0.249	142.91670	143.45985	143.59119
____ K	5.18250	2,004.39	0.553	5.18050	5.15487	5.21212
____ LI	0.08218	731.65	1.189	0.08168	0.08156	0.08331
____ MG	25.93154	47,273.37	0.438	25.81713	25.93347	26.04403
____ MN	2.15245	151,465.32	0.565	2.16633	2.14742	2.14359
____ MO	0.00102	4.88	14.852	0.00116	0.00086	0.00103
____ NA	1.71243	2,331.86	0.225	1.71688	1.71031	1.71009
____ NI	0.15761	467.37	0.437	0.15828	0.15765	0.15690
____ P	4.27116	1,614.47	0.376	4.28283	4.27782	4.25283
____ PB	0.03737	47.76	9.248	0.03718	0.04092	0.03401
____ S	0.08001	16.03	3.896	0.08149	0.07643	0.08212
____ SB	0.01936	3.86	9.566	0.01905	0.02134	0.01767
____ SE	0.03782	-3.40	13.665	0.04093	0.03185	0.04068
____ SI	11.24283	2,085.05	0.852	11.30736	11.28834	11.13278
____ SN	0.01757	17.19	7.309	0.01807	0.01852	0.01611
____ SR	0.07842	68,071.25	0.552	0.07890	0.07832	0.07805
____ TI	4.09204	199,936.12	1.058	4.14201	4.06709	4.06702
____ TL	0.00709	-3.87	3.589	0.00712	0.00682	0.00733
____ V	0.11383	1,727.01	1.789	0.11618	0.11249	0.11283
____ Y1	16029.05658	16,029.06	0.137	16052.13744	16026.64958	16008.38272
____ Y2A	456022.99787	456,023.00	0.572	453035.45394	457195.65938	457837.88029
____ Y2R	37864.69146	37,864.69	0.073	37834.42173	37888.86668	37870.78596
____ ZN	0.22079	2,227.92	0.500	0.22151	0.22136	0.21952
____ ZR	0.04815	154.69	2.237	0.04931	0.04719	0.04794

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 17 Date/Time: 09/29/2015 12:45

Sample Number: **8057363** Class: R*** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04892	-186.45	1.959	0.04782	0.04954	0.04941
____ AL	49.86708	7,093.28	0.223	49.96969	49.88291	49.74864
____ AS	0.18108	62.65	1.662	0.18008	0.18446	0.17869
____ B	1.91210	16,422.84	0.563	1.90402	1.92432	1.90796
____ BA	2.08526	1,577,979.16	0.508	2.07309	2.09017	2.09251
____ BE	0.05309	18,540.97	0.131	0.05317	0.05309	0.05303
____ CA	24.74856	28,476.01	0.350	24.71185	24.84742	24.68642
____ CD	0.04890	738.43	0.544	0.04889	0.04864	0.04917
____ CO	0.53064	2,568.74	0.085	0.53100	0.53014	0.53077
____ CR	0.31197	2,712.05	0.392	0.31323	0.31191	0.31079
____ CU	0.34194	4,081.12	0.723	0.34296	0.34373	0.33912
____ FE	134.57236	40,636.64	0.217	134.53977	134.87953	134.29778
____ K	14.23367	5,363.55	0.628	14.31969	14.24011	14.14120
____ LI	1.05803	9,213.71	0.238	1.05807	1.06053	1.05550
____ MG	28.64550	52,140.78	0.597	28.67107	28.80217	28.46327
____ MN	2.80995	195,380.29	0.235	2.80600	2.80629	2.81756
____ MO	1.91906	6,602.44	0.232	1.92392	1.91805	1.91520
____ NA	11.90509	16,066.72	0.256	11.90487	11.93565	11.87474
____ NI	0.63607	1,876.85	0.099	0.63623	0.63538	0.63660
____ P	5.44574	2,051.61	0.298	5.46442	5.43532	5.43746
____ PB	0.18277	188.78	0.411	0.18210	0.18358	0.18262
____ S	1.03692	200.83	0.652	1.04435	1.03112	1.03529
____ SB	0.50148	245.52	0.665	0.50502	0.49839	0.50103
____ SE	0.17753	35.66	1.775	0.17398	0.18001	0.17859
____ SI	20.38512	3,779.71	0.083	20.38066	20.40387	20.37084
____ SN	3.81065	3,324.74	0.184	3.81601	3.80272	3.81323
____ SR	1.08055	925,368.87	0.075	1.08035	1.07986	1.08143
____ TI	6.08901	293,976.15	0.328	6.09932	6.10173	6.06596
____ TL	0.15483	72.65	1.056	0.15386	0.15671	0.15390
____ V	0.63275	9,016.33	0.153	0.63331	0.63331	0.63163
____ Y1	15971.93352	15,971.93	0.100	15961.31384	15990.30045	15964.18626
____ Y2A	450592.85951	450,592.86	0.185	449751.65673	450606.44467	451420.47714
____ Y2R	37853.54534	37,853.55	0.475	37710.90945	37794.44002	38055.28654
____ ZN	0.69652	6,625.83	0.277	0.69851	0.69637	0.69467
____ ZR	1.06947	3,226.37	0.102	1.06967	1.07043	1.06829

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 18 Date/Time: 09/29/2015 12:48

Sample Number: **8057364** Class: M*** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04894	-292.08	1.320	0.04819	0.04928	0.04934
____ AL	53.57988	7,662.99	0.508	53.56502	53.85918	53.31543
____ AS	0.18212	63.50	0.513	0.18317	0.18136	0.18184
____ B	1.89449	16,498.57	0.423	1.88550	1.89711	1.90086
____ BA	2.09238	1,595,909.77	0.770	2.09322	2.07586	2.10806
____ BE	0.05270	18,526.53	0.533	0.05239	0.05279	0.05293
____ CA	26.13947	30,236.78	0.529	26.14148	26.27676	26.00017
____ CD	0.04859	754.34	0.331	0.04851	0.04847	0.04877
____ CO	0.52975	2,588.75	0.596	0.52621	0.53227	0.53077
____ CR	0.31836	2,786.76	0.996	0.31481	0.31937	0.32090
____ CU	0.34417	4,113.02	0.766	0.34142	0.34443	0.34667
____ FE	147.21717	44,313.78	0.470	147.09811	147.96113	146.59226
____ K	15.12709	5,728.41	0.608	15.05282	15.22993	15.09854
____ LI	1.04865	9,185.78	0.369	1.04837	1.05264	1.04493
____ MG	29.60259	54,174.05	0.539	29.46067	29.77532	29.57179
____ MN	2.71208	190,069.81	0.359	2.70324	2.71047	2.72253
____ MO	1.90806	6,595.66	0.188	1.90903	1.91107	1.90408
____ NA	11.82672	16,054.12	0.423	11.80052	11.88435	11.79529
____ NI	0.64318	1,906.22	0.554	0.63918	0.64602	0.64433
____ P	5.28301	1,999.71	0.671	5.24223	5.30636	5.30046
____ PB	0.18450	191.97	1.812	0.18105	0.18773	0.18471
____ S	1.05801	205.79	0.295	1.05456	1.06061	1.05888
____ SB	0.49855	244.55	0.667	0.49473	0.50080	0.50012
____ SE	0.17914	35.18	2.217	0.17813	0.18351	0.17576
____ SI	18.05863	3,368.74	0.584	18.13218	18.10593	17.93779
____ SN	3.77536	3,309.52	0.445	3.75735	3.79066	3.77808
____ SR	1.08087	932,980.09	0.973	1.07431	1.07529	1.09300
____ TI	7.40200	360,192.90	0.777	7.34693	7.39739	7.46169
____ TL	0.15440	71.55	0.872	0.15285	0.15505	0.15529
____ V	0.64514	9,280.79	0.621	0.64096	0.64551	0.64895
____ Y1	16047.44204	16,047.44	0.253	16093.46740	16016.83888	16032.01985
____ Y2A	454169.17937	454,169.18	0.392	455928.67793	454209.90722	452368.95295
____ Y2R	38074.74342	38,074.74	0.784	38216.90809	37731.84399	38275.47818
____ ZN	0.70681	6,765.74	0.101	0.70623	0.70761	0.70658
____ ZR	1.07178	3,252.19	0.736	1.07838	1.07391	1.06305

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 19 Date/Time: 09/29/2015 12:52

Sample Number: **8057362** Class: UL** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00008	-260.29	220.899	-0.00027	0.00002	0.00002
____ AL	8.59976	1,229.89	0.298	8.62844	8.57914	8.59170
____ AS	0.00750	2.37	20.271	0.00586	0.00779	0.00886
____ B	0.01442	387.14	4.536	0.01486	0.01472	0.01367
____ BA	0.02808	22,106.74	0.923	0.02785	0.02803	0.02836
____ BE	0.00028	-58.90	3.557	0.00029	0.00027	0.00027
____ CA	3.81541	4,509.81	0.173	3.81670	3.82125	3.80828
____ CD	0.00026	35.87	12.481	0.00025	0.00030	0.00024
____ CO	0.01076	57.62	3.136	0.01044	0.01112	0.01073
____ CR	0.02599	235.39	2.502	0.02575	0.02550	0.02673
____ CU	0.01658	55.40	5.189	0.01655	0.01746	0.01574
____ FE	27.87708	9,056.50	0.141	27.83435	27.91135	27.88552
____ K	0.93390	426.71	1.013	0.94066	0.93797	0.92309
____ LI	0.01737	163.68	2.489	0.01763	0.01761	0.01687
____ MG	5.31852	9,819.56	0.078	5.31441	5.32274	5.31840
____ MN	0.40199	29,056.28	0.387	0.40073	0.40151	0.40372
____ MO	0.00314	12.47	4.521	0.00302	0.00329	0.00309
____ NA	0.31457	447.45	2.423	0.30709	0.31428	0.32233
____ NI	0.03418	109.79	0.715	0.03442	0.03394	0.03419
____ P	0.93351	360.89	0.326	0.93049	0.93347	0.93658
____ PB	0.00928	12.19	22.144	0.00777	0.00844	0.01162
____ S	0.01178	3.97	41.936	0.00633	0.01306	0.01596
____ SB	0.00474	1.80	47.374	0.00333	0.00732	0.00355
____ SE	0.00667	-2.50	41.129	0.00354	0.00863	0.00783
____ SI	2.04330	383.26	0.401	2.03432	2.04521	2.05035
____ SN	0.00369	5.17	30.309	0.00304	0.00498	0.00304
____ SR	0.01753	15,572.48	0.492	0.01743	0.01754	0.01761
____ TI	0.87686	44,008.77	0.848	0.87030	0.87534	0.88494
____ TL	0.00130	-3.54	42.582	0.00185	0.00075	0.00130
____ V	0.02444	375.18	1.349	0.02424	0.02426	0.02482
____ Y1	16403.18332	16,403.18	0.149	16376.91104	16425.36662	16407.27230
____ Y2A	468266.58260	468,266.58	0.565	470055.70292	469518.11835	465225.92654
____ Y2R	37855.16763	37,855.17	0.098	37816.99461	37857.43472	37891.07356
____ ZN	0.04248	463.33	0.405	0.04229	0.04251	0.04263
____ ZR	0.00841	35.16	9.282	0.00786	0.00807	0.00931

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 20 Date/Time: 09/29/2015 12:55

Sample Number: **8063152** Class: **** Batch: 152715708002

Initial Vol: 1.00 Final Vol: 100.00 DF: 10.00 Protocol Symbol: S

ELEMENT		AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	k	-0.34626	-5,533.22	0.279	-0.34516	-0.34664	-0.34698
____ AL	k	-0.02861	3.08	61.123	-0.03919	-0.03821	-0.00842
____ AS	k	0.14439	40.95	1.588	0.14408	0.14227	0.14682
____ B	k	0.90741	7,207.39	0.940	0.90089	0.90427	0.91706
____ BA		0.00051	398.38	1.175	0.00051	0.00051	0.00050
____ BE	k	0.00030	-14.01	10.203	0.00033	0.00030	0.00027
____ CA		-0.06098	49.62	8.212	-0.05855	-0.05764	-0.06673
____ CD	k	0.09332	927.81	1.945	0.09168	0.09301	0.09527
____ CO	k	0.71510	2,885.75	1.222	0.70735	0.71338	0.72457
____ CR	k	156.72628	1,341,426.63	0.722	155.57433	156.76881	157.83570
____ CU	k	4.25433	52,794.44	0.423	4.23730	4.25253	4.27316
____ FE	k	0.00000	216,864.67	0.000	0.00000	0.00000	0.00000
____ K		-0.09105	45.30	32.630	-0.06778	-0.08085	-0.12451
____ LI		0.00141	23.41	98.895	0.00017	0.00114	0.00293
____ MG	k	-0.01862	21.18	7.496	-0.01850	-0.01729	-0.02007
____ MN		15.81848	1,071,174.96	0.781	15.67884	15.86285	15.91375
____ MO		1.54360	4,525.73	0.727	1.53227	1.54381	1.55470
____ NA		-0.03035	-17.01	34.128	-0.03244	-0.01910	-0.03950
____ NI	k	90.30164	226,457.82	0.884	89.60250	90.13126	91.17117
____ P	k	0.42556	136.38	1.431	0.41981	0.42492	0.43194
____ PB	k	0.04785	37.08	3.736	0.04902	0.04579	0.04874
____ S	k	0.05831	10.04	4.322	0.05814	0.06091	0.05588
____ SB	k	0.21035	83.21	2.417	0.21029	0.20529	0.21546
____ SE	k	-0.08367	-18.93	3.089	-0.08330	-0.08642	-0.08130
____ SI	k	2.90128	534.18	0.877	2.89155	2.93017	2.88212
____ SN	k	0.03687	28.94	3.515	0.03582	0.03646	0.03832
____ SR		0.00019	105.67	6.066	0.00018	0.00020	0.00019
____ TI	k	0.07695	3,635.97	0.536	0.07648	0.07725	0.07713
____ TL	k	0.06141	31.14	2.536	0.06126	0.06304	0.05994
____ V	k	0.57382	7,936.08	0.428	0.57099	0.57511	0.57537
____ Y1		13610.58504	13,610.59	0.307	13608.83880	13653.25095	13569.66536
____ Y2A		438859.06782	438,859.07	0.257	440084.24453	438633.44930	437859.50961
____ Y2R		37083.14216	37,083.14	0.286	37094.13026	37183.17375	36972.12248
____ ZN	k	0.57537	4,547.68	0.961	0.57038	0.57443	0.58131
____ ZR		0.01222	45.75	2.346	0.01225	0.01250	0.01193

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 21 Date/Time: 09/29/2015 12:58

Sample Number: **8063264** Class: **** Batch: 152715708002

Initial Vol: 1.03 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00536	-955.08	2.468	0.00534	0.00551	0.00524
____ AL	74.78480	10,692.18	0.199	74.61639	74.84087	74.89714
____ AS	0.01757	7.28	23.562	0.01354	0.01735	0.02181
____ B	0.13966	2,056.81	2.330	0.13694	0.14327	0.13879
____ BA	0.49118	376,259.22	0.666	0.48992	0.48873	0.49490
____ BE	0.00434	1,265.28	0.564	0.00432	0.00436	0.00433
____ CA	29.09575	33,704.16	0.278	29.02819	29.18533	29.07372
____ CD	0.00118	164.65	8.123	0.00122	0.00124	0.00107
____ CO	0.04067	214.55	0.676	0.04083	0.04082	0.04035
____ CR	0.13455	1,169.83	1.290	0.13312	0.13648	0.13404
____ CU	0.48612	6,093.61	0.679	0.48348	0.48982	0.48504
____ FE	123.55951	37,911.30	0.187	123.29264	123.70527	123.68062
____ K	13.70470	5,209.80	0.203	13.69142	13.68603	13.73664
____ LI	0.09704	870.24	0.489	0.09650	0.09723	0.09739
____ MG	23.32090	42,902.34	0.451	23.21560	23.42576	23.32134
____ MN	1.93798	136,402.34	0.327	1.93069	1.94100	1.94225
____ MO	0.00563	20.80	3.048	0.00567	0.00544	0.00578
____ NA	1.82517	2,503.52	0.292	1.82723	1.82917	1.81911
____ NI	0.10870	323.75	1.051	0.10850	0.10993	0.10767
____ P	2.18630	826.77	0.893	2.17563	2.20884	2.17444
____ PB	0.83255	858.96	0.199	0.83116	0.83438	0.83211
____ S	0.69572	136.65	0.877	0.69546	0.70195	0.68975
____ SB	0.01890	4.67	11.025	0.01844	0.02117	0.01708
____ SE	0.02672	-3.91	2.738	0.02674	0.02744	0.02598
____ SI	12.21914	2,283.81	0.294	12.17779	12.24186	12.23778
____ SN	0.09378	83.89	0.398	0.09412	0.09338	0.09383
____ SR	0.16866	146,374.36	0.288	0.16810	0.16893	0.16895
____ TI	2.60672	127,398.31	0.122	2.61017	2.60610	2.60390
____ TL	0.00421	-4.14	29.575	0.00278	0.00508	0.00478
____ V	0.16423	2,458.48	1.091	0.16221	0.16565	0.16482
____ Y1	16031.56172	16,031.56	0.023	16034.65254	16027.39261	16032.64000
____ Y2A	456106.77601	456,106.78	0.218	456746.35520	454960.23857	456613.73426
____ Y2R	38164.83430	38,164.83	0.336	38194.33925	38024.59549	38275.56818
____ ZN	0.93697	8,840.56	0.210	0.93666	0.93907	0.93517
____ ZR	0.03518	116.61	1.861	0.03584	0.03453	0.03517

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 22 Date/Time: 09/29/2015 13:01

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50113	7,960.10	0.777	0.50392	0.49668	0.50279
____ AL	25.43054	3,563.20	0.147	25.44521	25.45847	25.38795
____ AS	0.51327	167.83	5.051	0.54313	0.50016	0.49651
____ B	0.49316	4,165.75	2.058	0.50215	0.48215	0.49516
____ BA	0.50491	378,679.24	0.335	0.50471	0.50334	0.50670
____ BE	0.48846	177,047.34	1.085	0.49069	0.48241	0.49227
____ CA	25.54391	28,856.96	0.342	25.46059	25.63493	25.53622
____ CD	0.50716	5,805.39	4.683	0.53458	0.49304	0.49384
____ CO	0.51102	2,359.84	4.532	0.53776	0.49806	0.49724
____ CR	0.51097	4,448.69	1.587	0.51907	0.50285	0.51101
____ CU	0.50453	6,244.27	1.933	0.51194	0.49348	0.50816
____ FE	25.39597	8,115.92	0.322	25.40242	25.47445	25.31105
____ K	25.54346	9,390.69	0.404	25.53151	25.65222	25.44666
____ LI	0.49953	4,282.03	0.305	0.50012	0.50066	0.49780
____ MG	25.32153	45,334.10	0.253	25.28646	25.39555	25.28257
____ MN	0.49973	34,443.08	1.206	0.50317	0.49277	0.50325
____ MO	0.52194	1,749.22	4.399	0.54844	0.50798	0.50941
____ NA	25.60743	33,913.71	0.435	25.65514	25.68692	25.48023
____ NI	0.51037	1,468.50	4.639	0.53765	0.49833	0.49514
____ P	0.51197	188.21	3.914	0.53507	0.50139	0.49943
____ PB	0.51015	506.84	4.257	0.53521	0.49846	0.49679
____ S	25.92819	4,921.95	4.462	27.26393	25.25345	25.26719
____ SB	0.53416	277.38	4.182	0.55959	0.52520	0.51770
____ SE	0.51433	132.87	3.712	0.53604	0.50016	0.50680
____ SI	25.89012	4,710.13	0.286	25.80662	25.91630	25.94744
____ SN	0.52034	443.47	4.407	0.54681	0.50785	0.50637
____ SR	0.50294	426,938.51	0.626	0.50565	0.49949	0.50370
____ TI	0.50838	24,391.34	1.249	0.51127	0.50110	0.51277
____ TL	0.51395	258.94	3.839	0.53672	0.50322	0.50190
____ V	0.51678	7,397.65	1.788	0.52443	0.50652	0.51940
____ Y1	15567.46820	15,567.47	3.893	14868.36878	15942.45139	15891.58446
____ Y2A	446563.28694	446,563.29	0.763	443829.27435	450383.28363	445477.30285
____ Y2R	37176.03042	37,176.03	0.343	37174.37163	37049.40000	37304.31963
____ ZN	0.50557	4,623.33	4.705	0.53303	0.49125	0.49244
____ ZR	0.52592	1,563.08	0.707	0.52597	0.52961	0.52218

LANCASTER LABORATORIES

Run Name: 1527205T72

Instrument ID: 16417

Tube: 23

Date/Time: 09/29/2015 13:04

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00029	-17.38	82.198	0.00003	0.00035	0.00050
____ AL	-0.03868	0.52	48.773	-0.01999	-0.05772	-0.03834
____ AS	0.00351	0.52	56.729	0.00296	0.00185	0.00572
____ B	-0.00074	62.73	13.916	-0.00078	-0.00062	-0.00081
____ BA	0.00003	48.80	32.844	0.00003	0.00004	0.00002
____ BE	0.00004	-114.70	24.100	0.00004	0.00004	0.00005
____ CA	-0.04107	72.22	7.371	-0.04364	-0.03773	-0.04182
____ CD	-0.00001	-3.57	782.876	-0.00003	0.00008	-0.00009
____ CO	-0.00001	-3.09	3696.020	0.00041	-0.00024	-0.00019
____ CR	0.00187	22.48	19.454	0.00150	0.00189	0.00223
____ CU	-0.00035	-148.60	164.133	-0.00086	0.00028	-0.00048
____ FE	0.00115	4.06	323.346	0.00502	-0.00242	0.00086
____ K	-0.08068	49.16	9.713	-0.07808	-0.08949	-0.07447
____ LI	0.00170	25.94	51.296	0.00209	0.00070	0.00232
____ MG	-0.02801	4.26	1.176	-0.02806	-0.02766	-0.02832
____ MN	0.00011	19.28	59.397	0.00017	0.00004	0.00013
____ MO	0.00120	5.59	10.253	0.00112	0.00114	0.00134
____ NA	-0.04650	-38.41	26.243	-0.03604	-0.05991	-0.04355
____ NI	0.00057	9.22	71.014	0.00044	0.00102	0.00024
____ P	-0.00164	-0.89	21.934	-0.00128	-0.00200	-0.00163
____ PB	-0.00177	-1.00	72.298	-0.00153	-0.00314	-0.00062
____ S	0.00057	2.00	535.403	0.00395	-0.00025	-0.00199
____ SB	0.00149	1.47	90.984	0.00055	0.00305	0.00088
____ SE	0.00370	-0.97	50.579	0.00203	0.00334	0.00572
____ SI	0.01586	8.18	36.126	0.01528	0.02185	0.01044
____ SN	-0.00002	1.84	2842.031	-0.00017	-0.00043	0.00054
____ SR	0.00004	-24.77	19.810	0.00003	0.00004	0.00003
____ TI	0.00026	32.00	5.301	0.00027	0.00027	0.00025
____ TL	-0.00015	-3.36	355.668	-0.00048	-0.00045	0.00047
____ V	0.00057	2.75	77.131	0.00077	0.00087	0.00007
____ Y1	16289.76145	16,289.76	0.054	16299.76029	16282.81229	16286.71177
____ Y2A	465113.18994	465,113.19	0.576	467228.84744	466008.82745	462101.89495
____ Y2R	37164.52678	37,164.53	0.455	37351.81492	37118.04863	37023.71680
____ ZN	-0.00006	29.28	521.749	0.00029	-0.00024	-0.00022
____ ZR	-0.00097	6.82	160.582	-0.00260	0.00047	-0.00076

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 24 Date/Time: 09/29/2015 13:07

Sample Number: **8063268** Class: **** Batch: 152715708002

Initial Vol: 0.86 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00646	-934.97	1.990	0.00660	0.00634	0.00644
____ AL	90.71086	13,015.89	0.255	90.73055	90.93151	90.47052
____ AS	0.01961	7.95	5.055	0.01848	0.01999	0.02035
____ B	0.12789	1,953.68	1.144	0.12760	0.12947	0.12659
____ BA	0.72074	549,885.22	0.643	0.71691	0.71941	0.72589
____ BE	0.00488	1,444.96	0.608	0.00485	0.00489	0.00491
____ CA	37.57129	43,621.56	0.038	37.55718	37.58601	37.57067
____ CD	0.00126	164.29	13.849	0.00135	0.00138	0.00106
____ CO	0.04431	230.26	1.504	0.04392	0.04508	0.04394
____ CR	0.12105	1,045.61	0.648	0.12065	0.12196	0.12055
____ CU	0.76944	9,725.38	0.756	0.76434	0.76819	0.77578
____ FE	123.59331	38,099.36	0.240	123.32414	123.91035	123.54543
____ K	14.04656	5,362.84	0.376	14.03007	14.10560	14.00401
____ LI	0.12310	1,106.18	1.181	0.12144	0.12371	0.12415
____ MG	29.30234	54,012.97	0.424	29.24927	29.44435	29.21339
____ MN	2.29139	160,630.04	0.769	2.27932	2.28323	2.31161
____ MO	0.00292	11.40	9.136	0.00307	0.00261	0.00307
____ NA	2.20559	3,034.56	1.239	2.23673	2.18565	2.19438
____ NI	0.10782	320.55	0.422	0.10821	0.10732	0.10792
____ P	2.66583	1,006.50	0.072	2.66574	2.66779	2.66397
____ PB	1.01055	1,040.17	0.414	1.00735	1.00902	1.01528
____ S	1.72057	336.58	0.166	1.71912	1.72385	1.71872
____ SB	0.01852	4.64	11.709	0.01724	0.02102	0.01729
____ SE	0.02662	-3.47	11.314	0.02860	0.02316	0.02812
____ SI	11.20180	2,103.91	0.735	11.26806	11.10955	11.22778
____ SN	0.12272	109.03	0.445	0.12291	0.12314	0.12210
____ SR	0.21224	183,480.49	1.001	0.21096	0.21107	0.21469
____ TI	2.47383	120,419.26	1.288	2.45666	2.45423	2.51059
____ TL	0.00489	-3.52	23.848	0.00571	0.00541	0.00356
____ V	0.17758	2,644.72	0.614	0.17637	0.17847	0.17791
____ Y1	16003.06093	16,003.06	0.214	16034.41602	16008.25667	15966.51009
____ Y2A	454289.48860	454,289.49	0.296	455374.83433	454706.92512	452786.70635
____ Y2R	38344.48486	38,344.48	0.299	38233.28517	38337.80889	38462.36050
____ ZN	1.58817	14,846.35	0.101	1.58635	1.58935	1.58880
____ ZR	0.02356	81.77	3.276	0.02298	0.02327	0.02444

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 25 Date/Time: 09/29/2015 13:10

Sample Number: **8063272** Class: **** Batch: 152715708002

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00333	-687.36	31.854	0.00257	0.00289	0.00454
____ AL	59.31932	8,388.41	0.435	59.13298	59.61415	59.21081
____ AS	0.01750	6.66	10.720	0.01966	0.01634	0.01649
____ B	0.09059	1,389.64	3.038	0.09314	0.09096	0.08767
____ BA	0.46002	347,194.93	1.037	0.46533	0.45863	0.45609
____ BE	0.00337	936.44	2.167	0.00333	0.00333	0.00346
____ CA	28.35019	32,454.27	0.283	28.27664	28.43564	28.33830
____ CD	0.00089	116.58	6.121	0.00094	0.00083	0.00091
____ CO	0.03417	176.21	0.845	0.03413	0.03391	0.03448
____ CR	0.09328	800.27	5.623	0.09096	0.08959	0.09928
____ CU	0.33053	4,038.76	1.902	0.33565	0.33242	0.32351
____ FE	88.29742	27,430.17	0.405	87.98434	88.68672	88.22119
____ K	9.80368	3,704.76	0.445	9.82324	9.83406	9.75375
____ LI	0.08033	714.94	0.751	0.08016	0.08100	0.07983
____ MG	21.16492	38,508.44	0.141	21.17100	21.13261	21.19115
____ MN	1.80987	125,510.06	0.966	1.82932	1.80482	1.79546
____ MO	0.00229	9.23	6.220	0.00231	0.00213	0.00241
____ NA	1.03569	1,413.71	0.259	1.03749	1.03260	1.03697
____ NI	0.07683	230.31	0.528	0.07728	0.07674	0.07648
____ P	2.23071	841.09	0.253	2.22448	2.23550	2.23215
____ PB	1.18557	1,211.09	0.190	1.18559	1.18330	1.18782
____ S	0.58896	115.85	0.904	0.58722	0.59494	0.58473
____ SB	0.01428	4.01	18.060	0.01617	0.01532	0.01134
____ SE	0.01835	-3.33	3.675	0.01796	0.01797	0.01913
____ SI	13.03575	2,407.13	0.285	13.00327	13.02773	13.07624
____ SN	0.07695	68.97	0.838	0.07714	0.07623	0.07747
____ SR	0.12532	107,200.51	1.155	0.12688	0.12505	0.12403
____ TI	1.85424	89,292.91	0.953	1.87465	1.84389	1.84417
____ TL	0.00296	-3.69	38.694	0.00164	0.00357	0.00367
____ V	0.13180	1,939.54	1.566	0.13379	0.13194	0.12967
____ Y1	15987.27038	15,987.27	0.038	15986.26341	15981.79941	15993.74833
____ Y2A	449418.76519	449,418.77	1.018	444329.02584	450737.24321	453190.02651
____ Y2R	37706.95764	37,706.96	0.451	37628.26846	37590.68676	37901.91770
____ ZN	0.58659	5,542.12	0.094	0.58709	0.58668	0.58601
____ ZR	0.01992	69.50	9.943	0.02221	0.01885	0.01871

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 26 Date/Time: 09/29/2015 13:13

Sample Number: **8063276** Class: **** Batch: 152715708002

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00192	-557.27	33.187	0.00122	0.00247	0.00206
____ AL	54.02005	7,660.87	0.159	54.04733	54.08906	53.92375
____ AS	0.01055	4.02	11.104	0.00923	0.01097	0.01146
____ B	0.07697	1,163.25	4.036	0.07910	0.07341	0.07840
____ BA	0.40547	310,924.46	0.423	0.40667	0.40350	0.40622
____ BE	0.00277	759.93	0.993	0.00277	0.00274	0.00279
____ CA	16.29445	18,793.61	0.118	16.28430	16.31667	16.28237
____ CD	0.00079	90.70	22.728	0.00098	0.00062	0.00078
____ CO	0.02512	131.64	1.073	0.02543	0.02497	0.02495
____ CR	0.07144	623.61	1.326	0.07162	0.07042	0.07229
____ CU	0.33741	4,194.73	1.140	0.34083	0.33324	0.33815
____ FE	68.41113	21,596.21	0.167	68.37499	68.53908	68.31930
____ K	7.89920	3,008.03	0.624	7.87725	7.95567	7.86469
____ LI	0.06819	607.95	4.075	0.06912	0.07038	0.06507
____ MG	14.15412	25,909.03	0.243	14.16995	14.17781	14.11461
____ MN	1.31983	92,994.65	0.459	1.32229	1.31293	1.32427
____ MO	0.00158	6.84	2.639	0.00153	0.00161	0.00160
____ NA	0.85517	1,174.34	1.869	0.85227	0.84083	0.87240
____ NI	0.06066	184.55	1.666	0.06092	0.06152	0.05955
____ P	1.55903	591.38	0.661	1.56883	1.54828	1.55996
____ PB	0.52626	546.30	0.213	0.52724	0.52503	0.52650
____ S	0.40594	80.77	0.912	0.40522	0.40994	0.40264
____ SB	0.01053	3.03	18.880	0.01220	0.01106	0.00833
____ SE	0.01671	-2.17	6.118	0.01716	0.01554	0.01742
____ SI	11.90609	2,204.49	0.699	11.96786	11.93892	11.81149
____ SN	0.07028	63.54	2.835	0.07046	0.07218	0.06821
____ SR	0.11319	98,288.31	0.383	0.11336	0.11269	0.11351
____ TI	1.59489	78,035.10	0.438	1.59450	1.58810	1.60206
____ TL	0.00304	-3.37	91.682	-0.00007	0.00531	0.00387
____ V	0.10577	1,580.26	1.436	0.10671	0.10401	0.10658
____ Y1	16083.40671	16,083.41	0.044	16081.47617	16077.44020	16091.30377
____ Y2A	456587.91534	456,587.92	0.609	455031.31213	459795.96935	454936.46455
____ Y2R	37800.79807	37,800.80	0.354	37715.62313	37731.59417	37955.17689
____ ZN	0.49454	4,699.38	0.055	0.49443	0.49485	0.49435
____ ZR	0.01373	51.06	6.036	0.01454	0.01376	0.01288

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 27 Date/Time: 09/29/2015 13:16

Sample Number: **8065059** Class: **** Batch: 152715708002

Initial Vol: 1.01 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00153	-190.41	16.374	-0.00124	-0.00168	-0.00168
____ AL	17.11635	2,442.95	0.507	17.18538	17.01904	17.14463
____ AS	0.01228	3.84	10.604	0.01368	0.01110	0.01207
____ B	0.02781	421.53	3.976	0.02769	0.02676	0.02896
____ BA	0.07112	55,800.16	1.839	0.07072	0.07007	0.07259
____ BE	0.00078	101.40	3.516	0.00078	0.00076	0.00081
____ CA	2.19118	2,644.67	0.402	2.18495	2.18732	2.20126
____ CD	0.00044	24.13	26.548	0.00055	0.00047	0.00032
____ CO	0.00093	36.32	35.561	0.00130	0.00081	0.00067
____ CR	0.05316	484.86	1.587	0.05275	0.05260	0.05413
____ CU	0.01377	-47.24	3.399	0.01323	0.01402	0.01406
____ FE	17.83572	5,839.45	0.261	17.79513	17.82538	17.88664
____ K	3.46652	1,368.16	0.647	3.44715	3.46133	3.49110
____ LI	0.01187	115.57	9.672	0.01320	0.01130	0.01113
____ MG	2.22093	4,142.11	0.180	2.21640	2.22245	2.22395
____ MN	0.22500	16,222.48	1.503	0.22456	0.22186	0.22858
____ MO	0.00518	19.63	0.481	0.00518	0.00520	0.00515
____ NA	0.17814	263.82	1.550	0.18040	0.17506	0.17894
____ NI	0.01003	37.10	1.739	0.01012	0.01014	0.00983
____ P	1.02449	394.96	0.831	1.03428	1.02033	1.01885
____ PB	0.03683	42.44	0.255	0.03672	0.03686	0.03690
____ S	0.07055	15.75	1.596	0.07162	0.07066	0.06937
____ SB	0.00124	0.27	49.384	0.00081	0.00195	0.00098
____ SE	0.00652	-1.39	80.925	0.00987	0.00044	0.00926
____ SI	9.01882	1,675.47	0.738	9.06849	9.04472	8.94324
____ SN	0.01759	17.56	6.519	0.01637	0.01774	0.01865
____ SR	0.02676	23,706.46	2.307	0.02659	0.02625	0.02745
____ TI	3.70736	185,488.98	1.771	3.68611	3.65498	3.78099
____ TL	0.00195	-5.20	44.017	0.00115	0.00285	0.00185
____ V	0.04783	739.42	2.135	0.04702	0.04750	0.04898
____ Y1	16357.78439	16,357.78	0.252	16320.52537	16350.74572	16402.08208
____ Y2A	467008.64168	467,008.64	1.450	465970.76412	474241.58333	460813.57759
____ Y2R	37891.19423	37,891.19	0.414	37921.43569	38030.85680	37721.29019
____ ZN	0.04835	505.81	0.723	0.04875	0.04811	0.04818
____ ZR	0.07043	221.92	5.043	0.07164	0.07321	0.06643

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 28 Date/Time: 09/29/2015 13:19

Sample Number: **8065060** Class: **** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00243	-212.76	8.157	-0.00236	-0.00227	-0.00265
____ AL	19.37320	2,760.70	0.848	19.18583	19.49242	19.44134
____ AS	0.01317	4.13	12.424	0.01164	0.01490	0.01297
____ B	0.02834	426.80	2.330	0.02773	0.02825	0.02904
____ BA	0.07272	56,392.17	0.668	0.07228	0.07262	0.07324
____ BE	0.00081	100.58	2.359	0.00079	0.00081	0.00083
____ CA	1.76567	2,152.22	0.343	1.75881	1.77024	1.76795
____ CD	0.00063	27.69	19.923	0.00076	0.00062	0.00051
____ CO	0.00067	46.44	11.972	0.00070	0.00058	0.00073
____ CR	0.05730	516.18	0.563	0.05728	0.05698	0.05763
____ CU	0.01393	-73.32	4.840	0.01316	0.01426	0.01438
____ FE	19.12768	6,249.49	0.472	19.07560	19.23191	19.07555
____ K	3.34168	1,320.21	0.598	3.34842	3.35744	3.31919
____ LI	0.01057	103.94	22.009	0.00853	0.01310	0.01007
____ MG	1.85907	3,472.70	0.969	1.84709	1.87978	1.85034
____ MN	0.26740	19,055.36	0.748	0.26515	0.26804	0.26899
____ MO	0.00581	21.67	3.123	0.00584	0.00562	0.00598
____ NA	0.15077	226.66	4.540	0.14290	0.15415	0.15528
____ NI	0.01008	36.86	2.525	0.01036	0.00986	0.01003
____ P	1.24051	473.90	0.581	1.24870	1.23771	1.23513
____ PB	0.03441	40.24	4.554	0.03621	0.03332	0.03370
____ S	0.05776	13.06	8.538	0.05208	0.06039	0.06083
____ SB	0.00370	1.56	18.089	0.00320	0.00446	0.00345
____ SE	0.00378	-2.20	139.756	0.00672	0.00694	-0.00232
____ SI	13.46633	2,496.08	0.200	13.49496	13.46267	13.44136
____ SN	0.01764	17.45	1.420	0.01792	0.01756	0.01744
____ SR	0.02692	23,573.37	0.460	0.02680	0.02704	0.02693
____ TI	4.96121	245,364.17	0.354	4.96722	4.94144	4.97496
____ TL	0.00289	-5.57	40.972	0.00155	0.00378	0.00334
____ V	0.05628	863.69	0.653	0.05591	0.05630	0.05664
____ Y1	16207.68106	16,207.68	0.310	16167.16304	16192.05567	16263.82447
____ Y2A	461569.57055	461,569.57	0.155	462269.86370	460841.17354	461597.67442
____ Y2R	37846.45008	37,846.45	0.330	37788.11067	37761.43399	37989.80558
____ ZN	0.04821	501.18	0.535	0.04850	0.04804	0.04808
____ ZR	0.08038	251.56	2.098	0.08220	0.07887	0.08008

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 29 Date/Time: 09/29/2015 13:22

Sample Number: **8057359** Class: **** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00561	-1,165.44	8.490	0.00506	0.00584	0.00593
____ AL	41.74965	5,916.14	0.409	41.56279	41.78902	41.89713
____ AS	0.03424	13.36	9.427	0.03303	0.03180	0.03790
____ B	0.04385	1,452.68	1.870	0.04293	0.04412	0.04451
____ BA	0.21353	162,673.17	0.555	0.21467	0.21230	0.21361
____ BE	0.00147	273.70	0.823	0.00149	0.00146	0.00147
____ CA	15.20529	17,516.98	0.416	15.13541	15.25855	15.22193
____ CD	0.00020	190.34	98.320	0.00042	0.00010	0.00007
____ CO	0.05238	277.44	1.212	0.05305	0.05179	0.05229
____ CR	0.12866	1,104.36	0.378	0.12845	0.12922	0.12832
____ CU	0.09918	1,060.66	0.643	0.09848	0.09934	0.09972
____ FE	150.29500	44,735.19	0.380	149.63536	150.63927	150.61036
____ K	4.14499	1,613.52	0.945	4.16602	4.09978	4.16915
____ LI	0.07866	697.22	1.833	0.07708	0.07990	0.07899
____ MG	26.69038	48,468.84	0.551	26.52576	26.80875	26.73664
____ MN	2.11445	147,995.33	0.619	2.12582	2.10014	2.11739
____ MO	0.00076	3.98	24.638	0.00091	0.00081	0.00055
____ NA	1.01402	1,385.49	1.132	1.00638	1.02722	1.00847
____ NI	0.16902	501.79	0.384	0.16887	0.16846	0.16974
____ P	4.02975	1,526.23	0.299	4.04072	4.01682	4.03172
____ PB	0.05993	70.04	1.384	0.05901	0.06016	0.06063
____ S	0.62631	123.07	0.324	0.62836	0.62431	0.62625
____ SB	0.02037	3.99	2.336	0.02042	0.01988	0.02083
____ SE	0.03675	-4.45	5.384	0.03585	0.03537	0.03901
____ SI	8.96608	1,657.83	0.675	8.91666	9.03361	8.94798
____ SN	0.01834	17.89	2.533	0.01878	0.01785	0.01839
____ SR	0.07283	62,847.74	0.723	0.07321	0.07223	0.07305
____ TI	3.32731	161,707.46	0.575	3.33727	3.30525	3.33942
____ TL	0.00713	-3.43	29.875	0.00600	0.00958	0.00579
____ V	0.10853	1,637.92	1.084	0.10957	0.10878	0.10725
____ Y1	16060.77632	16,060.78	0.108	16049.46695	16052.13453	16080.72747
____ Y2A	453586.54429	453,586.54	0.773	450462.72366	457379.49700	452917.41219
____ Y2R	37732.07491	37,732.07	0.518	37867.41971	37508.11915	37820.68586
____ ZN	0.32252	3,183.62	0.734	0.32421	0.31982	0.32353
____ ZR	0.04424	142.44	3.501	0.04249	0.04479	0.04543

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 30 Date/Time: 09/29/2015 13:25

Sample Number: **8057360** Class: **** Batch: 152715708002

Initial Vol: 1.04 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00423	-1,003.63	15.653	0.00377	0.00394	0.00499
____ AL	39.11146	5,525.47	0.288	38.98408	39.15146	39.19884
____ AS	0.03550	13.41	0.401	0.03540	0.03544	0.03566
____ B	0.03807	1,252.85	3.688	0.03786	0.03678	0.03956
____ BA	0.10153	77,699.81	1.074	0.10177	0.10248	0.10034
____ BE	0.00140	253.55	1.103	0.00140	0.00138	0.00141
____ CA	12.59725	14,492.77	0.273	12.56789	12.58871	12.63515
____ CD	0.00015	160.43	167.869	0.00004	0.00045	-0.00003
____ CO	0.04777	255.00	0.394	0.04798	0.04768	0.04764
____ CR	0.10866	937.42	0.447	0.10877	0.10909	0.10813
____ CU	0.07691	778.66	0.734	0.07747	0.07690	0.07634
____ FE	127.41965	38,421.37	0.123	127.24026	127.48451	127.53417
____ K	3.74090	1,459.17	1.034	3.72535	3.78495	3.71240
____ LI	0.07273	643.13	3.016	0.07038	0.07311	0.07471
____ MG	24.00689	43,506.95	0.146	23.97919	23.99529	24.04619
____ MN	2.02354	142,245.47	0.894	2.02714	2.03957	2.00392
____ MO	0.00031	2.43	73.813	0.00049	0.00039	0.00005
____ NA	1.14213	1,552.58	1.537	1.12213	1.14930	1.15497
____ NI	0.15812	470.47	0.381	0.15880	0.15790	0.15765
____ P	3.67969	1,393.84	0.099	3.67876	3.67662	3.68370
____ PB	0.03206	41.18	3.433	0.03133	0.03151	0.03332
____ S	0.07646	15.51	3.998	0.07678	0.07934	0.07325
____ SB	0.01583	2.71	9.900	0.01421	0.01596	0.01734
____ SE	0.03145	-3.86	3.504	0.03018	0.03201	0.03217
____ SI	9.76626	1,799.66	0.796	9.72734	9.85574	9.71569
____ SN	0.01739	17.07	7.829	0.01891	0.01629	0.01697
____ SR	0.06625	57,400.45	1.033	0.06643	0.06683	0.06549
____ TI	3.27220	159,714.25	1.284	3.27096	3.31482	3.23082
____ TL	0.00583	-3.74	12.741	0.00636	0.00498	0.00615
____ V	0.10254	1,551.18	0.625	0.10326	0.10230	0.10204
____ Y1	16063.33499	16,063.33	0.109	16079.71101	16065.41381	16044.88016
____ Y2A	455556.88834	455,556.89	0.901	453409.95693	452970.65146	460290.05663
____ Y2R	37608.40766	37,608.41	0.327	37466.32021	37683.29507	37675.60769
____ ZN	0.19224	1,951.40	0.221	0.19272	0.19210	0.19191
____ ZR	0.04223	135.97	3.445	0.04307	0.04055	0.04307

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 31 Date/Time: 09/29/2015 13:28

Sample Number: **8057361** Class: **** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00442	-1,103.58	8.455	0.00427	0.00484	0.00414
____ AL	37.39595	5,326.03	0.357	37.48936	37.45542	37.24306
____ AS	0.03035	11.89	6.394	0.03075	0.02824	0.03206
____ B	0.04290	1,379.26	6.210	0.04344	0.04000	0.04525
____ BA	0.10807	82,510.05	0.360	0.10807	0.10768	0.10846
____ BE	0.00138	234.94	1.684	0.00139	0.00136	0.00140
____ CA	18.31521	21,160.75	0.063	18.30814	18.32856	18.30893
____ CD	0.00008	176.19	74.779	0.00002	0.00007	0.00014
____ CO	0.04516	244.30	0.420	0.04515	0.04535	0.04497
____ CR	0.10599	908.25	1.828	0.10666	0.10381	0.10751
____ CU	0.08792	916.59	1.853	0.08899	0.08605	0.08873
____ FE	140.10896	42,202.53	0.126	140.18569	140.23400	139.90719
____ K	3.38703	1,339.17	1.437	3.43904	3.34263	3.37941
____ LI	0.06897	617.07	0.259	0.06878	0.06914	0.06899
____ MG	23.55411	43,034.27	0.278	23.62485	23.49584	23.54164
____ MN	1.76791	123,991.04	0.374	1.76924	1.76073	1.77375
____ MO	0.00066	3.64	54.964	0.00027	0.00071	0.00099
____ NA	1.18911	1,628.31	1.367	1.17110	1.20269	1.19355
____ NI	0.15650	465.54	0.535	0.15747	0.15599	0.15605
____ P	4.75744	1,803.38	0.234	4.76017	4.74518	4.76695
____ PB	0.03247	41.23	8.380	0.03500	0.02959	0.03280
____ S	0.34651	68.42	1.952	0.35337	0.33984	0.34633
____ SB	0.01683	2.62	5.783	0.01573	0.01756	0.01721
____ SE	0.03487	-4.19	7.012	0.03374	0.03320	0.03768
____ SI	6.54009	1,216.18	0.696	6.51110	6.59259	6.51658
____ SN	0.01591	15.78	4.699	0.01524	0.01671	0.01577
____ SR	0.08464	73,201.89	0.321	0.08471	0.08435	0.08488
____ TI	3.44318	167,674.92	0.256	3.44995	3.43319	3.44639
____ TL	0.00613	-4.05	1.969	0.00626	0.00603	0.00611
____ V	0.11261	1,699.44	1.772	0.11260	0.11063	0.11462
____ Y1	16074.60952	16,074.61	0.069	16064.89142	16072.16636	16086.77078
____ Y2A	454487.18798	454,487.19	0.119	454591.20278	454966.28562	453904.07555
____ Y2R	37907.20409	37,907.20	0.436	37745.14249	37901.09478	38075.37500
____ ZN	0.20878	2,119.25	0.556	0.20970	0.20748	0.20915
____ ZR	0.04068	132.38	1.815	0.04135	0.03989	0.04080

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 32 Date/Time: 09/29/2015 13:31

Sample Number: **8057366** Class: **** Batch: 152715708002

Initial Vol: 1.03 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00456	-1,117.55	12.278	0.00391	0.00485	0.00491
____ AL	38.21876	5,419.64	0.357	38.23239	38.34787	38.07603
____ AS	0.02726	10.84	1.226	0.02764	0.02705	0.02708
____ B	0.04141	1,378.88	4.102	0.04130	0.03977	0.04316
____ BA	0.11581	88,404.22	0.160	0.11600	0.11580	0.11563
____ BE	0.00146	257.38	0.657	0.00147	0.00145	0.00145
____ CA	19.20894	22,088.98	0.262	19.21914	19.25343	19.15425
____ CD	0.00013	178.86	95.355	0.00018	0.00023	-0.00001
____ CO	0.04600	248.65	0.877	0.04632	0.04612	0.04555
____ CR	0.11467	984.46	0.556	0.11475	0.11399	0.11526
____ CU	0.08868	923.67	0.064	0.08874	0.08866	0.08863
____ FE	142.13696	42,569.37	0.288	141.95976	142.60432	141.84680
____ K	3.69427	1,447.18	1.415	3.69205	3.74761	3.64315
____ LI	0.06916	616.37	2.610	0.06795	0.06829	0.07123
____ MG	23.36937	42,518.80	0.240	23.31429	23.36739	23.42642
____ MN	1.74717	122,520.31	0.104	1.74507	1.74823	1.74821
____ MO	0.00119	5.48	29.606	0.00117	0.00156	0.00086
____ NA	1.25935	1,715.70	0.222	1.26016	1.26166	1.25624
____ NI	0.15604	462.59	0.449	0.15639	0.15649	0.15523
____ P	4.77513	1,804.23	0.788	4.79496	4.79867	4.73176
____ PB	0.03570	44.71	2.504	0.03670	0.03540	0.03499
____ S	0.34312	67.51	0.748	0.34435	0.34483	0.34016
____ SB	0.01879	3.55	4.987	0.01880	0.01784	0.01971
____ SE	0.03407	-4.57	12.308	0.03230	0.03105	0.03886
____ SI	9.30029	1,720.14	0.563	9.29810	9.35375	9.24901
____ SN	0.01851	18.00	5.290	0.01916	0.01738	0.01899
____ SR	0.09622	83,198.70	0.092	0.09616	0.09632	0.09618
____ TI	3.56714	173,686.13	0.201	3.57396	3.55968	3.56780
____ TL	0.00589	-4.30	22.219	0.00675	0.00652	0.00438
____ V	0.11633	1,754.83	0.400	0.11612	0.11686	0.11600
____ Y1	16022.61719	16,022.62	0.081	16007.90035	16027.21097	16032.74024
____ Y2A	454423.21074	454,423.21	0.375	452506.87541	455763.08814	454999.66865
____ Y2R	37745.59305	37,745.59	0.395	37649.08737	37670.27794	37917.41383
____ ZN	0.21036	2,129.10	0.757	0.21168	0.21082	0.20859
____ ZR	0.04337	139.89	4.572	0.04260	0.04188	0.04562

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 33 Date/Time: 09/29/2015 13:34

Sample Number: **8057367** Class: **** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00467	-1,149.62	22.944	0.00420	0.00589	0.00391
____ AL	41.36744	5,853.67	0.997	41.25138	41.82528	41.02567
____ AS	0.03160	12.37	3.979	0.03192	0.03021	0.03266
____ B	0.04464	1,432.78	4.318	0.04573	0.04241	0.04577
____ BA	0.16104	122,561.33	0.189	0.16069	0.16118	0.16125
____ BE	0.00148	267.85	1.855	0.00151	0.00148	0.00145
____ CA	26.17222	29,958.77	0.882	26.03185	26.43853	26.04628
____ CD	0.00040	187.55	54.431	0.00065	0.00027	0.00027
____ CO	0.04830	264.14	0.990	0.04850	0.04865	0.04776
____ CR	0.11151	952.45	1.080	0.11088	0.11290	0.11075
____ CU	0.10018	1,060.07	1.022	0.10054	0.10098	0.09902
____ FE	146.68254	43,708.62	1.131	145.53809	148.58509	145.92444
____ K	4.77508	1,843.96	0.428	4.77005	4.79759	4.75761
____ LI	0.07382	657.36	3.763	0.07384	0.07659	0.07103
____ MG	23.99574	43,566.17	0.977	23.80619	24.25797	23.92306
____ MN	2.37471	166,030.93	0.394	2.36393	2.38075	2.37944
____ MO	0.00072	3.85	11.342	0.00063	0.00078	0.00075
____ NA	1.17535	1,599.93	0.776	1.16940	1.18585	1.17080
____ NI	0.14605	432.84	0.563	0.14632	0.14671	0.14513
____ P	5.28089	1,994.89	0.641	5.30050	5.30038	5.24179
____ PB	0.12021	130.85	1.871	0.12268	0.11965	0.11829
____ S	0.73848	144.78	0.385	0.74102	0.73541	0.73901
____ SB	0.01982	3.92	8.787	0.02136	0.01793	0.02017
____ SE	0.03710	-3.98	11.347	0.03311	0.04150	0.03669
____ SI	8.74258	1,614.24	1.617	8.69880	8.90070	8.62824
____ SN	0.01783	17.40	3.671	0.01841	0.01794	0.01712
____ SR	0.10025	86,478.25	0.260	0.09995	0.10045	0.10034
____ TI	4.06546	197,365.23	0.403	4.04938	4.06489	4.08211
____ TL	0.00692	-3.89	19.157	0.00629	0.00845	0.00603
____ V	0.11464	1,728.53	0.448	0.11405	0.11487	0.11500
____ Y1	16019.04743	16,019.05	0.170	15991.88496	16046.48070	16018.77664
____ Y2A	453086.59156	453,086.59	0.270	454330.59973	451883.36647	453045.80848
____ Y2R	37678.65328	37,678.65	0.851	37725.92408	37336.80902	37973.22674
____ ZN	0.30092	2,970.63	0.520	0.30263	0.30057	0.29955
____ ZR	0.04617	148.04	1.670	0.04528	0.04662	0.04662

LANCASTER LABORATORIES

Run Name: 1527205T72

Instrument ID: 16417

Tube: 34

Date/Time: 09/29/2015 13:37

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50905	7,986.10	0.654	0.50986	0.50539	0.51190
____ AL	25.76991	3,581.82	0.212	25.72816	25.74991	25.83166
____ AS	0.50588	168.14	0.747	0.50904	0.50169	0.50691
____ B	0.50048	4,174.07	0.431	0.50039	0.49837	0.50269
____ BA	0.51056	378,163.46	0.151	0.50970	0.51118	0.51079
____ BE	0.49609	177,584.81	0.377	0.49533	0.49472	0.49822
____ CA	25.79891	28,909.67	0.138	25.75788	25.81583	25.82302
____ CD	0.49441	5,753.05	0.427	0.49629	0.49481	0.49213
____ CO	0.49840	2,339.20	0.536	0.50029	0.49956	0.49534
____ CR	0.51677	4,443.58	0.467	0.51465	0.51940	0.51626
____ CU	0.51637	6,315.43	0.119	0.51635	0.51577	0.51699
____ FE	25.66799	8,135.86	0.124	25.63955	25.70251	25.66191
____ K	25.81223	9,412.95	0.244	25.86895	25.82337	25.74436
____ LI	0.50745	4,314.97	0.062	0.50781	0.50729	0.50725
____ MG	25.60336	45,466.71	0.090	25.58022	25.62606	25.60379
____ MN	0.50837	34,604.64	0.477	0.50768	0.50636	0.51106
____ MO	0.51007	1,737.27	0.573	0.51236	0.51108	0.50678
____ NA	25.89711	34,023.31	0.144	25.86311	25.93692	25.89131
____ NI	0.49784	1,455.95	0.526	0.49994	0.49867	0.49490
____ P	0.50293	187.88	0.517	0.50592	0.50132	0.50154
____ PB	0.50052	505.54	0.468	0.50231	0.50137	0.49787
____ S	25.33019	4,886.81	0.406	25.39547	25.38359	25.21150
____ SB	0.52827	278.77	0.993	0.53289	0.52935	0.52257
____ SE	0.50328	132.02	0.745	0.50191	0.50752	0.50040
____ SI	26.13857	4,717.23	0.557	26.01142	26.10708	26.29722
____ SN	0.50832	440.30	0.761	0.51087	0.51022	0.50387
____ SR	0.51280	429,916.84	0.181	0.51377	0.51192	0.51273
____ TI	0.51667	24,481.80	0.413	0.51518	0.51570	0.51911
____ TL	0.50409	257.97	0.953	0.50678	0.50694	0.49855
____ V	0.52921	7,485.37	0.462	0.52770	0.52790	0.53203
____ Y1	15803.05146	15,803.05	0.563	15726.74488	15781.56300	15900.84650
____ Y2A	441019.19041	441,019.19	0.462	442555.74884	441795.64281	438706.17959
____ Y2R	36878.97055	36,878.97	0.160	36941.52500	36824.45110	36870.93557
____ ZN	0.49329	4,586.60	0.476	0.49556	0.49346	0.49087
____ ZR	0.52653	1,552.38	0.391	0.52509	0.52561	0.52888

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 35 Date/Time: 09/29/2015 13:41

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00009	-23.47	153.270	-0.00017	-0.00018	0.00007
____ AL	-0.01888	3.25	165.195	0.01507	-0.04627	-0.02544
____ AS	0.00139	-0.20	177.075	-0.00144	0.00305	0.00256
____ B	-0.00272	45.50	22.847	-0.00311	-0.00200	-0.00304
____ BA	0.00003	46.49	81.874	0.00005	0.00003	0.00000
____ BE	0.00006	-105.05	27.394	0.00008	0.00006	0.00004
____ CA	-0.03904	74.06	4.361	-0.03962	-0.03712	-0.04036
____ CD	-0.00009	-4.45	57.647	-0.00008	-0.00014	-0.00004
____ CO	0.00002	-2.93	1462.446	0.00029	-0.00005	-0.00019
____ CR	-0.00005	5.00	901.077	0.00038	-0.00003	-0.00050
____ CU	-0.00003	-142.17	1672.795	-0.00064	0.00017	0.00038
____ FE	-0.00018	3.61	7390.196	-0.01180	-0.00329	0.01454
____ K	-0.02444	69.24	34.892	-0.02276	-0.03368	-0.01688
____ LI	0.00023	13.29	349.914	0.00092	-0.00065	0.00041
____ MG	-0.02905	2.36	7.218	-0.02663	-0.03034	-0.03017
____ MN	-0.00003	9.07	185.026	0.00003	-0.00006	-0.00006
____ MO	0.00099	4.81	17.529	0.00080	0.00105	0.00113
____ NA	-0.05750	-52.68	14.886	-0.04979	-0.06671	-0.05600
____ NI	0.00011	7.76	140.551	-0.00005	0.00024	0.00013
____ P	-0.00064	-0.50	170.741	-0.00151	0.00059	-0.00099
____ PB	0.00027	1.10	263.789	-0.00011	-0.00018	0.00111
____ S	0.00125	2.12	356.391	0.00408	-0.00389	0.00357
____ SB	0.00199	1.74	28.862	0.00197	0.00257	0.00142
____ SE	0.00233	-1.33	127.524	-0.00072	0.00249	0.00522
____ SI	0.00589	6.33	125.285	0.00279	0.00057	0.01432
____ SN	-0.00020	1.66	446.379	-0.00078	-0.00067	0.00084
____ SR	0.00003	-26.18	26.585	0.00004	0.00003	0.00003
____ TI	0.00025	30.77	22.375	0.00030	0.00019	0.00025
____ TL	-0.00057	-3.55	278.998	-0.00205	0.00112	-0.00079
____ V	0.00014	-3.72	227.424	0.00012	0.00045	-0.00016
____ Y1	16140.76096	16,140.76	0.135	16150.66631	16155.79923	16115.81735
____ Y2A	458039.63568	458,039.64	0.341	459411.37874	458366.58894	456340.93937
____ Y2R	36938.88107	36,938.88	0.270	36833.75799	36951.01857	37031.86665
____ ZN	-0.00040	25.79	21.389	-0.00042	-0.00047	-0.00031
____ ZR	-0.00078	7.33	179.094	-0.00189	-0.00124	0.00079

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 36 Date/Time: 09/29/2015 13:44

Sample Number: **8057368** Class: **** Batch: 152715708002

Initial Vol: 1.03 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00353	-1,125.72	18.667	0.00301	0.00427	0.00330
____ AL	48.42791	6,888.93	0.310	48.25446	48.52075	48.50853
____ AS	0.02903	11.41	6.133	0.03040	0.02702	0.02968
____ B	0.04157	1,369.34	3.546	0.04290	0.04184	0.03998
____ BA	0.17288	130,944.36	0.604	0.17398	0.17191	0.17274
____ BE	0.00181	374.29	0.871	0.00183	0.00181	0.00180
____ CA	18.43795	21,296.00	0.287	18.39710	18.49777	18.41897
____ CD	0.00012	177.65	85.769	0.00004	0.00008	0.00024
____ CO	0.04974	279.86	1.098	0.04980	0.05026	0.04917
____ CR	0.10566	897.66	0.031	0.10569	0.10563	0.10565
____ CU	0.10059	1,034.55	1.006	0.10167	0.10046	0.09966
____ FE	142.24794	42,771.32	0.069	142.24616	142.34666	142.15099
____ K	6.04446	2,326.50	0.890	5.98372	6.08605	6.06360
____ LI	0.08356	743.89	1.260	0.08475	0.08320	0.08274
____ MG	25.25635	46,097.02	0.335	25.17805	25.34631	25.24468
____ MN	2.22072	154,528.47	0.558	2.23143	2.20715	2.22357
____ MO	0.00017	1.93	155.311	0.00007	-0.00003	0.00046
____ NA	0.98715	1,355.38	1.009	0.97683	0.99671	0.98791
____ NI	0.14741	435.90	0.197	0.14713	0.14771	0.14739
____ P	5.96838	2,248.93	0.308	5.94956	5.98633	5.96925
____ PB	0.03589	46.47	2.535	0.03525	0.03694	0.03549
____ S	0.06754	13.54	3.595	0.07033	0.06632	0.06596
____ SB	0.01578	2.00	6.989	0.01599	0.01459	0.01677
____ SE	0.03295	-4.54	5.335	0.03460	0.03110	0.03314
____ SI	10.64479	1,976.13	0.530	10.68794	10.58095	10.66548
____ SN	0.01839	17.85	6.160	0.01722	0.01847	0.01949
____ SR	0.08935	76,666.55	0.676	0.08997	0.08876	0.08933
____ TI	5.10694	246,746.90	0.642	5.09015	5.08598	5.14470
____ TL	0.00568	-5.29	11.093	0.00627	0.00502	0.00575
____ V	0.12523	1,879.12	0.484	0.12591	0.12505	0.12474
____ Y1	15978.74648	15,978.75	0.077	15992.77245	15973.69894	15969.76806
____ Y2A	450937.12724	450,937.13	0.225	450040.92114	452041.41816	450729.04241
____ Y2R	37897.95638	37,897.96	0.390	37818.75624	37806.59105	38068.52184
____ ZN	0.23750	2,373.53	0.396	0.23646	0.23777	0.23828
____ ZR	0.05100	163.42	5.692	0.04774	0.05332	0.05193

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 37 Date/Time: 09/29/2015 13:47

Sample Number: **8062186** Class: **** Batch: 152715708002

Initial Vol: 1.03 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.02536	-1,951.00	6.654	0.02728	0.02410	0.02470
____ AL	71.22094	10,022.12	0.137	71.15860	71.17057	71.33365
____ AS	0.05362	22.00	1.708	0.05411	0.05418	0.05256
____ B	0.14017	3,121.88	1.743	0.13736	0.14135	0.14180
____ BA	0.31543	233,998.28	1.557	0.31065	0.32046	0.31517
____ BE	0.00620	1,772.18	1.374	0.00611	0.00628	0.00621
____ CA	14.63935	16,789.38	0.204	14.61645	14.67306	14.62853
____ CD	-0.00306	329.26	3.430	-0.00304	-0.00296	-0.00317
____ CO	0.05577	282.77	1.058	0.05605	0.05616	0.05509
____ CR	0.17117	1,405.67	2.266	0.16679	0.17415	0.17258
____ CU	0.32771	3,908.54	1.284	0.32321	0.33155	0.32838
____ FE	291.31030	77,582.63	0.273	290.41619	291.94305	291.57166
____ K	16.41080	6,122.05	0.394	16.33625	16.45260	16.44355
____ LI	0.16510	1,438.88	0.530	0.16457	0.16611	0.16461
____ MG	28.01574	50,598.55	0.364	27.91985	28.12281	28.00457
____ MN	2.49490	170,047.48	1.641	2.45259	2.53431	2.49779
____ MO	0.00391	14.75	1.685	0.00393	0.00397	0.00384
____ NA	3.26860	4,392.60	0.269	3.26450	3.27869	3.26262
____ NI	0.11845	343.56	0.611	0.11924	0.11782	0.11829
____ P	2.27732	854.57	0.668	2.28705	2.28511	2.25979
____ PB	0.18922	205.40	0.448	0.18862	0.18885	0.19019
____ S	10.54029	2,045.68	0.710	10.60280	10.56076	10.45731
____ SB	0.04118	8.22	5.625	0.04147	0.04334	0.03874
____ SE	0.07597	-5.94	2.091	0.07460	0.07771	0.07561
____ SI	12.17610	2,238.02	0.217	12.16615	12.20606	12.15609
____ SN	0.03041	28.21	3.259	0.03018	0.03150	0.02955
____ SR	0.09854	82,769.61	1.711	0.09688	0.10025	0.09847
____ TI	2.44445	115,686.49	1.638	2.40406	2.48412	2.44516
____ TL	0.01048	-3.33	17.825	0.01234	0.01049	0.00860
____ V	0.25946	3,778.61	1.040	0.25637	0.26136	0.26064
____ Y1	15910.68539	15,910.69	0.136	15910.77067	15932.30708	15888.97842
____ Y2A	441760.07842	441,760.08	1.485	447622.76342	434675.61299	442981.85885
____ Y2R	37548.48370	37,548.48	0.301	37633.07177	37592.19468	37420.18463
____ ZN	0.45000	4,467.31	0.151	0.45056	0.44924	0.45020
____ ZR	0.06093	191.54	2.601	0.06227	0.06134	0.05918

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 38 Date/Time: 09/29/2015 13:50

Sample Number: **8062187** Class: **** Batch: 152715708002

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01739	-965.96	1.258	0.01753	0.01749	0.01714
____ AL	52.27770	7,418.26	0.415	52.28273	52.05853	52.49184
____ AS	0.28357	96.85	0.992	0.28066	0.28627	0.28377
____ B	0.13159	2,152.05	1.283	0.13029	0.13350	0.13097
____ BA	0.63958	484,148.88	0.232	0.63846	0.64126	0.63901
____ BE	0.00474	1,127.86	0.903	0.00469	0.00476	0.00477
____ CA	16.65552	19,205.29	0.228	16.61819	16.69401	16.65435
____ CD	0.00215	210.89	4.428	0.00217	0.00204	0.00223
____ CO	0.05429	278.33	0.144	0.05438	0.05428	0.05422
____ CR	0.10673	904.57	0.702	0.10590	0.10734	0.10696
____ CU	5.36498	68,374.62	0.184	5.36054	5.37629	5.35812
____ FE	150.39928	44,842.76	0.093	150.29951	150.55981	150.33851
____ K	10.43293	3,947.10	0.043	10.43186	10.42903	10.43789
____ LI	0.07666	681.59	1.772	0.07513	0.07771	0.07715
____ MG	16.22375	29,663.16	0.318	16.22191	16.27617	16.17316
____ MN	0.93786	65,237.16	0.255	0.93775	0.94030	0.93552
____ MO	0.01026	36.55	3.030	0.00990	0.01046	0.01042
____ NA	6.94527	9,369.51	0.470	6.94389	6.97861	6.91332
____ NI	0.16665	490.73	0.289	0.16615	0.16711	0.16669
____ P	1.97743	746.91	0.365	1.98455	1.97011	1.97764
____ PB	1.38657	1,409.31	0.132	1.38807	1.38712	1.38453
____ S	26.45680	5,143.96	0.184	26.50985	26.41380	26.44674
____ SB	0.08501	39.49	2.192	0.08396	0.08716	0.08392
____ SE	0.05357	0.22	6.651	0.05515	0.04949	0.05607
____ SI	10.79685	1,999.00	0.756	10.88360	10.72154	10.78542
____ SN	0.14838	130.84	1.159	0.14639	0.14936	0.14938
____ SR	0.21136	181,116.83	0.097	0.21118	0.21158	0.21131
____ TI	2.68409	129,631.29	0.287	2.68413	2.69178	2.67636
____ TL	0.00922	-2.66	15.220	0.01077	0.00885	0.00804
____ V	0.36777	5,403.79	0.408	0.36607	0.36833	0.36891
____ Y1	15929.01937	15,929.02	0.168	15898.06873	15944.81782	15944.17155
____ Y2A	450731.23390	450,731.23	0.449	451051.68986	448568.03902	452573.97283
____ Y2R	37799.03035	37,799.03	0.300	37698.25349	37921.54760	37777.28996
____ ZN	0.53658	5,179.07	0.132	0.53720	0.53581	0.53673
____ ZR	0.04744	152.33	1.143	0.04755	0.04792	0.04686

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 39 Date/Time: 09/29/2015 13:53

Sample Number: **8062188** Class: **** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00510	-992.45	6.105	0.00486	0.00545	0.00498
____ AL	37.62078	5,359.83	0.177	37.54819	37.63513	37.67901
____ AS	0.03862	14.34	5.640	0.03845	0.03653	0.04087
____ B	0.15888	2,231.72	0.809	0.15740	0.15951	0.15973
____ BA	0.14234	108,284.16	0.865	0.14093	0.14286	0.14322
____ BE	0.00236	585.79	0.832	0.00234	0.00236	0.00238
____ CA	14.42532	16,709.77	0.192	14.39723	14.45270	14.42603
____ CD	-0.00015	156.35	85.792	-0.00012	-0.00030	-0.00004
____ CO	0.00685	37.84	5.476	0.00721	0.00646	0.00689
____ CR	0.06419	538.94	0.307	0.06404	0.06411	0.06441
____ CU	0.02941	216.58	0.819	0.02914	0.02960	0.02948
____ FE	128.06771	38,918.17	0.086	127.94176	128.12008	128.14129
____ K	9.35748	3,559.74	0.424	9.35157	9.32109	9.39979
____ LI	0.06489	580.68	3.334	0.06478	0.06711	0.06278
____ MG	16.90917	31,003.40	0.562	16.94039	16.80245	16.98467
____ MN	0.15296	10,700.34	0.776	0.15160	0.15352	0.15377
____ MO	0.03850	133.32	0.152	0.03857	0.03848	0.03846
____ NA	13.48631	18,229.29	0.114	13.46924	13.49084	13.49884
____ NI	0.03248	97.84	0.759	0.03232	0.03276	0.03236
____ P	3.18700	1,195.92	0.600	3.20680	3.16867	3.18552
____ PB	0.02293	31.21	1.857	0.02278	0.02341	0.02260
____ S	164.09319	31,874.96	0.162	164.38811	163.87233	164.01913
____ SB	0.01670	2.85	6.657	0.01717	0.01543	0.01749
____ SE	0.03244	-3.96	11.914	0.03687	0.03068	0.02977
____ SI	9.49560	1,764.46	1.352	9.41216	9.64342	9.43122
____ SN	0.01783	17.29	4.707	0.01700	0.01781	0.01867
____ SR	0.29593	254,741.02	0.868	0.29296	0.29734	0.29748
____ TI	0.92139	44,727.80	0.605	0.91502	0.92543	0.92370
____ TL	0.00481	-3.51	23.987	0.00414	0.00614	0.00414
____ V	0.11927	1,770.42	0.981	0.11799	0.11952	0.12029
____ Y1	15914.87723	15,914.88	0.171	15892.50000	15945.07066	15907.06102
____ Y2A	452902.26803	452,902.27	0.676	456220.35310	452296.30550	450190.14550
____ Y2R	37919.30566	37,919.31	0.181	37866.63013	37996.71184	37894.57500
____ ZN	0.05234	641.36	0.493	0.05258	0.05207	0.05237
____ ZR	0.01591	57.81	2.321	0.01631	0.01559	0.01584

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 40 Date/Time: 09/29/2015 13:56

Sample Number: **8062190** Class: **** Batch: 152715708002

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01584	-1,759.64	21.358	0.01669	0.01872	0.01211
____ AL	93.69384	13,329.73	1.415	93.92074	94.89184	92.26893
____ AS	0.03986	16.56	6.763	0.04121	0.04161	0.03676
____ B	0.20186	3,333.42	1.714	0.19943	0.20034	0.20582
____ BA	0.64654	481,606.67	0.607	0.64739	0.64226	0.64998
____ BE	0.00759	2,245.17	1.069	0.00759	0.00751	0.00767
____ CA	65.99792	75,480.17	1.463	66.47437	66.63244	64.88696
____ CD	-0.00078	296.01	38.674	-0.00091	-0.00099	-0.00043
____ CO	0.10364	516.19	0.198	0.10346	0.10359	0.10386
____ CR	0.18091	1,506.98	0.134	0.18063	0.18100	0.18109
____ CU	0.50201	6,109.83	0.730	0.50070	0.49917	0.50615
____ FE	247.75922	69,128.70	1.663	249.85729	250.40838	243.01199
____ K	24.69742	9,289.08	1.238	24.86540	24.88238	24.34447
____ LI	0.23181	2,053.87	1.245	0.23261	0.23421	0.22860
____ MG	48.56321	88,024.87	1.386	48.88988	49.01088	47.78888
____ MN	3.73194	255,413.80	0.946	3.73789	3.69402	3.76389
____ MO	0.00591	21.42	4.018	0.00593	0.00566	0.00614
____ NA	3.71987	5,058.77	1.537	3.73413	3.76856	3.65691
____ NI	0.20146	583.66	0.255	0.20195	0.20093	0.20151
____ P	3.84281	1,430.38	0.200	3.83624	3.84092	3.85126
____ PB	0.19406	211.57	0.507	0.19329	0.19371	0.19517
____ S	1.49421	287.21	0.443	1.50118	1.49345	1.48800
____ SB	0.03531	7.23	4.078	0.03525	0.03677	0.03390
____ SE	0.05648	-6.41	5.651	0.05363	0.05589	0.05993
____ SI	9.77382	1,820.09	1.567	9.85418	9.87012	9.59718
____ SN	0.02852	26.34	3.835	0.02973	0.02822	0.02761
____ SR	0.15092	127,690.29	0.824	0.15070	0.14980	0.15226
____ TI	3.71655	176,619.30	0.829	3.71964	3.68432	3.74568
____ TL	0.01073	-2.75	10.047	0.00970	0.01185	0.01063
____ V	0.28714	4,187.57	0.848	0.28786	0.28443	0.28913
____ Y1	15780.69712	15,780.70	0.239	15737.57911	15807.20469	15797.30756
____ Y2A	443542.55025	443,542.55	0.571	443772.28297	445952.12061	440903.24718
____ Y2R	38024.61550	38,024.62	0.768	37929.00619	37792.19031	38352.65000
____ ZN	0.46793	4,556.45	0.315	0.46958	0.46746	0.46675
____ ZR	0.06646	210.64	3.115	0.06708	0.06814	0.06415

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 41 Date/Time: 09/29/2015 13:59

Sample Number: **8062191** Class: **** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00513	-1,114.57	8.063	0.00539	0.00466	0.00535
____ AL	62.54637	8,866.13	0.496	62.53945	62.86020	62.23947
____ AS	0.03561	13.69	1.801	0.03526	0.03523	0.03635
____ B	0.13166	2,110.47	1.410	0.13338	0.13190	0.12969
____ BA	0.43141	328,549.15	0.802	0.43423	0.43244	0.42754
____ BE	0.00538	1,601.91	1.131	0.00541	0.00542	0.00531
____ CA	3.62343	4,283.25	0.271	3.62313	3.63342	3.61375
____ CD	0.00099	188.47	8.984	0.00091	0.00097	0.00108
____ CO	0.03470	183.21	0.971	0.03434	0.03476	0.03500
____ CR	0.10839	926.66	1.384	0.11012	0.10741	0.10765
____ CU	0.31898	3,906.12	1.060	0.32005	0.32170	0.31520
____ FE	142.96802	42,858.41	0.355	143.20254	143.31647	142.38504
____ K	12.73835	4,802.13	0.630	12.81894	12.73759	12.65854
____ LI	0.08154	720.34	0.851	0.08129	0.08100	0.08232
____ MG	14.87902	27,226.92	0.308	14.90876	14.90203	14.82626
____ MN	1.23565	86,467.94	0.781	1.24144	1.24099	1.22451
____ MO	0.00141	6.24	17.494	0.00117	0.00140	0.00167
____ NA	2.27041	3,079.06	0.124	2.26720	2.27241	2.27163
____ NI	0.07469	222.68	1.072	0.07410	0.07560	0.07435
____ P	2.69838	1,020.90	0.179	2.69645	2.70387	2.69483
____ PB	0.26559	282.46	0.432	0.26683	0.26456	0.26537
____ S	0.36155	71.03	2.515	0.37150	0.35949	0.35367
____ SB	0.01685	2.64	6.304	0.01563	0.01735	0.01757
____ SE	0.03073	-5.04	5.973	0.02960	0.03284	0.02974
____ SI	16.23870	3,004.65	1.177	16.21297	16.44139	16.06174
____ SN	0.01931	18.72	1.683	0.01924	0.01966	0.01902
____ SR	0.04642	39,971.51	0.983	0.04669	0.04667	0.04589
____ TI	2.27397	110,487.87	1.249	2.27840	2.29990	2.24360
____ TL	0.00365	-4.90	21.734	0.00413	0.00409	0.00274
____ V	0.19525	2,902.67	0.738	0.19584	0.19630	0.19360
____ Y1	16042.18476	16,042.18	0.244	16020.32916	16018.90081	16087.32432
____ Y2A	453473.47683	453,473.48	0.824	450877.15374	451786.44798	457756.82878
____ Y2R	37803.52658	37,803.53	0.484	37624.42592	37795.72500	37990.42883
____ ZN	0.30361	2,994.68	1.119	0.30514	0.30598	0.29972
____ ZR	0.02808	94.19	5.671	0.02892	0.02624	0.02908

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 42 Date/Time: 09/29/2015 14:02

Sample Number: **8062192** Class: **** Batch: 152715708002

Initial Vol: 1.03 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00040	-470.97	46.774	0.00048	0.00054	0.00019
____ AL	42.51235	6,095.98	0.102	42.54226	42.53211	42.46268
____ AS	0.02422	8.31	4.436	0.02475	0.02494	0.02299
____ B	0.17860	1,882.11	0.167	0.17868	0.17826	0.17884
____ BA	0.11598	87,742.21	0.231	0.11588	0.11578	0.11629
____ BE	0.00268	694.58	0.548	0.00270	0.00267	0.00267
____ CA	16.32224	19,015.23	0.535	16.27118	16.42316	16.27238
____ CD	0.00032	68.50	10.838	0.00034	0.00028	0.00034
____ CO	0.01269	65.81	1.135	0.01253	0.01272	0.01281
____ CR	0.07159	619.66	0.958	0.07095	0.07151	0.07231
____ CU	0.03693	313.39	1.291	0.03735	0.03704	0.03641
____ FE	55.83108	17,954.70	0.493	55.74000	56.14026	55.61297
____ K	10.18855	3,895.61	0.266	10.15795	10.20972	10.19798
____ LI	0.07609	683.38	0.793	0.07645	0.07642	0.07539
____ MG	19.14708	35,310.42	0.454	19.10143	19.24734	19.09245
____ MN	0.16378	11,391.69	0.219	0.16418	0.16348	0.16367
____ MO	0.04280	147.16	0.706	0.04296	0.04297	0.04245
____ NA	15.23541	20,733.17	0.347	15.18692	15.29167	15.22764
____ NI	0.04884	147.65	0.717	0.04844	0.04907	0.04902
____ P	3.08376	1,150.40	0.205	3.08841	3.08631	3.07656
____ PB	0.03026	38.76	7.390	0.03092	0.03209	0.02777
____ S	99.21353	19,159.95	0.068	99.28693	99.15428	99.19937
____ SB	0.00779	1.56	10.321	0.00723	0.00742	0.00871
____ SE	0.01819	-1.05	4.907	0.01909	0.01818	0.01730
____ SI	12.16652	2,275.55	0.422	12.15707	12.12059	12.22189
____ SN	0.01772	17.09	7.059	0.01827	0.01860	0.01629
____ SR	0.27793	237,930.16	0.180	0.27835	0.27738	0.27807
____ TI	1.00496	48,505.99	0.512	1.01079	1.00304	1.00105
____ TL	-0.00102	-5.37	129.240	-0.00243	0.00019	-0.00083
____ V	0.12335	1,803.50	0.552	0.12403	0.12335	0.12267
____ Y1	15821.46495	15,821.46	0.120	15816.00600	15805.73552	15842.65333
____ Y2A	450344.95803	450,344.96	0.245	451304.50630	450591.61696	449138.75083
____ Y2R	38182.44278	38,182.44	0.377	38329.18327	38041.45879	38176.68629
____ ZN	0.06653	695.64	0.491	0.06672	0.06671	0.06615
____ ZR	0.01509	55.71	7.908	0.01612	0.01536	0.01378

LANCASTER LABORATORIES

Run Name: 1527205T72

Instrument ID: 16417

Tube: 43

Date/Time: 09/29/2015 14:05

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00517	69.22	5.994	0.00506	0.00552	0.00493
____ AL	0.18345	31.63	9.091	0.20266	0.17503	0.17266
____ AS	0.02093	6.47	0.794	0.02111	0.02089	0.02078
____ B	0.04380	434.55	0.492	0.04396	0.04388	0.04355
____ BA	0.00549	4,300.64	0.674	0.00553	0.00547	0.00546
____ BE	0.00506	1,776.32	0.511	0.00508	0.00505	0.00503
____ CA	0.17084	311.72	0.510	0.17049	0.17183	0.17020
____ CD	0.00506	56.95	1.771	0.00496	0.00513	0.00509
____ CO	0.00507	21.48	3.552	0.00514	0.00520	0.00486
____ CR	0.01548	145.48	2.051	0.01585	0.01529	0.01530
____ CU	0.00978	-15.20	1.431	0.00961	0.00986	0.00985
____ FE	0.21376	73.07	2.215	0.21560	0.21730	0.20839
____ K	0.50057	261.01	14.473	0.52294	0.41957	0.55919
____ LI	0.02243	202.85	1.264	0.02223	0.02230	0.02275
____ MG	0.07666	193.33	0.594	0.07617	0.07674	0.07708
____ MN	0.00534	393.72	0.322	0.00536	0.00533	0.00534
____ MO	0.01006	36.52	1.269	0.00991	0.01012	0.01014
____ NA	1.00716	1,355.70	1.682	1.00977	1.02264	0.98905
____ NI	0.01084	39.89	2.020	0.01088	0.01104	0.01061
____ P	0.09766	37.12	1.352	0.09901	0.09761	0.09637
____ PB	0.01595	17.21	13.412	0.01377	0.01805	0.01603
____ S	0.52236	105.31	0.834	0.52456	0.52518	0.51734
____ SB	0.02030	11.80	7.561	0.02075	0.02157	0.01859
____ SE	0.02190	4.06	1.748	0.02220	0.02203	0.02146
____ SI	0.06070	16.35	19.322	0.04717	0.06705	0.06790
____ SN	0.02031	19.83	3.284	0.01965	0.02030	0.02098
____ SR	0.00540	4,702.08	0.371	0.00542	0.00538	0.00539
____ TI	0.01081	556.58	0.586	0.01084	0.01073	0.01084
____ TL	0.02954	12.47	6.407	0.02873	0.03170	0.02818
____ V	0.00523	71.47	7.274	0.00529	0.00557	0.00482
____ Y1	16223.18768	16,223.19	0.231	16245.12926	16244.46776	16179.96600
____ Y2A	463923.66845	463,923.67	0.426	461878.97878	464064.36877	465827.65781
____ Y2R	37167.06091	37,167.06	0.224	37072.66341	37198.61305	37229.90626
____ ZN	0.01883	206.99	0.188	0.01880	0.01887	0.01883
____ ZR	0.04516	143.02	1.192	0.04484	0.04578	0.04485

LANCASTER LABORATORIES

Run Name: 1527205T72

Instrument ID: 16417

Tube: 44

Date/Time: 09/29/2015 14:08

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00792	-1,406.13	4.043	0.00784	0.00765	0.00827
____ AL	528.30517	68,195.62	0.235	529.61783	528.15149	527.14619
____ AS	-0.00077	2.18	453.326	-0.00125	-0.00400	0.00293
____ B	0.03935	1,587.08	5.044	0.03921	0.03744	0.04140
____ BA	0.00059	411.94	2.081	0.00058	0.00059	0.00060
____ BE	-0.00016	-160.05	6.719	-0.00015	-0.00015	-0.00017
____ CA	524.98667	510,251.55	0.486	522.24642	527.28847	525.42512
____ CD	0.00069	209.00	18.154	0.00057	0.00067	0.00082
____ CO	0.00136	3.00	17.437	0.00118	0.00126	0.00162
____ CR	0.00322	-18.07	4.178	0.00329	0.00330	0.00307
____ CU	-0.00097	29.70	58.768	-0.00034	-0.00145	-0.00111
____ FE	209.72148	56,177.96	0.167	210.10008	209.40974	209.65462
____ K	0.04115	89.29	119.756	0.09574	0.02777	-0.00006
____ LI	-0.00682	93.44	1.864	-0.00687	-0.00668	-0.00692
____ MG	534.82028	721,659.71	0.991	529.12467	539.61293	535.72324
____ MN	0.00217	141.08	3.904	0.00220	0.00207	0.00224
____ MO	-0.00273	-7.09	15.711	-0.00260	-0.00238	-0.00321
____ NA	0.21487	293.31	3.682	0.21377	0.22327	0.20756
____ NI	0.00031	0.32	179.110	-0.00024	0.00030	0.00085
____ P	0.01648	5.25	15.836	0.01944	0.01454	0.01544
____ PB	-0.00240	72.78	174.718	-0.00687	-0.00178	0.00145
____ S	0.00525	1.50	66.337	0.00742	0.00123	0.00710
____ SB	0.00975	-1.14	21.387	0.00766	0.01183	0.00977
____ SE	0.00983	-4.76	36.939	0.01172	0.01214	0.00565
____ SI	0.01433	6.33	29.404	0.01180	0.01919	0.01198
____ SN	0.00596	6.20	11.423	0.00646	0.00519	0.00624
____ SR	-0.00004	3,763.28	126.707	0.00002	-0.00008	-0.00006
____ TI	-0.00399	-151.28	6.221	-0.00427	-0.00391	-0.00379
____ TL	0.00385	-4.16	38.428	0.00556	0.00306	0.00294
____ V	0.00022	39.57	37.216	0.00029	0.00023	0.00013
____ Y1	14102.85255	14,102.85	0.067	14096.73392	14098.08448	14113.73926
____ Y2A	392822.42655	392,822.43	0.100	393094.84758	392372.43207	393000.00000
____ Y2R	35464.56886	35,464.57	0.073	35470.71757	35486.68565	35436.30335
____ ZN	0.00202	229.77	8.720	0.00182	0.00215	0.00209
____ ZR	0.00529	24.15	24.669	0.00392	0.00652	0.00544

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 45 Date/Time: 09/29/2015 14:11

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.22995	1,768.92	0.576	0.23126	0.22997	0.22861
____ AL	522.09001	67,437.43	0.378	522.80262	523.60938	519.85803
____ AS	0.09898	31.69	5.351	0.09751	0.09457	0.10485
____ B	0.03753	1,553.01	7.490	0.03488	0.04048	0.03724
____ BA	0.50446	331,707.23	0.247	0.50330	0.50431	0.50577
____ BE	0.49954	158,777.69	0.618	0.49665	0.50280	0.49916
____ CA	516.64485	503,099.96	0.651	518.11427	519.02198	512.79830
____ CD	0.92960	9,772.96	0.074	0.92900	0.93035	0.92945
____ CO	0.45729	1,904.87	0.311	0.45832	0.45788	0.45567
____ CR	0.48367	3,651.00	0.748	0.48031	0.48750	0.48320
____ CU	0.53834	6,016.11	0.516	0.53561	0.54117	0.53824
____ FE	207.43443	55,669.22	0.444	208.36842	207.40668	206.52819
____ K	0.04841	91.85	76.621	0.03051	0.02366	0.09105
____ LI	-0.00578	99.71	24.174	-0.00559	-0.00449	-0.00726
____ MG	530.45650	717,524.79	0.146	530.47164	531.22352	529.67435
____ MN	0.45491	27,490.42	0.803	0.45146	0.45873	0.45452
____ MO	-0.00266	-6.85	14.567	-0.00310	-0.00239	-0.00248
____ NA	0.25133	339.43	4.561	0.25246	0.23934	0.26218
____ NI	0.90528	2,343.19	0.174	0.90645	0.90589	0.90349
____ P	0.01637	6.06	2.717	0.01586	0.01655	0.01669
____ PB	0.04531	114.27	5.421	0.04286	0.04777	0.04529
____ S	-0.00603	-0.43	121.075	-0.00251	-0.00116	-0.01443
____ SB	0.60491	285.20	0.630	0.60698	0.60723	0.60051
____ SE	0.05986	7.36	8.467	0.06183	0.06365	0.05410
____ SI	0.03429	9.81	23.068	0.04327	0.02835	0.03124
____ SN	0.00597	6.13	14.126	0.00532	0.00692	0.00567
____ SR	-0.00002	3,703.85	220.114	-0.00007	-0.00001	0.00002
____ TI	-0.00419	-137.13	1.469	-0.00414	-0.00426	-0.00416
____ TL	0.09360	37.52	3.897	0.09290	0.09755	0.09036
____ V	0.50615	6,447.74	0.552	0.50441	0.50937	0.50467
____ Y1	14054.71740	14,054.72	0.196	14085.58000	14032.60044	14045.97177
____ Y2A	391519.46653	391,519.47	0.636	393746.43804	388829.77137	391982.19019
____ Y2R	35470.60138	35,470.60	0.352	35388.99161	35408.53111	35614.28143
____ ZN	1.00331	8,399.35	0.179	1.00307	1.00522	1.00165
____ ZR	0.00454	22.02	32.950	0.00524	0.00282	0.00555

LANCASTER LABORATORIES

Run Name: 1527205T72

Instrument ID: 16417

Tube: 46

Date/Time: 09/29/2015 14:14

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50746	7,920.50	0.268	0.50751	0.50607	0.50879
____ AL	26.10461	3,600.76	0.332	26.19930	26.08529	26.02924
____ AS	0.50835	167.18	0.206	0.50889	0.50715	0.50902
____ B	0.50127	4,158.59	1.121	0.50536	0.49486	0.50358
____ BA	0.51101	376,583.50	0.461	0.50941	0.51372	0.50992
____ BE	0.49248	175,396.32	0.107	0.49197	0.49243	0.49303
____ CA	25.79190	28,684.45	0.237	25.78409	25.85659	25.73500
____ CD	0.49838	5,737.80	0.175	0.49897	0.49879	0.49737
____ CO	0.49657	2,306.00	0.182	0.49704	0.49552	0.49713
____ CR	0.50755	4,342.17	0.434	0.50898	0.50501	0.50865
____ CU	0.50778	6,176.77	0.738	0.51055	0.50352	0.50928
____ FE	25.60560	8,055.38	0.264	25.57166	25.68358	25.56155
____ K	25.83362	9,349.71	0.477	25.85761	25.94309	25.70017
____ LI	0.51213	4,321.80	0.288	0.51308	0.51287	0.51043
____ MG	25.67542	45,249.77	0.490	25.70540	25.78351	25.53734
____ MN	0.51127	34,626.59	0.403	0.51009	0.51008	0.51365
____ MO	0.51187	1,725.05	0.428	0.51419	0.50983	0.51158
____ NA	26.18209	34,138.69	0.175	26.19678	26.21876	26.13073
____ NI	0.49980	1,446.30	0.408	0.50160	0.49758	0.50023
____ P	0.50028	184.92	0.230	0.50149	0.50015	0.49921
____ PB	0.50077	500.52	0.252	0.50209	0.49957	0.50064
____ S	25.63121	4,892.81	0.098	25.64208	25.64904	25.60250
____ SB	0.52344	273.26	0.665	0.52408	0.51968	0.52656
____ SE	0.50729	131.71	0.245	0.50633	0.50869	0.50685
____ SI	26.37398	4,723.88	0.286	26.30757	26.45607	26.35829
____ SN	0.50879	436.07	0.356	0.51087	0.50757	0.50792
____ SR	0.51441	429,077.62	0.326	0.51521	0.51553	0.51248
____ TI	0.50723	23,914.29	0.133	0.50650	0.50737	0.50782
____ TL	0.50285	254.63	0.432	0.50533	0.50197	0.50126
____ V	0.52780	7,427.30	0.523	0.52761	0.52515	0.53065
____ Y1	15636.43848	15,636.44	0.071	15623.67335	15644.25705	15641.38506
____ Y2A	438785.39872	438,785.40	0.024	438903.66137	438751.65673	438700.87806
____ Y2R	36601.65784	36,601.66	0.494	36456.68958	36543.97085	36804.31310
____ ZN	0.49422	4,546.60	0.075	0.49410	0.49463	0.49391
____ ZR	0.52345	1,531.76	0.211	0.52458	0.52238	0.52338

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 47 Date/Time: 09/29/2015 14:17

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00004	-22.78	1257.711	-0.00006	-0.00049	0.00044
____ AL	-0.00472	5.19	439.429	-0.02035	0.01879	-0.01259
____ AS	-0.00010	-0.71	2017.243	-0.00182	0.00209	-0.00057
____ B	-0.00285	44.50	11.583	-0.00320	-0.00255	-0.00279
____ BA	0.00002	43.85	75.200	0.00004	0.00001	0.00002
____ BE	0.00009	-96.50	15.129	0.00010	0.00007	0.00008
____ CA	-0.02021	94.75	10.845	-0.01835	-0.02263	-0.01966
____ CD	0.00001	-3.30	385.081	0.00005	0.00000	-0.00002
____ CO	-0.00003	-3.15	161.161	-0.00006	0.00003	-0.00006
____ CR	-0.00003	5.20	293.972	-0.00007	-0.00008	0.00006
____ CU	0.00041	-136.65	102.040	0.00078	-0.00005	0.00051
____ FE	-0.00202	3.00	239.290	0.00353	-0.00527	-0.00430
____ K	-0.02672	68.10	154.325	-0.02942	0.01580	-0.06654
____ LI	0.00187	27.10	66.225	0.00252	0.00044	0.00265
____ MG	-0.01058	35.36	6.362	-0.01064	-0.00988	-0.01122
____ MN	-0.00005	7.47	96.807	-0.00002	-0.00002	-0.00011
____ MO	0.00086	4.33	16.124	0.00083	0.00073	0.00101
____ NA	-0.02528	-10.24	21.780	-0.01897	-0.02783	-0.02906
____ NI	0.00023	8.09	184.675	-0.00012	0.00070	0.00010
____ P	-0.00073	-0.53	22.126	-0.00069	-0.00091	-0.00059
____ PB	0.00046	1.28	67.702	0.00019	0.00038	0.00079
____ S	0.00545	2.94	54.233	0.00809	0.00226	0.00599
____ SB	0.00015	0.72	622.501	-0.00083	0.00030	0.00097
____ SE	0.00034	-1.88	876.108	-0.00251	0.00014	0.00338
____ SI	0.00942	6.94	60.398	0.01570	0.00796	0.00460
____ SN	0.00012	1.93	542.472	0.00071	-0.00055	0.00019
____ SR	0.00002	-38.41	39.438	0.00003	0.00001	0.00002
____ TI	0.00016	26.48	60.904	0.00025	0.00005	0.00018
____ TL	-0.00120	-3.87	38.005	-0.00112	-0.00169	-0.00079
____ V	0.00027	-1.70	134.699	0.00014	-0.00001	0.00068
____ Y1	16083.61418	16,083.61	0.195	16119.40338	16060.85189	16070.58726
____ Y2A	458981.77547	458,981.78	0.456	457781.56229	457767.27844	461396.48568
____ Y2R	36762.50530	36,762.51	0.488	36947.39209	36750.57420	36589.54963
____ ZN	-0.00037	25.94	17.482	-0.00031	-0.00044	-0.00038
____ ZR	-0.00244	2.43	57.813	-0.00404	-0.00138	-0.00190

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 48 Date/Time: 09/29/2015 14:21

Sample Number: **8063152** Class: **** Batch: 152715708002

Initial Vol: 1.00 Final Vol: 100.00 DF: 20.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.08401	-2,773.29	2.338	0.08581	0.08429	0.08192
____ AL	-0.04503	4.11	68.865	-0.01722	-0.03941	-0.07846
____ AS	0.01057	19.29	35.694	0.01368	0.00637	0.01164
____ B	-0.01246	3,377.34	45.105	-0.01345	-0.01752	-0.00641
____ BA	0.00022	184.85	9.733	0.00023	0.00022	0.00019
____ BE	0.00123	-45.79	0.785	0.00124	0.00123	0.00122
____ CA	-0.05089	60.50	5.999	-0.05385	-0.04775	-0.05106
____ CD	-0.02044	434.84	2.001	-0.02040	-0.02087	-0.02005
____ CO	0.31952	1,430.18	0.386	0.31902	0.31862	0.32093
____ CR	82.58242	707,913.07	1.013	81.61600	83.06743	83.06382
____ CU	2.07925	25,757.04	1.090	2.05481	2.08335	2.09958
____ FE	511.05762	110,042.69	0.707	509.55913	515.17991	508.43383
____ K	-0.09517	43.44	13.924	-0.07987	-0.10304	-0.10260
____ LI	0.00159	24.70	221.828	0.00547	0.00070	-0.00140
____ MG	-0.01978	18.94	3.969	-0.01915	-0.01952	-0.02066
____ MN	8.34106	565,797.71	1.066	8.26485	8.31962	8.43871
____ MO	0.70847	2,254.68	0.205	0.70860	0.70985	0.70695
____ NA	-0.03258	-19.82	7.052	-0.03463	-0.03302	-0.03010
____ NI	42.42574	115,438.20	0.058	42.39775	42.43466	42.44482
____ P	0.11845	66.16	0.591	0.11893	0.11877	0.11764
____ PB	0.01060	21.08	14.161	0.01210	0.00910	0.01061
____ S	0.05347	6.04	13.362	0.06092	0.05283	0.04667
____ SB	0.79133	56.81	0.679	0.78513	0.79461	0.79426
____ SE	0.13543	-10.07	1.488	0.13351	0.13753	0.13526
____ SI	1.55702	283.54	2.591	1.56312	1.59395	1.51398
____ SN	0.02692	14.35	3.327	0.02794	0.02627	0.02654
____ SR	0.00008	11.51	17.402	0.00009	0.00007	0.00007
____ TI	0.02191	1,819.64	1.375	0.02161	0.02189	0.02222
____ TL	0.02073	14.37	3.813	0.02012	0.02045	0.02163
____ V	0.28102	3,977.28	0.755	0.27866	0.28277	0.28163
____ Y1	14769.09452	14,769.09	0.166	14782.70511	14783.73177	14740.84667
____ Y2A	439625.00000	439,625.00	0.740	442676.68986	439993.45593	436204.85421
____ Y2R	36788.98494	36,788.98	0.496	36837.34759	36587.17270	36942.43454
____ ZN	-0.02895	2,245.43	2.212	-0.02881	-0.02964	-0.02838
____ ZR	0.00606	27.32	22.439	0.00487	0.00575	0.00754

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 49 Date/Time: 09/29/2015 14:24

Sample Number: **8063152** Class: **** Batch: 152715708002

Initial Vol: 1.00 Final Vol: 100.00 DF: 50.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00691	-1,151.63	20.829	0.00737	0.00807	0.00530
____ AL	-0.03702	2.53	69.124	-0.04563	-0.00823	-0.05719
____ AS	0.00569	7.59	5.706	0.00596	0.00533	0.00578
____ B	0.03833	1,407.67	7.657	0.03725	0.03609	0.04165
____ BA	0.00006	69.93	12.187	0.00005	0.00006	0.00007
____ BE	0.00050	-92.53	2.882	0.00051	0.00049	0.00049
____ CA	-0.04830	63.83	8.853	-0.05134	-0.04341	-0.05014
____ CD	-0.00327	174.48	7.460	-0.00339	-0.00344	-0.00299
____ CO	0.12459	586.93	0.761	0.12359	0.12547	0.12470
____ CR	34.60139	300,940.90	1.225	34.48547	34.24745	35.07126
____ CU	0.83346	10,394.71	0.742	0.83365	0.82719	0.83955
____ FE	152.90485	44,610.76	1.500	153.79351	154.62066	150.30038
____ K	-0.02275	70.13	140.560	-0.04626	-0.03564	0.01366
____ LI	-0.00007	10.86	2427.175	0.00137	-0.00201	0.00043
____ MG	-0.02874	2.93	8.594	-0.02594	-0.02967	-0.03062
____ MN	3.44310	236,967.37	0.421	3.43542	3.43405	3.45982
____ MO	0.27343	918.81	0.720	0.27234	0.27571	0.27225
____ NA	-0.04321	-34.01	16.547	-0.03569	-0.04402	-0.04992
____ NI	16.79058	48,202.42	0.311	16.75202	16.84999	16.76971
____ P	0.04547	26.96	2.327	0.04666	0.04462	0.04513
____ PB	0.00359	8.44	30.474	0.00475	0.00344	0.00258
____ S	0.01830	3.56	21.449	0.01823	0.02227	0.01442
____ SB	0.34472	35.84	0.694	0.34576	0.34198	0.34642
____ SE	0.03712	-5.27	7.153	0.03556	0.04018	0.03561
____ SI	0.61388	116.09	0.959	0.62002	0.61334	0.60829
____ SN	0.01043	6.65	6.116	0.00994	0.01115	0.01021
____ SR	0.00004	-23.22	41.476	0.00003	0.00003	0.00005
____ TI	0.00850	748.83	2.576	0.00857	0.00867	0.00825
____ TL	0.00541	3.83	5.777	0.00514	0.00534	0.00575
____ V	0.11340	1,614.35	0.654	0.11298	0.11297	0.11426
____ Y1	15580.60685	15,580.61	0.324	15625.25990	15525.85610	15590.70457
____ Y2A	446021.88314	446,021.88	0.737	448518.27050	447251.73611	442295.64281
____ Y2R	37057.73323	37,057.73	1.108	37094.67884	36629.98703	37448.53381
____ ZN	-0.00872	930.67	3.435	-0.00890	-0.00888	-0.00837
____ ZR	0.00202	15.61	37.270	0.00130	0.00195	0.00280

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 50 Date/Time: 09/29/2015 14:27

Sample Number: **8063152** Class: **** Batch: 152715708002

Initial Vol: 1.00 Final Vol: 100.00 DF: 100.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00158	-572.42	25.094	0.00150	0.00123	0.00200
____ AL	-0.05300	-0.63	39.958	-0.03764	-0.04419	-0.07715
____ AS	0.00381	3.71	86.325	0.00582	0.00558	0.00001
____ B	0.01888	700.33	2.358	0.01938	0.01872	0.01854
____ BA	0.00002	38.02	124.021	0.00001	0.00000	0.00004
____ BE	0.00028	-94.36	5.502	0.00027	0.00028	0.00030
____ CA	-0.04872	63.19	1.208	-0.04923	-0.04807	-0.04884
____ CD	-0.00155	80.08	2.544	-0.00153	-0.00159	-0.00152
____ CO	0.05928	283.42	0.501	0.05901	0.05960	0.05922
____ CR	16.88751	148,745.87	0.224	16.91259	16.84392	16.90601
____ CU	0.40570	5,052.53	0.718	0.40601	0.40845	0.40265
____ FE	70.09958	21,600.42	0.181	70.17723	69.95358	70.16794
____ K	-0.04630	61.32	10.995	-0.04272	-0.04406	-0.05213
____ LI	0.00150	24.04	59.855	0.00222	0.00049	0.00178
____ MG	-0.02931	1.91	2.228	-0.03006	-0.02893	-0.02892
____ MN	1.65252	115,179.01	0.315	1.65156	1.64787	1.65814
____ MO	0.12937	444.23	0.825	0.13036	0.12949	0.12824
____ NA	-0.04747	-39.49	14.719	-0.04229	-0.04470	-0.05541
____ NI	8.00179	23,441.25	0.100	8.00700	7.99255	8.00581
____ P	0.02140	12.88	7.115	0.02118	0.02000	0.02302
____ PB	0.00263	5.45	36.189	0.00155	0.00300	0.00334
____ S	0.01115	3.20	32.675	0.00697	0.01364	0.01285
____ SB	0.17264	20.86	1.526	0.17270	0.16997	0.17524
____ SE	0.02327	-1.81	13.895	0.02620	0.01980	0.02381
____ SI	0.27891	55.45	3.086	0.28079	0.26952	0.28642
____ SN	0.00554	4.63	9.421	0.00501	0.00605	0.00555
____ SR	0.00001	-45.94	160.433	0.00000	0.00001	0.00003
____ TI	0.00394	369.03	1.731	0.00397	0.00398	0.00386
____ TL	0.00299	0.52	10.060	0.00293	0.00331	0.00272
____ V	0.05384	772.57	0.693	0.05423	0.05380	0.05349
____ Y1	15896.41979	15,896.42	0.147	15870.16720	15914.81247	15904.27971
____ Y2A	451664.49089	451,664.49	0.452	451120.78373	453920.96935	449951.71958
____ Y2R	36939.96369	36,939.96	0.728	36673.89566	37211.74945	36934.24596
____ ZN	-0.00475	459.54	5.418	-0.00457	-0.00464	-0.00505
____ ZR	0.00107	12.77	58.122	0.00039	0.00161	0.00121

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 51 Date/Time: 09/29/2015 14:30

Sample Number: **8063152** Class: **** Batch: 152715708002

Initial Vol: 1.00 Final Vol: 100.00 DF: 200.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00069	-309.97	30.831	0.00082	0.00044	0.00080
____ AL	-0.02955	2.23	50.721	-0.01230	-0.03696	-0.03938
____ AS	0.00077	1.22	244.185	-0.00060	0.00000	0.00291
____ B	0.00797	382.54	9.622	0.00840	0.00842	0.00708
____ BA	0.00003	47.94	59.259	0.00004	0.00004	0.00001
____ BE	0.00014	-112.51	8.920	0.00013	0.00016	0.00014
____ CA	-0.02998	84.41	15.623	-0.02812	-0.03531	-0.02651
____ CD	-0.00073	40.71	17.549	-0.00064	-0.00087	-0.00067
____ CO	0.03108	148.33	0.618	0.03086	0.03122	0.03117
____ CR	8.87358	79,078.47	0.346	8.84418	8.90545	8.87111
____ CU	0.21168	2,599.44	0.425	0.21142	0.21267	0.21093
____ FE	35.98642	11,370.19	0.210	35.96773	35.92186	36.06967
____ K	-0.06509	54.63	28.706	-0.06891	-0.04479	-0.08157
____ LI	0.00101	19.96	65.570	0.00027	0.00120	0.00156
____ MG	-0.01867	21.04	4.904	-0.01916	-0.01924	-0.01762
____ MN	0.86041	60,677.63	0.657	0.85467	0.86599	0.86056
____ MO	0.06825	236.79	0.432	0.06825	0.06795	0.06854
____ NA	-0.03252	-19.86	10.357	-0.02871	-0.03510	-0.03375
____ NI	4.18963	12,370.67	0.161	4.18840	4.18357	4.19691
____ P	0.01050	6.41	1.617	0.01040	0.01070	0.01040
____ PB	0.00012	1.98	992.727	0.00143	-0.00084	-0.00023
____ S	0.00341	2.10	28.641	0.00284	0.00454	0.00285
____ SB	0.09295	12.62	1.127	0.09179	0.09384	0.09321
____ SE	0.01227	-1.80	12.846	0.01259	0.01055	0.01365
____ SI	0.14607	31.62	2.927	0.14448	0.14282	0.15092
____ SN	0.00286	3.27	31.658	0.00390	0.00228	0.00240
____ SR	0.00001	-46.50	70.416	0.00000	0.00002	0.00001
____ TI	0.00202	202.50	7.945	0.00207	0.00184	0.00215
____ TL	0.00136	-1.35	71.602	0.00230	0.00144	0.00035
____ V	0.02845	410.24	1.527	0.02872	0.02869	0.02795
____ Y1	16017.65117	16,017.65	0.039	16023.57019	16018.24963	16011.13368
____ Y2A	456965.24940	456,965.25	0.559	459819.87009	454903.99271	456171.88541
____ Y2R	37017.25325	37,017.25	0.214	37067.10054	37058.88967	36925.76954
____ ZN	-0.00308	250.15	1.036	-0.00308	-0.00312	-0.00306
____ ZR	0.00007	9.84	254.116	-0.00011	0.00008	0.00023

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 52 Date/Time: 09/29/2015 14:33

Sample Number: **8050009** Class: **** Batch: 152615708007

Initial Vol: 1.03 Final Vol: 100.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00103	-865.17	64.686	0.00165	0.00033	0.00110
____ AL	19.28687	2,642.03	0.176	19.32226	19.25453	19.28381
____ AS	0.01064	4.52	17.950	0.00844	0.01175	0.01174
____ B	0.05784	1,218.72	2.031	0.05830	0.05872	0.05651
____ BA	0.47691	341,264.78	0.380	0.47898	0.47562	0.47612
____ BE	0.00095	112.44	2.039	0.00095	0.00096	0.00092
____ CA	192.20495	205,031.33	0.047	192.10647	192.22292	192.28545
____ CD	0.00085	141.79	12.447	0.00094	0.00074	0.00088
____ CO	0.01783	104.79	1.256	0.01765	0.01808	0.01775
____ CR	0.20422	1,674.75	0.896	0.20521	0.20533	0.20210
____ CU	0.17506	1,982.38	0.394	0.17497	0.17580	0.17442
____ FE	111.10979	32,778.86	0.072	111.20094	111.07432	111.05410
____ K	9.69453	3,535.23	0.276	9.67263	9.72439	9.68658
____ LI	0.01325	173.73	3.863	0.01279	0.01316	0.01380
____ MG	45.41901	78,870.71	0.138	45.44291	45.34799	45.46613
____ MN	1.75274	115,240.90	0.478	1.75348	1.76073	1.74402
____ MO	0.00300	11.18	4.962	0.00290	0.00317	0.00294
____ NA	0.76949	1,019.12	1.060	0.76038	0.77614	0.77194
____ NI	0.08012	228.43	0.643	0.08057	0.08021	0.07956
____ P	2.29826	827.62	0.209	2.30305	2.29346	2.29827
____ PB	0.18308	181.90	1.066	0.18190	0.18202	0.18533
____ S	1.51700	284.33	0.314	1.51946	1.52001	1.51151
____ SB	0.01731	3.62	4.845	0.01660	0.01711	0.01824
____ SE	0.05544	3.49	8.946	0.05875	0.04974	0.05783
____ SI	7.84227	1,398.77	0.242	7.86022	7.82236	7.84422
____ SN	0.09356	79.72	0.485	0.09328	0.09331	0.09408
____ SR	0.10599	87,288.70	0.465	0.10626	0.10629	0.10542
____ TI	3.05063	139,272.10	0.520	3.05864	3.06088	3.03237
____ TL	0.00639	-2.97	34.672	0.00508	0.00514	0.00894
____ V	0.07760	1,102.07	2.096	0.07940	0.07714	0.07625
____ Y1	15270.99094	15,270.99	0.116	15258.66205	15262.96629	15291.34449
____ Y2A	426068.09145	426,068.09	0.132	425665.92114	425827.03777	426711.31544
____ Y2R	36377.26441	36,377.26	0.039	36363.62955	36391.94112	36376.22255
____ ZN	0.22101	2,090.29	0.169	0.22142	0.22092	0.22069
____ ZR	0.01415	50.36	11.633	0.01345	0.01296	0.01603

LANCASTER LABORATORIES

Run Name: 1527205T72

Instrument ID: 16417

Tube: 53

Date/Time: 09/29/2015 14:36

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00500	65.03	4.327	0.00502	0.00520	0.00477
____ AL	0.16634	28.99	8.964	0.14948	0.17176	0.17779
____ AS	0.02008	6.12	4.367	0.02102	0.01930	0.01991
____ B	0.04436	430.18	1.888	0.04346	0.04512	0.04450
____ BA	0.00551	4,231.33	0.478	0.00549	0.00554	0.00550
____ BE	0.00505	1,737.58	0.127	0.00505	0.00505	0.00506
____ CA	0.17919	318.25	1.417	0.18130	0.17990	0.17637
____ CD	0.00501	55.79	2.019	0.00512	0.00495	0.00495
____ CO	0.00532	22.45	6.143	0.00507	0.00569	0.00519
____ CR	0.01572	144.68	0.451	0.01564	0.01578	0.01575
____ CU	0.01070	-3.02	6.635	0.00993	0.01133	0.01083
____ FE	0.20134	68.42	2.380	0.19988	0.19744	0.20669
____ K	0.46851	247.04	7.860	0.51096	0.44942	0.44515
____ LI	0.02238	200.63	2.254	0.02221	0.02295	0.02198
____ MG	0.07427	187.29	2.812	0.07636	0.07219	0.07425
____ MN	0.00548	395.55	1.740	0.00554	0.00554	0.00537
____ MO	0.01005	36.14	1.830	0.00993	0.01026	0.00997
____ NA	1.02414	1,365.73	0.479	1.02839	1.01877	1.02525
____ NI	0.01118	40.51	2.621	0.01093	0.01151	0.01111
____ P	0.09779	36.80	1.174	0.09791	0.09659	0.09887
____ PB	0.01635	17.44	12.301	0.01840	0.01438	0.01628
____ S	0.50165	100.20	0.703	0.50567	0.49905	0.50022
____ SB	0.01976	11.38	8.278	0.01875	0.02165	0.01888
____ SE	0.01979	3.44	13.860	0.02294	0.01799	0.01842
____ SI	0.05911	15.91	8.487	0.06407	0.05403	0.05922
____ SN	0.02013	19.48	3.115	0.01985	0.02085	0.01969
____ SR	0.00543	4,631.38	0.478	0.00542	0.00545	0.00540
____ TI	0.01112	560.37	0.440	0.01111	0.01117	0.01107
____ TL	0.03084	13.04	1.265	0.03128	0.03053	0.03072
____ V	0.00559	75.33	5.545	0.00589	0.00527	0.00561
____ Y1	16062.37602	16,062.38	0.062	16067.45069	16050.89988	16068.77750
____ Y2A	454426.21048	454,426.21	0.443	454036.29299	452638.82412	456603.51432
____ Y2R	36831.59936	36,831.60	0.489	36638.05411	36862.06897	36994.67500
____ ZN	0.01880	204.61	0.444	0.01876	0.01889	0.01874
____ ZR	0.04546	142.61	4.773	0.04642	0.04698	0.04298

LANCASTER LABORATORIES

Run Name: 1527205T72

Instrument ID: 16417

Tube: 54

Date/Time: 09/29/2015 14:39

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00850	-1,387.33	10.255	0.00752	0.00880	0.00918
____ AL	528.37130	67,976.03	0.214	528.40495	527.22570	529.48326
____ AS	-0.00259	1.63	97.577	-0.00551	-0.00125	-0.00102
____ B	0.03443	1,541.00	7.557	0.03679	0.03487	0.03164
____ BA	0.00058	405.43	3.219	0.00060	0.00059	0.00056
____ BE	-0.00015	-157.65	21.360	-0.00018	-0.00016	-0.00012
____ CA	521.00450	505,111.72	0.278	522.59877	519.77489	520.63984
____ CD	0.00041	205.10	71.057	0.00008	0.00062	0.00053
____ CO	0.00197	5.56	16.130	0.00233	0.00174	0.00183
____ CR	0.00399	-12.08	20.448	0.00492	0.00359	0.00344
____ CU	-0.00084	29.63	109.095	0.00021	-0.00148	-0.00124
____ FE	209.54499	55,950.68	0.136	209.83241	209.26390	209.53864
____ K	-0.00327	73.60	550.138	-0.01613	0.01726	-0.01092
____ LI	-0.00700	90.65	21.152	-0.00836	-0.00542	-0.00721
____ MG	532.45767	716,951.20	0.786	532.43873	528.28455	536.64971
____ MN	0.00211	136.40	3.004	0.00212	0.00217	0.00204
____ MO	-0.00237	-5.96	5.568	-0.00228	-0.00230	-0.00252
____ NA	0.22877	309.84	5.590	0.22631	0.24261	0.21738
____ NI	0.00081	1.62	47.410	0.00109	0.00037	0.00095
____ P	0.01555	4.93	12.421	0.01778	0.01437	0.01450
____ PB	0.00064	75.20	25.829	0.00064	0.00047	0.00080
____ S	-0.01214	-1.50	28.696	-0.00859	-0.01227	-0.01555
____ SB	0.00894	-1.52	31.234	0.00778	0.01212	0.00691
____ SE	0.01021	-4.63	12.856	0.00926	0.00967	0.01171
____ SI	0.01374	6.21	58.298	0.01907	0.01762	0.00453
____ SN	0.00660	6.66	9.110	0.00591	0.00697	0.00693
____ SR	-0.00008	3,677.76	71.301	-0.00002	-0.00011	-0.00012
____ TI	-0.00382	-142.98	2.322	-0.00372	-0.00390	-0.00383
____ TL	0.00369	-4.21	47.916	0.00226	0.00315	0.00566
____ V	-0.00014	34.75	365.798	-0.00066	0.00036	-0.00012
____ Y1	14047.16747	14,047.17	0.279	14038.93590	14089.76682	14012.79968
____ Y2A	390188.72874	390,188.73	0.199	389524.85089	391041.50099	389999.83433
____ Y2R	35346.21155	35,346.21	0.202	35309.61423	35428.53581	35300.48461
____ ZN	0.00202	228.77	19.492	0.00180	0.00178	0.00248
____ ZR	0.00487	22.86	46.213	0.00531	0.00243	0.00686

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 55 Date/Time: 09/29/2015 14:43

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.23257	1,787.71	0.237	0.23308	0.23264	0.23198
____ AL	526.47289	67,121.67	0.068	526.32972	526.87773	526.21122
____ AS	0.10023	31.92	1.152	0.10054	0.10119	0.09894
____ B	0.03339	1,512.34	6.138	0.03184	0.03262	0.03571
____ BA	0.50880	331,573.15	0.412	0.51100	0.50682	0.50859
____ BE	0.50185	158,096.25	0.680	0.50421	0.49794	0.50341
____ CA	520.16235	499,730.23	0.258	519.14700	521.68434	519.65572
____ CD	0.92977	9,730.34	0.039	0.92941	0.93014	0.92976
____ CO	0.45864	1,901.79	0.208	0.45973	0.45820	0.45797
____ CR	0.47967	3,588.18	0.191	0.47912	0.47916	0.48073
____ CU	0.53583	5,935.96	0.172	0.53513	0.53547	0.53687
____ FE	207.76277	55,036.24	0.247	208.14276	207.96652	207.17904
____ K	-0.00285	73.07	1064.291	0.03201	-0.01738	-0.02318
____ LI	-0.00697	89.79	12.399	-0.00791	-0.00680	-0.00621
____ MG	532.93754	710,799.28	0.713	528.55155	535.10784	535.15324
____ MN	0.45828	27,447.70	0.539	0.45967	0.45543	0.45975
____ MO	-0.00251	-6.36	17.707	-0.00202	-0.00290	-0.00260
____ NA	0.22687	304.60	2.820	0.22737	0.23300	0.22023
____ NI	0.90832	2,340.34	0.198	0.91011	0.90650	0.90834
____ P	0.01557	5.77	21.681	0.01237	0.01525	0.01910
____ PB	0.04329	112.56	4.652	0.04214	0.04561	0.04210
____ S	-0.00428	-0.13	138.631	-0.00591	-0.00922	0.00230
____ SB	0.60815	285.49	0.244	0.60699	0.60762	0.60982
____ SE	0.05620	6.52	10.417	0.06277	0.05429	0.05154
____ SI	0.01603	6.56	47.401	0.00952	0.02438	0.01420
____ SN	0.00649	6.50	15.198	0.00612	0.00574	0.00761
____ SR	-0.00004	3,680.54	118.413	-0.00006	-0.00008	0.00001
____ TI	-0.00423	-137.47	4.569	-0.00440	-0.00402	-0.00427
____ TL	0.09427	37.66	1.378	0.09514	0.09489	0.09278
____ V	0.50372	6,359.88	1.130	0.49989	0.50102	0.51026
____ Y1	13990.75655	13,990.76	0.054	13999.45000	13985.34213	13987.47751
____ Y2A	388022.22774	388,022.23	0.427	386240.97084	389519.79788	388305.91451
____ Y2R	35020.01397	35,020.01	0.238	35104.45342	35017.78933	34937.79916
____ ZN	1.00291	8,358.29	0.081	1.00273	1.00221	1.00380
____ ZR	0.00436	21.24	10.399	0.00457	0.00466	0.00384

LANCASTER LABORATORIES

Run Name: 1527205T72 Instrument ID: 16417

Tube: 56 Date/Time: 09/29/2015 14:46

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.51224	7,922.01	0.261	0.51328	0.51073	0.51270
____ AL	26.31803	3,594.24	0.285	26.25207	26.30252	26.39951
____ AS	0.50930	167.16	0.207	0.51001	0.50809	0.50980
____ B	0.50500	4,149.19	0.520	0.50212	0.50562	0.50726
____ BA	0.51710	377,531.01	0.335	0.51522	0.51862	0.51747
____ BE	0.49604	175,020.78	0.401	0.49833	0.49501	0.49477
____ CA	25.79456	28,403.70	0.328	25.70134	25.86665	25.81570
____ CD	0.49778	5,719.67	0.218	0.49858	0.49654	0.49820
____ CO	0.49639	2,300.65	0.398	0.49853	0.49463	0.49601
____ CR	0.51022	4,324.44	0.072	0.50982	0.51029	0.51055
____ CU	0.51272	6,180.15	0.203	0.51322	0.51342	0.51152
____ FE	25.65500	7,990.83	0.286	25.57762	25.66392	25.72345
____ K	25.88260	9,274.73	0.348	25.78046	25.95063	25.91671
____ LI	0.51980	4,342.97	0.552	0.51887	0.52302	0.51751
____ MG	25.66912	44,791.93	0.152	25.63745	25.65726	25.71264
____ MN	0.51508	34,560.21	0.348	0.51714	0.51427	0.51384
____ MO	0.51222	1,722.84	0.529	0.51480	0.50940	0.51247
____ NA	26.35635	34,025.87	0.387	26.23887	26.40622	26.42395
____ NI	0.49930	1,442.02	0.491	0.50044	0.49649	0.50098
____ P	0.50061	184.68	0.842	0.50269	0.49576	0.50338
____ PB	0.50136	500.17	0.367	0.50006	0.50055	0.50346
____ S	25.62734	4,882.44	0.186	25.68184	25.60744	25.59275
____ SB	0.52386	272.93	0.694	0.52627	0.51968	0.52563
____ SE	0.50839	131.75	1.403	0.51302	0.51196	0.50017
____ SI	26.62033	4,720.75	0.664	26.41652	26.73294	26.71154
____ SN	0.50947	435.80	0.617	0.51287	0.50667	0.50886
____ SR	0.51842	428,400.62	0.116	0.51808	0.51805	0.51911
____ TI	0.50981	23,812.64	0.403	0.51218	0.50869	0.50856
____ TL	0.50364	254.52	0.364	0.50459	0.50153	0.50480
____ V	0.53326	7,434.97	0.073	0.53370	0.53298	0.53309
____ Y1	15605.64433	15,605.64	0.163	15613.12038	15626.42848	15577.38412
____ Y2A	434708.02960	434,708.03	0.181	433799.37044	435116.46786	435208.25050
____ Y2R	36239.67939	36,239.68	0.207	36325.41425	36208.28340	36185.34052
____ ZN	0.49352	4,531.44	0.252	0.49483	0.49235	0.49338
____ ZR	0.52419	1,518.74	0.068	0.52454	0.52419	0.52383

LANCASTER LABORATORIES

Run Name: 1527205T72

Instrument ID: 16417

Tube: 57

Date/Time: 09/29/2015 14:49

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00054	-13.02	47.399	0.00026	0.00059	0.00077
____ AL	-0.02651	2.16	90.727	-0.03724	-0.04333	0.00104
____ AS	0.00205	0.02	175.158	0.00565	0.00205	-0.00154
____ B	-0.00325	40.83	17.189	-0.00281	-0.00307	-0.00388
____ BA	0.00002	39.12	100.056	0.00000	0.00002	0.00003
____ BE	0.00009	-95.05	33.726	0.00010	0.00005	0.00011
____ CA	-0.02477	88.77	16.625	-0.02033	-0.02551	-0.02847
____ CD	-0.00005	-3.91	130.876	0.00001	-0.00005	-0.00010
____ CO	0.00011	-2.44	173.826	0.00027	0.00018	-0.00011
____ CR	0.00009	6.15	374.608	0.00027	0.00027	-0.00029
____ CU	0.00019	-138.25	243.021	0.00005	0.00070	-0.00019
____ FE	0.00121	3.99	163.642	0.00172	0.00289	-0.00098
____ K	-0.04469	61.00	76.481	-0.03901	-0.01371	-0.08136
____ LI	0.00182	26.38	50.564	0.00076	0.00235	0.00234
____ MG	-0.01416	28.68	13.521	-0.01360	-0.01259	-0.01629
____ MN	-0.00014	1.22	21.751	-0.00012	-0.00012	-0.00018
____ MO	0.00123	5.60	8.528	0.00112	0.00124	0.00133
____ NA	-0.03198	-18.85	28.617	-0.02154	-0.03861	-0.03578
____ NI	0.00051	8.90	56.996	0.00043	0.00084	0.00027
____ P	-0.00099	-0.63	74.069	-0.00137	-0.00014	-0.00144
____ PB	-0.00028	0.53	653.621	0.00166	-0.00200	-0.00050
____ S	0.00034	1.92	490.912	-0.00024	-0.00095	0.00220
____ SB	0.00234	1.92	59.928	0.00150	0.00156	0.00396
____ SE	0.00062	-1.79	214.279	-0.00082	0.00182	0.00087
____ SI	0.01285	7.48	61.166	0.00714	0.00959	0.02181
____ SN	-0.00073	1.19	64.088	-0.00054	-0.00038	-0.00125
____ SR	0.00002	-37.25	52.557	0.00003	0.00002	0.00001
____ TI	0.00015	25.78	50.251	0.00008	0.00023	0.00015
____ TL	-0.00010	-3.27	1486.277	-0.00067	0.00152	-0.00114
____ V	0.00039	0.08	153.135	0.00079	-0.00030	0.00069
____ Y1	16002.81703	16,002.82	0.255	16013.72020	15957.64722	16037.08367
____ Y2A	454624.37582	454,624.38	0.655	457569.53698	451616.25583	454687.33466
____ Y2R	36402.06205	36,402.06	0.302	36283.85521	36501.39526	36420.93569
____ ZN	-0.00038	25.77	4.864	-0.00040	-0.00037	-0.00037
____ ZR	-0.00215	3.26	19.819	-0.00191	-0.00264	-0.00190

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ICP-AES Run Data Report

Reviewed By
Katlin N Cataldi

Reviewed Date
09/30/2015 1:20PM

Data File Name 1527304T73.TXT
Run Name: 1527304T73

Method Reference Name(s):

Verified By:
Jennifer L Moyer

Verified Date
09/30/2015 1:42PM

Analyst Employee: 3282

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 1 Date/Time: 09/30/2015 10:30

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-0.00403	22.978	-0.00307	-0.00410	-0.00492
AL	0.000	0.01003	12.351	0.01146	0.00928	0.00934
AS	0.000	-0.00078	400.781	0.00054	-0.00433	0.00147
B	0.000	0.00000	930.511	0.00003	-0.00001	-0.00001
BA	0.000	0.00029	25.594	0.00031	0.00020	0.00035
BE	0.000	-0.00542	31.145	-0.00422	-0.00469	-0.00735
CA	0.000	0.00598	3.074	0.00601	0.00578	0.00614
CD	0.000	-0.01919	41.528	-0.02671	-0.01083	-0.02004
CO	0.000	-0.02748	18.308	-0.02939	-0.03128	-0.02178
CR	0.000	-0.00002	32.123	-0.00002	-0.00001	-0.00002
CU	0.000	0.00028	400.083	-0.00080	0.00020	0.00145
FE	0.000	0.00020	44.271	0.00011	0.00028	0.00021
K	0.000	0.31030	7.200	0.29351	0.33565	0.30173
LI	0.000	-0.00034	98.937	-0.00063	0.00002	-0.00040
MG	0.000	0.00127	7.150	0.00117	0.00135	0.00129
MN	0.000	0.00466	22.298	0.00377	0.00580	0.00441
MO	0.000	-0.00130	305.247	-0.00584	0.00135	0.00060
NA	0.000	0.00444	2.995	0.00435	0.00437	0.00459
NI	0.000	0.03458	10.151	0.03107	0.03460	0.03809
P	0.000	0.00023	23.106	0.00021	0.00019	0.00029
PB	0.000	0.00286	408.806	0.00503	0.01331	-0.00977
S	0.000	0.00122	4.931	0.00118	0.00129	0.00118
SB	0.000	0.00033	12.540	0.00037	0.00030	0.00031
SI	0.000	0.00028	24.867	0.00026	0.00036	0.00023
SN	0.000	0.01221	17.078	0.01282	0.00988	0.01392
SR	0.000	-0.00010	39.421	-0.00006	-0.00013	-0.00010
TI	0.000	0.00327	9.413	0.00361	0.00318	0.00301
TL	0.000	0.00671	38.187	0.00376	0.00833	0.00806
V	0.000	-0.00090	190.850	-0.00124	0.00096	-0.00243
Y1	0.000	7443.38697	0.879	7446.83190	7376.31842	7507.01060
Y2A	0.000	212699.04709	0.800	211164.98602	212403.72330	214528.43196
Y2R	0.000	19588.12515	0.291	19571.08410	19651.67966	19541.61168
ZN	0.000	0.05568	5.264	0.05556	0.05281	0.05867
ZR	0.000	-0.00037	27.073	-0.00043	-0.00025	-0.00042

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 2 Date/Time: 09/30/2015 10:33

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	14.75889	0.281	14.78106	14.78451	14.71109
CA	50.000	1.88763	0.364	1.89211	1.89108	1.87971
FE	50.000	0.70334	0.372	0.70276	0.70621	0.70107
K	50.000	51.53395	0.221	51.66142	51.49783	51.44260
MG	50.000	4.31219	0.322	4.31475	4.32461	4.29722
NA	50.000	3.25074	0.414	3.25117	3.26398	3.23707
S	50.000	0.41208	1.832	0.40343	0.41552	0.41730
SI	50.000	0.49823	0.349	0.49662	0.50007	0.49799
Y1	50.000	7301.40098	0.115	7291.95841	7308.04115	7304.20338
Y2R	50.000	19420.00505	0.385	19333.98601	19457.86000	19468.16913

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 3 Date/Time: 09/30/2015 10:35

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	1.57673	0.458	1.57310	1.58505	1.57203
AS	1.000	0.93589	0.509	0.93577	0.93119	0.94071
B	1.000	0.02028	0.577	0.02016	0.02039	0.02030
BA	1.000	2.19077	0.502	2.19995	2.19379	2.17858
BE	1.000	40.69418	0.343	40.60468	40.85506	40.62279
CD	1.000	33.03803	0.446	33.13956	33.10559	32.86895
CO	1.000	18.81950	0.476	18.88788	18.85257	18.71805
CU	1.000	1.60198	0.247	1.60230	1.60576	1.59786
LI	1.000	0.43179	0.237	0.43062	0.43221	0.43253
MN	1.000	7.37087	0.437	7.34661	7.40737	7.35863
NI	1.000	10.98524	0.535	11.02193	11.01631	10.91748
P	1.000	0.01276	2.493	0.01308	0.01275	0.01244
PB	1.000	3.10523	0.264	3.09591	3.11140	3.10837
SR	1.000	2.59491	0.764	2.58959	2.61685	2.57830
TL	1.000	0.42505	4.478	0.44547	0.42190	0.40779
Y1	1.000	7389.72472	0.484	7356.36618	7385.34093	7427.46704
Y2A	1.000	206262.97736	0.558	206887.21789	204935.90791	206965.80626
Y2R	1.000	19537.83617	0.566	19619.94000	19581.35492	19412.21359
ZN	1.000	22.85543	0.509	22.96421	22.86932	22.73277

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 4 Date/Time: 09/30/2015 10:38

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	0.02391	0.436	0.02385	0.02385	0.02403
MO	1.000	6.10082	0.148	6.11077	6.09319	6.09850
SB	1.000	0.02482	0.512	0.02481	0.02469	0.02495
SN	1.000	2.14826	0.239	2.14243	2.15020	2.15215
TI	1.000	6.03308	0.216	6.02783	6.02347	6.04793
V	1.000	2.02828	0.263	2.03217	2.03047	2.02220
Y1	1.000	7497.19167	0.189	7485.55211	7512.93706	7493.08583
Y2A	1.000	212861.54402	0.178	213232.72908	212877.97000	212473.93299
Y2R	1.000	19552.47241	0.143	19526.34151	19549.24303	19581.83270
ZR	1.000	0.10513	0.591	0.10493	0.10582	0.10463

LANCASTER LABORATORIES

Run Name: 1527304T73

Instrument ID: 18255

Tube: 5

Date/Time: 09/30/2015 10:41

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.60656	3,860.36	1.108	0.60494	0.61394	0.60079
____ AL	30.07098	3,463.88	0.084	30.08181	30.04201	30.08913
____ AS	0.59636	80.95	0.638	0.59897	0.59811	0.59199
____ B	0.58332	2,597.44	1.120	0.58412	0.58942	0.57642
____ BA	0.59385	267,587.48	0.976	0.59425	0.59943	0.58786
____ BE	0.57843	96,807.05	0.946	0.57853	0.58384	0.57290
____ CA	30.40610	22,498.94	0.344	30.34578	30.34578	30.52674
____ CD	0.59631	2,905.25	0.162	0.59677	0.59521	0.59696
____ CO	0.58786	1,627.59	0.352	0.58981	0.58569	0.58808
____ CR	0.58201	2,860.76	0.839	0.58240	0.58668	0.57694
____ CU	0.59025	3,877.27	0.873	0.58797	0.59616	0.58664
____ FE	29.62992	8,211.57	0.315	29.73079	29.54683	29.61214
____ K	29.63382	11,967.11	0.248	29.61627	29.57060	29.71459
____ LI	0.58794	4,951.58	0.081	0.58849	0.58769	0.58766
____ MG	29.86202	50,582.61	0.189	29.86206	29.80570	29.91829
____ MN	0.59629	18,086.01	1.146	0.59653	0.60300	0.58933
____ MO	0.59417	533.94	0.632	0.59846	0.59254	0.59150
____ NA	29.56053	37,489.99	0.182	29.62021	29.51610	29.54527
____ NI	0.58747	949.62	0.249	0.58892	0.58599	0.58750
____ P	0.58596	55.61	3.349	0.60812	0.57902	0.57075
____ PB	0.59370	273.20	0.025	0.59378	0.59353	0.59379
____ S	29.04157	1,762.65	2.281	29.75553	28.92195	28.44724
____ SB	0.60645	111.84	0.752	0.60266	0.60517	0.61151
____ SI	30.55094	5,942.75	0.526	30.46656	30.45007	30.73619
____ SN	0.59255	187.79	0.913	0.59862	0.59081	0.58823
____ SR	0.59401	317,155.53	0.703	0.59435	0.59800	0.58967
____ TI	0.60985	15,180.38	0.976	0.60956	0.61594	0.60404
____ TL	0.55716	35.31	10.810	0.62668	0.52422	0.52059
____ V	0.60241	5,025.15	0.929	0.60336	0.60747	0.59640
____ Y1	7347.46307	7,347.46	0.075	7349.44888	7351.73765	7341.20268
____ Y2A	205673.33696	205,673.34	0.800	205389.36043	204188.66000	207441.99044
____ Y2R	19509.93187	19,509.93	0.186	19482.88818	19551.28691	19495.62051
____ ZN	0.59589	2,012.82	0.145	0.59515	0.59684	0.59569
____ ZR	0.60680	1,234.31	0.285	0.60579	0.60580	0.60880

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 6 Date/Time: 09/30/2015 10:43

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00028	-12.88	169.686	0.00019	0.00079	-0.00014
____ AL	-0.00278	3.58	195.147	-0.00697	0.00335	-0.00472
____ AS	0.00273	0.02	130.492	0.00075	0.00060	0.00685
____ B	0.00093	4.43	75.773	0.00102	0.00159	0.00018
____ BA	0.00001	67.11	275.000	0.00004	0.00003	-0.00003
____ BE	0.00012	-11.71	10.085	0.00011	0.00013	0.00012
____ CA	-0.02015	101.40	37.255	-0.01557	-0.02881	-0.01606
____ CD	0.00008	-2.87	186.725	0.00017	-0.00009	0.00017
____ CO	-0.00027	-3.83	106.968	-0.00004	-0.00018	-0.00059
____ CR	-0.00042	-5.29	113.203	-0.00028	-0.00094	-0.00003
____ CU	0.00026	2.95	355.779	0.00127	0.00008	-0.00056
____ FE	-0.01269	0.32	24.409	-0.01381	-0.00919	-0.01507
____ K	0.01297	125.85	165.066	-0.00840	0.03442	0.01290
____ LI	0.00052	-2.15	217.075	0.00182	-0.00017	-0.00009
____ MG	0.00494	3.15	18.293	0.00594	0.00417	0.00471
____ MN	-0.00041	6.85	23.462	-0.00030	-0.00046	-0.00048
____ MO	0.00010	0.08	625.345	-0.00002	0.00076	-0.00045
____ NA	0.07217	77.80	15.652	0.05986	0.07458	0.08207
____ NI	0.00052	5.97	29.726	0.00034	0.00064	0.00057
____ P	-0.00381	1.32	154.288	-0.00440	-0.00936	0.00234
____ PB	0.00348	2.03	32.097	0.00229	0.00363	0.00451
____ S	-0.01853	7.89	93.186	-0.01121	-0.03826	-0.00613
____ SB	0.00003	2.42	3943.275	0.00167	-0.00258	0.00098
____ SI	0.02815	10.97	15.383	0.02395	0.03260	0.02791
____ SN	0.00261	2.64	62.189	0.00273	0.00093	0.00417
____ SR	0.00007	-0.40	15.218	0.00008	0.00006	0.00006
____ TI	0.00051	26.93	55.857	0.00043	0.00082	0.00027
____ TL	-0.00546	0.66	92.905	-0.00320	-0.00191	-0.01126
____ V	0.00034	-5.74	147.203	0.00086	0.00028	-0.00013
____ Y1	7421.16413	7,421.16	0.103	7426.84389	7424.18298	7412.46551
____ Y2A	212286.53797	212,286.54	0.443	211209.94409	212703.85230	212945.81753
____ Y2R	19444.41619	19,444.42	0.319	19417.70168	19515.27694	19400.26995
____ ZN	-0.00111	4.55	8.071	-0.00100	-0.00116	-0.00116
____ ZR	0.00355	-6.36	48.563	0.00157	0.00468	0.00440

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 7 Date/Time: 09/30/2015 10:46

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00468	17.50	14.835	0.00464	0.00400	0.00538
____ AL	0.20552	27.63	9.248	0.19298	0.22739	0.19619
____ AS	0.02238	2.76	20.839	0.02013	0.01926	0.02774
____ B	0.04803	208.93	0.343	0.04793	0.04822	0.04793
____ BA	0.00524	2,501.77	0.554	0.00527	0.00521	0.00523
____ BE	0.00496	827.26	0.663	0.00498	0.00492	0.00498
____ CA	0.19578	261.93	3.283	0.19982	0.18837	0.19916
____ CD	0.00517	22.23	2.377	0.00504	0.00517	0.00529
____ CO	0.00458	9.81	2.701	0.00463	0.00467	0.00444
____ CR	0.01501	73.25	4.907	0.01459	0.01458	0.01586
____ CU	0.00975	67.36	2.611	0.01000	0.00950	0.00974
____ FE	0.19361	58.40	2.637	0.19527	0.19769	0.18789
____ K	0.52478	331.70	5.652	0.49333	0.52874	0.55226
____ LI	0.01963	159.31	13.962	0.01951	0.01694	0.02242
____ MG	0.10874	181.19	0.681	0.10953	0.10806	0.10863
____ MN	0.00497	175.59	1.347	0.00490	0.00503	0.00497
____ MO	0.01096	9.95	2.066	0.01094	0.01075	0.01120
____ NA	1.07806	1,357.61	1.423	1.08963	1.08389	1.06066
____ NI	0.01028	21.91	5.784	0.00965	0.01084	0.01035
____ P	0.10072	11.04	5.128	0.10360	0.10380	0.09476
____ PB	0.01741	8.47	13.881	0.02020	0.01585	0.01619
____ S	0.45989	37.18	1.709	0.46849	0.45812	0.45306
____ SB	0.02664	7.31	7.233	0.02869	0.02486	0.02636
____ SI	0.05972	17.21	14.192	0.05309	0.05679	0.06927
____ SN	0.02176	8.74	2.379	0.02153	0.02140	0.02236
____ SR	0.00522	2,845.88	0.545	0.00525	0.00520	0.00521
____ TI	0.01032	279.12	2.240	0.01057	0.01012	0.01028
____ TL	0.01755	2.09	26.646	0.01628	0.02273	0.01364
____ V	0.00578	40.47	5.612	0.00586	0.00606	0.00542
____ Y1	7442.82534	7,442.83	0.126	7435.68659	7439.39012	7453.39932
____ Y2A	212814.01820	212,814.02	0.383	211905.61876	213056.64734	213479.78851
____ Y2R	19558.68865	19,558.69	0.334	19491.50040	19621.86130	19562.70426
____ ZN	0.01994	75.79	1.782	0.01962	0.02032	0.01987
____ ZR	0.04972	89.10	4.128	0.05194	0.04789	0.04933

LANCASTER LABORATORIES

Run Name: 1527304T73

Instrument ID: 18255

Tube: 8

Date/Time: 09/30/2015 10:49

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00903	-588.19	12.693	-0.01025	-0.00797	-0.00888
____ AL	495.08362	54,970.64	0.456	493.92726	493.63597	497.68763
____ AS	0.00945	-2.36	41.477	0.00496	0.01221	0.01117
____ B	-0.00216	1,007.28	148.852	-0.00245	0.00119	-0.00521
____ BA	0.00060	296.92	5.450	0.00063	0.00059	0.00057
____ BE	-0.00087	-159.82	3.200	-0.00086	-0.00090	-0.00085
____ CA	498.03634	330,899.36	0.249	496.63530	498.48408	498.98963
____ CD	0.00145	68.46	16.324	0.00169	0.00143	0.00122
____ CO	0.00127	0.44	31.102	0.00086	0.00165	0.00130
____ CR	0.00247	8.19	24.155	0.00178	0.00288	0.00274
____ CU	-0.00198	57.60	88.327	-0.00138	-0.00395	-0.00061
____ FE	200.14041	48,824.96	0.512	199.72425	199.38827	201.30871
____ K	0.07532	144.69	53.309	0.03123	0.08494	0.10979
____ LI	0.00194	30.31	38.538	0.00280	0.00144	0.00158
____ MG	509.92512	694,751.77	0.862	507.09866	507.68966	514.98703
____ MN	0.00170	63.85	1.875	0.00166	0.00172	0.00171
____ MO	-0.00822	-10.81	12.951	-0.00799	-0.00728	-0.00938
____ NA	0.31858	373.91	3.798	0.32394	0.32708	0.30473
____ NI	-0.00431	-10.49	15.450	-0.00380	-0.00408	-0.00507
____ P	-0.00986	0.69	96.959	-0.01868	-0.01120	0.00030
____ PB	0.00642	41.91	29.862	0.00753	0.00753	0.00421
____ S	0.00908	10.30	195.815	-0.00411	0.02929	0.00206
____ SB	0.00537	6.77	19.430	0.00416	0.00597	0.00597
____ SI	0.01919	8.85	48.876	0.00907	0.02092	0.02758
____ SN	0.01306	5.42	22.957	0.00973	0.01555	0.01389
____ SR	0.00009	2,365.61	55.732	0.00012	0.00012	0.00003
____ TI	-0.00018	7.88	84.692	-0.00021	-0.00001	-0.00031
____ TL	0.00278	1.08	180.167	0.00746	-0.00249	0.00337
____ V	0.00138	4.14	62.656	0.00040	0.00171	0.00204
____ Y1	6758.19467	6,758.19	0.005	6758.36200	6757.83400	6758.38800
____ Y2A	186059.67064	186,059.67	0.588	186877.60614	184815.87238	186485.53340
____ Y2R	18670.95674	18,670.96	0.328	18645.70515	18740.86922	18626.29585
____ ZN	0.00813	84.17	2.268	0.00815	0.00831	0.00794
____ ZR	0.00602	-32.48	6.272	0.00635	0.00609	0.00561

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 9 Date/Time: 09/30/2015 10:52

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.20715	687.79	0.275	0.20691	0.20673	0.20779
____ AL	489.07636	54,315.40	0.302	487.54259	489.19420	490.49230
____ AS	0.11346	10.89	6.350	0.12122	0.11217	0.10699
____ B	0.00074	1,007.13	206.643	0.00182	0.00143	-0.00102
____ BA	0.49931	203,471.46	0.250	0.49989	0.50016	0.49788
____ BE	0.48666	73,651.22	0.296	0.48767	0.48729	0.48501
____ CA	494.75284	328,969.91	0.783	492.60503	499.22335	492.43015
____ CD	0.92730	4,208.51	0.064	0.92741	0.92665	0.92783
____ CO	0.45964	1,168.69	0.157	0.45888	0.45972	0.46032
____ CR	0.47405	2,106.66	0.218	0.47457	0.47473	0.47286
____ CU	0.52178	3,177.46	0.212	0.52152	0.52298	0.52082
____ FE	198.19893	48,415.47	0.215	198.18712	197.77809	198.63157
____ K	0.01226	120.60	99.662	-0.00088	0.01438	0.02329
____ LI	0.00045	18.16	218.372	0.00133	0.00064	-0.00061
____ MG	501.62807	685,931.41	0.535	504.65302	500.70207	499.52911
____ MN	0.44438	12,193.53	0.316	0.44554	0.44478	0.44282
____ MO	-0.01042	-12.61	23.511	-0.01325	-0.00896	-0.00906
____ NA	0.31841	373.80	1.277	0.32306	0.31552	0.31666
____ NI	0.90010	1,329.58	0.095	0.90096	0.90008	0.89925
____ P	-0.00125	1.67	967.166	0.00072	0.00975	-0.01423
____ PB	0.04871	59.25	12.743	0.04184	0.05392	0.05038
____ S	-0.00224	9.79	223.613	-0.00664	-0.00328	0.00321
____ SB	0.60496	108.44	0.276	0.60328	0.60499	0.60661
____ SI	0.02300	9.54	13.532	0.02577	0.01963	0.02360
____ SN	0.01095	4.79	15.727	0.01294	0.00994	0.00997
____ SR	0.00010	2,353.22	41.470	0.00013	0.00005	0.00011
____ TI	-0.00044	13.49	11.499	-0.00047	-0.00038	-0.00046
____ TL	0.08444	5.84	19.312	0.06573	0.09201	0.09559
____ V	0.49092	3,767.13	0.548	0.49398	0.48984	0.48894
____ Y1	6763.77923	6,763.78	0.109	6755.73800	6770.24770	6765.35200
____ Y2A	185986.21330	185,986.21	0.154	185676.63000	186040.04990	186241.96000
____ Y2R	18677.15743	18,677.16	0.258	18702.30263	18707.49900	18621.67065
____ ZN	0.99682	3,130.30	0.114	0.99746	0.99551	0.99749
____ ZR	0.00482	-34.54	17.304	0.00505	0.00552	0.00390

LANCASTER LABORATORIES

Run Name: 1527304T73

Instrument ID: 18255

Tube: 10

Date/Time: 09/30/2015 10:54

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49715	3,179.35	0.411	0.49914	0.49724	0.49506
____ AL	25.08824	2,903.08	0.472	25.05966	25.21841	24.98664
____ AS	0.49989	68.12	0.503	0.50275	0.49803	0.49890
____ B	0.47628	2,137.96	0.508	0.47423	0.47895	0.47566
____ BA	0.50323	228,156.56	0.100	0.50285	0.50302	0.50380
____ BE	0.47812	80,505.01	0.241	0.47689	0.47828	0.47918
____ CA	25.27288	18,814.69	0.417	25.29257	25.36696	25.15910
____ CD	0.49428	2,419.18	0.087	0.49428	0.49471	0.49385
____ CO	0.49383	1,373.24	0.292	0.49542	0.49347	0.49260
____ CR	0.50005	2,472.56	0.399	0.49793	0.50032	0.50190
____ CU	0.49427	3,266.83	0.315	0.49248	0.49538	0.49493
____ FE	24.92047	6,952.85	0.389	24.92655	25.01410	24.82076
____ K	24.89111	10,115.80	0.291	24.88712	24.96544	24.82077
____ LI	0.49611	4,195.67	0.088	0.49570	0.49657	0.49607
____ MG	25.09660	42,765.36	0.400	25.15890	25.15007	24.98084
____ MN	0.49253	15,034.31	0.243	0.49160	0.49389	0.49211
____ MO	0.50251	453.70	0.595	0.49917	0.50492	0.50344
____ NA	24.97104	31,807.67	0.090	24.95888	24.99687	24.95737
____ NI	0.49331	802.02	0.468	0.49513	0.49409	0.49071
____ P	0.46884	45.05	3.364	0.45096	0.47474	0.48080
____ PB	0.49908	230.77	0.657	0.49766	0.50282	0.49674
____ S	24.17640	1,475.88	1.927	23.71175	24.17415	24.64331
____ SB	0.51400	95.61	1.253	0.51069	0.50990	0.52142
____ SI	25.29506	4,943.13	0.310	25.32133	25.35706	25.20678
____ SN	0.50352	160.60	0.397	0.50396	0.50133	0.50526
____ SR	0.50029	268,748.77	0.383	0.49811	0.50107	0.50170
____ TI	0.50832	12,732.96	0.438	0.50586	0.51019	0.50892
____ TL	0.45315	29.05	6.987	0.42166	0.45283	0.48497
____ V	0.50760	4,258.62	0.147	0.50732	0.50845	0.50704
____ Y1	7382.40357	7,382.40	0.227	7364.97404	7383.78573	7398.45094
____ Y2A	206926.91635	206,926.92	0.128	207225.14940	206835.13648	206720.46317
____ Y2R	19596.43514	19,596.44	0.563	19576.89848	19497.16000	19715.24695
____ ZN	0.49390	1,677.89	0.135	0.49409	0.49316	0.49445
____ ZR	0.50732	1,034.24	0.544	0.50722	0.51013	0.50461

LANCASTER LABORATORIES

Run Name: 1527304T73

Instrument ID: 18255

Tube: 11

Date/Time: 09/30/2015 10:57

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00058	-11.02	84.728	0.00106	0.00008	0.00061
____ AL	0.01202	5.32	280.127	0.04958	-0.01542	0.00189
____ AS	0.00362	0.14	65.582	0.00527	0.00090	0.00469
____ B	0.00083	4.14	8.954	0.00086	0.00088	0.00074
____ BA	0.00002	69.09	43.115	0.00002	0.00003	0.00001
____ BE	0.00010	-15.17	31.139	0.00013	0.00008	0.00008
____ CA	0.00506	120.83	55.716	0.00795	0.00231	0.00493
____ CD	0.00029	-1.85	10.268	0.00032	0.00029	0.00026
____ CO	-0.00022	-3.68	95.711	-0.00019	-0.00002	-0.00044
____ CR	-0.00023	-4.35	334.544	-0.00070	-0.00065	0.00066
____ CU	0.00030	3.24	185.497	-0.00034	0.00069	0.00054
____ FE	0.01331	7.65	39.020	0.01777	0.00761	0.01454
____ K	0.03833	136.92	38.821	0.05206	0.04042	0.02252
____ LI	0.00041	-3.05	333.086	0.00137	0.00103	-0.00117
____ MG	0.03463	54.16	3.205	0.03438	0.03367	0.03585
____ MN	-0.00042	6.75	11.446	-0.00037	-0.00042	-0.00047
____ MO	0.00076	0.68	48.554	0.00092	0.00034	0.00102
____ NA	0.06336	67.14	9.846	0.06643	0.05619	0.06748
____ NI	0.00007	5.25	683.338	0.00030	-0.00045	0.00035
____ P	-0.00185	1.51	293.611	0.00439	-0.00443	-0.00552
____ PB	0.00178	1.25	141.265	-0.00064	0.00439	0.00160
____ S	0.00133	9.12	631.212	-0.00402	-0.00300	0.01101
____ SB	-0.00115	2.21	250.724	0.00032	-0.00447	0.00070
____ SI	0.01017	7.54	52.734	0.00526	0.00937	0.01590
____ SN	0.00112	2.17	164.022	-0.00051	0.00312	0.00075
____ SR	0.00005	-11.73	25.669	0.00003	0.00006	0.00006
____ TI	0.00042	24.82	10.314	0.00047	0.00038	0.00042
____ TL	0.00105	1.06	931.633	0.00752	-0.01016	0.00578
____ V	0.00062	-3.41	20.068	0.00059	0.00075	0.00051
____ Y1	7431.94639	7,431.95	0.260	7410.29382	7438.08430	7447.46105
____ Y2A	212997.45102	212,997.45	0.497	211784.43603	213726.17764	213481.73939
____ Y2R	19582.76860	19,582.77	0.139	19612.81387	19575.53383	19559.95809
____ ZN	-0.00113	4.48	21.895	-0.00140	-0.00107	-0.00092
____ ZR	0.00255	-8.49	14.064	0.00235	0.00296	0.00233

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 12 Date/Time: 09/30/2015 10:59

Sample Number: **PBS** Class: **** Batch: 152715708002

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00023	-16.47	170.392	0.00002	-0.00002	-0.00069
____ AL	0.05944	10.89	21.339	0.06071	0.04616	0.07143
____ AS	0.00435	0.24	76.323	0.00604	0.00648	0.00052
____ B	0.00814	35.87	3.595	0.00783	0.00819	0.00841
____ BA	0.00020	153.07	5.343	0.00019	0.00019	0.00021
____ BE	0.00009	-17.52	24.837	0.00009	0.00006	0.00010
____ CA	0.09279	187.54	1.377	0.09219	0.09192	0.09425
____ CD	0.00002	-3.19	1935.645	0.00032	-0.00029	0.00002
____ CO	-0.00071	-5.05	13.578	-0.00081	-0.00062	-0.00069
____ CR	0.00086	1.21	52.243	0.00091	0.00039	0.00129
____ CU	0.00012	2.01	532.892	-0.00048	0.00007	0.00076
____ FE	0.00668	5.83	94.119	0.00805	0.01217	-0.00018
____ K	-0.01224	117.67	212.102	-0.02370	0.01748	-0.03050
____ LI	0.00337	22.20	38.780	0.00186	0.00414	0.00411
____ MG	0.02281	34.15	5.778	0.02431	0.02183	0.02229
____ MN	-0.00008	17.37	24.074	-0.00007	-0.00010	-0.00007
____ MO	0.00011	0.10	563.072	-0.00043	0.00082	-0.00005
____ NA	0.08042	89.65	1.666	0.08150	0.07892	0.08084
____ NI	0.00071	6.30	75.226	0.00051	0.00132	0.00031
____ P	0.01341	2.92	2.579	0.01332	0.01380	0.01312
____ PB	-0.00043	0.23	487.131	0.00119	0.00033	-0.00282
____ S	-0.00974	8.44	29.514	-0.00650	-0.01071	-0.01200
____ SB	0.00202	2.73	124.612	0.00471	-0.00029	0.00165
____ SI	0.01995	9.54	32.089	0.01258	0.02413	0.02314
____ SN	0.01572	6.81	3.686	0.01606	0.01505	0.01605
____ SR	0.00095	490.38	2.073	0.00094	0.00098	0.00095
____ TI	0.00053	27.70	35.349	0.00057	0.00069	0.00033
____ TL	0.00165	1.10	601.678	0.00257	-0.00870	0.01106
____ V	0.00025	-6.55	85.318	0.00012	0.00013	0.00050
____ Y1	7431.55412	7,431.55	0.184	7445.75055	7430.40751	7418.50430
____ Y2A	213955.32476	213,955.32	0.092	213872.31199	214179.73243	213813.92985
____ Y2R	19758.60975	19,758.61	0.603	19631.05819	19777.66447	19867.10658
____ ZN	-0.00013	7.85	116.743	0.00000	-0.00009	-0.00030
____ ZR	0.00435	-4.81	10.932	0.00384	0.00478	0.00441

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 13 Date/Time: 09/30/2015 11:02

Sample Number: **LCSW** Class: **** Batch: 152715708002

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05143	353.62	1.805	0.05110	0.05247	0.05071
____ AL	2.06275	247.64	1.200	2.05553	2.04243	2.09031
____ AS	0.14887	20.42	1.613	0.14820	0.15153	0.14687
____ B	1.88399	8,044.75	0.326	1.88733	1.87689	1.88773
____ BA	1.97237	909,499.40	0.340	1.96754	1.96953	1.98003
____ BE	0.04949	8,449.04	0.230	0.04957	0.04955	0.04936
____ CA	4.06471	3,172.55	0.860	4.03804	4.05182	4.10429
____ CD	0.05025	243.81	0.768	0.05038	0.04982	0.05056
____ CO	0.49619	1,391.44	0.088	0.49573	0.49624	0.49660
____ CR	0.19541	980.97	0.574	0.19660	0.19438	0.19524
____ CU	0.24676	1,629.35	0.641	0.24591	0.24578	0.24859
____ FE	0.99624	288.49	1.287	0.98377	0.99555	1.00939
____ K	9.80972	4,113.05	0.213	9.78911	9.80924	9.83082
____ LI	0.97714	8,375.26	0.285	0.97392	0.97868	0.97881
____ MG	2.00760	3,487.01	0.255	2.00603	2.00344	2.01332
____ MN	0.49520	15,376.26	0.197	0.49561	0.49409	0.49590
____ MO	1.98373	1,798.56	0.540	1.99532	1.97418	1.98170
____ NA	9.92281	12,795.10	0.280	9.95244	9.91852	9.89745
____ NI	0.50515	829.20	0.224	0.50393	0.50536	0.50616
____ P	0.97343	92.05	4.888	1.02664	0.93496	0.95870
____ PB	0.15442	70.13	3.404	0.14890	0.15499	0.15937
____ S	0.93165	66.32	2.973	0.96244	0.92378	0.90874
____ SB	0.51677	79.57	0.323	0.51650	0.51524	0.51855
____ SI	1.12055	231.28	2.335	1.09821	1.11410	1.14934
____ SN	3.90051	1,240.19	0.332	3.91280	3.88701	3.90172
____ SR	0.98753	539,430.46	0.177	0.98853	0.98856	0.98551
____ TI	0.99948	25,381.55	0.332	1.00329	0.99789	0.99727
____ TL	0.14235	9.99	10.816	0.15998	0.13153	0.13555
____ V	0.49976	4,034.39	0.443	0.50215	0.49779	0.49934
____ Y1	7430.51744	7,430.52	0.124	7421.32162	7439.72816	7430.50255
____ Y2A	210496.11259	210,496.11	0.153	210135.33587	210758.44972	210594.55218
____ Y2R	19850.44401	19,850.44	0.195	19882.61216	19807.45465	19861.26522
____ ZN	0.49373	1,680.94	0.104	0.49355	0.49334	0.49431
____ ZR	0.97907	2,043.15	1.122	0.97139	0.97417	0.99165

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 14 Date/Time: 09/30/2015 11:05

Sample Number: **8057362** Class: U*** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00622	-474.00	10.204	-0.00686	-0.00620	-0.00559
____ AL	41.57220	4,907.75	0.595	41.31173	41.60060	41.80428
____ AS	0.06209	2.71	8.017	0.06770	0.06037	0.05820
____ B	0.01781	876.55	6.418	0.01910	0.01693	0.01740
____ BA	0.13508	62,785.15	0.108	0.13525	0.13498	0.13501
____ BE	0.00112	161.46	1.210	0.00114	0.00111	0.00111
____ CA	18.26426	13,917.79	0.649	18.17039	18.22485	18.39754
____ CD	0.00140	60.63	22.170	0.00173	0.00132	0.00113
____ CO	0.05002	160.50	0.445	0.05027	0.04986	0.04992
____ CR	0.12408	626.17	0.751	0.12498	0.12415	0.12312
____ CU	0.06925	382.81	1.410	0.06936	0.07016	0.06822
____ FE	138.37770	37,294.49	0.599	137.92323	137.87512	139.33475
____ K	4.50350	1,969.39	0.959	4.47829	4.47885	4.55337
____ LI	0.07547	646.28	0.516	0.07542	0.07510	0.07588
____ MG	25.66048	44,614.58	0.596	25.55792	25.58719	25.83631
____ MN	1.92689	60,197.32	0.148	1.92377	1.92758	1.92933
____ MO	-0.00181	-1.33	10.408	-0.00166	-0.00202	-0.00175
____ NA	1.65962	2,144.41	0.565	1.64912	1.66259	1.66715
____ NI	0.15841	257.78	0.386	0.15777	0.15848	0.15898
____ P	4.38661	410.66	4.125	4.42621	4.18912	4.54449
____ PB	0.05462	22.40	2.844	0.05434	0.05629	0.05322
____ S	0.03420	11.92	12.220	0.03511	0.03786	0.02965
____ SB	-0.00072	3.48	24.732	-0.00093	-0.00061	-0.00063
____ SI	9.62975	1,924.64	0.629	9.62899	9.56956	9.69071
____ SN	0.01778	7.49	3.224	0.01714	0.01824	0.01796
____ SR	0.08478	46,698.24	0.069	0.08484	0.08473	0.08477
____ TI	4.27651	109,308.16	0.023	4.27699	4.27714	4.27539
____ TL	-0.01327	0.15	74.984	-0.00675	-0.00833	-0.02471
____ V	0.11683	1,054.31	0.710	0.11730	0.11588	0.11732
____ Y1	7472.51065	7,472.51	0.136	7482.55391	7472.75469	7462.22333
____ Y2A	211984.28037	211,984.28	0.076	212159.90000	211846.37218	211946.56892
____ Y2R	19998.26277	19,998.26	0.349	20040.96169	20035.99082	19917.83579
____ ZN	0.21226	769.71	0.254	0.21199	0.21288	0.21191
____ ZR	0.04818	64.74	6.946	0.04594	0.04658	0.05203

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 15 Date/Time: 09/30/2015 11:07

Sample Number: **8057362** Class: UP** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01689	-278.61	3.338	0.01716	0.01625	0.01727
____ AL	41.53613	4,872.99	0.329	41.63691	41.59094	41.38054
____ AS	0.52420	67.89	0.730	0.52012	0.52476	0.52771
____ B	0.20249	1,643.01	0.702	0.20095	0.20376	0.20276
____ BA	0.17969	83,009.89	0.190	0.17961	0.18006	0.17939
____ BE	0.02039	3,465.32	0.083	0.02037	0.02040	0.02039
____ CA	18.80201	14,233.77	0.476	18.86243	18.84448	18.69912
____ CD	0.04937	297.37	1.266	0.04994	0.04870	0.04946
____ CO	0.14367	425.70	0.713	0.14285	0.14335	0.14482
____ CR	0.31248	1,572.43	0.319	0.31134	0.31288	0.31321
____ CU	0.54798	3,610.08	0.067	0.54760	0.54833	0.54800
____ FE	135.37703	36,311.65	0.252	135.75747	135.27415	135.09946
____ K	6.28008	2,680.51	0.271	6.29804	6.27797	6.26424
____ LI	1.02549	8,800.67	0.304	1.02781	1.02671	1.02195
____ MG	26.03298	44,974.00	0.305	26.12032	26.01311	25.96550
____ MN	1.94371	60,367.88	0.217	1.94160	1.94096	1.94856
____ MO	0.18877	173.03	0.677	0.18882	0.18746	0.19002
____ NA	3.55141	4,575.80	0.164	3.55034	3.55771	3.54618
____ NI	0.29910	490.08	0.154	0.29907	0.29866	0.29958
____ P	5.15833	484.41	5.155	5.42131	4.88957	5.16410
____ PB	0.53068	243.97	1.593	0.52682	0.52483	0.54037
____ S	0.93358	67.40	4.307	0.95836	0.88719	0.95518
____ SB	0.39456	75.05	1.291	0.39275	0.40031	0.39061
____ SI	9.84461	1,955.50	0.395	9.86010	9.87335	9.80039
____ SN	0.58045	187.78	0.499	0.58097	0.57733	0.58306
____ SR	0.10203	55,864.38	0.171	0.10186	0.10203	0.10221
____ TI	4.28618	108,918.46	0.292	4.27938	4.27853	4.30062
____ TL	0.89230	56.75	6.372	0.94347	0.83108	0.90234
____ V	0.21082	1,836.53	0.202	0.21060	0.21054	0.21131
____ Y1	7498.17853	7,498.18	0.131	7495.51562	7509.05295	7489.96703
____ Y2A	210746.04544	210,746.05	0.201	211024.67558	210257.41073	210956.05000
____ Y2R	19873.16731	19,873.17	0.413	19835.29529	19816.81664	19967.39000
____ ZN	0.32104	1,145.20	0.150	0.32071	0.32083	0.32159
____ ZR	0.99025	2,045.80	0.286	0.98728	0.99293	0.99053

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 16 Date/Time: 09/30/2015 11:10

Sample Number: **8057365** Class: D*** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00558	-464.33	17.425	-0.00641	-0.00451	-0.00582
____ AL	44.59690	5,238.96	0.693	44.24129	44.80274	44.74667
____ AS	0.05796	2.19	13.048	0.06659	0.05485	0.05245
____ B	0.01871	870.78	3.877	0.01927	0.01789	0.01898
____ BA	0.15286	70,662.90	0.149	0.15263	0.15308	0.15288
____ BE	0.00118	170.68	2.903	0.00120	0.00120	0.00114
____ CA	19.65391	14,891.58	0.476	19.55099	19.67679	19.73395
____ CD	0.00157	61.06	26.592	0.00197	0.00114	0.00160
____ CO	0.05062	161.41	0.855	0.05058	0.05021	0.05107
____ CR	0.11272	565.47	0.527	0.11263	0.11217	0.11335
____ CU	0.08393	483.37	2.148	0.08211	0.08572	0.08395
____ FE	137.51867	36,896.55	0.267	137.09485	137.72062	137.74054
____ K	5.08041	2,194.94	0.356	5.06386	5.07765	5.09972
____ LI	0.08039	685.52	2.640	0.07966	0.08278	0.07872
____ MG	25.74139	44,534.15	0.159	25.69978	25.74273	25.78167
____ MN	2.12671	66,082.72	0.249	2.12319	2.12415	2.13280
____ MO	-0.00318	-2.53	28.270	-0.00326	-0.00224	-0.00403
____ NA	1.73511	2,231.56	0.466	1.74445	1.73049	1.73039
____ NI	0.15482	251.96	0.650	0.15512	0.15564	0.15369
____ P	4.00099	374.75	2.301	4.03023	4.07487	3.89788
____ PB	0.05518	23.10	3.124	0.05324	0.05653	0.05577
____ S	0.03682	12.16	23.016	0.04290	0.04042	0.02714
____ SB	0.00594	4.73	46.218	0.00430	0.00911	0.00442
____ SI	10.88078	2,163.07	0.176	10.85933	10.89604	10.88695
____ SN	0.01746	7.39	7.472	0.01895	0.01692	0.01652
____ SR	0.07790	42,691.38	0.385	0.07758	0.07793	0.07818
____ TI	4.12367	104,839.50	0.345	4.10941	4.12376	4.13784
____ TL	-0.00961	0.37	32.878	-0.00597	-0.01126	-0.01160
____ V	0.11159	1,002.38	0.319	0.11149	0.11129	0.11198
____ Y1	7473.19885	7,473.20	0.177	7468.64795	7462.84800	7488.10061
____ Y2A	210851.21333	210,851.21	0.167	210674.28000	211255.75000	210623.61000
____ Y2R	19899.77765	19,899.78	0.501	19921.86752	19986.53000	19790.93544
____ ZN	0.22374	808.38	0.313	0.22393	0.22433	0.22297
____ ZR	0.05021	68.83	1.598	0.04980	0.04968	0.05113

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 17 Date/Time: 09/30/2015 11:13

Sample Number: **8057363** Class: R*** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04529	-74.84	2.498	0.04645	0.04522	0.04419
____ AL	48.77419	5,719.18	0.355	48.97386	48.67808	48.67064
____ AS	0.20511	23.16	5.745	0.20097	0.21841	0.19596
____ B	1.86840	8,706.79	0.337	1.86172	1.86930	1.87419
____ BA	2.04580	942,136.05	0.600	2.03683	2.04079	2.05979
____ BE	0.05020	8,558.22	0.156	0.05011	0.05026	0.05022
____ CA	24.59044	18,550.23	0.092	24.61269	24.59136	24.56727
____ CD	0.04999	295.60	0.480	0.05014	0.04971	0.05010
____ CO	0.53098	1,518.41	0.132	0.53023	0.53110	0.53162
____ CR	0.30373	1,524.52	0.500	0.30222	0.30526	0.30369
____ CU	0.31243	1,964.19	0.358	0.31318	0.31297	0.31115
____ FE	129.92482	34,912.06	0.143	129.95403	130.09483	129.72561
____ K	13.86296	5,763.13	0.229	13.82735	13.87339	13.88813
____ LI	1.05262	9,025.98	0.285	1.05315	1.04939	1.05533
____ MG	28.48695	49,130.43	0.029	28.49394	28.48896	28.47794
____ MN	2.75929	85,477.71	0.372	2.74785	2.76226	2.76774
____ MO	1.92829	1,751.80	0.036	1.92812	1.92906	1.92768
____ NA	11.68907	15,079.00	0.137	11.67067	11.69752	11.69903
____ NI	0.63446	1,035.04	0.383	0.63210	0.63695	0.63434
____ P	5.26145	490.34	3.234	5.21729	5.11773	5.44933
____ PB	0.20078	89.81	2.837	0.19439	0.20263	0.20532
____ S	0.94019	67.80	3.276	0.90937	0.94024	0.97096
____ SB	0.46832	72.40	1.812	0.45945	0.47635	0.46917
____ SI	19.76312	3,918.91	0.231	19.81030	19.76007	19.71901
____ SN	3.79668	1,209.10	0.516	3.77408	3.80859	3.80736
____ SR	1.06195	579,444.27	0.389	1.05815	1.06634	1.06136
____ TI	6.13468	155,503.92	0.316	6.11229	6.14615	6.14561
____ TL	0.13145	9.29	7.721	0.12428	0.14306	0.12701
____ V	0.60515	5,000.12	0.263	0.60335	0.60570	0.60639
____ Y1	7442.13958	7,442.14	0.190	7448.56515	7451.92765	7425.92593
____ Y2A	210224.99623	210,225.00	0.201	210501.76576	210433.88867	209739.33427
____ Y2R	19855.53161	19,855.53	0.562	19726.75509	19916.66000	19923.17973
____ ZN	0.70198	2,425.03	0.406	0.70121	0.69959	0.70514
____ ZR	1.04214	2,154.68	0.885	1.04930	1.04537	1.03174

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 18 Date/Time: 09/30/2015 11:15

Sample Number: **8057364** Class: M*** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04348	-123.87	2.902	0.04490	0.04247	0.04307
____ AL	52.50873	6,166.24	0.524	52.71645	52.19673	52.61301
____ AS	0.20408	22.69	2.618	0.19867	0.20421	0.20936
____ B	1.86776	8,775.09	0.404	1.87285	1.87135	1.85909
____ BA	2.08235	959,220.21	0.900	2.10170	2.08107	2.06429
____ BE	0.04990	8,509.41	0.542	0.05001	0.05009	0.04959
____ CA	25.99746	19,630.80	0.216	26.03524	25.93299	26.02415
____ CD	0.04965	300.88	0.202	0.04955	0.04963	0.04975
____ CO	0.52677	1,524.00	0.326	0.52546	0.52872	0.52614
____ CR	0.31239	1,568.55	0.609	0.31052	0.31433	0.31231
____ CU	0.31157	1,930.93	0.750	0.31364	0.31203	0.30903
____ FE	141.88299	37,957.53	0.464	142.62720	141.37954	141.64223
____ K	14.90650	6,196.84	0.414	14.94559	14.83544	14.93847
____ LI	1.05045	9,020.86	0.423	1.05556	1.04837	1.04743
____ MG	29.53445	50,995.43	0.380	29.66135	29.44851	29.49350
____ MN	2.68174	83,099.71	0.373	2.68316	2.69095	2.67111
____ MO	1.91190	1,748.64	0.219	1.91674	1.90961	1.90934
____ NA	11.73643	15,162.69	0.202	11.76266	11.71656	11.73007
____ NI	0.63900	1,048.95	0.441	0.64105	0.64015	0.63578
____ P	5.04247	473.23	1.943	5.00771	5.15310	4.96659
____ PB	0.20254	90.88	0.353	0.20184	0.20327	0.20252
____ S	0.96037	69.48	2.242	0.96568	0.97874	0.93668
____ SB	0.46512	72.55	1.487	0.47070	0.46728	0.45738
____ SI	17.44582	3,466.20	0.340	17.46693	17.37874	17.49178
____ SN	3.76586	1,207.48	0.751	3.75453	3.79805	3.74498
____ SR	1.06468	581,098.20	0.567	1.06921	1.06701	1.05782
____ TI	7.46685	189,316.89	0.523	7.48834	7.49040	7.42181
____ TL	0.12070	8.68	16.069	0.13924	0.12229	0.10055
____ V	0.61722	5,119.58	0.519	0.61712	0.62047	0.61407
____ Y1	7492.93114	7,492.93	0.206	7485.03997	7483.03787	7510.71557
____ Y2A	210285.25285	210,285.25	0.504	209134.54709	210499.88000	211221.33147
____ Y2R	19885.27485	19,885.27	0.310	19824.73000	19947.98765	19883.10689
____ ZN	0.70914	2,469.39	0.210	0.70905	0.71066	0.70769
____ ZR	1.06254	2,198.88	0.587	1.06953	1.06054	1.05756

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 19 Date/Time: 09/30/2015 11:18

Sample Number: **8057362** Class: UL** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00133	-103.79	68.113	-0.00146	-0.00216	-0.00036
____ AL	8.18072	966.08	1.046	8.08196	8.22683	8.23338
____ AS	0.01179	0.24	17.599	0.01319	0.00941	0.01278
____ B	0.01057	199.34	20.311	0.01257	0.01083	0.00830
____ BA	0.02648	12,561.91	0.335	0.02658	0.02641	0.02644
____ BE	0.00035	28.03	12.694	0.00038	0.00036	0.00030
____ CA	3.61544	2,848.96	0.693	3.59586	3.60677	3.64369
____ CD	0.00047	9.90	40.581	0.00053	0.00062	0.00026
____ CO	0.00988	29.63	2.940	0.00972	0.00971	0.01022
____ CR	0.02418	121.43	2.070	0.02475	0.02384	0.02394
____ CU	0.01345	76.61	3.595	0.01321	0.01401	0.01313
____ FE	25.99310	7,379.26	0.469	25.92207	25.92340	26.13383
____ K	0.87589	481.86	2.390	0.86376	0.90006	0.86383
____ LI	0.01621	133.19	14.448	0.01456	0.01889	0.01517
____ MG	5.09454	8,892.47	0.577	5.09503	5.06490	5.12369
____ MN	0.38326	12,188.38	1.437	0.38944	0.37889	0.38145
____ MO	0.00012	0.16	642.785	0.00051	-0.00079	0.00065
____ NA	0.39194	494.73	4.004	0.41001	0.38170	0.38411
____ NI	0.03171	56.75	3.829	0.03196	0.03039	0.03277
____ P	0.86529	83.75	1.823	0.84708	0.87407	0.87471
____ PB	0.01111	5.07	27.120	0.01283	0.01285	0.00763
____ S	-0.02583	7.77	24.807	-0.02933	-0.01844	-0.02973
____ SB	0.00172	3.04	152.564	0.00469	0.00074	-0.00027
____ SI	1.71566	346.76	0.151	1.71314	1.71830	1.71554
____ SN	0.00343	2.97	14.585	0.00358	0.00384	0.00288
____ SR	0.01686	9,407.36	0.980	0.01705	0.01676	0.01676
____ TI	0.82994	21,577.50	1.289	0.84168	0.82073	0.82742
____ TL	-0.00284	0.84	187.726	0.00253	-0.00292	-0.00812
____ V	0.02332	206.62	1.652	0.02357	0.02352	0.02288
____ Y1	7598.74211	7,598.74	0.329	7626.06036	7593.20736	7576.95861
____ Y2A	215528.15947	215,528.16	1.029	212969.02769	216754.25745	216861.19328
____ Y2R	19950.46156	19,950.46	0.511	20045.41467	19963.25000	19842.72000
____ ZN	0.04086	157.35	0.688	0.04088	0.04057	0.04114
____ ZR	0.01388	10.93	16.180	0.01581	0.01142	0.01440

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 20 Date/Time: 09/30/2015 11:21

Sample Number: **8063264** Class: **** Batch: 152715708002

Initial Vol: 1.03 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00309	-392.81	23.595	-0.00227	-0.00366	-0.00335
____ AL	73.61624	8,776.12	0.270	73.51312	73.49046	73.84513
____ AS	0.03308	-0.17	10.942	0.02977	0.03695	0.03252
____ B	0.10922	1,158.12	1.564	0.10979	0.11057	0.10730
____ BA	0.49229	228,812.84	0.192	0.49272	0.49120	0.49294
____ BE	0.00364	595.90	0.430	0.00363	0.00362	0.00365
____ CA	28.75679	22,026.89	0.301	28.71735	28.69694	28.85608
____ CD	0.00240	56.67	9.209	0.00218	0.00263	0.00240
____ CO	0.04150	127.52	0.821	0.04134	0.04128	0.04190
____ CR	0.12101	611.01	0.498	0.12092	0.12046	0.12165
____ CU	0.46702	3,123.15	0.402	0.46598	0.46589	0.46919
____ FE	118.92157	32,669.80	0.391	118.59864	118.71087	119.45519
____ K	13.29358	5,624.63	0.102	13.27805	13.30022	13.30248
____ LI	0.09592	831.38	1.185	0.09579	0.09485	0.09711
____ MG	23.24584	40,836.88	0.358	23.16522	23.24079	23.33150
____ MN	1.90557	59,573.10	0.115	1.90757	1.90591	1.90324
____ MO	-0.00071	-0.29	76.604	-0.00125	-0.00070	-0.00017
____ NA	1.84432	2,407.49	0.398	1.83756	1.85214	1.84326
____ NI	0.10187	166.16	0.741	0.10259	0.10109	0.10192
____ P	2.04534	192.52	2.553	2.08259	1.98564	2.06777
____ PB	0.84264	392.55	0.446	0.83836	0.84545	0.84410
____ S	0.60366	46.92	0.538	0.60324	0.60064	0.60709
____ SB	0.00776	4.80	34.974	0.01084	0.00571	0.00674
____ SI	12.07033	2,433.40	0.153	12.05299	12.06834	12.08966
____ SN	0.09725	32.87	0.957	0.09809	0.09742	0.09625
____ SR	0.16698	92,039.99	0.196	0.16721	0.16661	0.16713
____ TI	2.58385	66,098.54	0.084	2.58477	2.58137	2.58541
____ TL	-0.00643	0.58	206.063	0.00596	-0.02039	-0.00485
____ V	0.15887	1,409.47	0.201	0.15921	0.15857	0.15885
____ Y1	7472.86605	7,472.87	0.377	7462.13216	7451.66200	7504.80400
____ Y2A	212132.25672	212,132.26	0.143	211782.26000	212286.78000	212327.73017
____ Y2R	20190.04029	20,190.04	0.171	20161.73765	20179.91018	20228.47305
____ ZN	0.94218	3,234.93	0.177	0.94049	0.94382	0.94222
____ ZR	0.03760	46.05	3.902	0.03718	0.03923	0.03639

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 21 Date/Time: 09/30/2015 11:23

Sample Number: **8063268** Class: **** Batch: 152715708002

Initial Vol: 0.86 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00262	-389.14	41.645	-0.00326	-0.00323	-0.00136
____ AL	88.72953	10,576.13	0.547	88.16952	88.99569	89.02340
____ AS	0.03528	0.28	30.398	0.04751	0.03086	0.02748
____ B	0.10480	1,135.54	4.117	0.10426	0.10936	0.10078
____ BA	0.72179	333,380.28	0.536	0.71752	0.72506	0.72279
____ BE	0.00419	687.67	0.499	0.00421	0.00420	0.00417
____ CA	37.04803	28,304.50	0.435	36.86515	37.16854	37.11042
____ CD	0.00200	54.88	10.126	0.00220	0.00179	0.00200
____ CO	0.04406	134.86	1.122	0.04390	0.04366	0.04461
____ CR	0.11891	596.58	2.260	0.12046	0.12046	0.11580
____ CU	0.76413	5,113.42	0.760	0.76320	0.77034	0.75884
____ FE	119.54377	32,819.11	0.324	119.10146	119.82136	119.70849
____ K	13.70601	5,793.23	0.127	13.68903	13.72368	13.70531
____ LI	0.12098	1,050.11	1.405	0.12093	0.11931	0.12271
____ MG	29.07352	50,959.18	0.342	28.95891	29.13576	29.12588
____ MN	2.25543	70,067.04	1.316	2.24516	2.28887	2.23225
____ MO	-0.00200	-1.59	44.595	-0.00296	-0.00185	-0.00120
____ NA	2.22517	2,906.50	0.268	2.22326	2.23184	2.22040
____ NI	0.10375	170.21	0.583	0.10306	0.10418	0.10402
____ P	2.57563	243.46	2.125	2.54243	2.54567	2.63880
____ PB	1.01483	476.81	0.296	1.01215	1.01426	1.01808
____ S	1.58784	108.13	2.138	1.57722	1.56047	1.62581
____ SB	0.00213	3.75	75.189	0.00387	0.00073	0.00178
____ SI	11.38697	2,295.16	0.349	11.34258	11.39899	11.41934
____ SN	0.12134	40.80	1.104	0.12166	0.12250	0.11987
____ SR	0.21030	115,206.59	1.175	0.20997	0.21291	0.20800
____ TI	2.46371	62,632.99	1.162	2.45991	2.49403	2.43718
____ TL	-0.01774	-0.14	72.245	-0.03245	-0.00901	-0.01175
____ V	0.17539	1,544.60	1.256	0.17504	0.17775	0.17338
____ Y1	7516.80652	7,516.81	0.176	7530.25155	7516.40200	7503.76600
____ Y2A	210822.36244	210,822.36	0.730	211248.13112	209116.20786	212102.74835
____ Y2R	20183.06224	20,183.06	0.286	20226.40192	20117.60479	20205.18000
____ ZN	1.58822	5,454.66	0.247	1.58500	1.58705	1.59260
____ ZR	0.02689	23.05	6.086	0.02582	0.02877	0.02607

LANCASTER LABORATORIES

Run Name: 1527304T73

Instrument ID: 18255

Tube: 22

Date/Time: 09/30/2015 11:26

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49990	3,203.13	0.508	0.49719	0.50029	0.50222
____ AL	25.12746	2,917.65	0.141	25.12772	25.16265	25.09202
____ AS	0.49863	68.43	0.713	0.49801	0.49542	0.50245
____ B	0.48108	2,162.43	1.129	0.47945	0.47665	0.48714
____ BA	0.50535	229,532.80	0.620	0.50444	0.50277	0.50883
____ BE	0.48046	81,045.64	0.820	0.47896	0.47749	0.48493
____ CA	25.20634	18,830.37	0.174	25.25388	25.19744	25.16769
____ CD	0.49141	2,422.58	1.074	0.49320	0.48547	0.49556
____ CO	0.49109	1,375.55	0.761	0.49210	0.48695	0.49422
____ CR	0.50074	2,480.49	0.659	0.50044	0.49761	0.50419
____ CU	0.49596	3,283.85	0.859	0.49332	0.49368	0.50087
____ FE	24.99881	6,998.49	0.181	25.04076	25.00460	24.95106
____ K	24.97177	10,183.16	0.020	24.96780	24.97728	24.97022
____ LI	0.49800	4,226.09	0.433	0.49791	0.50019	0.49589
____ MG	25.12831	42,966.56	0.158	25.15523	25.14688	25.08280
____ MN	0.49601	15,167.39	0.897	0.49419	0.49275	0.50107
____ MO	0.49925	454.01	1.240	0.50129	0.49230	0.50416
____ NA	25.08971	32,068.84	0.138	25.05457	25.09055	25.12399
____ NI	0.49189	805.53	0.885	0.48998	0.48882	0.49687
____ P	0.47386	45.84	3.757	0.47961	0.45389	0.48809
____ PB	0.49951	232.65	1.501	0.49678	0.49376	0.50799
____ S	24.14041	1,484.31	1.756	23.88949	23.90197	24.62977
____ SB	0.51775	97.02	1.722	0.52195	0.52378	0.50751
____ SI	25.35606	4,972.12	0.138	25.31694	25.38446	25.36676
____ SN	0.50189	161.25	0.869	0.49874	0.50007	0.50687
____ SR	0.50485	271,688.49	0.652	0.50347	0.50248	0.50861
____ TI	0.51409	12,900.33	0.715	0.51258	0.51142	0.51829
____ TL	0.45095	29.12	5.169	0.42977	0.44715	0.47593
____ V	0.50948	4,282.94	0.784	0.50628	0.50820	0.51396
____ Y1	7436.18852	7,436.19	0.852	7405.04098	7509.09236	7394.43223
____ Y2A	207305.64407	207,305.64	0.549	207480.95618	208344.88000	206091.09603
____ Y2R	19663.76353	19,663.76	0.193	19623.23747	19669.49880	19698.55434
____ ZN	0.49110	1,680.61	0.929	0.49269	0.48596	0.49466
____ ZR	0.51402	1,051.73	0.667	0.51509	0.51679	0.51019

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 23 Date/Time: 09/30/2015 11:28

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00075	-20.07	98.485	-0.00100	0.00008	-0.00134
____ AL	-0.00264	3.64	482.780	0.00437	0.00507	-0.01737
____ AS	0.00433	0.24	70.593	0.00169	0.00768	0.00362
____ B	0.00223	10.29	43.525	0.00323	0.00214	0.00130
____ BA	0.00021	161.53	12.823	0.00019	0.00024	0.00020
____ BE	0.00009	-16.27	35.879	0.00006	0.00009	0.00012
____ CA	-0.01041	110.22	14.064	-0.01187	-0.01041	-0.00894
____ CD	-0.00015	-4.02	163.955	-0.00025	-0.00033	0.00013
____ CO	-0.00045	-4.36	81.994	-0.00088	-0.00018	-0.00030
____ CR	0.00040	-1.13	188.175	0.00039	-0.00035	0.00117
____ CU	0.00015	2.20	234.083	-0.00024	0.00026	0.00042
____ FE	0.01893	9.31	36.646	0.02203	0.01098	0.02377
____ K	-0.01709	115.56	97.159	-0.00789	-0.00713	-0.03626
____ LI	0.00031	-4.03	312.328	0.00129	0.00024	-0.00062
____ MG	0.01918	27.83	5.638	0.02031	0.01906	0.01816
____ MN	0.00011	23.32	42.223	0.00016	0.00008	0.00008
____ MO	0.00004	0.03	389.432	-0.00001	-0.00008	0.00022
____ NA	0.05095	51.71	8.158	0.05333	0.05337	0.04615
____ NI	-0.00011	4.97	441.835	-0.00058	0.00042	-0.00018
____ P	-0.00032	1.65	1554.075	-0.00362	-0.00274	0.00540
____ PB	0.00143	1.09	63.857	0.00188	0.00203	0.00038
____ S	-0.03144	7.14	33.599	-0.03405	-0.01981	-0.04044
____ SB	0.00172	2.76	198.320	0.00052	-0.00093	0.00557
____ SI	0.01070	7.71	32.170	0.00830	0.00916	0.01465
____ SN	0.00051	1.98	172.462	0.00152	0.00012	-0.00011
____ SR	0.00016	47.88	5.875	0.00016	0.00016	0.00015
____ TI	0.00099	39.57	19.544	0.00102	0.00078	0.00116
____ TL	-0.00273	0.83	163.746	-0.00392	0.00221	-0.00648
____ V	0.00051	-4.23	90.986	0.00078	0.00079	-0.00003
____ Y1	7461.36944	7,461.37	0.076	7466.87700	7455.53536	7461.69596
____ Y2A	214520.01707	214,520.02	0.130	214266.84305	214819.97000	214473.23817
____ Y2R	19738.42092	19,738.42	0.588	19639.77636	19709.24965	19866.23675
____ ZN	-0.00116	4.39	25.460	-0.00147	-0.00113	-0.00088
____ ZR	0.00406	-5.39	44.843	0.00410	0.00222	0.00586

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 24 Date/Time: 09/30/2015 11:31

Sample Number: **8063272** Class: **** Batch: 152715708002

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00217	-285.93	8.067	-0.00236	-0.00215	-0.00201
____ AL	57.36803	6,804.30	0.335	57.43930	57.51437	57.15043
____ AS	0.02847	0.46	32.721	0.01842	0.03019	0.03681
____ B	0.06960	792.23	2.210	0.07093	0.06994	0.06791
____ BA	0.45845	211,905.43	0.172	0.45932	0.45823	0.45779
____ BE	0.00274	438.83	0.506	0.00276	0.00273	0.00274
____ CA	28.06311	21,394.45	0.292	28.10370	28.11669	27.96895
____ CD	0.00128	37.34	34.215	0.00172	0.00128	0.00084
____ CO	0.03380	100.87	0.926	0.03407	0.03387	0.03346
____ CR	0.08619	431.88	0.815	0.08698	0.08562	0.08598
____ CU	0.31707	2,109.05	0.131	0.31754	0.31691	0.31676
____ FE	85.90532	23,863.24	0.197	85.91585	86.06940	85.73071
____ K	9.48071	4,027.34	0.617	9.47315	9.54258	9.42639
____ LI	0.07883	678.94	1.901	0.08006	0.07716	0.07926
____ MG	20.95165	36,652.46	0.370	20.89997	21.04077	20.91420
____ MN	1.74984	54,402.34	0.204	1.74605	1.75314	1.75032
____ MO	-0.00096	-0.52	150.445	0.00018	-0.00047	-0.00258
____ NA	1.05185	1,360.29	0.687	1.04478	1.05922	1.05155
____ NI	0.07485	122.50	0.420	0.07461	0.07474	0.07521
____ P	2.17395	202.74	2.014	2.20712	2.19041	2.12434
____ PB	1.23767	570.99	0.347	1.23289	1.24122	1.23889
____ S	0.52611	41.75	1.909	0.53610	0.51602	0.52619
____ SB	0.00221	3.44	158.575	-0.00164	0.00520	0.00305
____ SI	11.94238	2,395.61	0.210	11.94245	11.96742	11.91728
____ SN	0.07921	26.88	6.947	0.08422	0.08010	0.07332
____ SR	0.12234	67,087.85	0.166	0.12246	0.12246	0.12211
____ TI	1.81341	46,139.56	0.175	1.81410	1.81618	1.80994
____ TL	-0.01006	0.35	14.626	-0.00839	-0.01065	-0.01116
____ V	0.12714	1,118.47	0.618	0.12624	0.12750	0.12768
____ Y1	7410.17673	7,410.18	0.238	7401.83924	7398.25052	7430.44043
____ Y2A	210954.58390	210,954.58	0.264	210715.82253	210557.09716	211590.83200
____ Y2R	20090.75885	20,090.76	0.395	20105.81025	20005.01296	20161.45335
____ ZN	0.59359	2,027.41	0.375	0.59530	0.59439	0.59108
____ ZR	0.02291	20.15	5.355	0.02397	0.02157	0.02319

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 25 Date/Time: 09/30/2015 11:34

Sample Number: **8063276** Class: **** Batch: 152715708002

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00174	-228.73	40.512	-0.00175	-0.00244	-0.00103
____ AL	52.94066	6,299.16	0.152	52.90611	52.88336	53.03251
____ AS	0.01711	-0.35	24.260	0.01792	0.01262	0.02080
____ B	0.06115	652.26	1.063	0.06062	0.06187	0.06094
____ BA	0.40157	186,895.83	0.179	0.40085	0.40229	0.40155
____ BE	0.00236	375.64	0.637	0.00235	0.00238	0.00235
____ CA	16.15590	12,425.09	0.272	16.15044	16.11488	16.20239
____ CD	0.00124	29.70	15.608	0.00116	0.00146	0.00109
____ CO	0.02465	74.85	1.702	0.02481	0.02497	0.02418
____ CR	0.06882	346.56	0.395	0.06851	0.06902	0.06894
____ CU	0.32644	2,190.26	0.210	0.32722	0.32593	0.32617
____ FE	67.07234	18,861.40	0.308	67.10980	66.84934	67.25788
____ K	7.67452	3,294.33	0.805	7.70846	7.60324	7.71186
____ LI	0.06569	566.13	0.761	0.06512	0.06590	0.06605
____ MG	14.14567	24,879.78	0.218	14.13417	14.12229	14.18054
____ MN	1.29181	40,442.94	0.203	1.29345	1.29319	1.28878
____ MO	-0.00108	-0.55	53.526	-0.00172	-0.00093	-0.00059
____ NA	0.90075	1,166.62	0.519	0.89722	0.89898	0.90605
____ NI	0.05870	98.14	0.915	0.05844	0.05932	0.05835
____ P	1.48866	140.76	1.245	1.46763	1.49577	1.50260
____ PB	0.52590	246.83	0.424	0.52622	0.52796	0.52353
____ S	0.33289	30.07	5.540	0.31261	0.34864	0.33742
____ SB	0.00550	4.00	16.732	0.00565	0.00451	0.00634
____ SI	11.44253	2,302.92	0.234	11.41339	11.46612	11.44808
____ SN	0.07326	25.24	3.295	0.07060	0.07532	0.07386
____ SR	0.11164	61,586.47	0.200	0.11160	0.11188	0.11145
____ TI	1.58556	40,621.66	0.365	1.58395	1.59198	1.58076
____ TL	-0.00110	0.92	1106.530	0.00917	0.00207	-0.01453
____ V	0.10183	901.13	0.415	0.10144	0.10177	0.10228
____ Y1	7482.67511	7,482.68	0.348	7495.43228	7452.69092	7499.90213
____ Y2A	212402.39714	212,402.40	0.161	212022.54237	212496.10156	212688.54749
____ Y2R	20155.10612	20,155.11	0.449	20117.75673	20258.38000	20089.18164
____ ZN	0.50046	1,725.89	0.480	0.49915	0.50323	0.49899
____ ZR	0.01537	7.28	13.116	0.01619	0.01307	0.01684

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 26 Date/Time: 09/30/2015 11:36

Sample Number: **8057359** Class: **** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00302	-92.82	19.647	-0.00345	-0.00234	-0.00326
____ AL	15.85880	1,906.78	0.358	15.87691	15.90431	15.79519
____ AS	0.01407	1.02	42.483	0.01881	0.01604	0.00736
____ B	0.02635	218.27	3.823	0.02525	0.02723	0.02658
____ BA	0.06677	31,569.03	0.282	0.06667	0.06699	0.06665
____ BE	0.00065	81.01	2.876	0.00065	0.00066	0.00063
____ CA	2.17957	1,800.49	0.782	2.18365	2.19421	2.16084
____ CD	0.00070	7.19	39.382	0.00041	0.00073	0.00096
____ CO	0.00190	21.74	10.065	0.00196	0.00169	0.00206
____ CR	0.05181	263.84	1.234	0.05214	0.05222	0.05107
____ CU	0.00266	-58.91	39.656	0.00388	0.00209	0.00201
____ FE	17.47923	5,083.09	0.328	17.54063	17.47011	17.42697
____ K	3.22521	1,471.08	0.558	3.21543	3.24599	3.21421
____ LI	0.01051	85.74	4.182	0.01093	0.01005	0.01056
____ MG	2.21443	3,943.35	0.115	2.21604	2.21149	2.21576
____ MN	0.22238	7,078.03	0.166	0.22199	0.22245	0.22272
____ MO	0.00430	4.26	2.000	0.00421	0.00431	0.00439
____ NA	0.23990	303.38	2.379	0.24184	0.23347	0.24438
____ NI	0.00978	20.51	4.020	0.01022	0.00946	0.00967
____ P	0.99544	95.29	0.299	0.99720	0.99712	0.99201
____ PB	0.04394	21.92	4.371	0.04411	0.04194	0.04577
____ S	0.03057	11.14	22.947	0.03336	0.03576	0.02259
____ SB	0.00470	3.56	51.526	0.00489	0.00219	0.00702
____ SI	6.39145	1,302.03	1.050	6.46861	6.34695	6.35878
____ SN	0.01907	7.98	7.479	0.02023	0.01951	0.01748
____ SR	0.02600	14,509.43	0.263	0.02594	0.02608	0.02599
____ TI	3.62694	94,213.15	0.267	3.61612	3.63478	3.62991
____ TL	-0.00046	0.98	1694.453	-0.00546	-0.00434	0.00844
____ V	0.04508	422.32	1.075	0.04457	0.04553	0.04515
____ Y1	7536.15358	7,536.15	0.081	7540.91254	7538.28206	7529.26615
____ Y2A	215428.77669	215,428.78	0.527	216737.45766	214704.85806	214844.01437
____ Y2R	20350.02612	20,350.03	0.497	20242.04318	20365.39077	20442.64441
____ ZN	0.04913	181.33	0.889	0.04941	0.04934	0.04862
____ ZR	0.06990	133.23	3.281	0.06840	0.07254	0.06876

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 27 Date/Time: 09/30/2015 11:39

Sample Number: **8057360** Class: **** Batch: 152715708002

Initial Vol: 1.04 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00517	-419.70	12.860	-0.00500	-0.00590	-0.00460
____ AL	37.75348	4,497.50	0.526	37.81691	37.91259	37.53092
____ AS	0.06138	3.25	11.496	0.06602	0.06486	0.05326
____ B	0.01163	761.30	8.094	0.01108	0.01110	0.01272
____ BA	0.10093	47,077.73	0.101	0.10103	0.10083	0.10092
____ BE	0.00106	152.19	4.702	0.00112	0.00102	0.00106
____ CA	12.38604	9,569.73	0.397	12.42756	12.39872	12.33183
____ CD	0.00142	54.10	16.167	0.00119	0.00165	0.00141
____ CO	0.04833	150.02	0.941	0.04879	0.04832	0.04788
____ CR	0.10660	539.23	0.502	0.10690	0.10692	0.10598
____ CU	0.06551	379.49	1.283	0.06488	0.06647	0.06520
____ FE	122.60615	33,603.98	0.295	122.58206	122.97966	122.25673
____ K	3.63329	1,627.52	1.020	3.66466	3.59239	3.64282
____ LI	0.07100	612.91	1.775	0.07026	0.07027	0.07245
____ MG	23.85157	41,871.16	0.254	23.81570	23.92153	23.81747
____ MN	1.97282	61,831.18	0.101	1.97460	1.97317	1.97068
____ MO	-0.00248	-1.89	8.344	-0.00269	-0.00227	-0.00248
____ NA	1.17355	1,526.04	0.560	1.17598	1.17856	1.16612
____ NI	0.15400	250.77	0.134	0.15405	0.15377	0.15417
____ P	3.47302	324.79	0.833	3.50584	3.45119	3.46204
____ PB	0.05403	22.59	3.827	0.05260	0.05640	0.05308
____ S	0.03134	11.71	13.547	0.03623	0.02858	0.02921
____ SB	-0.00086	3.32	658.707	-0.00525	-0.00290	0.00556
____ SI	9.42210	1,900.14	0.250	9.44707	9.40020	9.41905
____ SN	0.01781	7.49	10.218	0.01591	0.01798	0.01954
____ SR	0.06529	36,059.09	0.056	0.06530	0.06524	0.06531
____ TI	3.26103	83,626.35	0.252	3.27029	3.25814	3.25466
____ TL	0.00281	1.15	329.150	-0.00259	-0.00246	0.01347
____ V	0.09877	890.89	0.498	0.09932	0.09861	0.09838
____ Y1	7456.38265	7,456.38	0.179	7441.06430	7462.74271	7465.34093
____ Y2A	212670.53633	212,670.54	0.154	212327.25549	212977.93736	212706.41615
____ Y2R	20179.78993	20,179.79	0.165	20195.13097	20141.58199	20202.65681
____ ZN	0.19478	704.41	0.239	0.19432	0.19477	0.19525
____ ZR	0.04552	62.31	1.754	0.04625	0.04563	0.04467

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 28 Date/Time: 09/30/2015 11:41

Sample Number: **8057361** Class: **** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00594	-462.96	7.841	-0.00648	-0.00573	-0.00562
____ AL	36.48311	4,376.36	0.722	36.29372	36.37154	36.78407
____ AS	0.05449	1.76	10.913	0.06044	0.04855	0.05447
____ B	0.01400	844.39	9.573	0.01323	0.01555	0.01322
____ BA	0.10605	49,693.97	0.099	0.10598	0.10601	0.10617
____ BE	0.00096	134.06	5.918	0.00090	0.00096	0.00101
____ CA	18.14227	14,048.40	0.660	18.08812	18.05926	18.27942
____ CD	0.00139	59.37	6.234	0.00132	0.00149	0.00137
____ CO	0.04531	143.29	0.864	0.04541	0.04563	0.04487
____ CR	0.10244	520.45	0.517	0.10202	0.10226	0.10303
____ CU	0.07255	426.81	1.030	0.07318	0.07273	0.07172
____ FE	134.50740	36,905.66	0.331	134.36884	134.14760	135.00576
____ K	3.26527	1,485.60	0.772	3.28890	3.23874	3.26817
____ LI	0.06827	593.50	3.509	0.06764	0.07091	0.06625
____ MG	23.38731	41,347.95	0.280	23.37014	23.33220	23.45959
____ MN	1.71816	54,101.39	0.221	1.71451	1.72208	1.71788
____ MO	-0.00231	-1.97	44.038	-0.00259	-0.00118	-0.00316
____ NA	1.22070	1,598.93	0.707	1.21757	1.21407	1.23045
____ NI	0.15221	248.86	0.183	0.15236	0.15189	0.15238
____ P	4.67028	438.93	2.827	4.64373	4.55356	4.81355
____ PB	0.05364	21.58	6.130	0.05574	0.04985	0.05533
____ S	0.28844	27.57	4.372	0.29733	0.27400	0.29398
____ SB	0.00499	4.46	146.837	-0.00337	0.00805	0.01030
____ SI	6.14821	1,250.87	0.546	6.18180	6.11465	6.14819
____ SN	0.01919	7.98	4.668	0.01829	0.02008	0.01920
____ SR	0.08292	46,035.26	0.210	0.08273	0.08296	0.08307
____ TI	3.42170	88,149.83	0.216	3.41482	3.42079	3.42951
____ TL	-0.00816	0.48	199.078	-0.00812	-0.02441	0.00806
____ V	0.10762	973.81	0.959	0.10681	0.10726	0.10878
____ Y1	7503.78567	7,503.79	0.119	7510.72484	7506.91262	7493.71954
____ Y2A	213655.03121	213,655.03	0.236	214188.10379	213187.70197	213589.28785
____ Y2R	20320.20449	20,320.20	0.372	20371.34316	20355.92696	20233.34333
____ ZN	0.21143	768.89	0.181	0.21111	0.21186	0.21133
____ ZR	0.04157	52.24	6.599	0.04084	0.04460	0.03926

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 29 Date/Time: 09/30/2015 11:44

Sample Number: **8057366** Class: **** Batch: 152715708002

Initial Vol: 1.03 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00492	-457.39	23.029	-0.00541	-0.00573	-0.00363
____ AL	37.26517	4,444.68	0.410	37.17531	37.44161	37.17859
____ AS	0.05354	1.54	13.287	0.04633	0.06056	0.05374
____ B	0.01437	848.69	8.114	0.01310	0.01539	0.01463
____ BA	0.11551	53,574.32	0.286	0.11527	0.11589	0.11538
____ BE	0.00102	142.95	4.180	0.00106	0.00102	0.00097
____ CA	18.97692	14,603.97	0.157	18.94911	19.00838	18.97326
____ CD	0.00156	60.66	14.932	0.00183	0.00141	0.00144
____ CO	0.04601	145.38	0.383	0.04582	0.04617	0.04603
____ CR	0.11293	568.25	0.612	0.11258	0.11372	0.11247
____ CU	0.07518	436.55	1.284	0.07507	0.07619	0.07427
____ FE	136.45735	37,191.25	0.130	136.26918	136.62152	136.48134
____ K	3.62117	1,624.42	0.724	3.64468	3.62593	3.59290
____ LI	0.06781	586.14	1.403	0.06687	0.06779	0.06877
____ MG	23.25635	40,883.43	0.098	23.24567	23.28239	23.24099
____ MN	1.72427	53,743.63	0.570	1.71775	1.73558	1.71947
____ MO	-0.00223	-1.74	65.260	-0.00381	-0.00194	-0.00094
____ NA	1.29512	1,687.57	0.813	1.30259	1.29969	1.28308
____ NI	0.15130	245.82	1.555	0.15192	0.15328	0.14870
____ P	4.57417	427.43	2.817	4.63690	4.42596	4.65964
____ PB	0.05361	21.51	6.027	0.04989	0.05515	0.05577
____ S	0.28021	26.91	1.799	0.28128	0.28463	0.27472
____ SB	0.00124	3.76	632.474	0.01008	-0.00495	-0.00140
____ SI	9.09730	1,837.16	0.163	9.08037	9.10380	9.10773
____ SN	0.01930	7.97	16.858	0.01573	0.02008	0.02210
____ SR	0.09572	52,598.70	0.572	0.09542	0.09635	0.09540
____ TI	3.60278	91,875.36	0.550	3.58994	3.62562	3.59279
____ TL	0.00426	1.25	104.073	0.00432	0.00866	-0.00020
____ V	0.11128	997.45	0.909	0.11017	0.11151	0.11216
____ Y1	7459.99538	7,460.00	0.037	7456.81391	7462.03959	7461.13264
____ Y2A	211492.05205	211,492.05	0.385	211355.01000	210755.79536	212365.35079
____ Y2R	20204.07404	20,204.07	0.323	20143.06110	20196.41291	20272.74811
____ ZN	0.21361	772.32	0.141	0.21383	0.21374	0.21327
____ ZR	0.04683	62.85	2.345	0.04676	0.04796	0.04576

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 30 Date/Time: 09/30/2015 11:47

Sample Number: **8057367** Class: **** Batch: 152715708002

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00577	-475.73	29.976	-0.00536	-0.00767	-0.00428
____ AL	40.34760	4,807.75	0.625	40.39566	40.07501	40.57212
____ AS	0.05525	1.65	7.134	0.05339	0.05258	0.05978
____ B	0.01455	872.40	12.629	0.01532	0.01245	0.01588
____ BA	0.15900	73,776.67	0.069	0.15908	0.15887	0.15903
____ BE	0.00105	149.17	3.269	0.00108	0.00101	0.00107
____ CA	25.80817	19,782.80	0.402	25.73401	25.76380	25.92669
____ CD	0.00137	61.45	33.142	0.00146	0.00088	0.00178
____ CO	0.04900	156.78	0.870	0.04908	0.04937	0.04853
____ CR	0.10895	548.55	1.115	0.10813	0.10837	0.11034
____ CU	0.08377	485.93	1.167	0.08266	0.08417	0.08449
____ FE	140.32369	38,136.31	0.174	140.19782	140.16880	140.60445
____ K	4.66352	2,054.03	0.797	4.62363	4.66972	4.69721
____ LI	0.07227	624.81	0.604	0.07225	0.07272	0.07185
____ MG	23.77500	41,749.06	0.171	23.75760	23.74590	23.82150
____ MN	2.32901	72,642.93	0.699	2.31638	2.32325	2.34739
____ MO	-0.00339	-2.91	20.776	-0.00368	-0.00390	-0.00259
____ NA	1.19747	1,557.83	1.241	1.20338	1.18057	1.20847
____ NI	0.14236	231.67	1.197	0.14424	0.14092	0.14192
____ P	5.03963	472.09	2.007	4.95282	5.01538	5.15069
____ PB	0.14200	62.67	3.477	0.14572	0.14388	0.13640
____ S	0.64907	49.90	1.287	0.65545	0.63962	0.65215
____ SB	-0.00116	3.36	407.793	-0.00251	-0.00506	0.00409
____ SI	8.31736	1,678.78	0.288	8.31489	8.29478	8.34241
____ SN	0.01807	7.60	8.211	0.01722	0.01978	0.01721
____ SR	0.09851	54,205.91	0.418	0.09823	0.09831	0.09898
____ TI	4.08559	104,266.65	0.380	4.07552	4.07777	4.10348
____ TL	-0.00502	0.65	74.313	-0.00906	-0.00428	-0.00171
____ V	0.10887	982.65	0.177	0.10897	0.10865	0.10898
____ Y1	7480.91280	7,480.91	0.247	7460.12591	7495.50400	7487.10849
____ Y2A	211657.25554	211,657.26	0.223	211574.37126	212164.29143	211233.10393
____ Y2R	20185.20976	20,185.21	0.150	20175.12969	20219.33746	20161.16214
____ ZN	0.30195	1,074.76	0.380	0.30275	0.30063	0.30247
____ ZR	0.04792	64.48	6.148	0.04999	0.04923	0.04455

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 31 Date/Time: 09/30/2015 11:49

Sample Number: **8062186** Class: **** Batch: 152715708002

Initial Vol: 1.03 Final Vol: 100.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00155	-177.69	20.765	-0.00150	-0.00190	-0.00126
____ AL	14.16072	1,652.66	1.310	14.06785	14.04002	14.37429
____ AS	0.02167	0.59	23.716	0.01614	0.02629	0.02258
____ B	0.02356	397.54	2.935	0.02424	0.02357	0.02286
____ BA	0.06209	29,063.74	0.133	0.06212	0.06200	0.06215
____ BE	0.00104	149.16	2.580	0.00103	0.00102	0.00108
____ CA	3.02829	2,381.50	1.167	3.00152	3.01502	3.06835
____ CD	0.00079	21.67	17.353	0.00076	0.00094	0.00067
____ CO	0.01114	31.00	5.963	0.01064	0.01190	0.01089
____ CR	0.03313	165.83	2.644	0.03329	0.03218	0.03391
____ CU	0.06216	415.63	0.101	0.06222	0.06209	0.06218
____ FE	50.78098	14,102.06	1.057	50.41185	50.53430	51.39679
____ K	3.26131	1,442.31	0.659	3.28501	3.24308	3.25584
____ LI	0.03220	268.46	7.069	0.03414	0.03277	0.02970
____ MG	5.79846	10,017.59	0.972	5.75239	5.78170	5.86127
____ MN	0.50608	15,918.71	0.328	0.50579	0.50787	0.50458
____ MO	-0.00028	-0.18	195.732	0.00003	-0.00091	0.00004
____ NA	0.67499	853.27	1.805	0.68801	0.67308	0.66387
____ NI	0.02394	42.05	0.182	0.02396	0.02398	0.02389
____ P	0.45922	44.68	5.616	0.48287	0.43172	0.46306
____ PB	0.04785	21.29	6.644	0.04763	0.04479	0.05114
____ S	2.01354	133.38	2.568	2.05691	1.95632	2.02738
____ SB	0.00509	3.83	46.819	0.00686	0.00238	0.00604
____ SI	2.06781	412.45	0.474	2.05665	2.07178	2.07499
____ SN	0.00546	3.58	24.353	0.00491	0.00450	0.00698
____ SR	0.01977	10,918.45	0.280	0.01976	0.01972	0.01983
____ TI	0.49156	12,651.20	0.082	0.49179	0.49179	0.49109
____ TL	-0.00842	0.48	51.562	-0.01222	-0.00369	-0.00935
____ V	0.05139	449.30	0.940	0.05119	0.05103	0.05194
____ Y1	7499.18405	7,499.18	0.303	7506.35982	7473.77125	7517.42109
____ Y2A	213242.08645	213,242.09	0.131	213206.73653	212981.79093	213537.73190
____ Y2R	19750.12112	19,750.12	0.943	19757.50349	19932.52640	19560.33347
____ ZN	0.09543	347.75	0.196	0.09533	0.09564	0.09531
____ ZR	0.01492	8.91	7.494	0.01559	0.01553	0.01362

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 32 Date/Time: 09/30/2015 11:52

Sample Number: **8062190** Class: **** Batch: 152715708002

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00285	-721.69	25.847	-0.00365	-0.00219	-0.00273
____ AL	91.23206	10,841.25	1.201	90.63224	90.56701	92.49694
____ AS	0.08140	1.81	7.988	0.07577	0.08851	0.07990
____ B	0.14342	1,940.11	0.699	0.14350	0.14437	0.14237
____ BA	0.62975	289,601.51	0.507	0.63012	0.62639	0.63274
____ BE	0.00617	1,021.80	0.923	0.00619	0.00610	0.00621
____ CA	65.40568	49,552.67	0.981	64.89400	65.19780	66.12524
____ CD	0.00214	102.30	23.990	0.00162	0.00216	0.00265
____ CO	0.10415	309.01	1.147	0.10375	0.10320	0.10549
____ CR	0.17549	878.13	0.658	0.17435	0.17665	0.17546
____ CU	0.46951	3,089.74	0.162	0.46906	0.46909	0.47039
____ FE	232.31362	60,076.62	0.688	230.69309	232.35863	233.88914
____ K	24.02316	10,029.11	0.533	23.88742	24.04010	24.14196
____ LI	0.22655	1,965.99	0.933	0.22454	0.22634	0.22876
____ MG	47.93894	83,247.66	0.670	47.64167	47.89590	48.27924
____ MN	3.61937	111,939.51	0.488	3.60922	3.60914	3.63976
____ MO	-0.00112	-1.12	180.098	-0.00339	0.00047	-0.00045
____ NA	3.59311	4,687.61	0.371	3.57774	3.60153	3.60006
____ NI	0.19508	312.54	0.354	0.19479	0.19457	0.19586
____ P	3.61983	338.50	4.800	3.48664	3.55647	3.81638
____ PB	0.22476	100.97	0.679	0.22632	0.22470	0.22327
____ S	1.30956	90.78	3.261	1.28794	1.28200	1.35875
____ SB	0.00763	5.82	48.071	0.01019	0.00927	0.00343
____ SI	9.74115	1,958.69	0.492	9.68979	9.74906	9.78459
____ SN	0.02882	10.99	1.242	0.02880	0.02918	0.02847
____ SR	0.14624	79,966.57	0.386	0.14573	0.14614	0.14685
____ TI	3.67179	92,927.73	0.334	3.65969	3.67148	3.68422
____ TL	-0.00195	0.84	1008.718	-0.02442	0.01209	0.00647
____ V	0.27432	2,408.57	0.488	0.27297	0.27434	0.27564
____ Y1	7456.46228	7,456.46	0.754	7481.94109	7495.45336	7391.99240
____ Y2A	209896.02273	209,896.02	0.375	210736.64069	209775.74940	209175.67810
____ Y2R	20122.02495	20,122.02	0.754	20264.93623	20138.24411	19962.89453
____ ZN	0.47517	1,684.75	0.687	0.47211	0.47479	0.47861
____ ZR	0.07142	98.85	1.713	0.07239	0.07183	0.07005

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 33 Date/Time: 09/30/2015 11:55

Sample Number: **8049813** Class: U*** Batch: 152645708004

Initial Vol: 1.05 Final Vol: 100.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00288	-183.58	23.303	-0.00212	-0.00311	-0.00340
____ AL	35.75775	4,169.89	1.224	35.80562	36.16946	35.29818
____ AS	0.01304	-0.36	37.209	0.01672	0.00754	0.01486
____ B	0.11323	772.46	2.029	0.11066	0.11393	0.11509
____ BA	0.21855	100,962.34	0.465	0.21755	0.21850	0.21958
____ BE	0.00177	272.03	0.838	0.00176	0.00179	0.00177
____ CA	18.65999	14,042.91	0.896	18.72719	18.78314	18.46963
____ CD	0.00084	21.05	7.457	0.00091	0.00078	0.00084
____ CO	0.01957	58.34	1.432	0.01989	0.01943	0.01938
____ CR	0.04044	200.80	0.298	0.04058	0.04040	0.04035
____ CU	0.07703	499.00	0.806	0.07706	0.07640	0.07764
____ FE	50.09540	13,919.98	0.382	50.25898	50.14222	49.88499
____ K	4.51782	1,951.23	0.780	4.55704	4.48883	4.50760
____ LI	0.04085	342.95	1.947	0.03994	0.04140	0.04122
____ MG	12.51322	21,582.07	0.404	12.54205	12.54278	12.45485
____ MN	0.85819	26,668.34	0.541	0.85290	0.86014	0.86154
____ MO	-0.00241	-2.04	32.523	-0.00180	-0.00329	-0.00214
____ NA	1.13376	1,442.80	0.717	1.12802	1.13018	1.14306
____ NI	0.03907	66.75	1.587	0.03966	0.03842	0.03911
____ P	0.81852	78.10	6.251	0.87666	0.79850	0.78039
____ PB	0.09726	46.76	5.706	0.09121	0.09847	0.10211
____ S	0.65612	49.79	3.386	0.66831	0.63048	0.66957
____ SB	-0.00125	2.75	649.669	0.00725	-0.00896	-0.00204
____ SI	6.44223	1,273.28	0.824	6.44470	6.49404	6.38795
____ SN	0.00823	4.45	8.778	0.00768	0.00796	0.00905
____ SR	0.05648	30,956.87	0.719	0.05607	0.05651	0.05688
____ TI	1.18074	30,020.08	0.669	1.17189	1.18328	1.18706
____ TL	-0.00405	0.74	429.666	-0.01838	0.01531	-0.00908
____ V	0.09724	850.13	0.450	0.09733	0.09676	0.09762
____ Y1	7480.05684	7,480.06	0.098	7488.21086	7473.97523	7477.98442
____ Y2A	210777.11163	210,777.11	0.452	211787.06000	210650.81787	209893.45701
____ Y2R	19754.58932	19,754.59	0.547	19707.89736	19677.80551	19878.06510
____ ZN	0.14535	516.15	0.281	0.14551	0.14566	0.14489
____ ZR	0.01727	13.94	5.269	0.01809	0.01629	0.01745

LANCASTER LABORATORIES

Run Name: 1527304T73

Instrument ID: 18255

Tube: 34

Date/Time: 09/30/2015 11:57

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49786	3,191.13	0.339	0.49843	0.49919	0.49596
____ AL	25.24149	2,907.59	0.375	25.15729	25.22307	25.34411
____ AS	0.50389	68.76	0.627	0.50746	0.50275	0.50146
____ B	0.47733	2,148.42	0.286	0.47753	0.47858	0.47587
____ BA	0.50785	230,790.53	0.200	0.50678	0.50795	0.50881
____ BE	0.48123	81,219.71	0.240	0.47994	0.48160	0.48215
____ CA	25.32935	18,771.03	0.423	25.30012	25.23987	25.44806
____ CD	0.49537	2,427.90	0.193	0.49600	0.49427	0.49585
____ CO	0.49533	1,379.32	0.175	0.49544	0.49441	0.49613
____ CR	0.50228	2,489.44	0.408	0.50073	0.50151	0.50460
____ CU	0.49769	3,297.11	0.085	0.49813	0.49763	0.49729
____ FE	25.10596	6,972.27	0.115	25.13863	25.08389	25.09537
____ K	25.18068	10,185.73	0.174	25.21811	25.19129	25.13262
____ LI	0.49605	4,176.07	0.855	0.49331	0.49390	0.50093
____ MG	25.31071	42,932.00	0.123	25.34568	25.30013	25.28632
____ MN	0.49431	15,123.72	0.606	0.49729	0.49435	0.49130
____ MO	0.50207	453.92	0.370	0.50255	0.50002	0.50365
____ NA	25.24876	32,015.67	0.102	25.27763	25.22840	25.24024
____ NI	0.49524	806.24	0.230	0.49654	0.49442	0.49476
____ P	0.48762	46.85	1.074	0.48813	0.48215	0.49259
____ PB	0.50314	232.96	0.721	0.50281	0.50693	0.49969
____ S	24.60170	1,503.68	1.727	24.52843	24.21814	25.05851
____ SB	0.52029	96.89	0.605	0.52047	0.51706	0.52335
____ SI	25.35388	4,932.17	0.335	25.36234	25.26513	25.43417
____ SN	0.50725	162.00	0.605	0.50787	0.50392	0.50996
____ SR	0.50509	271,962.65	0.183	0.50468	0.50615	0.50445
____ TI	0.51300	12,879.76	0.264	0.51208	0.51455	0.51236
____ TL	0.48231	30.88	9.446	0.48139	0.43721	0.52832
____ V	0.50990	4,288.33	0.248	0.51054	0.51070	0.50844
____ Y1	7392.48734	7,392.49	0.097	7400.78874	7388.50809	7388.16518
____ Y2A	207411.23561	207,411.24	0.221	206906.15508	207527.30270	207800.24905
____ Y2R	19507.49389	19,507.49	0.127	19483.33666	19532.91000	19506.23501
____ ZN	0.49684	1,690.12	0.259	0.49770	0.49536	0.49745
____ ZR	0.51515	1,045.69	0.257	0.51399	0.51486	0.51660

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 35 Date/Time: 09/30/2015 12:00

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00053	-18.43	75.282	-0.00071	-0.00081	-0.00007
____ AL	-0.00764	3.04	14.717	-0.00779	-0.00645	-0.00868
____ AS	-0.00065	-0.46	125.792	-0.00089	0.00026	-0.00132
____ B	0.00117	5.58	21.627	0.00092	0.00143	0.00117
____ BA	0.00004	81.67	59.831	0.00006	0.00006	0.00001
____ BE	0.00010	-15.49	13.797	0.00010	0.00008	0.00011
____ CA	-0.02231	100.51	27.208	-0.01753	-0.02026	-0.02914
____ CD	0.00012	-2.69	274.038	0.00004	-0.00016	0.00048
____ CO	-0.00019	-3.63	115.015	-0.00043	-0.00016	0.00001
____ CR	0.00012	-2.59	923.881	-0.00113	0.00068	0.00080
____ CU	0.00044	4.17	50.762	0.00038	0.00068	0.00025
____ FE	0.00443	5.14	44.182	0.00221	0.00590	0.00518
____ K	0.02372	131.01	107.801	-0.00493	0.04421	0.03188
____ LI	0.00083	0.48	24.674	0.00100	0.00060	0.00089
____ MG	0.00879	9.77	15.651	0.00821	0.01036	0.00780
____ MN	-0.00015	15.25	66.776	-0.00019	-0.00004	-0.00022
____ MO	0.00036	0.32	45.442	0.00028	0.00025	0.00055
____ NA	0.04566	44.55	35.752	0.02684	0.05424	0.05591
____ NI	-0.00003	5.10	1275.771	-0.00025	-0.00025	0.00041
____ P	-0.00311	1.39	111.487	-0.00702	-0.00038	-0.00194
____ PB	0.00118	0.97	293.193	0.00121	0.00462	-0.00229
____ S	-0.02408	7.58	14.098	-0.02793	-0.02279	-0.02152
____ SB	0.00478	3.33	60.823	0.00144	0.00671	0.00620
____ SI	0.00643	6.82	71.577	0.00936	0.00112	0.00880
____ SN	-0.00022	1.75	808.377	0.00135	-0.00211	0.00011
____ SR	0.00008	4.41	10.878	0.00008	0.00009	0.00007
____ TI	0.00073	32.70	17.161	0.00059	0.00079	0.00081
____ TL	0.00305	1.19	69.705	0.00080	0.00333	0.00501
____ V	0.00043	-5.00	57.896	0.00054	0.00014	0.00061
____ Y1	7445.80395	7,445.80	0.182	7447.88927	7458.20216	7431.32042
____ Y2A	213589.52445	213,589.52	0.139	213664.05939	213261.72655	213842.78741
____ Y2R	19583.26529	19,583.27	0.912	19659.38621	19379.28414	19711.12552
____ ZN	-0.00120	4.26	10.904	-0.00122	-0.00132	-0.00106
____ ZR	0.00513	-3.16	34.916	0.00313	0.00657	0.00569

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 36 Date/Time: 09/30/2015 12:02

Sample Number: **8049813** Class: UP** Batch: 152645708004

Initial Vol: 1.05 Final Vol: 100.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.02020	0.06	3.372	0.02072	0.02045	0.01943
____ AL	36.85442	4,247.23	0.750	36.55972	37.10808	36.89547
____ AS	0.50791	68.97	1.036	0.50216	0.50909	0.51249
____ B	0.30900	1,600.46	0.230	0.30900	0.30829	0.30971
____ BA	0.27080	124,200.72	0.254	0.27011	0.27149	0.27078
____ BE	0.02222	3,753.14	0.215	0.02216	0.02225	0.02223
____ CA	19.77410	14,697.16	0.408	19.68173	19.80979	19.83079
____ CD	0.05196	273.45	0.704	0.05226	0.05155	0.05207
____ CO	0.12057	342.86	0.057	0.12058	0.12063	0.12050
____ CR	0.24280	1,212.64	0.574	0.24121	0.24379	0.24340
____ CU	0.58691	3,909.23	0.395	0.58432	0.58881	0.58759
____ FE	50.63430	13,900.04	0.333	50.52249	50.82829	50.55213
____ K	6.61212	2,765.80	0.934	6.56334	6.68158	6.59144
____ LI	1.04638	8,821.17	0.126	1.04487	1.04733	1.04695
____ MG	13.56054	23,104.82	0.269	13.53177	13.60162	13.54824
____ MN	0.92084	28,411.15	0.028	0.92114	0.92066	0.92072
____ MO	0.20078	183.07	0.952	0.20009	0.20294	0.19932
____ NA	3.17553	4,017.61	0.357	3.16836	3.18862	3.16962
____ NI	0.19122	315.56	0.113	0.19132	0.19097	0.19136
____ P	1.80790	170.24	1.974	1.76685	1.82530	1.83156
____ PB	0.60567	282.08	1.086	0.60047	0.61306	0.60347
____ S	1.62188	108.97	1.120	1.61145	1.61133	1.64286
____ SB	0.41985	78.63	1.201	0.42210	0.42338	0.41407
____ SI	7.51693	1,467.59	0.607	7.46428	7.54254	7.54397
____ SN	0.61374	197.56	0.461	0.61192	0.61700	0.61231
____ SR	0.07715	41,969.78	0.232	0.07696	0.07720	0.07730
____ TI	1.28872	32,535.46	0.136	1.28679	1.28914	1.29022
____ TL	0.94435	59.76	5.163	0.88812	0.96992	0.97501
____ V	0.19964	1,698.72	0.350	0.19898	0.20037	0.19955
____ Y1	7464.41869	7,464.42	0.407	7452.23121	7442.05794	7498.96693
____ Y2A	209281.41606	209,281.42	0.238	208989.20727	209856.36092	208998.68000
____ Y2R	19521.31819	19,521.32	0.554	19642.06159	19433.50299	19488.39000
____ ZN	0.26824	935.27	0.270	0.26877	0.26854	0.26742
____ ZR	1.01789	2,080.46	0.777	1.00963	1.01864	1.02540

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 37 Date/Time: 09/30/2015 12:05

Sample Number: **8049813** Class: R*** Batch: 152645708004

Initial Vol: 1.03 Final Vol: 100.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00754	-103.82	7.765	0.00721	0.00718	0.00821
____ AL	39.50166	4,561.26	0.496	39.54898	39.28640	39.66961
____ AS	0.04372	4.05	18.221	0.05281	0.04038	0.03796
____ B	0.47680	2,308.63	0.176	0.47750	0.47587	0.47705
____ BA	0.59550	273,891.52	0.351	0.59539	0.59347	0.59765
____ BE	0.01224	2,059.23	0.462	0.01229	0.01225	0.01217
____ CA	25.46173	18,913.82	0.534	25.40241	25.36541	25.61736
____ CD	0.01126	71.72	2.086	0.01119	0.01106	0.01152
____ CO	0.12229	348.88	0.082	0.12234	0.12236	0.12218
____ CR	0.08842	440.97	0.674	0.08904	0.08785	0.08838
____ CU	0.14853	969.40	0.910	0.14732	0.14999	0.14828
____ FE	48.75108	13,420.60	0.309	48.84467	48.57752	48.83105
____ K	7.31406	3,052.44	0.194	7.29850	7.31744	7.32625
____ LI	0.24453	2,061.25	0.413	0.24567	0.24377	0.24415
____ MG	13.37223	22,828.70	0.224	13.38513	13.33801	13.39355
____ MN	0.94686	29,302.65	0.050	0.94698	0.94633	0.94725
____ MO	0.40450	368.72	0.246	0.40394	0.40391	0.40565
____ NA	3.72880	4,728.95	0.089	3.72994	3.72504	3.73140
____ NI	0.14598	241.99	0.470	0.14673	0.14582	0.14538
____ P	1.12191	106.28	3.278	1.08472	1.12275	1.15825
____ PB	0.12029	57.53	1.221	0.12119	0.11859	0.12107
____ S	0.76576	56.53	3.056	0.76244	0.74420	0.79064
____ SB	0.07072	12.37	2.717	0.07118	0.06861	0.07237
____ SI	7.12887	1,395.27	0.495	7.10213	7.11564	7.16884
____ SN	0.79374	255.10	0.363	0.79155	0.79268	0.79701
____ SR	0.27199	148,268.06	0.222	0.27144	0.27189	0.27263
____ TI	1.47811	37,426.08	0.183	1.47676	1.47635	1.48122
____ TL	0.02509	2.59	7.842	0.02728	0.02451	0.02347
____ V	0.20488	1,718.97	0.027	0.20482	0.20490	0.20493
____ Y1	7467.89321	7,467.89	0.173	7456.15615	7465.82701	7481.69647
____ Y2A	209922.75333	209,922.75	0.260	209347.68000	210431.70000	209988.88000
____ Y2R	19558.45652	19,558.46	0.460	19506.32620	19662.31276	19506.73058
____ ZN	0.26329	916.20	0.272	0.26263	0.26318	0.26406
____ ZR	0.22327	440.48	0.646	0.22457	0.22172	0.22352

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 38 Date/Time: 09/30/2015 12:08

Sample Number: **8049813** Class: UL** Batch: 152645708004

Initial Vol: 1.05 Final Vol: 100.00 DF: 25.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00100	-50.99	53.206	-0.00064	-0.00161	-0.00075
____ AL	6.99931	807.99	0.474	7.03379	6.96763	6.99651
____ AS	0.00601	0.12	53.069	0.00962	0.00484	0.00357
____ B	0.02272	155.15	5.008	0.02345	0.02330	0.02141
____ BA	0.04239	19,842.91	0.113	0.04242	0.04243	0.04234
____ BE	0.00038	34.07	3.150	0.00040	0.00037	0.00038
____ CA	3.66602	2,820.36	0.527	3.68458	3.64603	3.66746
____ CD	0.00010	1.12	283.952	0.00027	0.00026	-0.00023
____ CO	0.00367	8.51	6.200	0.00345	0.00364	0.00391
____ CR	0.00741	34.58	7.516	0.00803	0.00697	0.00723
____ CU	0.01554	102.81	3.608	0.01506	0.01616	0.01540
____ FE	9.72786	2,720.67	0.417	9.77393	9.69734	9.71232
____ K	0.88856	475.77	1.467	0.88247	0.90352	0.87969
____ LI	0.00728	54.89	31.621	0.00721	0.00502	0.00962
____ MG	2.47331	4,218.08	0.609	2.48810	2.45800	2.47382
____ MN	0.16982	5,349.29	0.701	0.16933	0.17117	0.16895
____ MO	0.00000	0.02	5302.001	-0.00033	0.00020	0.00013
____ NA	0.24767	300.35	3.404	0.25071	0.23814	0.25416
____ NI	0.00839	18.52	7.541	0.00811	0.00911	0.00795
____ P	0.16288	16.96	3.855	0.16892	0.16334	0.15639
____ PB	0.01952	9.76	8.609	0.02017	0.01761	0.02077
____ S	0.08593	14.50	19.878	0.10523	0.07279	0.07975
____ SB	-0.00029	2.51	1040.434	0.00317	-0.00225	-0.00179
____ SI	1.26431	250.97	1.122	1.28028	1.25946	1.25319
____ SN	0.00098	2.15	23.256	0.00112	0.00072	0.00111
____ SR	0.01107	6,102.43	0.459	0.01107	0.01112	0.01102
____ TI	0.23140	5,957.10	0.479	0.23177	0.23228	0.23015
____ TL	-0.00353	0.79	236.758	0.00390	-0.00191	-0.01257
____ V	0.01946	164.82	7.549	0.01986	0.02069	0.01783
____ Y1	7508.15890	7,508.16	0.210	7494.80232	7525.51139	7504.16300
____ Y2A	213024.00752	213,024.01	0.501	212637.47257	212203.28000	214231.27000
____ Y2R	19488.54737	19,488.55	0.473	19441.32867	19594.73894	19429.57451
____ ZN	0.02740	104.55	0.822	0.02716	0.02760	0.02743
____ ZR	0.00455	-5.91	39.767	0.00254	0.00604	0.00506

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 39 Date/Time: 09/30/2015 12:10

Sample Number: **8049816** Class: **** Batch: 152645708004

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00379	-704.50	5.722	-0.00372	-0.00404	-0.00362
____ AL	156.07951	18,126.52	0.267	155.63128	156.45424	156.15301
____ AS	0.04567	-2.28	25.535	0.03320	0.04750	0.05631
____ B	0.42607	3,066.70	0.528	0.42802	0.42659	0.42361
____ BA	0.46389	210,006.62	0.126	0.46440	0.46325	0.46403
____ BE	0.00524	850.12	0.845	0.00529	0.00522	0.00521
____ CA	34.74640	25,852.39	0.425	34.57776	34.85159	34.80986
____ CD	0.00260	100.51	2.711	0.00252	0.00260	0.00267
____ CO	0.10315	310.08	0.110	0.10328	0.10308	0.10308
____ CR	0.15752	775.58	0.766	0.15791	0.15848	0.15617
____ CU	0.24653	1,541.54	0.586	0.24820	0.24571	0.24569
____ FE	227.34513	57,546.80	0.307	226.56396	227.90976	227.56168
____ K	20.43418	8,346.88	0.015	20.43370	20.43139	20.43744
____ LI	0.19954	1,688.88	0.489	0.19943	0.19863	0.20057
____ MG	54.58488	92,338.48	0.122	54.51416	54.64626	54.59423
____ MN	2.74293	83,510.29	0.346	2.75171	2.74425	2.73284
____ MO	-0.00356	-1.91	28.784	-0.00343	-0.00260	-0.00464
____ NA	4.41816	5,630.48	0.172	4.41030	4.41870	4.42549
____ NI	0.15610	248.18	1.110	0.15422	0.15645	0.15763
____ P	3.19174	297.57	1.888	3.18995	3.13240	3.25287
____ PB	0.12545	63.06	2.727	0.12447	0.12925	0.12262
____ S	1.18506	82.44	1.580	1.17799	1.17090	1.20628
____ SB	0.00598	6.10	102.650	0.00810	0.01078	-0.00094
____ SI	32.24077	6,314.34	0.224	32.15965	32.29736	32.26529
____ SN	0.02349	9.26	8.988	0.02592	0.02237	0.02218
____ SR	0.13443	72,223.95	0.292	0.13488	0.13417	0.13424
____ TI	4.62150	115,146.05	0.227	4.63189	4.62171	4.61091
____ TL	0.00423	1.26	392.030	0.01352	-0.01493	0.01410
____ V	0.39520	3,408.65	0.681	0.39830	0.39357	0.39371
____ Y1	7428.45672	7,428.46	0.129	7422.06697	7423.81304	7439.49015
____ Y2A	206611.66290	206,611.66	0.397	205735.73708	206735.14160	207364.11000
____ Y2R	19644.75154	19,644.75	0.078	19636.81845	19662.50000	19634.93615
____ ZN	0.48977	1,724.72	0.062	0.48967	0.49011	0.48952
____ ZR	0.04856	49.78	2.813	0.04911	0.04956	0.04700

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 40 Date/Time: 09/30/2015 12:13

Sample Number: **8049817** Class: **** Batch: 152645708004

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00008	-784.19	1742.724	0.00108	0.00026	-0.00158
____ AL	178.55950	20,769.02	0.537	177.76510	178.28934	179.62407
____ AS	0.06010	-1.60	10.016	0.05811	0.06686	0.05532
____ B	0.21588	2,394.23	2.811	0.22273	0.21117	0.21374
____ BA	0.48401	219,811.82	0.358	0.48508	0.48201	0.48494
____ BE	0.00753	1,238.60	0.375	0.00755	0.00753	0.00750
____ CA	6.74573	5,136.76	0.456	6.71110	6.75609	6.77000
____ CD	0.00137	109.21	21.307	0.00170	0.00126	0.00115
____ CO	0.07944	241.03	0.716	0.07890	0.08003	0.07940
____ CR	0.21479	1,062.04	0.769	0.21635	0.21306	0.21495
____ CU	0.14183	861.17	0.550	0.14186	0.14103	0.14259
____ FE	263.03677	65,429.93	0.392	261.94978	263.15783	264.00270
____ K	34.90118	14,186.29	0.305	34.81953	34.86248	35.02153
____ LI	0.26864	2,276.84	0.330	0.26818	0.26808	0.26967
____ MG	56.90742	96,303.19	0.384	56.66961	56.95255	57.10010
____ MN	3.62542	110,725.38	0.161	3.62717	3.61890	3.63018
____ MO	-0.00196	-0.16	63.742	-0.00060	-0.00305	-0.00224
____ NA	1.87590	2,385.55	0.535	1.86988	1.87032	1.88750
____ NI	0.16865	267.85	0.339	0.16931	0.16832	0.16833
____ P	2.69618	252.48	3.095	2.77831	2.61147	2.69877
____ PB	0.12892	65.27	1.233	0.12756	0.12853	0.13067
____ S	0.21398	23.45	6.921	0.23096	0.20375	0.20722
____ SB	0.00756	7.06	9.277	0.00729	0.00703	0.00835
____ SI	33.32937	6,534.64	0.154	33.27481	33.33689	33.37640
____ SN	0.02511	9.81	15.220	0.02310	0.02951	0.02271
____ SR	0.07350	39,534.36	0.529	0.07387	0.07309	0.07355
____ TI	3.95091	98,758.61	0.389	3.96207	3.93340	3.95725
____ TL	0.00824	1.47	54.908	0.00332	0.00917	0.01223
____ V	0.31039	2,689.79	0.484	0.30960	0.30946	0.31213
____ Y1	7454.61225	7,454.61	0.281	7430.44278	7466.16215	7467.23183
____ Y2A	207271.88132	207,271.88	0.193	207035.38000	207733.66327	207046.60068
____ Y2R	19667.35723	19,667.36	0.073	19674.86039	19676.46354	19650.74776
____ ZN	0.43847	1,567.70	0.322	0.43990	0.43843	0.43708
____ ZR	0.07382	96.53	2.964	0.07129	0.07516	0.07500

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 41 Date/Time: 09/30/2015 12:15

Sample Number: **8049817** Class: **** Batch: 152645708004

Initial Vol: 1.02 Final Vol: 100.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00269	-188.72	17.408	-0.00254	-0.00321	-0.00231
____ AL	38.79798	4,482.12	0.049	38.77683	38.81398	38.80313
____ AS	0.00790	-1.16	100.705	-0.00105	0.01416	0.01059
____ B	0.05665	544.54	2.434	0.05761	0.05507	0.05728
____ BA	0.10616	49,188.49	0.058	0.10623	0.10611	0.10614
____ BE	0.00165	252.17	1.335	0.00163	0.00166	0.00167
____ CA	1.44901	1,190.43	0.178	1.44625	1.44942	1.45136
____ CD	0.00098	22.72	22.697	0.00072	0.00108	0.00113
____ CO	0.01779	52.06	2.370	0.01774	0.01739	0.01823
____ CR	0.04847	241.82	1.245	0.04828	0.04914	0.04798
____ CU	0.03086	191.60	2.128	0.03027	0.03074	0.03157
____ FE	52.31398	14,384.87	0.149	52.36842	52.34866	52.22487
____ K	7.50261	3,129.70	1.193	7.43755	7.60466	7.46562
____ LI	0.05839	487.20	2.197	0.05967	0.05837	0.05711
____ MG	12.36664	21,130.21	0.235	12.38097	12.38580	12.33316
____ MN	0.81228	25,301.79	0.172	0.81389	0.81157	0.81138
____ MO	-0.00087	-0.45	80.025	-0.00007	-0.00135	-0.00118
____ NA	0.43639	541.78	0.568	0.43651	0.43880	0.43385
____ NI	0.03755	64.61	2.931	0.03731	0.03659	0.03875
____ P	0.60590	58.64	2.375	0.61136	0.61677	0.58958
____ PB	0.02904	15.43	8.192	0.02642	0.02964	0.03107
____ S	0.01898	10.62	25.769	0.02353	0.01381	0.01962
____ SB	0.00226	3.56	169.505	-0.00053	0.00068	0.00662
____ SI	7.12191	1,393.75	0.283	7.10690	7.14481	7.11402
____ SN	0.00709	4.12	28.989	0.00848	0.00473	0.00805
____ SR	0.01629	8,901.60	0.075	0.01628	0.01630	0.01630
____ TI	0.87592	22,327.78	0.068	0.87636	0.87524	0.87617
____ TL	-0.00184	0.89	412.115	0.00692	-0.00605	-0.00640
____ V	0.06969	608.81	0.654	0.06920	0.06976	0.07010
____ Y1	7531.42734	7,531.43	0.304	7551.46312	7506.53016	7536.28874
____ Y2A	211268.80566	211,268.81	0.478	210150.32941	211545.46182	212110.62575
____ Y2R	19569.15923	19,569.16	0.358	19505.75770	19557.31000	19644.41000
____ ZN	0.09672	354.27	1.035	0.09591	0.09784	0.09641
____ ZR	0.01861	16.21	9.347	0.02032	0.01685	0.01866

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 42 Date/Time: 09/30/2015 12:18

Sample Number: **8049818** Class: **** Batch: 152645708004

Initial Vol: 1.04 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00063	-841.91	449.286	-0.00354	0.00207	-0.00041
____ AL	171.22626	20,179.19	0.260	170.80874	171.17519	171.69484
____ AS	0.06674	-1.41	2.777	0.06567	0.06888	0.06568
____ B	0.32660	2,979.07	1.192	0.32979	0.32226	0.32775
____ BA	0.76498	351,566.19	1.269	0.77304	0.75421	0.76770
____ BE	0.00849	1,418.16	0.473	0.00853	0.00846	0.00848
____ CA	34.20238	25,820.27	0.258	34.17971	34.12768	34.29975
____ CD	0.00234	121.64	16.926	0.00189	0.00248	0.00265
____ CO	0.10761	327.86	1.159	0.10618	0.10848	0.10817
____ CR	0.21774	1,089.68	1.074	0.21827	0.21518	0.21977
____ CU	0.24441	1,547.83	1.033	0.24656	0.24163	0.24503
____ FE	277.85297	69,492.31	0.339	277.60014	277.06467	278.89409
____ K	36.03187	14,837.32	0.231	35.94834	36.03280	36.11448
____ LI	0.28339	2,435.45	0.584	0.28250	0.28530	0.28236
____ MG	72.26007	123,279.30	0.280	72.15721	72.12987	72.49315
____ MN	5.46914	169,038.00	1.165	5.50460	5.39558	5.50725
____ MO	-0.00316	-1.53	6.486	-0.00328	-0.00327	-0.00292
____ NA	6.86192	8,879.29	0.449	6.84678	6.84165	6.89734
____ NI	0.19693	316.59	0.713	0.19531	0.19782	0.19766
____ P	4.12096	389.07	2.115	4.02251	4.18832	4.15205
____ PB	0.22388	108.60	0.407	0.22400	0.22292	0.22473
____ S	0.88821	66.18	2.208	0.86733	0.89107	0.90623
____ SB	0.00261	6.05	96.019	0.00286	0.00499	-0.00001
____ SI	32.80031	6,517.05	0.264	32.75575	32.74491	32.90026
____ SN	0.02854	11.01	10.316	0.02556	0.02860	0.03145
____ SR	0.15542	84,751.28	1.045	0.15604	0.15358	0.15664
____ TI	4.76194	120,459.12	1.119	4.78679	4.70076	4.79828
____ TL	-0.00654	0.52	24.555	-0.00808	-0.00667	-0.00488
____ V	0.42204	3,700.94	0.953	0.42395	0.41742	0.42476
____ Y1	7532.99782	7,533.00	0.253	7554.93959	7521.14166	7522.91221
____ Y2A	209781.67892	209,781.68	0.789	208851.24800	211693.20088	208800.58788
____ Y2R	19929.85237	19,929.85	0.197	19966.66999	19934.43556	19888.45155
____ ZN	0.61284	2,184.29	0.815	0.60719	0.61668	0.61465
____ ZR	0.08476	118.42	3.404	0.08247	0.08381	0.08800

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 43 Date/Time: 09/30/2015 12:21

Sample Number: **8049818** Class: **** Batch: 152645708004

Initial Vol: 1.04 Final Vol: 100.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00230	-192.85	13.486	-0.00264	-0.00205	-0.00219
____ AL	36.74751	4,302.61	0.884	36.89994	36.37443	36.96815
____ AS	0.01684	0.00	34.549	0.01013	0.01981	0.02056
____ B	0.07895	653.81	1.956	0.07967	0.08000	0.07718
____ BA	0.16806	78,132.47	0.132	0.16793	0.16794	0.16832
____ BE	0.00185	287.63	0.922	0.00187	0.00183	0.00186
____ CA	7.34720	5,630.96	0.649	7.36265	7.29374	7.38521
____ CD	0.00103	23.84	16.023	0.00121	0.00092	0.00094
____ CO	0.02379	70.00	2.687	0.02327	0.02360	0.02450
____ CR	0.04689	234.77	2.198	0.04770	0.04725	0.04573
____ CU	0.05326	341.91	1.472	0.05396	0.05241	0.05341
____ FE	54.26310	15,108.66	0.449	54.30954	53.99946	54.48030
____ K	7.58040	3,203.71	0.398	7.54758	7.58676	7.60685
____ LI	0.06065	513.52	1.359	0.05970	0.06117	0.06108
____ MG	15.39404	26,633.53	0.511	15.39151	15.31661	15.47399
____ MN	1.20915	37,797.48	0.329	1.20667	1.20705	1.21374
____ MO	-0.00101	-0.65	100.902	0.00012	-0.00129	-0.00187
____ NA	1.48522	1,901.88	0.546	1.47909	1.48216	1.49441
____ NI	0.04476	76.45	1.161	0.04458	0.04534	0.04435
____ P	0.88942	85.35	1.498	0.89130	0.87526	0.90170
____ PB	0.05295	26.27	3.824	0.05268	0.05107	0.05510
____ S	0.16484	19.82	4.394	0.17198	0.16503	0.15750
____ SB	0.00096	3.28	648.839	-0.00508	0.00732	0.00062
____ SI	6.91737	1,372.27	0.291	6.89558	6.92131	6.93523
____ SN	0.00539	3.57	44.202	0.00421	0.00813	0.00382
____ SR	0.03385	18,629.55	0.285	0.03386	0.03375	0.03394
____ TI	1.03720	26,535.56	0.129	1.03644	1.03641	1.03874
____ TL	-0.00107	0.93	751.547	0.00151	-0.01009	0.00536
____ V	0.09164	805.71	0.763	0.09088	0.09226	0.09176
____ Y1	7536.84492	7,536.84	0.067	7541.50160	7537.56093	7531.47223
____ Y2A	212070.62131	212,070.62	0.295	211457.97405	212707.41073	212046.47915
____ Y2R	19834.32562	19,834.33	0.671	19817.22832	19975.07496	19710.67360
____ ZN	0.13144	473.81	0.416	0.13096	0.13203	0.13131
____ ZR	0.01992	18.88	7.291	0.01833	0.02117	0.02027

LANCASTER LABORATORIES

Run Name: 1527304T73

Instrument ID: 18255

Tube: 44

Date/Time: 09/30/2015 12:23

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49672	3,195.57	0.141	0.49752	0.49641	0.49623
____ AL	25.09716	2,893.71	0.413	25.15437	25.15960	24.97752
____ AS	0.49490	67.50	1.774	0.49573	0.48573	0.50323
____ B	0.47425	2,143.46	0.778	0.47397	0.47806	0.47070
____ BA	0.50798	231,723.74	0.489	0.50828	0.51031	0.50536
____ BE	0.48106	81,497.67	0.490	0.48107	0.48341	0.47870
____ CA	25.19220	18,687.98	0.395	25.27176	25.22417	25.08068
____ CD	0.49421	2,421.73	0.218	0.49455	0.49300	0.49508
____ CO	0.49288	1,372.23	0.021	0.49295	0.49292	0.49276
____ CR	0.50155	2,495.20	0.483	0.50107	0.50418	0.49941
____ CU	0.49762	3,309.15	0.367	0.49818	0.49910	0.49558
____ FE	25.09693	6,976.47	0.156	25.11070	25.05274	25.12735
____ K	25.11029	10,167.24	0.189	25.16079	25.10352	25.06658
____ LI	0.50008	4,214.10	0.267	0.49903	0.49962	0.50158
____ MG	25.22364	42,826.31	0.107	25.25431	25.21306	25.20355
____ MN	0.49256	15,127.32	0.613	0.49218	0.49575	0.48975
____ MO	0.49988	451.86	0.286	0.49829	0.50030	0.50105
____ NA	25.30594	32,118.77	0.311	25.36079	25.21593	25.34111
____ NI	0.49435	804.63	0.223	0.49310	0.49475	0.49519
____ P	0.47532	45.70	3.723	0.48197	0.45526	0.48872
____ PB	0.49696	230.07	0.475	0.49880	0.49430	0.49778
____ S	24.05935	1,470.45	2.095	24.26341	23.48530	24.42934
____ SB	0.52524	97.80	1.057	0.52876	0.52813	0.51885
____ SI	25.41970	4,949.66	0.163	25.46579	25.40770	25.38562
____ SN	0.50521	161.32	0.774	0.50082	0.50833	0.50646
____ SR	0.50482	272,838.79	0.612	0.50539	0.50758	0.50148
____ TI	0.51283	12,924.21	0.436	0.51213	0.51533	0.51103
____ TL	0.45286	29.06	3.072	0.45504	0.43799	0.46555
____ V	0.50852	4,293.08	0.480	0.50814	0.51113	0.50630
____ Y1	7391.01016	7,391.01	0.167	7405.01899	7386.13155	7381.87993
____ Y2A	208198.40862	208,198.41	0.556	208011.36681	207146.15692	209437.70214
____ Y2R	19526.16064	19,526.16	0.632	19386.83686	19569.54138	19622.10369
____ ZN	0.49473	1,682.69	0.333	0.49327	0.49439	0.49651
____ ZR	0.50841	1,032.77	0.298	0.50728	0.51013	0.50781

LANCASTER LABORATORIES

Run Name: 1527304T73

Instrument ID: 18255

Tube: 45

Date/Time: 09/30/2015 12:26

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00060	-10.96	96.220	0.00021	0.00033	0.00126
____ AL	0.01528	5.70	55.243	0.01573	0.02348	0.00662
____ AS	0.00295	0.05	70.621	0.00532	0.00212	0.00141
____ B	0.00091	4.60	115.367	-0.00016	0.00193	0.00096
____ BA	0.00016	135.37	10.034	0.00017	0.00014	0.00017
____ BE	0.00012	-11.34	18.071	0.00011	0.00015	0.00011
____ CA	-0.01298	107.56	35.771	-0.01096	-0.01829	-0.00969
____ CD	-0.00002	-3.35	2609.784	-0.00033	-0.00013	0.00041
____ CO	-0.00015	-3.52	183.734	-0.00036	0.00016	-0.00026
____ CR	0.00017	-2.35	243.072	0.00061	0.00004	-0.00016
____ CU	0.00073	6.19	98.168	0.00023	0.00041	0.00155
____ FE	0.03057	12.53	21.683	0.02940	0.03771	0.02460
____ K	0.00968	125.55	352.240	-0.00536	-0.01432	0.04873
____ LI	0.00035	-3.59	569.525	0.00200	-0.00188	0.00094
____ MG	0.01609	22.33	5.666	0.01653	0.01504	0.01669
____ MN	0.00025	27.80	75.827	0.00021	0.00045	0.00008
____ MO	0.00029	0.26	124.015	-0.00011	0.00040	0.00059
____ NA	0.03786	34.70	15.164	0.03521	0.04445	0.03392
____ NI	-0.00005	5.08	1546.657	-0.00064	-0.00037	0.00086
____ P	0.00079	1.76	665.384	-0.00516	0.00278	0.00474
____ PB	0.00096	0.87	245.556	0.00230	-0.00175	0.00231
____ S	-0.03983	6.63	16.646	-0.03936	-0.03345	-0.04669
____ SB	0.00392	3.17	109.280	0.00886	0.00170	0.00121
____ SI	0.00886	7.30	97.819	0.00017	0.00890	0.01750
____ SN	0.00129	2.23	119.645	-0.00031	0.00142	0.00277
____ SR	0.00013	31.92	10.373	0.00013	0.00014	0.00011
____ TI	0.00091	37.37	5.452	0.00092	0.00094	0.00085
____ TL	-0.00038	0.98	1088.375	-0.00075	-0.00436	0.00396
____ V	0.00017	-7.27	146.687	0.00013	-0.00006	0.00044
____ Y1	7466.44931	7,466.45	0.303	7484.98403	7441.22054	7473.14337
____ Y2A	213939.86172	213,939.86	0.286	214439.62734	213256.52000	214123.43781
____ Y2R	19603.52226	19,603.52	0.107	19579.36302	19615.17696	19616.02679
____ ZN	-0.00102	4.89	20.185	-0.00091	-0.00125	-0.00088
____ ZR	0.00265	-8.29	39.310	0.00294	0.00149	0.00352

LANCASTER LABORATORIES

Run Name: 1527304T73

Instrument ID: 18255

Tube: 46

Date/Time: 09/30/2015 12:28

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00544	22.75	15.537	0.00642	0.00492	0.00499
____ AL	0.20560	27.73	2.120	0.20214	0.21049	0.20416
____ AS	0.02123	2.61	34.984	0.02907	0.01431	0.02031
____ B	0.04658	204.55	1.476	0.04615	0.04737	0.04621
____ BA	0.00533	2,564.66	0.897	0.00528	0.00538	0.00531
____ BE	0.00494	830.22	0.601	0.00490	0.00496	0.00495
____ CA	0.19242	260.35	3.521	0.19197	0.18588	0.19941
____ CD	0.00527	22.91	1.366	0.00519	0.00531	0.00532
____ CO	0.00444	9.48	3.417	0.00446	0.00458	0.00428
____ CR	0.01479	72.73	2.412	0.01441	0.01512	0.01483
____ CU	0.01015	70.72	6.059	0.01084	0.00996	0.00965
____ FE	0.22115	66.38	2.398	0.21688	0.21948	0.22708
____ K	0.53491	336.85	7.248	0.55185	0.49055	0.56232
____ LI	0.02278	186.62	9.340	0.02039	0.02348	0.02446
____ MG	0.11441	191.58	0.863	0.11408	0.11363	0.11552
____ MN	0.00531	187.95	2.643	0.00517	0.00545	0.00531
____ MO	0.01056	9.65	2.754	0.01072	0.01075	0.01023
____ NA	1.06401	1,344.34	1.745	1.07503	1.04257	1.07442
____ NI	0.01101	23.26	7.875	0.01023	0.01195	0.01086
____ P	0.10199	11.23	4.275	0.09807	0.10121	0.10668
____ PB	0.01653	8.11	32.691	0.01882	0.02042	0.01036
____ S	0.45493	37.13	0.581	0.45676	0.45191	0.45614
____ SB	0.02358	6.79	10.157	0.02147	0.02618	0.02308
____ SI	0.06656	18.60	27.799	0.05706	0.05474	0.08789
____ SN	0.02133	8.66	14.130	0.01831	0.02433	0.02134
____ SR	0.00524	2,877.71	0.486	0.00521	0.00526	0.00523
____ TI	0.01088	295.92	0.263	0.01090	0.01089	0.01085
____ TL	0.03063	2.92	8.304	0.03310	0.02801	0.03079
____ V	0.00502	34.10	9.720	0.00467	0.00558	0.00480
____ Y1	7494.25343	7,494.25	0.210	7479.35439	7492.75469	7510.65122
____ Y2A	214621.64594	214,621.65	0.586	216008.61655	213558.87515	214297.44613
____ Y2R	19627.23084	19,627.23	0.640	19558.46967	19772.11462	19551.10823
____ ZN	0.01983	75.96	1.115	0.01964	0.01978	0.02007
____ ZR	0.04865	87.19	0.988	0.04851	0.04825	0.04918

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 47 Date/Time: 09/30/2015 12:31

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00932	-589.68	11.744	-0.00806	-0.00985	-0.01005
____ AL	496.36887	55,404.08	0.814	493.53722	494.57341	500.99597
____ AS	0.00626	-2.74	8.770	0.00687	0.00609	0.00581
____ B	0.00419	1,030.87	57.118	0.00632	0.00463	0.00160
____ BA	0.00068	330.66	6.008	0.00072	0.00064	0.00068
____ BE	-0.00087	-160.21	3.177	-0.00084	-0.00090	-0.00088
____ CA	496.56153	331,711.03	1.014	495.45818	492.17020	502.05622
____ CD	0.00234	72.36	17.678	0.00196	0.00278	0.00228
____ CO	0.00118	0.21	37.460	0.00100	0.00086	0.00169
____ CR	0.00256	8.60	13.239	0.00244	0.00229	0.00294
____ CU	-0.00332	49.42	24.124	-0.00245	-0.00403	-0.00346
____ FE	200.01304	49,054.03	0.428	199.30165	199.77324	200.96424
____ K	0.03255	128.92	237.502	-0.02357	0.00049	0.12074
____ LI	0.00178	29.11	11.347	0.00192	0.00155	0.00188
____ MG	508.83529	697,223.82	0.463	507.04518	507.95328	511.50741
____ MN	0.00211	75.15	5.138	0.00200	0.00211	0.00222
____ MO	-0.00800	-10.61	16.390	-0.00951	-0.00725	-0.00723
____ NA	0.27924	327.80	3.396	0.28147	0.26884	0.28741
____ NI	-0.00532	-11.97	13.750	-0.00574	-0.00574	-0.00447
____ P	0.00074	1.59	1008.450	-0.00738	0.00227	0.00734
____ PB	0.00543	41.62	135.460	0.01353	0.00357	-0.00082
____ S	-0.04243	7.43	56.180	-0.06074	-0.01548	-0.05107
____ SB	-0.01310	3.68	73.501	-0.00904	-0.00617	-0.02410
____ SI	0.00625	6.48	75.431	0.00672	0.01071	0.00132
____ SN	0.00898	4.24	31.966	0.00976	0.01138	0.00580
____ SR	0.00020	2,410.91	35.144	0.00018	0.00027	0.00014
____ TI	0.00010	14.16	45.088	0.00006	0.00011	0.00015
____ TL	0.01040	1.51	267.292	0.02707	0.02581	-0.02169
____ V	0.00164	6.08	32.165	0.00115	0.00219	0.00157
____ Y1	6757.33333	6,757.33	0.256	6746.06000	6777.24200	6748.69800
____ Y2A	186108.29730	186,108.30	0.237	186584.67211	185715.74426	186024.47552
____ Y2R	18769.33106	18,769.33	0.431	18813.47383	18818.61045	18675.90891
____ ZN	0.00912	87.12	2.688	0.00937	0.00910	0.00889
____ ZR	0.00639	-31.89	19.696	0.00784	0.00563	0.00569

LANCASTER LABORATORIES

Run Name: 1527304T73 Instrument ID: 18255

Tube: 48 Date/Time: 09/30/2015 12:34

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.20778	695.12	0.585	0.20639	0.20827	0.20866
____ AL	491.02827	54,840.17	0.421	488.70719	491.71539	492.66222
____ AS	0.11290	10.83	5.695	0.11761	0.11552	0.10558
____ B	-0.00053	1,007.76	406.526	-0.00248	-0.00088	0.00177
____ BA	0.50497	206,869.43	0.572	0.50211	0.50490	0.50789
____ BE	0.48831	74,294.35	0.490	0.48604	0.48807	0.49081
____ CA	492.39112	329,335.10	0.494	493.39726	489.61847	494.15763
____ CD	0.92981	4,217.58	0.073	0.93026	0.92903	0.93014
____ CO	0.46098	1,171.49	0.325	0.46204	0.46163	0.45926
____ CR	0.47419	2,118.49	0.512	0.47276	0.47282	0.47699
____ CU	0.52598	3,219.19	0.216	0.52471	0.52633	0.52689
____ FE	198.22610	48,693.09	0.478	197.26955	198.24447	199.16429
____ K	0.04057	132.17	76.997	0.07423	0.01253	0.03494
____ LI	0.00191	29.96	100.679	0.00002	0.00385	0.00185
____ MG	505.31895	693,834.88	0.740	503.48998	502.84507	509.62180
____ MN	0.44275	12,213.37	0.151	0.44219	0.44256	0.44349
____ MO	-0.00948	-11.81	28.597	-0.00636	-0.01081	-0.01127
____ NA	0.29045	341.73	1.389	0.29094	0.28619	0.29421
____ NI	0.90336	1,333.74	0.235	0.90313	0.90559	0.90136
____ P	-0.00232	1.58	190.410	-0.00566	0.00268	-0.00398
____ PB	0.04960	59.79	5.859	0.04771	0.04813	0.05294
____ S	-0.03999	7.68	13.078	-0.04596	-0.03782	-0.03620
____ SB	0.60860	109.03	0.684	0.61341	0.60617	0.60622
____ SI	0.01460	8.03	92.939	0.01528	0.00070	0.02782
____ SN	0.01028	4.60	18.963	0.01194	0.00813	0.01077
____ SR	0.00016	2,384.63	26.730	0.00011	0.00017	0.00019
____ TI	-0.00012	20.80	190.969	0.00011	-0.00012	-0.00034
____ TL	0.08565	5.91	11.373	0.07503	0.09416	0.08776
____ V	0.49060	3,784.58	0.201	0.48972	0.49042	0.49166
____ Y1	6760.37209	6,760.37	0.311	6737.27427	6765.41800	6778.42400
____ Y2A	186977.26154	186,977.26	0.444	187781.94611	187025.89161	186123.94690
____ Y2R	18781.98505	18,781.99	0.180	18801.09868	18801.91388	18742.94258
____ ZN	1.00061	3,140.40	0.234	1.00113	1.00265	0.99805
____ ZR	0.00566	-33.08	30.370	0.00707	0.00374	0.00617

LANCASTER LABORATORIES

Run Name: 1527304T73

Instrument ID: 18255

Tube: 49

Date/Time: 09/30/2015 12:37

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49972	3,206.10	0.800	0.50311	0.50073	0.49531
____ AL	25.14865	2,919.38	0.392	25.19141	25.03582	25.21873
____ AS	0.50228	68.47	0.859	0.50234	0.50656	0.49793
____ B	0.47530	2,141.78	0.485	0.47613	0.47707	0.47270
____ BA	0.50725	230,722.90	0.095	0.50674	0.50771	0.50730
____ BE	0.48043	81,155.01	0.363	0.47935	0.48244	0.47949
____ CA	25.16685	18,796.48	0.086	25.17397	25.14259	25.18400
____ CD	0.49444	2,421.15	0.220	0.49516	0.49497	0.49319
____ CO	0.49362	1,373.32	0.049	0.49367	0.49336	0.49383
____ CR	0.50123	2,486.44	0.018	0.50133	0.50116	0.50121
____ CU	0.49927	3,310.53	0.142	0.49988	0.49944	0.49849
____ FE	25.10642	7,026.50	0.126	25.14046	25.10057	25.07822
____ K	25.07403	10,221.81	0.344	25.16738	25.05736	24.99733
____ LI	0.50438	4,279.23	0.304	0.50328	0.50373	0.50613
____ MG	25.32966	43,297.18	0.110	25.29765	25.34262	25.34872
____ MN	0.49463	15,146.81	0.723	0.49602	0.49730	0.49057
____ MO	0.50065	452.23	0.318	0.49961	0.50247	0.49985
____ NA	25.30299	32,333.42	0.110	25.33452	25.28191	25.29254
____ NI	0.49467	804.59	0.222	0.49594	0.49404	0.49404
____ P	0.49845	47.80	3.447	0.51226	0.50387	0.47921
____ PB	0.50076	231.65	0.383	0.50147	0.50222	0.49859
____ S	24.61747	1,503.29	1.733	24.97337	24.73462	24.14441
____ SB	0.52133	97.00	1.502	0.52971	0.51420	0.52009
____ SI	25.38318	4,976.17	0.363	25.29323	25.37916	25.47717
____ SN	0.50652	161.62	0.394	0.50774	0.50759	0.50421
____ SR	0.50608	272,733.01	0.404	0.50563	0.50831	0.50430
____ TI	0.51403	12,916.87	0.371	0.51299	0.51623	0.51286
____ TL	0.46714	29.92	5.616	0.48512	0.47927	0.43704
____ V	0.50815	4,277.41	0.279	0.50895	0.50899	0.50652
____ Y1	7385.77346	7,385.77	0.137	7386.79192	7395.34252	7375.18593
____ Y2A	207595.06513	207,595.07	0.334	207804.27291	206820.63160	208160.29089
____ Y2R	19658.82765	19,658.83	0.100	19681.45000	19645.87989	19649.15305
____ ZN	0.49554	1,684.25	0.076	0.49516	0.49592	0.49555
____ ZR	0.51404	1,051.50	0.091	0.51399	0.51453	0.51360

LANCASTER LABORATORIES

Run Name: 1527304T73

Instrument ID: 18255

Tube: 50

Date/Time: 09/30/2015 12:39

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00018	-13.76	392.303	0.00040	-0.00060	0.00073
____ AL	0.03786	8.32	97.887	0.00052	0.07464	0.03842
____ AS	0.00317	0.08	76.001	0.00477	0.00040	0.00433
____ B	0.00042	2.40	64.596	0.00043	0.00068	0.00014
____ BA	0.00011	112.07	12.137	0.00010	0.00012	0.00010
____ BE	0.00010	-14.67	12.676	0.00009	0.00012	0.00009
____ CA	0.02137	133.29	29.246	0.02482	0.02515	0.01416
____ CD	0.00004	-3.06	97.532	0.00000	0.00008	0.00004
____ CO	-0.00039	-4.19	114.009	0.00012	-0.00067	-0.00064
____ CR	0.00059	-0.15	96.128	0.00123	0.00012	0.00044
____ CU	0.00046	4.33	145.536	0.00042	-0.00019	0.00113
____ FE	0.01739	8.82	8.586	0.01837	0.01814	0.01567
____ K	-0.03706	106.96	58.414	-0.01805	-0.03251	-0.06062
____ LI	0.00174	8.19	37.063	0.00103	0.00189	0.00230
____ MG	0.05075	82.06	0.864	0.05038	0.05123	0.05063
____ MN	-0.00005	18.40	227.752	-0.00004	0.00006	-0.00017
____ MO	0.00051	0.46	111.302	0.00086	-0.00015	0.00083
____ NA	0.05242	53.35	8.688	0.04928	0.05035	0.05765
____ NI	0.00002	5.19	499.433	-0.00011	0.00010	0.00008
____ P	0.00336	2.00	191.758	-0.00408	0.00726	0.00691
____ PB	-0.00093	0.00	168.026	-0.00265	-0.00054	0.00040
____ S	-0.02796	7.34	39.500	-0.01998	-0.02333	-0.04056
____ SB	0.00390	3.16	155.338	-0.00251	0.00953	0.00468
____ SI	0.00521	6.59	110.380	-0.00142	0.00824	0.00880
____ SN	0.00089	2.10	138.956	0.00008	0.00028	0.00231
____ SR	0.00008	7.66	18.975	0.00010	0.00008	0.00007
____ TI	0.00049	26.53	8.834	0.00053	0.00049	0.00044
____ TL	-0.01102	0.32	66.040	-0.00789	-0.01934	-0.00583
____ V	0.00062	-3.33	18.598	0.00052	0.00061	0.00075
____ Y1	7449.76070	7,449.76	0.231	7431.85689	7451.30044	7466.12478
____ Y2A	214188.90861	214,188.91	0.137	214423.19289	213859.76048	214283.77246
____ Y2R	19637.68067	19,637.68	0.154	19613.19888	19671.39572	19628.44742
____ ZN	-0.00102	4.85	18.843	-0.00089	-0.00093	-0.00124
____ ZR	0.00413	-5.23	16.994	0.00357	0.00492	0.00391

Mercury Data

Metals in Solid

eurofins | Lancaster Laboratories Environmental

Mercury Run Data Report

Data File Name: 1527210.M08

Run Name: 1527201M08

Instrument No.: 19302

Element: Hg

Analyst Employee ID: 0354

Method Reference Name(s):

Reviewed By
Damary Valentin

Reviewed Date
09/29/2015 10:02AM

Verified By:
Jennifer L Moyer

Verified Date
09/29/2015 11:29AM

LANCASTER LABORATORIES

Run Name: 1527201M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

1 Burn Date/Time: 09/29/2015 06:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0		1	1	1.00

AVG (ppb)	Intensity
0.0000	-1.0

2 Burn Date/Time: 09/29/2015 06:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.2		1	1	1.00

AVG (ppb)	Intensity
0.0000	1865.0

3 Burn Date/Time: 09/29/2015 06:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	4875.0

4 Burn Date/Time: 09/29/2015 06:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S1.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	9337.0

5 Burn Date/Time: 09/29/2015 06:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S2.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	22411.0

6 Burn Date/Time: 09/29/2015 06:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S5.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	45441.0

CorrelationCoefficient = 1.00000
Slope = 9042.8788400000
Y-Intercept = 122.2524400000

LANCASTER LABORATORIES

Run Name: 1527201M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

7 Burn Date/Time: 09/29/2015 06:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICV		1	1	1.00

AVG (ppb)	Intensity
2.3552	21421.0

8 Burn Date/Time: 09/29/2015 06:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICB		1	1	1.00

AVG (ppb)	Intensity
-0.0173	-36.0

9 Burn Date/Time: 09/29/2015 06:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.1938	1873.0

10 Burn Date/Time: 09/29/2015 06:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 1		1	1	1.00

AVG (ppb)	Intensity
1.0051	9211.0

11 Burn Date/Time: 09/29/2015 06:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 1		1	1	1.00

AVG (ppb)	Intensity
-0.0053	72.0

12 Burn Date/Time: 09/29/2015 06:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBS	**********	0.6000	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0126	234.0		

LANCASTER LABORATORIES

Run Name: 1527201M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

13 Burn Date/Time: 09/29/2015 06:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1.0000	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0322	9456.0		

14 Burn Date/Time: 09/29/2015 06:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8057362	U*********	0.6394	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0191	293.0		

15 Burn Date/Time: 09/29/2015 06:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8057362	UP********	0.6394	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9556	8763.0		

16 Burn Date/Time: 09/29/2015 06:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8057365	D*********	0.6053	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0044	160.0		

17 Burn Date/Time: 09/29/2015 06:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8057363	R*********	0.6114	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9568	8774.0		

18 Burn Date/Time: 09/29/2015 06:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8057364	M*********	0.6129	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9967	9135.0		

LANCASTER LABORATORIES

Run Name: 1527201M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

19 Burn Date/Time: 09/29/2015 06:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8063152	**********	0.6304	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0000	1263035.0		

20 Burn Date/Time: 09/29/2015 06:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8063261	**********	0.6033	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	4.4621	40476.0		

21 Burn Date/Time: 09/29/2015 06:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8063265	**********	0.6232	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	3.6633	33252.0		

22 Burn Date/Time: 09/29/2015 06:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 2		1	1	1.00

AVG (ppb)	Intensity
0.9294	8526.0

23 Burn Date/Time: 09/29/2015 07:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 2		1	1	1.00

AVG (ppb)	Intensity
-0.0260	-115.0

24 Burn Date/Time: 09/29/2015 07:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8063269	**********	0.6117	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	3.0660	27850.0		

LANCASTER LABORATORIES

Run Name: 1527201M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

25 Burn Date/Time: 09/29/2015 07:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8063273	**********	0.6226	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	8.1381	73723.0		

26 Burn Date/Time: 09/29/2015 07:07

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8057359	**********	0.6201	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0151	-16.0		

27 Burn Date/Time: 09/29/2015 07:09

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8057360	**********	0.6406	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0031	148.0		

28 Burn Date/Time: 09/29/2015 07:11

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8057361	**********	0.6240	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0046	79.0		

29 Burn Date/Time: 09/29/2015 07:13

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8057366	**********	0.6309	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0086	198.0		

30 Burn Date/Time: 09/29/2015 07:15

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8057367	**********	0.6058	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0185	288.0		

LANCASTER LABORATORIES

Run Name: 1527201M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

31 Burn Date/Time: 09/29/2015 07:17

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8057368	**********	0.6229	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0021	139.0		

32 Burn Date/Time: 09/29/2015 07:19

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064759	**********	0.6386	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.7180	6614.0		

33 Burn Date/Time: 09/29/2015 07:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064760	**********	0.6303	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.1916	1853.0		

34 Burn Date/Time: 09/29/2015 07:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 3		1	1	1.00

AVG (ppb)	Intensity
0.9637	8836.0

35 Burn Date/Time: 09/29/2015 07:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 3		1	1	1.00

AVG (ppb)	Intensity
-0.0082	46.0

36 Burn Date/Time: 09/29/2015 07:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064761	**********	0.6142	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0346	9477.0		

LANCASTER LABORATORIES

Run Name: 1527201M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

37 Burn Date/Time: 09/29/2015 07:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064762	**********	0.6088	100	1.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0570	636.0		

38 Burn Date/Time: 09/29/2015 07:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8063152	**********	0.6304	100	500.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	3.2434	29454.0		

39 Burn Date/Time: 09/29/2015 07:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8063273	**********	0.6226	100	5.00	152715711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.6977	15475.0		

40 Burn Date/Time: 09/29/2015 07:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBS	**********	0.6000	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0129	4.0		

41 Burn Date/Time: 09/29/2015 07:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1.0000	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9510	8721.0		

42 Burn Date/Time: 09/29/2015 07:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8061698	U*********	0.6159	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	2.1547	19608.0		

LANCASTER LABORATORIES

Run Name: 1527201M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

43 Burn Date/Time: 09/29/2015 07:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8061698	UP********	0.6159	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	3.1519	28627.0		

44 Burn Date/Time: 09/29/2015 07:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8061698	D*********	0.6060	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.9554	17805.0		

45 Burn Date/Time: 09/29/2015 07:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8061698	R*********	0.6343	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	5.5514	50328.0		

46 Burn Date/Time: 09/29/2015 07:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 4		1	1	1.00

AVG (ppb)	Intensity
0.9426	8645.0

47 Burn Date/Time: 09/29/2015 07:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 4		1	1	1.00

AVG (ppb)	Intensity
-0.0084	44.0

48 Burn Date/Time: 09/29/2015 07:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8061698	M*********	0.6098	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	3.1068	28219.0		

LANCASTER LABORATORIES

Run Name: 1527201M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

49 Burn Date/Time: 09/29/2015 07:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062186	**********	0.6373	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.3590	3367.0		

50 Burn Date/Time: 09/29/2015 07:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062187	**********	0.6170	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.5839	14445.0		

51 Burn Date/Time: 09/29/2015 07:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062188	**********	0.6108	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0543	611.0		

52 Burn Date/Time: 09/29/2015 08:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062190	**********	0.6051	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0913	946.0		

53 Burn Date/Time: 09/29/2015 08:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062191	**********	0.6199	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0409	490.0		

54 Burn Date/Time: 09/29/2015 08:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062192	**********	0.6139	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0321	411.0		

LANCASTER LABORATORIES

Run Name: 1527201M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

55 Burn Date/Time: 09/29/2015 08:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064763	**********	0.6263	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.2382	2275.0		

56 Burn Date/Time: 09/29/2015 08:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064764	**********	0.6195	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.7515	6917.0		

57 Burn Date/Time: 09/29/2015 08:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064765	**********	0.6242	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0626	686.0		

58 Burn Date/Time: 09/29/2015 08:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 5		1	1	1.00

AVG (ppb)	Intensity
0.9836	9016.0

59 Burn Date/Time: 09/29/2015 08:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 5		1	1	1.00

AVG (ppb)	Intensity
-0.0054	71.0

60 Burn Date/Time: 09/29/2015 08:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064766	**********	0.6110	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.4042	3776.0		

LANCASTER LABORATORIES

Run Name: 1527201M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

61 Burn Date/Time: 09/29/2015 08:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064767	**********	0.6146	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0369	454.0		

62 Burn Date/Time: 09/29/2015 08:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064768	**********	0.6082	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.7793	7168.0		

63 Burn Date/Time: 09/29/2015 08:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064769	**********	0.6129	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.4157	3880.0		

64 Burn Date/Time: 09/29/2015 08:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064770	**********	0.6118	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.4021	3757.0		

65 Burn Date/Time: 09/29/2015 08:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064771	**********	0.6106	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.4670	13388.0		

66 Burn Date/Time: 09/29/2015 08:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064772	**********	0.6332	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0568	634.0		

LANCASTER LABORATORIES

Run Name: 1527201M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

67 Burn Date/Time: 09/29/2015 08:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064773	**********	0.6067	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	4.3216	39206.0		

68 Burn Date/Time: 09/29/2015 08:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064774	**********	0.6058	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0864	902.0		

69 Burn Date/Time: 09/29/2015 08:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064775	**********	0.6322	100	1.00	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0853	892.0		

70 Burn Date/Time: 09/29/2015 08:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 6		1	1	1.00

AVG (ppb)	Intensity
0.9807	8990.0

71 Burn Date/Time: 09/29/2015 08:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 6		1	1	1.00

AVG (ppb)	Intensity
-0.0030	93.0

72 Burn Date/Time: 09/29/2015 08:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8061698	R*********	0.6343	100	2.50	152715711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	2.1626	19679.0		

LANCASTER LABORATORIES

Run Name: 1527201M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

73 Burn Date/Time: 09/29/2015 08:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBS	**********	0.6000	100	1.00	152715711003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0061	65.0		

74 Burn Date/Time: 09/29/2015 08:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1.0000	100	1.00	152715711003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9422	8642.0		

75 Burn Date/Time: 09/29/2015 08:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062860	U*********	0.6252	100	1.00	152715711003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.3102	2926.0		

76 Burn Date/Time: 09/29/2015 08:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062860	UP********	0.6252	100	1.00	152715711003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.2634	11547.0		

77 Burn Date/Time: 09/29/2015 08:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062860	D*********	0.6027	100	1.00	152715711003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.3155	2974.0		

78 Burn Date/Time: 09/29/2015 08:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062860	R*********	0.6078	100	1.00	152715711003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.3167	12029.0		

LANCASTER LABORATORIES

Run Name: 1527201M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

79 Burn Date/Time: 09/29/2015 09:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062860	M*********	0.6325	100	1.00	152715711003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.3782	12585.0		

80 Burn Date/Time: 09/29/2015 09:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 7		1	1	1.00

AVG (ppb)	Intensity
0.9914	9087.0

81 Burn Date/Time: 09/29/2015 09:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 7		1	1	1.00

AVG (ppb)	Intensity
-0.0081	47.0

82 Burn Date/Time: 09/29/2015 09:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062853	**********	0.6301	100	1.00	152715711003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.2539	2417.0		

83 Burn Date/Time: 09/29/2015 09:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062854	**********	0.6035	100	1.00	152715711003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.2375	2268.0		

84 Burn Date/Time: 09/29/2015 09:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062855	**********	0.6183	100	1.00	152715711003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.1827	1773.0		

LANCASTER LABORATORIES

Run Name: 1527201M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

85 Burn Date/Time: 09/29/2015 09:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062861	**********	0.6421	100	1.00	152715711003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8596	7895.0		

86 Burn Date/Time: 09/29/2015 09:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8062852	**********	0.6030	100	1.00	152715711003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.3426	3219.0		

87 Burn Date/Time: 09/29/2015 09:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.1897	1836.0

88 Burn Date/Time: 09/29/2015 09:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 8		1	1	1.00

AVG (ppb)	Intensity
0.9720	8911.0

89 Burn Date/Time: 09/29/2015 09:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 8		1	1	1.00

AVG (ppb)	Intensity
-0.0192	-53.0

Extraction/Distillation/Digestion Logs

Metals in Solid

LLENS Worksheet for 5708 SW846 ICP/ICP MS Digest

Batch# 15 271 5708 002

Balance ID#: 10685 **Start Time:** 9/28/15 21:30 **End Time:** 9/29/15 2:30 **Hot Block:** 8

Pipette ID: 24111202 /2000

Spike/Reagent	Lot#	Volume Added(mL)
1:1 HNO3	P15-257G	10.00
30% H2O2	152097	4.00
HCL	93325	10.00
HNO3	54295	5.00
ICP Spike 1A	1517023#21	2.00
ICP Spike 1B	1517025#21	2.00
LCS A1	1517023#21	2.00
LCS B1	1517025#21	2.00

Method Ref: SW-846 3050B

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBS	.							1408268	1.00g Teflon chips used, Lot: N330-5G001
2)	LCSW	.							1408268	1.00g Teflon chips used, Lot: N330-5G001
3)	8063152	09/30/15 09:25		SW	S3			062a	1408268	
4)	8063264	10/02/15 11:14		SW	S5			034a	1408268	
5)	8063268	10/02/15 11:14		SW	S5			034a	1408268	Limited sample
6)	8063272	10/02/15 11:14		SW	S5			034a	1408268	
7)	8063276	10/02/15 11:14		SW	S5			034a	1408268	
8)	8065059	10/05/15 10:00		SW	S5			034a	1408268	
9)	8065060FD	10/05/15 10:00		SW	S5			034a	1408268	
10)	8057359	10/02/15 09:20		SW	N8			020a	1408268	
11)	8057360	10/02/15 09:20		SW	N8			020a	1408268	
12)	8057361	10/02/15 09:20		SW	N8			020a	1408268	
13)	**8057362U**	10/02/15 09:20		SW	N8			020a	1408268	
14)	**8057363R**	10/02/15 09:20		SW	N8			020a	1408268	
15)	**8057364M**	10/02/15 09:20		SW	N8			020a	1408268	
16)	**8057365D**	10/02/15 09:20		SW	N8			020a	1408268	
17)	8057366	10/02/15 09:20		SW	N8			020a	1408268	
18)	8057367	10/02/15 09:20		SW	N8			020a	1408268	
19)	8057368	10/02/15 09:20		SW	N8			020a	1408268	
20)	8062186	10/06/15 19:55		SW	N8			034a	1408268	
21)	8062187	10/06/15 19:55		SW	N8			034a	1408268	
22)	8062188	10/06/15 19:55		SW	N8			034a	1408268	
23)	8062190	10/06/15 19:55		SW	N8			034a	1408268	

Prep Employee: 862

9/29/2015

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
24)	8062191	10/06/15 19:55		SW	N8			034a	1408268	
25)	8062192	10/06/15 19:55		SW	N8			034a	1408268	

Batch# 15 271 5708 002

LLENS Batch Chronology and Change Log - SW846 ICP/ICP MS Digest

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		9/28/15 14:51	862
2)	Sample Wt		9/28/15 21:30	862
3)	Final Vol	10685	9/28/15 21:30	862
4)	Trial		9/28/15 21:30	862
5)	Upload Prep	US19VDIELD00	9/29/15 3:52	862

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 5708 SW846 ICP/ICP MS Digest

Batch# 15 271 5708 002

Sample ID	Due Date	P	EPA#	SDG#	Sample Wt	Final Volume	Trial
PBS					1.0000	100.0000	1
LCSW					1.0000	100.0000	1
8063152	09/30/15	S3	13084		1.0000	100.0000	1
8063264	10/02/15	S5	17-5A	WMS71-04	1.0300	100.0000	1
8063268	10/02/15	S5	18-5A	WMS71-08	.8600	100.0000	1
8063272	10/02/15	S5	19-6A	WMS71-12	1.0000	100.0000	1
8063276	10/02/15	S5	20-5A	WMS71-16	1.0000	100.0000	1
8065059	10/05/15	S5	LRL18	WMS75-01	1.0100	100.0000	1
8065060FD	10/05/15	S5	LSLDU	WMS75-02FD	1.0200	100.0000	1
8057359	10/02/15	N8	PS481	PSC24-01	1.0200	100.0000	1
8057360	10/02/15	N8	PS482	PSC24-02	1.0400	100.0000	1
8057361	10/02/15	N8	PS483	PSC24-03	1.0200	100.0000	1
8057362U	10/02/15	N8	PS484	PSC24-04BKG	1.0200	100.0000	1
8057363R	10/02/15	N8	PS484	PSC24-04MS	1.0200	100.0000	1
8057364M	10/02/15	N8	PS484	PSC24-04MSD	1.0200	100.0000	1
8057365D	10/02/15	N8	PS484	PSC24-04DUP	1.0200	100.0000	1
8057366	10/02/15	N8	PS3DP	PSC24-05	1.0300	100.0000	1
8057367	10/02/15	N8	PS485	PSC24-06	1.0200	100.0000	1
8057368	10/02/15	N8	PS486	PSC24-07	1.0300	100.0000	1
8062186	10/06/15	N8	623C1	CP401-01	1.0300	100.0000	1
8062187	10/06/15	N8	623F1	CP401-02	1.0000	100.0000	1
8062188	10/06/15	N8	623H1	CP401-03	1.0200	100.0000	1
8062190	10/06/15	N8	628A4	CP401-05	1.0000	100.0000	1
8062191	10/06/15	N8	628E2	CP401-06	1.0200	100.0000	1
8062192	10/06/15	N8	628G4	CP401-07	1.0300	100.0000	1

LLENS Worksheet for 5711 SW SW846 Hg Digest

Batch# 15 271 5711 001

Balance ID#: 19119 **Start Time:** 9/29/15 3:15 **End Time:** 9/29/15 0:34 **Hot Block:** 1

Pipette ID: W/1000

Spike/Reagent	Lot#	Volume Added(mL)
5%KMnO4	P15-265D	15.00
Aqua Regia	P15-272A	5.00
LCS 100ppb Hg	P15-267E	1.00
Spike 100 ppb Hg	P15-267E	1.00

Method Ref: SW-846 7471A modified

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBS	.							1408268	0.6386g Teflon chips used, Lot: N330-5G001
2)	LCSW	.							1408268	0.6139g Teflon chips used, Lot: N330-5G001
3)	8063152	09/30/15 09:25		SW	S3			062a	1408268	
4)	8063261	10/02/15 11:14		SW	S5			021a	1408268	
5)	8063265	10/02/15 11:14		SW	S5			021a	1408268	
6)	8063269	10/02/15 11:14		SW	S5			021a	1408268	
7)	8063273	10/02/15 11:14		SW	S5			021a	1408268	
8)	8057359	10/02/15 09:20		SW	N8			020a	1408268	
9)	8057360	10/02/15 09:20		SW	N8			020a	1408268	
10)	8057361	10/02/15 09:20		SW	N8			020a	1408268	
11)	**8057362U**	10/02/15 09:20		SW	N8			020a	1408268	
12)	**8057363R**	10/02/15 09:20		SW	N8			020a	1408268	
13)	**8057364M**	10/02/15 09:20		SW	N8			020a	1408268	
14)	**8057365D**	10/02/15 09:20		SW	N8			020a	1408268	
15)	8057366	10/02/15 09:20		SW	N8			020a	1408268	
16)	8057367	10/02/15 09:20		SW	N8			020a	1408268	
17)	8057368	10/02/15 09:20		SW	N8			020a	1408268	
18)	8064759	10/07/15 17:30		SW	N8			034a	1408268	
19)	8064760	10/07/15 17:30		SW	N8			034a	1408268	
20)	8064761	10/07/15 17:30		SW	N8			034a	1408268	
21)	8064762	10/07/15 17:30		SW	N8			034a	1408268	

Prep Employee: 862

9/29/2015

v 1.0.1

Batch# 15 271 5711 001

LLENS Batch Chronology and Change Log - SW SW846 Hg Digest

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		9/28/15 15:02	862
2)	Sample Wt	19119	9/29/15 1:14	862
3)	Final Vol	19119	9/29/15 1:14	862
4)	Trial		9/29/15 1:14	862
5)	Sample Wt	19119	9/29/15 1:28	862
6)	Upload Prep	US19VDIELD00	9/29/15 3:50	862

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 5711 SW SW846 Hg Digest

Batch# 15 271 5711 001

Sample ID	Due Date	P	EPA#	SDG#	Sample Wt	Final Volume	Trial
PBS					.6000	100.0000	1
LCSW					1.0000	100.0000	1
8063152	09/30/15	S3	13084		.6304	100.0000	1
8063261	10/02/15	S5	17-4A	WMS71-01	.6033	100.0000	1
8063265	10/02/15	S5	18-4A	WMS71-05	.6232	100.0000	1
8063269	10/02/15	S5	19-5A	WMS71-09	.6117	100.0000	1
8063273	10/02/15	S5	20-4A	WMS71-13	.6226	100.0000	1
8057359	10/02/15	N8	PS481	PSC24-01	.6201	100.0000	1
8057360	10/02/15	N8	PS482	PSC24-02	.6406	100.0000	1
8057361	10/02/15	N8	PS483	PSC24-03	.6240	100.0000	1
8057362U	10/02/15	N8	PS484	PSC24-04BKG	.6394	100.0000	1
8057363R	10/02/15	N8	PS484	PSC24-04MS	.6114	100.0000	1
8057364M	10/02/15	N8	PS484	PSC24-04MSD	.6129	100.0000	1
8057365D	10/02/15	N8	PS484	PSC24-04DUP	.6053	100.0000	1
8057366	10/02/15	N8	PS3DP	PSC24-05	.6309	100.0000	1
8057367	10/02/15	N8	PS485	PSC24-06	.6058	100.0000	1
8057368	10/02/15	N8	PS486	PSC24-07	.6229	100.0000	1
8064759	10/07/15	N8	DS104		.6386	100.0000	1
8064760	10/07/15	N8	DS108		.6303	100.0000	1
8064761	10/07/15	N8	DS301		.6142	100.0000	1
8064762	10/07/15	N8	DS310		.6088	100.0000	1

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Document Title: Standard/Reagent Preparation Log

Eurofins Document Reference: 1-P-QM-FOR-9009818 | Revision: 2 | Historical Reference: Form 1105

Effective date: Feb 20, 2015 | Status: Effective

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg-5701 CCV	H15-261D	Hg-1.0mg/L Cal		9-25-15	H15-261A	0.10 ml			
2	CCV	R	↓			↓	0.10			
3	CRA	S	Hg-0.1mg/L Cont			H15-261D	0.20			
4	Std Cal	T	Hg-0.1mg/L Cal			H15-261B	0.20			
5	↓	U	↓			↓	0.50			
6	↓	V	Hg-1.0mg/L Cal			H15-261A	0.10			
7	↓	W	↓			↓	0.25			
8	↓	X	↓		↓	↓	0.50			
9	↓	Y								
10	SI	Z	Hg-0.1mg/L Cal		9-25-15	H15-261D	0.10 ml			
11	CRA	AA	Hg-0.1mg/L Cont			H15-261D	0.10			
12	CRA	BB	↓			↓	0.40			
13	ICV	CC	Hg-1.0mg/L Cont		↓	H15-261C	0.25			
14	↓	DD						21.5	14	54295
15	Aqua Regia	H15-265A	Hg-10mg/L Cal		12-22-15	H15-1730	1.0ml			
16	Hg-1.0mg/L Inter Cal	↓ 265B	Hg-10mg/L Cal		9-29-15	H15-265A	1.0ml			
17	Hg-10mg/L Inter Cal	H15-267A	Hg-10mg/L Cal		12-22-15	H15-1730	1.0ml			
18	0.1mg/L Inter Cal	B	1.0mg/L Cal		10-01-15	H15-267A				
19	1.0mg/L Inter Cont	C	10mg/L Cont		12-22-15	H15-173P				
20	0.1mg/L Inter Cont	✗ D	↓ 1.0mg/L Cont		10-01-15	H15-267C	↓			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

a

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				15ml 6mol		5ml Aqua Regia 3:1 DI HIS-2366	100	1.0 ug/L	DW354	9-18-15	9-25-15	RT
2								10				
3								0.2				
4								0.2				
5								0.5				
6								1.0				
7								2.5				
8								5.0				
9								6.0				
10								0.1				
11								0.1				
12								0.4				
13								2.5				
14	64.5	6	93325				86	1:3			9-18-15	
15				To vol w/ 0.15% HNO3		HIS-1880	10	1.0	DW354	9-22-15	9-29-15	RT
16							10	0.1				
17				To vol w/ 0.15% HNO3		HIS-1880	10	1.0	DW354	9-24-15	10-01-15	RT
18								0.1				
19								1.0				
20								0.1				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
* * units are mg/L unless otherwise specified

b

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 ICV	H152678	Hg 1.0 mg/L Cont	7	10-01-15	H15-267C	0.25 ml	1	14	54295
2	CCV	F	Hg 1.0 mg/L Cal			H15-267A	0.20			
3	CRA	G	Hg 0.1 mg/L Cont			H15-267D	0.20			
4	Std Cal	H	Hg 0.1 mg/L Cal			H15-267B	0.20			
5		I	↓			↓	0.50			
6		J	Hg 1.0 mg/L Cal			H15-267A	0.20			
7		K	↓			↓	0.25			
8		L	↓	L	↓	↓	0.50			
9	↓	M								
10	↓ ICV	↓ N	Hg 1.0 mg/L Cont	7	10-01-15	H15-267C	0.25 ml	↓	↓	↓
11	Hg 1.0 mg/L Inter Cal	H15-268A	Hg 10 mg/L Cal		12-22-15	H15-1736	1.0 ml			
12	0.1 mg/L Inter Cal	B	1.0 mg/L Cal		10-02-15	H15-268A	↓			
13	1.0 mg/L Inter Cont	C	10 mg/L Cont		12-22-15	H15-1736	↓			
14	↓ 0.1 mg/L Inter Cont	D	↓ 1.0 mg/L Cont		10-02-15	H15-268C	↓			
15	Hg 5700 ICV	E	↓		↓	↓	0.25 ml	1	4	54295
16	CCV	F	Hg 1.0 mg/L Cal			H15-268A	0.20			
17	CRA	G	Hg 0.1 mg/L Cont			H15-268D	0.20			
18	Std Cal	H	Hg 0.1 mg/L Cal			H15-268B	0.20			
19	↓	I	↓			↓	0.50			
20	↓ ↓	↓ J	Hg 1.0 mg/L Cal	L	↓	H15-268A	0.20	↓	↓	↓

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
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8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #						
1	2ml H_2SO_4	4	104818	3.2ml H_2SO_4:CO_8 1ml $KMnO_4$		HS-236E HS-236C	100	2.5ug/L	DJ354	9-24-15	10-01-15	RT
2							200	1.0				
3							100	0.2				
4							↓	0.2				
5							↓	0.5				
6							200	1.0				
7							100	2.5				
8							↓	5.0				
9							↓	6.0				
10	↓	↓	↓	↓	↓	↓	↓	2.5	↓	↓	↓	↓
11	→	→	→	To vol w/ 0.15% HNO_3		HS-188P	10	1.0	DJ354	9-25-15	10-02-15	RT
12	→	→	→	↓	↓	↓	↓	0.1	↓	↓	↓	↓
13	→	→	→	↓	↓	↓	↓	1.0	↓	↓	↓	↓
14	→	→	→	↓	↓	↓	↓	0.1	↓	↓	↓	↓
15	2ml H_2SO_4	4	104818	3.2ml H_2SO_4:CO_8 1ml $KMnO_4$		HS-236E HS-236C	100	2.5ug/L				
16							200	1.0				
17							100	0.2				
18							↓	0.2				
19							↓	0.5				
20	↓	↓	↓	↓	↓	↓	200	1.0	↓	↓	↓	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

b

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Document Title: Standard/Reagent Preparation Log

Eurofins Document Reference: 1-P-QM-FOR-9009818 | Revision: 2 | Historical Reference: Form 1105

Effective date: Feb 20, 2015 | Status: Effective

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 Std Cal	H15-268K	Hg 1.0 mg/L Cal	7	10-02-15	H15-268A	0.25 ml	1	14	54395
2	↓	L	↓	7	↓	↓	0.50	↓	↓	↓
3	↓	M								
4	ICV	N	Hg 1.0 mg/L Cont	7	10-02-15	H15-268C	0.25ml	↓	↓	↓
5	CCV	O	Hg 1.0 mg/L Cal			H15-268A	0.20			
6	Hg 5701 ICV	P	Hg 1.0 mg/L Cont			H15-268C	0.25			
7	CCV	Q	Hg 1.0 mg/L Cal			H15-268A	0.10			
8	CCV	R	↓			↓	0.10			
9	CCV	S	↓			↓	0.10			
10	CRA	T	Hg 0.1 mg/L Cont			H15-268D	0.20			
11	Std Cal	U	Hg 0.1 mg/L Cal			H15-268B	0.20			
12	↓	V	↓			↓	0.50			
13	↓	W	Hg 1.0 mg/L Cal			H15-268A	0.10			
14	↓	X	↓			↓	0.25			
15	↓	Y	↓	L	↓	↓	0.50			
16	↓	Z								
17	SI	AA	Hg 0.1 mg/L Cal	7	10-02-15	H15-268B	0.10 ml			
18	CRA	BB	Hg 0.1 mg/L Cont			H15-268D	0.10			
19	CRA	CC	↓			↓	0.40			
20	ICV	DD	Hg 1.0 mg/L Cont	L	↓	H15-268C	0.25			

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a

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #						
1	~~2ml HCl~~	4	104818	3.2ml K2S2O8 6ml KMnO4		H15-236E H15-236C	100	2.5 ug/L	DU	9-25-15	10-02-15	RT
2	↓	↓	↓	↓	↓	↓	↓	5.0	↓	↓	↓	↓
3								0.0				
4							↓	2.5				
5	↓	↓	↓	↓	↓	↓	200	1.0				
6	~~—~~			5ml Aqua Regia 15ml KMnO4		H15-268 EE H15-236C	100	2.5				
7				↓			↓	1.0				
8								1.0				
9								1.0				
10								0.2				
11								0.2				
12								0.5				
13								1.0				
14								2.5				
15								5.0				
16								0.0				
17								0.1				
18								0.1				
19								0.4				
20	~~—~~			↓	↓	↓	↓	2.5	↓	↓	↓	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

b

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Aqua Regia	HI5-268E						21.5	14	54295
2	4792 ICV	FF	Hg 1.0 mg/L Cont	4	10-02-15	HI5-268C	0.25 ml			
3	CCV	GG	Hg 1.0 mg/L Cal			HI5-268A	0.10			
4	CCV	HH	↓			↓	0.10			
5	CRA	II	Hg 0.1 mg/L Cont			HI5-268D	0.20			
6	Std Cal	JJ	Hg 0.1 mg/L Cal			HI5-268D	0.20			
7	↓	KK	↓			↓	0.50			
8		LL	Hg 1.0 mg/L Cal			HI5-268A	0.10			
9		MM	↓			↓	0.25			
10	↓	NN	↓		↓ 15 D 35	↓	0.50 ↓			
11	↓	OO								
12	↓ CRA	↓ PP	Hg 0.1 mg/L Cont		10-02-15	HI5-268D	0.4 ml			
13	Hg 1.0 mg/L Inter Cal	HI5-271A	Hg 10 mg/L Cal	7	12-22-15	HI5-21730 (3)	1 ml			
14	Hg 0.1 mg/L Inter Cal	↓ 271B	Hg 1.0 mg/L Cal		10-05-15	HI5-271A	1 ml			
15	Hg 1.0 mg/L Inter Cal	HI5-272A	Hg 10 mg/L Cal		12-22-15	HI5-1730	1.0 ml			
16	0.1 mg/L Inter Cal	B	1.0 mg/L Cal		10-06-15	HI5-273A				
17	1.0 mg/L Inter Cont	C	10 mg/L Cont		12-22-15	HI5-173P				
18	↓ 0.1 mg/L Inter Cont	↓ D	↓ 1.0 mg/L Cont		10-06-15	HI5-272C	↓			
19	9-29-15 DVB5Y (3) Hg 5700 ICV		↓		↓	↓	0.25 ml	1	14	54295
20	↓ CCV		Hg 1.0 mg/L Cal			HI5-272A	0.20 ml	↓	↓	↓

Key – Manufacturer (M•)

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10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	64.5	6	92325				80	1:3	DU 354	9-25-15	9-25-15	RT
2	5						100	2.5µg/L			10-02-15	
3								1.0				
4								1.0				
5								0.2				
6								0.2				
7								0.5				
8								1.0				
9								2.5				
10								5.0				
11								0.0				
12	↓	↓	↓				↓	0.4 ↓	↓	↓	↓	↓
13				To vol w/ 0.15% HNO3 HIS-1886			10	1.0	DU 354	9-28-15	10-05-15	RT
14				↓	↓	↓	↓	0.1	↓	↓	↓	↓
15				To vol w/ 0.15% HNO3 HIS-1886			10	1.0	DU 354	9-29-15	10-06-15	RT
16								0.1				
17								1.0				
18								0.1				
19	8ml HCl	↓	153388	153388								
20	↓	↓	↓	5.2ml HNO3								9-29-15 DU 354

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
* * units are mg/L unless otherwise specified

b

Instrumental Wet Chemistry Data

eurofins | Spectrum Analytical

Quality Assurance/Quality Control Data Deliverable

Level IV

Prepared for

Eurofins Lancaster Laboratories Environmental, LLC

Project/Number: See Chain of Custody / 1594773

Work Order: SC13114

SDG# 13114

Submitted on October 2nd, 2015

Table of Contents

Laboratory Name: Eurofins Spectrum Analytical, Inc.
City/Sate: Agawam, MA
Client Name: Eurofins Lancaster Laboratories Environmental, LLC
Project Name/Number: See Chain of Custody / 1594773
SDG#: 13114
Associated Work Orders: SC13114

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NY Lab ID #11393/11840
NJ Lab ID#MA011/MA012

Eurofins Lancaster Laboratories Environmental, LLC

Client Project: See Chain of Custody

Project Number: 1594773
Eurofins Spectrum Analytical, Inc. Project ID: SC13114

10/22/2015

Prepared for: Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17605-2425
Attn: Kathy Binkley

Prepared By: Eurofins Spectrum Analytical, Inc.
830 Silver Street
Agawam, MA 01001
(800)789-9115

SDG13114

SC13114 General Narrative

Eurofins Spectrum Analytical, Inc. submits the enclosed data package for the site characterization of See Chain of Custody. Samples submitted for analysis by Eurofins Lancaster Laboratories Environmental, LLC. Under this deliverable, analysis results are presented for four Sediment samples submitted on October 2nd, 2015.

The analyses were performed according to USEPA SW846 method analytical guidelines and other methods. In addition the analyses were performed according to criteria dictated by National Environmental Laboratory Accreditation Conference (NELAC) and in accordance with project contract requirements and chain of custody forms.

Observations and/or deviations observed for specific analyses can be found in the analysis narrative:

1. Overall Observations:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual Integrations are coded to provide the data reviewer justification for such action. The codes are labeled on corresponding raw data for GC/MS and GC analysis as follows:

- M1 peak tailing or fronting
- M2 peak co-elution
- M3 rising or failing baseline
- M4 retention time shift
- M5 miscellaneous - under this category, the justification is explained
- M6 software did not integrate peak
- M7 partial peak integration

The enclosed report includes the originals of all data with the exception of logbook pages and certain initial calibrations. Scanned copies of logbook pages are included, with the originals are archived within the laboratory.

The pages in this report have been numbered consecutively, starting with the general narrative and ending with the page labeled as "Last Page of data Report".

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this electronic data package, has been authorized by the laboratory director as verified by the following signature.

Nicole Leja Date: 10/22/2015

Laboratory Director

Executive Summary - Detection Highlights

Sample ID: 0163-13DP

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	709		193	mg/kg	Lloyd Kahn

Sample ID: 0481-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	2750		202	mg/kg	Lloyd Kahn

Sample ID: 0483-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	846		190	mg/kg	Lloyd Kahn

Sample ID: 0485-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	1730		194	mg/kg	Lloyd Kahn

Please note that this summary does not include hits from hazardous waste characterizations or micro analyses, because they do not have minimum detection limits.

Sample Identification and Analytical Requirements Summary

Project Name: See Chain of Custody SDG: SC13114

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		VOC Method #	SVOC Method #	GC Method #	Metals	Other
0481-13	SC13114-01					Lloyd Kahn
0483-13	SC13114-02					Lloyd Kahn
0163-13DP	SC13114-03					Lloyd Kahn
0485-13	SC13114-04					Lloyd Kahn

eurofins | Spectrum Analytical

Sample Transmittal Documentation

Analysis Request / Environmental Services Subcontracting Form

eurofins | Lancaster Laboratories

For Lancaster Laboratories Use Only

Acct: _____ Group No.: 1594773 Sample Nos.: 8057359, 61, 66-67

Date: 10/1/2015

SC 13114

Subcontractor: **EUROFINS SPECTRUM ANALYTICAL, INC.**

LLI P.O.# : _____ Courier: FED EX

Submit report to: Kathy Binkley Ext.: 1393

Submit invoice to: Kathy Binkley

State where samples were collected: VT

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Sediment	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Other	Total # of Containers	Analyses Requested / Preservation Codes: TOC by Lloyd Kahn	Comments
0481-13 13114-01	09/21/15	11:10		X	X			1	X	8057359
0483-13 -02	09/21/15	13:30		X	X			1	X	8057361
0163-13DP -03	09/21/15	13:50		X	X			1	X	8057366
0485-13 -04	09/21/15	14:40		X	X			1	X	8057367

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments: Type 1 DP Level 4 and EDD. EDD format will follow.

Temperature of samples upon receipt (if requested)

Turnaround Time Requested (TAT): (Standard) Rush

Date Results are Needed:

Email Results to: KathyBinkley@EurofinsUS.com

Relinquished by:	Date	Time	Received by:	Date	Time
Kathy Binkley	10/1	1700			
Fed Ex	10/2		AA	10/2/15	12:46

Data Package Options (circled when required)
Type I (validation/NJ Reg) Type VI(Raw Data)
Type II (Tier II) Type III (Reduced NJ)
Type IV (CLP SOW) TX TRRP-13

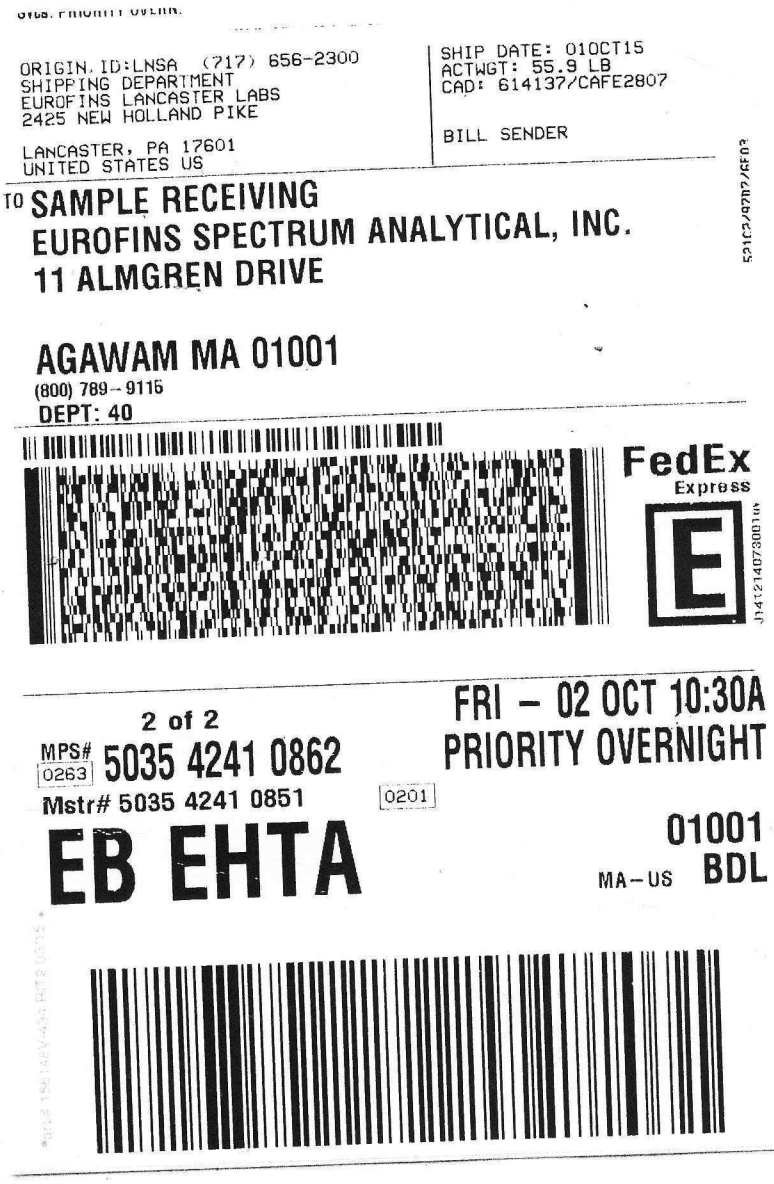
SDG Complete? Yes No

MA MCP
CT RCP

Site-specific QC Required (MS/MSD/DUP)? Yes No
Internal Chain of Custody Required? Yes No

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

lead custody sealed 0-7/-1/0.3/01 AA 10/2



ORIGIN ID:LNSA (717) 656-2300
SHIPPING DEPARTMENT
EUROFINS LANCASTER LABS
2425 NEW HOLLAND PIKE

LANCASTER, PA 17601
UNITED STATES US

SHIP DATE: 01OCT15
ACTWGT: 55.9 LB
CAD: 614137/CAFE2807

BILL SENDER

TO SAMPLE RECEIVING
EUROFINS SPECTRUM ANALYTICAL, INC.
11 ALMGREN DRIVE

AGAWAM MA 01001
(800) 789-9115
DEPT: 40

FedEx Express

2 of 2
MPS# 5035 4241 0862
Mstr# 5035 4241 0851

FRI - 02 OCT 10:30A
PRIORITY OVERNIGHT

0263 0201

EB EHTA

01001
MA-US BDL

SC13114

Eurofins Spectrum Analytical, Inc. - MA

Report To:

Eurofins Lancaster Laboratories Environmental, LLC
Kathy Binkley
2425 New Holland Pike
Lancaster, PA 17605-2425
Phone: (717) 656-2300
Fax: -

Project #:	1594773
Project:	See Chain of Custody
Date Due:	09-Oct-15 17:00
Received By:	Arshik Ahamed
Date Received:	02-Oct-15 12:46
Temperature:	-0.3°C
PO #:	

✓ Containers Intact	Frozen vials
✓ Properly Labeled	Frozen soil jars
✓ COC/Labels Agree	State EDD
✓ Received On Ice	✓ COC present
✓ Recd within hold time	✓ Custody seal present
Air-tight containers (Encore device)	✓ Custody seal intact
Refrigerated	COC complete
DW Field QC	

Lab ID	Client ID	Sampled	Lab Matrix / Report Matrix	Containers
SC13114-01	0481-13	21-Sep-15 11:10	Soil/Sediment / Sediment	A - 16 oz. jar
SC13114-02	0483-13	21-Sep-15 13:30	Soil/Sediment / Sediment	A - 16 oz. jar
SC13114-03	0163-13DP	21-Sep-15 13:50	Soil/Sediment / Sediment	A - 16 oz. jar
SC13114-04	0485-13	21-Sep-15 14:40	Soil/Sediment / Sediment	A - 16 oz. jar

SC13114

Eurofins Spectrum Analytical, Inc. - MA

Analysis	Due	TAT	Comments
SC13114-01 0481-13			
wc-TOC-Lloyd Kahn	09-Oct-15 15:00	5	Type 1 DP Level 4
SC13114-02 0483-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13114-03 0163-13DP			
wc-TOC-Lloyd Kahn	"	"	"
SC13114-04 0485-13			
wc-TOC-Lloyd Kahn	"	"	"

EUROFINS SPECTRUM ANALYTICAL, INC.

SAMPLE INTEGRITY FORM

Sample ID			Preservative Added						Notes
	Initial pH	Sample split	50% HCl - Element # 15D1359	50% H2SO4 - Element # 15H0773	50% NaOH - Element # 15B0084	Final pH	Chlorinated? (Y/N)	10% Na2S2O3 - Element # 15D0952	Work Order No. SC13114 Solid samples for VOC analyses: _____ Submitted in SA provided CH3OH/DI/NaHSO4 vials _____ Submitted in CH3OH/DI/NaHSO4, not SA _____ Not submitted in CH3OH/DI/NaHSO4

Notes:

COC login reviewed by: _____ Login Analyst Initials: _____ Date: 10/2/2015 (Rev. 2/5/2013)

eurofins | Spectrum Analytical

Form I Summary Pack

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0481-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1594773			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13114-01	File ID:	10031545
Sampled:	09/21/15 11:10	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 15:48
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0198 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	2750	1	200	202	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0483-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1594773			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13114-02	File ID:	10031550
Sampled:	09/21/15 13:30	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 15:54
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0211 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	846	1	188	190	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0163-13DP

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1594773			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13114-03	File ID:	10031556
Sampled:	09/21/15 13:50	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 15:59
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0207 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	709	1	191	193	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0485-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1594773			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13114-04	File ID:	10031602
Sampled:	09/21/15 14:40	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 16:05
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0206 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	1730	1	192	194	

Lloyd Kahn

CROSS REFERENCE TABLE

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Project Number:	1594773		

Client Sample ID:	Lab Sample ID:
0481-13	SC13114-01
0483-13	SC13114-02
0163-13DP	SC13114-03
0485-13	SC13114-04

CASE NARRATIVE

Spectrum Analytical, Inc. Lab Reference No. SC13114

Client: Eurofins Lancaster Laboratories Environmental, LLC

Project: See Chain of Custody / 1594773

SDG #: 13114

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception or a communication form is included in the addendum with this package.

II. HOLDING TIMES

All samples were prepared and analyzed within the method-specific holding time.

III. METHODS

Analyses were performed according to Lloyd Kahn.

IV. PREPARATION

Soil/Sediment samples were prepared according to General Preparation.

V. INSTRUMENTATION

The following equipment was used to analyze Lloyd Kahn:

TOC2 details: Teledyne Tekmar Apollo 9000 / TOC Boat Sampler Model 183

VI. ANALYSIS

A. Calibration:

All quality control samples were within the acceptance criteria.

B. Blanks:

All blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Samples (LCS):

All method criteria were met.

2. Matrix Spike / Matrix Spike Duplicate Samples (MS/MSD):

No matrix spike or matrix spike duplicates were analyzed.

3. Reference:

All method criteria were met.

D. Duplicates:

No client requested duplicate. However, the method criteria may have been fulfilled with non-SDG source samples.

E. Samples:

All method criteria were met.

Lloyd Kahn

QC Summary

FORM IIa - INITIAL AND CONTINUING CALIBRATION CHECK

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Instrument ID: TOC2

SDG: 13114
Project: See Chain of Custody
Calibration: 1507063
Sequence: S506983

Lab Sample ID	Analyte	True	Found	%R	QC Limits	Units	Method
S506983-ICV1	Total Organic Carbon	5430	5860	108	85 - 115	µg	Lloyd Kahn

* Values outside of QC limits

FORM IIa - INITIAL AND CONTINUING CALIBRATION CHECK

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Instrument ID: TOC2

SDG: 13114
Project: See Chain of Custody
Calibration: 1507063
Sequence: S508901

Lab Sample ID	Analyte	True	Found	%R	QC Limits	Units	Method
1518720-CCV1	Total Organic Carbon	1000	947	95	85 - 115	mg/kg	Lloyd Kahn
1518720-CCV2	Total Organic Carbon	1000	944	94	85 - 115	mg/kg	Lloyd Kahn
1518720-CCV3	Total Organic Carbon	1000	1010	101	85 - 115	mg/kg	Lloyd Kahn

* Values outside of QC limits

FORM III - BLANKS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13114
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Instrument ID: TOC2
Calibration: 1507063
Sequence: S506983
Matrix: Soil/Sediment

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
S506983-ICB1	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn

FORM III - BLANKS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13114
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Instrument ID: TOC2
Calibration: 1507063
Sequence: S508901
Matrix: Soil/Sediment

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
1518720-CCB1	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn
1518720-BLK1	Total Organic Carbon	BRL	100	mg/kg	U	Lloyd Kahn
1518720-CCB2	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn
1518720-CCB3	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn

FORM IIIa - LCS / LCS DUPLICATE RECOVERY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Matrix:	Soil/Sediment	Instrument:	TOC2
Batch:	1518720	Laboratory ID:	1518720-BS1
Preparation:	General Preparation	Initial/Final:	0.04 g / 1 ml
Analyzed:	10/03/15 15:30	Spike ID:	15G0890
		File ID:	10031528

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	1000	877	88	75 - 125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VIIb(Inorganics) - STANDARD REFERENCE MATERIAL RECOVERY

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13114
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Matrix: Soil/Sediment
Spike ID: 15C0320
Batch: 1518720
Laboratory ID: 1518720-SRM1
Preparation: General Preparation
Initial/Final: 0.0152 g / 1 ml

ANALYTE	TRUE (mg/kg)	FOUND (mg/kg)	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	5430	6430	118	49 - 151

* Values outside of QC limits

Organic/FORM IX(Inorganic) - METHOD DETECTION AND REPORTING LIMITS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA **SDG:** 13114

Client: Eurofins Lancaster Laboratories Environmental, LLC **Project:** See Chain of Custody

Analyte	MDL	MRL	Units
Total Organic Carbon	99.0	100	mg/kg

Lloyd Kahn

Sample Data

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0481-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1594773			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13114-01	File ID:	10031545
Sampled:	09/21/15 11:10	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 15:48
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0198 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	2750	1	200	202	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0483-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1594773			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13114-02	File ID:	10031550
Sampled:	09/21/15 13:30	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 15:54
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0211 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	846	1	188	190	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0163-13DP

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1594773			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13114-03	File ID:	10031556
Sampled:	09/21/15 13:50	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 15:59
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0207 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	709	1	191	193	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0485-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1594773			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13114-04	File ID:	10031602
Sampled:	09/21/15 14:40	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 16:05
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0206 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	1730	1	192	194	

Lloyd Kahn

Standards Data

FORM VI - INITIAL CALIBRATION DATA

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	0	0	1000	2110.995	2000	2020.206	4000	1984.608	8000	1905.392	12500	1875.863

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	15000	1812.287										

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

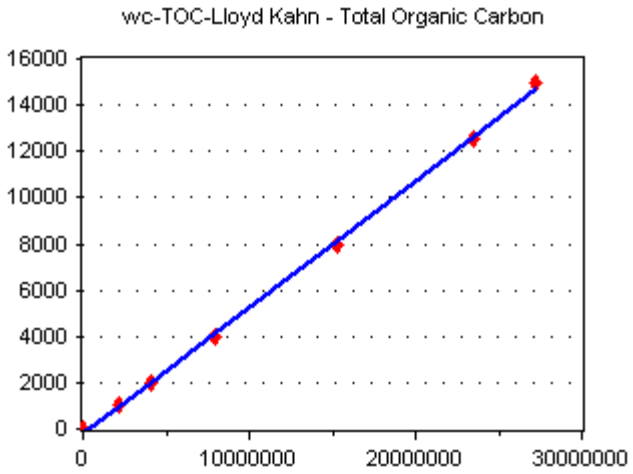
Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Total Organic Carbon	1672.765	44.48907	0	0	0.9990526		0.997	

Individual peaks for multi-component analytes are indicated by a number in parentheses

Instrument:	TOC2	Calibration Date:	23-Jul-15 11:19 By RLT
Calibration ID:	1507063	Last Edit Date:	24-Jul-15 11:20 By RLT

wc-TOC-Lloyd Kahn

Total Organic Carbon



Linear Regression

r2: 0.9990526

[Conc] = 5.486597E-04 * [Response] + -197.7798

Lloyd Kahn

Raw Quality Control Data

1518720 10.03.15 *072415low 10.03.15 rlt see curve raw data s508901

Detailed Analysis Report Print Date/Time: 2015/10/03 17:52:11

Sample ID: SEQ-CCV1 Mode: TOC
Method: Filename: 10031456
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 14:58
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	947.2405	37.8896	1808740	104.576	105.570	109

Sample ID: SEQ-CCB1 Mode: TOC
Method: Filename: 10031508
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 15:11
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-114.6453	-4.5858	-218913	108.548	106.883	120

Last Message: Low Sample Detected

Sample ID: 1518720-BLK1 Mode: TOC
Method: Filename: 10031513
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 15:19
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-79.9042	-3.1962	-152576	106.297	105.680	120

Last Message: Low Sample Detected

Sample ID: 1518720-BS1 Mode: TOC
Method: Filename: 10031528
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 15:30
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	877.4440	35.0978	1675465	108.949	109.948	95

accidentally used CN SRM, see rr

Sample ID: 1518720-SRM1 Mode: TOC
Method: Filename: 10031532
Cal. Curve: 063015 LOW Timestamp: 2015/10/03 15:36
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2060.2559	23.4869	1121197	108.414	109.392	~~92~~

Sample ID: 1518720-SRM1 RR Mode: TOC
Method: Filename: 10031539
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 15:43
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6433.6226	97.7911	4668261	107.295	108.268	106

Sample ID: SC13114-01A Mode: TOC
Method: Filename: 10031545
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 15:48
Operator ID: rlt Sample Type: Sample

*072415low 10.03.15 rlt

1518720 10.03.15 see curve raw data

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2748.1335	54.4130	2597520	104.276	105.272	133

Sample ID: SC13114-02A
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031550
Timestamp: 2015/10/03 15:54
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	846.0126	17.8509	852148	103.652	104.643	114

Sample ID: SC13114-03A
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031556
Timestamp: 2015/10/03 15:59
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	708.8113	14.6724	700417	104.108	105.100	112

Sample ID: SC13114-04A
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031602
Timestamp: 2015/10/03 16:05
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1729.8488	35.6349	1701105	105.388	106.380	119

Sample ID: SC13115-01A
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031610
Timestamp: 2015/10/03 16:14
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1031.0355	25.0542	1196013	106.511	107.499	112

Sample ID: SEQ-CCV2
Method:
Cal. Curve: ~~063015~~ ~~LOW~~ *
Operator ID: rlt
Mode: TOC
Filename: 10031613
Timestamp: 2015/10/03 16:15
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	943.9693	37.7588	1802494	107.763	108.760	108

Sample ID: SEQ-CCB2
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031614
Timestamp: 2015/10/03 16:17
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	3.2506	0.1300	6207	103.414	104.003	120

Last Message: Low Sample Detected

Sample ID: SC13115-05A
Method:
Mode: TOC
Filename: 10031615

*072415low 10.03.15 rlt

1518720 10.03.15 see curve raw data

*

Cal. Curve: 063015 LOW Timestamp: 2015/10/03 16:19
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2440.9529	81.5278	3891901	105.159	106.154	140

Sample ID: SC13115-06A Mode: TOC
Method: * Filename: 10031620
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 16:24
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2793.9929	59.5121	2840932	104.351	105.348	136

Sample ID: SC13115-06A(2) Mode: TOC
Method: * Filename: 10031625
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 16:28
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2189.5110	51.0156	2435336	105.822	106.816	113

1518708-dup1

Sample ID: SC13115-06A(3) Mode: TOC
Method: * Filename: 10031629
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 16:32
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2493.1526	52.3562	2499333	105.621	106.619	121

Sample ID: SC13115-06A(4) Mode: TOC
Method: Filename: 10031633
Cal. Curve: ~~063015~~ ~~LOW~~ * Timestamp: 2015/10/03 16:37
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2518.7451	64.4799	3078081	104.429	105.423	141

boat stuck

Sample ID: ~~SC13115-07A~~ Mode: TOC
Method: Filename: 10031639
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 16:41
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	0.4697	0.0121	576	105.715	106.024	2

Last Message: Canceled

Sample ID: SC13115-07A * Mode: TOC
Method: Filename: 10031720
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 17:25
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1014.0529	26.0612	1244084	106.248	107.238	123

*072415low 10.03.15 rlt

1518720 10.03.15 see curve raw data

Sample ID: SEQ-CCV3 *
Method:
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt

Mode: TOC
Filename: 10031728
Timestamp: 2015/10/03 17:31
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1007.2994	40.2920	1923421	105.497	106.487	110

Sample ID: SEQ-CCB3 *
Method:
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt

Mode: TOC
Filename: 10031742
Timestamp: 2015/10/03 17:45
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-73.1463	-2.9259	-139672	104.369	101.844	120

Last Message: Low Sample Detected

Lloyd Kahn

Data Processing Summary

PREPARATION BENCH SHEET

1518720

Eurofins Spectrum Analytical, Inc. - Agawam, MA

Temp °C	Correction Factor	Corrected Temp °C
10.4	-2	10.2

Balance ID: 5
Thermometer ID: IR71440

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **Sequence: S508901**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518720-BLK1	Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-BS1	LCS		QC	0.04	1	15G0890			03-Oct-15 10:08	
1518720-CCB1	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCB2	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCB3	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCV1	Calibration Check		QC	0.04	1	15G0890			03-Oct-15 10:08	
1518720-CCV2	Calibration Check		QC	0.04	1	15G0890			03-Oct-15 10:08	
1518720-CCV3	Calibration Check		QC	0.04	1	15G0890			03-Oct-15 10:08	
1518720-DUP1	Duplicate		QC	0.021	1		SC13115-06		23-Sep-15 13:30	
1518720-SRM1	Reference		QC	0.0152	1	15C0320			03-Oct-15 10:08	
SC13114-01	0481-13	A	wc-TOC-Lloyd	0.0198	1			09-Oct-15 15:00	21-Sep-15 11:10	Type 1 DP Level 4
SC13114-02	0483-13	A	wc-TOC-Lloyd	0.0211	1			09-Oct-15 15:00	21-Sep-15 13:30	Type 1 DP Level 4
SC13114-03	0163-13DP	A	wc-TOC-Lloyd	0.0207	1			09-Oct-15 15:00	21-Sep-15 13:50	Type 1 DP Level 4
SC13114-04	0485-13	A	wc-TOC-Lloyd	0.0206	1			09-Oct-15 15:00	21-Sep-15 14:40	Type 1 DP Level 4
SC13115-01	0491-13	A	wc-TOC-Lloyd	0.0243	1			09-Oct-15 15:00	24-Sep-15 10:10	Type 1 DP Level 4
SC13115-05	0479-13	A	wc-TOC-Lloyd	0.0334	1			09-Oct-15 15:00	23-Sep-15 10:45	Type 1 DP Level 4
SC13115-06	0489-13	A	wc-TOC-Lloyd	0.0213	1			09-Oct-15 15:00	23-Sep-15 13:30	Type 1 DP Level 4
SC13115-07	0487-13	A	wc-TOC-Lloyd	0.0257	1			09-Oct-15 15:00	23-Sep-15 14:50	Type 1 DP Level 4

10.03.15
rlt
toc soil

Analyst Reviewed 10/8/15 Date

Manager Reviewed 10/9/15 Date

Extracts Received By Date

Printed: 10/8/2015 7:10:57PM

PREPARATION BENCH SHEET

1518720

Eurofins Spectrum Analytical, Inc. - Agawam, MA

Temp °C	Correction Factor	Corrected Temp °C
104	-2	102

Balance ID: 5

Thermometer ID: NJ1440

Matrix: Soil/Sediment

Prepared using: Wet Chem - General Preparation

Sequence: S508901

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments

Reagents Used:

15G0336 Nitric Acid 50%

Analyst Reviewed 10/8/15 Date

Manager Reviewed 10/9/15 Date

Extracts Received By Date

Printed: 10/8/2015 7:10:57PM

PREPARATION BENCH SHEET

1518720

Balance ID _____

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **(No Surrogate)**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518720-BLK1	Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-BS1	LCS		QC	0.04	1	15G0891			03-Oct-15 10:08	
1518720-CCB1	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCB2	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCB3	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCV1	Calibration Check		QC	0.04	1	15G0891			03-Oct-15 10:08	
1518720-CCV2	Calibration Check		QC	0.04	1	15G0891			03-Oct-15 10:08	
1518720-CCV3	Calibration Check		QC	0.04	1	15G0891			03-Oct-15 10:08	
1518720-DUP1	Duplicate		QC	0.0054	1		SC13115-06		23-Sep-15 13:30	
1518720-SRM1	Reference		QC	~~0.0206~~	1	~~15G0820~~	0.0152		03-Oct-15 10:08	
SC13114-01	0481-13	A	wc-TOC-Lloyd	0.04	1	0.0198		09-Oct-15 15:00	21-Sep-15 11:10	**Type 1 DP Level 4**
SC13114-02	0483-13	A	wc-TOC-Lloyd	0.04	1	0.0211		09-Oct-15 15:00	21-Sep-15 13:30	**Type 1 DP Level 4**
SC13114-03	0163-13DP	A	wc-TOC-Lloyd	0.04	1	0.0207		09-Oct-15 15:00	21-Sep-15 13:50	**Type 1 DP Level 4**
SC13114-04	0485-13	A	wc-TOC-Lloyd	0.04	1	0.0206		09-Oct-15 15:00	21-Sep-15 14:40	**Type 1 DP Level 4**
SC13115-01	0491-13	A	wc-TOC-Lloyd	0.04	1	0.0243		09-Oct-15 15:00	24-Sep-15 10:10	**Type 1 DP Level 4**
SC13115-05	0479-13	A	wc-TOC-Lloyd	0.04	1	0.0354		09-Oct-15 15:00	23-Sep-15 10:45	**Type 1 DP Level 4**
SC13115-06	0489-13	A	wc-TOC-Lloyd	0.04	1	0.0212		09-Oct-15 15:00	23-Sep-15 13:30	**Type 1 DP Level 4**
SC13115-07	0487-13	A	wc-TOC-Lloyd	0.04	1	0.0207		09-Oct-15 15:00	23-Sep-15 14:50	**Type 1 DP Level 4**

10.03.15
rlt
toc soil

(2) 0.0223 (3) 0.0210 (4) 0.0256

Reagents Used:

15G0336 Nitric Acid 50%

Analyst Reviewed Date

Manager Reviewed Date

Extracts Received By Date

Printed: 10/3/2015 3:13:16PM

Lloyd Kahn Method - TOC							
10/3/2015							
Sample ID:	Replicate 1	Replicate 2	Replicate 3	Replicate 4	Standard Deviation	Mean	% RSD
sc13152-06a	2793.9929	2189.511	2493.1526	2518.7451	247.1357412	2498.85	9.889977
					#DIV/0!	#DIV/0!	#DIV/0!
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Rev. 4/15/09

FORM VIII(Organics)/FORM XIII(Inorganics)
ANALYSIS BATCH (SEQUENCE) SUMMARY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Sequence:	S506983	Instrument:	TOC2
		Calibration:	1507063

Sample Name	Lab Sample ID	Lab File ID	Analyzed
Cal Standard	S506983-CAL1	07231501	07/23/15 15:04
Cal Standard	S506983-CAL2	07231505	07/23/15 15:08
Cal Standard	S506983-CAL3	07231508	07/23/15 15:11
Cal Standard	S506983-CAL4	07231512	07/23/15 15:15
Cal Standard	S506983-CAL5	07231516	07/23/15 15:19
Cal Standard	S506983-CAL6	07231520	07/23/15 15:23
Cal Standard	S506983-CAL7	07231545	07/23/15 15:49
Initial Cal Check	S506983-ICV1	07231605	07/23/15 16:08
Initial Cal Blank	S506983-ICB1	07231608	07/23/15 16:11

FORM VIII(Organics)/FORM XIII(Inorganics)
ANALYSIS BATCH (SEQUENCE) SUMMARY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13114
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Sequence:	S508901	Instrument:	TOC2
		Calibration:	1507063

Sample Name	Lab Sample ID	Lab File ID	Analyzed
Calibration Check	1518720-CCV1	10031456	10/03/15 14:58
Calibration Blank	1518720-CCB1	10031508	10/03/15 15:11
Blank	1518720-BLK1	10031513	10/03/15 15:19
LCS	1518720-BS1	10031528	10/03/15 15:30
Reference	1518720-SRM1	10031539	10/03/15 15:43
0481-13	SC13114-01	10031545	10/03/15 15:48
0483-13	SC13114-02	10031550	10/03/15 15:54
0163-13DP	SC13114-03	10031556	10/03/15 15:59
0485-13	SC13114-04	10031602	10/03/15 16:05
Calibration Check	1518720-CCV2	10031613	10/03/15 16:15
Calibration Blank	1518720-CCB2	10031614	10/03/15 16:17
Calibration Check	1518720-CCV3	10031728	10/03/15 17:31
Calibration Blank	1518720-CCB3	10031742	10/03/15 17:45

Multiple Analysis Report Print Date/Time: 2015/10/22 12:31:05

Sample ID	Result	Std. Dev.	RSD	Mode	ALT	Method ID	Sample Type	Vial	Timestamp	Message
SEQ-CCV1	947.2405			TOC			Sample		2015/10/03 14:58	
SEQ-CCB1	-114.6453			TOC			Sample		2015/10/03 15:11	Low Sample Detected
1518720-BLK1	-79.9042			TOC			Sample		2015/10/03 15:19	Low Sample Detected
1518720-BS1	877.4440			TOC			Sample		2015/10/03 15:30.	
1518720-SRM1	2060.2559			TOC			Sample		2015/10/03 15:36	
1518720-SRM1 RR	6433.6226			TOC			Sample		2015/10/03 15:43	
SC13114-01A	2748.1335			TOC			Sample		2015/10/03 15:48.	
SC13114-02A	846.0126			TOC			Sample		2015/10/03 15:54	
SC13114-03A	708.8113			TOC			Sample		2015/10/03 15:59	
SC13114-04A	1729.8488			TOC			Sample		2015/10/03 16:05.	
SC13115-01A	1031.0355			TOC			Sample		2015/10/03 16:14	
SEQ-CCV2	943.9693			TOC			Sample		2015/10/03 16:15	
SEQ-CCB2	3.2506			TOC			Sample		2015/10/03 16:17	Low Sample Detected
SC13115-05A	2440.9529			TOC			Sample		2015/10/03 16:19	
SC13115-06A	2793.9929			TOC			Sample		2015/10/03 16:24	
SC13115-06A(2)	2189.5110			TOC			Sample		2015/10/03 16:28.	
SC13115-06A(3)	2493.1526			TOC			Sample		2015/10/03 16:32	
SC13115-06A(4)	2518.7451			TOC			Sample		2015/10/03 16:37	
SC13115-07A	0.4697			TOC			Sample		2015/10/03 16:41	Canceled
SC13115-07A	1014.0529			TOC			Sample		2015/10/03 17:25	
SEQ-CCV3	1007.2994			TOC			Sample		2015/10/03 17:31	
SEQ-CCB3	-73.1463			TOC			Sample		2015/10/03 17:45	Low Sample Detected

Notes & Definitions

BRL Below the reporting limit and also indicates there are no detections between the MDL and MRL

Form I 'Q' column

B The analyte was found in the associated blank as well as the sample

D All identified compounds in the analysis are at a secondary dilution factor

E The identified compound's concentration exceeds the calibration range of the instrument for this specific analysis

J Compound detected but below the reporting limit and above the minimum detection limit (MDL); therefore, the result is an estimated concentration

N Included for TIC that indicates presumptive evidence of a compound

P Used for a Dual Column target analyte when the concentration difference between the two GC columns is greater than 40%.

U Compound was analyzed for but not detected

Form IIa 'Method' column

This column refers to the instrument used for analysis

IR Iris ICP
MS Thermo ICP/MS
AV Mercury analyzer

Form VI 'Q' column

***** indicates that:
Mean RF is above the value in the LIMIT column, or
Linear COD is below the value in the LIMIT column, or
Quad COD is below the value in the LIMIT column

Form VII 'Type' column

A average of response factor
L linear regression
Q quadratic equation

Form VIII 'Q' column for Inorganics

E The dilution analysis is not within a control limit of 10%, therefore a chemical or physical interference effect must be suspected

Last Page of Data Report

Case Narrative/Conformance Summary

Instrumental Wet Chemistry

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC24

Instrumental Water Quality

Fraction: Instrumental Wet Chemistry

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8057359	0481-13		X	1	
8057361	0483-13		X	1	
8057366	0163-13DP		X	1	
8057367	0485-13		X	1	

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

The TOC analysis was subcontracted to another laboratory.

Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC24

Instrumental Water Quality

Fraction: Instrumental Wet Chemistry

Abbreviation Key

U = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
R = Matrix Spike (MS)	MDL = Method Detection Limit
M = Matrix Spike Duplicate (MSD)	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	NA = Not Applicable
HS = High Spike	ME = Method
LS = Low Spike	CO = Colorimetric
SS = Soluble Spike	G = Gravimetric
IS = Insoluble Spike	IR = Infrared Spectrophotometry
ISD = Insoluble Spike Duplicate	MTR = Meter
PDS = Post Digestion Spike	OD = Oven Dried
* = Out of Specification	TI = Titration
V = Visual	TOC = Total Organic Carbon
AK = Alpkem	IC = Ion Chromatography
TC = Total Carbon	RA = Rapid Analyzer

Quality Control and Calibration Summary Forms

Instrumental Wet Chemistry

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Quality Control Reference List
Instrumental Water Quality

CLIENT: The Johnson Company, Inc.
SDG: PSC24

Fraction: Instrumental Wet Chemistry

Analysis	Batch Number	Sample Number	Analysis Date
TOC Subcontracted - Spectrum	1518720	P123456B	10/03/2015 00:00:00
		P123456Q	10/03/2015 00:00:00
		8057359	10/03/2015 00:00:00
		8057361	10/03/2015 00:00:00
		8057366	10/03/2015 00:00:00
		8057367	10/03/2015 00:00:00

Quality Control Summary
Method Blank
Instrumental Water Quality
SDG: PSC24
Matrix: SOLID

Fraction: Instrumental Wet Chemistry

1518720 / P123456B Parameter	ME	Analysis Date	Blank Results	Units	MDL	LOQ
TOC Subcontracted - Spectrum	TOC	10/03/15	N.D.	mg/kg	99.0	100

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: PSC24
Matrix: SOLID

Instrumental Water Quality

Fraction: Instrumental Wet Chemistry

LCS: P123456Q	Batch: **1518720** (Sample number(s): 8057359, 8057361, 8057366-8057367)								
Parameter	**ME**	**Spike Added mg/kg**	**LCS Conc mg/kg**	**LCSD Conc mg/kg**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
TOC Subcontracted - Spectrum	TOC	1000	877	NA	88	NA	75-125	NA	NA

Fraction: Instrumental Wet Chemistry

13994: TOC Subcontracted - Spectrum Analyte Name	Default MDL	Default LOQ	Units
TOC Subcontracted - Spectrum	99.0	100	mg/kg

Moisture Data

MOISTURE

SAMPLE NUMBERS:

Sample #	Sample Code
8057359	PS481
8057360	PS482
8057361	PS483
8057362	PS484BKG
8057363	PS484MS
8057364	PS484MSD
8057365	PS484DUP
8057366	PS3DP
8057367	PS485
8057368	PS486

COMMENTS:

Method defined actions are taken for any failed matrix QC.

Laboratory Compliance Quality Control

Analysis Name	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 15267820008B	Sample number(s): 8057359-8057368				
Moisture	100		99-101		
Moisture	100		99-101		
Moisture Duplicate	100		99-101		

Sample Matrix Quality Control

Analysis Name	BKG Conc	DUP Conc	RPD	RPD Max
Batch number: 15267820008B	Sample number(s): 8057359-8057368			
Moisture	16.1	15.8	2	5
Moisture	16.1	15.8	2	5
Moisture Duplicate	16.1	15.8	2	5

* - Outside of specification

(1) - The result for one or both determinations was less than five times the LOQ.

Moisture Data Report

Batch #: 15267820008

Sample ID	Batch ID	Analysis#	Tare Wt	Sample Wt	Dry Wt	%Moisture	Analysis Date (Emp#)	Verified Date (Emp#)
8057359	B	00111	1.0884	6.1269	6.1212	17.86	9/24/15 (1201/SWF)	9/25/15 (236/CW)
8057360	B	00111	1.0769	8.8085	8.4737	16.03	9/24/15 (1201/SWF)	9/25/15 (236/CW)
8057361	B	00111	1.1034	7.2235	6.9328	19.30	9/24/15 (1201/SWF)	9/25/15 (236/CW)
8057362BKG	B	00111	1.0881	8.3147	8.0637	16.11	9/24/15 (1201/SWF)	9/25/15 (236/CW)
8057363MS	B	00118				16.11	9/24/15 (1201/SWF)	9/25/15 (236/CW)
8057364MSD	B	00118				16.11	9/24/15 (1201/SWF)	9/25/15 (236/CW)
8057365DUP	B	00118				16.11	9/24/15 (1201/SWF)	9/25/15 (236/CW)
8057365DUP	B	00121	1.0972	8.9794	8.6555	15.83	9/24/15 (1201/SWF)	9/25/15 (236/CW)
8057366	B	00111	1.0989	7.2228	6.8722	20.07	9/24/15 (1201/SWF)	9/25/15 (236/CW)
8057367	B	00111	1.0991	8.9471	8.4007	18.39	9/24/15 (1201/SWF)	9/25/15 (236/CW)
8057368	B	00111	1.0862	8.6642	8.3330	16.36	9/24/15 (1201/SWF)	9/25/15 (236/CW)
LCS 89.5% Std.		00111	1.0752	5.0451	1.6134	89.33	9/24/15 (1201/SWF)	9/25/15 (236/CW)

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Type I Data Package

Prepared for:

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

Project: Pine Street Canal - Sand Cap Sampling
Sediment and Water Samples
Collected on 09/22/15-09/24/15

SDG# PSC27-V.2

GROUP	SAMPLE NUMBERS
1596027	8064450-8064471

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-13-10
AZ Cert. # AZ0780

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman **Date:** **12/22/2015**

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Wendy Kozma at Ext. 1522.

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Sample Reference List for SDG Number PSC27
with a Data Package Type of I

06556 - The Johnson Company, Inc.

Project: Pine Street Canal - Sand Cap Sampling

Lab Sample Number	Client Sample ID	Collection Date	Date Received
8064450	0491-13	09/24/2015 10:10	09/25/2015 09:25
8064451	0492-13	09/24/2015 10:20	09/25/2015 09:25
8064452	0493-13	09/24/2015 12:00	09/25/2015 09:25
8064453	0494-13	09/24/2015 12:10	09/25/2015 09:25
8064454	0494-13 MS	09/24/2015 12:10	09/25/2015 09:25
8064455	0494-13 MSD	09/24/2015 12:10	09/25/2015 09:25
8064456	0494-13 DUP	09/24/2015 12:10	09/25/2015 09:25
8064457	0164-13 DP	09/24/2015 12:15	09/25/2015 09:25
8064458	0495-13	09/24/2015 13:00	09/25/2015 09:25
8064459	0496-13	09/24/2015 13:10	09/25/2015 09:25
8064460	0165-13 FB	09/24/2015 12:30	09/25/2015 09:25
8064461	0479-13	09/23/2015 10:45	09/25/2015 09:25
8064462	0480-13	09/23/2015 11:00	09/25/2015 09:25
8064463	0489-13	09/23/2015 13:30	09/25/2015 09:25
8064464	0490-13	09/23/2015 13:45	09/25/2015 09:25
8064465	0487-13	09/23/2015 14:50	09/25/2015 09:25
8064466	0488-13	09/23/2015 15:00	09/25/2015 09:25
8064467	0163-13 FB	09/23/2015 15:45	09/25/2015 09:25
8064468	0498-13	09/22/2015 10:30	09/25/2015 09:25
8064469	0499-13	09/22/2015 10:45	09/25/2015 09:25
8064470	0497-13	09/22/2015 13:25	09/25/2015 09:25
8064471	0161-13 FB	09/22/2015 15:00	09/25/2015 09:25

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Sample pH Log

SDG: PSC27

LLI Sample Number	Bottle Code	Actual pH	Exp. pH	pH Check Code	Adj. pH	Adjusted Date	Adjusted Time	Preservative Added	Preservative Lot #	LLI Supplied Bottle?	Sulfide Present?	Corrective Substance	CS Lot #	Res. Cl. Present?	Corrective Substance	CS Lot #
8064460	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8064467	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8064471	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA

Check Code Key
PK = Original container checked - pH is within the correct range. (No preservative was added)
PA = Original container checked - pH adjusted to correct range. (Preservative was added)
PV = Volatile container checked
PC = pH checked (unpreserved container)
SPK = Subsampled from an original container. Original container checked - pH is within correct range
SPA = Subsampled from an original container. Subsample container checked - pH adjusted to correct range.
SPC = Subsampled from an original container. pH checked (unpreserved container).
SUP = Subsampled from original container. Unable to be preserved due to the matrix of the sample.
UP = Unable to preserve due to matrix of the sample.
NA = Not applicable

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00259 Mercury

The solution resulting from the mercury digestion is analyzed by Cold Vapor AA.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7470A, September 1994

00159 Mercury

The solution resulting from the mercury digestion is analyzed by Cold Vapor AA.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7471A, September 1994

01848 ICP-WW, 3005A (tot rec) - U3

The sample is digested with nitric acid and hydrochloric acid.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3005A, July 1992

05713 WW SW846 Hg Digest

The sample is heated at 95 c with nitric acid, sulfuric acid, potassium persulfate, and potassium permanganate. Excess potassium permanganate is reduced with sodium chloride/hydroxylamine hydrochloride. Mercuric ions are reduced to mercury metal using stannous chloride.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7470A, September 1994

05711 Hg-SW, 7471A - U3

The sample is heated at 95 c with nitric acid, sulfuric acid, potassium persulfate, and potassium permanganate. Excess potassium permanganate is reduced with sodium chloride/hydroxylamine hydrochloride. Mercuric ions are reduced to mercury metal using stannous chloride.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7471A Modified, September 1994.

06935 Arsenic
06946 Barium
07046 Barium
07049 Cadmium
06949 Cadmium
06951 Chromium
07053 Copper
06953 Copper
06955 Lead
06936 Selenium
07066 Silver
06966 Silver
07072 Zinc
06972 Zinc

The solution resulting from the metals digestion is analyzed by Trace ICP.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6010B, December 1996.

06025 Arsenic
06031 Chromium

06035 Lead
06041 Selenium

The solution resulting from the metals digestion is analyzed by ICP/MS.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6020, September 1994.

05708 ICP-ICPMS - SW, 3050B - U3

The sample is digested with nitric acid, hydrochloric acid and hydrogen peroxide.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3050B, December 1996

06050 ICPMS-Water, 3020A - U3

The sample is digested with nitric acid.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3020A, July 1992

07807 BNA Water Extraction

The sample aliquot is extracted with methylene chloride by either separatory funnel or liquid/liquid apparatus. Extraction is performed at a pH of 2. The extract is concentrated prior to analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3510C, Rev 3, December 1996

10724 PAH 8270 (microwave)
07805 PAHs in Water by GC/MS

The sample extract is analyzed by capillary column Gas Chromatography/Mass Spectrometry.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8270C, December 1996

10814 BNA Soil Microwave PAH

The sample aliquot is extracted using microwave extraction with 1:1 methylene chloride and acetone. The extract is concentrated prior to analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3546, Revision 0, February 2007.

13994 TOC Subcontracted - Spectrum

Total organic carbon is determined by acidifying a sample aliquot and heating it to remove any inorganic carbon. The sample is then heated to 900oC for combustion of the remaining organic carbon. The resulting carbon dioxide from the organic carbon is detected by a nondispersive infrared detector that has been calibrated to directly display the mass of carbon dioxide detected. The mass is proportional to the mass of total organic carbon in the sample.

Reference: Lloyd Kahn (modified)

00111 Moisture
00118 Moisture
00121 Moisture Duplicate
07400 Percent Solids

A well-mixed sample is placed in a tared container and dried to a constant weight in an oven at 103-105C. The increase in weight is the total solids.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 2540 G-1997

12815 Sample Decanting

Decanting is used to separate the liquid from an insoluble solid. As the solid settles to the bottom of the container, the liquid is carefully poured into another container leaving the solid behind.

Analysis Reports / Field Chain of Custody

REVISED

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

December 16, 2015

Project: Pine Street Canal - Sand Cap Sampling

Submittal Date: 09/25/2015
Group Number: 1596027
SDG: PSC27
PO Number: 1-0870-2
State of Sample Origin: VT

Client Sample Description	Lancaster Labs (LL) #
0491-13 Composite Sediment	8064450
0492-13 Composite Sediment	8064451
0493-13 Composite Sediment	8064452
0494-13 Composite Sediment	8064453
0494-13 MS Composite Sediment	8064454
0494-13 MSD Composite Sediment	8064455
0494-13 DUP Composite Sediment	8064456
0164-13 DP Composite Sediment	8064457
0495-13 Composite Sediment	8064458
0496-13 Composite Sediment	8064459
0165-13 FB Grab Water	8064460
0479-13 Composite Sediment	8064461
0480-13 Composite Sediment	8064462
0489-13 Composite Sediment	8064463
0490-13 Composite Sediment	8064464
0487-13 Composite Sediment	8064465
0488-13 Composite Sediment	8064466
0163-13 FB Grab Water	8064467
0498-13 Composite Sediment	8064468
0499-13 Composite Sediment	8064469
0497-13 Composite Sediment	8064470
0161-13 FB Grab Water	8064471

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

REVISED

ELECTRONIC COPY TO	The Johnson Company, Inc.	Attn: Jim Bowes
ELECTRONIC COPY TO	Phoenix Chemistry Services	Attn: Deborah H. Gaynor

Respectfully Submitted,

Wendy A. Kozma
Principal Specialist Group Leader

(717) 556-7257

REVISED

Sample Description: 0491-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064450
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 10:10 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49113 SDG#: PSC27-01

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	18	J	20	4	1
10724	Acenaphthylene	208-96-8	59		20	4	1
10724	Anthracene	120-12-7	42		20	4	1
10724	Benzo(a)anthracene	56-55-3	72		20	4	1
10724	Benzo(a)pyrene	50-32-8	91		20	4	1
10724	Benzo(b)fluoranthene	205-99-2	130		20	4	1
10724	Benzo(g,h,i)perylene	191-24-2	78		20	4	1
10724	Benzo(k)fluoranthene	207-08-9	52		20	4	1
10724	Chrysene	218-01-9	100		20	4	1
10724	Dibenz(a,h)anthracene	53-70-3	18	J	20	4	1
10724	Fluoranthene	206-44-0	170		20	4	1
10724	Fluorene	86-73-7	26		20	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	56		20	4	1
10724	2-Methylnaphthalene	91-57-6	14	J	20	4	1
10724	Naphthalene	91-20-3	20	U	20	4	1
10724	Phenanthrene	85-01-8	140		20	4	1
10724	Pyrene	129-00-0	240		20	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	4.16		2.43	0.704	1
06946	Barium	7440-39-3	23.4		0.607	0.0813	1
06949	Cadmium	7440-43-9	0.607	U	0.607	0.0522	1
06951	Chromium	7440-47-3	14.7		1.82	0.119	1
06953	Copper	7440-50-8	14.9		1.21	0.340	1
06955	Lead	7439-92-1	5.54		1.82	0.388	1
06936	Selenium	7782-49-2	3.39		2.43	1.01	1
06966	Silver	7440-22-4	0.607	U	0.607	0.146	1
06972	Zinc	7440-66-6	35.5		2.43	0.934	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.115	U	0.115	0.0115	1
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**		**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	1,030		165	163	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	28				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	17.6		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	82.4		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0491-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064450
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 10:10 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49113 SDG#: PSC27-01

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/02/2015 14:04	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 19:15	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 19:15	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 19:15	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 19:15	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 19:15	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 19:15	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 19:15	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 19:15	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 19:15	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 07:49	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518720	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0492-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064451
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 10:20 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49213 SDG#: PSC27-02

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	8	J	20	4	1
10724	Acenaphthylene	208-96-8	20	U	20	4	1
10724	Anthracene	120-12-7	20	U	20	4	1
10724	Benzo(a)anthracene	56-55-3	20	U	20	4	1
10724	Benzo(a)pyrene	50-32-8	7	J	20	4	1
10724	Benzo(b)fluoranthene	205-99-2	5	J	20	4	1
10724	Benzo(g,h,i)perylene	191-24-2	20	U	20	4	1
10724	Benzo(k)fluoranthene	207-08-9	20	U	20	4	1
10724	Chrysene	218-01-9	20	U	20	4	1
10724	Dibenz(a,h)anthracene	53-70-3	20	U	20	4	1
10724	Fluoranthene	206-44-0	20	U	20	4	1
10724	Fluorene	86-73-7	20	U	20	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	20	U	20	4	1
10724	2-Methylnaphthalene	91-57-6	20	U	20	4	1
10724	Naphthalene	91-20-3	20	U	20	4	1
10724	Phenanthrene	85-01-8	9	J	20	4	1
10724	Pyrene	129-00-0	20	U	20	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	3.67		2.37	0.688	1
06946	Barium	7440-39-3	24.9		0.593	0.0794	1
06949	Cadmium	7440-43-9	0.593	U	0.593	0.0510	1
06951	Chromium	7440-47-3	13.1		1.78	0.116	1
06953	Copper	7440-50-8	13.2		1.19	0.332	1
06955	Lead	7439-92-1	4.20		1.78	0.379	1
06936	Selenium	7782-49-2	3.08		2.37	0.984	1
06966	Silver	7440-22-4	0.593	U	0.593	0.142	1
06972	Zinc	7440-66-6	29.6		2.37	0.913	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.117	U	0.117	0.0117	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	U				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	17.3		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	82.7		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0492-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064451
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 10:20 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49213 SDG#: PSC27-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/02/2015 14:28	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 19:18	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 19:18	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 19:18	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 19:18	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 19:18	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 19:18	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 19:18	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 19:18	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 19:18	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 07:55	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0493-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064452
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 12:00 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49313 SDG#: PSC27-03

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	34	U	34	7	1
10724	Acenaphthylene	208-96-8	22	J	34	7	1
10724	Anthracene	120-12-7	29	J	34	7	1
10724	Benzo(a)anthracene	56-55-3	56		34	7	1
10724	Benzo(a)pyrene	50-32-8	81		34	7	1
10724	Benzo(b)fluoranthene	205-99-2	130		34	7	1
10724	Benzo(g,h,i)perylene	191-24-2	83		34	7	1
10724	Benzo(k)fluoranthene	207-08-9	58		34	7	1
10724	Chrysene	218-01-9	88		34	7	1
10724	Dibenz(a,h)anthracene	53-70-3	21	J	34	7	1
10724	Fluoranthene	206-44-0	120		34	7	1
10724	Fluorene	86-73-7	34	U	34	7	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	67		34	7	1
10724	2-Methylnaphthalene	91-57-6	34	U	34	7	1
10724	Naphthalene	91-20-3	34	U	34	7	1
10724	Phenanthrene	85-01-8	51		34	7	1
10724	Pyrene	129-00-0	120		34	7	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	3.14	J	3.88	1.13	1
06946	Barium	7440-39-3	51.4		0.971	0.130	1
06949	Cadmium	7440-43-9	0.398	J	0.971	0.0835	1
06951	Chromium	7440-47-3	23.2		2.91	0.190	1
06953	Copper	7440-50-8	15.3		1.94	0.544	1
06955	Lead	7439-92-1	16.2		2.91	0.621	1
06936	Selenium	7782-49-2	2.95	J	3.88	1.61	1
06966	Silver	7440-22-4	0.971	U	0.971	0.233	1
06972	Zinc	7440-66-6	67.1		3.88	1.50	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0471	J	0.190	0.0190	1
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**		**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	112,000		851	843	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	U				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	50.0		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	50.0		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0493-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064452
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 12:00 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49313 SDG#: PSC27-03

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/02/2015 14:53	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 19:28	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 19:28	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 19:28	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 19:28	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 19:28	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 19:28	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 19:28	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 19:28	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 19:28	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 07:57	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518708	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0494-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064453
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 12:10 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49413 SDG#: PSC27-04BKG

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	21	U	21	4	1
10724	Acenaphthylene	208-96-8	21	U	21	4	1
10724	Anthracene	120-12-7	21	U	21	4	1
10724	Benzo(a)anthracene	56-55-3	9	J	21	4	1
10724	Benzo(a)pyrene	50-32-8	11	J	21	4	1
10724	Benzo(b)fluoranthene	205-99-2	16	J	21	4	1
10724	Benzo(g,h,i)perylene	191-24-2	10	J	21	4	1
10724	Benzo(k)fluoranthene	207-08-9	5	J	21	4	1
10724	Chrysene	218-01-9	12	J	21	4	1
10724	Dibenz(a,h)anthracene	53-70-3	5	J	21	4	1
10724	Fluoranthene	206-44-0	16	J	21	4	1
10724	Fluorene	86-73-7	21	U	21	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	8	J	21	4	1
10724	2-Methylnaphthalene	91-57-6	21	U	21	4	1
10724	Naphthalene	91-20-3	21	U	21	4	1
10724	Phenanthrene	85-01-8	6	J	21	4	1
10724	Pyrene	129-00-0	16	J	21	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	4.01		2.43	0.705	1
06946	Barium	7440-39-3	18.1		0.608	0.0815	1
06949	Cadmium	7440-43-9	0.0864	J	0.608	0.0523	1
06951	Chromium	7440-47-3	11.0		1.82	0.119	1
06953	Copper	7440-50-8	10.4		1.22	0.341	1
06955	Lead	7439-92-1	5.78		1.82	0.389	1
06936	Selenium	7782-49-2	2.96		2.43	1.01	1
06966	Silver	7440-22-4	0.608	U	0.608	0.146	1
06972	Zinc	7440-66-6	25.1		2.43	0.937	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.117	U	0.117	0.0117	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	U				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	18.6		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	81.4		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0494-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064453
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 12:10 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49413 SDG#: PSC27-04BKG

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/02/2015 12:00	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 18:57	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 18:57	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 18:57	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 18:57	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 18:57	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 18:57	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 18:57	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 18:57	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 18:57	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 07:35	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

REVISED

Sample Description: 0494-13 MS Composite Sediment
Pine Street Canal

LL Sample # SW 8064454
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 12:10 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49413 SDG#: PSC27-04MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		ug/kg	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	2,000	21	4	1
10724	Acenaphthylene	208-96-8	2,000	21	4	1
10724	Anthracene	120-12-7	2,100	21	4	1
10724	Benzo(a)anthracene	56-55-3	1,800	21	4	1
10724	Benzo(a)pyrene	50-32-8	1,800	21	4	1
10724	Benzo(b)fluoranthene	205-99-2	2,100	21	4	1
10724	Benzo(g,h,i)perylene	191-24-2	2,000	21	4	1
10724	Benzo(k)fluoranthene	207-08-9	1,900	21	4	1
10724	Chrysene	218-01-9	1,800	21	4	1
10724	Dibenz(a,h)anthracene	53-70-3	2,000	21	4	1
10724	Fluoranthene	206-44-0	1,900	21	4	1
10724	Fluorene	86-73-7	2,100	21	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	2,000	21	4	1
10724	2-Methylnaphthalene	91-57-6	1,900	21	4	1
10724	Naphthalene	91-20-3	2,000	21	4	1
10724	Phenanthrene	85-01-8	2,000	21	4	1
10724	Pyrene	129-00-0	1,900	21	4	1
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06935	Arsenic	7440-38-2	22.4	2.43	0.705	1
06946	Barium	7440-39-3	253	0.608	0.0815	1
06949	Cadmium	7440-43-9	6.01	0.608	0.0523	1
06951	Chromium	7440-47-3	39.1	1.82	0.119	1
06953	Copper	7440-50-8	42.6	1.22	0.341	1
06955	Lead	7439-92-1	23.1	1.82	0.389	1
06936	Selenium	7782-49-2	21.4	2.43	1.01	1
06966	Silver	7440-22-4	5.56	0.608	0.146	1
06972	Zinc	7440-66-6	87.2	2.43	0.937	1
	SW-846 7471A		mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.215	0.121	0.0121	1
Wet Chemistry	**LLI In House**		g	g	g	
12815	Sample Decanting	n.a.	U			1
	SM 2540 G-1997		%	%	%	
00118	Moisture	n.a.	18.6	0.50	0.50	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0494-13 MS Composite Sediment
Pine Street Canal

LL Sample # SW 8064454
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 12:10 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49413 SDG#: PSC27-04MS

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/02/2015 12:25	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 19:06	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 19:06	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 19:06	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 19:06	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 19:06	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 19:06	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 19:06	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 19:06	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 19:06	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 07:41	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00118	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0494-13 MSD Composite Sediment
Pine Street Canal

LL Sample # SW 8064455
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 12:10 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49413 SDG#: PSC27-04MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**	**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	2,000	21	4	1
10724	Acenaphthylene	208-96-8	2,000	21	4	1
10724	Anthracene	120-12-7	2,000	21	4	1
10724	Benzo(a)anthracene	56-55-3	1,800	21	4	1
10724	Benzo(a)pyrene	50-32-8	1,900	21	4	1
10724	Benzo(b)fluoranthene	205-99-2	2,000	21	4	1
10724	Benzo(g,h,i)perylene	191-24-2	2,000	21	4	1
10724	Benzo(k)fluoranthene	207-08-9	2,000	21	4	1
10724	Chrysene	218-01-9	1,800	21	4	1
10724	Dibenz(a,h)anthracene	53-70-3	2,100	21	4	1
10724	Fluoranthene	206-44-0	1,900	21	4	1
10724	Fluorene	86-73-7	2,000	21	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	2,000	21	4	1
10724	2-Methylnaphthalene	91-57-6	1,900	21	4	1
10724	Naphthalene	91-20-3	2,000	21	4	1
10724	Phenanthrene	85-01-8	1,900	21	4	1
10724	Pyrene	129-00-0	1,900	21	4	1
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	22.6	2.43	0.705	1
06946	Barium	7440-39-3	254	0.608	0.0815	1
06949	Cadmium	7440-43-9	6.06	0.608	0.0523	1
06951	Chromium	7440-47-3	38.9	1.82	0.119	1
06953	Copper	7440-50-8	42.6	1.22	0.341	1
06955	Lead	7439-92-1	22.9	1.82	0.389	1
06936	Selenium	7782-49-2	21.1	2.43	1.01	1
06966	Silver	7440-22-4	5.44	0.608	0.146	1
06972	Zinc	7440-66-6	85.8	2.43	0.937	1
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.202	0.120	0.0120	1
Wet Chemistry	**LLI In House**		**g**	**g**	**g**	
12815	Sample Decanting	n.a.	U			1
	SM 2540 G-1997		**%**	**%**	**%**	
00118	Moisture	n.a.	18.6	0.50	0.50	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0494-13 MSD Composite Sediment
Pine Street Canal

LL Sample # SW 8064455
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 12:10 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49413 SDG#: PSC27-04MSD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/02/2015 12:50	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 19:09	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 19:09	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 19:09	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 19:09	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 19:09	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 19:09	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 19:09	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 19:09	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 19:09	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 07:43	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00118	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0494-13 DUP Composite Sediment
Pine Street Canal

LL Sample # SW 8064456
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 12:10 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49413 SDG#: PSC27-04DUP

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	5.08		2.43	0.705	1
06946	Barium	7440-39-3	14.6		0.608	0.0815	1
06949	Cadmium	7440-43-9	0.608	U	0.608	0.0523	1
06951	Chromium	7440-47-3	12.3		1.82	0.119	1
06953	Copper	7440-50-8	12.9		1.22	0.341	1
06955	Lead	7439-92-1	5.13		1.82	0.389	1
06936	Selenium	7782-49-2	3.08		2.43	1.01	1
06966	Silver	7440-22-4	0.608	U	0.608	0.146	1
06972	Zinc	7440-66-6	26.5		2.43	0.937	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.118	U	0.118	0.0118	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	U				1
	SM 2540 G-1997		**%**		**%**	**%**	
00118	Moisture	n.a.	18.6		0.50	0.50	1
00121	Moisture Duplicate	n.a.	20.3		0.50	0.50	1

The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 19:03	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 19:03	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 19:03	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 19:03	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 19:03	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 19:03	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 19:03	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 19:03	Elaine F Stoltzfus	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0494-13 DUP Composite Sediment
Pine Street Canal

LL Sample # SW 8064456
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 12:10 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49413 SDG#: PSC27-04DUP

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 19:03	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 07:39	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00118	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
00121	Moisture Duplicate	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0164-13 DP Composite Sediment
Pine Street Canal

LL Sample # SW 8064457
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 12:15 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

494FD SDG#: PSC27-05FD

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	34	U	34	7	1
10724	Acenaphthylene	208-96-8	69		34	7	1
10724	Anthracene	120-12-7	62		34	7	1
10724	Benzo(a)anthracene	56-55-3	200		34	7	1
10724	Benzo(a)pyrene	50-32-8	220		34	7	1
10724	Benzo(b)fluoranthene	205-99-2	310		34	7	1
10724	Benzo(g,h,i)perylene	191-24-2	180		34	7	1
10724	Benzo(k)fluoranthene	207-08-9	130		34	7	1
10724	Chrysene	218-01-9	240		34	7	1
10724	Dibenz(a,h)anthracene	53-70-3	55		34	7	1
10724	Fluoranthene	206-44-0	330		34	7	1
10724	Fluorene	86-73-7	34	U	34	7	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	140		34	7	1
10724	2-Methylnaphthalene	91-57-6	9	J	34	7	1
10724	Naphthalene	91-20-3	22	J	34	7	1
10724	Phenanthrene	85-01-8	88		34	7	1
10724	Pyrene	129-00-0	380		34	7	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	3.07	J	3.95	1.15	1
06946	Barium	7440-39-3	51.8		0.988	0.132	1
06949	Cadmium	7440-43-9	0.443	J	0.988	0.0850	1
06951	Chromium	7440-47-3	13.2		2.96	0.194	1
06953	Copper	7440-50-8	15.1		1.98	0.553	1
06955	Lead	7439-92-1	17.1		2.96	0.632	1
06936	Selenium	7782-49-2	2.99	J	3.95	1.64	1
06966	Silver	7440-22-4	0.988	U	0.988	0.237	1
06972	Zinc	7440-66-6	63.8		3.95	1.52	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0458	J	0.192	0.0192	1
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**		**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	106,000		1,430	1,420	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	U				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	49.9		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	50.1		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0164-13 DP Composite Sediment
Pine Street Canal

LL Sample # SW 8064457
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 12:15 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

494FD SDG#: PSC27-05FD

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/02/2015 15:18	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 19:31	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 19:31	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 19:31	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 19:31	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 19:31	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 19:31	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 19:31	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 19:31	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 19:31	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 07:59	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518708	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

REVISED

Sample Description: 0495-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064458
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 13:00 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49513 SDG#: PSC27-06

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	8	J	28	6	1
10724	Acenaphthylene	208-96-8	25	J	28	6	1
10724	Anthracene	120-12-7	39		28	6	1
10724	Benzo(a)anthracene	56-55-3	100		28	6	1
10724	Benzo(a)pyrene	50-32-8	130		28	6	1
10724	Benzo(b)fluoranthene	205-99-2	180		28	6	1
10724	Benzo(g,h,i)perylene	191-24-2	110		28	6	1
10724	Benzo(k)fluoranthene	207-08-9	64		28	6	1
10724	Chrysene	218-01-9	140		28	6	1
10724	Dibenz(a,h)anthracene	53-70-3	22	J	28	6	1
10724	Fluoranthene	206-44-0	200		28	6	1
10724	Fluorene	86-73-7	6	J	28	6	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	89		28	6	1
10724	2-Methylnaphthalene	91-57-6	28	U	28	6	1
10724	Naphthalene	91-20-3	28	U	28	6	1
10724	Phenanthrene	85-01-8	130		28	6	1
10724	Pyrene	129-00-0	220		28	6	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	2.68	J	3.22	0.934	1
06946	Barium	7440-39-3	35.8		0.805	0.108	1
06949	Cadmium	7440-43-9	0.266	J	0.805	0.0692	1
06951	Chromium	7440-47-3	13.8		2.42	0.158	1
06953	Copper	7440-50-8	13.4		1.61	0.451	1
06955	Lead	7439-92-1	12.2		2.42	0.515	1
06936	Selenium	7782-49-2	2.78	J	3.22	1.34	1
06966	Silver	7440-22-4	0.805	U	0.805	0.193	1
06972	Zinc	7440-66-6	53.9		3.22	1.24	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0341	J	0.157	0.0157	1
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**		**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	73,100		870	861	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	U				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	39.7		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	60.3		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0495-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064458
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 13:00 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49513 SDG#: PSC27-06

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/02/2015 15:43	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 19:34	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 19:34	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 19:34	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 19:34	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 19:34	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 19:34	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 19:34	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 19:34	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 19:34	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 08:01	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518708	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0496-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064459
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 13:10 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49613 SDG#: PSC27-07

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	19	U	19	4	1
10724	Acenaphthylene	208-96-8	4	J	19	4	1
10724	Anthracene	120-12-7	8	J	19	4	1
10724	Benzo(a)anthracene	56-55-3	18	J	19	4	1
10724	Benzo(a)pyrene	50-32-8	21		19	4	1
10724	Benzo(b)fluoranthene	205-99-2	21		19	4	1
10724	Benzo(g,h,i)perylene	191-24-2	11	J	19	4	1
10724	Benzo(k)fluoranthene	207-08-9	9	J	19	4	1
10724	Chrysene	218-01-9	18	J	19	4	1
10724	Dibenz(a,h)anthracene	53-70-3	19	U	19	4	1
10724	Fluoranthene	206-44-0	29		19	4	1
10724	Fluorene	86-73-7	19	U	19	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	9	J	19	4	1
10724	2-Methylnaphthalene	91-57-6	19	U	19	4	1
10724	Naphthalene	91-20-3	19	U	19	4	1
10724	Phenanthrene	85-01-8	18	J	19	4	1
10724	Pyrene	129-00-0	26		19	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	4.01		2.24	0.649	1
06946	Barium	7440-39-3	15.1		0.560	0.0750	1
06949	Cadmium	7440-43-9	0.560	U	0.560	0.0481	1
06951	Chromium	7440-47-3	12.7		1.68	0.110	1
06953	Copper	7440-50-8	11.7		1.12	0.313	1
06955	Lead	7439-92-1	5.06		1.68	0.358	1
06936	Selenium	7782-49-2	2.80		2.24	0.929	1
06966	Silver	7440-22-4	0.560	U	0.560	0.134	1
06972	Zinc	7440-66-6	26.8		2.24	0.862	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.114	U	0.114	0.0114	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	U				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	14.1		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	85.9		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

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Analysis Report

REVISED

Sample Description: 0496-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064459
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 13:10 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

49613 SDG#: PSC27-07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/02/2015 16:07	Catherine E Bachman	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 19:36	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 19:36	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 19:36	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 19:36	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 19:36	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 19:36	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 19:36	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 19:36	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 19:36	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 08:03	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0165-13 FB Grab Water
Pine Street Canal

LL Sample # WW 8064460
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 12:30 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

165FB SDG#: PSC27-08FB

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Acenaphthene	83-32-9	0.5 U	0.5	0.09	1
07805	Acenaphthylene	208-96-8	0.5 U	0.5	0.09	1
07805	Anthracene	120-12-7	0.5 U	0.5	0.09	1
07805	Benzo(a)anthracene	56-55-3	0.5 U	0.5	0.09	1
07805	Benzo(a)pyrene	50-32-8	0.5 U	0.5	0.09	1
07805	Benzo(b)fluoranthene	205-99-2	0.5 U	0.5	0.09	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5 U	0.5	0.09	1
07805	Benzo(k)fluoranthene	207-08-9	0.5 U	0.5	0.09	1
07805	Chrysene	218-01-9	0.5 U	0.5	0.09	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5 U	0.5	0.09	1
07805	Fluoranthene	206-44-0	0.5 U	0.5	0.09	1
07805	Fluorene	86-73-7	0.5 U	0.5	0.09	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5 U	0.5	0.09	1
07805	2-Methylnaphthalene	91-57-6	0.5 U	0.5	0.09	1
07805	Naphthalene	91-20-3	0.5 U	0.5	0.09	1
07805	Phenanthrene	85-01-8	0.5 U	0.5	0.09	1
07805	Pyrene	129-00-0	0.5 U	0.5	0.09	1
Metals	**SW-846 6010B**		mg/l	mg/l	mg/l	
07046	Barium	7440-39-3	0.00070 J	0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050 U	0.0050	0.00030	1
07053	Copper	7440-50-8	0.0045 J	0.0100	0.0025	1
07066	Silver	7440-22-4	0.0050 U	0.0050	0.0014	1
07072	Zinc	7440-66-6	0.0200 U	0.0200	0.0039	1
	SW-846 6020		mg/l	mg/l	mg/l	
06025	Arsenic	7440-38-2	0.0020 U	0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0020 U	0.0020	0.00070	1
06035	Lead	7439-92-1	0.0010 U	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020 U	0.0020	0.00050	1
	SW-846 7470A		mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.000056 J	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07805	PAHs 8270C (17)	SW-846 8270C	1	15271WAD026	09/30/2015 11:49	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	1	15271WAD026	09/28/2015 18:30	Nicholas W Shroyer	1

*=This limit was used in the evaluation of the final result

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Analysis Report

REVISED

Sample Description: 0165-13 FB Grab Water
Pine Street Canal

LL Sample # WW 8064460
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/24/2015 12:30 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

165FB SDG#: PSC27-08FB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07046	Barium	SW-846 6010B	1	152751848004	10/06/2015 21:05	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152751848004	10/06/2015 21:05	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	152751848004	10/06/2015 21:05	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152751848004	10/06/2015 21:05	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	152751848004	10/06/2015 21:05	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152756050004A	10/05/2015 16:03	Mallory L Clark	1
06031	Chromium	SW-846 6020	1	152756050004A	10/05/2015 16:03	Mallory L Clark	1
06035	Lead	SW-846 6020	1	152756050004A	10/05/2015 16:03	Mallory L Clark	1
06041	Selenium	SW-846 6020	1	152756050004B	10/05/2015 16:03	Mallory L Clark	1
00259	Mercury	SW-846 7470A	1	152735713003	10/02/2015 09:39	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152751848004	10/06/2015 12:26	James L Mertz	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152756050004	10/05/2015 00:30	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152735713003	10/01/2015 11:53	James L Mertz	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0479-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064461
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/23/2015 10:45 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-479- SDG#: PSC27-09

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	15	J	21	4	1
10724	Acenaphthylene	208-96-8	41		21	4	1
10724	Anthracene	120-12-7	84		21	4	1
10724	Benzo(a)anthracene	56-55-3	170		21	4	1
10724	Benzo(a)pyrene	50-32-8	220		21	4	1
10724	Benzo(b)fluoranthene	205-99-2	310		21	4	1
10724	Benzo(g,h,i)perylene	191-24-2	140		21	4	1
10724	Benzo(k)fluoranthene	207-08-9	100		21	4	1
10724	Chrysene	218-01-9	250		21	4	1
10724	Dibenz(a,h)anthracene	53-70-3	30		21	4	1
10724	Fluoranthene	206-44-0	360		21	4	1
10724	Fluorene	86-73-7	26		21	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	130		21	4	1
10724	2-Methylnaphthalene	91-57-6	8	J	21	4	1
10724	Naphthalene	91-20-3	16	J	21	4	1
10724	Phenanthrene	85-01-8	210		21	4	1
10724	Pyrene	129-00-0	340		21	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	2.74		2.45	0.710	1
06946	Barium	7440-39-3	16.7		0.612	0.0820	1
06949	Cadmium	7440-43-9	0.612	U	0.612	0.0526	1
06951	Chromium	7440-47-3	13.5		1.84	0.120	1
06953	Copper	7440-50-8	12.7		1.22	0.343	1
06955	Lead	7439-92-1	6.95		1.84	0.392	1
06936	Selenium	7782-49-2	2.29	J	2.45	1.02	1
06966	Silver	7440-22-4	0.612	U	0.612	0.147	1
06972	Zinc	7440-66-6	37.0		2.45	0.943	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.124	U	0.124	0.0124	1
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**		**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	2,440		120	119	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	U				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	20.7		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	79.3		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0479-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064461
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/23/2015 10:45 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-479- SDG#: PSC27-09

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/05/2015 08:58	William H Saadeh	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 19:39	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 19:39	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 19:39	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 19:39	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 19:39	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 19:39	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 19:39	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 19:39	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 19:39	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 08:05	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518720	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0480-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064462
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/23/2015 11:00 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-480- SDG#: PSC27-10

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	20	U	20	4	1
10724	Acenaphthylene	208-96-8	20	U	20	4	1
10724	Anthracene	120-12-7	20	U	20	4	1
10724	Benzo(a)anthracene	56-55-3	20	U	20	4	1
10724	Benzo(a)pyrene	50-32-8	20	U	20	4	1
10724	Benzo(b)fluoranthene	205-99-2	20	U	20	4	1
10724	Benzo(g,h,i)perylene	191-24-2	20	U	20	4	1
10724	Benzo(k)fluoranthene	207-08-9	20	U	20	4	1
10724	Chrysene	218-01-9	20	U	20	4	1
10724	Dibenz(a,h)anthracene	53-70-3	20	U	20	4	1
10724	Fluoranthene	206-44-0	20	U	20	4	1
10724	Fluorene	86-73-7	20	U	20	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	20	U	20	4	1
10724	2-Methylnaphthalene	91-57-6	20	U	20	4	1
10724	Naphthalene	91-20-3	20	U	20	4	1
10724	Phenanthrene	85-01-8	20	U	20	4	1
10724	Pyrene	129-00-0	20	U	20	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	3.15		2.32	0.674	1
06946	Barium	7440-39-3	14.0		0.581	0.0778	1
06949	Cadmium	7440-43-9	0.581	U	0.581	0.0499	1
06951	Chromium	7440-47-3	12.4		1.74	0.114	1
06953	Copper	7440-50-8	10.8		1.16	0.325	1
06955	Lead	7439-92-1	3.67		1.74	0.372	1
06936	Selenium	7782-49-2	2.58		2.32	0.964	1
06966	Silver	7440-22-4	0.581	U	0.581	0.139	1
06972	Zinc	7440-66-6	23.5		2.32	0.894	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.119	U	0.119	0.0119	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	U				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	17.2		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	82.8		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0480-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064462
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/23/2015 11:00 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-480- SDG#: PSC27-10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/05/2015 09:22	William H Saadeh	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 19:42	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 19:42	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 19:42	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 19:42	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 19:42	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 19:42	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 19:42	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 19:42	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 19:42	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 08:07	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0489-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064463
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/23/2015 13:30 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-489- SDG#: PSC27-11

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	6	J	21	4	1
10724	Acenaphthylene	208-96-8	45		21	4	1
10724	Anthracene	120-12-7	24		21	4	1
10724	Benzo(a)anthracene	56-55-3	48		21	4	1
10724	Benzo(a)pyrene	50-32-8	55		21	4	1
10724	Benzo(b)fluoranthene	205-99-2	110		21	4	1
10724	Benzo(g,h,i)perylene	191-24-2	49		21	4	1
10724	Benzo(k)fluoranthene	207-08-9	30		21	4	1
10724	Chrysene	218-01-9	69		21	4	1
10724	Dibenz(a,h)anthracene	53-70-3	9	J	21	4	1
10724	Fluoranthene	206-44-0	89		21	4	1
10724	Fluorene	86-73-7	11	J	21	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	42		21	4	1
10724	2-Methylnaphthalene	91-57-6	21	U	21	4	1
10724	Naphthalene	91-20-3	21	U	21	4	1
10724	Phenanthrene	85-01-8	39		21	4	1
10724	Pyrene	129-00-0	110		21	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	3.75		2.39	0.695	1
06946	Barium	7440-39-3	13.1		0.599	0.0802	1
06949	Cadmium	7440-43-9	0.599	U	0.599	0.0515	1
06951	Chromium	7440-47-3	12.8		1.80	0.117	1
06953	Copper	7440-50-8	9.38		1.20	0.335	1
06955	Lead	7439-92-1	4.58		1.80	0.383	1
06936	Selenium	7782-49-2	2.52		2.39	0.994	1
06966	Silver	7440-22-4	0.599	U	0.599	0.144	1
06972	Zinc	7440-66-6	27.1		2.39	0.922	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.117	U	0.117	0.0117	1
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**		**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	2,790		188	186	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	6.0				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	19.7		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	80.3		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0489-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064463
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/23/2015 13:30 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-489- SDG#: PSC27-11

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/05/2015 09:47	William H Saadeh	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 19:45	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 19:45	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 19:45	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 19:45	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 19:45	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 19:45	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 19:45	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 19:45	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 19:45	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 08:09	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518720	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0490-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064464
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/23/2015 13:45 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-490- SDG#: PSC27-12

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	20	U	20	4	1
10724	Acenaphthylene	208-96-8	20	U	20	4	1
10724	Anthracene	120-12-7	20	U	20	4	1
10724	Benzo(a)anthracene	56-55-3	20	U	20	4	1
10724	Benzo(a)pyrene	50-32-8	20	U	20	4	1
10724	Benzo(b)fluoranthene	205-99-2	20	U	20	4	1
10724	Benzo(g,h,i)perylene	191-24-2	20	U	20	4	1
10724	Benzo(k)fluoranthene	207-08-9	20	U	20	4	1
10724	Chrysene	218-01-9	20	U	20	4	1
10724	Dibenz(a,h)anthracene	53-70-3	20	U	20	4	1
10724	Fluoranthene	206-44-0	20	U	20	4	1
10724	Fluorene	86-73-7	20	U	20	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	20	U	20	4	1
10724	2-Methylnaphthalene	91-57-6	20	U	20	4	1
10724	Naphthalene	91-20-3	20	U	20	4	1
10724	Phenanthrene	85-01-8	20	U	20	4	1
10724	Pyrene	129-00-0	20	U	20	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	3.77		2.35	0.681	1
06946	Barium	7440-39-3	12.3		0.587	0.0787	1
06949	Cadmium	7440-43-9	0.587	U	0.587	0.0505	1
06951	Chromium	7440-47-3	12.0		1.76	0.115	1
06953	Copper	7440-50-8	9.96		1.17	0.329	1
06955	Lead	7439-92-1	3.70		1.76	0.376	1
06936	Selenium	7782-49-2	2.77		2.35	0.975	1
06966	Silver	7440-22-4	0.587	U	0.587	0.141	1
06972	Zinc	7440-66-6	21.9		2.35	0.904	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.115	U	0.115	0.0115	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	U				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	16.5		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	83.5		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

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Analysis Report

REVISED

Sample Description: 0490-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064464
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/23/2015 13:45 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-490- SDG#: PSC27-12

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/05/2015 10:11	William H Saadeh	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 19:48	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 19:48	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 19:48	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 19:48	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 19:48	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 19:48	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 19:48	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 19:48	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 19:48	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 08:11	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0487-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064465
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/23/2015 14:50 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

48713 SDG#: PSC27-13

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	20	U	20	4	1
10724	Acenaphthylene	208-96-8	13	J	20	4	1
10724	Anthracene	120-12-7	6	J	20	4	1
10724	Benzo(a)anthracene	56-55-3	13	J	20	4	1
10724	Benzo(a)pyrene	50-32-8	21		20	4	1
10724	Benzo(b)fluoranthene	205-99-2	43		20	4	1
10724	Benzo(g,h,i)perylene	191-24-2	23		20	4	1
10724	Benzo(k)fluoranthene	207-08-9	13	J	20	4	1
10724	Chrysene	218-01-9	24		20	4	1
10724	Dibenz(a,h)anthracene	53-70-3	20	U	20	4	1
10724	Fluoranthene	206-44-0	30		20	4	1
10724	Fluorene	86-73-7	20	U	20	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	21		20	4	1
10724	2-Methylnaphthalene	91-57-6	20	U	20	4	1
10724	Naphthalene	91-20-3	20	U	20	4	1
10724	Phenanthrene	85-01-8	11	J	20	4	1
10724	Pyrene	129-00-0	36		20	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	3.75		2.43	0.704	1
06946	Barium	7440-39-3	17.8		0.607	0.0813	1
06949	Cadmium	7440-43-9	0.607	U	0.607	0.0522	1
06951	Chromium	7440-47-3	12.9		1.82	0.119	1
06953	Copper	7440-50-8	11.0		1.21	0.340	1
06955	Lead	7439-92-1	4.32		1.82	0.388	1
06936	Selenium	7782-49-2	3.47		2.43	1.01	1
06966	Silver	7440-22-4	0.607	U	0.607	0.146	1
06972	Zinc	7440-66-6	29.4		2.43	0.934	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.120	U	0.120	0.0120	1
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**		**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	1,010		156	154	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	41				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	17.6		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	82.4		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

*=This limit was used in the evaluation of the final result

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Analysis Report

REVISED

Sample Description: 0487-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064465
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/23/2015 14:50 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

48713 SDG#: PSC27-13

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/05/2015 16:07	Linda M Hartenstine	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 19:51	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 19:51	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 19:51	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 19:51	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 19:51	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 19:51	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 19:51	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 19:51	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 19:51	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 08:13	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518720	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0488-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064466
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/23/2015 15:00 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

48813 SDG#: PSC27-14

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	20	U	20	4	1
10724	Acenaphthylene	208-96-8	20	U	20	4	1
10724	Anthracene	120-12-7	20	U	20	4	1
10724	Benzo(a)anthracene	56-55-3	20	U	20	4	1
10724	Benzo(a)pyrene	50-32-8	20	U	20	4	1
10724	Benzo(b)fluoranthene	205-99-2	20	U	20	4	1
10724	Benzo(g,h,i)perylene	191-24-2	20	U	20	4	1
10724	Benzo(k)fluoranthene	207-08-9	20	U	20	4	1
10724	Chrysene	218-01-9	20	U	20	4	1
10724	Dibenz(a,h)anthracene	53-70-3	20	U	20	4	1
10724	Fluoranthene	206-44-0	20	U	20	4	1
10724	Fluorene	86-73-7	20	U	20	4	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	20	U	20	4	1
10724	2-Methylnaphthalene	91-57-6	20	U	20	4	1
10724	Naphthalene	91-20-3	20	U	20	4	1
10724	Phenanthrene	85-01-8	20	U	20	4	1
10724	Pyrene	129-00-0	20	U	20	4	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	4.09		2.34	0.679	1
06946	Barium	7440-39-3	11.4		0.585	0.0785	1
06949	Cadmium	7440-43-9	0.585	U	0.585	0.0504	1
06951	Chromium	7440-47-3	13.3		1.76	0.115	1
06953	Copper	7440-50-8	14.4		1.17	0.328	1
06955	Lead	7439-92-1	3.88		1.76	0.375	1
06936	Selenium	7782-49-2	3.02		2.34	0.972	1
06966	Silver	7440-22-4	0.585	U	0.585	0.141	1
06972	Zinc	7440-66-6	24.6		2.34	0.902	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.115	U	0.115	0.0115	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	U				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	14.6		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	85.4		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

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Analysis Report

REVISED

Sample Description: 0488-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064466
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/23/2015 15:00 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

48813 SDG#: PSC27-14

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/05/2015 16:31	Linda M Hartenstine	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 19:54	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 19:54	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 19:54	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 19:54	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 19:54	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 19:54	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 19:54	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 19:54	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 19:54	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 08:19	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

REVISED

Sample Description: 0163-13 FB Grab Water
Pine Street Canal

LL Sample # WW 8064467
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/23/2015 15:45 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

163FB SDG#: PSC27-15FB

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		ug/l		ug/l	ug/l	
07805	Acenaphthene	83-32-9	0.5	U	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5	U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.5	U	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		mg/l		mg/l	mg/l	
07046	Barium	7440-39-3	0.0050	U	0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07053	Copper	7440-50-8	0.0100	U	0.0100	0.0025	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
07072	Zinc	7440-66-6	0.0200	U	0.0200	0.0039	1
	SW-846 6020		mg/l		mg/l	mg/l	
06025	Arsenic	7440-38-2	0.0020	U	0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0020	U	0.0020	0.00070	1
06035	Lead	7439-92-1	0.0010	U	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		mg/l		mg/l	mg/l	
00259	Mercury	7439-97-6	0.000063	J	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07805	PAHs 8270C (17)	SW-846 8270C	1	15271WAD026	09/30/2015 12:11	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	1	15271WAD026	09/28/2015 18:30	Nicholas W Shroyer	1

*=This limit was used in the evaluation of the final result

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Analysis Report

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Sample Description: 0163-13 FB Grab Water
Pine Street Canal

LL Sample # WW 8064467
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/23/2015 15:45 by AR

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

163FB SDG#: PSC27-15FB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07046	Barium	SW-846 6010B	1	152751848004	10/06/2015 21:08	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152751848004	10/06/2015 21:08	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	152751848004	10/06/2015 21:08	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152751848004	10/06/2015 21:08	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	152751848004	10/06/2015 21:08	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152756050004A	10/05/2015 16:05	Mallory L Clark	1
06031	Chromium	SW-846 6020	1	152756050004A	10/05/2015 16:05	Mallory L Clark	1
06035	Lead	SW-846 6020	1	152756050004A	10/05/2015 16:05	Mallory L Clark	1
06041	Selenium	SW-846 6020	1	152756050004B	10/05/2015 16:05	Mallory L Clark	1
00259	Mercury	SW-846 7470A	1	152735713003	10/02/2015 09:41	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152751848004	10/06/2015 12:26	James L Mertz	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152756050004	10/05/2015 00:30	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152735713003	10/01/2015 11:53	James L Mertz	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0498-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064468
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/22/2015 10:30 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-498- SDG#: PSC27-16

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	73		45	9	1
10724	Acenaphthylene	208-96-8	25	J	45	9	1
10724	Anthracene	120-12-7	200		45	9	1
10724	Benzo(a)anthracene	56-55-3	840		45	9	1
10724	Benzo(a)pyrene	50-32-8	890		45	9	1
10724	Benzo(b)fluoranthene	205-99-2	1,400		45	9	1
10724	Benzo(g,h,i)perylene	191-24-2	770		45	9	1
10724	Benzo(k)fluoranthene	207-08-9	580		45	9	1
10724	Chrysene	218-01-9	960		45	9	1
10724	Dibenz(a,h)anthracene	53-70-3	190		45	9	1
10724	Fluoranthene	206-44-0	1,900		45	9	1
10724	Fluorene	86-73-7	64		45	9	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	650		45	9	1
10724	2-Methylnaphthalene	91-57-6	34	J	45	9	1
10724	Naphthalene	91-20-3	37	J	45	9	1
10724	Phenanthrene	85-01-8	980		45	9	1
10724	Pyrene	129-00-0	1,800		45	9	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	7.35		5.21	1.51	1
06946	Barium	7440-39-3	98.8		1.30	0.175	1
06949	Cadmium	7440-43-9	2.05		1.30	0.112	1
06951	Chromium	7440-47-3	82.4		3.91	0.256	1
06953	Copper	7440-50-8	95.6		2.61	0.730	1
06955	Lead	7439-92-1	127		3.91	0.834	1
06936	Selenium	7782-49-2	6.29		5.21	2.16	1
06966	Silver	7440-22-4	1.95		1.30	0.313	1
06972	Zinc	7440-66-6	387		5.21	2.01	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.259		0.248	0.0248	1
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**		**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	64,500		976	966	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	6.7				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	62.4		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	37.6		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0498-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064468
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/22/2015 10:30 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-498- SDG#: PSC27-16

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/05/2015 16:56	Linda M Hartenstine	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 20:03	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 20:03	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 20:03	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 20:03	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 20:03	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 20:03	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 20:03	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 20:03	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 20:03	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 08:21	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518708	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0499-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064469
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/22/2015 10:45 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-499- SDG#: PSC27-17

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	300	U	300	59	5
10724	Acenaphthylene	208-96-8	93	J	300	59	5
10724	Anthracene	120-12-7	120	J	300	59	5
10724	Benzo(a)anthracene	56-55-3	790		300	59	5
10724	Benzo(a)pyrene	50-32-8	1,300		300	59	5
10724	Benzo(b)fluoranthene	205-99-2	3,000		300	59	5
10724	Benzo(g,h,i)perylene	191-24-2	1,600		300	59	5
10724	Benzo(k)fluoranthene	207-08-9	1,000		300	59	5
10724	Chrysene	218-01-9	2,100		300	59	5
10724	Dibenz(a,h)anthracene	53-70-3	220	J	300	59	5
10724	Fluoranthene	206-44-0	3,300		300	59	5
10724	Fluorene	86-73-7	100	J	300	59	5
10724	Indeno(1,2,3-cd)pyrene	193-39-5	1,400		300	59	5
10724	2-Methylnaphthalene	91-57-6	300	U	300	59	5
10724	Naphthalene	91-20-3	300	U	300	59	5
10724	Phenanthrene	85-01-8	1,300		300	59	5
10724	Pyrene	129-00-0	2,600		300	59	5
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	22.3		7.00	2.03	1
06946	Barium	7440-39-3	238		1.75	0.235	1
06949	Cadmium	7440-43-9	1.33	J	1.75	0.151	1
06951	Chromium	7440-47-3	67.5		5.25	0.343	1
06953	Copper	7440-50-8	225		3.50	0.980	1
06955	Lead	7439-92-1	89.1		5.25	1.12	1
06936	Selenium	7782-49-2	15.3		7.00	2.91	1
06966	Silver	7440-22-4	8.36		1.75	0.420	1
06972	Zinc	7440-66-6	976		7.00	2.70	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.348		0.346	0.0346	1
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**		**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	174,000		2,350	2,330	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	28				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	72.0		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	28.0		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0499-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064469
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/22/2015 10:45 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-499- SDG#: PSC27-17

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/05/2015 17:20	Linda M Hartenstine	5
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 20:06	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 20:06	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 20:06	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 20:06	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 20:06	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 20:06	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 20:06	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 20:06	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 20:06	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 08:23	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518708	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0497-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064470
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/22/2015 13:25 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-497- SDG#: PSC27-18

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/kg**		**ug/kg**	**ug/kg**	
10724	Acenaphthene	83-32-9	70	J	290	56	5
10724	Acenaphthylene	208-96-8	150	J	290	56	5
10724	Anthracene	120-12-7	220	J	290	56	5
10724	Benzo(a)anthracene	56-55-3	980		290	56	5
10724	Benzo(a)pyrene	50-32-8	1,600		290	56	5
10724	Benzo(b)fluoranthene	205-99-2	2,900		290	56	5
10724	Benzo(g,h,i)perylene	191-24-2	1,500		290	56	5
10724	Benzo(k)fluoranthene	207-08-9	1,000		290	56	5
10724	Chrysene	218-01-9	2,000		290	56	5
10724	Dibenz(a,h)anthracene	53-70-3	260	J	290	56	5
10724	Fluoranthene	206-44-0	3,200		290	56	5
10724	Fluorene	86-73-7	110	J	290	56	5
10724	Indeno(1,2,3-cd)pyrene	193-39-5	1,400		290	56	5
10724	2-Methylnaphthalene	91-57-6	58	J	290	56	5
10724	Naphthalene	91-20-3	79	J	290	56	5
10724	Phenanthrene	85-01-8	1,400		290	56	5
10724	Pyrene	129-00-0	2,600		290	56	5
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	11.6		6.69	1.94	1
06946	Barium	7440-39-3	116		1.67	0.224	1
06949	Cadmium	7440-43-9	3.38		1.67	0.144	1
06951	Chromium	7440-47-3	69.5		5.02	0.328	1
06953	Copper	7440-50-8	147		3.35	0.937	1
06955	Lead	7439-92-1	140		5.02	1.07	1
06936	Selenium	7782-49-2	8.91		6.69	2.78	1
06966	Silver	7440-22-4	12.6		1.67	0.402	1
06972	Zinc	7440-66-6	709		6.69	2.58	1
	SW-846 7471A		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.377		0.319	0.0319	1
Wet Chemistry	**Lloyd Kahn modified**		**mg/kg**		**mg/kg**	**mg/kg**	
13994	TOC Subcontracted - Spectrum	n.a.	204,000		3,330	3,300	1
Wet Chemistry	**LLI In House**		**g**		**g**	**g**	
12815	Sample Decanting	n.a.	6.9				1
	SM 2540 G-1997		**%**		**%**	**%**	
00111	Moisture	n.a.	70.7		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						
07400	Percent Solids	n.a.	29.3		0.50	0.50	1
	The total residue is calculated by subtracting the moisture value from 100%.						

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 0497-13 Composite Sediment
Pine Street Canal

LL Sample # SW 8064470
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/22/2015 13:25 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

-497- SDG#: PSC27-18

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAHs 8270C (17)	SW-846 8270C	1	15272SLD026	10/05/2015 17:45	Linda M Hartenstine	5
10814	BNA Soil Microwave PAH	SW-846 3546	1	15272SLD026	09/30/2015 09:00	Jessica M Velez	1
06935	Arsenic	SW-846 6010B	1	152795708001	10/07/2015 20:09	Elaine F Stoltzfus	1
06946	Barium	SW-846 6010B	1	152795708001	10/07/2015 20:09	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	152795708001	10/07/2015 20:09	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	152795708001	10/07/2015 20:09	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	152795708001	10/07/2015 20:09	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	152795708001	10/07/2015 20:09	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	152795708001	10/07/2015 20:09	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	152795708001	10/07/2015 20:09	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	152795708001	10/07/2015 20:09	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	152735711001	10/01/2015 08:26	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	152795708001	10/06/2015 21:24	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A modified	1	152735711001	10/01/2015 04:20	Annamaria Kuhns	1
13994	TOC Subcontracted - Spectrum	Lloyd Kahn modified	1	1518708	10/03/2015 00:00	Subcontracted Spectrum Analytical Inc	1
12815	Sample Decanting	LLI In House	1	15271128151A	09/28/2015 11:00	Stephanie A Sanchez	1
00111	Moisture	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1
07400	Percent Solids	SM 2540 G-1997	1	15274820003A	10/01/2015 17:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

REVISED

Sample Description: 0161-13 FB Grab Water
Pine Street Canal

LL Sample # WW 8064471
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/22/2015 15:00 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

161FB SDG#: PSC27-19FB

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		ug/l		ug/l	ug/l	
07805	Acenaphthene	83-32-9	0.5	U	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5	U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.5	U	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		mg/l		mg/l	mg/l	
07046	Barium	7440-39-3	0.00092	J	0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07053	Copper	7440-50-8	0.0096	J	0.0100	0.0025	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
07072	Zinc	7440-66-6	0.0200	U	0.0200	0.0039	1
	SW-846 6020		mg/l		mg/l	mg/l	
06025	Arsenic	7440-38-2	0.0020	U	0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0020	U	0.0020	0.00070	1
06035	Lead	7439-92-1	0.0010	U	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		mg/l		mg/l	mg/l	
00259	Mercury	7439-97-6	0.000067	J	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07805	PAHs 8270C (17)	SW-846 8270C	1	15271WAD026	09/30/2015 12:32	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	1	15271WAD026	09/28/2015 18:30	Nicholas W Shroyer	1

*=This limit was used in the evaluation of the final result

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Analysis Report

REVISED

Sample Description: 0161-13 FB Grab Water
Pine Street Canal

LL Sample # WW 8064471
LL Group # 1596027
Account # 06556

Project Name: Pine Street Canal - Sand Cap Sampling

Collected: 09/22/2015 15:00 by RP

Submitted: 09/25/2015 09:25
Reported: 12/16/2015 08:47

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

161FB SDG#: PSC27-19FB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07046	Barium	SW-846 6010B	1	152751848004	10/06/2015 21:17	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152751848004	10/06/2015 21:17	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	152751848004	10/06/2015 21:17	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152751848004	10/06/2015 21:17	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	152751848004	10/06/2015 21:17	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152756050004A	10/05/2015 16:13	Mallory L Clark	1
06031	Chromium	SW-846 6020	1	152756050004A	10/05/2015 16:13	Mallory L Clark	1
06035	Lead	SW-846 6020	1	152756050004A	10/05/2015 16:13	Mallory L Clark	1
06041	Selenium	SW-846 6020	1	152756050004B	10/05/2015 16:13	Mallory L Clark	1
00259	Mercury	SW-846 7470A	1	152735713003	10/02/2015 09:47	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152751848004	10/06/2015 12:26	James L Mertz	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152756050004	10/05/2015 00:30	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152735713003	10/01/2015 11:53	James L Mertz	1

*=This limit was used in the evaluation of the final result

REVISED

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1596027
Reported: 12/16/2015 08:47

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result		Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 15271WAD026	Sample number(s): 8064460,8064467,8064471									
Acenaphthene	0.5	U	0.5	0.1	ug/l	97	97	75-111	0	30
Acenaphthylene	0.5	U	0.5	0.1	ug/l	86	86	78-117	1	30
Anthracene	0.5	U	0.5	0.1	ug/l	100	99	82-116	1	30
Benzo(a)anthracene	0.5	U	0.5	0.1	ug/l	102	100	76-122	2	30
Benzo(a)pyrene	0.5	U	0.5	0.1	ug/l	91	90	73-115	1	30
Benzo(b)fluoranthene	0.5	U	0.5	0.1	ug/l	98	98	75-123	0	30
Benzo(g,h,i)perylene	0.5	U	0.5	0.1	ug/l	98	94	70-126	4	30
Benzo(k)fluoranthene	0.5	U	0.5	0.1	ug/l	101	99	74-119	2	30
Chrysene	0.5	U	0.5	0.1	ug/l	113	109	77-126	3	30
Dibenz(a,h)anthracene	0.5	U	0.5	0.1	ug/l	102	99	72-127	3	30
Fluoranthene	0.5	U	0.5	0.1	ug/l	97	96	76-117	1	30
Fluorene	0.5	U	0.5	0.1	ug/l	103	104	80-117	1	30
Indeno(1,2,3-cd)pyrene	0.5	U	0.5	0.1	ug/l	96	93	70-121	3	30
2-Methylnaphthalene	0.5	U	0.5	0.1	ug/l	80	78	69-103	3	30
Naphthalene	0.5	U	0.5	0.1	ug/l	74	71	69-109	4	30
Phenanthrene	0.5	U	0.5	0.1	ug/l	96	94	75-110	2	30
Pyrene	0.5	U	0.5	0.1	ug/l	100	100	76-111	0	30
Batch number: 15272SLD026	Sample number(s): 8064450-8064455,8064457-8064459,8064461-8064466,8064468-8064470									
Acenaphthene	17	U	17.	3	ug/kg	104		83-116		
Acenaphthylene	17	U	17.	3	ug/kg	105		83-127		
Anthracene	17	U	17.	3	ug/kg	108		82-118		
Benzo(a)anthracene	17	U	17.	3	ug/kg	98		76-119		
Benzo(a)pyrene	17	U	17.	3	ug/kg	96		85-117		
Benzo(b)fluoranthene	17	U	17.	3	ug/kg	106		78-129		
Benzo(g,h,i)perylene	17	U	17.	3	ug/kg	99		82-119		
Benzo(k)fluoranthene	17	U	17.	3	ug/kg	99		79-120		
Chrysene	17	U	17.	3	ug/kg	101		80-121		
Dibenz(a,h)anthracene	17	U	17.	3	ug/kg	100		81-123		
Fluoranthene	17	U	17.	3	ug/kg	100		81-117		
Fluorene	17	U	17.	3	ug/kg	108		86-118		
Indeno(1,2,3-cd)pyrene	17	U	17.	3	ug/kg	96		81-118		
2-Methylnaphthalene	17	U	17.	3	ug/kg	96		83-109		
Naphthalene	17	U	17.	3	ug/kg	98		77-115		
Phenanthrene	17	U	17.	3	ug/kg	102		80-114		
Pyrene	17	U	17.	3	ug/kg	99		81-114		
Batch number: 152735711001	Sample number(s): 8064450-8064459,8064461-8064466,8064468-8064470									
Mercury	0.100	U	0.100	0.0100	mg/kg	98		80-120		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1596027
Reported: 12/16/2015 08:47

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 152735713003	Sample number(s): 8064460,8064467,8064471								
Mercury	0.00020 U	0.00020	0.00005 0	mg/l	99		80-120		
Batch number: 152751848004	Sample number(s): 8064460,8064467,8064471								
Barium	0.0050 U	0.0050	0.00030	mg/l	102		80-120		
Cadmium	0.0050 U	0.0050	0.00030	mg/l	104		80-120		
Copper	0.0100 U	0.0100	0.0025	mg/l	107		80-120		
Silver	0.0050 U	0.0050	0.0014	mg/l	102		80-120		
Zinc	0.0200 U	0.0200	0.0039	mg/l	102		80-120		
Batch number: 152756050004A	Sample number(s): 8064460,8064467,8064471								
Arsenic	0.0020 U	0.0020	0.00054	mg/l	108		80-120		
Chromium	0.0020 U	0.0020	0.00070	mg/l	103		80-120		
Lead	0.0010 U	0.0010	0.00013	mg/l	104		80-120		
Batch number: 152756050004B	Sample number(s): 8064460,8064467,8064471								
Selenium	0.0020 U	0.0020	0.00050	mg/l	107		80-120		
Batch number: 152795708001	Sample number(s): 8064450-8064459,8064461-8064466,8064468-8064470								
Arsenic	2.00 U	2.00	0.580	mg/kg	102		80-120		
Barium	0.500 U	0.500	0.0670	mg/kg	102		80-120		
Cadmium	0.500 U	0.500	0.0430	mg/kg	103		80-120		
Chromium	1.50 U	1.50	0.0980	mg/kg	105		80-120		
Copper	0.473 J	1.00	0.280	mg/kg	104		80-120		
Lead	1.50 U	1.50	0.320	mg/kg	105		80-120		
Selenium	2.00 U	2.00	0.830	mg/kg	103		80-120		
Silver	0.500 U	0.500	0.120	mg/kg	96		80-120		
Zinc	2.00 U	2.00	0.770	mg/kg	100		80-120		
Batch number: 1518708	Sample number(s): 8064452,8064457-8064458,8064468-8064470								
TOC Subcontracted - Spectrum	100 U	100.	99.0	mg/kg	113		75-125		
Batch number: 1518720	Sample number(s): 8064450,8064461,8064463,8064465								
TOC Subcontracted - Spectrum	100 U	100.	99.0	mg/kg	88		75-125		
Batch number: 15274820003A	Sample number(s): 8064450-8064459,8064461-8064466,8064468-8064470								
Moisture					100		99-101		
Moisture					100		99-101		
Moisture Duplicate					100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

	MS	MSD	MS/MSD	RPD	BKG	DUP	DUP	Dup RPD

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1596027
Reported: 12/16/2015 08:47

Analysis Name	%REC	%REC	Limits	RPD	MAX	Conc	Conc	RPD	Max
Batch number: 15272SLD026	Sample number(s): 8064450-8064455,8064457-8064459,8064461-8064466,8064468-8064470 UNSPK: 8064453								
Acenaphthene	98	99	83-116	1	30				
Acenaphthylene	100	101	83-127	2	30				
Anthracene	104	101	82-118	3	30				
Benzo(a)anthracene	87	90	76-119	3	30				
Benzo(a)pyrene	91	91	85-117	1	30				
Benzo(b)fluoranthene	102	96	78-129	6	30				
Benzo(g,h,i)perylene	99	100	82-119	2	30				
Benzo(k)fluoranthene	93	99	79-120	6	30				
Chrysene	90	88	80-121	3	30				
Dibenz(a,h)anthracene	100	103	81-123	3	30				
Fluoranthene	91	91	81-117	0	30				
Fluorene	102	101	86-118	1	30				
Indeno(1,2,3-cd)pyrene	97	97	81-118	0	30				
2-Methylnaphthalene	95	96	83-109	1	30				
Naphthalene	97	98	77-115	0	30				
Phenanthrene	99	94	80-114	5	30				
Pyrene	95	95	81-114	0	30				
Batch number: 152735711001	Sample number(s): 8064450-8064459,8064461-8064466,8064468-8064470 UNSPK: 8064453 BKG: 8064453								
Mercury	107	101	80-120	6	20	0.0954 U	0.0958 U	0 (1)	20
Batch number: 152735713003	Sample number(s): 8064460,8064467,8064471 UNSPK: P067985 BKG: P067985								
Mercury	42*	36*	80-120	15	20	0.00020 U	0.00020 U	0 (1)	20
Batch number: 152751848004	Sample number(s): 8064460,8064467,8064471 UNSPK: P068982 BKG: P068982								
Barium	105	106	75-125	1	20	0.122	0.121	0	20
Cadmium	105	106	75-125	1	20	0.0050 U	0.0050 U	0 (1)	20
Copper	112	113	75-125	1	20	0.0100 U	0.0100 U	0 (1)	20
Silver	107	109	75-125	1	20	0.0050 U	0.0050 U	0 (1)	20
Zinc	105	106	75-125	1	20	0.0060 J	0.0057 J	4 (1)	20
Batch number: 152756050004A	Sample number(s): 8064460,8064467,8064471 UNSPK: P065024 BKG: P065024								
Arsenic	121	116	75-125	4	20	0.0020 U	0.0014 J	200* (1)	20
Chromium	106	105	75-125	2	20	0.0020 U	0.0020 U	0 (1)	20
Lead	107	104	75-125	3	20	0.0010 U	0.0010 U	0 (1)	20
Batch number: 152756050004B	Sample number(s): 8064460,8064467,8064471 UNSPK: P065024 BKG: P065024								
Selenium	104	102	75-125	2	20	0.0020 U	0.0020 U	0 (1)	20
Batch number: 152795708001	Sample number(s): 8064450-8064459,8064461-8064466,8064468-8064470 UNSPK: 8064453 BKG: 8064453								
Arsenic	101	102	75-125	1	20	3.26	4.14	24* (1)	20
Barium	97	97	75-125	0	20	14.7	11.9	21*	20
Cadmium	97	98	75-125	1	20	0.0703 J	0.495 U	200* (1)	20
Chromium	116	115	75-125	1	20	8.93	9.98	11	20
Copper	106	106	75-125	0	20	8.43	10.5	22*	20
Lead	95	94	75-125	1	20	4.71	4.18	12 (1)	20
Selenium	101	99	75-125	1	20	2.41	2.51	4 (1)	20
Silver	92	90	75-125	2	20	0.495 U	0.495 U	0 (1)	20
Zinc	102	100	75-125	2	20	20.4	21.5	5	20

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1596027
Reported: 12/16/2015 08:47

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 1518708	Sample number(s): 8064452,8064457-8064458,8064468-8064470 BKG: 8064458								
TOC Subcontracted - Spectrum						73,100	69,000	6	20
Batch number: 1518720	Sample number(s): 8064450,8064461,8064463,8064465 BKG: 8064463								
TOC Subcontracted - Spectrum						2,790	2,490	11	20
Batch number: 15274820003A	Sample number(s): 8064450-8064459,8064461-8064466,8064468-8064470 BKG: 8064453								
Moisture						18.6	20.3	9*	5
Moisture						18.6	20.3	9*	5
Moisture Duplicate						18.6	20.3	9*	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PAHs 8270C (17)
Batch number: 15271WAD026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8064460	86	90	109
8064467	86	93	108
8064471	80	85	106
Blank	84	74	111
LCS	88	90	104
LCSD	86	91	105
Limits:	46-128	61-112	43-131

Analysis Name: PAHs 8270C (17)
Batch number: 15272SLD026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8064450	85	87	95
8064451	87	93	99
8064452	70	82	80
8064453	86	92	97
8064454	87	94	94
8064455	85	93	92
8064457	78	91	88
8064458	79	92	89
8064459	80	93	95
8064461	81	96	93
8064462	81	94	96
8064463	79	90	93
8064464	80	93	94
8064465	77	93	94
8064466	81	94	96

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1596027
Reported: 12/16/2015 08:47

Surrogate Quality Control

8064468	73	78	80
8064469	69	76	79
8064470	64	75	75
Blank	89	101	100
LCS	88	98	100
MS	87	94	94
MSD	85	93	92
Limits:	54-123	63-117	59-129

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 06556 For Eurofins Lancaster Laboratories Environmental use only Group # 1596027 Sample # 806450-71

Instructions on reverse side correspond with circled numbers.

384525

1 Client Information

Client: The Johnson Company	Acct. #: 06556
Project Name/#: Pine Street Canal Site / 1-0870-2 ~~1-0870-2~~	PWSID #:
Project Manager: Jim Bowers	P.O. #:
Sampler: Adam Rogtoy	Quote #:
Name of state where samples were collected: VT	

2 Sample Identification

3 Collected / Grab / Composite

4 Matrix

Soil ☐ Sediment ☒ Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other: ____

5 Analysis Requested

Preservation Codes: 0 0 0 0

SLID	SIN	Date	Time	Grab	Composite	Soil	Sediment	Water	Total # of Containers	Pine Street PAHs	6010 & 8082 Pb+Cu,Zn	% Solids	TOC - Lloyd Kahn	Remarks
J-T8+00 E40	0491-13	9/24/15	1010		X		X		2	X	X	X	X	0-10 cm Depth
J-T8+00 E40	0492-13	9/24/15	1020		X		X		1	X	X	X		10-20"
J-T15+50 E100	0493-13	9/24/15	1200		X		X		2	X	X	X	X	0-10 cm
J-T15+50 E100	0494-13	9/24/15	1210		X		X		1	X	X	X		5-10"
J-T15+50 E100 ms	0494-13 ms	9/24/15	1210		X		X		1	X	X	X		Matrix Spike
J-T15+50 E100 msD	0494-13 msD	9/24/15	1210		X		X		1	X	X	X		Matrix spike Dup
J-0164-13 DP	0164-13 DP	9/24/15	1215		X		X		2	X	X	X	X	Duplicate
J-T16+50 E150	0495-13	9/24/15	1300		X		X		2	X	X	X	X	0-10 cm
J-T16+50 E150	0496-13	9/24/15	1310		X		X		1	X	X	X		4-8"
J-0165-13 FB	0165-13 FB	9/24/15	1230	X				DI	3	X	X			Equip Blank

For Lab Use Only

FSC: _____

SCR#: _____

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

Depth

7 Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: JRB @ jcomail.com

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP)
Type VI (Raw Data Only)
Type III (Reduced non-CLP)
TX TRRP-13
NYSDEC Category A or B
MA MCP
CT RCP

9

	Relinquished by	Date	Time	Received by	Date	Time
1		9/24/15	1500			
2						
3						
4						
5						

EDD Required? Yes No

If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____

Temperature upon receipt 1.9 °C

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 6556 For Eurofins Lancaster Laboratories Environmental use only Group # 1596027 Sample # 806445 0-71
Instructions on reverse side correspond with circled numbers.

384524

1 Client Information

Client: The Johnson Company	Acct. #: 06556
Project Name/#: Pine Street Canal Site/1-0870-2	PWSID #:
Project Manager: Jim Bowes	P.O. #:
Sampler: Adam Robtoy (Adam)	Quote #:

Name of state where samples were collected: VT

4 Matrix: Sediment ☒ Soil ☐ Water: Ground ☐ Potable ☐ NPDES ☐ Surface ☐ Other: ____

5 Analysis Requested — Preservation Codes

2 Sample Identification SLID	SIN	Collected Date	Time	3 Grab	Composite	Total # of Containers	Pine St. PAHs	6010 6 - RCRA 8 + Cu, Zn	% solids	TOC - Lloyd Kahn	6 Remarks
J-T1+00 E50	0479-13	9/23/15	1045		X	2	X	X	X	X	Depth 0-10 cm
J-T1+00 E50	0480-13	9/23/15	1100		X	1	X	X	X		10-20"
J-T6+00 E60	0489-13	9/23/15	1330		X	2	X	X	X	X	0-10 cm
J-T6+00 E60	0490-13	9/23/15	1345		X	1	X	X	X		8-16"
J-T5+00 E20	0487-13	9/23/15	1450		X	2	X	X	X	X	0-10 cm
J-T5+00 E20	0488-13	9/23/15	1500		X	1	X	X	X		12-24"
J-0163-13 FB	0163-13 FB	9/23/15	1545	X		3	X	X			Equip. Blank

For Lab Use Only
FSC: ____
SCR#: ____

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

7 Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: JRB@jcomail.com

8 Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
	9/24/15	1500			
				Date 9/25/15	Time 925

9

EDD Required? (Yes) No
If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? (Yes) No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ____ Other ____

Temperature upon receipt 4.7 °C

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 6556 For Eurofins Lancaster Laboratories Environmental use only Group # 596077 Sample # 8064450-71
Instructions on reverse side correspond with circled numbers.

384522

1 Client Information

Client: The Johnson Company	Acct. #: 06556
Project Name/#: Pine Street Canal Site / 1-0870-2	PWSID #:
Project Manager: Jim Bowes	P.O. #:
Sampler: Ross Predom	Quote #: 174980

Name of state where samples were collected: VT

2 Sample Identification

3 Grab / Composite

4 Matrix: Soil / Sediment / Water (Ground, Potable, Surface, NPDES) / Other:

5 Analysis Requested — Preservation Codes

6 Remarks

SLID	SLN	Collected Date	Collected Time	Grab	Composite	Matrix	Total # of Containers	Pine Street PAH's	RCRA 8 + Cu, Zn metals	TOC - Lloyd Kahn	% Solids	Remarks
J-T21+00 E25	0498-13	9.22.15	1030		X	Soil	2	X	X	X	X	0-10 cm
J-T21+00 E50	0499-13	9.22.15	1045		X	Soil	2	X	X	X	X	0-10 cm
J-T17+00 E400	0497-13	9.22.15	13:25		X	Soil	2	X	X	X	X	0-10 cm
J-0161-13 FB	0161-13 FB	9.22.15	15:00			DI	3	X	X			Equip. Blank

Depth

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

7 Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address: JRB@jcomail.com

8 Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP)
Type VI (Raw Data Only)
Type III (Reduced non-CLP)
TX TRRP-13
NYSDEC Category A or B
MA MCP
CT RCP

9

Relinquished by	Date	Time	Received by	Date	Time
	9/24/15	1500			
				9/25/15	925

EDD Required? Yes No
If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS FedEx Other

Temperature upon receipt 1.5 °C

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 108459

Group Number(s): 1596027

Client: The Johnson Company

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/25/2015 9:25
Number of Packages:	3	Number of Projects:	1
State/Province of Origin:	VT		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Jordan Woods (6698) at 16:41 on 09/25/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	1.9	DT	Wet	Y	Bagged	N
2	DT146	4.7	DT	Wet	Y	Bagged	N
3	8013596-IR	1.5	IR	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17601-5994
T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

eurofins | Spectrum Analytical

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

Report Date:
09-Oct-15 13:19

Laboratory Report

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17605-2425
Attn: Kathy Binkley

Project: See Chain of Custody
Project #: 1596027

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC13115-01	0491-13	Sediment	24-Sep-15 10:10	02-Oct-15 12:46
SC13115-02	0493-13	Sediment	24-Sep-15 12:00	02-Oct-15 12:46
SC13115-03	0164-13 DP	Sediment	24-Sep-15 12:15	02-Oct-15 12:46
SC13115-04	0495-13	Sediment	24-Sep-15 13:00	02-Oct-15 12:46
SC13115-05	0479-13	Sediment	23-Sep-15 10:45	02-Oct-15 12:46
SC13115-06	0489-13	Sediment	23-Sep-15 13:30	02-Oct-15 12:46
SC13115-07	0487-13	Sediment	23-Sep-15 14:50	02-Oct-15 12:46
SC13115-08	0498-13	Sediment	22-Sep-15 10:30	02-Oct-15 12:46
SC13115-09	0499-13	Sediment	22-Sep-15 10:45	02-Oct-15 12:46
SC13115-10	0497-13	Sediment	22-Sep-15 13:25	02-Oct-15 12:46

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00098
USDA # S-51435

Authorized by:

June O'Connor
Laboratory Director

Eurofins Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 8 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

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Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received -0.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

Lloyd Kahn

Samples:

SC13115-04 *0495-13*

This sample was analyzed in quadruplicate. The % RSD is 12.3.

Total Organic Carbon

SC13115-06 *0489-13*

This sample was analyzed in quadruplicate. The % RSD is 9.89.

Total Organic Carbon

Sample Acceptance Check Form

Client:	Eurofins Lancaster Laboratories Environmental, LLC
Project:	See Chain of Custody / 1596027
Work Order:	SC13115
Sample(s) received on:	10/2/2015

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☑	☐	☐
Were custody seals intact?	☑	☐	☐
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☐	☑	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC13115-01 **Client ID:** 0491-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	1030		165	mg/kg	Lloyd Kahn

Lab ID: SC13115-02 **Client ID:** 0493-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	112000		851	mg/kg	Lloyd Kahn

Lab ID: SC13115-03 **Client ID:** 0164-13 DP

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	106000		1430	mg/kg	Lloyd Kahn

Lab ID: SC13115-04 **Client ID:** 0495-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	73100	TOC 1	870	mg/kg	Lloyd Kahn

Lab ID: SC13115-05 **Client ID:** 0479-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	2440		120	mg/kg	Lloyd Kahn

Lab ID: SC13115-06 **Client ID:** 0489-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	2790	TOC 1a	188	mg/kg	Lloyd Kahn

Lab ID: SC13115-07 **Client ID:** 0487-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	1010		156	mg/kg	Lloyd Kahn

Lab ID: SC13115-08 **Client ID:** 0498-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	64500		976	mg/kg	Lloyd Kahn

Lab ID: SC13115-09 **Client ID:** 0499-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	174000		2350	mg/kg	Lloyd Kahn

Lab ID: SC13115-10 **Client ID:** 0497-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	204000		3330	mg/kg	Lloyd Kahn

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification
0491-13
SC13115-01

Client Project #	Matrix	Collection Date/Time	Received
1596027	Sediment	24-Sep-15 10:10	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	1,030		mg/kg	165	163	1	Lloyd Kahn	03-Oct-15	03-Oct-15	rlt	1518720	X

Sample Identification
0493-13
SC13115-02

Client Project #	Matrix	Collection Date/Time	Received
1596027	Sediment	24-Sep-15 12:00	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	112,000		mg/kg	851	843	1	Lloyd Kahn	03-Oct-15	03-Oct-15	rlt	1518708	X

Sample Identification
0164-13 DP
SC13115-03

Client Project #	Matrix	Collection Date/Time	Received
1596027	Sediment	24-Sep-15 12:15	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	106,000		mg/kg	1430	1420	1	Lloyd Kahn	03-Oct-15	03-Oct-15	rlt	1518708	X

Sample Identification
0495-13
SC13115-04

Client Project #	Matrix	Collection Date/Time	Received
1596027	Sediment	24-Sep-15 13:00	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	73,100	TOC 1	mg/kg	870	861	1	Lloyd Kahn	02-Oct-15	03-Oct-15	rlt	1518708	X

Sample Identification
0479-13
SC13115-05

Client Project #	Matrix	Collection Date/Time	Received
1596027	Sediment	23-Sep-15 10:45	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	2,440		mg/kg	120	119	1	Lloyd Kahn	02-Oct-15	03-Oct-15	rlt	1518720	X

Sample Identification
0489-13
SC13115-06

Client Project #	Matrix	Collection Date/Time	Received
1596027	Sediment	23-Sep-15 13:30	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	2,790	TOC 1a	mg/kg	188	186	1	Lloyd Kahn	02-Oct-15	03-Oct-15	rlt	1518720	X

Sample Identification
0487-13
SC13115-07

Client Project #	Matrix	Collection Date/Time	Received
1596027	Sediment	23-Sep-15 14:50	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	**1,010**		mg/kg	156	154	1	Lloyd Kahn	02-Oct-15	03-Oct-15	rlt	1518720	X

Sample Identification
0498-13
SC13115-08

Client Project #	Matrix	Collection Date/Time	Received
1596027	Sediment	22-Sep-15 10:30	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	**64,500**		mg/kg	976	966	1	Lloyd Kahn	02-Oct-15	03-Oct-15	rlt	1518708	X

Sample Identification
0499-13
SC13115-09

Client Project #	Matrix	Collection Date/Time	Received
1596027	Sediment	22-Sep-15 10:45	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	**174,000**		mg/kg	2350	2330	1	Lloyd Kahn	02-Oct-15	03-Oct-15	rlt	1518708	X

Sample Identification
0497-13
SC13115-10

Client Project #	Matrix	Collection Date/Time	Received
1596027	Sediment	22-Sep-15 13:25	02-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Total Organic Carbon	**204,000**		mg/kg	3330	3300	1	Lloyd Kahn	02-Oct-15	03-Oct-15	rlt	1518708	X

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1518708 - General Preparation										
Blank (1518708-BLK1)					Prepared: 02-Oct-15 Analyzed: 03-Oct-15					
Total Organic Carbon	< 100		mg/kg	100						
LCS (1518708-BS1)					Prepared: 02-Oct-15 Analyzed: 03-Oct-15					
Total Organic Carbon	**9060**		mg/kg	100	8000		113	75-125		
Calibration Blank (1518708-CCB1)					Prepared: 02-Oct-15 Analyzed: 03-Oct-15					
Total Organic Carbon	**1.44**		mg/kg							
Calibration Blank (1518708-CCB2)					Prepared: 02-Oct-15 Analyzed: 03-Oct-15					
Total Organic Carbon	**1.31**		mg/kg							
Calibration Blank (1518708-CCB3)					Prepared: 02-Oct-15 Analyzed: 03-Oct-15					
Total Organic Carbon	**2.72**		mg/kg							
Calibration Check (1518708-CCV1)					Prepared: 02-Oct-15 Analyzed: 03-Oct-15					
Total Organic Carbon	**9140**		mg/kg	100	8000		114	85-115		
Calibration Check (1518708-CCV2)					Prepared: 02-Oct-15 Analyzed: 03-Oct-15					
Total Organic Carbon	**8840**		mg/kg	100	8000		111	85-115		
Calibration Check (1518708-CCV3)					Prepared: 02-Oct-15 Analyzed: 03-Oct-15					
Total Organic Carbon	**8540**		mg/kg	100	8000		107	85-115		
Duplicate (1518708-DUP1)			**Source: SC13115-04**		Prepared: 02-Oct-15 Analyzed: 03-Oct-15					
Total Organic Carbon	**69000**		mg/kg	741		73100			6	20
Reference (1518708-SRM1)					Prepared: 02-Oct-15 Analyzed: 03-Oct-15					
Total Organic Carbon	**5830**		mg/kg	194	5430		107	49-151		
Batch 1518720 - General Preparation										
Blank (1518720-BLK1)					Prepared & Analyzed: 03-Oct-15					
Total Organic Carbon	< 100		mg/kg	100						
LCS (1518720-BS1)					Prepared & Analyzed: 03-Oct-15					
Total Organic Carbon	**877**		mg/kg	100	1000		88	75-125		
Calibration Blank (1518720-CCB1)					Prepared & Analyzed: 03-Oct-15					
Total Organic Carbon	**-4.59**		mg/kg							
Calibration Blank (1518720-CCB2)					Prepared & Analyzed: 03-Oct-15					
Total Organic Carbon	**0.130**		mg/kg							
Calibration Blank (1518720-CCB3)					Prepared & Analyzed: 03-Oct-15					
Total Organic Carbon	**-2.93**		mg/kg							
Calibration Check (1518720-CCV1)					Prepared & Analyzed: 03-Oct-15					
Total Organic Carbon	**947**		mg/kg	100	1000		95	85-115		
Calibration Check (1518720-CCV2)					Prepared & Analyzed: 03-Oct-15					
Total Organic Carbon	**944**		mg/kg	100	1000		94	85-115		
Calibration Check (1518720-CCV3)					Prepared & Analyzed: 03-Oct-15					
Total Organic Carbon	**1010**		mg/kg	100	1000		101	85-115		
Duplicate (1518720-DUP1)			**Source: SC13115-06**		Prepared & Analyzed: 03-Oct-15					
Total Organic Carbon	**2490**		mg/kg	190		2790			11	20
Reference (1518720-SRM1)					Prepared & Analyzed: 03-Oct-15					
Total Organic Carbon	**6430**		mg/kg	263	5430		118	49-151		

Notes and Definitions

TOC 1	This sample was analyzed in quadruplicate. The % RSD is 12.3.
TOC 1a	This sample was analyzed in quadruplicate. The % RSD is 9.89.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
June O'Connor

Analysis Request / Environmental Services Subcontracting Form

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Acct: _____ Group No.: 1596027 Sample Nos.: 8064450, 52, 57-58, 61, 63, 65 68-70

Date: 10/1/2015

SC 13115

Subcontractor: **EUROFINS SPECTRUM ANALYTICAL, INC.**

LLI P.O.# : _____ Courier: FED EX

Submit report to: Kathy Binkley Ext.: 1393

Submit invoice to: Kathy Binkley

State where samples were collected: VT

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Sediment	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Other	Total # of Containers	Analyses Requested / Preservation Codes: TOC by Lloyd Kahn											Lab #
0491-13 13115-01	09/24/15	10:10		X	X				X											8064450
0493-13 -02	09/24/15	12:00		X	X				X											8064452
0164-13 -03	09/24/15	12:15		X	X				X											8064457
0495-13 -04	09/24/15	13:00		X	X				X											8064458
0479-13 -05	09/23/15	10:45		X	X				X											8064461
0489-13 -06	09/23/15	13:30		X	X				X											8064463
0487-13 -07	09/23/15	14:50		X	X				X											8064465
0498-13 -08	09/22/15	10:30		X	X				X											8064468
0499-13 -09	09/22/15	10:45		X	X				X											8064469
0497-13 -10	09/22/15	13:25		X	X				X											8064470

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments: Type 1 DP Level 4 and EDD. EDD format will follow.

Temperature of samples upon receipt (if requested)

Turnaround Time Requested (TAT): Standard Rush

Date Results are Needed:

Email Results to: KathyBinkley@EurofinsUS.com

Data Package Options (circled when required)
Type I (validation/NJ Reg) Type VI(Raw Data)
Type II (Tier II) Type III (Reduced NJ)
Type IV (CLP SOW) TX TRRP-13

SDG Complete? Yes No

MA MCP
CT RCP

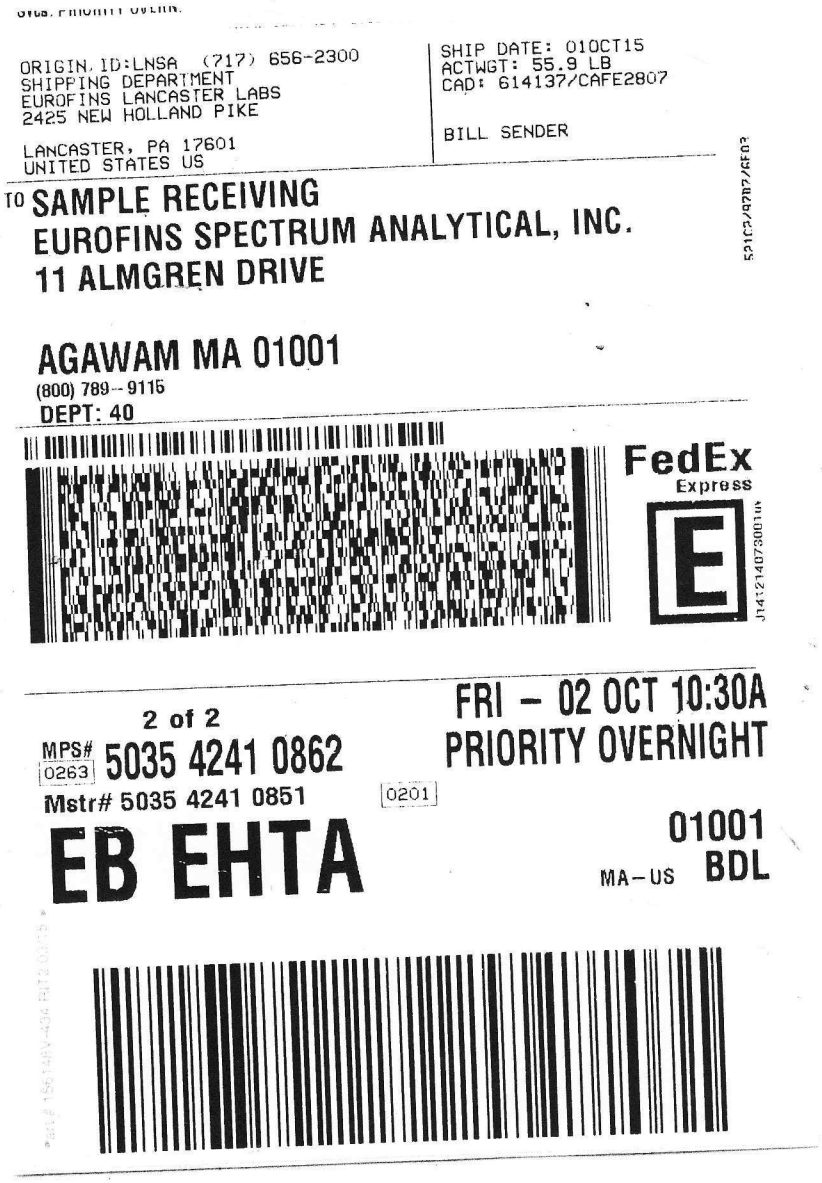
Site-specific QC Required (MS/MSD/DUP)? Yes No
Internal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	10/1/15	1700			
Fed Ex	10/2		[signature]	10/2/15	12:46

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

Iced, custody sealed
0-7/-1/-0.3 AA 10/2



Sves. Priority Overn.

ORIGIN ID:LNSA (717) 656-2300
SHIPPING DEPARTMENT
EUROFINS LANCASTER LABS
2425 NEW HOLLAND PIKE

LANCASTER, PA 17601
UNITED STATES US

SHIP DATE: 01OCT15
ACTWGT: 55.9 LB
CAD: 614137/CAFE2807

BILL SENDER

TO SAMPLE RECEIVING
EUROFINS SPECTRUM ANALYTICAL, INC.
11 ALMGREN DRIVE

AGAWAM MA 01001
(800) 789--9115
DEPT: 40

FedEx Express

2 of 2
MPS# 0263 5035 4241 0862
Mstr# 5035 4241 0851

0201

FRI – 02 OCT 10:30A
PRIORITY OVERNIGHT

EB EHTA

01001
MA-US BDL

Analysis Request / Environmental Services Subcontracting Form

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Acct: _____ Group No.: 1596027 Sample Nos.: 8064450, 52, 57-58, 61, 63, 65 68-70

Date: 10/1/2015

SC 13115

Subcontractor: **EUROFINS SPECTRUM ANALYTICAL, INC.**

LLI P.O.# : _____ Courier: FED EX

Submit report to: Kathy Binkley Ext.: 1393

Submit invoice to: Kathy Binkley

State where samples were collected: VT

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Sediment	Matrix: Potable / NPDES: Water	Matrix: Other	Total # of Containers	Analyses Requested: TOC by Lloyd Kahn											Temperature of samples upon receipt (if requested)
0491-13 13115-01	09/24/15	10:10		X	X				X											8064450
0493-13 -02	09/24/15	12:00		X	X				X											8064452
0164-13 DP -03	09/24/15	12:15		X	X				X											8064457
0495-13 -04	09/24/15	13:00		X	X				X											8064458
0479-13 -05	09/23/15	10:45		X	X				X											8064461
0489-13 -06	09/23/15	13:30		X	X				X											8064463
0487-13 -07	09/23/15	14:50		X	X				X											8064465
0498-13 -08	09/22/15	10:30		X	X				X											8064468
0499-13 -09	09/22/15	10:45		X	X				X											8064469
0497-13 -10	09/22/15	13:25		X	X				X											8064470

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments: Type 1 DP Level 4 and EDD. EDD format will follow.

* changed Sample 03 per email 10/5/15

Turnaround Time Requested (TAT): Standard Rush

Date Results are Needed:

Email Results to: KathyBinkley@EurofinsUS.com

Data Package Options (circled when required)
Type I (validation/NJ Reg) Type VI(Raw Data)
Type II (Tier II) Type III (Reduced NJ)
Type IV (CLP SOW) TX TRRP-13

SDG Complete? Yes No

MA MCP
CT RCP

Site-specific QC Required (MS/MSD/DUP)? Yes No
Internal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
	10/1/15	1700			
Fed Ex	10/2		AA	10/2/15	12:46

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

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Iced, custody sealed
0-7/-1/-0.3 AA 10/2

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Page 66 of 170

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Quality Assurance/Quality Control Data Deliverable

Level IV - REVISED-

Prepared for

Eurofins Lancaster Laboratories Environmental, LLC

Project/Number: See Chain of Custody / 1596027

Work Order: SC13115

SDG# 13115

Submitted on October 2nd, 2015

Table of Contents

Laboratory Name: Eurofins Spectrum Analytical, Inc.
City/Sate: Agawam, MA
Client Name: Eurofins Lancaster Laboratories Environmental, LLC
Project Name/Number: See Chain of Custody / 1596027
SDG#: 13115
Associated Work Orders: SC13115

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eurofins | Spectrum Analytical

NY Lab ID #11393/11840
NJ Lab ID#MA011/MA012

Eurofins Lancaster Laboratories Environmental, LLC

Client Project: See Chain of Custody

Project Number: 1596027
Eurofins Spectrum Analytical, Inc. Project ID: SC13115

12/08/2015

Prepared for: Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17605-2425
Attn: Kathy Binkley

Prepared By: Eurofins Spectrum Analytical, Inc.
830 Silver Street
Agawam, MA 01001
(800)789-9115

SDG13115

SC13115 General Narrative

Eurofins Spectrum Analytical, Inc. submits the enclosed data package for the site characterization of See Chain of Custody. Samples submitted for analysis by Eurofins Lancaster Laboratories Environmental, LLC. Under this deliverable, analysis results are presented for ten Sediment samples submitted on October 2nd, 2015.

The analyses were performed according to USEPA SW846 method analytical guidelines and other methods. In addition the analyses were performed according to criteria dictated by National Environmental Laboratory Accreditation Conference (NELAC) and in accordance with project contract requirements and chain of custody forms.

Observations and/or deviations observed for specific analyses can be found in the analysis narrative:

1. Overall Observations:

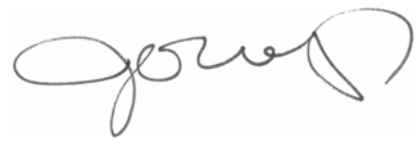
Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual Integrations are coded to provide the data reviewer justification for such action. The codes are labeled on corresponding raw data for GC/MS and GC analysis as follows:

- M1 peak tailing or fronting
- M2 peak co-elution
- M3 rising or failing baseline
- M4 retention time shift
- M5 miscellaneous - under this category, the justification is explained
- M6 software did not integrate peak
- M7 partial peak integration

The enclosed report includes the originals of all data with the exception of logbook pages and certain initial calibrations. Scanned copies of logbook pages are included, with the originals are archived within the laboratory.

The pages in this report have been numbered consecutively, starting with the general narrative and ending with the page labeled as "Last Page of data Report".

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this electronic data package, has been authorized by the laboratory director as verified by the following signature.



June O'Connor Date: 12/08/2015

Laboratory Director

Executive Summary - Detection Highlights

Sample ID: 0164-13 DP

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	106000		1430	mg/kg	Lloyd Kahn

Sample ID: 0479-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	2440		120	mg/kg	Lloyd Kahn

Sample ID: 0487-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	1010		156	mg/kg	Lloyd Kahn

Sample ID: 0489-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	2790		188	mg/kg	Lloyd Kahn

Sample ID: 0491-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	1030		165	mg/kg	Lloyd Kahn

Sample ID: 0493-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	112000		851	mg/kg	Lloyd Kahn

Sample ID: 0495-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	73100		870	mg/kg	Lloyd Kahn

Sample ID: 0497-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	204000		3330	mg/kg	Lloyd Kahn

Sample ID: 0498-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	64500		976	mg/kg	Lloyd Kahn

Sample ID: 0499-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	174000		2350	mg/kg	Lloyd Kahn

Please note that this summary does not include hits from hazardous waste characterizations or micro analyses, because they do not have minimum detection limits.

Sample Identification and Analytical Requirements Summary

Project Name: See Chain of Custody SDG: SC13115

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		VOC Method #	SVOC Method #	GC Method #	Metals	Other
0491-13	SC13115-01					Lloyd Kahn
0493-13	SC13115-02					Lloyd Kahn
0164-13 DP	SC13115-03					Lloyd Kahn
0495-13	SC13115-04					Lloyd Kahn
0479-13	SC13115-05					Lloyd Kahn
0489-13	SC13115-06					Lloyd Kahn
0487-13	SC13115-07					Lloyd Kahn
0498-13	SC13115-08					Lloyd Kahn
0499-13	SC13115-09					Lloyd Kahn
0497-13	SC13115-10					Lloyd Kahn

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Sample Transmittal Documentation

Analysis Request / Environmental Services Subcontracting Form

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For Lancaster Laboratories Use Only

Acct: _____ Group No.: 1596027 Sample Nos.: 8064450, 52, 57-58, 61, 63, 65 68-70

Date: 10/1/2015

SC 13115

Subcontractor: **EUROFINS SPECTRUM ANALYTICAL, INC.**

LLI P.O.# : _____ Courier: FED EX

Submit report to: Kathy Binkley Ext.: 1393

Submit invoice to: Kathy Binkley

State where samples were collected: VT

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Sediment	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Other	Total # of Containers	Analyses Requested / Preservation Codes: TOC by Lloyd Kahn											Comments: Type 1 DP Level 4 and EDD. EDD format will follow.	Temperature of samples upon receipt (if requested)
0491-13 13115-01	09/24/15	10:10		X	X				X											8064450	
0493-13 -02	09/24/15	12:00		X	X				X											8064452	
0164-13 -03	09/24/15	12:15		X	X				X											8064457	
0495-13 -04	09/24/15	13:00		X	X				X											8064458	
0479-13 -05	09/23/15	10:45		X	X				X											8064461	
0489-13 -06	09/23/15	13:30		X	X				X											8064463	
0487-13 -07	09/23/15	14:50		X	X				X											8064465	
0498-13 -08	09/22/15	10:30		X	X				X											8064468	
0499-13 -09	09/22/15	10:45		X	X				X											8064469	
0497-13 -10	09/22/15	13:25		X	X				X											8064470	

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Turnaround Time Requested (TAT): Standard Rush

Date Results are Needed:

Email Results to: KathyBinkley@EurofinsUS.com

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	10/1/15	1700			
Fed Ex	10/2		[signature]	10/2/15	12:46

Data Package Options (circled when required)
Type I (validation/NJ Reg) Type VI(Raw Data)
Type II (Tier II) Type III (Reduced NJ)
Type IV (CLP SOW) TX TRRP-13

SDG Complete? Yes No

MA MCP
CT RCP

Site-specific QC Required (MS/MSD/DUP)? Yes No
Internal Chain of Custody Required? Yes No

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

Rec'd, custody sealed
0-7/-1/-0.3 AA 10/2

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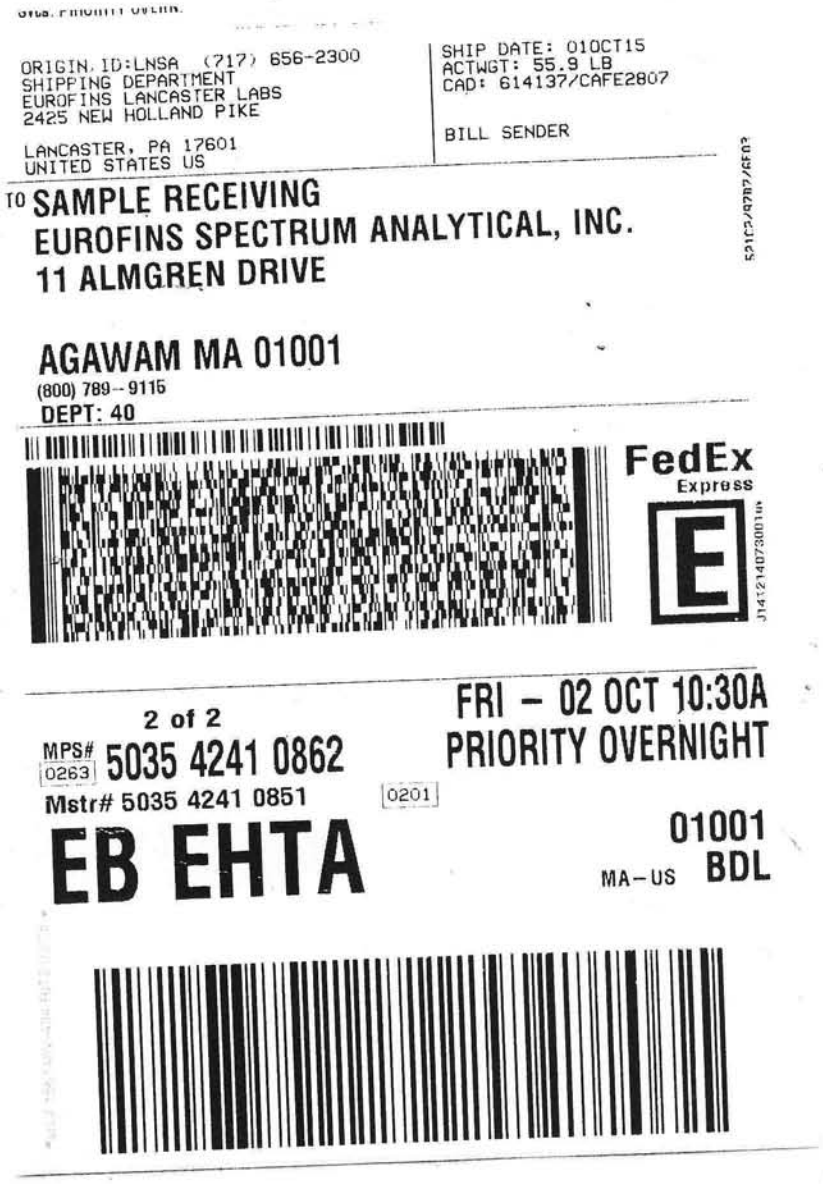
SDG 13115 Page 6 / 101 REVISED



ORIGIN ID:LNSA (717) 656-2300
SHIPPING DEPARTMENT
EUROFINS LANCASTER LABS
2425 NEW HOLLAND PIKE

LANCASTER, PA 17601
UNITED STATES US

SHIP DATE: 01OCT15
ACTWGT: 55.9 LB
CAD: 614137/CAFE2807

BILL SENDER

TO SAMPLE RECEIVING
EUROFINS SPECTRUM ANALYTICAL, INC.
11 ALMGREN DRIVE

AGAWAM MA 01001
(800) 789--9115
DEPT: 40

FedEx Express

2 of 2
MPS# 0263 5035 4241 0862
Mstr# 5035 4241 0851

0201

FRI – 02 OCT 10:30A
PRIORITY OVERNIGHT

EB EHTA

01001
MA-US BDL

Analysis Request / Environmental Services Subcontracting Form

eurofins | Lancaster Laboratories

For Lancaster Laboratories Use Only

Acct: _____ Group No.: 1596027 Sample Nos.: 8064450, 52, 57-58, 61, 63, 65 68-70

Date: 10/1/2015

SC 13115

Subcontractor: **EUROFINS SPECTRUM ANALYTICAL, INC.**

LLI P.O.# : _____ Courier: FED EX

Submit report to: Kathy Binkley Ext.: 1393

Submit invoice to: Kathy Binkley

State where samples were collected: VT

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Sediment	Matrix: Potable / NPDES: Water	Matrix: Other	Total # of Containers	Analyses Requested: TOC by Lloyd Kahn											Temperature of samples upon receipt (if requested)
0491-13 13115-01	09/24/15	10:10		X	X				X											8064450
0493-13 -02	09/24/15	12:00		X	X				X											8064452
0164-13 DP -03	09/24/15	12:15		X	X				X											8064457
0495-13 -04	09/24/15	13:00		X	X				X											8064458
0479-13 -05	09/23/15	10:45		X	X				X											8064461
0489-13 -06	09/23/15	13:30		X	X				X											8064463
0487-13 -07	09/23/15	14:50		X	X				X											8064465
0498-13 -08	09/22/15	10:30		X	X				X											8064468
0499-13 -09	09/22/15	10:45		X	X				X											8064469
0497-13 -10	09/22/15	13:25		X	X				X											8064470

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments: Type 1 DP Level 4 and EDD. EDD format will follow.

* changed Sample 03 per email 10/5/15

Turnaround Time Requested (TAT): Standard Rush

Date Results are Needed:

Email Results to: KathyBinkley@EurofinsUS.com

Relinquished by:	Date	Time	Received by:	Date	Time
	10/1/15	1700			
Fed Ex	10/2		AA	10/2/15	12:46

Data Package Options (circled when required)
Type I (validation/NJ Reg) Type VI(Raw Data)
Type II (Tier II) Type III (Reduced NJ)
Type IV (CLP SOW) TX TRRP-13

SDG Complete? Yes No

MA MCP
CT RCP

Site-specific QC Required (MS/MSD/DUP)? Yes No
Internal Chain of Custody Required? Yes No

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

Lead Custody Seal 01-11-03 AA 10/2

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SDG 13115 Page 8 / 101 REVISED

SC13115

Eurofins Spectrum Analytical, Inc. - MA

Report To:

Eurofins Lancaster Laboratories Environmental, LLC
Kathy Binkley
2425 New Holland Pike
Lancaster, PA 17605-2425
Phone: (717) 656-2300
Fax: -

Project #:	1596027
Project:	See Chain of Custody
Date Due:	09-Oct-15 17:00
Received By:	Arshik Ahamed
Date Received:	02-Oct-15 12:46
Temperature:	-0.3°C
PO #:	

✓ Containers Intact	Frozen vials
✓ Properly Labeled	Frozen soil jars
✓ COC/Labels Agree	State EDD
✓ Received On Ice	✓ COC present
✓ Recd within hold time	✓ Custody seal present
Air-tight containers (Encore device)	✓ Custody seal intact
Refrigerated	COC complete
DW Field QC	

Lab ID	Client ID	Sampled	Lab Matrix / Report Matrix	Containers
SC13115-01	0491-13	24-Sep-15 10:10	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-02	0493-13	24-Sep-15 12:00	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-03	0164-13 DP	24-Sep-15 12:15	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-04	0495-13	24-Sep-15 13:00	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-05	0479-13	23-Sep-15 10:45	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-06	0489-13	23-Sep-15 13:30	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-07	0487-13	23-Sep-15 14:50	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-08	0498-13	22-Sep-15 10:30	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-09	0499-13	22-Sep-15 10:45	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-10	0497-13	22-Sep-15 13:25	Soil/Sediment / Sediment	A - 2 oz. jar

SC13115

Eurofins Spectrum Analytical, Inc. - MA

Analysis	Due	TAT	Comments
SC13115-01 0491-13			
wc-TOC-Lloyd Kahn	09-Oct-15 15:00	5	Type 1 DP Level 4
SC13115-02 0493-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13115-03 0164-13 DP			
wc-TOC-Lloyd Kahn	"	"	"
SC13115-04 0495-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13115-05 0479-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13115-06 0489-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13115-07 0487-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13115-08 0498-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13115-09 0499-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13115-10 0497-13			
wc-TOC-Lloyd Kahn	"	"	"

EUROFINS SPECTRUM ANALYTICAL, INC.

SAMPLE INTEGRITY FORM

Sample ID			Preservative Added						Notes
	Initial pH	Sample split	50% HCl - Element # 15D1359	50% H2SO4 - Element # 15H0773	50% NaOH - Element # 15B0084	Final pH	Chlorinated? (Y/N)	10% Na2S2O3 - Element # 15D0952	Work Order No. SC13115 Solid samples for VOC analyses: _____ Submitted in SA provided CH3OH/DI/NaHSO4 vials _____ Submitted in CH3OH/DI/NaHSO4, not SA _____ Not submitted in CH3OH/DI/NaHSO4

Notes:

COC login reviewed by: _____ Login Analyst Initials: _____ Date: 10/2/2015 (Rev. 2/5/2013)

Lisa Chaffee [Agawam]

From: Katy Wilkinson [Agawam]
Sent: Monday, October 05, 2015 1:55 PM
To: Client Services Dept; Alejandro Paredes [Agawam]
Cc: Sample Dept
Subject: FW: SC13115 - Sample confirmation from Eurofins Spectrum Analytical, Inc. for Project: See Chain of Custody
Attachments: SC13115_COC.pdf; ATT00001.htm; SC13115_SAF.pdf; ATT00002.htm; SC13115.pdf; ATT00003.htm

This is all set in Element.

CS – please revise, rescan and attach.

Thanks!

From: Rebecca Merz [Agawam]
Sent: Monday, October 05, 2015 1:51 PM
To: Sample Dept; Client Services Dept
Subject: Fwd: SC13115 - Sample confirmation from Eurofins Spectrum Analytical, Inc. for Project: See Chain of Custody

Please see below.

Sent from my iPhone

Begin forwarded message:

> **From:** "Kathy Binkley" <KathyBinkley@eurofinsUS.com>
> **To:** "Rebecca Merz [Agawam]" <RebeccaMerz@EurofinsUS.com>
> **Subject: FW: SC13115 - Sample confirmation from Eurofins Spectrum Analytical, Inc. for Project: See Chain of Custody**
>
> Hi Rebecca,
>
> Please see the SC13115 attachment and make sure that the sample ID is changed to 0164-13 DP for work order SC13115-03.
>
> Thanks,
>
> Kathy Binkley
> Senior Administrator, Environmental Client Services
>
> Eurofins Lancaster Laboratories
> Environmental, LLC
> 2425 New Holland Pike
> Lancaster, PA 17601
> USA
> Phone: +1 717-656-2300 Ext. 1393
> Fax: +1 717-656-6766
>
> www.LancasterLabsEnv.com
>
> From: online@spectrum-analytical.com [mailto:online@spectrum-analytical.com]
> Sent: Friday, October 02, 2015 7:00 PM
> To: Kathy Binkley
> Subject: SC13115 - Sample confirmation from Eurofins Spectrum Analytical, Inc. for Project: See Chain of Custody
>
> [http://www.spectrum-analytical.com/images/sai_logo.jpg][Eurofins Spectrum Analytical, Inc.]
>
> This message is to notify you that your samples have been received by Eurofins Spectrum Analytical, Inc. The Chain of Custody is attached. Please review the attached Sample Acknowledgment form for sample details. Please respond to this email to resolve any discrepancies or you may contact the Sample Department at (413) 789-9018 to discuss.
> Work Order #:
>
> SC13115
>
> Project:
>
> See Chain of Custody
>
> Project #:
>
> 8064450, 52, 57-58, 61, 63, 65 68-70
>
> PO #:
>
> *
>
> Received:

10/02/2015 12:46 PM

Estimated completion:

10/09/2015 5:00 PM

Sample temperature:

-0.3°C

* A PO number was not listed on the COC. If a PO is required for billing purposes, please respond immediately to this email with the information so that it may be included on the invoice.

The following outlines the condition of samples for the attached Chain of Custody upon receipt.
Were cooler custody seals present?

Yes

Were custody seals intact?

Yes

Were samples received at a temperature of ≤ 6°C?

Yes

Were samples cooled on ice upon custody transfer to laboratory representative?

Yes

Were sample containers received intact?

Yes

Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?

Yes

Were samples accompanied by a Chain of Custody document?

Yes

Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?

No

Did sample container labels agree with Chain of Custody document?

Yes

Were samples received within method-specific holding times?

Yes

You may track the status of your samples and view results on Eurofins Spectrum's eServices website at http://www.spectrum-analytical.com/eservices/. If you do not have an online account, you may sign up for one by completing the Internet Access Agreement form located at the bottom of the login page.

If you have any questions or concerns about your samples, please reply to this message.

To ensure delivery of laboratory report notices, please add online@spectrum-analytical.com<mailto:online@spectrum-analytical.com> to your address book.

Notify us here<https://www.mailcontrol.com/sr/sa81rSR2SmXWQxILzJ5p92RAvMb6FycwL7gQx33L57vtiGgWteCCctj7bfN2vL+B8b9wfVKnxppLl8gXu2Q!XQ==> to report this email as spam.

eurofins | Spectrum Analytical

Form I Summary Pack

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0491-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-01	File ID:	10031610
Sampled:	09/24/15 10:10	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 16:14
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0243 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1508009
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	1030	1	163	165	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0493-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-02	File ID:	10031255
Sampled:	09/24/15 12:00	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 12:59
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0047 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	112000	1	843	851	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0164-13 DP

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-03	File ID:	10031418
Sampled:	09/24/15 12:15	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 14:22
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0028 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	106000	1	1420	1430	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0495-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-04	File ID:	10031218
Sampled:	09/24/15 13:00	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 12:24
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0046 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	73100	1	861	870	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0479-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-05	File ID:	10031615
Sampled:	09/23/15 10:45	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 16:19
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0334 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1508009
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	2440	1	119	120	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0489-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-06	File ID:	10031620
Sampled:	09/23/15 13:30	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 16:24
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0213 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1508009
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	2790	1	186	188	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0487-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-07	File ID:	10031720
Sampled:	09/23/15 14:50	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 17:25
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0257 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1508009
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	1010	1	154	156	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0498-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-08	File ID:	10031226
Sampled:	09/22/15 10:30	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 12:31
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0041 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	64500	1	966	976	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0499-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-09	File ID:	10031240
Sampled:	09/22/15 10:45	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 12:46
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0017 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	174000	1	2330	2350	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0497-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-10	File ID:	10031303
Sampled:	09/22/15 13:25	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 13:09
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0012 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	204000	1	3300	3330	

Lloyd Kahn

CROSS REFERENCE TABLE

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Project Number:	1596027		

Client Sample ID:	Lab Sample ID:
0491-13	SC13115-01
0493-13	SC13115-02
0164-13 DP	SC13115-03
0495-13	SC13115-04
0479-13	SC13115-05
0489-13	SC13115-06
0487-13	SC13115-07
0498-13	SC13115-08
0499-13	SC13115-09
0497-13	SC13115-10

CASE NARRATIVE

Spectrum Analytical, Inc. Lab Reference No. SC13115

Client: Eurofins Lancaster Laboratories Environmental, LLC

Project: See Chain of Custody / 1596027

SDG #: 13115

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception or a communication form is included in the addendum with this package.

II. HOLDING TIMES

All samples were prepared and analyzed within the method-specific holding time.

III. METHODS

Analyses were performed according to Lloyd Kahn.

IV. PREPARATION

Soil/Sediment samples were prepared according to General Preparation.

V. INSTRUMENTATION

The following equipment was used to analyze Lloyd Kahn:

TOC2 details: Teledyne Tekmar Apollo 9000 / TOC Boat Sampler Model 183

VI. ANALYSIS

A. Calibration:

All quality control samples were within the acceptance criteria.

B. Blanks:

All blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Samples (LCS):

All method criteria were met.

2. Matrix Spike / Matrix Spike Duplicate Samples (MS/MSD):

No matrix spike or matrix spike duplicates were analyzed.

3. Reference:

All method criteria were met.

D. Duplicates:

A duplicate was analyzed.

In batch 1518708 from source sample 0495-13 (SC13115-04).

In batch 1518720 from source sample 0489-13 (SC13115-06).

All method criteria were met.

E. Samples:

All method criteria were met with the following exceptions:

Total Organic Carbon in batch 1518708, sample 0495-13 (SC13115-04): This sample was analyzed in quadruplicate. The % RSD is 12.3.

Total Organic Carbon in batch 1518720, sample 0489-13 (SC13115-06): This sample was analyzed in quadruplicate. The % RSD is 9.89.

Lloyd Kahn

QC Summary

FORM IIa - INITIAL AND CONTINUING CALIBRATION CHECK

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Instrument ID: TOC2

SDG: 13115
Project: See Chain of Custody
Calibration: 1507063
Sequence: S506983

Lab Sample ID	Analyte	True	Found	%R	QC Limits	Units	Method
S506983-ICV1	Total Organic Carbon	5430	5860	108	85 - 115	µg	Lloyd Kahn

* Values outside of QC limits

FORM IIa - INITIAL AND CONTINUING CALIBRATION CHECK

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Instrument ID: TOC2

SDG: 13115
Project: See Chain of Custody
Calibration: 1508009
Sequence: S507374

Lab Sample ID	Analyte	True	Found	%R	QC Limits	Units	Method
S507374-ICV1	Total Organic Carbon	1000	1110	111	85 - 115	µg	Lloyd Kahn

* Values outside of QC limits

FORM IIa - INITIAL AND CONTINUING CALIBRATION CHECK

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Instrument ID: TOC2

SDG: 13115
Project: See Chain of Custody
Calibration: 1507063
Sequence: S508898

Lab Sample ID	Analyte	True	Found	%R	QC Limits	Units	Method
1518708-CCV1	Total Organic Carbon	8000	9140	114	85 - 115	mg/kg	Lloyd Kahn
1518708-CCV2	Total Organic Carbon	8000	8840	111	85 - 115	mg/kg	Lloyd Kahn
1518708-CCV3	Total Organic Carbon	8000	8540	107	85 - 115	mg/kg	Lloyd Kahn

* Values outside of QC limits

FORM IIa - INITIAL AND CONTINUING CALIBRATION CHECK

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Instrument ID: TOC2

SDG: 13115
Project: See Chain of Custody
Calibration: 1508009
Sequence: S508901

Lab Sample ID	Analyte	True	Found	%R	QC Limits	Units	Method
1518720-CCV1	Total Organic Carbon	1000	947	95	85 - 115	mg/kg	Lloyd Kahn
1518720-CCV2	Total Organic Carbon	1000	944	94	85 - 115	mg/kg	Lloyd Kahn
1518720-CCV3	Total Organic Carbon	1000	1010	101	85 - 115	mg/kg	Lloyd Kahn

* Values outside of QC limits

FORM III - BLANKS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13115
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Instrument ID: TOC2
Calibration: 1507063
Sequence: S506983
Matrix: Soil/Sediment

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
S506983-ICB1	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn

FORM III - BLANKS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13115
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Instrument ID: TOC2
Calibration: 1508009
Sequence: S507374
Matrix: Soil/Sediment

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
S507374-ICB1	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn

FORM III - BLANKS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13115
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Instrument ID: TOC2
Calibration: 1507063
Sequence: S508898
Matrix: Soil/Sediment

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
1518708-CCB1	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn
1518708-BLK1	Total Organic Carbon	BRL	100	mg/kg	U	Lloyd Kahn
1518708-CCB2	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn
1518708-CCB3	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn

FORM III - BLANKS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13115
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Instrument ID: TOC2
Calibration: 1508009
Sequence: S508901
Matrix: Soil/Sediment

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
1518720-CCB1	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn
1518720-BLK1	Total Organic Carbon	BRL	100	mg/kg	U	Lloyd Kahn
1518720-CCB2	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn
1518720-CCB3	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn

FORM IIIc - DUPLICATES

0495-13

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Matrix: Soil/Sediment
Batch: 1518708
Preparation: General Preparation
Source Sample Name: 0495-13

SDG: 13115
Project: See Chain of Custody
Laboratory ID: 1518708-DUP1
Lab Source ID: SC13115-04
Initial/Final: 0.0054 g / 1 ml
% Solids:
File ID: 10031331

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/kg)	C	DUPLICATE CONCENTRATION (mg/kg)	C	RPD %	Q	METHOD
Total Organic Carbon	20	73100		69000		6		Lloyd Kahn

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM IIIc - DUPLICATES

0489-13

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Matrix: Soil/Sediment
Batch: 1518720
Preparation: General Preparation
Source Sample Name: 0489-13

SDG: 13115
Project: See Chain of Custody
Laboratory ID: 1518720-DUP1
Lab Source ID: SC13115-06
Initial/Final: 0.021 g / 1 ml
% Solids:
File ID: 10031629

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/kg)	C	DUPLICATE CONCENTRATION (mg/kg)	C	RPD %	Q	METHOD
Total Organic Carbon	20	2790		2490		11		Lloyd Kahn

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM IIIa - LCS / LCS DUPLICATE RECOVERY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Matrix:	Soil/Sediment	Instrument:	TOC2
Batch:	1518708	Laboratory ID:	1518708-BS1
Preparation:	General Preparation	Initial/Final:	0.04 g / 1 ml
Analyzed:	10/03/15 11:54	Spike ID:	15G0891
		File ID:	10031149

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	8000	9060	113	75 - 125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM IIIa - LCS / LCS DUPLICATE RECOVERY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Matrix:	Soil/Sediment	Instrument:	TOC2
Batch:	1518720	Laboratory ID:	1518720-BS1
Preparation:	General Preparation	Initial/Final:	0.04 g / 1 ml
Analyzed:	10/03/15 15:30	Spike ID:	15G0890
		File ID:	10031528

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	1000	877	88	75 - 125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VIIb(Inorganics) - STANDARD REFERENCE MATERIAL RECOVERY

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13115
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Matrix: Soil/Sediment
Spike ID: 15C0320
Batch: 1518708
Laboratory ID: 1518708-SRM1
Preparation: General Preparation
Initial/Final: 0.0206 g / 1 ml

ANALYTE	TRUE (mg/kg)	FOUND (mg/kg)	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	5430	5830	107	49 - 151

* Values outside of QC limits

FORM VIIb(Inorganics) - STANDARD REFERENCE MATERIAL RECOVERY

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13115
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Matrix: Soil/Sediment
Spike ID: 15C0320
Batch: 1518720
Laboratory ID: 1518720-SRM1
Preparation: General Preparation
Initial/Final: 0.0152 g / 1 ml

ANALYTE	TRUE (mg/kg)	FOUND (mg/kg)	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	5430	6430	118	49 - 151

* Values outside of QC limits

Organic/FORM IX(Inorganic) - METHOD DETECTION AND REPORTING LIMITS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA **SDG:** 13115

Client: Eurofins Lancaster Laboratories Environmental, LLC **Project:** See Chain of Custody

Analyte	MDL	MRL	Units
Total Organic Carbon	99.0	100	mg/kg

Lloyd Kahn

Sample Data

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0491-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-01	File ID:	10031610
Sampled:	09/24/15 10:10	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 16:14
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0243 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1508009
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	1030	1	163	165	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0493-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-02	File ID:	10031255
Sampled:	09/24/15 12:00	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 12:59
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0047 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	112000	1	843	851	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0164-13 DP

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-03	File ID:	10031418
Sampled:	09/24/15 12:15	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 14:22
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0028 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	106000	1	1420	1430	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0495-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-04	File ID:	10031218
Sampled:	09/24/15 13:00	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 12:24
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0046 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	73100	1	861	870	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0479-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-05	File ID:	10031615
Sampled:	09/23/15 10:45	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 16:19
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0334 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1508009
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	2440	1	119	120	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0489-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-06	File ID:	10031620
Sampled:	09/23/15 13:30	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 16:24
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0213 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1508009
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	2790	1	186	188	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0487-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-07	File ID:	10031720
Sampled:	09/23/15 14:50	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 17:25
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0257 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1508009
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	1010	1	154	156	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0498-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-08	File ID:	10031226
Sampled:	09/22/15 10:30	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 12:31
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0041 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	64500	1	966	976	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0499-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-09	File ID:	10031240
Sampled:	09/22/15 10:45	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 12:46
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0017 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	174000	1	2330	2350	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0497-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-10	File ID:	10031303
Sampled:	09/22/15 13:25	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 13:09
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0012 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	204000	1	3300	3330	

Lloyd Kahn

Standards Data

FORM VI - INITIAL CALIBRATION DATA

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	0	0	1000	2110.995	2000	2020.206	4000	1984.608	8000	1905.392	12500	1875.863

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	15000	1812.287										

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

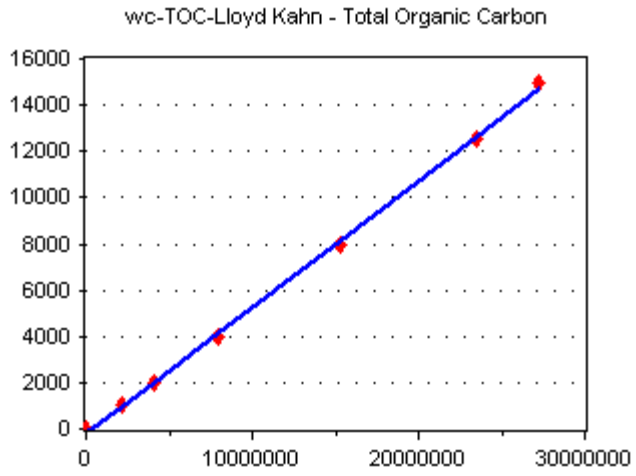
Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Total Organic Carbon	1672.765	44.48907	0	0	0.9990526		0.997	

Individual peaks for multi-component analytes are indicated by a number in parentheses

Instrument:	TOC2	Calibration Date:	23-Jul-15 11:19 By RLT
Calibration ID:	1507063	Last Edit Date:	24-Jul-15 11:20 By RLT

wc-TOC-Lloyd Kahn

Total Organic Carbon



Linear Regression

r2: 0.9990526

[Conc] = 5.486597E-04 * [Response] + -197.7798

FORM VI - INITIAL CALIBRATION DATA

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1508009	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/24/15 00:45
File ID:	1508009		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	0	0	125	2408.736	250	2256.392	500	2191.402	1000	2598.953	2000	2016.667

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1508009	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/24/15 00:45
File ID:	1508009		

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	4000	2028.89	8000	1915.474								

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1508009	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/24/15 00:45
File ID:	1508009		

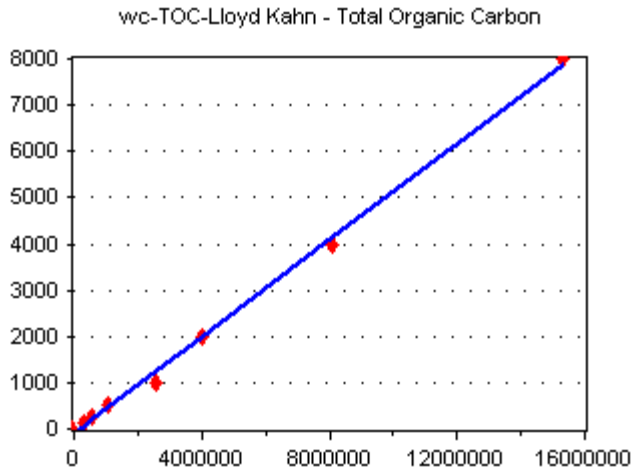
Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Total Organic Carbon	1927.064	42.03826	0	0	0.9977251		0.997	

Individual peaks for multi-component analytes are indicated by a number in parentheses

Instrument:	TOC2	Calibration Date:	24-Jul-15 00:45 By RLT
Calibration ID:	1508009	Last Edit Date:	06-Aug-15 09:46 By RLT

wc-TOC-Lloyd Kahn

Total Organic Carbon



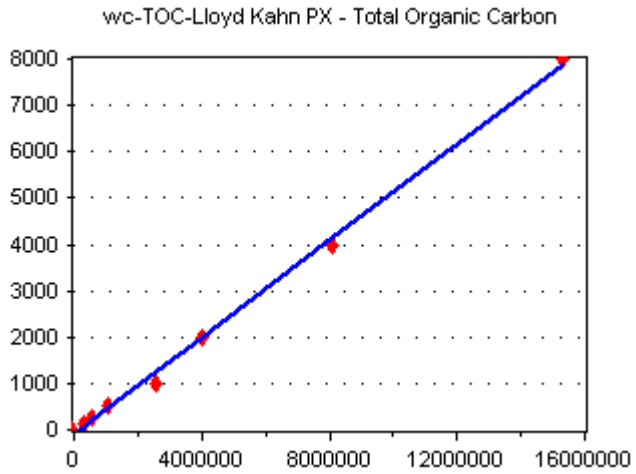
Linear Regression

r2: 0.9977251

[Conc] = 5.212453E-04 * [Response] + -97.81655

wc-TOC-Lloyd Kahn PX

Total Organic Carbon



Linear Regression

r2: 0.9977251

[Conc] = 5.212453E-04 * [Response] + -97.81655

Lloyd Kahn

Raw Quality Control Data

Detailed Analysis Report Print Date/Time: 2015/07/23 18:33:20

Sample ID:	CLN BLK			Mode:	TOC	
Method:	Boat Sampler			Filename:	07231119	
Cal. Curve:	063015 HIGH			Timestamp:	2015/07/23 11:23	
Operator ID:	rlt			Sample Type:	Sample	

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	914.2606	36.5704	3210692	135.158	136.156	165

Sample ID:	0.000 15G0877			Mode:	TOC	
Method:	Boat Sampler			Filename:	07231501	
Cal. Curve:	HIGH 072315			Timestamp:	2015/07/23 15:04	
Operator ID:	rlt			Sample Type:	TOC Standard	

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			19261	135.991	135.893	120

Last Message: Low Sample Detected

Sample ID:	1000PPM 15G0881			Mode:	TOC	
Method:	Boat Sampler			Filename:	07231505	
Cal. Curve:	HIGH 072315			Timestamp:	2015/07/23 15:08	
Operator ID:	rlt			Sample Type:	TOC Standard	

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			2110995	135.530	136.522	100

Sample ID:	2000PPM 15G0882			Mode:	TOC	
Method:	Boat Sampler			Filename:	07231508	
Cal. Curve:	HIGH 072315			Timestamp:	2015/07/23 15:11	
Operator ID:	rlt			Sample Type:	TOC Standard	

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			4040412	135.368	136.364	106

Sample ID:	4000PPM 15G0883			Mode:	TOC	
Method:	Boat Sampler			Filename:	07231512	
Cal. Curve:	HIGH 072315			Timestamp:	2015/07/23 15:15	
Operator ID:	rlt			Sample Type:	TOC Standard	

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			7938431	135.309	136.308	119

Sample ID:	8000PPM 15G0884			Mode:	TOC	
Method:	Boat Sampler			Filename:	07231516	
Cal. Curve:	HIGH 072315			Timestamp:	2015/07/23 15:19	
Operator ID:	rlt			Sample Type:	TOC Standard	

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			15243136	135.283	136.279	133

Sample ID:	12500PPM 15G0885			Mode:	TOC	
Method:	Boat Sampler			Filename:	07231520	
Cal. Curve:	HIGH 072315			Timestamp:	2015/07/23 15:23	
Operator ID:	rlt			Sample Type:	TOC Standard	

Rep #	ppm C	ug C	Raw Data	Beginning	Ending	Integration

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			23448292	135.290	136.287	151

Sample ID: 20000PPM 15G0886 Mode: TOC
Method: Boat Sampler Filename: 07231524
Cal. Curve: HIGH 072315 Timestamp: 2015/07/23 15:28
Operator ID: rlt Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			31968572	135.295	136.295	203

Last Message: Over-range

CURVE FAILS USING 20,000PPM

Sample ID: 20000PPM 15G0886 Mode: TOC
Method: Boat Sampler Filename: 07231529
Cal. Curve: HIGH 072315 Timestamp: 2015/07/23 15:34
Operator ID: rlt Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			32110984	135.388	136.387	218

Last Message: Over-range

Sample ID: 20000PPM 15G0886 Mode: TOC
Method: Boat Sampler Filename: 07231535
Cal. Curve: HIGH 072315 Timestamp: 2015/07/23 15:39
Operator ID: rlt Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			29360944	135.634	136.698	220

Last Message: Over-range

Sample ID: 15000PPM 15G0886 Mode: TOC
Method: Boat Sampler Filename: 07231545
Cal. Curve: HIGH 072315 Timestamp: 2015/07/23 15:49
Operator ID: rlt Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			27184308	136.041	137.040	206

Last Message: Over-range

Sample ID: SEQ-ICV1 Mode: TOC
Method: Boat Sampler Filename: 07231605
Cal. Curve: HIGH 072315 Timestamp: 2015/07/23 16:08
Operator ID: rlt Sample Type: Sample

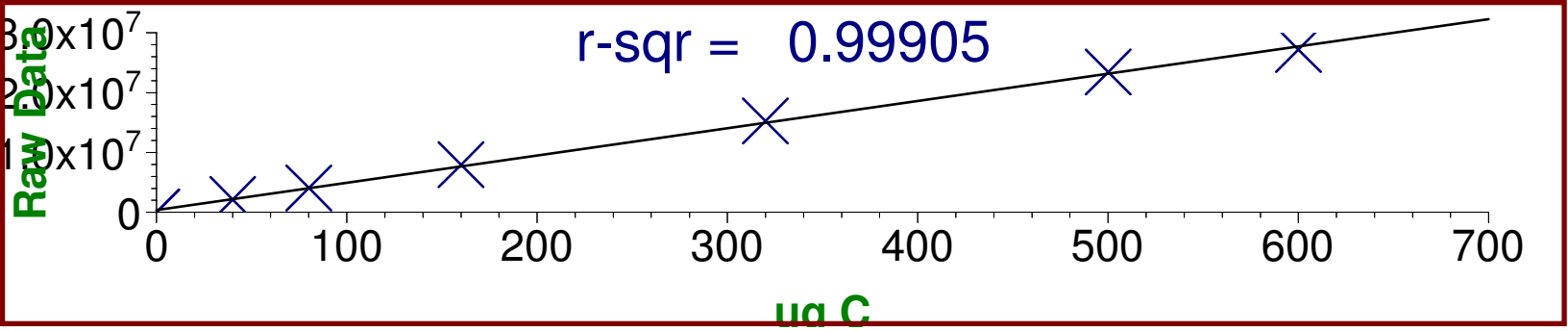
USED SOIL SRM

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5855.4214	144.6289	6583858	136.811	137.810	115

Sample ID: SEQ-ICB1 Mode: TOC
Method: Boat Sampler Filename: 07231608
Cal. Curve: HIGH 072315 Timestamp: 2015/07/23 16:11
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	19.2094	0.7684	34978	135.713	135.598	120

Last Message: Low Sample Detected
==========


r-sqr = 0.99905
Raw Data
ug C
0
100
200
300
400
500
600
700

New low curve run on 07.24.15 under the name 063015low and could not be renamed as 072415low in TOC Talk after running.

S507374
1508009

Detailed Analysis Report Print Date/Time: 2015/07/24 17:09:27

Sample ID: ~~CLN BLK~~ | Mode: TOC
Method: Boat Sampler | Filename: 07241131
Cal. Curve: HIGH 072315 | Timestamp: 2015/07/24 11:33
Operator ID: rlt | Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	24.6680	0.9867	44918	132.441	133.438	59

15g0877

Sample ID: 0.000PPM ~~15F1175~~ | Mode: TOC
Method: Boat Sampler * | Filename: 07241136
Cal. Curve: ~~063015~~ ~~LOW~~ | Timestamp: 2015/07/24 11:39
Operator ID: rlt | Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			-75343	132.905	131.908	120

Last Message: Low Sample Detected

15g0878

Sample ID: 100PPM ~~15F1174~~ | Mode: TOC
Method: Boat Sampler * | Filename: 07241140
Cal. Curve: ~~063015~~ ~~LOW~~ | Timestamp: 2015/07/24 11:42
Operator ID: rlt | Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			301092	131.496	132.492	83

15g0879

Sample ID: 200PPM ~~15F1173~~ | Mode: TOC
Method: Boat Sampler | Filename: 07241144
Cal. Curve: ~~063015~~ ~~LOW~~ * | Timestamp: 2015/07/24 11:46
Operator ID: rlt | Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			564098	131.417	132.412	89

15g0880

Sample ID: 500PPM ~~15F1172~~ | Mode: TOC
Method: Boat Sampler | Filename: 07241149
Cal. Curve: ~~063015~~ ~~LOW~~ * | Timestamp: 2015/07/24 11:51
Operator ID: rlt | Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			1095701	131.212	132.208	97

15g0881

Sample ID: 1000PPM ~~15F1171~~ | Mode: TOC
Method: Boat Sampler * | Filename: 07241153
Cal. Curve: ~~063015~~ ~~LOW~~ | Timestamp: 2015/07/24 11:55
Operator ID: rlt | Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			2598953	132.020	133.017	98

15g0882

Sample ID: 2000PPM ~~15F1170~~ | Mode: TOC
Method: Boat Sampler * | Filename: 07241159
Cal. Curve: ~~063015~~ ~~LOW~~ | Timestamp: 2015/07/24 12:02
Operator ID: rlt | Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning	Ending	Integration

*072415low
8.06.15 rlt

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			4033333	131.736	132.731	112

15g0883

Sample ID: 4000PPM ~~15F1169~~ *
Method: Boat Sampler
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 07241205
Timestamp: 2015/07/24 12:10
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			8115560	132.034	133.028	300

*072415 low
8.06.15 rlt

15g0884

Sample ID: 8000PPM ~~15F1168~~
Method: Boat Sampler
Cal. Curve: ~~063015~~ ~~LOW~~ *
Operator ID: rlt
Mode: TOC
Filename: 07241211
Timestamp: 2015/07/24 12:16
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			15323789	132.917	133.917	199

15F0281

Sample ID: SEQ-ICV1
Method:
Cal. Curve: ~~063015~~ ~~LOW~~ *
Operator ID: rlt
Mode: TOC
Filename: 07241230
Timestamp: 2015/07/24 12:32
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1107.5909	44.3036	2114927	132.989	133.984	98

15g0877

Sample ID: SEQ-ICB1
Method:
Cal. Curve: ~~063015~~ ~~LOW~~ *
Operator ID: rlt
Mode: TOC
Filename: 07241233
Timestamp: 2015/07/24 12:35
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	90.6968	3.6279	173184	132.341	133.339	73

Sample ID: SEQ-ICB1
Method:
Cal. Curve: ~~063015~~ ~~LOW~~ *
Operator ID: rlt
Mode: TOC
Filename: 07241236
Timestamp: 2015/07/24 12:39
Sample Type: Sample

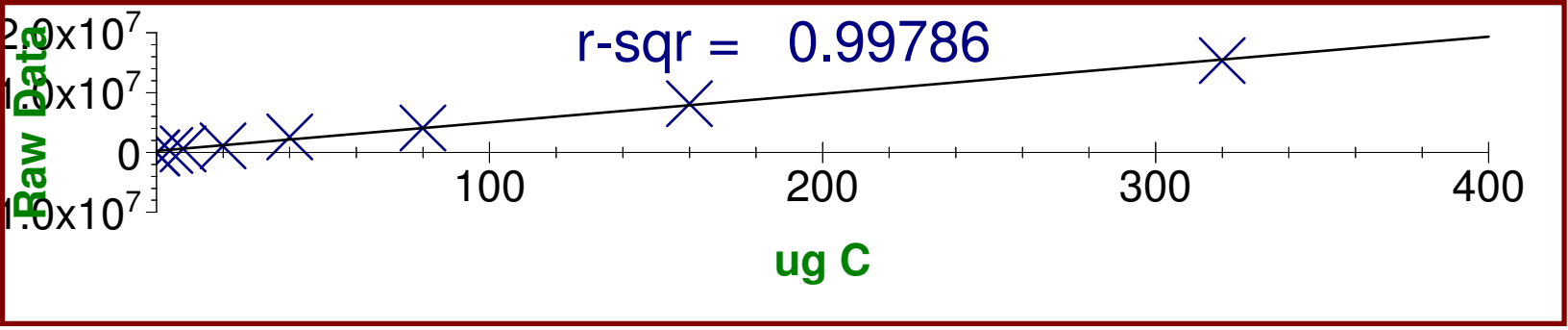
Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-60.6370	-2.4255	-115785	133.155	131.644	120

Last Message: Low Sample Detected

Sample ID: SEQ-CCV1
Method:
Cal. Curve: ~~063015~~ ~~LOW~~ *
Operator ID: rlt
Mode: TOC
Filename: 07241240
Timestamp: 2015/07/24 12:43
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1059.7209	42.3888	2023520	131.816	132.815	96

Sample ID: SEQ-CCB1
Method:
Cal. Curve: ~~063015~~ ~~LOW~~ *
Operator ID: rlt
Mode: TOC
Filename: 07241243
Timestamp: 2015/07/24 12:46
Sample Type: Sample


r-sqr = 0.99786
Raw Data
2.0x10^7
1.0x10^7
0
1.0x10^7
100
200
300
400
ug C

Detailed Analysis Report Print Date/Time: 2015/10/03 15:09:17

Sample ID: CLN Mode: TOC
Method: Filename: 10031115
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:19
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	706.0037	28.2401	1285560	102.169	103.169	149

Sample ID: CLN Mode: TOC
Method: Filename: 10031121
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:24
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	27.7574	1.1103	50543	101.598	101.667	120

Last Message: Low Sample Detected

Sample ID: SEQ-CCV1 Mode: TOC
Method: Filename: 10031134
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:38
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	9142.5049	365.7002	16647557	101.747	102.746	217

Sample ID: SEQ-CCB1 Mode: TOC
Method: Filename: 10031141
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:43
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	36.0305	1.4412	65608	101.271	102.268	42

Sample ID: 1518708-BLK1 Mode: TOC
Method: Filename: 10031145
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:48
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2.7114	0.1085	4937	101.993	101.452	120

Last Message: Low Sample Detected

Sample ID: 1518708-BS1 Mode: TOC
Method: Filename: 10031149
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:54
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	9058.7637	362.3505	16495072	101.237	102.235	234

Sample ID: 1518708-SRM1 Mode: TOC
Method: Filename: 10031155
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:59
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5825.3506	120.0022	5462791	102.545	103.544	166

Sample ID: SC12113-01A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt

Mode: TOC
Filename: 10031201
Timestamp: 2015/10/03 12:05
Sample Type: Sample

over range, see rr

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	96906.3984	978.7546	44555276	104.192	105.191	230

Sample ID: SC12113-01A RR
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt

Mode: TOC
Filename: 10031207
Timestamp: 2015/10/03 12:12
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	86197.0625	387.8868	17657544	103.485	104.485	211

over range, see rr

Sample ID: SC12115-04A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt

Mode: TOC
Filename: 10031213
Timestamp: 2015/10/03 12:17
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	64879.8438	772.0701	35146500	104.695	105.695	173

sample

Sample ID: SC12115-04A RR
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt

Mode: TOC
Filename: 10031218
Timestamp: 2015/10/03 12:24
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	73127.5000	336.3865	15313127	102.676	103.675	217

Sample ID: SC12115-08A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt

Mode: TOC
Filename: 10031226
Timestamp: 2015/10/03 12:31
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	64498.0742	264.4421	12038044	103.048	104.046	196

over range, see rr

Sample ID: SC12115-09A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt

Mode: TOC
Filename: 10031232
Timestamp: 2015/10/03 12:39
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	181495.7188	707.8333	32222282	103.205	104.204	283

Sample ID: SC12115-09A RR
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt

Mode: TOC
Filename: 10031240
Timestamp: 2015/10/03 12:46
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	174037.5938	295.8639	13468441	103.393	104.391	271

Sample ID: SEQ-CCV2 Mode: TOC
Method: Filename: 10031247
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 12:51
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	8841.3281	353.6531	16099145	104.933	105.931	187

Sample ID: SEQ-CCB2 Mode: TOC
Method: Filename: 10031252
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 12:55
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	32.6277	1.3051	59412	104.387	105.385	76

Sample ID: SC12115-02A Mode: TOC
Method: Filename: 10031255
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 12:59
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	111551.0156	524.2898	23866938	103.959	104.955	183

Sample ID: SC12115-010A Mode: TOC
Method: Filename: 10031303
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 13:09
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	203915.0938	244.6981	11139250	103.982	104.980	199

1518708-dup1

Sample ID: SC12115-04(2) Mode: TOC
Method: Filename: 10031331
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 13:35
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	68953.5859	372.3493	16950244	101.922	102.922	156

Sample ID: SC12115-04(3) Mode: TOC
Method: Filename: 10031336
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 13:39
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	64234.0234	295.4765	13450805	103.302	104.288	135

Sample ID: SC12115-04(4) Mode: TOC
Method: Filename: 10031341
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 13:46
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	85188.7969	442.9818	20165600	101.044	102.042	177

Sample ID: SC12118-01A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031353
Timestamp: 2015/10/03 13:58
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	219100.1094	175.2801	7979173	100.897	101.896	201

Sample ID: SC13118-02A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031400
Timestamp: 2015/10/03 14:05
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	192264.0312	403.7544	18379880	100.916	101.916	183

Sample ID: SC13118-03A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031406
Timestamp: 2015/10/03 14:10
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	50033.4922	145.0971	6605172	100.906	101.906	144

Sample ID: SC13118-04A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031411
Timestamp: 2015/10/03 14:15
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	54797.3906	284.9464	12971450	101.007	102.005	168

Sample ID: SC13115-03A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031418
Timestamp: 2015/10/03 14:22
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	106298.5312	297.6359	13549105	101.340	102.337	156

Sample ID: SEQ-CCV3
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031424
Timestamp: 2015/10/03 14:28
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	8543.1475	341.7259	15556188	101.420	102.420	196

Sample ID: SEQ-CCB3
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031429
Timestamp: 2015/10/03 14:32
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	68.1085	2.7243	124018	101.882	102.614	120

Last Message: Low Sample Detected

Detailed Analysis Report Print Date/Time: 2015/10/03 17:52:11

Sample ID: SEQ-CCV1 Mode: TOC
Method: Filename: 10031456
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 14:58
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	947.2405	37.8896	1808740	104.576	105.570	109

Sample ID: SEQ-CCB1 Mode: TOC
Method: Filename: 10031508
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 15:11
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-114.6453	-4.5858	-218913	108.548	106.883	120

Last Message: Low Sample Detected

Sample ID: 1518720-BLK1 Mode: TOC
Method: Filename: 10031513
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 15:19
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-79.9042	-3.1962	-152576	106.297	105.680	120

Last Message: Low Sample Detected

Sample ID: 1518720-BS1 Mode: TOC
Method: Filename: 10031528
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 15:30
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	877.4440	35.0978	1675465	108.949	109.948	95

accidentally used CN SRM, see rr

Sample ID: 1518720-SRM1 Mode: TOC
Method: Filename: 10031532
Cal. Curve: 063015 LOW Timestamp: 2015/10/03 15:36
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2060.2559	23.4869	1121197	108.414	109.392	~~92~~

Sample ID: 1518720-SRM1 RR Mode: TOC
Method: Filename: 10031539
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 15:43
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6433.6226	97.7911	4668261	107.295	108.268	106

Sample ID: SC13114-01A Mode: TOC
Method: Filename: 10031545
Cal. Curve: ~~063015 LOW~~ Timestamp: 2015/10/03 15:48
Operator ID: rlt Sample Type: Sample

*072415low 10.03.15 rlt

1518720 10.03.15 see curve raw data

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2748.1335	54.4130	2597520	104.276	105.272	133

Sample ID: SC13114-02A
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031550
Timestamp: 2015/10/03 15:54
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	846.0126	17.8509	852148	103.652	104.643	114

Sample ID: SC13114-03A
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031556
Timestamp: 2015/10/03 15:59
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	708.8113	14.6724	700417	104.108	105.100	112

Sample ID: SC13114-04A
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031602
Timestamp: 2015/10/03 16:05
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1729.8488	35.6349	1701105	105.388	106.380	119

Sample ID: SC13115-01A
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031610
Timestamp: 2015/10/03 16:14
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1031.0355	25.0542	1196013	106.511	107.499	112

Sample ID: SEQ-CCV2
Method:
Cal. Curve: ~~063015~~ ~~LOW~~ *
Operator ID: rlt
Mode: TOC
Filename: 10031613
Timestamp: 2015/10/03 16:15
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	943.9693	37.7588	1802494	107.763	108.760	108

Sample ID: SEQ-CCB2
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031614
Timestamp: 2015/10/03 16:17
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	3.2506	0.1300	6207	103.414	104.003	120

Last Message: Low Sample Detected

Sample ID: SC13115-05A
Method:
Mode: TOC
Filename: 10031615

*072415low 10.03.15 rlt

1518720 10.03.15 see curve raw data

*

Cal. Curve: 063015 LOW Timestamp: 2015/10/03 16:19
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2440.9529	81.5278	3891901	105.159	106.154	140

Sample ID: SC13115-06A Mode: TOC
Method: * Filename: 10031620
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 16:24
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2793.9929	59.5121	2840932	104.351	105.348	136

Sample ID: SC13115-06A(2) Mode: TOC
Method: * Filename: 10031625
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 16:28
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2189.5110	51.0156	2435336	105.822	106.816	113

1518708-dup1

Sample ID: SC13115-06A(3) Mode: TOC
Method: * Filename: 10031629
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 16:32
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2493.1526	52.3562	2499333	105.621	106.619	121

Sample ID: SC13115-06A(4) Mode: TOC
Method: Filename: 10031633
Cal. Curve: ~~063015~~ ~~LOW~~ * Timestamp: 2015/10/03 16:37
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2518.7451	64.4799	3078081	104.429	105.423	141

boat stuck

Sample ID: ~~SC13115-07A~~ Mode: TOC
Method: Filename: 10031639
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 16:41
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	0.4697	0.0121	576	105.715	106.024	2

Last Message: Canceled

Sample ID: SC13115-07A * Mode: TOC
Method: Filename: 10031720
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 17:25
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1014.0529	26.0612	1244084	106.248	107.238	123

*072415low 10.03.15 rlt

1518720 10.03.15 see curve raw data

Sample ID: SEQ-CCV3 *
Method:
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt

Mode: TOC
Filename: 10031728
Timestamp: 2015/10/03 17:31
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1007.2994	40.2920	1923421	105.497	106.487	110

Sample ID: SEQ-CCB3 *
Method:
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt

Mode: TOC
Filename: 10031742
Timestamp: 2015/10/03 17:45
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-73.1463	-2.9259	-139672	104.369	101.844	120

Last Message: Low Sample Detected

Lloyd Kahn

Data Processing Summary

PREPARATION BENCH SHEET

1518708

Eurofins Spectrum Analytical, Inc. - Agawam, MA

Temp °C	Correction Factor	Corrected Temp °C
10.4	-2	10.2

Balance ID: HS - 10.280 ICV

Thermometer ID: NF144D

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **Sequence: S508898**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518708-BLK1	Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-BS1	LCS		QC	0.04	1	15G0891			02-Oct-15 17:28	
1518708-CCB1	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB2	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB3	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCV1	Calibration Check		QC	0.04	1	15G0891			02-Oct-15 17:28	
1518708-CCV2	Calibration Check		QC	0.04	1	15G0891			02-Oct-15 17:28	
1518708-CCV3	Calibration Check		QC	0.04	1	15G0891			02-Oct-15 17:28	
1518708-DUP1	Duplicate		QC	0.0054	1		SC13115-04		24-Sep-15 13:00	
1518708-SRM1	Reference		QC	0.0206	1	15C0320			02-Oct-15 17:28	
SC13113-01	BCP-SED-OF7(12-24)	A	wc-TOC-Lloyd	0.0045	1			09-Oct-15 15:00	22-Sep-15 11:30	DP-NYSDEC Cat B
SC13115-02	0493-13	A	wc-TOC-Lloyd	0.0047	1			09-Oct-15 15:00	24-Sep-15 12:00	Type 1 DP Level 4
SC13115-03	0164-13 DP	A	wc-TOC-Lloyd	0.0028	1			09-Oct-15 15:00	24-Sep-15 12:15	Type 1 DP Level 4
SC13115-04	0495-13	A	wc-TOC-Lloyd	0.0046	1			09-Oct-15 15:00	24-Sep-15 13:00	Type 1 DP Level 4
SC13115-08	0498-13	A	wc-TOC-Lloyd	0.0041	1			09-Oct-15 15:00	22-Sep-15 10:30	Type 1 DP Level 4
SC13115-09	0499-13	A	wc-TOC-Lloyd	0.0017	1			09-Oct-15 15:00	22-Sep-15 10:45	Type 1 DP Level 4
SC13115-10	0497-13	A	wc-TOC-Lloyd	0.0012	1			09-Oct-15 15:00	22-Sep-15 13:25	Type 1 DP Level 4
SC13118-01	0498-13	A	wc-TOC-Lloyd	0.0008	1			09-Oct-15 15:00	22-Sep-15 10:45	Type 1 DP Level 4
SC13118-02	0479-13	A	wc-TOC-Lloyd	0.0021	1			09-Oct-15 15:00	23-Sep-15 10:45	Type 1 DP Level 4
SC13118-03	0489-13	A	wc-TOC-Lloyd	0.0029	1			09-Oct-15 15:00	23-Sep-15 13:30	Type 1 DP Level 4

Analyst Reviewed 10/8/15 Date

Manager Reviewed 10/9/15 Date

Extracts Received By Date

Printed: 10/8/2015 6:47:07PM

PREPARATION BENCH SHEET

1518708

Eurofins Spectrum Analytical, Inc. - Agawam, MA

Temp °C	Correction Factor	Corrected Temp °C
104	-2	102

Balance ID: C

Thermometer ID: N7440

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **Sequence: S508898**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
SC13118-04	0489-13 DP	A	wc-TOC-Lloyd	0.0052	1			09-Oct-15 15:00	23-Sep-15 13:40	Type 1 DP Level 4

10.02.15
rlt
toc soil

Reagents Used:

15G0336 Nitric Acid 50%

Analyst Reviewed 10/8/15 Date

Manager Reviewed 10/9/15 Date

Extracts Received By Date

Printed: 10/8/2015 6:47:07PM

PREPARATION BENCH SHEET

1518708

Balance ID _____

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **(No Surrogate)**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518708-BLK1	Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-BS1	LCS		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB1	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB2	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB3	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCV1	Calibration Check		QC	0.04	1				02-Oct-15 17:28	
1518708-CCV2	Calibration Check		QC	0.04	1				02-Oct-15 17:28	
1518708-CCV3	Calibration Check		QC	0.04	1				02-Oct-15 17:28	
1518708-DUP1	Duplicate		QC	0.04	1				02-Oct-15 17:28	
1518708-SRM1	Reference		QC	0.04	1	0.0206			02-Oct-15 17:28	
SC13113-01	BCP-SED-DF7(12-24)	A	wc-TOC-Lloyd	0.04	1	0.0181	0.0045	09-Oct-15 15:00	22-Sep-15 11:30	**DP-NYSDEC Cat B**
SC13114-01	0481-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	21-Sep-15 11:10	**Type 1 DP Level 4**
SC13114-02	0488-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	21-Sep-15 13:30	**Type 1 DP Level 4**
SC13114-03	0163-13DP	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	21-Sep-15 13:50	**Type 1 DP Level 4**
SC13114-04	0485-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	21-Sep-15 14:40	**Type 1 DP Level 4**
SC13115-04	0495-13	A	wc-TOC-Lloyd	0.04	1	0.0119	0.0046	09-Oct-15 15:00	24-Sep-15 13:00	**Type 1 DP Level 4**
SC13115-05	0479-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	23-Sep-15 10:45	**Type 1 DP Level 4**
SC13115-06	0489-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	23-Sep-15 13:30	**Type 1 DP Level 4**
SC13115-07	0487-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	23-Sep-15 14:50	**Type 1 DP Level 4**
SC13115-08	0498-13	A	wc-TOC-Lloyd	0.04	1	0.0041		09-Oct-15 15:00	22-Sep-15 10:30	**Type 1 DP Level 4**
SC13115-09	0499-13	A	wc-TOC-Lloyd	0.04	1	0.0039	0.0017	09-Oct-15 15:00	22-Sep-15 10:45	**Type 1 DP Level 4**
SC13115-10	0497-13	A	wc-TOC-Lloyd	0.04	1	0.0012		09-Oct-15 15:00	22-Sep-15 13:35	**Type 1 DP Level 4**

09 (2) 0.0034 (3) 0.0046 (4) 0.0052

Analyst Reviewed Date

Manager Reviewed Date

Extracts Received By Date

Printed: 10/3/2015 10:10:16AM

HIGH CURVE

PREPARATION BENCH SHEET

1518720

CS 10/8

Balance ID _____

Matrix: Soil/Sediment

Prepared using: Wet Chem - General Preparation

(No Surrogate)

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518720-BLK1	Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-BS1	LCS		QC	0.04	1				03-Oct-15 10:08	
1518720-DUP1	Duplicate		QC	0.04	1				03-Oct-15 10:08	
1518720-SRM1	Reference		QC	0.04	1				03-Oct-15 10:08	
SC13118-01	0498-13 HIGH	A	wc-TOC-Lloyd	0.04	0.0008			09-Oct-15 15:00	22-Sep-15 10:45	**Type 1 DP Level 4**
SC13118-02	0479-13 HIGH	A	wc-TOC-Lloyd	0.04	10 0.0020			09-Oct-15 15:00	23-Sep-15 10:45	**Type 1 DP Level 4**
SC13118-03	0489-13 HIGH	A	wc-TOC-Lloyd	0.04	1 0.0029			09-Oct-15 15:00	23-Sep-15 13:30	**Type 1 DP Level 4**
SC13118-04	0489-13 DP HIGH	A	wc-TOC-Lloyd	0.04	1 0.0052			09-Oct-15 15:00	23-Sep-15 13:40	**Type 1 DP Level 4**

10.03.15
rlt
toc soil

Reagents Used:

15G0336 Nitric Acid 50%

1/1= 02A 0.0047

~~03A~~

~~04A 0.0012~~

01A LOW

03A 0.0028

Analyst Reviewed Date

Manager Reviewed Date

Extracts Received By Date

Printed: 10/3/2015 10:09:35AM

Lloyd Kahn Method - TOC							
10/3/2015							
Sample ID:	Replicate 1	Replicate 2	Replicate 3	Replicate 4	Standard Deviation	Mean	% RSD
SC13115-04A	73127.5	68953.5859	64234.0234	85188.7969	8976.586428	72875.98	12.31762
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Rev. 4/15/09

PREPARATION BENCH SHEET

1518720

Eurofins Spectrum Analytical, Inc. - Agawam, MA

Temp °C	Correction Factor	Corrected Temp °C
10.4	-2	10.2

Balance ID: 5
Thermometer ID: IR71440

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **Sequence: S508901**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518720-BLK1	Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-BS1	LCS		QC	0.04	1	15G0890			03-Oct-15 10:08	
1518720-CCB1	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCB2	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCB3	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCV1	Calibration Check		QC	0.04	1	15G0890			03-Oct-15 10:08	
1518720-CCV2	Calibration Check		QC	0.04	1	15G0890			03-Oct-15 10:08	
1518720-CCV3	Calibration Check		QC	0.04	1	15G0890			03-Oct-15 10:08	
1518720-DUP1	Duplicate		QC	0.021	1		SC13115-06		23-Sep-15 13:30	
1518720-SRM1	Reference		QC	0.0152	1	15C0320			03-Oct-15 10:08	
SC13114-01	0481-13	A	wc-TOC-Lloyd	0.0198	1			09-Oct-15 15:00	21-Sep-15 11:10	Type 1 DP Level 4
SC13114-02	0483-13	A	wc-TOC-Lloyd	0.0211	1			09-Oct-15 15:00	21-Sep-15 13:30	Type 1 DP Level 4
SC13114-03	0163-13DP	A	wc-TOC-Lloyd	0.0207	1			09-Oct-15 15:00	21-Sep-15 13:50	Type 1 DP Level 4
SC13114-04	0485-13	A	wc-TOC-Lloyd	0.0206	1			09-Oct-15 15:00	21-Sep-15 14:40	Type 1 DP Level 4
SC13115-01	0491-13	A	wc-TOC-Lloyd	0.0243	1			09-Oct-15 15:00	24-Sep-15 10:10	Type 1 DP Level 4
SC13115-05	0479-13	A	wc-TOC-Lloyd	0.0334	1			09-Oct-15 15:00	23-Sep-15 10:45	Type 1 DP Level 4
SC13115-06	0489-13	A	wc-TOC-Lloyd	0.0213	1			09-Oct-15 15:00	23-Sep-15 13:30	Type 1 DP Level 4
SC13115-07	0487-13	A	wc-TOC-Lloyd	0.0257	1			09-Oct-15 15:00	23-Sep-15 14:50	Type 1 DP Level 4

10.03.15
rlt
toc soil

Analyst Reviewed Date 10/8/15

Manager Reviewed Date 10/9/15

Extracts Received By Date

Printed: 10/8/2015 7:10:57PM

PREPARATION BENCH SHEET

1518720

Eurofins Spectrum Analytical, Inc. - Agawam, MA

Temp °C	Correction Factor	Corrected Temp °C
104	-2	102

Balance ID: C

Thermometer ID: NJ1440

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **Sequence: S508901**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments

Reagents Used:

15G0336 Nitric Acid 50%

Analyst Reviewed 10/8/15 Date

Manager Reviewed 10/9/15 Date

Extracts Received By Date

Printed: 10/8/2015 7:10:57PM

PREPARATION BENCH SHEET

1518720

COMPLETE

JV 98901

Balance ID _____

Matrix: Soil/Sediment

Prepared using: Wet Chem - General Preparation

(No Surrogate)

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518720-BLK1	Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-BS1	LCS		QC	0.04	1	15G0891			03-Oct-15 10:08	
1518720-CCB1	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCB2	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCB3	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCV1	Calibration Check		QC	0.04	1	15G0891			03-Oct-15 10:08	
1518720-CCV2	Calibration Check		QC	0.04	1	15G0891			03-Oct-15 10:08	
1518720-CCV3	Calibration Check		QC	0.04	1	15G0891			03-Oct-15 10:08	
1518720-DUP1	Duplicate		QC	0.0054	1		SC13115-06		23-Sep-15 13:30	
1518720-SRM1	Reference		QC	~~0.0206~~	1	~~15G0820~~	0.0152		03-Oct-15 10:08	
SC13114-01	0481-13	A	wc-TOC-Lloyd	0.04	1	0.0178		09-Oct-15 15:00	21-Sep-15 11:10	**Type 1 DP Level 4**
SC13114-02	0483-13	A	wc-TOC-Lloyd	0.04	1	0.0211		09-Oct-15 15:00	21-Sep-15 13:30	**Type 1 DP Level 4**
SC13114-03	0163-13DP	A	wc-TOC-Lloyd	0.04	1	0.0207		09-Oct-15 15:00	21-Sep-15 13:50	**Type 1 DP Level 4**
SC13114-04	0485-13	A	wc-TOC-Lloyd	0.04	1	0.0256		09-Oct-15 15:00	21-Sep-15 14:40	**Type 1 DP Level 4**
SC13115-01	0491-13	A	wc-TOC-Lloyd	0.04	1	0.0243		09-Oct-15 15:00	24-Sep-15 10:10	**Type 1 DP Level 4**
SC13115-05	0479-13	A	wc-TOC-Lloyd	0.04	1	0.0354		09-Oct-15 15:00	23-Sep-15 10:45	**Type 1 DP Level 4**
SC13115-06	0489-13	A	wc-TOC-Lloyd	0.04	1	0.0212		09-Oct-15 15:00	23-Sep-15 13:30	**Type 1 DP Level 4**
SC13115-07	0487-13	A	wc-TOC-Lloyd	0.04	1	0.0207		09-Oct-15 15:00	23-Sep-15 14:50	**Type 1 DP Level 4**

10.03.15
rlt
toc soil

(2) 0.0243 (3) 0.0210 (4) 0.0256

Reagents Used:

15G0336 Nitric Acid 50%

Analyst Reviewed Date

Manager Reviewed Date

Extracts Received By Date

Printed: 10/3/2015 3:13:16PM

Lloyd Kahn Method - TOC							
10/3/2015							
Sample ID:	Replicate 1	Replicate 2	Replicate 3	Replicate 4	Standard Deviation	Mean	% RSD
sc13152-06a	2793.9929	2189.511	2493.1526	2518.7451	247.1357412	2498.85	9.889977
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Rev. 4/15/09

FORM VIII(Organics)/FORM XIII(Inorganics)
ANALYSIS BATCH (SEQUENCE) SUMMARY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Sequence:	S506983	Instrument:	TOC2
		Calibration:	1507063

Sample Name	Lab Sample ID	Lab File ID	Analyzed
Cal Standard	S506983-CAL1	07231501	07/23/15 15:04
Cal Standard	S506983-CAL2	07231505	07/23/15 15:08
Cal Standard	S506983-CAL3	07231508	07/23/15 15:11
Cal Standard	S506983-CAL4	07231512	07/23/15 15:15
Cal Standard	S506983-CAL5	07231516	07/23/15 15:19
Cal Standard	S506983-CAL6	07231520	07/23/15 15:23
Cal Standard	S506983-CAL7	07231545	07/23/15 15:49
Initial Cal Check	S506983-ICV1	07231605	07/23/15 16:08
Initial Cal Blank	S506983-ICB1	07231608	07/23/15 16:11

FORM VIII(Organics)/FORM XIII(Inorganics)
ANALYSIS BATCH (SEQUENCE) SUMMARY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Sequence:	S507374	Instrument:	TOC2
		Calibration:	1508009

Sample Name	Lab Sample ID	Lab File ID	Analyzed
Cal Standard	S507374-CAL1	07241136	07/24/15 11:39
Cal Standard	S507374-CAL2	07241140	07/24/15 11:42
Cal Standard	S507374-CAL3	07241144	07/24/15 11:46
Cal Standard	S507374-CAL4	07241149	07/24/15 11:51
Cal Standard	S507374-CAL5	07241153	07/24/15 11:55
Cal Standard	S507374-CAL6	07241159	07/24/15 12:02
Cal Standard	S507374-CAL7	07241205	07/24/15 12:10
Cal Standard	S507374-CAL8	07241211	07/24/15 12:16
Initial Cal Check	S507374-ICV1	07241230	07/24/15 12:32
Initial Cal Blank	S507374-ICB1	07241233	07/24/15 12:35

FORM VIII(Organics)/FORM XIII(Inorganics)
ANALYSIS BATCH (SEQUENCE) SUMMARY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Sequence:	S508898	Instrument:	TOC2
		Calibration:	1507063

Sample Name	Lab Sample ID	Lab File ID	Analyzed
Calibration Check	1518708-CCV1	10031134	10/03/15 11:38
Calibration Blank	1518708-CCB1	10031141	10/03/15 11:43
Blank	1518708-BLK1	10031145	10/03/15 11:48
LCS	1518708-BS1	10031149	10/03/15 11:54
Reference	1518708-SRM1	10031155	10/03/15 11:59
0495-13	SC13115-04	10031218	10/03/15 12:24
0498-13	SC13115-08	10031226	10/03/15 12:31
0499-13	SC13115-09	10031240	10/03/15 12:46
Calibration Check	1518708-CCV2	10031247	10/03/15 12:51
Calibration Blank	1518708-CCB2	10031252	10/03/15 12:55
0493-13	SC13115-02	10031255	10/03/15 12:59
0497-13	SC13115-10	10031303	10/03/15 13:09
0495-13	1518708-DUP1	10031331	10/03/15 13:35
0164-13 DP	SC13115-03	10031418	10/03/15 14:22
Calibration Check	1518708-CCV3	10031424	10/03/15 14:28
Calibration Blank	1518708-CCB3	10031429	10/03/15 14:32

FORM VIII(Organics)/FORM XIII(Inorganics)
ANALYSIS BATCH (SEQUENCE) SUMMARY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Sequence:	S508901	Instrument:	TOC2
		Calibration:	1508009

Sample Name	Lab Sample ID	Lab File ID	Analyzed
Calibration Check	1518720-CCV1	10031456	10/03/15 14:58
Calibration Blank	1518720-CCB1	10031508	10/03/15 15:11
Blank	1518720-BLK1	10031513	10/03/15 15:19
LCS	1518720-BS1	10031528	10/03/15 15:30
Reference	1518720-SRM1	10031539	10/03/15 15:43
0491-13	SC13115-01	10031610	10/03/15 16:14
Calibration Check	1518720-CCV2	10031613	10/03/15 16:15
Calibration Blank	1518720-CCB2	10031614	10/03/15 16:17
0479-13	SC13115-05	10031615	10/03/15 16:19
0489-13	SC13115-06	10031620	10/03/15 16:24
0489-13	1518720-DUP1	10031629	10/03/15 16:32
0487-13	SC13115-07	10031720	10/03/15 17:25
Calibration Check	1518720-CCV3	10031728	10/03/15 17:31
Calibration Blank	1518720-CCB3	10031742	10/03/15 17:45

Calibration Report Print Date/Time: 2015/07/23 15:50:47

Cal. Curve ID: HIGH 072315
Created: 2015/07/23 15:50
Calibration Factor (m): 4.552e+04
Y Intercept (b): 370960
r-squared: 0.99905

Standard ID	Y Raw Data	X Expected ug C	Measured ug C	Message	Date & Time
0.000 15G0877	19261	0.000	-7.726	Low Sample De	2015/07/23 15:04
1000PPM 15G0881	2110995	40.000	38.224		2015/07/23 15:08
2000PPM 15G0882	4040412	80.000	80.608		2015/07/23 15:11
4000PPM 15G0883	7938431	160.000	166.236		2015/07/23 15:15
8000PPM 15G0884	15243136	320.000	326.700		2015/07/23 15:19
12500PPM 15G088	23448292	500.000	506.944		2015/07/23 15:23
15000PPM 15G088	27184308	600.000	589.014	Over-range	2015/07/23 15:49

Calibration Report Print Date/Time: 2015/07/24 17:12:20

Cal. Curve ID: ~~063015~~ ~~LOW~~ 072415 low 8.06.15rlt
Created: 2015/07/24 12:17
Calibration Factor (m): 4.774e+04
Y Intercept (b): 223418
r-squared: 0.99786

	Standard ID	Y Raw Data	X Expected ug C	Measured ug C	Message	Date & Time
15G0877 *	0.000PPM ~~15F117~~	-75343	0.000	-6.258	Low Sample De	2015/07/24 11:39
15G0878 *	100PPM ~~15F1174~~	301092	4.000	1.627		2015/07/24 11:42
15G0879 *	200PPM ~~15F1173~~	564098	8.000	7.137		2015/07/24 11:46
15G0880 *	500PPM ~~15F1172~~	1095701	20.000	18.273		2015/07/24 11:51
15G0881 *	1000PPM ~~15F1171~~	2598953	40.000	49.763		2015/07/24 11:55
15G0882 *	2000PPM ~~15F1170~~	4033333	80.000	79.810		2015/07/24 12:02
15G0883 *	4000PPM ~~15F1169~~	8115560	160.000	165.325		2015/07/24 12:10
	8000PPM ~~15F1168~~	15323789	320.000	316.324		2015/07/24 12:16

*080615 rlt

Multiple Analysis Report Print Date/Time: 2015/10/22 12:35:01

Sample ID	Result	Std. Dev.	RSD	Mode	ALT	Method ID	Sample Type	Vial	Timestamp	Message
CLN	706.0037			TOC			Sample		2015/10/03 11:19	
CLN	27.7574			TOC			Sample		2015/10/03 11:24	Low Sample Detected
SEQ-CCV1	9142.5049			TOC			Sample		2015/10/03 11:38	
SEQ-CCB1	36.0305			TOC			Sample		2015/10/03 11:43	
1518708-BLK1	2.7114			TOC			Sample		2015/10/03 11:48	Low Sample Detected
1518708-BS1	9058.7637			TOC			Sample		2015/10/03 11:54	
1518708-SRM1	5825.3506			TOC			Sample		2015/10/03 11:59	
SC12113-01A	96906.3984			TOC			Sample		2015/10/03 12:05	
SC12113-01A RR	86197.0625			TOC			Sample		2015/10/03 12:12	
SC12115-04A	64879.8438			TOC			Sample		2015/10/03 12:17	
SC12115-04A RR	73127.5000			TOC			Sample		2015/10/03 12:24	
SC12115-08A	64498.0742			TOC			Sample		2015/10/03 12:31	
SC12115-09A	181495.7188			TOC			Sample		2015/10/03 12:39	
SC12115-09A RR	174037.5938			TOC			Sample		2015/10/03 12:46	
SEQ-CCV2	8841.3281			TOC			Sample		2015/10/03 12:51	
SEQ-CCB2	32.6277			TOC			Sample		2015/10/03 12:55	
SC12115-02A	111551.0156			TOC			Sample		2015/10/03 12:59	
SC12115-010A	203915.0938			TOC			Sample		2015/10/03 13:09	
SC12115-04(2)	68953.5859			TOC			Sample		2015/10/03 13:35	
SC12115-04(3)	64234.0234			TOC			Sample		2015/10/03 13:39	
SC12115-04(4)	85188.7969			TOC			Sample		2015/10/03 13:46	
SC12118-01A	219100.1094			TOC			Sample		2015/10/03 13:58	
SC13118-02A	192264.0312			TOC			Sample		2015/10/03 14:05	
SC13118-03A	50033.4922			TOC			Sample		2015/10/03 14:10	
SC13118-04A	54797.3906			TOC			Sample		2015/10/03 14:15	
SC13115-03A	106298.5312			TOC			Sample		2015/10/03 14:22	
SEQ-CCV3	8543.1475			TOC			Sample		2015/10/03 14:28	
SEQ-CCB3	68.1085			TOC			Sample		2015/10/03 14:32	Low Sample Detected

Multiple Analysis Report Print Date/Time: 2015/10/22 12:31:05

Sample ID	Result	Std. Dev.	RSD	Mode	ALT	Method ID	Sample Type	Vial	Timestamp	Message
SEQ-CCV1	947.2405			TOC			Sample		2015/10/03 14:58	
SEQ-CCB1	-114.6453			TOC			Sample		2015/10/03 15:11	Low Sample Detected
1518720-BLK1	-79.9042			TOC			Sample		2015/10/03 15:19	Low Sample Detected
1518720-BS1	877.4440			TOC			Sample		2015/10/03 15:30.	
1518720-SRM1	2060.2559			TOC			Sample		2015/10/03 15:36	
1518720-SRM1 RR	6433.6226			TOC			Sample		2015/10/03 15:43	
SC13114-01A	2748.1335			TOC			Sample		2015/10/03 15:48.	
SC13114-02A	846.0126			TOC			Sample		2015/10/03 15:54	
SC13114-03A	708.8113			TOC			Sample		2015/10/03 15:59	
SC13114-04A	1729.8488			TOC			Sample		2015/10/03 16:05.	
SC13115-01A	1031.0355			TOC			Sample		2015/10/03 16:14	
SEQ-CCV2	943.9693			TOC			Sample		2015/10/03 16:15	
SEQ-CCB2	3.2506			TOC			Sample		2015/10/03 16:17	Low Sample Detected
SC13115-05A	2440.9529			TOC			Sample		2015/10/03 16:19	
SC13115-06A	2793.9929			TOC			Sample		2015/10/03 16:24	
SC13115-06A(2)	2189.5110			TOC			Sample		2015/10/03 16:28.	
SC13115-06A(3)	2493.1526			TOC			Sample		2015/10/03 16:32	
SC13115-06A(4)	2518.7451			TOC			Sample		2015/10/03 16:37	
SC13115-07A	0.4697			TOC			Sample		2015/10/03 16:41	Canceled
SC13115-07A	1014.0529			TOC			Sample		2015/10/03 17:25	
SEQ-CCV3	1007.2994			TOC			Sample		2015/10/03 17:31	
SEQ-CCB3	-73.1463			TOC			Sample		2015/10/03 17:45	Low Sample Detected

Notes & Definitions

BRL Below the reporting limit and also indicates there are no detections between the MDL and MRL

Form I 'Q' column

B The analyte was found in the associated blank as well as the sample

D All identified compounds in the analysis are at a secondary dilution factor

E The identified compound's concentration exceeds the calibration range of the instrument for this specific analysis

J Compound detected but below the reporting limit and above the minimum detection limit (MDL); therefore, the result is an estimated concentration

N Included for TIC that indicates presumptive evidence of a compound

P Used for a Dual Column target analyte when the concentration difference between the two GC columns is greater than 40%.

U Compound was analyzed for but not detected

Form IIa 'Method' column

This column refers to the instrument used for analysis

IR Iris ICP
MS Thermo ICP/MS
AV Mercury analyzer

Form VI 'Q' column

***** indicates that:
Mean RF is above the value in the LIMIT column, or
Linear COD is below the value in the LIMIT column, or
Quad COD is below the value in the LIMIT column

Form VII 'Type' column

A average of response factor
L linear regression
Q quadratic equation

Form VIII 'Q' column for Inorganics

E The dilution analysis is not within a control limit of 10%, therefore a chemical or physical interference effect must be suspected

Last Page of Data Report

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Semivolatiles by GC/MS Data

Case Narrative/Conformance Summary

Semivolatiles by GC/MS

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC27

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8064450	0491-13		X	1	
8064451	0492-13		X	1	
8064452	0493-13		X	1	
8064453	0494-13		X	1	Unspiked
8064454	0494-13 MS		X	1	Matrix Spike
8064455	0494-13 MSD		X	1	Matrix Spike Duplicate
8064457	0164-13 DP		X	1	Field Duplicate Sample
8064458	0495-13		X	1	
8064459	0496-13		X	1	
8064460	0165-13 FB	X		1	Field Blank
8064461	0479-13		X	1	
8064462	0480-13		X	1	
8064463	0489-13		X	1	
8064464	0490-13		X	1	
8064465	0487-13		X	1	
8064466	0488-13		X	1	
8064467	0163-13 FB	X		1	Field Blank
8064468	0498-13		X	1	
8064469	0499-13		X	5	
8064470	0497-13		X	5	
8064471	0161-13 FB	X		1	Field Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC27

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Semivolatiles by GC/MS

eurofins | Lancaster Laboratories Environmental

Quality Control Reference List
GC/MS Semivolatiles

CLIENT: The Johnson Company, Inc.
SDG: PSC27

Fraction: Semivolatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
PAHs 8270C (17)	15271WAD026	SBLKWD271	09/30/2015 10:43:00
		271WDLCS	09/30/2015 11:05:00
		271WDLCSD	09/30/2015 11:27:00
		8064460	09/30/2015 11:49:00
		8064467	09/30/2015 12:11:00
		8064471	09/30/2015 12:32:00
PAHs 8270C (17)	15272SLD026	SBLKLD272	10/02/2015 10:46:00
		272LDLCS	10/02/2015 11:11:00
		8064450	10/02/2015 14:04:00
		8064451	10/02/2015 14:28:00
		8064452	10/02/2015 14:53:00
		8064453 UNSPK	10/02/2015 12:00:00
		8064454 MS	10/02/2015 12:25:00
		8064455 MSD	10/02/2015 12:50:00
		8064457	10/02/2015 15:18:00
		8064458	10/02/2015 15:43:00
		8064459	10/02/2015 16:07:00
		8064461	10/05/2015 08:58:00
		8064462	10/05/2015 09:22:00
		8064463	10/05/2015 09:47:00
		8064464	10/05/2015 10:11:00
		8064465	10/05/2015 16:07:00
		8064466	10/05/2015 16:31:00
		8064468	10/05/2015 16:56:00
		8064469	10/05/2015 17:20:00
		8064470	10/05/2015 17:45:00

Quality Control Summary
Method Blank
GC/MS Semivolatiles
SDG: PSC27
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

15271WAD026 / SBLKWD271 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Naphthalene	09/30/15	N.D.	ug/l	0.1	0.5
2-Methylnaphthalene	09/30/15	N.D.	ug/l	0.1	0.5
Acenaphthylene	09/30/15	N.D.	ug/l	0.1	0.5
Acenaphthene	09/30/15	N.D.	ug/l	0.1	0.5
Fluorene	09/30/15	N.D.	ug/l	0.1	0.5
Phenanthrene	09/30/15	N.D.	ug/l	0.1	0.5
Anthracene	09/30/15	N.D.	ug/l	0.1	0.5
Fluoranthene	09/30/15	N.D.	ug/l	0.1	0.5
Pyrene	09/30/15	N.D.	ug/l	0.1	0.5
Benzo(a)anthracene	09/30/15	N.D.	ug/l	0.1	0.5
Chrysene	09/30/15	N.D.	ug/l	0.1	0.5
Benzo(b)fluoranthene	09/30/15	N.D.	ug/l	0.1	0.5
Benzo(k)fluoranthene	09/30/15	N.D.	ug/l	0.1	0.5
Benzo(a)pyrene	09/30/15	N.D.	ug/l	0.1	0.5
Indeno(1,2,3-cd)pyrene	09/30/15	N.D.	ug/l	0.1	0.5
Dibenz(a,h)anthracene	09/30/15	N.D.	ug/l	0.1	0.5
Benzo(g,h,i)perylene	09/30/15	N.D.	ug/l	0.1	0.5

Quality Control Summary
Method Blank
GC/MS Semivolatiles
SDG: PSC27
Matrix: SOLID

Fraction: Semivolatiles by GC/MS

15272SLD026 / SBLKLD272 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Naphthalene	10/02/15	N.D.	ug/kg	3	17
2-Methylnaphthalene	10/02/15	N.D.	ug/kg	3	17
Acenaphthylene	10/02/15	N.D.	ug/kg	3	17
Acenaphthene	10/02/15	N.D.	ug/kg	3	17
Fluorene	10/02/15	N.D.	ug/kg	3	17
Phenanthrene	10/02/15	N.D.	ug/kg	3	17
Anthracene	10/02/15	N.D.	ug/kg	3	17
Fluoranthene	10/02/15	N.D.	ug/kg	3	17
Pyrene	10/02/15	N.D.	ug/kg	3	17
Benzo(a)anthracene	10/02/15	N.D.	ug/kg	3	17
Chrysene	10/02/15	N.D.	ug/kg	3	17
Benzo(b)fluoranthene	10/02/15	N.D.	ug/kg	3	17
Benzo(k)fluoranthene	10/02/15	N.D.	ug/kg	3	17
Benzo(a)pyrene	10/02/15	N.D.	ug/kg	3	17
Indeno(1,2,3-cd)pyrene	10/02/15	N.D.	ug/kg	3	17
Dibenz(a,h)anthracene	10/02/15	N.D.	ug/kg	3	17
Benzo(g,h,i)perylene	10/02/15	N.D.	ug/kg	3	17

Quality Control Summary
Surrogates
GC/MS Semivolatiles
SDG: PSC27
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

15271WAD026	2-Fluorobiphenyl		Nitrobenzene-d5		Terphenyl-d14	
	Spike Added	100 ug/l	Spike Added	100 ug/l	Spike Added	100 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKWD271	74	61 - 112	84	46 - 128	111	43 - 131
271WDLCS	90	61 - 112	88	46 - 128	104	43 - 131
271WDLCSD	91	61 - 112	86	46 - 128	105	43 - 131
8064460	90	61 - 112	86	46 - 128	109	43 - 131
8064467	93	61 - 112	86	46 - 128	108	43 - 131
8064471	85	61 - 112	80	46 - 128	106	43 - 131

Quality Control Summary
Surrogates
GC/MS Semivolatiles
SDG: PSC27
Matrix: SOLID

Fraction: Semivolatiles by GC/MS

15272SLD026	2-Fluorobiphenyl		Nitrobenzene-d5		Terphenyl-d14	
	Spike Added	3333.333 ug/kg	Spike Added	3333.333 ug/kg	Spike Added	3333.333 ug/kg
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKLD272	101	63 - 117	89	54 - 123	100	59 - 129
272LDLCS	98	63 - 117	88	54 - 123	100	59 - 129
8064450	87	63 - 117	85	54 - 123	95	59 - 129
8064451	93	63 - 117	87	54 - 123	99	59 - 129
8064452	82	63 - 117	70	54 - 123	80	59 - 129
8064453 US	92	63 - 117	86	54 - 123	97	59 - 129
8064454 MS	94	63 - 117	87	54 - 123	94	59 - 129
8064455 MSD	93	63 - 117	85	54 - 123	92	59 - 129
8064457	91	63 - 117	78	54 - 123	88	59 - 129
8064458	92	63 - 117	79	54 - 123	89	59 - 129
8064459	93	63 - 117	80	54 - 123	95	59 - 129
8064461	96	63 - 117	81	54 - 123	93	59 - 129
8064462	94	63 - 117	81	54 - 123	96	59 - 129
8064463	90	63 - 117	79	54 - 123	93	59 - 129
8064464	93	63 - 117	80	54 - 123	94	59 - 129
8064465	93	63 - 117	77	54 - 123	94	59 - 129
8064466	94	63 - 117	81	54 - 123	96	59 - 129
8064468	78	63 - 117	73	54 - 123	80	59 - 129
8064469	76	63 - 117	69	54 - 123	79	59 - 129
8064470	75	63 - 117	64	54 - 123	75	59 - 129

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

UNSPK: 8064453 MS: 8064454 MSD: 8064455 **Analyte**	Batch: **15272SLD026** (Sample number(s): 8064450-8064455, 8064457-8064459, 8064461-8064466, 8064468-8064470)								
	Spike Added ug/kg MS/MSD	**Unspiked Conc ug/kg**	**MS Conc ug/kg**	**MSD Conc ug/kg**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Naphthalene	1642.04 / 1642.58	N.D.	1595.35	1602.77	97	98	77-115	0	30
2-Methylnaphthalene	1642.04 / 1642.58	N.D.	1559.75	1569.91	95	96	83-109	1	30
Acenaphthylene	1642.04 / 1642.58	N.D.	1639.69	1666.47	100	101	83-127	2	30
Acenaphthene	1642.04 / 1642.58	N.D.	1610.04	1629.68	98	99	83-116	1	30
Fluorene	1642.04 / 1642.58	N.D.	1669.81	1652.71	102	101	86-118	1	30
Phenanthrene	1642.04 / 1642.58	5.17	1632.45	1553.47	99	94	80-114	5	30
Anthracene	1642.04 / 1642.58	N.D.	1712.41	1664.75	104	101	82-118	3	30
Fluoranthene	1642.04 / 1642.58	12.94	1506.92	1509.5	91	91	81-117	0	30
Pyrene	1642.04 / 1642.58	12.68	1576.78	1580.17	95	95	81-114	0	30
Benzo(a)anthracene	1642.04 / 1642.58	7.29	1441.42	1482.42	87	90	76-119	3	30
Chrysene	1642.04 / 1642.58	9.88	1490.31	1453.48	90	88	80-121	3	30
Benzo(b)fluoranthene	1642.04 / 1642.58	12.85	1687.92	1597.37	102	96	78-129	6	30
Benzo(k)fluoranthene	1642.04 / 1642.58	4.16	1535.62	1630.87	93	99	79-120	6	30
Benzo(a)pyrene	1642.04 / 1642.58	8.91	1495.24	1509.55	91	91	85-117	1	30
Indeno(1,2,3-cd)pyrene	1642.04 / 1642.58	6.34	1599.26	1606.65	97	97	81-118	0	30
Dibenz(a,h)anthracene	1642.04 / 1642.58	4.26	1645.69	1698.59	100	103	81-123	3	30
Benzo(g,h,i)perylene	1642.04 / 1642.58	8.52	1626.33	1655.68	99	100	82-119	2	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 271WDLCS LCSD: 271WDLCSD	Batch: **15271WAD026** (Sample number(s): 8064460, 8064467, 8064471)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Naphthalene	50	36.88	35.46	74	71	69-109	4	30
2-Methylnaphthalene	50	40.04	38.87	80	78	69-103	3	30
Acenaphthylene	50	43.24	42.84	86	86	78-117	1	30
Acenaphthene	50	48.26	48.31	97	97	75-111	0	30
Fluorene	50	51.32	51.77	103	104	80-117	1	30
Phenanthrene	50	48.11	47.18	96	94	75-110	2	30
Anthracene	50	49.78	49.35	100	99	82-116	1	30
Fluoranthene	50	48.64	48.11	97	96	76-117	1	30
Pyrene	50	49.97	50.22	100	100	76-111	0	30
Benzo(a)anthracene	50	50.81	50.03	102	100	76-122	2	30
Chrysene	50	56.45	54.67	113	109	77-126	3	30
Benzo(b)fluoranthene	50	49.16	49.1	98	98	75-123	0	30
Benzo(k)fluoranthene	50	50.25	49.42	101	99	74-119	2	30
Benzo(a)pyrene	50	45.73	45.24	91	90	73-115	1	30
Indeno(1,2,3-cd)pyrene	50	48.11	46.57	96	93	70-121	3	30
Dibenz(a,h)anthracene	50	50.95	49.52	102	99	72-127	3	30
Benzo(g,h,i)perylene	50	48.94	47.18	98	94	70-126	4	30

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 272LDLCS	Batch: **15272SLD026** (Sample number(s): 8064450-8064455, 8064457-8064459, 8064461-8064466, 8064468-8064470)							
Analyte	**Spike Added ug/kg**	**LCS Conc ug/kg**	**LCSD Conc ug/kg**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Naphthalene	1666.67	1640.06	NA	98	NA	77-115	NA	NA
2-Methylnaphthalene	1666.67	1607.2	NA	96	NA	83-109	NA	NA
Acenaphthylene	1666.67	1755.01	NA	105	NA	83-127	NA	NA
Acenaphthene	1666.67	1726.35	NA	104	NA	83-116	NA	NA
Fluorene	1666.67	1800.17	NA	108	NA	86-118	NA	NA
Phenanthrene	1666.67	1700.4	NA	102	NA	80-114	NA	NA
Anthracene	1666.67	1805.44	NA	108	NA	82-118	NA	NA
Fluoranthene	1666.67	1658.57	NA	100	NA	81-117	NA	NA
Pyrene	1666.67	1656.36	NA	99	NA	81-114	NA	NA
Benzo(a)anthracene	1666.67	1628.84	NA	98	NA	76-119	NA	NA
Chrysene	1666.67	1684.39	NA	101	NA	80-121	NA	NA
Benzo(b)fluoranthene	1666.67	1767.6	NA	106	NA	78-129	NA	NA
Benzo(k)fluoranthene	1666.67	1643.19	NA	99	NA	79-120	NA	NA
Benzo(a)pyrene	1666.67	1604.87	NA	96	NA	85-117	NA	NA
Indeno(1,2,3-cd)pyrene	1666.67	1605.11	NA	96	NA	81-118	NA	NA
Dibenz(a,h)anthracene	1666.67	1663.58	NA	100	NA	81-123	NA	NA
Benzo(g,h,i)perylene	1666.67	1648.36	NA	99	NA	82-119	NA	NA

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: bi1000x.d DFTPP Injection Date: 09/23/15

Instrument ID: HP18444 DFTPP Injection Time: 00:14

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	37.9
68	Less than 2.0% of mass 69	1.0 (1.99)1
69	Mass 69 relative abundance	50.2
70	Less than 2.0% of mass 69	0.5 (1.0)1
127	40.0 - 60.0% of mass 198	44.5
197	Less than 1.0% of mass 198	0.0
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.66
275	10.0 - 30.0% of mass 198	27.1
365	Greater than 1.00% of mass 198	2.75
441	Present, and less than mass 443	10.4
442	Greater than 40.0 % of mass 198	65.3
443	17.0 - 23.0% of mass 442	12.4 (18.9)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	STD2575 - SSTD30	bi1001.d	09/23/15	00:27
02	STD2575 - SSTD.5	bi1002.d	09/23/15	00:49
03	STD2575 - SSTD120	bi1003.d	09/23/15	01:10
04	STD2575 - SSTD80	bi1004.d	09/23/15	01:32
05	STD2575 - SSTD50	bi1005.d	09/23/15	01:54
06	STD2575 - SSTD15	bi1006.d	09/23/15	02:15
07	STD2575 - SSTD5	bi1007.d	09/23/15	02:37
08	STD2575 - SSTD1	bi1008.d	09/23/15	02:59
09	8270MDL2575 - SSTD0.5	bi1009.d	09/23/15	03:20
10	PAHMDL2575 - SSTD0.1	bi1010.d	09/23/15	03:42
11	BAS2475 - SSTD50	bi1013.d	09/23/15	04:25
12	BAS2475 - SSTD120	bi1014.d	09/23/15	04:47
13	BAS2475 - SSTD80	bi1015.d	09/23/15	05:08
14	BAS2475 - SSTD30	bi1016.d	09/23/15	05:30
15	BAS2475 - SSTD15	bi1017.d	09/23/15	05:51
16	BAS2475 - SSTD5	bi1018.d	09/23/15	06:13
17	BAS2475 - SSTD001	bi1019.d	09/23/15	06:34
18	BASICV2475 - SSTD050	bi1012.d	09/23/15	06:56

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: bi1400w.d DFTPP Injection Date: 09/30/15

Instrument ID: HP18444 DFTPP Injection Time: 09:43

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	33.6
68	Less than 2.0% of mass 69	0.78 (1.79)1
69	Mass 69 relative abundance	43.5
70	Less than 2.0% of mass 69	0.14 (0.33)1
127	40.0 - 60.0% of mass 198	44.7
197	Less than 1.0% of mass 198	0.87
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.66
275	10.0 - 30.0% of mass 198	23.5
365	Greater than 1.00% of mass 198	2.27
441	Present, and less than mass 443	6.79
442	Greater than 40.0 % of mass 198	44.7
443	17.0 - 23.0% of mass 442	8.5 (19.0)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	STD2575 - SSTD30	bi1401a.d	09/30/15	09:56
02	BAS2475 - SSTD30	bi1402.d	09/30/15	10:21
03	SBLKWD271	bi1403.d	09/30/15	10:43
04	271WDLCS	bi1404.d	09/30/15	11:05
05	271WDLCSD	bi1405.d	09/30/15	11:27
06	8064460	bi1406.d	09/30/15	11:49
07	8064467	bi1407.d	09/30/15	12:11
08	8064471	bi1408.d	09/30/15	12:32
09	8046586RE	bi1409.d	09/30/15	12:54
10	8056292	bi1410.d	09/30/15	13:16
11	8056294	bi1411.d	09/30/15	13:38
12	8056296	bi1412.d	09/30/15	14:00
13	8056402	bi1413.d	09/30/15	14:22
14	8056910	bi1414.d	09/30/15	14:44
15	8056914	bi1415.d	09/30/15	15:05
16	8056396	bi1416.d	09/30/15	15:27
17	8056399	bi1417.d	09/30/15	15:49

FORM V SV

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: oi0980s.d DFTPP Injection Date: 09/22/15

Instrument ID: HP09910 DFTPP Injection Time: 08:46

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	40.3
68	Less than 2.0% of mass 69	0.7 (1.57)1
69	Mass 69 relative abundance	44.6
70	Less than 2.0% of mass 69	0.27 (0.61)1
127	40.0 - 60.0% of mass 198	47.0
197	Less than 1.0% of mass 198	0.0
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	22.6
365	Greater than 1.00% of mass 198	2.04
441	Present, and less than mass 443	10.9
442	Greater than 40.0 % of mass 198	73.2
443	17.0 - 23.0% of mass 442	14.2 (19.3)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	STD2575 - SSTD30	oi0981a.d	09/22/15	09:32
02	STD2575 - SSTD.5	oi0982.d	09/22/15	09:58
03	STD2575 - SSTD120	oi0983.d	09/22/15	10:23
04	STD2575 - SSTD80	oi0984.d	09/22/15	10:49
05	STD2575 - SSTD50	oi0985.d	09/22/15	11:15
06	STD2575 - SSTD15	oi0986.d	09/22/15	11:41
07	SSTD5	oi0987.d	09/22/15	12:07
08	STD2575 - SSTD1	oi0988.d	09/22/15	12:33
09	MDL2575 - SSTD0.5	oi0989.d	09/22/15	12:58
10	PAHMDL2575 - SSTD0.1	oi0990.d	09/22/15	13:24
11	ICV2465 - SSTD050	oi0991.d	09/22/15	13:50
12	BAS2475 - SSTD50	oi0992.d	09/22/15	15:33
13	BAS2475 - SSTD120	oi0993.d	09/22/15	15:59
14	BAS2475 - SSTD80	oi0994.d	09/22/15	16:25
15	BAS2475 - SSTD30	oi0995.d	09/22/15	16:51
16	BAS2475 - SSTD15	oi0996.d	09/22/15	17:16
17	BAS2475 - SSTD5	oi0997.d	09/22/15	17:42
18	BASMDL2475 - SSTD001	oi0998.d	09/22/15	18:08

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: oi0980s.d DFTPP Injection Date: 09/22/15

Instrument ID: HP09910 DFTPP Injection Time: 08:46

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	40.3
68	Less than 2.0% of mass 69	0.7 (1.57)1
69	Mass 69 relative abundance	44.6
70	Less than 2.0% of mass 69	0.27 (0.61)1
127	40.0 - 60.0% of mass 198	47.0
197	Less than 1.0% of mass 198	0.0
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	22.6
365	Greater than 1.00% of mass 198	2.04
441	Present, and less than mass 443	10.9
442	Greater than 40.0 % of mass 198	73.2
443	17.0 - 23.0% of mass 442	14.2 (19.3)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	BASICV2475 - SSTD050	oi0999.d	09/22/15	18:34
20	SBLKWA261	oi1003.d	09/22/15	18:59
21	261WALCS	oi1004.d	09/22/15	19:26
22	261WALCSD	oi1005.d	09/22/15	19:51
23	8050557	oi1006.d	09/22/15	20:17

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: oj0070.d DFTPP Injection Date: 10/02/15

Instrument ID: HP09910 DFTPP Injection Time: 10:02

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	35.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	37.4
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	44.3
197	Less than 1.0% of mass 198	0.0
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.48
275	10.0 - 30.0% of mass 198	22.1
365	Greater than 1.00% of mass 198	2.14
441	Present, and less than mass 443	14.4
442	Greater than 40.0 % of mass 198	91.1
443	17.0 - 23.0% of mass 442	16.2 (17.8)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	STD2735 - SSTD30	oj0071.d	10/02/15	10:17
02	SBLKLD272	oj0072.d	10/02/15	10:46
03	272LDLCS	oj0073.d	10/02/15	11:11
04	8063273DL	oj0074.d	10/02/15	11:35
05	8064453	oj0075.d	10/02/15	12:00
06	8064454MS	oj0076.d	10/02/15	12:25
07	8064455MSD	oj0077.d	10/02/15	12:50
08	8064150	oj0078.d	10/02/15	13:14
09	8064152	oj0079.d	10/02/15	13:39
10	8064450	oj0080.d	10/02/15	14:04
11	8064451	oj0081.d	10/02/15	14:28
12	8064452	oj0082.d	10/02/15	14:53
13	8064457	oj0083.d	10/02/15	15:18
14	8064458	oj0084.d	10/02/15	15:43
15	8064459	oj0085.d	10/02/15	16:07

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: oj0210w.d DFTPP Injection Date: 10/04/15

Instrument ID: HP09910 DFTPP Injection Time: 22:31

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	34.6
68	Less than 2.0% of mass 69	0.33 (0.81)1
69	Mass 69 relative abundance	40.3
70	Less than 2.0% of mass 69	0.48 (1.19)1
127	40.0 - 60.0% of mass 198	45.7
197	Less than 1.0% of mass 198	0.22
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.78
275	10.0 - 30.0% of mass 198	21.5
365	Greater than 1.00% of mass 198	2.01
441	Present, and less than mass 443	11.4
442	Greater than 40.0 % of mass 198	75.3
443	17.0 - 23.0% of mass 442	13.6 (18.1)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	STD2735 - SSTD30	oj0211.d	10/04/15	22:45
02	BAS2735 - SSTD50	oj0212.d	10/04/15	23:10
03	SBLKLB274	oj0213.d	10/05/15	00:02
04	274LBLCS	oj0214.d	10/05/15	00:26
05	274LBLCSD	oj0215.d	10/05/15	00:50
06	8062186	oj0216.d	10/05/15	01:15
07	8062187	oj0217.d	10/05/15	01:39
08	8062188	oj0218.d	10/05/15	02:04
09	8062190	oj0219.d	10/05/15	02:28
10	8062191	oj0220.d	10/05/15	02:52
11	8062192	oj0221.d	10/05/15	03:17
12	8068255	oj0222.d	10/05/15	03:41
13	8068255MS	oj0223.d	10/05/15	04:05
14	8068255MSD	oj0224.d	10/05/15	04:30
15	8068246	oj0225.d	10/05/15	04:54
16	8068248	oj0227.d	10/05/15	05:43
17	8068249	oj0228.d	10/05/15	06:07
18	8068250	oj0229.d	10/05/15	06:32

FORM V SV

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: oj0210w.d DFTPP Injection Date: 10/04/15

Instrument ID: HP09910 DFTPP Injection Time: 22:31

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	34.6
68	Less than 2.0% of mass 69	0.33 (0.81)1
69	Mass 69 relative abundance	40.3
70	Less than 2.0% of mass 69	0.48 (1.19)1
127	40.0 - 60.0% of mass 198	45.7
197	Less than 1.0% of mass 198	0.22
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.78
275	10.0 - 30.0% of mass 198	21.5
365	Greater than 1.00% of mass 198	2.01
441	Present, and less than mass 443	11.4
442	Greater than 40.0 % of mass 198	75.3
443	17.0 - 23.0% of mass 442	13.6 (18.1)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	8068251	oj0230.d	10/05/15	06:56
20	8068252	oj0231.d	10/05/15	07:21
21	8068253	oj0232.d	10/05/15	07:45
22	8068254	oj0233.d	10/05/15	08:09
23	8068256	oj0234.d	10/05/15	08:34
24	8064461	oj0235.d	10/05/15	08:58
25	8064462	oj0236.d	10/05/15	09:22
26	8064463	oj0237.d	10/05/15	09:47
27	8064464	oj0238.d	10/05/15	10:11

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18444 Calibration Date(s): 09/23/15 09/23/15

Calibration Times: 00:27 02:59

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.5 = bi1002.d RRF1 = bi1008.d RRF5 = bi1007.d RRF15 = bi1006.d
RRF30 = bi1001.d RRF50 = bi1005.d RRF80 = bi1004.d RRF120 = bi1003.d

COMPOUND		RRF0.5	RRF1	RRF5	RRF15	RRF30	RRF50	RRF80	RRF120	$\overline{RRF}$	% RSD	CAL. METHOD	
1,4-Dioxane				0.712	0.710	0.714	0.687	0.663	0.697	0.697	3	AVG	
N-Nitrosodimethylamine				1.132	1.139	1.157	1.149	1.125	1.184	1.148	2	AVG	
Pyridine				2.012	1.904	1.994	1.830	1.901	1.852	1.915	4	AVG	
2-Picoline				1.931	1.971	1.979	1.954	1.894	1.974	1.950	2	AVG	
N-Nitrosomethylethylamine				0.951	0.873	0.901	0.879	0.850	0.876	0.888	4	AVG	
Methyl methanesulfonate				1.048	1.006	1.024	1.014	0.974	1.005	1.012	2	AVG	
N-Nitrosodiethylamine			0.869	0.882	0.852	0.858	0.873	0.833	0.854	0.860	2	AVG	
Ethyl methanesulfonate			0.899	0.863	0.824	0.847	0.869	0.823	0.849	0.854	3	AVG	
Phenol	*		2.421	2.516	2.431	2.455	2.470	2.328	2.368	2.427	3	AVG	*
Aniline			2.805	2.948	2.817	2.869	2.785	2.656	2.688	2.795	4	AVG	
a-methylstyrene				1.588	1.492	1.641	1.608	1.545	1.544	1.570	3	AVG	
bis(2-Chloroethyl)ether			1.909	1.903	1.811	1.836	1.815	1.733	1.761	1.824	4	AVG	
2-Chlorophenol			1.521	1.577	1.496	1.532	1.506	1.458	1.474	1.509	3	AVG	
1,3-Dichlorobenzene			1.580	1.608	1.522	1.581	1.563	1.513	1.525	1.556	2	AVG	
1,4-Dichlorobenzene	*		1.660	1.649	1.578	1.591	1.609	1.532	1.563	1.597	3	AVG	*
Benzyl alcohol				1.069	1.055	1.170	1.138	1.088	1.110	1.105	4	AVG	
1,2-Dichlorobenzene			1.517	1.545	1.456	1.506	1.507	1.449	1.473	1.494	2	AVG	
Indene				2.633	2.499	2.816	2.729	2.589	2.625	2.648	4	AVG	
2-Methylphenol			1.607	1.633	1.554	1.559	1.552	1.478	1.511	1.556	3	AVG	
2,2'-oxybis(1-Chloropropane)			2.252	2.111	2.016	2.009	2.028	1.934	1.925	2.039	6	AVG	
bis(2-Chloroisopropyl)ether			2.252	2.111	2.016	2.009	2.028	1.934	1.925	2.039	6	AVG	
N-Nitrosopyrrolidine			0.906	0.924	0.903	0.919	0.926	0.868	0.900	0.907	2	AVG	
Acetophenone			2.650	2.576	2.453	2.480	2.407	2.269	2.313	2.450	6	AVG	
4-Methylphenol			1.847	1.841	1.645	1.621	1.823	1.715	1.738	1.747	5	AVG	
Total Cresols			1.727	1.737	1.600	1.590	1.688	1.597	1.624	1.652	4	AVG	
N-Nitroso-di-n-propylamine	#		1.704	1.528	1.465	1.443	1.446	1.363	1.390	1.477	8	AVG	#
N-Nitrosomorpholine				1.085	1.059	1.025	1.022	0.969	0.977	1.023	4	AVG	
o-Toluidine			2.584	2.733	2.678	2.667	2.673	2.516	2.545	2.628	3	AVG	
Hexachloroethane				0.706	0.683	0.701	0.693	0.660	0.666	0.685	3	AVG	
Nitrobenzene			0.531	0.520	0.501	0.498	0.494	0.472	0.478	0.499	4	AVG	
N-Nitrosopiperidine			0.208	0.220	0.208	0.208	0.204	0.199	0.204	0.207	3	AVG	
Isophorone			1.004	0.996	0.931	0.958	0.935	0.892	0.912	0.947	4	AVG	
2-Nitrophenol	*		0.138	0.174	0.170	0.169	0.174	0.173	0.175	0.168	8	AVG	*
2,4-Dimethylphenol			0.447	0.458	0.434	0.451	0.431	0.415	0.426	0.437	3	AVG	
O,O,O-Triethylphosphorothioate				0.196	0.194	0.195	0.192	0.192	0.195	0.194	1	AVG	
bis(2-Chloroethoxy)methane			0.566	0.585	0.537	0.558	0.573	0.532	0.510	0.552	5	AVG	
Benzoic acid				0.253	0.281	0.321	0.336	0.331	0.343	0.311	11	AVG	
1,2,3,4-Tetrahydronaphthalene				0.610	0.592	0.640	0.617	0.602	0.603	0.611	3	AVG	
2,4-Dichlorophenol	*		0.260	0.316	0.304	0.316	0.304	0.291	0.298	0.298	6	AVG	*
1,2,4-Trichlorobenzene				0.350	0.339	0.359	0.342	0.332	0.339	0.343	3	AVG	
Naphthalene		1.117	1.097	1.119	1.069	1.108	1.055	1.015	1.028	1.076	4	AVG	
4-Chloroaniline			0.471	0.486	0.468	0.492	0.465	0.445	0.460	0.470	3	AVG	
2,6-Dichlorophenol			0.281	0.302	0.295	0.310	0.299	0.284	0.292	0.295	3	AVG	
Hexachloropropene				0.224	0.217	0.227	0.226	0.223	0.225	0.223	2	AVG	
Hexachlorobutadiene	*		0.192	0.204	0.193	0.204	0.200	0.192	0.194	0.197	3	AVG	*
Quinoline				0.743	0.712	0.723	0.701	0.673	0.696	0.708	3	AVG	
Caprolactam				0.135	0.135	0.138	0.127	0.125	0.130	0.132	4	AVG	
N-Nitrosodi-n-butylamine			0.371	0.365	0.429	0.436	0.428	0.408	0.344	0.397	9	AVG	
4-Chloro-3-methylphenol	*		0.366	0.396	0.381	0.389	0.379	0.366	0.377	0.379	3	AVG	*
Safrole				0.288	0.287	0.298	0.288	0.275	0.282	0.286	3	AVG	
2-Methylnaphthalene		0.740	0.718	0.783	0.738	0.760	0.740	0.704	0.712	0.737	4	AVG	
1-Methylnaphthalene		0.747	0.682	0.693	0.666	0.689	0.665	0.637	0.646	0.678	5	AVG	

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18444 Calibration Date(s): 09/23/15 09/23/15

Calibration Times: 00:27 02:59

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.5 = bi1002.d RRF1 = bi1008.d RRF5 = bi1007.d RRF15 = bi1006.d
RRF30 = bi1001.d RRF50 = bi1005.d RRF80 = bi1004.d RRF120 = bi1003.d

	COMPOUND	RRF0.5	RRF1	RRF5	RRF15	RRF30	RRF50	RRF80	RRF120	$\overline{RRF}$	% RSD	CAL. METHOD	
	Hexachlorocyclopentadiene	#		0.330	0.350	0.374	0.365	0.359	0.356	0.356	4	AVG	#
	1,2,4,5-Tetrachlorobenzene		0.594	0.638	0.594	0.595	0.606	0.603	0.606	0.605	3	AVG	
	cis-Isosafrole			0.584	0.553	0.551	0.533	0.526	0.523	0.545	4	AVG	
	2,4,6-Trichlorophenol	*	0.349	0.398	0.375	0.376	0.386	0.385	0.391	0.380	4	AVG	*
	2,4,5-Trichlorophenol		0.413	0.405	0.409	0.415	0.415	0.415	0.423	0.414	1	AVG	
	trans-Isosafrole			0.617	0.570	0.605	0.588	0.573	0.579	0.589	3	AVG	
	Isosafrole			0.612	0.567	0.596	0.579	0.565	0.570	0.581	3	AVG	
	1,1'-Biphenyl		1.518	1.648	1.523	1.543	1.512	1.479	1.474	1.528	4	AVG	
	2-Chloronaphthalene		1.409	1.295	1.175	1.175	1.361	1.132	1.234	1.254	8	AVG	
	1-Chloronaphthalene		1.158	1.109	1.109	1.178	1.143	1.111	1.013	1.117	5	AVG	
	Diphenyl ether		0.782	0.869	0.808	0.845	0.825	0.790	0.804	0.818	4	AVG	
	2-Nitroaniline		0.306	0.346	0.338	0.326	0.357	0.348	0.363	0.340	6	AVG	
	1,4-Naphthoquinone			0.531	0.497	0.503	0.499	0.484	0.484	0.499	3	AVG	
	1,4-Dinitrobenzene			0.153	0.150	0.144	0.164	0.167	0.176	0.159	8	AVG	
	Dimethylphthalate			1.506	1.387	1.414	1.390	1.350	1.361	1.401	4	AVG	
	1,3-Dinitrobenzene			0.162	0.174	0.174	0.201	0.200	0.209	0.187	10	AVG	
	2,6-Dinitrotoluene		0.255	0.270	0.286	0.282	0.301	0.296	0.307	0.285	6	AVG	
	Acenaphthylene	2.025	1.857	1.929	1.826	1.906	1.834	1.784	1.773	1.867	4	AVG	
	3-Nitroaniline		0.291	0.290	0.302	0.300	0.315	0.313	0.325	0.305	4	AVG	
	Acenaphthene	* 1.304	1.211	1.294	1.209	1.248	1.210	1.192	1.209	1.235	3	AVG	*
	2,4-Dinitrophenol	#		0.091	0.108	0.110	0.130	0.135	0.141	0.119	16	1STDEG	#
	4-Nitrophenol	#		0.194	0.202	0.192	0.199	0.200	0.211	0.200	3	AVG	#
	Pentachlorobenzene		0.520	0.565	0.516	0.526	0.520	0.514	0.526	0.527	3	AVG	
	2,4-Dinitrotoluene			0.343	0.355	0.368	0.390	0.392	0.403	0.375	6	AVG	
	2,4_2,6-Dinitrotoluenes			0.306	0.320	0.325	0.345	0.344	0.355	0.333	6	AVG	
	Dibenzofuran		1.710	1.756	1.648	1.662	1.653	1.580	1.598	1.658	4	AVG	
	1-Naphthylamine			1.337	1.289	1.319	1.277	1.222	1.263	1.284	3	AVG	
	2,3,4,6-Tetrachlorophenol		0.309	0.321	0.323	0.345	0.339	0.335	0.344	0.331	4	AVG	
	2-Naphthylamine			1.356	1.289	1.335	1.238	1.201	1.201	1.270	5	AVG	
	Diethylphthalate			1.497	1.361	1.381	1.346	1.322	1.346	1.376	5	AVG	
	Thionazin			0.301	0.289	0.262	0.263	0.288	0.292	0.283	6	AVG	
	Fluorene	1.509	1.334	1.474	1.379	1.388	1.367	1.323	1.337	1.389	5	AVG	
	4-Chlorophenyl-phenylether		0.710	0.719	0.684	0.701	0.686	0.666	0.668	0.691	3	AVG	
	5-Nitro-o-toluidine		0.365	0.351	0.361	0.356	0.355	0.350	0.365	0.357	2	AVG	
	4-Nitroaniline		0.302	0.317	0.338	0.337	0.331	0.330	0.335	0.327	4	AVG	
	4,6-Dinitro-2-methylphenol			0.075	0.082	0.085	0.098	0.102	0.106	0.092	13	AVG	
	N-Nitrosodiphenylamine (1)	*	0.594	0.653	0.635	0.657	0.636	0.612	0.611	0.628	4	AVG	*
	NDPA as diphenylamine			0.653	0.635	0.657	0.636	0.612	0.611	0.634	3	AVG	
	1,2-Diphenylhydrazine		0.956	1.010	0.962	0.977	0.962	0.929	0.904	0.957	4	AVG	
	Tetraethyldithiopyrophosphate			0.162	0.151	0.156	0.154	0.149	0.146	0.153	4	AVG	
	1,3,5-Trinitrobenzene			0.046	0.055	0.054	0.063	0.065	0.071	0.059	15	1STDEG	
	Diallate (peak 1)			0.442	0.431	0.442	0.447	0.422	0.425	0.435	2	AVG	
	Phorate		0.575	0.595	0.587	0.623	0.625	0.598	0.590	0.599	3	AVG	
	Phenacetin		0.388	0.428	0.433	0.458	0.425	0.422	0.431	0.427	5	AVG	
	4-Bromophenyl-phenylether			0.222	0.210	0.213	0.212	0.210	0.209	0.213	2	AVG	
	Diallate (peak 2)			0.458	0.419	0.431	0.427	0.422	0.426	0.431	3	AVG	
	Diallate trans/cis			0.445	0.429	0.440	0.444	0.422	0.425	0.434	2	AVG	
	Hexachlorobenzene	0.219	0.232	0.217	0.210	0.227	0.216	0.211	0.210	0.218	4	AVG	
	Dimethoate			0.371	0.365	0.379	0.350	0.341	0.331	0.356	5	AVG	
	Pentachlorophenol	*		0.118	0.121	0.129	0.128	0.128	0.131	0.126	4	AVG	*
	4-Aminobiphenyl		0.742	0.772	0.720	0.710	0.629	0.561		0.689	11	AVG	
	Pentachloronitrobenzene			0.092	0.090	0.098	0.095	0.092	0.094	0.094	3	AVG	

(1) Cannot be separated from Diphenylamine

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18444 Calibration Date(s): 09/23/15 09/23/15

Calibration Times: 00:27 02:59

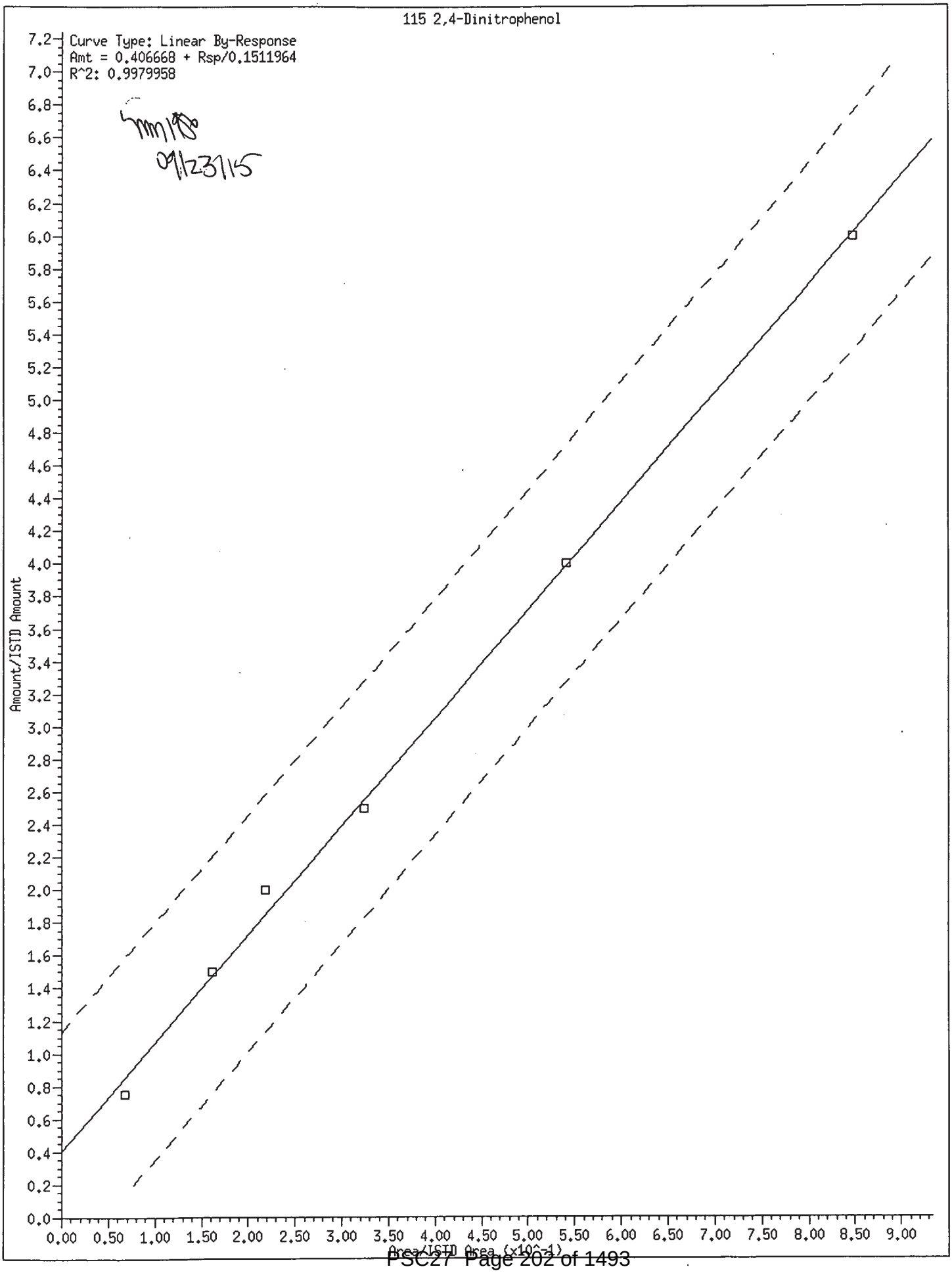
Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

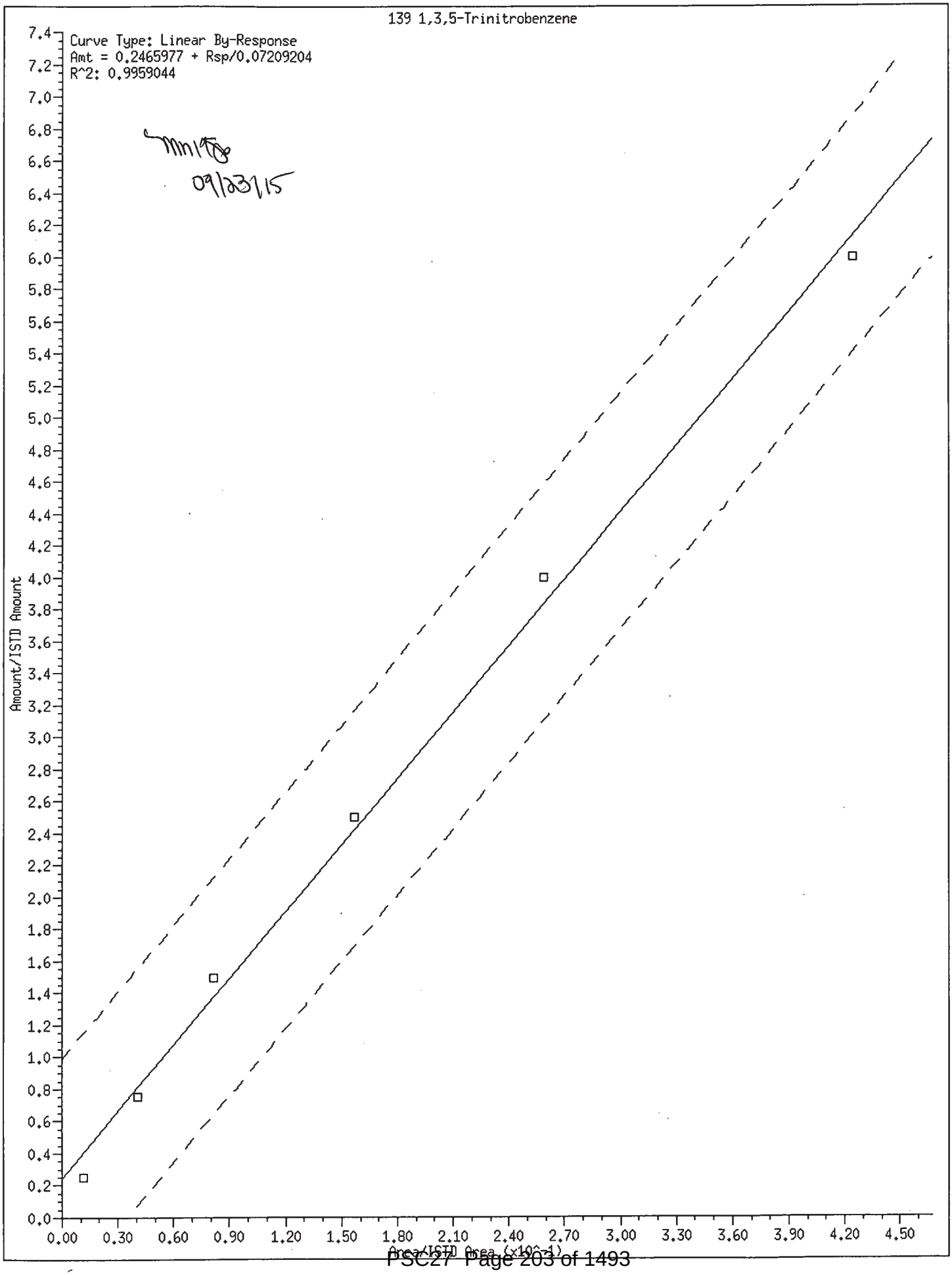
LAB FILE ID:RRF0.5 = bi1002.d RRF1 = bi1008.d RRF5 = bi1007.d RRF15 = bi1006.d
RRF30 = bi1001.d RRF50 = bi1005.d RRF80 = bi1004.d RRF120 = bi1003.d

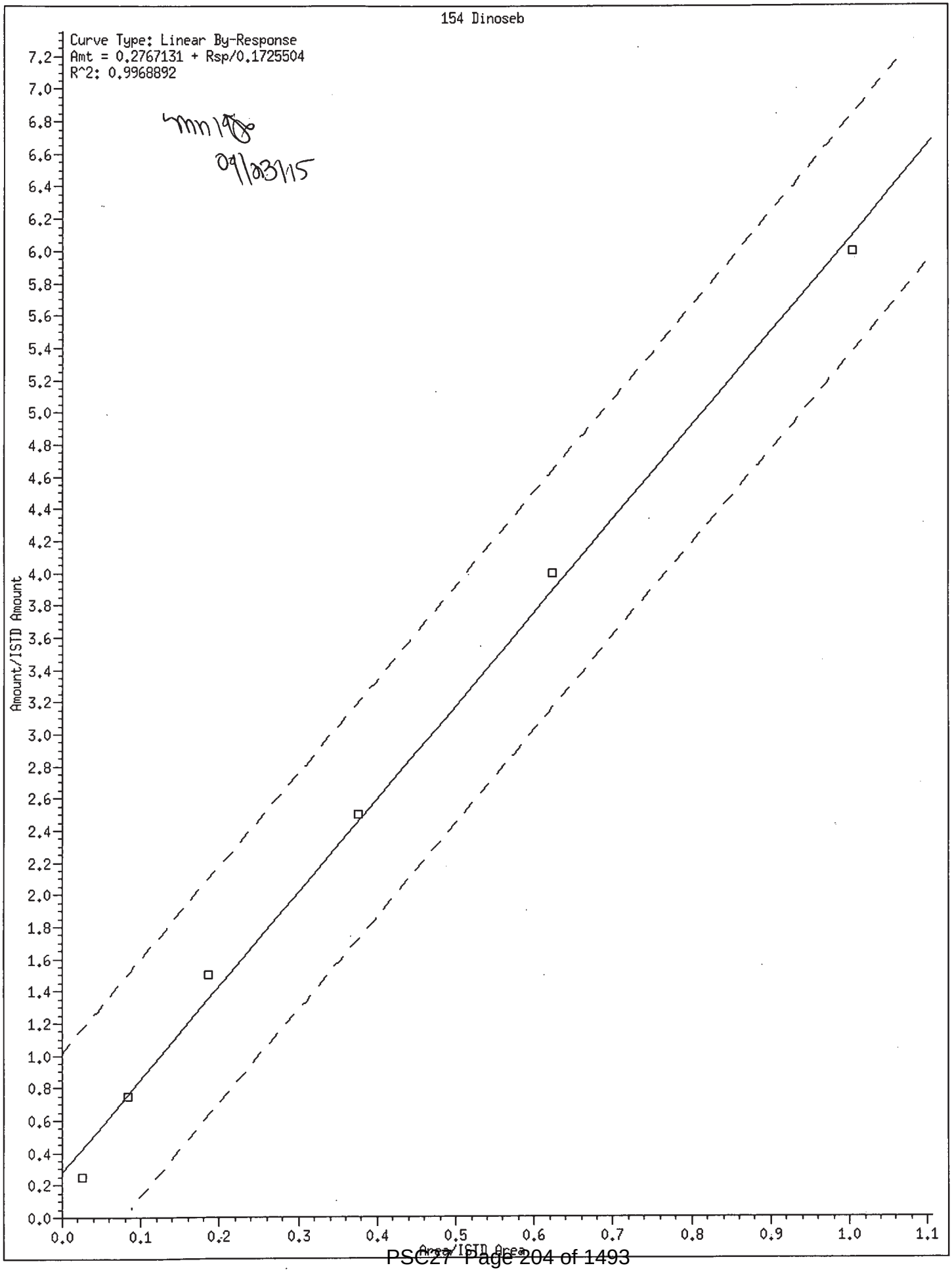
COMPOUND	RRF0.5	RRF1	RRF5	RRF15	RRF30	RRF50	RRF80	RRF120	$\overline{RRF}$	% RSD	CAL. METHOD
Pronamide		0.336	0.353	0.340	0.358	0.340	0.335	0.339	0.343	3	AVG
Dinoseb			0.101	0.112	0.125	0.150	0.156	0.168	0.135	20	1STDEG
Phenanthrene	1.137	1.076	1.156	1.065	1.109	1.056	1.018	1.022	1.080	5	AVG
Anthracene	1.114	1.073	1.148	1.095	1.129	1.072	1.033	1.029	1.087	4	AVG
Carbazole		0.964	1.044	1.006	1.051	0.960	0.918	0.941	0.983	5	AVG
Methyl parathion			0.207	0.230	0.239	0.243	0.241	0.236	0.233	6	AVG
Di-n-butylphthalate			1.276	1.226	1.298	1.230	1.183	1.169	1.230	4	AVG
Parathion			0.122	0.144	0.152	0.162	0.161	0.166	0.151	11	AVG
4-Nitroquinoline-1-oxide				0.069	0.078	0.083	0.088	0.091	0.082	11	AVG
Octachlorostyrene			0.080	0.075	0.085	0.083	0.081	0.081	0.081	4	AVG
Isodrin		0.148	0.144	0.123	0.136	0.126	0.125	0.128	0.133	7	AVG
Fluoranthene *	1.212	1.170	1.262	1.203	1.291	1.152	1.124	1.125	1.193	5	AVG *
Benzidine			0.627	0.616	0.636	0.599	0.561	0.531	0.595	7	AVG
Pyrene	1.089	1.082	1.151	1.064	1.109	1.058	1.026	1.014	1.074	4	AVG
p-Dimethylaminoazobenzene		0.226	0.227	0.213	0.224	0.220	0.218	0.224	0.222	2	AVG
Chlorobenzilate		0.291	0.317	0.306	0.318	0.323	0.314	0.312	0.312	3	AVG
3,3'-Dimethylbenzidine			0.651	0.614	0.655	0.594	0.573	0.564	0.608	6	AVG
Butylbenzylphthalate			0.465	0.456	0.477	0.464	0.455	0.466	0.464	2	AVG
2-Acetylaminofluorene			0.371	0.401	0.423	0.398	0.415	0.431	0.406	5	AVG
3,3'-Dichlorobenzidine			0.381	0.373	0.408	0.357	0.359	0.368	0.374	5	AVG
4,4'-Methylenebis(2-chloroanil			0.217	0.203	0.221	0.200	0.201	0.203	0.207	4	AVG
Benzo(a)anthracene	0.982	0.932	1.067	1.032	1.045	0.976	0.967	0.973	0.997	5	AVG
Chrysene	0.920	0.902	1.007	0.939	0.954	0.904	0.879	0.903	0.926	4	AVG
bis(2-Ethylhexyl)phthalate			0.673	0.674	0.700	0.678	0.659	0.662	0.674	2	AVG
6-Methylchrysene			0.714	0.700	0.730	0.643	0.647	0.670	0.684	5	AVG
Di-n-octylphthalate *			1.539	1.514	1.577	1.659	1.577	1.571	1.573	3	AVG *
Benzo(b)fluoranthene	1.313	1.287	1.375	1.234	1.388	1.423	1.257	1.433	1.339	6	AVG
7,12-Dimethylbenz[a]anthracene		0.534	0.606	0.599	0.622	0.634	0.619	0.637	0.607	6	AVG
Benzo(k)fluoranthene	1.298	1.167	1.383	1.334	1.309	1.234	1.319	1.174	1.277	6	AVG
Benzo(a)pyrene *	1.414	1.137	1.257	1.221	1.263	1.232	1.215	1.239	1.247	6	AVG *
3-Methylcholanthrene		0.566	0.621	0.600	0.601	0.604	0.594	0.602	0.598	3	AVG
Indeno(1,2,3-cd)pyrene	1.249	1.199	1.386	1.371	1.378	1.355	1.340	1.334	1.326	5	AVG
Dibenz(a,h)anthracene	1.045	0.969	1.137	1.114	1.104	1.107	1.097	1.089	1.083	5	AVG
Benzo(g,h,i)perylene	1.062	1.011	1.137	1.131	1.135	1.116	1.098	1.090	1.098	4	AVG
Total PAHs	0.998	1.012	1.041	0.975	0.987	1.114	1.049	1.032	1.026	4	AVG
2-Fluorophenol			1.572	1.483	1.554	1.514	1.443	1.477	1.507	3	AVG
Phenol-d6			2.146	2.052	2.080	2.086	1.983	2.035	2.064	3	AVG
Nitrobenzene-d5			0.499	0.495	0.489	0.489	0.469	0.474	0.486	2	AVG
2-Fluorobiphenyl			1.464	1.363	1.393	1.354	1.308	1.270	1.359	5	AVG
2,4,6-Tribromophenol			0.171	0.168	0.167	0.170	0.167	0.178	0.170	2	AVG
Terphenyl-d14			0.771	0.730	0.767	0.727	0.696	0.683	0.729	5	AVG

Average %RSD 5

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.


115 2,4-Dinitrophenol
Curve Type: Linear By-Response
Amt = 0.406668 + Rsp/0.1511964
R^2: 0.9979958
09/23/15
Amount/ISTD Amount
Area/ISTD Area (x10^-1)


139 1,3,5-Trinitrobenzene
Curve Type: Linear By-Response
Amt = 0.2465977 + Rsp/0.07209204
R^2: 0.9959044
09/23/15
Amount/ISTD Amount
Area/ISTD Area (x10^-1)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0
3.2
3.4
3.6
3.8
4.0
4.2
4.4
4.6
4.8
5.0
5.2
5.4
5.6
5.8
6.0
6.2
6.4
6.6
6.8
7.0
7.2
7.4
0.00
0.30
0.60
0.90
1.20
1.50
1.80
2.10
2.40
2.70
3.00
3.30
3.60
3.90
4.20
4.50


154 Dinoseb
Curve Type: Linear By-Response
Amt = 0.2767131 + Rsp/0.1725504
R^2: 0.9968892
09/03/15
Amount/ISTD Amount
Area/ISTD Area
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0
3.2
3.4
3.6
3.8
4.0
4.2
4.4
4.6
4.8
5.0
5.2
5.4
5.6
5.8
6.0
6.2
6.4
6.6
6.8
7.0
7.2
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP18444.i/15sep22a.b/bi1001.d SSTD030
/chem/HP18444.i/15sep22a.b/bi1002.d SSTD0.5
/chem/HP18444.i/15sep22a.b/bi1003.d SSTD120
/chem/HP18444.i/15sep22a.b/bi1004.d SSTD080
/chem/HP18444.i/15sep22a.b/bi1005.d SSTD050
/chem/HP18444.i/15sep22a.b/bi1006.d SSTD015
/chem/HP18444.i/15sep22a.b/bi1007.d SSTD005
/chem/HP18444.i/15sep22a.b/bi1008.d SSTD001

Area Summary

File ID:

Internal Standard Name	bi1001.d	bi1002.d	bi1003.d	bi1004.d	bi1005.d	bi1006.d	bi1007.d	bi1008.d	Avg. Area	%RSD
1,4-Dichlorobenzene-d4	152002	157680	173718	176992	177097	150617	151942	160998	162631	7
Naphthalene-d8	594625	620934	688525	702912	716821	597471	595883	635165	644042	8
Acenaphthene-d10	351910	359337	394182	398607	416284	351755	340468	377277	373728	7
Phenanthrene-d10	643769	693346	740912	733953	759626	653932	649411	737431	701548	7
Pyrene-d10	784517	817575	834651	814558	835431	773833	758349	851003	808740	4
Perylene-d12	607687	621805	587068	568718	561010	596303	571887	587910	587798	3

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	bi1001.d	bi1002.d	bi1003.d	bi1004.d	bi1005.d	bi1006.d	bi1007.d	bi1008.d
1,4-Dichlorobenzene-d4	5.695	5.695	5.701	5.701	5.695	5.695	5.695	5.695
Naphthalene-d8	6.931	6.925	6.930	6.930	6.931	6.931	6.925	6.925
Acenaphthene-d10	8.638	8.638	8.644	8.644	8.644	8.638	8.638	8.638
Phenanthrene-d10	10.090	10.090	10.095	10.095	10.095	10.090	10.090	10.090
Pyrene-d10	11.477	11.477	11.483	11.483	11.477	11.477	11.477	11.477
Perylene-d12	14.141	14.135	14.146	14.140	14.141	14.141	14.141	14.135

Comments: _____

_____

Report generated on 09/23/2015 at 08:44

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP18444

Method: SW-846 8270C File ID: bi1011.d

ICV SAMPLE ID: ICV2465 BATCH: 15SEP22A026 Sample Name: SSTD050

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	50.00	45.93	-8	20	YES
N-Nitrosodimethylamine	50.00	46.60	-7	20	YES
Pyridine	50.00	49.59	-1	20	YES
2-Picoline	50.00	48.27	-3	20	YES
N-Nitrosomethylethylamine	50.00	47.01	-6	20	YES
Methyl methanesulfonate	50.00	49.33	-1	20	YES
N-Nitrosodiethylamine	50.00	47.89	-4	20	YES
Ethyl methanesulfonate	50.00	47.54	-5	20	YES
Phenol	50.00	49.11	-2	20	YES
Aniline	50.00	49.03	-2	20	YES
bis(2-Chloroethyl)ether	50.00	48.31	-3	20	YES
2-Chlorophenol	50.00	47.85	-4	20	YES
1,3-Dichlorobenzene	50.00	48.94	-2	20	YES
1,4-Dichlorobenzene	50.00	48.65	-3	20	YES
Benzyl alcohol	50.00	50.48	1	20	YES
1,2-Dichlorobenzene	50.00	50.00	0	20	YES
Indene	50.00	50.86	2	20	YES
2-Methylphenol	50.00	48.48	-3	20	YES
2,2'-oxybis(1-Chloropropane	50.00	50.58	1	20	YES
bis(2-Chloroisopropyl)ether	50.00	50.58	1	20	YES
N-Nitrosopyrrolidine	50.00	47.01	-6	20	YES
Acetophenone	50.00	46.77	-6	20	YES
4-Methylphenol	50.00	48.50	-3	20	YES
N-Nitroso-di-n-propylamine	50.00	47.54	-5	20	YES
N-Nitrosomorpholine	50.00	48.15	-4	20	YES
o-Toluidine	50.00	48.76	-2	20	YES
Total Cresols	100.00	96.98	-3	20	YES
Hexachloroethane	50.00	50.10	0	20	YES
Nitrobenzene	50.00	47.44	-5	20	YES
N-Nitrosopiperidine	50.00	47.01	-6	20	YES
Isophorone	50.00	49.51	-1	20	YES
2-Nitrophenol	50.00	48.07	-4	20	YES
2,4-Dimethylphenol	50.00	46.05	-8	20	YES
bis(2-Chloroethoxy)methane	50.00	51.22	2	20	YES
Benzoic acid	100.00	91.79	-8	20	YES
O,O,O-Triethylphosphorothio	50.00	47.86	-4	20	YES
2,4-Dichlorophenol	50.00	49.54	-1	20	YES

NC = Could not calculate

Comments:

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP18444

Method: SW-846 8270C File ID: bi1011.d

ICV SAMPLE ID: ICV2465 BATCH: 15SEP22A026 Sample Name: SSTD050

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,2,4-Trichlorobenzene	50.00	49.01	-2	20	YES
Naphthalene	50.00	48.86	-2	20	YES
4-Chloroaniline	50.00	48.95	-2	20	YES
2,6-Dichlorophenol	50.00	49.16	-2	20	YES
Hexachloropropene	50.00	50.77	2	20	YES
Hexachlorobutadiene	50.00	50.10	0	20	YES
Quinoline	50.00	48.22	-4	20	YES
N-Nitrosodi-n-butylamine	50.00	41.42	-17	20	YES
4-Chloro-3-methylphenol	50.00	48.33	-3	20	YES
Safrole	50.00	48.60	-3	20	YES
2-Methylnaphthalene	50.00	47.12	-6	20	YES
1-Methylnaphthalene	50.00	47.93	-4	20	YES
Hexachlorocyclopentadiene	100.00	102.13	2	20	YES
1,2,4,5-Tetrachlorobenzene	50.00	49.24	-2	20	YES
cis-Isosafrole	6.00	6.06	1	20	YES
2,4,6-Trichlorophenol	50.00	49.86	0	20	YES
2,4,5-Trichlorophenol	50.00	50.13	0	20	YES
trans-Isosafrole	44.00	44.29	1	20	YES
1,1'-Biphenyl	50.00	48.99	-2	20	YES
2-Chloronaphthalene	50.00	56.11	12	20	YES
Isosafrole	50.00	50.35	1	20	YES
1-Chloronaphthalene	50.00	49.70	-1	20	YES
Diphenyl ether	50.00	49.51	-1	20	YES
2-Nitroaniline	50.00	50.30	1	20	YES
1,4-Naphthoquinone	62.50	60.19	-4	20	YES
1,4-Dinitrobenzene	50.00	48.53	-3	20	YES
Dimethylphthalate	50.00	48.95	-2	20	YES
1,3-Dinitrobenzene	50.00	49.41	-1	20	YES
2,6-Dinitrotoluene	50.00	51.66	3	20	YES
Acenaphthylene	50.00	48.89	-2	20	YES
3-Nitroaniline	50.00	50.02	0	20	YES
Acenaphthene	50.00	50.22	0	20	YES
2,4-Dinitrophenol	100.00	88.10	-12	20	YES
4-Nitrophenol	50.00	49.05	-2	20	YES
Pentachlorobenzene	50.00	47.62	-5	20	YES
2,4-Dinitrotoluene	50.00	51.01	2	20	YES
Dibenzofuran	50.00	48.06	-4	20	YES

NC = Could not calculate

Comments:

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP18444

Method: SW-846 8270C File ID: bi1011.d

ICV SAMPLE ID: ICV2465 BATCH: 15SEP22A026 Sample Name: SSTD050

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
2,4_2,6-Dinitrotoluenes	100.00	102.67	3	20	YES
1-Naphthylamine	100.00	94.90	-5	20	YES
2,3,4,6-Tetrachlorophenol	50.00	50.99	2	20	YES
2-Naphthylamine	100.00	95.03	-5	20	YES
Diethylphthalate	50.00	48.50	-3	20	YES
Thionazin	50.00	44.60	-11	20	YES
Fluorene	50.00	49.07	-2	20	YES
4-Chlorophenyl-phenylether	50.00	49.27	-1	20	YES
5-Nitro-o-toluidine	50.00	49.13	-2	20	YES
4-Nitroaniline	50.00	49.29	-1	20	YES
4,6-Dinitro-2-methylphenol	50.00	51.01	2	20	YES
N-Nitrosodiphenylamine	50.00	48.87	-2	20	YES
NDPA as diphenylamine	50.00	48.44	-3	20	YES
1,2-Diphenylhydrazine	50.00	51.48	3	20	YES
Tetraethyldithiopyrophospha	50.00	48.39	-3	20	YES
1,3,5-Trinitrobenzene	50.00	42.04	-16	20	YES
Diallate (peak 1)	37.50	34.98	-7	20	YES
Phorate	50.00	51.01	2	20	YES
Phenacetin	50.00	48.14	-4	20	YES
4-Bromophenyl-phenylether	50.00	49.80	0	20	YES
Diallate (peak 2)	12.50	11.83	-5	20	YES
Hexachlorobenzene	50.00	47.87	-4	20	YES
Diallate trans/cis	50.00	46.81	-6	20	YES
Dimethoate	50.00	44.80	-10	20	YES
Pentachlorophenol	50.00	52.39	5	20	YES
4-Aminobiphenyl	50.00	54.82	10	20	YES
Pentachloronitrobenzene	50.00	49.39	-1	20	YES
Pronamide	50.00	46.79	-6	20	YES
Dinoseb	50.00	45.96	-8	20	YES
Phenanthrene	50.00	47.37	-5	20	YES
Anthracene	50.00	48.98	-2	20	YES
Carbazole	50.00	46.93	-6	20	YES
Methyl parathion	50.00	47.58	-5	20	YES
Di-n-butylphthalate	50.00	49.47	-1	20	YES
Parathion	50.00	53.14	6	20	YES
4-Nitroquinoline-1-oxide	600.00	782.38	30	20	NO *
Isodrin	50.00	45.95	-8	20	YES

NC = Could not calculate

Comments: _____

* non-CCC, OK if greater than 20% D

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP18444

Method: SW-846 8270C File ID: bi1011.d

ICV SAMPLE ID: ICV2465 BATCH: 15SEP22A026 Sample Name: SSTD050

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Fluoranthene	50.00	46.51	-7	20	YES
Benzidine	250.00	252.87	1	20	YES
Pyrene	50.00	48.48	-3	20	YES
p-Dimethylaminoazobenzene	50.00	51.84	4	20	YES
Chlorobenzilate	50.00	49.81	0	20	YES
3,3'-Dimethylbenzidine	100.00	94.70	-5	20	YES
Butylbenzylphthalate	50.00	51.11	2	20	YES
2-Acetylaminofluorene	50.00	48.01	-4	20	YES
3,3'-Dichlorobenzidine	50.00	44.06	-12	20	YES
Benzo(a)anthracene	50.00	48.14	-4	20	YES
Chrysene	50.00	50.82	2	20	YES
4,4'-Methylenebis(2-chloroa	50.00	45.40	-9	20	YES
bis(2-Ethylhexyl)phthalate	50.00	50.26	1	20	YES
6-Methylchrysene	50.00	45.68	-9	20	YES
Di-n-octylphthalate	50.00	54.33	9	20	YES
Benzo(b)fluoranthene	50.00	54.16	8	20	YES
7,12-Dimethylbenz[a]anthrac	50.00	50.77	2	20	YES
Benzo(k)fluoranthene	50.00	48.21	-4	20	YES
Benzo(a)pyrene	50.00	48.49	-3	20	YES
3-Methylcholanthrene	50.00	53.97	8	20	YES
Indeno(1,2,3-cd)pyrene	50.00	50.05	0	20	YES
Dibenz(a,h)anthracene	50.00	51.36	3	20	YES
Benzo(g,h,i)perylene	50.00	51.28	3	20	YES
Total PAHs	900.00	783.58	-13	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP18444

Method: SW-846 8270C File ID: bi1012.d

ICV SAMPLE ID: BASICV2475 BATCH: 15SEP22A026 Sample Name: SSTD050

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzaldehyde	50.00	54.26	9	20	YES
Caprolactam	50.00	51.64	3	20	YES
Atrazine	50.00	51.63	3	20	YES

NC = Could not calculate

Comments: _____

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date(s): 09/22/15 09/22/15

Calibration Times: 09:32 12:33

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.5 = oi0982.d RRF1 = oi0988.d RRF5 = oi0987.d RRF15 = oi0986.d
RRF30 = oi0981a.d RRF50 = oi0985.d RRF80 = oi0984.d RRF120 = oi0983.d

COMPOUND		RRF0.5	RRF1	RRF5	RRF15	RRF30	RRF50	RRF80	RRF120	$\overline{RRF}$	% RSD	CAL. METHOD
1,4-Dioxane				0.878	0.706	0.755	0.743	0.694	0.701	0.746	9	AVG
N-Nitrosodimethylamine				1.286	1.125	1.262	1.261	1.197	1.233	1.227	5	AVG
Pyridine				2.074	1.858	2.060	1.994	1.940	1.999	1.987	4	AVG
2-Picoline				2.217	2.002	2.194	2.153	2.072	2.087	2.121	4	AVG
N-Nitrosomethylethylamine				1.188	0.992	1.024	1.011	0.956	0.986	1.026	8	AVG
Methyl methanesulfonate				1.074	0.958	1.072	1.010	0.973	0.979	1.011	5	AVG
N-Nitrosodiethylamine			0.935	1.055	0.909	0.971	1.019	0.962	0.972	0.975	5	AVG
Ethyl methanesulfonate			0.851	0.959	0.873	0.993	0.962	0.924	0.935	0.928	5	AVG
Phenol	*		2.490	3.009	2.817	2.914	2.884	2.833	2.897	2.835	6	AVG *
Aniline			3.084	3.246	3.018	3.258	3.302	3.139	3.214	3.180	3	AVG
a-methylstyrene				1.692	1.567	1.772	1.741	1.644	1.695	1.685	4	AVG
bis(2-Chloroethyl)ether			2.140	2.073	1.871	2.036	2.026	1.958	2.004	2.015	4	AVG
2-Chlorophenol			1.668	1.713	1.578	1.649	1.685	1.613	1.687	1.656	3	AVG
1,3-Dichlorobenzene			1.453	1.632	1.530	1.668	1.645	1.555	1.592	1.582	5	AVG
1,4-Dichlorobenzene	*		1.796	1.794	1.600	1.681	1.690	1.605	1.635	1.686	5	AVG *
Benzyl alcohol				1.305	1.204	1.411	1.359	1.326	1.335	1.323	5	AVG
1,2-Dichlorobenzene			1.709	1.686	1.509	1.562	1.606	1.485	1.567	1.589	5	AVG
Indene				2.853	2.657	3.041	3.023	2.931	3.021	2.921	5	AVG
2-Methylphenol			1.621	1.895	1.745	1.797	1.851	1.781	1.846	1.791	5	AVG
2,2'-oxybis(1-Chloropropane)			2.791	2.758	2.543	2.652	2.637	2.510	2.596	2.641	4	AVG
bis(2-Chloroisopropyl)ether			2.791	2.758	2.543	2.652	2.637	2.510	2.596	2.641	4	AVG
N-Nitrosopyrrolidine			0.802	1.117	1.072	1.155	1.167	1.125	1.161	1.086	12	AVG
Acetophenone			2.239	2.805	2.571	2.714	2.707	2.609	2.718	2.623	7	AVG
4-Methylphenol			1.828	2.240	2.079	2.000	2.265	2.175	2.251	2.119	8	AVG
Total Cresols			1.725	2.068	1.912	1.898	2.058	1.978	2.048	1.955	6	AVG
N-Nitroso-di-n-propylamine	#		1.592	1.615	1.530	1.625	1.630	1.560	1.603	1.594	2	AVG #
N-Nitrosomorpholine				1.367	1.244	1.289	1.292	1.261	1.261	1.286	3	AVG
o-Toluidine			2.716	3.233	2.851	3.188	3.172	3.031	3.156	3.049	6	AVG
Hexachloroethane				0.705	0.621	0.664	0.671	0.626	0.655	0.657	5	AVG
Nitrobenzene			0.396	0.506	0.456	0.486	0.450	0.455	0.476	0.461	8	AVG
N-Nitrosopiperidine			0.177	0.208	0.221	0.218	0.210	0.212	0.219	0.209	7	AVG
Isophorone			0.933	0.993	0.949	0.956	0.934	0.923	0.972	0.951	3	AVG
2-Nitrophenol	*		0.181	0.177	0.191	0.200	0.195	0.195	0.204	0.192	5	AVG *
2,4-Dimethylphenol			0.359	0.444	0.419	0.440	0.421	0.422	0.441	0.421	7	AVG
O,O,O-Triethylphosphorothioate				0.198	0.190	0.191	0.184	0.179	0.186	0.188	3	AVG
bis(2-Chloroethoxy)methane			0.501	0.546	0.537	0.549	0.541	0.527	0.537	0.534	3	AVG
Benzoic acid				0.325	0.372	0.414	0.422	0.426	0.446	0.401	11	AVG
1,2,3,4-Tetrahydronaphthalene				0.577	0.533	0.583	0.560	0.570	0.588	0.568	3	AVG
2,4-Dichlorophenol	*		0.272	0.318	0.300	0.310	0.298	0.299	0.316	0.302	5	AVG *
1,2,4-Trichlorobenzene				0.313	0.304	0.312	0.303	0.299	0.309	0.307	2	AVG
Naphthalene		1.164	1.043	1.122	1.090	1.106	1.074	1.084	1.135	1.102	3	AVG
4-Chloroaniline			0.500	0.515	0.478	0.503	0.481	0.472	0.505	0.493	3	AVG
2,6-Dichlorophenol			0.284	0.302	0.296	0.305	0.292	0.292	0.302	0.296	2	AVG
Hexachloropropene				0.147	0.154	0.160	0.158	0.159	0.165	0.157	4	AVG
Hexachlorobutadiene	*		0.177	0.165	0.144	0.153	0.143	0.140	0.142	0.152	9	AVG *
Quinoline				0.831	0.784	0.797	0.764	0.758	0.798	0.789	3	AVG
Caprolactam				0.198	0.178	0.170	0.163	0.162	0.168	0.173	8	AVG
N-Nitrosodi-n-butylamine			0.332	0.379	0.439	0.451	0.429	0.355	0.343	0.390	13	AVG
4-Chloro-3-methylphenol	*		0.389	0.419	0.411	0.416	0.402	0.397	0.418	0.407	3	AVG *
Safrole				0.304	0.291	0.299	0.288	0.285	0.297	0.294	2	AVG
2-Methylnaphthalene		0.790	0.769	0.821	0.753	0.793	0.750	0.755	0.782	0.777	3	AVG
1-Methylnaphthalene		0.721	0.691	0.665	0.703	0.704	0.675	0.691	0.720	0.696	3	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date(s): 09/22/15 09/22/15

Calibration Times: 09:32 12:33

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.5 = oi0982.d RRF1 = oi0988.d RRF5 = oi0987.d RRF15 = oi0986.d
RRF30 = oi0981a.d RRF50 = oi0985.d RRF80 = oi0984.d RRF120 = oi0983.d

COMPOUND		RRF0.5	RRF1	RRF5	RRF15	RRF30	RRF50	RRF80	RRF120	$\overline{RRF}$	% RSD	CAL. METHOD	
Hexachlorocyclopentadiene	#			0.209	0.228	0.245	0.230	0.225	0.220	0.226	5	AVG	#
1,2,4,5-Tetrachlorobenzene			0.457	0.484	0.486	0.478	0.464	0.468	0.455	0.470	3	AVG	
cis-Isosafrole				0.546	0.467	0.515	0.474	0.475	0.481	0.493	6	AVG	
2,4,6-Trichlorophenol	*		0.357	0.330	0.337	0.349	0.345	0.343	0.339	0.343	3	AVG	*
2,4,5-Trichlorophenol			0.356	0.409	0.385	0.404	0.378	0.373	0.370	0.382	5	AVG	
trans-Isosafrole				0.541	0.556	0.594	0.570	0.554	0.559	0.562	3	AVG	
Isosafrole				0.541	0.541	0.580	0.554	0.540	0.546	0.550	3	AVG	
1,1'-Biphenyl			1.394	1.564	1.526	1.600	1.512	1.473	1.516	1.512	4	AVG	
2-Chloronaphthalene			1.002	1.114	1.100	1.418	1.314	1.077	1.127	1.165	13	AVG	
1-Chloronaphthalene			0.960	1.115	1.106	1.146	1.096	1.105	1.067	1.085	6	AVG	
Diphenyl ether			0.710	0.806	0.769	0.807	0.749	0.760	0.756	0.765	4	AVG	
2-Nitroaniline			0.316	0.406	0.414	0.444	0.421	0.411	0.421	0.405	10	AVG	
1,4-Naphthoquinone				0.462	0.496	0.531	0.516	0.490	0.482	0.496	5	AVG	
1,4-Dinitrobenzene				0.184	0.209	0.224	0.226	0.224	0.227	0.216	8	AVG	
Dimethylphthalate				1.439	1.377	1.424	1.377	1.350	1.357	1.387	3	AVG	
1,3-Dinitrobenzene				0.214	0.245	0.256	0.261	0.251	0.255	0.247	7	AVG	
2,6-Dinitrotoluene			0.308	0.288	0.315	0.344	0.335	0.326	0.327	0.320	6	AVG	
Acenaphthylene		1.558	1.698	1.835	1.813	1.875	1.809	1.799	1.818	1.776	6	AVG	
3-Nitroaniline			0.337	0.348	0.361	0.405	0.386	0.367	0.371	0.368	6	AVG	
Acenaphthene	*	1.202	1.206	1.244	1.256	1.291	1.208	1.207	1.219	1.229	3	AVG	*
2,4-Dinitrophenol	#		0.141	0.171	0.196	0.226	0.233	0.237	0.253	0.208	19	1STDEG	#
4-Nitrophenol	#			0.179	0.194	0.211	0.206	0.199	0.203	0.199	6	AVG	#
Pentachlorobenzene			0.422	0.467	0.422	0.440	0.415	0.402	0.404	0.425	5	AVG	
2,4-Dinitrotoluene				0.443	0.462	0.462	0.454	0.445	0.449	0.453	2	AVG	
2,4_2,6-Dinitrotoluenes				0.366	0.389	0.403	0.395	0.385	0.388	0.387	3	AVG	
Dibenzofuran			1.674	1.673	1.667	1.766	1.697	1.661	1.671	1.687	2	AVG	
1-Naphthylamine				1.387	1.331	1.457	1.367	1.333	1.352	1.371	3	AVG	
2,3,4,6-Tetrachlorophenol			0.345	0.315	0.324	0.335	0.325	0.317	0.316	0.325	3	AVG	
2-Naphthylamine				1.360	1.383	1.450	1.377	1.319	1.257	1.357	5	AVG	
Diethylphthalate				1.416	1.315	1.419	1.339	1.332	1.338	1.360	3	AVG	
Thionazin				0.306	0.255	0.275	0.277	0.258	0.312	0.280	9	AVG	
Fluorene		1.322	1.408	1.488	1.382	1.495	1.402	1.403	1.401	1.413	4	AVG	
4-Chlorophenyl-phenylether			0.661	0.689	0.660	0.666	0.664	0.634	0.624	0.657	3	AVG	
5-Nitro-o-toluidine			0.375	0.452	0.407	0.449	0.421	0.417	0.418	0.420	6	AVG	
4-Nitroaniline			0.296	0.426	0.418	0.467	0.429	0.409	0.415	0.409	13	AVG	
4,6-Dinitro-2-methylphenol				0.128	0.136	0.156	0.156	0.150	0.165	0.148	9	AVG	
N-Nitrosodiphenylamine (1)	*		0.566	0.662	0.635	0.672	0.631	0.635	0.661	0.637	6	AVG	*
NDPA as diphenylamine				0.662	0.635	0.672	0.631	0.635	0.661	0.649	3	AVG	
1,2-Diphenylhydrazine			0.856	0.891	0.819	0.891	0.863	0.864	0.904	0.870	3	AVG	
Tetraethyldithiopyrophosphate				0.123	0.127	0.125	0.123	0.122	0.125	0.124	2	AVG	
1,3,5-Trinitrobenzene				0.064	0.076	0.091	0.095	0.095	0.102	0.087	16	1STDEG	
Diallate (peak 1)				0.454	0.414	0.445	0.425	0.423	0.440	0.433	4	AVG	
Phorate			0.513	0.601	0.576	0.613	0.589	0.588	0.618	0.585	6	AVG	
Phenacetin			0.389	0.437	0.443	0.465	0.451	0.440	0.462	0.441	6	AVG	
4-Bromophenyl-phenylether				0.193	0.165	0.185	0.179	0.173	0.175	0.178	6	AVG	
Diallate (peak 2)				0.469	0.448	0.418	0.399	0.405	0.415	0.426	6	AVG	
Diallate trans/cis				0.456	0.419	0.441	0.420	0.420	0.436	0.432	3	AVG	
Hexachlorobenzene		0.242	0.184	0.197	0.184	0.189	0.171	0.174	0.176	0.190	12	AVG	
Dimethoate				0.390	0.413	0.419	0.391	0.371	0.357	0.390	6	AVG	
Pentachlorophenol	*			0.115	0.119	0.135	0.130	0.128	0.130	0.126	6	AVG	*
4-Aminobiphenyl			0.679	0.789	0.736	0.726	0.641	0.556	0.508	0.662	15	2NDDEG	
Pentachloronitrobenzene				0.080	0.067	0.068	0.070	0.068	0.069	0.070	7	AVG	

(1) Cannot be separated from Diphenylamine
4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date(s): 09/22/15 09/22/15

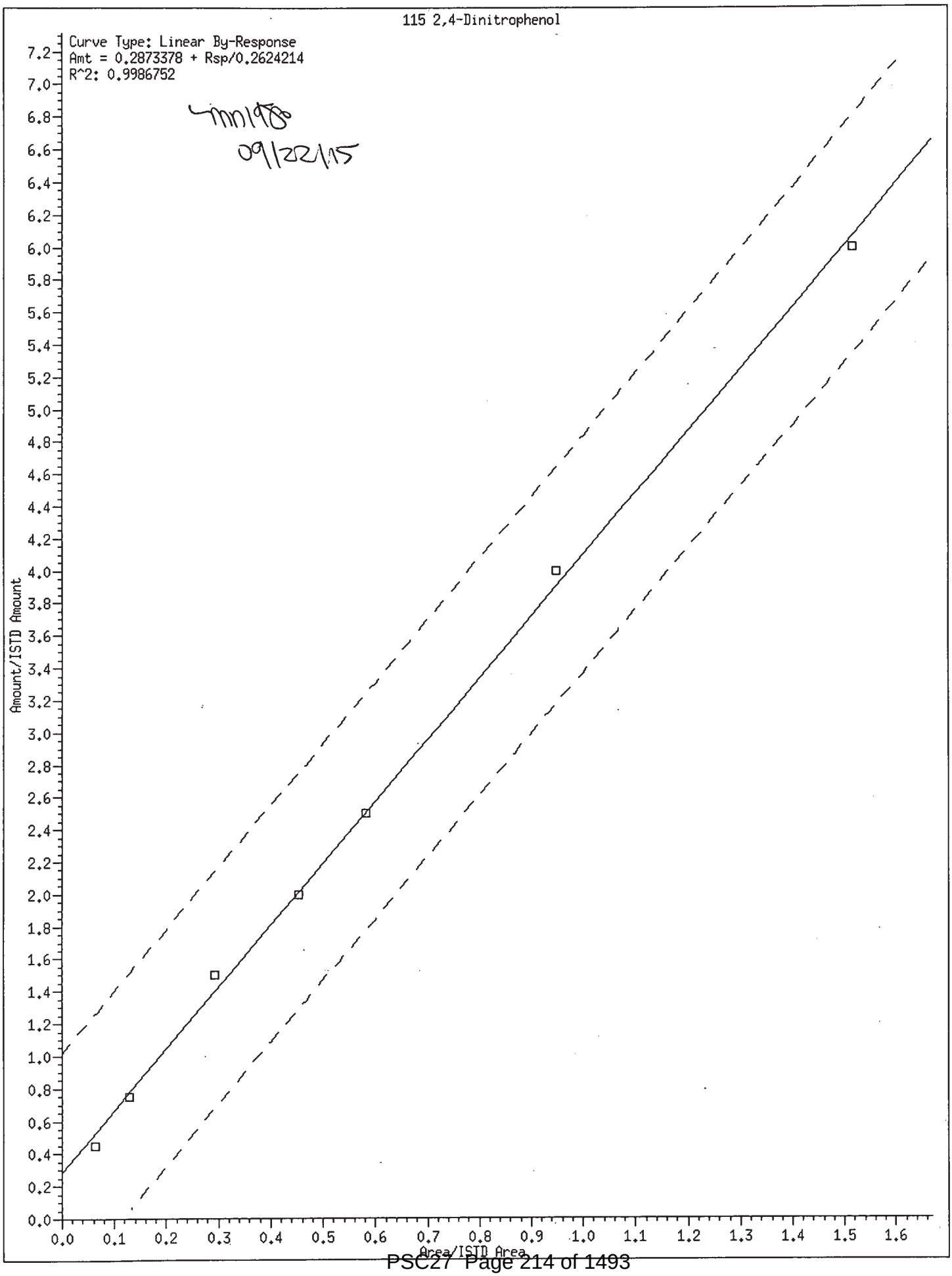
Calibration Times: 09:32 12:33

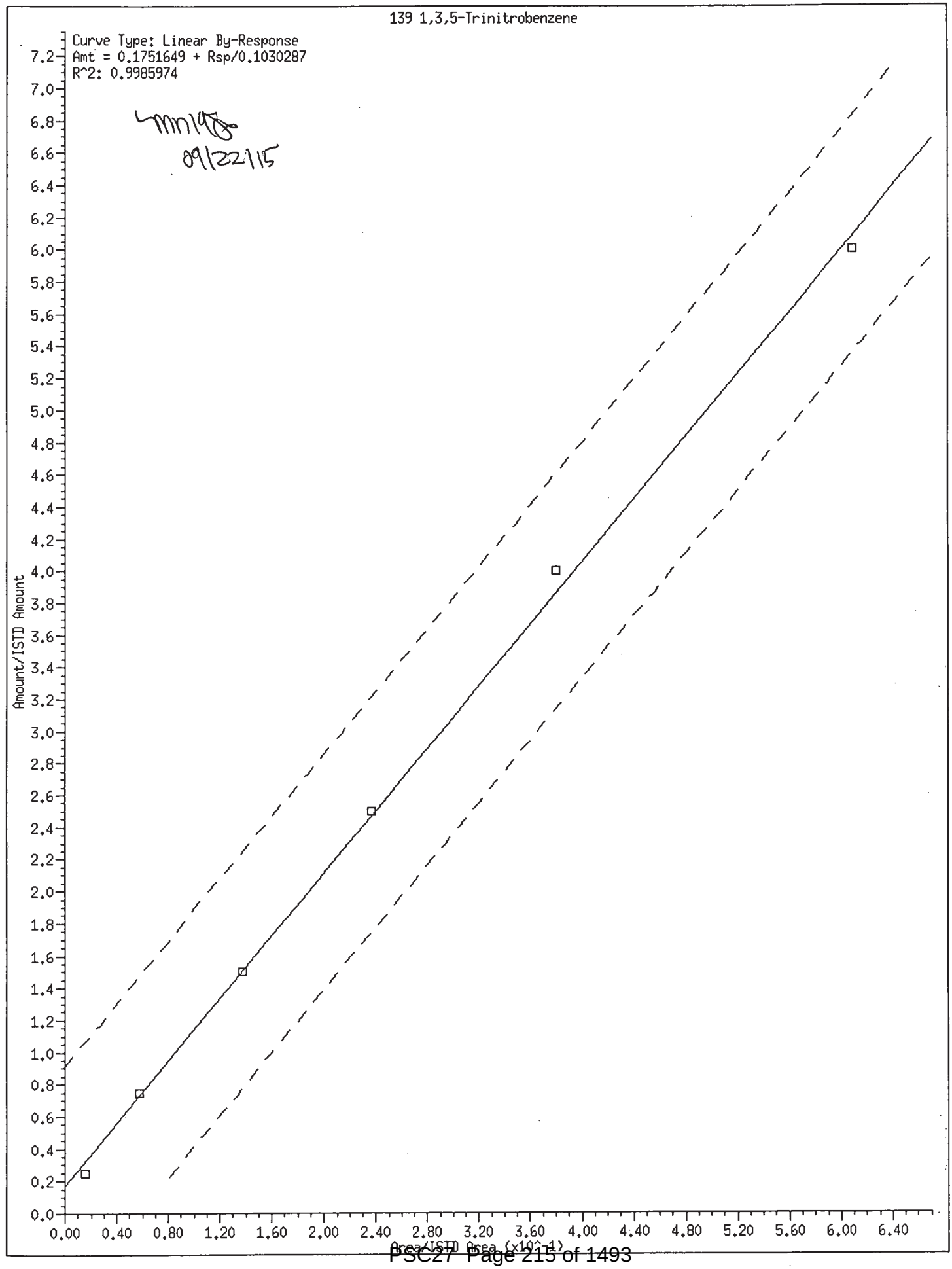
Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

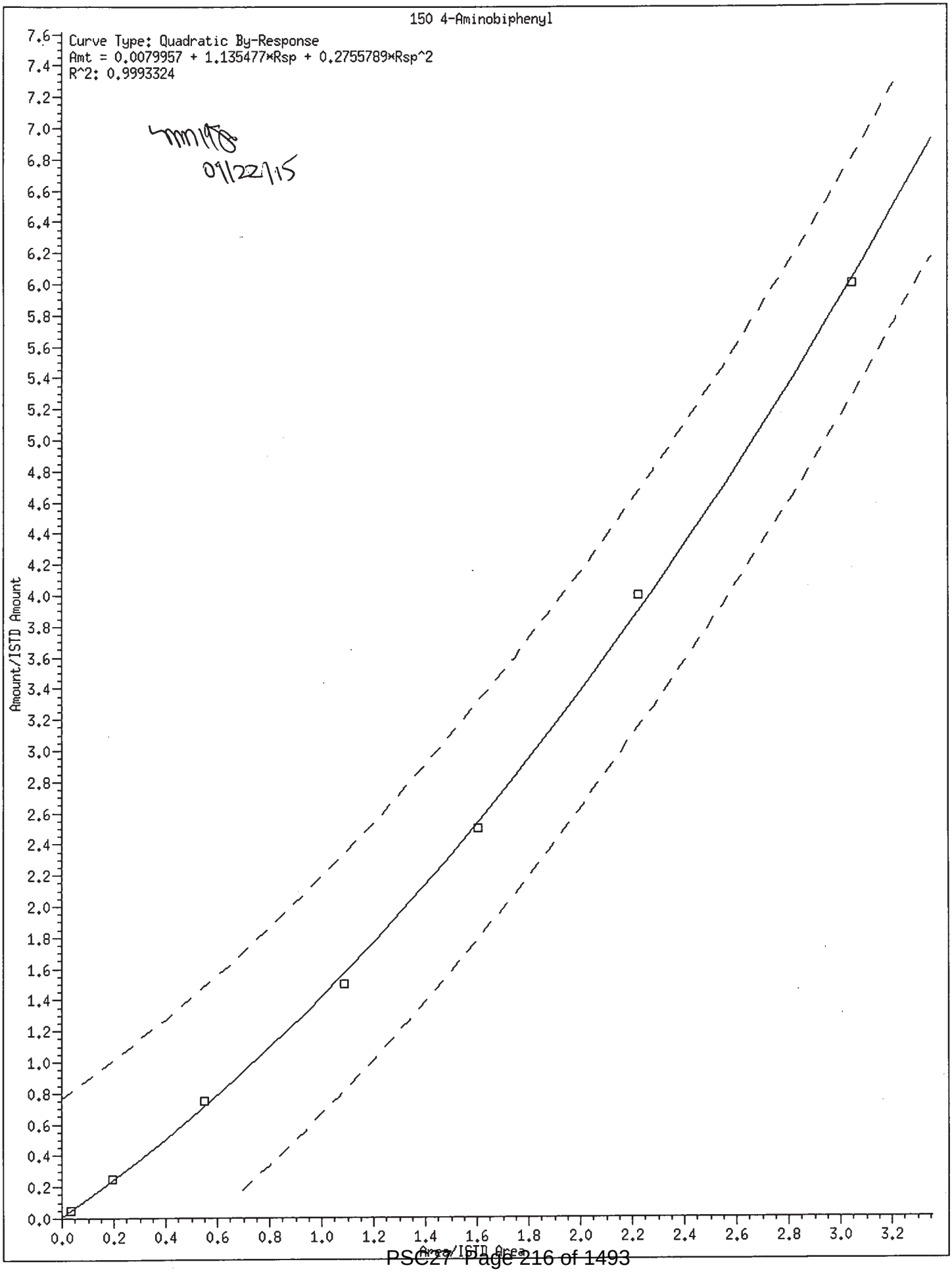
LAB FILE ID:RRF0.5 = oi0982.d RRF1 = oi0988.d RRF5 = oi0987.d RRF15 = oi0986.d
RRF30 = oi0981a.d RRF50 = oi0985.d RRF80 = oi0984.d RRF120 = oi0983.d

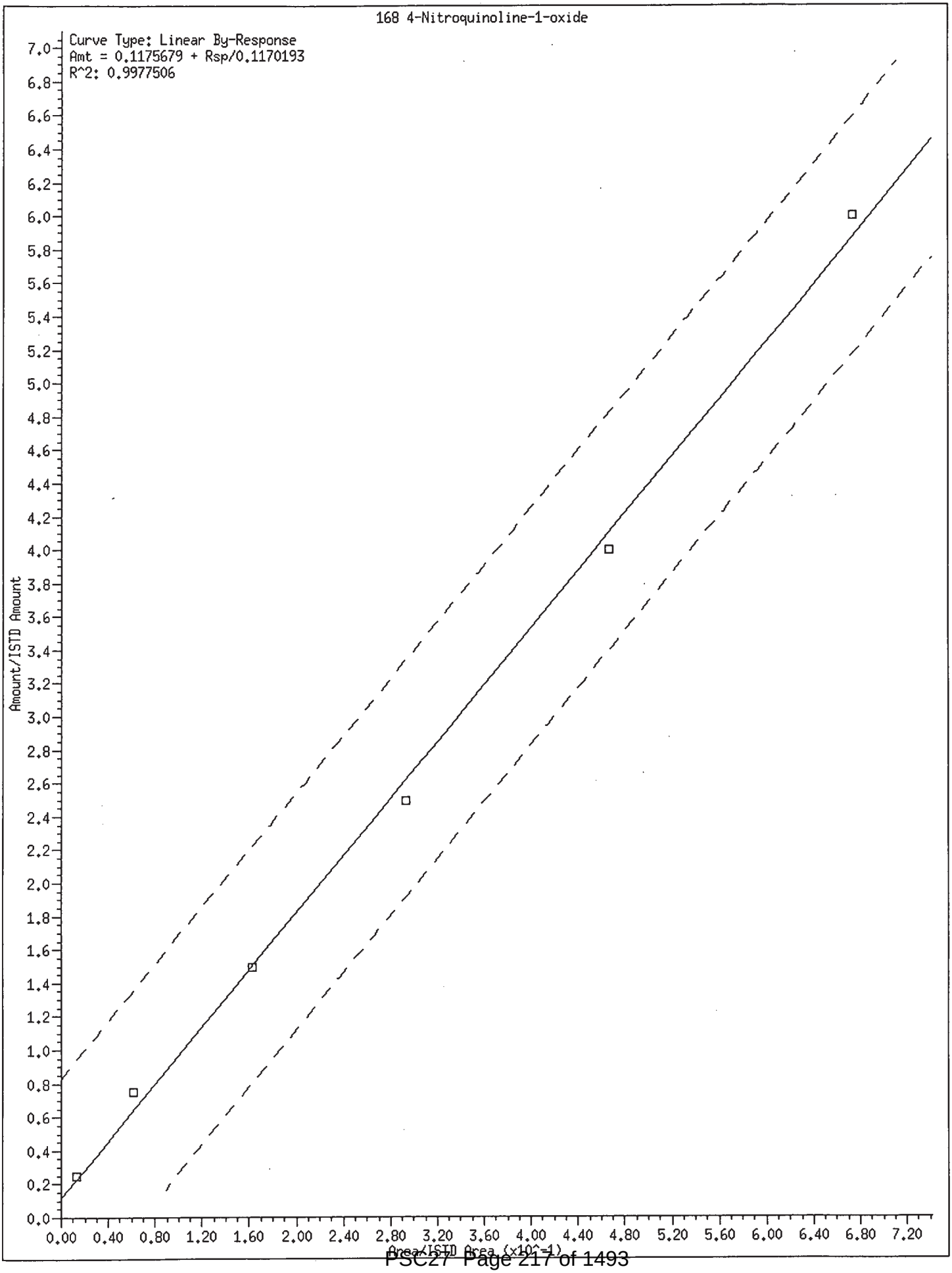
COMPOUND	RRF0.5	RRF1	RRF5	RRF15	RRF30	RRF50	RRF80	RRF120	$\overline{RRF}$	% RSD	CAL. METHOD	
Pronamide		0.218	0.319	0.307	0.318	0.310	0.303	0.320	0.299	12	AVG	
Dinoseb			0.144	0.171	0.196	0.201	0.208	0.223	0.191	15	AVG	
Phenanthrene	1.155	1.184	1.211	1.107	1.185	1.136	1.129	1.185	1.161	3	AVG	
Anthracene	1.122	1.056	1.193	1.118	1.191	1.151	1.155	1.196	1.148	4	AVG	
Carbazole		0.993	1.154	1.059	1.125	1.080	1.060	1.121	1.085	5	AVG	
Methyl parathion			0.241	0.274	0.295	0.280	0.268	0.263	0.270	7	AVG	
Di-n-butylphthalate			1.263	1.207	1.283	1.284	1.273	1.262	1.262	2	AVG	
Parathion			0.156	0.162	0.176	0.175	0.168	0.177	0.169	5	AVG	
4-Nitroquinoline-1-oxide			0.054	0.083	0.109	0.117	0.117	0.112	0.099	26	1STDEG	
Octachlorostyrene			0.062	0.056	0.063	0.063	0.061	0.060	0.061	4	AVG	
Isodrin		0.120	0.127	0.110	0.120	0.114	0.113	0.112	0.117	5	AVG	
Fluoranthene	* 1.216	1.239	1.313	1.229	1.310	1.265	1.240	1.287	1.262	3	AVG	*
Benzidine			0.645	0.690	0.796	0.741	0.697	0.597	0.694	10	AVG	
Pyrene	1.252	1.194	1.224	1.179	1.177	1.168	1.167	1.184	1.193	3	AVG	
p-Dimethylaminoazobenzene		0.169	0.218	0.228	0.228	0.238	0.230	0.228	0.220	11	AVG	
Chlorobenzilate		0.253	0.318	0.322	0.311	0.322	0.325	0.319	0.310	8	AVG	
3,3'-Dimethylbenzidine			0.604	0.606	0.644	0.649	0.620	0.592	0.619	4	AVG	
Butylbenzylphthalate			0.502	0.533	0.526	0.536	0.526	0.523	0.524	2	AVG	
2-Acetylaminofluorene			0.437	0.478	0.472	0.494	0.491	0.483	0.476	4	AVG	
3,3'-Dichlorobenzidine			0.364	0.354	0.364	0.358	0.348	0.334	0.354	3	AVG	
4,4'-Methylenebis(2-chloroanil			0.201	0.209	0.210	0.198	0.189	0.183	0.198	5	AVG	
Benzo(a)anthracene	1.037	1.063	1.057	1.045	1.029	1.056	1.016	1.017	1.040	2	AVG	
Chrysene	1.019	1.014	1.069	1.001	0.985	0.963	0.953	0.923	0.991	5	AVG	
bis(2-Ethylhexyl)phthalate			0.708	0.729	0.733	0.747	0.740	0.739	0.733	2	AVG	
6-Methylchrysene			0.729	0.697	0.699	0.707	0.685	0.678	0.699	3	AVG	
Di-n-octylphthalate	*		1.472	1.517	1.661	1.727	1.741	1.766	1.647	8	AVG	*
Benzo(b)fluoranthene	0.938	1.364	1.308	1.229	1.304	1.348	1.274	1.276	1.255	11	AVG	
7,12-Dimethylbenz[a]anthracene		0.581	0.595	0.601	0.620	0.624	0.595	0.622	0.605	3	AVG	
Benzo(k)fluoranthene	1.209	1.236	1.330	1.317	1.331	1.269	1.216	1.338	1.281	4	AVG	
Benzo(a)pyrene	* 1.252	1.308	1.259	1.196	1.237	1.225	1.204	1.237	1.240	3	AVG	*
3-Methylcholanthrene		0.554	0.584	0.566	0.608	0.600	0.581	0.586	0.583	3	AVG	
Indeno(1,2,3-cd)pyrene	1.342	1.241	1.290	1.307	1.319	1.281	1.278	1.272	1.291	2	AVG	
Dibenz(a,h)anthracene	1.145	1.023	1.031	1.094	1.130	1.100	1.093	1.074	1.086	4	AVG	
Benzo(g,h,i)perylene	1.051	1.047	1.044	1.059	1.085	1.064	1.066	1.068	1.061	1	AVG	
Total PAHs	0.952	0.956	0.979	0.974	1.020	1.015	1.021	1.085	1.000	4	AVG	
2-Fluorophenol			1.770	1.593	1.687	1.678	1.593	1.668	1.665	4	AVG	
Phenol-d6			2.416	2.228	2.464	2.440	2.325	2.412	2.381	4	AVG	
Nitrobenzene-d5			0.485	0.456	0.468	0.450	0.456	0.478	0.465	3	AVG	
2-Fluorobiphenyl			1.281	1.260	1.308	1.265	1.249	1.253	1.269	2	AVG	
2,4,6-Tribromophenol			0.185	0.163	0.167	0.160	0.154	0.154	0.164	7	AVG	
Terphenyl-d14			0.764	0.740	0.716	0.743	0.736	0.716	0.736	2	AVG	
								Average %RSD		5		

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.


115 2,4-Dinitrophenol
Curve Type: Linear By-Response
Amt = 0.2873378 + Rsp/0.2624214
R^2: 0.9986752
Amount/ISTD Amount
Area/ISTD Area


139 1,3,5-Trinitrobenzene
Curve Type: Linear By-Response
Amt = 0.1751649 + Rsp/0.1030287
R^2: 0.9985974
09/22/15
Amount/ISTD Amount
Area/ISTD Area (x10^-1)


150 4-Aminobiphenyl
Curve Type: Quadratic By-Response
Amt = 0.0079957 + 1.135477*Rsp + 0.2755789*Rsp^2
R^2: 0.9993324
09/22/15
Amount/ISTD Amount
Area/ISTD Area


168 4-Nitroquinoline-1-oxide
Curve Type: Linear By-Response
Amt = 0.1175679 + Rsp/0.1170193
R^2: 0.9977506
Amount/ISTD Amount
Area/ISTD Area (x10^-1)

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP09910.i/15sep22.b/oi0981a.d SSTD030
/chem/HP09910.i/15sep22.b/oi0982.d SSTD0.5
/chem/HP09910.i/15sep22.b/oi0983.d SSTD120
/chem/HP09910.i/15sep22.b/oi0984.d SSTD080
/chem/HP09910.i/15sep22.b/oi0985.d SSTD050
/chem/HP09910.i/15sep22.b/oi0986.d SSTD015
/chem/HP09910.i/15sep22.b/oi0987.d SSTD005
/chem/HP09910.i/15sep22.b/oi0988.d SSTD001

Area Summary

	File ID:									
Internal Standard Name	oi0981a.d	oi0982.d	oi0983.d	oi0984.d	oi0985.d	oi0986.d	oi0987.d	oi0988.d	Avg. Area	%RSD
1,4-Dichlorobenzene-d4	148855	145955	184589	167159	153134	156170	144627	147552	156005	9
Naphthalene-d8	699436	665113	862356	785182	747728	703346	664957	639198	720914	10
Acenaphthene-d10	437487	434746	570021	500529	470855	449218	440105	409271	464029	11
Phenanthrene-d10	865313	855654	1081770	978908	932951	899352	847407	808649	908750	10
Pyrene-d10	1011712	989275	1213947	1058679	1054682	1007925	997132	951211	1035570	8
Perylene-d12	755977	795393	844884	797867	781395	787934	786883	738400	786092	4

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

	File ID:							
Internal Standard Name	oi0981a.d	oi0982.d	oi0983.d	oi0984.d	oi0985.d	oi0986.d	oi0987.d	oi0988.d
1,4-Dichlorobenzene-d4	6.640	6.639	6.646	6.645	6.639	6.639	6.640	6.639
Naphthalene-d8	7.916	7.916	7.922	7.922	7.922	7.916	7.916	7.916
Acenaphthene-d10	9.657	9.651	9.663	9.657	9.657	9.651	9.651	9.651
Phenanthrene-d10	11.122	11.116	11.128	11.121	11.121	11.116	11.116	11.116
Pyrene-d10	12.516	12.515	12.522	12.521	12.515	12.516	12.516	12.516
Perylene-d12	15.262	15.256	15.268	15.268	15.262	15.262	15.263	15.257

Comments: _____

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Report generated on 09/22/2015 at 13:11

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP09910

Method: SW-846 8270C File ID: oi0991.d

ICV SAMPLE ID: ICV2465 BATCH: 15SEP22026 Sample Name: SSTD050

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	50.00	51.50	3	20	YES
N-Nitrosodimethylamine	50.00	47.64	-5	20	YES
Pyridine	50.00	51.42	3	20	YES
2-Picoline	50.00	49.65	-1	20	YES
N-Nitrosomethylethylamine	50.00	47.11	-6	20	YES
Methyl methanesulfonate	50.00	48.86	-2	20	YES
N-Nitrosodiethylamine	50.00	46.80	-6	20	YES
Ethyl methanesulfonate	50.00	48.65	-3	20	YES
Phenol	50.00	49.73	-1	20	YES
Aniline	50.00	50.76	2	20	YES
bis(2-Chloroethyl)ether	50.00	48.15	-4	20	YES
2-Chlorophenol	50.00	49.52	-1	20	YES
1,3-Dichlorobenzene	50.00	50.53	1	20	YES
1,4-Dichlorobenzene	50.00	48.80	-2	20	YES
Benzyl alcohol	50.00	51.58	3	20	YES
1,2-Dichlorobenzene	50.00	50.02	0	20	YES
Indene	50.00	50.16	0	20	YES
2-Methylphenol	50.00	50.97	2	20	YES
2,2'-oxybis(1-Chloropropane	50.00	52.25	5	20	YES
bis(2-Chloroisopropyl)ether	50.00	52.25	5	20	YES
N-Nitrosopyrrolidine	50.00	50.33	1	20	YES
Acetophenone	50.00	49.27	-1	20	YES
4-Methylphenol	50.00	51.09	2	20	YES
N-Nitroso-di-n-propylamine	50.00	50.15	0	20	YES
N-Nitrosomorpholine	50.00	48.83	-2	20	YES
o-Toluidine	50.00	50.72	1	20	YES
Total Cresols	100.00	102.06	2	20	YES
Hexachloroethane	50.00	48.94	-2	20	YES
Nitrobenzene	50.00	47.51	-5	20	YES
N-Nitrosopiperidine	50.00	47.56	-5	20	YES
Isophorone	50.00	49.28	-1	20	YES
2-Nitrophenol	50.00	49.11	-2	20	YES
2,4-Dimethylphenol	50.00	47.93	-4	20	YES
bis(2-Chloroethoxy)methane	50.00	51.36	3	20	YES
Benzoic acid	100.00	95.95	-4	20	YES
O,O,O-Triethylphosphorothio	50.00	46.66	-7	20	YES
2,4-Dichlorophenol	50.00	48.72	-3	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP09910

Method: SW-846 8270C File ID: oi0991.d

ICV SAMPLE ID: ICV2465 BATCH: 15SEP22026 Sample Name: SSTD050

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,2,4-Trichlorobenzene	50.00	49.62	-1	20	YES
Naphthalene	50.00	49.06	-2	20	YES
4-Chloroaniline	50.00	48.47	-3	20	YES
2,6-Dichlorophenol	50.00	48.32	-3	20	YES
Hexachloropropene	50.00	51.14	2	20	YES
Hexachlorobutadiene	50.00	46.10	-8	20	YES
Quinoline	50.00	48.10	-4	20	YES
N-Nitrosodi-n-butylamine	50.00	40.82	-18	20	YES
4-Chloro-3-methylphenol	50.00	48.12	-4	20	YES
Safrole	50.00	46.68	-7	20	YES
2-Methylnaphthalene	50.00	44.81	-10	20	YES
1-Methylnaphthalene	50.00	47.61	-5	20	YES
Hexachlorocyclopentadiene	100.00	102.85	3	20	YES
1,2,4,5-Tetrachlorobenzene	50.00	50.05	0	20	YES
cis-Isosafrole	6.00	6.39	7	20	YES
2,4,6-Trichlorophenol	50.00	52.58	5	20	YES
2,4,5-Trichlorophenol	50.00	48.83	-2	20	YES
trans-Isosafrole	44.00	45.62	4	20	YES
1,1'-Biphenyl	50.00	49.16	-2	20	YES
2-Chloronaphthalene	50.00	59.31	19	20	YES
Isosafrole	50.00	52.01	4	20	YES
1-Chloronaphthalene	50.00	49.50	-1	20	YES
Diphenyl ether	50.00	50.34	1	20	YES
2-Nitroaniline	50.00	52.51	5	20	YES
1,4-Naphthoquinone	62.50	64.60	3	20	YES
1,4-Dinitrobenzene	50.00	49.74	-1	20	YES
Dimethylphthalate	50.00	50.12	0	20	YES
1,3-Dinitrobenzene	50.00	50.48	1	20	YES
2,6-Dinitrotoluene	50.00	52.54	5	20	YES
Acenaphthylene	50.00	51.51	3	20	YES
3-Nitroaniline	50.00	52.13	4	20	YES
Acenaphthene	50.00	51.49	3	20	YES
2,4-Dinitrophenol	100.00	95.61	-4	20	YES
4-Nitrophenol	50.00	52.36	5	20	YES
Pentachlorobenzene	50.00	49.43	-1	20	YES
2,4-Dinitrotoluene	50.00	50.69	1	20	YES
Dibenzofuran	50.00	50.37	1	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP09910

Method: SW-846 8270C File ID: oi0991.d

ICV SAMPLE ID: ICV2465 BATCH: 15SEP22026 Sample Name: SSTD050

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
2,4_2,6-Dinitrotoluenes	100.00	103.22	3	20	YES
1-Naphthylamine	100.00	101.45	1	20	YES
2,3,4,6-Tetrachlorophenol	50.00	51.23	2	20	YES
2-Naphthylamine	100.00	104.53	5	20	YES
Diethylphthalate	50.00	51.18	2	20	YES
Thionazin	50.00	49.06	-2	20	YES
Fluorene	50.00	52.51	5	20	YES
4-Chlorophenyl-phenylether	50.00	50.64	1	20	YES
5-Nitro-o-toluidine	50.00	53.74	7	20	YES
4-Nitroaniline	50.00	53.22	6	20	YES
4,6-Dinitro-2-methylphenol	50.00	50.59	1	20	YES
N-Nitrosodiphenylamine	50.00	49.03	-2	20	YES
NDPA as diphenylamine	50.00	48.13	-4	20	YES
1,2-Diphenylhydrazine	50.00	50.10	0	20	YES
Tetraethyldithiopyrophospha	50.00	48.21	-4	20	YES
1,3,5-Trinitrobenzene	50.00	44.62	-11	20	YES
Diallate (peak 1)	37.50	33.59	-10	20	YES
Phorate	50.00	48.79	-2	20	YES
Phenacetin	50.00	49.77	0	20	YES
4-Bromophenyl-phenylether	50.00	49.36	-1	20	YES
Diallate (peak 2)	12.50	11.15	-11	20	YES
Hexachlorobenzene	50.00	46.47	-7	20	YES
Diallate trans/cis	50.00	44.74	-11	20	YES
Dimethoate	50.00	45.85	-8	20	YES
Pentachlorophenol	50.00	53.56	7	20	YES
4-Aminobiphenyl	50.00	69.94	40	20	NO *
Pentachloronitrobenzene	50.00	46.23	-8	20	YES
Pronamide	50.00	49.09	-2	20	YES
Dinoseb	50.00	51.16	2	20	YES
Phenanthrene	50.00	47.64	-5	20	YES
Anthracene	50.00	50.20	0	20	YES
Carbazole	50.00	48.97	-2	20	YES
Methyl parathion	50.00	48.62	-3	20	YES
Di-n-butylphthalate	50.00	50.25	1	20	YES
Parathion	50.00	51.89	4	20	YES
4-Nitroquinoline-1-oxide	600.00	736.39	23	20	NO *
Isodrin	50.00	46.88	-6	20	YES

NC = Could not calculate

Comments:

* non-CCC, OK if greater than 20% D

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP09910

Method: SW-846 8270C File ID: oi0991.d

ICV SAMPLE ID: ICV2465 BATCH: 15SEP22026 Sample Name: SSTD050

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Fluoranthene	50.00	48.94	-2	20	YES
Benzidine	250.00	269.85	8	20	YES
Pyrene	50.00	47.12	-6	20	YES
p-Dimethylaminoazobenzene	50.00	52.89	6	20	YES
Chlorobenzilate	50.00	49.74	-1	20	YES
3,3'-Dimethylbenzidine	100.00	102.95	3	20	YES
Butylbenzylphthalate	50.00	49.59	-1	20	YES
2-Acetylaminofluorene	50.00	50.00	0	20	YES
3,3'-Dichlorobenzidine	50.00	48.03	-4	20	YES
Benzo(a)anthracene	50.00	48.95	-2	20	YES
Chrysene	50.00	50.34	1	20	YES
4,4'-Methylenebis(2-chloroa	50.00	47.62	-5	20	YES
bis(2-Ethylhexyl)phthalate	50.00	49.10	-2	20	YES
6-Methylchrysene	50.00	48.71	-3	20	YES
Di-n-octylphthalate	50.00	51.74	3	20	YES
Benzo(b)fluoranthene	50.00	52.82	6	20	YES
7,12-Dimethylbenz[a]anthrac	50.00	47.90	-4	20	YES
Benzo(k)fluoranthene	50.00	48.42	-3	20	YES
Benzo(a)pyrene	50.00	47.17	-6	20	YES
3-Methylcholanthrene	50.00	53.85	8	20	YES
Indeno(1,2,3-cd)pyrene	50.00	48.83	-2	20	YES
Dibenz(a,h)anthracene	50.00	50.60	1	20	YES
Benzo(g,h,i)perylene	50.00	50.08	0	20	YES
Total PAHs	900.00	786.86	-13	20	YES

NC = Could not calculate

Comments: _____

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18444 Calibration Date: 09/30/15 Time: 09:56

Lab File ID: bi1401a.d Init. Calib. Date(s): 09/23/15 09/23/15

Init. Calib. Times(s): 00:27 02:59

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

	COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
	1,4-Dioxane	0.697	0.836	35.960	30.0	20
	N-Nitrosodimethylamine	1.148	1.338	34.980	30.0	17
	Pyridine	1.915	2.068	32.390	30.0	8
	2-Picoline	1.950	2.063	31.740	30.0	6
	N-Nitrosomethylethylamine	0.888	0.919	31.010	30.0	3
	Methyl methanesulfonate	1.012	1.042	30.890	30.0	3
	N-Nitrosodiethylamine	0.860	0.845	29.460	30.0	-2
	Ethyl methanesulfonate	0.854	0.844	29.660	30.0	-1
*	Phenol	2.427	2.428	30.020	30.0	0*
	Aniline	2.795	2.744	29.450	30.0	-2
	a-methylstyrene	1.570	1.595	30.480	30.0	2
	bis(2-Chloroethyl)ether	1.824	1.791	29.460	30.0	-2
	2-Chlorophenol	1.509	1.505	29.930	30.0	0
	1,3-Dichlorobenzene	1.556	1.610	31.050	30.0	3
*	1,4-Dichlorobenzene	1.597	1.639	30.780	30.0	3*
	Benzyl alcohol	1.105	1.122	30.460	30.0	2
	1,2-Dichlorobenzene	1.493	1.585	31.830	30.0	6
	Indene	2.648	2.820	31.940	30.0	6
	2-Methylphenol	1.556	1.583	30.510	30.0	2
	2,2'-oxybis(1-Chloropropane)	2.039	1.875	27.580	30.0	-8
	bis(2-Chloroisopropyl)ether	2.039	1.875	27.580	30.0	-8
	N-Nitrosopyrrolidine	0.907	0.969	32.050	30.0	7
	Acetophenone	2.450	2.603	31.880	30.0	6
	4-Methylphenol	1.747	1.913	32.850	30.0	9
	Total Cresols	1.652	1.748	63.350	60.0	6
#	N-Nitroso-di-n-propylamine	1.477	1.461	29.670	30.0	-1#
	N-Nitrosomorpholine	1.023	1.036	30.380	30.0	1
	o-Toluidine	2.628	2.888	32.960	30.0	10
	Hexachloroethane	0.685	0.711	31.140	30.0	4
	Nitrobenzene	0.499	0.481	28.880	30.0	-4
	N-Nitrosopiperidine	0.207	0.205	29.640	30.0	-1
	Isophorone	0.947	0.892	28.250	30.0	-6
*	2-Nitrophenol	0.168	0.192	34.340	30.0	14*
	2,4-Dimethylphenol	0.437	0.417	28.570	30.0	-5
	O,O,O-Triethylphosphorothioate	0.194	0.218	33.700	30.0	12
	bis(2-Chloroethoxy)methane	0.552	0.555	30.190	30.0	1

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18444 Calibration Date: 09/30/15 Time: 09:56

Lab File ID: bi1401a.d Init. Calib. Date(s): 09/23/15 09/23/15

Init. Calib. Times(s): 00:27 02:59

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

	COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
	Benzoic acid	0.311	0.246	31.690	40.0	-21
	1,2,3,4-Tetrahydronaphthalene	0.611	0.606	29.780	30.0	-1
*	2,4-Dichlorophenol	0.298	0.330	33.200	30.0	11*
	1,2,4-Trichlorobenzene	0.343	0.366	31.990	30.0	7
	Naphthalene	1.076	1.076	30.010	30.0	0
	4-Chloroaniline	0.470	0.471	30.110	30.0	0
	2,6-Dichlorophenol	0.295	0.331	33.660	30.0	12
	Hexachloropropene	0.223	0.230	30.920	30.0	3
*	Hexachlorobutadiene	0.197	0.214	32.590	30.0	9*
	Quinoline	0.708	0.734	31.120	30.0	4
	Caprolactam	0.132	0.140	31.880	30.0	6
	N-Nitrosodi-n-butylamine	0.397	0.438	33.120	30.0	10
*	4-Chloro-3-methylphenol	0.379	0.371	29.330	30.0	-2*
	Safrole	0.286	0.311	32.600	30.0	9
	2-Methylnaphthalene	0.737	0.775	31.530	30.0	5
	1-Methylnaphthalene	0.678	0.704	31.140	30.0	4
#	Hexachlorocyclopentadiene	0.356	0.311	26.270	30.0	-12#
	1,2,4,5-Tetrachlorobenzene	0.605	0.623	30.880	30.0	3
	cis-Isosafrole	0.545	0.503	4.710	5.1	-8
*	2,4,6-Trichlorophenol	0.380	0.397	31.330	30.0	4*
	2,4,5-Trichlorophenol	0.414	0.436	31.670	30.0	6
	trans-Isosafrole	0.589	0.578	24.440	24.9	-2
	Isosafrole	0.581	0.565	29.150	30.0	-3
	1,1'-Biphenyl	1.528	1.555	30.520	30.0	2
	2-Chloronaphthalene	1.254	1.112	26.600	30.0	-11
	1-Chloronaphthalene	1.117	1.238	33.230	30.0	11
	Diphenyl ether	0.818	0.813	29.840	30.0	-1
	2-Nitroaniline	0.340	0.389	34.250	30.0	14
	1,4-Naphthoquinone	0.499	0.530	31.840	30.0	6
	1,4-Dinitrobenzene	0.159	0.222	41.900	30.0	40
	Dimethylphthalate	1.401	1.450	31.040	30.0	3
	1,3-Dinitrobenzene	0.187	0.249	40.000	30.0	33
	2,6-Dinitrotoluene	0.285	0.324	34.100	30.0	14
	Acenaphthylene	1.867	1.814	29.150	30.0	-3
	3-Nitroaniline	0.305	0.344	33.800	30.0	13
*	Acenaphthene	1.235	1.268	30.820	30.0	3*

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18444 Calibration Date: 09/30/15 Time: 09:56

Lab File ID: bi1401a.d Init. Calib. Date(s): 09/23/15 09/23/15

Init. Calib. Times(s): 00:27 02:59

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

			ACTUAL	TRUE	%
COMPOUND	RRF	RRF30	CONC.	CONC.	DRIFT
# 2,4-Dinitrophenol	0.119	0.165	51.780	40.0	29#
# 4-Nitrophenol	0.200	0.206	30.930	30.0	3#
Pentachlorobenzene	0.527	0.570	32.450	30.0	8
2,4-Dinitrotoluene	0.375	0.457	36.510	30.0	22
2,4_2,6-Dinitrotoluenes	0.333	0.390	70.610	60.0	18
Dibenzofuran	1.658	1.763	31.900	30.0	6
1-Naphthylamine	1.285	1.256	29.340	30.0	-2
2,3,4,6-Tetrachlorophenol	0.331	0.348	31.540	30.0	5
2-Naphthylamine	1.270	1.277	30.170	30.0	1
Diethylphthalate	1.376	1.459	31.830	30.0	6
Thionazin	0.283	0.284	30.110	30.0	0
Fluorene	1.389	1.512	32.670	30.0	9
4-Chlorophenyl-phenylether	0.691	0.744	32.340	30.0	8
5-Nitro-o-toluidine	0.357	0.417	35.000	30.0	17
4-Nitroaniline	0.327	0.379	34.750	30.0	16
4,6-Dinitro-2-methylphenol	0.091	0.127	41.710	30.0	39
* N-Nitrosodiphenylamine (1)	0.628	0.612	29.210	30.0	-3*
NDPA as diphenylamine	0.634	0.612	28.950	30.0	-4
1,2-Diphenylhydrazine	0.957	0.838	26.270	30.0	-12
Tetraethyldithiopyrophosphate	0.153	0.133	26.100	30.0	-13
1,3,5-Trinitrobenzene	0.059	0.087	41.310	30.0	38
Diallate (peak 1)	0.435	0.371	21.240	24.9	-15
Phorate	0.599	0.526	26.370	30.0	-12
Phenacetin	0.427	0.401	28.190	30.0	-6
4-Bromophenyl-phenylether	0.213	0.214	30.160	30.0	1
Diallate (peak 2)	0.431	0.354	4.190	5.1	-18
Diallate trans/cis	0.434	0.368	25.430	30.0	-15
Hexachlorobenzene	0.218	0.233	32.050	30.0	7
Dimethoate	0.356	0.326	27.450	30.0	-8
* Pentachlorophenol	0.126	0.101	24.120	30.0	-20*
4-Aminobiphenyl	0.689	0.655	28.500	30.0	-5
Pentachloronitrobenzene	0.094	0.087	27.940	30.0	-7
Pronamide	0.343	0.333	29.120	30.0	-3
Dinoseb	0.135	0.182	37.110	30.0	24
Phenanthrene	1.080	1.082	30.070	30.0	0
Anthracene	1.087	1.083	29.910	30.0	0

(1) Cannot be Separated from Diphenylamine

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18444 Calibration Date: 09/30/15 Time: 09:56

Lab File ID: bi1401a.d Init. Calib. Date(s): 09/23/15 09/23/15

Init. Calib. Times(s): 00:27 02:59

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

	COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
	Carbazole	0.983	1.007	30.710	30.0	2
	Methyl parathion	0.233	0.252	32.420	30.0	8
	Di-n-butylphthalate	1.230	1.182	28.810	30.0	-4
	Parathion	0.151	0.158	31.240	30.0	4
	4-Nitroquinoline-1-oxide	0.082	0.066	24.150	30.0	-19
	Octachlorostyrene	0.081	0.089	32.790	30.0	9
	Isodrin	0.133	0.124	27.940	30.0	-7
*	Fluoranthene	1.193	1.204	30.290	30.0	1*
	Benzidine	0.595	0.631	95.420	90.0	6
	Pyrene	1.074	1.121	31.310	30.0	4
	p-Dimethylaminoazobenzene	0.222	0.217	29.340	30.0	-2
	Chlorobenzilate	0.312	0.298	28.640	30.0	-5
	3,3'-Dimethylbenzidine	0.608	0.583	28.730	30.0	-4
	Butylbenzylphthalate	0.464	0.480	31.020	30.0	3
	2-Acetylaminofluorene	0.406	0.425	31.350	30.0	5
	3,3'-Dichlorobenzidine	0.374	0.407	32.660	30.0	9
	4,4'-Methylenebis(2-chloroanil	0.207	0.208	30.100	30.0	0
	Benzo(a)anthracene	0.997	1.087	32.710	30.0	9
	Chrysene	0.926	1.016	32.910	30.0	10
	bis(2-Ethylhexyl)phthalate	0.674	0.684	30.430	30.0	1
	6-Methylchrysene	0.684	0.729	31.950	30.0	7
*	Di-n-octylphthalate	1.573	1.434	27.360	30.0	-9*
	Benzo(b)fluoranthene	1.339	1.383	30.990	30.0	3
	7,12-Dimethylbenz[a]anthracene	0.607	0.597	29.480	30.0	-2
	Benzo(k)fluoranthene	1.277	1.296	30.460	30.0	2
*	Benzo(a)pyrene	1.247	1.232	29.640	30.0	-1*
	3-Methylcholanthrene	0.598	0.602	30.210	30.0	1
	Indeno(1,2,3-cd)pyrene	1.326	1.379	31.200	30.0	4
	Dibenz(a,h)anthracene	1.083	1.169	32.390	30.0	8
	Benzo(g,h,i)perylene	1.098	1.112	30.390	30.0	1
	Total PAHs	1.026	0.955	496.130	540.0	-8
	2-Fluorophenol	1.507	1.512	60.190	60.0	0
	Phenol-d6	2.063	2.092	60.840	60.0	1
	Nitrobenzene-d5	0.486	0.477	58.840	60.0	-2
	2-Fluorobiphenyl	1.359	1.386	61.210	60.0	2

FORM VII SV-1

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18444 Calibration Date: 09/30/15 Time: 09:56

Lab File ID: bi1401a.d Init. Calib. Date(s): 09/23/15 09/23/15

Init. Calib. Times(s): 00:27 02:59

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
2,4,6-Tribromophenol	0.170	0.213	74.970	60.0	25
Terphenyl-d14	0.729	0.817	67.250	60.0	12
			Average %Drift:		7

Continuing Calibration
Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP18444.i/15sep22a.b/bi1001.d
/chem/HP18444.i/15sep22a.b/bi1002.d
/chem/HP18444.i/15sep22a.b/bi1003.d
/chem/HP18444.i/15sep22a.b/bi1004.d
/chem/HP18444.i/15sep22a.b/bi1005.d **
/chem/HP18444.i/15sep22a.b/bi1006.d
/chem/HP18444.i/15sep22a.b/bi1007.d
/chem/HP18444.i/15sep22a.b/bi1008.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP18444.i/15sep30.b/bi1401a.d

Area Summary

Internal Standard Name	File ID: bi1401a.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	111145	177097	88548	354194	Yes
Naphthalene-d8	487598	716821	358410	1433642	Yes
Acenaphthene-d10	317035	416284	208142	832568	Yes
Phenanthrene-d10	664617	759626	379813	1519252	Yes
Pyrene-d10	768418	835431	417716	1670862	Yes
Perylene-d12	603079	561010	280505	1122020	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

Internal Standard Name	File ID: bi1401a.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	5.473	5.695	Yes
Naphthalene-d8	6.703	6.931	Yes
Acenaphthene-d10	8.411	8.644	Yes
Phenanthrene-d10	9.857	10.095	Yes
Pyrene-d10	11.238	11.477	Yes
Perylene-d12	13.867	14.141	Yes

A "No" indicates the retention time is greater than 30 seconds from the RT of the referenced standard.

Comments: _____

Report generated on 09/30/2015 at 10:16

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date: 10/02/15 Time: 10:17

Lab File ID: oj0071.d Init. Calib. Date(s): 09/22/15 09/22/15

Init. Calib. Times(s): 09:32 17:42

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

	COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
	1,4-Dioxane	0.746	0.741	29.780	30.0	-1
	N-Nitrosodimethylamine	1.227	1.061	25.940	30.0	-14
	Pyridine	1.987	1.635	24.680	30.0	-18
	2-Picoline	2.121	1.890	26.730	30.0	-11
	N-Nitrosomethylethylamine	1.026	0.982	28.720	30.0	-4
	Methyl methanesulfonate	1.011	0.898	26.660	30.0	-11
	N-Nitrosodiethylamine	0.975	0.970	29.880	30.0	0
	Ethyl methanesulfonate	0.928	0.922	29.820	30.0	-1
	Benzaldehyde	1.606	1.325	24.750	30.0	-17
*	Phenol	2.835	2.505	26.500	30.0	-12*
	Aniline	3.180	3.001	28.310	30.0	-6
	a-methylstyrene	1.685	1.696	30.200	30.0	1
	bis(2-Chloroethyl)ether	2.015	1.881	28.000	30.0	-7
	2-Chlorophenol	1.656	1.648	29.860	30.0	0
	1,3-Dichlorobenzene	1.582	1.532	29.060	30.0	-3
*	1,4-Dichlorobenzene	1.686	1.616	28.750	30.0	-4*
	Benzyl alcohol	1.323	1.296	29.370	30.0	-2
	1,2-Dichlorobenzene	1.589	1.522	28.730	30.0	-4
	Indene	2.921	2.908	29.860	30.0	0
	2-Methylphenol	1.791	1.771	29.660	30.0	-1
	2,2'-oxybis(1-Chloropropane)	2.641	2.224	25.260	30.0	-16
	bis(2-Chloroisopropyl)ether	2.641	2.224	25.260	30.0	-16
	N-Nitrosopyrrolidine	1.086	1.103	30.480	30.0	2
	Acetophenone	2.623	2.636	30.150	30.0	0
	4-Methylphenol	2.119	2.111	29.880	30.0	0
	Total Cresols	1.955	1.941	59.540	60.0	-1
#	N-Nitroso-di-n-propylamine	1.594	1.459	27.460	30.0	-8#
	N-Nitrosomorpholine	1.286	1.124	26.220	30.0	-13
	o-Toluidine	3.049	3.001	29.520	30.0	-2
	Hexachloroethane	0.657	0.618	28.230	30.0	-6
	Nitrobenzene	0.461	0.438	28.530	30.0	-5
	N-Nitrosopiperidine	0.209	0.218	31.240	30.0	4
	Isophorone	0.951	0.902	28.450	30.0	-5
*	2-Nitrophenol	0.192	0.206	32.240	30.0	7*
	2,4-Dimethylphenol	0.421	0.425	30.280	30.0	1
	O,O,O-Triethylphosphorothioate	0.188	0.190	30.350	30.0	1

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date: 10/02/15 Time: 10:17

Lab File ID: oj0071.d Init. Calib. Date(s): 09/22/15 09/22/15

Init. Calib. Times(s): 09:32 17:42

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

	COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
	bis(2-Chloroethoxy)methane	0.534	0.531	29.810	30.0	-1
	Benzoic acid	0.401	0.363	36.220	40.0	-9
	1,2,3,4-Tetrahydronaphthalene	0.568	0.556	29.360	30.0	-2
*	2,4-Dichlorophenol	0.302	0.307	30.500	30.0	2*
	1,2,4-Trichlorobenzene	0.307	0.308	30.130	30.0	0
	Naphthalene	1.102	1.078	29.340	30.0	-2
	4-Chloroaniline	0.493	0.475	28.880	30.0	-4
	2,6-Dichlorophenol	0.296	0.299	30.310	30.0	1
	Hexachloropropene	0.157	0.154	29.420	30.0	-2
*	Hexachlorobutadiene	0.152	0.139	27.450	30.0	-9*
	Quinoline	0.789	0.790	30.050	30.0	0
	Caprolactam	0.173	0.176	30.500	30.0	2
	N-Nitrosodi-n-butylamine	0.390	0.431	33.210	30.0	11
*	4-Chloro-3-methylphenol	0.407	0.399	29.350	30.0	-2*
	Safrole	0.294	0.306	31.200	30.0	4
	2-Methylnaphthalene	0.777	0.773	29.860	30.0	0
	1-Methylnaphthalene	0.696	0.693	29.850	30.0	0
#	Hexachlorocyclopentadiene	0.226	0.205	27.190	30.0	-9#
	1,2,4,5-Tetrachlorobenzene	0.470	0.479	30.540	30.0	2
	cis-Isosafrole	0.493	0.536	5.540	5.1	9
*	2,4,6-Trichlorophenol	0.343	0.338	29.600	30.0	-1*
	2,4,5-Trichlorophenol	0.382	0.396	31.130	30.0	4
	trans-Isosafrole	0.562	0.565	25.030	24.9	1
	Isosafrole	0.550	0.560	30.570	30.0	2
	1,1'-Biphenyl	1.512	1.534	30.440	30.0	1
	2-Chloronaphthalene	1.165	1.122	28.910	30.0	-4
	1-Chloronaphthalene	1.085	1.053	29.120	30.0	-3
	Diphenyl ether	0.765	0.796	31.220	30.0	4
	2-Nitroaniline	0.405	0.423	31.330	30.0	4
	1,4-Naphthoquinone	0.496	0.492	29.740	30.0	-1
	1,4-Dinitrobenzene	0.216	0.230	31.930	30.0	6
	Dimethylphthalate	1.387	1.330	28.770	30.0	-4
	1,3-Dinitrobenzene	0.247	0.264	32.090	30.0	7
	2,6-Dinitrotoluene	0.320	0.324	30.340	30.0	1
	Acenaphthylene	1.776	1.786	30.170	30.0	1
	3-Nitroaniline	0.368	0.387	31.510	30.0	5

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date: 10/02/15 Time: 10:17

Lab File ID: oj0071.d Init. Calib. Date(s): 09/22/15 09/22/15

Init. Calib. Times(s): 09:32 17:42

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

			ACTUAL	TRUE	%
COMPOUND	RRF	RRF30	CONC.	CONC.	DRIFT
* Acenaphthene	1.229	1.214	29.640	30.0	-1*
# 2,4-Dinitrophenol	0.208	0.203	36.740	40.0	-8#
# 4-Nitrophenol	0.199	0.192	28.980	30.0	-3#
Pentachlorobenzene	0.425	0.430	30.370	30.0	1
2,4-Dinitrotoluene	0.453	0.447	29.630	30.0	-1
2,4_2,6-Dinitrotoluenes	0.387	0.386	59.970	60.0	0
Dibenzofuran	1.687	1.651	29.360	30.0	-2
1-Naphthylamine	1.371	1.417	31.020	30.0	3
2,3,4,6-Tetrachlorophenol	0.325	0.312	28.780	30.0	-4
2-Naphthylamine	1.357	1.393	30.780	30.0	3
Diethylphthalate	1.360	1.343	29.620	30.0	-1
Thionazin	0.280	0.296	31.700	30.0	6
Fluorene	1.413	1.388	29.470	30.0	-2
4-Chlorophenyl-phenylether	0.657	0.636	29.040	30.0	-3
5-Nitro-o-toluidine	0.420	0.419	29.900	30.0	0
4-Nitroaniline	0.409	0.396	29.030	30.0	-3
4,6-Dinitro-2-methylphenol	0.148	0.145	29.360	30.0	-2
* N-Nitrosodiphenylamine (1)	0.637	0.654	30.760	30.0	3*
NDPA as diphenylamine	0.649	0.654	30.200	30.0	1
1,2-Diphenylhydrazine	0.870	0.804	27.730	30.0	-8
Tetraethyldithiopyrophosphate	0.124	0.123	29.860	30.0	0
1,3,5-Trinitrobenzene	0.087	0.092	30.390	30.0	1
Diallate (peak 1)	0.433	0.419	24.100	24.9	-3
Phorate	0.585	0.737	37.760	30.0	26
Phenacetin	0.441	0.436	29.660	30.0	-1
4-Bromophenyl-phenylether	0.178	0.179	30.130	30.0	0
Diallate (peak 2)	0.426	0.423	5.070	5.1	-1
Diallate trans/cis	0.432	0.420	29.170	30.0	-3
Hexachlorobenzene	0.190	0.177	28.010	30.0	-7
Dimethoate	0.390	0.391	30.110	30.0	0
Atrazine	0.206	0.201	29.200	30.0	-3
* Pentachlorophenol	0.126	0.113	26.920	30.0	-10*
4-Aminobiphenyl	0.662	0.633	26.680	30.0	-11
Pentachloronitrobenzene	0.070	0.068	28.860	30.0	-4
Pronamide	0.299	0.301	30.130	30.0	0
Dinoseb	0.191	0.199	31.380	30.0	5

(1) Cannot be Separated from Diphenylamine

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date: 10/02/15 Time: 10:17

Lab File ID: oj0071.d Init. Calib. Date(s): 09/22/15 09/22/15

Init. Calib. Times(s): 09:32 17:42

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

	COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
	Phenanthrene	1.161	1.142	29.490	30.0	-2
	Anthracene	1.148	1.156	30.220	30.0	1
	Carbazole	1.085	1.055	29.190	30.0	-3
	Methyl parathion	0.270	0.290	32.160	30.0	7
	Di-n-butylphthalate	1.262	1.277	30.350	30.0	1
	Parathion	0.169	0.179	31.830	30.0	6
	4-Nitroquinoline-1-oxide	0.099	0.078	22.300	30.0	-26
	Octachlorostyrene	0.061	0.065	31.820	30.0	6
	Isodrin	0.117	0.115	29.700	30.0	-1
*	Fluoranthene	1.262	1.257	29.870	30.0	0*
	Benzidine	0.694	0.777	100.700	90.0	12
	Pyrene	1.193	1.148	28.870	30.0	-4
	p-Dimethylaminoazobenzene	0.220	0.221	30.130	30.0	0
	Chlorobenzilate	0.310	0.311	30.100	30.0	0
	3,3'-Dimethylbenzidine	0.619	0.714	34.580	30.0	15
	Butylbenzylphthalate	0.524	0.495	28.310	30.0	-6
	2-Acetylaminofluorene	0.476	0.497	31.300	30.0	4
	3,3'-Dichlorobenzidine	0.354	0.382	32.390	30.0	8
	4,4'-Methylenebis(2-chloroanil	0.198	0.203	30.730	30.0	2
	Benzo(a)anthracene	1.040	1.001	28.860	30.0	-4
	Chrysene	0.991	0.941	28.500	30.0	-5
	bis(2-Ethylhexyl)phthalate	0.733	0.719	29.420	30.0	-2
	6-Methylchrysene	0.699	0.693	29.760	30.0	-1
*	Di-n-octylphthalate	1.647	1.713	31.190	30.0	4*
	Benzo(b)fluoranthene	1.255	1.270	30.350	30.0	1
	7,12-Dimethylbenz[a]anthracene	0.605	0.623	30.890	30.0	3
	Benzo(k)fluoranthene	1.281	1.306	30.590	30.0	2
*	Benzo(a)pyrene	1.240	1.236	29.920	30.0	0*
	3-Methylcholanthrene	0.583	0.613	31.580	30.0	5
	Indeno(1,2,3-cd)pyrene	1.291	1.312	30.480	30.0	2
	Dibenz(a,h)anthracene	1.086	1.108	30.610	30.0	2
	Benzo(g,h,i)perylene	1.061	1.069	30.250	30.0	1
	Total PAHs	1.000	1.030	475.400	540.0	-12
	2-Fluorophenol	1.665	1.585	57.140	60.0	-5
	Phenol-d6	2.381	2.281	57.500	60.0	-4

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date: 10/02/15 Time: 10:17

Lab File ID: oj0071.d Init. Calib. Date(s): 09/22/15 09/22/15

Init. Calib. Times(s): 09:32 17:42

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
Nitrobenzene-d5	0.465	0.438	56.430	60.0	-6
2-Fluorobiphenyl	1.270	1.296	61.240	60.0	2
2,4,6-Tribromophenol	0.164	0.168	61.430	60.0	2
Terphenyl-d14	0.736	0.727	59.260	60.0	-1
			Average %Drift:		4

Continuing Calibration
Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP09910.i/15sep22.b/oi0981a.d **
/chem/HP09910.i/15sep22.b/oi0982.d
/chem/HP09910.i/15sep22.b/oi0983.d
/chem/HP09910.i/15sep22.b/oi0984.d
/chem/HP09910.i/15sep22.b/oi0985.d
/chem/HP09910.i/15sep22.b/oi0986.d
/chem/HP09910.i/15sep22.b/oi0987.d
/chem/HP09910.i/15sep22.b/oi0988.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP09910.i/15oct02.b/oj0071.d

Area Summary

File ID:

Internal Standard Name	oj0071.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	168193	148855	74428	297710	Yes
Naphthalene-d8	767566	699436	349718	1398872	Yes
Acenaphthene-d10	491369	437487	218744	874974	Yes
Phenanthrene-d10	939407	865313	432656	1730626	Yes
Pyrene-d10	1057444	1011712	505856	2023424	Yes
Perylene-d12	775199	755977	377988	1511954	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

File ID:

Internal Standard Name	oj0071.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	6.081	6.640	No
Naphthalene-d8	7.363	7.916	No
Acenaphthene-d10	9.092	9.657	No
Phenanthrene-d10	10.539	11.122	No
Pyrene-d10	11.927	12.516	No
Perylene-d12	14.557	15.262	No

A "No" indicates the retention time is greater than 30 seconds from the RT of the referenced standard.

Comments: Due to column maintenance. CEB 10/2/15

Report generated on 10/02/2015 at 16:21

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date: 10/04/15 Time: 22:45

Lab File ID: oj0211.d Init. Calib. Date(s): 09/22/15 09/22/15

Init. Calib. Times(s): 09:32 12:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

	COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
	1,4-Dioxane	0.746	0.661	26.590	30.0	-11
	N-Nitrosodimethylamine	1.227	1.096	26.780	30.0	-11
	Pyridine	1.987	1.798	27.130	30.0	-10
	2-Picoline	2.121	1.850	26.170	30.0	-13
	N-Nitrosomethylethylamine	1.026	0.923	26.980	30.0	-10
	Methyl methanesulfonate	1.011	0.889	26.370	30.0	-12
	N-Nitrosodiethylamine	0.975	0.992	30.540	30.0	2
	Ethyl methanesulfonate	0.928	0.967	31.270	30.0	4
*	Phenol	2.835	2.510	26.560	30.0	-11*
	Aniline	3.180	3.021	28.500	30.0	-5
	a-methylstyrene	1.685	1.755	31.240	30.0	4
	bis(2-Chloroethyl)ether	2.015	1.958	29.140	30.0	-3
	2-Chlorophenol	1.656	1.680	30.440	30.0	1
	1,3-Dichlorobenzene	1.582	1.588	30.120	30.0	0
*	1,4-Dichlorobenzene	1.686	1.655	29.450	30.0	-2*
	Benzyl alcohol	1.323	1.230	27.880	30.0	-7
	1,2-Dichlorobenzene	1.589	1.592	30.060	30.0	0
	Indene	2.921	2.994	30.740	30.0	2
	2-Methylphenol	1.791	1.835	30.740	30.0	2
	2,2'-oxybis(1-Chloropropane)	2.641	2.127	24.160	30.0	-19
	bis(2-Chloroisopropyl)ether	2.641	2.127	24.160	30.0	-19
	N-Nitrosopyrrolidine	1.086	1.142	31.550	30.0	5
	Acetophenone	2.623	2.693	30.800	30.0	3
	4-Methylphenol	2.119	2.233	31.610	30.0	5
	Total Cresols	1.955	2.034	62.350	60.0	4
#	N-Nitroso-di-n-propylamine	1.594	1.465	27.580	30.0	-8#
	N-Nitrosomorpholine	1.286	1.157	26.990	30.0	-10
	o-Toluidine	3.049	3.124	30.730	30.0	2
	Hexachloroethane	0.657	0.672	30.670	30.0	2
	Nitrobenzene	0.461	0.422	27.500	30.0	-8
	N-Nitrosopiperidine	0.209	0.215	30.790	30.0	3
	Isophorone	0.951	0.872	27.510	30.0	-8
*	2-Nitrophenol	0.192	0.210	32.940	30.0	10*
	2,4-Dimethylphenol	0.421	0.404	28.820	30.0	-4
	O,O,O-Triethylphosphorothioate	0.188	0.180	28.750	30.0	-4
	bis(2-Chloroethoxy)methane	0.534	0.525	29.520	30.0	-2

FORM VII SV-1

7C
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date: 10/04/15 Time: 22:45

Lab File ID: oj0211.d Init. Calib. Date(s): 09/22/15 09/22/15

Init. Calib. Times(s): 09:32 12:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

	COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
	Benzoic acid	0.401	0.371	37.080	40.0	-7
	1,2,3,4-Tetrahydronaphthalene	0.568	0.546	28.820	30.0	-4
*	2,4-Dichlorophenol	0.302	0.297	29.560	30.0	-1*
	1,2,4-Trichlorobenzene	0.307	0.297	29.050	30.0	-3
	Naphthalene	1.102	1.057	28.760	30.0	-4
	4-Chloroaniline	0.493	0.493	30.000	30.0	0
	2,6-Dichlorophenol	0.296	0.296	29.940	30.0	0
	Hexachloropropene	0.157	0.143	27.200	30.0	-9
*	Hexachlorobutadiene	0.152	0.140	27.560	30.0	-8*
	Quinoline	0.789	0.782	29.730	30.0	-1
	Caprolactam	0.173	0.174	30.220	30.0	1
	N-Nitrosodi-n-butylamine	0.390	0.416	32.000	30.0	7
*	4-Chloro-3-methylphenol	0.407	0.390	28.720	30.0	-4*
	Safrole	0.294	0.300	30.610	30.0	2
	2-Methylnaphthalene	0.777	0.760	29.350	30.0	-2
	1-Methylnaphthalene	0.696	0.716	30.830	30.0	3
#	Hexachlorocyclopentadiene	0.226	0.160	21.300	30.0	-29#
	1,2,4,5-Tetrachlorobenzene	0.470	0.455	29.000	30.0	-3
	cis-Isosafrole	0.493	0.476	4.920	5.1	-4
*	2,4,6-Trichlorophenol	0.343	0.330	28.920	30.0	-4*
	2,4,5-Trichlorophenol	0.382	0.361	28.340	30.0	-6
	trans-Isosafrole	0.562	0.549	24.330	24.9	-2
	Isosafrole	0.550	0.537	29.250	30.0	-3
	1,1'-Biphenyl	1.512	1.518	30.110	30.0	0
	2-Chloronaphthalene	1.165	1.277	32.890	30.0	10
	1-Chloronaphthalene	1.085	1.133	31.340	30.0	4
	Diphenyl ether	0.765	0.771	30.240	30.0	1
	2-Nitroaniline	0.405	0.436	32.340	30.0	8
	1,4-Naphthoquinone	0.496	0.487	29.440	30.0	-2
	1,4-Dinitrobenzene	0.216	0.225	31.300	30.0	4
	Dimethylphthalate	1.387	1.302	28.160	30.0	-6
	1,3-Dinitrobenzene	0.247	0.264	32.010	30.0	7
	2,6-Dinitrotoluene	0.320	0.336	31.460	30.0	5
	Acenaphthylene	1.776	1.759	29.720	30.0	-1
	3-Nitroaniline	0.368	0.373	30.370	30.0	1
*	Acenaphthene	1.229	1.209	29.510	30.0	-2*

FORM VII SV-1

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date: 10/04/15 Time: 22:45

Lab File ID: oj0211.d Init. Calib. Date(s): 09/22/15 09/22/15

Init. Calib. Times(s): 09:32 12:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
# 2,4-Dinitrophenol	0.208	0.199	36.040	40.0	-10#
# 4-Nitrophenol	0.199	0.166	25.030	30.0	-17#
Pentachlorobenzene	0.425	0.398	28.110	30.0	-6
2,4-Dinitrotoluene	0.453	0.437	28.990	30.0	-3
2,4_2,6-Dinitrotoluenes	0.387	0.387	60.440	60.0	1
Dibenzofuran	1.687	1.593	28.330	30.0	-6
1-Naphthylamine	1.371	1.371	30.010	30.0	0
2,3,4,6-Tetrachlorophenol	0.325	0.294	27.150	30.0	-10
2-Naphthylamine	1.357	1.339	29.580	30.0	-1
Diethylphthalate	1.360	1.302	28.720	30.0	-4
Thionazin	0.280	0.294	31.450	30.0	5
Fluorene	1.413	1.389	29.510	30.0	-2
4-Chlorophenyl-phenylether	0.657	0.628	28.700	30.0	-4
5-Nitro-o-toluidine	0.420	0.433	30.930	30.0	3
4-Nitroaniline	0.409	0.407	29.890	30.0	0
4,6-Dinitro-2-methylphenol	0.148	0.152	30.810	30.0	3
* N-Nitrosodiphenylamine (1)	0.637	0.666	31.340	30.0	4*
NDPA as diphenylamine	0.649	0.666	30.770	30.0	3
1,2-Diphenylhydrazine	0.870	0.817	28.180	30.0	-6
Tetraethyldithiopyrophosphate	0.124	0.122	29.500	30.0	-2
1,3,5-Trinitrobenzene	0.087	0.101	32.890	30.0	10
Diallate (peak 1)	0.433	0.426	24.500	24.9	-2
Phorate	0.585	0.752	38.510	30.0	28
Phenacetin	0.441	0.439	29.870	30.0	0
4-Bromophenyl-phenylether	0.178	0.182	30.570	30.0	2
Diallate (peak 2)	0.426	0.410	4.920	5.1	-4
Diallate trans/cis	0.432	0.424	29.420	30.0	-2
Hexachlorobenzene	0.190	0.182	28.770	30.0	-4
Dimethoate	0.390	0.396	30.430	30.0	1
* Pentachlorophenol	0.126	0.105	25.090	30.0	-16*
4-Aminobiphenyl	0.662	0.679	28.990	30.0	-3
Pentachloronitrobenzene	0.070	0.067	28.670	30.0	-4
Pronamide	0.299	0.311	31.120	30.0	4
Dinoseb	0.191	0.201	31.630	30.0	5
Phenanthrene	1.161	1.169	30.180	30.0	1
Anthracene	1.148	1.191	31.120	30.0	4

(1) Cannot be Separated from Diphenylamine

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date: 10/04/15 Time: 22:45

Lab File ID: oj0211.d Init. Calib. Date(s): 09/22/15 09/22/15

Init. Calib. Times(s): 09:32 12:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

			ACTUAL	TRUE	%
COMPOUND	RRF	RRF30	CONC.	CONC.	DRIFT
Carbazole	1.085	1.087	30.080	30.0	0
Methyl parathion	0.270	0.306	33.990	30.0	13
Di-n-butylphthalate	1.262	1.293	30.750	30.0	2
Parathion	0.169	0.182	32.230	30.0	7
4-Nitroquinoline-1-oxide	0.099	0.075	21.700	30.0	-28
Octachlorostyrene	0.061	0.062	30.640	30.0	2
Isodrin	0.117	0.111	28.520	30.0	-5
* Fluoranthene	1.262	1.264	30.050	30.0	0*
Benzidine	0.694	0.767	99.360	90.0	10
Pyrene	1.193	1.182	29.720	30.0	-1
p-Dimethylaminoazobenzene	0.220	0.220	30.030	30.0	0
Chlorobenzilate	0.310	0.314	30.440	30.0	1
3,3'-Dimethylbenzidine	0.619	0.672	32.540	30.0	8
Butylbenzylphthalate	0.524	0.522	29.890	30.0	0
2-Acetylaminofluorene	0.476	0.495	31.230	30.0	4
3,3'-Dichlorobenzidine	0.354	0.370	31.380	30.0	5
4,4'-Methylenebis(2-chloroanil	0.198	0.201	30.400	30.0	1
Benzo(a)anthracene	1.040	0.988	28.510	30.0	-5
Chrysene	0.991	0.979	29.650	30.0	-1
bis(2-Ethylhexyl)phthalate	0.733	0.738	30.220	30.0	1
6-Methylchrysene	0.699	0.686	29.430	30.0	-2
* Di-n-octylphthalate	1.647	1.680	30.600	30.0	2*
Benzo(b)fluoranthene	1.255	1.207	28.840	30.0	-4
7,12-Dimethylbenz[a]anthracene	0.605	0.624	30.900	30.0	3
Benzo(k)fluoranthene	1.281	1.308	30.640	30.0	2
* Benzo(a)pyrene	1.240	1.184	28.650	30.0	-5*
3-Methylcholanthrene	0.583	0.556	28.640	30.0	-5
Indeno(1,2,3-cd)pyrene	1.291	1.251	29.070	30.0	-3
Dibenz(a,h)anthracene	1.086	1.065	29.420	30.0	-2
Benzo(g,h,i)perylene	1.061	1.044	29.540	30.0	-2
Total PAHs	1.000	1.023	473.580	540.0	-12
2-Fluorophenol	1.665	1.612	58.110	60.0	-3
Phenol-d6	2.381	2.376	59.890	60.0	0
Nitrobenzene-d5	0.465	0.415	53.560	60.0	-11
2-Fluorobiphenyl	1.270	1.251	59.120	60.0	-1

FORM VII SV-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09910 Calibration Date: 10/04/15 Time: 22:45

Lab File ID: oj0211.d Init. Calib. Date(s): 09/22/15 09/22/15

Init. Calib. Times(s): 09:32 12:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF30	ACTUAL CONC.	TRUE CONC.	% DRIFT
2,4,6-Tribromophenol	0.164	0.154	56.440	60.0	-6
Terphenyl-d14	0.736	0.736	59.990	60.0	0
			Average %Drift:		5

Continuing Calibration
Internal Standard Area and Retention Time
Summary

Initial Calibration Standards:

/chem/HP09910.i/15sep22.b/oi0981a.d **
/chem/HP09910.i/15sep22.b/oi0982.d
/chem/HP09910.i/15sep22.b/oi0983.d
/chem/HP09910.i/15sep22.b/oi0984.d
/chem/HP09910.i/15sep22.b/oi0985.d
/chem/HP09910.i/15sep22.b/oi0986.d
/chem/HP09910.i/15sep22.b/oi0987.d
/chem/HP09910.i/15sep22.b/oi0988.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP09910.i/15oct04a.b/oj0211.d

Area Summary

File ID:

Internal Standard Name	oj0211.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	117837	148855	74428	297710	Yes
Naphthalene-d8	576340	699436	349718	1398872	Yes
Acenaphthene-d10	375103	437487	218744	874974	Yes
Phenanthrene-d10	684524	865313	432656	1730626	Yes
Pyrene-d10	768327	1011712	505856	2023424	Yes
Perylene-d12	576387	755977	377988	1511954	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

File ID:

Internal Standard Name	oj0211.d	ICAL RT	In Spec	
1,4-Dichlorobenzene-d4	5.893	6.640	No	
Naphthalene-d8	7.175	7.916	No	
Acenaphthene-d10	8.898	9.657	No	
Phenanthrene-d10	10.345	11.122	No	*
Pyrene-d10	11.722	12.516	No	
Perylene-d12	14.316	15.262	No	

A "No" indicates the retention time is greater than 30 seconds from the RT of the referenced standard.

Comments: * Column maintenance
WS 2491 10/5/15

Report generated on 10/04/2015 at 23:34

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): bi1401a.d Date Analyzed: 09/30/15

Instrument ID: HP18444 Time Analyzed: 09:56

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	111145	5.473	487598	6.703	317035	8.411
UPPER LIMIT	222290	5.973	975196	7.203	634070	8.911
LOWER LIMIT	55573	4.973	243799	6.203	158518	7.911
LLI SAMPLE NO.						
01 SBLKWD271	81180	5.473	337410	6.703	212858	8.411
02 271WDLCS	97456	5.473	403586	6.703	264505	8.411
03 271WDLCSD	97151	5.473	428842	6.703	274695	8.411
04 8064460	99887	5.473	409948	6.703	255771	8.411
05 8064467	91798	5.473	382119	6.703	234089	8.411
06 8064471	83700	5.473	338773	6.703	211712	8.411
07 8046586RE	105100	5.479	466811	6.709	321089	8.411
08 8056292	103325	5.473	463663	6.703	297523	8.411
09 8056294	101229	5.473	428909	6.703	276480	8.411
10 8056296	102103	5.479	469265	6.709	309703	8.411
11 8056402	102667	5.473	426478	6.703	261912	8.411
12 8056910	93412	5.473	390021	6.703	242584	8.411
13 8056914	88201	5.473	361159	6.703	225787	8.411
14 8056396	96163	5.473	382092	6.703	233531	8.411
15 8056399	94744	5.473	389554	6.703	241354	8.411

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): bi1401a.d Date Analyzed: 09/30/15

Instrument ID: HP18444 Time Analyzed: 09:56

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	664617	9.857	768418	11.238	603079	13.867
UPPER LIMIT	1329234	10.357	1536836	11.738	1206158	14.367
LOWER LIMIT	332309	9.357	384209	10.738	301540	13.367
LLI SAMPLE NO.						
01 SBLKWD271	462481	9.857	525489	11.238	458026	13.867
02 271WDLCS	537902	9.857	615381	11.238	492422	13.867
03 271WDLCSD	558822	9.857	615283	11.238	466443	13.867
04 8064460	548636	9.856	599598	11.238	476158	13.867
05 8064467	498095	9.857	567489	11.238	444381	13.867
06 8064471	448450	9.857	504048	11.238	423447	13.867
07 8046586RE	609544	9.856	698216	11.244	528741	13.872
08 8056292	621951	9.856	715071	11.238	525421	13.866
09 8056294	550947	9.856	608547	11.238	445980	13.867
10 8056296	622764	9.856	709792	11.238	517583	13.867
11 8056402	542897	9.856	589953	11.238	430658	13.861
12 8056910	508141	9.856	560931	11.238	403777	13.866
13 8056914	487970	9.857	546796	11.238	399852	13.867
14 8056396	482842	9.856	534266	11.238	390414	13.866
15 8056399	508846	9.856	570544	11.238	406313	13.867

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): oj0071.d Date Analyzed: 10/02/15

Instrument ID: HP09910 Time Analyzed: 10:17

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	168193	6.081	767566	7.363	491369	9.092
UPPER LIMIT	336386	6.581	1535132	7.863	982738	9.592
LOWER LIMIT	84097	5.581	383783	6.863	245685	8.592
LLI SAMPLE NO.						
01 SBLKLD272	169275	6.081	736504	7.357	441086	9.086
02 272LDLCS	167456	6.087	791295	7.363	518473	9.092
03 8063273DL	130388	6.081	608978	7.357	399345	9.086
04 8064453	137642	6.081	679019	7.357	475420	9.086
05 8064454MS	145373	6.081	750624	7.363	487574	9.092
06 8064455MSD	157987	6.087	769748	7.363	487692	9.092
07 8064150	163699	6.081	814044	7.363	521662	9.086
08 8064152	138217	6.081	646670	7.363	438910	9.086
09 8064450	150034	6.081	722608	7.363	517127	9.086
10 8064451	138218	6.081	648985	7.363	436553	9.086
11 8064452	178814	6.081	882506	7.363	536421	9.086
12 8064457	168631	6.087	859937	7.363	503445	9.092
13 8064458	179932	6.087	841520	7.363	506100	9.092
14 8064459	152511	6.087	754648	7.363	457260	9.092

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): oj0071.d Date Analyzed: 10/02/15

Instrument ID: HP09910 Time Analyzed: 10:17

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	939407	10.539	1057444	11.927	775199	14.557
UPPER LIMIT	1878814	11.039	2114888	12.427	1550398	15.057
LOWER LIMIT	469704	10.039	528722	11.427	387600	14.057
LLI SAMPLE NO.						
01 SBLKLD272	913295	10.539	1051517	11.922	804156	14.557
02 272LDLCS	968960	10.539	1056557	11.927	723354	14.557
03 8063273DL	822285	10.533	925128	11.922	691152	14.551
04 8064453	897010	10.539	919683	11.921	610587	14.557
05 8064454MS	877888	10.539	884223	11.927	574102	14.557
06 8064455MSD	865146	10.539	854877	11.927	568621	14.563
07 8064150	908140	10.539	930378	11.927	601243	14.557
08 8064152	864524	10.539	862492	11.927	560223	14.557
09 8064450	884740	10.539	904637	11.927	601222	14.557
10 8064451	855611	10.539	831672	11.922	545704	14.557
11 8064452	900598	10.539	884545	11.927	638463	14.562
12 8064457	844982	10.539	865171	11.927	603661	14.568
13 8064458	848550	10.545	854252	11.933	612578	14.574
14 8064459	795896	10.545	764752	11.933	551867	14.568

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): oj0211.d Date Analyzed: 10/04/15

Instrument ID: HP09910 Time Analyzed: 22:45

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	117837	5.893	576340	7.175	375103	8.898
UPPER LIMIT	235674	6.393	1152680	7.675	750206	9.398
LOWER LIMIT	58919	5.393	288170	6.675	187552	8.398
LLI SAMPLE NO.						
01 SBLKLB274	119657	5.898	541684	7.175	343456	8.898
02 274LBLCS	124093	5.893	613772	7.175	413433	8.898
03 274LBLCSD	119422	5.893	584738	7.175	383812	8.898
04 8062186	127083	5.892	622210	7.175	398525	8.898
05 8062187	134255	5.898	617681	7.181	397225	8.898
06 8062188	132652	5.898	624412	7.175	361751	8.898
07 8062190	131670	5.898	618572	7.175	374921	8.898
08 8062191	149656	5.904	638995	7.187	378800	8.898
09 8062192	130154	5.898	604487	7.175	358871	8.898
10 8068255	137023	5.898	631060	7.181	365209	8.904
11 8068255MS	155748	5.898	743886	7.186	449160	8.910
12 8068255MSD	138724	5.898	641673	7.181	387055	8.910
13 8068246	129571	5.898	621830	7.181	384609	8.910
14 8068248	142702	5.898	674376	7.181	404963	8.904
15 8068249	129676	5.910	567552	7.187	345801	8.904
16 8068250	126581	5.910	605366	7.187	367720	8.910
17 8068251	140470	5.910	644594	7.186	430900	8.910

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): oj0211.d Date Analyzed: 10/04/15

Instrument ID: HP09910 Time Analyzed: 22:45

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	684524	10.345	768327	11.722	576387	14.316
UPPER LIMIT	1369048	10.845	1536654	12.222	1152774	14.816
LOWER LIMIT	342262	9.845	384164	11.222	288194	13.816
LLI SAMPLE NO.						
01 SBLKLB274	699818	10.339	799518	11.715	597005	14.315
02 274LBLCS	760069	10.339	780684	11.722	530409	14.316
03 274LBLCSD	711938	10.339	764876	11.722	513613	14.315
04 8062186	710834	10.339	695116	11.721	461686	14.321
05 8062187	686490	10.345	738212	11.722	503770	14.321
06 8062188	645134	10.339	679510	11.721	483594	14.321
07 8062190	630859	10.345	633287	11.721	445087	14.327
08 8062191	633373	10.345	627175	11.722	446476	14.321
09 8062192	660282	10.345	654628	11.721	468694	14.321
10 8068255	591258	10.439	588688	11.763	417236	14.327
11 8068255MS	694940	10.439	697000	11.768	483423	14.333
12 8068255MSD	615646	10.439	592856	11.763	425331	14.333
13 8068246	622434	10.445	615092	11.768	417697	14.327
14 8068248	674613	10.433	643316	11.763	449925	14.327
15 8068249	572163	10.351	555175	11.733	425019	14.339
16 8068250	596038	10.357	579354	11.739	452806	14.345
17 8068251	677311	10.357	653991	11.739	467140	14.339

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): oj0211.d Date Analyzed: 10/04/15

Instrument ID: HP09910 Time Analyzed: 22:45

		IS1(DCB)		IS2(NPT)		IS3(ANT)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	117837	5.893	576340	7.175	375103	8.898
	UPPER LIMIT	235674	6.393	1152680	7.675	750206	9.398
	LOWER LIMIT	58919	5.393	288170	6.675	187552	8.398
	LLI SAMPLE NO.						
18	8068252	132204	5.910	639282	7.186	401142	8.910
19	8068253	122923	5.910	595019	7.186	368158	8.910
20	8068254	139672	5.910	661807	7.187	412534	8.916
21	8068256	130597	5.904	633071	7.186	393611	8.910
22	8064461	121113	5.904	592244	7.181	365908	8.904
23	8064462	117184	5.904	534818	7.181	325483	8.904
24	8064463	119827	5.904	554397	7.181	357152	8.904
25	8064464	111906	5.904	523981	7.181	328845	8.904

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): oj0211.d Date Analyzed: 10/04/15

Instrument ID: HP09910 Time Analyzed: 22:45

		IS4(PHN)		IS5(PYR)		IS6(PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	684524	10.345	768327	11.722	576387	14.316
	UPPER LIMIT	1369048	10.845	1536654	12.222	1152774	14.816
	LOWER LIMIT	342262	9.845	384164	11.222	288194	13.816
	LLI SAMPLE NO.						
18	8068252	654126	10.357	646757	11.739	491674	14.339
19	8068253	603630	10.363	596694	11.739	445573	14.345
20	8068254	658592	10.363	652656	11.745	499530	14.345
21	8068256	644642	10.421	646925	11.763	455384	14.339
22	8064461	653351	10.351	690726	11.733	484535	14.339
23	8064462	595590	10.351	604217	11.733	431464	14.333
24	8064463	599883	10.351	620730	11.733	445708	14.333
25	8064464	578443	10.351	593711	11.733	420851	14.333

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

Sample Data

Semivolatiles by GC/MS

Fraction: Semivolatiles by GC/MS

10724: PAHs 8270C (17) Analyte Name	Default MDL	Default LOQ	Units
Naphthalene	3	17	ug/kg
2-Methylnaphthalene	3	17	ug/kg
Acenaphthylene	3	17	ug/kg
Acenaphthene	3	17	ug/kg
Fluorene	3	17	ug/kg
Phenanthrene	3	17	ug/kg
Anthracene	3	17	ug/kg
Fluoranthene	3	17	ug/kg
Pyrene	3	17	ug/kg
Benzo(a)anthracene	3	17	ug/kg
Chrysene	3	17	ug/kg
Benzo(b)fluoranthene	3	17	ug/kg
Benzo(k)fluoranthene	3	17	ug/kg
Benzo(a)pyrene	3	17	ug/kg
Indeno(1,2,3-cd)pyrene	3	17	ug/kg
Dibenz(a,h)anthracene	3	17	ug/kg
Benzo(g,h,i)perylene	3	17	ug/kg

07805: PAHs 8270C (17) Analyte Name	Default MDL	Default LOQ	Units
Naphthalene	0.1	0.5	ug/l
2-Methylnaphthalene	0.1	0.5	ug/l
Acenaphthylene	0.1	0.5	ug/l
Acenaphthene	0.1	0.5	ug/l
Fluorene	0.1	0.5	ug/l
Phenanthrene	0.1	0.5	ug/l
Anthracene	0.1	0.5	ug/l
Fluoranthene	0.1	0.5	ug/l
Pyrene	0.1	0.5	ug/l
Benzo(a)anthracene	0.1	0.5	ug/l
Chrysene	0.1	0.5	ug/l
Benzo(b)fluoranthene	0.1	0.5	ug/l
Benzo(k)fluoranthene	0.1	0.5	ug/l
Benzo(a)pyrene	0.1	0.5	ug/l
Indeno(1,2,3-cd)pyrene	0.1	0.5	ug/l
Dibenz(a,h)anthracene	0.1	0.5	ug/l
Benzo(g,h,i)perylene	0.1	0.5	ug/l

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0080.d
Injection date and time: **02-OCT-2015 14:04**
Data file Sample Info. Line: 49113;8064450;2;0;SAMPLE;;;
Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 13:57
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.38 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.081(0.000)	680	152	150034 (-11)	20.00	
65) Naphthalene-d8	7.363(0.000)	898	136	722608 (-6)	20.00	
113) Acenaphthene-d10	9.086(0.006)	1191	164	517127 (5)	20.00	
153) Phenanthrene-d10	10.539(0.000)	1438	188	884740 (-6)	20.00	
175) Pyrene-d10	11.927(0.000)	1674	212	904637 (-14)	20.00	
213) Perylene-d12	14.557(0.000)	2121	264	601222 (-22)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.651(0.000)	82	1433331	85.238	85%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.445(-0.001)	172	2864707	87.274	87%		63 - 117
179) Terphenyl-d14	(5)	12.121(0.000)	244	3178085	95.460	95%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)	8.069(0.000)	142	9570	0.341	11.23			0.1
109) Acenaphthylene	(3)	8.945(0.000)	152	67845	1.478	48.64			0.1
114) Acenaphthene	(3)	9.122(-0.000)	153	13981	0.440	14.48			0.1
126) Fluorene	(3)	9.628(-0.000)	166	23527	0.644	21.20			0.1
155) Phenanthrene	(4)	10.563(0.000)	178	177129	3.447	113.48			0.1
157) Anthracene	(4)	10.610(0.000)	178	53443	1.053	34.65			0.1
173) Fluoranthene	(4)	11.727(0.000)	202	243642	4.363	143.62			0.1
177) Pyrene	(5)	11.945(0.000)	202	324171	6.007	197.72			0.1
195) Benzo(a)anthracene	(5)	13.127(0.000)	228	84758	1.802	59.30			0.1
196) Chrysene	(5)	13.163(0.000)	228	115335	2.573	84.69			0.1
206) Benzo(b)fluoranthene	(6)	14.192(0.000)	252	124610M	3.303	108.71			0.1
208) Benzo(k)fluoranthene	(6)	14.215(0.000)	252	50378M	1.309	43.07			0.1
211) Benzo(a)pyrene	(6)	14.498(0.000)	252	85151M	2.285	75.21			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	15.615(0.000)	276	53984M	1.391	45.78			0.1
220) Dibenz(a,h)anthracene	(6)	15.633(0.001)	278	14588M	0.447	14.71			0.1
221) Benzo(g,h,i)perylene	(6)	15.915(0.000)	276	62240	1.952	64.26			0.1

M = Compound was manually integrated.

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0080.d Injection date and time: **02-OCT-2015 14:04**
Data file Sample Info. Line: 49113;8064450;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 13:57
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.38 g

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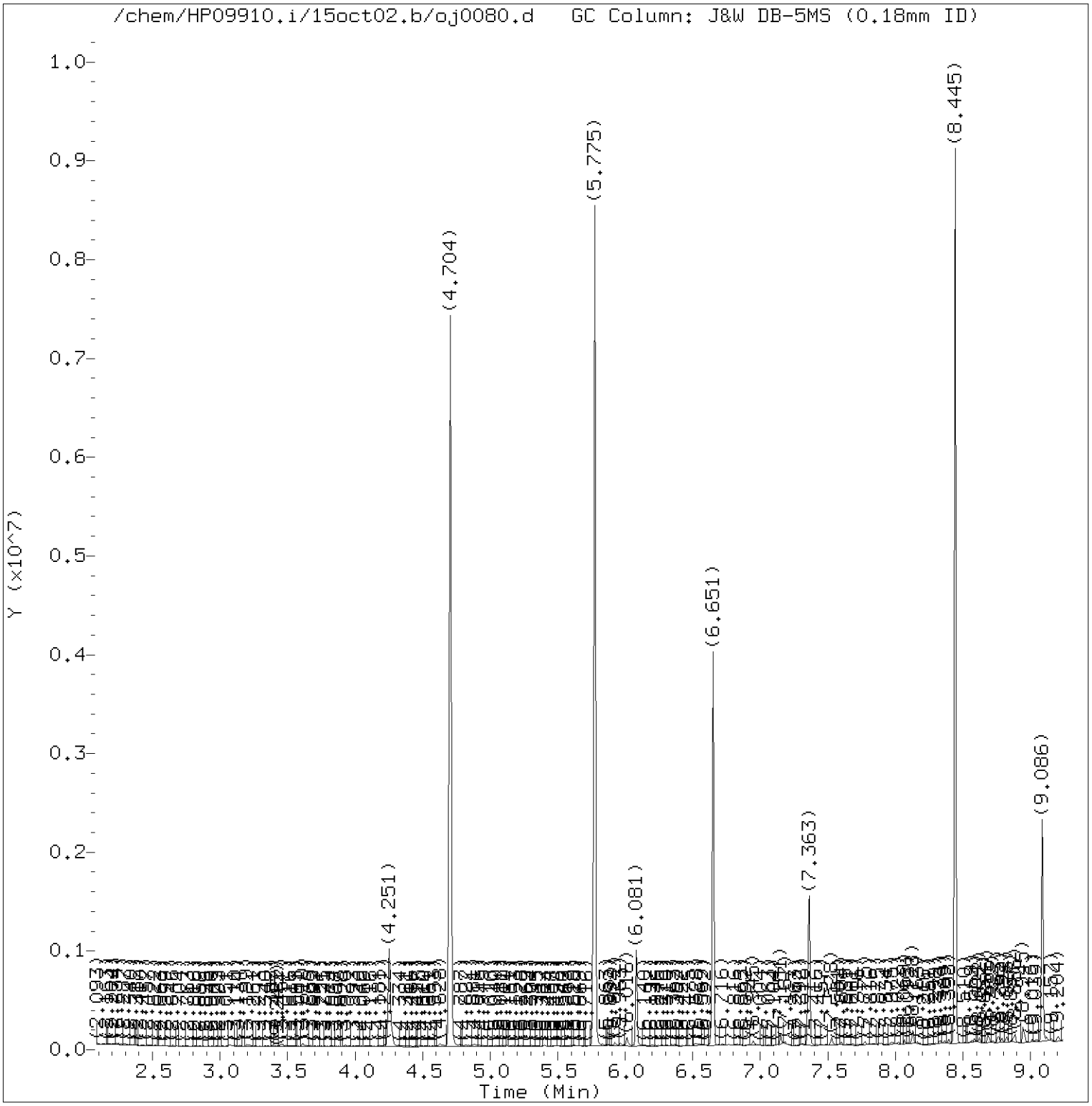
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

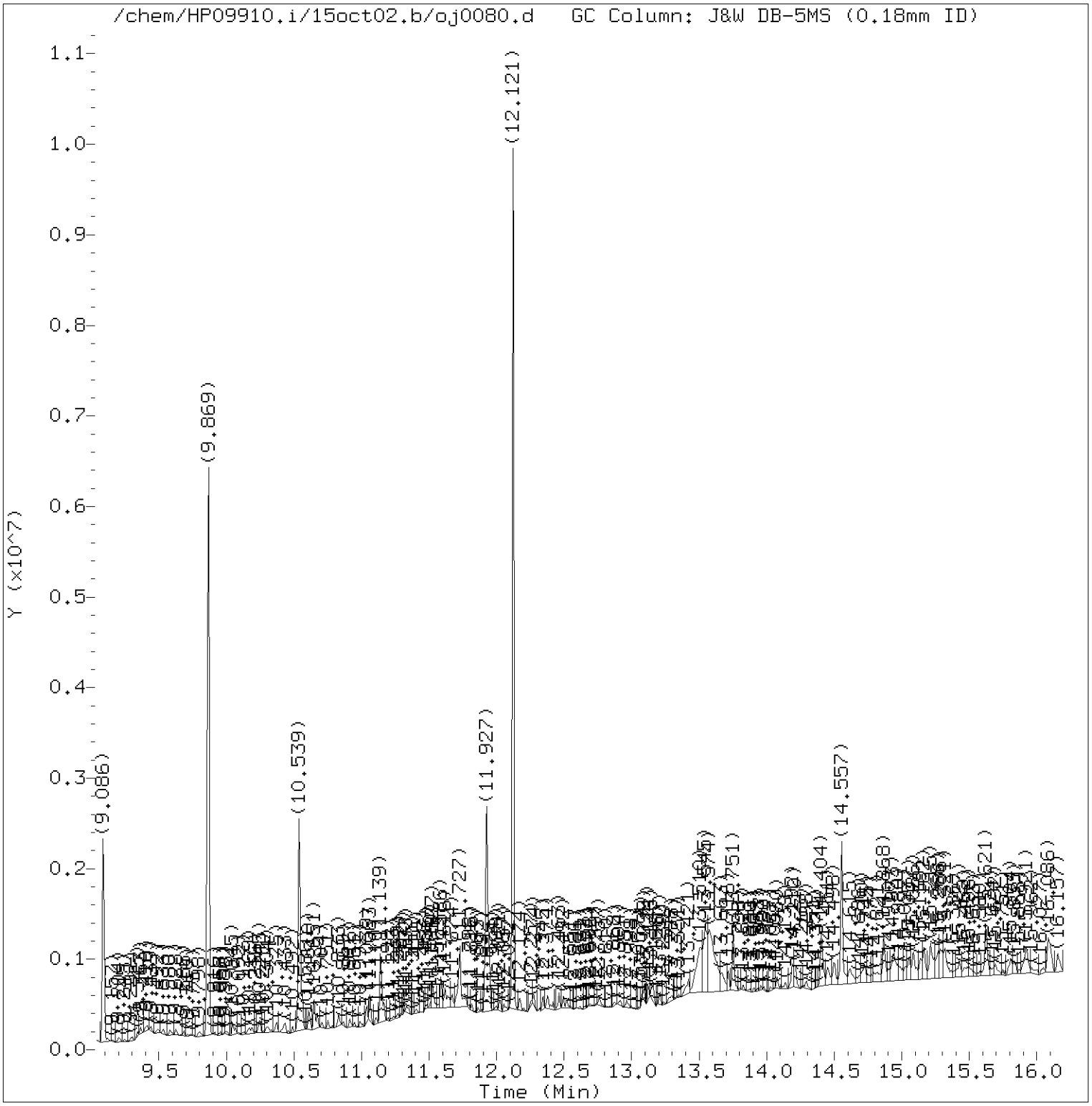
Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

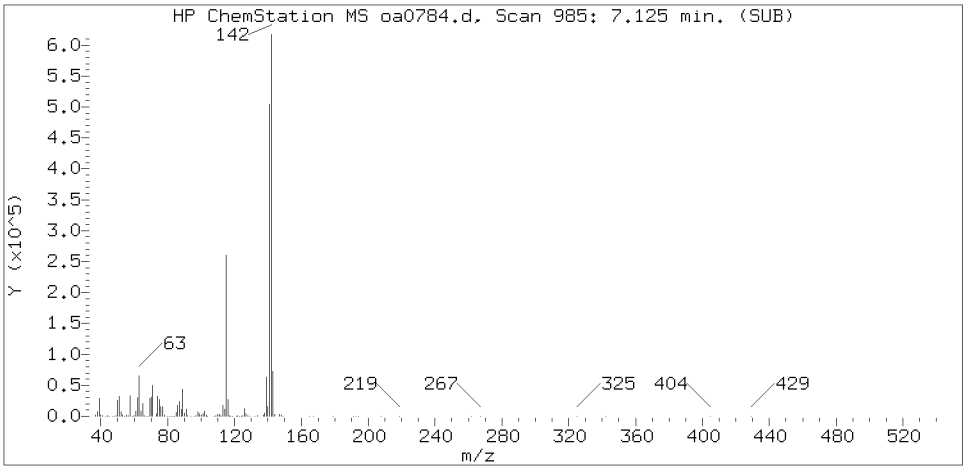
Sample Name: 49113 Lab Sample ID: 8064450

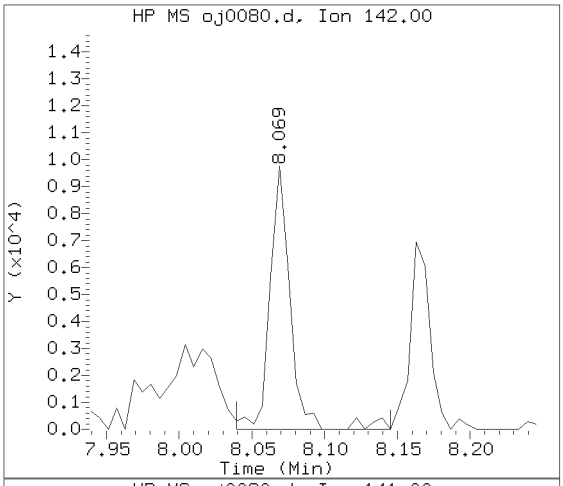
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.081	152	150034	20.000
44)$Nitrobenzene-d5	(2)	6.651	82	1433331	85.238
65)*Naphthalene-d8	(2)	7.363	136	722608	20.000
83) 2-Methylnaphthalene	(2)	8.069	142	9570	0.341
93)$2-Fluorobiphenyl	(3)	8.445	172	2864707	87.274
109) Acenaphthylene	(3)	8.945	152	67845	1.478
113)*Acenaphthene-d10	(3)	9.086	164	517127	20.000
114) Acenaphthene	(3)	9.122	153	13981	0.440
126) Fluorene	(3)	9.628	166	23527	0.644
153)*Phenanthrene-d10	(4)	10.539	188	884740	20.000
155) Phenanthrene	(4)	10.563	178	177129	3.447
157) Anthracene	(4)	10.610	178	53443	1.053
173) Fluoranthene	(4)	11.727	202	243642	4.363
175)*Pyrene-d10	(5)	11.927	212	904637	20.000
177) Pyrene	(5)	11.945	202	324171	6.007
179)$Terphenyl-d14	(5)	12.121	244	3178085	95.460
195) Benzo(a)anthracene	(5)	13.127	228	84758	1.802
196) Chrysene	(5)	13.163	228	115335	2.573
206) Benzo(b)fluoranthene	(6)	14.192	252	124610M	3.303
208) Benzo(k)fluoranthene	(6)	14.215	252	50378M	1.309
211) Benzo(a)pyrene	(6)	14.498	252	85151M	2.285
213)*Perylene-d12	(6)	14.557	264	601222	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	15.615	276	53984M	1.391
220) Dibenz(a,h)anthracene	(6)	15.633	278	14588M	0.447
221) Benzo(g,h,i)perylene	(6)	15.915	276	62240	1.952

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

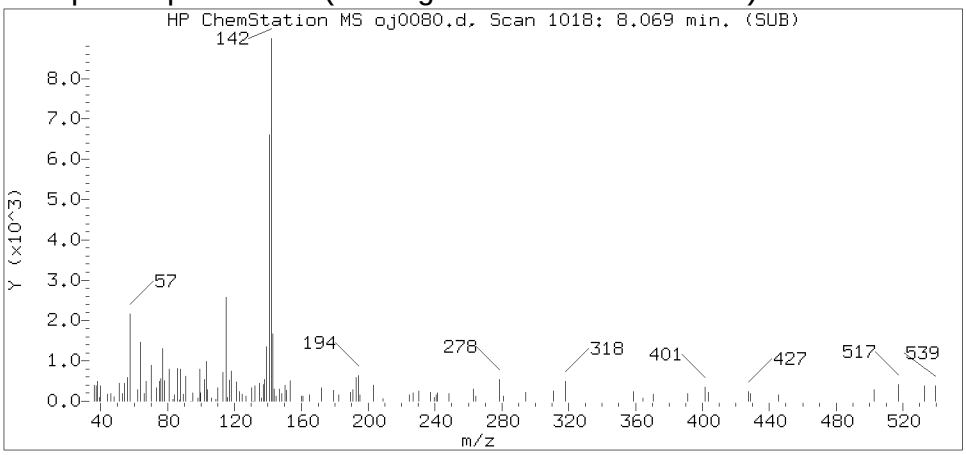
Digitally signed by Catherine E. Bachman
on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: ceb05247

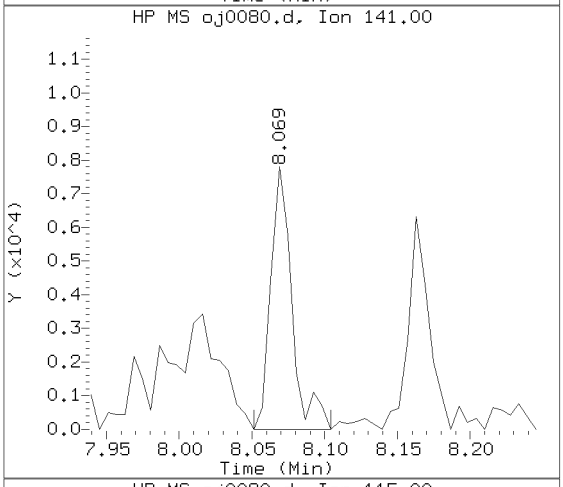
Reference Standard Spectrum for 2-Methylnaphthalene



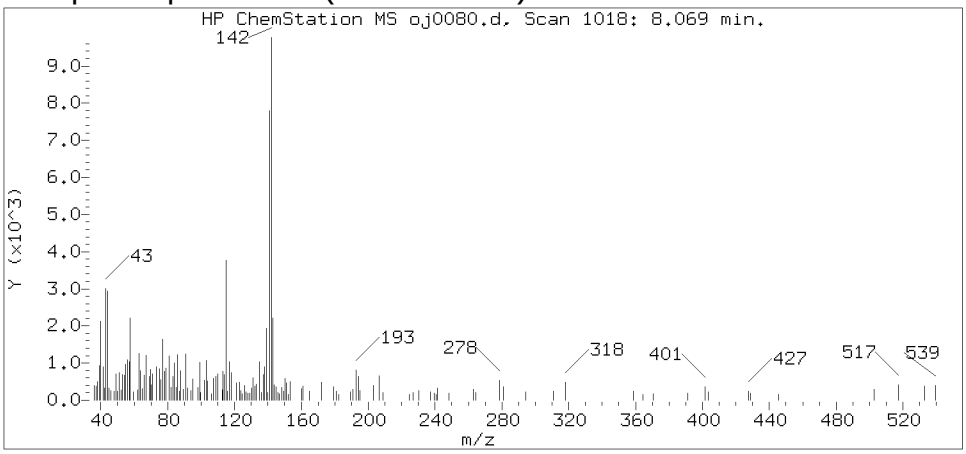


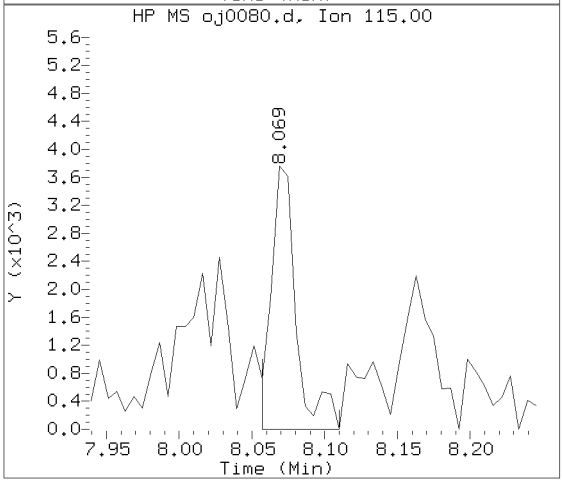
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

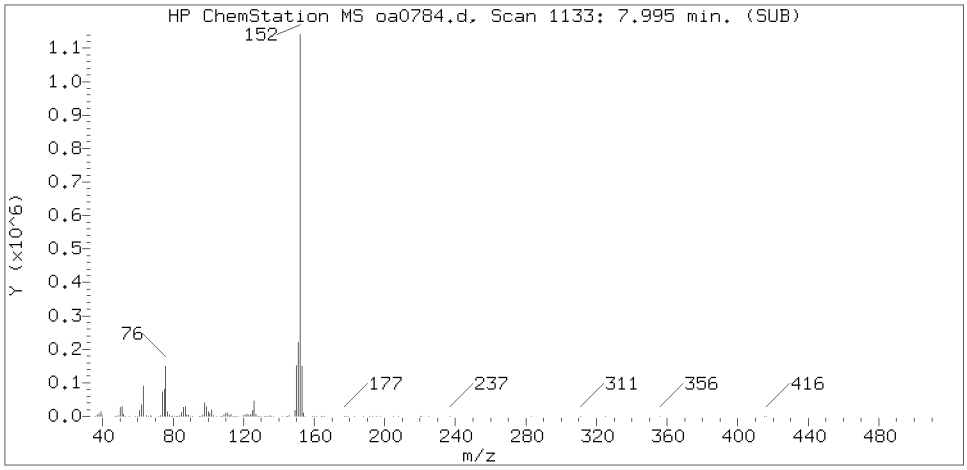
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

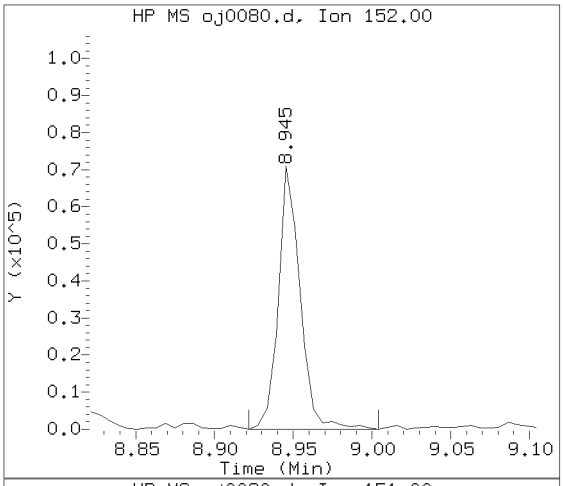
Sample Name: 49113 Lab Sample ID: 8064450

Compound Number : 83
Compound Name : 2-Methylnaphthalene
Scan Number : 1018
Retention Time (minutes) : 8.069
Relative Retention Time : 0.00000
Quant Ion : 142.00
Area (flag) : 9570
On-column Amount (ng/ul) : 0.3411

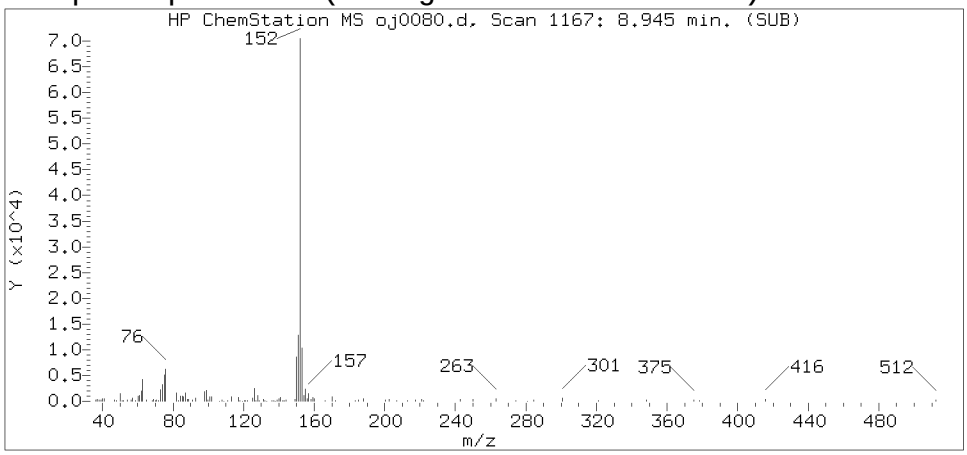
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: ceb05247

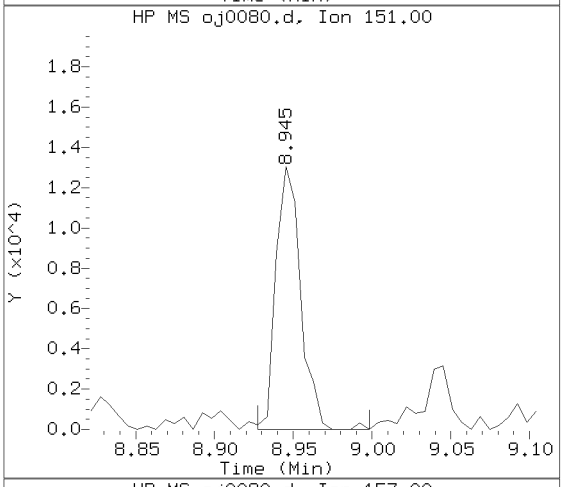
Reference Standard Spectrum for Acenaphthylene



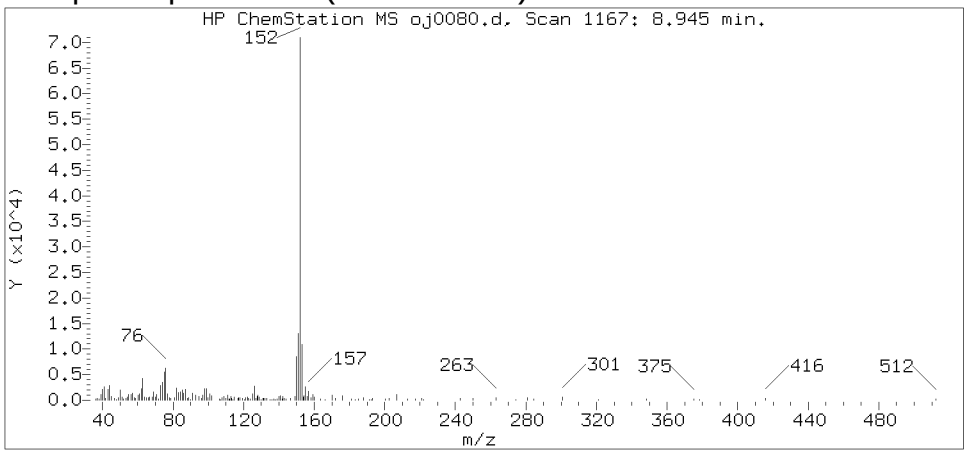


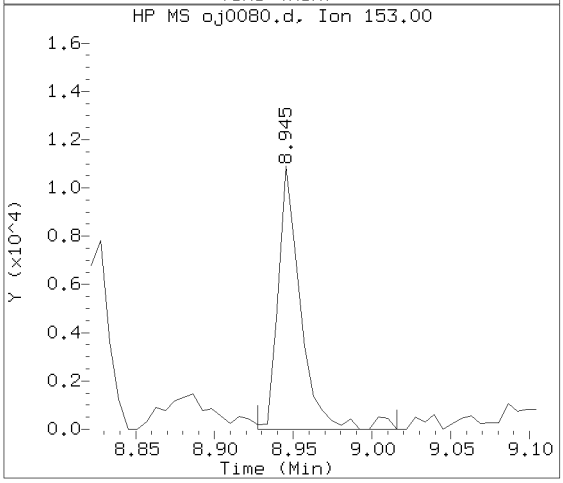
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

Compound Number	: 109
Compound Name	: Acenaphthylene
Scan Number	: 1167
Retention Time (minutes)	: 8.945
Relative Retention Time	: 0.00001
Quant Ion	: 152.00
Area (flag)	: 67845
On-column Amount (ng/ul)	: 1.4777

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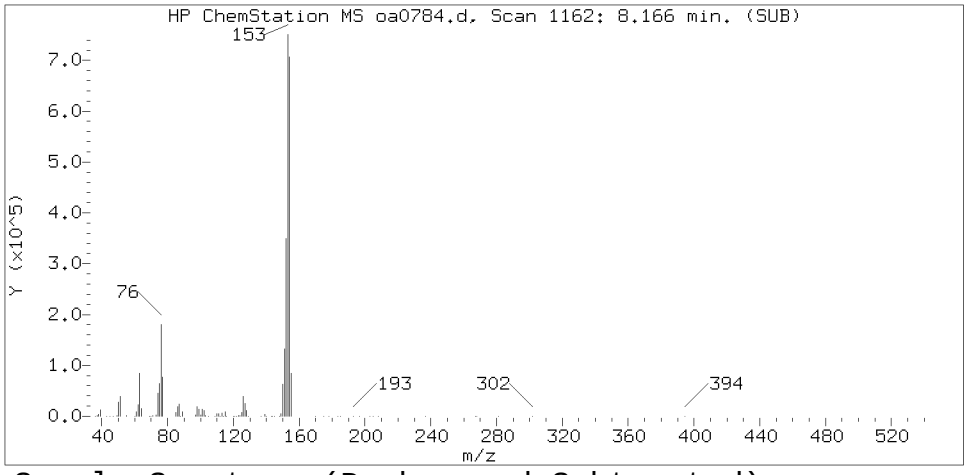
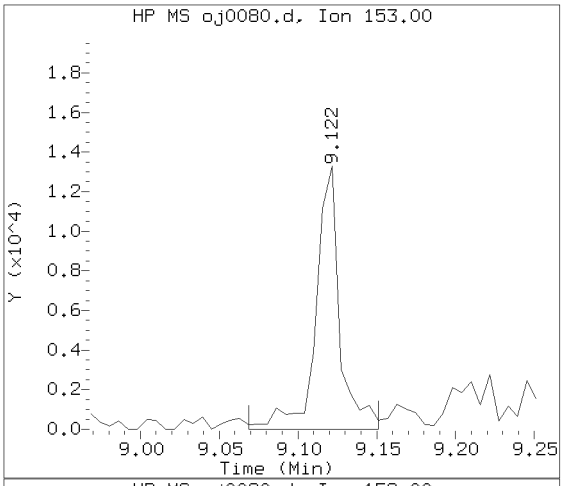
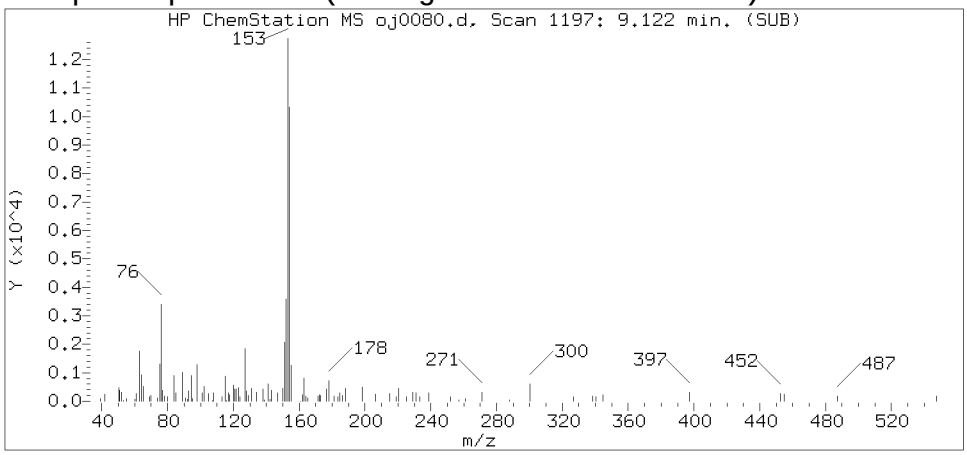
Target 3.5 esignature user ID: ceb05247

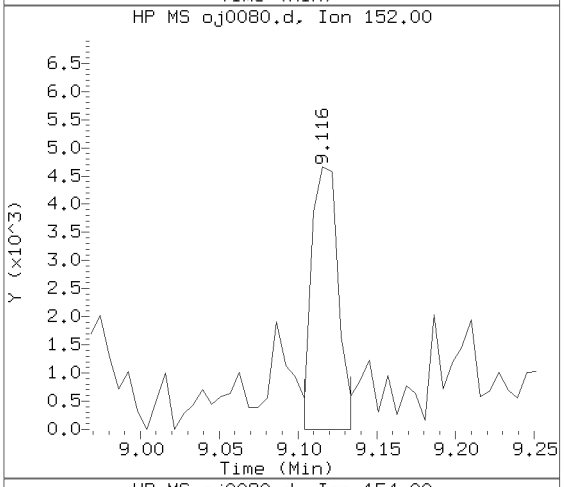
Reference Standard Spectrum for Acenaphthene



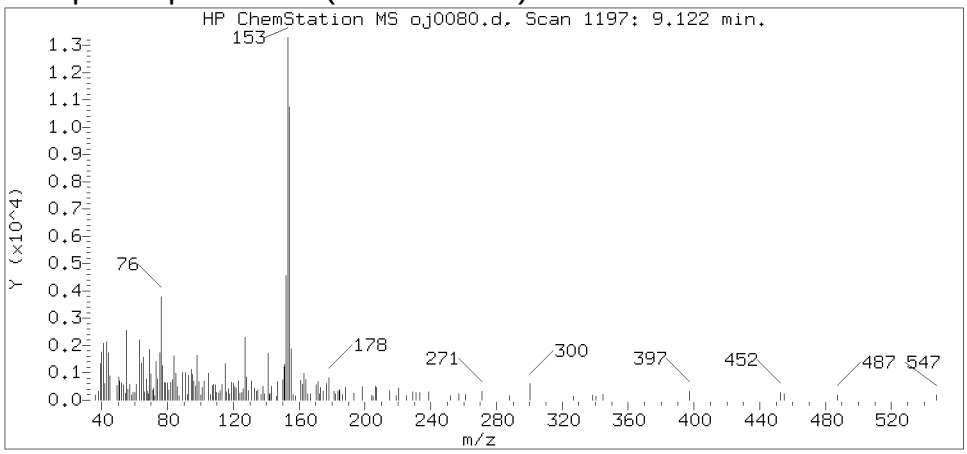


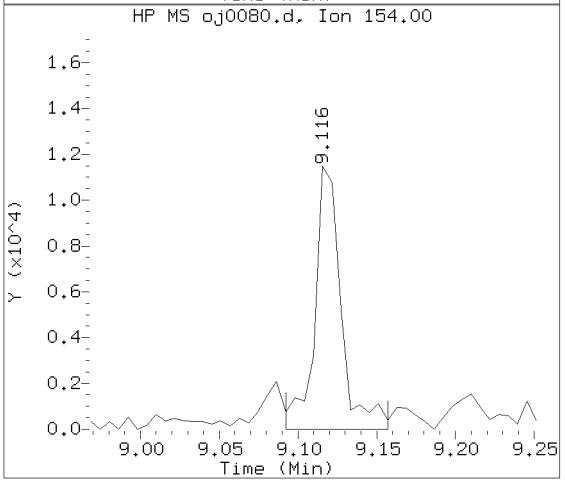
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1197
Retention Time (minutes) : 9.122
Relative Retention Time :-0.00065
Quant Ion : 153.00
Area (flag) : 13981
On-column Amount (ng/ul) : 0.4400

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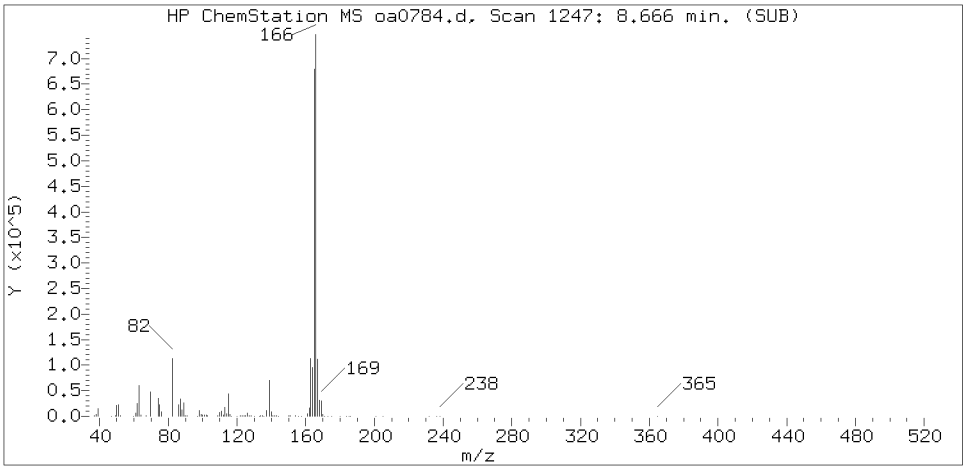
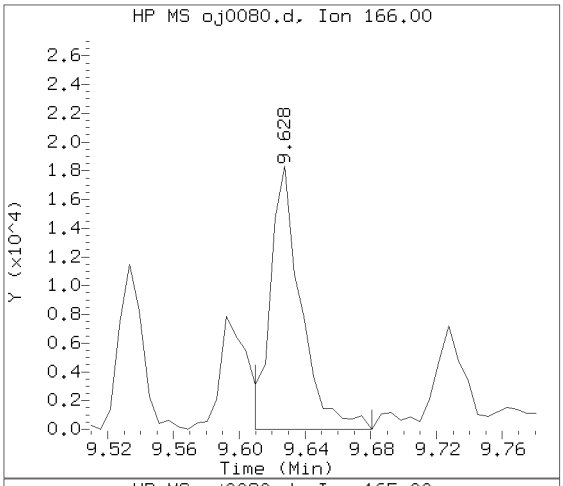
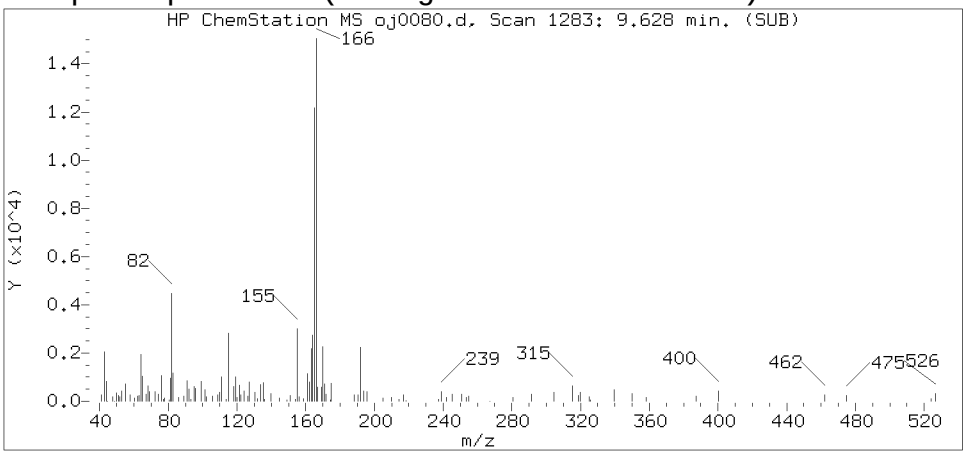
Target 3.5 esignature user ID: ceb05247

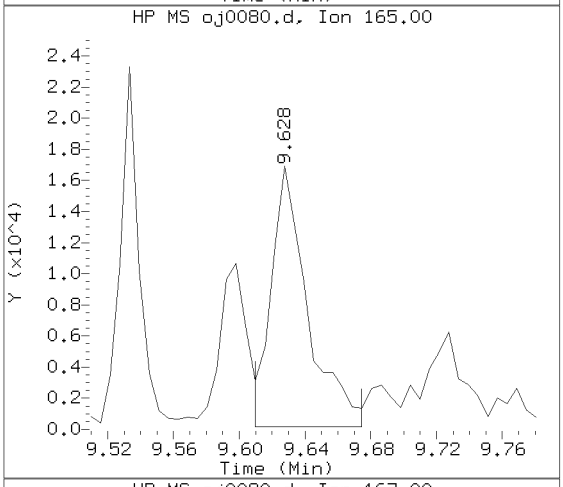
Reference Standard Spectrum for Fluorene



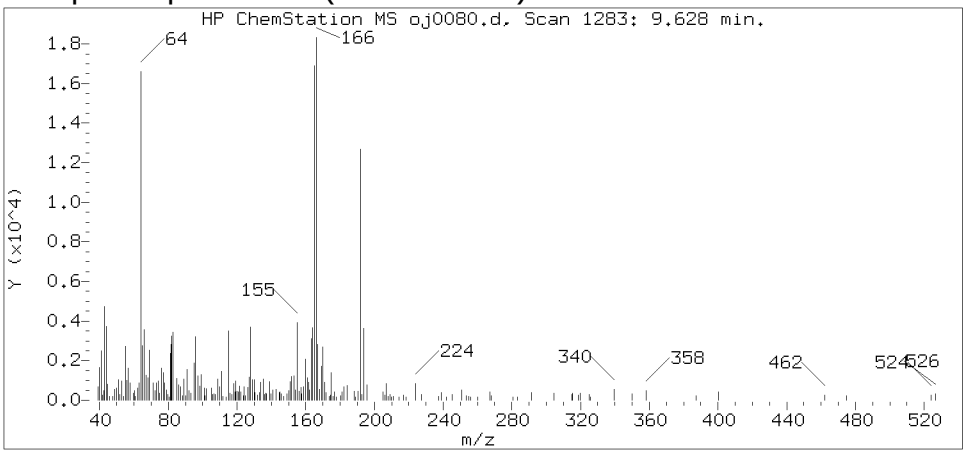


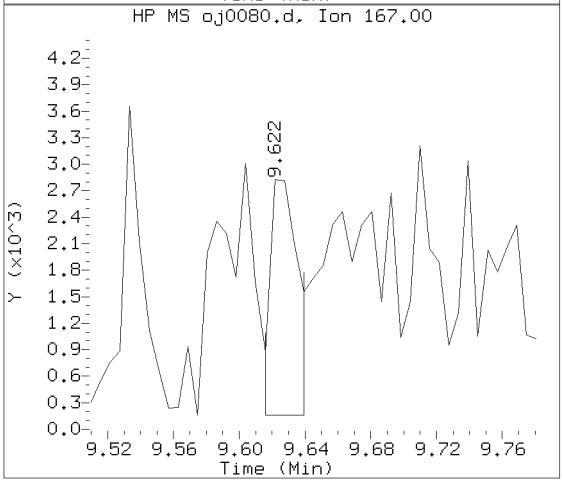
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

Compound Number : 126
Compound Name : Fluorene
Scan Number : 1283
Retention Time (minutes) : 9.628
Relative Retention Time :-0.00069
Quant Ion : 166.00
Area (flag) : 23527
On-column Amount (ng/ul) : 0.6442

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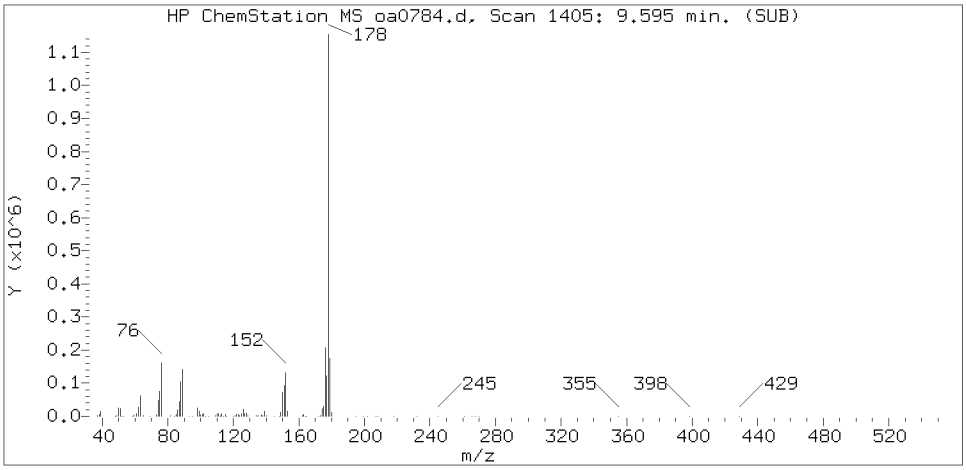
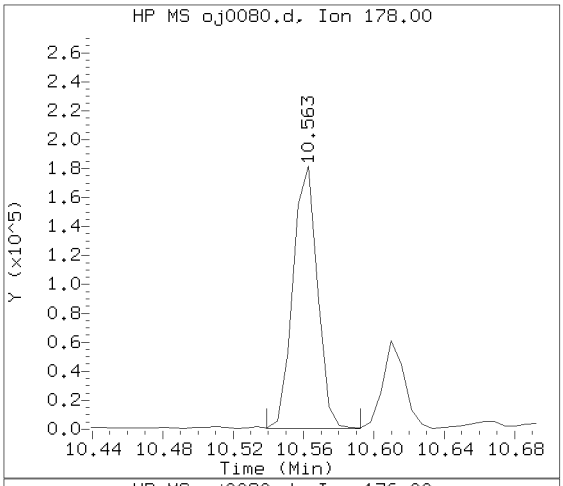
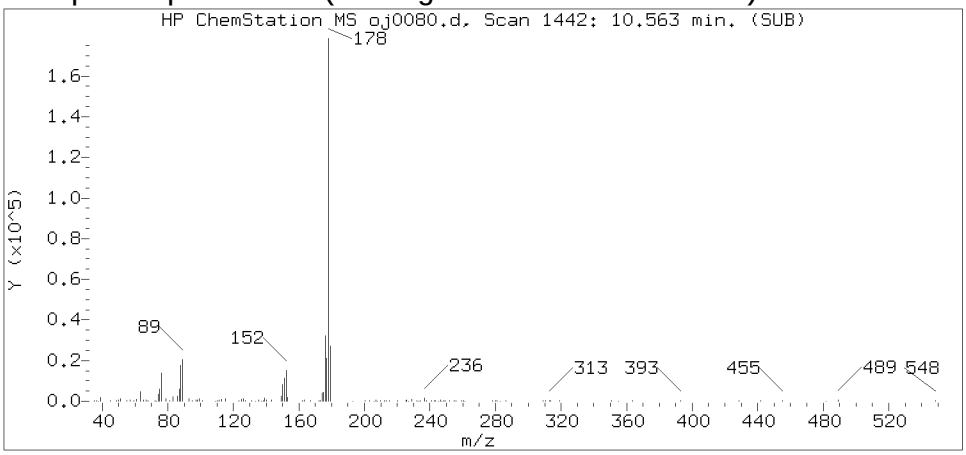
Target 3.5 esignature user ID: ceb05247

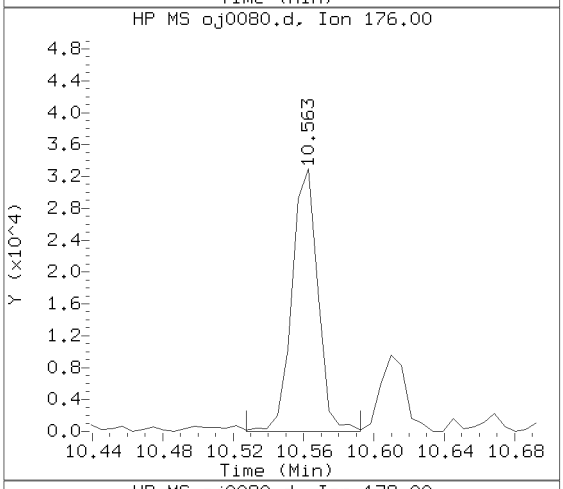
Reference Standard Spectrum for Phenanthrene



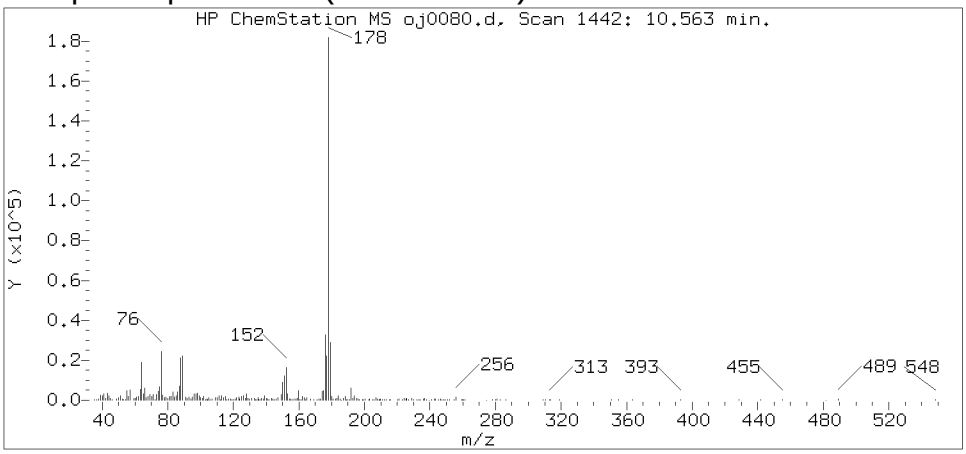


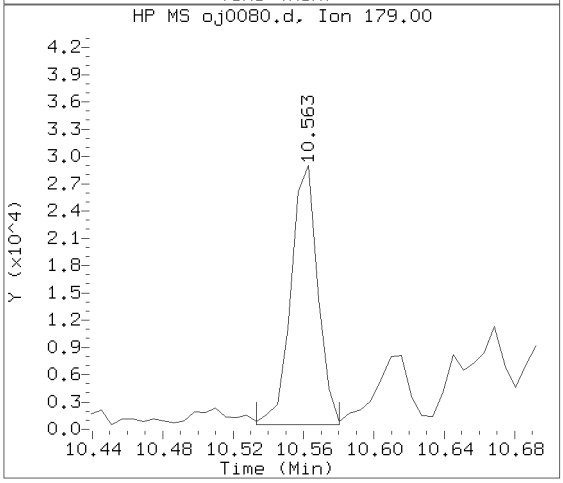
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

Compound Number	: 155
Compound Name	: Phenanthrene
Scan Number	: 1442
Retention Time (minutes)	: 10.563
Relative Retention Time	: 0.00000
Quant Ion	: 178.00
Area (flag)	: 177129
On-column Amount (ng/ul)	: 3.4474

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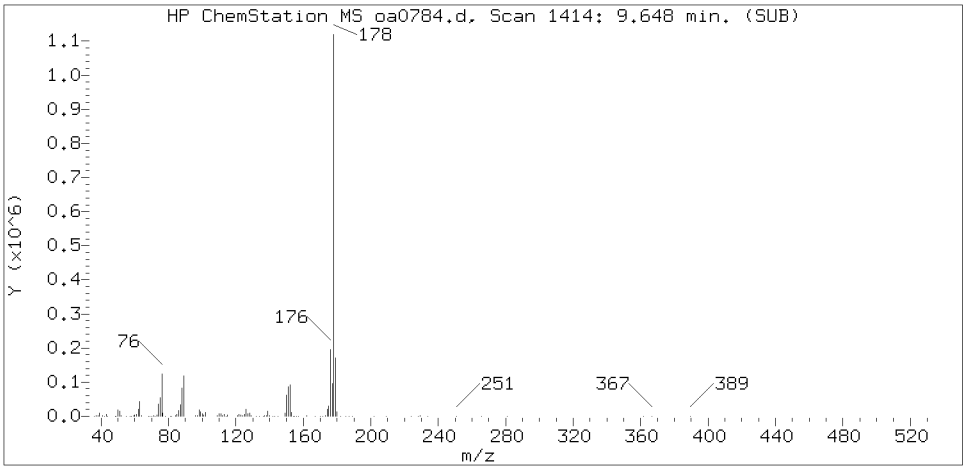
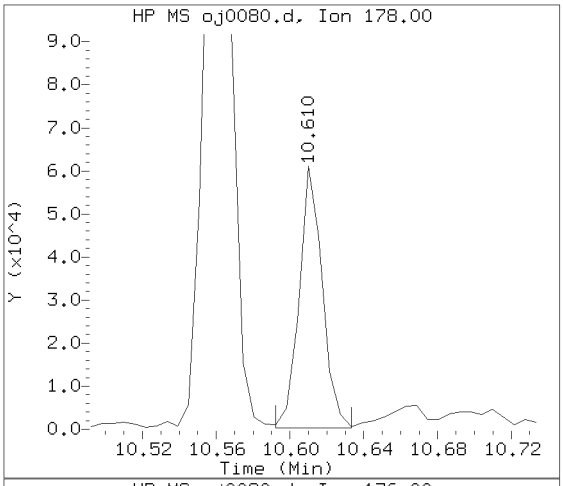
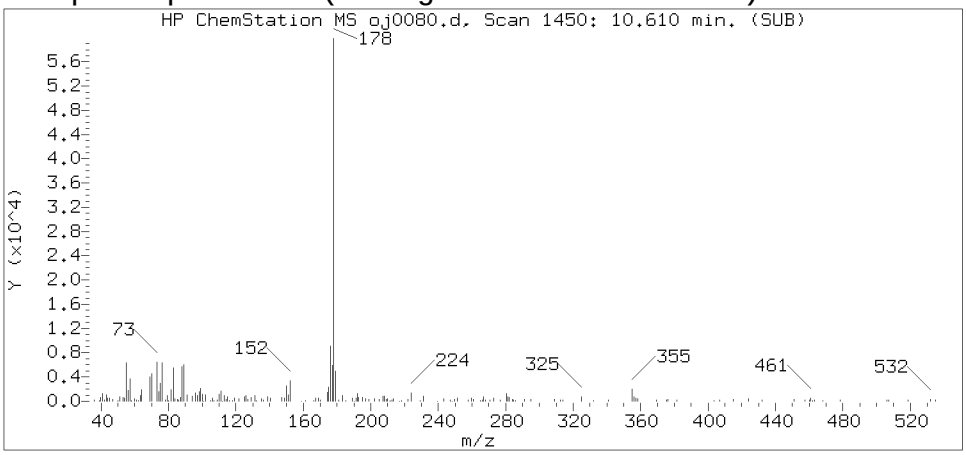
Target 3.5 esignature user ID: ceb05247

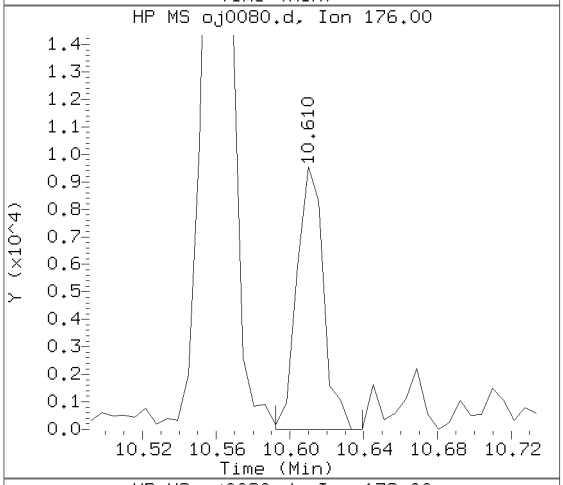
Reference Standard Spectrum for Anthracene



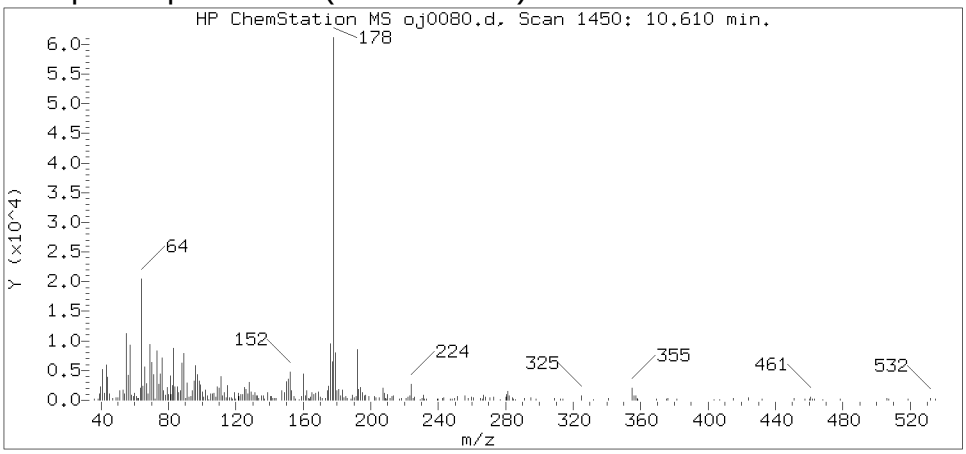


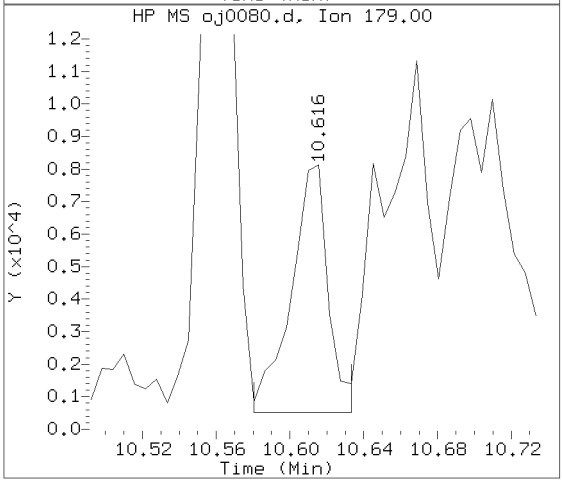
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

Compound Number	: 157
Compound Name	: Anthracene
Scan Number	: 1450
Retention Time (minutes)	: 10.610
Relative Retention Time	: 0.00056
Quant Ion	: 178.00
Area (flag)	: 53443
On-column Amount (ng/ul)	: 1.0525

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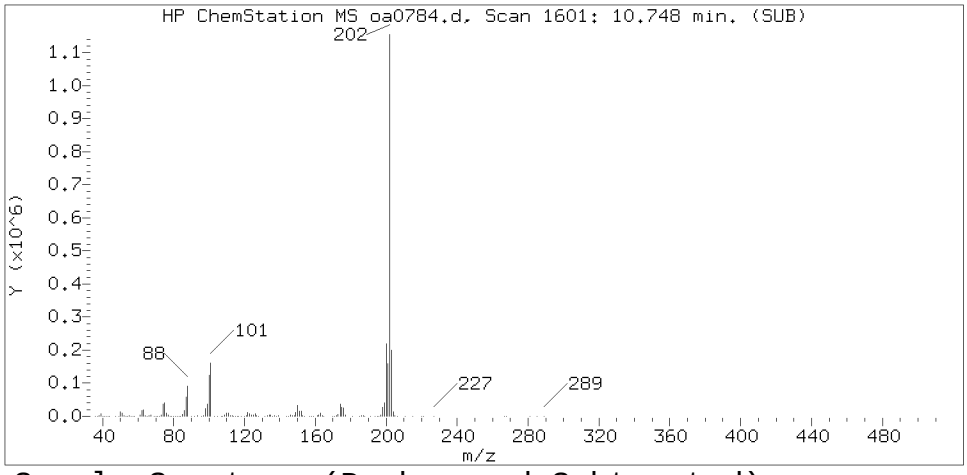
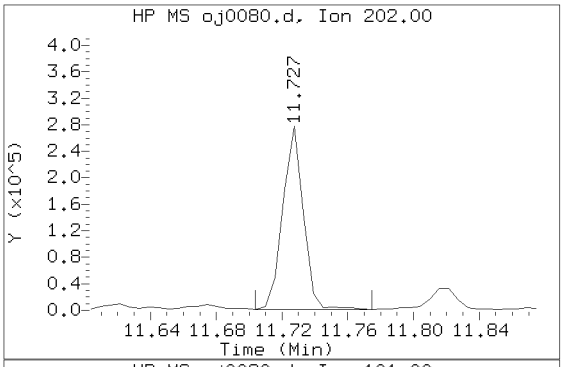
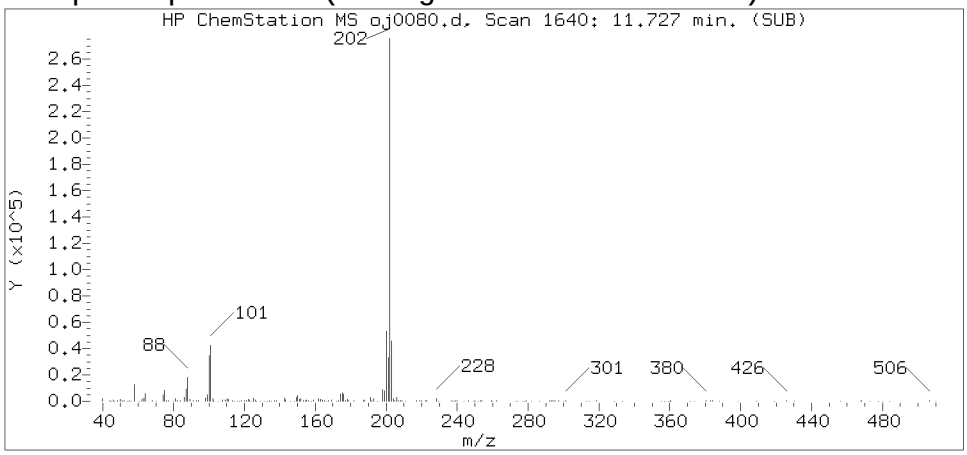
Target 3.5 esignature user ID: ceb05247

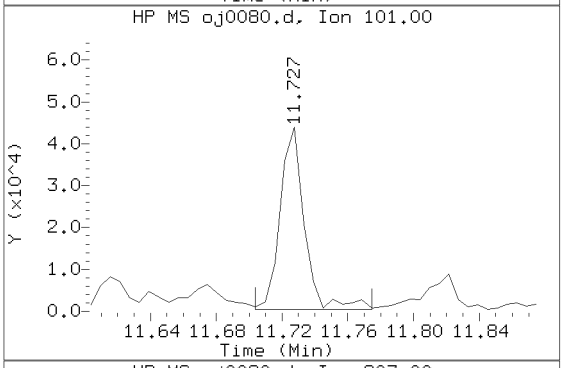
Reference Standard Spectrum for Fluoranthene

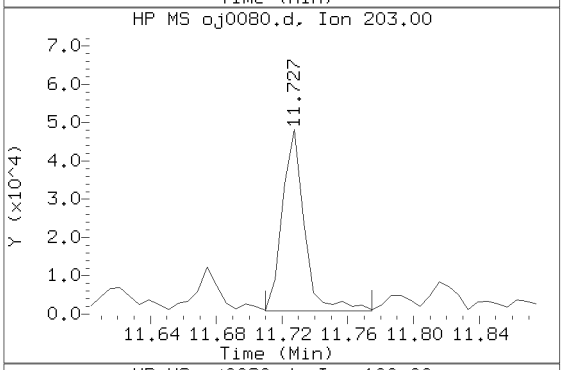




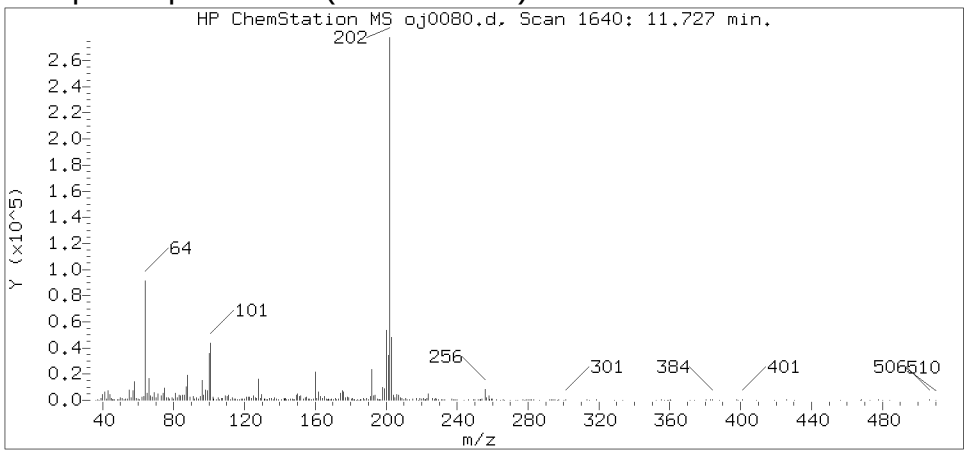
Sample Spectrum (Background Subtracted)

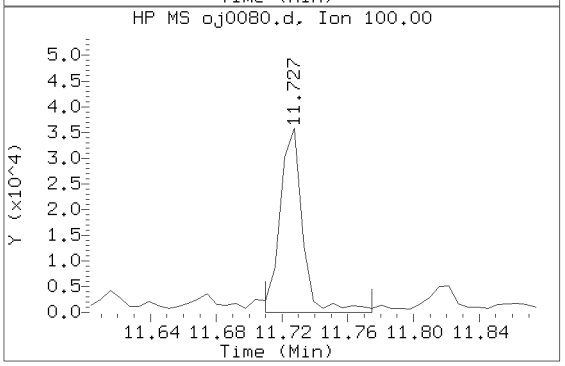






Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

Compound Number	: 173
Compound Name	: Fluoranthene
Scan Number	: 1640
Retention Time (minutes)	: 11.727
Relative Retention Time	: 0.00000
Quant Ion	: 202.00
Area (flag)	: 243642
On-column Amount (ng/ul)	: 4.3631

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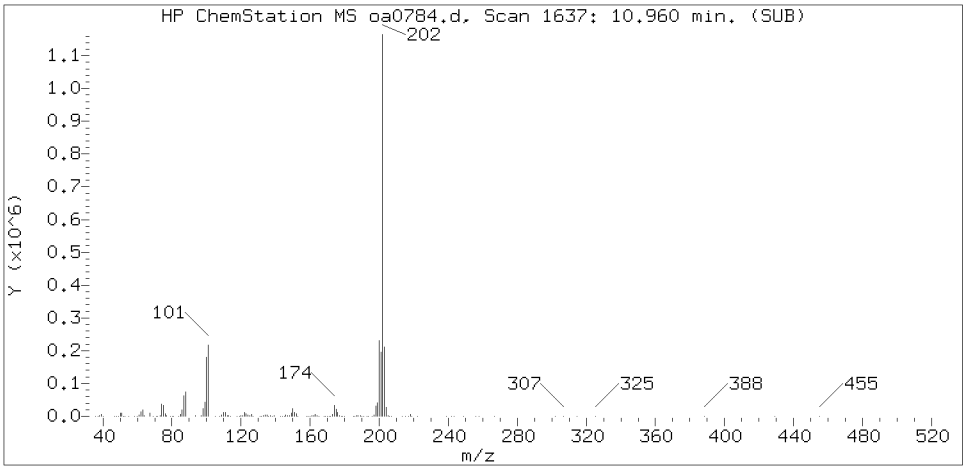
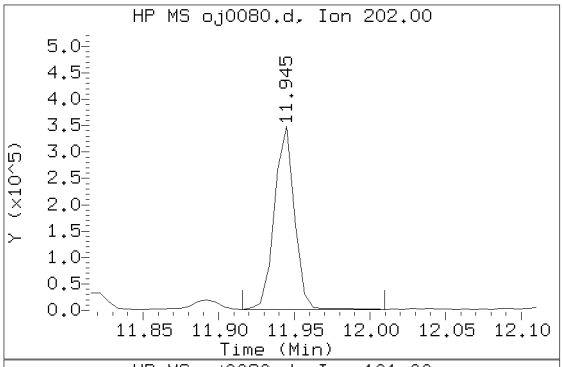
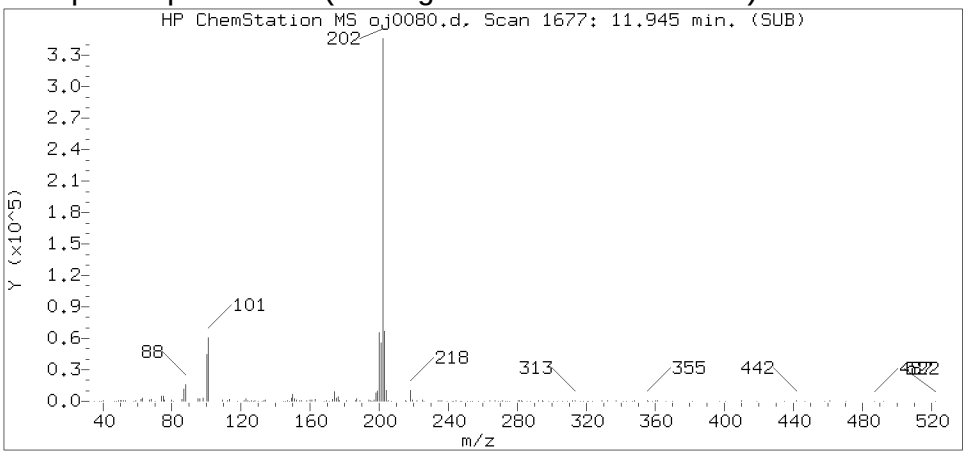
Target 3.5 esignature user ID: ceb05247

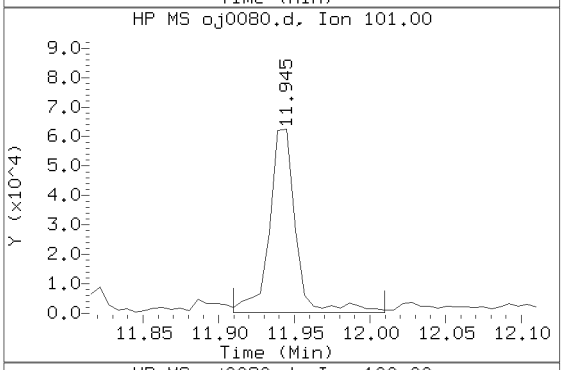
Reference Standard Spectrum for Pyrene

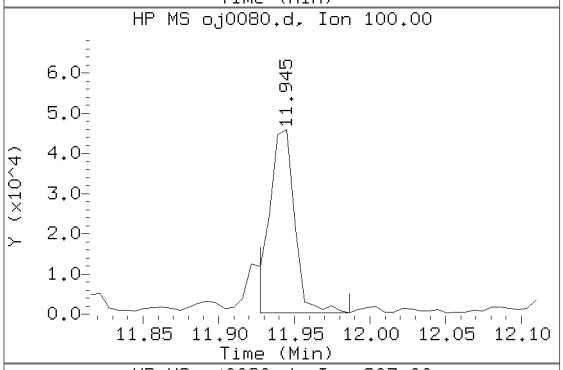




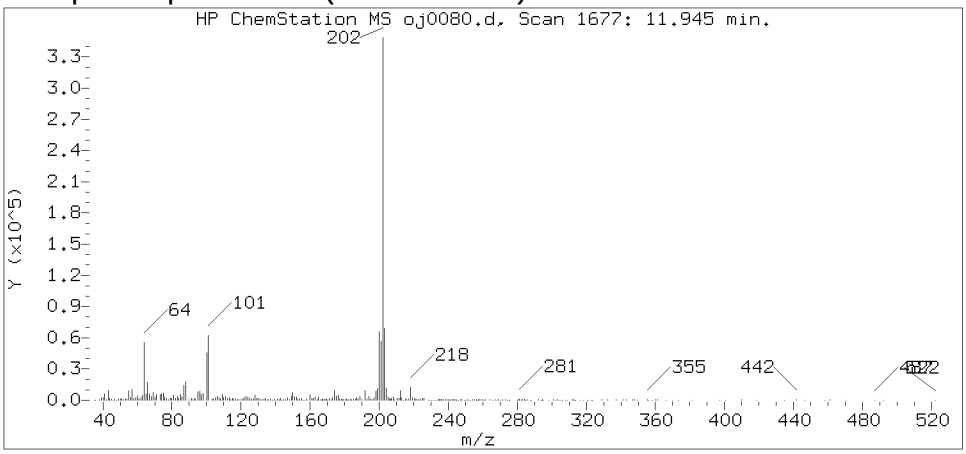
Sample Spectrum (Background Subtracted)

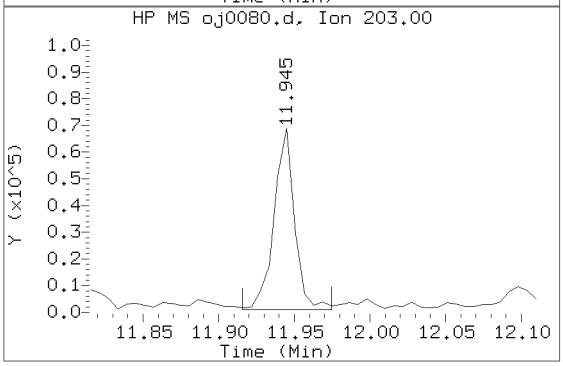






Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1677
Retention Time (minutes)	: 11.945
Relative Retention Time	: 0.00000
Quant Ion	: 202.00
Area (flag)	: 324171
On-column Amount (ng/ul)	: 6.0067

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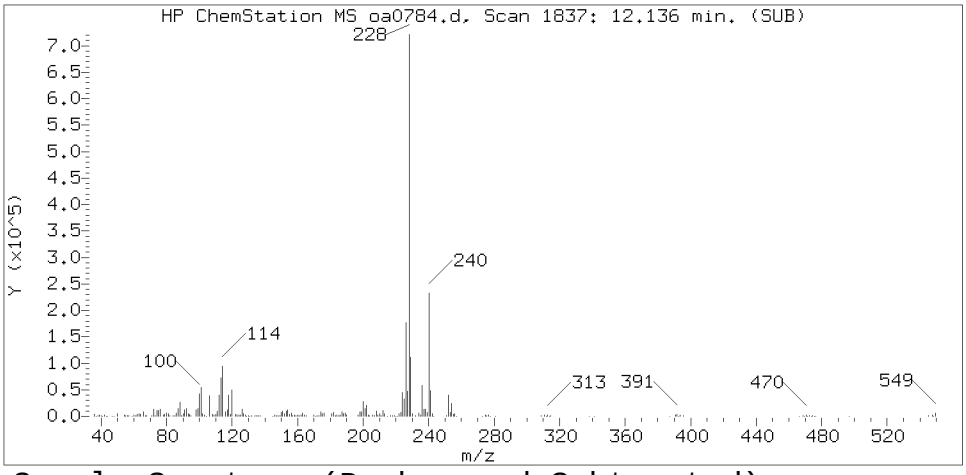
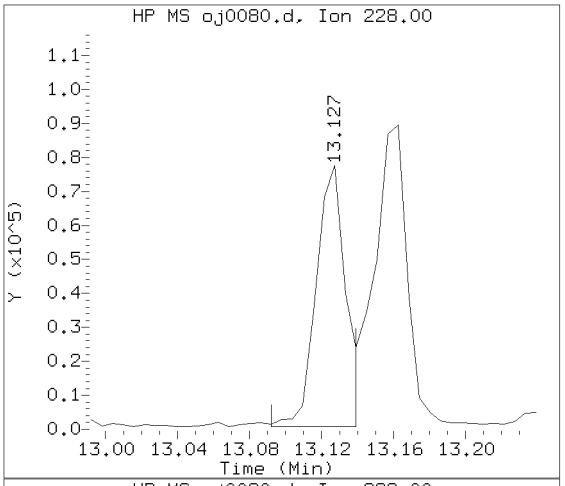
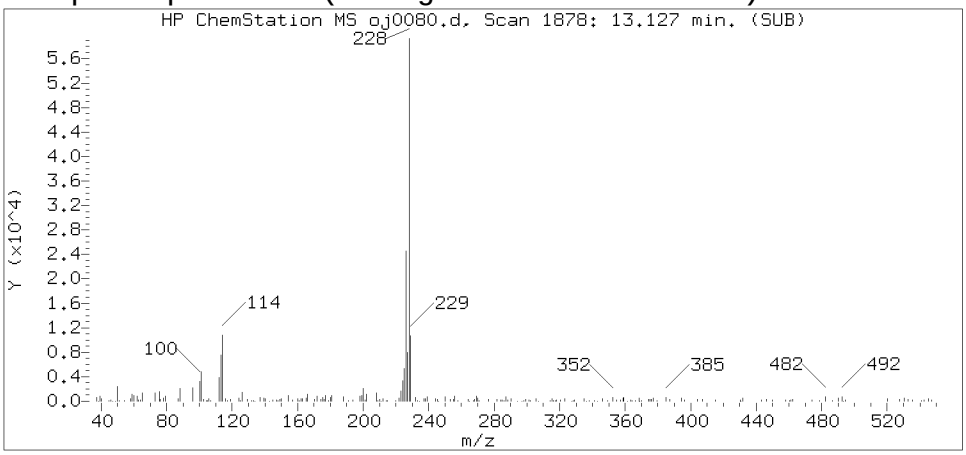
Target 3.5 esignature user ID: ceb05247

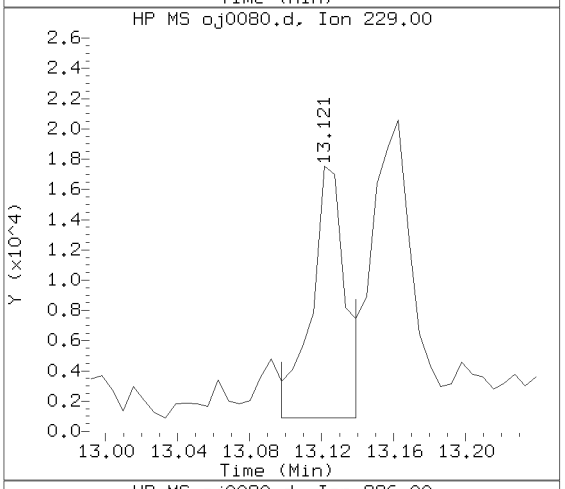
Reference Standard Spectrum for Benzo(a)anthracene



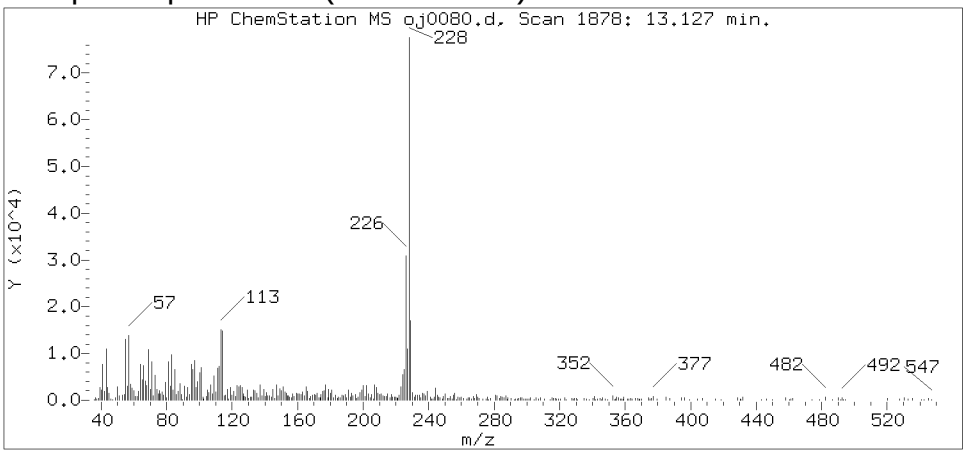


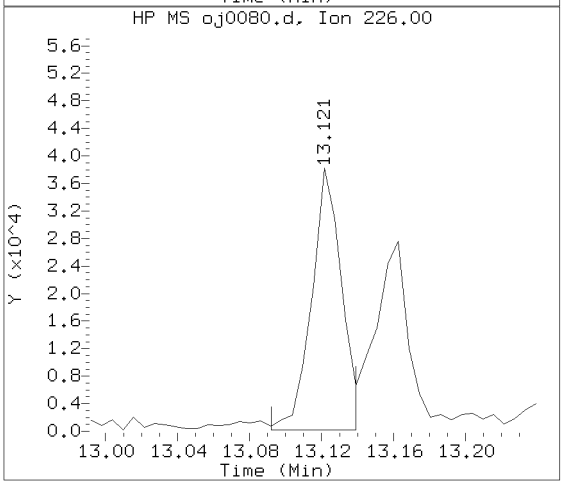
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

Compound Number	: 195
Compound Name	: Benzo(a)anthracene
Scan Number	: 1878
Retention Time (minutes)	: 13.127
Relative Retention Time	: 0.00000
Quant Ion	: 228.00
Area (flag)	: 84758
On-column Amount (ng/ul)	: 1.8017

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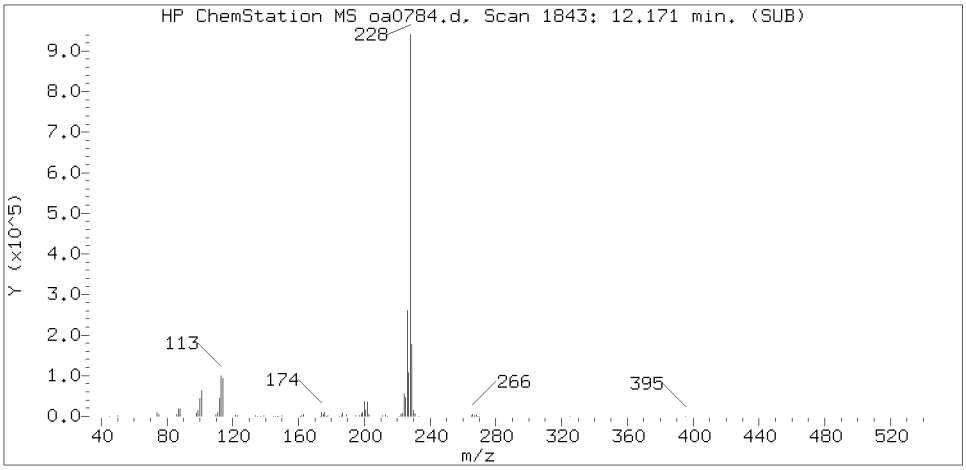
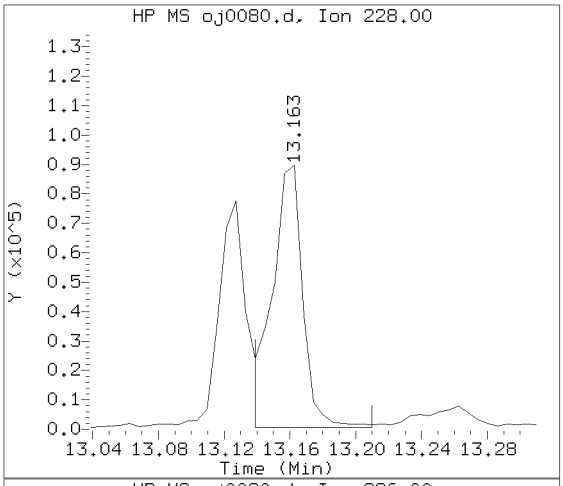
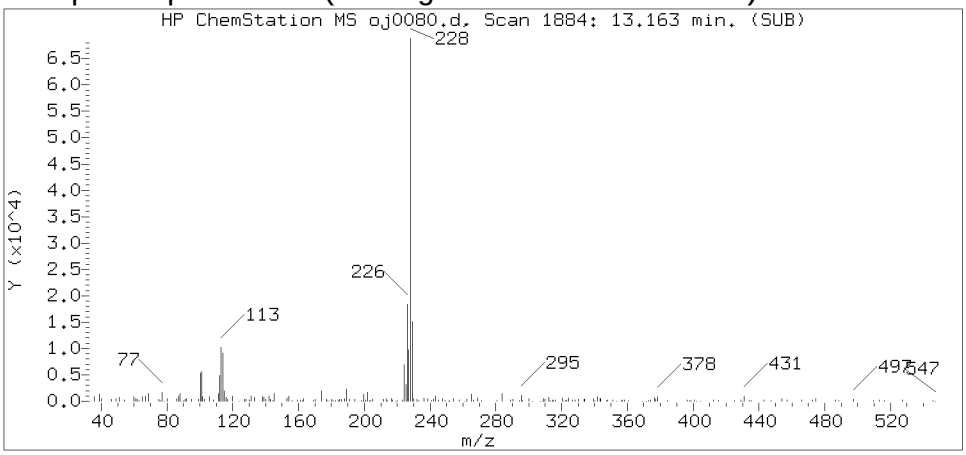
Target 3.5 esignature user ID: ceb05247

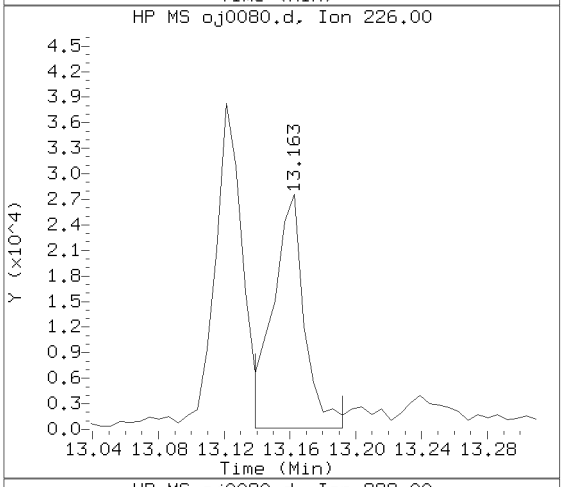
Reference Standard Spectrum for Chrysene



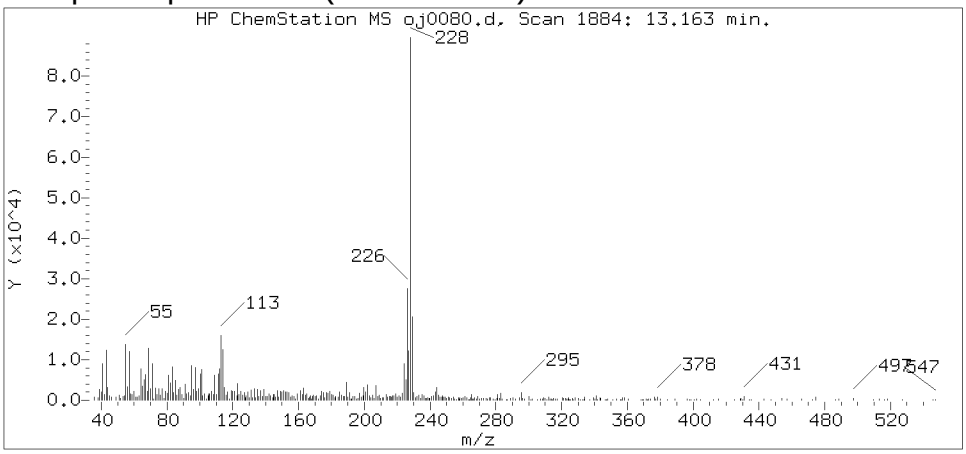


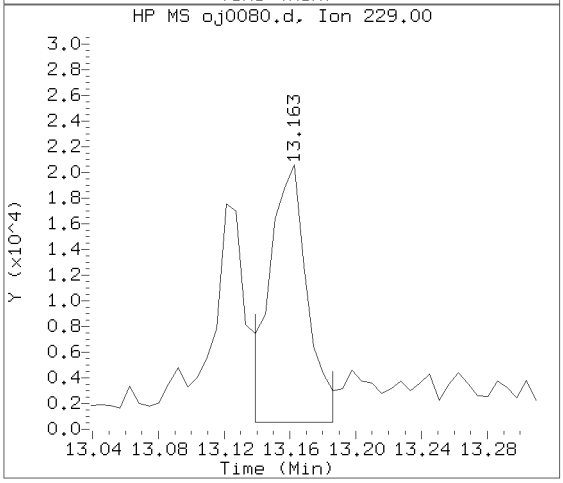
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

Compound Number	: 196
Compound Name	: Chrysene
Scan Number	: 1884
Retention Time (minutes)	: 13.163
Relative Retention Time	: 0.00000
Quant Ion	: 228.00
Area (flag)	: 115335
On-column Amount (ng/ul)	: 2.5730

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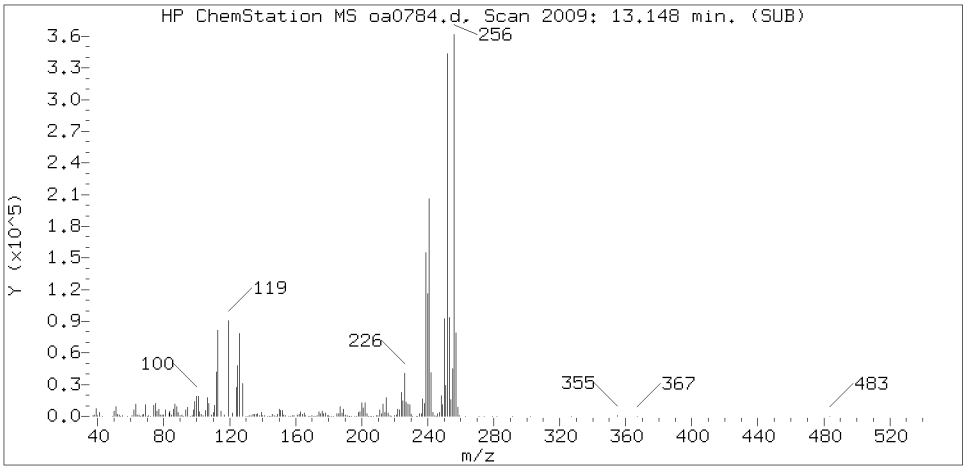
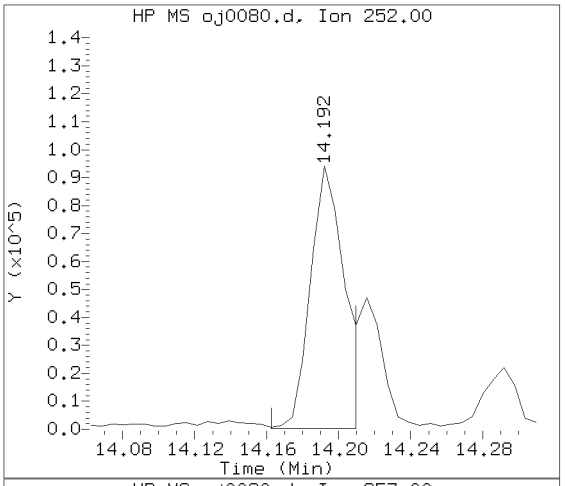
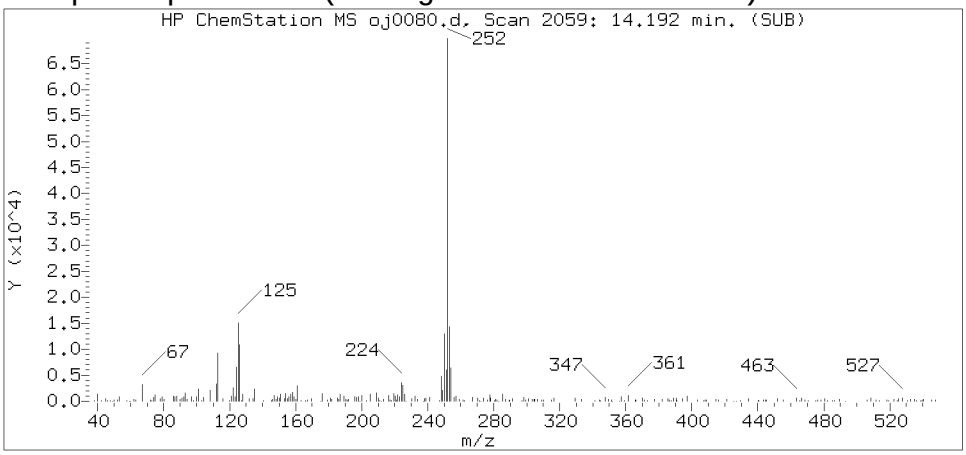
Target 3.5 esignature user ID: ceb05247

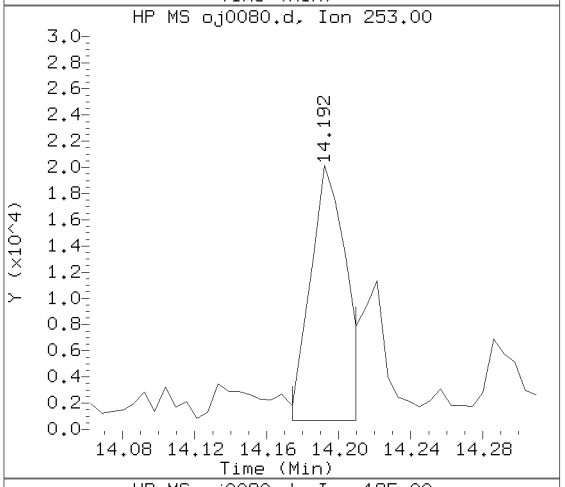
Reference Standard Spectrum for Benzo(b)fluoranthene



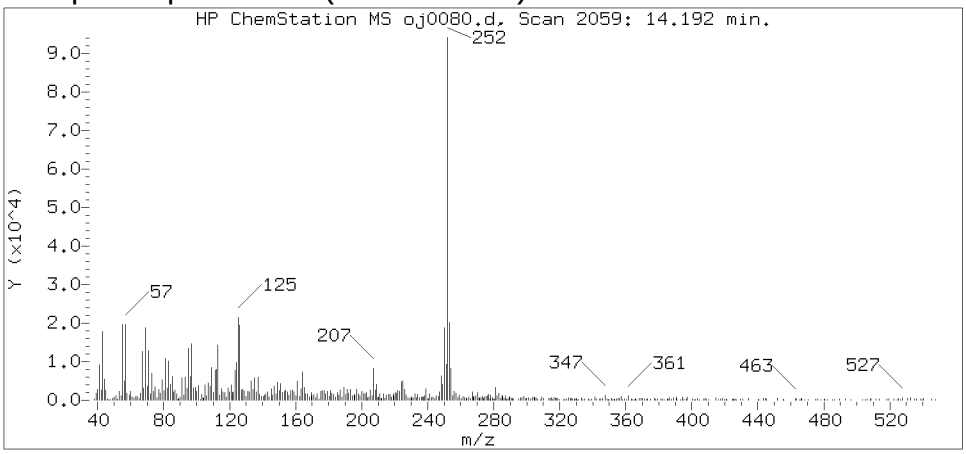


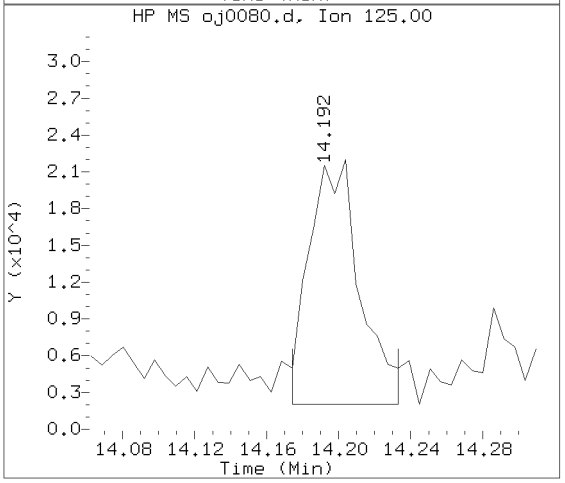
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2059
Retention Time (minutes)	: 14.192
Relative Retention Time	: 0.00040
Quant Ion	: 252.00
Area (flag)	: 124610M
On-column Amount (ng/ul)	: 3.3026

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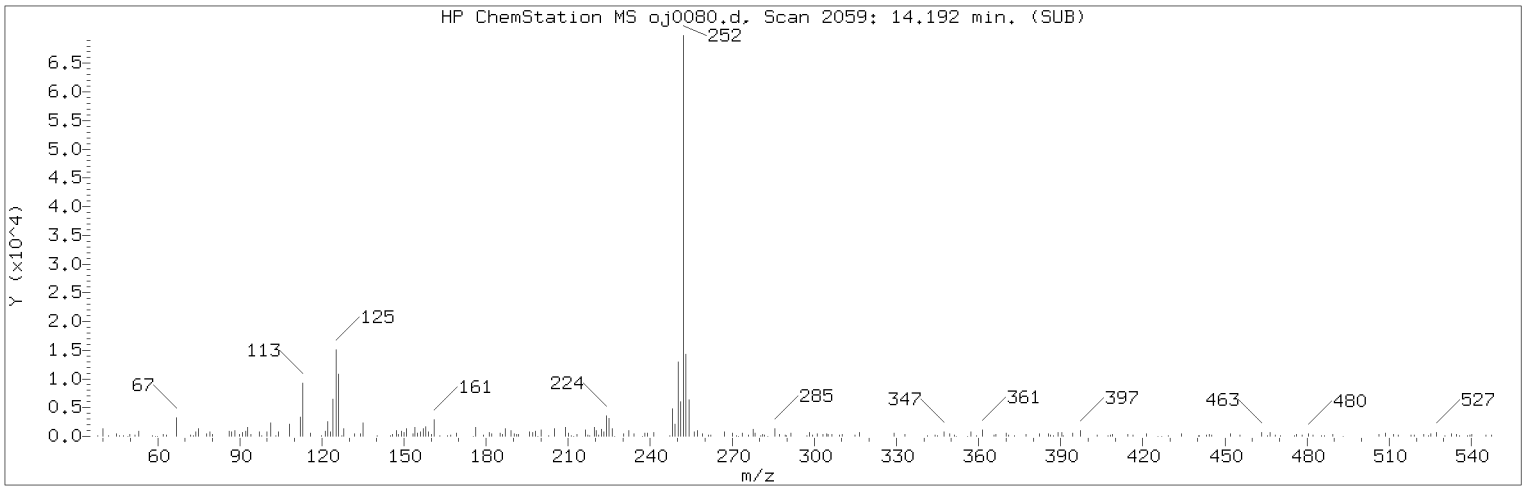
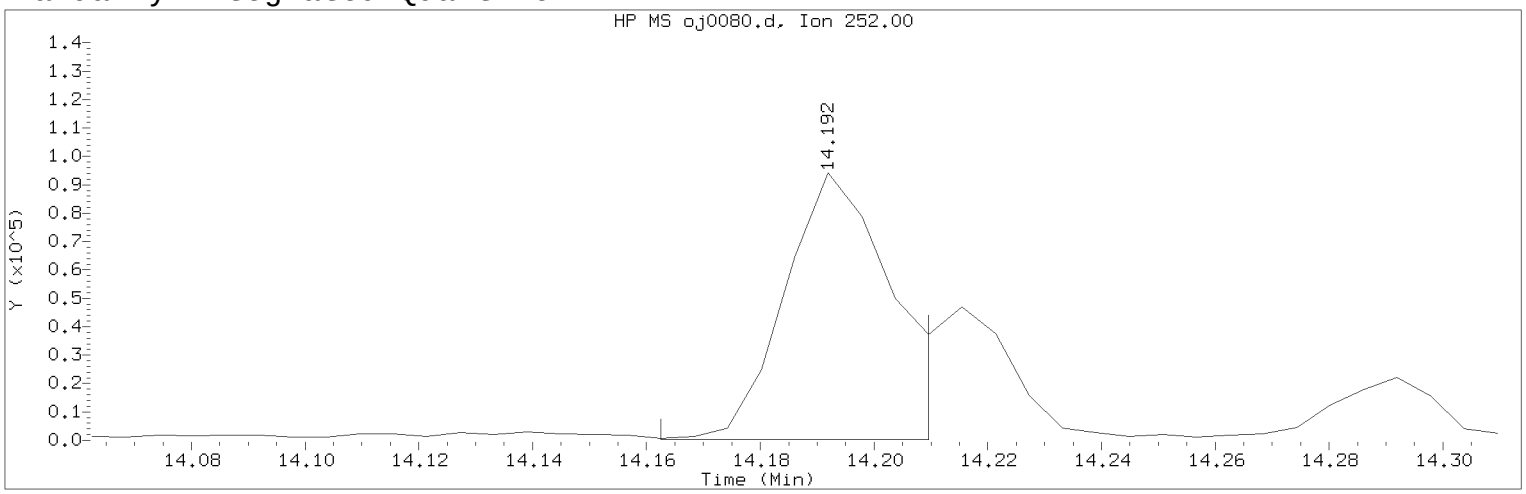
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

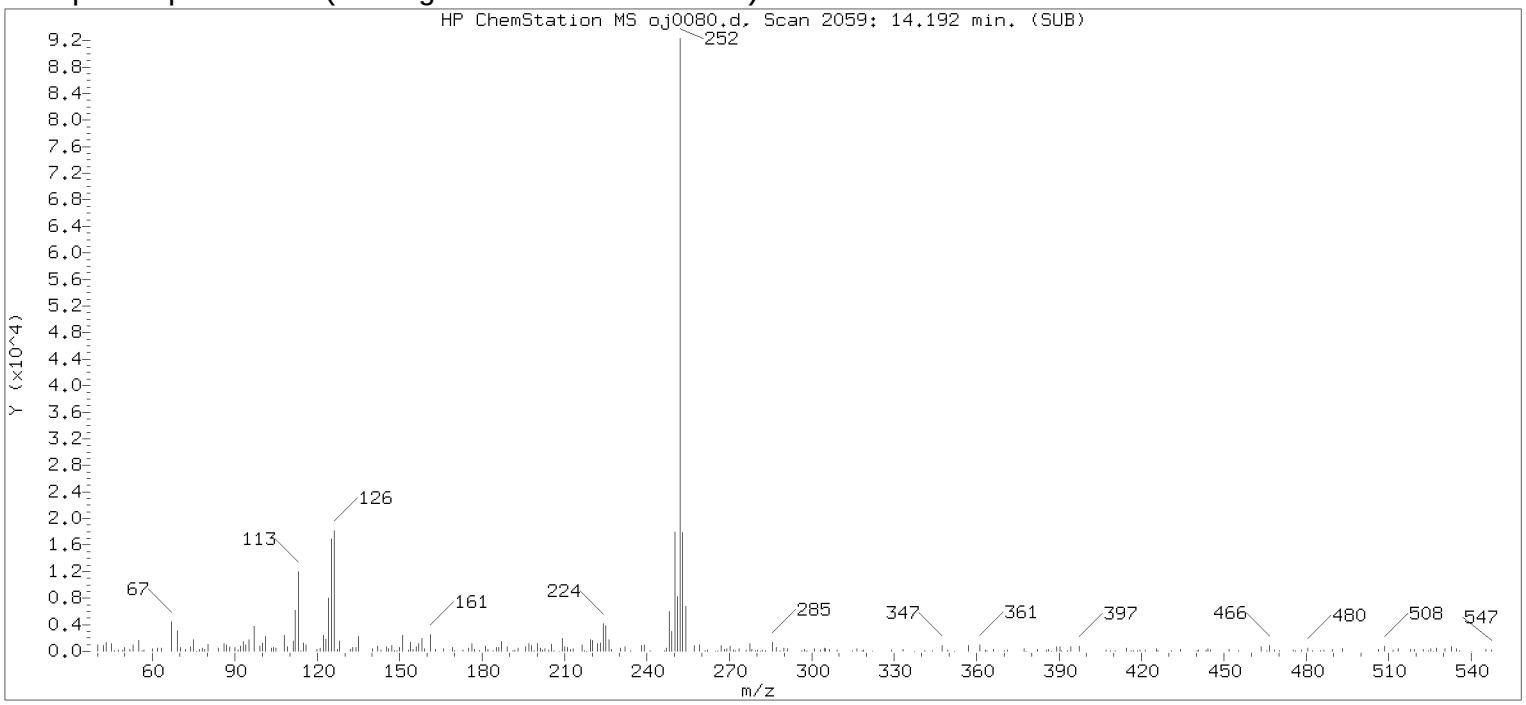
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2059
Retention Time (minutes) : 14.192
Quant Ion : 252.00
Area (flag) : 124610M
On-column Amount (ng/ul) : 3.3026
Integration start scan : 2053 Integration stop scan: 2061
Y at integration start : 329 Y at integration end: 329

Reason for manual integration: improper integration

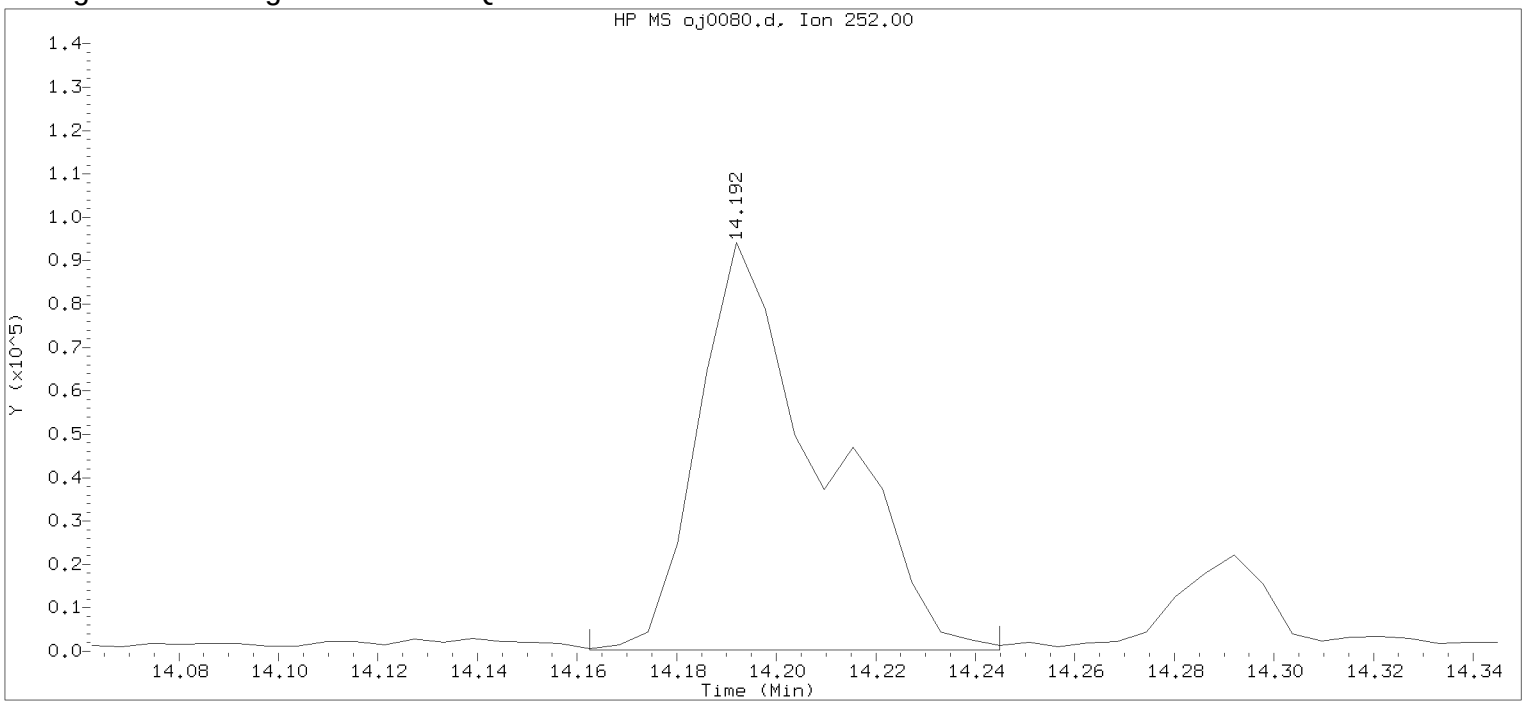
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

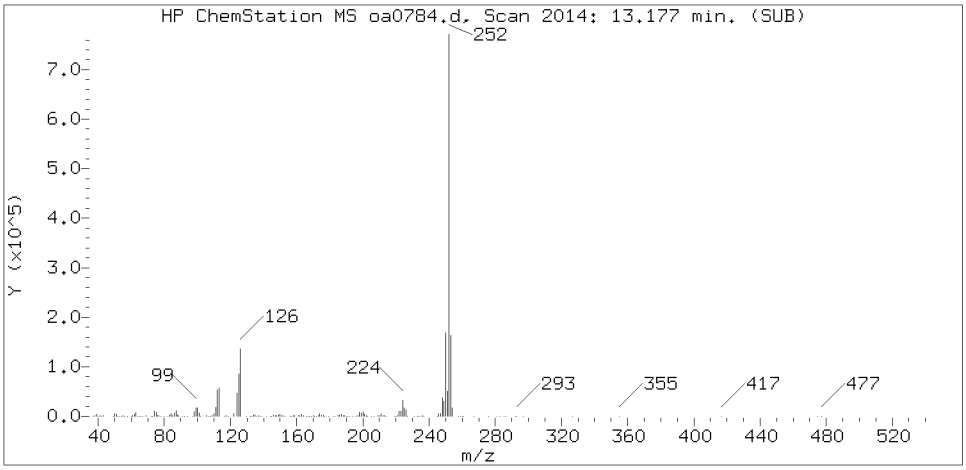
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 14:19 Automation

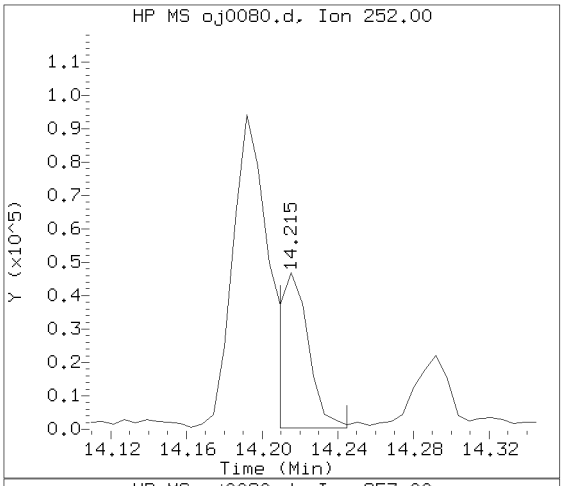
Sample Name: 49113 Lab Sample ID: 8064450

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2059		
Retention Time (minutes)	: 14.192		
Quant Ion	: 252.00		
Area	: 162001		
On-column Amount (ng/ul)	: 4.2936		
Integration start scan	: 2053	Integration stop scan:	2067
Y at integration start	: 329	Y at integration end:	329

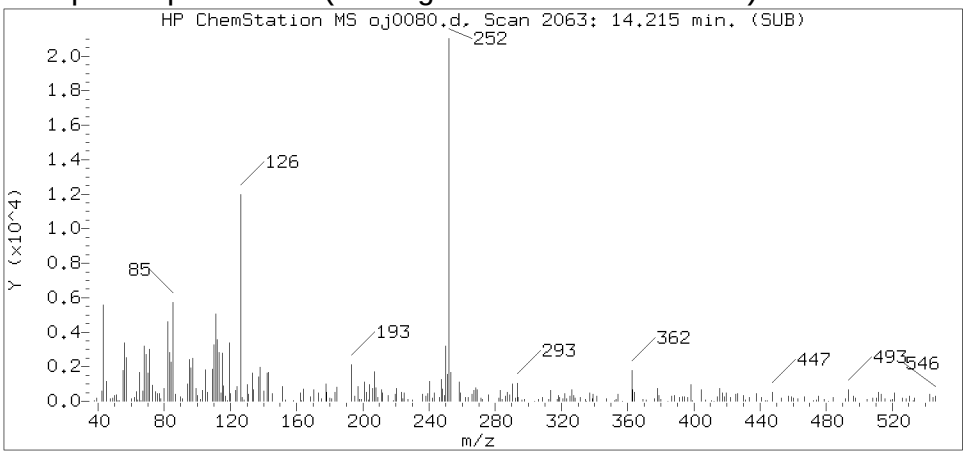
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: 27 date: 20150287

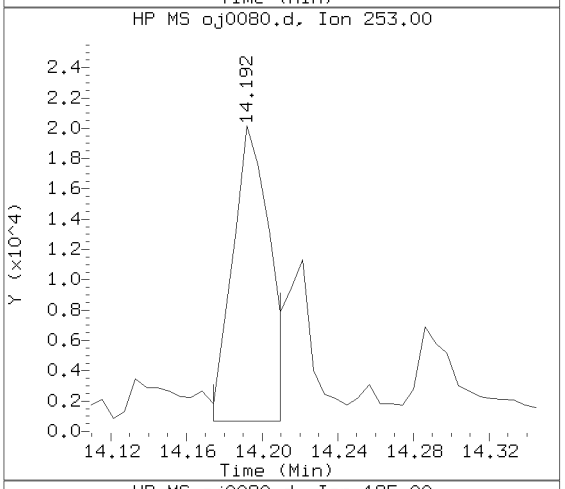
Reference Standard Spectrum for Benzo(k)fluoranthene



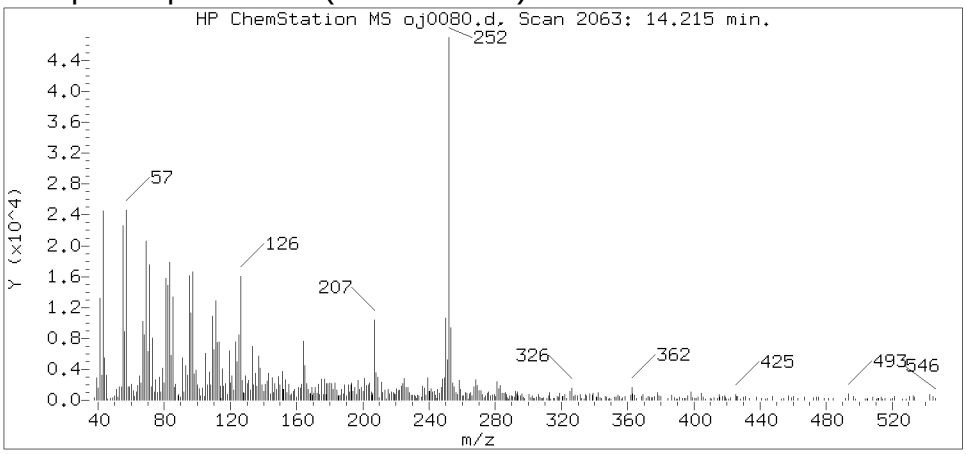


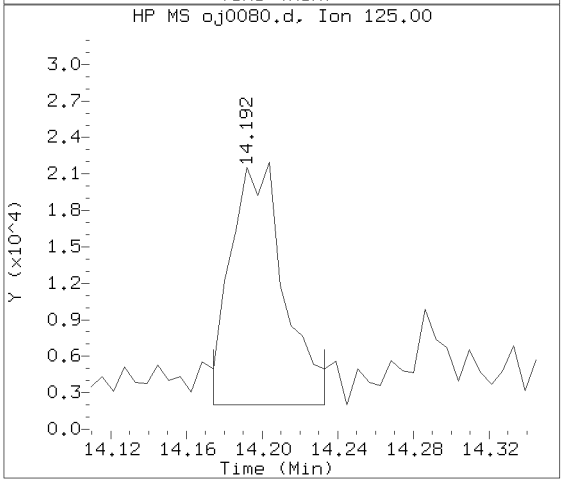
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

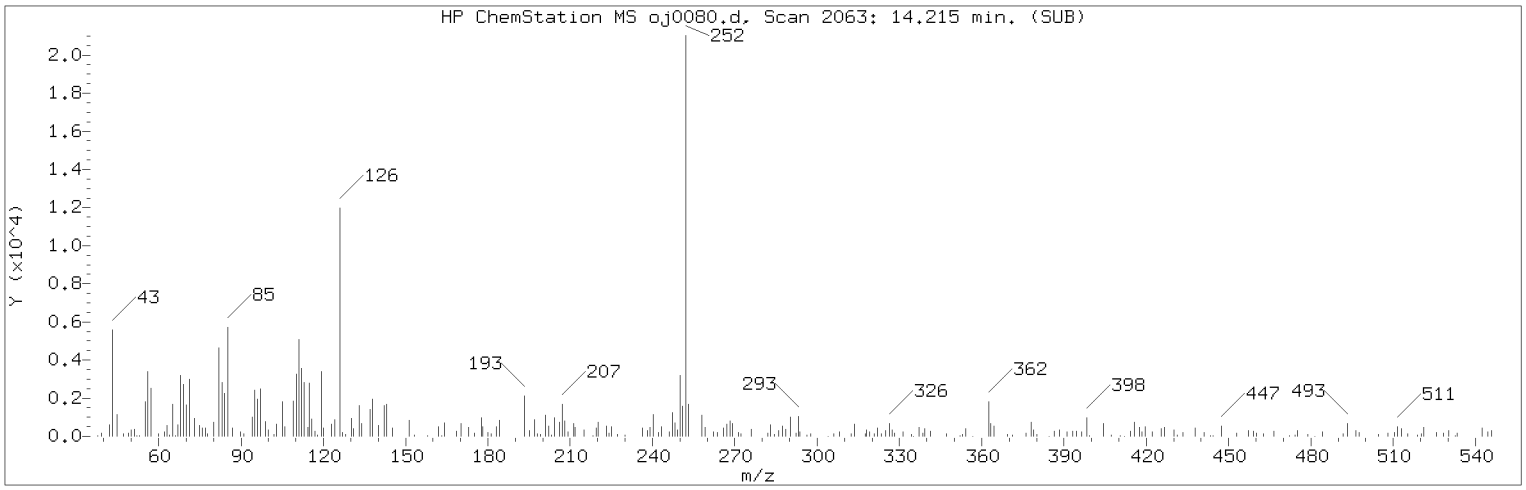
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

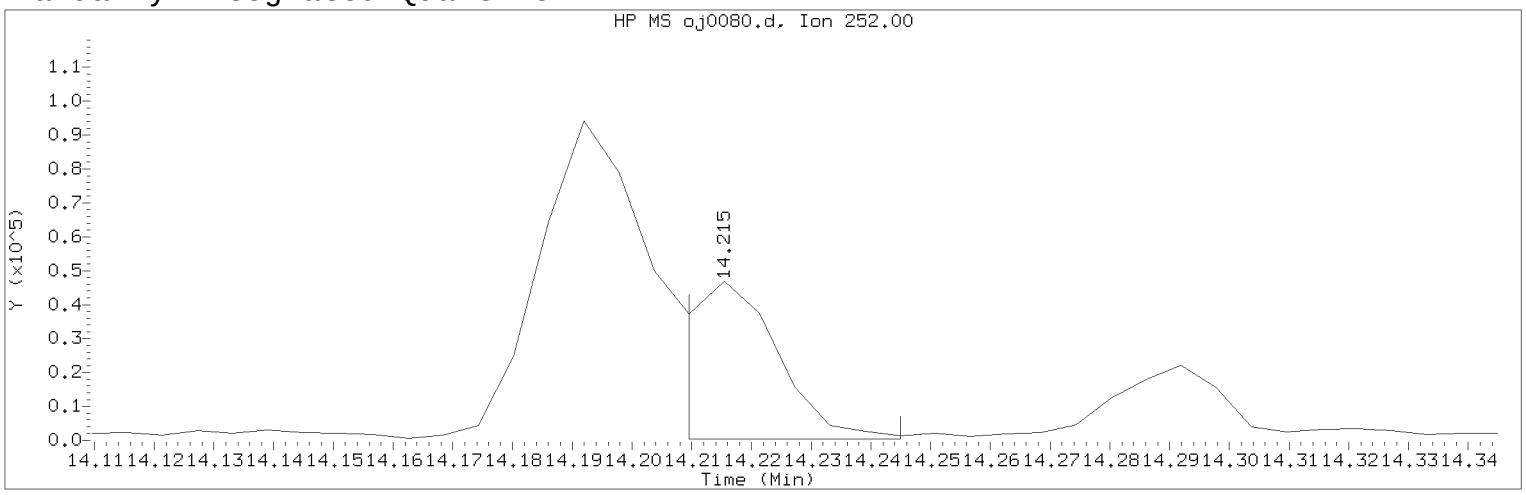
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2063
Retention Time (minutes) : 14.215
Relative Retention Time : 0.00040
Quant Ion : 252.00
Area (flag) : 50378M
On-column Amount (ng/ul) : 1.3086

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

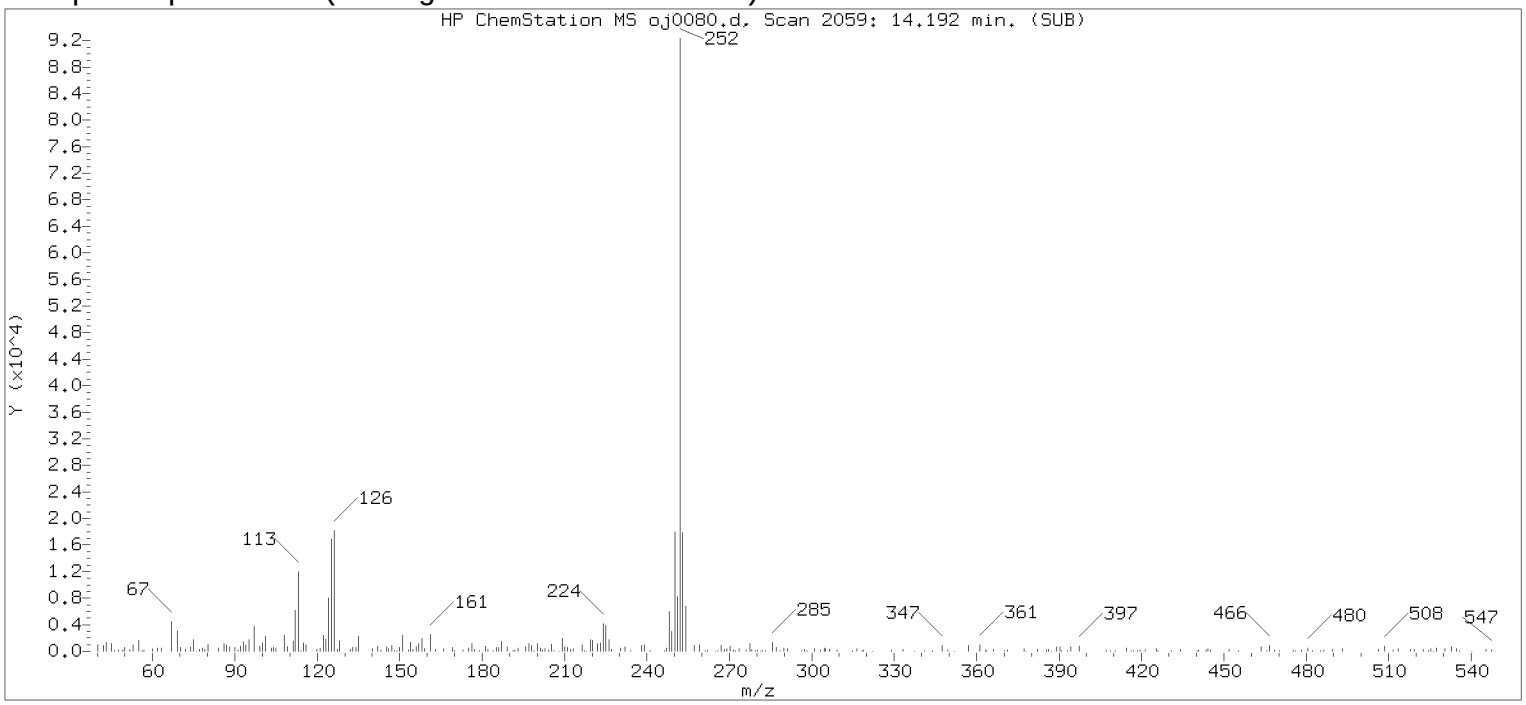
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2063
Retention Time (minutes) : 14.215
Quant Ion : 252.00
Area (flag) : 50378M
On-column Amount (ng/ul) : 1.3086
Integration start scan : 2061 Integration stop scan: 2067
Y at integration start : 435 Y at integration end: 435

Reason for manual integration: improper integration

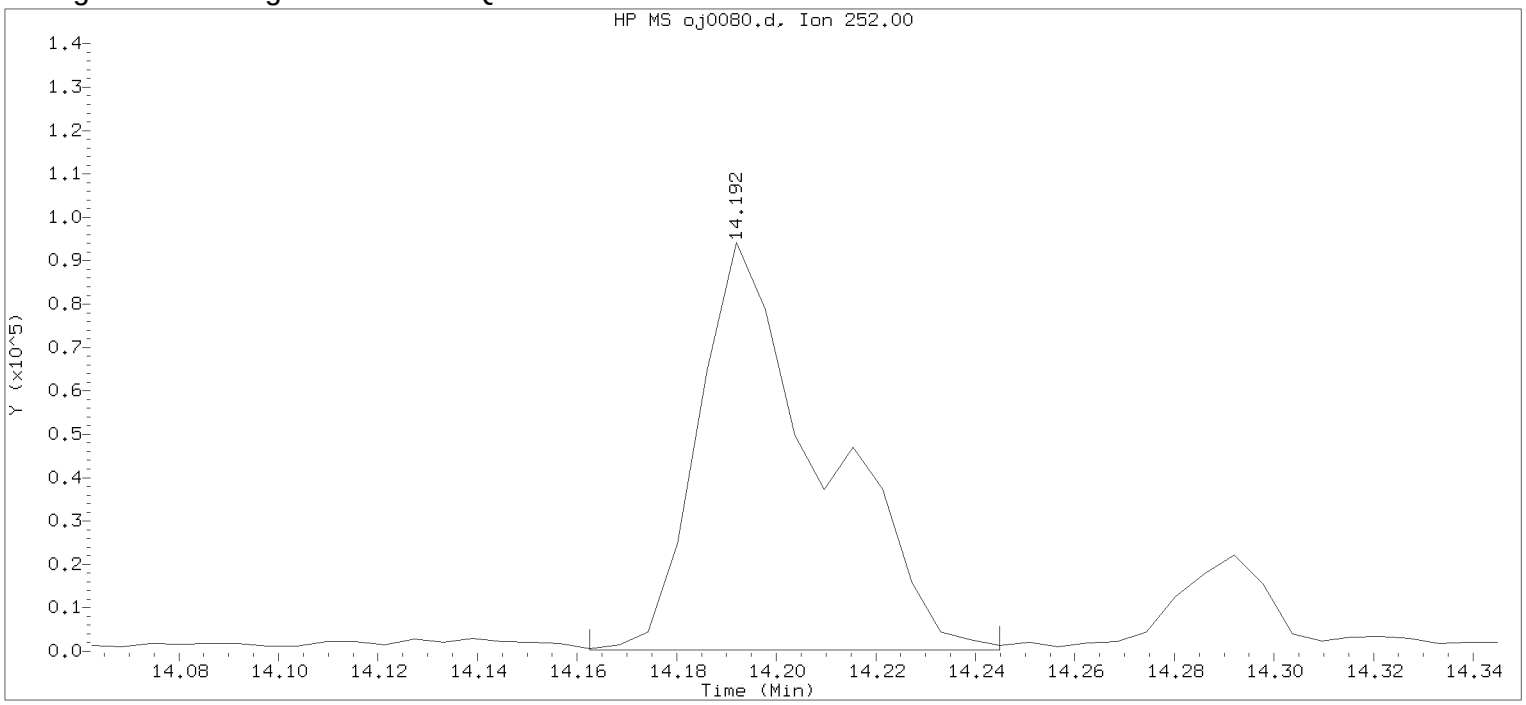
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

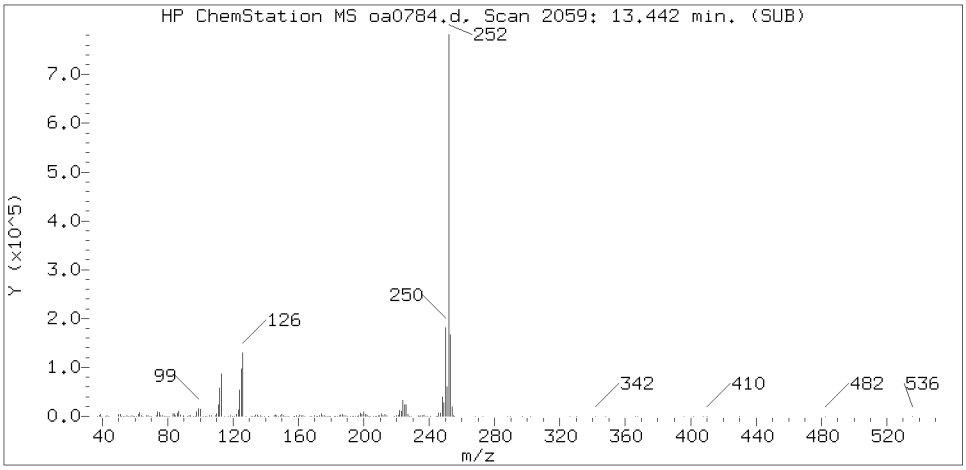
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 14:19 Automation

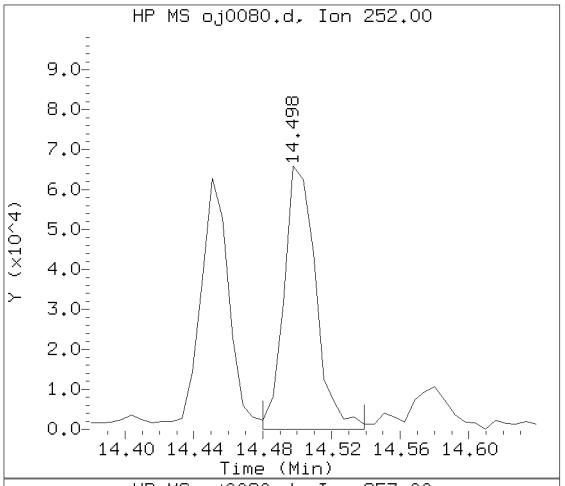
Sample Name: 49113 Lab Sample ID: 8064450

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2059		
Retention Time (minutes)	: 14.192		
Quant Ion	: 252.00		
Area	: 162001		
On-column Amount (ng/ul)	: 4.2079		
Integration start scan	: 2053	Integration stop scan:	2067
Y at integration start	: 329	Y at integration end:	329

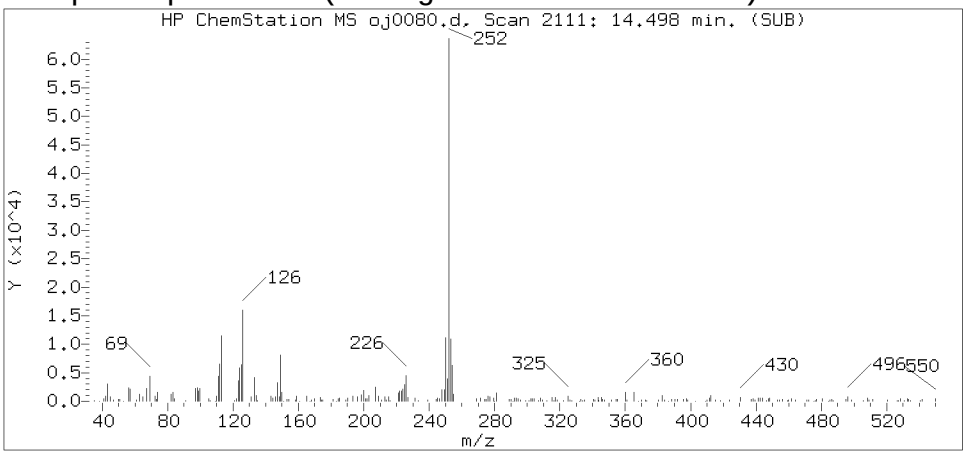
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: 5247

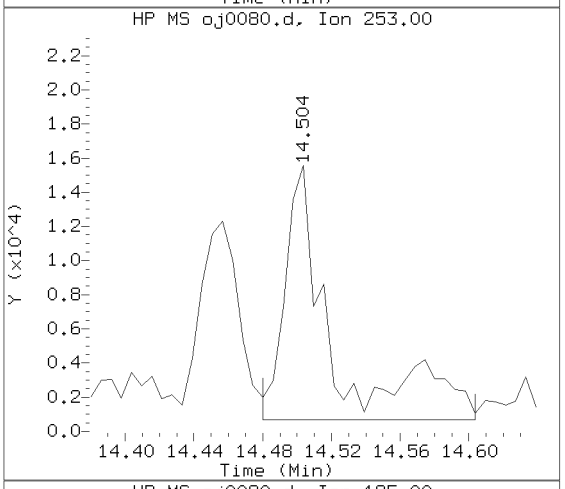
Reference Standard Spectrum for Benzo(a)pyrene



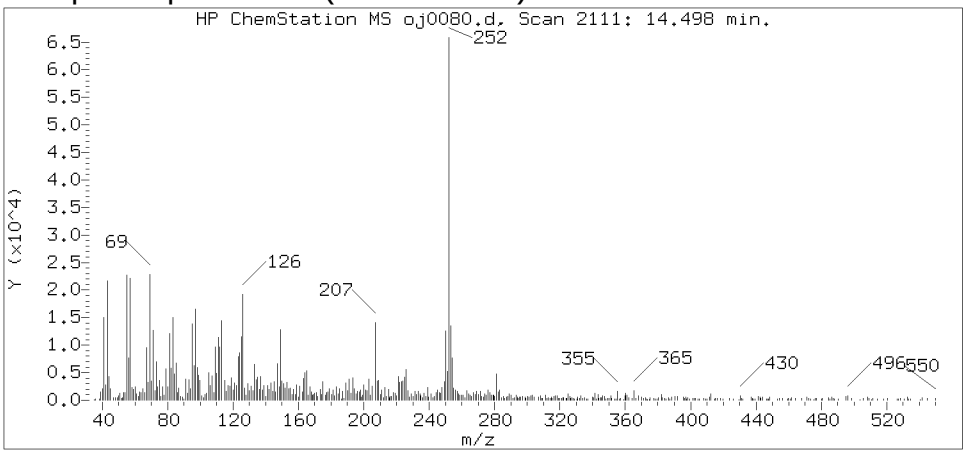


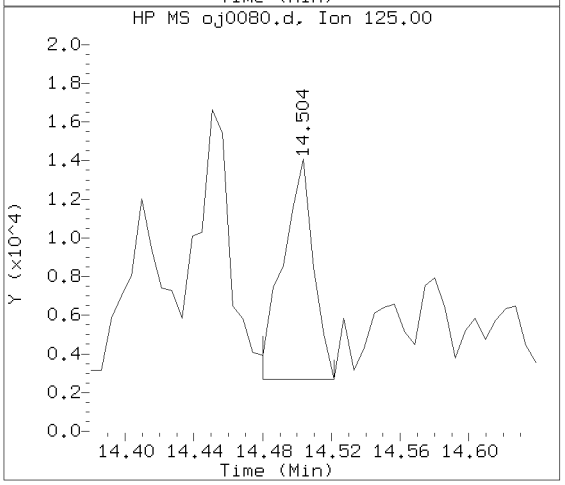
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

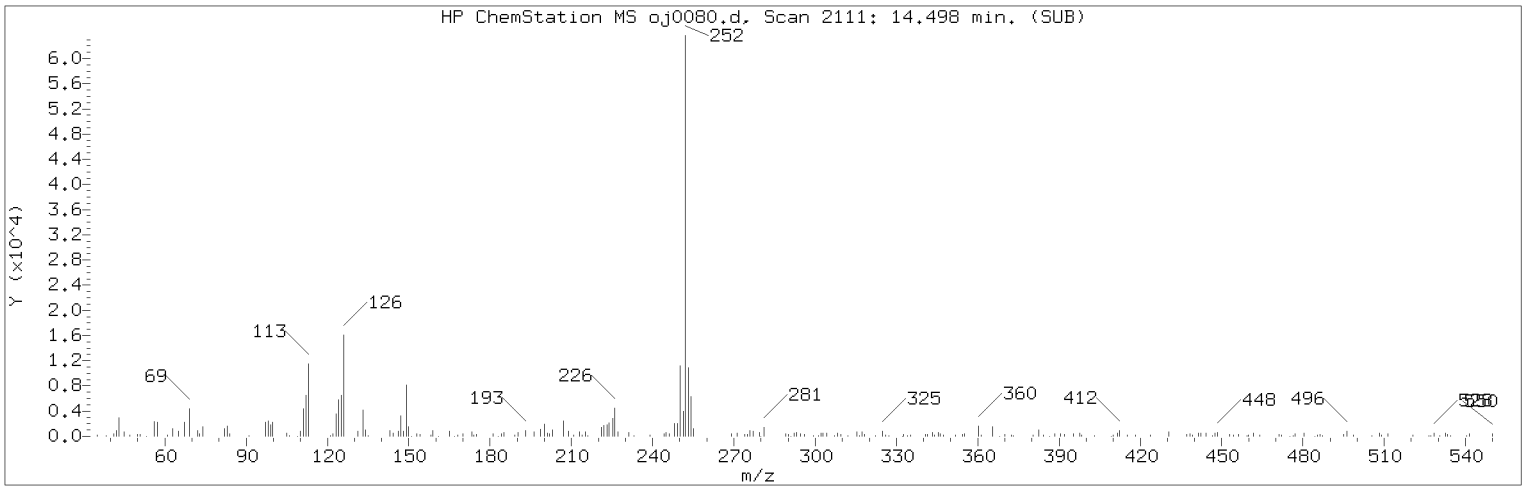
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

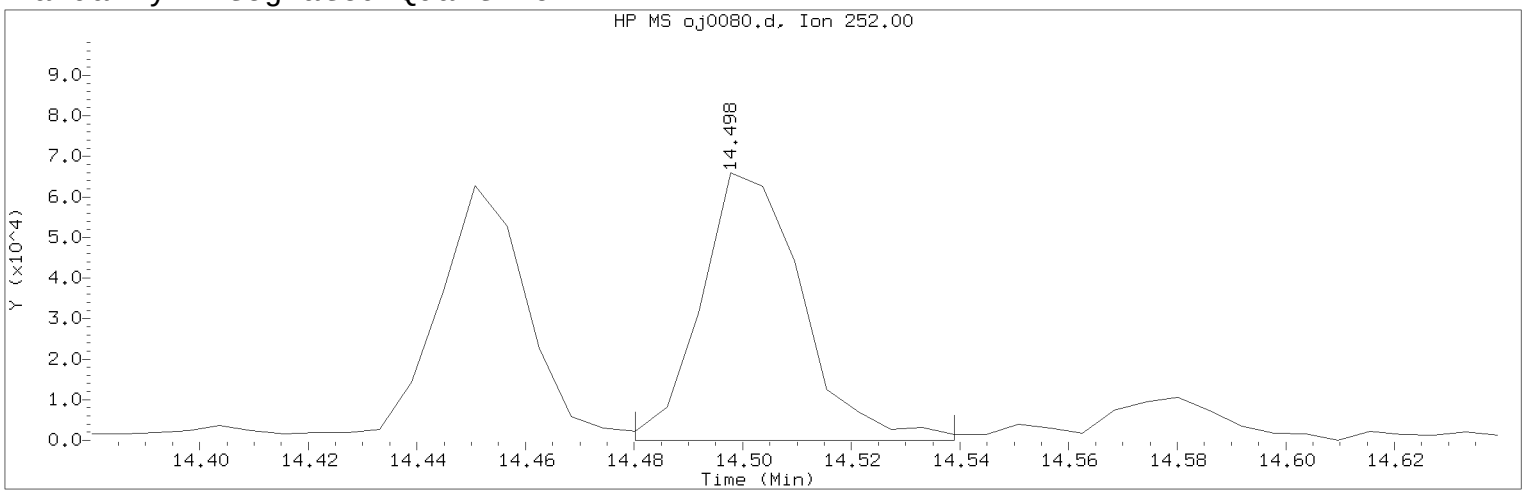
Compound Number	: 211
Compound Name	: Benzo(a)pyrene
Scan Number	: 2111
Retention Time (minutes)	: 14.498
Relative Retention Time	: 0.00040
Quant Ion	: 252.00
Area (flag)	: 85151M
On-column Amount (ng/ul)	: 2.2850

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

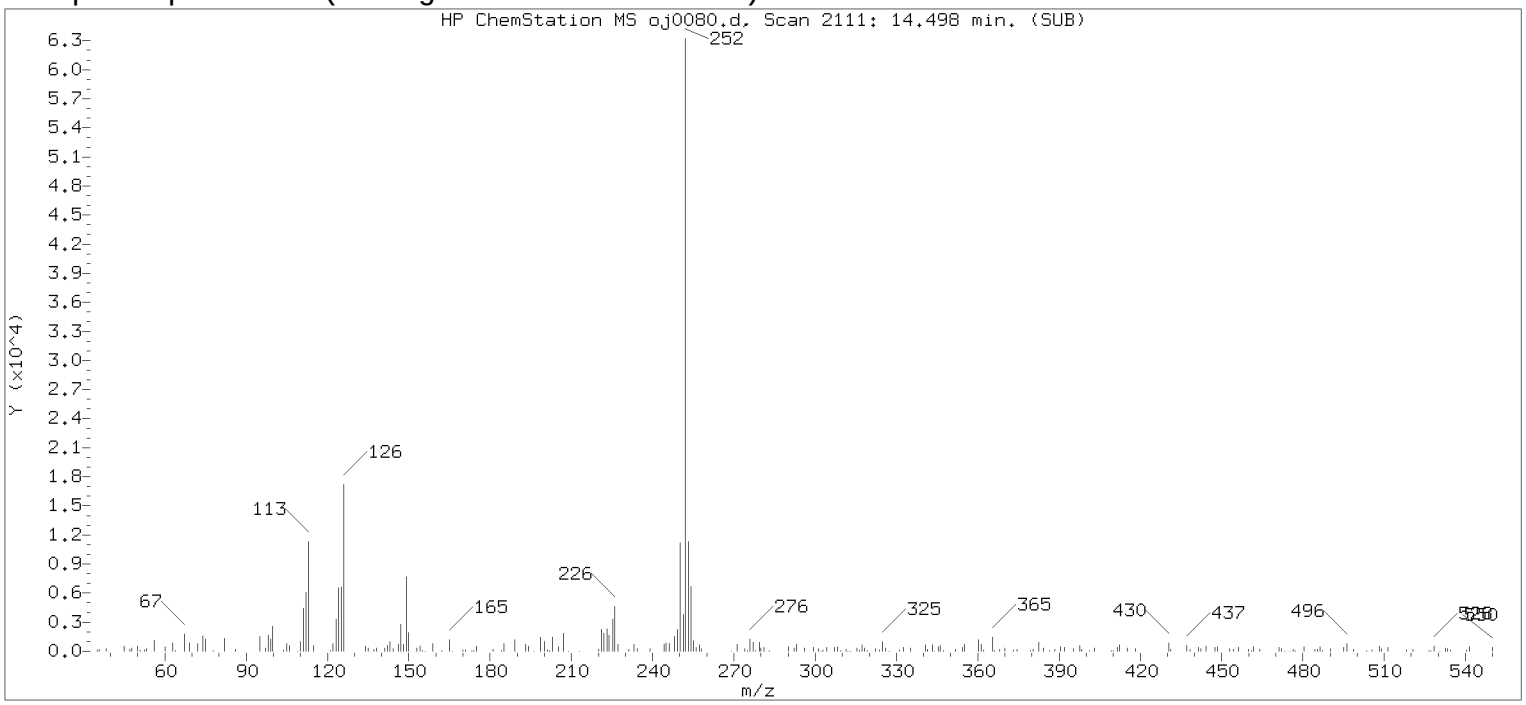
Compound Number : 211
Compound Name : Benzo(a)pyrene
Scan Number : 2111
Retention Time (minutes) : 14.498
Quant Ion : 252.00
Area (flag) : 85151M
On-column Amount (ng/ul) : 2.2850
Integration start scan : 2107 Integration stop scan: 2117
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

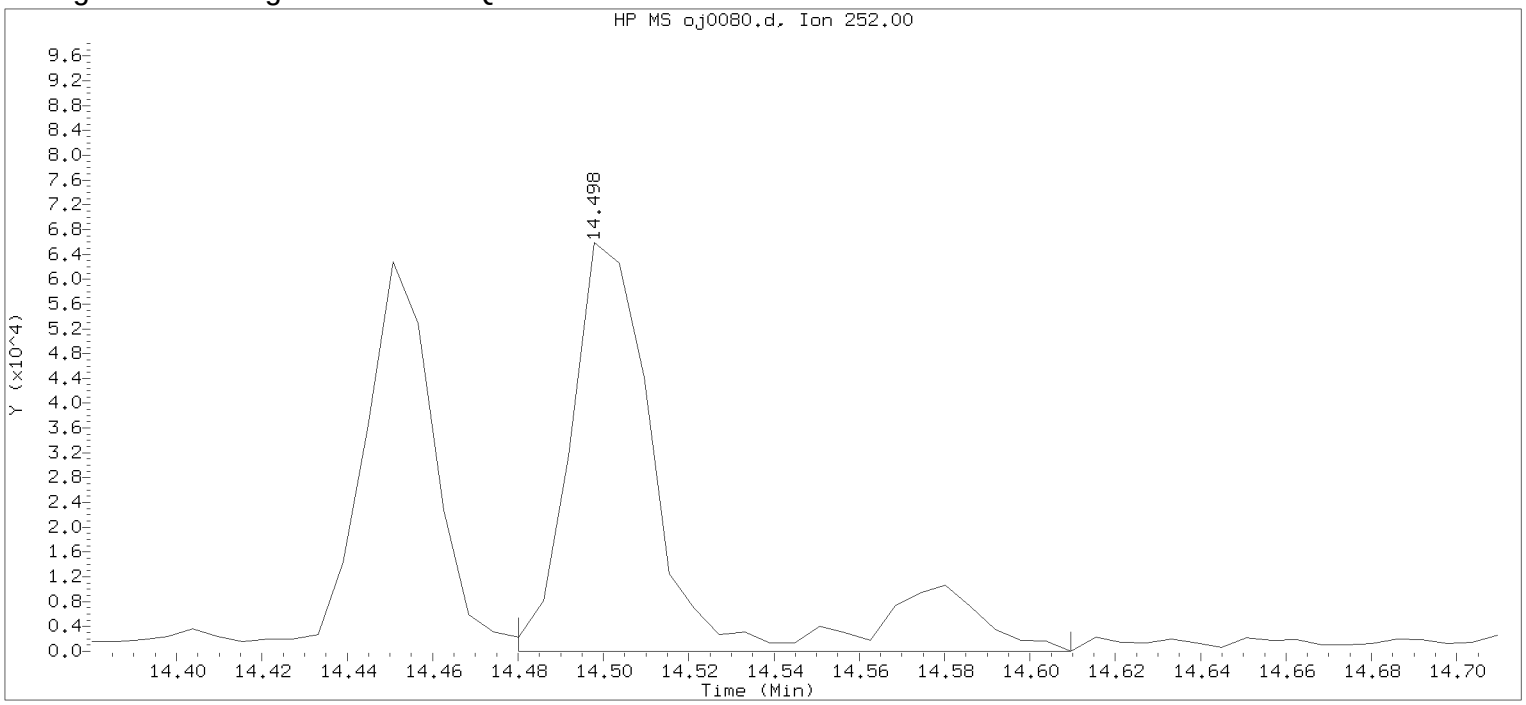
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

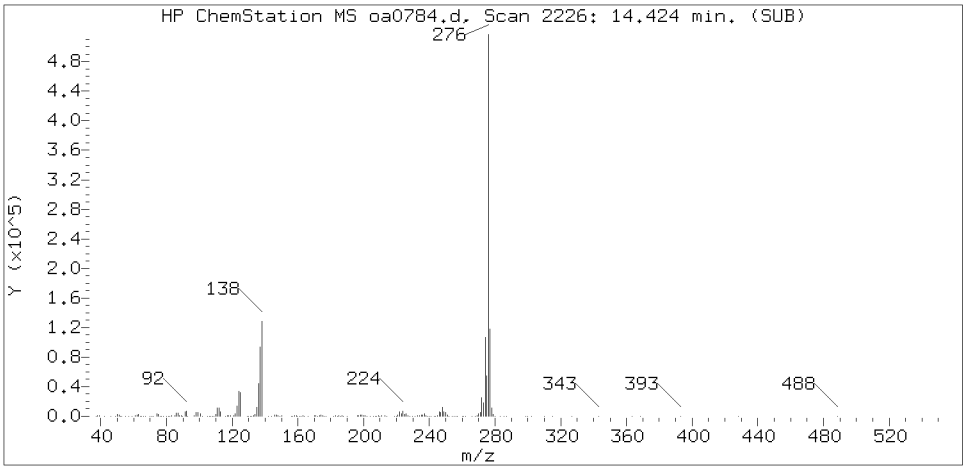
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 14:19 Automation

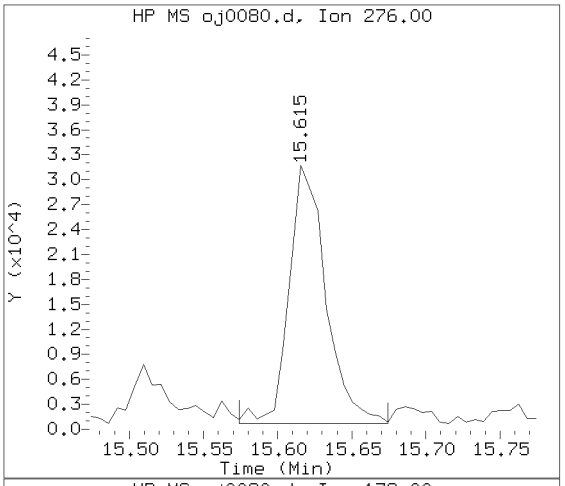
Sample Name: 49113 Lab Sample ID: 8064450

Compound Number	: 211		
Compound Name	: Benzo(a)pyrene		
Scan Number	: 2111		
Retention Time (minutes)	: 14.498		
Quant Ion	: 252.00		
Area	: 102997		
On-column Amount (ng/ul)	: 2.7639		
Integration start scan	: 2107	Integration stop scan:	2129
Y at integration start	: 0	Y at integration end:	0

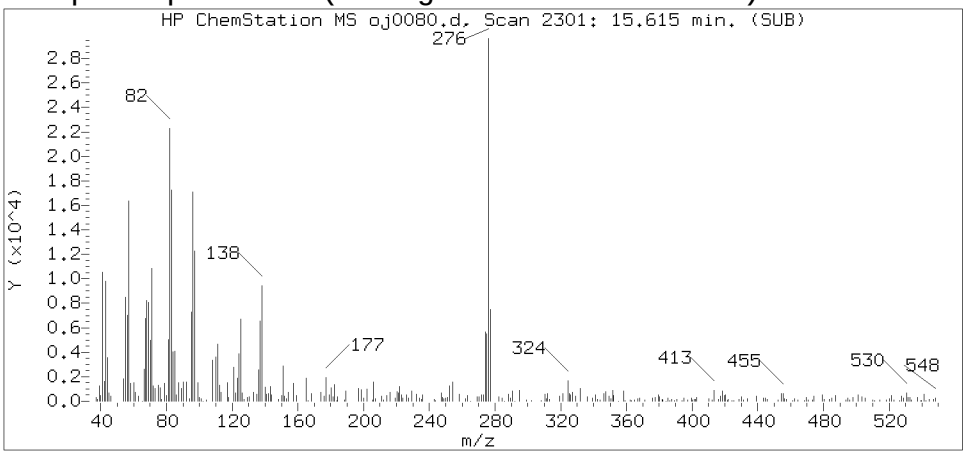
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: 27 date: 05247

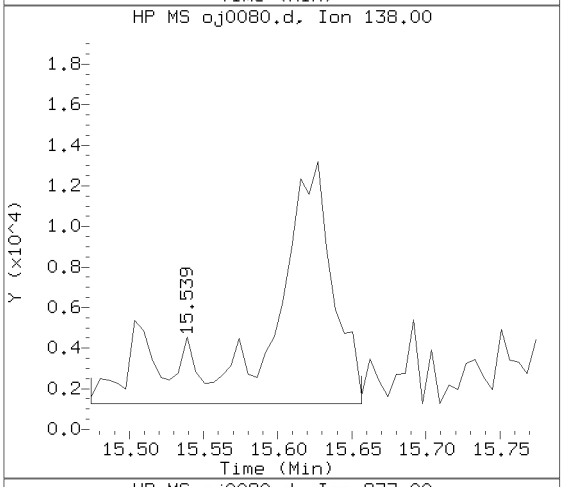
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



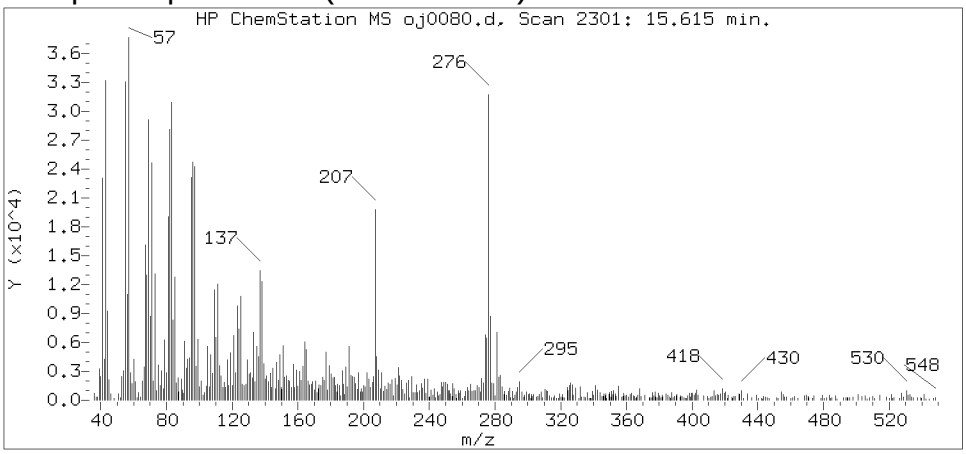


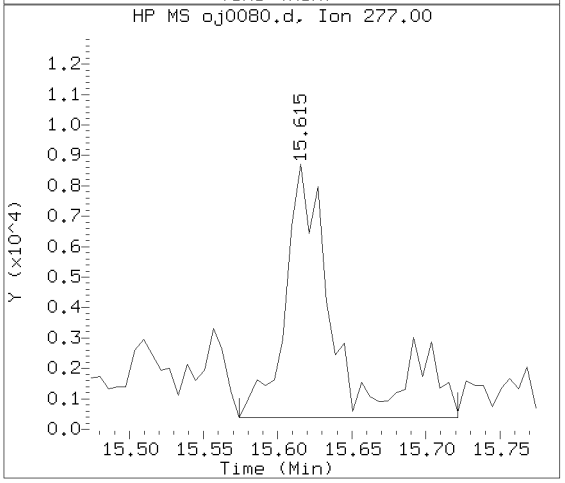
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

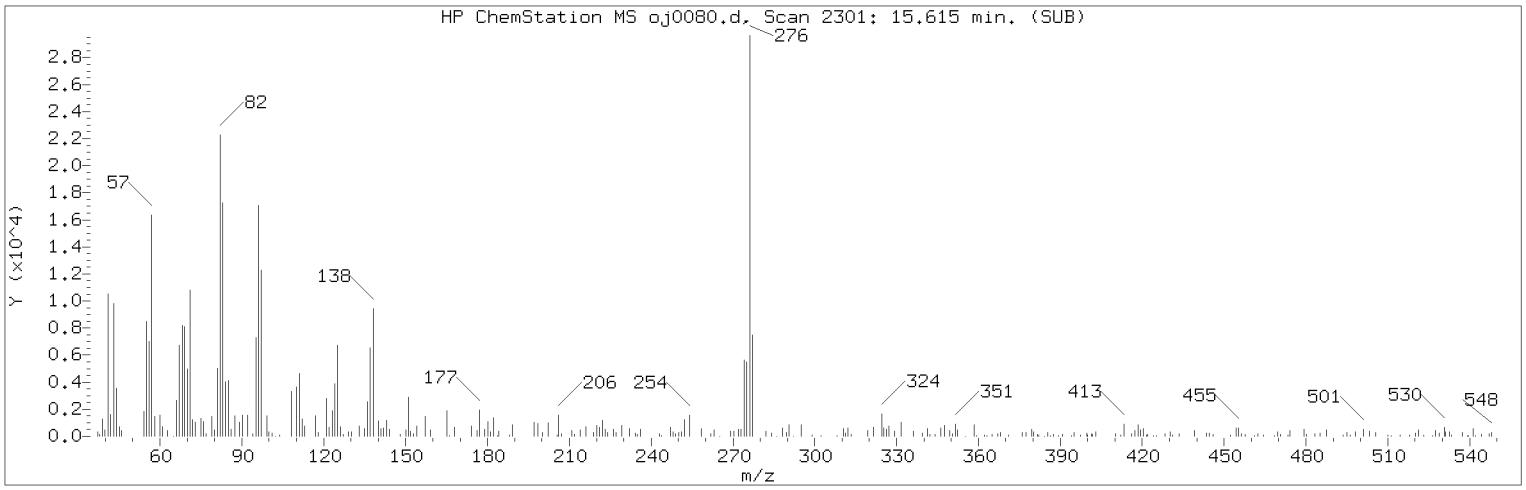
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

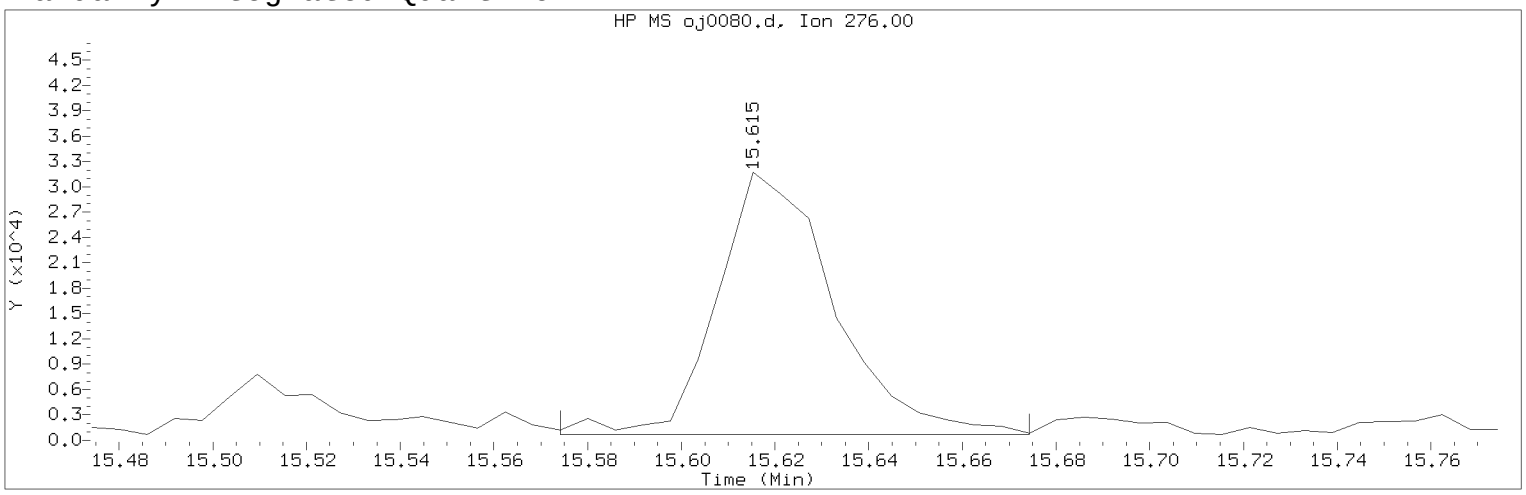
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2301
Retention Time (minutes) : 15.615
Relative Retention Time : 0.00081
Quant Ion : 276.00
Area (flag) : 53984M
On-column Amount (ng/ul) : 1.3909

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

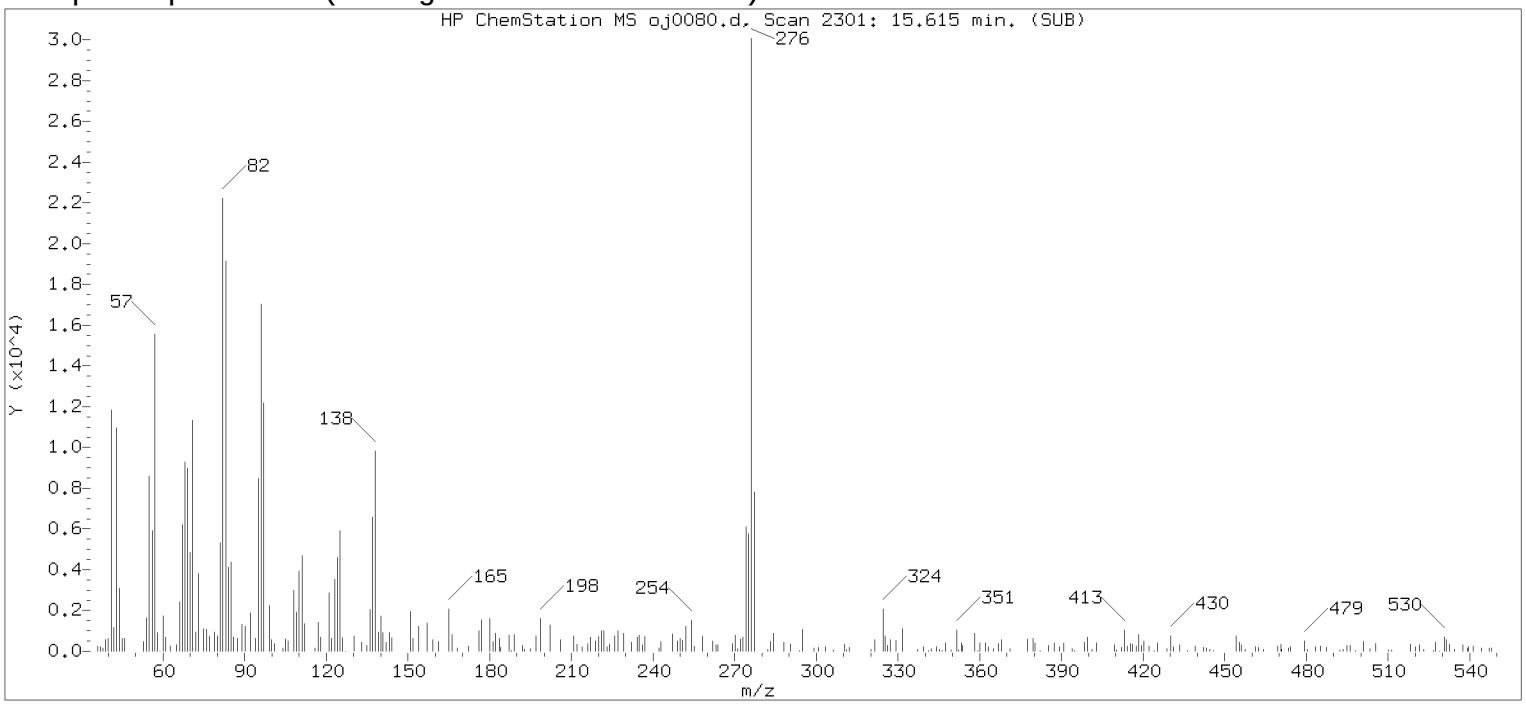
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2301
Retention Time (minutes) : 15.615
Quant Ion : 276.00
Area (flag) : 53984M
On-column Amount (ng/ul) : 1.3909
Integration start scan : 2293 Integration stop scan: 2310
Y at integration start : 671 Y at integration end: 671

Reason for manual integration: improper integration

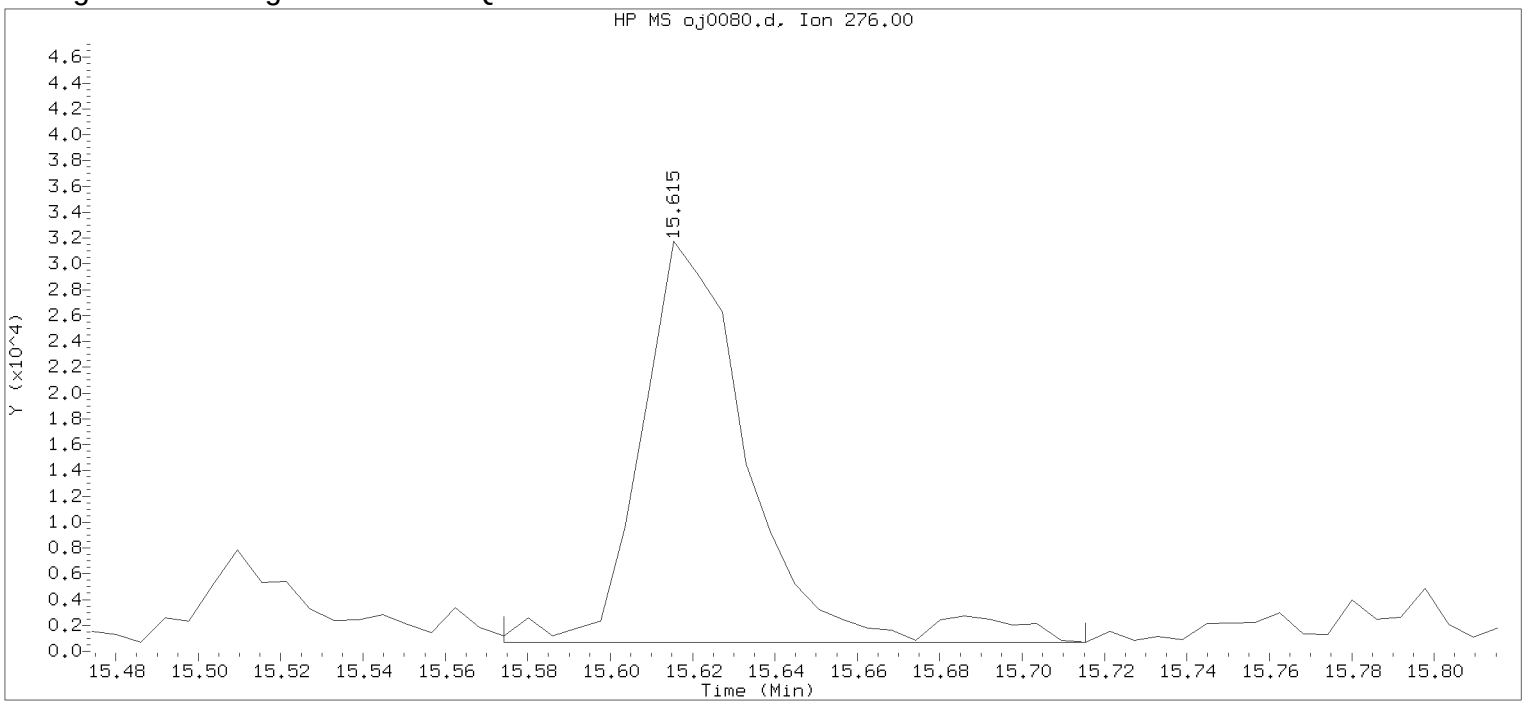
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

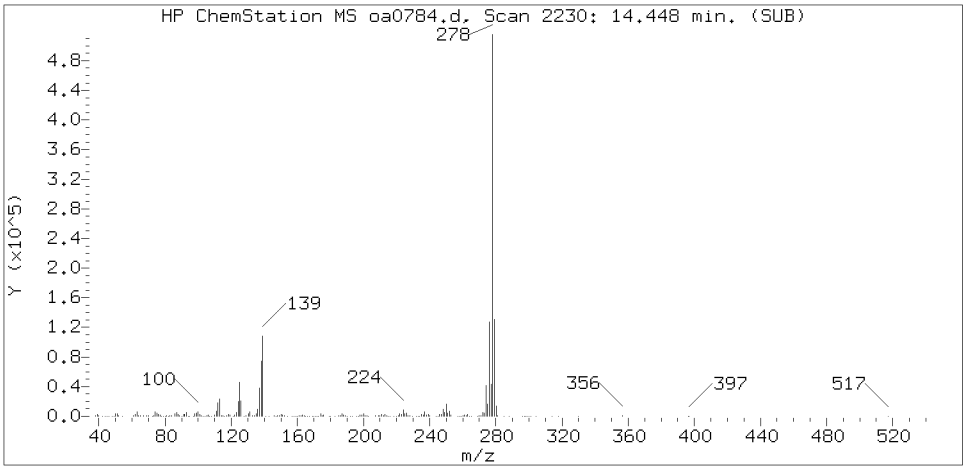
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 14:19 Automation

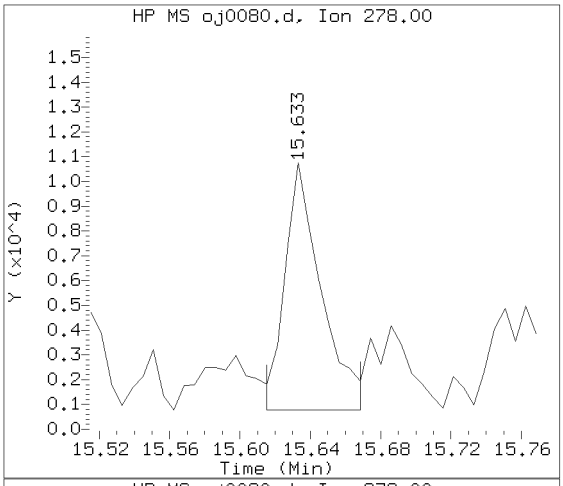
Sample Name: 49113 Lab Sample ID: 8064450

Compound Number	: 219		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 2301		
Retention Time (minutes)	: 15.615		
Quant Ion	: 276.00		
Area	: 56928		
On-column Amount (ng/ul)	: 1.4667		
Integration start scan	: 2293	Integration stop scan:	2317
Y at integration start	: 671	Y at integration end:	671

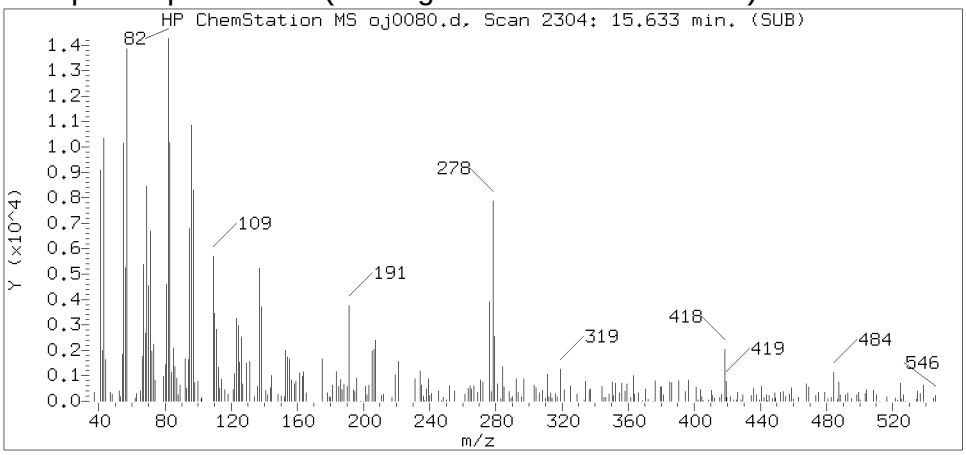
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: ceb05247

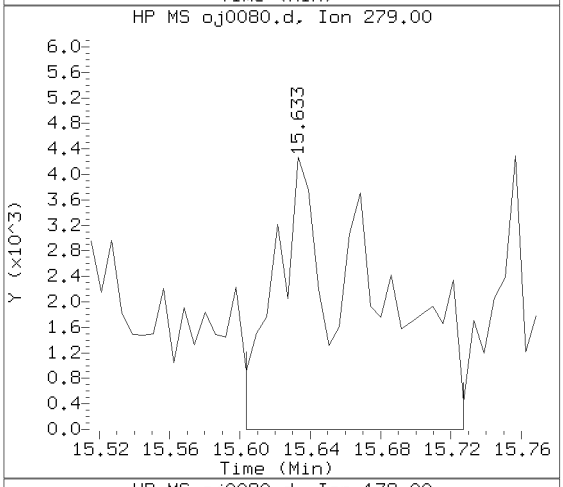
Reference Standard Spectrum for Dibenz(a,h)anthracene



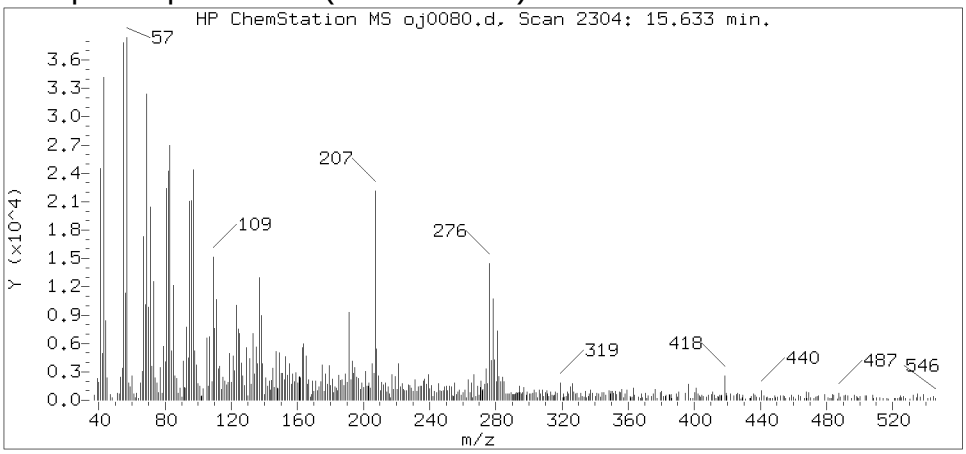


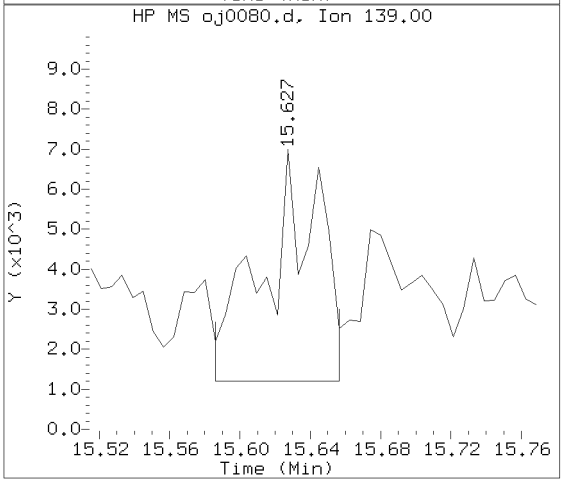
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

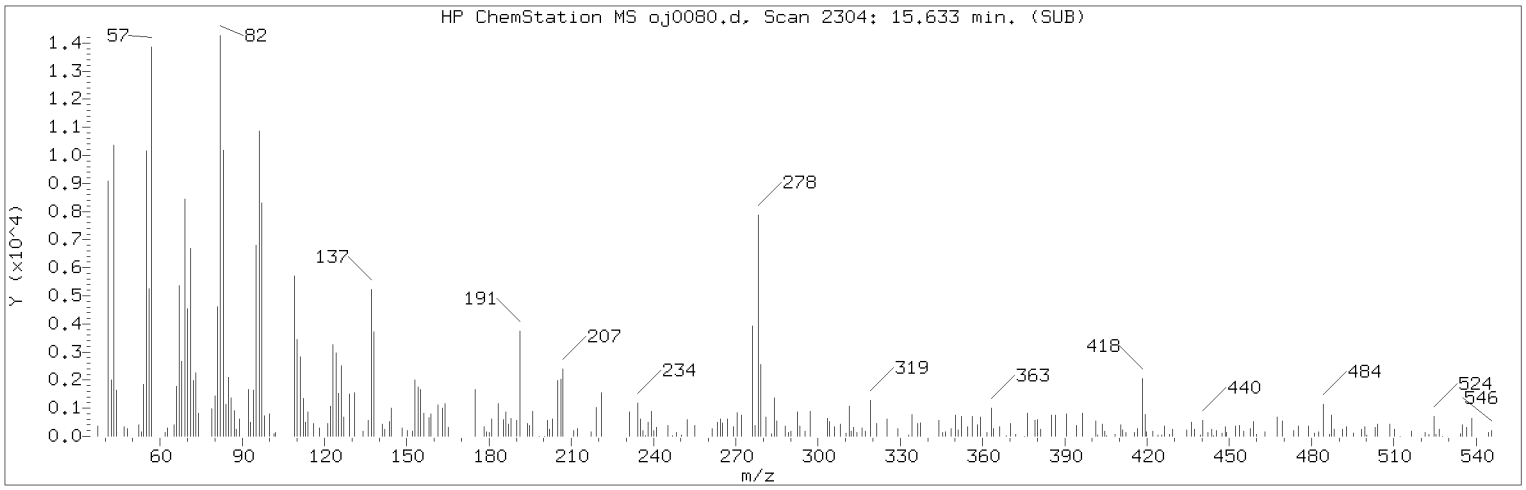
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

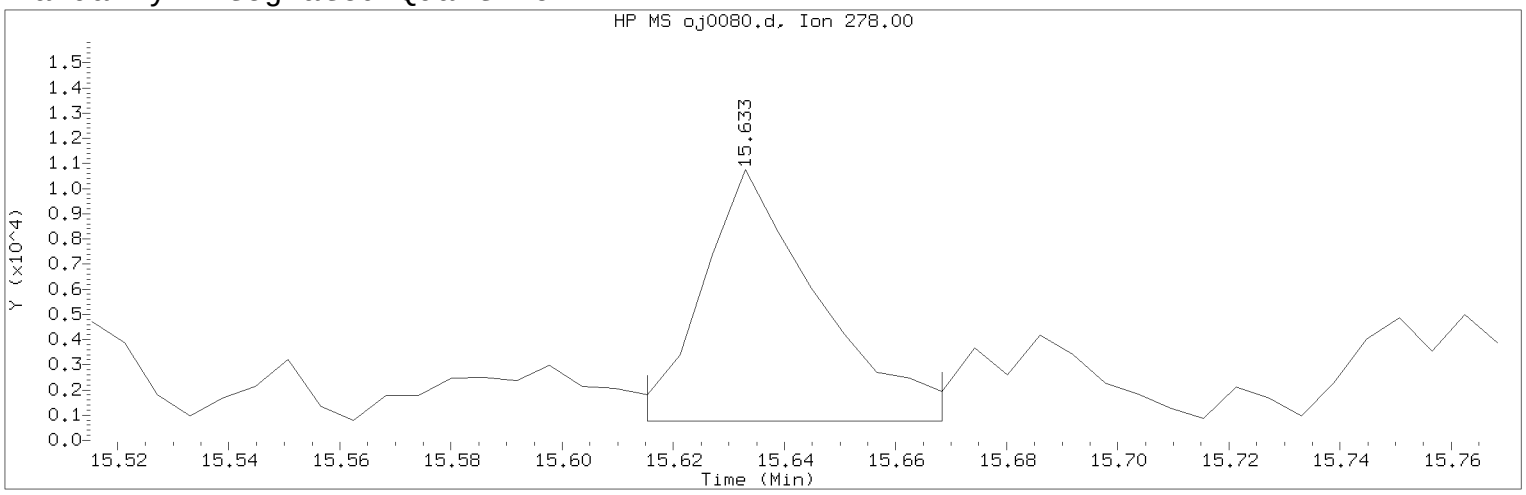
Compound Number	: 220
Compound Name	: Dibenz(a,h)anthracene
Scan Number	: 2304
Retention Time (minutes)	: 15.633
Relative Retention Time	: 0.00121
Quant Ion	: 278.00
Area (flag)	: 14588M
On-column Amount (ng/ul)	: 0.4468

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

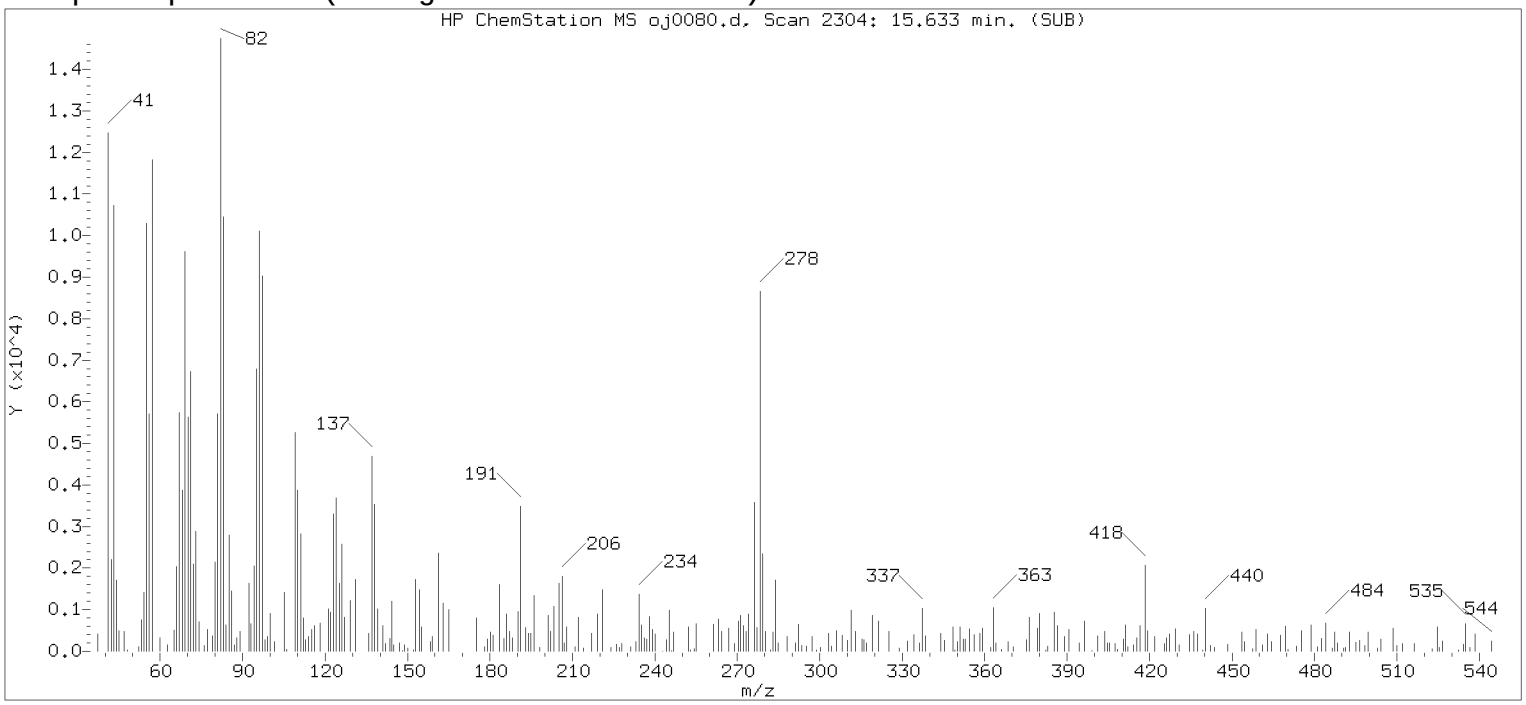
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 2304
Retention Time (minutes) : 15.633
Quant Ion : 278.00
Area (flag) : 14588M
On-column Amount (ng/ul) : 0.4468
Integration start scan : 2300 Integration stop scan: 2309
Y at integration start : 768 Y at integration end: 768

Reason for manual integration: improper integration

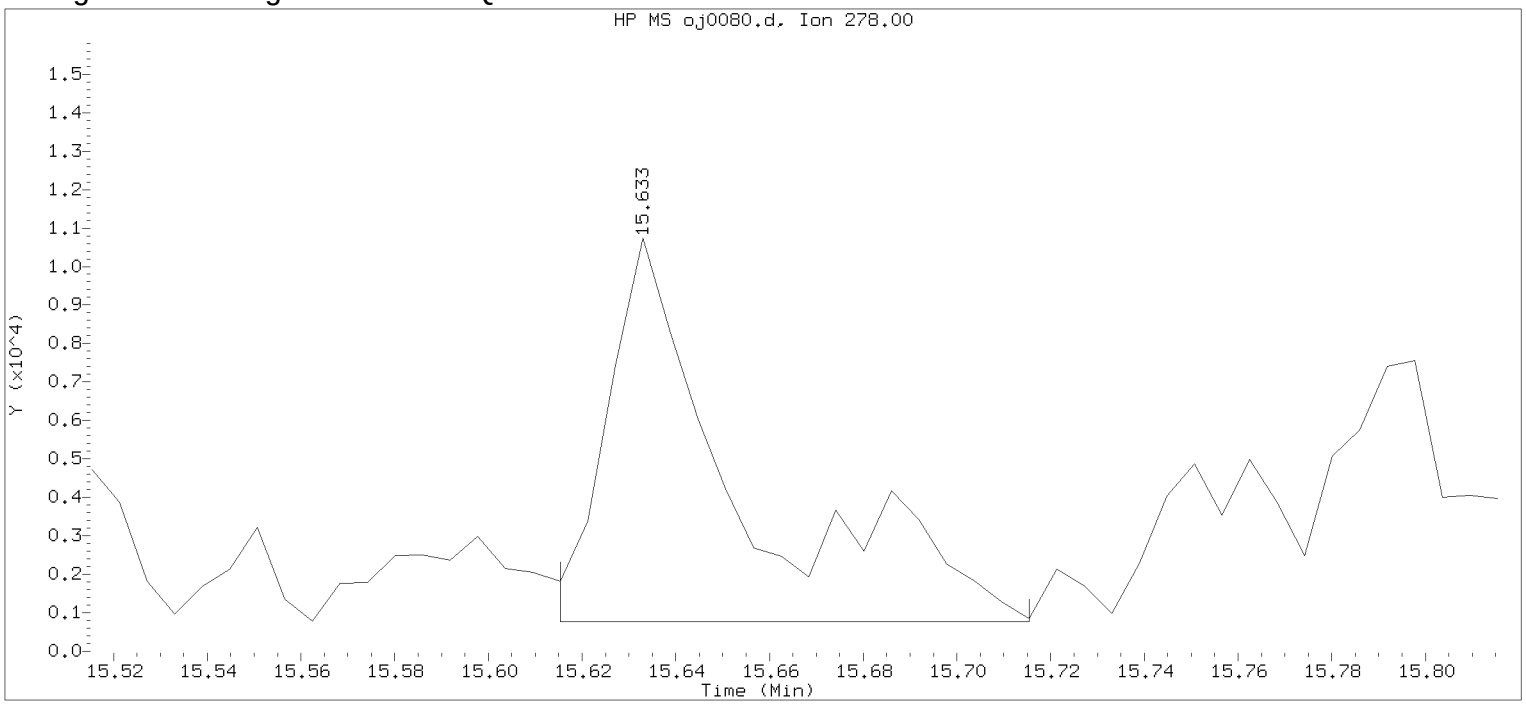
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

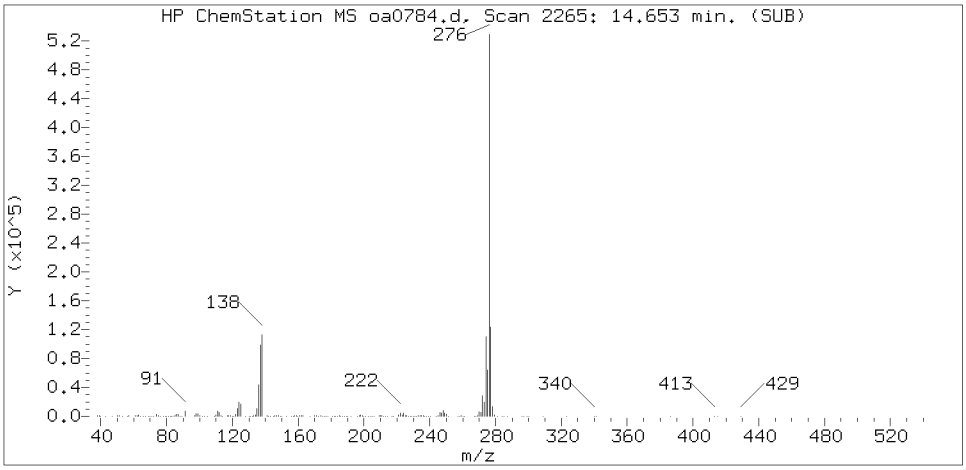
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 14:19 Automation

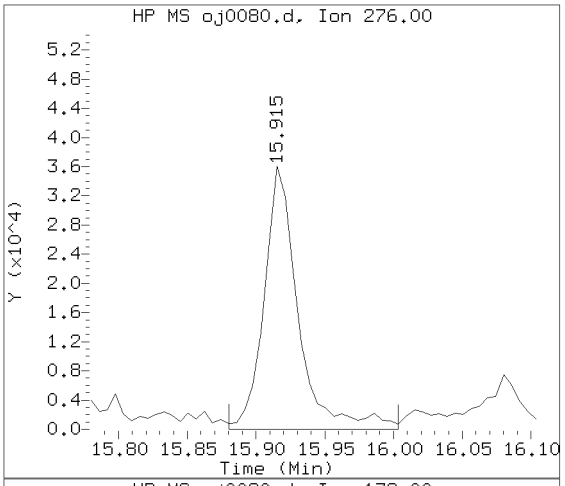
Sample Name: 49113 Lab Sample ID: 8064450

Compound Number	: 220		
Compound Name	: Dibenz(a,h)anthracene		
Scan Number	: 2304		
Retention Time (minutes)	: 15.633		
Quant Ion	: 278.00		
Area	: 19313		
On-column Amount (ng/ul)	: 0.5915		
Integration start scan	: 2300	Integration stop scan:	2317
Y at integration start	: 768	Y at integration end:	768

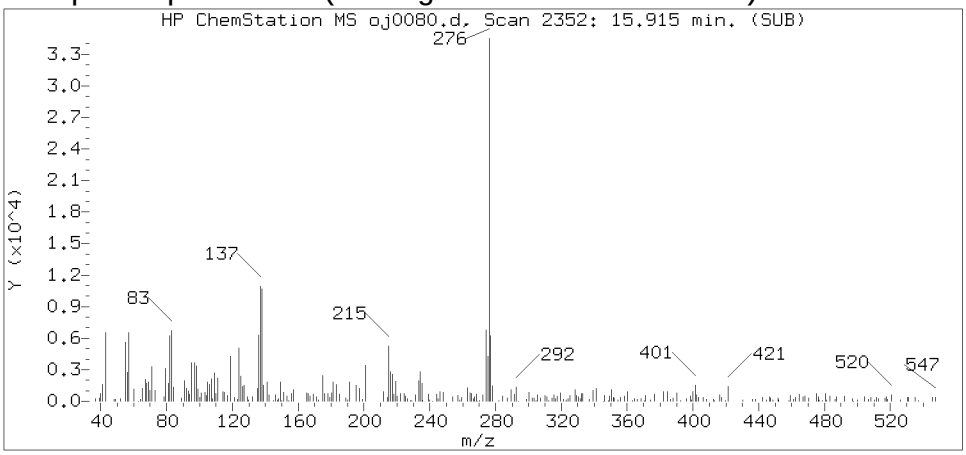
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: CEB5247

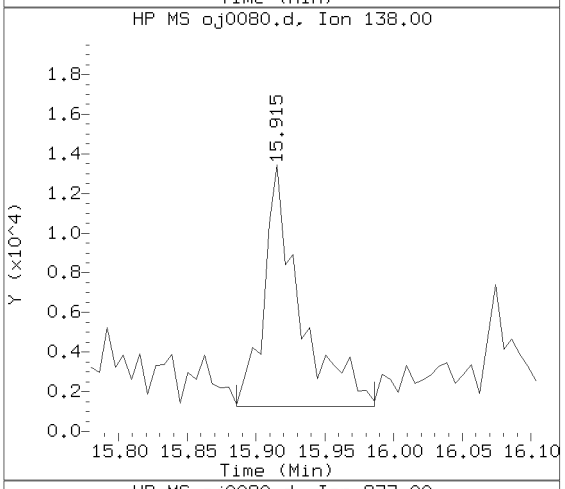
Reference Standard Spectrum for Benzo(g,h,i)perylene



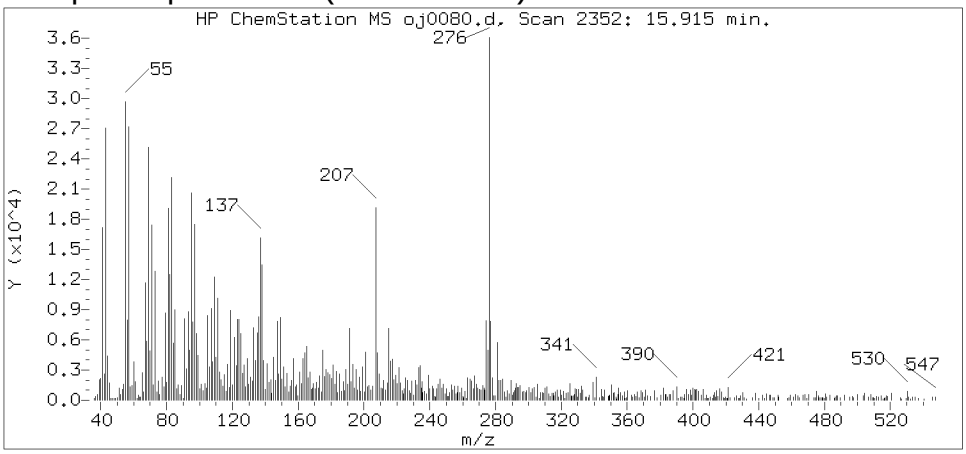


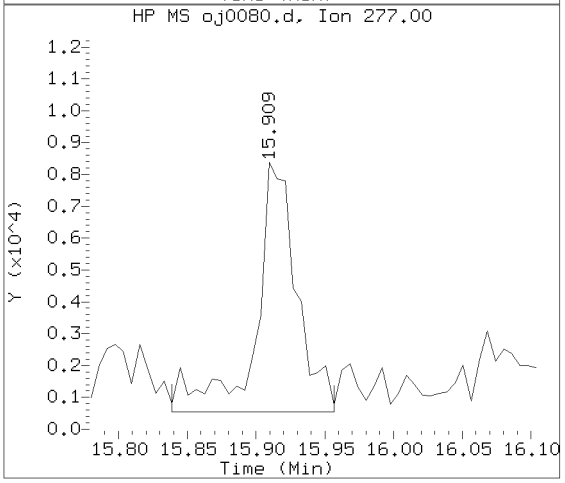
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0080.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:04 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:08 ceb05247

Sample Name: 49113 Lab Sample ID: 8064450

Compound Number	: 221
Compound Name	: Benzo(g,h,i)perylene
Scan Number	: 2352
Retention Time (minutes)	: 15.915
Relative Retention Time	: 0.00081
Quant Ion	: 276.00
Area (flag)	: 62240
On-column Amount (ng/ul)	: 1.9523

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:42.
Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0081.d
Injection date and time: **02-OCT-2015 14:28**
Data file Sample Info. Line: 49213;8064451;2;0;SAMPLE;;;
Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 16:09 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 13:57
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.26 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.081(0.000)	680	152	138218 (-18)	20.00	
65) Naphthalene-d8	7.363(0.000)	898	136	648985 (-15)	20.00	
113) Acenaphthene-d10	9.086(0.006)	1191	164	436553 (-11)	20.00	
153) Phenanthrene-d10	10.539(0.000)	1438	188	855611 (-9)	20.00	
175) Pyrene-d10	11.922(0.006)	1673	212	831672 (-21)	20.00	
213) Perylene-d12	14.557(0.000)	2121	264	545704 (-30)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.651(0.000)	82	1308917	86.670	87%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.445(-0.001)	172	2573111	92.859	93%		63 - 117
179) Terphenyl-d14	(5)	12.122(0.000)	244	3030319	99.007	99%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.1
114) Acenaphthene	(3)	9.116(-0.000)	153	5635	0.210	6.94			0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)	10.563(-0.000)	178	11613	0.234	7.72			0.1
157) Anthracene	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.1
177) Pyrene	(5)			Not Detected					0.1
195) Benzo(a)anthracene	(5)			Not Detected					0.1
196) Chrysene	(5)			Not Detected					0.1
206) Benzo(b)fluoranthene	(6)	14.186(0.000)	252	4377M	0.128	4.22			0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.1
211) Benzo(a)pyrene	(6)	14.504(-0.000)	252	6014M	0.178	5.88			0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.1

M = Compound was manually integrated.

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0081.d Injection date and time: **02-OCT-2015 14:28**
Data file Sample Info. Line: 49213;8064451;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 16:09 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 13:57
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.26 g

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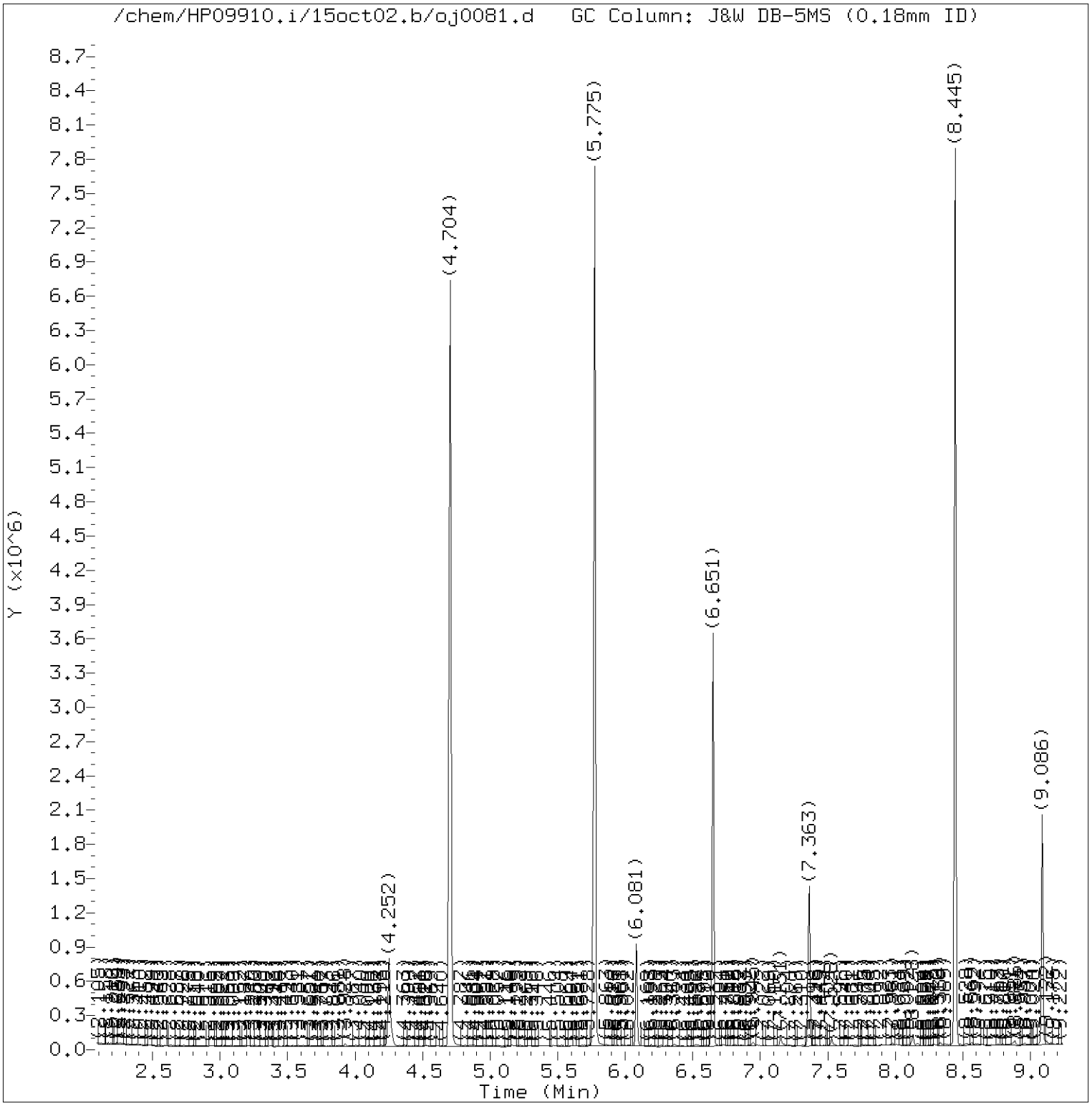
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

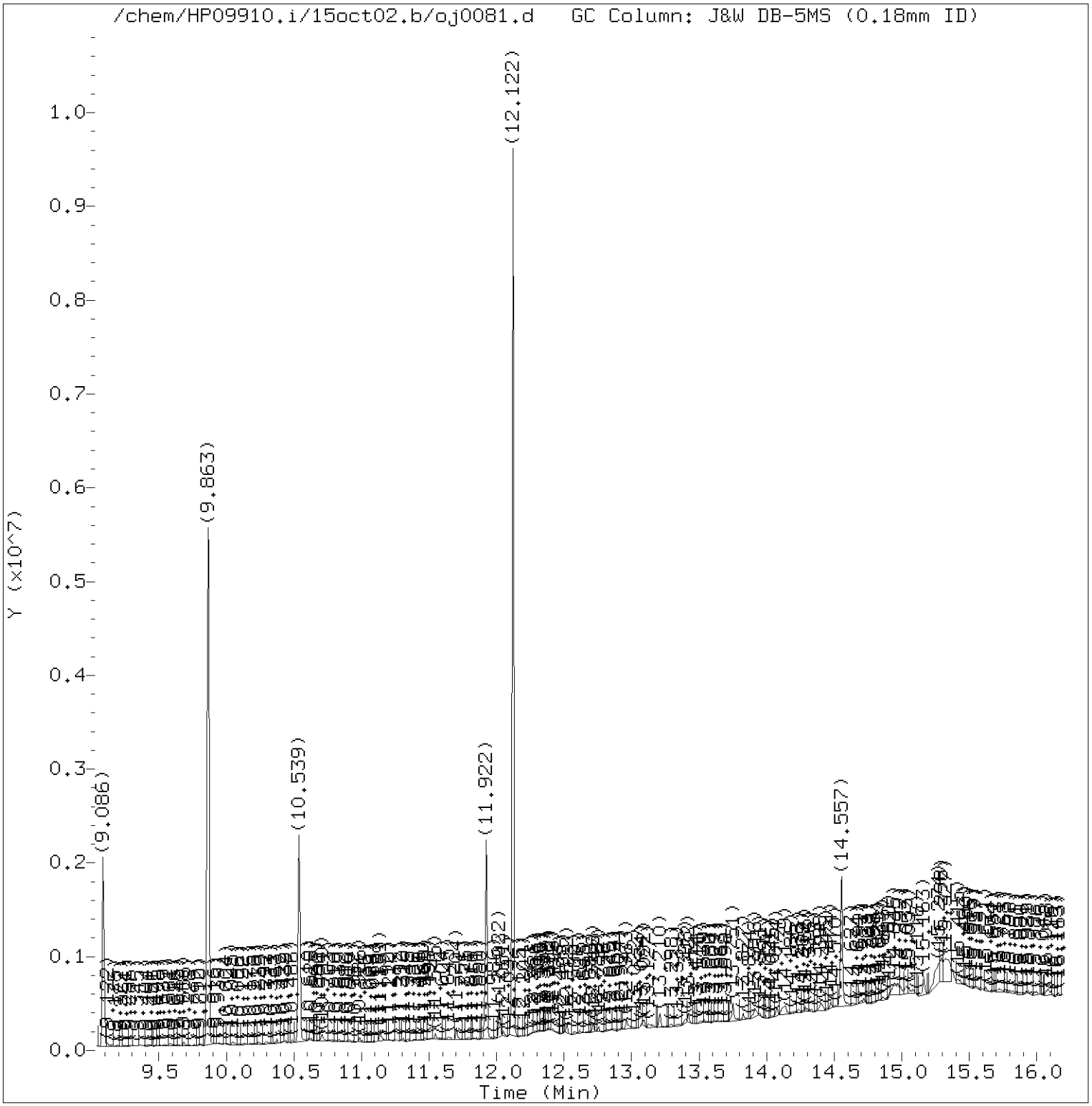
Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0081.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:28 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:09 ceb05247

Sample Name: 49213 Lab Sample ID: 8064451

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0081.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:28 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:09 ceb05247

Sample Name: 49213 Lab Sample ID: 8064451

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0081.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:28 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:09 ceb05247

Sample Name: 49213 Lab Sample ID: 8064451

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.081	152	138218	20.000
44)$Nitrobenzene-d5	(2)	6.651	82	1308917	86.670
65)*Naphthalene-d8	(2)	7.363	136	648985	20.000
93)$2-Fluorobiphenyl	(3)	8.445	172	2573111	92.859
113)*Acenaphthene-d10	(3)	9.086	164	436553	20.000
114) Acenaphthene	(3)	9.116	153	5635	0.210
153)*Phenanthrene-d10	(4)	10.539	188	855611	20.000
155) Phenanthrene	(4)	10.563	178	11613	0.234
175)*Pyrene-d10	(5)	11.922	212	831672	20.000
179)$Terphenyl-d14	(5)	12.122	244	3030319	99.007
206) Benzo(b)fluoranthene	(6)	14.186	252	4377M	0.128
211) Benzo(a)pyrene	(6)	14.504	252	6014M	0.178
213)*Perylene-d12	(6)	14.557	264	545704	20.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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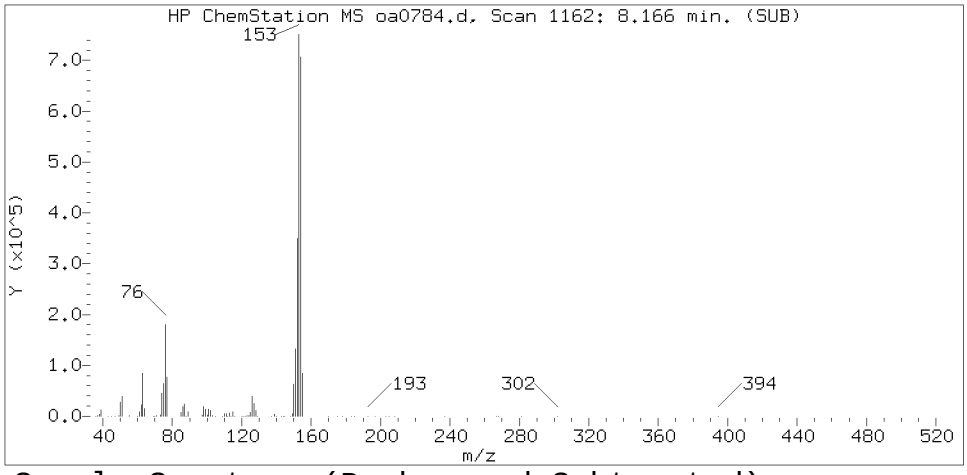
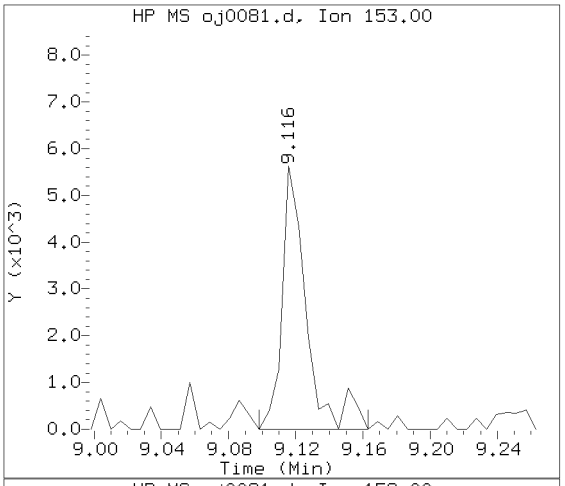
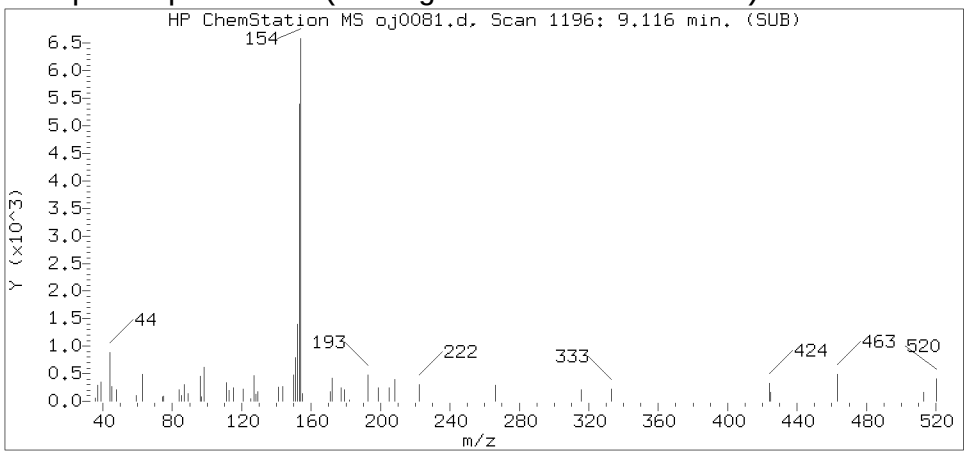
on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

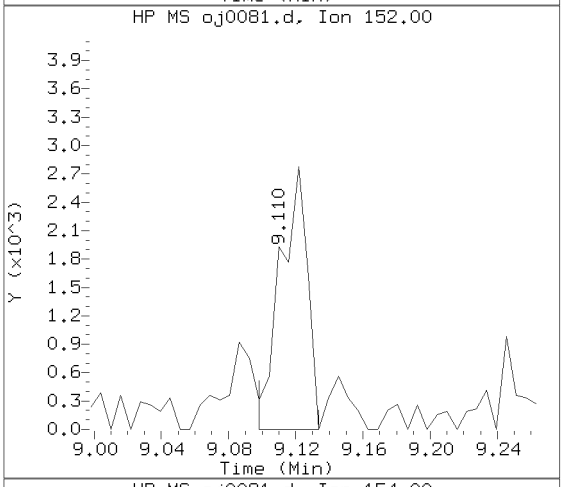
Reference Standard Spectrum for Acenaphthene



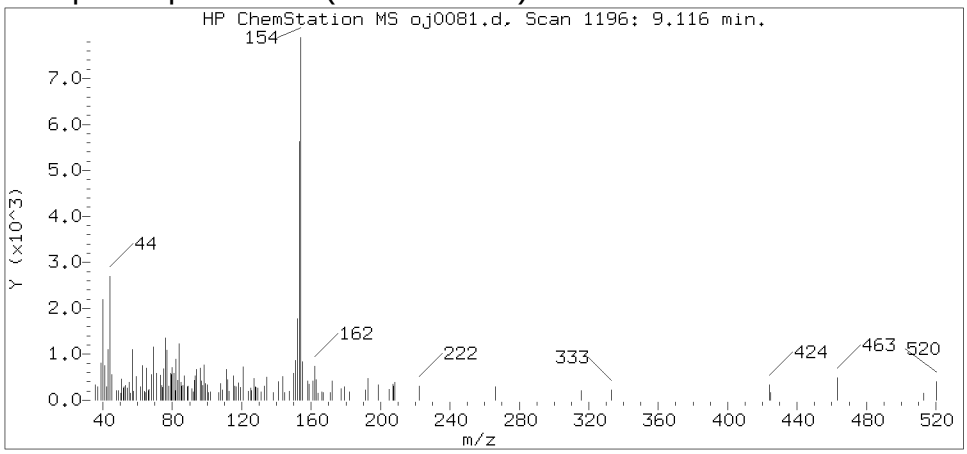


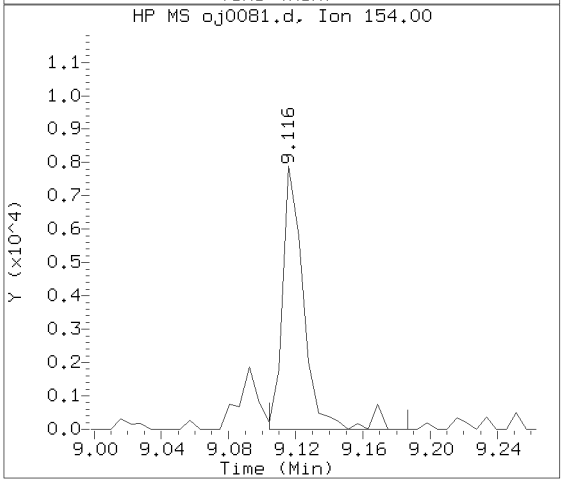
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0081.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:28 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:09 ceb05247

Sample Name: 49213 Lab Sample ID: 8064451

Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1196
Retention Time (minutes) : 9.116
Relative Retention Time :-0.00000
Quant Ion : 153.00
Area (flag) : 5635
On-column Amount (ng/ul) : 0.2101

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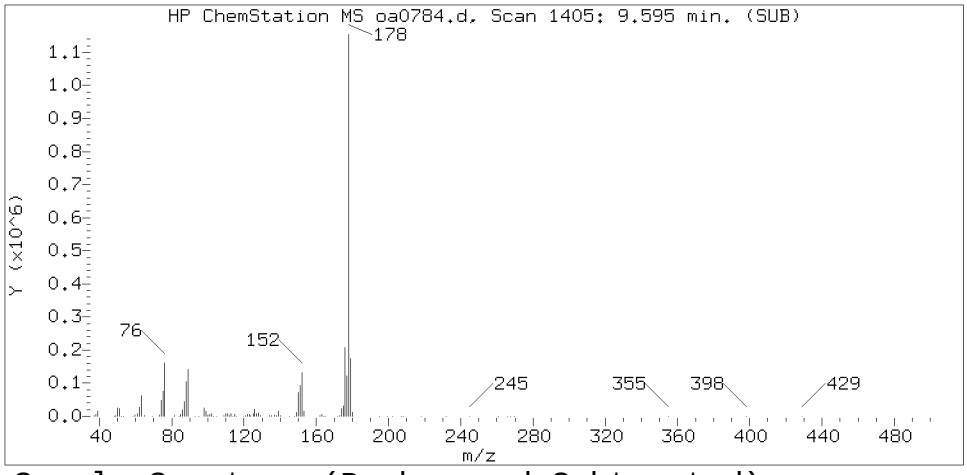
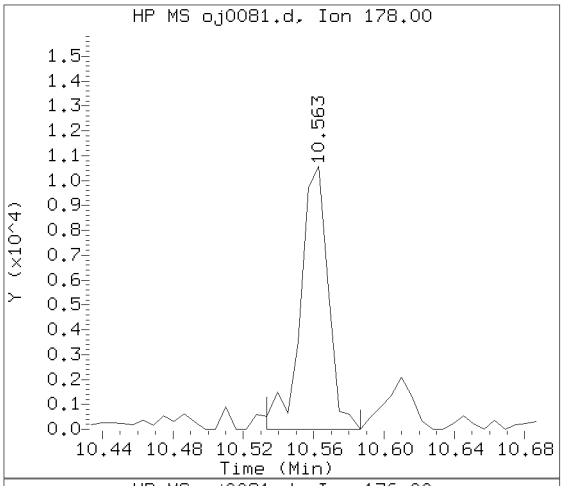
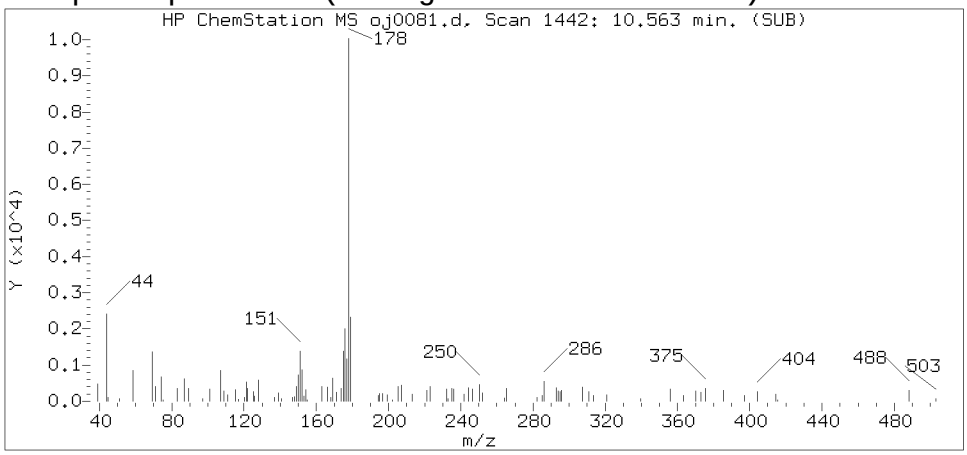
Target 3.5 esignature user ID: ceb05247

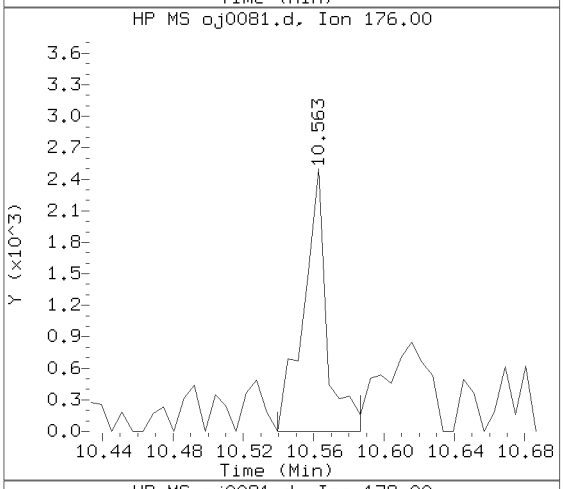
Reference Standard Spectrum for Phenanthrene



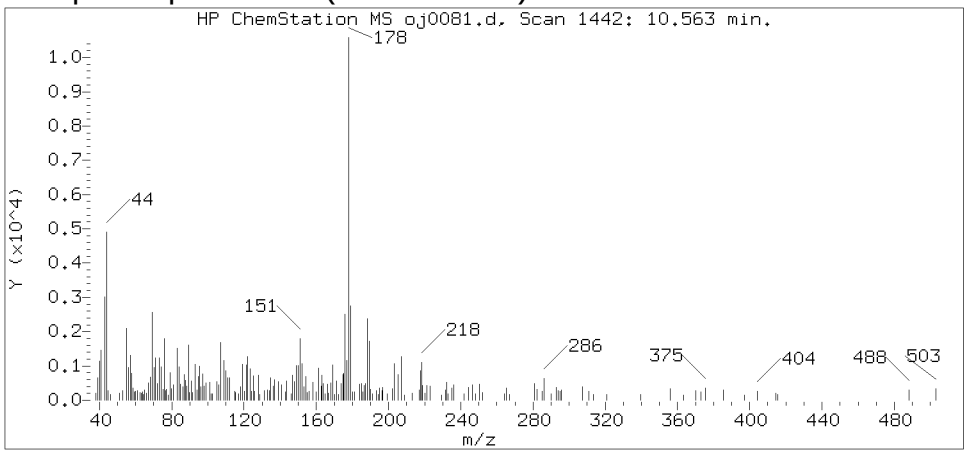


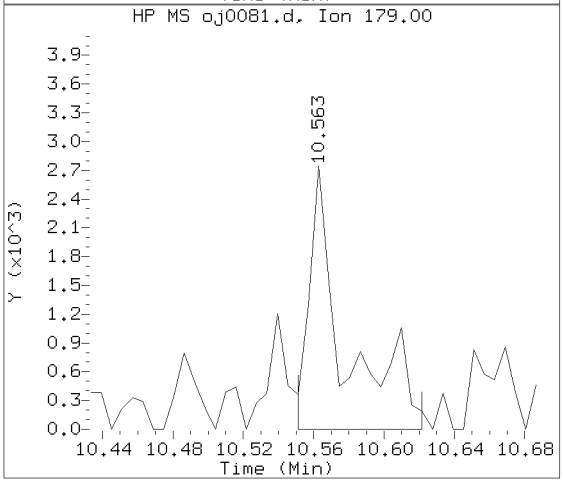
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0081.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:28 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:09 ceb05247

Sample Name: 49213 Lab Sample ID: 8064451

Compound Number : 155
Compound Name : Phenanthrene
Scan Number : 1442
Retention Time (minutes) : 10.563
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 11613
On-column Amount (ng/ul) : 0.2337

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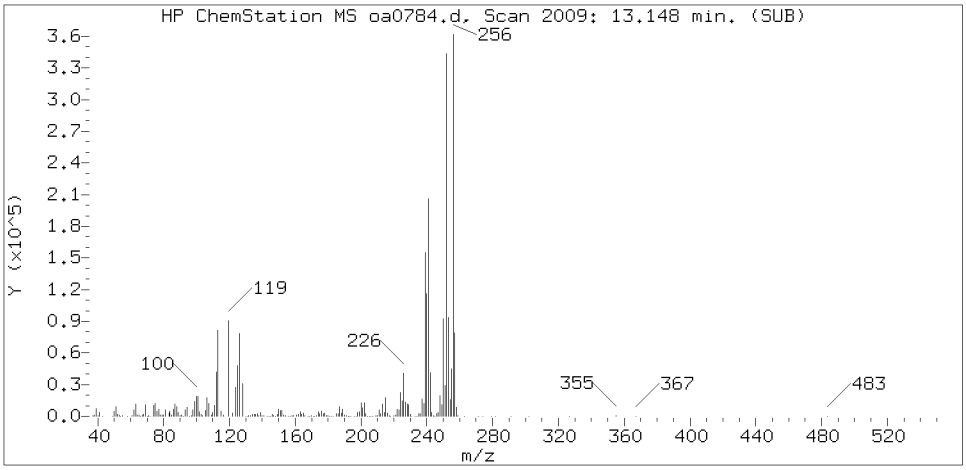
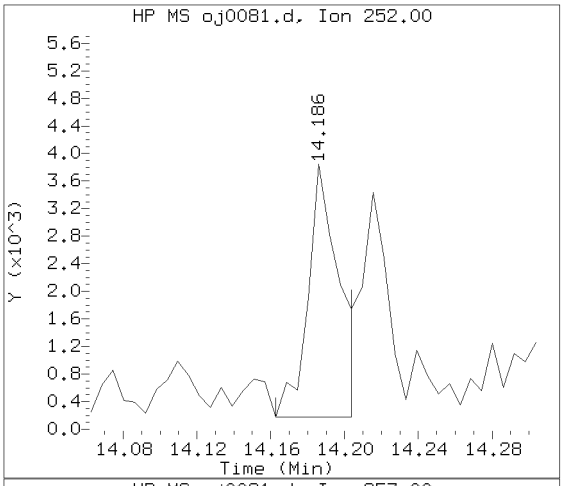
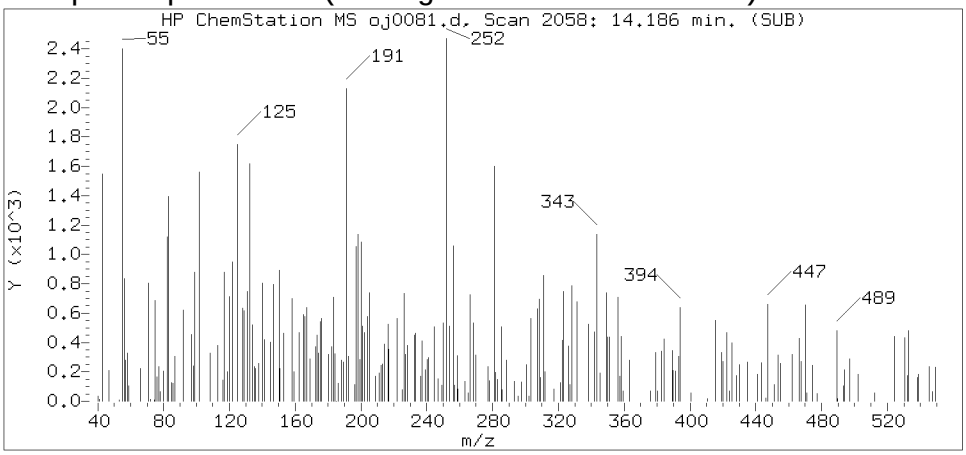
Target 3.5 esignature user ID: ceb05247

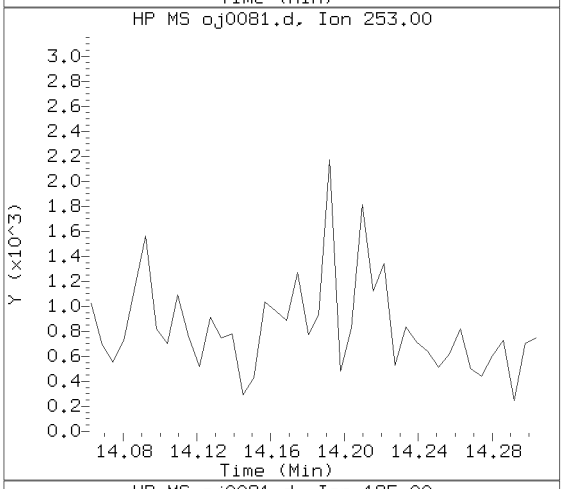
Reference Standard Spectrum for Benzo(b)fluoranthene



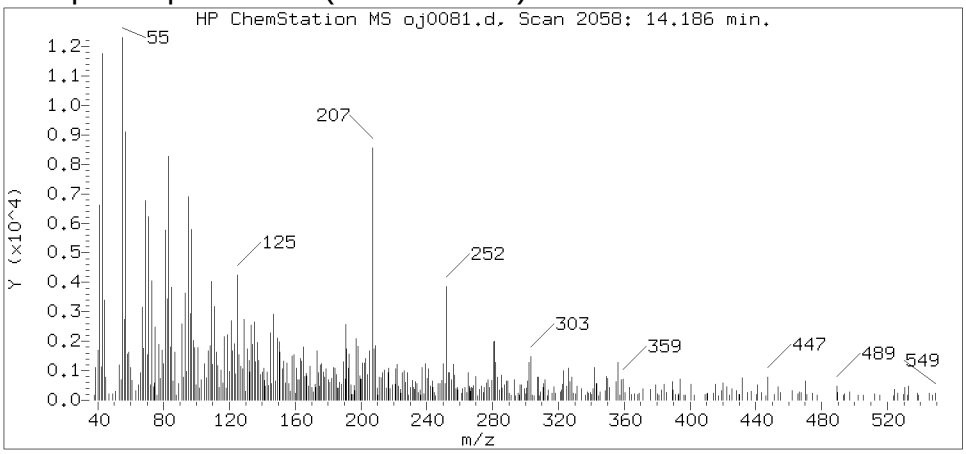


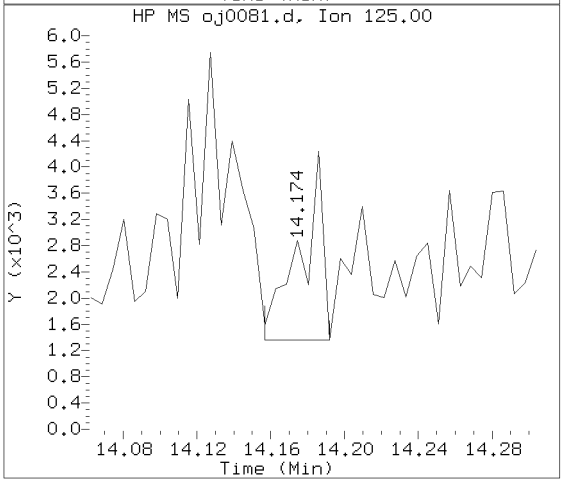
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0081.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:28 Analyst ID: ceb05247

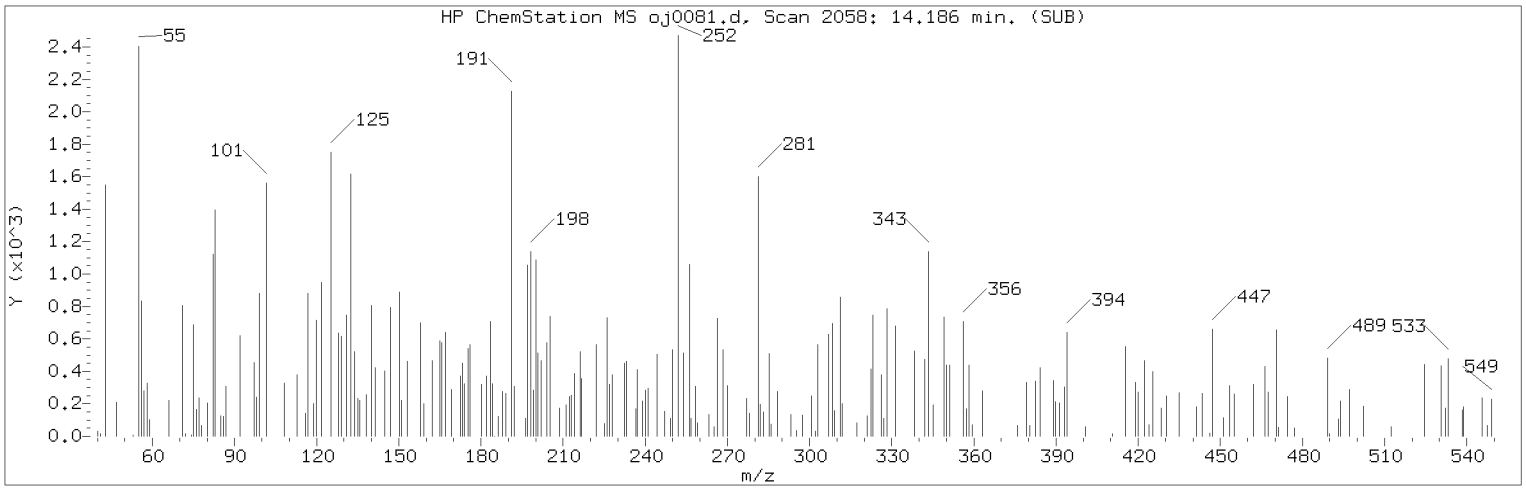
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:09 ceb05247

Sample Name: 49213 Lab Sample ID: 8064451

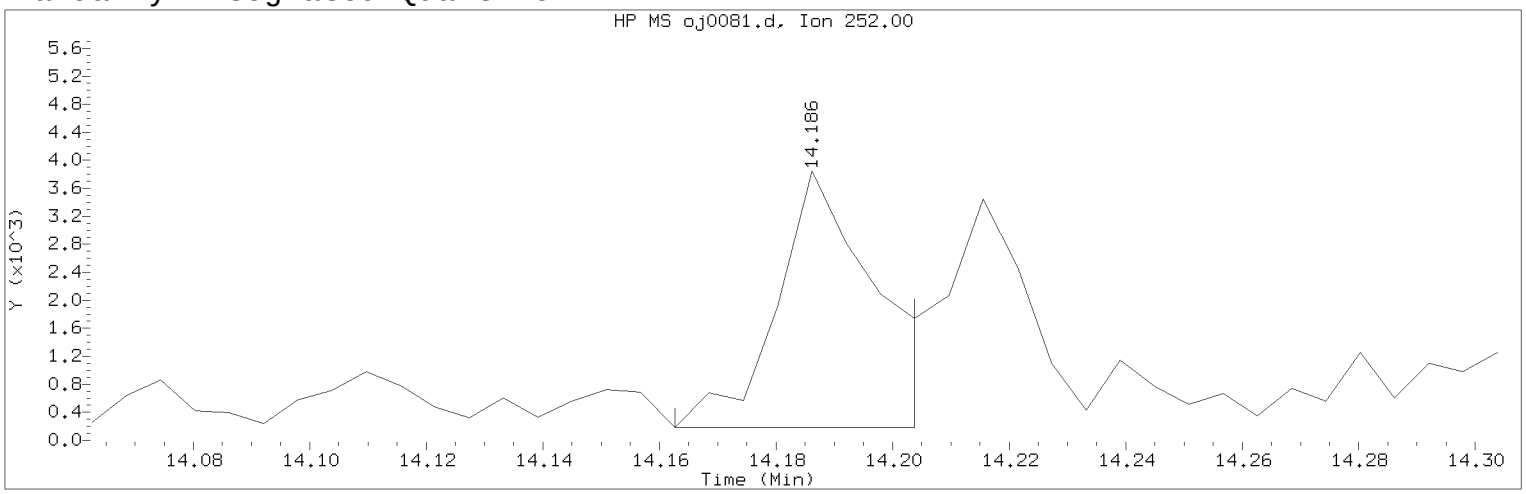
Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2058
Retention Time (minutes)	: 14.186
Relative Retention Time	: 0.00081
Quant Ion	: 252.00
Area (flag)	: 4377M
On-column Amount (ng/ul)	: 0.1278

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0081.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:28 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:09 ceb05247

Sample Name: 49213 Lab Sample ID: 8064451

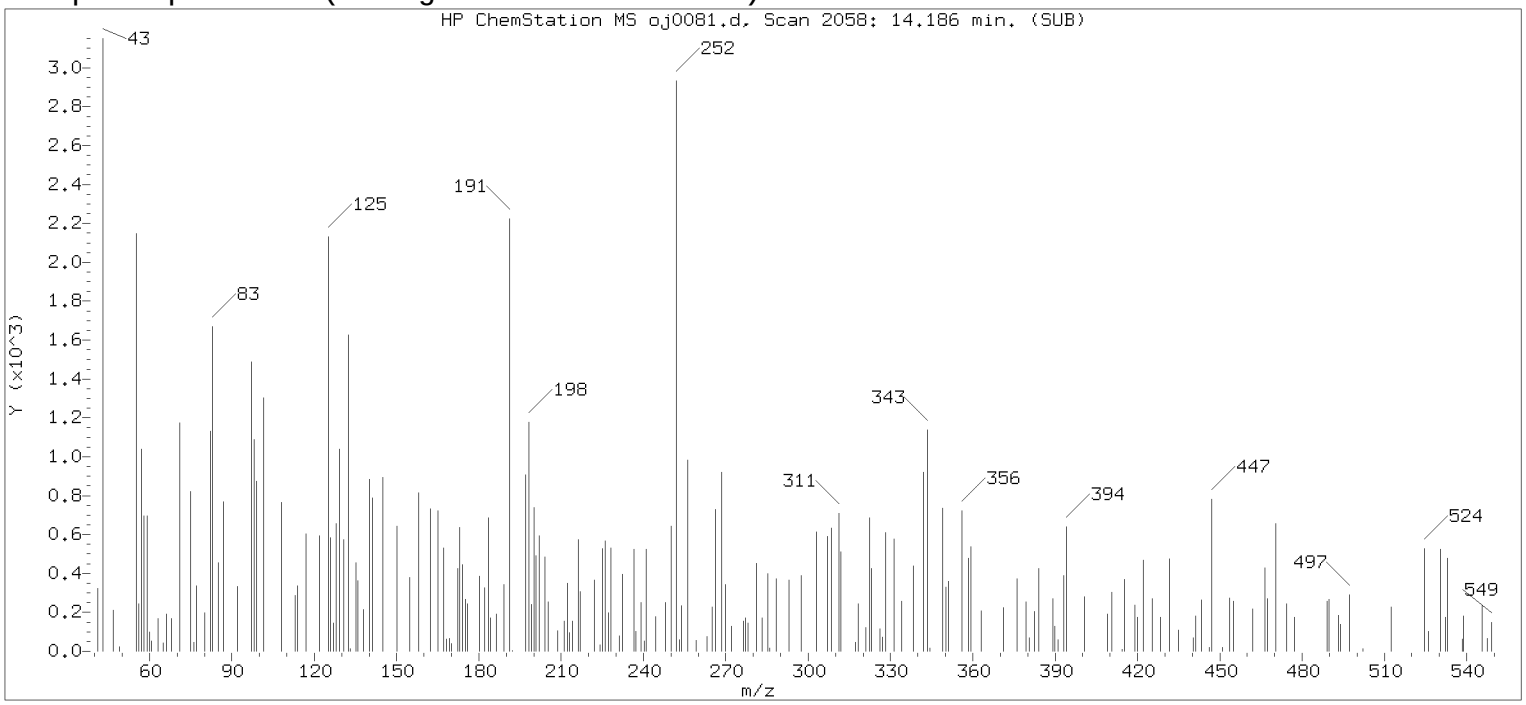
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2058
Retention Time (minutes) : 14.186
Quant Ion : 252.00
Area (flag) : 4377M
On-column Amount (ng/ul) : 0.1278
Integration start scan : 2053 Integration stop scan: 2060
Y at integration start : 179 Y at integration end: 179

Reason for manual integration: improper integration

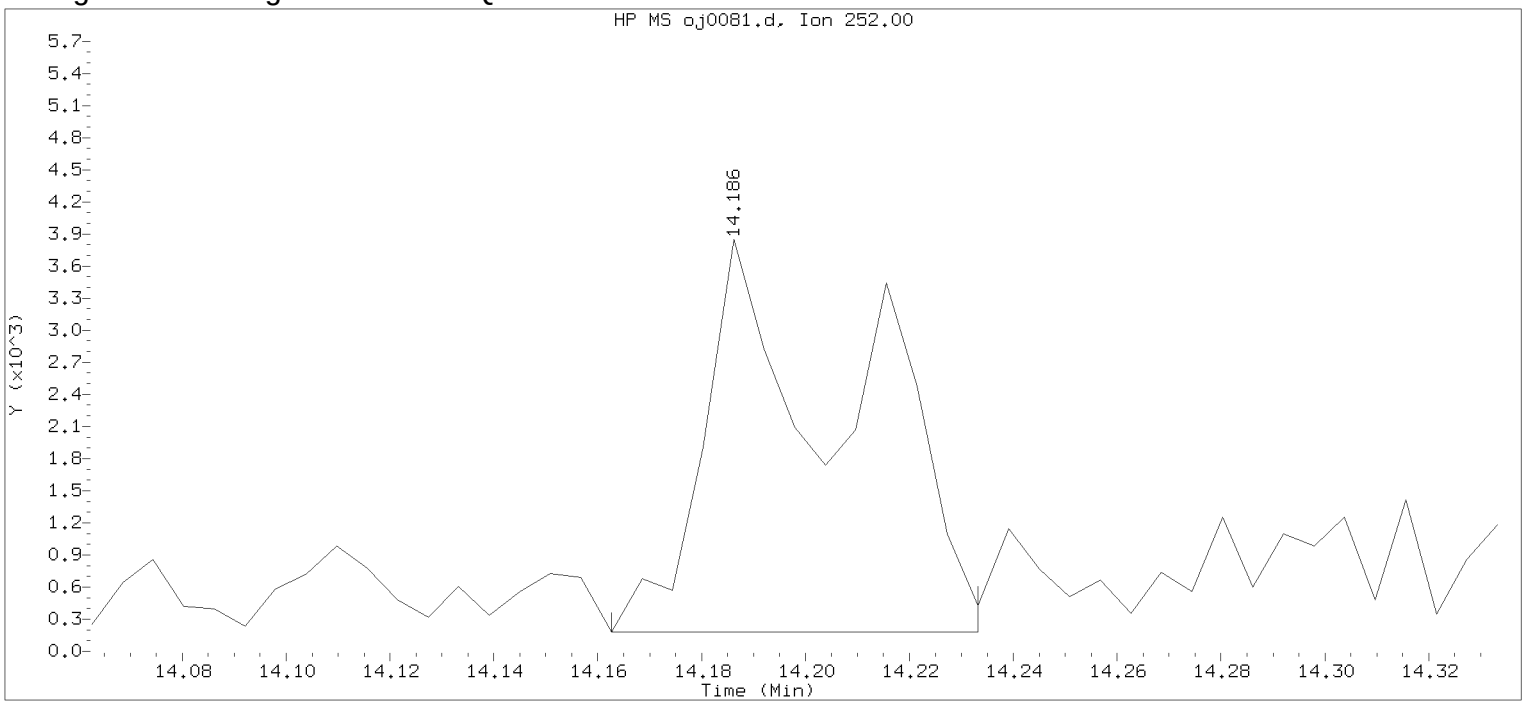
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0081.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:28 Analyst ID: ceb05247

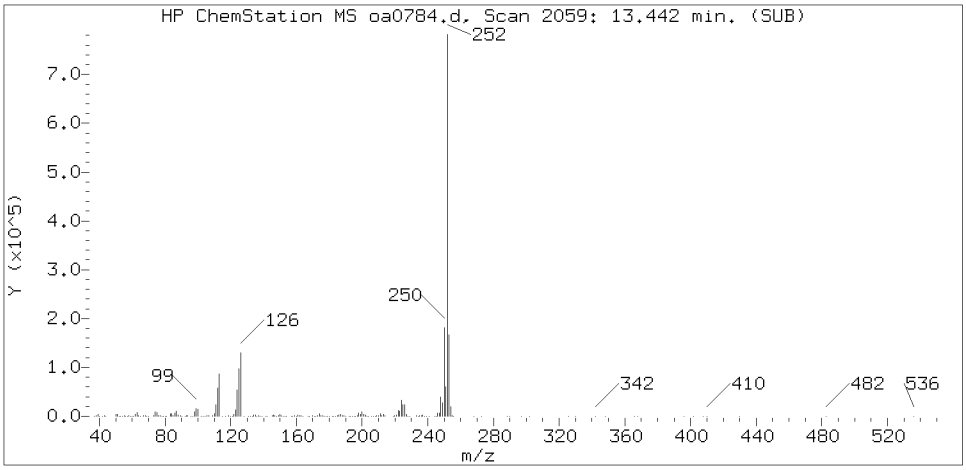
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 14:44 Automation

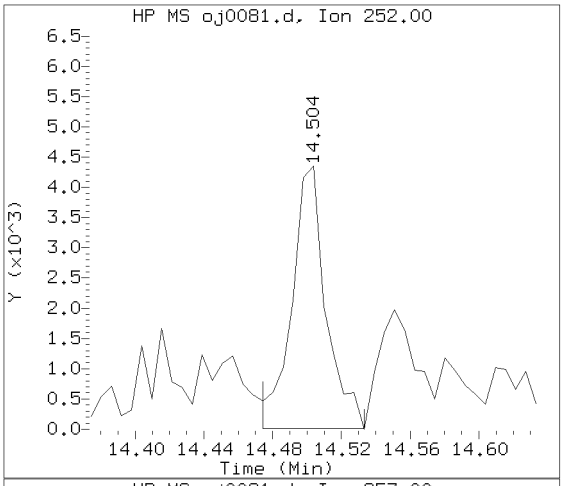
Sample Name: 49213 Lab Sample ID: 8064451

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2058		
Retention Time (minutes)	: 14.186		
Quant Ion	: 252.00		
Area	: 7373		
On-column Amount (ng/ul)	: 0.2153		
Integration start scan	: 2053	Integration stop scan:	2065
Y at integration start	: 179	Y at integration end:	179

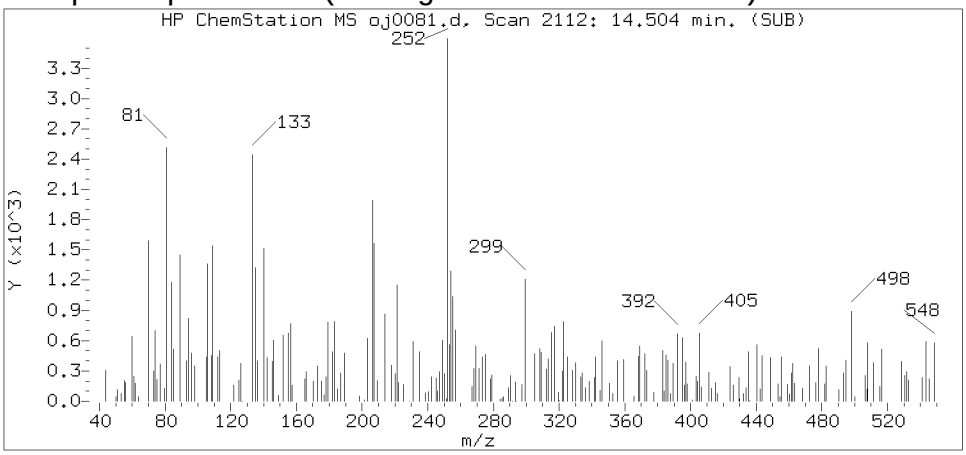
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: 27 date: 05247

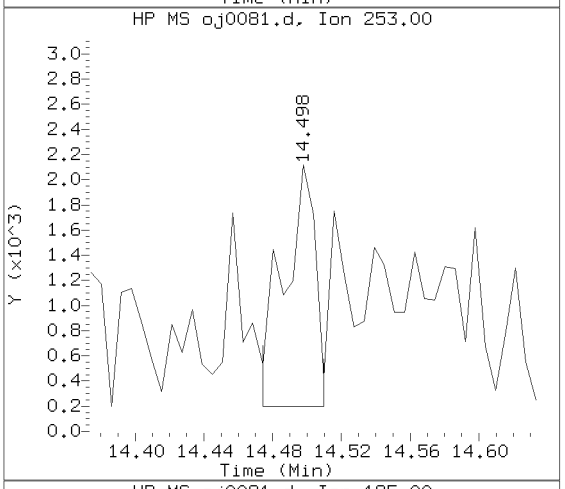
Reference Standard Spectrum for Benzo(a)pyrene



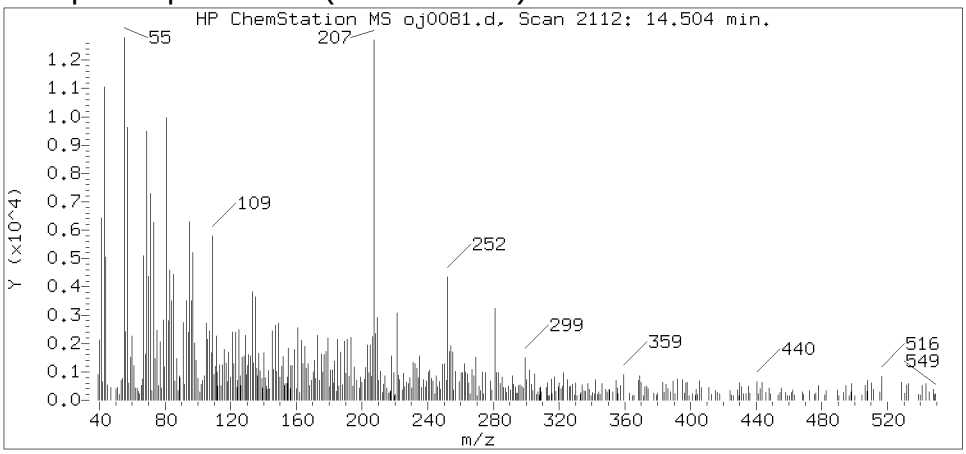


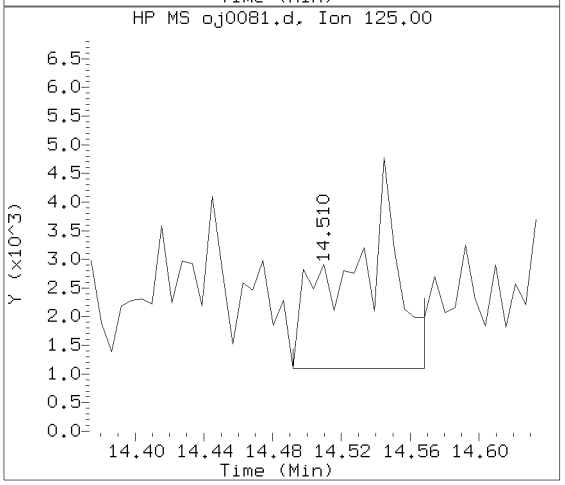
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0081.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:28 Analyst ID: ceb05247

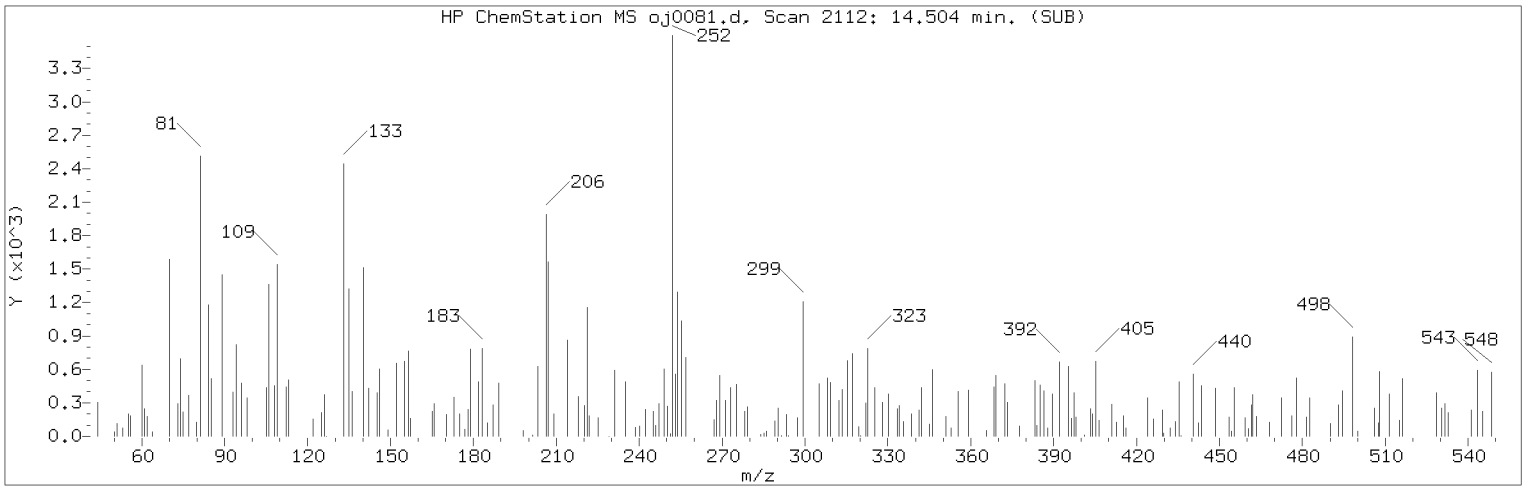
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:09 ceb05247

Sample Name: 49213 Lab Sample ID: 8064451

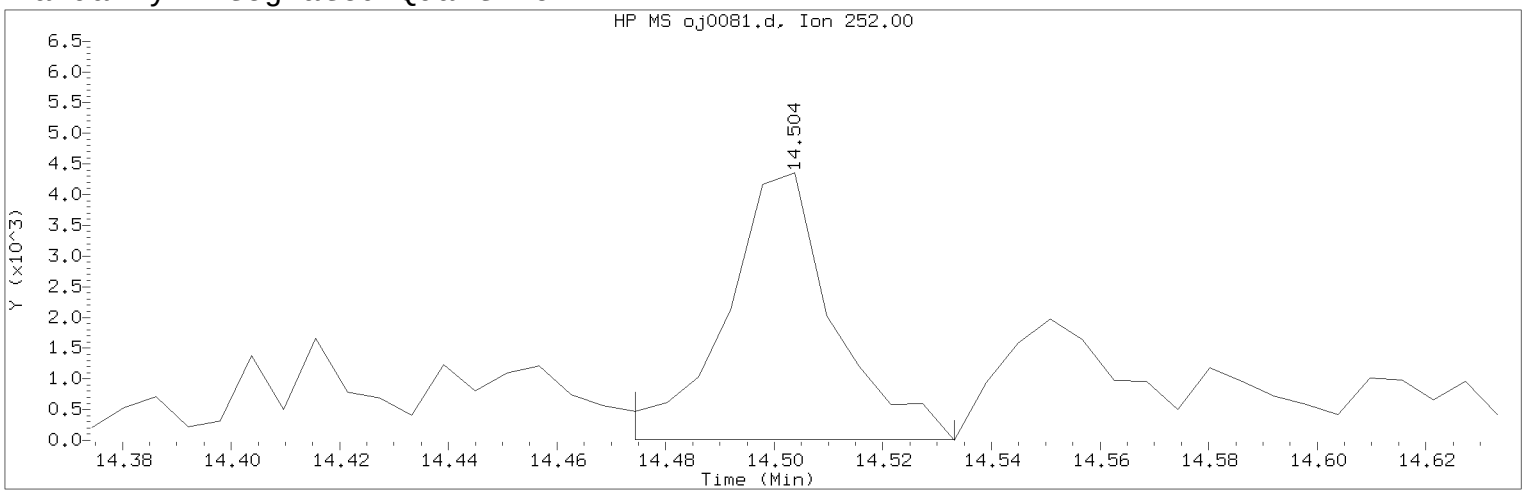
Compound Number : 211
Compound Name : Benzo(a)pyrene
Scan Number : 2112
Retention Time (minutes) : 14.504
Relative Retention Time :-0.00000
Quant Ion : 252.00
Area (flag) : 6014M
On-column Amount (ng/ul) : 0.1778

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0081.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:28 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:09 ceb05247

Sample Name: 49213 Lab Sample ID: 8064451

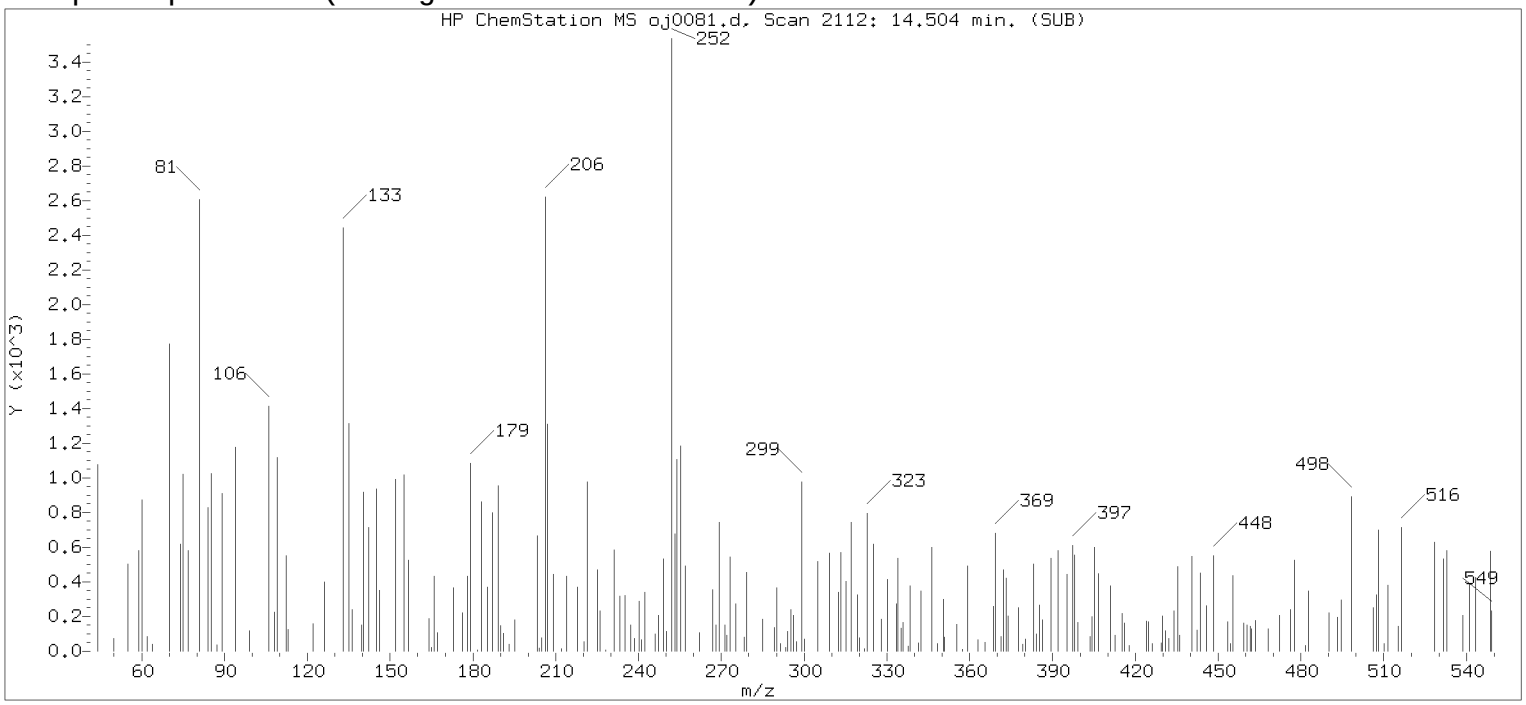
Compound Number : 211
Compound Name : Benzo(a)pyrene
Scan Number : 2112
Retention Time (minutes) : 14.504
Quant Ion : 252.00
Area (flag) : 6014M
On-column Amount (ng/ul) : 0.1778
Integration start scan : 2106 Integration stop scan: 2116
Y at integration start : 13 Y at integration end: 13

Reason for manual integration: improper integration

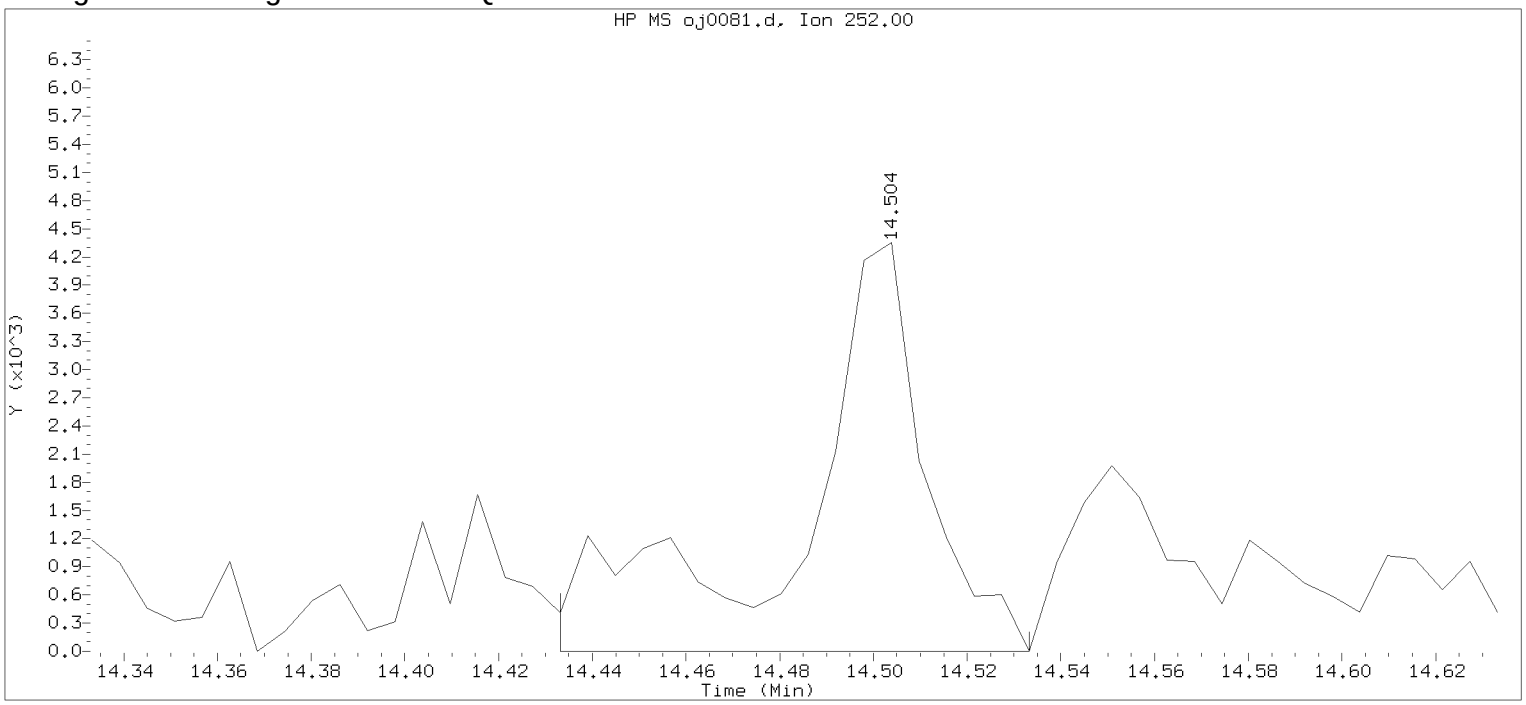
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0081.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:28 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 14:44 Automation

Sample Name: 49213 Lab Sample ID: 8064451

Compound Number	: 211		
Compound Name	: Benzo(a)pyrene		
Scan Number	: 2112		
Retention Time (minutes)	: 14.504		
Quant Ion	: 252.00		
Area	: 8132		
On-column Amount (ng/ul)	: 0.2404		
Integration start scan	: 2099	Integration stop scan:	2116
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: 27 date: 05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0082.d
Injection date and time: **02-OCT-2015 14:53**
Data file Sample Info. Line: 49313;8064452;2;0;SAMPLE;;;
Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 13:57
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.35 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.081(0.000)	680	152	178814 (6)	20.00	
65) Naphthalene-d8	7.363(0.000)	898	136	882506 (15)	20.00	
113) Acenaphthene-d10	9.086(0.006)	1191	164	536421 (9)	20.00	
153) Phenanthrene-d10	10.539(0.000)	1438	188	900598 (-4)	20.00	
175) Pyrene-d10	11.927(0.000)	1674	212	884545 (-16)	20.00	
213) Perylene-d12	14.562(-0.006)	2122	264	638463 (-18)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.651(0.000)	82	1439367	70.088	70%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.445(-0.001)	172	2788293	81.891	82%		63 - 117
179) Terphenyl-d14	(5)	12.121(0.000)	244	2591223	79.600	80%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)	8.945(0.000)	152	15594M	0.327	10.79			0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)	10.563(-0.000)	178	40803	0.780	25.71			0.1
157) Anthracene	(4)	10.610(0.000)	178	23067	0.446	14.70			0.1
173) Fluoranthene	(4)	11.727(-0.000)	202	99233	1.746	57.52			0.1
177) Pyrene	(5)	11.945(-0.000)	202	98968	1.875	61.79			0.1
195) Benzo(a)anthracene	(5)	13.133(-0.000)	228	38995	0.848	27.93			0.1
196) Chrysene	(5)	13.162(-0.000)	228	58236	1.329	43.78			0.1
206) Benzo(b)fluoranthene	(6)	14.204(-0.000)	252	77281M	1.929	63.55			0.1
208) Benzo(k)fluoranthene	(6)	14.221(0.000)	252	36017M	0.881	29.03			0.1
211) Benzo(a)pyrene	(6)	14.510(-0.000)	252	48657M	1.230	40.51			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	15.633(0.000)	276	41596	1.009	33.25			0.1
220) Dibenz(a,h)anthracene	(6)	15.645(0.000)	278	11093	0.320	10.54			0.1
221) Benzo(g,h,i)perylene	(6)	15.933(0.000)	276	42596	1.258	41.46			0.1

M = Compound was manually integrated.

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0082.d Injection date and time: **02-OCT-2015 14:53**
Data file Sample Info. Line: 49313;8064452;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 13:57
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.35 g

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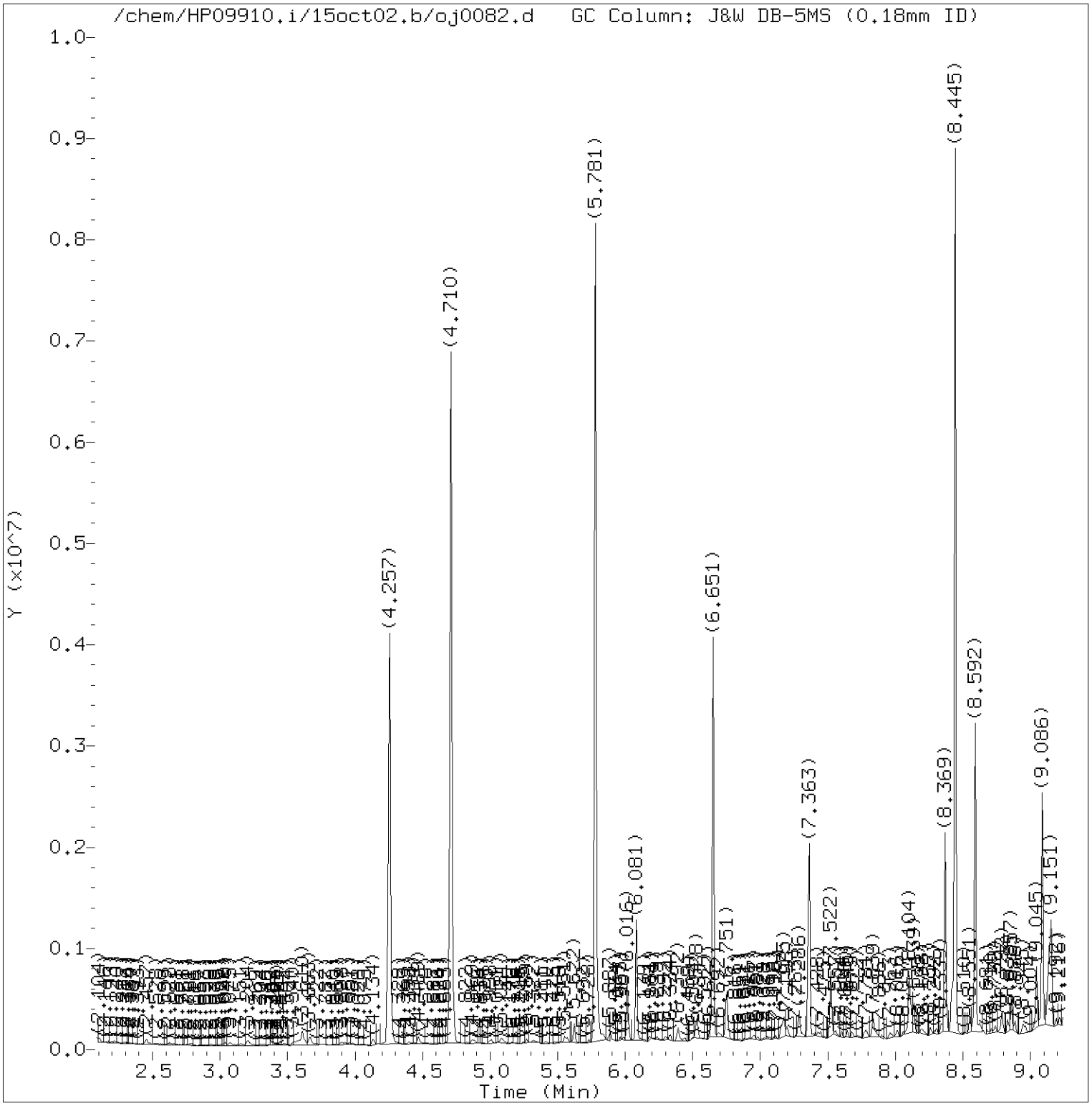
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

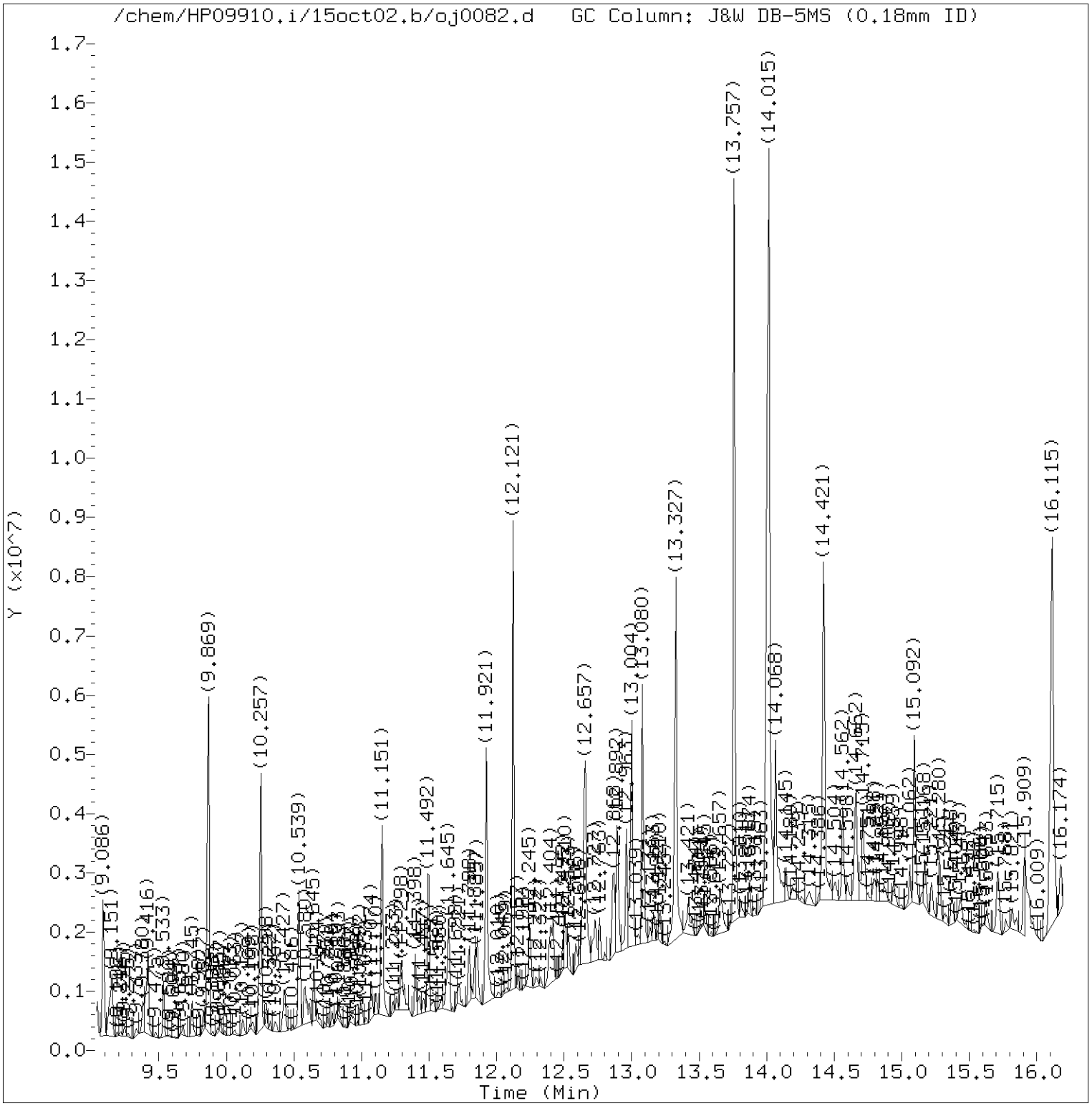
Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Sample Name: 49313 Lab Sample ID: 8064452

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Sample Name: 49313 Lab Sample ID: 8064452

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

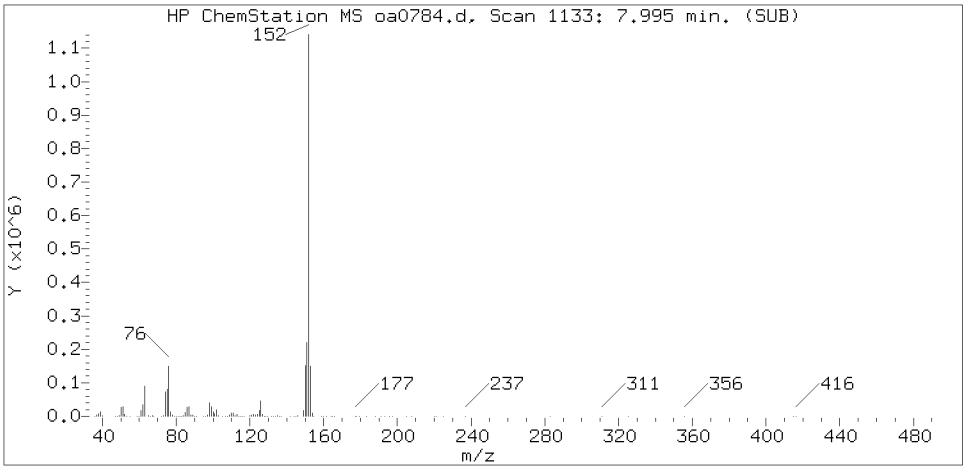
Sample Name: 49313 Lab Sample ID: 8064452

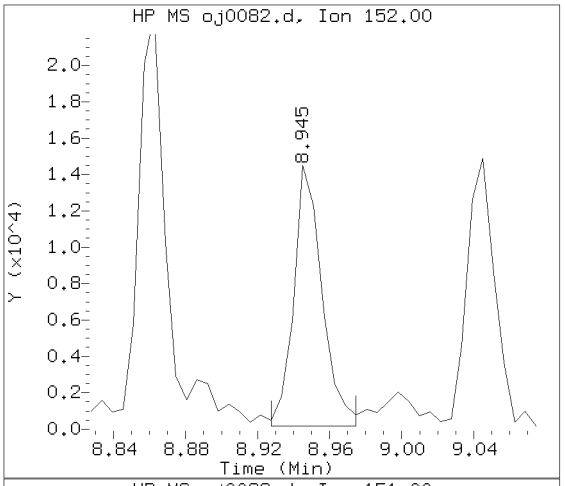
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.081	152	178814	20.000
44)$Nitrobenzene-d5	(2)	6.651	82	1439367	70.088
65)*Naphthalene-d8	(2)	7.363	136	882506	20.000
93)$2-Fluorobiphenyl	(3)	8.445	172	2788293	81.891
109) Acenaphthylene	(3)	8.945	152	15594M	0.327
113)*Acenaphthene-d10	(3)	9.086	164	536421	20.000
153)*Phenanthrene-d10	(4)	10.539	188	900598	20.000
155) Phenanthrene	(4)	10.563	178	40803	0.780
157) Anthracene	(4)	10.610	178	23067	0.446
173) Fluoranthene	(4)	11.727	202	99233	1.746
175)*Pyrene-d10	(5)	11.927	212	884545	20.000
177) Pyrene	(5)	11.945	202	98968	1.875
179)$Terphenyl-d14	(5)	12.121	244	2591223	79.600
195) Benzo(a)anthracene	(5)	13.133	228	38995	0.848
196) Chrysene	(5)	13.163	228	58236	1.329
206) Benzo(b)fluoranthene	(6)	14.204	252	77281M	1.929
208) Benzo(k)fluoranthene	(6)	14.221	252	36017M	0.881
211) Benzo(a)pyrene	(6)	14.510	252	48657M	1.230
213)*Perylene-d12	(6)	14.562	264	638463	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	15.633	276	41596	1.009
220) Dibenz(a,h)anthracene	(6)	15.645	278	11093	0.320
221) Benzo(g,h,i)perylene	(6)	15.933	276	42596	1.258

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

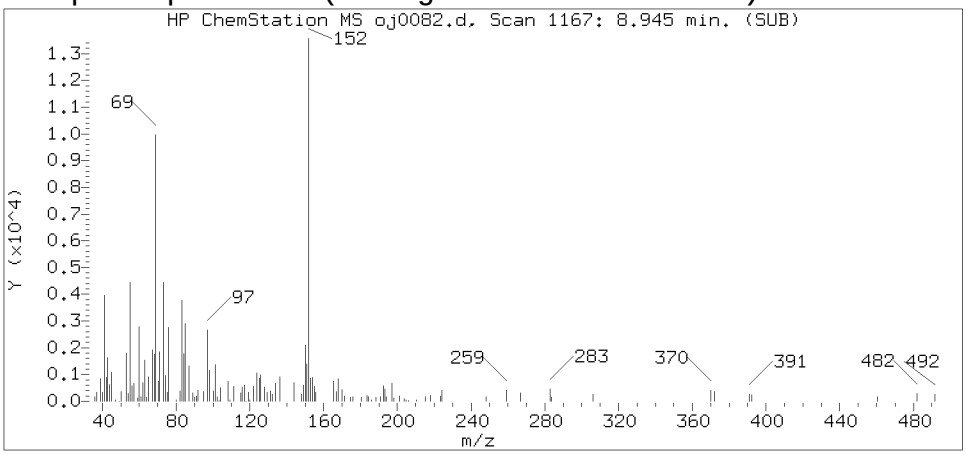
Digitally signed by Catherine E. Bachman
on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

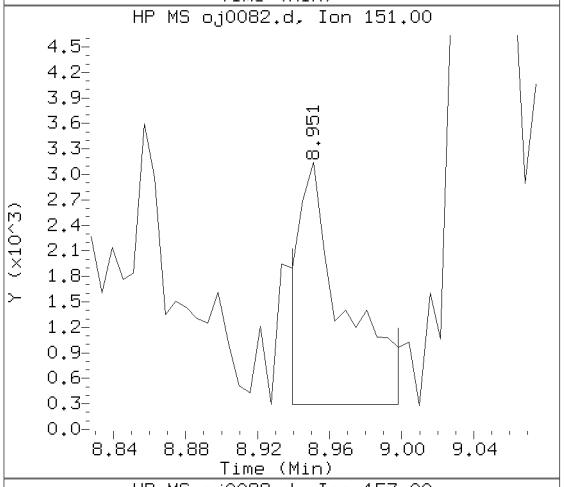
Reference Standard Spectrum for Acenaphthylene



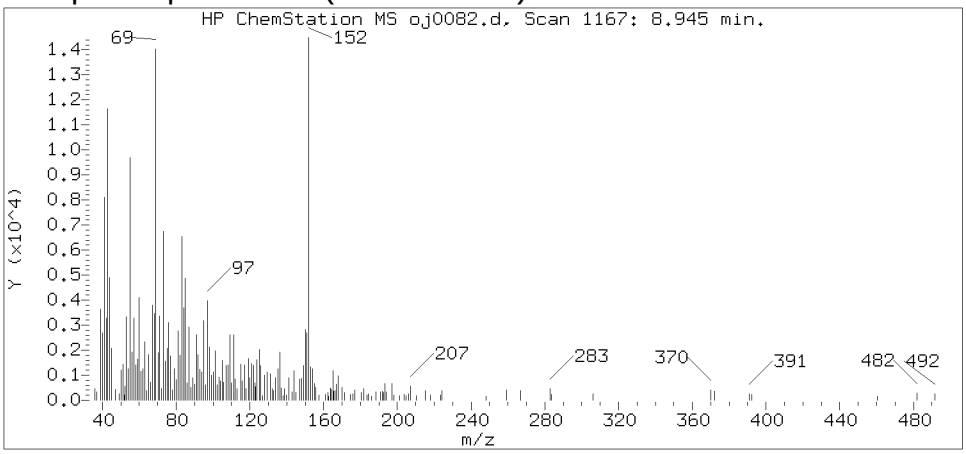


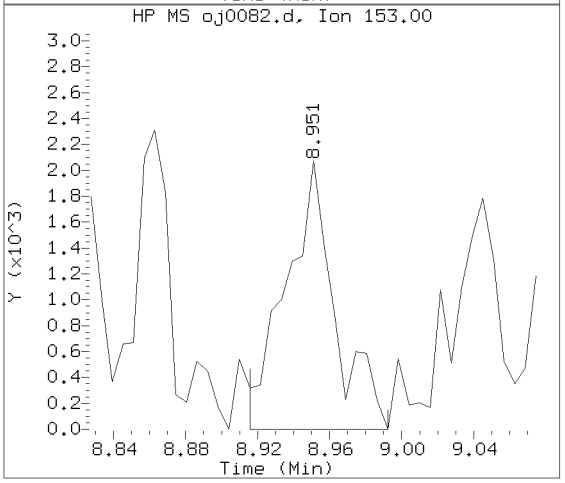
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

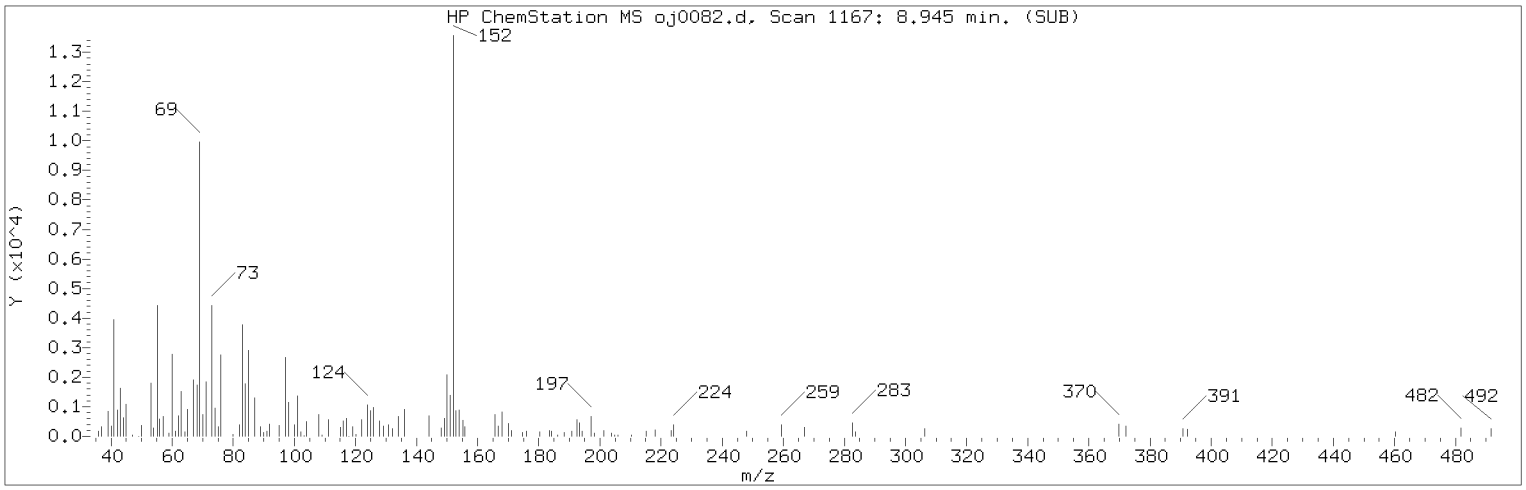
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Sample Name: 49313 Lab Sample ID: 8064452

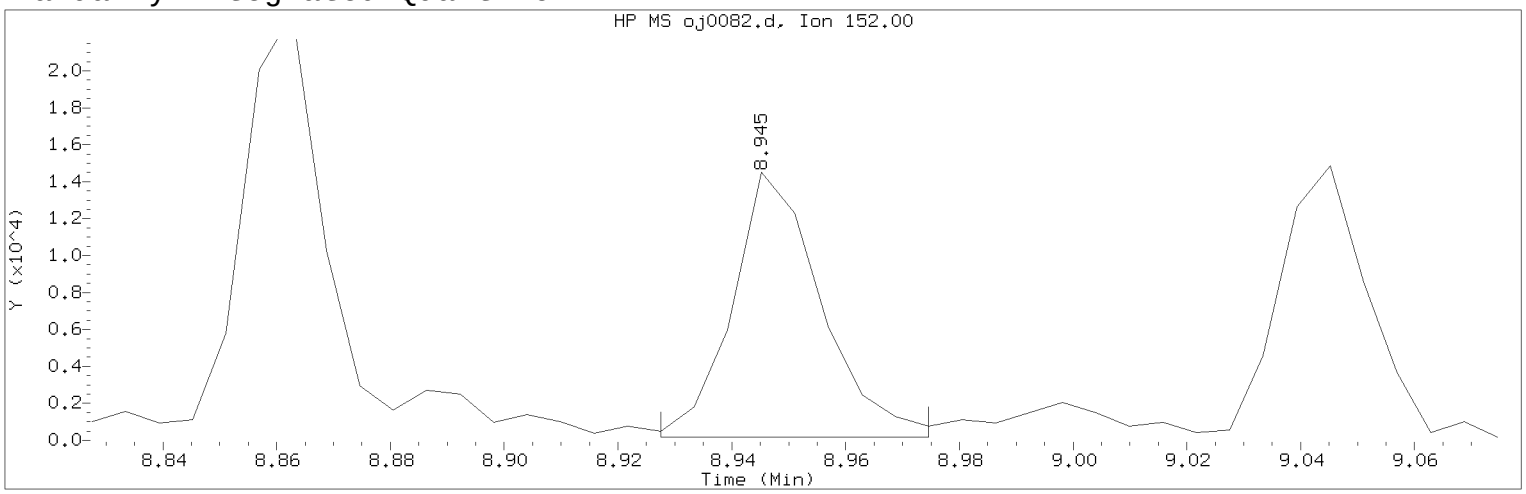
Compound Number	: 109
Compound Name	: Acenaphthylene
Scan Number	: 1167
Retention Time (minutes)	: 8.945
Relative Retention Time	: 0.00001
Quant Ion	: 152.00
Area (flag)	: 15594M
On-column Amount (ng/ul)	: 0.3274

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Sample Name: 49313 Lab Sample ID: 8064452

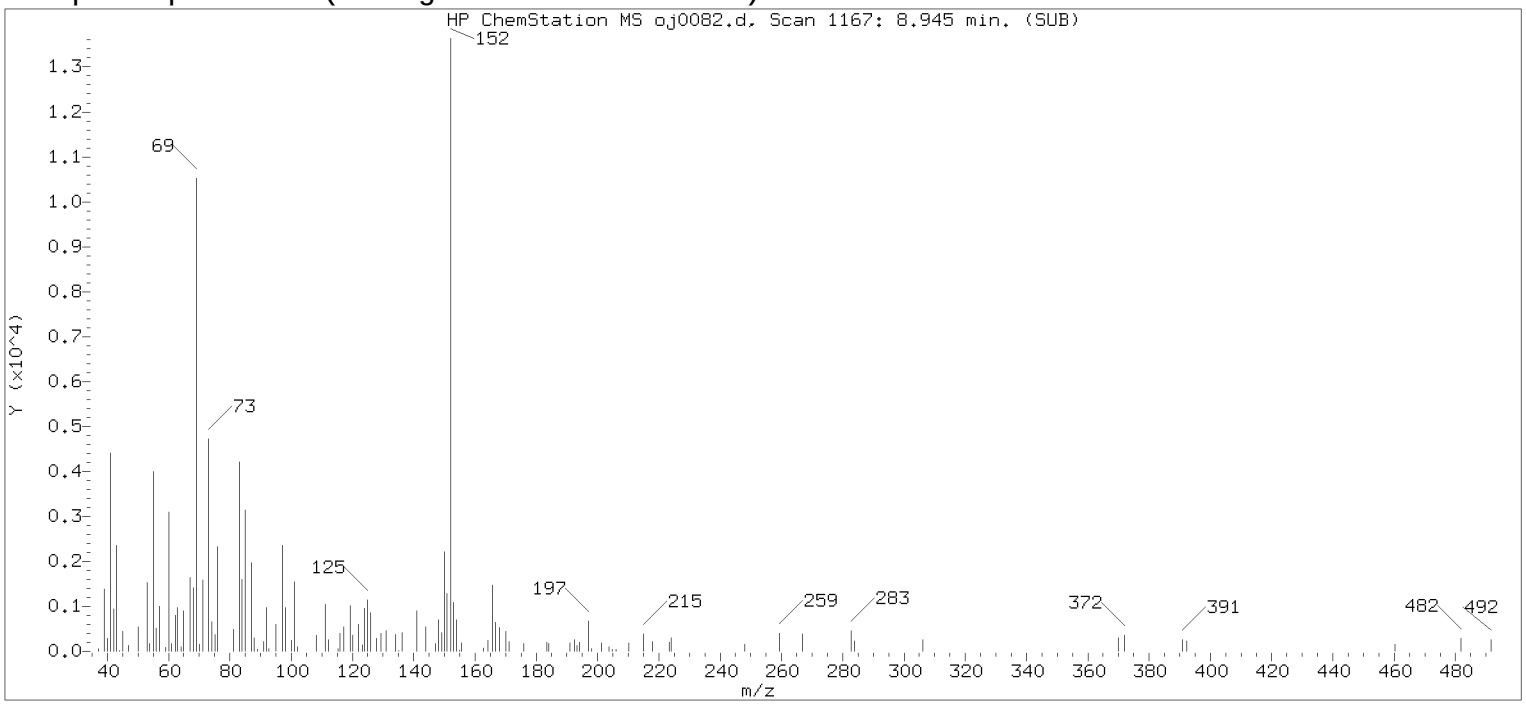
Compound Number : 109
Compound Name : Acenaphthylene
Scan Number : 1167
Retention Time (minutes) : 8.945
Quant Ion : 152.00
Area (flag) : 15594M
On-column Amount (ng/ul) : 0.3274
Integration start scan : 1163 Integration stop scan: 1171
Y at integration start : 176 Y at integration end: 176

Reason for manual integration: improper integration

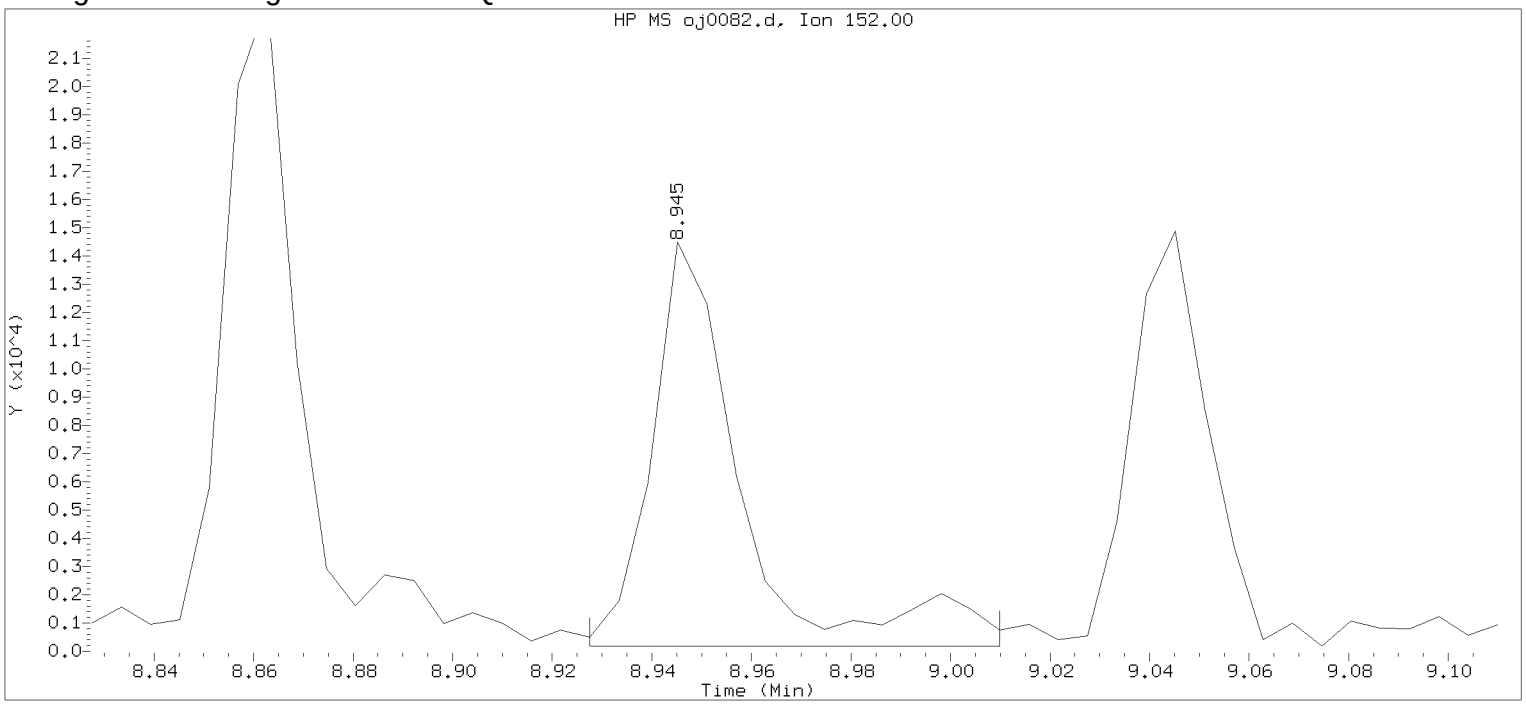
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

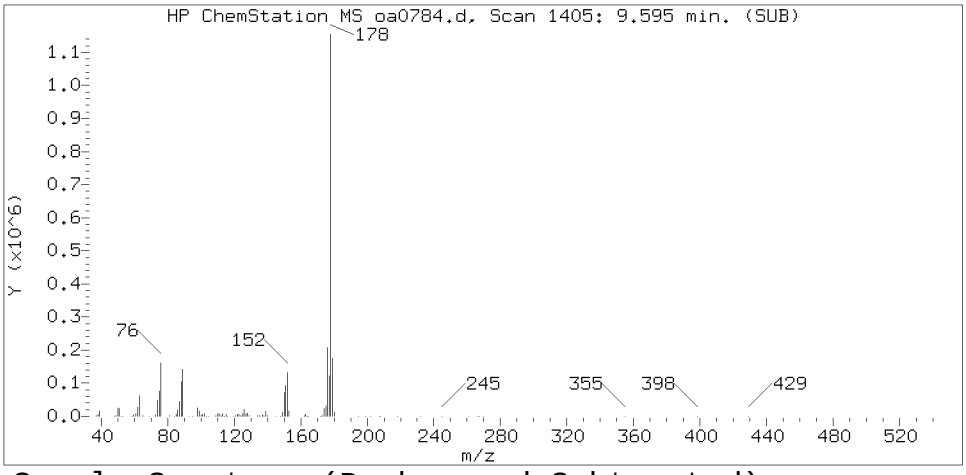
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 15:09 Automation

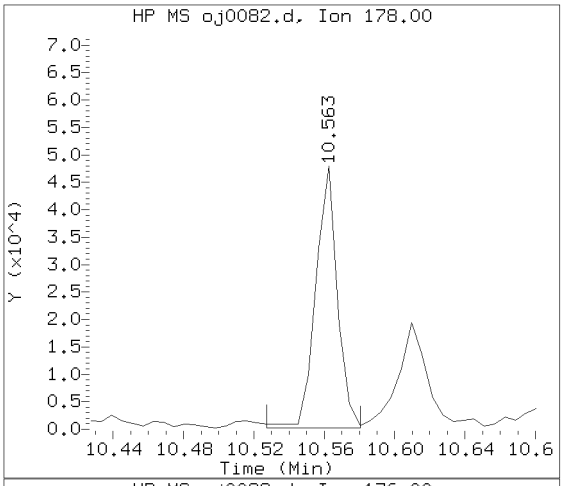
Sample Name: 49313 Lab Sample ID: 8064452

Compound Number	: 109		
Compound Name	: Acenaphthylene		
Scan Number	: 1167		
Retention Time (minutes)	: 8.945		
Quant Ion	: 152.00		
Area	: 17821		
On-column Amount (ng/ul)	: 0.3742		
Integration start scan	: 1163	Integration stop scan:	1177
Y at integration start	: 176	Y at integration end:	176

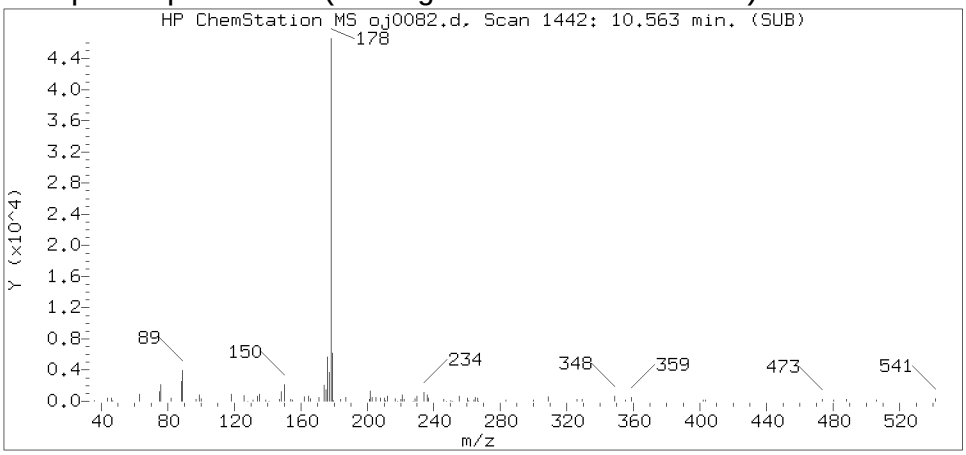
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: 27 date: 20150247

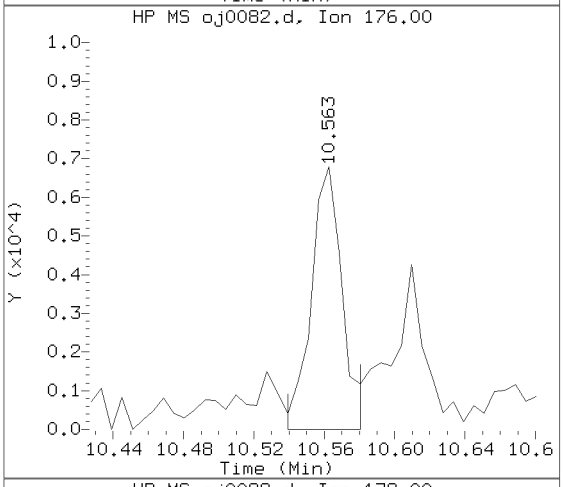
Reference Standard Spectrum for Phenanthrene



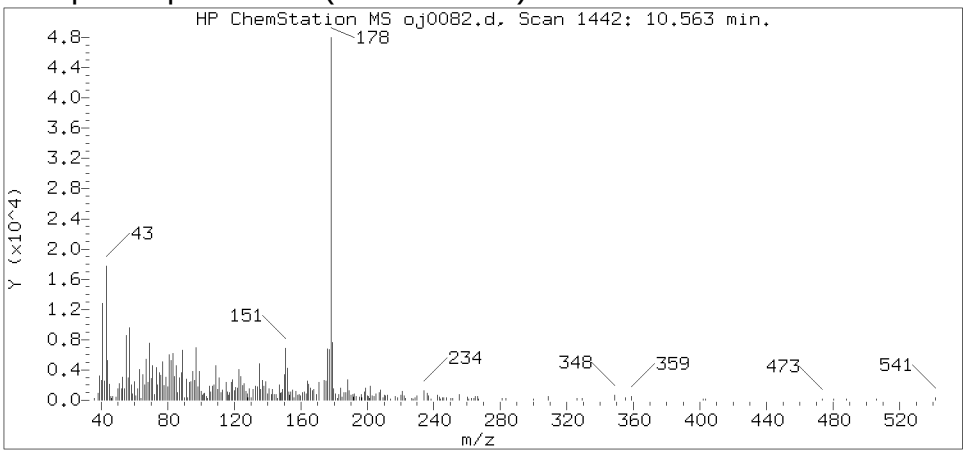


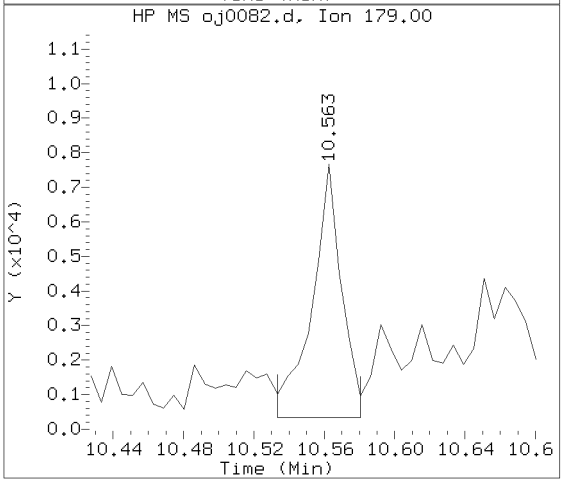
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

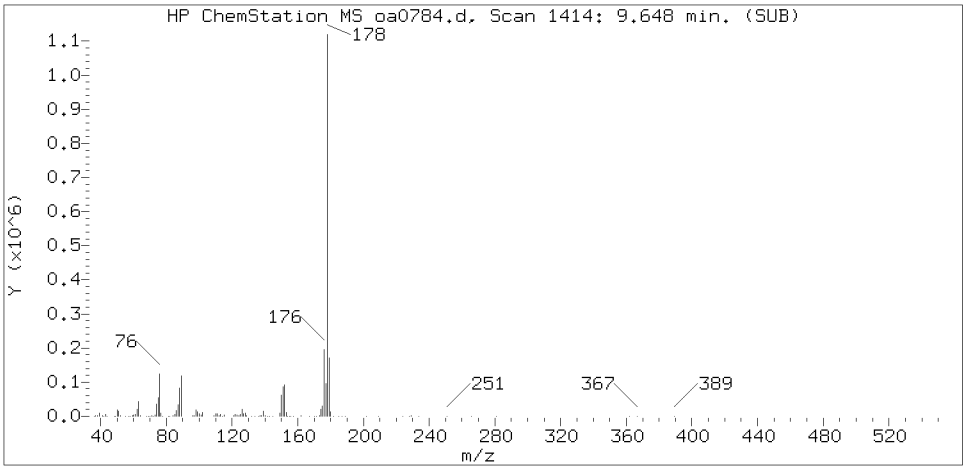
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

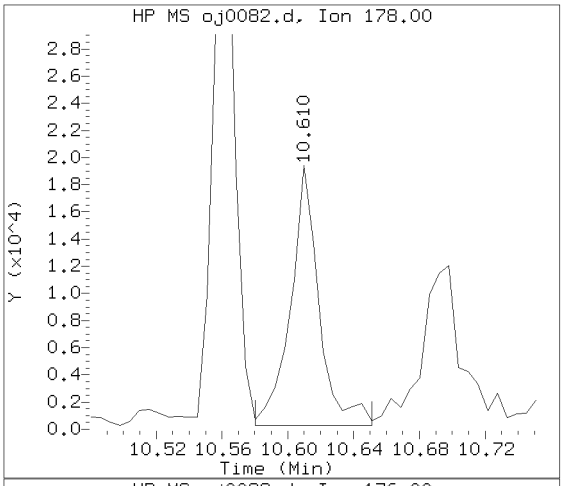
Sample Name: 49313 Lab Sample ID: 8064452

Compound Number : 155
Compound Name : Phenanthrene
Scan Number : 1442
Retention Time (minutes) : 10.563
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 40803
On-column Amount (ng/ul) : 0.7802

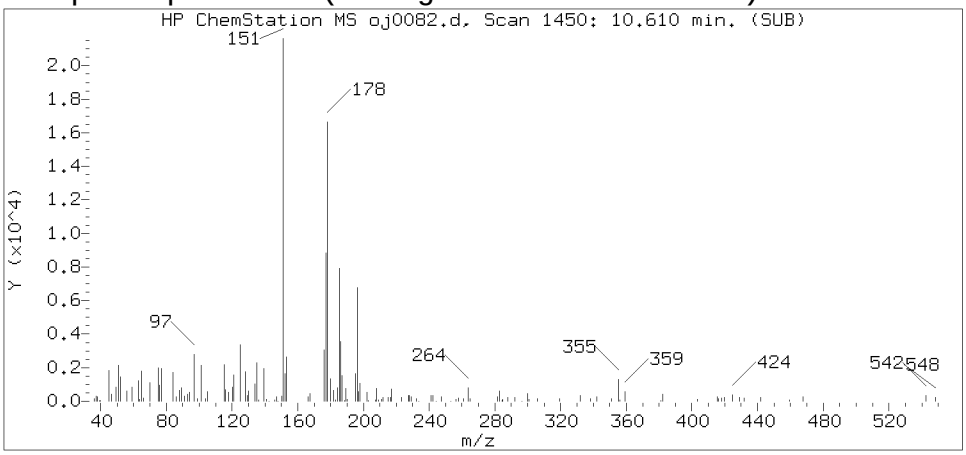
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

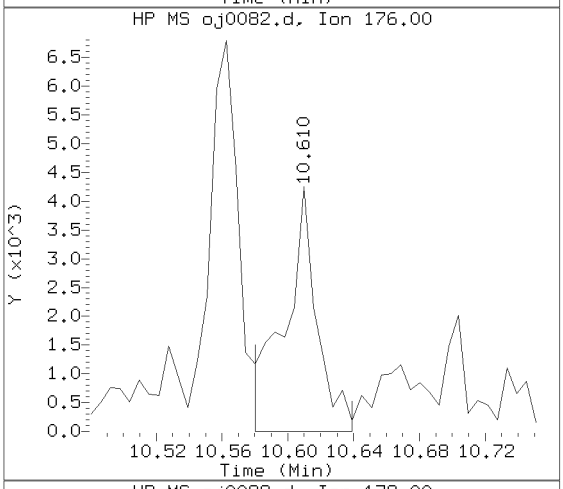
Reference Standard Spectrum for Anthracene



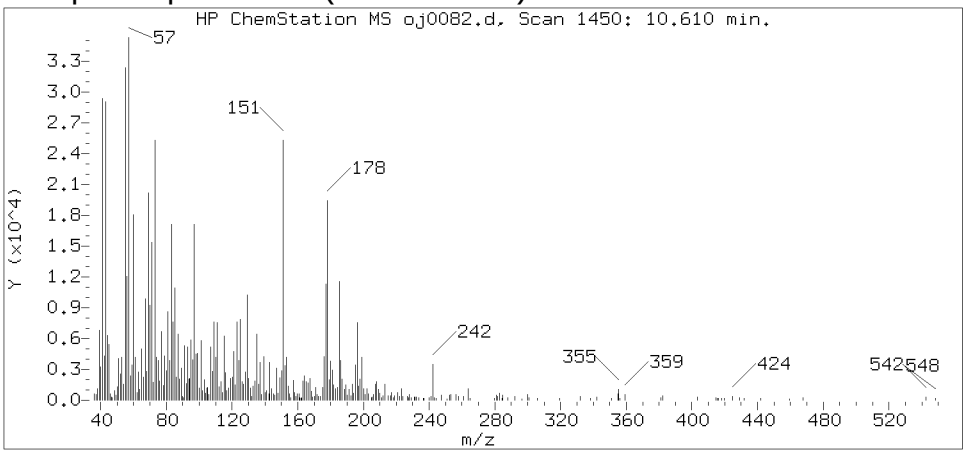


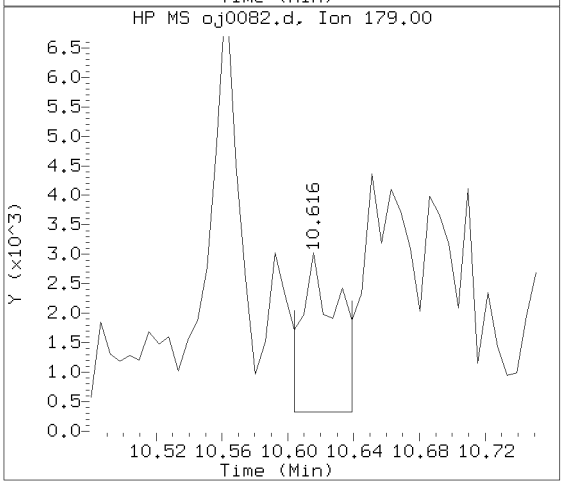
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Sample Name: 49313 Lab Sample ID: 8064452

Compound Number	: 157
Compound Name	: Anthracene
Scan Number	: 1450
Retention Time (minutes)	: 10.610
Relative Retention Time	: 0.00056
Quant Ion	: 178.00
Area (flag)	: 23067
On-column Amount (ng/ul)	: 0.4463

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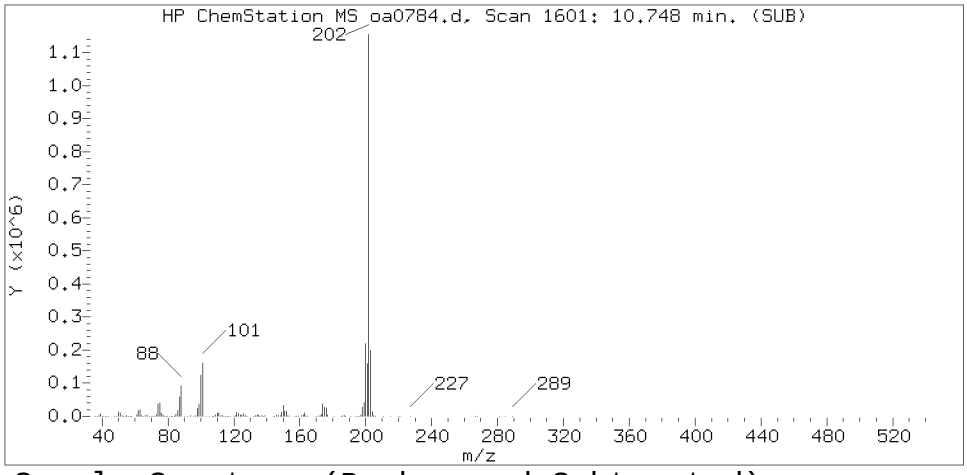
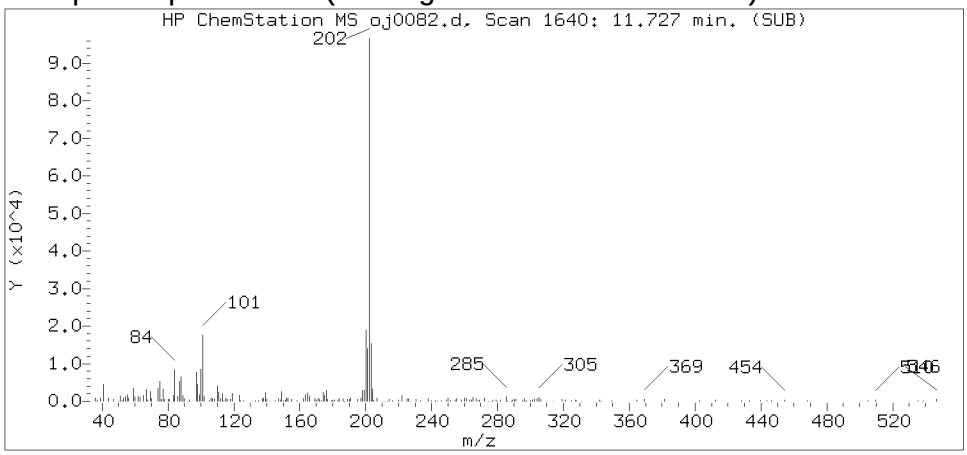
Target 3.5 esignature user ID: ceb05247

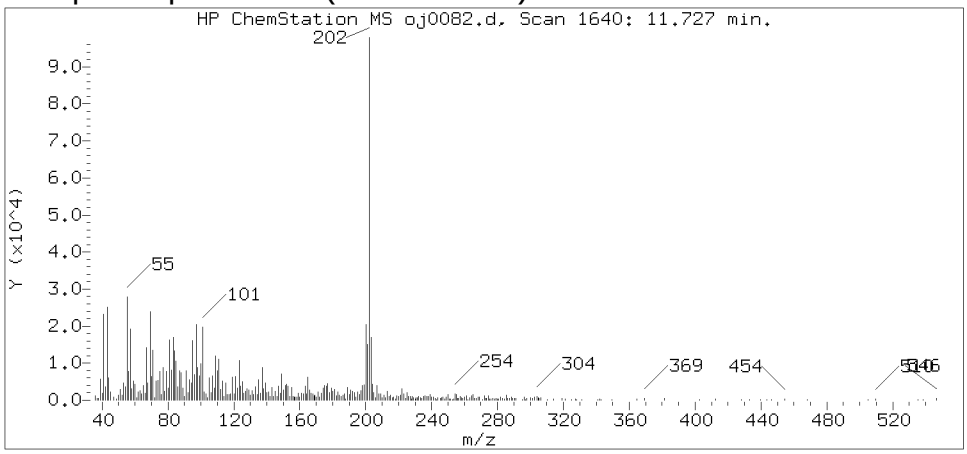
Reference Standard Spectrum for Fluoranthene

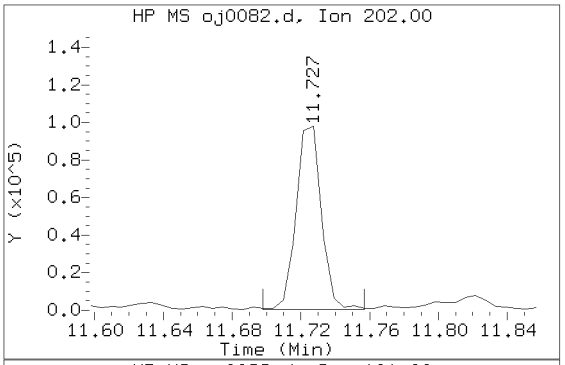


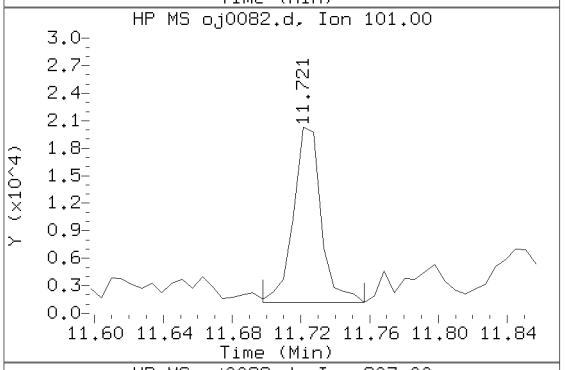
Sample Spectrum (Background Subtracted)

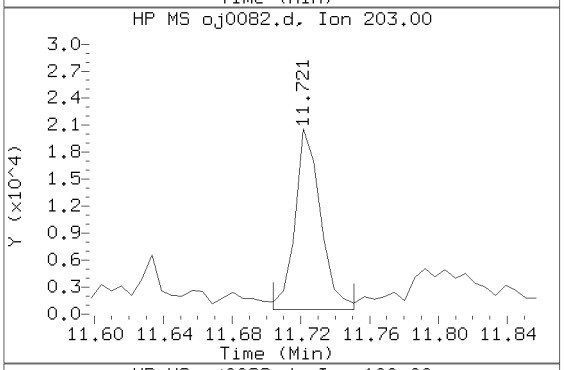


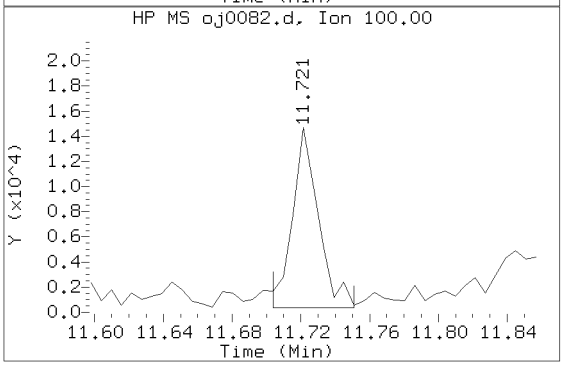
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Sample Name: 49313 Lab Sample ID: 8064452

Compound Number : 173
Compound Name : Fluoranthene
Scan Number : 1640
Retention Time (minutes) : 11.727
Relative Retention Time :-0.00000
Quant Ion : 202.00
Area (flag) : 99233
On-column Amount (ng/ul) : 1.7457

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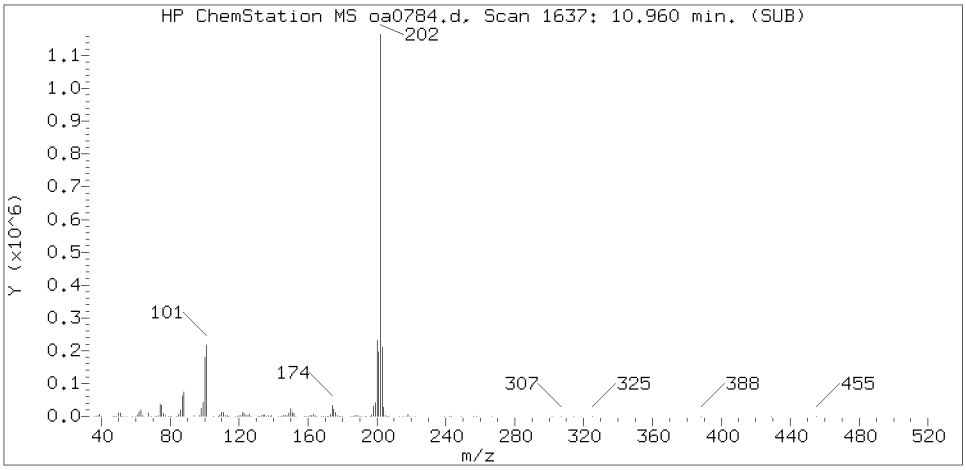
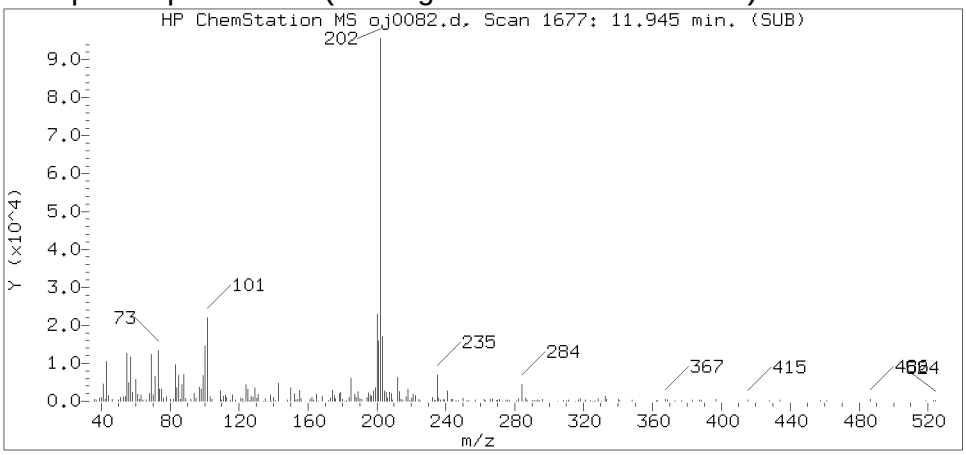
Target 3.5 esignature user ID: ceb05247

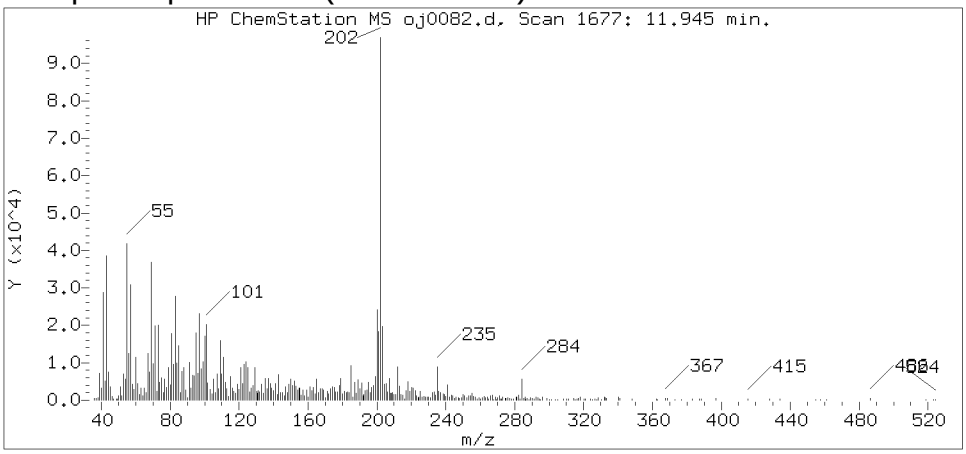
Reference Standard Spectrum for Pyrene

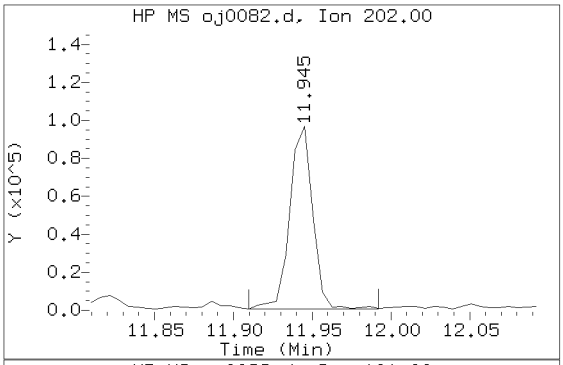


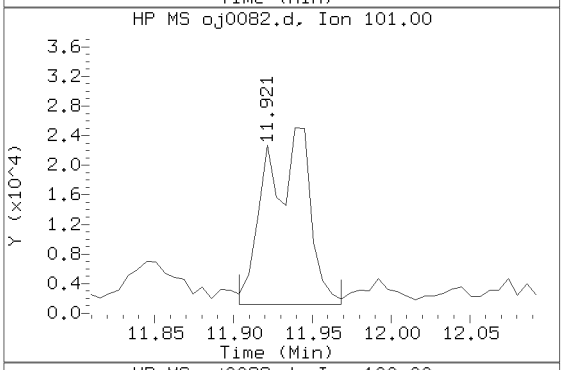
Sample Spectrum (Background Subtracted)

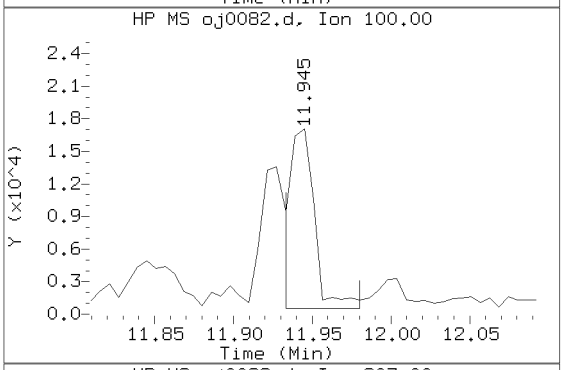


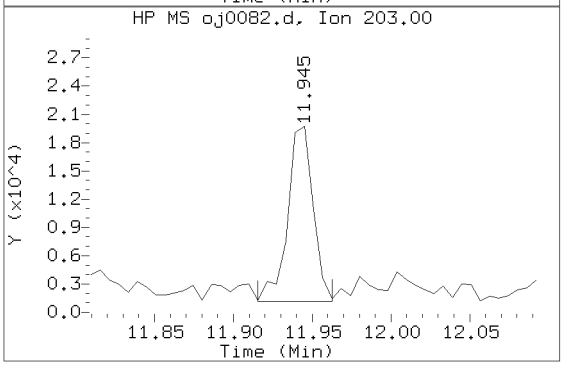
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Sample Name: 49313 Lab Sample ID: 8064452

Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1677
Retention Time (minutes)	: 11.945
Relative Retention Time	:-0.00000
Quant Ion	: 202.00
Area (flag)	: 98968
On-column Amount (ng/ul)	: 1.8755

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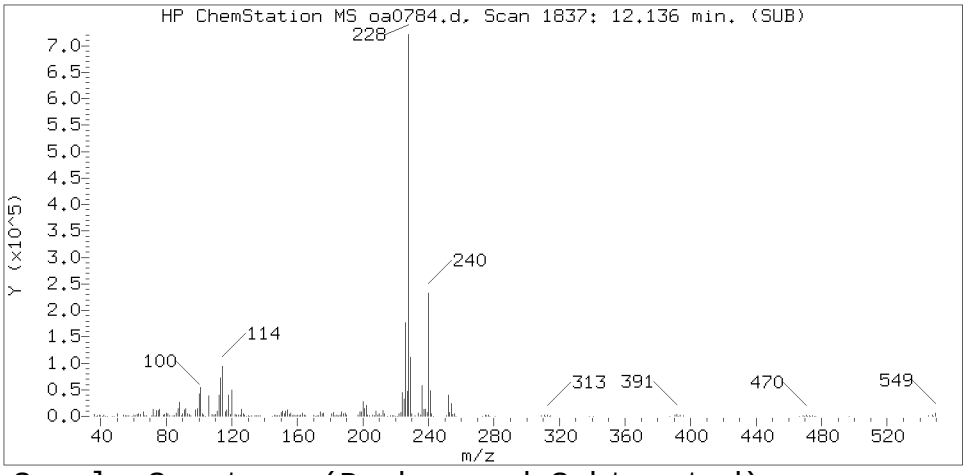
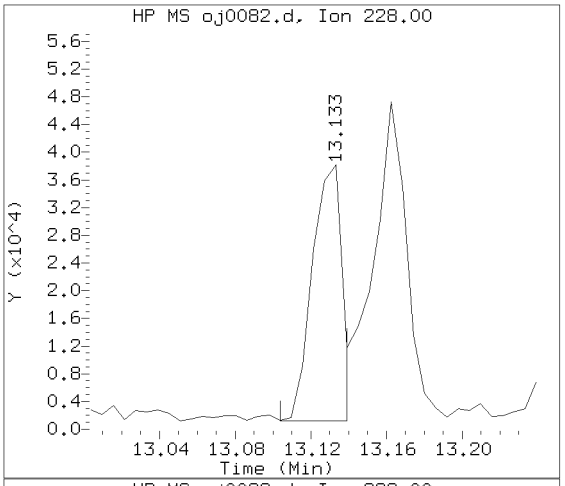
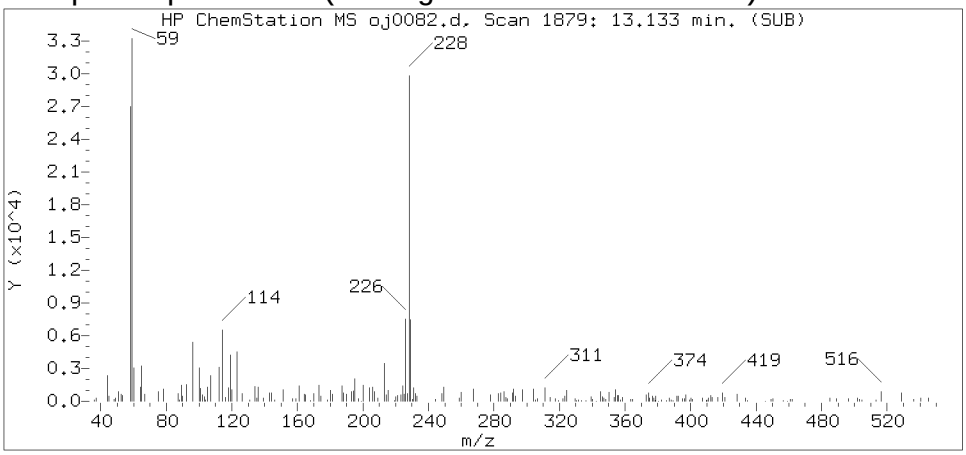
Target 3.5 esignature user ID: ceb05247

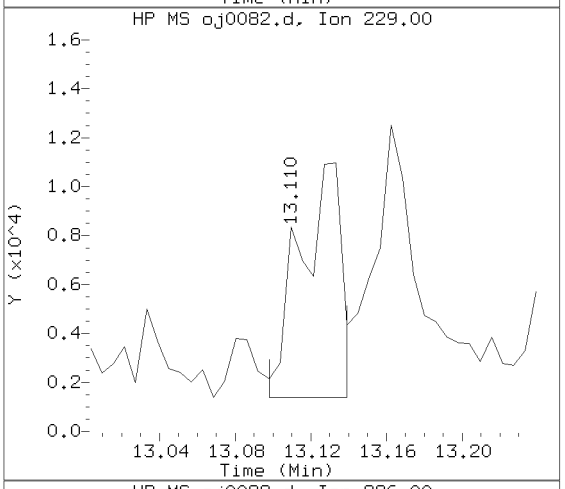
Reference Standard Spectrum for Benzo(a)anthracene



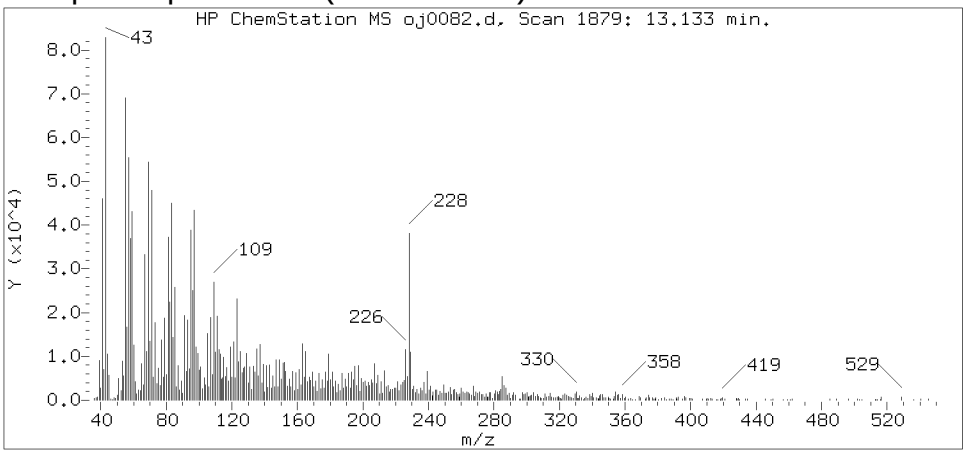


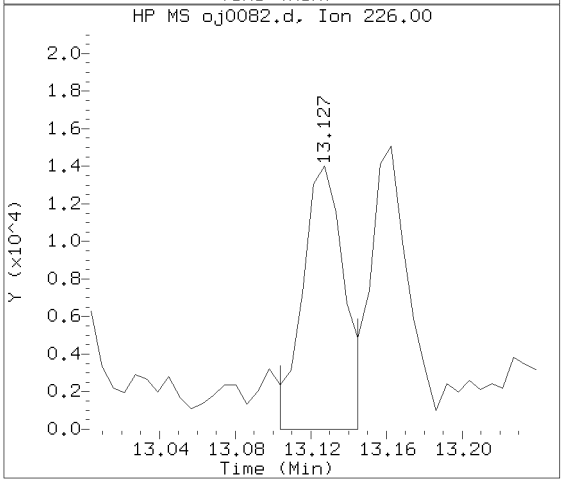
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Sample Name: 49313 Lab Sample ID: 8064452

Compound Number	: 195
Compound Name	: Benzo(a)anthracene
Scan Number	: 1879
Retention Time (minutes)	: 13.133
Relative Retention Time	:-0.00049
Quant Ion	: 228.00
Area (flag)	: 38995
On-column Amount (ng/ul)	: 0.8477

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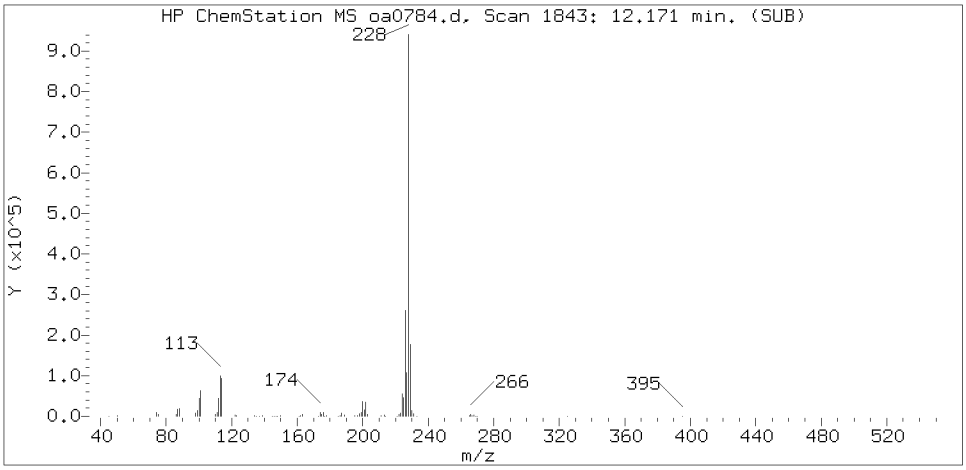
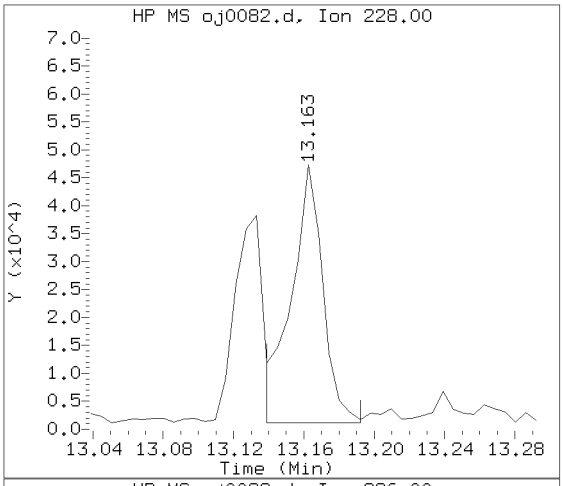
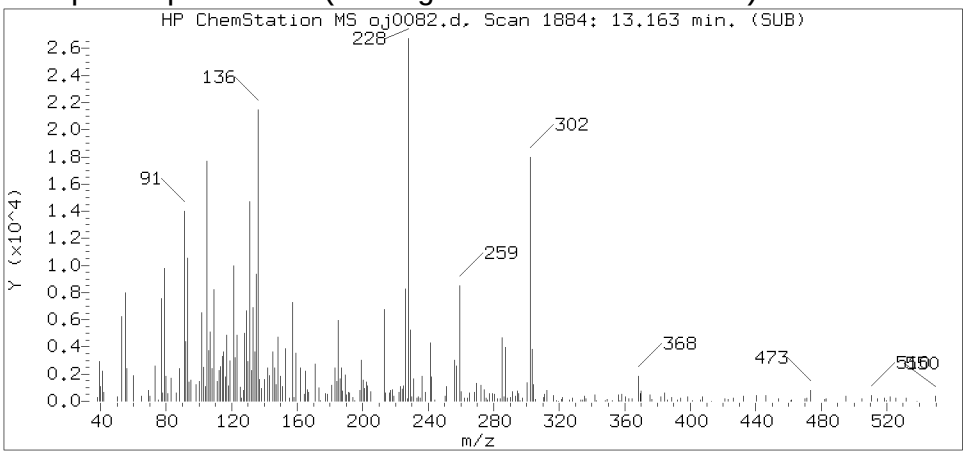
Target 3.5 esignature user ID: ceb05247

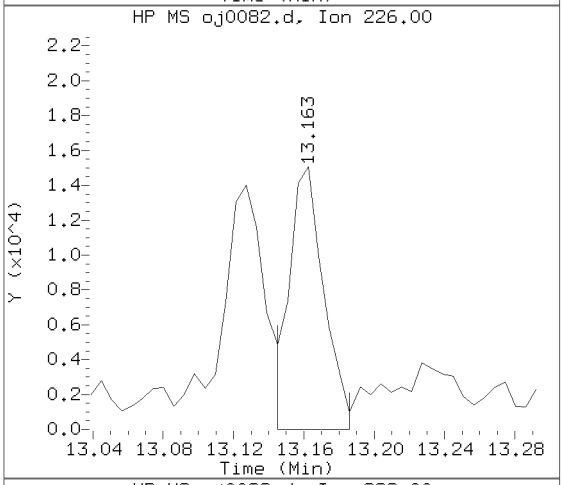
Reference Standard Spectrum for Chrysene



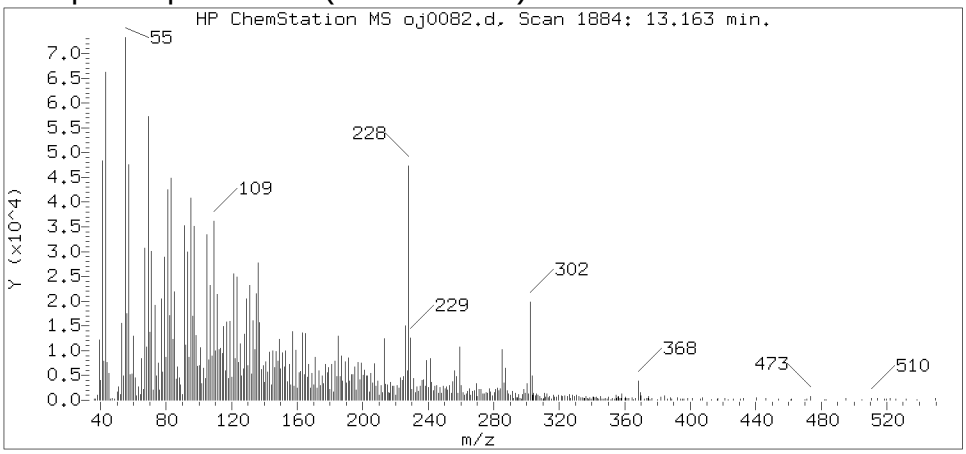


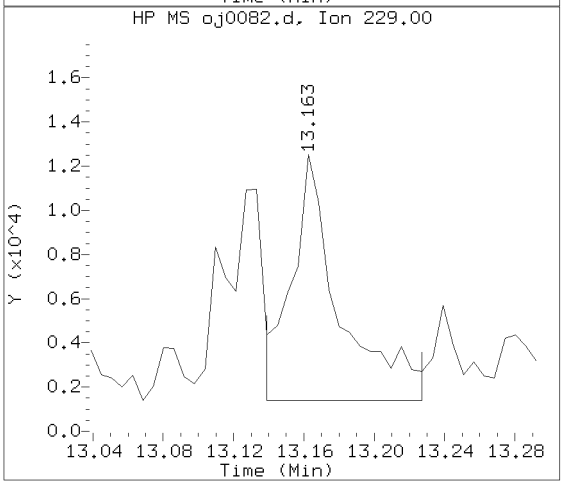
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Sample Name: 49313 Lab Sample ID: 8064452

Compound Number : 196
Compound Name : Chrysene
Scan Number : 1884
Retention Time (minutes) : 13.163
Relative Retention Time :-0.00000
Quant Ion : 228.00
Area (flag) : 58236
On-column Amount (ng/ul) : 1.3287

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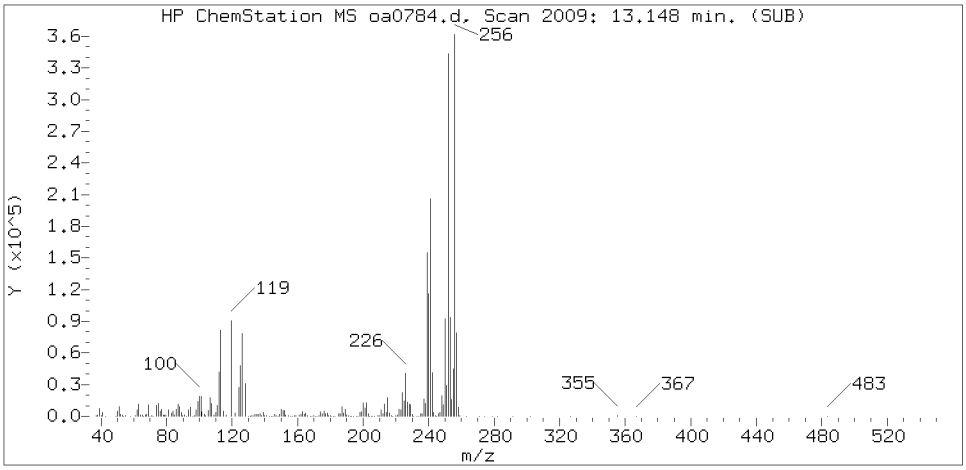
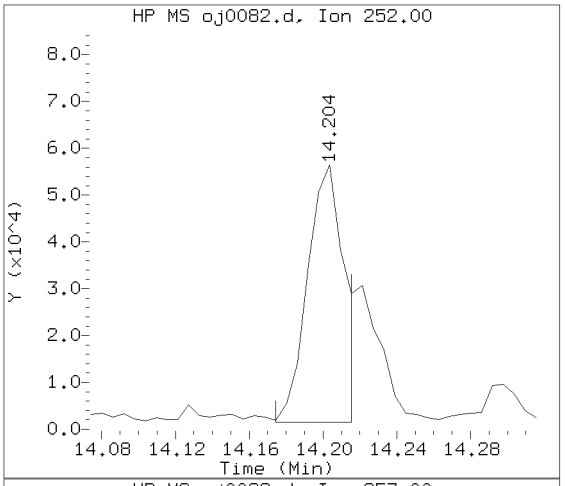
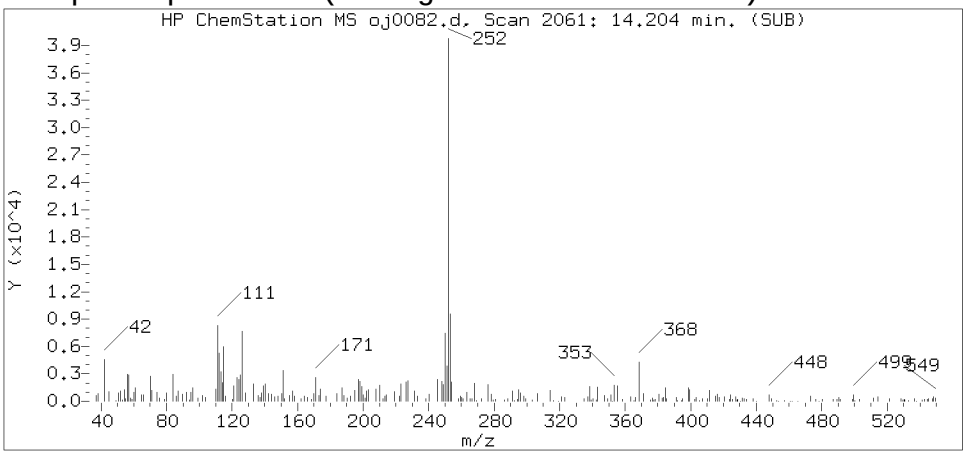
Target 3.5 esignature user ID: ceb05247

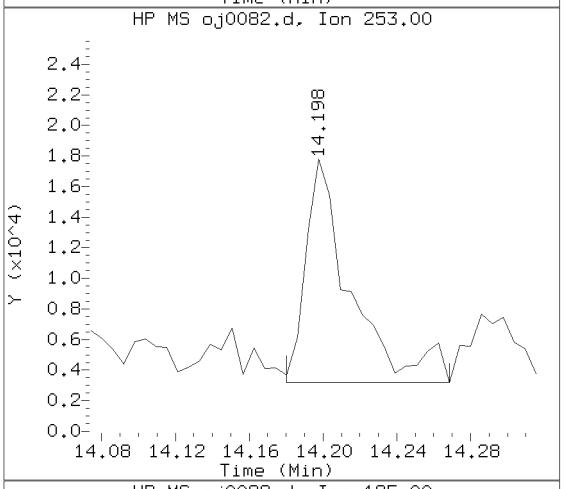
Reference Standard Spectrum for Benzo(b)fluoranthene



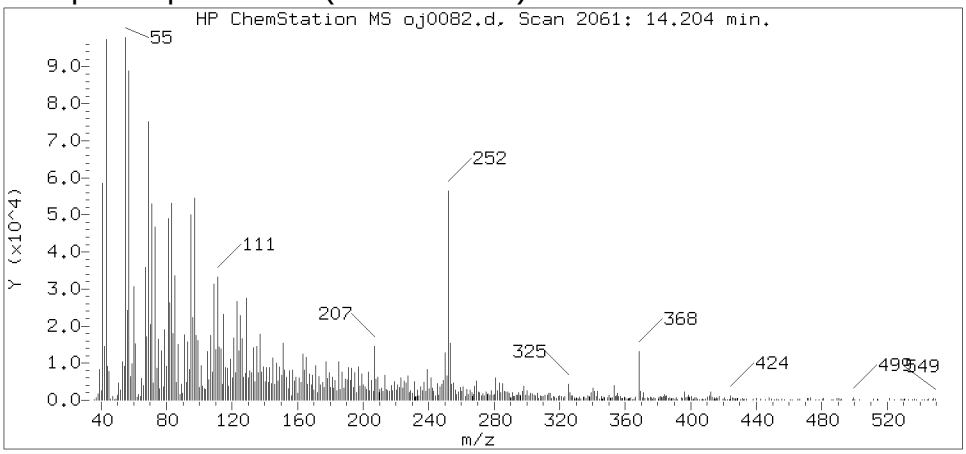


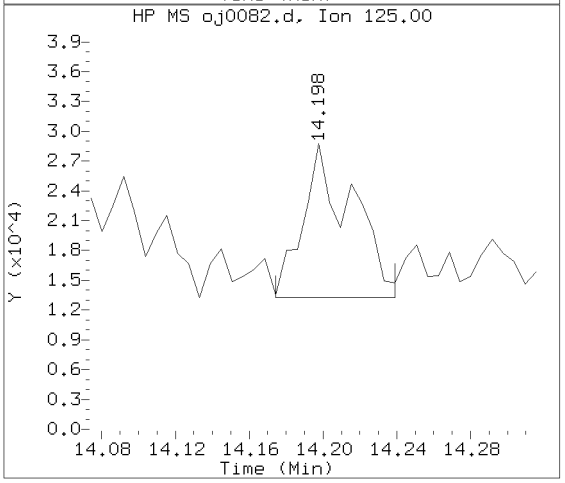
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

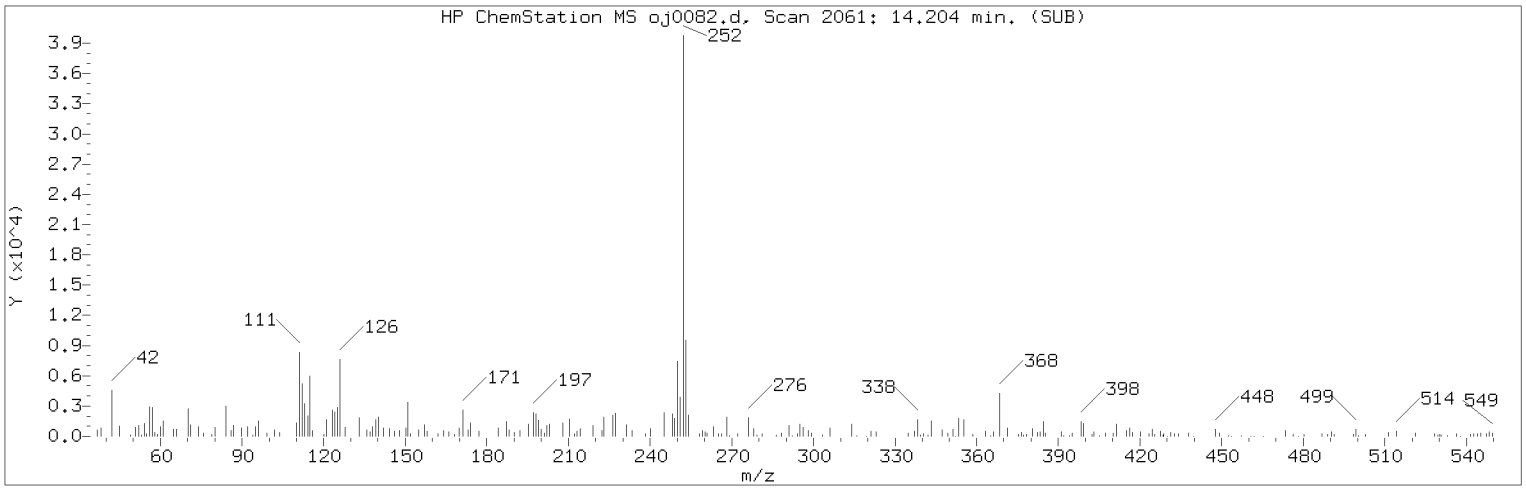
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Sample Name: 49313 Lab Sample ID: 8064452

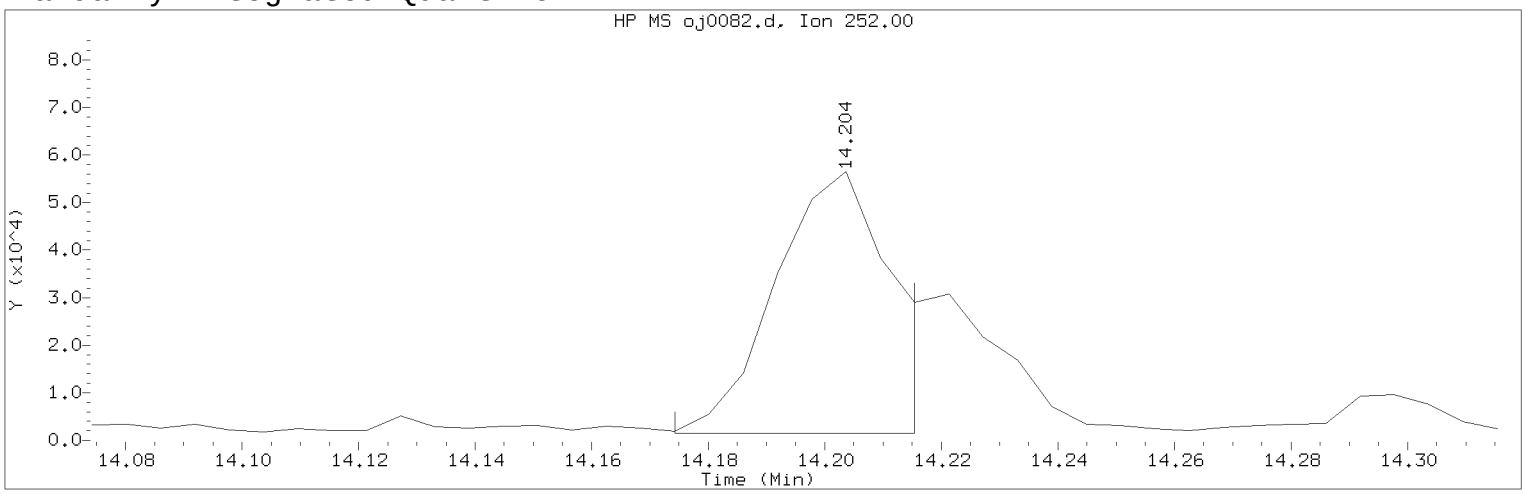
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2061
Retention Time (minutes) : 14.204
Relative Retention Time :-0.00001
Quant Ion : 252.00
Area (flag) : 77281M
On-column Amount (ng/ul) : 1.9288

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Sample Name: 49313 Lab Sample ID: 8064452

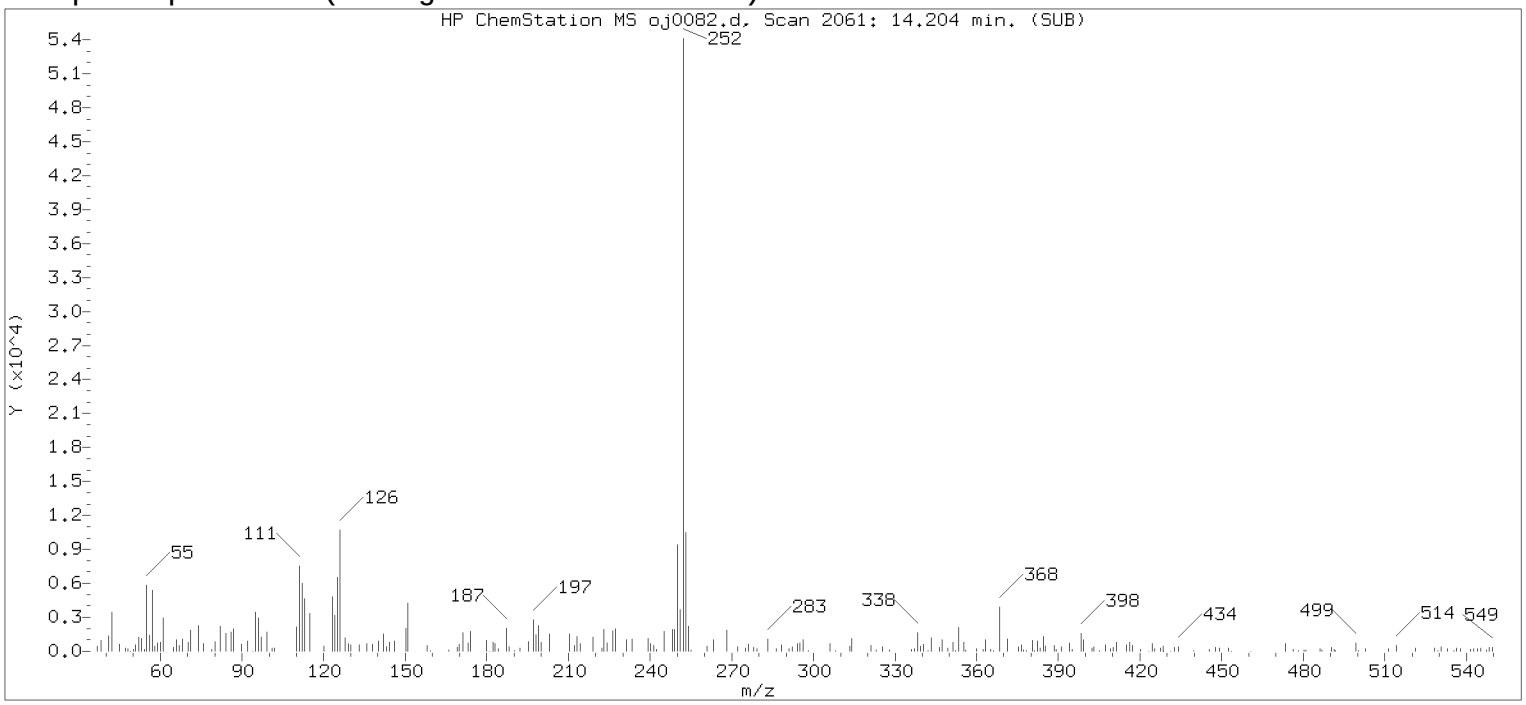
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2061
Retention Time (minutes) : 14.204
Quant Ion : 252.00
Area (flag) : 77281M
On-column Amount (ng/ul) : 1.9288
Integration start scan : 2055 Integration stop scan: 2062
Y at integration start : 1522 Y at integration end: 1522

Reason for manual integration: improper integration

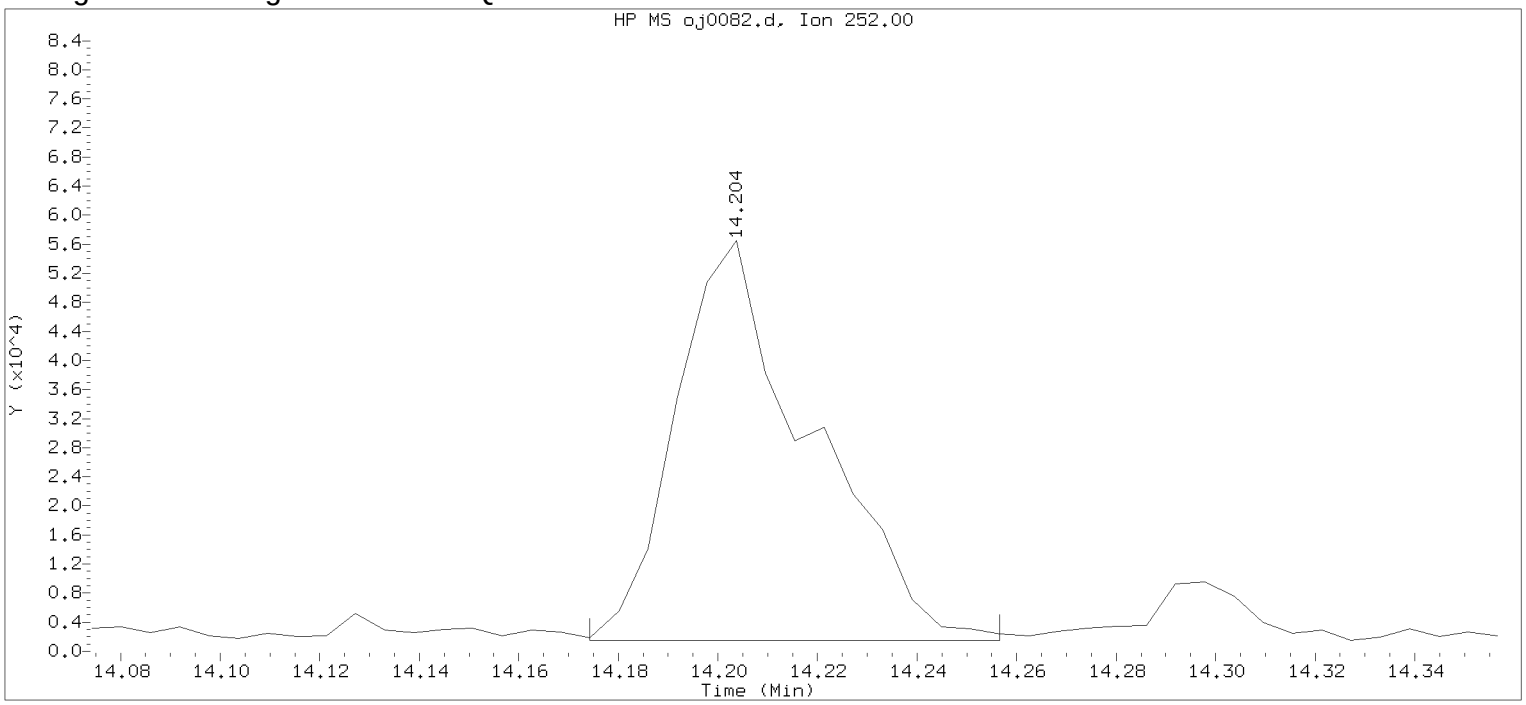
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

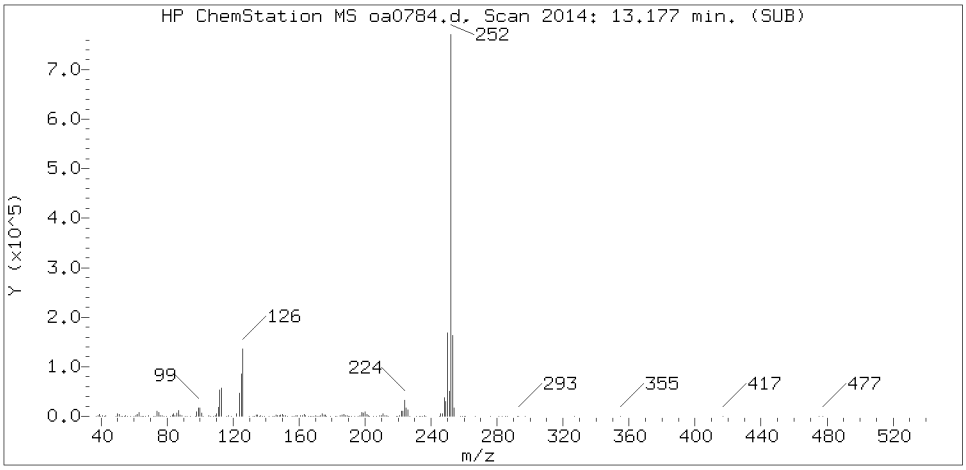
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 15:09 Automation

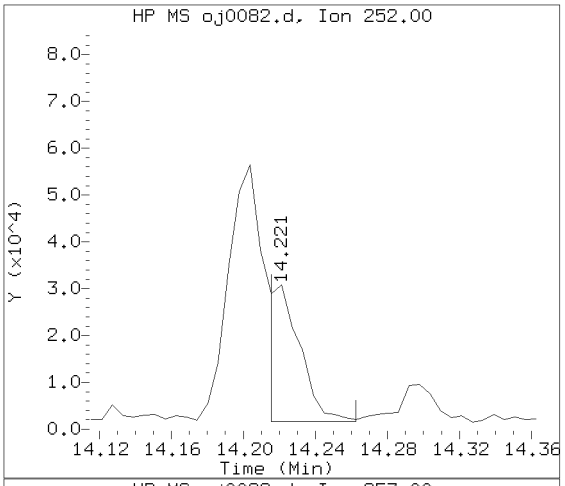
Sample Name: 49313 Lab Sample ID: 8064452

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2061		
Retention Time (minutes)	: 14.204		
Quant Ion	: 252.00		
Area	: 103386		
On-column Amount (ng/ul)	: 2.5803		
Integration start scan	: 2055	Integration stop scan:	2069
Y at integration start	: 1522	Y at integration end:	1522

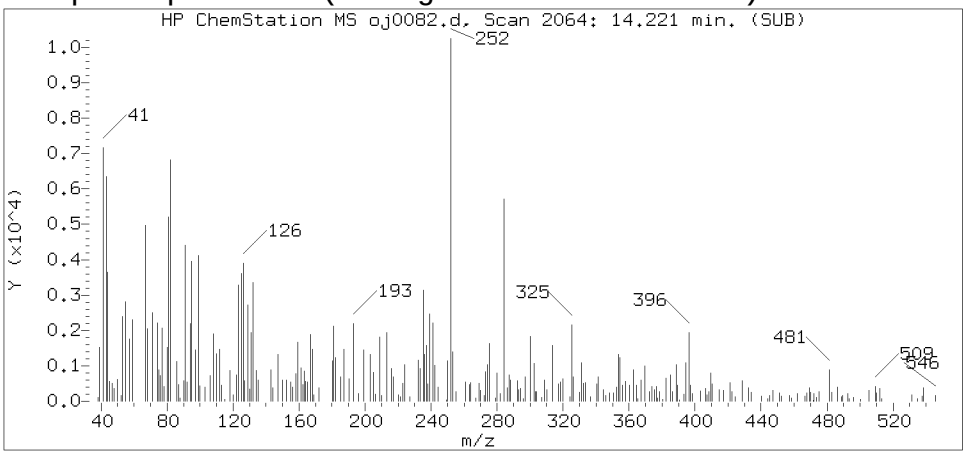
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

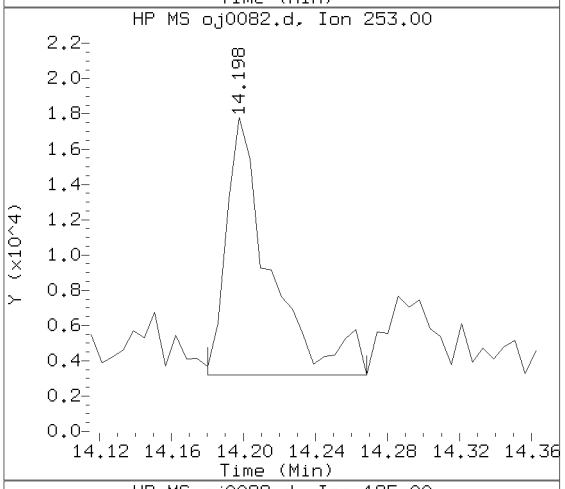
Reference Standard Spectrum for Benzo(k)fluoranthene



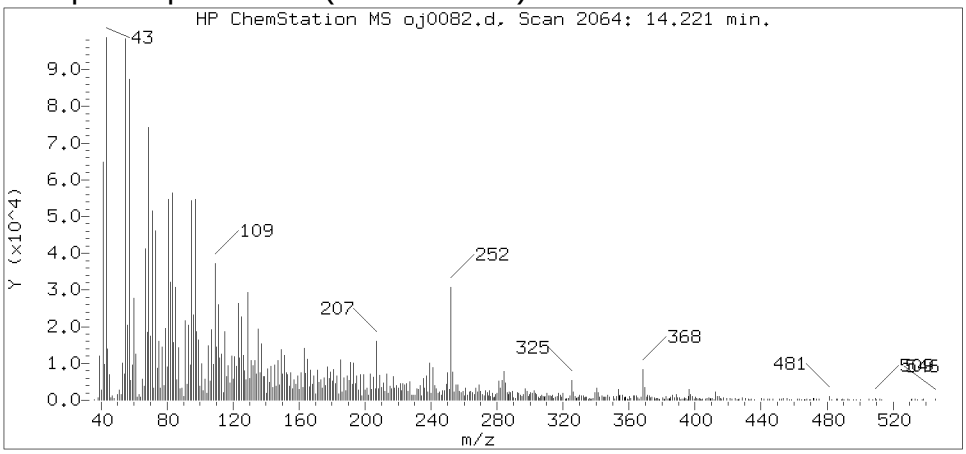


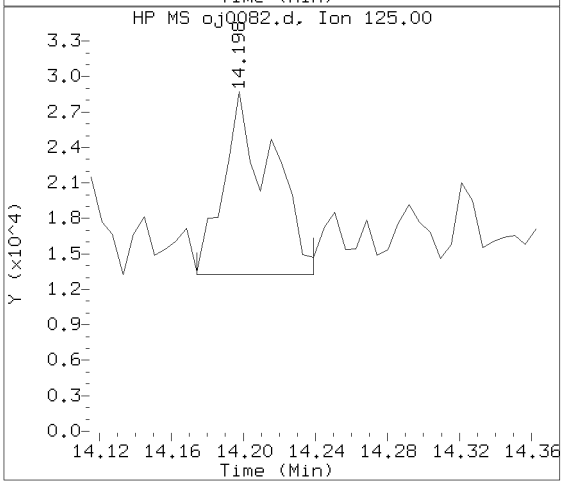
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

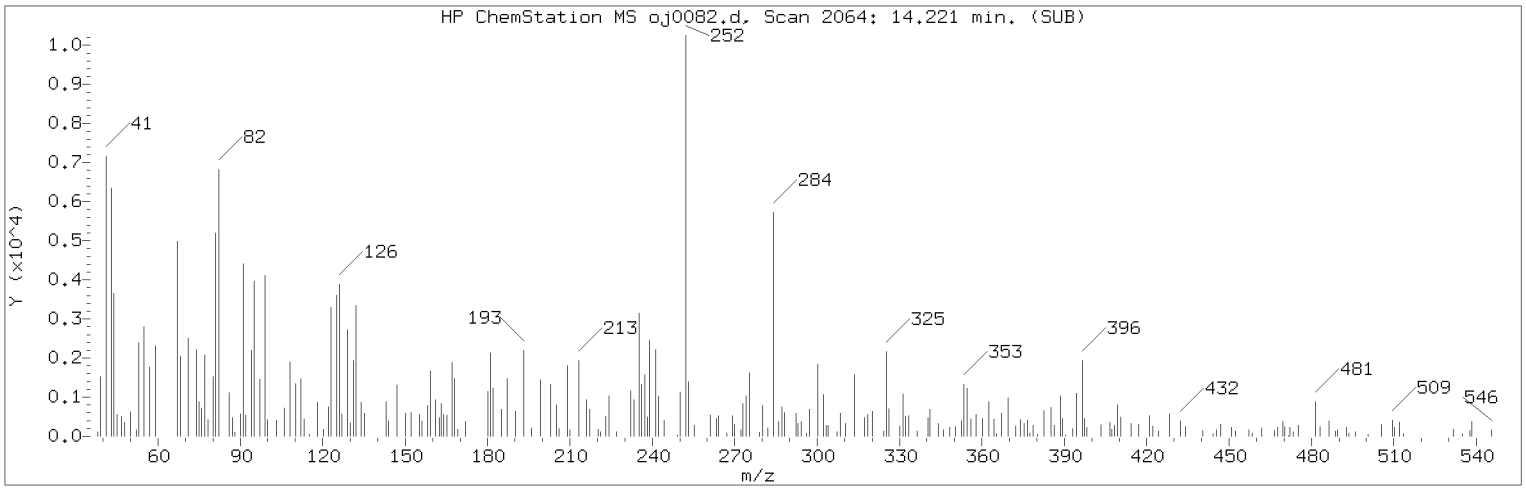
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Sample Name: 49313 Lab Sample ID: 8064452

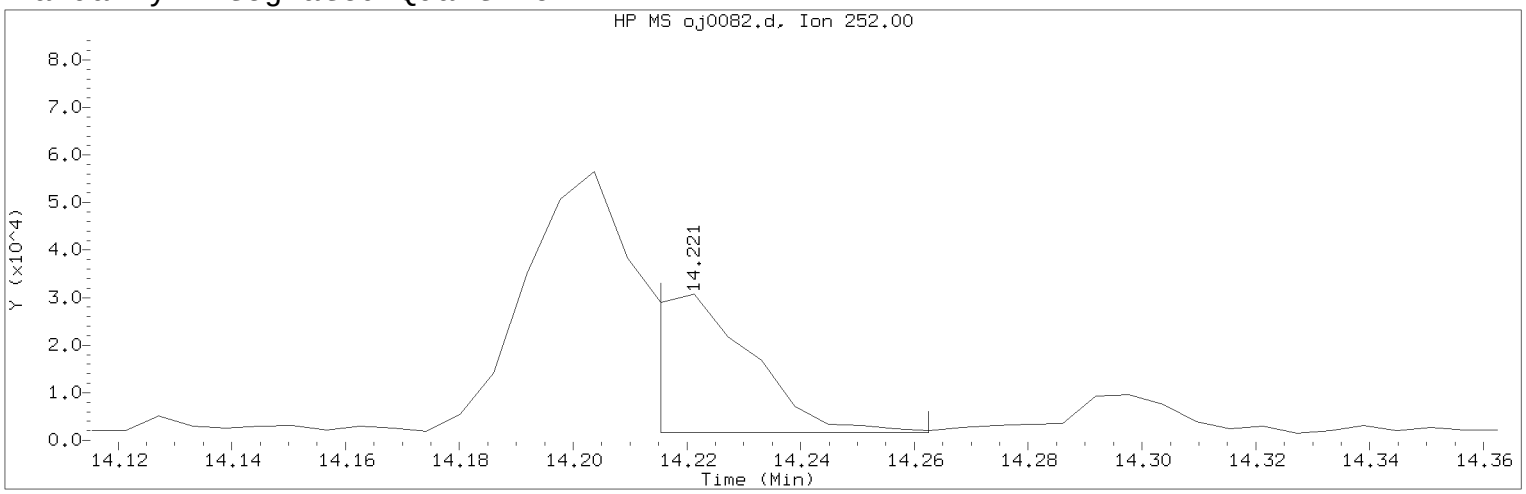
Compound Number	: 208
Compound Name	: Benzo(k)fluoranthene
Scan Number	: 2064
Retention Time (minutes)	: 14.221
Relative Retention Time	: 0.00039
Quant Ion	: 252.00
Area (flag)	: 36017M
On-column Amount (ng/ul)	: 0.8810

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Sample Name: 49313 Lab Sample ID: 8064452

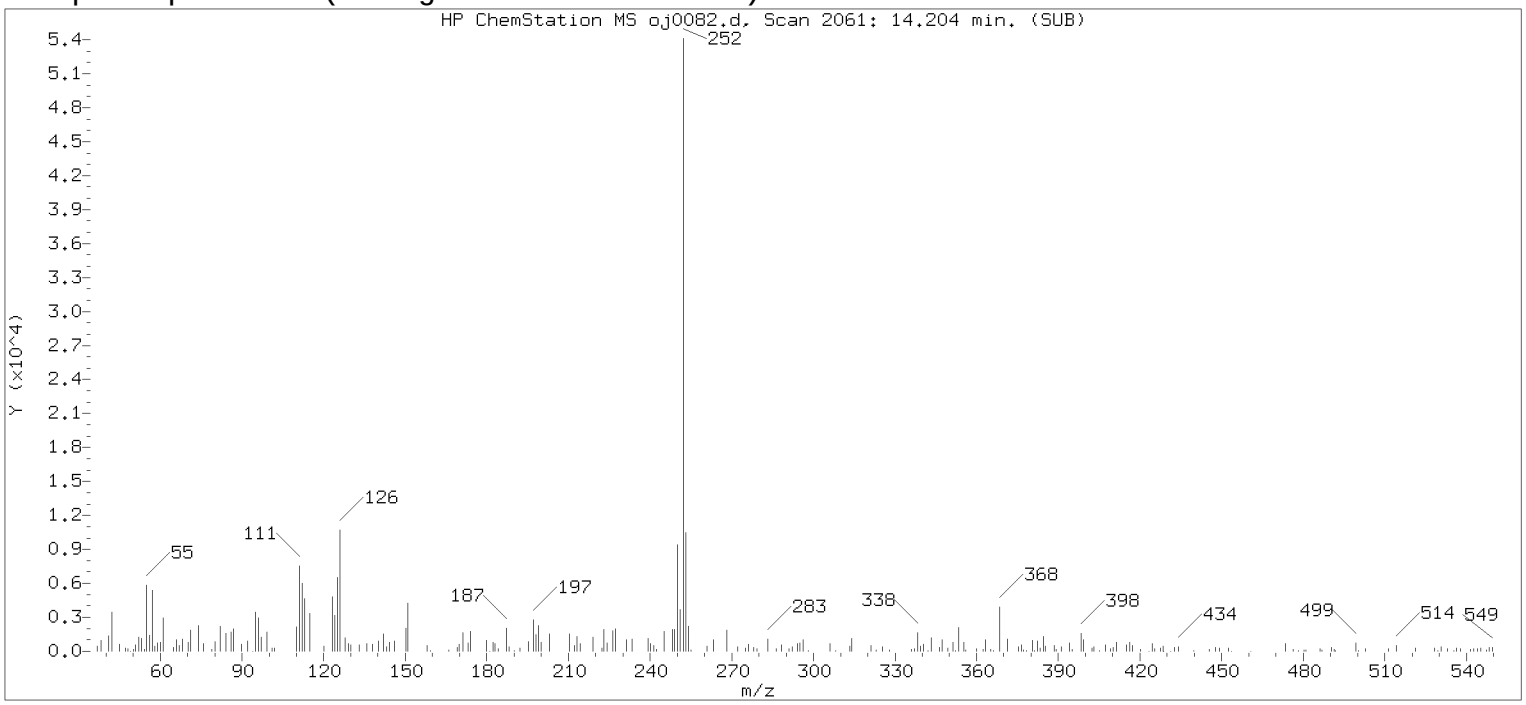
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2064
Retention Time (minutes) : 14.221
Quant Ion : 252.00
Area (flag) : 36017M
On-column Amount (ng/ul) : 0.8810
Integration start scan : 2062 Integration stop scan: 2070
Y at integration start : 1584 Y at integration end: 1584

Reason for manual integration: improper integration

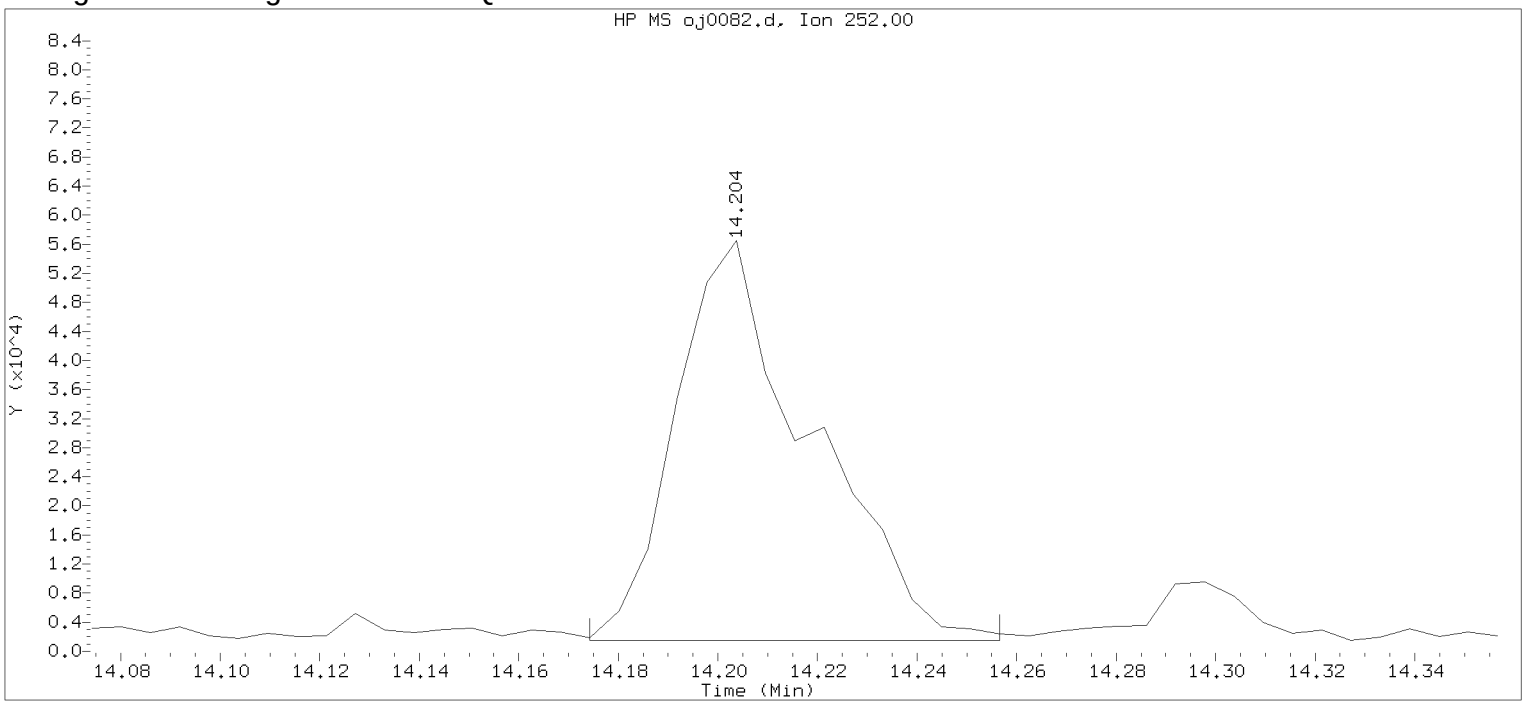
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

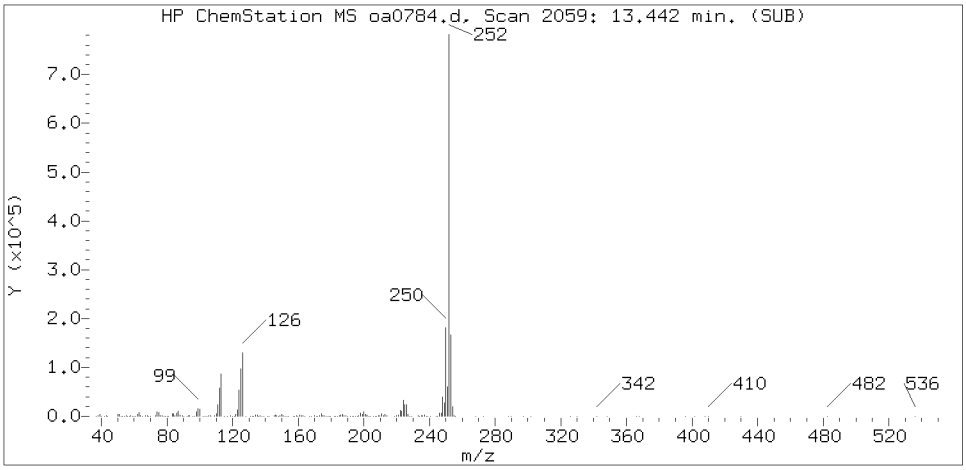
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 15:09 Automation

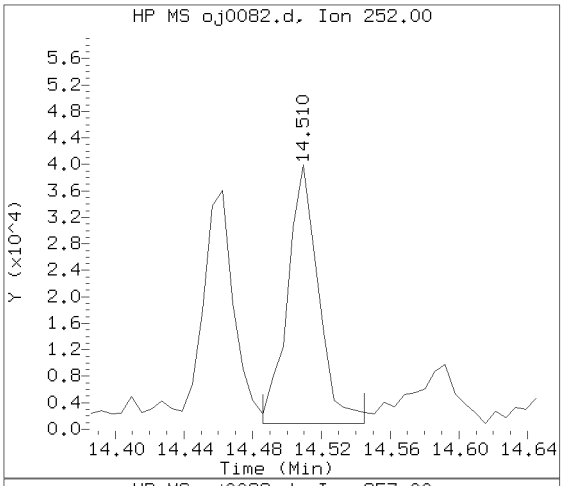
Sample Name: 49313 Lab Sample ID: 8064452

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2061		
Retention Time (minutes)	: 14.204		
Quant Ion	: 252.00		
Area	: 103386		
On-column Amount (ng/ul)	: 2.5288		
Integration start scan	: 2055	Integration stop scan:	2069
Y at integration start	: 1522	Y at integration end:	1522

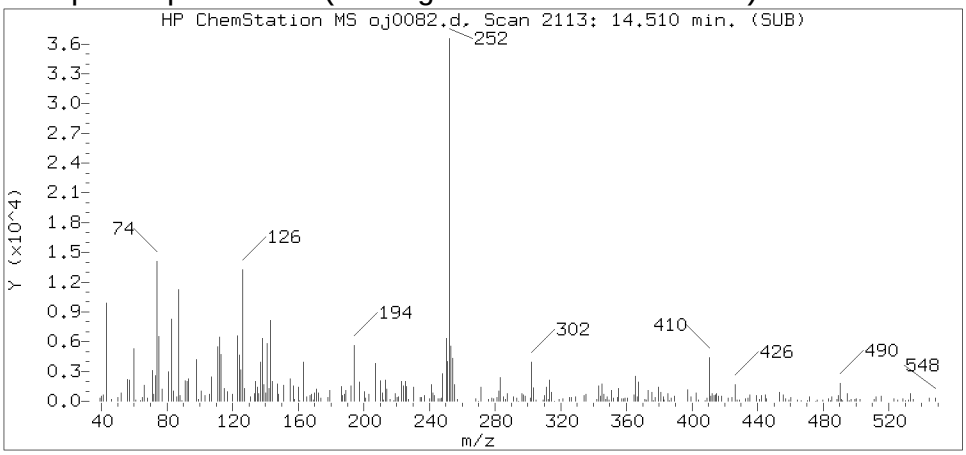
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

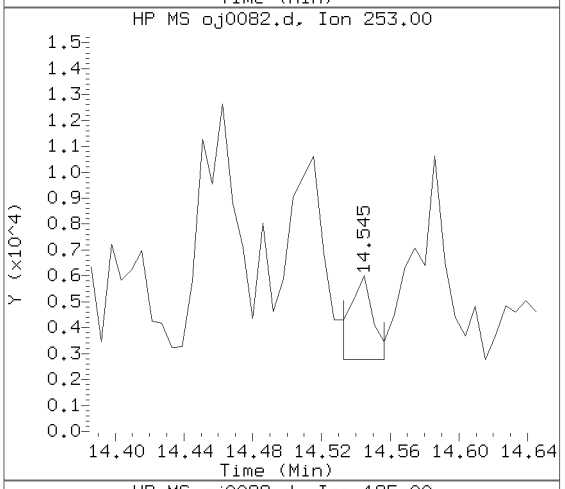
Reference Standard Spectrum for Benzo(a)pyrene



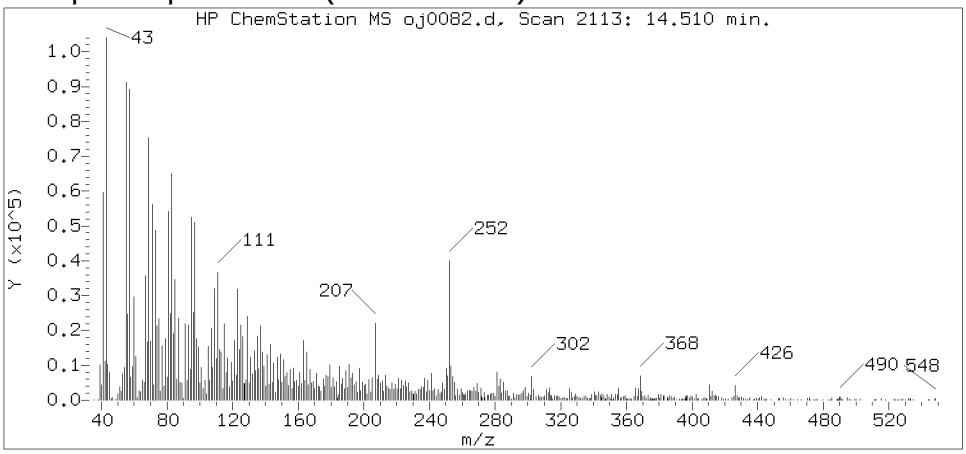


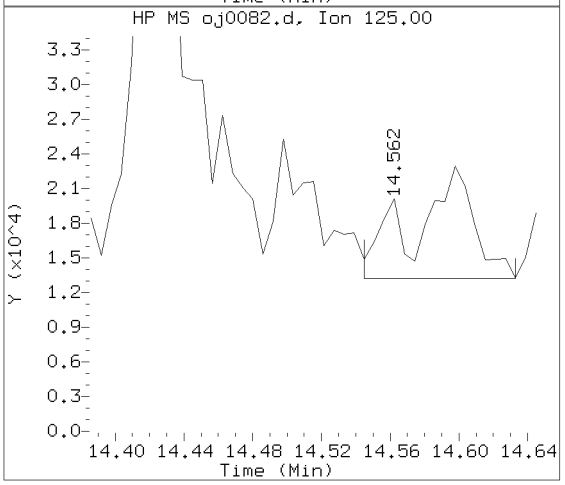
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

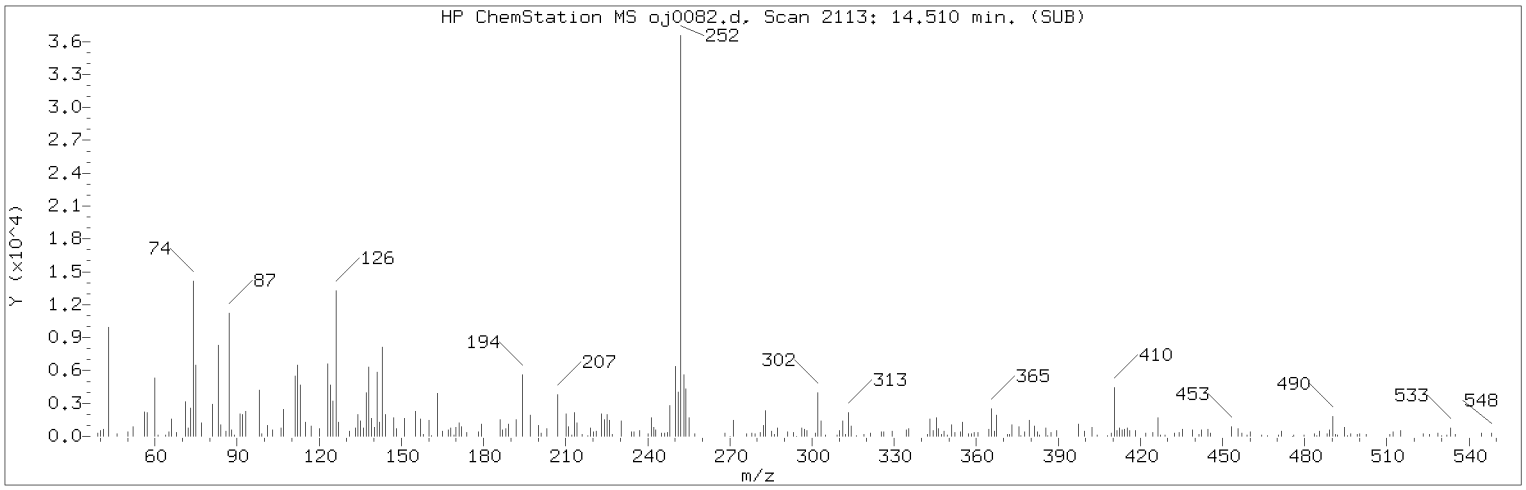
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Sample Name: 49313 Lab Sample ID: 8064452

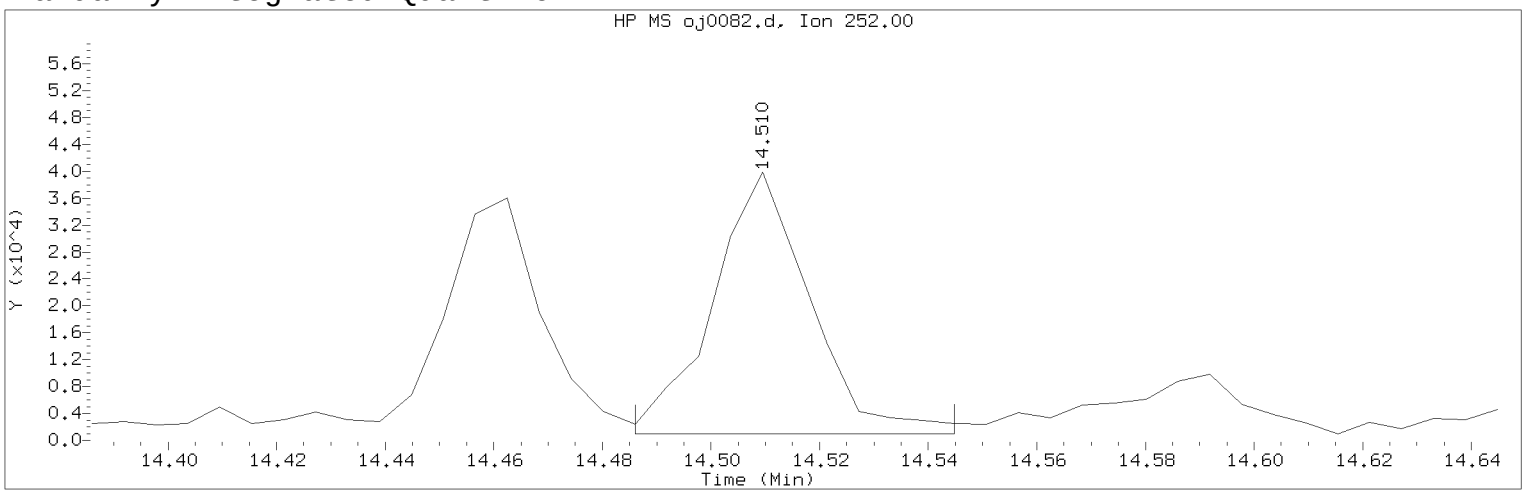
Compound Number : 211
Compound Name : Benzo(a)pyrene
Scan Number : 2113
Retention Time (minutes) : 14.510
Relative Retention Time :-0.00000
Quant Ion : 252.00
Area (flag) : 48657M
On-column Amount (ng/ul) : 1.2296

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Sample Name: 49313 Lab Sample ID: 8064452

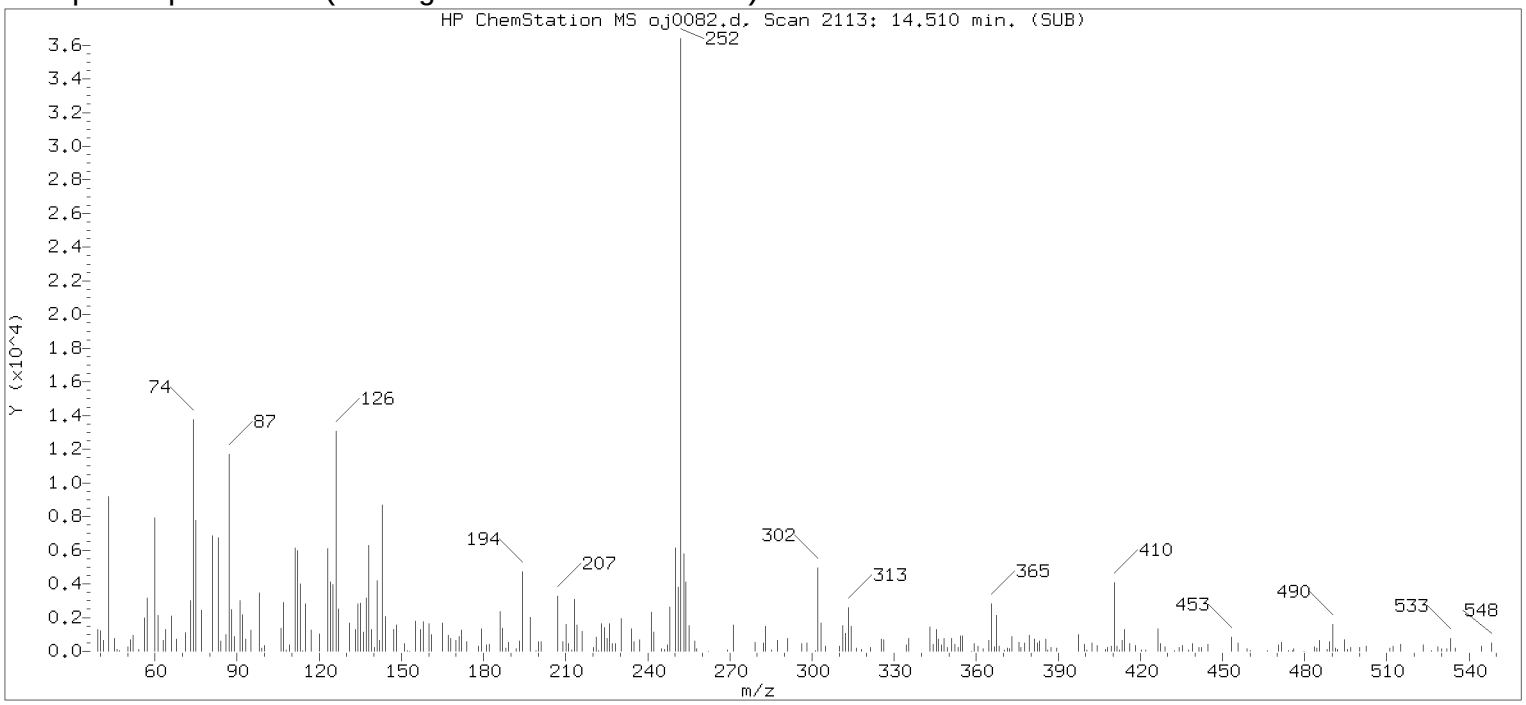
Compound Number : 211
Compound Name : Benzo(a)pyrene
Scan Number : 2113
Retention Time (minutes) : 14.510
Quant Ion : 252.00
Area (flag) : 48657M
On-column Amount (ng/ul) : 1.2296
Integration start scan : 2108 Integration stop scan: 2118
Y at integration start : 918 Y at integration end: 918

Reason for manual integration: improper integration

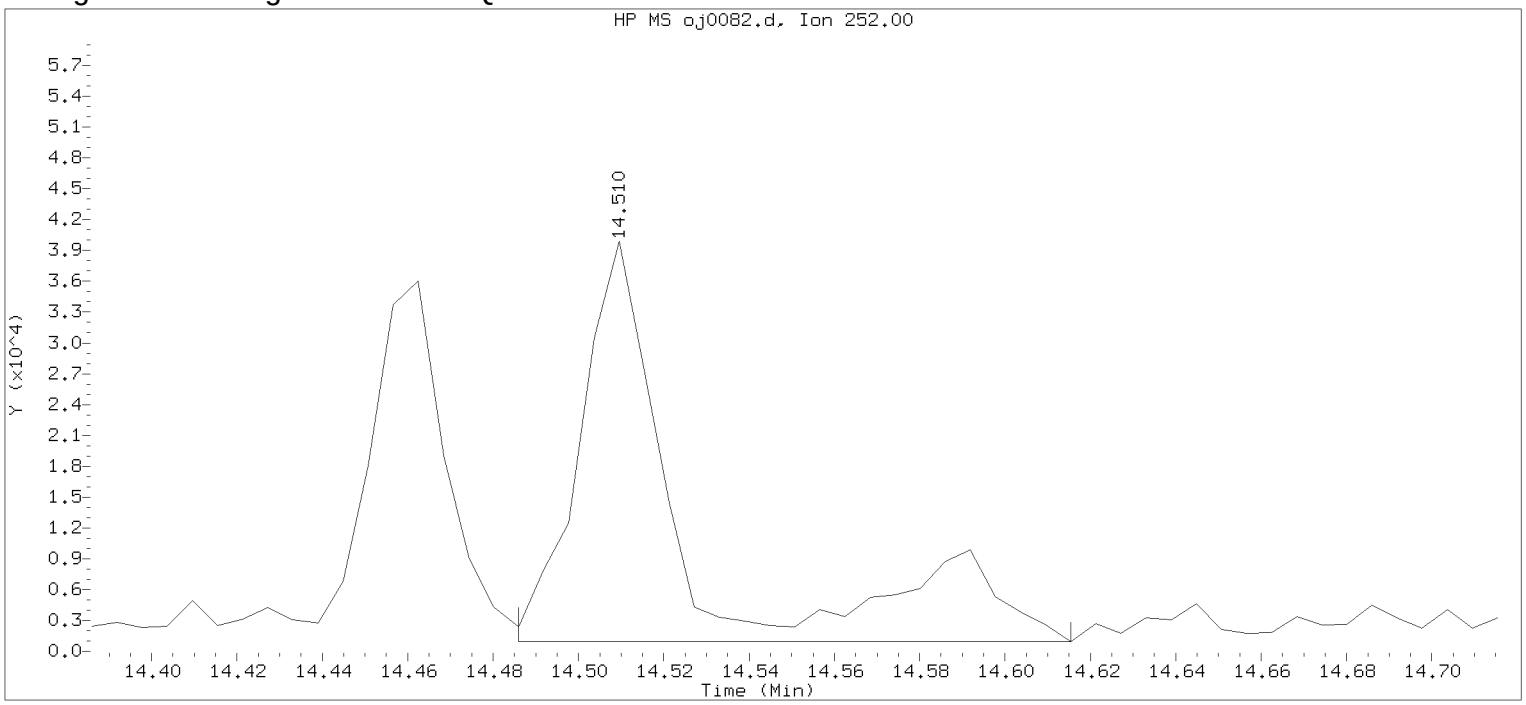
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

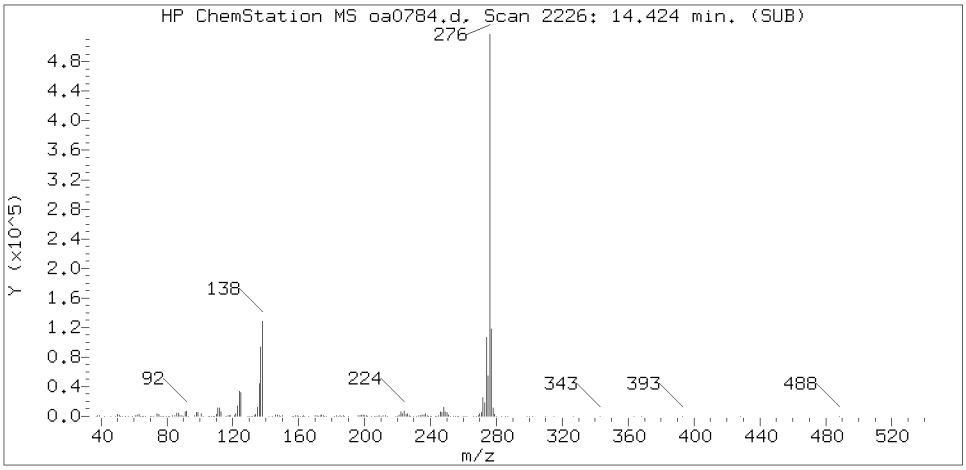
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 15:09 Automation

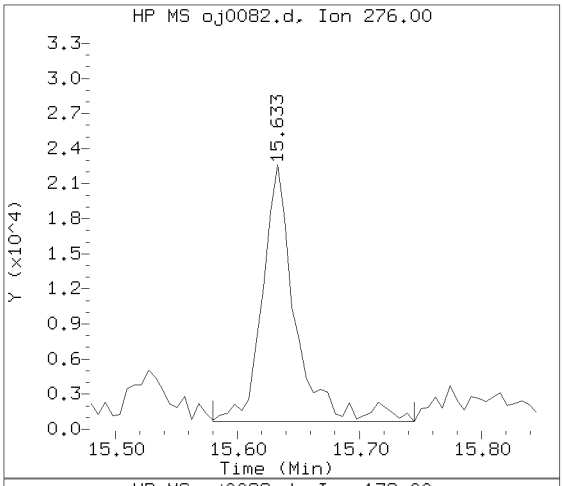
Sample Name: 49313 Lab Sample ID: 8064452

Compound Number	: 211		
Compound Name	: Benzo(a)pyrene		
Scan Number	: 2113		
Retention Time (minutes)	: 14.510		
Quant Ion	: 252.00		
Area	: 64923		
On-column Amount (ng/ul)	: 1.6406		
Integration start scan	: 2108	Integration stop scan:	2130
Y at integration start	: 918	Y at integration end:	918

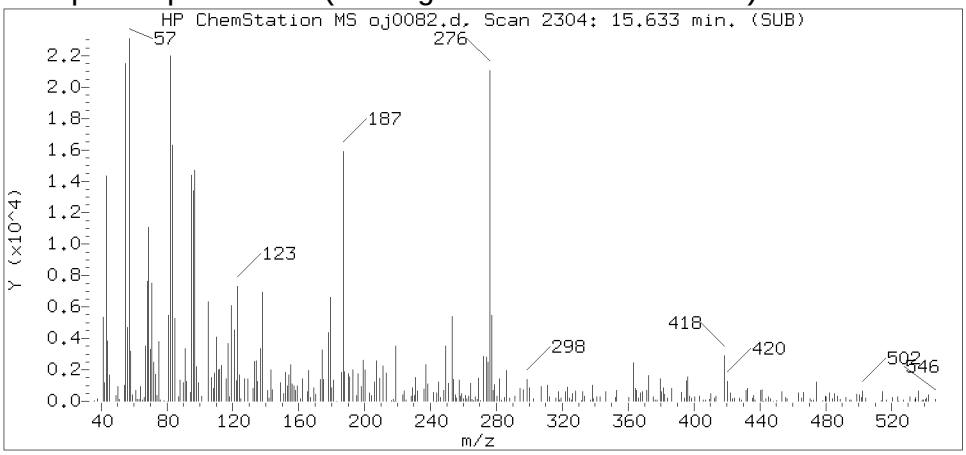
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: 27 date: 05247

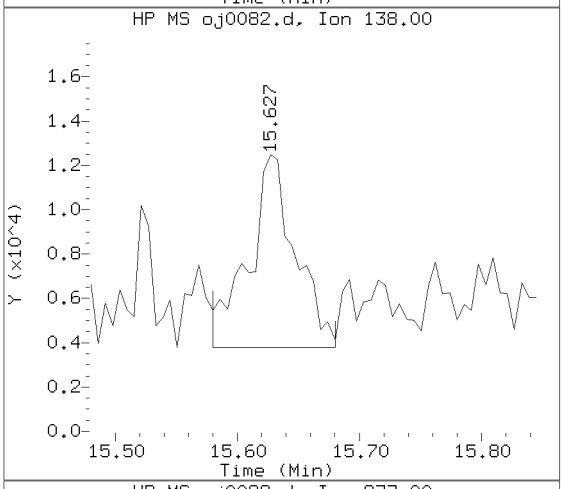
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



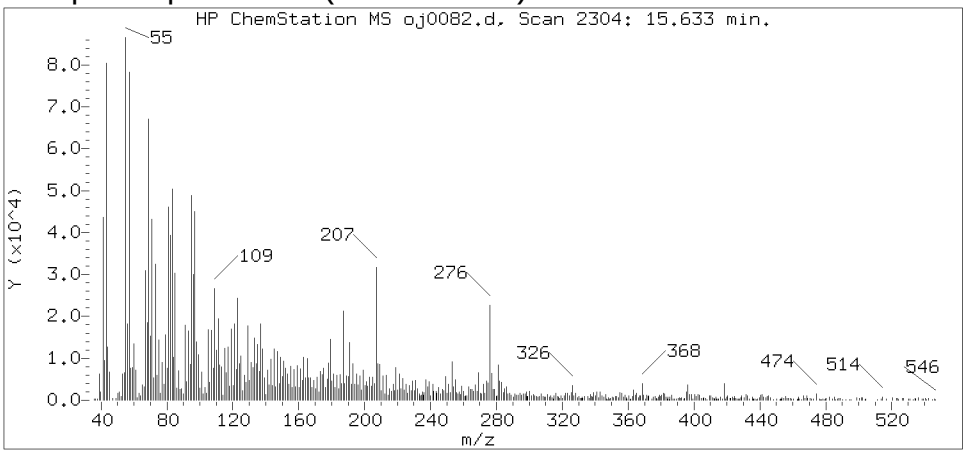


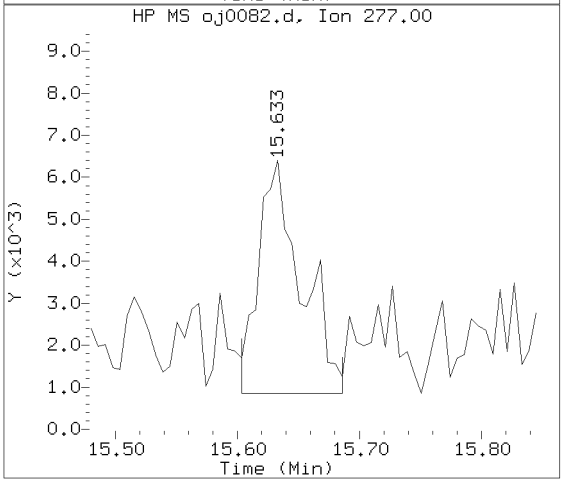
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

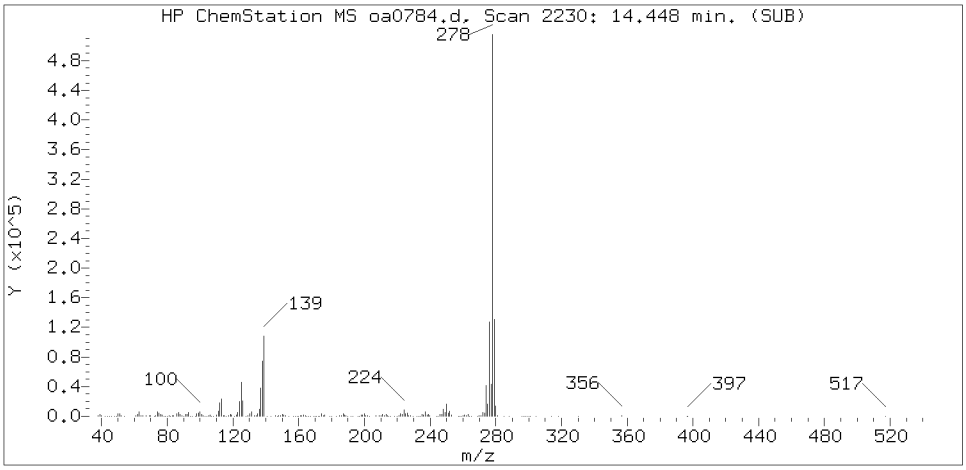
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

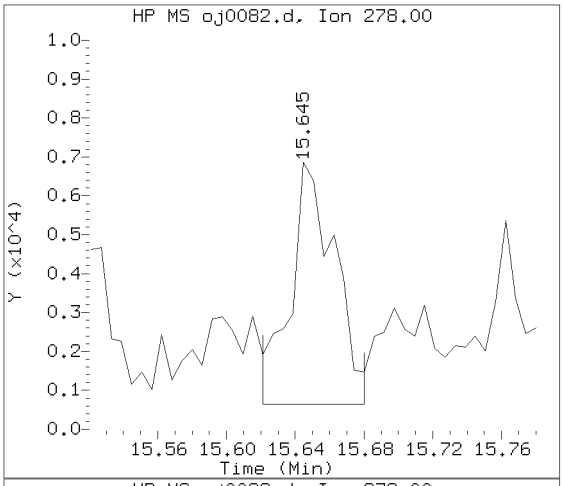
Sample Name: 49313 Lab Sample ID: 8064452

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2304
Retention Time (minutes) : 15.633
Relative Retention Time : 0.00003
Quant Ion : 276.00
Area (flag) : 41596
On-column Amount (ng/ul) : 1.0092

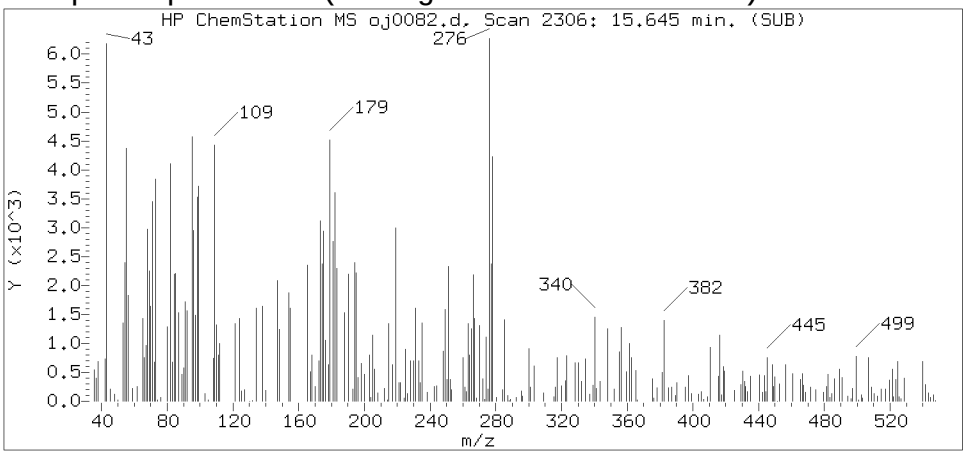
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

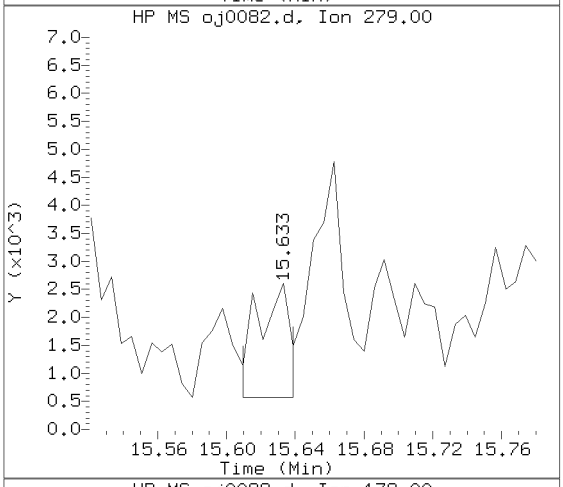
Reference Standard Spectrum for Dibenz(a,h)anthracene



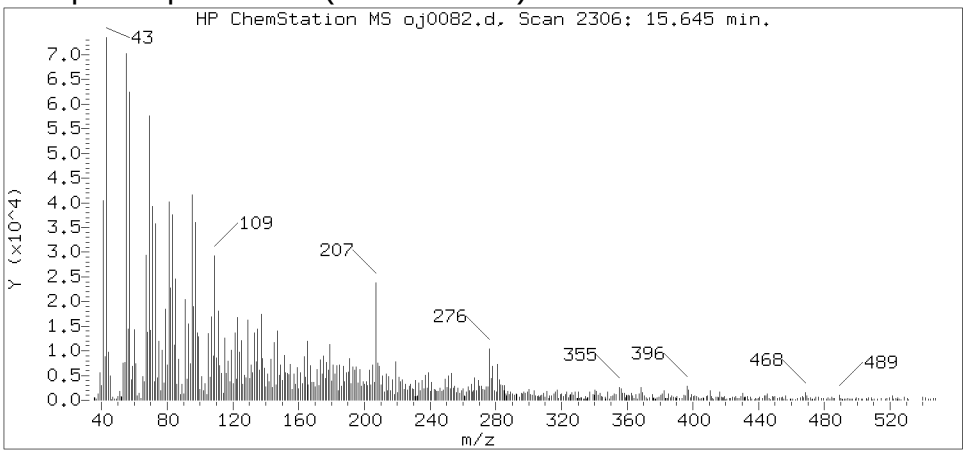


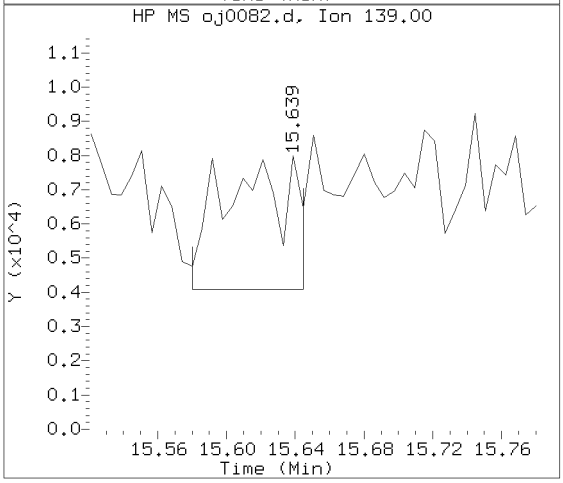
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

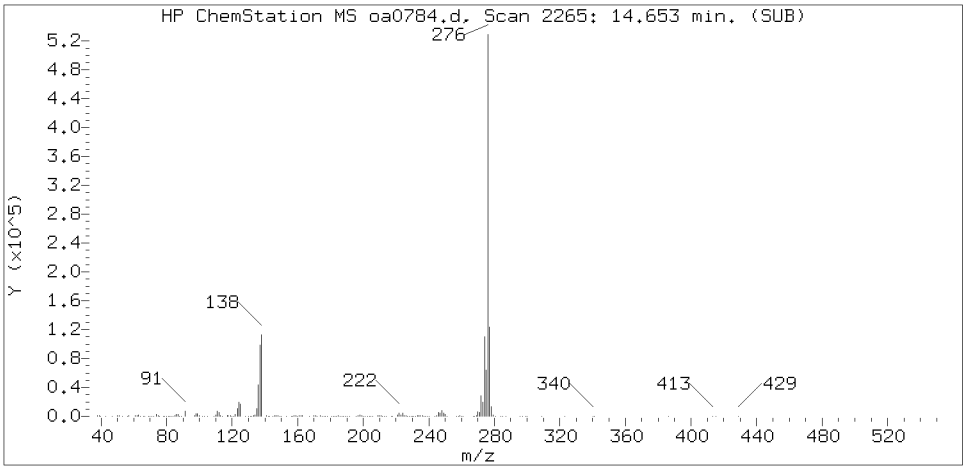
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

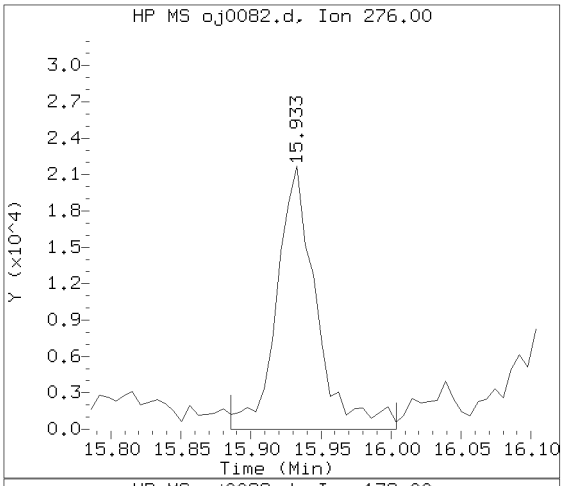
Sample Name: 49313 Lab Sample ID: 8064452

Compound Number	: 220
Compound Name	: Dibenz(a,h)anthracene
Scan Number	: 2306
Retention Time (minutes)	: 15.645
Relative Retention Time	: 0.00084
Quant Ion	: 278.00
Area (flag)	: 11093
On-column Amount (ng/ul)	: 0.3199

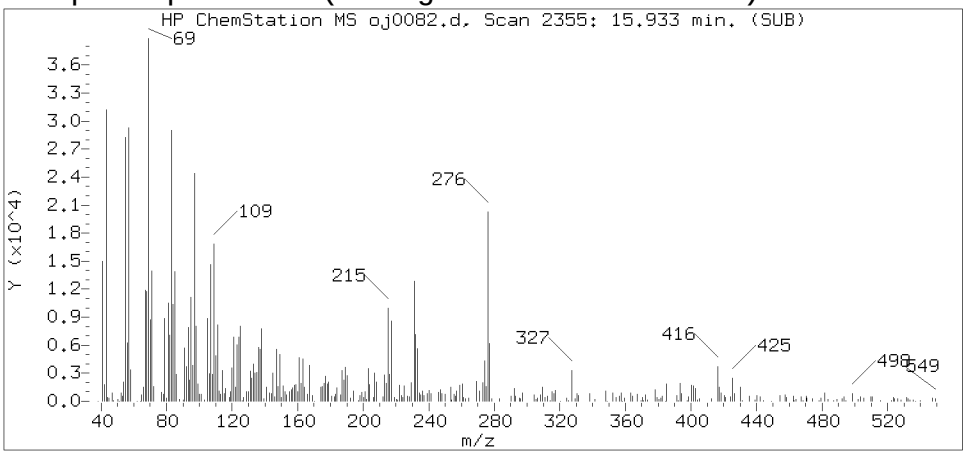
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

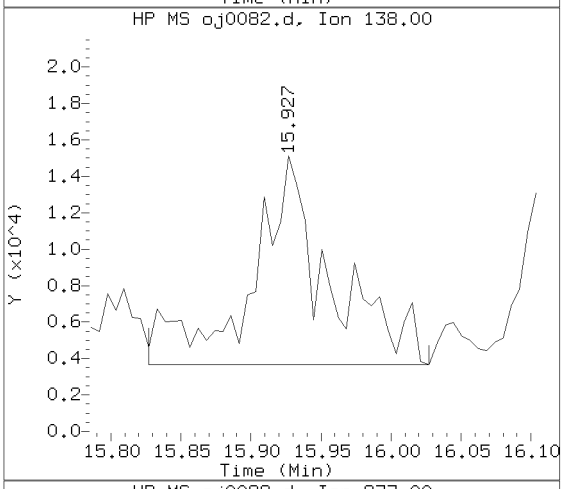
Reference Standard Spectrum for Benzo(g,h,i)perylene



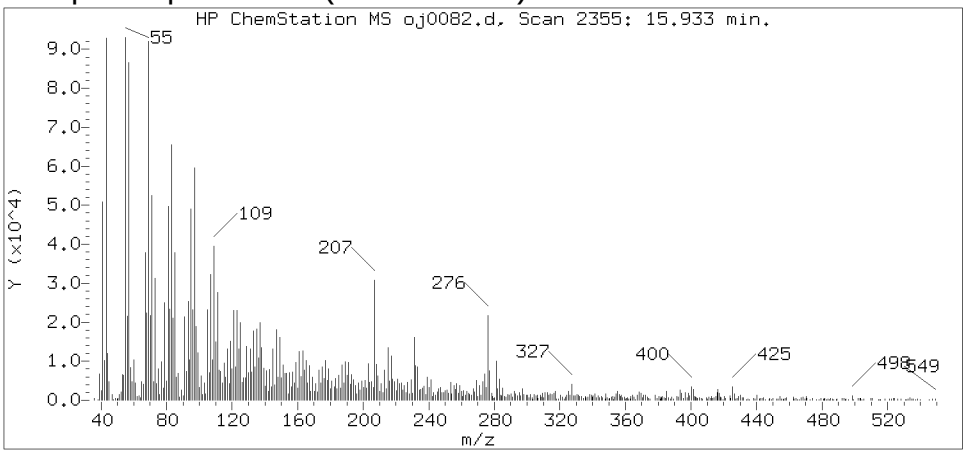


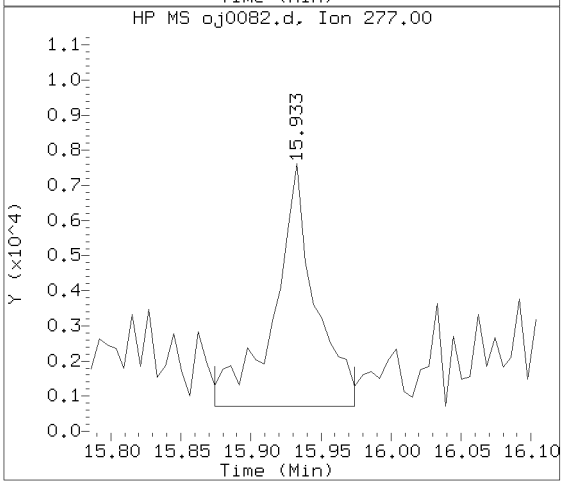
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0082.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 14:53 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:10 ceb05247

Sample Name: 49313 Lab Sample ID: 8064452

Compound Number	: 221
Compound Name	: Benzo(g,h,i)perylene
Scan Number	: 2355
Retention Time (minutes)	: 15.933
Relative Retention Time	: 0.00004
Quant Ion	: 276.00
Area (flag)	: 42596
On-column Amount (ng/ul)	: 1.2582

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0075.d Injection date and time: **02-OCT-2015 12:00**
Data file Sample Info. Line: 49413;8064453;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 11:47
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.16 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.081(0.000)	680	152	137642 (-18)	20.00	
65) Naphthalene-d8	7.357(0.006)	897	136	679019 (-12)	20.00	
113) Acenaphthene-d10	9.086(0.006)	1191	164	475420 (-3)	20.00	
153) Phenanthrene-d10	10.539(0.000)	1438	188	897010 (-5)	20.00	
175) Pyrene-d10	11.921(0.006)	1673	212	919683 (-13)	20.00	
213) Perylene-d12	14.557(0.000)	2121	264	610587 (-21)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.651(-0.001)	82	1360508	86.101	86%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.445(-0.001)	172	2773589	91.911	92%		63 - 117
179) Terphenyl-d14	(5)	12.121(-0.001)	244	3286290	97.095	97%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)	10.557(0.000)	178	8128	0.156	5.17			0.1
157) Anthracene	(4)			Not Detected					0.1
173) Fluoranthene	(4)	11.722(0.000)	202	22088	0.390	12.94			0.1
177) Pyrene	(5)	11.939(-0.000)	202	20981	0.382	12.68			0.1
195) Benzo(a)anthracene	(5)	13.121(-0.000)	228	10511	0.220	7.29			0.1
196) Chrysene	(5)	13.157(-0.000)	228	13585	0.298	9.88			0.1
206) Benzo(b)fluoranthene	(6)	14.192(0.000)	252	14855M	0.388	12.85			0.1
208) Benzo(k)fluoranthene	(6)	14.210(0.000)	252	4909M	0.126	4.16			0.1
211) Benzo(a)pyrene	(6)	14.498(0.000)	252	10167	0.269	8.91			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	15.633(-0.000)	276	7535M	0.191	6.34			0.1
220) Dibenz(a,h)anthracene	(6)	15.645(0.000)	278	4264M	0.129	4.26			0.1
221) Benzo(g,h,i)perylene	(6)	15.915(0.000)	276	8322	0.257	8.52			0.1

M = Compound was manually integrated.

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0075.d Injection date and time: **02-OCT-2015 12:00**
Data file Sample Info. Line: 49413;8064453;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 11:47
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.16 g

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WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

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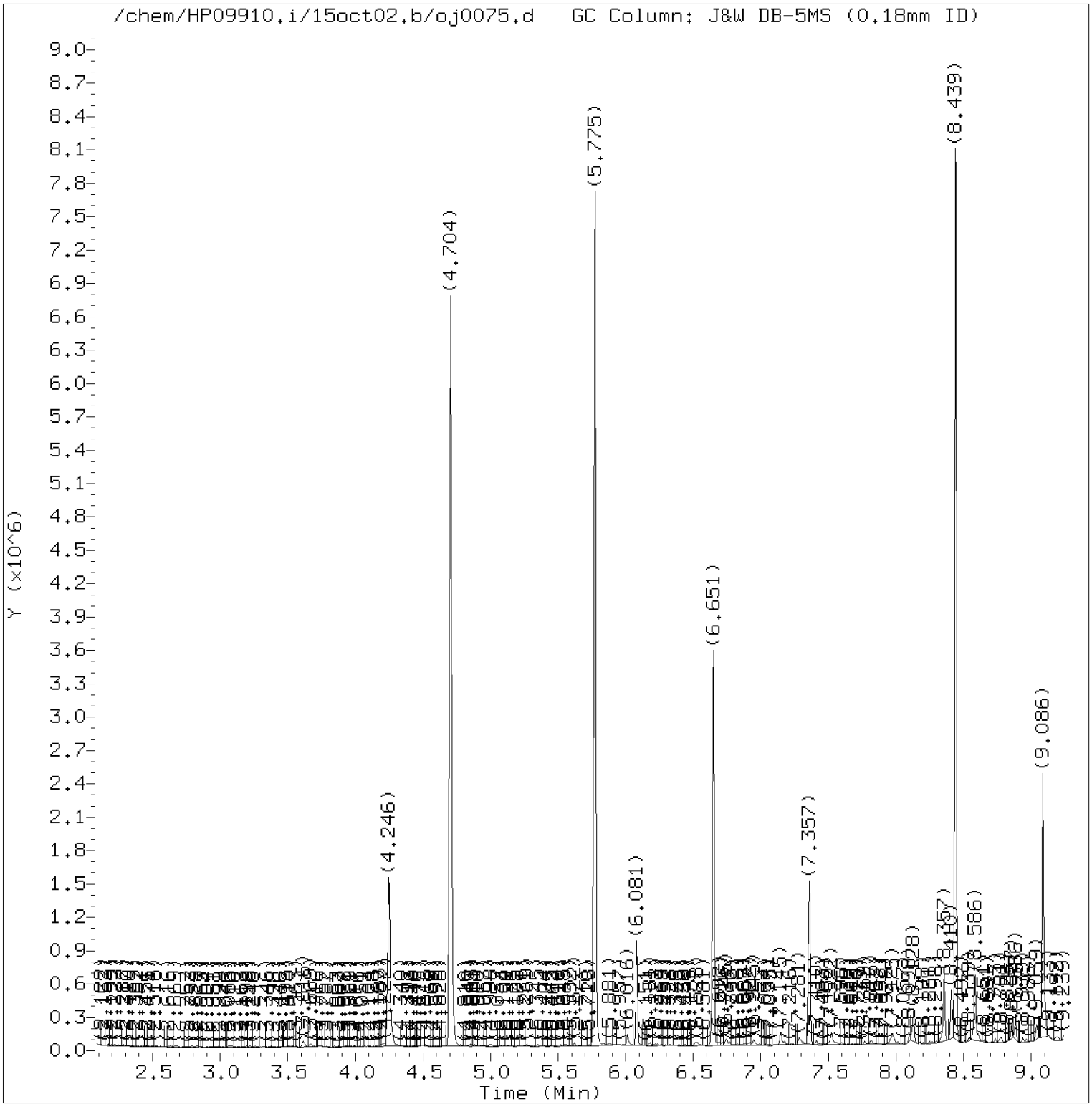
Secondary review performed and digitally signed by Matthew E. Barton on 10/02/2015 at 14:08. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

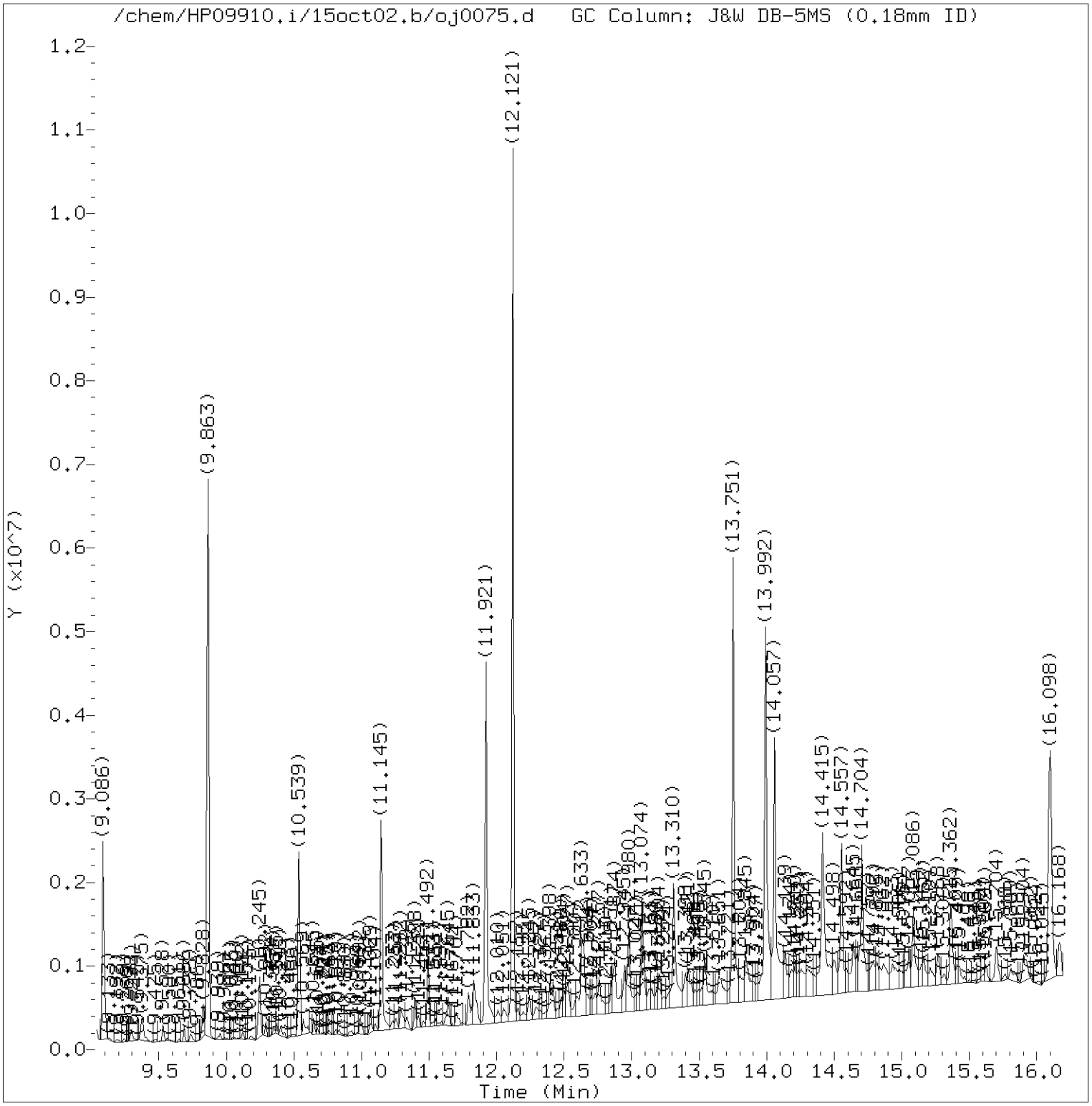
Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Sample Name: 49413 Lab Sample ID: 8064453

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 13:32.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Sample Name: 49413 Lab Sample ID: 8064453

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 13:32.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Sample Name: 49413 Lab Sample ID: 8064453

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.081	152	137642	20.000
44)$Nitrobenzene-d5	(2)	6.651	82	1360508	86.101
65)*Naphthalene-d8	(2)	7.357	136	679019	20.000
93)$2-Fluorobiphenyl	(3)	8.445	172	2773589	91.911
113)*Acenaphthene-d10	(3)	9.086	164	475420	20.000
153)*Phenanthrene-d10	(4)	10.539	188	897010	20.000
155) Phenanthrene	(4)	10.557	178	8128	0.156
173) Fluoranthene	(4)	11.722	202	22088	0.390
175)*Pyrene-d10	(5)	11.921	212	919683	20.000
177) Pyrene	(5)	11.939	202	20981	0.382
179)$Terphenyl-d14	(5)	12.121	244	3286290	97.095
195) Benzo(a)anthracene	(5)	13.121	228	10511	0.220
196) Chrysene	(5)	13.157	228	13585	0.298
206) Benzo(b)fluoranthene	(6)	14.192	252	14855M	0.388
208) Benzo(k)fluoranthene	(6)	14.210	252	4909M	0.126
211) Benzo(a)pyrene	(6)	14.498	252	10167	0.269
213)*Perylene-d12	(6)	14.557	264	610587	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	15.633	276	7535M	0.191
220) Dibenz(a,h)anthracene	(6)	15.645	278	4264M	0.129
221) Benzo(g,h,i)perylene	(6)	15.915	276	8322	0.257

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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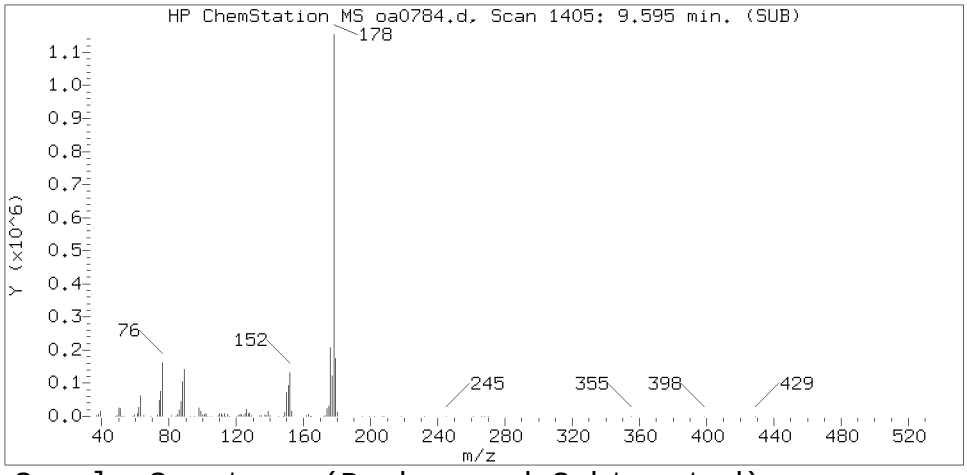
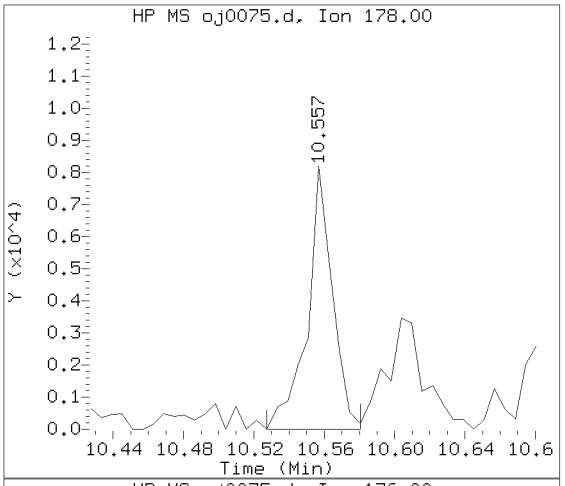
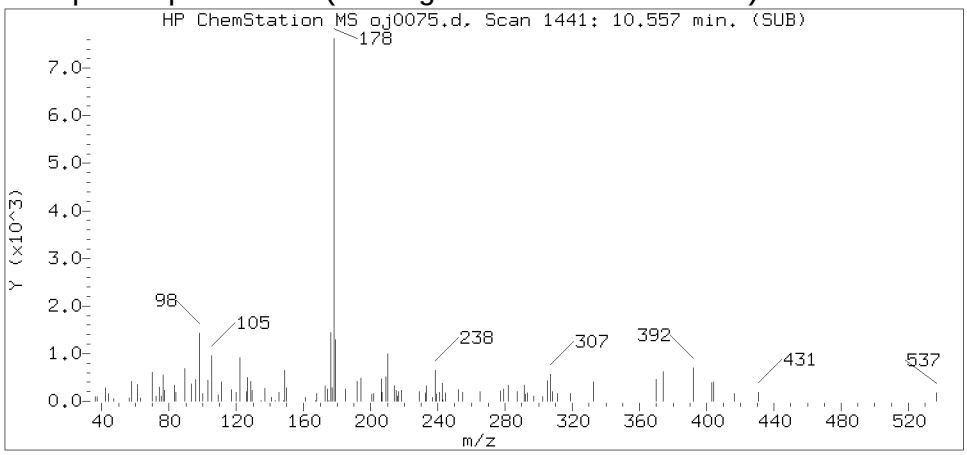
on 10/02/2015 at 13:32.
Target 3.5 esignature user ID: ceb05247

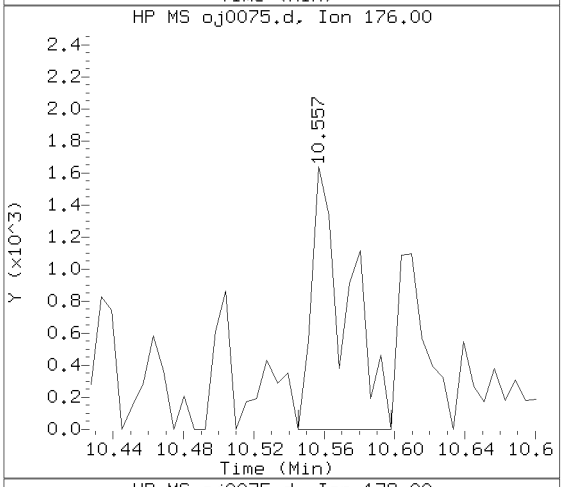
Reference Standard Spectrum for Phenanthrene



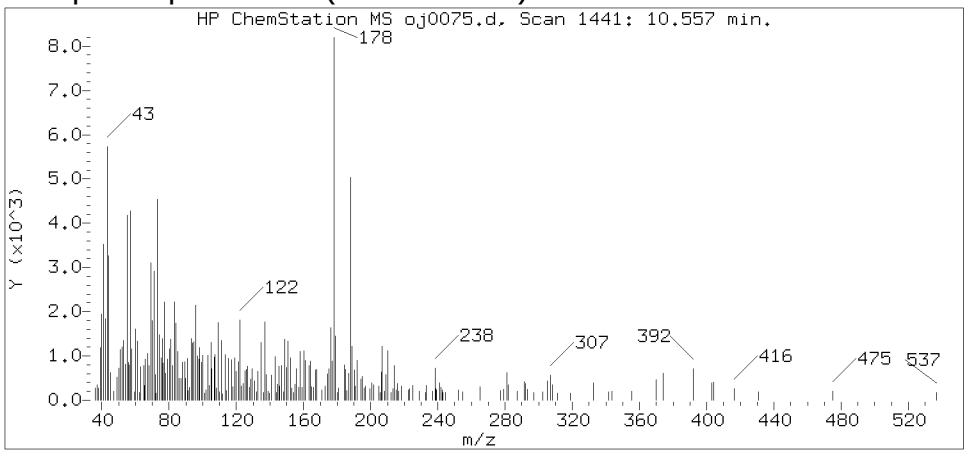


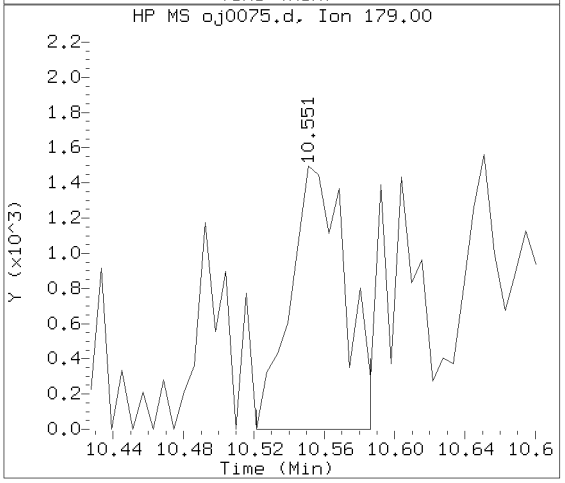
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

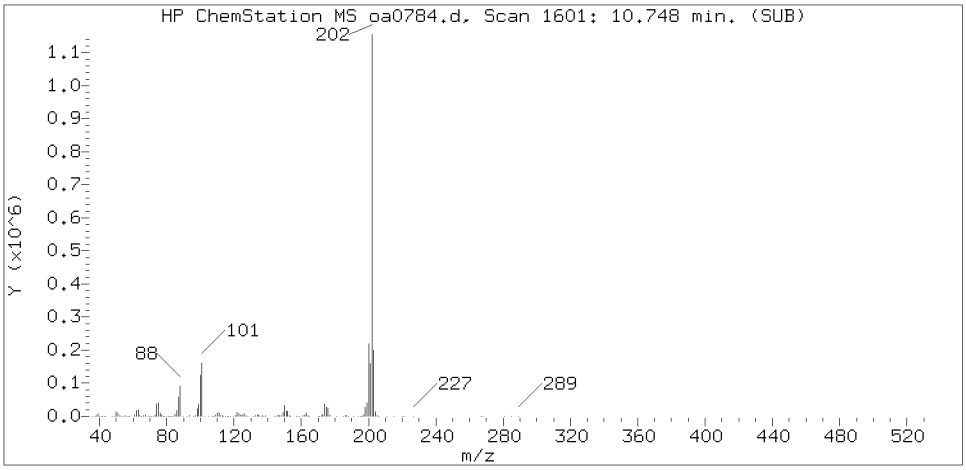
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

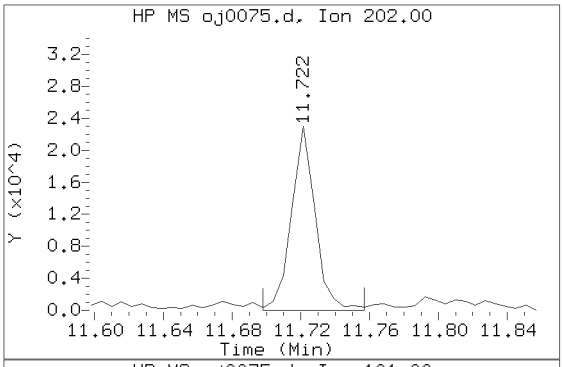
Sample Name: 49413 Lab Sample ID: 8064453

Compound Number	: 155
Compound Name	: Phenanthrene
Scan Number	: 1441
Retention Time (minutes)	: 10.557
Relative Retention Time	: 0.00056
Quant Ion	: 178.00
Area (flag)	: 8128
On-column Amount (ng/ul)	: 0.1560

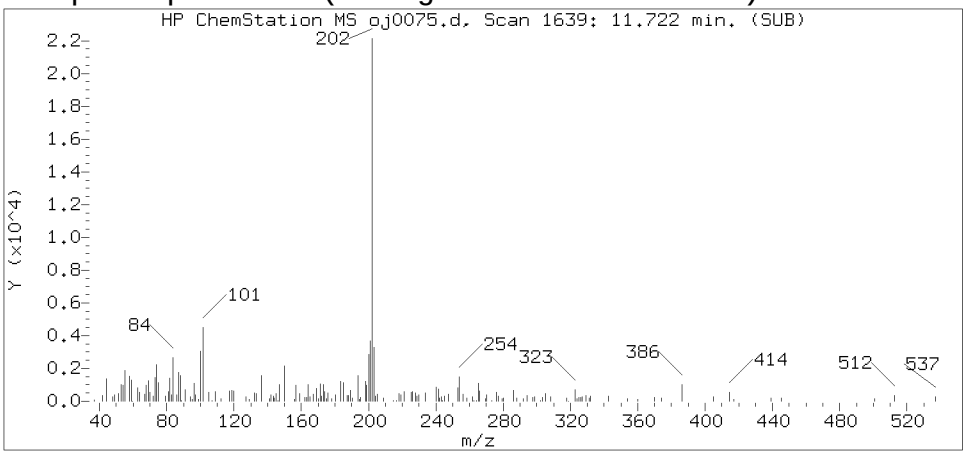
Digitally signed by Catherine E. Bachman on 10/02/2015 at 13:32.
Target 3.5 esignature user ID: ceb05247

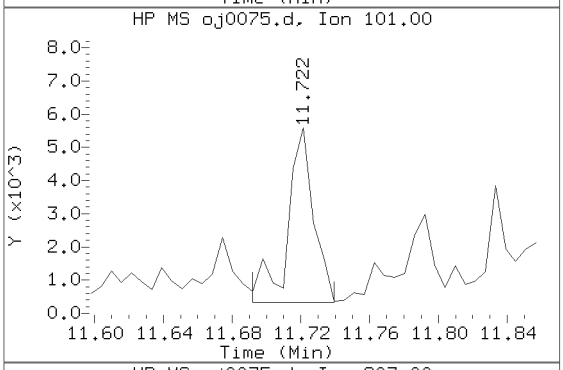
Reference Standard Spectrum for Fluoranthene

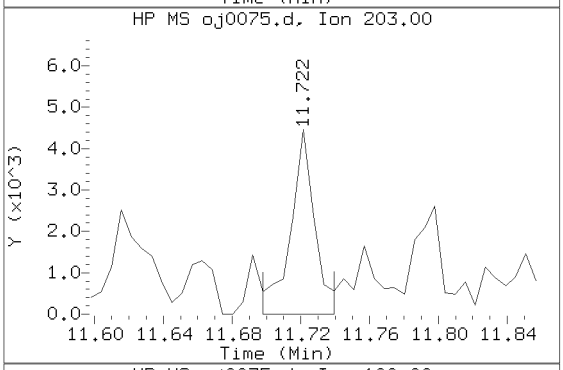




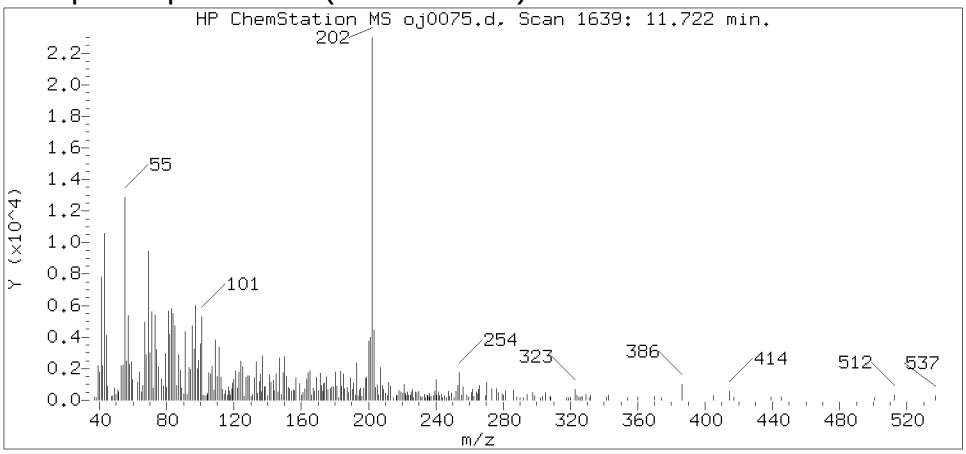
Sample Spectrum (Background Subtracted)

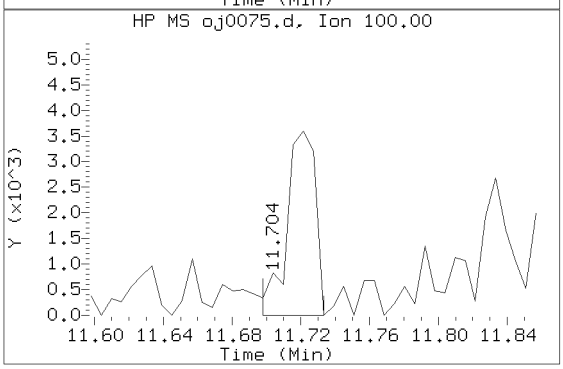






Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Sample Name: 49413 Lab Sample ID: 8064453

Compound Number	: 173
Compound Name	: Fluoranthene
Scan Number	: 1639
Retention Time (minutes)	: 11.722
Relative Retention Time	: 0.00056
Quant Ion	: 202.00
Area (flag)	: 22088
On-column Amount (ng/ul)	: 0.3901

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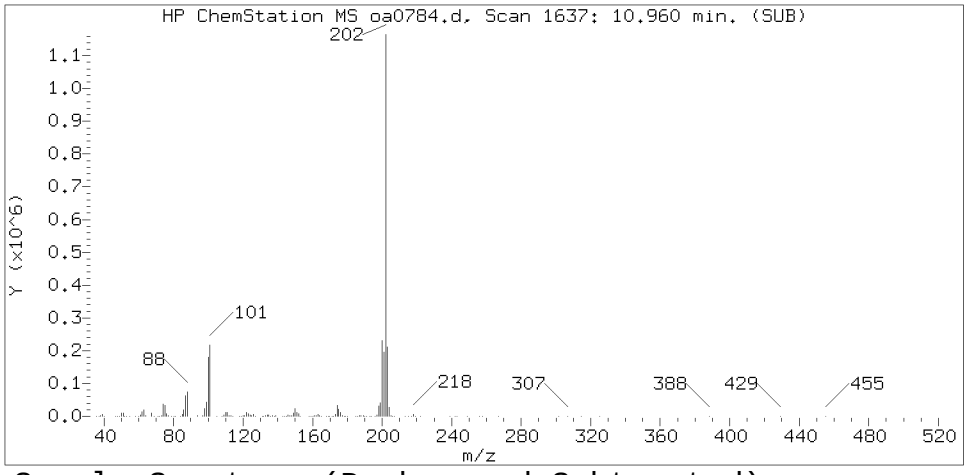
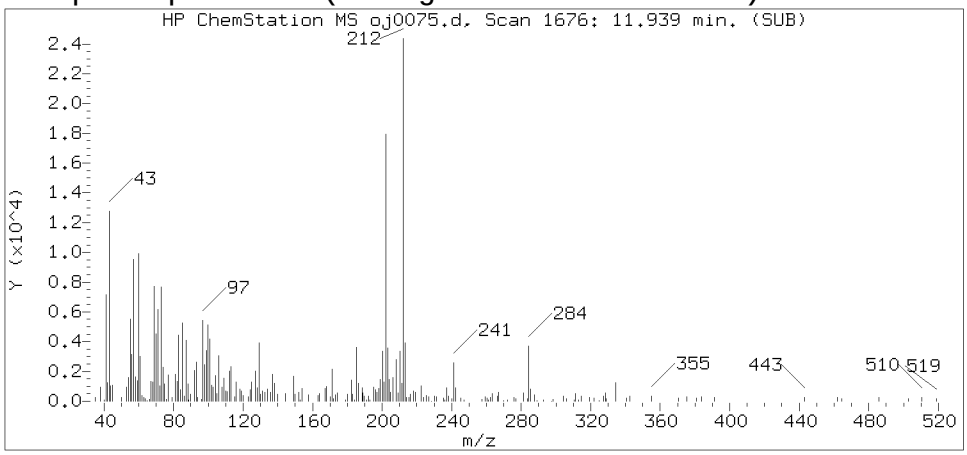
Target 3.5 esignature user ID: ceb05247

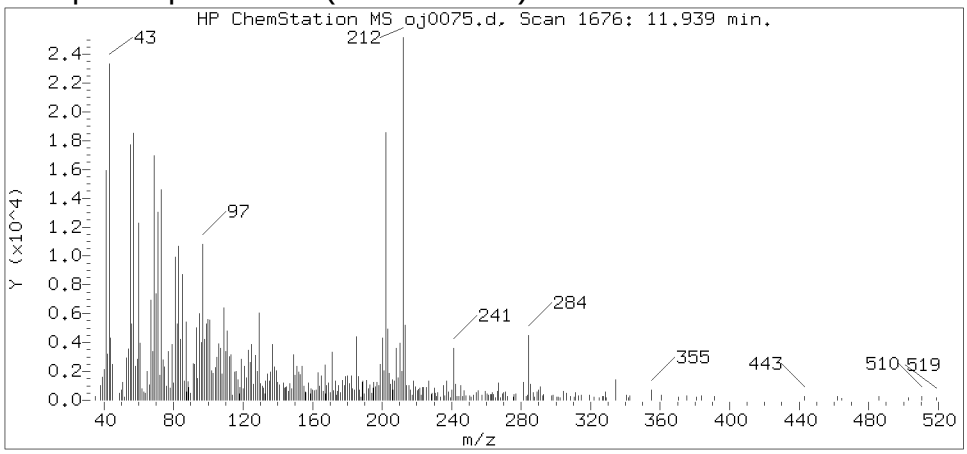
Reference Standard Spectrum for Pyrene

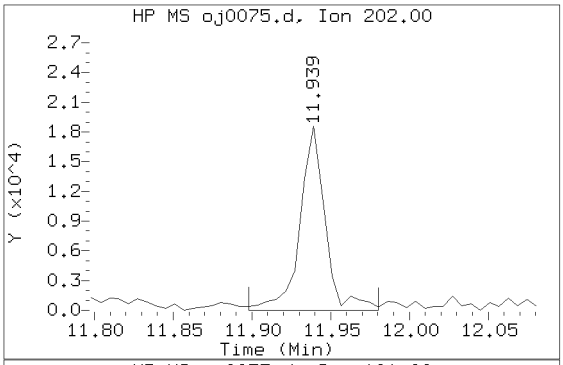


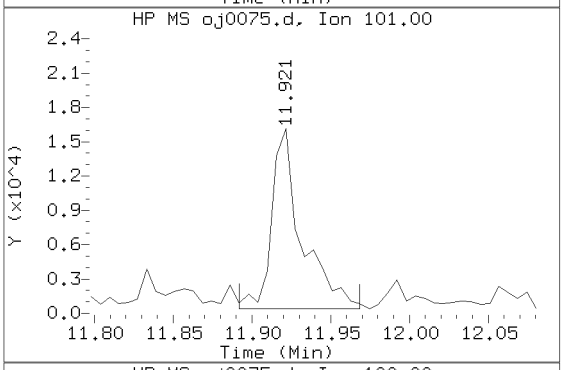
Sample Spectrum (Background Subtracted)

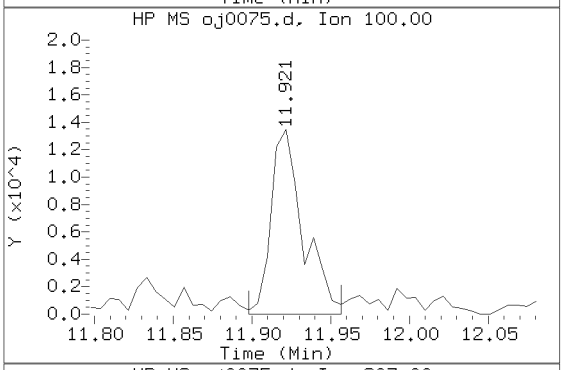


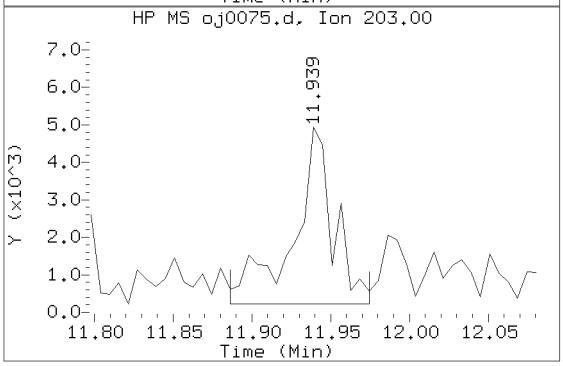
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

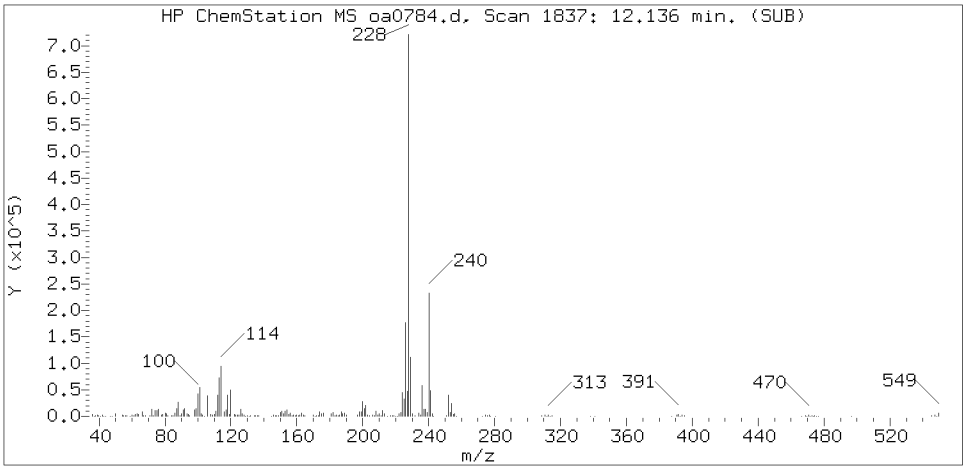
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

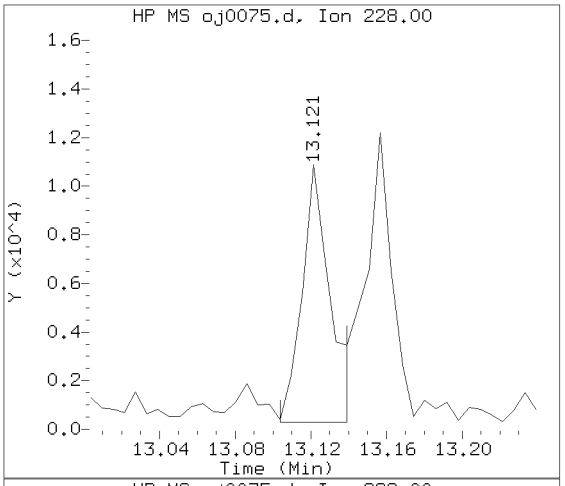
Sample Name: 49413 Lab Sample ID: 8064453

Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1676
Retention Time (minutes)	: 11.939
Relative Retention Time	:-0.00000
Quant Ion	: 202.00
Area (flag)	: 20981
On-column Amount (ng/ul)	: 0.3824

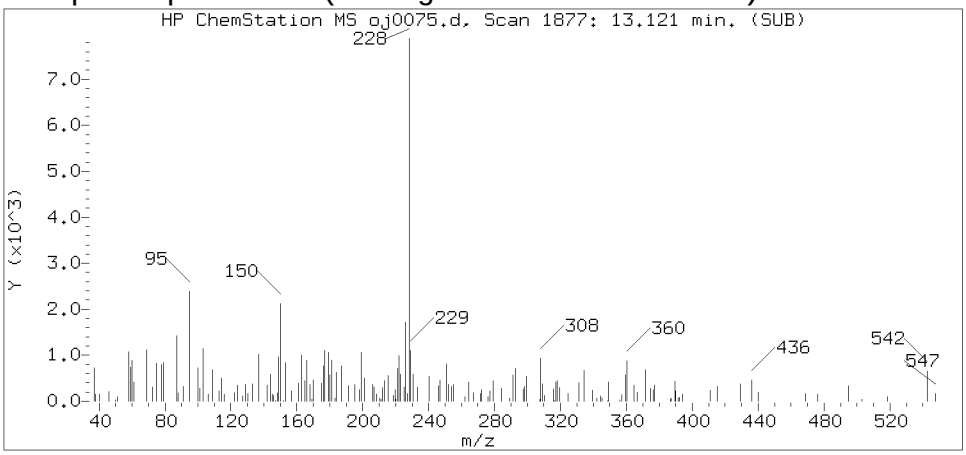
Digitally signed by Catherine E. Bachman on 10/02/2015 at 13:32.
Target 3.5 esignature user ID: ceb05247

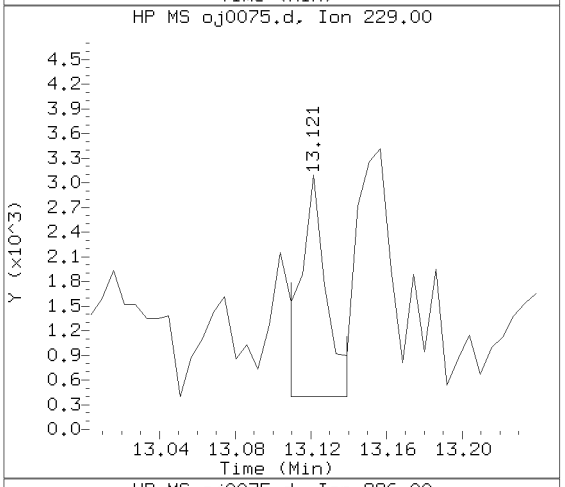
Reference Standard Spectrum for Benzo(a)anthracene



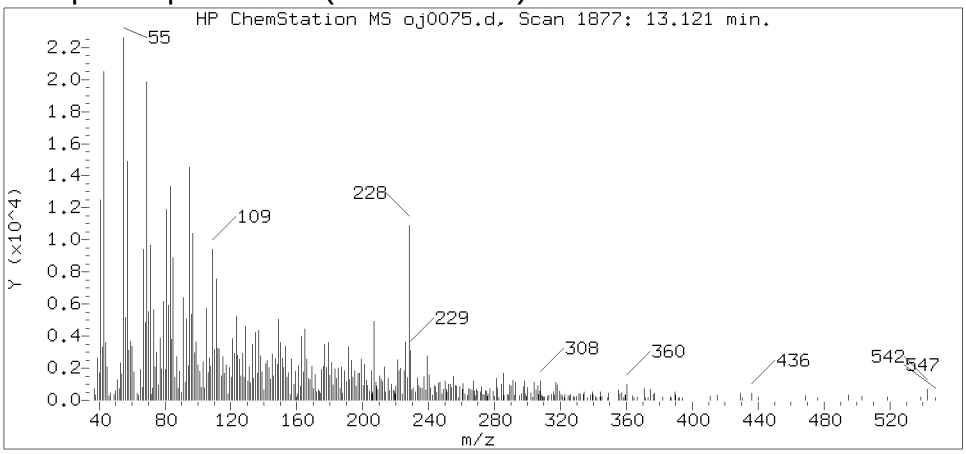


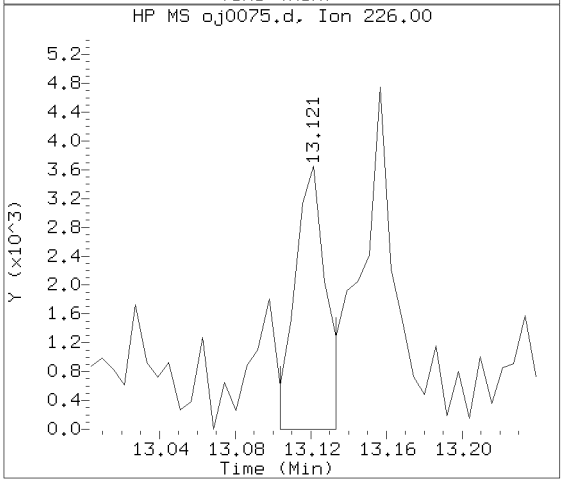
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Sample Name: 49413 Lab Sample ID: 8064453

Compound Number : 195
Compound Name : Benzo(a)anthracene
Scan Number : 1877
Retention Time (minutes) : 13.121
Relative Retention Time :-0.00005
Quant Ion : 228.00
Area (flag) : 10511
On-column Amount (ng/ul) : 0.2198

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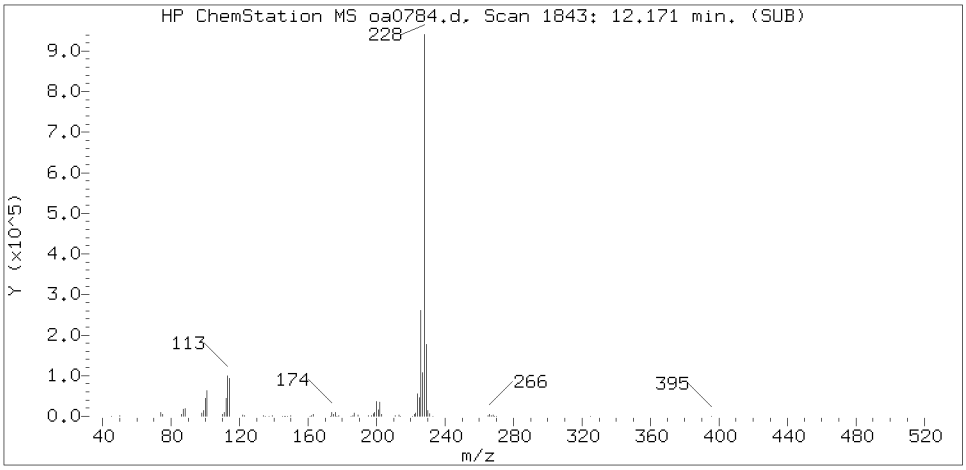
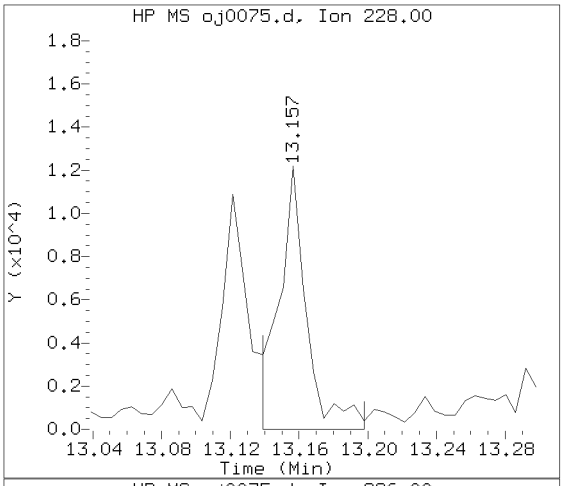
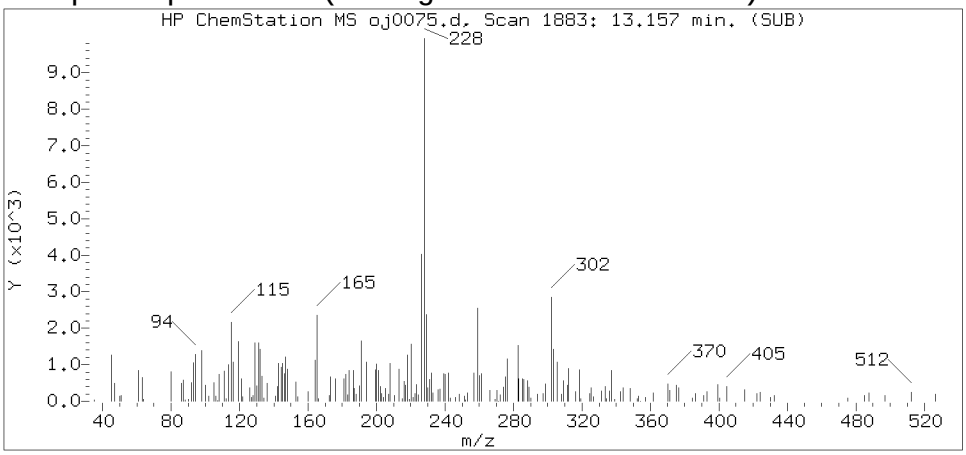
Target 3.5 esignature user ID: ceb05247

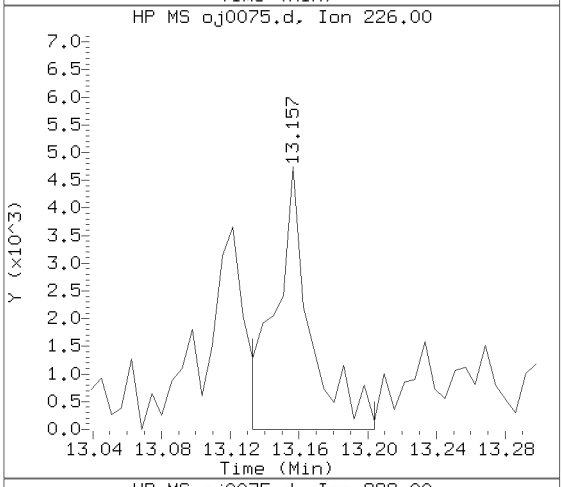
Reference Standard Spectrum for Chrysene



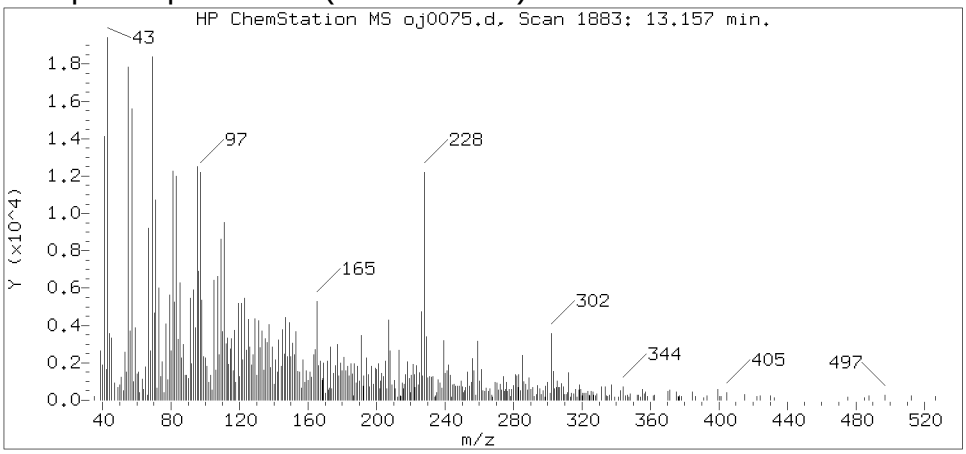


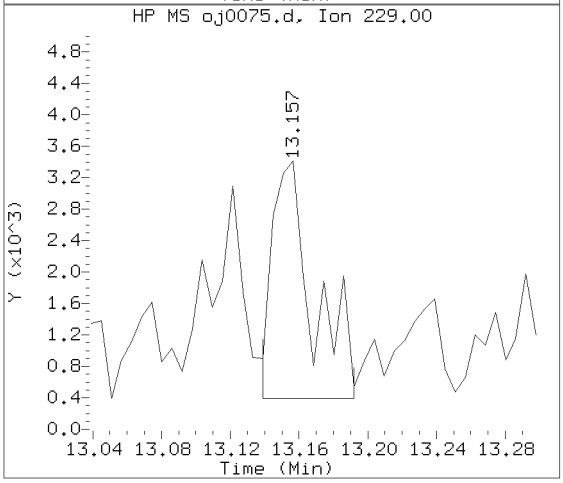
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Sample Name: 49413 Lab Sample ID: 8064453

Compound Number	: 196
Compound Name	: Chrysene
Scan Number	: 1883
Retention Time (minutes)	: 13.157
Relative Retention Time	:-0.00005
Quant Ion	: 228.00
Area (flag)	: 13585
On-column Amount (ng/ul)	: 0.2981

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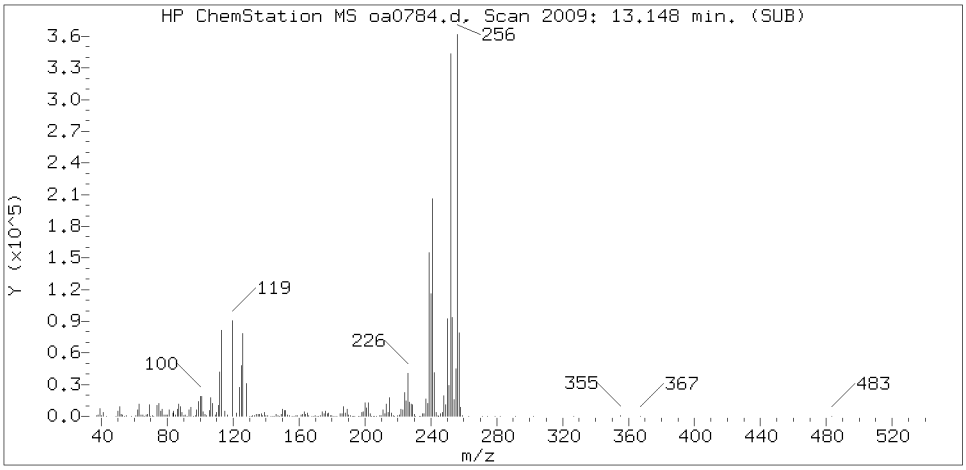
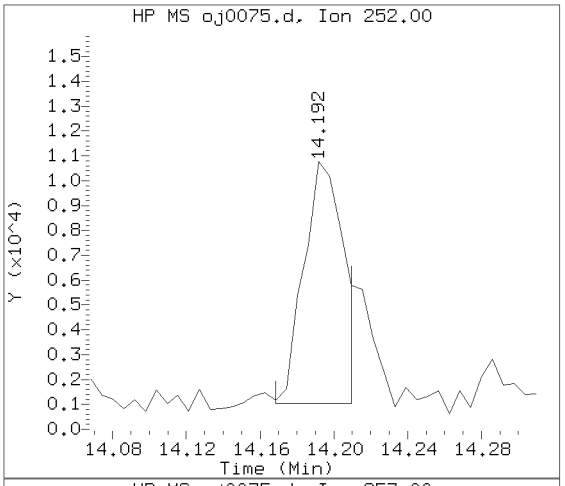
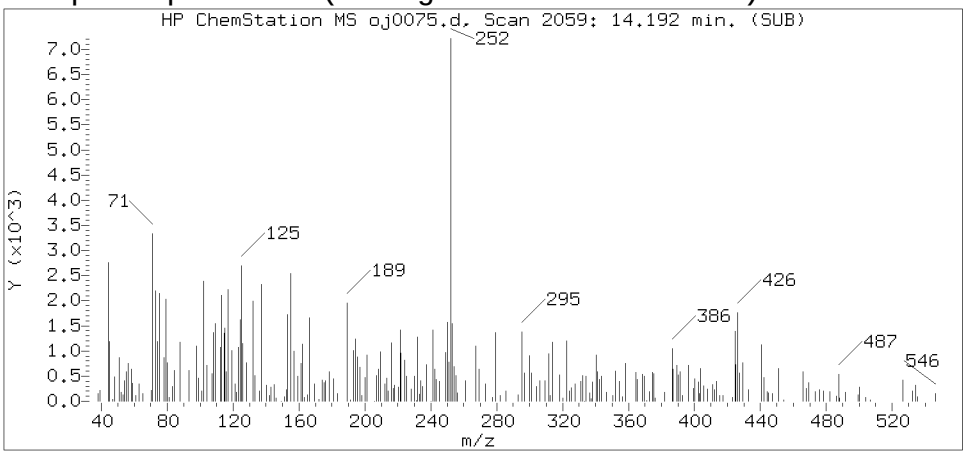
Target 3.5 esignature user ID: ceb05247

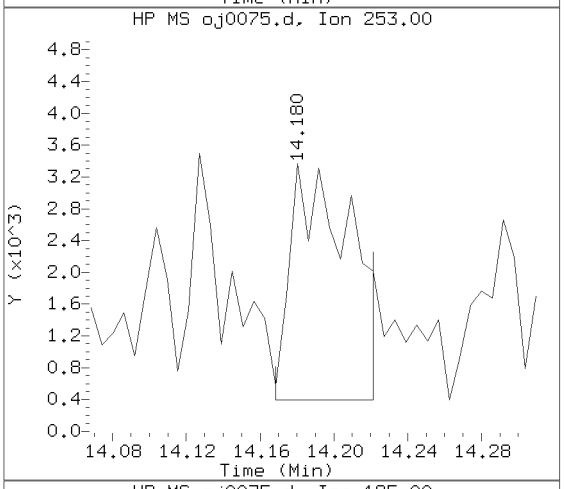
Reference Standard Spectrum for Benzo(b)fluoranthene



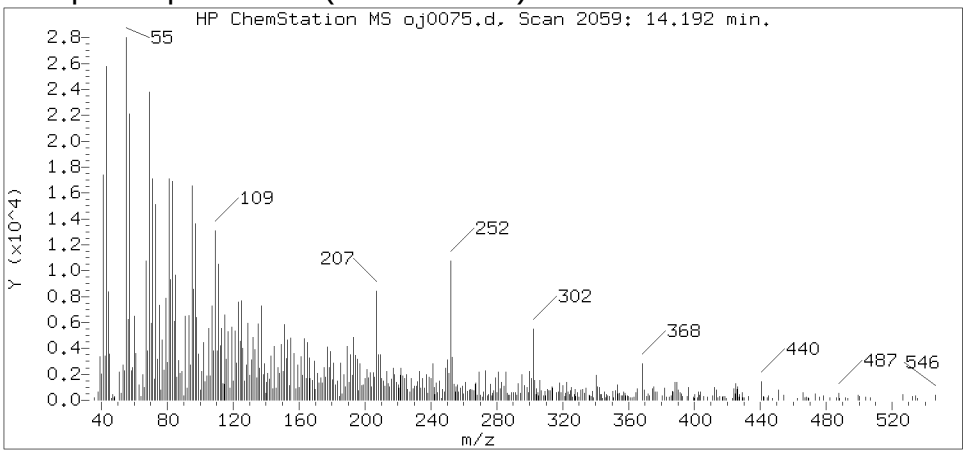


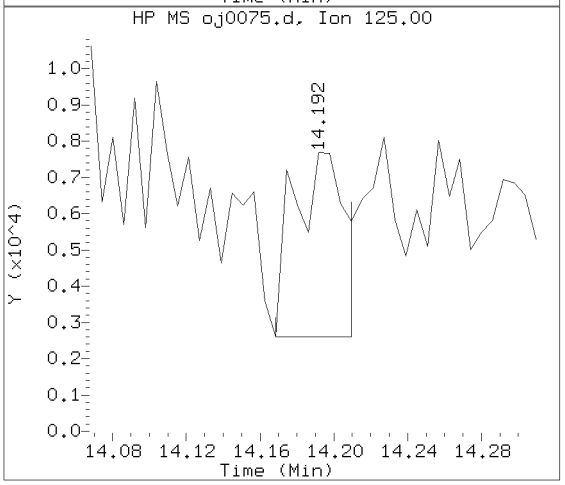
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Sample Name: 49413 Lab Sample ID: 8064453

Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2059
Retention Time (minutes)	: 14.192
Relative Retention Time	: 0.00040
Quant Ion	: 252.00
Area (flag)	: 14855M
On-column Amount (ng/ul)	: 0.3877

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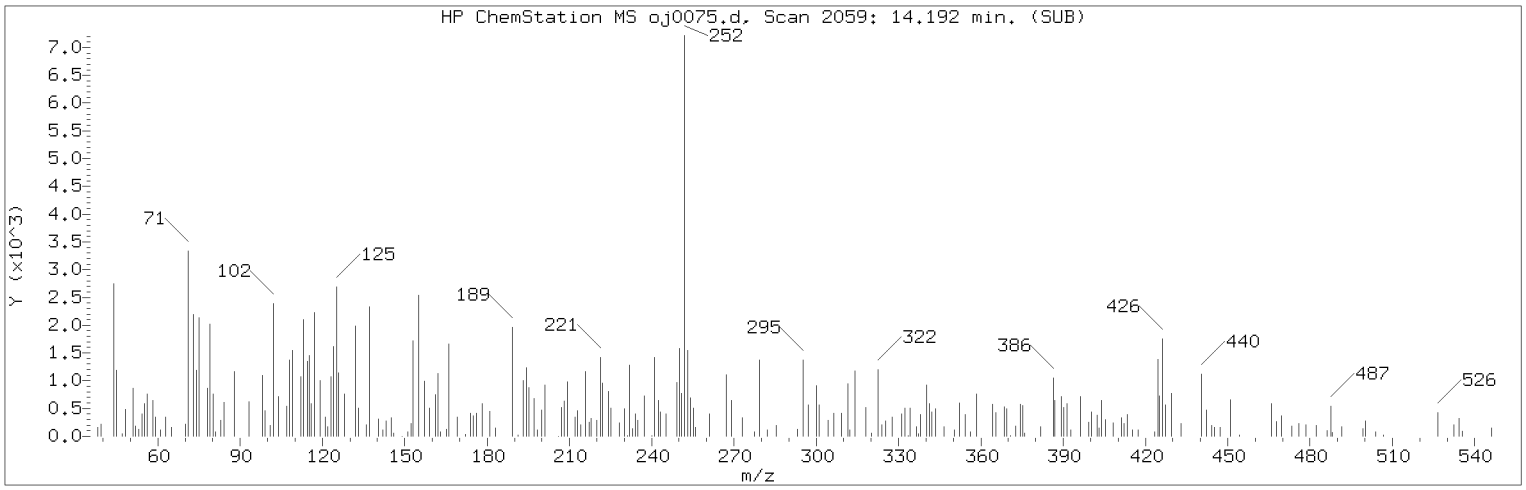
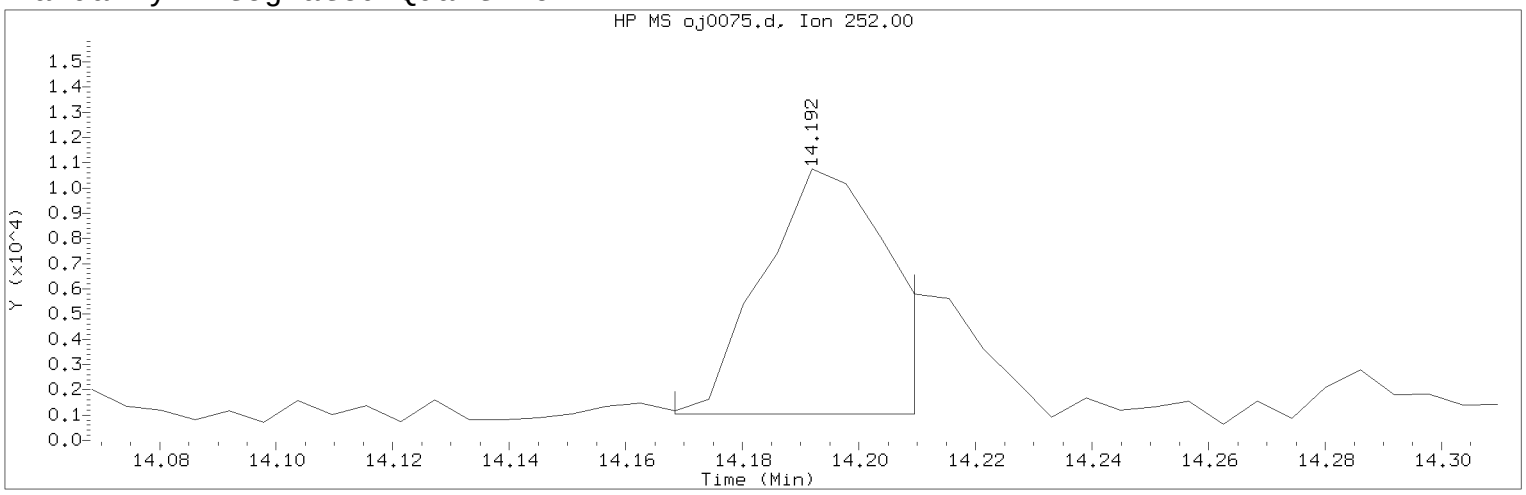
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Sample Name: 49413 Lab Sample ID: 8064453

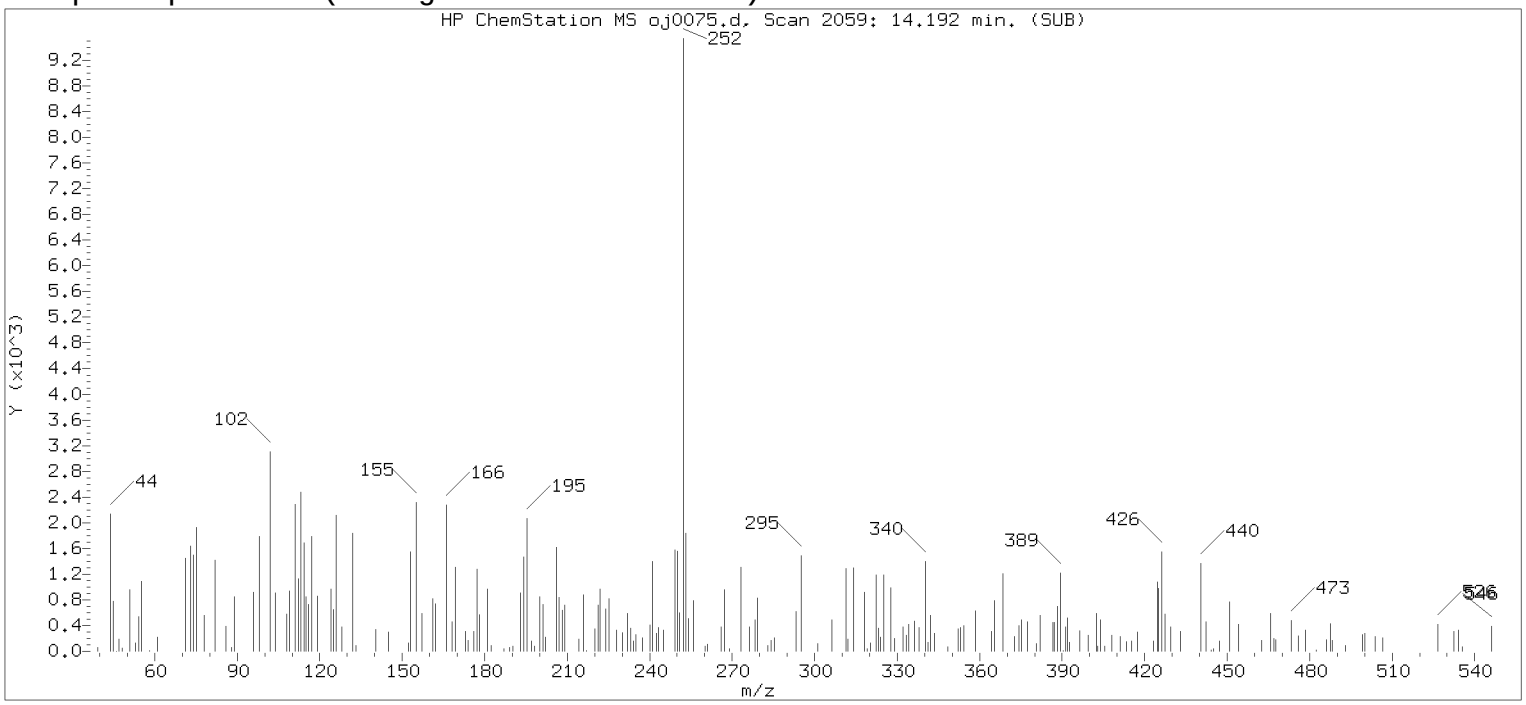
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2059
Retention Time (minutes) : 14.192
Quant Ion : 252.00
Area (flag) : 14855M
On-column Amount (ng/ul) : 0.3877
Integration start scan : 2054 Integration stop scan: 2061
Y at integration start : 1042 Y at integration end: 1042

Reason for manual integration: improper integration

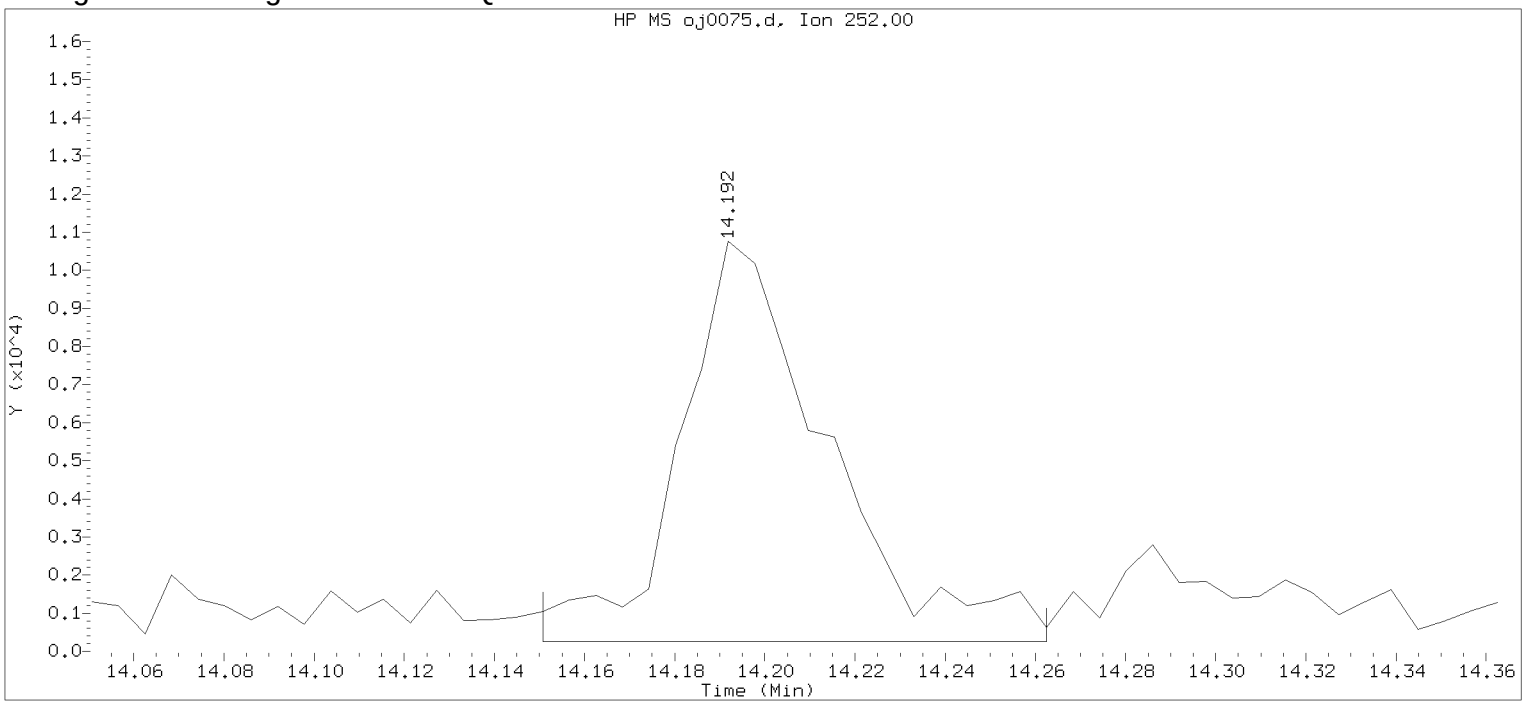
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 13:32.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/02/2015 at 14:08.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

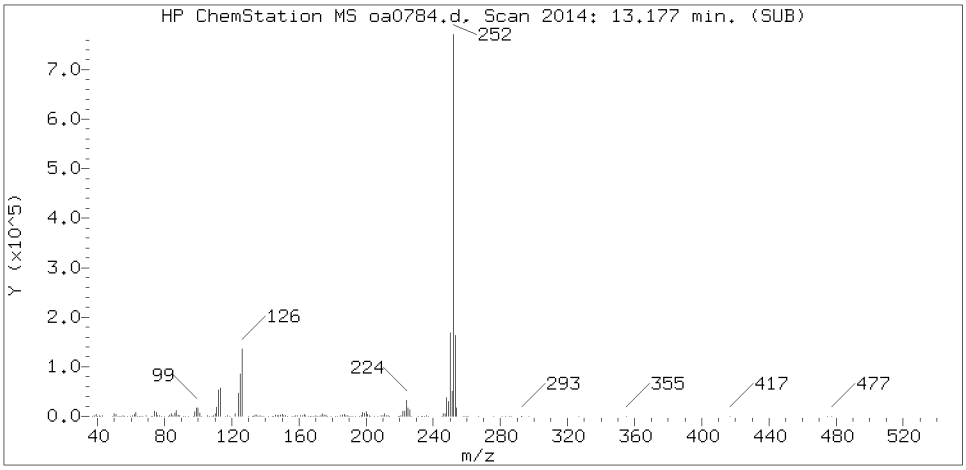
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:16 Automation

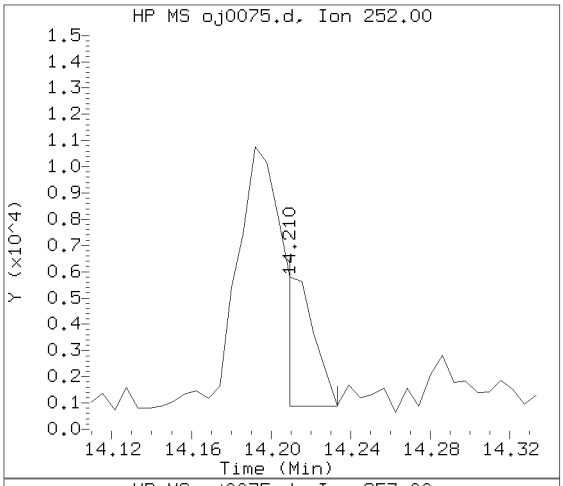
Sample Name: 49413 Lab Sample ID: 8064453

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2059		
Retention Time (minutes)	: 14.192		
Quant Ion	: 252.00		
Area	: 23861		
On-column Amount (ng/ul)	: 0.6227		
Integration start scan	: 2051	Integration stop scan:	2070
Y at integration start	: 247	Y at integration end:	247

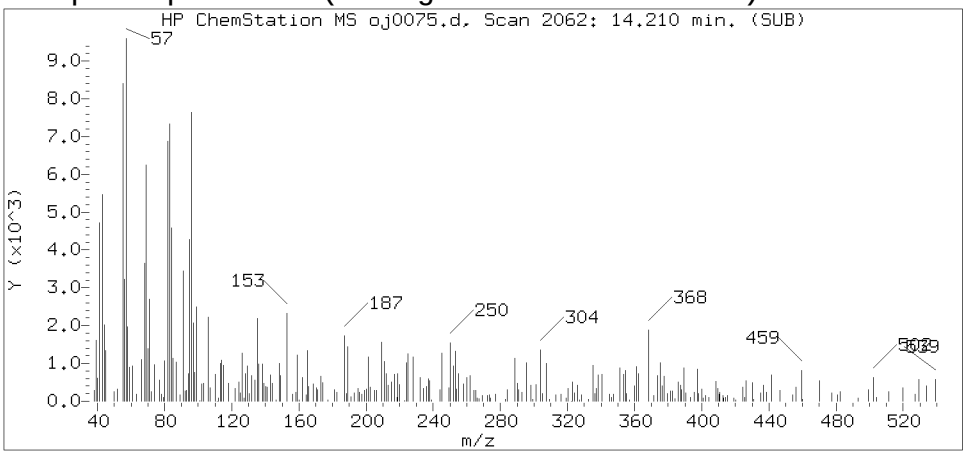
Digitally signed by Catherine E. Bachman on 10/02/2015 at 13:32.
Target 3.5 esignature user ID: 27 date: 20150247

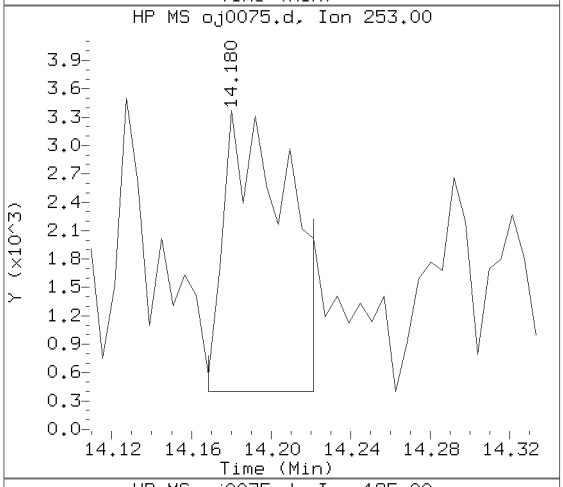
Reference Standard Spectrum for Benzo(k)fluoranthene



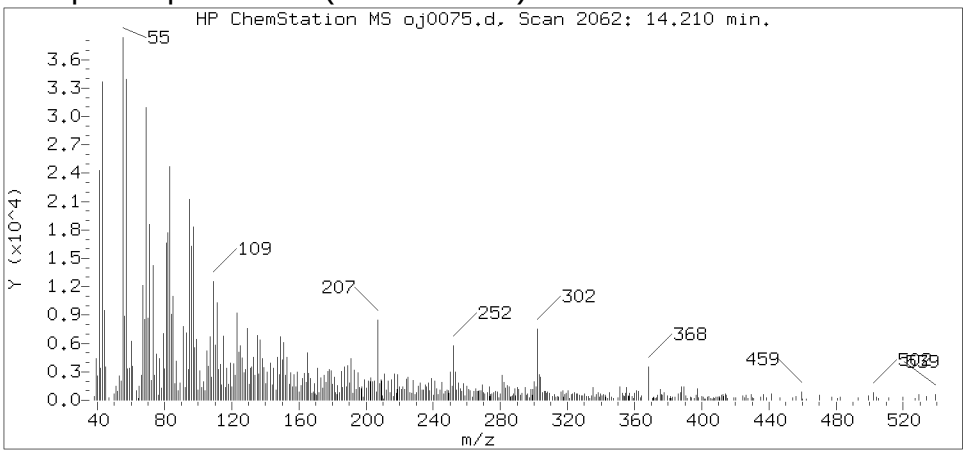


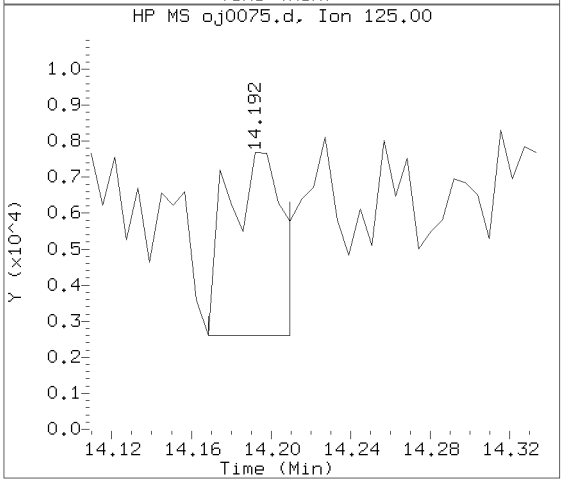
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Sample Name: 49413 Lab Sample ID: 8064453

Compound Number	: 208
Compound Name	: Benzo(k)fluoranthene
Scan Number	: 2062
Retention Time (minutes)	: 14.210
Relative Retention Time	: 0.00081
Quant Ion	: 252.00
Area (flag)	: 4909M
On-column Amount (ng/ul)	: 0.1256

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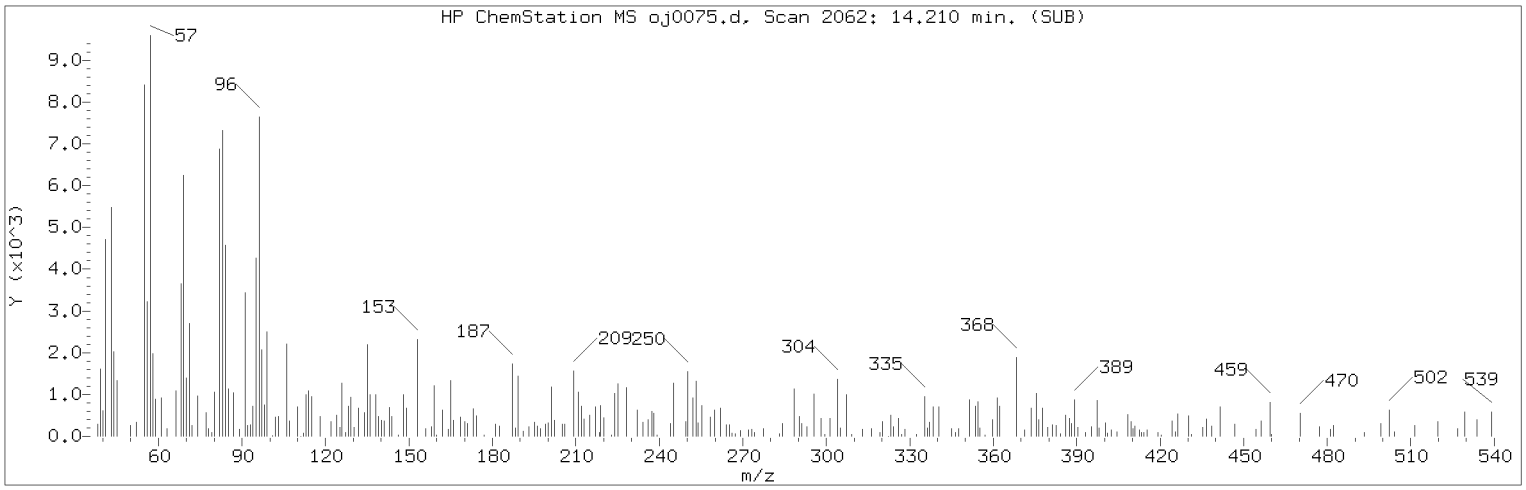
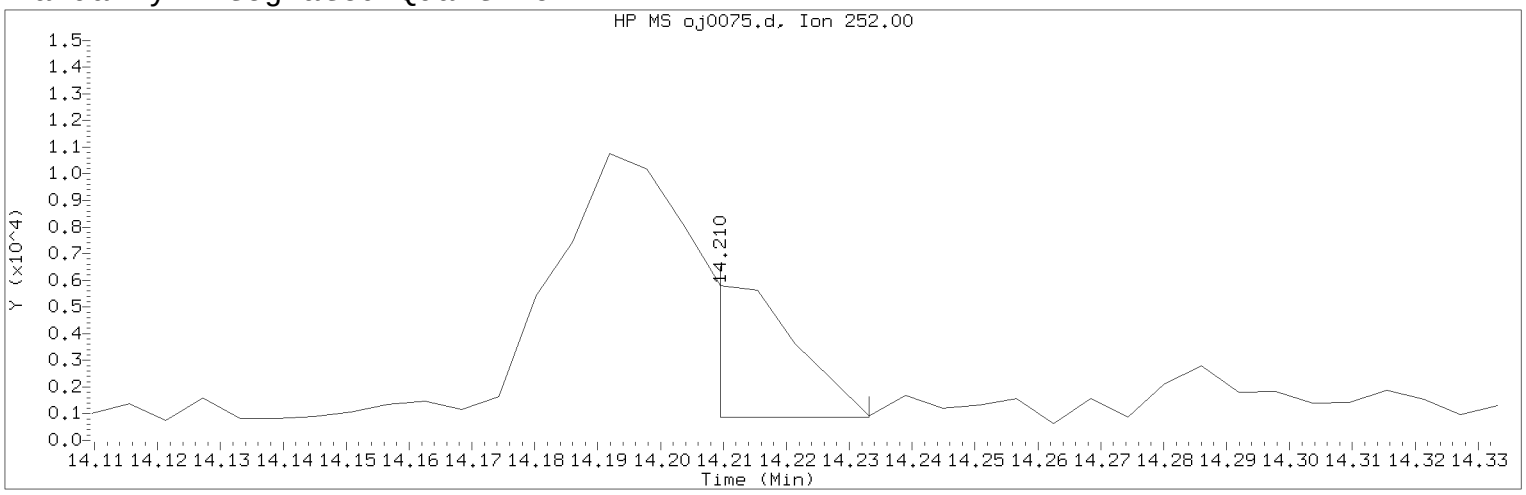
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Sample Name: 49413 Lab Sample ID: 8064453

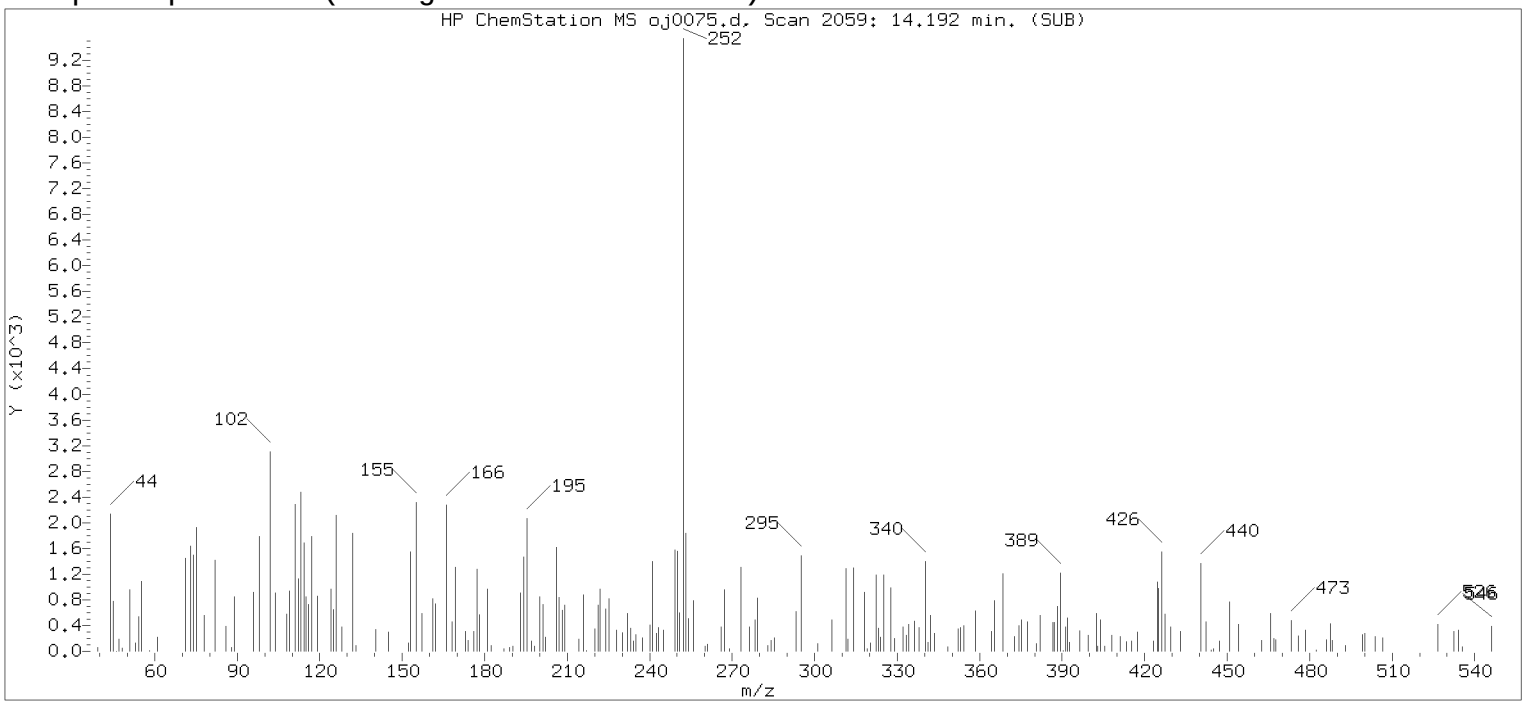
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2062
Retention Time (minutes) : 14.210
Quant Ion : 252.00
Area (flag) : 4909M
On-column Amount (ng/ul) : 0.1256
Integration start scan : 2061 Integration stop scan: 2065
Y at integration start : 871 Y at integration end: 871

Reason for manual integration: improper integration

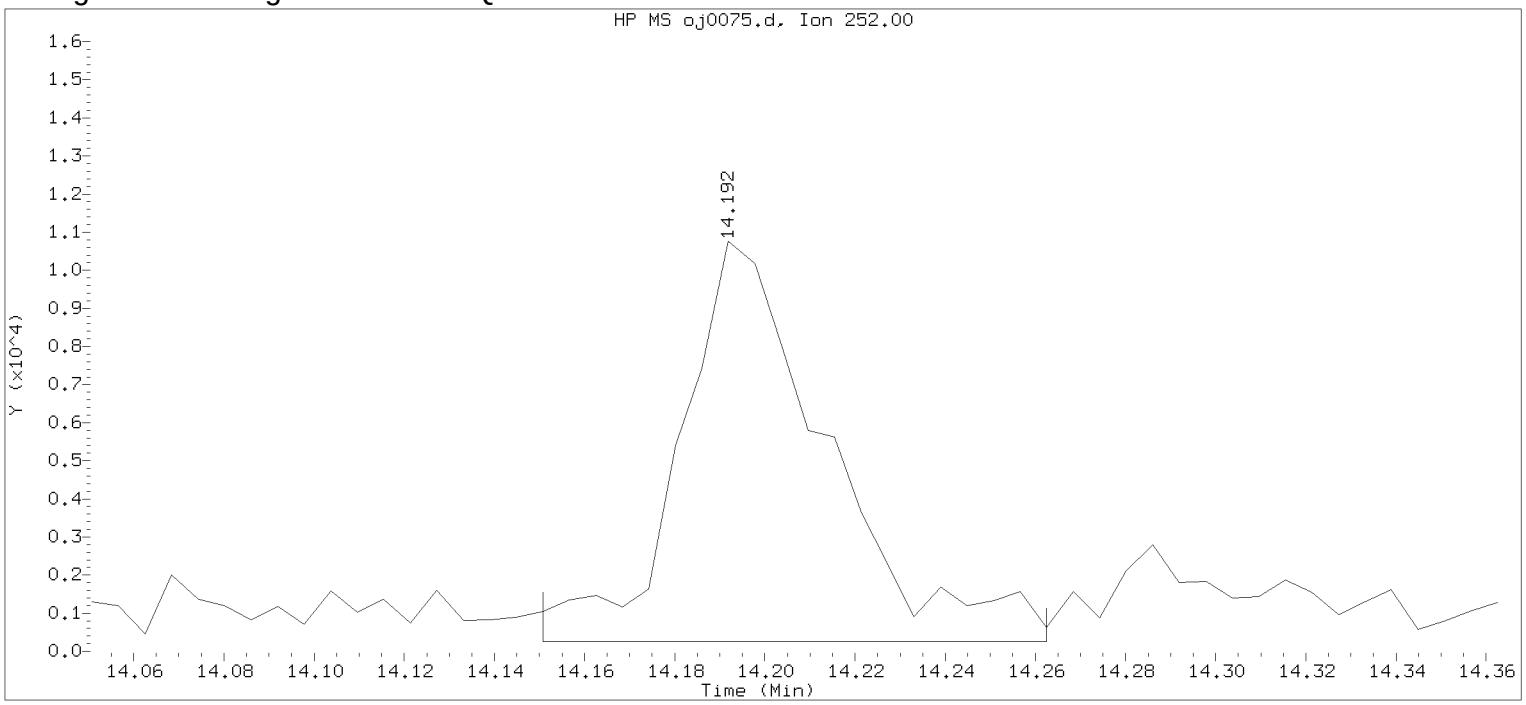
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 13:32.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/02/2015 at 14:08.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

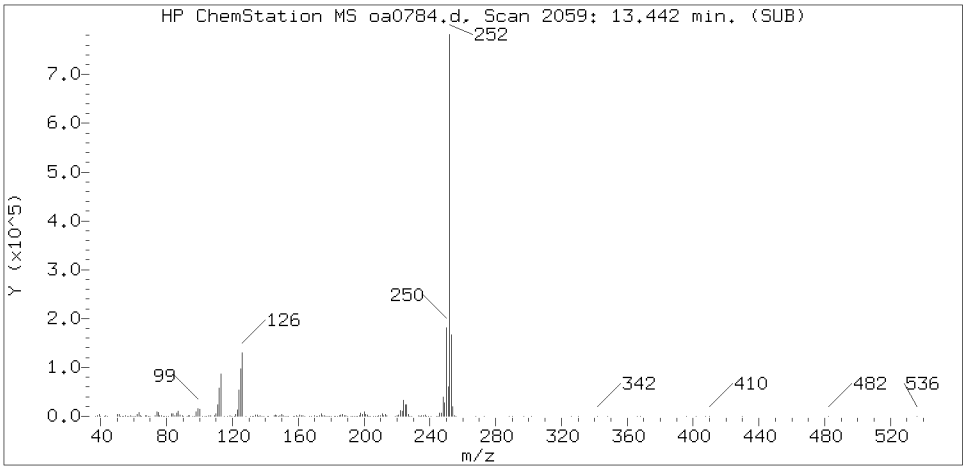
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:16 Automation

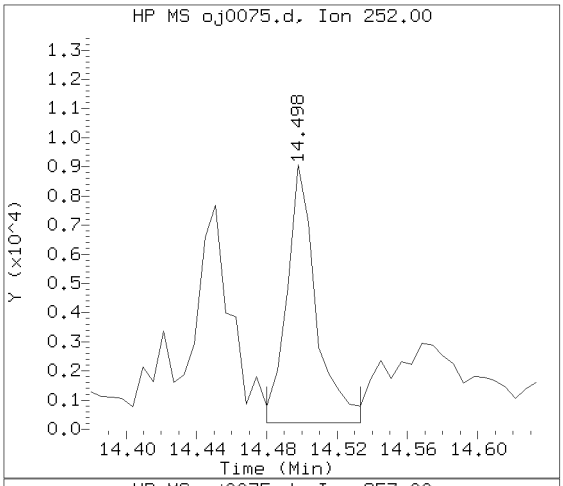
Sample Name: 49413 Lab Sample ID: 8064453

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2059		
Retention Time (minutes)	: 14.192		
Quant Ion	: 252.00		
Area	: 23861		
On-column Amount (ng/ul)	: 0.6103		
Integration start scan	: 2051	Integration stop scan:	2070
Y at integration start	: 247	Y at integration end:	247

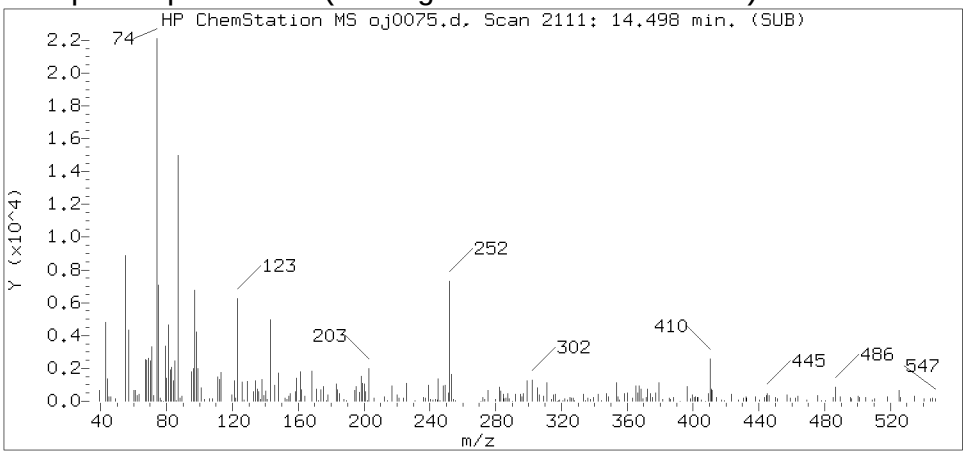
Digitally signed by Catherine E. Bachman on 10/02/2015 at 13:32.
Target 3.5 esignature user ID: 27 date: 20150246

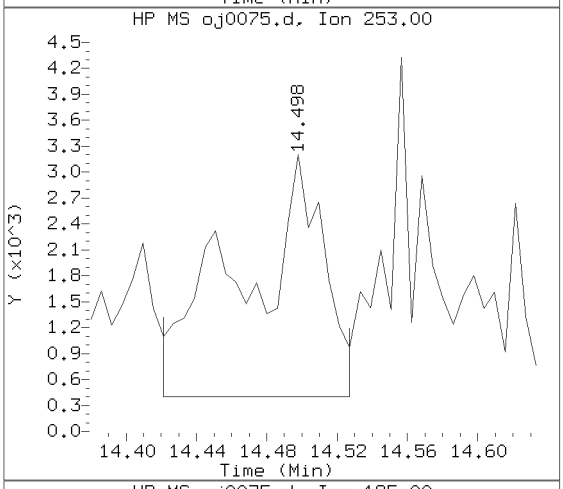
Reference Standard Spectrum for Benzo(a)pyrene



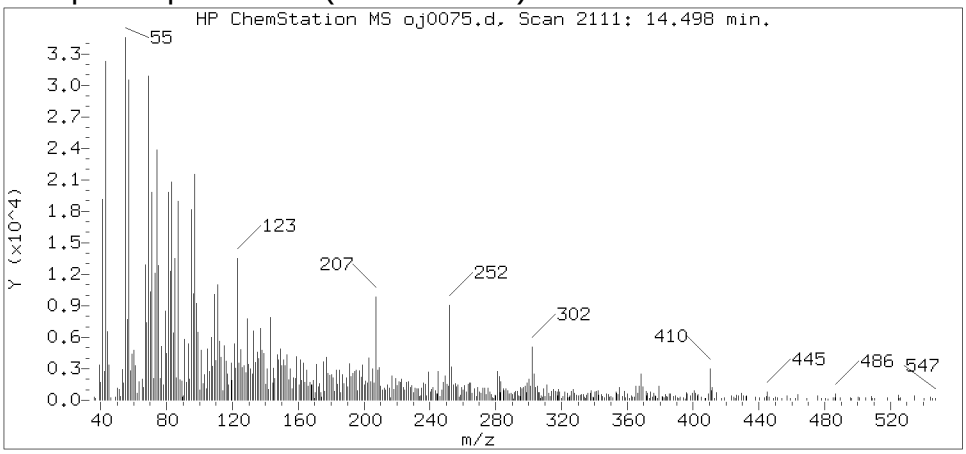


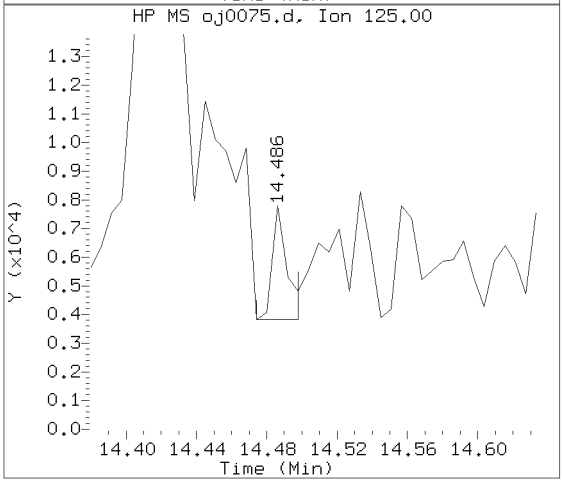
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Sample Name: 49413 Lab Sample ID: 8064453

Compound Number	: 211
Compound Name	: Benzo(a)pyrene
Scan Number	: 2111
Retention Time (minutes)	: 14.498
Relative Retention Time	: 0.00040
Quant Ion	: 252.00
Area (flag)	: 10167
On-column Amount (ng/ul)	: 0.2686

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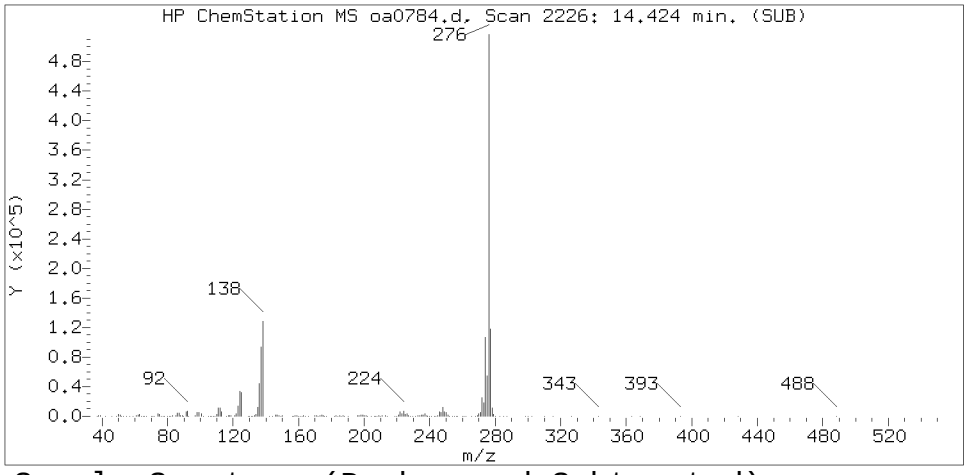
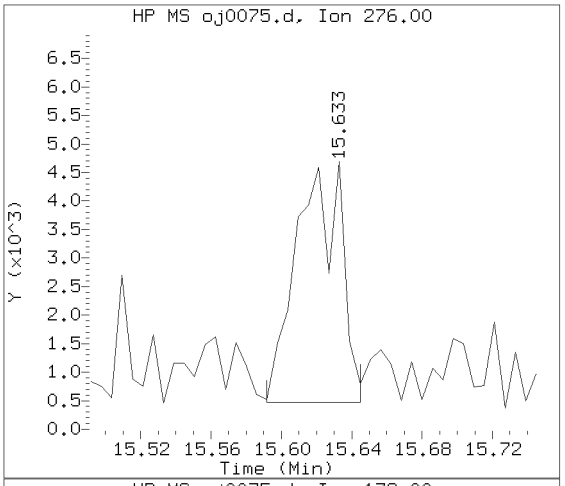
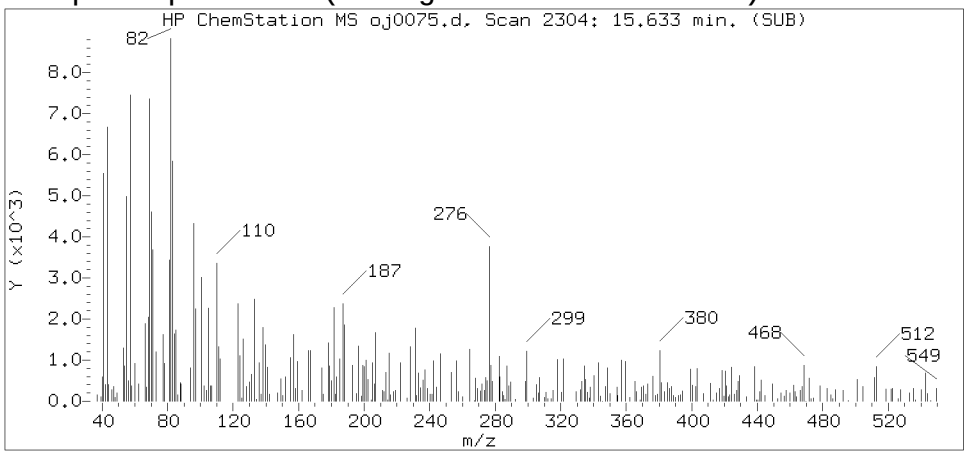
Target 3.5 esignature user ID: ceb05247

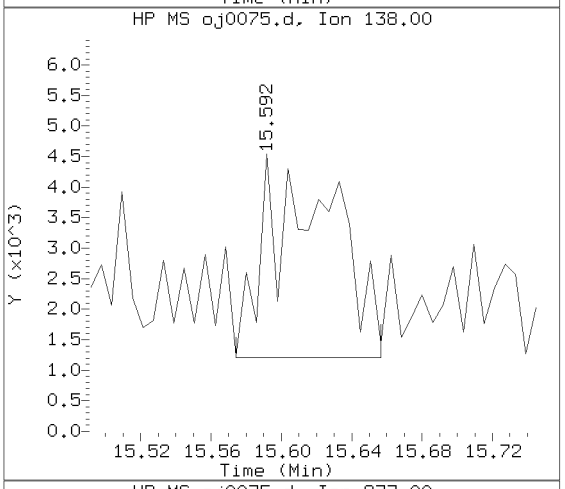
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



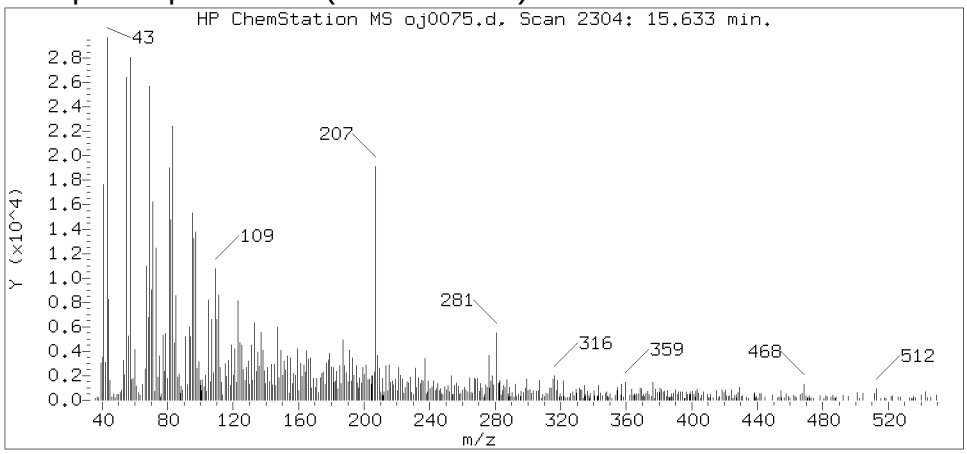


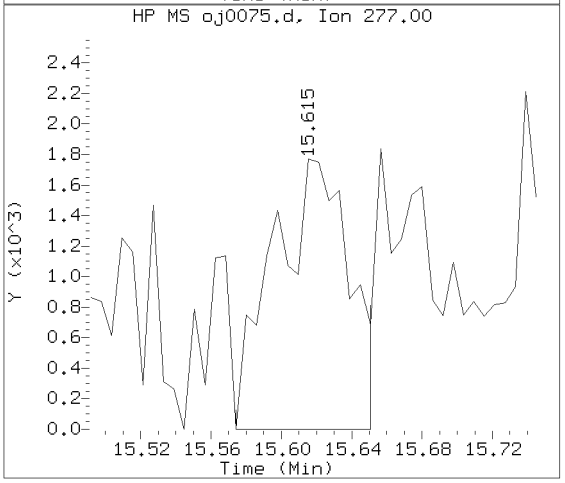
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

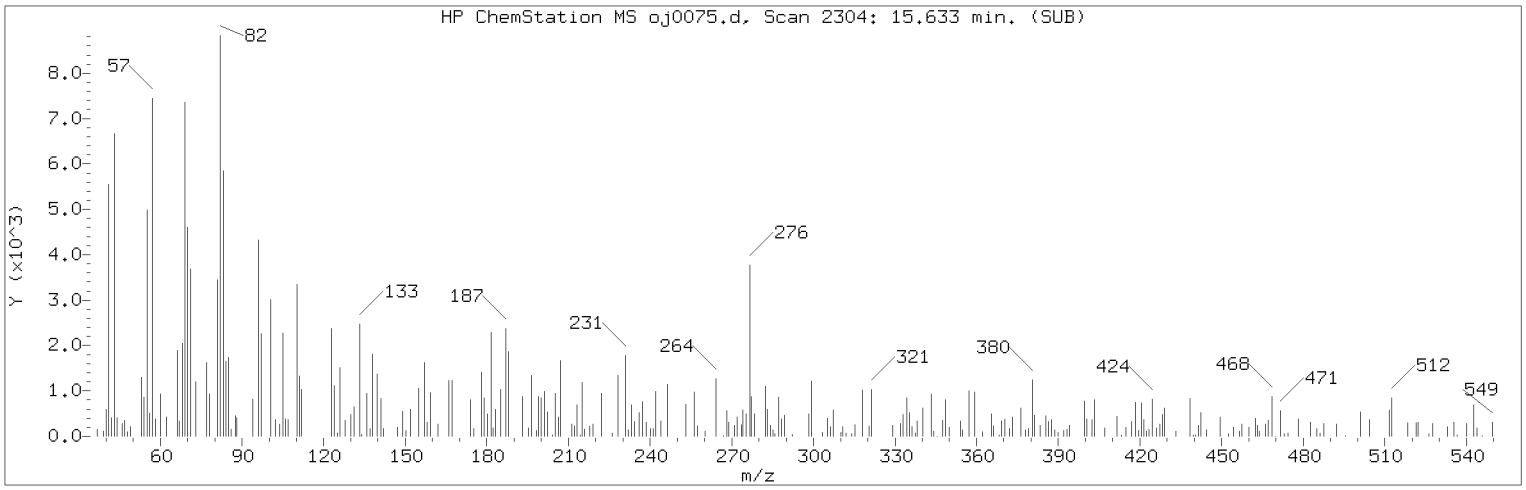
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Sample Name: 49413 Lab Sample ID: 8064453

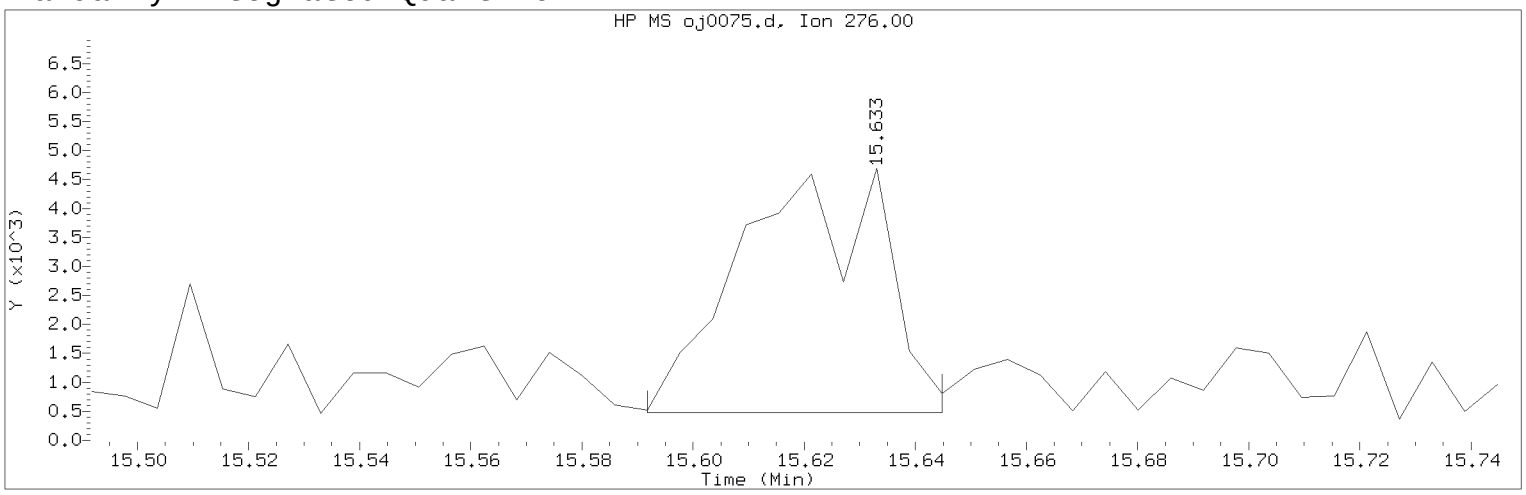
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2304
Retention Time (minutes) : 15.633
Relative Retention Time :-0.00040
Quant Ion : 276.00
Area (flag) : 7535M
On-column Amount (ng/ul) : 0.1912

Digitally signed by Catherine E. Bachman on 10/02/2015 at 13:32.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Sample Name: 49413 Lab Sample ID: 8064453

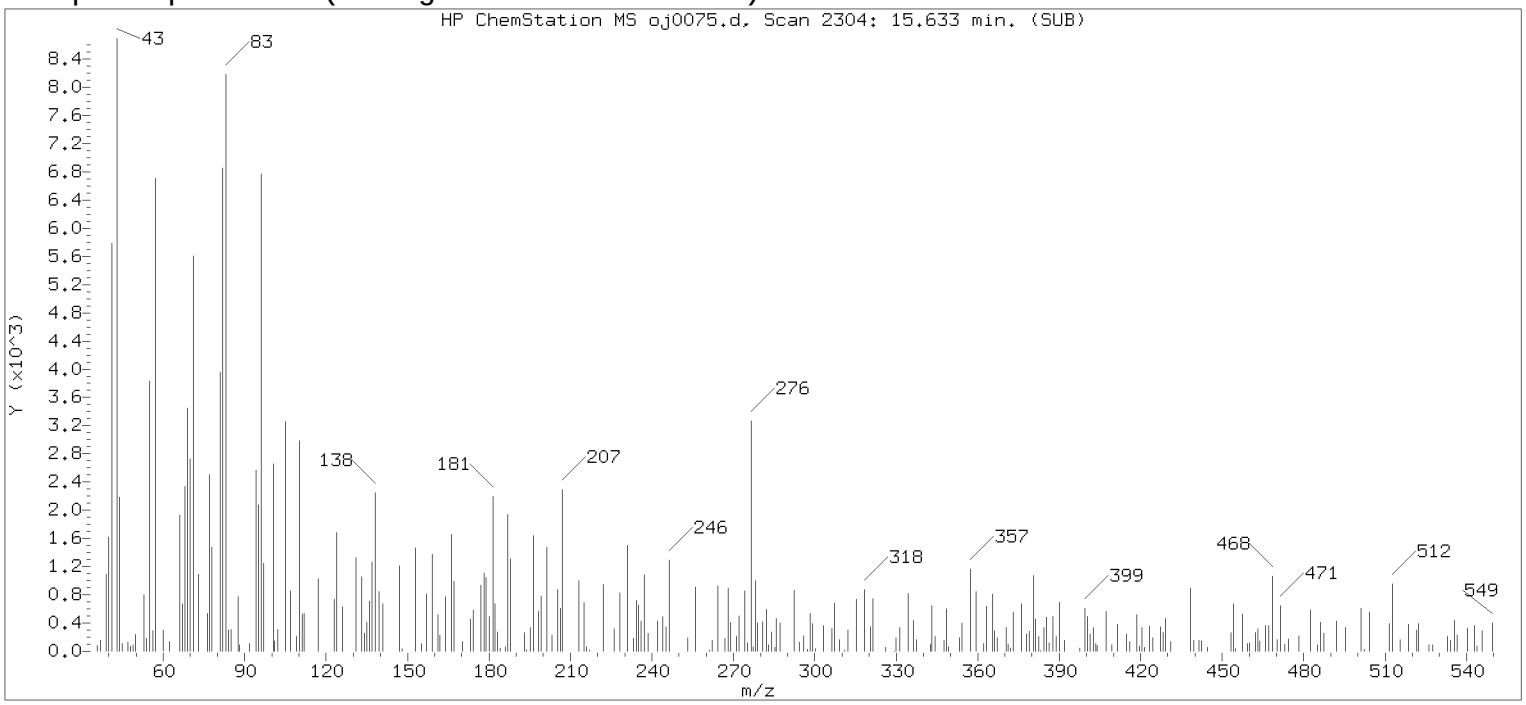
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2304
Retention Time (minutes) : 15.633
Quant Ion : 276.00
Area (flag) : 7535M
On-column Amount (ng/ul) : 0.1912
Integration start scan : 2296 Integration stop scan: 2305
Y at integration start : 478 Y at integration end: 478

Reason for manual integration: improper integration

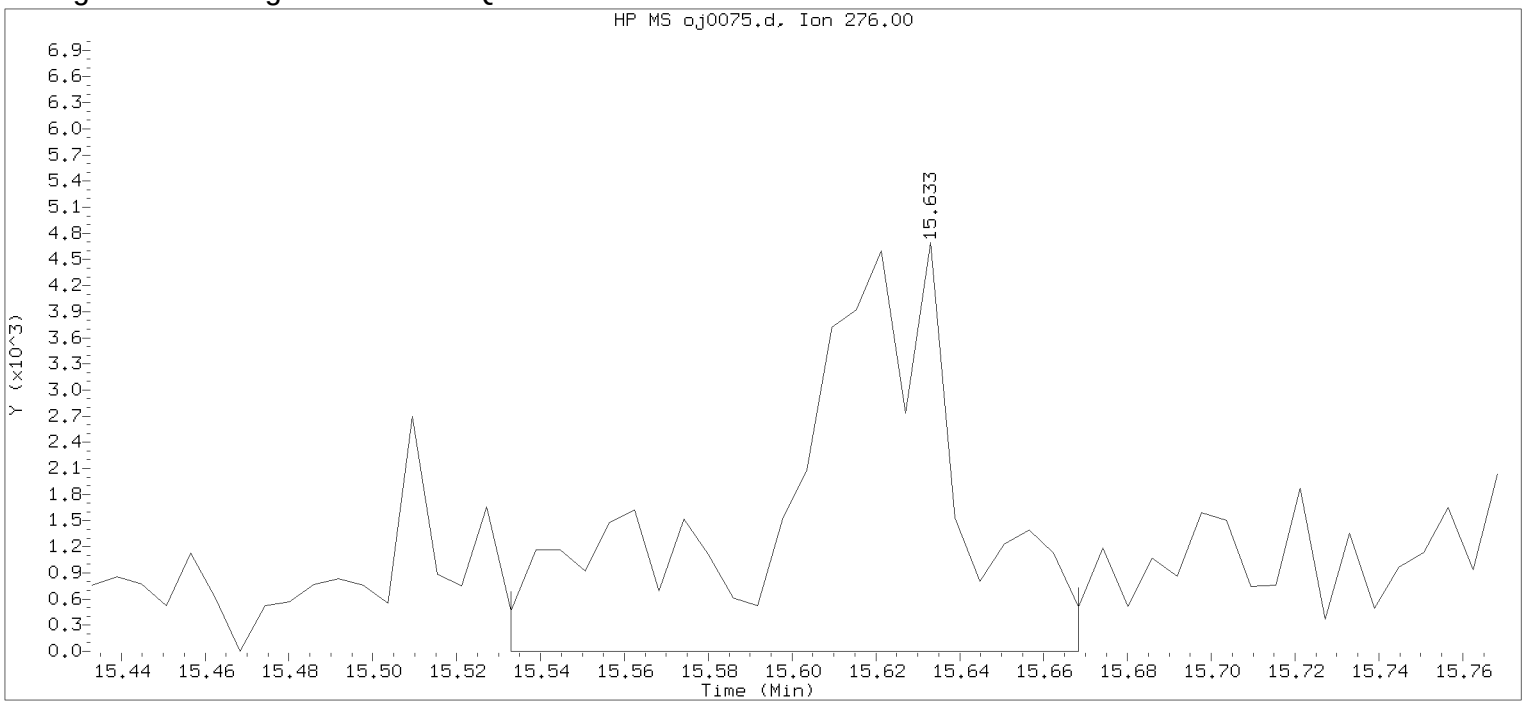
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 13:32.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/02/2015 at 14:08.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

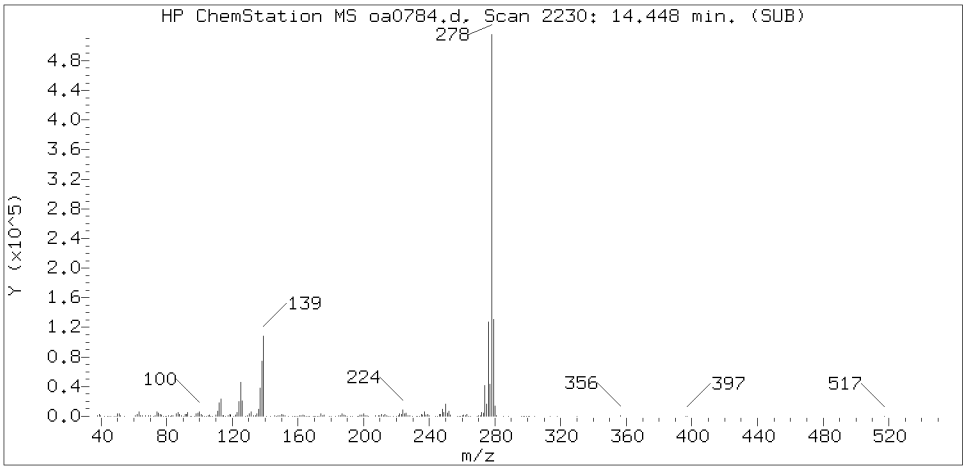
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:16 Automation

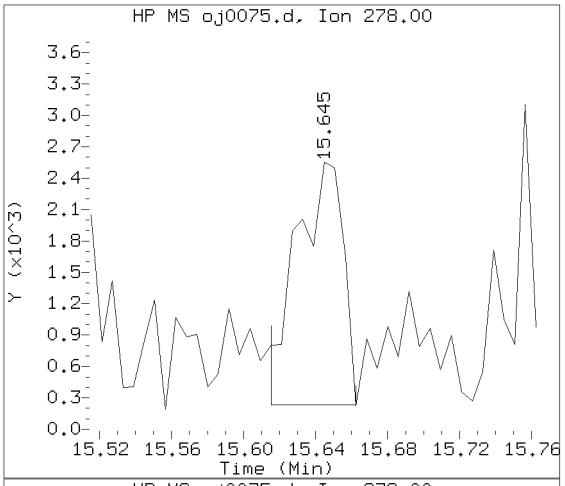
Sample Name: 49413 Lab Sample ID: 8064453

Compound Number	: 219		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 2304		
Retention Time (minutes)	: 15.633		
Quant Ion	: 276.00		
Area	: 14349		
On-column Amount (ng/ul)	: 0.3640		
Integration start scan	: 2286	Integration stop scan:	2309
Y at integration start	: 0	Y at integration end:	0

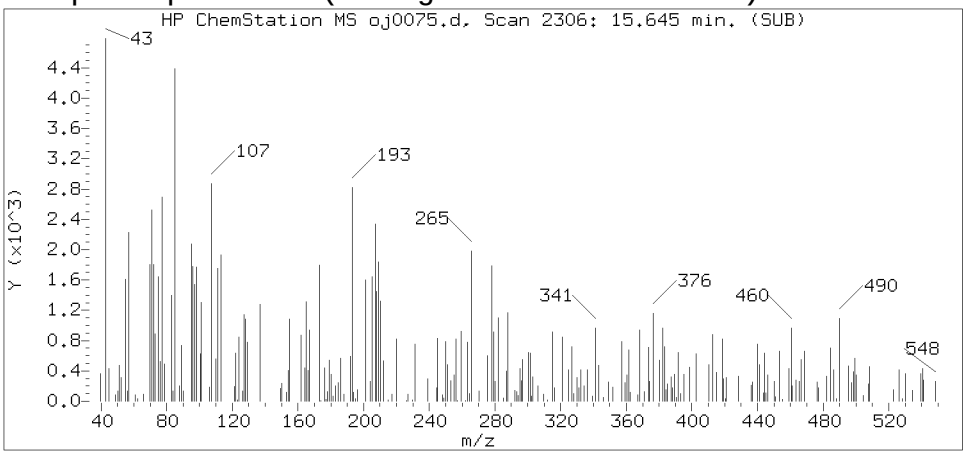
Digitally signed by Catherine E. Bachman on 10/02/2015 at 13:32.
Target 3.5 esignature user ID: 27 date: 20150207

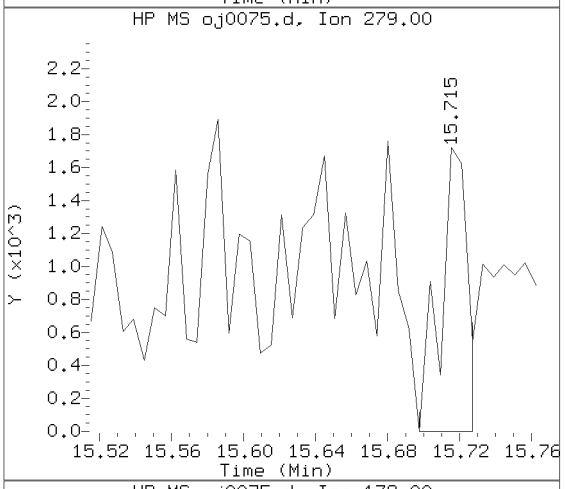
Reference Standard Spectrum for Dibenz(a,h)anthracene



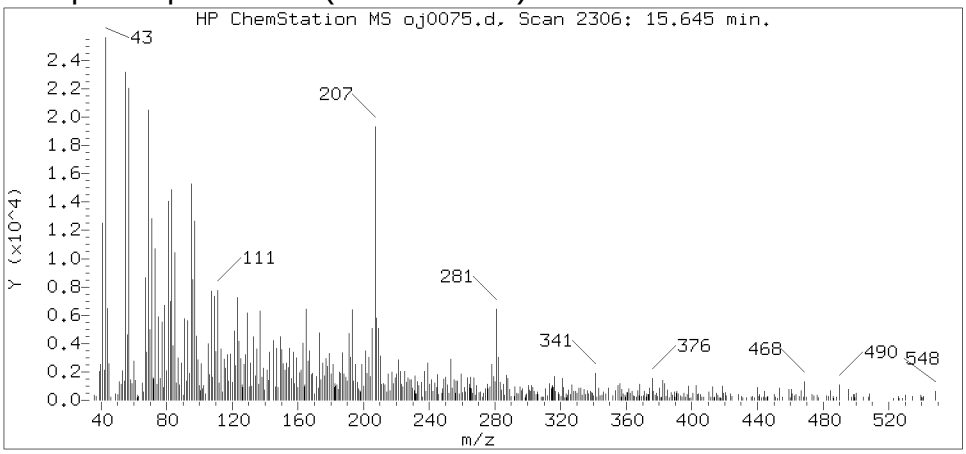


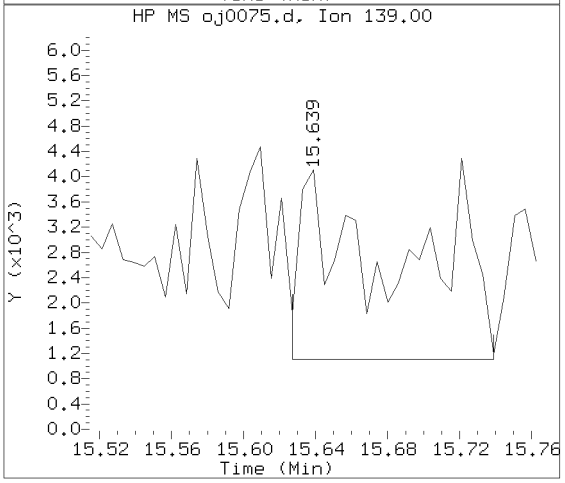
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

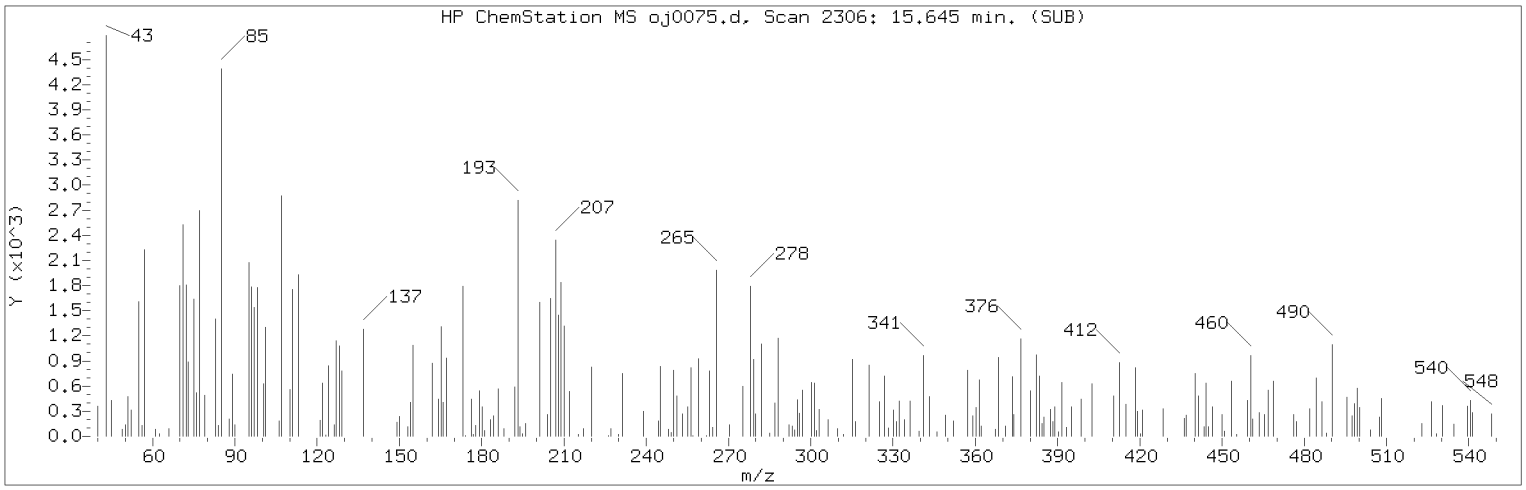
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Sample Name: 49413 Lab Sample ID: 8064453

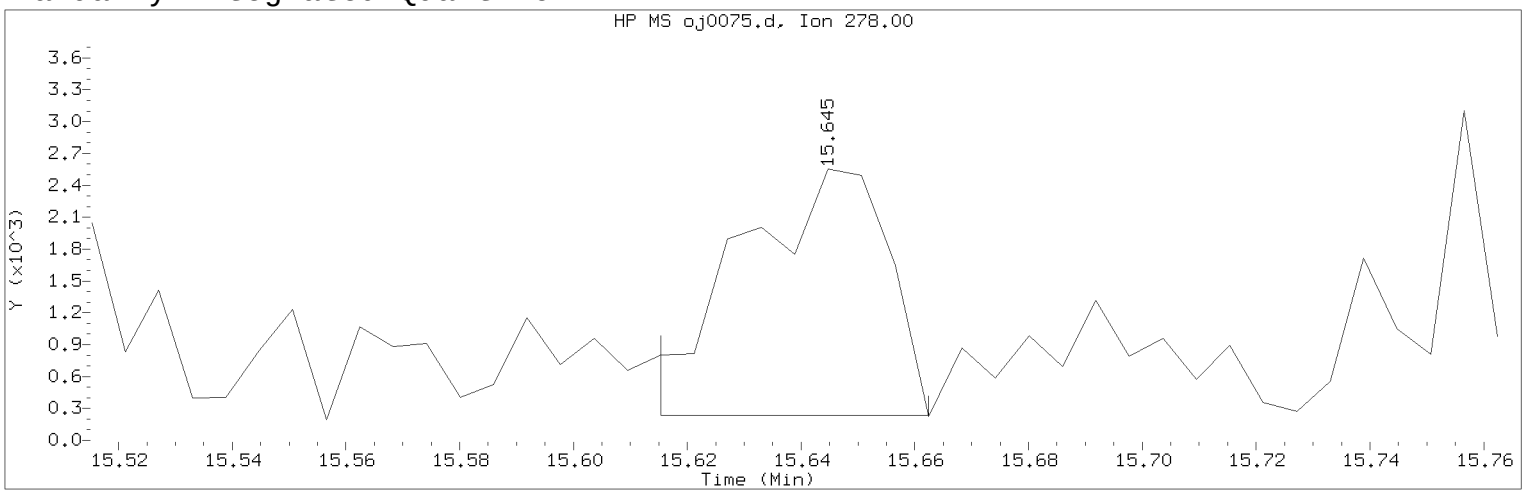
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 2306
Retention Time (minutes) : 15.645
Relative Retention Time : 0.00040
Quant Ion : 278.00
Area (flag) : 4264M
On-column Amount (ng/ul) : 0.1286

Digitally signed by Catherine E. Bachman on 10/02/2015 at 13:32.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Sample Name: 49413 Lab Sample ID: 8064453

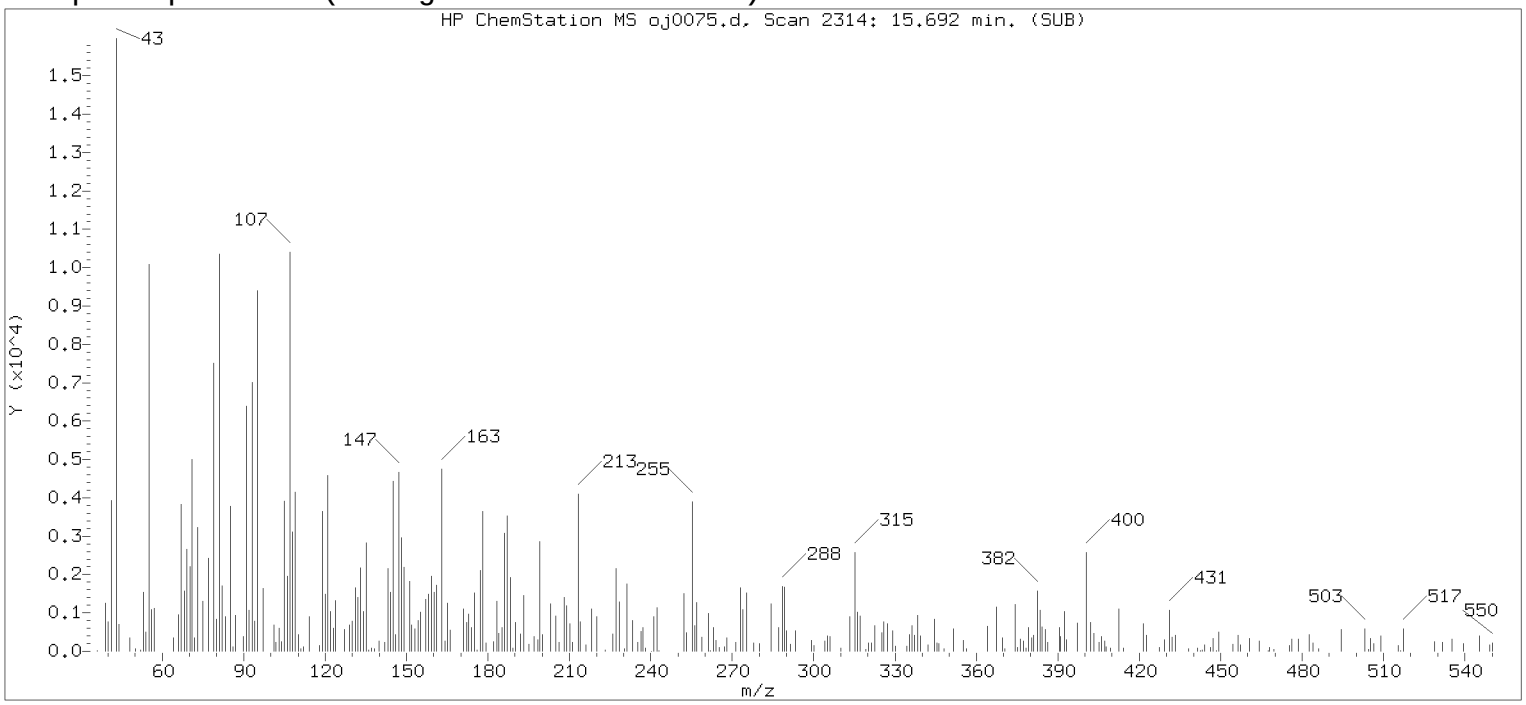
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 2306
Retention Time (minutes) : 15.645
Quant Ion : 278.00
Area (flag) : 4264M
On-column Amount (ng/ul) : 0.1286
Integration start scan : 2300 Integration stop scan: 2308
Y at integration start : 233 Y at integration end: 233

Reason for manual integration: improper integration

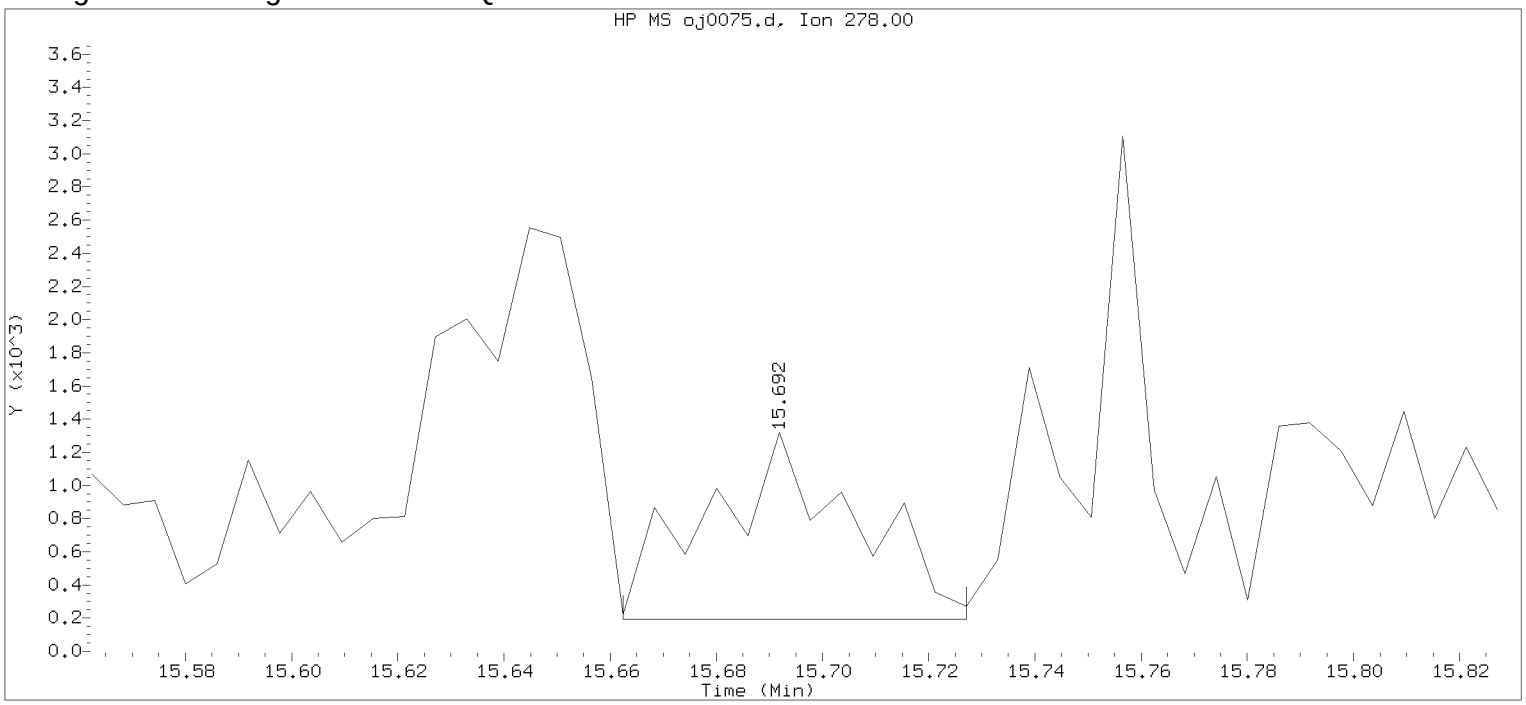
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 13:32.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/02/2015 at 14:08.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

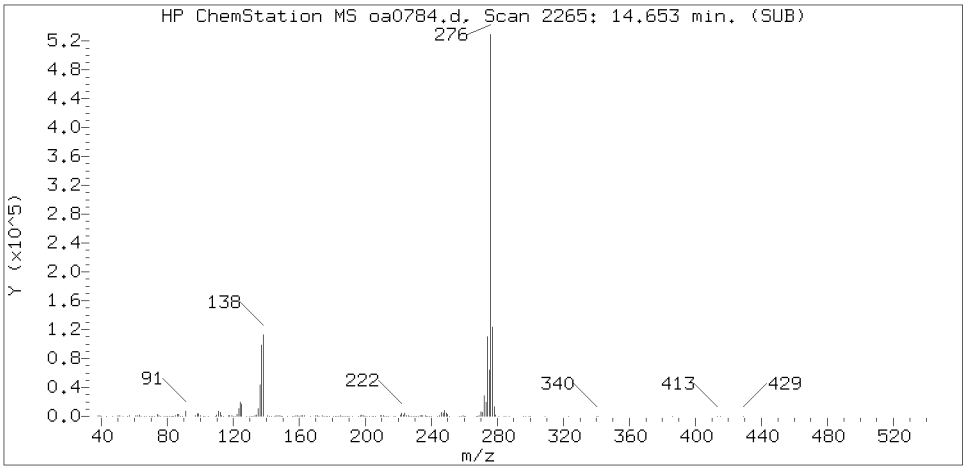
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:16 Automation

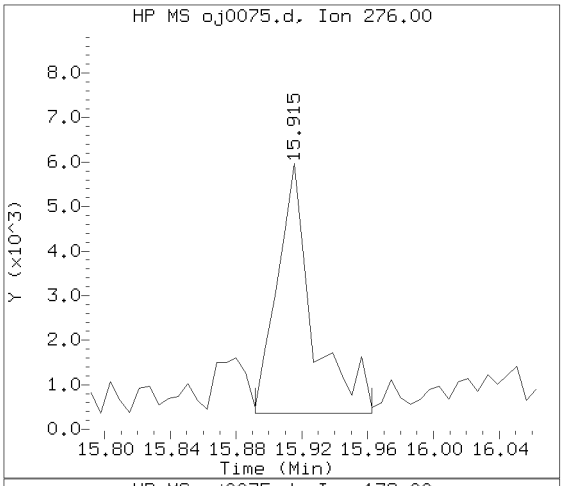
Sample Name: 49413 Lab Sample ID: 8064453

Compound Number	: 220		
Compound Name	: Dibenz(a,h)anthracene		
Scan Number	: 2314		
Retention Time (minutes)	: 15.692		
Quant Ion	: 278.00		
Area	: 2170		
On-column Amount (ng/ul)	: 0.0654		
Integration start scan	: 2308	Integration stop scan:	2319
Y at integration start	: 193	Y at integration end:	193

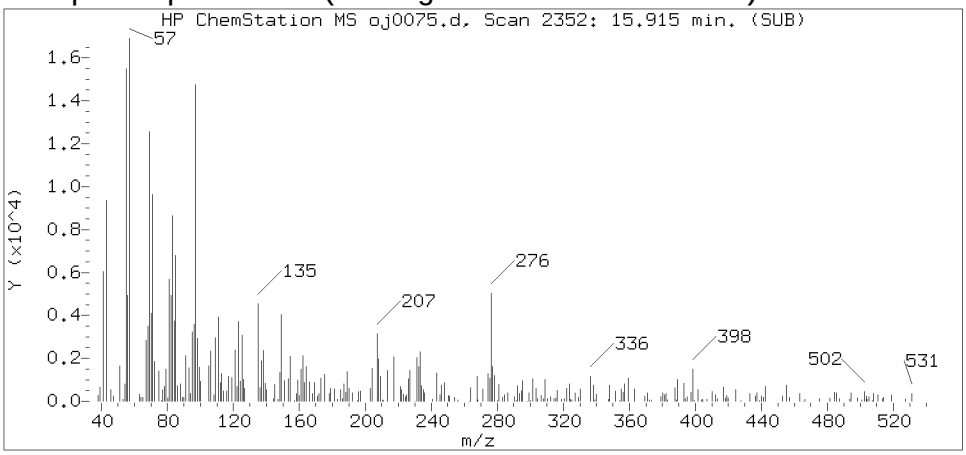
Digitally signed by Catherine E. Bachman on 10/02/2015 at 13:32.
Target 3.5 esignature user ID: 27 date: 05247

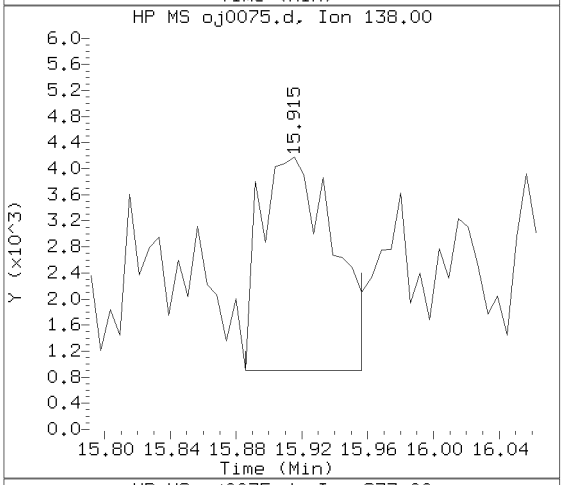
Reference Standard Spectrum for Benzo(g,h,i)perylene



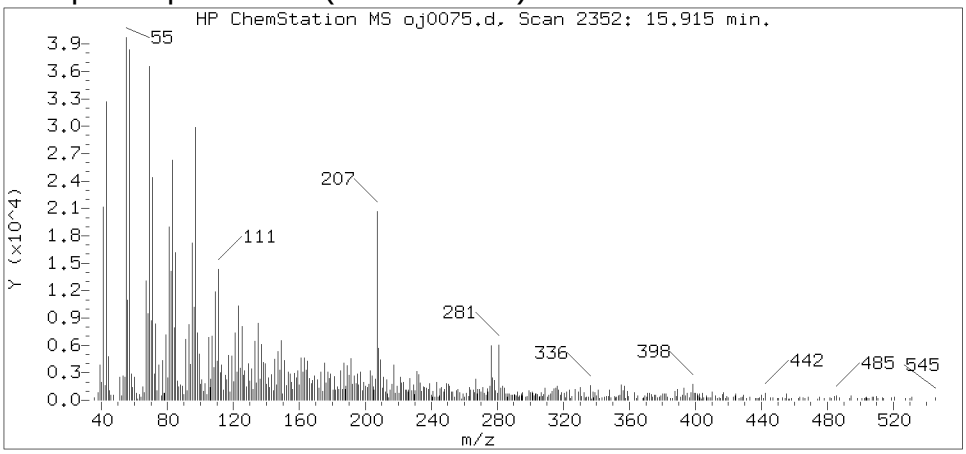


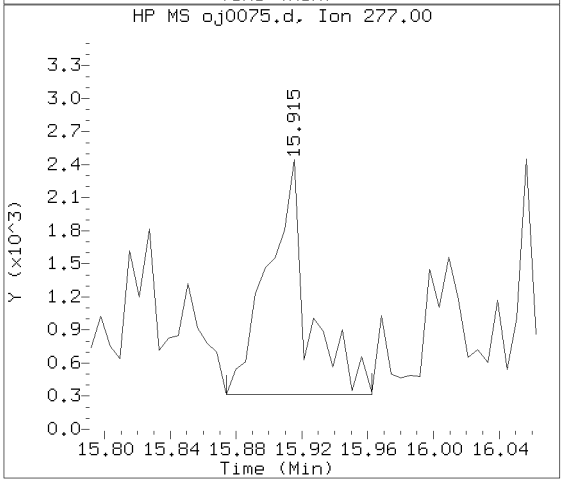
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0075.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:00 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:26 ceb05247

Sample Name: 49413 Lab Sample ID: 8064453

Compound Number	: 221
Compound Name	: Benzo(g,h,i)perylene
Scan Number	: 2352
Retention Time (minutes)	: 15.915
Relative Retention Time	: 0.00081
Quant Ion	: 276.00
Area (flag)	: 8322
On-column Amount (ng/ul)	: 0.2570

Digitally signed by Catherine E. Bachman on 10/02/2015 at 13:32.
Target 3.5 esignature user ID: ceb05247

494FD

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8064457

Data file: /chem/HP09910.i/15oct02.b/oj0083.d
Data file Sample Info. Line: 494FD;8064457;2;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Injection date and time: **02-OCT-2015 15:18**
Instrument ID: **HP09910.i** Batch: **15272SLD**

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 13:57
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.23 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.087(-0.006)	681	152	168631 (0)	20.00	
65) Naphthalene-d8	7.363(0.000)	898	136	859937 (12)	20.00	
113) Acenaphthene-d10	9.092(0.000)	1192	164	503445 (2)	20.00	
153) Phenanthrene-d10	10.539(0.000)	1438	188	844982 (-10)	20.00	
175) Pyrene-d10	11.927(0.000)	1674	212	865171 (-18)	20.00	
213) Perylene-d12	14.568(-0.012)	2123	264	603661 (-22)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.651(0.000)	82	1551100	77.511	78%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.445(0.000)	172	2905044	90.908	91%		63 - 117
179) Terphenyl-d14	(5)	12.127(0.000)	244	2814992	88.411	88%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	7.381(0.000)	128	15792	0.333	11.02			0.1
83) 2-Methylnaphthalene	(2)	8.075(-0.000)	142	4358M	0.131	4.32			0.1
109) Acenaphthylene	(3)	8.951(-0.000)	152	46603	1.043	34.49			0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)	10.563(0.000)	178	65613	1.337	44.23			0.1
157) Anthracene	(4)	10.616(0.000)	178	45628	0.941	31.12			0.1
173) Fluoranthene	(4)	11.727(0.000)	202	267884	5.023	166.16			0.1
177) Pyrene	(5)	11.945(0.000)	202	300951	5.831	192.88			0.1
195) Benzo(a)anthracene	(5)	13.133(-0.000)	228	134412	2.987	98.82			0.1
196) Chrysene	(5)	13.168(-0.000)	228	153080	3.571	118.12			0.1
206) Benzo(b)fluoranthene	(6)	14.204(0.000)	252	176749M	4.666	154.33			0.1
208) Benzo(k)fluoranthene	(6)	14.221(0.000)	252	73720M	1.907	63.09			0.1
211) Benzo(a)pyrene	(6)	14.516(-0.000)	252	126923	3.392	112.21			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	15.639(0.000)	276	84779	2.175	71.96			0.1
220) Dibenz(a,h)anthracene	(6)	15.657(0.000)	278	27477M	0.838	27.73			0.1
221) Benzo(g,h,i)perylene	(6)	15.939(0.000)	276	85733	2.678	88.60			0.1

M = Compound was manually integrated.

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0083.d Injection date and time: **02-OCT-2015 15:18**
Data file Sample Info. Line: 494FD;8064457;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 13:57
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.23 g

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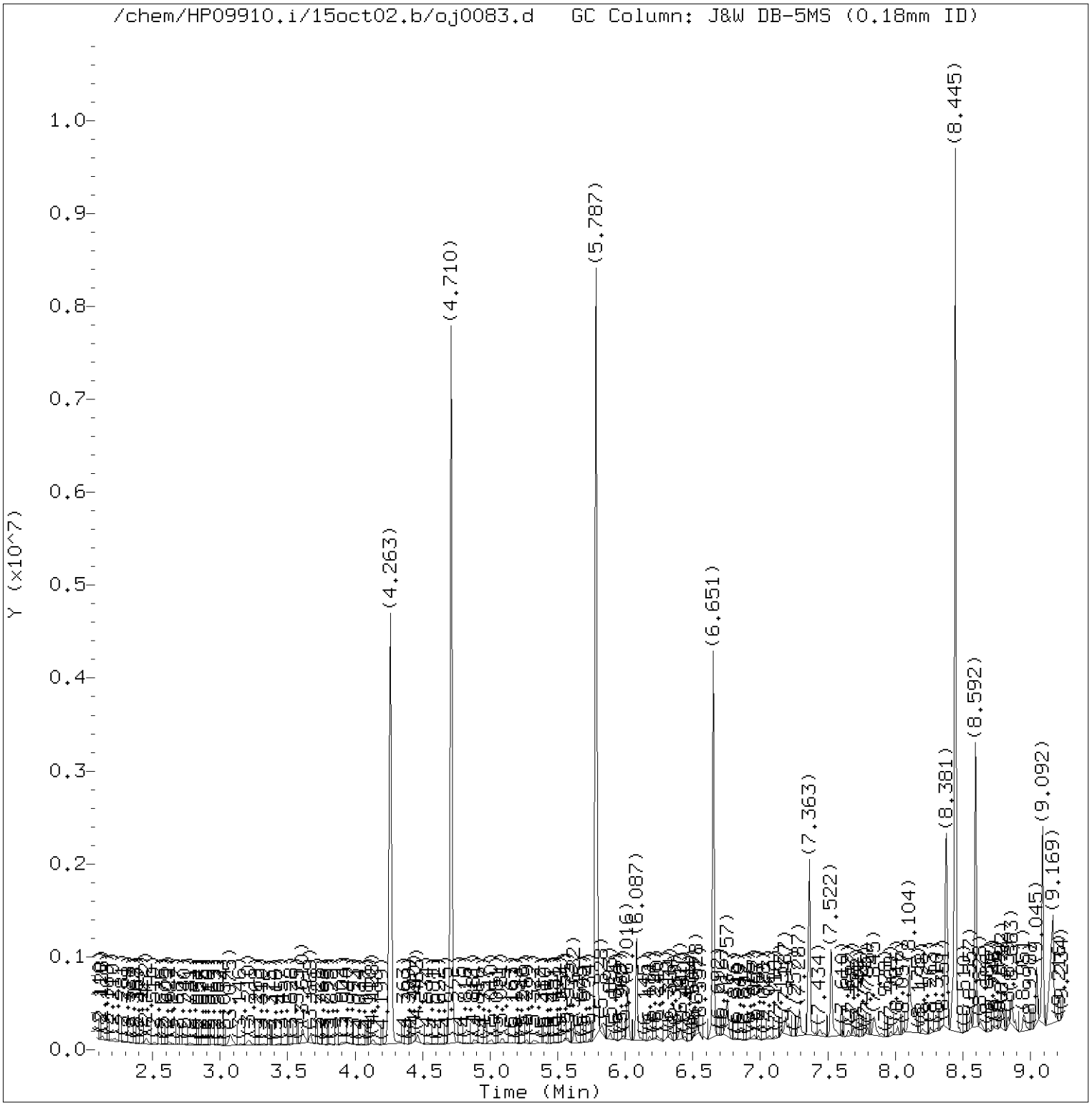
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

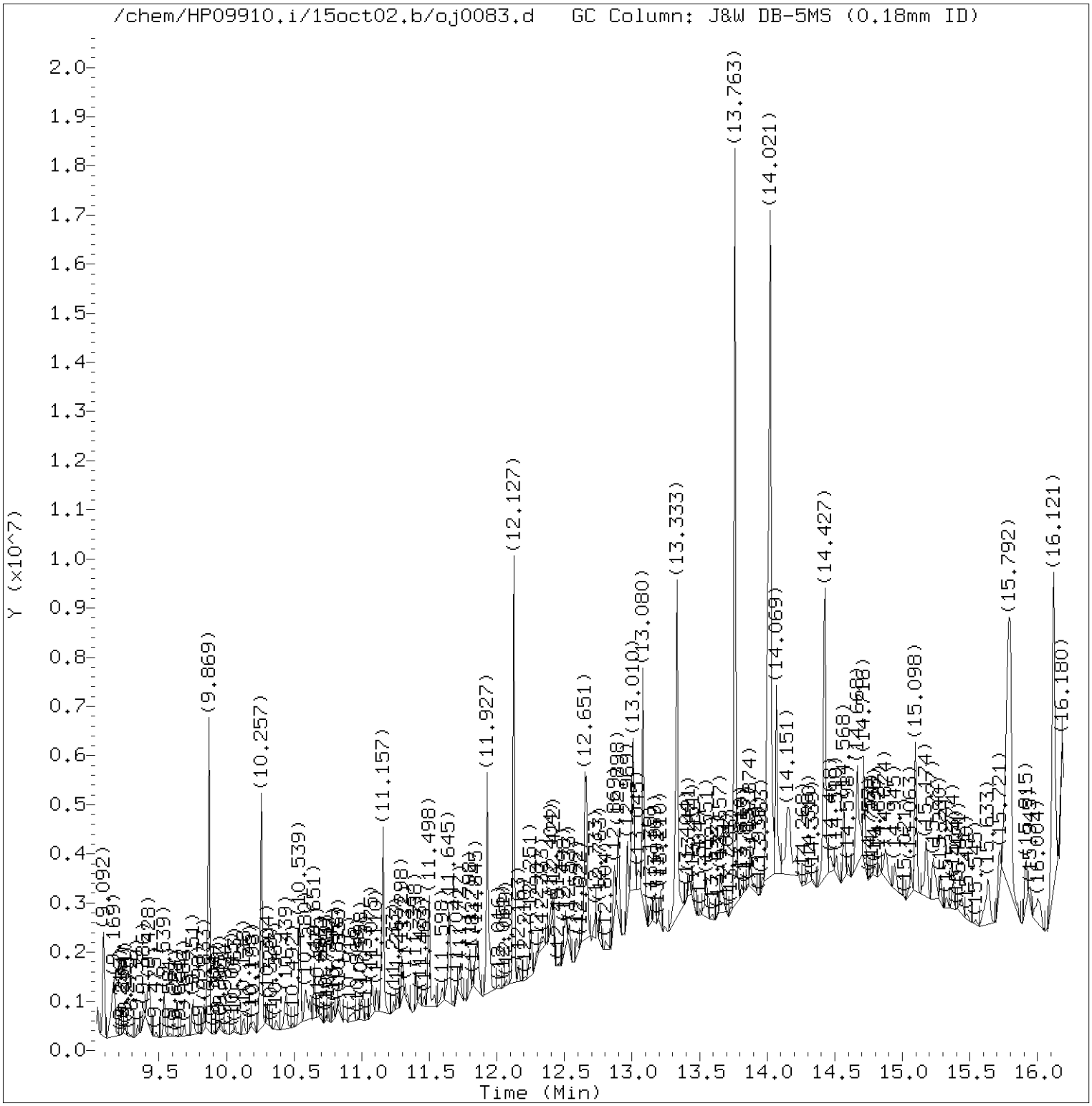
Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.087	152	168631	20.000
44)$Nitrobenzene-d5	(2)	6.651	82	1551100	77.511
65)*Naphthalene-d8	(2)	7.363	136	859937	20.000
66) Naphthalene	(2)	7.381	128	15792	0.333
83) 2-Methylnaphthalene	(2)	8.075	142	4358M	0.131
93)$2-Fluorobiphenyl	(3)	8.445	172	2905044	90.908
109) Acenaphthylene	(3)	8.951	152	46603	1.043
113)*Acenaphthene-d10	(3)	9.092	164	503445	20.000
153)*Phenanthrene-d10	(4)	10.539	188	844982	20.000
155) Phenanthrene	(4)	10.563	178	65613	1.337
157) Anthracene	(4)	10.616	178	45628	0.941
173) Fluoranthene	(4)	11.727	202	267884	5.023
175)*Pyrene-d10	(5)	11.927	212	865171	20.000
177) Pyrene	(5)	11.945	202	300951	5.831
179)$Terphenyl-d14	(5)	12.127	244	2814992	88.411
195) Benzo(a)anthracene	(5)	13.133	228	134412	2.987
196) Chrysene	(5)	13.169	228	153080	3.571
206) Benzo(b)fluoranthene	(6)	14.204	252	176749M	4.666
208) Benzo(k)fluoranthene	(6)	14.221	252	73720M	1.907
211) Benzo(a)pyrene	(6)	14.516	252	126923	3.392
213)*Perylene-d12	(6)	14.568	264	603661	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	15.639	276	84779	2.175
220) Dibenz(a,h)anthracene	(6)	15.657	278	27477M	0.838
221) Benzo(g,h,i)perylene	(6)	15.939	276	85733	2.678

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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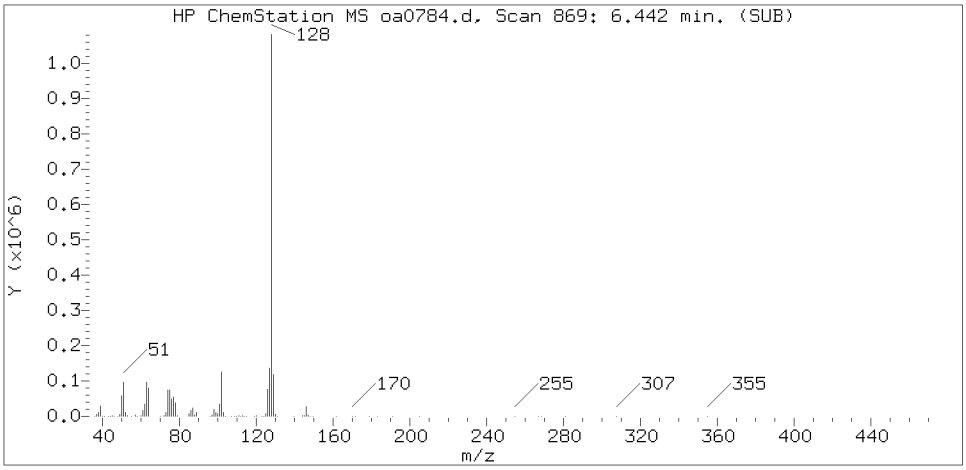
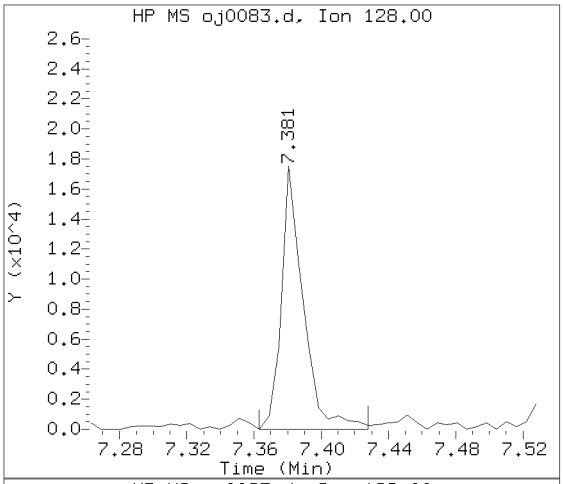
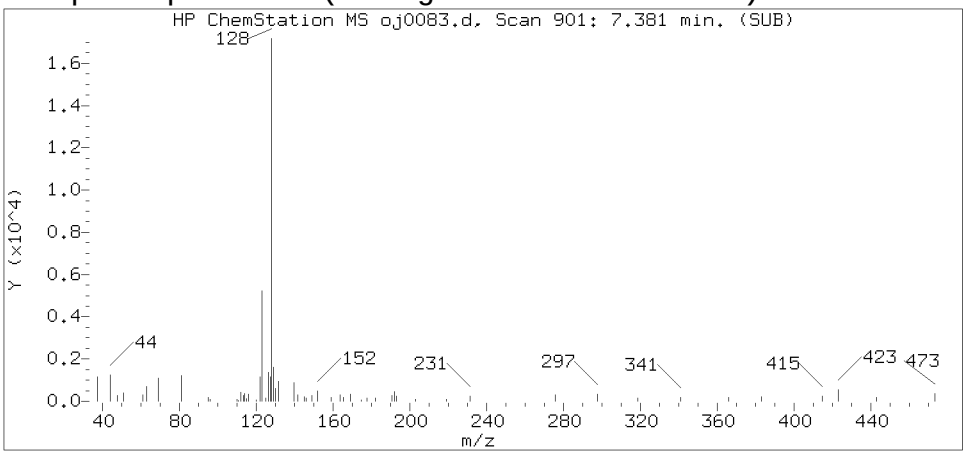
Target 3.5 esignature user ID: ceb05247

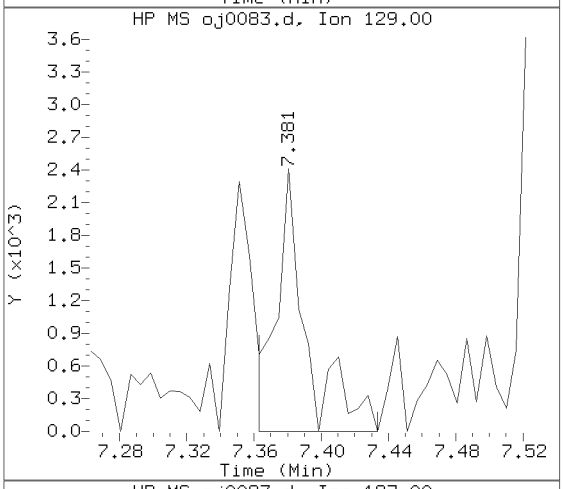
Reference Standard Spectrum for Naphthalene



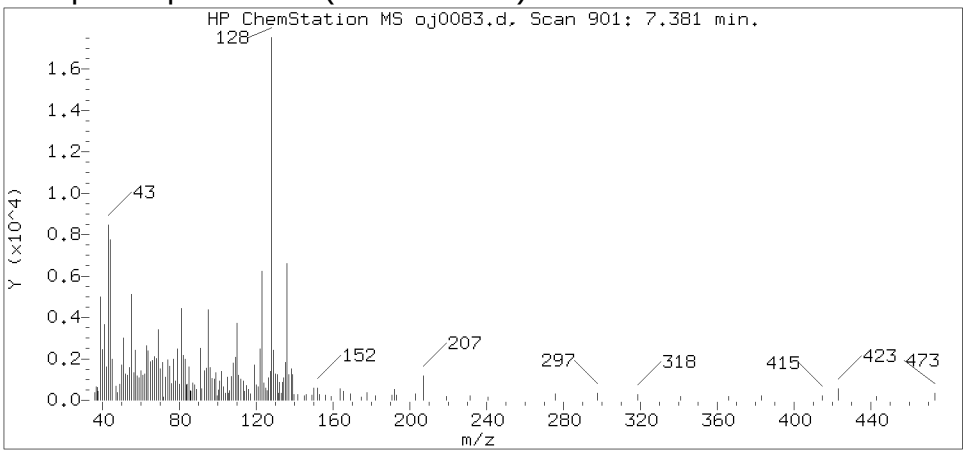


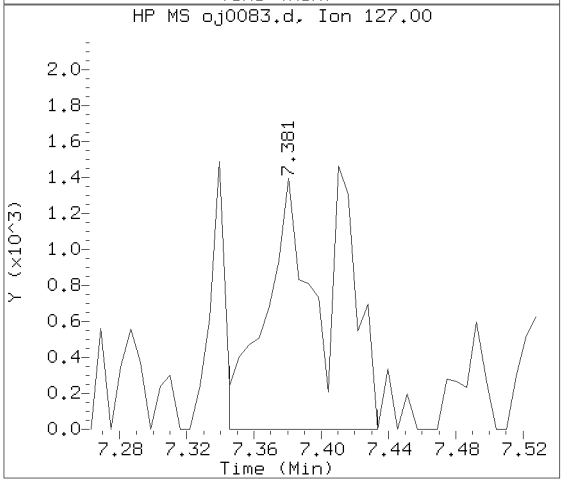
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

Compound Number	: 66
Compound Name	: Naphthalene
Scan Number	: 901
Retention Time (minutes)	: 7.381
Relative Retention Time	: 0.00000
Quant Ion	: 128.00
Area (flag)	: 15792
On-column Amount (ng/ul)	: 0.3332

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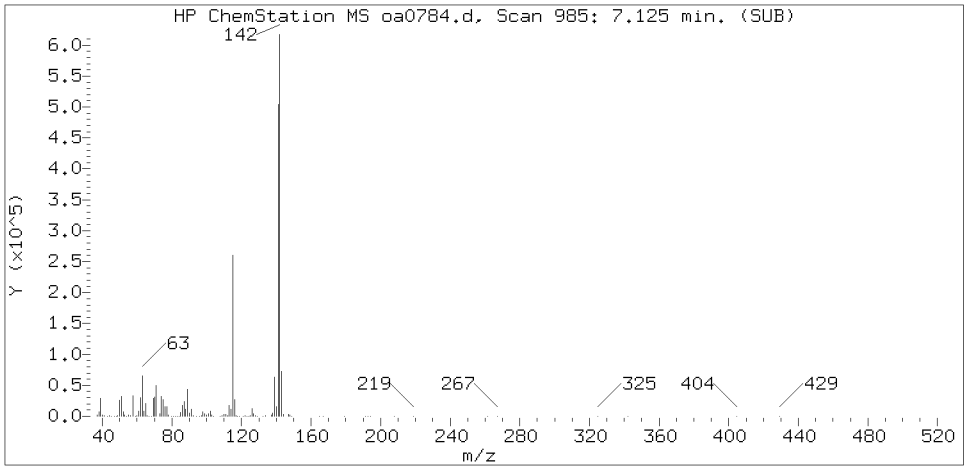
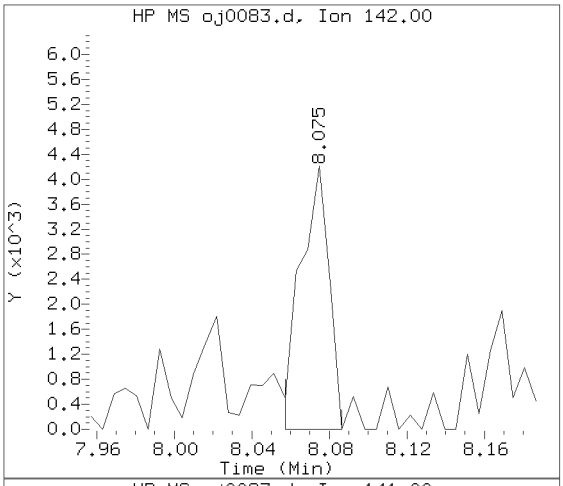
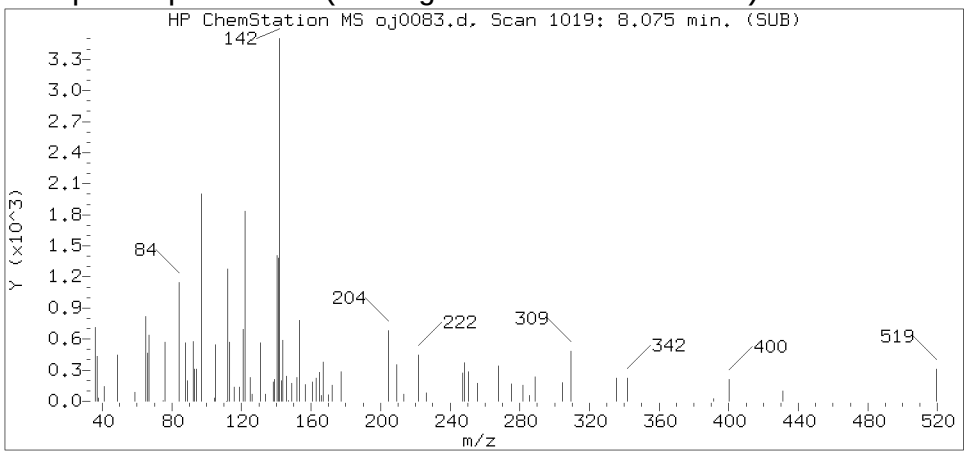
Target 3.5 esignature user ID: ceb05247

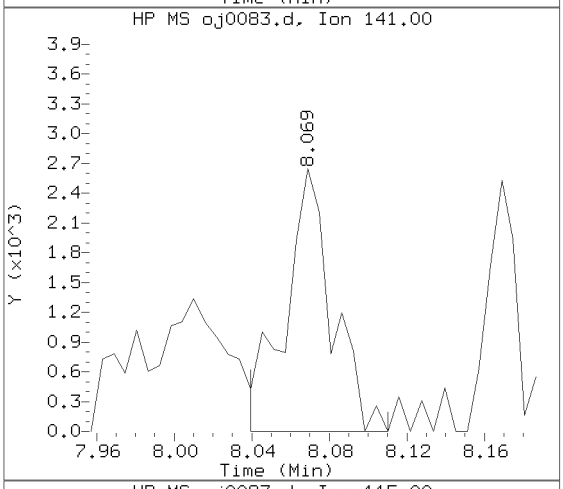
Reference Standard Spectrum for 2-Methylnaphthalene



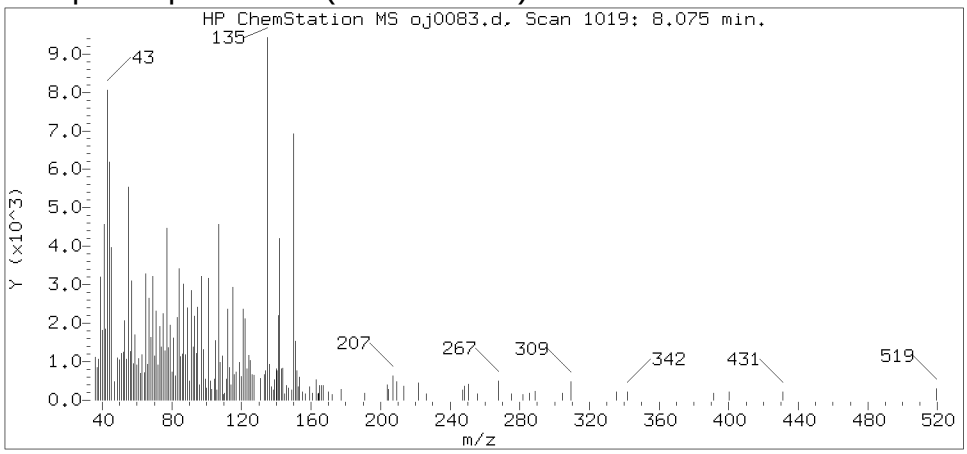


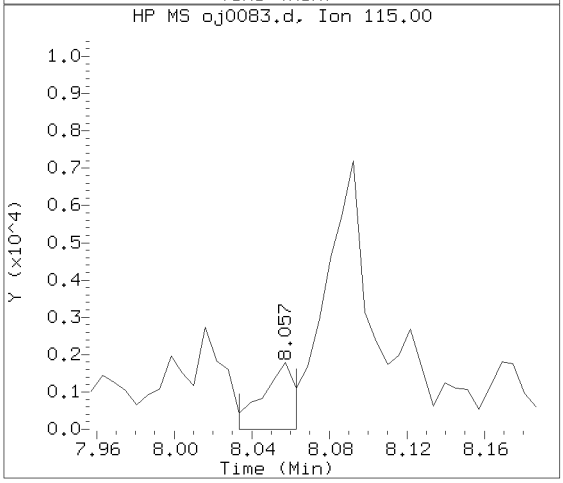
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

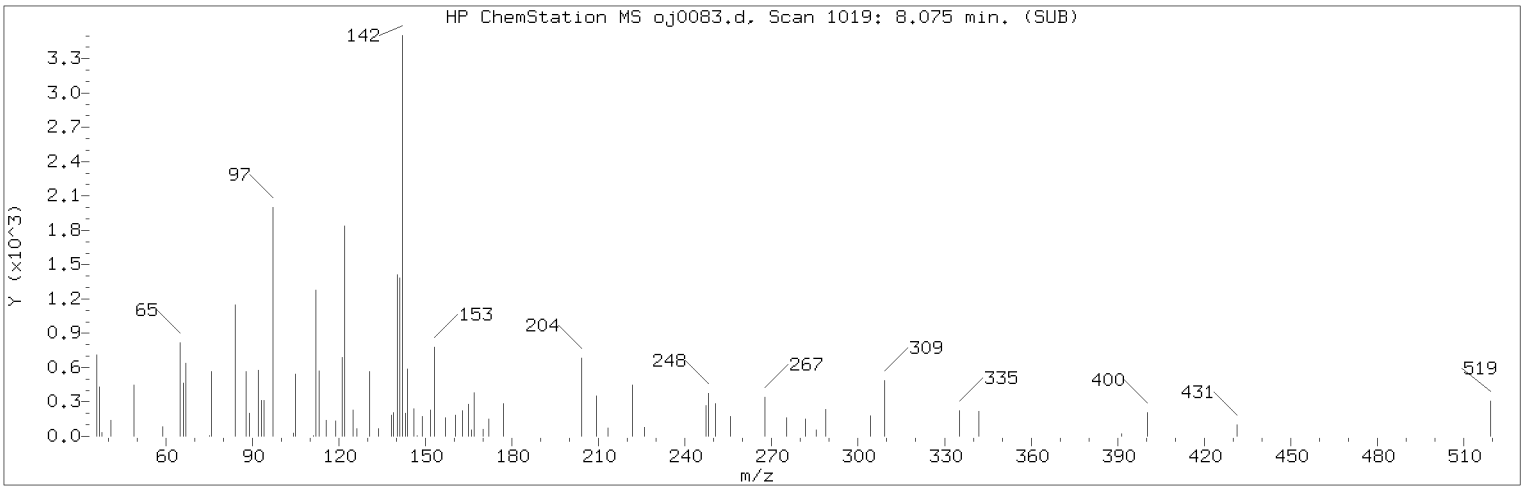
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

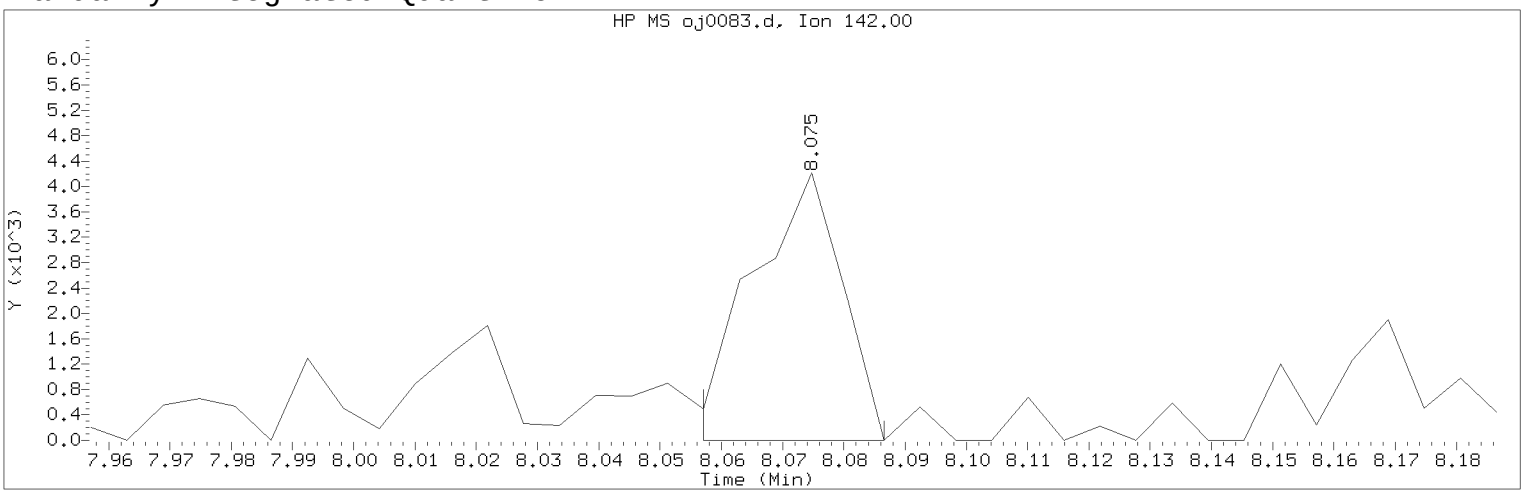
Compound Number : 83
Compound Name : 2-Methylnaphthalene
Scan Number : 1019
Retention Time (minutes) : 8.075
Relative Retention Time :-0.00080
Quant Ion : 142.00
Area (flag) : 4358M
On-column Amount (ng/ul) : 0.1305

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

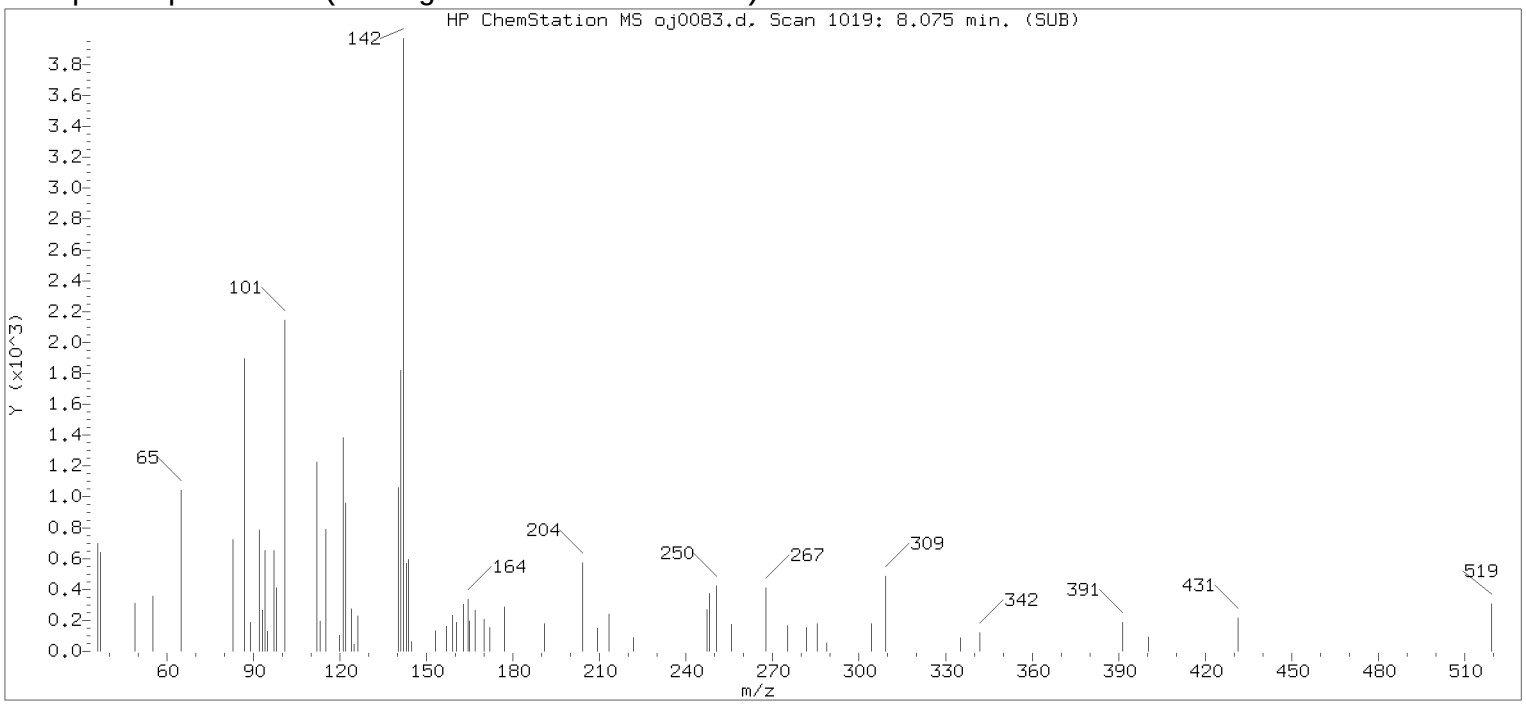
Compound Number : 83
Compound Name : 2-Methylnaphthalene
Scan Number : 1019
Retention Time (minutes) : 8.075
Quant Ion : 142.00
Area (flag) : 4358M
On-column Amount (ng/ul) : 0.1305
Integration start scan : 1015 Integration stop scan: 1020
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

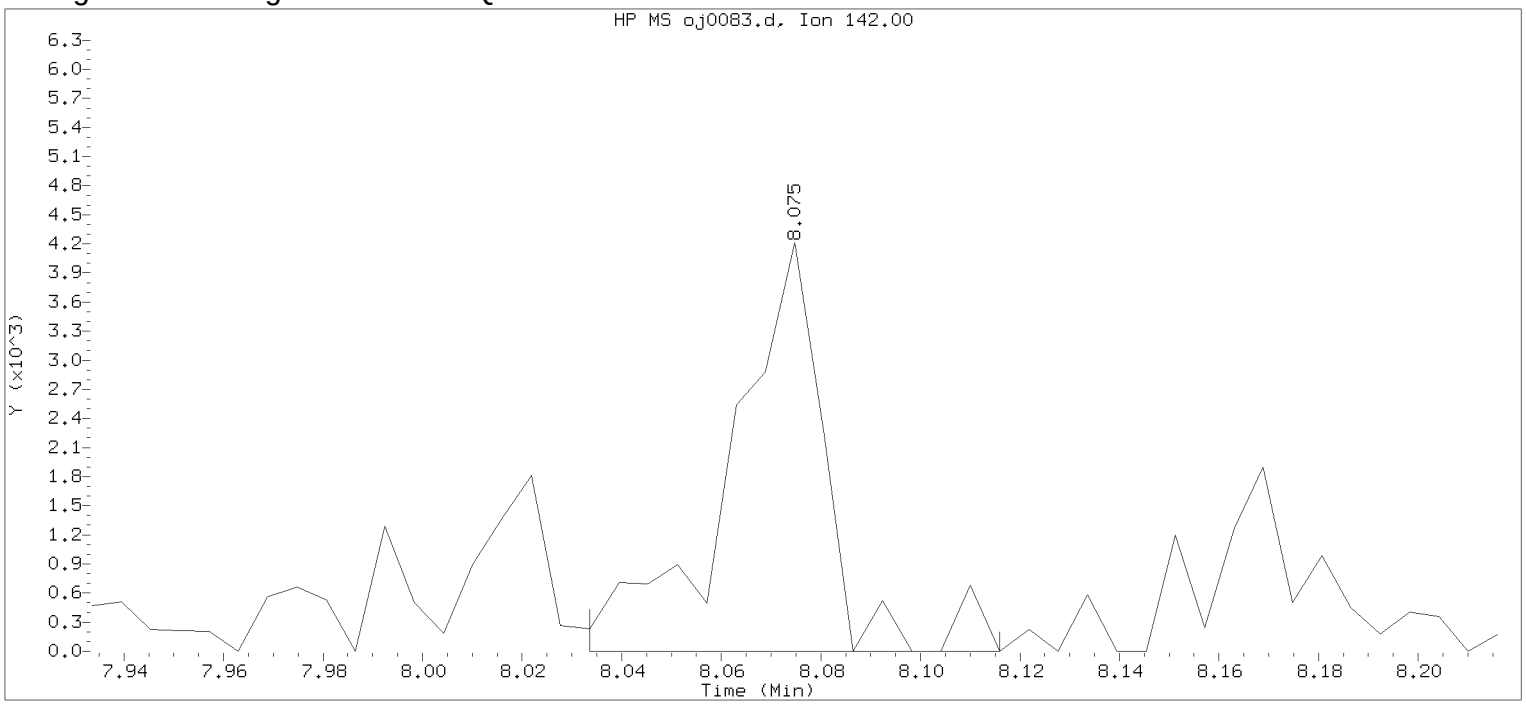
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

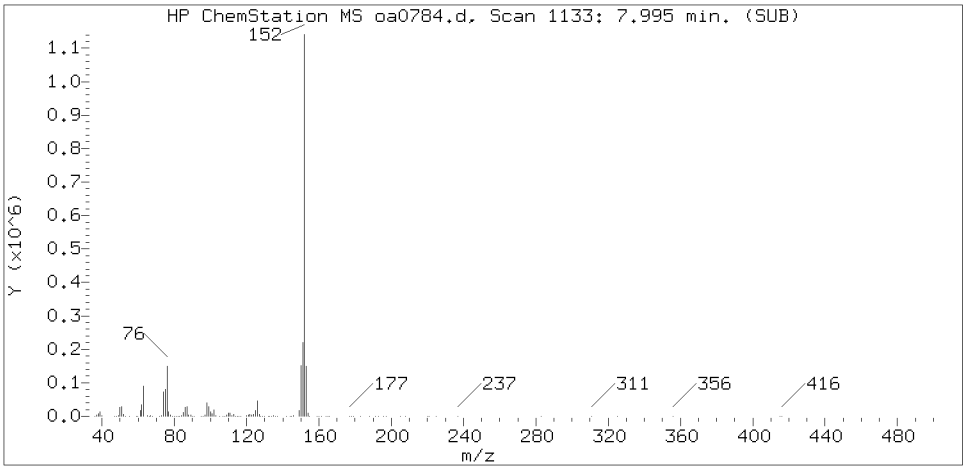
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 15:34 Automation

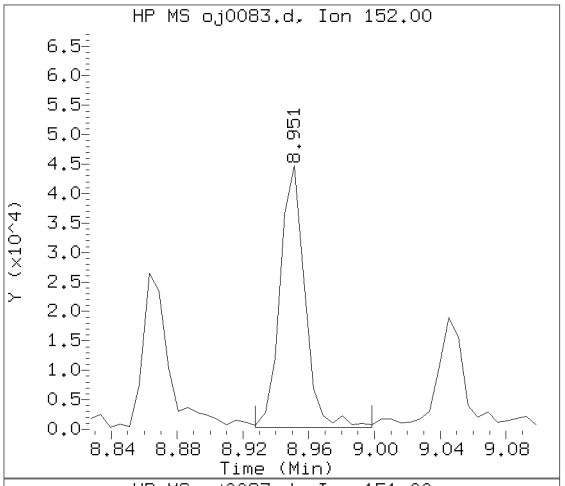
Sample Name: 494FD Lab Sample ID: 8064457

Compound Number	: 83		
Compound Name	: 2-Methylnaphthalene		
Scan Number	: 1019		
Retention Time (minutes)	: 8.075		
Quant Ion	: 142.00		
Area	: 5636		
On-column Amount (ng/ul)	: 0.1688		
Integration start scan	: 1011	Integration stop scan:	1025
Y at integration start	: 0	Y at integration end:	0

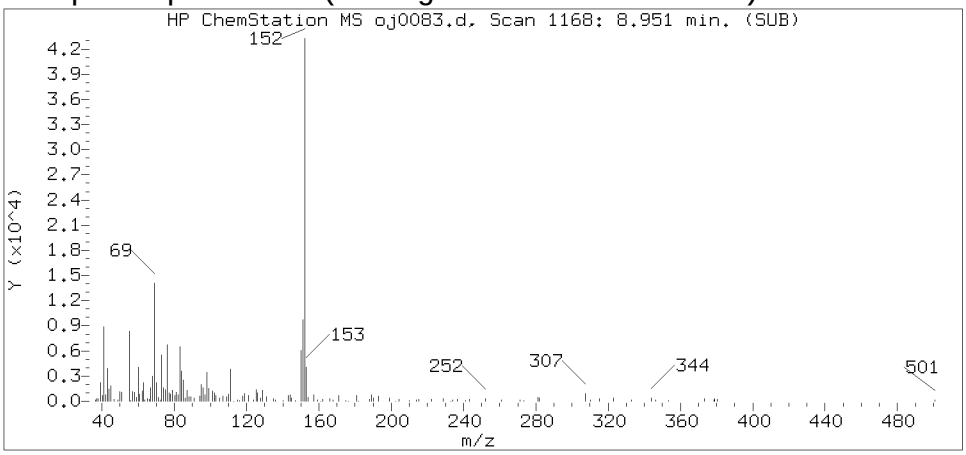
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: 7 date: 05247

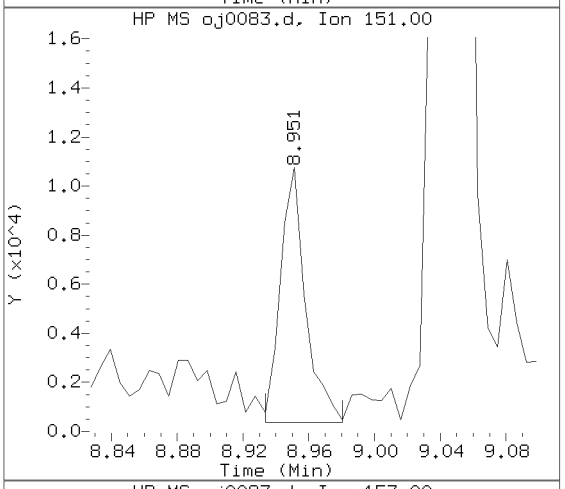
Reference Standard Spectrum for Acenaphthylene



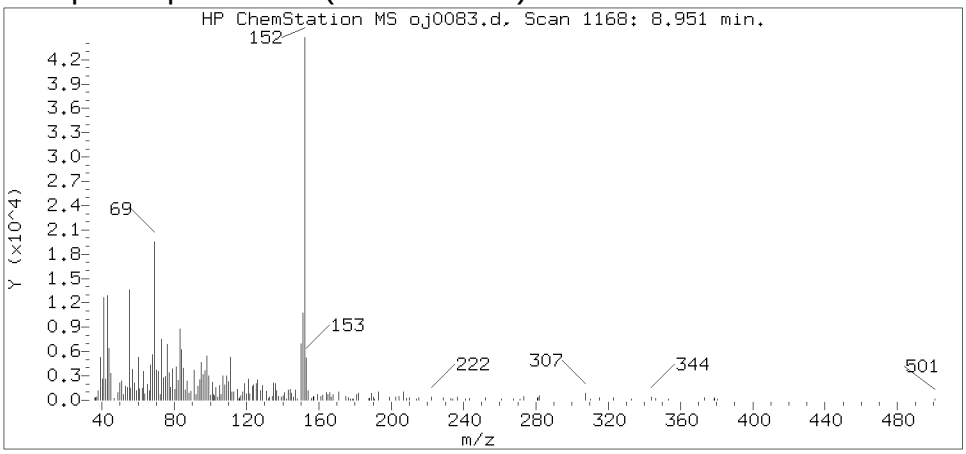


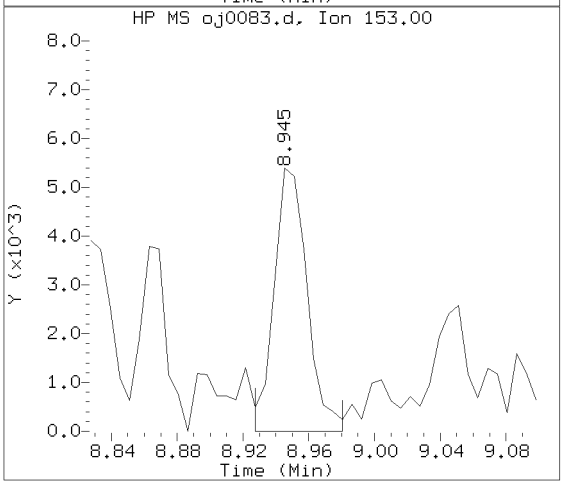
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

Compound Number : 109
Compound Name : Acenaphthylene
Scan Number : 1168
Retention Time (minutes) : 8.951
Relative Retention Time :-0.00000
Quant Ion : 152.00
Area (flag) : 46603
On-column Amount (ng/ul) : 1.0426

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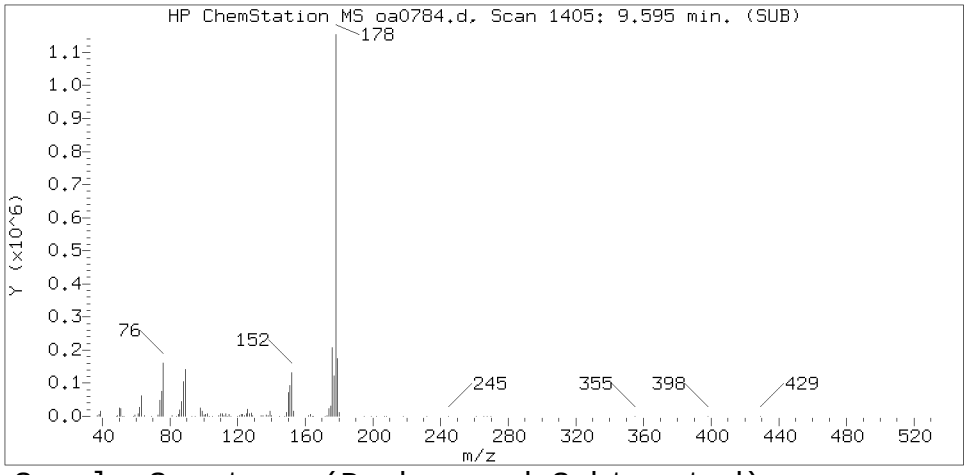
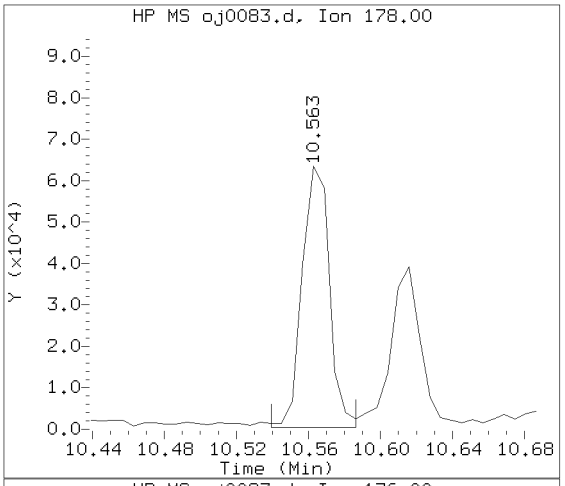
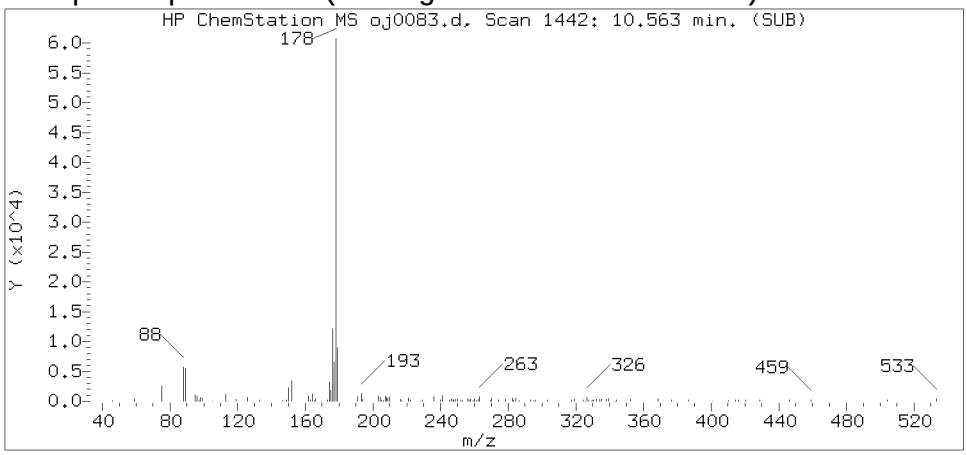
Target 3.5 esignature user ID: ceb05247

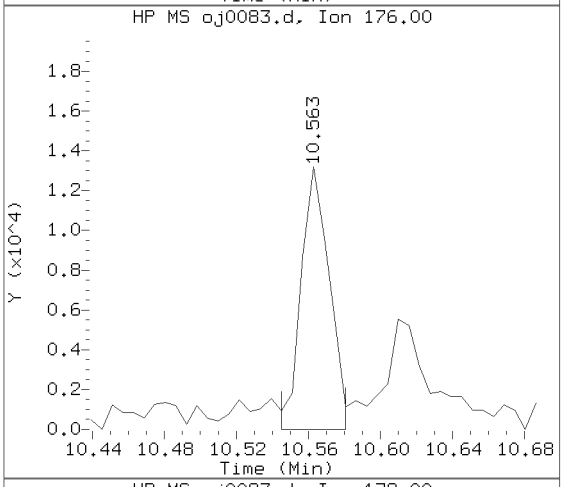
Reference Standard Spectrum for Phenanthrene



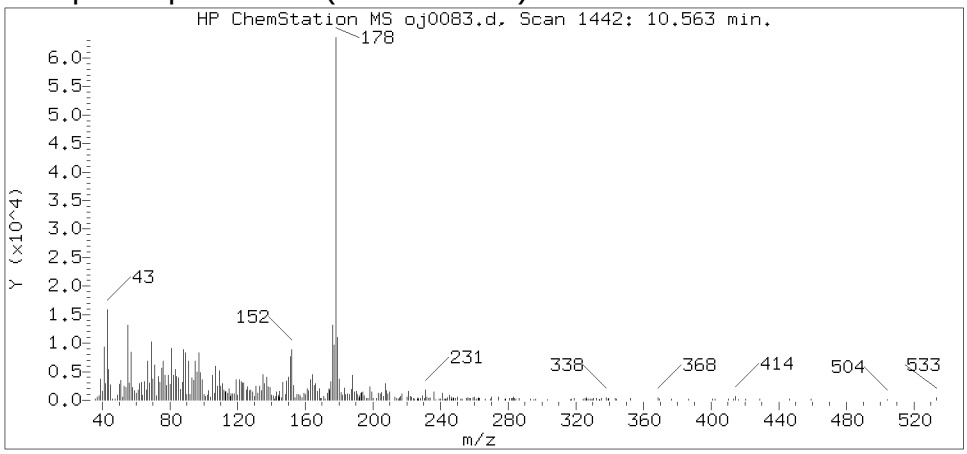


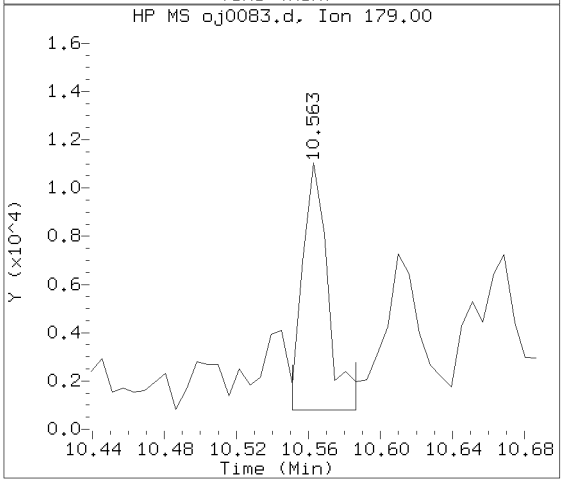
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

Compound Number	: 155
Compound Name	: Phenanthrene
Scan Number	: 1442
Retention Time (minutes)	: 10.563
Relative Retention Time	: 0.00000
Quant Ion	: 178.00
Area (flag)	: 65613
On-column Amount (ng/ul)	: 1.3371

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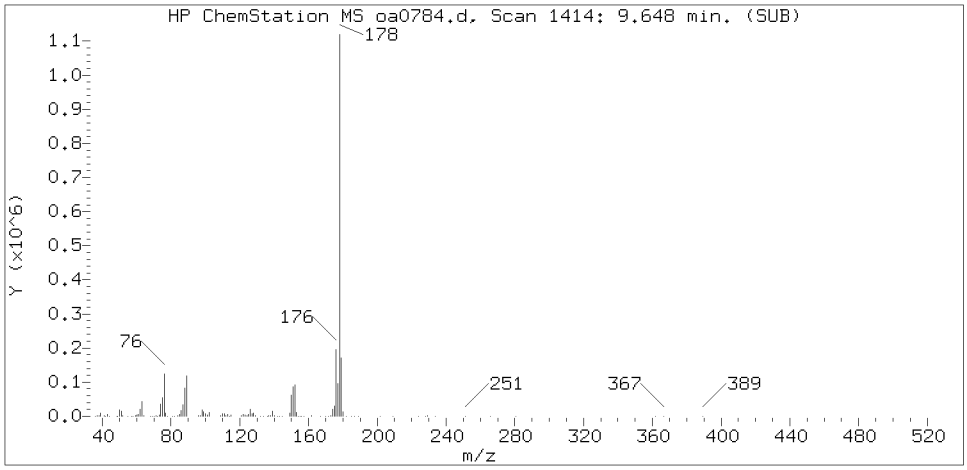
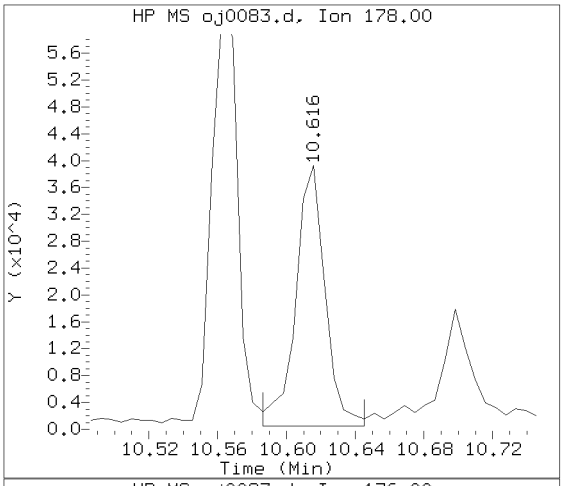
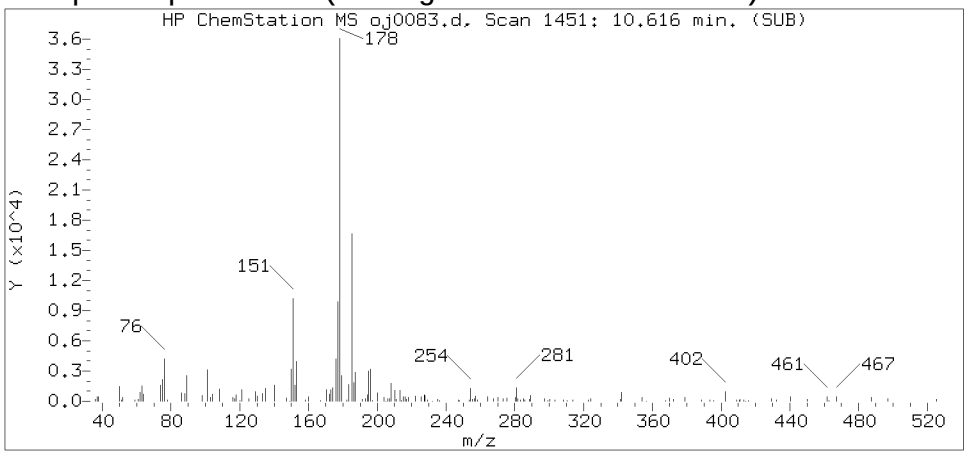
Target 3.5 esignature user ID: ceb05247

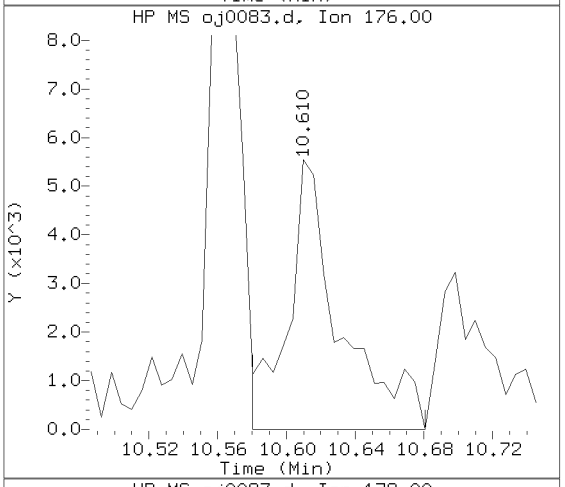
Reference Standard Spectrum for Anthracene



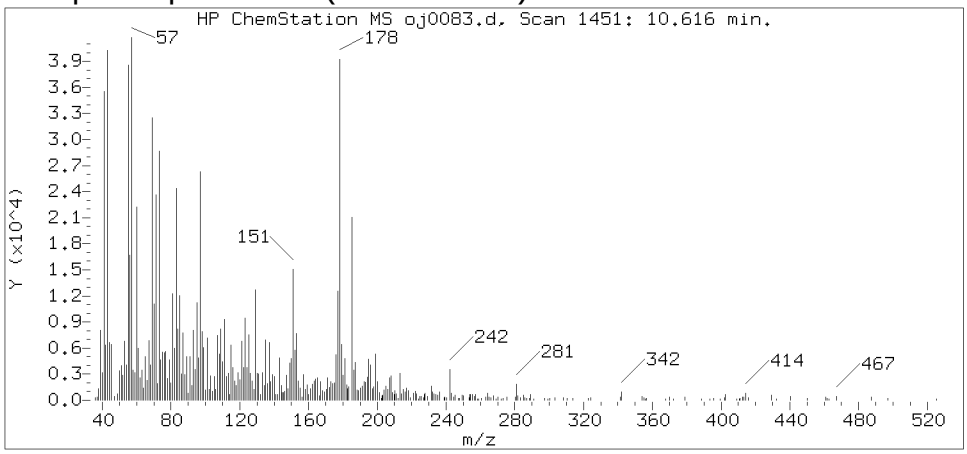


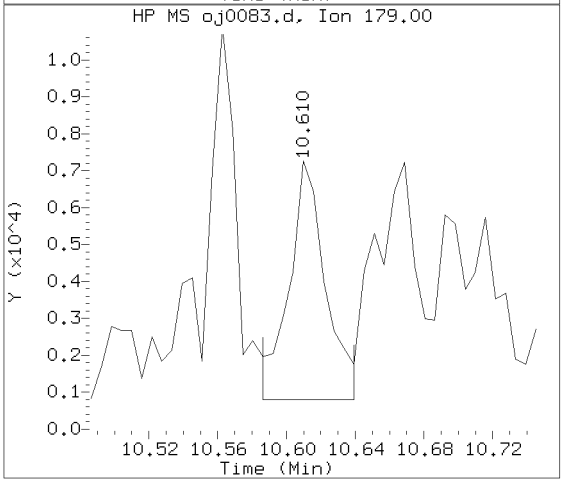
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

Compound Number	: 157
Compound Name	: Anthracene
Scan Number	: 1451
Retention Time (minutes)	: 10.616
Relative Retention Time	: 0.00000
Quant Ion	: 178.00
Area (flag)	: 45628
On-column Amount (ng/ul)	: 0.9409

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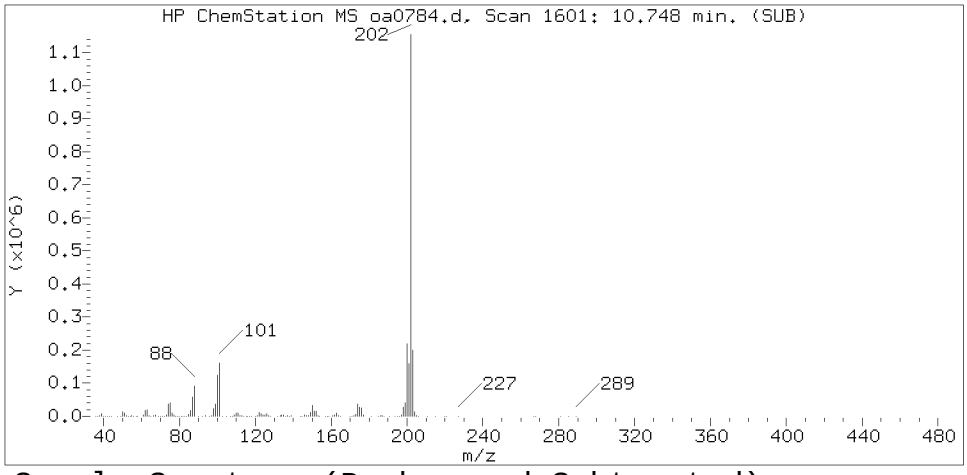
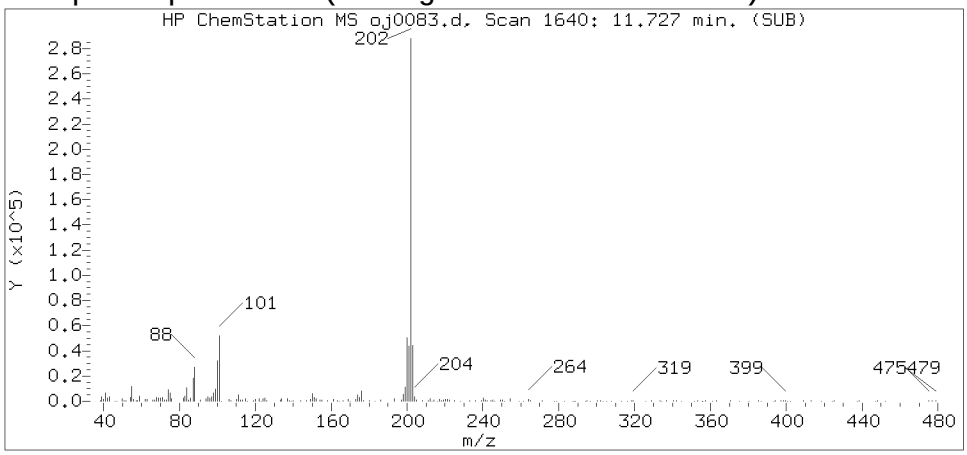
Target 3.5 esignature user ID: ceb05247

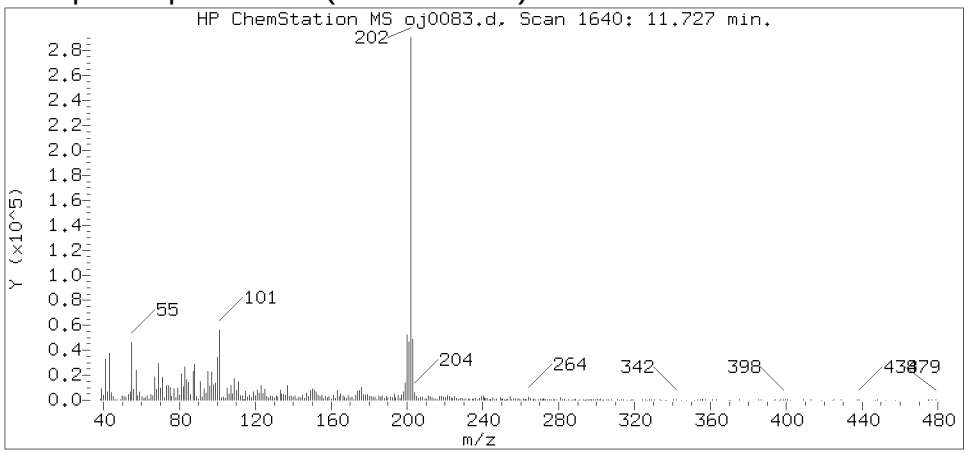
Reference Standard Spectrum for Fluoranthene

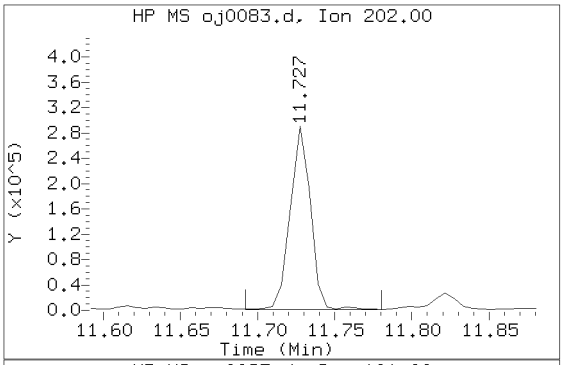


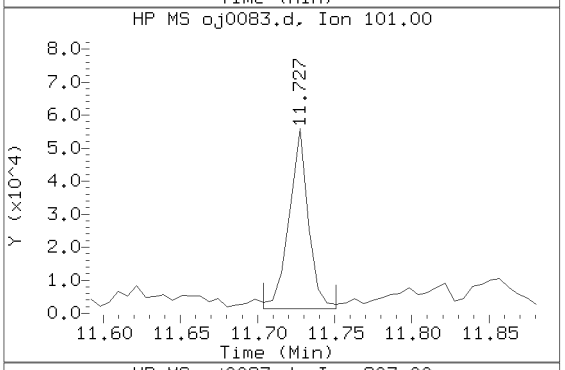
Sample Spectrum (Background Subtracted)

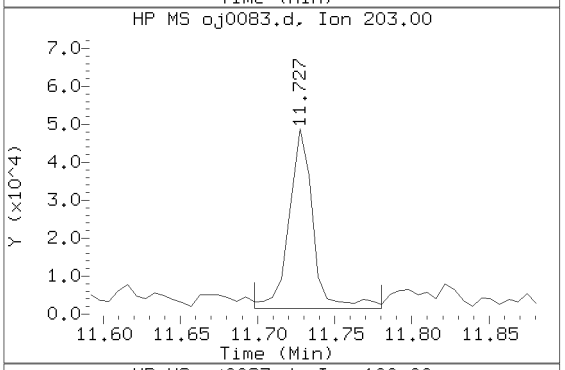


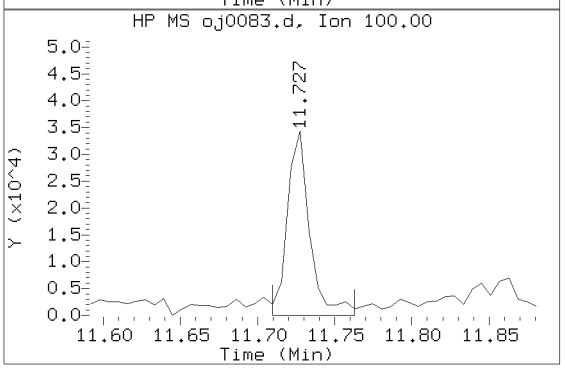
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

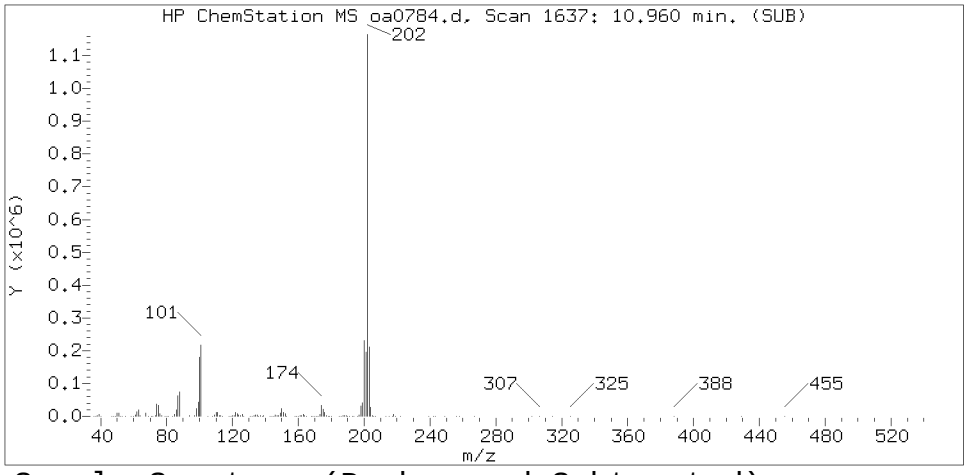
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

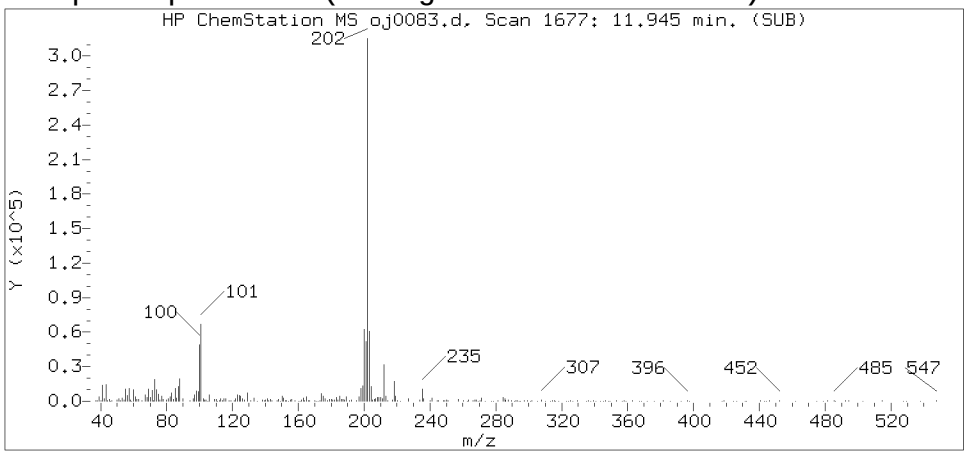
Compound Number	: 173
Compound Name	: Fluoranthene
Scan Number	: 1640
Retention Time (minutes)	: 11.727
Relative Retention Time	: 0.00000
Quant Ion	: 202.00
Area (flag)	: 267884
On-column Amount (ng/ul)	: 5.0229

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

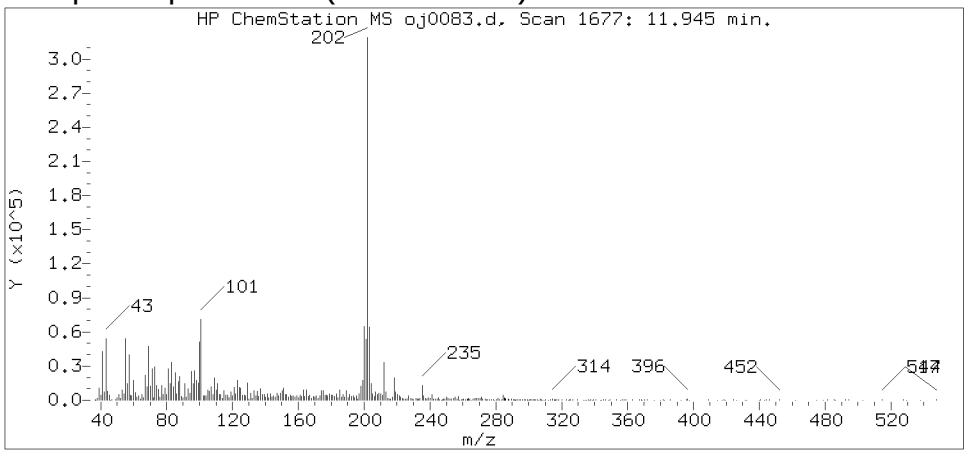
Reference Standard Spectrum for Pyrene

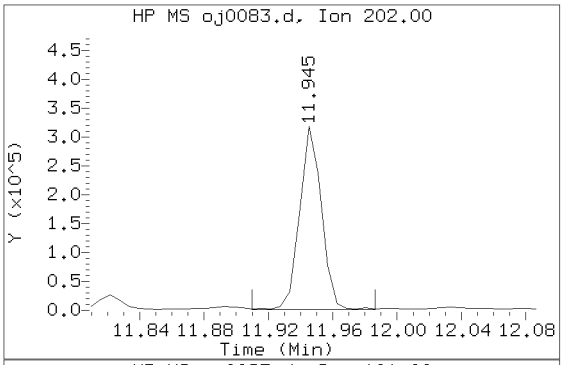


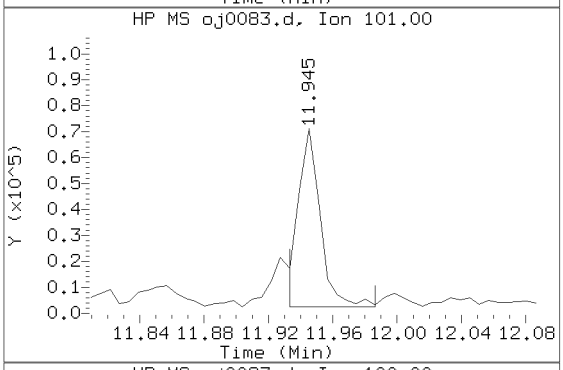
Sample Spectrum (Background Subtracted)

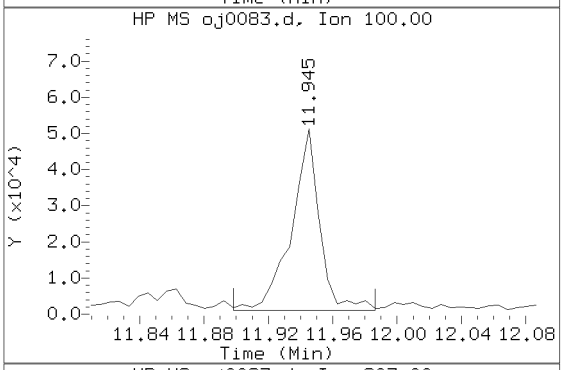


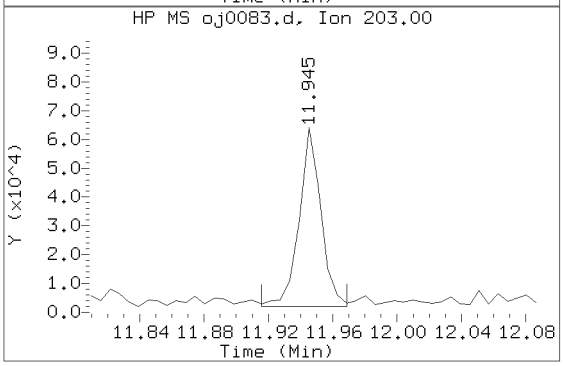
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1677
Retention Time (minutes)	: 11.945
Relative Retention Time	: 0.00000
Quant Ion	: 202.00
Area (flag)	: 300951
On-column Amount (ng/ul)	: 5.8308

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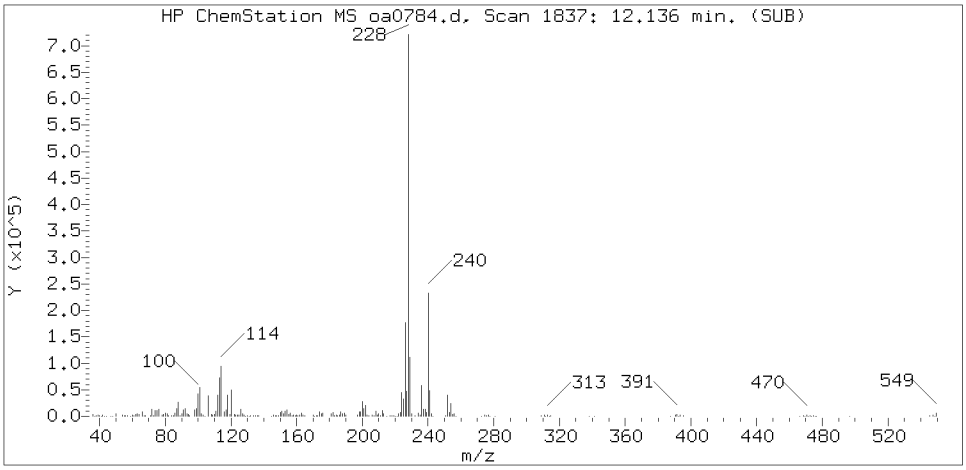
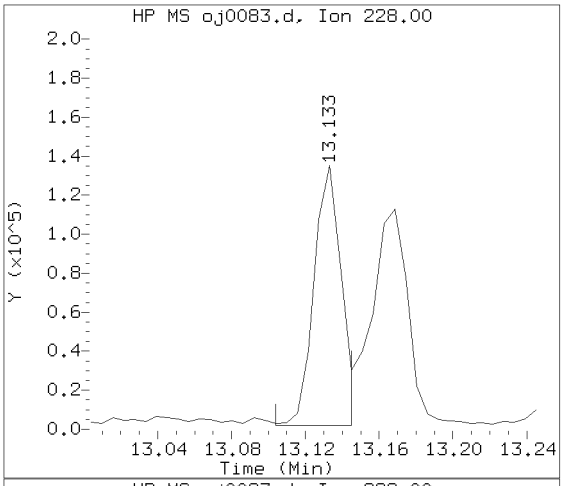
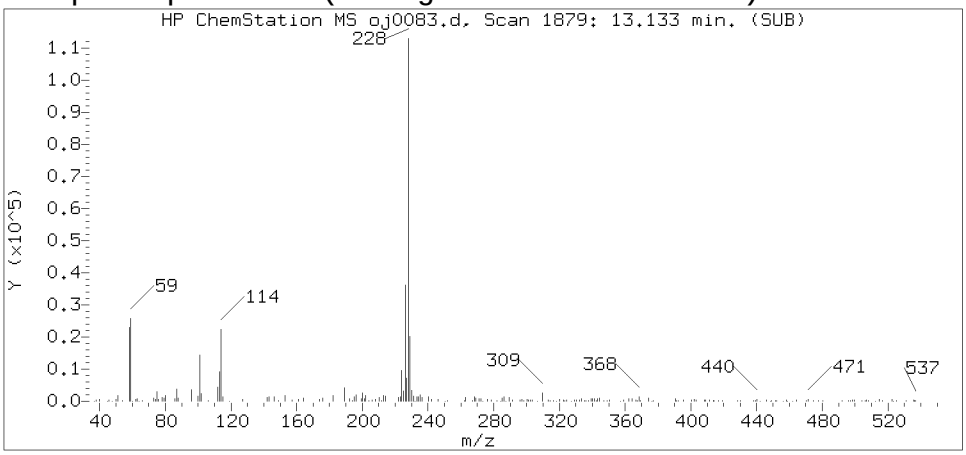
Target 3.5 esignature user ID: ceb05247

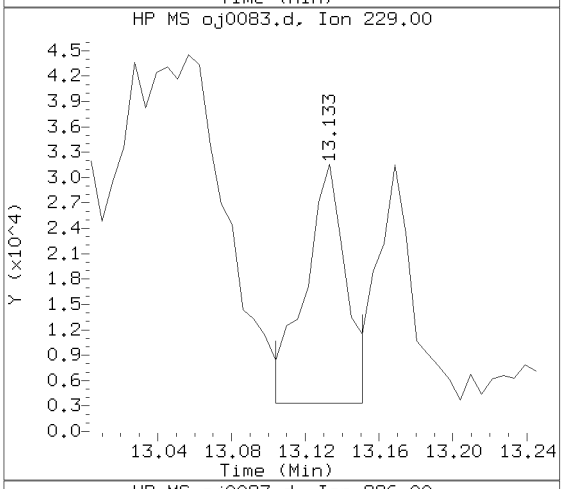
Reference Standard Spectrum for Benzo(a)anthracene



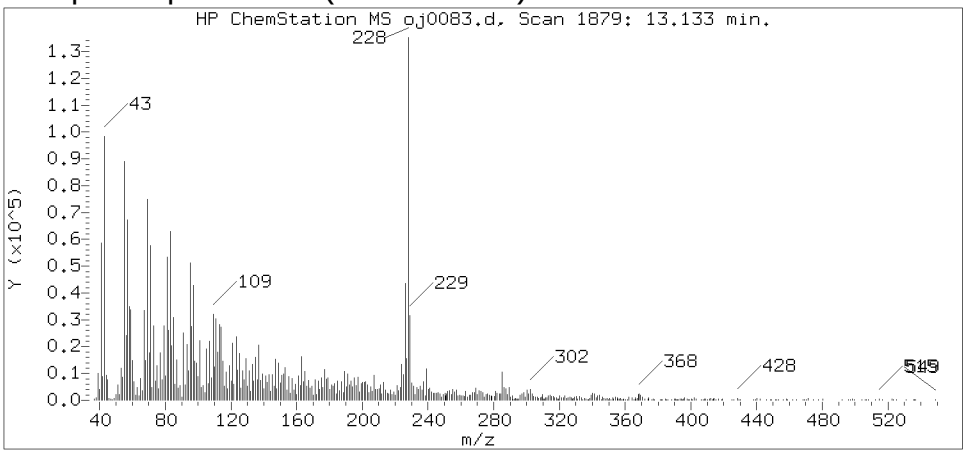


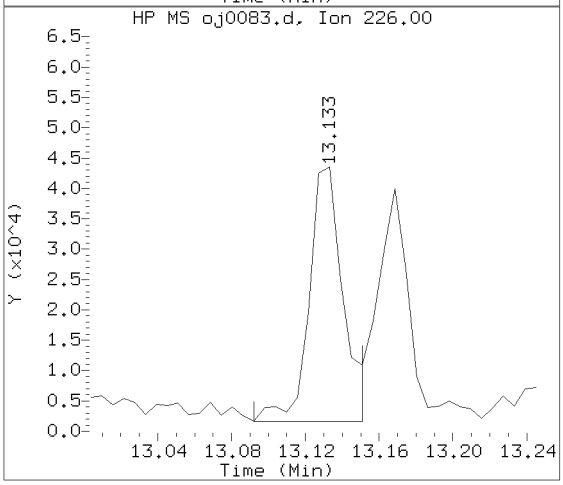
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

Compound Number : 195
Compound Name : Benzo(a)anthracene
Scan Number : 1879
Retention Time (minutes) : 13.133
Relative Retention Time :-0.00049
Quant Ion : 228.00
Area (flag) : 134412
On-column Amount (ng/ul) : 2.9875

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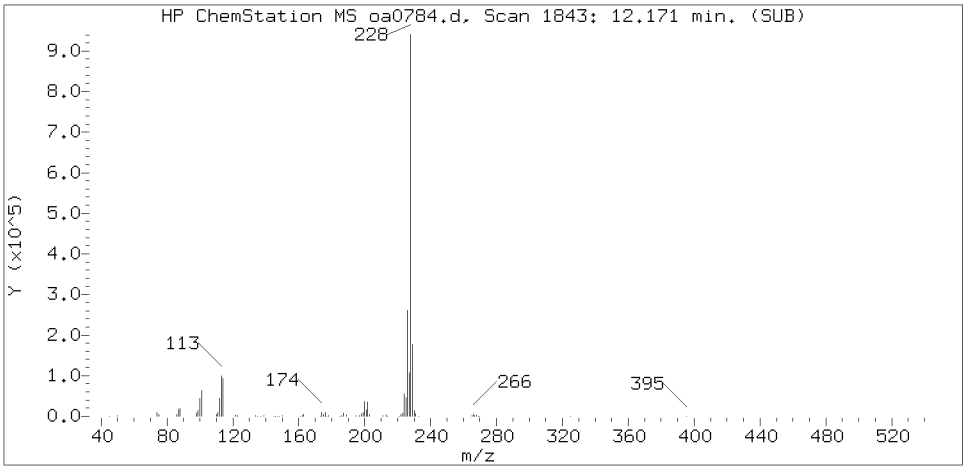
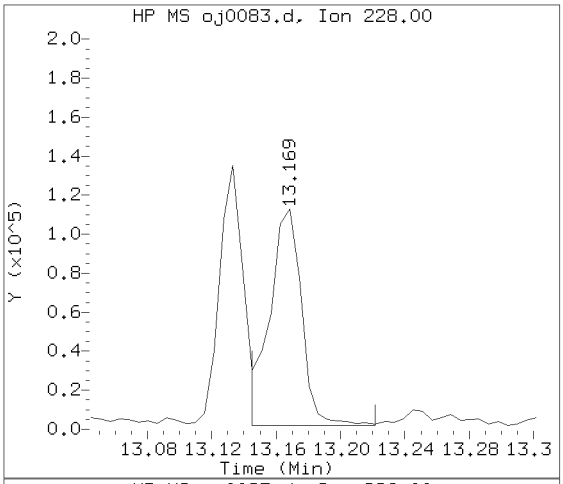
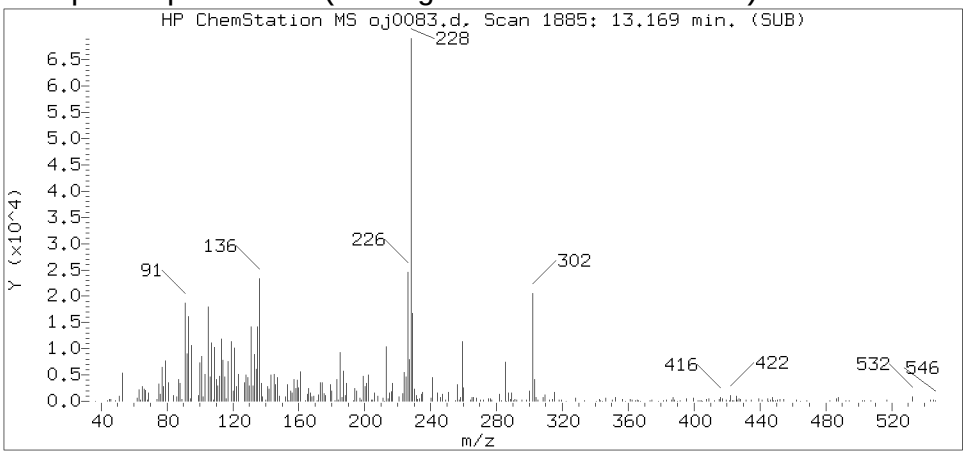
Target 3.5 esignature user ID: ceb05247

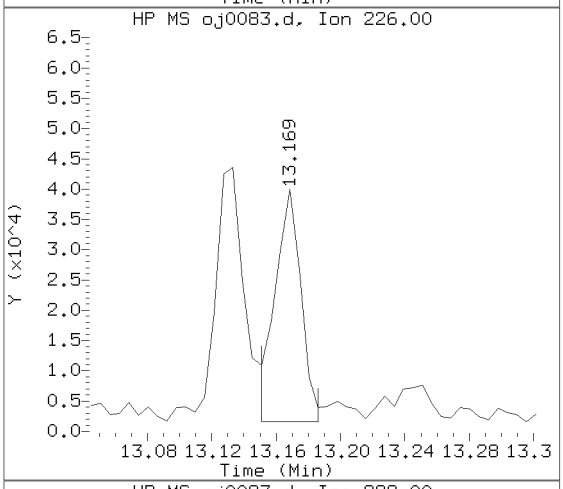
Reference Standard Spectrum for Chrysene



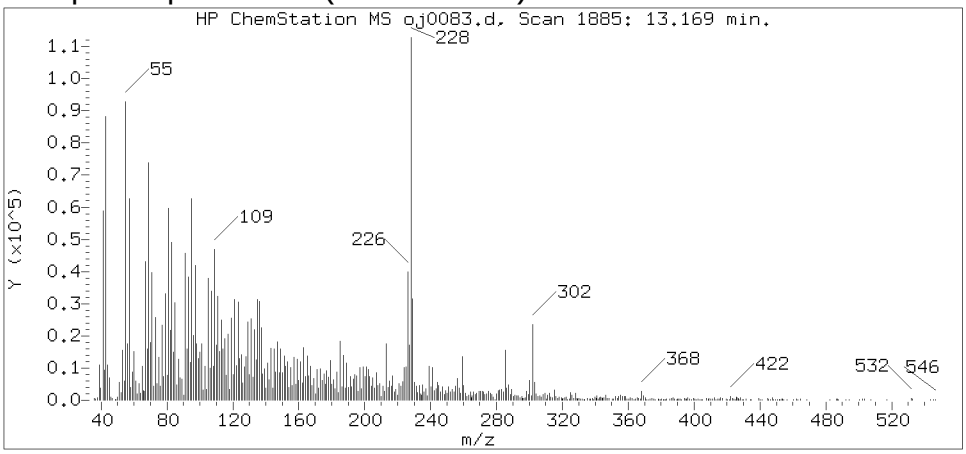


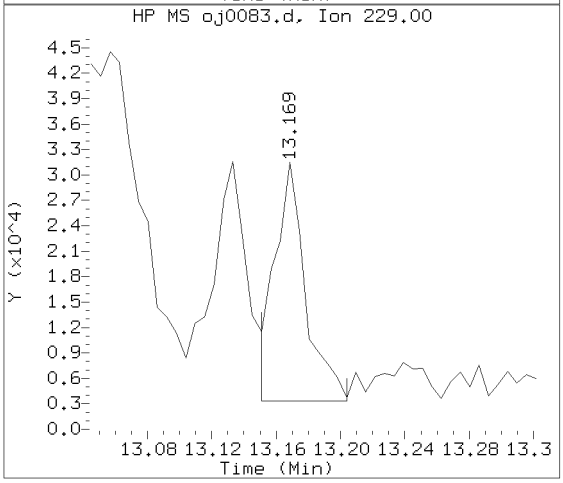
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

Compound Number : 196
Compound Name : Chrysene
Scan Number : 1885
Retention Time (minutes) : 13.169
Relative Retention Time :-0.00049
Quant Ion : 228.00
Area (flag) : 153080
On-column Amount (ng/ul) : 3.5709

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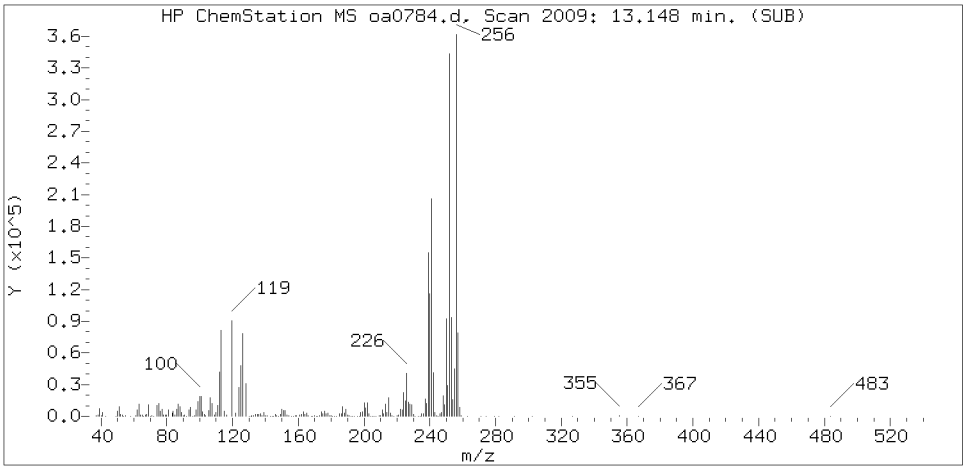
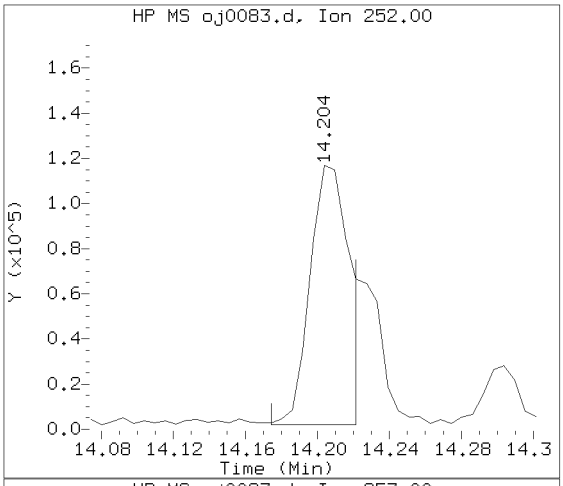
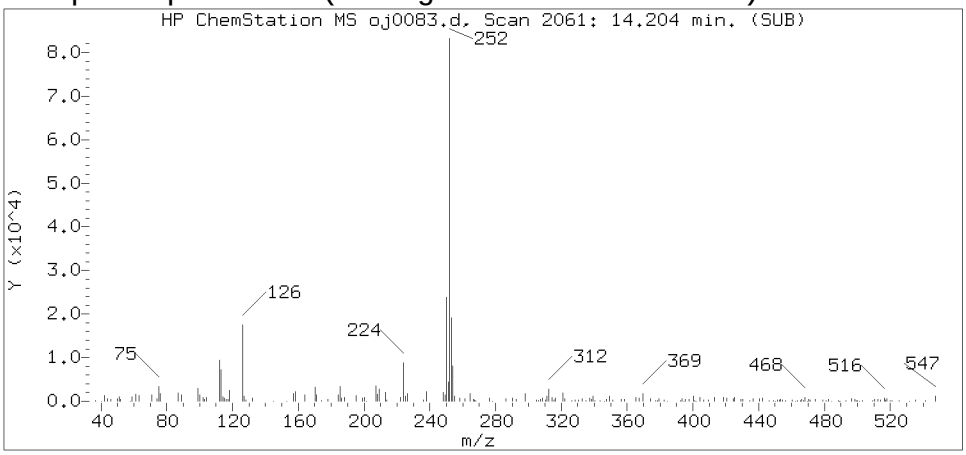
Target 3.5 esignature user ID: ceb05247

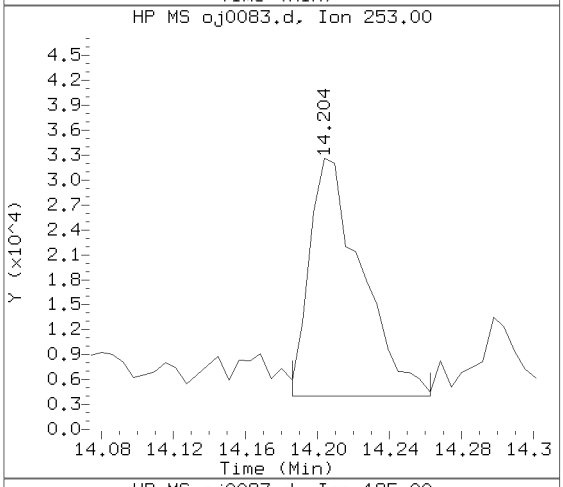
Reference Standard Spectrum for Benzo(b)fluoranthene



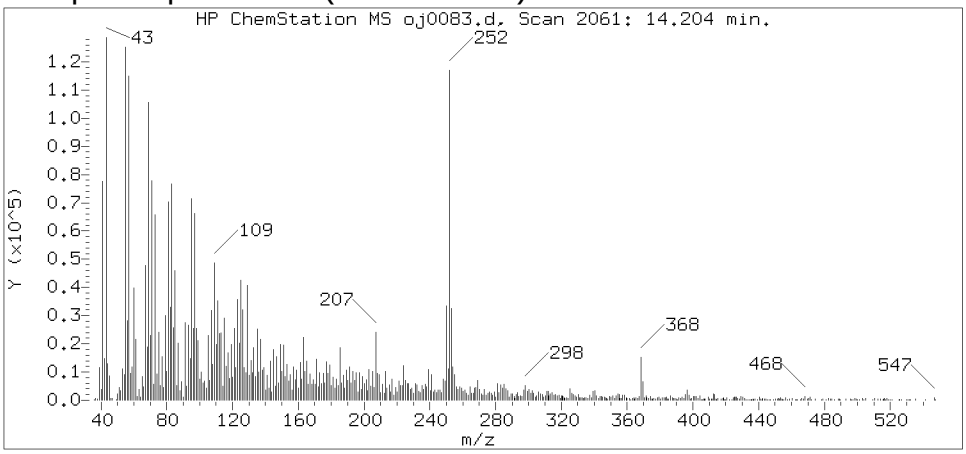


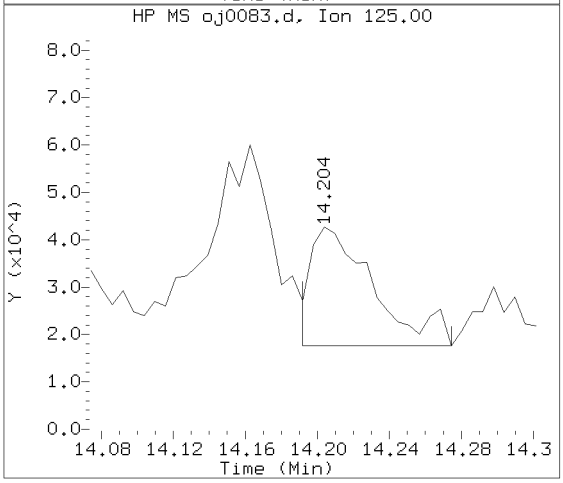
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2061
Retention Time (minutes)	: 14.204
Relative Retention Time	: 0.00038
Quant Ion	: 252.00
Area (flag)	: 176749M
On-column Amount (ng/ul)	: 4.6655

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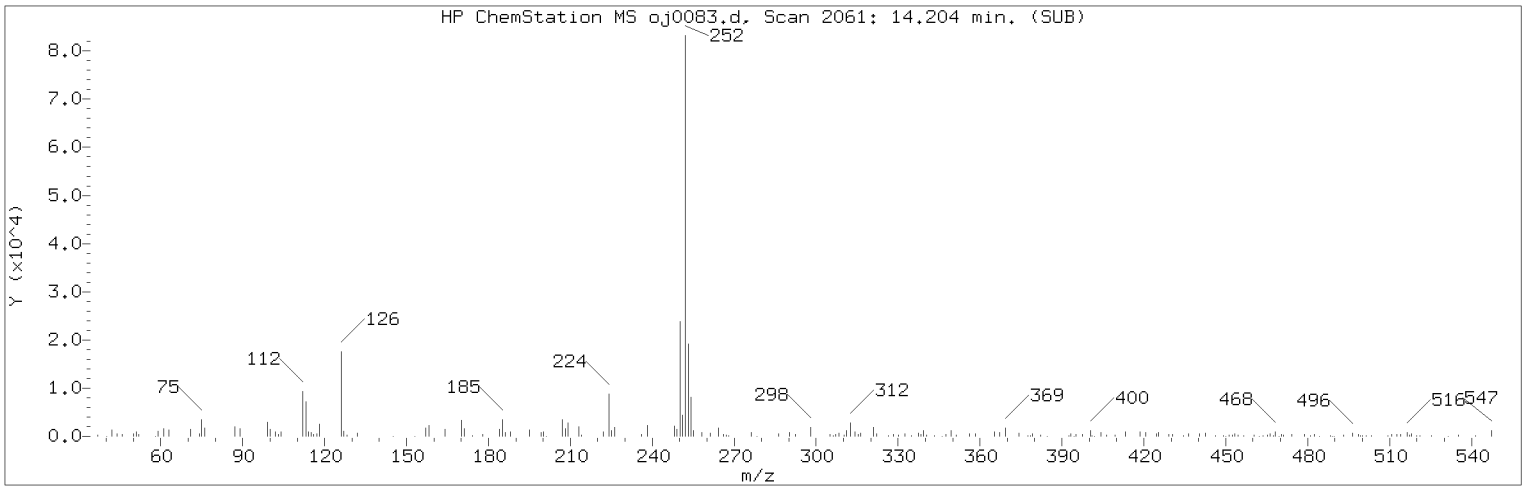
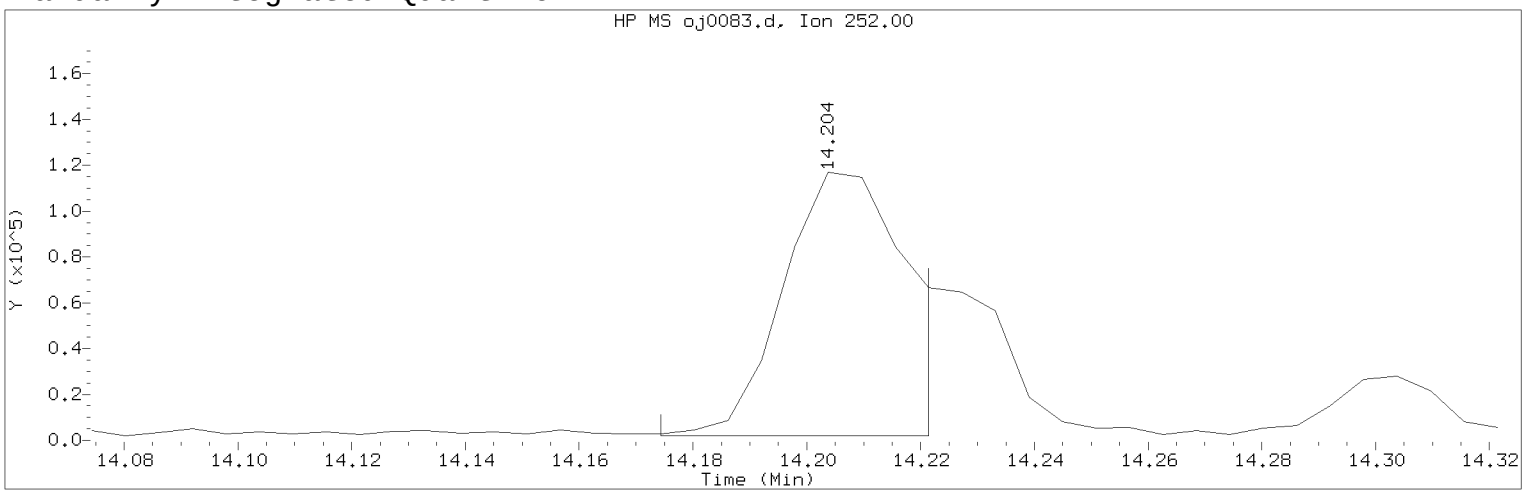
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

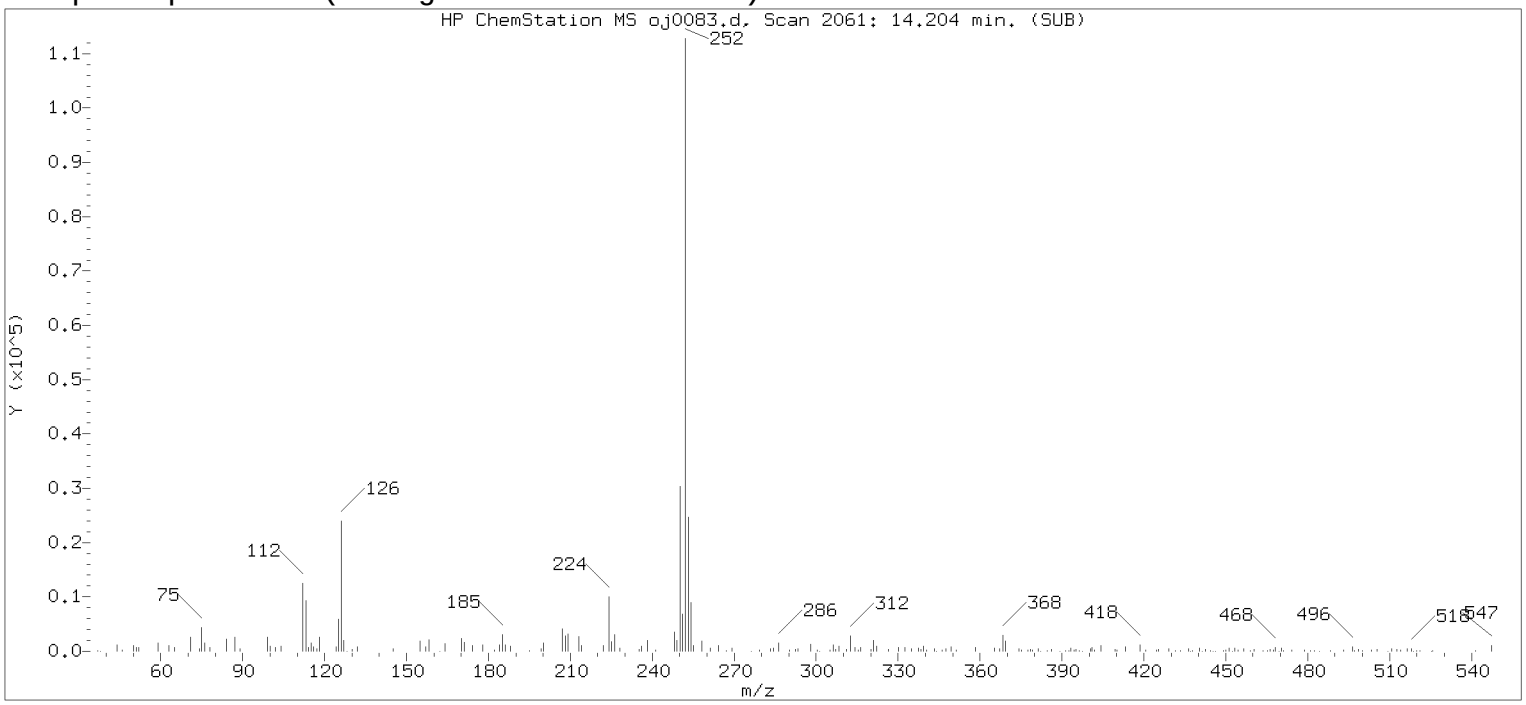
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2061
Retention Time (minutes) : 14.204
Quant Ion : 252.00
Area (flag) : 176749M
On-column Amount (ng/ul) : 4.6655
Integration start scan : 2055 Integration stop scan: 2063
Y at integration start : 1913 Y at integration end: 1913

Reason for manual integration: improper integration

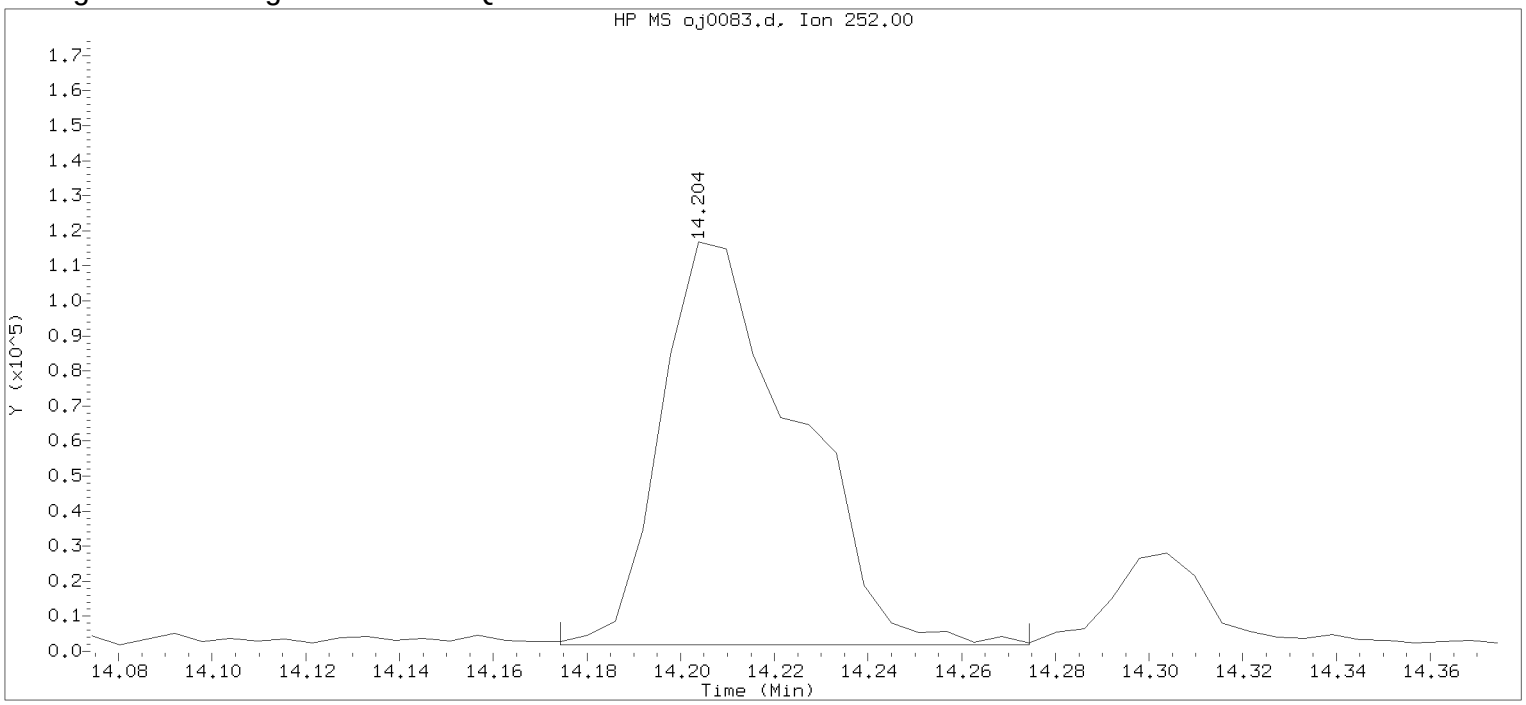
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 15:34 Automation

Sample Name: 494FD Lab Sample ID: 8064457

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2061		
Retention Time (minutes)	: 14.204		
Quant Ion	: 252.00		
Area	: 229877		
On-column Amount (ng/ul)	: 6.0679		
Integration start scan	: 2055	Integration stop scan:	2072
Y at integration start	: 1913	Y at integration end:	1913

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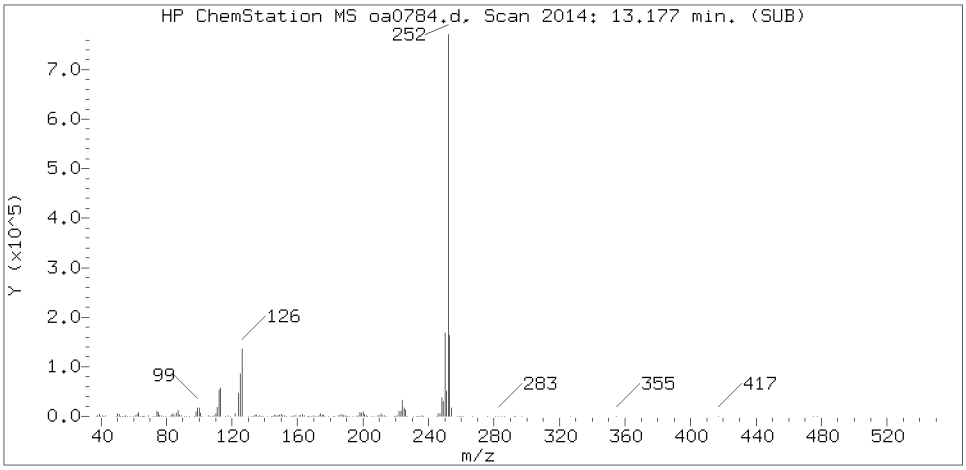
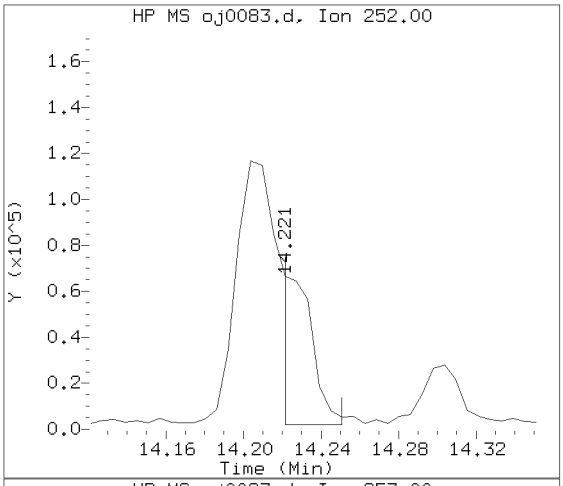
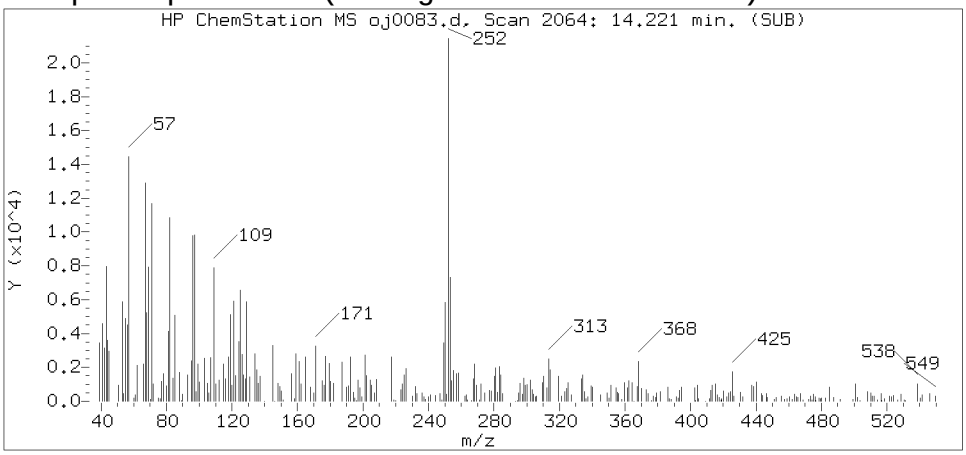
Target 3.5 esignature user ID: CEB05247

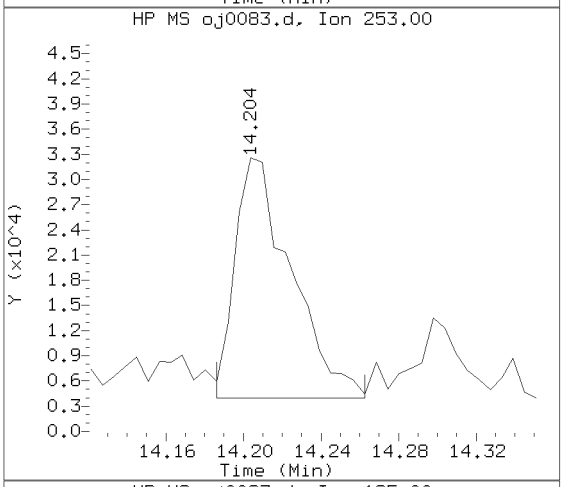
Reference Standard Spectrum for Benzo(k)fluoranthene



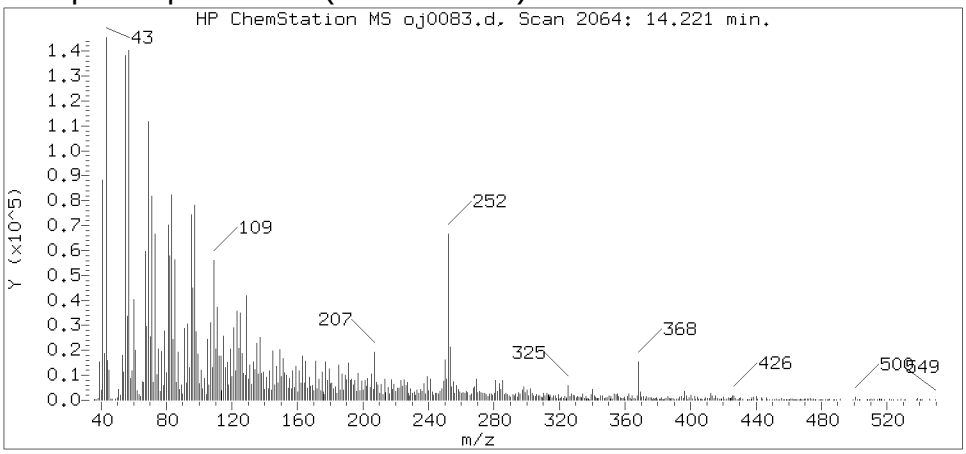


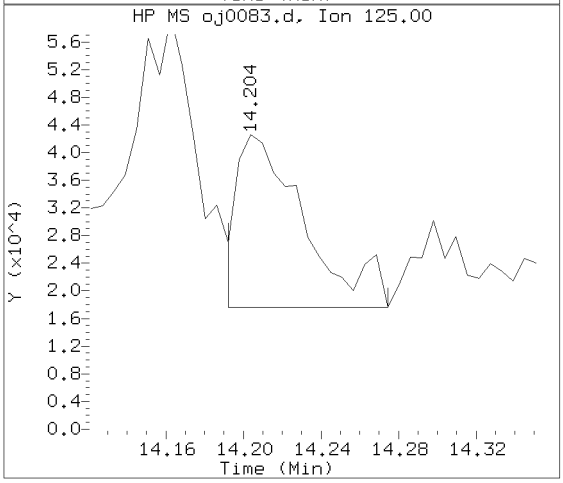
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

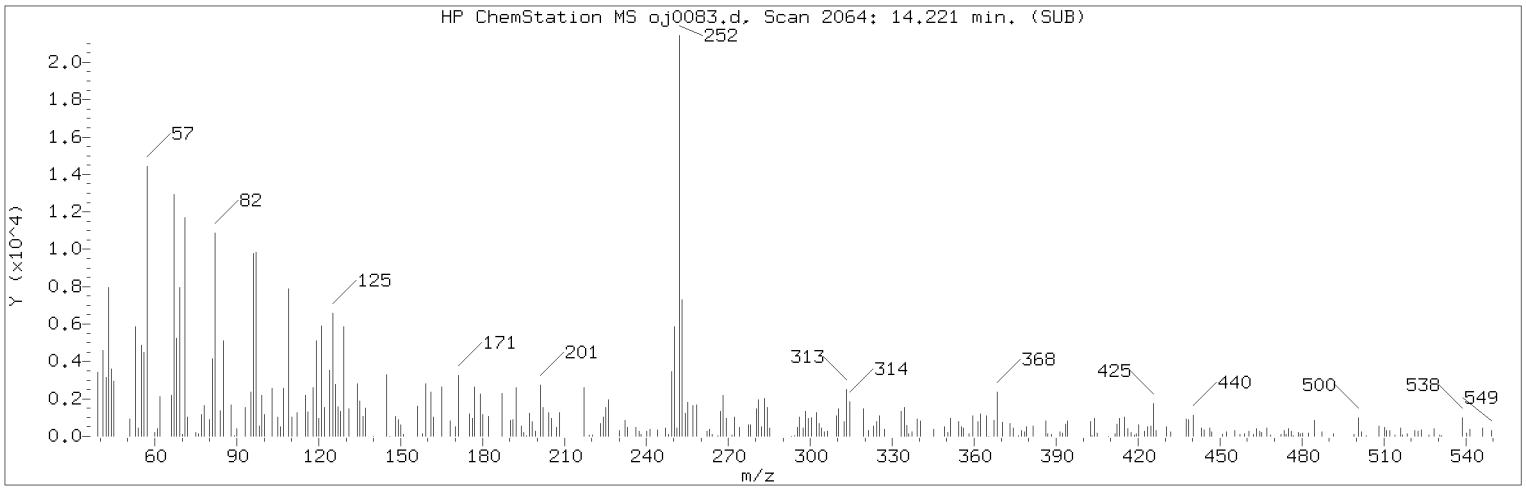
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

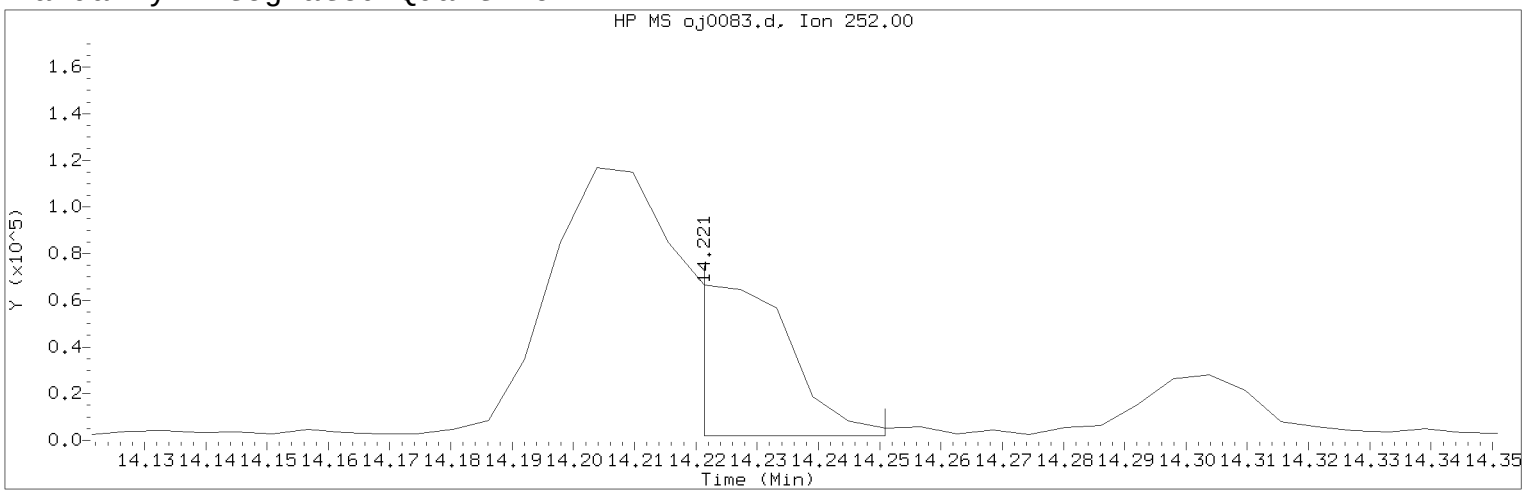
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2064
Retention Time (minutes) : 14.221
Relative Retention Time : 0.00079
Quant Ion : 252.00
Area (flag) : 73720M
On-column Amount (ng/ul) : 1.9071

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

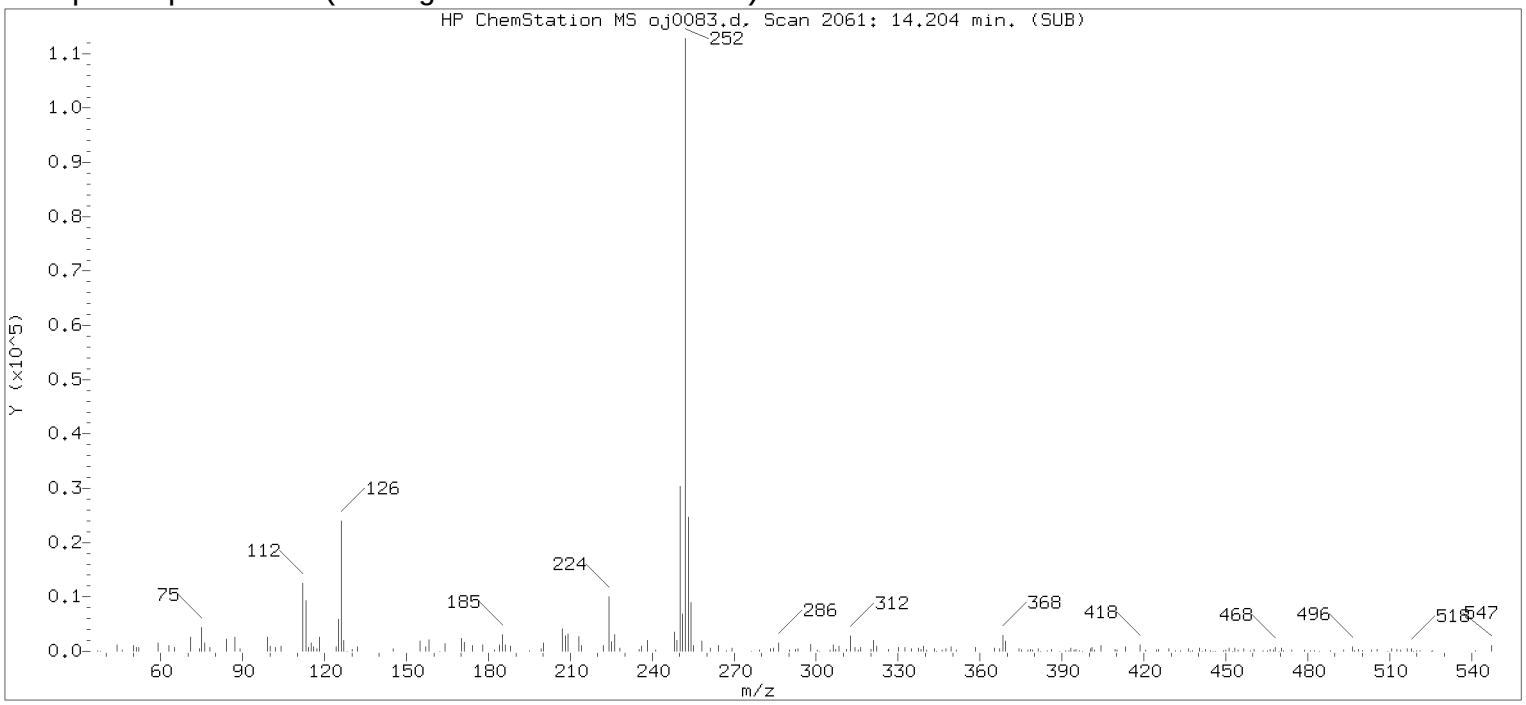
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2064
Retention Time (minutes) : 14.221
Quant Ion : 252.00
Area (flag) : 73720M
On-column Amount (ng/ul) : 1.9071
Integration start scan : 2063 Integration stop scan: 2068
Y at integration start : 1847 Y at integration end: 1847

Reason for manual integration: improper integration

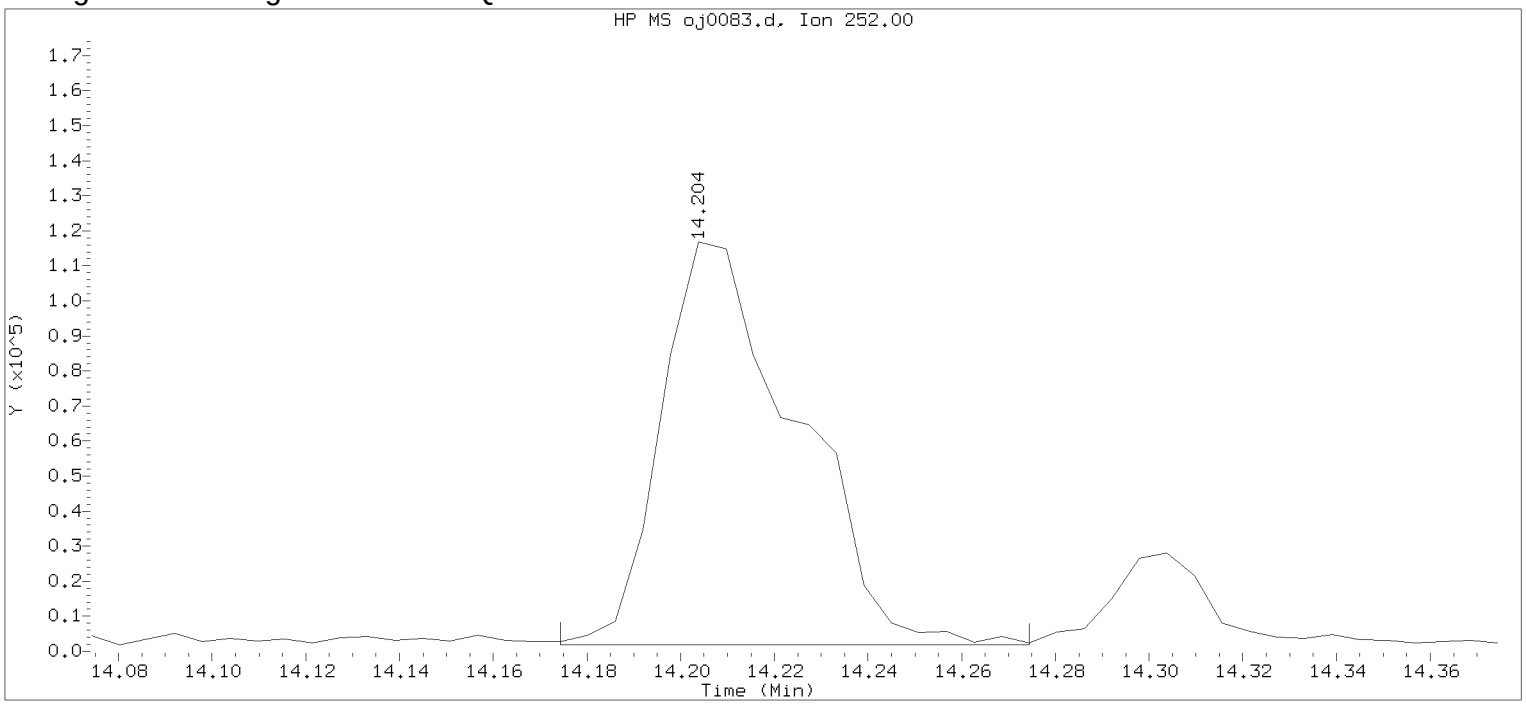
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

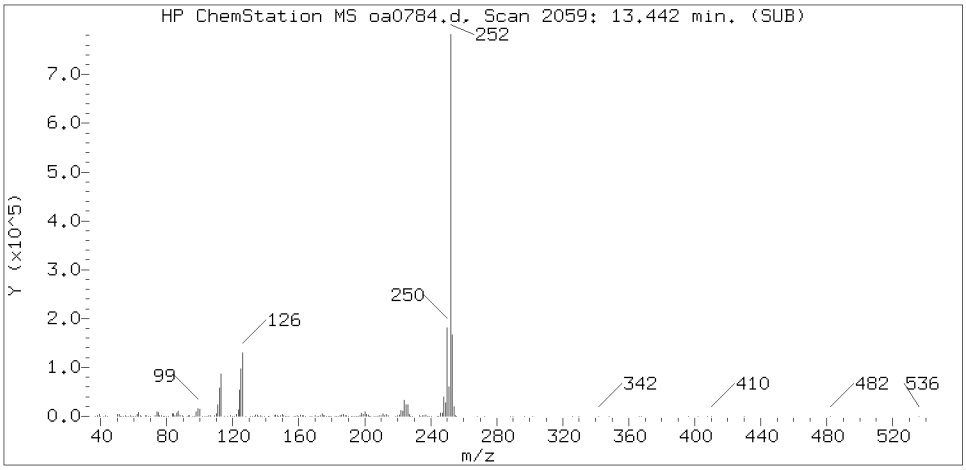
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 15:34 Automation

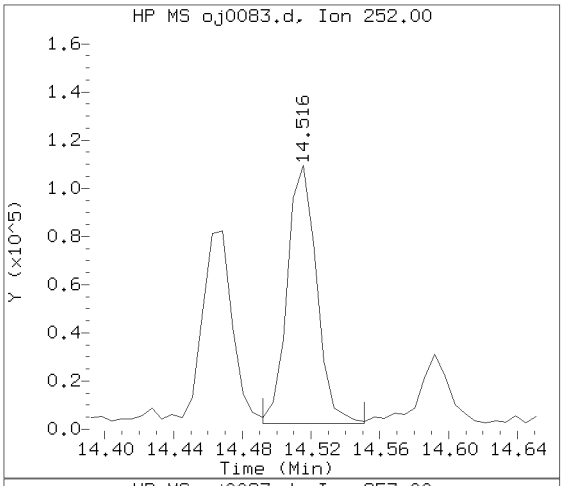
Sample Name: 494FD Lab Sample ID: 8064457

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2061		
Retention Time (minutes)	: 14.204		
Quant Ion	: 252.00		
Area	: 229877		
On-column Amount (ng/ul)	: 5.9468		
Integration start scan	: 2055	Integration stop scan:	2072
Y at integration start	: 1913	Y at integration end:	1913

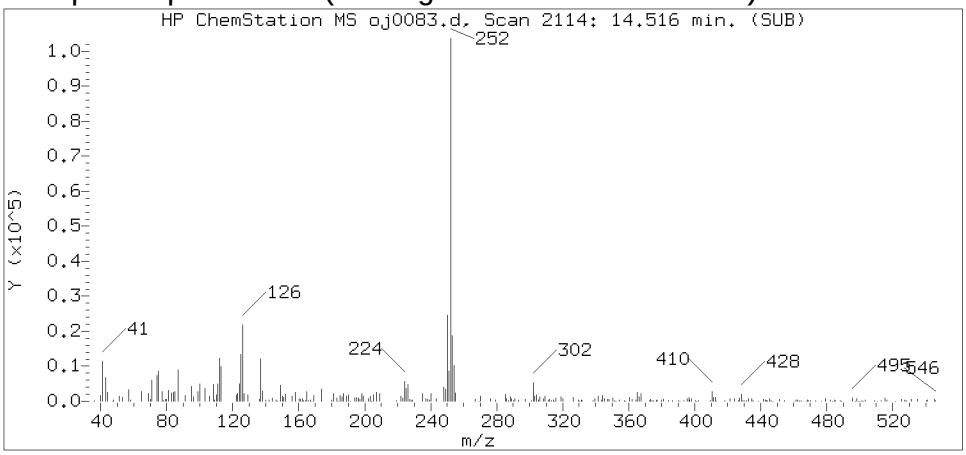
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: 27 date: 20151002

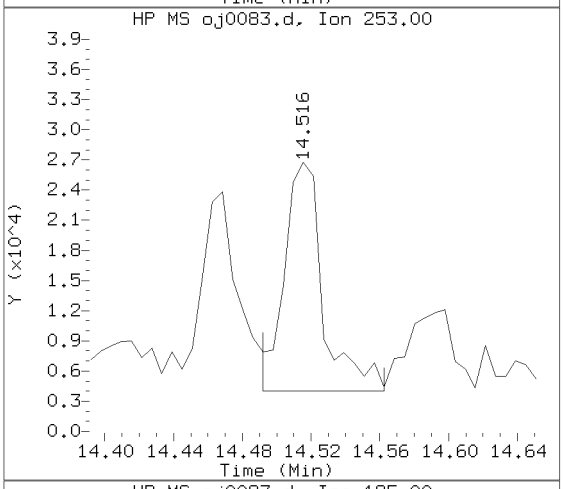
Reference Standard Spectrum for Benzo(a)pyrene



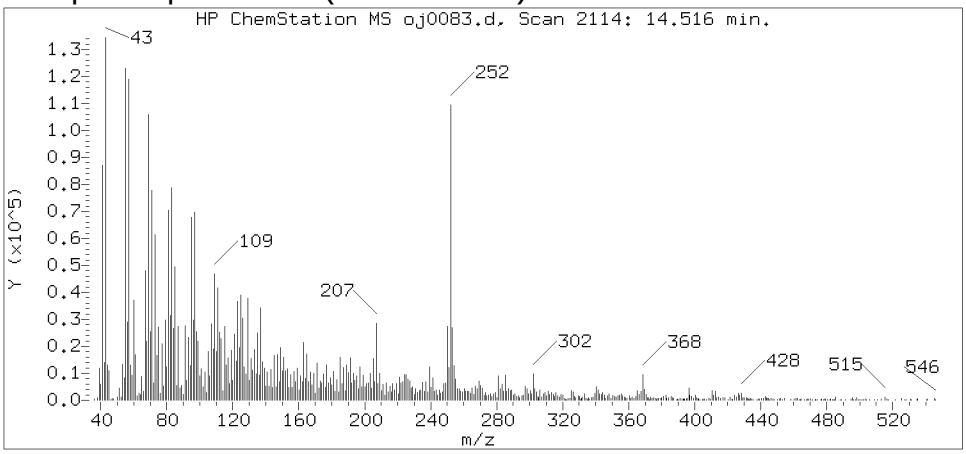


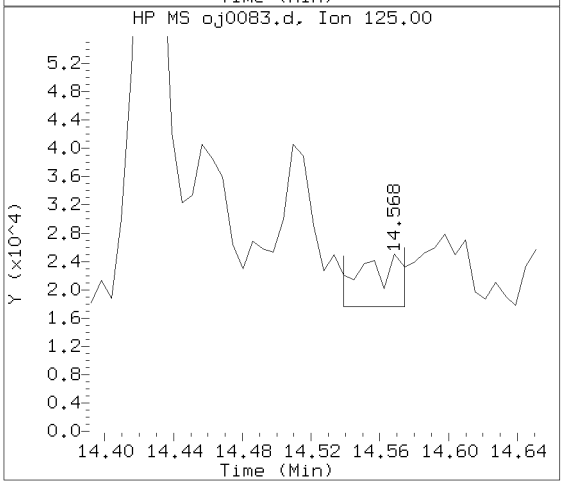
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

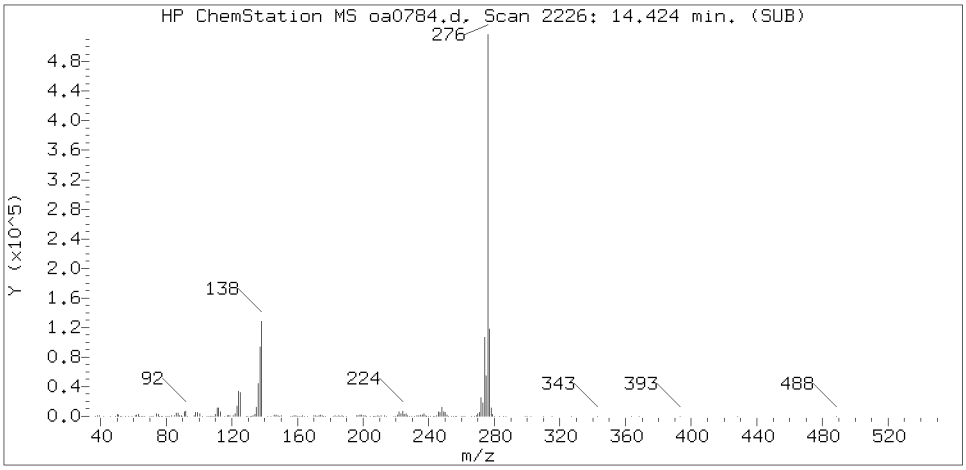
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

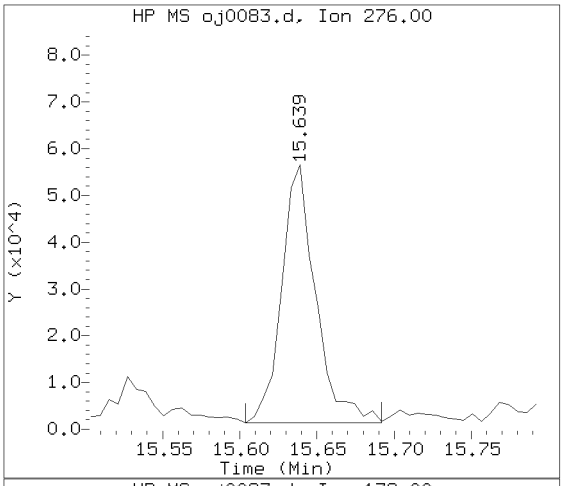
Sample Name: 494FD Lab Sample ID: 8064457

Compound Number : 211
Compound Name : Benzo(a)pyrene
Scan Number : 2114
Retention Time (minutes) : 14.516
Relative Retention Time :-0.00000
Quant Ion : 252.00
Area (flag) : 126923
On-column Amount (ng/ul) : 3.3922

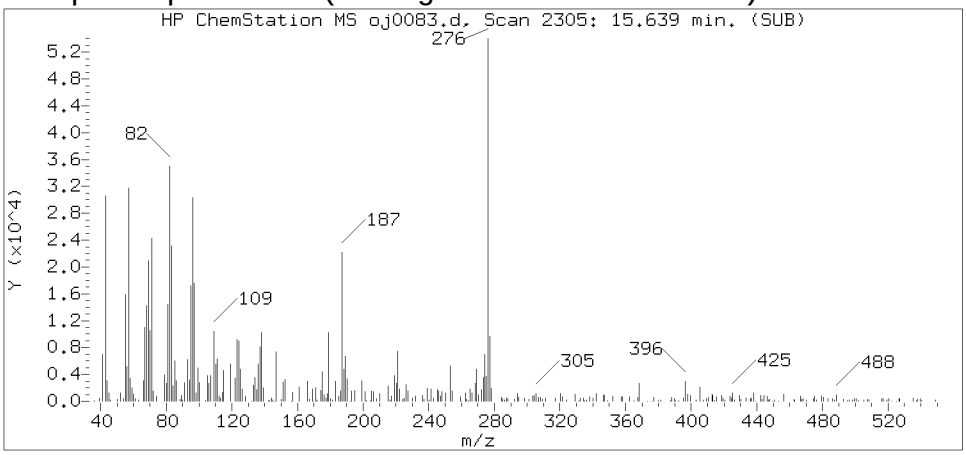
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

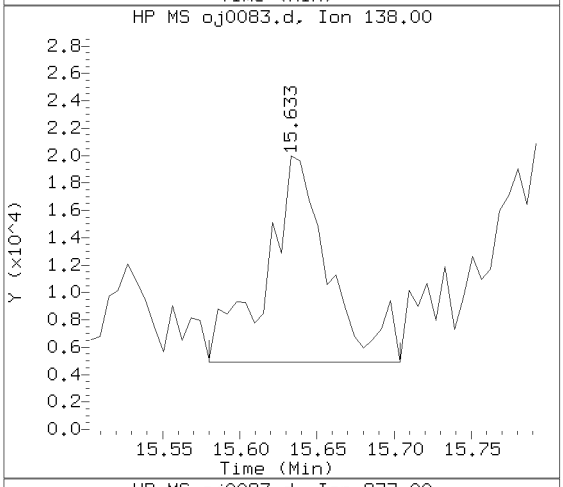
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



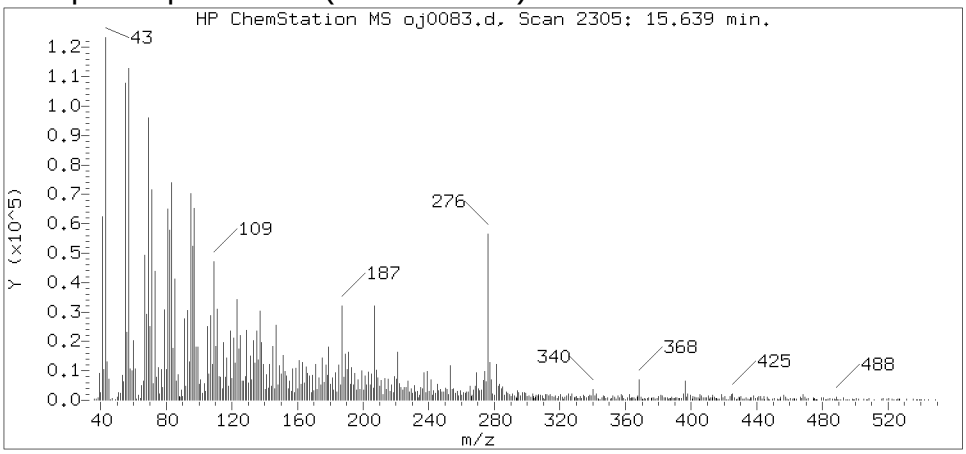


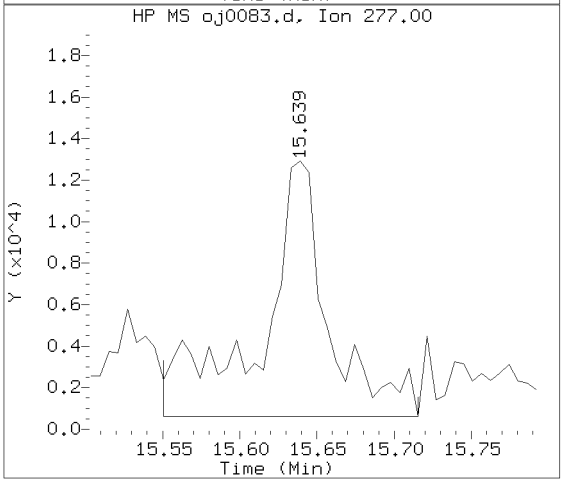
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

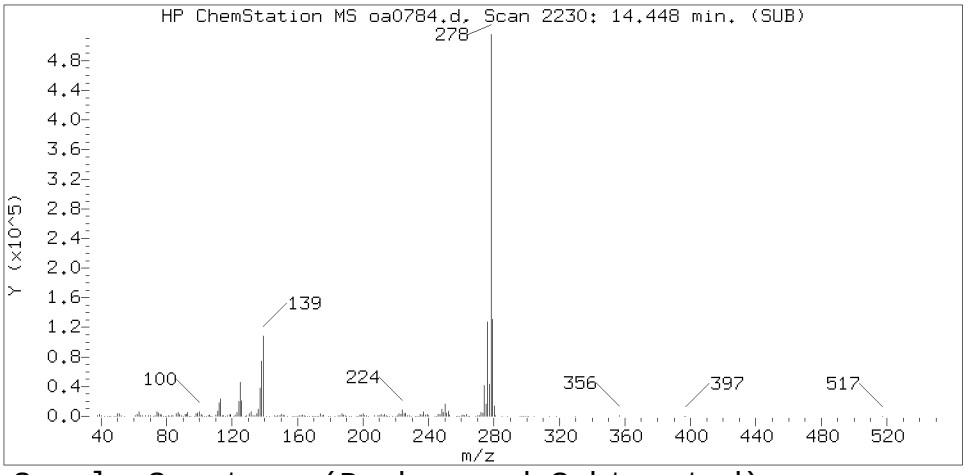
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

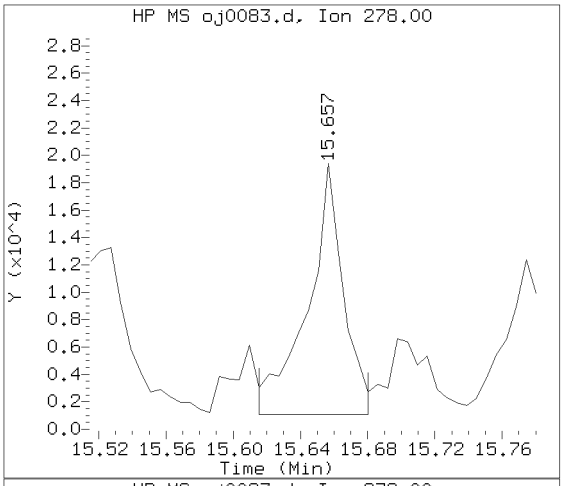
Sample Name: 494FD Lab Sample ID: 8064457

Compound Number	: 219
Compound Name	: Indeno(1,2,3-cd)pyrene
Scan Number	: 2305
Retention Time (minutes)	: 15.639
Relative Retention Time	: 0.00006
Quant Ion	: 276.00
Area (flag)	: 84779
On-column Amount (ng/ul)	: 2.1754

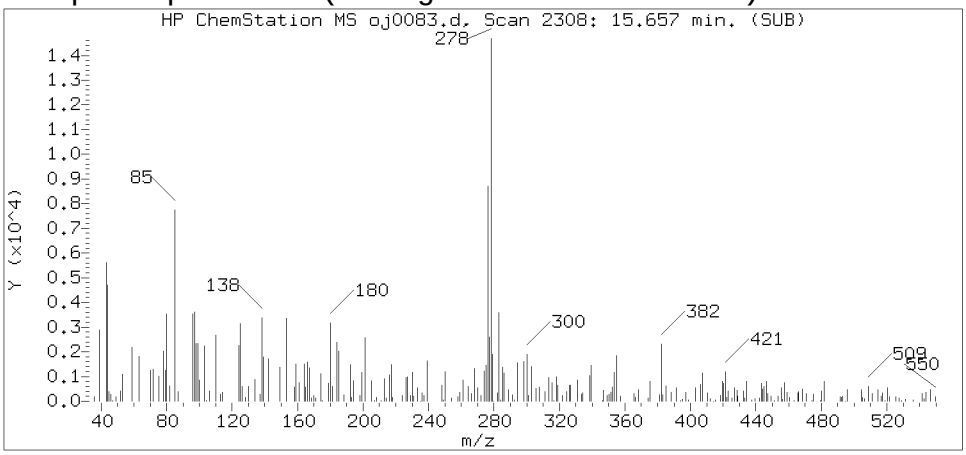
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

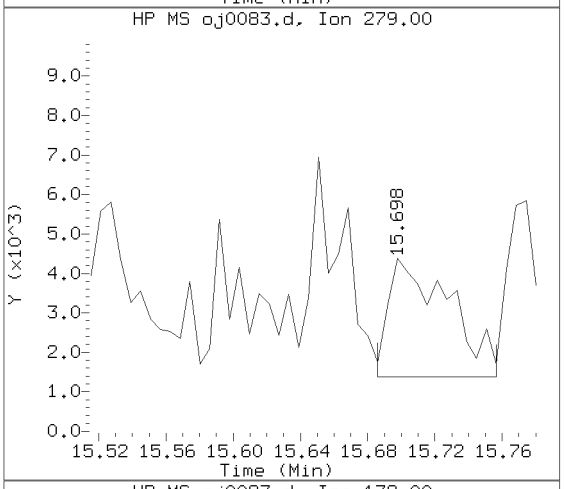
Reference Standard Spectrum for Dibenz(a,h)anthracene



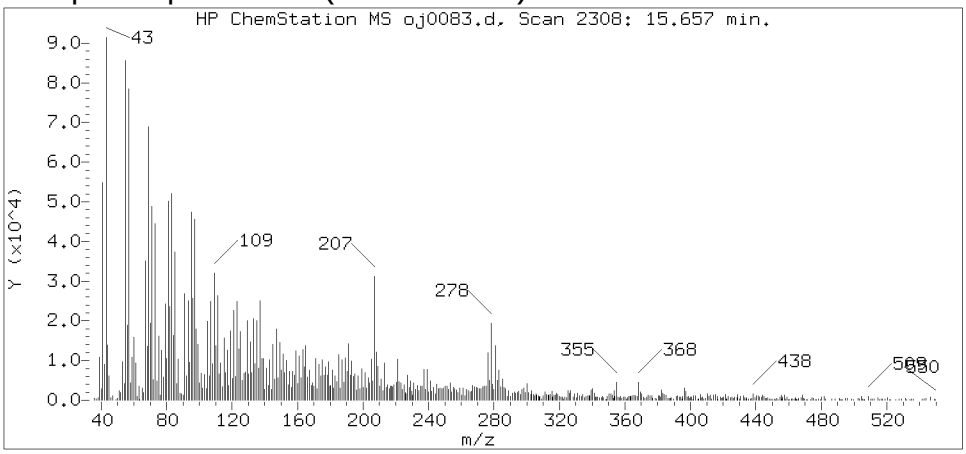


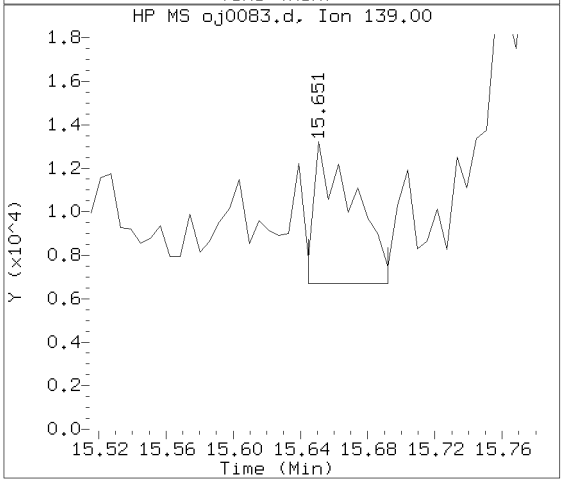
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

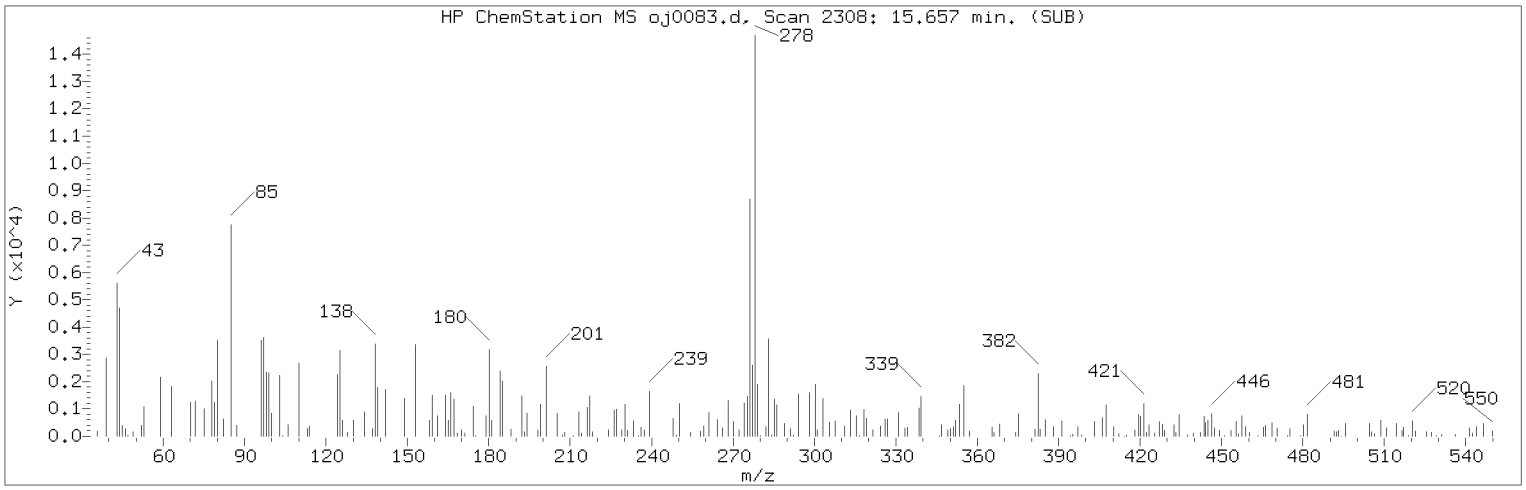
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

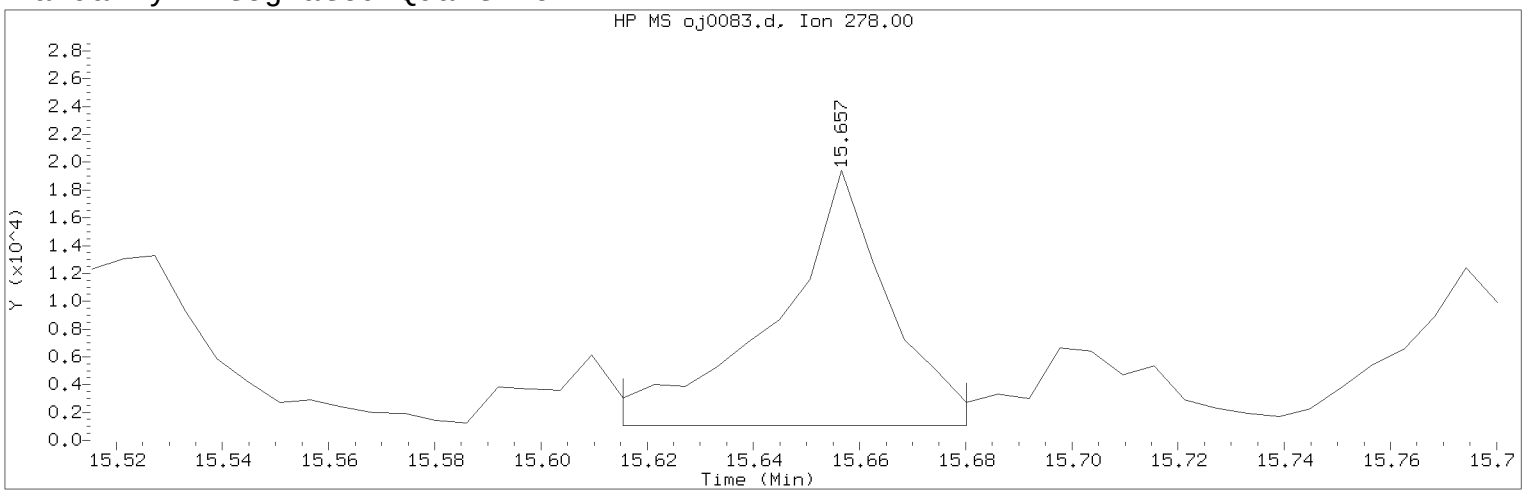
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 2308
Retention Time (minutes) : 15.657
Relative Retention Time : 0.00047
Quant Ion : 278.00
Area (flag) : 27477M
On-column Amount (ng/ul) : 0.8382

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

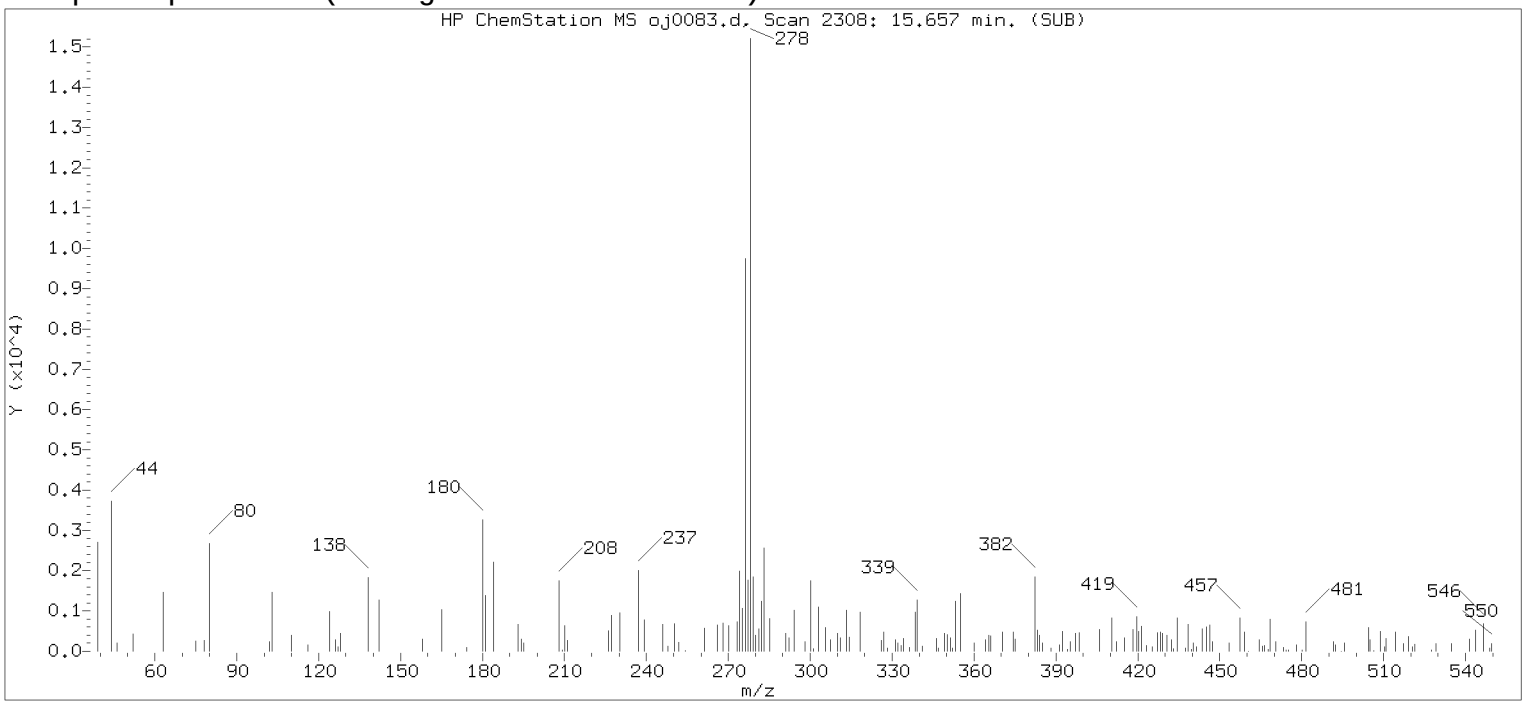
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 2308
Retention Time (minutes) : 15.657
Quant Ion : 278.00
Area (flag) : 27477M
On-column Amount (ng/ul) : 0.8382
Integration start scan : 2300 Integration stop scan: 2311
Y at integration start : 1077 Y at integration end: 1077

Reason for manual integration: improper integration

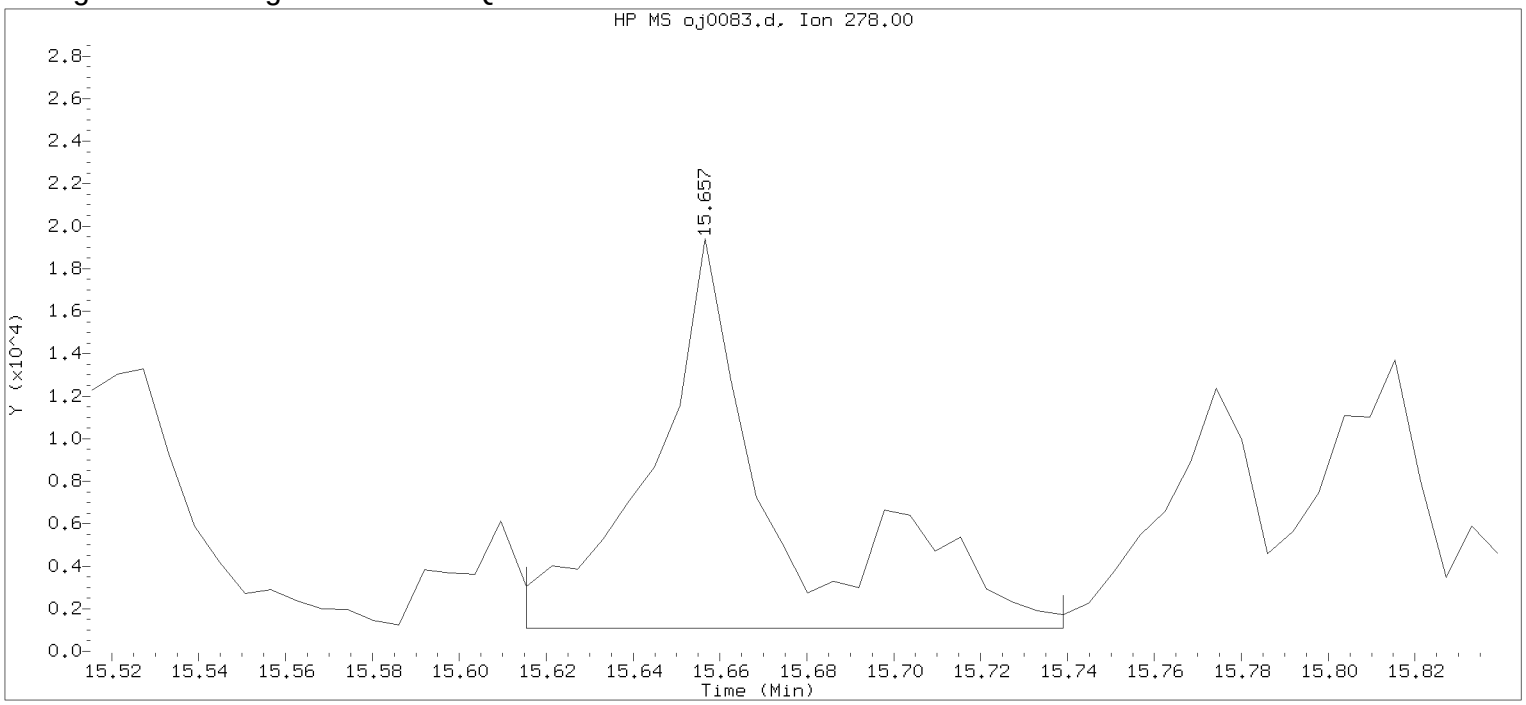
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

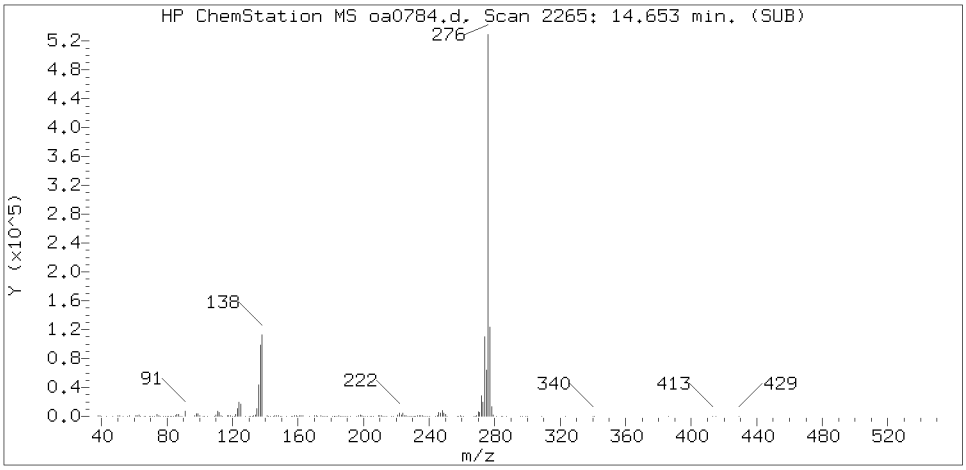
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 15:34 Automation

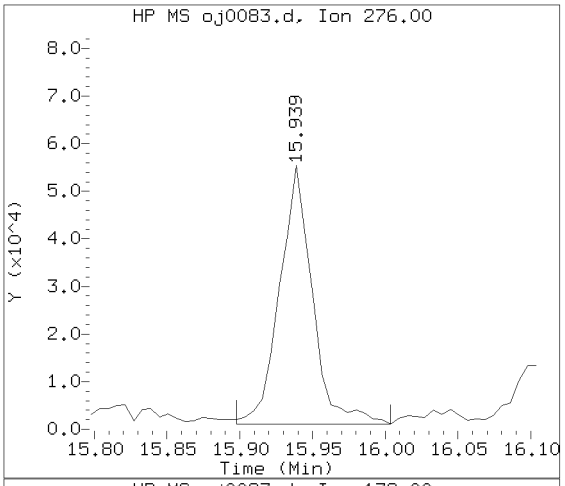
Sample Name: 494FD Lab Sample ID: 8064457

Compound Number	: 220		
Compound Name	: Dibenz(a,h)anthracene		
Scan Number	: 2308		
Retention Time (minutes)	: 15.657		
Quant Ion	: 278.00		
Area	: 36721		
On-column Amount (ng/ul)	: 1.1201		
Integration start scan	: 2300	Integration stop scan:	2321
Y at integration start	: 1077	Y at integration end:	1077

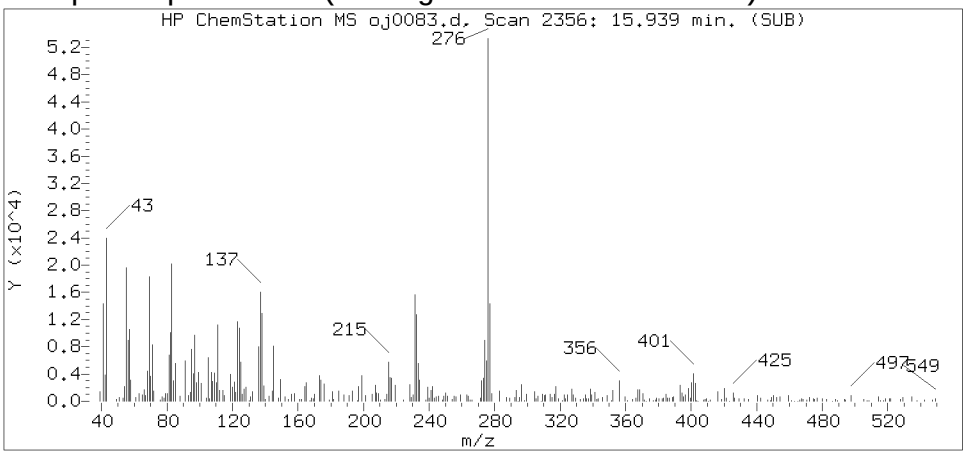
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: 27 date: 05247

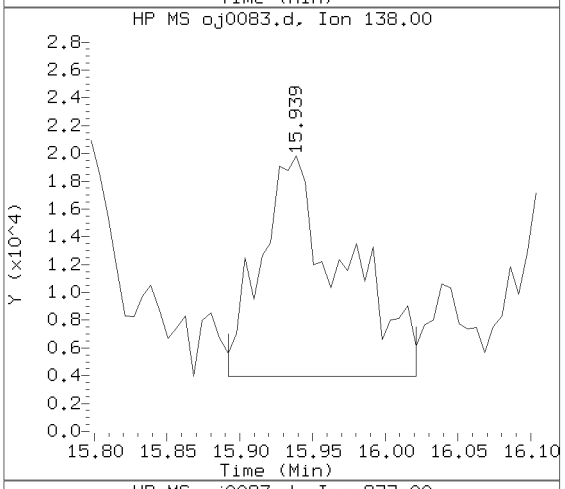
Reference Standard Spectrum for Benzo(g,h,i)perylene



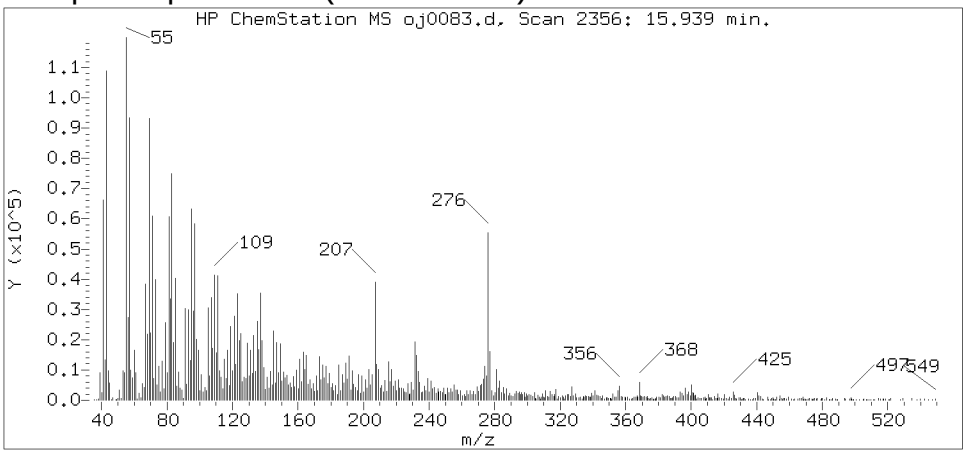


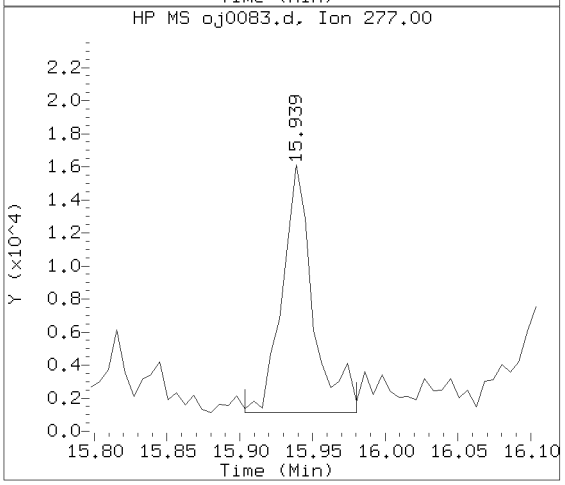
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0083.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:18 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:13 ceb05247

Sample Name: 494FD Lab Sample ID: 8064457

Compound Number	: 221
Compound Name	: Benzo(g,h,i)perylene
Scan Number	: 2356
Retention Time (minutes)	: 15.939
Relative Retention Time	: 0.00008
Quant Ion	: 276.00
Area (flag)	: 85733
On-column Amount (ng/ul)	: 2.6784

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0084.d Injection date and time: **02-OCT-2015 15:43**
Data file Sample Info. Line: 49513;8064458;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 13:57
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.08 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.087(-0.006)	681	152	179932 (7)	20.00	
65) Naphthalene-d8	7.363(0.000)	898	136	841520 (10)	20.00	
113) Acenaphthene-d10	9.092(0.000)	1192	164	506100 (3)	20.00	
153) Phenanthrene-d10	10.545(-0.006)	1439	188	848550 (-10)	20.00	
175) Pyrene-d10	11.933(-0.006)	1675	212	854252 (-19)	20.00	
213) Perylene-d12	14.574(-0.018)	2124	264	612578 (-21)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.657(-0.001)	82	1556108	79.463	79%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.445(0.000)	172	2958532	92.096	92%		63 - 117
179) Terphenyl-d14	(5)	12.127(0.000)	244	2787471	88.666	89%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)	8.951(0.000)	152	19983	0.445	14.78			0.1
114) Acenaphthene	(3)	9.122(-0.000)	153	4263M	0.137	4.56			0.1
126) Fluorene	(3)	9.633(-0.000)	166	4209M	0.118	3.92			0.1
155) Phenanthrene	(4)	10.563(0.000)	178	115176	2.337	77.70			0.1
157) Anthracene	(4)	10.616(0.000)	178	34847	0.716	23.79			0.1
173) Fluoranthene	(4)	11.733(0.000)	202	197826	3.694	122.80			0.1
177) Pyrene	(5)	11.951(0.000)	202	200458	3.933	130.77			0.1
195) Benzo(a)anthracene	(5)	13.139(-0.000)	228	84372	1.899	63.14			0.1
196) Chrysene	(5)	13.174(-0.000)	228	110204	2.604	86.55			0.1
206) Benzo(b)fluoranthene	(6)	14.210(0.000)	252	126282M	3.285	109.20			0.1
208) Benzo(k)fluoranthene	(6)	14.233(0.000)	252	45584M	1.162	38.63			0.1
211) Benzo(a)pyrene	(6)	14.515(0.000)	252	86683	2.283	75.90			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	15.645(0.000)	276	63497M	1.606	53.38			0.1
220) Dibenz(a,h)anthracene	(6)	15.662(0.000)	278	13520M	0.406	13.51			0.1
221) Benzo(g,h,i)perylene	(6)	15.945(0.000)	276	66566	2.049	68.13			0.1

M = Compound was manually integrated.

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0084.d Injection date and time: **02-OCT-2015 15:43**
Data file Sample Info. Line: 49513;8064458;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 13:57
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.08 g

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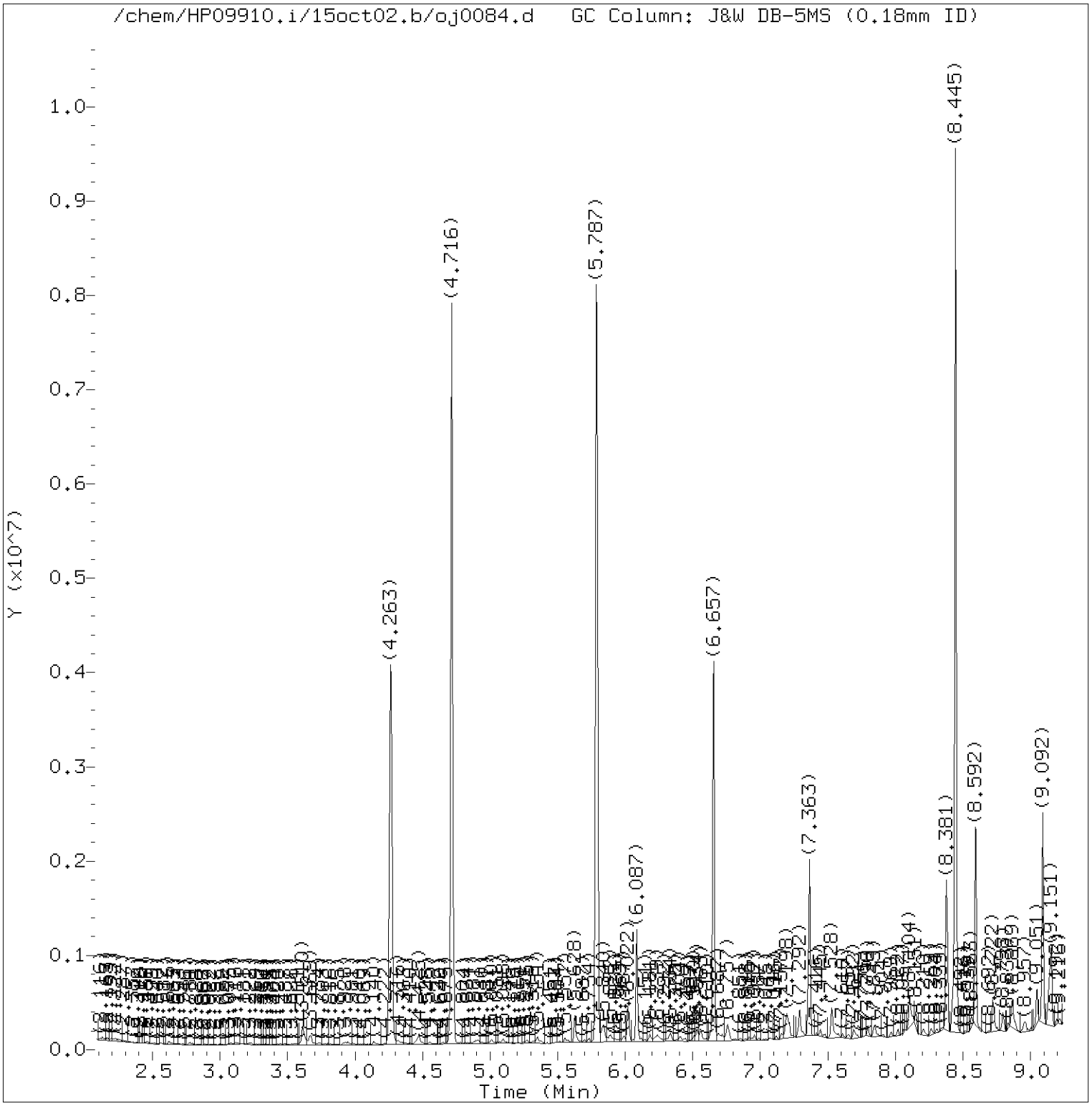
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

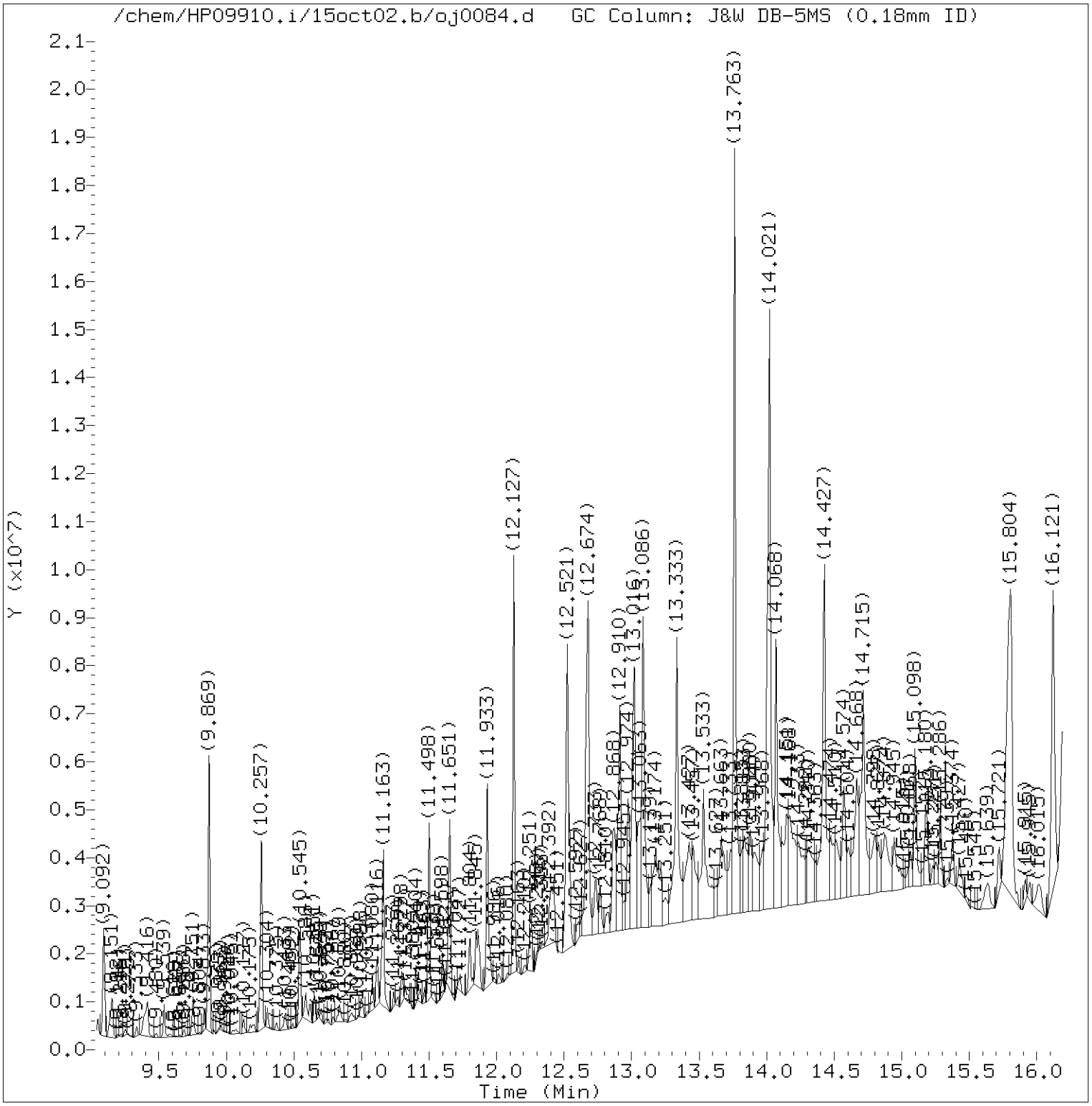
Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

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on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.087	152	179932	20.000
44)$Nitrobenzene-d5	(2)	6.657	82	1556108	79.463
65)*Naphthalene-d8	(2)	7.363	136	841520	20.000
93)$2-Fluorobiphenyl	(3)	8.445	172	2958532	92.096
109) Acenaphthylene	(3)	8.951	152	19983	0.445
113)*Acenaphthene-d10	(3)	9.092	164	506100	20.000
114) Acenaphthene	(3)	9.122	153	4263M	0.137
126) Fluorene	(3)	9.633	166	4209M	0.118
153)*Phenanthrene-d10	(4)	10.545	188	848550	20.000
155) Phenanthrene	(4)	10.563	178	115176	2.337
157) Anthracene	(4)	10.616	178	34847	0.716
173) Fluoranthene	(4)	11.733	202	197826	3.694
175)*Pyrene-d10	(5)	11.933	212	854252	20.000
177) Pyrene	(5)	11.951	202	200458	3.933
179)$Terphenyl-d14	(5)	12.127	244	2787471	88.666
195) Benzo(a)anthracene	(5)	13.139	228	84372	1.899
196) Chrysene	(5)	13.174	228	110204	2.604
206) Benzo(b)fluoranthene	(6)	14.210	252	126282M	3.285
208) Benzo(k)fluoranthene	(6)	14.233	252	45584M	1.162
211) Benzo(a)pyrene	(6)	14.515	252	86683	2.283
213)*Perylene-d12	(6)	14.574	264	612578	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	15.645	276	63497M	1.606
220) Dibenz(a,h)anthracene	(6)	15.662	278	13520M	0.406
221) Benzo(g,h,i)perylene	(6)	15.945	276	66566	2.049

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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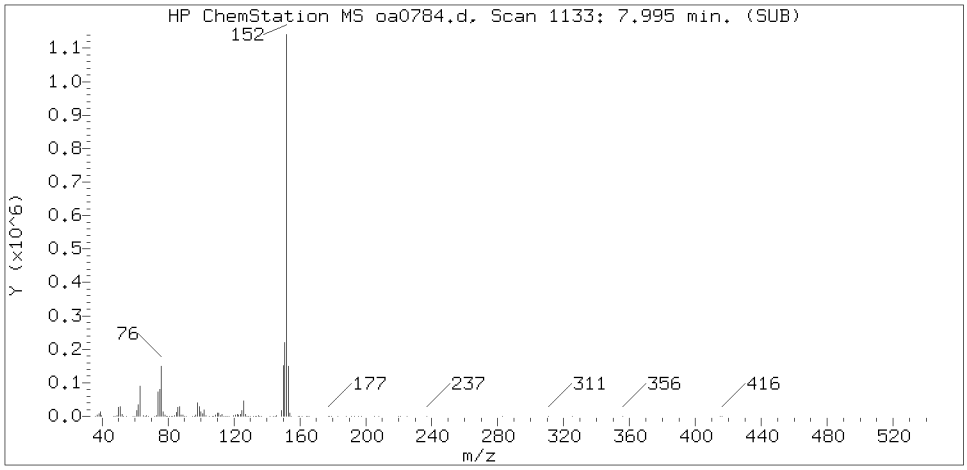
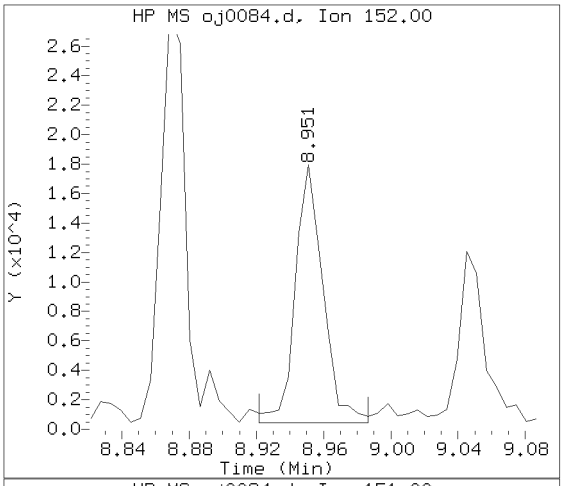
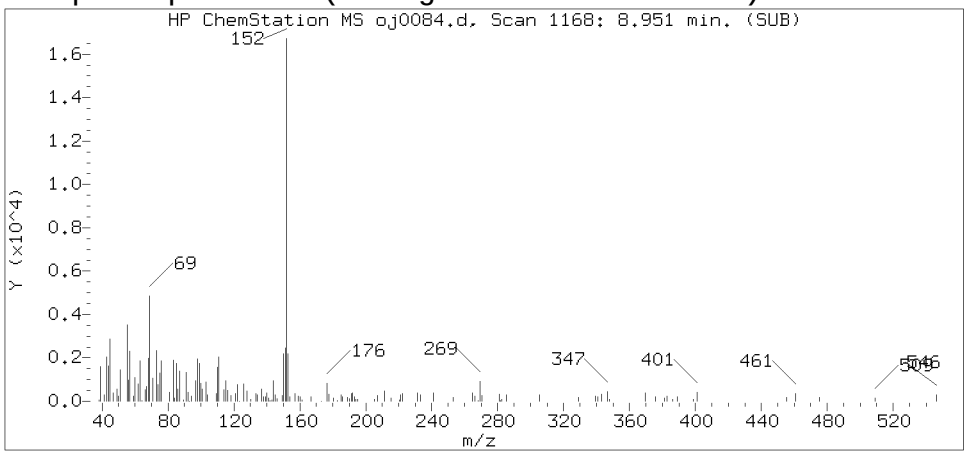
Target 3.5 esignature user ID: ceb05247

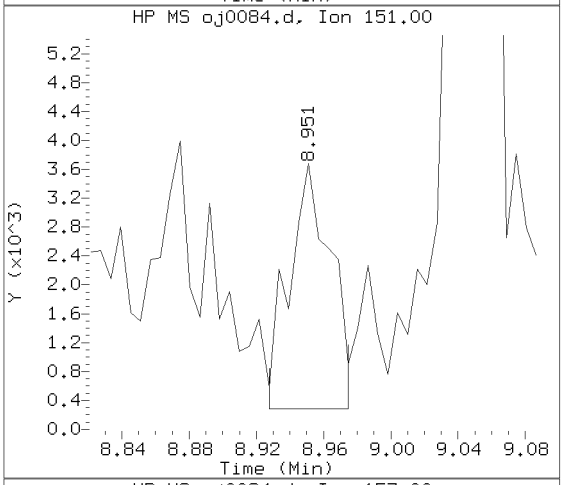
Reference Standard Spectrum for Acenaphthylene



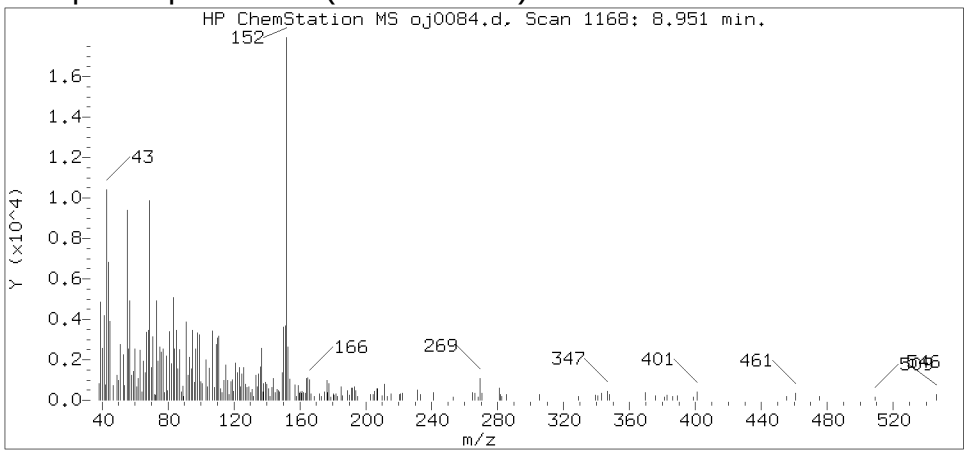


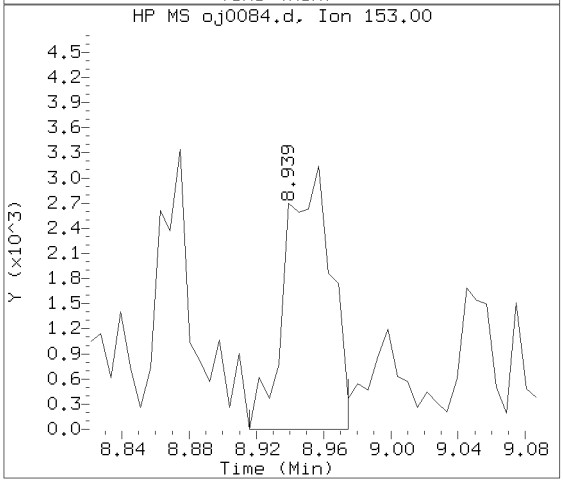
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

Compound Number	: 109
Compound Name	: Acenaphthylene
Scan Number	: 1168
Retention Time (minutes)	: 8.951
Relative Retention Time	: 0.00000
Quant Ion	: 152.00
Area (flag)	: 19983
On-column Amount (ng/ul)	: 0.4447

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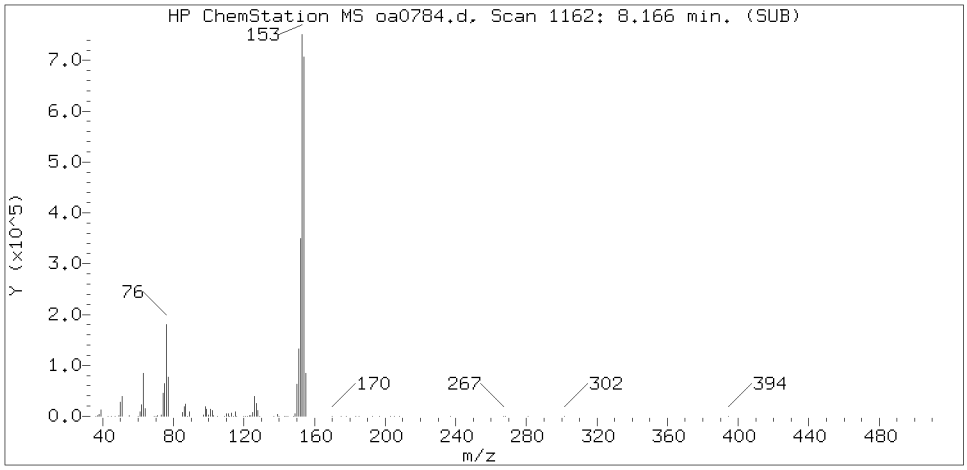
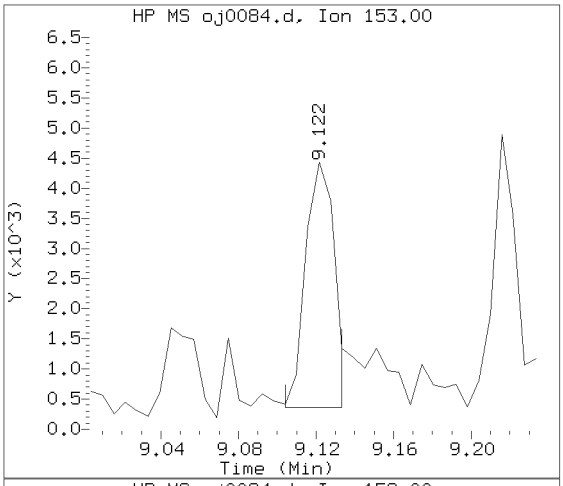
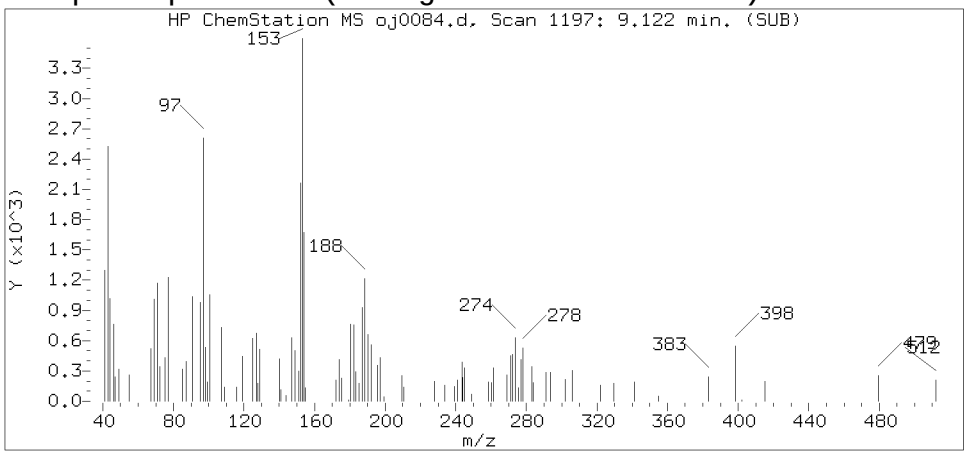
Target 3.5 esignature user ID: ceb05247

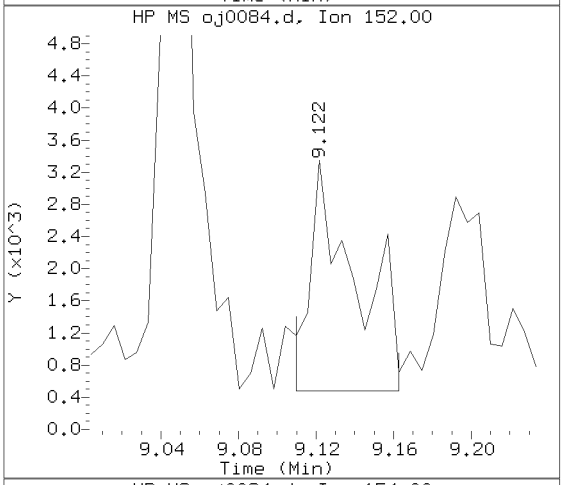
Reference Standard Spectrum for Acenaphthene



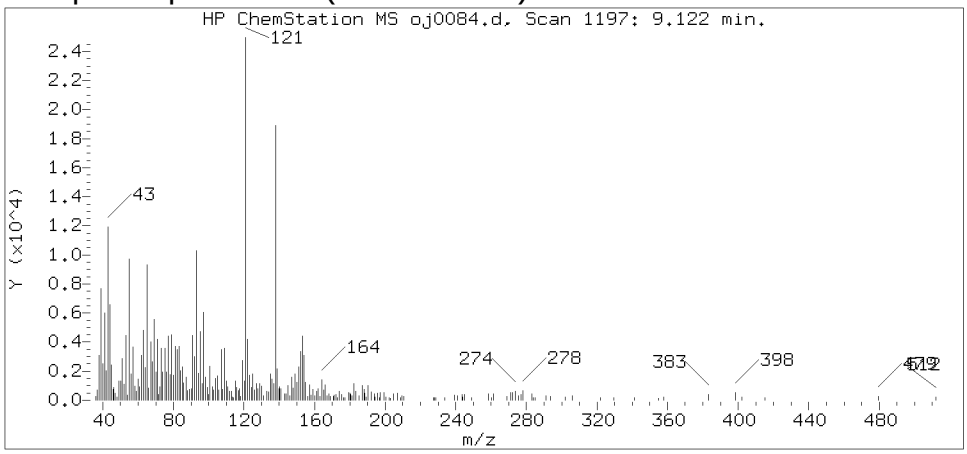


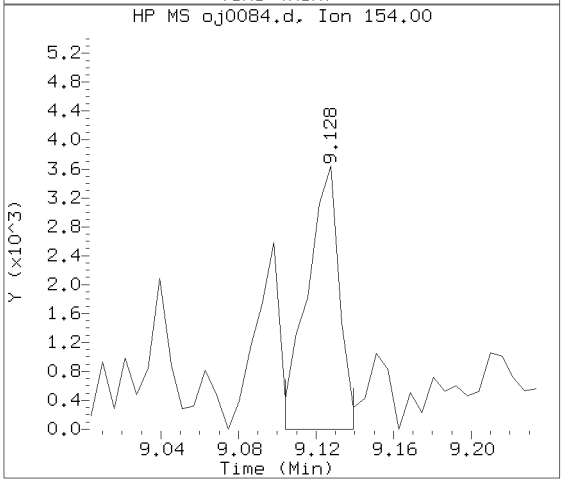
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1197
Retention Time (minutes) : 9.122
Relative Retention Time :-0.00000
Quant Ion : 153.00
Area (flag) : 4263M
On-column Amount (ng/ul) : 0.1371

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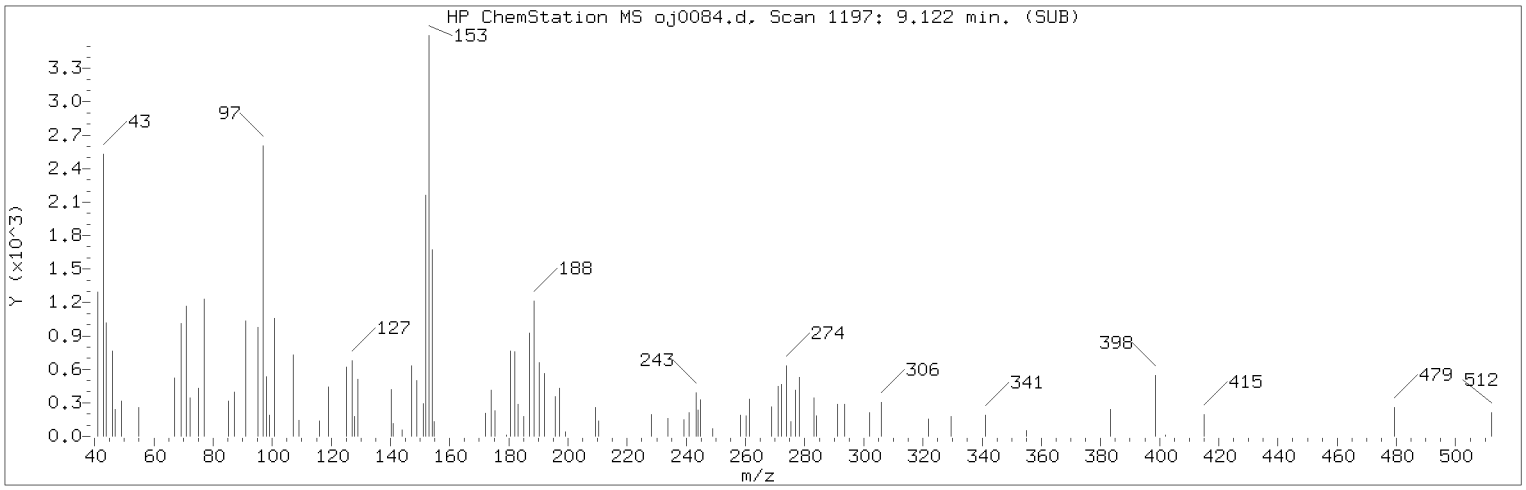
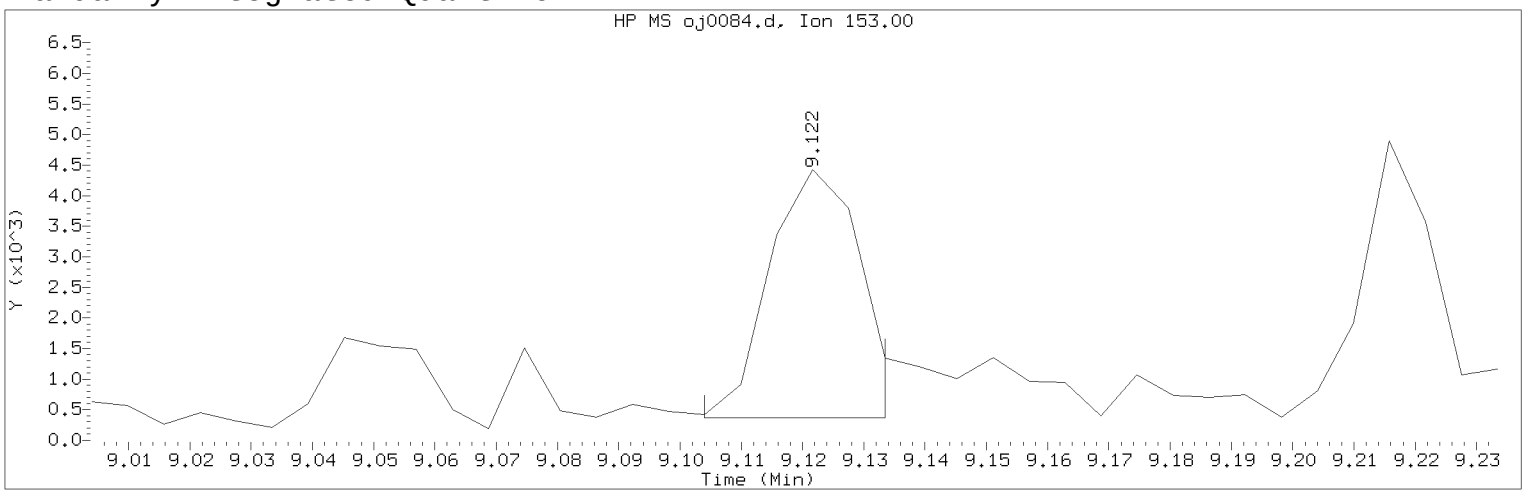
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

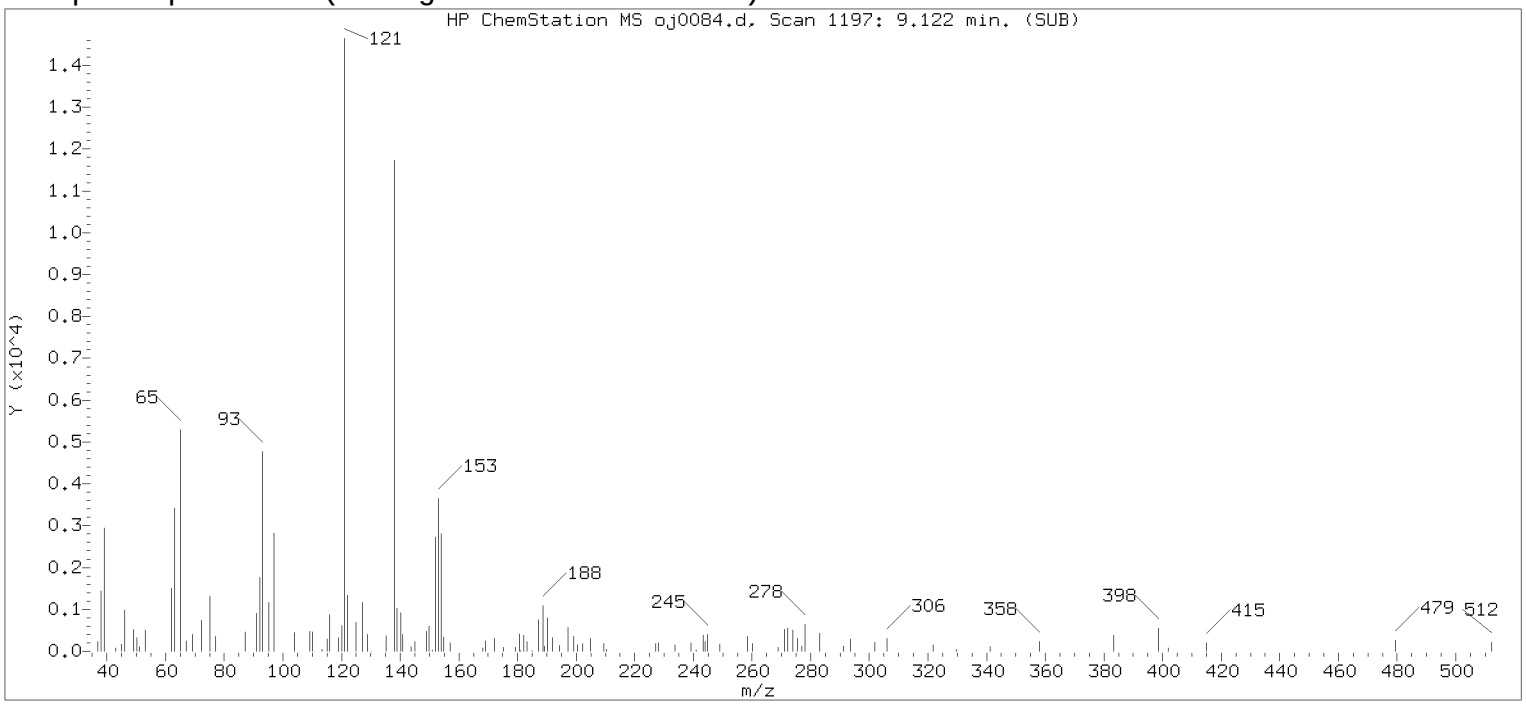
Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1197
Retention Time (minutes) : 9.122
Quant Ion : 153.00
Area (flag) : 4263M
On-column Amount (ng/ul) : 0.1371
Integration start scan : 1193 Integration stop scan: 1198
Y at integration start : 363 Y at integration end: 363

Reason for manual integration: improper integration

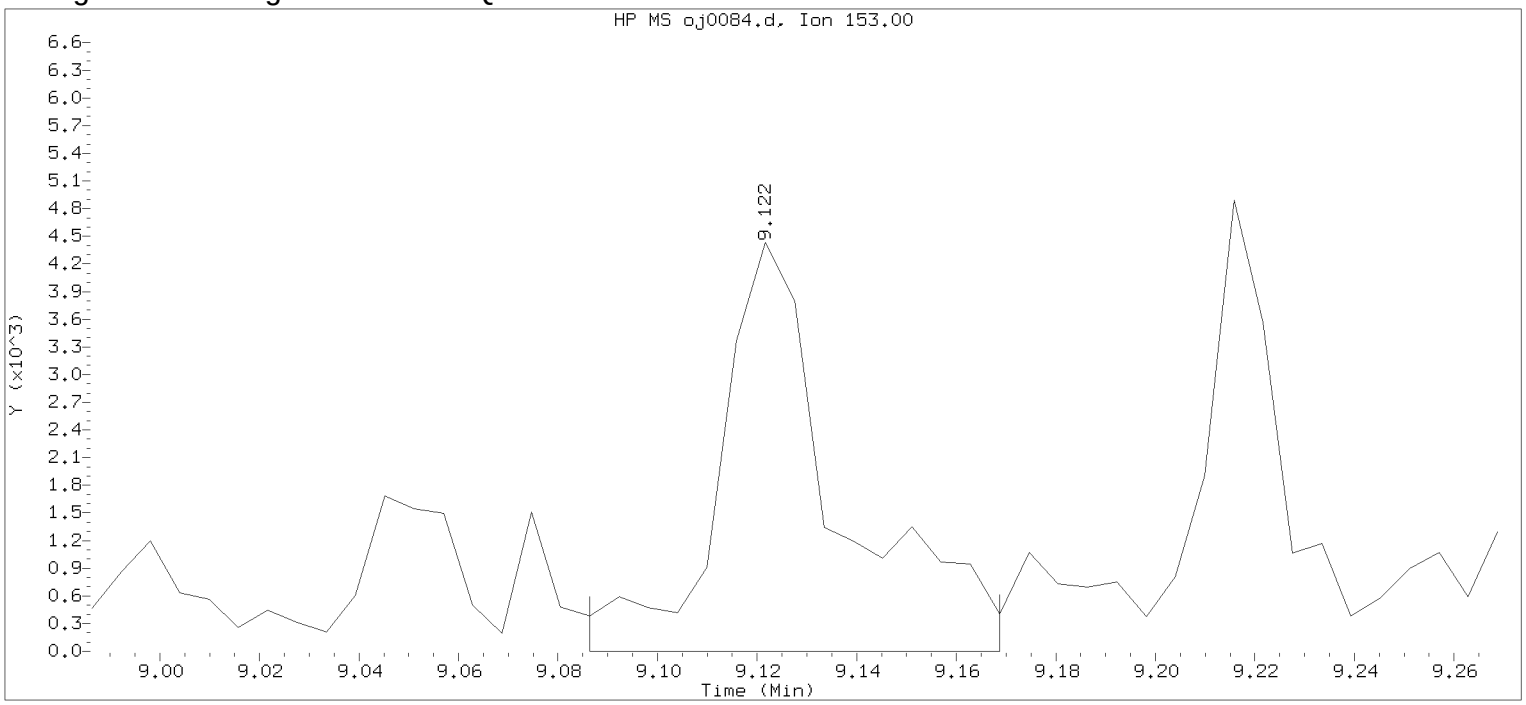
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

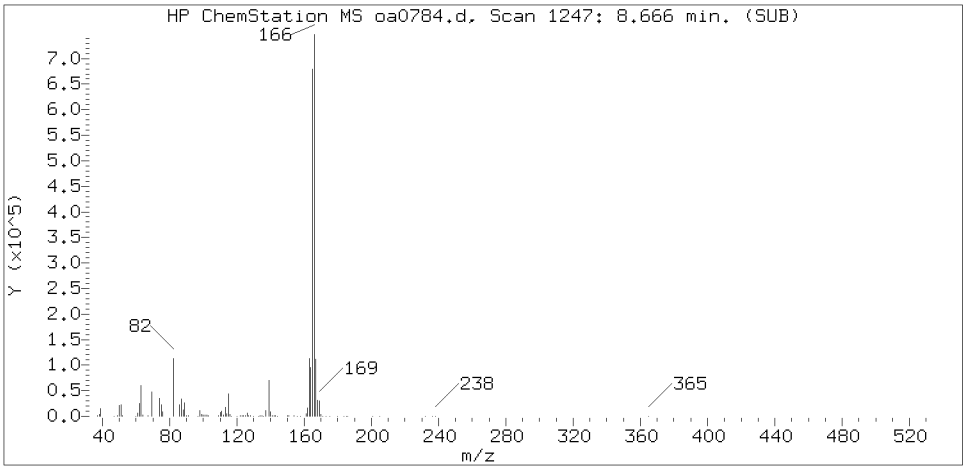
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 15:59 Automation

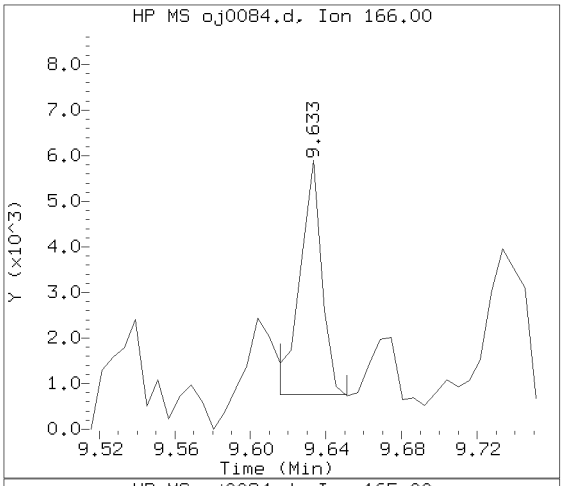
Sample Name: 49513 Lab Sample ID: 8064458

Compound Number	: 114		
Compound Name	: Acenaphthene		
Scan Number	: 1197		
Retention Time (minutes)	: 9.122		
Quant Ion	: 153.00		
Area	: 7477		
On-column Amount (ng/ul)	: 0.2404		
Integration start scan	: 1190	Integration stop scan:	1204
Y at integration start	: 0	Y at integration end:	0

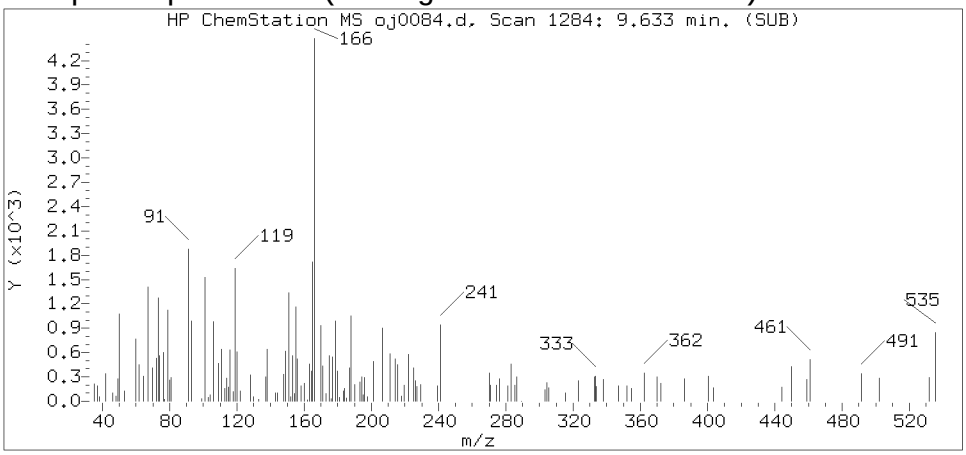
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: 27 date: 05247

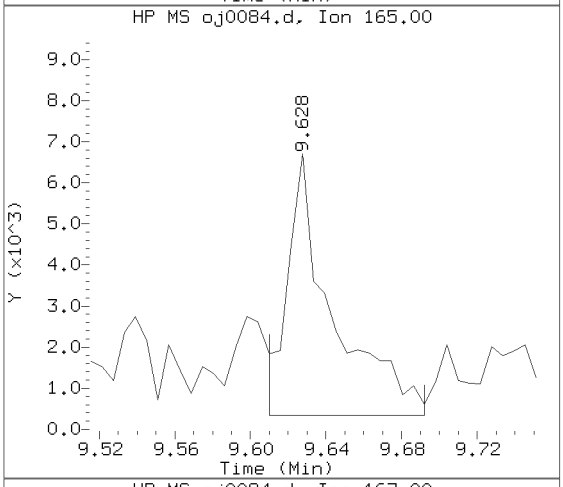
Reference Standard Spectrum for Fluorene



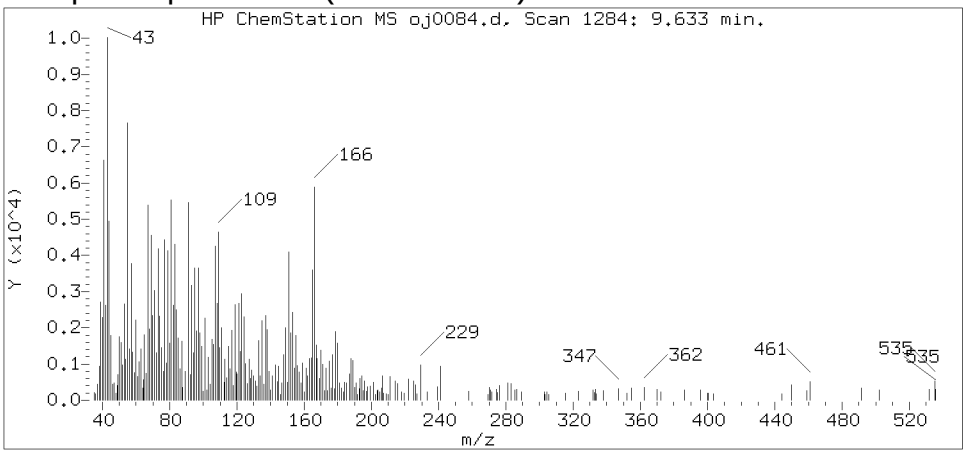


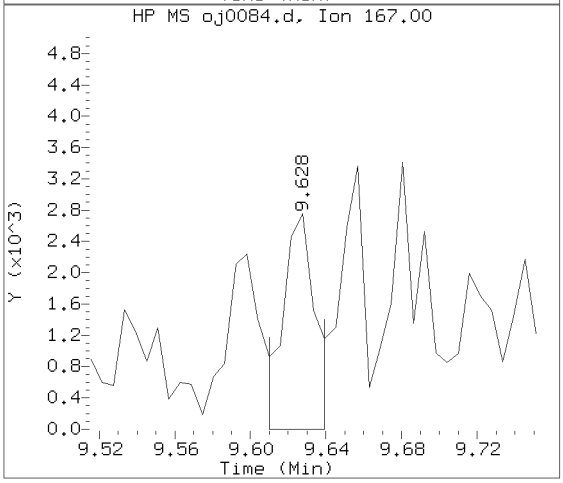
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

Compound Number : 126
Compound Name : Fluorene
Scan Number : 1284
Retention Time (minutes) : 9.633
Relative Retention Time :-0.00065
Quant Ion : 166.00
Area (flag) : 4209M
On-column Amount (ng/ul) : 0.1178

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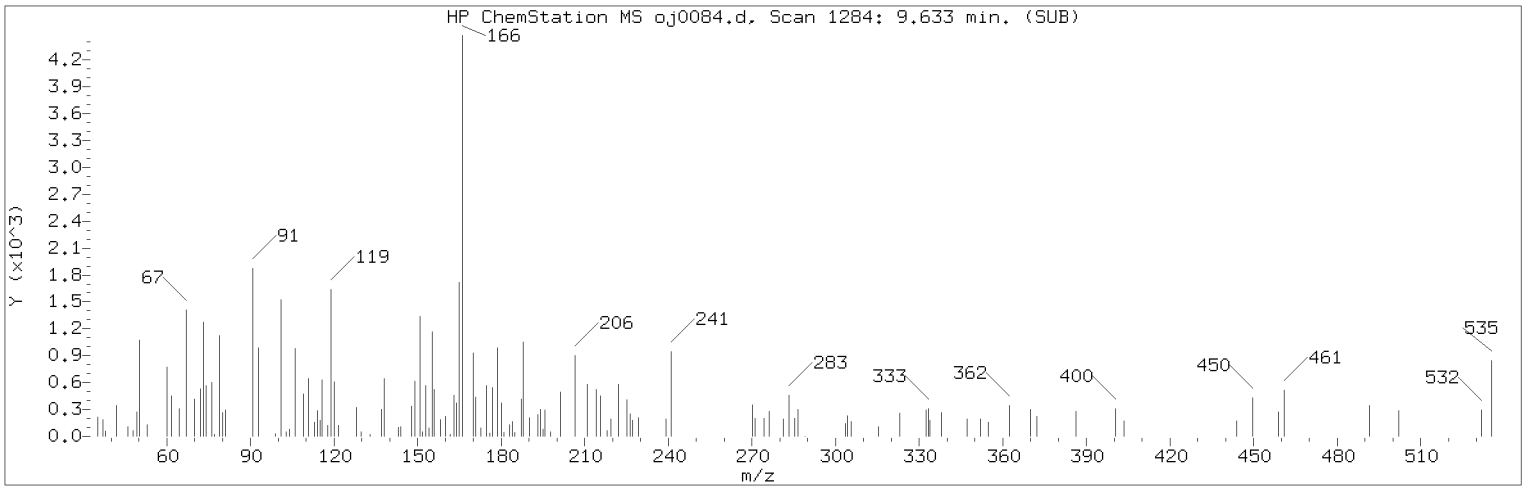
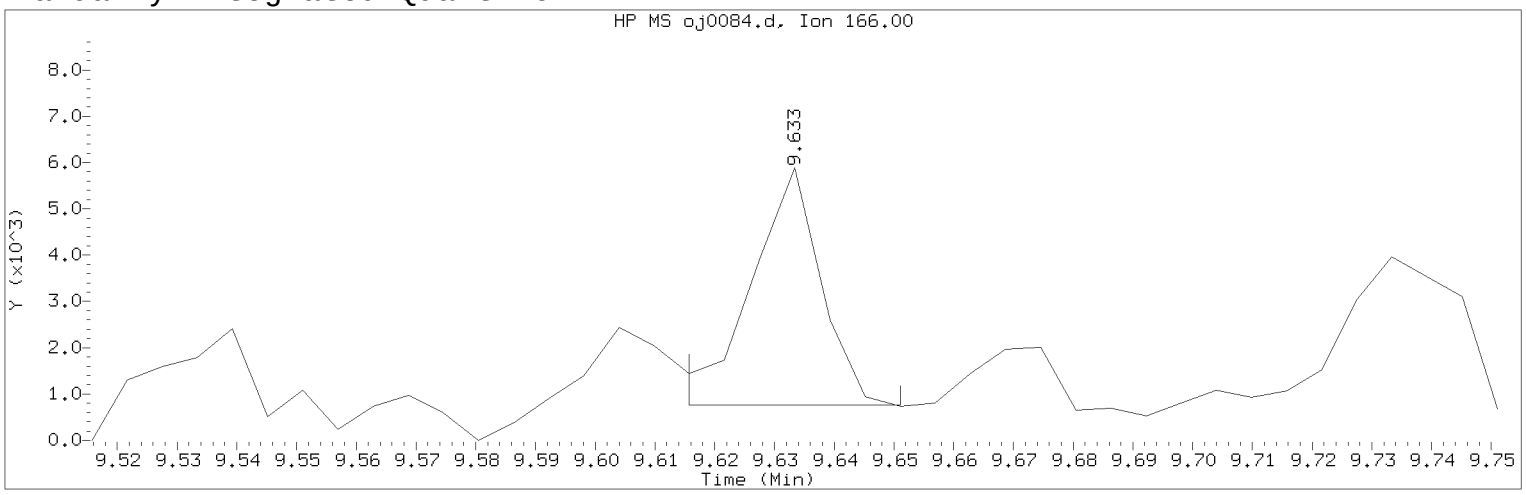
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

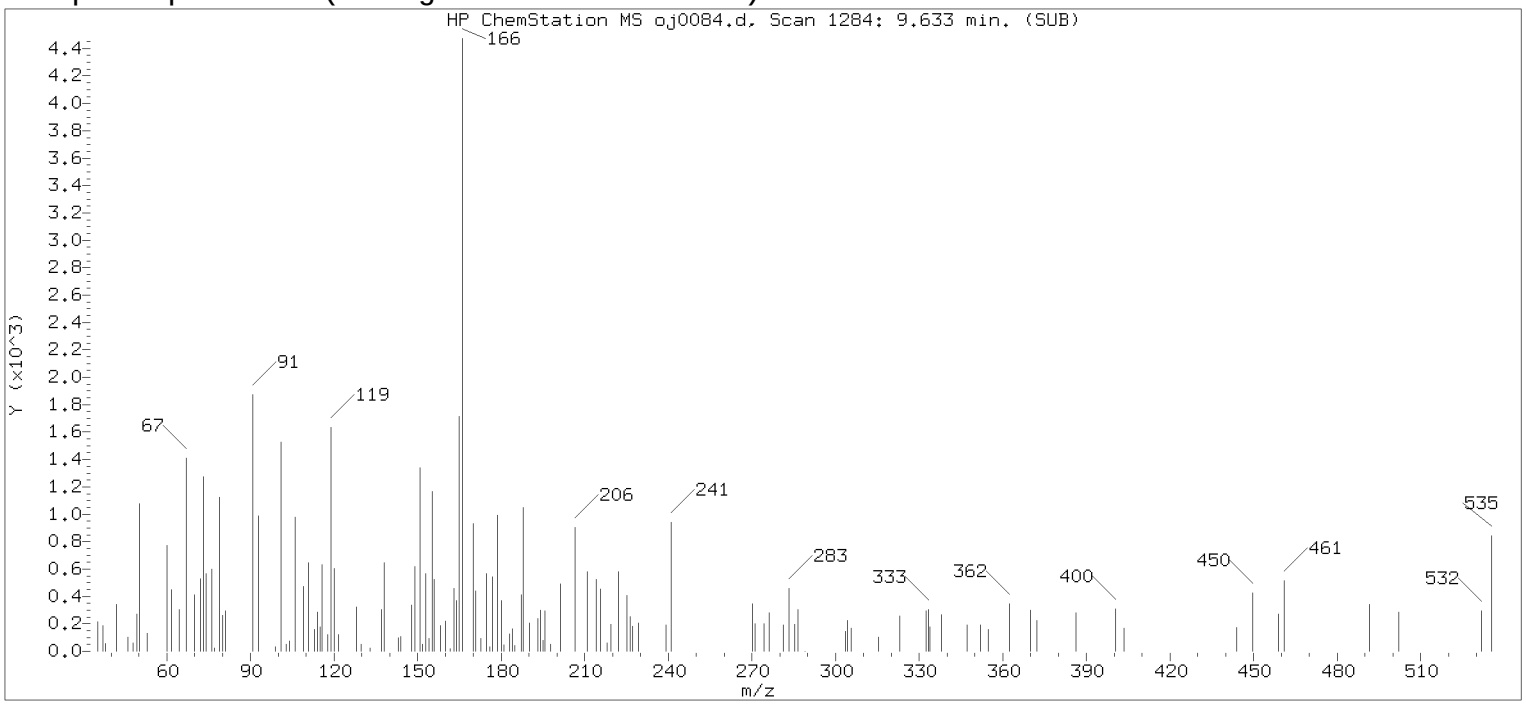
Compound Number : 126
Compound Name : Fluorene
Scan Number : 1284
Retention Time (minutes) : 9.633
Quant Ion : 166.00
Area (flag) : 4209M
On-column Amount (ng/ul) : 0.1178
Integration start scan : 1280 Integration stop scan: 1286
Y at integration start : 761 Y at integration end: 761

Reason for manual integration: improper integration

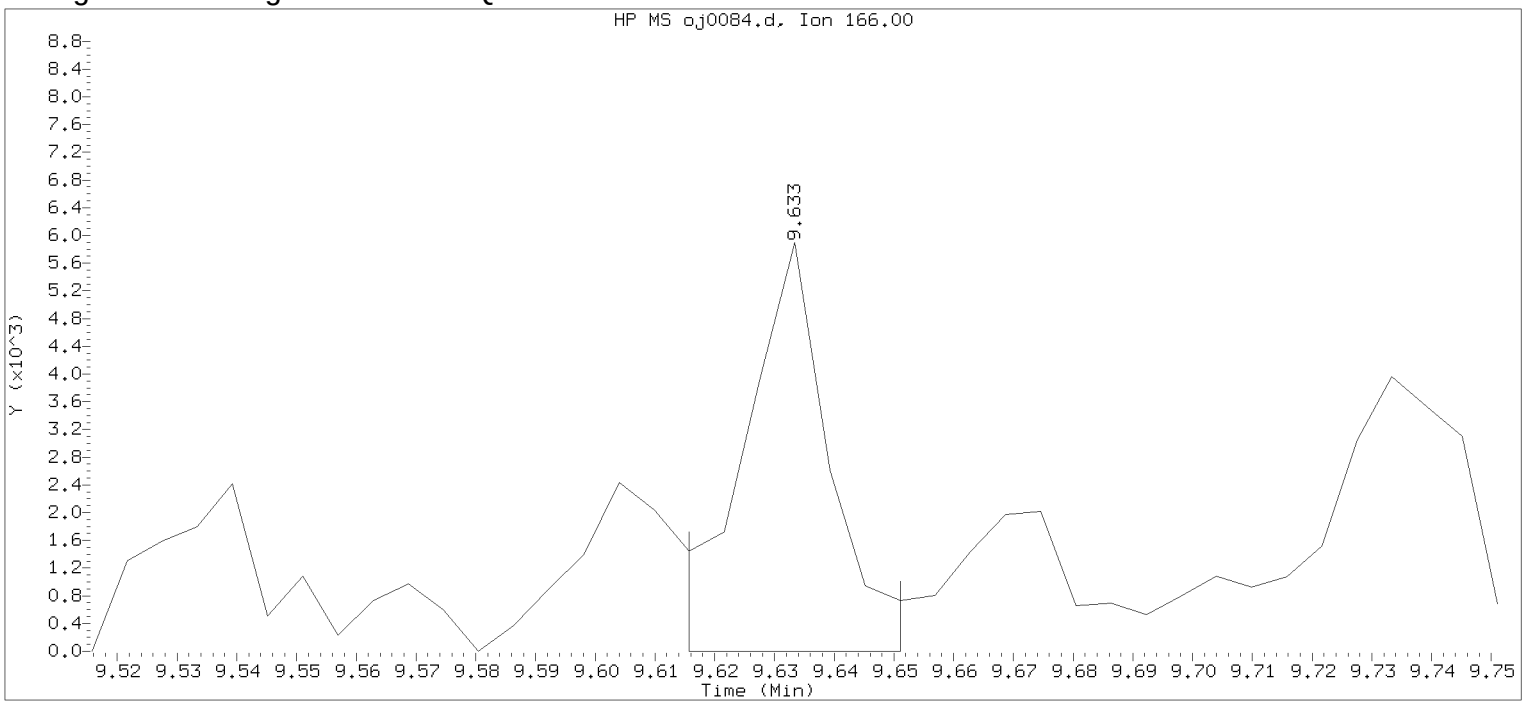
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

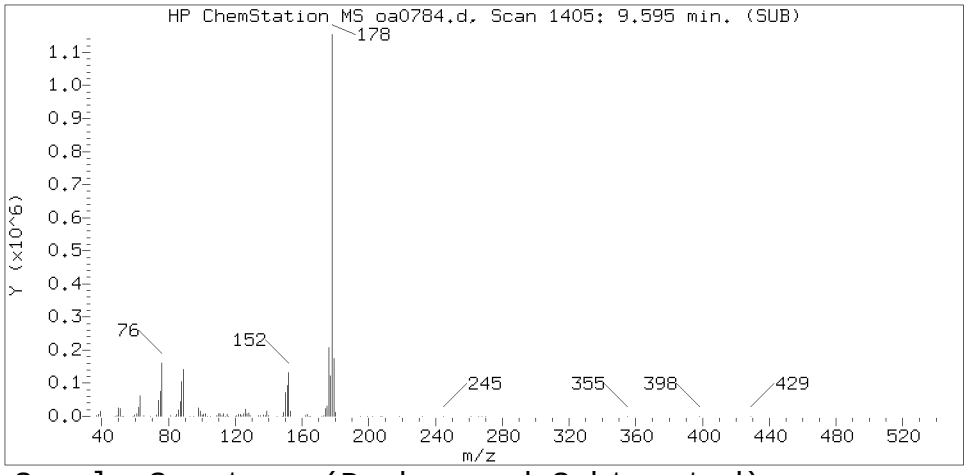
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 15:59 Automation

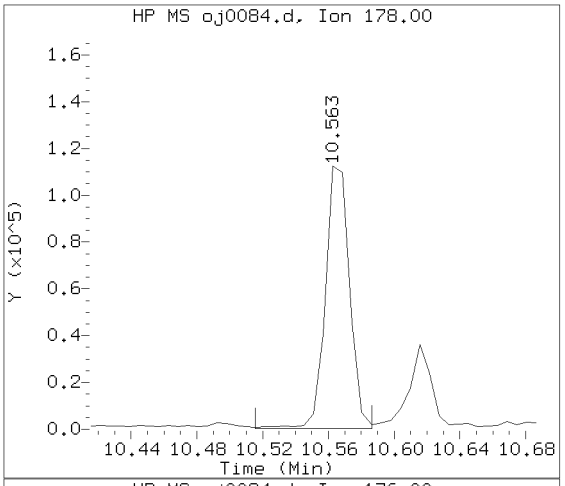
Sample Name: 49513 Lab Sample ID: 8064458

Compound Number	: 126		
Compound Name	: Fluorene		
Scan Number	: 1284		
Retention Time (minutes)	: 9.633		
Quant Ion	: 166.00		
Area	: 5706		
On-column Amount (ng/ul)	: 0.1596		
Integration start scan	: 1280	Integration stop scan:	1286
Y at integration start	: 0	Y at integration end:	0

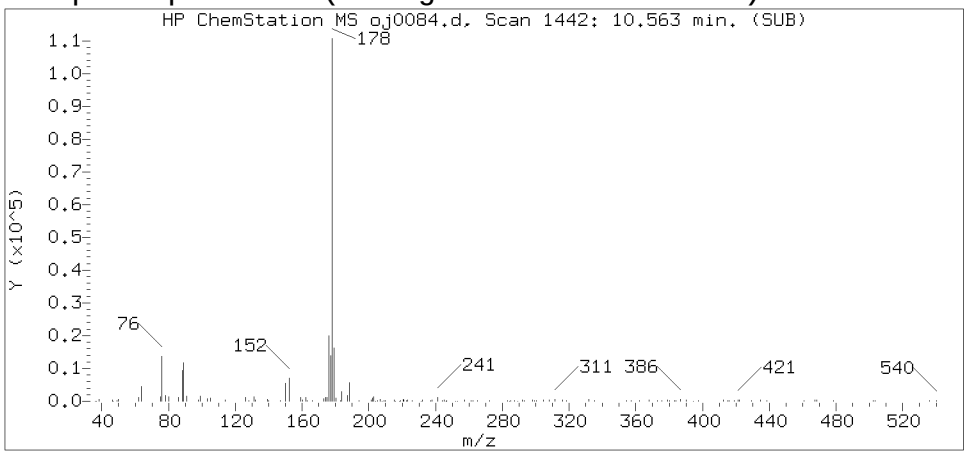
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: 27 date: 05247

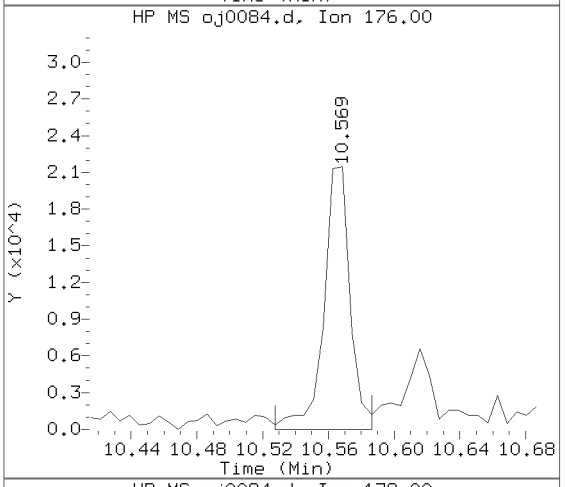
Reference Standard Spectrum for Phenanthrene



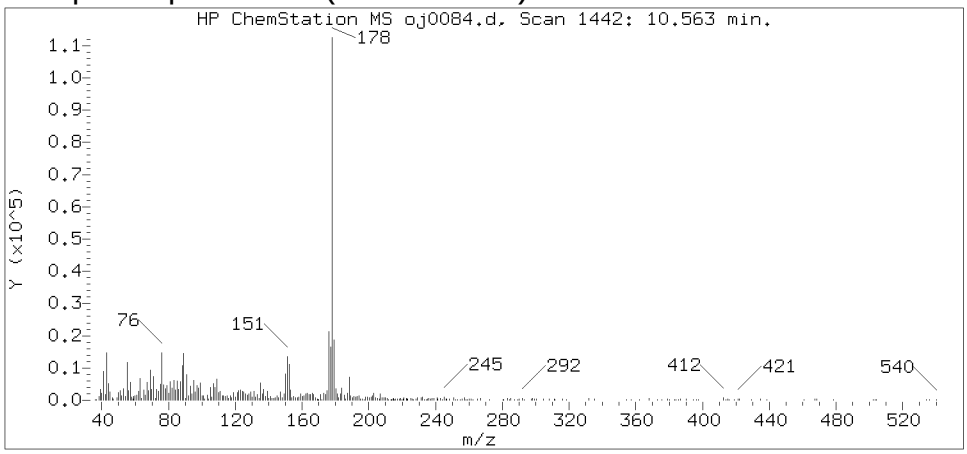


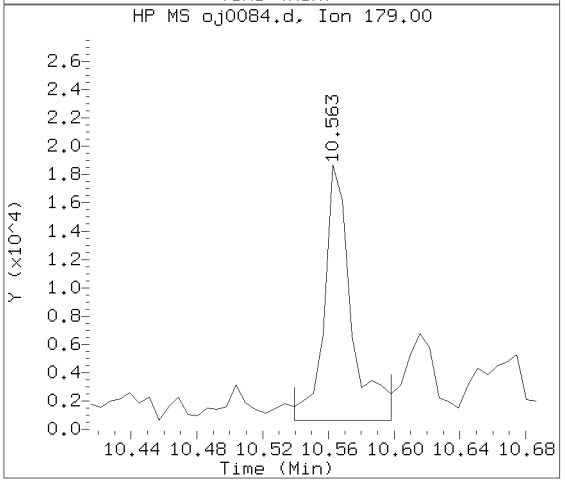
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

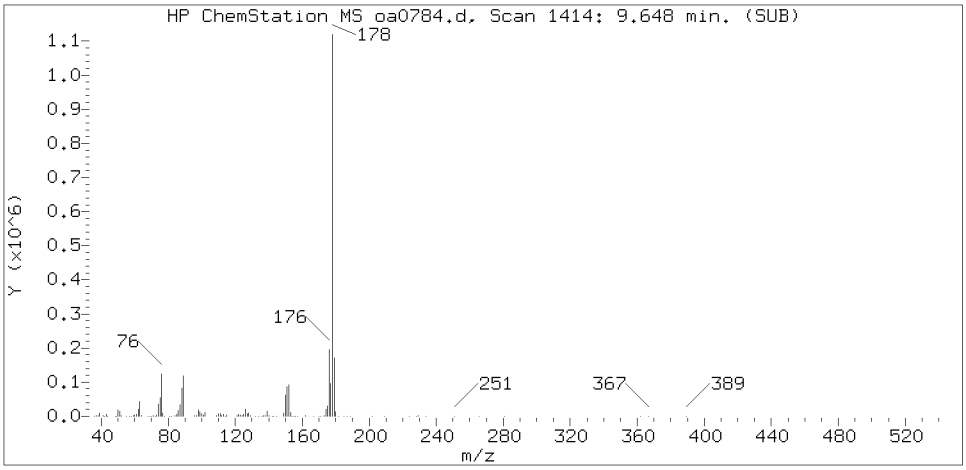
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

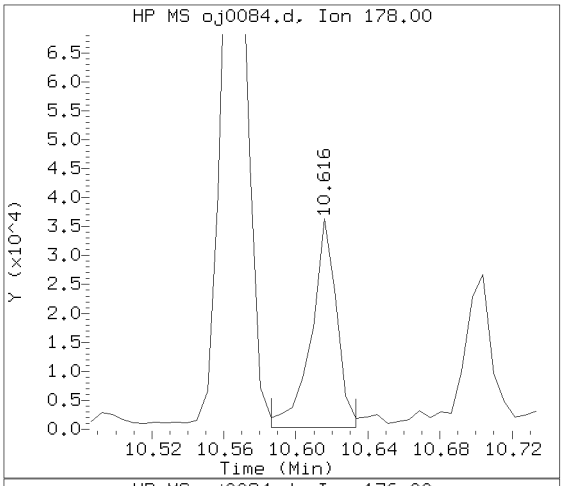
Sample Name: 49513 Lab Sample ID: 8064458

Compound Number	: 155
Compound Name	: Phenanthrene
Scan Number	: 1442
Retention Time (minutes)	: 10.563
Relative Retention Time	: 0.00056
Quant Ion	: 178.00
Area (flag)	: 115176
On-column Amount (ng/ul)	: 2.3372

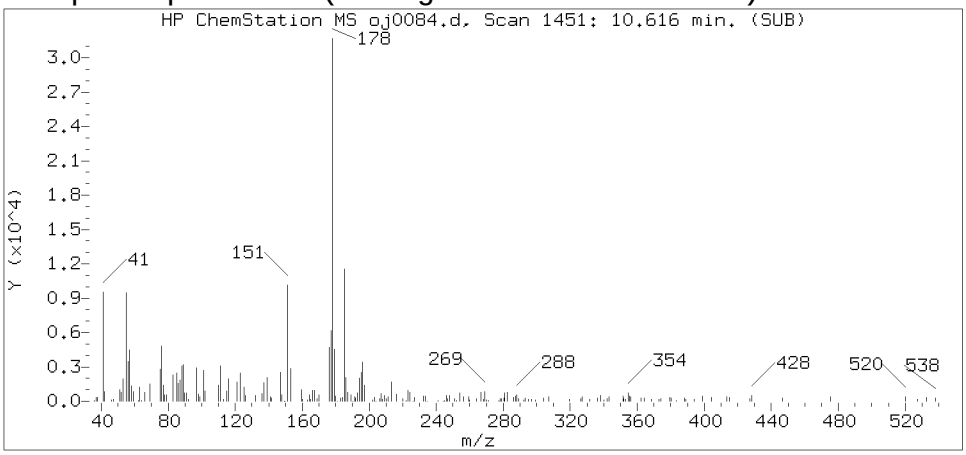
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

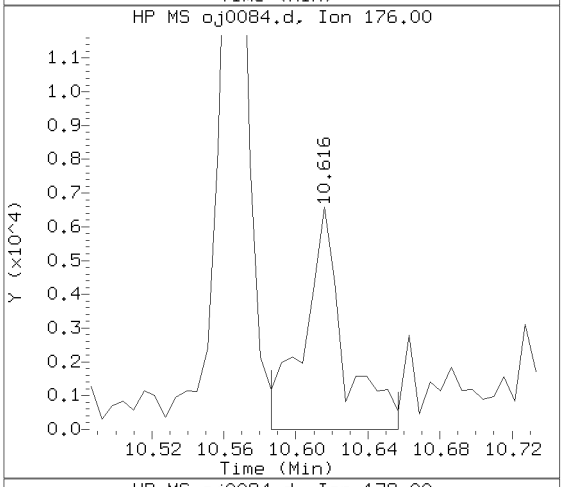
Reference Standard Spectrum for Anthracene



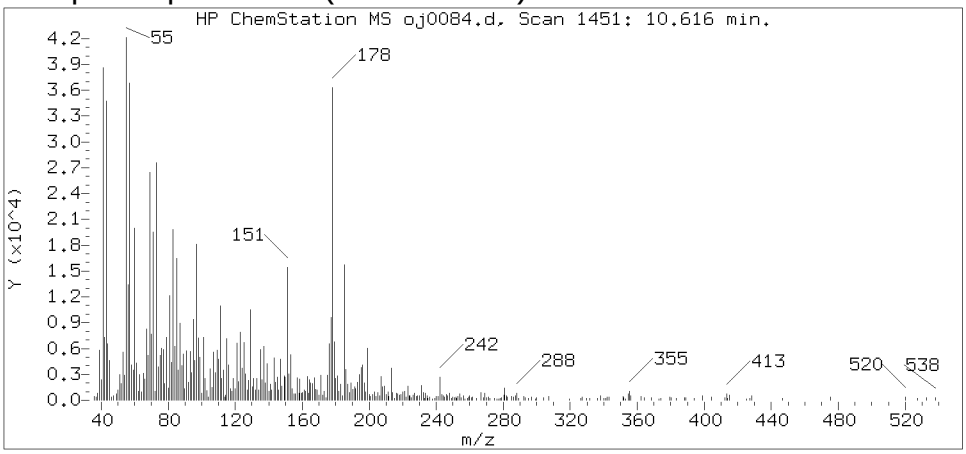


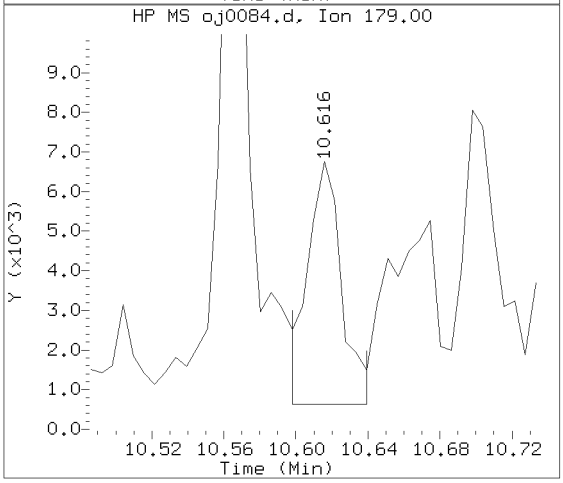
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

Compound Number	: 157
Compound Name	: Anthracene
Scan Number	: 1451
Retention Time (minutes)	: 10.616
Relative Retention Time	: 0.00056
Quant Ion	: 178.00
Area (flag)	: 34847
On-column Amount (ng/ul)	: 0.7156

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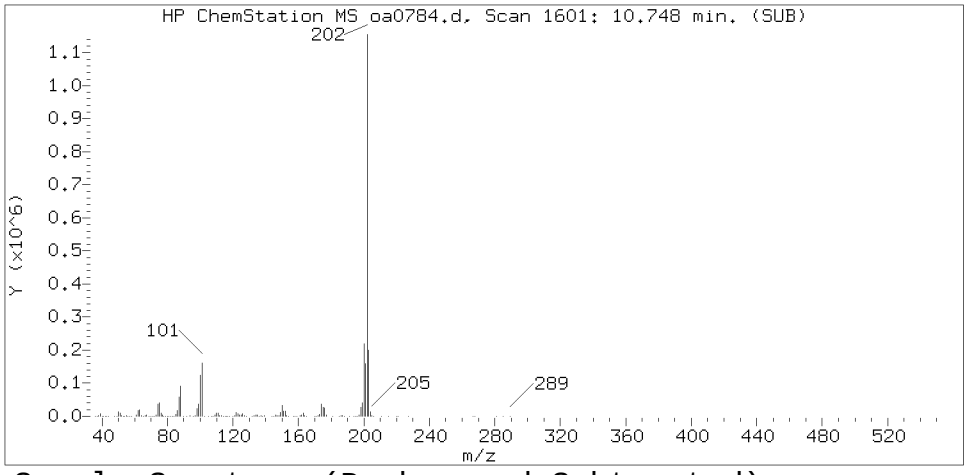
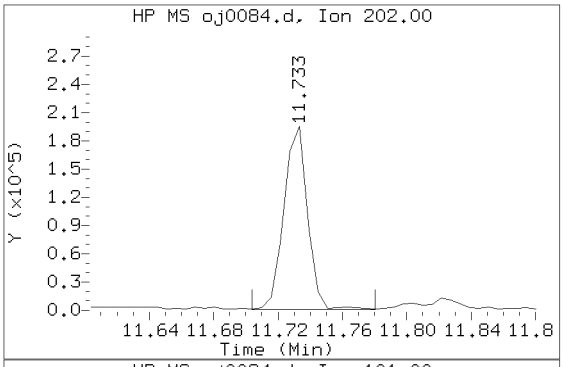
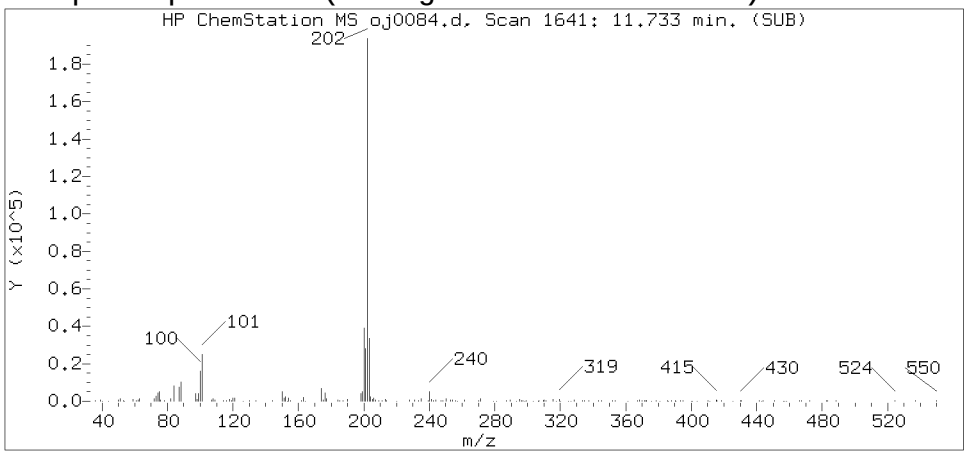
Target 3.5 esignature user ID: ceb05247

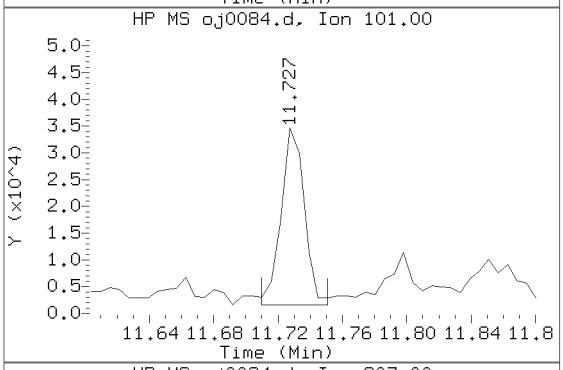
Reference Standard Spectrum for Fluoranthene

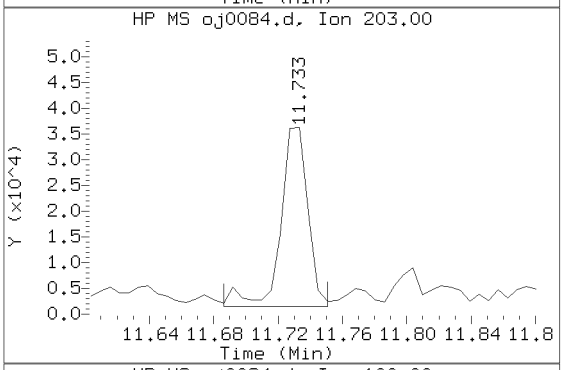




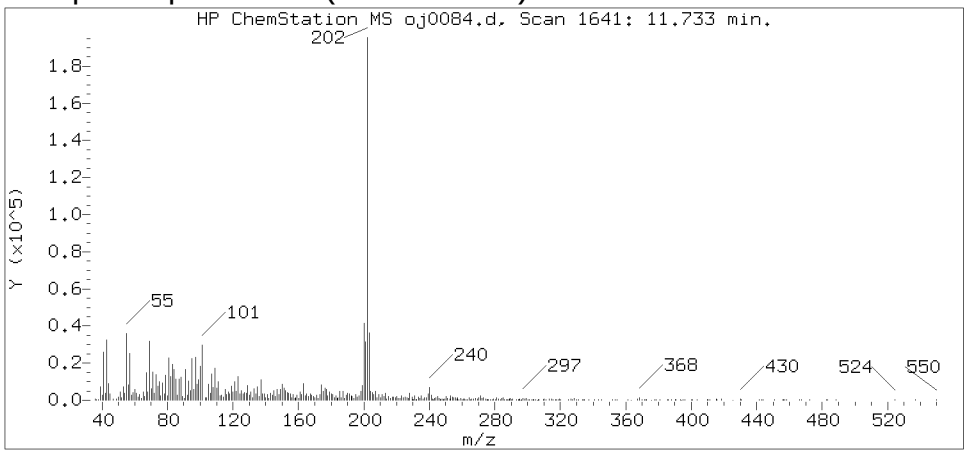
Sample Spectrum (Background Subtracted)

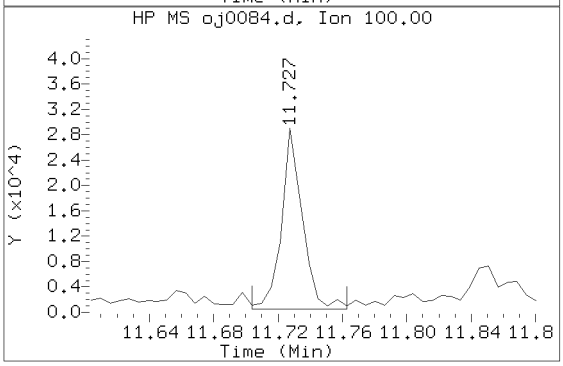






Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

Compound Number	: 173
Compound Name	: Fluoranthene
Scan Number	: 1641
Retention Time (minutes)	: 11.733
Relative Retention Time	: 0.00006
Quant Ion	: 202.00
Area (flag)	: 197826
On-column Amount (ng/ul)	: 3.6937

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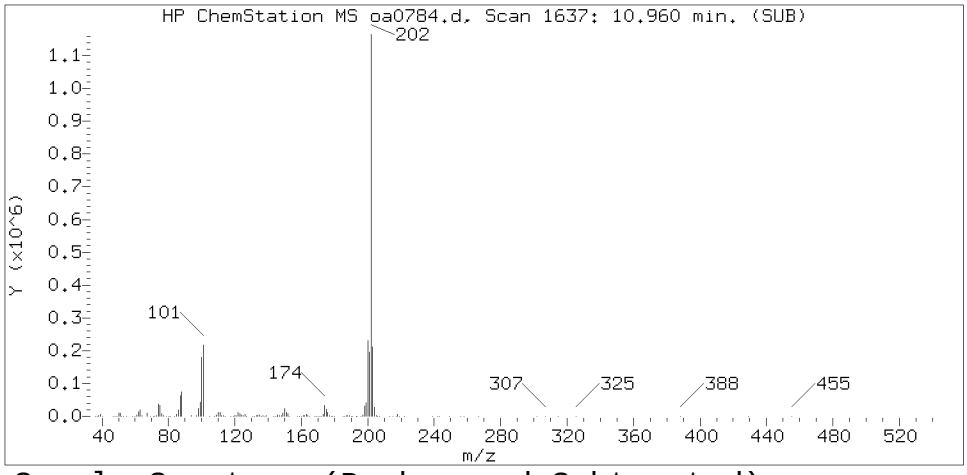
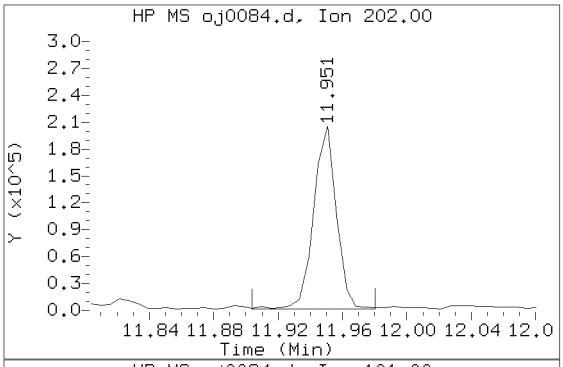
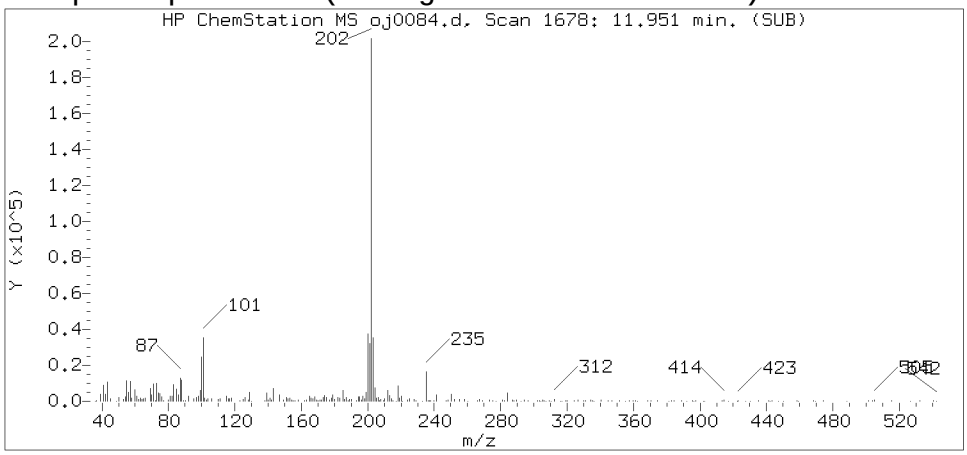
Target 3.5 esignature user ID: ceb05247

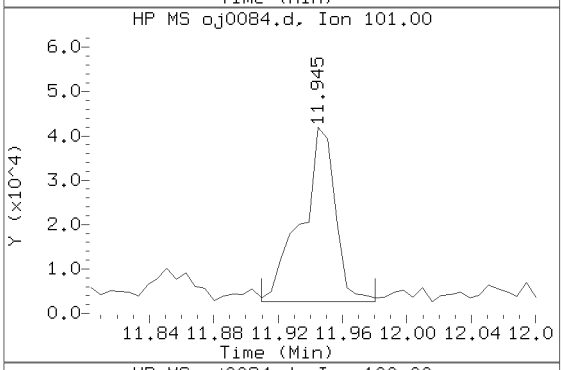
Reference Standard Spectrum for Pyrene

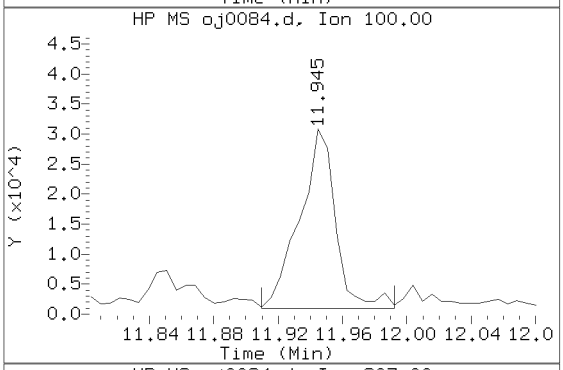




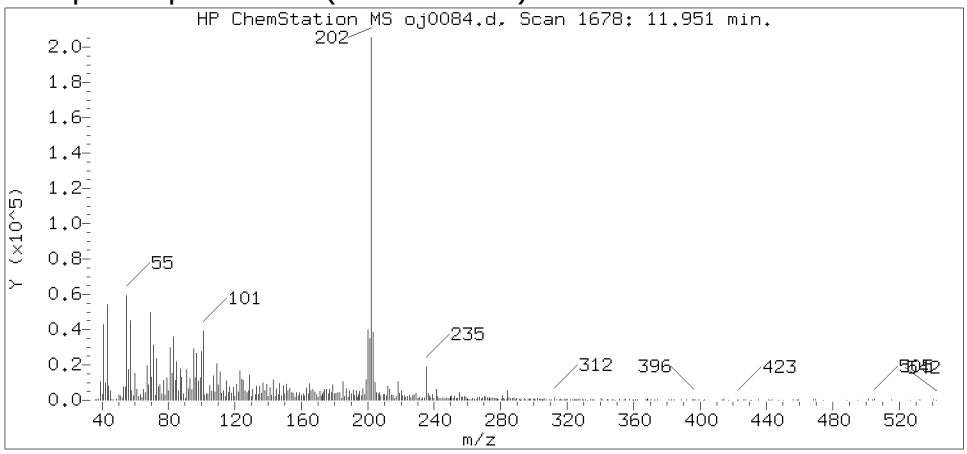
Sample Spectrum (Background Subtracted)

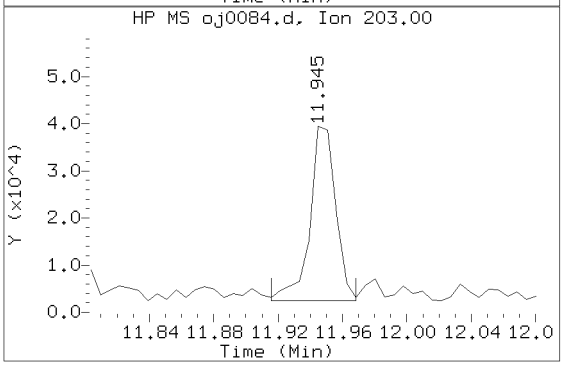






Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1678
Retention Time (minutes)	: 11.951
Relative Retention Time	: 0.00000
Quant Ion	: 202.00
Area (flag)	: 200458
On-column Amount (ng/ul)	: 3.9335

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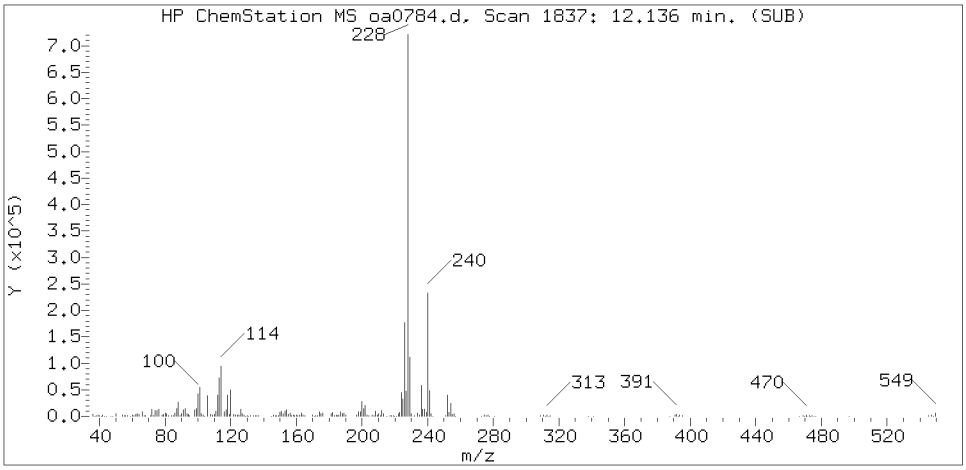
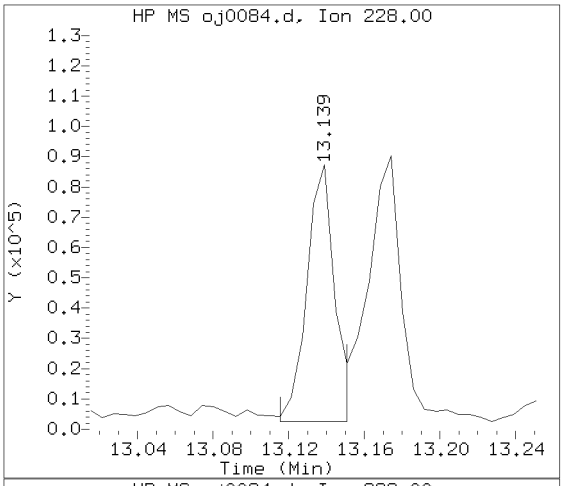
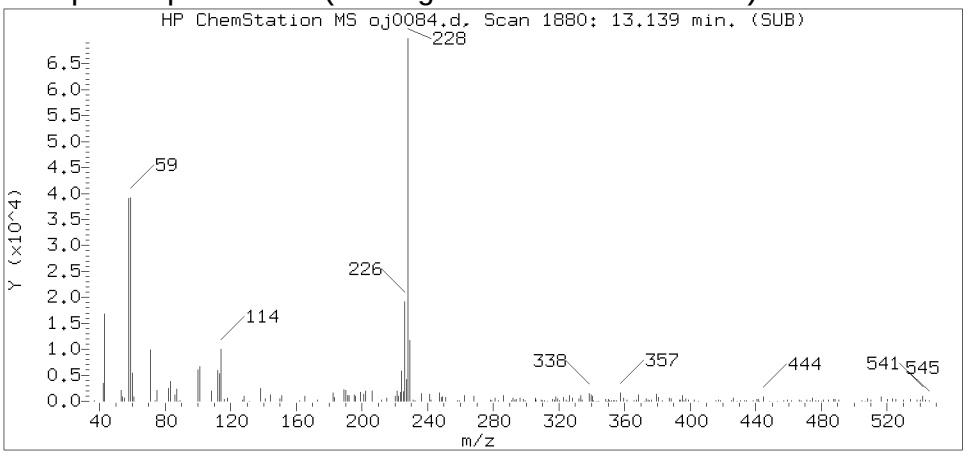
Target 3.5 esignature user ID: ceb05247

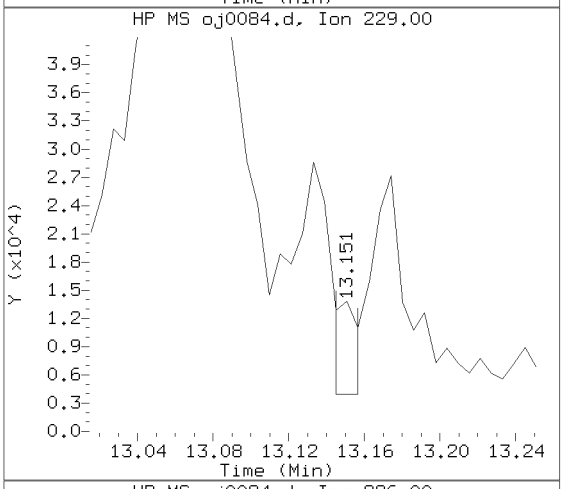
Reference Standard Spectrum for Benzo(a)anthracene



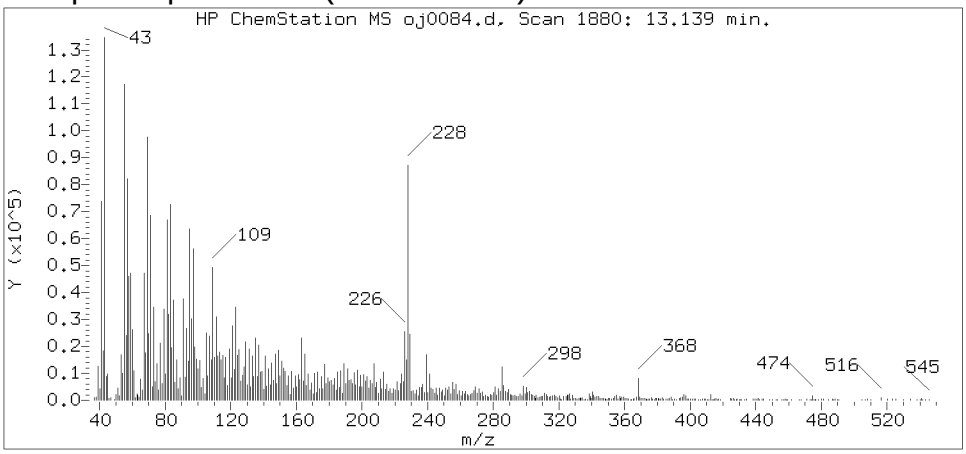


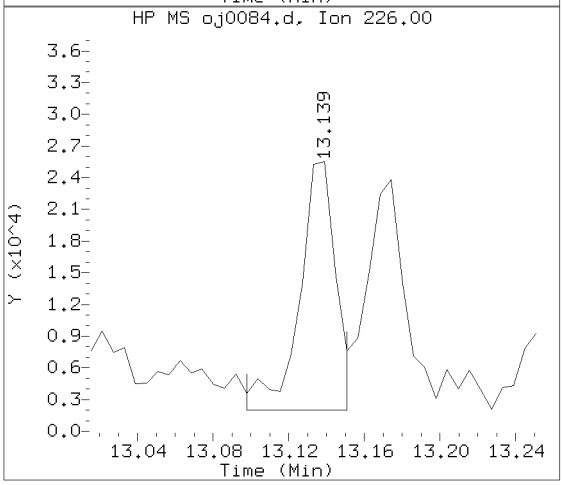
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

Compound Number : 195
Compound Name : Benzo(a)anthracene
Scan Number : 1880
Retention Time (minutes) : 13.139
Relative Retention Time :-0.00044
Quant Ion : 228.00
Area (flag) : 84372
On-column Amount (ng/ul) : 1.8992

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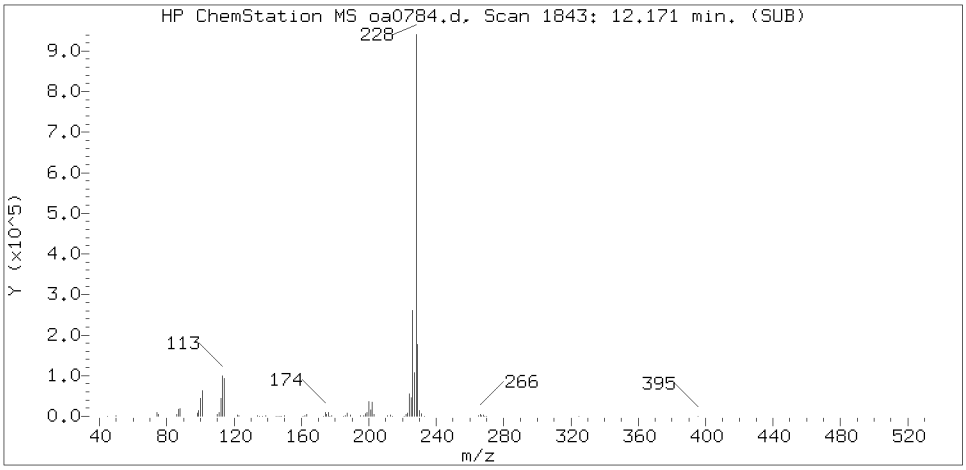
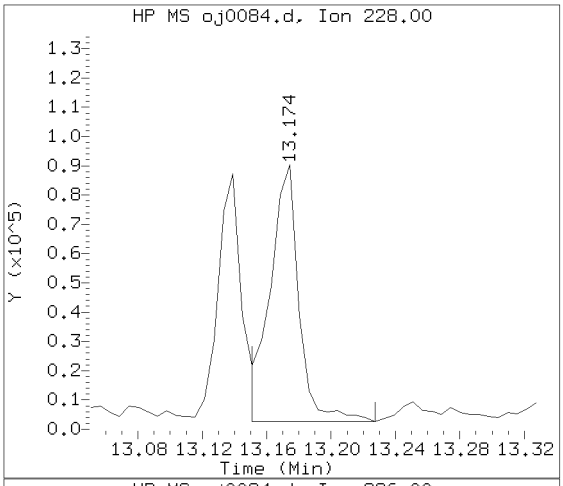
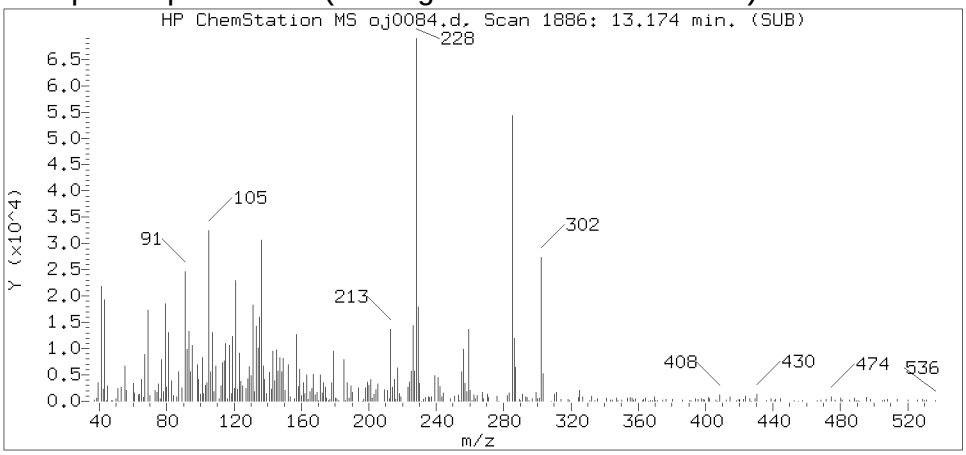
Target 3.5 esignature user ID: ceb05247

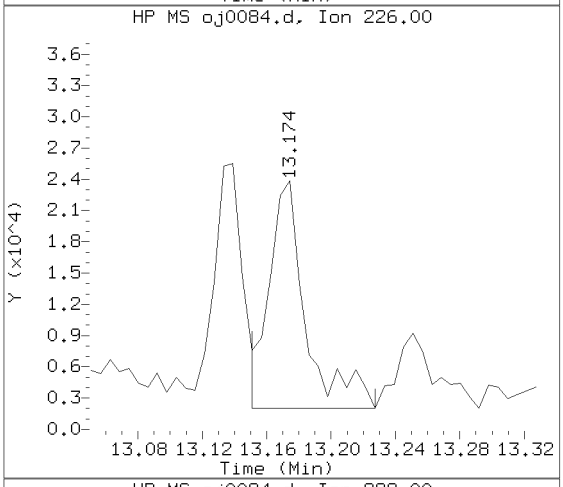
Reference Standard Spectrum for Chrysene



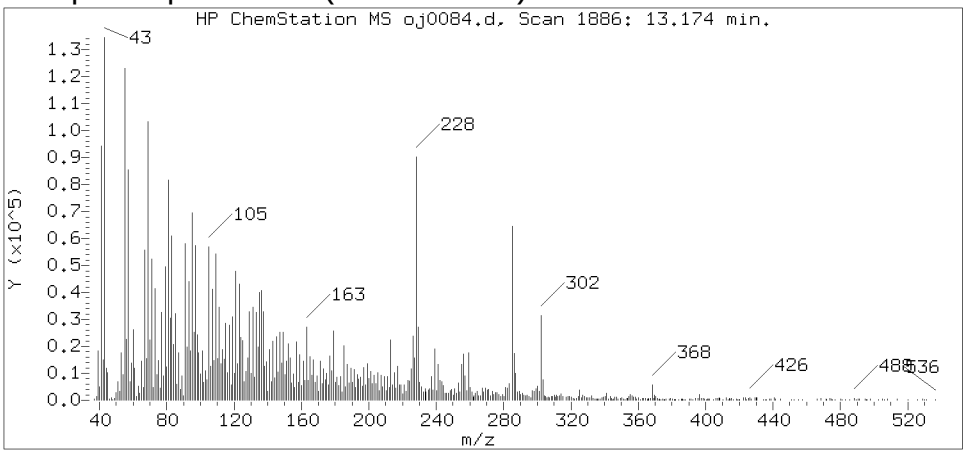


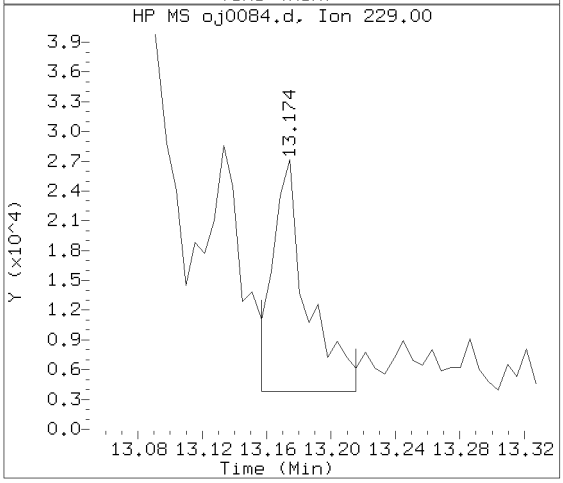
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

Compound Number	: 196
Compound Name	: Chrysene
Scan Number	: 1886
Retention Time (minutes)	: 13.174
Relative Retention Time	:-0.00044
Quant Ion	: 228.00
Area (flag)	: 110204
On-column Amount (ng/ul)	: 2.6036

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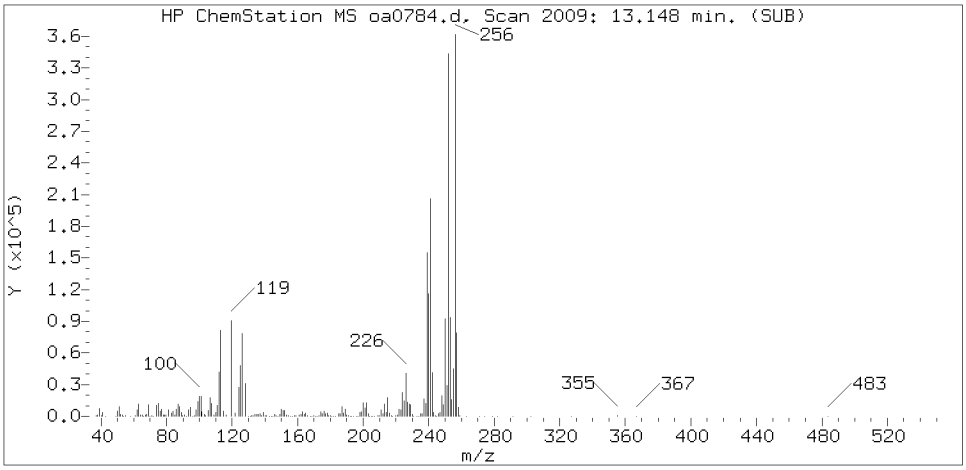
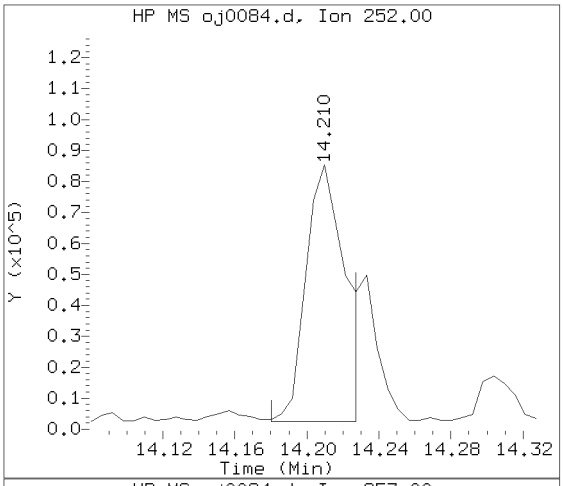
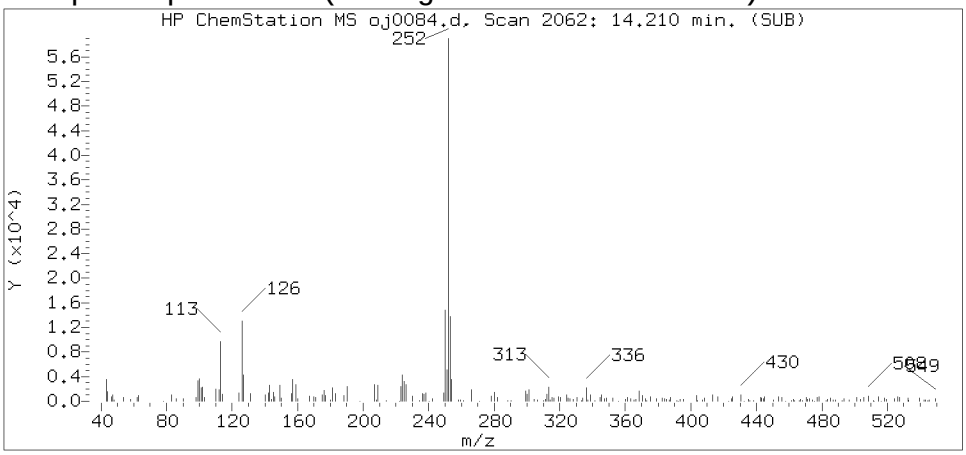
Target 3.5 esignature user ID: ceb05247

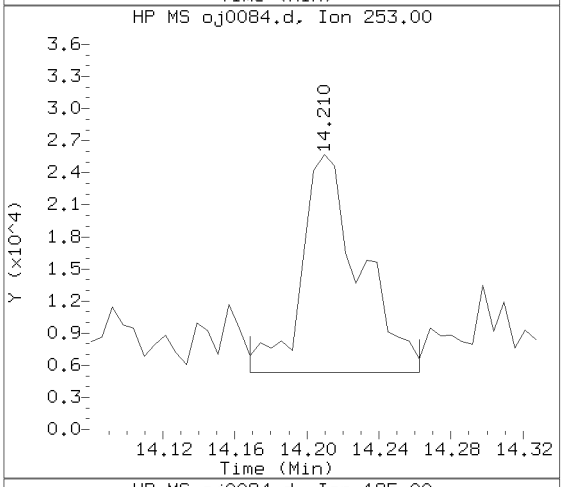
Reference Standard Spectrum for Benzo(b)fluoranthene



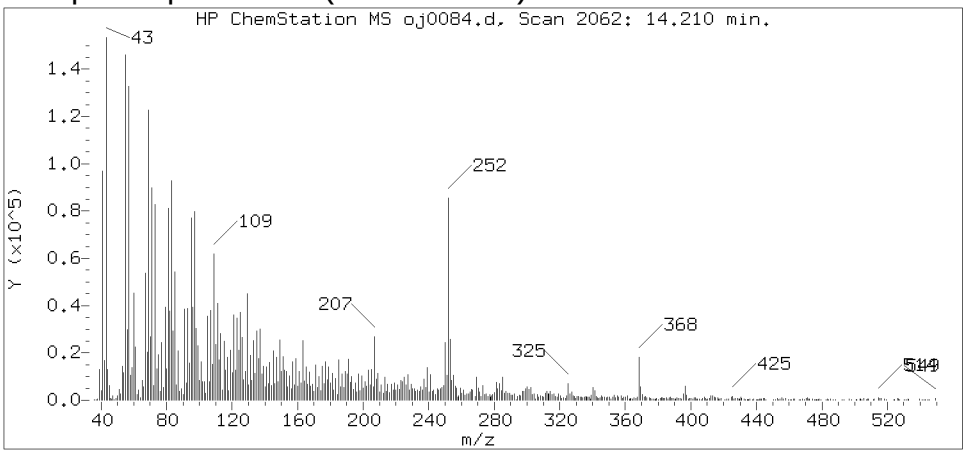


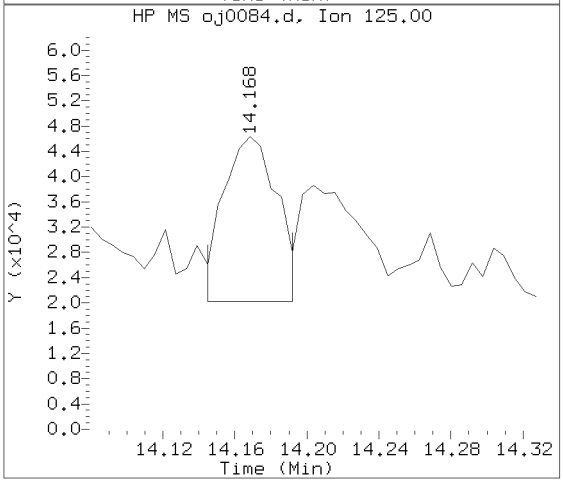
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

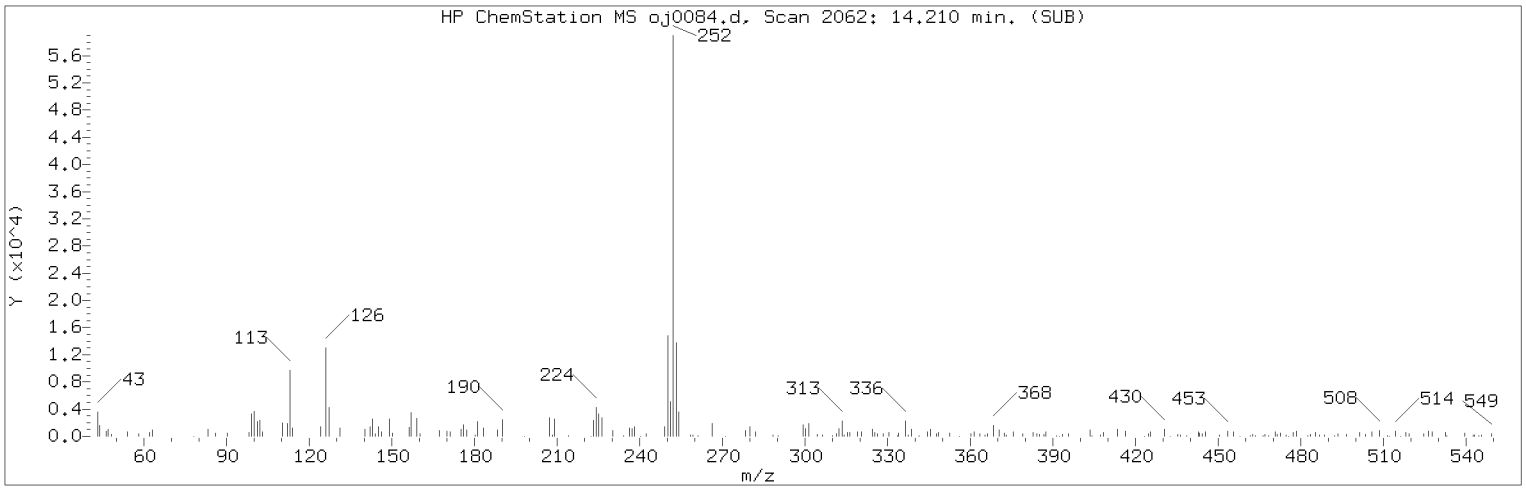
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

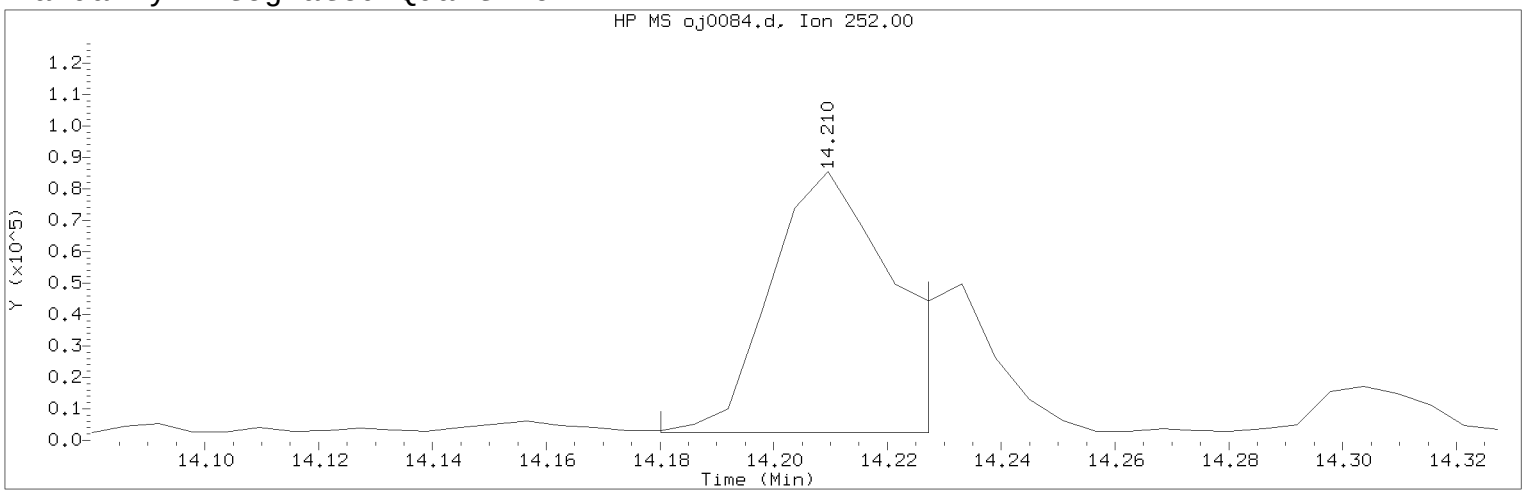
Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2062
Retention Time (minutes)	: 14.210
Relative Retention Time	: 0.00037
Quant Ion	: 252.00
Area (flag)	: 126282M
On-column Amount (ng/ul)	: 3.2849

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

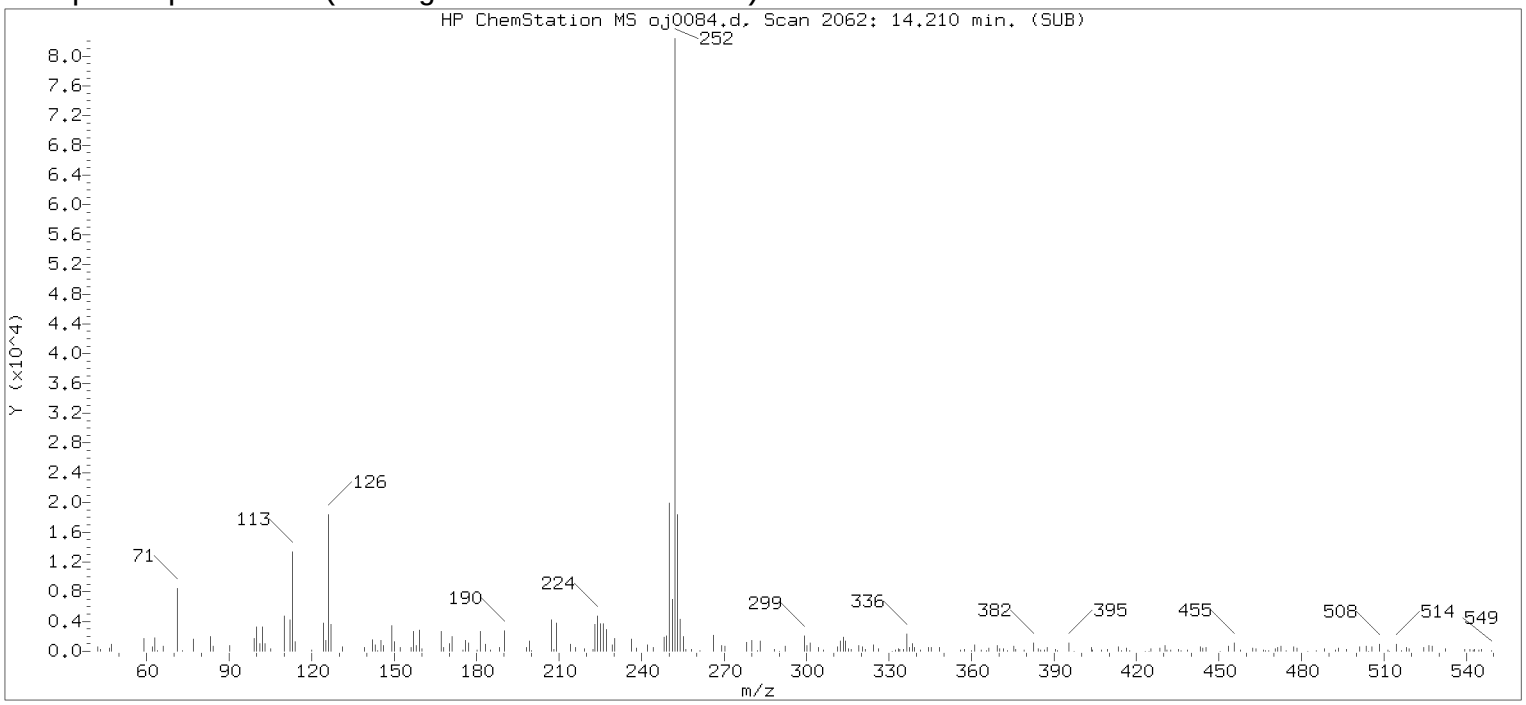
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2062
Retention Time (minutes) : 14.210
Quant Ion : 252.00
Area (flag) : 126282M
On-column Amount (ng/ul) : 3.2849
Integration start scan : 2056 Integration stop scan: 2064
Y at integration start : 2484 Y at integration end: 2484

Reason for manual integration: improper integration

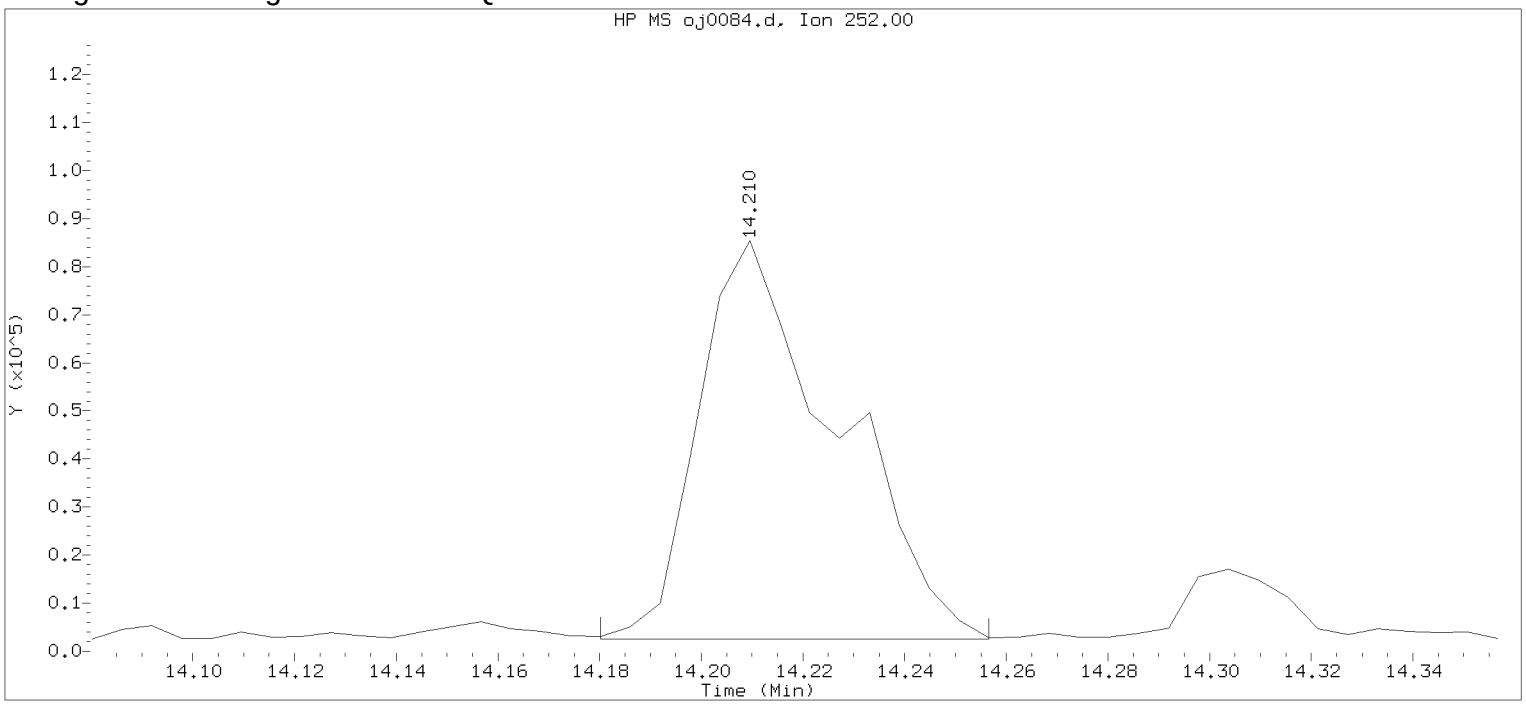
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

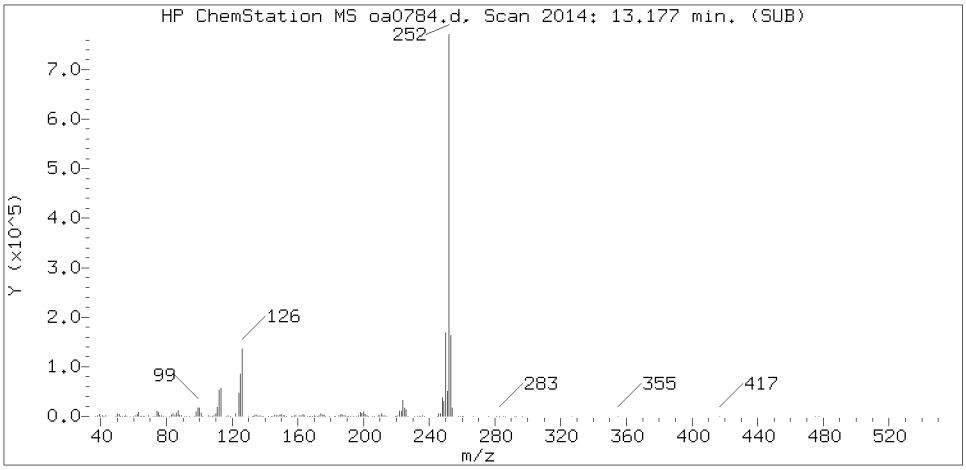
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 15:59 Automation

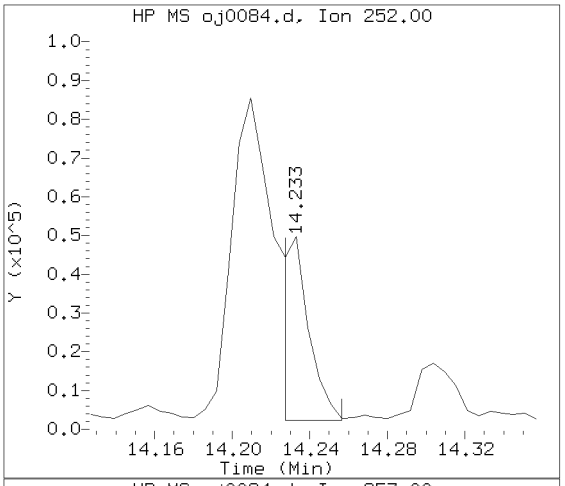
Sample Name: 49513 Lab Sample ID: 8064458

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2062		
Retention Time (minutes)	: 14.210		
Quant Ion	: 252.00		
Area	: 156416		
On-column Amount (ng/ul)	: 4.0687		
Integration start scan	: 2056	Integration stop scan:	2069
Y at integration start	: 2484	Y at integration end:	2484

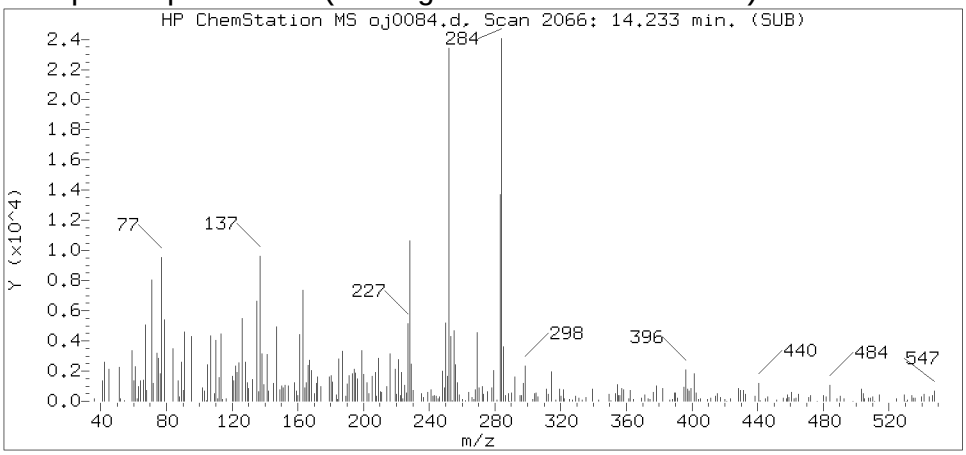
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: 27 date: 20150247

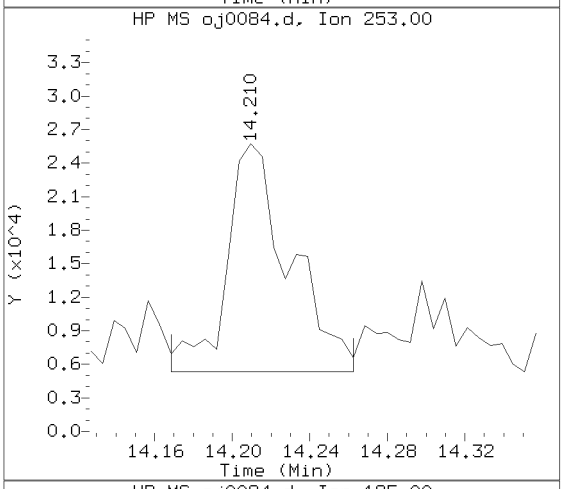
Reference Standard Spectrum for Benzo(k)fluoranthene



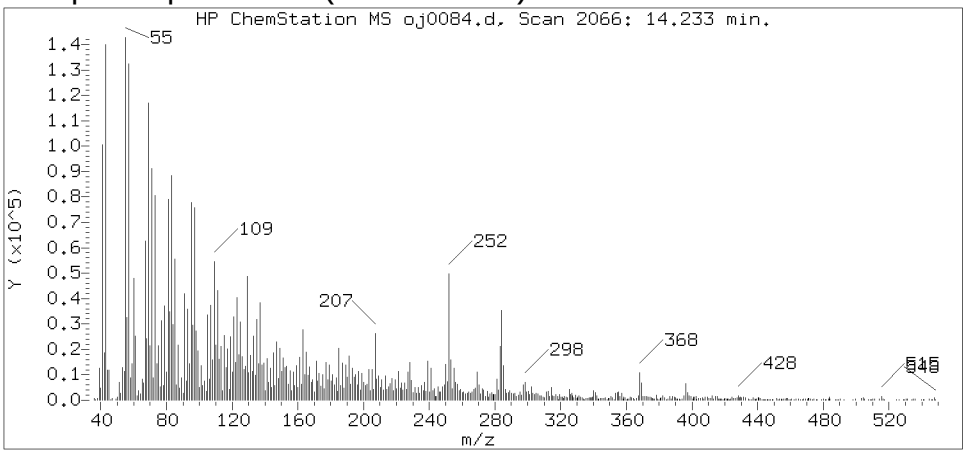


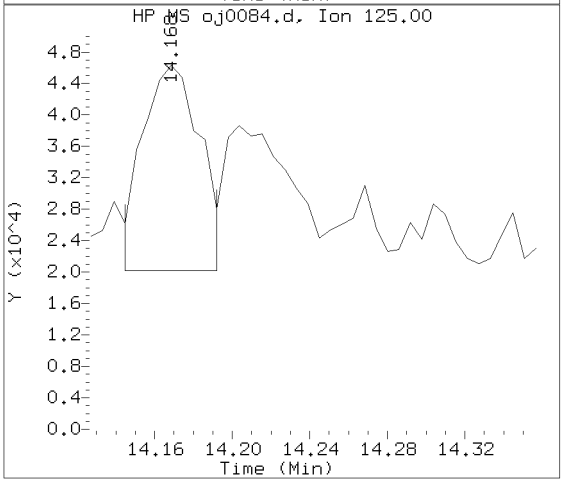
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

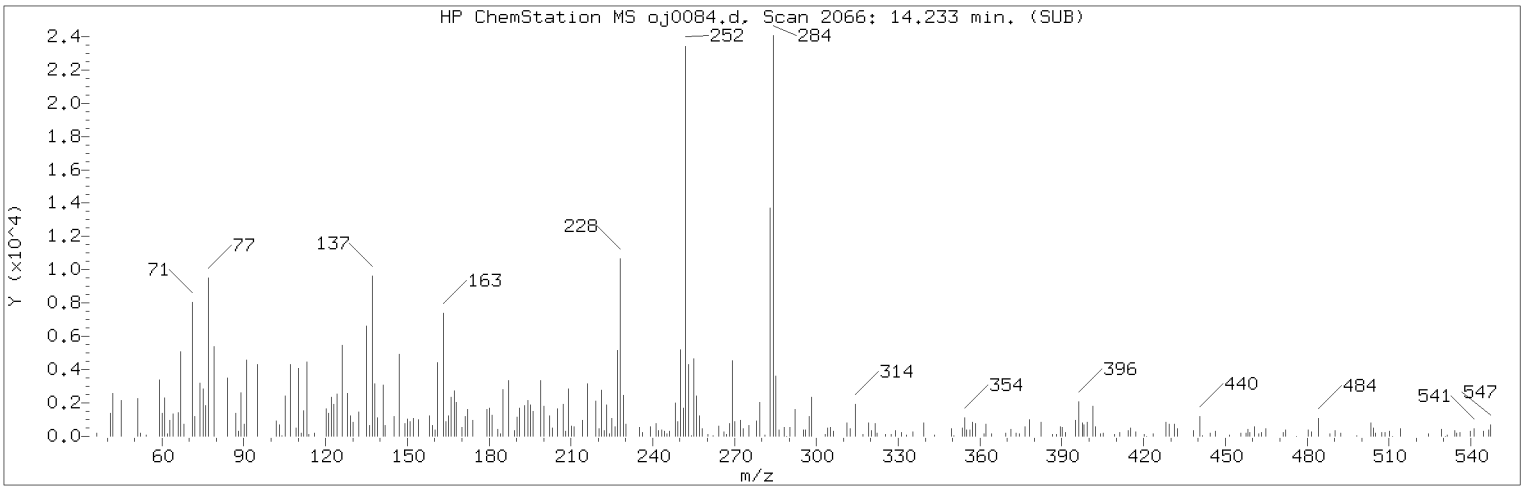
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

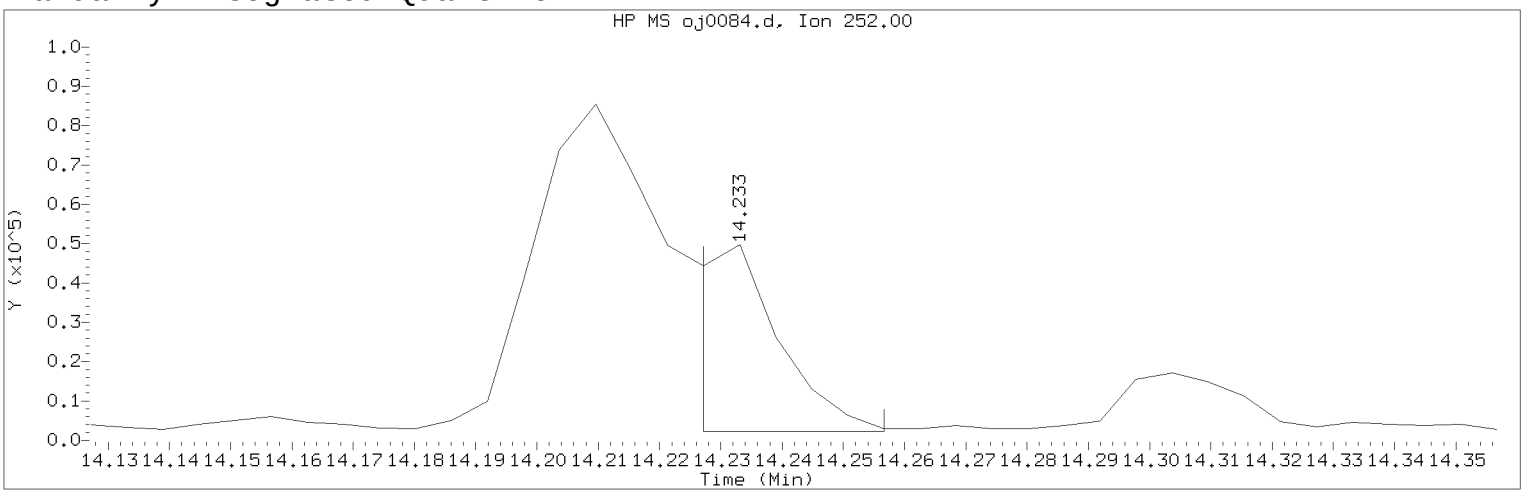
Compound Number	: 208
Compound Name	: Benzo(k)fluoranthene
Scan Number	: 2066
Retention Time (minutes)	: 14.233
Relative Retention Time	: 0.00038
Quant Ion	: 252.00
Area (flag)	: 45584M
On-column Amount (ng/ul)	: 1.1621

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

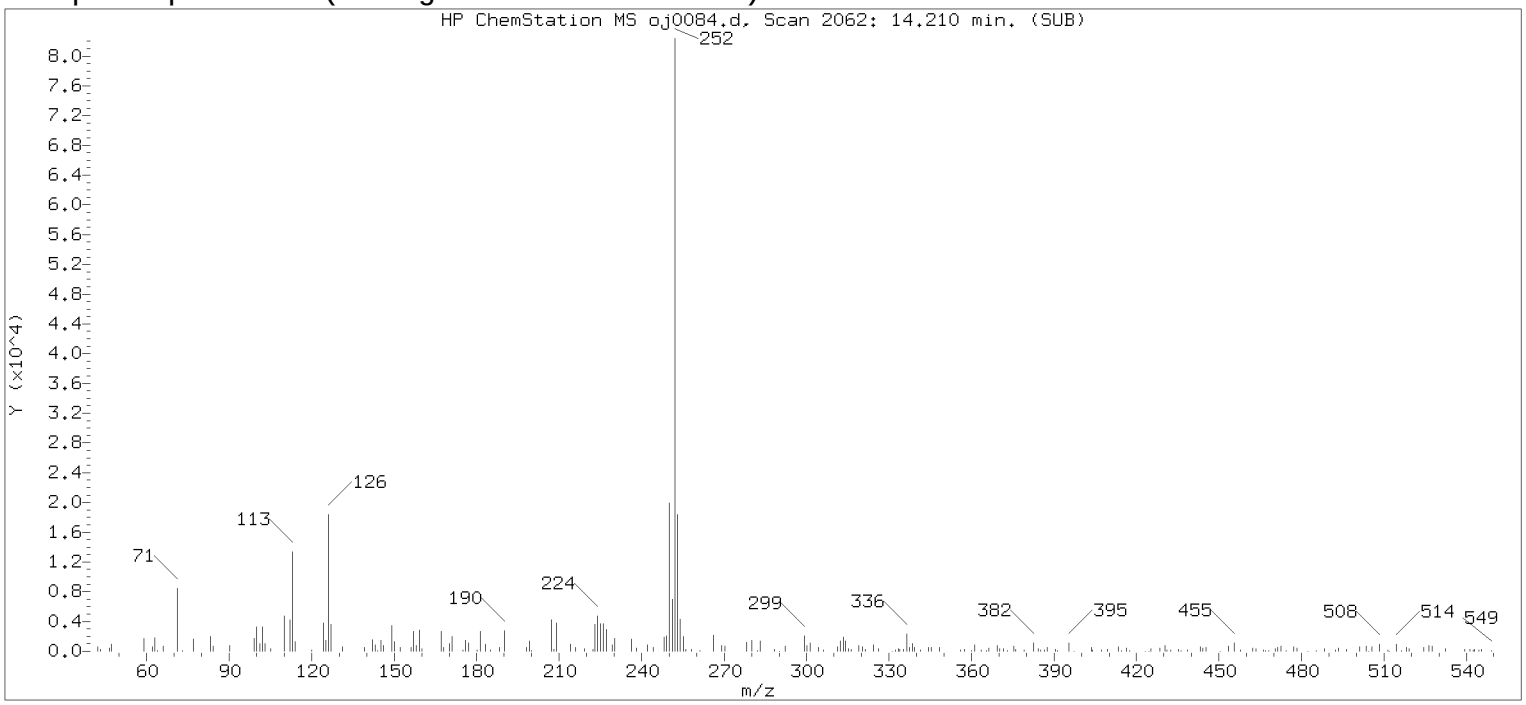
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2066
Retention Time (minutes) : 14.233
Quant Ion : 252.00
Area (flag) : 45584M
On-column Amount (ng/ul) : 1.1621
Integration start scan : 2064 Integration stop scan: 2069
Y at integration start : 2241 Y at integration end: 2241

Reason for manual integration: improper integration

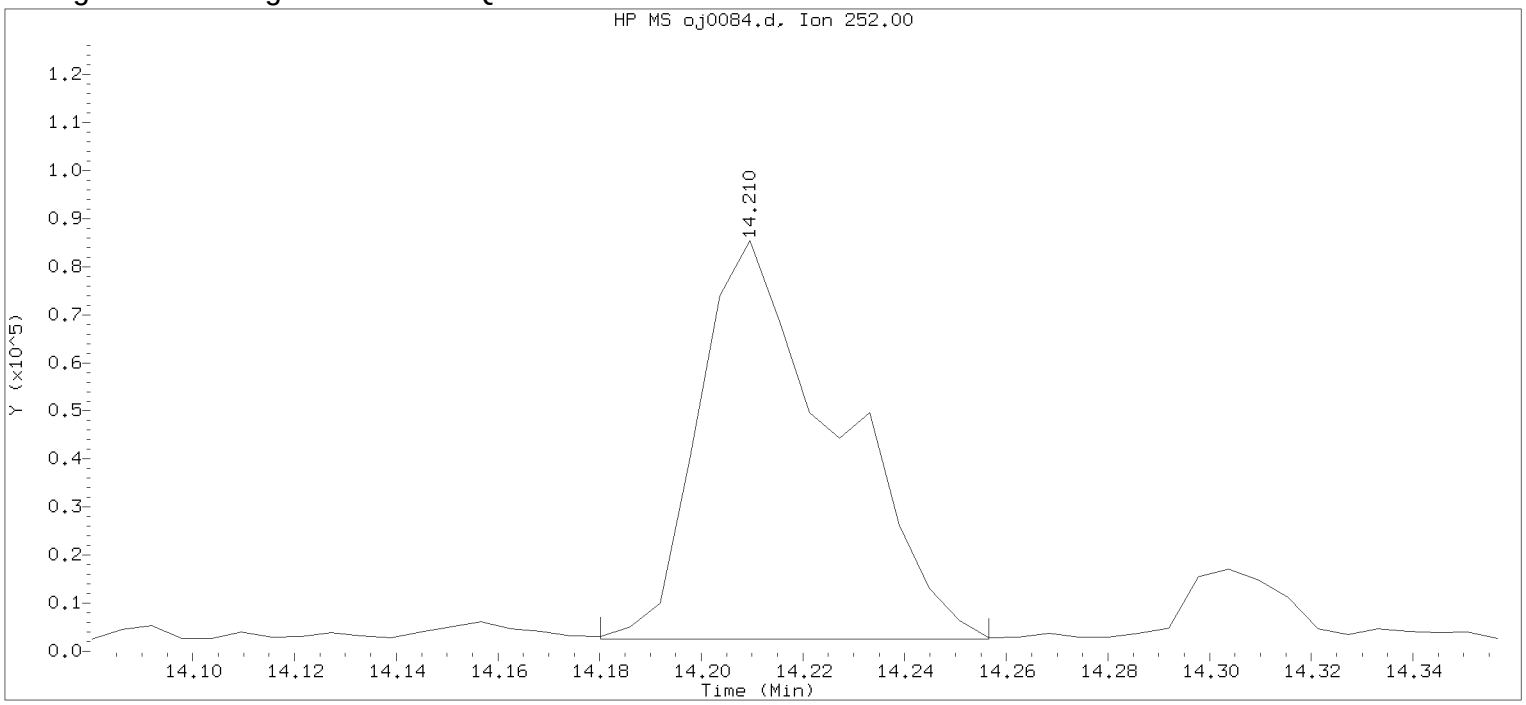
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

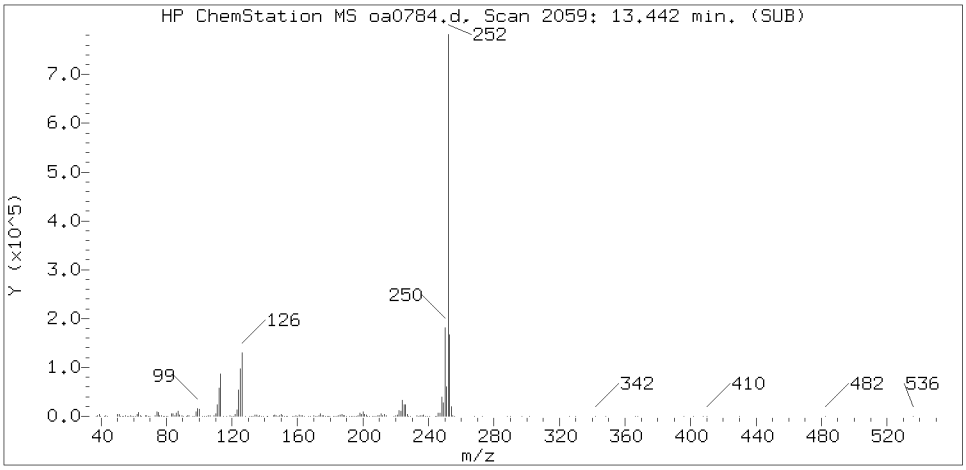
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 15:59 Automation

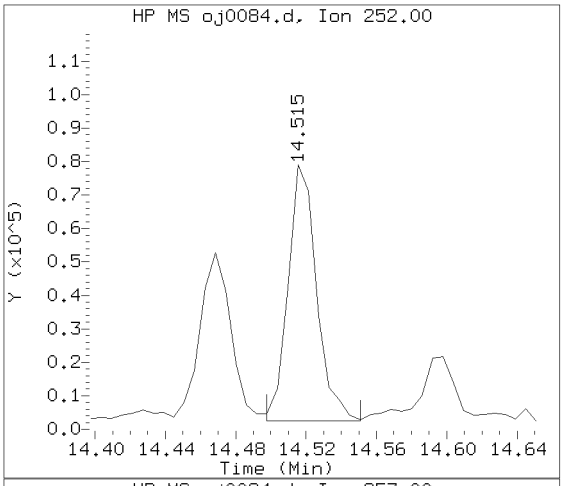
Sample Name: 49513 Lab Sample ID: 8064458

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2062		
Retention Time (minutes)	: 14.210		
Quant Ion	: 252.00		
Area	: 156416		
On-column Amount (ng/ul)	: 3.9875		
Integration start scan	: 2056	Integration stop scan:	2069
Y at integration start	: 2484	Y at integration end:	2484

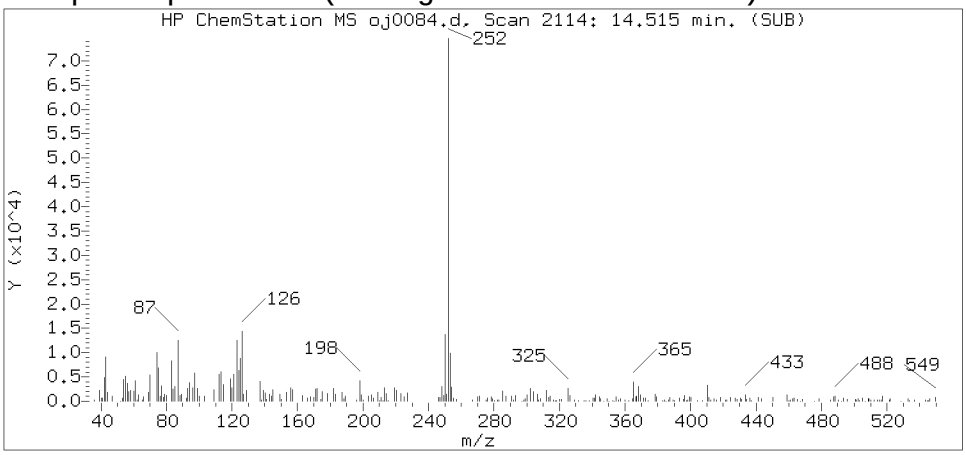
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: 27 date: 20151007

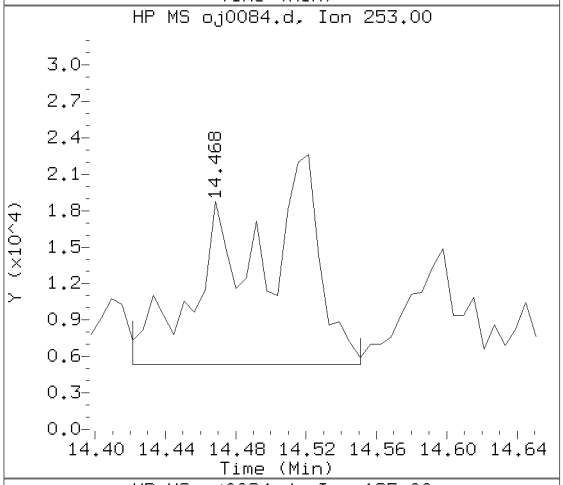
Reference Standard Spectrum for Benzo(a)pyrene



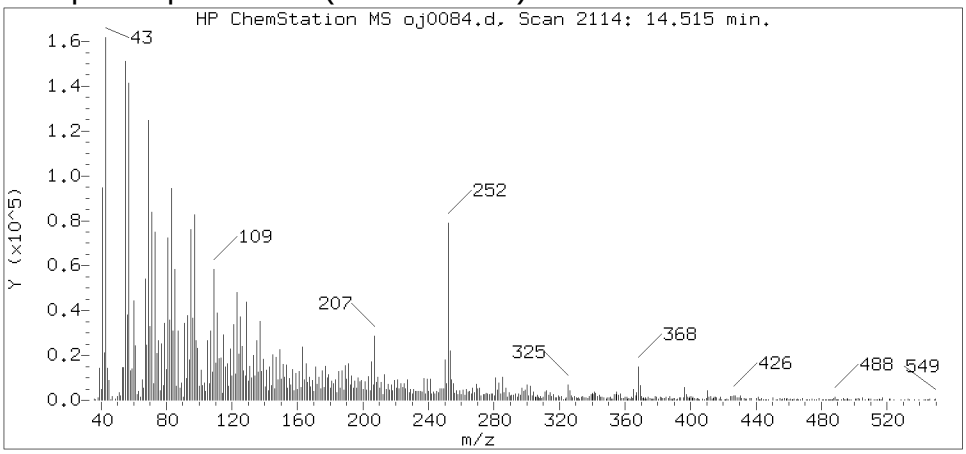


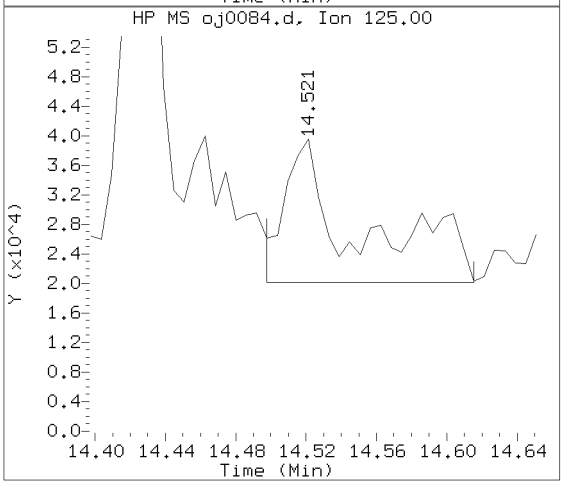
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

Compound Number	: 211
Compound Name	: Benzo(a)pyrene
Scan Number	: 2114
Retention Time (minutes)	: 14.515
Relative Retention Time	: 0.00040
Quant Ion	: 252.00
Area (flag)	: 86683
On-column Amount (ng/ul)	: 2.2830

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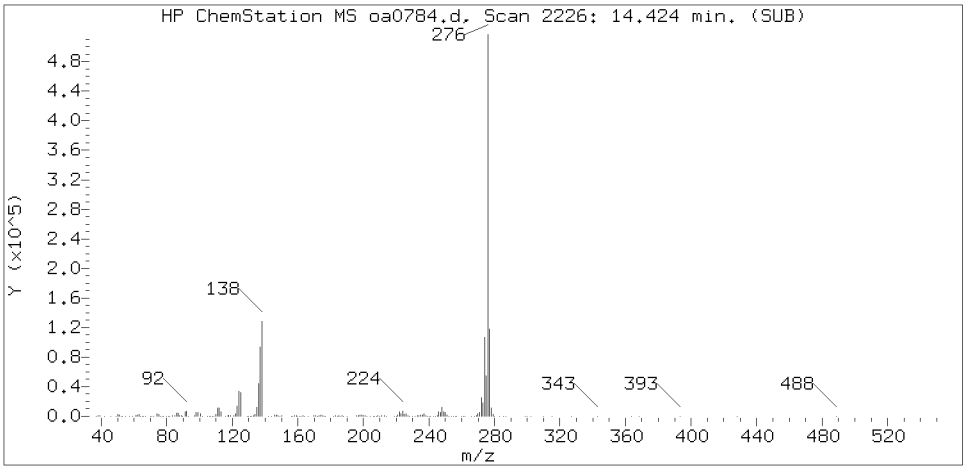
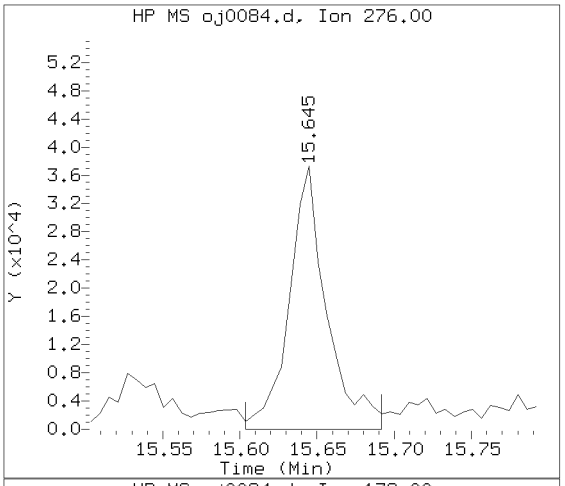
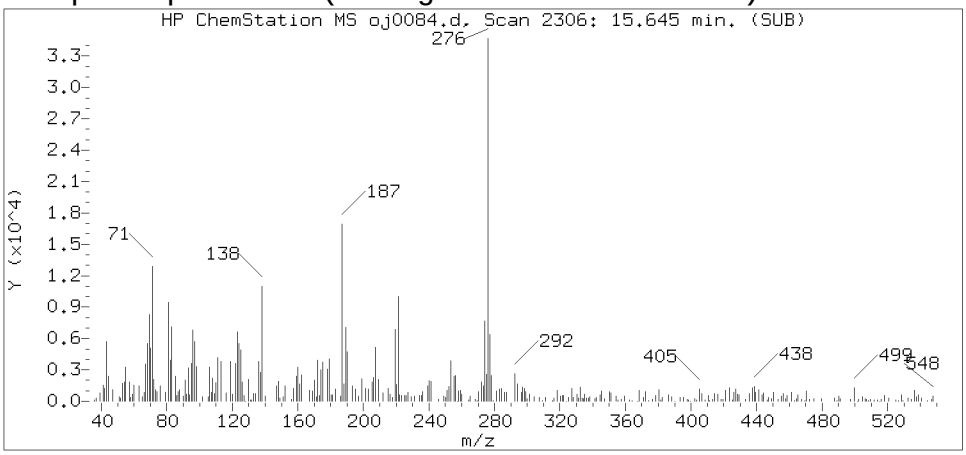
Target 3.5 esignature user ID: ceb05247

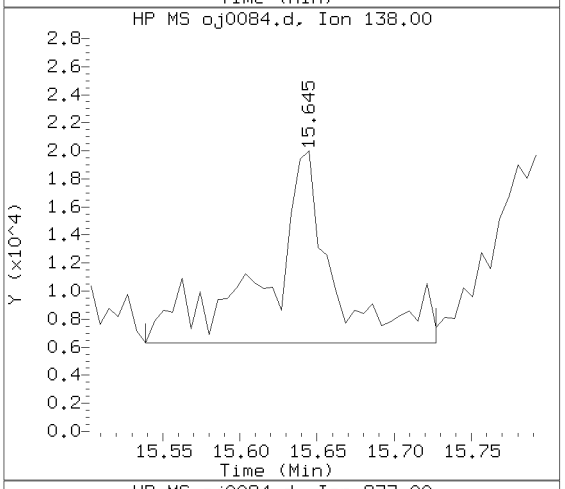
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



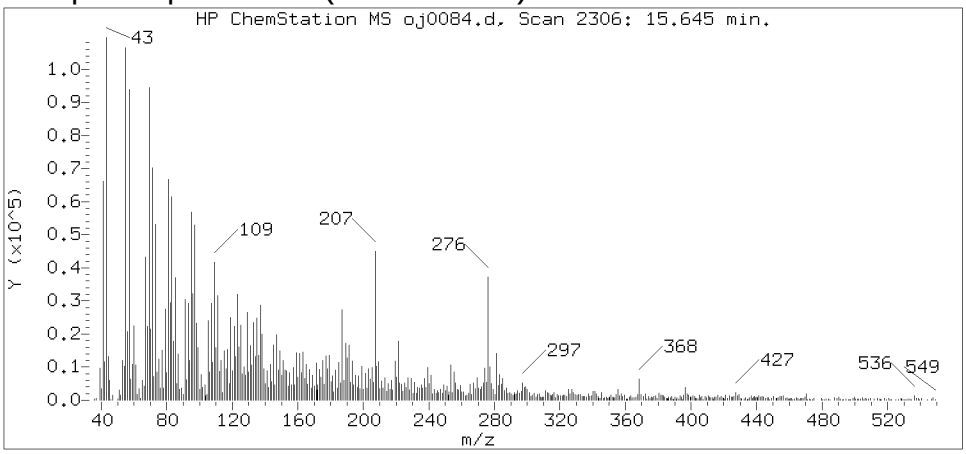


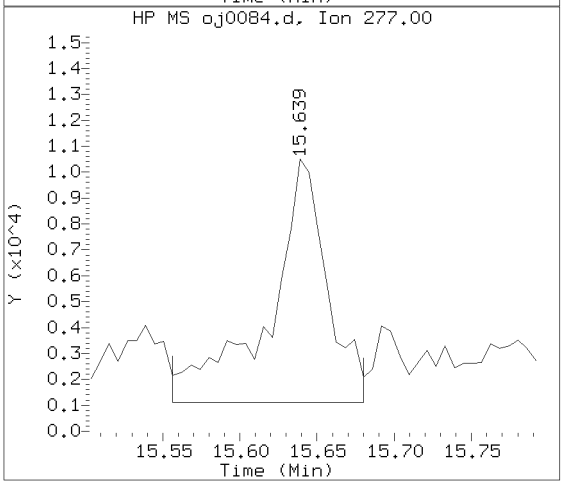
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

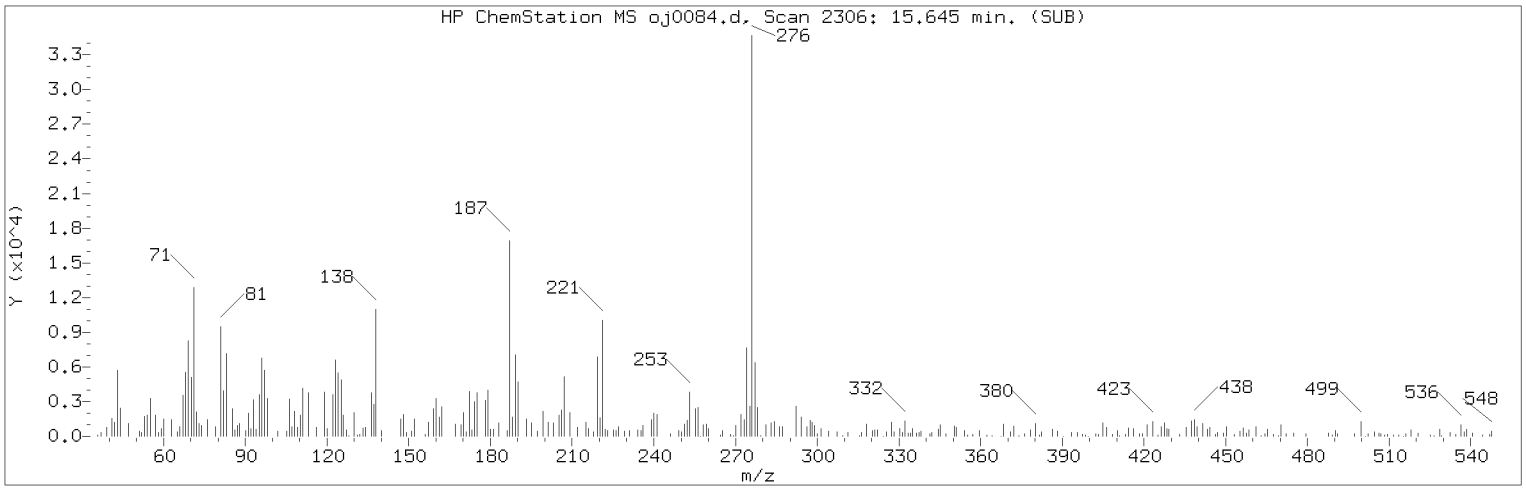
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

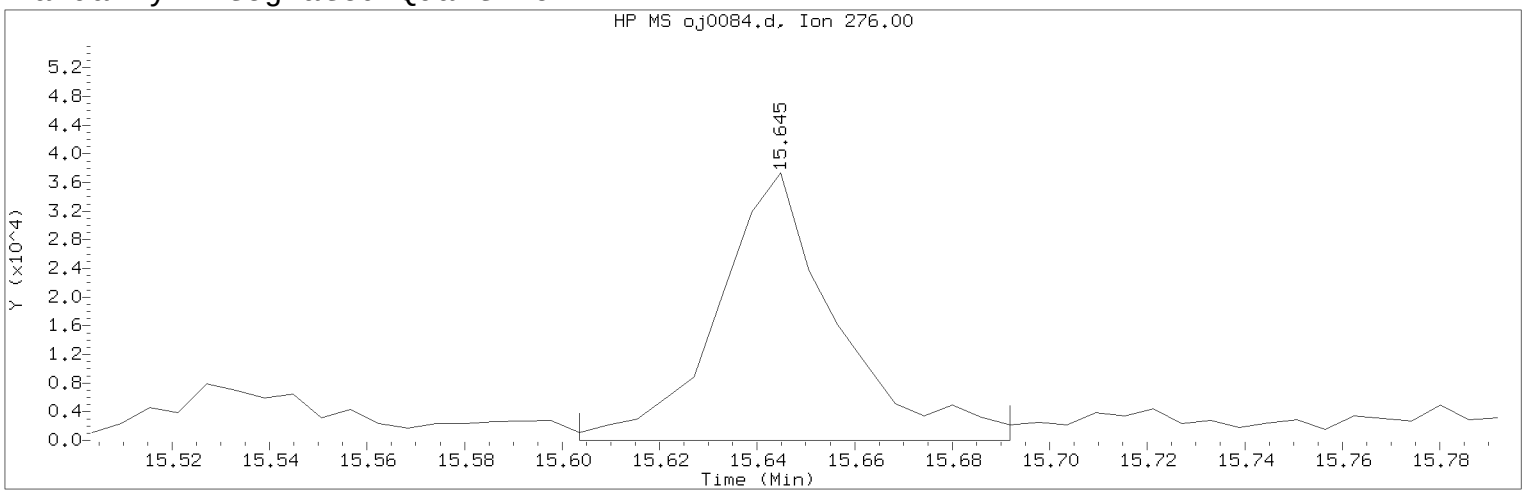
Compound Number	: 219
Compound Name	: Indeno(1,2,3-cd)pyrene
Scan Number	: 2306
Retention Time (minutes)	: 15.645
Relative Retention Time	: 0.00009
Quant Ion	: 276.00
Area (flag)	: 63497M
On-column Amount (ng/ul)	: 1.6056

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

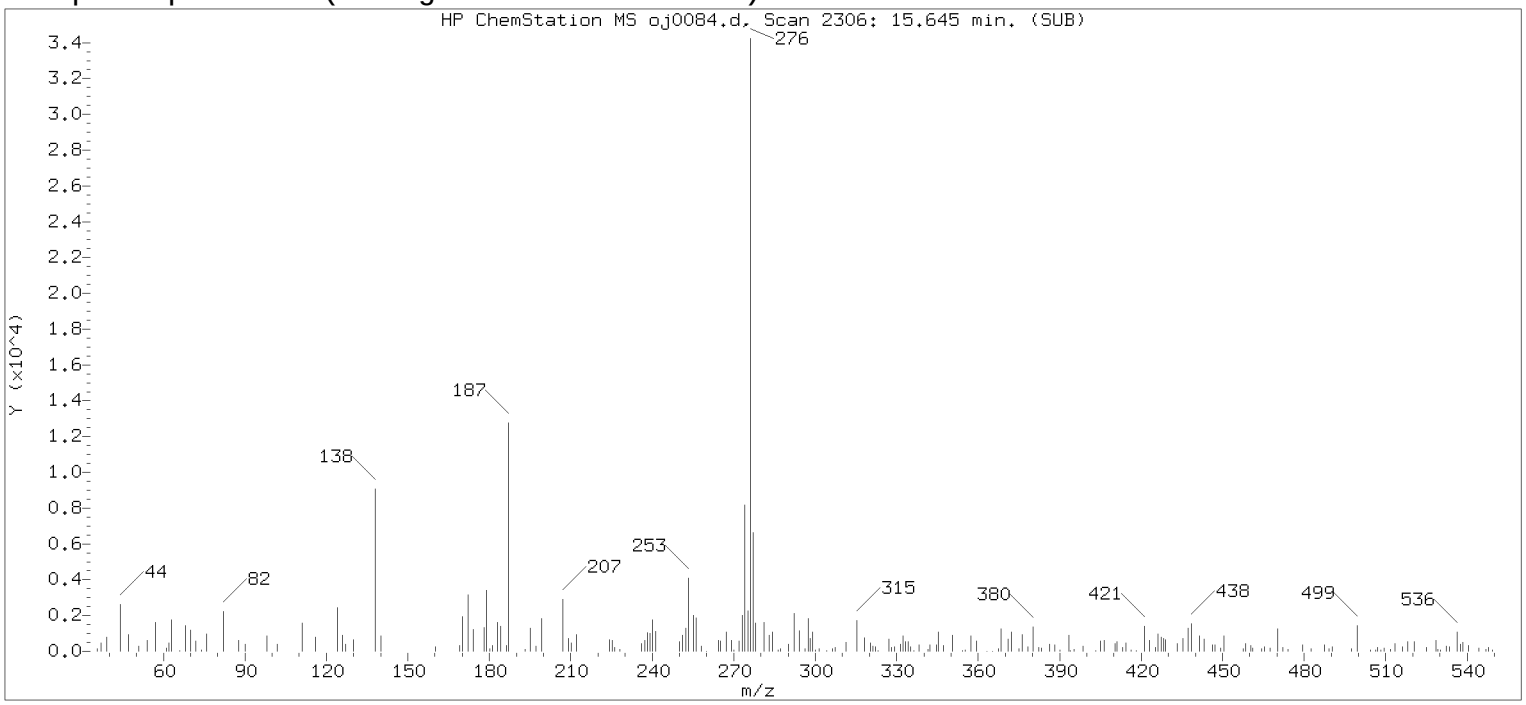
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2306
Retention Time (minutes) : 15.645
Quant Ion : 276.00
Area (flag) : 63497M
On-column Amount (ng/ul) : 1.6056
Integration start scan : 2298 Integration stop scan: 2313
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

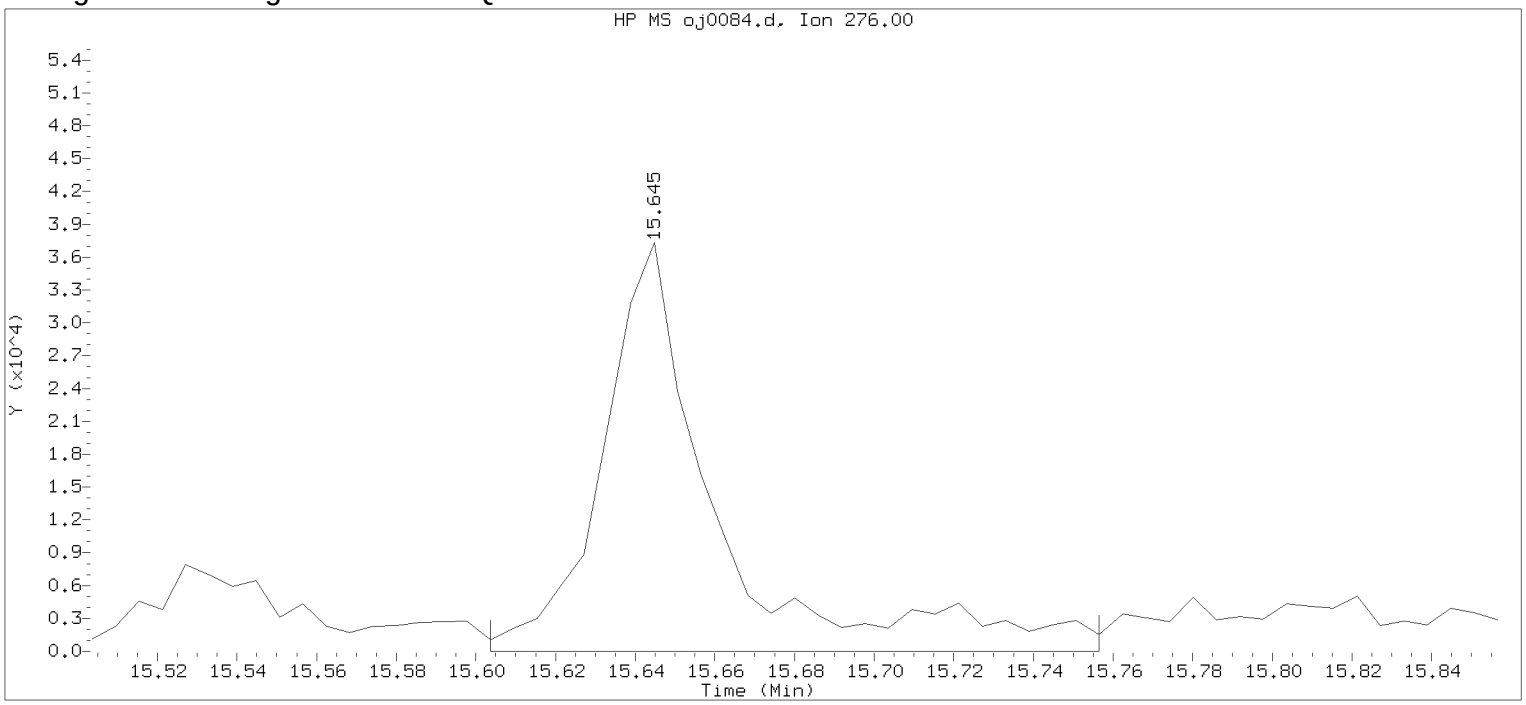
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

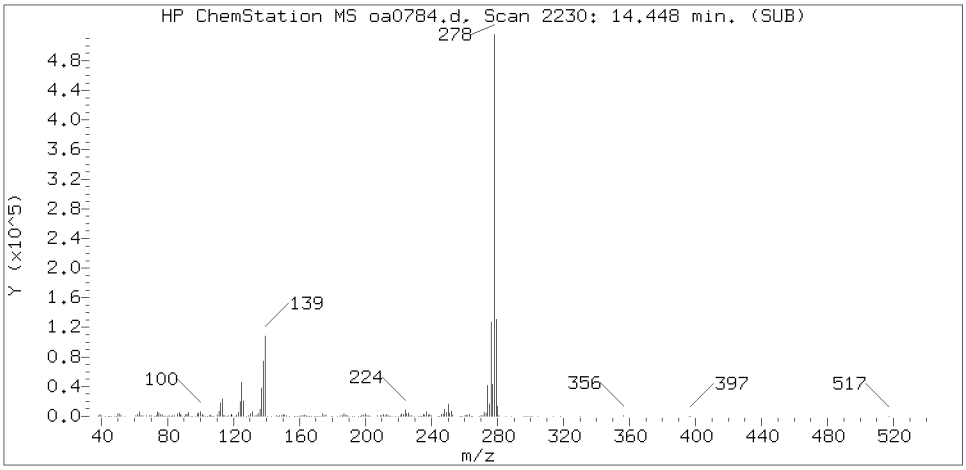
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 15:59 Automation

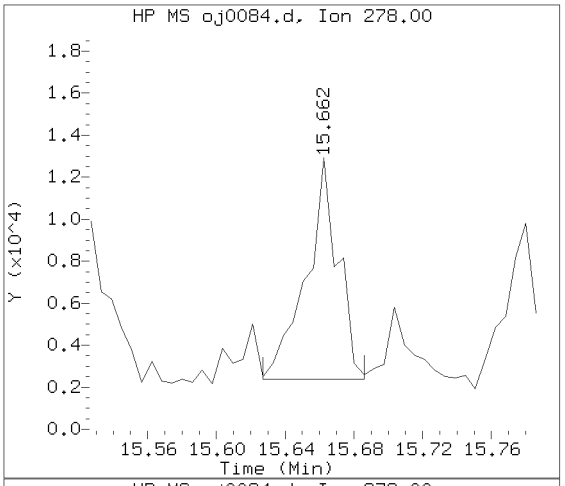
Sample Name: 49513 Lab Sample ID: 8064458

Compound Number	: 219		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 2306		
Retention Time (minutes)	: 15.645		
Quant Ion	: 276.00		
Area	: 73604		
On-column Amount (ng/ul)	: 1.8612		
Integration start scan	: 2298	Integration stop scan:	2324
Y at integration start	: 0	Y at integration end:	0

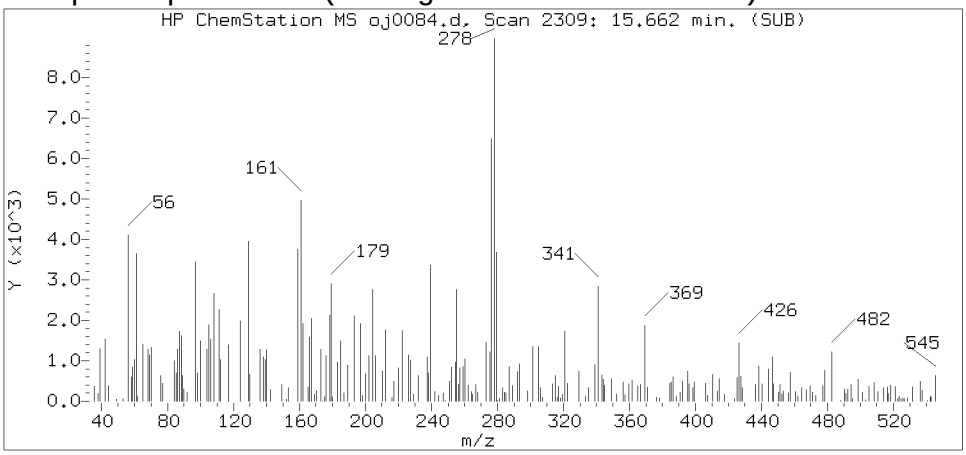
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: 27 date: 20150407

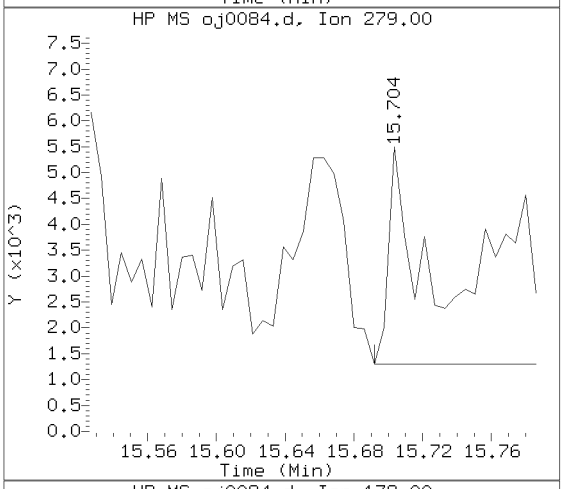
Reference Standard Spectrum for Dibenz(a,h)anthracene



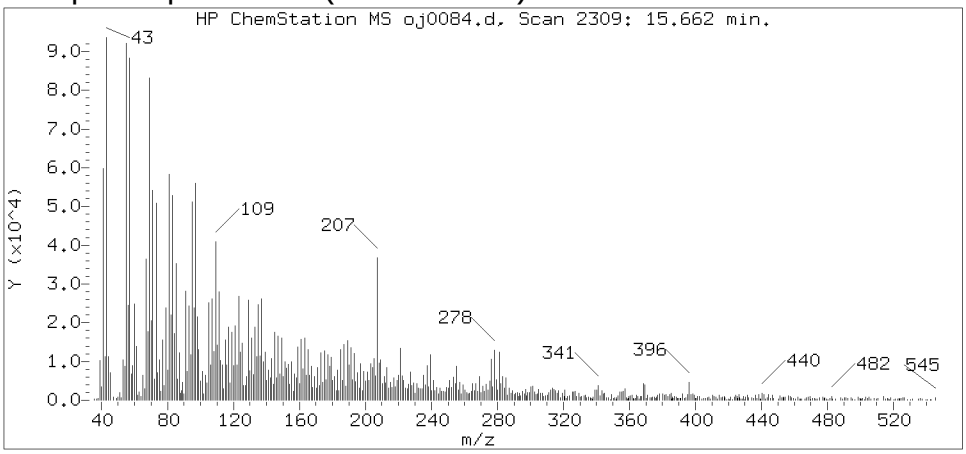


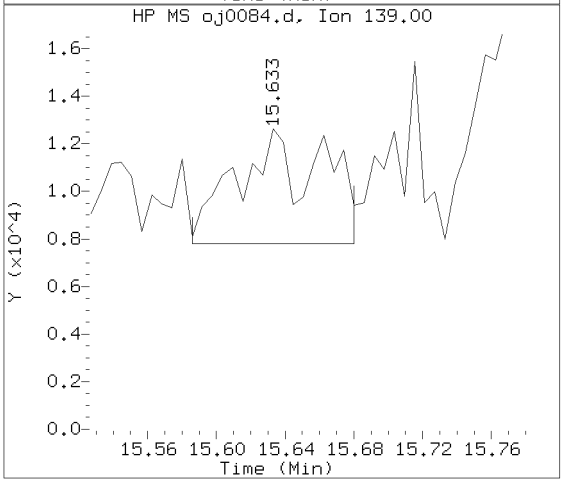
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

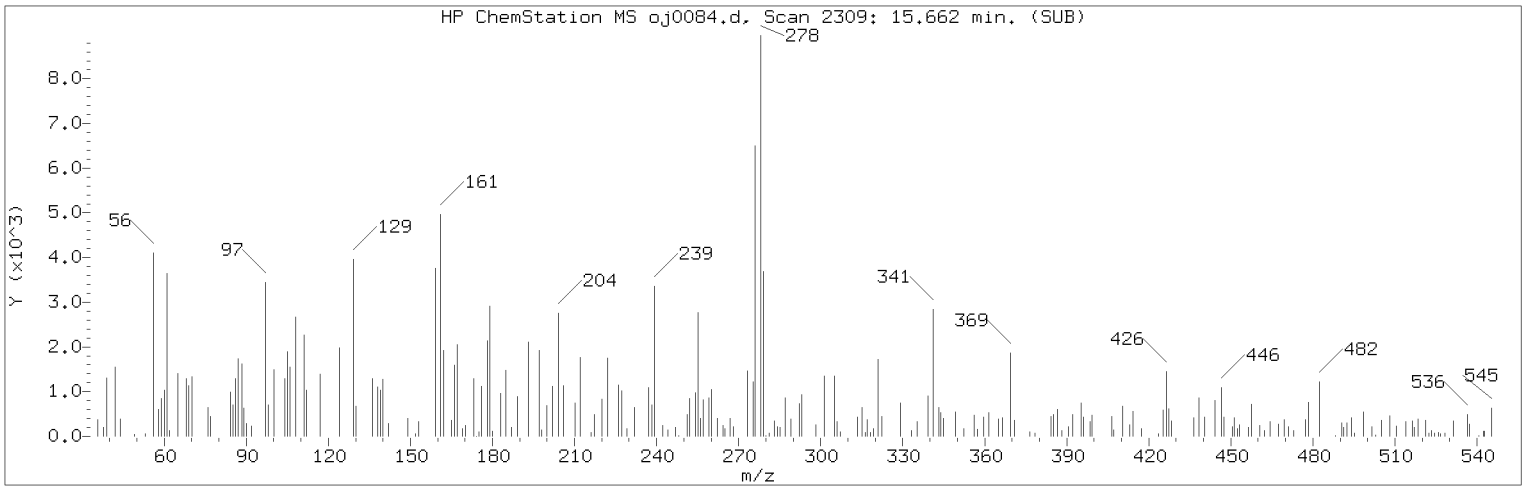
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

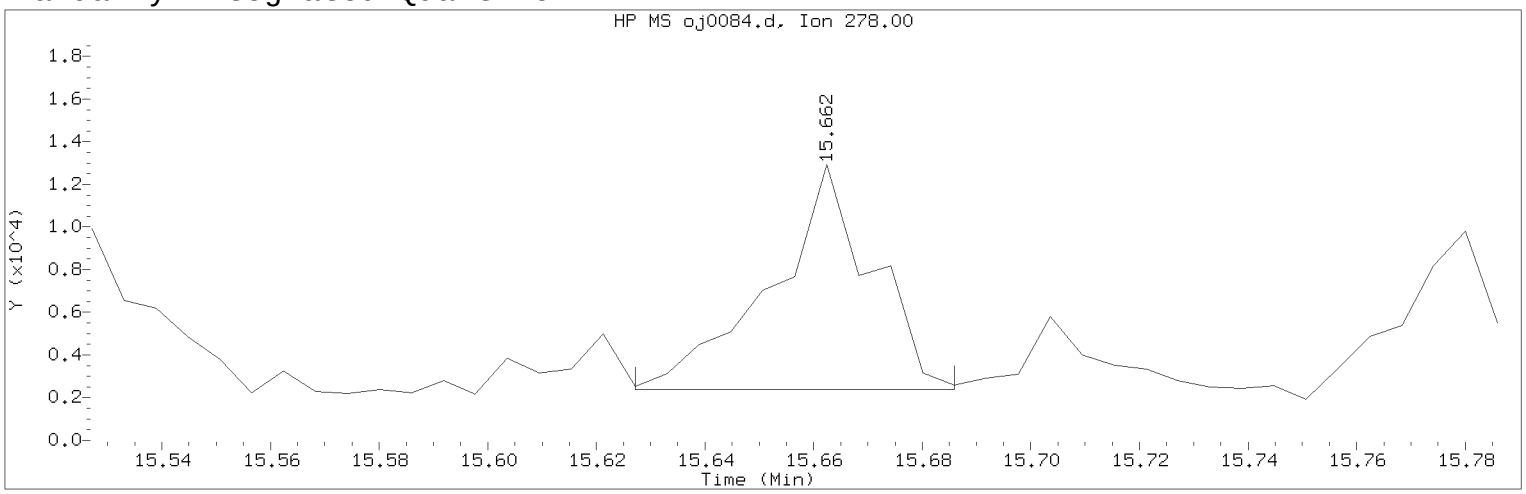
Compound Number	: 220
Compound Name	: Dibenz(a,h)anthracene
Scan Number	: 2309
Retention Time (minutes)	: 15.662
Relative Retention Time	: 0.00049
Quant Ion	: 278.00
Area (flag)	: 13520M
On-column Amount (ng/ul)	: 0.4064

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

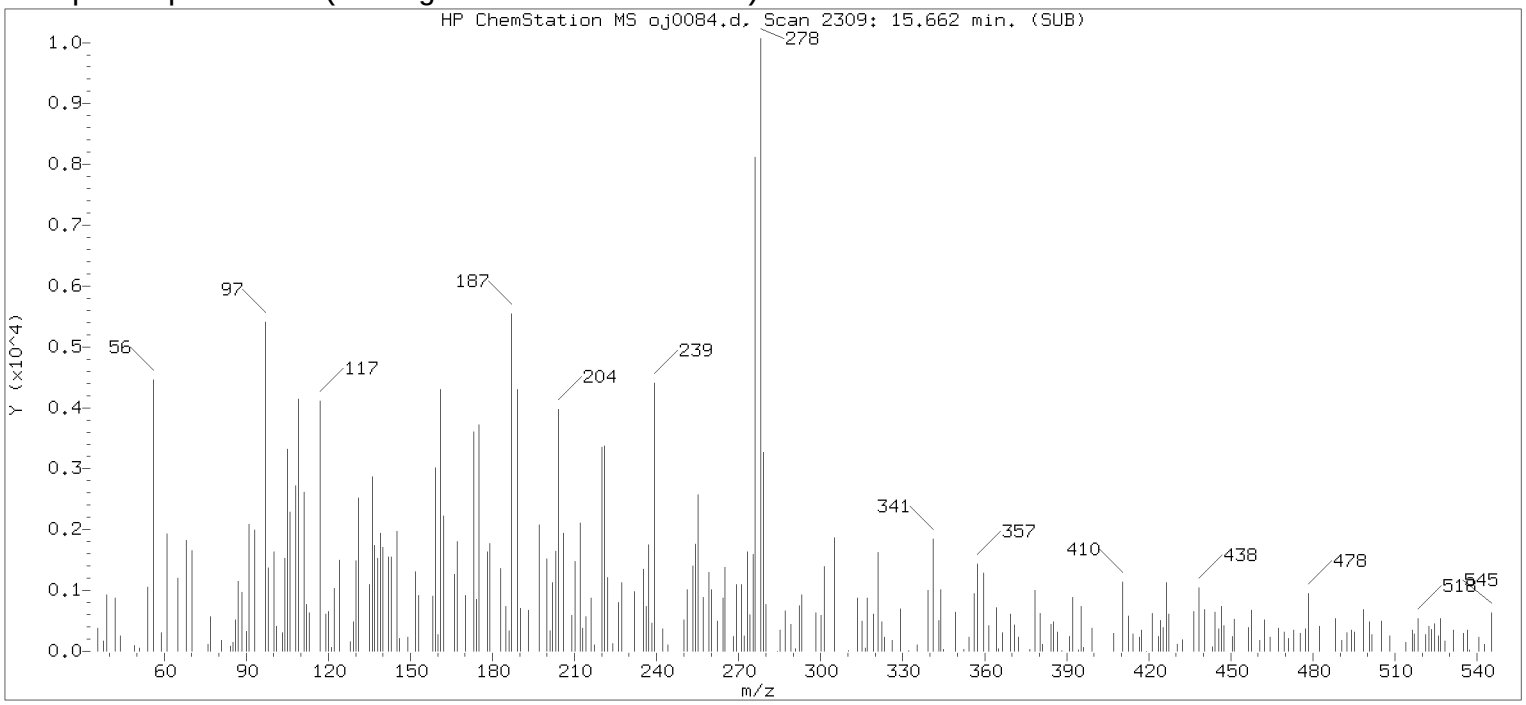
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 2309
Retention Time (minutes) : 15.662
Quant Ion : 278.00
Area (flag) : 13520M
On-column Amount (ng/ul) : 0.4064
Integration start scan : 2302 Integration stop scan: 2312
Y at integration start : 2380 Y at integration end: 2380

Reason for manual integration: improper integration

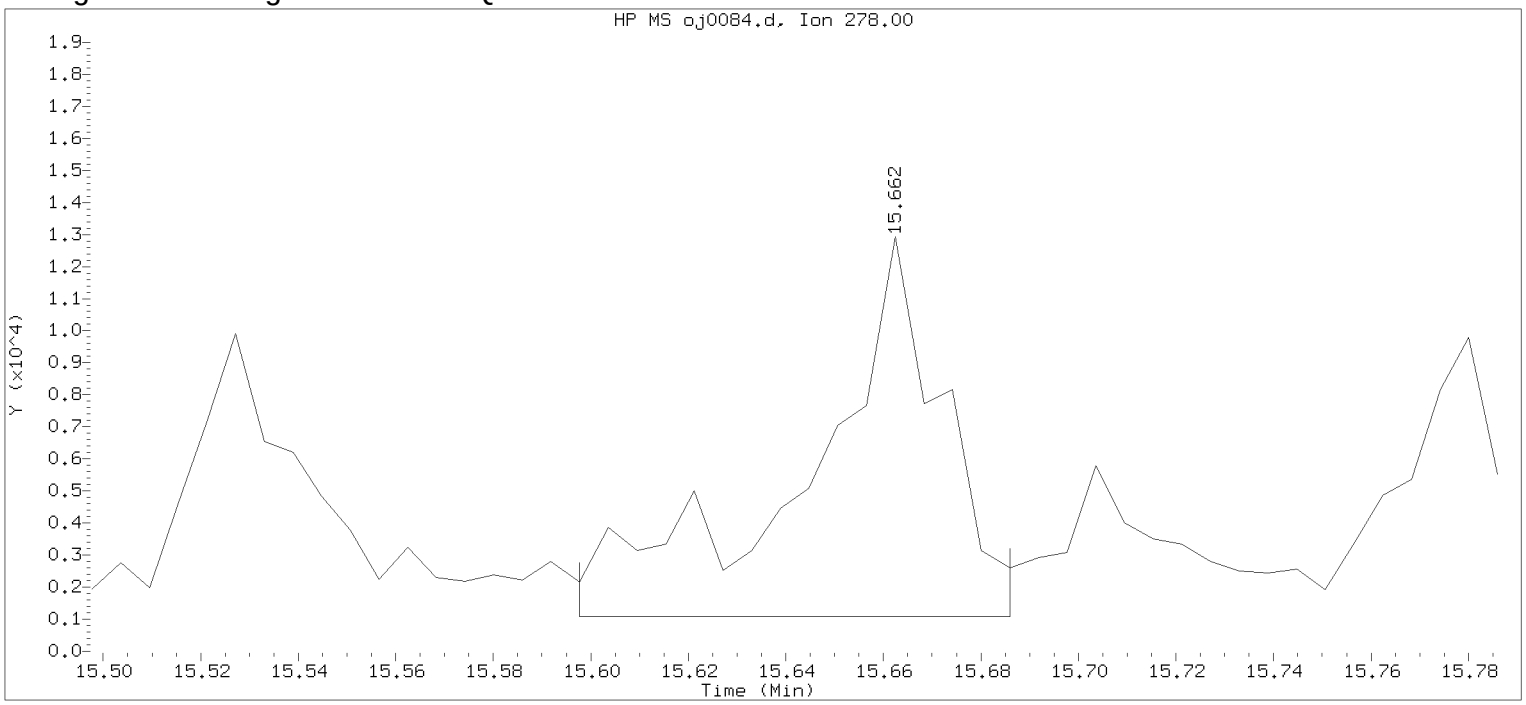
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

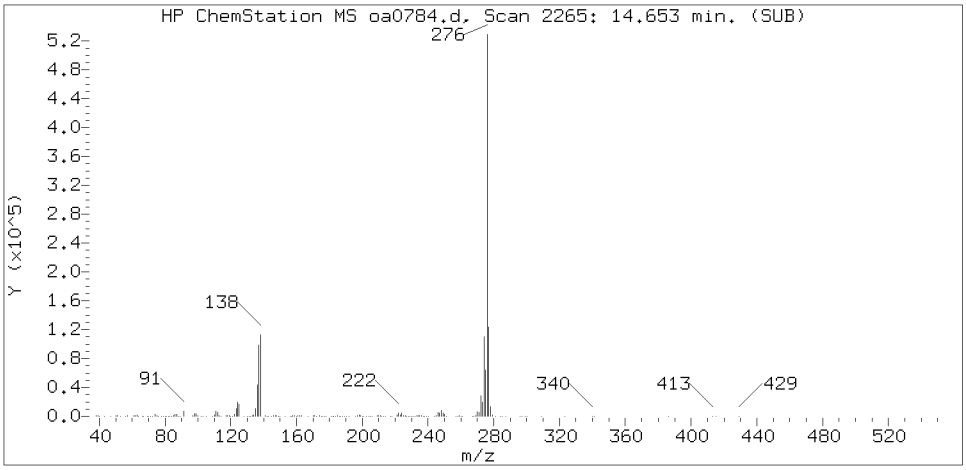
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 15:59 Automation

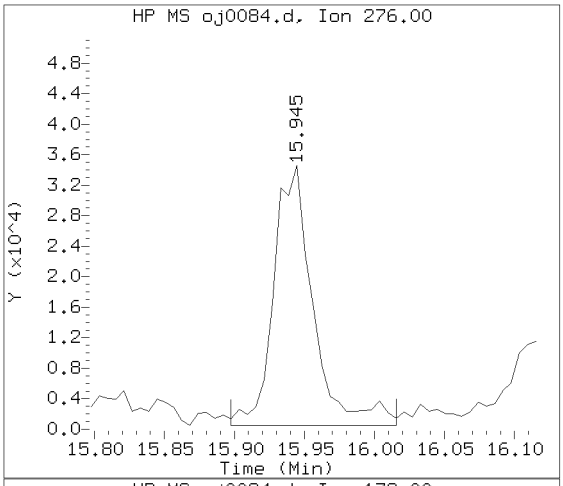
Sample Name: 49513 Lab Sample ID: 8064458

Compound Number	: 220		
Compound Name	: Dibenz(a,h)anthracene		
Scan Number	: 2309		
Retention Time (minutes)	: 15.662		
Quant Ion	: 278.00		
Area	: 22328		
On-column Amount (ng/ul)	: 0.6712		
Integration start scan	: 2297	Integration stop scan:	2312
Y at integration start	: 1090	Y at integration end:	1090

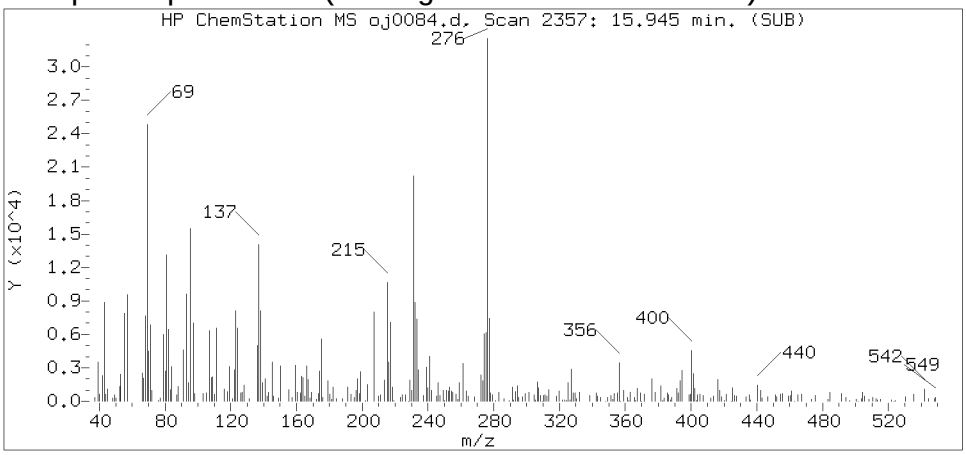
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

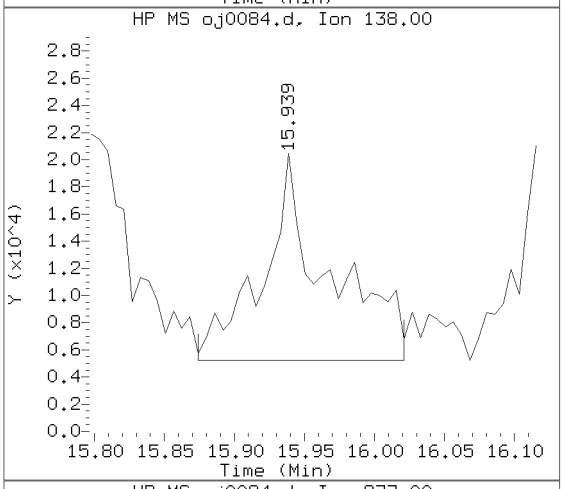
Reference Standard Spectrum for Benzo(g,h,i)perylene



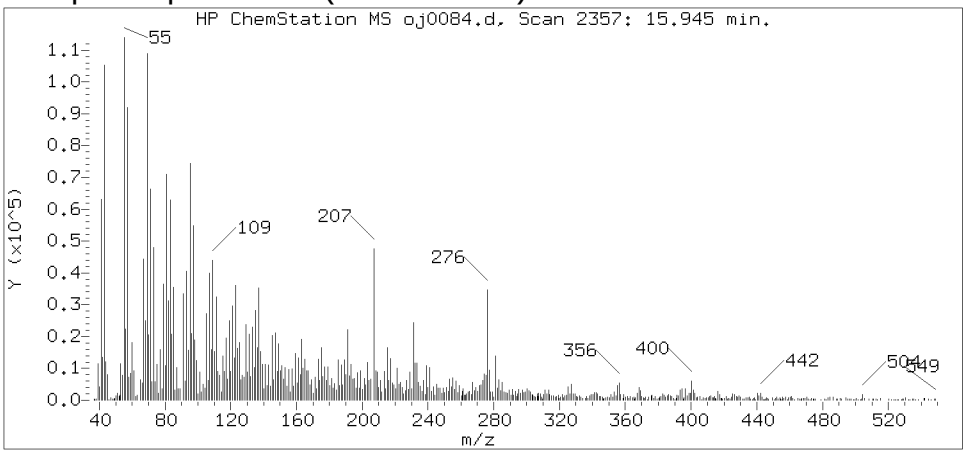


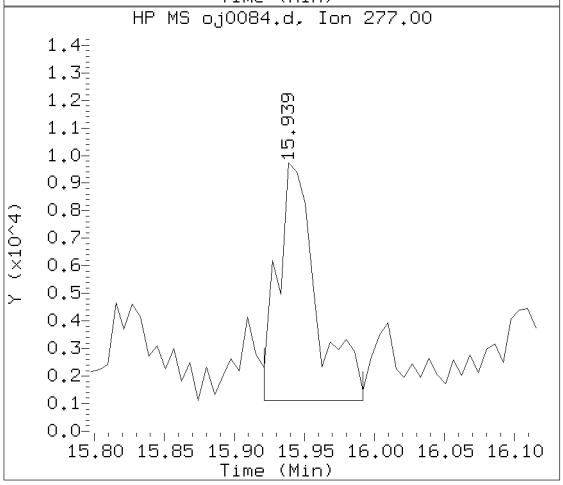
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0084.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 15:43 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 13:57
Date, time and analyst ID of latest file update: 02-Oct-2015 16:14 ceb05247

Sample Name: 49513 Lab Sample ID: 8064458

Compound Number	: 221
Compound Name	: Benzo(g,h,i)perylene
Scan Number	: 2357
Retention Time (minutes)	: 15.945
Relative Retention Time	: 0.00011
Quant Ion	: 276.00
Area (flag)	: 66566
On-column Amount (ng/ul)	: 2.0493

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:43.
Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0085.d
Injection date and time: **02-OCT-2015 16:07**
Data file Sample Info. Line: 49613;8064459;2;0;SAMPLE;;;
Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 16:21
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.45 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.087(-0.006)	681	152	152511 (-9)	20.00	
65) Naphthalene-d8	7.363(0.000)	898	136	754648 (-2)	20.00	
113) Acenaphthene-d10	9.092(0.000)	1192	164	457260 (-7)	20.00	
153) Phenanthrene-d10	10.545(-0.006)	1439	188	795896 (-15)	20.00	
175) Pyrene-d10	11.933(-0.006)	1675	212	764752 (-28)	20.00	
213) Perylene-d12	14.568(-0.012)	2123	264	551867 (-29)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.657(-0.001)	82	1407717	80.160	80%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.445(0.000)	172	2710059	93.372	93%		63 - 117
179) Terphenyl-d14	(5)	12.127(0.000)	244	2677331	95.129	95%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)	8.951(0.000)	152	4277M	0.105	3.46			0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)	10.563(0.000)	178	22083	0.478	15.69			0.1
157) Anthracene	(4)	10.616(0.000)	178	9077	0.199	6.53			0.1
173) Fluoranthene	(4)	11.727(0.000)	202	37822	0.753	24.73			0.1
177) Pyrene	(5)	11.951(0.000)	202	30782	0.675	22.16			0.1
195) Benzo(a)anthracene	(5)	13.127(0.000)	228	18241	0.459	15.06			0.1
196) Chrysene	(5)	13.168(0.000)	228	17696	0.467	15.34			0.1
206) Benzo(b)fluoranthene	(6)	14.198(0.000)	252	18780M	0.542	17.81			0.1
208) Benzo(k)fluoranthene	(6)	14.227(0.000)	252	7971M	0.226	7.41			0.1
211) Benzo(a)pyrene	(6)	14.509(0.000)	252	18979	0.555	18.22			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	15.633(0.000)	276	8613M	0.242	7.94			0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)	15.933(0.000)	276	8443M	0.289	9.48			0.1

M = Compound was manually integrated.

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0085.d Injection date and time: **02-OCT-2015 16:07**
Data file Sample Info. Line: 49613;8064459;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 16:21
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.45 g

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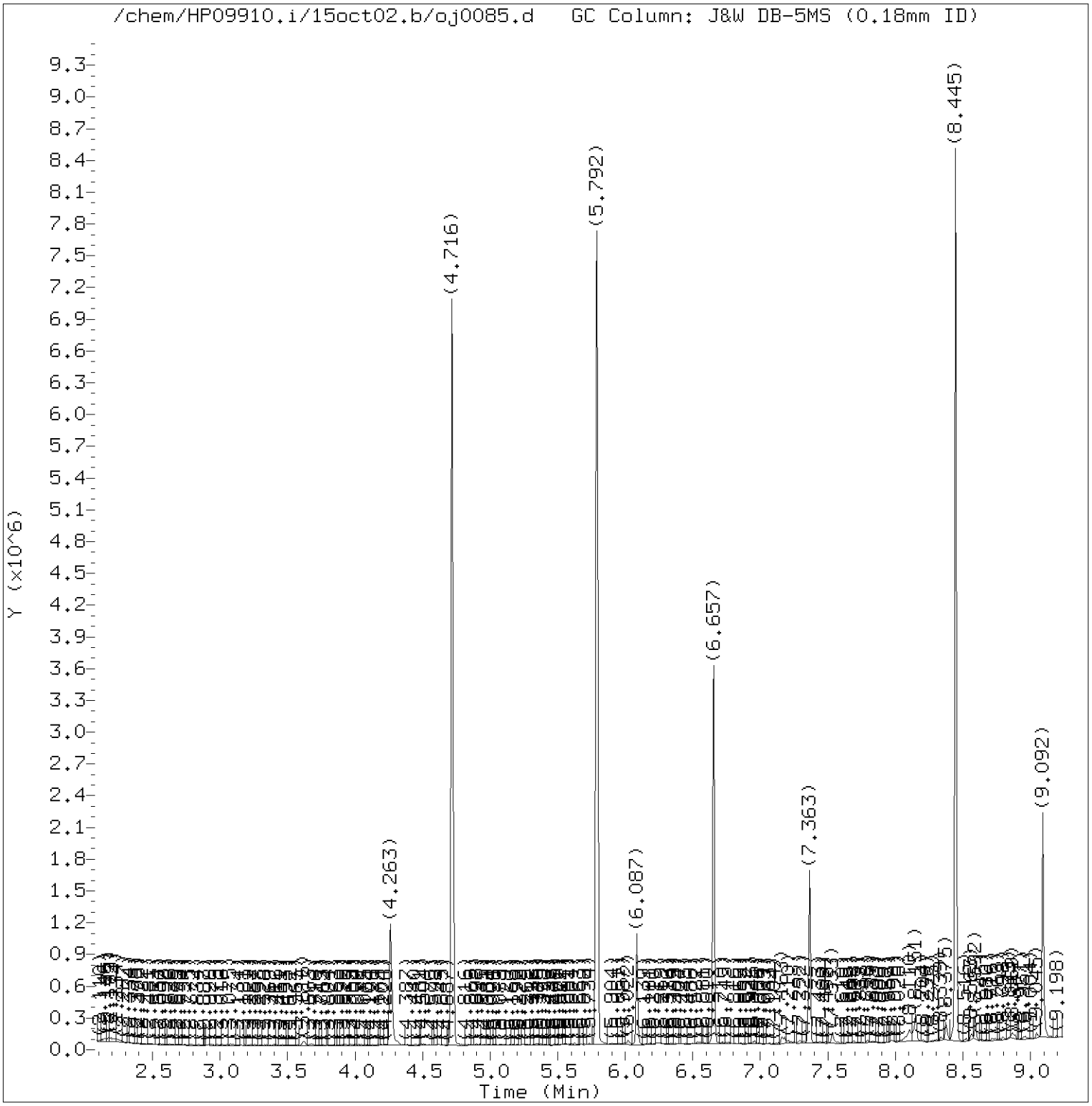
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

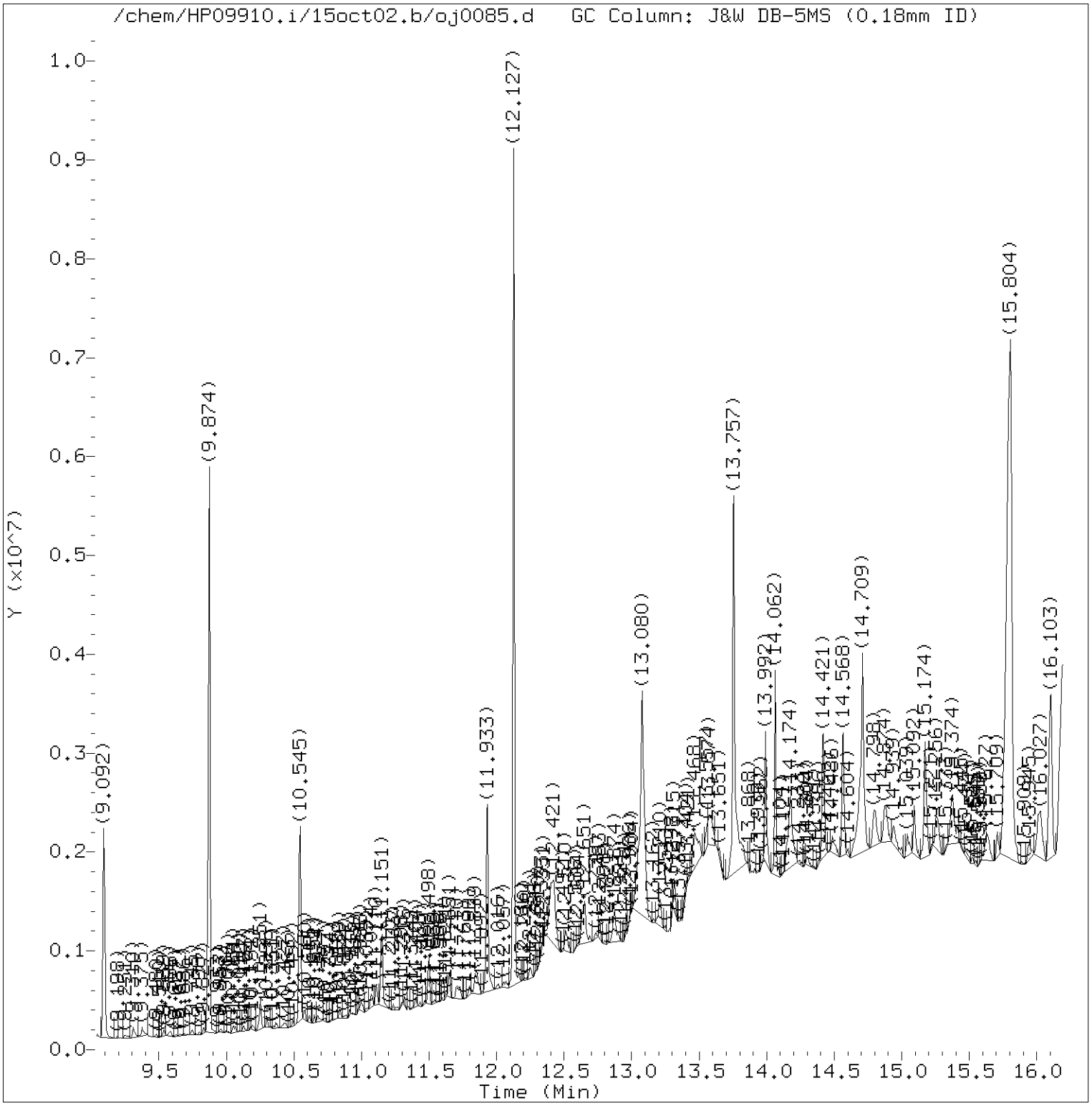
Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

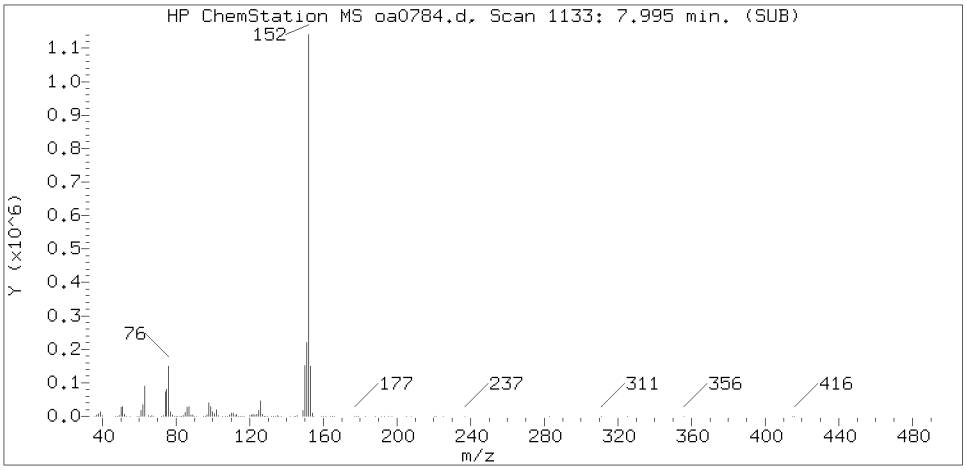
Sample Name: 49613 Lab Sample ID: 8064459

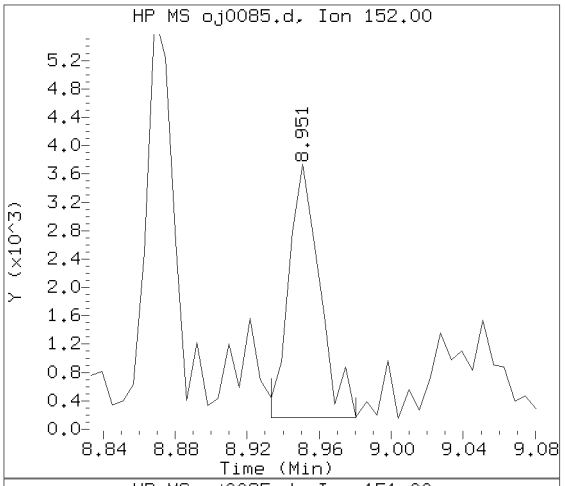
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.087	152	152511	20.000
44)$Nitrobenzene-d5	(2)	6.657	82	1407717	80.160
65)*Naphthalene-d8	(2)	7.363	136	754648	20.000
93)$2-Fluorobiphenyl	(3)	8.445	172	2710059	93.372
109) Acenaphthylene	(3)	8.951	152	4277M	0.105
113)*Acenaphthene-d10	(3)	9.092	164	457260	20.000
153)*Phenanthrene-d10	(4)	10.545	188	795896	20.000
155) Phenanthrene	(4)	10.563	178	22083	0.478
157) Anthracene	(4)	10.616	178	9077	0.199
173) Fluoranthene	(4)	11.727	202	37822	0.753
175)*Pyrene-d10	(5)	11.933	212	764752	20.000
177) Pyrene	(5)	11.951	202	30782	0.675
179)$Terphenyl-d14	(5)	12.127	244	2677331	95.129
195) Benzo(a)anthracene	(5)	13.127	228	18241	0.459
196) Chrysene	(5)	13.168	228	17696	0.467
206) Benzo(b)fluoranthene	(6)	14.198	252	18780M	0.542
208) Benzo(k)fluoranthene	(6)	14.227	252	7971M	0.226
211) Benzo(a)pyrene	(6)	14.509	252	18979	0.555
213)*Perylene-d12	(6)	14.568	264	551867	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	15.633	276	8613M	0.242
221) Benzo(g,h,i)perylene	(6)	15.933	276	8443M	0.289

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

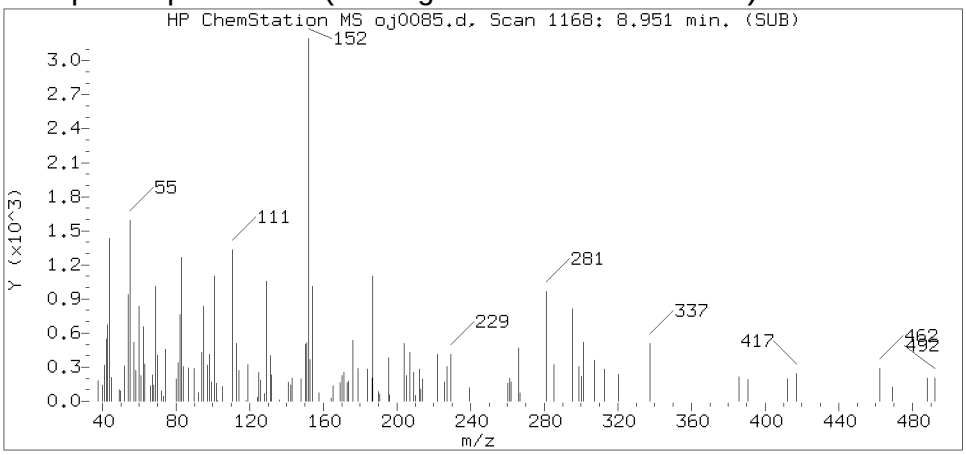
Digitally signed by Catherine E. Bachman
on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247

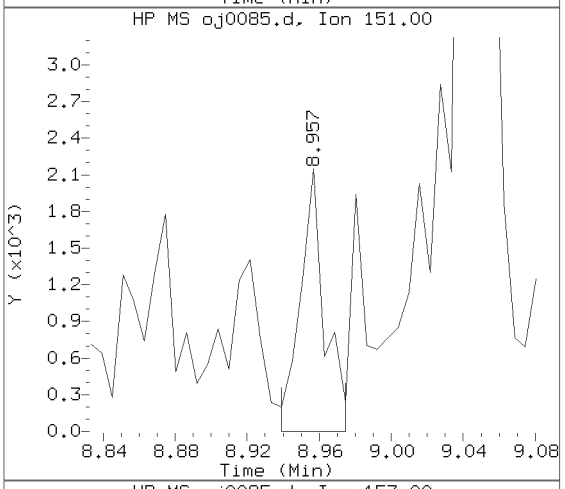
Reference Standard Spectrum for Acenaphthylene



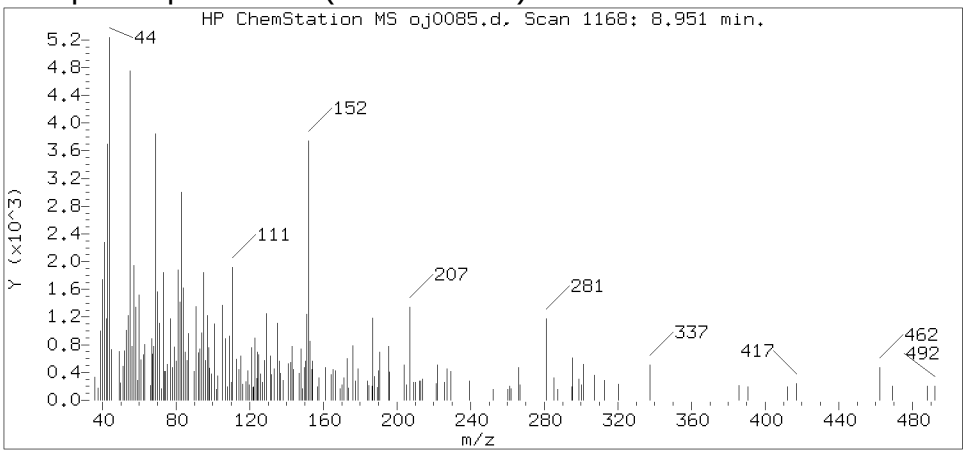


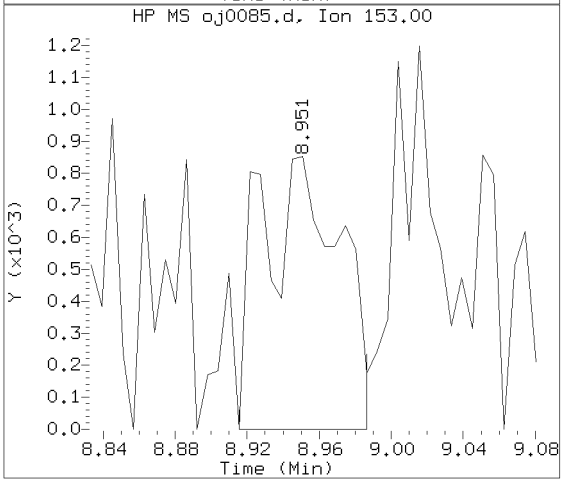
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

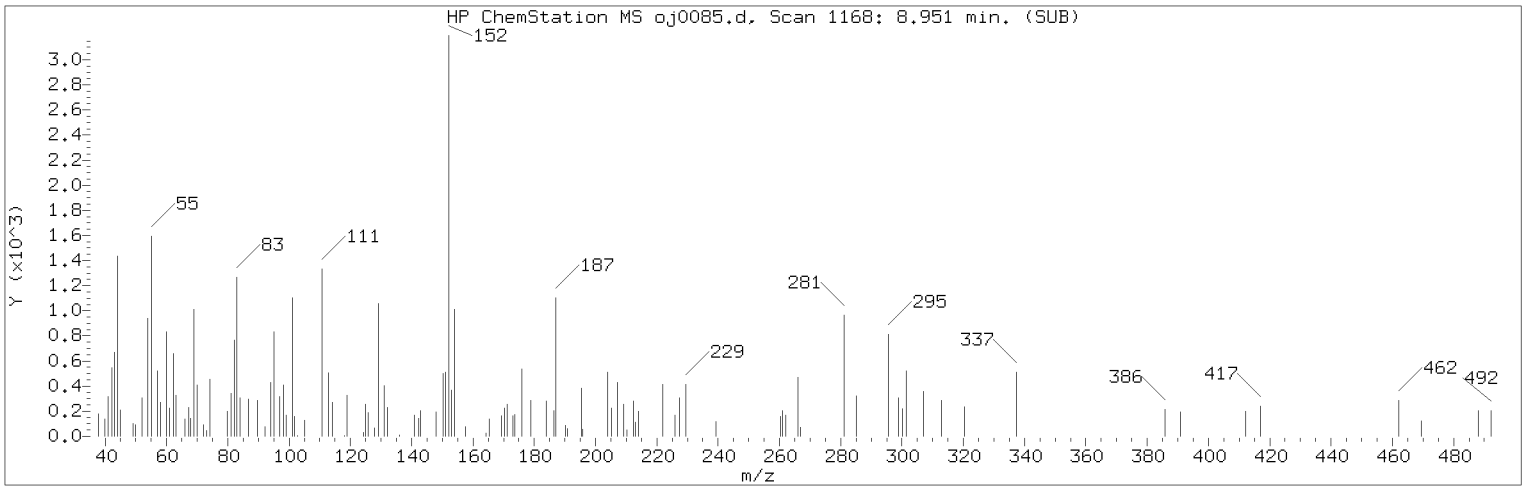
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

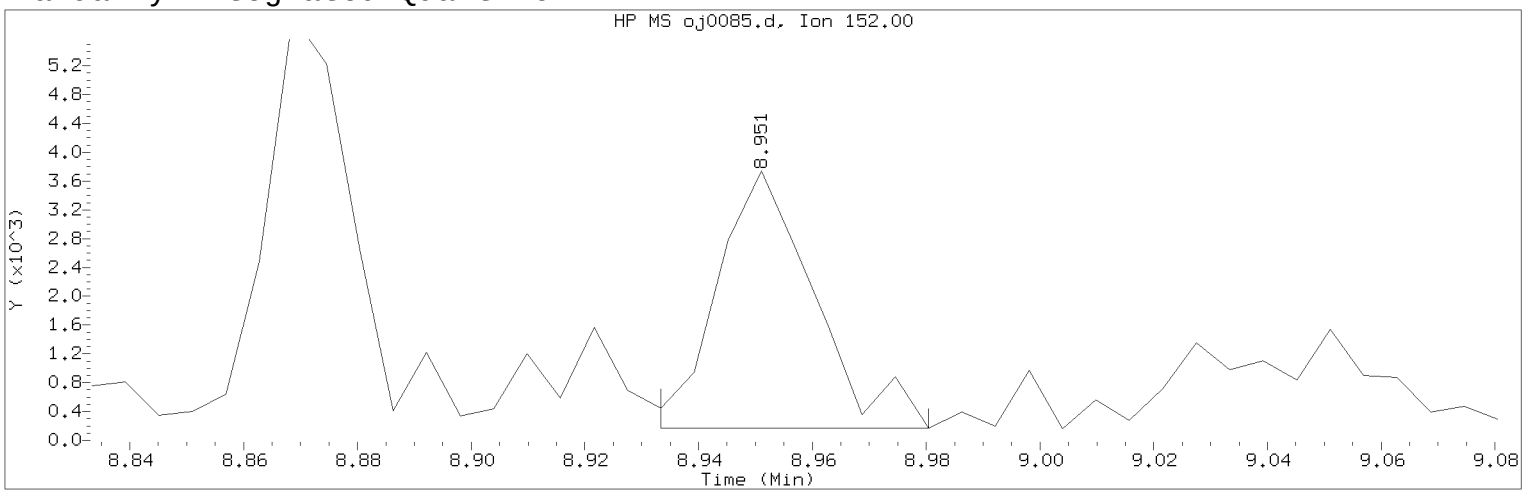
Compound Number	: 109
Compound Name	: Acenaphthylene
Scan Number	: 1168
Retention Time (minutes)	: 8.951
Relative Retention Time	: 0.00000
Quant Ion	: 152.00
Area (flag)	: 4277M
On-column Amount (ng/ul)	: 0.1054

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

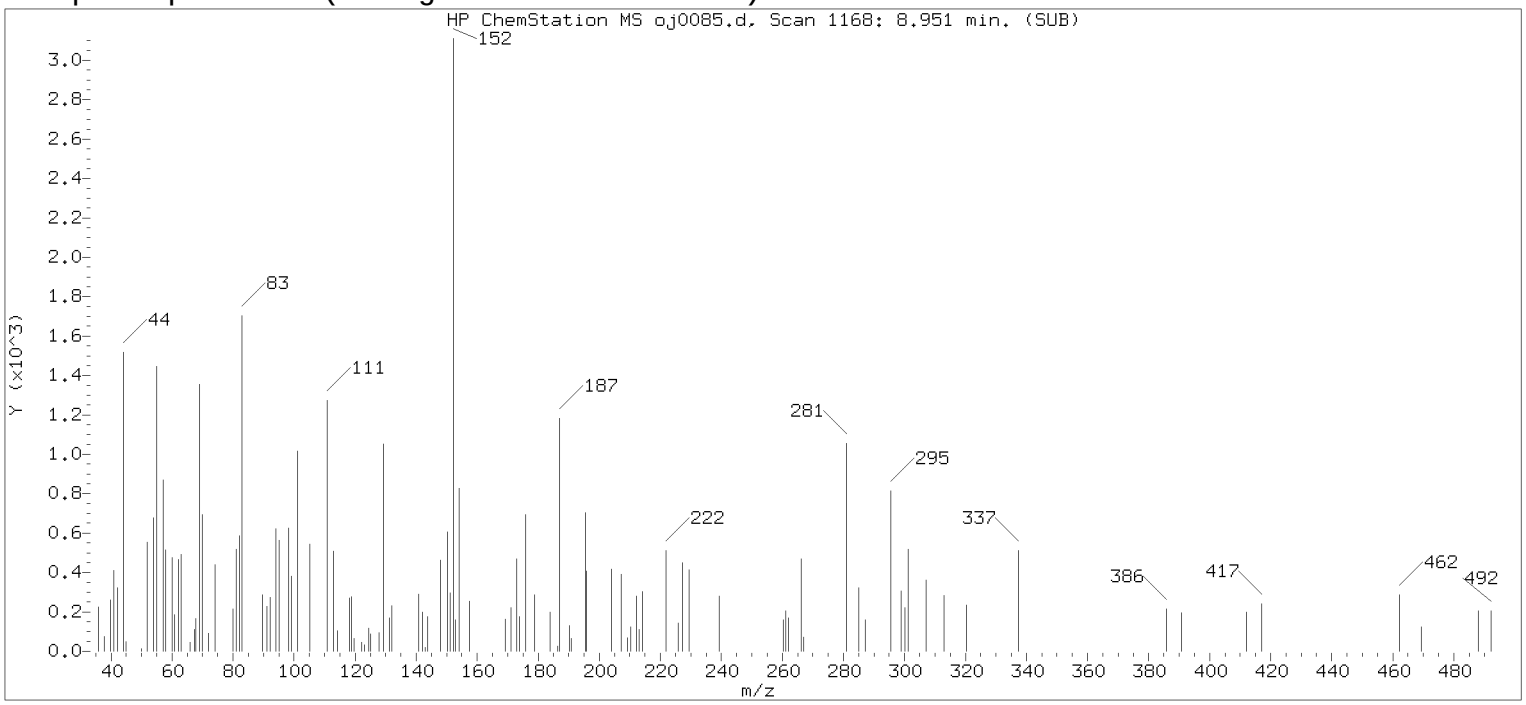
Compound Number : 109
Compound Name : Acenaphthylene
Scan Number : 1168
Retention Time (minutes) : 8.951
Quant Ion : 152.00
Area (flag) : 4277M
On-column Amount (ng/ul) : 0.1054
Integration start scan : 1164 Integration stop scan: 1172
Y at integration start : 165 Y at integration end: 165

Reason for manual integration: improper integration

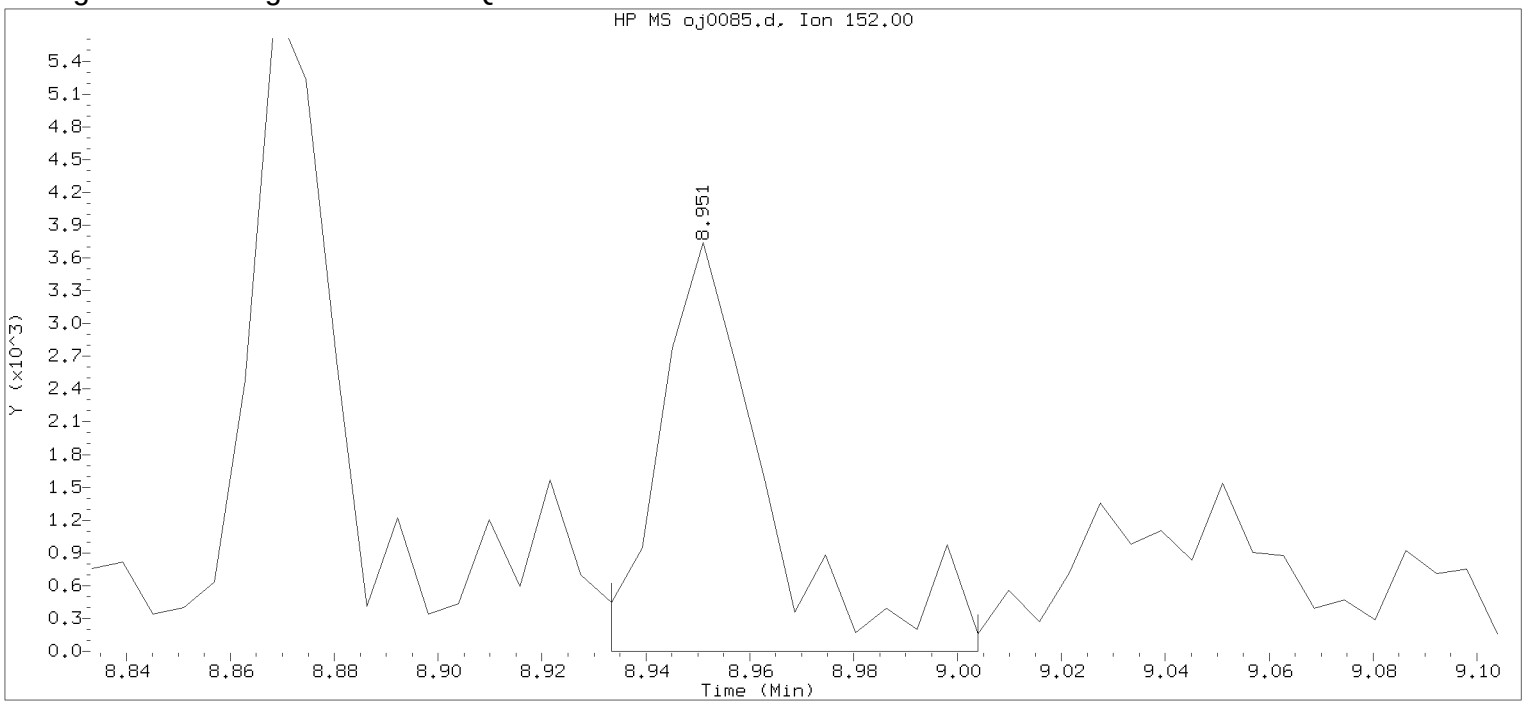
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

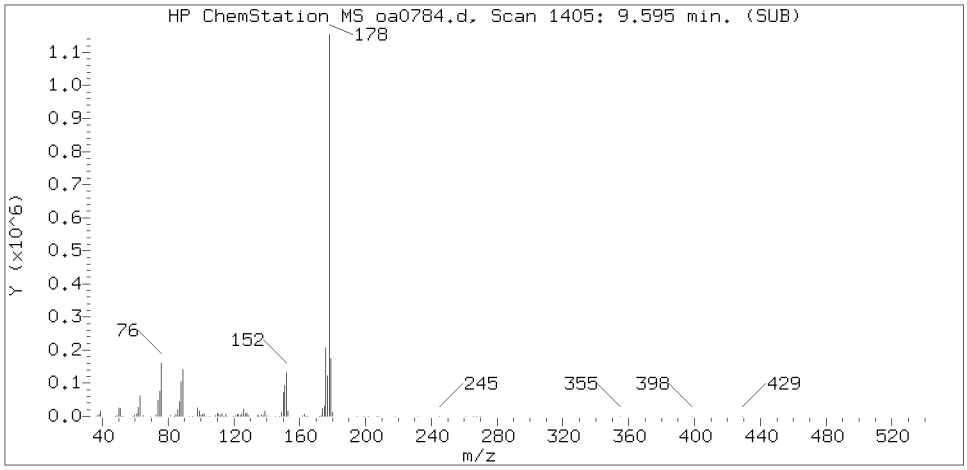
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:23 Automation

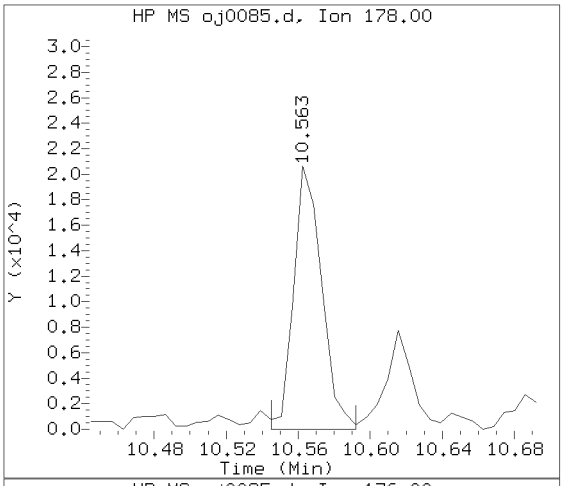
Sample Name: 49613 Lab Sample ID: 8064459

Compound Number	: 109		
Compound Name	: Acenaphthylene		
Scan Number	: 1168		
Retention Time (minutes)	: 8.951		
Quant Ion	: 152.00		
Area	: 5303		
On-column Amount (ng/ul)	: 0.1306		
Integration start scan	: 1164	Integration stop scan:	1176
Y at integration start	: 0	Y at integration end:	0

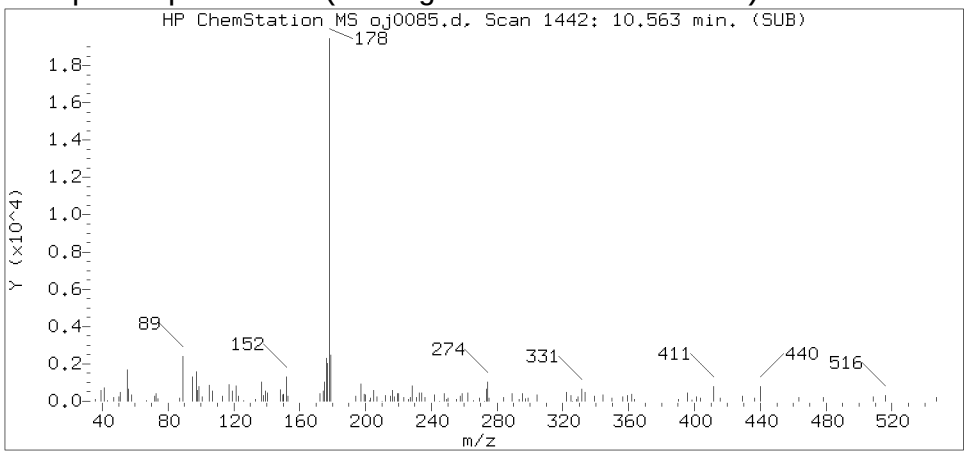
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: 05247

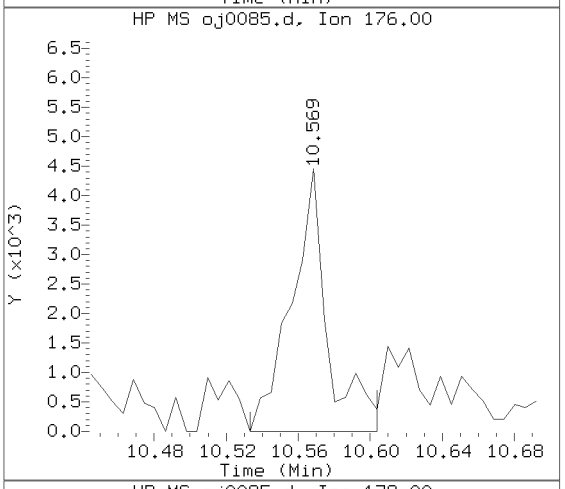
Reference Standard Spectrum for Phenanthrene



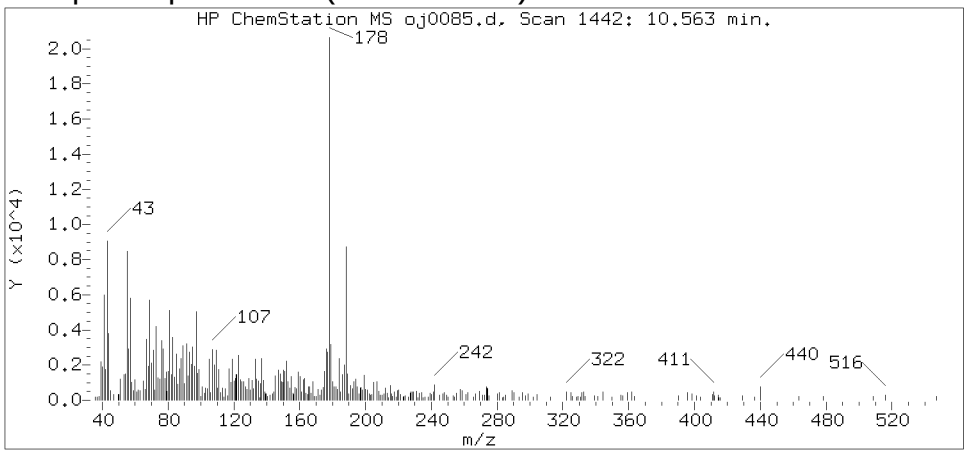


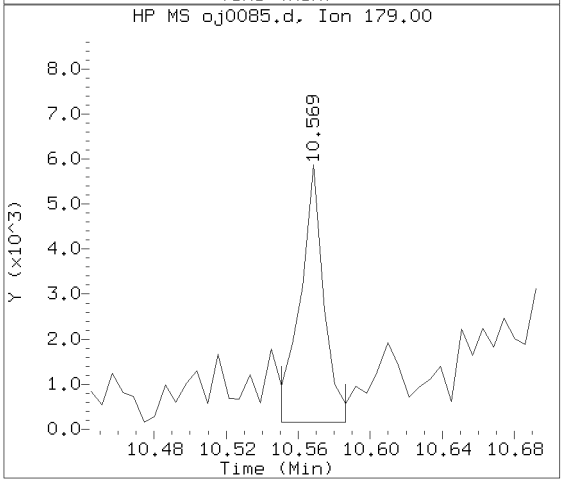
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

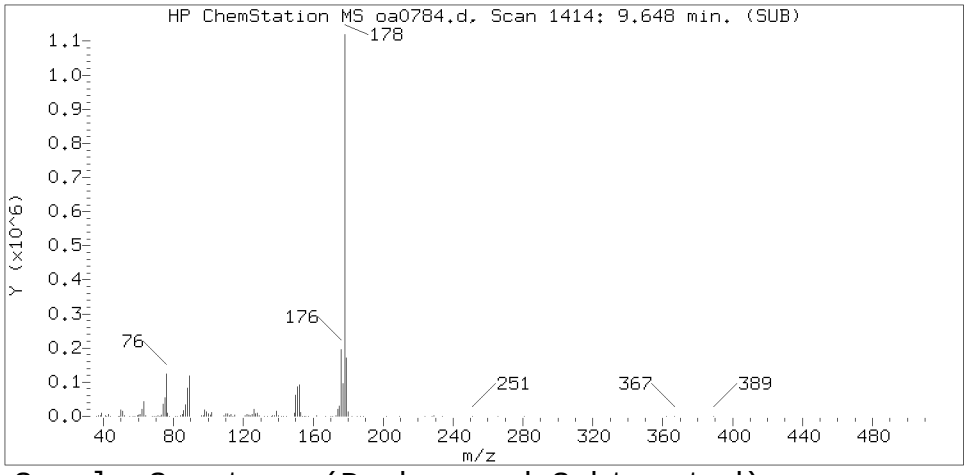
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

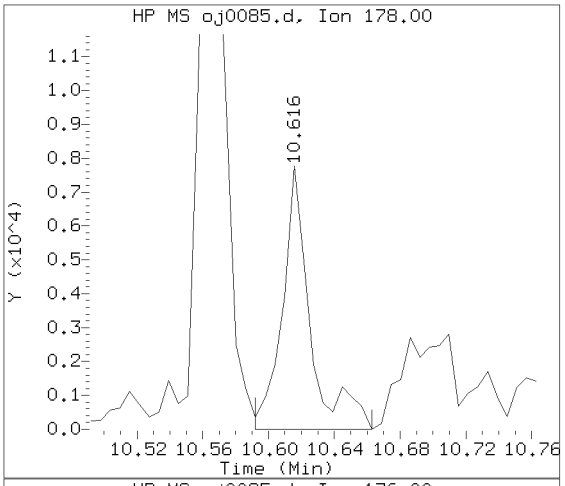
Sample Name: 49613 Lab Sample ID: 8064459

Compound Number	: 155
Compound Name	: Phenanthrene
Scan Number	: 1442
Retention Time (minutes)	: 10.563
Relative Retention Time	: 0.00056
Quant Ion	: 178.00
Area (flag)	: 22083
On-column Amount (ng/ul)	: 0.4778

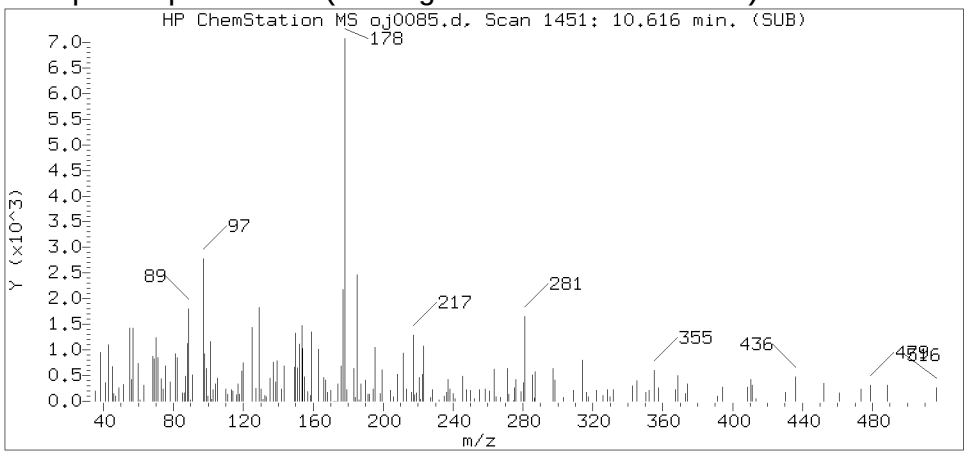
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247

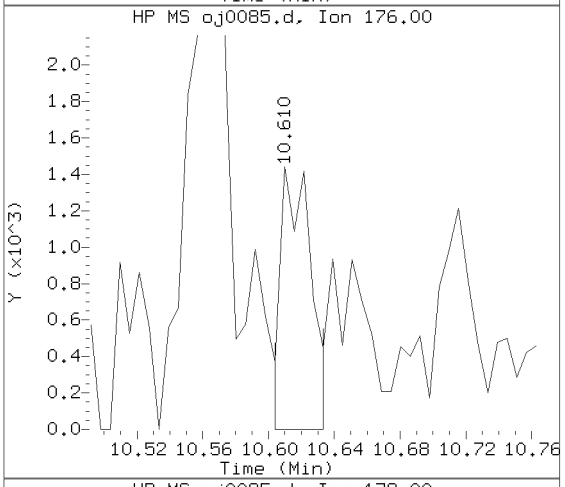
Reference Standard Spectrum for Anthracene



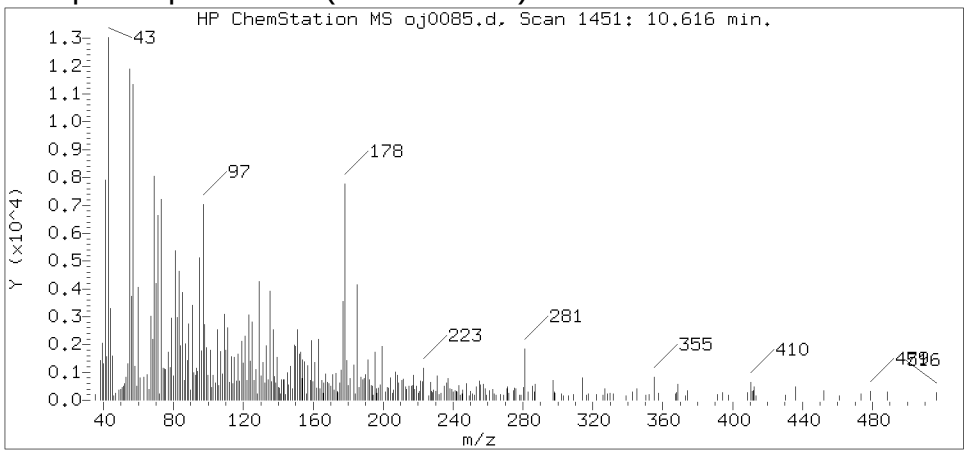


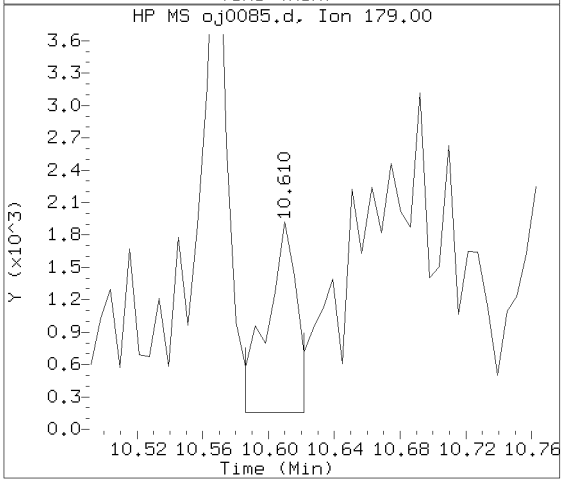
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

Compound Number	: 157
Compound Name	: Anthracene
Scan Number	: 1451
Retention Time (minutes)	: 10.616
Relative Retention Time	: 0.00056
Quant Ion	: 178.00
Area (flag)	: 9077
On-column Amount (ng/ul)	: 0.1987

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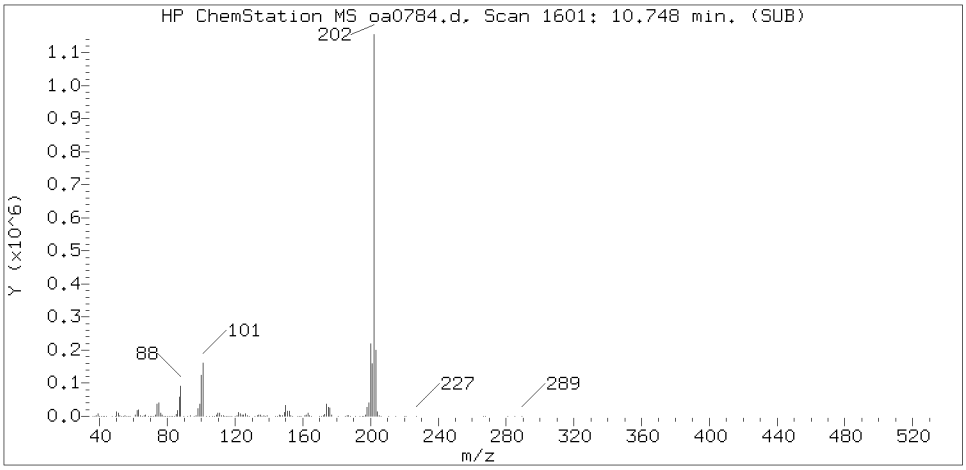
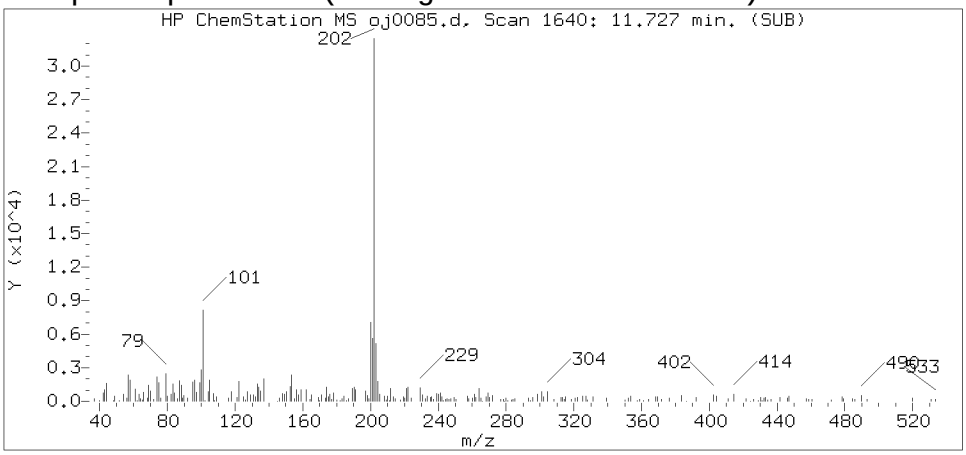
Target 3.5 esignature user ID: ceb05247

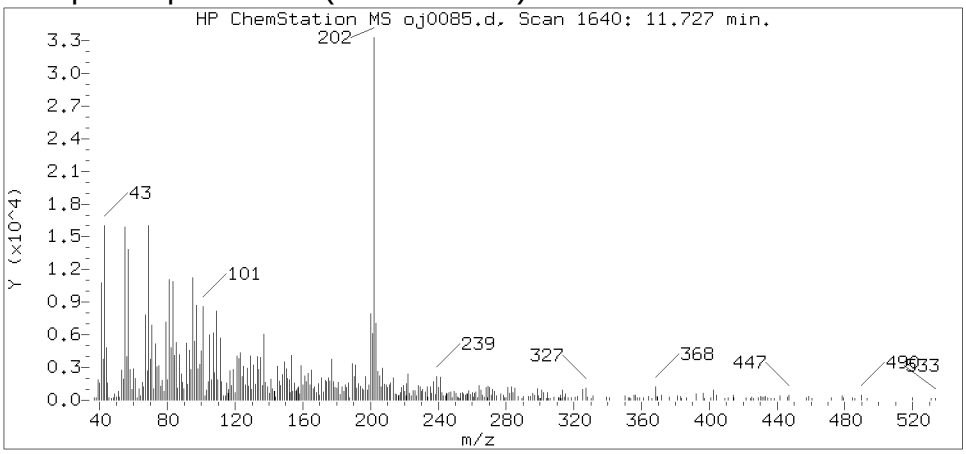
Reference Standard Spectrum for Fluoranthene

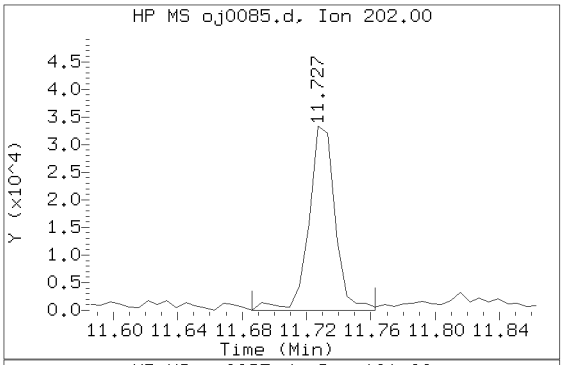


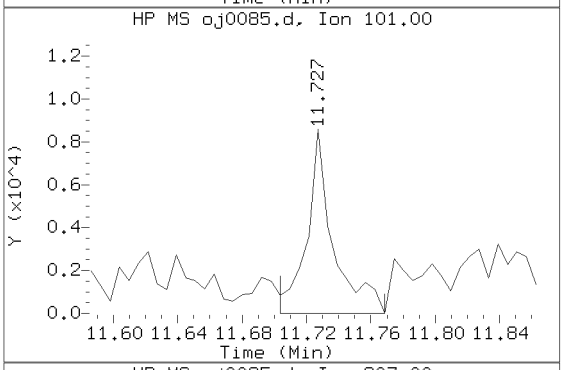
Sample Spectrum (Background Subtracted)

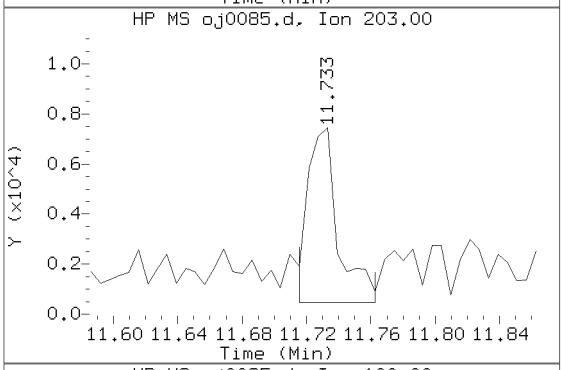


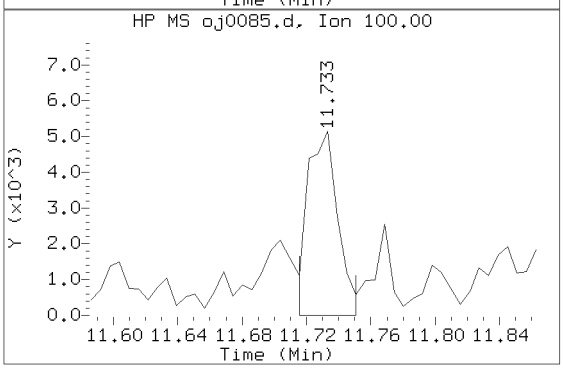
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

Compound Number	: 173
Compound Name	: Fluoranthene
Scan Number	: 1640
Retention Time (minutes)	: 11.727
Relative Retention Time	: 0.00062
Quant Ion	: 202.00
Area (flag)	: 37822
On-column Amount (ng/ul)	: 0.7529

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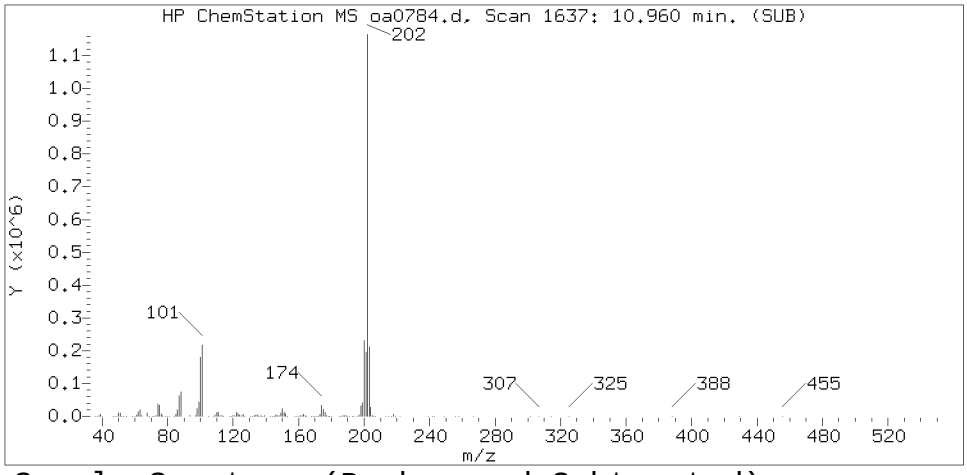
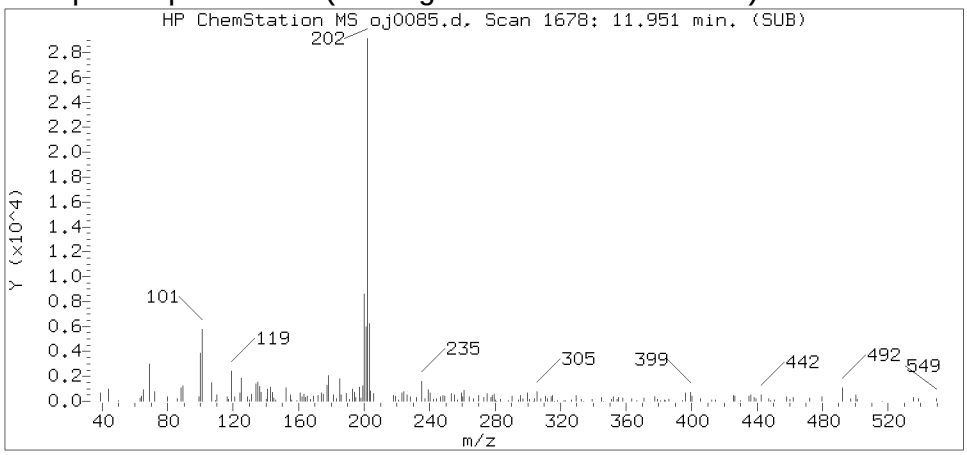
Target 3.5 esignature user ID: ceb05247

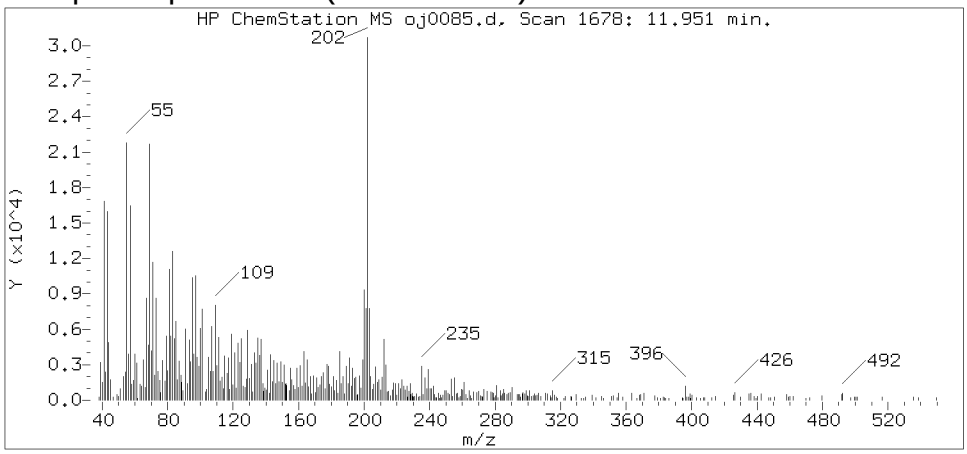
Reference Standard Spectrum for Pyrene

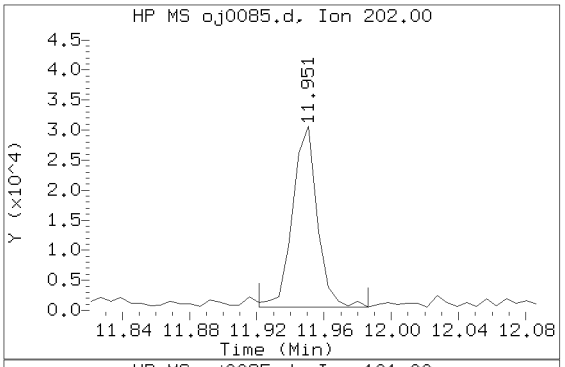


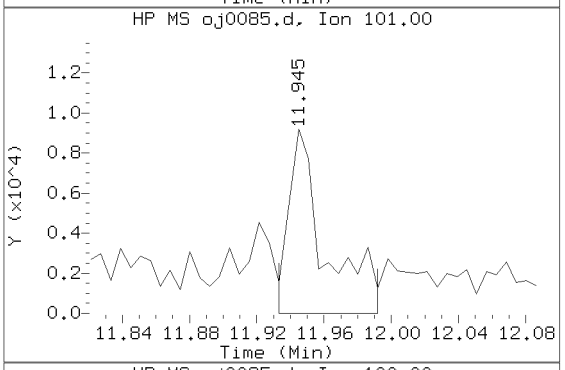
Sample Spectrum (Background Subtracted)

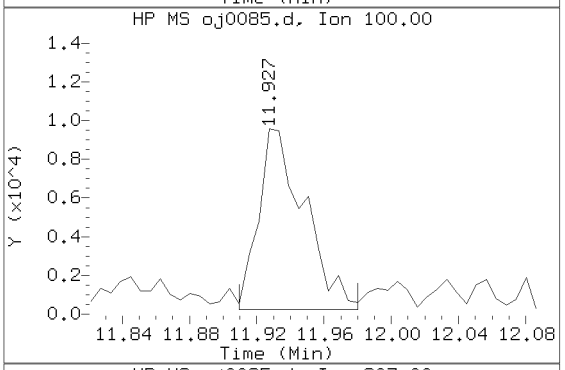


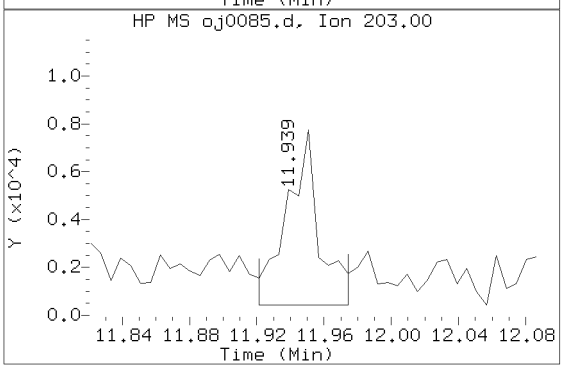
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1678
Retention Time (minutes)	: 11.951
Relative Retention Time	: 0.00000
Quant Ion	: 202.00
Area (flag)	: 30782
On-column Amount (ng/ul)	: 0.6747

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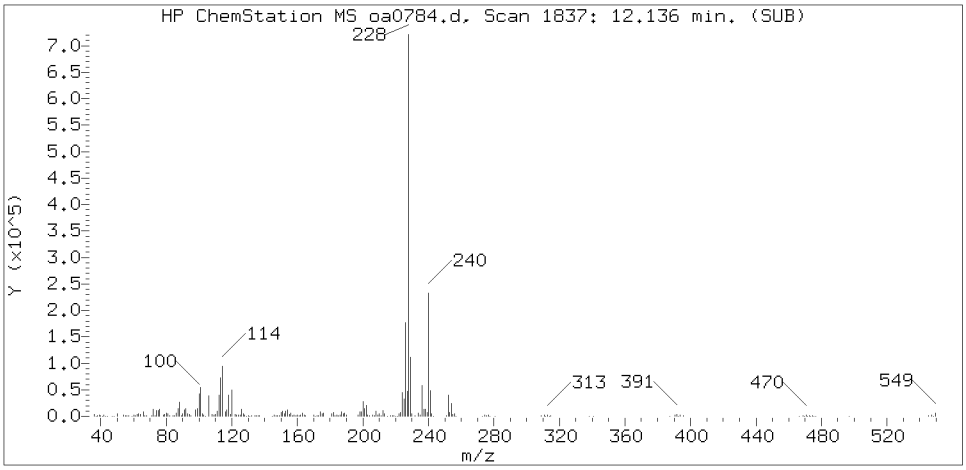
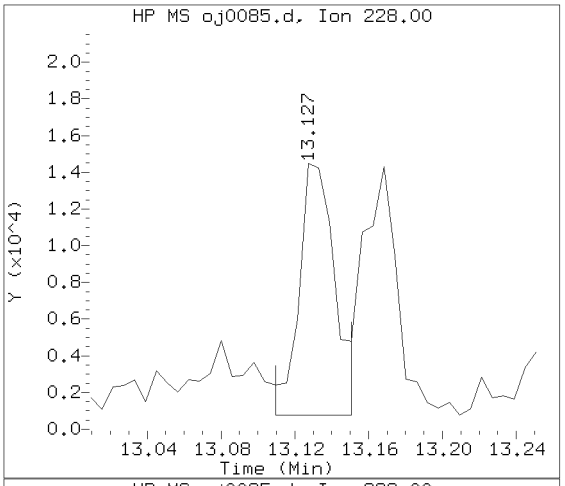
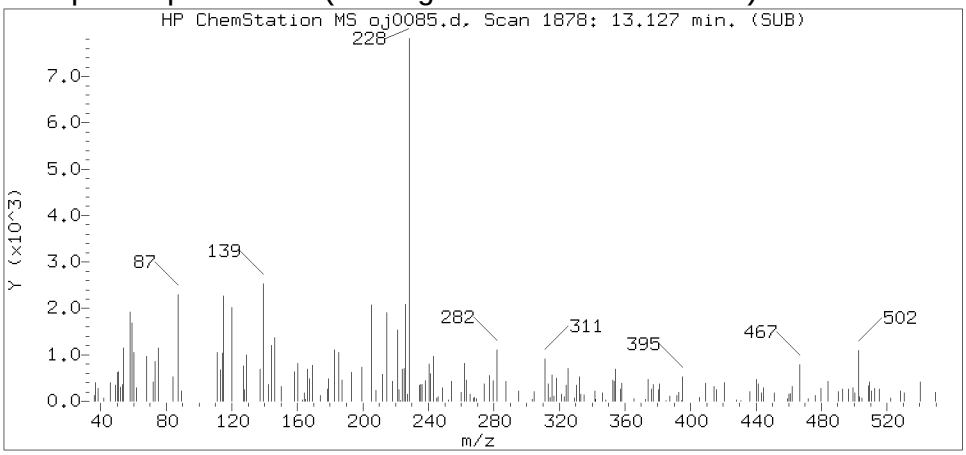
Target 3.5 esignature user ID: ceb05247

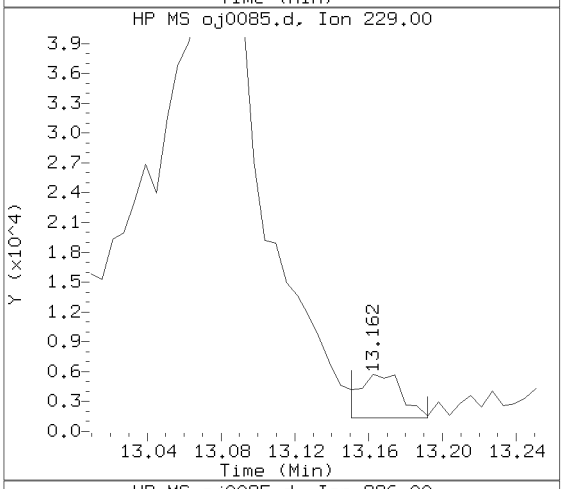
Reference Standard Spectrum for Benzo(a)anthracene



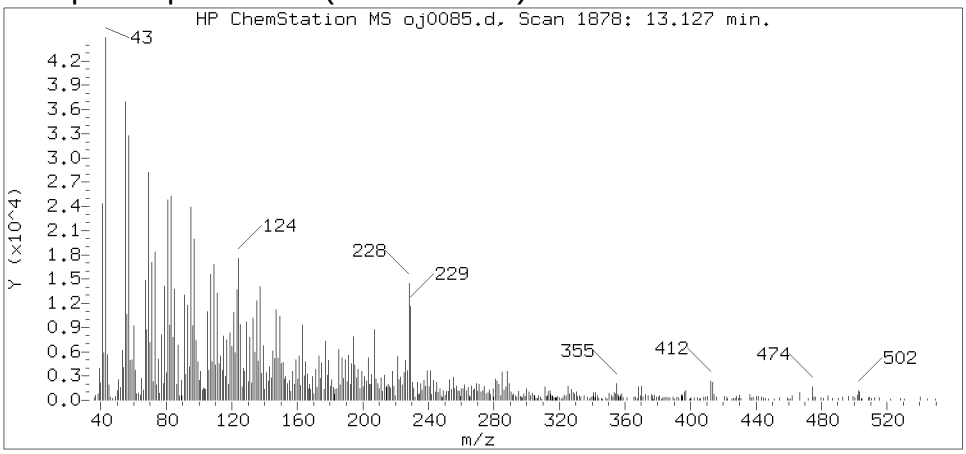


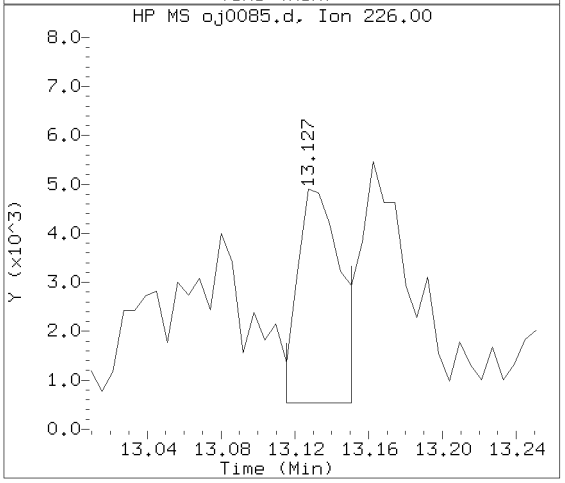
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

Compound Number	: 195
Compound Name	: Benzo(a)anthracene
Scan Number	: 1878
Retention Time (minutes)	: 13.127
Relative Retention Time	: 0.00054
Quant Ion	: 228.00
Area (flag)	: 18241
On-column Amount (ng/ul)	: 0.4587

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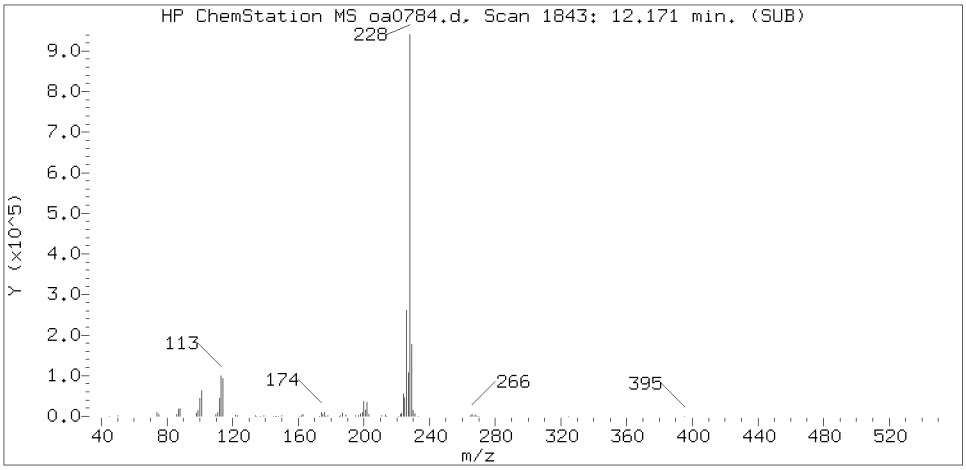
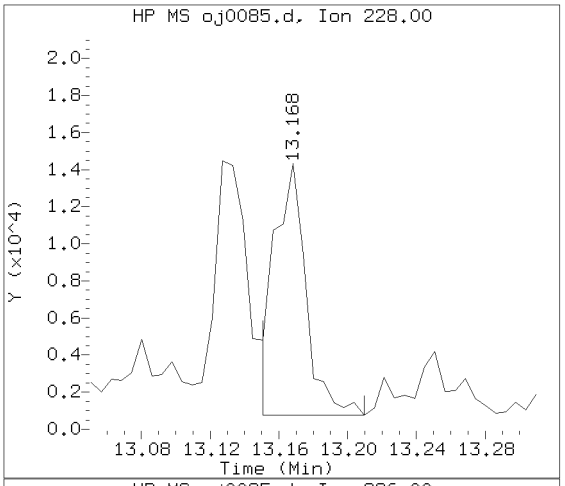
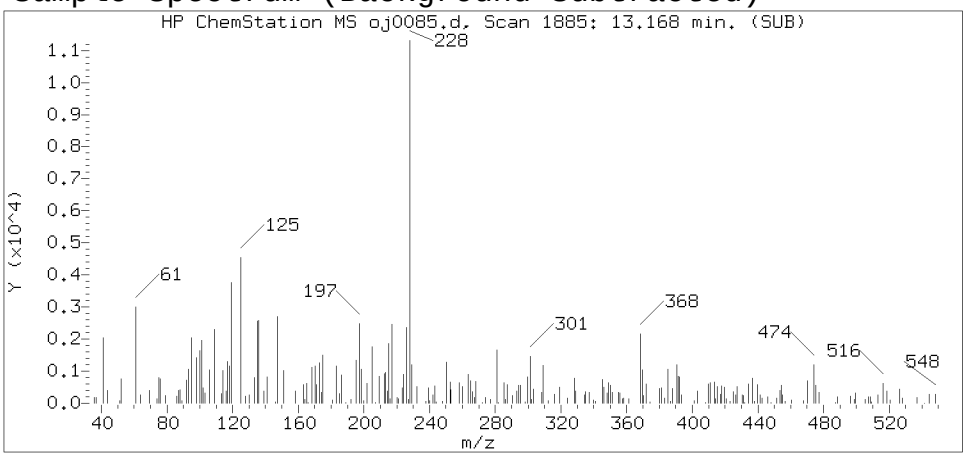
Target 3.5 esignature user ID: ceb05247

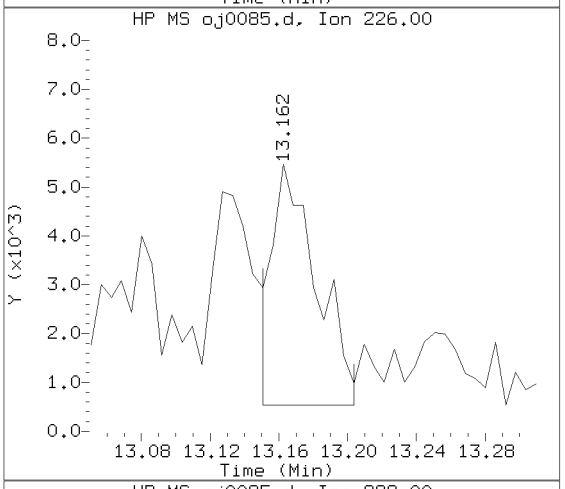
Reference Standard Spectrum for Chrysene



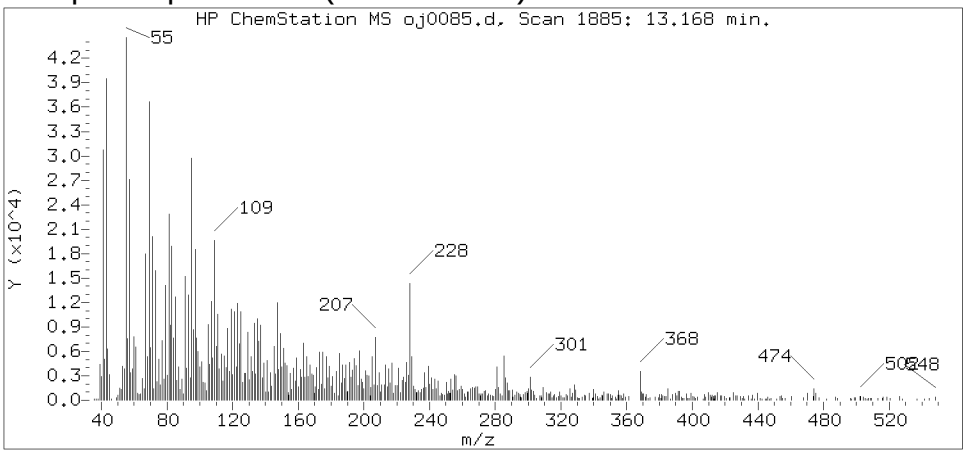


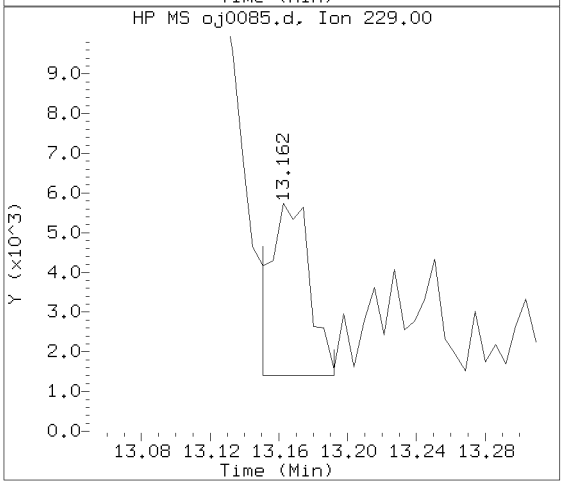
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

Compound Number	: 196
Compound Name	: Chrysene
Scan Number	: 1885
Retention Time (minutes)	: 13.168
Relative Retention Time	: 0.00005
Quant Ion	: 228.00
Area (flag)	: 17696
On-column Amount (ng/ul)	: 0.4670

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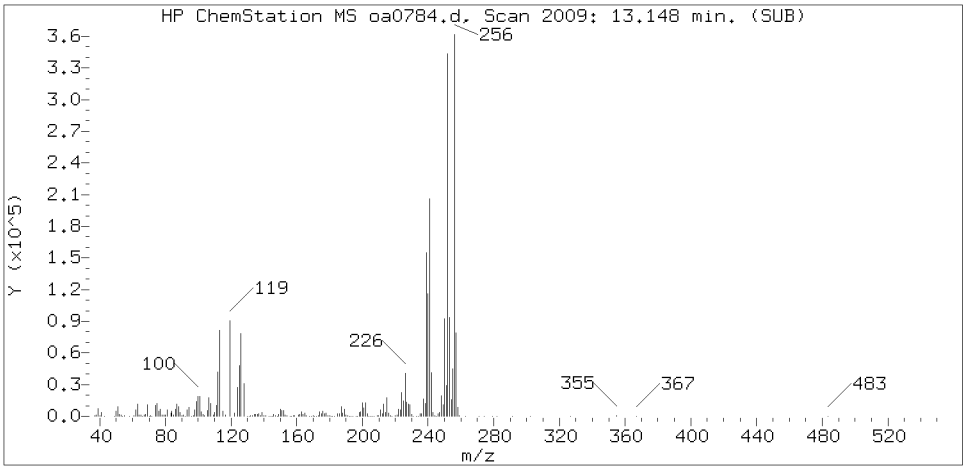
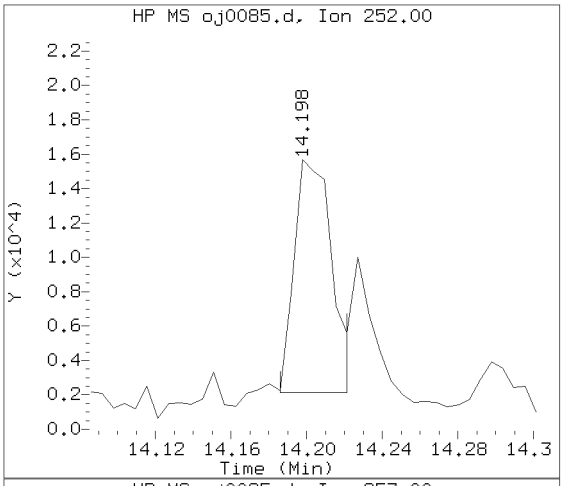
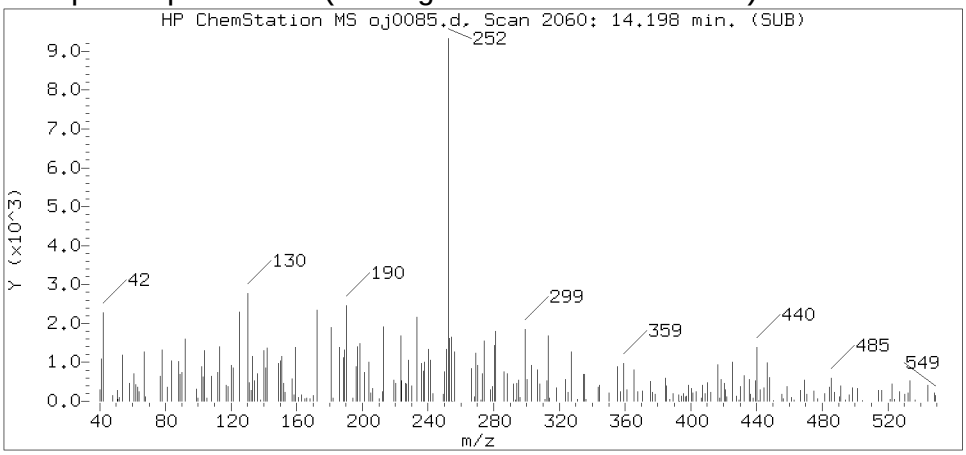
Target 3.5 esignature user ID: ceb05247

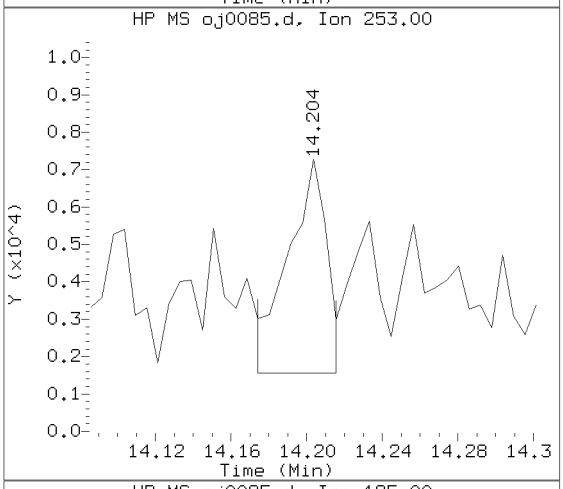
Reference Standard Spectrum for Benzo(b)fluoranthene



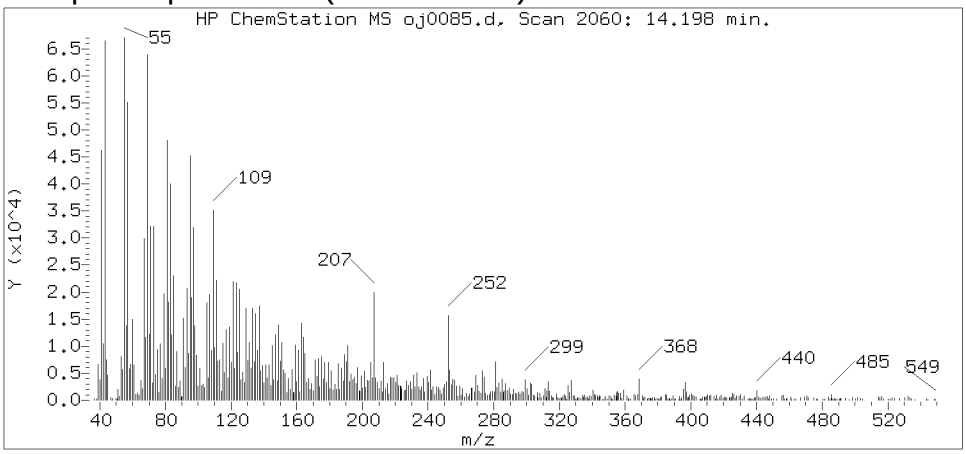


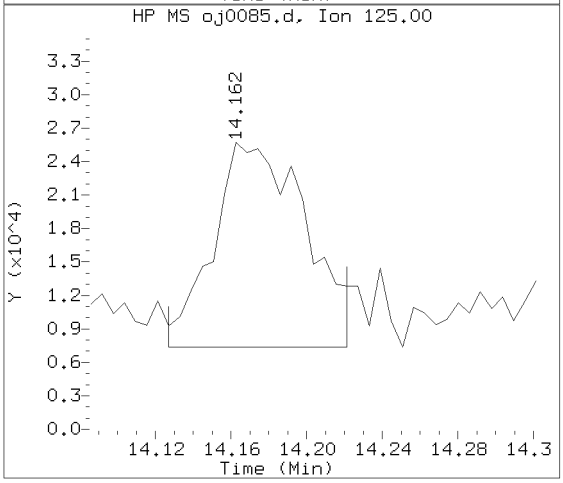
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

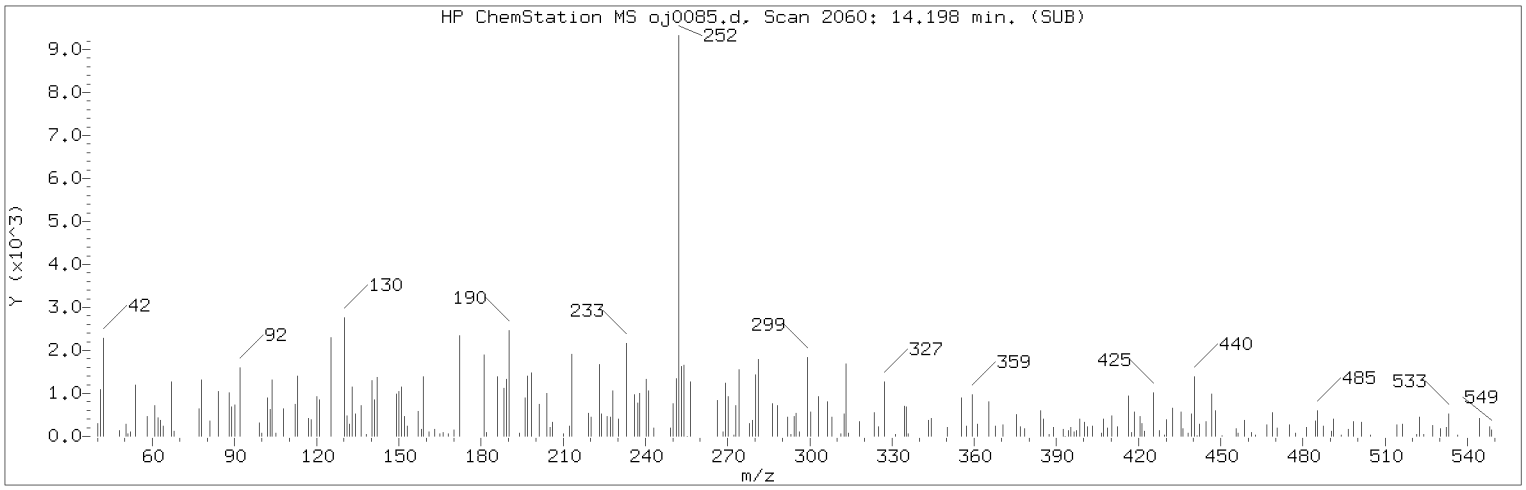
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

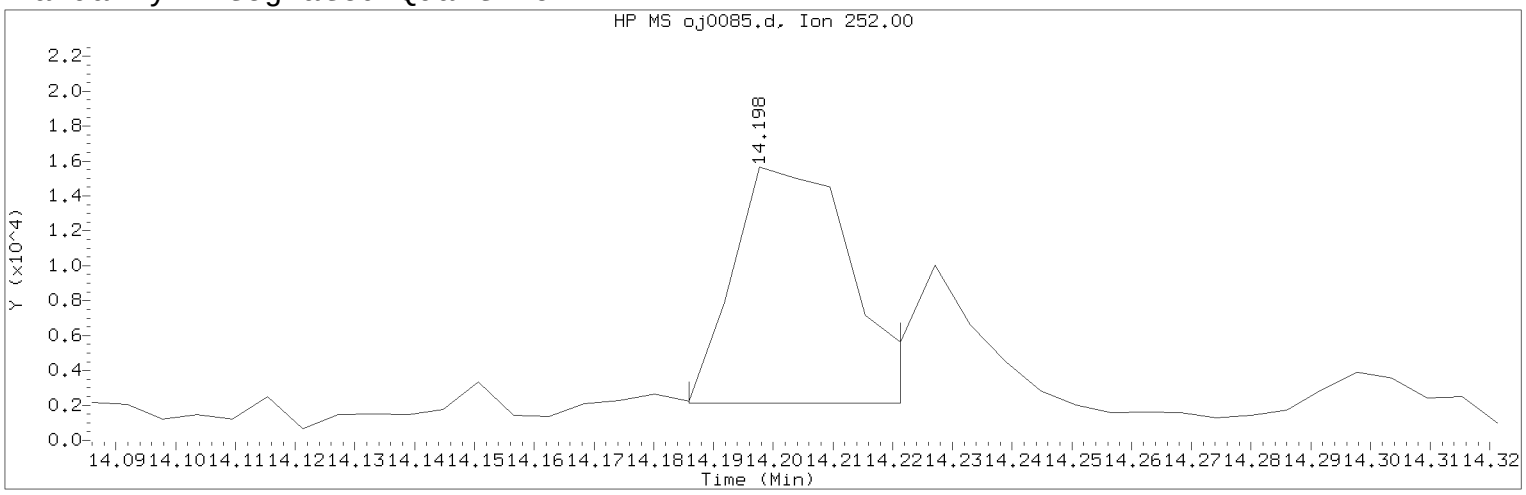
Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2060
Retention Time (minutes)	: 14.198
Relative Retention Time	: 0.00079
Quant Ion	: 252.00
Area (flag)	: 18780M
On-column Amount (ng/ul)	: 0.5423

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

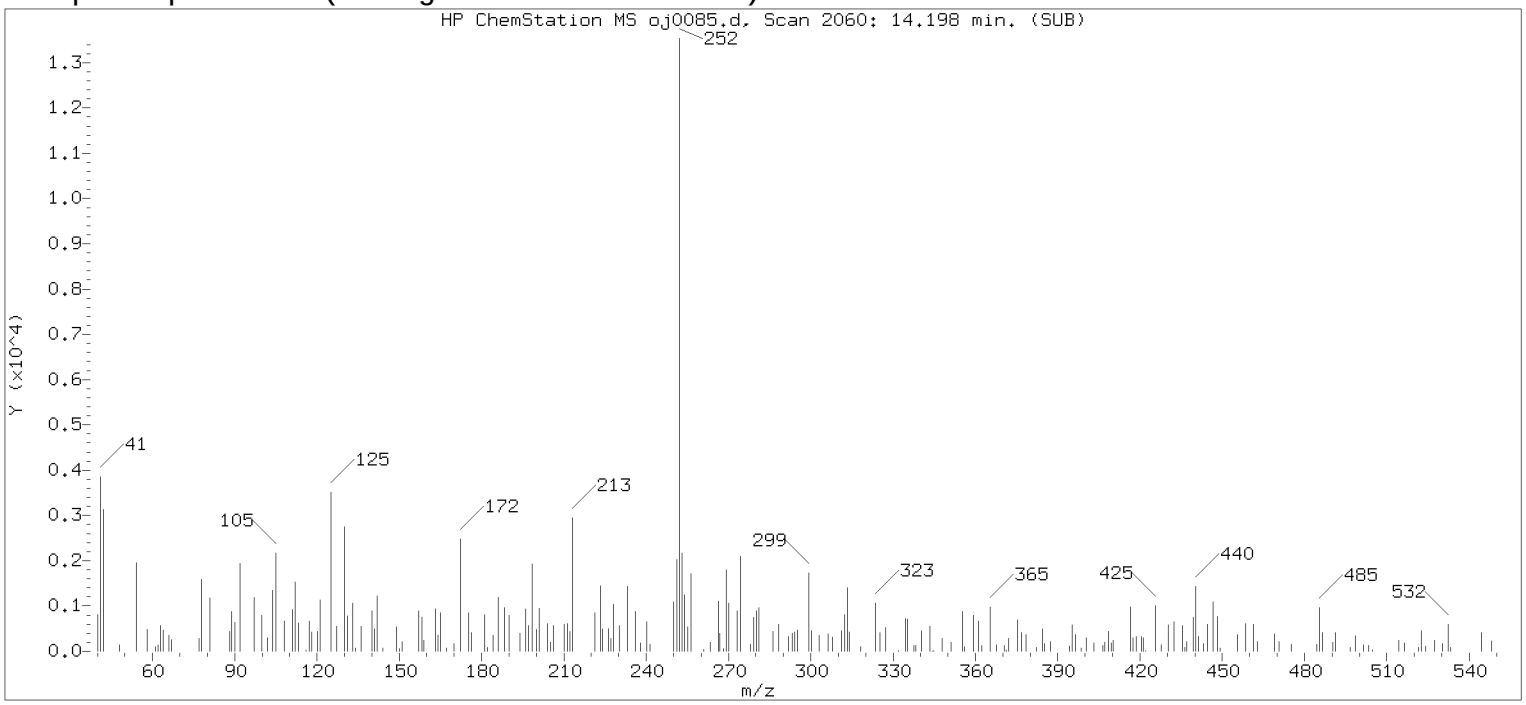
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2060
Retention Time (minutes) : 14.198
Quant Ion : 252.00
Area (flag) : 18780M
On-column Amount (ng/ul) : 0.5423
Integration start scan : 2057 Integration stop scan: 2063
Y at integration start : 2134 Y at integration end: 2134

Reason for manual integration: improper integration

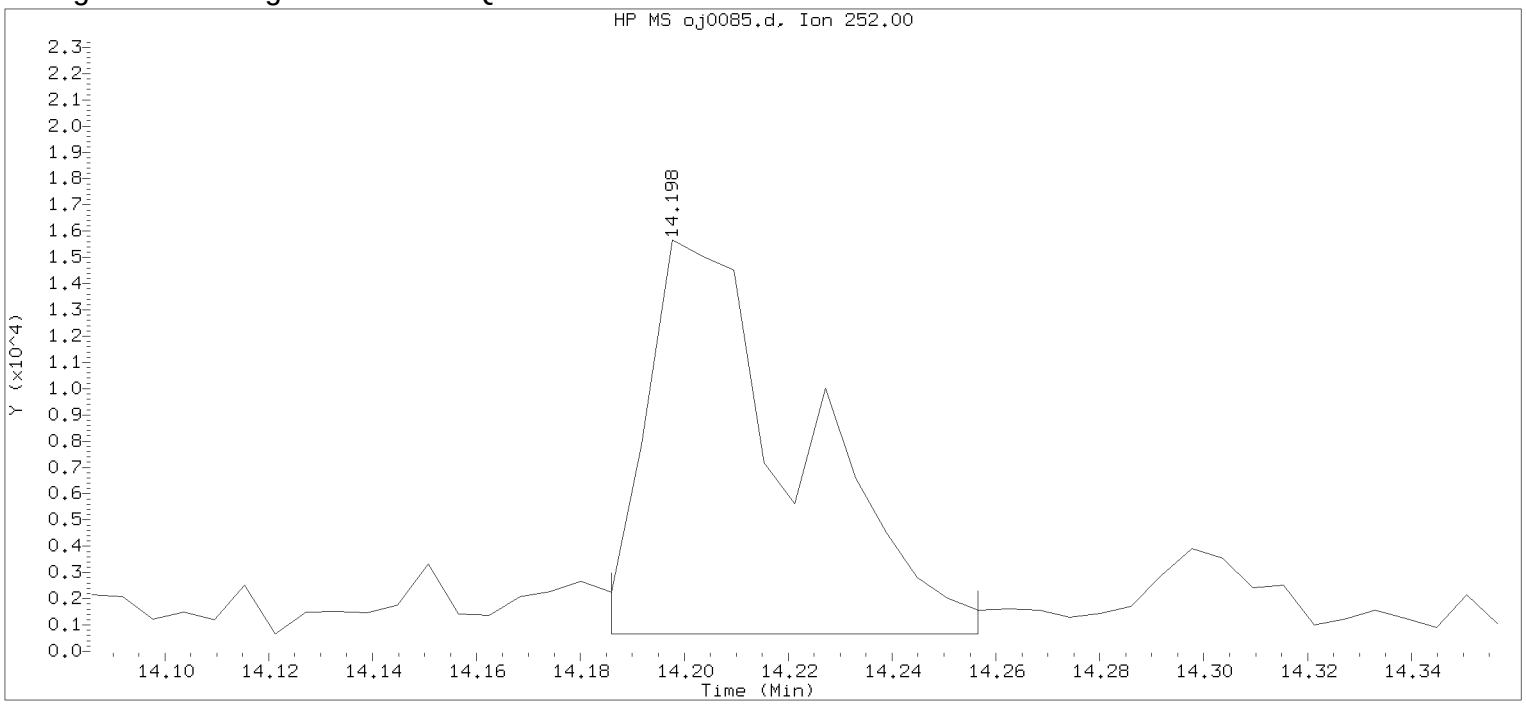
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

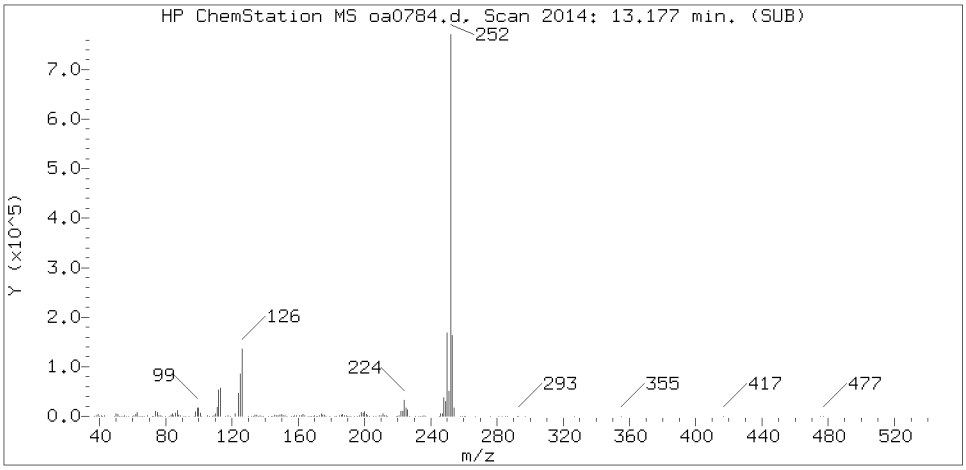
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:23 Automation

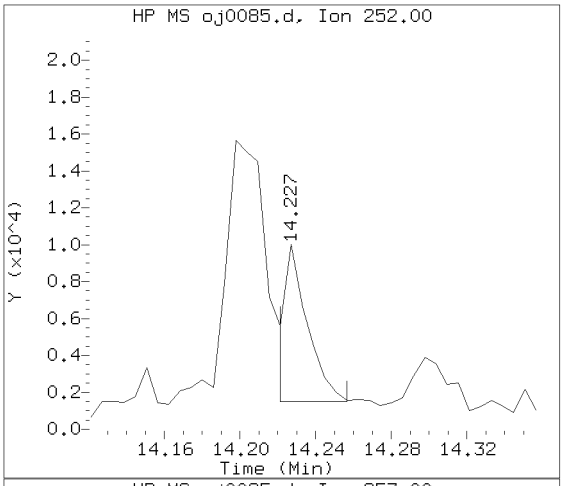
Sample Name: 49613 Lab Sample ID: 8064459

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2060		
Retention Time (minutes)	: 14.198		
Quant Ion	: 252.00		
Area	: 30333		
On-column Amount (ng/ul)	: 0.8758		
Integration start scan	: 2057	Integration stop scan:	2069
Y at integration start	: 653	Y at integration end:	653

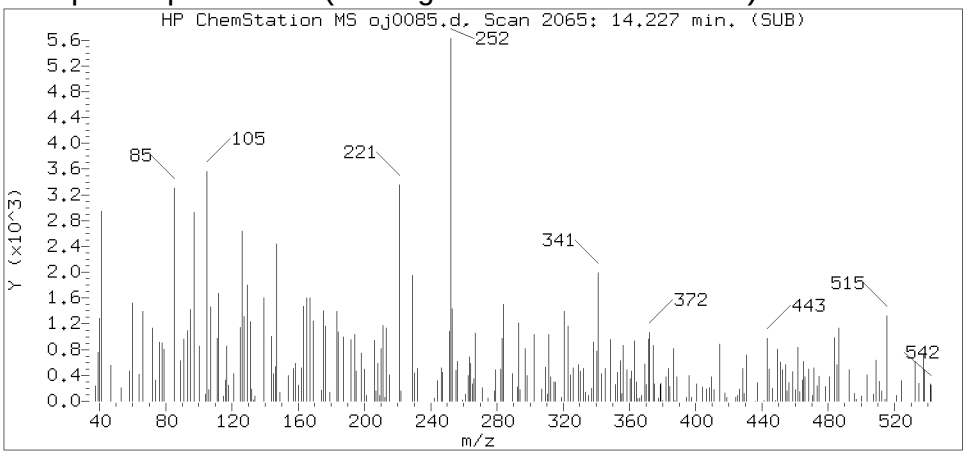
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: 27 date: 05247

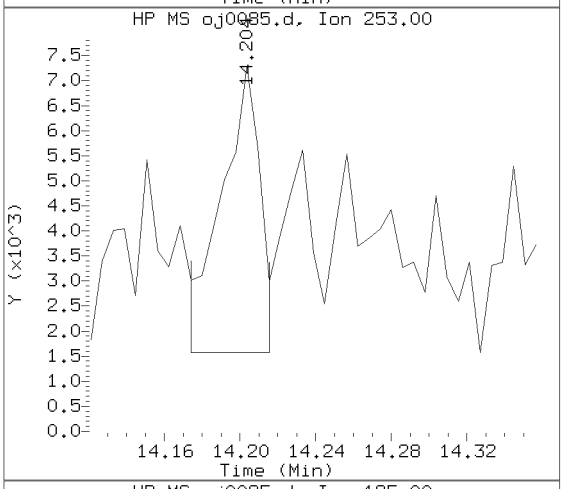
Reference Standard Spectrum for Benzo(k)fluoranthene



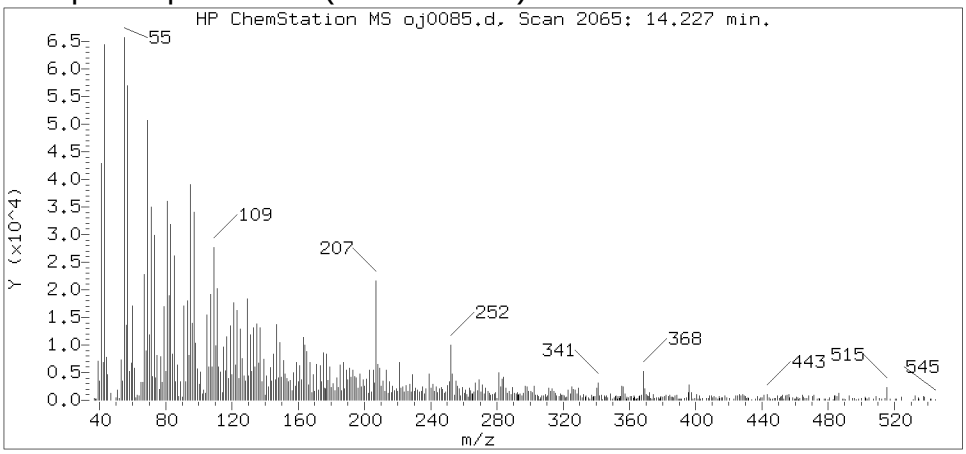


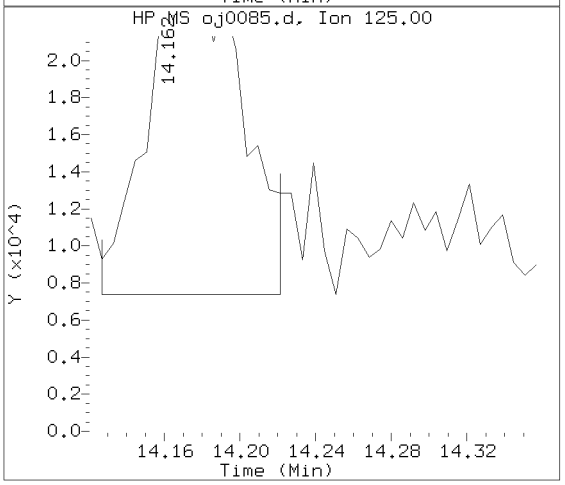
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

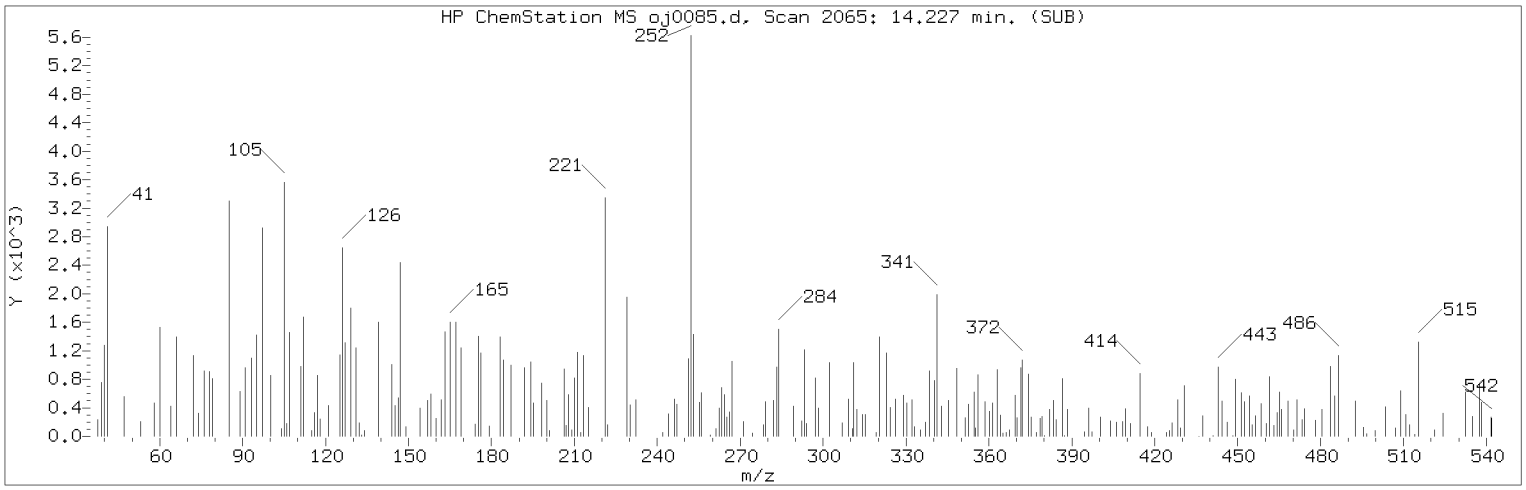
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

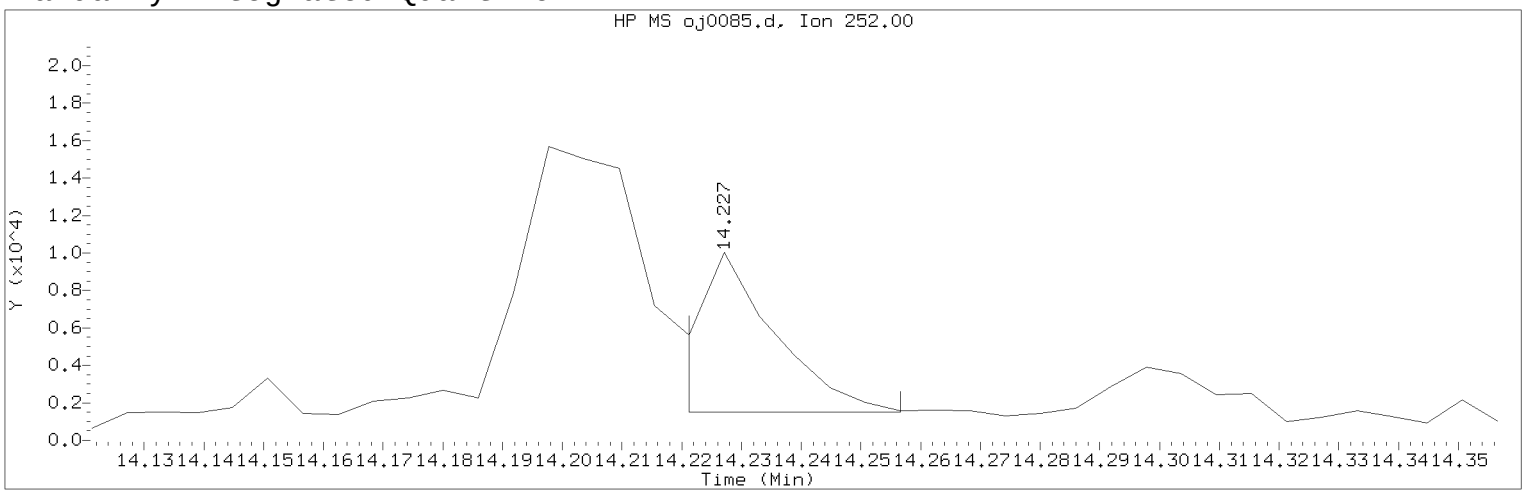
Compound Number	: 208
Compound Name	: Benzo(k)fluoranthene
Scan Number	: 2065
Retention Time (minutes)	: 14.227
Relative Retention Time	: 0.00039
Quant Ion	: 252.00
Area (flag)	: 7971M
On-column Amount (ng/ul)	: 0.2256

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

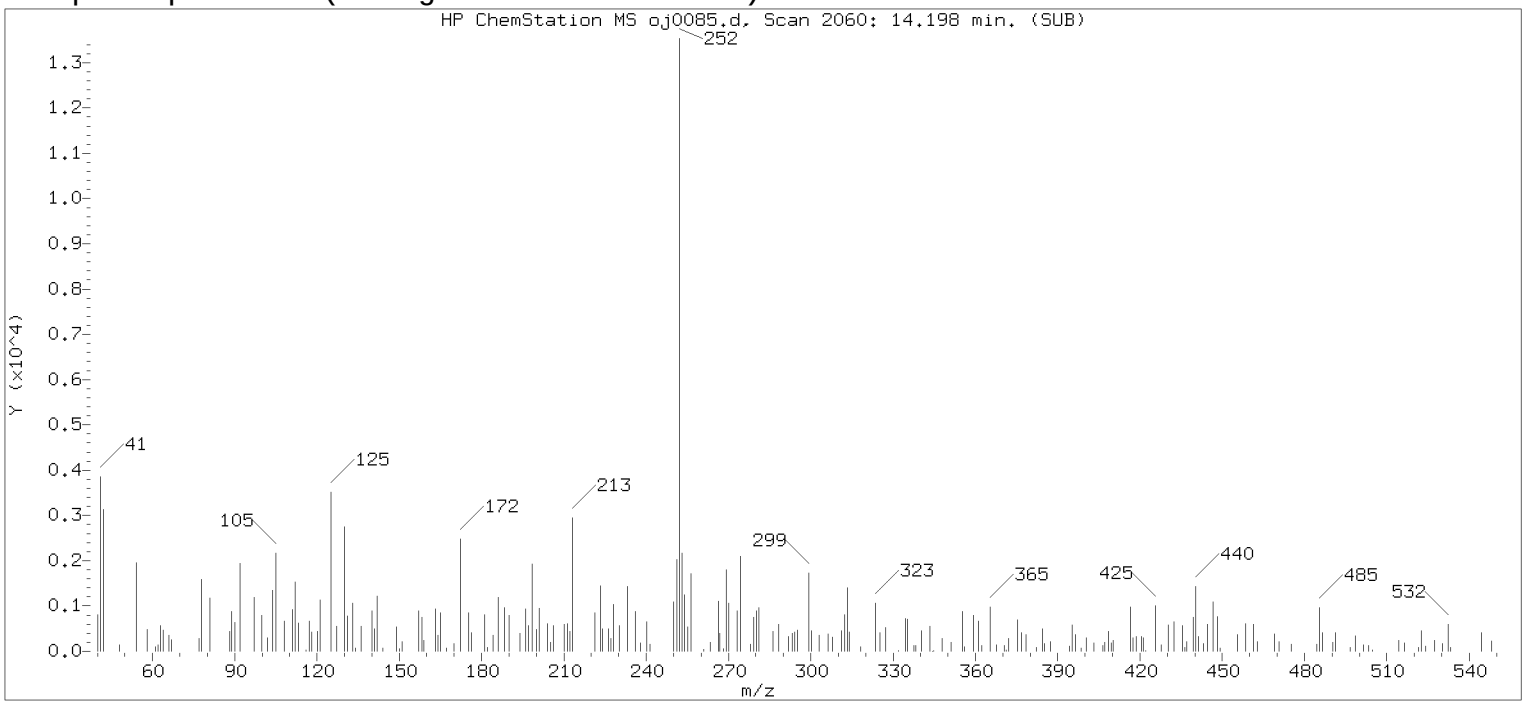
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2065
Retention Time (minutes) : 14.227
Quant Ion : 252.00
Area (flag) : 7971M
On-column Amount (ng/ul) : 0.2256
Integration start scan : 2063 Integration stop scan: 2069
Y at integration start : 1511 Y at integration end: 1511

Reason for manual integration: improper integration

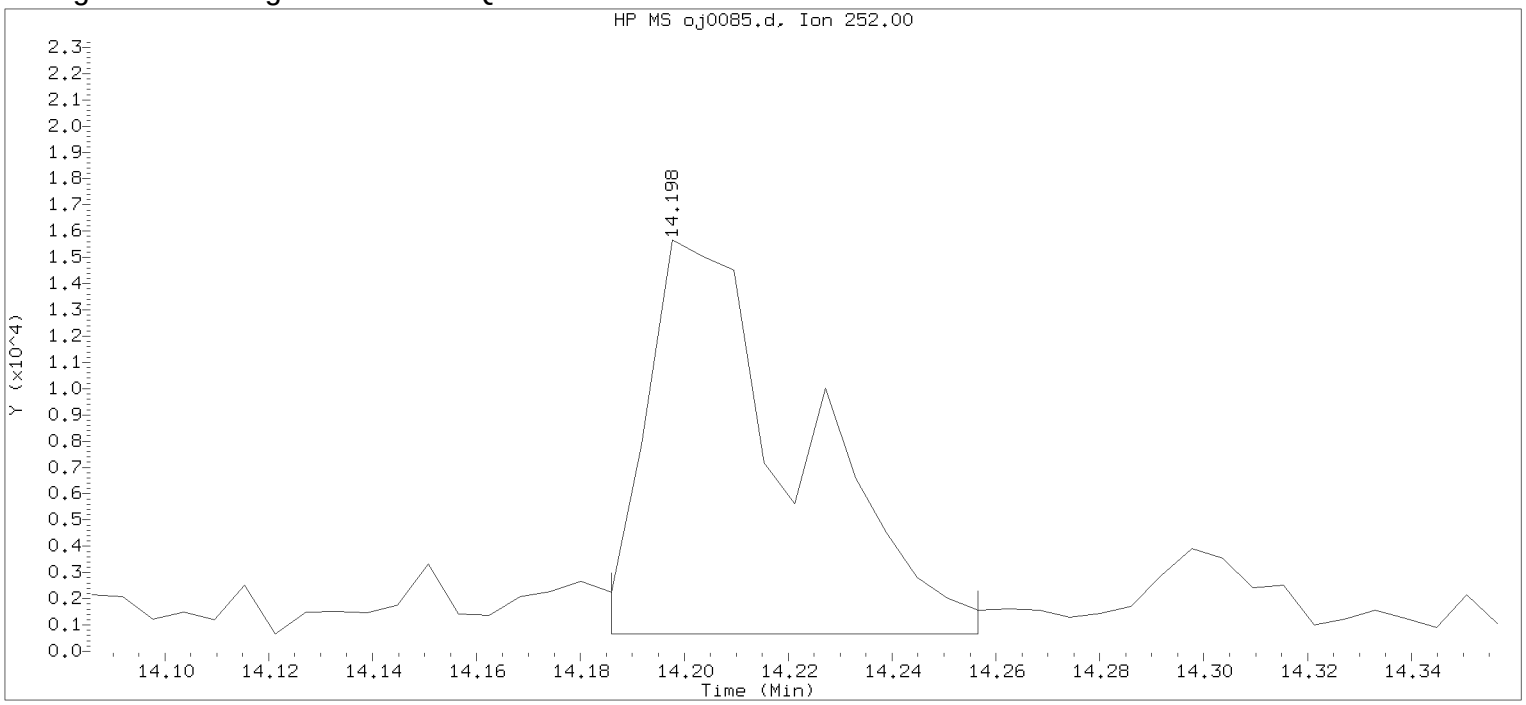
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

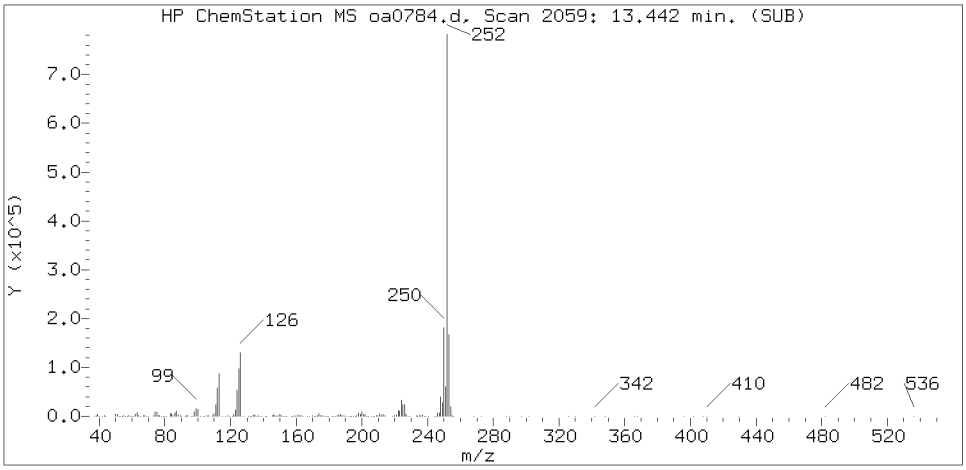
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:23 Automation

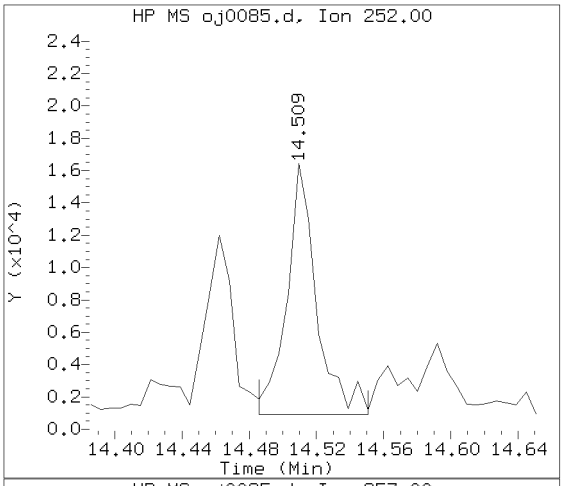
Sample Name: 49613 Lab Sample ID: 8064459

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2060		
Retention Time (minutes)	: 14.198		
Quant Ion	: 252.00		
Area	: 30333		
On-column Amount (ng/ul)	: 0.8583		
Integration start scan	: 2057	Integration stop scan:	2069
Y at integration start	: 653	Y at integration end:	653

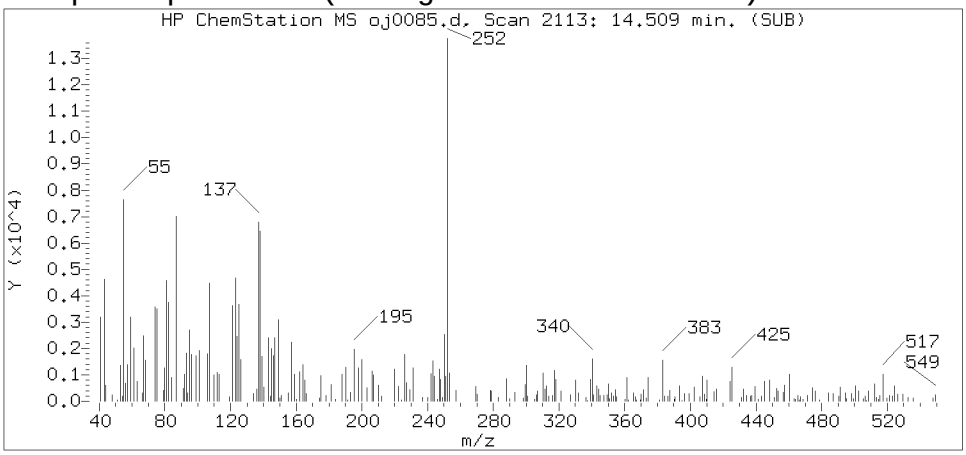
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247

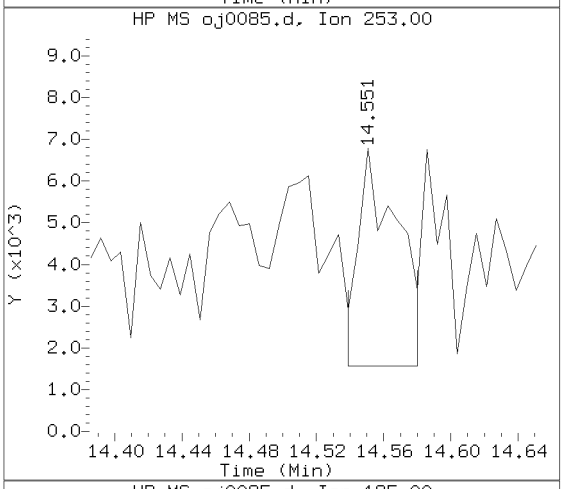
Reference Standard Spectrum for Benzo(a)pyrene



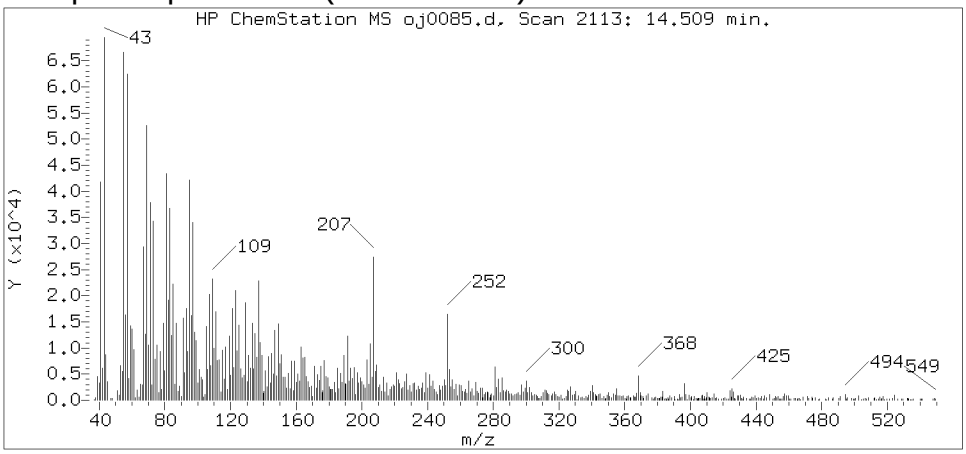


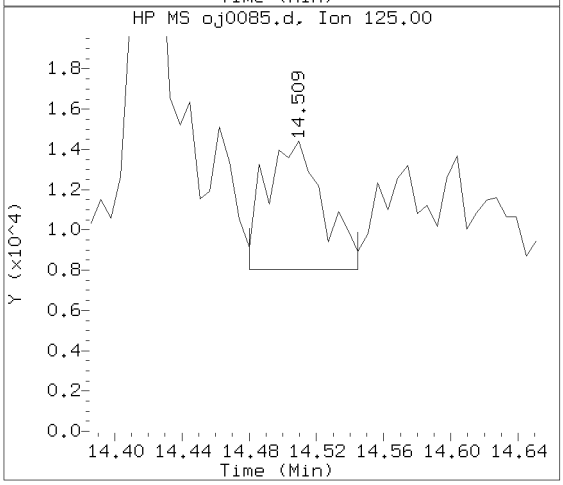
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

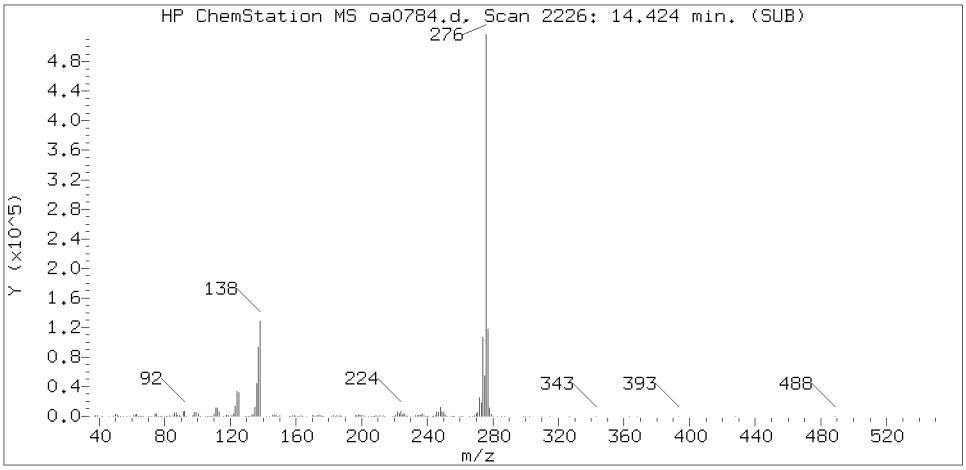
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

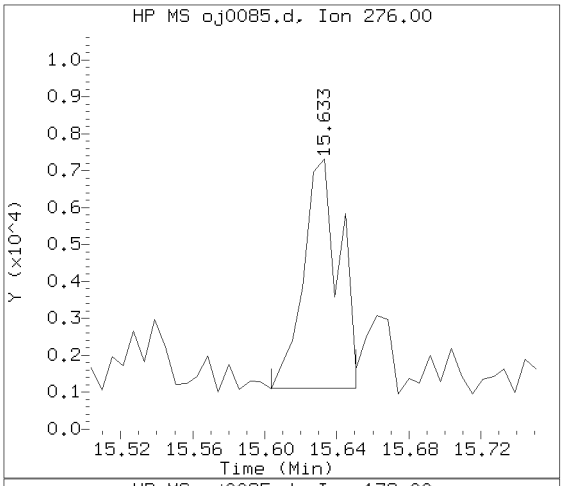
Sample Name: 49613 Lab Sample ID: 8064459

Compound Number	: 211
Compound Name	: Benzo(a)pyrene
Scan Number	: 2113
Retention Time (minutes)	: 14.509
Relative Retention Time	: 0.00040
Quant Ion	: 252.00
Area (flag)	: 18979
On-column Amount (ng/ul)	: 0.5548

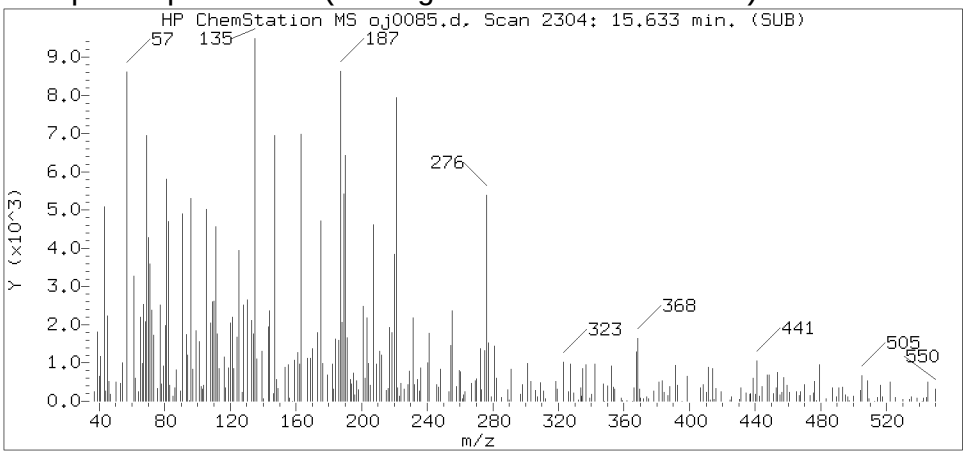
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247

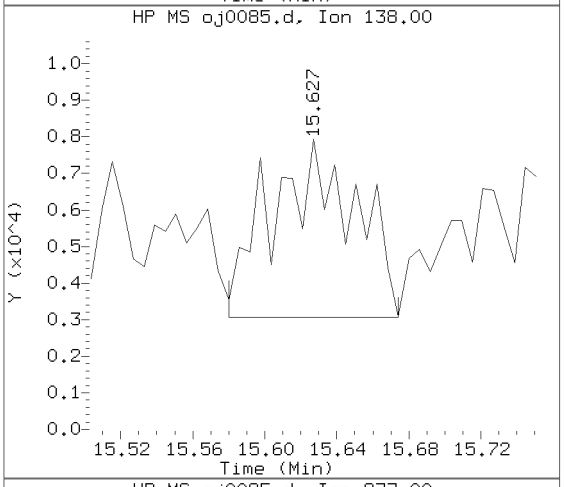
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



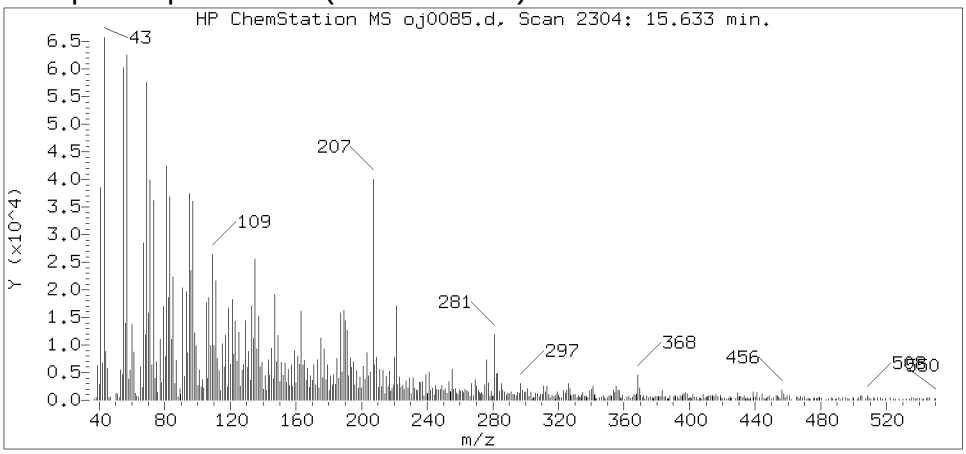


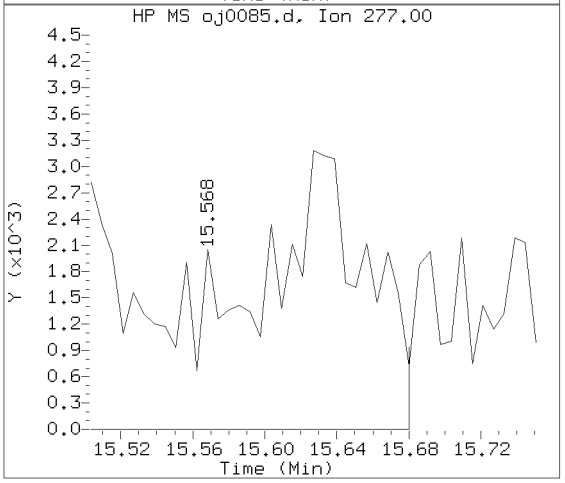
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

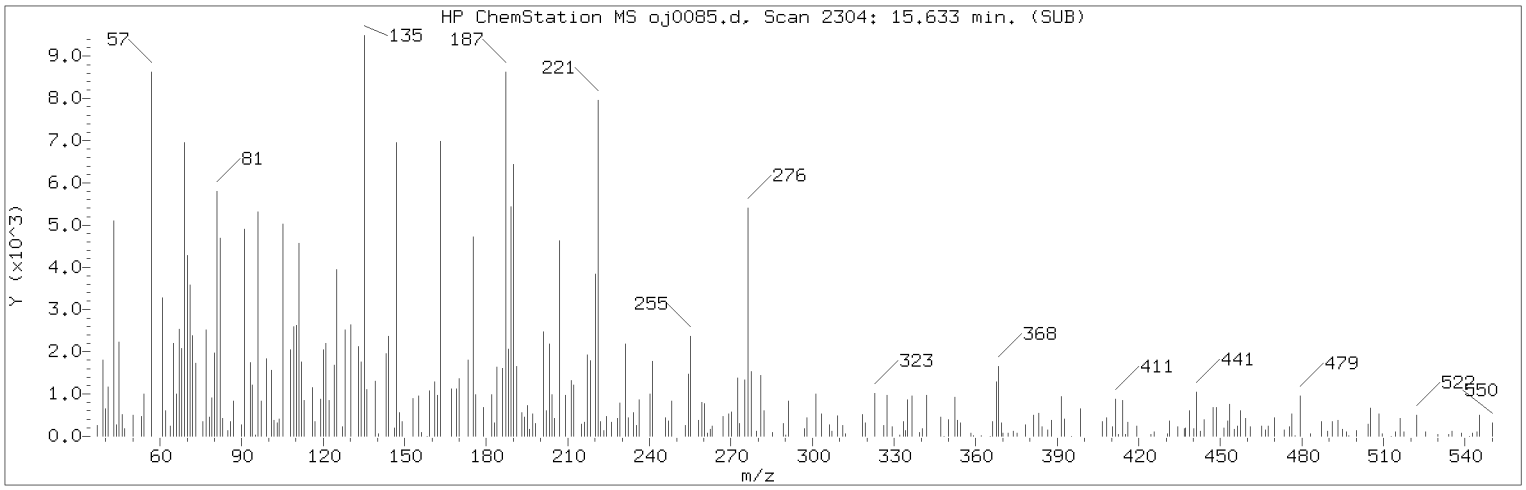
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

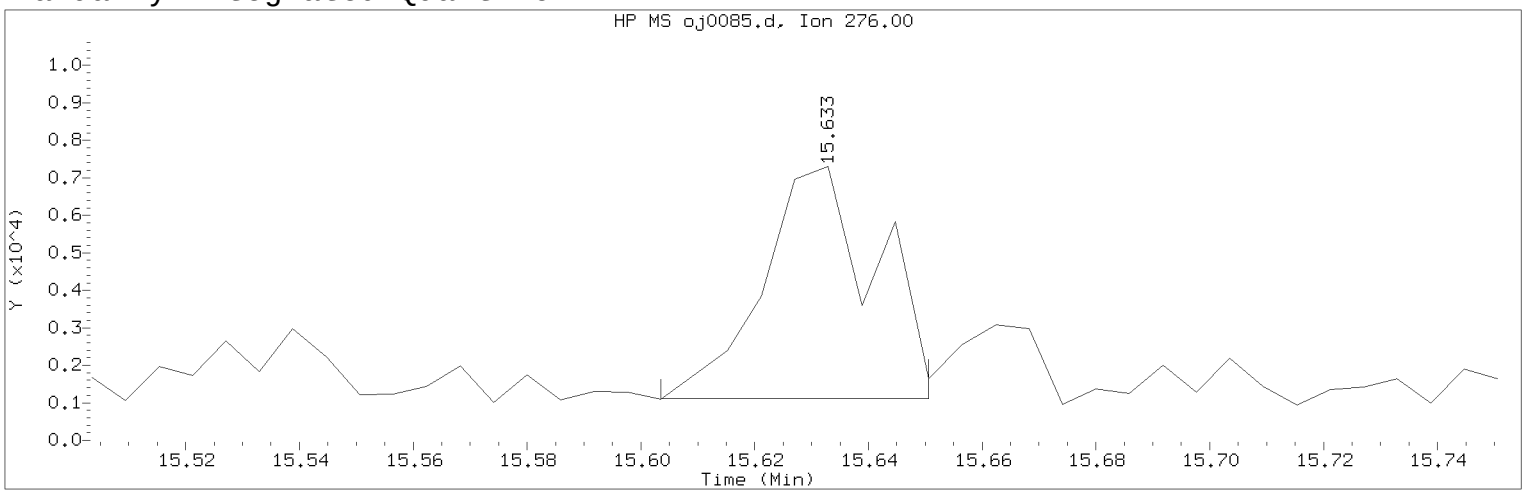
Compound Number	: 219
Compound Name	: Indeno(1,2,3-cd)pyrene
Scan Number	: 2304
Retention Time (minutes)	: 15.633
Relative Retention Time	: 0.00046
Quant Ion	: 276.00
Area (flag)	: 8613M
On-column Amount (ng/ul)	: 0.2418

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

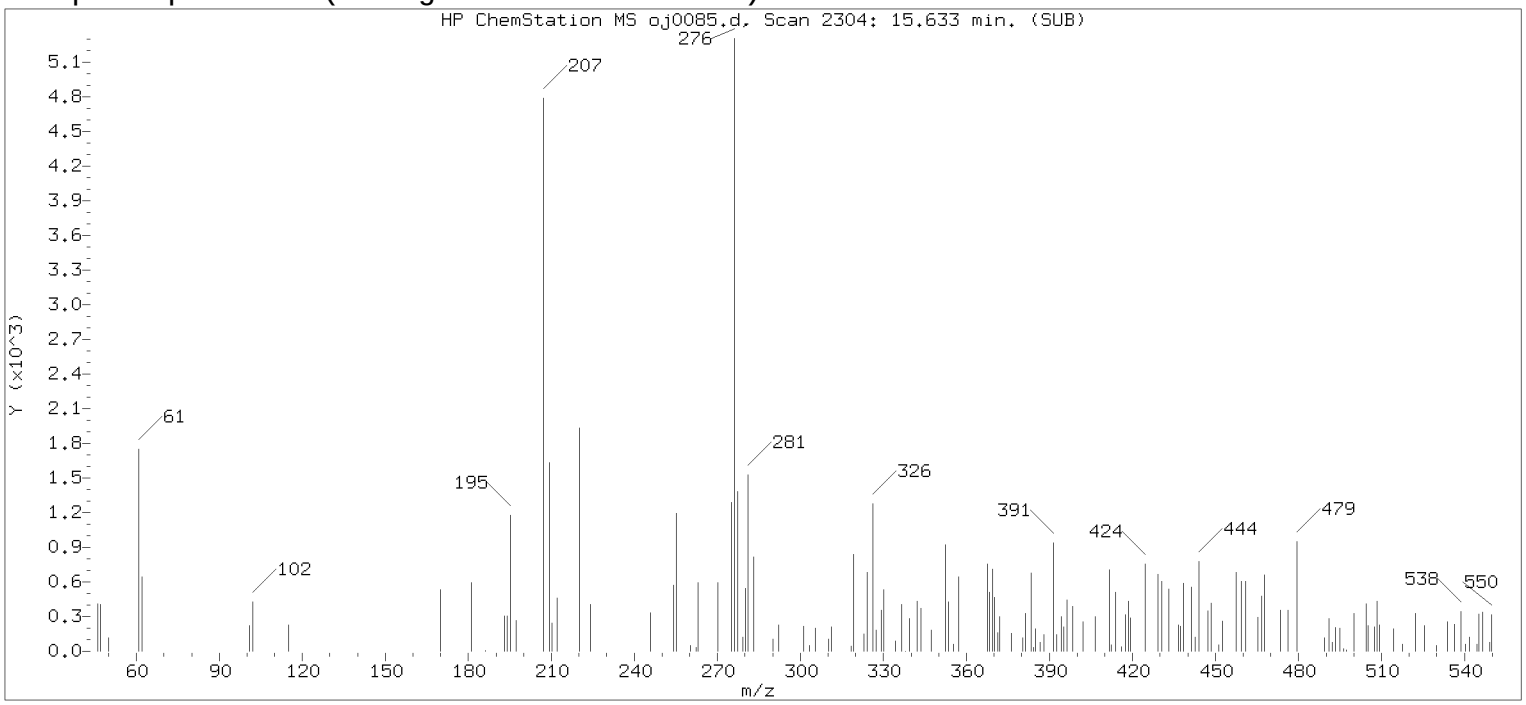
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2304
Retention Time (minutes) : 15.633
Quant Ion : 276.00
Area (flag) : 8613M
On-column Amount (ng/ul) : 0.2418
Integration start scan : 2298 Integration stop scan: 2306
Y at integration start : 1113 Y at integration end: 1113

Reason for manual integration: improper integration

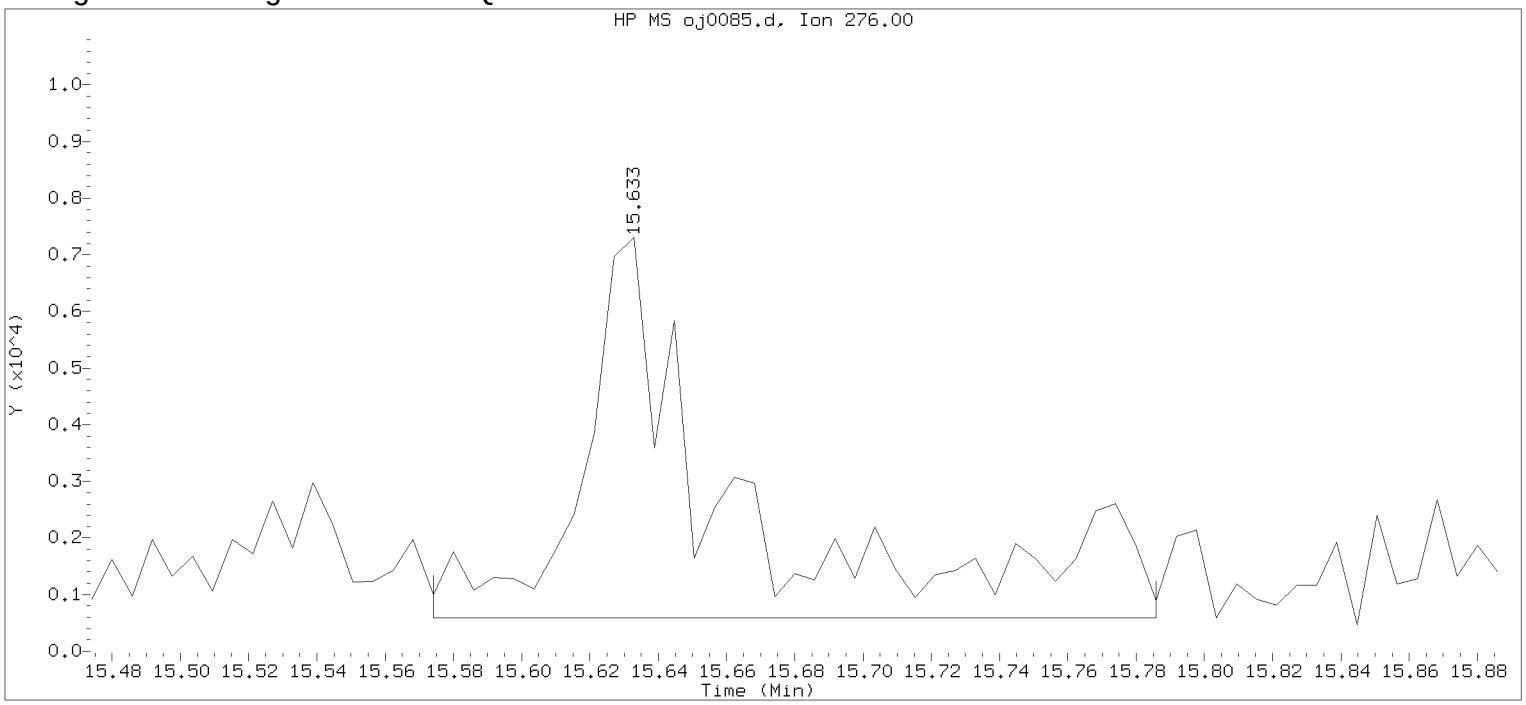
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

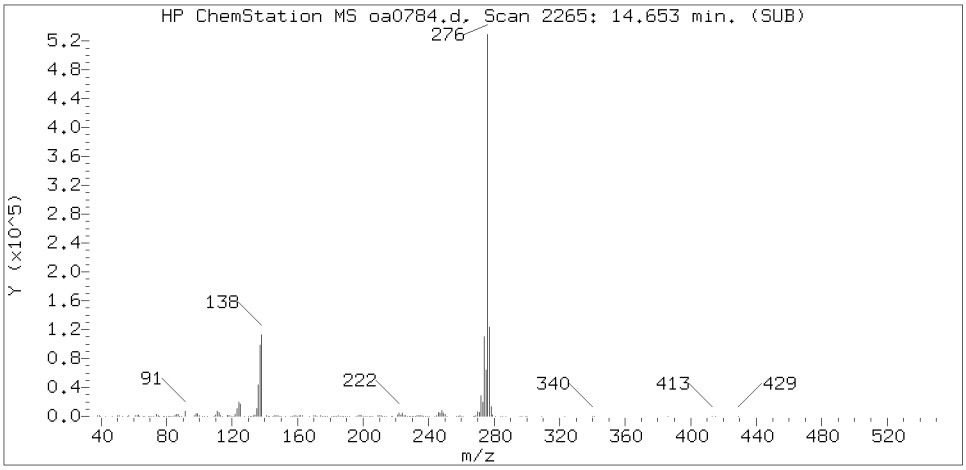
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:23 Automation

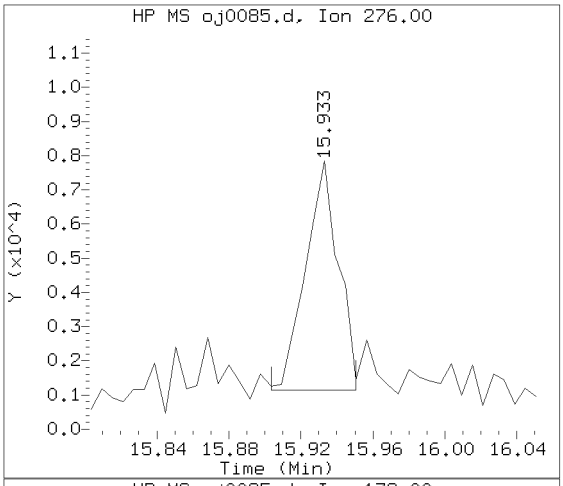
Sample Name: 49613 Lab Sample ID: 8064459

Compound Number	: 219		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 2304		
Retention Time (minutes)	: 15.633		
Quant Ion	: 276.00		
Area	: 20645		
On-column Amount (ng/ul)	: 0.5795		
Integration start scan	: 2293	Integration stop scan:	2329
Y at integration start	: 586	Y at integration end:	586

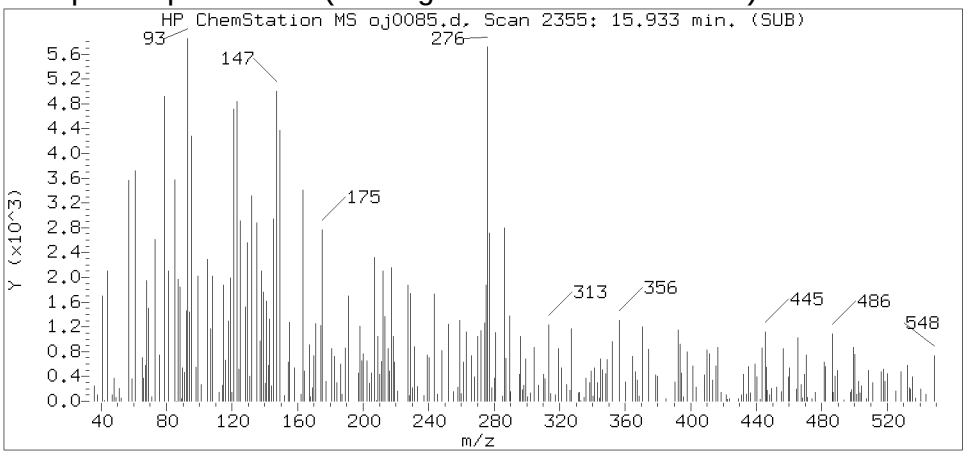
Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: 27 date: 05427

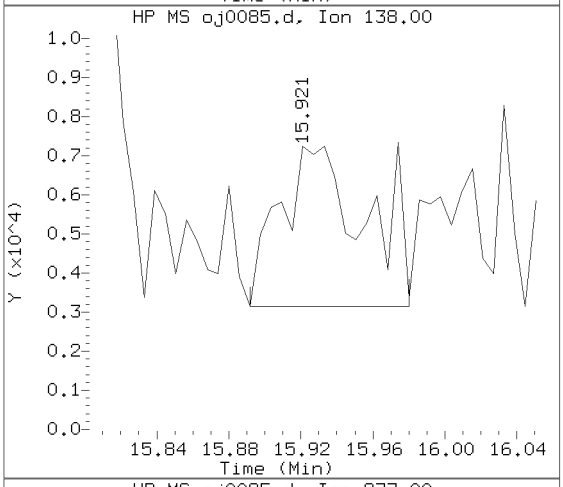
Reference Standard Spectrum for Benzo(g,h,i)perylene



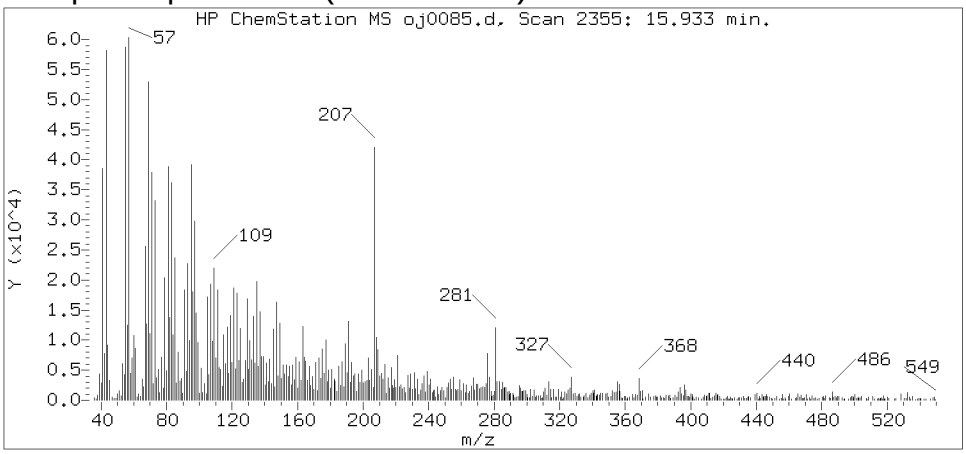


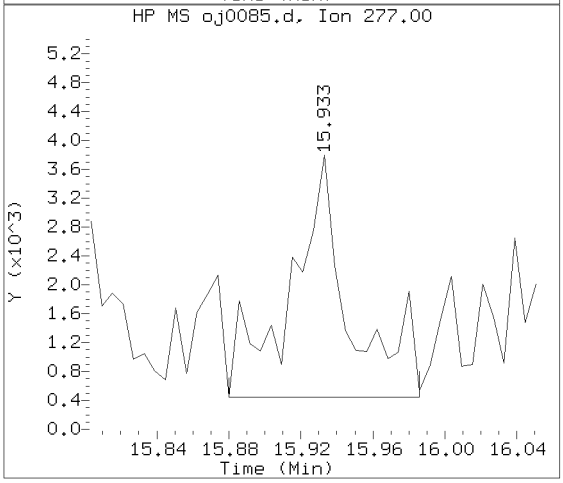
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

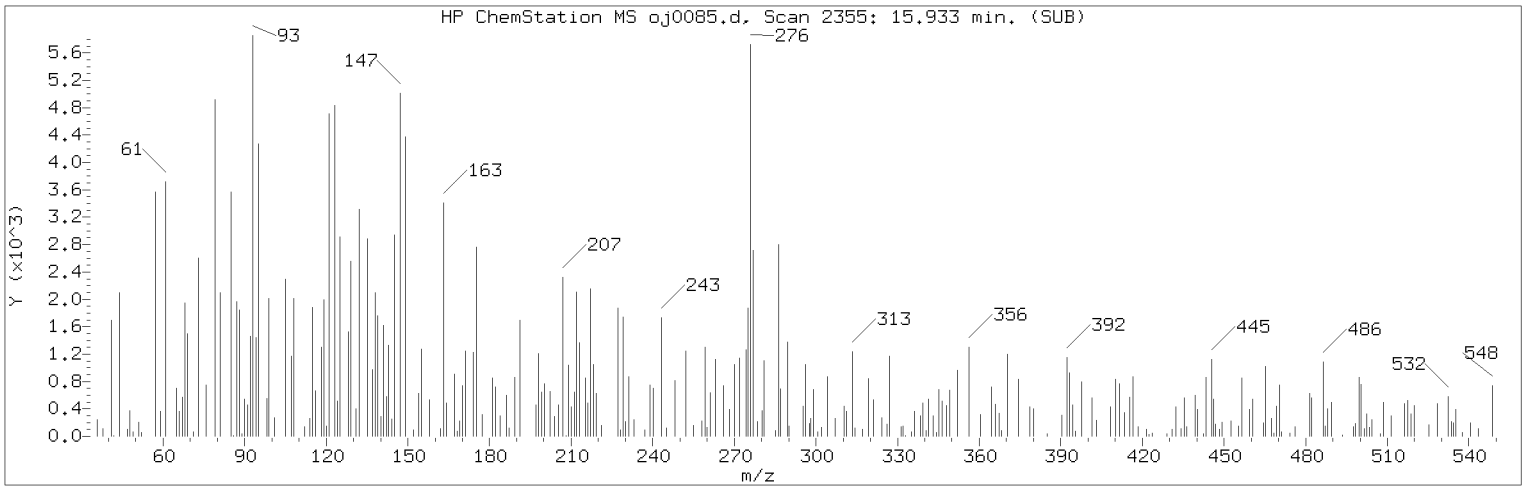
Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

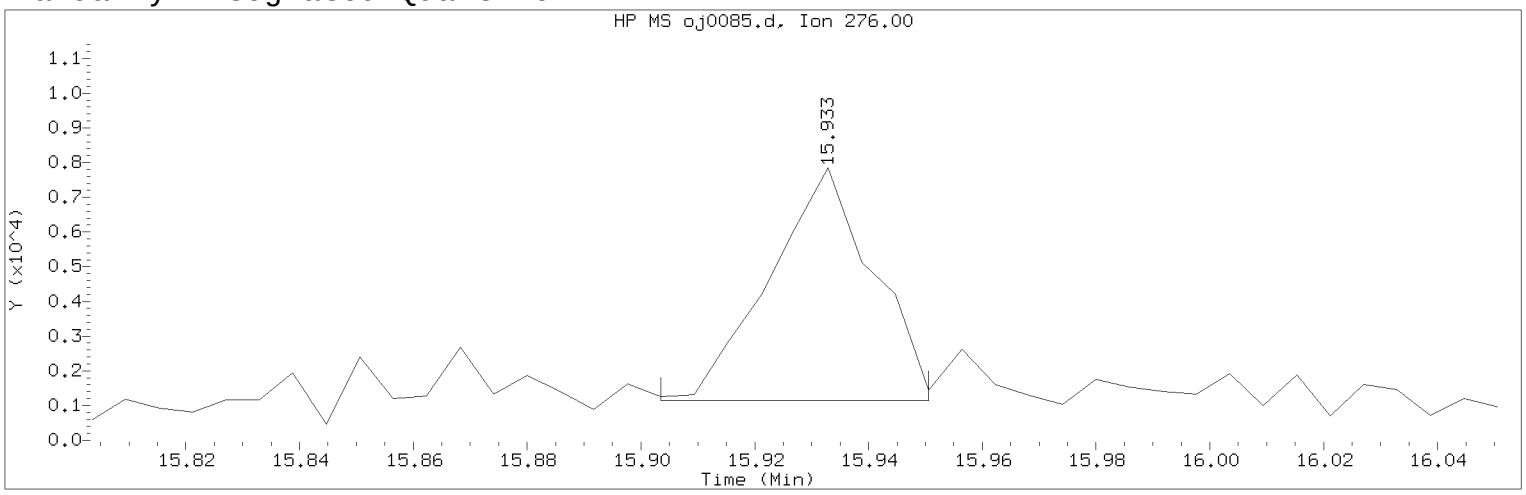
Compound Number	: 221
Compound Name	: Benzo(g,h,i)perylene
Scan Number	: 2355
Retention Time (minutes)	: 15.933
Relative Retention Time	: 0.00048
Quant Ion	: 276.00
Area (flag)	: 8443M
On-column Amount (ng/ul)	: 0.2886

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:42 ceb05247

Sample Name: 49613 Lab Sample ID: 8064459

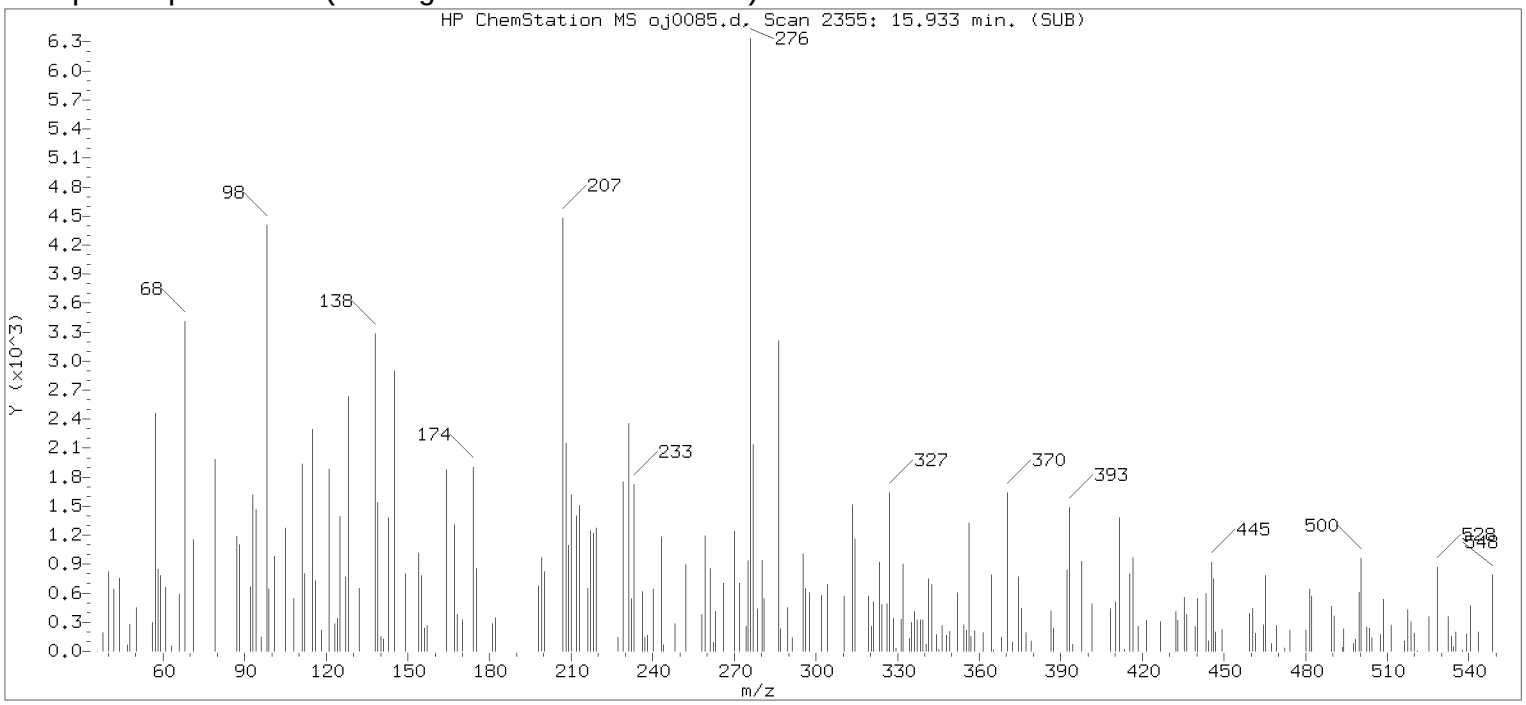
Compound Number : 221
Compound Name : Benzo(g,h,i)perylene
Scan Number : 2355
Retention Time (minutes) : 15.933
Quant Ion : 276.00
Area (flag) : 8443M
On-column Amount (ng/ul) : 0.2886
Integration start scan : 2349 Integration stop scan: 2357
Y at integration start : 1149 Y at integration end: 1149

Reason for manual integration: improper integration

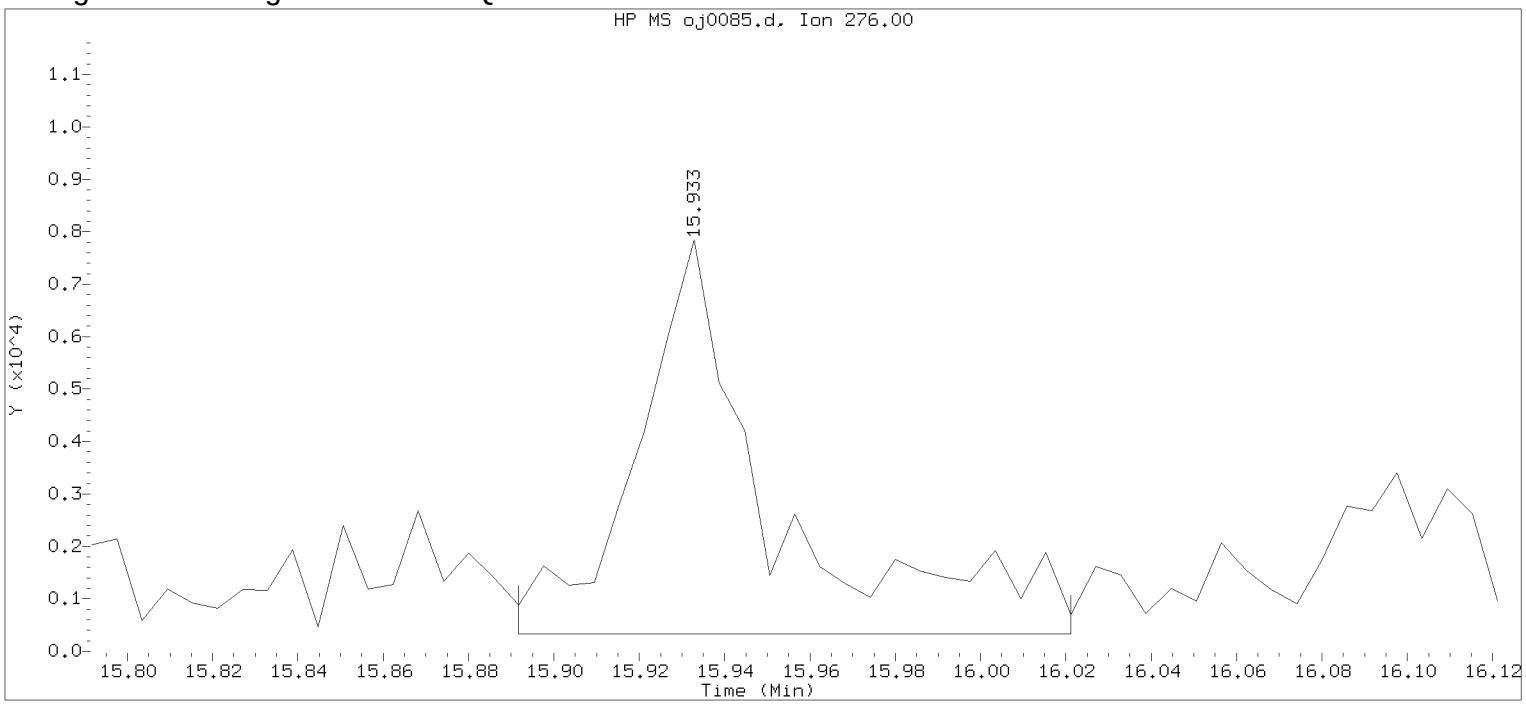
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:04.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct02.b/oj0085.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 16:21
Date, time and analyst ID of latest file update: 02-Oct-2015 16:23 Automation

Sample Name: 49613 Lab Sample ID: 8064459

Compound Number	: 221		
Compound Name	: Benzo(g,h,i)perylene		
Scan Number	: 2355		
Retention Time (minutes)	: 15.933		
Quant Ion	: 276.00		
Area	: 16529		
On-column Amount (ng/ul)	: 0.5649		
Integration start scan	: 2347	Integration stop scan:	2369
Y at integration start	: 329	Y at integration end:	329

Digitally signed by Catherine E. Bachman on 10/02/2015 at 16:44.
Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18444.i/15sep30.b/bi1406.d
Data file Sample Info. Line: 165FB;8064460;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 30-Sep-2015 13:03 lmh00956

Injection date and time: **30-SEP-2015 11:49**
Instrument ID: **HP18444.i** Batch: **15271WAD**

Blank Data file reference: **/chem/HP18444.i/15sep30.b/bi1403.d**

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 30-SEP-2015 13:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18444.i/15sep30.b/bi1401a.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo * Vi)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 1056 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	5.473(0.000)	581	152	99887 (-10)	20.00	
65) Naphthalene-d8	6.703(0.000)	792	136	409948 (-16)	20.00	
113) Acenaphthene-d10	8.411(0.000)	1085	164	255771 (-19)	20.00	
153) Phenanthrene-d10	9.856(0.000)	1333	188	548636 (-17)	20.00	
175) Pyrene-d10	11.238(0.000)	1570	212	599598 (-22)	20.00	
213) Perylene-d12	13.867(0.000)	2021	264	476158 (-21)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.010(0.000)	82	856350	85.981	86%		46 - 148
93) 2-Fluorobiphenyl	(3)	7.770(0.000)	172	1567205	90.202	90%		61 - 112
179) Terphenyl-d14	(5)	11.436(-0.001)	244	2383201	109.042	109%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)			Not Detected					0.1
157) Anthracene	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.1
177) Pyrene	(5)			Not Detected					0.1
195) Benzo(a)anthracene	(5)			Not Detected					0.1
196) Chrysene	(5)			Not Detected					0.1
206) Benzo(b)fluoranthene	(6)			Not Detected					0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.1
211) Benzo(a)pyrene	(6)			Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.1

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18444.i/15sep30.b/bi1406.d Injection date and time: **30-SEP-2015 11:49**
Data file Sample Info. Line: 165FB;8064460;1;0;SAMPLE;;; Instrument ID: **HP18444.i** Batch: **15271WAD**
Date, time and analyst ID of latest file update: 30-Sep-2015 13:03 lmh00956

Blank Data file reference: **/chem/HP18444.i/15sep30.b/bi1403.d**

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 30-SEP-2015 13:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18444.i/15sep30.b/bi1401a.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo * Vi)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 1056 ml Volume Injected (Vi): 1 ul

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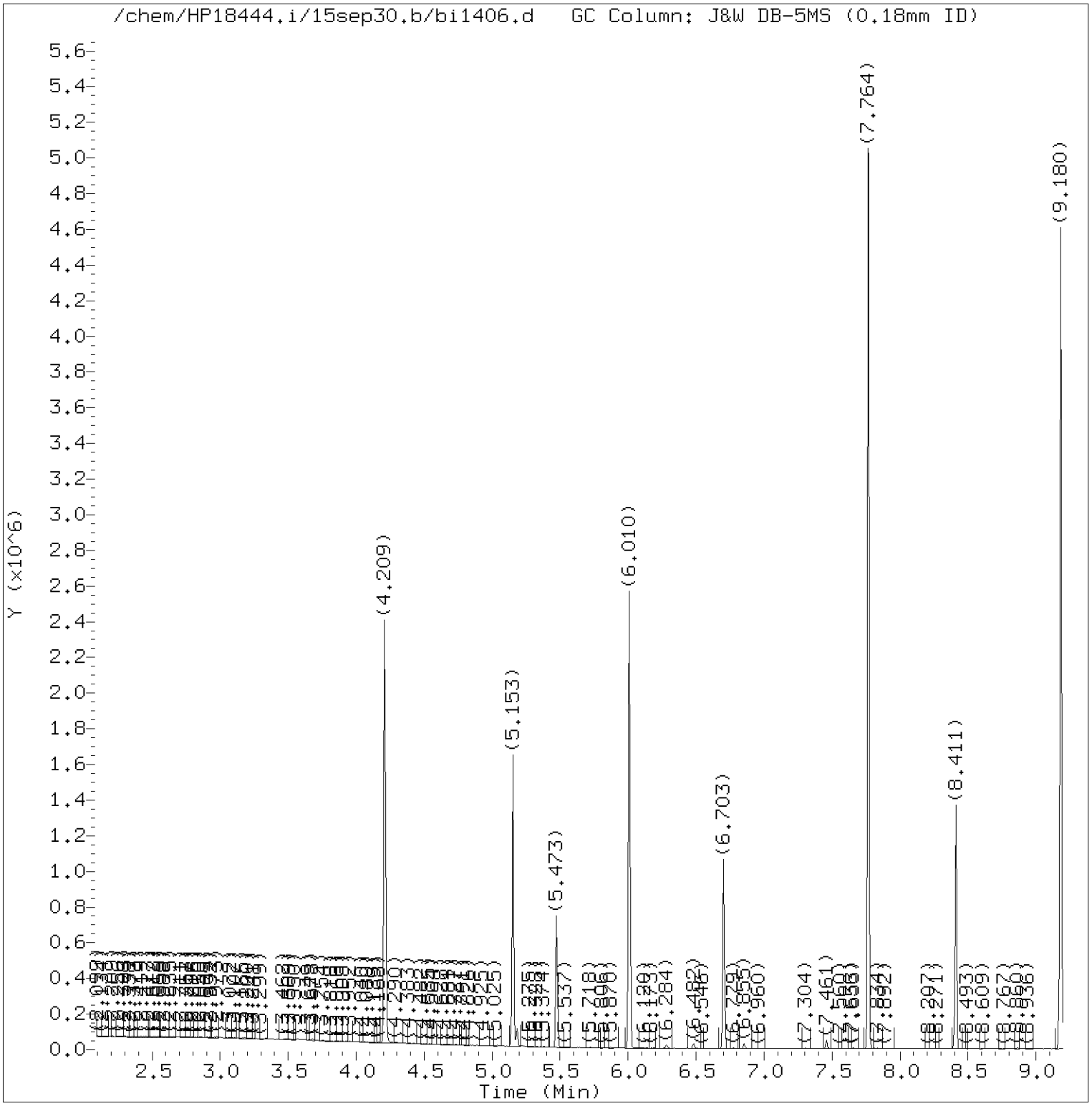
Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 09/30/2015 at 13:07. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Beth A. Rubino on 10/04/2015 at 21:17. Parallax ID: bar06484



Total Ion Chromatogram (TIC)

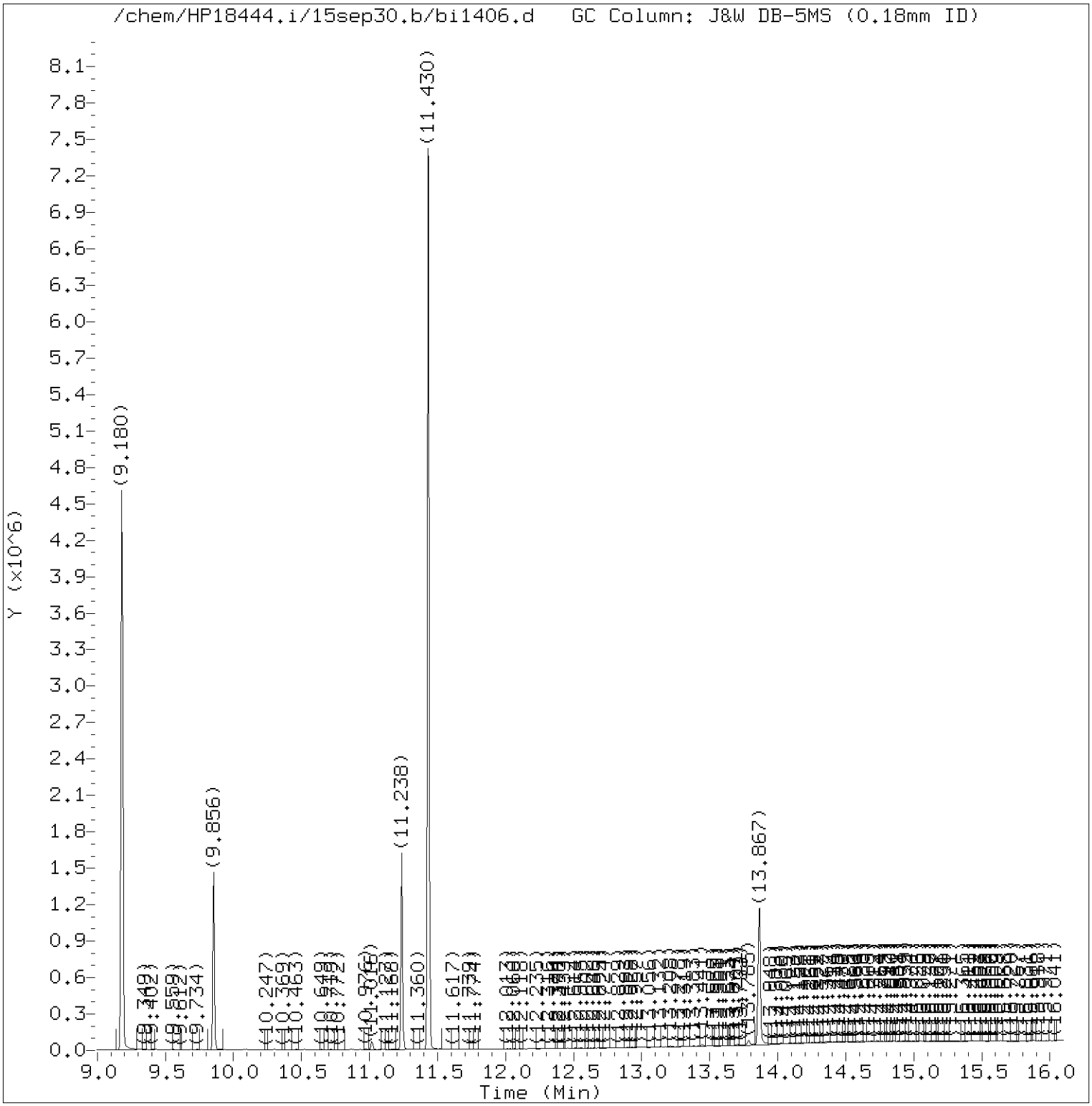
Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1406.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 11:49 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:03 lmh00956

Sample Name: 165FB Lab Sample ID: 8064460

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:07.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1406.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 11:49 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:03 lmh00956

Sample Name: 165FB Lab Sample ID: 8064460

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:07.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1406.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 11:49 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:03 lmh00956

Sample Name: 165FB Lab Sample ID: 8064460

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	5.473	152	99887	20.000
44)$Nitrobenzene-d5	(2)	6.010	82	856350	85.981
65)*Naphthalene-d8	(2)	6.703	136	409948	20.000
93)$2-Fluorobiphenyl	(3)	7.770	172	1567205	90.202
113)*Acenaphthene-d10	(3)	8.411	164	255771	20.000
153)*Phenanthrene-d10	(4)	9.856	188	548636	20.000
175)*Pyrene-d10	(5)	11.238	212	599598	20.000
179)$Terphenyl-d14	(5)	11.436	244	2383201	109.042
213)*Perylene-d12	(6)	13.867	264	476158	20.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:07.
Target 3.5 esignature user ID: lmh00956

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles 8064461

Data file: /chem/HP09910.i/15oct04a.b/oj0235.d
Injection date and time: **05-OCT-2015 08:58**
Data file Sample Info. Line: -479-;8064461;2;0;SAMPLE;;;
Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 04-OCT-2015 23:35
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct04a.b/oj0211.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.36 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	5.904(-0.012)	701	152	121113 (3)	20.00	
65) Naphthalene-d8	7.181(-0.006)	918	136	592244 (3)	20.00	
113) Acenaphthene-d10	8.904(-0.006)	1211	164	365908 (-2)	20.00	
153) Phenanthrene-d10	10.351(-0.006)	1457	188	653351 (-5)	20.00	
175) Pyrene-d10	11.733(-0.012)	1692	212	690726 (-10)	20.00	
213) Perylene-d12	14.339(-0.024)	2135	264	484535 (-16)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.475(0.000)	82	1120651	81.313	81%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.269(-0.001)	172	2219647	95.568	96%		63 - 117
179) Terphenyl-d14	(5)	11.939(0.000)	244	2362398	92.935	93%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	7.204(0.000)	128	12446M	0.381	12.56			0.1
83) 2-Methylnaphthalene	(2)	7.892(0.000)	142	4698M	0.204	6.73			0.1
109) Acenaphthylene	(3)	8.763(-0.000)	152	32096	0.988	32.54			0.1
114) Acenaphthene	(3)	8.939(-0.000)	153	8087	0.360	11.85			0.1
126) Fluorene	(3)	9.445(-0.000)	166	15917M	0.616	20.29			0.1
155) Phenanthrene	(4)	10.375(0.000)	178	194265	5.120	168.64			0.1
157) Anthracene	(4)	10.428(-0.000)	178	75753	2.020	66.54			0.1
173) Fluoranthene	(4)	11.533(-0.000)	202	353847	8.581	282.63			0.1
177) Pyrene	(5)	11.751(0.000)	202	337983	8.202	270.16			0.1
195) Benzo(a)anthracene	(5)	12.927(-0.000)	228	149629	4.166	137.21			0.1
196) Chrysene	(5)	12.957(0.000)	228	205342	6.000	197.62			0.1
206) Benzo(b)fluoranthene	(6)	13.980(0.000)	252	229666M	7.553	248.78			0.1
208) Benzo(k)fluoranthene	(6)	14.004(0.000)	252	75942M	2.448	80.62			0.1
211) Benzo(a)pyrene	(6)	14.280(0.000)	252	157586	5.247	172.83			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	15.345(-0.000)	276	101078M	3.231	106.43			0.1
220) Dibenz(a,h)anthracene	(6)	15.362(0.000)	278	19059M	0.724	23.86			0.1
221) Benzo(g,h,i)perylene	(6)	15.615(-0.000)	276	87978M	3.424	112.79			0.1

M = Compound was manually integrated.

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28. Target 3.5 esignature user ID: lmh00956

Lancaster Laboratories, Inc.

Analysis Summary for GC/MS Semivolatiles 8064461

Data file: /chem/HP09910.i/15oct04a.b/oj0235.d Injection date and time: **05-OCT-2015 08:58**
Data file Sample Info. Line: -479-;8064461;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 04-OCT-2015 23:35
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct04a.b/oj0211.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.36 g

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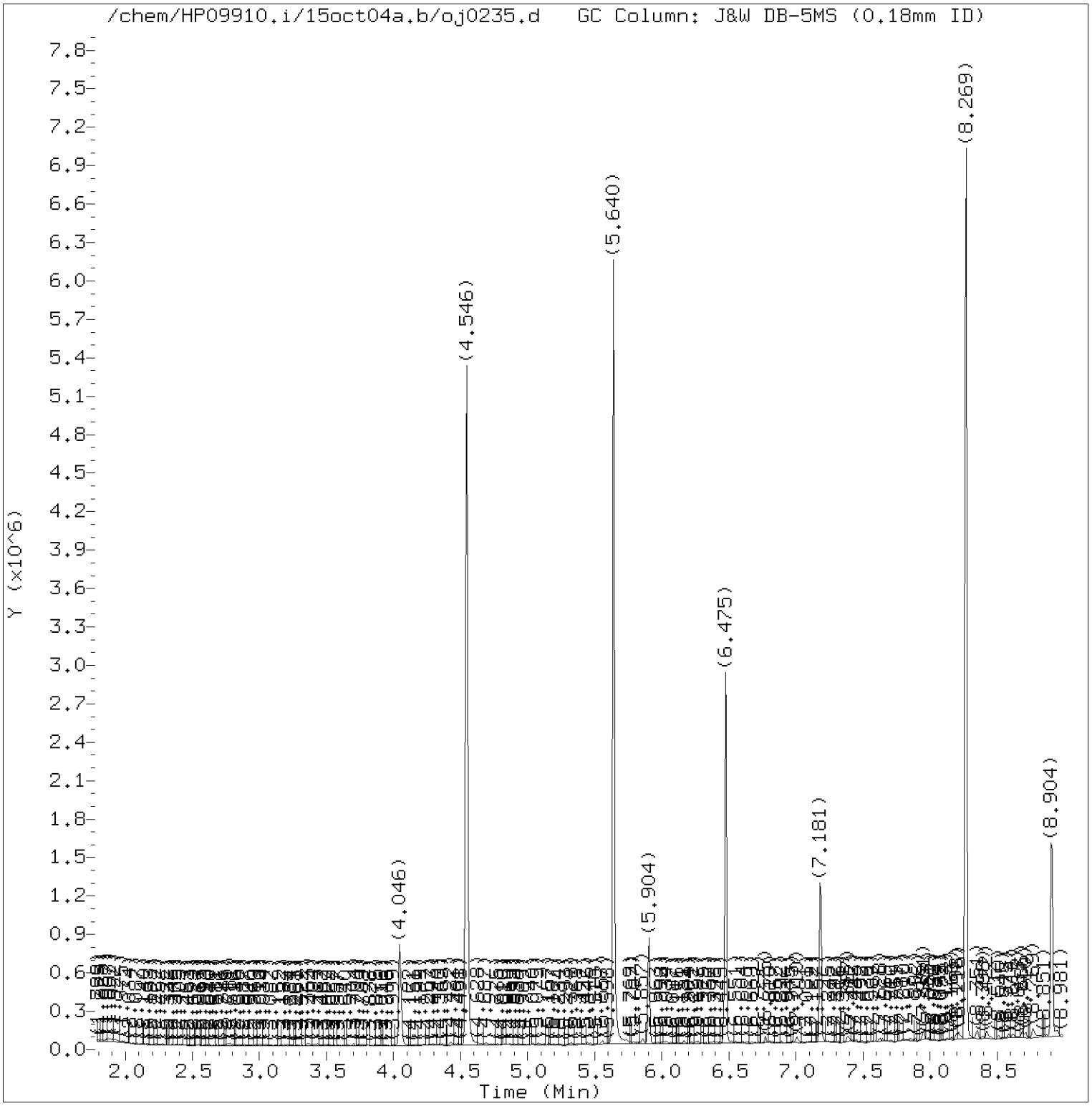
Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:05. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

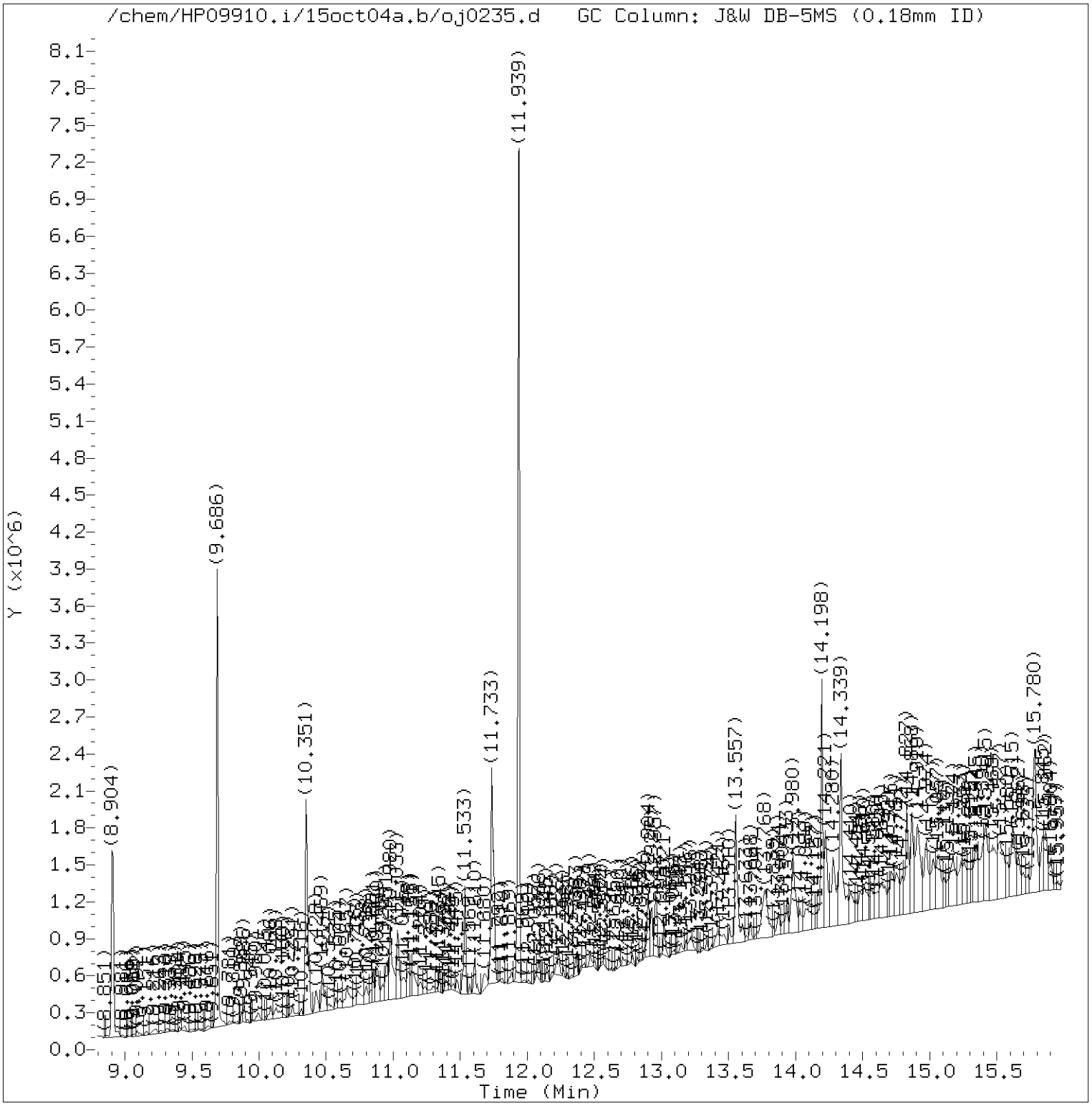
Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

Digitally signed by Linda M. Hartenstine
on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

Digitally signed by Linda M. Hartenstine
on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	5.904	152	121113	20.000
44)$Nitrobenzene-d5	(2)	6.475	82	1120651	81.313
65)*Naphthalene-d8	(2)	7.181	136	592244	20.000
66) Naphthalene	(2)	7.204	128	12446M	0.381
83) 2-Methylnaphthalene	(2)	7.892	142	4698M	0.204
93)$2-Fluorobiphenyl	(3)	8.269	172	2219647	95.568
109) Acenaphthylene	(3)	8.763	152	32096	0.988
113)*Acenaphthene-d10	(3)	8.904	164	365908	20.000
114) Acenaphthene	(3)	8.939	153	8087	0.360
126) Fluorene	(3)	9.445	166	15917M	0.616
153)*Phenanthrene-d10	(4)	10.351	188	653351	20.000
155) Phenanthrene	(4)	10.375	178	194265	5.120
157) Anthracene	(4)	10.428	178	75753	2.020
173) Fluoranthene	(4)	11.533	202	353847	8.581
175)*Pyrene-d10	(5)	11.733	212	690726	20.000
177) Pyrene	(5)	11.751	202	337983	8.202
179)$Terphenyl-d14	(5)	11.939	244	2362398	92.935
195) Benzo(a)anthracene	(5)	12.927	228	149629	4.166
196) Chrysene	(5)	12.957	228	205342	6.000
206) Benzo(b)fluoranthene	(6)	13.980	252	229666M	7.553
208) Benzo(k)fluoranthene	(6)	14.004	252	75942M	2.448
211) Benzo(a)pyrene	(6)	14.280	252	157586	5.247
213)*Perylene-d12	(6)	14.339	264	484535	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	15.345	276	101078M	3.231
220) Dibenz(a,h)anthracene	(6)	15.363	278	19059M	0.724
221) Benzo(g,h,i)perylene	(6)	15.615	276	87978M	3.424

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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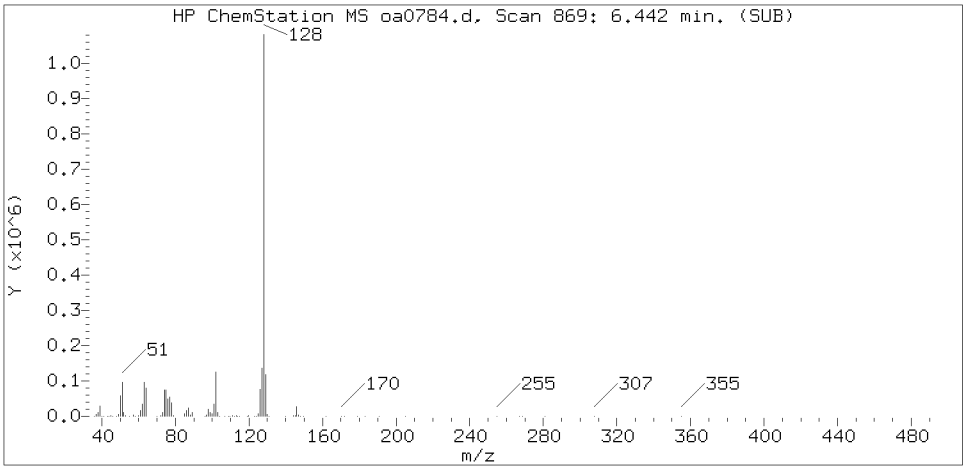
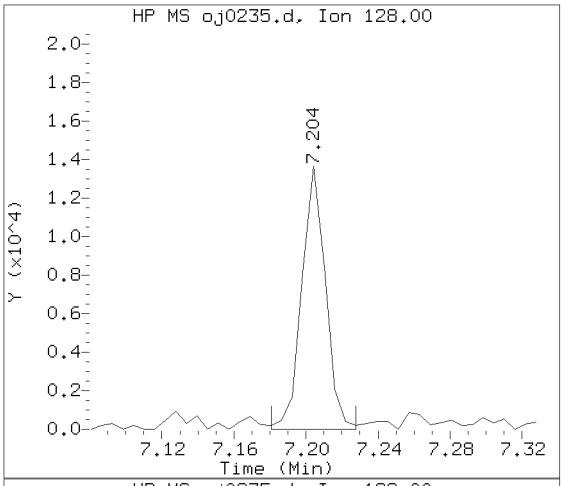
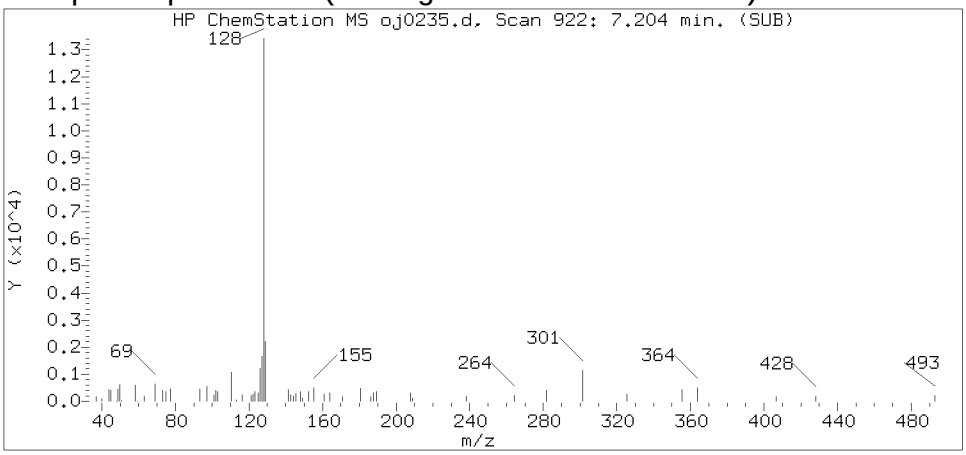
on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

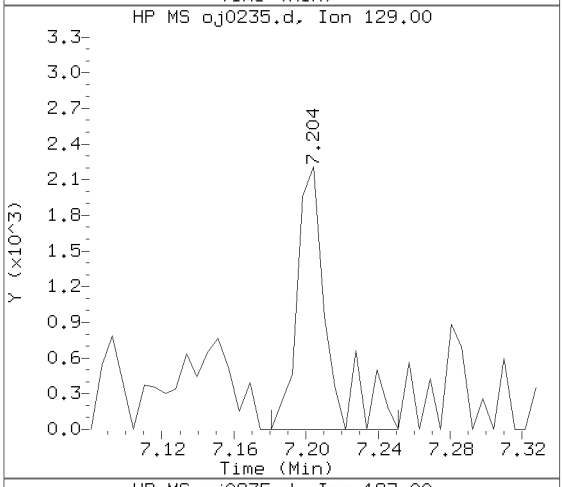
Reference Standard Spectrum for Naphthalene



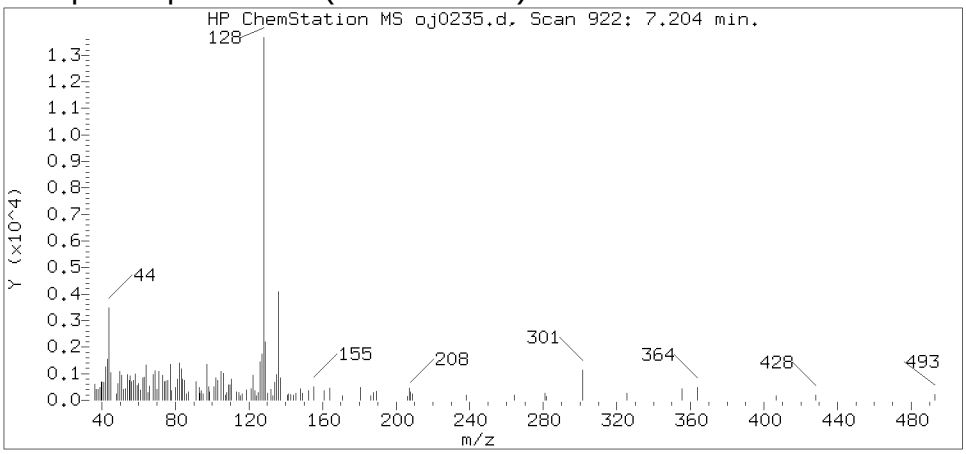


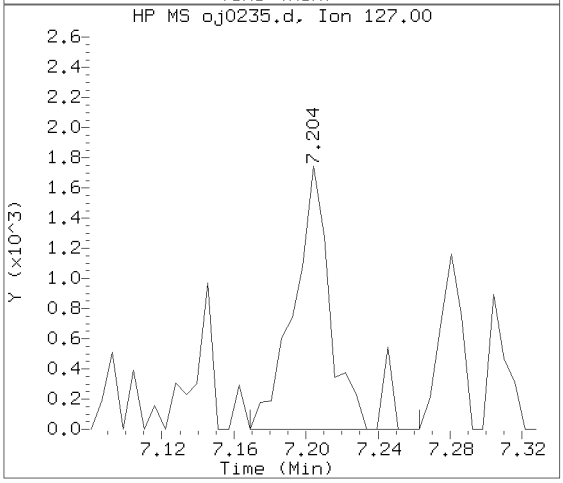
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

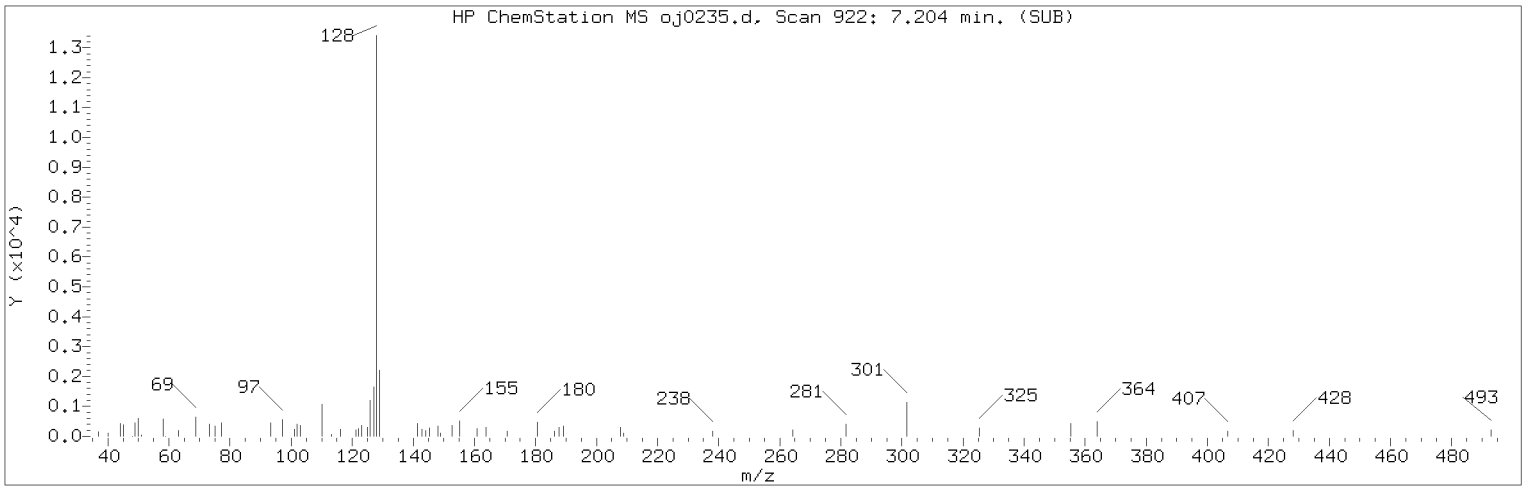
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

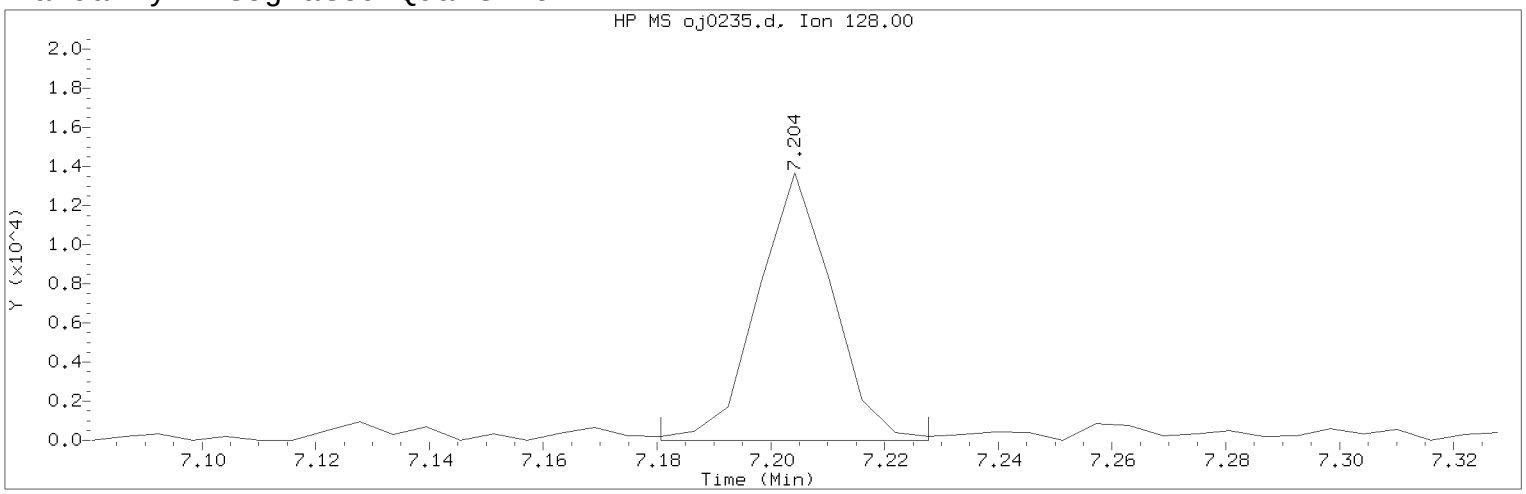
Compound Number	: 66
Compound Name	: Naphthalene
Scan Number	: 922
Retention Time (minutes)	: 7.204
Relative Retention Time	: 0.00000
Quant Ion	: 128.00
Area (flag)	: 12446M
On-column Amount (ng/ul)	: 0.3813

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

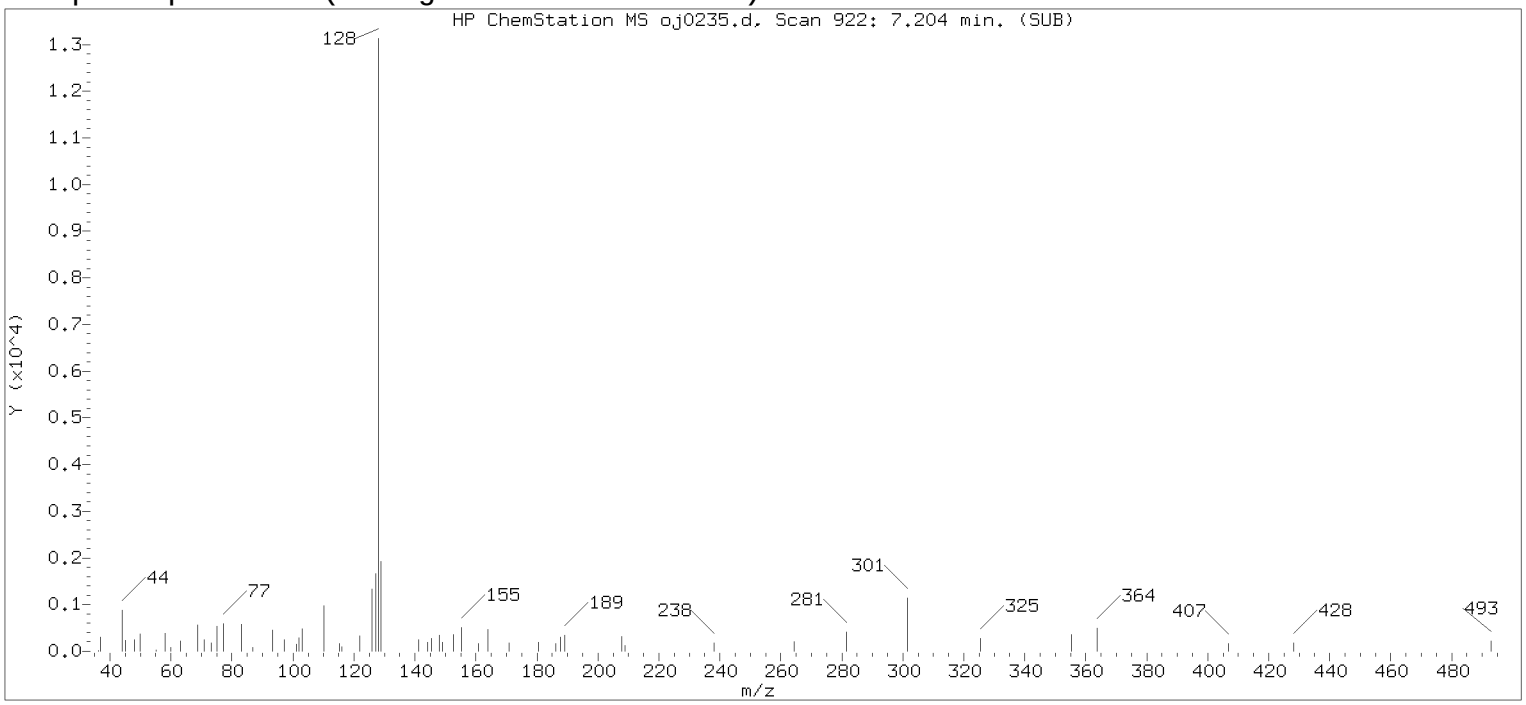
Compound Number : 66
Compound Name : Naphthalene
Scan Number : 922
Retention Time (minutes) : 7.204
Quant Ion : 128.00
Area (flag) : 12446M
On-column Amount (ng/ul) : 0.3813
Integration start scan : 917 Integration stop scan: 925
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

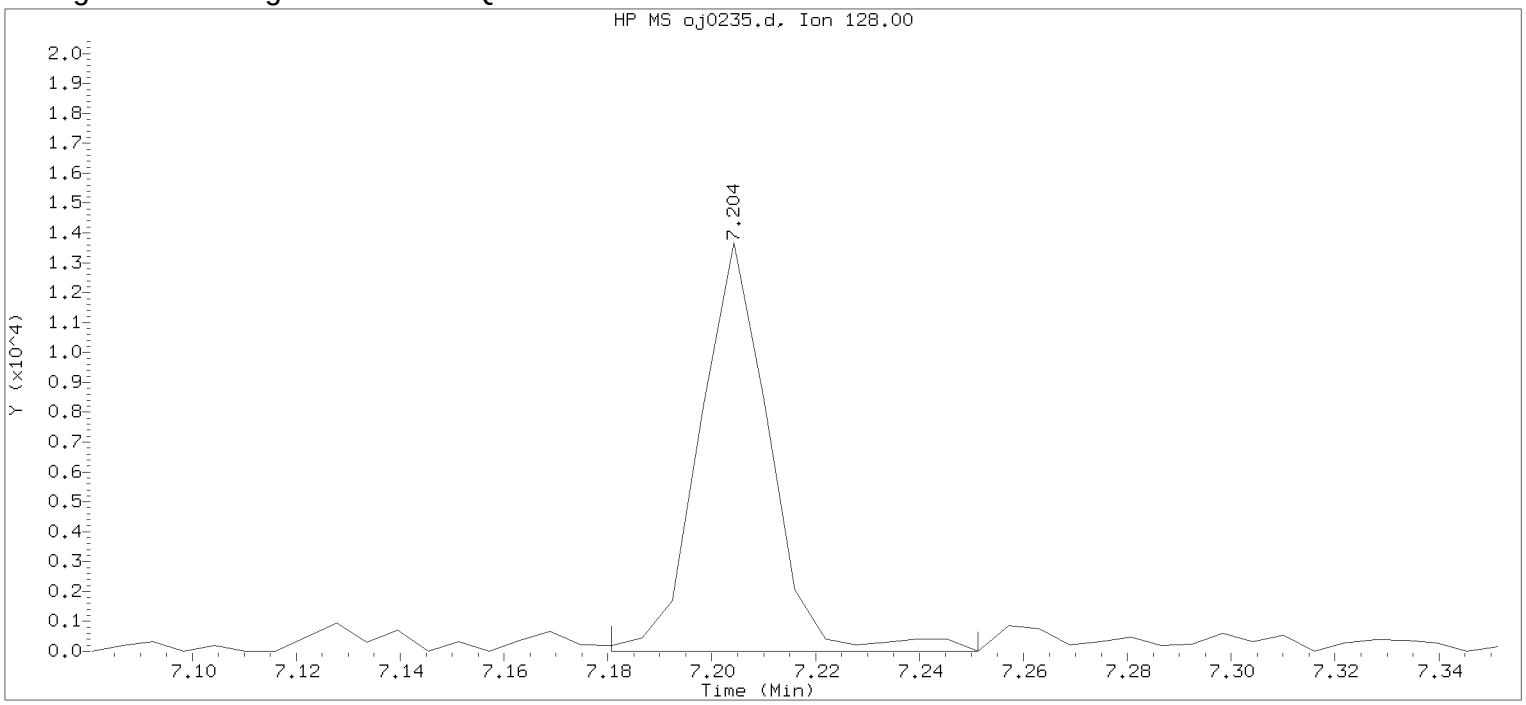
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:05.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

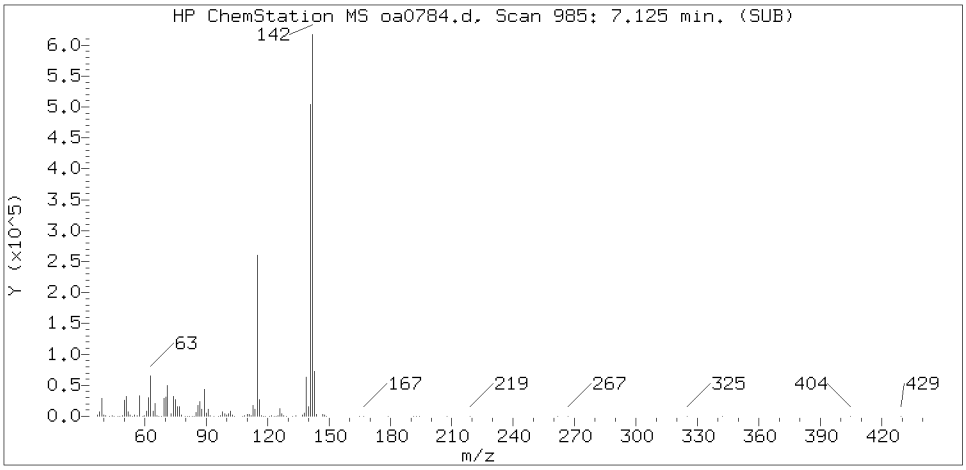
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 09:14 Automation

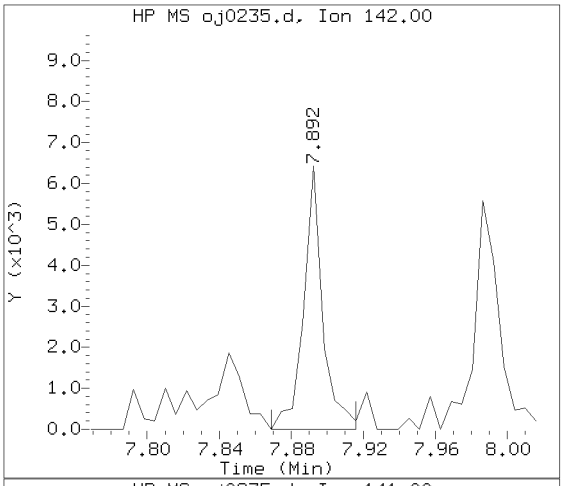
Sample Name: -479- Lab Sample ID: 8064461

Compound Number	: 66		
Compound Name	: Naphthalene		
Scan Number	: 922		
Retention Time (minutes)	: 7.204		
Quant Ion	: 128.00		
Area	: 12801		
On-column Amount (ng/ul)	: 0.3922		
Integration start scan	: 917	Integration stop scan:	929
Y at integration start	: 0	Y at integration end:	0

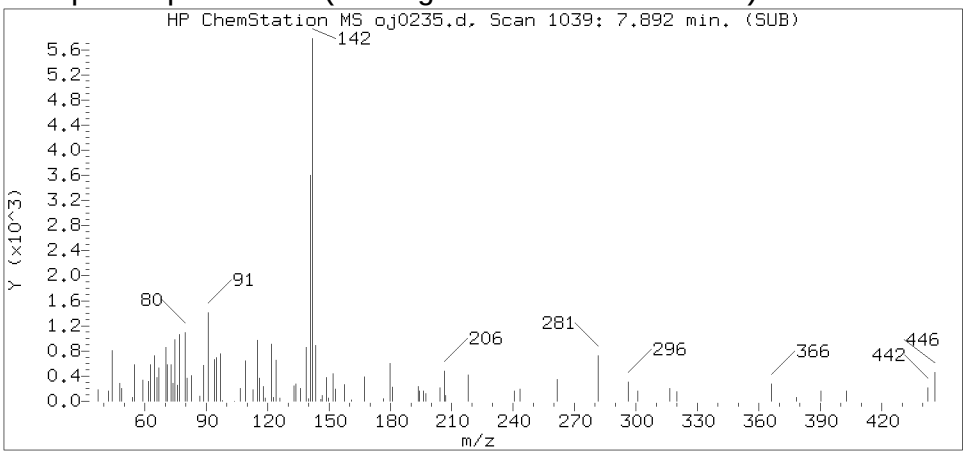
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: LMH0456

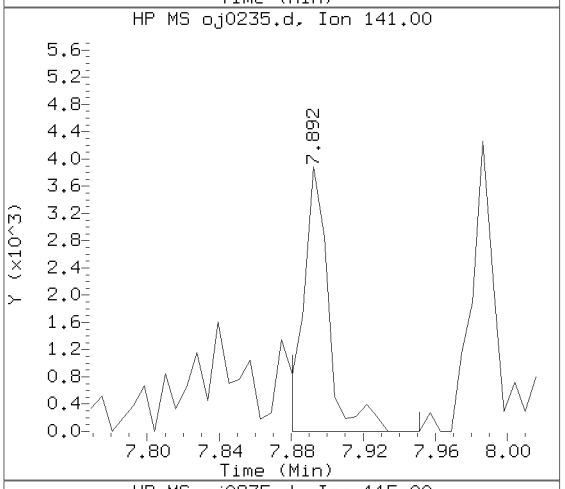
Reference Standard Spectrum for 2-Methylnaphthalene



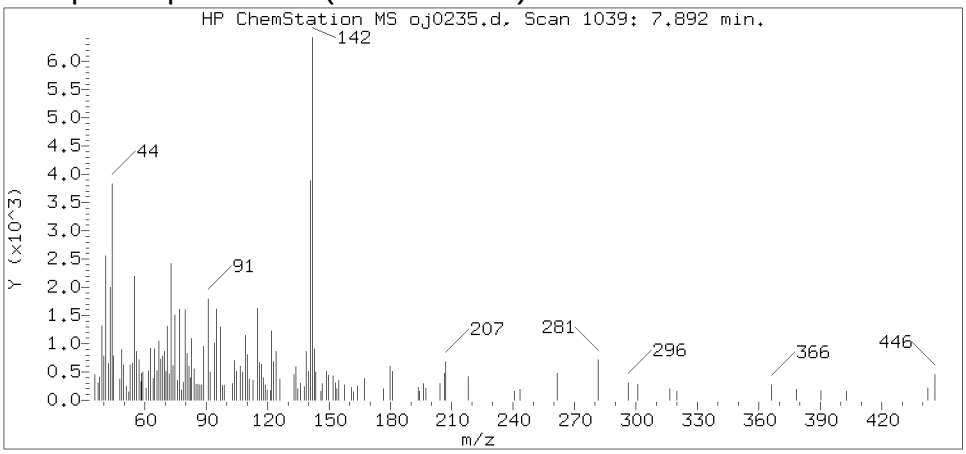


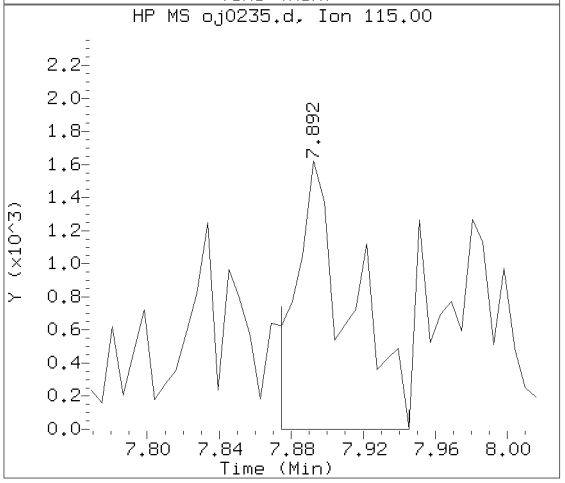
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

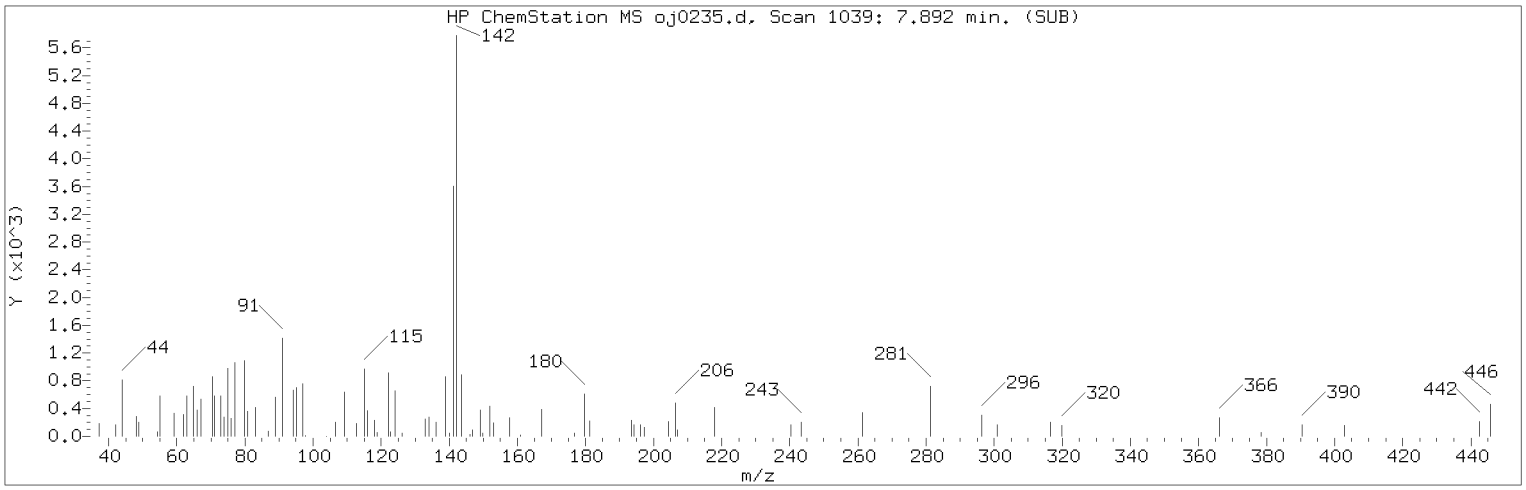
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

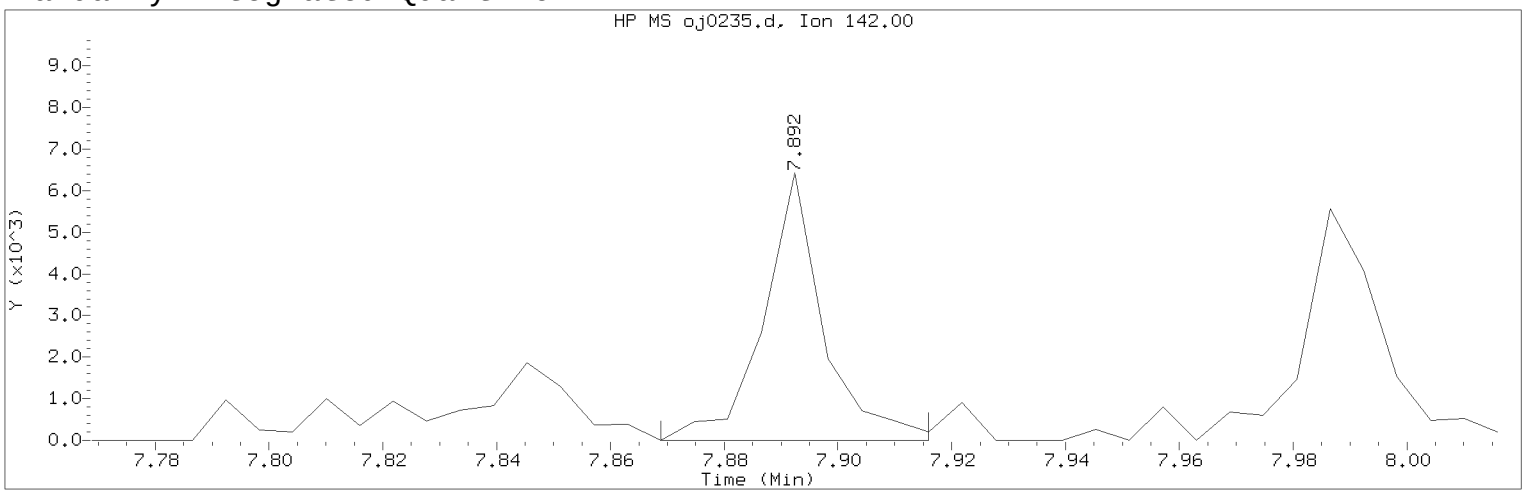
Compound Number : 83
Compound Name : 2-Methylnaphthalene
Scan Number : 1039
Retention Time (minutes) : 7.892
Relative Retention Time : 0.00008
Quant Ion : 142.00
Area (flag) : 4698M
On-column Amount (ng/ul) : 0.2043

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

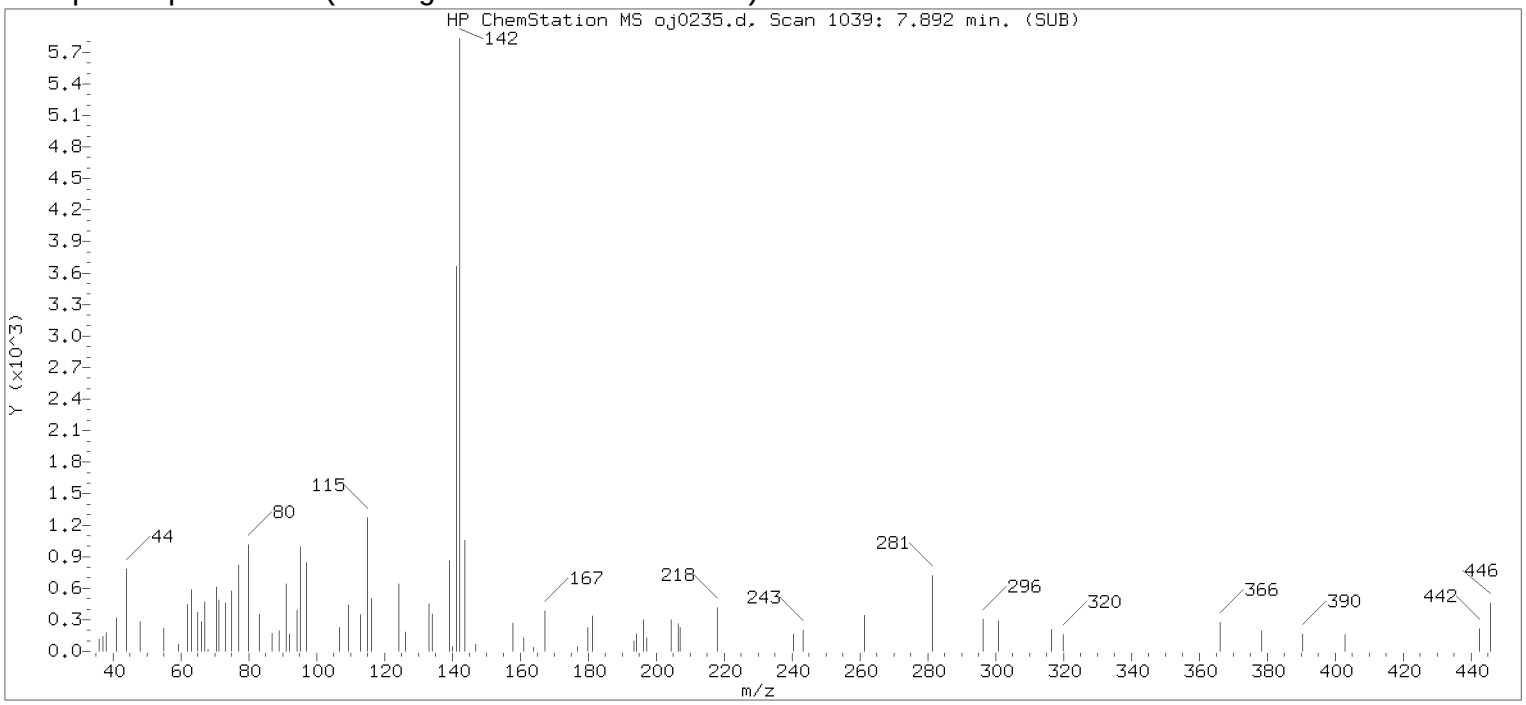
Compound Number : 83
Compound Name : 2-Methylnaphthalene
Scan Number : 1039
Retention Time (minutes) : 7.892
Quant Ion : 142.00
Area (flag) : 4698M
On-column Amount (ng/ul) : 0.2043
Integration start scan : 1034 Integration stop scan: 1042
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

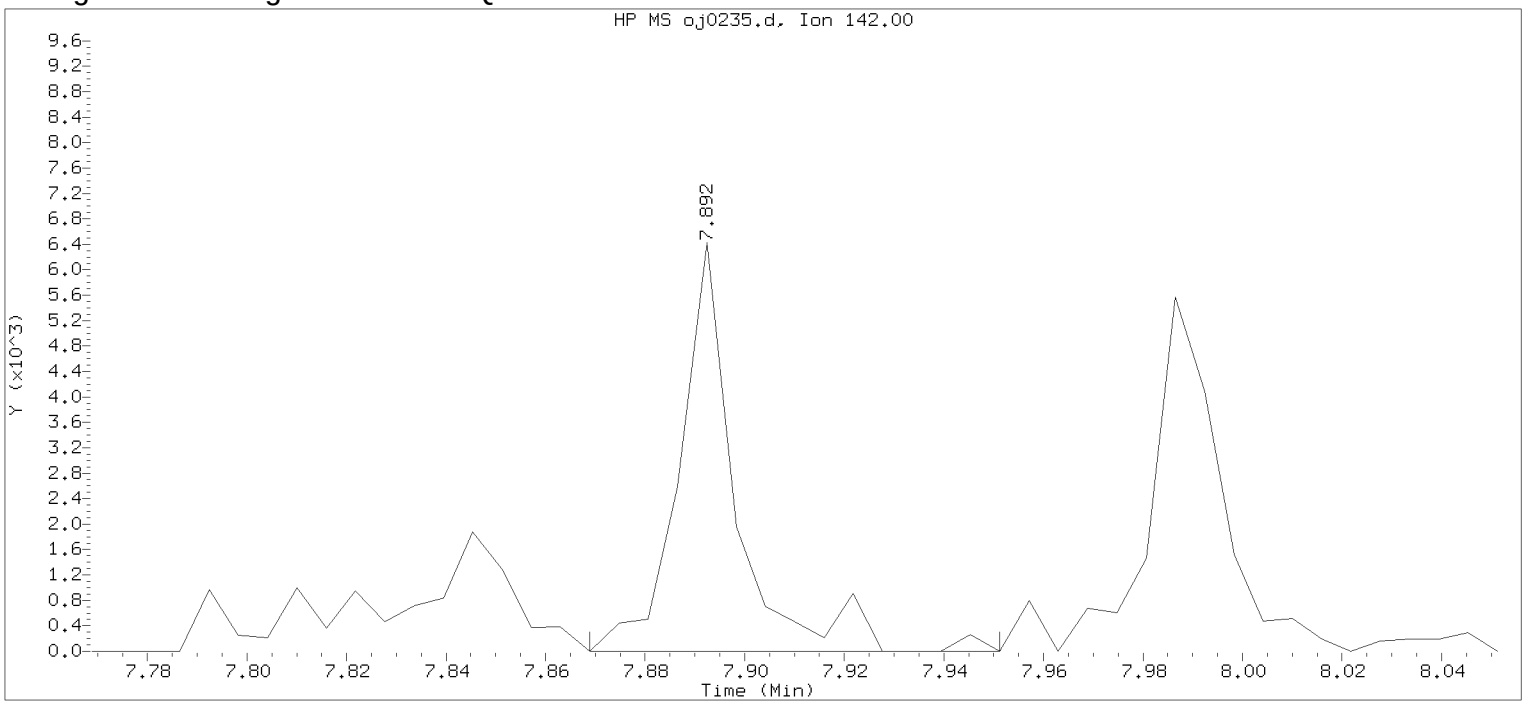
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:05.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

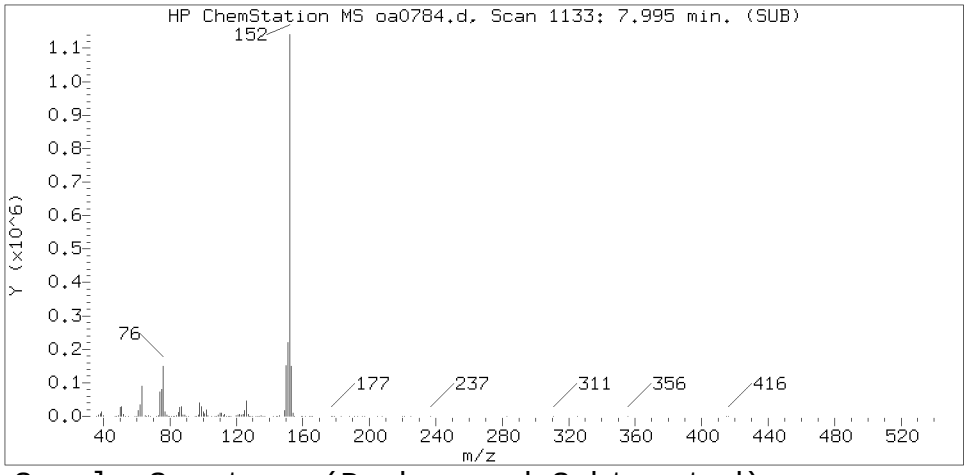
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 09:14 Automation

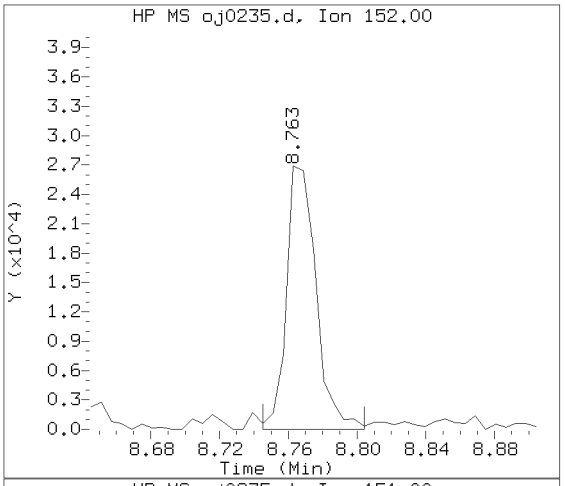
Sample Name: -479- Lab Sample ID: 8064461

Compound Number	: 83		
Compound Name	: 2-Methylnaphthalene		
Scan Number	: 1039		
Retention Time (minutes)	: 7.892		
Quant Ion	: 142.00		
Area	: 5109		
On-column Amount (ng/ul)	: 0.2222		
Integration start scan	: 1034	Integration stop scan:	1048
Y at integration start	: 0	Y at integration end:	0

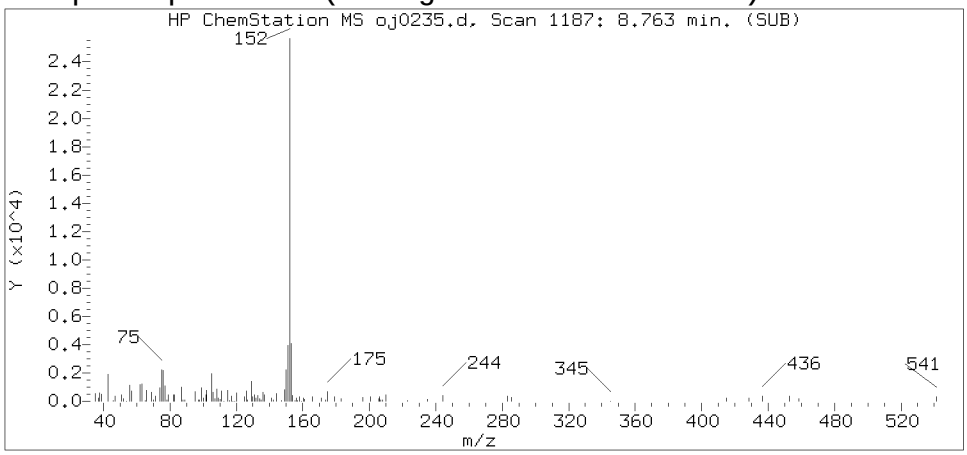
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: LMH0457

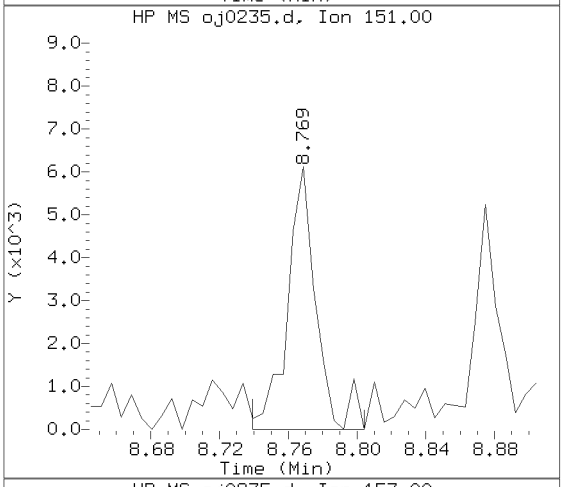
Reference Standard Spectrum for Acenaphthylene



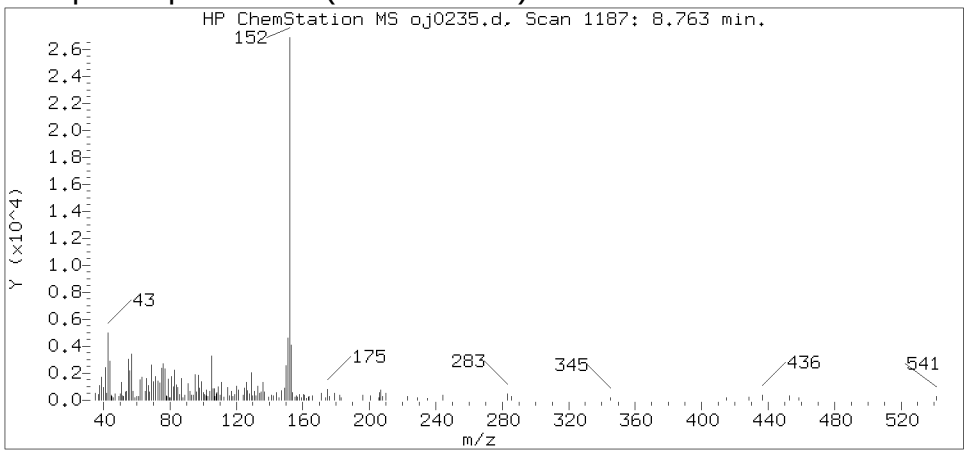


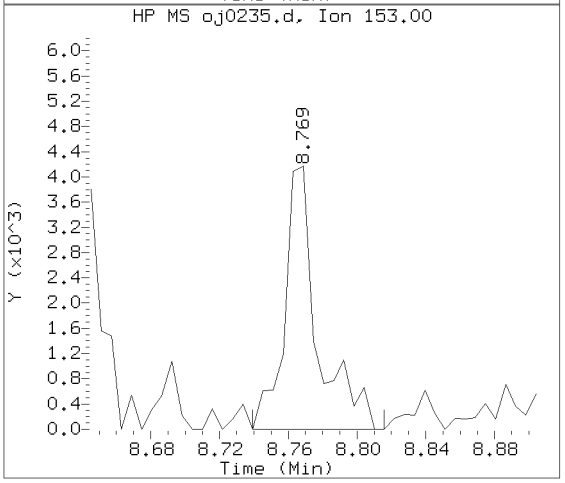
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

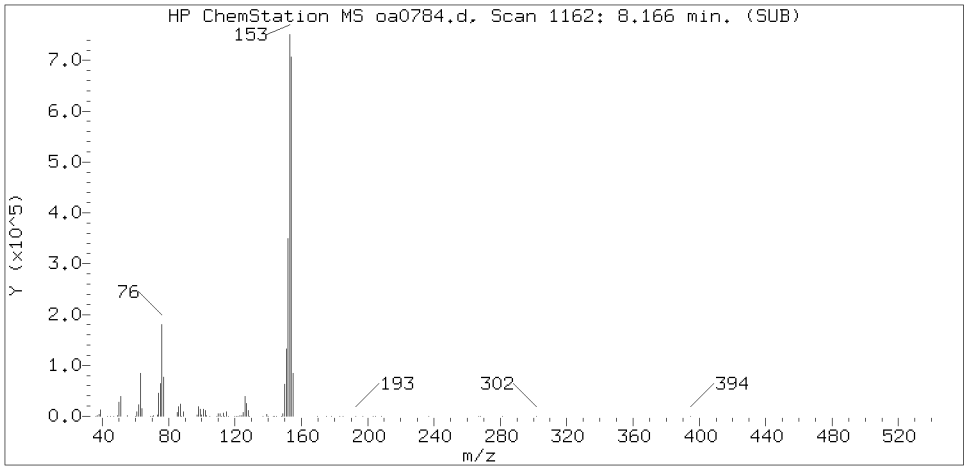
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

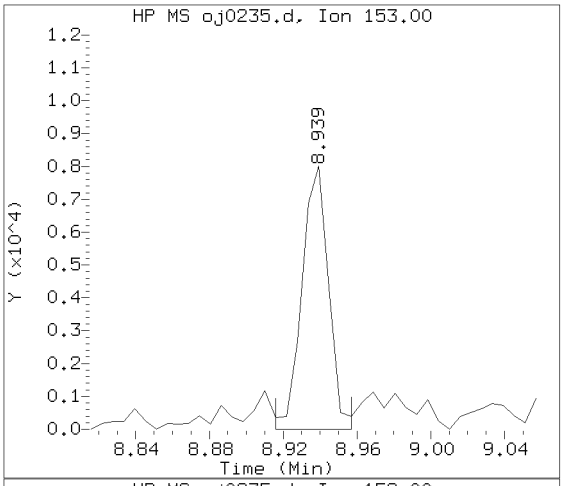
Sample Name: -479- Lab Sample ID: 8064461

Compound Number : 109
Compound Name : Acenaphthylene
Scan Number : 1187
Retention Time (minutes) : 8.763
Relative Retention Time :-0.00001
Quant Ion : 152.00
Area (flag) : 32096
On-column Amount (ng/ul) : 0.9880

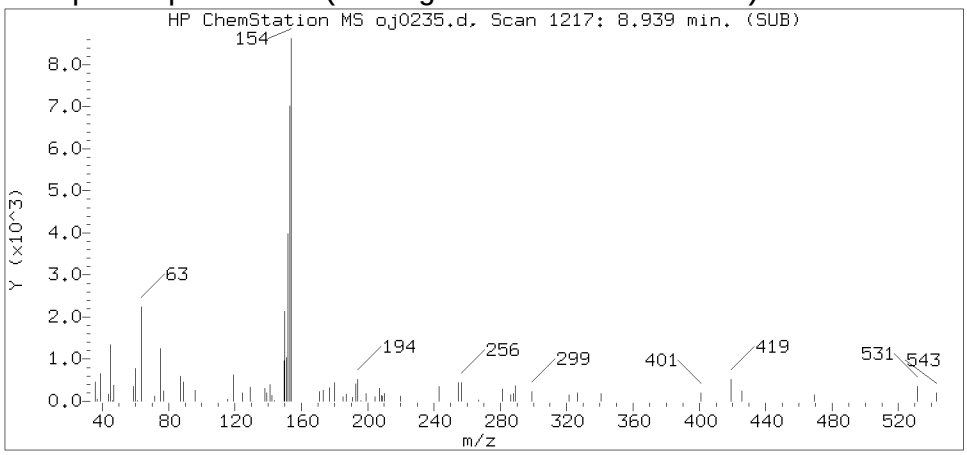
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

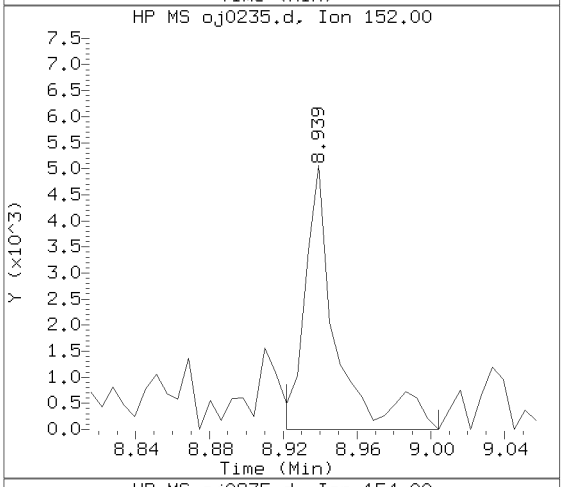
Reference Standard Spectrum for Acenaphthene



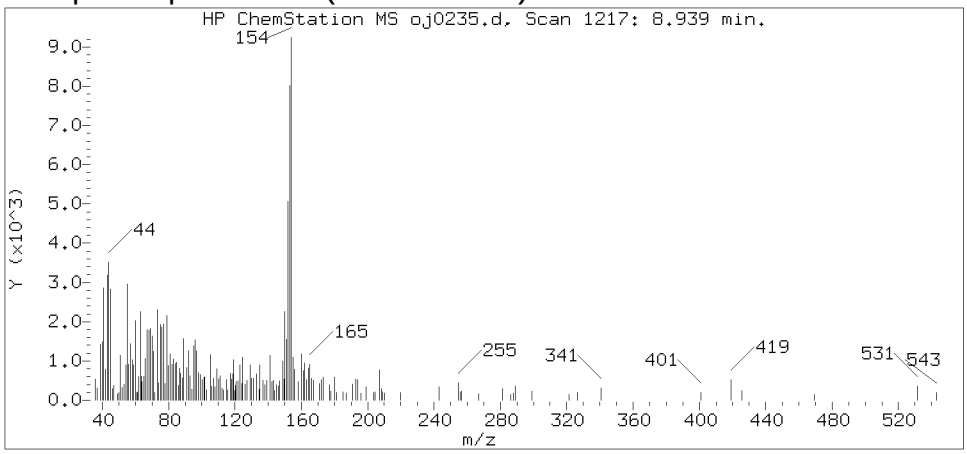


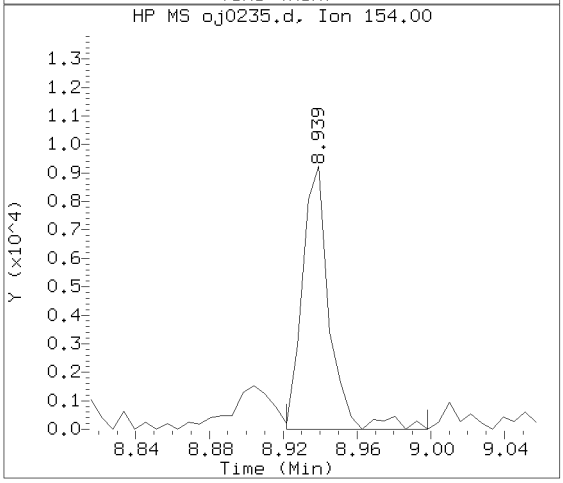
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

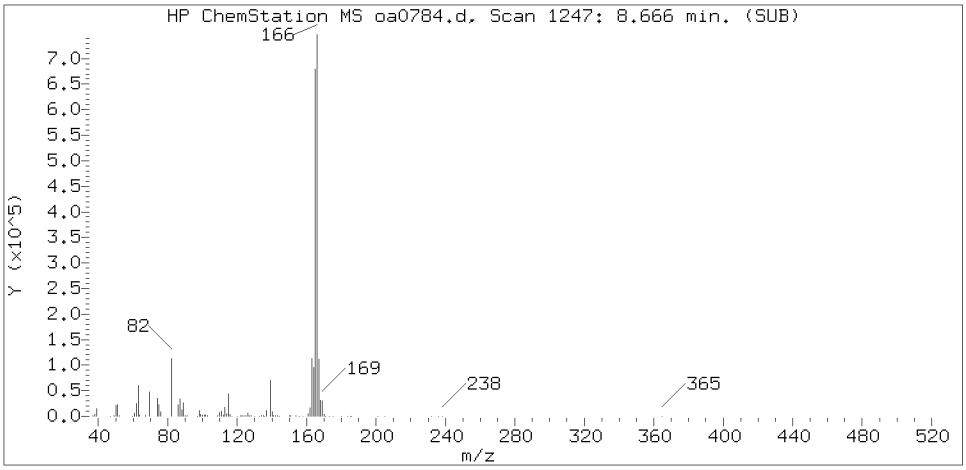
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

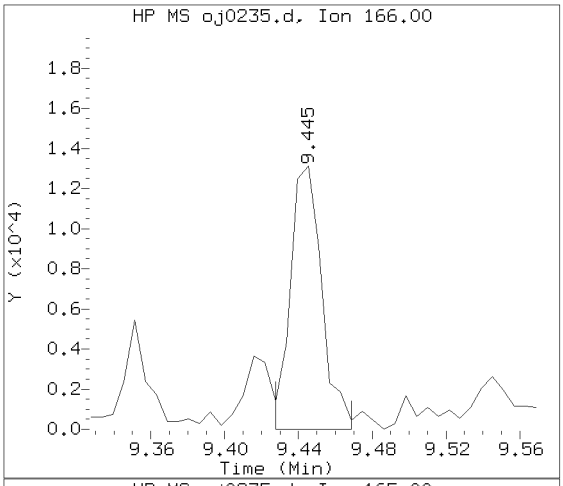
Sample Name: -479- Lab Sample ID: 8064461

Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1217
Retention Time (minutes) : 8.939
Relative Retention Time :-0.00066
Quant Ion : 153.00
Area (flag) : 8087
On-column Amount (ng/ul) : 0.3597

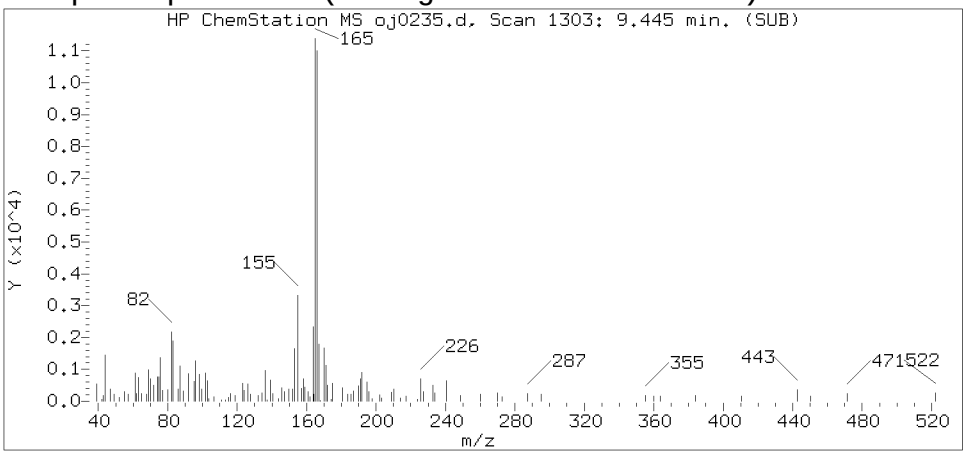
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

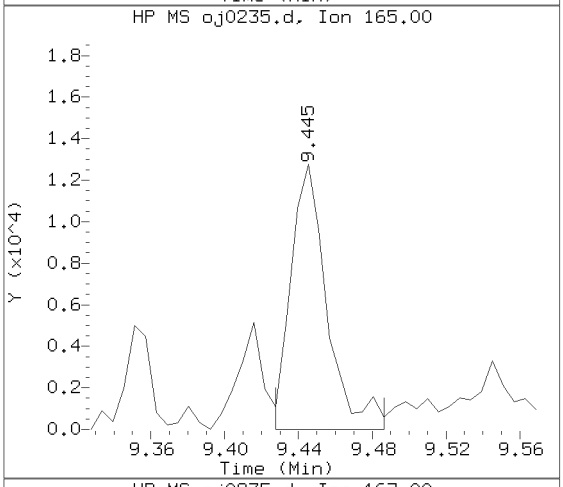
Reference Standard Spectrum for Fluorene



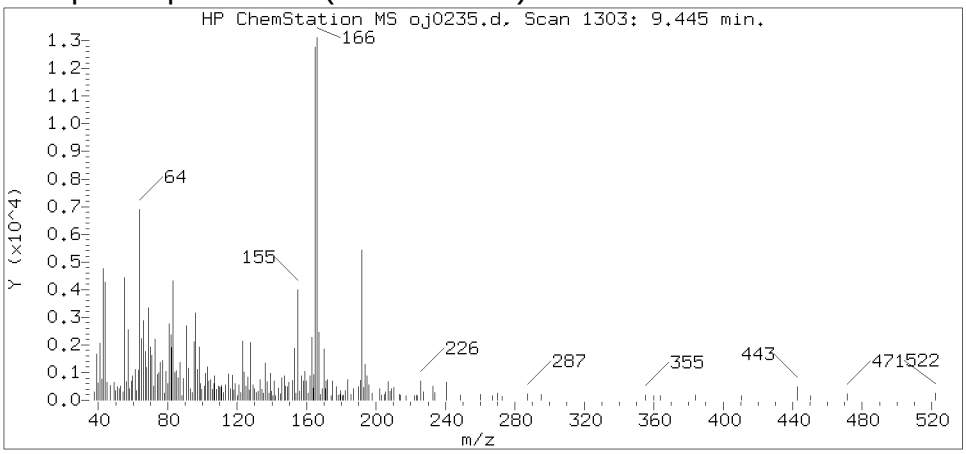


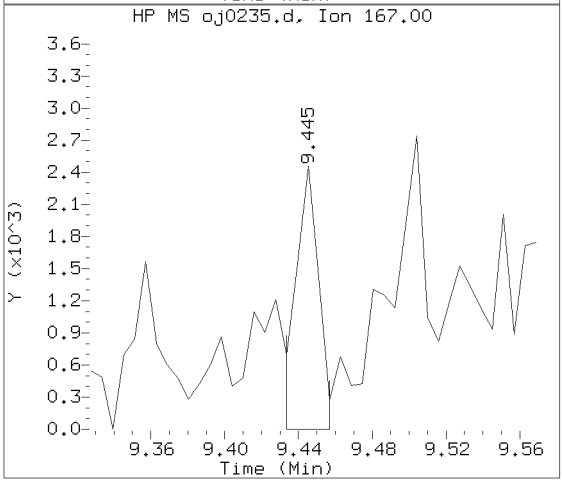
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

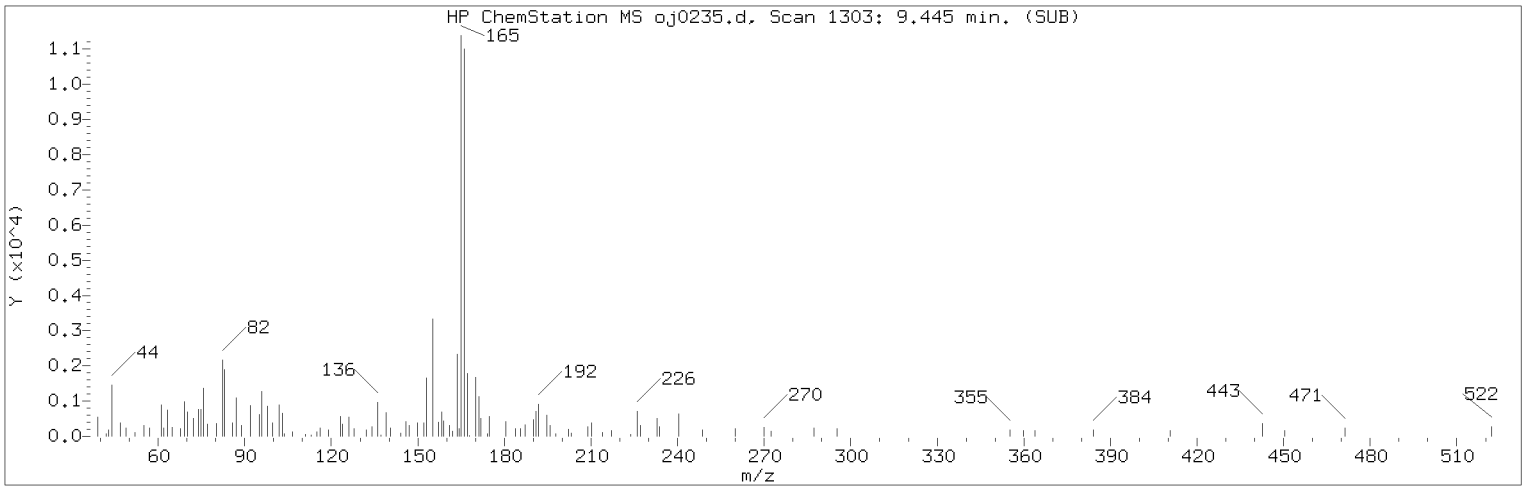
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

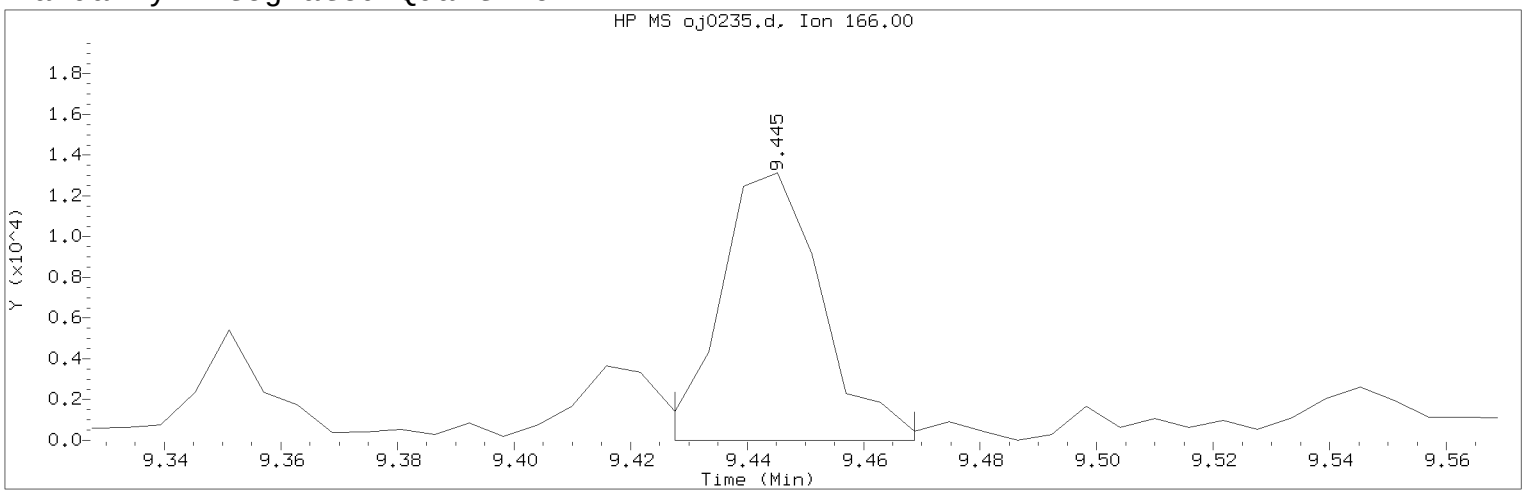
Compound Number : 126
Compound Name : Fluorene
Scan Number : 1303
Retention Time (minutes) : 9.445
Relative Retention Time :-0.00062
Quant Ion : 166.00
Area (flag) : 15917M
On-column Amount (ng/ul) : 0.6159

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

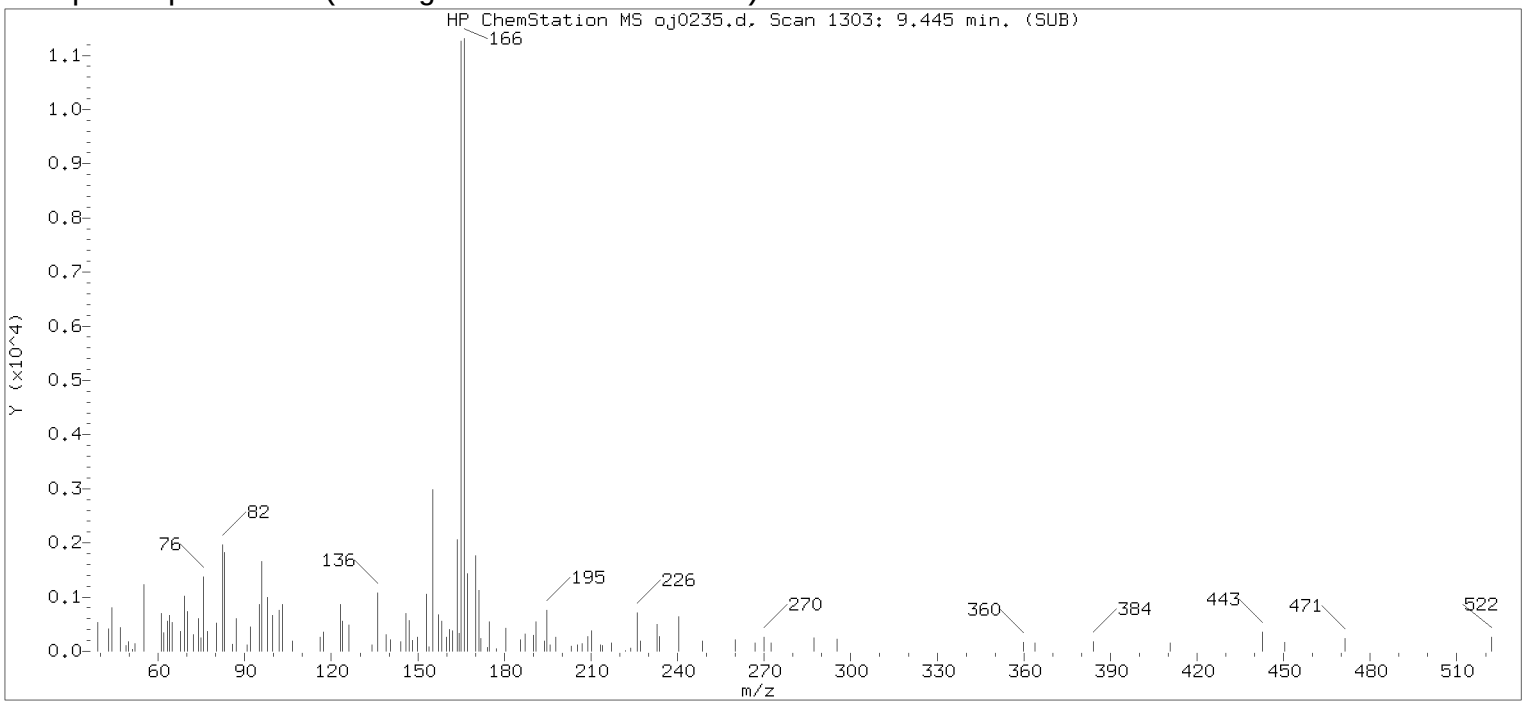
Compound Number : 126
Compound Name : Fluorene
Scan Number : 1303
Retention Time (minutes) : 9.445
Quant Ion : 166.00
Area (flag) : 15917M
On-column Amount (ng/ul) : 0.6159
Integration start scan : 1299 Integration stop scan: 1306
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

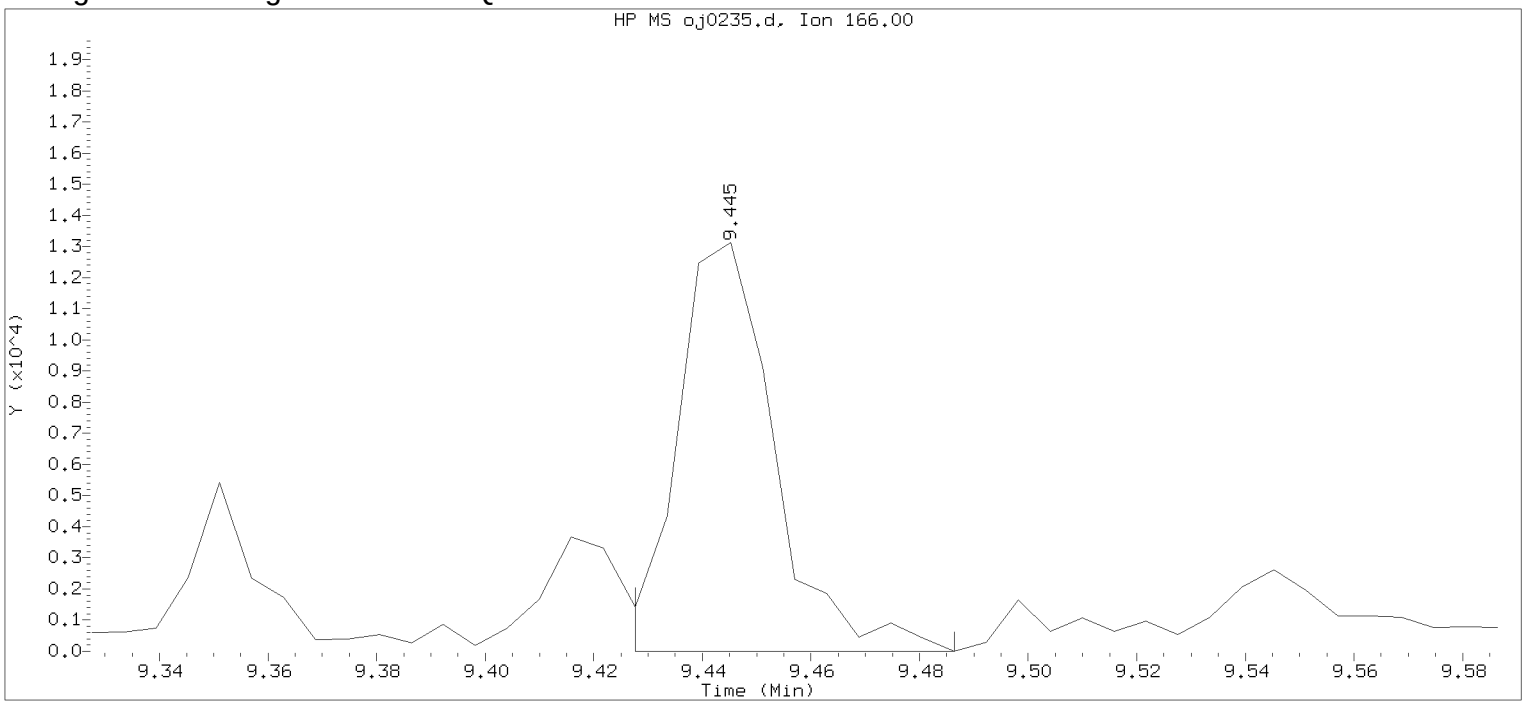
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:05.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

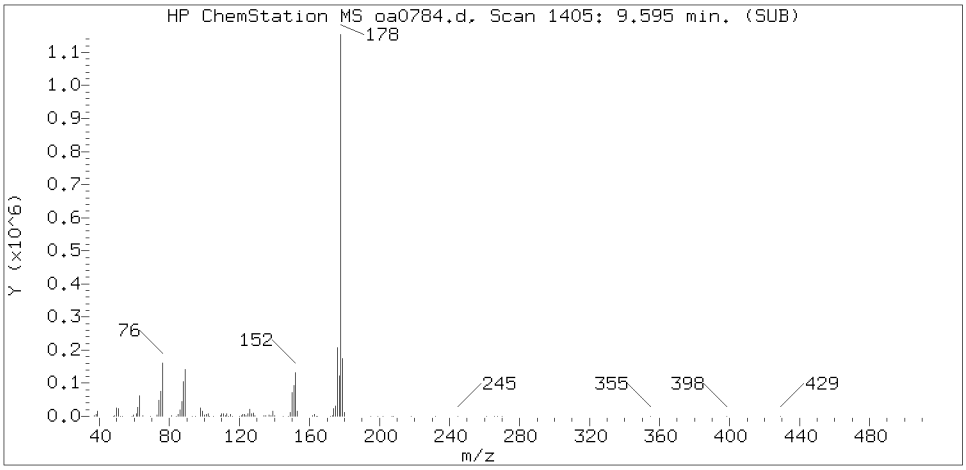
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 09:14 Automation

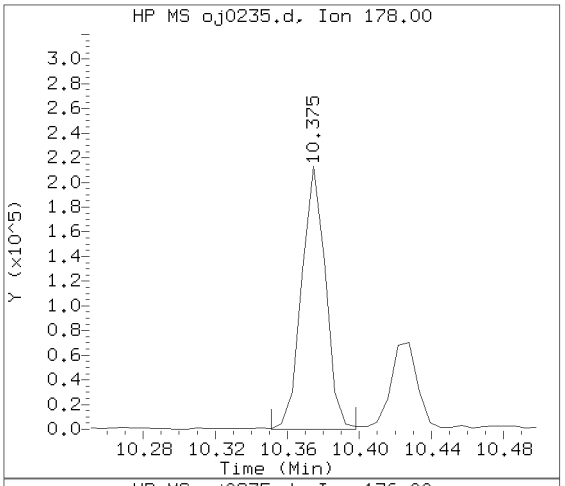
Sample Name: -479- Lab Sample ID: 8064461

Compound Number	: 126		
Compound Name	: Fluorene		
Scan Number	: 1303		
Retention Time (minutes)	: 9.445		
Quant Ion	: 166.00		
Area	: 16143		
On-column Amount (ng/ul)	: 0.6247		
Integration start scan	: 1299	Integration stop scan:	1309
Y at integration start	: 0	Y at integration end:	0

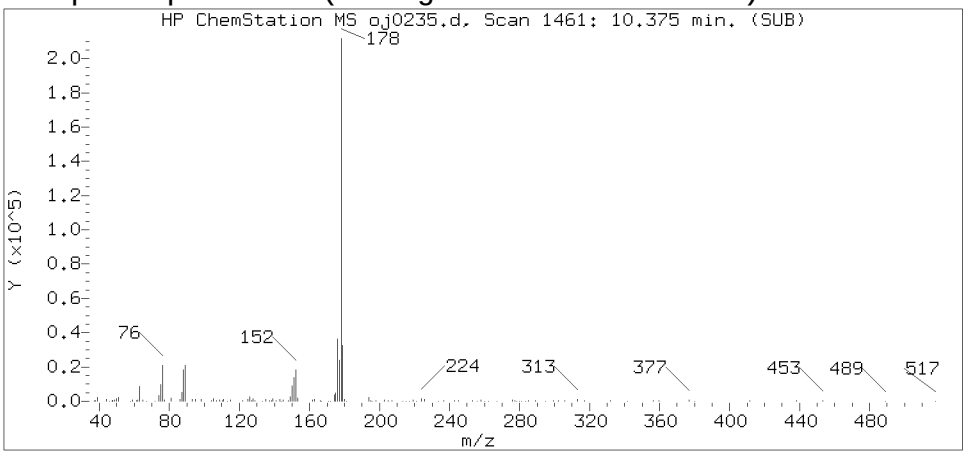
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: LMH0458

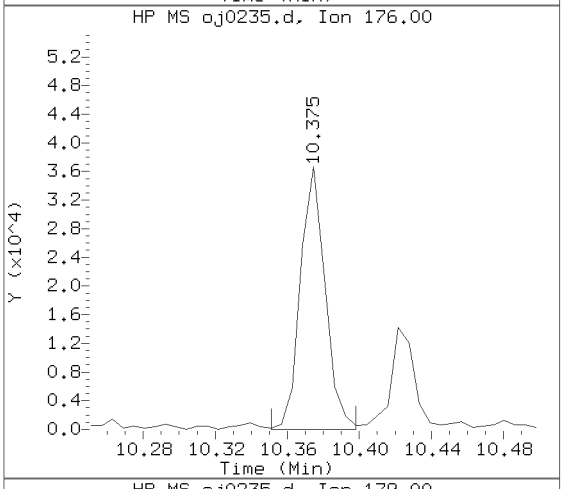
Reference Standard Spectrum for Phenanthrene



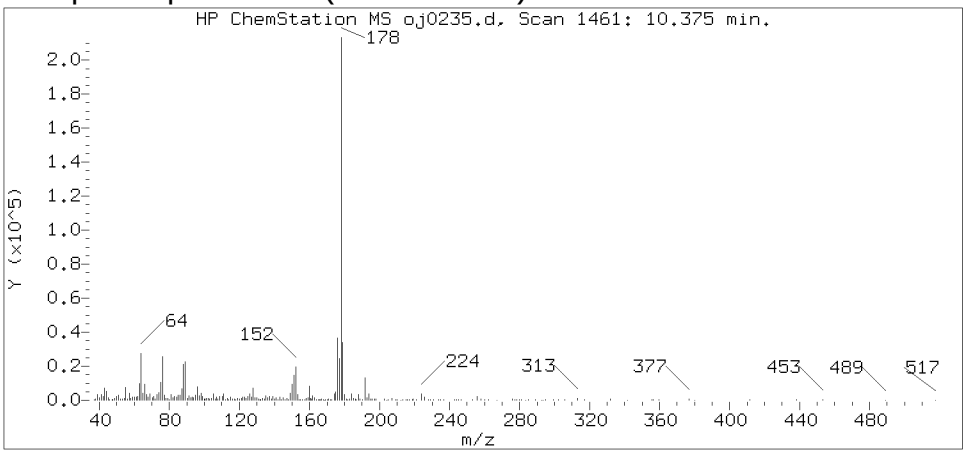


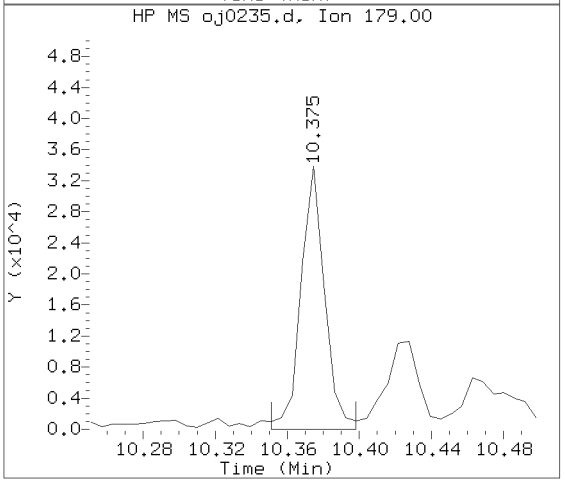
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

Compound Number	: 155
Compound Name	: Phenanthrene
Scan Number	: 1461
Retention Time (minutes)	: 10.375
Relative Retention Time	: 0.00000
Quant Ion	: 178.00
Area (flag)	: 194265
On-column Amount (ng/ul)	: 5.1199

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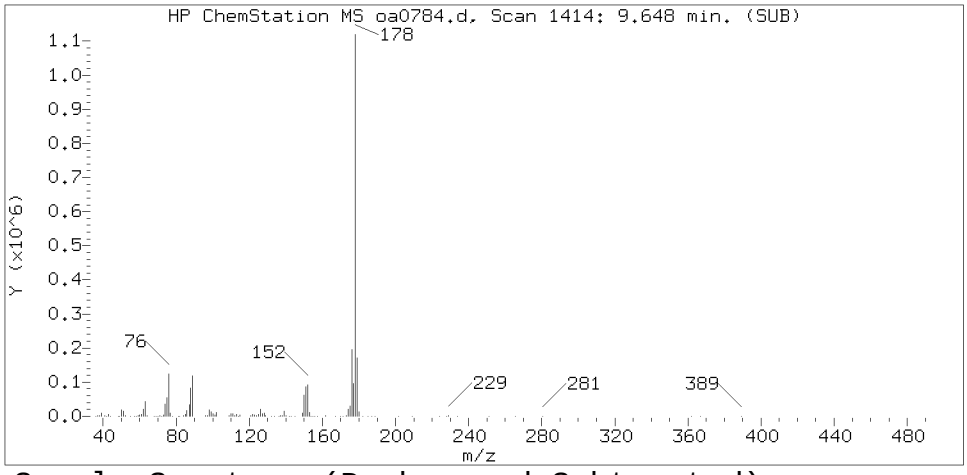
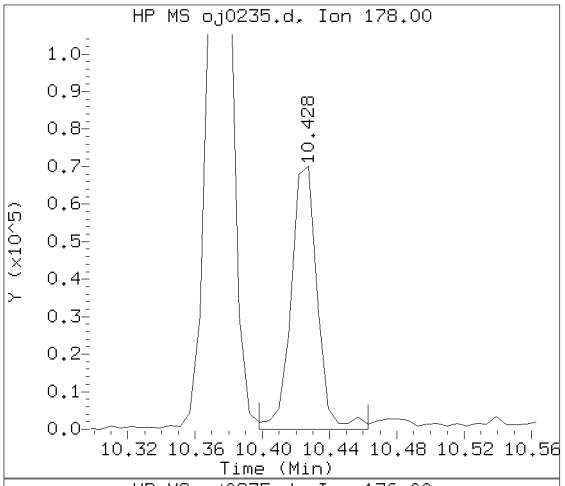
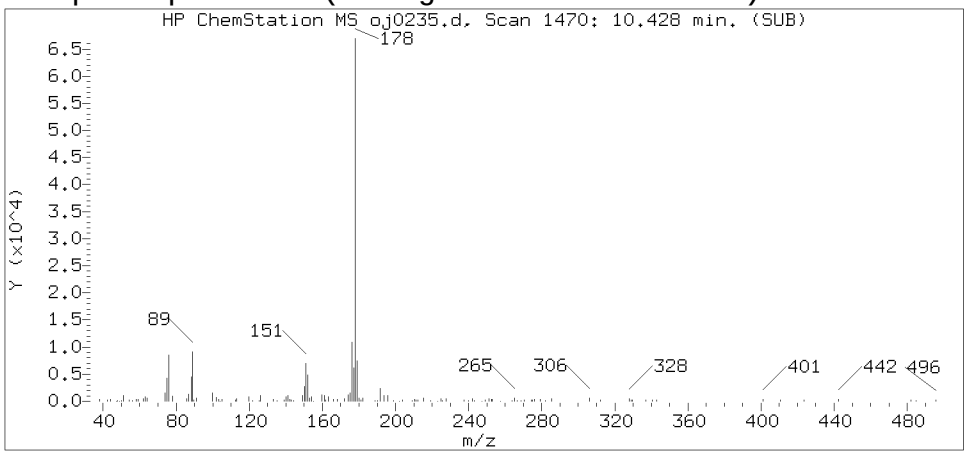
Target 3.5 esignature user ID: lmh00956

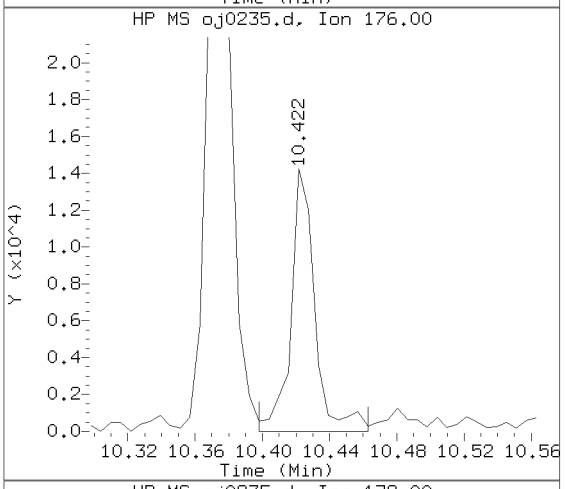
Reference Standard Spectrum for Anthracene



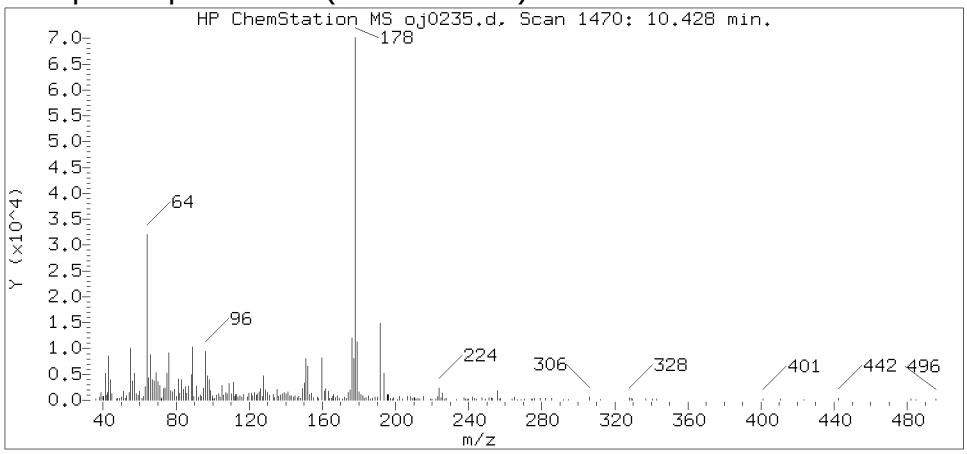


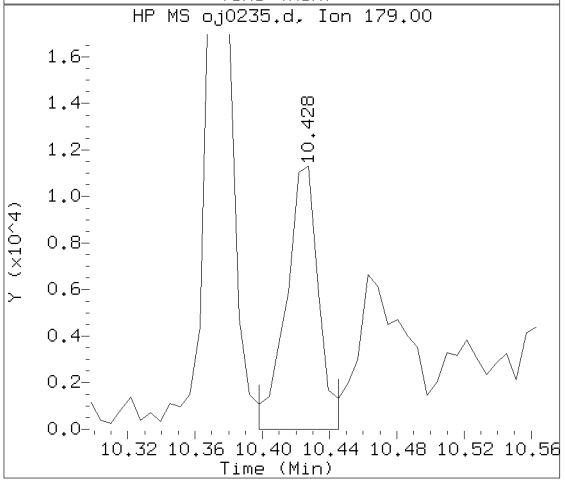
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

Compound Number	: 157
Compound Name	: Anthracene
Scan Number	: 1470
Retention Time (minutes)	: 10.428
Relative Retention Time	:-0.00056
Quant Ion	: 178.00
Area (flag)	: 75753
On-column Amount (ng/ul)	: 2.0203

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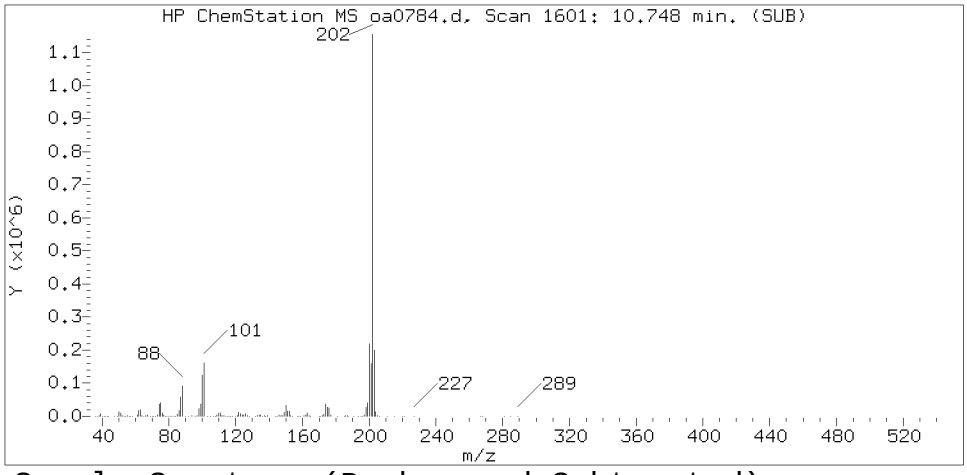
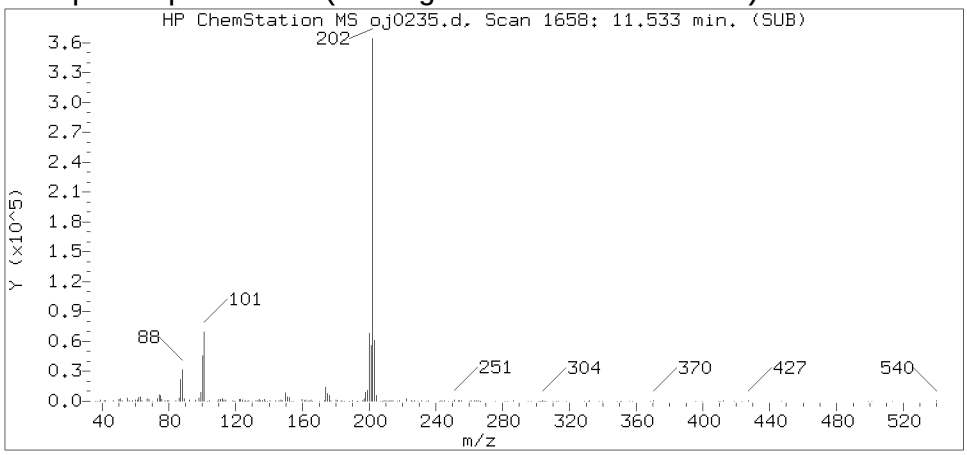
Target 3.5 esignature user ID: lmh00956

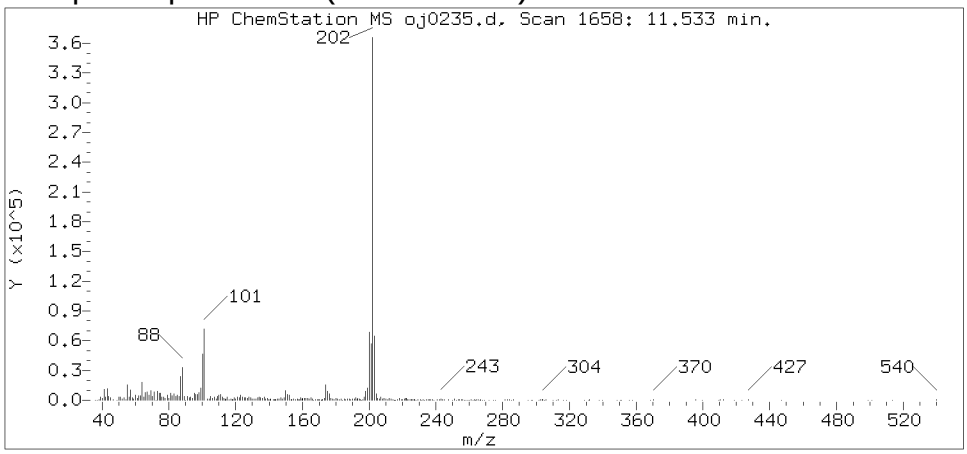
Reference Standard Spectrum for Fluoranthene

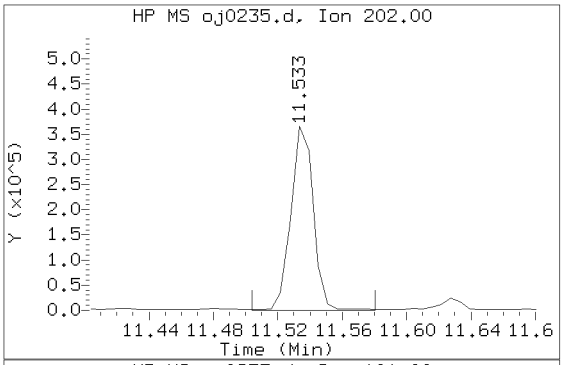


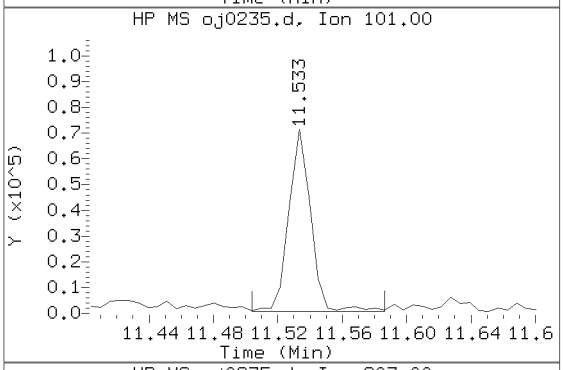
Sample Spectrum (Background Subtracted)

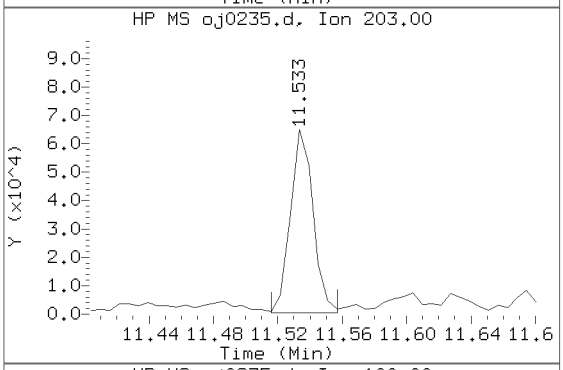


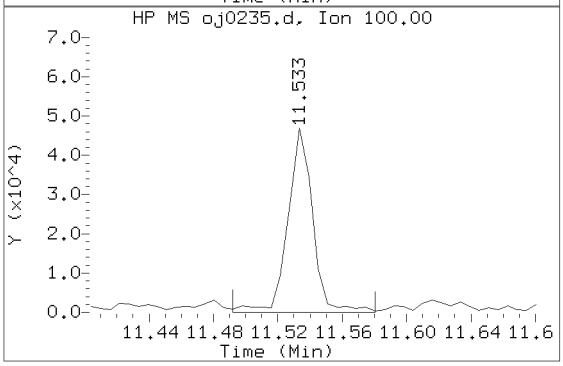
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

Compound Number	: 173
Compound Name	: Fluoranthene
Scan Number	: 1658
Retention Time (minutes)	: 11.533
Relative Retention Time	:-0.00050
Quant Ion	: 202.00
Area (flag)	: 353847
On-column Amount (ng/ul)	: 8.5807

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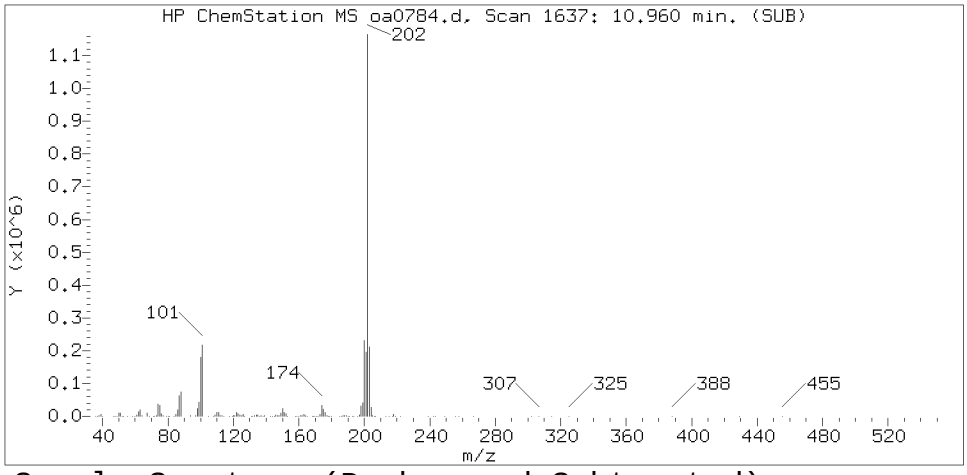
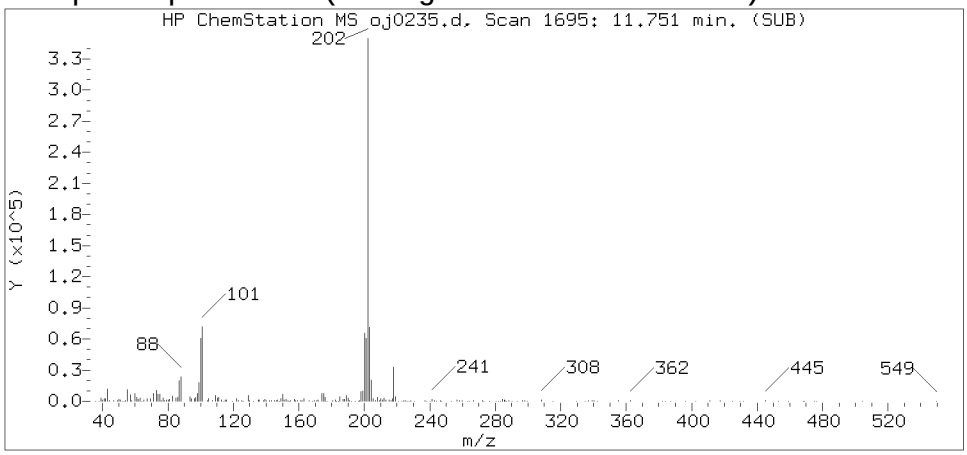
Target 3.5 esignature user ID: lmh00956

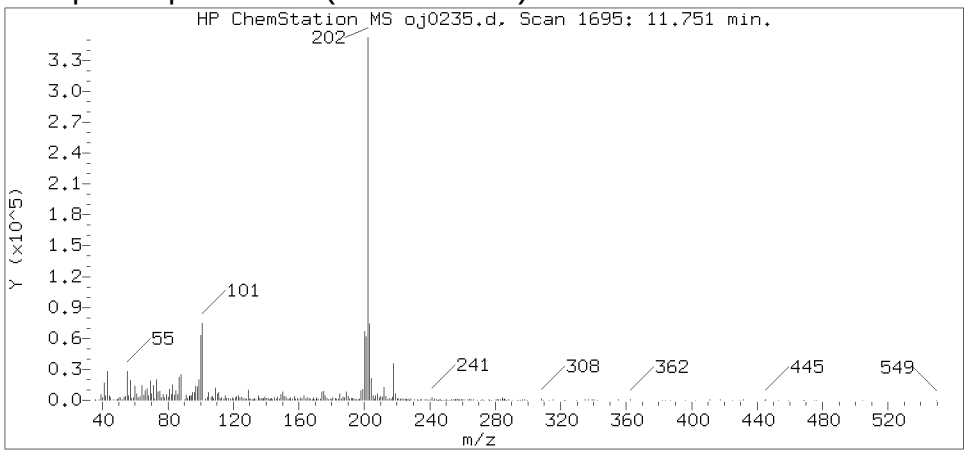
Reference Standard Spectrum for Pyrene

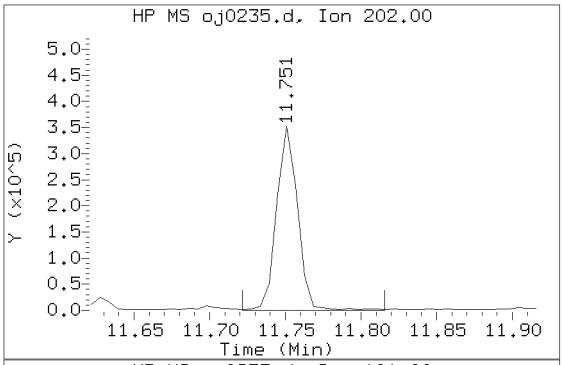


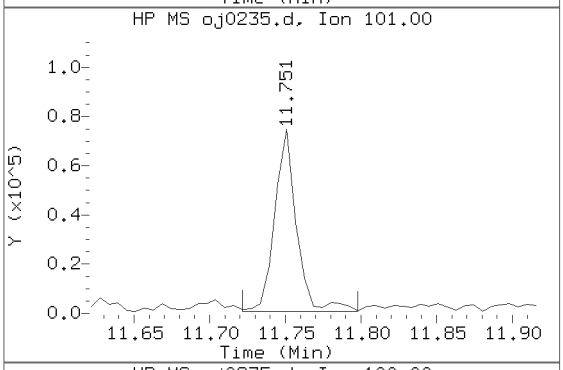
Sample Spectrum (Background Subtracted)

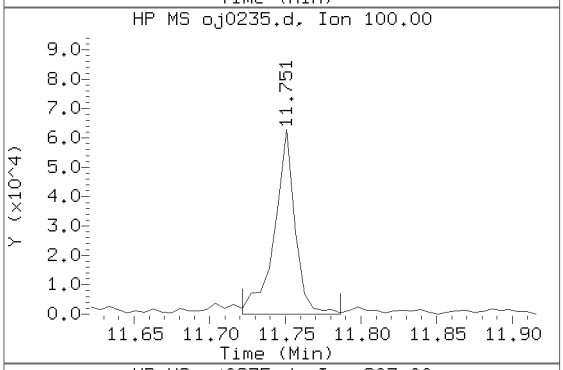


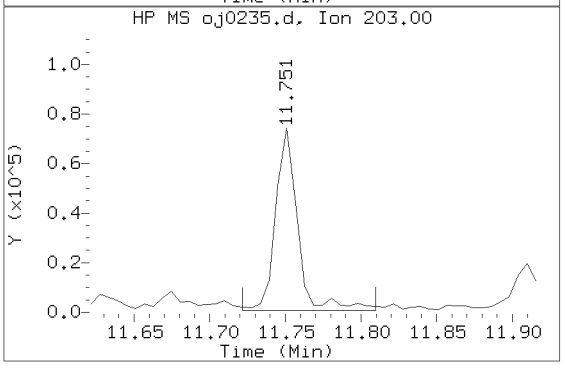
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1695
Retention Time (minutes)	: 11.751
Relative Retention Time	: 0.00000
Quant Ion	: 202.00
Area (flag)	: 337983
On-column Amount (ng/ul)	: 8.2021

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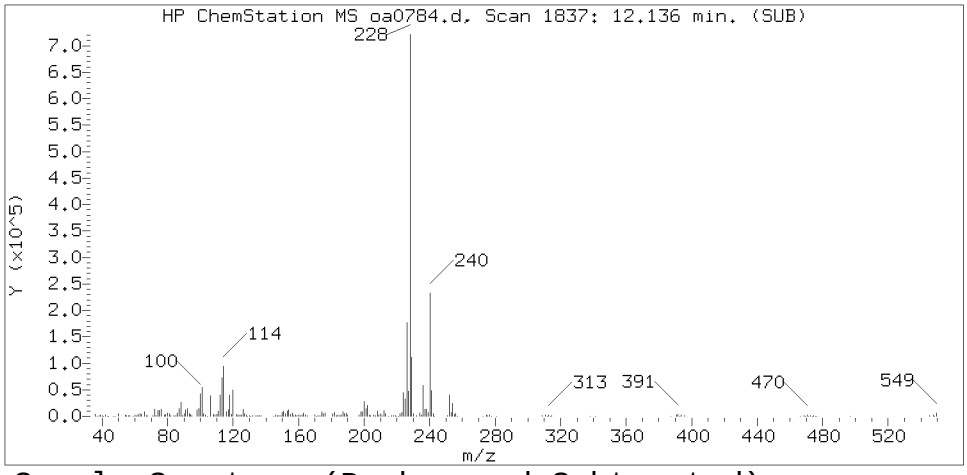
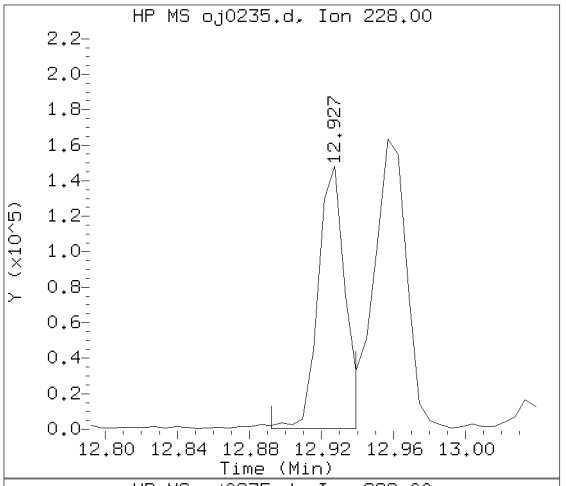
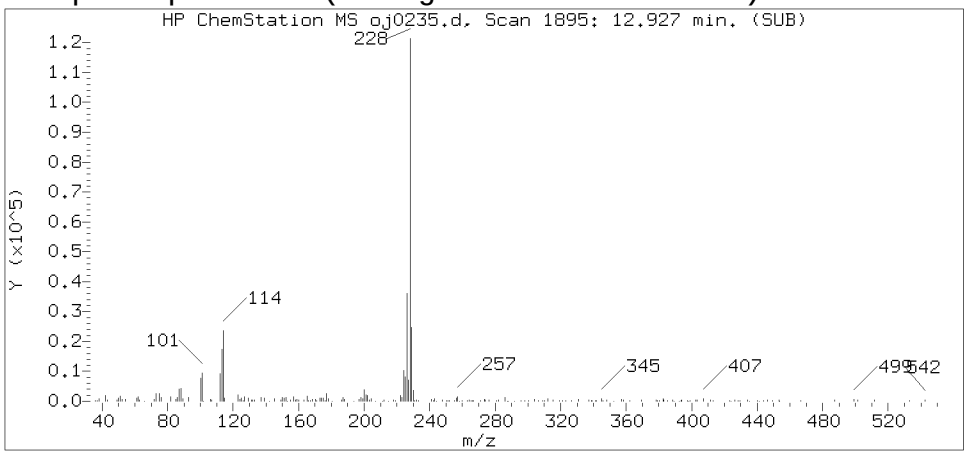
Target 3.5 esignature user ID: lmh00956

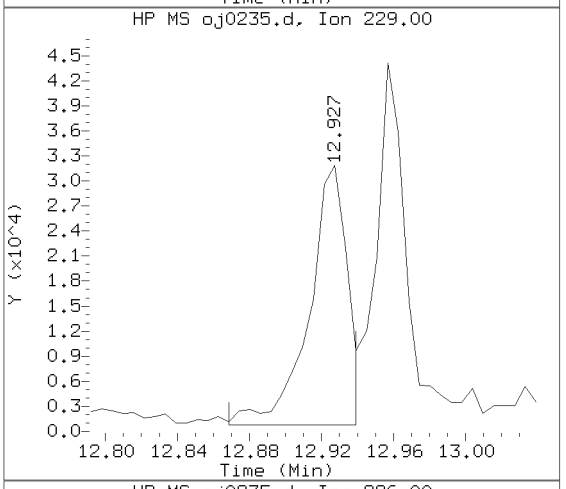
Reference Standard Spectrum for Benzo(a)anthracene



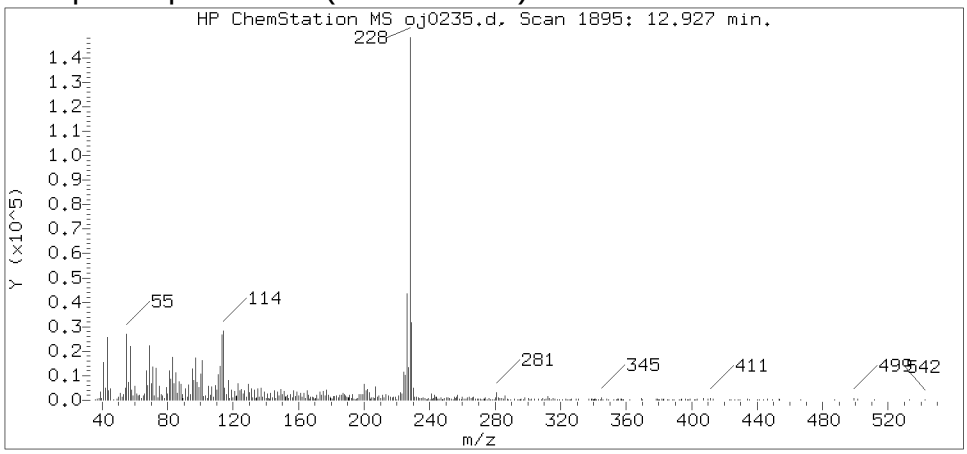


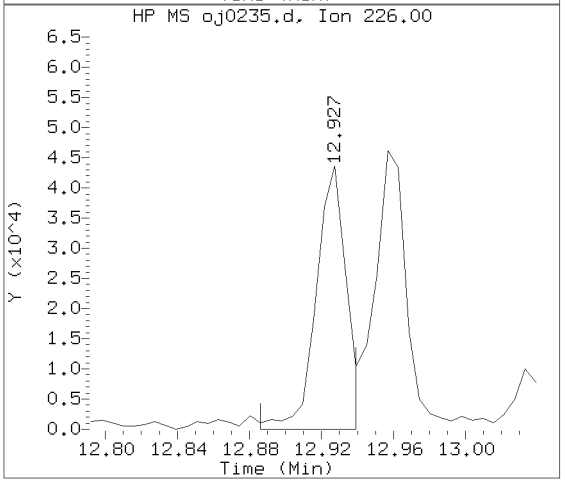
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

Compound Number	: 195
Compound Name	: Benzo(a)anthracene
Scan Number	: 1895
Retention Time (minutes)	: 12.927
Relative Retention Time	:-0.00040
Quant Ion	: 228.00
Area (flag)	: 149629
On-column Amount (ng/ul)	: 4.1656

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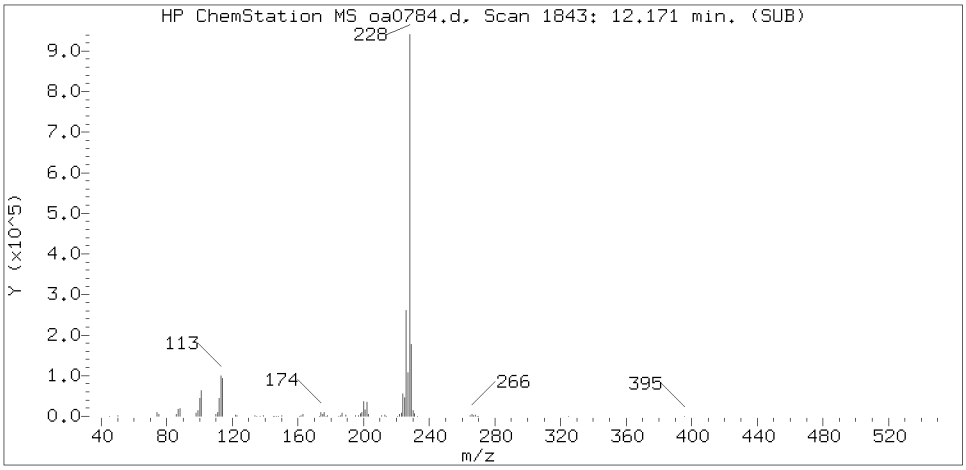
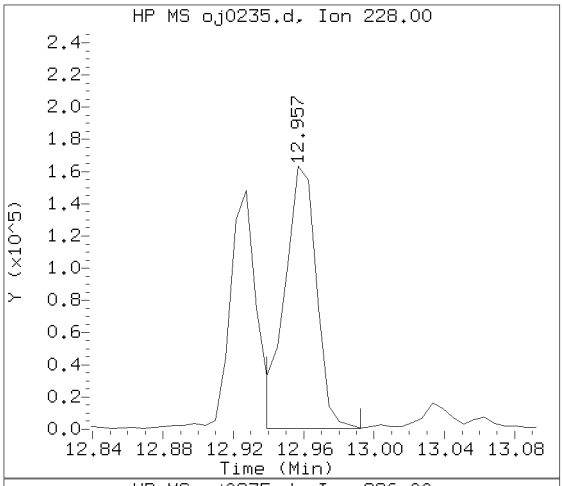
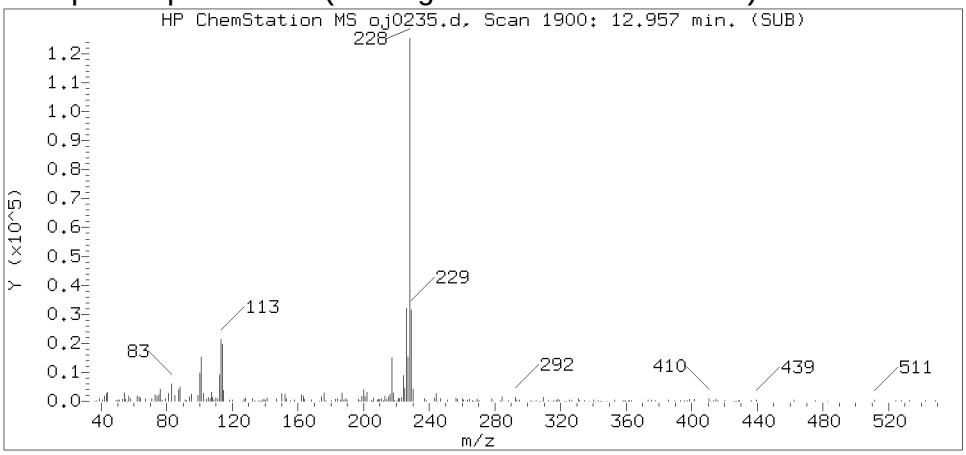
Target 3.5 esignature user ID: lmh00956

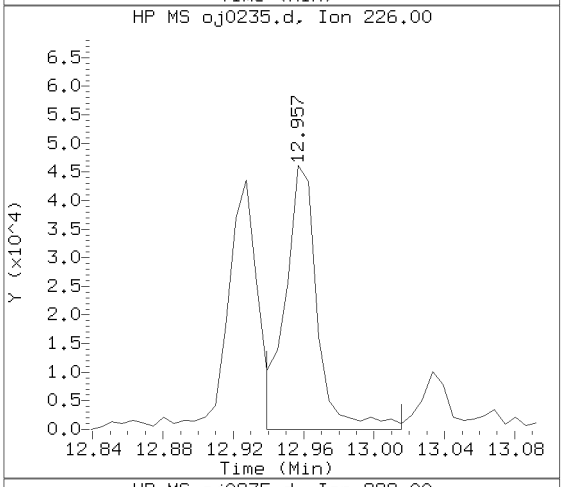
Reference Standard Spectrum for Chrysene



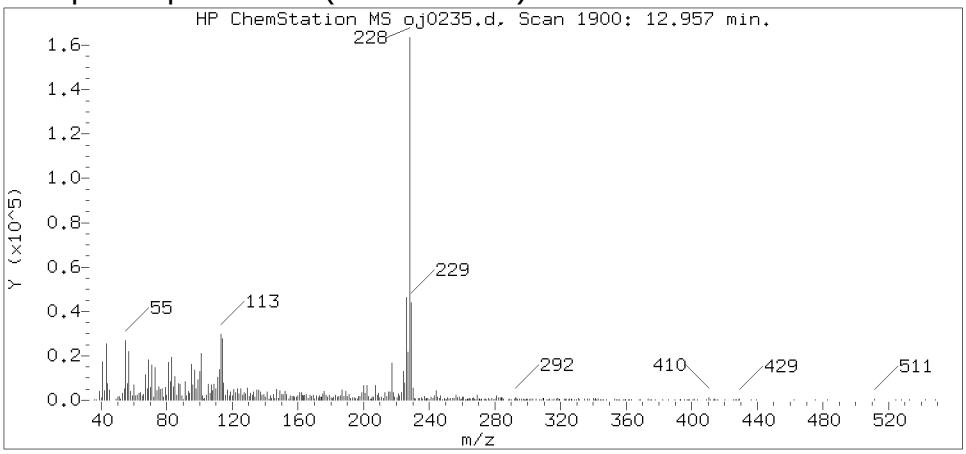


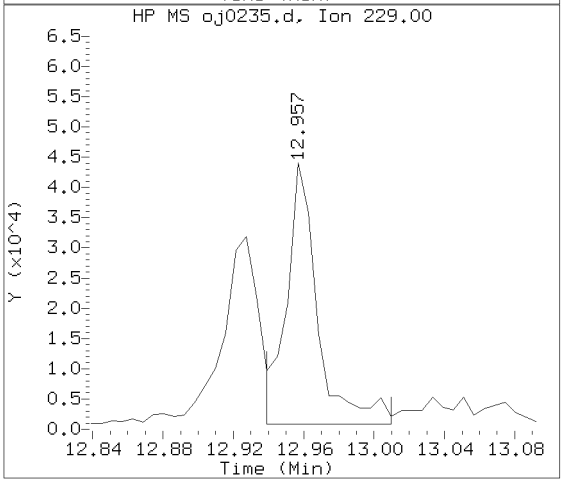
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

Compound Number	: 196
Compound Name	: Chrysene
Scan Number	: 1900
Retention Time (minutes)	: 12.957
Relative Retention Time	: 0.00010
Quant Ion	: 228.00
Area (flag)	: 205342
On-column Amount (ng/ul)	: 5.9997

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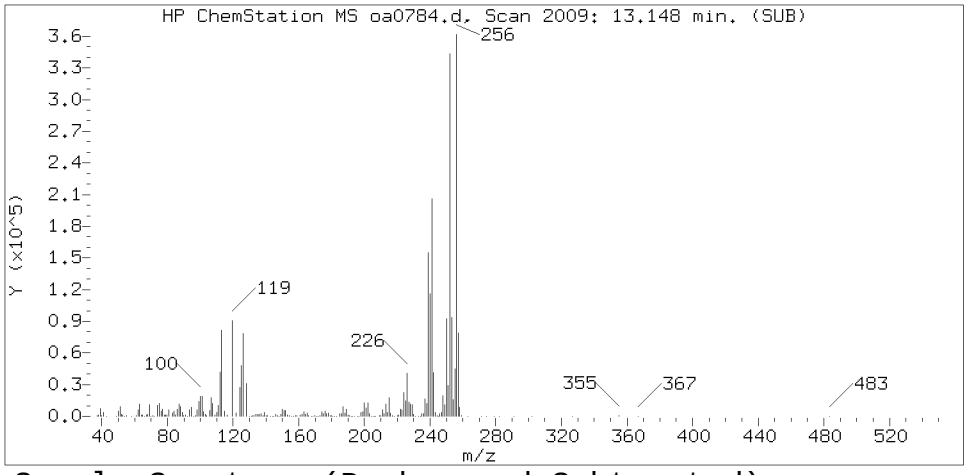
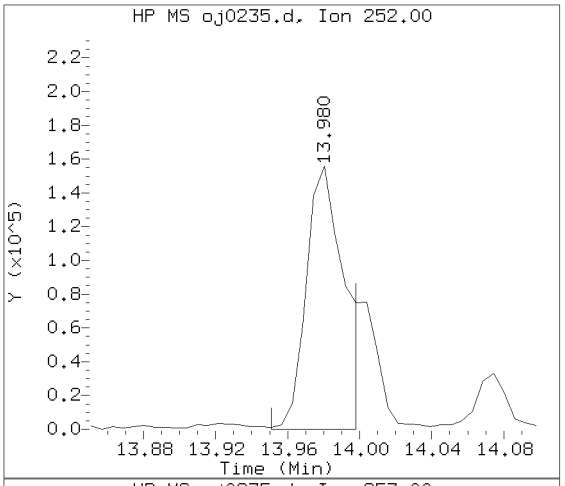
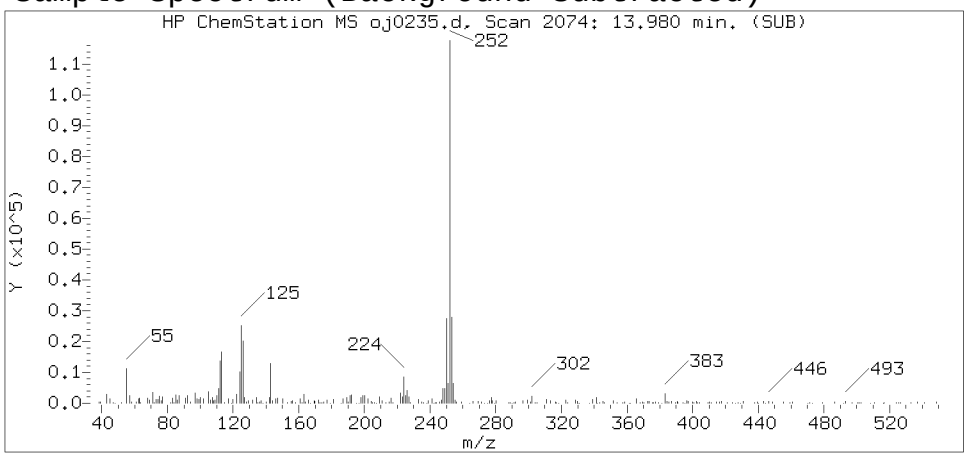
Target 3.5 esignature user ID: lmh00956

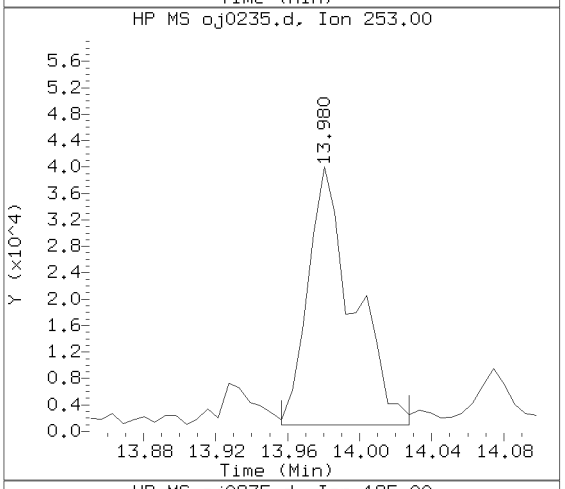
Reference Standard Spectrum for Benzo(b)fluoranthene



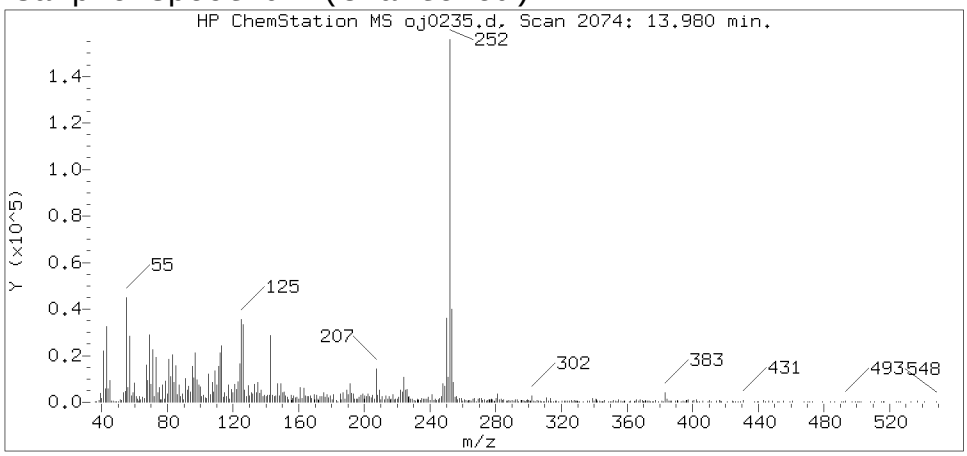


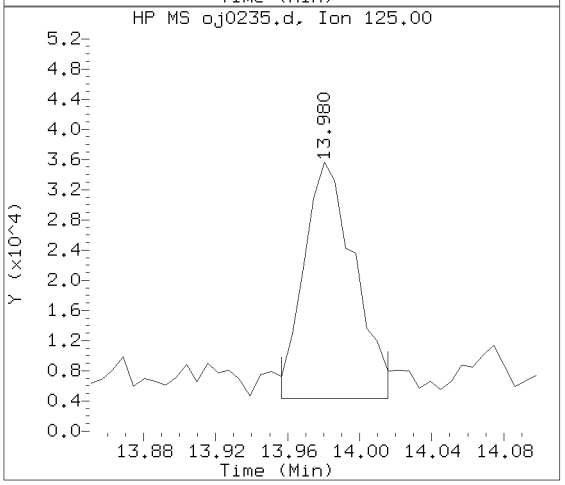
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2074
Retention Time (minutes)	: 13.980
Relative Retention Time	: 0.00037
Quant Ion	: 252.00
Area (flag)	: 229666M
On-column Amount (ng/ul)	: 7.5528

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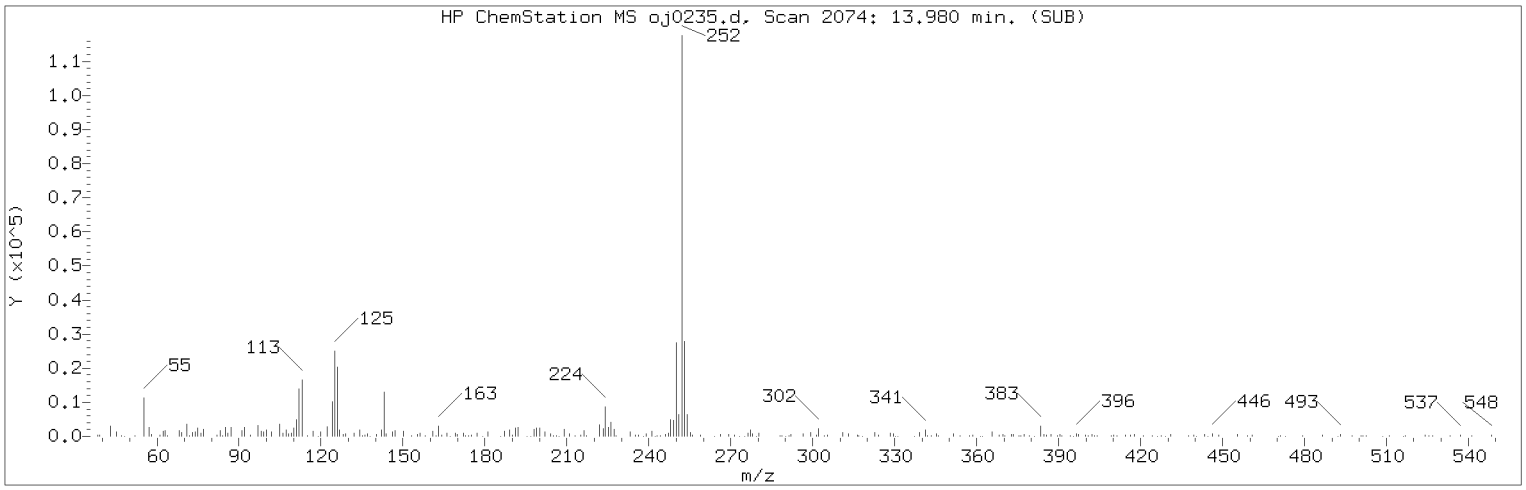
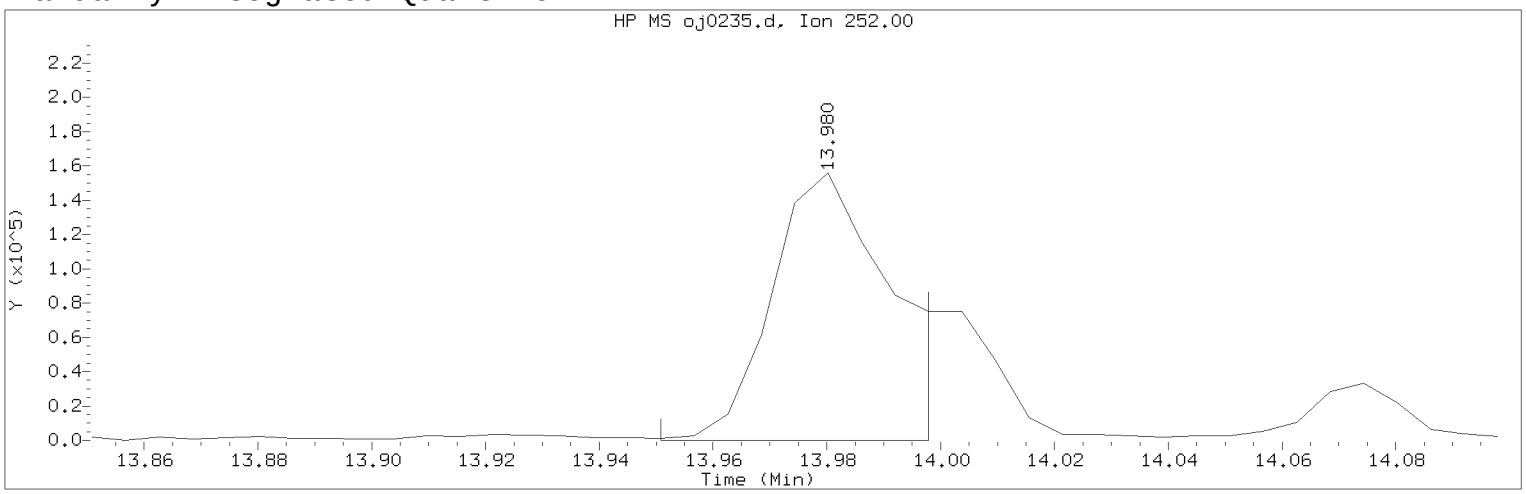
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

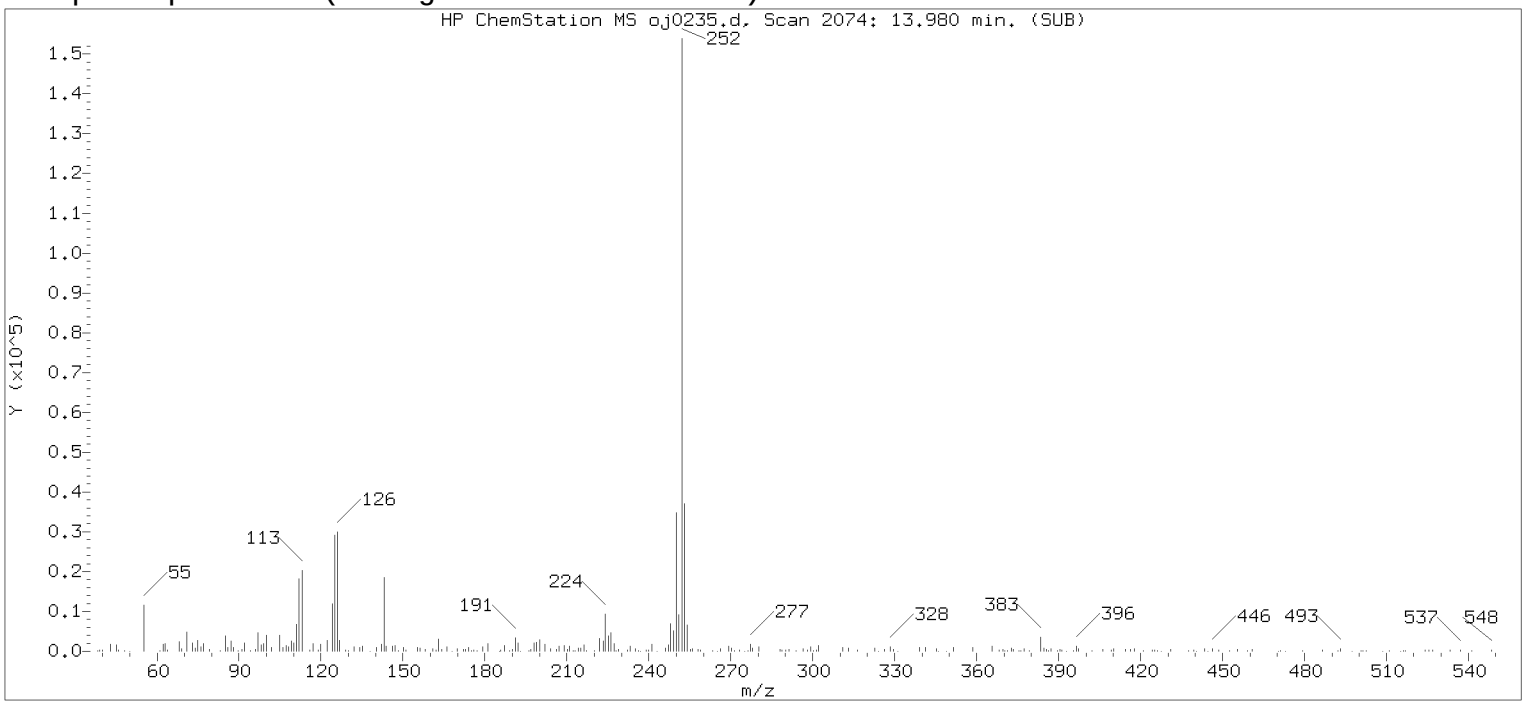
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2074
Retention Time (minutes) : 13.980
Quant Ion : 252.00
Area (flag) : 229666M
On-column Amount (ng/ul) : 7.5528
Integration start scan : 2068 Integration stop scan: 2076
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

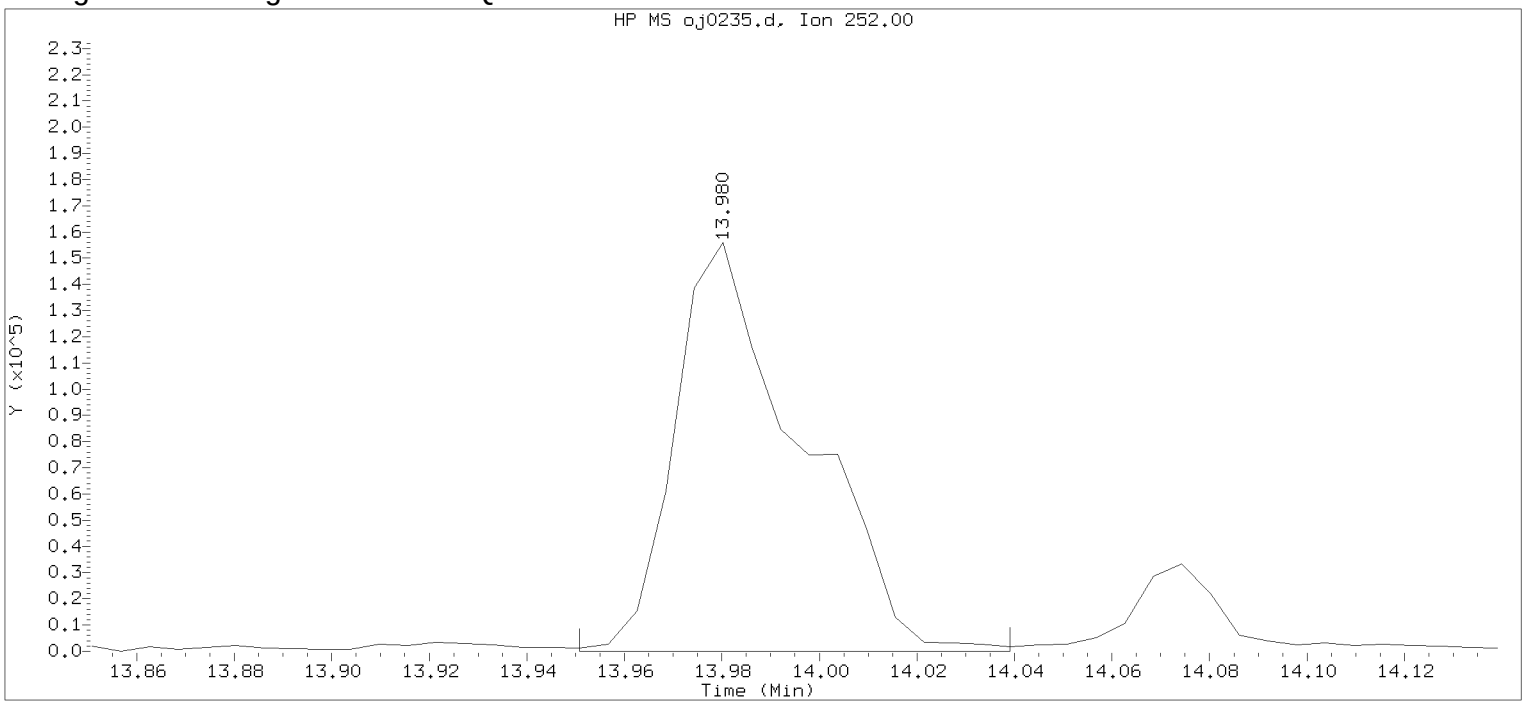
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:05.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

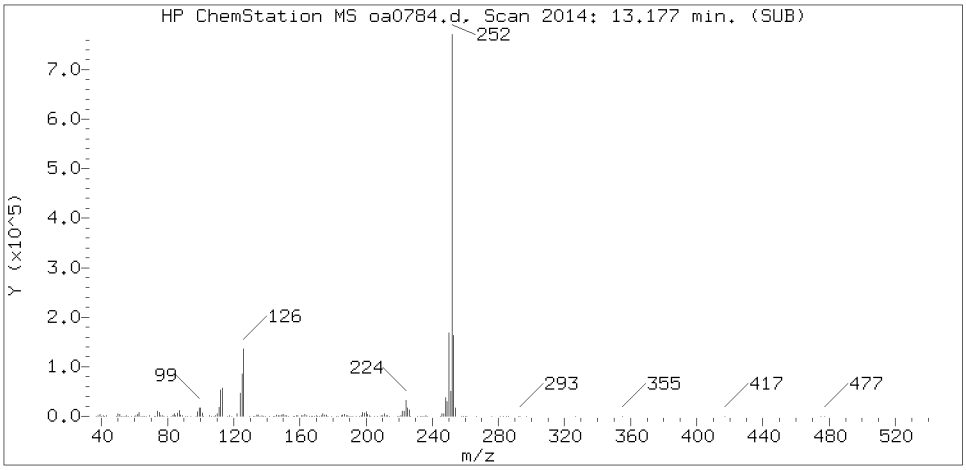
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 09:14 Automation

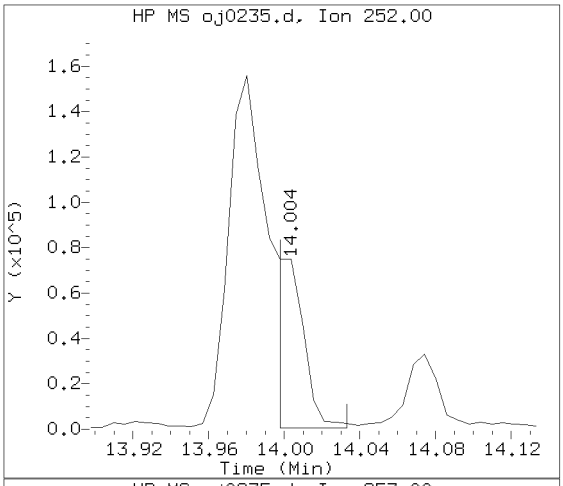
Sample Name: -479- Lab Sample ID: 8064461

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2074		
Retention Time (minutes)	: 13.980		
Quant Ion	: 252.00		
Area	: 280651		
On-column Amount (ng/ul)	: 9.2295		
Integration start scan	: 2068	Integration stop scan:	2083
Y at integration start	: 0	Y at integration end:	0

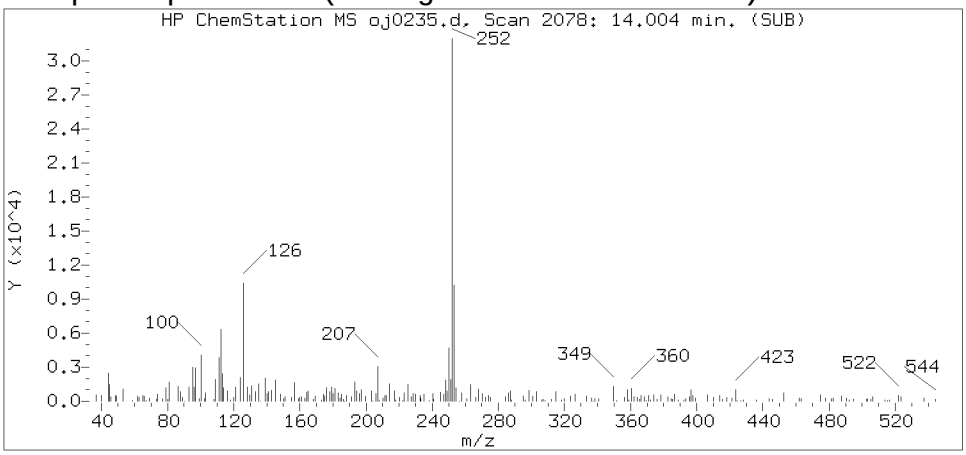
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: LMH0451

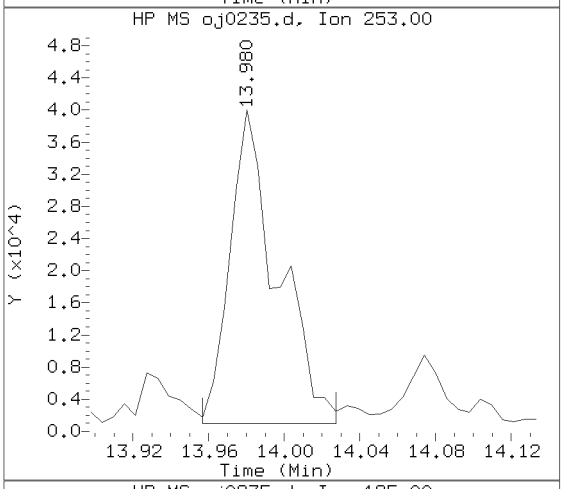
Reference Standard Spectrum for Benzo(k)fluoranthene



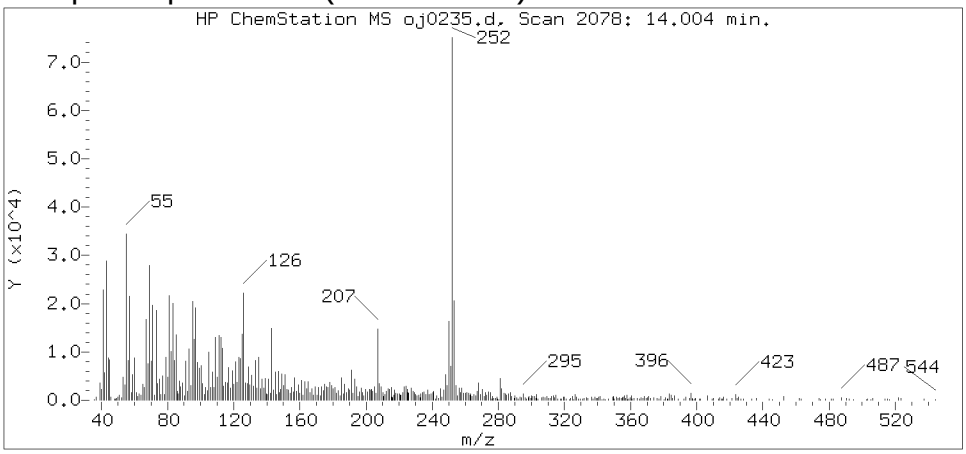


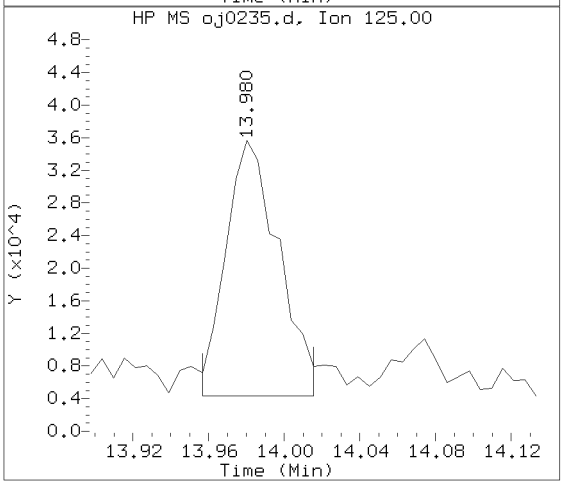
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

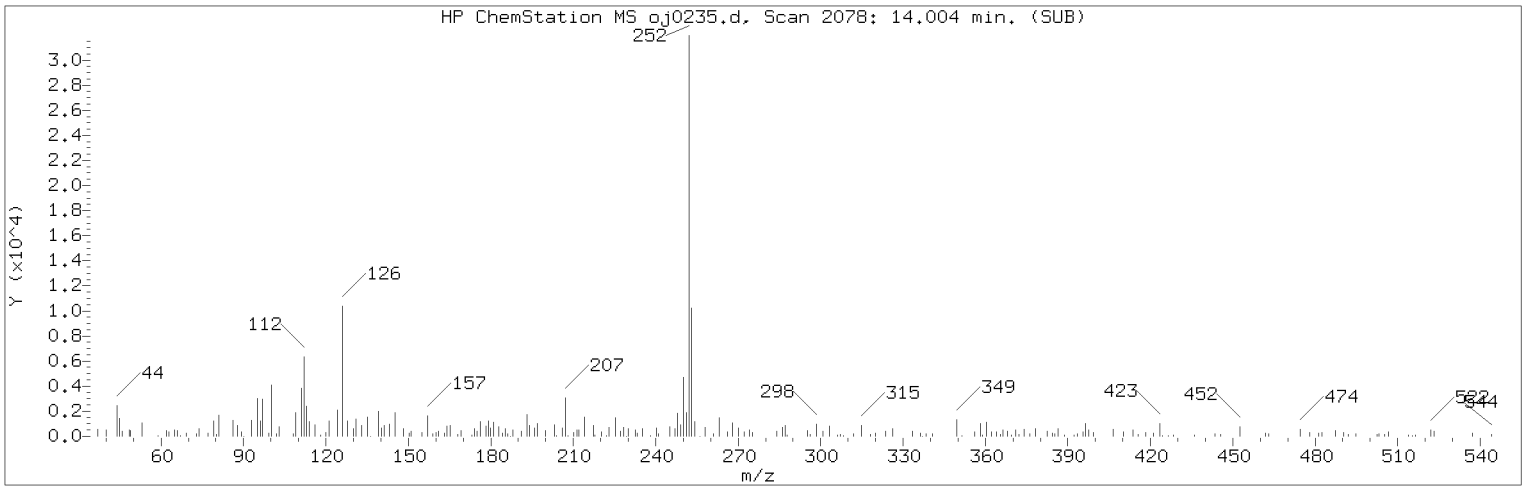
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

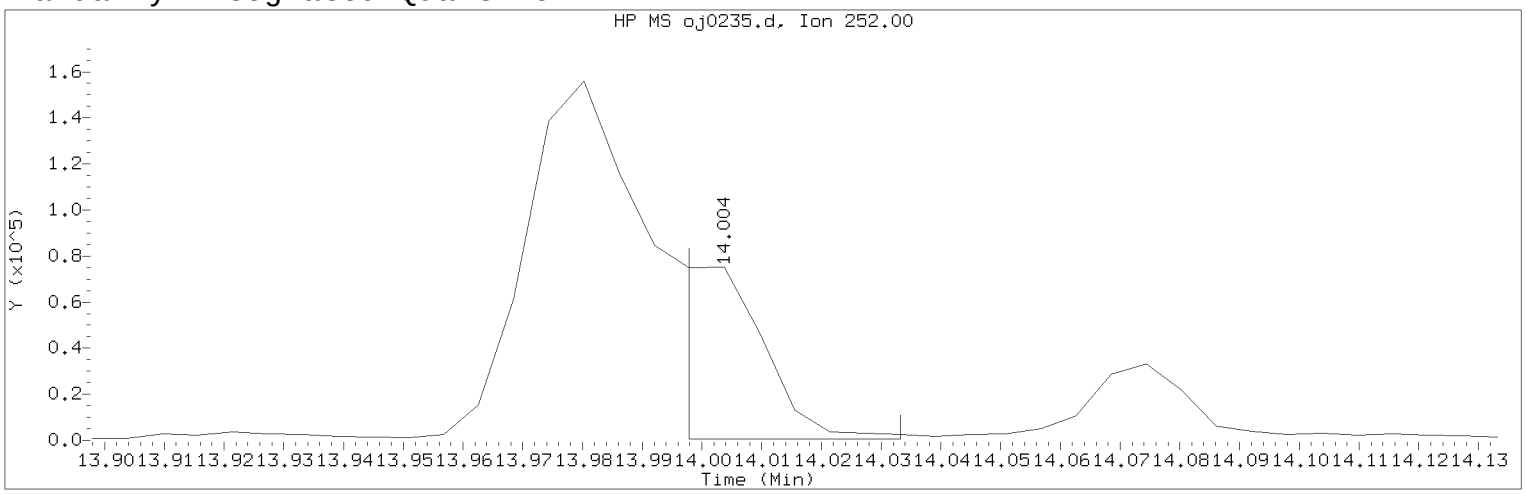
Compound Number	: 208
Compound Name	: Benzo(k)fluoranthene
Scan Number	: 2078
Retention Time (minutes)	: 14.004
Relative Retention Time	: 0.00078
Quant Ion	: 252.00
Area (flag)	: 75942M
On-column Amount (ng/ul)	: 2.4476

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

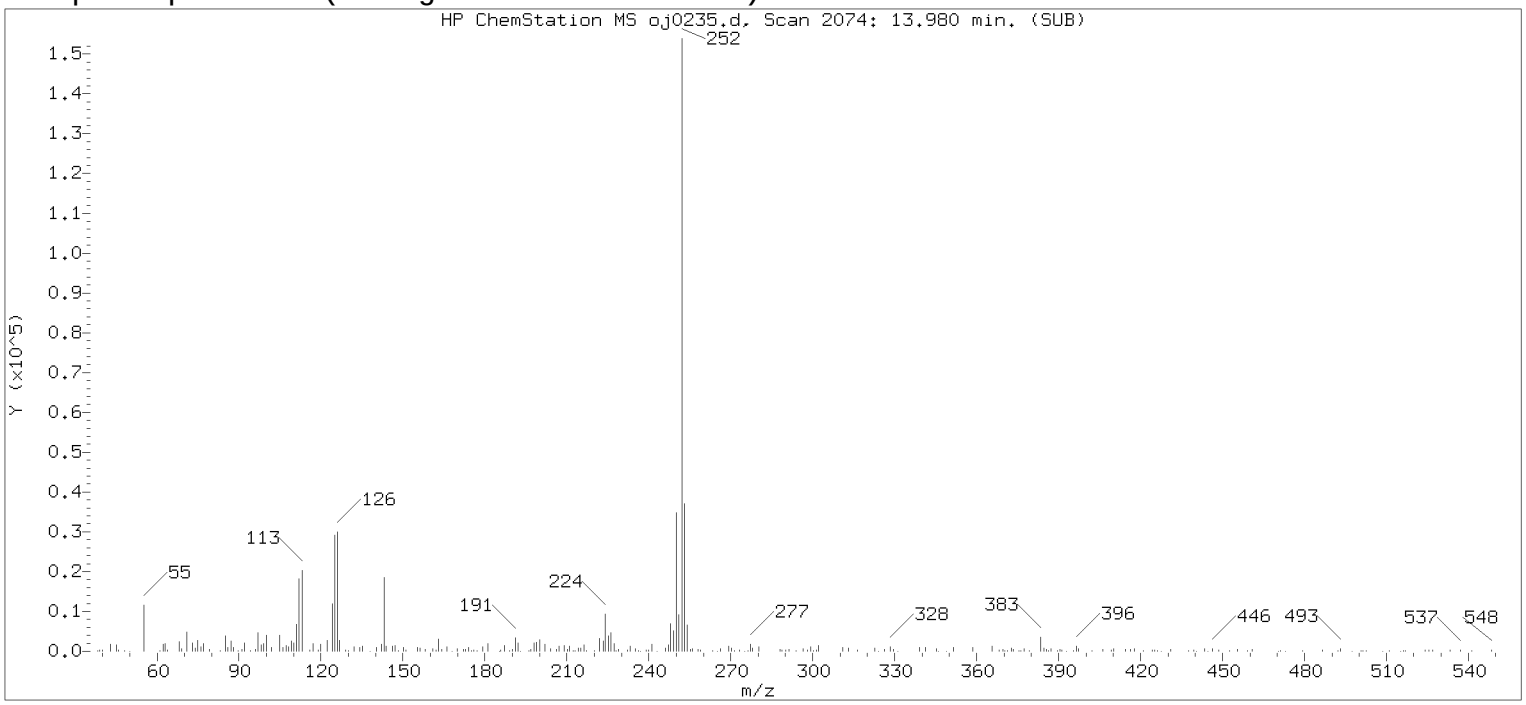
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2078
Retention Time (minutes) : 14.004
Quant Ion : 252.00
Area (flag) : 75942M
On-column Amount (ng/ul) : 2.4476
Integration start scan : 2076 Integration stop scan: 2082
Y at integration start : 584 Y at integration end: 584

Reason for manual integration: improper integration

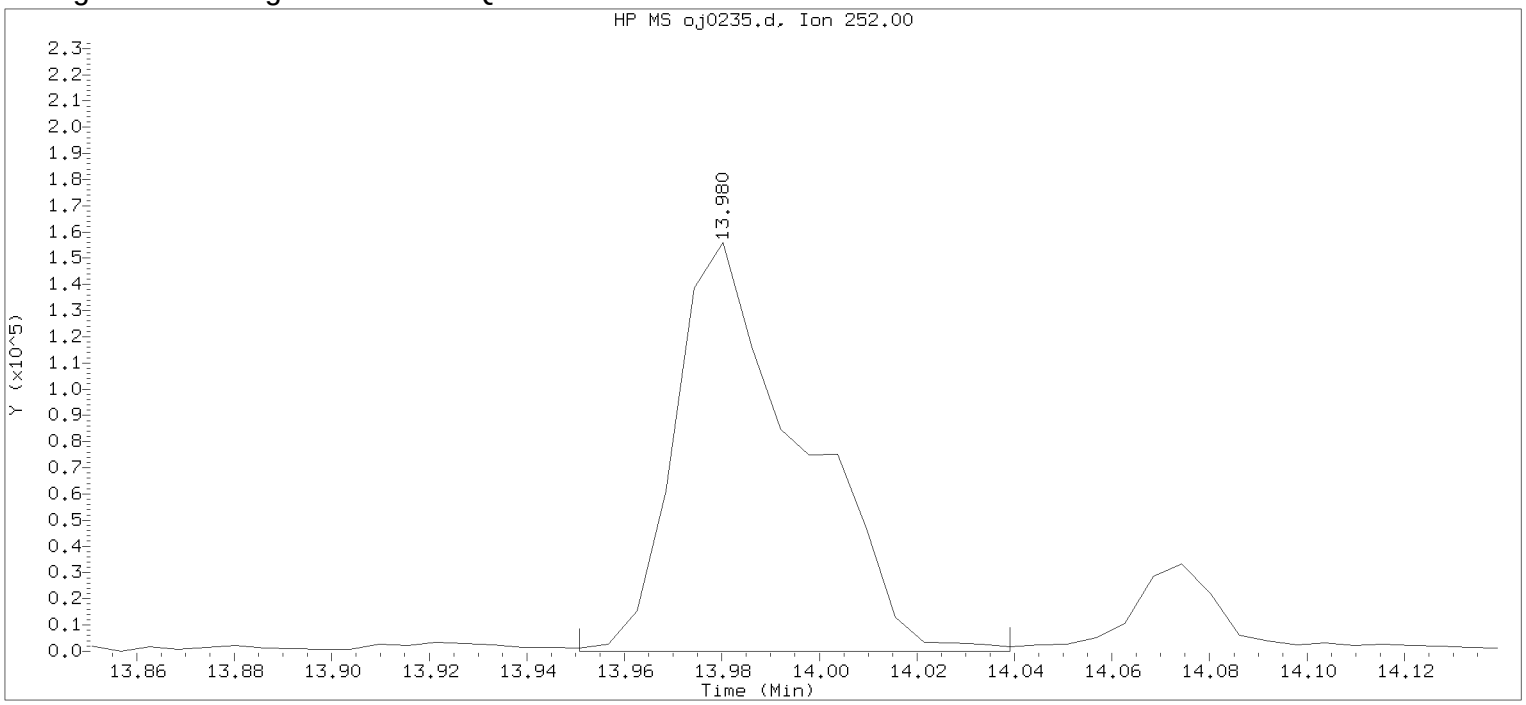
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:05.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

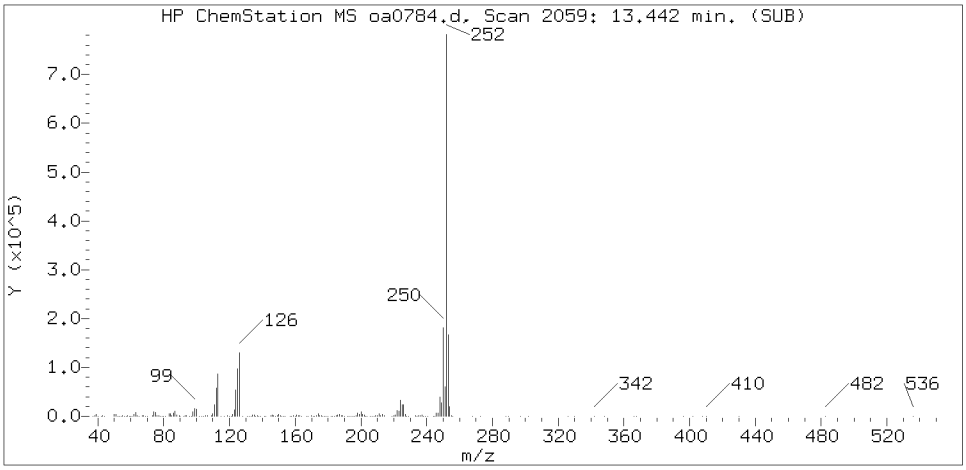
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 09:14 Automation

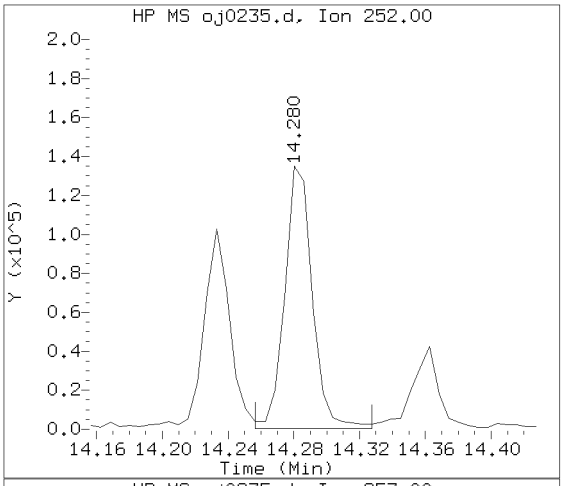
Sample Name: -479- Lab Sample ID: 8064461

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2074		
Retention Time (minutes)	: 13.980		
Quant Ion	: 252.00		
Area	: 280651		
On-column Amount (ng/ul)	: 9.0453		
Integration start scan	: 2068	Integration stop scan:	2083
Y at integration start	: 0	Y at integration end:	0

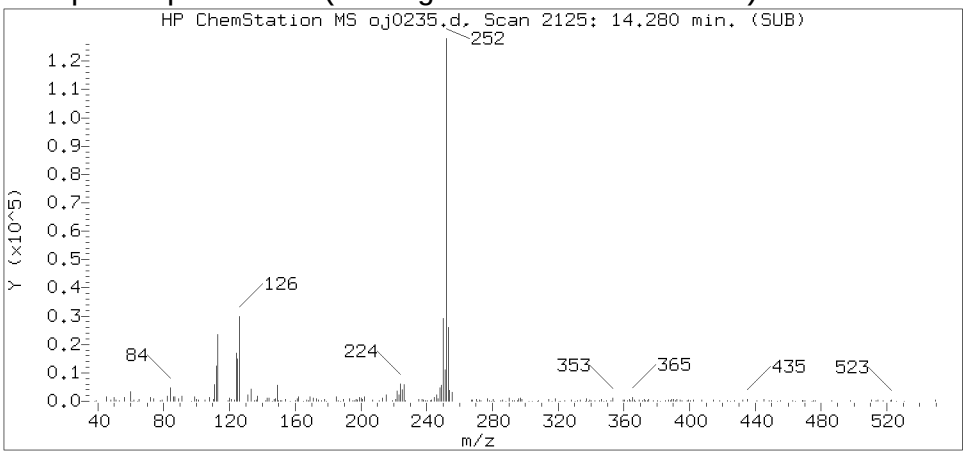
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: LMH0456

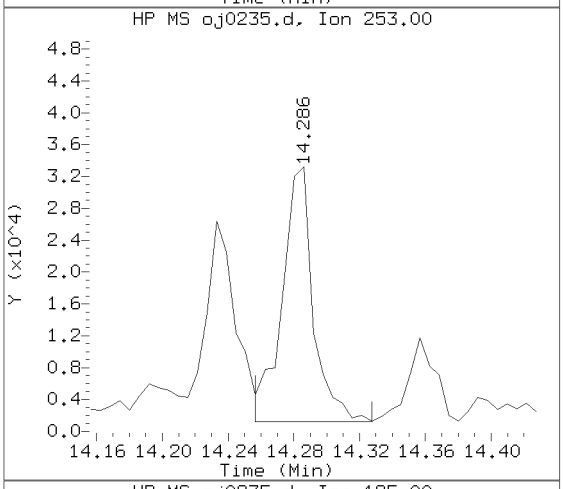
Reference Standard Spectrum for Benzo(a)pyrene



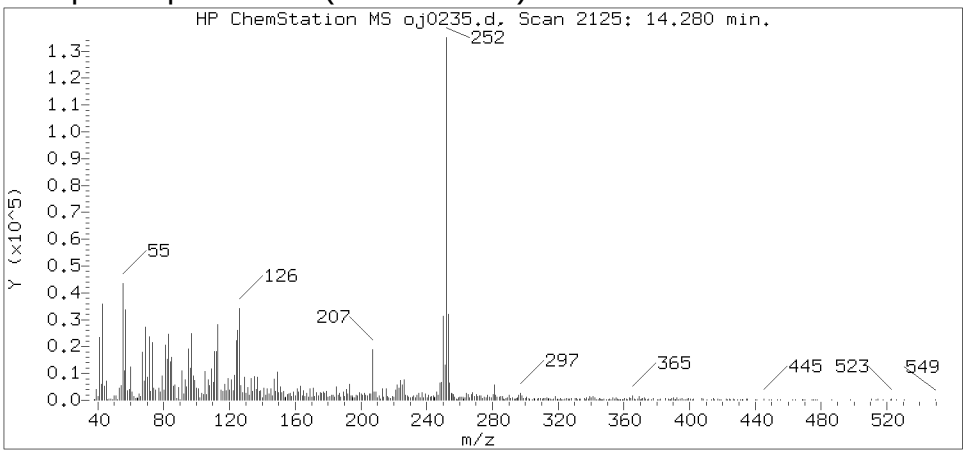


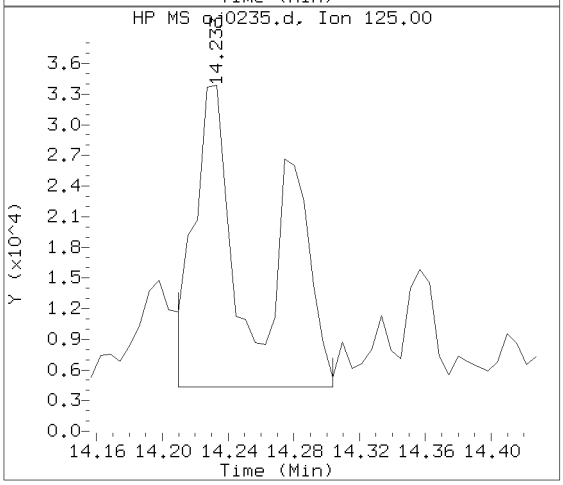
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

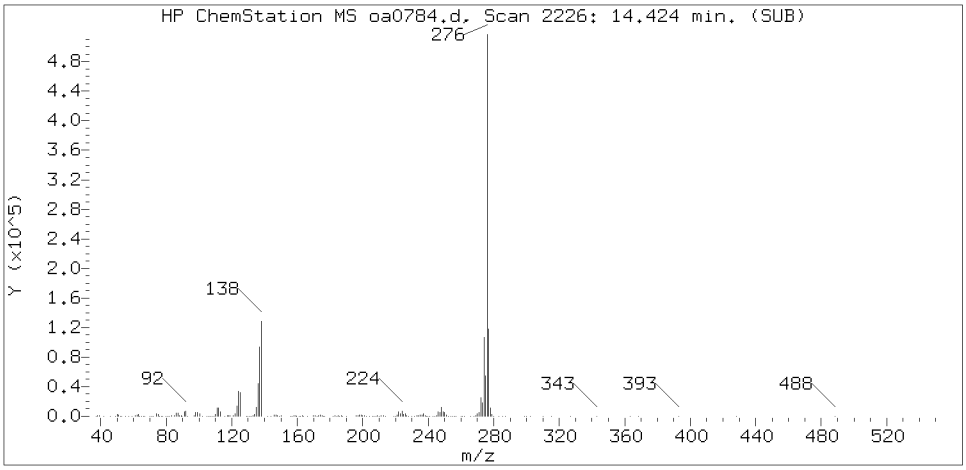
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

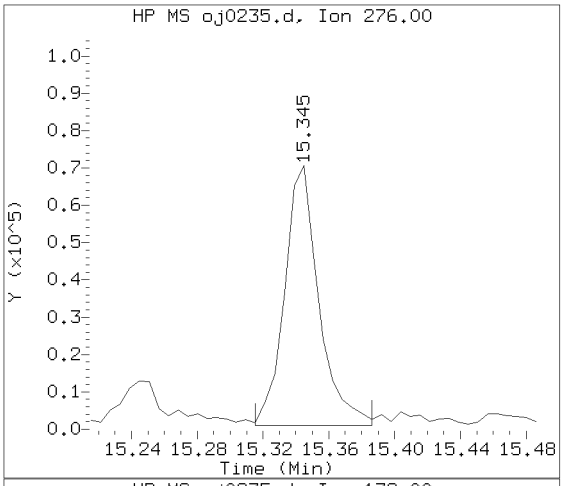
Sample Name: -479- Lab Sample ID: 8064461

Compound Number	: 211
Compound Name	: Benzo(a)pyrene
Scan Number	: 2125
Retention Time (minutes)	: 14.280
Relative Retention Time	: 0.00041
Quant Ion	: 252.00
Area (flag)	: 157586
On-column Amount (ng/ul)	: 5.2471

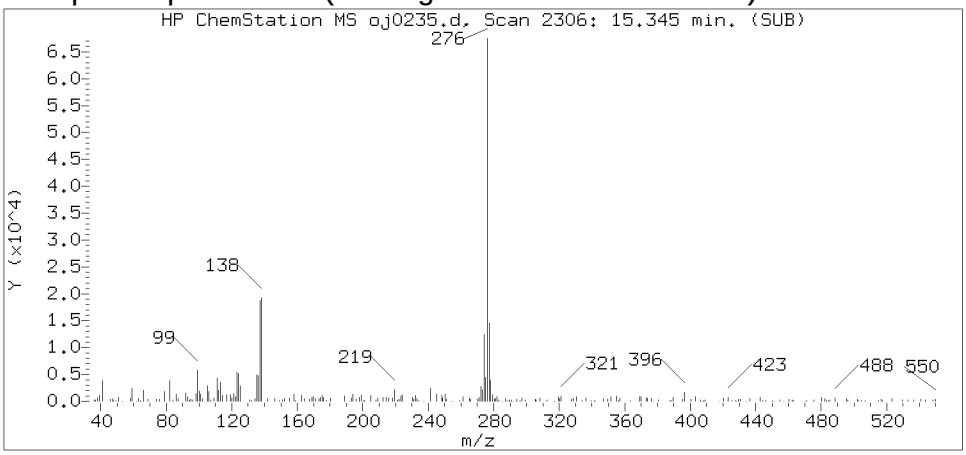
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

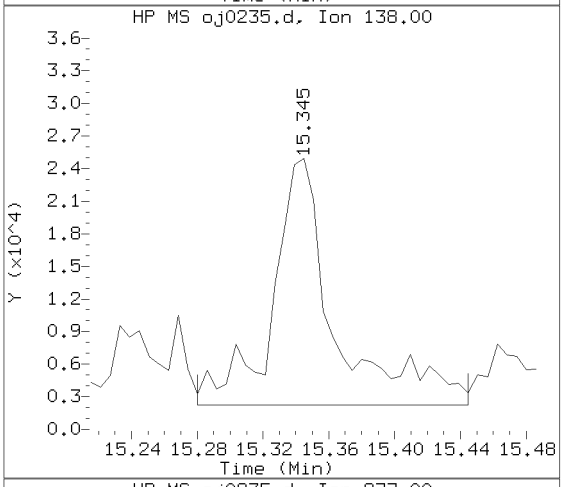
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



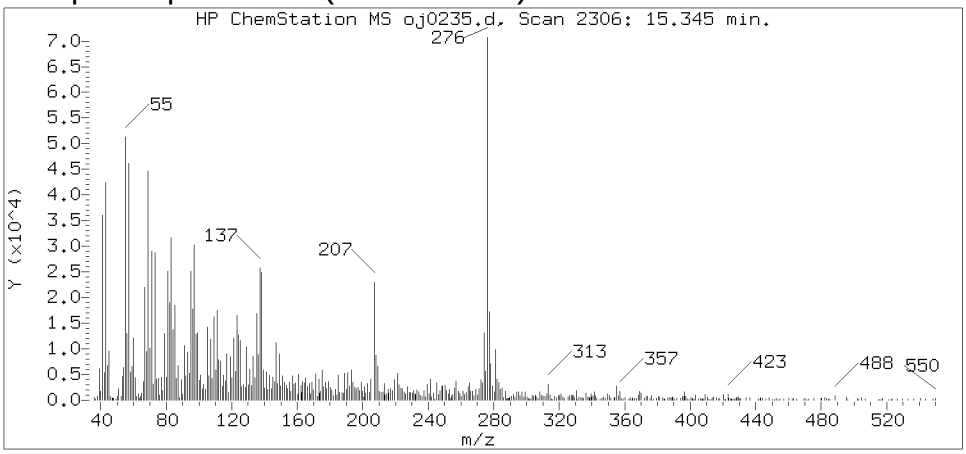


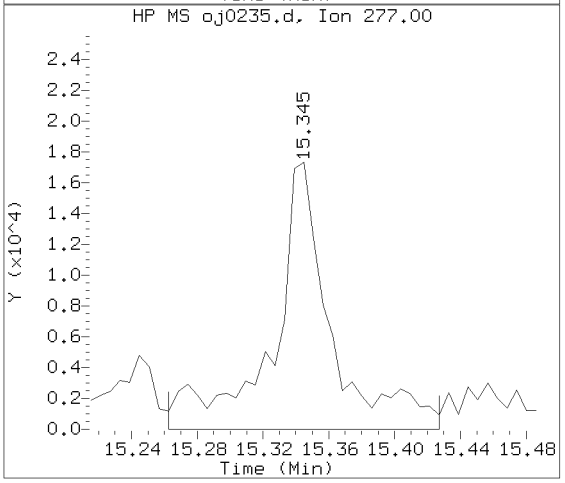
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

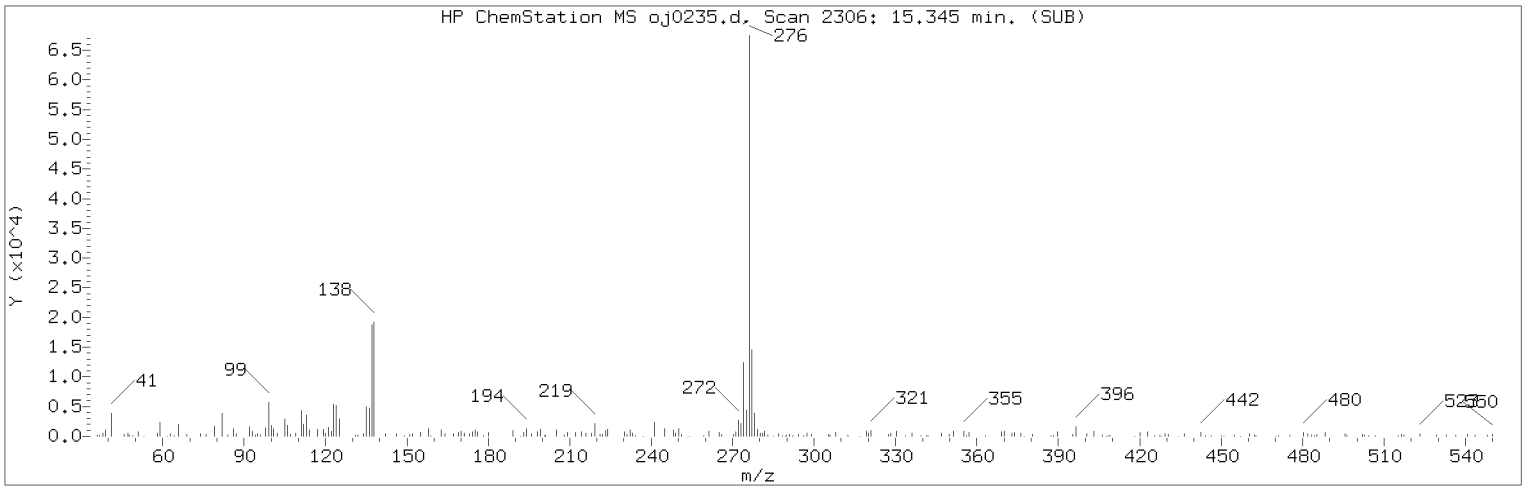
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

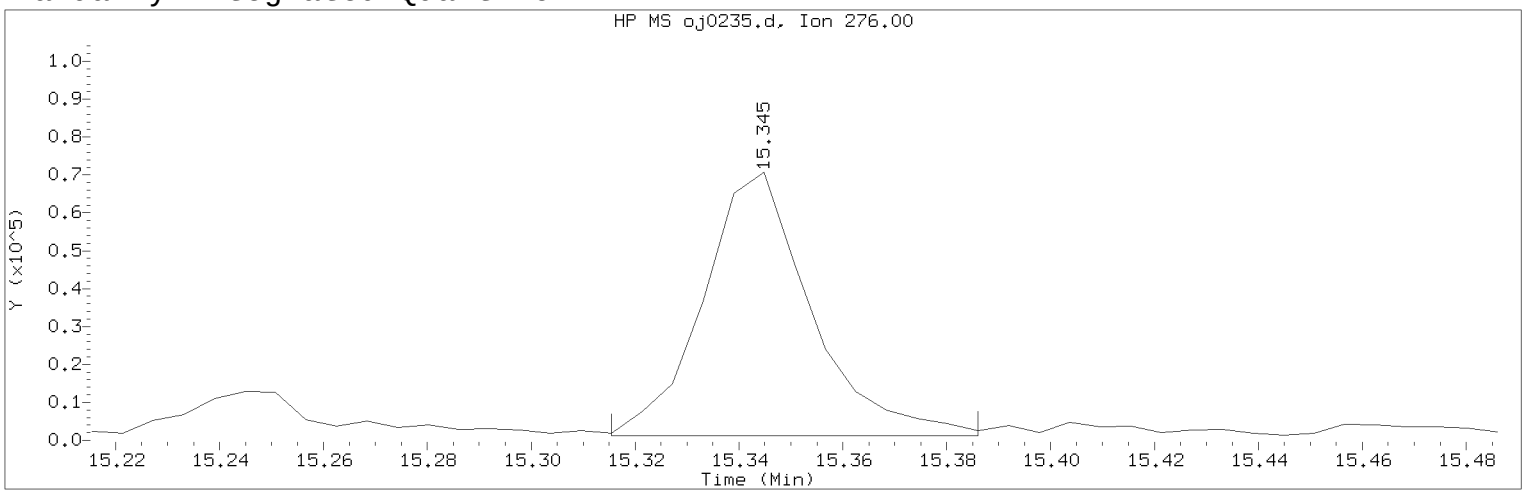
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2306
Retention Time (minutes) : 15.345
Relative Retention Time :-0.00030
Quant Ion : 276.00
Area (flag) : 101078M
On-column Amount (ng/ul) : 3.2314

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

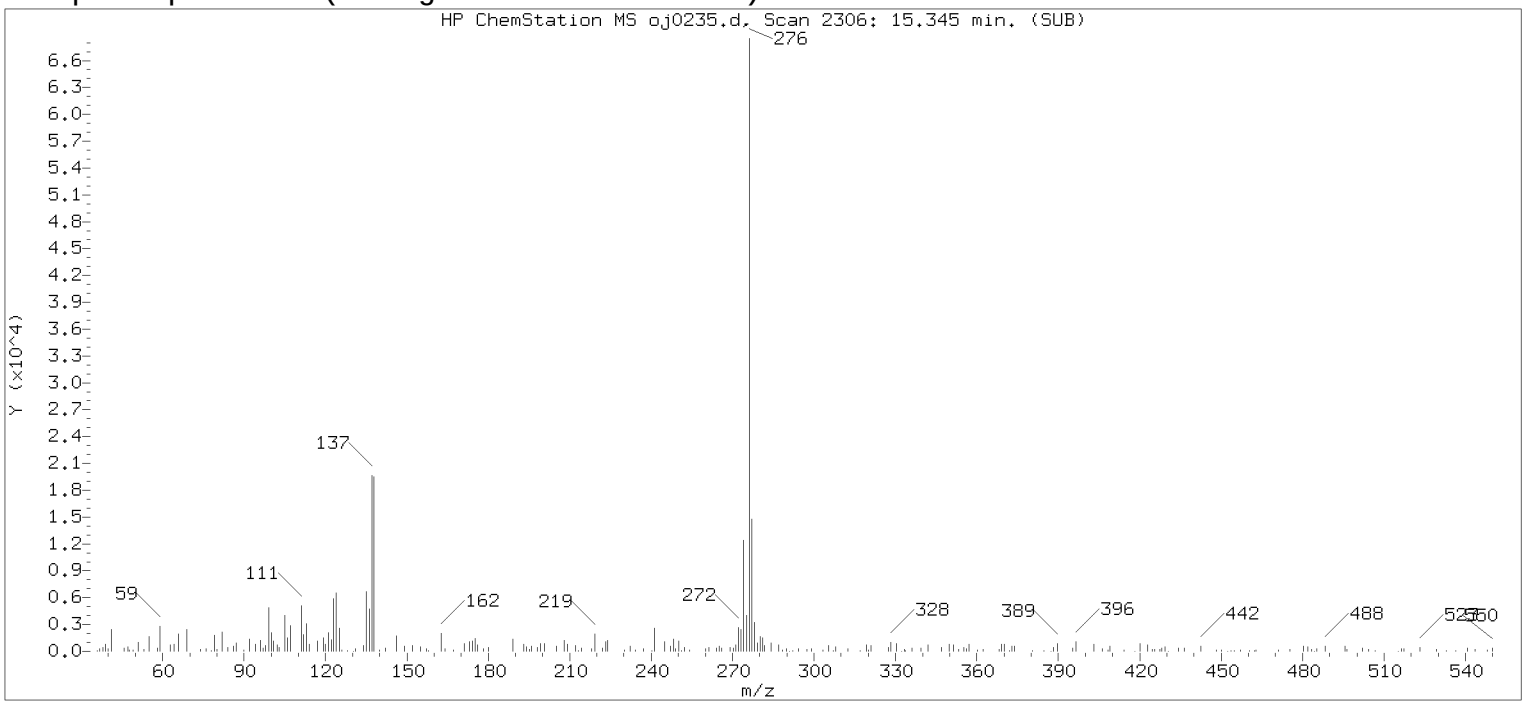
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2306
Retention Time (minutes) : 15.345
Quant Ion : 276.00
Area (flag) : 101078M
On-column Amount (ng/ul) : 3.2314
Integration start scan : 2300 Integration stop scan: 2312
Y at integration start : 1101 Y at integration end: 1101

Reason for manual integration: improper integration

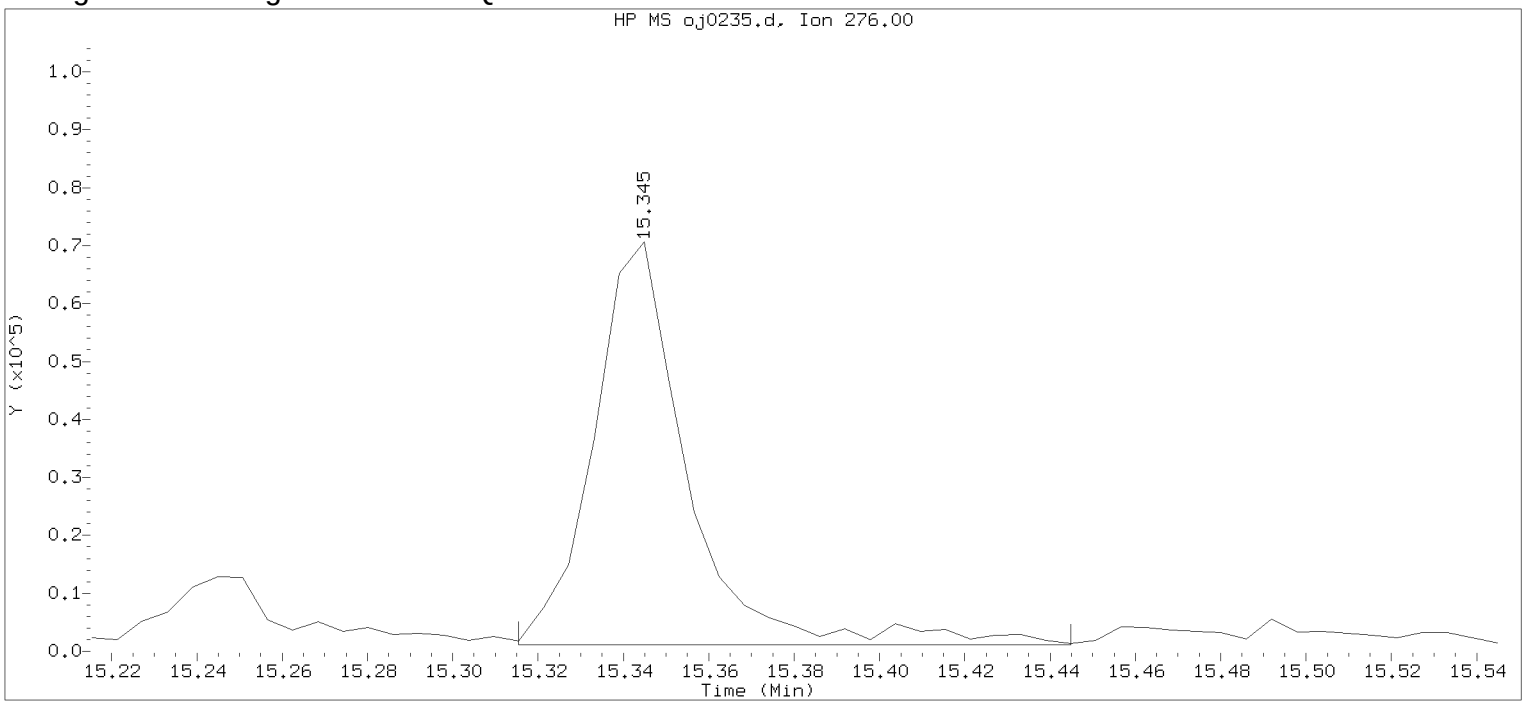
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:05.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

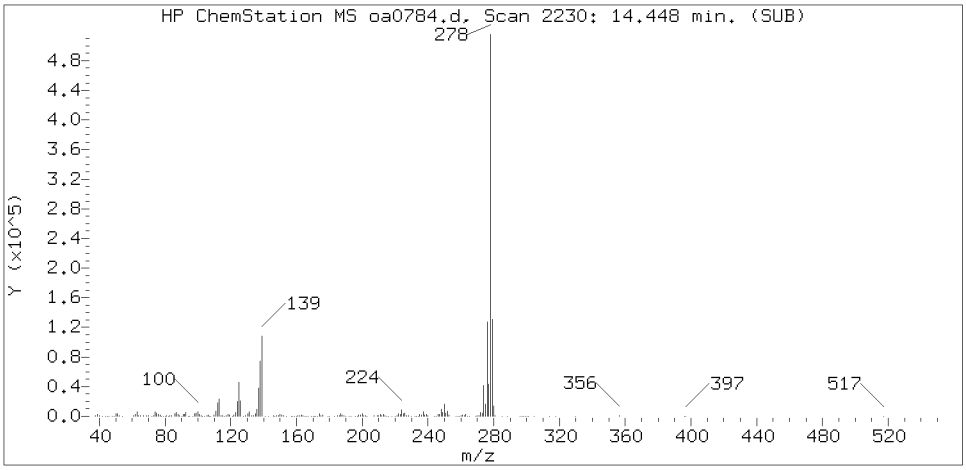
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 09:14 Automation

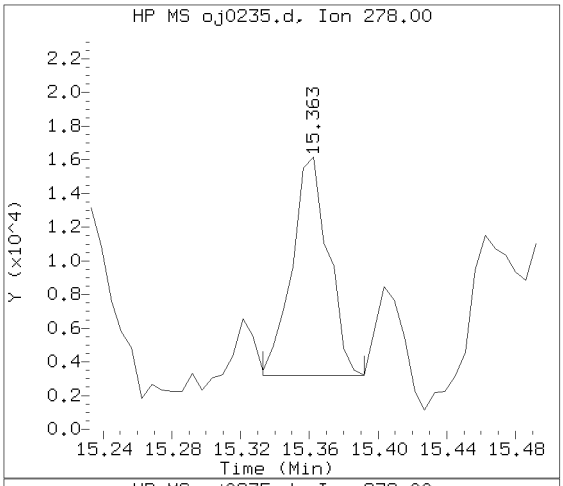
Sample Name: -479- Lab Sample ID: 8064461

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2306
Retention Time (minutes) : 15.345
Quant Ion : 276.00
Area : 107191
On-column Amount (ng/ul) : 3.4268
Integration start scan : 2300 Integration stop scan: 2322
Y at integration start : 1101 Y at integration end: 1101

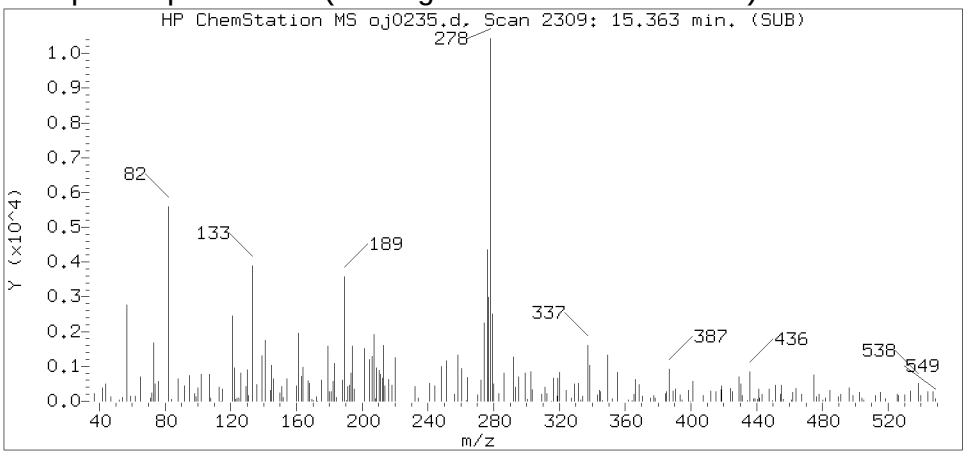
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: LMH0458

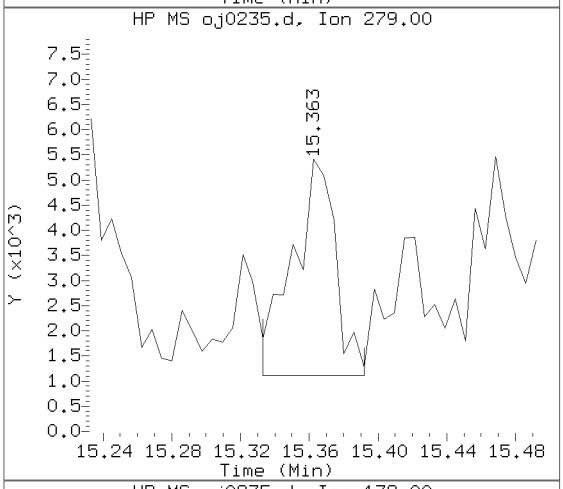
Reference Standard Spectrum for Dibenz(a,h)anthracene



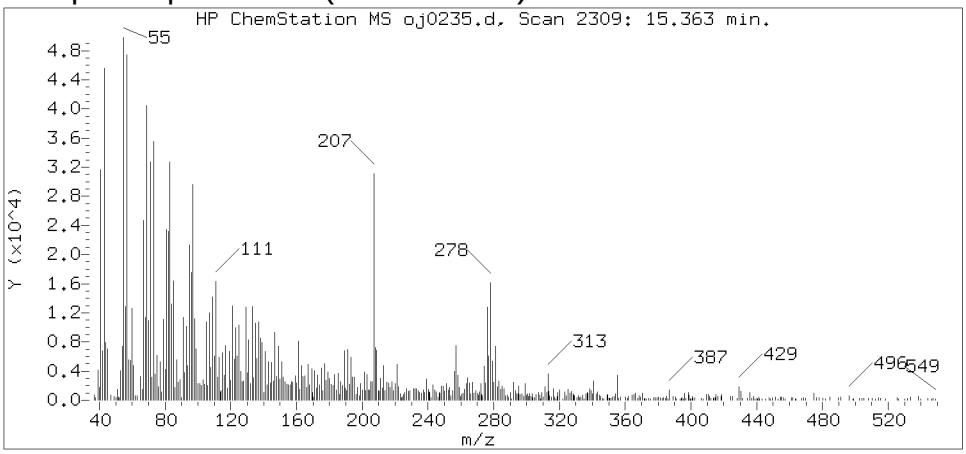


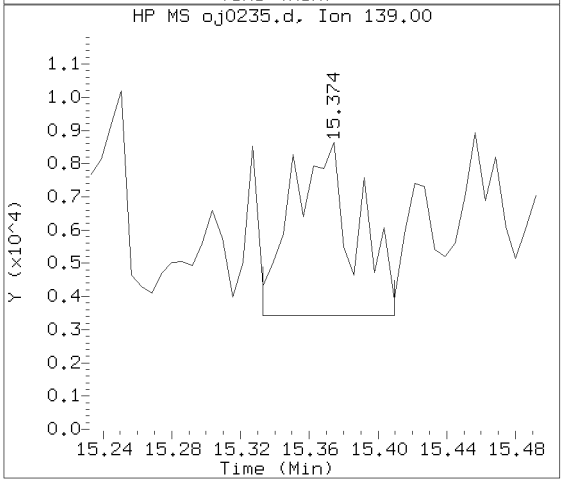
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

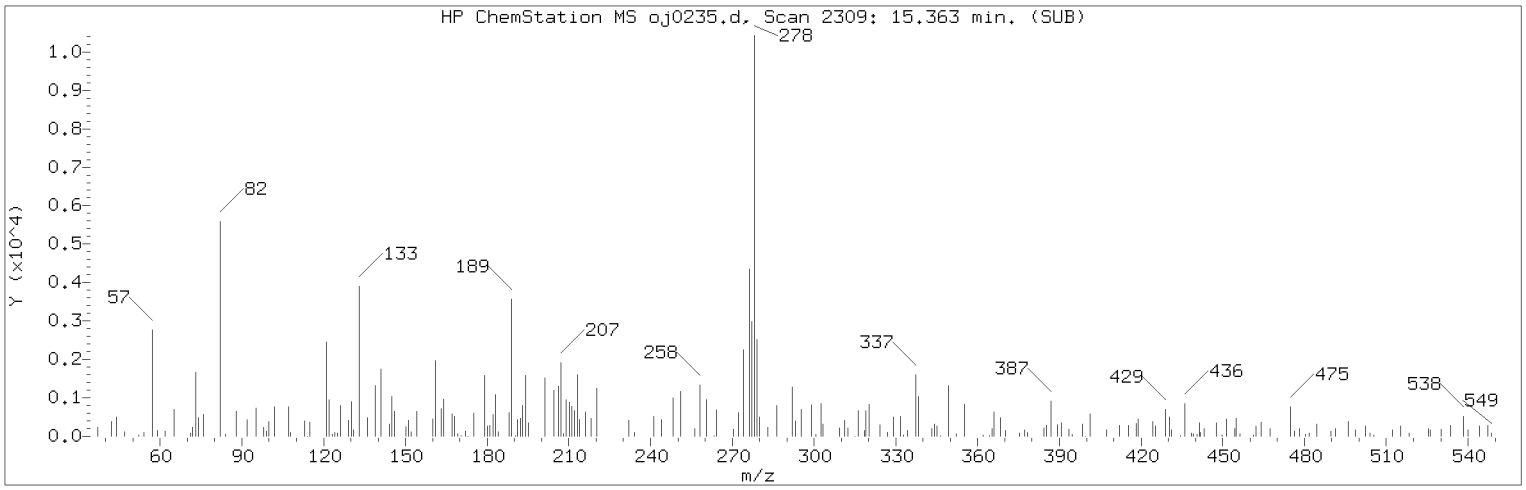
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

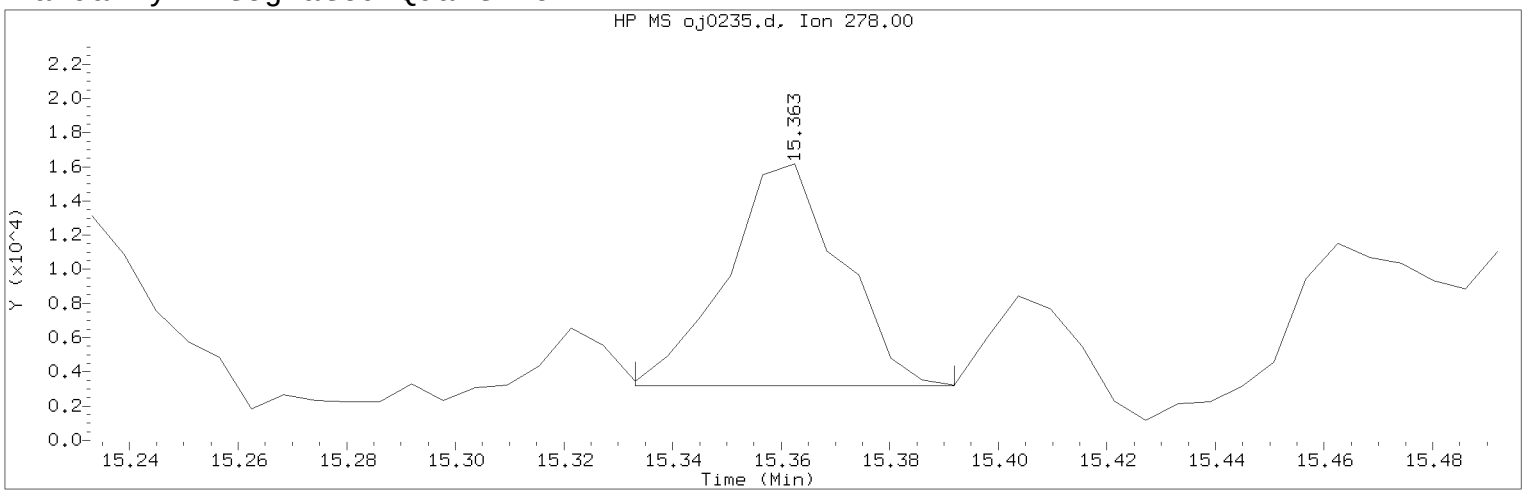
Compound Number	: 220
Compound Name	: Dibenz(a,h)anthracene
Scan Number	: 2309
Retention Time (minutes)	: 15.363
Relative Retention Time	: 0.00012
Quant Ion	: 278.00
Area (flag)	: 19059M
On-column Amount (ng/ul)	: 0.7243

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

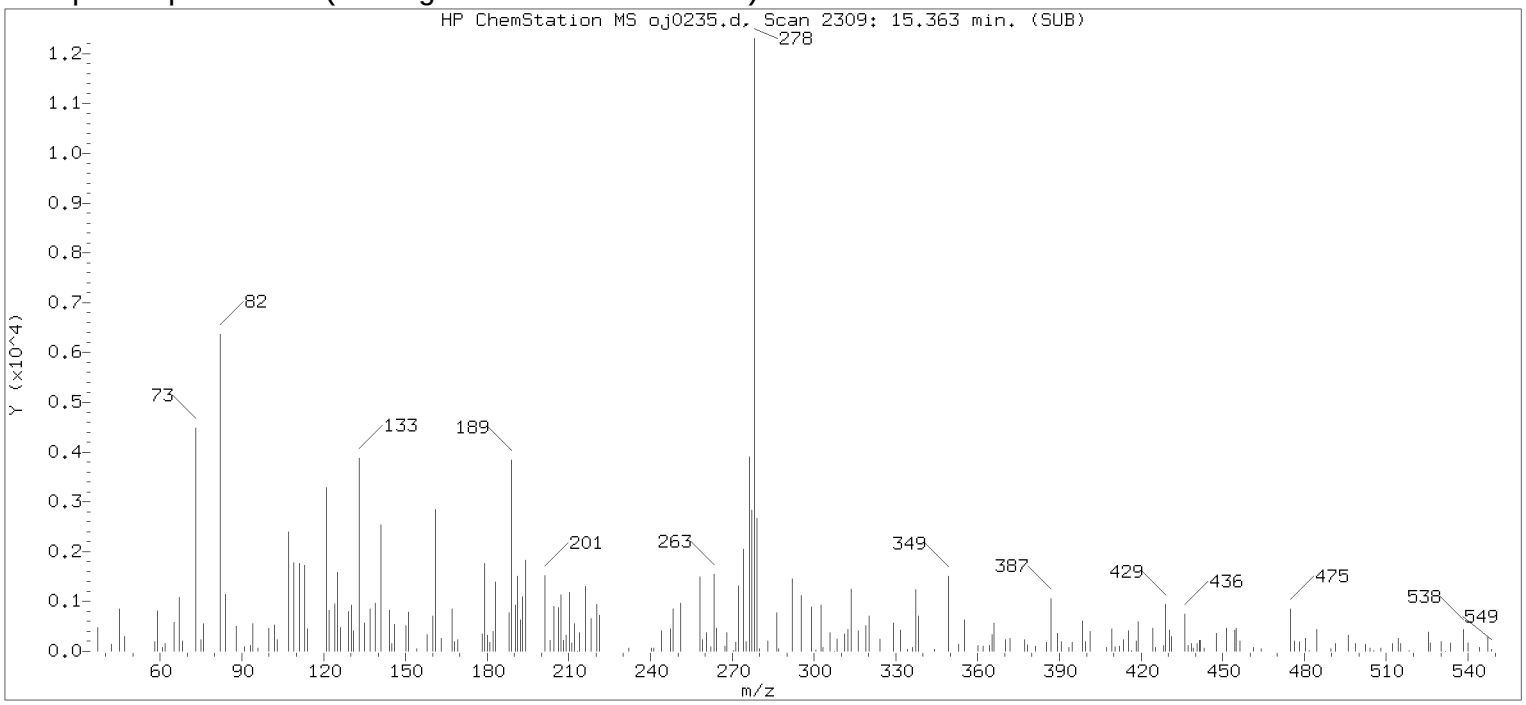
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 2309
Retention Time (minutes) : 15.363
Quant Ion : 278.00
Area (flag) : 19059M
On-column Amount (ng/ul) : 0.7243
Integration start scan : 2303 Integration stop scan: 2313
Y at integration start : 3194 Y at integration end: 3194

Reason for manual integration: improper integration

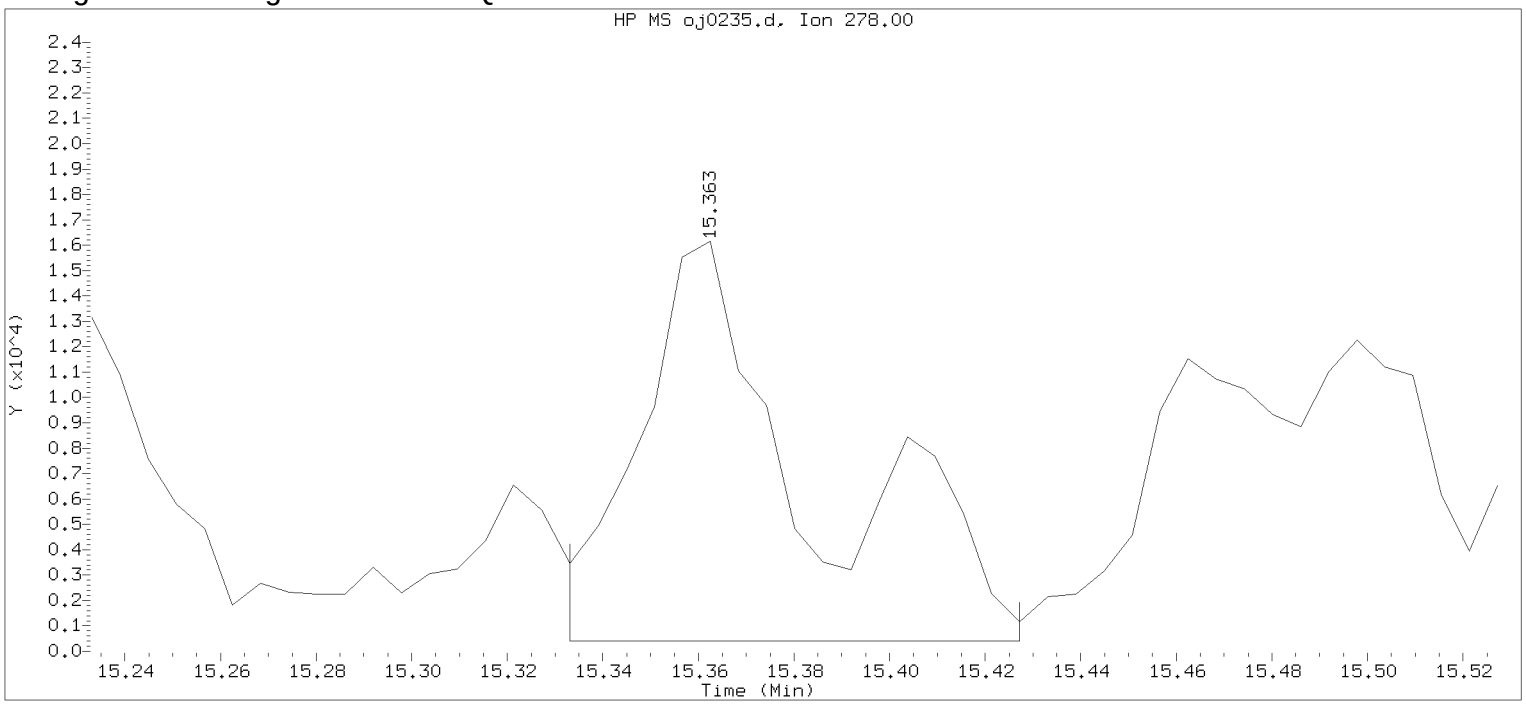
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:05.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

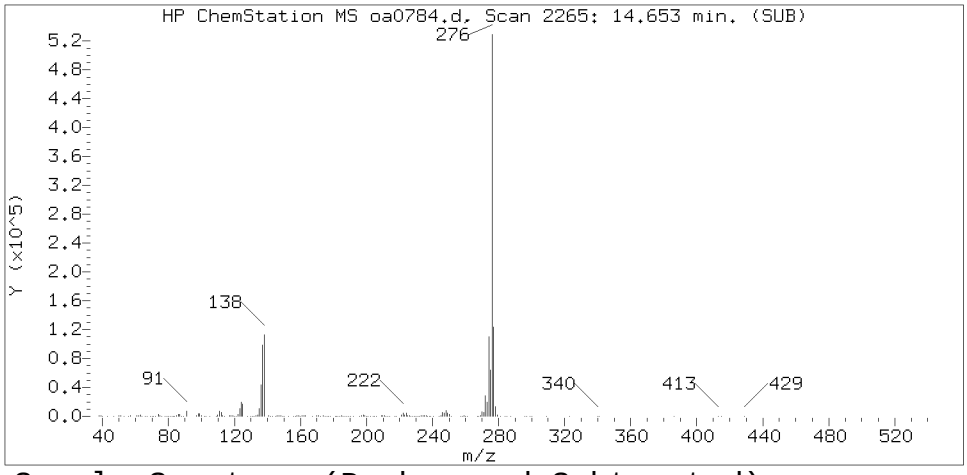
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 09:14 Automation

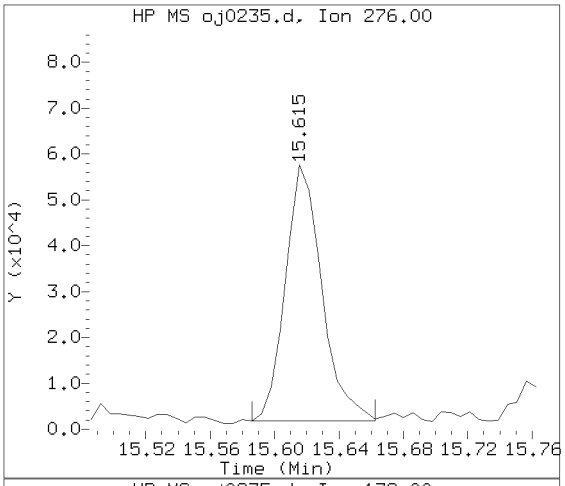
Sample Name: -479- Lab Sample ID: 8064461

Compound Number	: 220		
Compound Name	: Dibenz(a,h)anthracene		
Scan Number	: 2309		
Retention Time (minutes)	: 15.363		
Quant Ion	: 278.00		
Area	: 39261		
On-column Amount (ng/ul)	: 1.4921		
Integration start scan	: 2303	Integration stop scan:	2319
Y at integration start	: 408	Y at integration end:	408

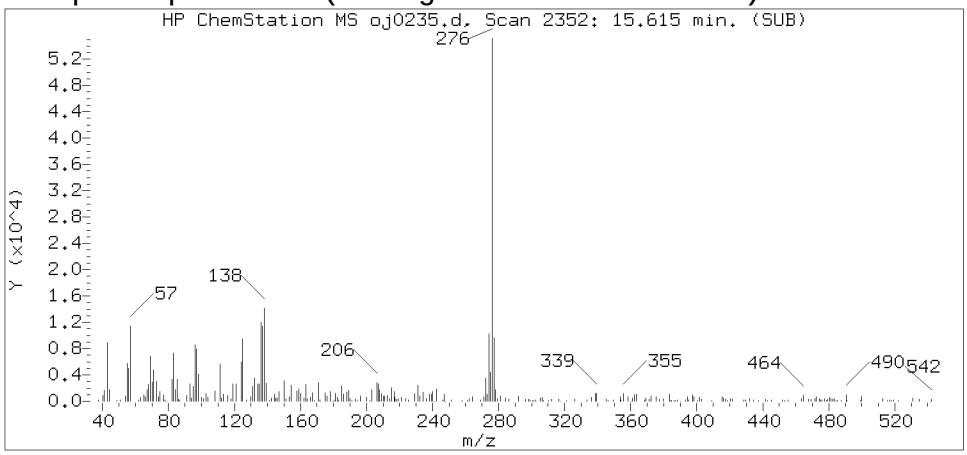
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: LMH0451

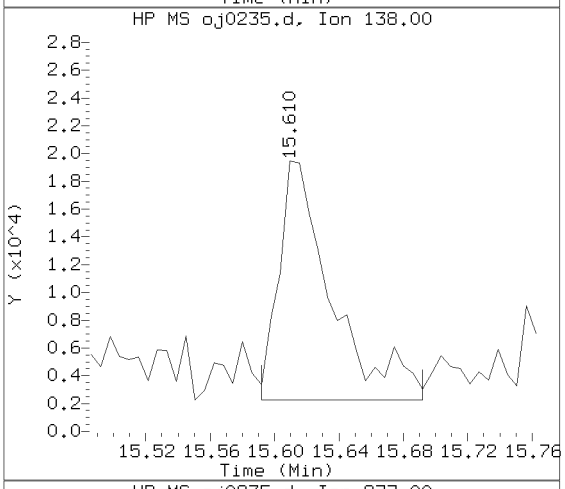
Reference Standard Spectrum for Benzo(g,h,i)perylene



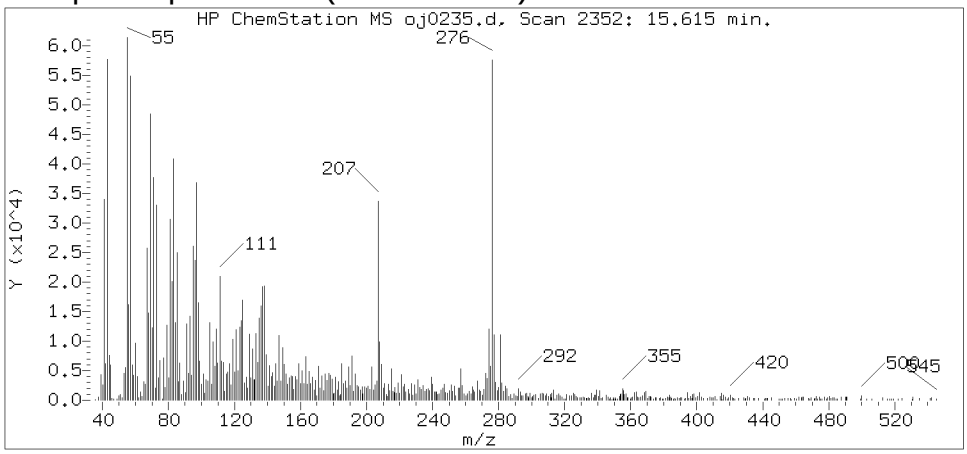


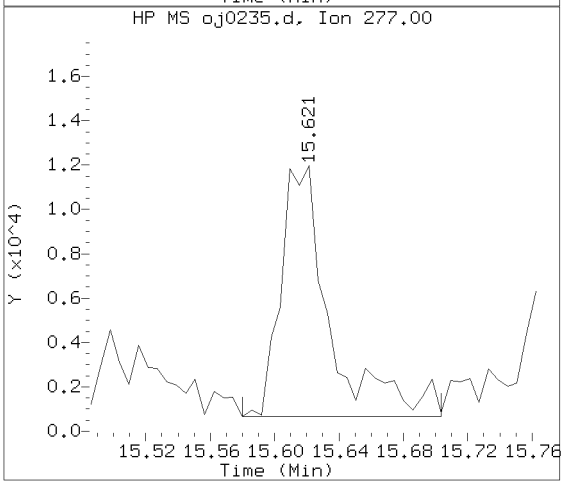
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

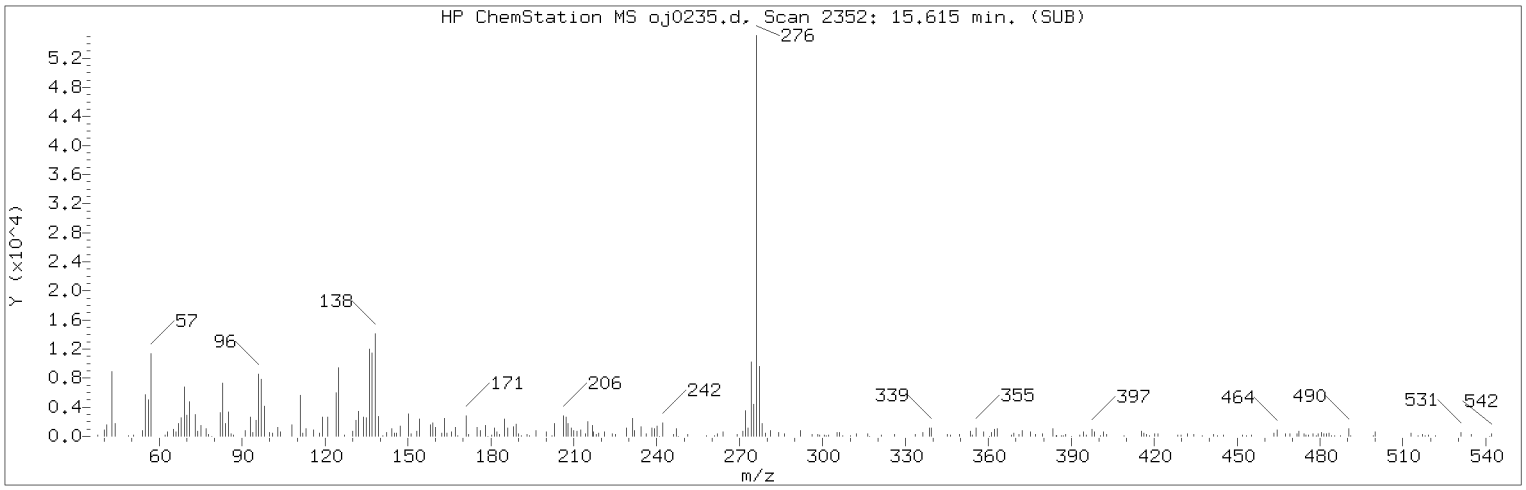
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

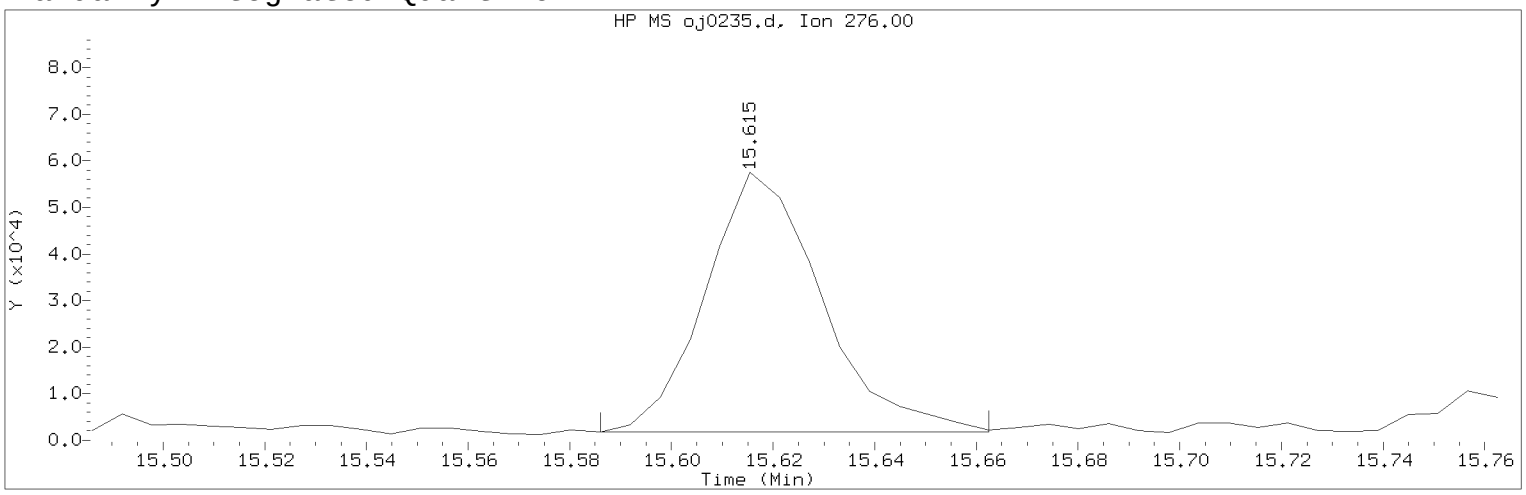
Compound Number : 221
Compound Name : Benzo(g,h,i)perylene
Scan Number : 2352
Retention Time (minutes) : 15.615
Relative Retention Time :-0.00026
Quant Ion : 276.00
Area (flag) : 87978M
On-column Amount (ng/ul) : 3.4243

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:26 lmh00956

Sample Name: -479- Lab Sample ID: 8064461

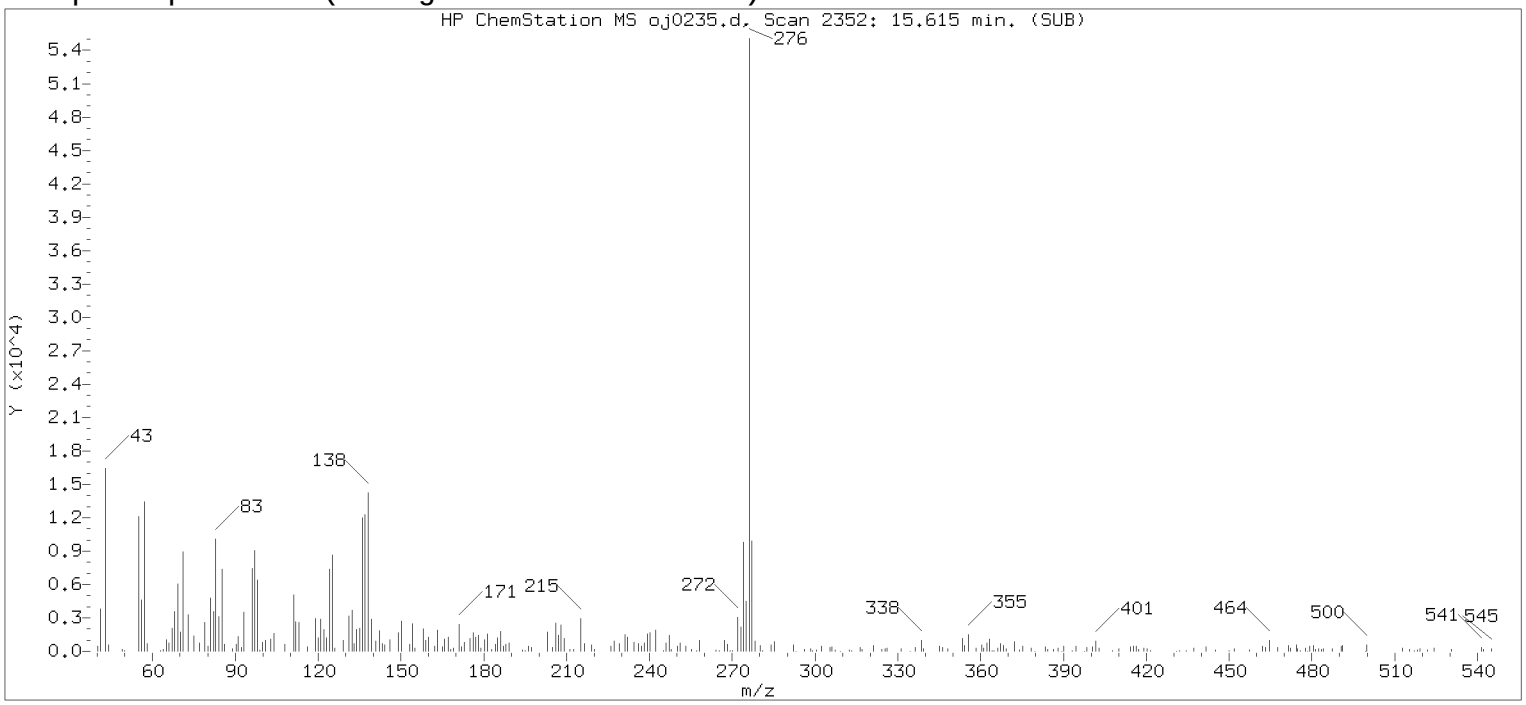
Compound Number : 221
Compound Name : Benzo(g,h,i)perylene
Scan Number : 2352
Retention Time (minutes) : 15.615
Quant Ion : 276.00
Area (flag) : 87978M
On-column Amount (ng/ul) : 3.4243
Integration start scan : 2346 Integration stop scan: 2359
Y at integration start : 1821 Y at integration end: 1821

Reason for manual integration: improper integration

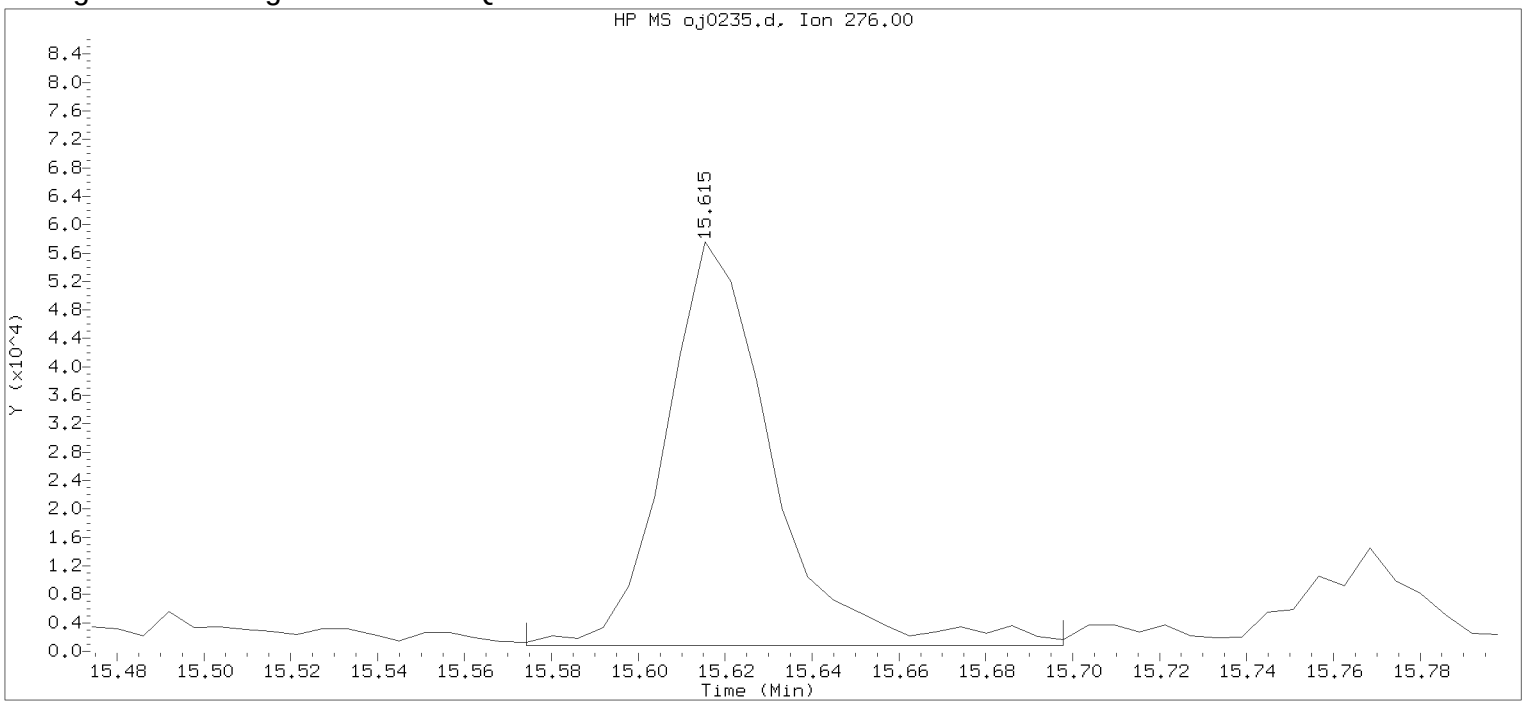
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:05.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0235.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 08:58 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 09:14 Automation

Sample Name: -479- Lab Sample ID: 8064461

Compound Number	: 221		
Compound Name	: Benzo(g,h,i)perylene		
Scan Number	: 2352		
Retention Time (minutes)	: 15.615		
Quant Ion	: 276.00		
Area	: 97119		
On-column Amount (ng/ul)	: 3.7801		
Integration start scan	: 2344	Integration stop scan:	2365
Y at integration start	: 839	Y at integration end:	839

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:28.
Target 3.5 esignature user ID: LMH0476

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles 8064462

Data file: /chem/HP09910.i/15oct04a.b/oj0236.d
Injection date and time: **05-OCT-2015 09:22**
Data file Sample Info. Line: -480-;8064462;2;0;SAMPLE;;;
Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 10:27 lmh00956

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 04-OCT-2015 23:35
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct04a.b/oj0211.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.38 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	5.904(-0.012)	701	152	117184 (-1)	20.00	
65) Naphthalene-d8	7.181(-0.006)	918	136	534818 (-7)	20.00	
113) Acenaphthene-d10	8.904(-0.006)	1211	164	325483 (-13)	20.00	
153) Phenanthrene-d10	10.351(-0.006)	1457	188	595590 (-13)	20.00	
175) Pyrene-d10	11.733(-0.012)	1692	212	604217 (-21)	20.00	
213) Perylene-d12	14.333(-0.018)	2134	264	431464 (-25)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.475(0.000)	82	1007230	80.930	81%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.269(-0.001)	172	1932747	93.551	94%		63 - 117
179) Terphenyl-d14	(5)	11.933(0.000)	244	2133510	95.947	96%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)			Not Detected					0.1
157) Anthracene	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.1
177) Pyrene	(5)			Not Detected					0.1
195) Benzo(a)anthracene	(5)			Not Detected					0.1
196) Chrysene	(5)			Not Detected					0.1
206) Benzo(b)fluoranthene	(6)			Not Detected					0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.1
211) Benzo(a)pyrene	(6)			Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.1

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29. Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct04a.b/oj0236.d Injection date and time: **05-OCT-2015 09:22**
Data file Sample Info. Line: -480-;8064462;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 10:27 lmh00956

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 04-OCT-2015 23:35
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct04a.b/oj0211.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.38 g

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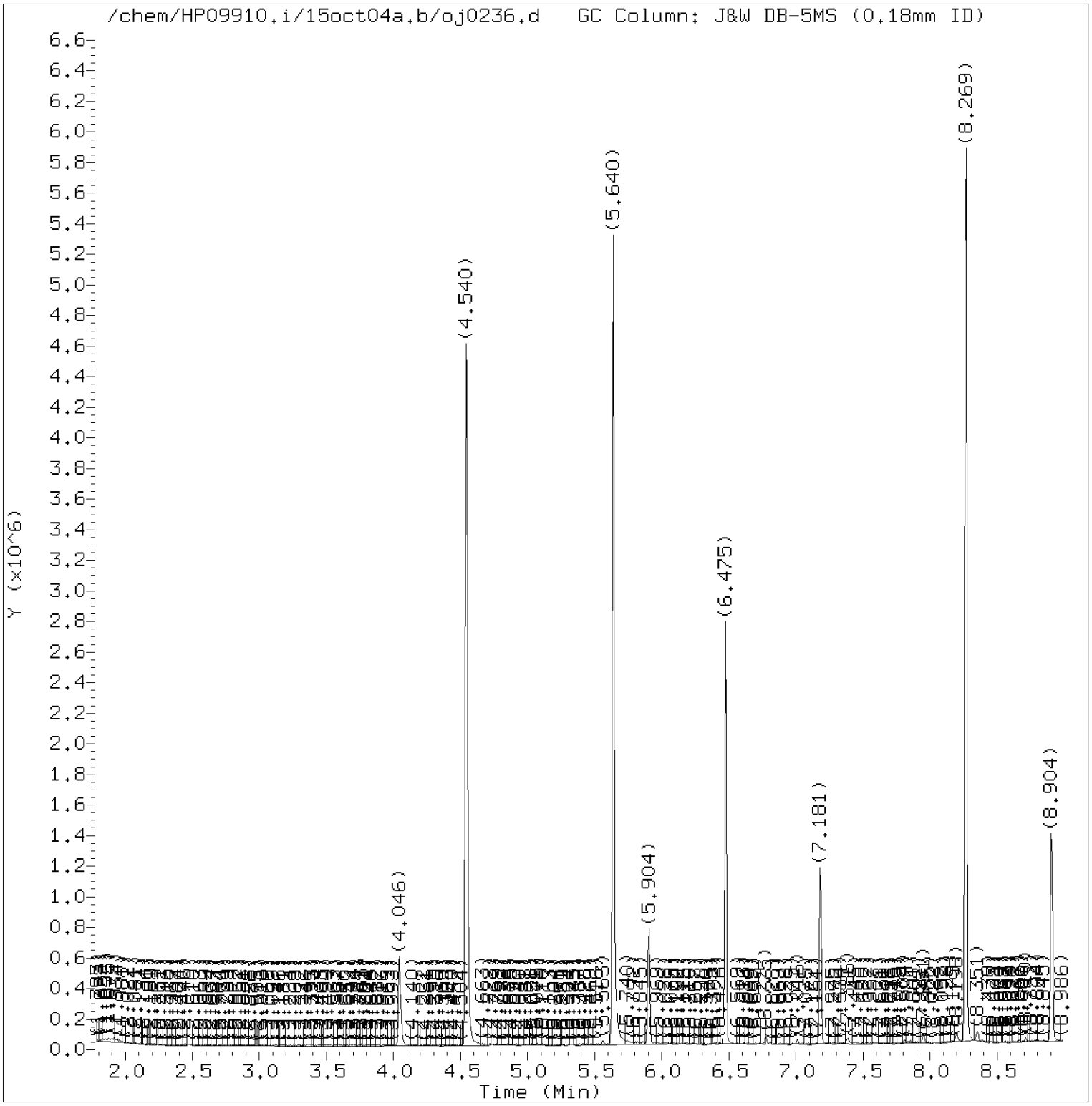
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:05. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

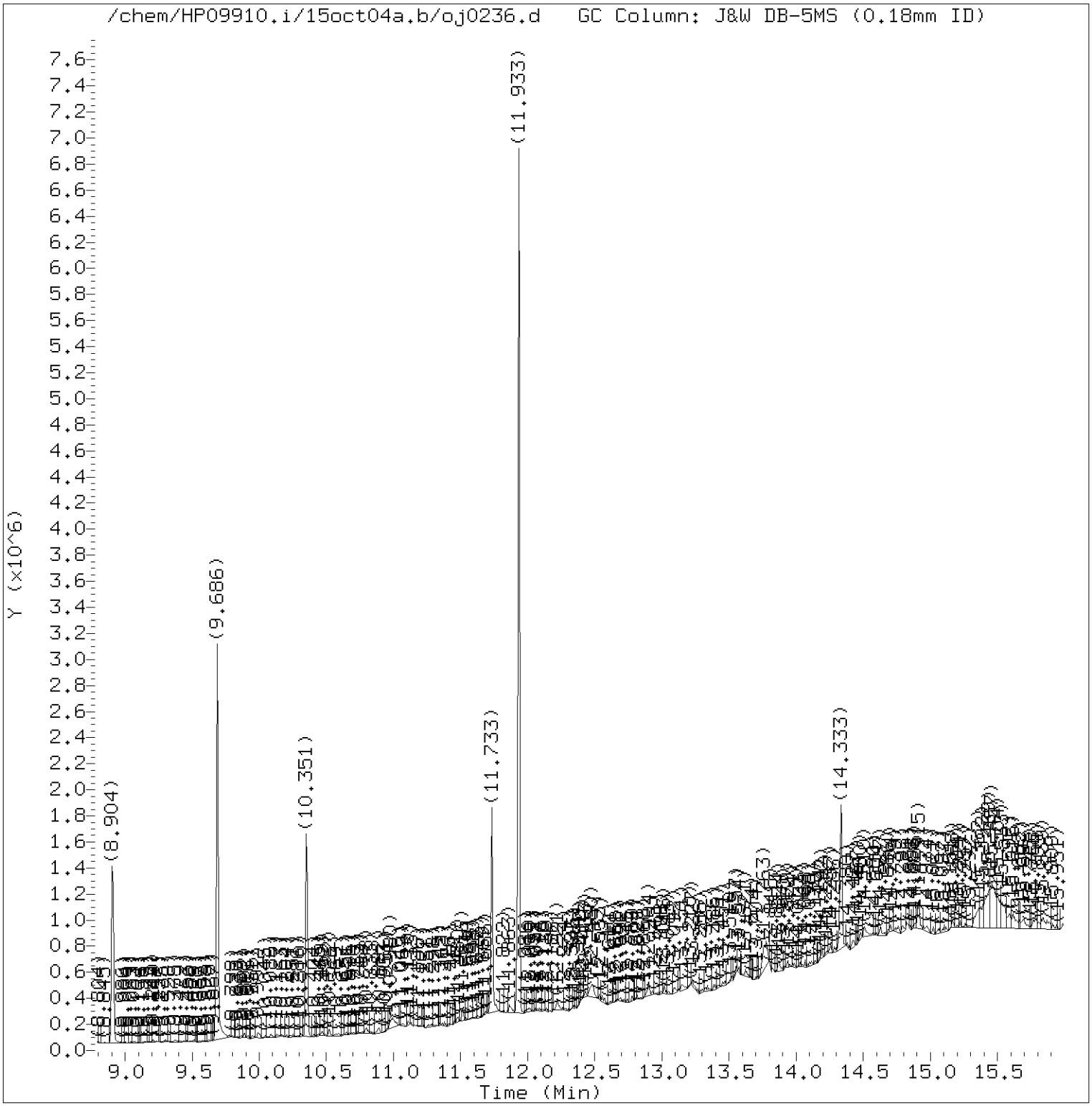
Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0236.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:22 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:27 lmh00956

Sample Name: -480- Lab Sample ID: 8064462

Digitally signed by Linda M. Hartenstine
on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0236.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:22 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:27 lmh00956

Sample Name: -480- Lab Sample ID: 8064462

Digitally signed by Linda M. Hartenstine
on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0236.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:22 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:27 lmh00956

Sample Name: -480- Lab Sample ID: 8064462

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	5.904	152	117184	20.000
44)$Nitrobenzene-d5	(2)	6.475	82	1007230	80.930
65)*Naphthalene-d8	(2)	7.181	136	534818	20.000
93)$2-Fluorobiphenyl	(3)	8.269	172	1932747	93.551
113)*Acenaphthene-d10	(3)	8.904	164	325483	20.000
153)*Phenanthrene-d10	(4)	10.351	188	595590	20.000
175)*Pyrene-d10	(5)	11.733	212	604217	20.000
179)$Terphenyl-d14	(5)	11.933	244	2133510	95.947
213)*Perylene-d12	(6)	14.333	264	431464	20.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles 8064463

Data file: /chem/HP09910.i/15oct04a.b/oj0237.d Injection date and time: **05-OCT-2015 09:47**
Data file Sample Info. Line: -489-;8064463;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 04-OCT-2015 23:35
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct04a.b/oj0211.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.34 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	5.904(-0.012)	701	152	119827 (2)	20.00	
65) Naphthalene-d8	7.181(-0.006)	918	136	554397 (-4)	20.00	
113) Acenaphthene-d10	8.904(-0.006)	1211	164	357152 (-5)	20.00	
153) Phenanthrene-d10	10.351(-0.006)	1457	188	599883 (-12)	20.00	
175) Pyrene-d10	11.733(-0.012)	1692	212	620730 (-19)	20.00	
213) Perylene-d12	14.333(-0.018)	2134	264	445708 (-23)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.475(0.000)	82	1024765	79.431	79%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.269(-0.001)	172	2041686	90.061	90%		63 - 117
179) Terphenyl-d14	(5)	11.933(0.000)	244	2117299	92.685	93%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)	8.769(-0.000)	152	34783M	1.097	36.16			0.1
114) Acenaphthene	(3)	8.939(-0.000)	153	2983M	0.136	4.48			0.1
126) Fluorene	(3)	9.457(-0.001)	166	6547M	0.260	8.56			0.1
155) Phenanthrene	(4)	10.375(0.000)	178	32768	0.941	31.00			0.1
157) Anthracene	(4)	10.422(0.000)	178	20538	0.597	19.66			0.1
173) Fluoranthene	(4)	11.533(-0.000)	202	81649M	2.156	71.08			0.1
177) Pyrene	(5)	11.751(0.000)	202	103199M	2.787	91.85			0.1
195) Benzo(a)anthracene	(5)	12.922(0.000)	228	37906	1.174	38.70			0.1
196) Chrysene	(5)	12.957(0.000)	228	51800	1.684	55.51			0.1
206) Benzo(b)fluoranthene	(6)	13.980(-0.000)	252	77564M	2.773	91.40			0.1
208) Benzo(k)fluoranthene	(6)	14.004(0.000)	252	20976M	0.735	24.22			0.1
211) Benzo(a)pyrene	(6)	14.280(-0.000)	252	37200M	1.347	44.38			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	15.339(-0.000)	276	29363M	1.020	33.63			0.1
220) Dibenz(a,h)anthracene	(6)	15.368(-0.000)	278	5080M	0.210	6.92			0.1
221) Benzo(g,h,i)perylene	(6)	15.616(-0.000)	276	28117M	1.190	39.21			0.1

M = Compound was manually integrated.

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29. Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct04a.b/oj0237.d Injection date and time: **05-OCT-2015 09:47**
Data file Sample Info. Line: -489-;8064463;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 04-OCT-2015 23:35
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct04a.b/oj0211.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.34 g

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THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

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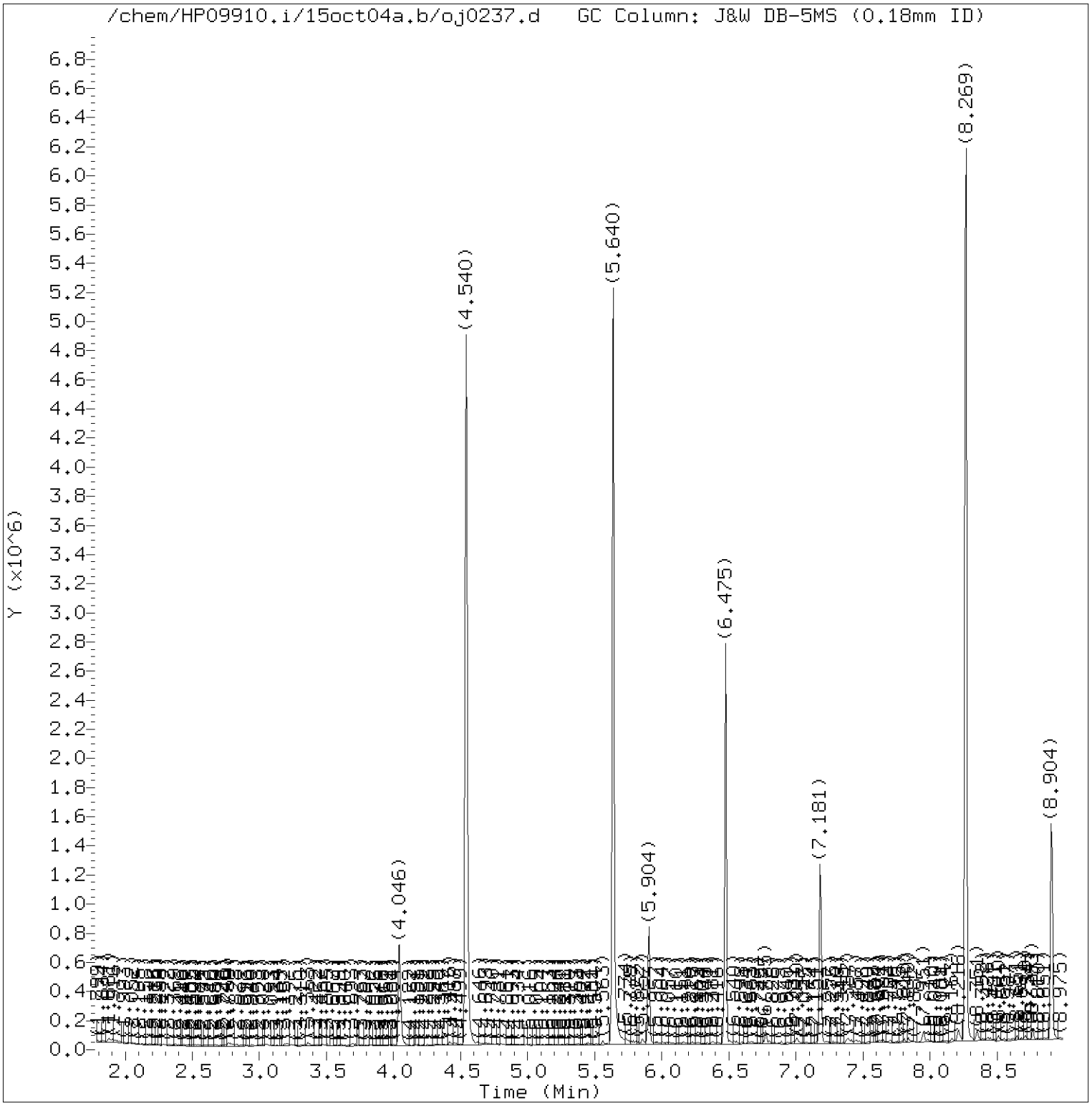
Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

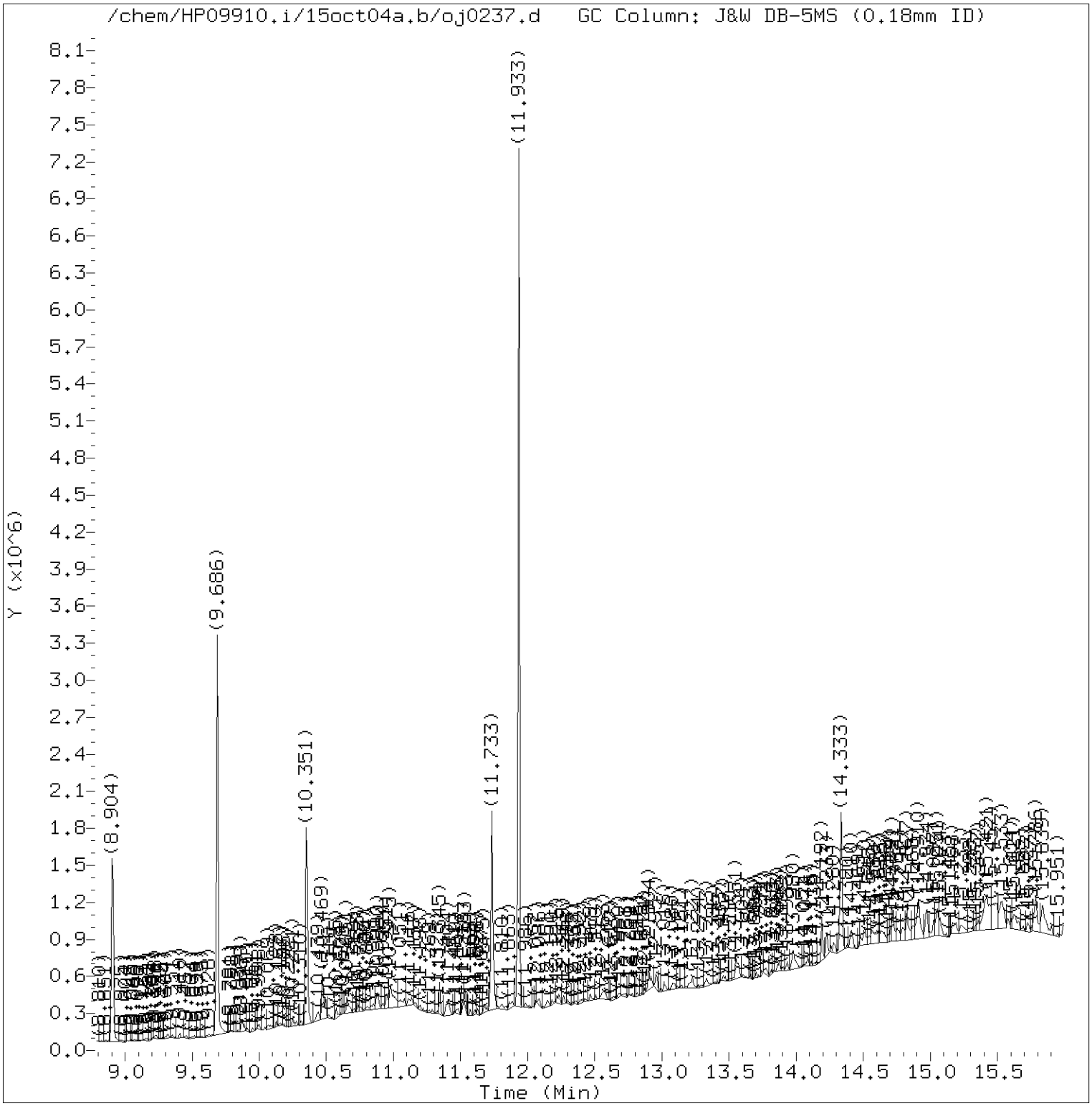
Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

Digitally signed by Linda M. Hartenstine
on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

Digitally signed by Linda M. Hartenstine
on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	5.904	152	119827	20.000
44)$Nitrobenzene-d5	(2)	6.475	82	1024765	79.431
65)*Naphthalene-d8	(2)	7.181	136	554397	20.000
93)$2-Fluorobiphenyl	(3)	8.269	172	2041686	90.061
109) Acenaphthylene	(3)	8.769	152	34783M	1.097
113)*Acenaphthene-d10	(3)	8.904	164	357152	20.000
114) Acenaphthene	(3)	8.939	153	2983M	0.136
126) Fluorene	(3)	9.457	166	6547M	0.260
153)*Phenanthrene-d10	(4)	10.351	188	599883	20.000
155) Phenanthrene	(4)	10.375	178	32768	0.941
157) Anthracene	(4)	10.422	178	20538	0.597
173) Fluoranthene	(4)	11.533	202	81649M	2.156
175)*Pyrene-d10	(5)	11.733	212	620730	20.000
177) Pyrene	(5)	11.751	202	103199M	2.787
179)$Terphenyl-d14	(5)	11.933	244	2117299	92.685
195) Benzo(a)anthracene	(5)	12.922	228	37906	1.174
196) Chrysene	(5)	12.957	228	51800	1.684
206) Benzo(b)fluoranthene	(6)	13.980	252	77564M	2.773
208) Benzo(k)fluoranthene	(6)	14.004	252	20976M	0.735
211) Benzo(a)pyrene	(6)	14.280	252	37200M	1.347
213)*Perylene-d12	(6)	14.333	264	445708	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	15.339	276	29363M	1.020
220) Dibenz(a,h)anthracene	(6)	15.368	278	5080M	0.210
221) Benzo(g,h,i)perylene	(6)	15.616	276	28117M	1.190

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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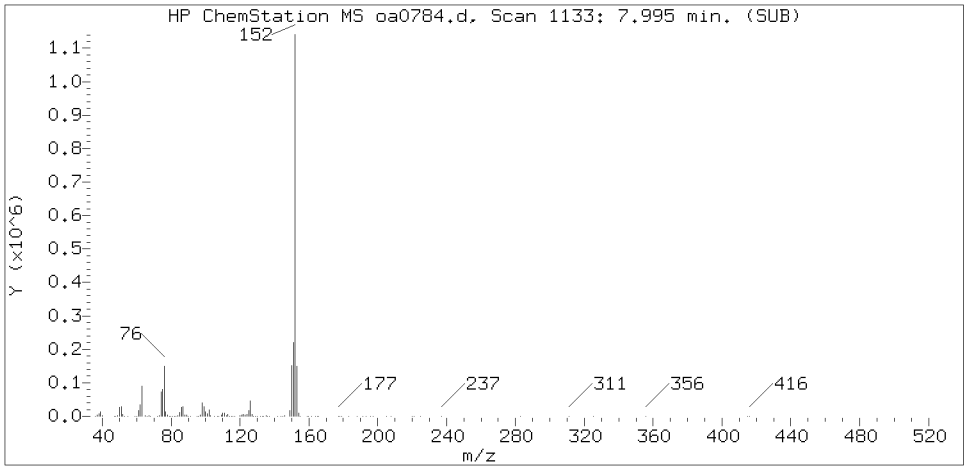
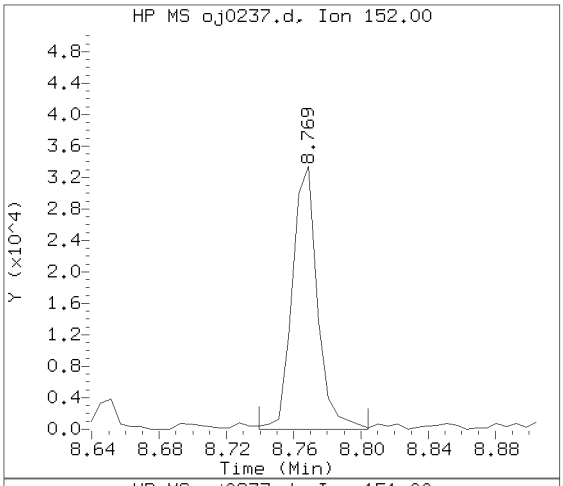
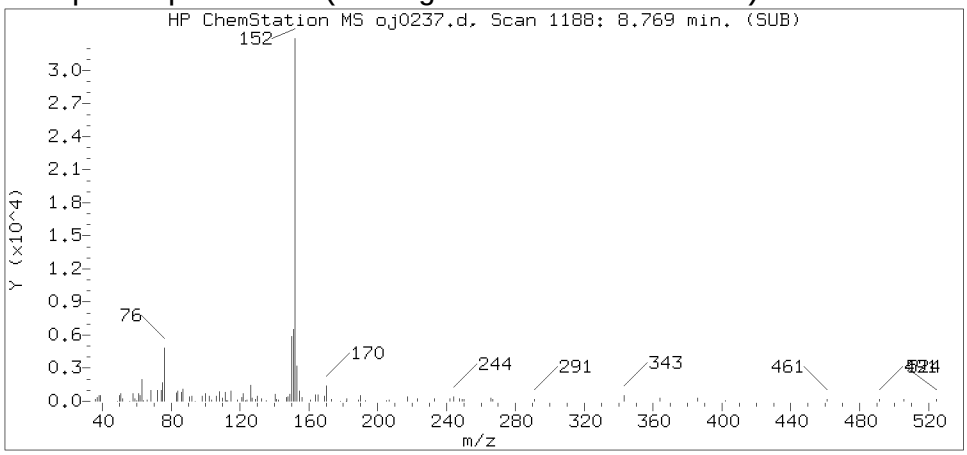
on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

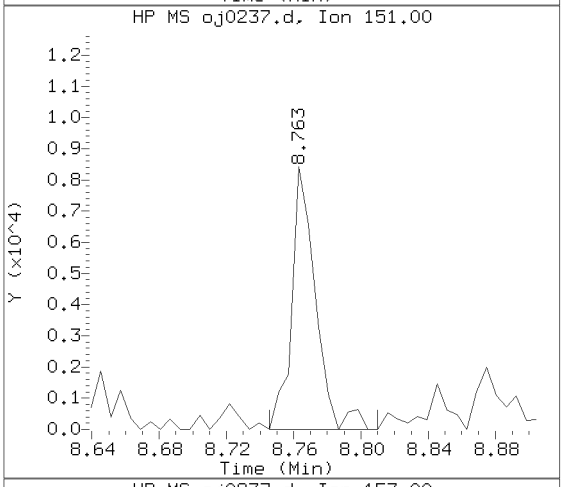
Reference Standard Spectrum for Acenaphthylene



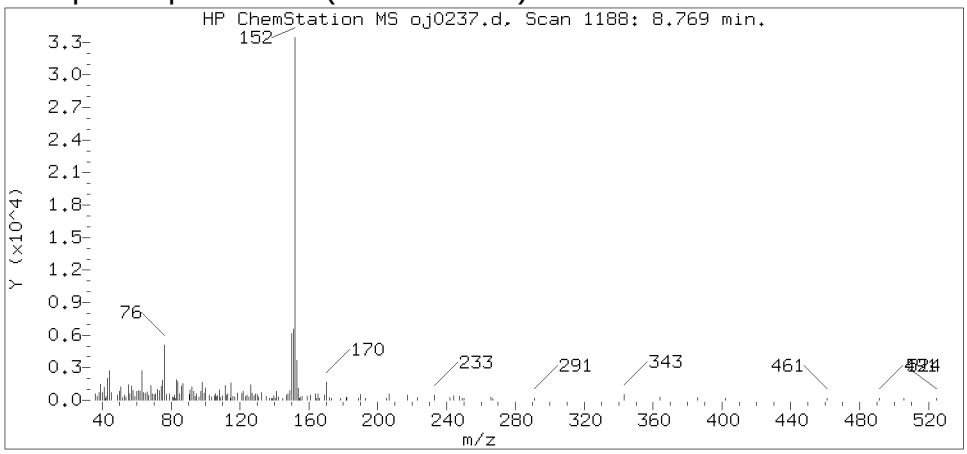


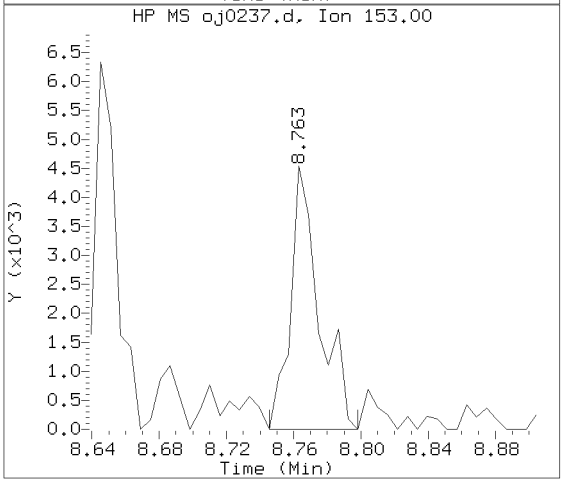
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

Compound Number : 109
Compound Name : Acenaphthylene
Scan Number : 1188
Retention Time (minutes) : 8.769
Relative Retention Time :-0.00067
Quant Ion : 152.00
Area (flag) : 34783M
On-column Amount (ng/ul) : 1.0970

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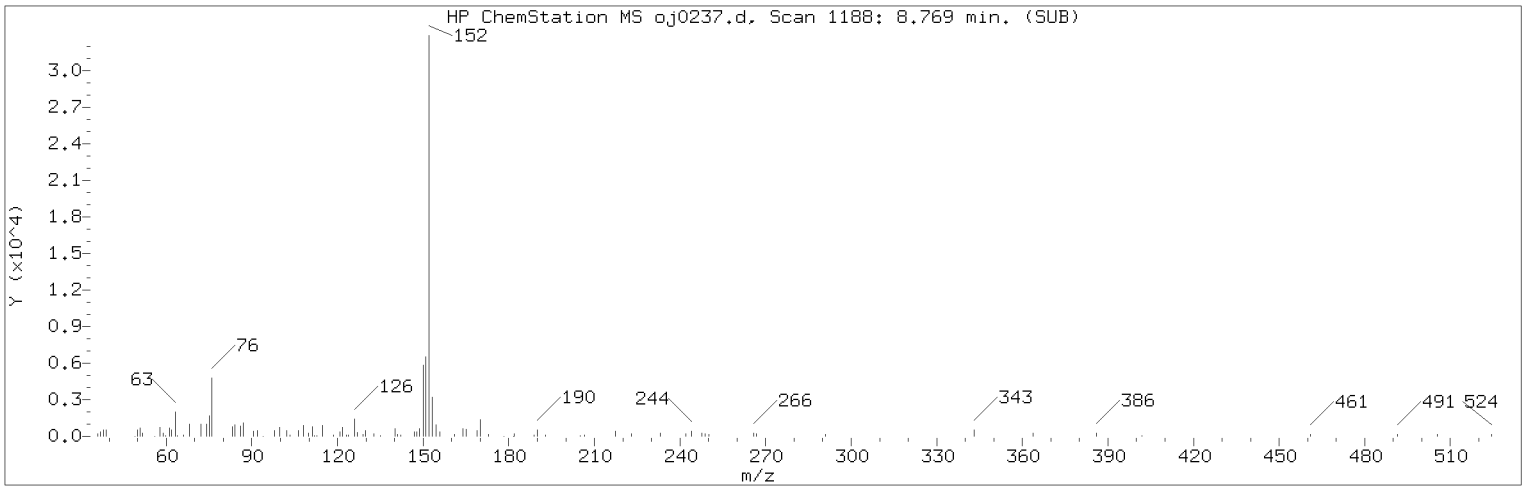
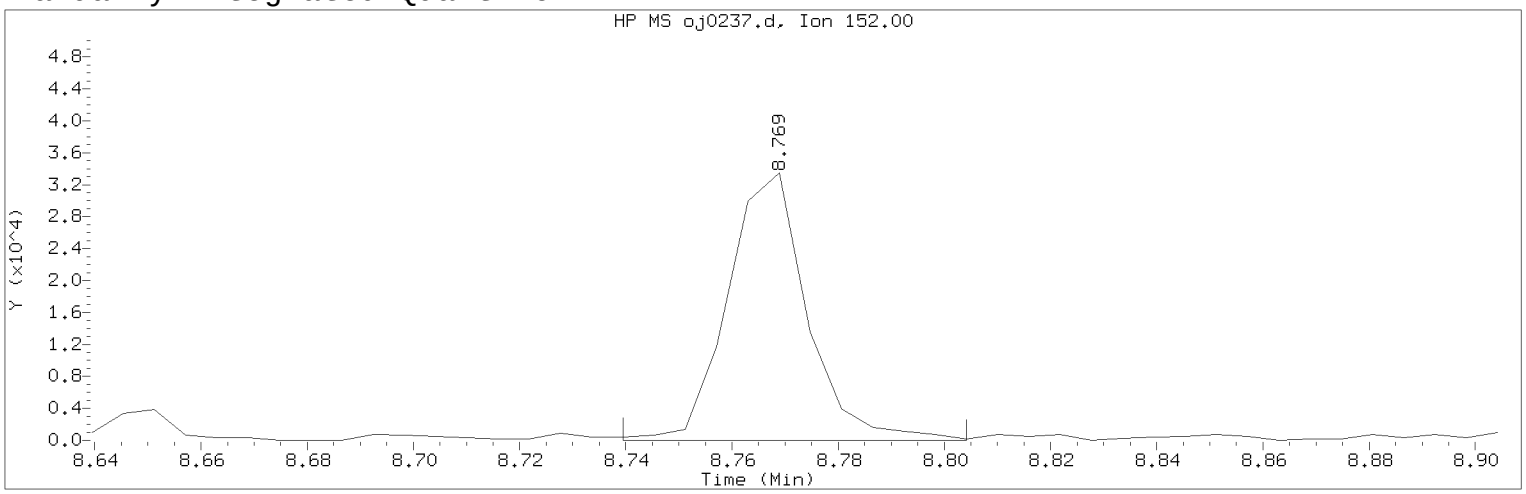
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

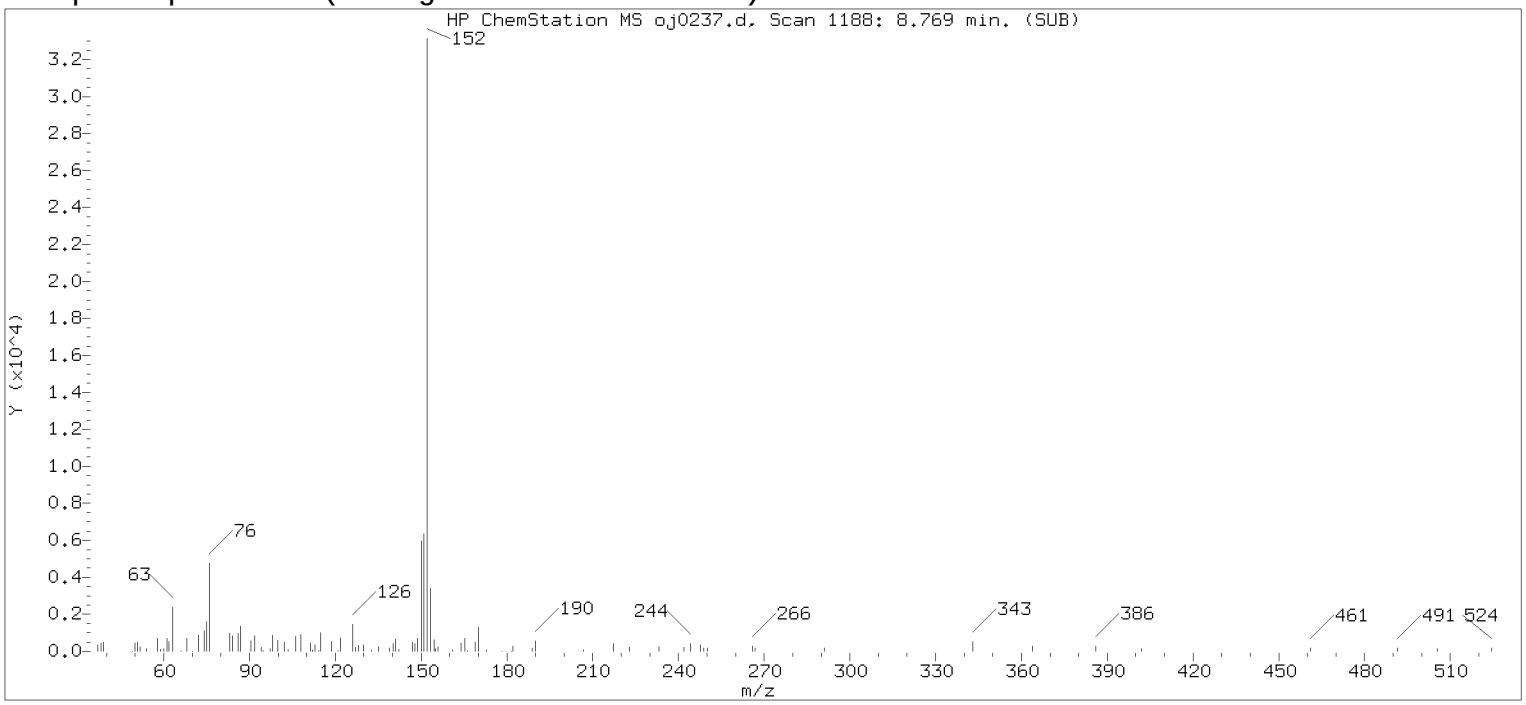
Compound Number : 109
Compound Name : Acenaphthylene
Scan Number : 1188
Retention Time (minutes) : 8.769
Quant Ion : 152.00
Area (flag) : 34783M
On-column Amount (ng/ul) : 1.0970
Integration start scan : 1182 Integration stop scan: 1193
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

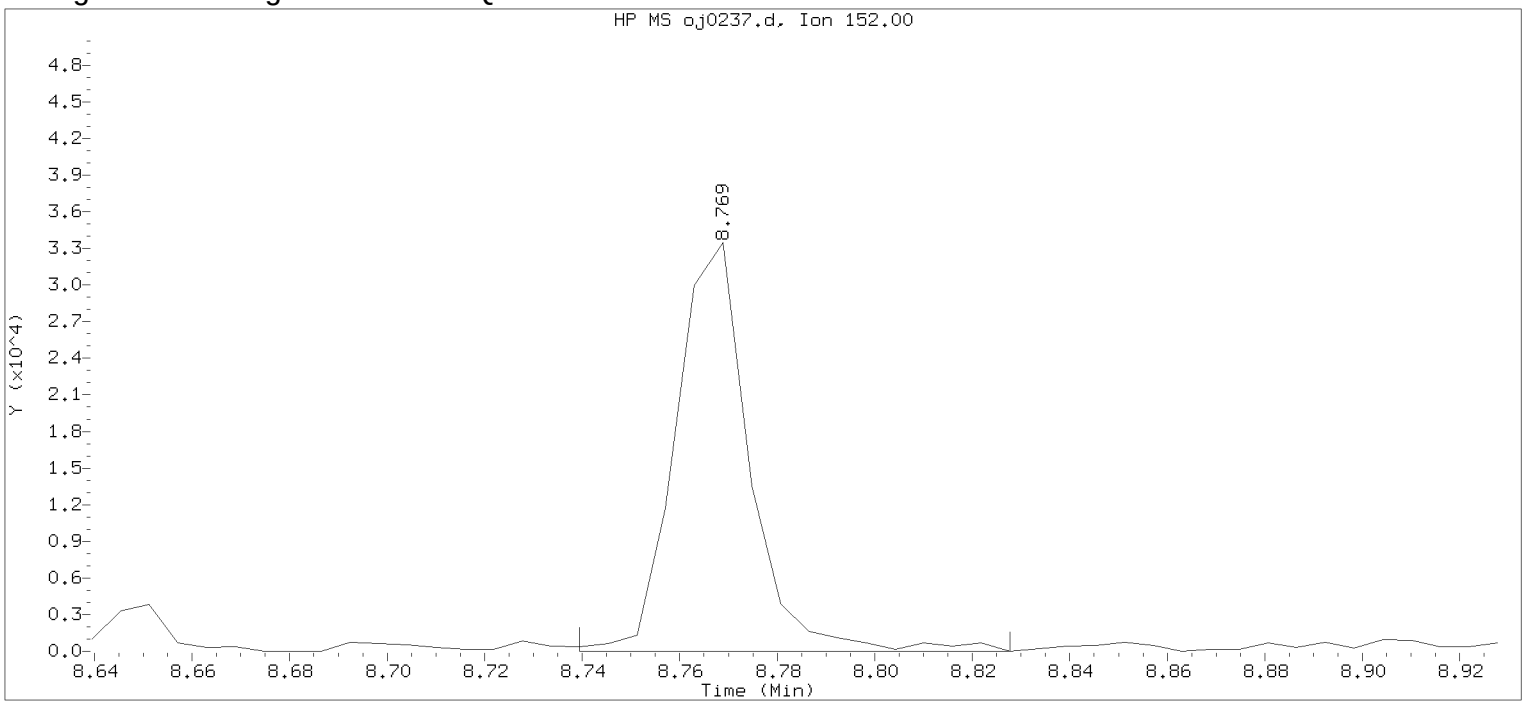
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

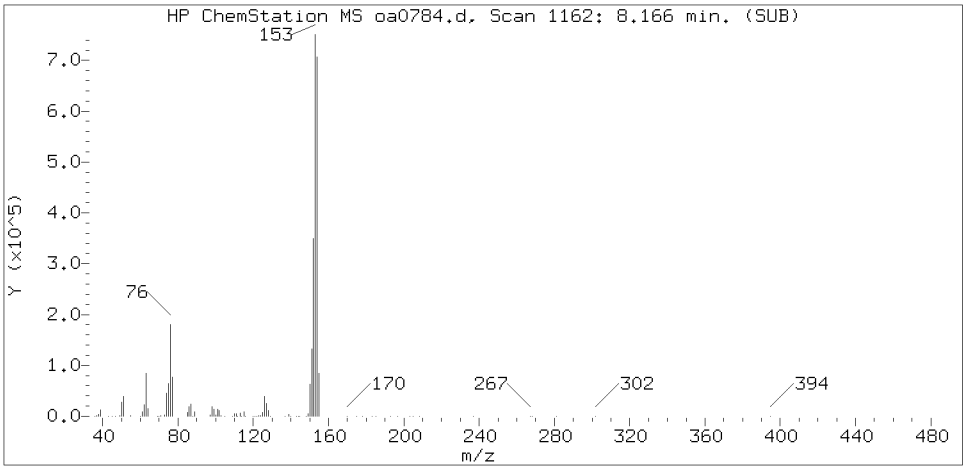
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:03 Automation

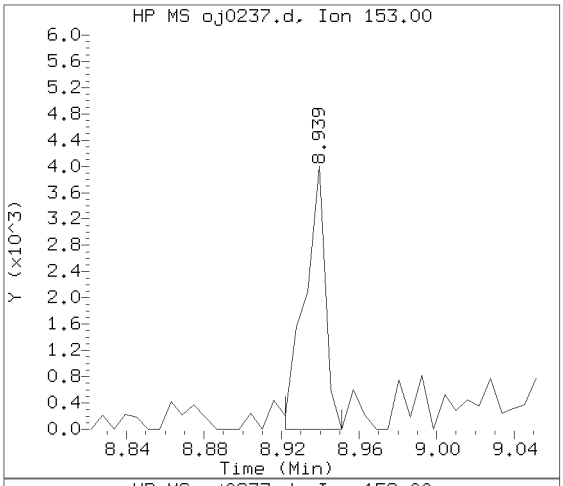
Sample Name: -489- Lab Sample ID: 8064463

Compound Number	: 109		
Compound Name	: Acenaphthylene		
Scan Number	: 1188		
Retention Time (minutes)	: 8.769		
Quant Ion	: 152.00		
Area	: 35354		
On-column Amount (ng/ul)	: 1.1150		
Integration start scan	: 1182	Integration stop scan:	1197
Y at integration start	: 0	Y at integration end:	0

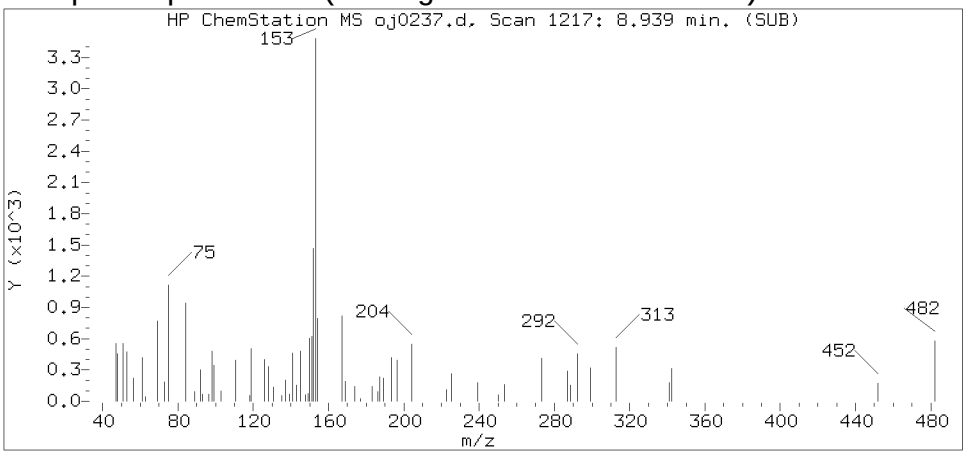
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: LMH0457

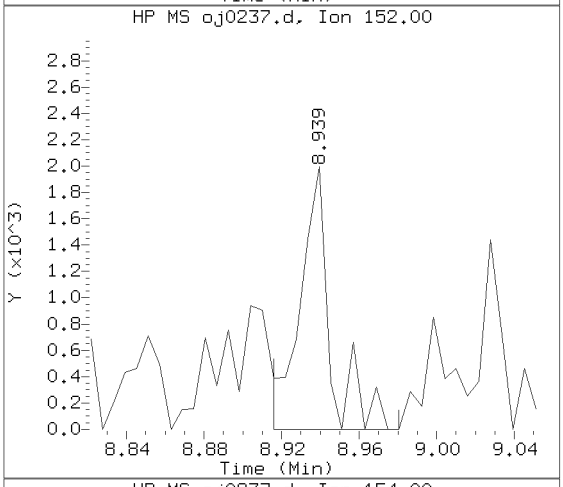
Reference Standard Spectrum for Acenaphthene



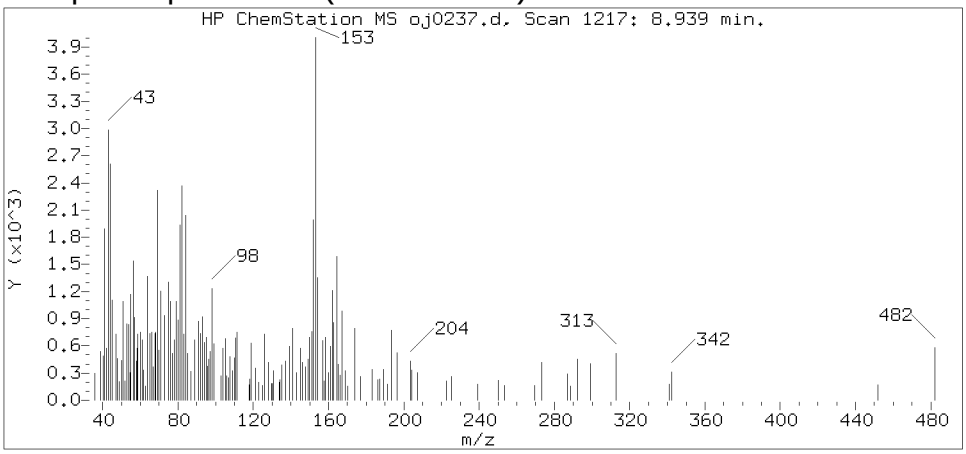


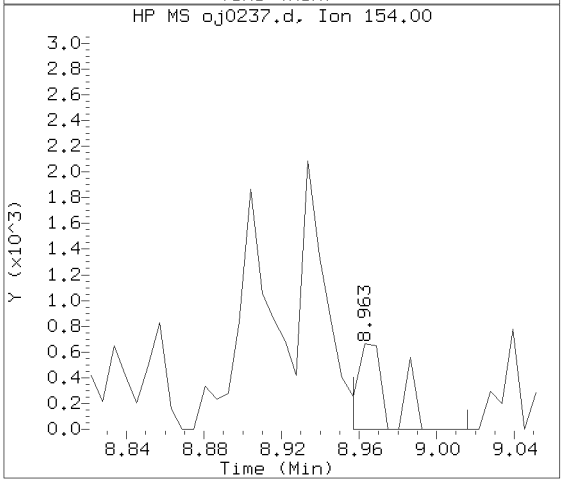
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

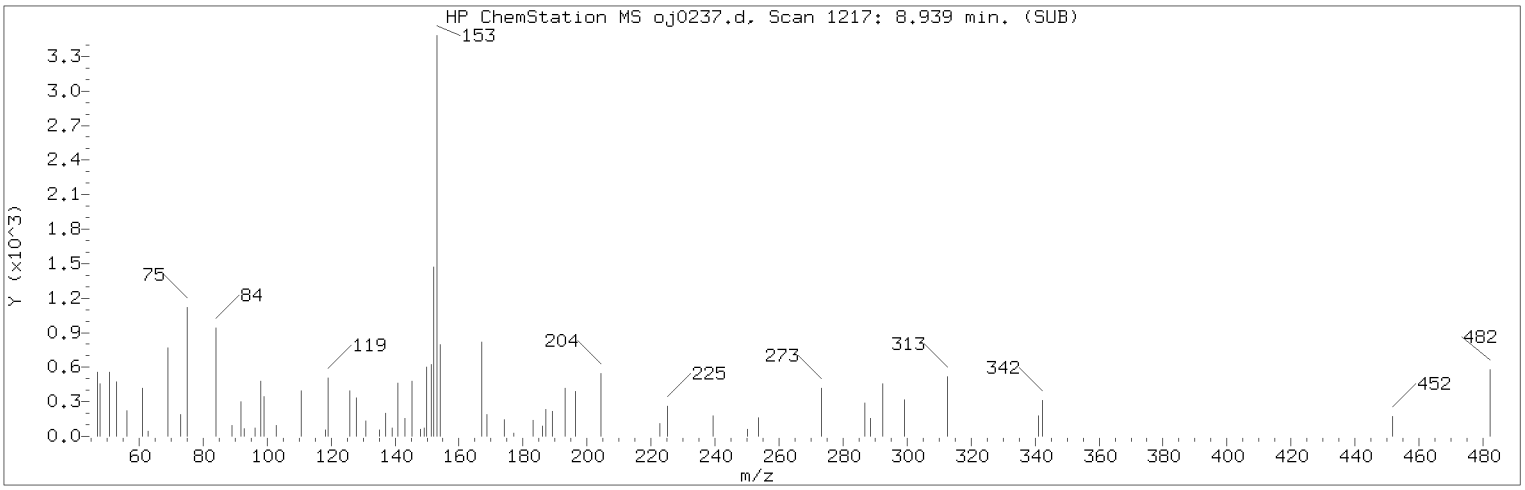
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

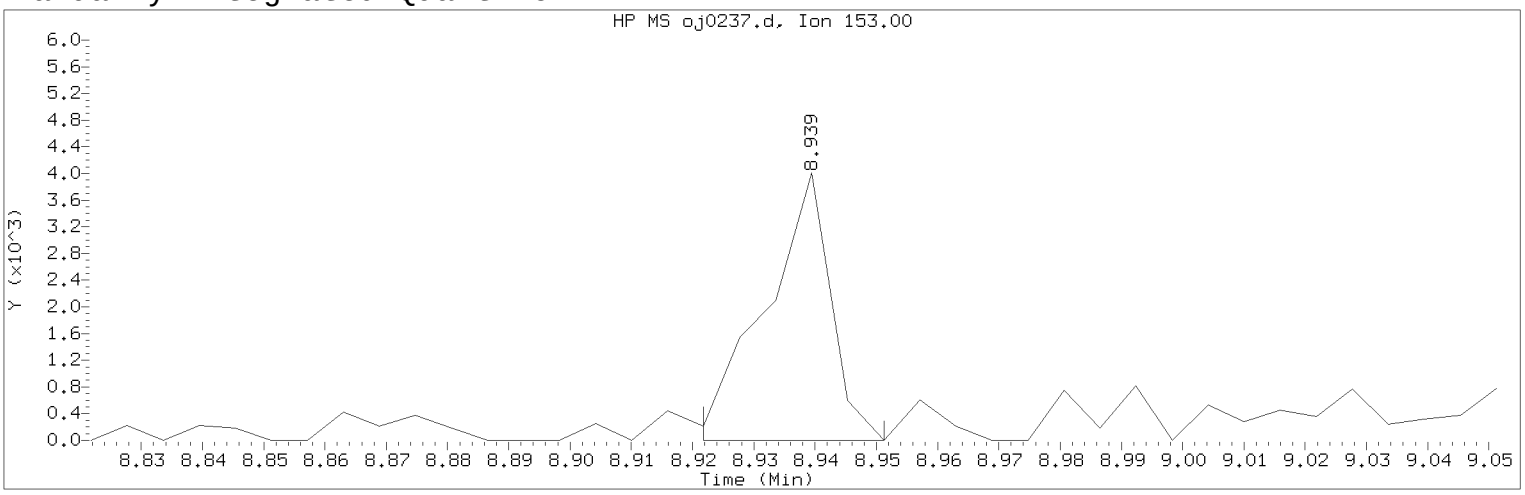
Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1217
Retention Time (minutes) : 8.939
Relative Retention Time :-0.00066
Quant Ion : 153.00
Area (flag) : 2983M
On-column Amount (ng/ul) : 0.1360

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

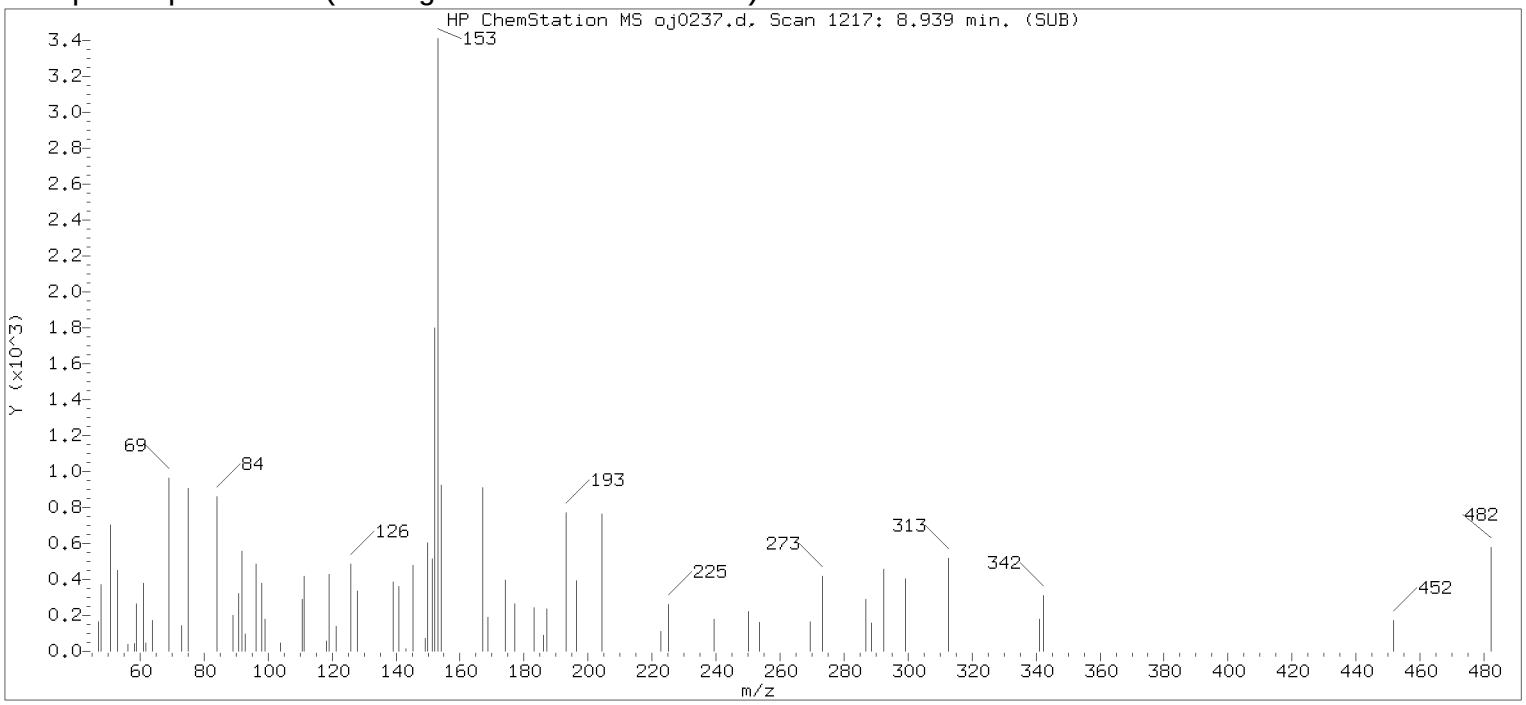
Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1217
Retention Time (minutes) : 8.939
Quant Ion : 153.00
Area (flag) : 2983M
On-column Amount (ng/ul) : 0.1360
Integration start scan : 1213 Integration stop scan: 1218
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

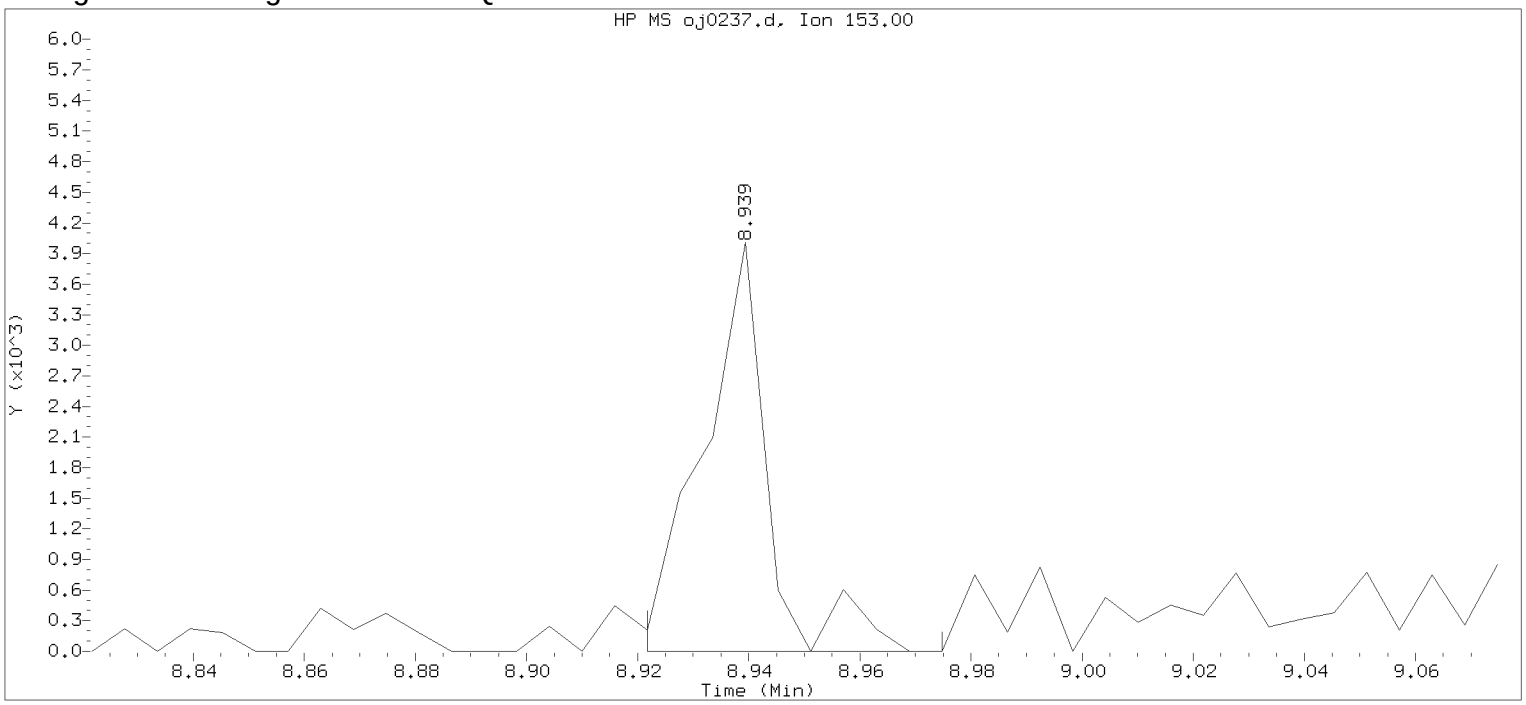
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

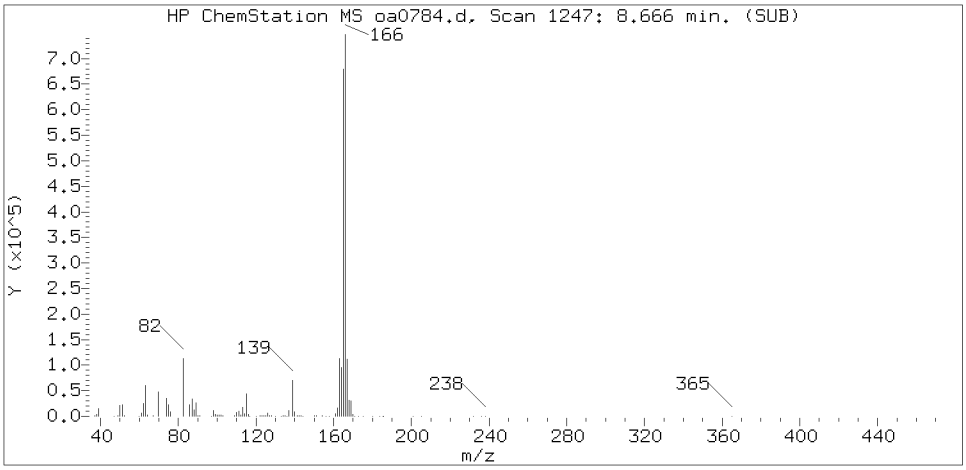
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:03 Automation

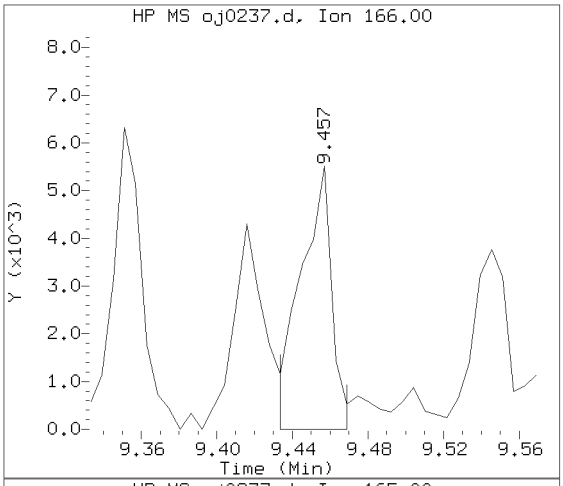
Sample Name: -489- Lab Sample ID: 8064463

Compound Number	: 114		
Compound Name	: Acenaphthene		
Scan Number	: 1217		
Retention Time (minutes)	: 8.939		
Quant Ion	: 153.00		
Area	: 3235		
On-column Amount (ng/ul)	: 0.1474		
Integration start scan	: 1213	Integration stop scan:	1222
Y at integration start	: 0	Y at integration end:	0

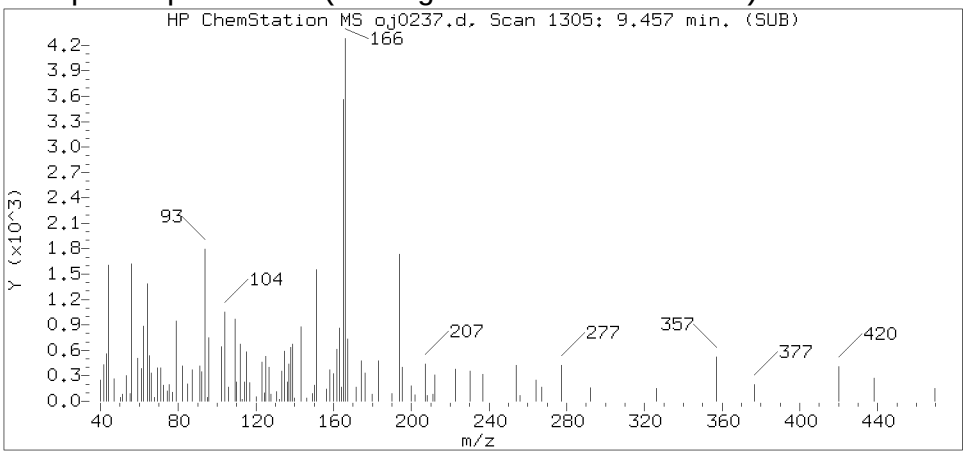
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: LMH0456

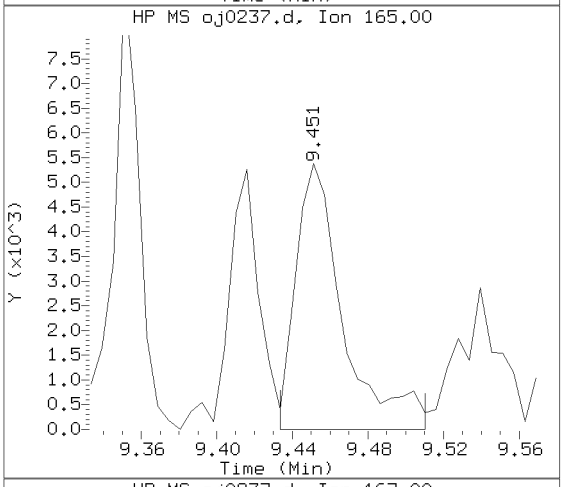
Reference Standard Spectrum for Fluorene



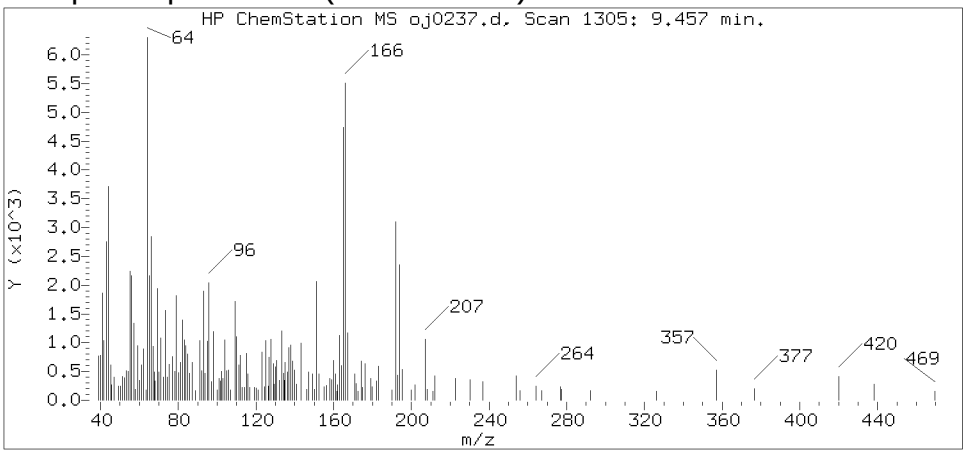


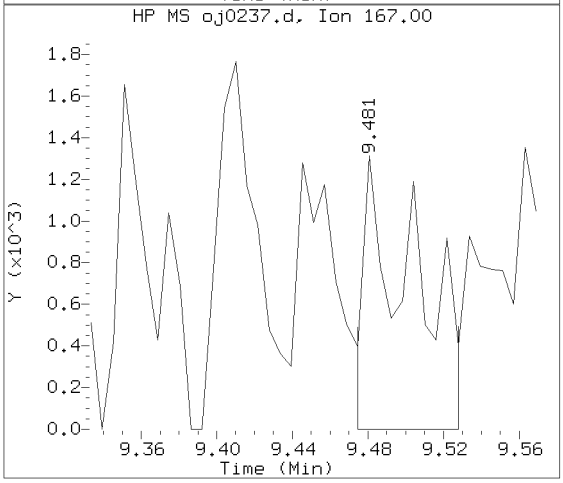
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

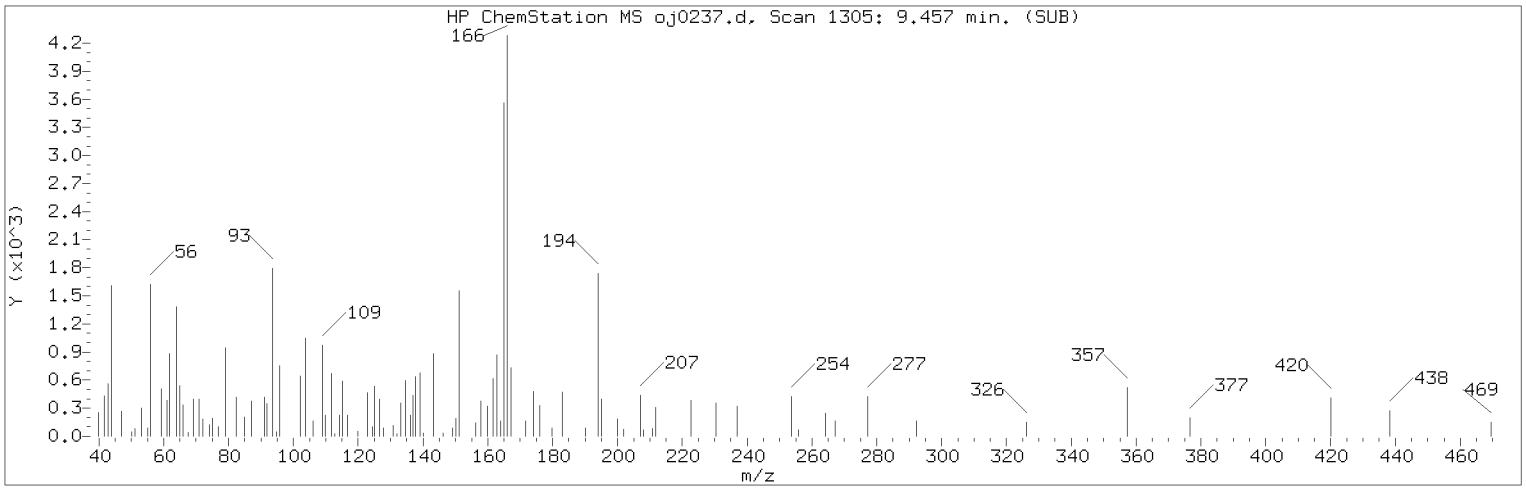
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

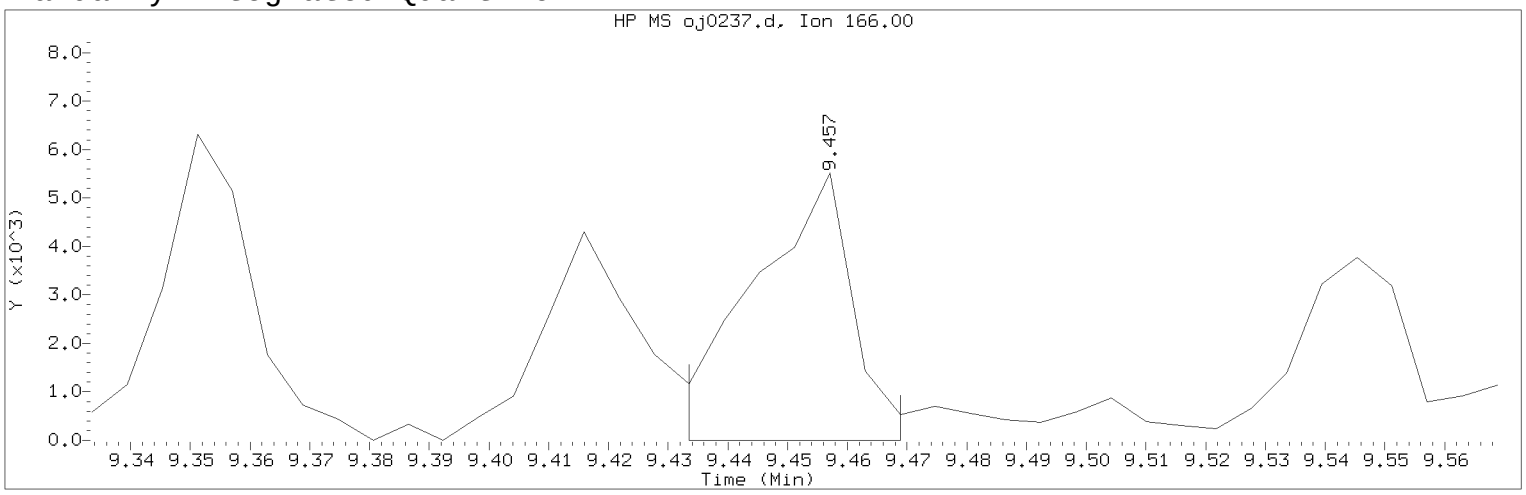
Compound Number : 126
Compound Name : Fluorene
Scan Number : 1305
Retention Time (minutes) : 9.457
Relative Retention Time :-0.00194
Quant Ion : 166.00
Area (flag) : 6547M
On-column Amount (ng/ul) : 0.2596

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

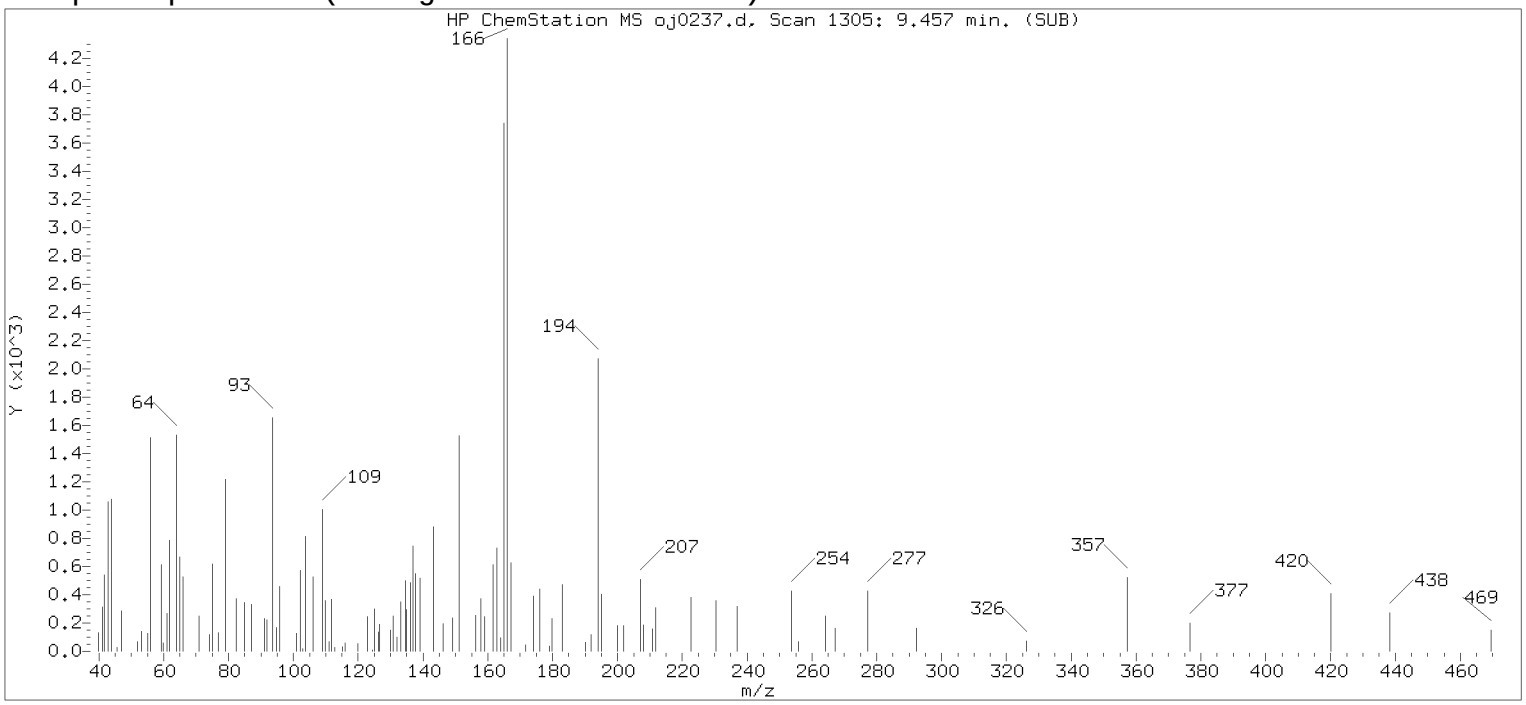
Compound Number : 126
Compound Name : Fluorene
Scan Number : 1305
Retention Time (minutes) : 9.457
Quant Ion : 166.00
Area (flag) : 6547M
On-column Amount (ng/ul) : 0.2596
Integration start scan : 1300 Integration stop scan: 1306
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

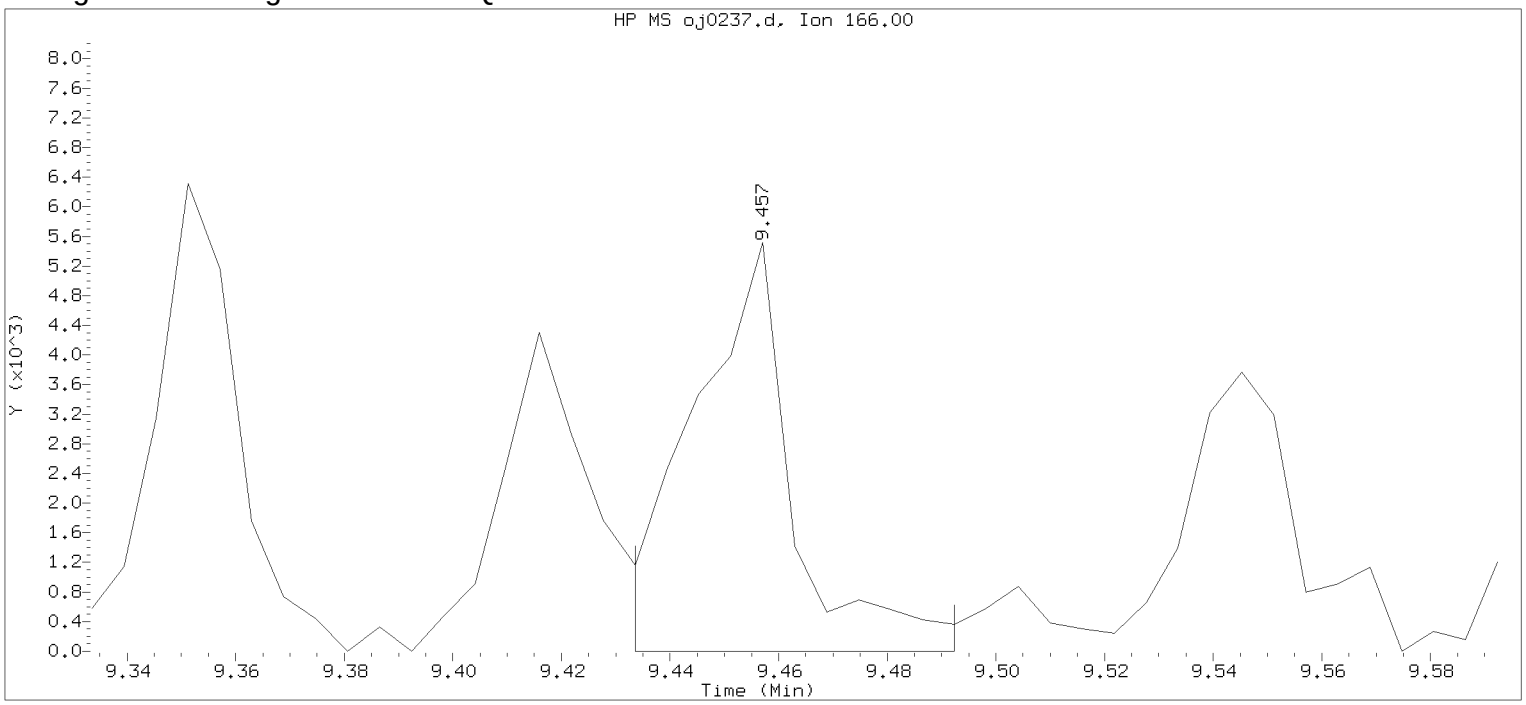
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

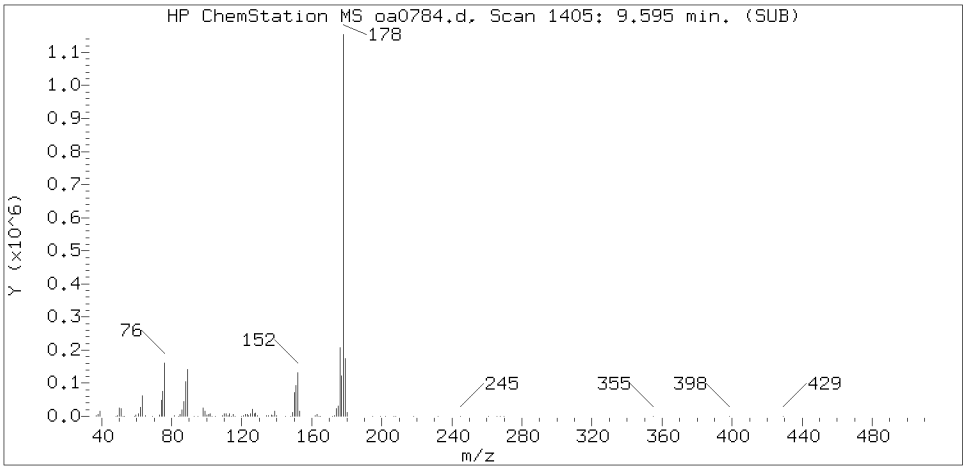
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:03 Automation

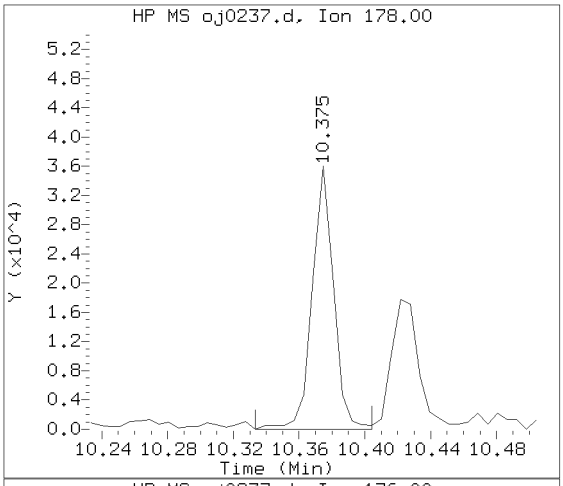
Sample Name: -489- Lab Sample ID: 8064463

Compound Number	: 126		
Compound Name	: Fluorene		
Scan Number	: 1305		
Retention Time (minutes)	: 9.457		
Quant Ion	: 166.00		
Area	: 6999		
On-column Amount (ng/ul)	: 0.2775		
Integration start scan	: 1300	Integration stop scan:	1310
Y at integration start	: 0	Y at integration end:	0

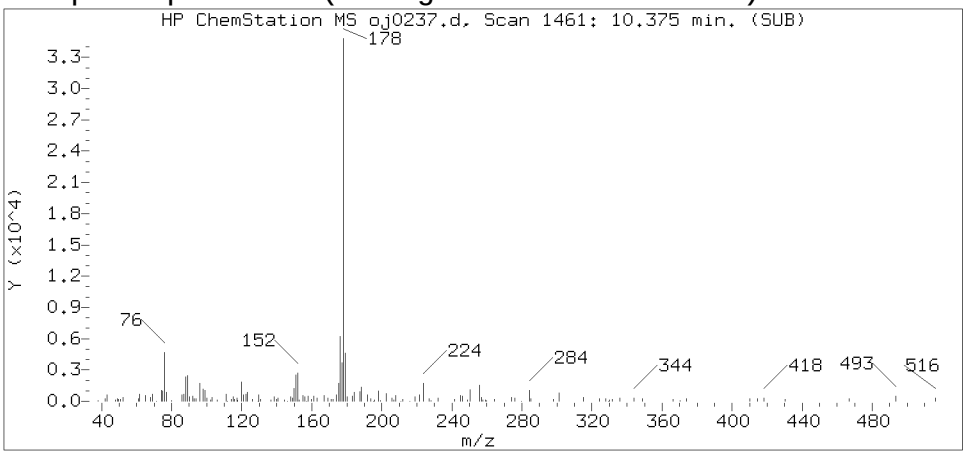
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: LMH0453

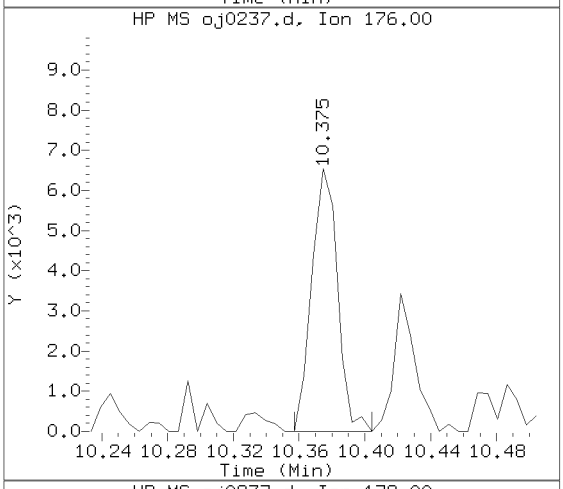
Reference Standard Spectrum for Phenanthrene



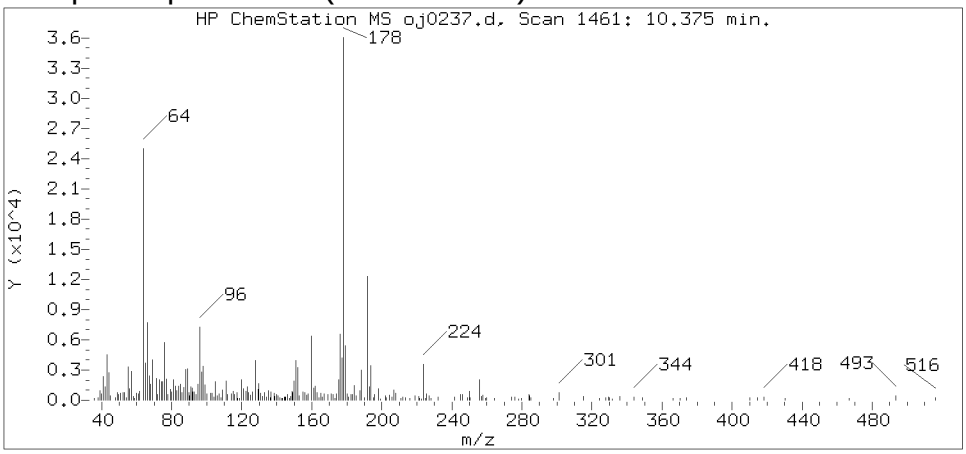


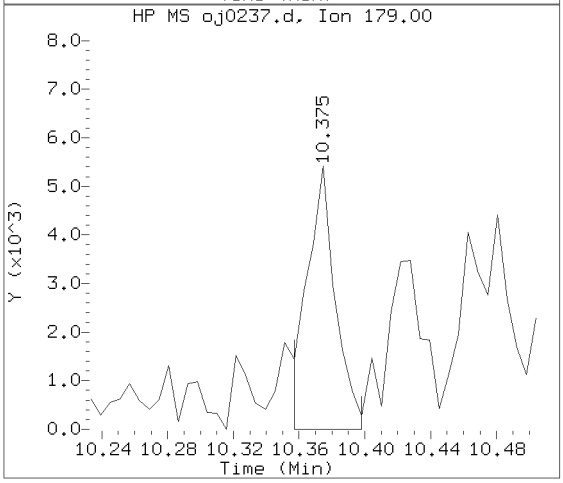
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

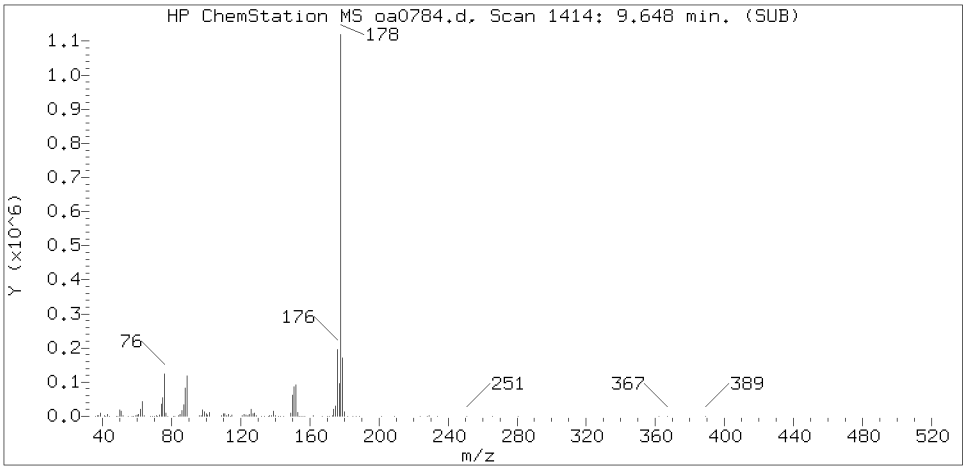
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

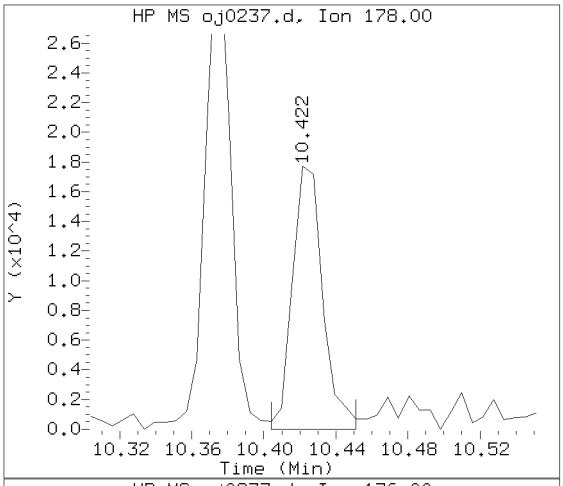
Sample Name: -489- Lab Sample ID: 8064463

Compound Number	: 155
Compound Name	: Phenanthrene
Scan Number	: 1461
Retention Time (minutes)	: 10.375
Relative Retention Time	: 0.00000
Quant Ion	: 178.00
Area (flag)	: 32768
On-column Amount (ng/ul)	: 0.9406

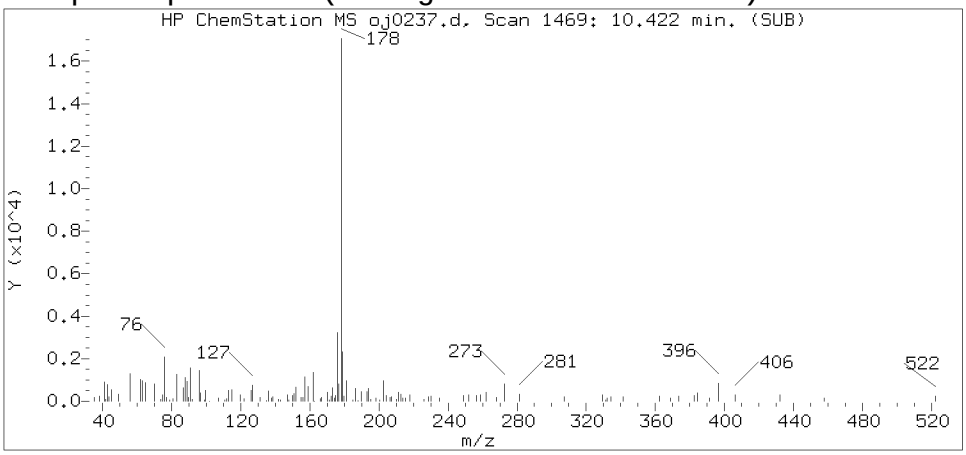
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

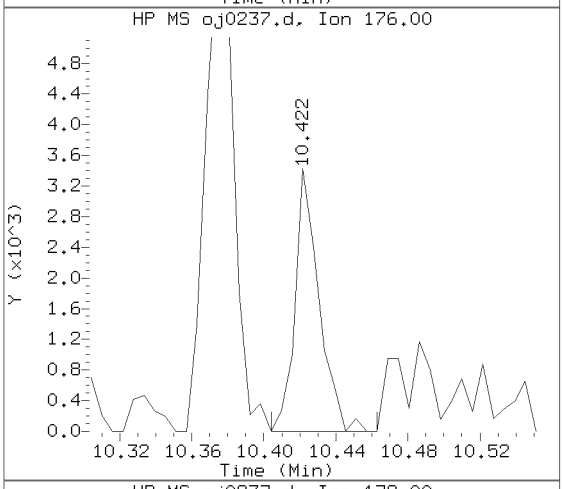
Reference Standard Spectrum for Anthracene



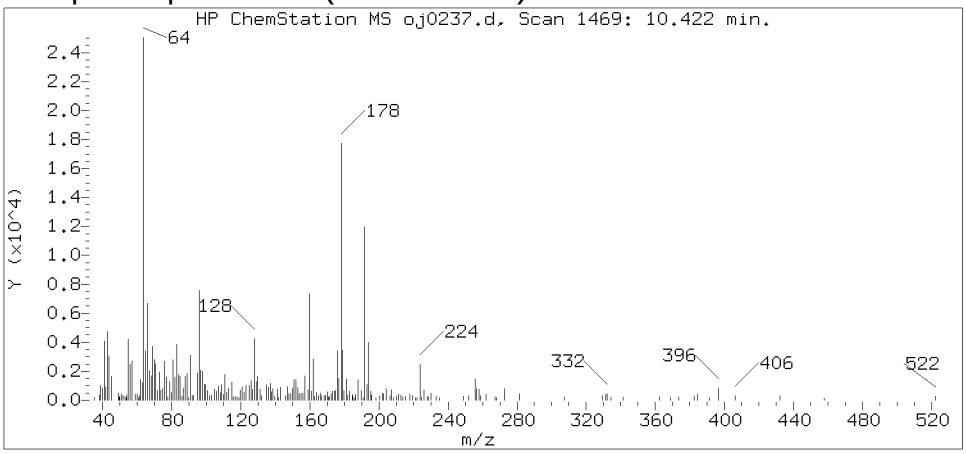


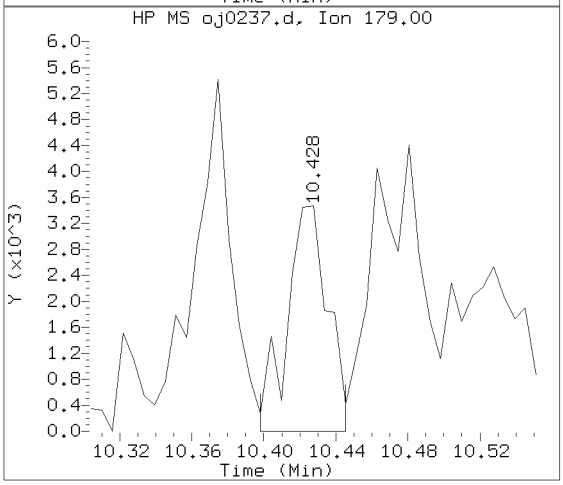
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

Compound Number	: 157
Compound Name	: Anthracene
Scan Number	: 1469
Retention Time (minutes)	: 10.422
Relative Retention Time	: 0.00000
Quant Ion	: 178.00
Area (flag)	: 20538
On-column Amount (ng/ul)	: 0.5966

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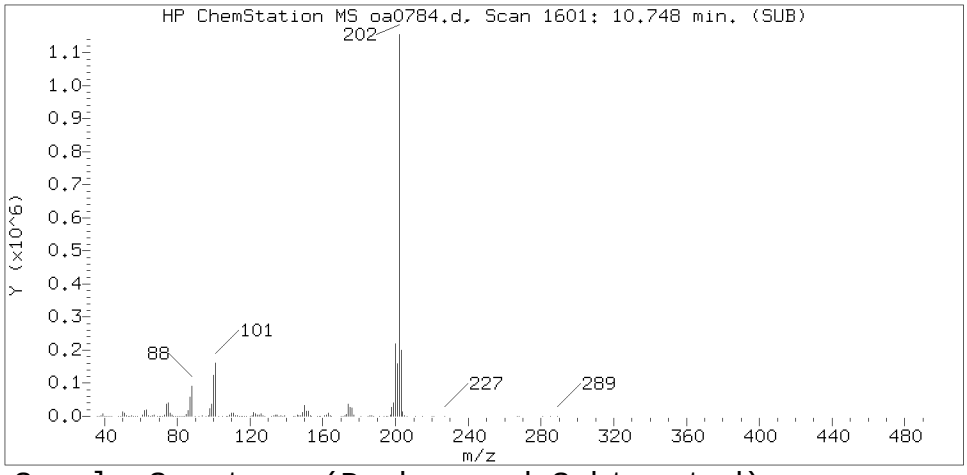
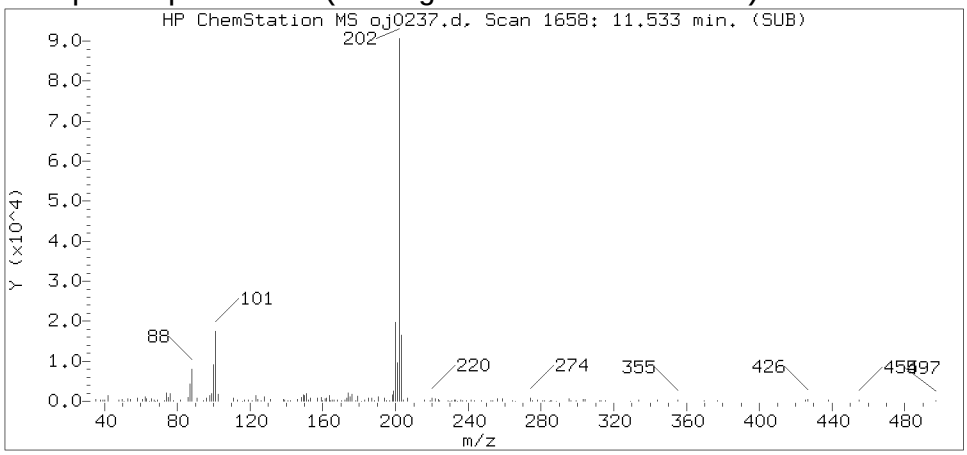
Target 3.5 esignature user ID: lmh00956

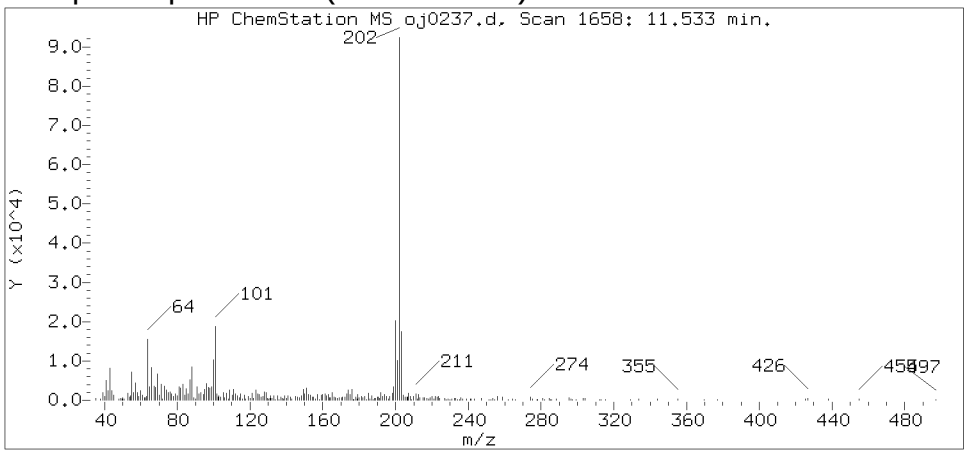
Reference Standard Spectrum for Fluoranthene

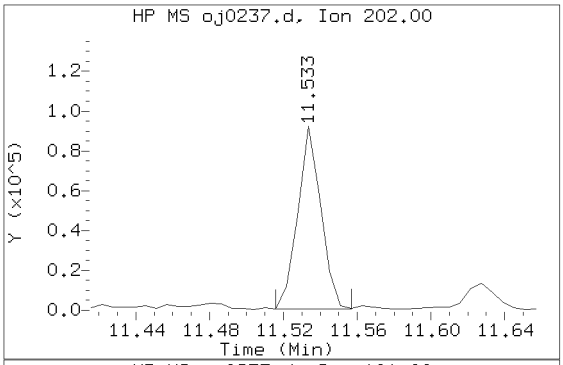


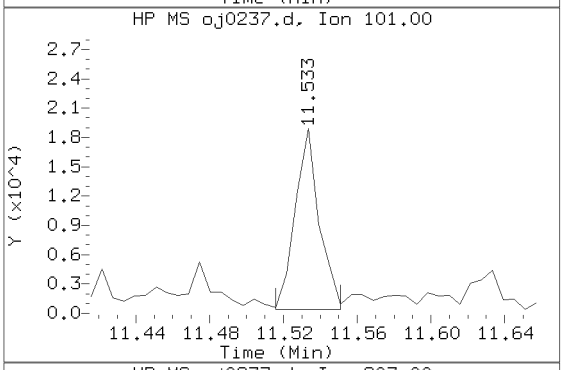
Sample Spectrum (Background Subtracted)

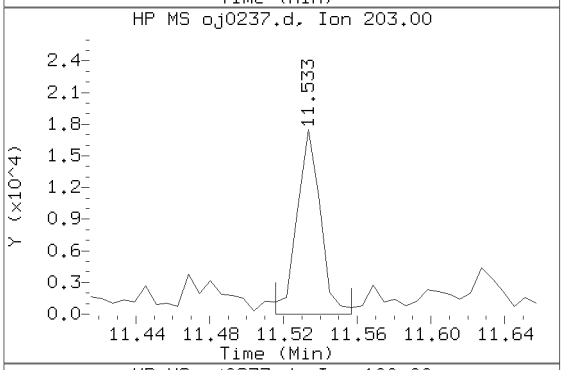


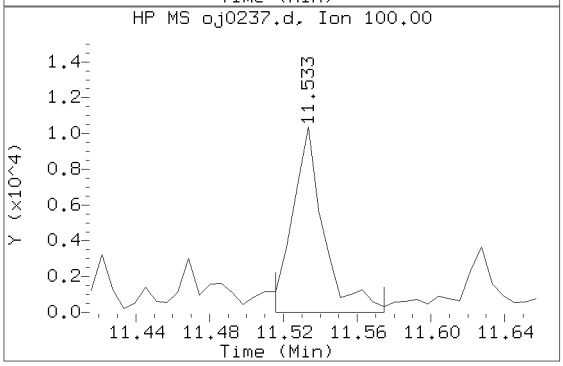
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

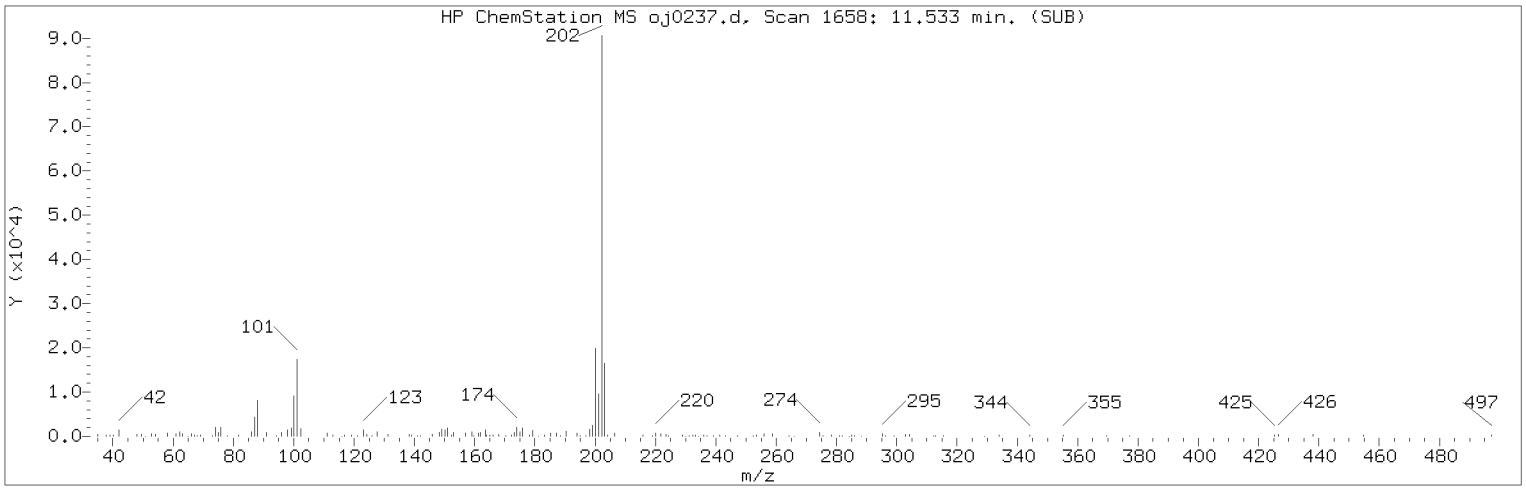
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

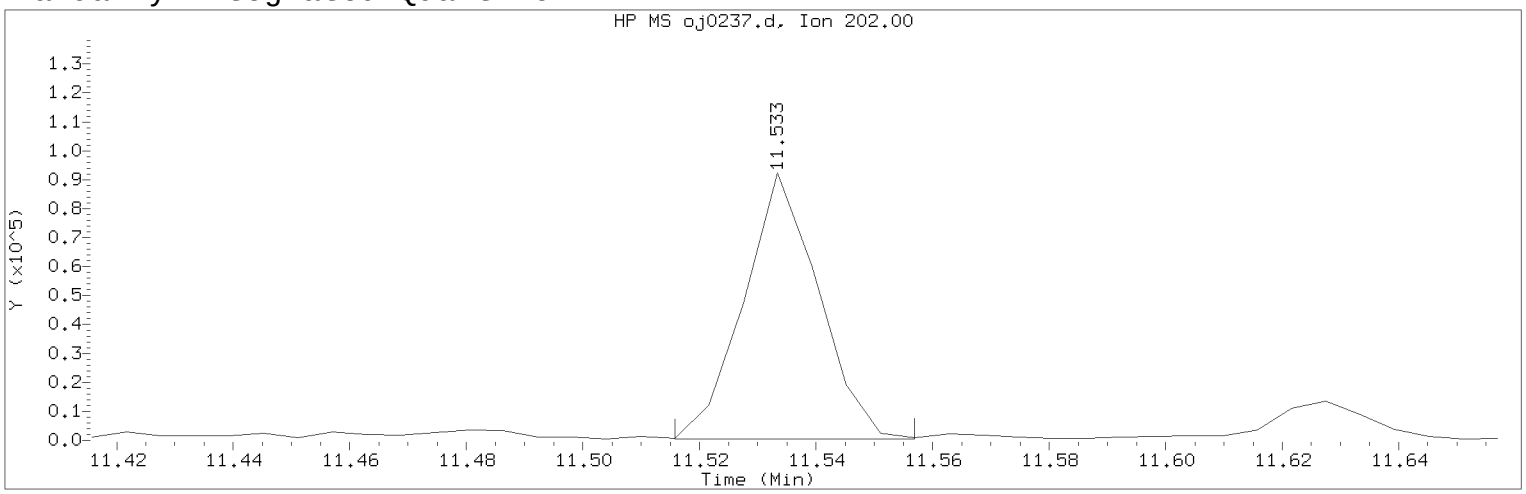
Compound Number : 173
Compound Name : Fluoranthene
Scan Number : 1658
Retention Time (minutes) : 11.533
Relative Retention Time :-0.00050
Quant Ion : 202.00
Area (flag) : 81649M
On-column Amount (ng/ul) : 2.1564

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

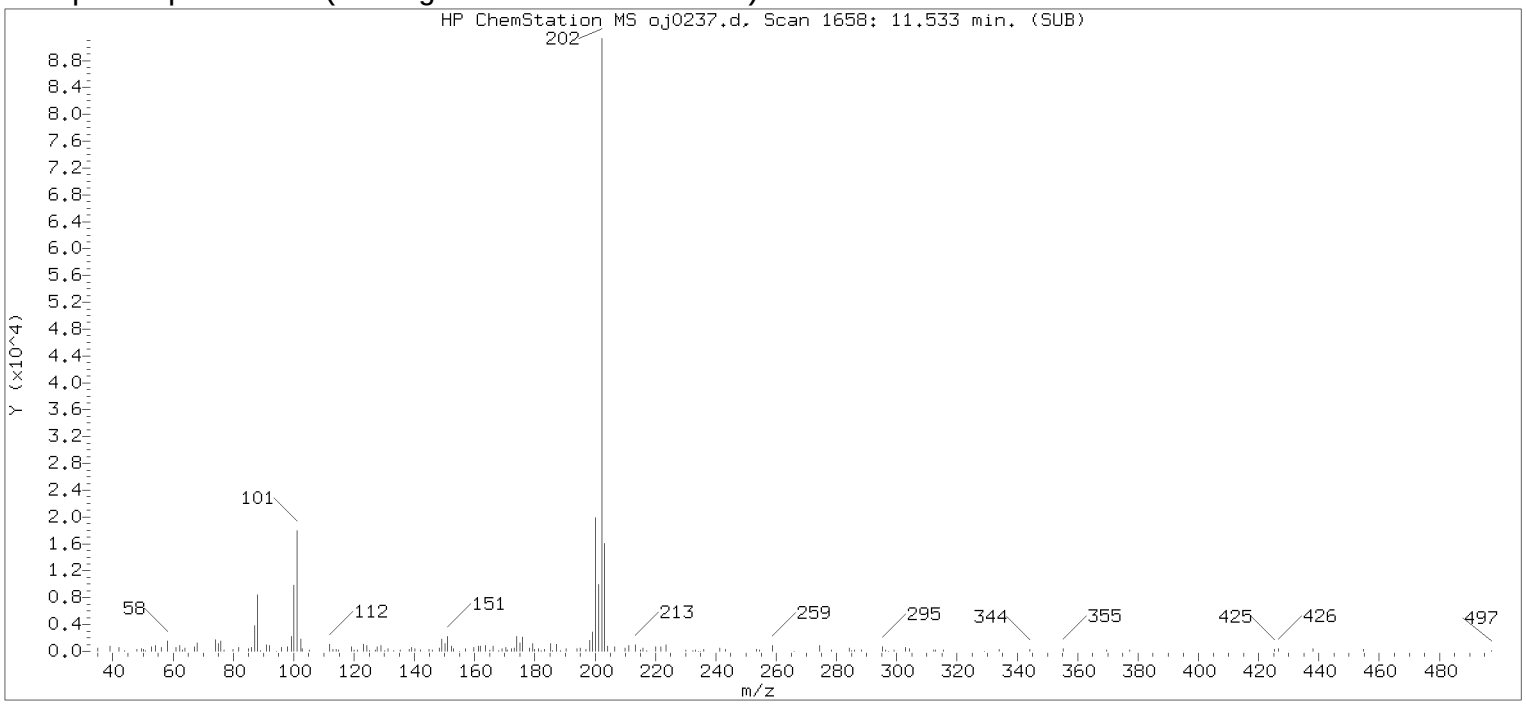
Compound Number : 173
Compound Name : Fluoranthene
Scan Number : 1658
Retention Time (minutes) : 11.533
Quant Ion : 202.00
Area (flag) : 81649M
On-column Amount (ng/ul) : 2.1564
Integration start scan : 1654 Integration stop scan: 1661
Y at integration start : 497 Y at integration end: 497

Reason for manual integration: improper integration

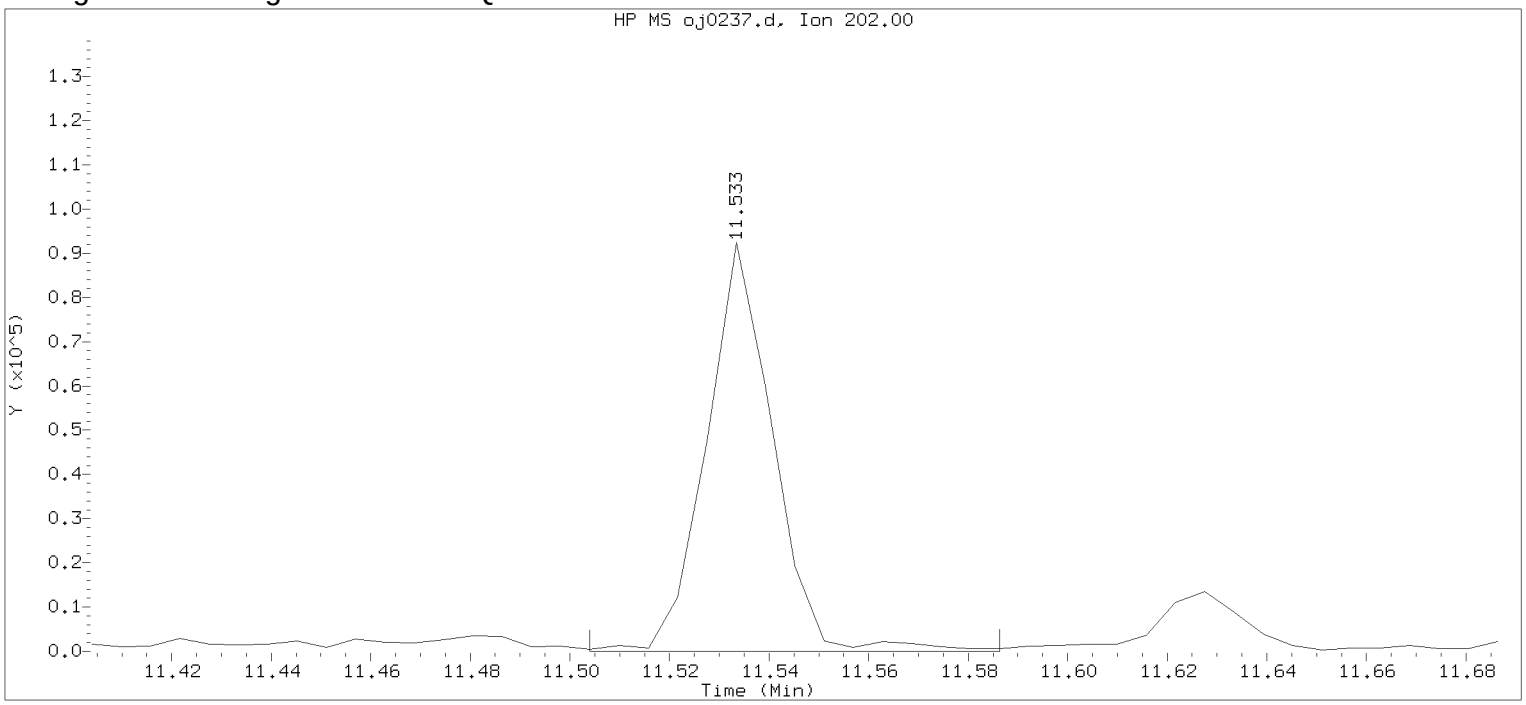
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

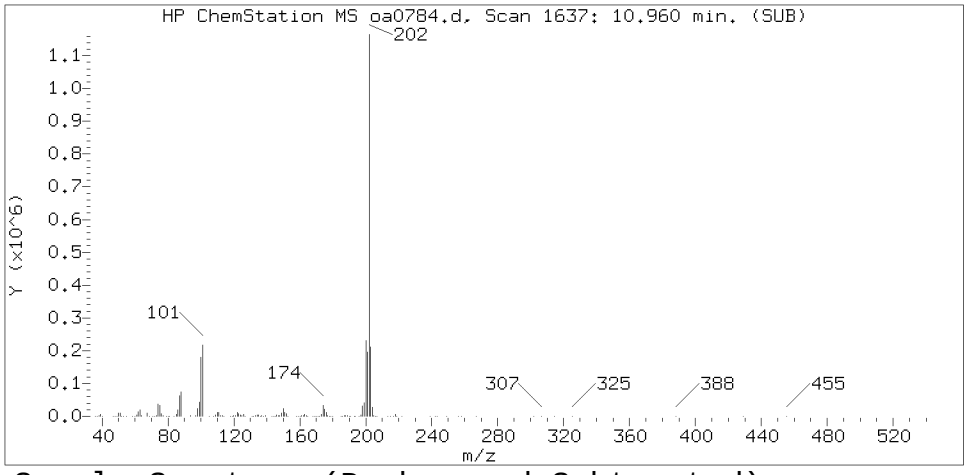
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:03 Automation

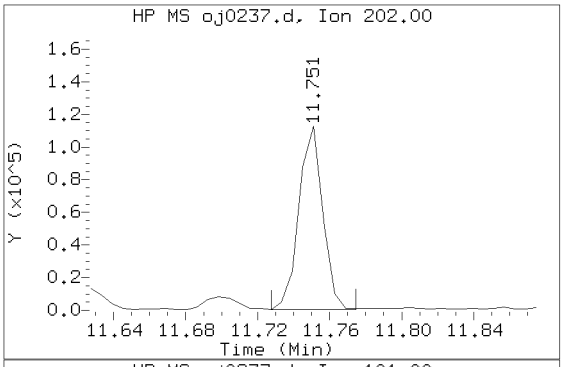
Sample Name: -489- Lab Sample ID: 8064463

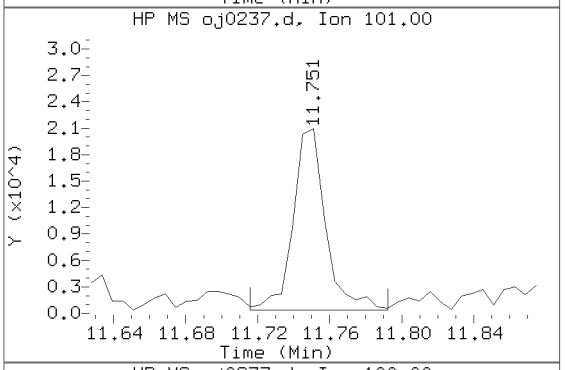
Compound Number	: 173		
Compound Name	: Fluoranthene		
Scan Number	: 1658		
Retention Time (minutes)	: 11.533		
Quant Ion	: 202.00		
Area	: 85645		
On-column Amount (ng/ul)	: 2.2620		
Integration start scan	: 1652	Integration stop scan:	1666
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: LMH0458

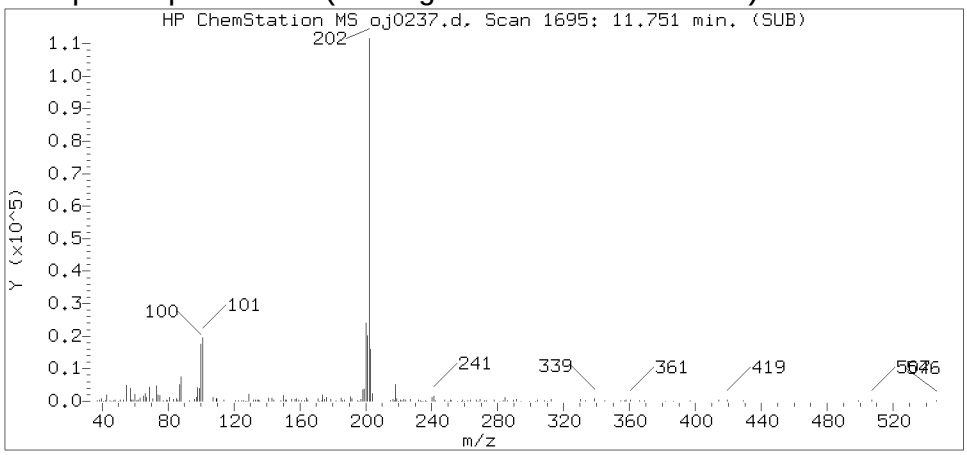
Reference Standard Spectrum for Pyrene

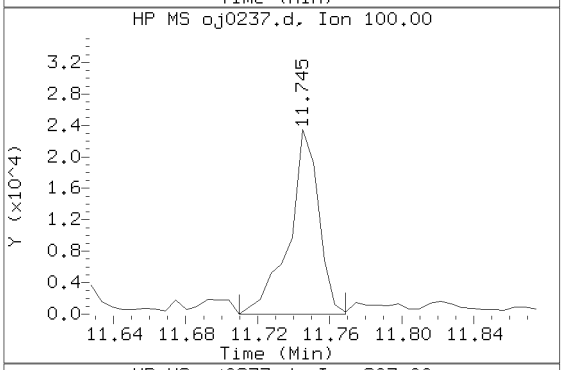




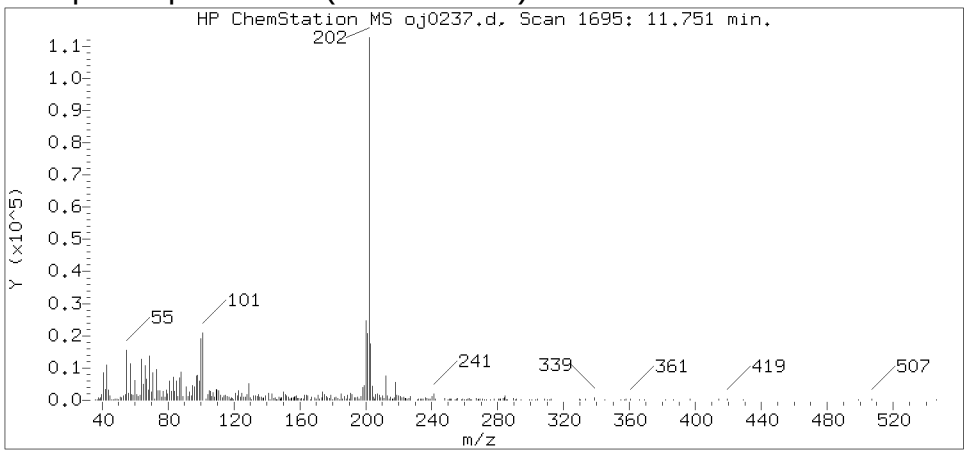


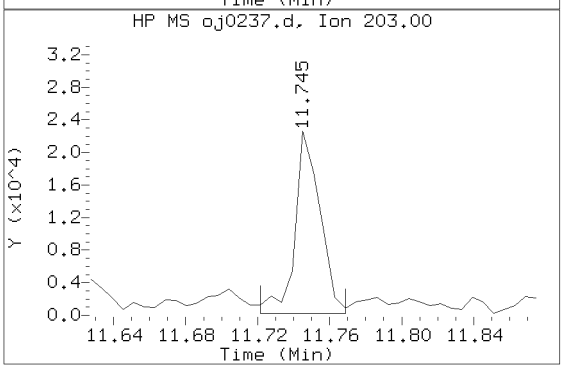
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

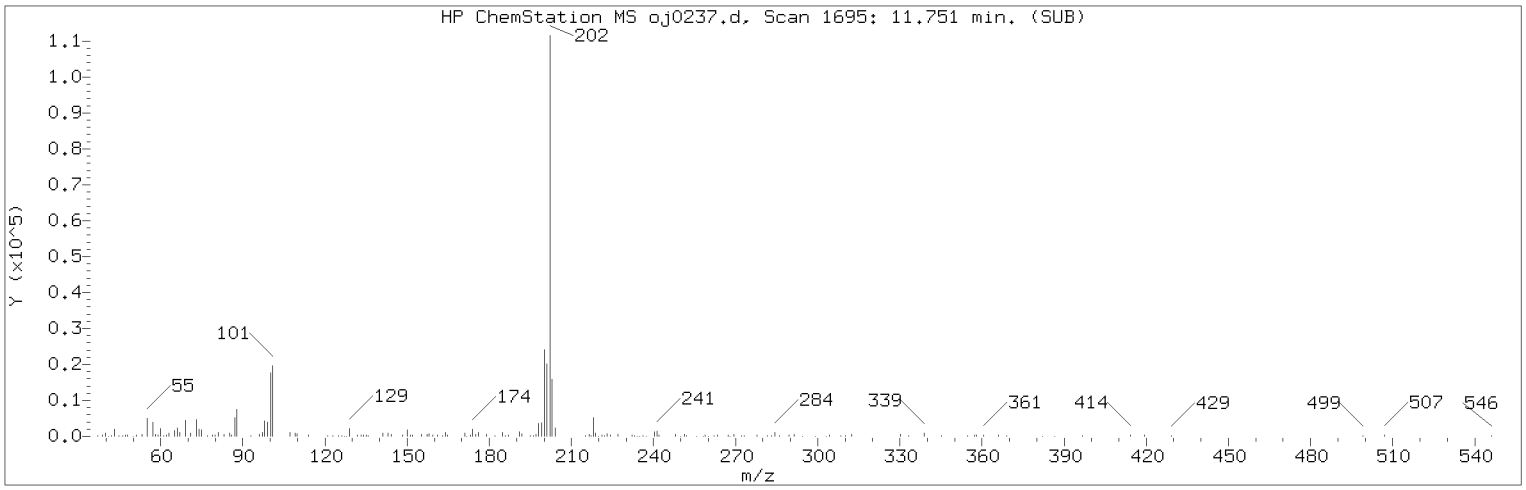
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

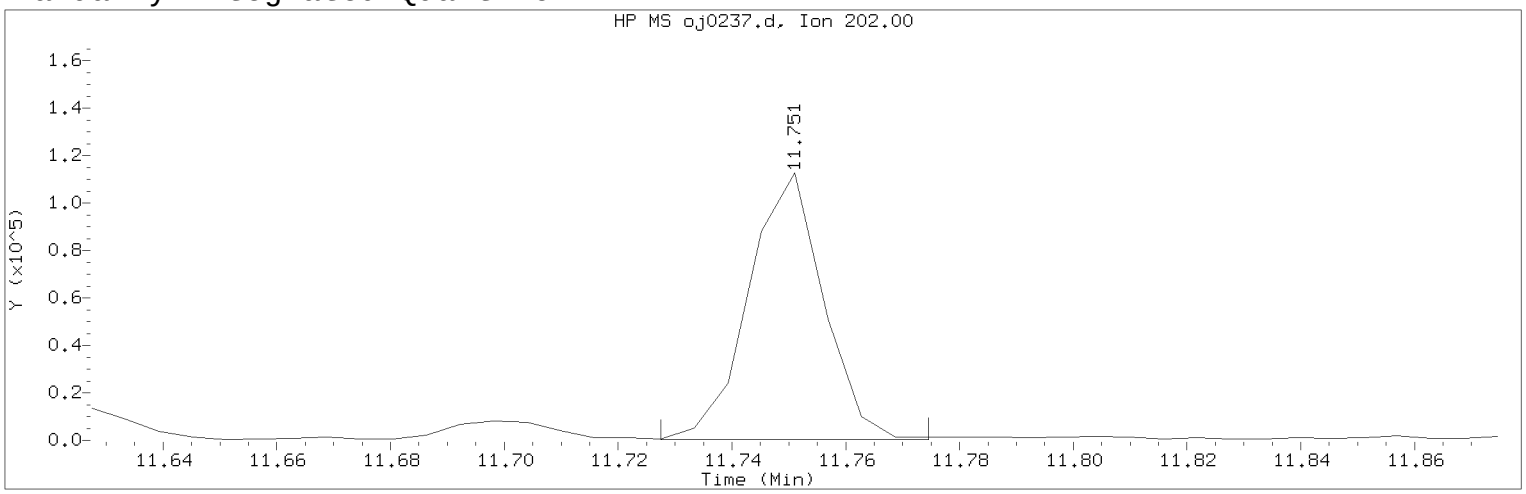
Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1695
Retention Time (minutes)	: 11.751
Relative Retention Time	: 0.00000
Quant Ion	: 202.00
Area (flag)	: 103199M
On-column Amount (ng/ul)	: 2.7868

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

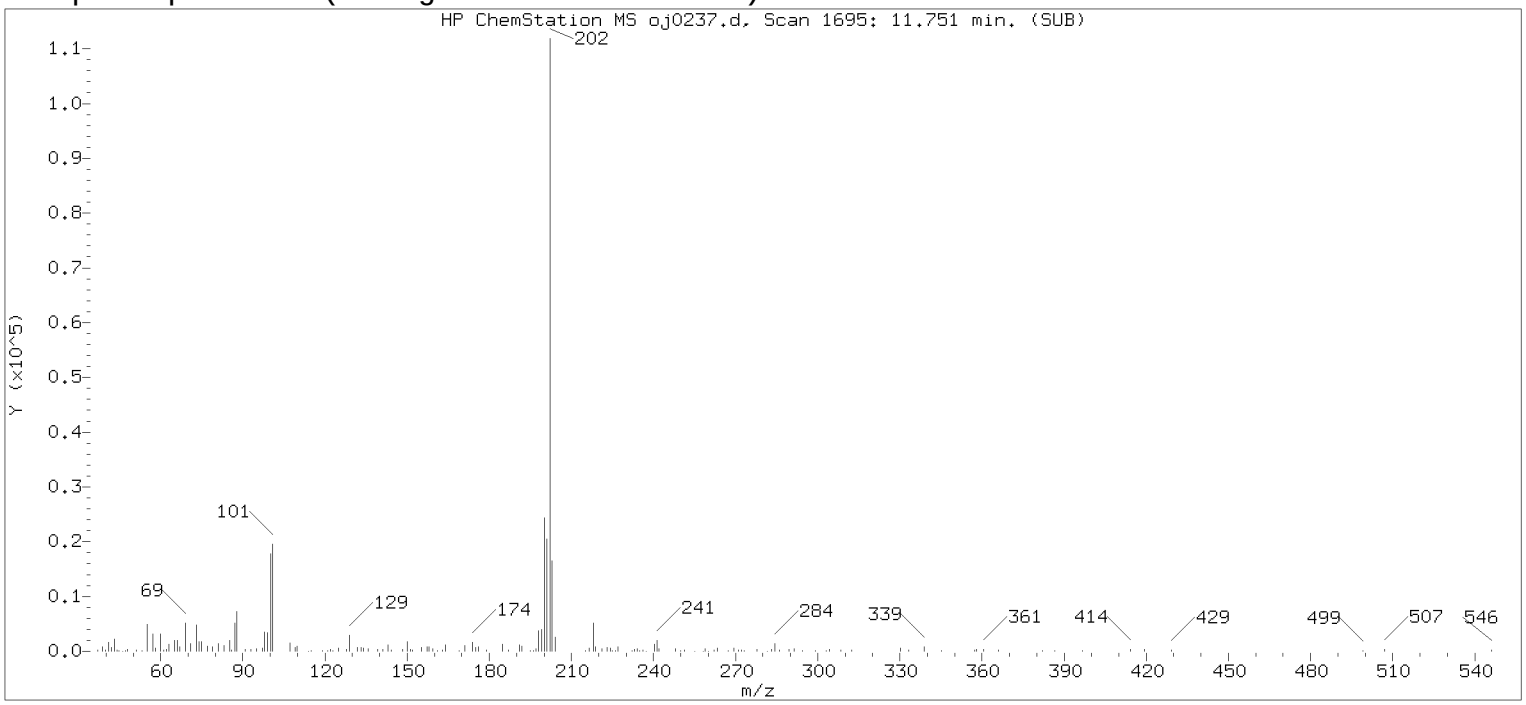
Compound Number : 177
Compound Name : Pyrene
Scan Number : 1695
Retention Time (minutes) : 11.751
Quant Ion : 202.00
Area (flag) : 103199M
On-column Amount (ng/ul) : 2.7868
Integration start scan : 1690 Integration stop scan: 1698
Y at integration start : 212 Y at integration end: 212

Reason for manual integration: improper integration

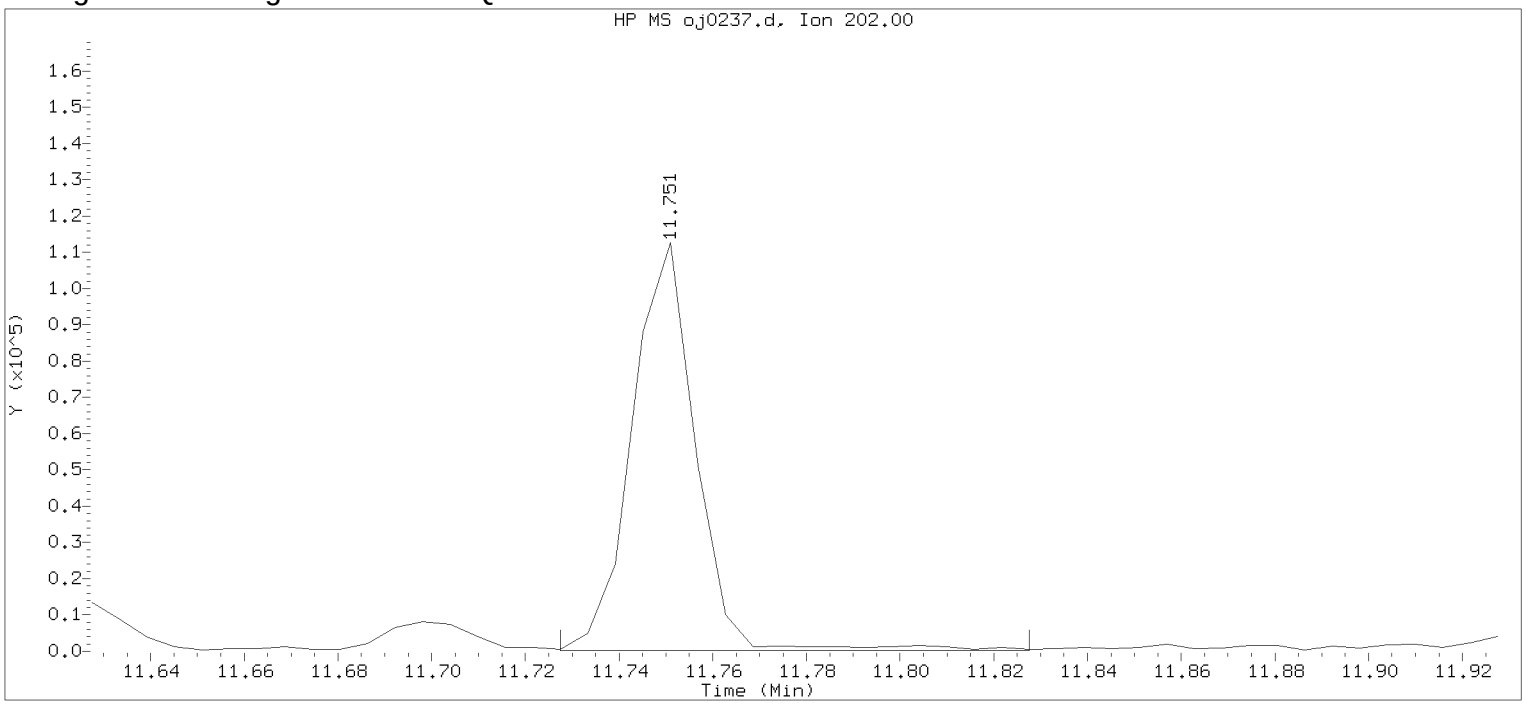
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

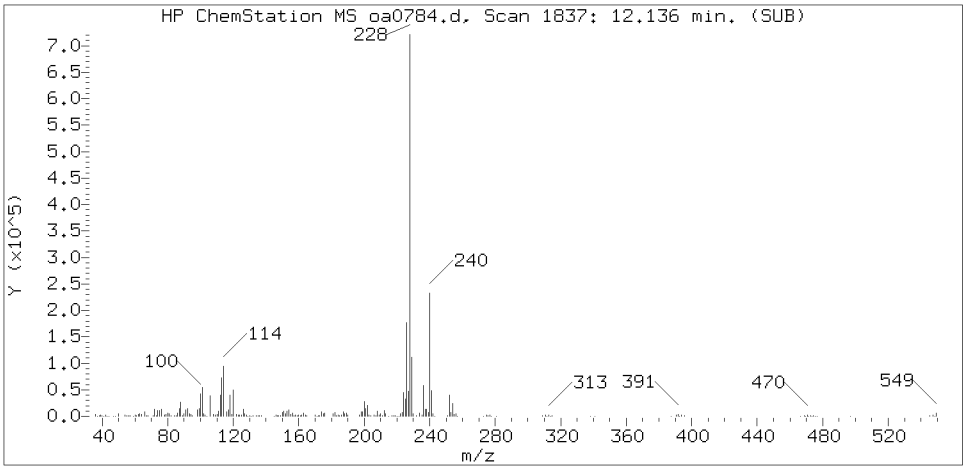
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:03 Automation

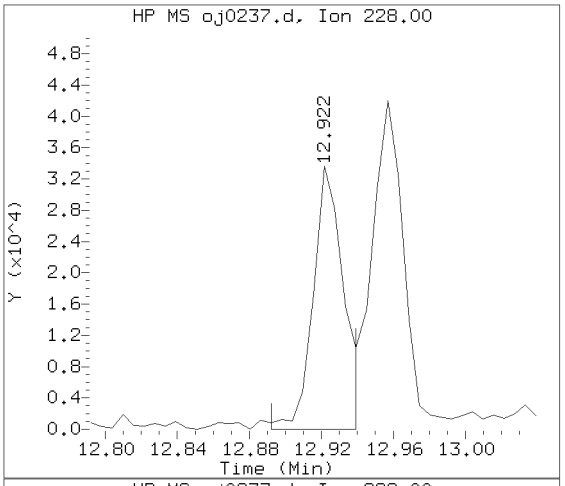
Sample Name: -489- Lab Sample ID: 8064463

Compound Number	: 177		
Compound Name	: Pyrene		
Scan Number	: 1695		
Retention Time (minutes)	: 11.751		
Quant Ion	: 202.00		
Area	: 105933		
On-column Amount (ng/ul)	: 2.8607		
Integration start scan	: 1690	Integration stop scan:	1707
Y at integration start	: 212	Y at integration end:	212

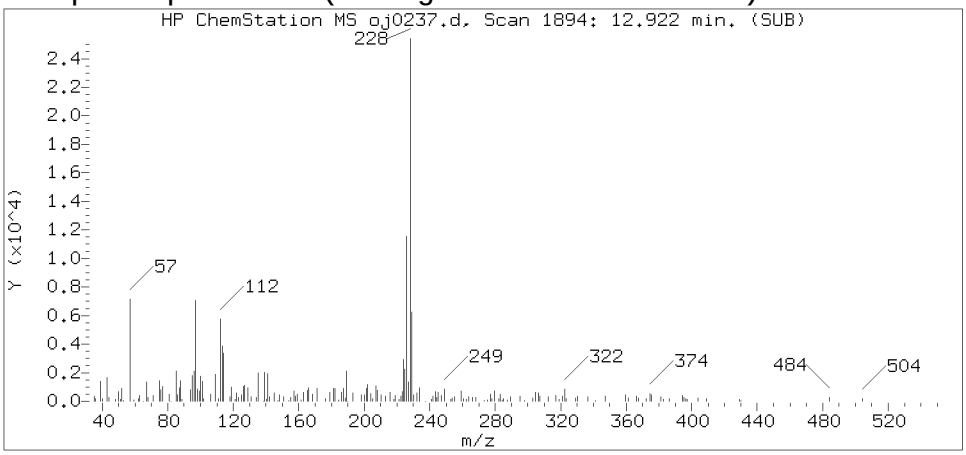
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: LMH0551

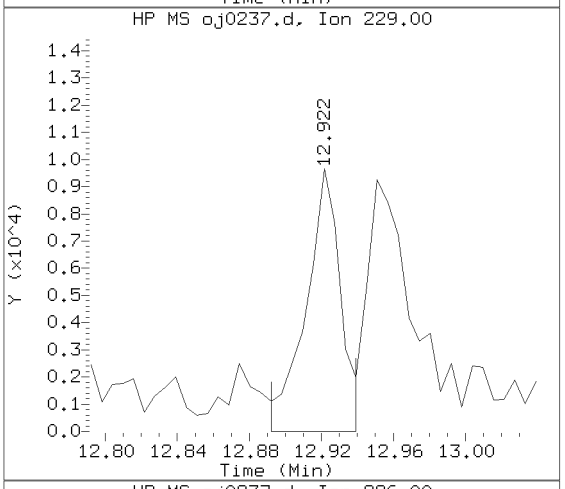
Reference Standard Spectrum for Benzo(a)anthracene



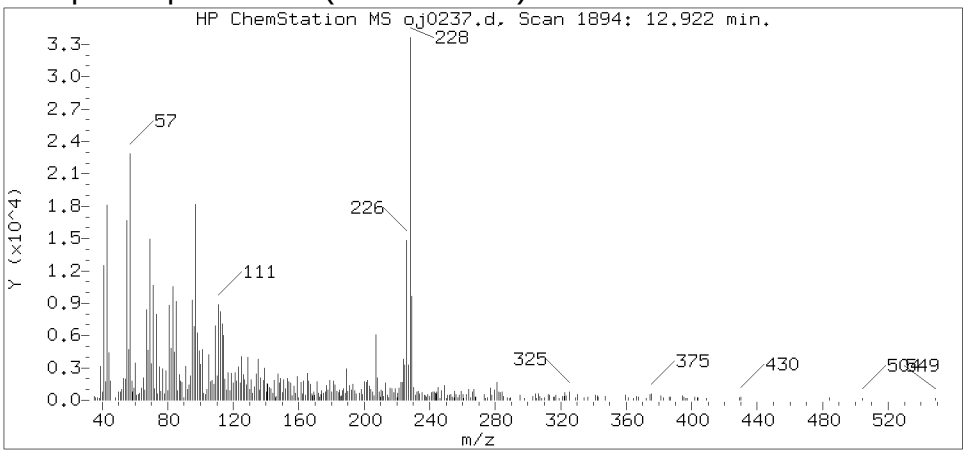


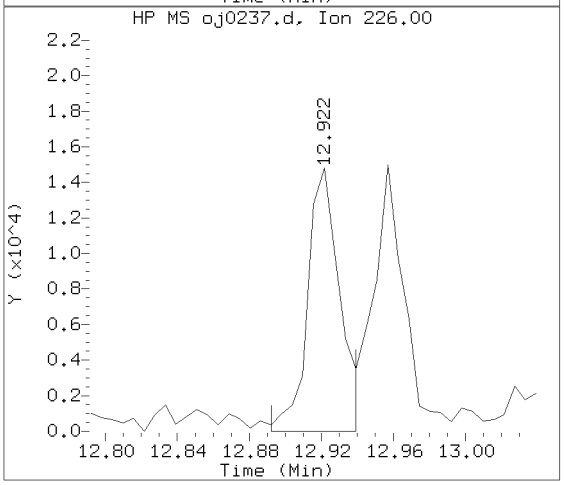
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

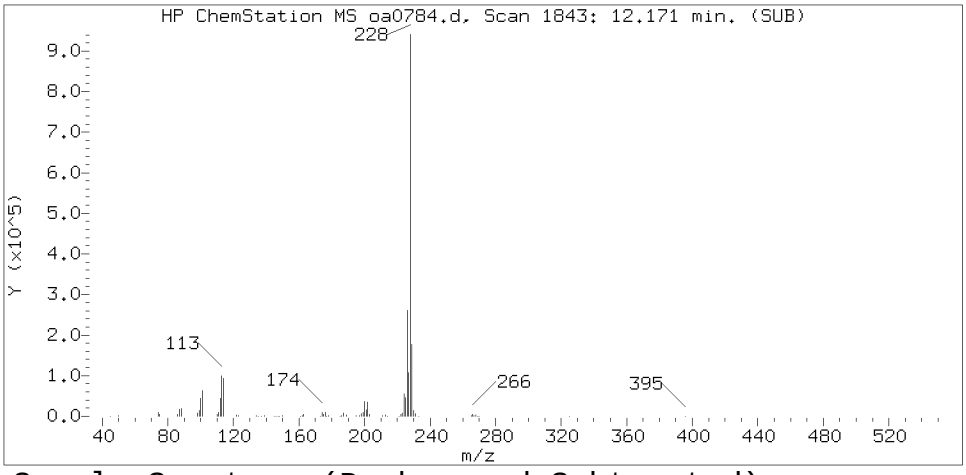
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

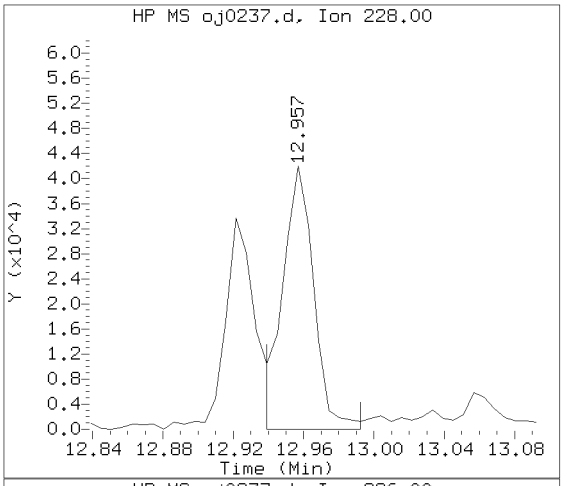
Sample Name: -489- Lab Sample ID: 8064463

Compound Number	: 195
Compound Name	: Benzo(a)anthracene
Scan Number	: 1894
Retention Time (minutes)	: 12.922
Relative Retention Time	: 0.00010
Quant Ion	: 228.00
Area (flag)	: 37906
On-column Amount (ng/ul)	: 1.1743

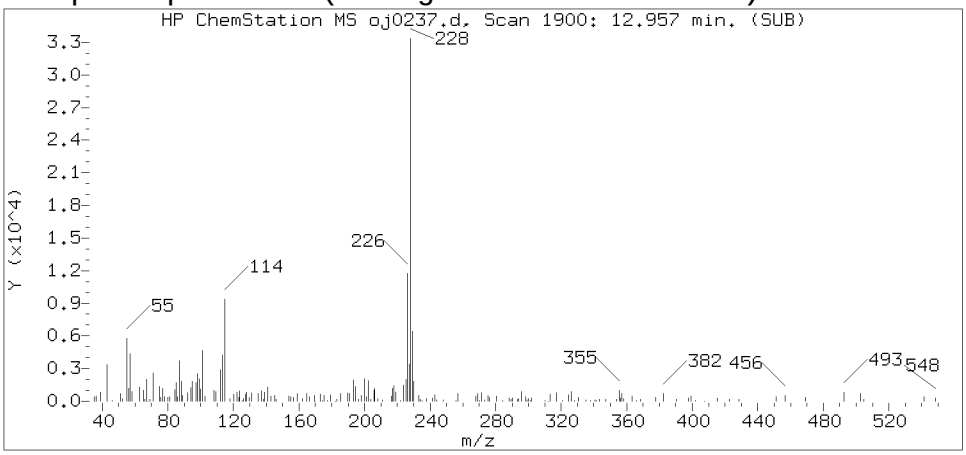
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

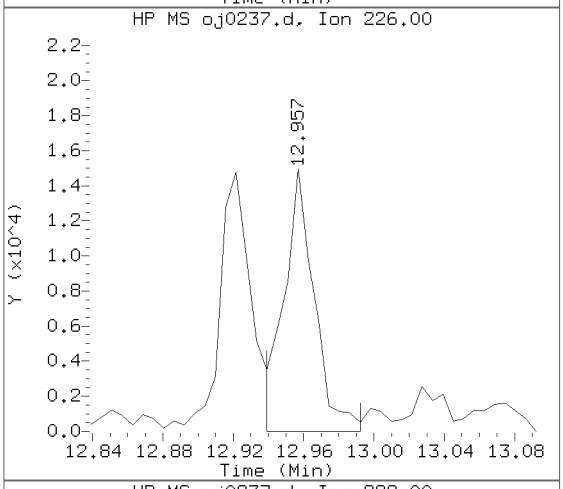
Reference Standard Spectrum for Chrysene



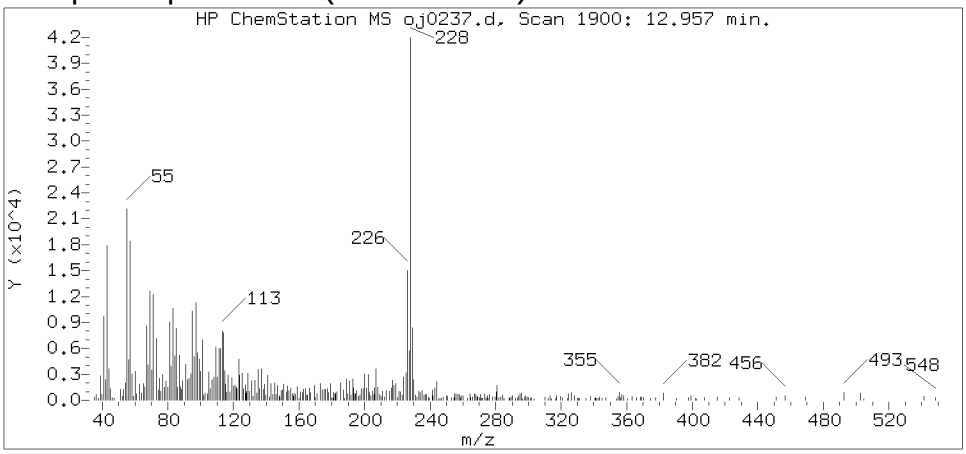


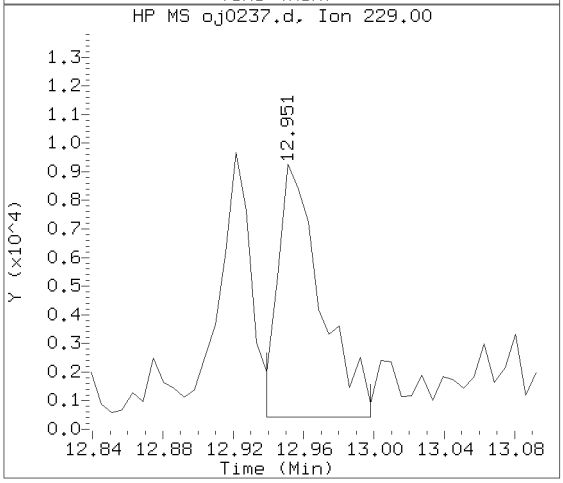
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

Compound Number	: 196
Compound Name	: Chrysene
Scan Number	: 1900
Retention Time (minutes)	: 12.957
Relative Retention Time	: 0.00011
Quant Ion	: 228.00
Area (flag)	: 51800
On-column Amount (ng/ul)	: 1.6842

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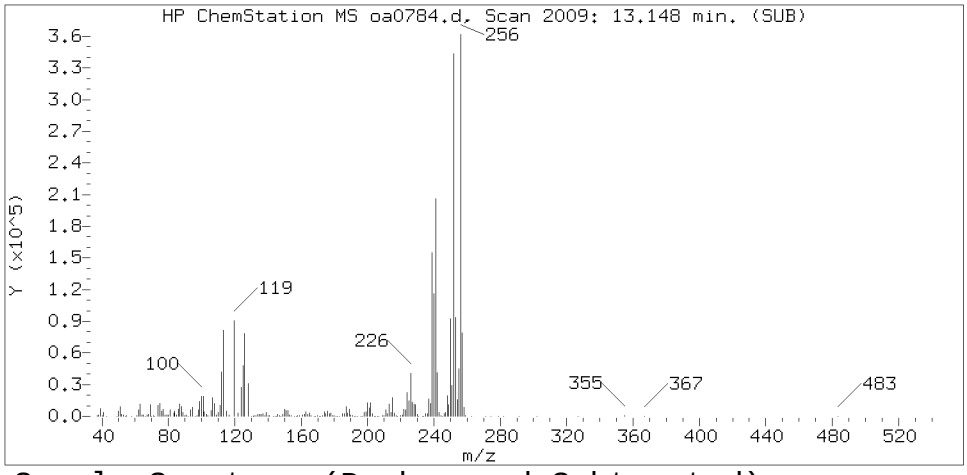
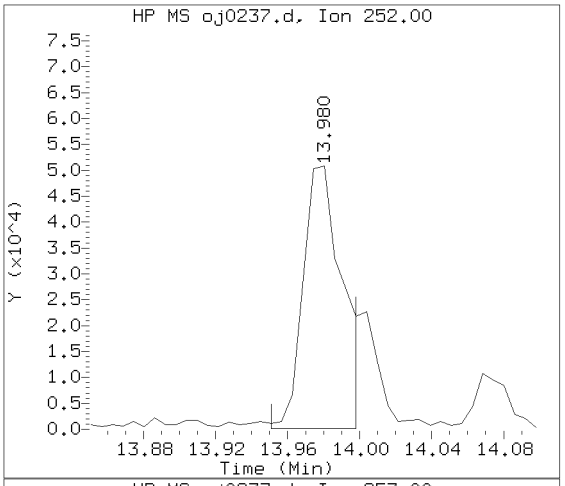
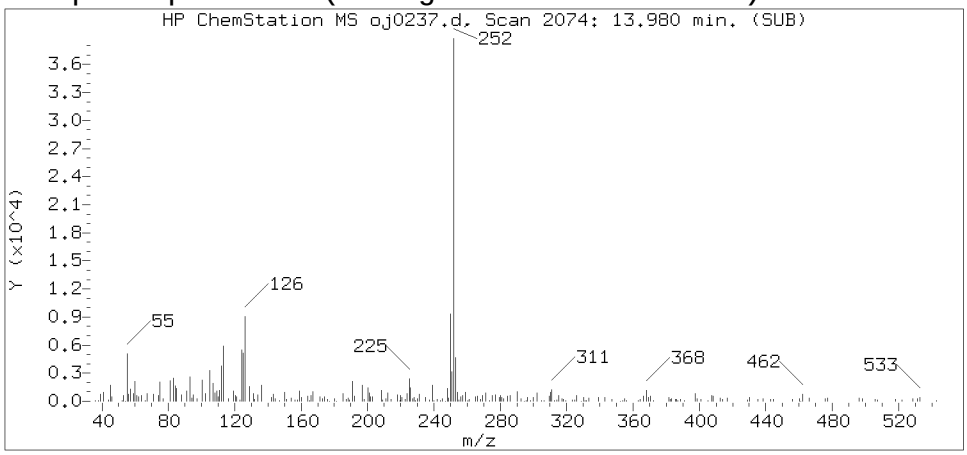
Target 3.5 esignature user ID: lmh00956

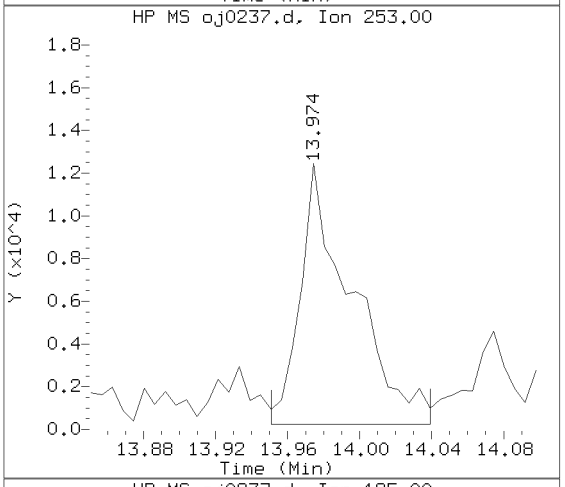
Reference Standard Spectrum for Benzo(b)fluoranthene



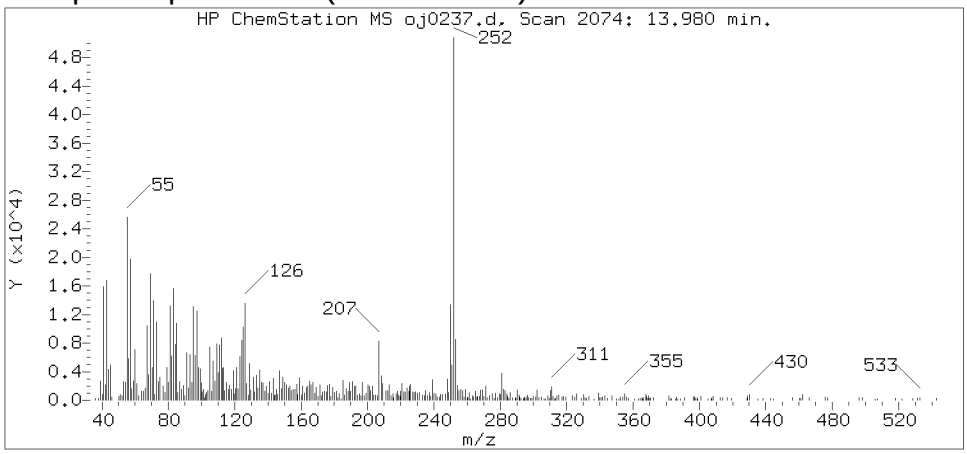


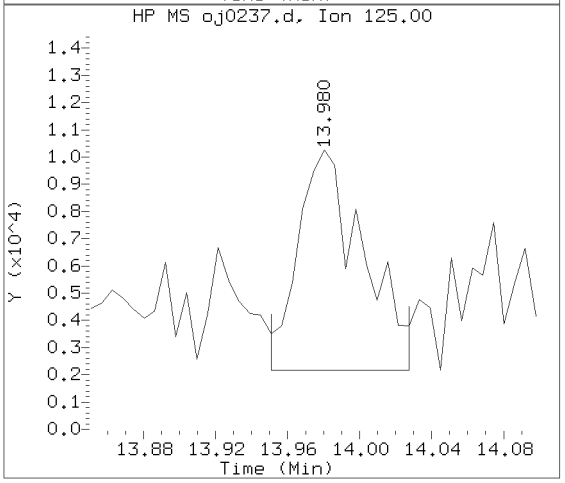
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

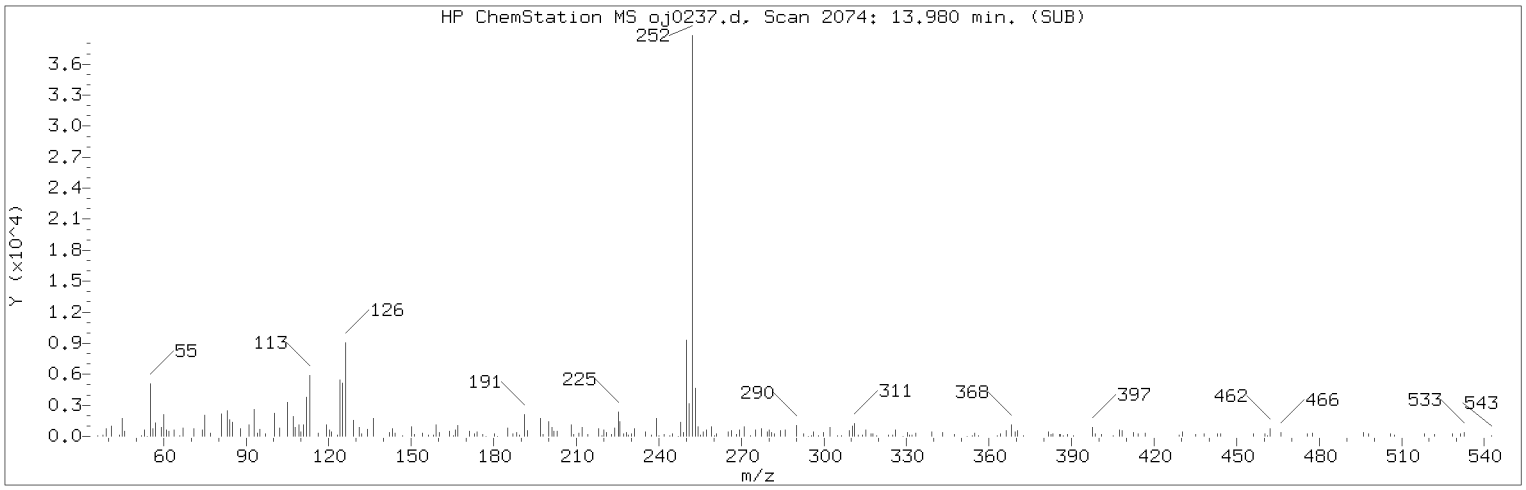
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

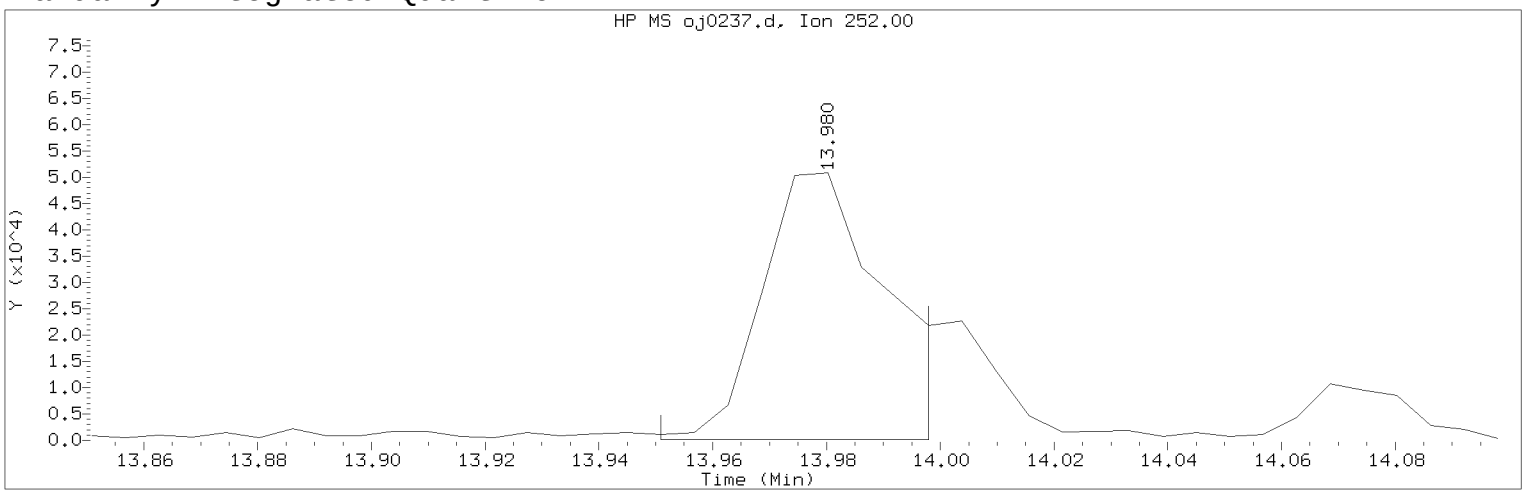
Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2074
Retention Time (minutes)	: 13.980
Relative Retention Time	:-0.00003
Quant Ion	: 252.00
Area (flag)	: 77564M
On-column Amount (ng/ul)	: 2.7730

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

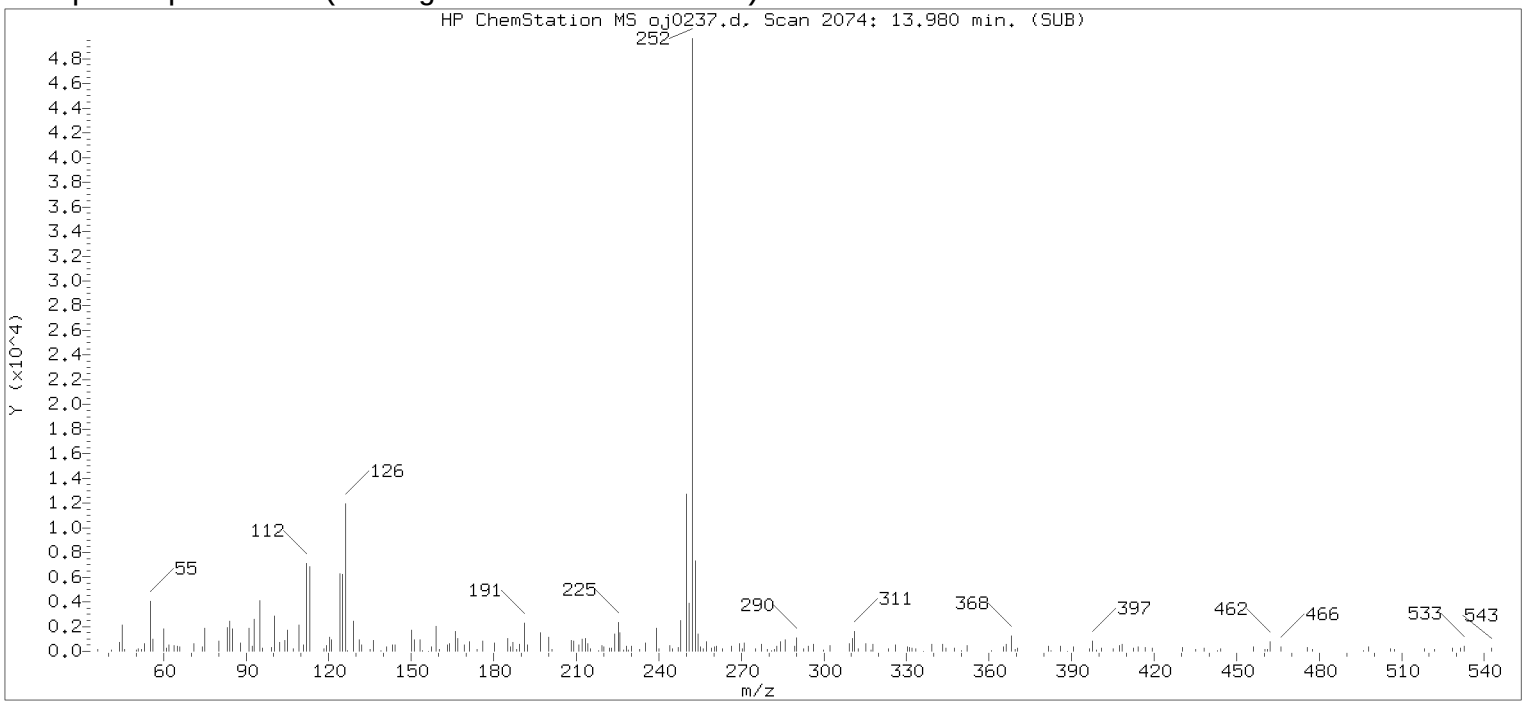
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2074
Retention Time (minutes) : 13.980
Quant Ion : 252.00
Area (flag) : 77564M
On-column Amount (ng/ul) : 2.7730
Integration start scan : 2068 Integration stop scan: 2076
Y at integration start : 70 Y at integration end: 70

Reason for manual integration: improper integration

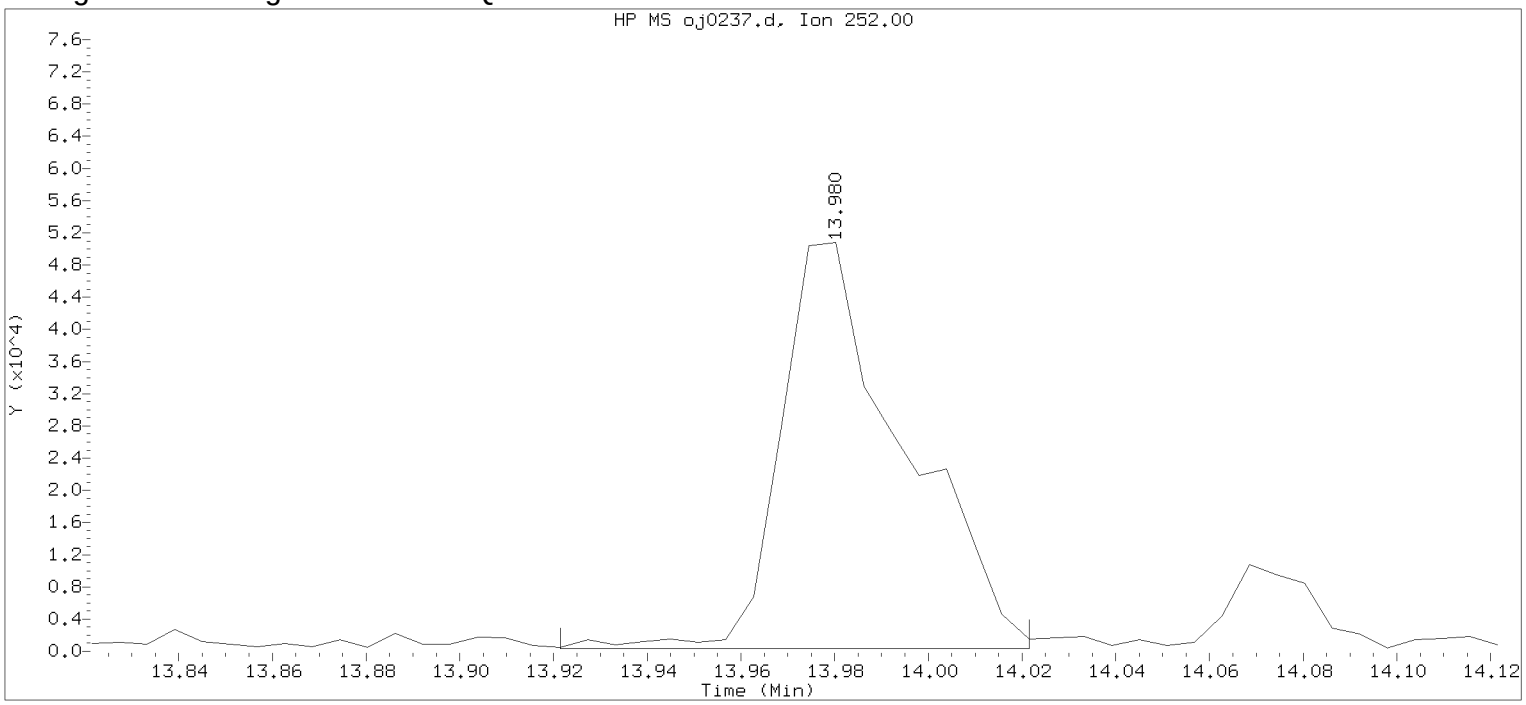
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

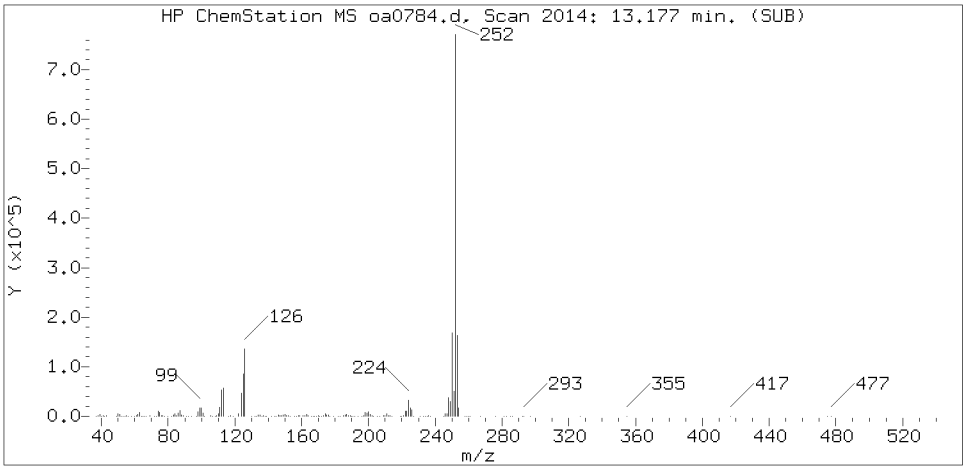
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:03 Automation

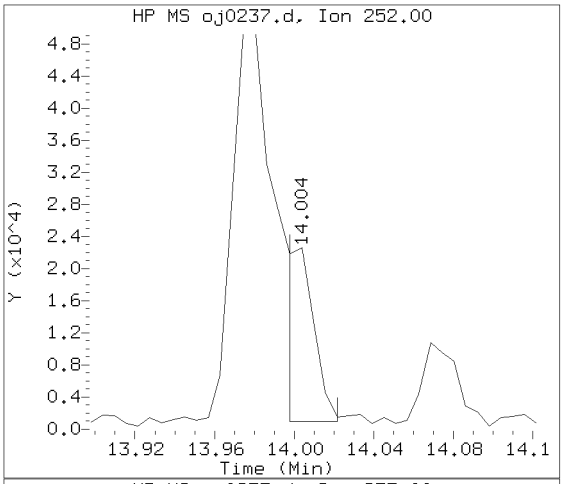
Sample Name: -489- Lab Sample ID: 8064463

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2074		
Retention Time (minutes)	: 13.980		
Quant Ion	: 252.00		
Area	: 92131		
On-column Amount (ng/ul)	: 3.2938		
Integration start scan	: 2063	Integration stop scan:	2080
Y at integration start	: 347	Y at integration end:	347

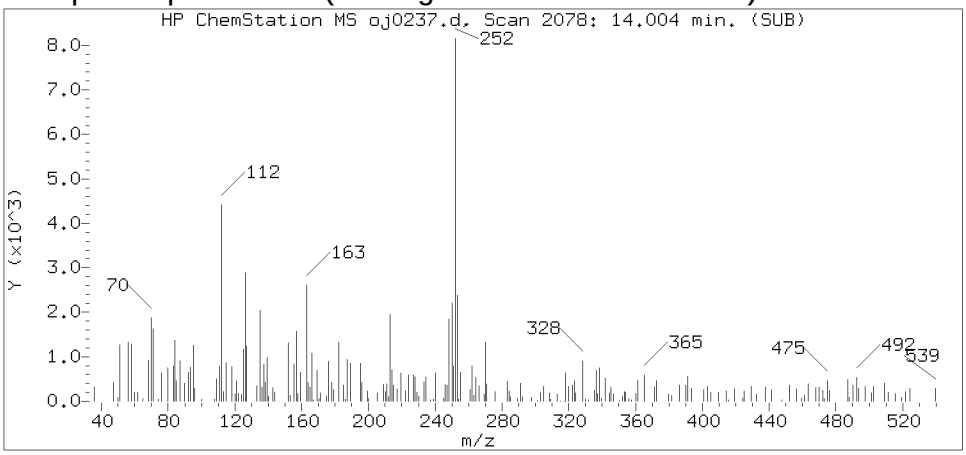
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: 27 Image 506

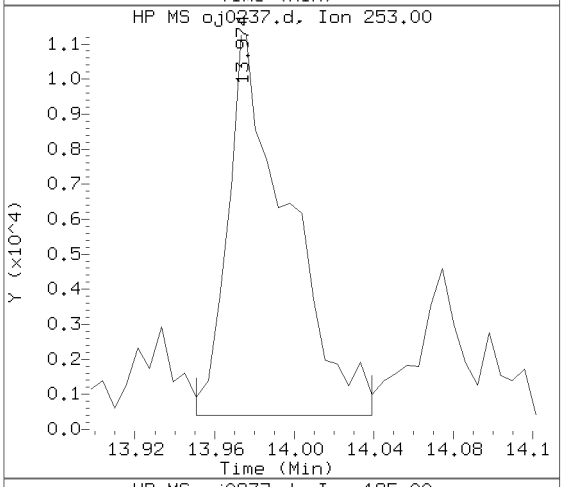
Reference Standard Spectrum for Benzo(k)fluoranthene



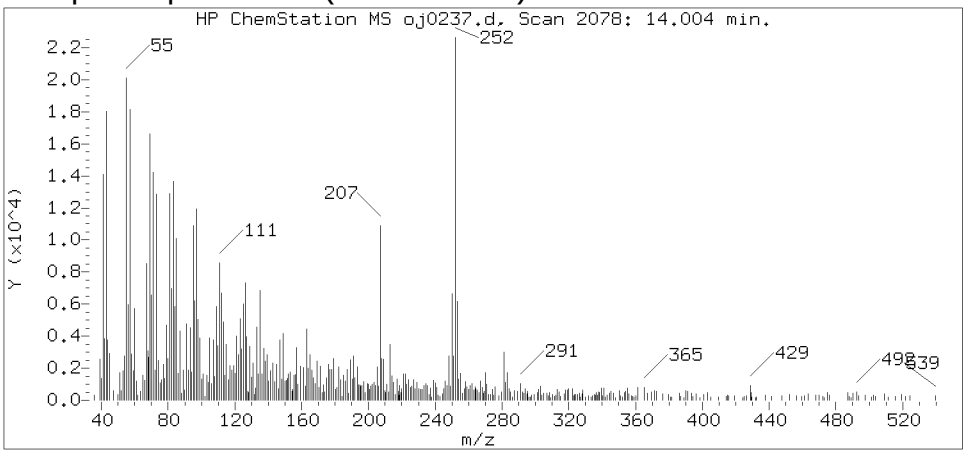


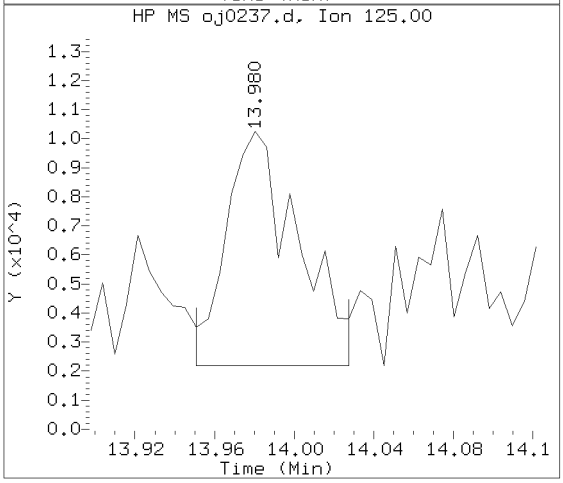
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

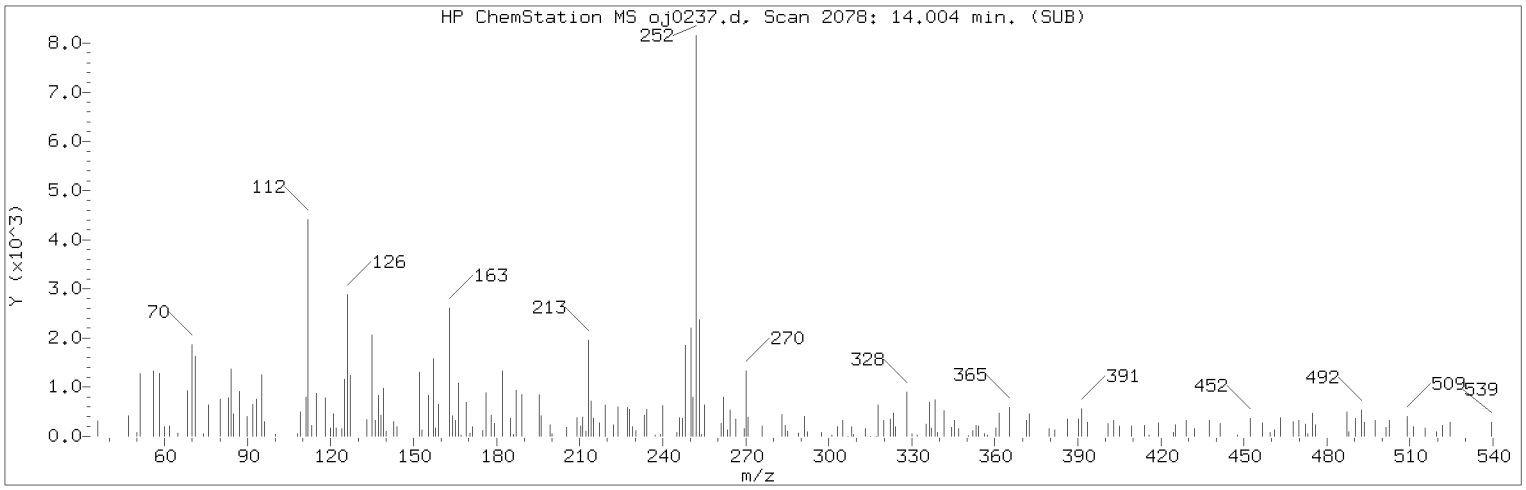
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

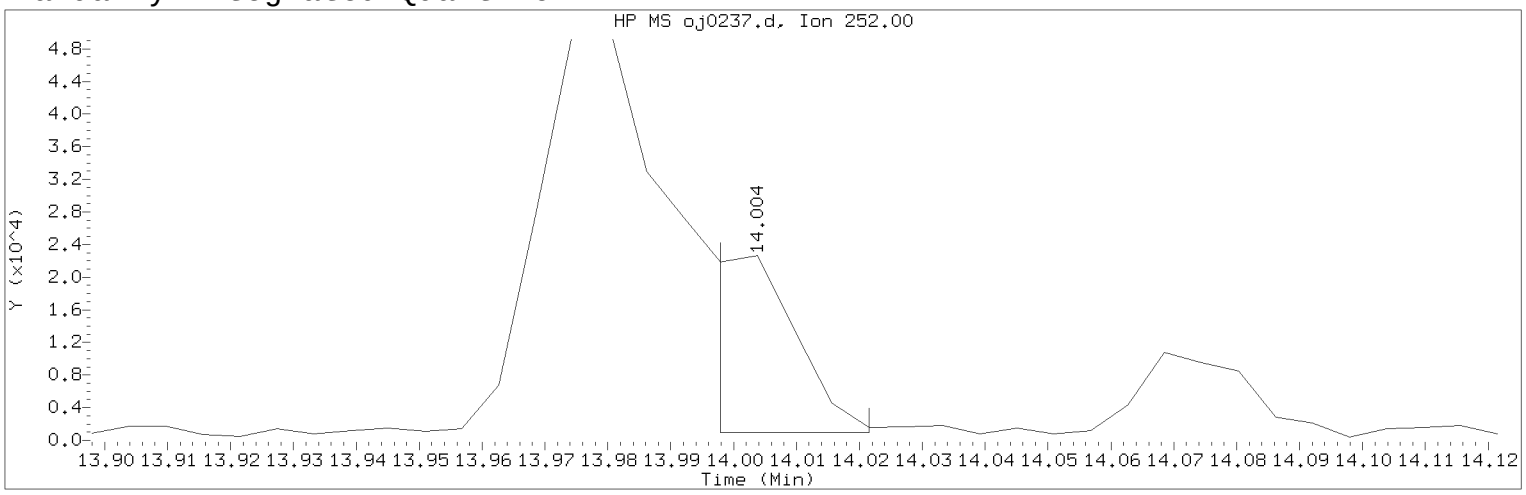
Compound Number	: 208
Compound Name	: Benzo(k)fluoranthene
Scan Number	: 2078
Retention Time (minutes)	: 14.004
Relative Retention Time	: 0.00038
Quant Ion	: 252.00
Area (flag)	: 20976M
On-column Amount (ng/ul)	: 0.7350

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

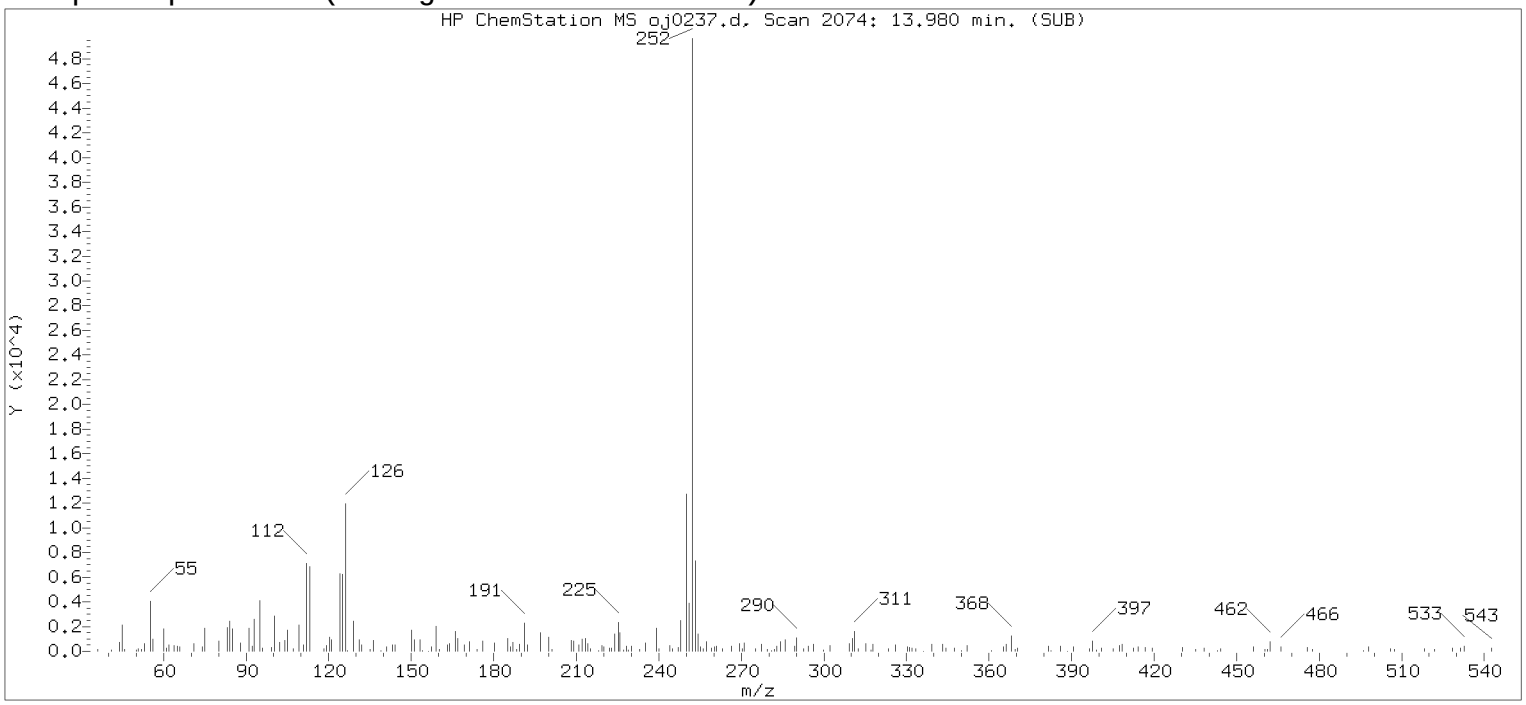
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2078
Retention Time (minutes) : 14.004
Quant Ion : 252.00
Area (flag) : 20976M
On-column Amount (ng/ul) : 0.7350
Integration start scan : 2076 Integration stop scan: 2080
Y at integration start : 922 Y at integration end: 922

Reason for manual integration: improper integration

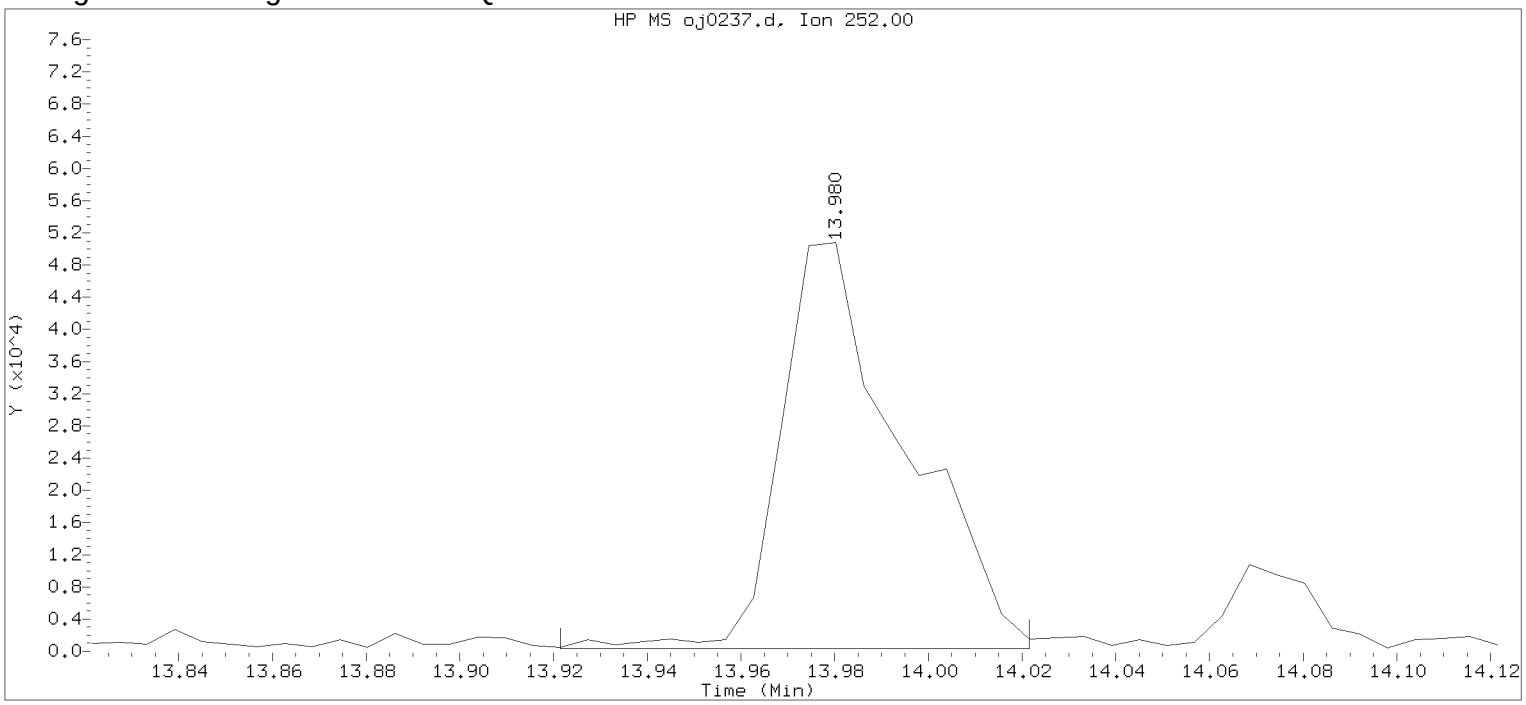
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:03 Automation

Sample Name: -489- Lab Sample ID: 8064463

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2074		
Retention Time (minutes)	: 13.980		
Quant Ion	: 252.00		
Area	: 92173		
On-column Amount (ng/ul)	: 3.2295		
Integration start scan	: 2063	Integration stop scan:	2080
Y at integration start	: 340	Y at integration end:	340

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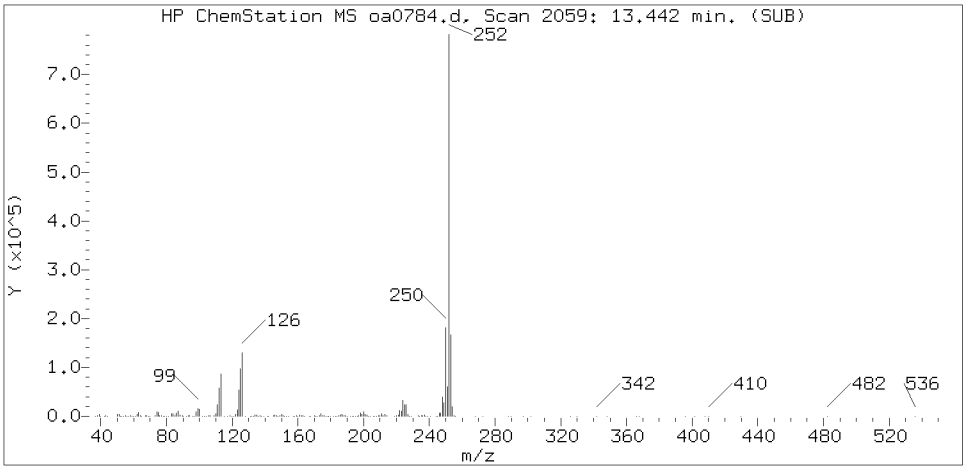
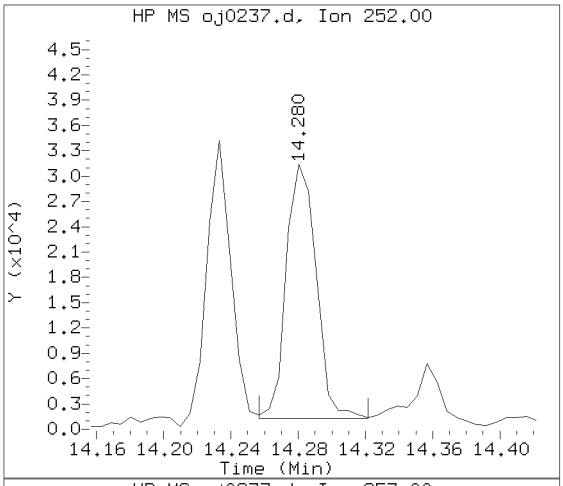
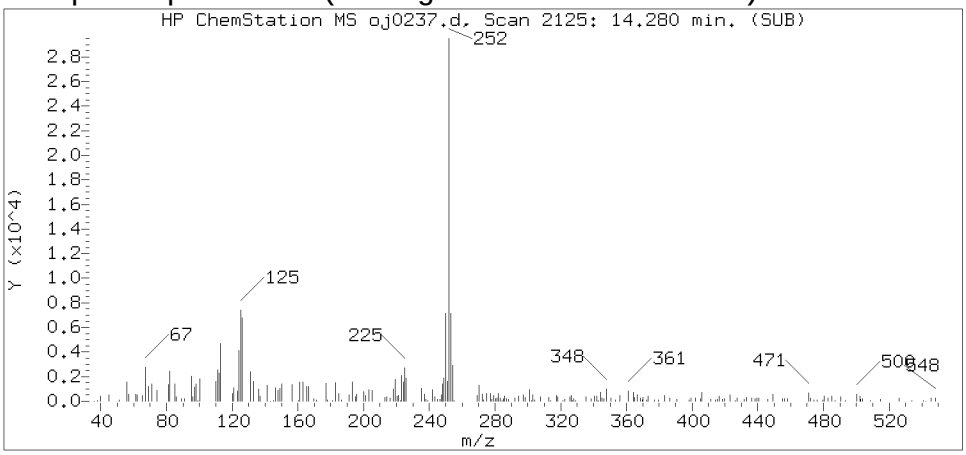
Target 3.5 esignature user ID: LMH0506

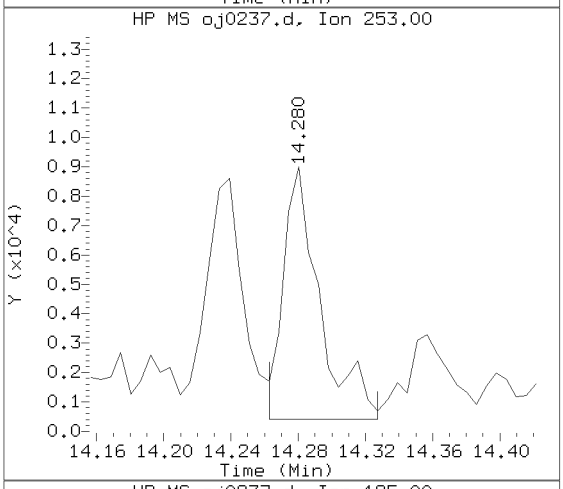
Reference Standard Spectrum for Benzo(a)pyrene



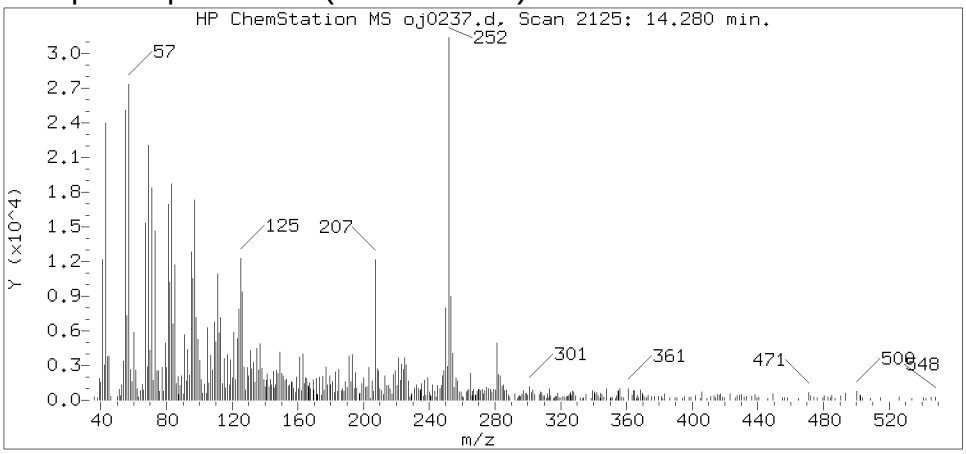


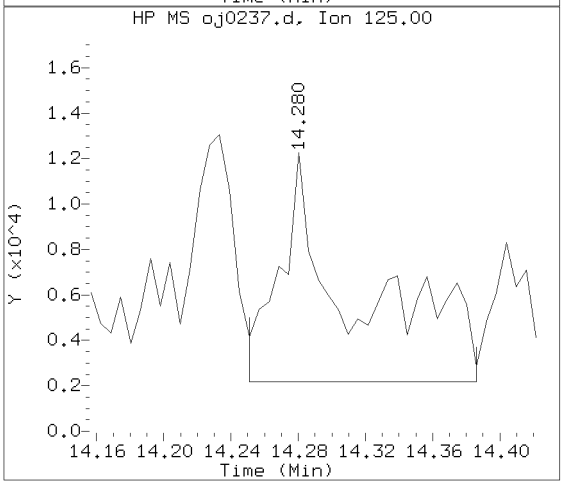
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

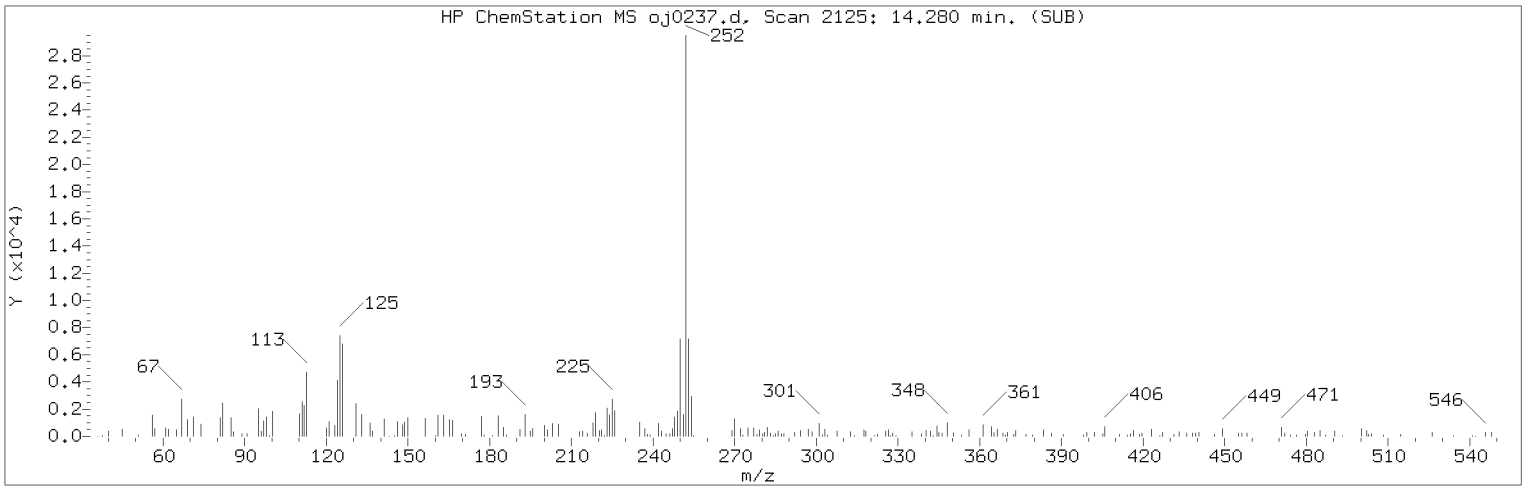
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

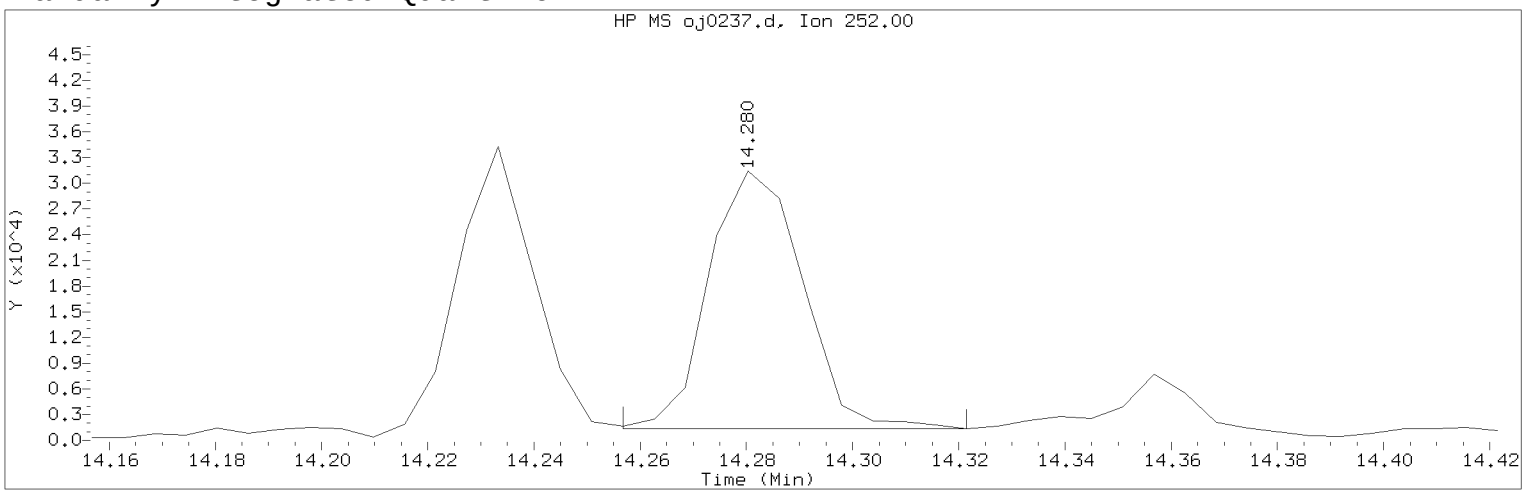
Compound Number	: 211
Compound Name	: Benzo(a)pyrene
Scan Number	: 2125
Retention Time (minutes)	: 14.280
Relative Retention Time	:-0.00000
Quant Ion	: 252.00
Area (flag)	: 37200M
On-column Amount (ng/ul)	: 1.3466

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

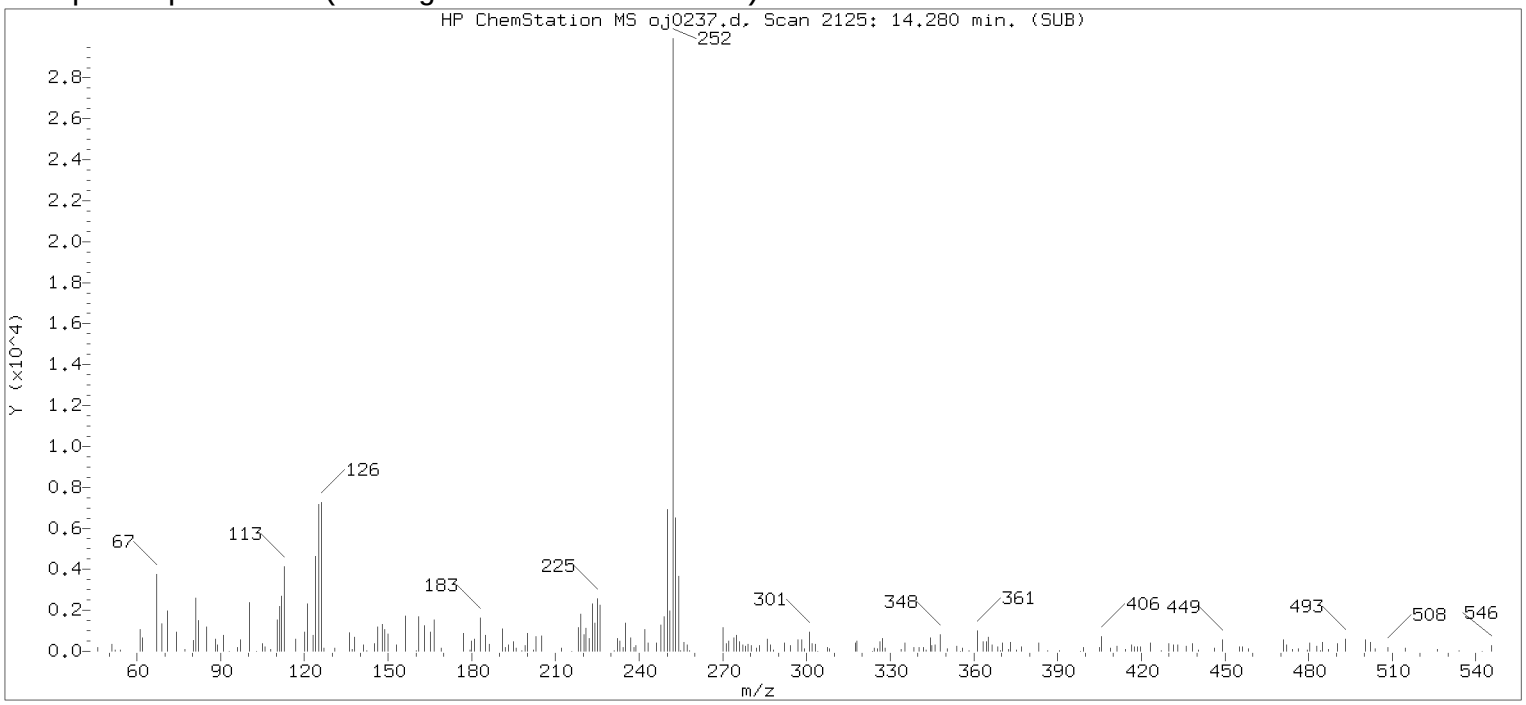
Compound Number : 211
Compound Name : Benzo(a)pyrene
Scan Number : 2125
Retention Time (minutes) : 14.280
Quant Ion : 252.00
Area (flag) : 37200M
On-column Amount (ng/ul) : 1.3466
Integration start scan : 2120 Integration stop scan: 2131
Y at integration start : 1311 Y at integration end: 1311

Reason for manual integration: improper integration

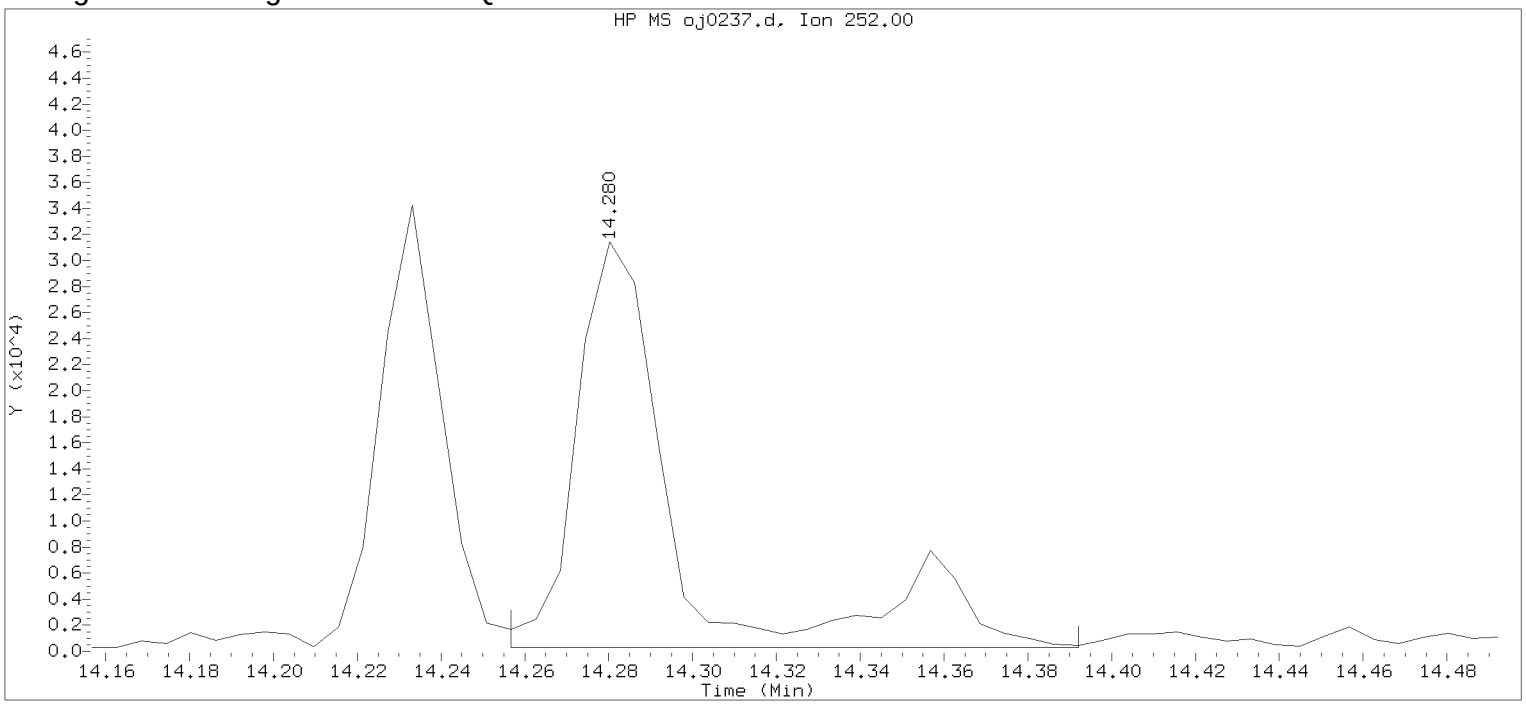
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

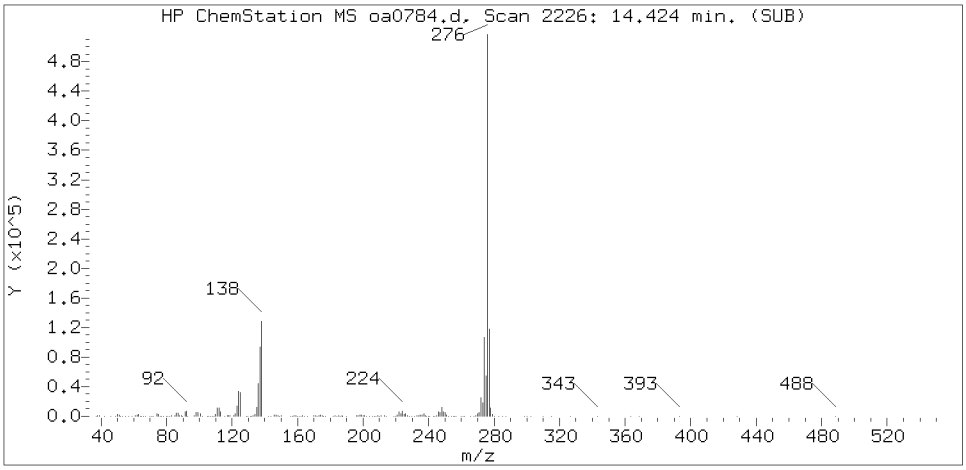
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:03 Automation

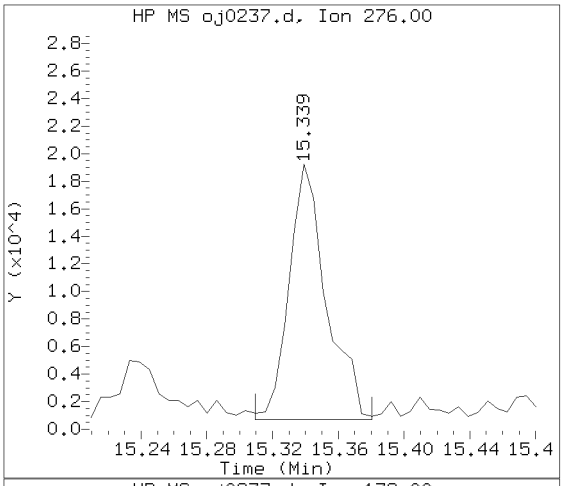
Sample Name: -489- Lab Sample ID: 8064463

Compound Number	: 211		
Compound Name	: Benzo(a)pyrene		
Scan Number	: 2125		
Retention Time (minutes)	: 14.280		
Quant Ion	: 252.00		
Area	: 51279		
On-column Amount (ng/ul)	: 1.8562		
Integration start scan	: 2120	Integration stop scan:	2143
Y at integration start	: 296	Y at integration end:	296

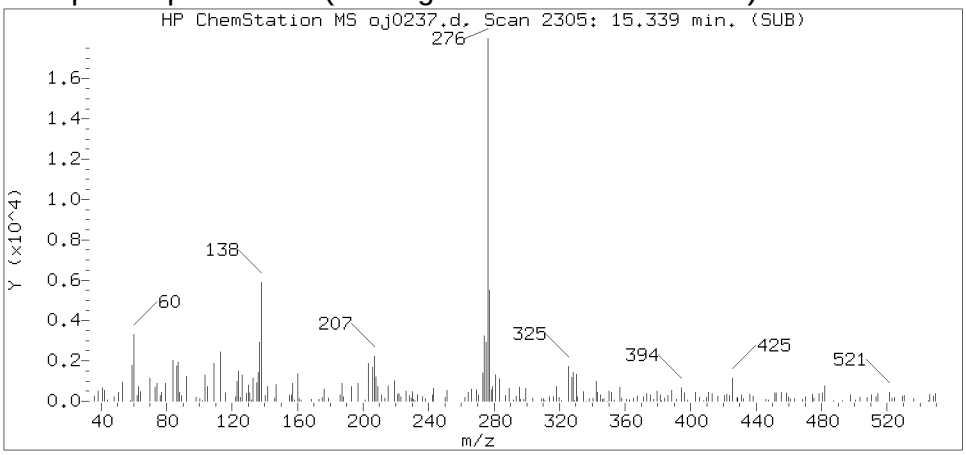
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: LMH0513

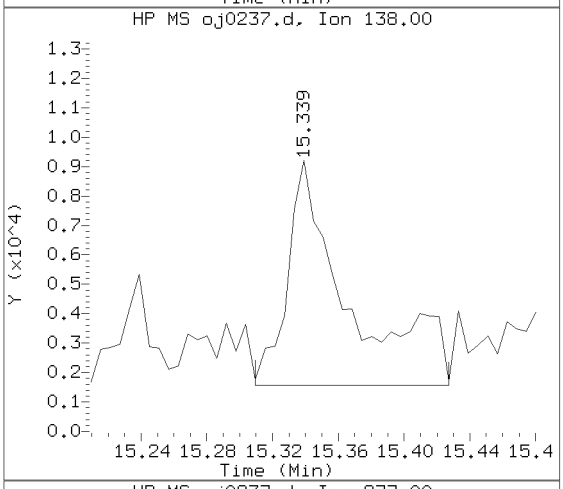
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



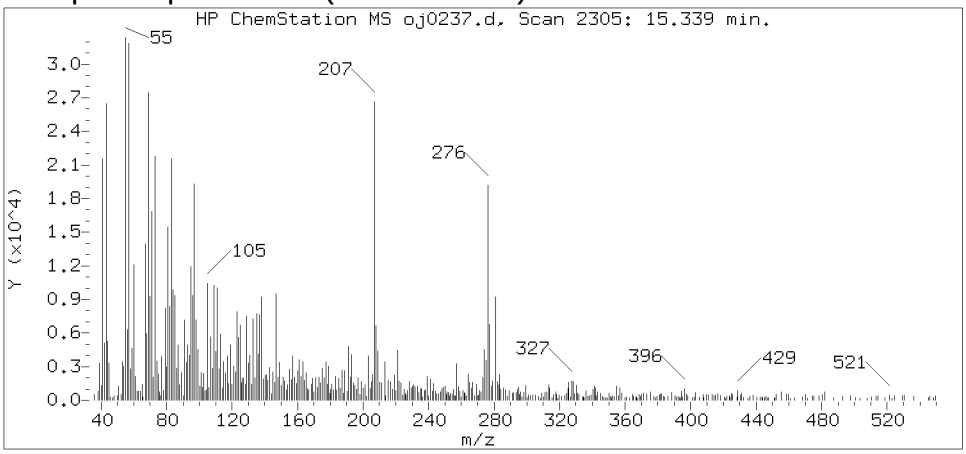


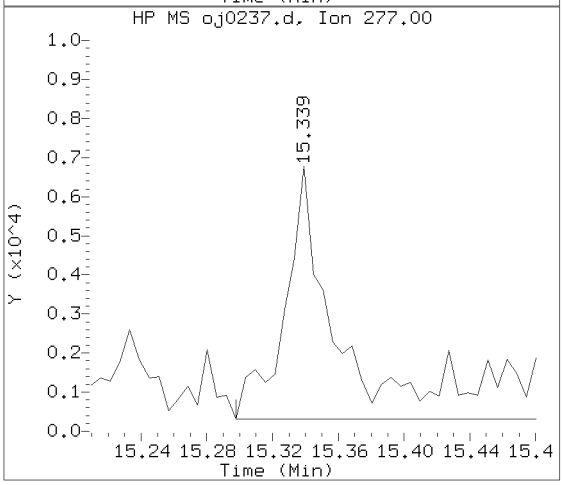
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

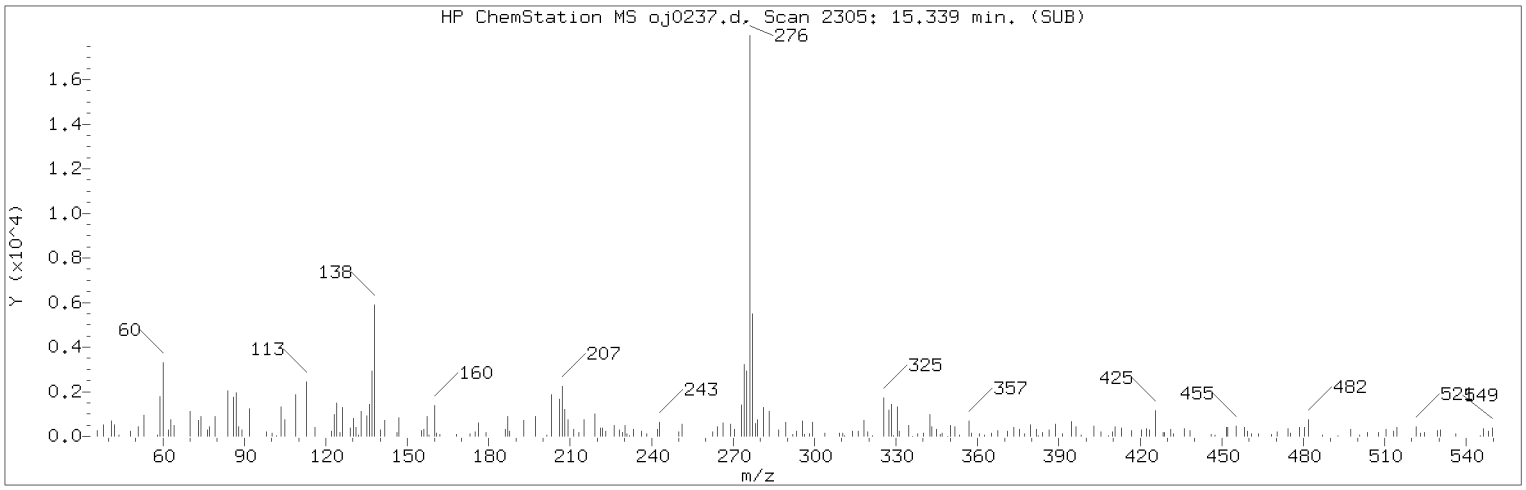
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

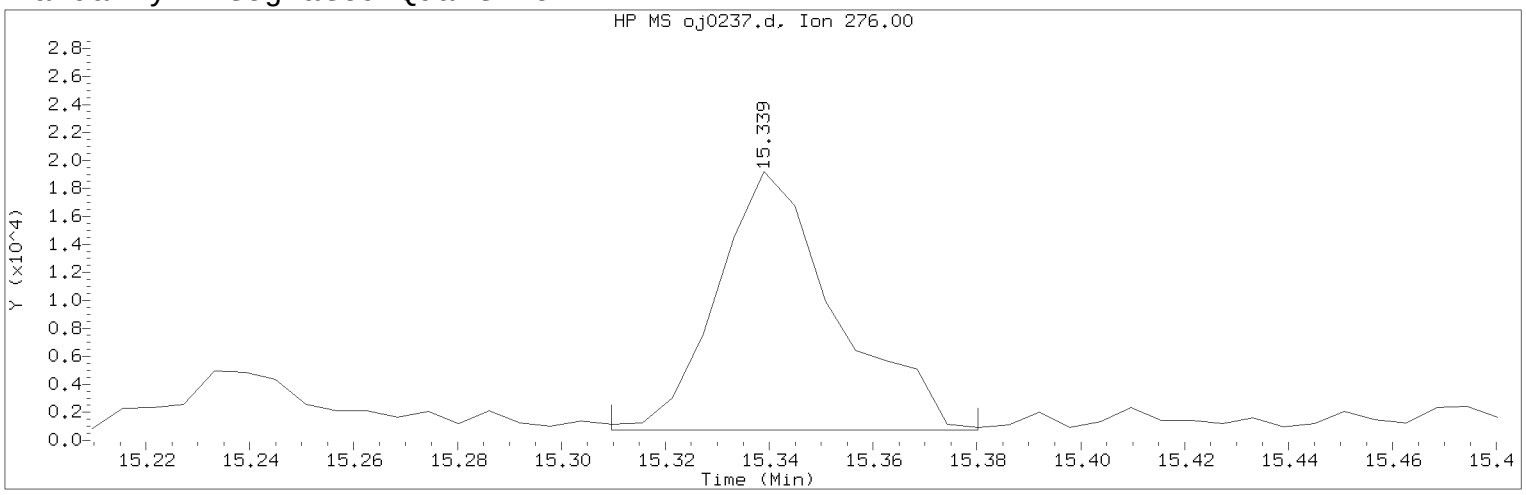
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2305
Retention Time (minutes) : 15.339
Relative Retention Time :-0.00032
Quant Ion : 276.00
Area (flag) : 29363M
On-column Amount (ng/ul) : 1.0205

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

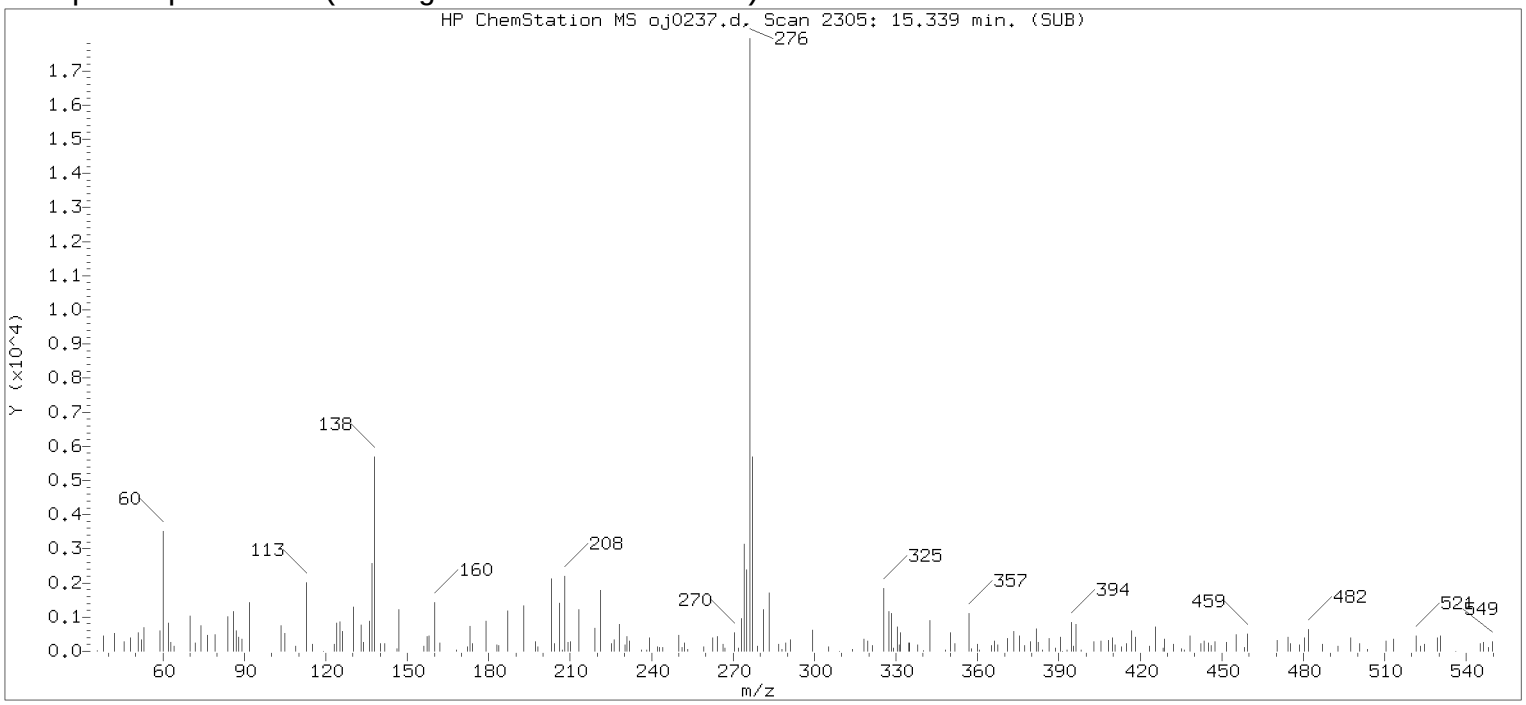
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2305
Retention Time (minutes) : 15.339
Quant Ion : 276.00
Area (flag) : 29363M
On-column Amount (ng/ul) : 1.0205
Integration start scan : 2299 Integration stop scan: 2311
Y at integration start : 722 Y at integration end: 722

Reason for manual integration: improper integration

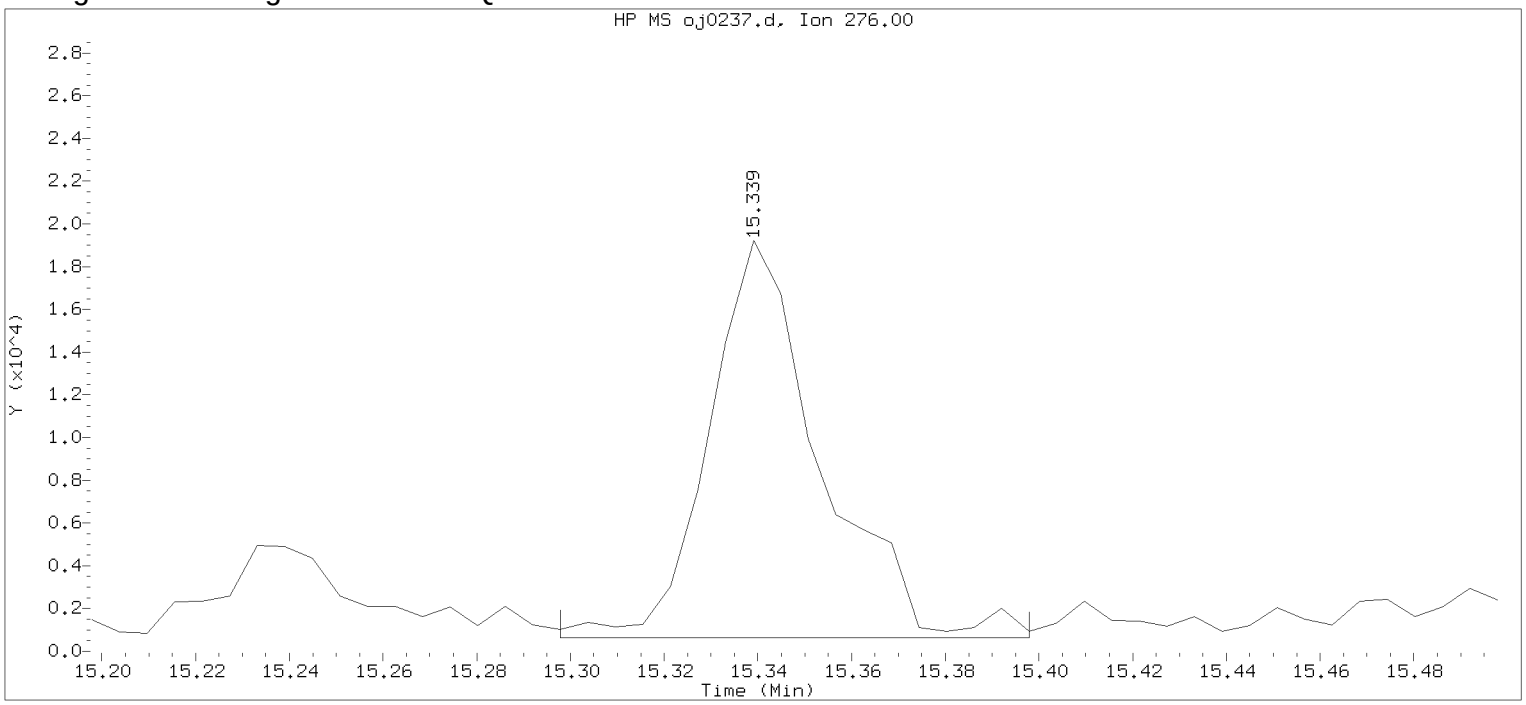
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

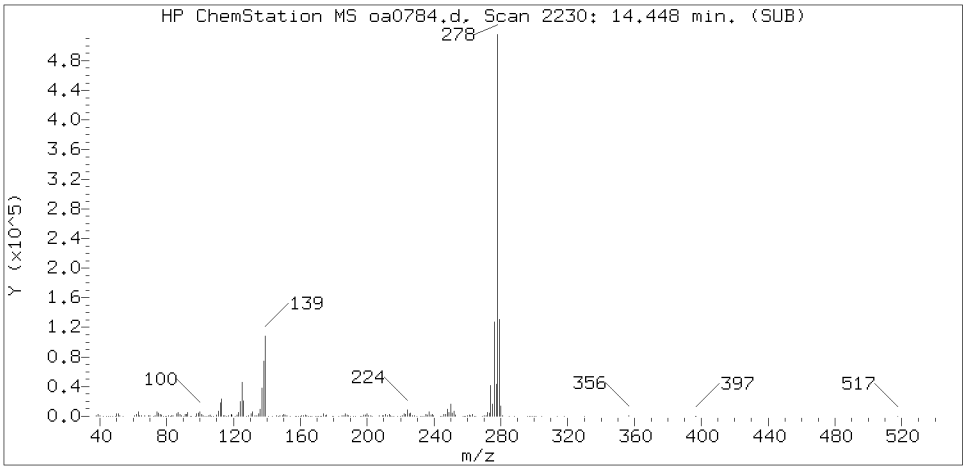
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:03 Automation

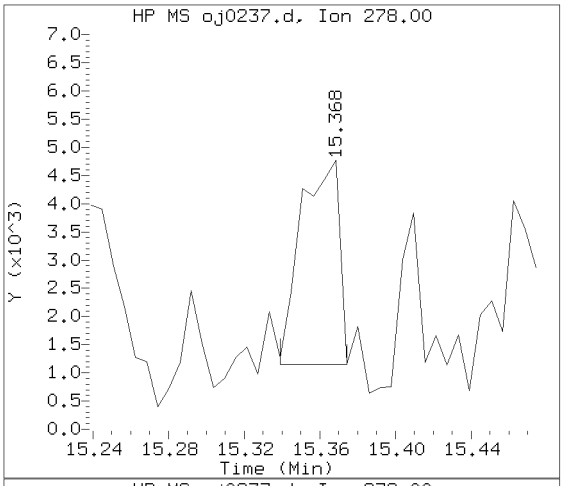
Sample Name: -489- Lab Sample ID: 8064463

Compound Number	: 219		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 2305		
Retention Time (minutes)	: 15.339		
Quant Ion	: 276.00		
Area	: 30876		
On-column Amount (ng/ul)	: 1.0731		
Integration start scan	: 2297	Integration stop scan:	2314
Y at integration start	: 621	Y at integration end:	621

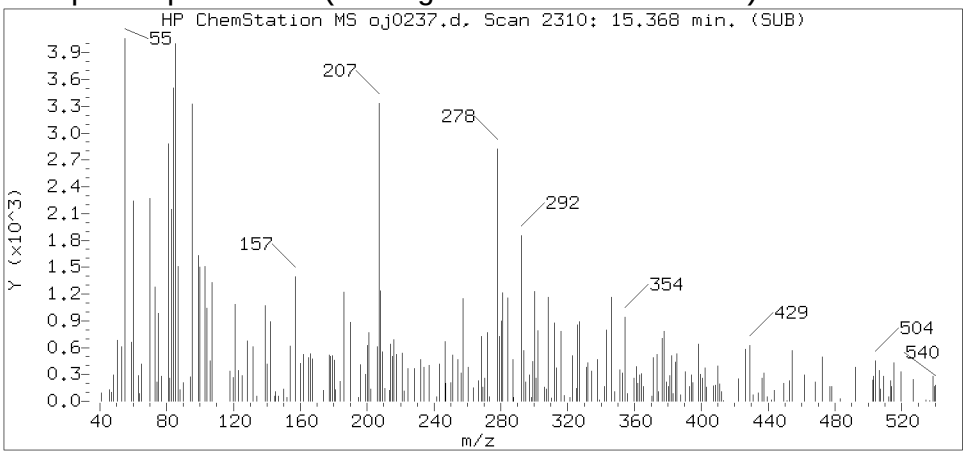
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: LMH0556

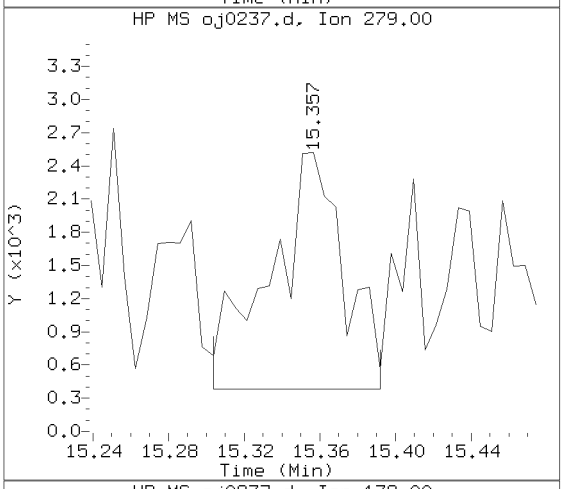
Reference Standard Spectrum for Dibenz(a,h)anthracene



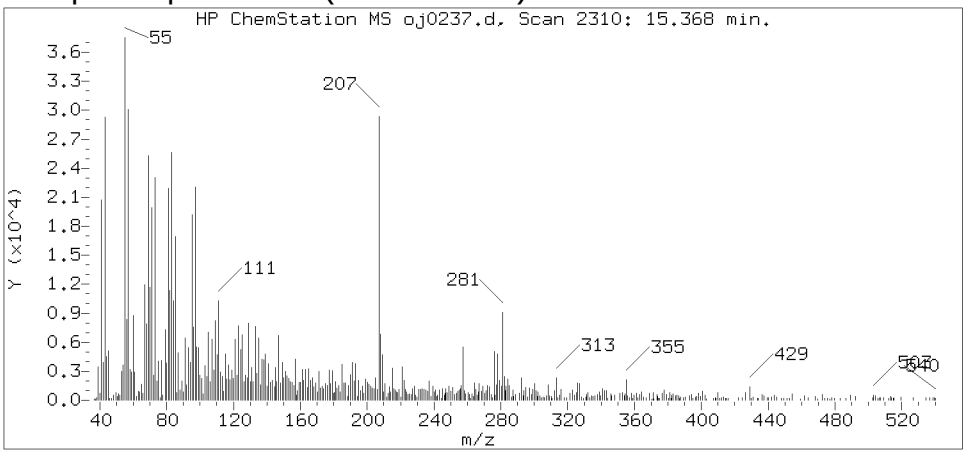


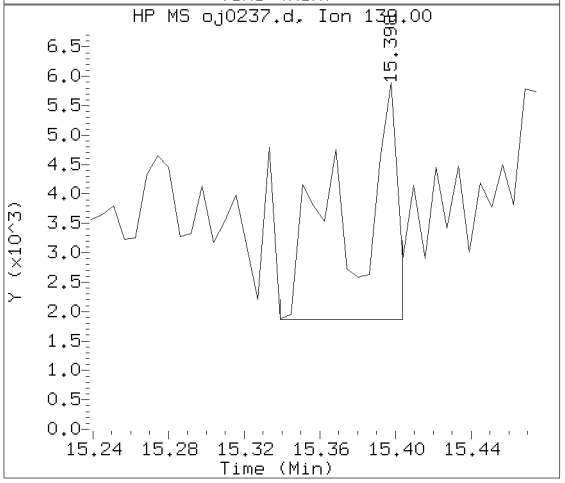
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

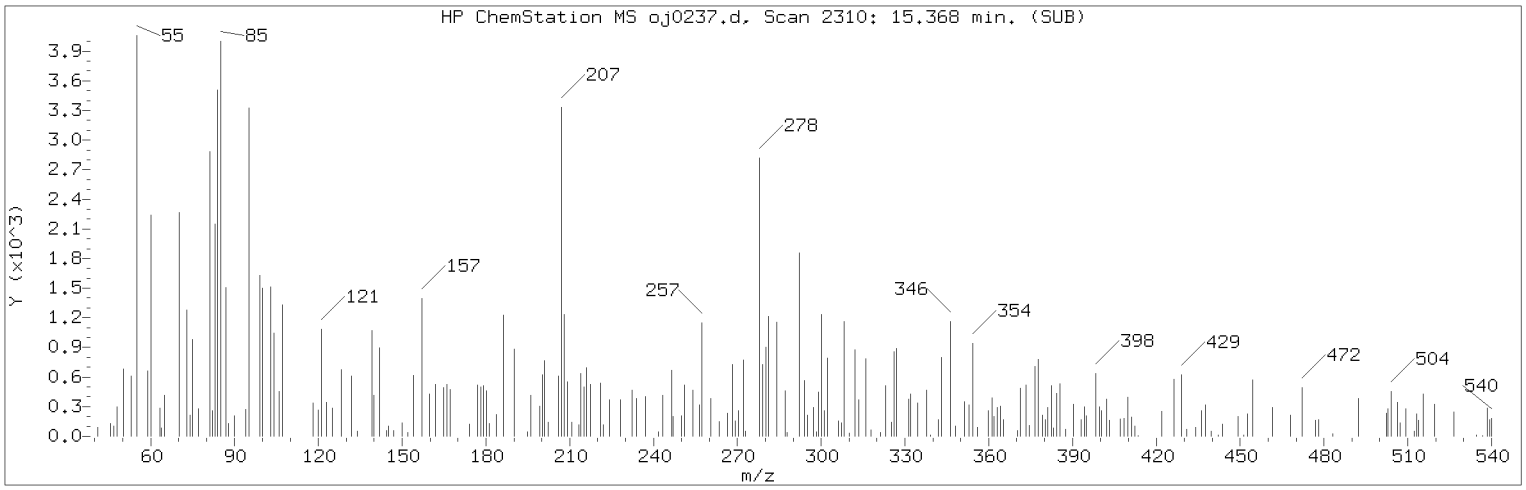
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

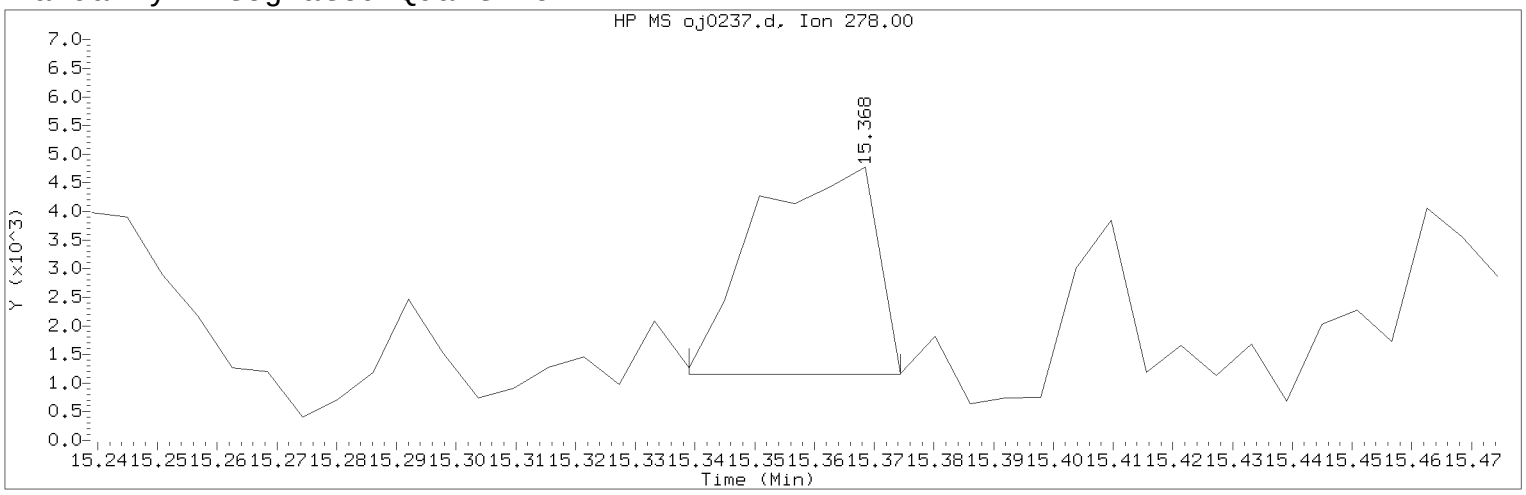
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 2310
Retention Time (minutes) : 15.368
Relative Retention Time :-0.00073
Quant Ion : 278.00
Area (flag) : 5080M
On-column Amount (ng/ul) : 0.2099

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

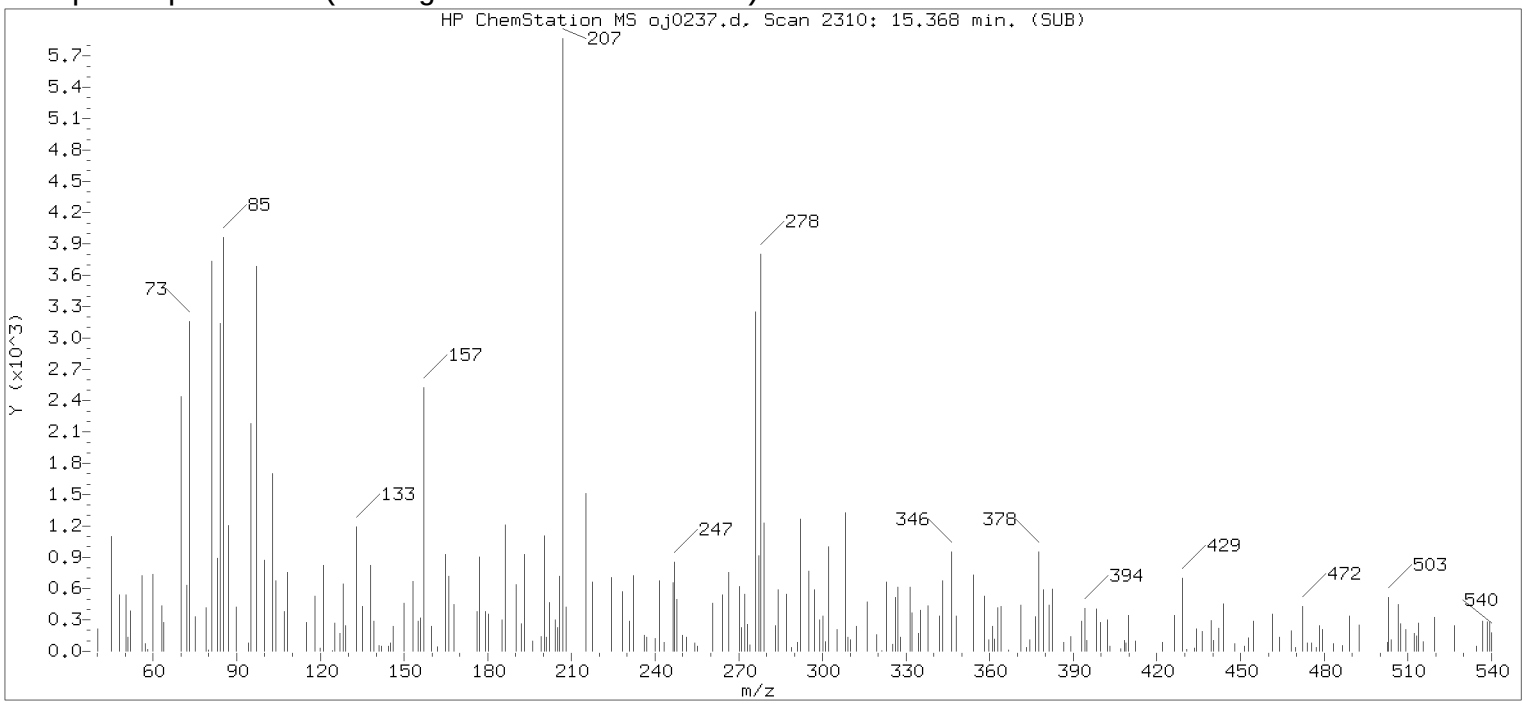
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 2310
Retention Time (minutes) : 15.368
Quant Ion : 278.00
Area (flag) : 5080M
On-column Amount (ng/ul) : 0.2099
Integration start scan : 2304 Integration stop scan: 2310
Y at integration start : 1154 Y at integration end: 1154

Reason for manual integration: improper integration

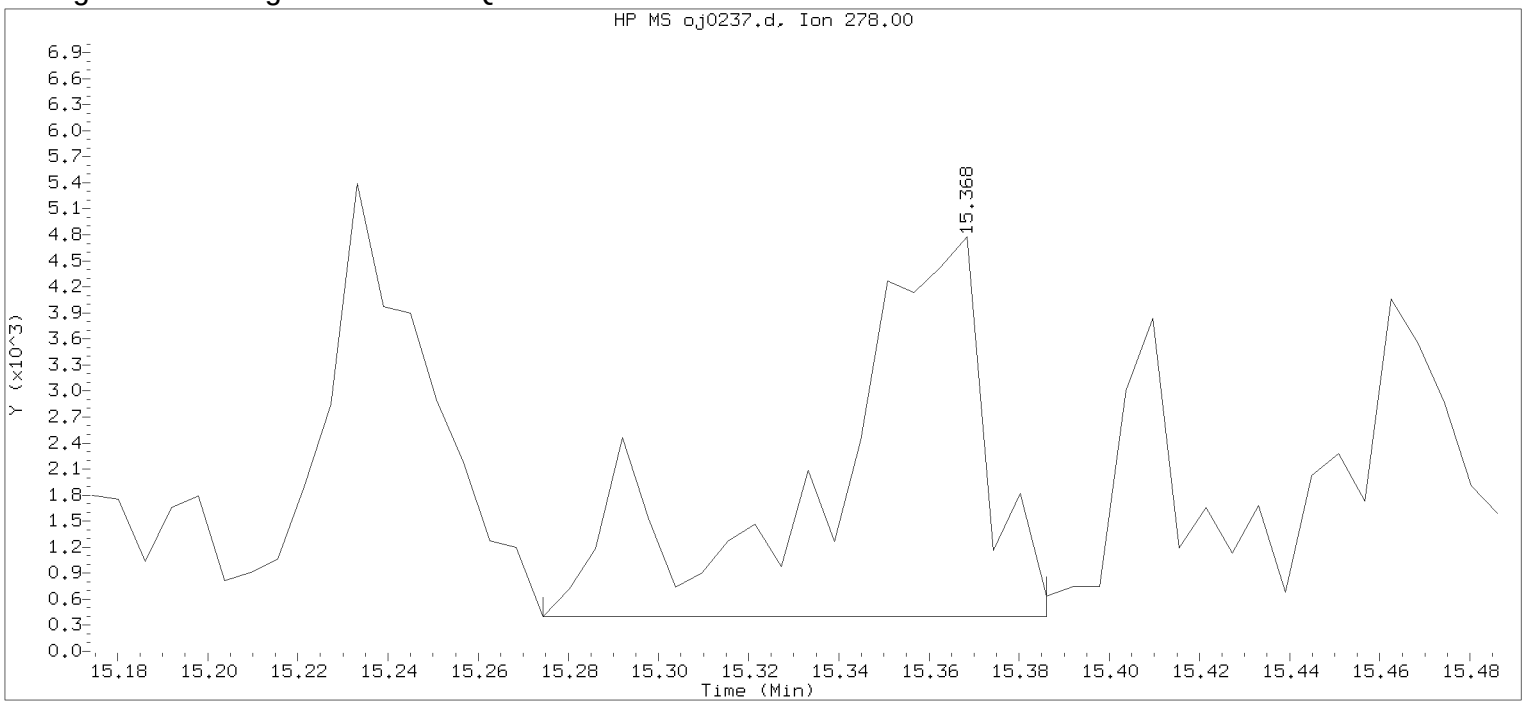
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

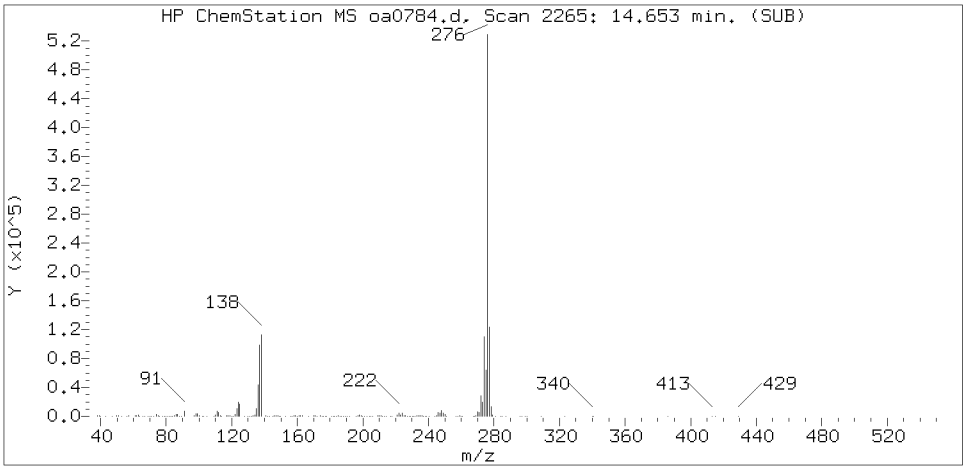
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:03 Automation

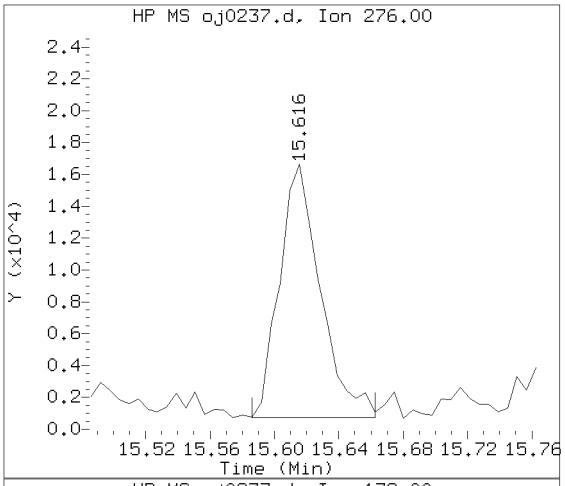
Sample Name: -489- Lab Sample ID: 8064463

Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 2310
Retention Time (minutes) : 15.368
Quant Ion : 278.00
Area : 10760
On-column Amount (ng/ul) : 0.4446
Integration start scan : 2293 Integration stop scan: 2312
Y at integration start : 403 Y at integration end: 403

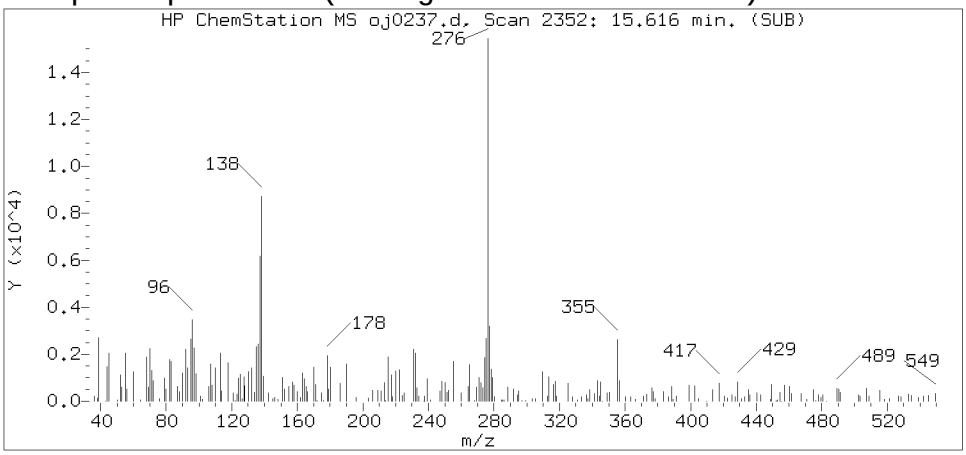
Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: LMH0516

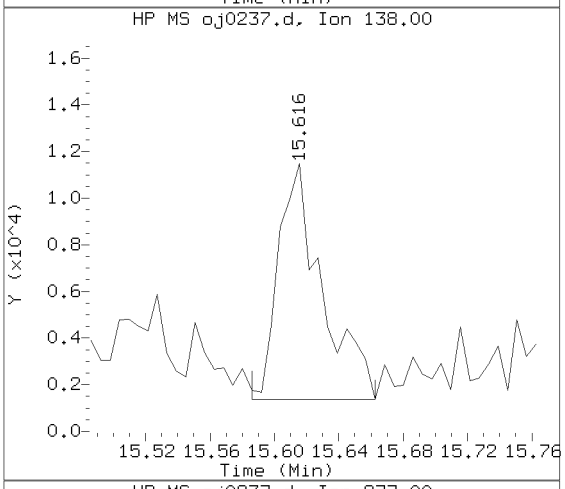
Reference Standard Spectrum for Benzo(g,h,i)perylene



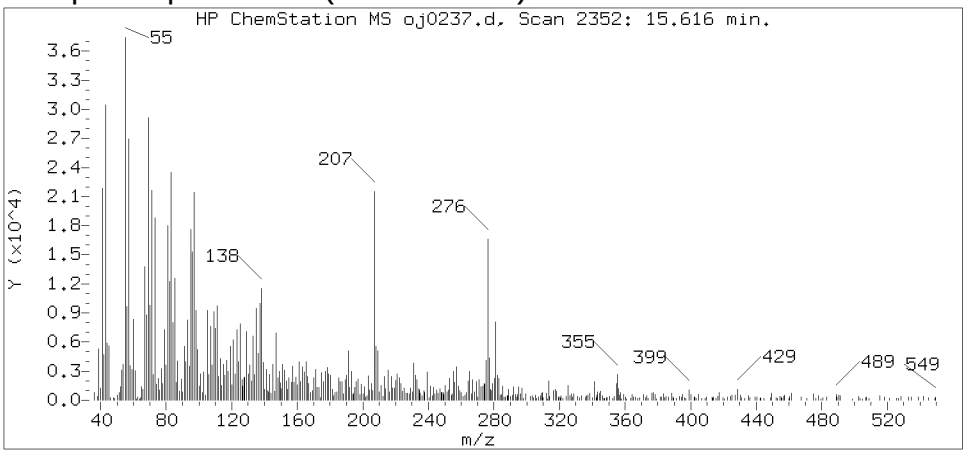


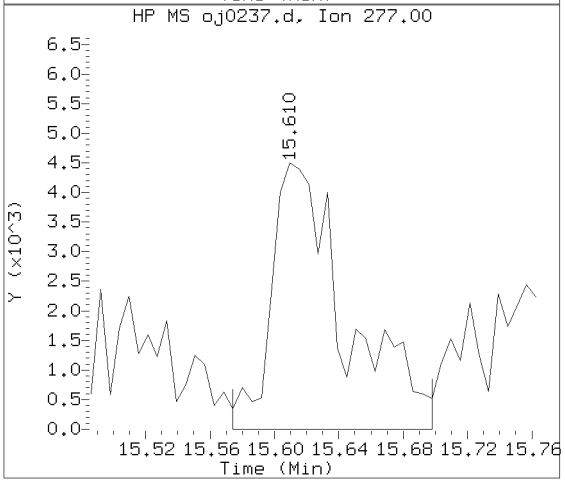
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

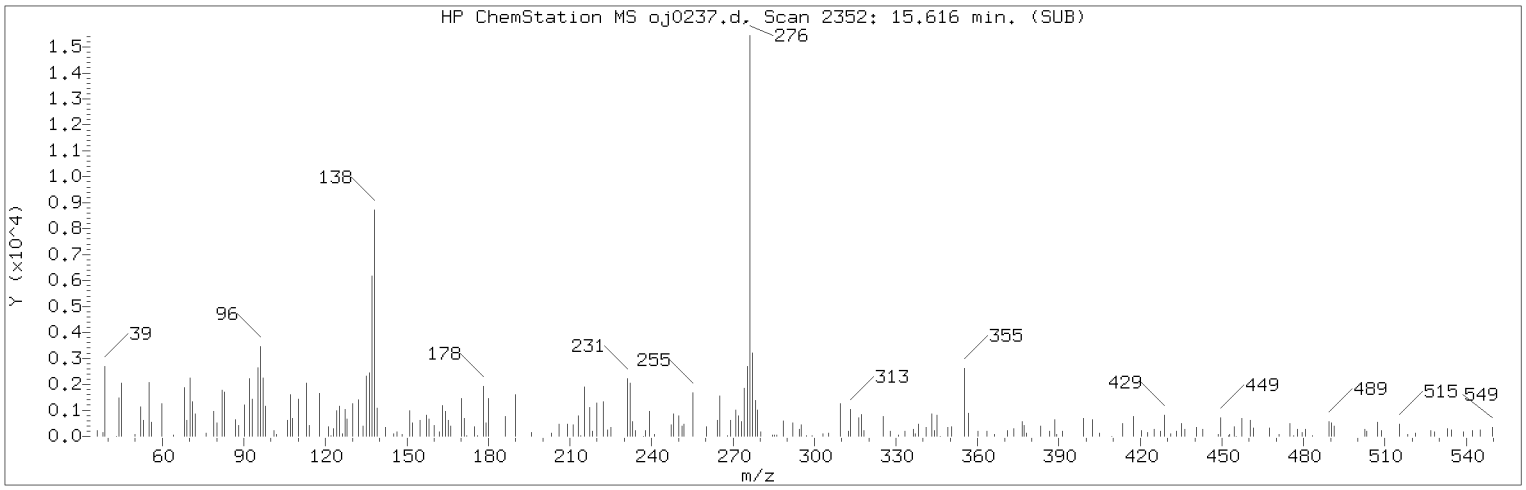
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

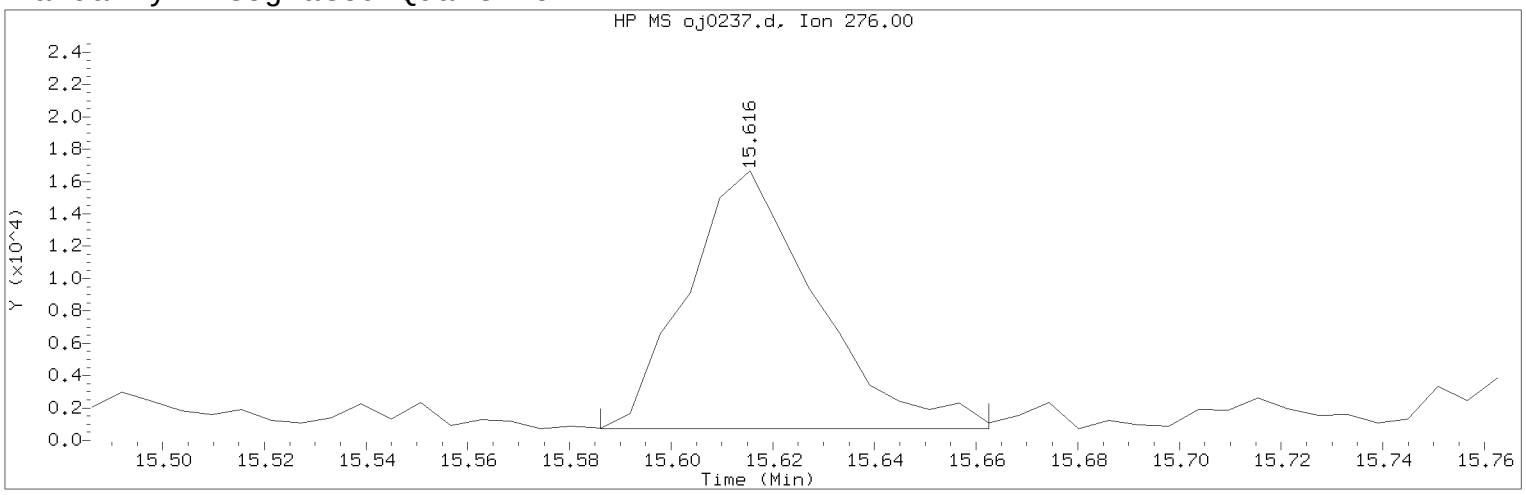
Compound Number	: 221
Compound Name	: Benzo(g,h,i)perylene
Scan Number	: 2352
Retention Time (minutes)	: 15.616
Relative Retention Time	:-0.00071
Quant Ion	: 276.00
Area (flag)	: 28117M
On-column Amount (ng/ul)	: 1.1897

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:28 lmh00956

Sample Name: -489- Lab Sample ID: 8064463

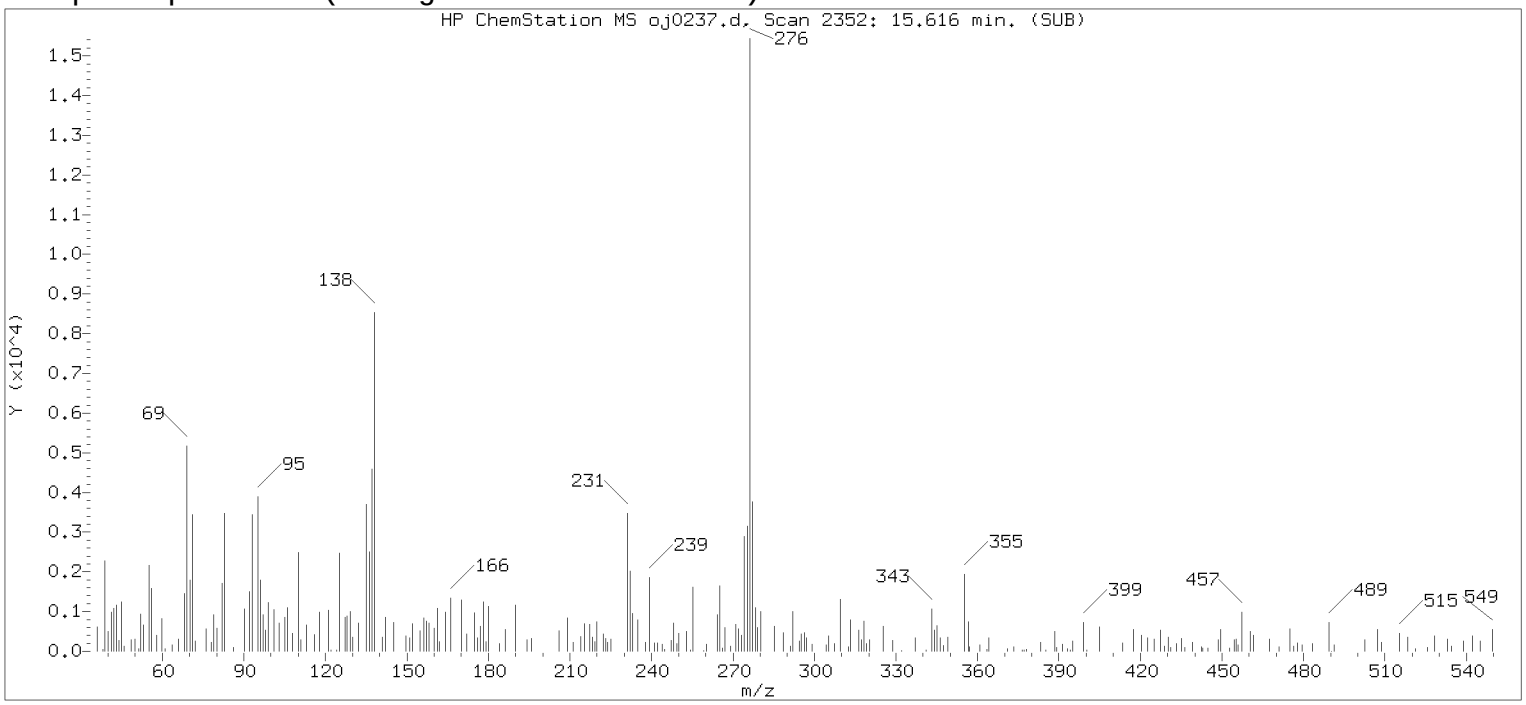
Compound Number : 221
Compound Name : Benzo(g,h,i)perylene
Scan Number : 2352
Retention Time (minutes) : 15.616
Quant Ion : 276.00
Area (flag) : 28117M
On-column Amount (ng/ul) : 1.1897
Integration start scan : 2346 Integration stop scan: 2359
Y at integration start : 733 Y at integration end: 733

Reason for manual integration: improper integration

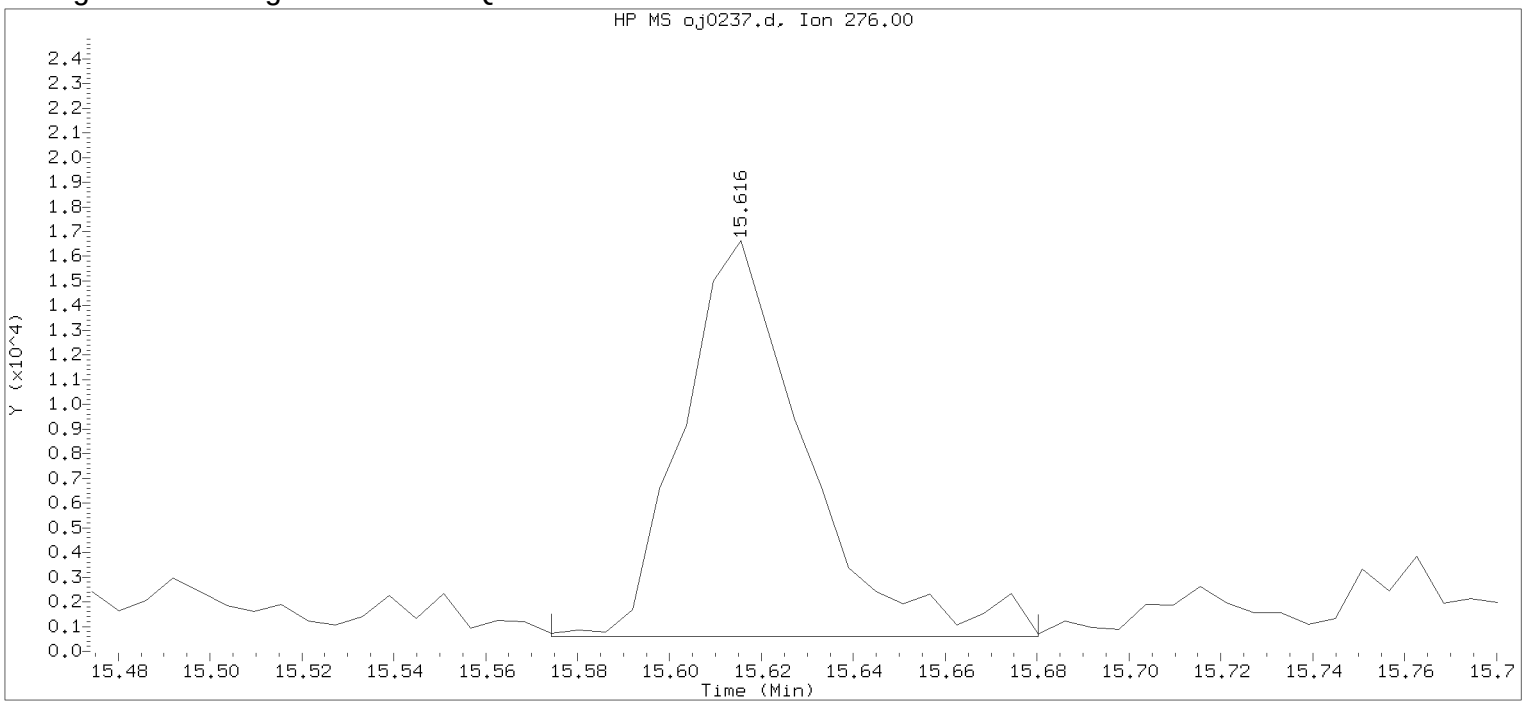
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0237.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 09:47 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:03 Automation

Sample Name: -489- Lab Sample ID: 8064463

Compound Number	: 221		
Compound Name	: Benzo(g,h,i)perylene		
Scan Number	: 2352		
Retention Time (minutes)	: 15.616		
Quant Ion	: 276.00		
Area	: 29897		
On-column Amount (ng/ul)	: 1.2650		
Integration start scan	: 2344	Integration stop scan:	2362
Y at integration start	: 593	Y at integration end:	593

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: LMH0551

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles 8064464

Data file: /chem/HP09910.i/15oct04a.b/oj0238.d Injection date and time: **05-OCT-2015 10:11**
Data file Sample Info. Line: -490-;8064464;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 10:29 lmh00956

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 04-OCT-2015 23:35
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct04a.b/oj0211.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.48 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	5.904(-0.012)	701	152	111906 (-5)	20.00	
65) Naphthalene-d8	7.181(-0.006)	918	136	523981 (-9)	20.00	
113) Acenaphthene-d10	8.904(-0.006)	1211	164	328845 (-12)	20.00	
153) Phenanthrene-d10	10.351(-0.006)	1457	188	578443 (-15)	20.00	
175) Pyrene-d10	11.733(-0.012)	1692	212	593711 (-23)	20.00	
213) Perylene-d12	14.333(-0.018)	2134	264	420851 (-27)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.475(0.000)	82	969500	79.510	80%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.269(-0.001)	172	1939883	92.937	93%		63 - 117
179) Terphenyl-d14	(5)	11.933(0.000)	244	2047766	93.721	94%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)			Not Detected					0.1
157) Anthracene	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.1
177) Pyrene	(5)			Not Detected					0.1
195) Benzo(a)anthracene	(5)			Not Detected					0.1
196) Chrysene	(5)			Not Detected					0.1
206) Benzo(b)fluoranthene	(6)			Not Detected					0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.1
211) Benzo(a)pyrene	(6)			Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.1

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct04a.b/oj0238.d Injection date and time: **05-OCT-2015 10:11**
Data file Sample Info. Line: -490-;8064464;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 10:29 lmh00956

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 04-OCT-2015 23:35
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct04a.b/oj0211.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.48 g

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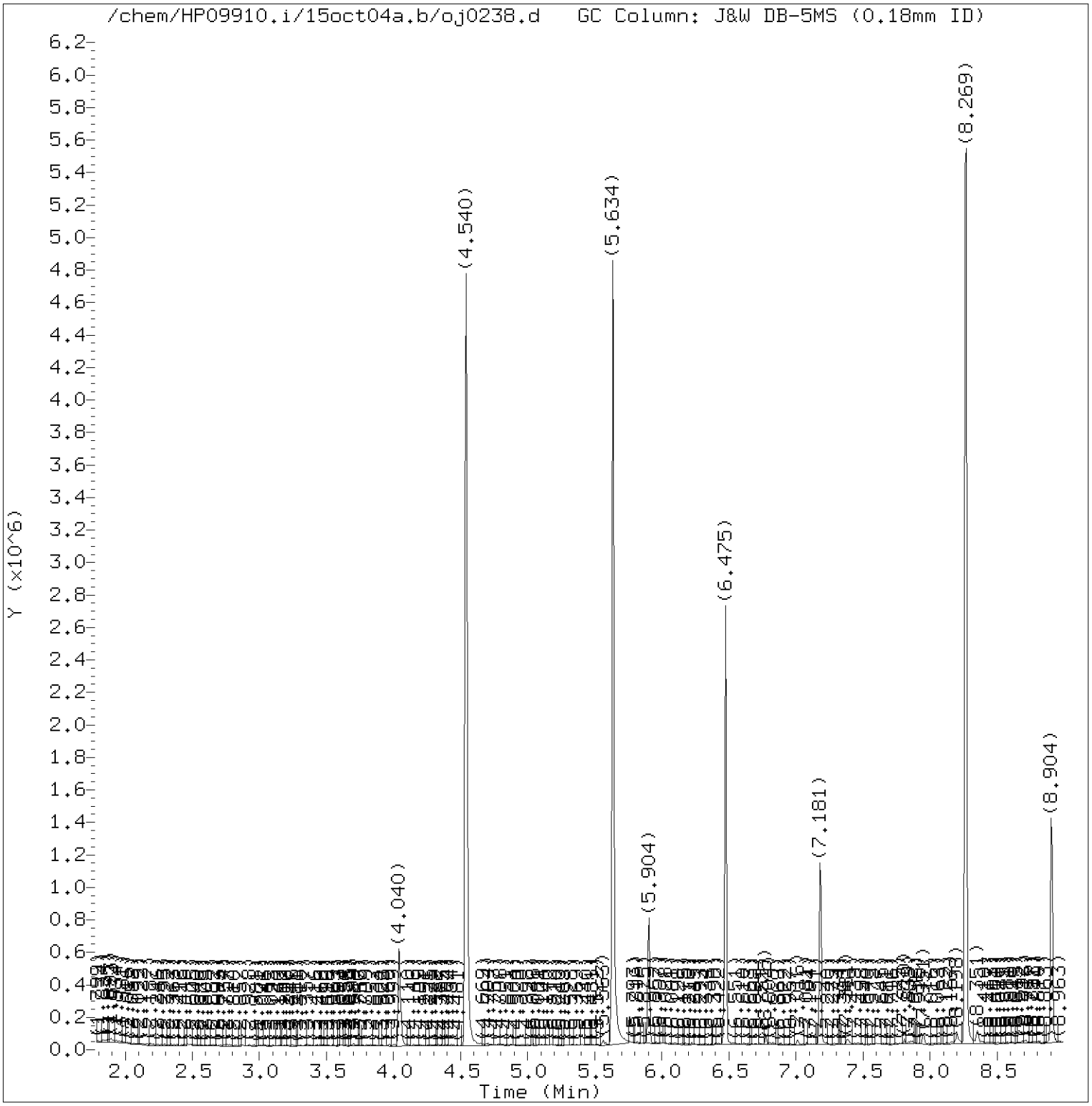
Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 10:29. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

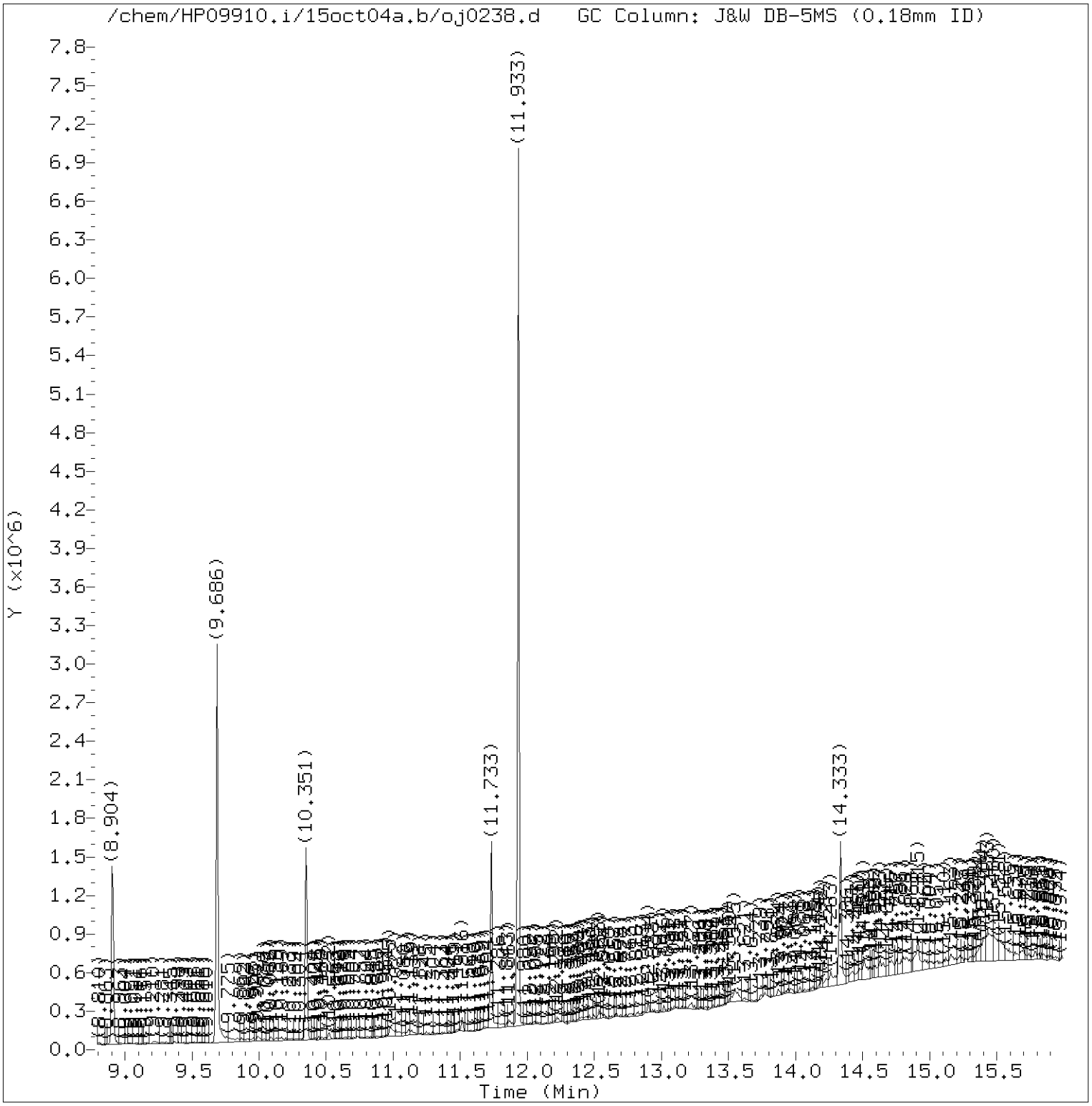
Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0238.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 10:11 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:29 lmh00956

Sample Name: -490- Lab Sample ID: 8064464

Digitally signed by Linda M. Hartenstine
on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0238.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 10:11 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:29 lmh00956

Sample Name: -490- Lab Sample ID: 8064464

Digitally signed by Linda M. Hartenstine
on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0238.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 10:11 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: 4676
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 05-Oct-2015 10:29 lmh00956

Sample Name: -490- Lab Sample ID: 8064464

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	5.904	152	111906	20.000
44)$Nitrobenzene-d5	(2)	6.475	82	969500	79.510
65)*Naphthalene-d8	(2)	7.181	136	523981	20.000
93)$2-Fluorobiphenyl	(3)	8.269	172	1939883	92.937
113)*Acenaphthene-d10	(3)	8.904	164	328845	20.000
153)*Phenanthrene-d10	(4)	10.351	188	578443	20.000
175)*Pyrene-d10	(5)	11.733	212	593711	20.000
179)$Terphenyl-d14	(5)	11.933	244	2047766	93.721
213)*Perylene-d12	(6)	14.333	264	420851	20.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 10/05/2015 at 10:29.
Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct05.b/oj0243.d Injection date and time: **05-OCT-2015 16:07**
Data file Sample Info. Line: 48713;8064465;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 05-OCT-2015 15:43
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct05.b/oj0241.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.41 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	5.557(0.000)	676	152	150799 (18)	20.00	
65) Naphthalene-d8	6.845(0.000)	895	136	712968 (18)	20.00	
113) Acenaphthene-d10	8.563(0.000)	1187	164	443962 (14)	20.00	
153) Phenanthrene-d10	9.992(0.006)	1430	188	819107 (9)	20.00	
175) Pyrene-d10	11.363(0.000)	1663	212	815060 (-1)	20.00	
213) Perylene-d12	13.910(0.000)	2096	264	509499 (-16)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.139(0.000)	82	1279494	77.118	77%		54 - 123
93) 2-Fluorobiphenyl	(3)	7.939(-0.001)	172	2615863	92.826	93%		63 - 117
179) Terphenyl-d14	(5)	11.580(0.000)	244	2826830	94.241	94%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)	8.416(0.000)	152	12456	0.316	10.39			0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)	10.016(0.000)	178	12599	0.265	8.71			0.1
157) Anthracene	(4)	10.063(-0.000)	178	6792	0.144	4.75			0.1
173) Fluoranthene	(4)	11.168(-0.000)	202	38507	0.745	24.49			0.1
177) Pyrene	(5)	11.380(0.000)	202	43806	0.901	29.63			0.1
195) Benzo(a)anthracene	(5)	12.545(0.000)	228	13881	0.327	10.77			0.1
196) Chrysene	(5)	12.574(0.001)	228	23925	0.592	19.48			0.1
206) Benzo(b)fluoranthene	(6)	13.557(0.000)	252	34304M	1.073	35.28			0.1
208) Benzo(k)fluoranthene	(6)	13.580(0.000)	252	10751M	0.330	10.84			0.1
211) Benzo(a)pyrene	(6)	13.857(0.000)	252	16720M	0.529	17.41			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	14.839(0.000)	276	17295M	0.526	17.29			0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)	15.068(0.000)	276	15232	0.564	18.54			0.1

M = Compound was manually integrated.

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct05.b/oj0243.d Injection date and time: **05-OCT-2015 16:07**
Data file Sample Info. Line: 48713;8064465;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 05-OCT-2015 15:43
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct05.b/oj0241.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.41 g

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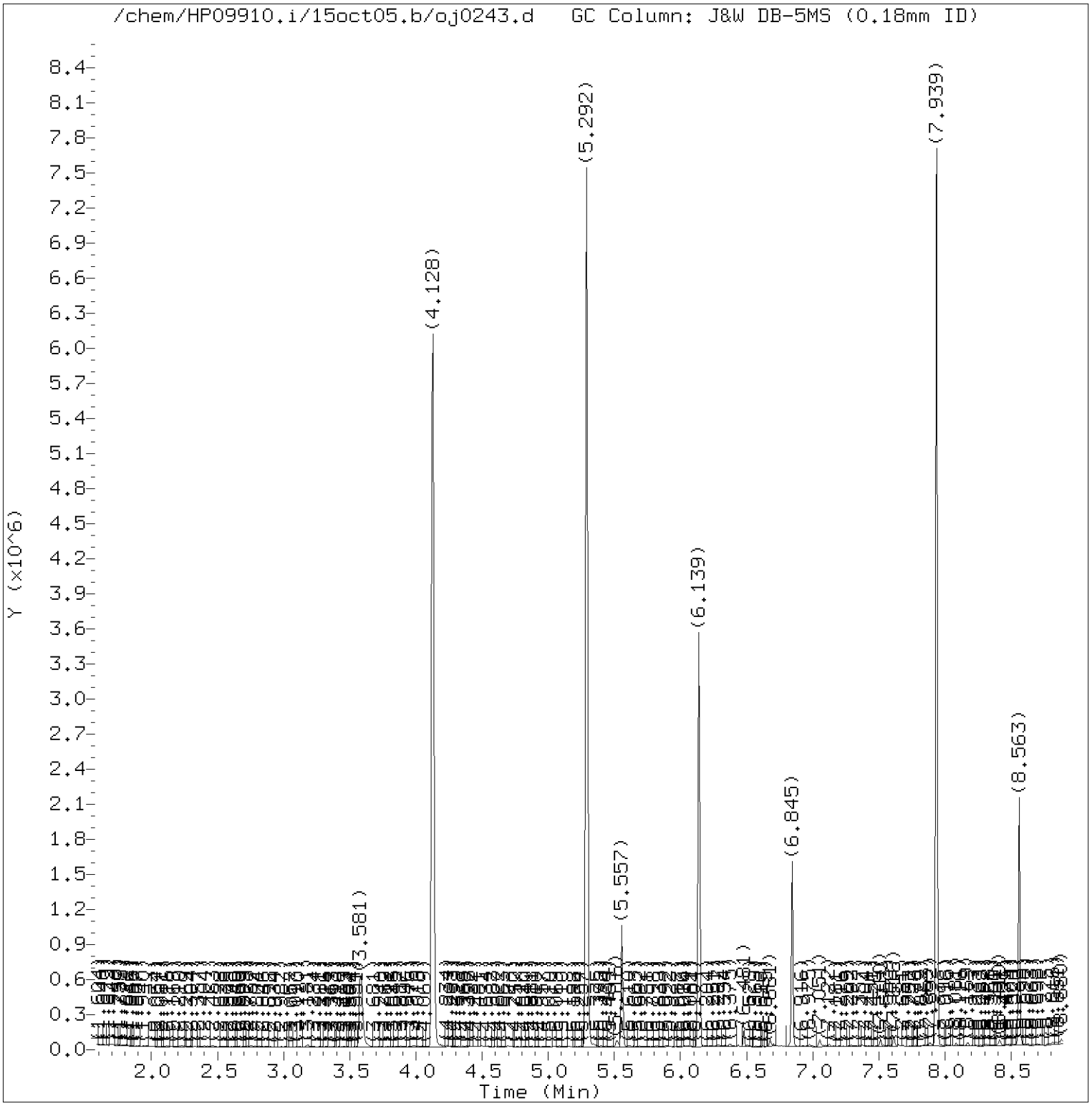
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

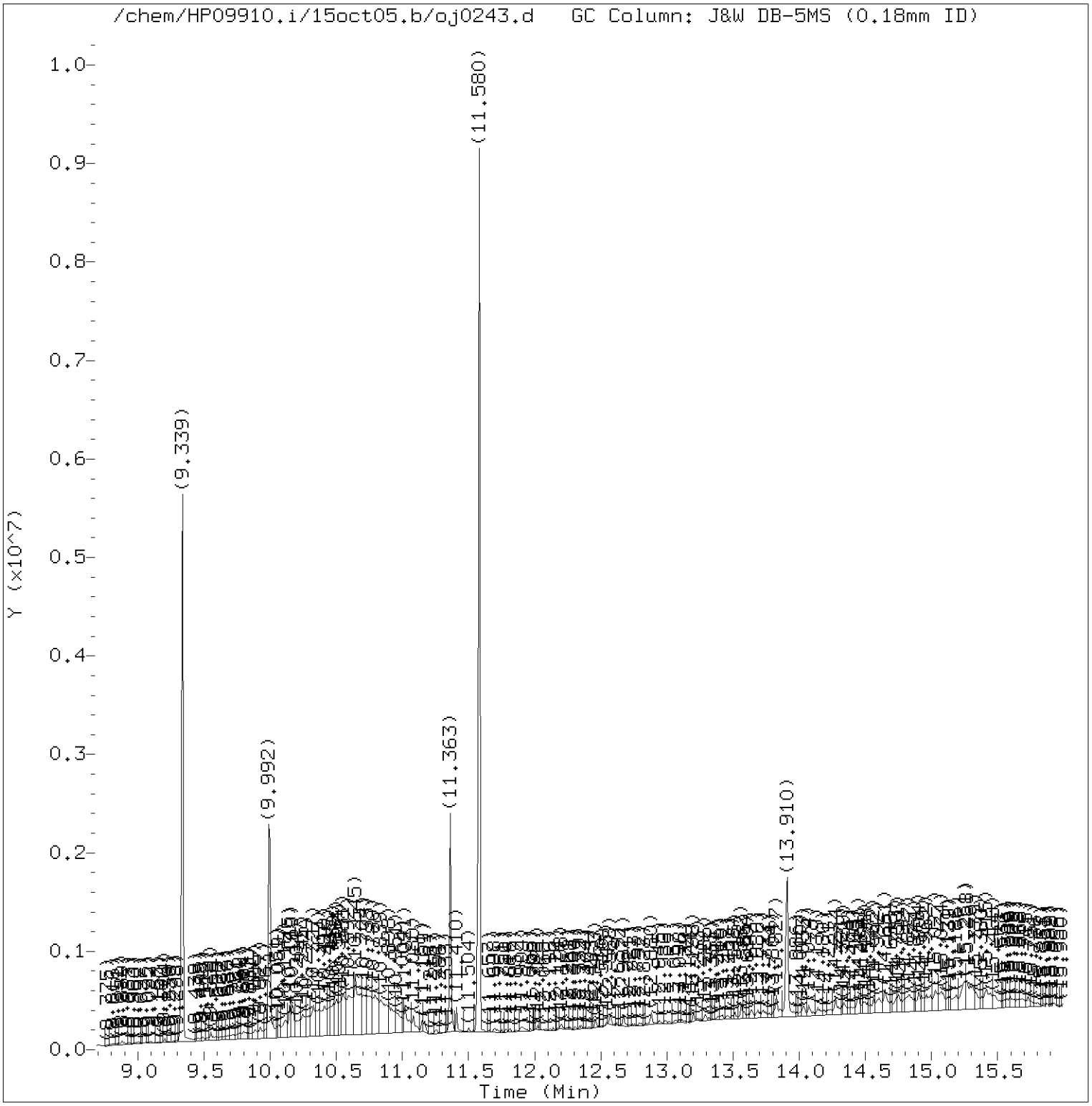
Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	5.557	152	150799	20.000
44)$Nitrobenzene-d5	(2)	6.139	82	1279494	77.118
65)*Naphthalene-d8	(2)	6.845	136	712968	20.000
93)$2-Fluorobiphenyl	(3)	7.939	172	2615863	92.826
109) Acenaphthylene	(3)	8.416	152	12456	0.316
113)*Acenaphthene-d10	(3)	8.563	164	443962	20.000
153)*Phenanthrene-d10	(4)	9.992	188	819107	20.000
155) Phenanthrene	(4)	10.016	178	12599	0.265
157) Anthracene	(4)	10.063	178	6792	0.144
173) Fluoranthene	(4)	11.169	202	38507	0.745
175)*Pyrene-d10	(5)	11.363	212	815060	20.000
177) Pyrene	(5)	11.380	202	43806	0.901
179)$Terphenyl-d14	(5)	11.580	244	2826830	94.241
195) Benzo(a)anthracene	(5)	12.545	228	13881	0.327
196) Chrysene	(5)	12.574	228	23925	0.592
206) Benzo(b)fluoranthene	(6)	13.557	252	34304M	1.073
208) Benzo(k)fluoranthene	(6)	13.580	252	10751M	0.330
211) Benzo(a)pyrene	(6)	13.857	252	16720M	0.529
213)*Perylene-d12	(6)	13.910	264	509499	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	14.839	276	17295M	0.526
221) Benzo(g,h,i)perylene	(6)	15.068	276	15232	0.564

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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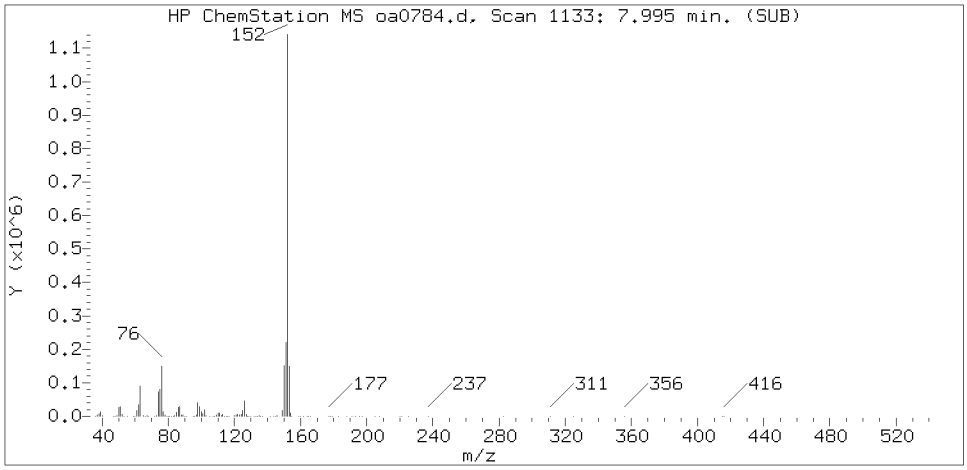
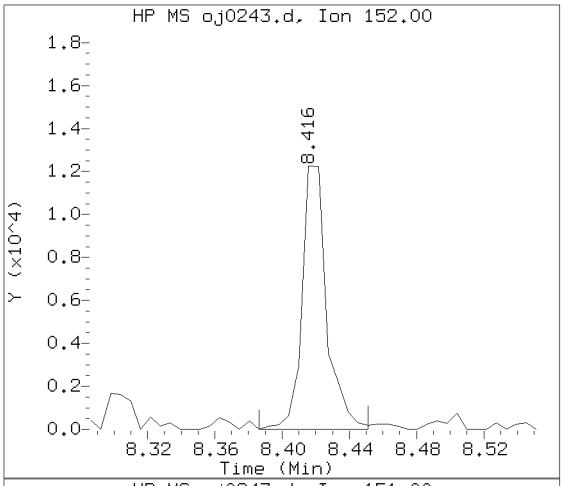
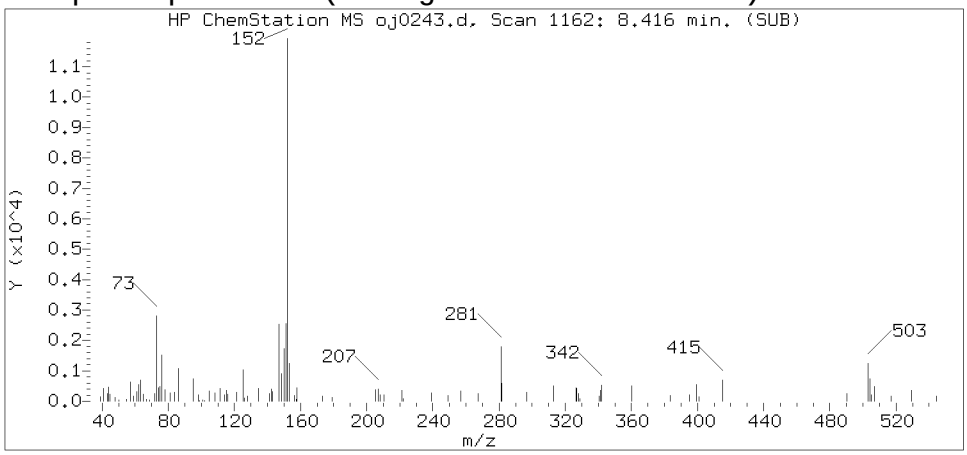
on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

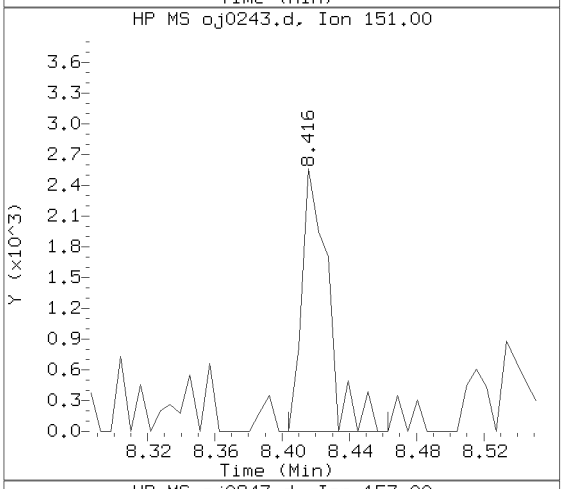
Reference Standard Spectrum for Acenaphthylene





Sample Spectrum (Background Subtracted)





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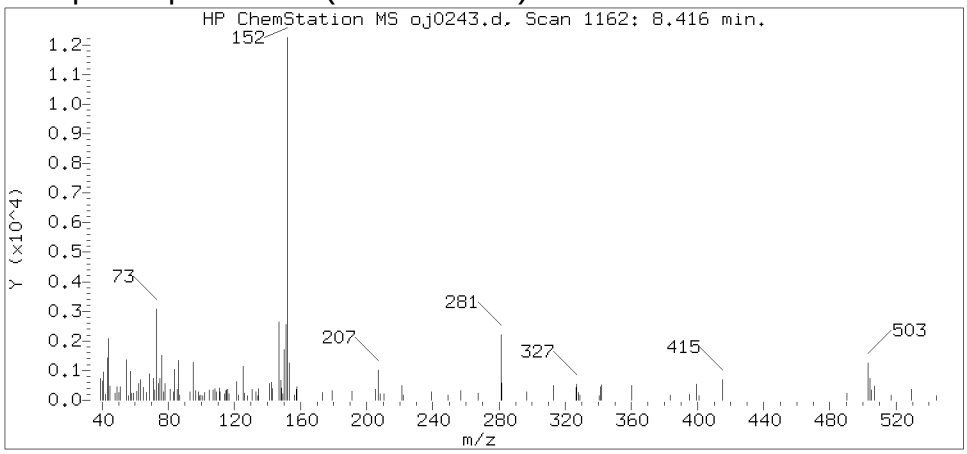

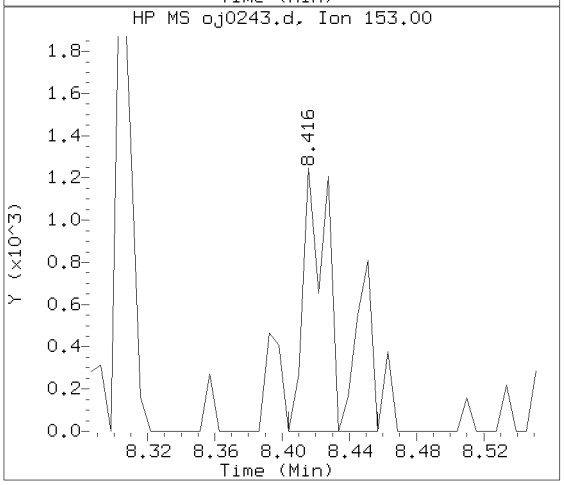

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Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

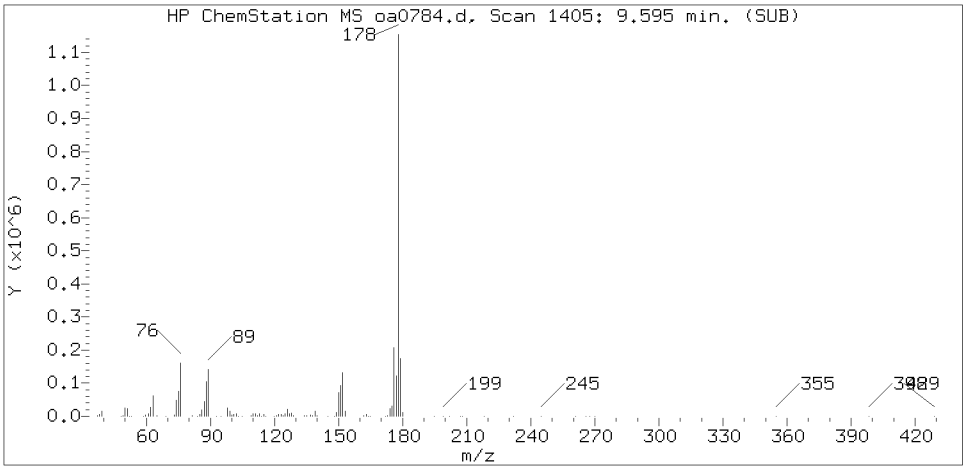
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

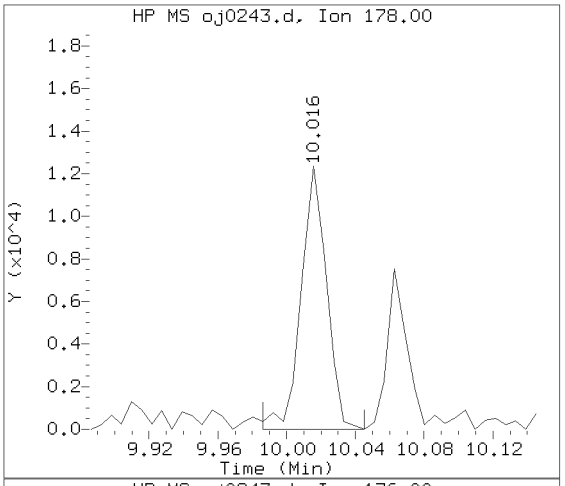
Sample Name: 48713 Lab Sample ID: 8064465

Compound Number	: 109
Compound Name	: Acenaphthylene
Scan Number	: 1162
Retention Time (minutes)	: 8.416
Relative Retention Time	: 0.00069
Quant Ion	: 152.00
Area (flag)	: 12456
On-column Amount (ng/ul)	: 0.3160

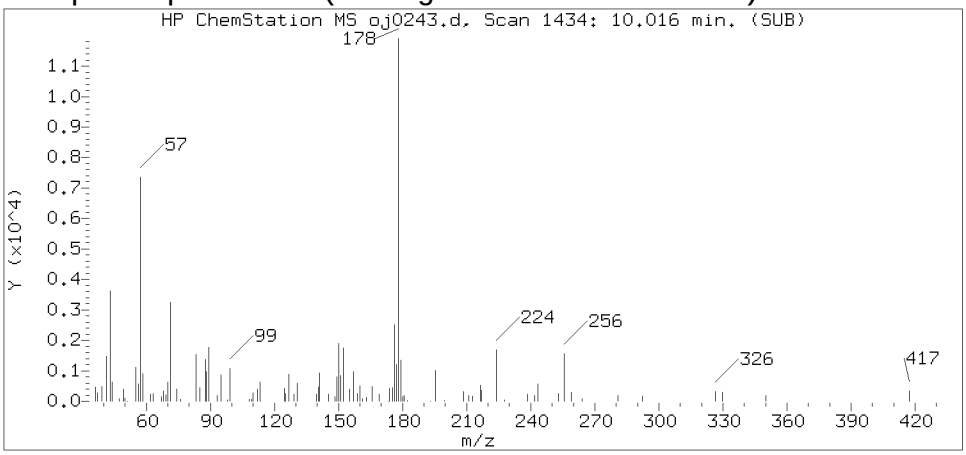
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

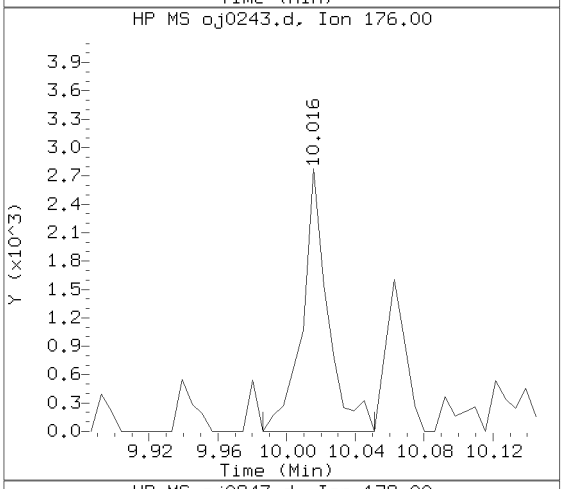
Reference Standard Spectrum for Phenanthrene



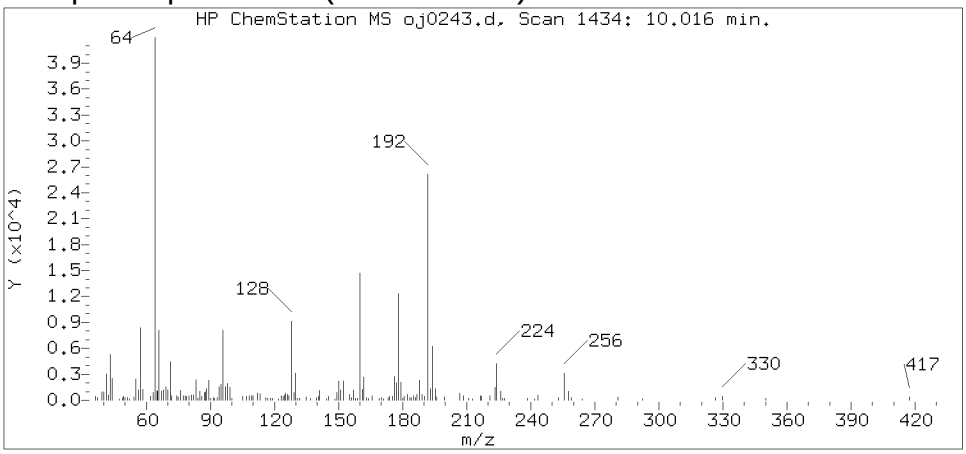


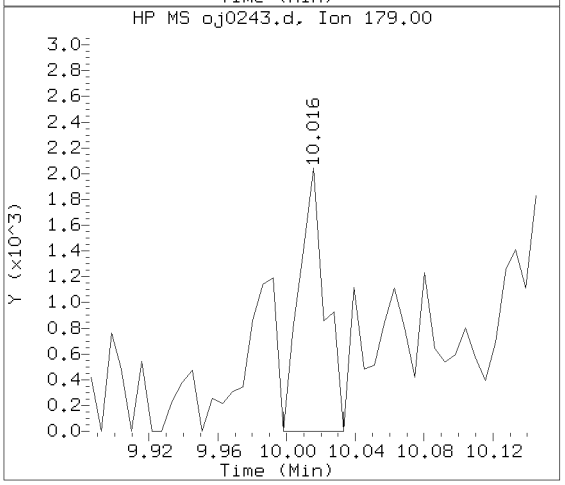
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

Compound Number	: 155
Compound Name	: Phenanthrene
Scan Number	: 1434
Retention Time (minutes)	: 10.016
Relative Retention Time	: 0.00000
Quant Ion	: 178.00
Area (flag)	: 12599
On-column Amount (ng/ul)	: 0.2649

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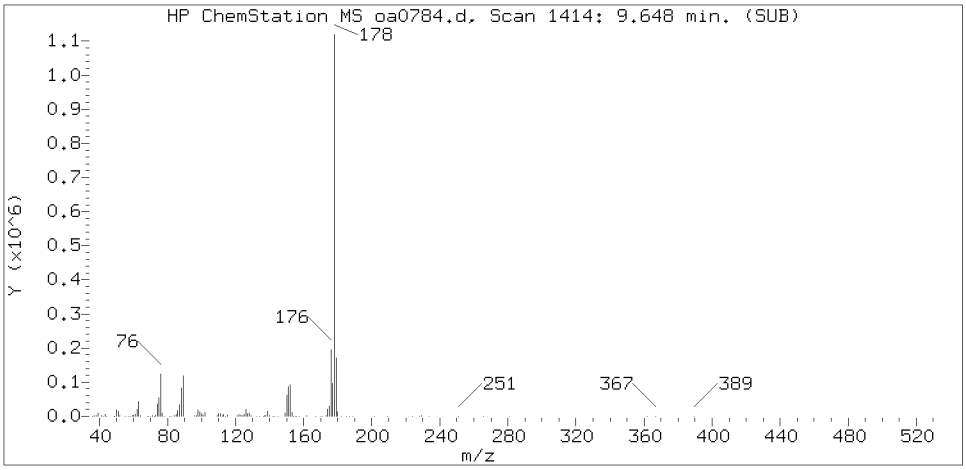
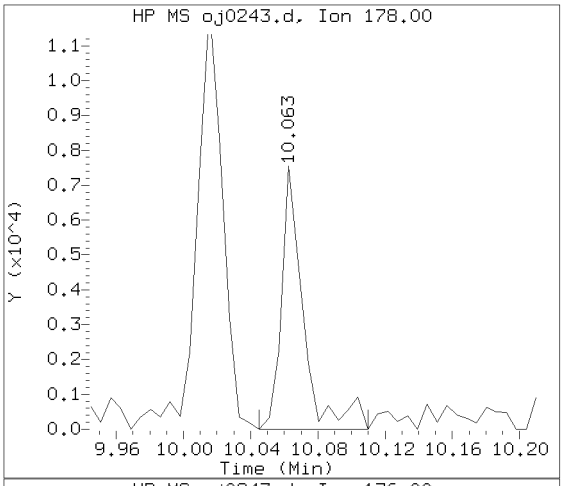
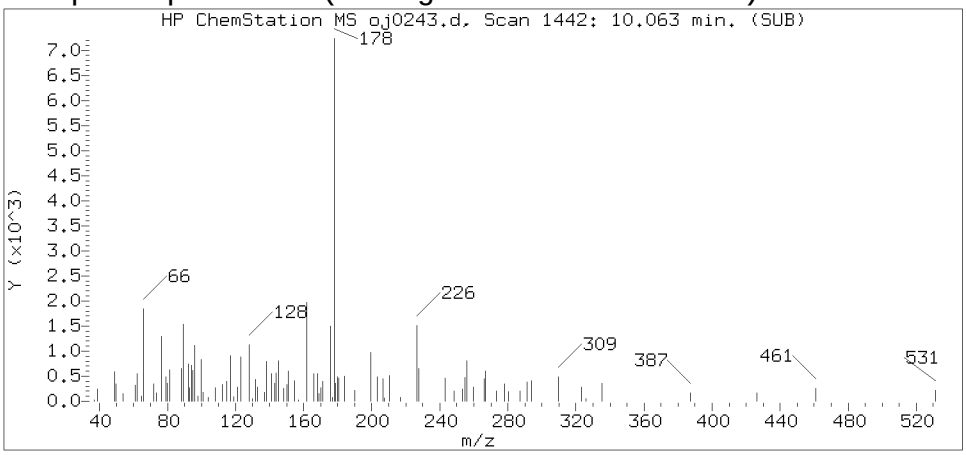
Target 3.5 esignature user ID: ceb05247

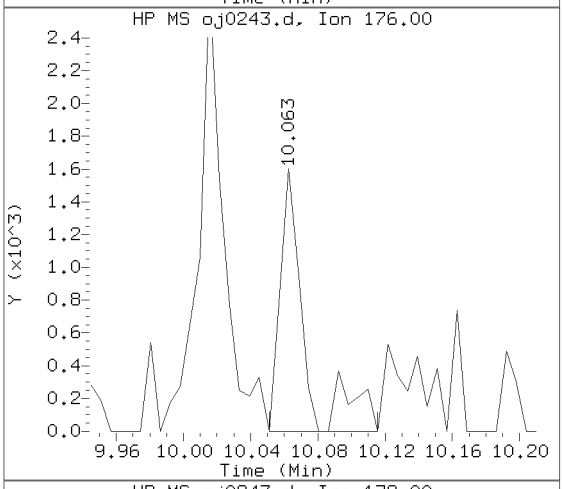
Reference Standard Spectrum for Anthracene



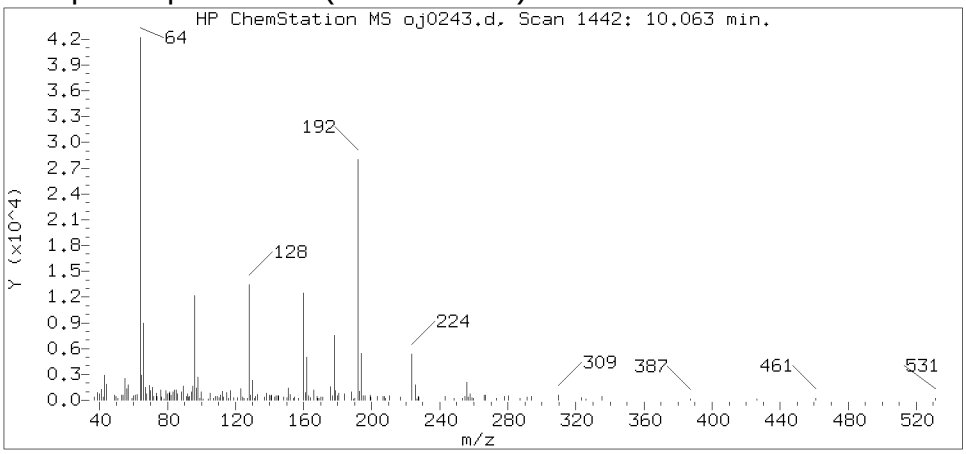


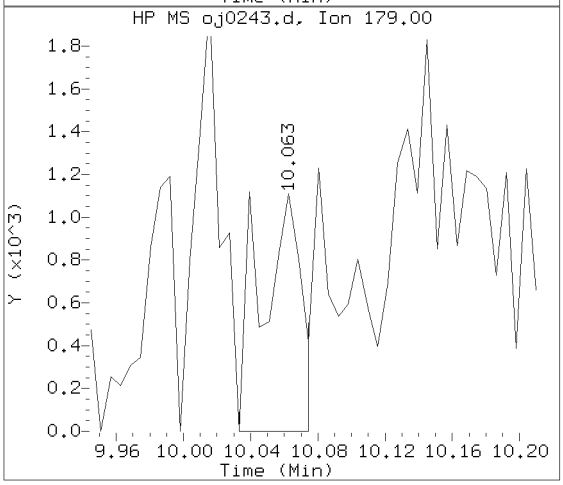
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

Compound Number	: 157
Compound Name	: Anthracene
Scan Number	: 1442
Retention Time (minutes)	: 10.063
Relative Retention Time	:-0.00000
Quant Ion	: 178.00
Area (flag)	: 6792
On-column Amount (ng/ul)	: 0.1445

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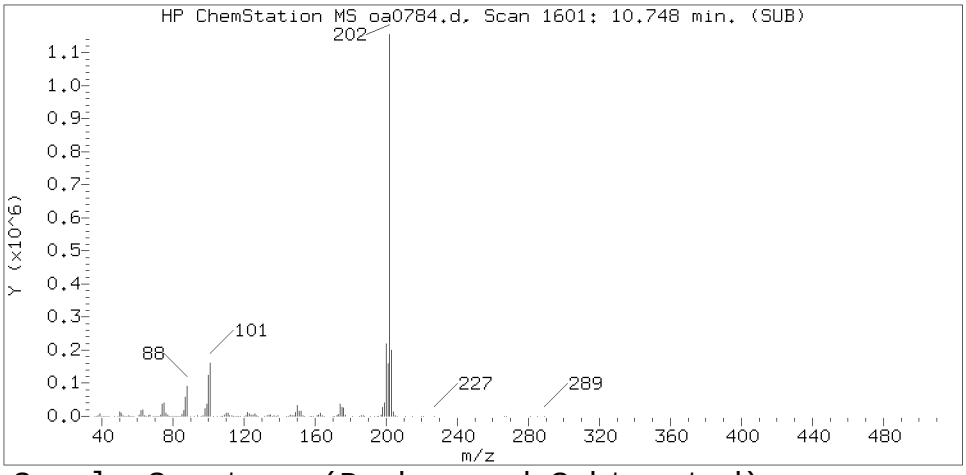
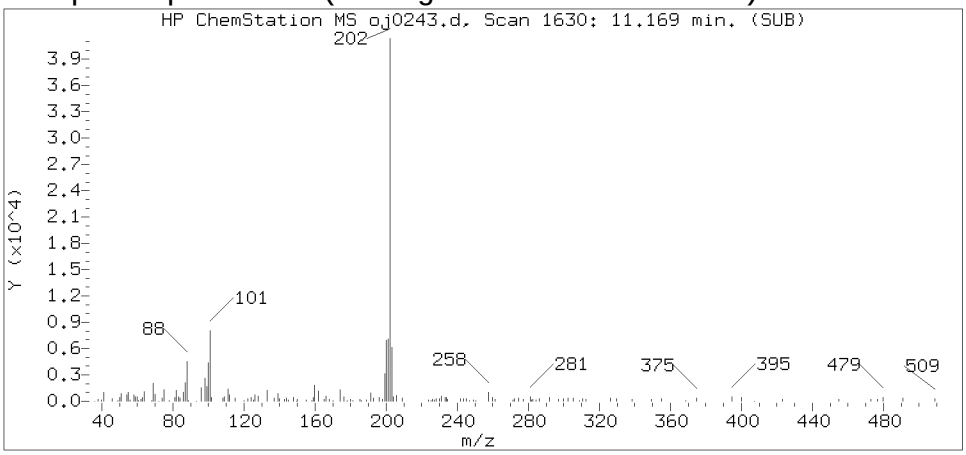
Target 3.5 esignature user ID: ceb05247

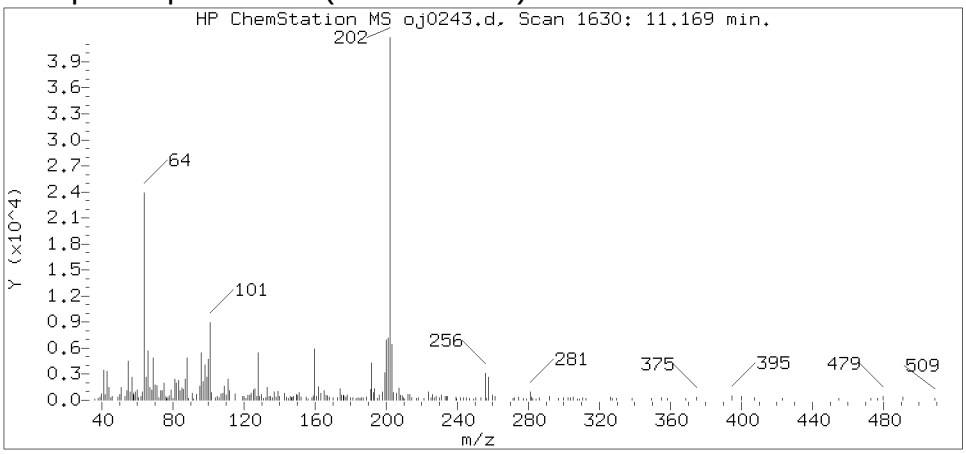
Reference Standard Spectrum for Fluoranthene

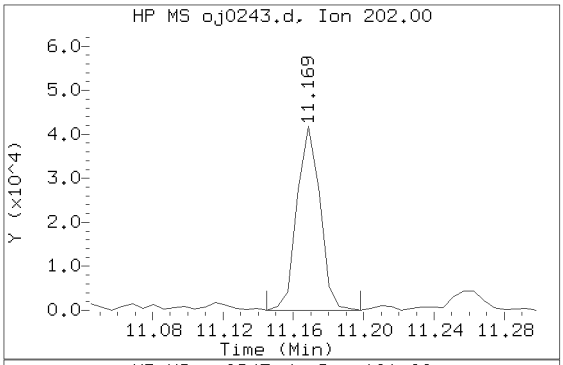


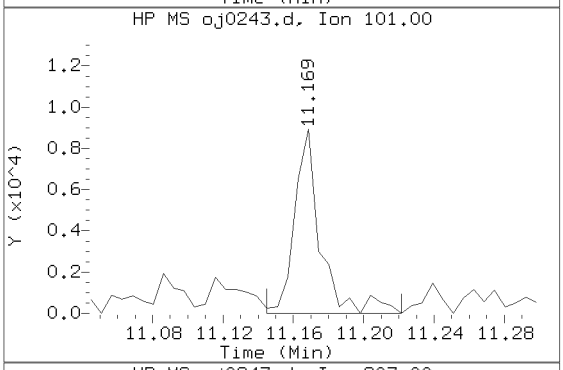
Sample Spectrum (Background Subtracted)

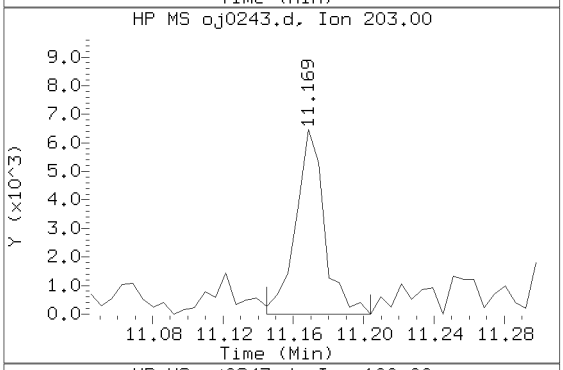


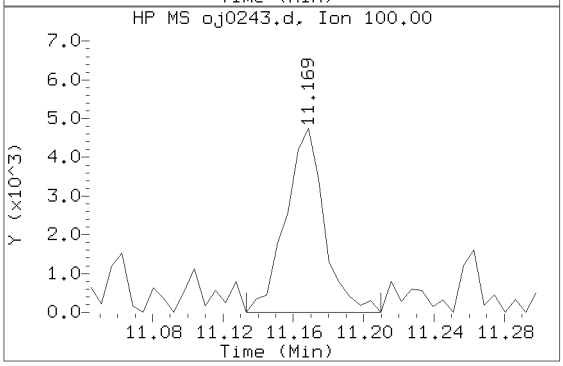
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

Compound Number	: 173
Compound Name	: Fluoranthene
Scan Number	: 1630
Retention Time (minutes)	: 11.169
Relative Retention Time	:-0.00066
Quant Ion	: 202.00
Area (flag)	: 38507
On-column Amount (ng/ul)	: 0.7448

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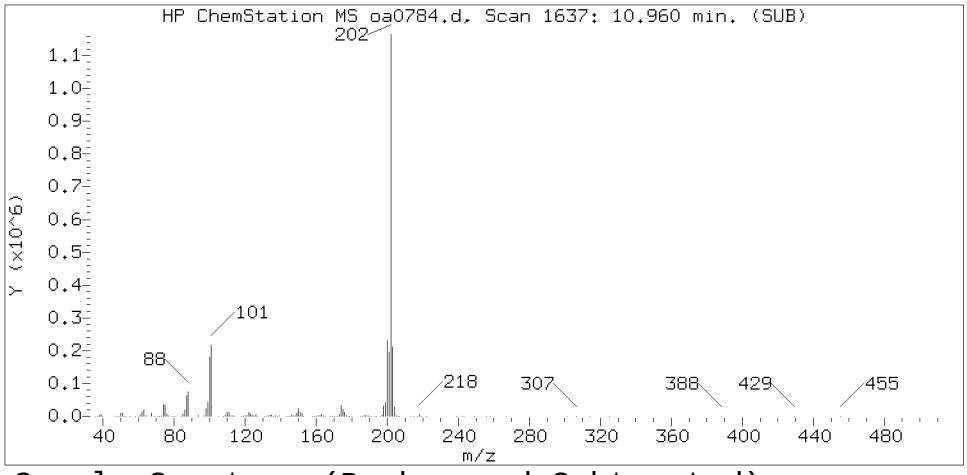
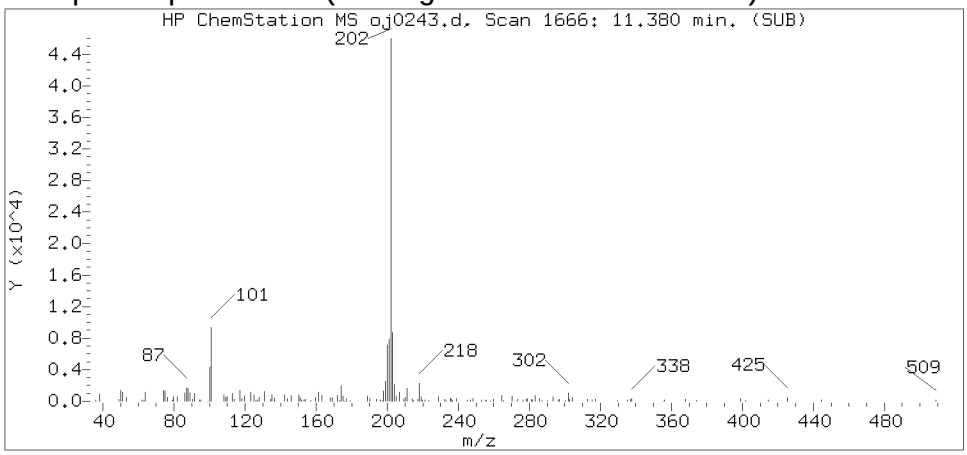
Target 3.5 esignature user ID: ceb05247

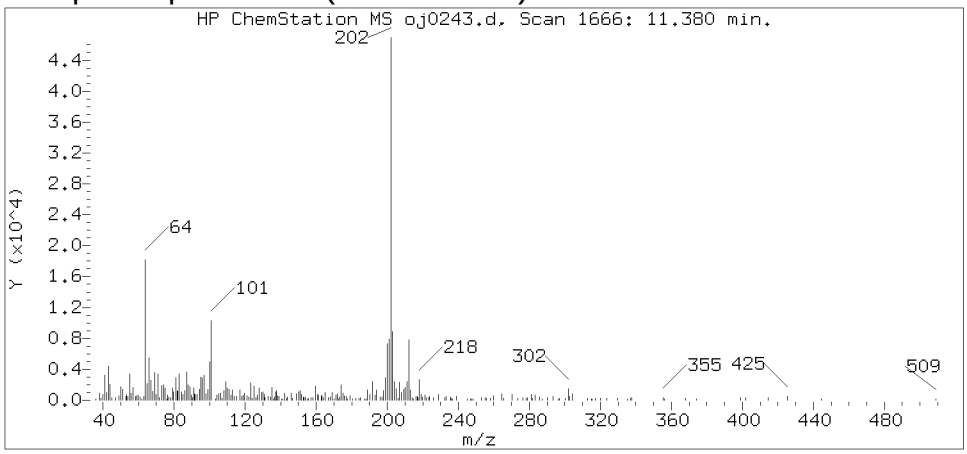
Reference Standard Spectrum for Pyrene

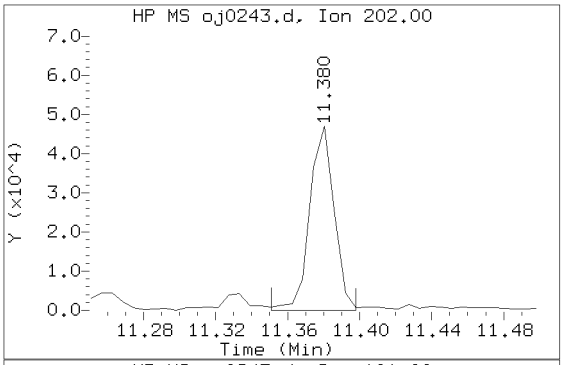


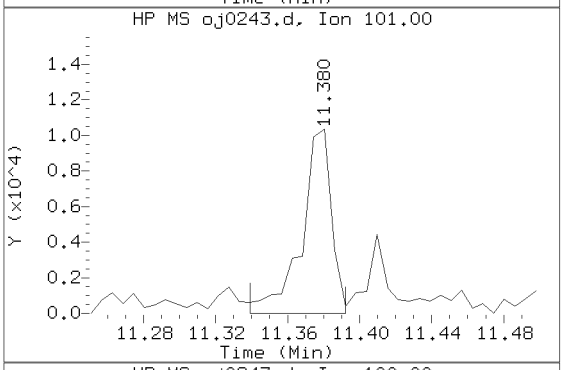
Sample Spectrum (Background Subtracted)

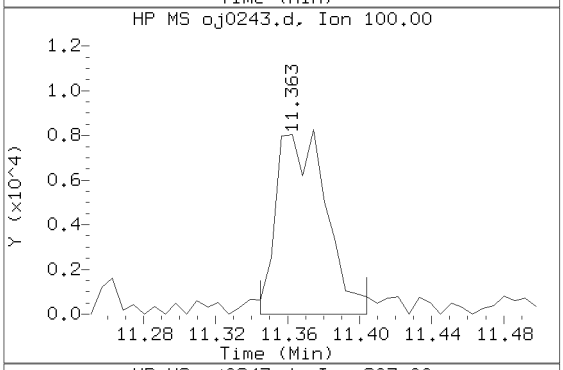


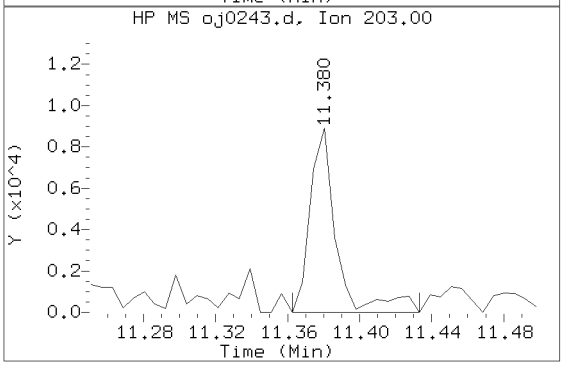
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1666
Retention Time (minutes)	: 11.380
Relative Retention Time	: 0.00052
Quant Ion	: 202.00
Area (flag)	: 43806
On-column Amount (ng/ul)	: 0.9009

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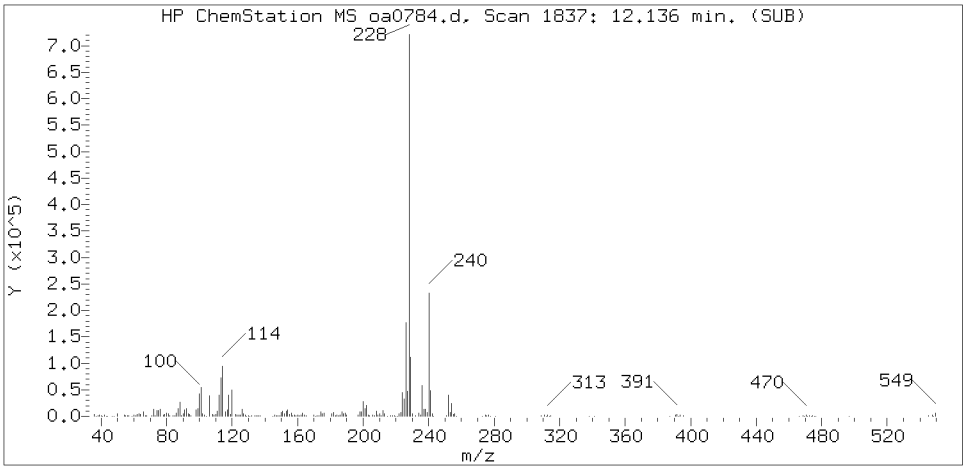
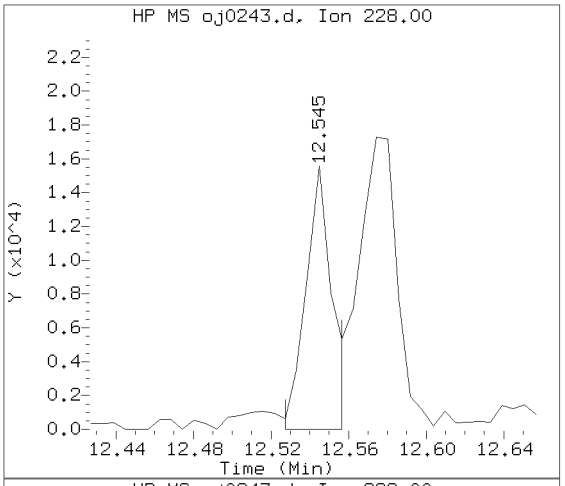
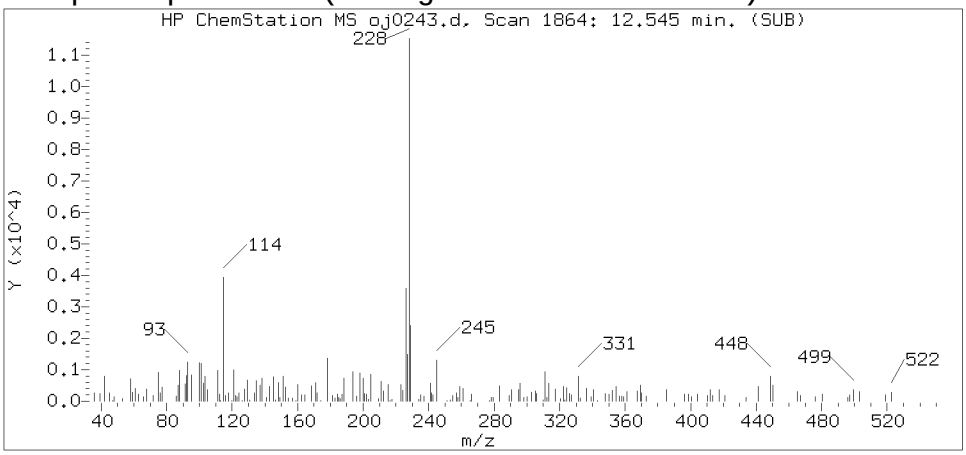
Target 3.5 esignature user ID: ceb05247

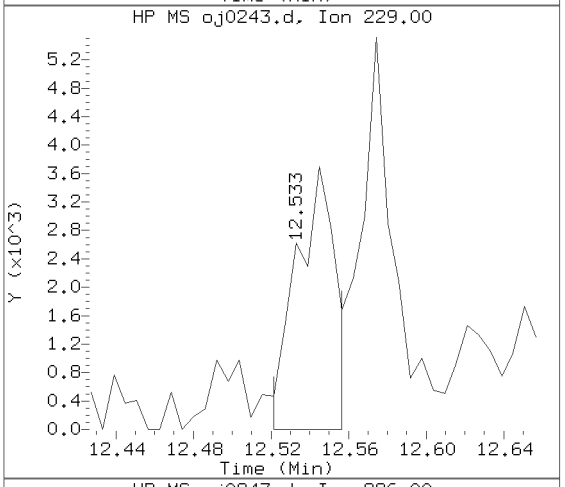
Reference Standard Spectrum for Benzo(a)anthracene



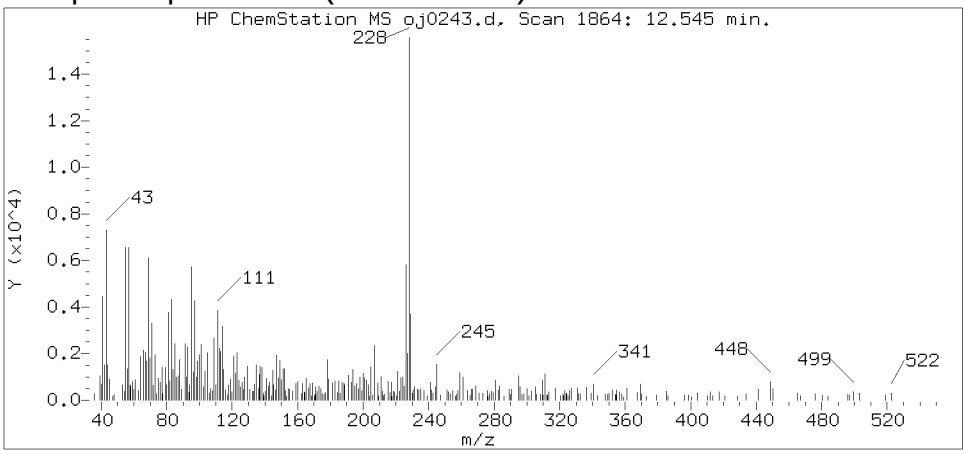


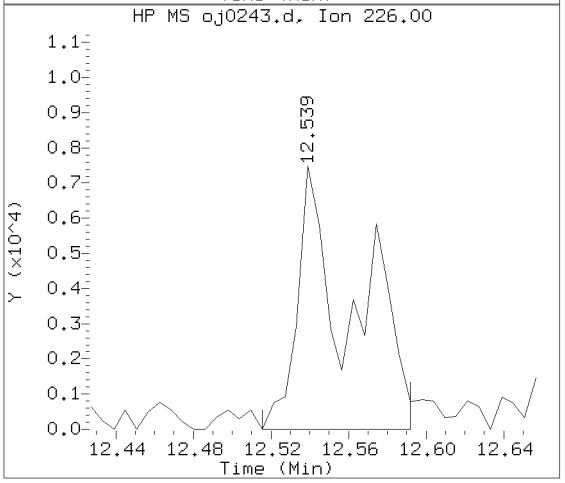
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

Compound Number	: 195
Compound Name	: Benzo(a)anthracene
Scan Number	: 1864
Retention Time (minutes)	: 12.545
Relative Retention Time	: 0.00052
Quant Ion	: 228.00
Area (flag)	: 13881
On-column Amount (ng/ul)	: 0.3275

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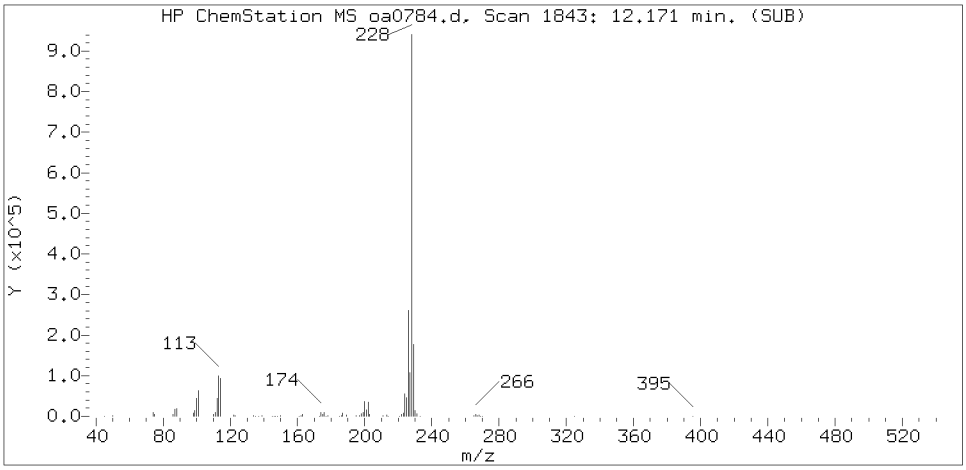
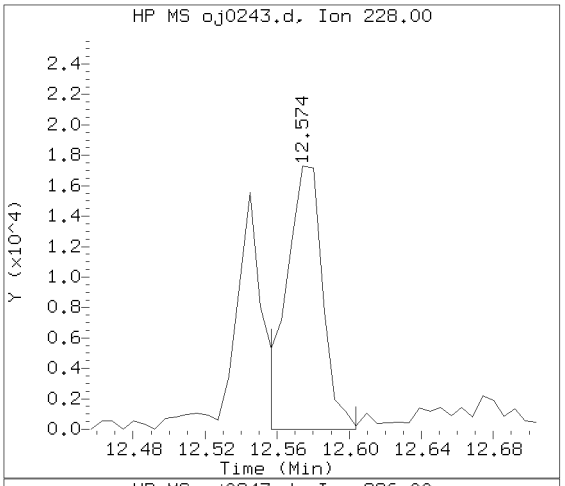
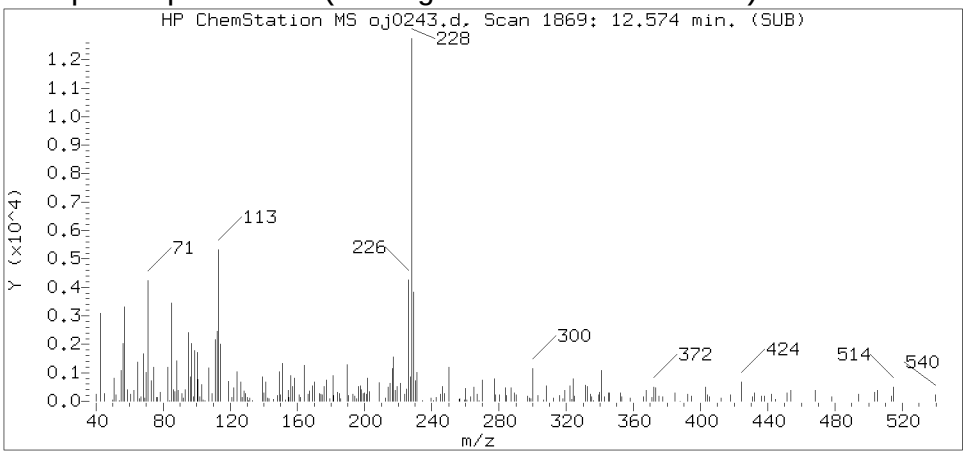
Target 3.5 esignature user ID: ceb05247

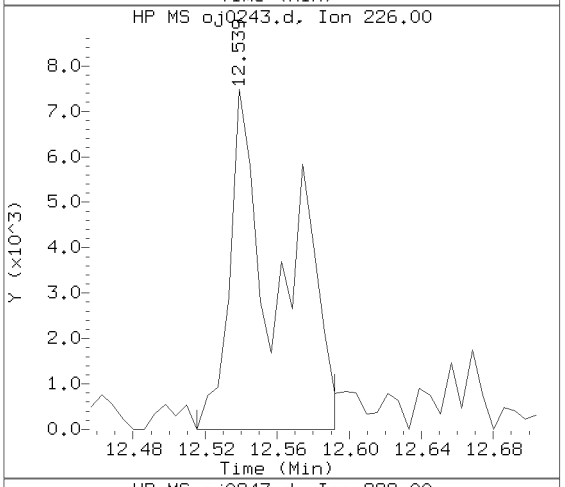
Reference Standard Spectrum for Chrysene



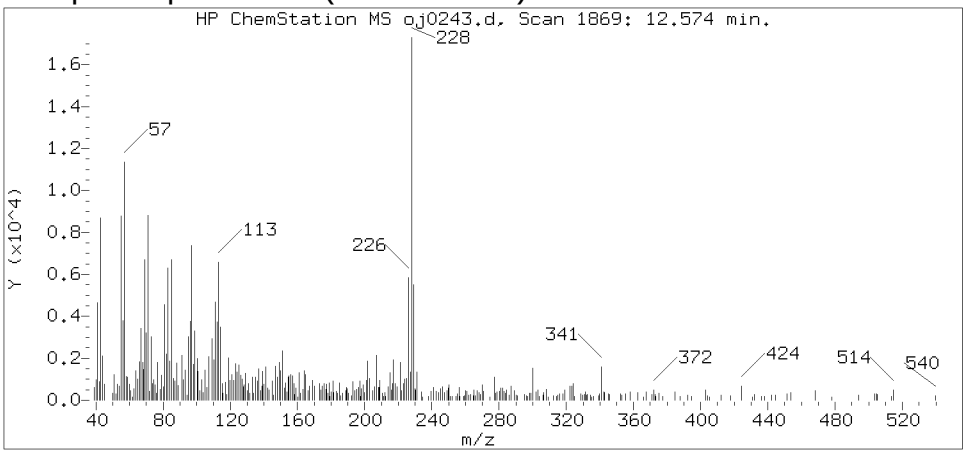


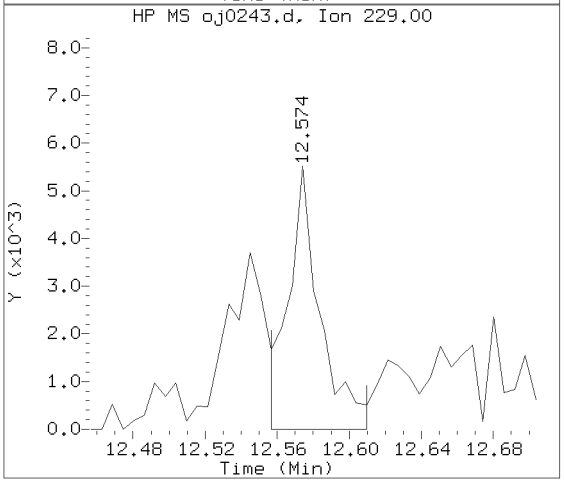
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

Compound Number	: 196
Compound Name	: Chrysene
Scan Number	: 1869
Retention Time (minutes)	: 12.574
Relative Retention Time	: 0.00104
Quant Ion	: 228.00
Area (flag)	: 23925
On-column Amount (ng/ul)	: 0.5924

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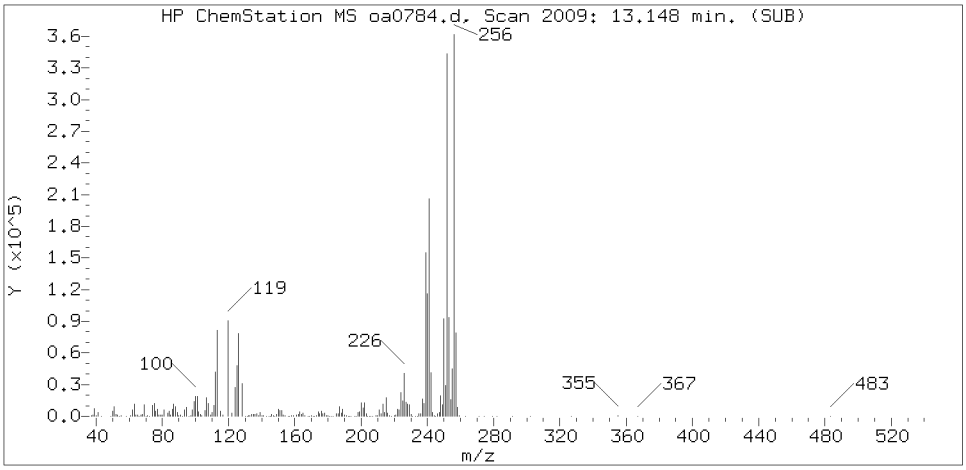
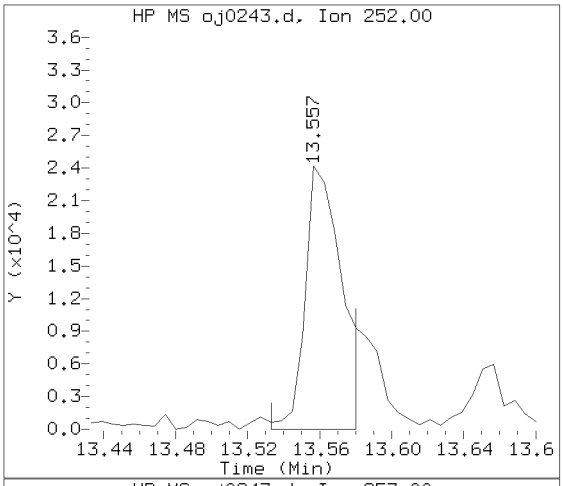
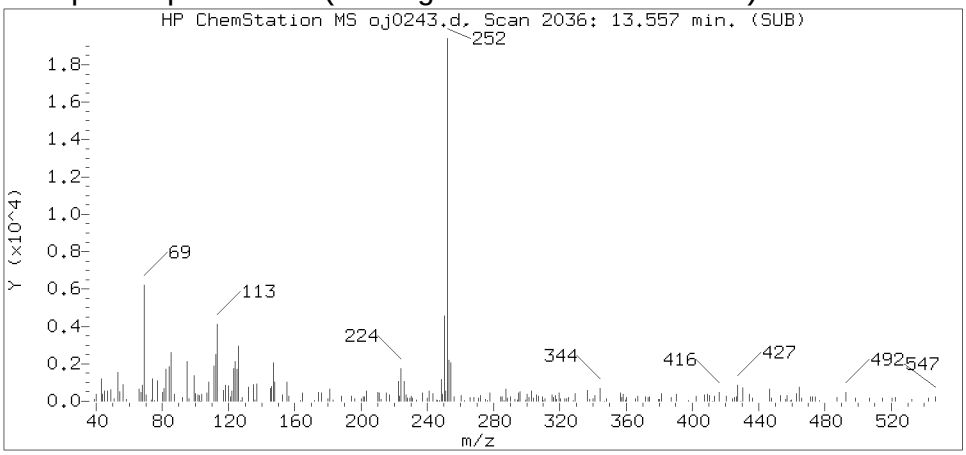
Target 3.5 esignature user ID: ceb05247

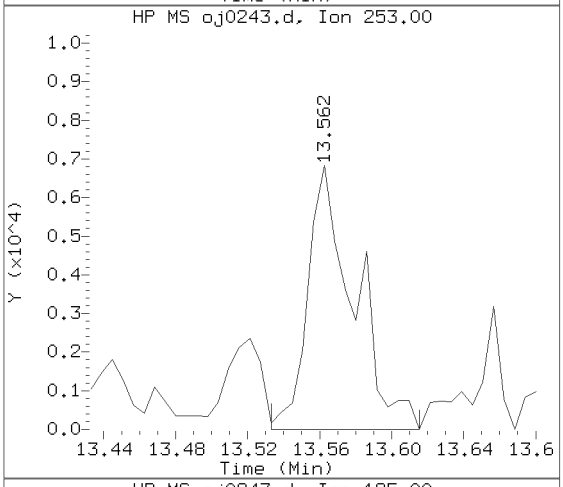
Reference Standard Spectrum for Benzo(b)fluoranthene



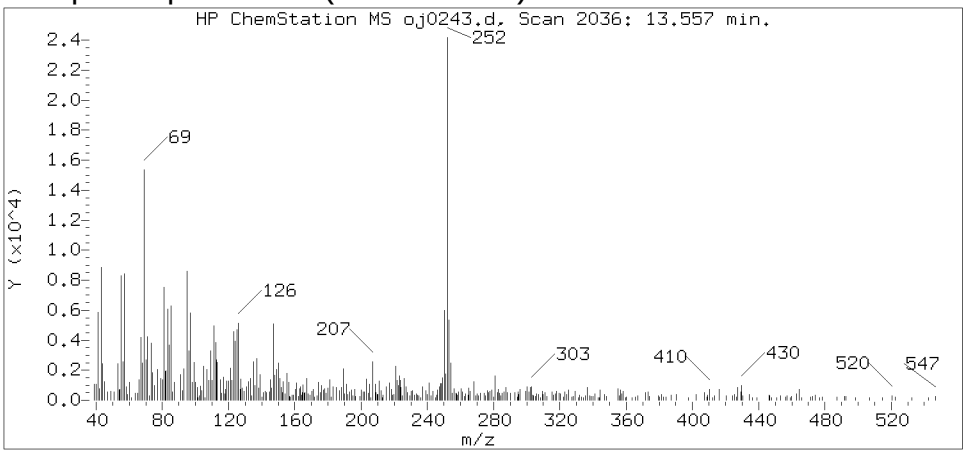


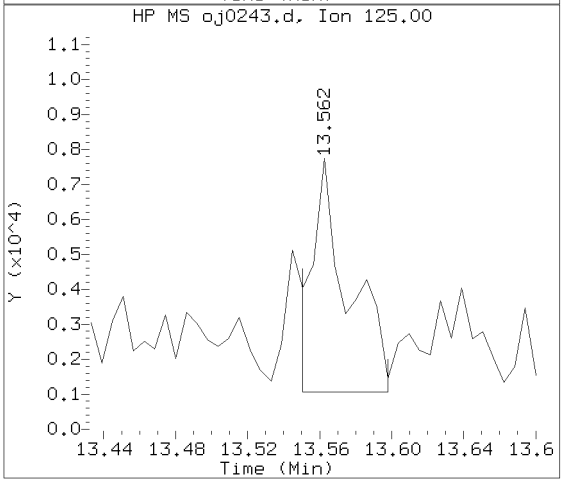
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2036
Retention Time (minutes)	: 13.557
Relative Retention Time	: 0.00085
Quant Ion	: 252.00
Area (flag)	: 34304M
On-column Amount (ng/ul)	: 1.0729

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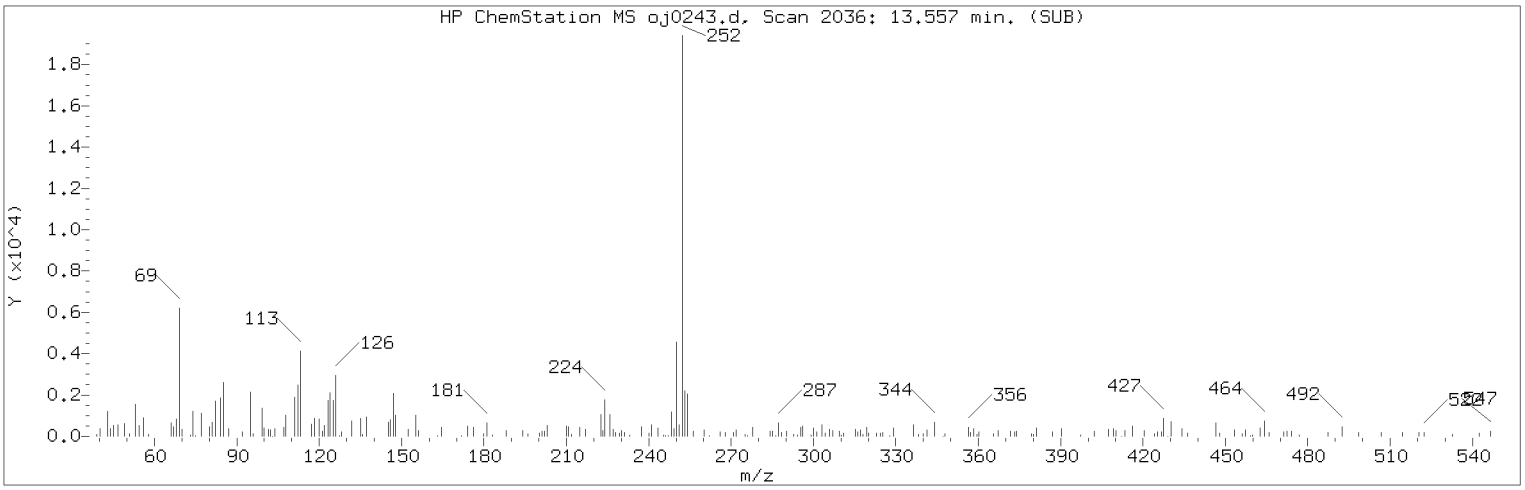
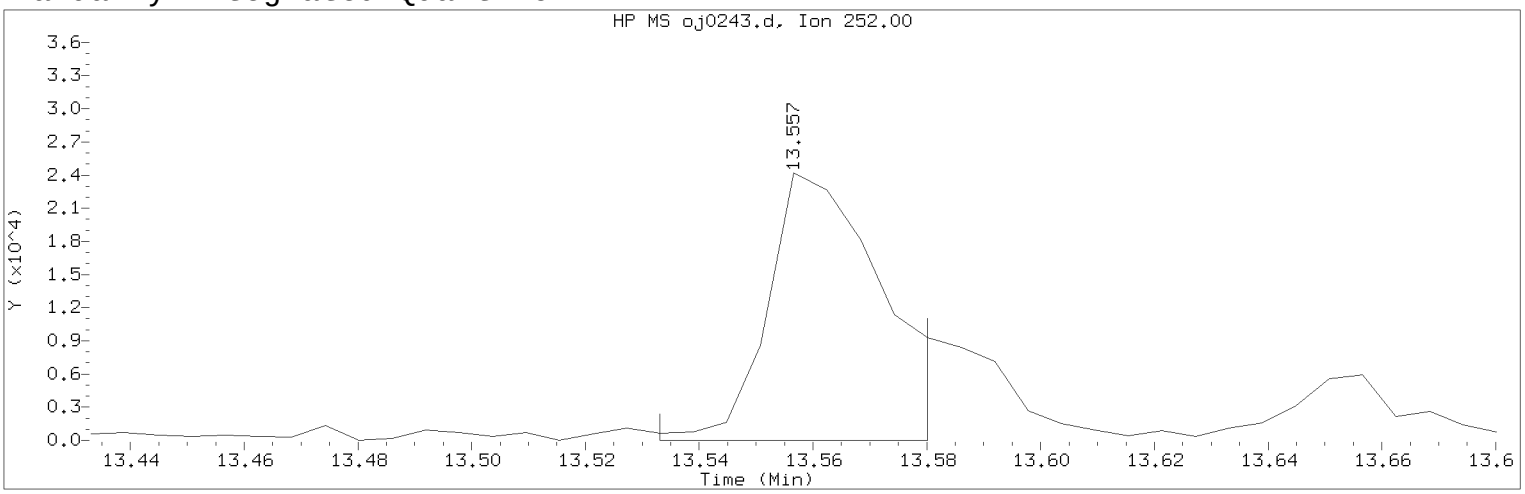
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

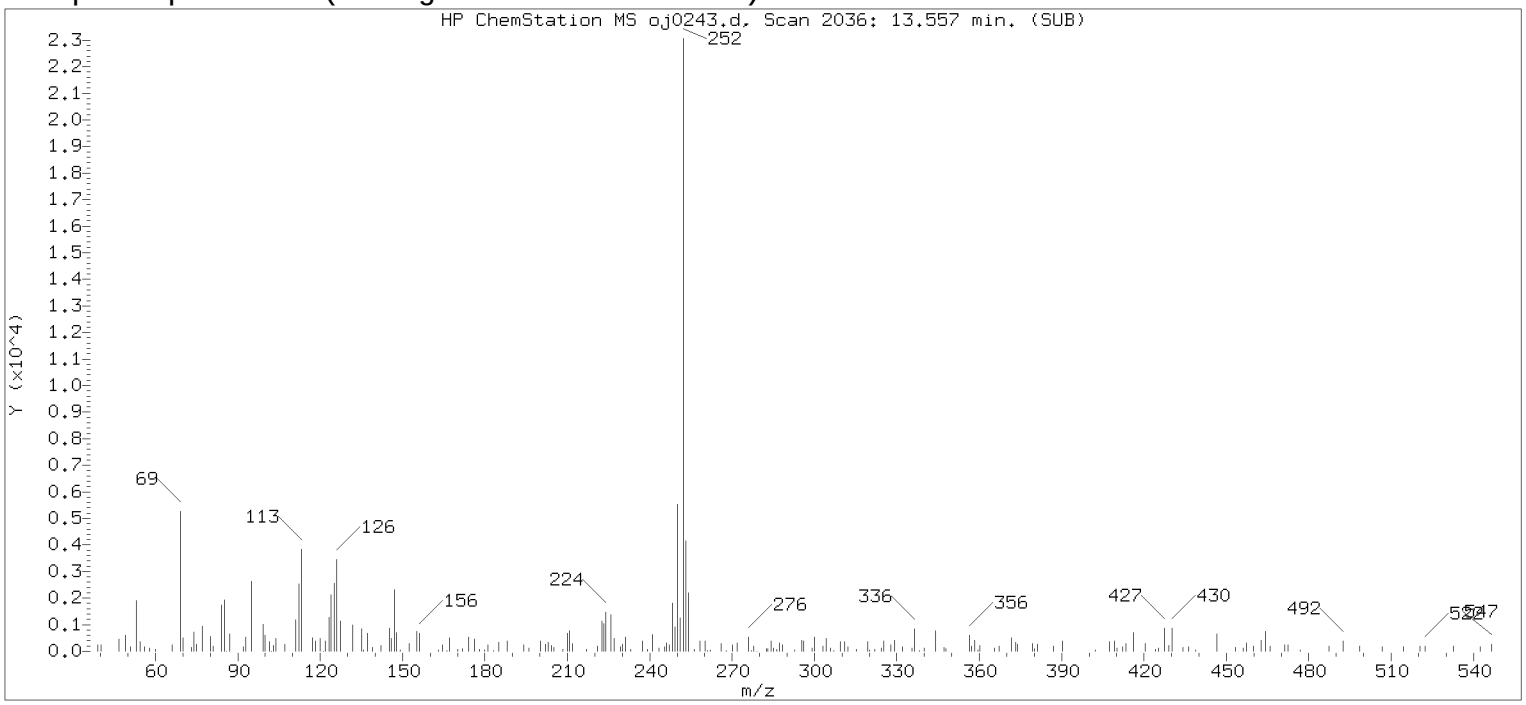
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2036
Retention Time (minutes) : 13.557
Quant Ion : 252.00
Area (flag) : 34304M
On-column Amount (ng/ul) : 1.0729
Integration start scan : 2031 Integration stop scan: 2039
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

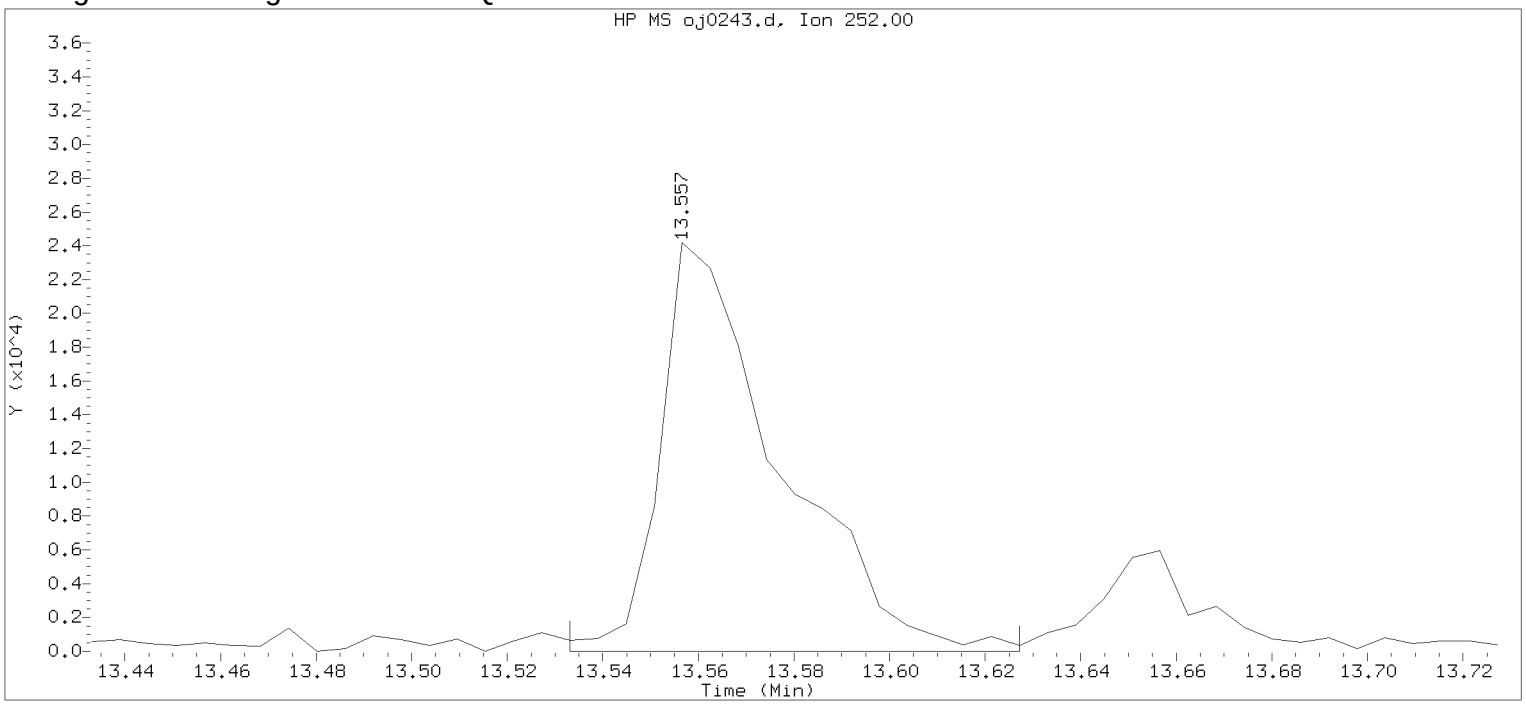
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

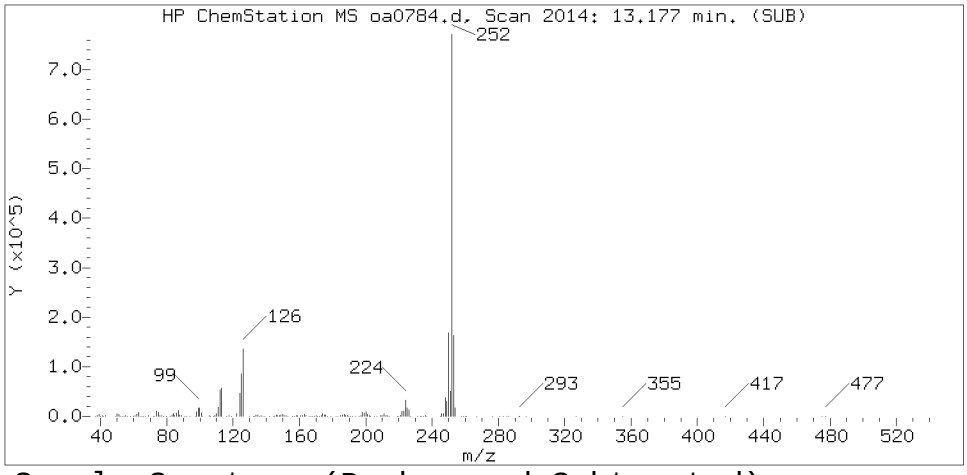
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 16:23 Automation

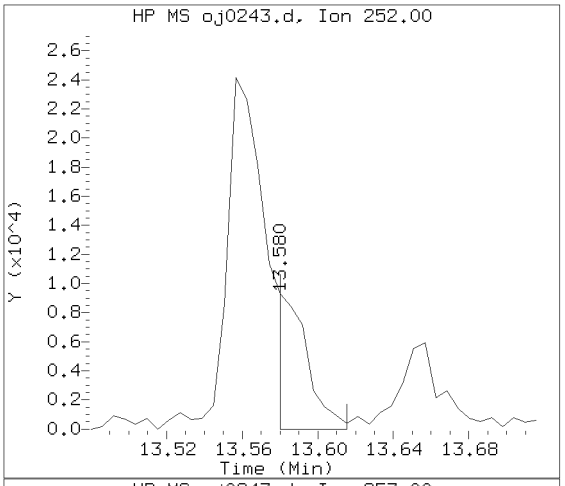
Sample Name: 48713 Lab Sample ID: 8064465

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2036		
Retention Time (minutes)	: 13.557		
Quant Ion	: 252.00		
Area	: 42007		
On-column Amount (ng/ul)	: 1.3138		
Integration start scan	: 2031	Integration stop scan:	2047
Y at integration start	: 0	Y at integration end:	0

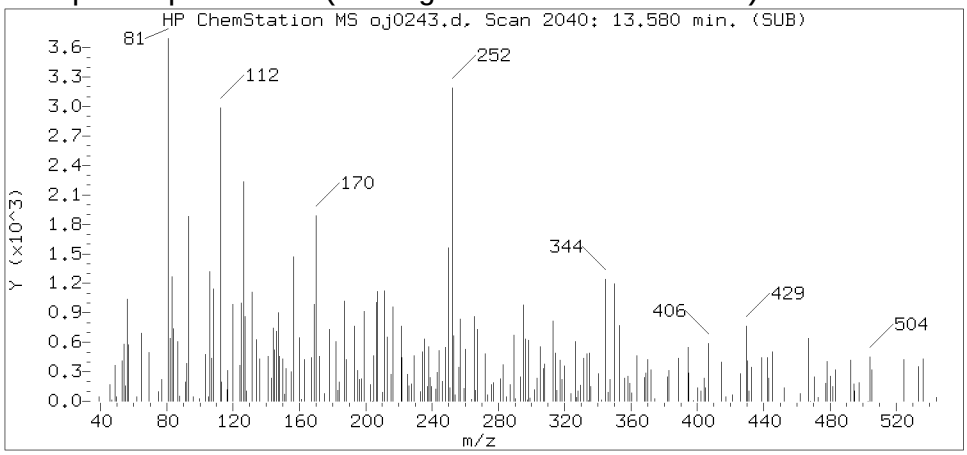
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: 27 date: 05247

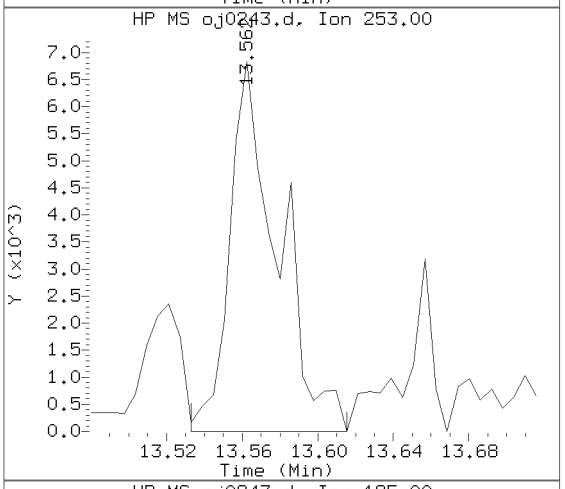
Reference Standard Spectrum for Benzo(k)fluoranthene



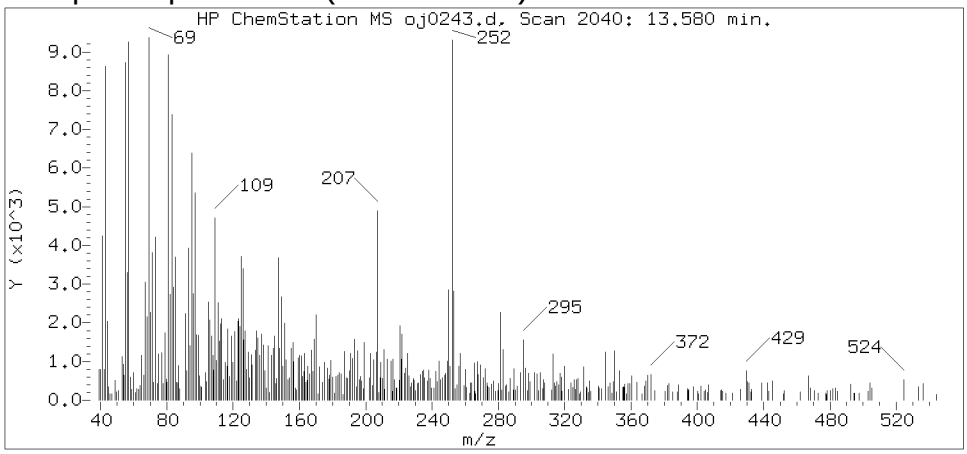


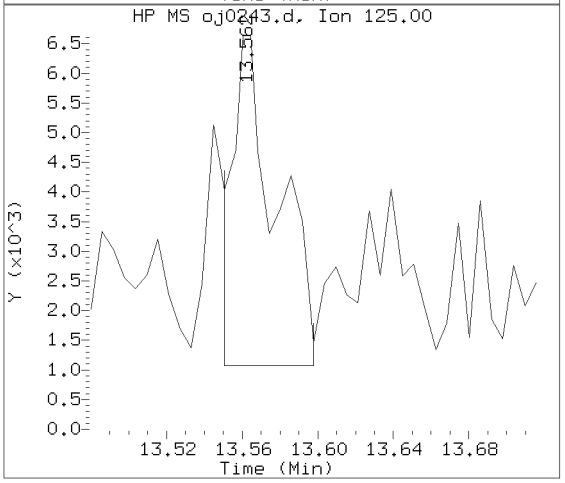
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

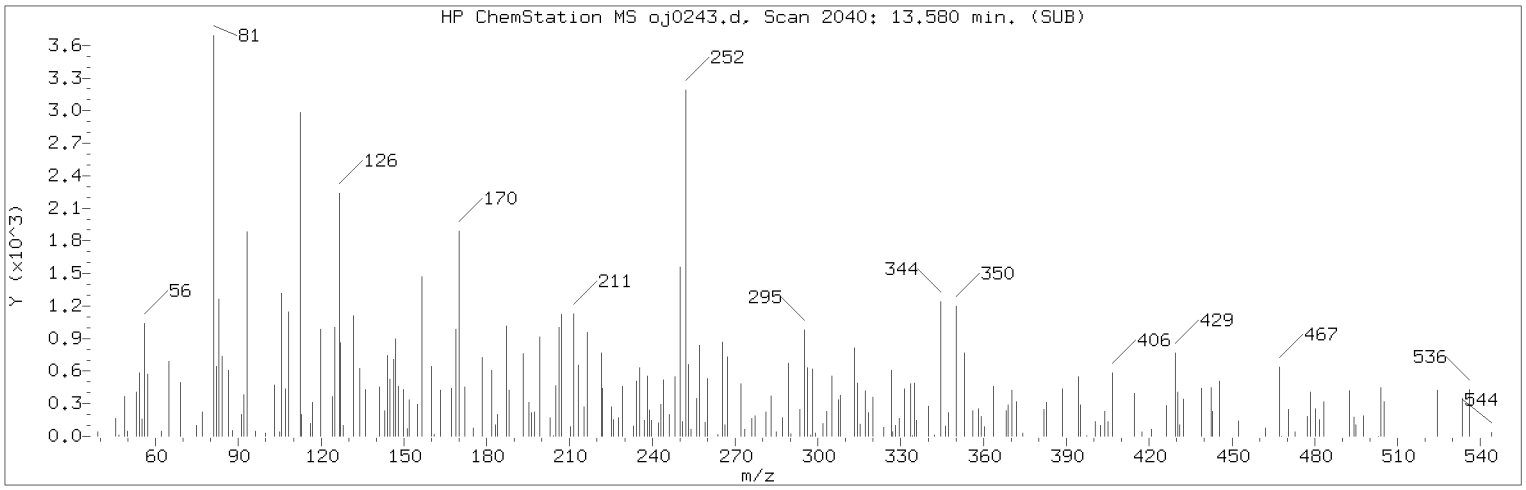
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

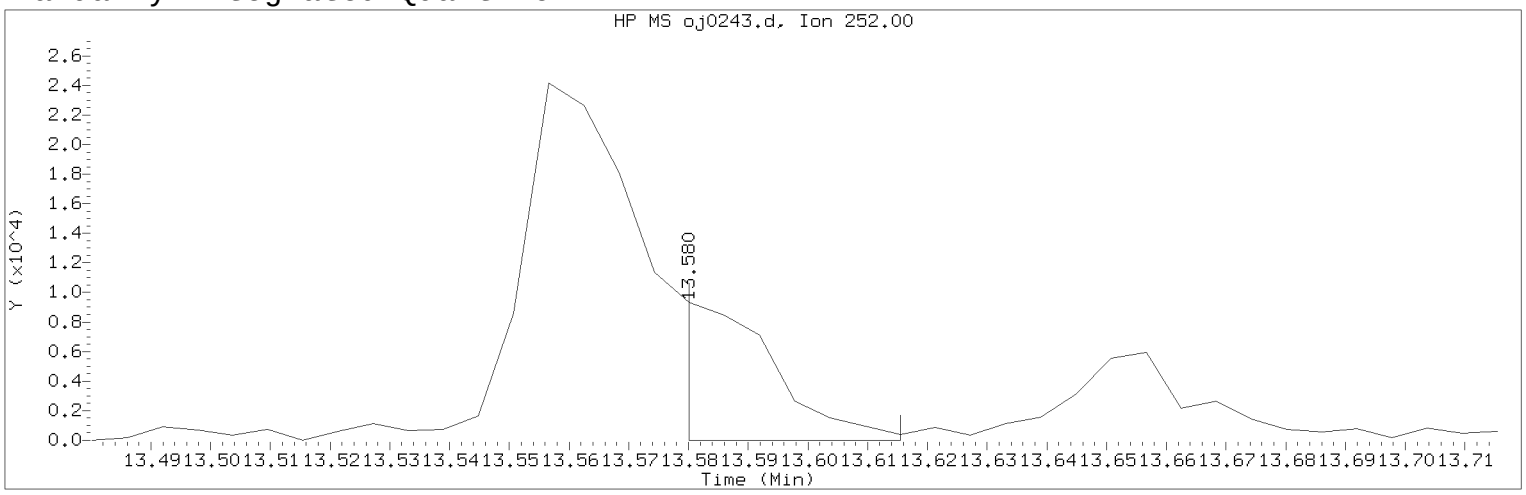
Compound Number	: 208
Compound Name	: Benzo(k)fluoranthene
Scan Number	: 2040
Retention Time (minutes)	: 13.580
Relative Retention Time	: 0.00084
Quant Ion	: 252.00
Area (flag)	: 10751M
On-column Amount (ng/ul)	: 0.3295

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

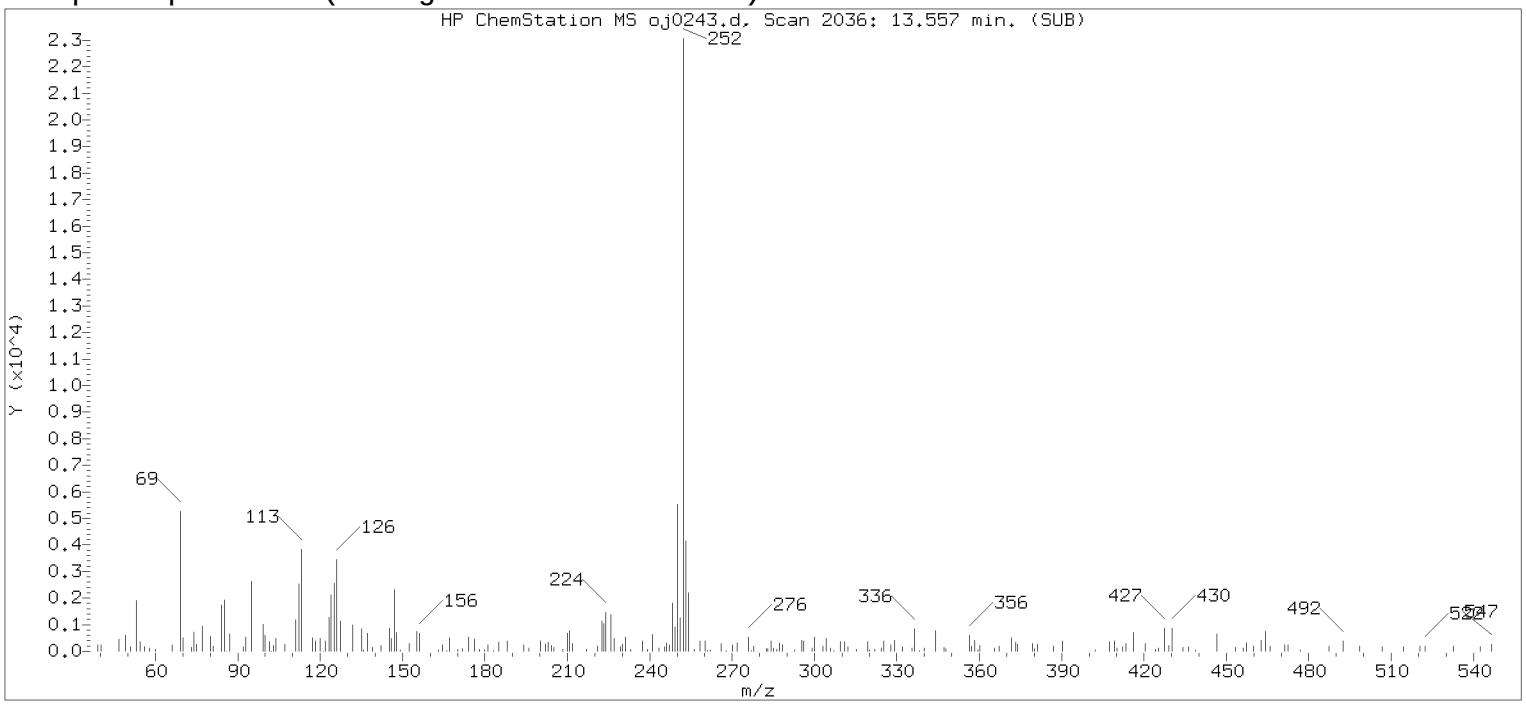
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2040
Retention Time (minutes) : 13.580
Quant Ion : 252.00
Area (flag) : 10751M
On-column Amount (ng/ul) : 0.3295
Integration start scan : 2039 Integration stop scan: 2045
Y at integration start : -9 Y at integration end: -9

Reason for manual integration: improper integration

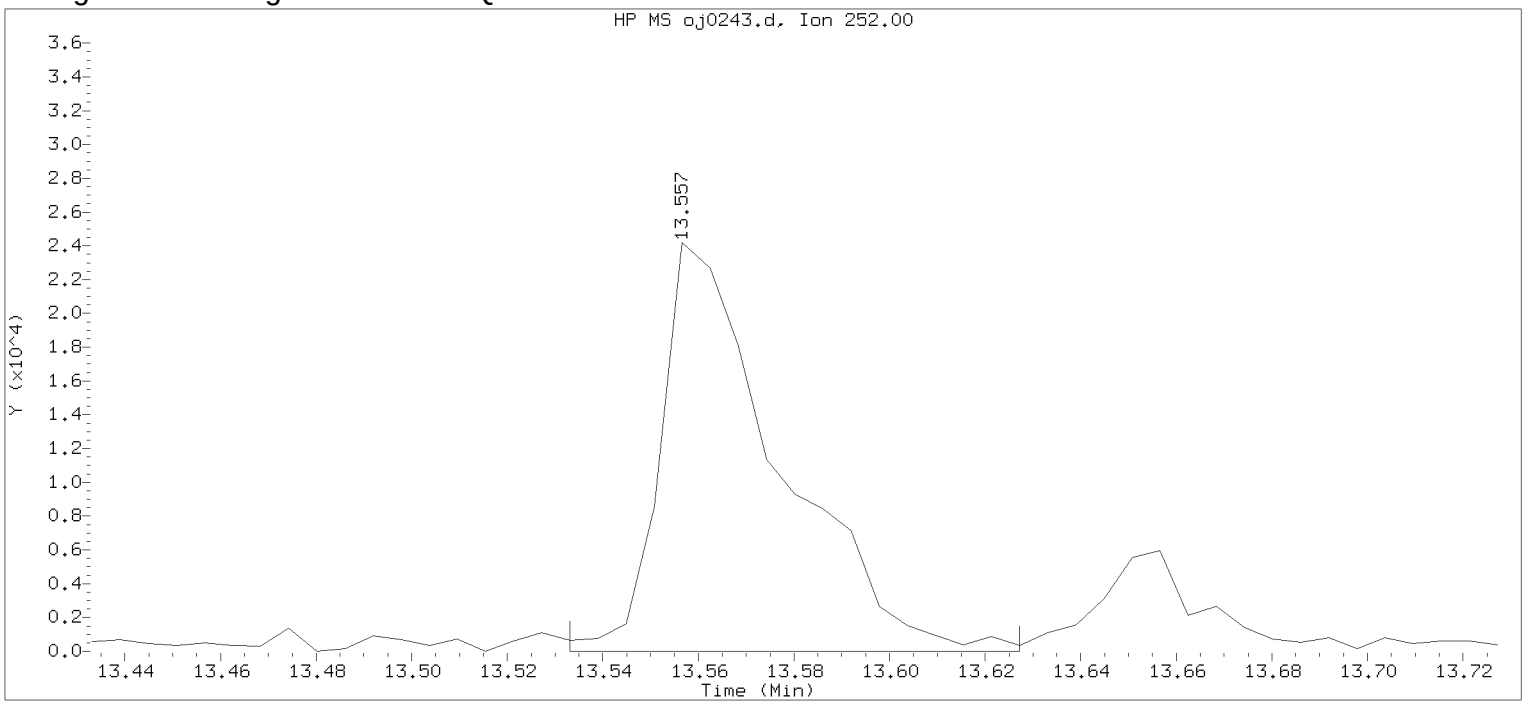
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

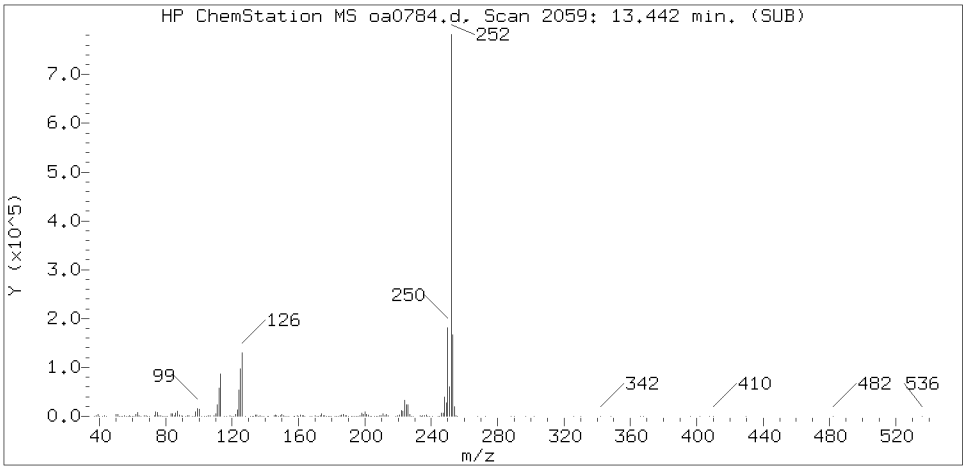
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 16:23 Automation

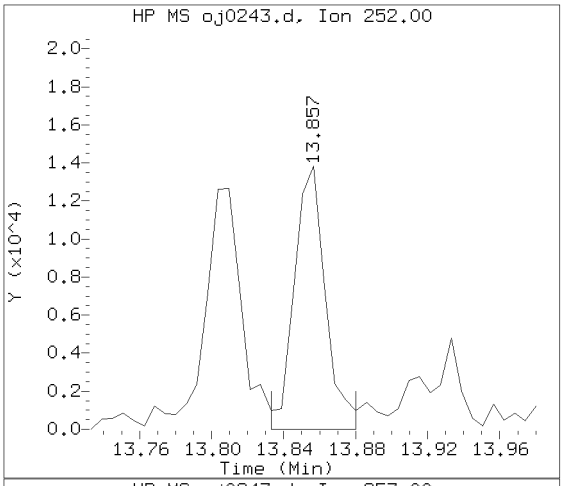
Sample Name: 48713 Lab Sample ID: 8064465

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2036		
Retention Time (minutes)	: 13.557		
Quant Ion	: 252.00		
Area	: 42007		
On-column Amount (ng/ul)	: 1.2875		
Integration start scan	: 2031	Integration stop scan:	2047
Y at integration start	: 0	Y at integration end:	0

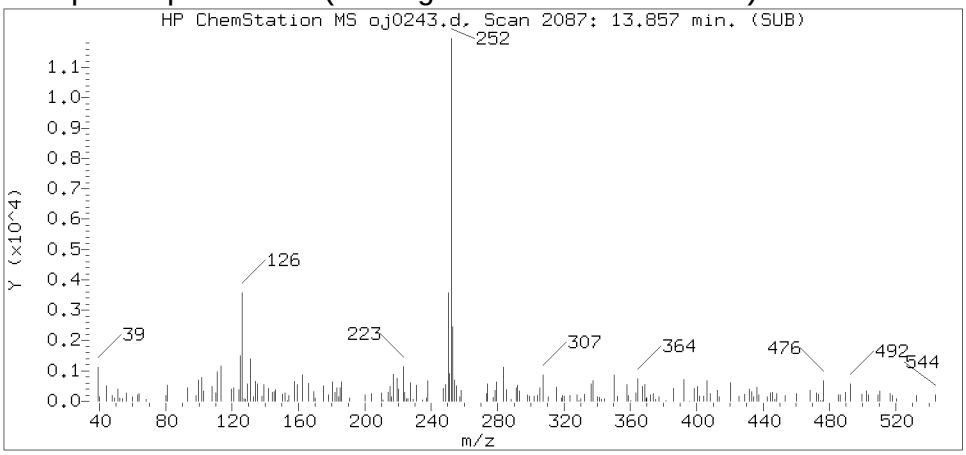
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: 27 date: 05247

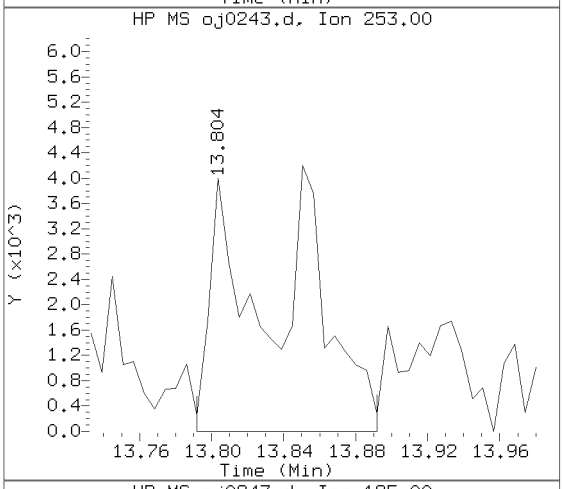
Reference Standard Spectrum for Benzo(a)pyrene



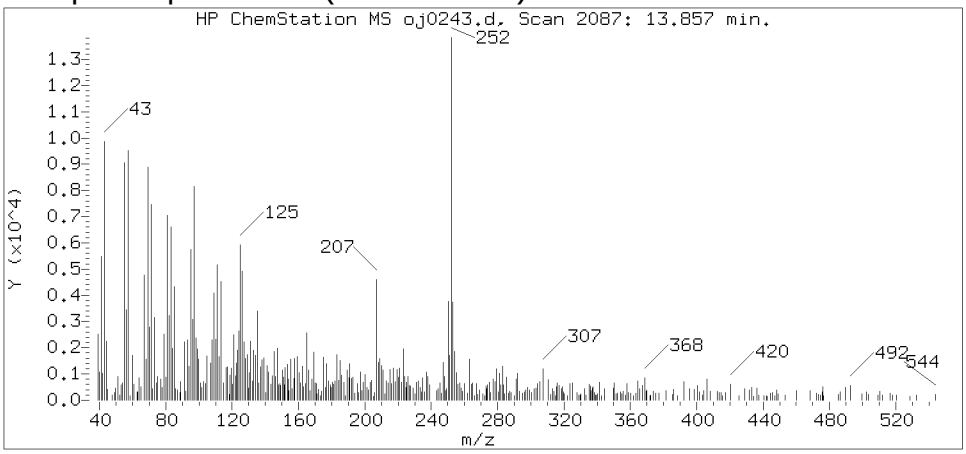


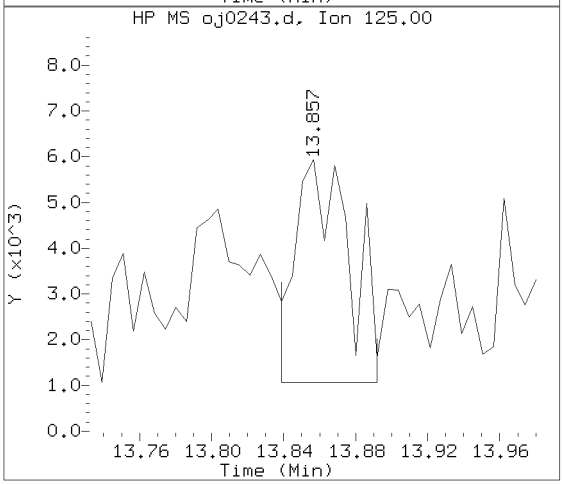
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

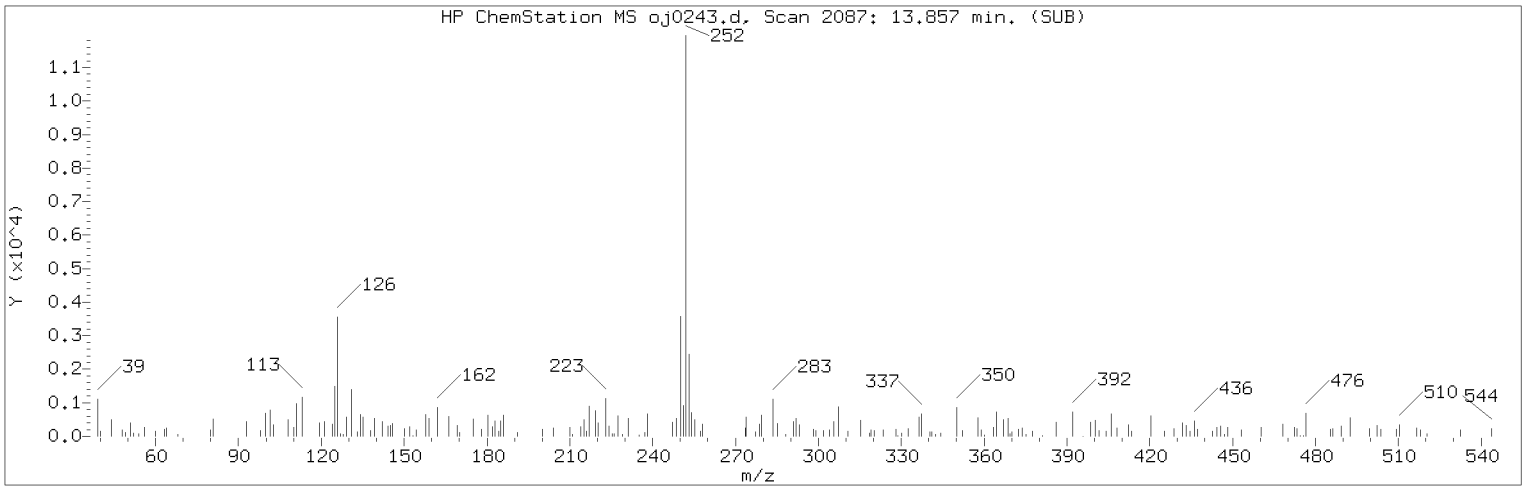
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

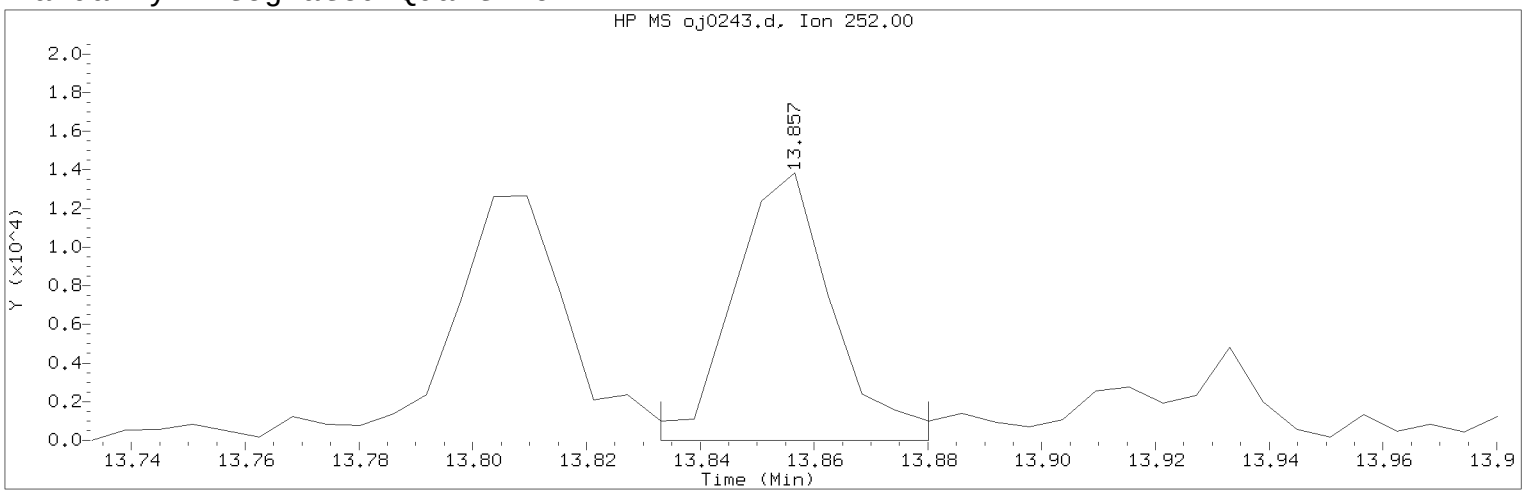
Compound Number	: 211
Compound Name	: Benzo(a)pyrene
Scan Number	: 2087
Retention Time (minutes)	: 13.857
Relative Retention Time	: 0.00042
Quant Ion	: 252.00
Area (flag)	: 16720M
On-column Amount (ng/ul)	: 0.5295

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

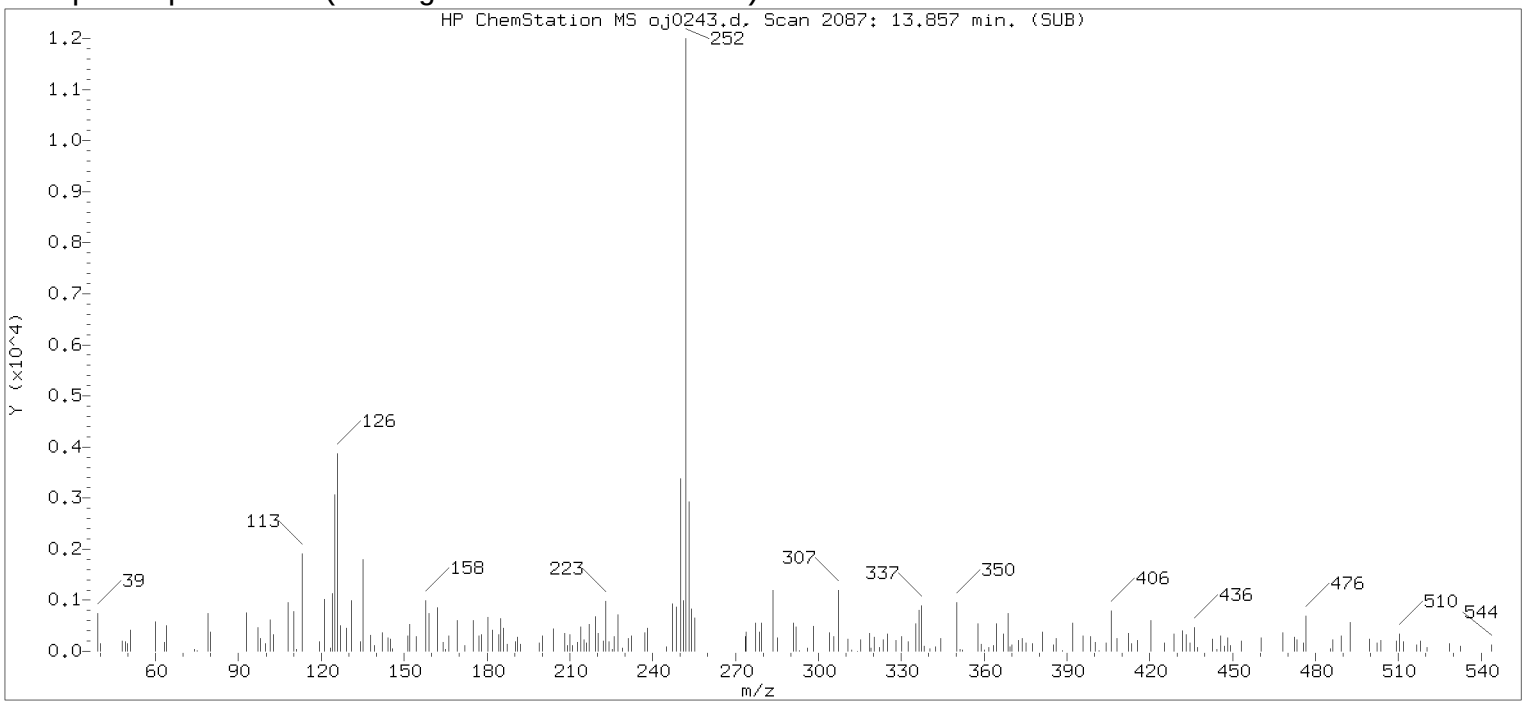
Compound Number : 211
Compound Name : Benzo(a)pyrene
Scan Number : 2087
Retention Time (minutes) : 13.857
Quant Ion : 252.00
Area (flag) : 16720M
On-column Amount (ng/ul) : 0.5295
Integration start scan : 2082 Integration stop scan: 2090
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

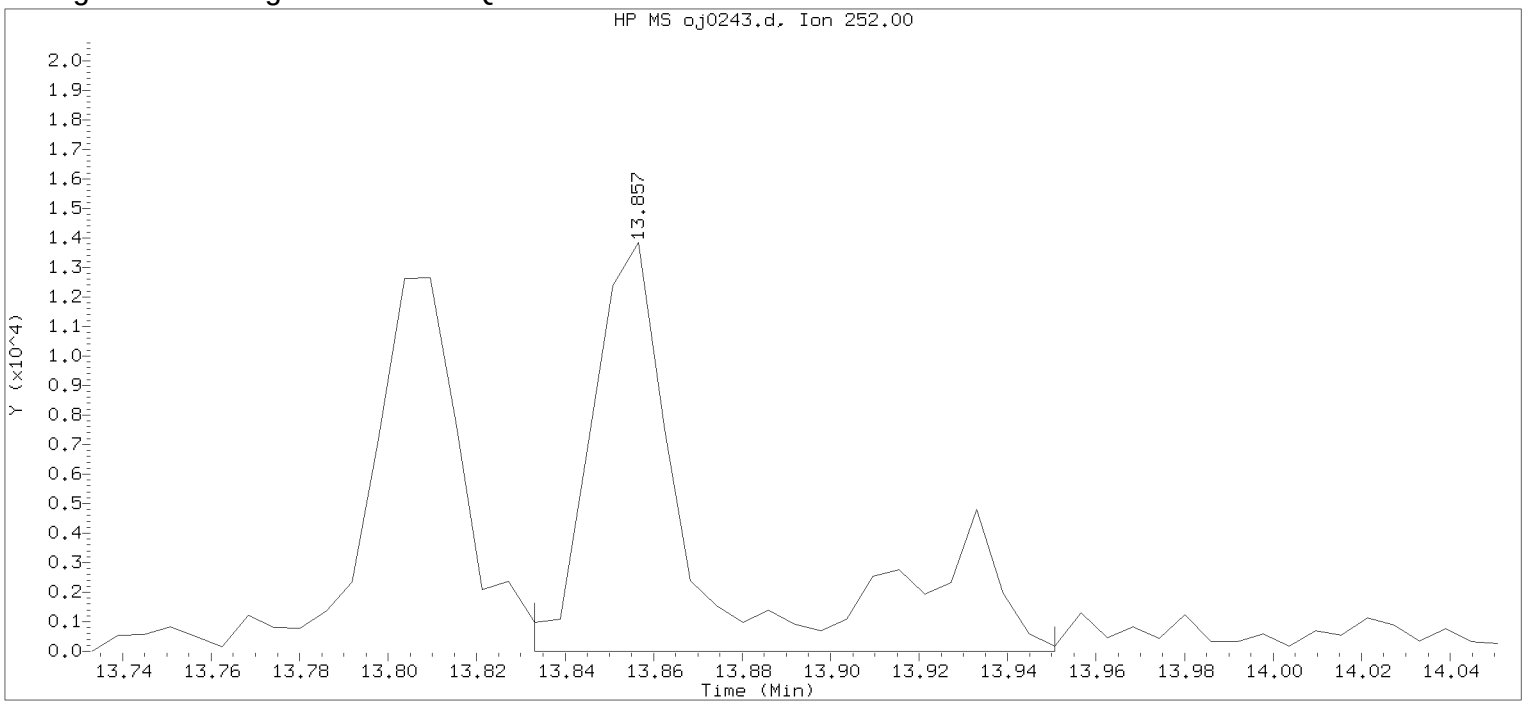
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

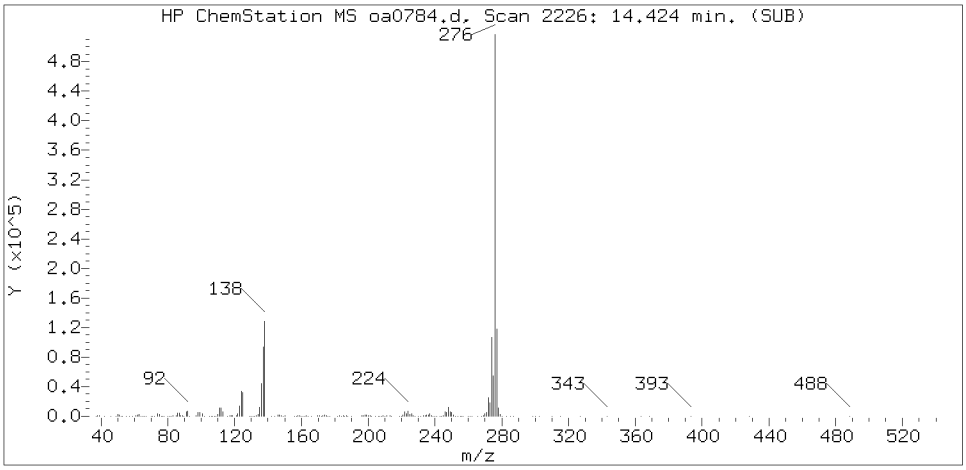
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 16:23 Automation

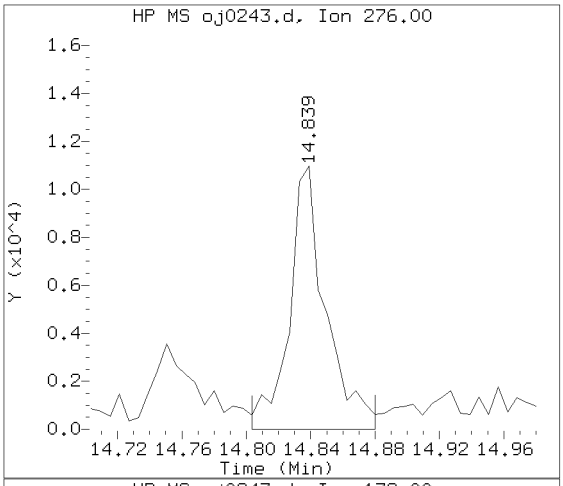
Sample Name: 48713 Lab Sample ID: 8064465

Compound Number	: 211		
Compound Name	: Benzo(a)pyrene		
Scan Number	: 2087		
Retention Time (minutes)	: 13.857		
Quant Ion	: 252.00		
Area	: 24006		
On-column Amount (ng/ul)	: 0.7602		
Integration start scan	: 2082	Integration stop scan:	2102
Y at integration start	: 0	Y at integration end:	0

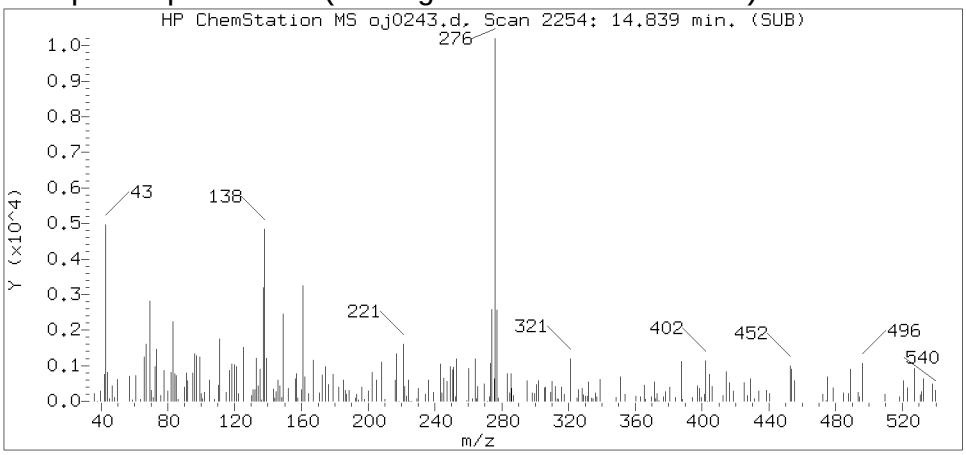
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: 27 date: 20150527

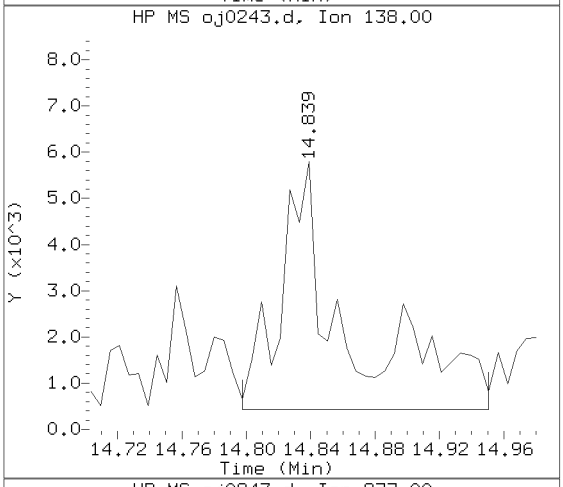
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



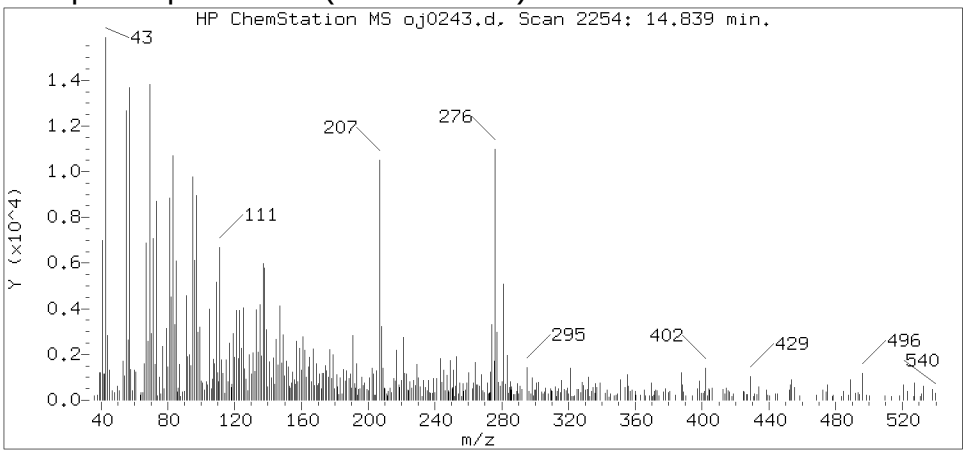


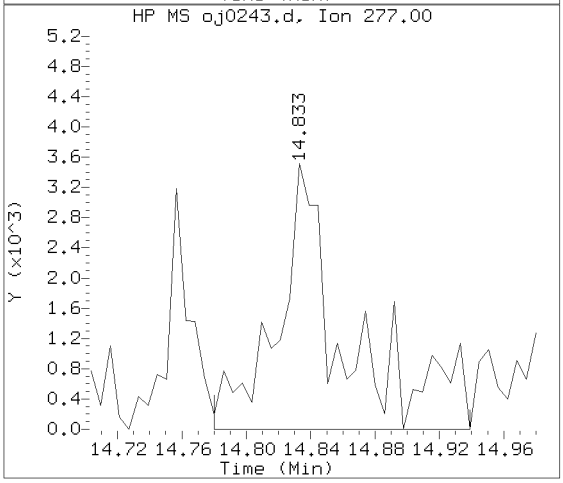
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

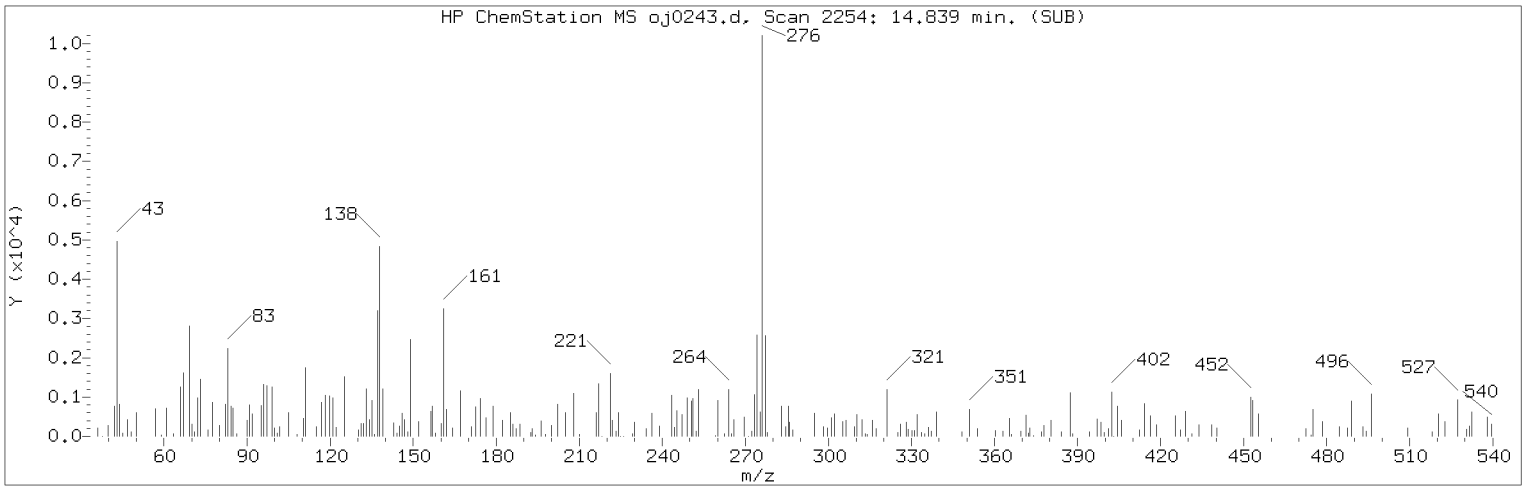
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

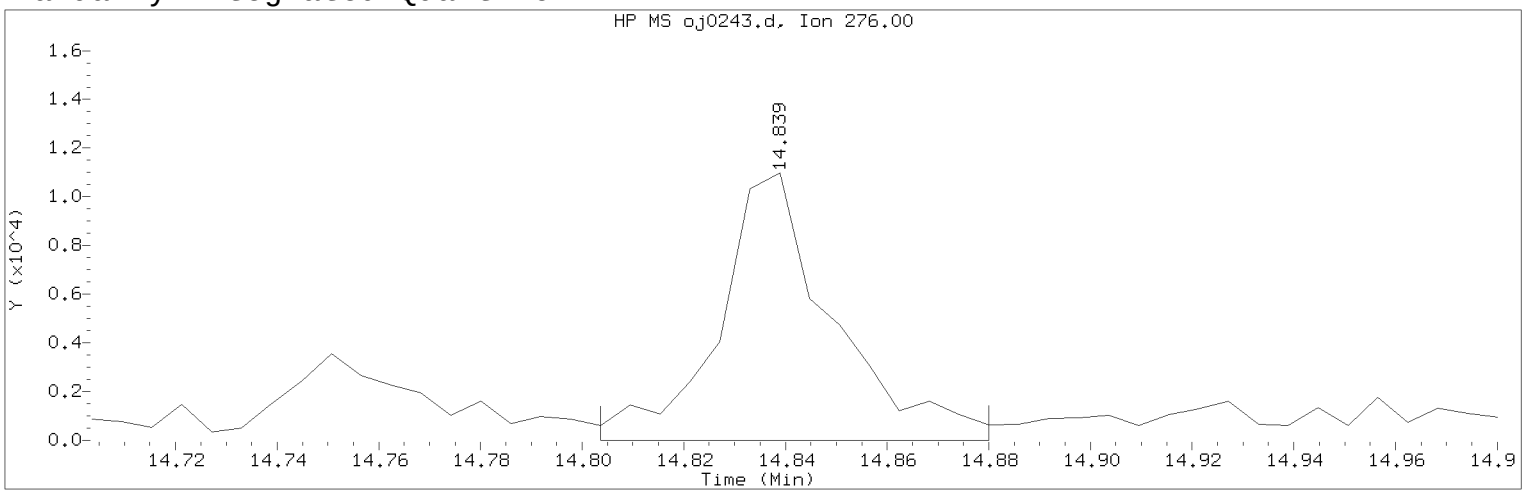
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2254
Retention Time (minutes) : 14.839
Relative Retention Time : 0.00042
Quant Ion : 276.00
Area (flag) : 17295M
On-column Amount (ng/ul) : 0.5258

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

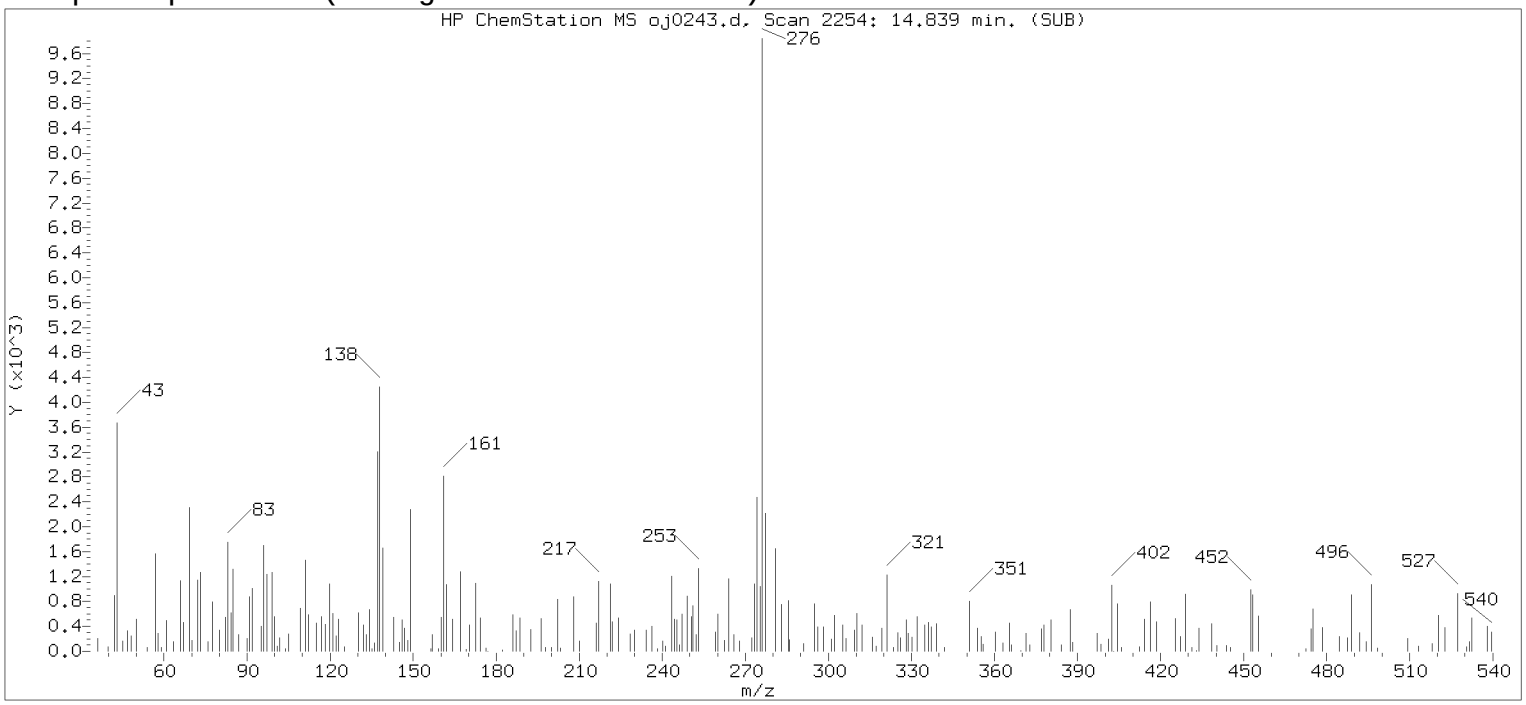
Compound Number	: 219		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 2254		
Retention Time (minutes)	: 14.839		
Quant Ion	: 276.00		
Area (flag)	: 17295M		
On-column Amount (ng/ul)	: 0.5258		
Integration start scan	: 2247	Integration stop scan:	2260
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

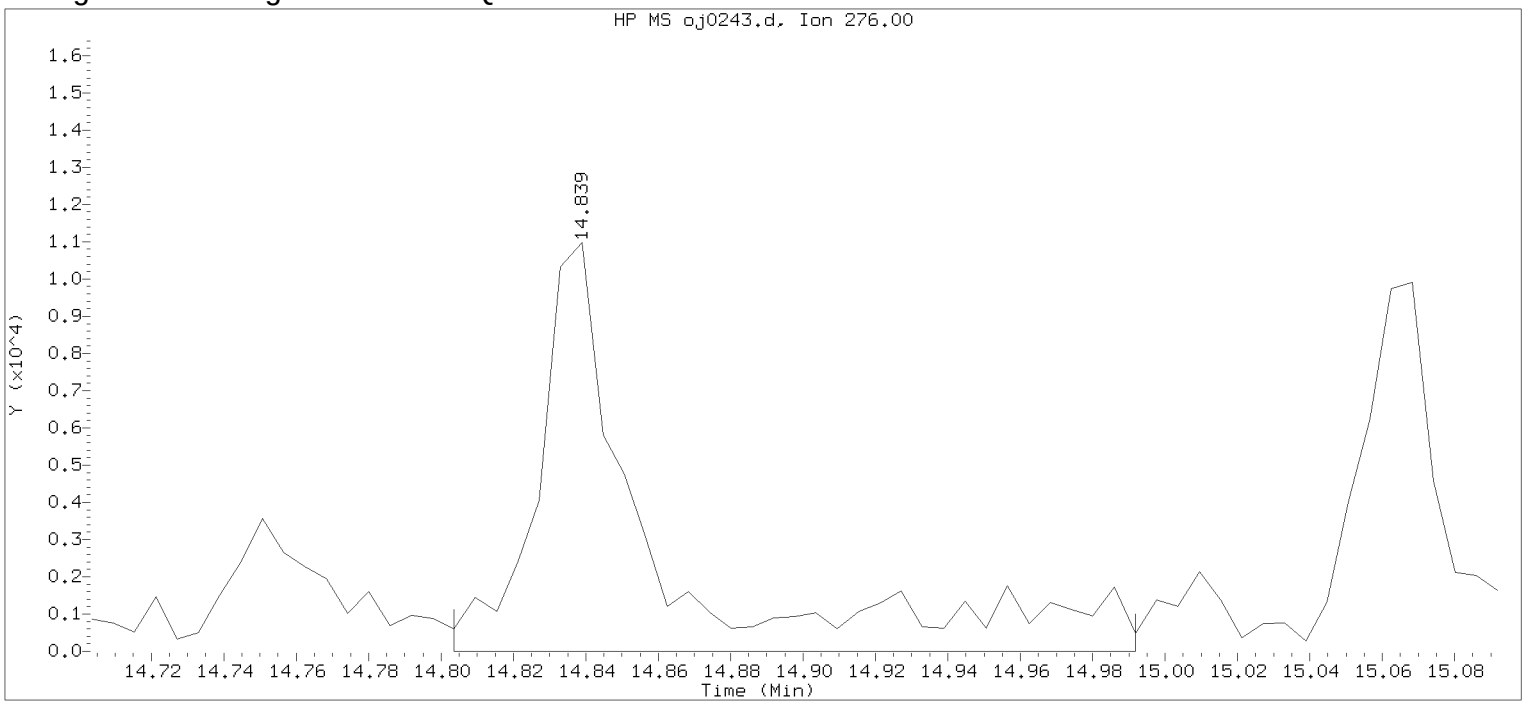
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

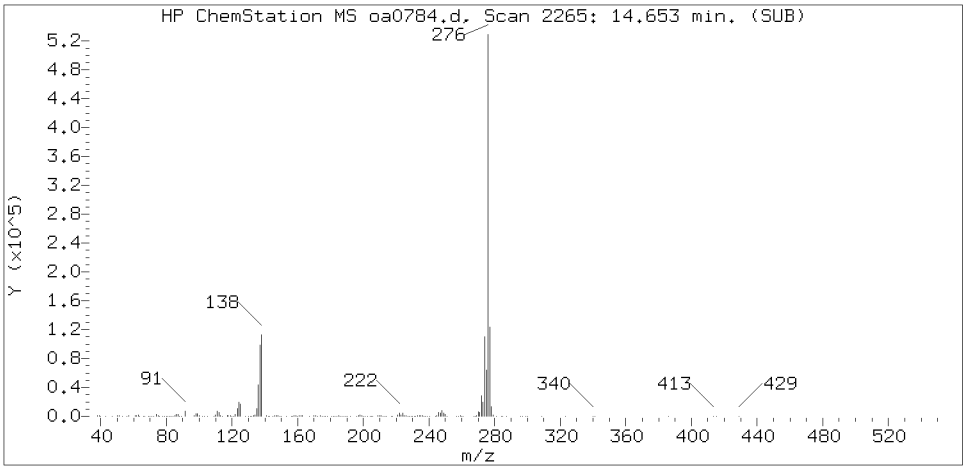
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 16:23 Automation

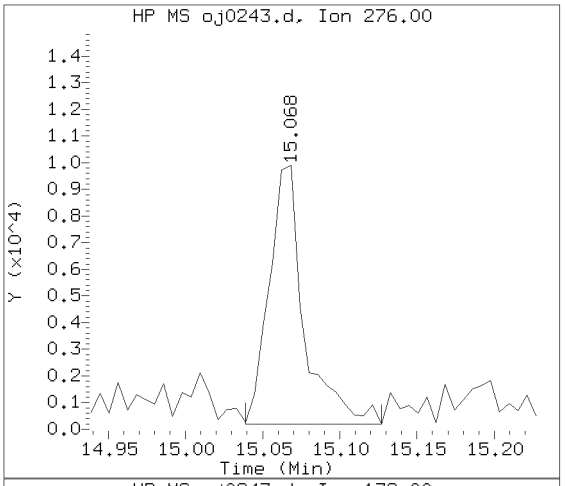
Sample Name: 48713 Lab Sample ID: 8064465

Compound Number	: 219		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 2254		
Retention Time (minutes)	: 14.839		
Quant Ion	: 276.00		
Area	: 23951		
On-column Amount (ng/ul)	: 0.7282		
Integration start scan	: 2247	Integration stop scan:	2279
Y at integration start	: 0	Y at integration end:	0

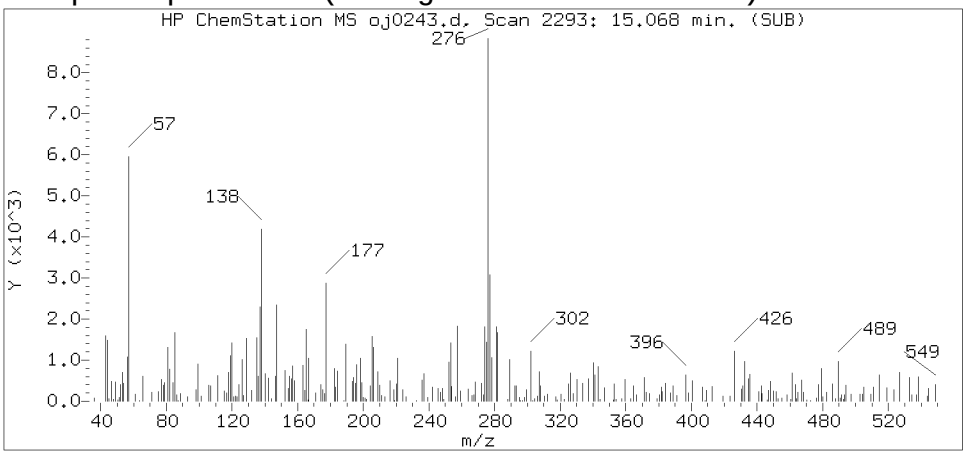
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: 27 date: 05/20

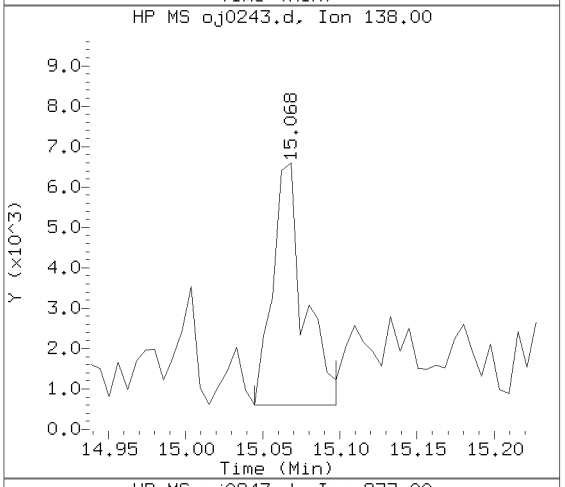
Reference Standard Spectrum for Benzo(g,h,i)perylene



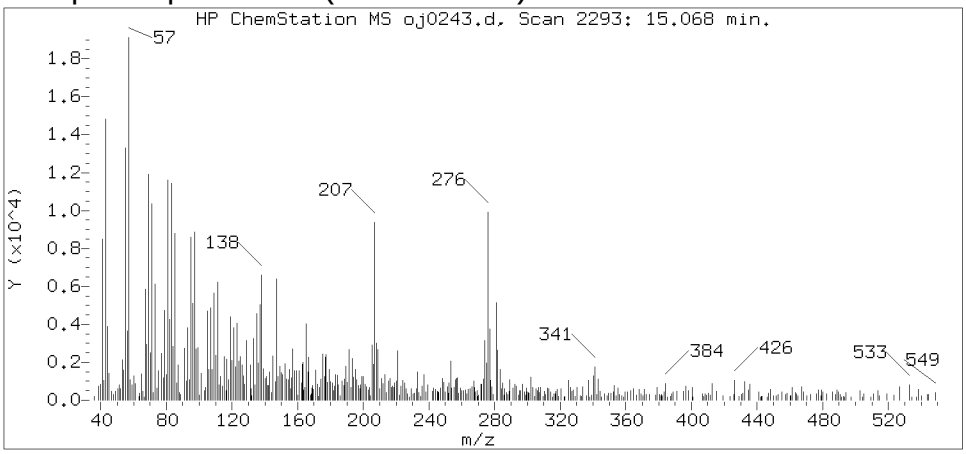


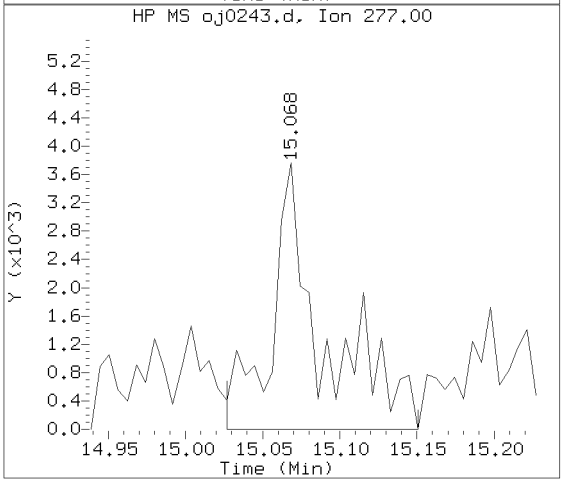
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0243.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:33 ceb05247

Sample Name: 48713 Lab Sample ID: 8064465

Compound Number	: 221
Compound Name	: Benzo(g,h,i)perylene
Scan Number	: 2293
Retention Time (minutes)	: 15.068
Relative Retention Time	: 0.00042
Quant Ion	: 276.00
Area (flag)	: 15232
On-column Amount (ng/ul)	: 0.5638

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct05.b/oj0244.d
Injection date and time: **05-OCT-2015 16:31**
Data file Sample Info. Line: 48813;8064466;2;0;SAMPLE;;;
Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 17:34 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 05-OCT-2015 15:43
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct05.b/oj0241.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.35 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	5.557(0.000)	676	152	153237 (20)	20.00	
65) Naphthalene-d8	6.845(0.000)	895	136	708320 (17)	20.00	
113) Acenaphthene-d10	8.563(0.000)	1187	164	441956 (14)	20.00	
153) Phenanthrene-d10	9.998(0.000)	1431	188	837278 (11)	20.00	
175) Pyrene-d10	11.363(0.000)	1663	212	854744 (4)	20.00	
213) Perylene-d12	13.910(0.000)	2096	264	516787 (-15)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.139(0.000)	82	1338328	81.194	81%		54 - 123
93) 2-Fluorobiphenyl	(3)	7.933(0.000)	172	2636963	94.000	94%		63 - 117
179) Terphenyl-d14	(5)	11.580(0.000)	244	3021332	96.049	96%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)			Not Detected					0.1
157) Anthracene	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.1
177) Pyrene	(5)			Not Detected					0.1
195) Benzo(a)anthracene	(5)			Not Detected					0.1
196) Chrysene	(5)			Not Detected					0.1
206) Benzo(b)fluoranthene	(6)			Not Detected					0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.1
211) Benzo(a)pyrene	(6)			Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.1

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct05.b/oj0244.d Injection date and time: **05-OCT-2015 16:31**
Data file Sample Info. Line: 48813;8064466;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 17:34 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 05-OCT-2015 15:43
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct05.b/oj0241.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.35 g

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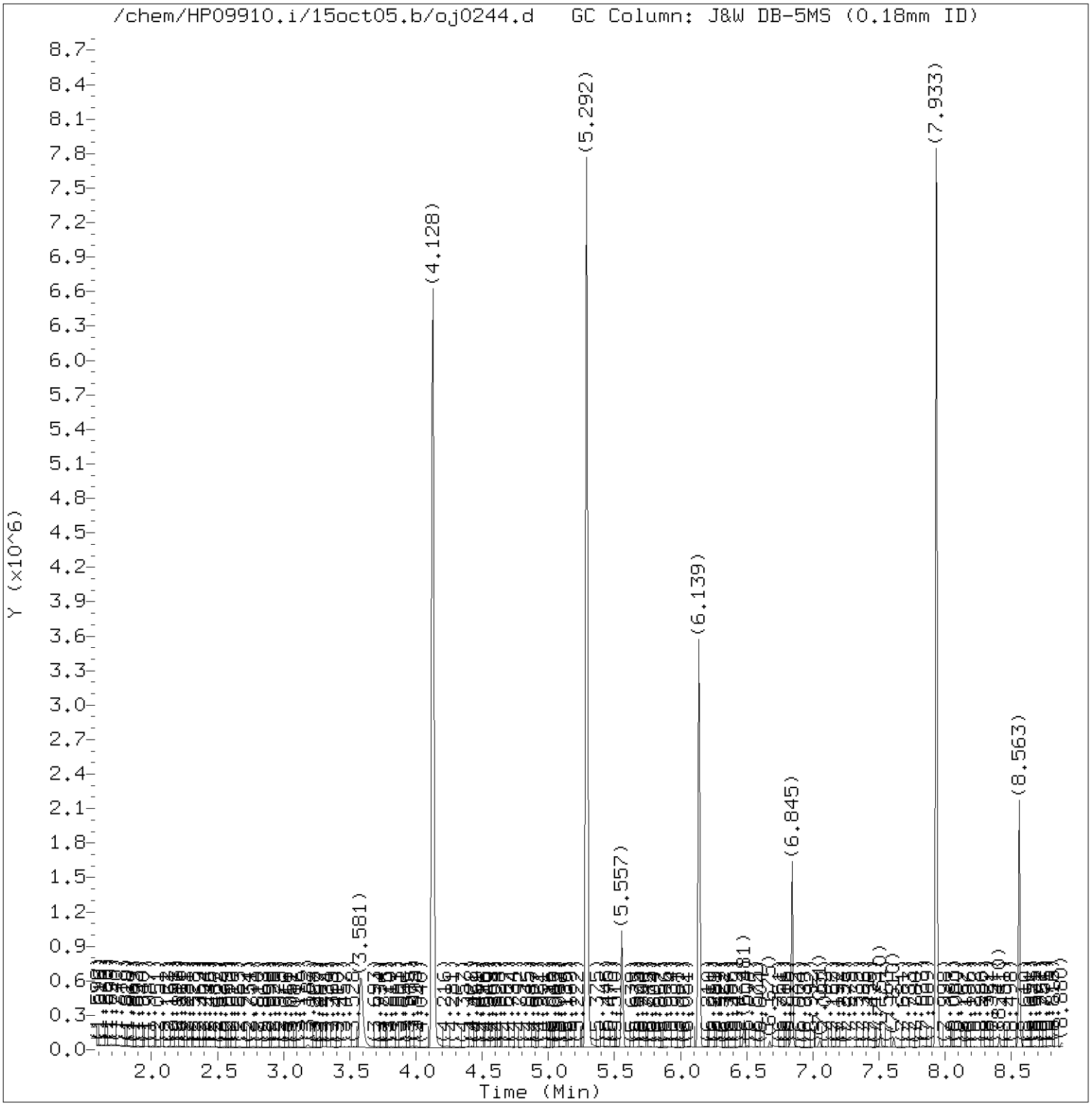
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

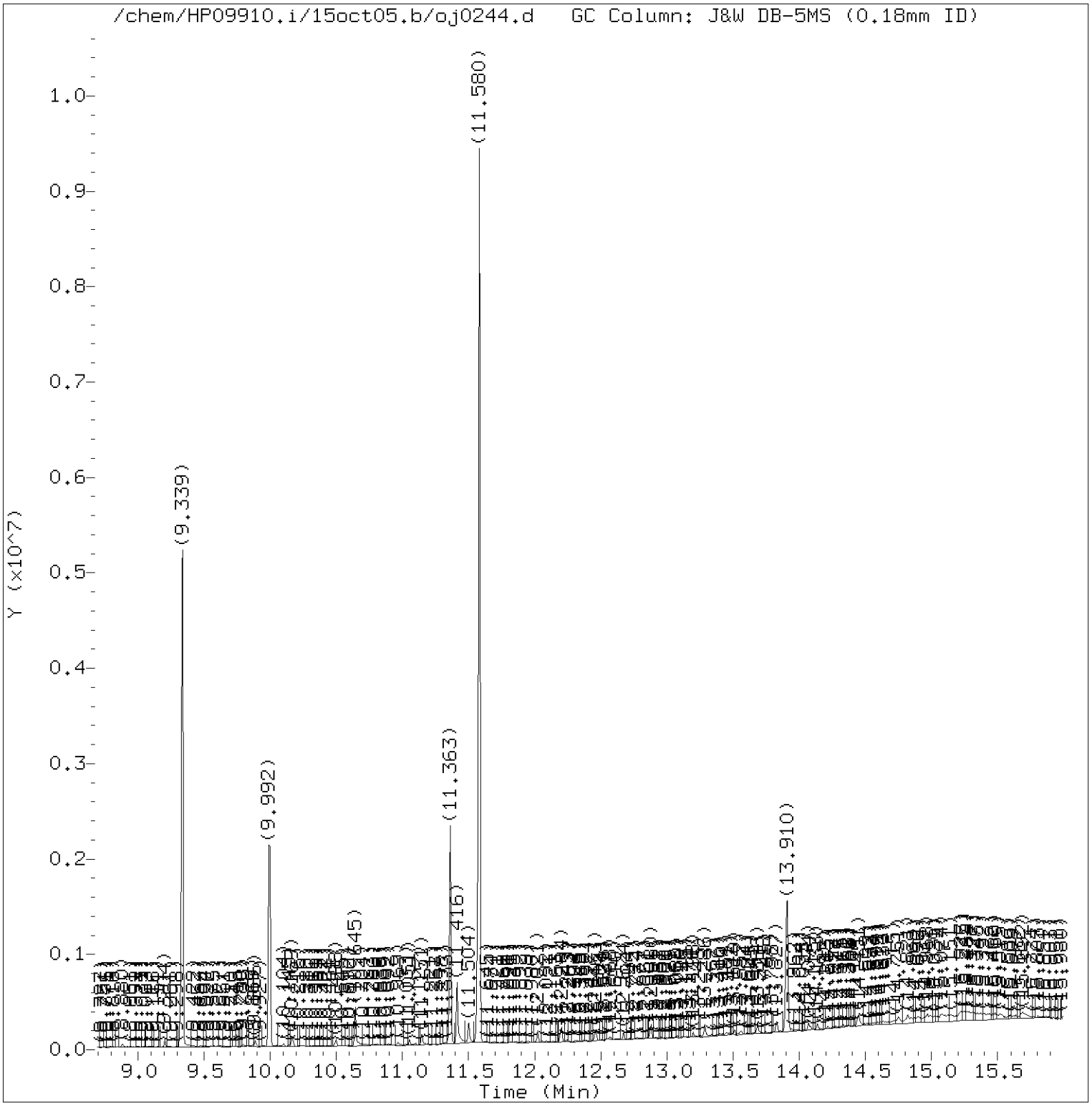
Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0244.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:31 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:34 ceb05247

Sample Name: 48813 Lab Sample ID: 8064466

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0244.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:31 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:34 ceb05247

Sample Name: 48813 Lab Sample ID: 8064466

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0244.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:31 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:34 ceb05247

Sample Name: 48813 Lab Sample ID: 8064466

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	5.557	152	153237	20.000
44)$Nitrobenzene-d5	(2)	6.139	82	1338328	81.194
65)*Naphthalene-d8	(2)	6.845	136	708320	20.000
93)$2-Fluorobiphenyl	(3)	7.933	172	2636963	94.000
113)*Acenaphthene-d10	(3)	8.563	164	441956	20.000
153)*Phenanthrene-d10	(4)	9.998	188	837278	20.000
175)*Pyrene-d10	(5)	11.363	212	854744	20.000
179)$Terphenyl-d14	(5)	11.580	244	3021332	96.049
213)*Perylene-d12	(6)	13.910	264	516787	20.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18444.i/15sep30.b/bi1407.d
Injection date and time: **30-SEP-2015 12:11**
Data file Sample Info. Line: 163FB;8064467;1;0;SAMPLE;;;
Instrument ID: **HP18444.i** Batch: **15271WAD**
Date, time and analyst ID of latest file update: 30-Sep-2015 13:06 lmh00956

Blank Data file reference: **/chem/HP18444.i/15sep30.b/bi1403.d**

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 30-SEP-2015 13:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18444.i/15sep30.b/bi1401a.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo * Vi)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 1021 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	5.473(0.000)	581	152	91798 (-17)	20.00	
65) Naphthalene-d8	6.703(0.000)	792	136	382119 (-22)	20.00	
113) Acenaphthene-d10	8.411(0.000)	1085	164	234089 (-26)	20.00	
153) Phenanthrene-d10	9.857(0.000)	1333	188	498095 (-25)	20.00	
175) Pyrene-d10	11.238(0.000)	1570	212	567489 (-26)	20.00	
213) Perylene-d12	13.867(0.000)	2021	264	444381 (-26)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.010(0.000)	82	802268	86.418	86%		46 - 148
93) 2-Fluorobiphenyl	(3)	7.770(0.000)	172	1476368	92.845	93%		61 - 112
179) Terphenyl-d14	(5)	11.430(0.000)	244	2233979	107.998	108%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)			Not Detected					0.1
157) Anthracene	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.1
177) Pyrene	(5)			Not Detected					0.1
195) Benzo(a)anthracene	(5)			Not Detected					0.1
196) Chrysene	(5)			Not Detected					0.1
206) Benzo(b)fluoranthene	(6)			Not Detected					0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.1
211) Benzo(a)pyrene	(6)			Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.1

Digitally signed by Linda M. Hartenstine on 09/30/2015 at 13:07. Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18444.i/15sep30.b/bi1407.d Injection date and time: **30-SEP-2015 12:11**
Data file Sample Info. Line: 163FB;8064467;1;0;SAMPLE;;; Instrument ID: **HP18444.i** Batch: **15271WAD**
Date, time and analyst ID of latest file update: 30-Sep-2015 13:06 lmh00956

Blank Data file reference: **/chem/HP18444.i/15sep30.b/bi1403.d**

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 30-SEP-2015 13:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18444.i/15sep30.b/bi1401a.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo * Vi)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 1021 ml Volume Injected (Vi): 1 ul

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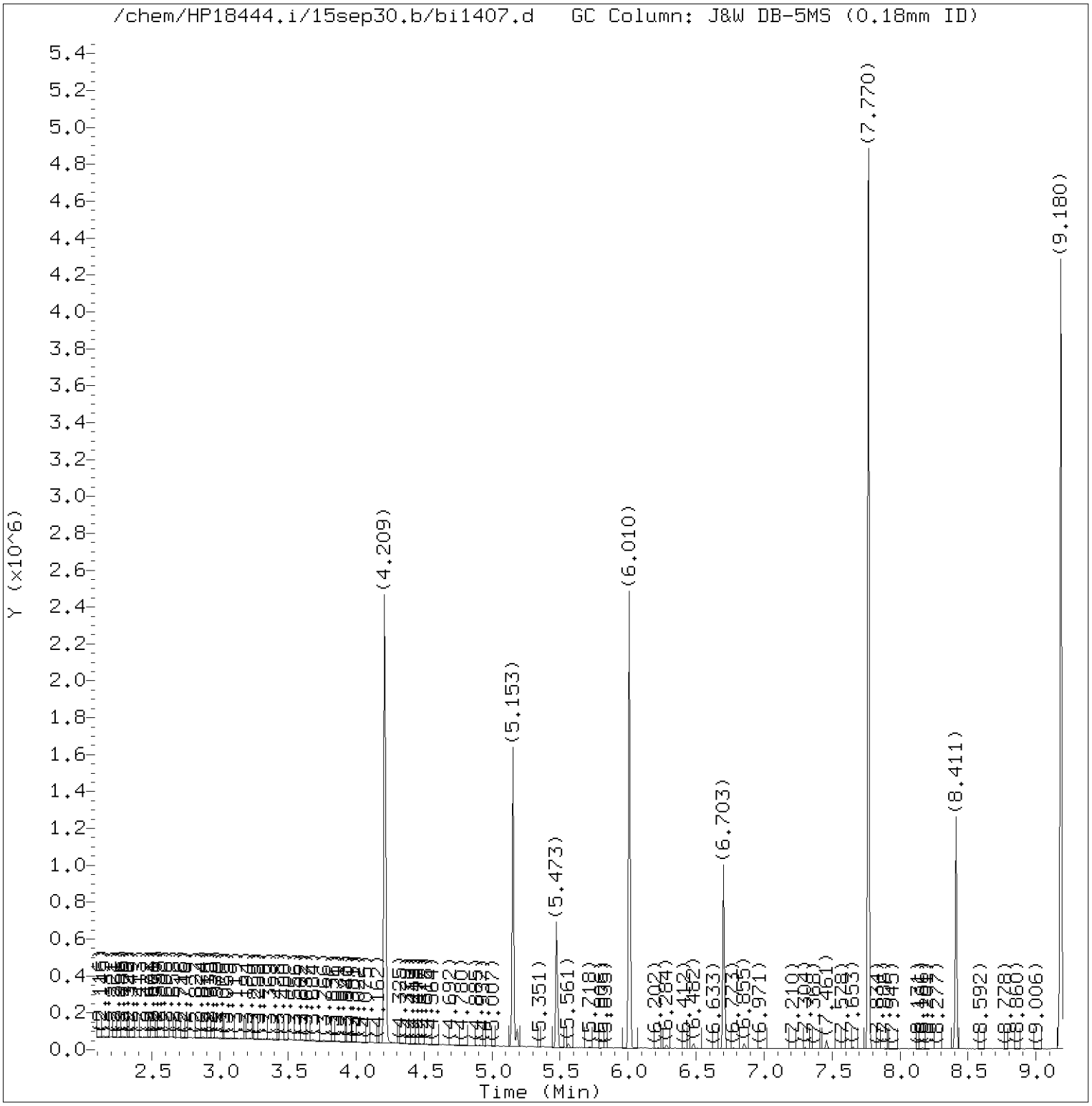
Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 09/30/2015 at 13:07. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Beth A. Rubino on 10/04/2015 at 21:17. Parallax ID: bar06484



Total Ion Chromatogram (TIC)

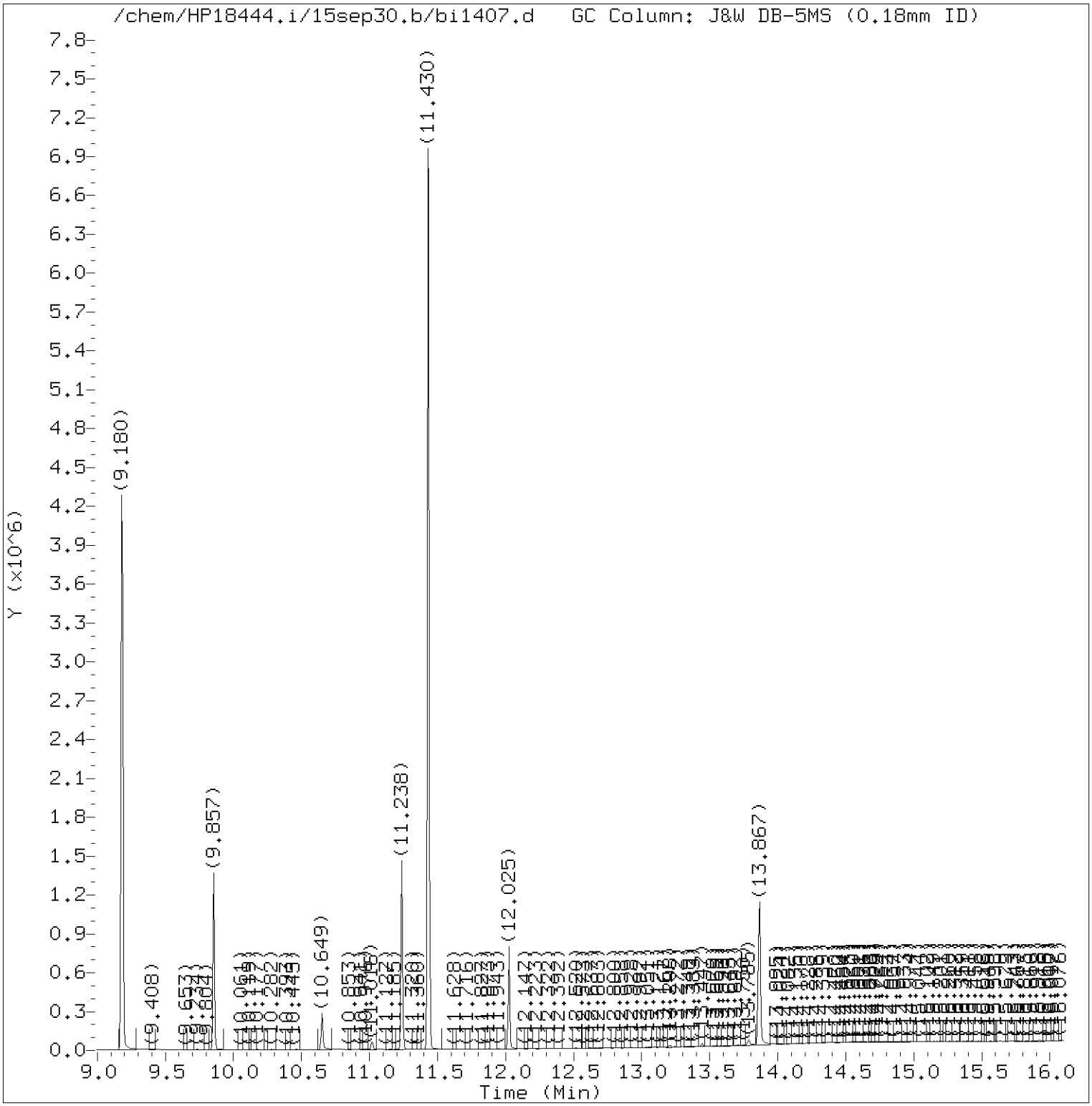
Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1407.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 12:11 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:06 lmh00956

Sample Name: 163FB Lab Sample ID: 8064467

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:07.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1407.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 12:11 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:06 lmh00956

Sample Name: 163FB Lab Sample ID: 8064467

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:07.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1407.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 12:11 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:06 lmh00956

Sample Name: 163FB Lab Sample ID: 8064467

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	5.473	152	91798	20.000
44)$Nitrobenzene-d5	(2)	6.010	82	802268	86.418
65)*Naphthalene-d8	(2)	6.703	136	382119	20.000
93)$2-Fluorobiphenyl	(3)	7.770	172	1476368	92.845
113)*Acenaphthene-d10	(3)	8.411	164	234089	20.000
153)*Phenanthrene-d10	(4)	9.857	188	498095	20.000
175)*Pyrene-d10	(5)	11.238	212	567489	20.000
179)$Terphenyl-d14	(5)	11.430	244	2233979	107.998
213)*Perylene-d12	(6)	13.867	264	444381	20.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:07.
Target 3.5 esignature user ID: lmh00956

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles 8064468

Data file: /chem/HP09910.i/15oct05.b/oj0245.d
Injection date and time: **05-OCT-2015 16:56**
Data file Sample Info. Line: -498-;8064468;2;0;SAMPLE;;;
Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 05-OCT-2015 15:43
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct05.b/oj0241.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.37 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	5.557(0.000)	676	152	147454 (16)	20.00	
65) Naphthalene-d8	6.845(0.000)	895	136	710479 (17)	20.00	
113) Acenaphthene-d10	8.563(0.000)	1187	164	446987 (15)	20.00	
153) Phenanthrene-d10	9.992(0.006)	1430	188	772944 (3)	20.00	
175) Pyrene-d10	11.363(0.000)	1663	212	721094 (-12)	20.00	
213) Perylene-d12	13.910(0.000)	2096	264	481320 (-21)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.140(0.000)	82	1200048	72.583	73%		54 - 123
93) 2-Fluorobiphenyl	(3)	7.934(0.000)	172	2207794	77.816	78%		63 - 117
179) Terphenyl-d14	(5)	11.580(0.000)	244	2131878	80.334	80%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	6.863(0.000)	128	16627	0.425	13.98			0.1
83) 2-Methylnaphthalene	(2)	7.557(0.000)	142	10841	0.393	12.94			0.1
109) Acenaphthylene	(3)	8.422(-0.000)	152	11275	0.284	9.36			0.1
114) Acenaphthene	(3)	8.592(0.000)	153	22879	0.833	27.43			0.1
126) Fluorene	(3)	9.092(0.000)	166	23113	0.732	24.11			0.1
155) Phenanthrene	(4)	10.016(-0.000)	178	503728	11.222	369.51			0.1
157) Anthracene	(4)	10.063(-0.000)	178	101710	2.293	75.50			0.1
173) Fluoranthene	(4)	11.169(-0.000)	202	1033203	21.178	697.34			0.1
177) Pyrene	(5)	11.380(0.000)	202	864628	20.099	661.80			0.1
195) Benzo(a)anthracene	(5)	12.545(0.000)	228	358837	9.569	315.09			0.1
196) Chrysene	(5)	12.580(0.000)	228	391807	10.966	361.07			0.1
206) Benzo(b)fluoranthene	(6)	13.563(0.000)	252	488172M	16.161	532.15			0.1
208) Benzo(k)fluoranthene	(6)	13.586(0.000)	252	203012M	6.587	216.88			0.1
211) Benzo(a)pyrene	(6)	13.857(0.000)	252	303350	10.168	334.81			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	14.839(0.000)	276	231830	7.461	245.66			0.1
220) Dibenz(a,h)anthracene	(6)	14.857(0.000)	278	56296M	2.154	70.92			0.1
221) Benzo(g,h,i)perylene	(6)	15.068(0.000)	276	223060	8.740	287.78			0.1

M = Compound was manually integrated.

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Lancaster Laboratories, Inc.

Analysis Summary for GC/MS Semivolatiles 8064468

Data file: /chem/HP09910.i/15oct05.b/oj0245.d Injection date and time: **05-OCT-2015 16:56**
Data file Sample Info. Line: -498-;8064468;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 05-OCT-2015 15:43
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct05.b/oj0241.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.37 g

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WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

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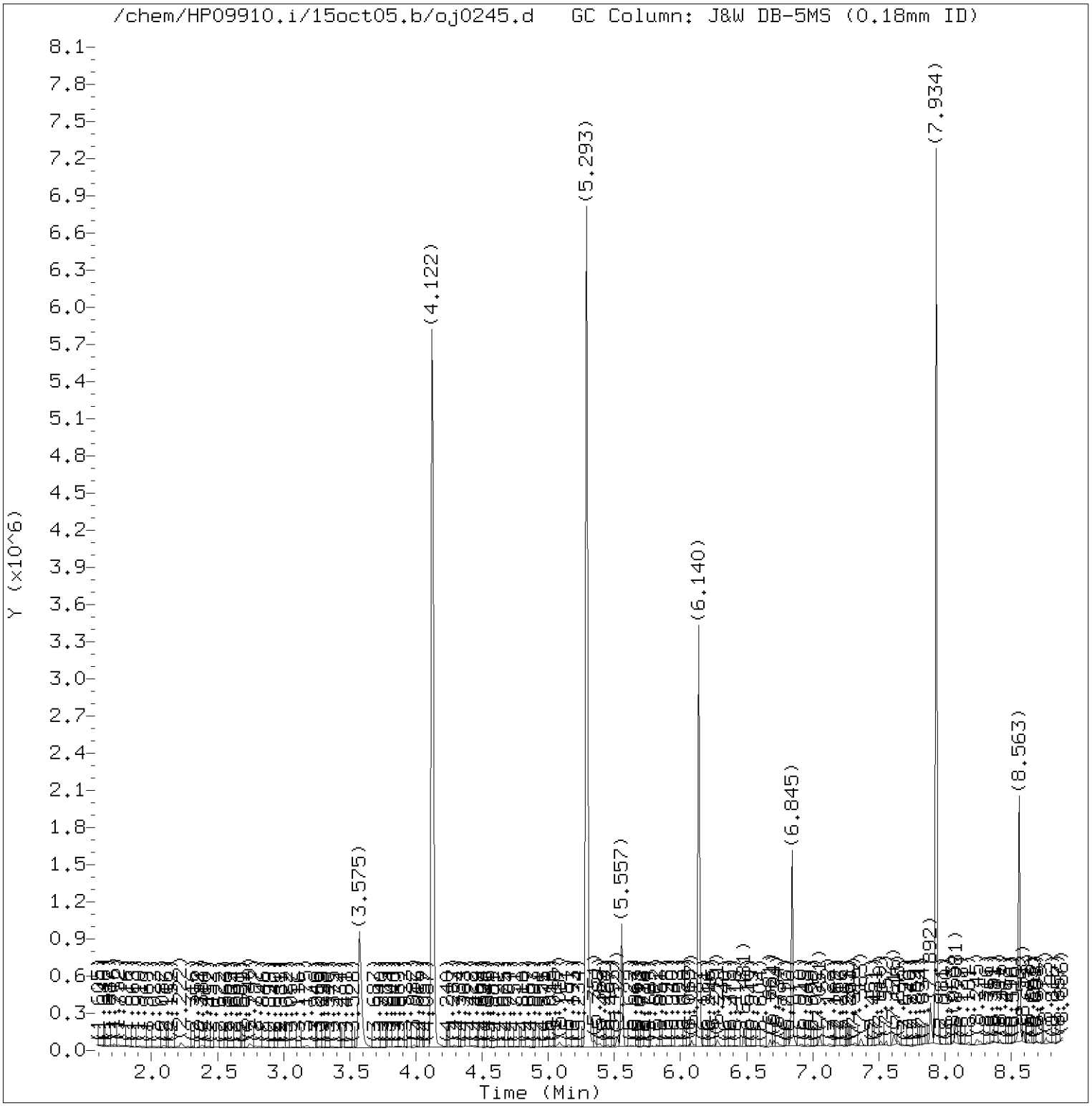
Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

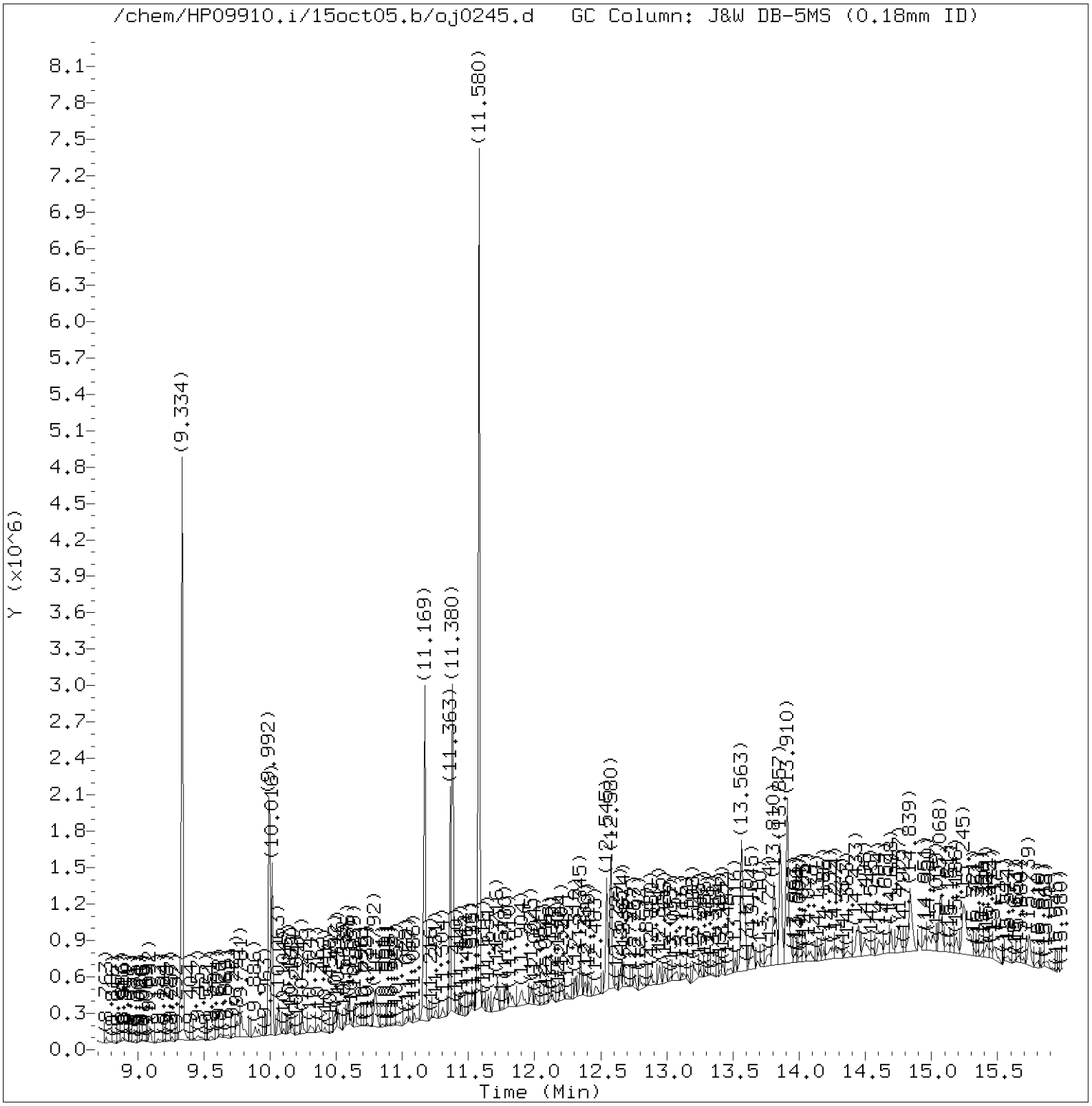
Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

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Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	5.557	152	147454	20.000
44)$Nitrobenzene-d5	(2)	6.140	82	1200048	72.583
65)*Naphthalene-d8	(2)	6.845	136	710479	20.000
66) Naphthalene	(2)	6.863	128	16627	0.425
83) 2-Methylnaphthalene	(2)	7.557	142	10841	0.393
93)$2-Fluorobiphenyl	(3)	7.934	172	2207794	77.816
109) Acenaphthylene	(3)	8.422	152	11275	0.284
113)*Acenaphthene-d10	(3)	8.563	164	446987	20.000
114) Acenaphthene	(3)	8.592	153	22879	0.833
126) Fluorene	(3)	9.092	166	23113	0.732
153)*Phenanthrene-d10	(4)	9.992	188	772944	20.000
155) Phenanthrene	(4)	10.016	178	503728	11.222
157) Anthracene	(4)	10.063	178	101710	2.293
173) Fluoranthene	(4)	11.169	202	1033203	21.178
175)*Pyrene-d10	(5)	11.363	212	721094	20.000
177) Pyrene	(5)	11.380	202	864628	20.099
179)$Terphenyl-d14	(5)	11.580	244	2131878	80.334
195) Benzo(a)anthracene	(5)	12.545	228	358837	9.569
196) Chrysene	(5)	12.580	228	391807	10.966
206) Benzo(b)fluoranthene	(6)	13.563	252	488172M	16.161
208) Benzo(k)fluoranthene	(6)	13.586	252	203012M	6.587
211) Benzo(a)pyrene	(6)	13.857	252	303350	10.168
213)*Perylene-d12	(6)	13.910	264	481320	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	14.839	276	231830	7.461
220) Dibenz(a,h)anthracene	(6)	14.857	278	56296M	2.154
221) Benzo(g,h,i)perylene	(6)	15.068	276	223060	8.740

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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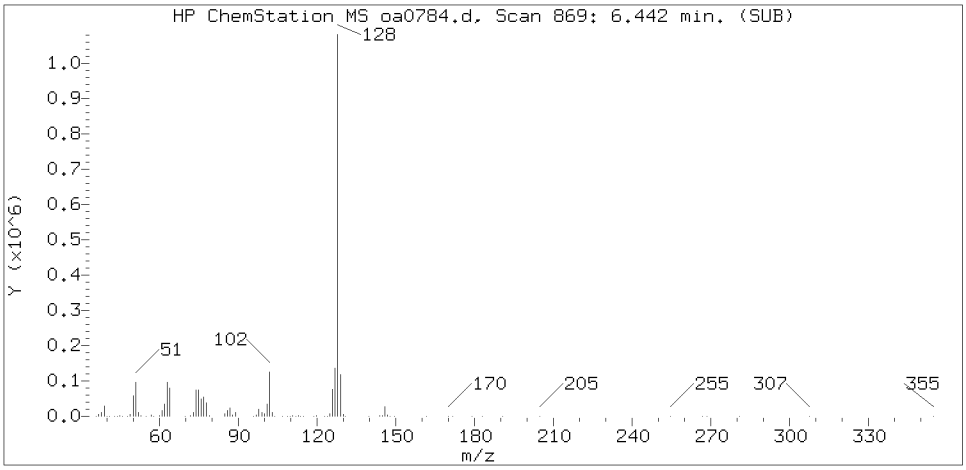
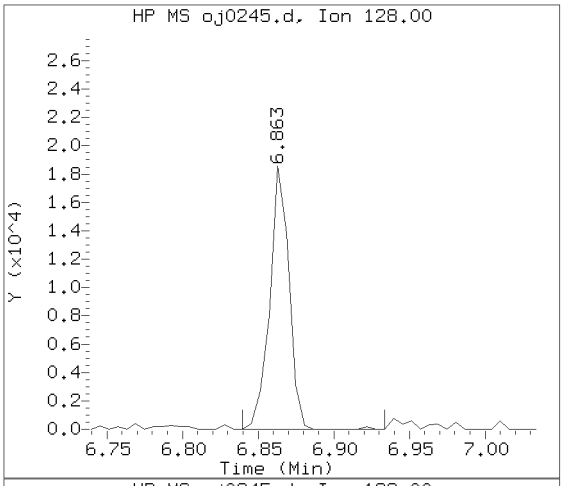
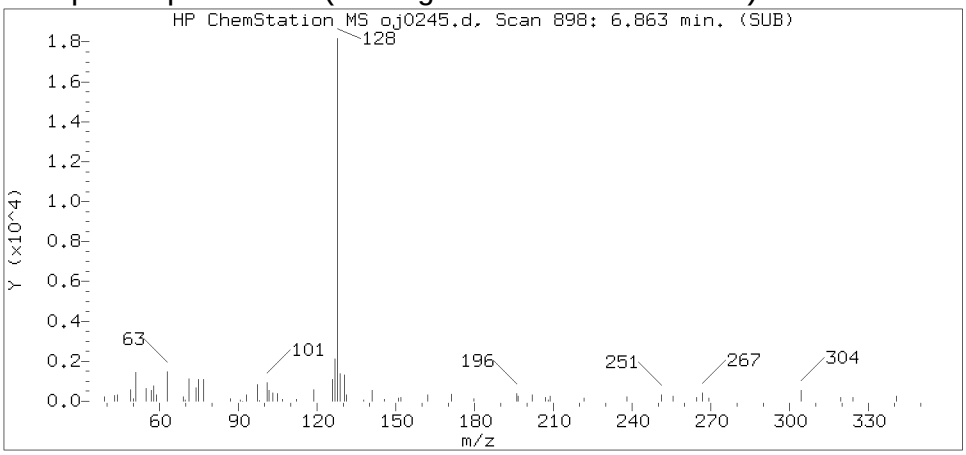
Target 3.5 esignature user ID: ceb05247

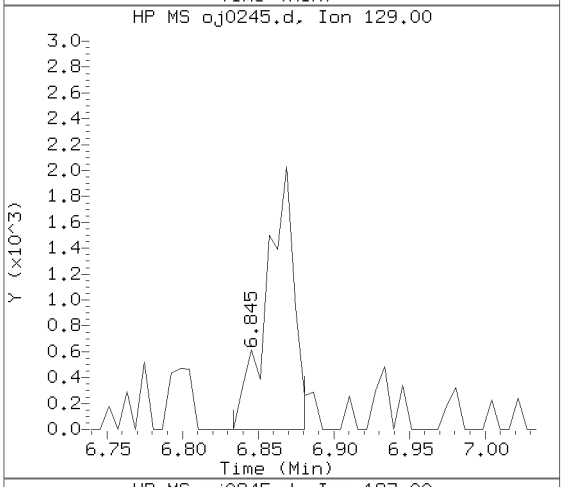
Reference Standard Spectrum for Naphthalene



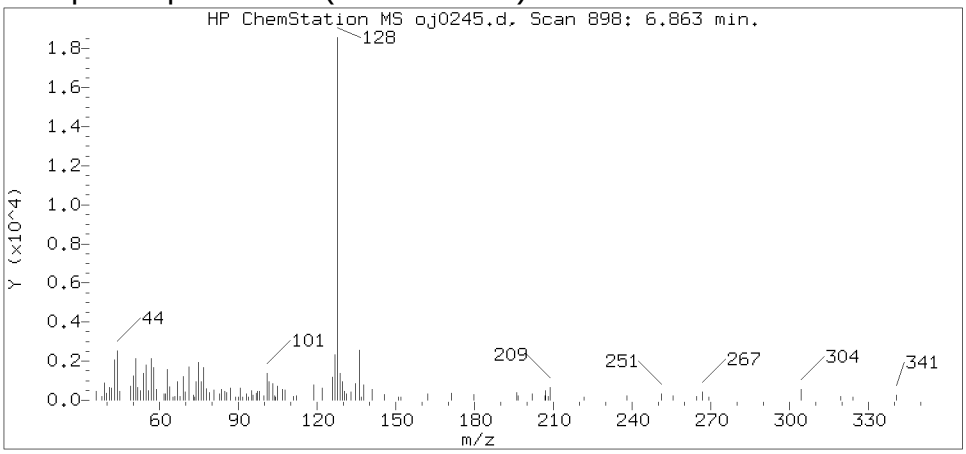


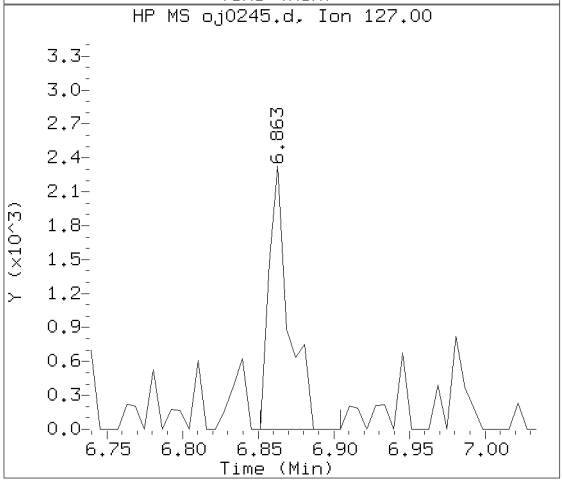
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

Compound Number	: 66
Compound Name	: Naphthalene
Scan Number	: 898
Retention Time (minutes)	: 6.863
Relative Retention Time	: 0.00086
Quant Ion	: 128.00
Area (flag)	: 16627
On-column Amount (ng/ul)	: 0.4247

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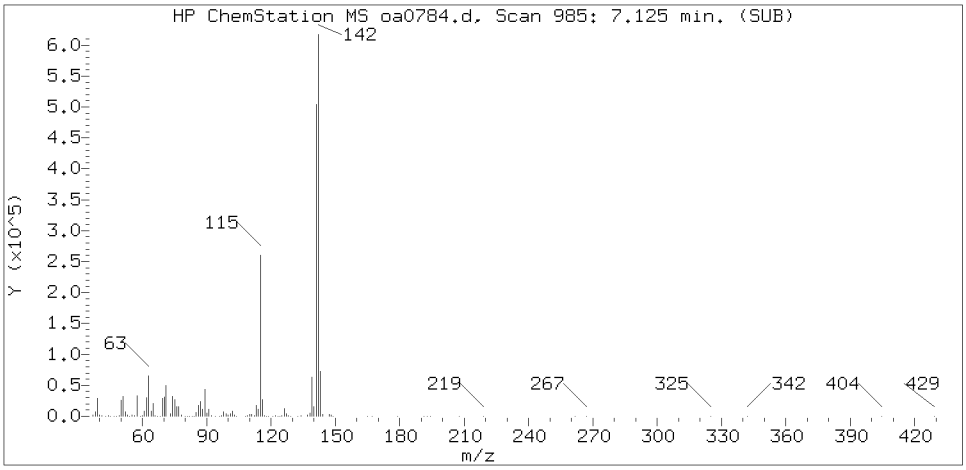
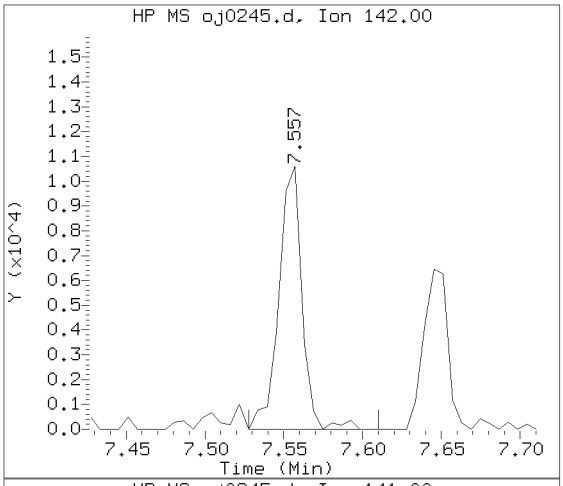
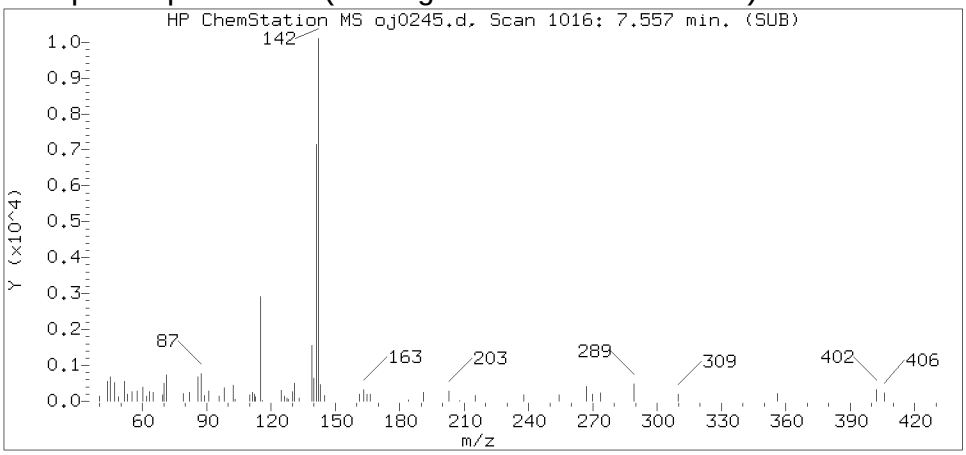
Target 3.5 esignature user ID: ceb05247

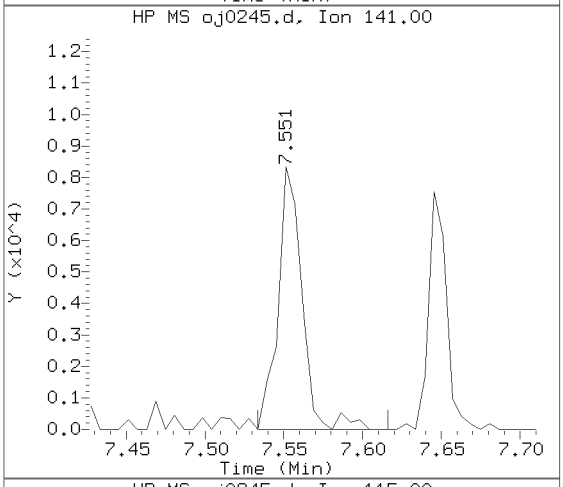
Reference Standard Spectrum for 2-Methylnaphthalene



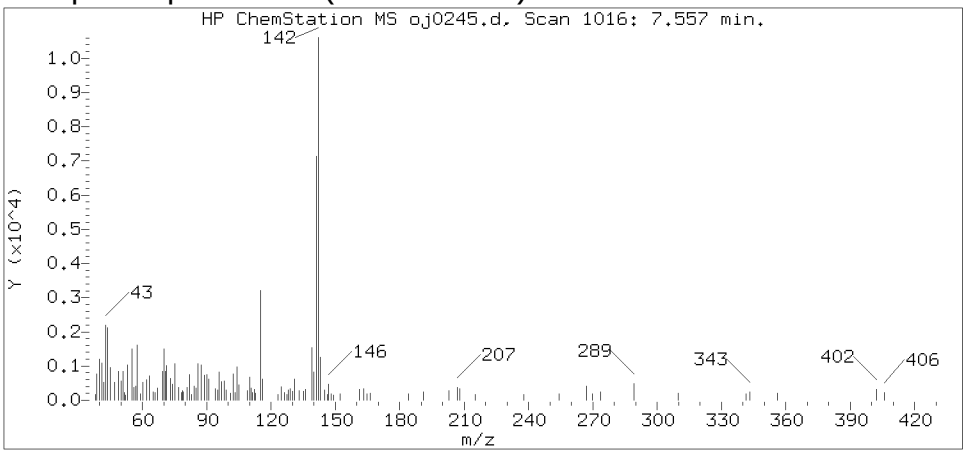


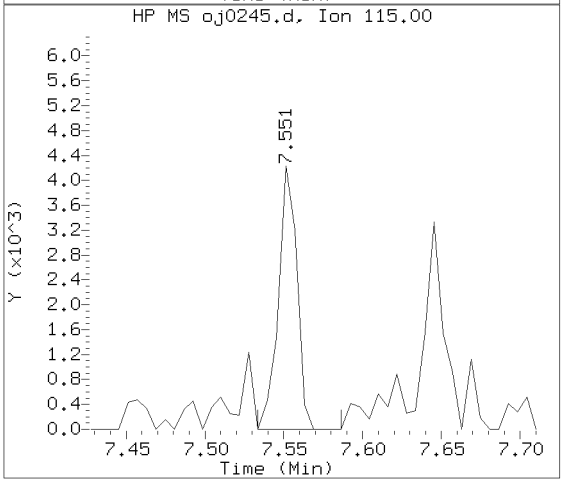
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

Compound Number	: 83
Compound Name	: 2-Methylnaphthalene
Scan Number	: 1016
Retention Time (minutes)	: 7.557
Relative Retention Time	: 0.00000
Quant Ion	: 142.00
Area (flag)	: 10841
On-column Amount (ng/ul)	: 0.3930

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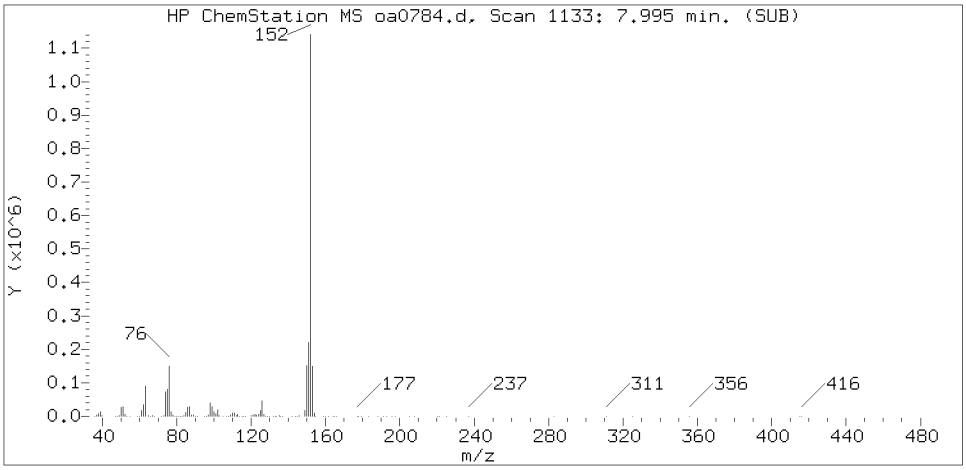
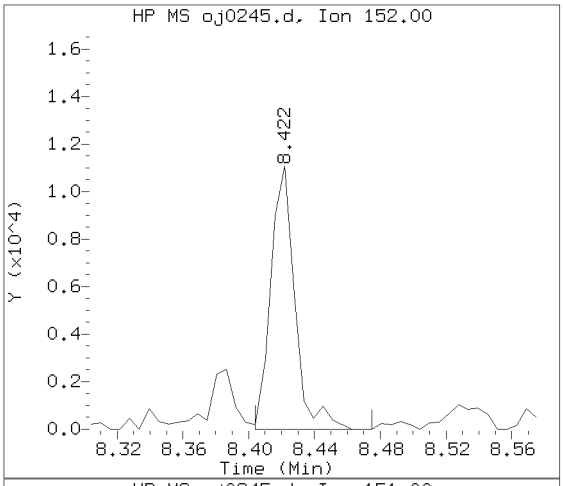
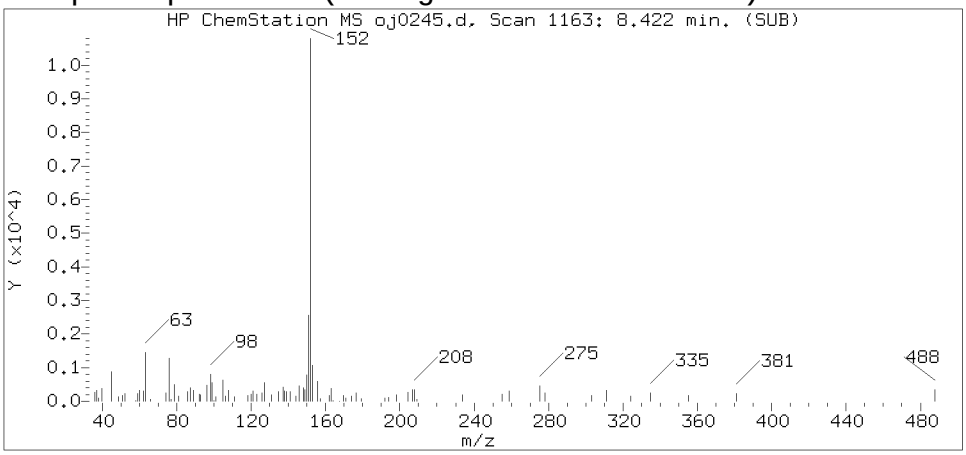
Target 3.5 esignature user ID: ceb05247

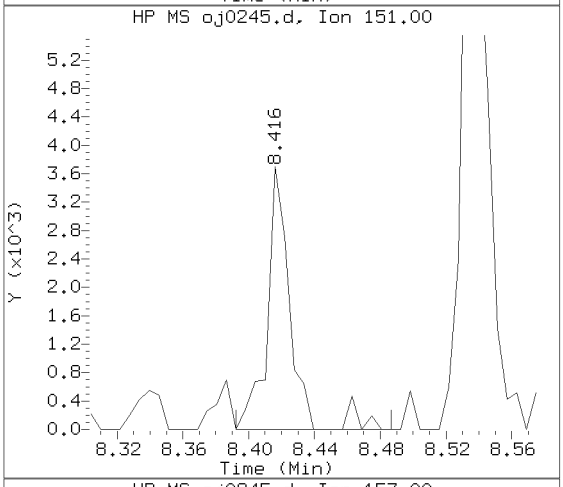
Reference Standard Spectrum for Acenaphthylene



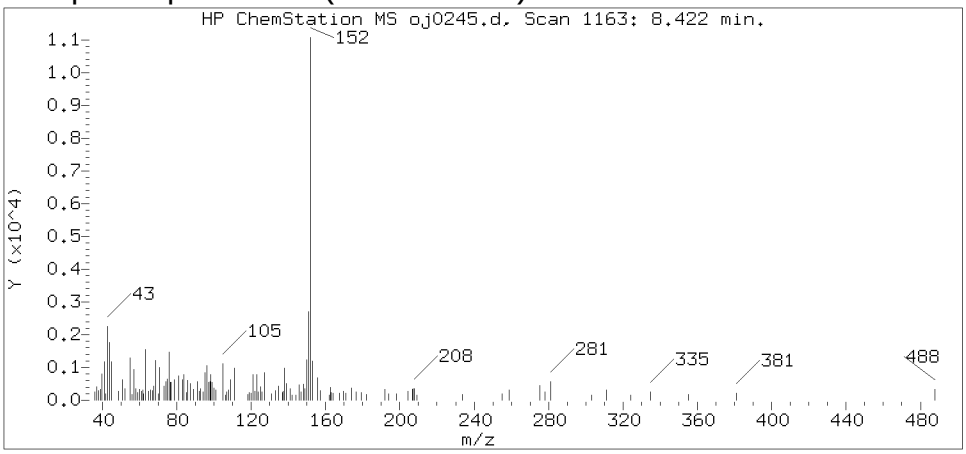


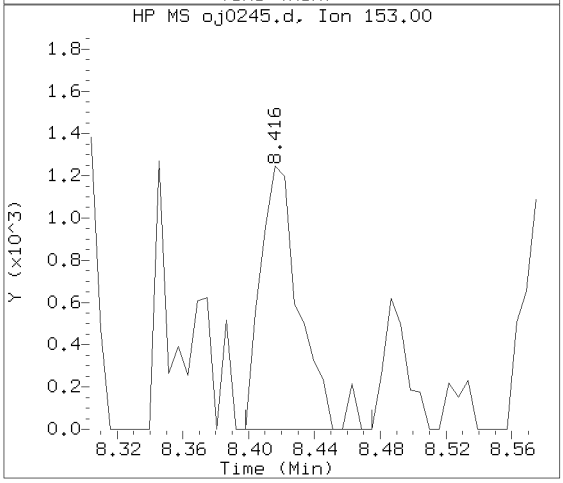
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

Compound Number : 109
Compound Name : Acenaphthylene
Scan Number : 1163
Retention Time (minutes) : 8.422
Relative Retention Time :-0.00000
Quant Ion : 152.00
Area (flag) : 11275
On-column Amount (ng/ul) : 0.2841

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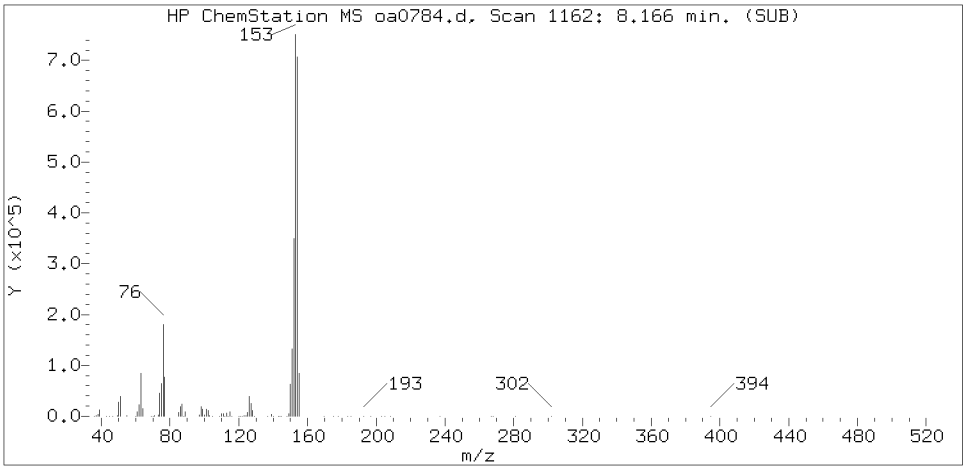
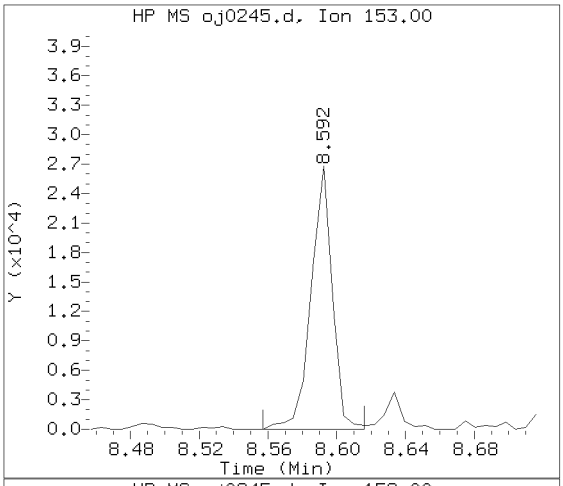
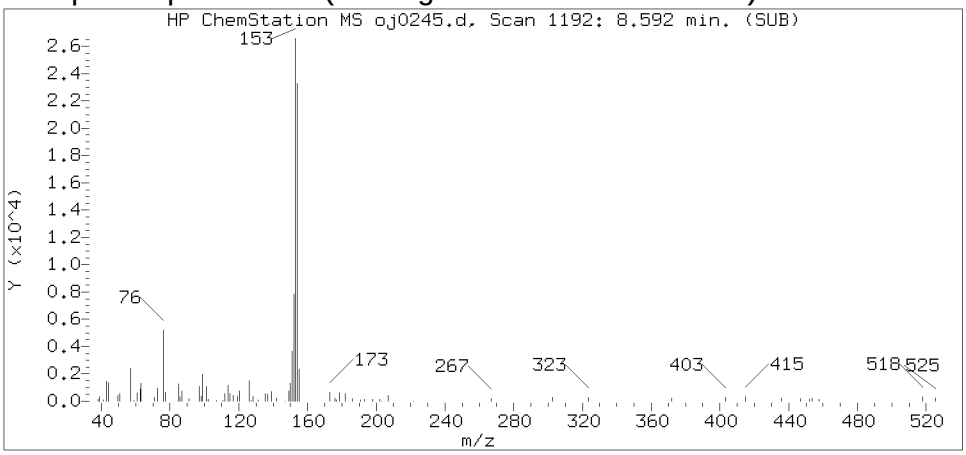
Target 3.5 esignature user ID: ceb05247

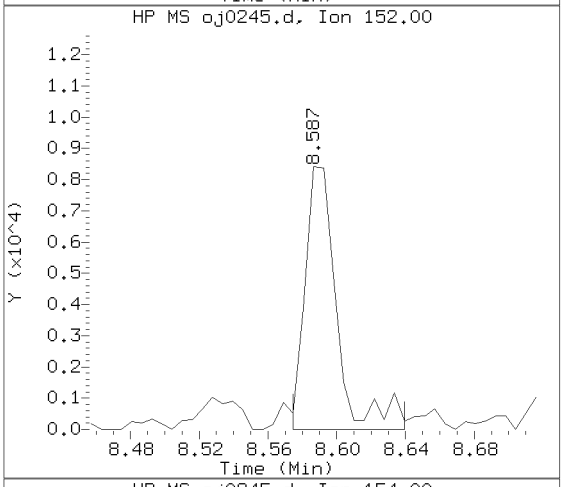
Reference Standard Spectrum for Acenaphthene



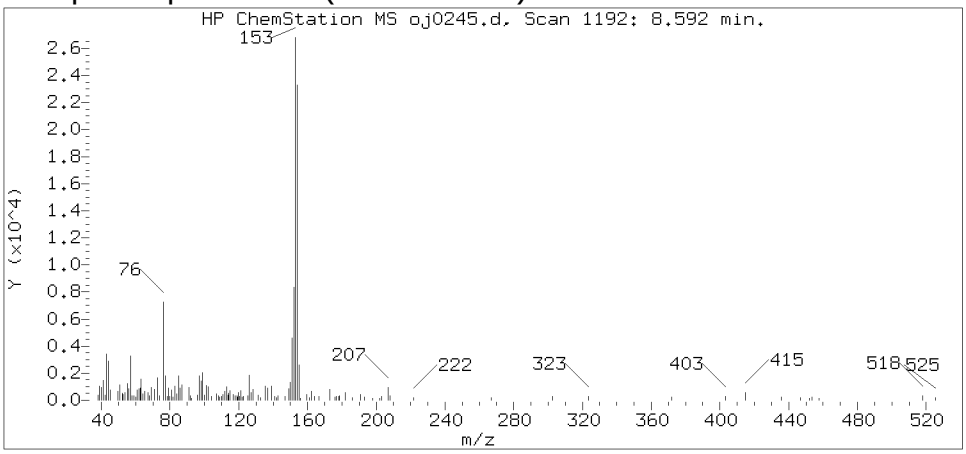


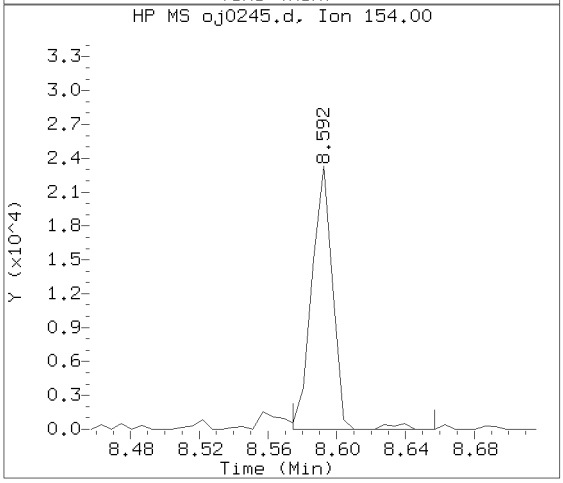
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

Compound Number	: 114
Compound Name	: Acenaphthene
Scan Number	: 1192
Retention Time (minutes)	: 8.592
Relative Retention Time	: 0.00069
Quant Ion	: 153.00
Area (flag)	: 22879
On-column Amount (ng/ul)	: 0.8329

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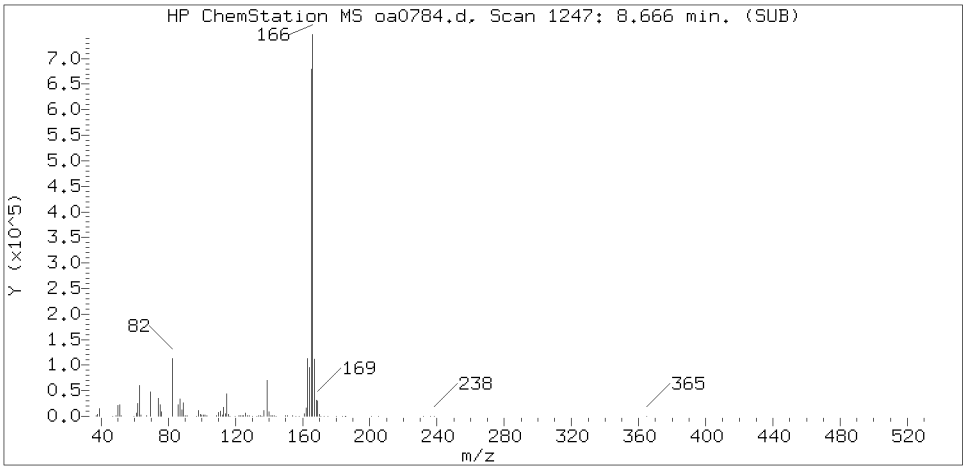
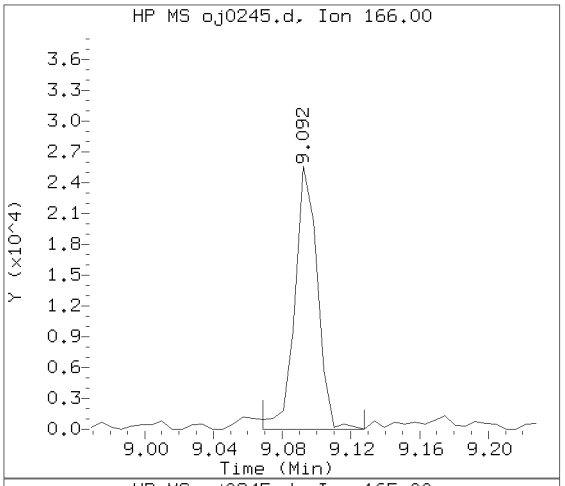
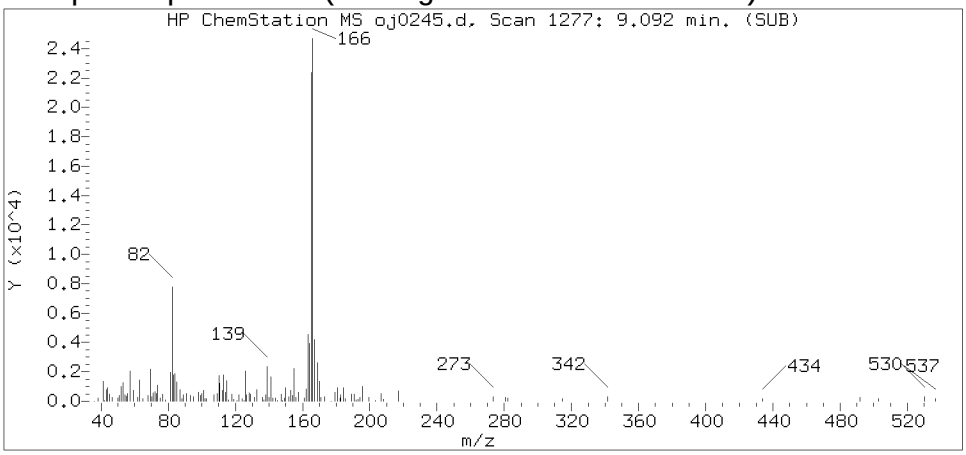
Target 3.5 esignature user ID: ceb05247

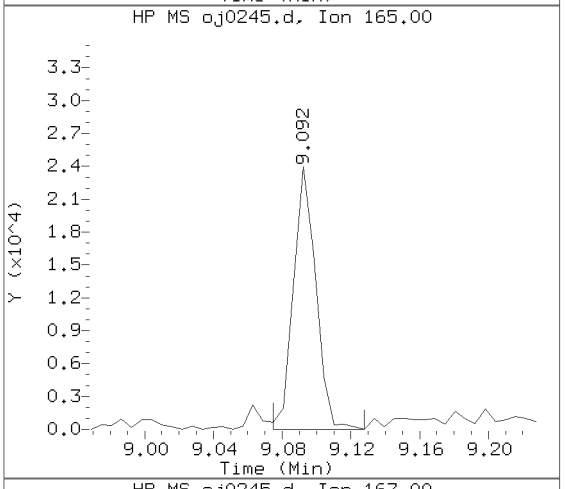
Reference Standard Spectrum for Fluorene



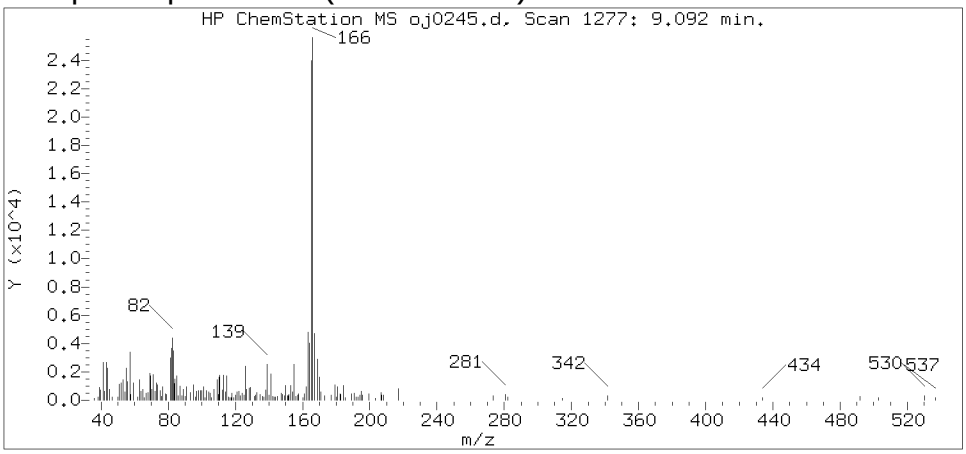


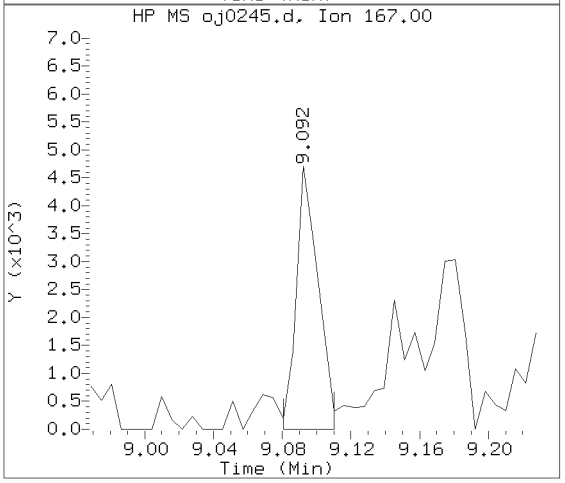
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

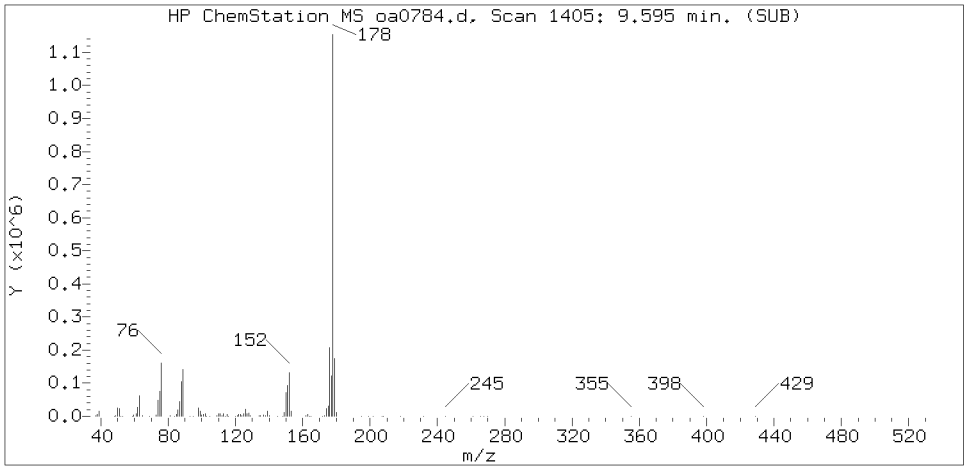
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

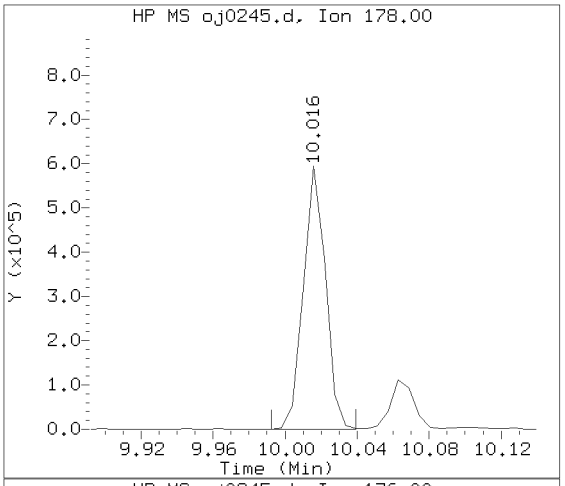
Sample Name: -498- Lab Sample ID: 8064468

Compound Number	: 126
Compound Name	: Fluorene
Scan Number	: 1277
Retention Time (minutes)	: 9.092
Relative Retention Time	: 0.00069
Quant Ion	: 166.00
Area (flag)	: 23113
On-column Amount (ng/ul)	: 0.7321

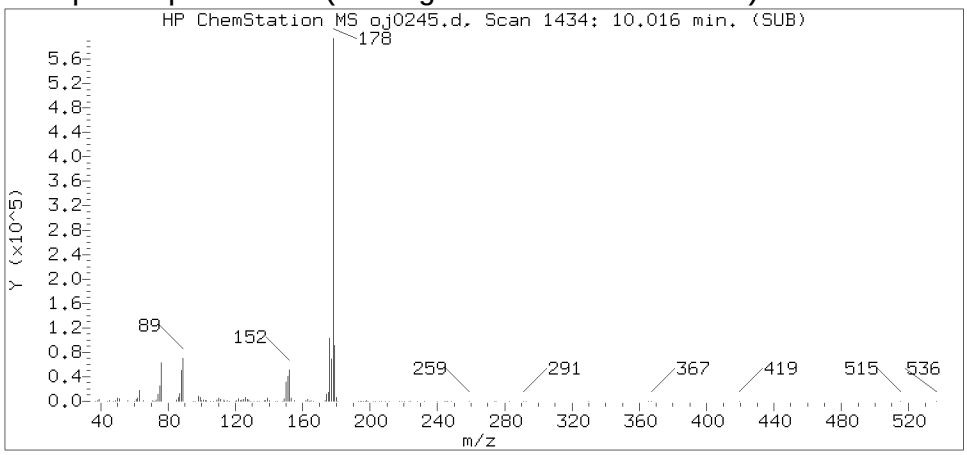
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

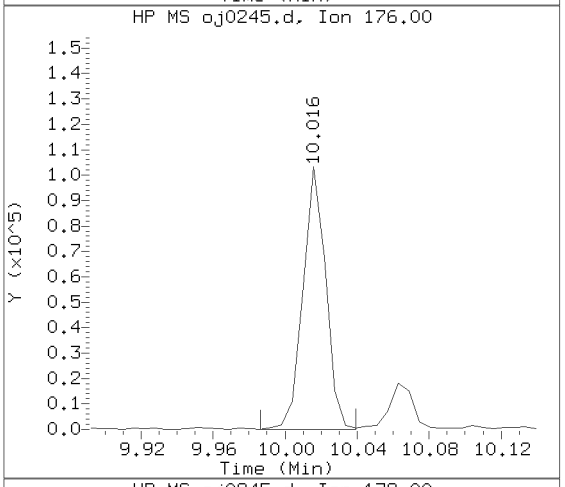
Reference Standard Spectrum for Phenanthrene



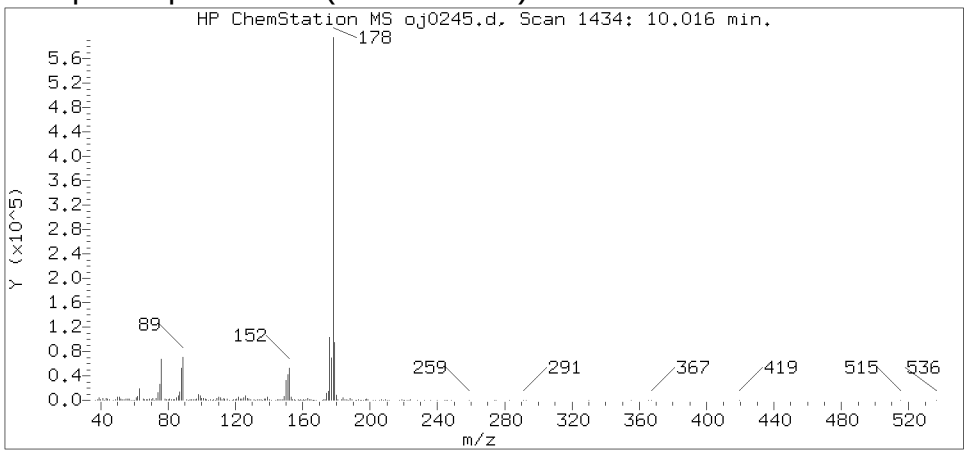


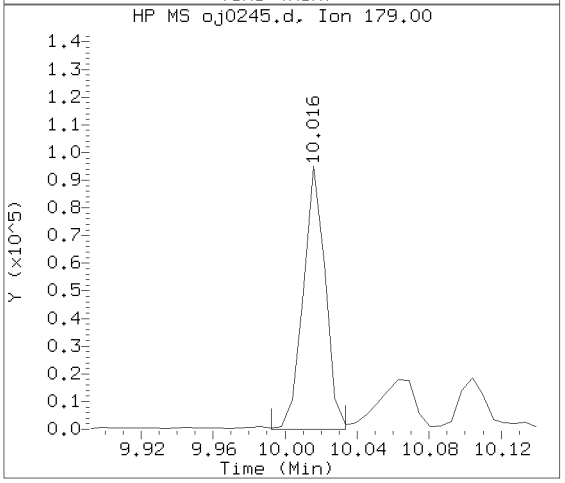
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

Compound Number : 155
Compound Name : Phenanthrene
Scan Number : 1434
Retention Time (minutes) : 10.016
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 503728
On-column Amount (ng/ul) : 11.2219

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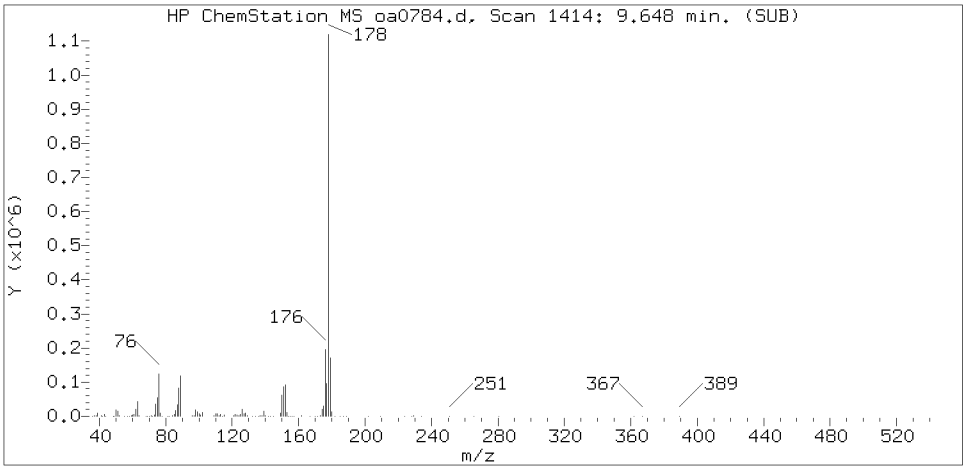
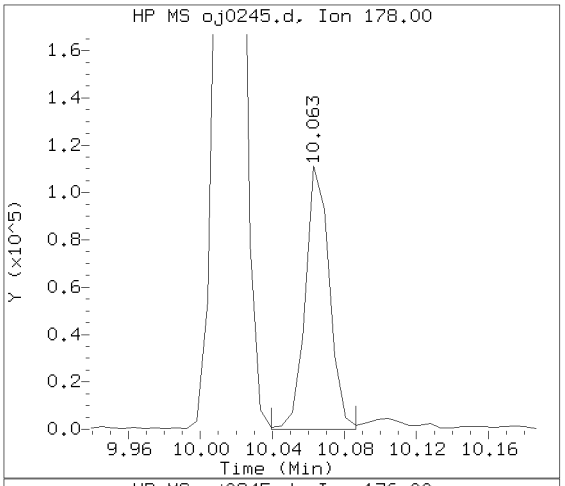
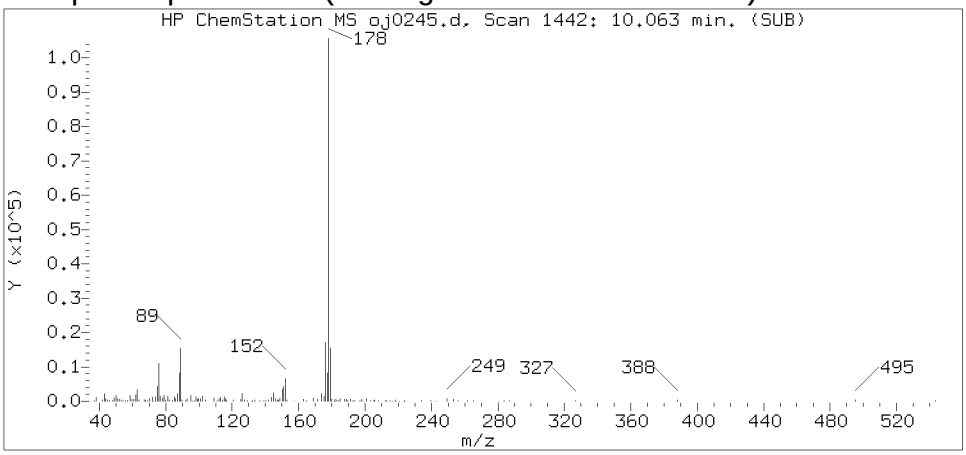
Target 3.5 esignature user ID: ceb05247

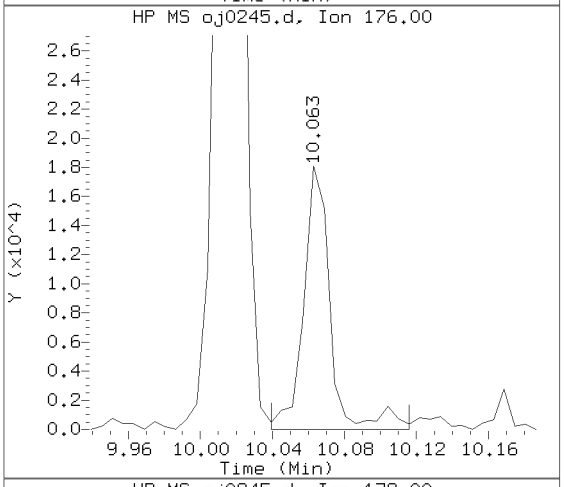
Reference Standard Spectrum for Anthracene



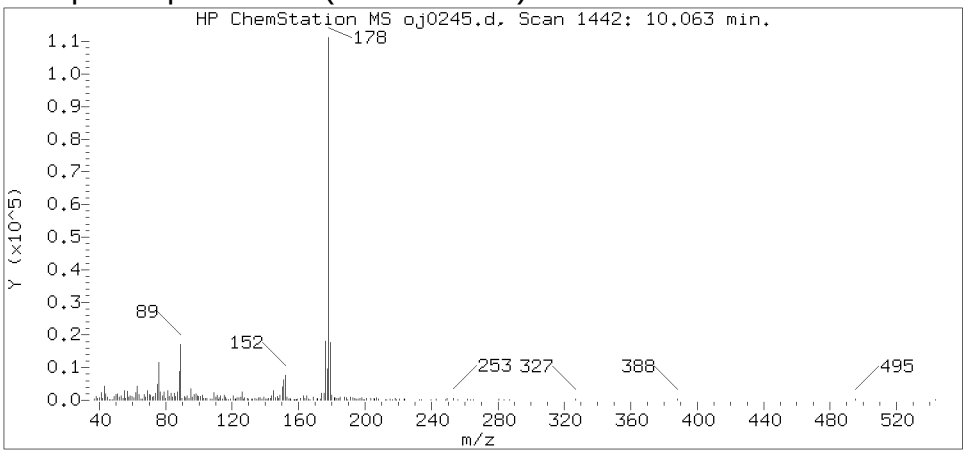


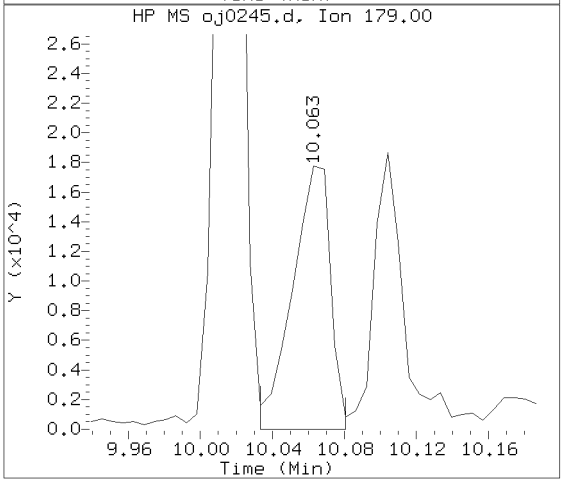
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

Compound Number	: 157
Compound Name	: Anthracene
Scan Number	: 1442
Retention Time (minutes)	: 10.063
Relative Retention Time	:-0.00000
Quant Ion	: 178.00
Area (flag)	: 101710
On-column Amount (ng/ul)	: 2.2928

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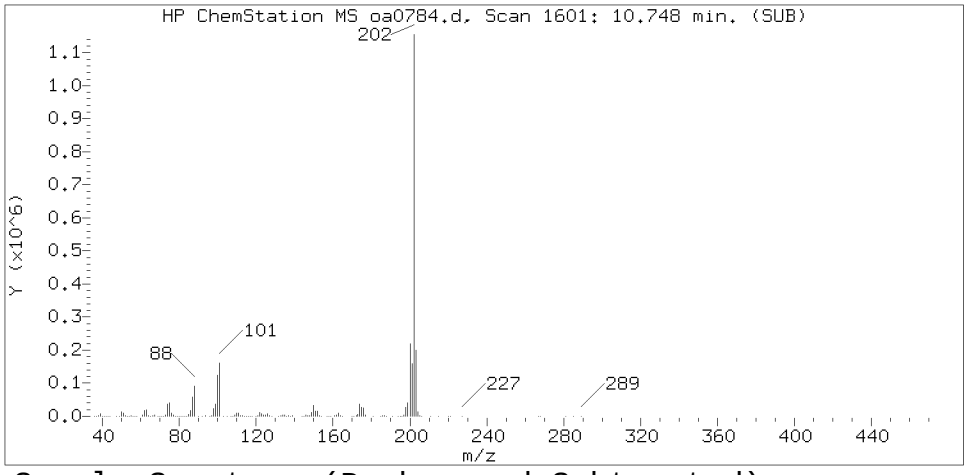
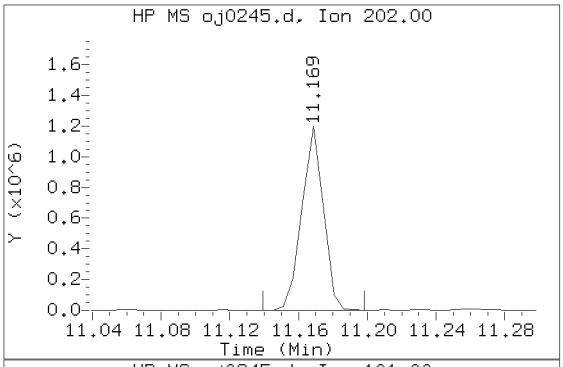
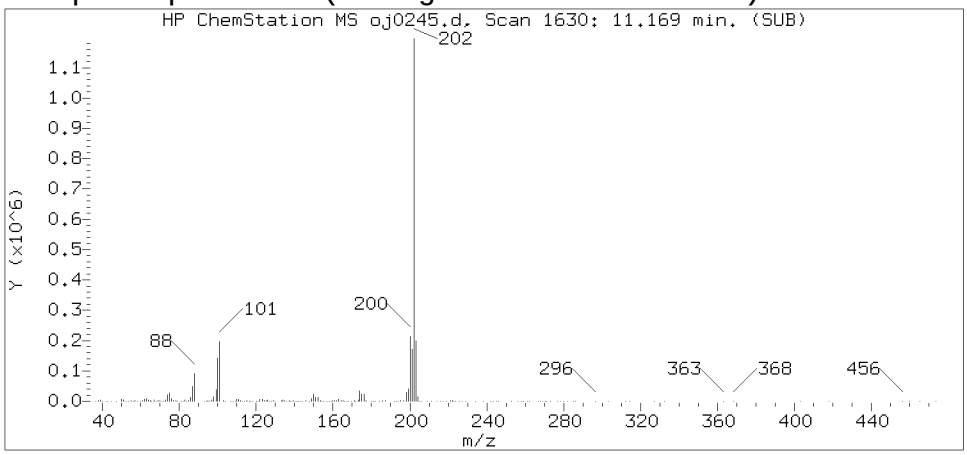
Target 3.5 esignature user ID: ceb05247

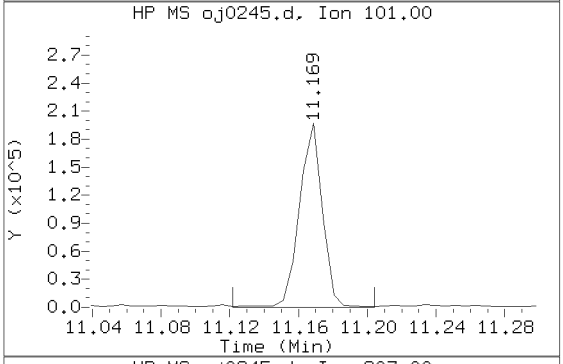
Reference Standard Spectrum for Fluoranthene

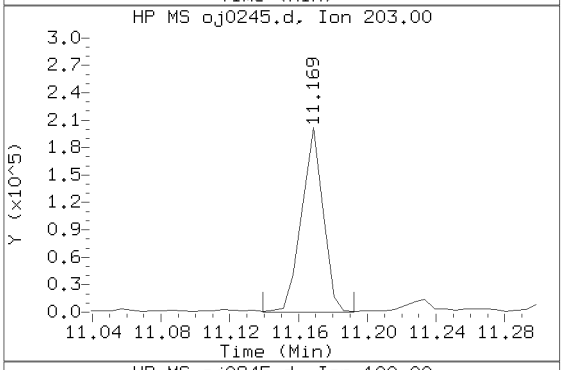




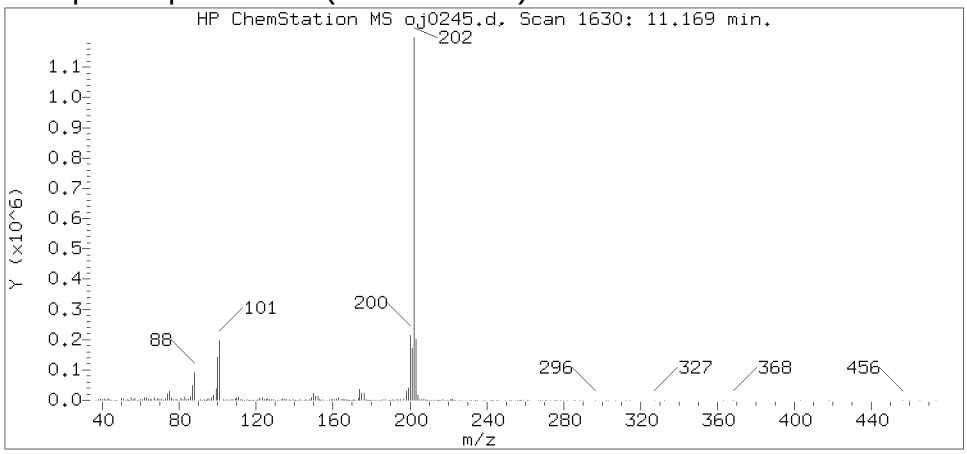
Sample Spectrum (Background Subtracted)

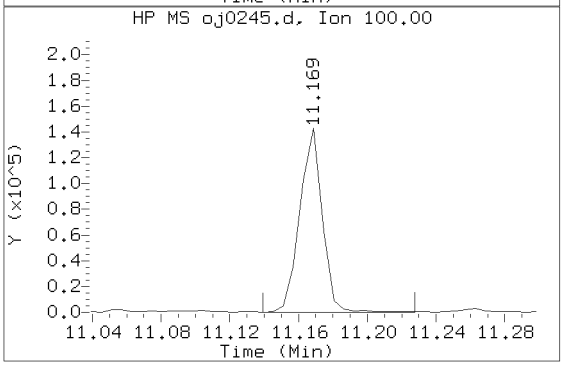






Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

Compound Number	: 173
Compound Name	: Fluoranthene
Scan Number	: 1630
Retention Time (minutes)	: 11.169
Relative Retention Time	:-0.00066
Quant Ion	: 202.00
Area (flag)	: 1033203
On-column Amount (ng/ul)	: 21.1783

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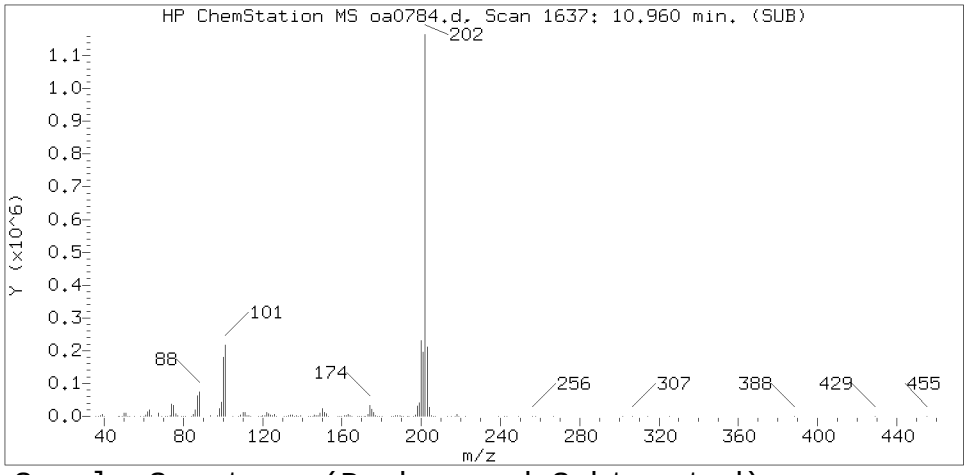
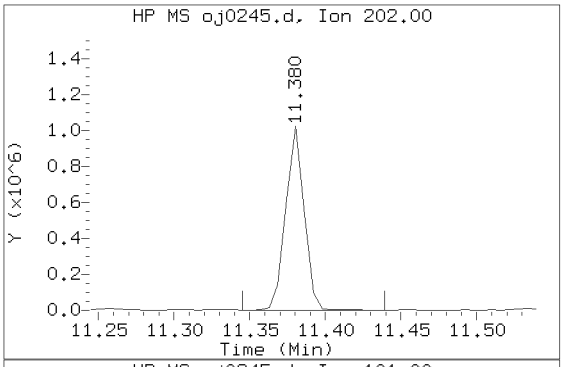
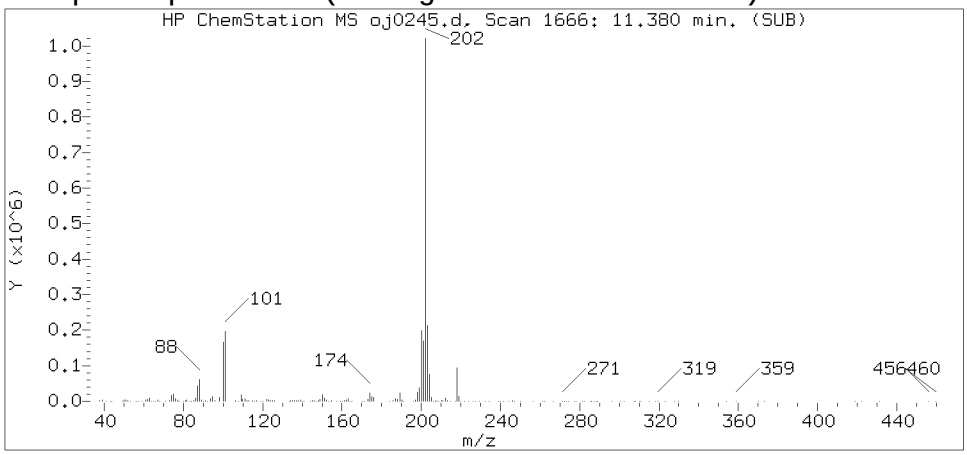
Target 3.5 esignature user ID: ceb05247

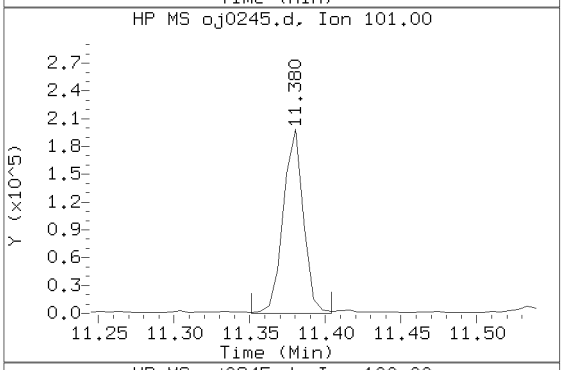
Reference Standard Spectrum for Pyrene

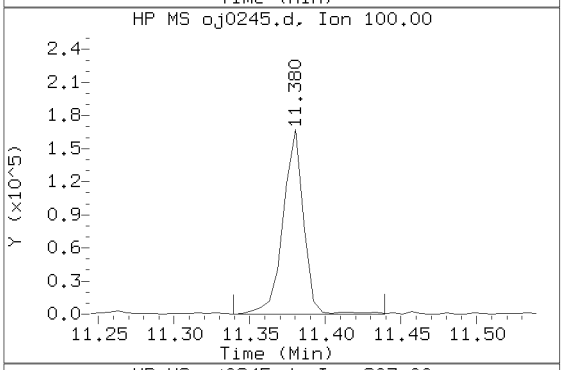




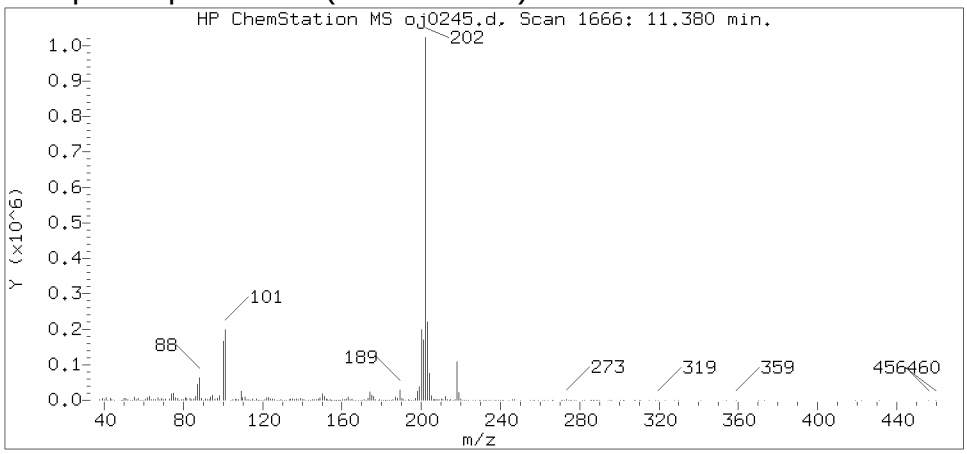
Sample Spectrum (Background Subtracted)

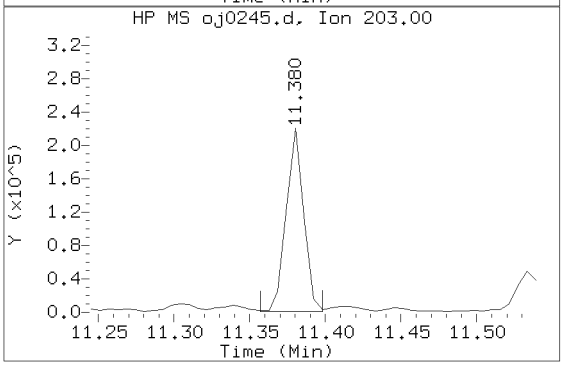






Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1666
Retention Time (minutes)	: 11.380
Relative Retention Time	: 0.00052
Quant Ion	: 202.00
Area (flag)	: 864628
On-column Amount (ng/ul)	: 20.0990

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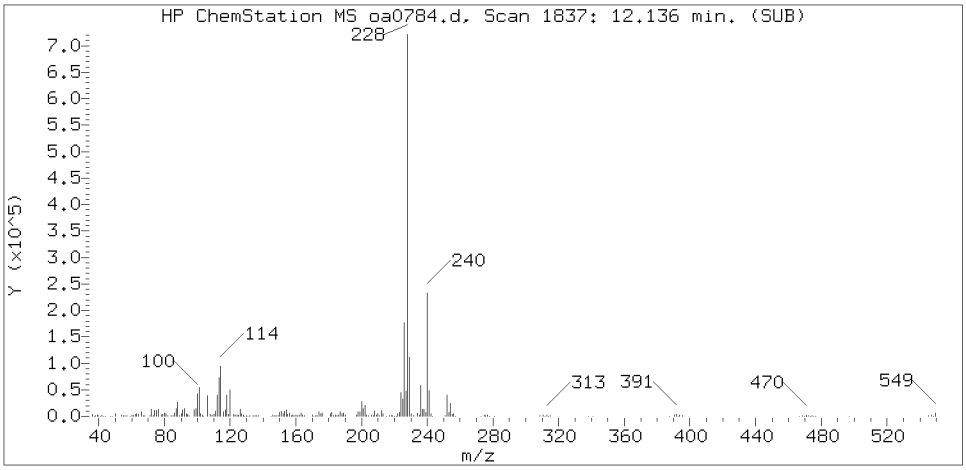
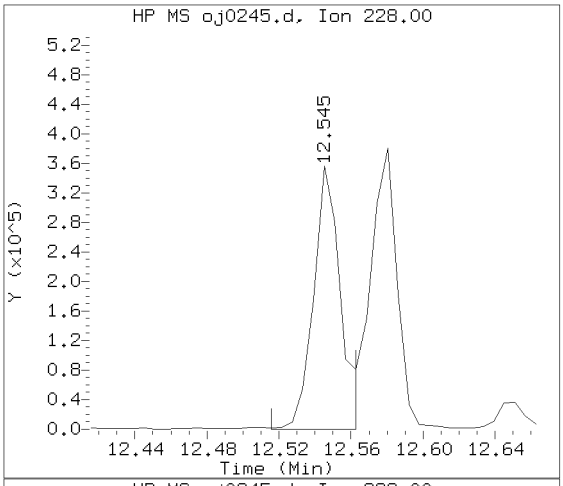
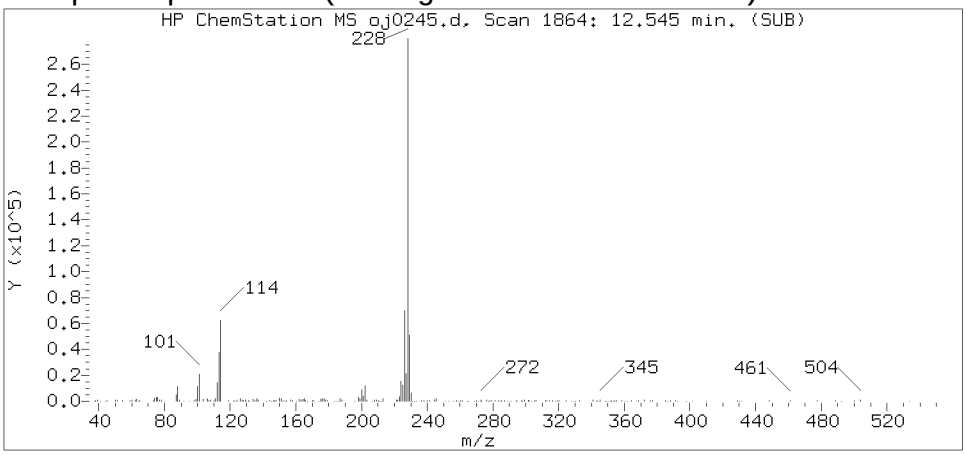
Target 3.5 esignature user ID: ceb05247

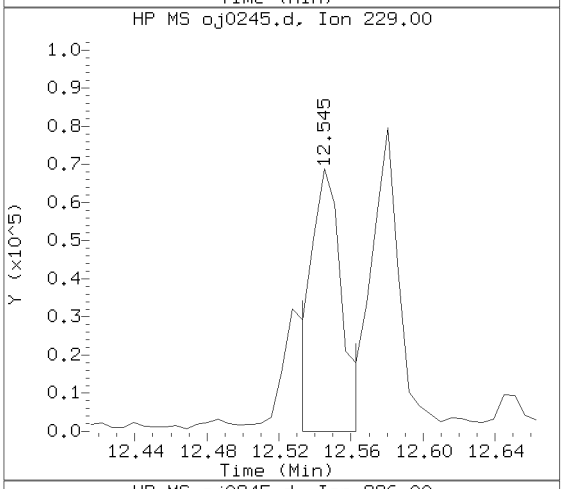
Reference Standard Spectrum for Benzo(a)anthracene



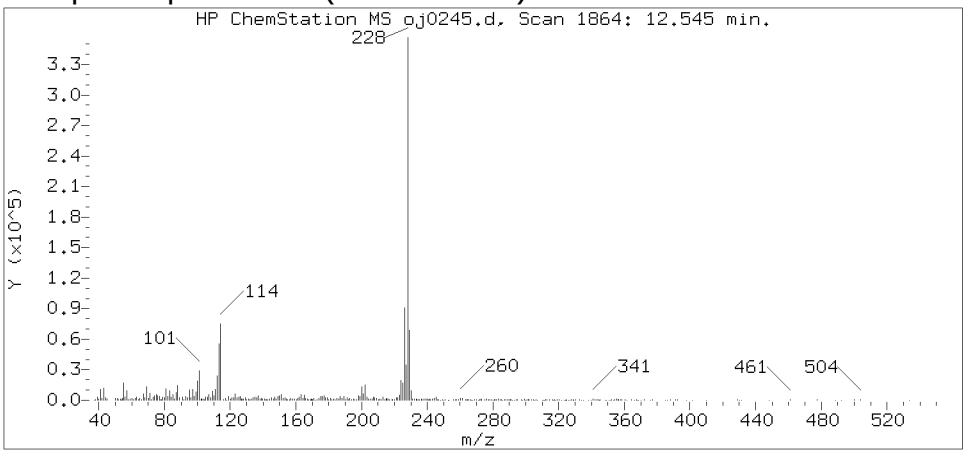


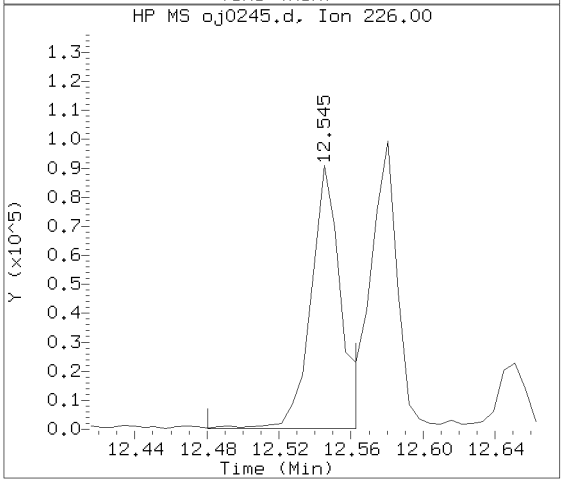
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

Compound Number	: 195
Compound Name	: Benzo(a)anthracene
Scan Number	: 1864
Retention Time (minutes)	: 12.545
Relative Retention Time	: 0.00052
Quant Ion	: 228.00
Area (flag)	: 358837
On-column Amount (ng/ul)	: 9.5692

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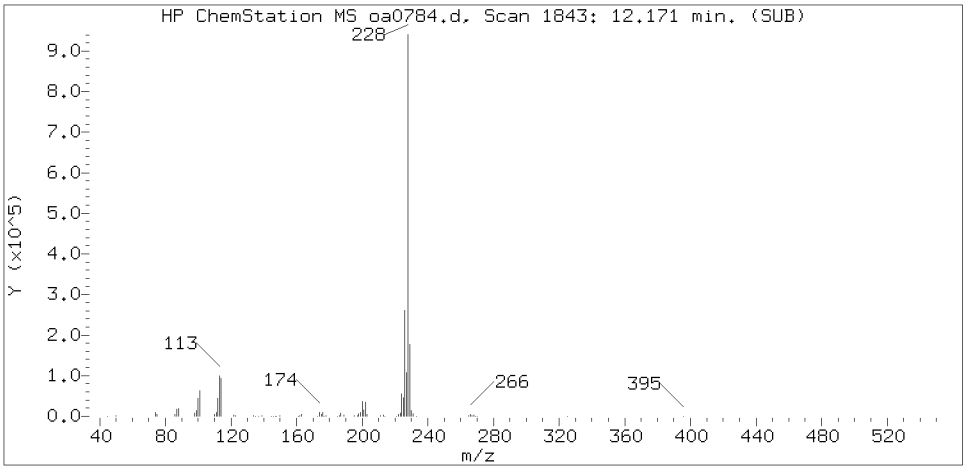
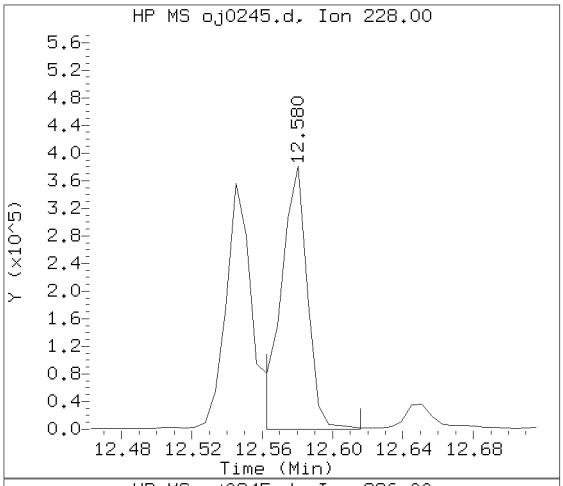
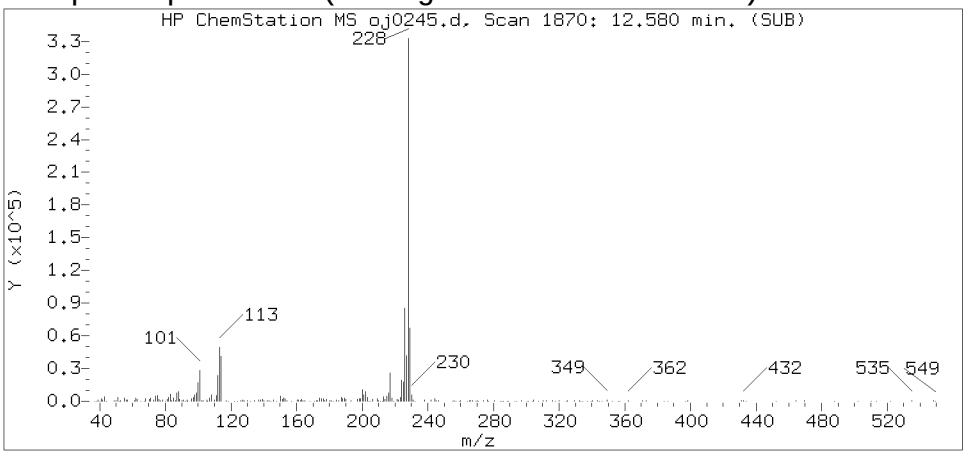
Target 3.5 esignature user ID: ceb05247

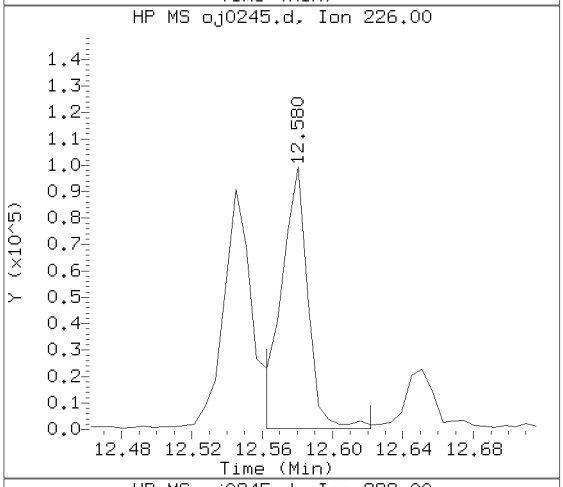
Reference Standard Spectrum for Chrysene



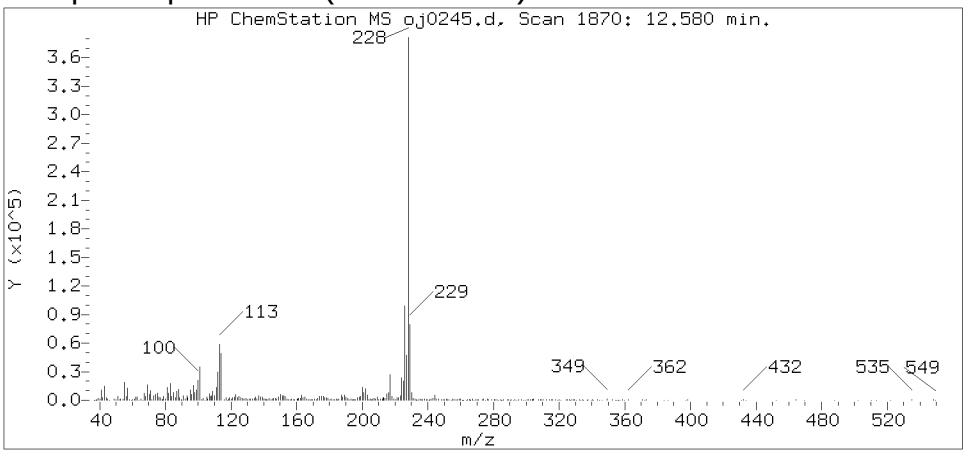


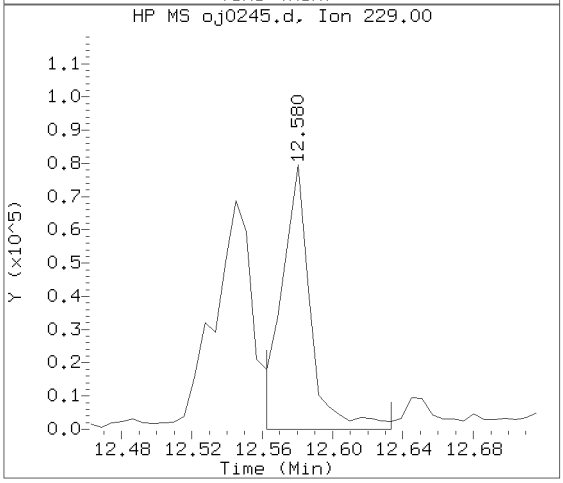
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

Compound Number	: 196
Compound Name	: Chrysene
Scan Number	: 1870
Retention Time (minutes)	: 12.580
Relative Retention Time	: 0.00052
Quant Ion	: 228.00
Area (flag)	: 391807
On-column Amount (ng/ul)	: 10.9657

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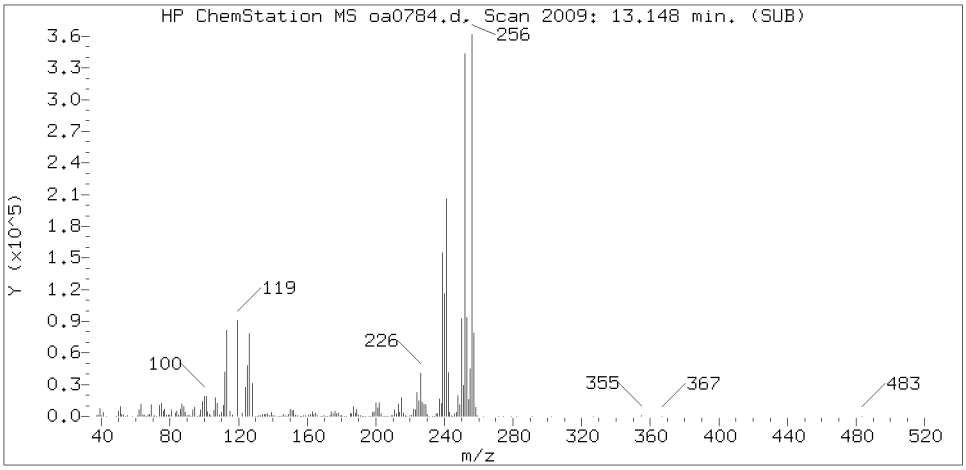
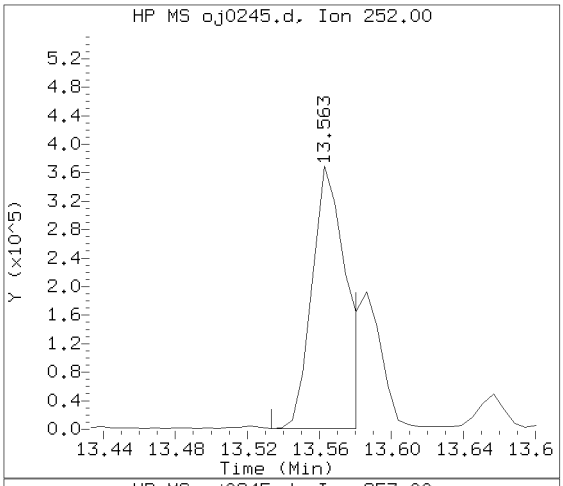
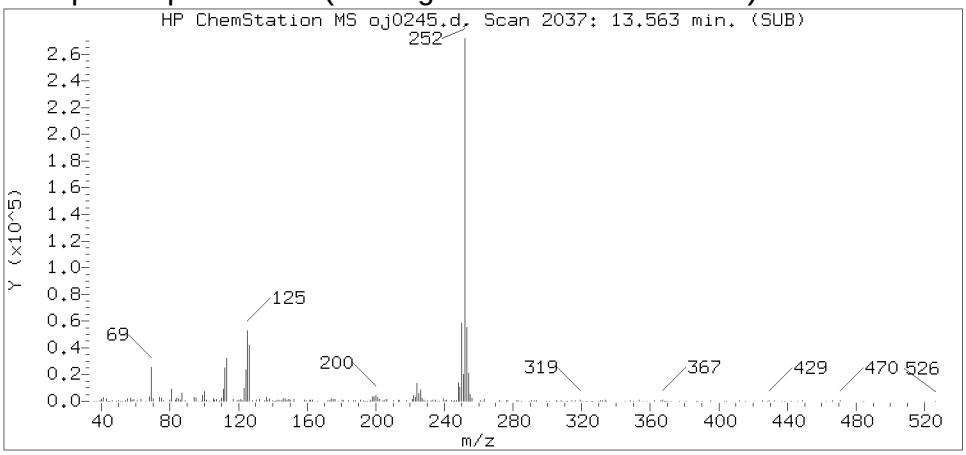
Target 3.5 esignature user ID: ceb05247

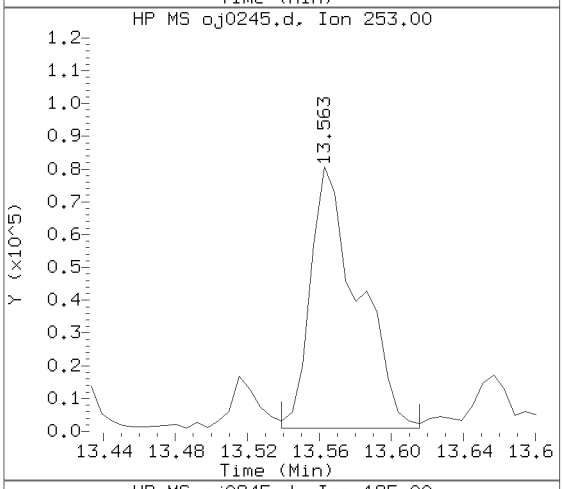
Reference Standard Spectrum for Benzo(b)fluoranthene



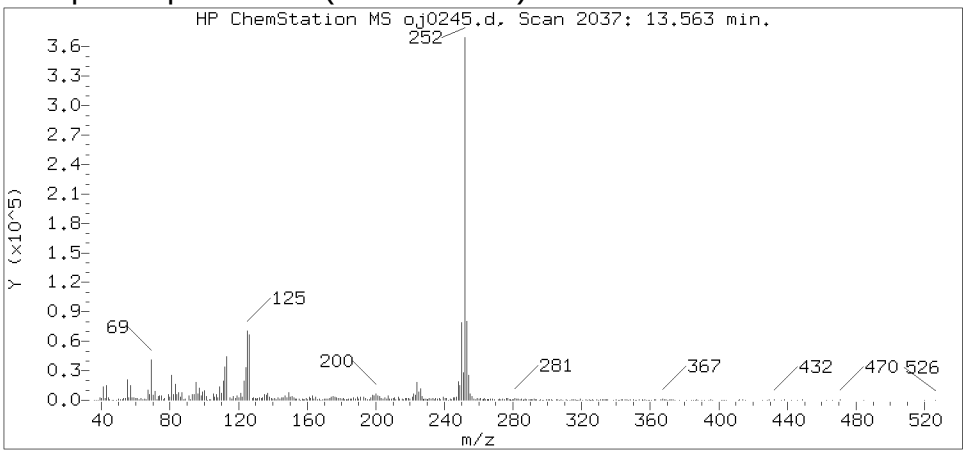


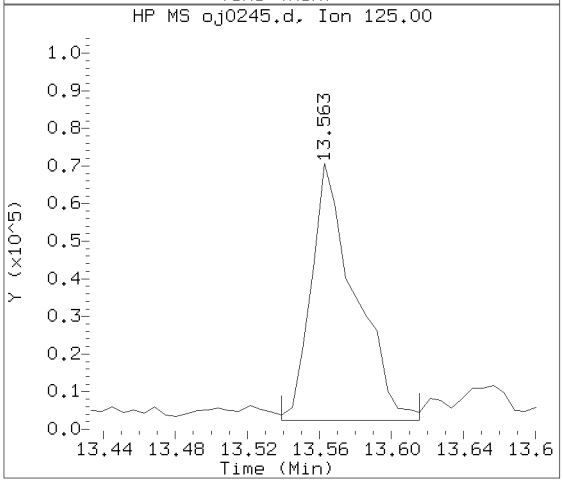
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2037
Retention Time (minutes)	: 13.563
Relative Retention Time	: 0.00042
Quant Ion	: 252.00
Area (flag)	: 488172M
On-column Amount (ng/ul)	: 16.1613

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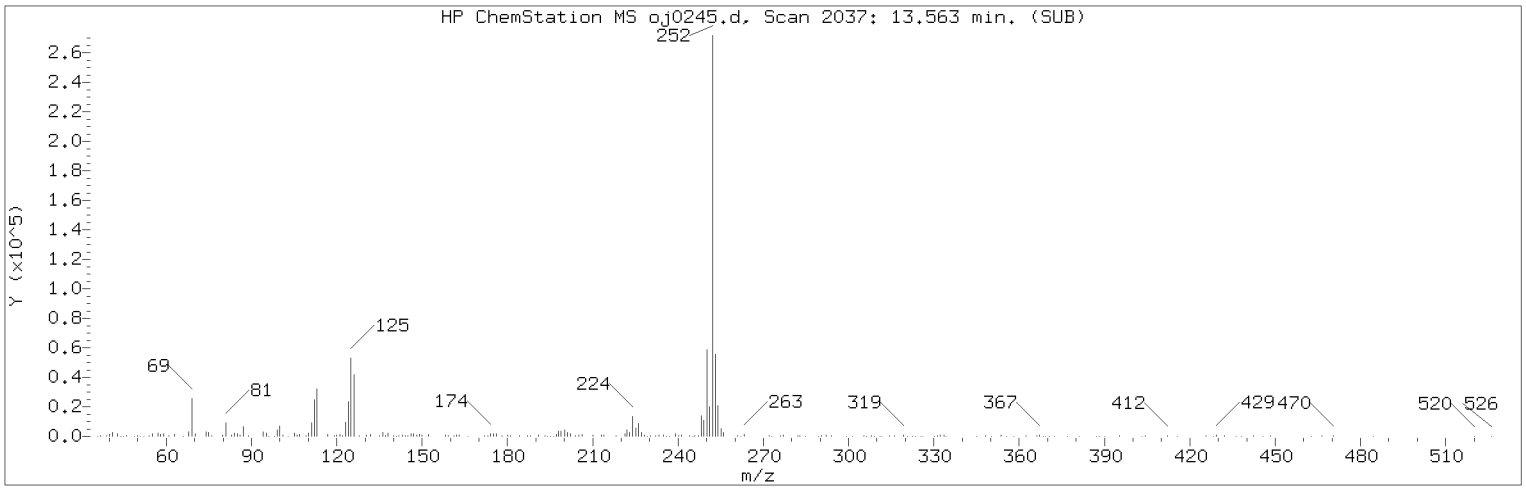
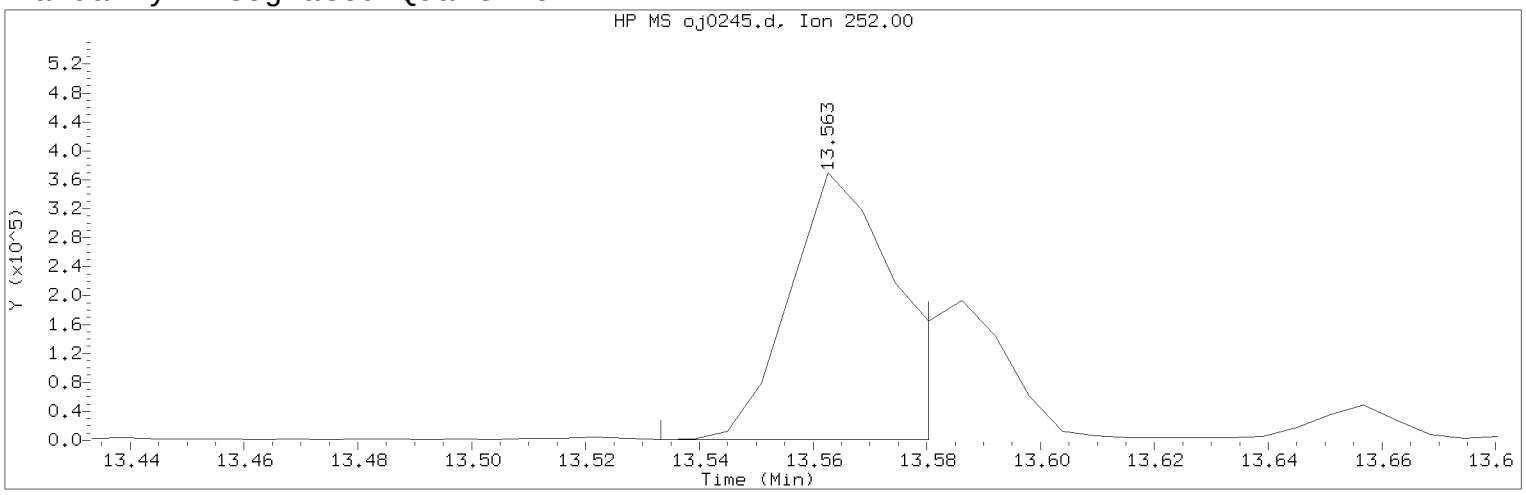
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

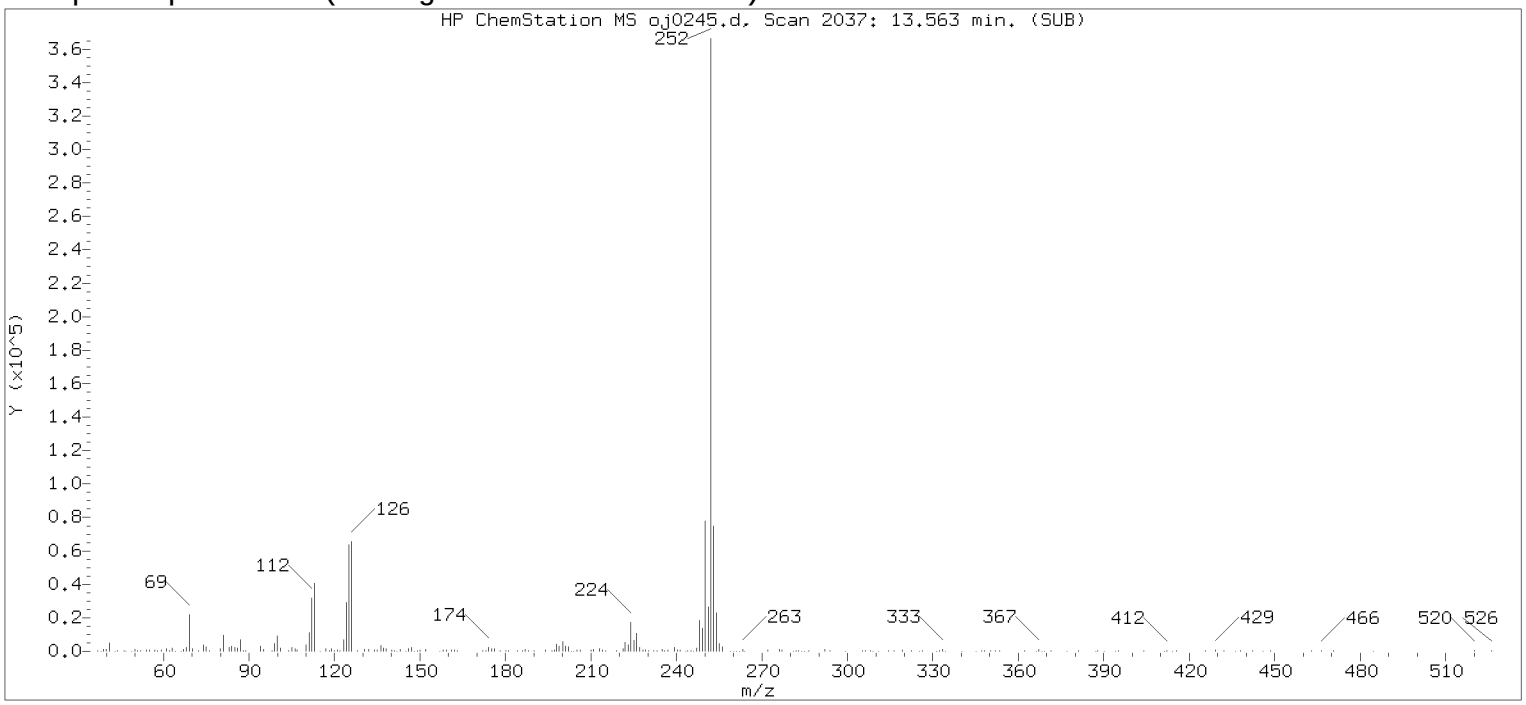
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2037
Retention Time (minutes) : 13.563
Quant Ion : 252.00
Area (flag) : 488172M
On-column Amount (ng/ul) : 16.1613
Integration start scan : 2031 Integration stop scan: 2039
Y at integration start : 616 Y at integration end: 616

Reason for manual integration: improper integration

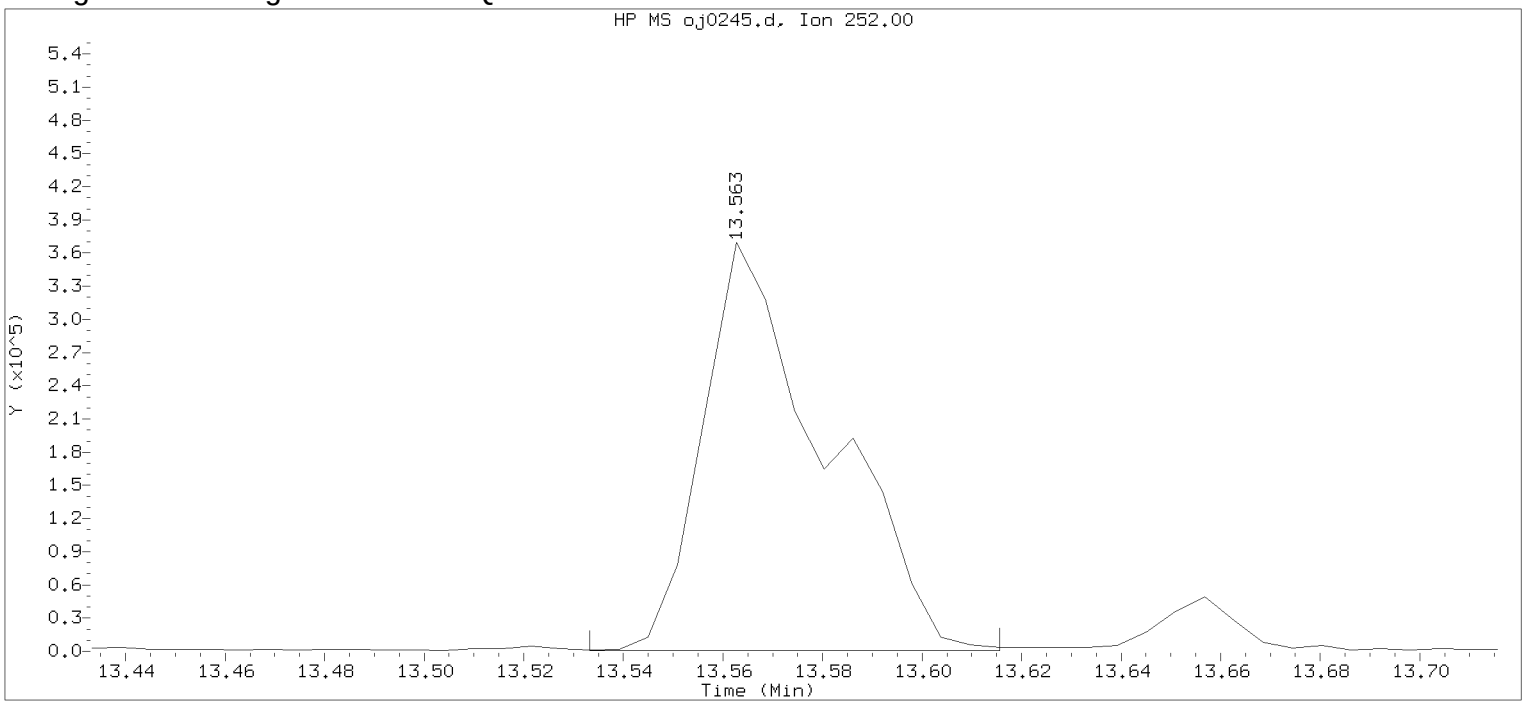
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

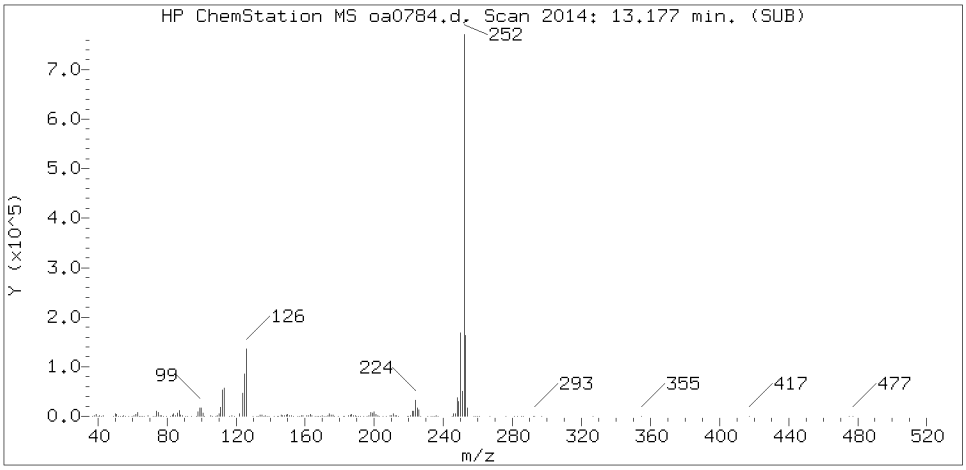
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:12 Automation

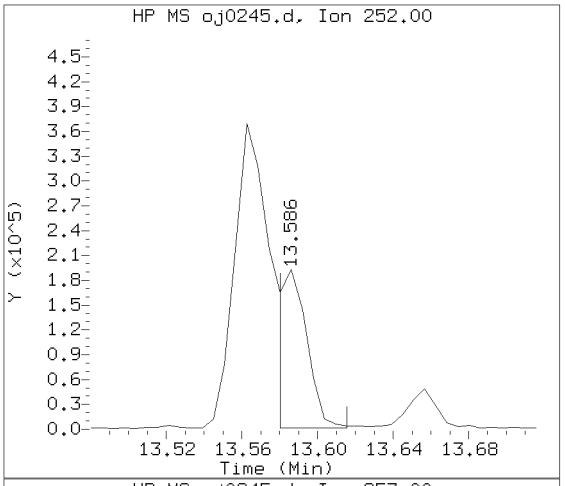
Sample Name: -498- Lab Sample ID: 8064468

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2037		
Retention Time (minutes)	: 13.563		
Quant Ion	: 252.00		
Area	: 634683		
On-column Amount (ng/ul)	: 21.0116		
Integration start scan	: 2031	Integration stop scan:	2045
Y at integration start	: 616	Y at integration end:	616

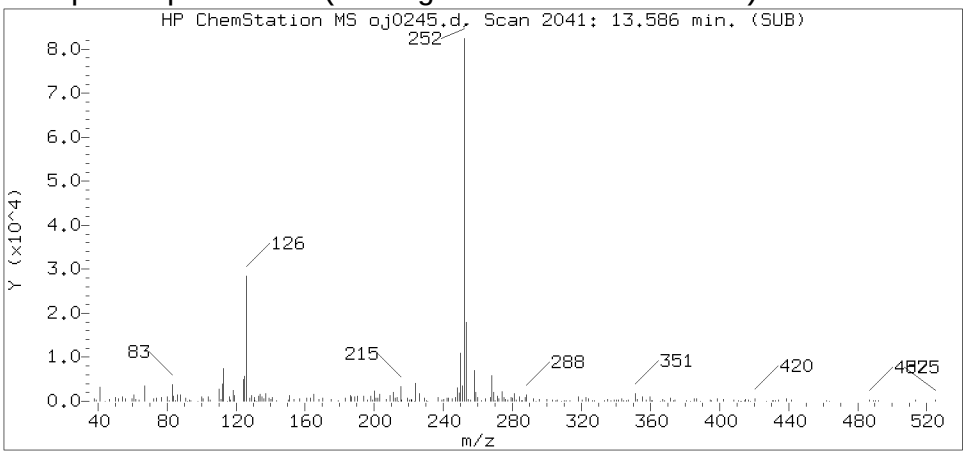
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: 27 date: 8240

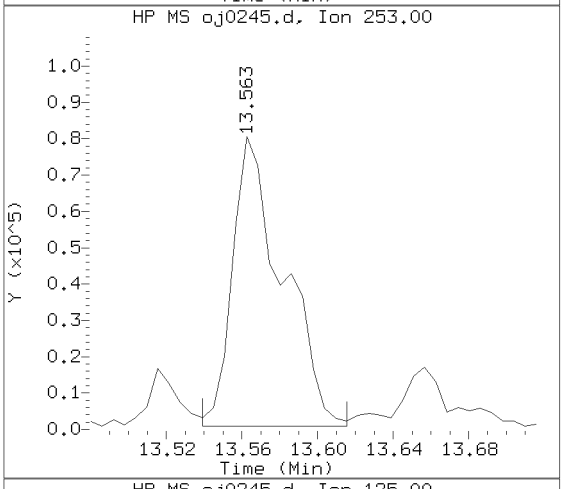
Reference Standard Spectrum for Benzo(k)fluoranthene



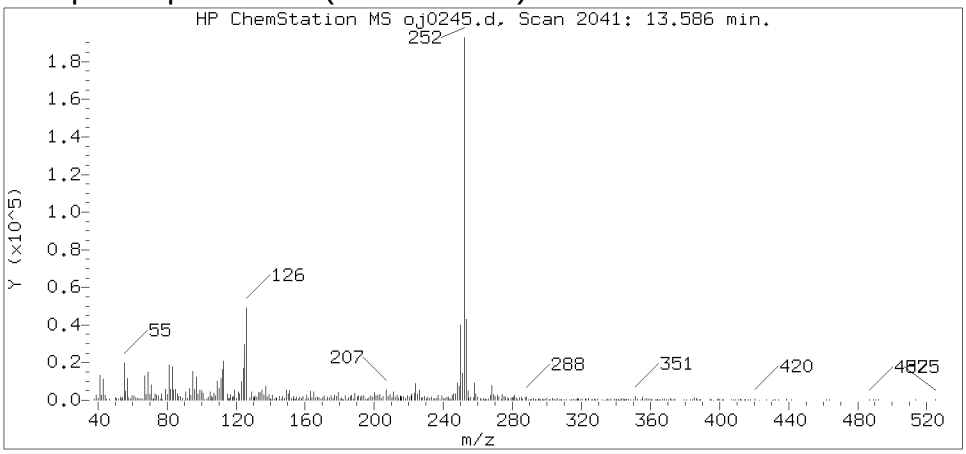


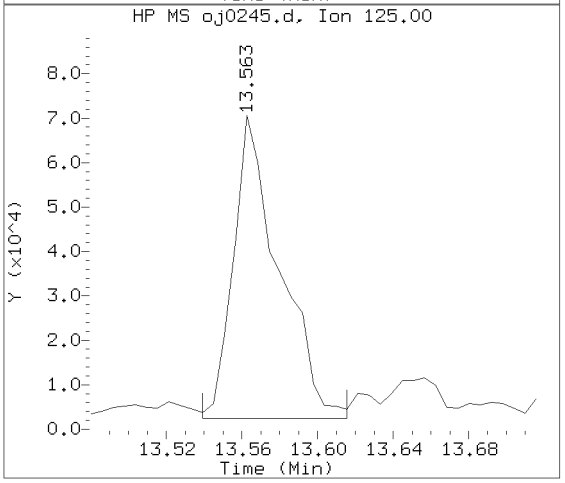
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

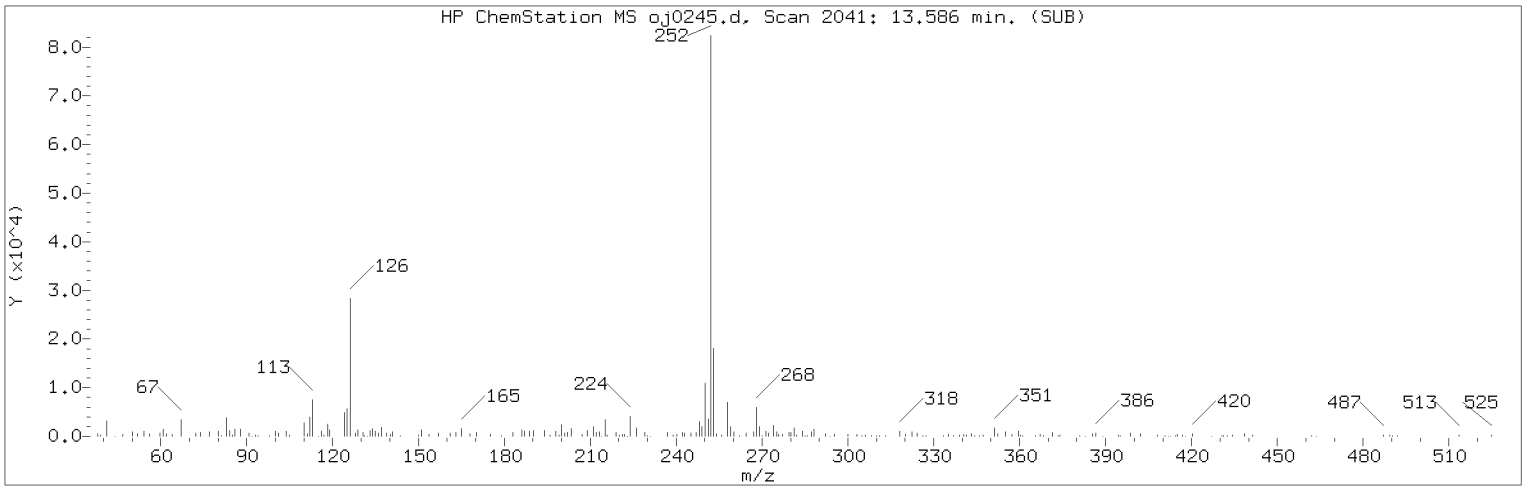
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

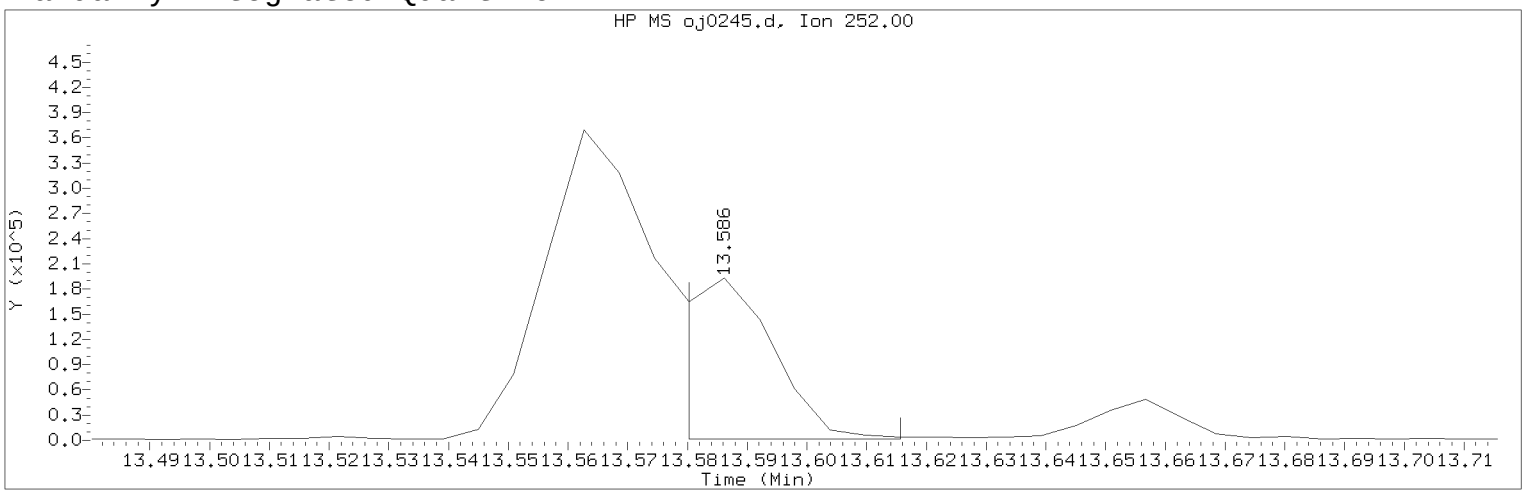
Compound Number	: 208
Compound Name	: Benzo(k)fluoranthene
Scan Number	: 2041
Retention Time (minutes)	: 13.586
Relative Retention Time	: 0.00042
Quant Ion	: 252.00
Area (flag)	: 203012M
On-column Amount (ng/ul)	: 6.5867

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

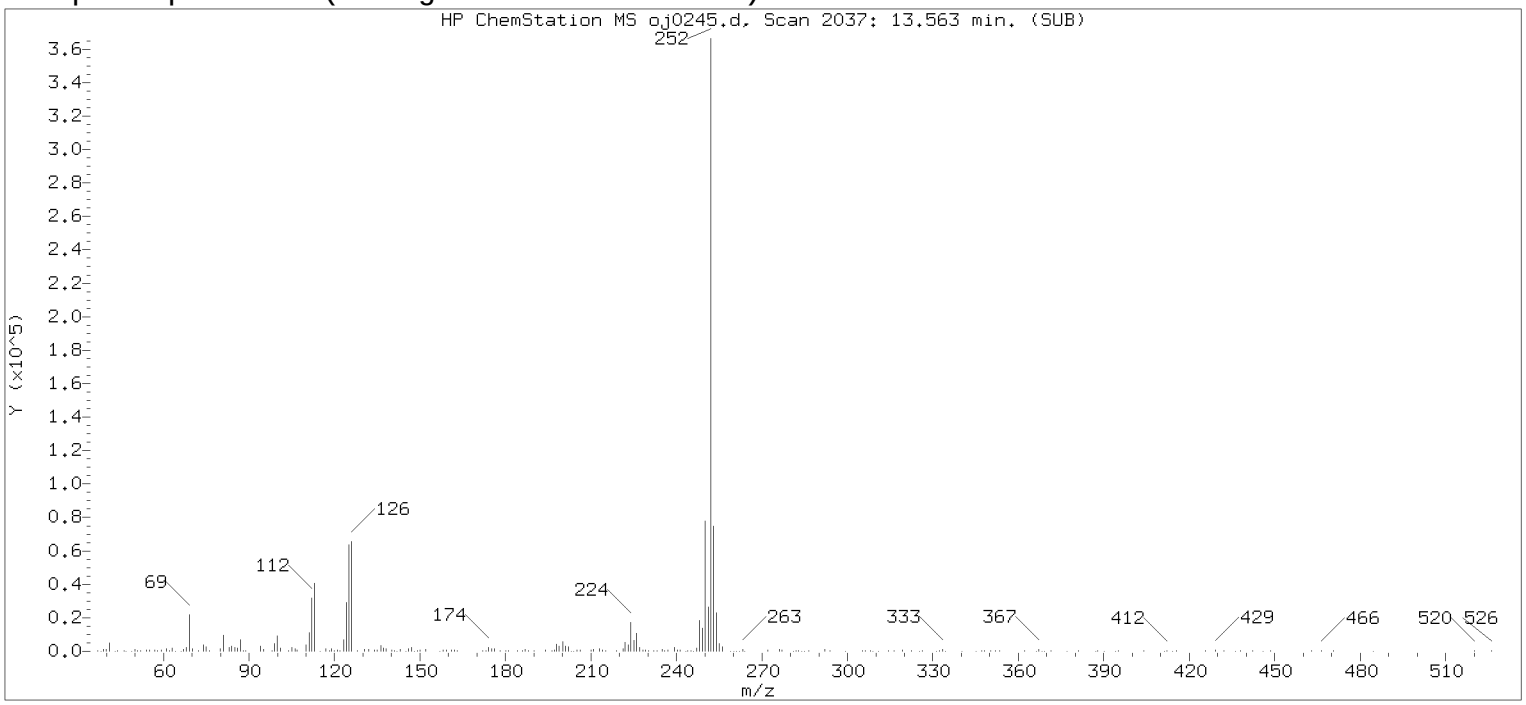
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2041
Retention Time (minutes) : 13.586
Quant Ion : 252.00
Area (flag) : 203012M
On-column Amount (ng/ul) : 6.5867
Integration start scan : 2039 Integration stop scan: 2045
Y at integration start : 1485 Y at integration end: 1485

Reason for manual integration: improper integration

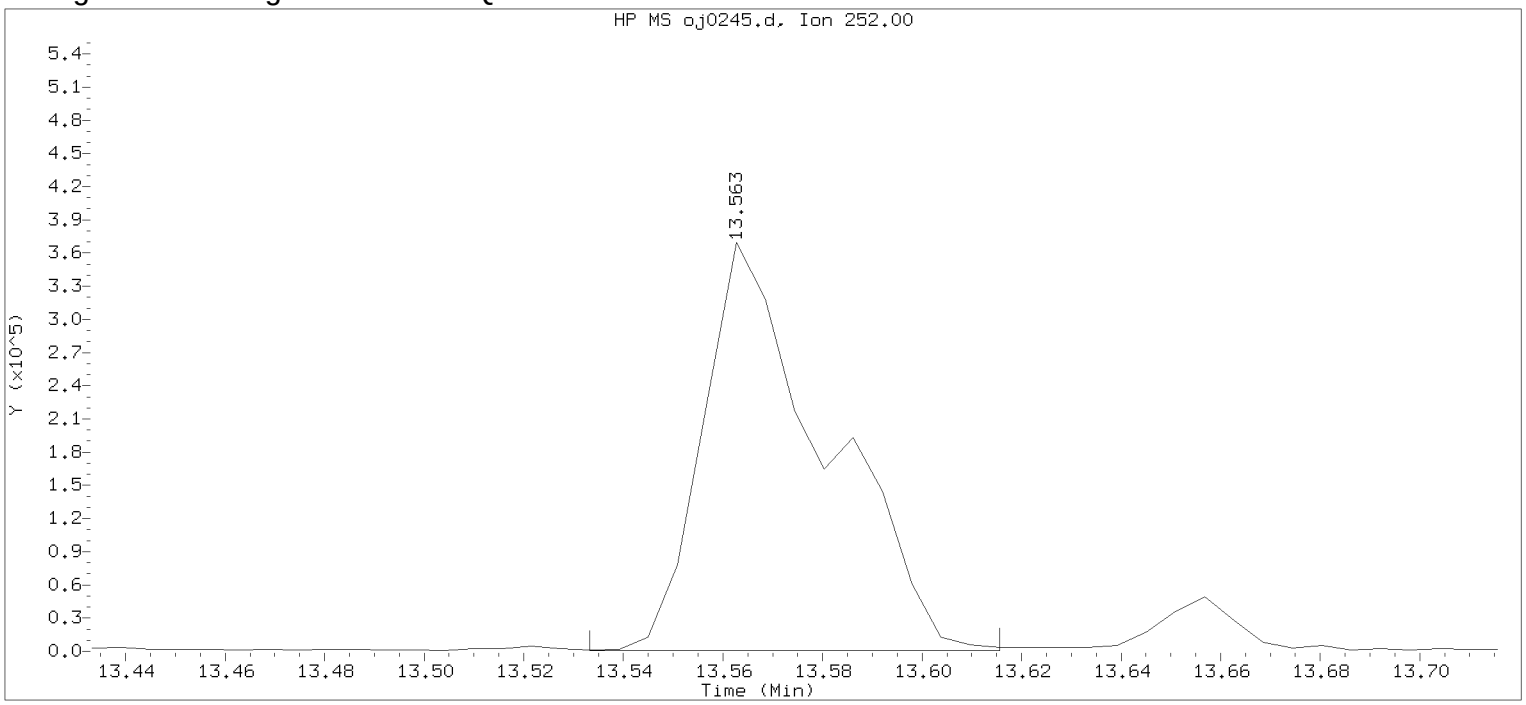
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

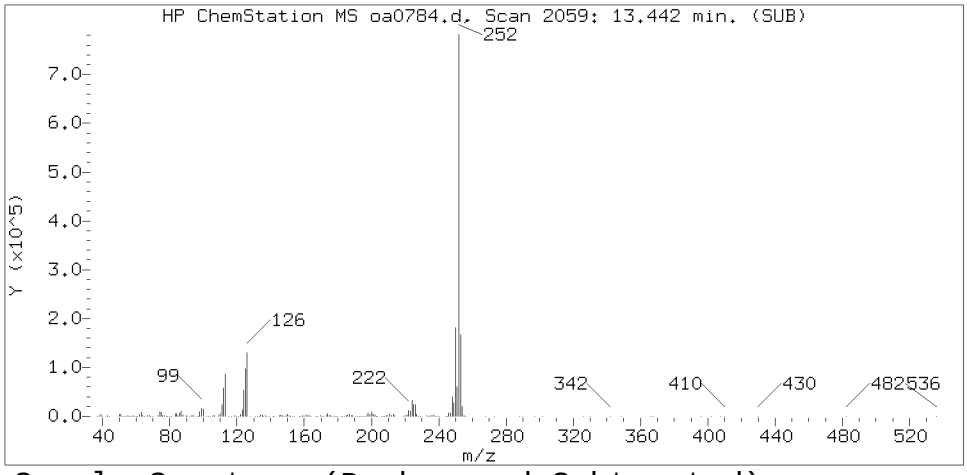
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:12 Automation

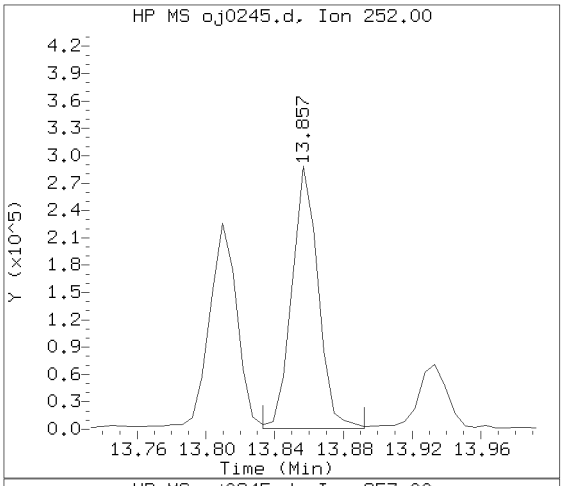
Sample Name: -498- Lab Sample ID: 8064468

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2037		
Retention Time (minutes)	: 13.563		
Quant Ion	: 252.00		
Area	: 633744		
On-column Amount (ng/ul)	: 20.5618		
Integration start scan	: 2031	Integration stop scan:	2045
Y at integration start	: 806	Y at integration end:	806

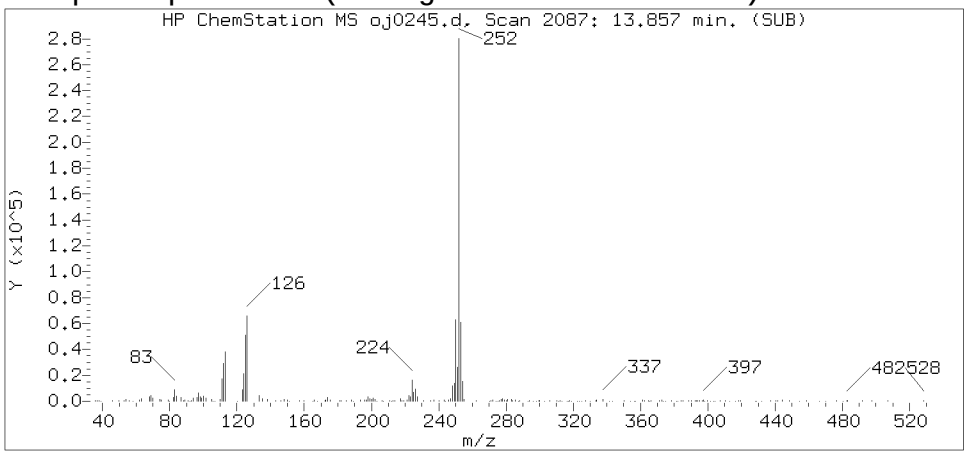
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: 27 date: 05237

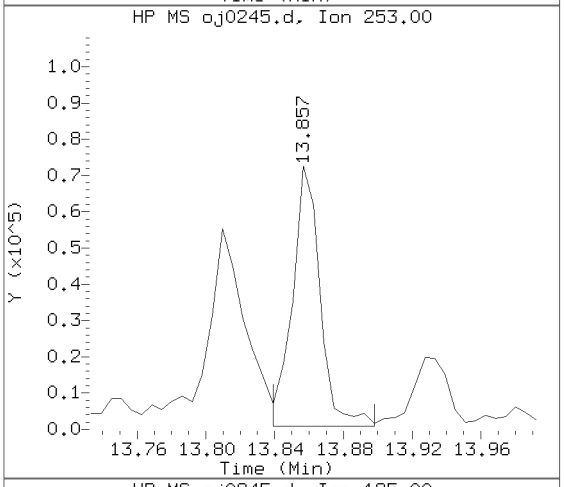
Reference Standard Spectrum for Benzo(a)pyrene



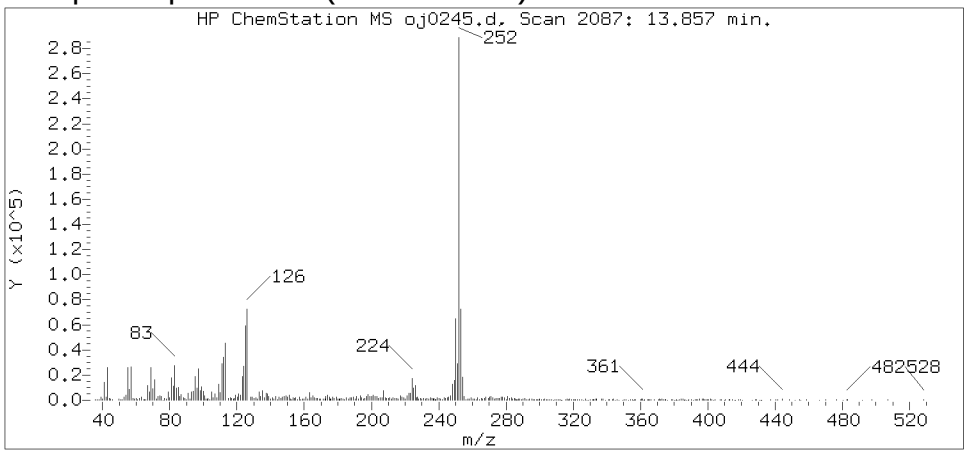


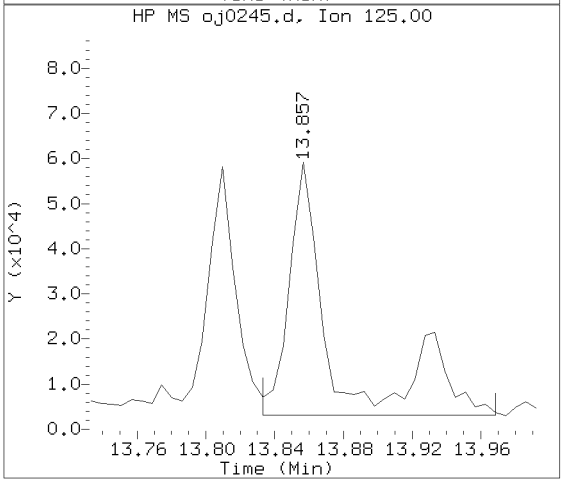
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

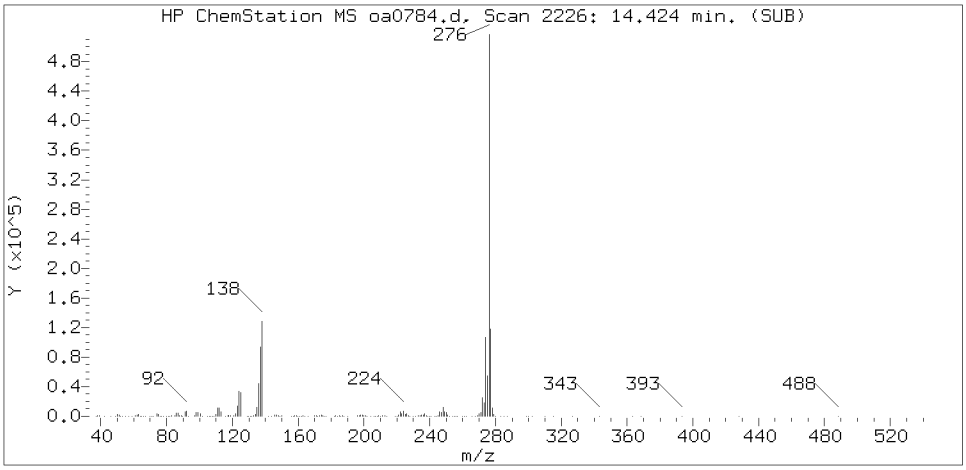
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

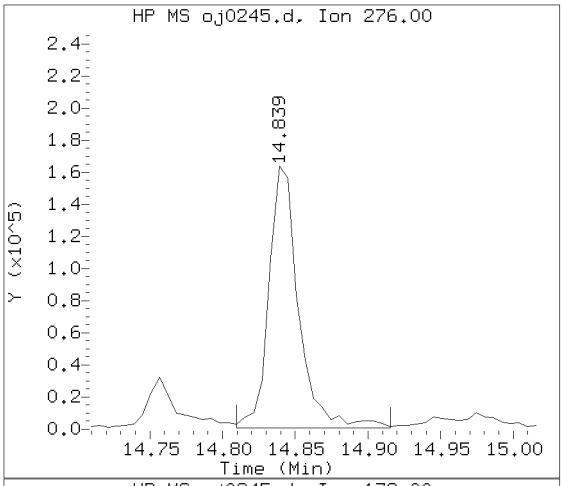
Sample Name: -498- Lab Sample ID: 8064468

Compound Number	: 211
Compound Name	: Benzo(a)pyrene
Scan Number	: 2087
Retention Time (minutes)	: 13.857
Relative Retention Time	: 0.00042
Quant Ion	: 252.00
Area (flag)	: 303350
On-column Amount (ng/ul)	: 10.1681

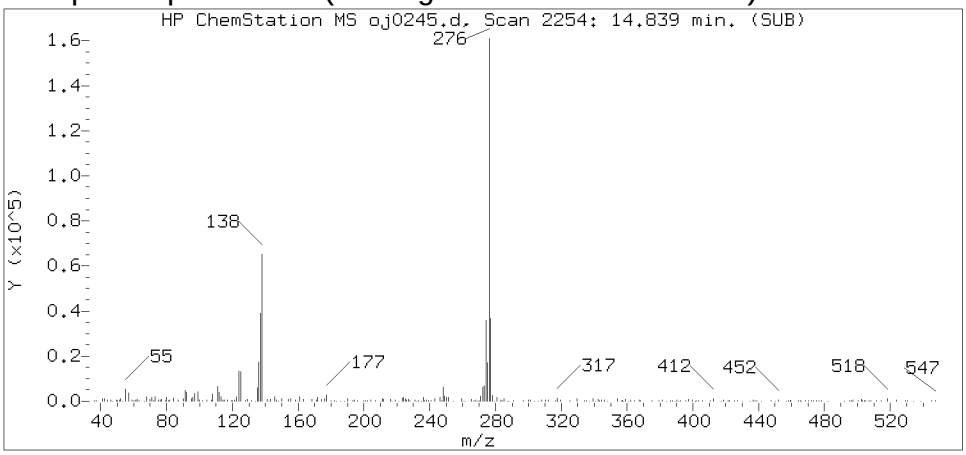
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

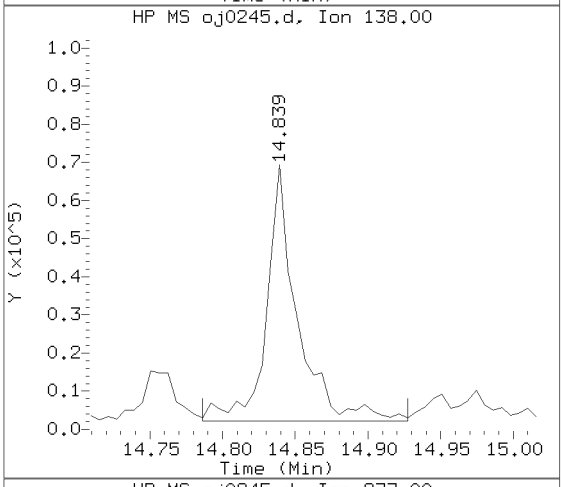
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



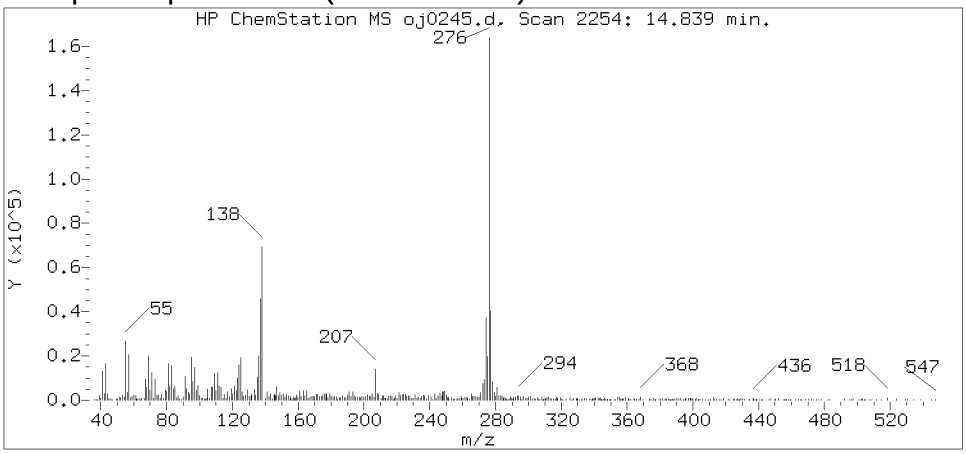


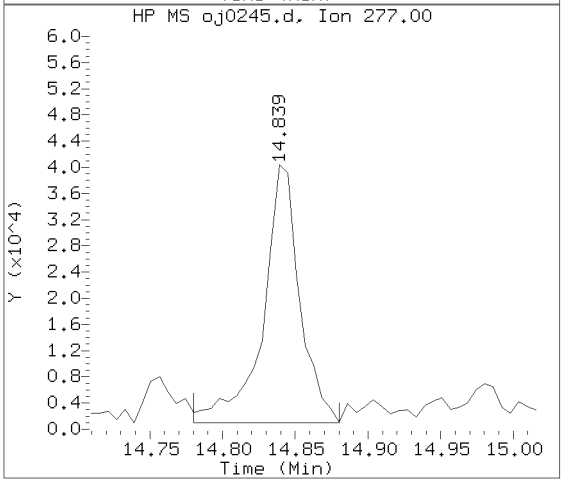
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

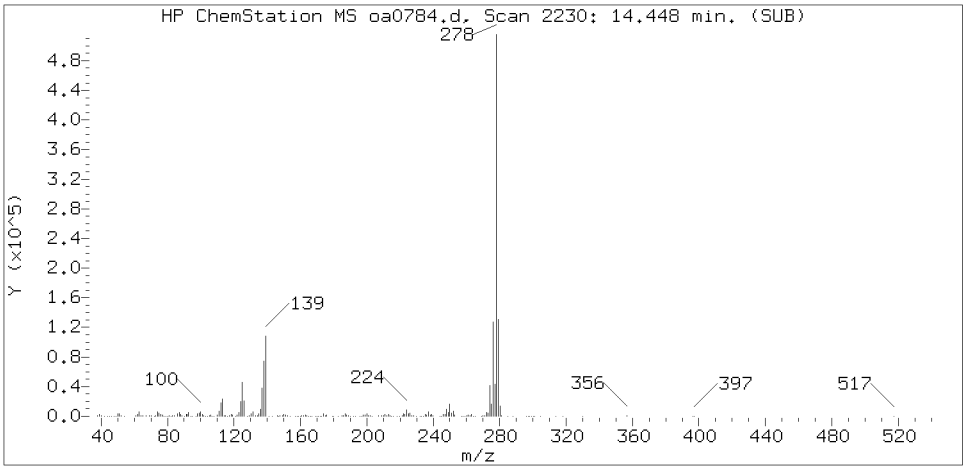
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

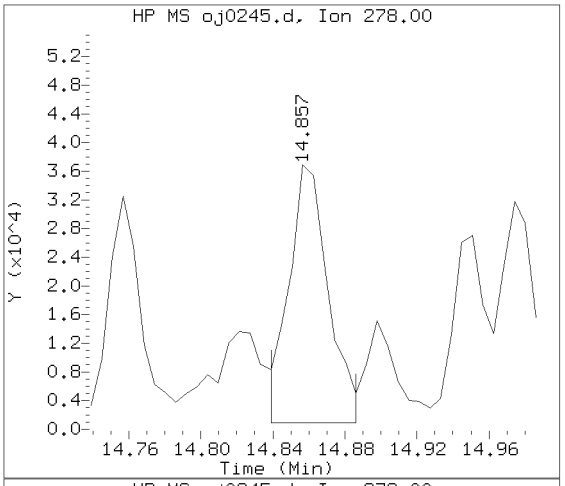
Sample Name: -498- Lab Sample ID: 8064468

Compound Number	: 219
Compound Name	: Indeno(1,2,3-cd)pyrene
Scan Number	: 2254
Retention Time (minutes)	: 14.839
Relative Retention Time	: 0.00042
Quant Ion	: 276.00
Area (flag)	: 231830
On-column Amount (ng/ul)	: 7.4608

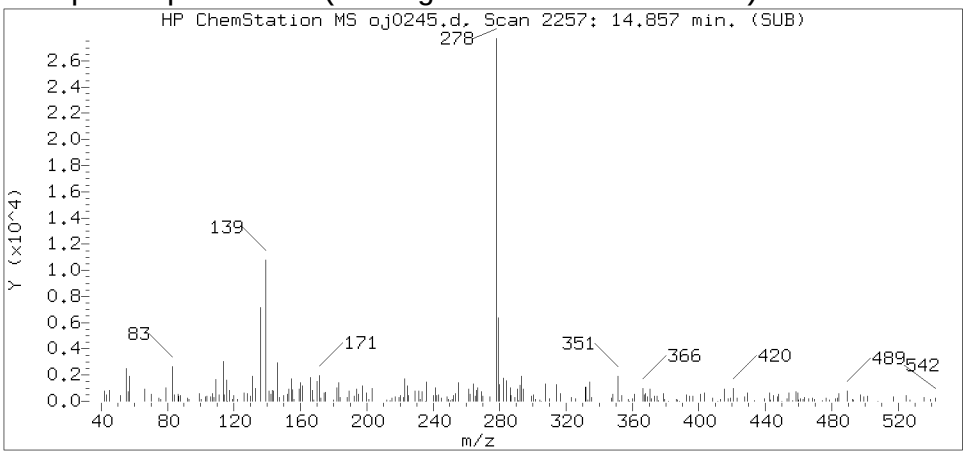
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

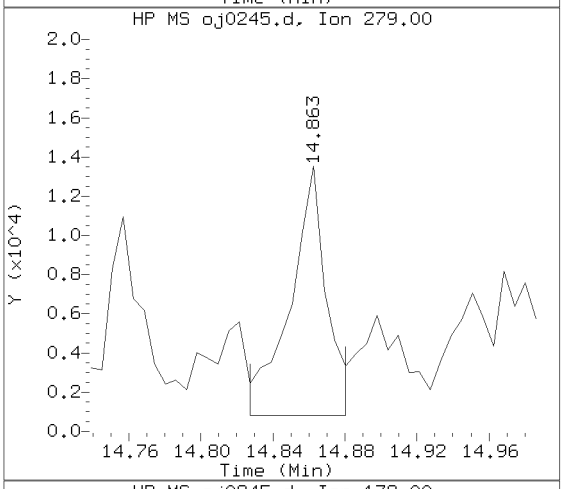
Reference Standard Spectrum for Dibenz(a,h)anthracene



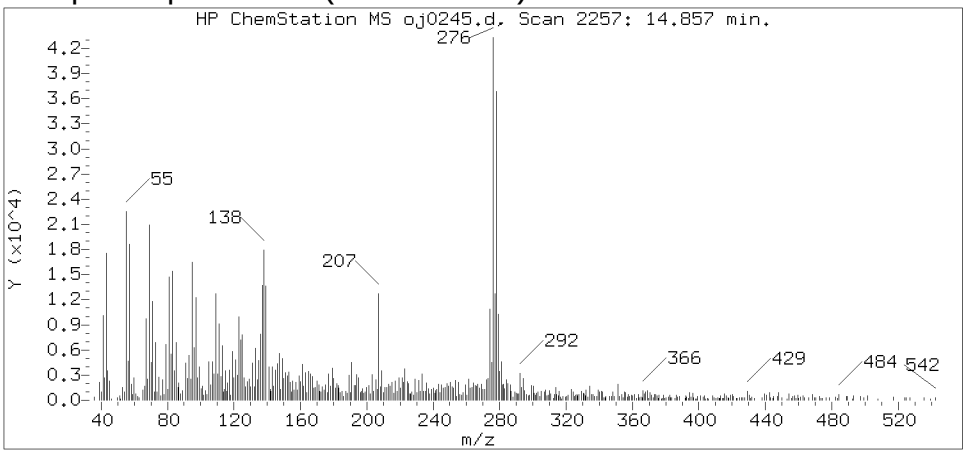


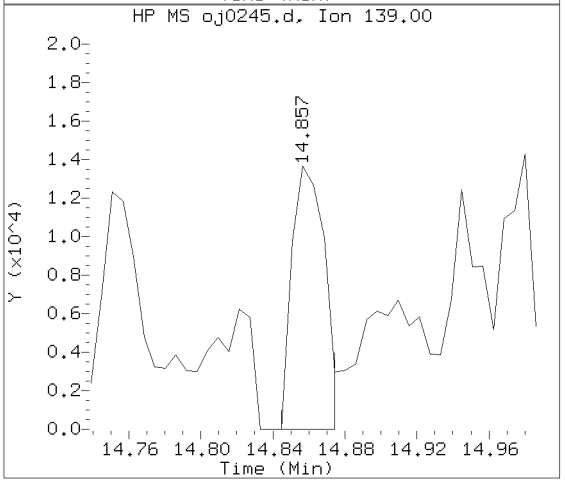
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

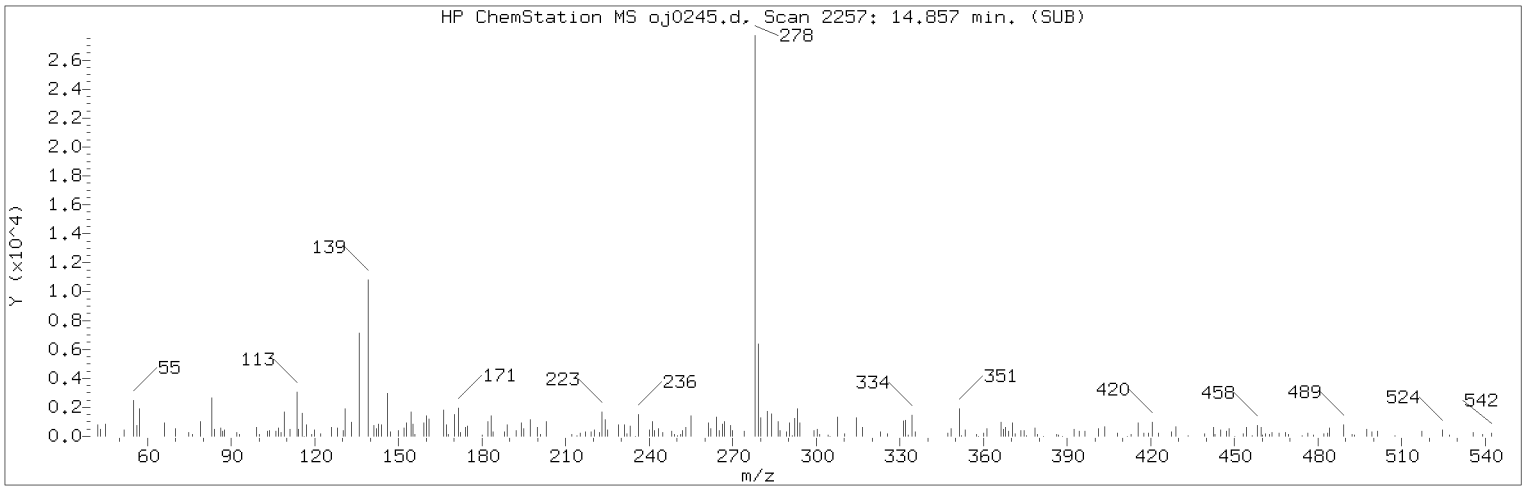
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

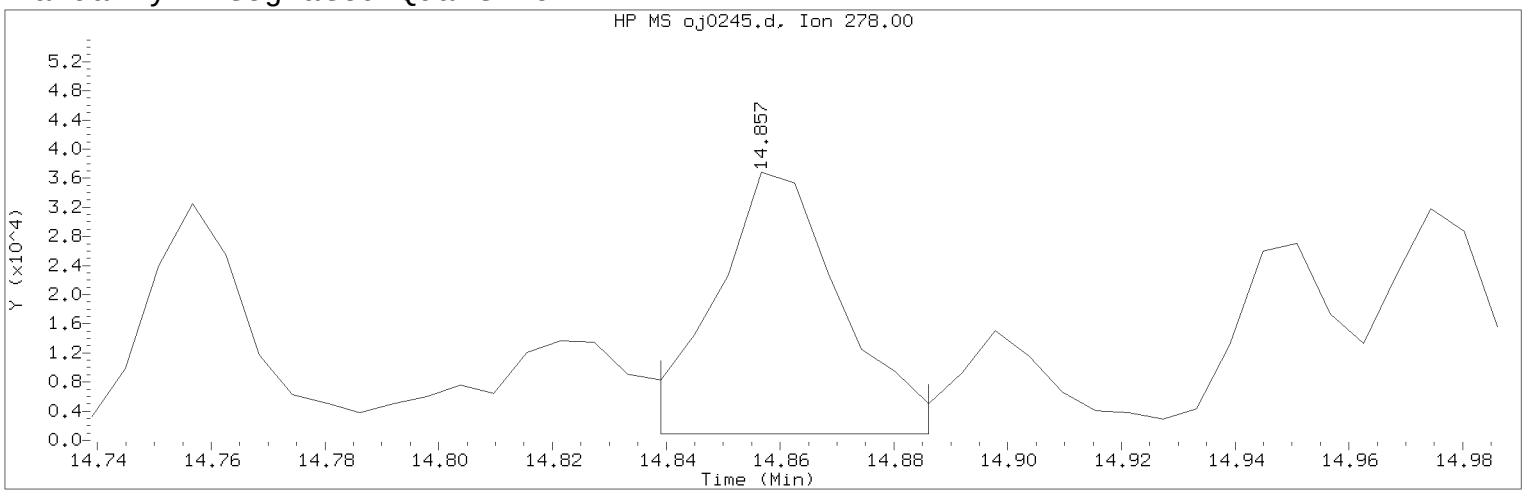
Compound Number	: 220
Compound Name	: Dibenz(a,h)anthracene
Scan Number	: 2257
Retention Time (minutes)	: 14.857
Relative Retention Time	: 0.00085
Quant Ion	: 278.00
Area (flag)	: 56296M
On-column Amount (ng/ul)	: 2.1537

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

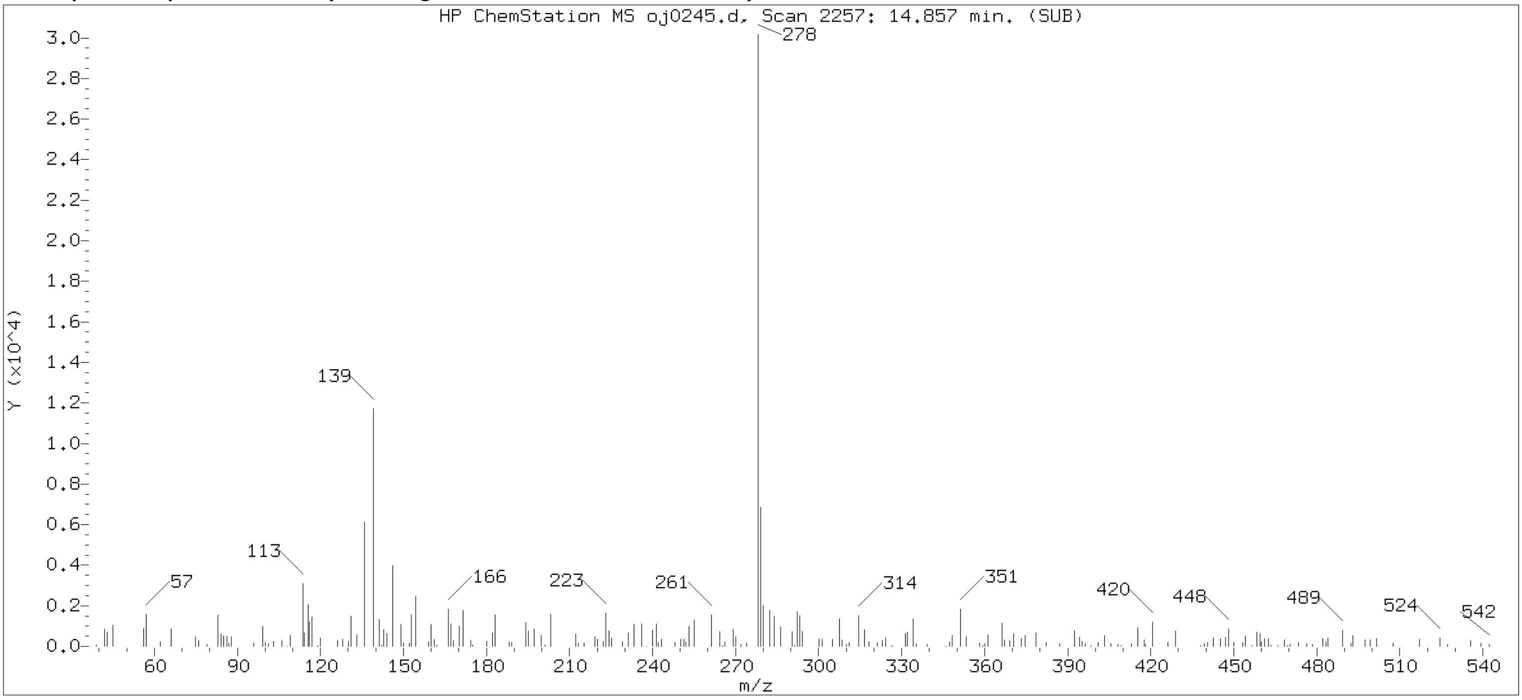
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 2257
Retention Time (minutes) : 14.857
Quant Ion : 278.00
Area (flag) : 56296M
On-column Amount (ng/ul) : 2.1537
Integration start scan : 2253 Integration stop scan: 2261
Y at integration start : 894 Y at integration end: 894

Reason for manual integration: improper integration

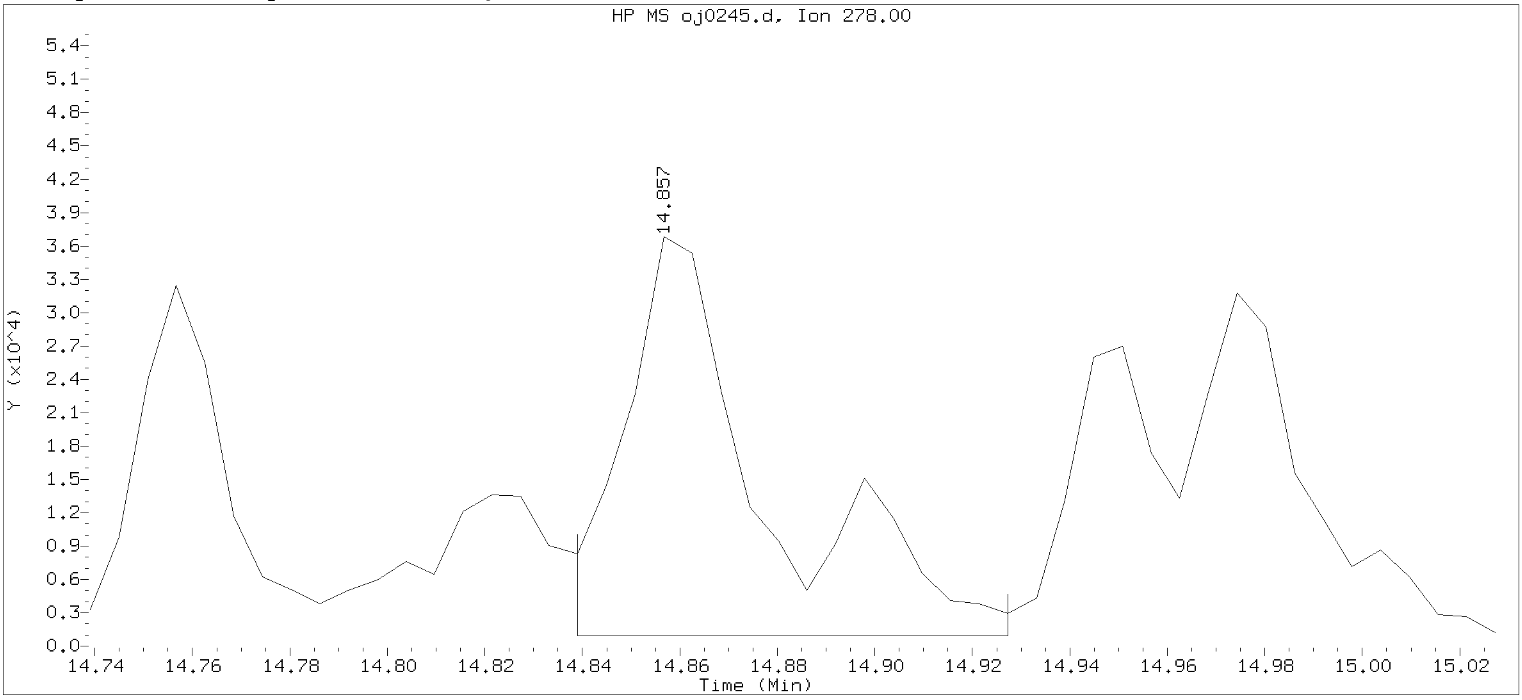
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

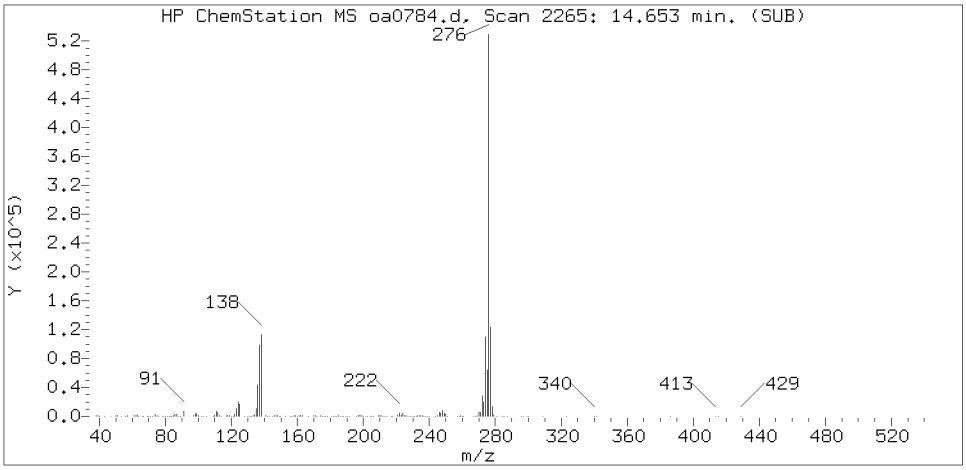
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:12 Automation

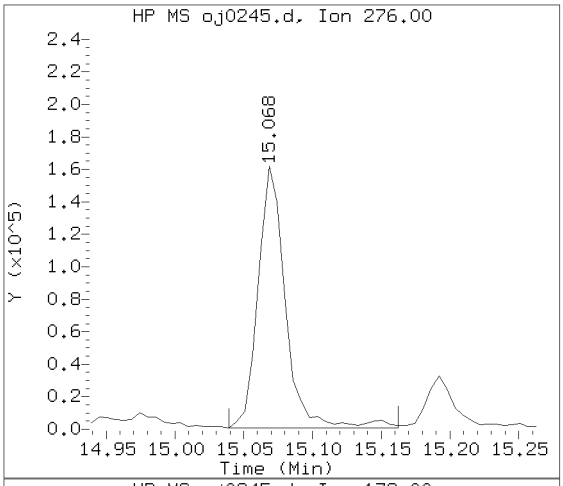
Sample Name: -498- Lab Sample ID: 8064468

Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 2257
Retention Time (minutes) : 14.857
Quant Ion : 278.00
Area : 71233
On-column Amount (ng/ul) : 2.7252
Integration start scan : 2253 Integration stop scan: 2268
Y at integration start : 894 Y at integration end: 894

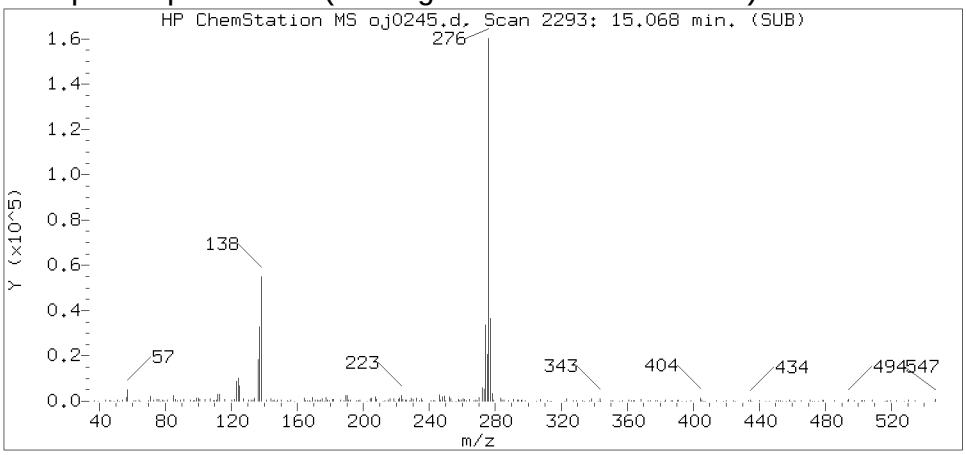
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05287

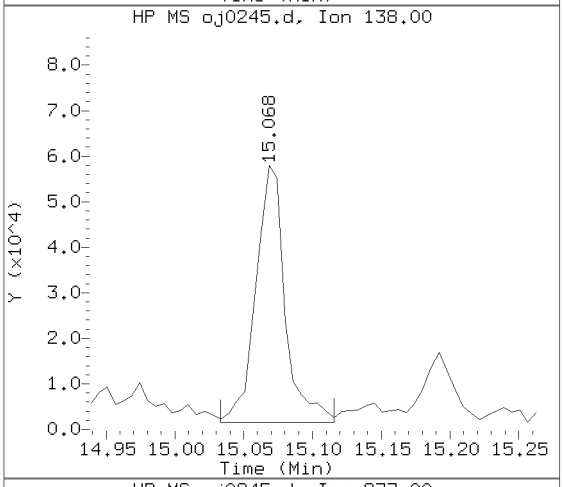
Reference Standard Spectrum for Benzo(g,h,i)perylene



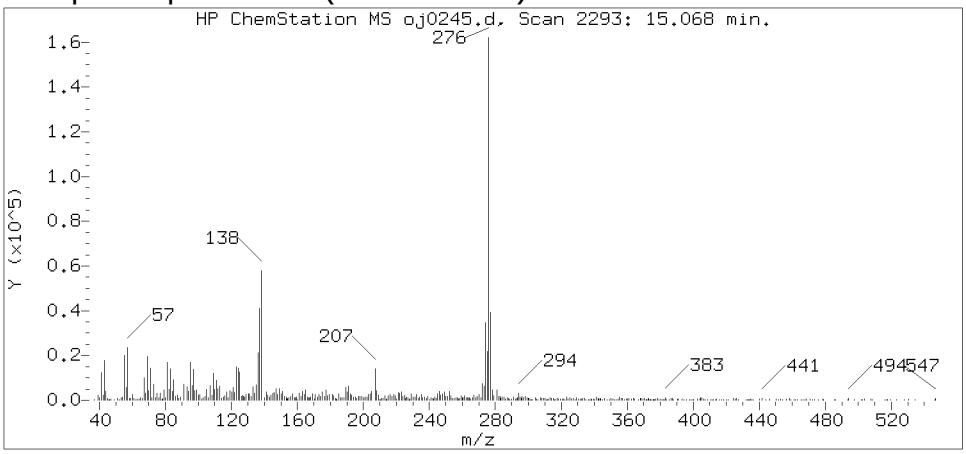


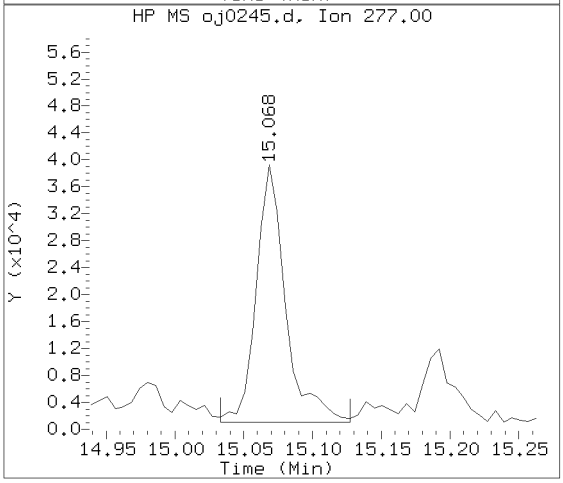
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0245.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 16:56 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:35 ceb05247

Sample Name: -498- Lab Sample ID: 8064468

Compound Number	: 221
Compound Name	: Benzo(g,h,i)perylene
Scan Number	: 2293
Retention Time (minutes)	: 15.068
Relative Retention Time	: 0.00042
Quant Ion	: 276.00
Area (flag)	: 223060
On-column Amount (ng/ul)	: 8.7399

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Target 3.5 esignature user ID: ceb05247

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles 8064469

Data file: /chem/HP09910.i/15oct05.b/oj0246.d Injection date and time: **05-OCT-2015 17:20**
Data file Sample Info. Line: -499-;8064469;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 05-OCT-2015 15:43
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct05.b/oj0241.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 5 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.49 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	5.557(0.000)	676	152	118117 (-7)	20.00	
65) Naphthalene-d8	6.845(0.000)	895	136	516930 (-15)	20.00	
113) Acenaphthene-d10	8.563(0.000)	1187	164	324400 (-16)	20.00	
153) Phenanthrene-d10	9.998(0.000)	1431	188	580145 (-23)	20.00	
175) Pyrene-d10	11.363(0.000)	1663	212	607217 (-26)	20.00	
213) Perylene-d12	13.909(0.000)	2096	264	414345 (-32)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.133(0.001)	82	165053	13.721	69%		54 - 123
93) 2-Fluorobiphenyl	(3)	7.933(0.000)	172	313230	15.212	76%		63 - 117
179) Terphenyl-d14	(5)	11.574(0.001)	244	351535	15.731	79%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)	8.416(0.000)	152	4586	0.159	26.11			0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)	9.092(0.000)	166	3918	0.171	28.04			0.1
155) Phenanthrene	(4)	10.016(0.000)	178	72855	2.162	354.61			0.1
157) Anthracene	(4)	10.068(-0.000)	178	7026	0.211	34.61			0.1
173) Fluoranthene	(4)	11.168(0.000)	202	206582	5.642	925.17			0.1
177) Pyrene	(5)	11.380(0.000)	202	158995	4.389	719.76			0.1
195) Benzo(a)anthracene	(5)	12.545(0.000)	228	42631	1.350	221.39			0.1
196) Chrysene	(5)	12.580(0.000)	228	108530	3.607	591.53			0.1
206) Benzo(b)fluoranthene	(6)	13.562(0.000)	252	134583M	5.176	848.75			0.1
208) Benzo(k)fluoranthene	(6)	13.586(0.000)	252	47166M	1.778	291.52			0.1
211) Benzo(a)pyrene	(6)	13.856(0.000)	252	58353	2.272	372.60			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	14.839(0.000)	276	62382	2.332	382.44			0.1
220) Dibenz(a,h)anthracene	(6)	14.856(0.000)	278	8524M	0.379	62.12			0.1
221) Benzo(g,h,i)perylene	(6)	15.068(0.000)	276	60905	2.772	454.59			0.1

M = Compound was manually integrated.

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct05.b/oj0246.d Injection date and time: **05-OCT-2015 17:20**
Data file Sample Info. Line: -499-;8064469;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 05-OCT-2015 15:43
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct05.b/oj0241.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 5 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.49 g

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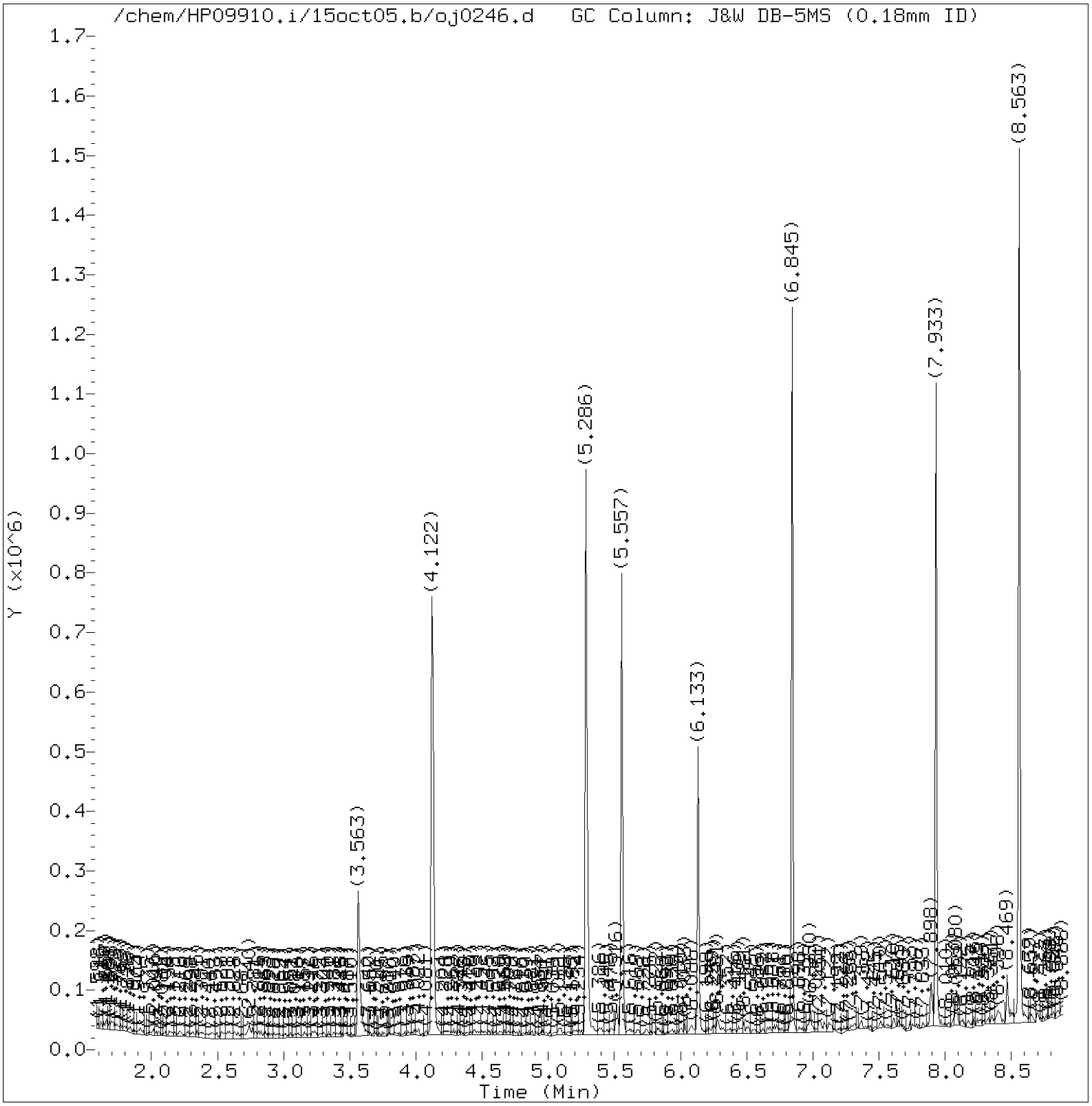
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

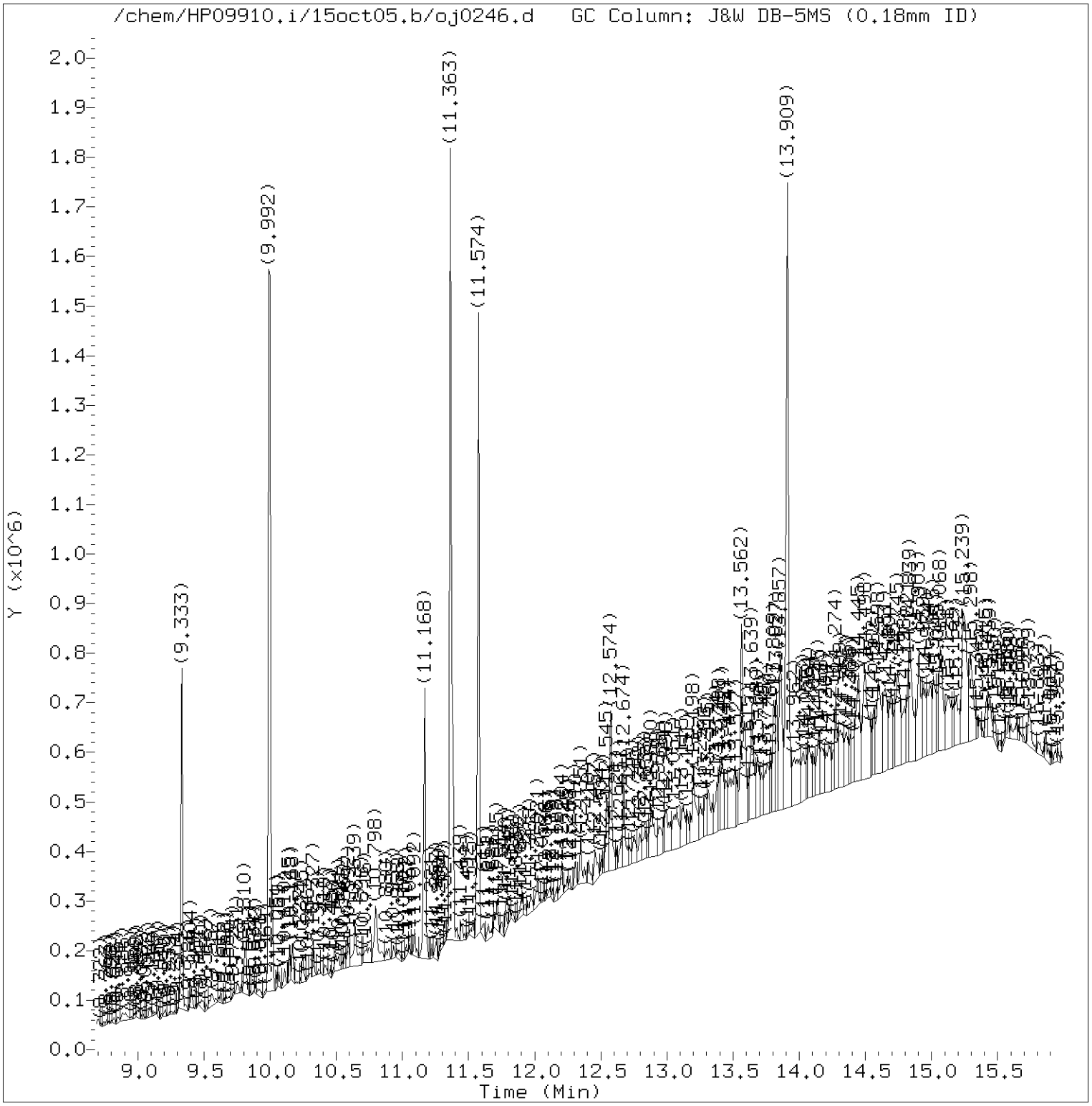
Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Sample Name: -499- Lab Sample ID: 8064469

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Sample Name: -499- Lab Sample ID: 8064469

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Sample Name: -499- Lab Sample ID: 8064469

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	5.557	152	118117	20.000
44)$Nitrobenzene-d5	(2)	6.133	82	165053	13.721
65)*Naphthalene-d8	(2)	6.845	136	516930	20.000
93)$2-Fluorobiphenyl	(3)	7.933	172	313230	15.212
109) Acenaphthylene	(3)	8.416	152	4586	0.159
113)*Acenaphthene-d10	(3)	8.563	164	324400	20.000
126) Fluorene	(3)	9.092	166	3918	0.171
153)*Phenanthrene-d10	(4)	9.998	188	580145	20.000
155) Phenanthrene	(4)	10.016	178	72855	2.162
157) Anthracene	(4)	10.069	178	7026	0.211
173) Fluoranthene	(4)	11.168	202	206582	5.642
175)*Pyrene-d10	(5)	11.363	212	607217	20.000
177) Pyrene	(5)	11.380	202	158995	4.389
179)$Terphenyl-d14	(5)	11.574	244	351535	15.731
195) Benzo(a)anthracene	(5)	12.545	228	42631	1.350
196) Chrysene	(5)	12.580	228	108530	3.607
206) Benzo(b)fluoranthene	(6)	13.562	252	134583M	5.176
208) Benzo(k)fluoranthene	(6)	13.586	252	47166M	1.778
211) Benzo(a)pyrene	(6)	13.857	252	58353	2.272
213)*Perylene-d12	(6)	13.909	264	414345	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	14.839	276	62382	2.332
220) Dibenz(a,h)anthracene	(6)	14.856	278	8524M	0.379
221) Benzo(g,h,i)perylene	(6)	15.068	276	60905	2.772

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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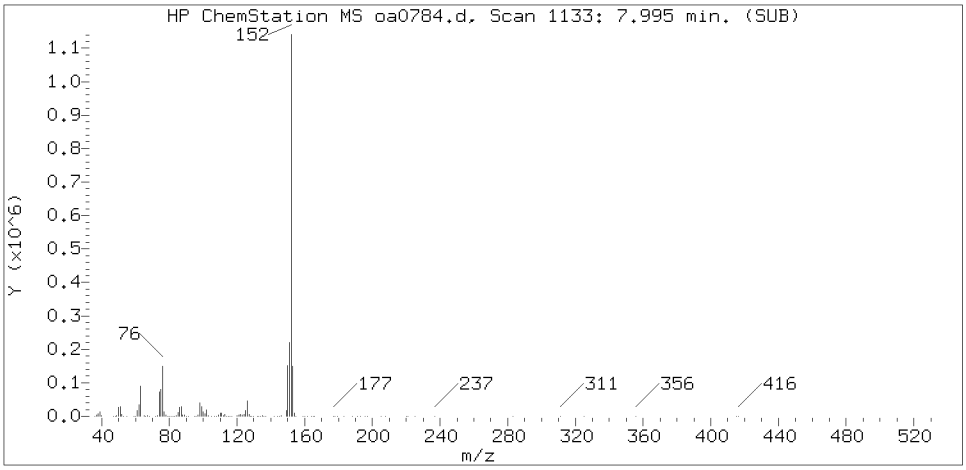
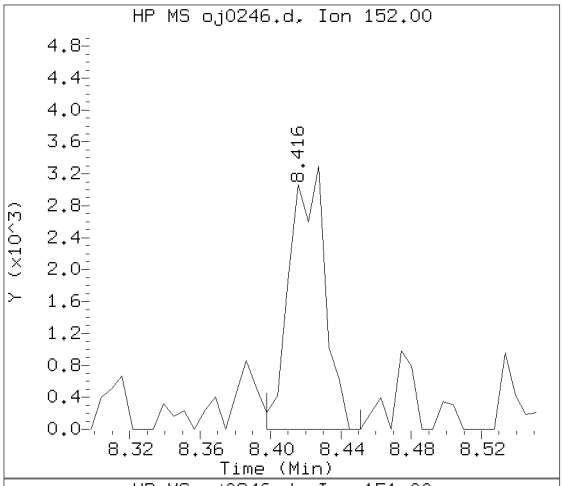
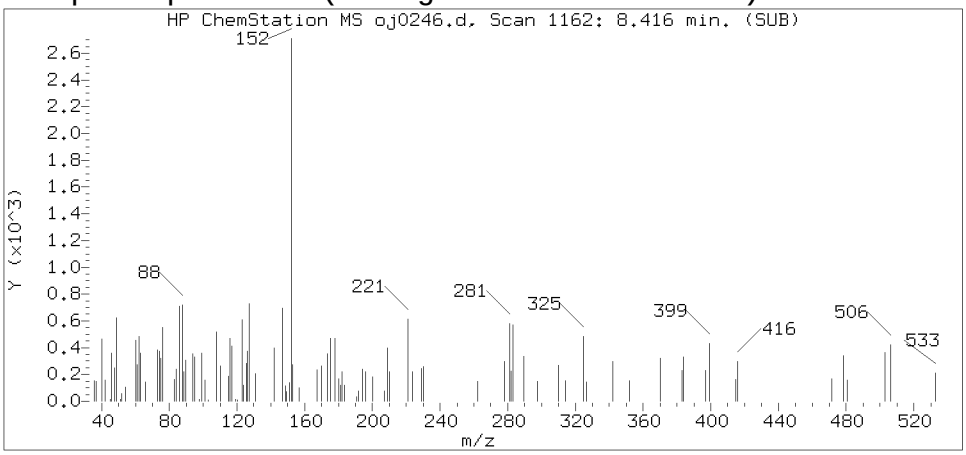
on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

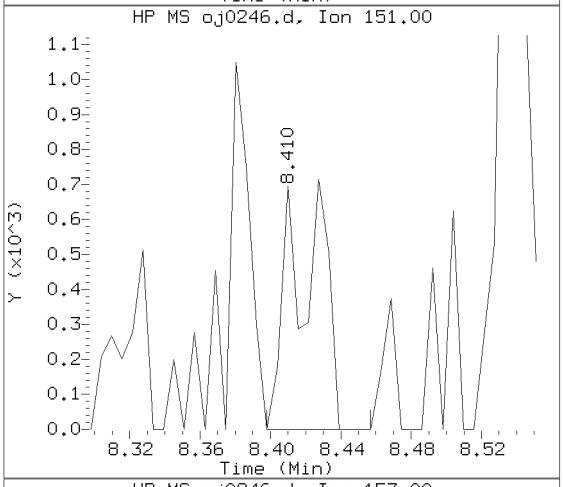
Reference Standard Spectrum for Acenaphthylene



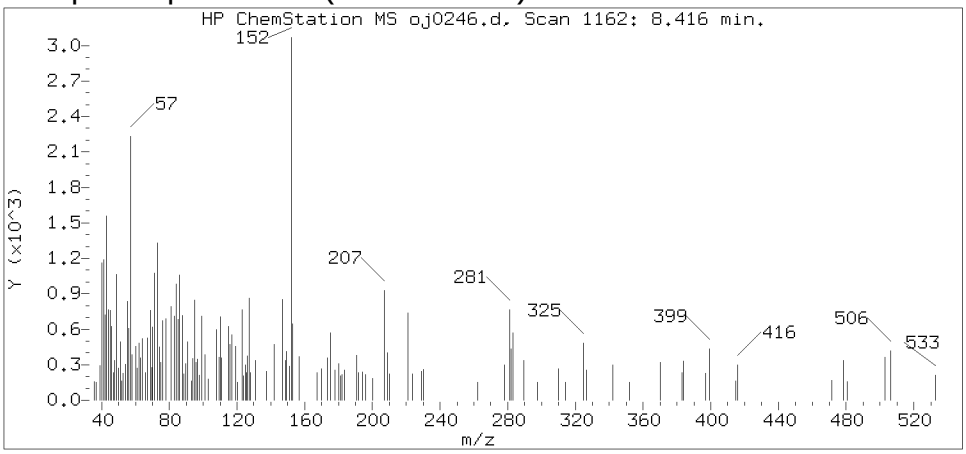


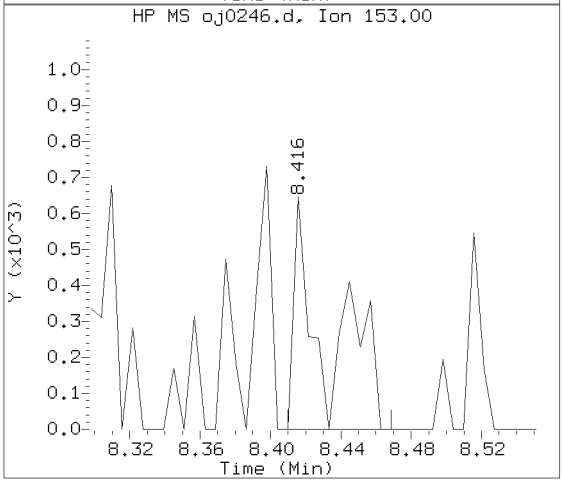
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

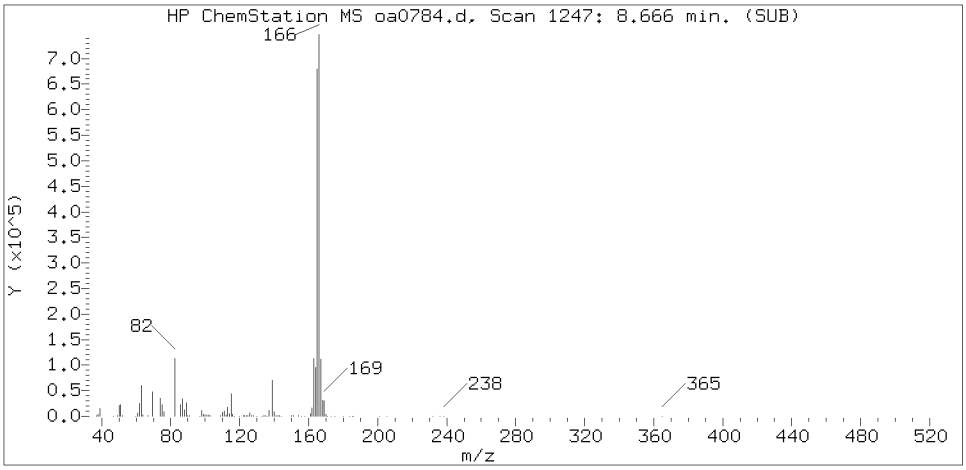
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

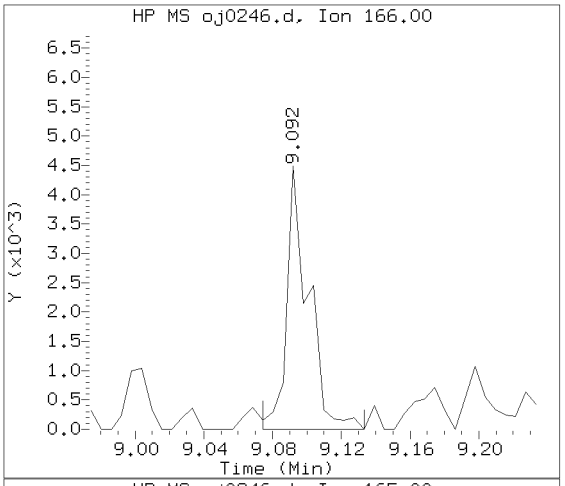
Sample Name: -499- Lab Sample ID: 8064469

Compound Number	: 109
Compound Name	: Acenaphthylene
Scan Number	: 1162
Retention Time (minutes)	: 8.416
Relative Retention Time	: 0.00069
Quant Ion	: 152.00
Area (flag)	: 4586
On-column Amount (ng/ul)	: 0.1592

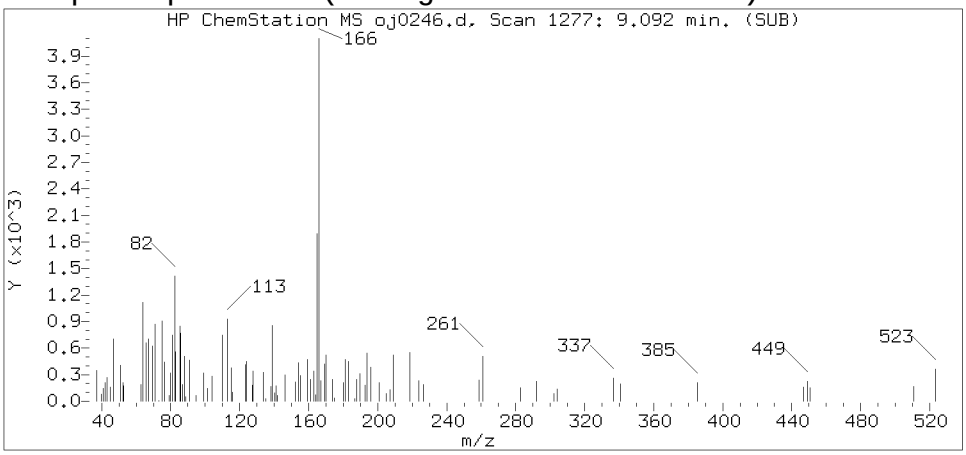
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

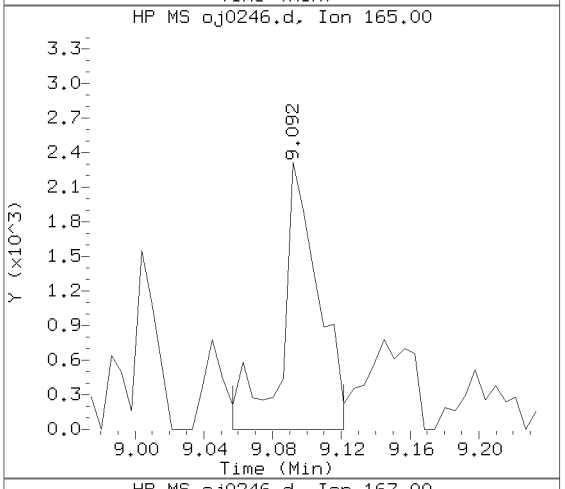
Reference Standard Spectrum for Fluorene



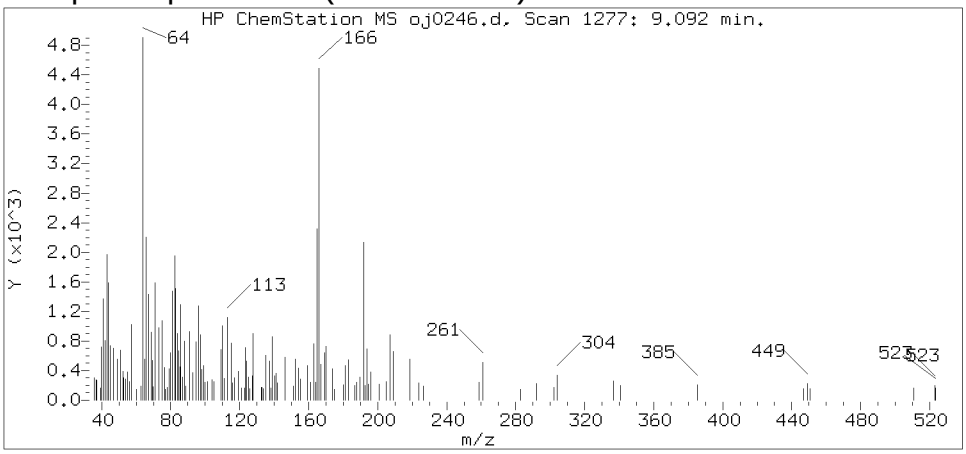


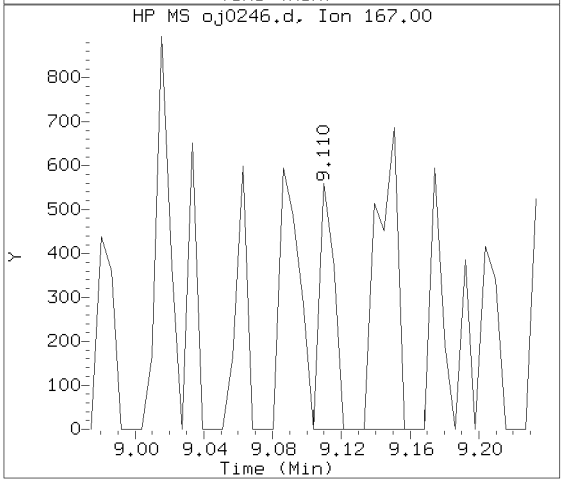
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Sample Name: -499- Lab Sample ID: 8064469

Compound Number	: 126
Compound Name	: Fluorene
Scan Number	: 1277
Retention Time (minutes)	: 9.092
Relative Retention Time	: 0.00069
Quant Ion	: 166.00
Area (flag)	: 3918
On-column Amount (ng/ul)	: 0.1710

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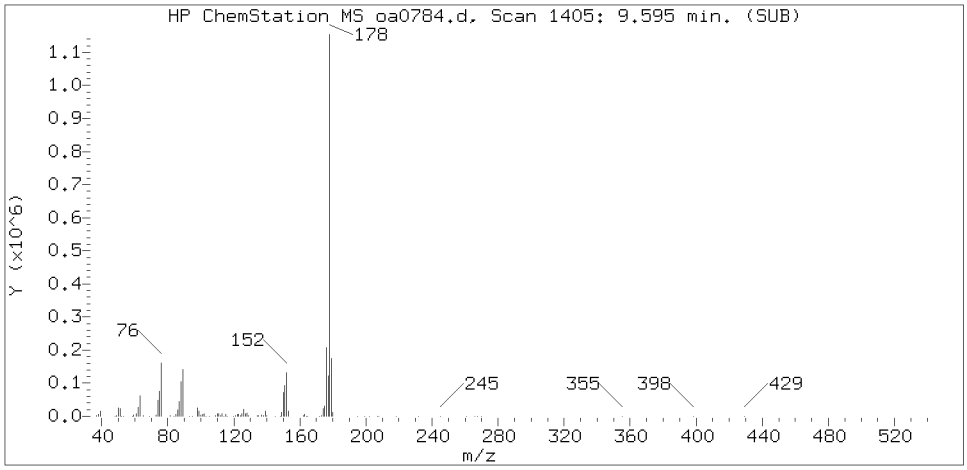
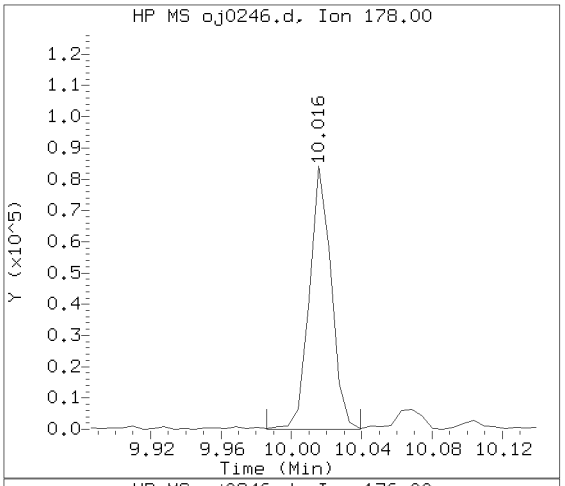
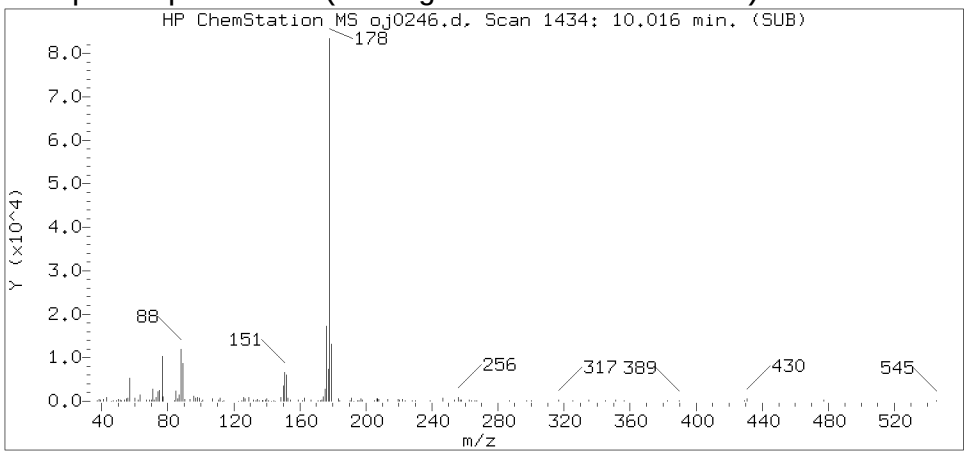
Target 3.5 esignature user ID: ceb05247

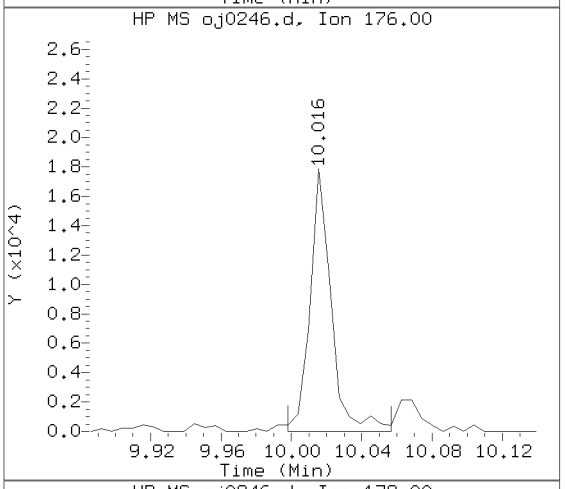
Reference Standard Spectrum for Phenanthrene



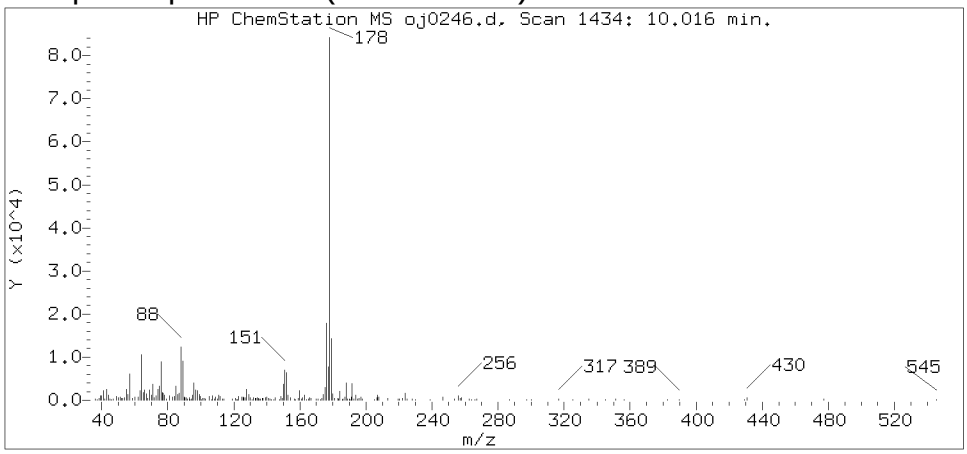


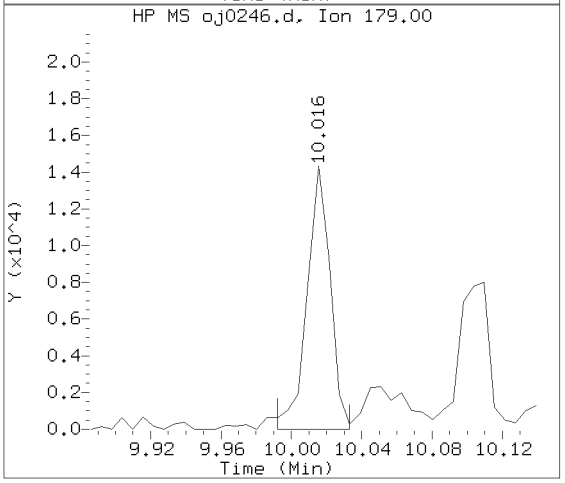
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

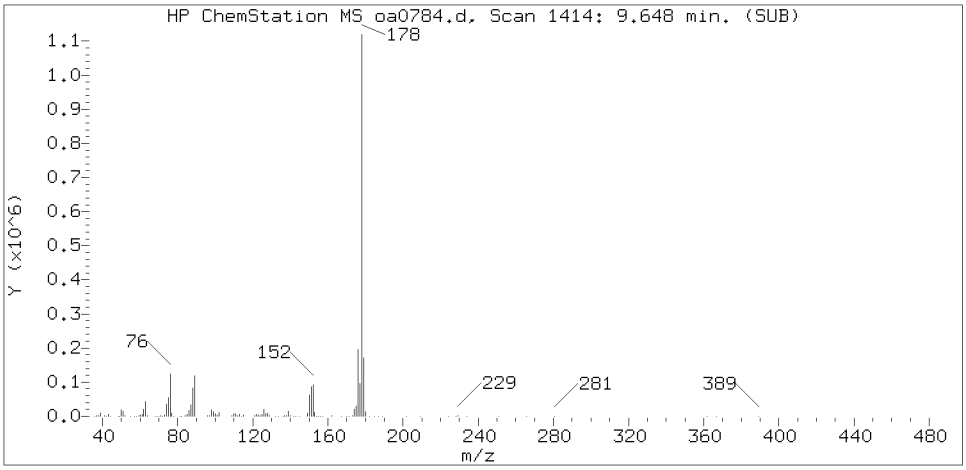
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

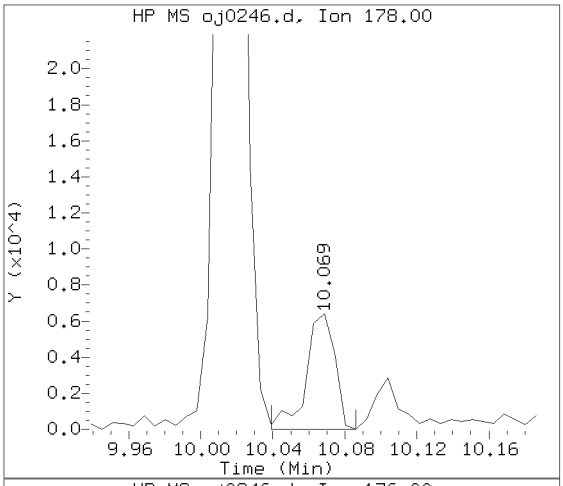
Sample Name: -499- Lab Sample ID: 8064469

Compound Number	: 155
Compound Name	: Phenanthrene
Scan Number	: 1434
Retention Time (minutes)	: 10.016
Relative Retention Time	: 0.00059
Quant Ion	: 178.00
Area (flag)	: 72855
On-column Amount (ng/ul)	: 2.1624

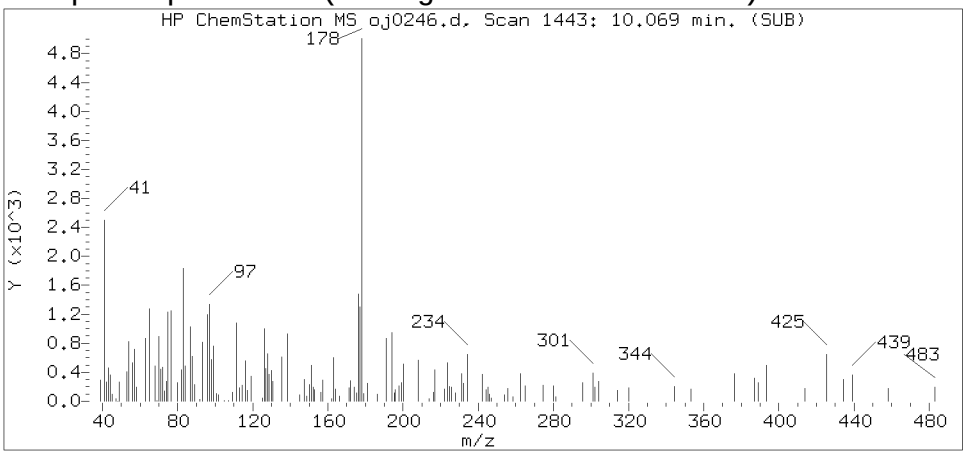
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

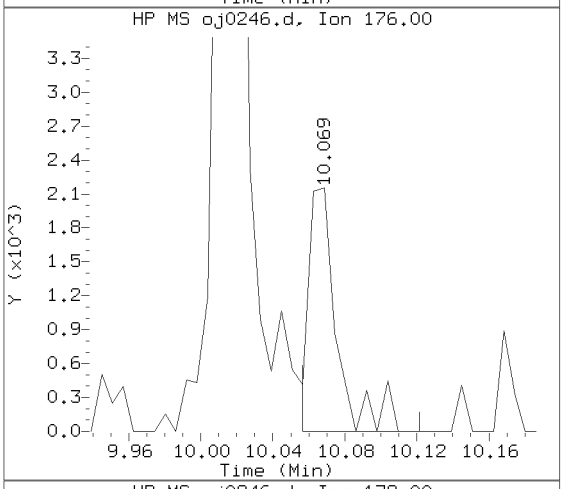
Reference Standard Spectrum for Anthracene



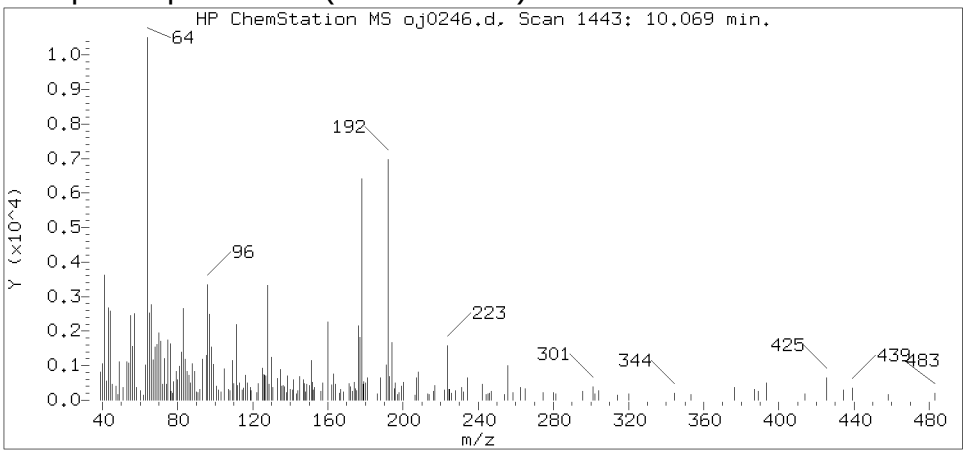


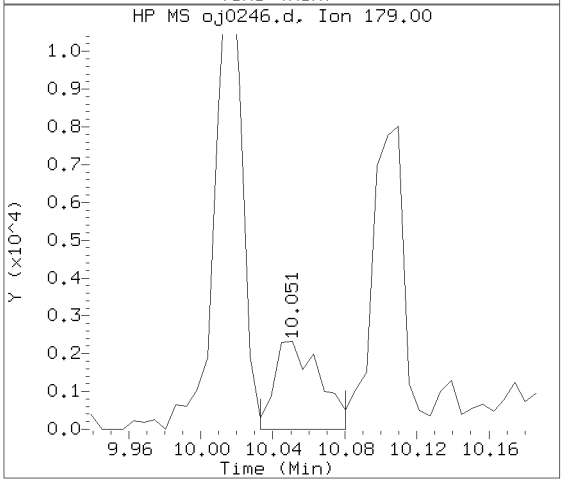
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

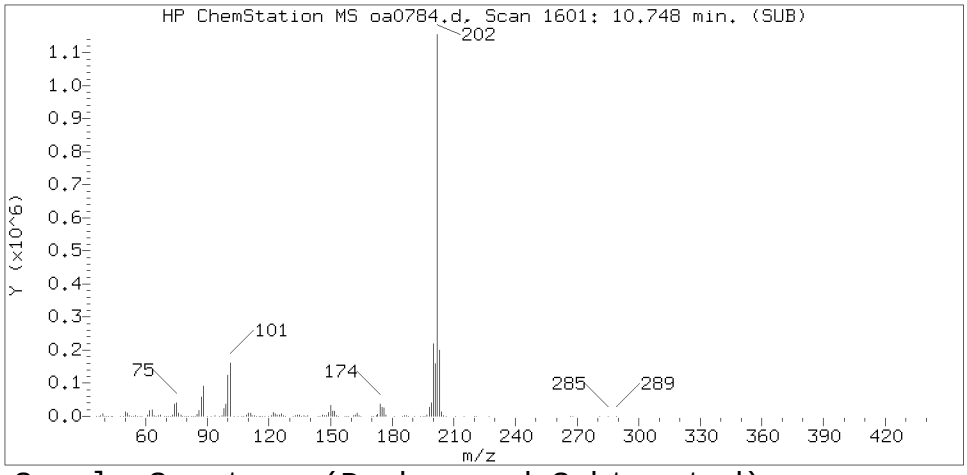
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

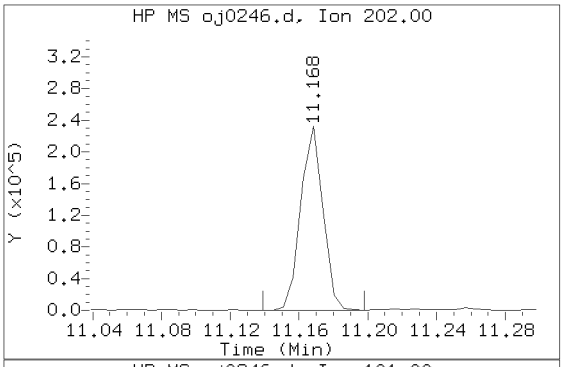
Sample Name: -499- Lab Sample ID: 8064469

Compound Number : 157
Compound Name : Anthracene
Scan Number : 1443
Retention Time (minutes) : 10.069
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 7026
On-column Amount (ng/ul) : 0.2110

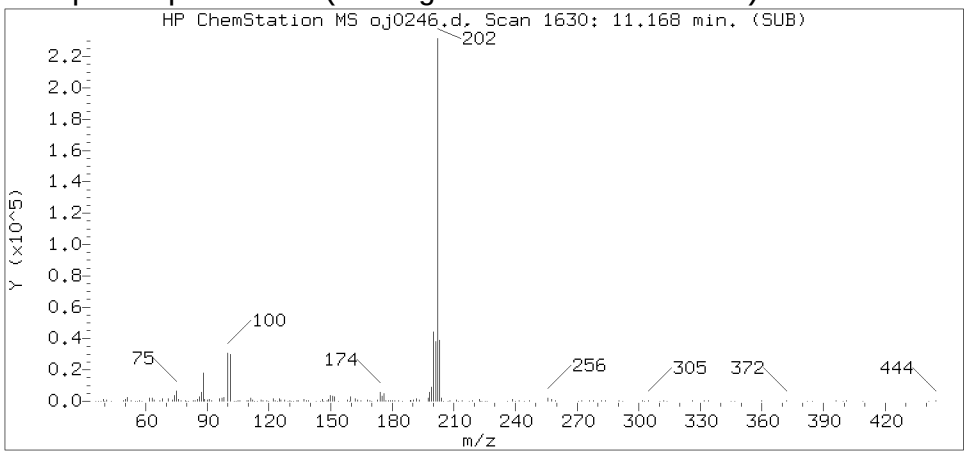
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

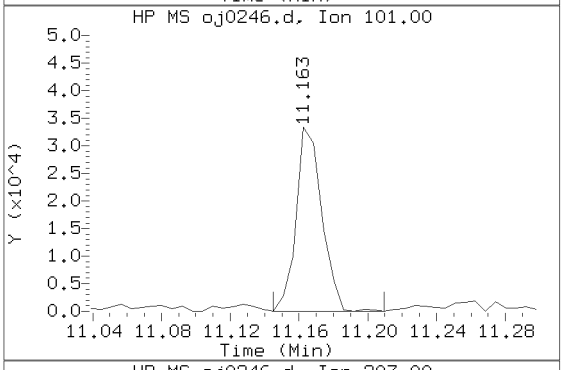
Reference Standard Spectrum for Fluoranthene

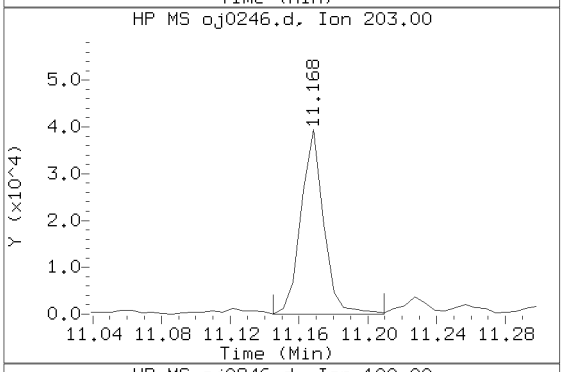




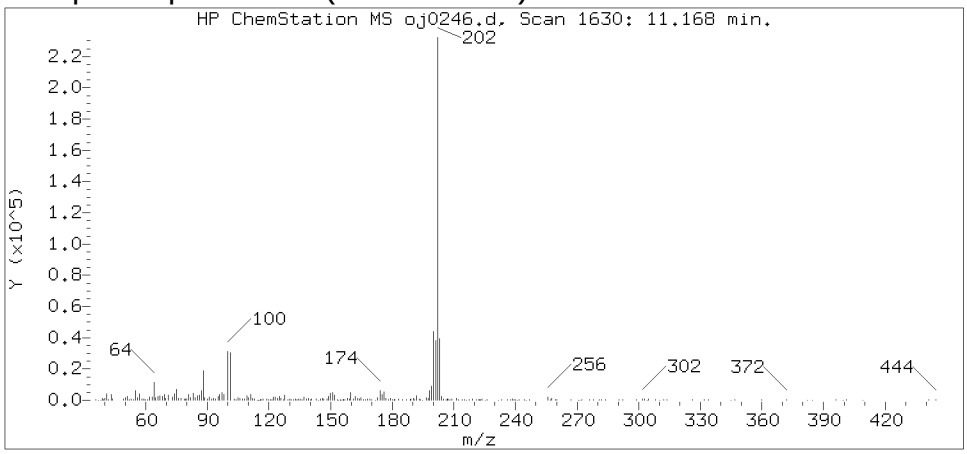
Sample Spectrum (Background Subtracted)

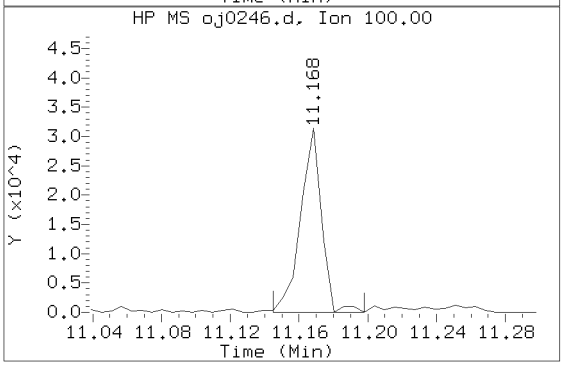






Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Sample Name: -499- Lab Sample ID: 8064469

Compound Number	: 173
Compound Name	: Fluoranthene
Scan Number	: 1630
Retention Time (minutes)	: 11.168
Relative Retention Time	: 0.00000
Quant Ion	: 202.00
Area (flag)	: 206582
On-column Amount (ng/ul)	: 5.6417

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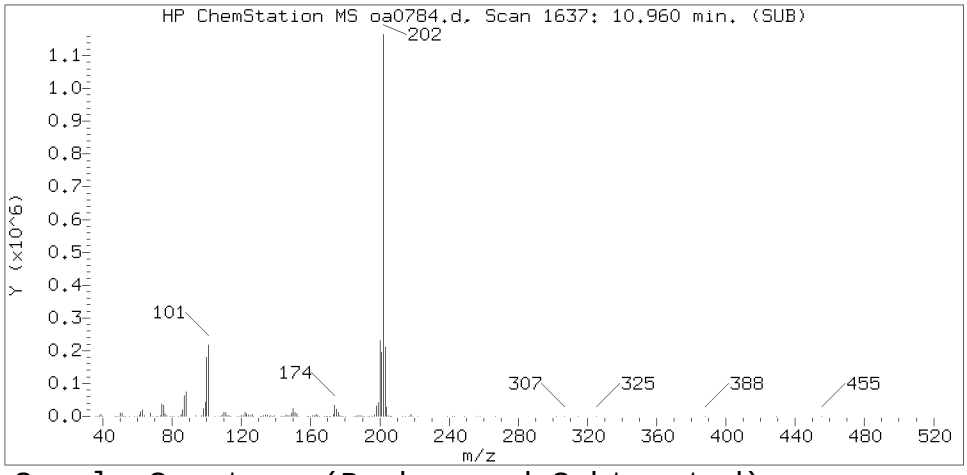
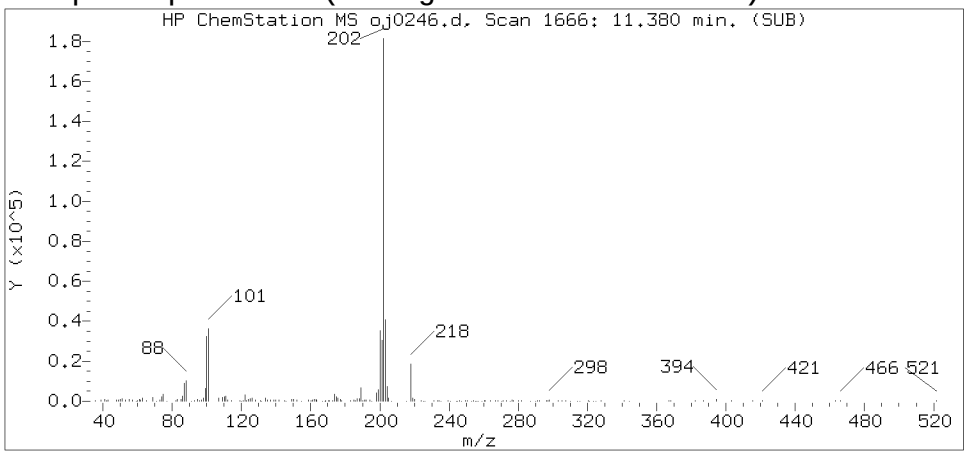
Target 3.5 esignature user ID: ceb05247

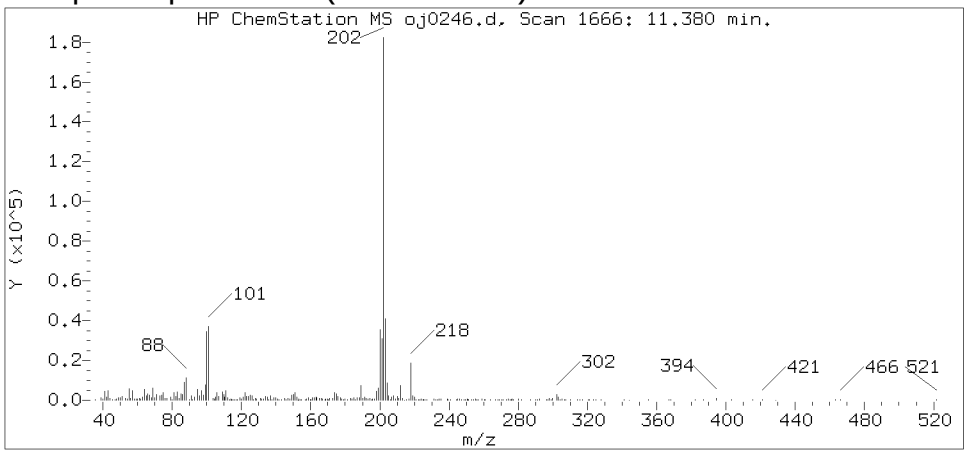
Reference Standard Spectrum for Pyrene

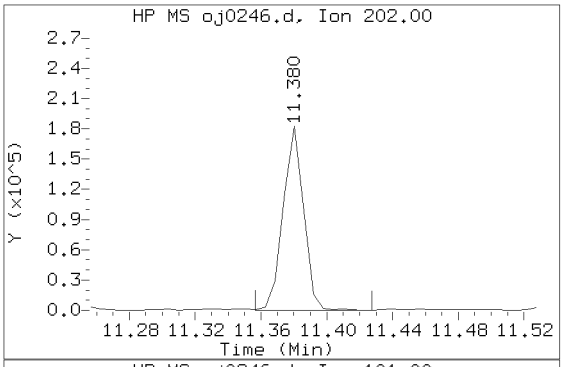


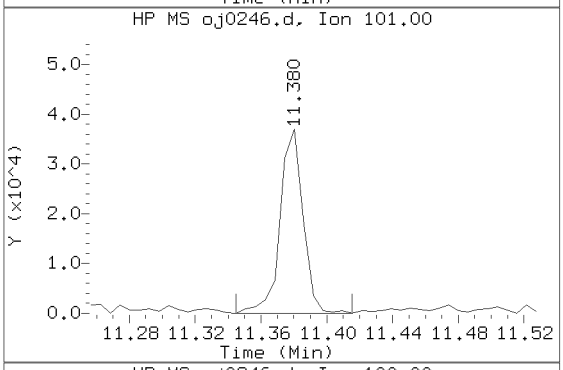
Sample Spectrum (Background Subtracted)

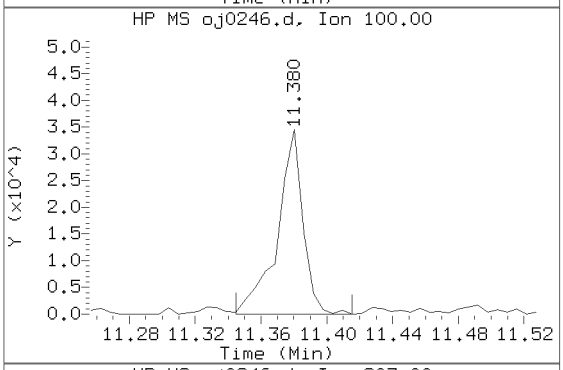


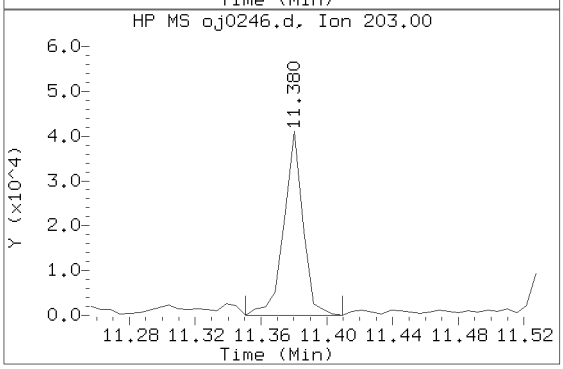
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Sample Name: -499- Lab Sample ID: 8064469

Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1666
Retention Time (minutes)	: 11.380
Relative Retention Time	: 0.00052
Quant Ion	: 202.00
Area (flag)	: 158995
On-column Amount (ng/ul)	: 4.3891

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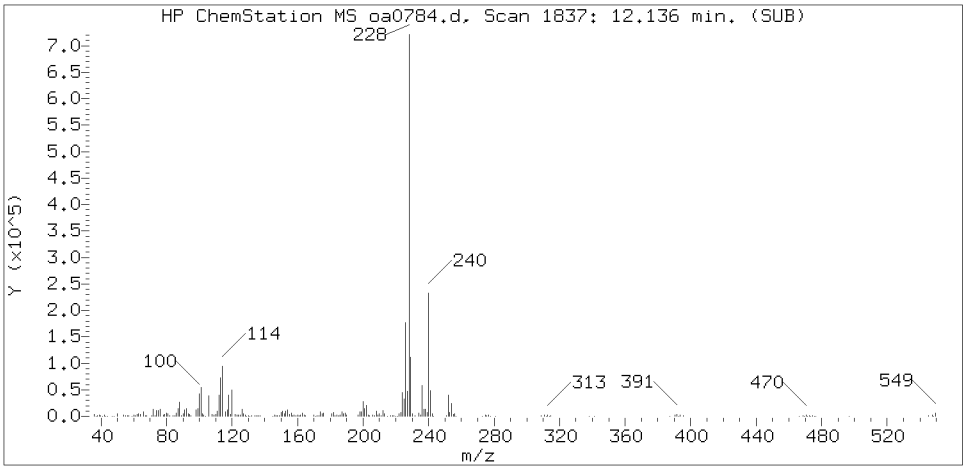
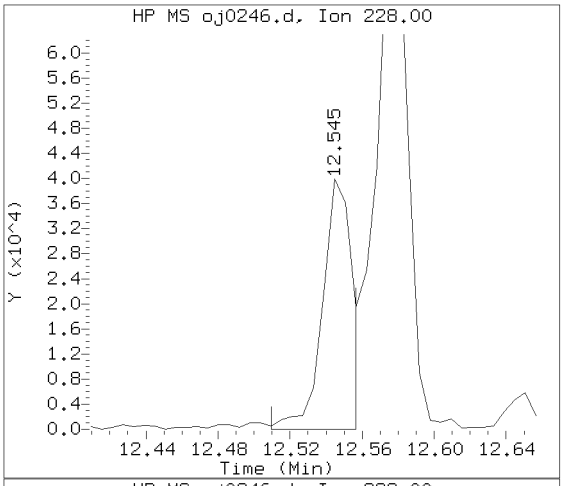
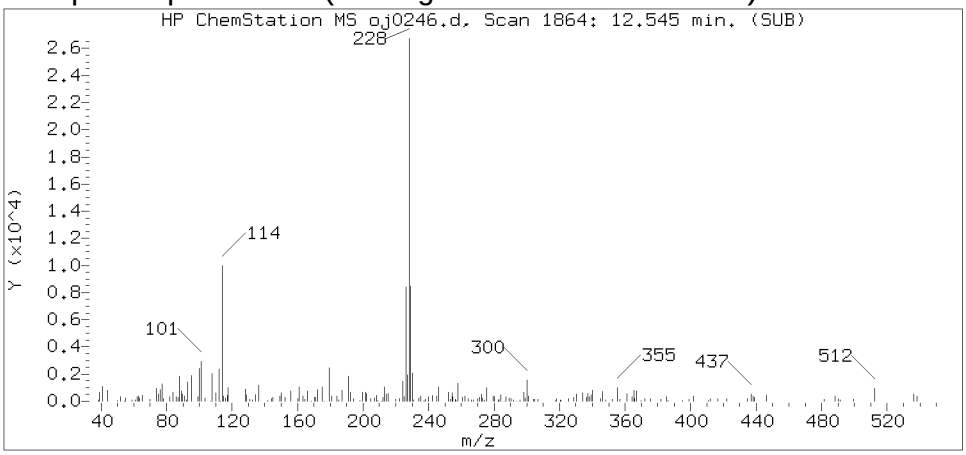
Target 3.5 esignature user ID: ceb05247

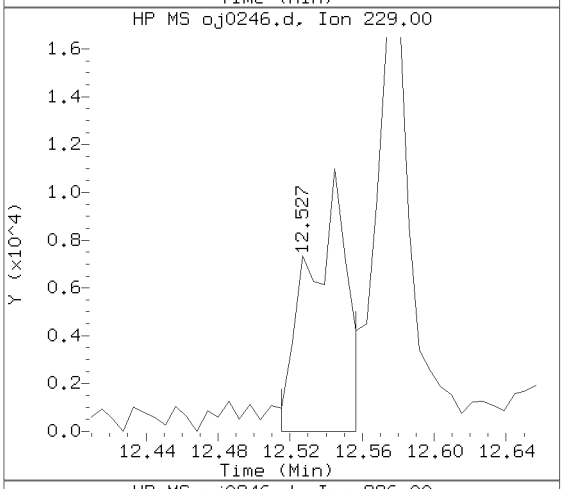
Reference Standard Spectrum for Benzo(a)anthracene



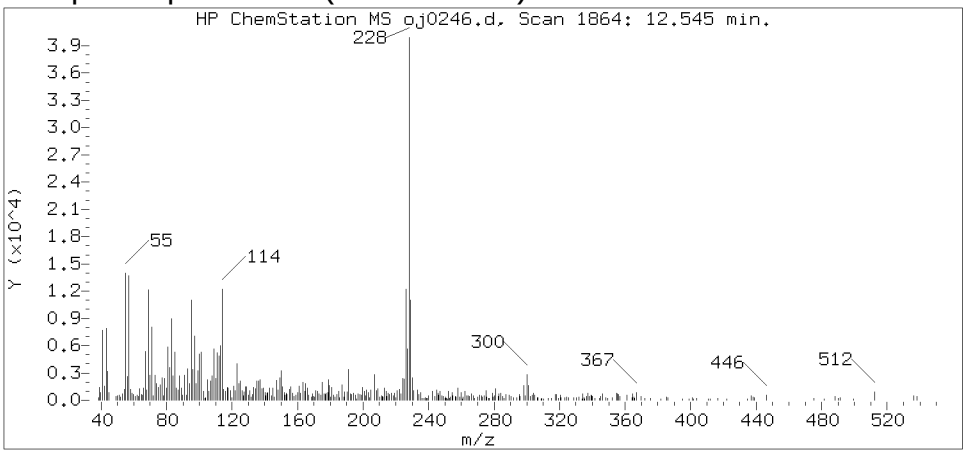


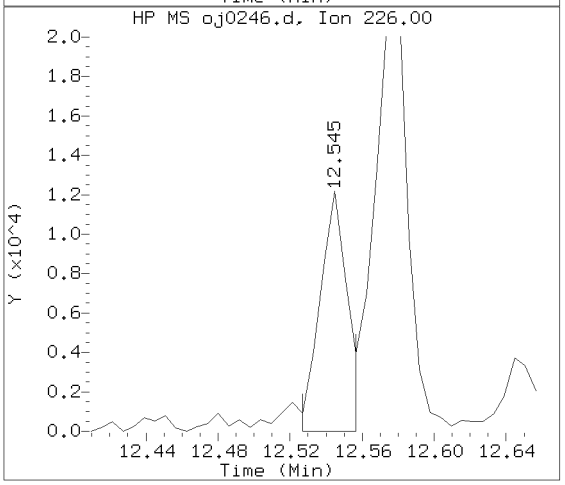
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Sample Name: -499- Lab Sample ID: 8064469

Compound Number	: 195
Compound Name	: Benzo(a)anthracene
Scan Number	: 1864
Retention Time (minutes)	: 12.545
Relative Retention Time	: 0.00052
Quant Ion	: 228.00
Area (flag)	: 42631
On-column Amount (ng/ul)	: 1.3501

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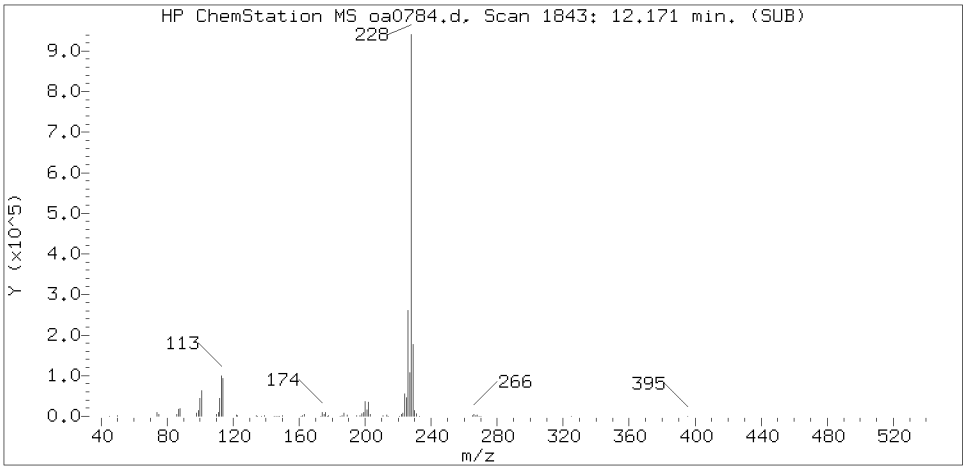
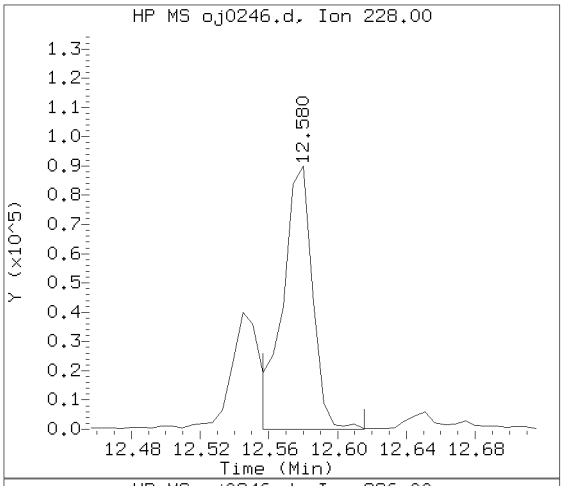
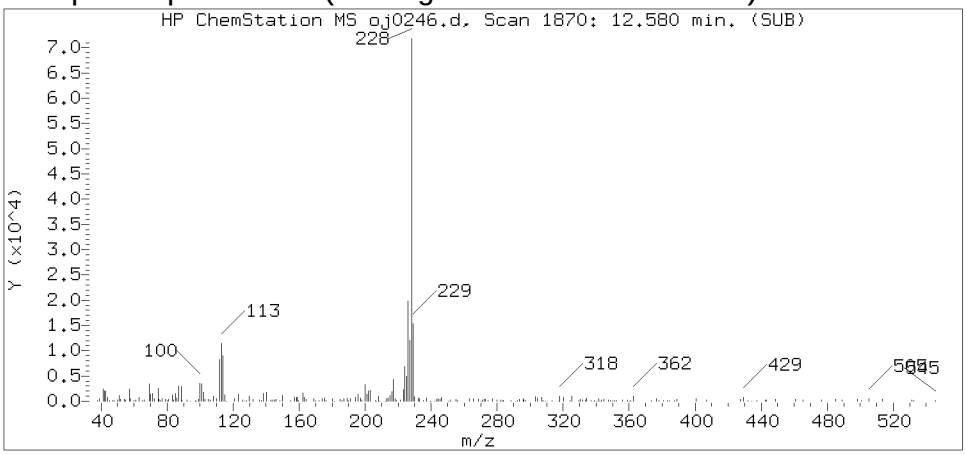
Target 3.5 esignature user ID: ceb05247

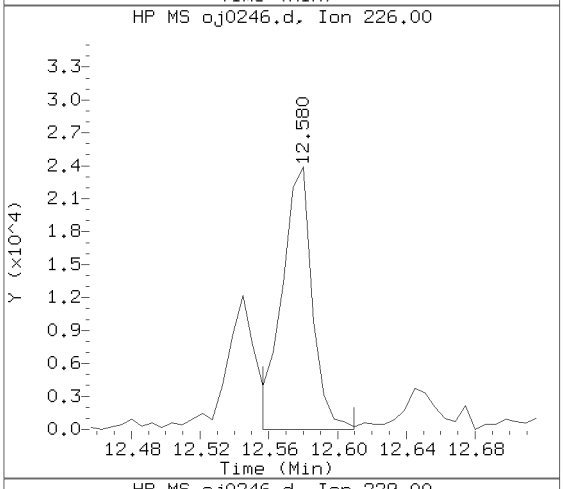
Reference Standard Spectrum for Chrysene



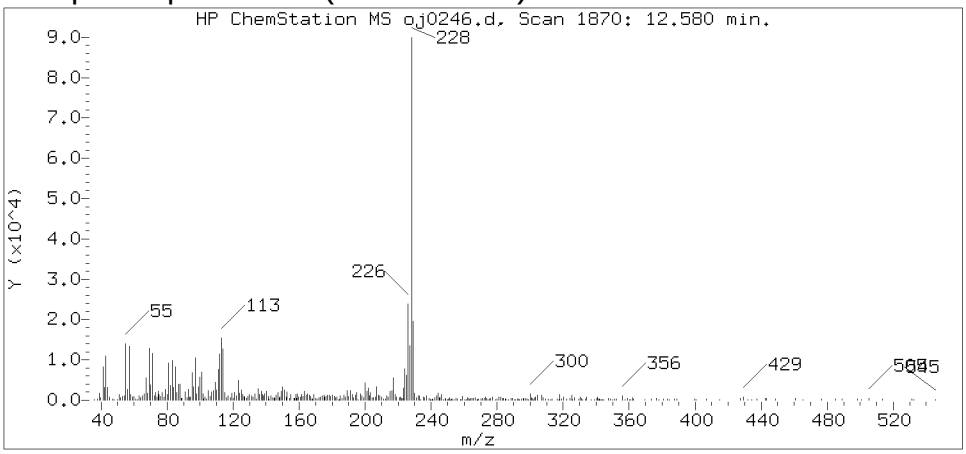


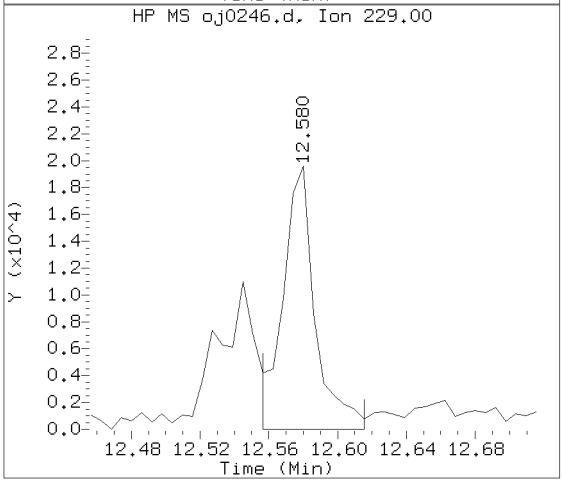
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Sample Name: -499- Lab Sample ID: 8064469

Compound Number	: 196
Compound Name	: Chrysene
Scan Number	: 1870
Retention Time (minutes)	: 12.580
Relative Retention Time	: 0.00052
Quant Ion	: 228.00
Area (flag)	: 108530
On-column Amount (ng/ul)	: 3.6071

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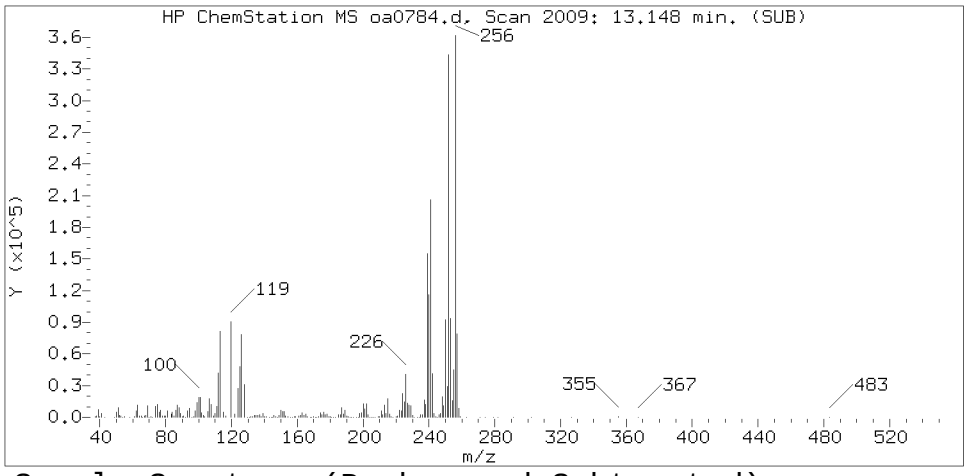
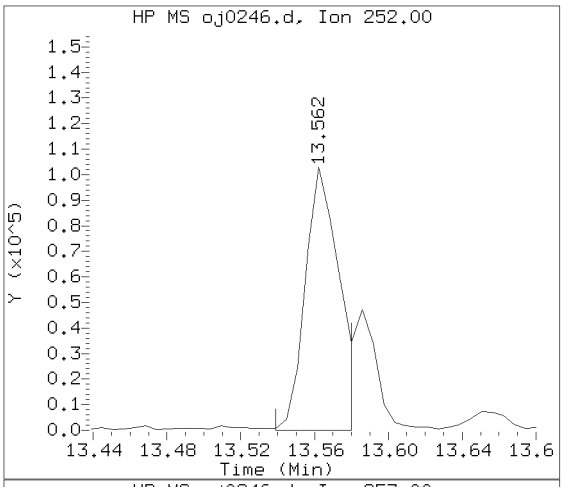
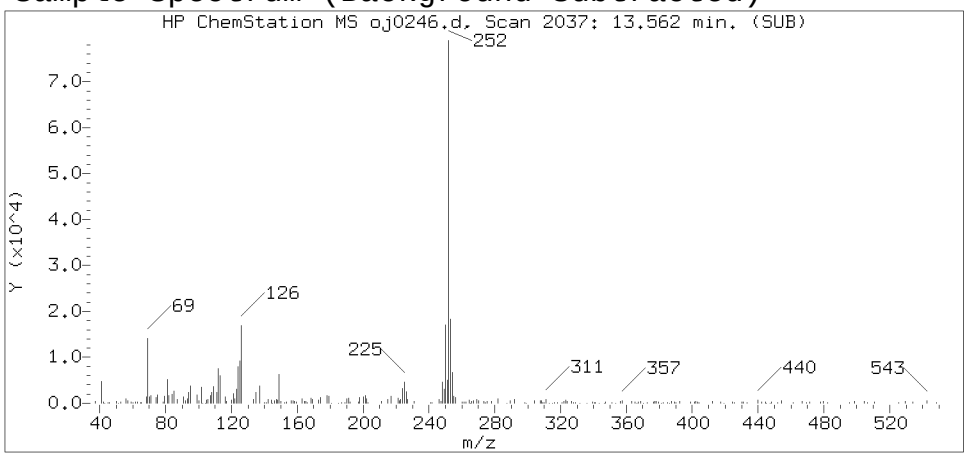
Target 3.5 esignature user ID: ceb05247

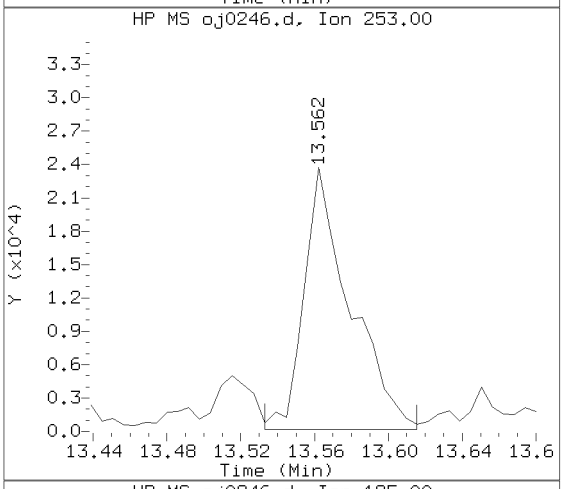
Reference Standard Spectrum for Benzo(b)fluoranthene



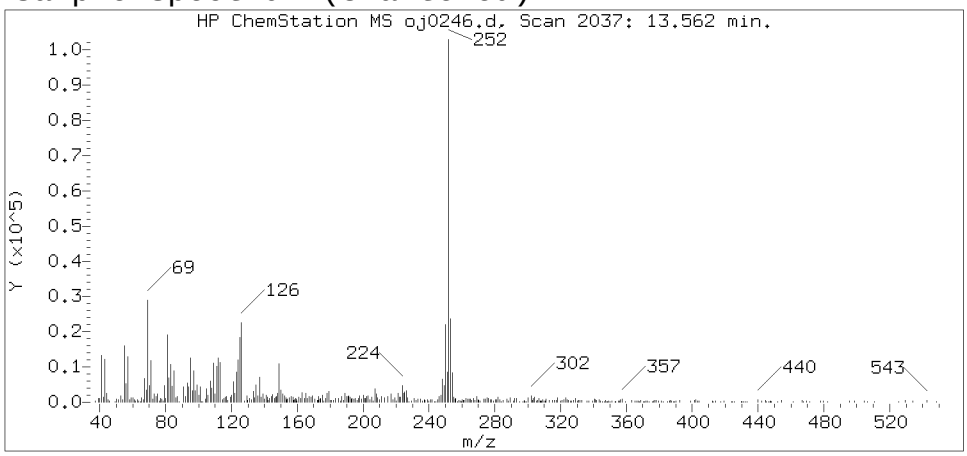


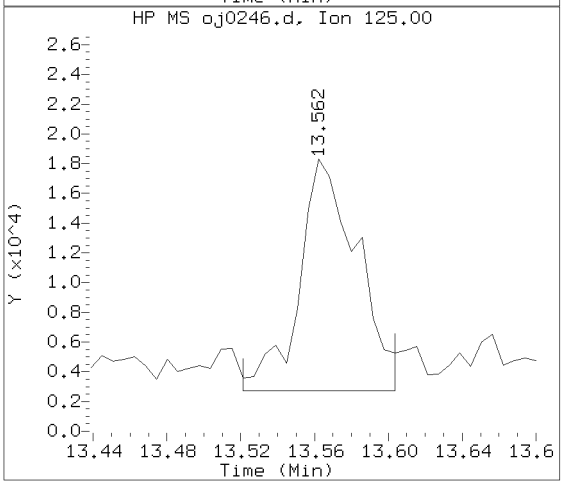
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

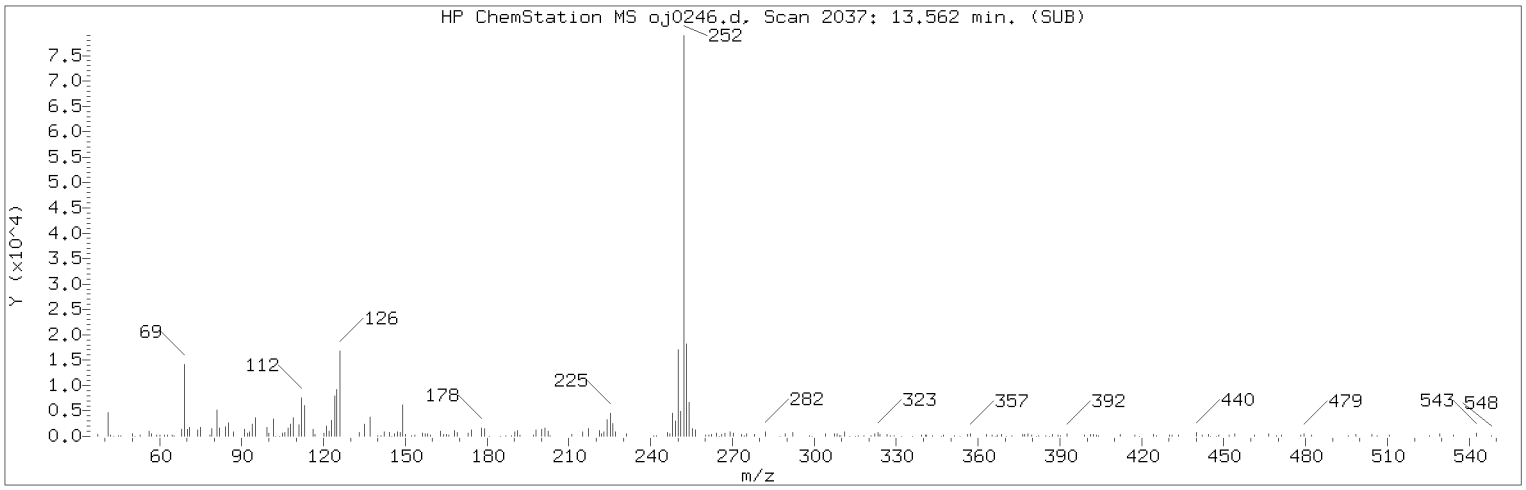
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Sample Name: -499- Lab Sample ID: 8064469

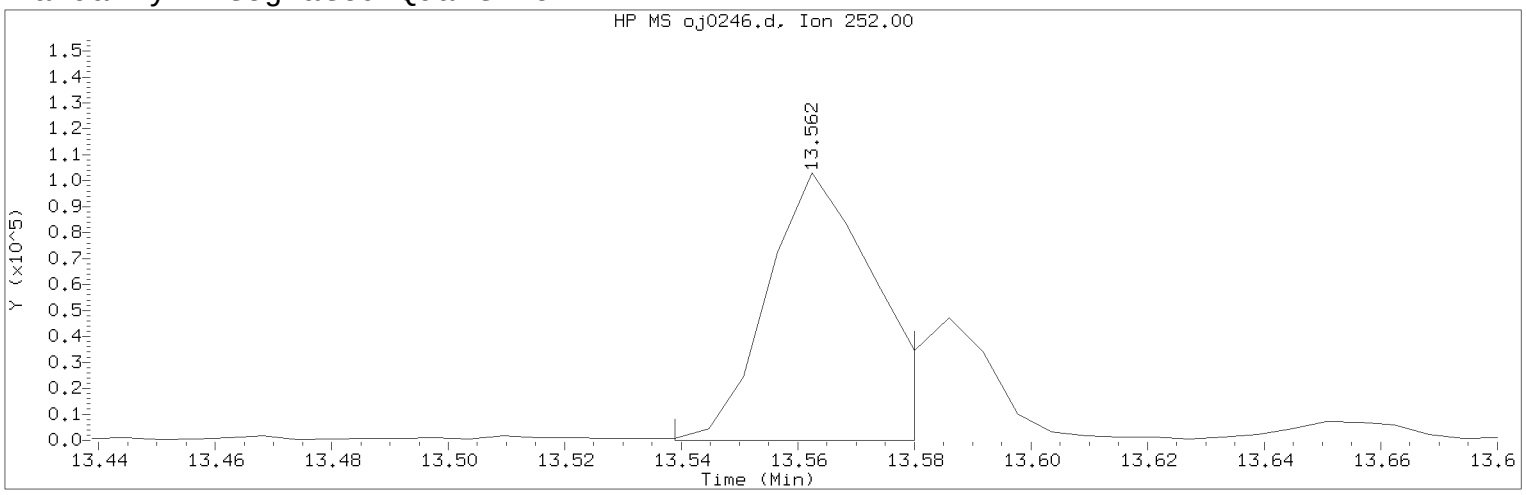
Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2037
Retention Time (minutes)	: 13.562
Relative Retention Time	: 0.00042
Quant Ion	: 252.00
Area (flag)	: 134583M
On-column Amount (ng/ul)	: 5.1757

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Sample Name: -499- Lab Sample ID: 8064469

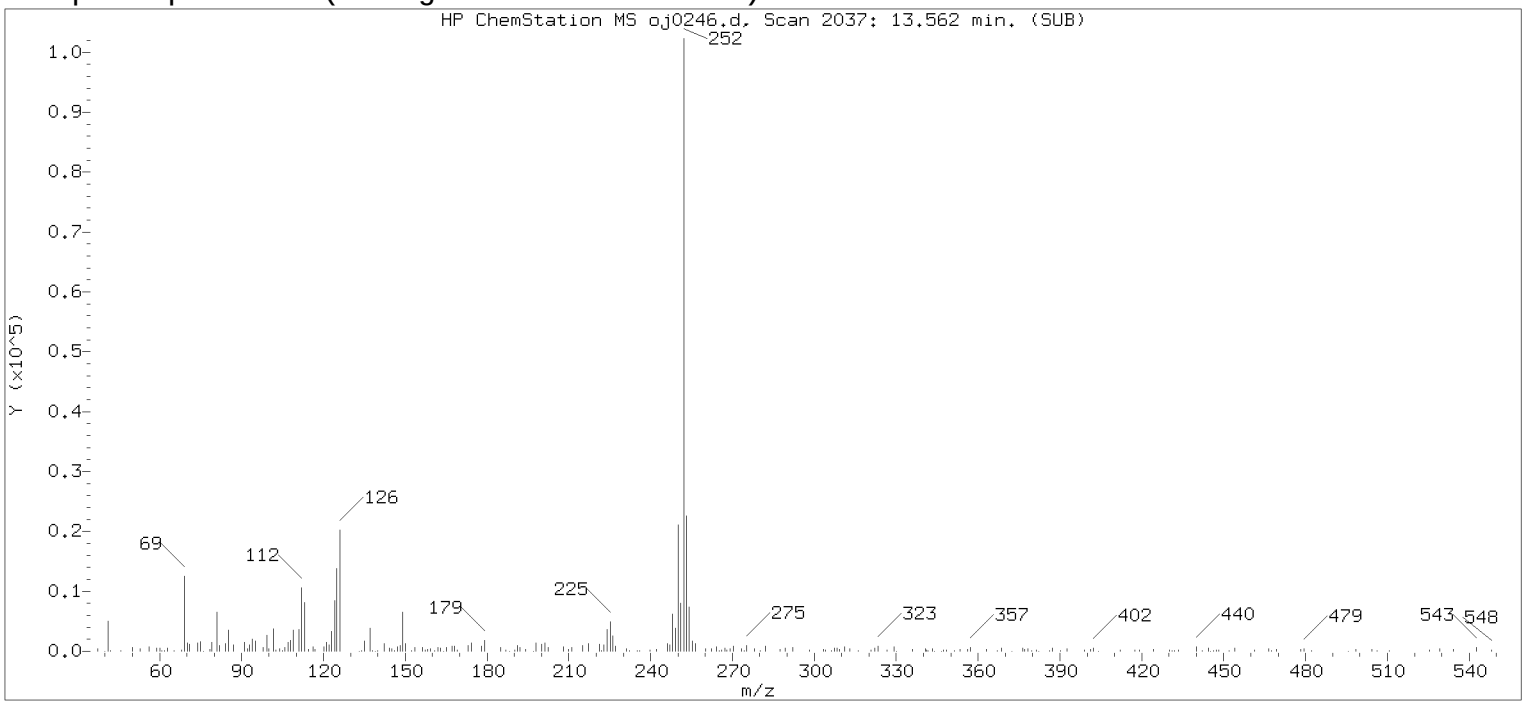
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2037
Retention Time (minutes) : 13.562
Quant Ion : 252.00
Area (flag) : 134583M
On-column Amount (ng/ul) : 5.1757
Integration start scan : 2032 Integration stop scan: 2039
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

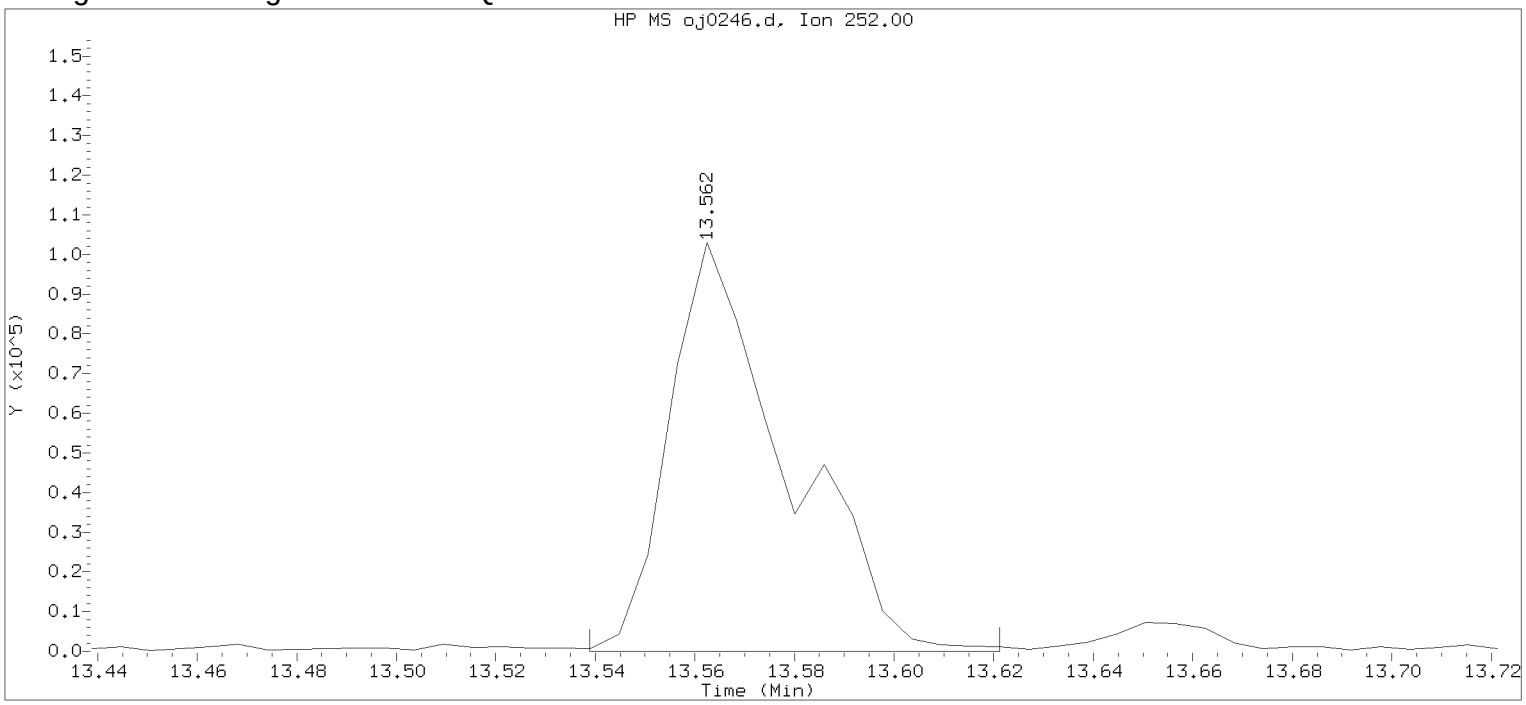
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

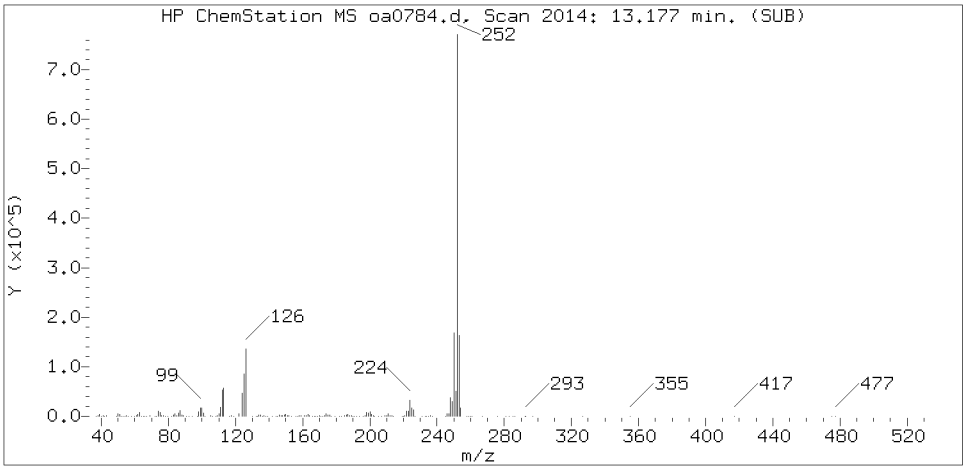
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:36 Automation

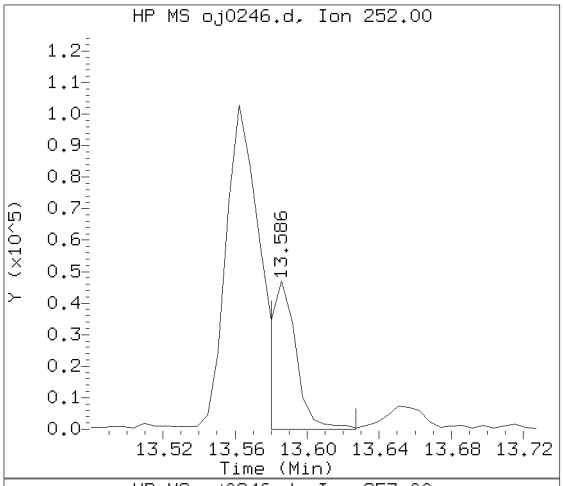
Sample Name: -499- Lab Sample ID: 8064469

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2037		
Retention Time (minutes)	: 13.562		
Quant Ion	: 252.00		
Area	: 169023		
On-column Amount (ng/ul)	: 6.5002		
Integration start scan	: 2032	Integration stop scan:	2046
Y at integration start	: 0	Y at integration end:	0

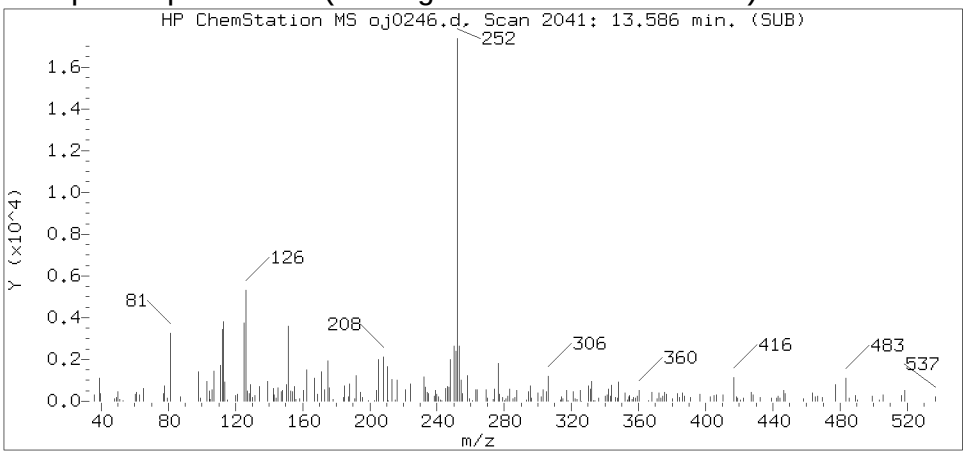
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: 27 date: 20150507

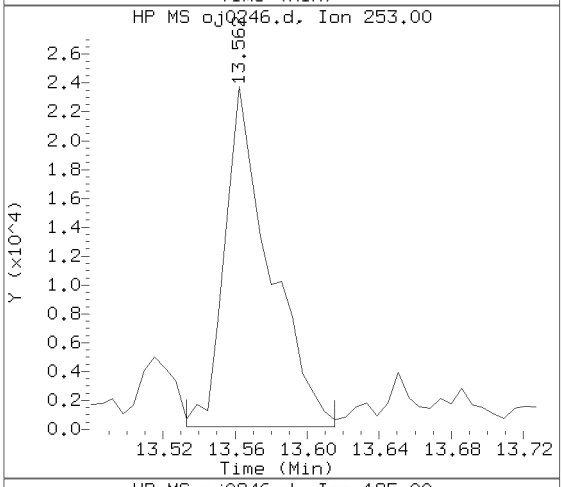
Reference Standard Spectrum for Benzo(k)fluoranthene



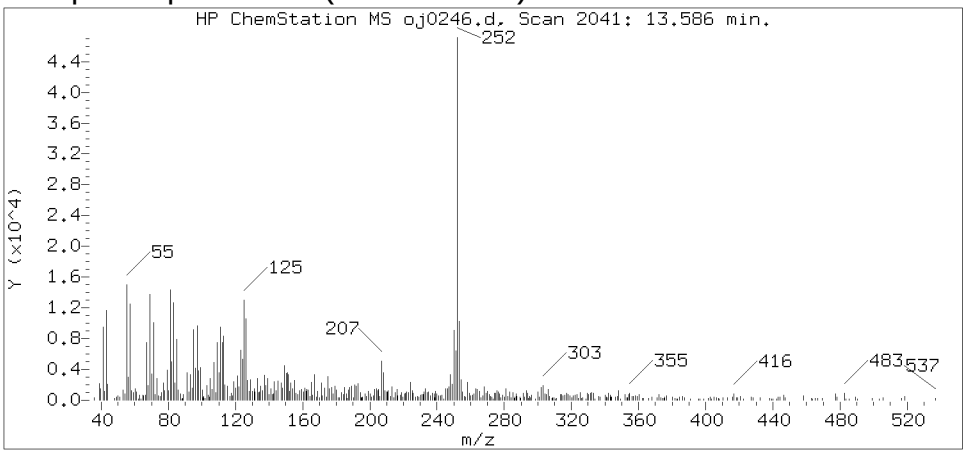


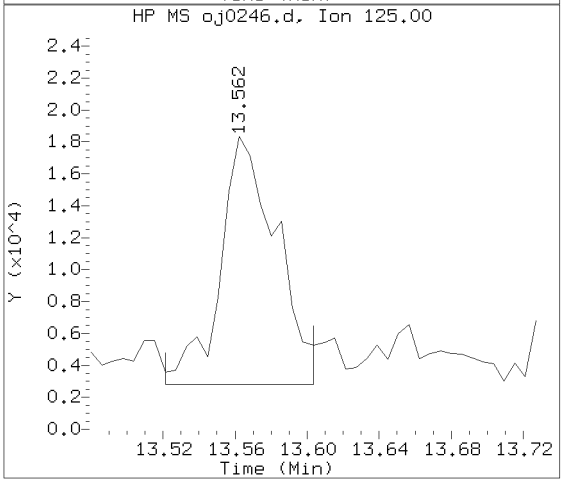
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

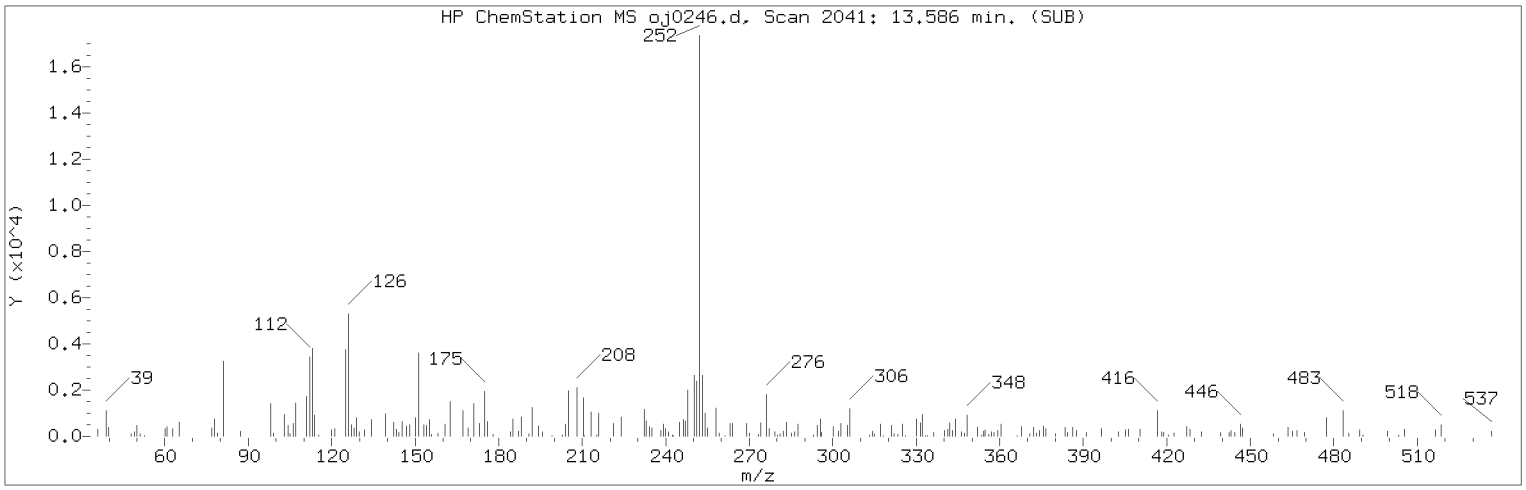
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Sample Name: -499- Lab Sample ID: 8064469

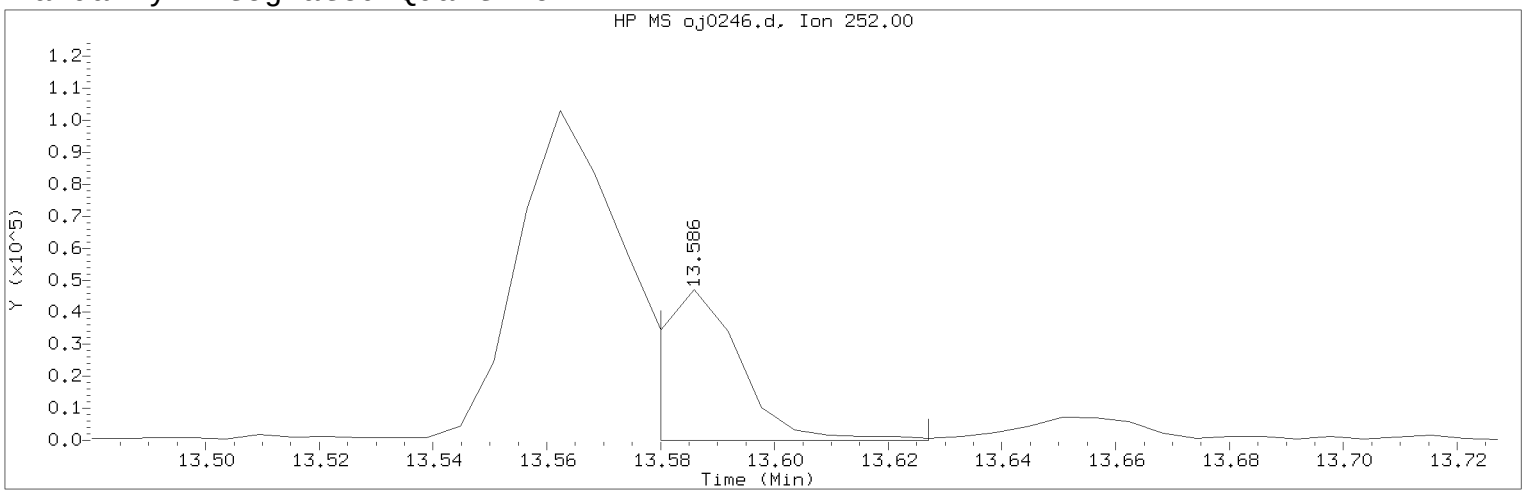
Compound Number	: 208
Compound Name	: Benzo(k)fluoranthene
Scan Number	: 2041
Retention Time (minutes)	: 13.586
Relative Retention Time	: 0.00042
Quant Ion	: 252.00
Area (flag)	: 47166M
On-column Amount (ng/ul)	: 1.7777

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Sample Name: -499- Lab Sample ID: 8064469

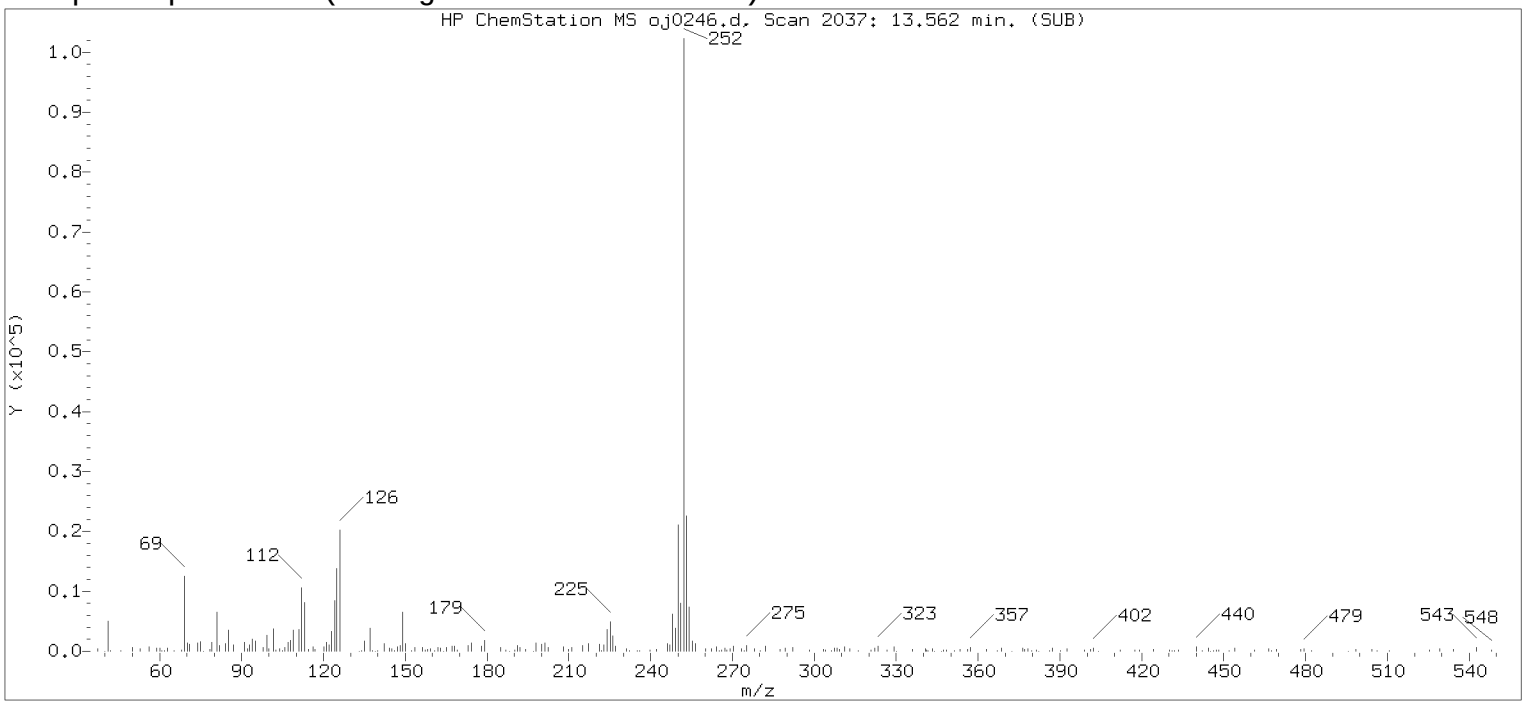
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2041
Retention Time (minutes) : 13.586
Quant Ion : 252.00
Area (flag) : 47166M
On-column Amount (ng/ul) : 1.7777
Integration start scan : 2039 Integration stop scan: 2047
Y at integration start : -9 Y at integration end: -9

Reason for manual integration: improper integration

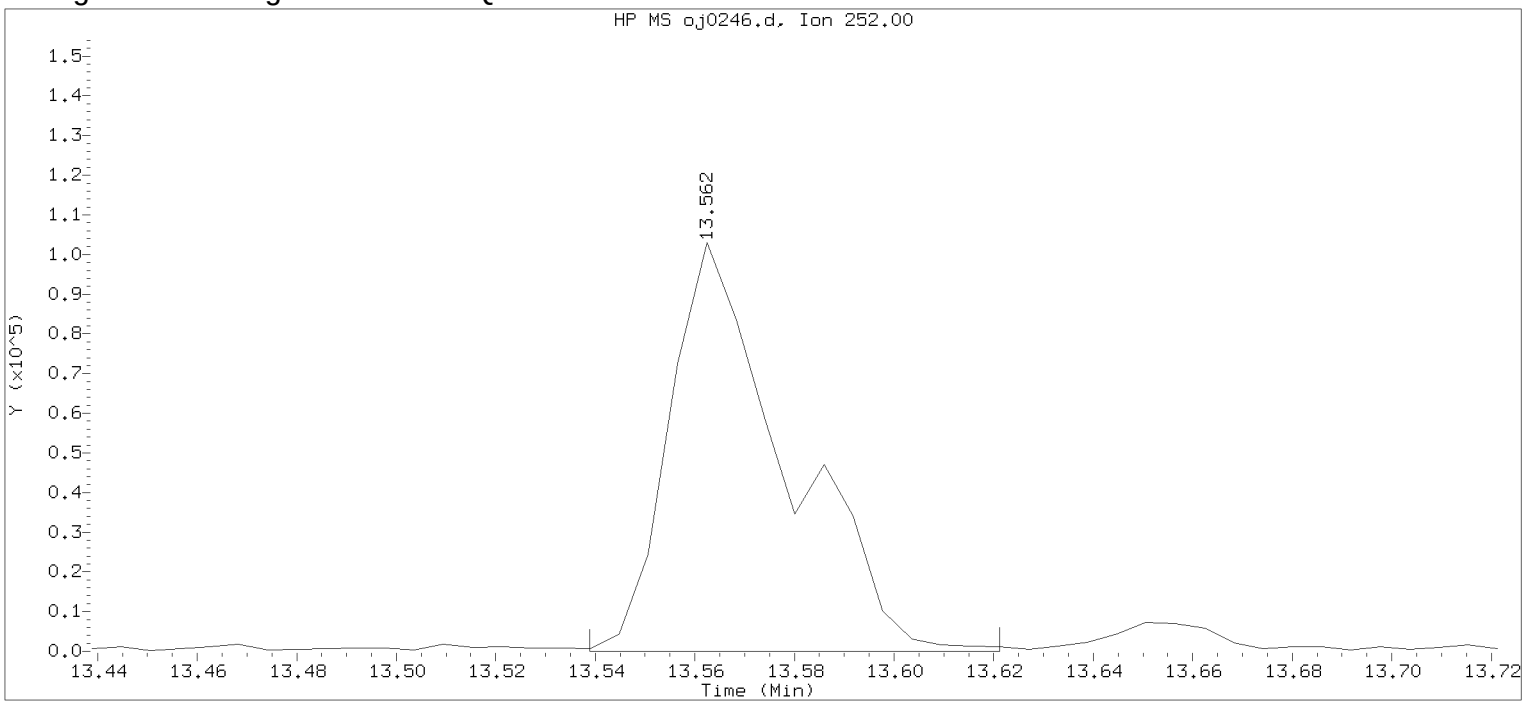
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

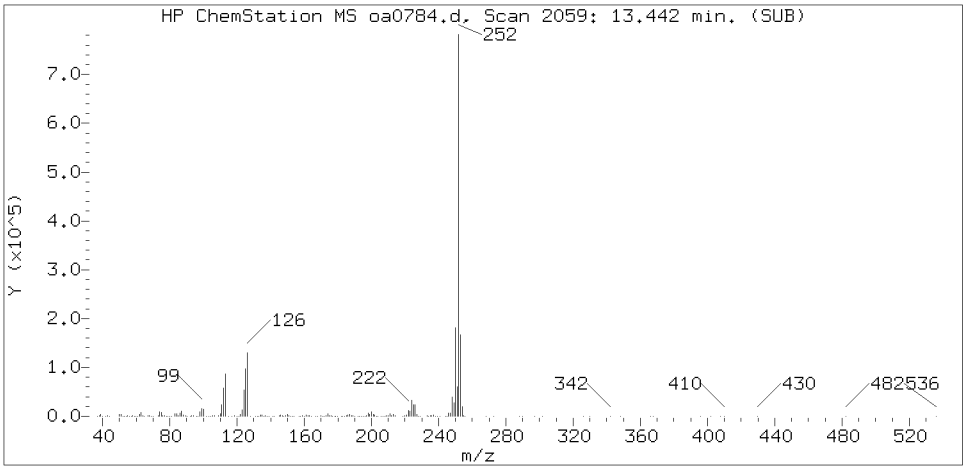
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:36 Automation

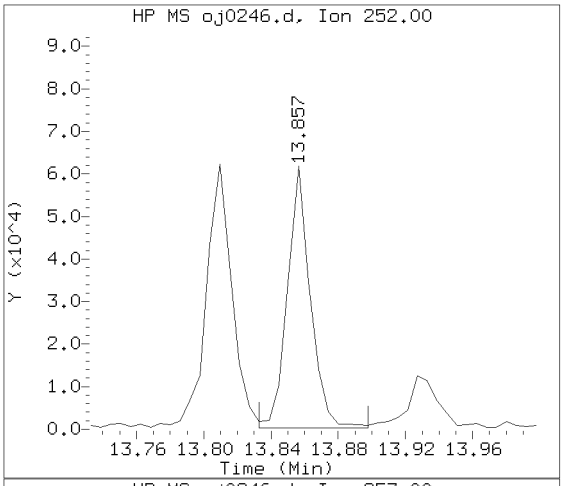
Sample Name: -499- Lab Sample ID: 8064469

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2037		
Retention Time (minutes)	: 13.562		
Quant Ion	: 252.00		
Area	: 169023		
On-column Amount (ng/ul)	: 6.3704		
Integration start scan	: 2032	Integration stop scan:	2046
Y at integration start	: 0	Y at integration end:	0

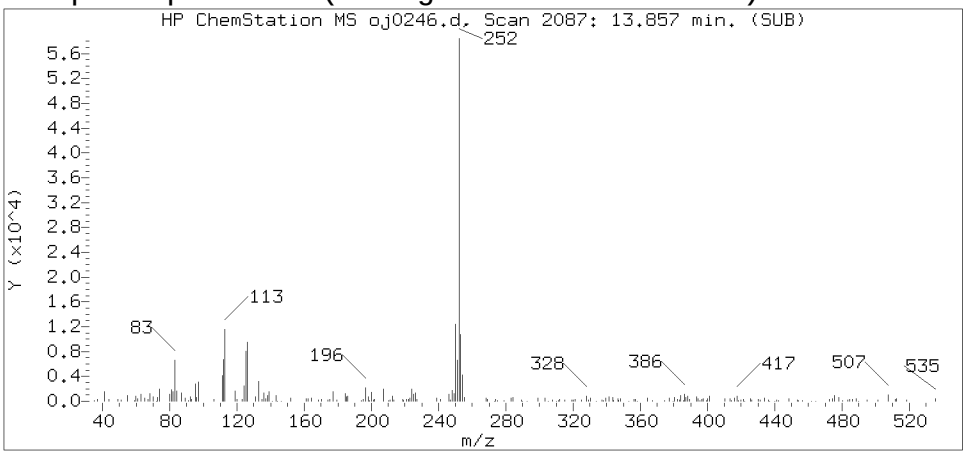
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: CEB

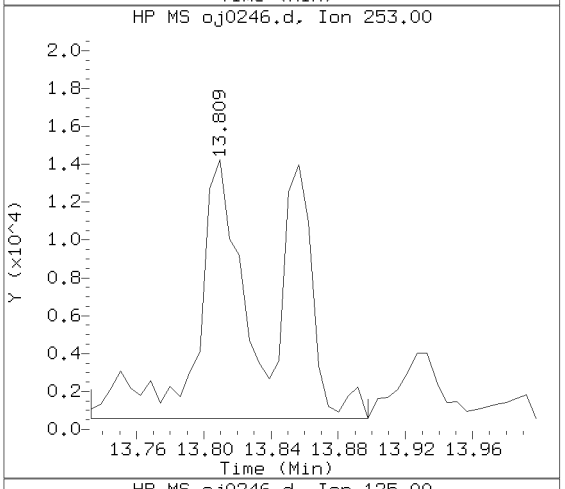
Reference Standard Spectrum for Benzo(a)pyrene



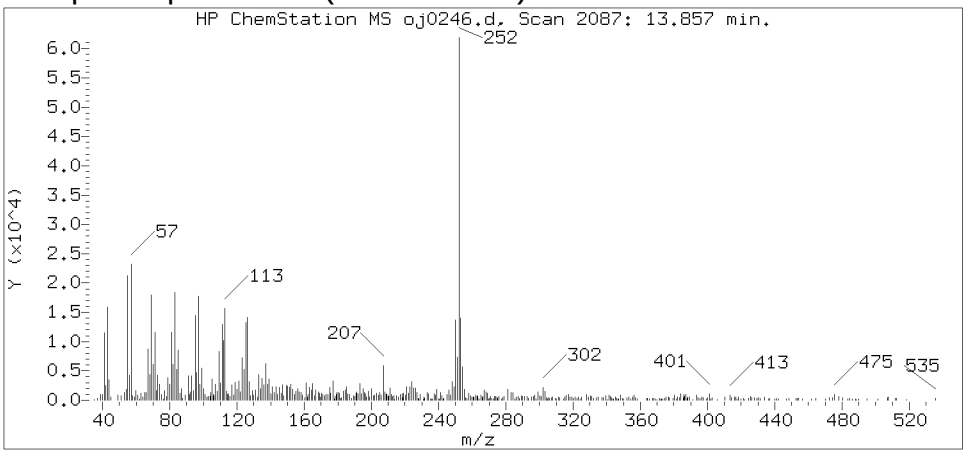


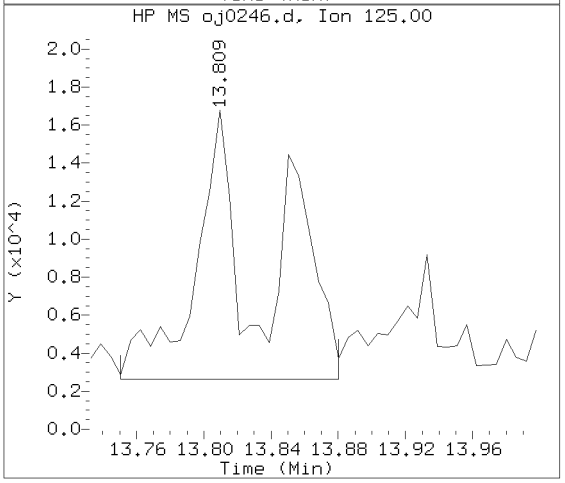
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

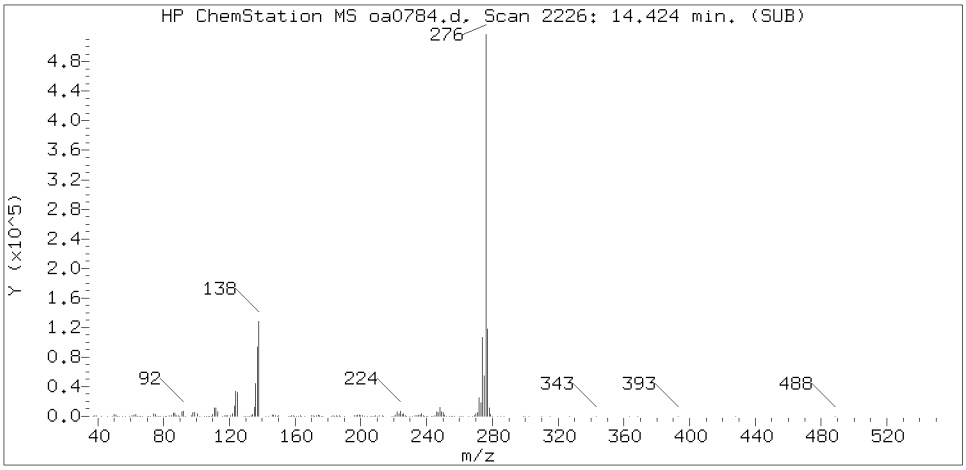
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

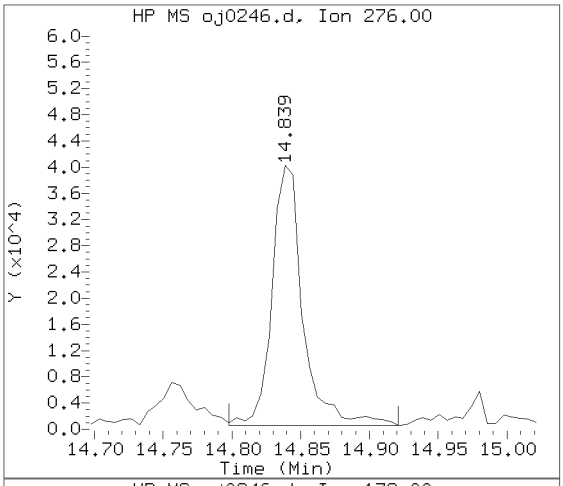
Sample Name: -499- Lab Sample ID: 8064469

Compound Number	: 211
Compound Name	: Benzo(a)pyrene
Scan Number	: 2087
Retention Time (minutes)	: 13.857
Relative Retention Time	: 0.00042
Quant Ion	: 252.00
Area (flag)	: 58353
On-column Amount (ng/ul)	: 2.2721

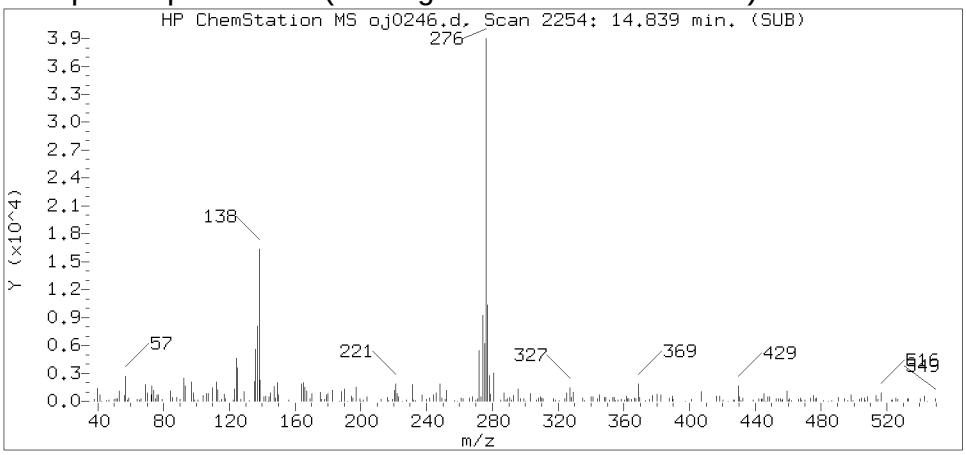
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

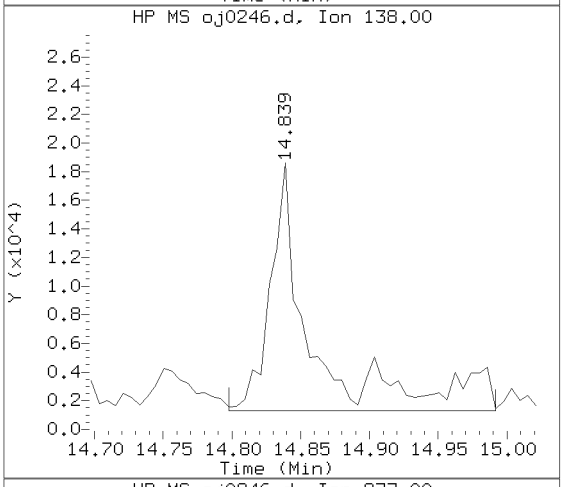
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



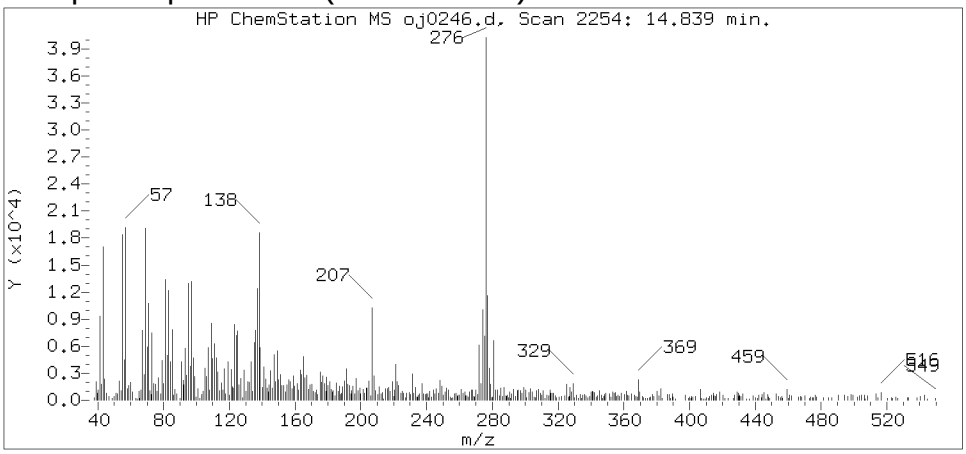


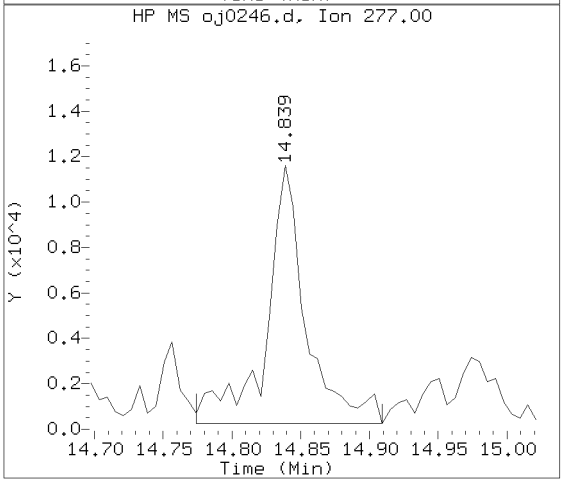
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

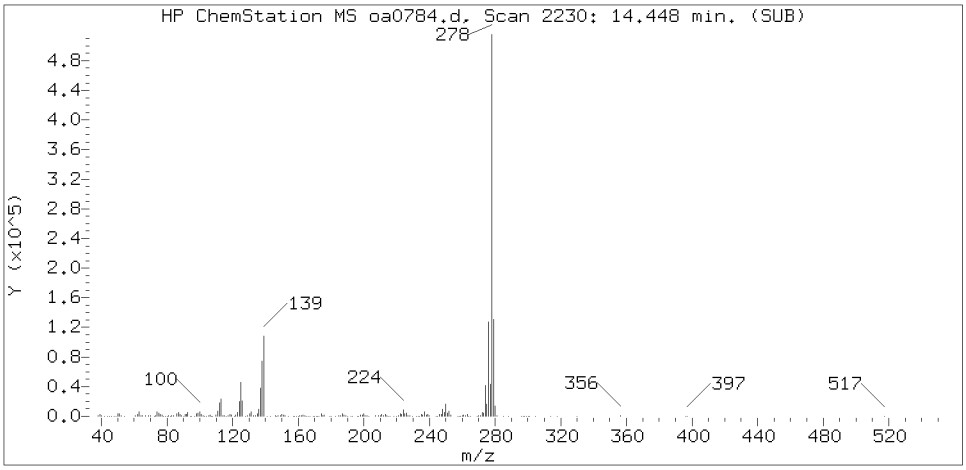
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

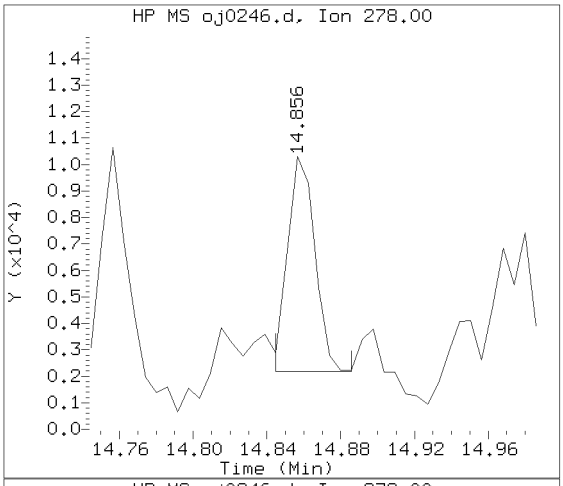
Sample Name: -499- Lab Sample ID: 8064469

Compound Number	: 219
Compound Name	: Indeno(1,2,3-cd)pyrene
Scan Number	: 2254
Retention Time (minutes)	: 14.839
Relative Retention Time	: 0.00042
Quant Ion	: 276.00
Area (flag)	: 62382
On-column Amount (ng/ul)	: 2.3321

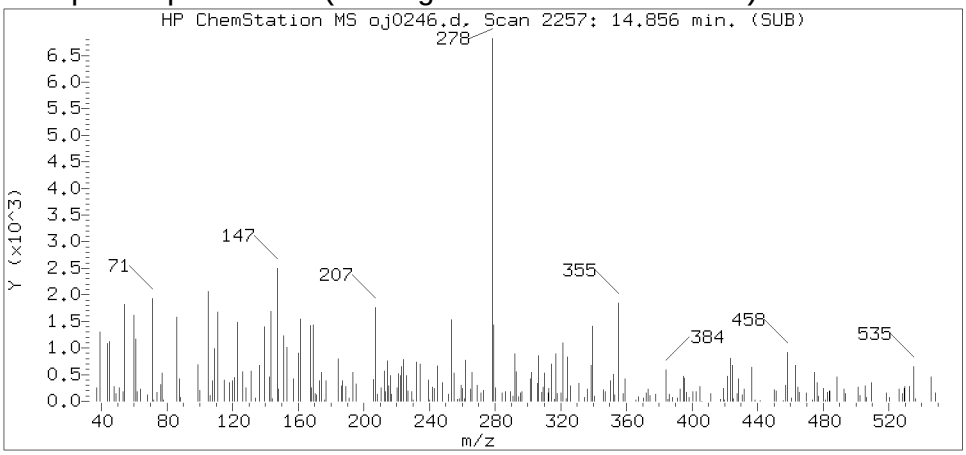
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

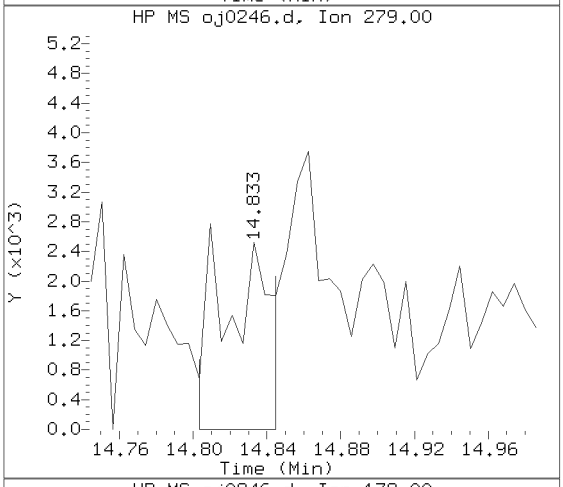
Reference Standard Spectrum for Dibenz(a,h)anthracene



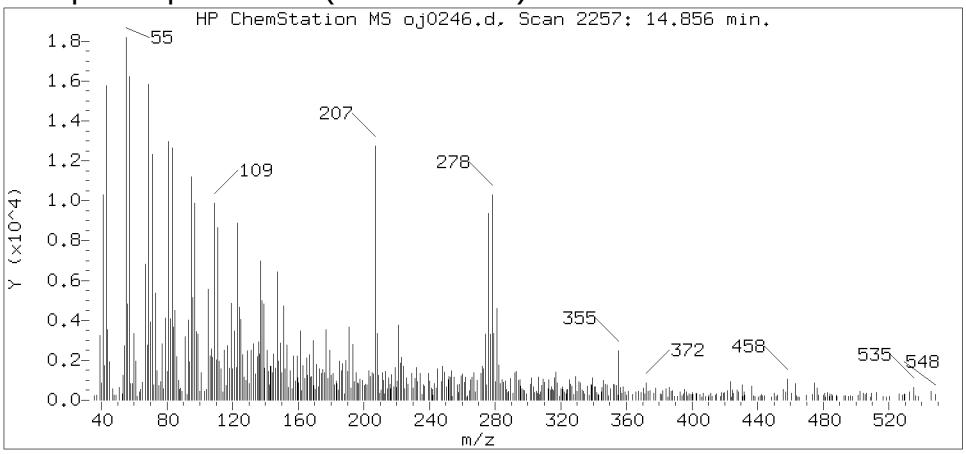


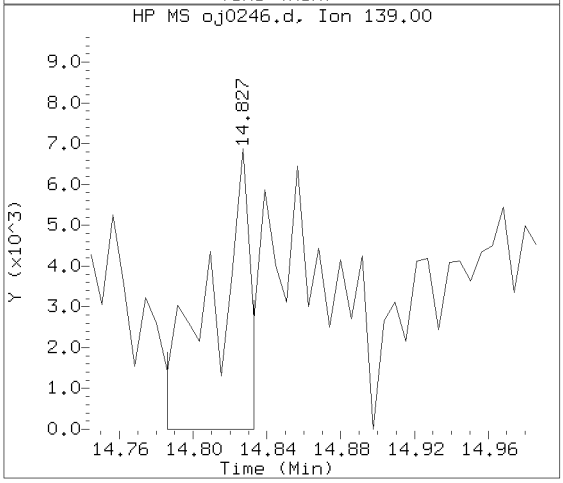
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

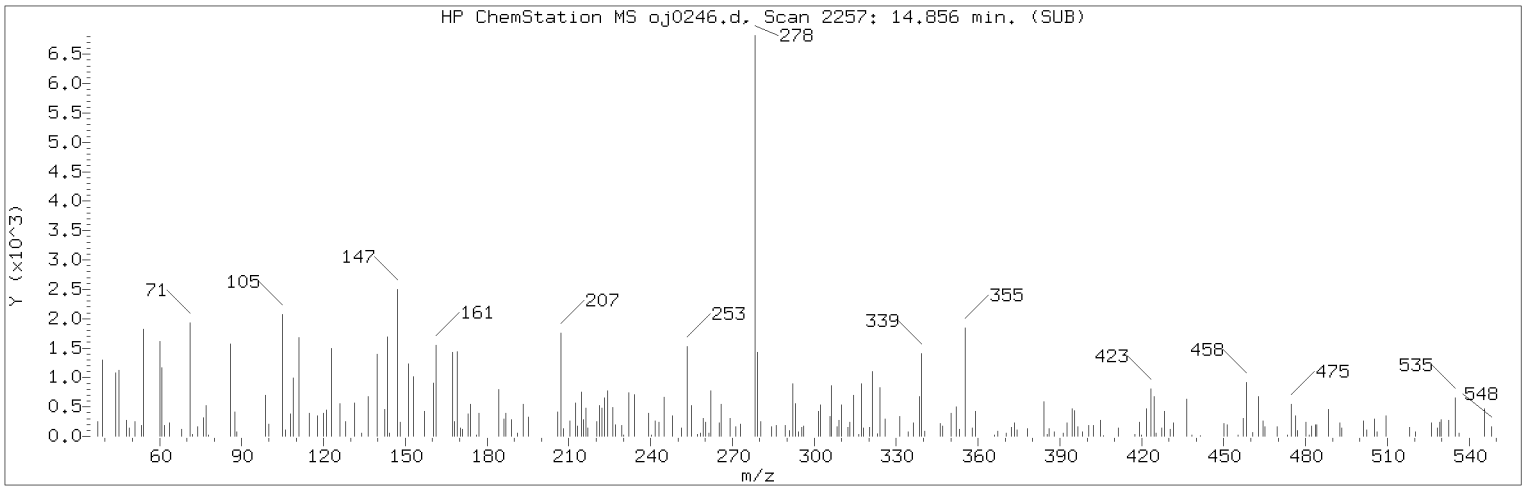
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Sample Name: -499- Lab Sample ID: 8064469

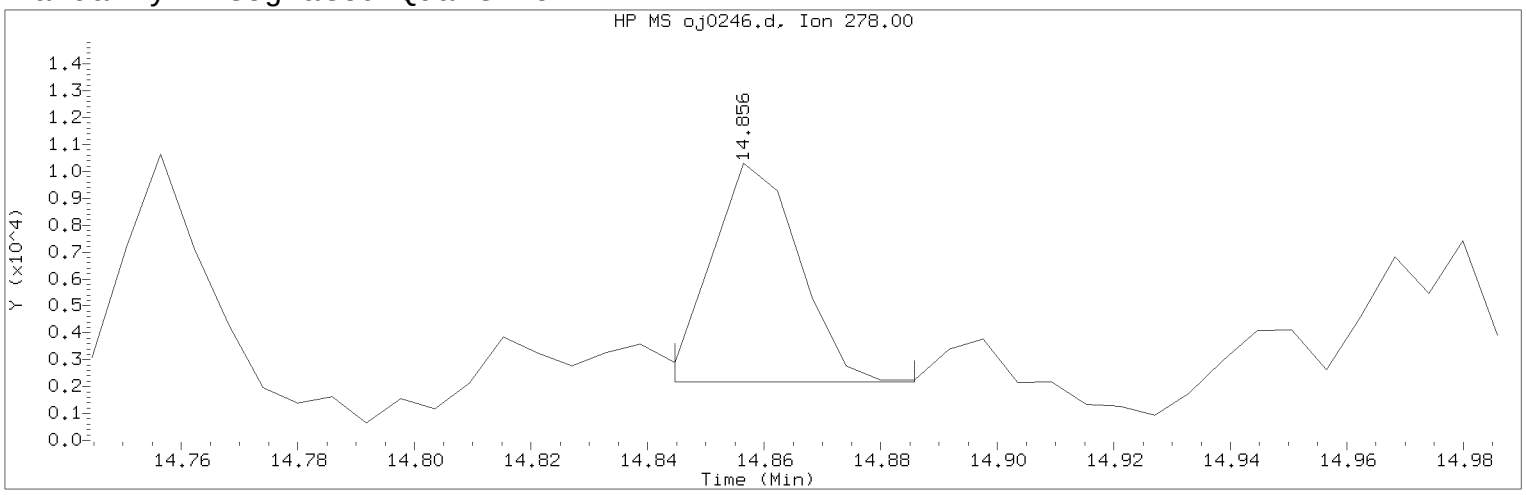
Compound Number	: 220
Compound Name	: Dibenz(a,h)anthracene
Scan Number	: 2257
Retention Time (minutes)	: 14.856
Relative Retention Time	: 0.00085
Quant Ion	: 278.00
Area (flag)	: 8524M
On-column Amount (ng/ul)	: 0.3788

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Sample Name: -499- Lab Sample ID: 8064469

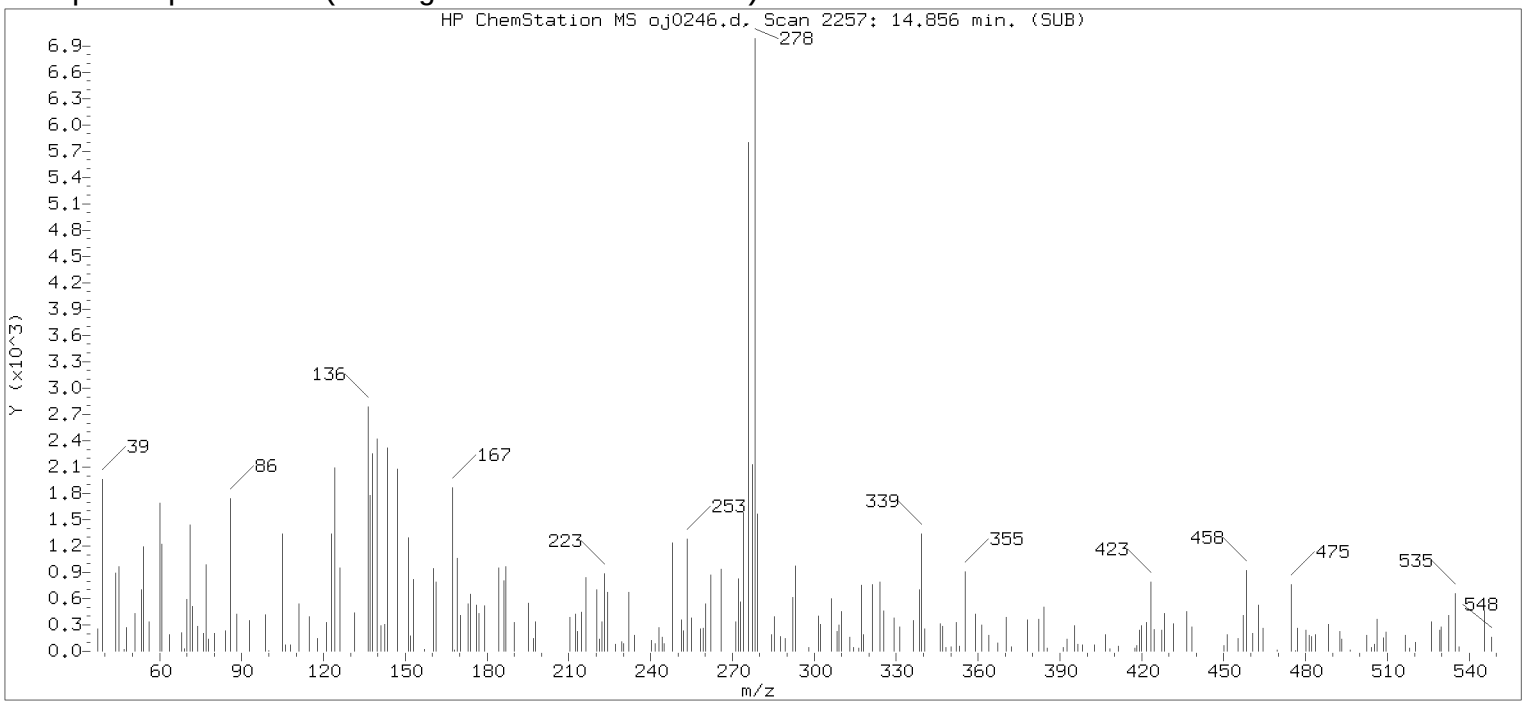
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 2257
Retention Time (minutes) : 14.856
Quant Ion : 278.00
Area (flag) : 8524M
On-column Amount (ng/ul) : 0.3788
Integration start scan : 2254 Integration stop scan: 2261
Y at integration start : 2178 Y at integration end: 2178

Reason for manual integration: improper integration

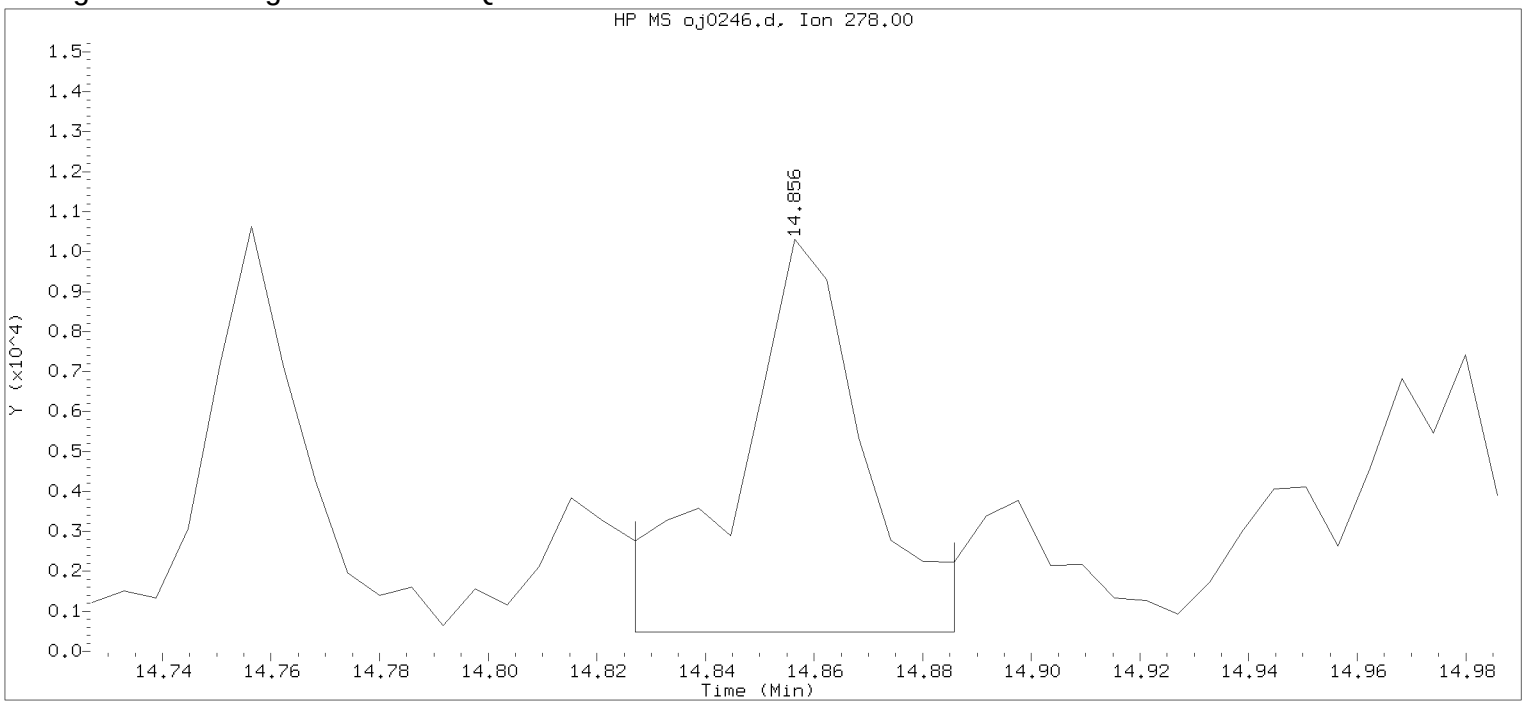
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

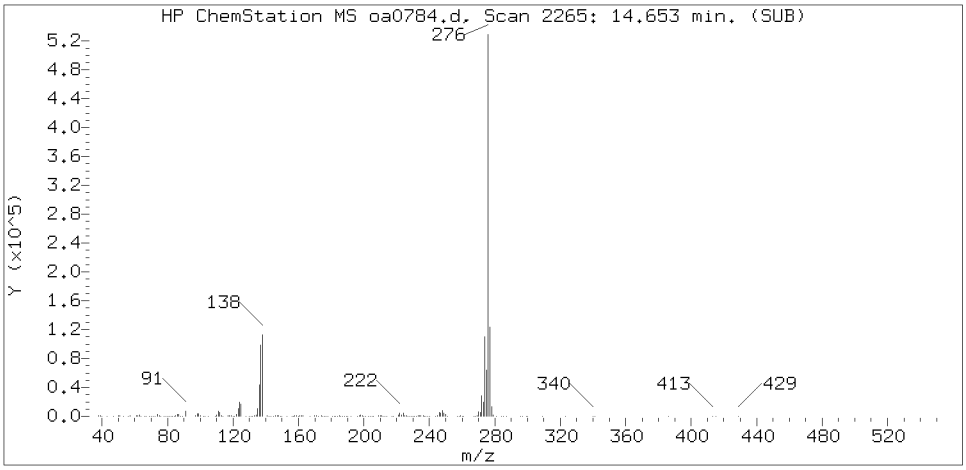
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:36 Automation

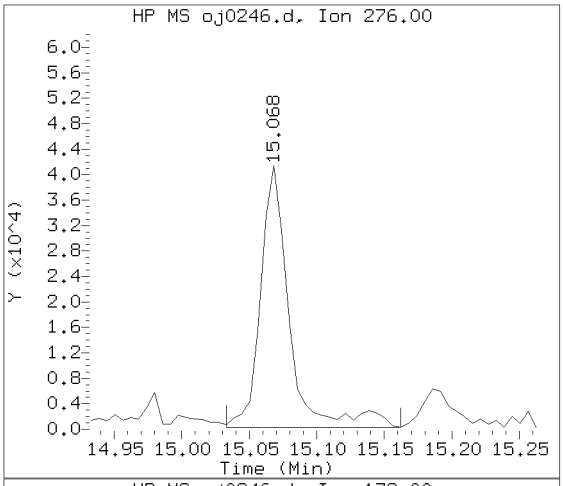
Sample Name: -499- Lab Sample ID: 8064469

Compound Number	: 220		
Compound Name	: Dibenz(a,h)anthracene		
Scan Number	: 2257		
Retention Time (minutes)	: 14.856		
Quant Ion	: 278.00		
Area	: 15470		
On-column Amount (ng/ul)	: 0.6875		
Integration start scan	: 2251	Integration stop scan:	2261
Y at integration start	: 487	Y at integration end:	487

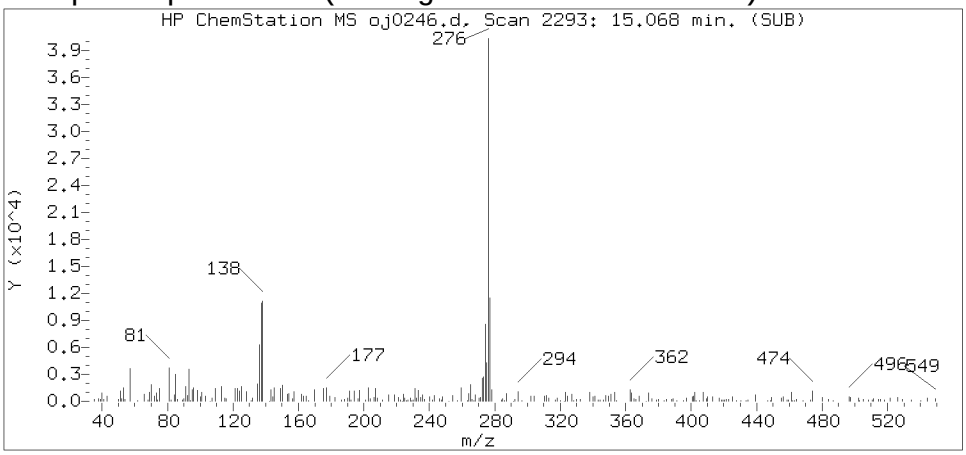
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: 27 reason: 5

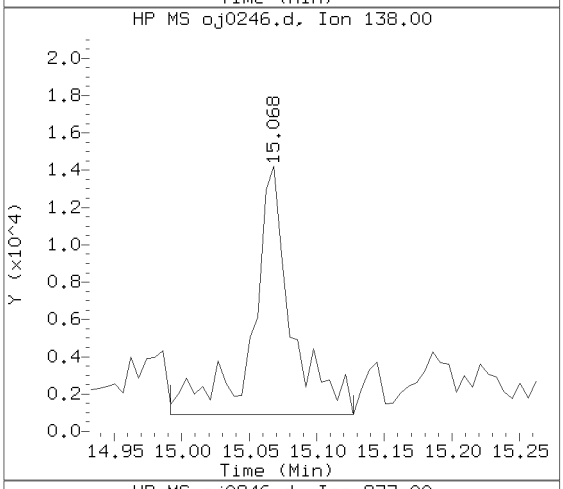
Reference Standard Spectrum for Benzo(g,h,i)perylene



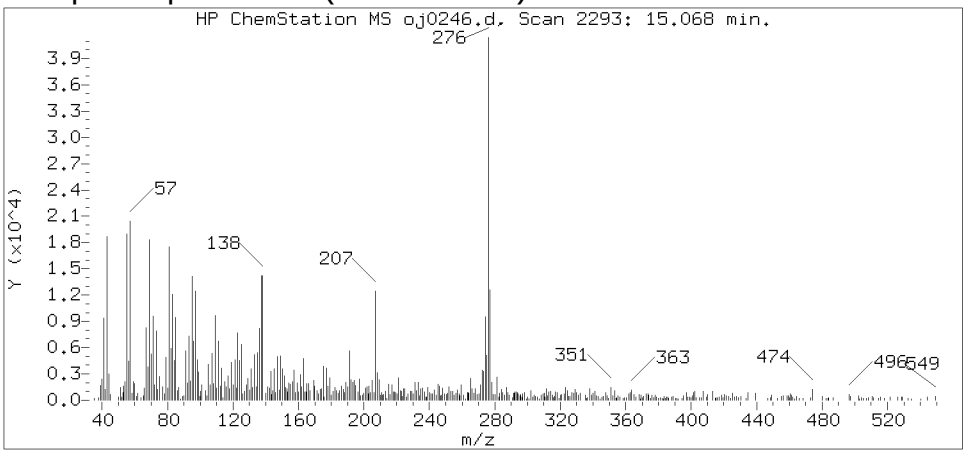


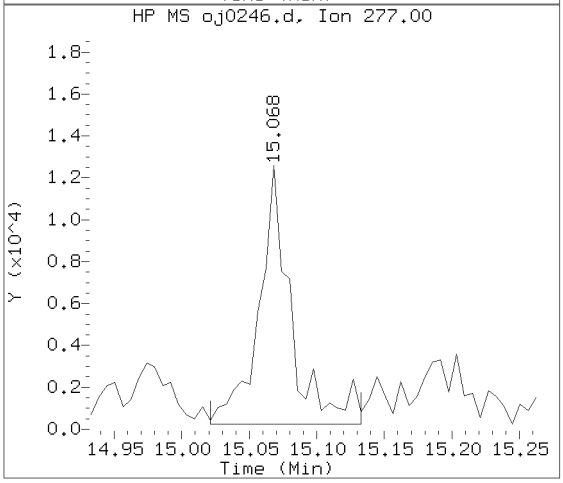
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0246.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:20 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 17:44 ceb05247

Sample Name: -499- Lab Sample ID: 8064469

Compound Number	: 221
Compound Name	: Benzo(g,h,i)perylene
Scan Number	: 2293
Retention Time (minutes)	: 15.068
Relative Retention Time	: 0.00042
Quant Ion	: 276.00
Area (flag)	: 60905
On-column Amount (ng/ul)	: 2.7721

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:23.
Target 3.5 esignature user ID: ceb05247

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles 8064470

Data file: /chem/HP09910.i/15oct05.b/oj0247.d
Injection date and time: **05-OCT-2015 17:45**
Data file Sample Info. Line: -497-;8064470;2;0;SAMPLE;;;
Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 05-OCT-2015 15:43
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct05.b/oj0241.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 5 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.35 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	5.557(0.000)	676	152	123839 (-3)	20.00	
65) Naphthalene-d8	6.845(0.000)	895	136	587773 (-3)	20.00	
113) Acenaphthene-d10	8.563(0.000)	1187	164	366666 (-5)	20.00	
153) Phenanthrene-d10	9.998(0.000)	1431	188	653200 (-13)	20.00	
175) Pyrene-d10	11.363(0.000)	1663	212	691480 (-16)	20.00	
213) Perylene-d12	13.909(0.000)	2096	264	491835 (-19)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.134(0.001)	82	174026	12.723	64%		54 - 123
93) 2-Fluorobiphenyl	(3)	7.933(0.000)	172	347743	14.941	75%		63 - 117
179) Terphenyl-d14	(5)	11.574(0.001)	244	380006	14.933	75%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	6.863(0.000)	128	4562	0.141	23.20			0.1
83) 2-Methylnaphthalene	(2)	7.557(-0.000)	142	2364	0.104	17.06			0.1
109) Acenaphthylene	(3)	8.422(0.000)	152	8776	0.270	44.41			0.1
114) Acenaphthene	(3)	8.586(0.001)	153	2792	0.124	20.41			0.1
126) Fluorene	(3)	9.098(0.000)	166	4874M	0.188	31.01			0.1
155) Phenanthrene	(4)	10.016(0.000)	178	92435	2.437	401.44			0.1
157) Anthracene	(4)	10.063(0.000)	178	14613	0.390	64.22			0.1
173) Fluoranthene	(4)	11.168(-0.000)	202	232395	5.637	928.64			0.1
177) Pyrene	(5)	11.380(0.000)	202	193745	4.697	773.75			0.1
195) Benzo(a)anthracene	(5)	12.545(0.000)	228	62540	1.739	286.52			0.1
196) Chrysene	(5)	12.580(0.000)	228	120191	3.508	577.91			0.1
206) Benzo(b)fluoranthene	(6)	13.562(0.000)	252	161923M	5.246	864.25			0.1
208) Benzo(k)fluoranthene	(6)	13.586(0.000)	252	58190M	1.848	304.39			0.1
211) Benzo(a)pyrene	(6)	13.856(0.000)	252	87348	2.865	472.03			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	14.839(0.000)	276	79036M	2.489	410.08			0.1
220) Dibenz(a,h)anthracene	(6)	14.862(0.000)	278	12244M	0.458	75.52			0.1
221) Benzo(g,h,i)perylene	(6)	15.068(0.000)	276	69001	2.646	435.88			0.1

M = Compound was manually integrated.

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct05.b/oj0247.d Injection date and time: **05-OCT-2015 17:45**
Data file Sample Info. Line: -497-;8064470;2;0;SAMPLE;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 05-OCT-2015 15:43
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct05.b/oj0241.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 5 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.35 g

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WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

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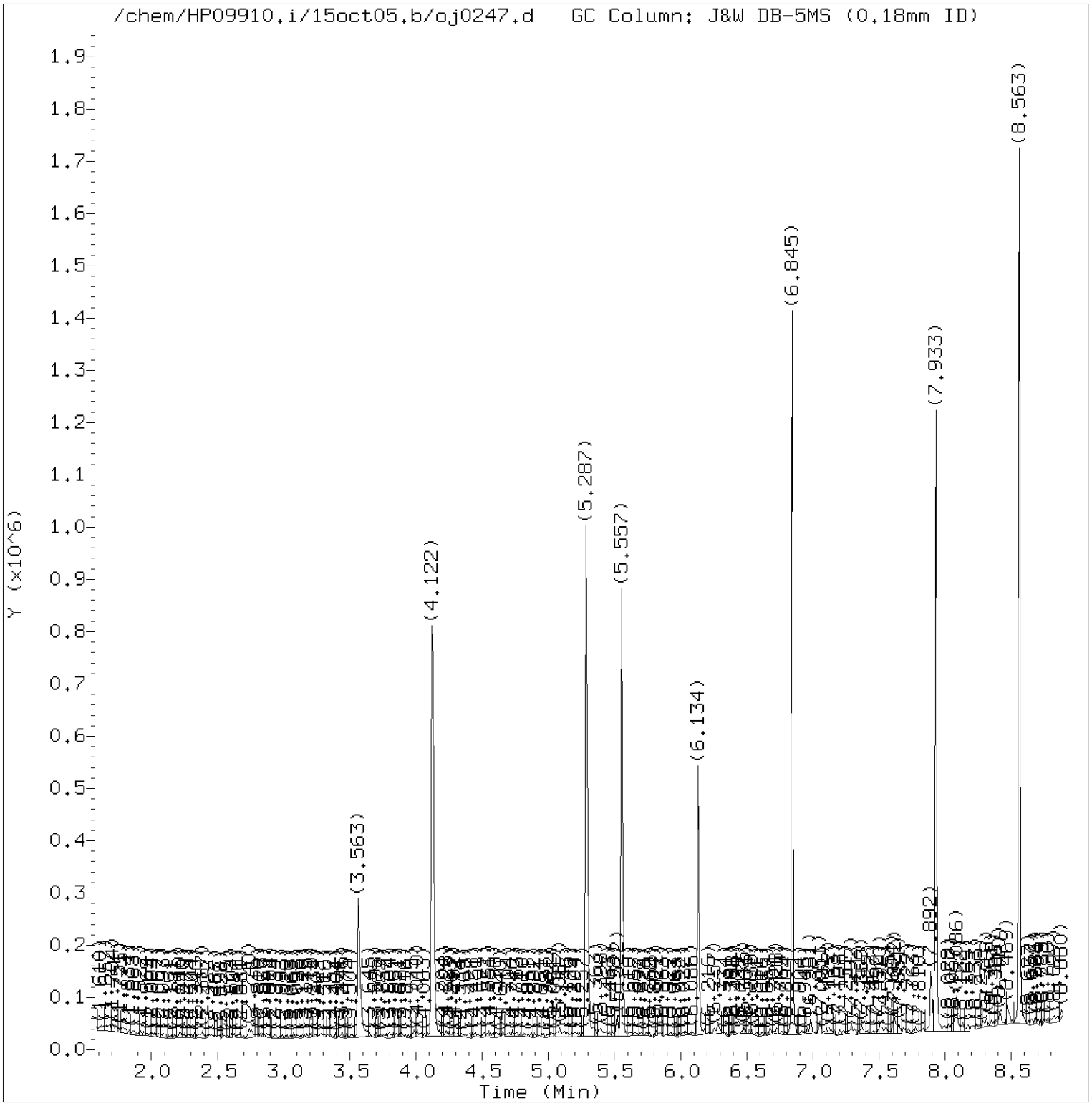
Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

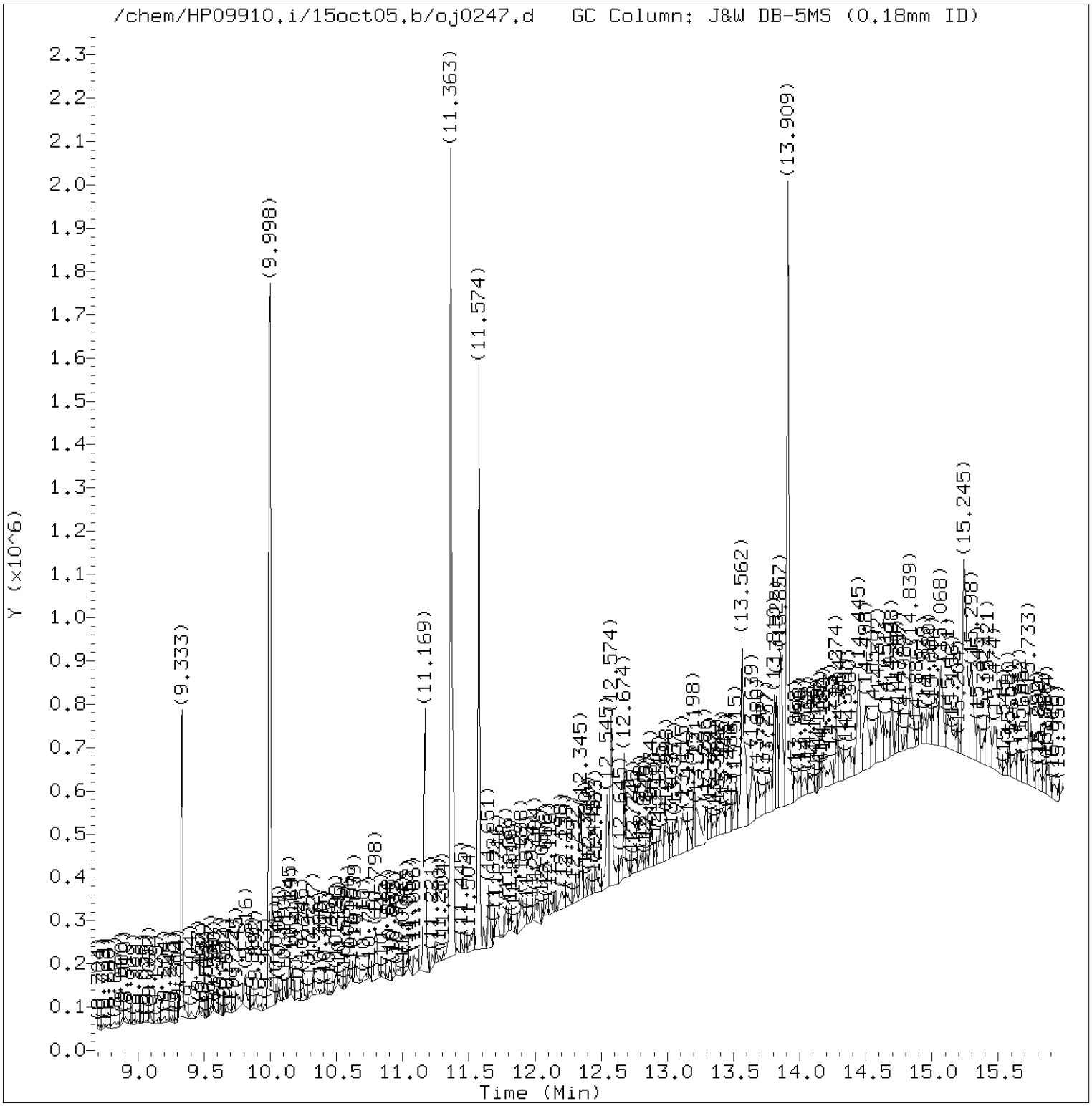
Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	5.557	152	123839	20.000
44)$Nitrobenzene-d5	(2)	6.134	82	174026	12.723
65)*Naphthalene-d8	(2)	6.845	136	587773	20.000
66) Naphthalene	(2)	6.863	128	4562	0.141
83) 2-Methylnaphthalene	(2)	7.557	142	2364	0.104
93)$2-Fluorobiphenyl	(3)	7.933	172	347743	14.941
109) Acenaphthylene	(3)	8.422	152	8776	0.270
113)*Acenaphthene-d10	(3)	8.563	164	366666	20.000
114) Acenaphthene	(3)	8.586	153	2792	0.124
126) Fluorene	(3)	9.098	166	4874M	0.188
153)*Phenanthrene-d10	(4)	9.998	188	653200	20.000
155) Phenanthrene	(4)	10.016	178	92435	2.437
157) Anthracene	(4)	10.063	178	14613	0.390
173) Fluoranthene	(4)	11.169	202	232395	5.637
175)*Pyrene-d10	(5)	11.363	212	691480	20.000
177) Pyrene	(5)	11.380	202	193745	4.697
179)$Terphenyl-d14	(5)	11.574	244	380006	14.933
195) Benzo(a)anthracene	(5)	12.545	228	62540	1.739
196) Chrysene	(5)	12.580	228	120191	3.508
206) Benzo(b)fluoranthene	(6)	13.562	252	161923M	5.246
208) Benzo(k)fluoranthene	(6)	13.586	252	58190M	1.848
211) Benzo(a)pyrene	(6)	13.857	252	87348	2.865
213)*Perylene-d12	(6)	13.909	264	491835	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	14.839	276	79036M	2.489
220) Dibenz(a,h)anthracene	(6)	14.862	278	12244M	0.458
221) Benzo(g,h,i)perylene	(6)	15.068	276	69001	2.646

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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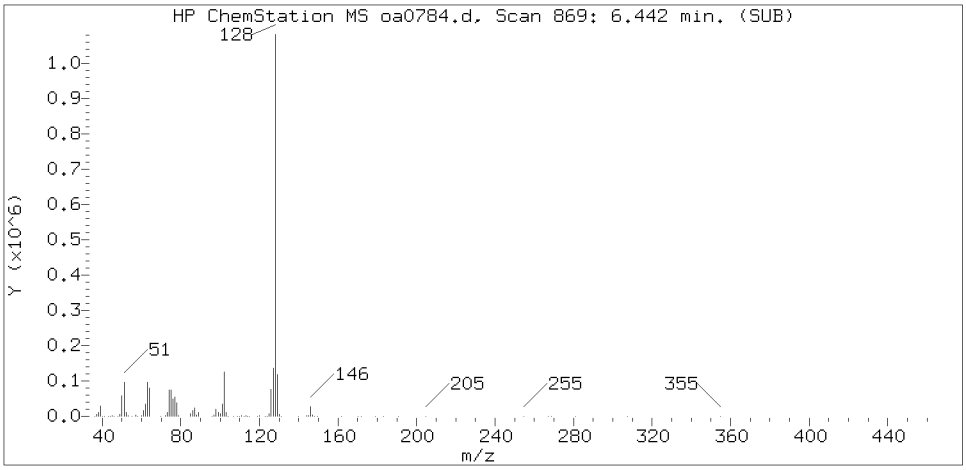
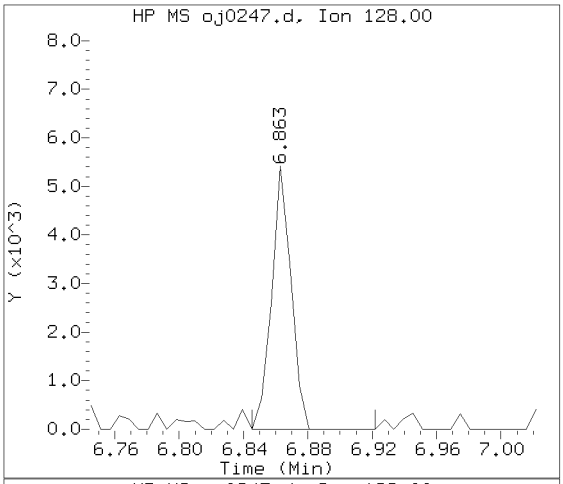
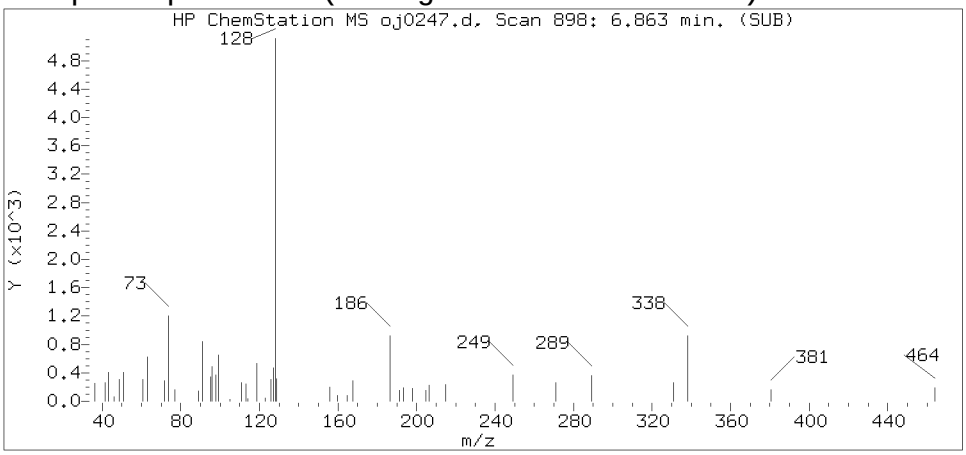
on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

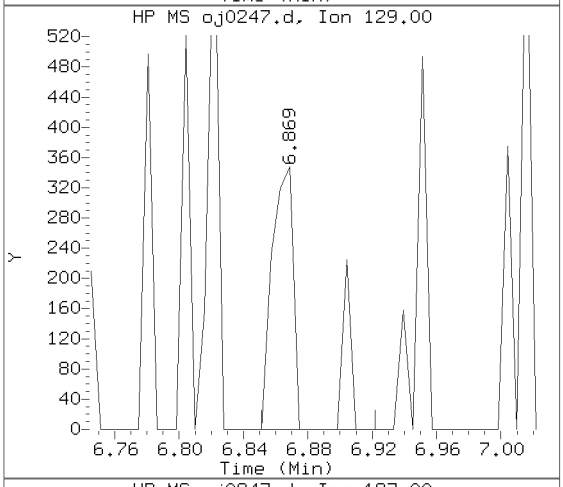
Reference Standard Spectrum for Naphthalene



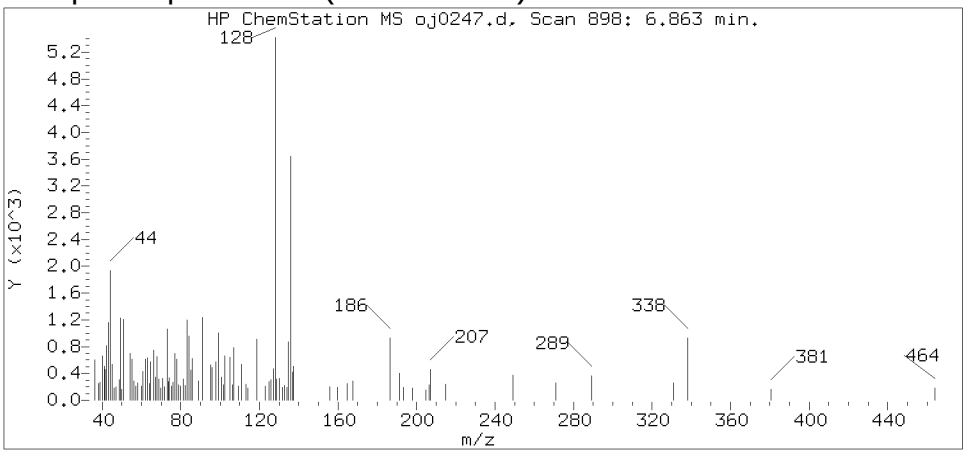


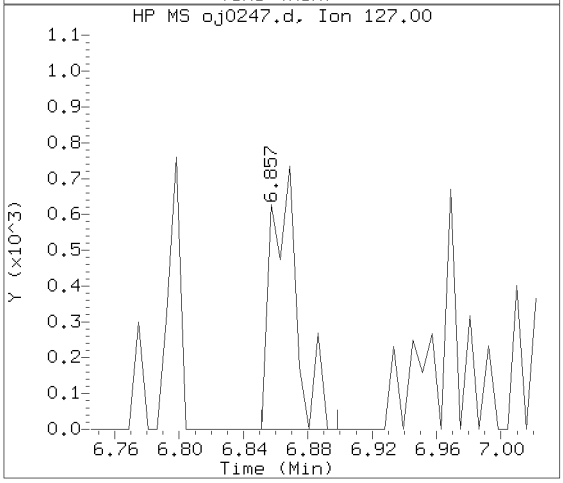
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

Compound Number	: 66
Compound Name	: Naphthalene
Scan Number	: 898
Retention Time (minutes)	: 6.863
Relative Retention Time	: 0.00086
Quant Ion	: 128.00
Area (flag)	: 4562
On-column Amount (ng/ul)	: 0.1408

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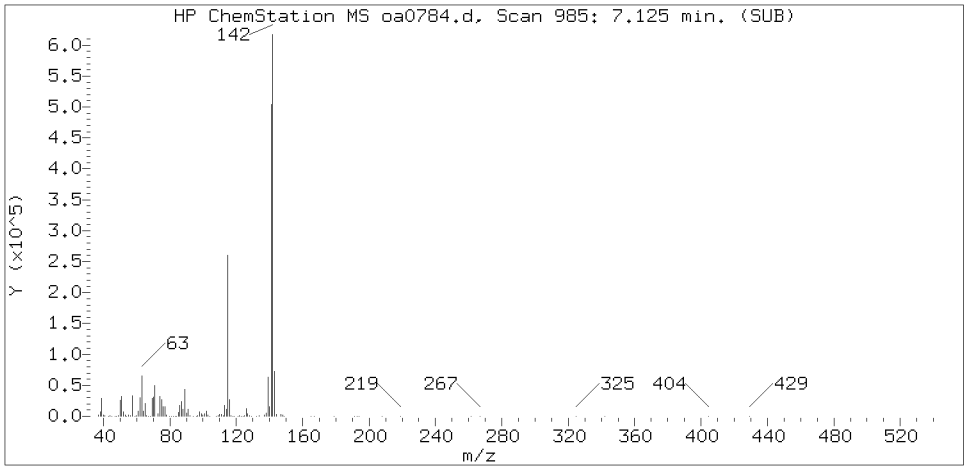
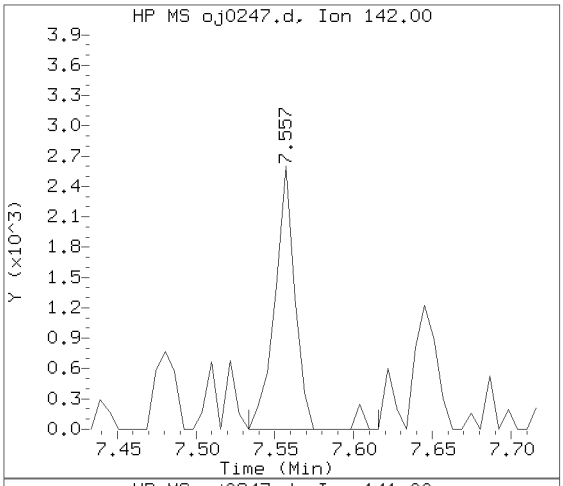
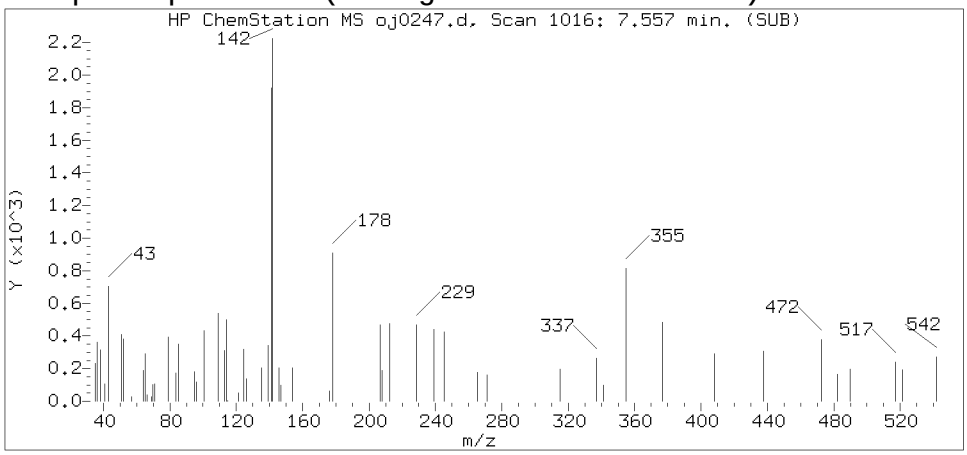
Target 3.5 esignature user ID: ceb05247

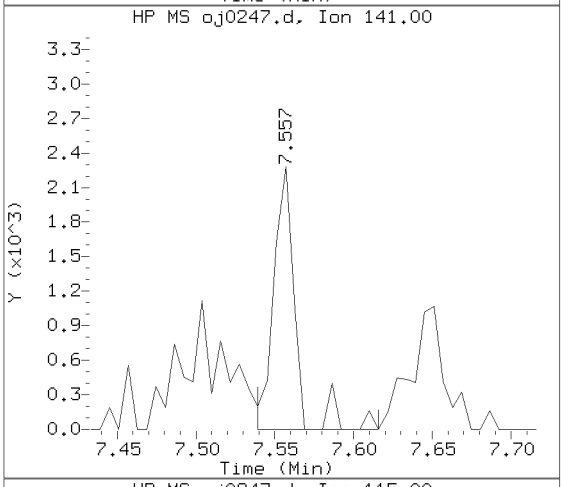
Reference Standard Spectrum for 2-Methylnaphthalene



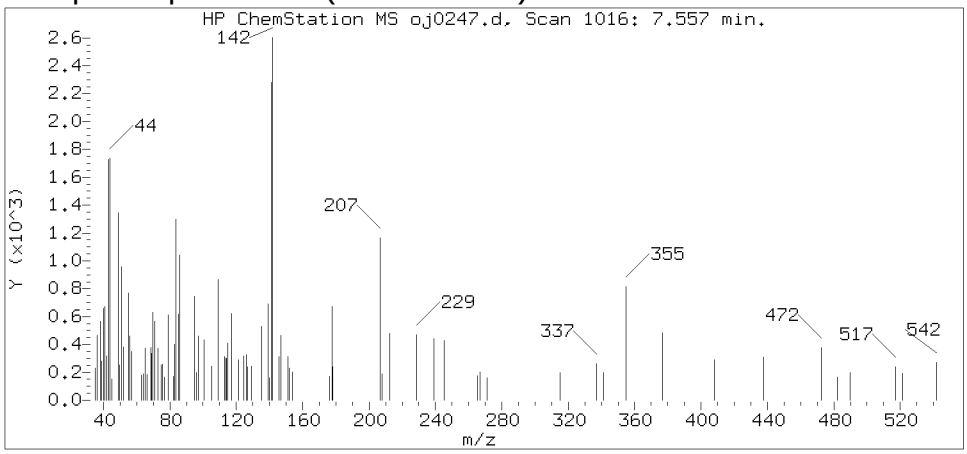


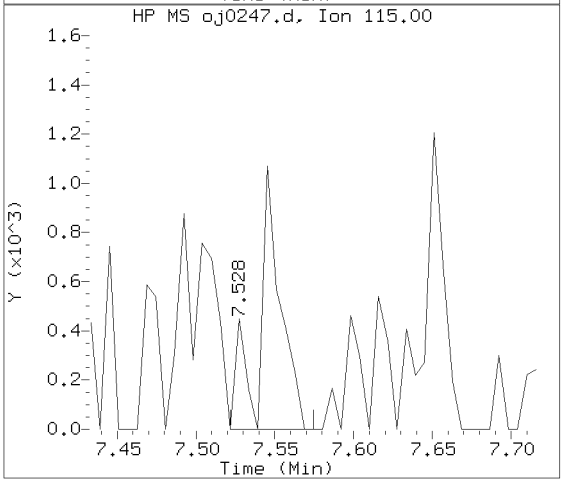
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

Compound Number : 83
Compound Name : 2-Methylnaphthalene
Scan Number : 1016
Retention Time (minutes) : 7.557
Relative Retention Time :-0.00000
Quant Ion : 142.00
Area (flag) : 2364
On-column Amount (ng/ul) : 0.1036

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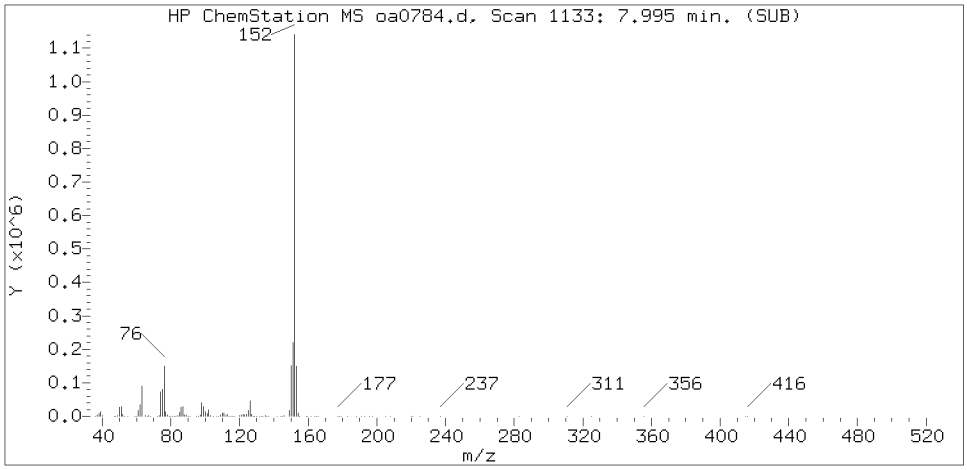
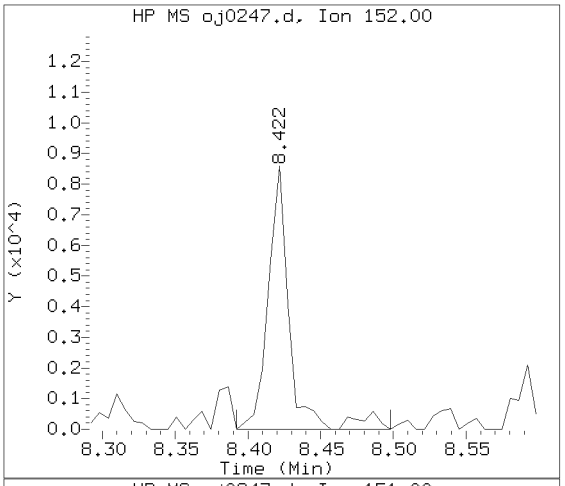
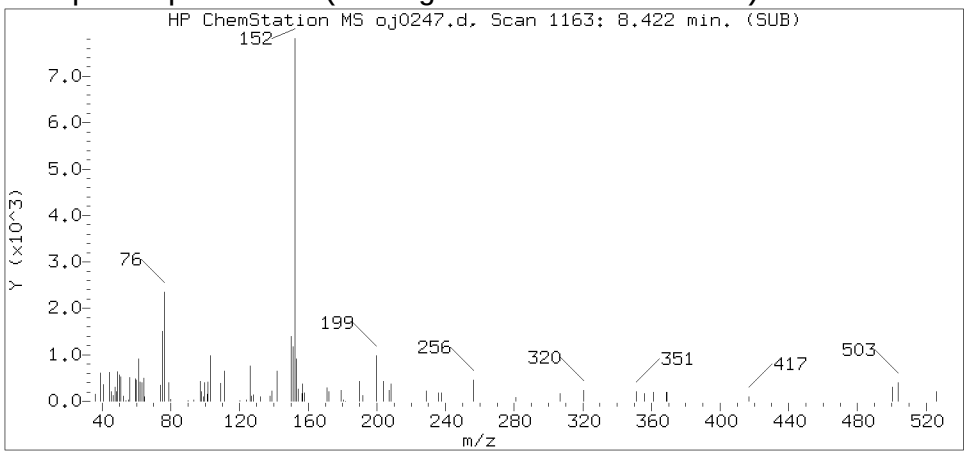
Target 3.5 esignature user ID: ceb05247

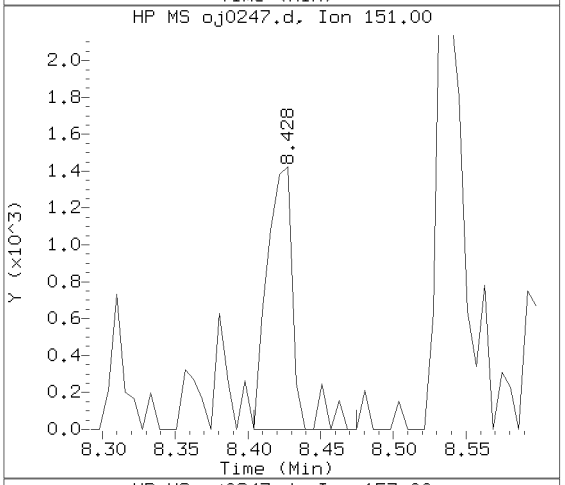
Reference Standard Spectrum for Acenaphthylene



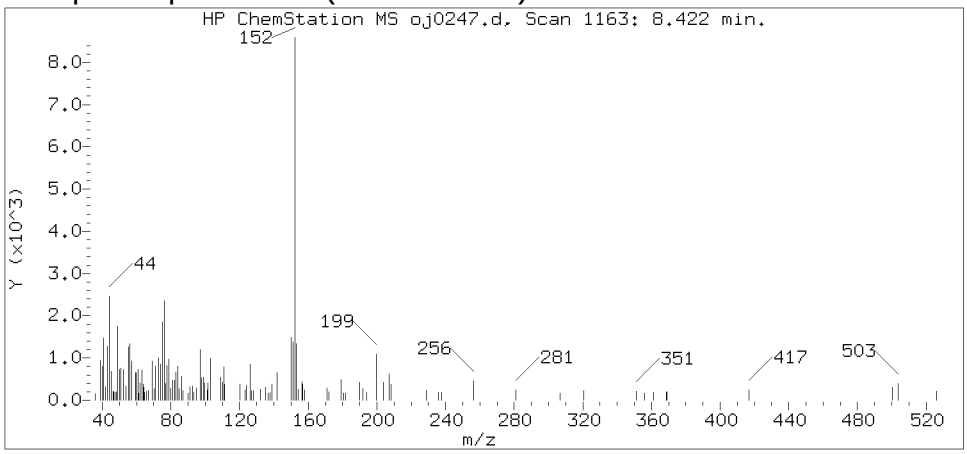


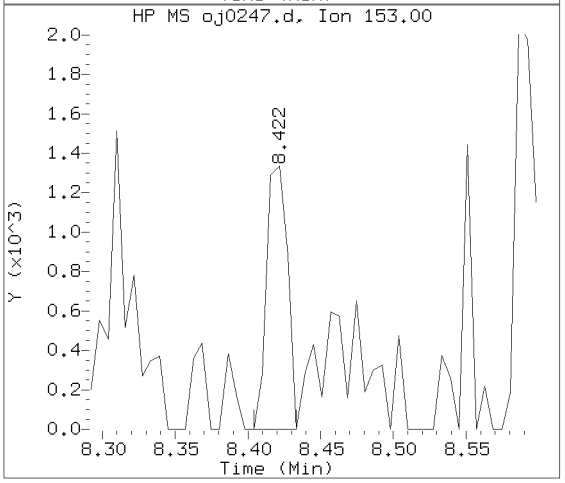
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

Compound Number	: 109
Compound Name	: Acenaphthylene
Scan Number	: 1163
Retention Time (minutes)	: 8.422
Relative Retention Time	: 0.00000
Quant Ion	: 152.00
Area (flag)	: 8776
On-column Amount (ng/ul)	: 0.2696

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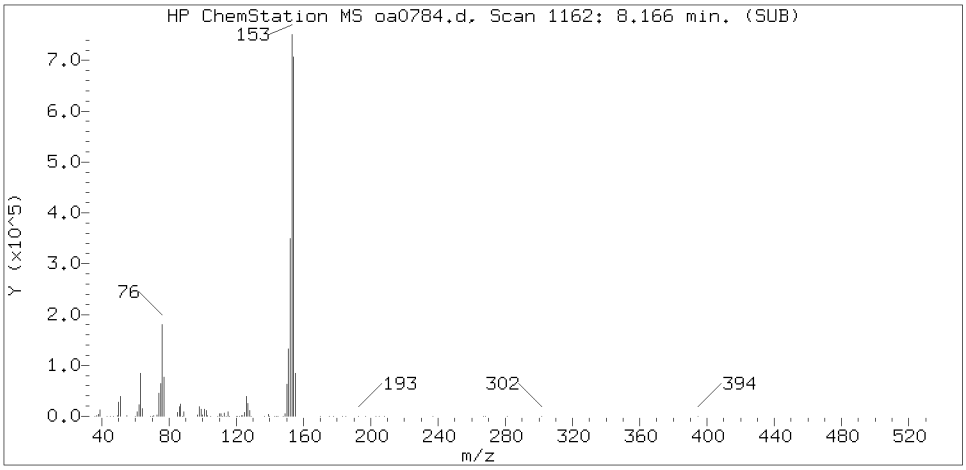
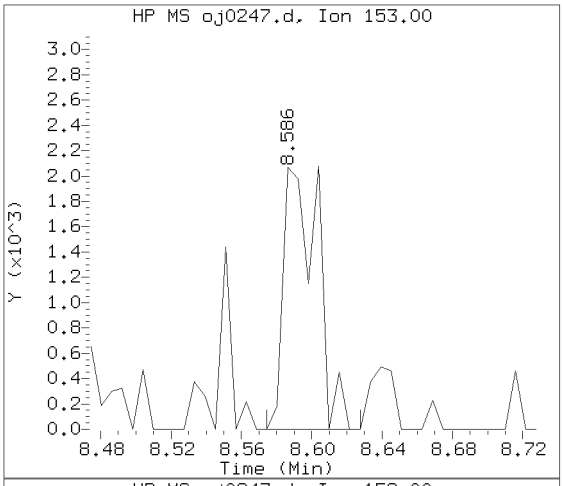
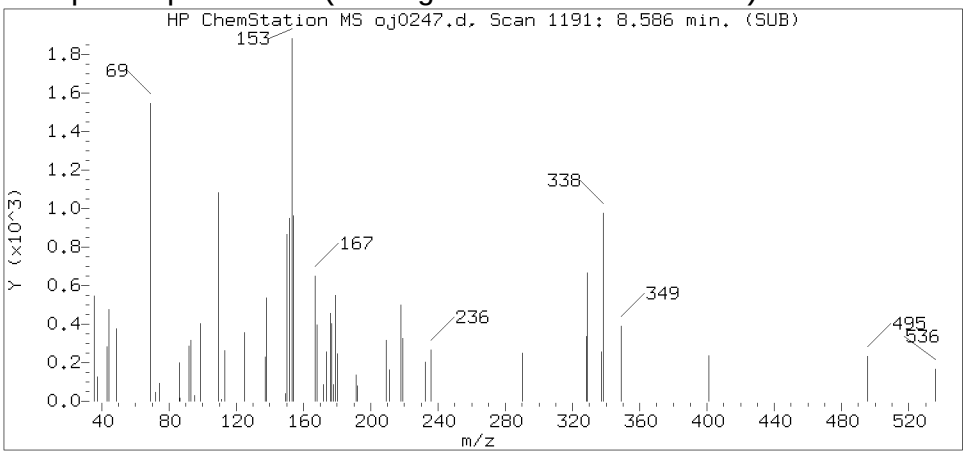
Target 3.5 esignature user ID: ceb05247

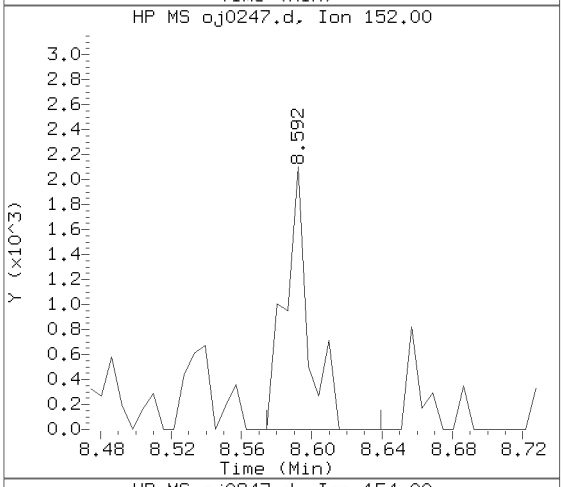
Reference Standard Spectrum for Acenaphthene



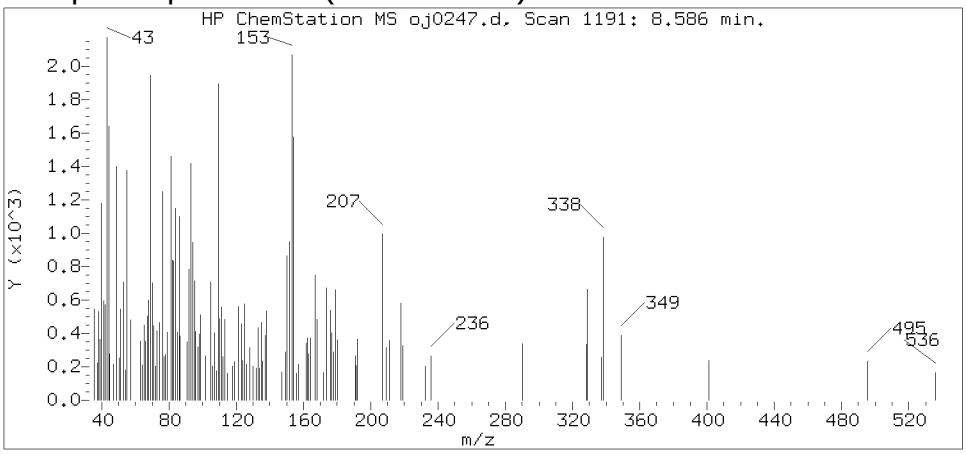


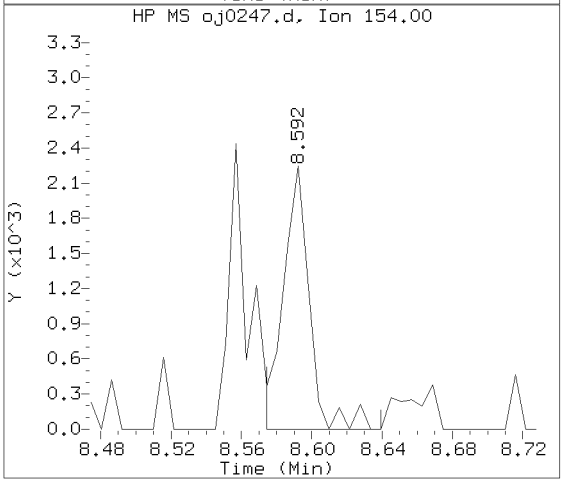
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

Compound Number	: 114
Compound Name	: Acenaphthene
Scan Number	: 1191
Retention Time (minutes)	: 8.586
Relative Retention Time	: 0.00138
Quant Ion	: 153.00
Area (flag)	: 2792
On-column Amount (ng/ul)	: 0.1239

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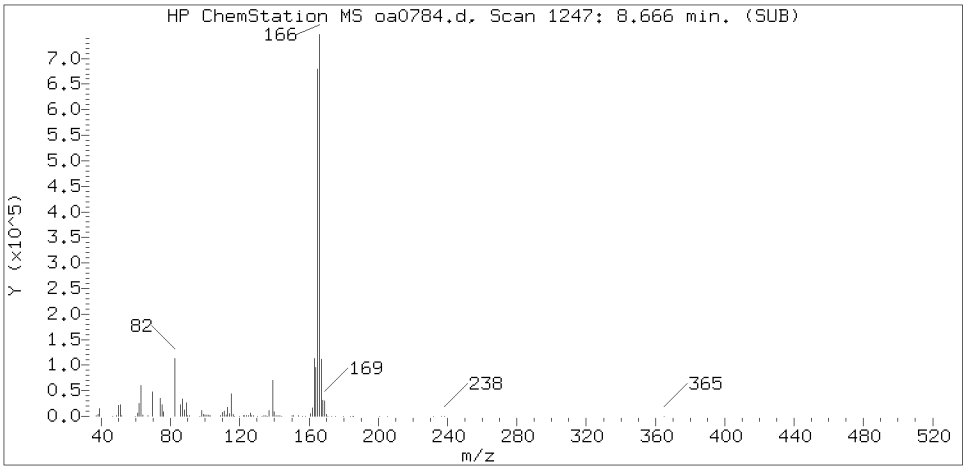
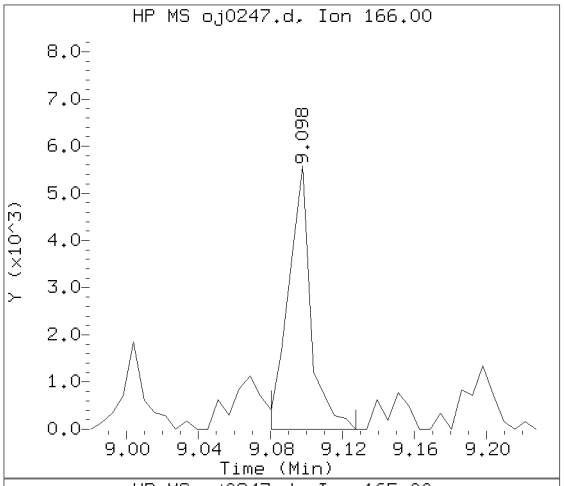
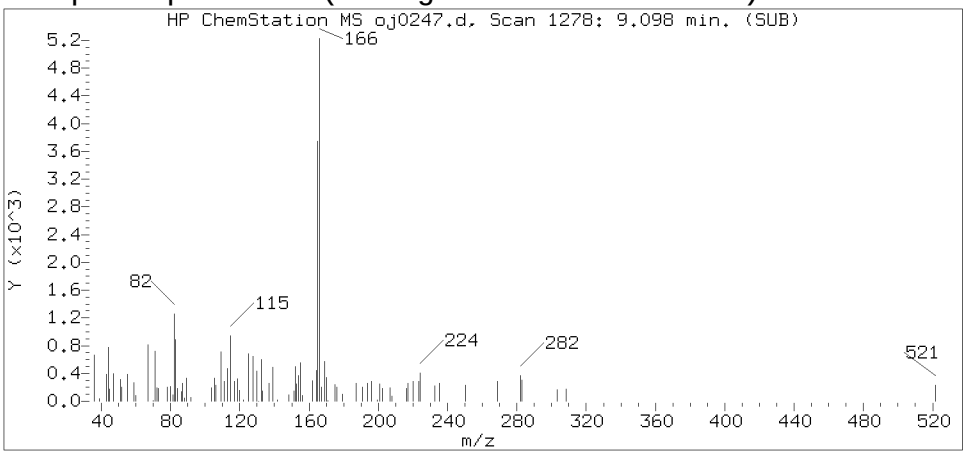
Target 3.5 esignature user ID: ceb05247

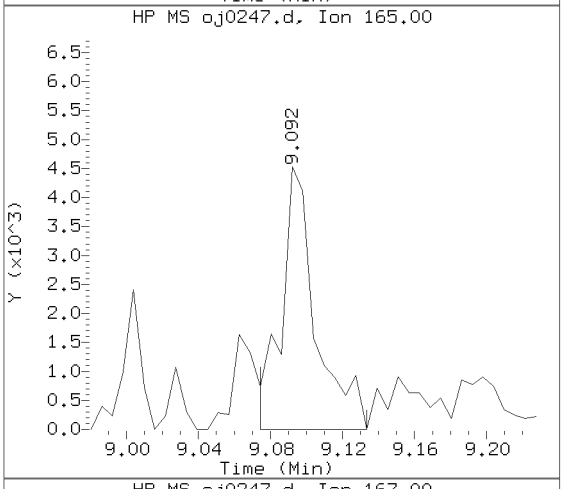
Reference Standard Spectrum for Fluorene



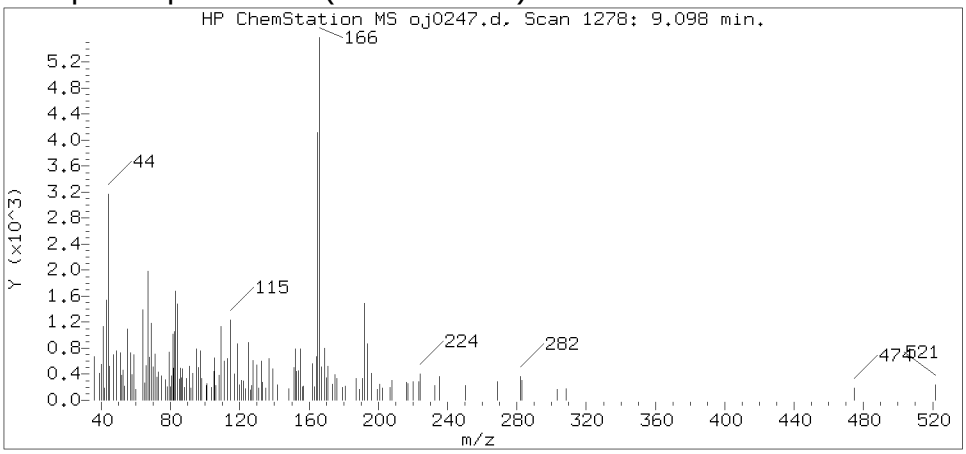


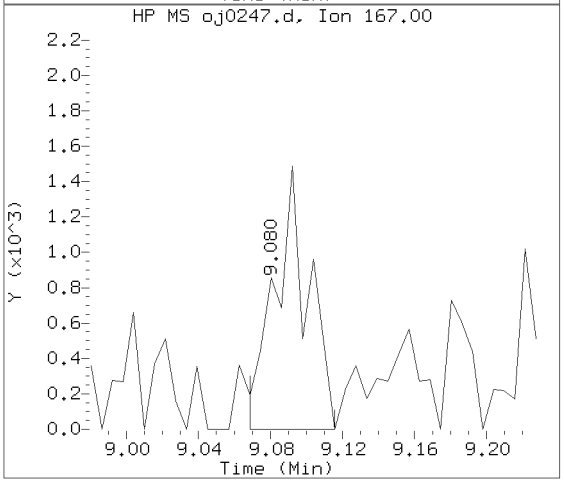
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

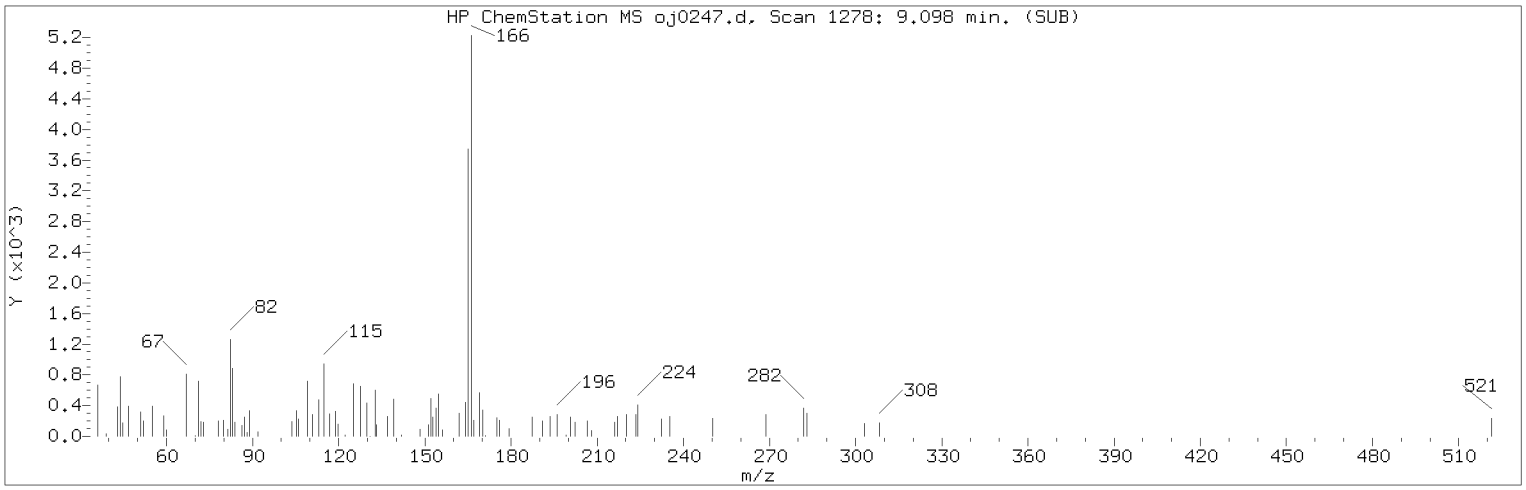
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

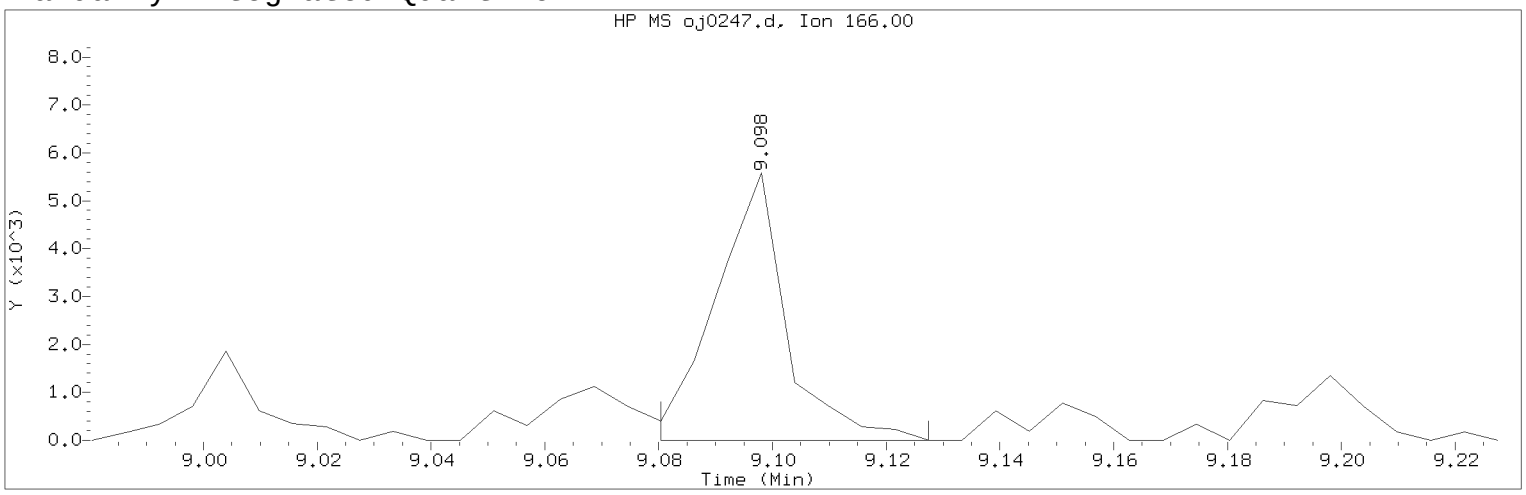
Compound Number	: 126
Compound Name	: Fluorene
Scan Number	: 1278
Retention Time (minutes)	: 9.098
Relative Retention Time	: 0.00000
Quant Ion	: 166.00
Area (flag)	: 4874M
On-column Amount (ng/ul)	: 0.1882

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

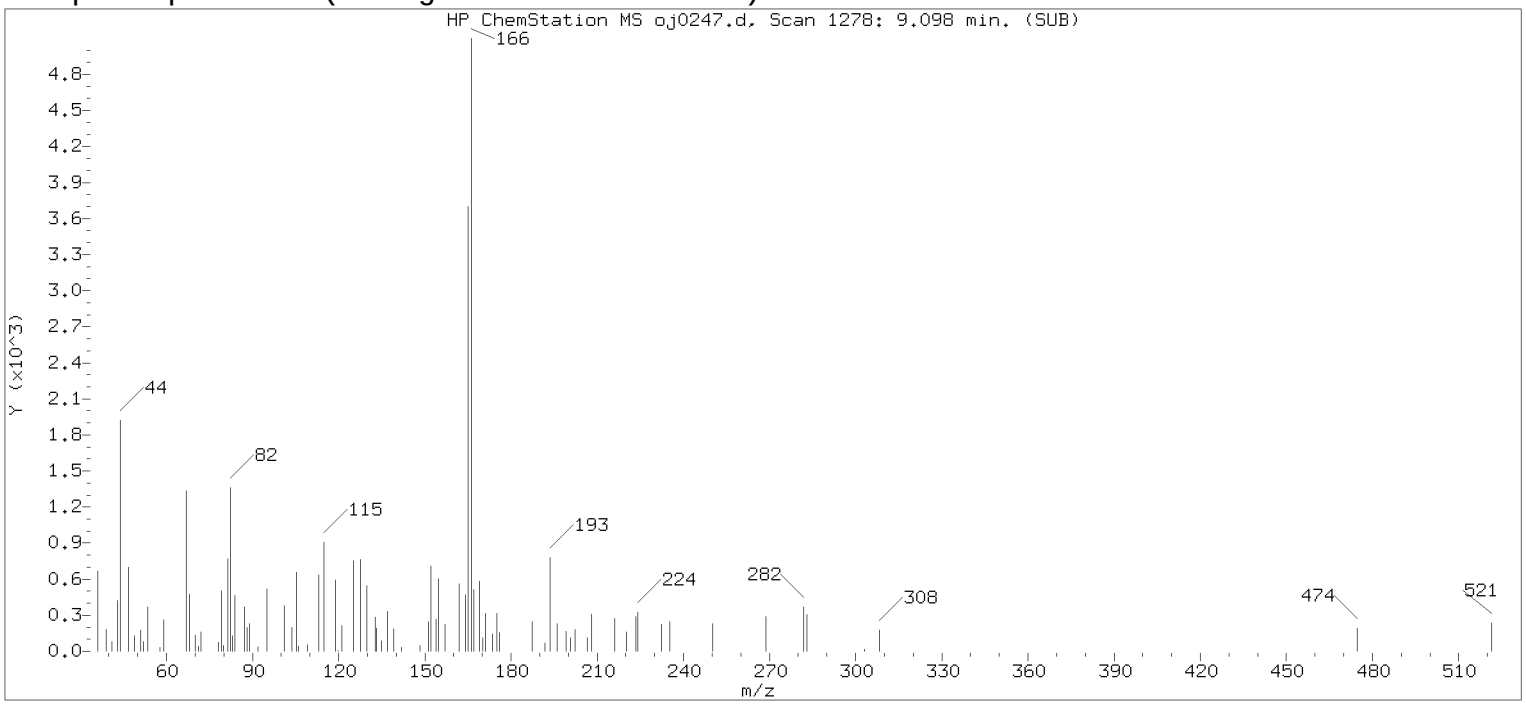
Compound Number : 126
Compound Name : Fluorene
Scan Number : 1278
Retention Time (minutes) : 9.098
Quant Ion : 166.00
Area (flag) : 4874M
On-column Amount (ng/ul) : 0.1882
Integration start scan : 1274 Integration stop scan: 1282
Y at integration start : -1 Y at integration end: -1

Reason for manual integration: improper integration

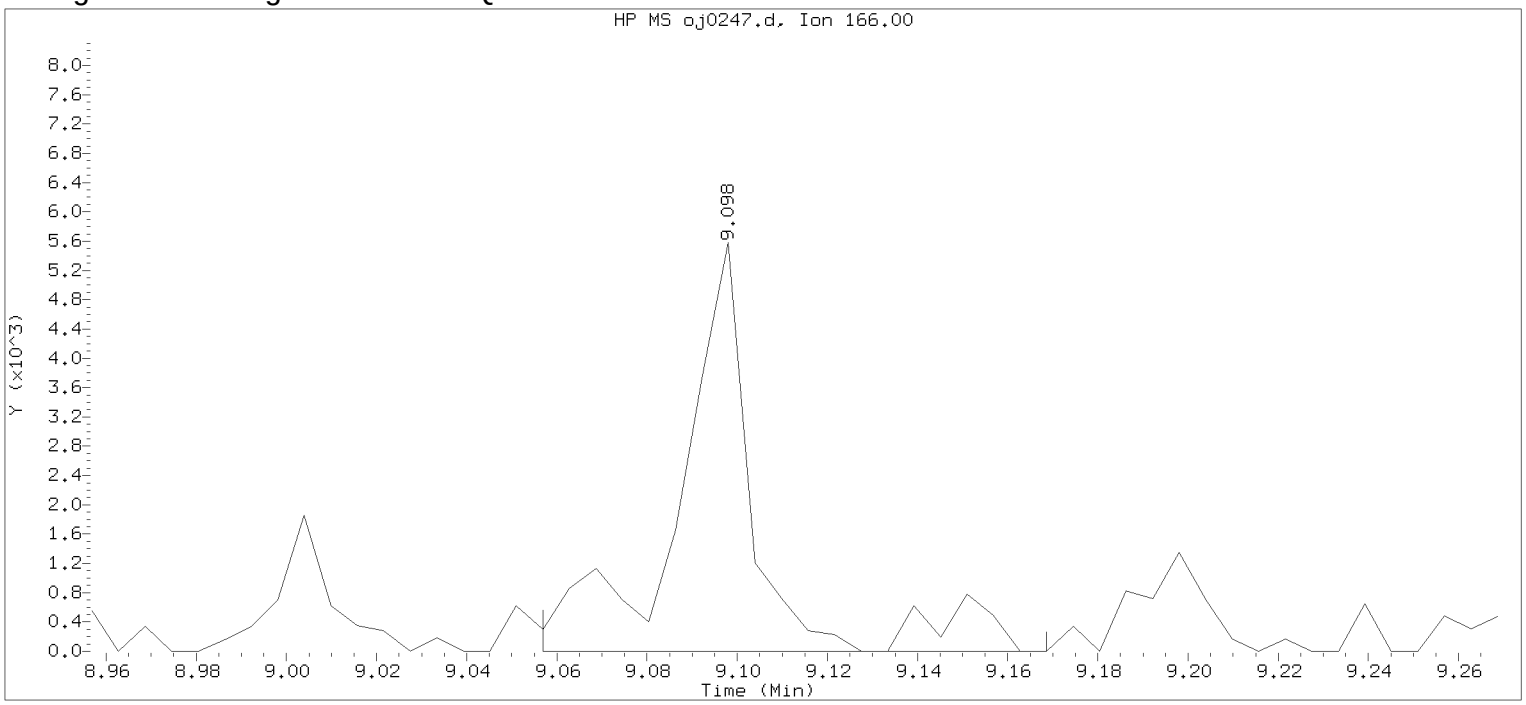
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

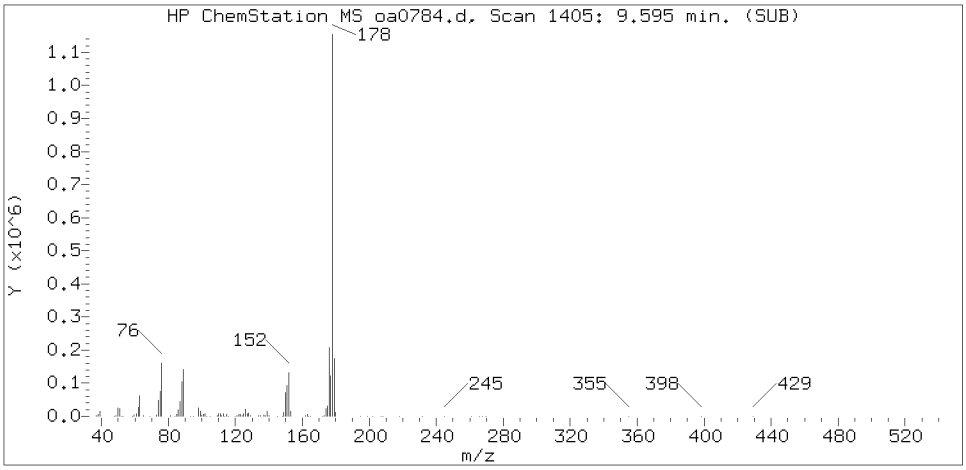
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:01 Automation

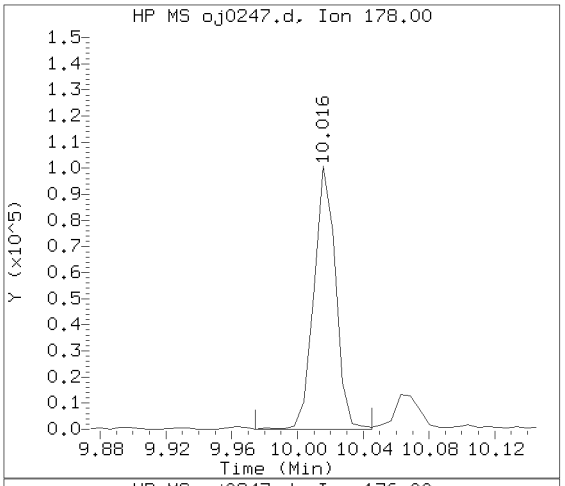
Sample Name: -497- Lab Sample ID: 8064470

Compound Number	: 126		
Compound Name	: Fluorene		
Scan Number	: 1278		
Retention Time (minutes)	: 9.098		
Quant Ion	: 166.00		
Area	: 6609		
On-column Amount (ng/ul)	: 0.2552		
Integration start scan	: 1270	Integration stop scan:	1289
Y at integration start	: 0	Y at integration end:	0

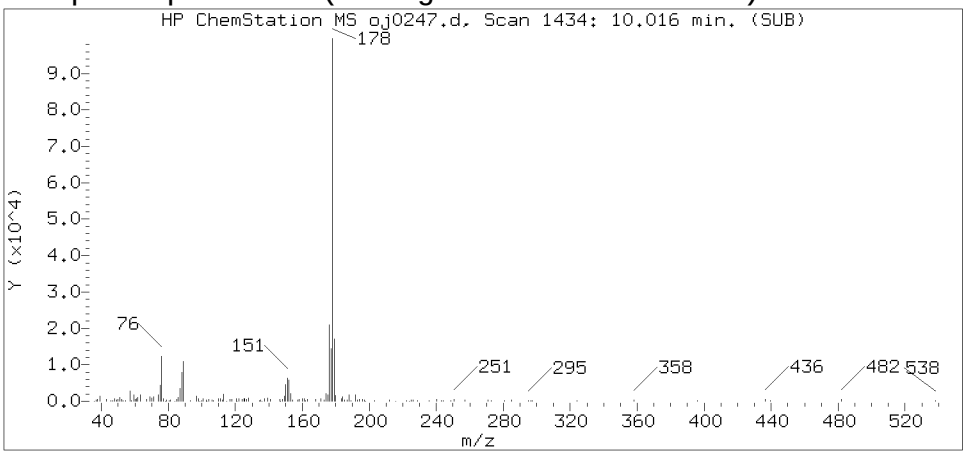
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: 27 date: 05/26

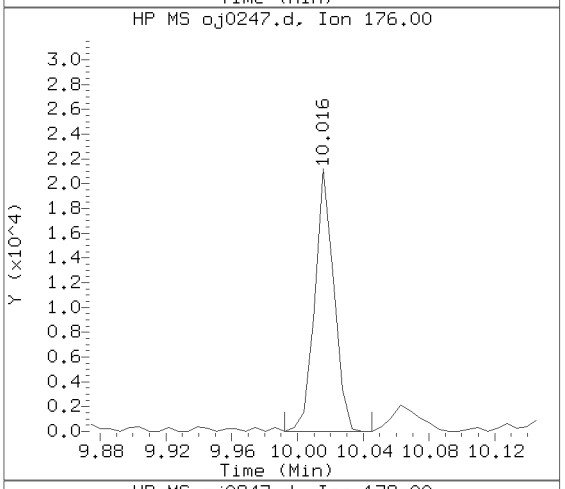
Reference Standard Spectrum for Phenanthrene



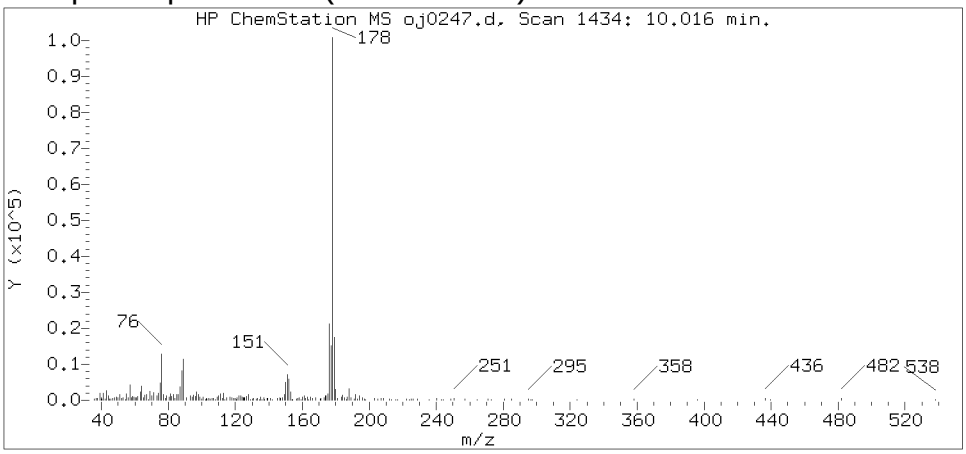


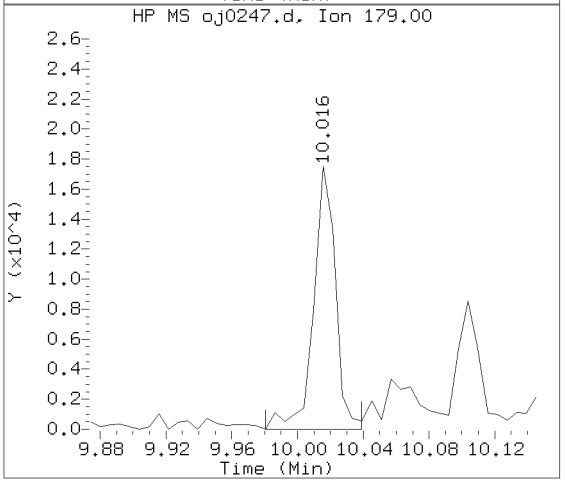
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

Compound Number	: 155
Compound Name	: Phenanthrene
Scan Number	: 1434
Retention Time (minutes)	: 10.016
Relative Retention Time	: 0.00059
Quant Ion	: 178.00
Area (flag)	: 92435
On-column Amount (ng/ul)	: 2.4367

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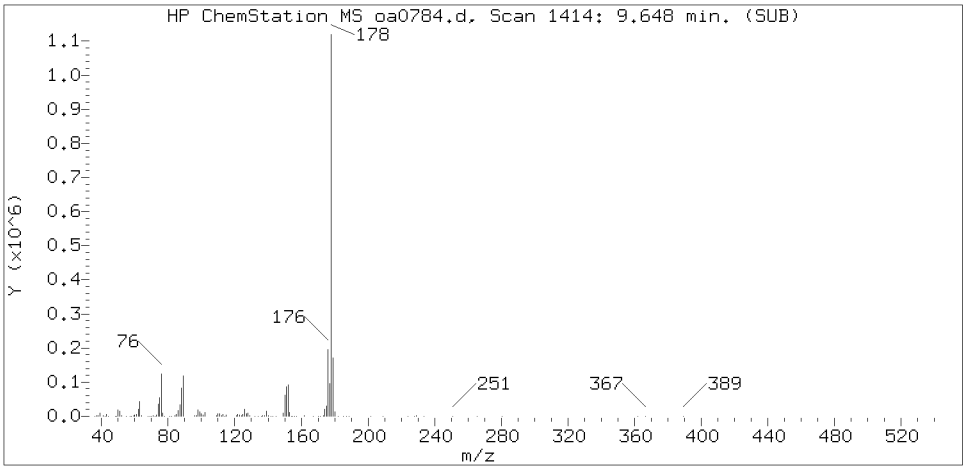
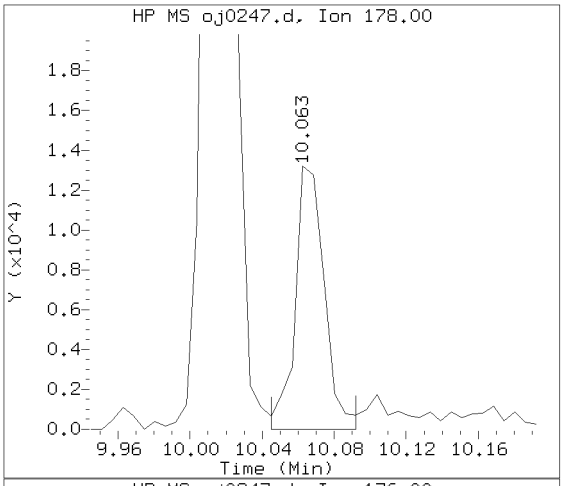
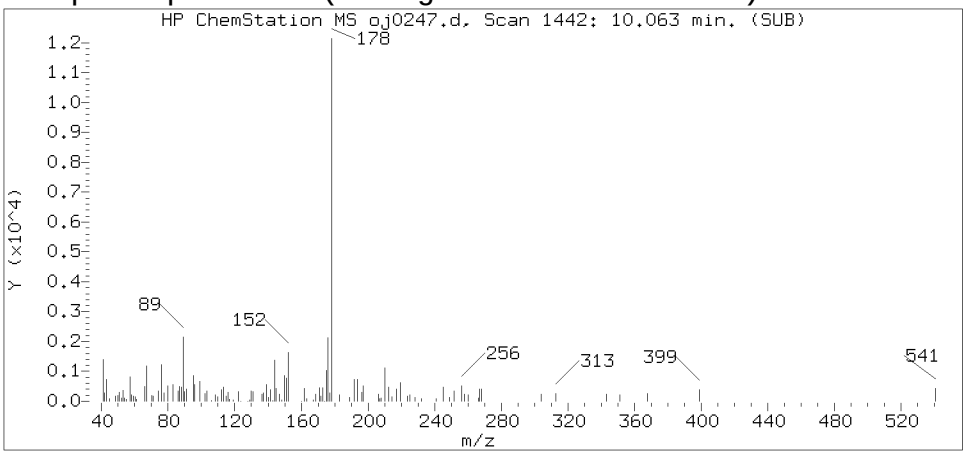
Target 3.5 esignature user ID: ceb05247

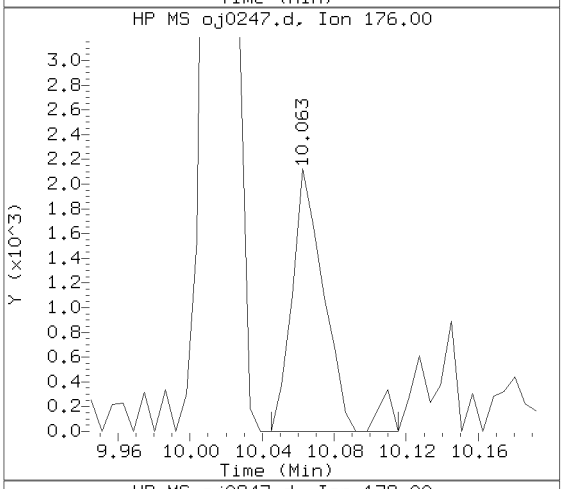
Reference Standard Spectrum for Anthracene



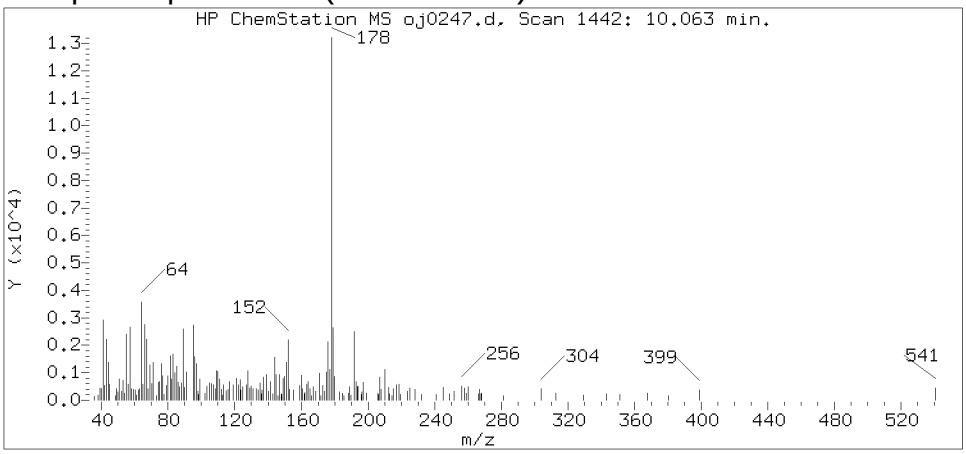


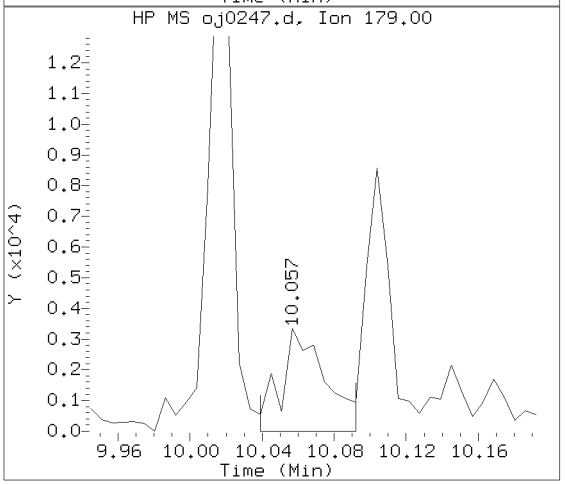
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

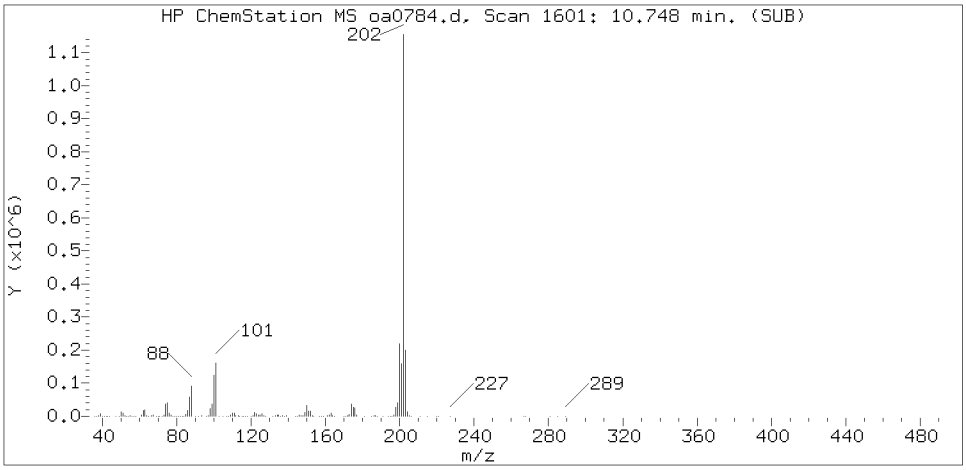
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

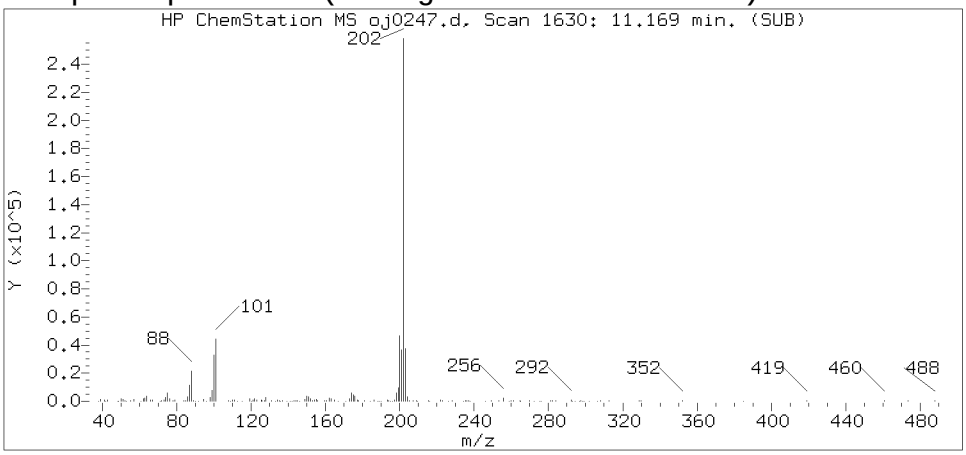
Compound Number : 157
Compound Name : Anthracene
Scan Number : 1442
Retention Time (minutes) : 10.063
Relative Retention Time : 0.00059
Quant Ion : 178.00
Area (flag) : 14613
On-column Amount (ng/ul) : 0.3898

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

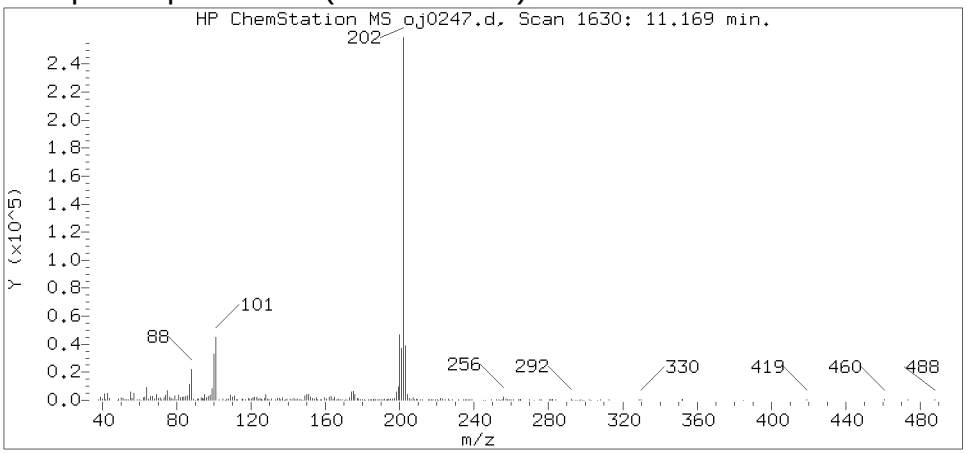
Reference Standard Spectrum for Fluoranthene

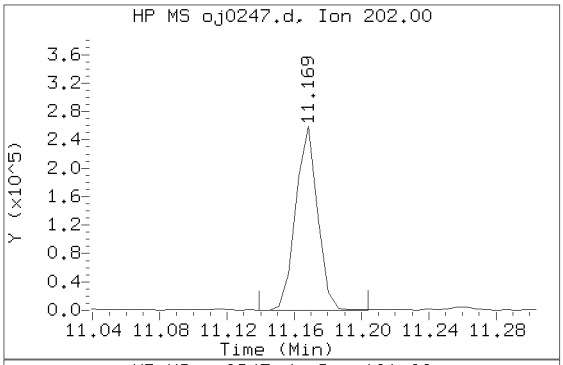


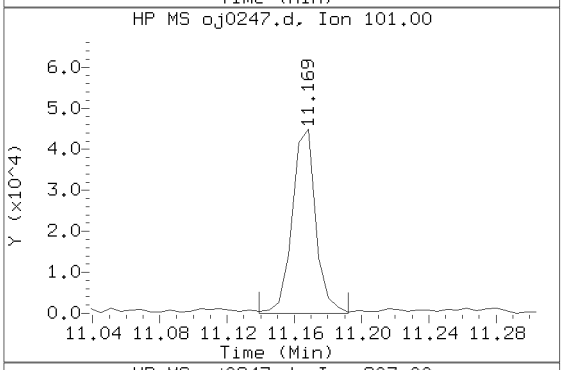
Sample Spectrum (Background Subtracted)

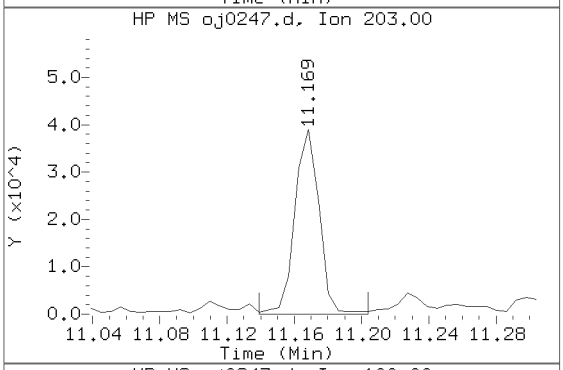


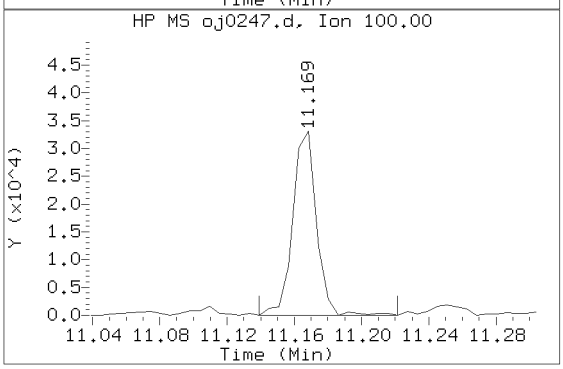
Sample Spectrum (Unaltered)











Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

Compound Number : 173
Compound Name : Fluoranthene
Scan Number : 1630
Retention Time (minutes) : 11.169
Relative Retention Time :-0.00000
Quant Ion : 202.00
Area (flag) : 232395
On-column Amount (ng/ul) : 5.6368

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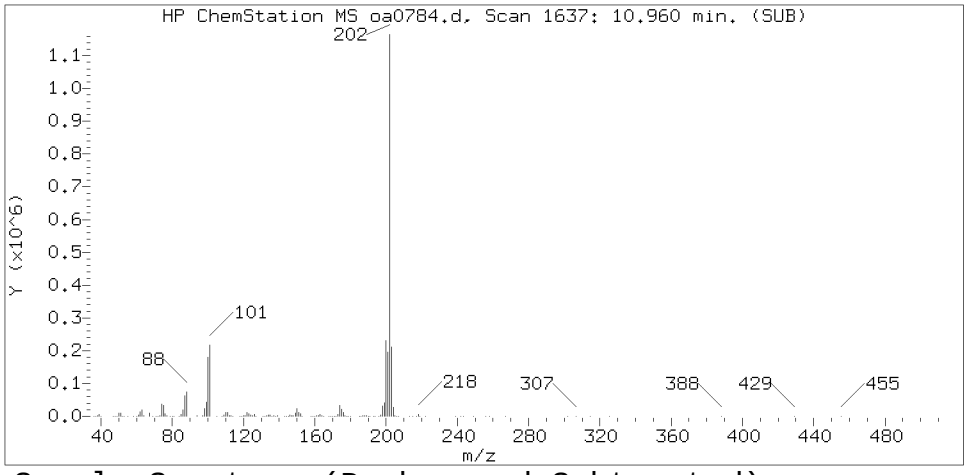
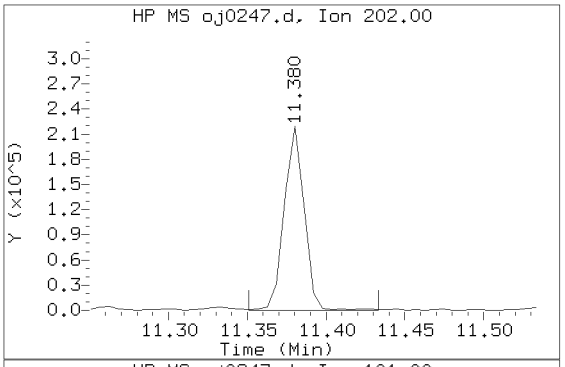
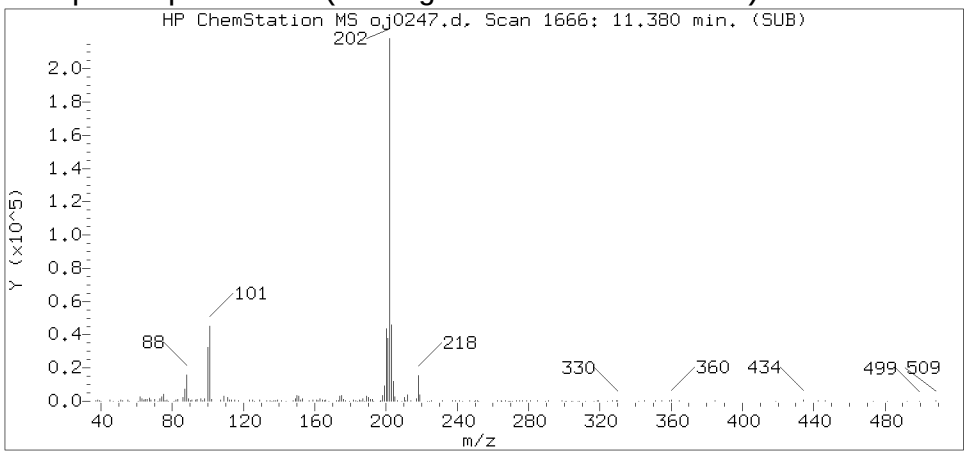
Target 3.5 esignature user ID: ceb05247

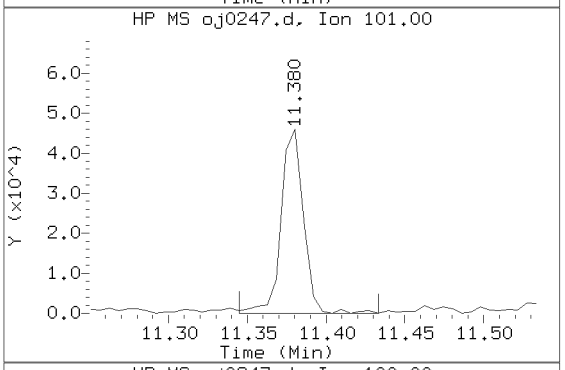
Reference Standard Spectrum for Pyrene



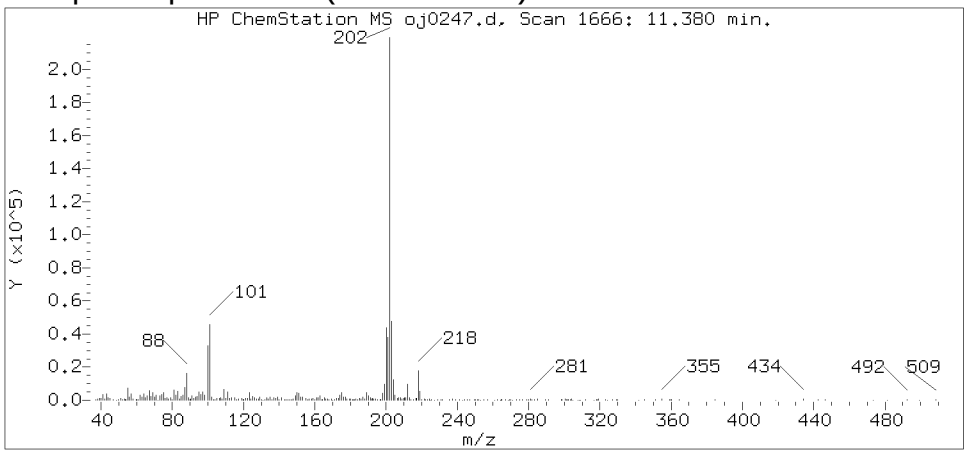


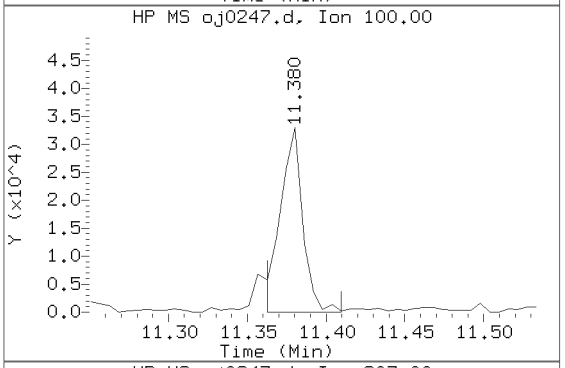
Sample Spectrum (Background Subtracted)

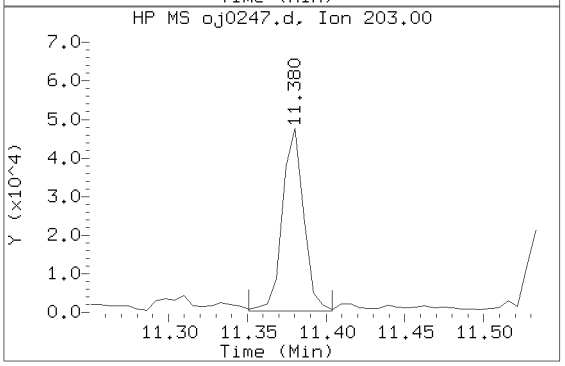




Sample Spectrum (Unaltered)







Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

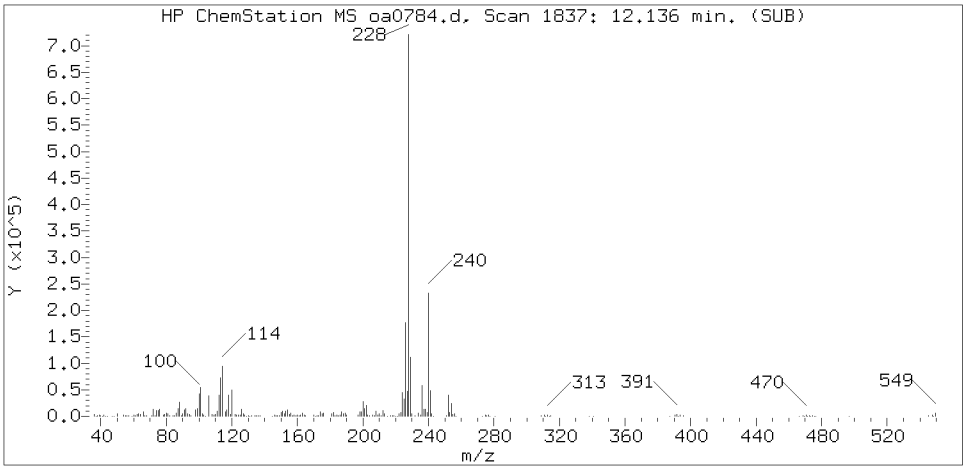
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

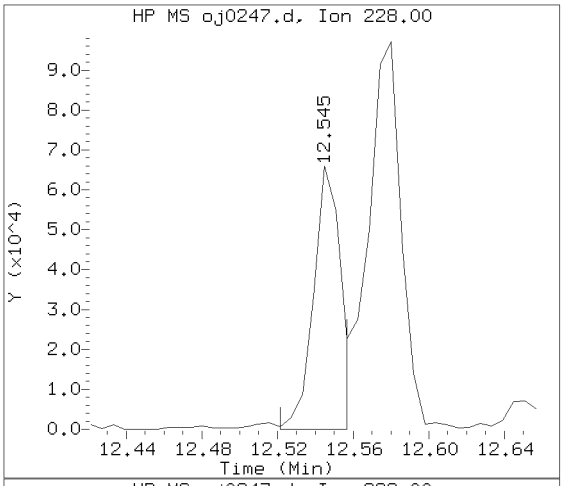
Sample Name: -497- Lab Sample ID: 8064470

Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 1666
Retention Time (minutes)	: 11.380
Relative Retention Time	: 0.00052
Quant Ion	: 202.00
Area (flag)	: 193745
On-column Amount (ng/ul)	: 4.6966

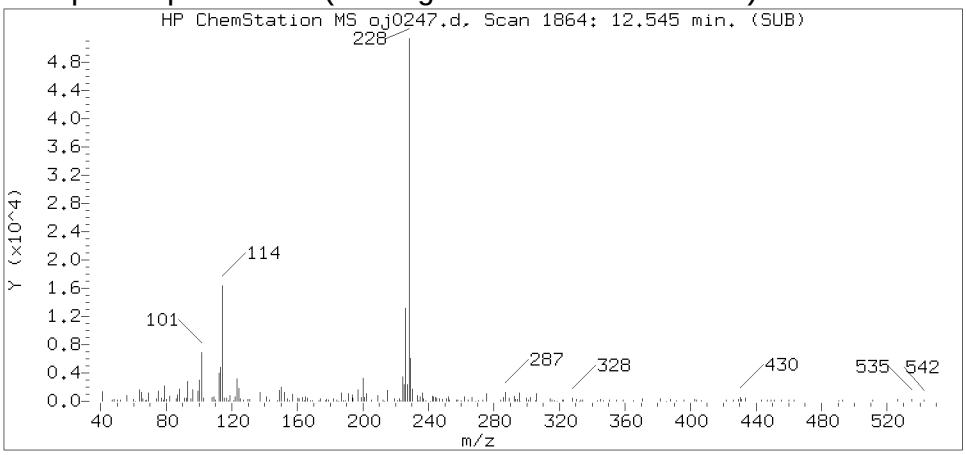
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

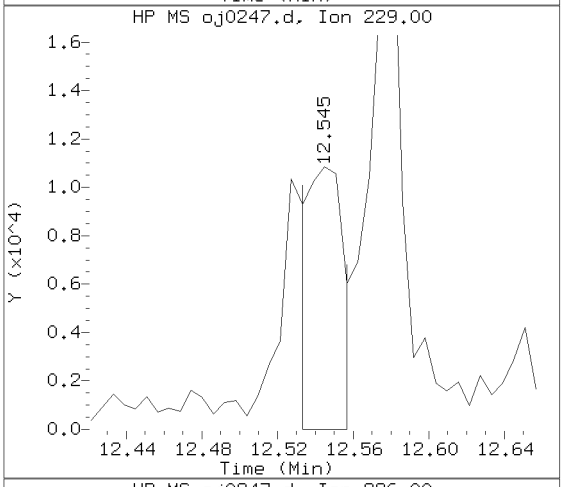
Reference Standard Spectrum for Benzo(a)anthracene



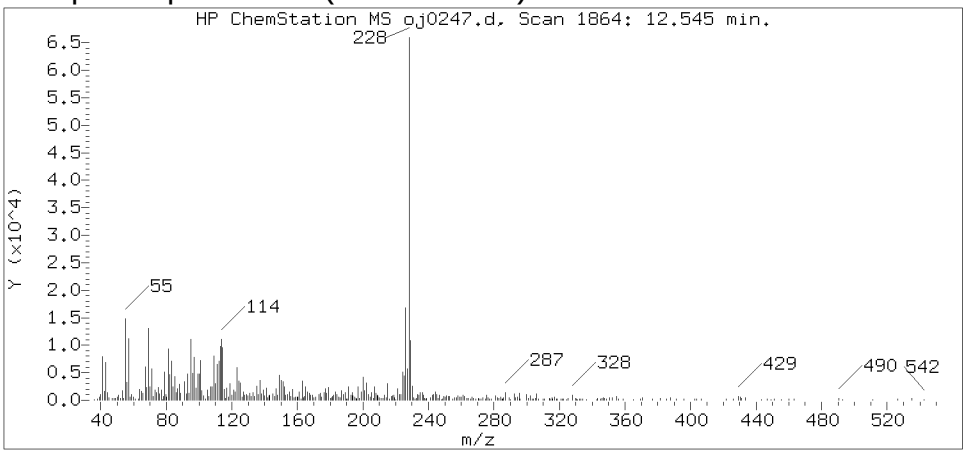


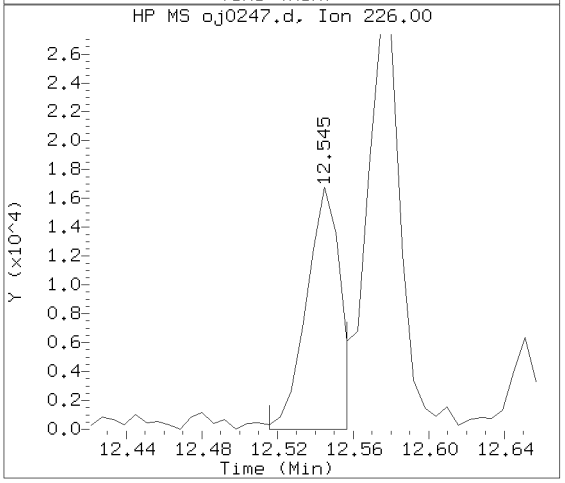
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

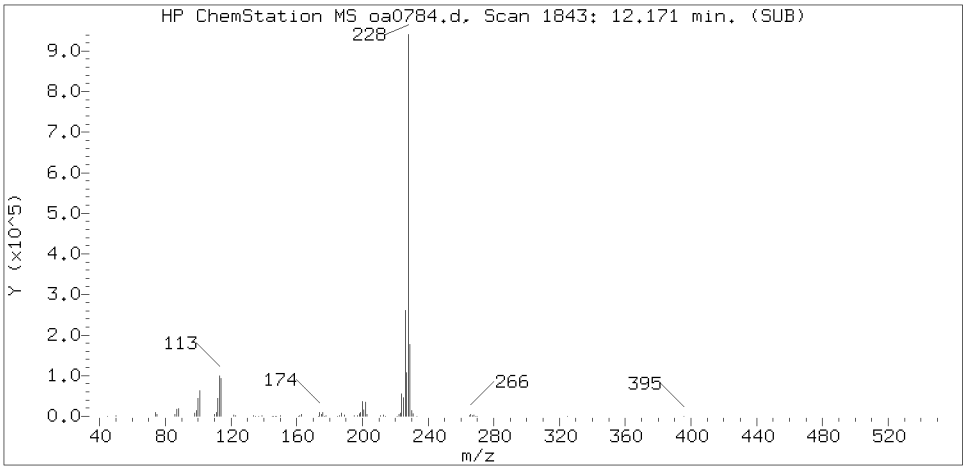
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

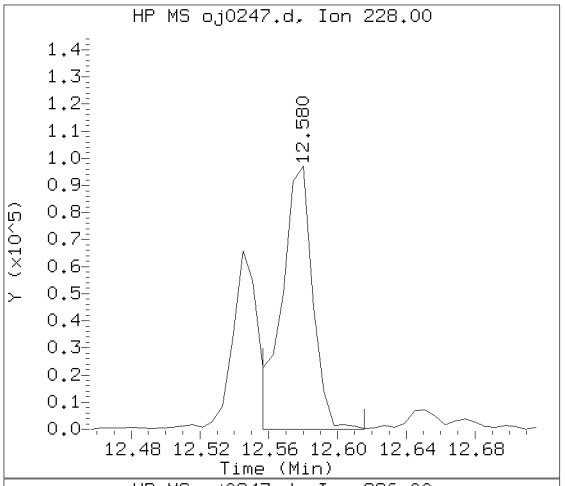
Sample Name: -497- Lab Sample ID: 8064470

Compound Number	: 195
Compound Name	: Benzo(a)anthracene
Scan Number	: 1864
Retention Time (minutes)	: 12.545
Relative Retention Time	: 0.00052
Quant Ion	: 228.00
Area (flag)	: 62540
On-column Amount (ng/ul)	: 1.7392

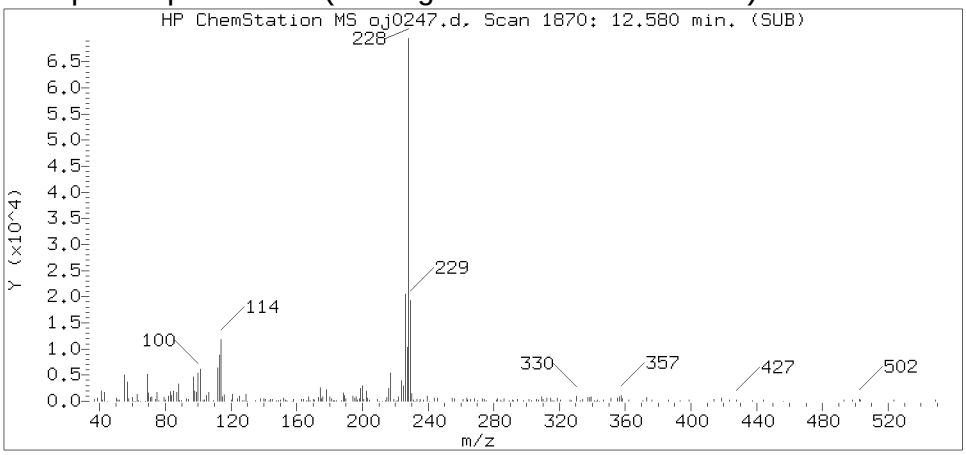
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

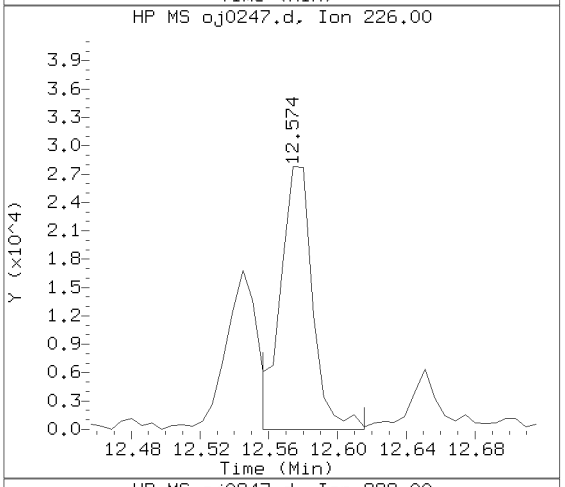
Reference Standard Spectrum for Chrysene



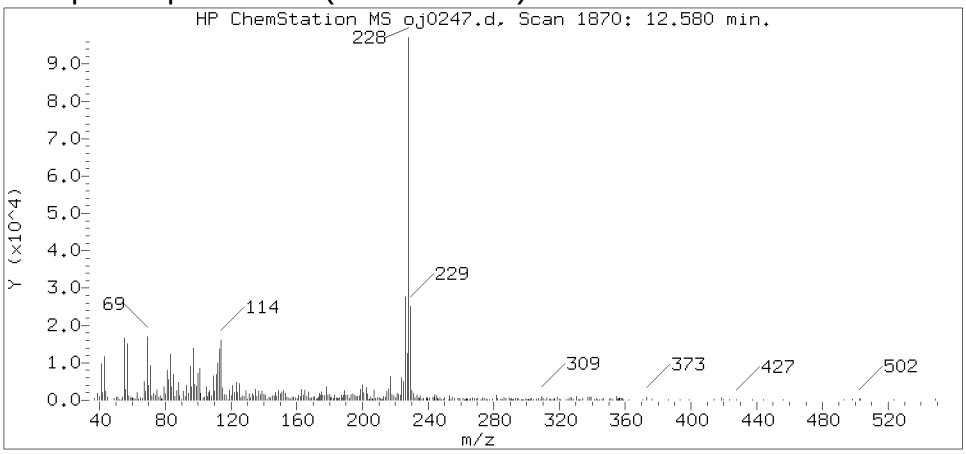


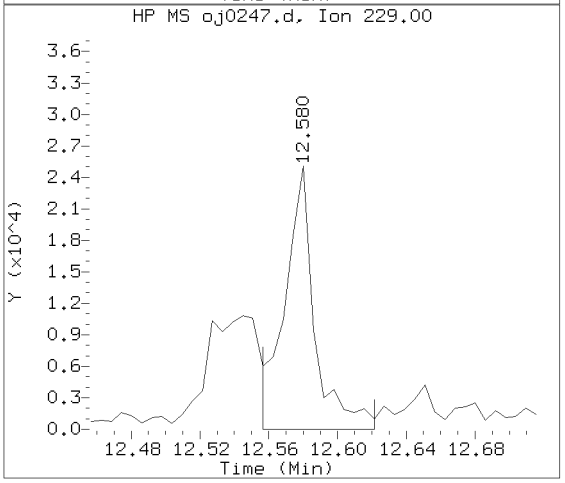
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

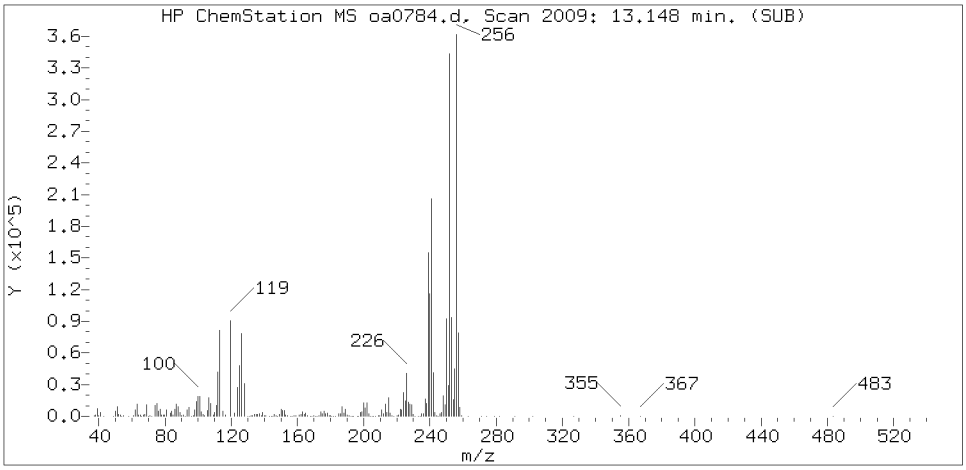
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

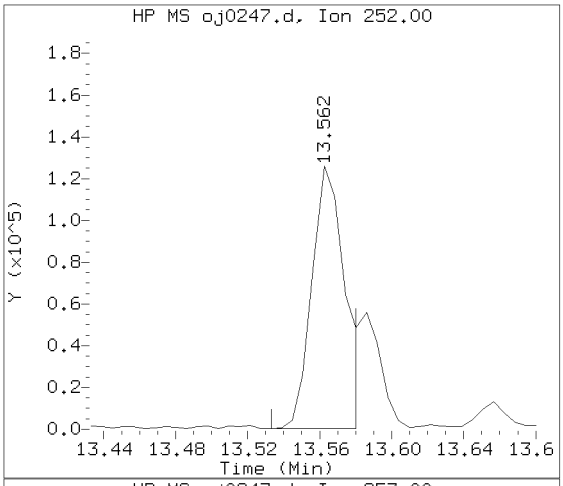
Sample Name: -497- Lab Sample ID: 8064470

Compound Number	: 196
Compound Name	: Chrysene
Scan Number	: 1870
Retention Time (minutes)	: 12.580
Relative Retention Time	: 0.00052
Quant Ion	: 228.00
Area (flag)	: 120191
On-column Amount (ng/ul)	: 3.5079

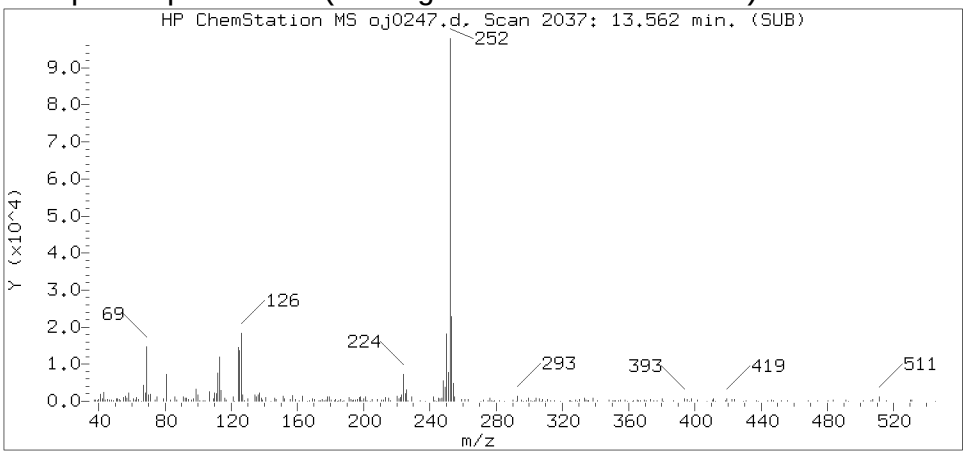
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

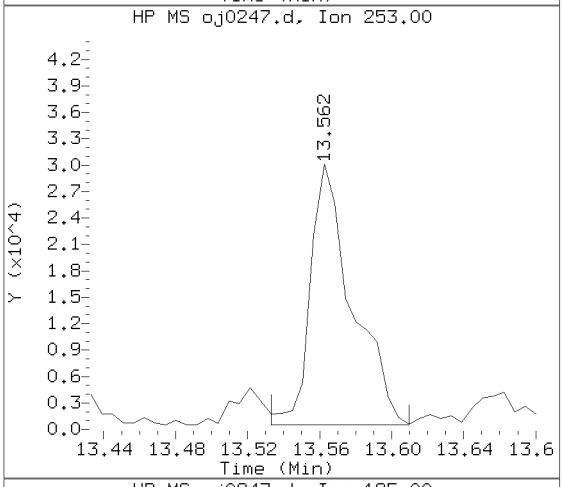
Reference Standard Spectrum for Benzo(b)fluoranthene



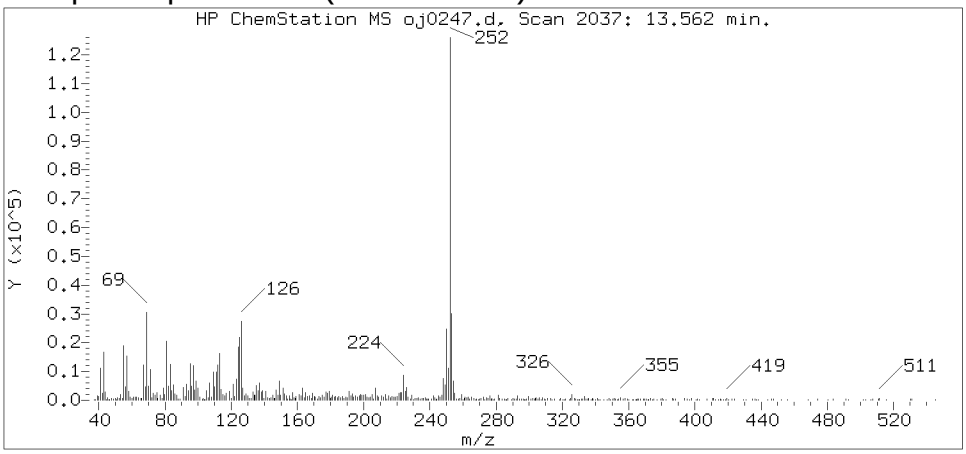


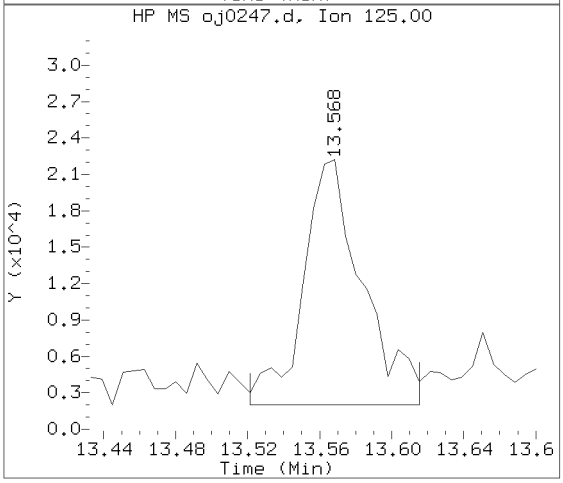
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

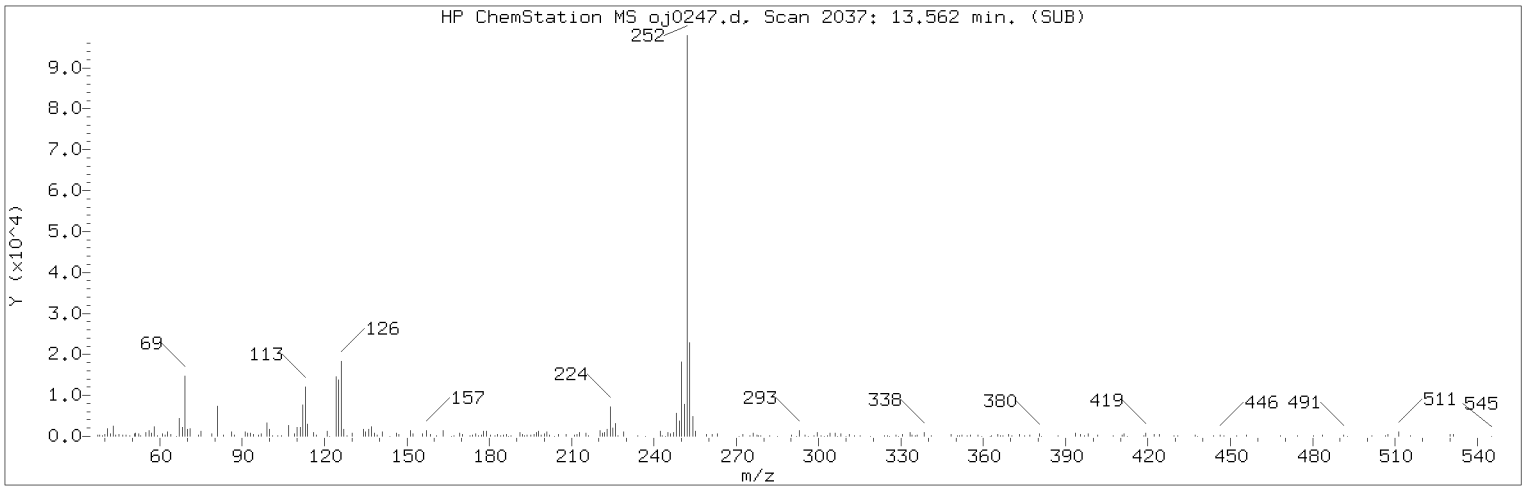
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

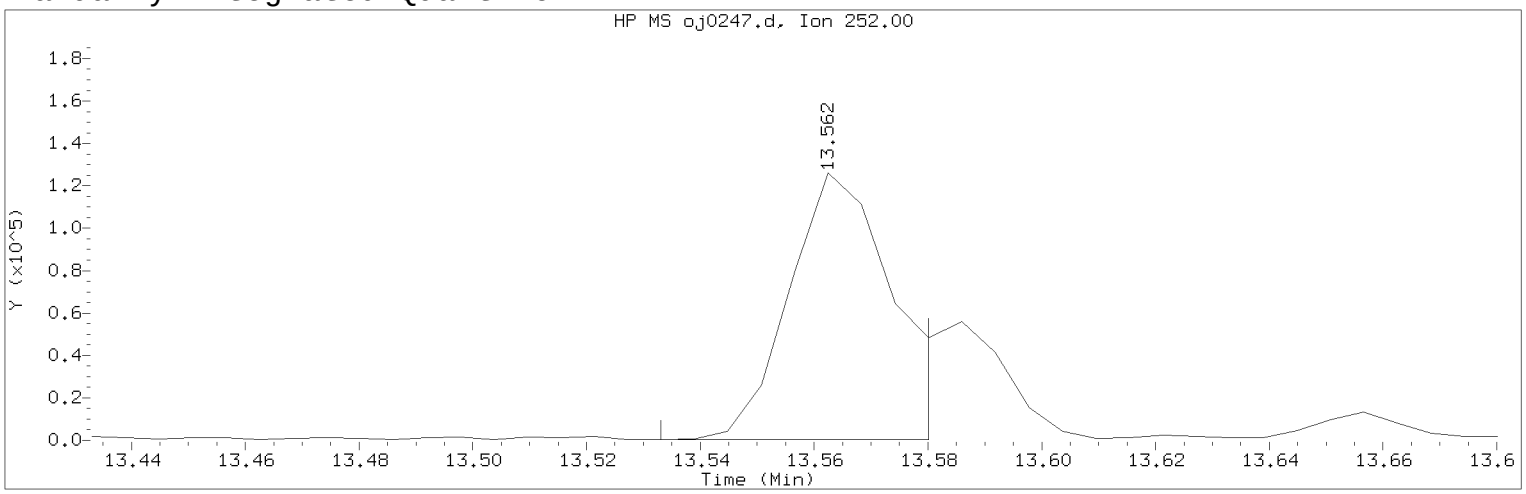
Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 2037
Retention Time (minutes)	: 13.562
Relative Retention Time	: 0.00042
Quant Ion	: 252.00
Area (flag)	: 161923M
On-column Amount (ng/ul)	: 5.2460

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

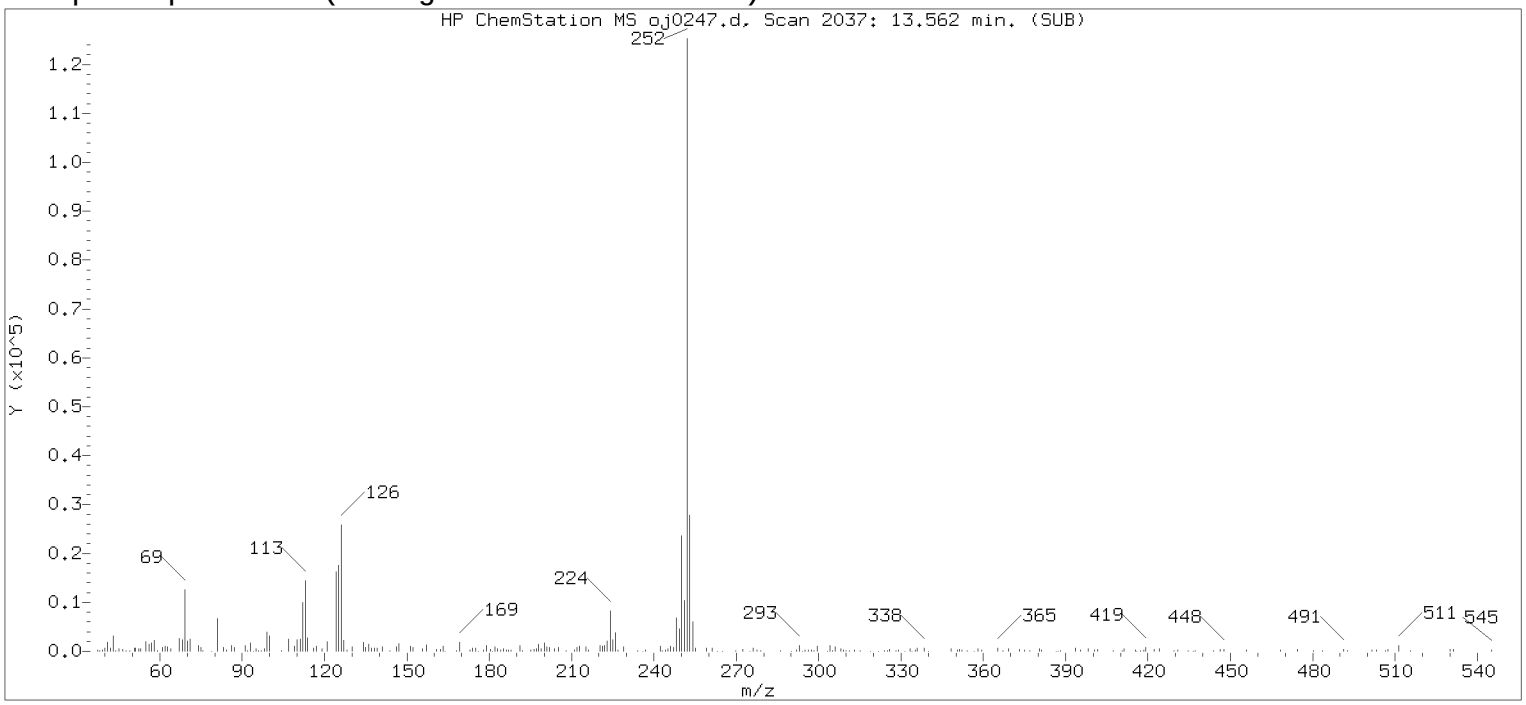
Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 2037
Retention Time (minutes) : 13.562
Quant Ion : 252.00
Area (flag) : 161923M
On-column Amount (ng/ul) : 5.2460
Integration start scan : 2031 Integration stop scan: 2039
Y at integration start : 236 Y at integration end: 236

Reason for manual integration: improper integration

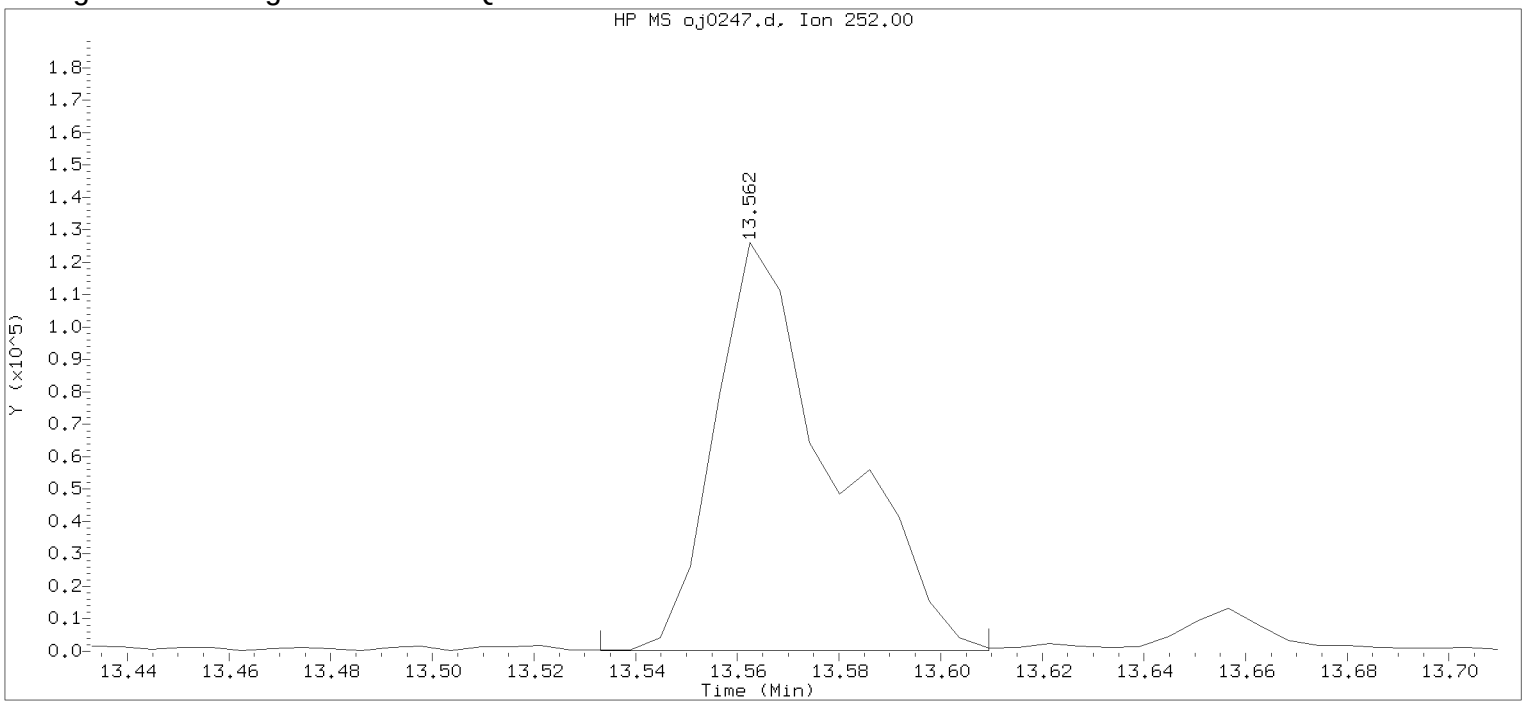
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

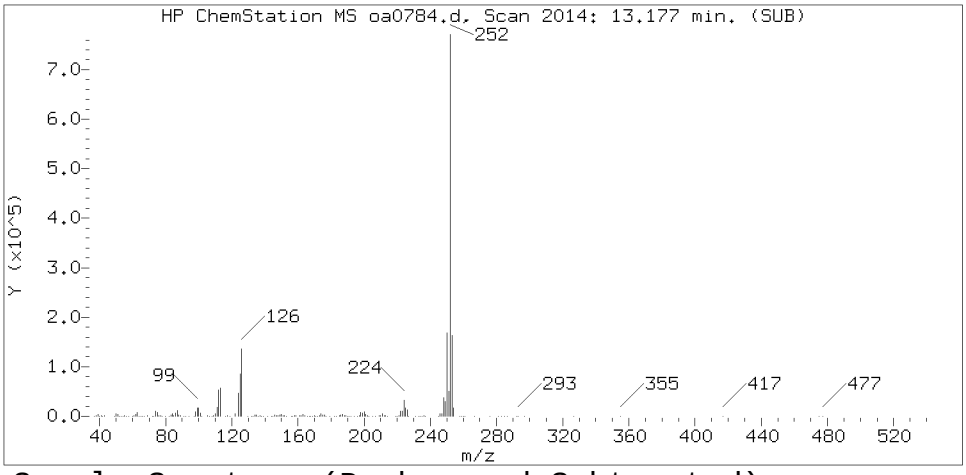
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:01 Automation

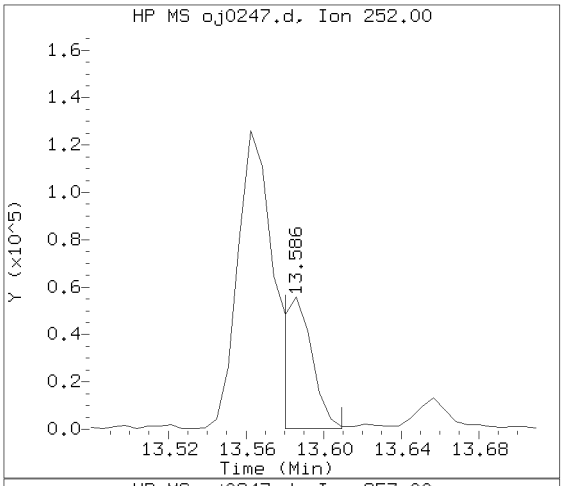
Sample Name: -497- Lab Sample ID: 8064470

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2037		
Retention Time (minutes)	: 13.562		
Quant Ion	: 252.00		
Area	: 203025		
On-column Amount (ng/ul)	: 6.5776		
Integration start scan	: 2031	Integration stop scan:	2044
Y at integration start	: 236	Y at integration end:	236

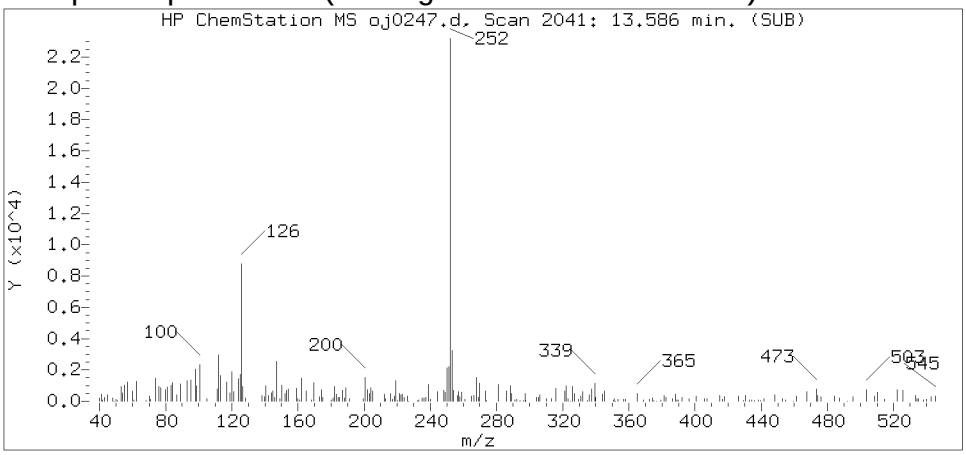
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: 27 date: 20150527

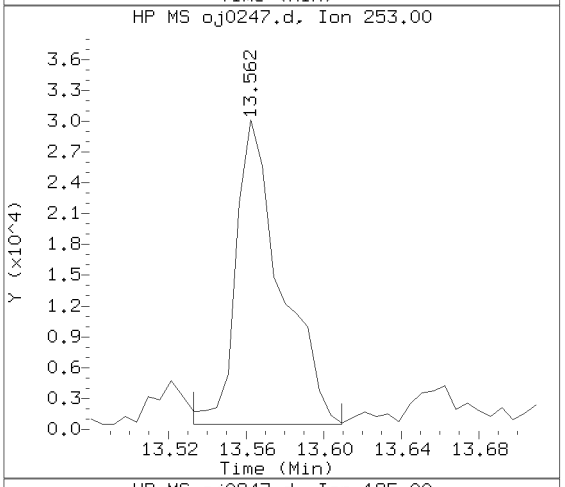
Reference Standard Spectrum for Benzo(k)fluoranthene



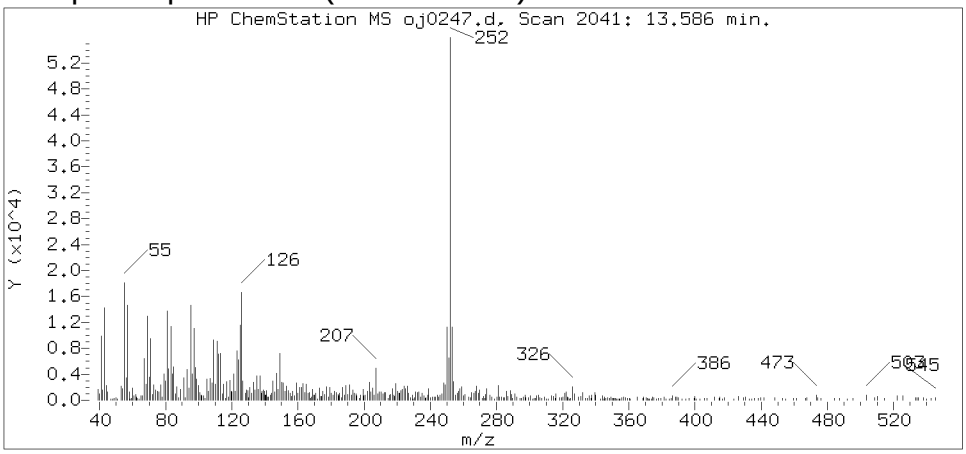


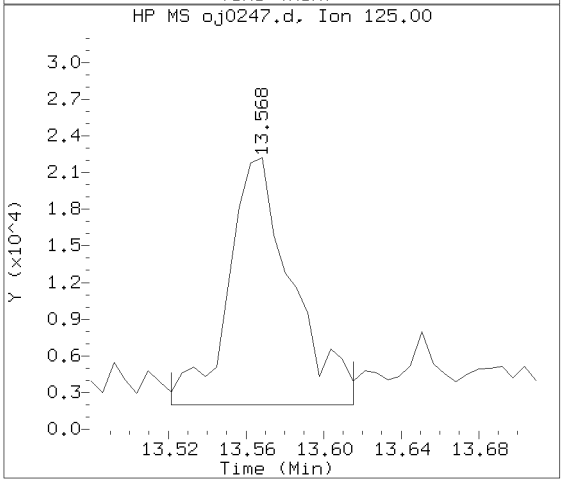
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

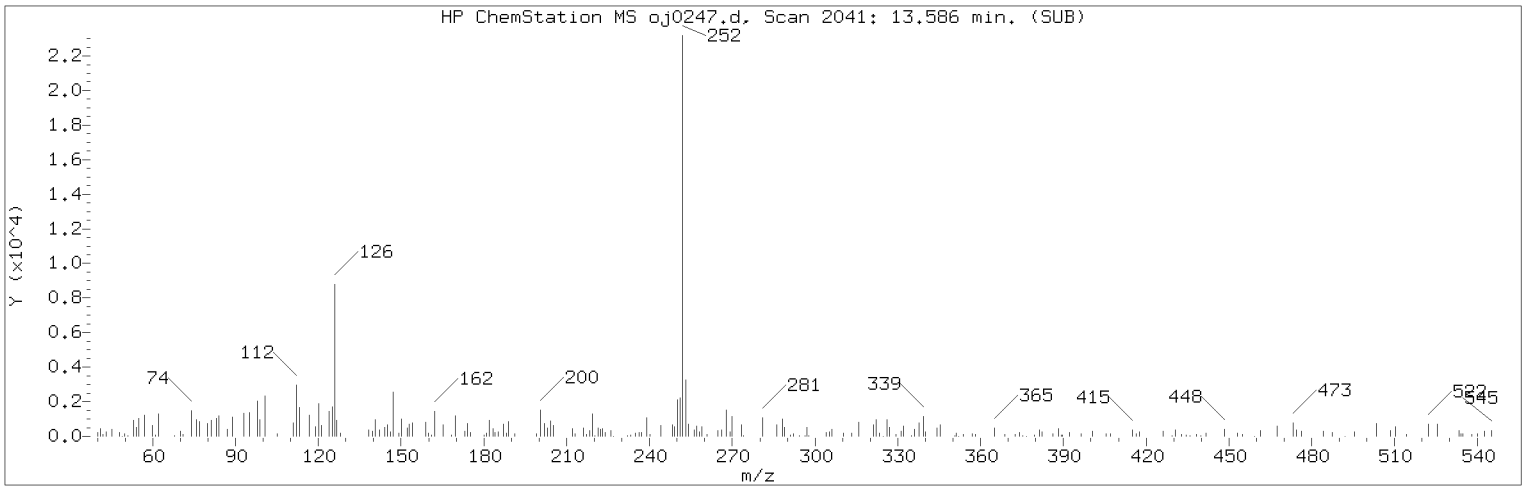
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

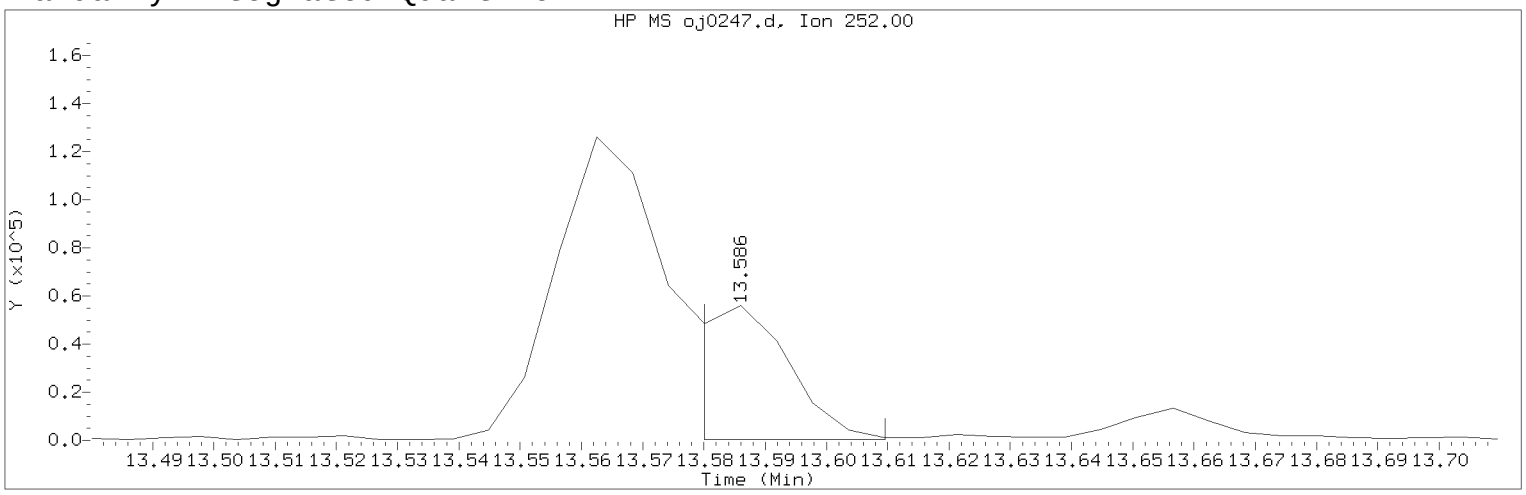
Compound Number	: 208
Compound Name	: Benzo(k)fluoranthene
Scan Number	: 2041
Retention Time (minutes)	: 13.586
Relative Retention Time	: 0.00042
Quant Ion	: 252.00
Area (flag)	: 58190M
On-column Amount (ng/ul)	: 1.8476

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

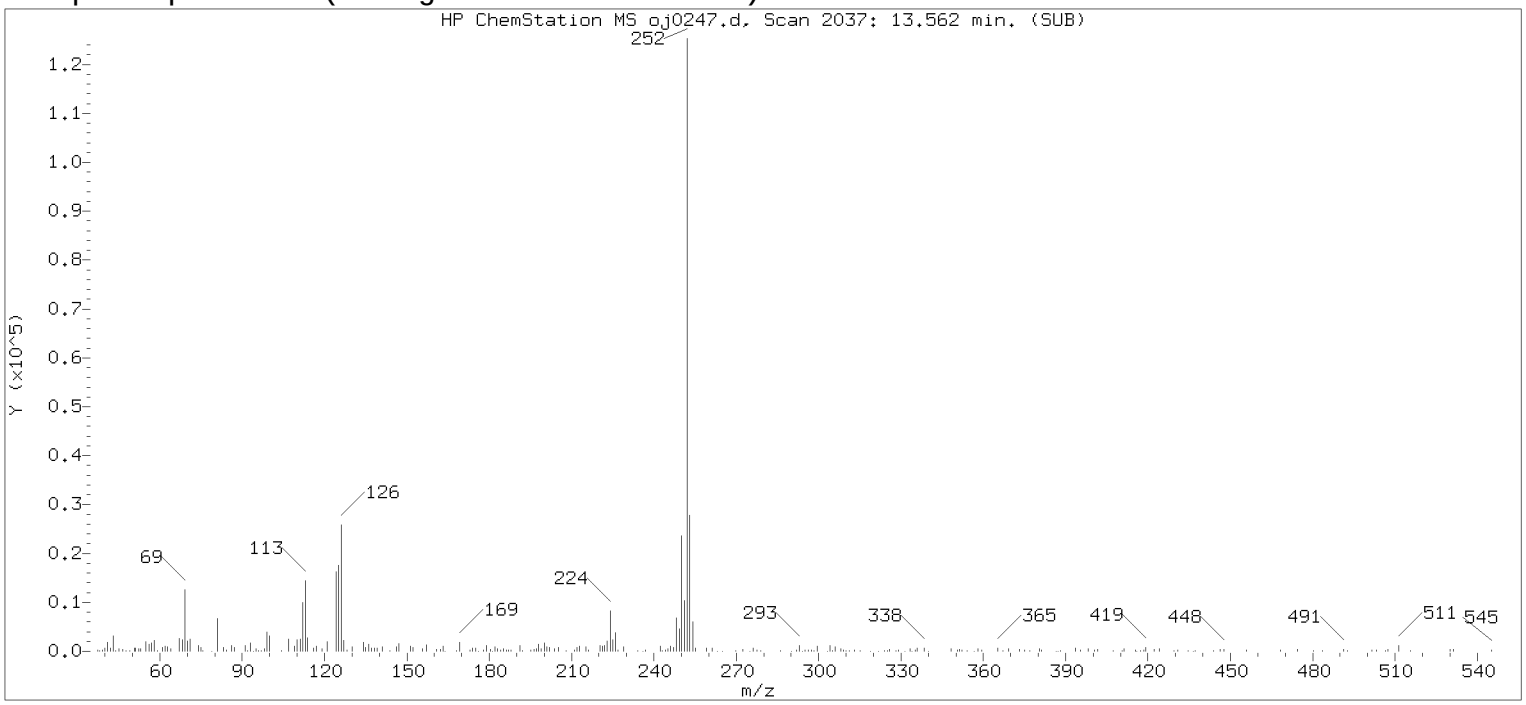
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 2041
Retention Time (minutes) : 13.586
Quant Ion : 252.00
Area (flag) : 58190M
On-column Amount (ng/ul) : 1.8476
Integration start scan : 2039 Integration stop scan: 2044
Y at integration start : 283 Y at integration end: 283

Reason for manual integration: improper integration

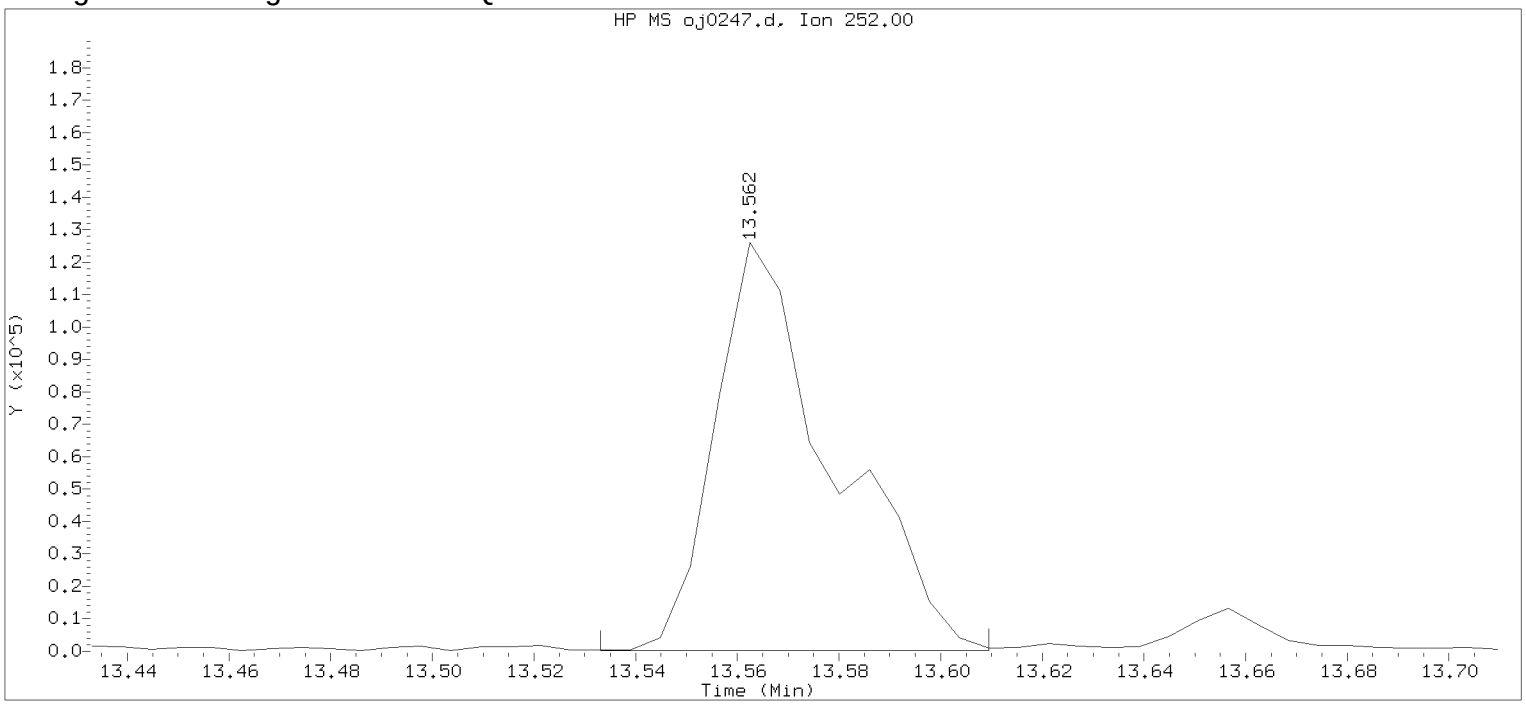
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

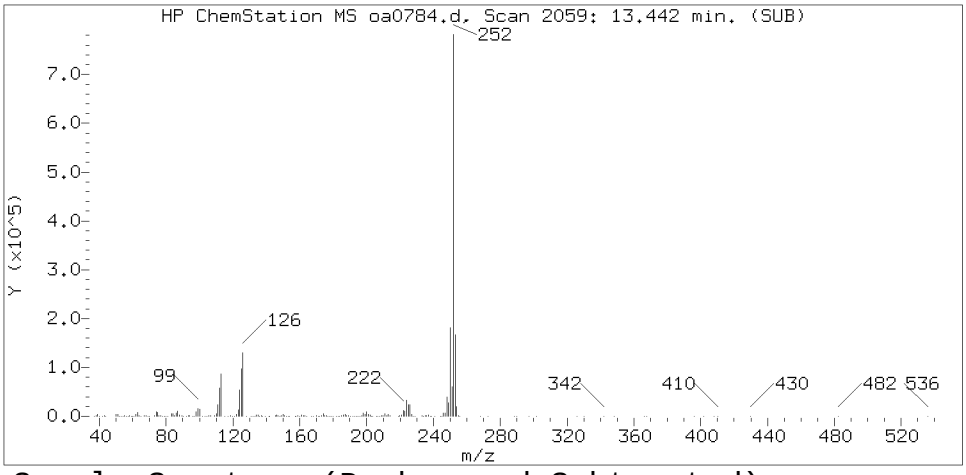
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:01 Automation

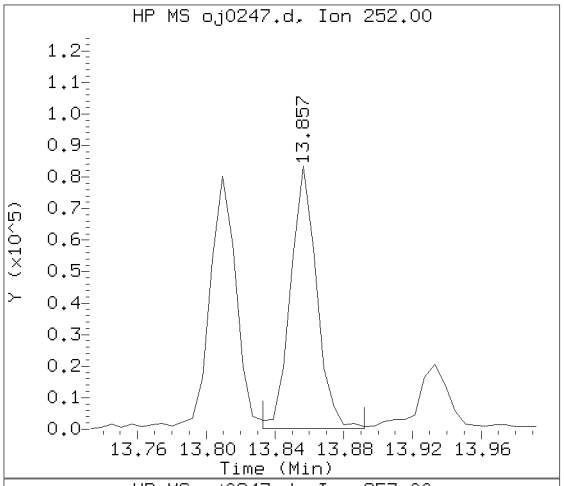
Sample Name: -497- Lab Sample ID: 8064470

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2037		
Retention Time (minutes)	: 13.562		
Quant Ion	: 252.00		
Area	: 203025		
On-column Amount (ng/ul)	: 6.4463		
Integration start scan	: 2031	Integration stop scan:	2044
Y at integration start	: 236	Y at integration end:	236

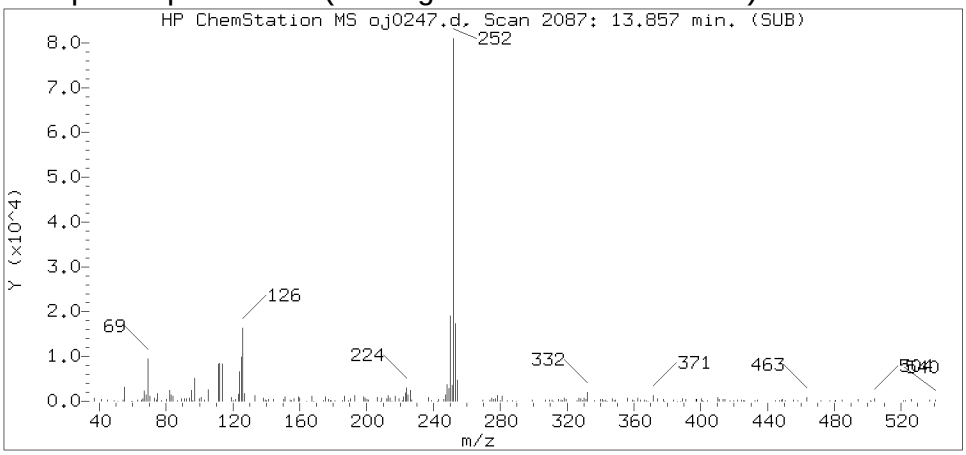
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: 27 date: 20150527

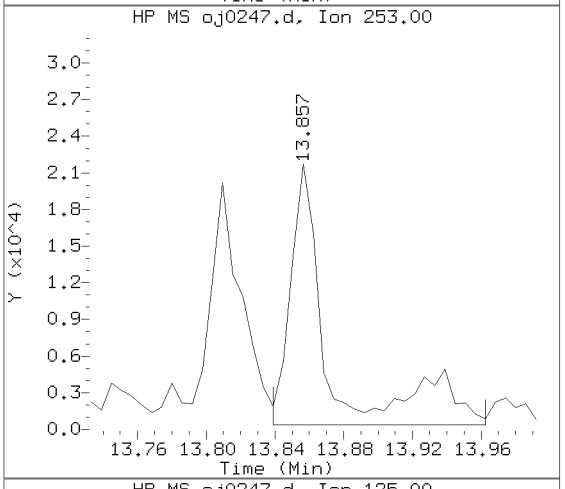
Reference Standard Spectrum for Benzo(a)pyrene



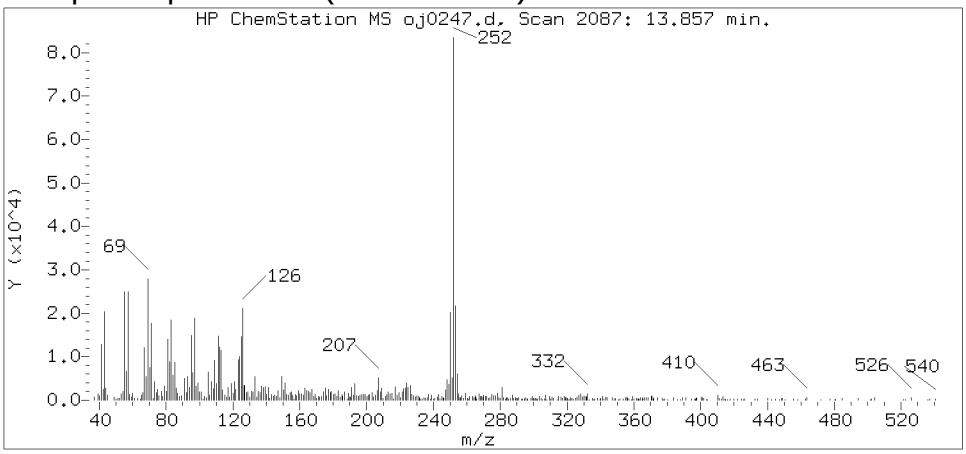


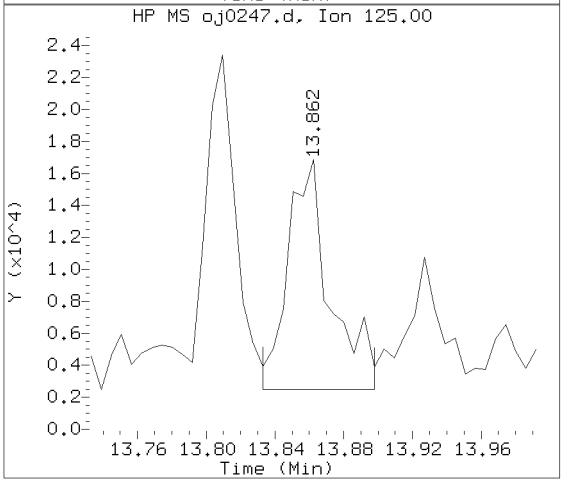
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

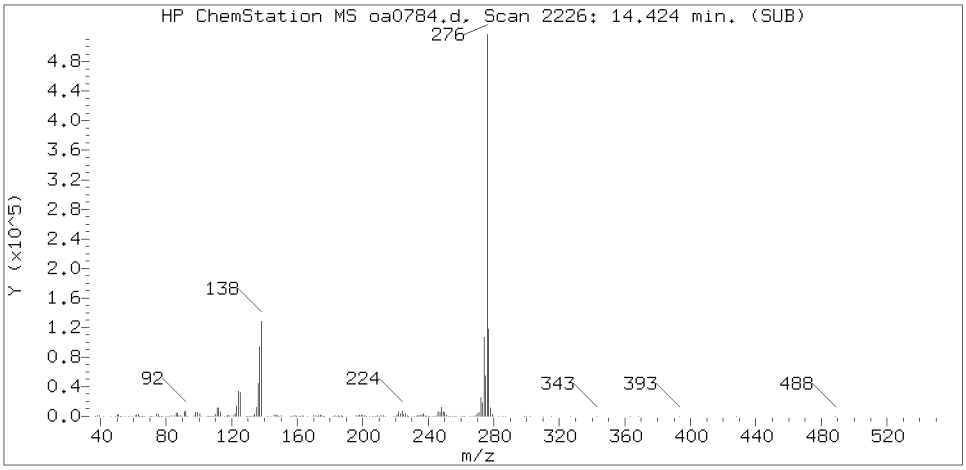
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

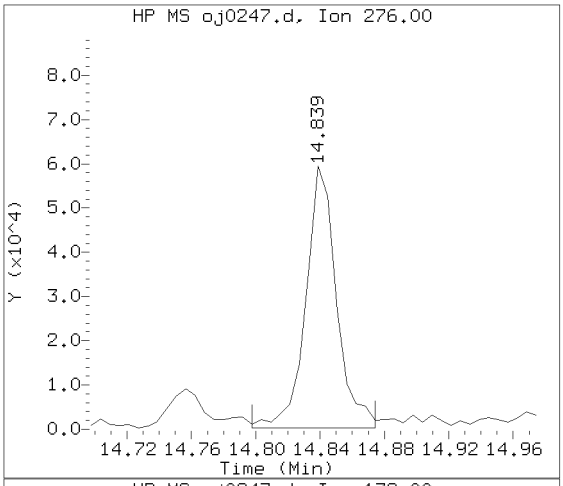
Sample Name: -497- Lab Sample ID: 8064470

Compound Number	: 211
Compound Name	: Benzo(a)pyrene
Scan Number	: 2087
Retention Time (minutes)	: 13.857
Relative Retention Time	: 0.00042
Quant Ion	: 252.00
Area (flag)	: 87348
On-column Amount (ng/ul)	: 2.8653

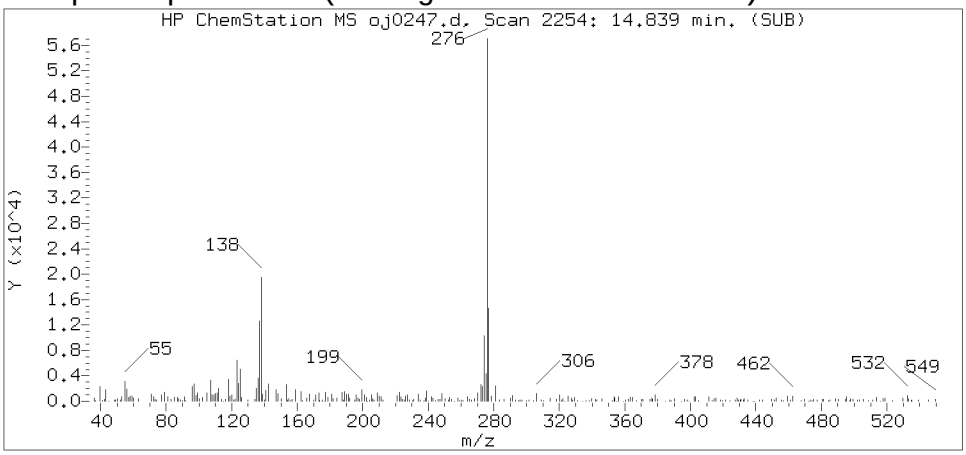
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

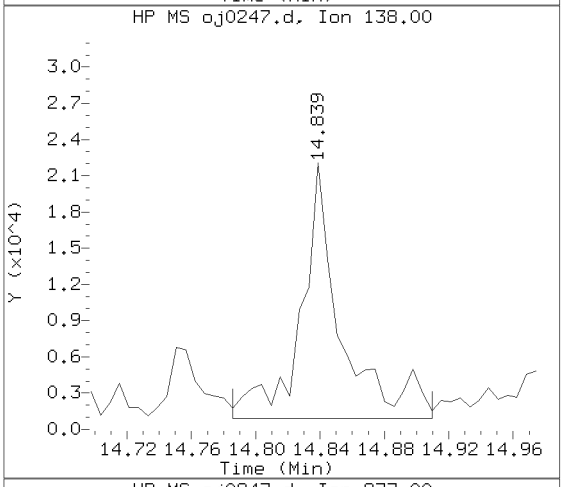
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



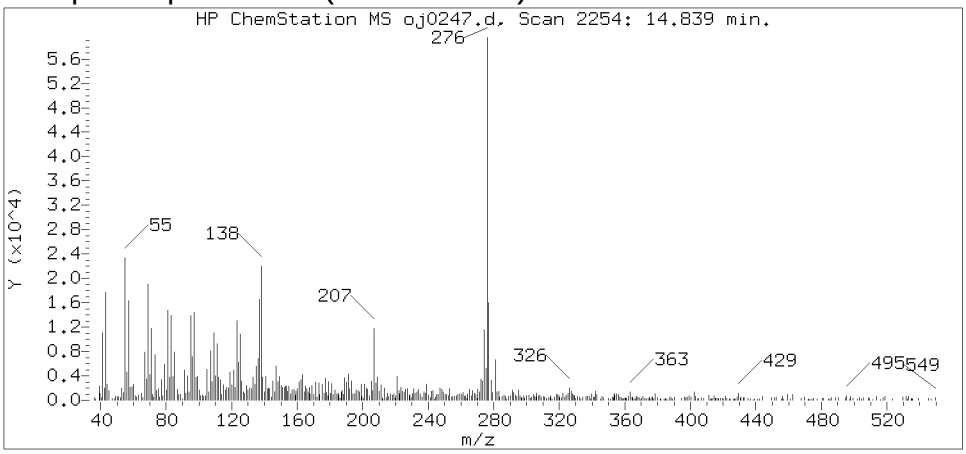


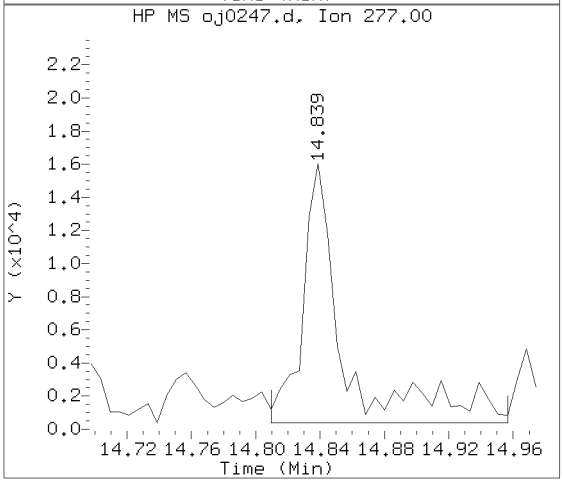
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

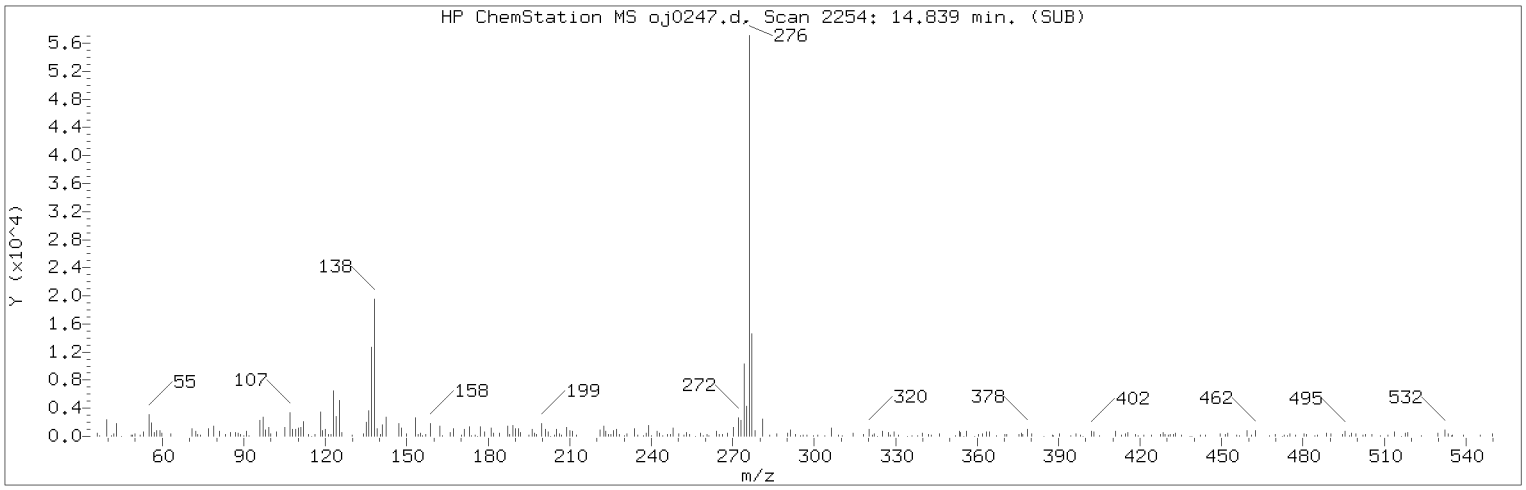
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

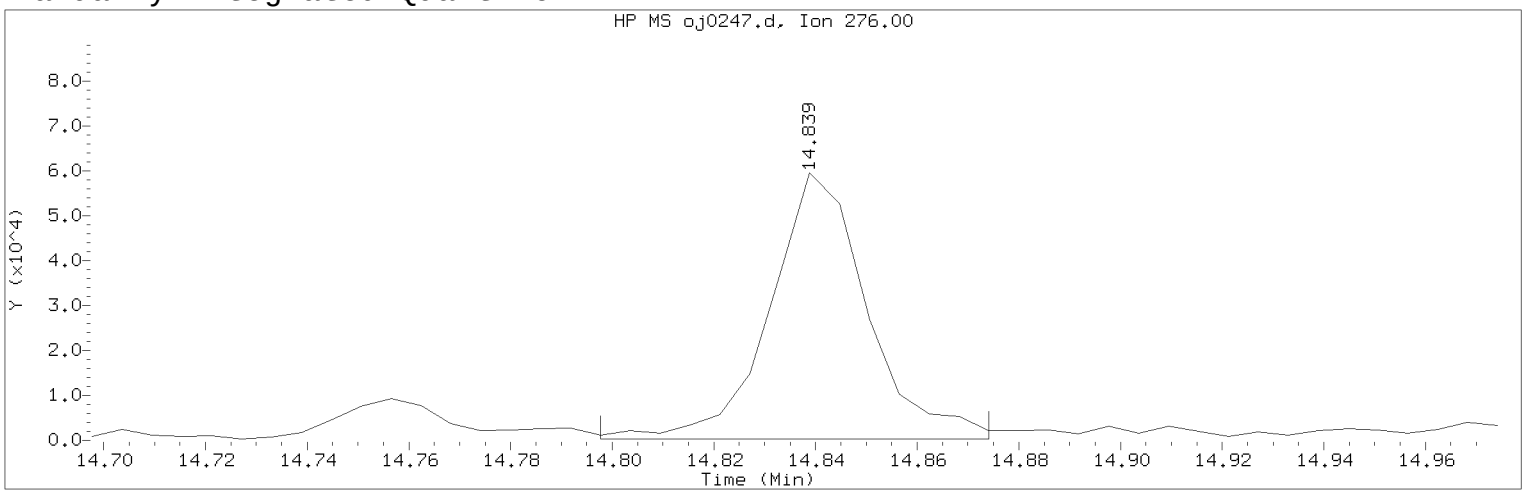
Compound Number	: 219
Compound Name	: Indeno(1,2,3-cd)pyrene
Scan Number	: 2254
Retention Time (minutes)	: 14.839
Relative Retention Time	: 0.00042
Quant Ion	: 276.00
Area (flag)	: 79036M
On-column Amount (ng/ul)	: 2.4892

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

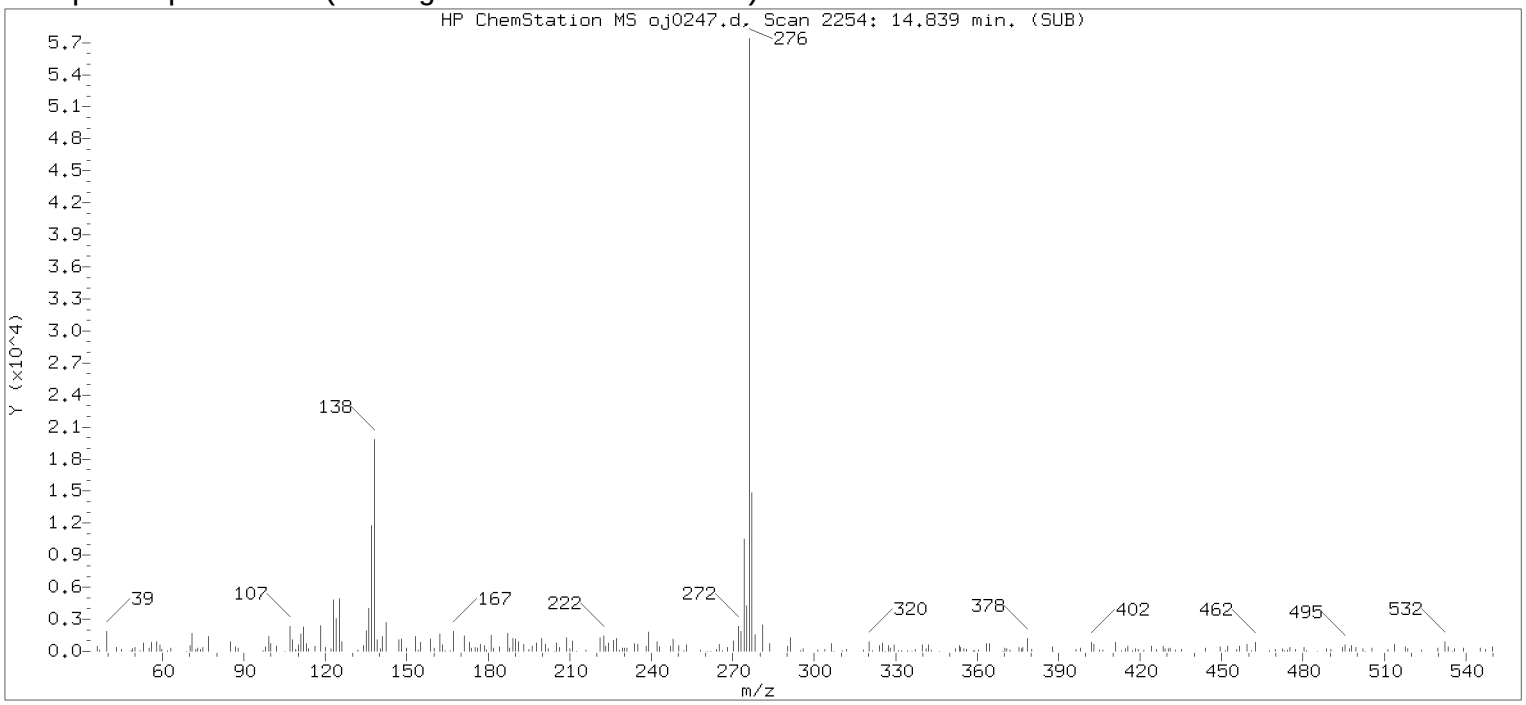
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 2254
Retention Time (minutes) : 14.839
Quant Ion : 276.00
Area (flag) : 79036M
On-column Amount (ng/ul) : 2.4892
Integration start scan : 2246 Integration stop scan: 2259
Y at integration start : 303 Y at integration end: 303

Reason for manual integration: improper integration

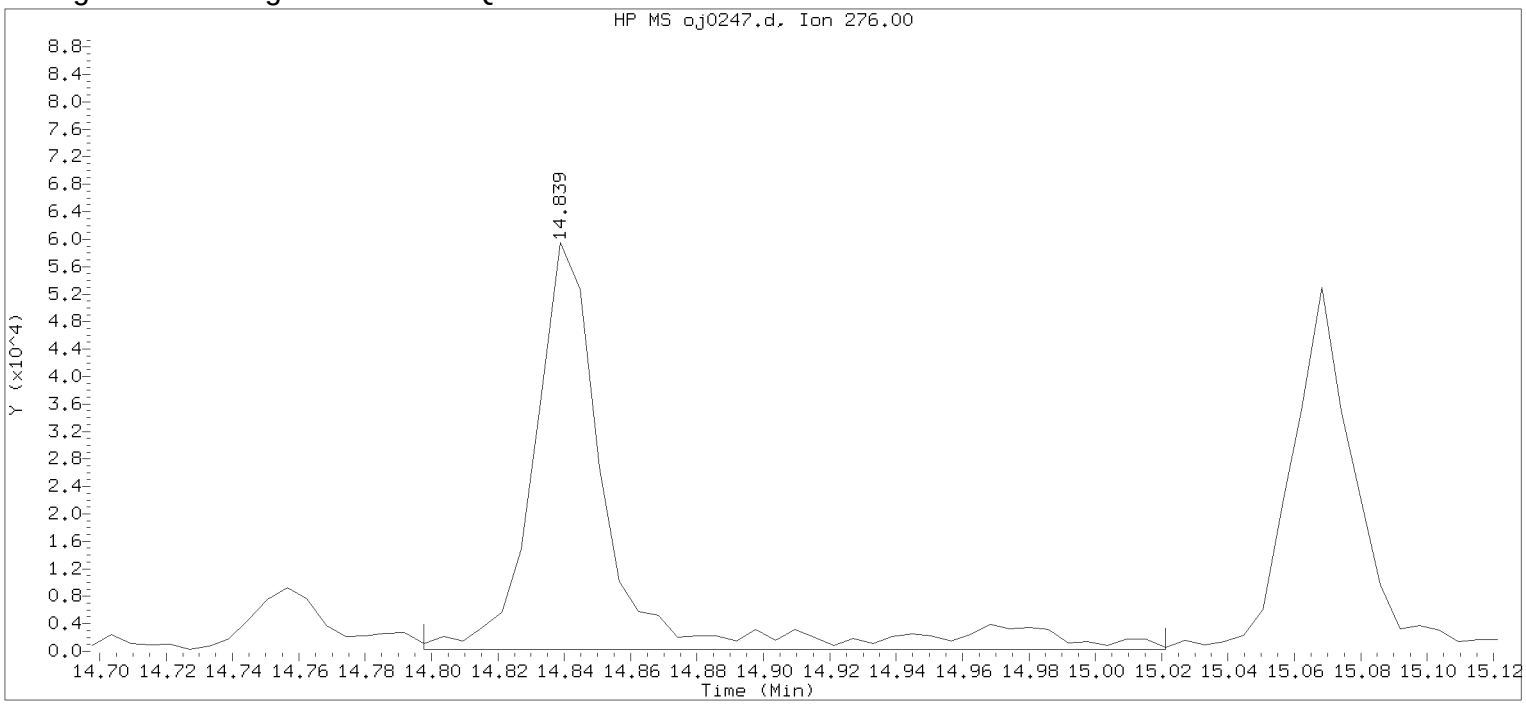
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

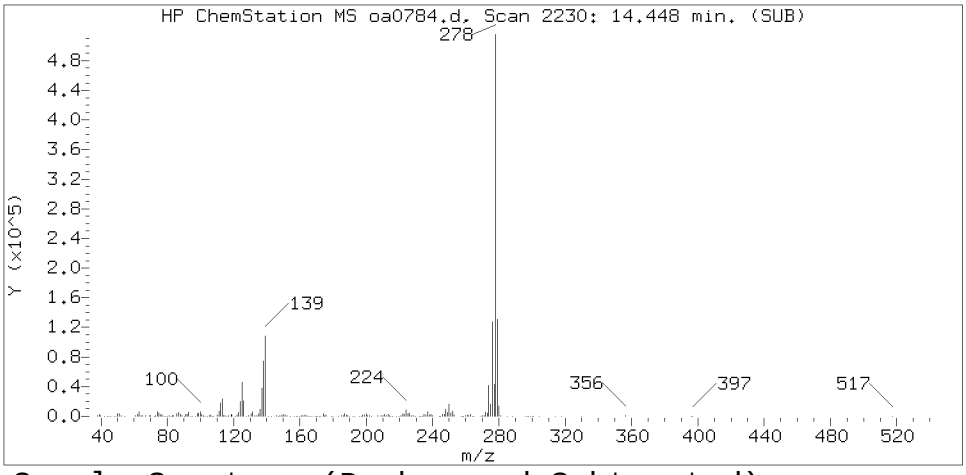
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:01 Automation

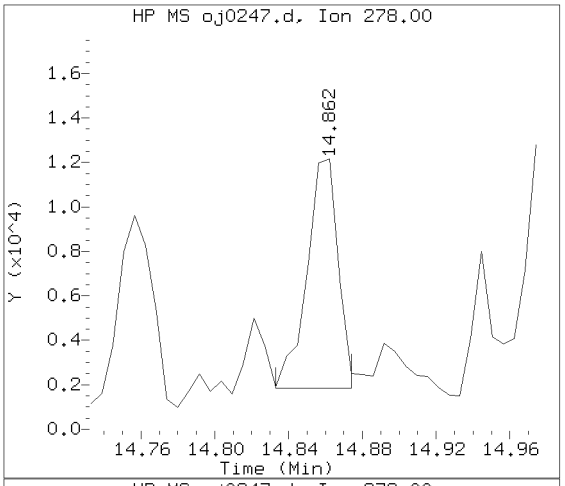
Sample Name: -497- Lab Sample ID: 8064470

Compound Number	: 219		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 2254		
Retention Time (minutes)	: 14.839		
Quant Ion	: 276.00		
Area	: 94533		
On-column Amount (ng/ul)	: 2.9772		
Integration start scan	: 2246	Integration stop scan:	2284
Y at integration start	: 303	Y at integration end:	303

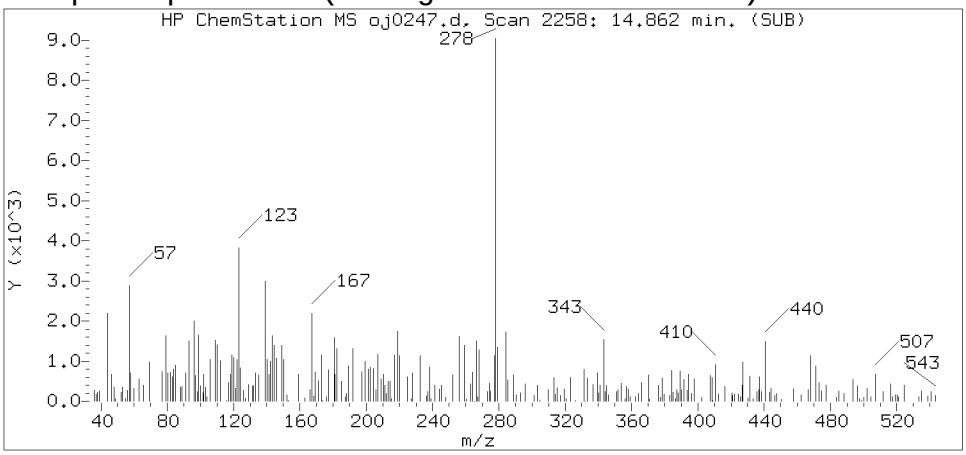
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: 27 date: 05-Oct-15

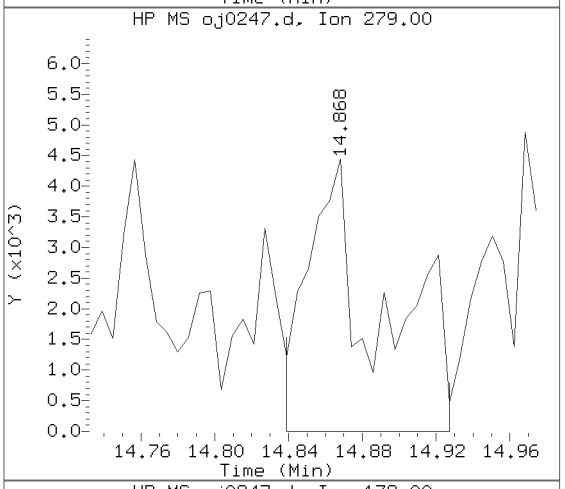
Reference Standard Spectrum for Dibenz(a,h)anthracene



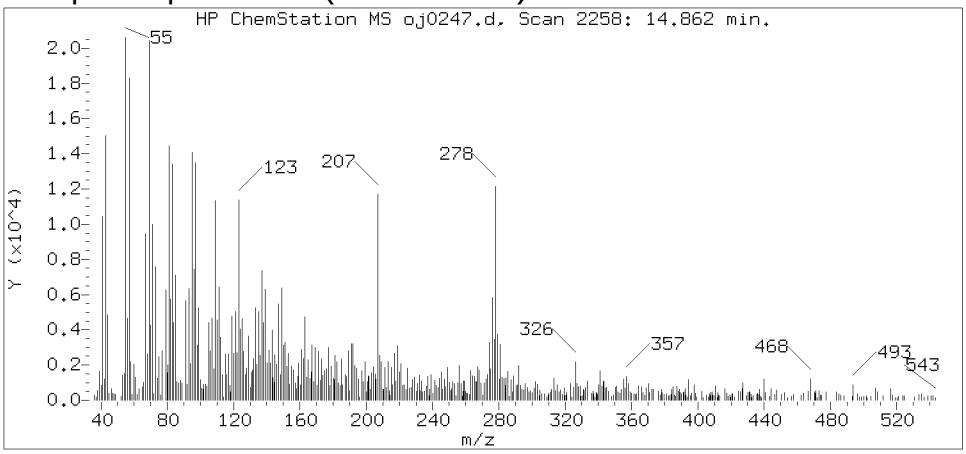


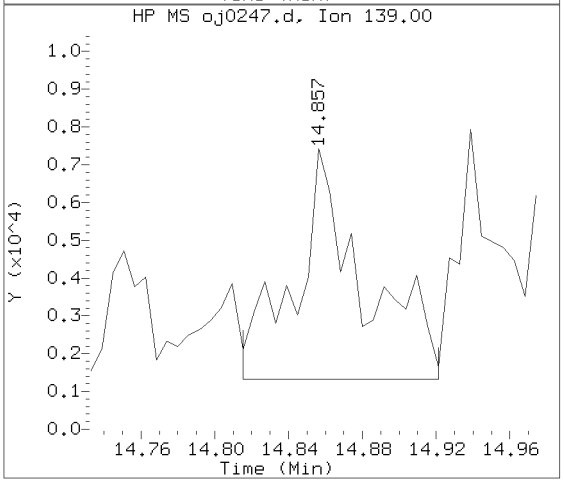
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

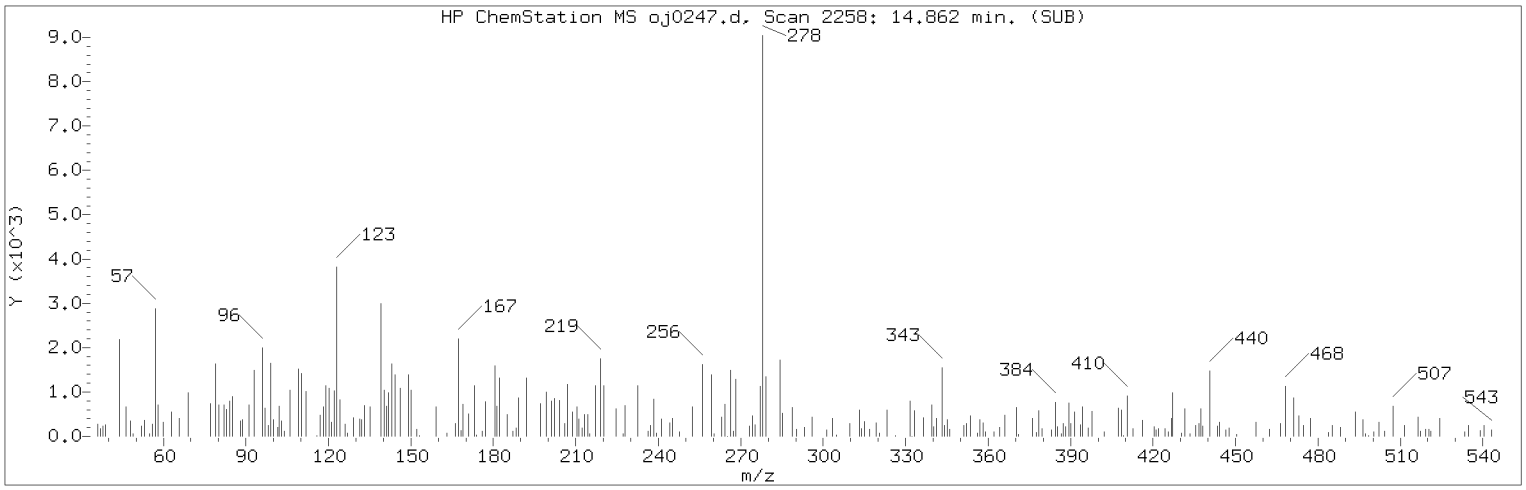
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

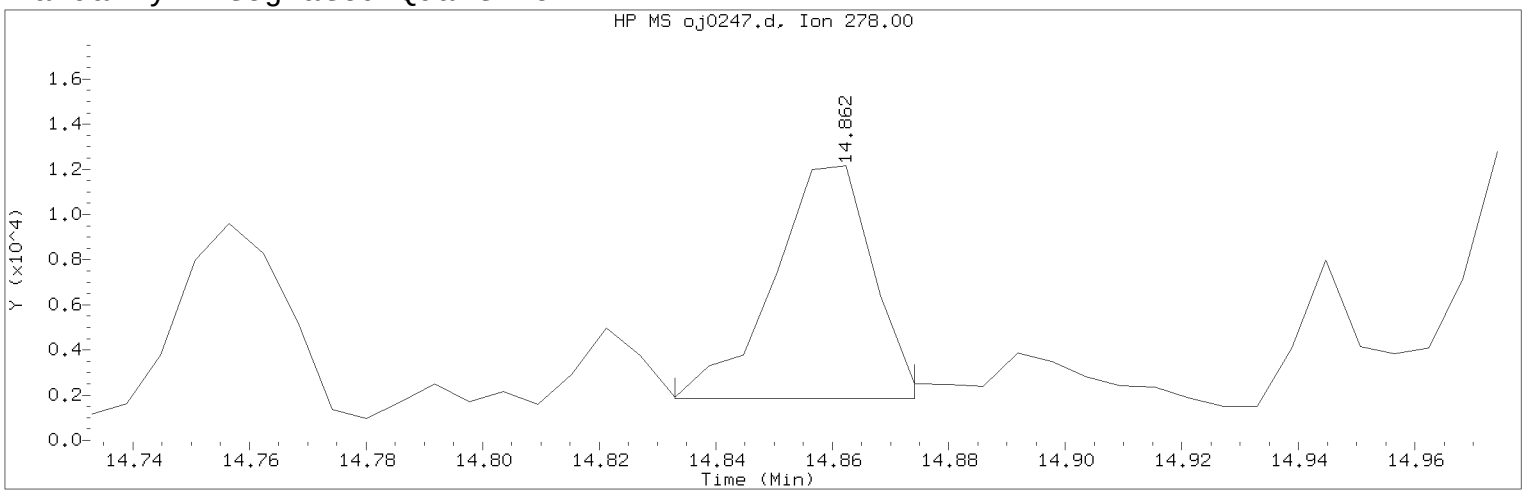
Compound Number	: 220
Compound Name	: Dibenz(a,h)anthracene
Scan Number	: 2258
Retention Time (minutes)	: 14.862
Relative Retention Time	: 0.00042
Quant Ion	: 278.00
Area (flag)	: 12244M
On-column Amount (ng/ul)	: 0.4584

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

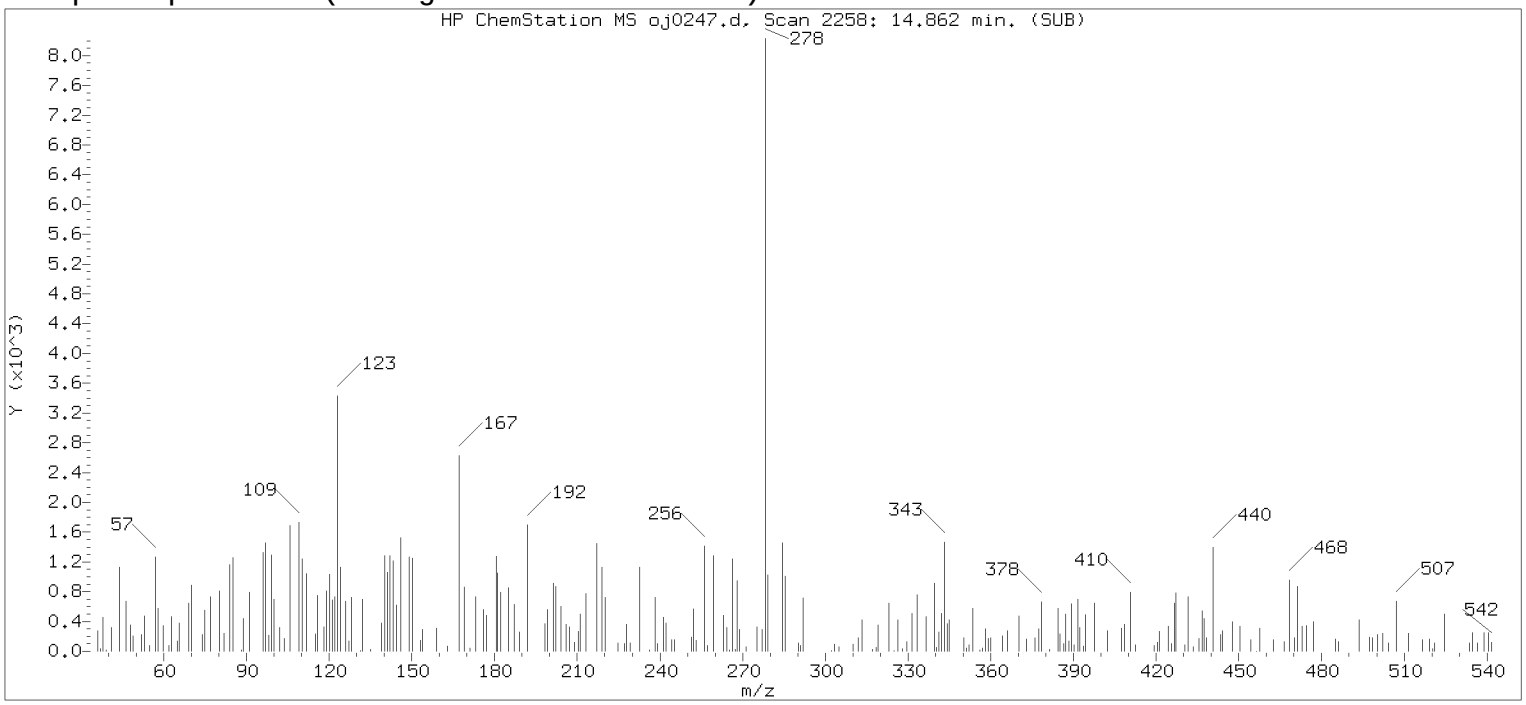
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 2258
Retention Time (minutes) : 14.862
Quant Ion : 278.00
Area (flag) : 12244M
On-column Amount (ng/ul) : 0.4584
Integration start scan : 2252 Integration stop scan: 2259
Y at integration start : 1851 Y at integration end: 1851

Reason for manual integration: improper integration

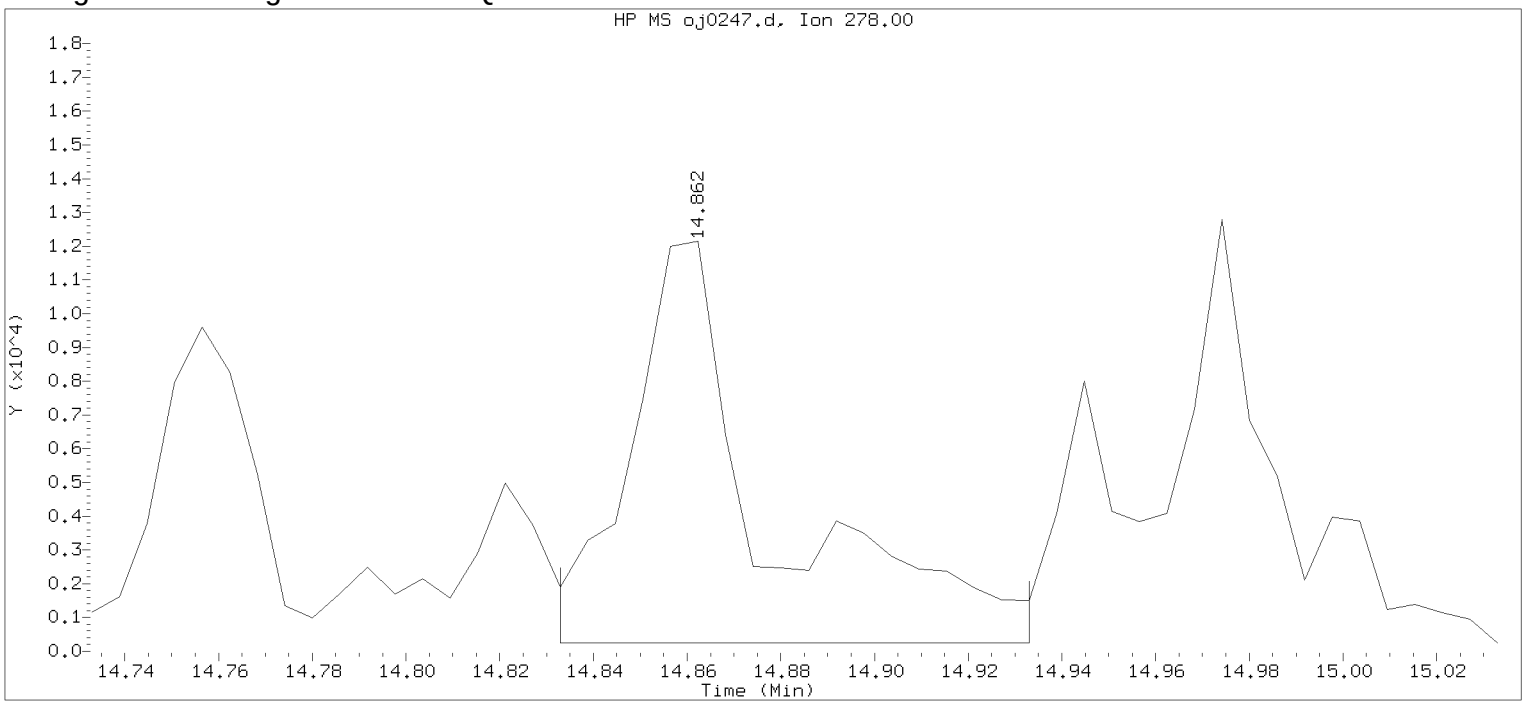
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 14:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

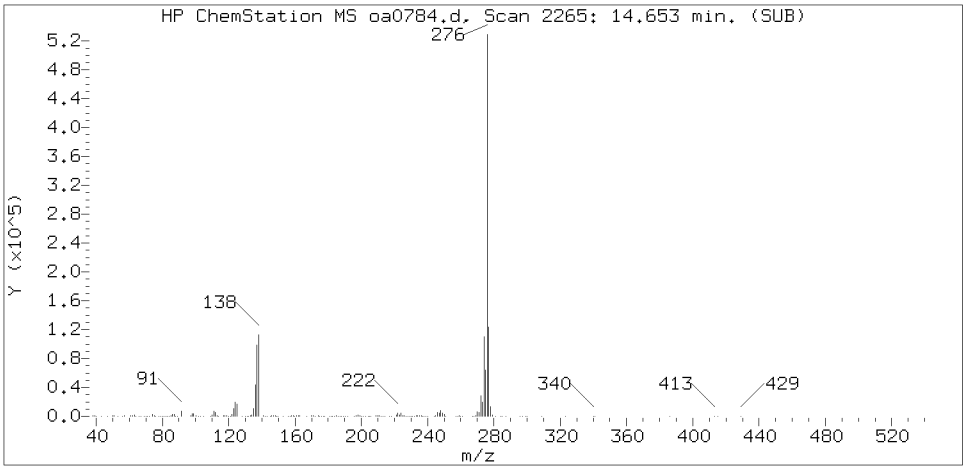
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:01 Automation

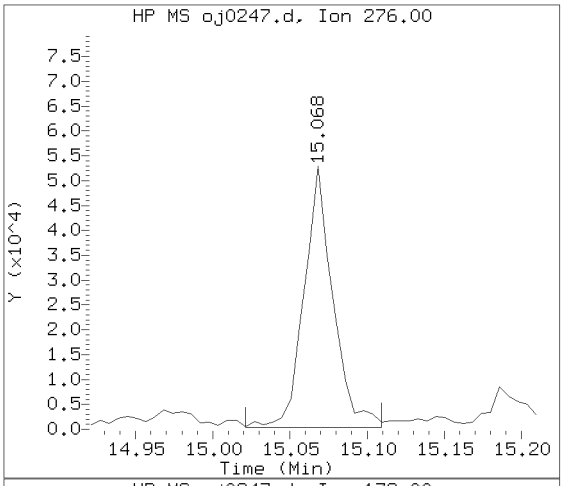
Sample Name: -497- Lab Sample ID: 8064470

Compound Number	: 220		
Compound Name	: Dibenz(a,h)anthracene		
Scan Number	: 2258		
Retention Time (minutes)	: 14.862		
Quant Ion	: 278.00		
Area	: 24091		
On-column Amount (ng/ul)	: 0.9020		
Integration start scan	: 2252	Integration stop scan:	2269
Y at integration start	: 252	Y at integration end:	252

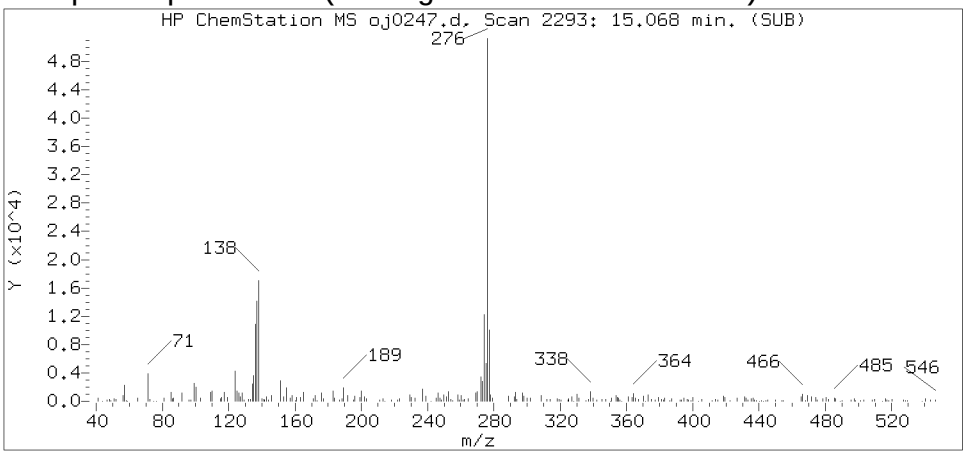
Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: 27 date: 20150245

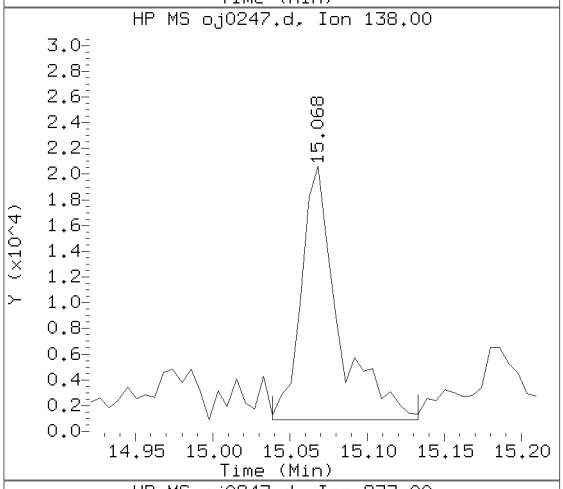
Reference Standard Spectrum for Benzo(g,h,i)perylene



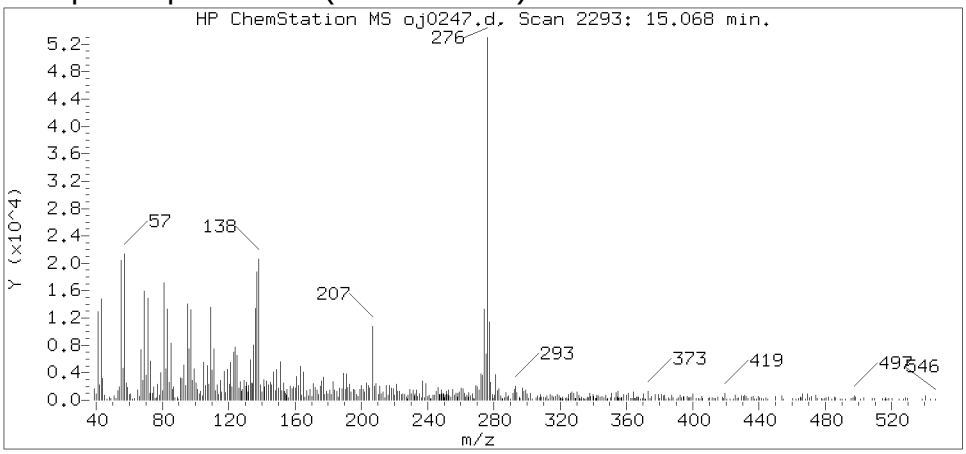


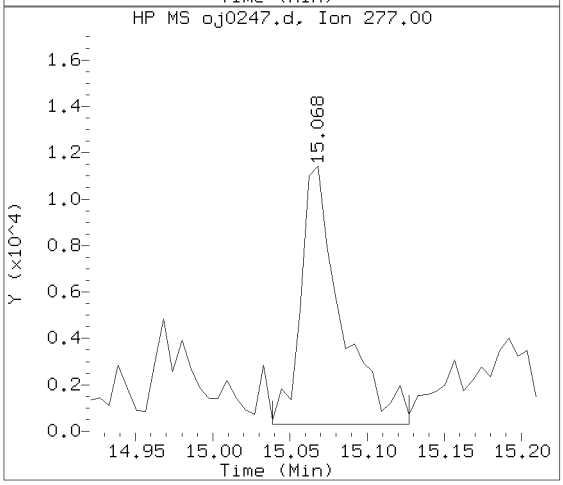
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP09910.i/15oct05.b/oj0247.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 17:45 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: 4676
Calibration date and time: 05-OCT-2015 15:43
Date, time and analyst ID of latest file update: 05-Oct-2015 18:22 ceb05247

Sample Name: -497- Lab Sample ID: 8064470

Compound Number : 221
Compound Name : Benzo(g,h,i)perylene
Scan Number : 2293
Retention Time (minutes) : 15.068
Relative Retention Time : 0.00042
Quant Ion : 276.00
Area (flag) : 69001
On-column Amount (ng/ul) : 2.6458

Digitally signed by Catherine E. Bachman on 10/05/2015 at 18:24.
Target 3.5 esignature user ID: ceb05247

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18444.i/15sep30.b/bi1408.d
Injection date and time: **30-SEP-2015 12:32**
Data file Sample Info. Line: 161FB;8064471;1;0;SAMPLE;;;
Instrument ID: **HP18444.i** Batch: **15271WAD**
Date, time and analyst ID of latest file update: 30-Sep-2015 13:06 lmh00956

Blank Data file reference: **/chem/HP18444.i/15sep30.b/bi1403.d**

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 30-SEP-2015 13:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18444.i/15sep30.b/bi1401a.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo * Vi)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 1027 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	5.473(0.000)	581	152	83700 (-25)	20.00	
65) Naphthalene-d8	6.703(0.000)	792	136	338773 (-31)	20.00	
113) Acenaphthene-d10	8.411(0.000)	1085	164	211712 (-33)	20.00	
153) Phenanthrene-d10	9.857(0.000)	1333	188	448450 (-33)	20.00	
175) Pyrene-d10	11.238(0.000)	1570	212	504048 (-34)	20.00	
213) Perylene-d12	13.867(0.000)	2021	264	423447 (-30)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.010(0.000)	82	661747	80.402	80%		46 - 148
93) 2-Fluorobiphenyl	(3)	7.770(0.000)	172	1224365	85.135	85%		61 - 112
179) Terphenyl-d14	(5)	11.430(0.000)	244	1952042	106.246	106%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)			Not Detected					0.1
157) Anthracene	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.1
177) Pyrene	(5)			Not Detected					0.1
195) Benzo(a)anthracene	(5)			Not Detected					0.1
196) Chrysene	(5)			Not Detected					0.1
206) Benzo(b)fluoranthene	(6)			Not Detected					0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.1
211) Benzo(a)pyrene	(6)			Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.1

Digitally signed by Linda M. Hartenstine on 09/30/2015 at 13:07. Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18444.i/15sep30.b/bi1408.d Injection date and time: **30-SEP-2015 12:32**
Data file Sample Info. Line: 161FB;8064471;1;0;SAMPLE;;; Instrument ID: **HP18444.i** Batch: **15271WAD**
Date, time and analyst ID of latest file update: 30-Sep-2015 13:06 lmh00956

Blank Data file reference: **/chem/HP18444.i/15sep30.b/bi1403.d**

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 30-SEP-2015 13:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18444.i/15sep30.b/bi1401a.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo * Vi)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 1027 ml Volume Injected (Vi): 1 ul

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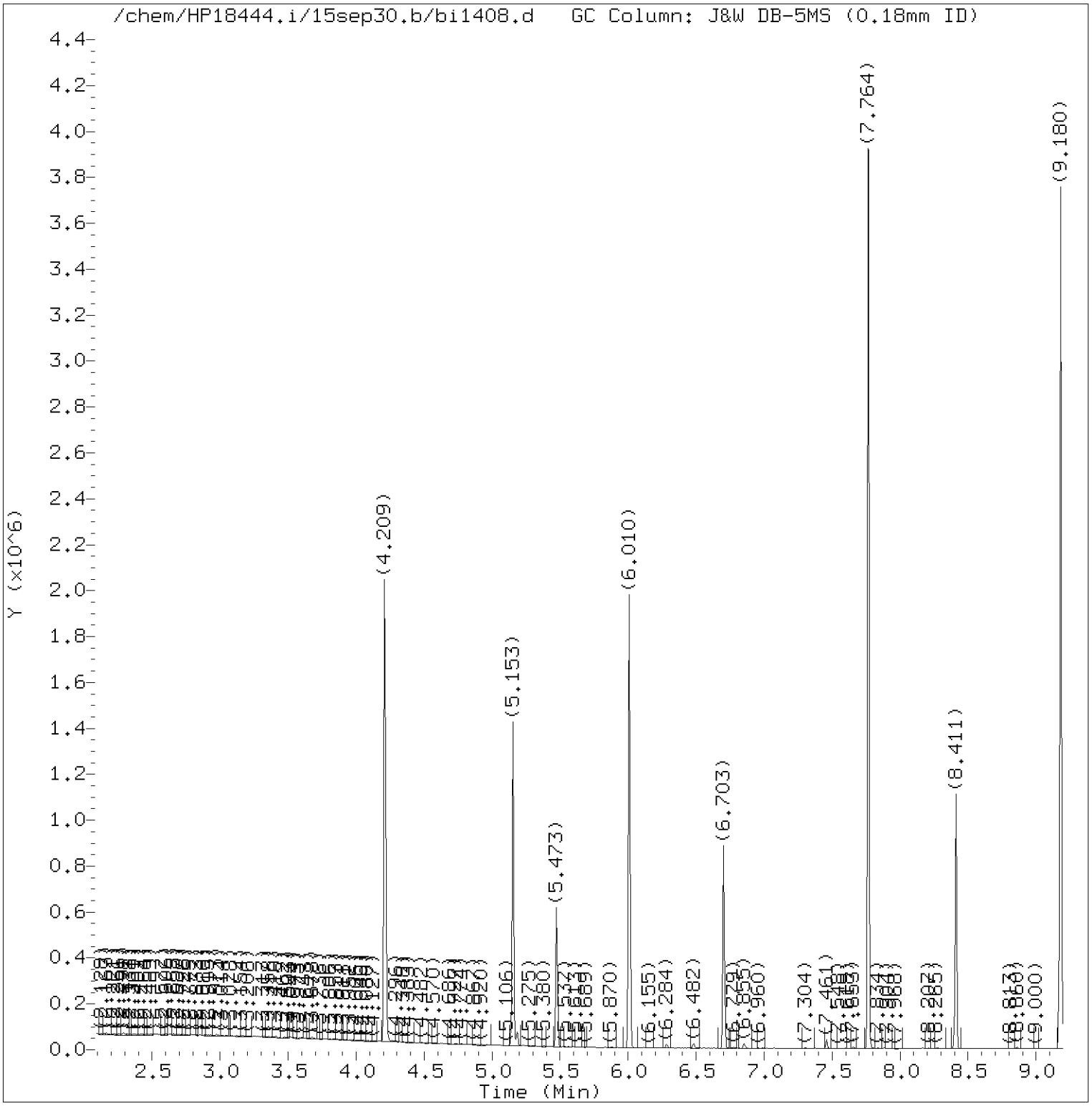
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 09/30/2015 at 13:07. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Beth A. Rubino on 10/04/2015 at 21:17. Parallax ID: bar06484



Total Ion Chromatogram (TIC)

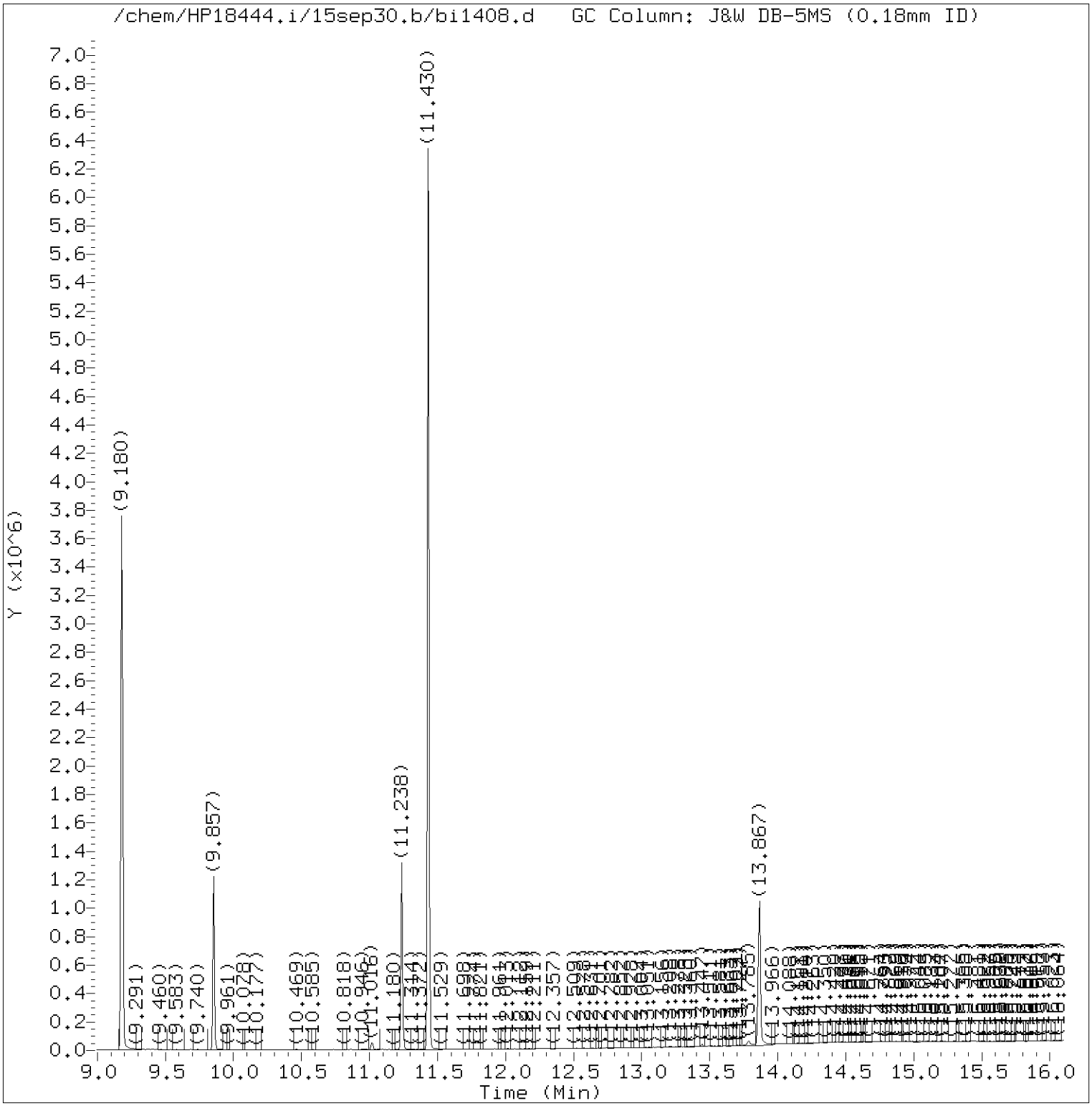
Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1408.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 12:32 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:06 lmh00956

Sample Name: 161FB Lab Sample ID: 8064471

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:07.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1408.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 12:32 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:06 lmh00956

Sample Name: 161FB Lab Sample ID: 8064471

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:07.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1408.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 12:32 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:06 lmh00956

Sample Name: 161FB Lab Sample ID: 8064471

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	5.473	152	83700	20.000
44)$Nitrobenzene-d5	(2)	6.010	82	661747	80.402
65)*Naphthalene-d8	(2)	6.703	136	338773	20.000
93)$2-Fluorobiphenyl	(3)	7.770	172	1224365	85.135
113)*Acenaphthene-d10	(3)	8.411	164	211712	20.000
153)*Phenanthrene-d10	(4)	9.857	188	448450	20.000
175)*Pyrene-d10	(5)	11.238	212	504048	20.000
179)$Terphenyl-d14	(5)	11.430	244	1952042	106.246
213)*Perylene-d12	(6)	13.867	264	423447	20.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:07.
Target 3.5 esignature user ID: lmh00956

Standards Data

Semivolatiles by GC/MS

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP18444 **HP #02**

Data Directory Path is - C:\msdchem\1\data\15sep22a\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
whs02991	BI1000.D	DFTPP2245	09/22/2015	23:27		
whs02991	BI1000z.D	DFTPP2245	09/22/2015	23:48		
whs02991	BI1000y.D	DFTPP2245	09/23/2015	00:00		
whs02991	BI1000x.D	DFTPP2245	09/23/2015	00:14		
whs02991	BI1001.D	STD2575	09/23/2015	00:27		
whs02991	BI1002.D	STD2575	09/23/2015	00:49		
whs02991	BI1003.D	STD2575	09/23/2015	01:10		
whs02991	BI1004.D	STD2575	09/23/2015	01:32		
whs02991	BI1005.D	STD2575	09/23/2015	01:54		
whs02991	BI1006.D	STD2575	09/23/2015	02:15		
whs02991	BI1007.D	STD2575	09/23/2015	02:37		
whs02991	BI1008.D	STD2575	09/23/2015	02:59		
whs02991	BI1009.D	8270MDL2575	09/23/2015	03:20		
whs02991	BI1010.D	PAHMDL2575	09/23/2015	03:42		
whs02991	BI1011.D	ICV2465	09/23/2015	04:04		
whs02991	BI1013.D	BAS2475	09/23/2015	04:25		
whs02991	BI1014.D	BAS2475	09/23/2015	04:47		
whs02991	BI1015.D	BAS2475	09/23/2015	05:08		
whs02991	BI1016.D	BAS2475	09/23/2015	05:30		
whs02991	BI1017.D	BAS2475	09/23/2015	05:51		
whs02991	BI1018.D	BAS2475	09/23/2015	06:13		
whs02991	BI1019.D	BAS2475	09/23/2015	06:34		
whs02991	BI1012.D	BASICV2475	09/23/2015	06:56		

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP18444 **HP #02**

Data Directory Path is - C:\msdchem\1\data\15sep30\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
lmh00956	BI1400.D	DFTPP2245	09/30/2015	08:24		
lmh00956	BI1400z.D	DFTPP2245	09/30/2015	08:38		
lmh00956	BI1400y.D	DFTPP2245	09/30/2015	08:50		
lmh00956	BI1400x.D	DFTPP2245	09/30/2015	09:00		
lmh00956	BI1401.D	STD2575	09/30/2015	09:13		
lmh00956	BI1400w.D	DFTPP2245	09/30/2015	09:43		
lmh00956	BI1401a.D	STD2575	09/30/2015	09:56		
lmh00956	BI1402.D	BAS2475	09/30/2015	10:21		
lmh00956	BI1403.D	SBLKWD271	09/30/2015	10:43	15271WAD	
lmh00956	BI1404.D	271WDLCS	09/30/2015	11:05	15271WAD	
lmh00956	BI1405.D	271WDLCSD	09/30/2015	11:27	15271WAD	
lmh00956	BI1406.D	8064460	09/30/2015	11:49	15271WAD	
lmh00956	BI1407.D	8064467	09/30/2015	12:11	15271WAD	
lmh00956	BI1408.D	8064471	09/30/2015	12:32	15271WAD	
lmh00956	BI1409.D	8046586RE	09/30/2015	12:54	15271SLC	

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP09910 **HP #15**

Data Directory Path is - C:\msdchem\1\data\15sep22\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
lmh00956	OI0980.D	DFTPP2245	09/22/2015	07:02		
lmh00956	OI0980z.D	DFTPP2245	09/22/2015	07:14		
lmh00956	OI0980y.D	DFTPP2245	09/22/2015	07:26		
lmh00956	OI0980x.D	DFTPP2245	09/22/2015	07:45		
lmh00956	OI0980w.D	DFTPP2245	09/22/2015	08:06		
lmh00956	OI0980u.D	DFTPP2245	09/22/2015	08:24		
lmh00956	OI0980s.D	DFTPP2245	09/22/2015	08:46		
lmh00956	OI0981.D	STD2575	09/22/2015	09:00		
lmh00956	OI0981a.D	STD2575	09/22/2015	09:32		
lmh00956	OI0982.D	STD2575	09/22/2015	09:58		
lmh00956	OI0983.D	STD2575	09/22/2015	10:23		
lmh00956	OI0984.D	STD2575	09/22/2015	10:49		
lmh00956	OI0985.D	STD2575	09/22/2015	11:15		
lmh00956	OI0986.D	STD2575	09/22/2015	11:41		
lmh00956	OI0987.D	STD2575	09/22/2015	12:07		
lmh00956	OI0988.D	STD2575	09/22/2015	12:33		
lmh00956	OI0989.D	MDL2575	09/22/2015	12:58		
lmh00956	OI0990.D	PAHMDL2575	09/22/2015	13:24		
lmh00956	OI0991.D	ICV2465	09/22/2015	13:50		
lmh00956	OI1000.D	09/22/15	09/22/2015	14:16		
lmh00956	OI1001.D	09/22/15	09/22/2015	14:41		
lmh00956	OI1002.D	09/22/15	09/22/2015	15:07		
lmh00956	OI0992.D	BAS2475	09/22/2015	15:33		
lmh00956	OI0993.D	BAS2475	09/22/2015	15:59		
lmh00956	OI0994.D	BAS2475	09/22/2015	16:25		
lmh00956	OI0995.D	BAS2475	09/22/2015	16:51		
lmh00956	OI0996.D	BAS2475	09/22/2015	17:16		
lmh00956	OI0997.D	BAS2475	09/22/2015	17:42		
lmh00956	OI0998.D	BASMDL2475	09/22/2015	18:08		
lmh00956	OI0999.D	BASICV2475	09/22/2015	18:34		
lmh00956	OI1003.D	SBLKWA261	09/22/2015	18:59	15261WAA	
lmh00956	OI1004.D	261WALCS	09/22/2015	19:26	15261WAA	
lmh00956	OI1005.D	261WALCSD	09/22/2015	19:51	15261WAA	
lmh00956	OI1006.D	8050557	09/22/2015	20:17	15261WAA	

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP18444 **HP #02**

Data Directory Path is - C:\msdchem\1\data\15oct02\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
ceb05247	BJ0060.D	DFTPP2245	10/02/2015	11:21		
ceb05247	BJ0060a.D	DFTPP2245	10/02/2015	11:34		
ceb05247	BJ0060b.D	DFTPP2245	10/02/2015	11:45		
ceb05247	BJ0060c.D	DFTPP2245	10/02/2015	11:56		
ceb05247	BJ0061.D	STD2735	10/02/2015	12:10		
ceb05247	BJ0062.D	SBLKWA273	10/02/2015	12:56	15273WAA	
ceb05247	BJ0063.D	273WALCS	10/02/2015	13:17	15273WAA	
ceb05247	BJ0064.D	273WALCSD	10/02/2015	13:39	15273WAA	
ceb05247	BJ0065.D	SBLKLD274	10/02/2015	14:01	15274SLD	
ceb05247	BJ0066.D	274LDLCS	10/02/2015	14:23	15274SLD	
ceb05247	BJ0067.D	8059710DL	10/02/2015	14:45	15273SLG	10
ceb05247	BJ0068.D	8059713	10/02/2015	15:06	15273SLG	
ceb05247	BJ0069.D	8059714	10/02/2015	15:28	15273SLG	
ceb05247	BJ0070.D	8059715DL	10/02/2015	15:50	15273SLG	10
ceb05247	BJ0071.D	8059717	10/02/2015	16:12	15273SLG	
ceb05247	BJ0072.D	8061431	10/02/2015	16:33	15273WAA	
ceb05247	BJ0073.D	8062218	10/02/2015	16:55	15274SLD	
ceb05247	BJ0074.D	8062218	10/02/2015	17:17	15274SLD	
ceb05247	BJ0075.D	8062218	10/02/2015	17:38	15274SLD	
ceb05247	BJ0076.D	8062215	10/02/2015	18:00	15274SLD	
ceb05247	BJ0077.D	8062219	10/02/2015	18:22	15274SLD	
ceb05247	BJ0078.D	8062220	10/02/2015	18:43	15274SLD	
ceb05247	BJ0079.D	8064442	10/02/2015	19:05	15274SLD	

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP18444 **HP #02**

Data Directory Path is - C:\msdchem\1\data\15oct04a\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
lmh00956	BJ0190.D	DFTPP2245	10/04/2015	20:11		
lmh00956	BJ0190z.D	DFTPP2245	10/04/2015	20:21		
lmh00956	BJ0191.D	STD2735	10/04/2015	20:34		
whs02991	BJ0192.D	BAS2725	10/04/2015	21:23		
whs02991	BJ0193.D	SBLKLC274	10/04/2015	21:52	15274SLC	
whs02991	BJ0194.D	274LCLCS	10/04/2015	22:14	15274SLC	
whs02991	BJ0195.D	SBLKWC276	10/04/2015	22:36	15276WAC	
whs02991	BJ0196.D	276WCLCS	10/04/2015	22:57	15276WAC	
whs02991	BJ0197.D	276WCLCSD	10/04/2015	23:19	15276WAC	
whs02991	BJ0198.D	SBLKWB273	10/04/2015	23:41	15273WAB	
whs02991	BJ0199.D	273WBLCS	10/05/2015	00:02	15273WAB	
whs02991	BJ0200.D	273WBLCSD	10/05/2015	00:24	15273WAB	
whs02991	BJ0201.D	8072640	10/05/2015	00:46	15276WAC	
whs02991	BJ0202.D	8072641	10/05/2015	01:08	15276WAC	
whs02991	BJ0224.D	8064442	10/05/2015	01:29	15274SLD	10
whs02991	BJ0203.D	8063110	10/05/2015	01:51	15273WAB	
whs02991	BJ0204.D	8063111	10/05/2015	02:13	15273WAB	
whs02991	BJ0205.D	8063112	10/05/2015	02:35	15273WAB	
whs02991	BJ0206.D	8063113	10/05/2015	02:56	15273WAB	
whs02991	BJ0207.D	8063114	10/05/2015	03:18	15273WAB	
whs02991	BJ0208.D	8063115	10/05/2015	03:40	15273WAB	
whs02991	BJ0209.D	8063116	10/05/2015	04:01	15273WAB	
whs02991	BJ0210.D	8063117	10/05/2015	04:23	15273WAB	
whs02991	BJ0211.D	8063118	10/05/2015	04:45	15273WAB	
whs02991	BJ0212.D	8063119	10/05/2015	05:06	15273WAB	
whs02991	BJ0213.D	8063120	10/05/2015	05:28	15273WAB	
whs02991	BJ0214.D	8063121	10/05/2015	05:50	15273WAB	
whs02991	BJ0215.D	8063122	10/05/2015	06:12	15273WAB	
whs02991	BJ0216.D	8063123	10/05/2015	06:33	15273WAB	
whs02991	BJ0217.D	8063124	10/05/2015	06:55	15273WAB	
whs02991	BJ0218.D	8063127	10/05/2015	07:17	15273WAB	
whs02991	BJ0219.D	8063786	10/05/2015	07:39	15274SLC	
whs02991	BJ0220.D	8063786	10/05/2015	08:00	15274SLC	
whs02991	BJ0221.D	8063786	10/05/2015	08:22	15274SLC	

Data File: /chem/HP18444.i/15sep22a.b/bi1000x.d

Date : 23-SEP-2015 00:14

Client ID: DFTPP50

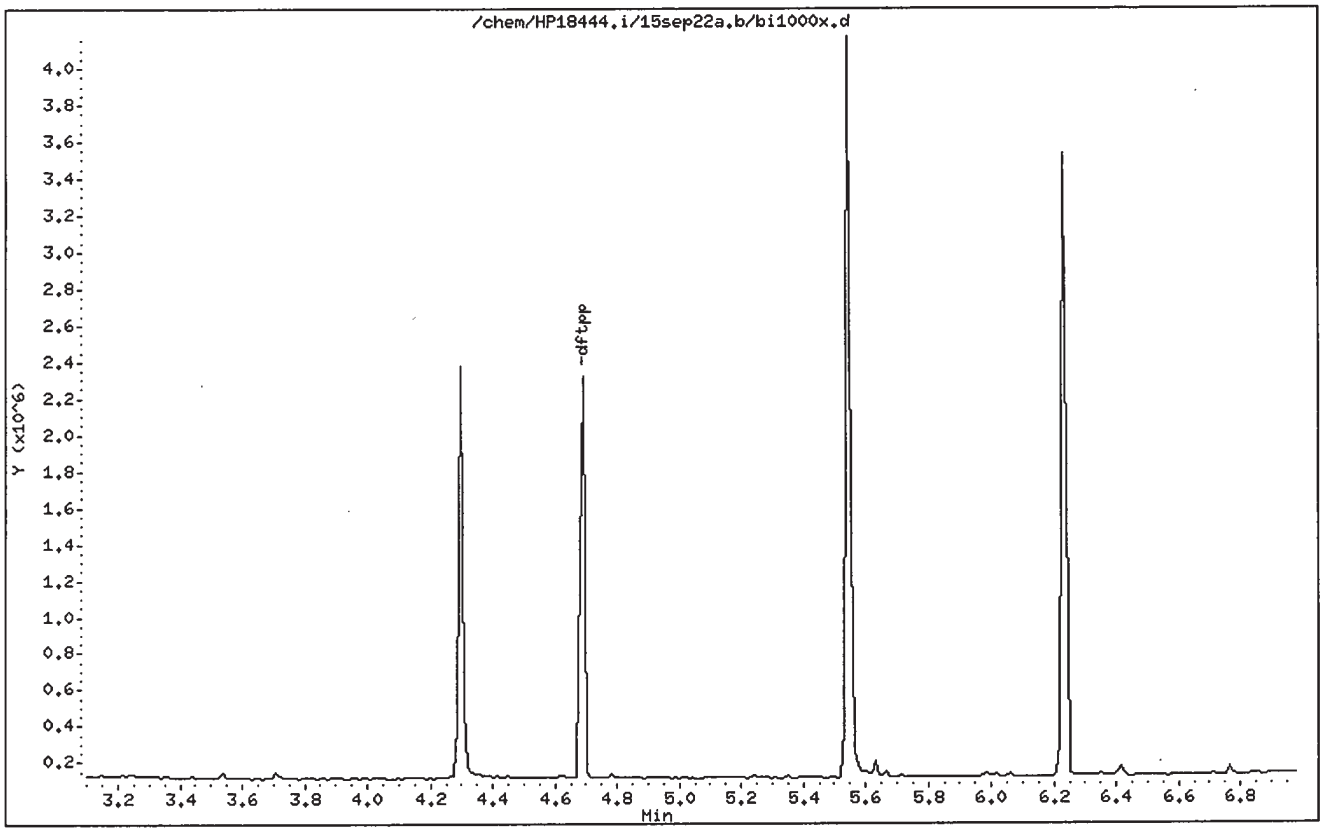
Instrument: HP18444.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: whs02991

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:11.
Target 3.5 esignature user ID: lmh00956

Data File: /chem/HP18444.i/15sep22a.b/bi1000x.d

Date : 23-SEP-2015 00:14

Client ID: DFTPP50

Instrument: HP18444.i

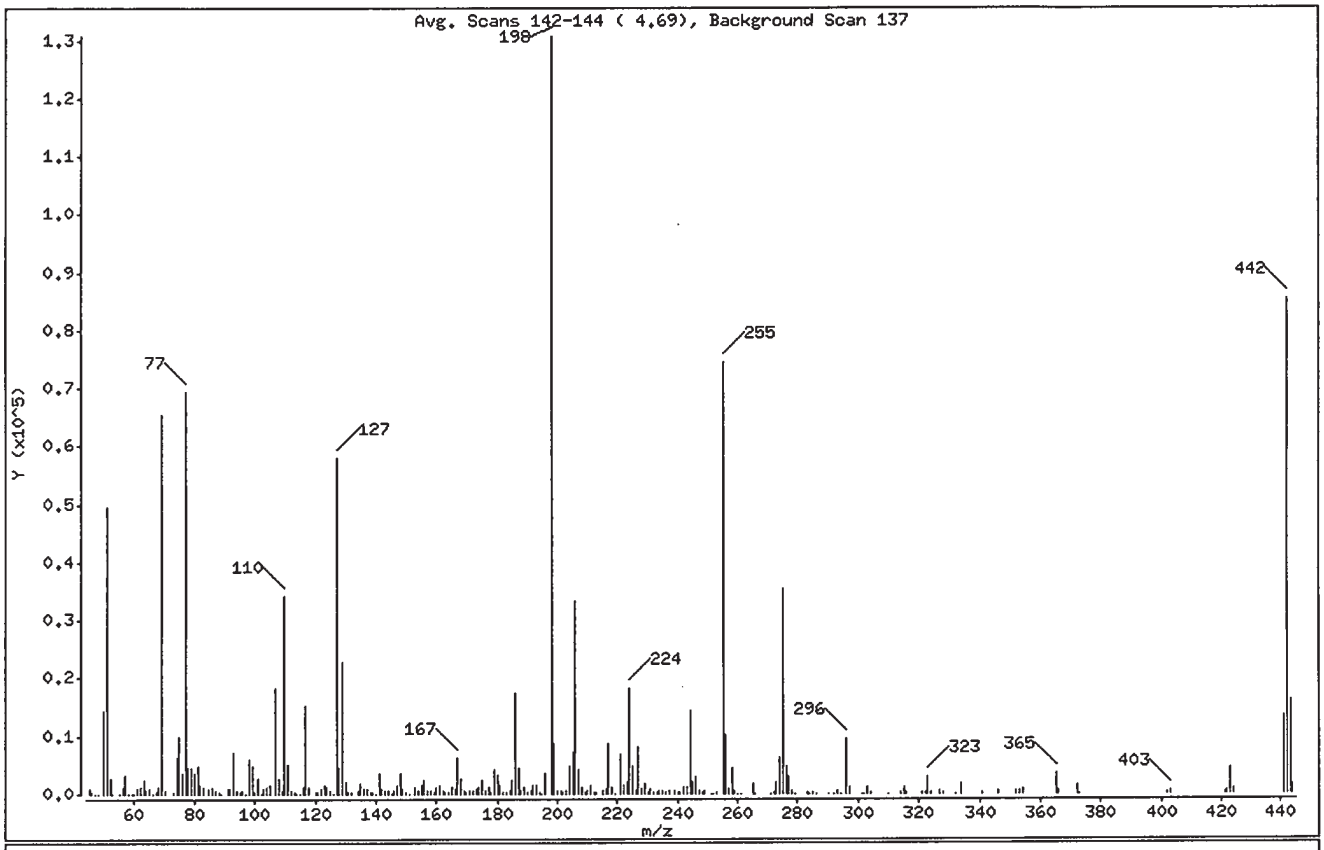
Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: whs02991

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	37.88
68	Less than 2.00% of mass 69	1.00 (1.99)
69	Mass 69 relative abundance	50.15
70	Less than 2.00% of mass 69	0.50 (1.00)
127	40.00 - 60.00% of mass 198	44.47
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.66
275	10.00 - 30.00% of mass 198	27.11
365	Greater than 1.00% of mass 198	2.75
441	Present, but less than mass 443	10.42
442	40.00 - 99.99% of mass 198	65.29
443	17.00 - 23.00% of mass 442	12.36 (18.94)

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Target 3.5 esignature user ID: lmh00956

Data File: /chem/HP18444.i/15sep22a.b/bi1000x.d

Date : 23-SEP-2015 00:14

Client ID: DFTPP50 Instrument: HP18444.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: whs02991

Column phase: DB-5MS Column diameter: 0.18

Data File: bi1000x.d

Spectrum: Avg. Scans 142-144 (4.69), Background Scan 137

Location of Maximum: 198.00

Number of points: 257

m/z	Y	m/z	Y	m/z	Y	m/z	Y
45.00	903	117.00	15415	185.00	2346	256.00	10232
46.00	179	118.00	1118	186.00	17440	257.00	919
47.00	57	120.00	321	187.00	4625	258.00	4396
48.00	51	121.00	239	188.00	570	259.00	666
50.00	14297	122.00	916	189.00	1323	260.00	83
51.00	49544	123.00	1422	190.00	361	261.00	97
52.00	2603	124.00	1158	191.00	530	265.00	1818
53.00	31	125.00	715	192.00	1532	266.00	60
55.00	133	126.00	101	193.00	1544	271.00	87
56.00	1168	127.00	58160	194.00	433	272.00	277
57.00	3371	128.00	4506	195.00	2	273.00	2137
58.00	29	129.00	22856	196.00	3657	274.00	6181
59.00	27	130.00	2010	198.00	130784	275.00	35456
60.00	87	131.00	344	199.00	8716	276.00	4805
61.00	787	132.00	189	200.00	654	277.00	2977
62.00	1073	134.00	728	201.00	711	278.00	453
63.00	2398	135.00	1922	202.00	162	279.00	126
64.00	689	136.00	889	203.00	721	283.00	308
65.00	753	137.00	980	204.00	4705	284.00	125
66.00	140	138.00	443	205.00	7326	285.00	301
67.00	309	139.00	191	206.00	33312	286.00	93
68.00	1304	140.00	141	207.00	4109	290.00	102
69.00	65584	141.00	3468	208.00	1207	292.00	146
70.00	659	142.00	775	209.00	173	293.00	601
73.00	291	143.00	720	210.00	566	294.00	89
74.00	6459	144.00	453	211.00	1400	296.00	9478
75.00	9857	145.00	46	212.00	195	297.00	1182
76.00	3716	146.00	605	213.00	175	301.00	147
77.00	69424	147.00	1504	215.00	578	302.00	97
78.00	4397	148.00	3548	216.00	781	303.00	1111
79.00	4591	149.00	950	217.00	8579	304.00	265
80.00	3705	150.00	251	218.00	1209	310.00	103
81.00	4927	151.00	149	219.00	107	314.00	251
82.00	1362	153.00	1281	221.00	7022	315.00	1151
83.00	1140	154.00	563	222.00	1402	316.00	422

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Target 3.5 esignature user ID: lmh00956

Data File: /chem/HP18444.i/15sep22a.b/bi1000x.d

Date : 23-SEP-2015 00:14

Client ID: DFTPP50 Instrument: HP18444.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: whs02991

Column phase: DB-5MS Column diameter: 0.18

Data File: bi1000x.d
Spectrum: Avg. Scans 142-144 (4.69), Background Scan 137
Location of Maximum: 198.00
Number of points: 257

m/z	Y	m/z	Y	m/z	Y	m/z	Y
85.00	844	155.00	1518	223.00	2067	321.00	317
86.00	1151	156.00	2540	224.00	18424	322.00	216
87.00	551	157.00	462	225.00	4747	323.00	2865
88.00	347	158.00	659	226.00	527	324.00	295
89.00	41	159.00	270	227.00	8069	327.00	511
91.00	953	160.00	1081	228.00	975	328.00	177
92.00	793	161.00	1647	229.00	1693	332.00	86
93.00	7293	162.00	533	230.00	321	334.00	1807
94.00	490	163.00	222	231.00	767	341.00	254
95.00	241	164.00	234	232.00	303	346.00	550
96.00	454	165.00	1232	233.00	168	352.00	704
97.00	107	166.00	827	234.00	568	353.00	640
98.00	5870	167.00	6422	235.00	728	354.00	824
99.00	4783	168.00	2713	236.00	338	365.00	3597
100.00	154	169.00	690	237.00	598	366.00	489
101.00	2561	170.00	295	239.00	583	372.00	1404
102.00	109	171.00	649	240.00	257	373.00	118
103.00	998	172.00	532	241.00	402	402.00	362
104.00	1213	173.00	760	242.00	1063	403.00	496
105.00	1447	174.00	1347	243.00	1151	421.00	426
107.00	18344	175.00	2506	244.00	14350	422.00	498
108.00	2836	176.00	745	245.00	2072	423.00	4641
109.00	493	177.00	1180	246.00	2890	424.00	817
110.00	34328	178.00	430	247.00	538	441.00	13631
111.00	4964	179.00	4126	248.00	196	442.00	85392
112.00	481	180.00	3197	249.00	638	443.00	16169
113.00	212	181.00	1582	251.00	119	444.00	1397
114.00	120	182.00	400	252.00	134		
115.00	115	183.00	277	253.00	426		
116.00	1130	184.00	503	255.00	74416		

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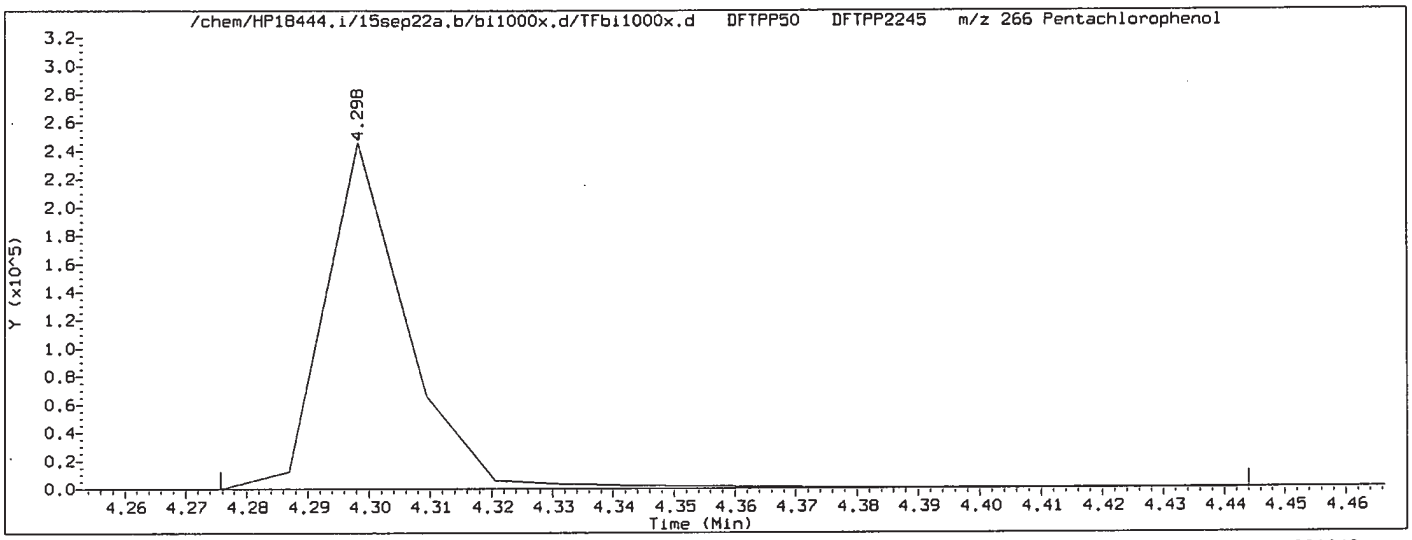
Target 3.5 esignature user ID: lmh00956

Assessment of GC Column Performance and Injection Port Inertness for

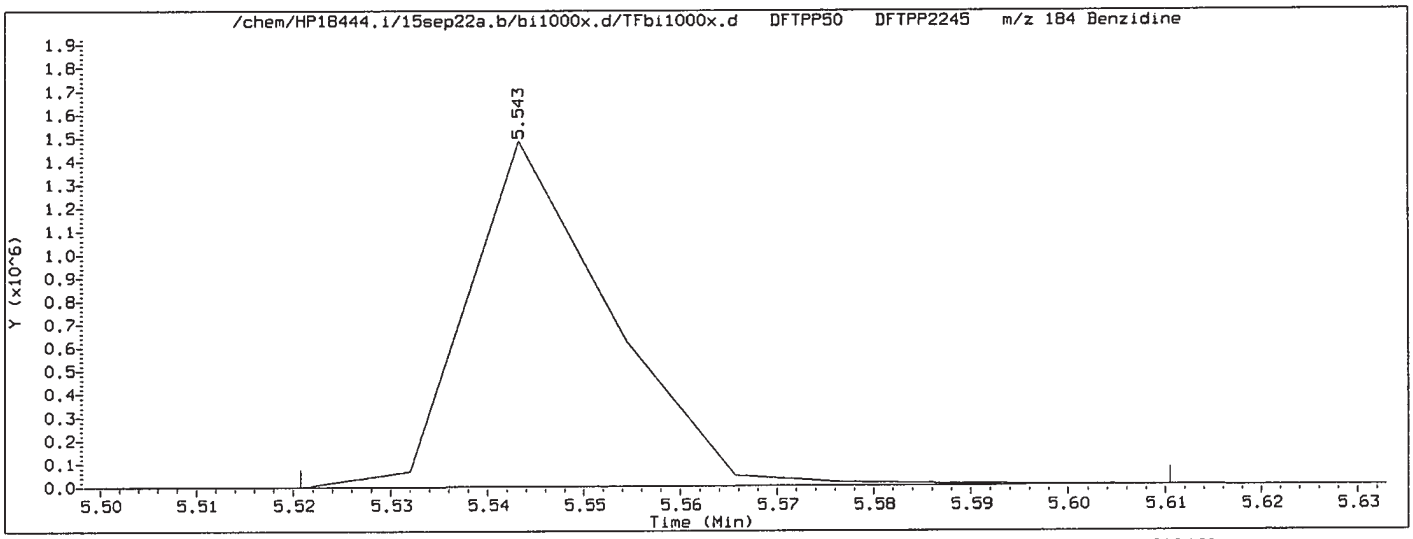
Instrument ID: HP18444.i Injection Date: 23-SEP-2015 00:14 Operator: whs02991



Pentachlorophenol EICP peak height = 246208 EICP peak height at 10% = 24621 Pentachlorophenol EICP area = 231942

Pentachlorophenol EICP peak apex (min.) = 4.298
RT at 10% of front half of EICP (min.) = 4.288 'Front' peak width (min.) = 0.0106166667
RT at 10% of back half of EICP (min.) = 4.317 'Tailing' peak width (min.) = 0.0189166667

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0189166667}{0.0106166667} = 1.782$$



Benzidine EICP peak height = 1485185 EICP peak height at 10% = 148518 Benzidine EICP area = 1513469

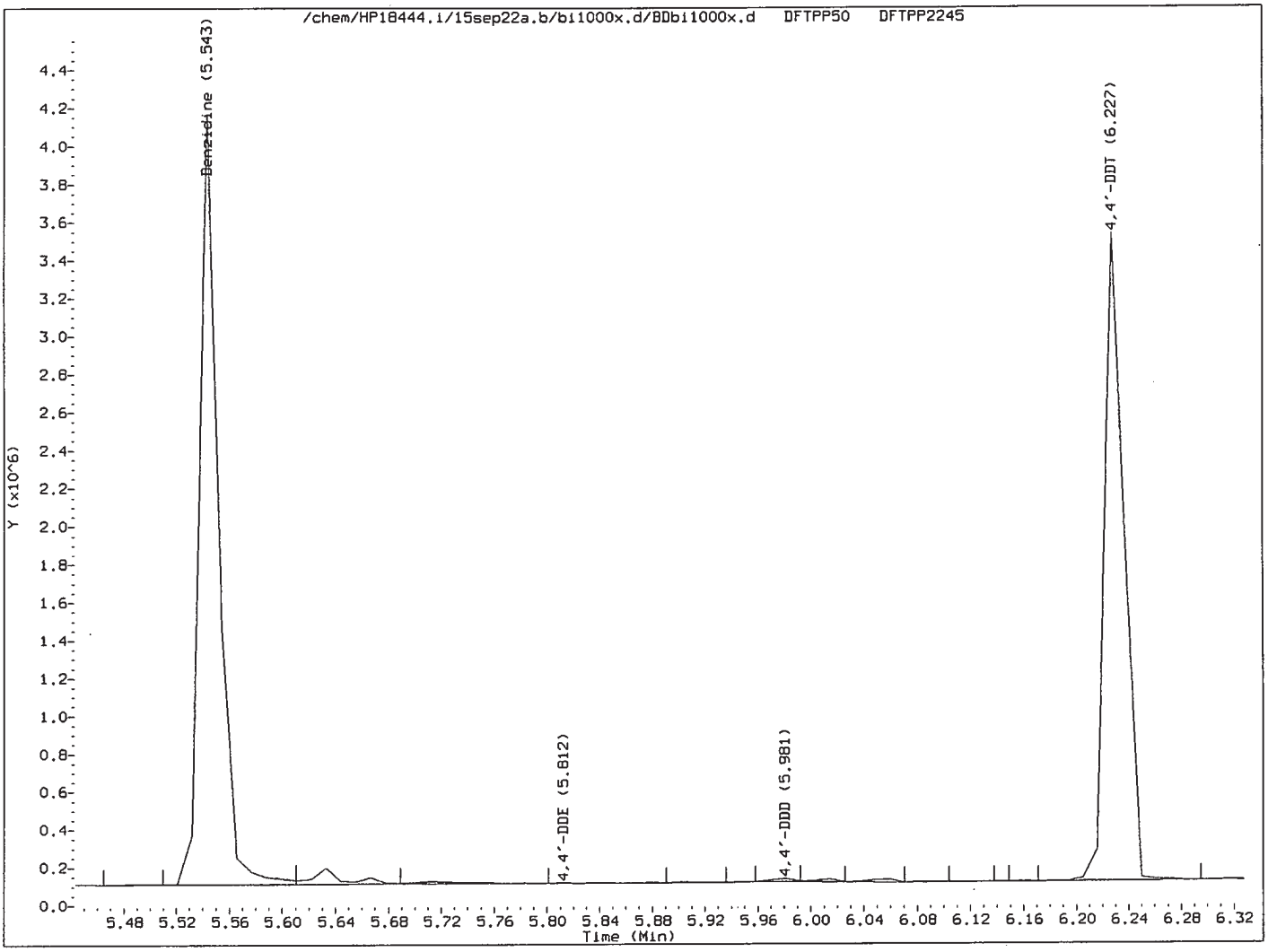
Benzidine EICP peak apex (min.) = 5.543
RT at 10% of front half of EICP (min.) = 5.533 'Front' peak width (min.) = 0.0105666667
RT at 10% of back half of EICP (min.) = 5.564 'Tailing' peak width (min.) = 0.0204833333

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0204833333}{0.0105666667} = 1.938$$

Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:11.
Target 3.5 esignature user ID: lmh00956

Assessment of GC Column Performance and Injection Port Inertness for

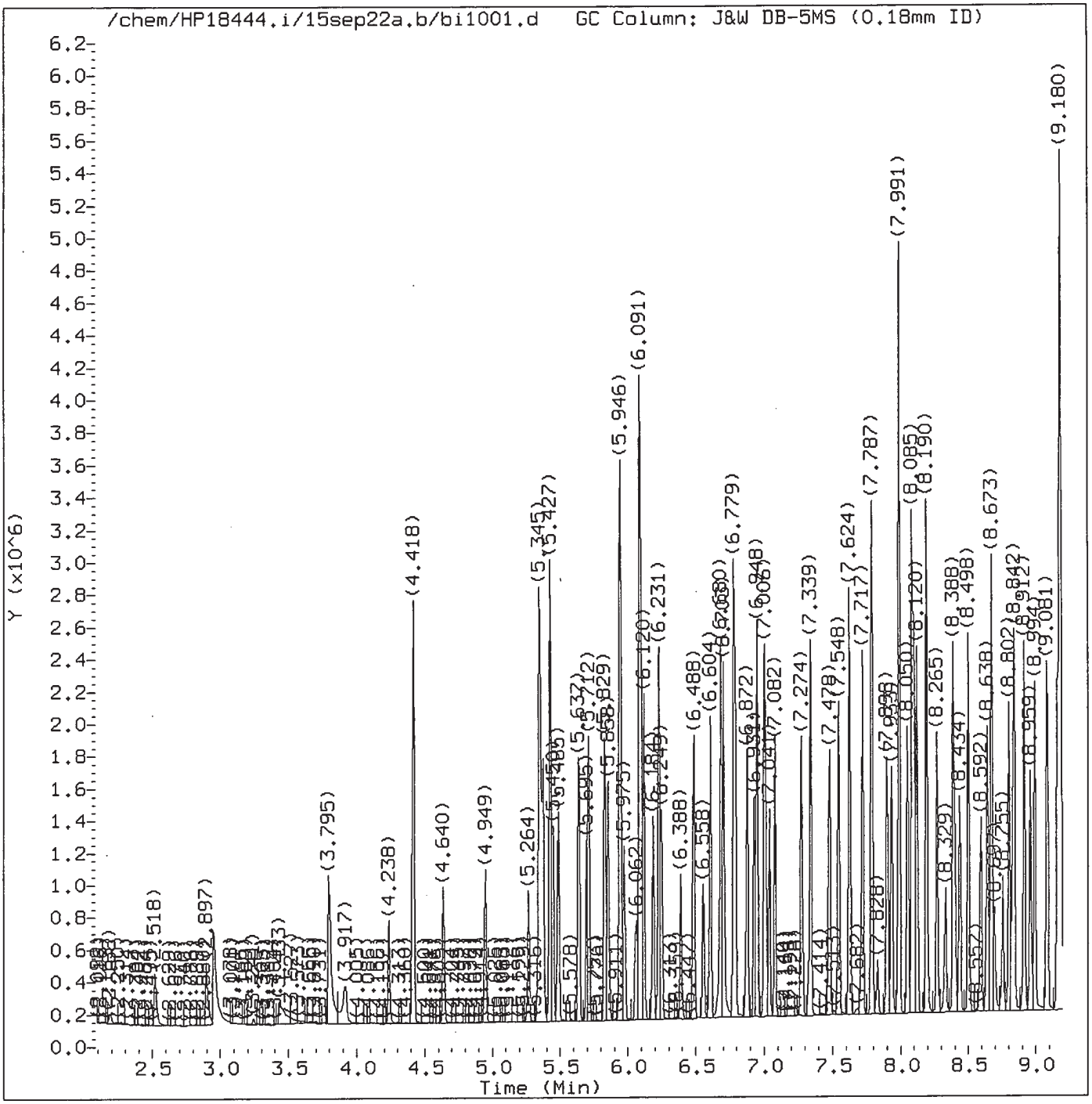
Instrument ID: HP18444.i Injection Date: 23-SEP-2015 00:14 Operator: whs02991



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{11365 + 18153}{11365 + 18153 + 3521290} \times 100 = 0.8$$

Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:11.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1001.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 00:27 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

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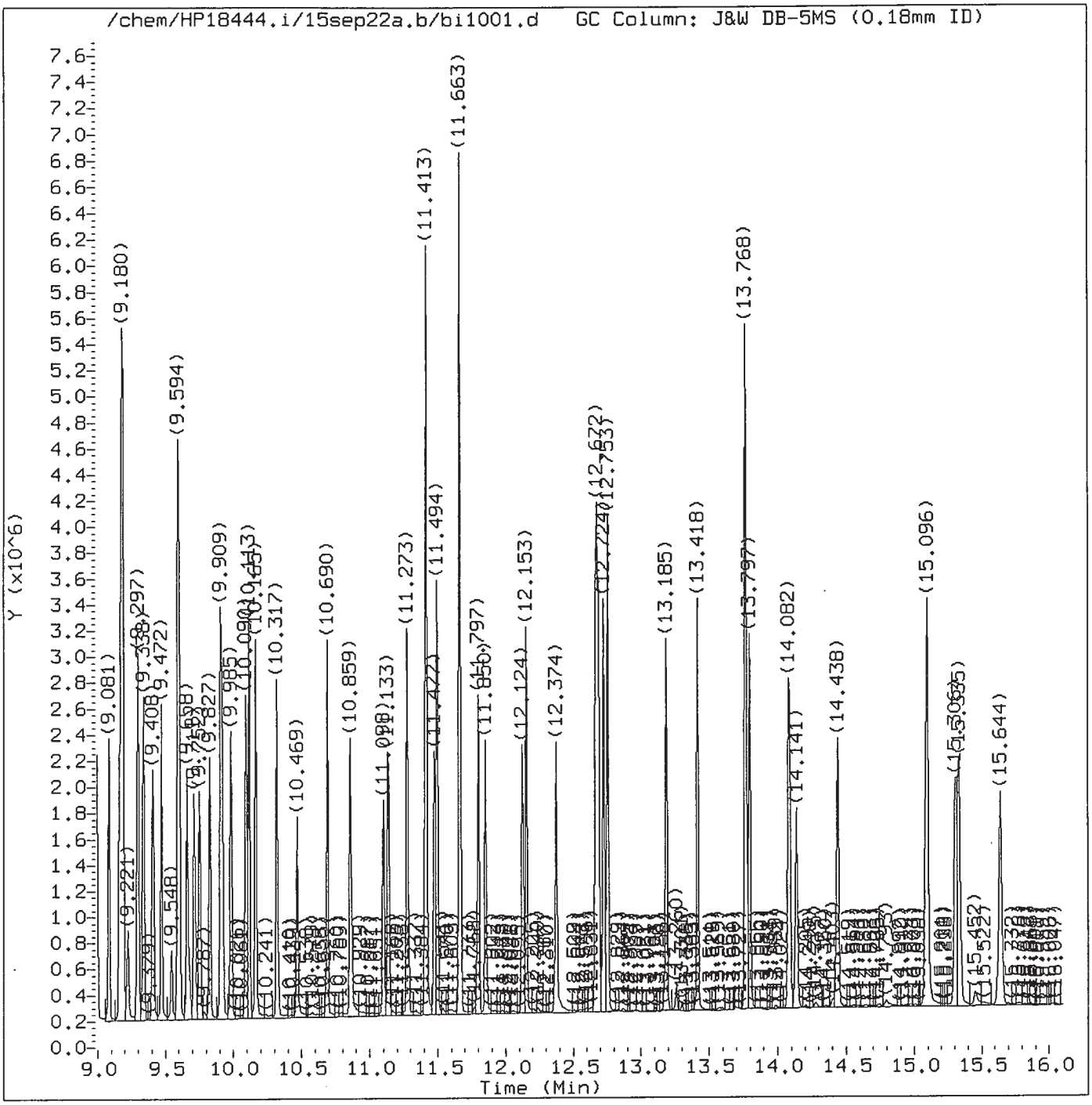
on 09/23/2015 at 09:11.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1001.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 00:27 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1001.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 00:27 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.518	88	162868	30.000
4) N-Nitrosodimethylamine	(1)	2.897	74	263731	30.000
5) Pyridine	(1)	2.950	79	454538	30.000
7) 2-Picoline	(1)	3.795	93	451142	30.000
8) N-Nitrosomethylethylamine	(1)	3.917	88	205528	30.000
9) Methyl methanesulfonate	(1)	4.238	80	233585	30.000
11)$2-Fluorophenol	(1)	4.418	112	708574	60.000
13) N-Nitrosodiethylamine	(1)	4.640	102	195728	30.000
15) Ethyl methanesulfonate	(1)	4.949	109	193230	30.000
17)$Phenol-d6	(1)	5.345	99	948328	60.000
18) Phenol	(1)	5.357	94	559700	30.000
19) Aniline	(1)	5.374	93	654193	30.000
20) a-methylstyrene	(1)	5.433	118	374080	30.000
22) bis(2-Chloroethyl)ether	(1)	5.450	93	418642	30.000
23) 2-Chlorophenol	(1)	5.485	128	349209	30.000
24) 1,3-Dichlorobenzene	(1)	5.637	146	360545	30.000
25)*1,4-Dichlorobenzene-d4	(1)	5.695	152	152002	20.000
26) 1,4-Dichlorobenzene	(1)	5.712	146	362729	30.000
27) Benzyl alcohol	(1)	5.829	108	266729	30.000
28) 1,2-Dichlorobenzene	(1)	5.858	146	343412	30.000
31) 2-Methylphenol	(1)	5.946	108	355546	30.000
30) Indene	(1)	5.946	115	641985	30.000
33) 2,2'-oxybis(1-Chloropropane)	(1)	5.975	45	457991	30.000
34) bis(2-Chloroisopropyl)ether	(1)	5.975	45	457991	30.000
35) N-Nitrosopyrrolidine	(1)	6.062	100	209475	30.000
36) Acetophenone	(1)	6.085	105	565348	30.000
37) 4-Methylphenol	(1)	6.091	108	369699	30.000
38) N-Nitroso-di-n-propylamine	(1)	6.097	70	328921	30.000
39) N-Nitrosomorpholine	(1)	6.103	56	233816	30.000
40) o-Toluidine	(1)	6.120	106	608156	30.000
43) Hexachloroethane	(1)	6.184	117	159733	30.000
44)$Nitrobenzene-d5	(2)	6.225	82	872934	60.000
45) Nitrobenzene	(2)	6.249	77	443989	30.000
48) N-Nitrosopiperidine	(2)	6.388	114	185314	30.000
50) Isophorone	(2)	6.488	82	854748	30.000
51) 2-Nitrophenol	(2)	6.558	139	150544	30.000
53) 2,4-Dimethylphenol	(2)	6.604	107	402262	30.000
42) Total Cresols	(1)			725245	60.000
57) O,O,O-Triethylphosphorothioate	(2)	6.686	198	173801	30.000
55) bis(2-Chloroethoxy)methane	(2)	6.703	93	497769	30.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1001.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 00:27 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	6.703	105	381370	40.000
59) 1,2,3,4-Tetrahydronaphthalene	(2)	6.779	104	571174	30.000
60) 2,4-Dichlorophenol	(2)	6.791	162	282097	30.000
62) 1,2,4-Trichlorobenzene	(2)	6.878	180	320344	30.000
65)*Naphthalene-d8	(2)	6.931	136	594625	20.000
66) Naphthalene	(2)	6.948	128	988135	30.000
67) 4-Chloroaniline	(2)	7.000	127	438583	30.000
68) 2,6-Dichlorophenol	(2)	7.012	162	276198	30.000
69) Hexachloropropene	(2)	7.041	213	202401	30.000
71) Hexachlorobutadiene	(2)	7.082	225	181769	30.000
75) Quinoline	(2)	7.274	129	644628	30.000
77) N-Nitrosodi-n-butylamine	(2)	7.339	84	388578	30.000
76) Caprolactam	(2)	7.339	113	123082	30.000
80) 4-Chloro-3-methylphenol	(2)	7.478	107	346698	30.000
82) Safrole	(2)	7.548	162	265807	30.000
83) 2-Methylnaphthalene	(2)	7.624	142	678258	30.000
84) 1-Methylnaphthalene	(2)	7.717	142	614594	30.000
85) Hexachlorocyclopentadiene	(3)	7.787	237	197492	30.000
86) 1,2,4,5-Tetrachlorobenzene	(3)	7.787	216	313835	30.000
88) cis-Isosafrole	(3)	7.828	162	49474	5.100
90) 2,4,6-Trichlorophenol	(3)	7.898	196	198579	30.000
92) 2,4,5-Trichlorophenol	(3)	7.933	196	218831	30.000
93)$2-Fluorobiphenyl	(3)	7.991	172	1470624	60.000
94) trans-Isosafrole	(3)	8.050	162	265019	24.900
95) 1,1'-Biphenyl	(3)	8.085	154	814351	30.000
96) 2-Chloronaphthalene	(3)	8.096	162	620122	30.000
98) 1-Chloronaphthalene	(3)	8.120	162	621816	30.000
99) Diphenyl ether	(3)	8.190	170	446026	30.000
100) 2-Nitroaniline	(3)	8.195	138	172019	30.000
104) 1,4-Naphthoquinone	(3)	8.265	158	265353	30.000
105) 1,4-Dinitrobenzene	(3)	8.329	168	75779	30.000
106) Dimethylphthalate	(3)	8.388	163	746165	30.000
107) 1,3-Dinitrobenzene	(3)	8.399	168	92095	30.000
108) 2,6-Dinitrotoluene	(3)	8.434	165	148774	30.000
109) Acenaphthylene	(3)	8.498	152	1006043	30.000
112) 3-Nitroaniline	(3)	8.592	138	158482	30.000
97) Isosafrole	(3)			314493	30.000
113)*Acenaphthene-d10	(3)	8.638	164	351910	20.000
114) Acenaphthene	(3)	8.673	153	658648	30.000
115) 2,4-Dinitrophenol	(3)	8.697	184	77079	40.000

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$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1001.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 00:27 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
116) 4-Nitrophenol	(3)	8.755	109	101206	30.000
117) Pentachlorobenzene	(3)	8.802	250	277489	30.000
118) 2,4-Dinitrotoluene	(3)	8.825	165	194287	30.000
119) Dibenzofuran	(3)	8.842	168	877490	30.000
121) 1-Naphthylamine	(3)	8.912	143	696033	30.000
122) 2,3,4,6-Tetrachlorophenol	(3)	8.959	232	182234	30.000
123) 2-Naphthylamine	(3)	8.994	143	704878	30.000
124) Diethylphthalate	(3)	9.081	149	728941	30.000
125) Thionazin	(3)	9.157	107	138172	30.000
126) Fluorene	(3)	9.175	166	732428	30.000
129) 4-Nitroaniline	(3)	9.186	138	178056	30.000
127) 4-Chlorophenyl-phenylether	(3)	9.186	204	370055	30.000
128) 5-Nitro-o-toluidine	(3)	9.186	152	187749	30.000
130) 4,6-Dinitro-2-methylphenol	(4)	9.221	198	82298	30.000
132) NDPA as diphenylamine	(4)	9.297	169	634164	30.000
131) N-Nitrosodiphenylamine	(4)	9.297	169	634164	30.000
134) 1,2-Diphenylhydrazine	(4)	9.338	77	943581	30.000
120) 2,4_2,6-Dinitrotoluenes	(3)			343061	60.000
135)$2,4,6-Tribromophenol	(3)	9.408	330	176807	60.000
137) Tetraethyldithiopyrophosphate	(4)	9.472	97	150393	30.000
139) 1,3,5-Trinitrobenzene	(4)	9.548	213	52404	30.000
140) Diallate (peak 1)	(4)	9.588	86	354227	24.900
141) Phorate	(4)	9.594	75	601175	30.000
142) Phenacetin	(4)	9.606	108	441923	30.000
143) 4-Bromophenyl-phenylether	(4)	9.658	248	205740	30.000
144) Diallate (peak 2)	(4)	9.676	86	70719	5.100
145) Hexachlorobenzene	(4)	9.717	284	219015	30.000
147) Dimethoate	(4)	9.752	87	365973	30.000
149) Pentachlorophenol	(4)	9.903	266	124198	30.000
150) 4-Aminobiphenyl	(4)	9.909	169	685897	30.000
151) Pentachloronitrobenzene	(4)	9.921	237	94257	30.000
152) Pronamide	(4)	9.985	173	345402	30.000
153)*Phenanthrene-d10	(4)	10.090	188	643769	20.000
154) Dinoseb	(4)	10.095	211	120410	30.000
155) Phenanthrene	(4)	10.113	178	1071326	30.000
157) Anthracene	(4)	10.165	178	1090311	30.000
146) Diallate trans/cis	(4)			424946	30.000
163) Carbazole	(4)	10.317	167	1015078	30.000
164) Methyl parathion	(4)	10.469	109	231002	30.000
165) Di-n-butylphthalate	(4)	10.690	149	1253387	30.000

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$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1001.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 00:27 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	10.853	109	146789	30.000
168) 4-Nitroquinoline-1-oxide	(4)	10.865	190	75505	30.000
169) Octachlorostyrene	(4)	11.098	308	82033	30.000
171) Isodrin	(4)	11.133	193	131422	30.000
173) Fluoranthene	(4)	11.279	202	1246996	30.000
174) Benzidine	(5)	11.413	184	2244313	90.000
175)*Pyrene-d10	(5)	11.477	212	784517	20.000
177) Pyrene	(5)	11.494	202	1304469	30.000
179)$Terphenyl-d14	(5)	11.663	244	1804249	60.000
182) p-Dimethylaminoazobenzene	(5)	11.797	225	263822	30.000
185) Chlorobenzilate	(5)	11.850	139	374488	30.000
187) 3,3'-Dimethylbenzidine	(5)	12.130	212	770508	30.000
188) Butylbenzylphthalate	(5)	12.153	149	561638	30.000
191) 2-Acetylaminofluorene	(5)	12.374	181	497416	30.000
193) 3,3'-Dichlorobenzidine	(5)	12.666	252	479896	30.000
198) 4,4'-Methylenebis(2-chloroanil	(5)	12.672	231	260392	30.000
195) Benzo(a)anthracene	(5)	12.689	228	1230241	30.000
196) Chrysene	(5)	12.724	228	1122177	30.000
199) bis(2-Ethylhexyl)phthalate	(5)	12.753	149	823993	30.000
203) 6-Methylchrysene	(5)	13.185	242	858685	30.000
205) Di-n-octylphthalate	(6)	13.418	149	1437242	30.000
206) Benzo(b)fluoranthene	(6)	13.768	252	1264823	30.000
207) 7,12-Dimethylbenz[a]anthracene	(6)	13.768	256	566560	30.000
208) Benzo(k)fluoranthene	(6)	13.797	252	1192771	30.000
211) Benzo(a)pyrene	(6)	14.082	252	1151495	30.000
213)*Perylene-d12	(6)	14.141	264	607687	20.000
215) 3-Methylcholanthrene	(6)	14.438	268	547868	30.000
219) Indeno(1,2,3-cd)pyrene	(6)	15.306	276	1255885	30.000
220) Dibenz(a,h)anthracene	(6)	15.335	278	1006196	30.000
221) Benzo(g,h,i)perylene	(6)	15.644	276	1034646	30.000
222) Total PAHs	(6)			16191848	480.000

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$ = Compound is a surrogate standard.

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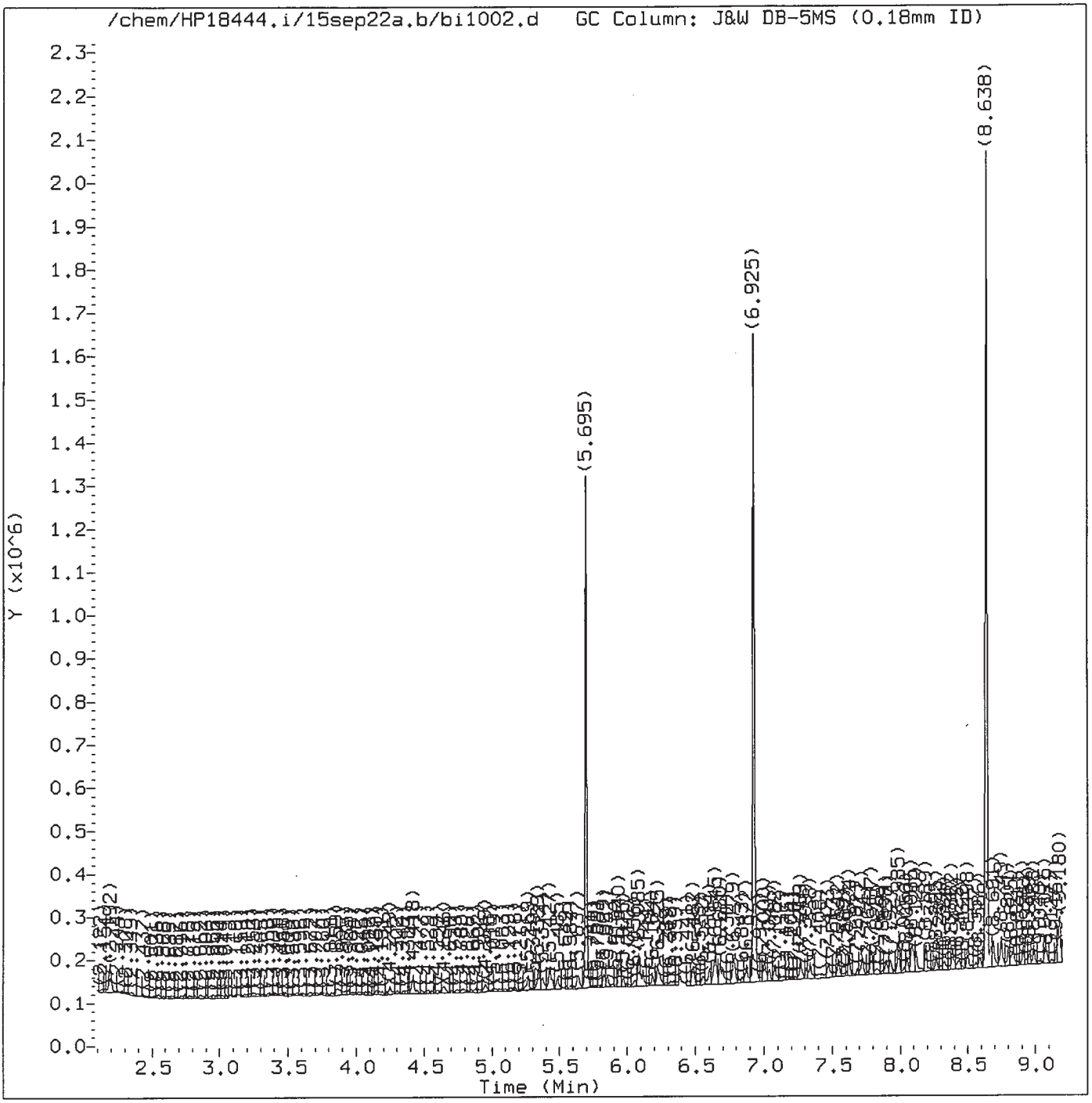
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1002.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 00:49 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

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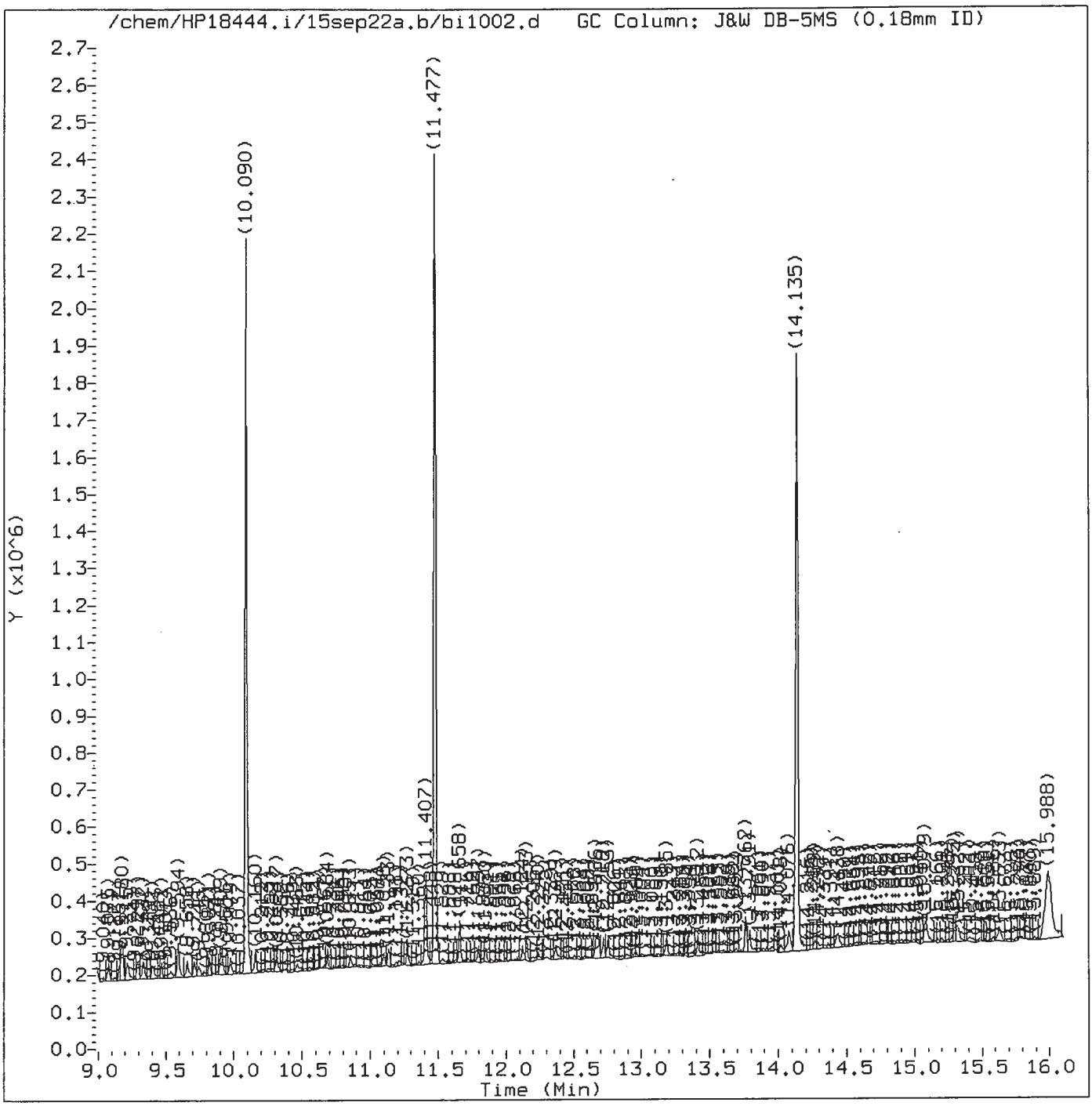
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1002.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 00:49 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

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on 09/23/2015 at 09:11.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1002.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 00:49 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
4) N-Nitrosodimethylamine	(1)	2.944	74	827	0.091
5) Pyridine	(1)	2.950	79	2728	0.174
7) 2-Picoline	(1)	3.806	93	1254	0.080
9) Methyl methanesulfonate	(1)	4.249	80	4191	0.519
11)$2-Fluorophenol	(1)	4.418	112	13488	1.101
13) N-Nitrosodiethylamine	(1)	4.646	102	4153	0.614
15) Ethyl methanesulfonate	(1)	4.949	109	3575	0.535
17)$Phenol-d6	(1)	5.339	99	16893	1.030
18) Phenol	(1)	5.357	94	11132	0.575
19) Aniline	(1)	5.374	93	12161	0.538
20) a-methylstyrene	(1)	5.433	118	6277	0.485
22) bis(2-Chloroethyl)ether	(1)	5.444	93	8062	0.557
23) 2-Chlorophenol	(1)	5.485	128	8101	0.671
24) 1,3-Dichlorobenzene	(1)	5.637	146	6956	0.558
25)*1,4-Dichlorobenzene-d4	(1)	5.695	152	157680	20.000
26) 1,4-Dichlorobenzene	(1)	5.712	146	7334	0.585
27) Benzyl alcohol	(1)	5.829	108	5664	0.614
28) 1,2-Dichlorobenzene	(1)	5.858	146	6572	0.553
31) 2-Methylphenol	(1)	5.940	108	7704	0.627
30) Indene	(1)	5.940	115	10591	0.477
33) 2,2'-oxybis(1-Chloropropane)	(1)	5.975	45	9695	0.612
34) bis(2-Chloroisopropyl)ether	(1)	5.975	45	9695	0.612
35) N-Nitrosopyrrolidine	(1)	6.056	100	3962	0.547
36) Acetophenone	(1)	6.080	105	13278	0.679
37) 4-Methylphenol	(1)	6.085	108	8020	0.627
38) N-Nitroso-di-n-propylamine	(1)	6.091	70	6265	0.551
39) N-Nitrosomorpholine	(1)	6.097	56	6181	0.765
40) o-Toluidine	(1)	6.114	106	11812	0.562
43) Hexachloroethane	(1)	6.184	117	1348	0.244
44)$Nitrobenzene-d5	(2)	6.225	82	16098	1.060
45) Nitrobenzene	(2)	6.243	77	9742	0.630
48) N-Nitrosopiperidine	(2)	6.388	114	3631	0.563
50) Isophorone	(2)	6.482	82	14870	0.500
51) 2-Nitrophenol	(2)	6.552	139	3317	0.633
53) 2,4-Dimethylphenol	(2)	6.604	107	8091	0.578
56) Benzoic acid	(2)	6.645	105	25082	2.519
42) Total Cresols	(1)			15724	1.254
57) O,O,O-Triethylphosphorothioate	(2)	6.680	198	2979	0.492
55) bis(2-Chloroethoxy)methane	(2)	6.680	93	13217	0.763
59) 1,2,3,4-Tetrahydronaphthalene	(2)	6.779	104	10734	0.540

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$ = Compound is a surrogate standard.

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on 09/23/2015 at 09:11.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1002.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 00:49 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
60) 2,4-Dichlorophenol	(2)	6.785	162	4627	0.471
62) 1,2,4-Trichlorobenzene	(2)	6.872	180	5973	0.536
65)*Naphthalene-d8	(2)	6.925	136	620934	20.000
66) Naphthalene	(2)	6.948	128	17342	0.502
67) 4-Chloroaniline	(2)	7.000	127	7685	0.503
68) 2,6-Dichlorophenol	(2)	7.006	162	4757	0.495
69) Hexachloropropene	(2)	7.041	213	3361	0.477
71) Hexachlorobutadiene	(2)	7.082	225	3099	0.490
75) Quinoline	(2)	7.269	129	10757	0.479
77) N-Nitrosodi-n-butylamine	(2)	7.338	84	7617	0.563
80) 4-Chloro-3-methylphenol	(2)	7.473	107	7410	0.614
82) Safrole	(2)	7.542	162	4750	0.513
83) 2-Methylnaphthalene	(2)	7.624	142	11491	0.493
84) 1-Methylnaphthalene	(2)	7.717	142	11600	0.520
85) Hexachlorocyclopentadiene	(3)	7.787	237	3187	0.474
86) 1,2,4,5-Tetrachlorobenzene	(3)	7.787	216	5104	0.478
88) cis-Isosafrole	(3)	7.834	162	1156	0.117
90) 2,4,6-Trichlorophenol	(3)	7.898	196	3411	0.505
92) 2,4,5-Trichlorophenol	(3)	7.927	196	3479	0.467
93)$2-Fluorobiphenyl	(3)	7.985	172	25433	1.016
94) trans-Isosafrole	(3)	8.050	162	4140	0.381
95) 1,1'-Biphenyl	(3)	8.079	154	14229	0.513
96) 2-Chloronaphthalene	(3)	8.096	162	10856	0.514
98) 1-Chloronaphthalene	(3)	8.120	162	10296	0.486
99) Diphenyl ether	(3)	8.189	170	7327	0.483
100) 2-Nitroaniline	(3)	8.189	138	3195	0.546
104) 1,4-Naphthoquinone	(3)	8.265	158	4916	0.544
106) Dimethylphthalate	(3)	8.382	163	13582	0.535
107) 1,3-Dinitrobenzene	(3)	8.399	168	1460	0.466
105) 1,4-Dinitrobenzene	(3)	8.399	168	1460	0.566
108) 2,6-Dinitrotoluene	(3)	8.434	165	3184	0.629
109) Acenaphthylene	(3)	8.498	152	18192	0.515
112) 3-Nitroaniline	(3)	8.586	138	3019	0.560
97) Isosafrole	(3)			5296	0.498
113)*Acenaphthene-d10	(3)	8.638	164	359337	20.000
114) Acenaphthene	(3)	8.673	153	11710	0.511
115) 2,4-Dinitrophenol	(3)	8.691	184	6085	3.093
116) 4-Nitrophenol	(3)	8.749	109	8302	2.410
117) Pentachlorobenzene	(3)	8.801	250	5504	0.583
118) 2,4-Dinitrotoluene	(3)	8.825	165	3063	0.463

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/23/2015 at 09:11.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1002.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 00:49 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
119) Dibenzofuran	(3)	8.842	168	15307	0.513
121) 1-Naphthylamine	(3)	8.912	143	13309	0.562
122) 2,3,4,6-Tetrachlorophenol	(3)	8.959	232	2508	0.404
123) 2-Naphthylamine	(3)	8.988	143	14026	0.585
124) Diethylphthalate	(3)	9.075	149	13309	0.536
125) Thionazin	(3)	9.157	107	2758	0.586
128) 5-Nitro-o-toluidine	(3)	9.175	152	3228	0.505
129) 4-Nitroaniline	(3)	9.175	138	2887	0.476
126) Fluorene	(3)	9.175	166	13556	0.521
127) 4-Chlorophenyl-phenylether	(3)	9.180	204	6281	0.499
130) 4,6-Dinitro-2-methylphenol	(4)	9.215	198	4645	1.572
132) NDPA as diphenylamine	(4)	9.291	169	11553	0.507
131) N-Nitrosodiphenylamine	(4)	9.291	169	11553	0.507
134) 1,2-Diphenylhydrazine	(4)	9.332	77	18131	0.535
120) 2,4_2,6-Dinitrotoluenes	(3)			6247	1.092
135)$2,4,6-Tribromophenol	(3)	9.408	330	2956	0.982
137) Tetraethyldithiopyrophosphate	(4)	9.466	97	2715	0.503
140) Diallate (peak 1)	(4)	9.588	86	7371	0.481
142) Phenacetin	(4)	9.594	108	7284	0.459
141) Phorate	(4)	9.594	75	9974	0.462
143) 4-Bromophenyl-phenylether	(4)	9.658	248	3575	0.484
144) Diallate (peak 2)	(4)	9.676	86	2433	0.163
145) Hexachlorobenzene	(4)	9.711	284	3801	0.492
147) Dimethoate	(4)	9.746	87	5106	0.389
149) Pentachlorophenol	(4)	9.903	266	1695	0.380
150) 4-Aminobiphenyl	(4)	9.909	169	13128	0.533
152) Pronamide	(4)	9.979	173	6371	0.514
153)*Phenanthrene-d10	(4)	10.090	188	693346	20.000
154) Dinoseb	(4)	10.090	211	1838	0.425
155) Phenanthrene	(4)	10.113	178	19716	0.506
157) Anthracene	(4)	10.160	178	19318	0.497
146) Diallate trans/cis	(4)			9804	0.644
163) Carbazole	(4)	10.317	167	17862	0.490
164) Methyl parathion	(4)	10.468	109	3213	0.387
165) Di-n-butylphthalate	(4)	10.684	149	22182	0.493
167) Parathion	(4)	10.853	109	3707	0.703
168) 4-Nitroquinoline-1-oxide	(4)	10.859	190	1118	0.412
169) Octachlorostyrene	(4)	11.098	308	1617	0.549
171) Isodrin	(4)	11.133	193	3105	0.658
173) Fluoranthene	(4)	11.273	202	21012	0.484

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1002.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 00:49 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
174) Benzidine	(5)	11.407	184	90082	3.466
175)*Pyrene-d10	(5)	11.477	212	817575	20.000
177) Pyrene	(5)	11.494	202	22257	0.496
179)$Terphenyl-d14	(5)	11.658	244	29443	0.940
182) p-Dimethylaminoazobenzene	(5)	11.797	225	4205	0.459
185) Chlorobenzilate	(5)	11.850	139	7190	0.553
187) 3,3'-Dimethylbenzidine	(5)	12.124	212	13247	0.495
188) Butylbenzylphthalate	(5)	12.153	149	9920	0.508
191) 2-Acetylaminofluorene	(5)	12.369	181	6312	0.365
193) 3,3'-Dichlorobenzidine	(5)	12.666	252	8123	0.487
198) 4,4'-Methylenebis(2-chloroanil	(5)	12.672	231	4308	0.476
195) Benzo(a)anthracene	(5)	12.683	228	20068	0.484
196) Chrysene	(5)	12.718	228	18795	0.491
199) bis(2-Ethylhexyl)phthalate	(5)	12.753	149	14483	0.506
203) 6-Methylchrysene	(5)	13.185	242	13065	0.438
205) Di-n-octylphthalate	(6)	13.412	149	22061	0.450
207) 7,12-Dimethylbenz[a]anthracene	(6)	13.762	256	8990	0.465
206) Benzo(b)fluoranthene	(6)	13.767	252	20410	0.486
208) Benzo(k)fluoranthene	(6)	13.791	252	20172	0.498
211) Benzo(a)pyrene	(6)	14.082	252	21981	0.528
213)*Perylene-d12	(6)	14.135	264	621805	20.000
215) 3-Methylcholanthrene	(6)	14.432	268	10213	0.547
219) Indeno(1,2,3-cd)pyrene	(6)	15.300	276	19413	0.475
220) Dibenz(a,h)anthracene	(6)	15.324	278	16249	0.486
221) Benzo(g,h,i)perylene	(6)	15.621	276	16516	0.483
222) Total PAHs	(6)			279216	7.994

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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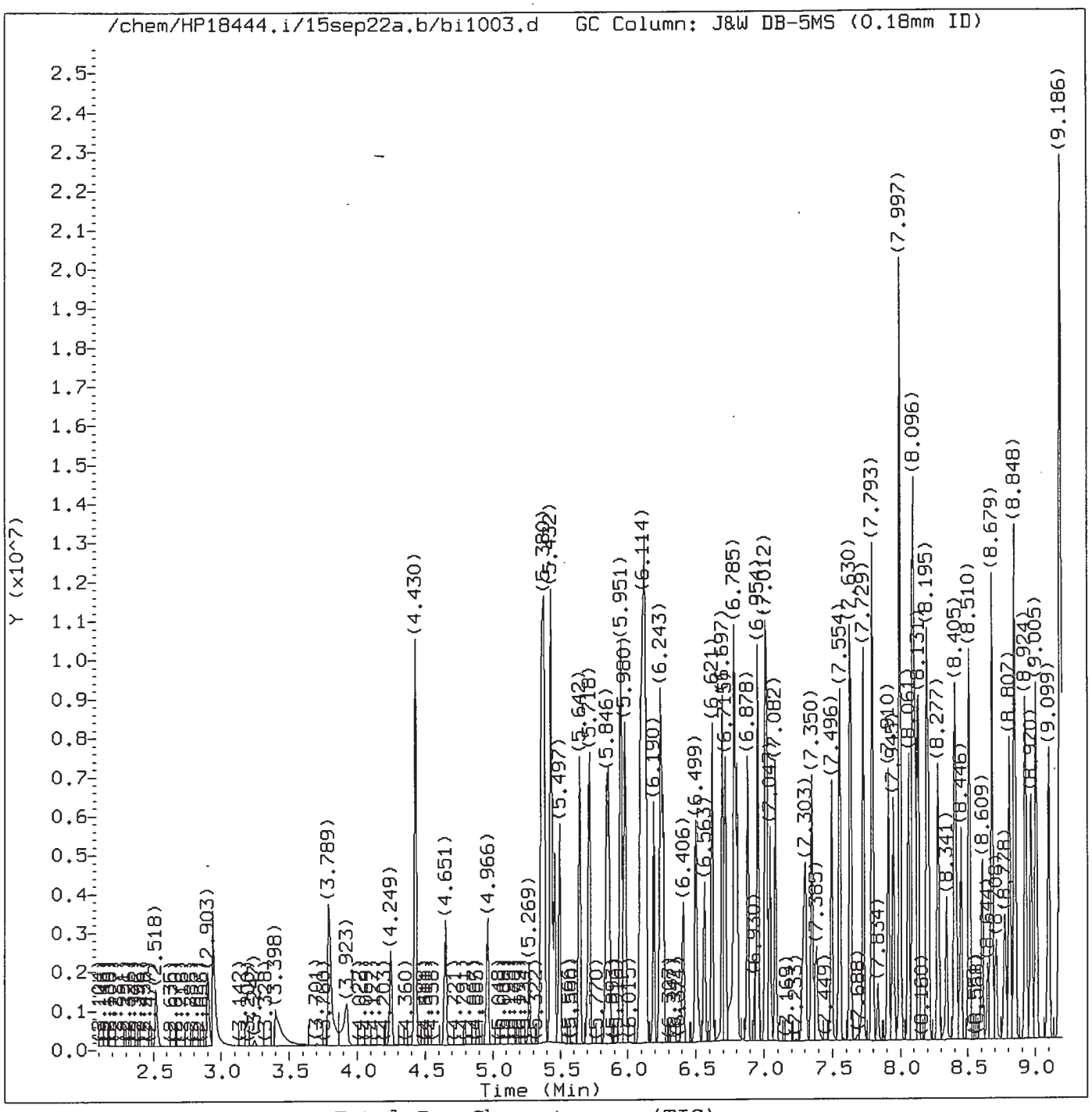
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1003.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:10 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

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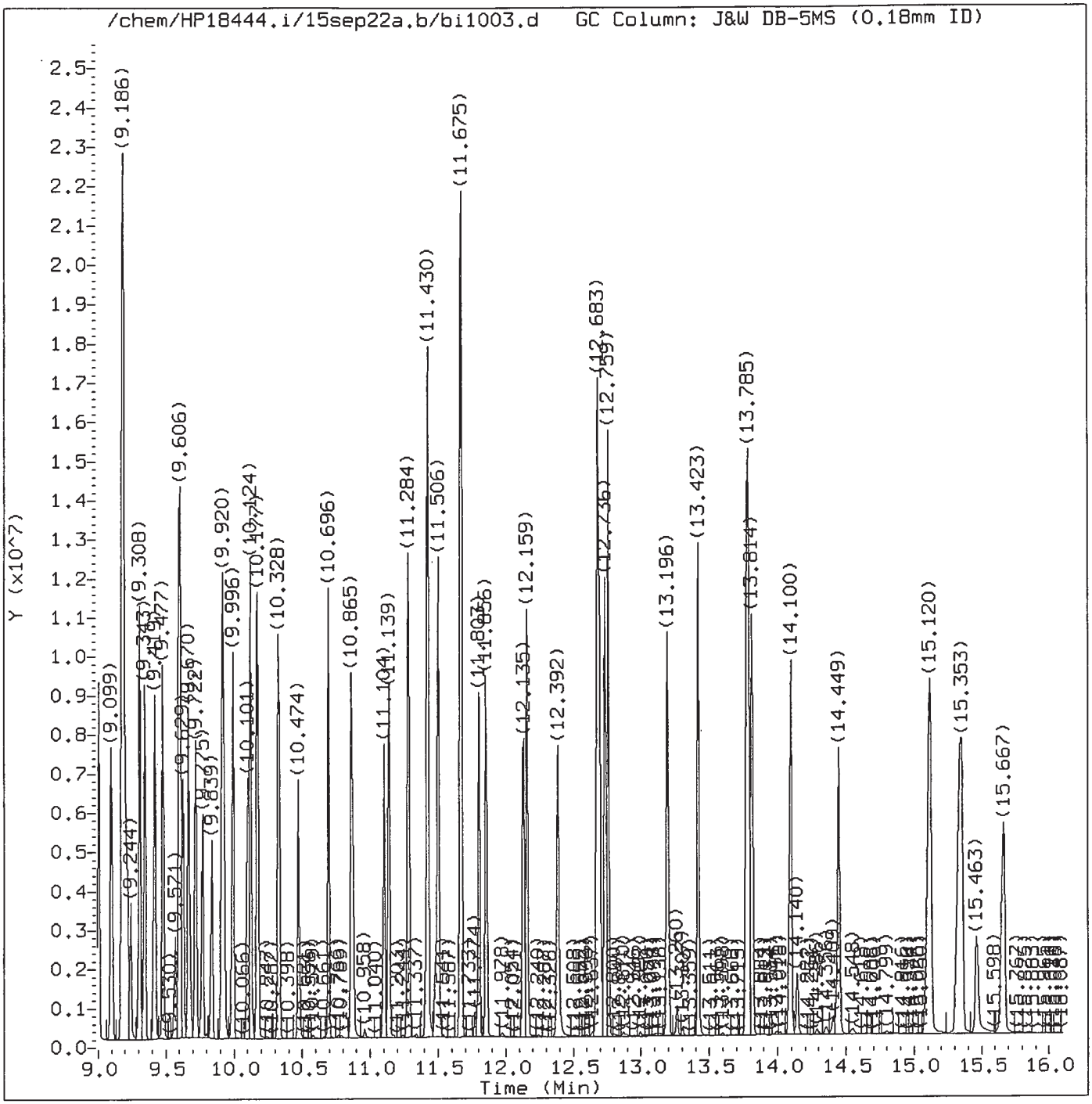
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1003.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:10 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

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on 09/23/2015 at 09:11.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1003.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:10 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.518	88	726346	118.515
4) N-Nitrosodimethylamine	(1)	2.903	74	1233872	121.389
5) Pyridine	(1)	2.938	79	1930024	115.572
7) 2-Picoline	(1)	3.789	93	2058022	119.873
8) N-Nitrosomethylethylamine	(1)	3.923	88	913481	118.311
9) Methyl methanesulfonate	(1)	4.249	80	1047753	118.861
11)$2-Fluorophenol	(1)	4.430	112	3079872	233.948
13) N-Nitrosodiethylamine	(1)	4.651	102	889803	119.666
15) Ethyl methanesulfonate	(1)	4.966	109	884483	120.077
17)$Phenol-d6	(1)	5.362	99	4241251	237.370
18) Phenol	(1)	5.380	94	2468368	117.845
19) Aniline	(1)	5.386	93	2801852	116.089
20) a-methylstyrene	(1)	5.438	118	1608874	116.340
22) bis(2-Chloroethyl)ether	(1)	5.462	93	1835799	117.503
23) 2-Chlorophenol	(1)	5.497	128	1536296	117.698
24) 1,3-Dichlorobenzene	(1)	5.642	146	1589484	117.823
25)*1,4-Dichlorobenzene-d4	(1)	5.701	152	173718	20.000
26) 1,4-Dichlorobenzene	(1)	5.718	146	1628721	118.924
27) Benzyl alcohol	(1)	5.846	108	1157073	116.856
28) 1,2-Dichlorobenzene	(1)	5.858	146	1535790	118.682
30) Indene	(1)	5.945	115	2736323	115.800
31) 2-Methylphenol	(1)	5.957	108	1575124	118.116
33) 2,2'-oxybis(1-Chloropropane)	(1)	5.980	45	2006008	117.433
34) bis(2-Chloroisopropyl)ether	(1)	5.980	45	2006008	117.433
35) N-Nitrosopyrrolidine	(1)	6.091	100	938331	118.780
36) Acetophenone	(1)	6.097	105	2410421	115.819
37) 4-Methylphenol	(1)	6.114	108	1811165	124.150
38) N-Nitroso-di-n-propylamine	(1)	6.120	70	1448634	117.764
39) N-Nitrosomorpholine	(1)	6.126	56	1018260	117.089
40) o-Toluidine	(1)	6.132	106	2652488	117.180
43) Hexachloroethane	(1)	6.190	117	694455	116.988
44)$Nitrobenzene-d5	(2)	6.243	82	3918112	236.231
45) Nitrobenzene	(2)	6.260	77	1975748	117.600
48) N-Nitrosopiperidine	(2)	6.406	114	842730	118.901
50) Isophorone	(2)	6.499	82	3766729	117.015
51) 2-Nitrophenol	(2)	6.563	139	721441	122.045
53) 2,4-Dimethylphenol	(2)	6.621	107	1759073	116.552
42) Total Cresols	(1)			3386289	242.267
57) O,O,O-Triethylphosphorothioate	(2)	6.697	198	806039	120.078
55) bis(2-Chloroethoxy)methane	(2)	6.715	93	2108817A	114.653

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1003.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:10 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	6.767	105	1417570	124.060
59) 1,2,3,4-Tetrahydronaphthalene	(2)	6.785	104	2491722	116.408
60) 2,4-Dichlorophenol	(2)	6.802	162	1231864	116.468
62) 1,2,4-Trichlorobenzene	(2)	6.878	180	1399265	116.485
65)*Naphthalene-d8	(2)	6.930	136	688525	20.000
66) Naphthalene	(2)	6.954	128	4248739	113.801
67) 4-Chloroaniline	(2)	7.012	127	1898545	115.944
68) 2,6-Dichlorophenol	(2)	7.018	162	1206698	116.498
69) Hexachloropropene	(2)	7.047	213	928718	119.438
71) Hexachlorobutadiene	(2)	7.082	225	802668	117.138
75) Quinoline	(2)	7.303	129	2876676	117.768
77) N-Nitrosodi-n-butylamine	(2)	7.350	84	1419218	105.814
76) Caprolactam	(2)	7.385	113	536781M	116.391
80) 4-Chloro-3-methylphenol	(2)	7.496	107	1557358	118.163
82) Safrole	(2)	7.554	162	1164293	116.652
83) 2-Methylnaphthalene	(2)	7.630	142	2943302	115.893
84) 1-Methylnaphthalene	(2)	7.729	142	2670579	111.737
85) Hexachlorocyclopentadiene	(3)	7.793	237	841354	116.976
86) 1,2,4,5-Tetrachlorobenzene	(3)	7.793	216	1433311	121.149
88) cis-Isosafrole	(3)	7.834	162	210280	19.862
90) 2,4,6-Trichlorophenol	(3)	7.910	196	924065	122.272
92) 2,4,5-Trichlorophenol	(3)	7.945	196	1000543	121.216
93)$2-Fluorobiphenyl	(3)	7.997	172	6006993	228.909
94) trans-Isosafrole	(3)	8.061	162	1137122	97.445
95) 1,1'-Biphenyl	(3)	8.096	154	3486703	117.276
96) 2-Chloronaphthalene	(3)	8.108	162	2918393	122.948
98) 1-Chloronaphthalene	(3)	8.131	162	2396931	110.991
99) Diphenyl ether	(3)	8.195	170	1901606	117.021
100) 2-Nitroaniline	(3)	8.207	138	857542	126.398
104) 1,4-Naphthoquinone	(3)	8.277	158	1143958	117.688
105) 1,4-Dinitrobenzene	(3)	8.341	168	416414	132.205
106) Dimethylphthalate	(3)	8.399	163	3219579	117.740
107) 1,3-Dinitrobenzene	(3)	8.417	168	494146	130.788
108) 2,6-Dinitrotoluene	(3)	8.452	165	725371	125.068
109) Acenaphthylene	(3)	8.510	152	4193620	111.907
112) 3-Nitroaniline	(3)	8.609	138	768804	124.765
97) Isosafrole	(3)			1347402	117.307
113)*Acenaphthene-d10	(3)	8.644	164	394182	20.000
114) Acenaphthene	(3)	8.679	153	2860357	115.773
115) 2,4-Dinitrophenol	(3)	8.708	184	334544	135.270

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1003.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:10 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
116) 4-Nitrophenol	(3)	8.778	109	497904	125.607
117) Pentachlorobenzene	(3)	8.807	250	1244987	120.082
118) 2,4-Dinitrotoluene	(3)	8.842	165	953773	125.478
119) Dibenzofuran	(3)	8.848	168	3780448	117.648
121) 1-Naphthylamine	(3)	8.924	143	2988055	117.435
122) 2,3,4,6-Tetrachlorophenol	(3)	8.970	232	814357	119.843
123) 2-Naphthylamine	(3)	9.005	143	2841123	113.658
124) Diethylphthalate	(3)	9.099	149	3182883	118.453
125) Thionazin	(3)	9.180	107	691649	126.644
126) Fluorene	(3)	9.186	166	3162237	113.695
127) 4-Chlorophenyl-phenylether	(3)	9.192	204	1579851	117.103
128) 5-Nitro-o-toluidine	(3)	9.204	152	862105	121.472
129) 4-Nitroaniline	(3)	9.215	138	793327A	119.664
130) 4,6-Dinitro-2-methylphenol	(4)	9.244	198	470277	132.918
132) NDPA as diphenylamine	(4)	9.308	169	2716195	115.672
131) N-Nitrosodiphenylamine	(4)	9.308	169	2716195	115.672
134) 1,2-Diphenylhydrazine	(4)	9.343	77	4020156	115.356
120) 2,4_2,6-Dinitrotoluenes	(3)			1679144	250.546
135)$2,4,6-Tribromophenol	(3)	9.419	330	840253	247.067
137) Tetraethyldithiopyrophosphate	(4)	9.477	97	649250	116.145
139) 1,3,5-Trinitrobenzene	(4)	9.571	213	314838	135.881
140) Diallate (peak 1)	(4)	9.600	86	1568253	97.655
141) Phorate	(4)	9.606	75	2623164	116.786
142) Phenacetin	(4)	9.629	108	1917045	116.435
143) 4-Bromophenyl-phenylether	(4)	9.670	248	927170	118.721
144) Diallate (peak 2)	(4)	9.681	86	322066	20.290
145) Hexachlorobenzene	(4)	9.722	284	935479	115.390
147) Dimethoate	(4)	9.775	87	1472400	111.927
149) Pentachlorophenol	(4)	9.915	266	580669	120.928
150) 4-Aminobiphenyl	(4)	9.920	169	2251628	85.570
151) Pentachloronitrobenzene	(4)	9.932	237	418931	117.891
152) Pronamide	(4)	9.996	173	1507331	116.794
153)*Phenanthrene-d10	(4)	10.095	188	740912	20.000
154) Dinoseb	(4)	10.107	211	744869	137.600
155) Phenanthrene	(4)	10.124	178	4541441	112.521
157) Anthracene	(4)	10.177	178	4574861	113.203
146) Diallate trans/cis	(4)			1890319	117.945
163) Carbazole	(4)	10.328	167	4181975	113.346
164) Methyl parathion	(4)	10.474	109	1048932	119.176
165) Di-n-butylphthalate	(4)	10.696	149	5198022	113.741

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/23/2015 at 09:11.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1003.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:10 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	10.865	109	737616	125.252
168) 4-Nitroquinoline-1-oxide	(4)	10.876	190	404753	129.117
169) Octachlorostyrene	(4)	11.104	308	361871	117.440
171) Isodrin	(4)	11.139	193	567878	116.201
173) Fluoranthene	(4)	11.284	202	5001725	111.623
174) Benzidine	(5)	11.430	184	7977909	327.694
175)*Pyrene-d10	(5)	11.483	212	834651	20.000
177) Pyrene	(5)	11.506	202	5077230	113.657
179)$Terphenyl-d14	(5)	11.675	244	6836804	226.088
182) p-Dimethylaminoazobenzene	(5)	11.809	225	1121186	119.918
185) Chlorobenzilate	(5)	11.856	139	1564682	118.898
187) 3,3'-Dimethylbenzidine	(5)	12.135	212	2825723	111.090
188) Butylbenzylphthalate	(5)	12.159	149	2335010	118.601
191) 2-Acetylaminofluorene	(5)	12.392	181	2158151	121.160
193) 3,3'-Dichlorobenzidine	(5)	12.677	252	1841031	113.782
198) 4,4'-Methylenebis(2-chloroanil	(5)	12.683	231	1014750	114.722
195) Benzo(a)anthracene	(5)	12.701	228	4874426	116.778
196) Chrysene	(5)	12.736	228	4521389	117.084
199) bis(2-Ethylhexyl)phthalate	(5)	12.759	149	3316511	116.657
203) 6-Methylchrysene	(5)	13.196	242	3355263	114.882
205) Di-n-octylphthalate	(6)	13.423	149	5532770	119.771
207) 7,12-Dimethylbenz[a]anthracene	(6)	13.785	256	2243642	121.470
206) Benzo(b)fluoranthene	(6)	13.791	252	5047521	124.802
208) Benzo(k)fluoranthene	(6)	13.814	252	4133761A	111.775
211) Benzo(a)pyrene	(6)	14.100	252	4363127	113.874
213)*Perylene-d12	(6)	14.146	264	587068	20.000
215) 3-Methylcholanthrene	(6)	14.449	268	2120896	120.107
219) Indeno(1,2,3-cd)pyrene	(6)	15.335	276	4697309	121.227
220) Dibenz(a,h)anthracene	(6)	15.353	278	3837016	121.093
221) Benzo(g,h,i)perylene	(6)	15.667	276	3841157	119.396
222) Total PAHs	(6)			65408515	1843.264

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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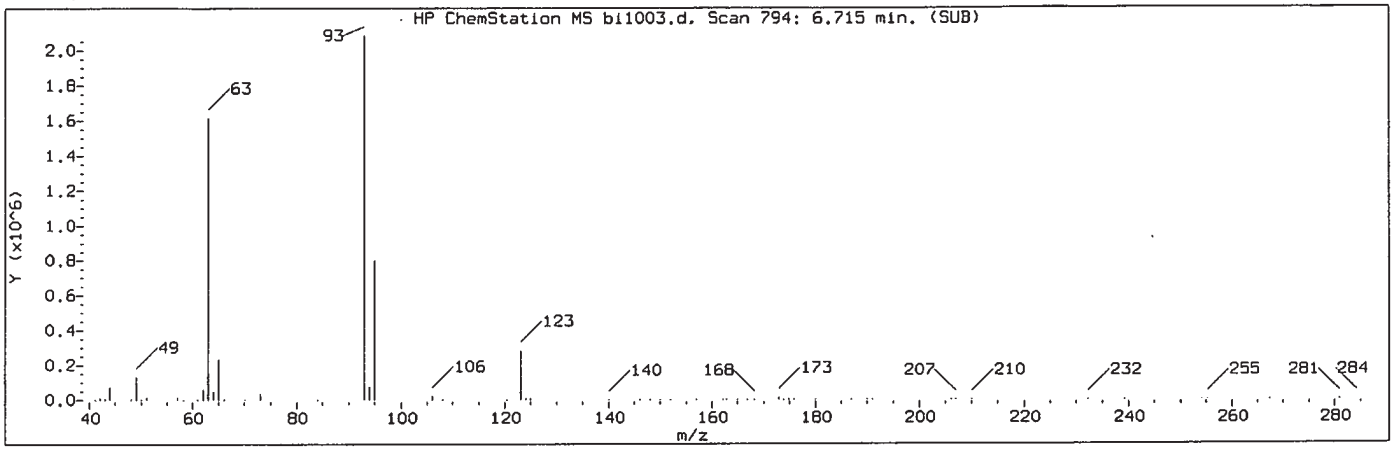
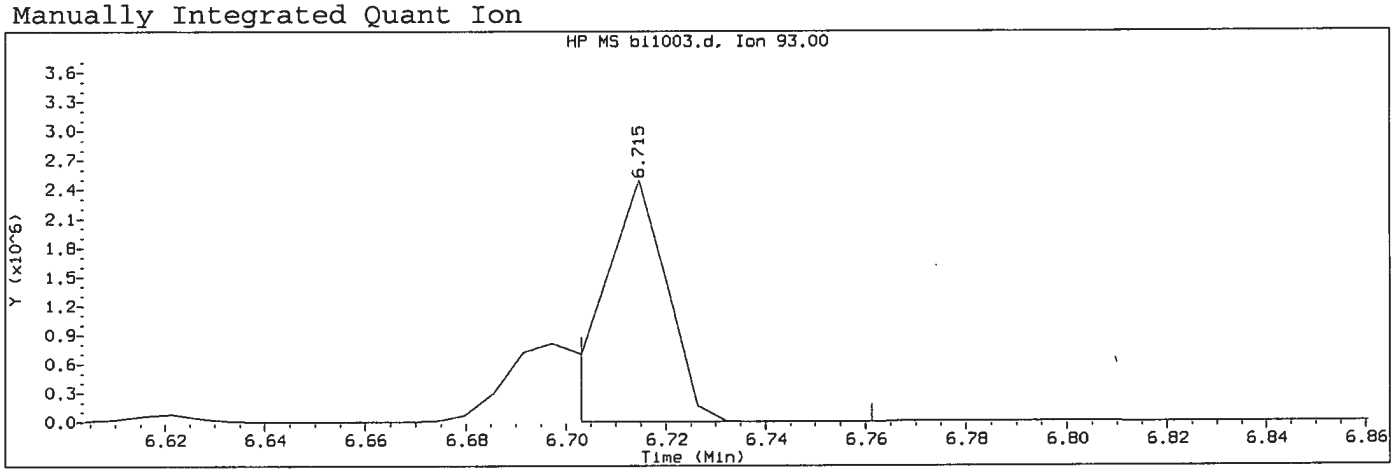
on 09/23/2015 at 09:11.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1003.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:10 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compound Number	: 55		
Compound Name	: bis(2-Chloroethoxy)methane		
Scan Number	: 794		
Retention Time (minutes)	: 6.715		
Quant Ion	: 93.00		
Area (flag)	: 2108817A		
On-Column Amount (ng/ul)	: 114.6534		
Integration start scan	: 791	Integration stop scan:	801
Y at integration start	: 439	Y at integration end:	439

Reason for manual integration: improper integration

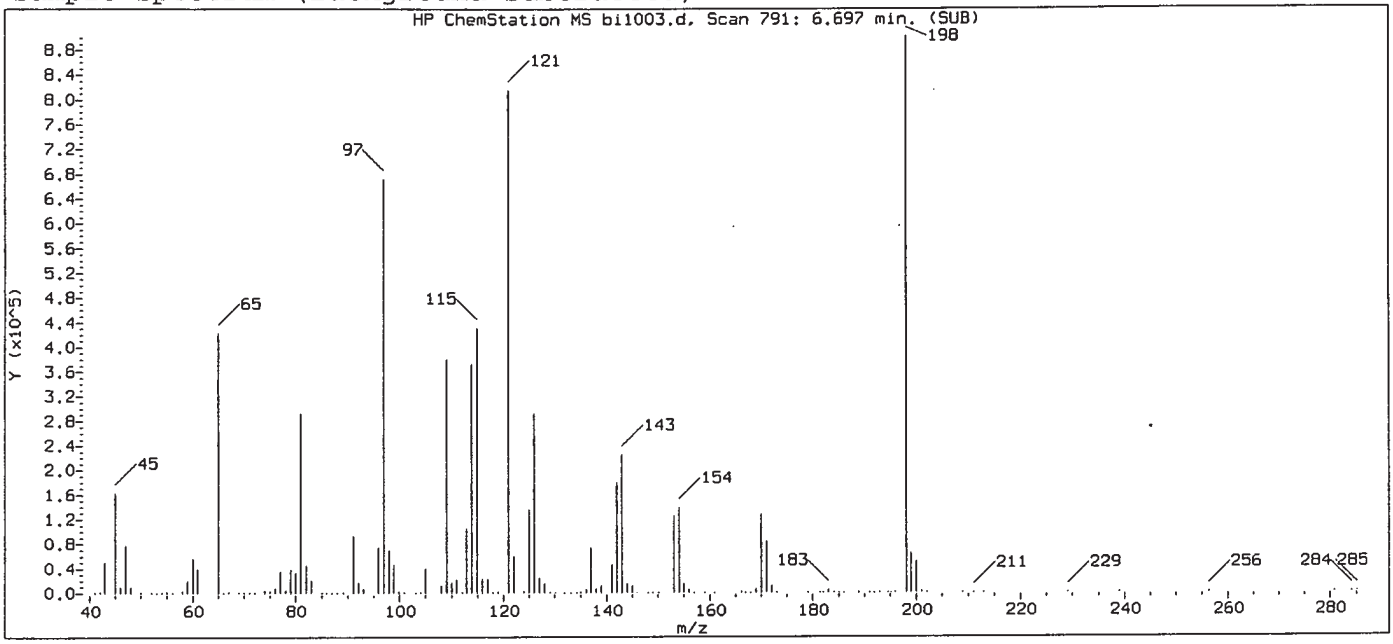
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:11. Target 3.5 signature User ID: lmh00956

SEP 23 2015

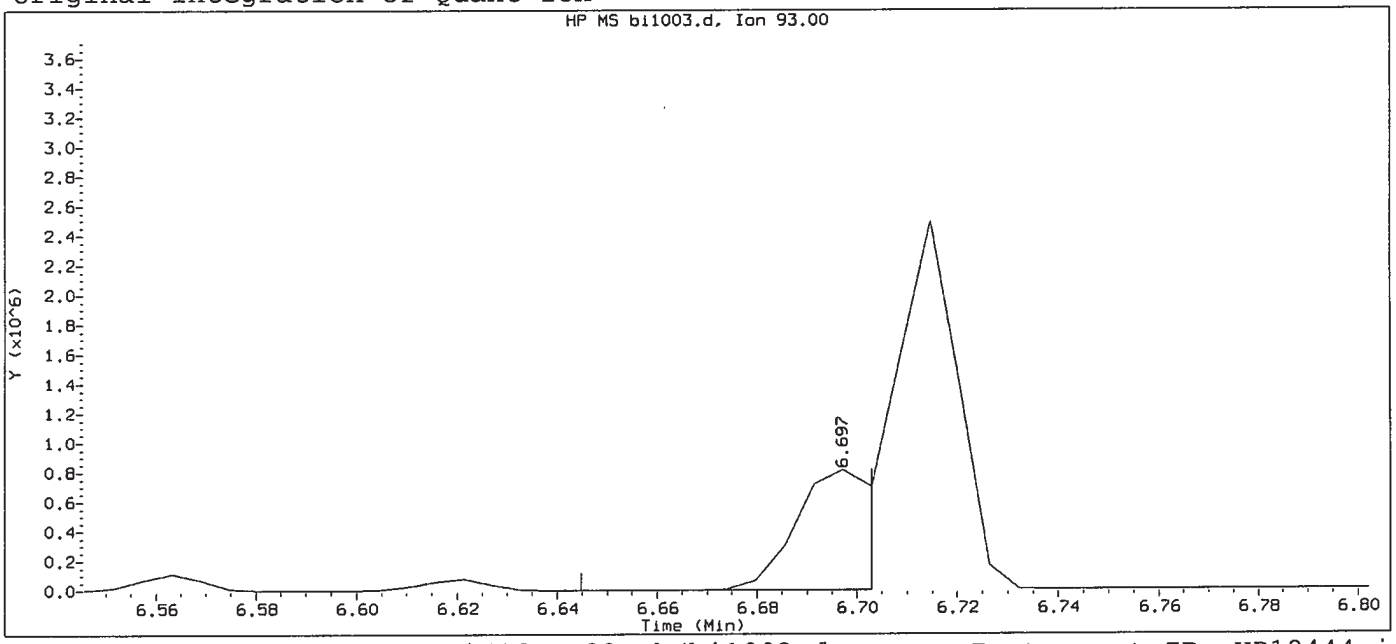
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1003.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:10 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:30
Date, time and analyst ID of latest file update: 23-Sep-2015 08:30 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compound Number	: 55		
Compound Name	: bis(2-Chloroethoxy)methane		
Scan Number	: 791		
Retention Time (minutes)	: 6.697		
Quant Ion	: 93.00		
Area	: 789213		
On-column Amount (ng/ul)	: 35.4476		
Integration start scan	: 781	Integration stop scan:	791
Y at integration start	: 439	Y at integration end:	439

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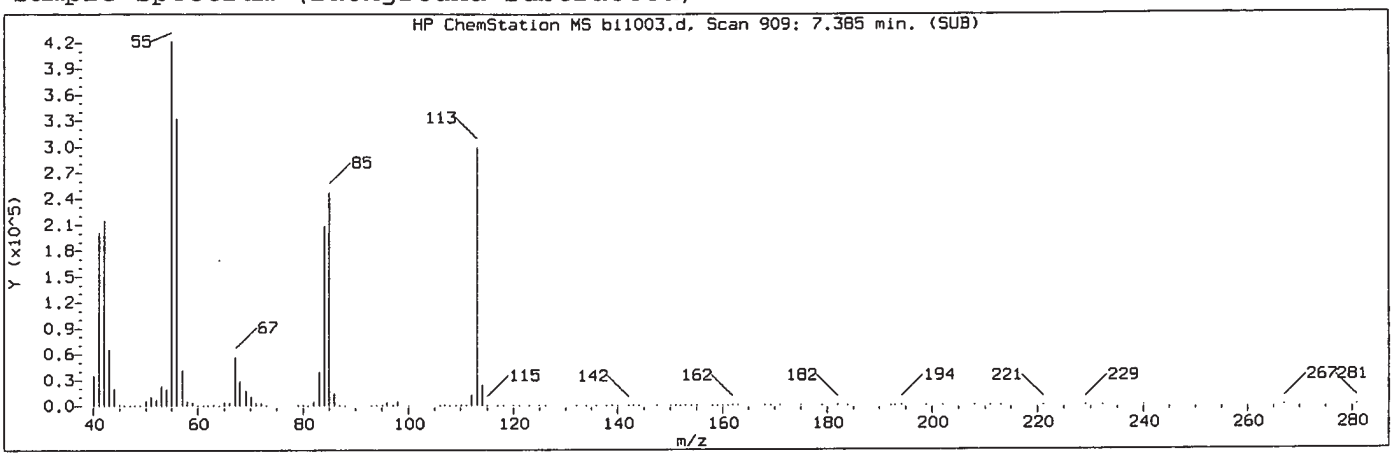
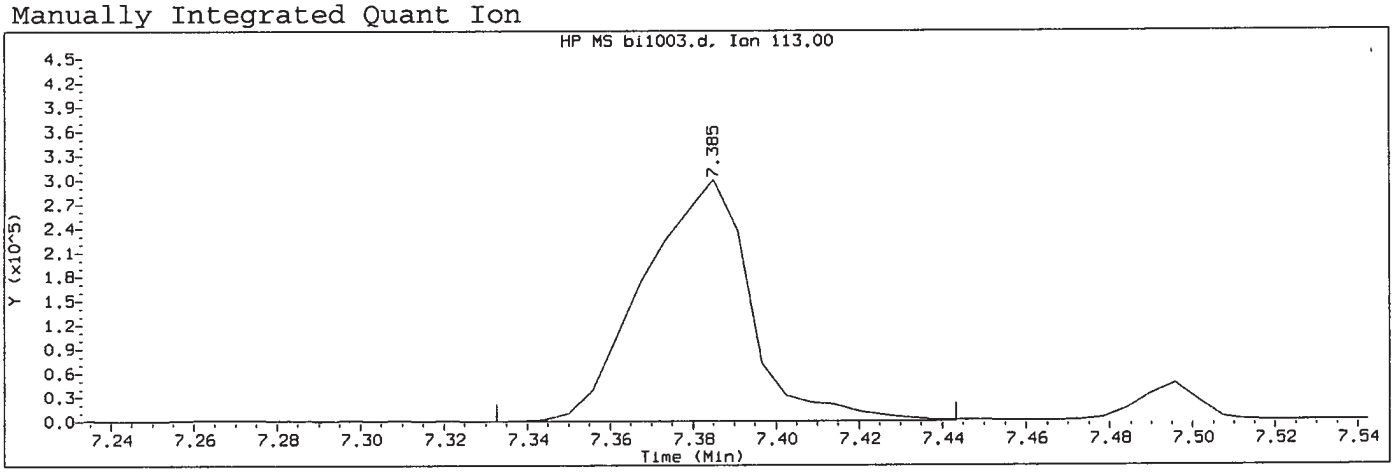
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1003.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:10 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compound Number	: 76		
Compound Name	: Caprolactam		
Scan Number	: 909		
Retention Time (minutes)	: 7.385		
Quant Ion	: 113.00		
Area (flag)	: 536781M		
On-Column Amount (ng/ul)	: 116.3906		
Integration start scan	: 899	Integration stop scan:	918
Y at integration start	: 134	Y at integration end:	134

Reason for manual integration: improper integration

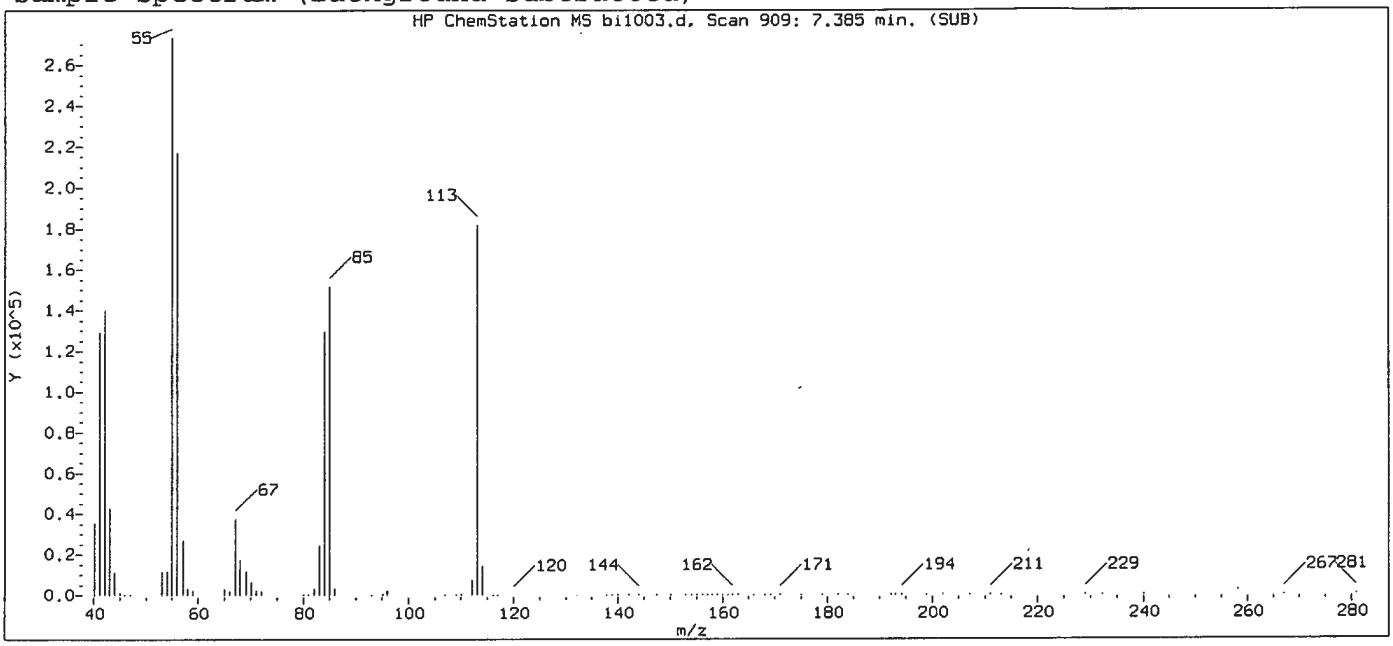
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:11. Target 3.5 signature user ID: lmh00956

SEP 23 2015

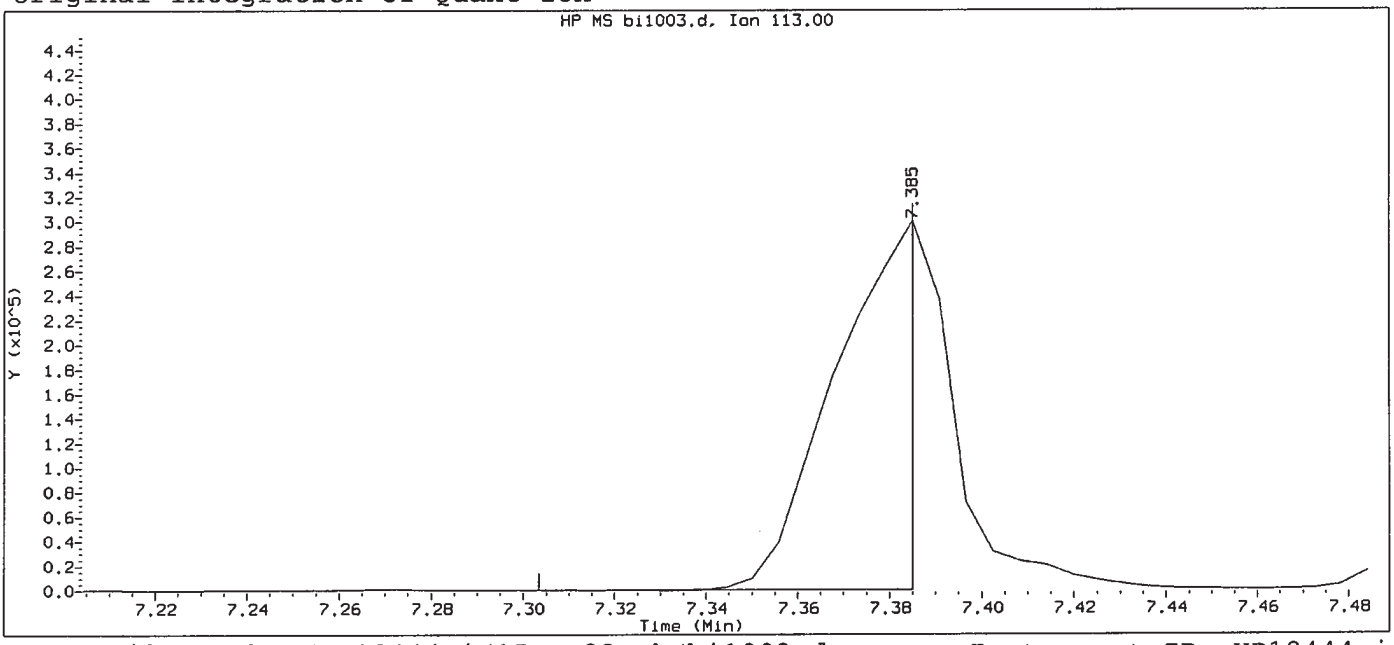
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1003.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:10 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:30
Date, time and analyst ID of latest file update: 23-Sep-2015 08:30 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compound Number	: 76		
Compound Name	: Caprolactam		
Scan Number	: 909		
Retention Time (minutes)	: 7.385		
Quant Ion	: 113.00		
Area	: 339575		
On-column Amount (ng/ul)	: 69.3727		
Integration start scan	: 894	Integration stop scan:	908
Y at integration start	: 275	Y at integration end:	275

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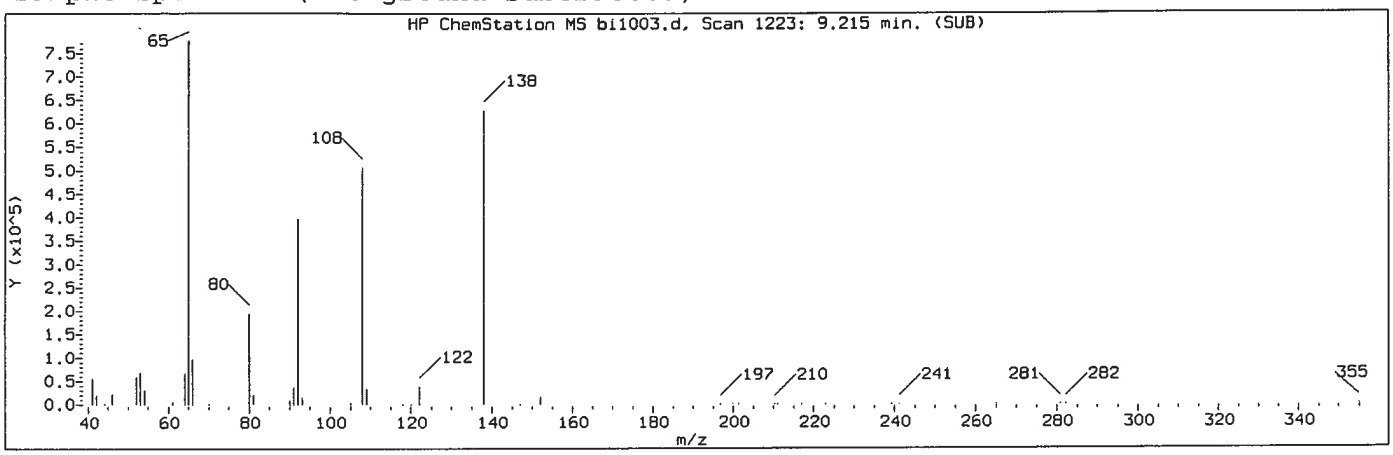
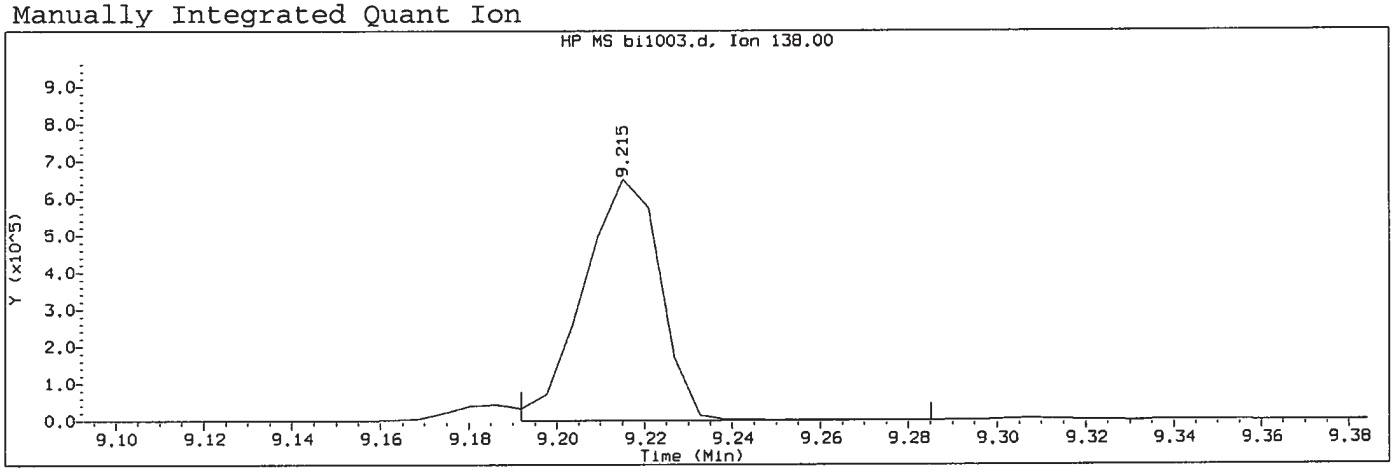
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1003.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:10 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compound Number	: 129		
Compound Name	: 4-Nitroaniline		
Scan Number	: 1223		
Retention Time (minutes)	: 9.215		
Quant Ion	: 138.00		
Area (flag)	: 793327A		
On-Column Amount (ng/ul)	: 119.6643		
Integration start scan	: 1218	Integration stop scan:	1234
Y at integration start	: 0	Y at integration end:	0

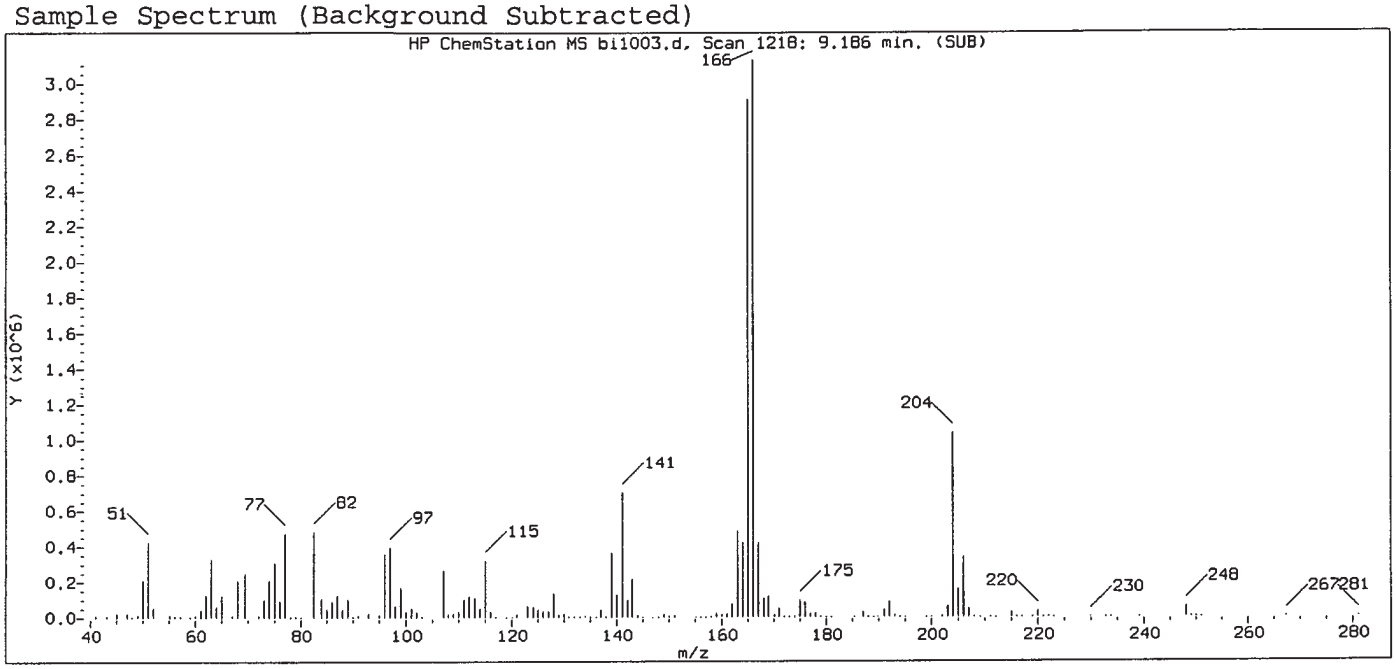
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:11.
Target ~~3.5 signature user ID:~~ lmh00956

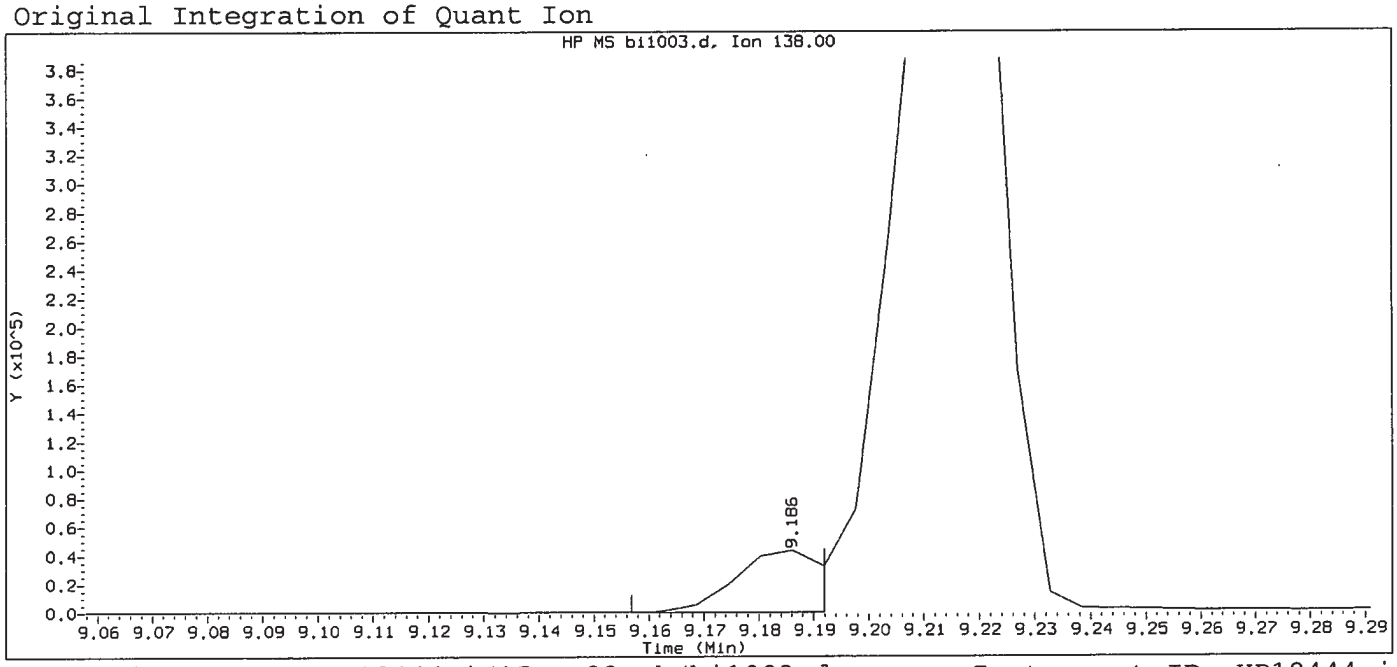
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1003.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:10 Analyst ID: whs02991

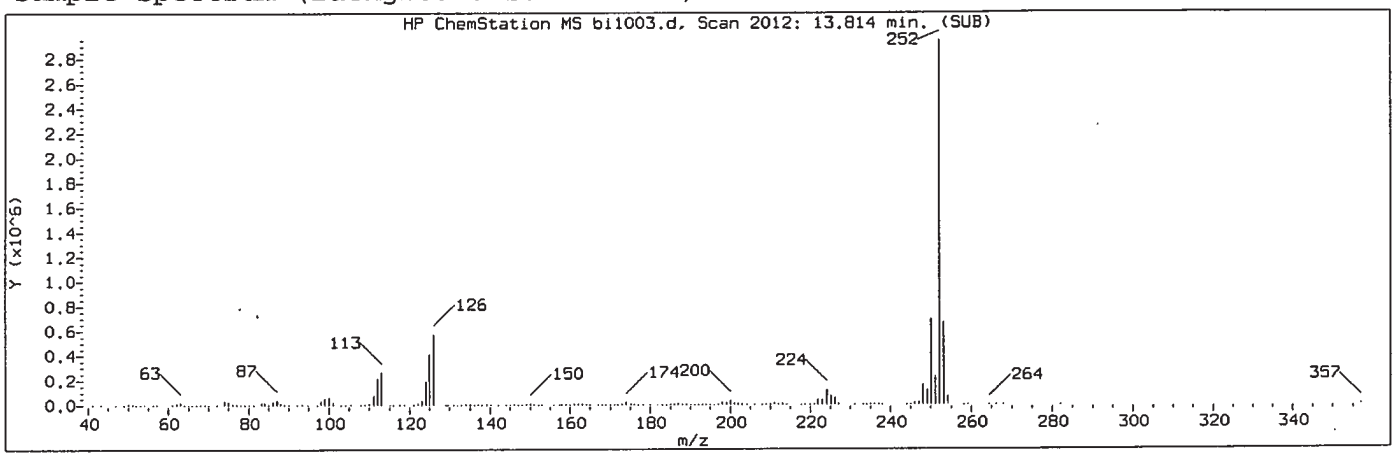
Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:30
Date, time and analyst ID of latest file update: 23-Sep-2015 08:30 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

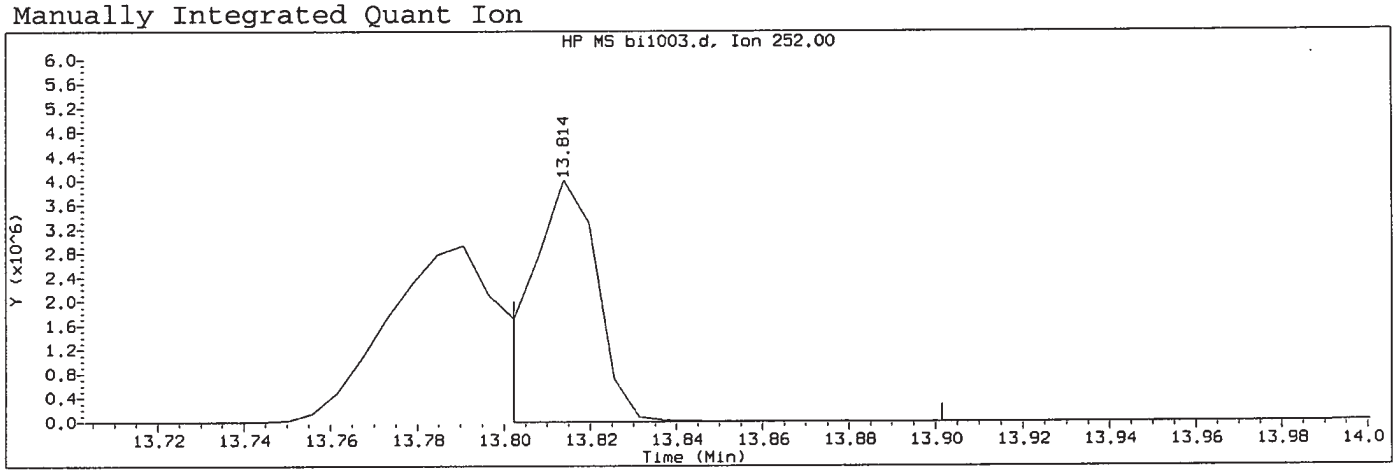
Compound Number	: 129		
Compound Name	: 4-Nitroaniline		
Scan Number	: 1218		
Retention Time (minutes)	: 9.186		
Quant Ion	: 138.00		
Area	: 43853		
On-column Amount (ng/ul)	: 6.5713		
Integration start scan	: 1212	Integration stop scan:	1218
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:11.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1003.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:10 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2012		
Retention Time (minutes)	: 13.814		
Quant Ion	: 252.00		
Area (flag)	: 4133761A		
On-Column Amount (ng/ul)	: 111.7754		
Integration start scan	: 2009	Integration stop scan:	2026
Y at integration start	: 0	Y at integration end:	0

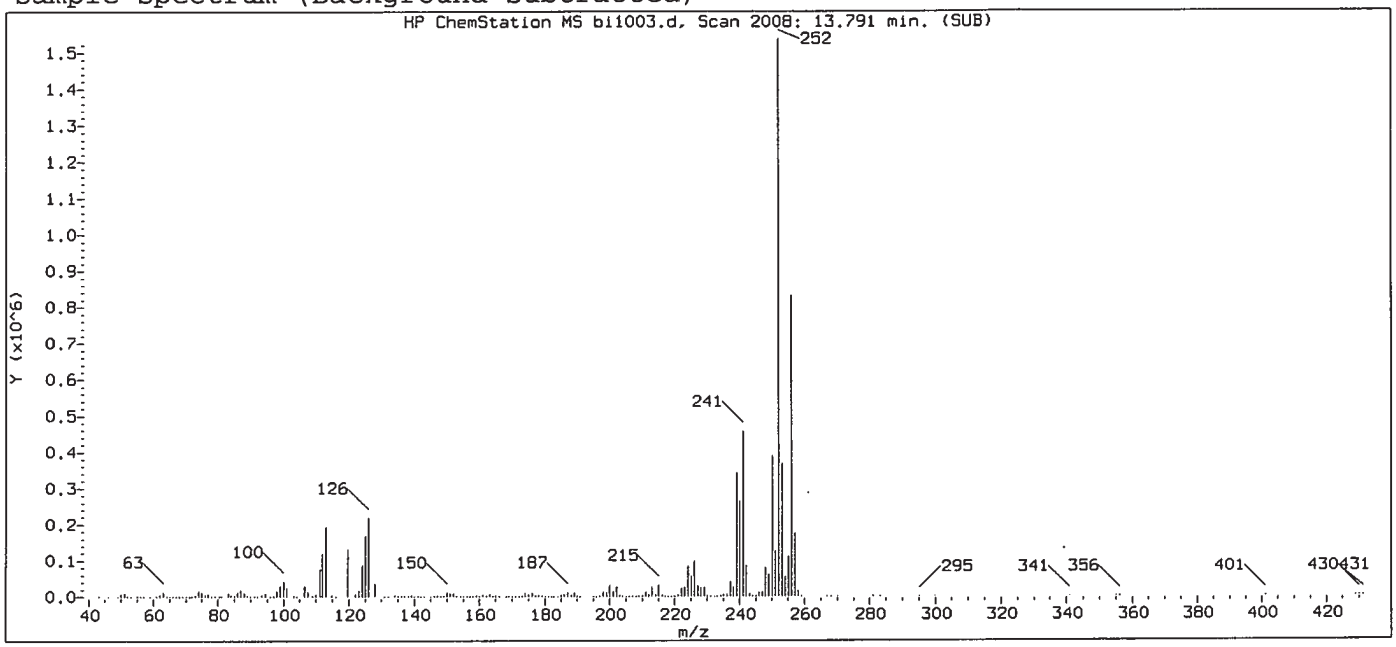
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:11. Target 3.5 esignature user ID: lmh00956

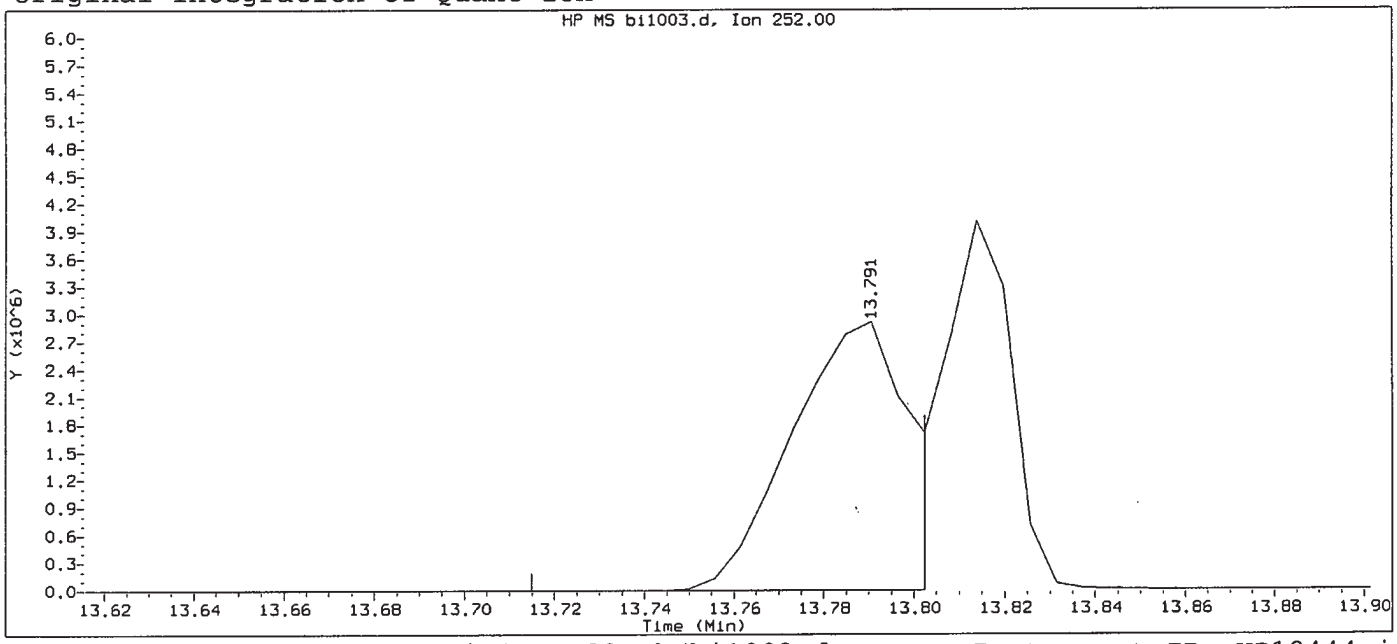
SEP 23 2015

GC/MS audit/management approval: Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



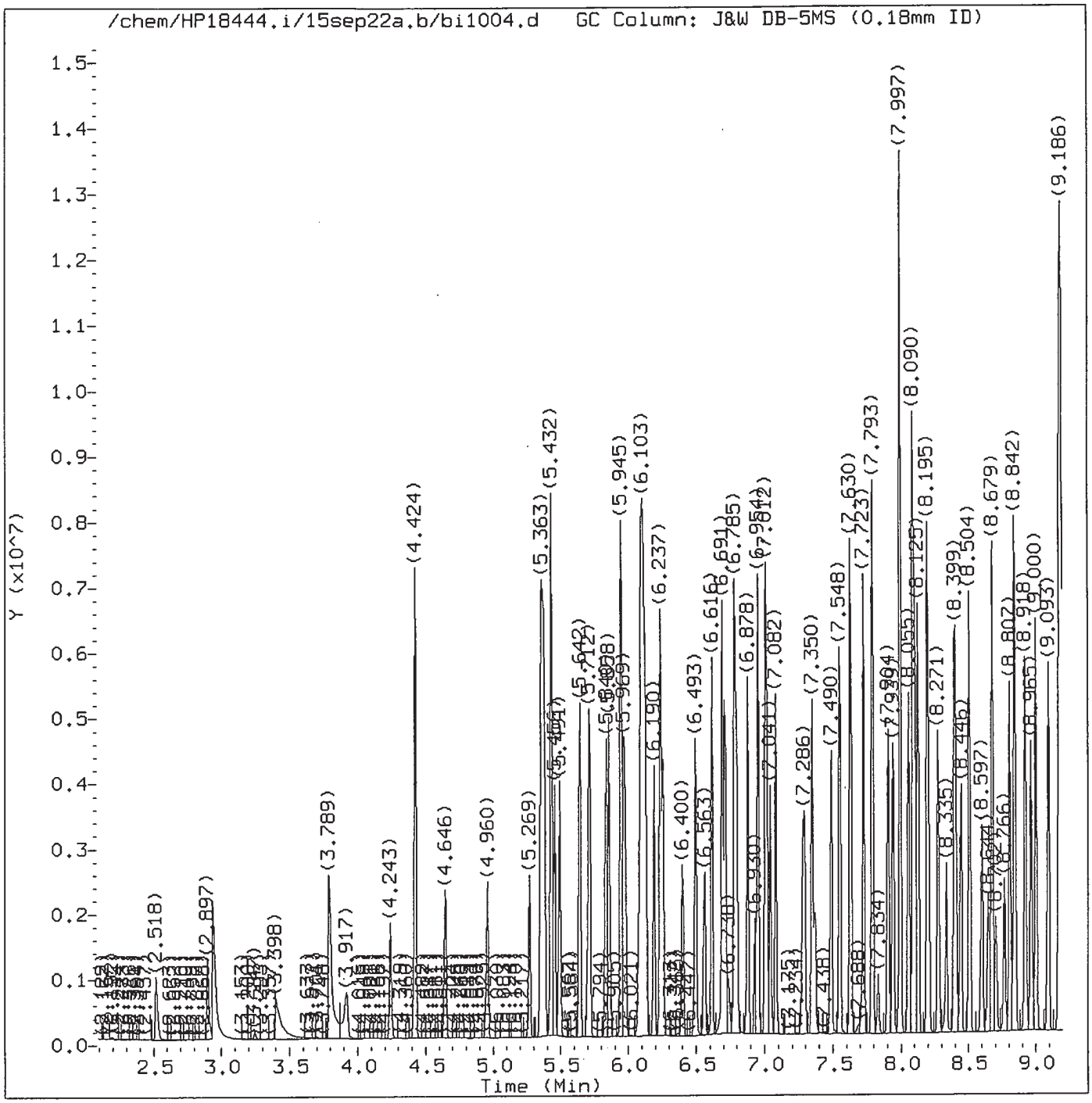
Data File: /chem/HP18444.i/15sep22a.b/bi1003.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:10 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:30
Date, time and analyst ID of latest file update: 23-Sep-2015 08:30 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2008		
Retention Time (minutes)	: 13.791		
Quant Ion	: 252.00		
Area	: 5047689		
On-column Amount (ng/ul)	: 3.9003		
Integration start scan	: 1994	Integration stop scan:	2009
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:11.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

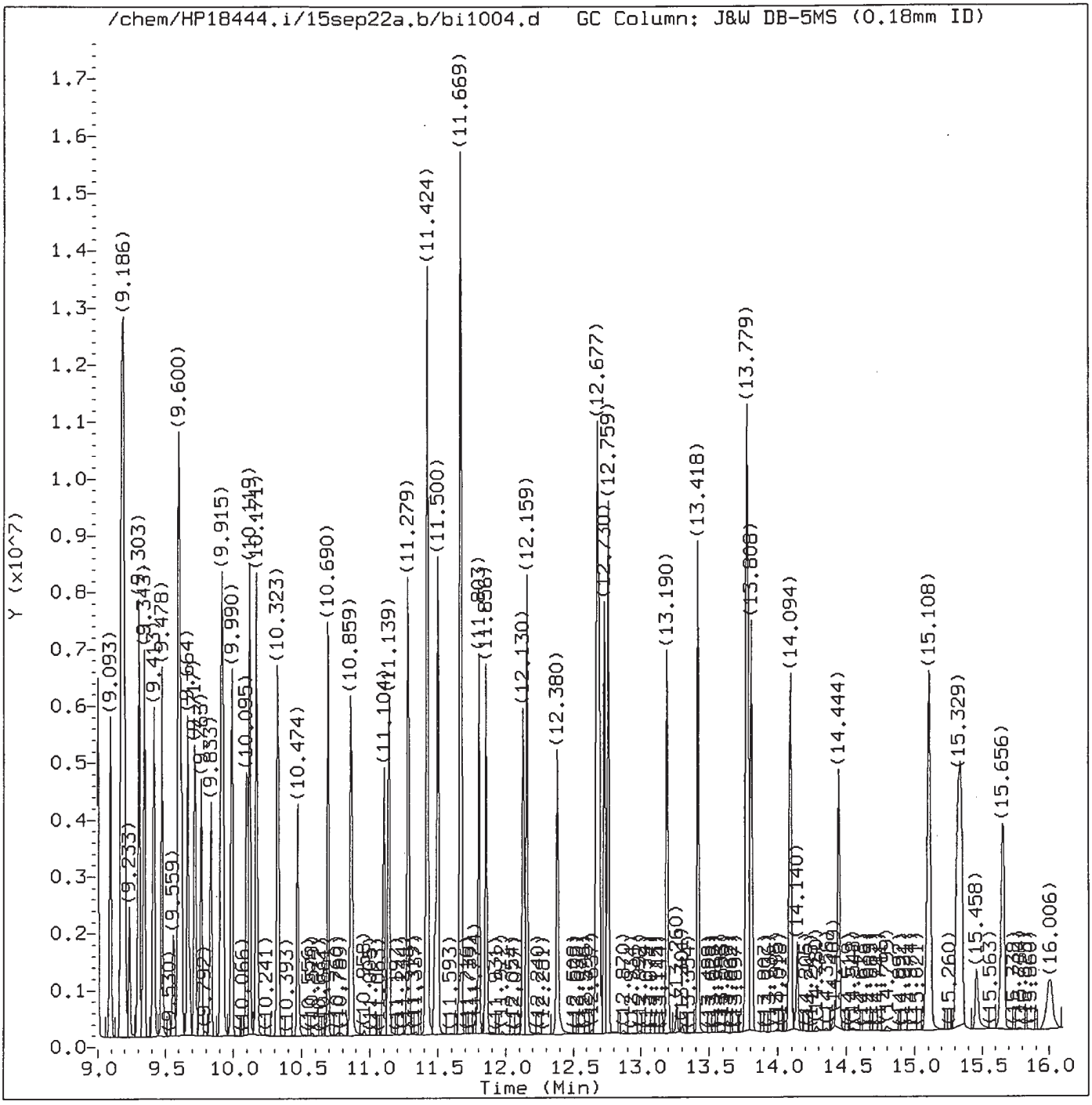
Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1004.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:32 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:11.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1004.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:32 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:11.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1004.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:32 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.518	88	469570	76.735
4) N-Nitrosodimethylamine	(1)	2.897	74	796565	77.918
5) Pyridine	(1)	2.944	79	1345685	79.392
7) 2-Picoline	(1)	3.795	93	1340589	77.729
8) N-Nitrosomethylethylamine	(1)	3.917	88	601648	77.620
9) Methyl methanesulfonate	(1)	4.243	80	689908	77.850
11)$2-Fluorophenol	(1)	4.424	112	2043284	154.809
13) N-Nitrosodiethylamine	(1)	4.646	102	589474	78.526
15) Ethyl methanesulfonate	(1)	4.960	109	582918	78.433
17)$Phenol-d6	(1)	5.357	99	2808405	156.134
18) Phenol	(1)	5.368	94	1648331	78.138
19) Aniline	(1)	5.380	93	1880174	77.605
20) a-methylstyrene	(1)	5.432	118	1093890	78.410
22) bis(2-Chloroethyl)ether	(1)	5.456	93	1226953	78.030
23) 2-Chlorophenol	(1)	5.491	128	1032259	78.397
24) 1,3-Dichlorobenzene	(1)	5.642	146	1071261	78.615
25)*1,4-Dichlorobenzene-d4	(1)	5.701	152	176992	20.000
26) 1,4-Dichlorobenzene	(1)	5.712	146	1084794	78.481
27) Benzyl alcohol	(1)	5.840	108	770312	77.534
28) 1,2-Dichlorobenzene	(1)	5.858	146	1026061	78.537
30) Indene	(1)	5.945	115	1832966	77.381
31) 2-Methylphenol	(1)	5.969	108	1046536	77.993
33) 2,2'-oxybis(1-Chloropropane)	(1)	5.980	45	1369098	79.105
34) bis(2-Chloroisopropyl)ether	(1)	5.980	45	1369098	79.105
35) N-Nitrosopyrrolidine	(1)	6.079	100	614569	77.534
36) Acetophenone	(1)	6.091	105	1606716	77.132
37) 4-Methylphenol	(1)	6.103	108	1214052	81.113
39) N-Nitrosomorpholine	(1)	6.114	56	685974	78.262
38) N-Nitroso-di-n-propylamine	(1)	6.114	70	964729	77.958
40) o-Toluidine	(1)	6.126	106	1781558	78.144
43) Hexachloroethane	(1)	6.190	117	467250	78.150
44)$Nitrobenzene-d5	(2)	6.237	82	2639454	157.230
45) Nitrobenzene	(2)	6.254	77	1326692	78.214
48) N-Nitrosopiperidine	(2)	6.400	114	559891	78.233
50) Isophorone	(2)	6.493	82	2506858	77.483
51) 2-Nitrophenol	(2)	6.563	139	486360	80.394
53) 2,4-Dimethylphenol	(2)	6.616	107	1166710	77.096
42) Total Cresols	(1)			2260588	159.105
57) O,O,O-Triethylphosphorothioate	(2)	6.691	198	538992	79.096
55) bis(2-Chloroethoxy)methane	(2)	6.709	93	1495798	79.773

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1004.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:32 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	6.738	105	929377	79.780
59) 1,2,3,4-Tetrahydronaphthalene	(2)	6.779	104	1693803	78.324
60) 2,4-Dichlorophenol	(2)	6.796	162	817921	77.115
62) 1,2,4-Trichlorobenzene	(2)	6.878	180	932858	77.335
65)*Naphthalene-d8	(2)	6.930	136	702912	20.000
66) Naphthalene	(2)	6.954	128	2854094	76.098
67) 4-Chloroaniline	(2)	7.006	127	1251322	76.494
68) 2,6-Dichlorophenol	(2)	7.018	162	799082	76.989
69) Hexachloropropene	(2)	7.041	213	625901	79.228
71) Hexachlorobutadiene	(2)	7.082	225	540982	78.202
75) Quinoline	(2)	7.286	129	1891527	77.186
77) N-Nitrosodi-n-butylamine	(2)	7.350	84	1147203	82.482
76) Caprolactam	(2)	7.368	113	350476	76.204
80) 4-Chloro-3-methylphenol	(2)	7.490	107	1027742	77.552
82) Safrole	(2)	7.548	162	774358	77.285
83) 2-Methylnaphthalene	(2)	7.630	142	1978072	77.187
84) 1-Methylnaphthalene	(2)	7.723	142	1790118	74.919
85) Hexachlorocyclopentadiene	(3)	7.787	237	572887	79.173
86) 1,2,4,5-Tetrachlorobenzene	(3)	7.793	216	961960	80.270
88) cis-Isosafrole	(3)	7.834	162	142701	13.418
90) 2,4,6-Trichlorophenol	(3)	7.904	196	613835	80.213
92) 2,4,5-Trichlorophenol	(3)	7.939	196	661784	79.522
93)$2-Fluorobiphenyl	(3)	7.997	172	4169747	158.077
94) trans-Isosafrole	(3)	8.055	162	757911	64.936
95) 1,1'-Biphenyl	(3)	8.090	154	2357596	78.938
96) 2-Chloronaphthalene	(3)	8.102	162	1804148	76.709
98) 1-Chloronaphthalene	(3)	8.125	162	1771927	80.756
99) Diphenyl ether	(3)	8.195	170	1260280	77.765
100) 2-Nitroaniline	(3)	8.201	138	554849	80.581
104) 1,4-Naphthoquinone	(3)	8.271	158	770990	78.951
105) 1,4-Dinitrobenzene	(3)	8.335	168	266904	82.492
106) Dimethylphthalate	(3)	8.393	163	2152637	78.552
107) 1,3-Dinitrobenzene	(3)	8.411	168	318249	82.168
108) 2,6-Dinitrotoluene	(3)	8.446	165	472028	80.322
109) Acenaphthylene	(3)	8.504	152	2843782	76.225
112) 3-Nitroaniline	(3)	8.603	138	499383	80.095
97) Isosafrole	(3)			900612	78.354
113)*Acenaphthene-d10	(3)	8.644	164	398607	20.000
114) Acenaphthene	(3)	8.679	153	1900302	77.009
115) 2,4-Dinitrophenol	(3)	8.702	184	216016	84.140

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1004.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:32 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
116) 4-Nitrophenol	(3)	8.766	109	318574	79.649
117) Pentachlorobenzene	(3)	8.807	250	819579	78.773
118) 2,4-Dinitrotoluene	(3)	8.836	165	624671	80.842
119) Dibenzofuran	(3)	8.848	168	2519841	78.348
121) 1-Naphthylamine	(3)	8.924	143	1947688	77.079
122) 2,3,4,6-Tetrachlorophenol	(3)	8.965	232	533882	78.448
123) 2-Naphthylamine	(3)	9.000	143	1914856	77.117
124) Diethylphthalate	(3)	9.093	149	2108163	78.374
125) Thionazin	(3)	9.174	107	459846	82.148
126) Fluorene	(3)	9.180	166	2109453	76.191
127) 4-Chlorophenyl-phenylether	(3)	9.186	204	1061147	78.507
128) 5-Nitro-o-toluidine	(3)	9.192	152	557853	78.472
129) 4-Nitroaniline	(3)	9.204	138	526815	79.049
130) 4,6-Dinitro-2-methylphenol	(4)	9.233	198	299976	83.641
132) NDPA as diphenylamine	(4)	9.303	169	1795955	78.117
131) N-Nitrosodiphenylamine	(4)	9.303	169	1795955	78.117
134) 1,2-Diphenylhydrazine	(4)	9.343	77	2727853	79.341
120) 2,4_2,6-Dinitrotoluenes	(3)			1096699	161.163
135)$2,4,6-Tribromophenol	(3)	9.413	330	531863	156.395
137) Tetraethyldithiopyrophosphate	(4)	9.478	97	438152	79.414
139) 1,3,5-Trinitrobenzene	(4)	9.559	213	189853	81.790
140) Diallate (peak 1)	(4)	9.594	86	1029277	65.257
141) Phorate	(4)	9.600	75	1754441	79.230
142) Phenacetin	(4)	9.617	108	1240156	77.314
143) 4-Bromophenyl-phenylether	(4)	9.664	248	617368	79.868
144) Diallate (peak 2)	(4)	9.676	86	210381	13.452
145) Hexachlorobenzene	(4)	9.717	284	618692	77.758
147) Dimethoate	(4)	9.763	87	1000479	77.820
149) Pentachlorophenol	(4)	9.909	266	374587	79.162
150) 4-Aminobiphenyl	(4)	9.915	169	1648234	70.635
151) Pentachloronitrobenzene	(4)	9.926	237	271292	78.021
152) Pronamide	(4)	9.990	173	983165	77.907
153)*Phenanthrene-d10	(4)	10.095	188	733953	20.000
154) Dinoseb	(4)	10.101	211	458111	83.540
155) Phenanthrene	(4)	10.119	178	2987654	75.978
157) Anthracene	(4)	10.171	178	3032843	76.776
146) Diallate trans/cis	(4)			1239658	78.710
163) Carbazole	(4)	10.329	167	2694419	75.701
164) Methyl parathion	(4)	10.474	109	708071	80.803
165) Di-n-butylphthalate	(4)	10.690	149	3472321	77.770

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$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1004.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:32 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	10.859	109	471906	80.593
168) 4-Nitroquinoline-1-oxide	(4)	10.871	190	259287	82.298
169) Octachlorostyrene	(4)	11.104	308	237889	78.612
171) Isodrin	(4)	11.139	193	368133	77.317
173) Fluoranthene	(4)	11.279	202	3301168	75.702
174) Benzidine	(5)	11.424	184	5484135	233.800
175)*Pyrene-d10	(5)	11.483	212	814558	20.000
177) Pyrene	(5)	11.500	202	3341878	77.465
179)$Terphenyl-d14	(5)	11.669	244	4536096	155.748
182) p-Dimethylaminoazobenzene	(5)	11.803	225	710041	78.531
185) Chlorobenzilate	(5)	11.856	139	1023291	79.784
187) 3,3'-Dimethylbenzidine	(5)	12.130	212	1865646	76.704
188) Butylbenzylphthalate	(5)	12.159	149	1482024	78.065
191) 2-Acetylaminofluorene	(5)	12.380	181	1352034	78.504
193) 3,3'-Dichlorobenzidine	(5)	12.672	252	1169524	75.942
198) 4,4'-Methylenebis(2-chloroanil	(5)	12.677	231	654209	77.140
195) Benzo(a)anthracene	(5)	12.695	228	3149414	77.967
196) Chrysene	(5)	12.730	228	2863318	76.944
199) bis(2-Ethylhexyl)phthalate	(5)	12.759	149	2145690	78.204
203) 6-Methylchrysene	(5)	13.190	242	2109042	75.893
205) Di-n-octylphthalate	(6)	13.418	149	3588415	80.125
206) Benzo(b)fluoranthene	(6)	13.779	252	2859480	74.619
207) 7,12-Dimethylbenz[a]anthracene	(6)	13.779	256	1408427	79.137
208) Benzo(k)fluoranthene	(6)	13.808	252	3000759	82.785
211) Benzo(a)pyrene	(6)	14.094	252	2763903	75.774
213)*Perylene-d12	(6)	14.140	264	568718	20.000
215) 3-Methylcholanthrene	(6)	14.444	268	1351305	79.326
219) Indeno(1,2,3-cd)pyrene	(6)	15.324	276	3047706	80.891
220) Dibenz(a,h)anthracene	(6)	15.347	278	2495771	80.975
221) Benzo(g,h,i)perylene	(6)	15.662	276	2497089	80.092
222) Total PAHs	(6)			42956565	1236.194

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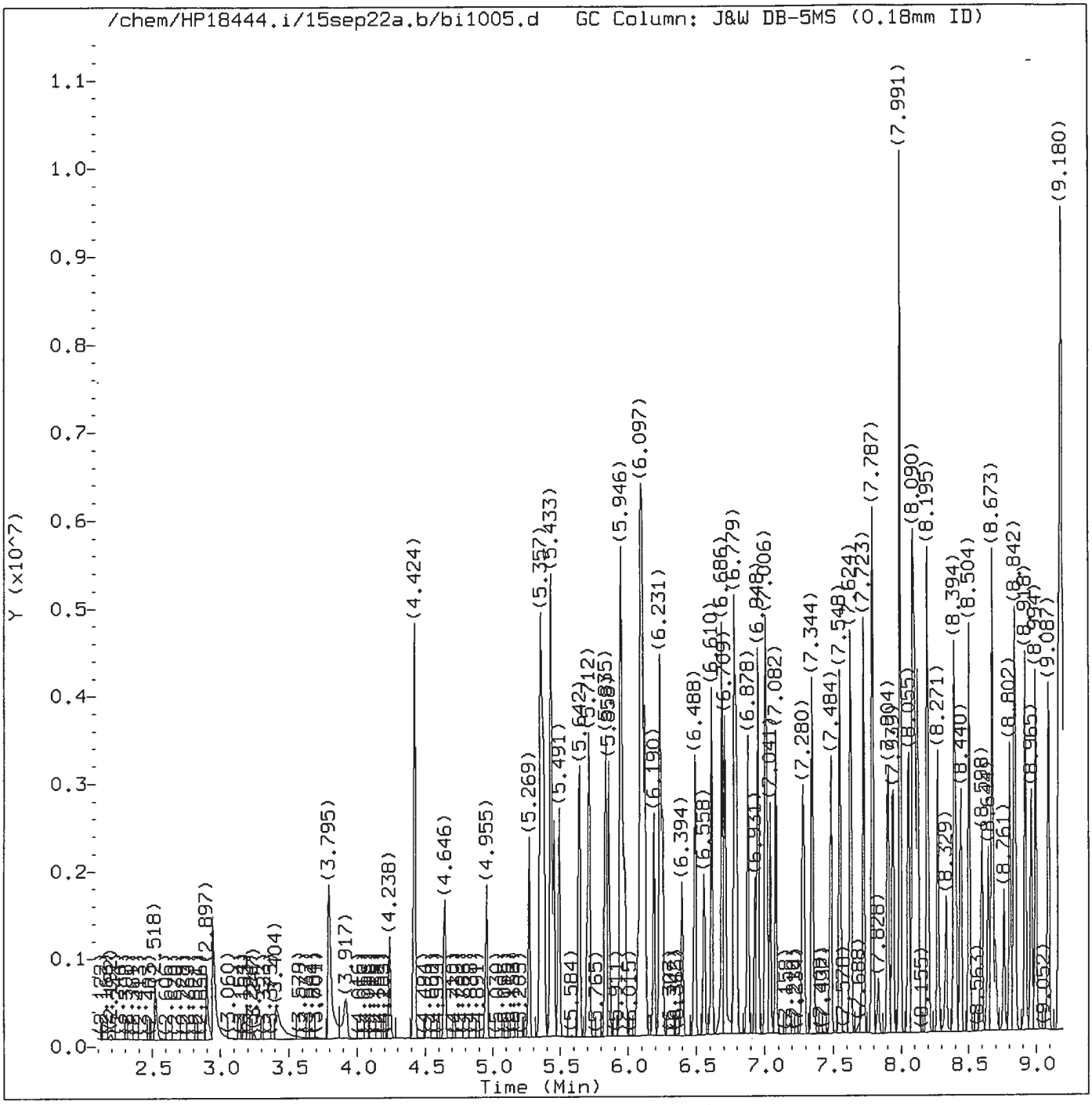
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1005.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:54 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

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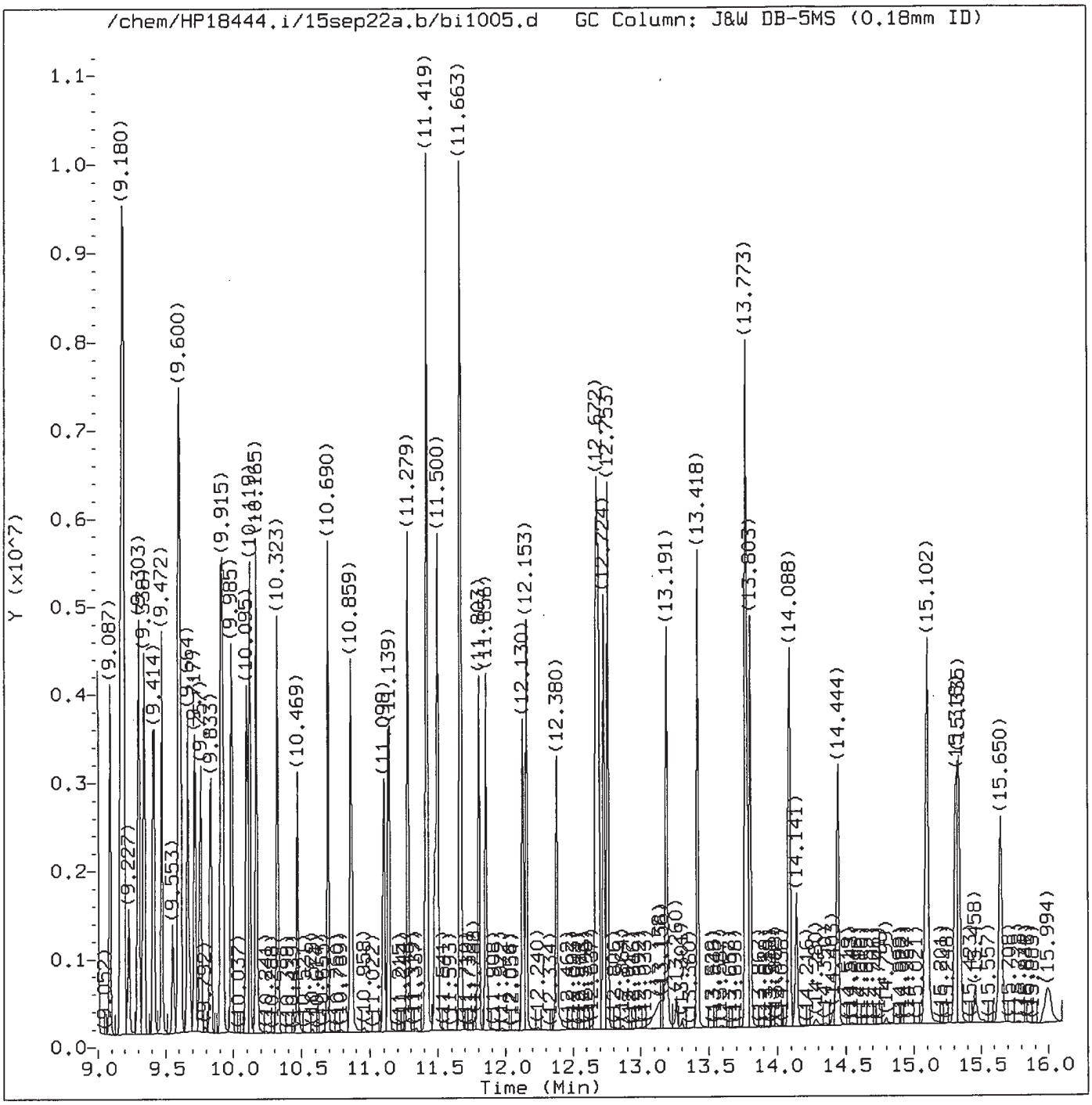
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1005.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:54 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

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on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1005.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:54 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.518	88	304284	49.771
4) N-Nitrosodimethylamine	(1)	2.897	74	508892	49.811
5) Pyridine	(1)	2.944	79	810050	48.303
7) 2-Picoline	(1)	3.795	93	864908	50.089
8) N-Nitrosomethylethylamine	(1)	3.917	88	389389	50.154
9) Methyl methanesulfonate	(1)	4.244	80	448721	50.452
11)$2-Fluorophenol	(1)	4.424	112	1340616	101.129
13) N-Nitrosodiethylamine	(1)	4.646	102	386323	51.067
15) Ethyl methanesulfonate	(1)	4.955	109	384911	51.309
17)$Phenol-d6	(1)	5.351	99	1847020	101.956
18) Phenol	(1)	5.363	94	1093782	51.352
19) Aniline	(1)	5.374	93	1232857	50.640
20) a-methylstyrene	(1)	5.433	118	712138	50.758
22) bis(2-Chloroethyl)ether	(1)	5.450	93	803540	50.800
23) 2-Chlorophenol	(1)	5.491	128	666951	50.466
24) 1,3-Dichlorobenzene	(1)	5.642	146	691844	50.554
25)*1,4-Dichlorobenzene-d4	(1)	5.695	152	177097	20.000
26) 1,4-Dichlorobenzene	(1)	5.712	146	712345	51.120
27) Benzyl alcohol	(1)	5.835	108	503645	50.496
28) 1,2-Dichlorobenzene	(1)	5.858	146	667332	50.782
30) Indene	(1)	5.946	115	1208042	50.723
31) 2-Methylphenol	(1)	5.957	108	687038	50.873
33) 2,2'-oxybis(1-Chloropropane)	(1)	5.975	45	898094	51.382
34) bis(2-Chloroisopropyl)ether	(1)	5.975	45	898094	51.382
35) N-Nitrosopyrrolidine	(1)	6.068	100	409987	51.259
36) Acetophenone	(1)	6.091	105	1065849	50.848
37) 4-Methylphenol	(1)	6.097	108	807294	52.872
38) N-Nitroso-di-n-propylamine	(1)	6.103	70	640162	51.264
39) N-Nitrosomorpholine	(1)	6.109	56	452622	51.197
40) o-Toluidine	(1)	6.126	106	1183670	51.403
43) Hexachloroethane	(1)	6.190	117	306641	50.937
44)$Nitrobenzene-d5	(2)	6.231	82	1752009	101.745
45) Nitrobenzene	(2)	6.249	77	885068	50.869
48) N-Nitrosopiperidine	(2)	6.394	114	365362	50.046
50) Isophorone	(2)	6.488	82	1676373	50.604
51) 2-Nitrophenol	(2)	6.558	139	312186	50.450
53) 2,4-Dimethylphenol	(2)	6.610	107	773262	50.079
42) Total Cresols	(1)			1494332	103.745
57) O,O,O-Triethylphosphorothioate	(2)	6.686	198	344678	49.699
55) bis(2-Chloroethoxy)methane	(2)	6.709	93	1027126	52.736

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$ = Compound is a surrogate standard.

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on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1005.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:54 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	6.715	105	602175	50.515
59) 1,2,3,4-Tetrahydronaphthalene	(2)	6.779	104	1106062	50.115
60) 2,4-Dichlorophenol	(2)	6.796	162	543912	50.214
62) 1,2,4-Trichlorobenzene	(2)	6.878	180	613722	49.918
65)*Naphthalene-d8	(2)	6.931	136	716821	20.000
66) Naphthalene	(2)	6.948	128	1890994	49.552
67) 4-Chloroaniline	(2)	7.006	127	833781	49.986
68) 2,6-Dichlorophenol	(2)	7.012	162	534955	50.405
69) Hexachloropropene	(2)	7.041	213	404716	50.176
71) Hexachlorobutadiene	(2)	7.082	225	357808	50.538
75) Quinoline	(2)	7.280	129	1256324	50.203
77) N-Nitrosodi-n-butylamine	(2)	7.344	84	767131	53.003
76) Caprolactam	(2)	7.356	113	227104	48.807
80) 4-Chloro-3-methylphenol	(2)	7.484	107	679493	50.209
82) Safrole	(2)	7.548	162	515556	50.342
83) 2-Methylnaphthalene	(2)	7.630	142	1325778	50.582
84) 1-Methylnaphthalene	(2)	7.723	142	1191703	49.121
85) Hexachlorocyclopentadiene	(3)	7.787	237	379581	50.173
86) 1,2,4,5-Tetrachlorobenzene	(3)	7.793	216	631011	50.313
88) cis-Isosafrole	(3)	7.834	162	94272	8.491
90) 2,4,6-Trichlorophenol	(3)	7.904	196	401555	50.184
92) 2,4,5-Trichlorophenol	(3)	7.939	196	431735	49.756
93)$2-Fluorobiphenyl	(3)	7.991	172	2818280	101.719
94) trans-Isosafrole	(3)	8.055	162	507989	41.631
95) 1,1'-Biphenyl	(3)	8.085	154	1573983	50.346
96) 2-Chloronaphthalene	(3)	8.102	162	1416325M	55.535
98) 1-Chloronaphthalene	(3)	8.120	162	1189708M	51.425
99) Diphenyl ether	(3)	8.190	170	858874	50.558
100) 2-Nitroaniline	(3)	8.201	138	371352	51.221
104) 1,4-Naphthoquinone	(3)	8.271	158	519330	50.689
105) 1,4-Dinitrobenzene	(3)	8.335	168	171142	50.485
106) Dimethylphthalate	(3)	8.394	163	1446330	50.402
107) 1,3-Dinitrobenzene	(3)	8.405	168	209011	51.244
108) 2,6-Dinitrotoluene	(3)	8.440	165	312870	50.730
109) Acenaphthylene	(3)	8.504	152	1909080	49.195
112) 3-Nitroaniline	(3)	8.598	138	327918	50.270
97) Isosafrole	(3)			602261	50.122
113)*Acenaphthene-d10	(3)	8.644	164	416284	20.000
114) Acenaphthene	(3)	8.673	153	1259404	49.092
115) 2,4-Dinitrophenol	(3)	8.702	184	134953	50.249

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1005.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:54 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
116) 4-Nitrophenol	(3)	8.761	109	206872	49.643
117) Pentachlorobenzene	(3)	8.807	250	540805	49.828
118) 2,4-Dinitrotoluene	(3)	8.831	165	406106	50.243
119) Dibenzofuran	(3)	8.842	168	1720046	50.902
121) 1-Naphthylamine	(3)	8.918	143	1329151	50.275
122) 2,3,4,6-Tetrachlorophenol	(3)	8.965	232	352285	49.674
123) 2-Naphthylamine	(3)	8.994	143	1288538	49.767
124) Diethylphthalate	(3)	9.087	149	1401306	49.913
125) Thionazin	(3)	9.163	107	273792	47.587
126) Fluorene	(3)	9.180	166	1422481	49.355
127) 4-Chlorophenyl-phenylether	(3)	9.186	204	713781	50.423
128) 5-Nitro-o-toluidine	(3)	9.192	152	369341	49.811
129) 4-Nitroaniline	(3)	9.198	138	344511	49.623
130) 4,6-Dinitro-2-methylphenol	(4)	9.227	198	186834	50.250
132) NDPA as diphenylamine	(4)	9.303	169	1208282	50.582
131) N-Nitrosodiphenylamine	(4)	9.303	169	1208282	50.582
134) 1,2-Diphenylhydrazine	(4)	9.338	77	1826437	50.989
120) 2,4_2,6-Dinitrotoluenes	(3)			718976	100.973
135)$2,4,6-Tribromophenol	(3)	9.414	330	354450	99.850
137) Tetraethyldithiopyrophosphate	(4)	9.472	97	292549	50.918
139) 1,3,5-Trinitrobenzene	(4)	9.553	213	119412	49.778
140) Diallate (peak 1)	(4)	9.594	86	704335	42.723
141) Phorate	(4)	9.600	75	1186350	51.312
142) Phenacetin	(4)	9.612	108	807599	48.977
143) 4-Bromophenyl-phenylether	(4)	9.664	248	402033	50.189
144) Diallate (peak 2)	(4)	9.676	86	138010	8.520
145) Hexachlorobenzene	(4)	9.717	284	411059	49.933
147) Dimethoate	(4)	9.757	87	664860	49.975
149) Pentachlorophenol	(4)	9.909	266	242850	49.690
150) 4-Aminobiphenyl	(4)	9.915	169	1193874	49.621
151) Pentachloronitrobenzene	(4)	9.921	237	181179	50.258
152) Pronamide	(4)	9.985	173	645417	49.560
153)*Phenanthrene-d10	(4)	10.095	188	759626	20.000
154) Dinoseb	(4)	10.095	211	285485	50.225
155) Phenanthrene	(4)	10.119	178	2006024	49.431
157) Anthracene	(4)	10.165	178	2035956	49.838
146) Diallate trans/cis	(4)			842345	51.243
163) Carbazole	(4)	10.323	167	1823820	49.631
164) Methyl parathion	(4)	10.469	109	461291	50.644
165) Di-n-butylphthalate	(4)	10.690	149	2336401	50.419

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1005.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:54 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	10.859	109	308124	50.630
168) 4-Nitroquinoline-1-oxide	(4)	10.865	190	158557	48.962
169) Octachlorostyrene	(4)	11.104	308	158291	50.404
171) Isodrin	(4)	11.139	193	239966	49.015
173) Fluoranthene	(4)	11.279	202	2187790	48.772
174) Benzidine	(5)	11.419	184	3750379	154.376
175)*Pyrene-d10	(5)	11.477	212	835431	20.000
177) Pyrene	(5)	11.500	202	2209729	49.953
179)$Terphenyl-d14	(5)	11.663	244	3038172	101.277
182) p-Dimethylaminoazobenzene	(5)	11.803	225	459890	49.694
185) Chlorobenzilate	(5)	11.856	139	675068	50.983
187) 3,3'-Dimethylbenzidine	(5)	12.130	212	1239655	49.770
188) Butylbenzylphthalate	(5)	12.159	149	969095	49.828
191) 2-Acetylaminofluorene	(5)	12.380	181	830749	47.740
193) 3,3'-Dichlorobenzidine	(5)	12.666	252	745836	47.886
198) 4,4'-Methylenebis(2-chloroanil	(5)	12.678	231	418032	48.531
195) Benzo(a)anthracene	(5)	12.689	228	2038761	49.367
196) Chrysene	(5)	12.724	228	1888974	49.593
199) bis(2-Ethylhexyl)phthalate	(5)	12.753	149	1415371	50.222
203) 6-Methylchrysene	(5)	13.191	242	1343900	47.833
205) Di-n-octylphthalate	(6)	13.418	149	2326842	51.976
206) Benzo(b)fluoranthene	(6)	13.773	252	1996055	52.218
207) 7,12-Dimethylbenz[a]anthracene	(6)	13.773	256	889175	50.484
208) Benzo(k)fluoranthene	(6)	13.803	252	1730156	48.702
211) Benzo(a)pyrene	(6)	14.088	252	1727368	48.393
213)*Perylene-d12	(6)	14.141	264	561010	20.000
215) 3-Methylcholanthrene	(6)	14.444	268	846768	50.293
219) Indeno(1,2,3-cd)pyrene	(6)	15.312	276	1899729	50.888
220) Dibenz(a,h)anthracene	(6)	15.335	278	1552019	50.834
221) Benzo(g,h,i)perylene	(6)	15.650	276	1565750	50.725
222) Total PAHs	(6)			28111540	794.693

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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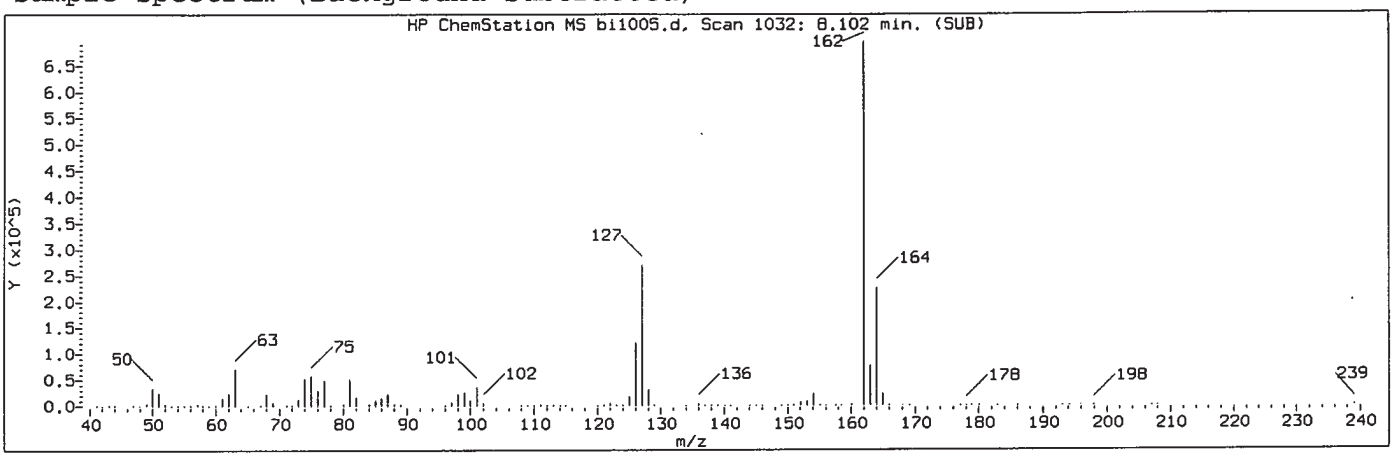
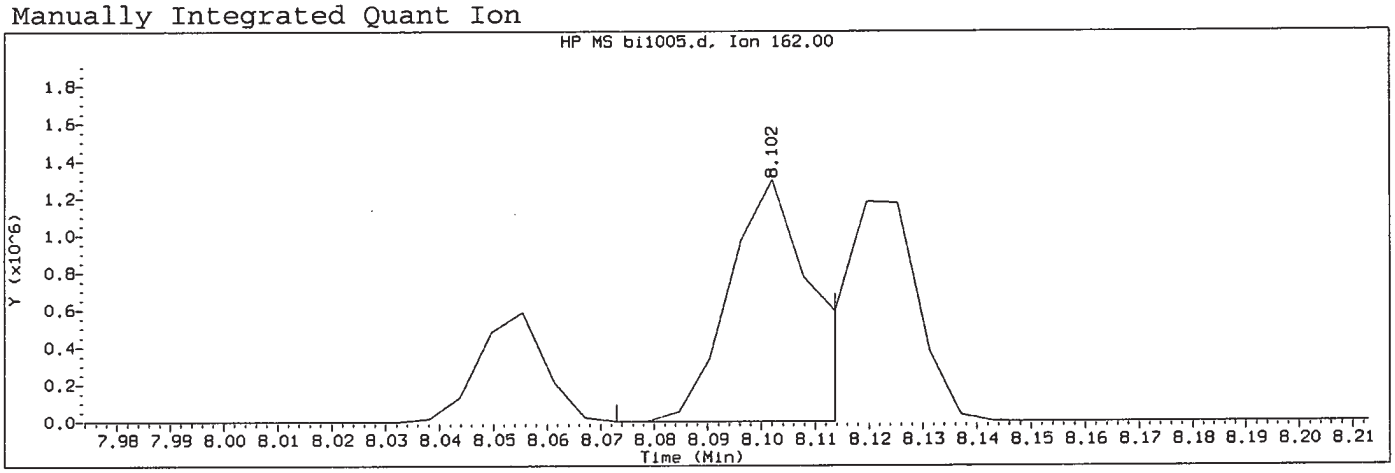
on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1005.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:54 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1032		
Retention Time (minutes)	: 8.102		
Quant Ion	: 162.00		
Area (flag)	: 1416325M		
On-Column Amount (ng/ul)	: 55.5345		
Integration start scan	: 1026	Integration stop scan:	1033
Y at integration start	: 0	Y at integration end:	0

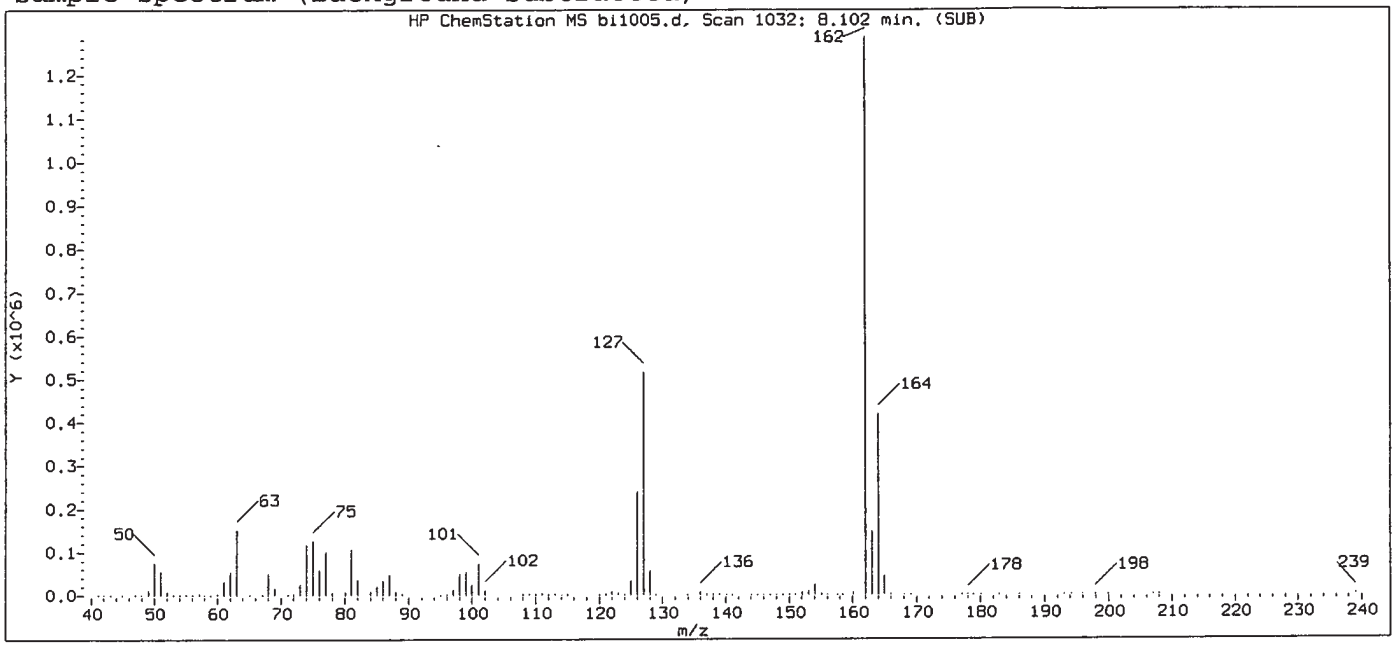
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:12 Target 3.5 signature user ID: lmh00956

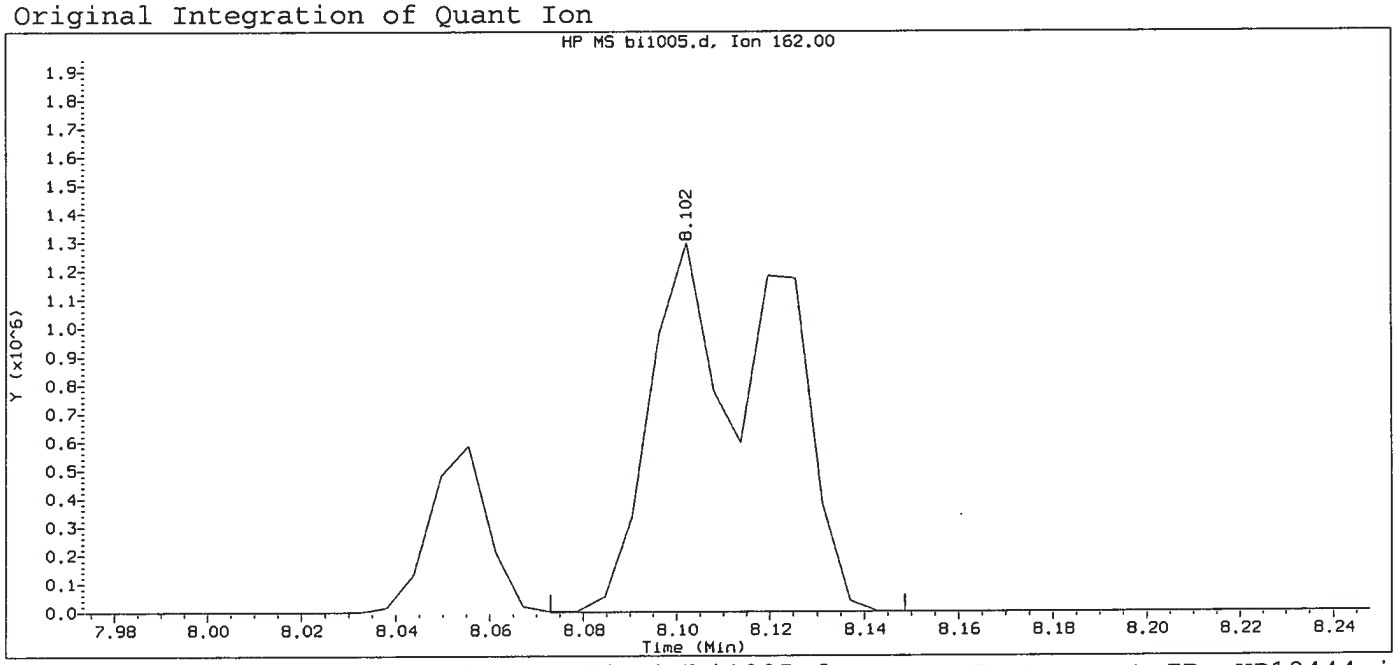
SEP 23 2015

GC/MS audit/management approval: Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1005.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:54 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:30
Date, time and analyst ID of latest file update: 23-Sep-2015 08:30 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1032		
Retention Time (minutes)	: 8.102		
Quant Ion	: 162.00		
Area	: 2386760		
On-column Amount (ng/ul)	: 96.9051		
Integration start scan	: 1026	Integration stop scan:	1039
Y at integration start	: 0	Y at integration end:	0

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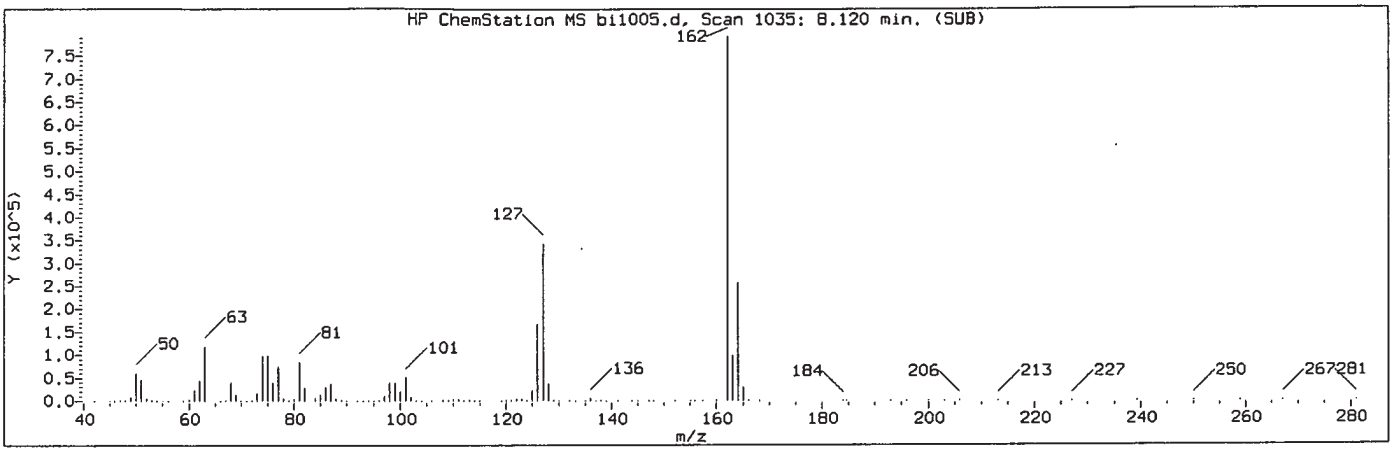
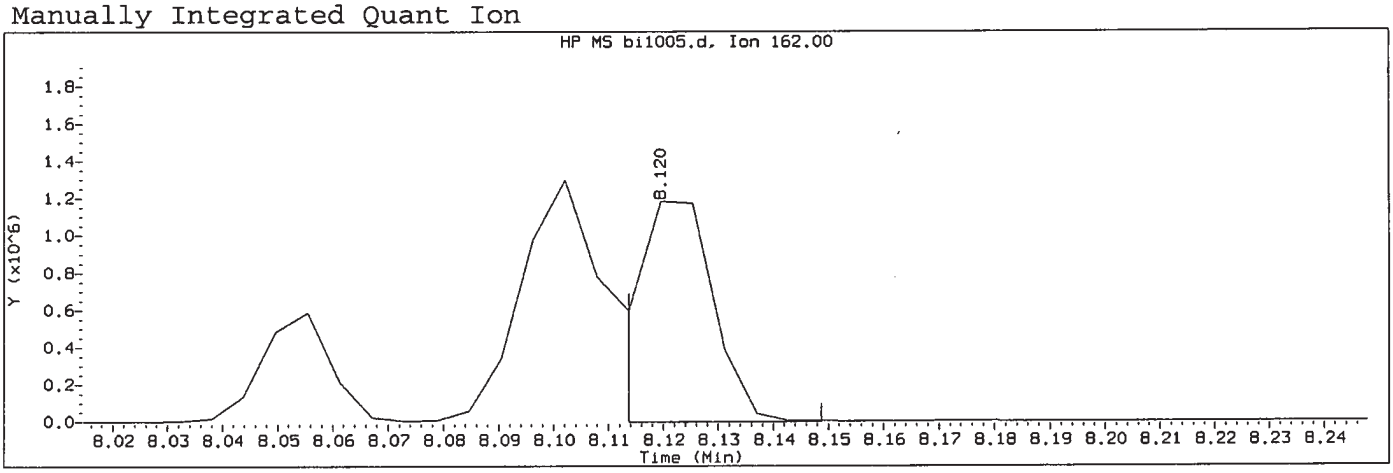
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1005.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:54 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1035		
Retention Time (minutes)	: 8.120		
Quant Ion	: 162.00		
Area (flag)	: 1189708M		
On-Column Amount (ng/ul)	: 51.4253		
Integration start scan	: 1033	Integration stop scan:	1039
Y at integration start	: -4241	Y at integration end:	-4241

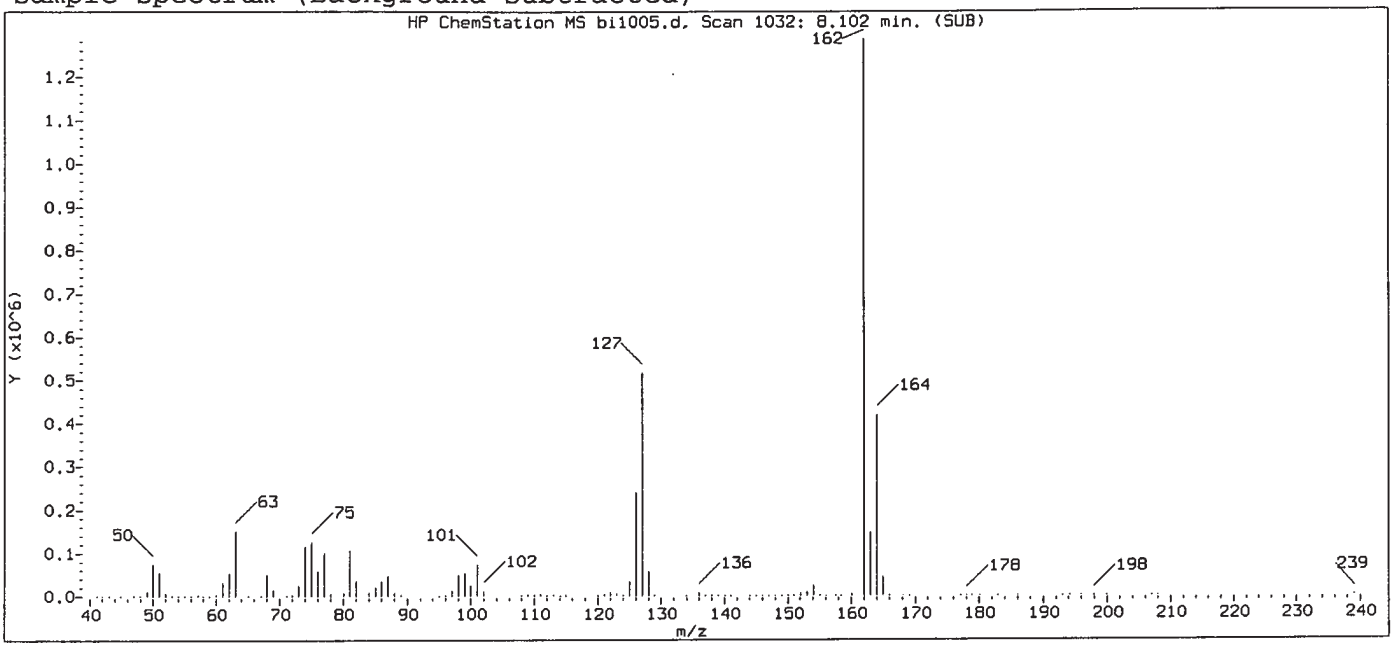
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:12. Target 3.5 esignature user ID: lmh00956

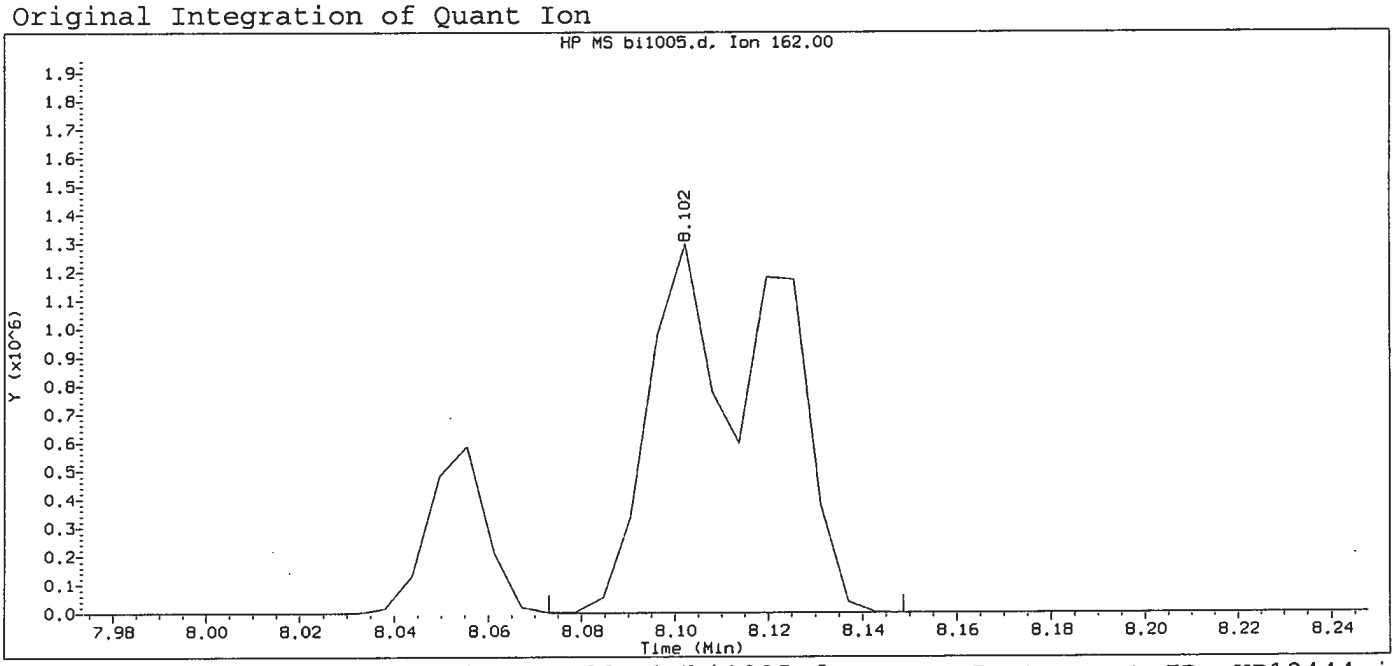
SEP 23 2015

GC/MS audit/management approval: Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1005.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 01:54 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:30
Date, time and analyst ID of latest file update: 23-Sep-2015 08:30 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1032		
Retention Time (minutes)	: 8.102		
Quant Ion	: 162.00		
Area	: 2386760		
On-column Amount (ng/ul)	: 106.2387		
Integration start scan	: 1026	Integration stop scan:	1039
Y at integration start	: 0	Y at integration end:	0

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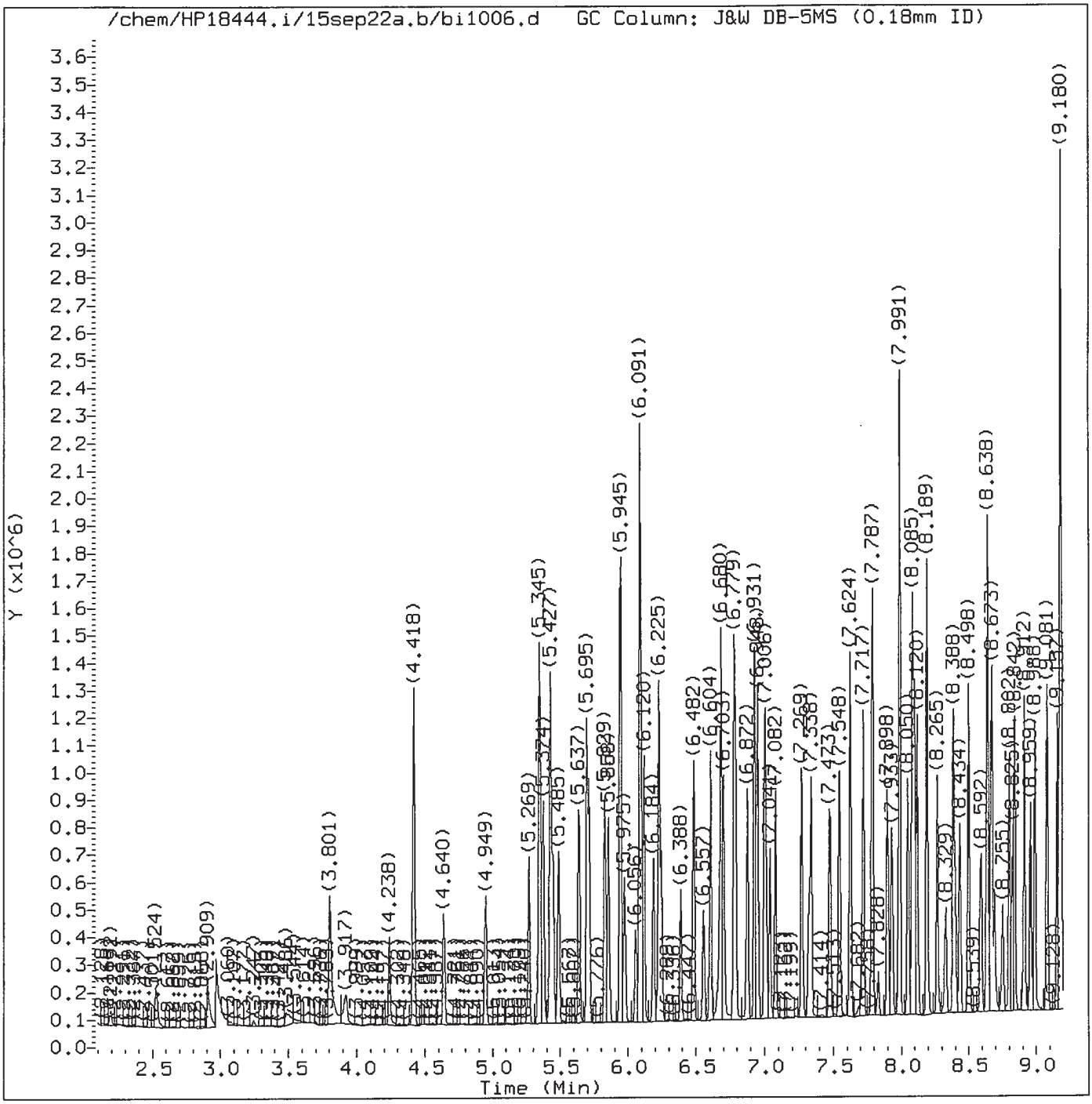
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

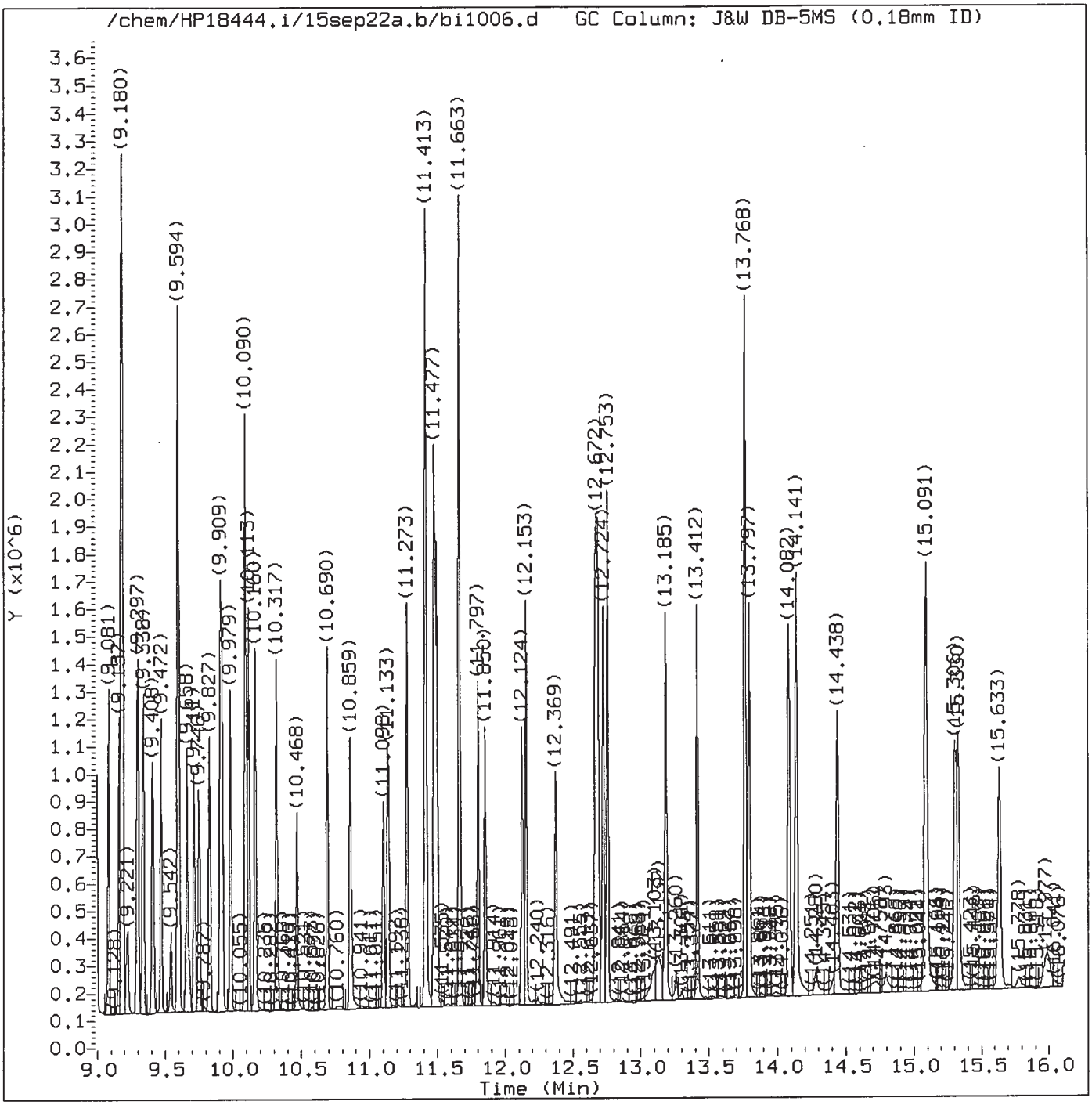
Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1006.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:15 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1006.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:15 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1006.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:15 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.524	88	80228	15.342
4) N-Nitrosodimethylamine	(1)	2.909	74	128646	14.844
5) Pyridine	(1)	2.973	79	215135A	15.067
7) 2-Picoline	(1)	3.801	93	222692	15.131
8) N-Nitrosomethylethylamine	(1)	3.917	88	98618	14.948
9) Methyl methanesulfonate	(1)	4.238	80	113667	15.022
11)$2-Fluorophenol	(1)	4.418	112	334973	29.768
13) N-Nitrosodiethylamine	(1)	4.640	102	96242	14.967
15) Ethyl methanesulfonate	(1)	4.949	109	93101	14.672
17)$Phenol-d6	(1)	5.345	99	463614	30.073
18) Phenol	(1)	5.357	94	274566	15.125
19) Aniline	(1)	5.374	93	318172	15.292
20) a-methylstyrene	(1)	5.433	118	168504	14.289
22) bis(2-Chloroethyl)ether	(1)	5.450	93	204583	15.166
23) 2-Chlorophenol	(1)	5.485	128	168967	15.026
24) 1,3-Dichlorobenzene	(1)	5.637	146	171975	14.820
25)*1,4-Dichlorobenzene-d4	(1)	5.695	152	150617	20.000
26) 1,4-Dichlorobenzene	(1)	5.712	146	178261	15.033
27) Benzyl alcohol	(1)	5.829	108	119169	14.229
28) 1,2-Dichlorobenzene	(1)	5.858	146	164508	14.775
31) 2-Methylphenol	(1)	5.945	108	175507	15.224
30) Indene	(1)	5.945	115	282336	14.139
33) 2,2'-oxybis(1-Chloropropane)	(1)	5.975	45	227712	15.254
34) bis(2-Chloroisopropyl)ether	(1)	5.975	45	227712	15.254
35) N-Nitrosopyrrolidine	(1)	6.056	100	102033	15.000
36) Acetophenone	(1)	6.085	105	277121	15.433
38) N-Nitroso-di-n-propylamine	(1)	6.091	70	165465	15.460
37) 4-Methylphenol	(1)	6.091	108	185878	14.446
39) N-Nitrosomorpholine	(1)	6.097	56	119576	15.714
40) o-Toluidine	(1)	6.120	106	302470	15.354
43) Hexachloroethane	(1)	6.184	117	77202	15.063
44)$Nitrobenzene-d5	(2)	6.225	82	443739	30.729
45) Nitrobenzene	(2)	6.243	77	224555	15.385
48) N-Nitrosopiperidine	(2)	6.388	114	93173	15.248
50) Isophorone	(2)	6.482	82	417087	15.084
51) 2-Nitrophenol	(2)	6.557	139	76144	14.810
53) 2,4-Dimethylphenol	(2)	6.604	107	194540	15.093
42) Total Cresols	(1)			361385	29.670
57) O,O,O-Triethylphosphorothioate	(2)	6.680	198	87101	15.054
56) Benzoic acid	(2)	6.686	105	251778	26.153

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1006.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:15 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	6.703	93	240825	14.867
59) 1,2,3,4-Tetrahydronaphthalene	(2)	6.779	104	265173	14.528
60) 2,4-Dichlorophenol	(2)	6.791	162	136183	15.067
62) 1,2,4-Trichlorobenzene	(2)	6.872	180	151890	14.857
65)*Naphthalene-d8	(2)	6.931	136	597471	20.000
66) Naphthalene	(2)	6.948	128	478803	15.044
67) 4-Chloroaniline	(2)	7.000	127	209883	15.077
68) 2,6-Dichlorophenol	(2)	7.012	162	132242	14.959
69) Hexachloropropene	(2)	7.041	213	97159	14.558
71) Hexachlorobutadiene	(2)	7.082	225	86660	14.747
75) Quinoline	(2)	7.269	129	319149	15.240
76) Caprolactam	(2)	7.327	113	60293	15.434
77) N-Nitrosodi-n-butylamine	(2)	7.338	84	192318	15.744
80) 4-Chloro-3-methylphenol	(2)	7.473	107	170853	15.117
82) Safrole	(2)	7.548	162	128681	15.060
83) 2-Methylnaphthalene	(2)	7.624	142	330722	15.115
84) 1-Methylnaphthalene	(2)	7.717	142	298542	14.803
85) Hexachlorocyclopentadiene	(3)	7.787	237	92297	14.547
86) 1,2,4,5-Tetrachlorobenzene	(3)	7.787	216	156624	14.823
88) cis-Isosafrole	(3)	7.828	162	24815	2.626
90) 2,4,6-Trichlorophenol	(3)	7.898	196	98913	14.702
92) 2,4,5-Trichlorophenol	(3)	7.933	196	107995	14.783
93)$2-Fluorobiphenyl	(3)	7.991	172	718913	30.563
94) trans-Isosafrole	(3)	8.050	162	124829	12.174
95) 1,1'-Biphenyl	(3)	8.085	154	401730	15.165
96) 2-Chloronaphthalene	(3)	8.096	162	310058	14.506
98) 1-Chloronaphthalene	(3)	8.120	162	292500	14.970
100) 2-Nitroaniline	(3)	8.189	138	89131	14.637
99) Diphenyl ether	(3)	8.189	170	213247	14.884
104) 1,4-Naphthoquinone	(3)	8.265	158	131062	15.111
105) 1,4-Dinitrobenzene	(3)	8.329	168	39513	14.020
106) Dimethylphthalate	(3)	8.388	163	365908	15.072
107) 1,3-Dinitrobenzene	(3)	8.399	168	45984	13.644
108) 2,6-Dinitrotoluene	(3)	8.434	165	75328	14.561
109) Acenaphthylene	(3)	8.498	152	481688	14.741
112) 3-Nitroaniline	(3)	8.592	138	79762	14.574
97) Isosafrole	(3)			149644	14.799
113)*Acenaphthene-d10	(3)	8.638	164	351755	20.000
114) Acenaphthene	(3)	8.673	153	319042	14.764
115) 2,4-Dinitrophenol	(3)	8.697	184	56741	25.865

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1006.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:15 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
116) 4-Nitrophenol	(3)	8.755	109	53377	15.127
117) Pentachlorobenzene	(3)	8.802	250	136235	14.884
118) 2,4-Dinitrotoluene	(3)	8.825	165	93576	13.942
119) Dibenzofuran	(3)	8.842	168	434657	15.178
121) 1-Naphthylamine	(3)	8.912	143	340051	15.177
122) 2,3,4,6-Tetrachlorophenol	(3)	8.959	232	85218	14.370
123) 2-Naphthylamine	(3)	8.988	143	340139	15.435
124) Diethylphthalate	(3)	9.081	149	359161	15.112
125) Thionazin	(3)	9.157	107	76310	15.552
126) Fluorene	(3)	9.175	166	363760	14.947
129) 4-Nitroaniline	(3)	9.180	138	89271	15.173
128) 5-Nitro-o-toluidine	(3)	9.180	152	95217	15.157
127) 4-Chlorophenyl-phenylether	(3)	9.186	204	180466	15.070
130) 4,6-Dinitro-2-methylphenol	(4)	9.221	198	40284	13.004
132) NDPA as diphenylamine	(4)	9.297	169	311373	15.113
131) N-Nitrosodiphenylamine	(4)	9.297	169	311373	15.113
134) 1,2-Diphenylhydrazine	(4)	9.338	77	471668	15.236
120) 2,4_2,6-Dinitrotoluenes	(3)			168904	28.503
135)$2,4,6-Tribromophenol	(3)	9.408	330	88619	29.634
137) Tetraethyldithiopyrophosphate	(4)	9.466	97	74271	15.013
139) 1,3,5-Trinitrobenzene	(4)	9.542	213	26775	13.327
140) Diallate (peak 1)	(4)	9.588	86	175386	12.376
141) Phorate	(4)	9.594	75	287953	14.571
142) Phenacetin	(4)	9.600	108	212607	14.982
143) 4-Bromophenyl-phenylether	(4)	9.658	248	102909	14.939
144) Diallate (peak 2)	(4)	9.676	86	34932	2.514
145) Hexachlorobenzene	(4)	9.711	284	103100	14.622
147) Dimethoate	(4)	9.746	87	179052	15.503
149) Pentachlorophenol	(4)	9.903	266	59462	14.298
150) 4-Aminobiphenyl	(4)	9.909	169	353000	16.482
151) Pentachloronitrobenzene	(4)	9.921	237	44088	14.358
152) Pronamide	(4)	9.979	173	166892	14.909
153)*Phenanthrene-d10	(4)	10.090	188	653932	20.000
154) Dinoseb	(4)	10.095	211	55019	11.837
155) Phenanthrene	(4)	10.113	178	522567	14.965
157) Anthracene	(4)	10.165	178	537081	15.226
146) Diallate trans/cis	(4)			210318	14.890
163) Carbazole	(4)	10.317	167	493384	15.473
164) Methyl parathion	(4)	10.468	109	112768	14.501
165) Di-n-butylphthalate	(4)	10.690	149	601474	15.062

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$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1006.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:15 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

	Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167)	Parathion	(4)	10.853	109	70863	13.797
168)	4-Nitroquinoline-1-oxide	(4)	10.859	190	33658	12.564
169)	Octachlorostyrene	(4)	11.098	308	36994	13.928
171)	Isodrin	(4)	11.133	193	60292	14.439
173)	Fluoranthene	(4)	11.273	202	589979	15.231
174)	Benzidine	(5)	11.413	184	1071826	47.081
175)	*Pyrene-d10	(5)	11.477	212	773833	20.000
177)	Pyrene	(5)	11.494	202	617449	15.058
179)	$Terphenyl-d14	(5)	11.663	244	847305	30.393
182)	p-Dimethylaminoazobenzene	(5)	11.797	225	123600	14.532
185)	Chlorobenzilate	(5)	11.850	139	177804	14.595
187)	3,3'-Dimethylbenzidine	(5)	12.124	212	356117	15.346
188)	Butylbenzylphthalate	(5)	12.153	149	264737	14.755
191)	2-Acetylaminofluorene	(5)	12.369	181	232756	14.549
193)	3,3'-Dichlorobenzidine	(5)	12.666	252	216259	14.992
198)	4,4'-Methylenebis(2-chloroanil	(5)	12.672	231	117696	14.800
195)	Benzo(a)anthracene	(5)	12.683	228	599021	15.545
196)	Chrysene	(5)	12.724	228	544872	15.368
199)	bis(2-Ethylhexyl)phthalate	(5)	12.753	149	391449	14.997
203)	6-Methylchrysene	(5)	13.185	242	406524	15.493
205)	Di-n-octylphthalate	(6)	13.418	149	677270	14.380
206)	Benzo(b)fluoranthene	(6)	13.768	252	551795	13.798
207)	7,12-Dimethylbenz[a]anthracene	(6)	13.768	256	268000	14.447
208)	Benzo(k)fluoranthene	(6)	13.797	252	596649	15.662
211)	Benzo(a)pyrene	(6)	14.082	252	546218	14.494
213)	*Perylene-d12	(6)	14.141	264	596303	20.000
215)	3-Methylcholanthrene	(6)	14.438	268	268220	14.990
219)	Indeno(1,2,3-cd)pyrene	(6)	15.306	276	613332	15.379
220)	Dibenz(a,h)anthracene	(6)	15.330	278	498220	15.293
221)	Benzo(g,h,i)perylene	(6)	15.633	276	506029	15.351
222)	Total PAHs	(6)			7847325	241.324

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$ = Compound is a surrogate standard.

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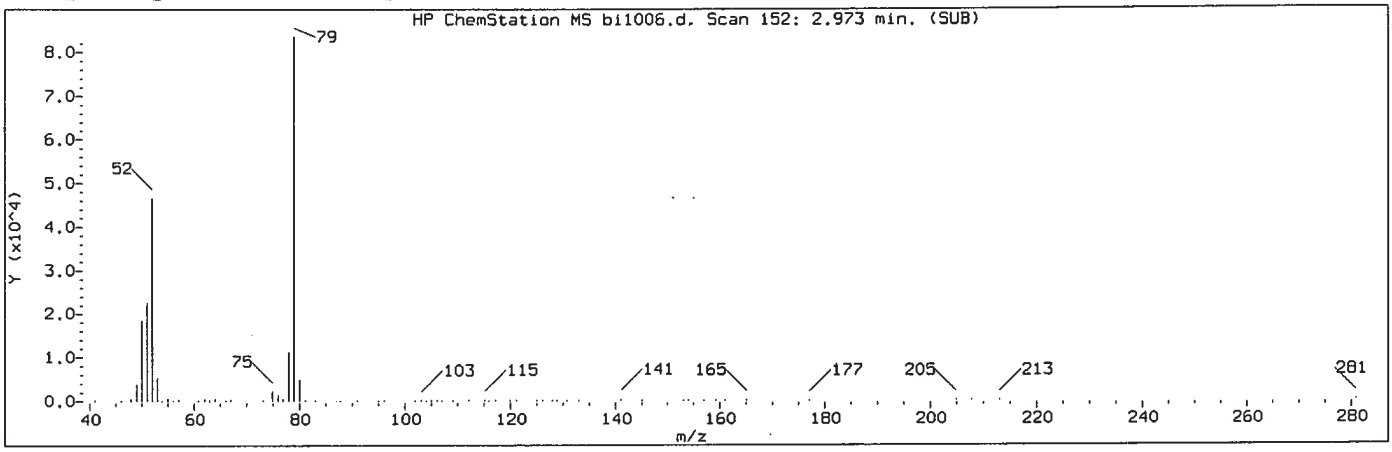
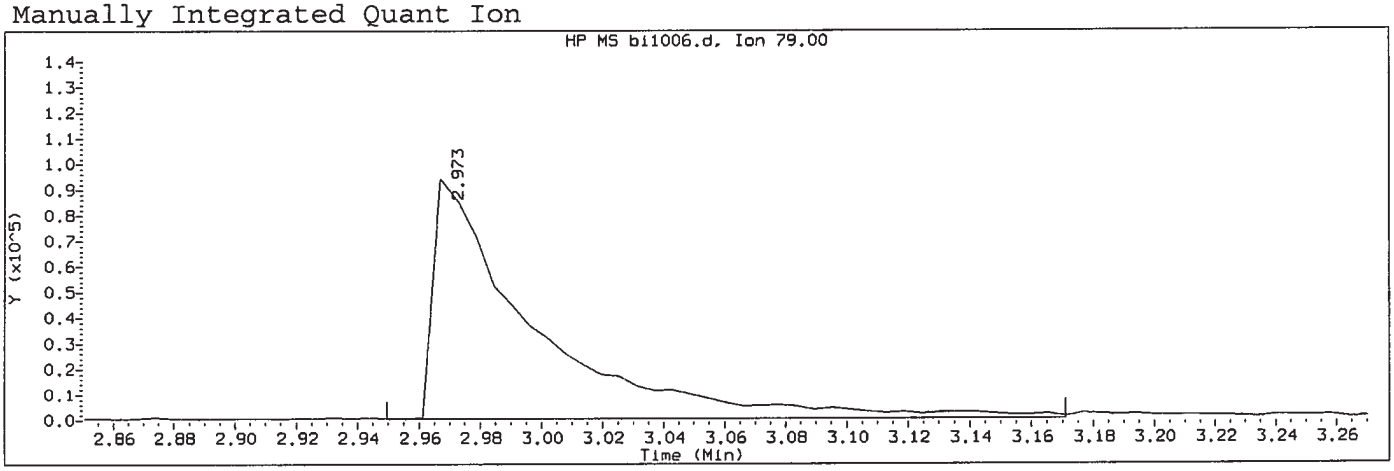
on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1006.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:15 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:48
Date, time and analyst ID of latest file update: 23-Sep-2015 08:48 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 152		
Retention Time (minutes)	: 2.973		
Quant Ion	: 79.00		
Area (flag)	: 215135A		
On-Column Amount (ng/ul)	: 15.0669		
Integration start scan	: 147	Integration stop scan:	185
Y at integration start	: 418	Y at integration end:	418

Reason for manual integration: improper integration

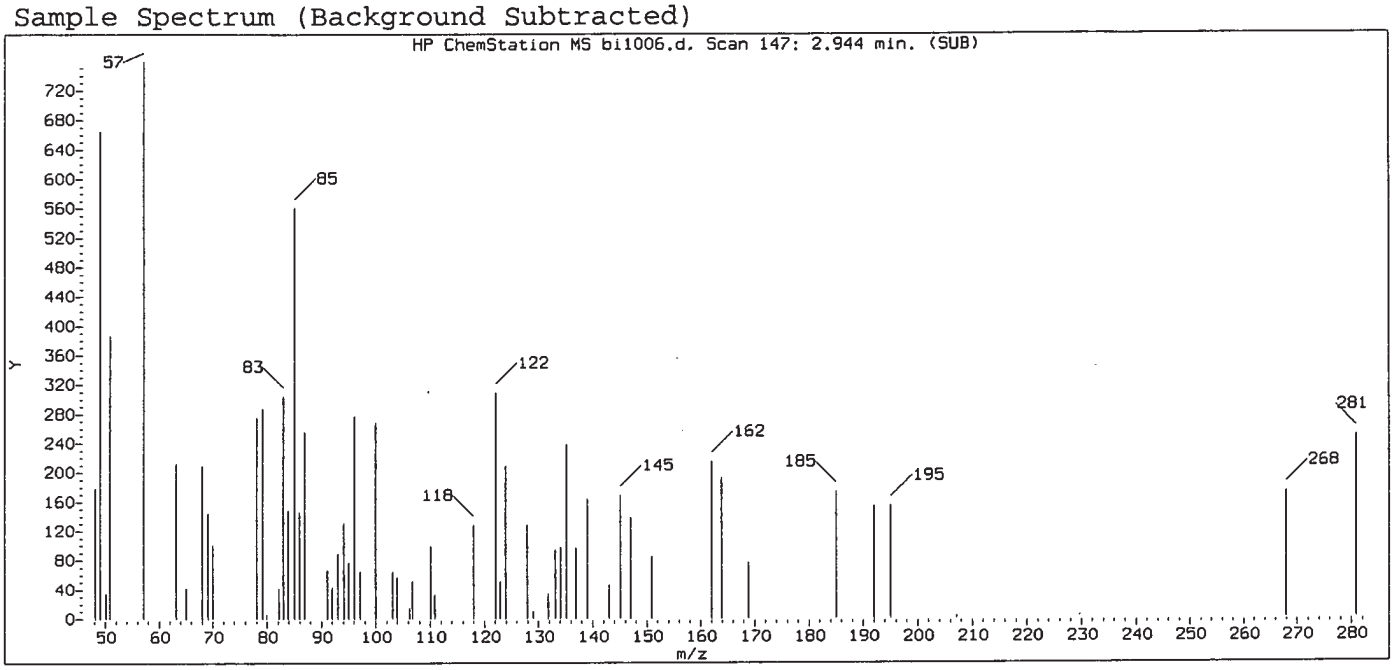
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:12. Target 3.5 ~~Signature User ID:~~ lmh00956

SEP 23 2015

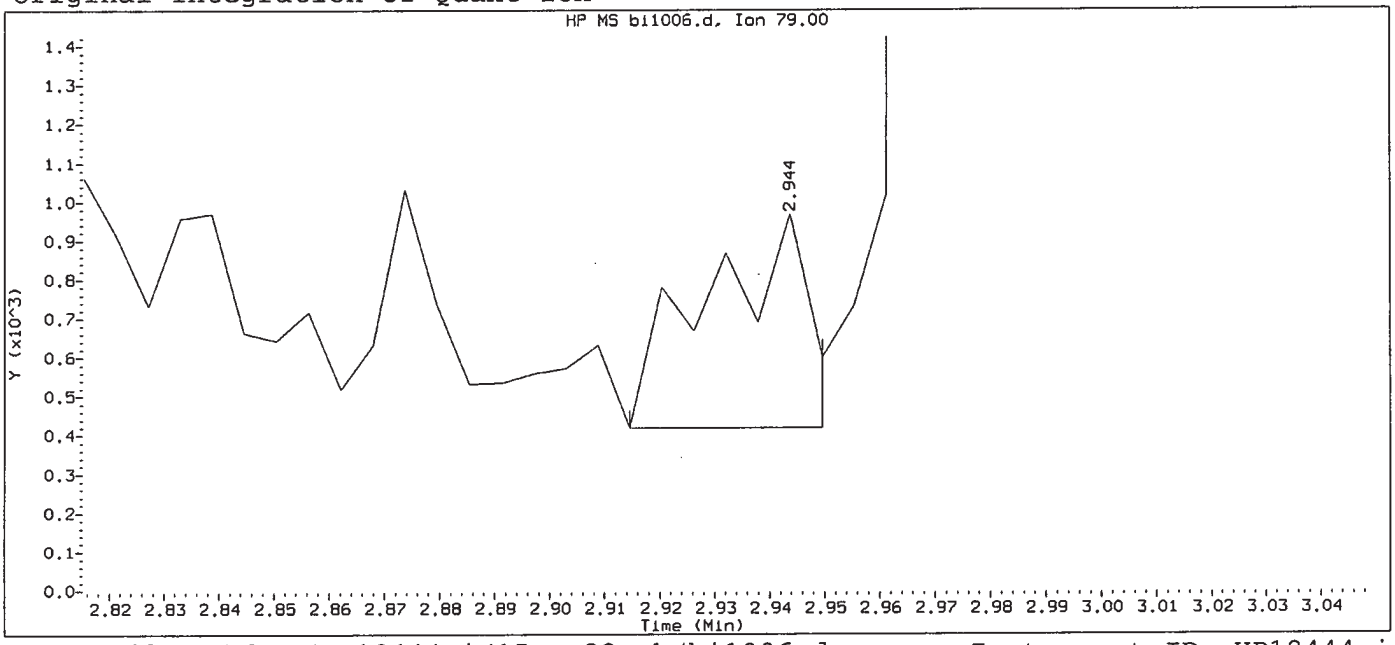
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1006.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:15 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all
Calibration date and time: 23-SEP-2015 08:31
Date, time and analyst ID of latest file update: 23-Sep-2015 08:31 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 147		
Retention Time (minutes)	: 2.944		
Quant Ion	: 79.00		
Area	: 692		
On-column Amount (ng/ul)	: 0.0411		
Integration start scan	: 141	Integration stop scan:	147
Y at integration start	: 418	Y at integration end:	418

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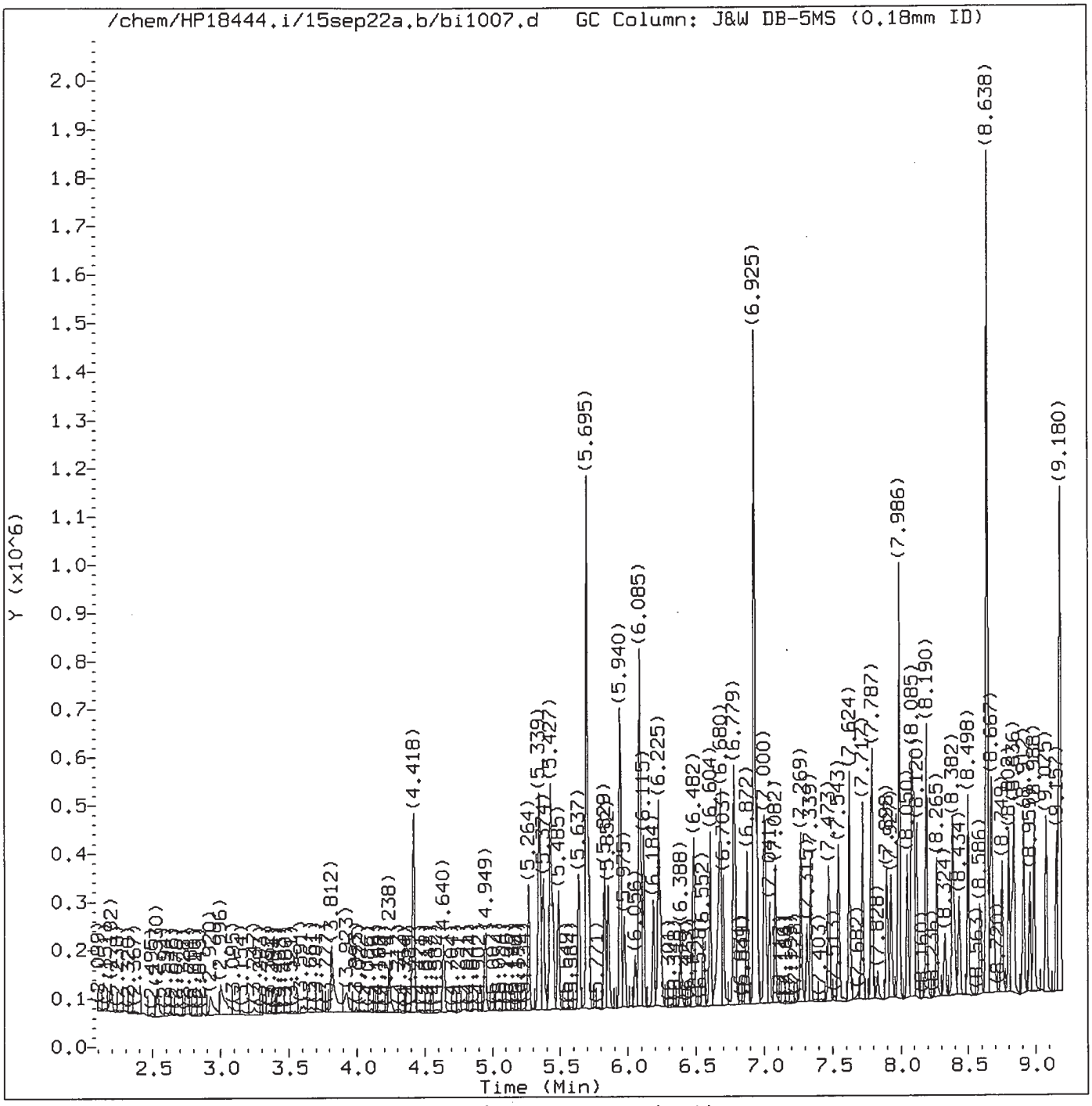
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1007.d
Injection date and time: 23-SEP-2015 02:37

Instrument ID: HP18444.i
Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m
Calibration date and time: 23-SEP-2015 08:49

Sublist used: all1

Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD005

Lab Sample ID: STD2575

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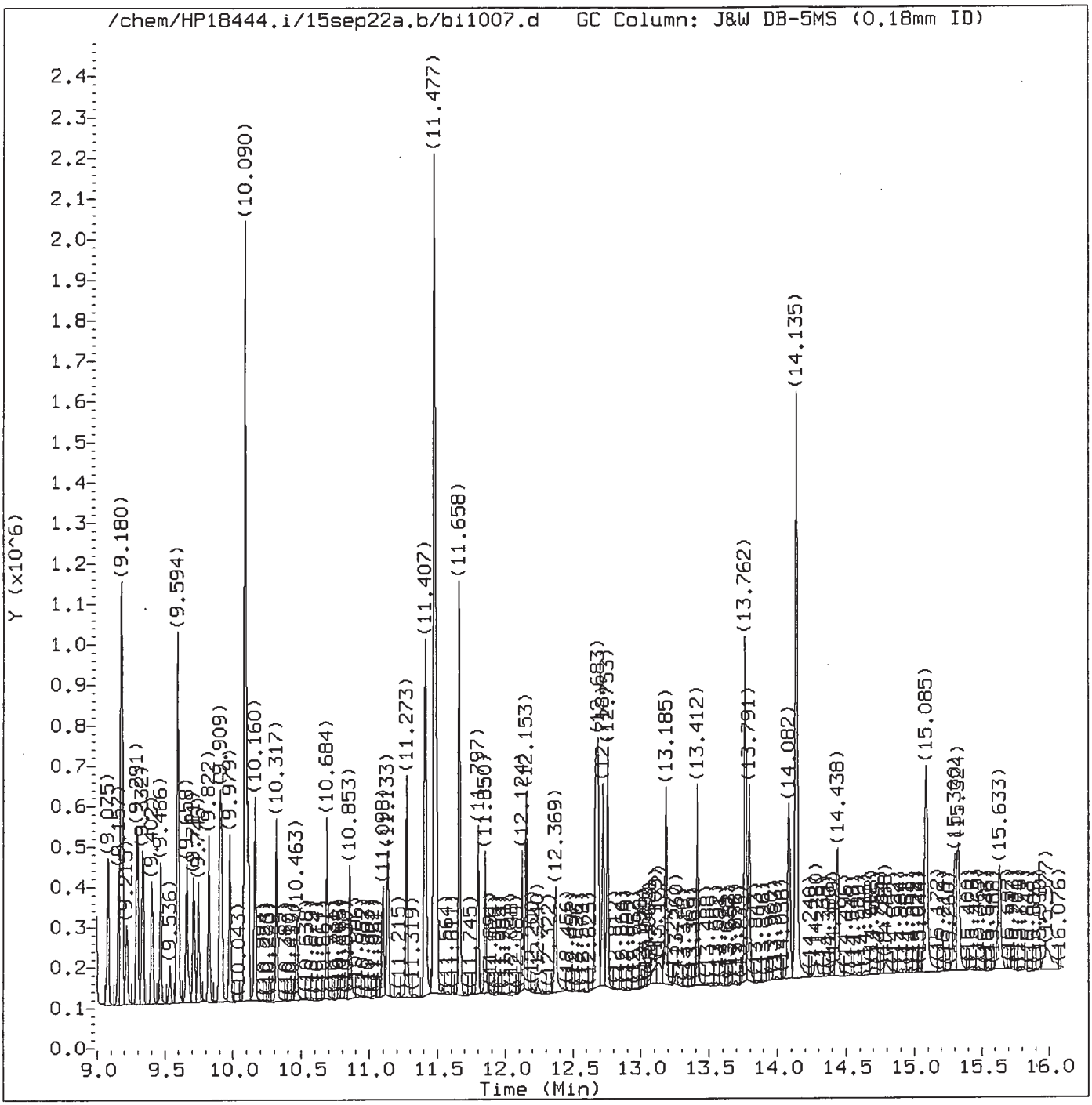
on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1007.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:37 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

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on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1007.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:37 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.530	88	27030	5.103
4) N-Nitrosodimethylamine	(1)	2.920	74	42988	4.931
5) Pyridine	(1)	2.996	79	76427A	5.252
7) 2-Picoline	(1)	3.812	93	73335A	4.949
8) N-Nitrosomethylethylamine	(1)	3.923	88	36129M	5.352
9) Methyl methanesulfonate	(1)	4.238	80	39792	5.176
11)$2-Fluorophenol	(1)	4.418	112	119409	10.429
13) N-Nitrosodiethylamine	(1)	4.640	102	33508	5.137
15) Ethyl methanesulfonate	(1)	4.949	109	32792	5.102
17)$Phenol-d6	(1)	5.339	99	163011	10.398
18) Phenol	(1)	5.357	94	95558	5.181
19) Aniline	(1)	5.374	93	111979	5.276
20) a-methylstyrene	(1)	5.433	118	60321	5.059
22) bis(2-Chloroethyl)ether	(1)	5.444	93	72294	5.258
23) 2-Chlorophenol	(1)	5.485	128	59909	5.232
24) 1,3-Dichlorobenzene	(1)	5.637	146	61096	5.181
25)*1,4-Dichlorobenzene-d4	(1)	5.695	152	151942	20.000
26) 1,4-Dichlorobenzene	(1)	5.712	146	62635	5.195
27) Benzyl alcohol	(1)	5.829	108	40607	4.838
28) 1,2-Dichlorobenzene	(1)	5.858	146	58683	5.186
31) 2-Methylphenol	(1)	5.940	108	62019	5.274
30) Indene	(1)	5.940	115	100004	4.970
33) 2,2'-oxybis(1-Chloropropane)	(1)	5.975	45	80192	5.268
34) bis(2-Chloroisopropyl)ether	(1)	5.975	45	80192	5.268
35) N-Nitrosopyrrolidine	(1)	6.056	100	35090	5.094
36) Acetophenone	(1)	6.085	105	97869	5.331
38) N-Nitroso-di-n-propylamine	(1)	6.091	70	58035	5.309
37) 4-Methylphenol	(1)	6.091	108	69940	5.319
39) N-Nitrosomorpholine	(1)	6.097	56	41202	5.302
40) o-Toluidine	(1)	6.115	106	103799	5.184
43) Hexachloroethane	(1)	6.184	117	26827	5.156
44)$Nitrobenzene-d5	(2)	6.225	82	148528	10.260
45) Nitrobenzene	(2)	6.243	77	77517	5.268
48) N-Nitrosopiperidine	(2)	6.388	114	32710	5.303
50) Isophorone	(2)	6.482	82	148444	5.315
51) 2-Nitrophenol	(2)	6.558	139	25876	5.039
53) 2,4-Dimethylphenol	(2)	6.604	107	68163	5.249
42) Total Cresols	(1)			131959	10.594
56) Benzoic acid	(2)	6.668	105	113282M	12.233
57) O,O,O-Triethylphosphorothioate	(2)	6.680	198	29167	5.045

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1007.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:37 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	6.703	93	87143	5.324
59) 1,2,3,4-Tetrahydronaphthalene	(2)	6.779	104	90907	4.995
60) 2,4-Dichlorophenol	(2)	6.785	162	47059	5.182
62) 1,2,4-Trichlorobenzene	(2)	6.872	180	52110	5.092
65)*Naphthalene-d8	(2)	6.925	136	595883	20.000
66) Naphthalene	(2)	6.948	128	166636	5.212
67) 4-Chloroaniline	(2)	7.000	127	72370	5.176
68) 2,6-Dichlorophenol	(2)	7.006	162	44938	5.081
69) Hexachloropropene	(2)	7.041	213	33352	5.009
71) Hexachlorobutadiene	(2)	7.082	225	30361	5.149
75) Quinoline	(2)	7.269	129	110652	5.246
76) Caprolactam	(2)	7.315	113	20092	5.130
77) N-Nitrosodi-n-butylamine	(2)	7.339	84	54390	4.546
80) 4-Chloro-3-methylphenol	(2)	7.473	107	58984	5.192
82) Safrole	(2)	7.543	162	42925	5.031
83) 2-Methylnaphthalene	(2)	7.624	142	116666	5.294
84) 1-Methylnaphthalene	(2)	7.717	142	103272	5.115
85) Hexachlorocyclopentadiene	(3)	7.787	237	28047	4.634
86) 1,2,4,5-Tetrachlorobenzene	(3)	7.787	216	54268	5.253
88) cis-Isosafrole	(3)	7.828	162	8456	0.911
90) 2,4,6-Trichlorophenol	(3)	7.898	196	33877	5.167
92) 2,4,5-Trichlorophenol	(3)	7.927	196	34456	4.894
93)$2-Fluorobiphenyl	(3)	7.986	172	249300	10.779
94) trans-Isosafrole	(3)	8.050	162	43616	4.352
95) 1,1'-Biphenyl	(3)	8.085	154	140263	5.386
96) 2-Chloronaphthalene	(3)	8.096	162	110249	5.271
98) 1-Chloronaphthalene	(3)	8.120	162	94360	4.991
100) 2-Nitroaniline	(3)	8.190	138	29431	4.995
99) Diphenyl ether	(3)	8.190	170	73958	5.275
104) 1,4-Naphthoquinone	(3)	8.265	158	45161	5.312
105) 1,4-Dinitrobenzene	(3)	8.324	168	13005	4.805
106) Dimethylphthalate	(3)	8.382	163	128185	5.374
107) 1,3-Dinitrobenzene	(3)	8.399	168	13772	4.334
108) 2,6-Dinitrotoluene	(3)	8.434	165	23010	4.658
109) Acenaphthylene	(3)	8.498	152	164220	5.164
112) 3-Nitroaniline	(3)	8.586	138	24647	4.707
97) Isosafrole	(3)			52072	5.263
113)*Acenaphthene-d10	(3)	8.638	164	340468	20.000
114) Acenaphthene	(3)	8.667	153	110099	5.224
115) 2,4-Dinitrophenol	(3)	8.691	184	23310	11.491

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1007.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:37 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used:. all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
116) 4-Nitrophenol	(3)	8.749	109	33073	9.735
117) Pentachlorobenzene	(3)	8.802	250	48118	5.354
118) 2,4-Dinitrotoluene	(3)	8.819	165	29160	4.567
119) Dibenzofuran	(3)	8.836	168	149453	5.322
121) 1-Naphthylamine	(3)	8.912	143	113813	5.205
122) 2,3,4,6-Tetrachlorophenol	(3)	8.959	232	27356	4.803
123) 2-Naphthylamine	(3)	8.988	143	115426	5.338
124) Diethylphthalate	(3)	9.081	149	127429	5.441
125) Thionazin	(3)	9.157	107	25646	5.329
126) Fluorene	(3)	9.175	166	125461	5.277
129) 4-Nitroaniline	(3)	9.180	138	26989	4.781
127) 4-Chlorophenyl-phenylether	(3)	9.180	204	61173	5.229
128) 5-Nitro-o-toluidine	(3)	9.180	152	29914	4.933
130) 4,6-Dinitro-2-methylphenol	(4)	9.215	198	24499	8.243
132) NDPA as diphenylamine	(4)	9.291	169	106008	5.150
131) N-Nitrosodiphenylamine	(4)	9.291	169	106008	5.150
134) 1,2-Diphenylhydrazine	(4)	9.332	77	164002	5.276
120) 2,4_2,6-Dinitrotoluenes	(3)			52170	9.225
135)$2,4,6-Tribromophenol	(3)	9.408	330	29156	10.061
137) Tetraethyldithiopyrophosphate	(4)	9.466	97	26381	5.304
139) 1,3,5-Trinitrobenzene	(4)	9.536	213	7510	3.926
140) Diallate (peak 1)	(4)	9.588	86	59557	4.218
142) Phenacetin	(4)	9.594	108	69461	4.941
141) Phorate	(4)	9.594	75	96624	4.936
143) 4-Bromophenyl-phenylether	(4)	9.658	248	35970	5.213
144) Diallate (peak 2)	(4)	9.676	86	12641	0.904
145) Hexachlorobenzene	(4)	9.711	284	35212	5.024
147) Dimethoate	(4)	9.746	87	60254	5.209
149) Pentachlorophenol	(4)	9.903	266	19178	4.700
150) 4-Aminobiphenyl	(4)	9.909	169	125284	5.688
151) Pentachloronitrobenzene	(4)	9.915	237	14880	4.899
152) Pronamide	(4)	9.979	173	57268	5.126
153)*Phenanthrene-d10	(4)	10.090	188	649411	20.000
154) Dinoseb	(4)	10.090	211	16408	3.735
155) Phenanthrene	(4)	10.113	178	187623	5.348
157) Anthracene	(4)	10.160	178	186322	5.271
146) Diallate trans/cis	(4)			72198	5.122
163) Carbazole	(4)	10.317	167	169520	5.291
164) Methyl parathion	(4)	10.463	109	33619	4.449
165) Di-n-butylphthalate	(4)	10.684	149	207201	5.186

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1007.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:37 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	10.853	109	19826	4.037
168) 4-Nitroquinoline-1-oxide	(4)	10.859	190	10022	3.767
169) Octachlorostyrene	(4)	11.098	308	12957	4.927
171) Isodrin	(4)	11.133	193	23438	5.532
173) Fluoranthene	(4)	11.273	202	204969	5.279
174) Benzidine	(5)	11.407	184	356753	15.816
175)*Pyrene-d10	(5)	11.477	212	758349	20.000
177) Pyrene	(5)	11.494	202	218123	5.362
179)$Terphenyl-d14	(5)	11.658	244	292528	10.583
182) p-Dimethylaminoazobenzene	(5)	11.797	225	42968	5.128
185) Chlorobenzilate	(5)	11.850	139	60125	5.030
187) 3,3'-Dimethylbenzidine	(5)	12.124	212	123488	5.353
188) Butylbenzylphthalate	(5)	12.153	149	88102	5.009
191) 2-Acetylaminofluorene	(5)	12.369	181	70338	4.565
193) 3,3'-Dichlorobenzidine	(5)	12.666	252	72325	5.096
198) 4,4'-Methylenebis(2-chloroanil	(5)	12.672	231	41149	5.231
195) Benzo(a)anthracene	(5)	12.683	228	202314	5.303
196) Chrysene	(5)	12.718	228	190853	5.417
199) bis(2-Ethylhexyl)phthalate	(5)	12.753	149	127620	4.991
203) 6-Methylchrysene	(5)	13.185	242	135363	5.218
205) Di-n-octylphthalate	(6)	13.412	149	220035	4.892
207) 7,12-Dimethylbenz[a]anthracene	(6)	13.762	256	86693	4.894
206) Benzo(b)fluoranthene	(6)	13.768	252	196524	5.106
208) Benzo(k)fluoranthene	(6)	13.791	252	197694	5.348
211) Benzo(a)pyrene	(6)	14.082	252	179751	4.977
213)*Perylene-d12	(6)	14.141	264	571887	20.000
215) 3-Methylcholanthrene	(6)	14.438	268	88721	5.141
219) Indeno(1,2,3-cd)pyrene	(6)	15.300	276	198160	5.154
220) Dibenz(a,h)anthracene	(6)	15.324	278	162538	5.172
221) Benzo(g,h,i)perylene	(6)	15.633	276	162513	5.120
222) Total PAHs	(6)			2679520	83.690

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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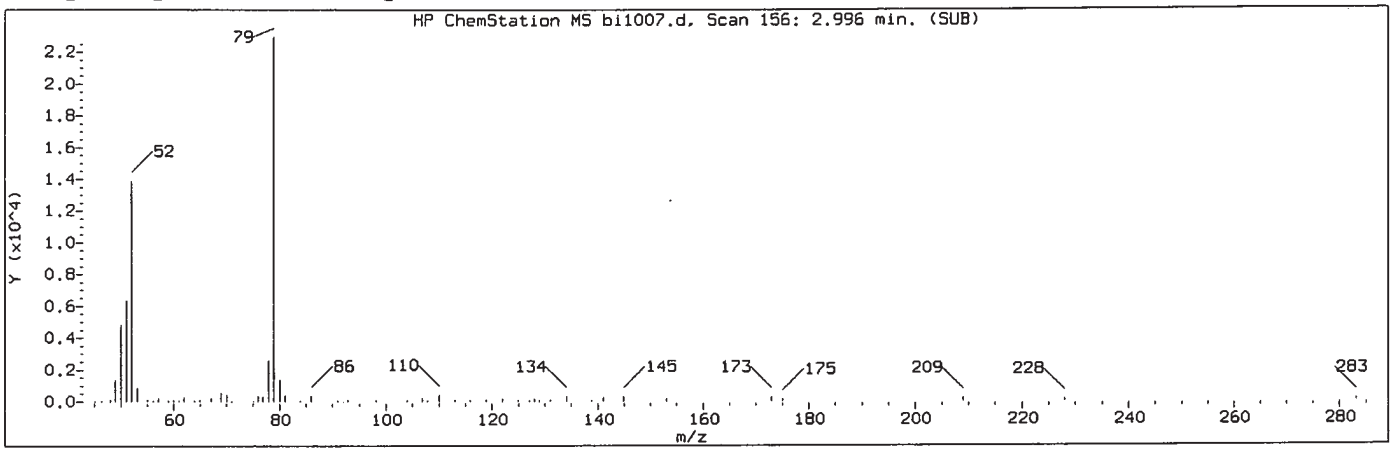
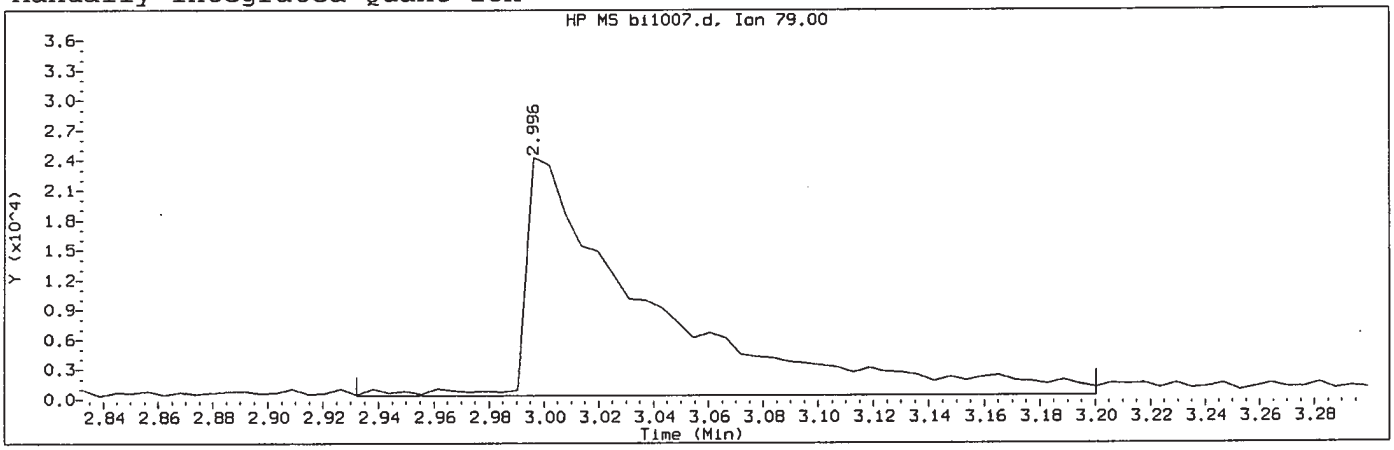
on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1007.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:37 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 156		
Retention Time (minutes)	: 2.996		
Quant Ion	: 79.00		
Area (flag)	: 76427A		
On-Column Amount (ng/ul)	: 5.2523		
Integration start scan	: 144	Integration stop scan:	190
Y at integration start	: 326	Y at integration end:	326

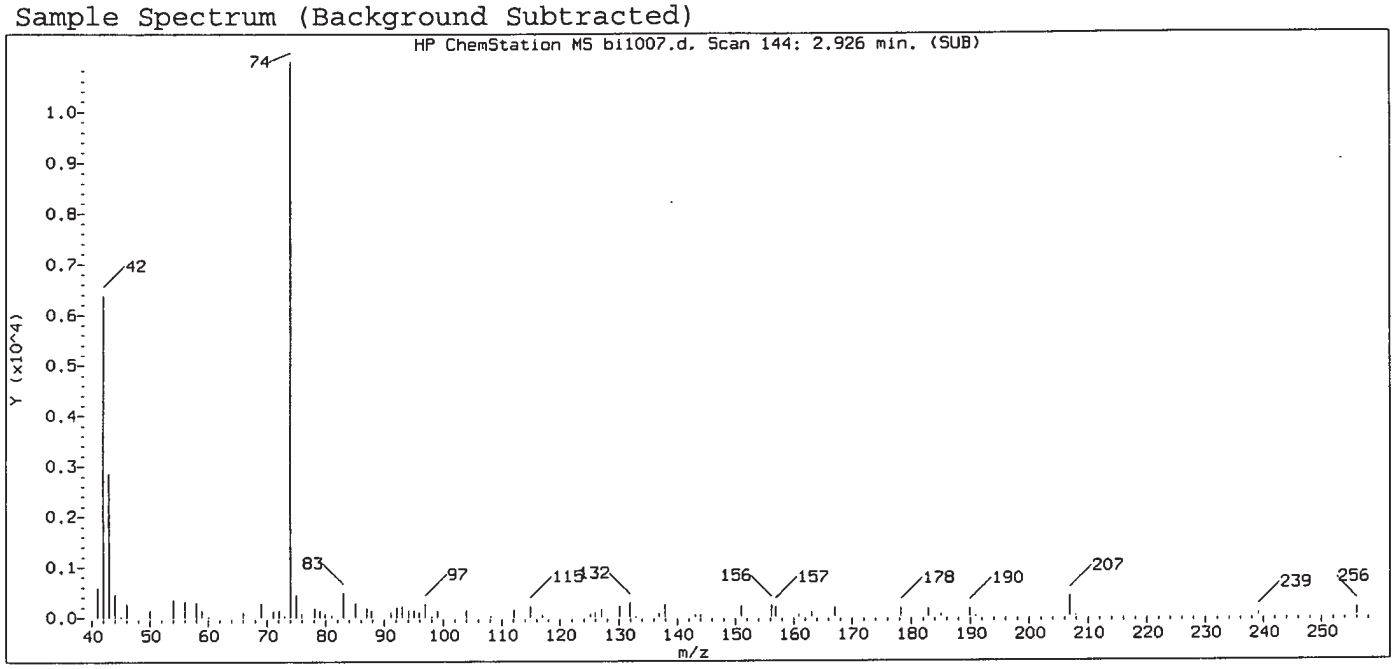
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:12 Target 3.5 signature user ID: lmh00956

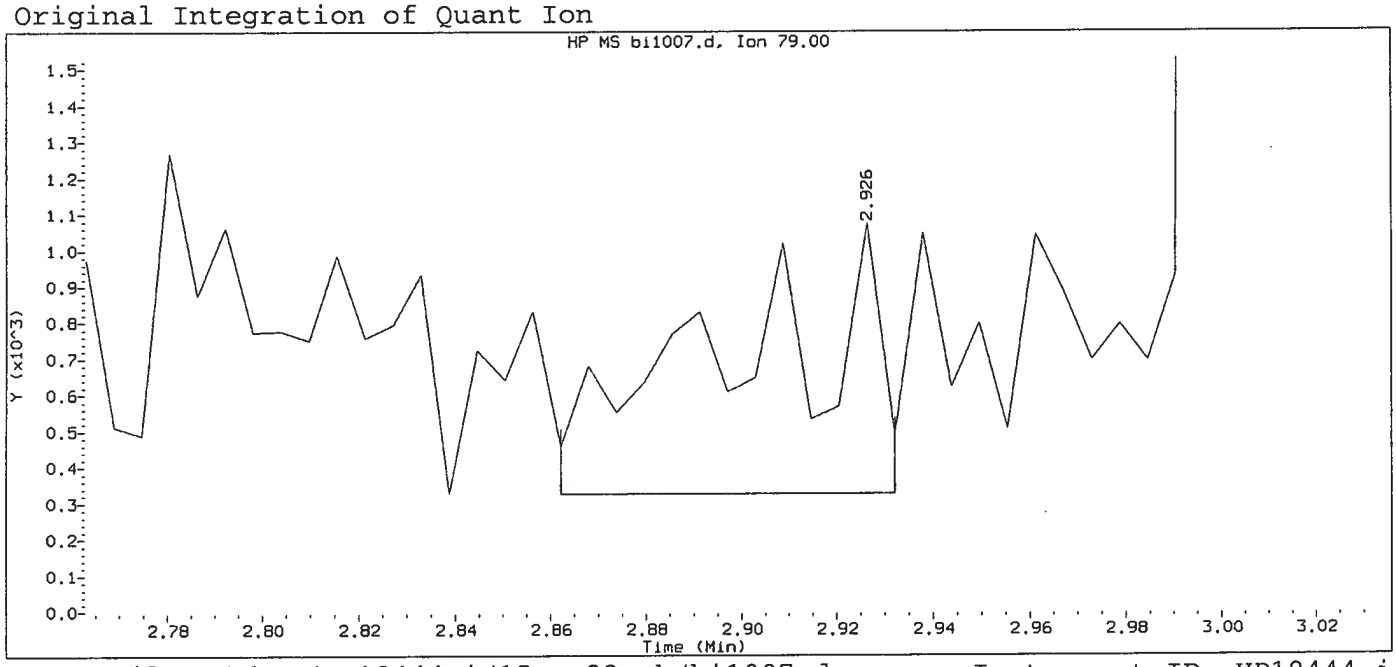
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1007.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:37 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:31
Date, time and analyst ID of latest file update: 23-Sep-2015 08:31 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 144		
Retention Time (minutes)	: 2.926		
Quant Ion	: 79.00		
Area	: 1567		
On-column Amount (ng/ul)	: 0.0922		
Integration start scan	: 132	Integration stop scan:	144
Y at integration start	: 326	Y at integration end:	326

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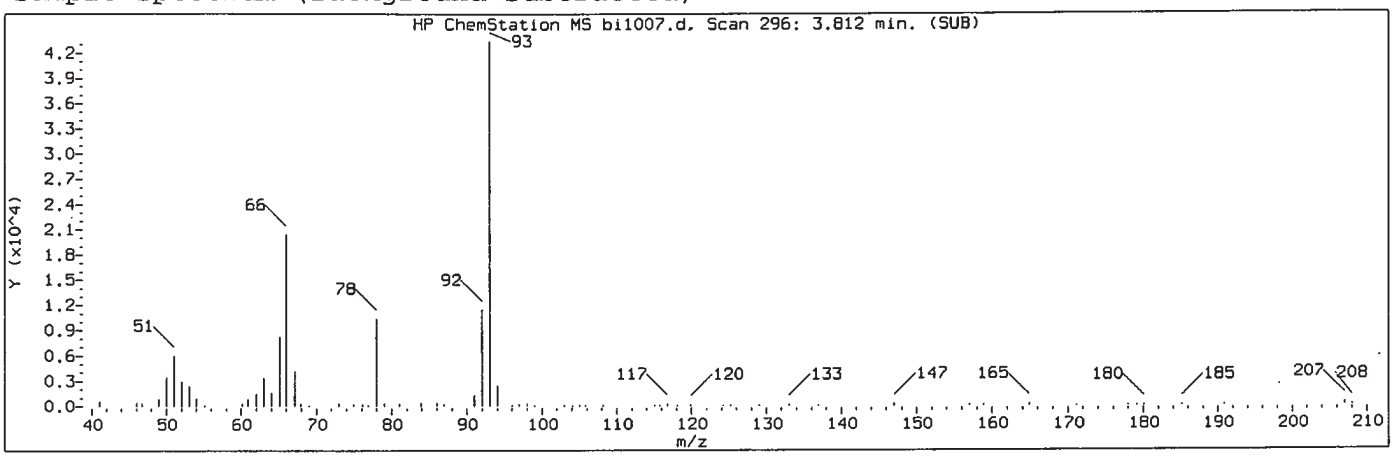
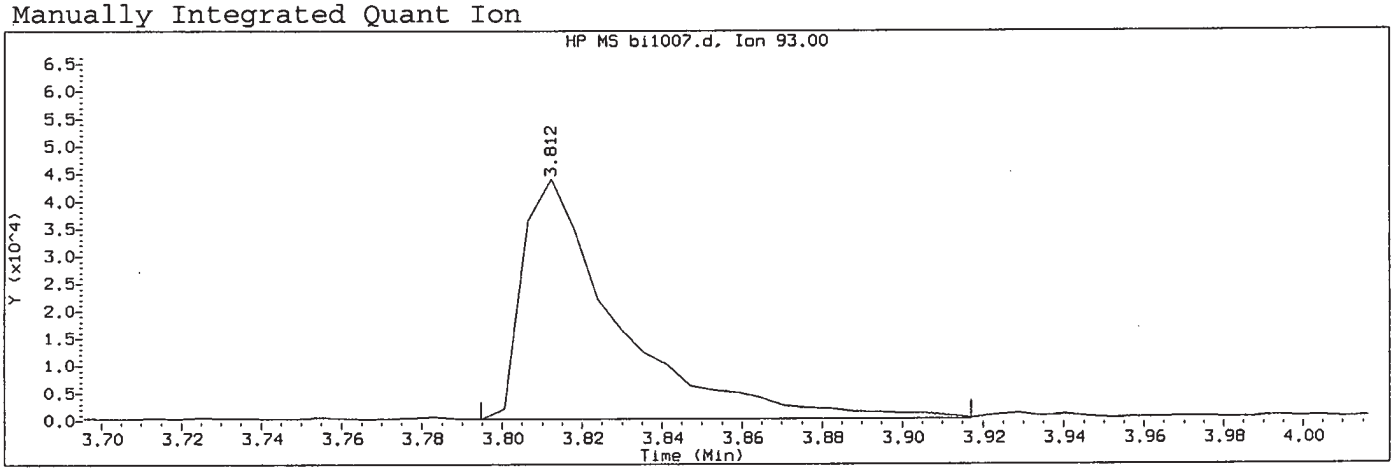
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1007.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:37 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 296		
Retention Time (minutes)	: 3.812		
Quant Ion	: 93.00		
Area (flag)	: 73335A		
On-Column Amount (ng/ul)	: 4.9493		
Integration start scan	: 292	Integration stop scan:	313
Y at integration start	: 174	Y at integration end:	174

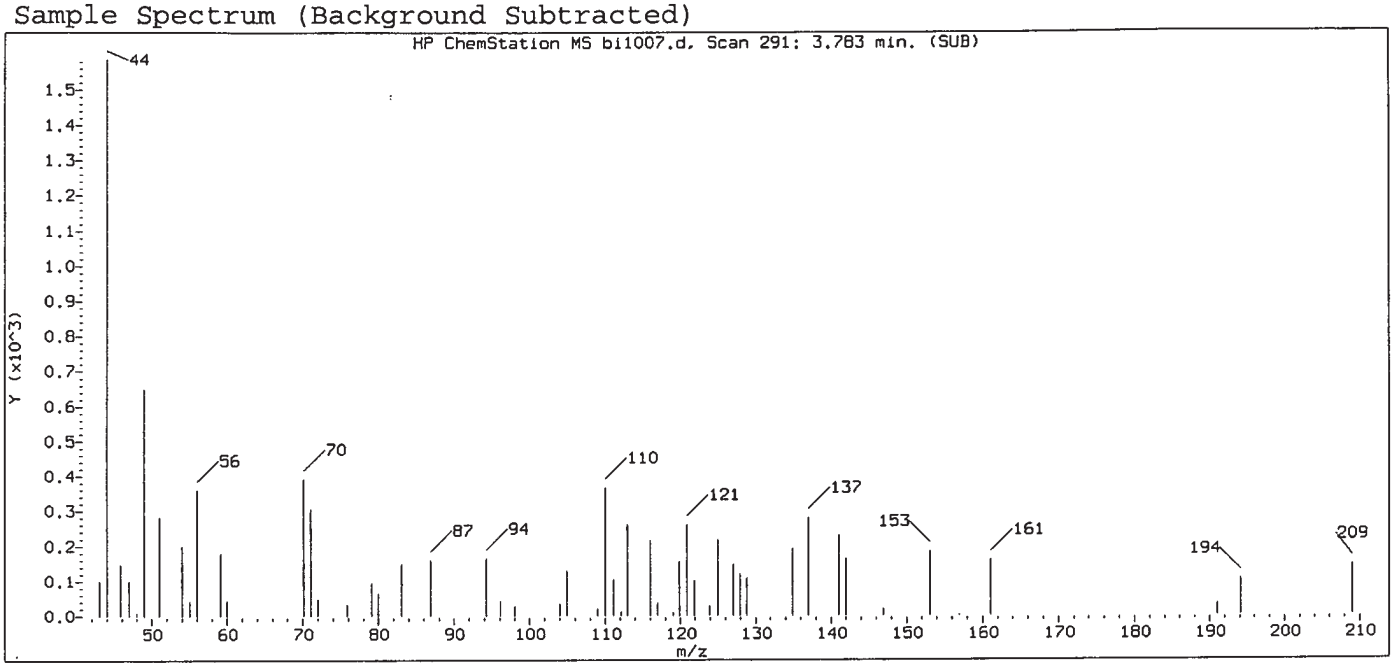
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:13. Target 3.5 signature user ID: lmh00956

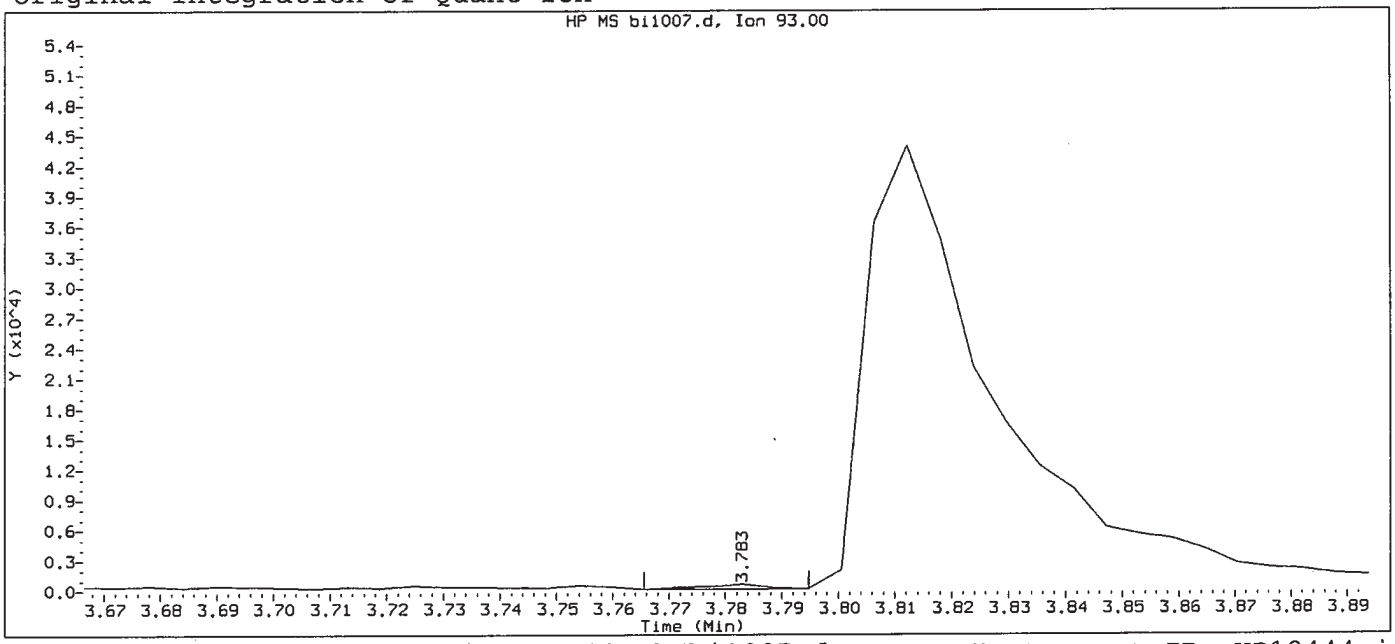
SEP 23 2015

GC/MS audit/management approval: Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1007.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:37 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:31
Date, time and analyst ID of latest file update: 23-Sep-2015 08:31 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 291		
Retention Time (minutes)	: 3.783		
Quant Ion	: 93.00		
Area	: 341		
On-column Amount (ng/ul)	: 0.0187		
Integration start scan	: 287	Integration stop scan:	292
Y at integration start	: 174	Y at integration end:	174

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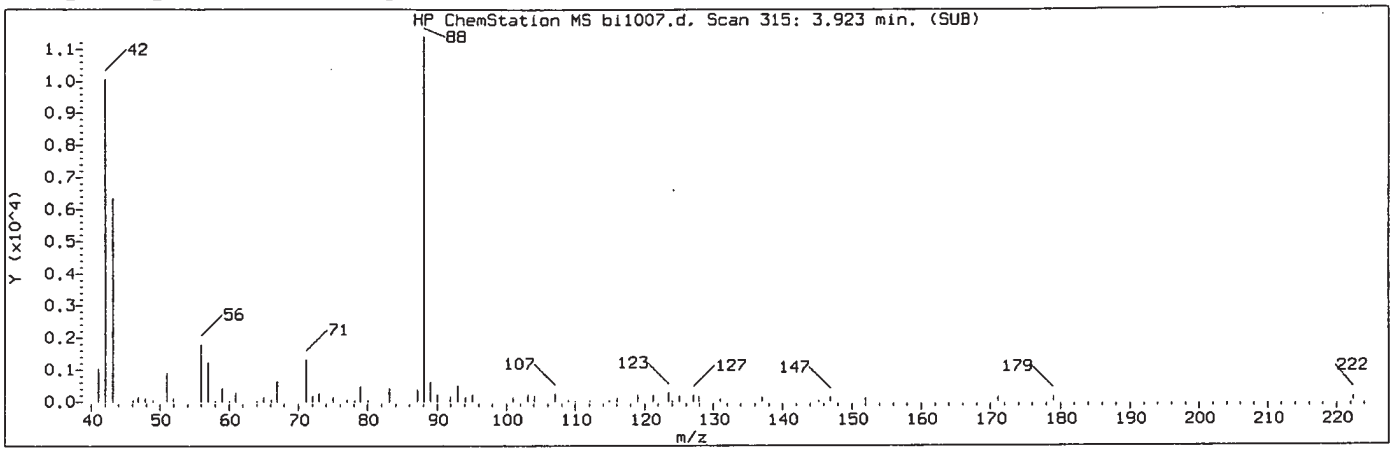
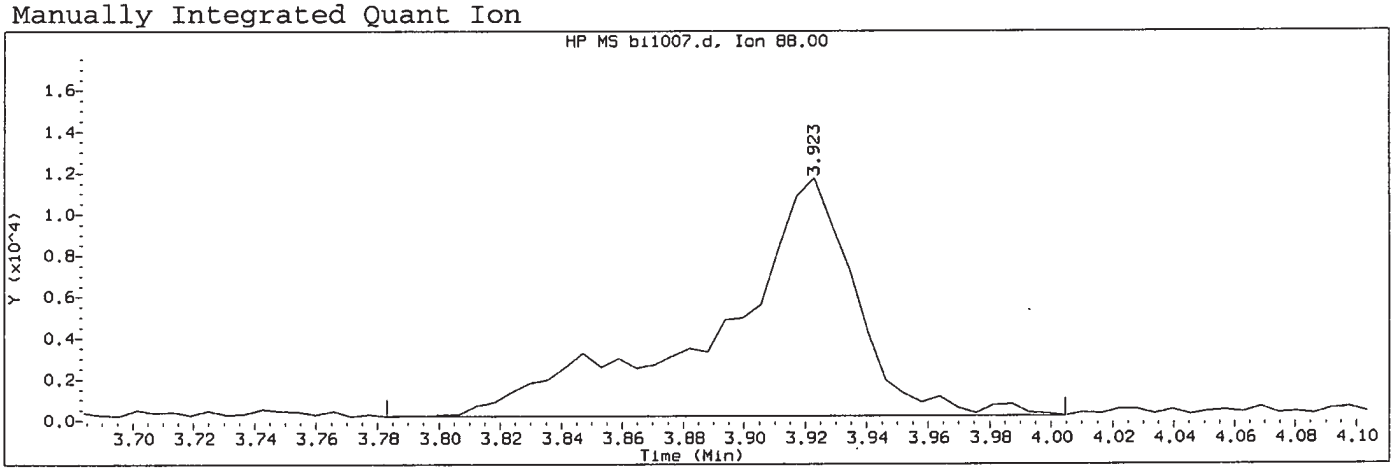
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1007.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:37 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 315		
Retention Time (minutes)	: 3.923		
Quant Ion	: 88.00		
Area (flag)	: 36129M		
On-Column Amount (ng/ul)	: 5.3521		
Integration start scan	: 290	Integration stop scan:	328
Y at integration start	: 183	Y at integration end:	183

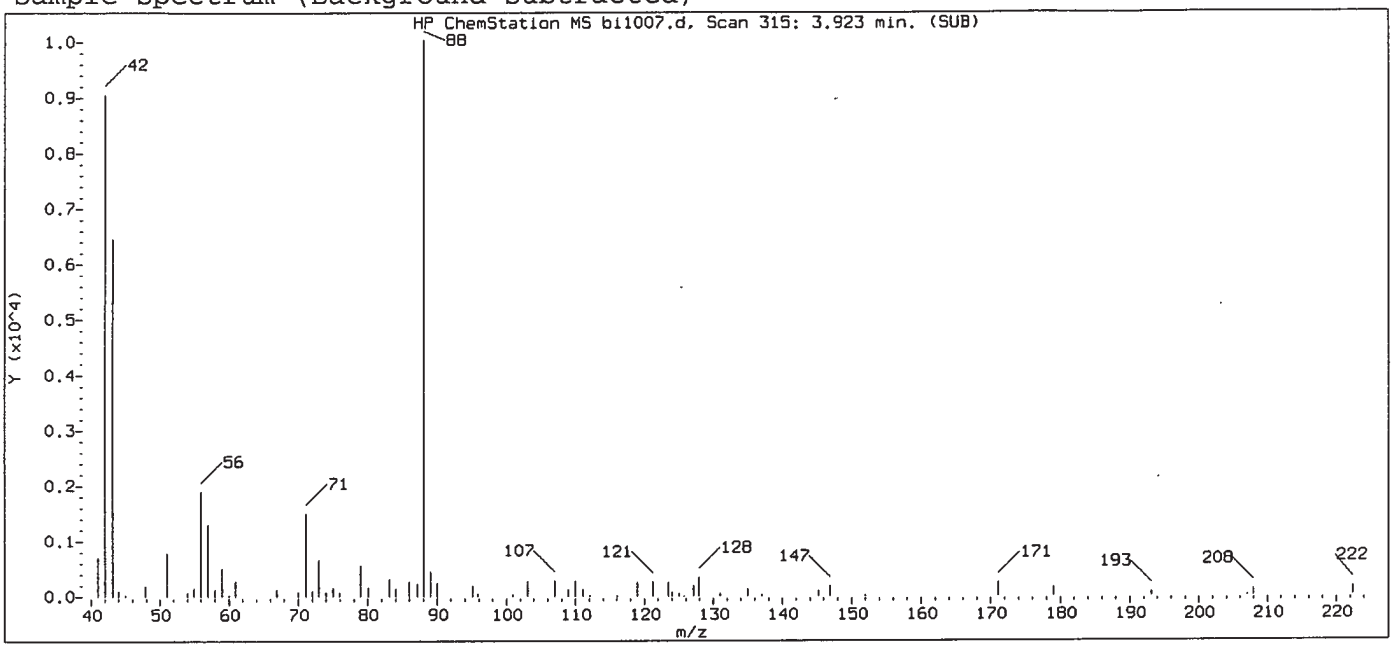
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:12. Target 3.5 signature user ID: lmh00956

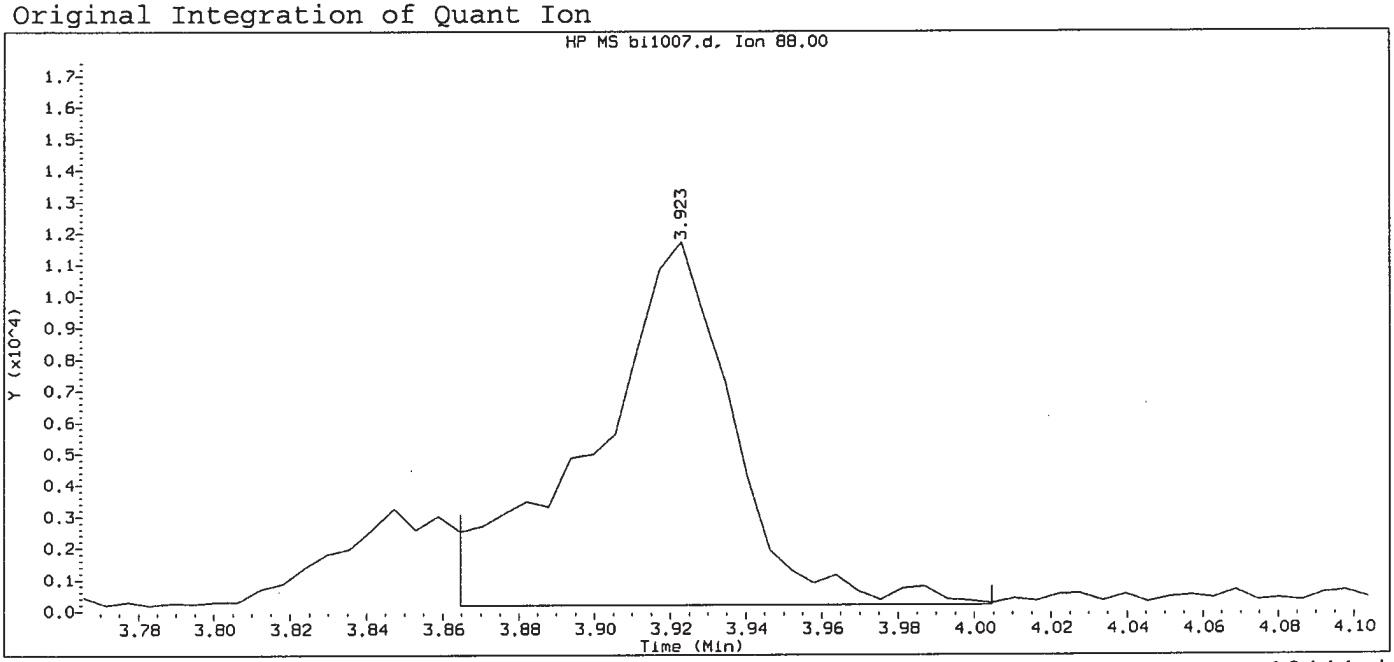
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1007.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:37 Analyst ID: whs02991

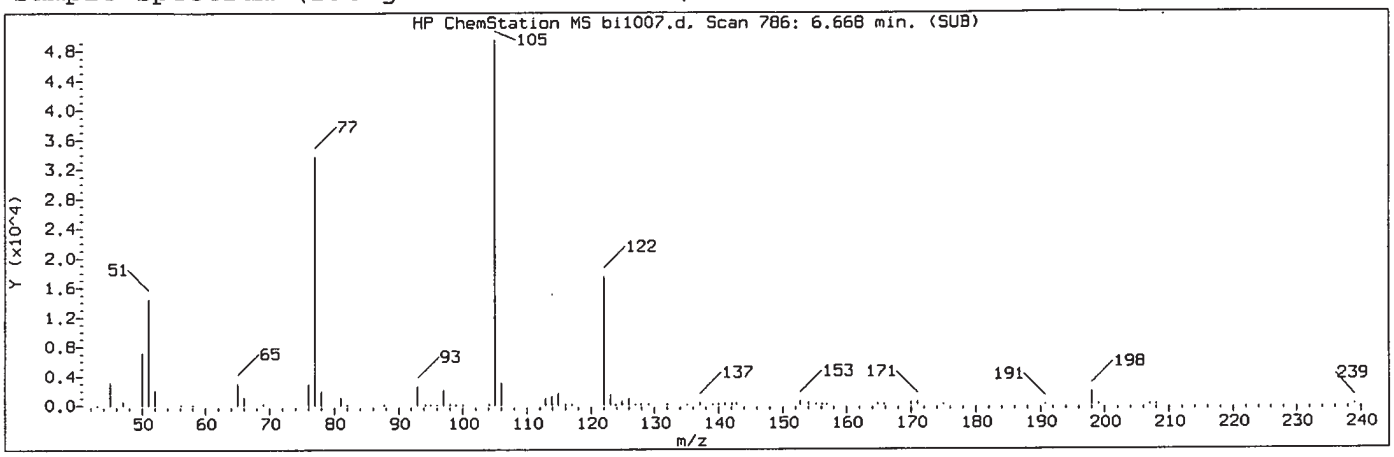
Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:31
Date, time and analyst ID of latest file update: 23-Sep-2015 08:31 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

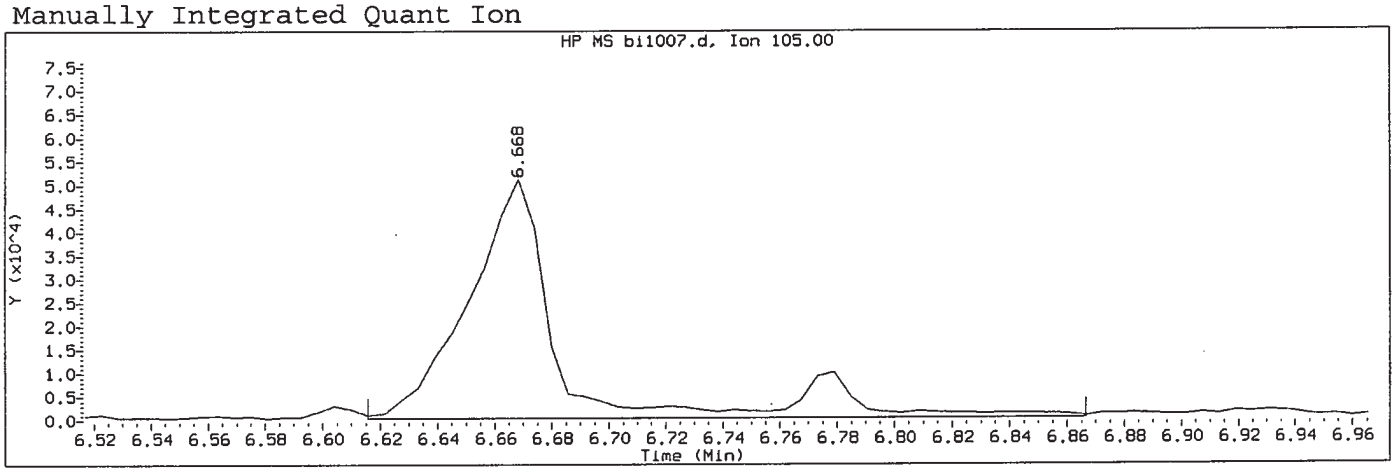
Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 315		
Retention Time (minutes)	: 3.923		
Quant Ion	: 88.00		
Area	: 29768		
On-column Amount (ng/ul)	: 3.7089		
Integration start scan	: 304	Integration stop scan:	328
Y at integration start	: 190	Y at integration end:	190

Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1007.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:37 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 786		
Retention Time (minutes)	: 6.668		
Quant Ion	: 105.00		
Area (flag)	: 113282M		
On-Column Amount (ng/ul)	: 12.2334		
Integration start scan	: 776	Integration stop scan:	819
Y at integration start	: 503	Y at integration end:	503

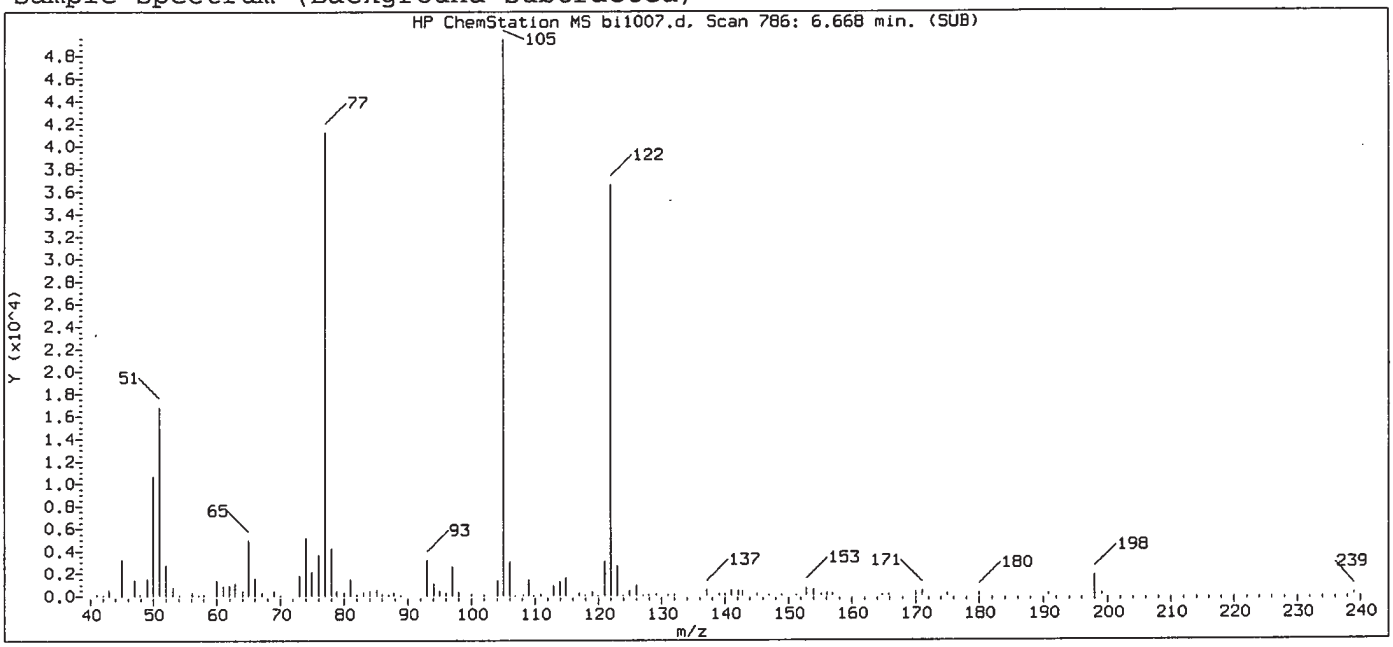
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:12. Target 3.5 signature Reason ID: lmh00956

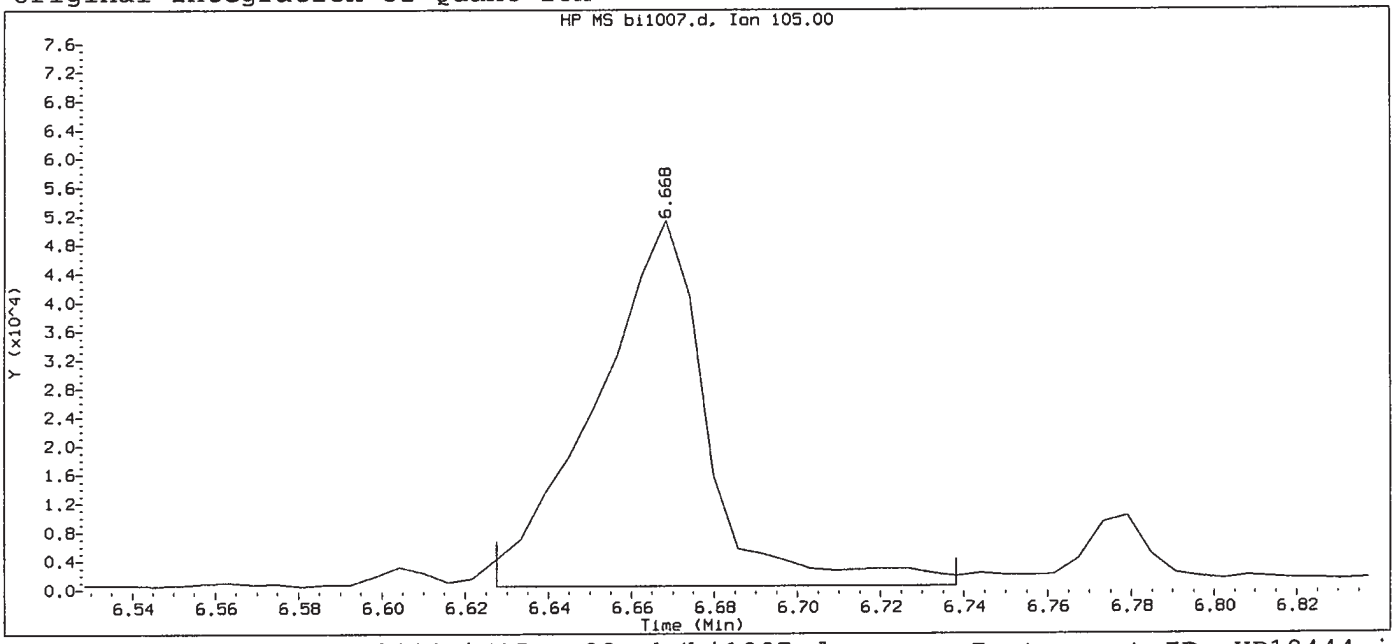
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



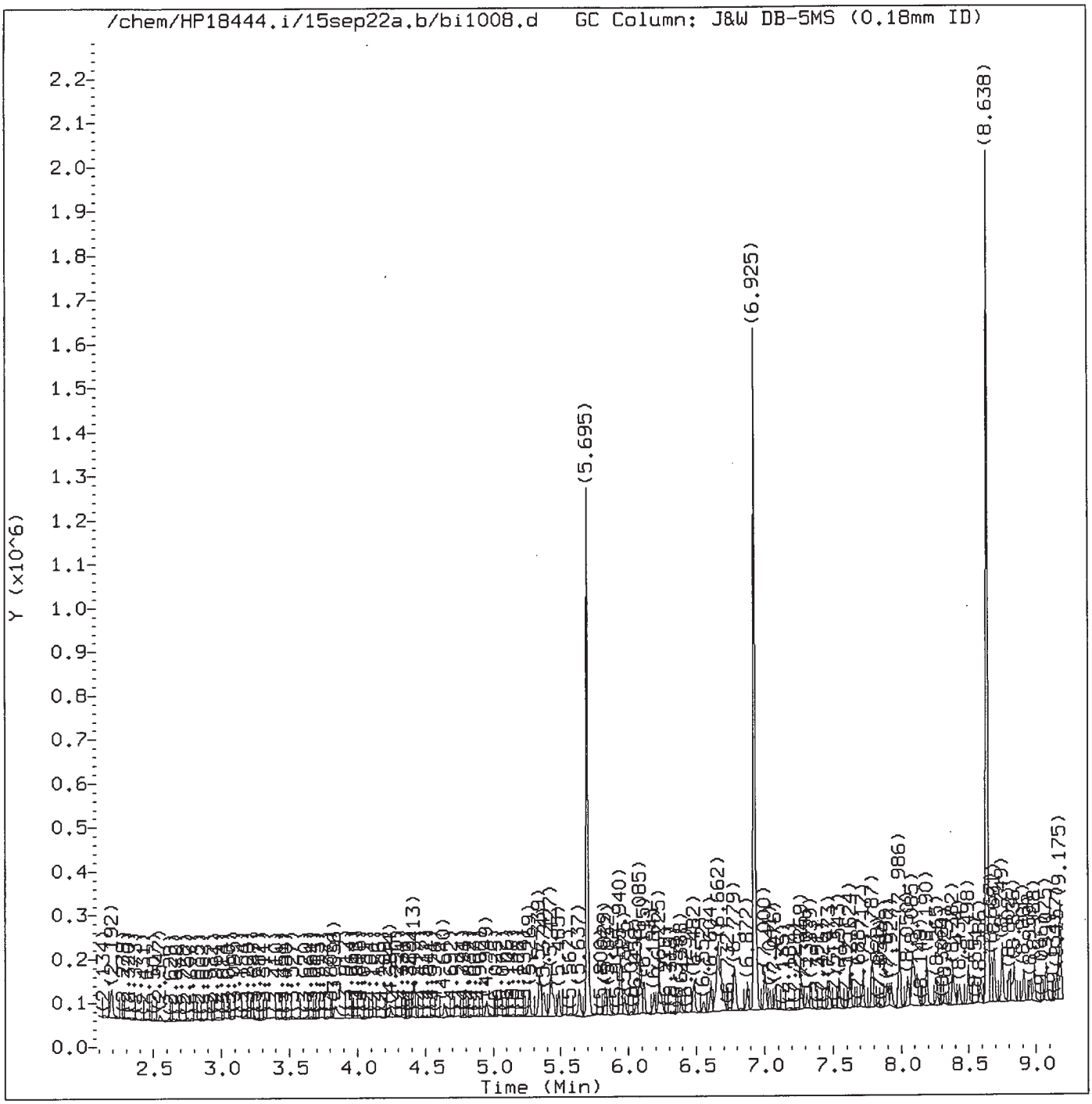
Data File: /chem/HP18444.i/15sep22a.b/bi1007.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:37 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:31
Date, time and analyst ID of latest file update: 23-Sep-2015 08:31 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 786		
Retention Time (minutes)	: 6.668		
Quant Ion	: 105.00		
Area	: 95515		
On-column Amount (ng/ul)	: 7.1611		
Integration start scan	: 778	Integration stop scan:	797
Y at integration start	: 484	Y at integration end:	484

Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

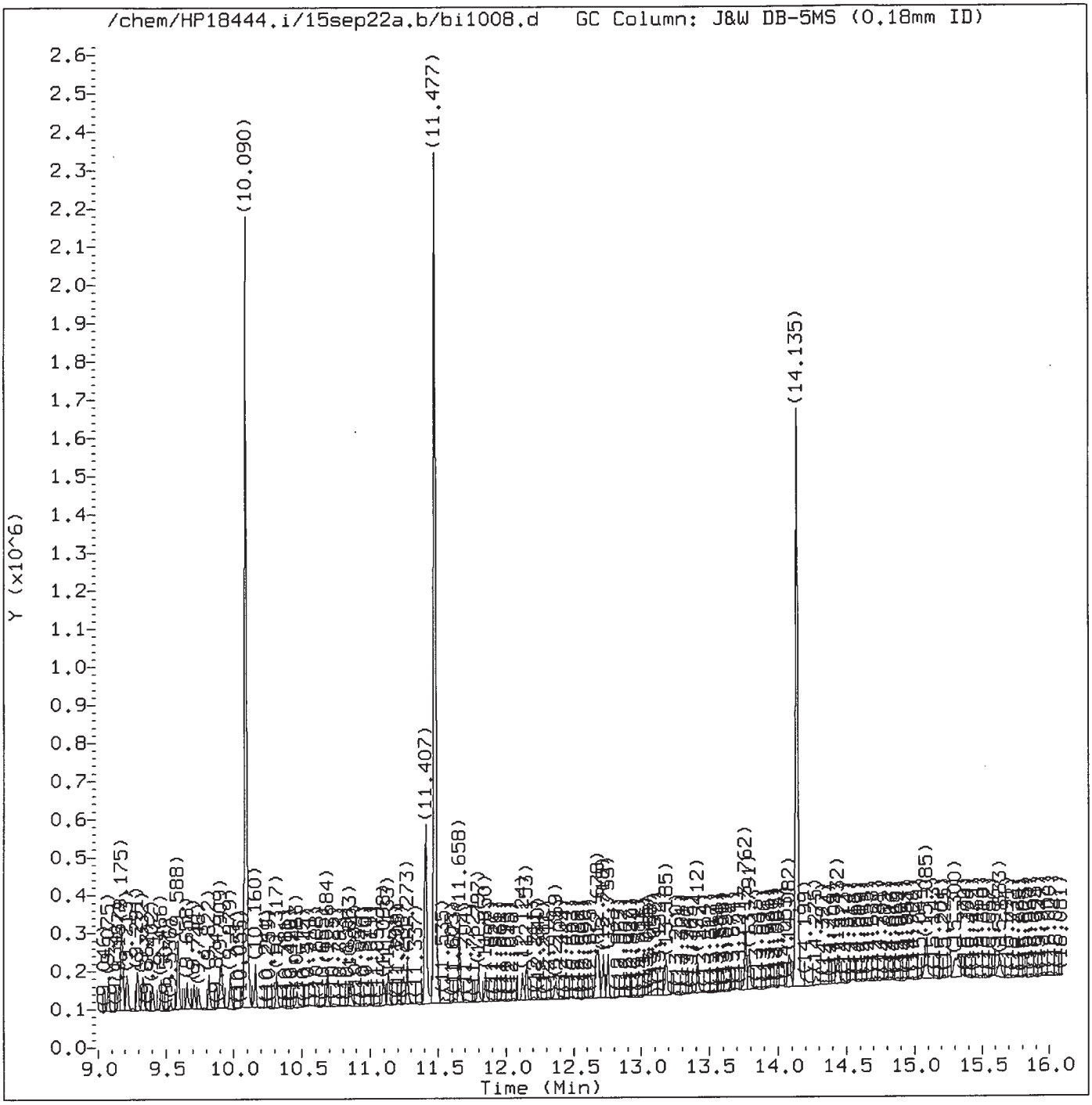
Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.542	88	5661	1.009
4) N-Nitrosodimethylamine	(1)	2.973	74	7522A	0.814
5) Pyridine	(1)	3.078	79	12765M	0.828
7) 2-Picoline	(1)	3.836	93	15123M	0.963
8) N-Nitrosomethylethylamine	(1)	3.929	88	14267M	1.995
9) Methyl methanesulfonate	(1)	4.244	80	8085	0.993
11)$2-Fluorophenol	(1)	4.418	112	25475	2.100
13) N-Nitrosodiethylamine	(1)	4.640	102	6999	1.011
15) Ethyl methanesulfonate	(1)	4.949	109	7239	1.053
17)$Phenol-d6	(1)	5.339	99	34081	2.052
18) Phenol	(1)	5.351	94	19487	0.997
19) Aniline	(1)	5.374	93	22579	1.003
20) a-methylstyrene	(1)	5.433	118	13104	1.037
22) bis(2-Chloroethyl)ether	(1)	5.444	93	15367	1.047
23) 2-Chlorophenol	(1)	5.485	128	12247	1.008
24) 1,3-Dichlorobenzene	(1)	5.637	146	12716	1.015
25)*1,4-Dichlorobenzene-d4	(1)	5.695	152	160998	20.000
26) 1,4-Dichlorobenzene	(1)	5.712	146	13360	1.039
27) Benzyl alcohol	(1)	5.829	108	9194	1.034
28) 1,2-Dichlorobenzene	(1)	5.858	146	12214	1.016
31) 2-Methylphenol	(1)	5.940	108	12940	1.033
30) Indene	(1)	5.940	115	22234	1.043
33) 2,2'-oxybis(1-Chloropropane)	(1)	5.975	45	18128	1.104
34) bis(2-Chloroisopropyl)ether	(1)	5.975	45	18128	1.104
35) N-Nitrosopyrrolidine	(1)	6.056	100	7297	1.000
36) Acetophenone	(1)	6.080	105	21330	1.082
38) N-Nitroso-di-n-propylamine	(1)	6.091	70	13714	1.154
37) 4-Methylphenol	(1)	6.091	108	14868	1.057
39) N-Nitrosomorpholine	(1)	6.097	56	8610	1.046
40) o-Toluidine	(1)	6.115	106	20801	0.983
43) Hexachloroethane	(1)	6.184	117	6302	1.143
44)$Nitrobenzene-d5	(2)	6.225	82	31191	2.021
45) Nitrobenzene	(2)	6.243	77	16871	1.064
48) N-Nitrosopiperidine	(2)	6.388	114	6606	1.004
50) Isophorone	(2)	6.482	82	31896	1.061
51) 2-Nitrophenol	(2)	6.552	139	4394	0.826
53) 2,4-Dimethylphenol	(2)	6.604	107	14201	1.022
42) Total Cresols	(1)			27808	2.090
56) Benzoic acid	(2)	6.662	105	76475	7.748
57) O,O,O-Triethylphosphorothioate	(2)	6.680	198	6183	1.003

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	6.697	93	17965	1.025
59) 1,2,3,4-Tetrahydronaphthalene	(2)	6.779	104	20039	1.033
60) 2,4-Dichlorophenol	(2)	6.785	162	8262	0.872
62) 1,2,4-Trichlorobenzene	(2)	6.872	180	11130	1.020
65)*Naphthalene-d8	(2)	6.925	136	635165	20.000
66) Naphthalene	(2)	6.948	128	34828	1.019
67) 4-Chloroaniline	(2)	7.000	127	14955	1.003
68) 2,6-Dichlorophenol	(2)	7.006	162	8923	0.954
69) Hexachloropropene	(2)	7.041	213	7341	1.034
71) Hexachlorobutadiene	(2)	7.082	225	6086	0.973
75) Quinoline	(2)	7.269	129	23841	1.060
76) Caprolactam	(2)	7.309	113	4698	1.125
77) N-Nitrosodi-n-butylamine	(2)	7.339	84	11772	0.933
80) 4-Chloro-3-methylphenol	(2)	7.473	107	11614	0.965
82) Safrole	(2)	7.543	162	8874	0.976
83) 2-Methylnaphthalene	(2)	7.624	142	22802	0.974
84) 1-Methylnaphthalene	(2)	7.717	142	21674	1.006
85) Hexachlorocyclopentadiene	(3)	7.787	237	6016	0.897
86) 1,2,4,5-Tetrachlorobenzene	(3)	7.787	216	11207	0.982
88) cis-Isosafrole	(3)	7.828	162	1657	0.161
90) 2,4,6-Trichlorophenol	(3)	7.898	196	6575	0.918
92) 2,4,5-Trichlorophenol	(3)	7.927	196	7785	0.998
93)$2-Fluorobiphenyl	(3)	7.986	172	51709	2.018
94) trans-Isosafrole	(3)	8.050	162	9068	0.817
95) 1,1'-Biphenyl	(3)	8.085	154	28636	0.993
96) 2-Chloronaphthalene	(3)	8.096	162	26576M	1.123
98) 1-Chloronaphthalene	(3)	8.114	162	21846M	1.036
100) 2-Nitroaniline	(3)	8.190	138	5774	0.899
99) Diphenyl ether	(3)	8.190	170	14759	0.957
104) 1,4-Naphthoquinone	(3)	8.265	158	7983	0.847
105) 1,4-Dinitrobenzene	(3)	8.324	168	2444	0.815
106) Dimethylphthalate	(3)	8.382	163	28028	1.060
107) 1,3-Dinitrobenzene	(3)	8.399	168	2932	0.833
108) 2,6-Dinitrotoluene	(3)	8.434	165	4814	0.895
109) Acenaphthylene	(3)	8.498	152	35037	0.995
112) 3-Nitroaniline	(3)	8.586	138	5497	0.955
97) Isosafrole	(3)			10725	0.978
113)*Acenaphthene-d10	(3)	8.638	164	377277	20.000
114) Acenaphthene	(3)	8.667	153	22852	0.981
115) 2,4-Dinitrophenol	(3)	8.691	184	13740	6.113

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
116) 4-Nitrophenol	(3)	8.749	109	18180	4.829
117) Pentachlorobenzene	(3)	8.802	250	9810	0.987
118) 2,4-Dinitrotoluene	(3)	8.825	165	5843	0.826
119) Dibenzofuran	(3)	8.836	168	32253	1.031
121) 1-Naphthylamine	(3)	8.912	143	24213	0.999
122) 2,3,4,6-Tetrachlorophenol	(3)	8.959	232	5831	0.934
123) 2-Naphthylamine	(3)	8.988	143	25510	1.065
124) Diethylphthalate	(3)	9.075	149	25247	0.973
125) Thionazin	(3)	9.151	107	7041	1.320
128) 5-Nitro-o-toluidine	(3)	9.175	152	6876	1.020
129) 4-Nitroaniline	(3)	9.175	138	5688	0.921
126) Fluorene	(3)	9.175	166	25157	0.960
127) 4-Chlorophenyl-phenylether	(3)	9.180	204	13398	1.029
130) 4,6-Dinitro-2-methylphenol	(4)	9.215	198	11315	3.353
132) NDPA as diphenylamine	(4)	9.291	169	21916	0.938
131) N-Nitrosodiphenylamine	(4)	9.291	169	21916	0.946
134) 1,2-Diphenylhydrazine	(4)	9.332	77	35251	0.999
120) 2,4_2,6-Dinitrotoluenes	(3)			10657	1.721
135)$2,4,6-Tribromophenol	(3)	9.402	330	5990	1.865
137) Tetraethyldithiopyrophosphate	(4)	9.466	97	6550	1.160
139) 1,3,5-Trinitrobenzene	(4)	9.536	213	1577	0.726
140) Diallate (peak 1)	(4)	9.588	86	14416	0.899
142) Phenacetin	(4)	9.594	108	14308	0.910
141) Phorate	(4)	9.594	75	21183	0.959
143) 4-Bromophenyl-phenylether	(4)	9.658	248	7508	0.958
144) Diallate (peak 2)	(4)	9.676	86	2438	0.154
145) Hexachlorobenzene	(4)	9.711	284	8569	1.067
147) Dimethoate	(4)	9.746	87	11858	0.903
149) Pentachlorophenol	(4)	9.903	266	3511	0.758
150) 4-Aminobiphenyl	(4)	9.909	169	27361	1.077
151) Pentachloronitrobenzene	(4)	9.915	237	2846	0.825
152) Pronamide	(4)	9.979	173	12389	0.980
153)*Phenanthrene-d10	(4)	10.090	188	737431	20.000
154) Dinoseb	(4)	10.090	211	3466	0.695
155) Phenanthrene	(4)	10.107	178	39668	0.996
157) Anthracene	(4)	10.160	178	39566	0.987
146) Diallate trans/cis	(4)			16854	1.053
163) Carbazole	(4)	10.317	167	35538	0.980
164) Methyl parathion	(4)	10.463	109	6216	0.724
165) Di-n-butylphthalate	(4)	10.684	149	44910	0.990

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	10.853	109	4071	0.730
168) 4-Nitroquinoline-1-oxide	(4)	10.859	190	1227	0.406
169) Octachlorostyrene	(4)	11.098	308	2999	1.004
171) Isodrin	(4)	11.133	193	5442	1.110
173) Fluoranthene	(4)	11.273	202	43142	0.981
174) Benzidine	(5)	11.407	184	187964	7.426
175)*Pyrene-d10	(5)	11.477	212	851003	20.000
177) Pyrene	(5)	11.494	202	46059	1.008
179)$Terphenyl-d14	(5)	11.658	244	59637	1.923
182) p-Dimethylaminoazobenzene	(5)	11.797	225	9621	1.020
185) Chlorobenzilate	(5)	11.850	139	12366	0.932
187) 3,3'-Dimethylbenzidine	(5)	12.124	212	25113	0.970
188) Butylbenzylphthalate	(5)	12.153	149	17703	0.897
191) 2-Acetylaminofluorene	(5)	12.369	181	13064	0.755
193) 3,3'-Dichlorobenzidine	(5)	12.666	252	14739	0.926
198) 4,4'-Methylenebis(2-chloroanil	(5)	12.672	231	7798	0.883
195) Benzo(a)anthracene	(5)	12.683	228	39645	0.935
196) Chrysene	(5)	12.718	228	38384	0.974
199) bis(2-Ethylhexyl)phthalate	(5)	12.753	149	25786	0.899
203) 6-Methylchrysene	(5)	13.185	242	26372	0.906
205) Di-n-octylphthalate	(6)	13.412	149	41525	0.898
206) Benzo(b)fluoranthene	(6)	13.762	252	37835	0.961
207) 7,12-Dimethylbenz[a]anthracene	(6)	13.762	256	15707	0.880
208) Benzo(k)fluoranthene	(6)	13.791	252	34303	0.914
211) Benzo(a)pyrene	(6)	14.082	252	33434	0.912
213)*Perylene-d12	(6)	14.135	264	587910	20.000
215) 3-Methylcholanthrene	(6)	14.432	268	16642	0.946
219) Indeno(1,2,3-cd)pyrene	(6)	15.295	276	35241	0.904
220) Dibenz(a,h)anthracene	(6)	15.324	278	28493	0.895
221) Benzo(g,h,i)perylene	(6)	15.633	276	29708	0.921
222) Total PAHs	(6)			535690	15.450

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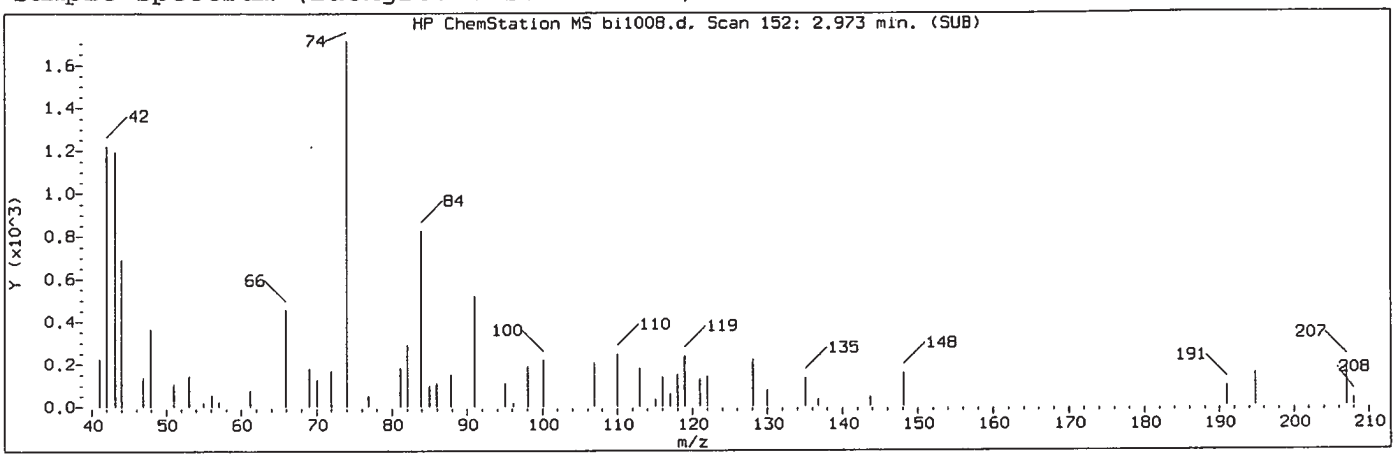
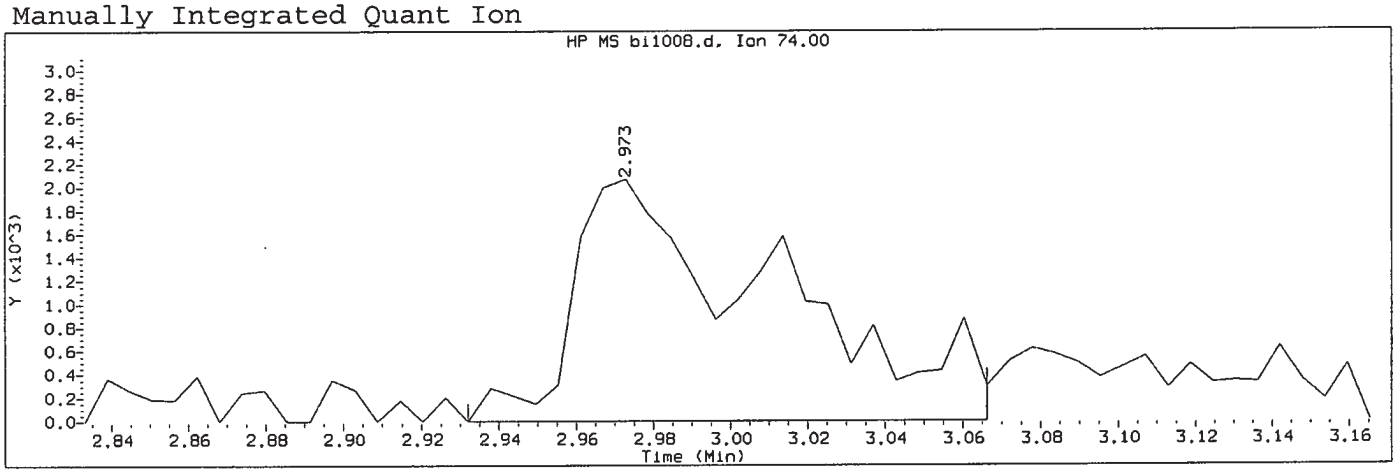
on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 152		
Retention Time (minutes)	: 2.973		
Quant Ion	: 74.00		
Area (flag)	: 7522A		
On-Column Amount (ng/ul)	: 0.8142		
Integration start scan	: 144	Integration stop scan:	167
Y at integration start	: 0	Y at integration end:	0

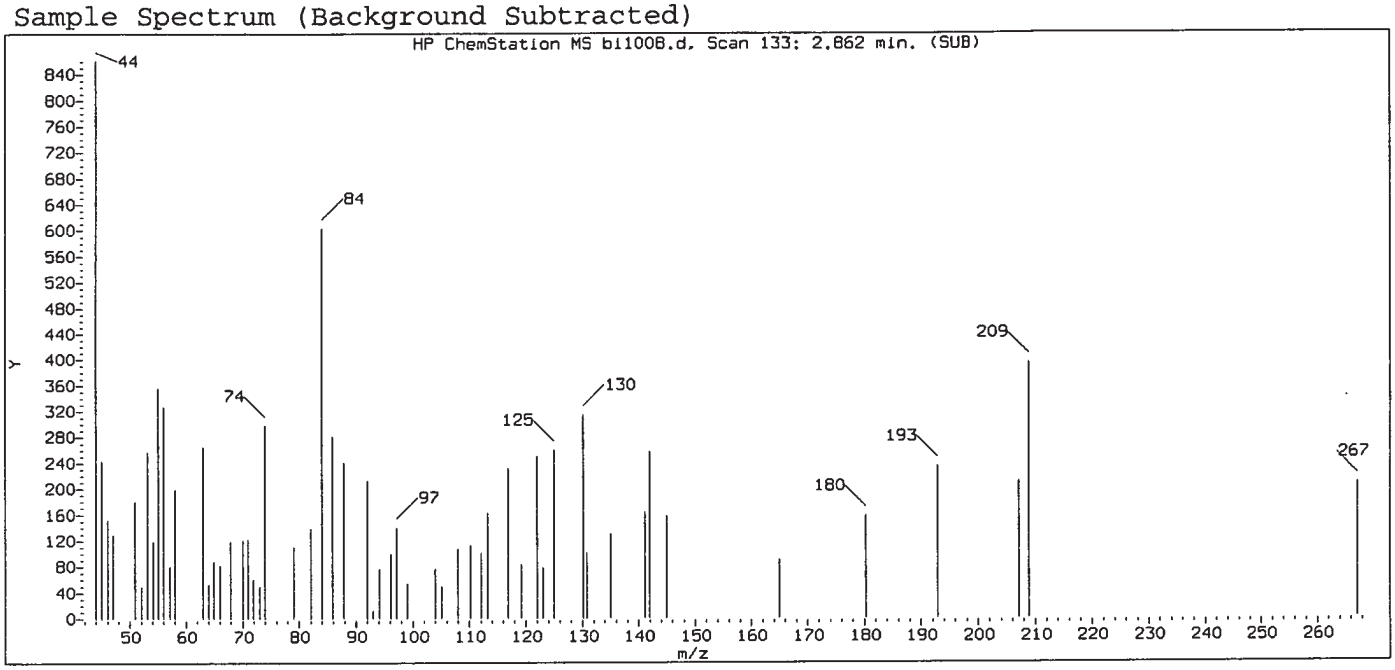
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:12 Target 3.5 designated user ID: lmh00956

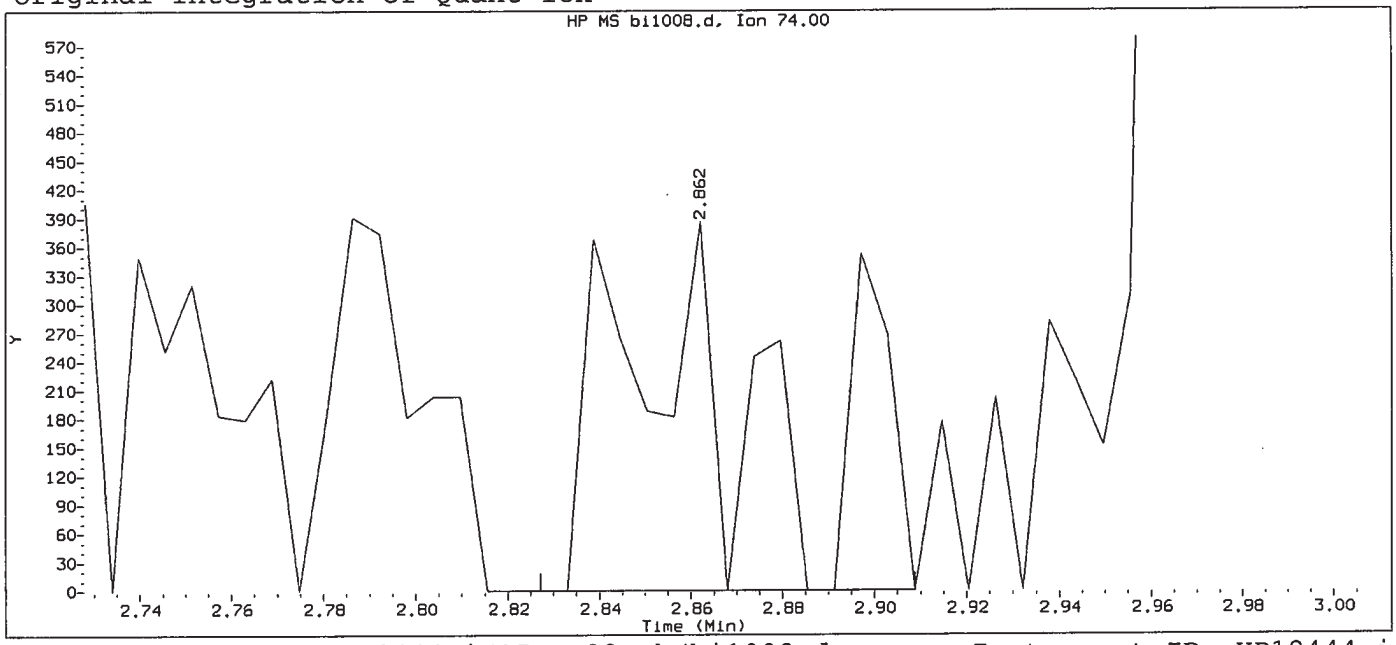
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

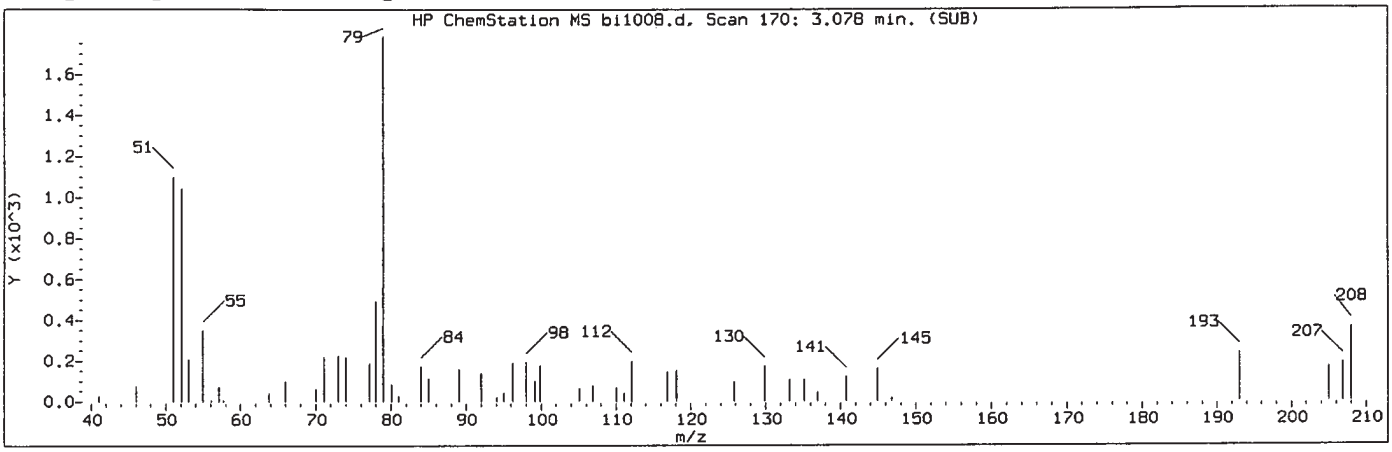
Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:31
Date, time and analyst ID of latest file update: 23-Sep-2015 08:31 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

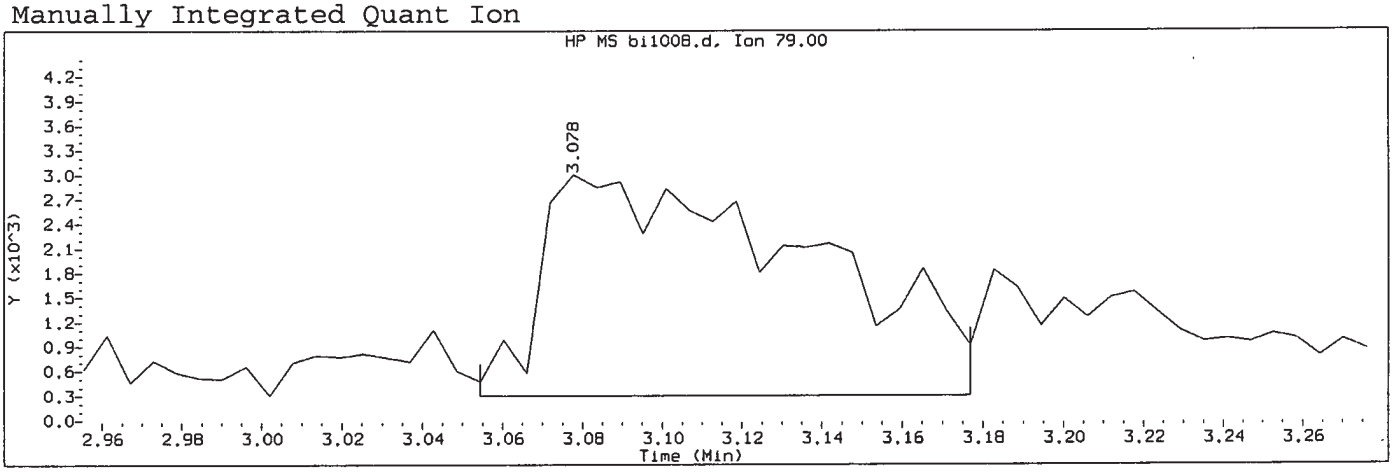
Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 133		
Retention Time (minutes)	: 2.862		
Quant Ion	: 74.00		
Area	: 879		
On-column Amount (ng/ul)	: 0.0829		
Integration start scan	: 126	Integration stop scan:	140
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 170		
Retention Time (minutes)	: 3.078		
Quant Ion	: 79.00		
Area (flag)	: 12765M		
On-Column Amount (ng/ul)	: 0.8279		
Integration start scan	: 165	Integration stop scan:	186
Y at integration start	: 301	Y at integration end:	301

Reason for manual integration: improper integration

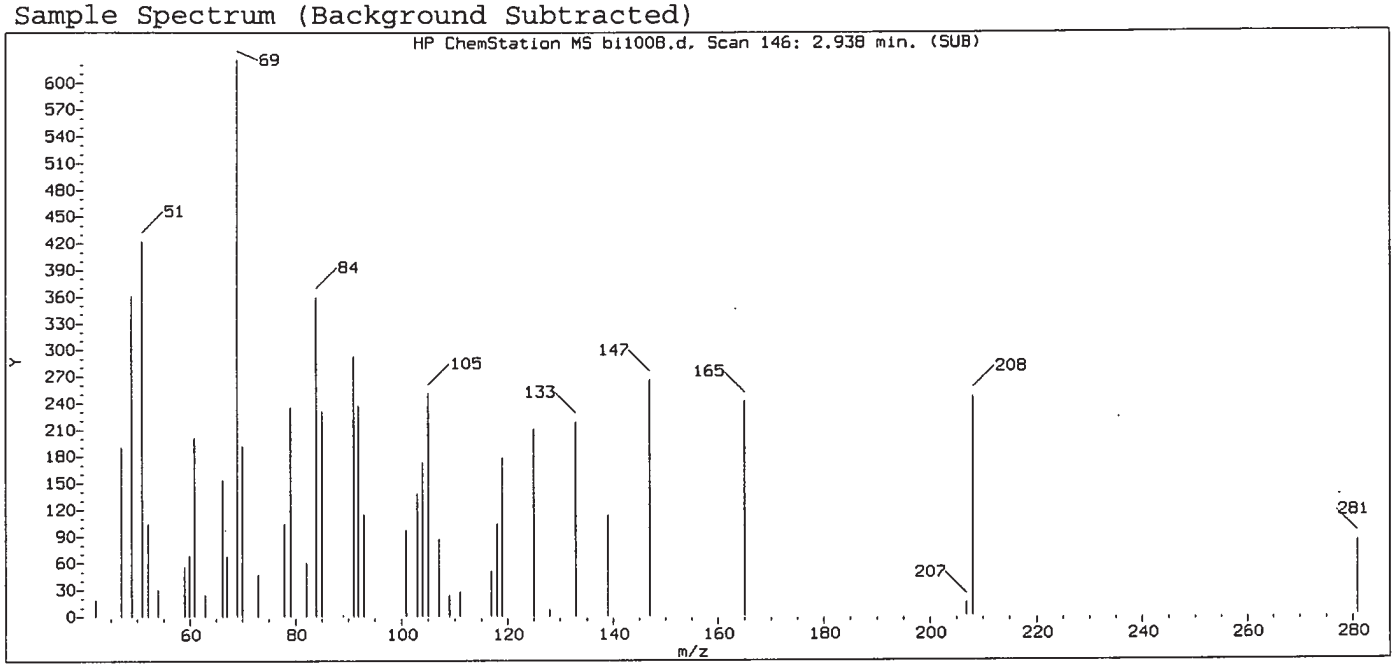
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:12. Target 3.5 ~~esignature user~~ ID: lmh00956

SEP 23 2015

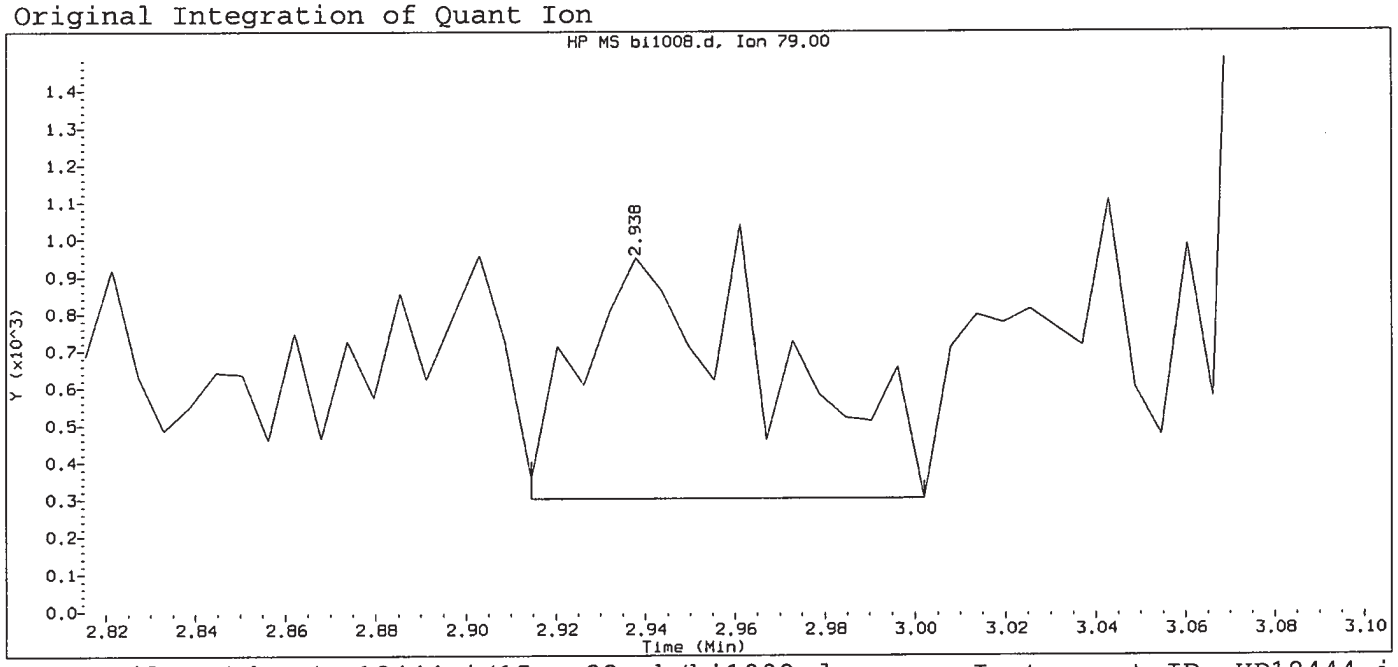
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

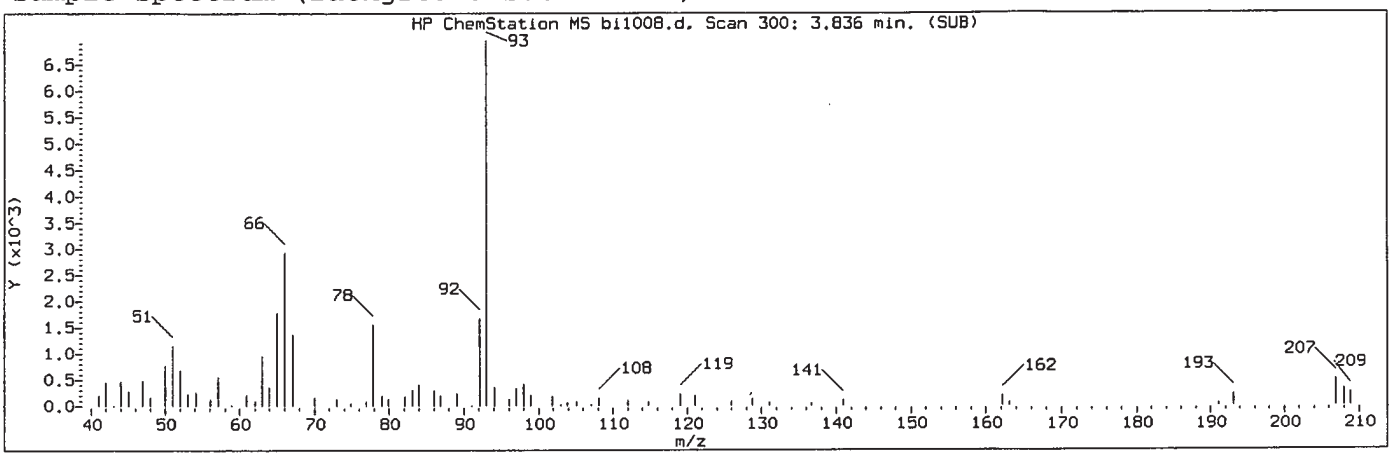
Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:31
Date, time and analyst ID of latest file update: 23-Sep-2015 08:31 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

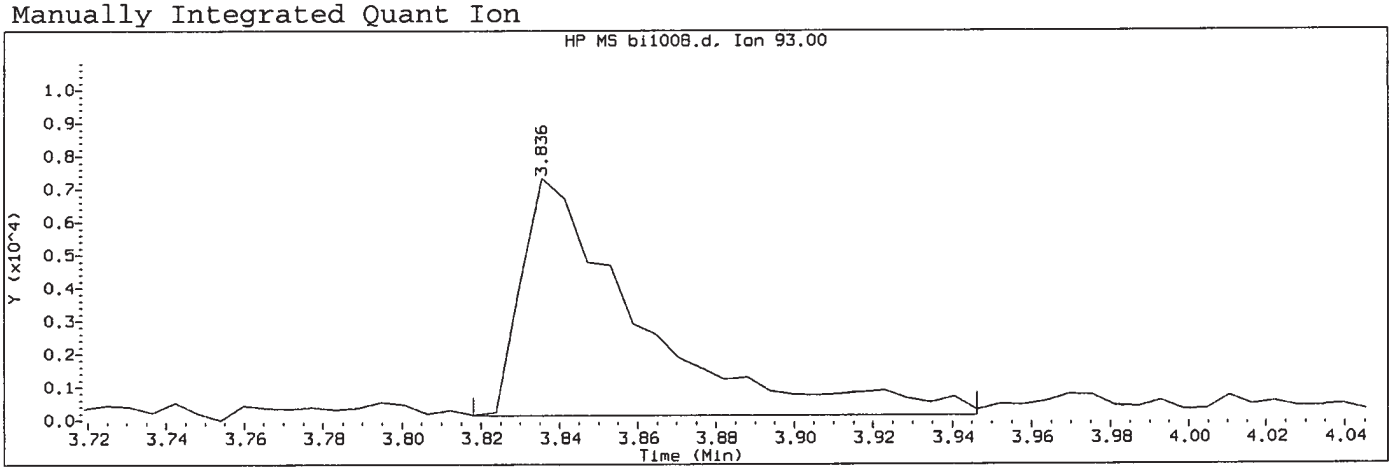
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 146		
Retention Time (minutes)	: 2.938		
Quant Ion	: 79.00		
Area	: 1949		
On-column Amount (ng/ul)	: 0.1081		
Integration start scan	: 141	Integration stop scan:	156
Y at integration start	: 302	Y at integration end:	302

Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:12.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 300		
Retention Time (minutes)	: 3.836		
Quant Ion	: 93.00		
Area (flag)	: 15123M		
On-Column Amount (ng/ul)	: 0.9632		
Integration start scan	: 296	Integration stop scan:	318
Y at integration start	: 139	Y at integration end:	139

Reason for manual integration: improper integration

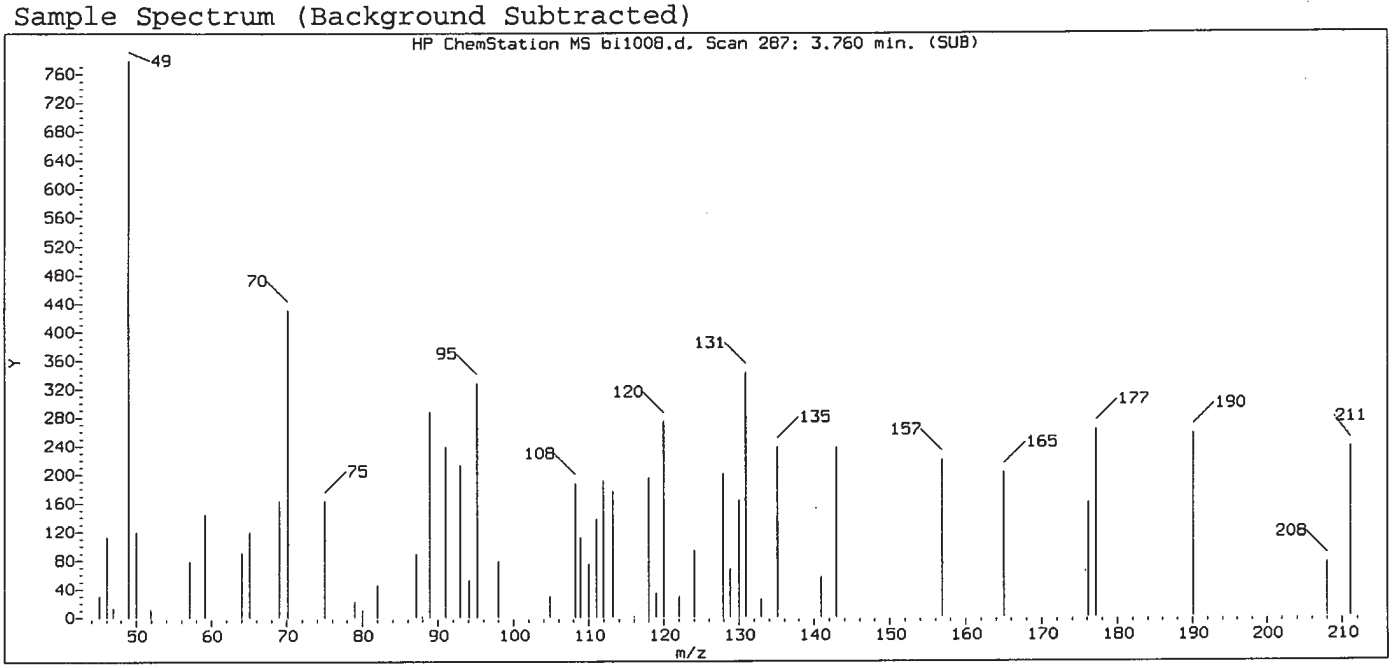
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:12. Target 3.5 esignature used ID: lmh00956

SEP 23 2015

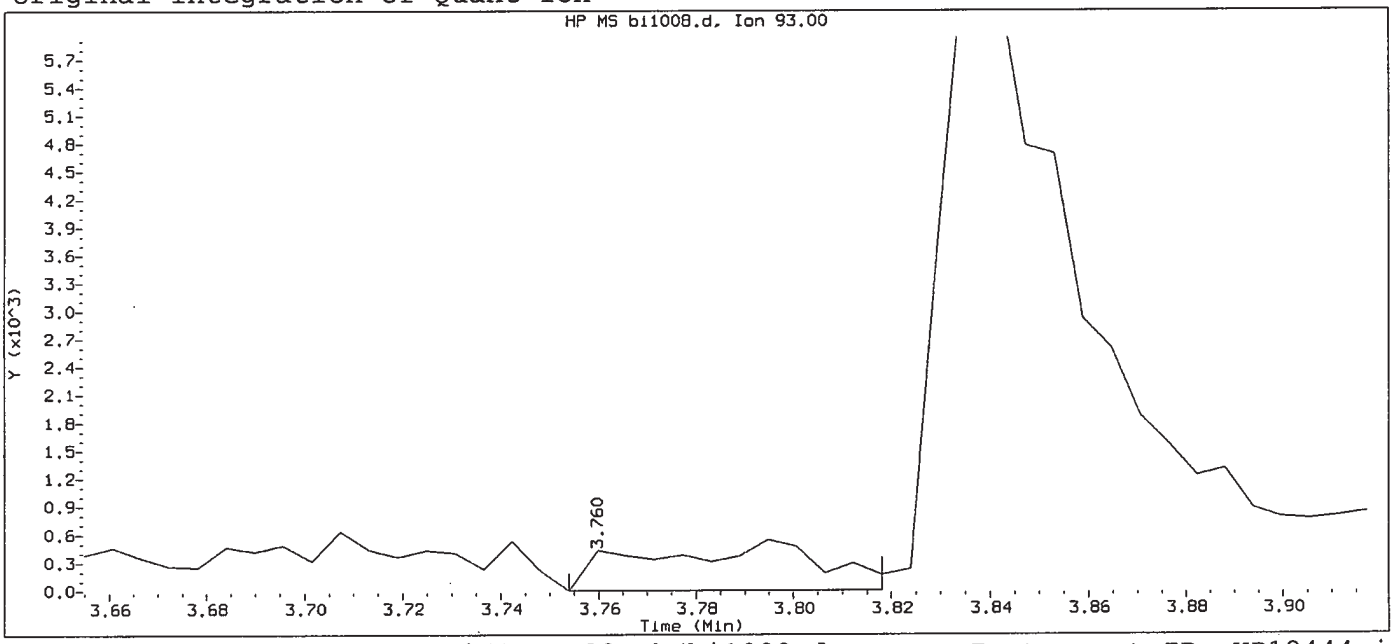
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:31
Date, time and analyst ID of latest file update: 23-Sep-2015 08:31 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 287		
Retention Time (minutes)	: 3.760		
Quant Ion	: 93.00		
Area	: 1324		
On-column Amount (ng/ul)	: 0.0683		
Integration start scan	: 285	Integration stop scan:	296
Y at integration start	: 0	Y at integration end:	0

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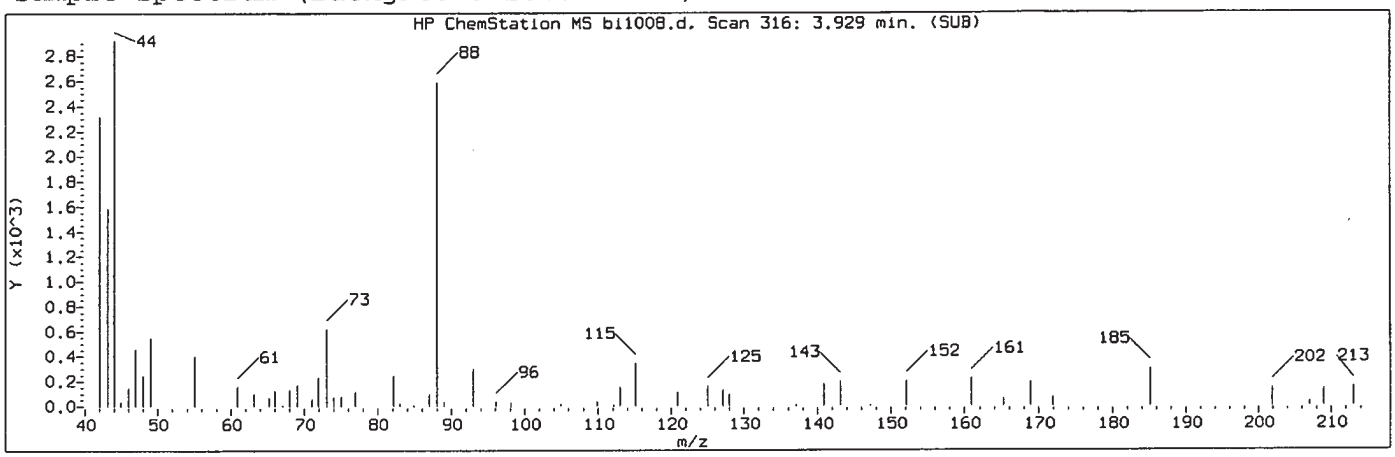
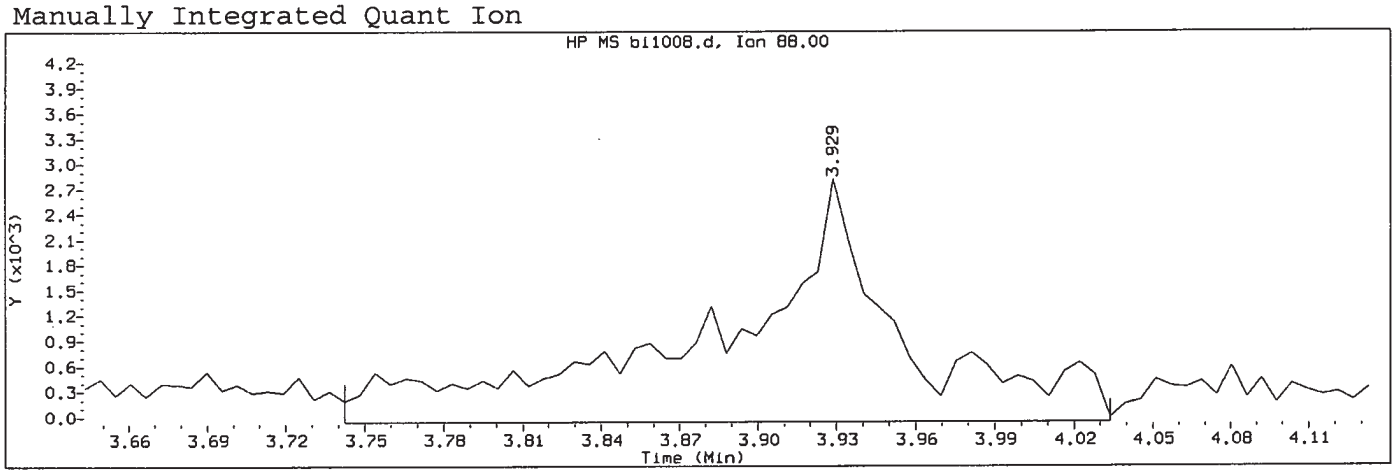
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 316		
Retention Time (minutes)	: 3.929		
Quant Ion	: 88.00		
Area (flag)	: 14267M		
On-Column Amount (ng/ul)	: 1.9946		
Integration start scan	: 283	Integration stop scan:	333
Y at integration start	: -58	Y at integration end:	-58

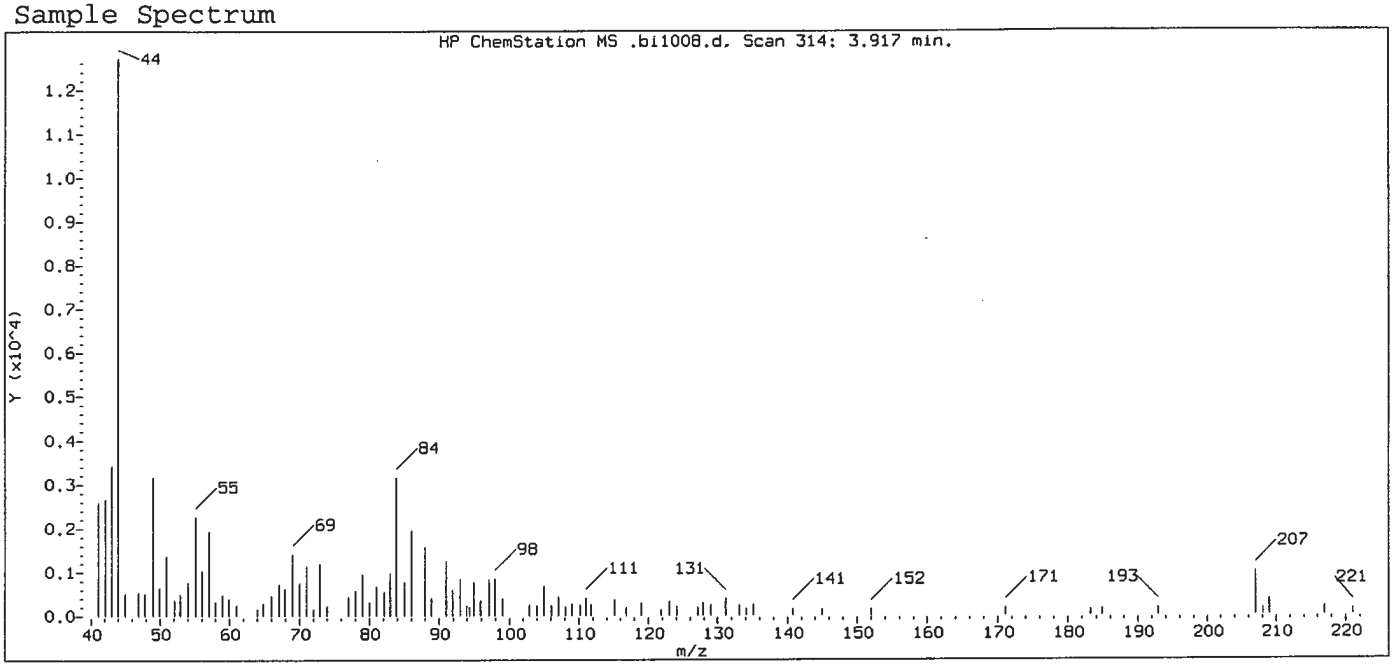
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:12. Target 3.5 signature user ID: lmh00956

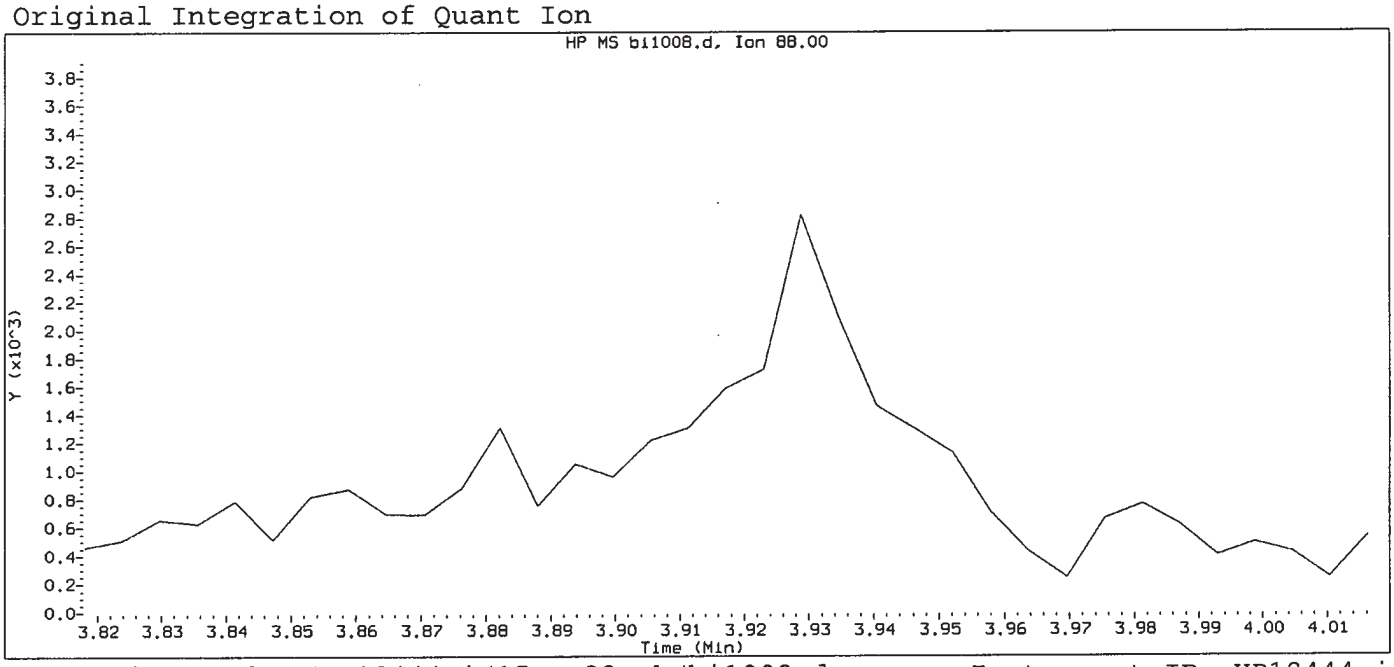
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:31
Date, time and analyst ID of latest file update: 23-Sep-2015 08:31 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 3.917
Quant Ion : 88.00

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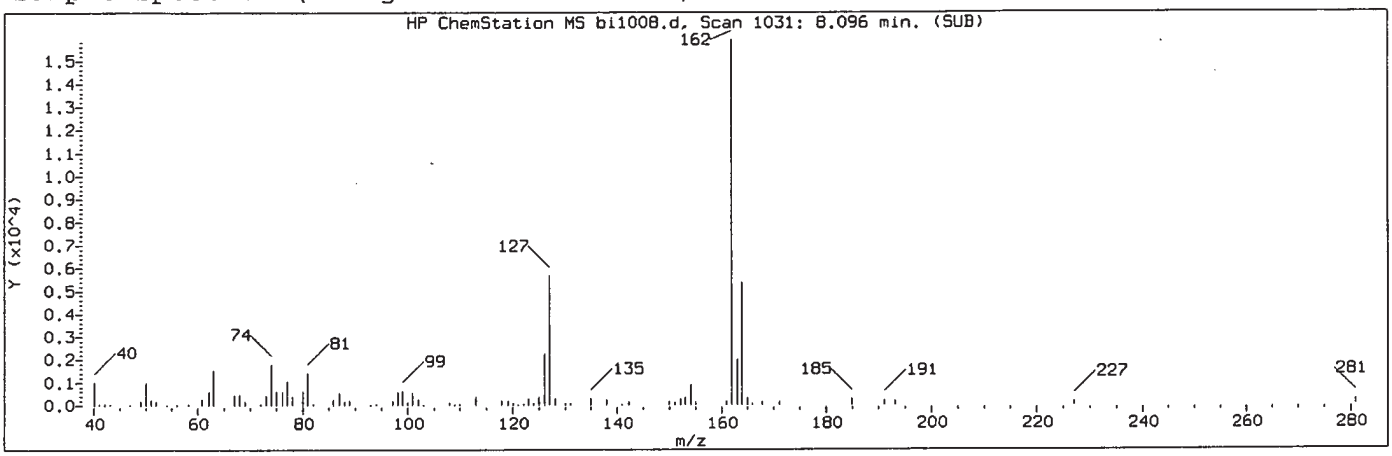
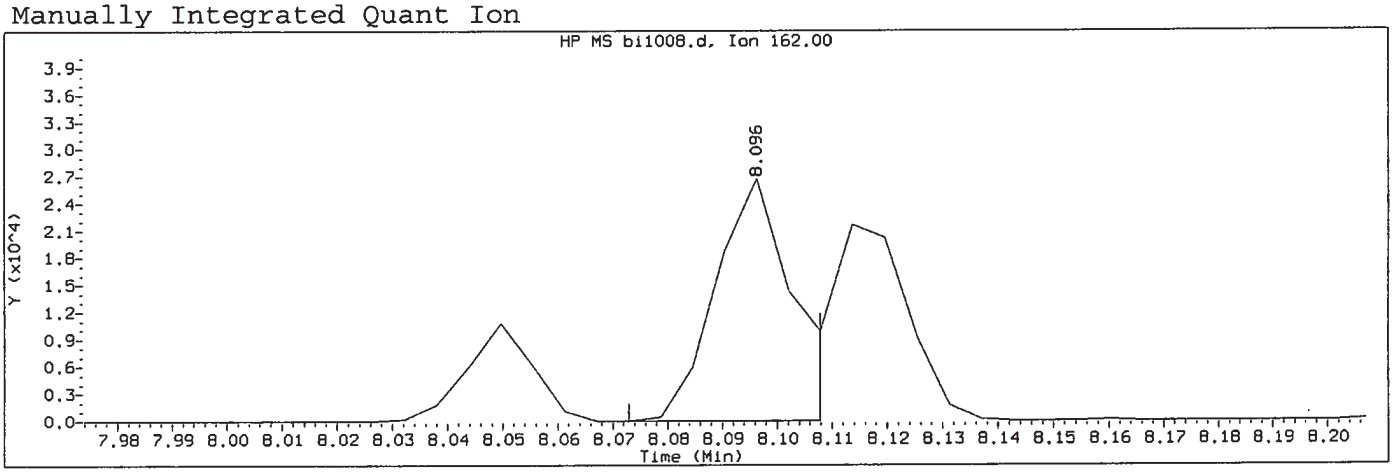
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1031		
Retention Time (minutes)	: 8.096		
Quant Ion	: 162.00		
Area (flag)	: 26576M		
On-Column Amount (ng/ul)	: 1.1231		
Integration start scan	: 1026	Integration stop scan:	1032
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

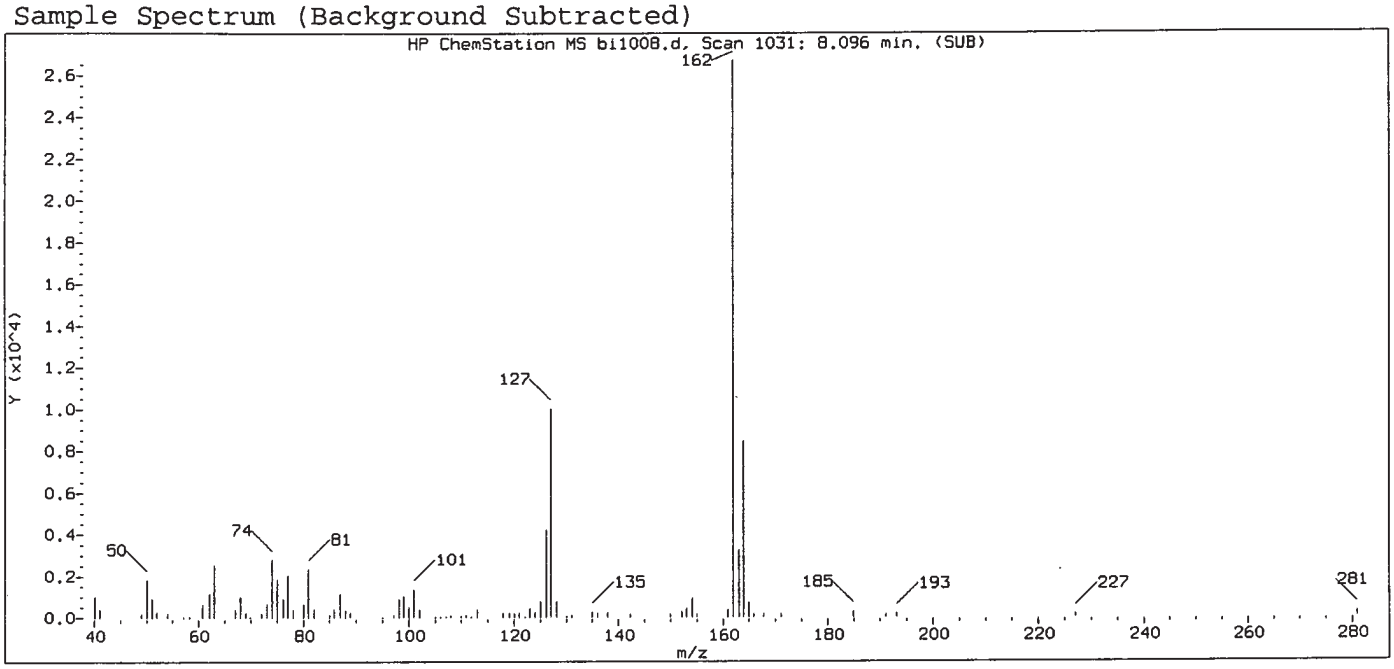
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:12. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

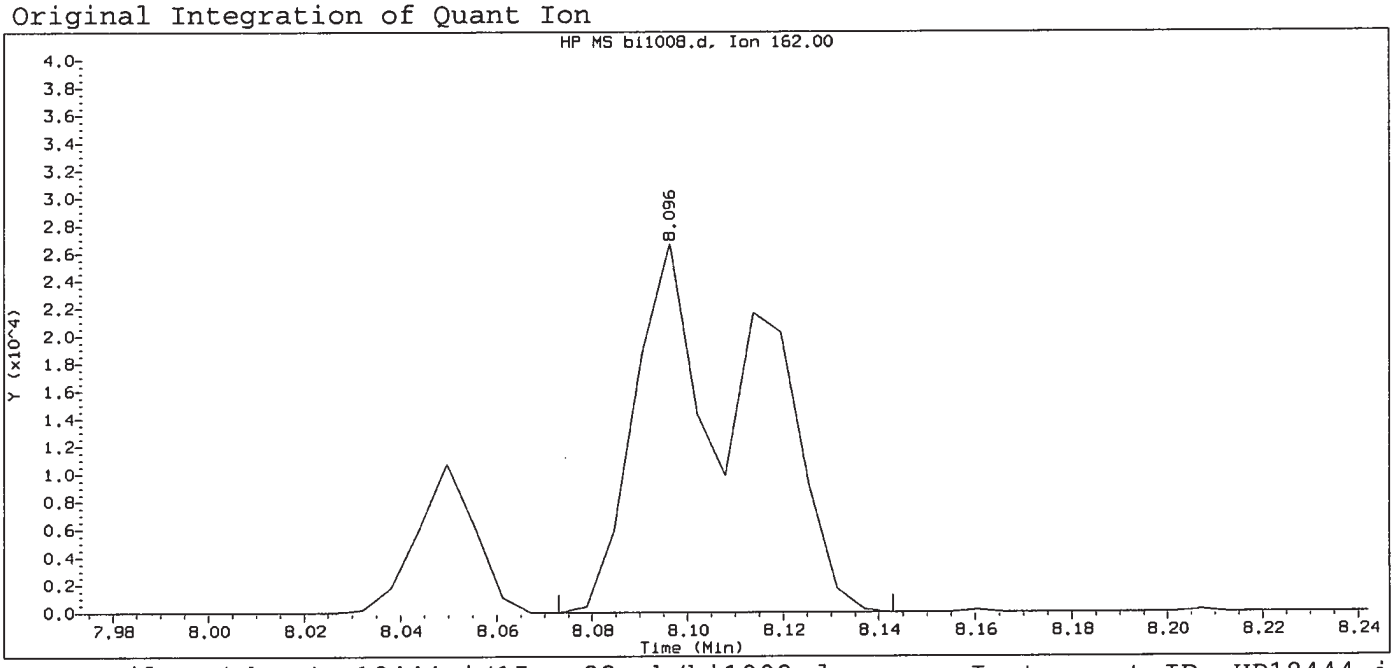
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:31
Date, time and analyst ID of latest file update: 23-Sep-2015 08:31 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1031		
Retention Time (minutes)	: 8.096		
Quant Ion	: 162.00		
Area	: 45091		
On-column Amount (ng/ul)	: 2.0201		
Integration start scan	: 1026	Integration stop scan:	1038
Y at integration start	: 0	Y at integration end:	0

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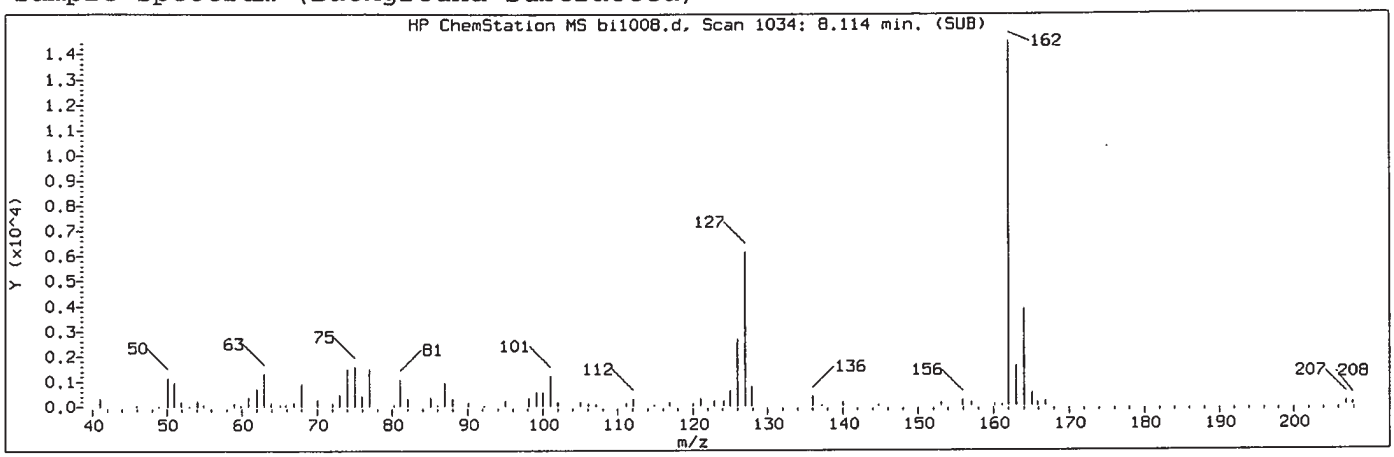
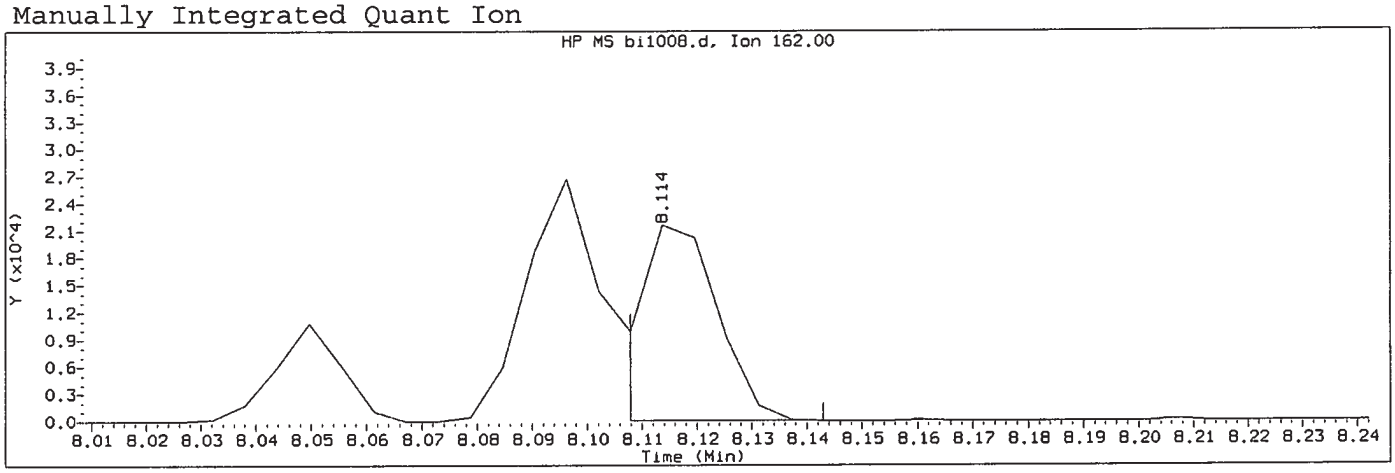
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1008.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 02:59 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: all1
Calibration date and time: 23-SEP-2015 08:49
Date, time and analyst ID of latest file update: 23-Sep-2015 08:49 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

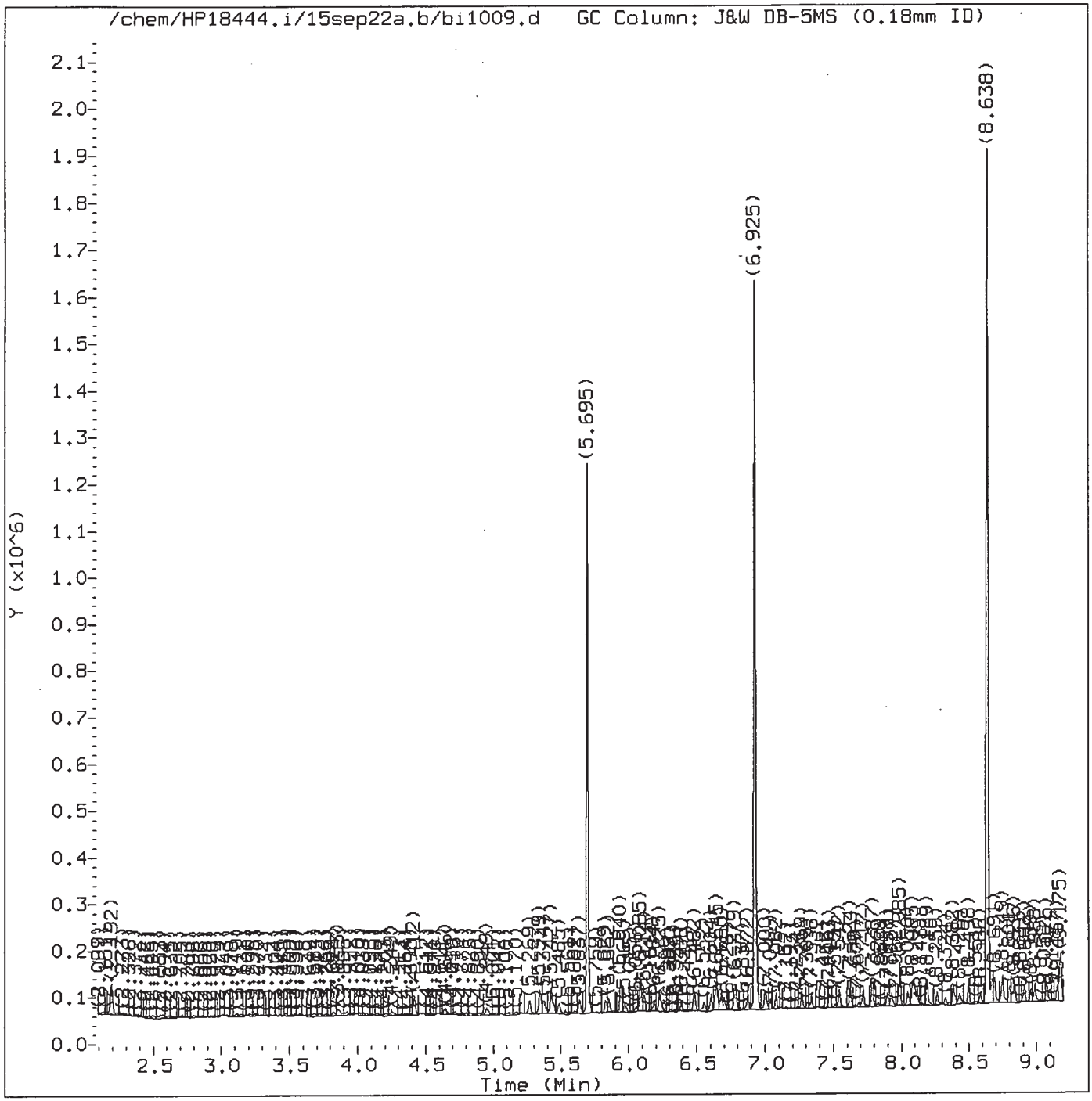
Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1034		
Retention Time (minutes)	: 8.114		
Quant Ion	: 162.00		
Area (flag)	: 21846M		
On-Column Amount (ng/ul)	: 1.0365		
Integration start scan	: 1032	Integration stop scan:	1038
Y at integration start	: 51	Y at integration end:	51

Reason for manual integration: compound not in processing sublist

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:12. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

GC/MS audit/management approval: Matthew E. Barton Senior Specialist



Total Ion Chromatogram (TIC)

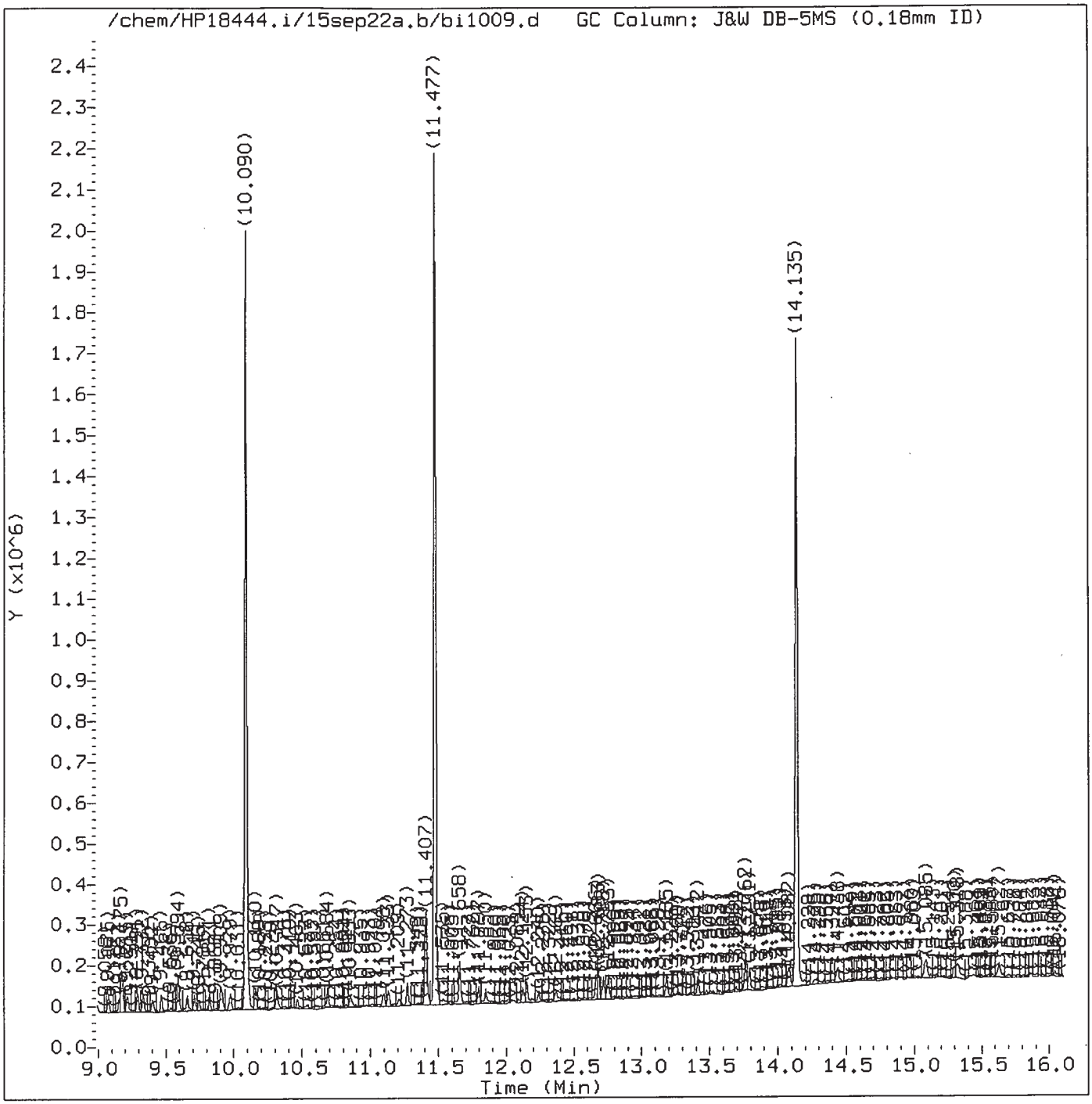
Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:15 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:20.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:15 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:20.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:15 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.547	88	4677M	0.839
4) N-Nitrosodimethylamine	(1)	2.990	74	5488M	0.598
5) Pyridine	(1)	3.148	79	6915M	0.452
7) 2-Picoline	(1)	3.859	93	7766	0.498
8) N-Nitrosomethylethylamine	(1)	3.935	88	4828M	0.680
9) Methyl methanesulfonate	(1)	4.249	80	4232	0.523
11)$2-Fluorophenol	(1)	4.418	112	12884	1.069
13) N-Nitrosodiethylamine	(1)	4.646	102	3339	0.486
15) Ethyl methanesulfonate	(1)	4.955	109	3474	0.509
17)$Phenol-d6	(1)	5.339	99	17380	1.054
18) Phenol	(1)	5.357	94	11089	0.572
19) Aniline	(1)	5.374	93	12053	0.539
20) a-methylstyrene	(1)	5.427	118	5926	0.472
22) bis(2-Chloroethyl)ether	(1)	5.444	93	7498	0.514
23) 2-Chlorophenol	(1)	5.485	128	6771	0.561
24) 1,3-Dichlorobenzene	(1)	5.637	146	6522	0.524
25)*1,4-Dichlorobenzene-d4	(1)	5.695	152	159893	20.000
26) 1,4-Dichlorobenzene	(1)	5.712	146	6078	0.476
27) Benzyl alcohol	(1)	5.829	108	4664	0.528
28) 1,2-Dichlorobenzene	(1)	5.852	146	6134	0.514
31) 2-Methylphenol	(1)	5.940	108	6155	0.495
30) Indene	(1)	5.940	115	11275	0.533
33) 2,2'-oxybis(1-Chloropropane)	(1)	5.969	45	9886	0.606
34) bis(2-Chloroisopropyl)ether	(1)	5.969	45	9886	0.606
35) N-Nitrosopyrrolidine	(1)	6.056	100	3415	0.471
36) Acetophenone	(1)	6.079	105	11505	0.587
38) N-Nitroso-di-n-propylamine	(1)	6.085	70	7735	0.655
37) 4-Methylphenol	(1)	6.091	108	7797	0.558
39) N-Nitrosomorpholine	(1)	6.097	56	4395	0.537
40) o-Toluidine	(1)	6.114	106	10372	0.494
43) Hexachloroethane	(1)	6.184	117	3668	0.670
44)$Nitrobenzene-d5	(2)	6.225	82	15471	1.025
45) Nitrobenzene	(2)	6.243	77	8106	0.523
48) N-Nitrosopiperidine	(2)	6.388	114	3231	0.502
50) Isophorone	(2)	6.482	82	15275	0.519
51) 2-Nitrophenol	(2)	6.557	139	2752	0.529
53) 2,4-Dimethylphenol	(2)	6.604	107	7822	0.576
56) Benzoic acid	(2)	6.645	105	25451	2.636
42) Total Cresols	(1)			13952	1.053
57) O,O,O-Triethylphosphorothioate	(2)	6.680	198	2841	0.471

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/23/2015 at 09:20.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:15 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	6.703	93	8668	0.506
59) 1,2,3,4-Tetrahydronaphthalene	(2)	6.779	104	9798	0.516
60) 2,4-Dichlorophenol	(2)	6.785	162	4092	0.441
62) 1,2,4-Trichlorobenzene	(2)	6.872	180	5061	0.474
65)*Naphthalene-d8	(2)	6.925	136	621384	20.000
67) 4-Chloroaniline	(2)	7.000	127	7526	0.516
68) 2,6-Dichlorophenol	(2)	7.006	162	4625	0.505
69) Hexachloropropene	(2)	7.041	213	3344	0.482
71) Hexachlorobutadiene	(2)	7.082	225	3275	0.535
75) Quinoline	(2)	7.269	129	11358	0.516
76) Caprolactam	(2)	7.315	113	2550	0.624
77) N-Nitrosodi-n-butylamine	(2)	7.338	84	6143	0.498
80) 4-Chloro-3-methylphenol	(2)	7.473	107	6719	0.571
82) Safrole	(2)	7.542	162	4531	0.509
85) Hexachlorocyclopentadiene	(3)	7.781	237	2783	0.427
86) 1,2,4,5-Tetrachlorobenzene	(3)	7.787	216	5329	0.480
88) cis-Isosafrole	(3)	7.828	162	926	0.093
90) 2,4,6-Trichlorophenol	(3)	7.898	196	2751	0.395
92) 2,4,5-Trichlorophenol	(3)	7.927	196	3454	0.455
93)$2-Fluorobiphenyl	(3)	7.985	172	25022	1.004
94) trans-Isosafrole	(3)	8.050	162	4145	0.384
95) 1,1'-Biphenyl	(3)	8.085	154	14509	0.517
96) 2-Chloronaphthalene	(3)	8.096	162	12283M	0.534
98) 1-Chloronaphthalene	(3)	8.114	162	10458M	0.510
100) 2-Nitroaniline	(3)	8.189	138	3102	0.497
99) Diphenyl ether	(3)	8.189	170	7461	0.497
104) 1,4-Naphthoquinone	(3)	8.265	158	4140	0.452
105) 1,4-Dinitrobenzene	(3)	8.324	168	1045	0.358
106) Dimethylphthalate	(3)	8.382	163	13469	0.524
107) 1,3-Dinitrobenzene	(3)	8.393	168	983M	0.287
108) 2,6-Dinitrotoluene	(3)	8.428	165	2191	0.419
112) 3-Nitroaniline	(3)	8.586	138	2394	0.427
97) Isosafrole	(3)			5071	0.476
113)*Acenaphthene-d10	(3)	8.638	164	366978	20.000
115) 2,4-Dinitrophenol	(3)	8.691	184	6448	10.458
116) 4-Nitrophenol	(3)	8.749	109	7710	2.105
117) Pentachlorobenzene	(3)	8.801	250	4939	0.511
118) 2,4-Dinitrotoluene	(3)	8.819	165	3012	0.438
119) Dibenzofuran	(3)	8.836	168	14890	0.489
121) 1-Naphthylamine	(3)	8.906	143	11741	0.498

M = Compound was manually integrated.
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on 09/23/2015 at 09:20.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:15 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
122) 2,3,4,6-Tetrachlorophenol	(3)	8.959	232	2823	0.465
123) 2-Naphthylamine	(3)	8.988	143	11345	0.487
124) Diethylphthalate	(3)	9.075	149	12551	0.497
125) Thionazin	(3)	9.157	107	3344	0.645
129) 4-Nitroaniline	(3)	9.175	138	2815	0.469
127) 4-Chlorophenyl-phenylether	(3)	9.180	204	5535	0.437
128) 5-Nitro-o-toluidine	(3)	9.180	152	2773	0.423
130) 4,6-Dinitro-2-methylphenol	(4)	9.215	198	4498	1.438
132) NDPA as diphenylamine	(4)	9.291	169	11056	0.510
131) N-Nitrosodiphenylamine	(4)	9.291	169	11056	0.515
134) 1,2-Diphenylhydrazine	(4)	9.332	77	17070	0.522
120) 2,4_2,6-Dinitrotoluenes	(3)			5203	0.856
135)$2,4,6-Tribromophenol	(3)	9.408	330	2590	0.829
137) Tetraethyldithiopyrophosphate	(4)	9.466	97	3193	0.610
139) 1,3,5-Trinitrobenzene	(4)	9.536	213	730	5.228
140) Diallate (peak 1)	(4)	9.588	86	6293	0.423
141) Phorate	(4)	9.594	75	9128	0.446
142) Phenacetin	(4)	9.594	108	6899	0.473
143) 4-Bromophenyl-phenylether	(4)	9.658	248	3744	0.515
144) Diallate (peak 2)	(4)	9.676	86	1372	0.093
147) Dimethoate	(4)	9.746	87	5545	0.455
149) Pentachlorophenol	(4)	9.903	266	2040	0.475
150) 4-Aminobiphenyl	(4)	9.909	169	13516	0.574
151) Pentachloronitrobenzene	(4)	9.915	237	1106	0.346
152) Pronamide	(4)	9.979	173	4753	0.405
154) Dinoseb	(4)	10.090	211	1380	5.768
153)*Phenanthrene-d10	(4)	10.090	188	683632	20.000
146) Diallate trans/cis	(4)			7665	0.517
163) Carbazole	(4)	10.317	167	16010	0.476
164) Methyl parathion	(4)	10.463	109	3451	0.434
165) Di-n-butylphthalate	(4)	10.684	149	21414	0.509
167) Parathion	(4)	10.853	109	2882	0.557
168) 4-Nitroquinoline-1-oxide	(4)	10.859	190	746	0.266
169) Octachlorostyrene	(4)	11.098	308	1251	0.452
171) Isodrin	(4)	11.133	193	2543	0.560
174) Benzidine	(5)	11.407	184	90589	3.779
175)*Pyrene-d10	(5)	11.477	212	805924	20.000
179)$Terphenyl-d14	(5)	11.658	244	27578	0.939
182) p-Dimethylaminoazobenzene	(5)	11.797	225	3545	0.397
185) Chlorobenzilate	(5)	11.850	139	5433	0.433

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:20.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:15 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
187) 3,3'-Dimethylbenzidine	(5)	12.124	212	11841	0.483
188) Butylbenzylphthalate	(5)	12.153	149	8537	0.457
191) 2-Acetylaminofluorene	(5)	12.363	181	5500	0.336
193) 3,3'-Dichlorobenzidine	(5)	12.666	252	7061	0.468
199) bis(2-Ethylhexyl)phthalate	(5)	12.753	149	12872	0.474
203) 6-Methylchrysene	(5)	13.185	242	13145	0.477
205) Di-n-octylphthalate	(6)	13.412	149	20435	0.436
207) 7,12-Dimethylbenz[a]anthracene	(6)	13.762	256	7723	0.427
213)*Perylene-d12	(6)	14.135	264	596221	20.000
215) 3-Methylcholanthrene	(6)	14.432	268	9169	0.514

* = Compound is an internal standard.

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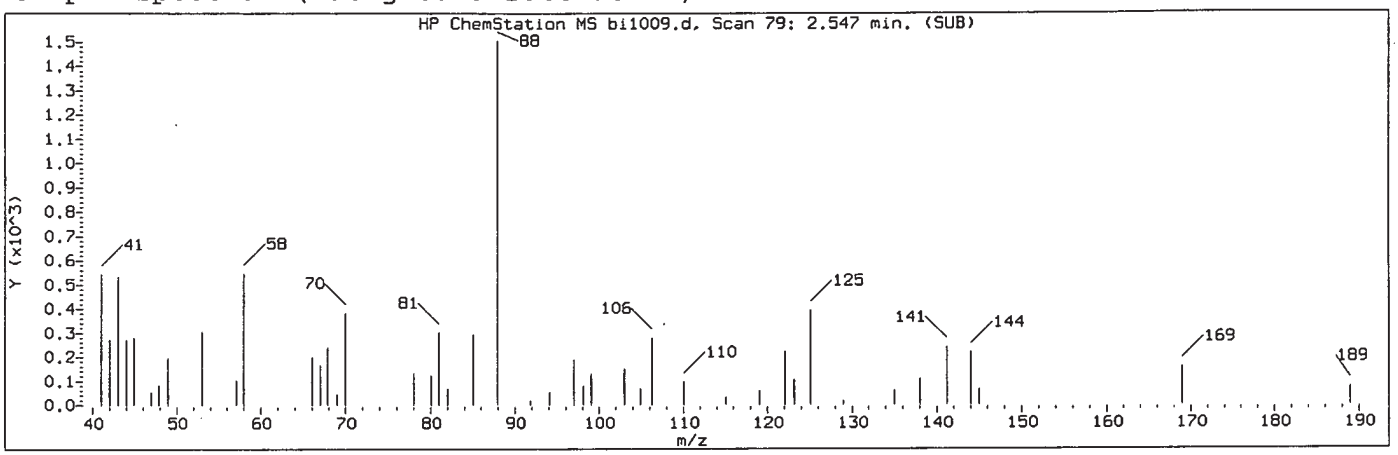
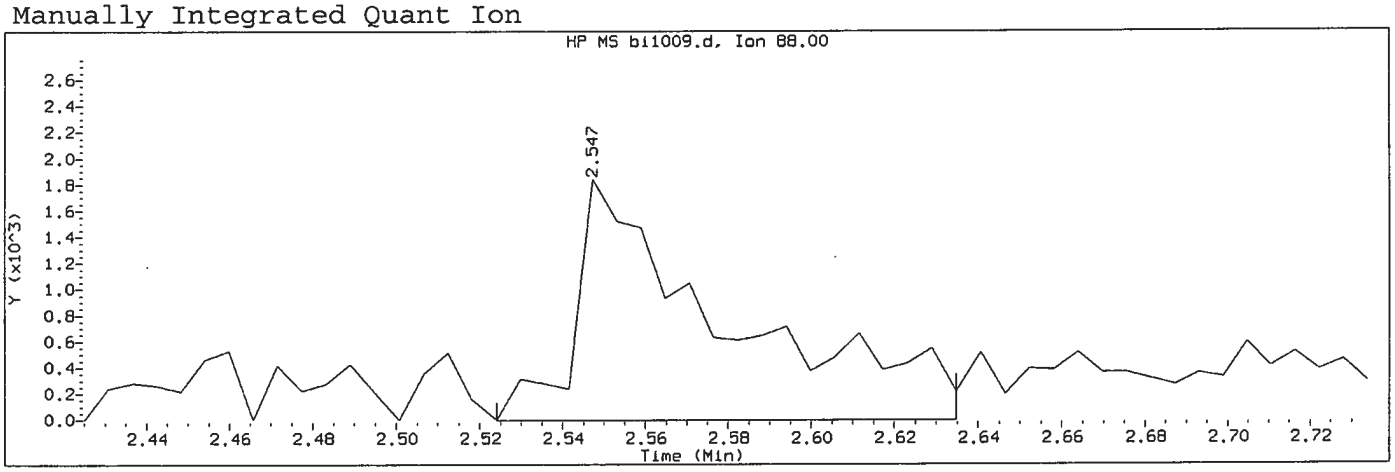
on 09/23/2015 at 09:20.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:15 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 79		
Retention Time (minutes)	: 2.547		
Quant Ion	: 88.00		
Area (flag)	: 4677M		
On-Column Amount (ng/ul)	: 0.8390		
Integration start scan	: 74	Integration stop scan:	93
Y at integration start	: -3	Y at integration end:	-3

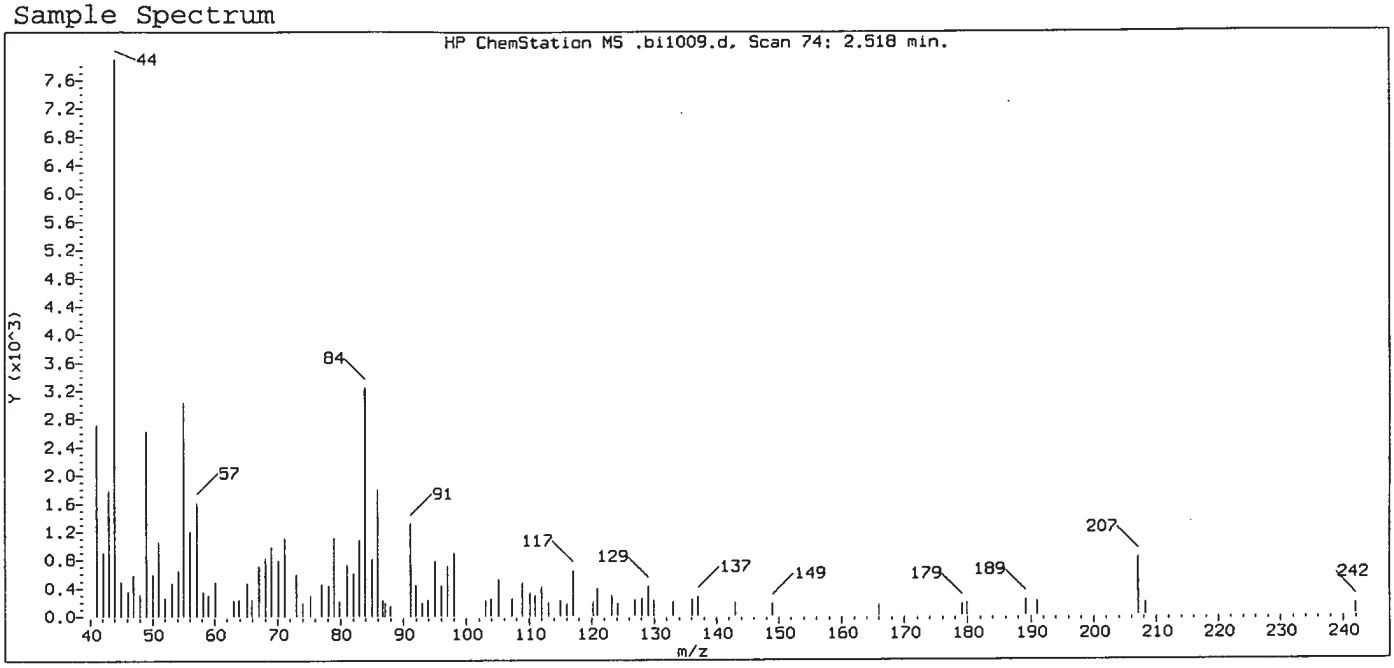
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:20 Target 3.5 signature user ID: lmh00956

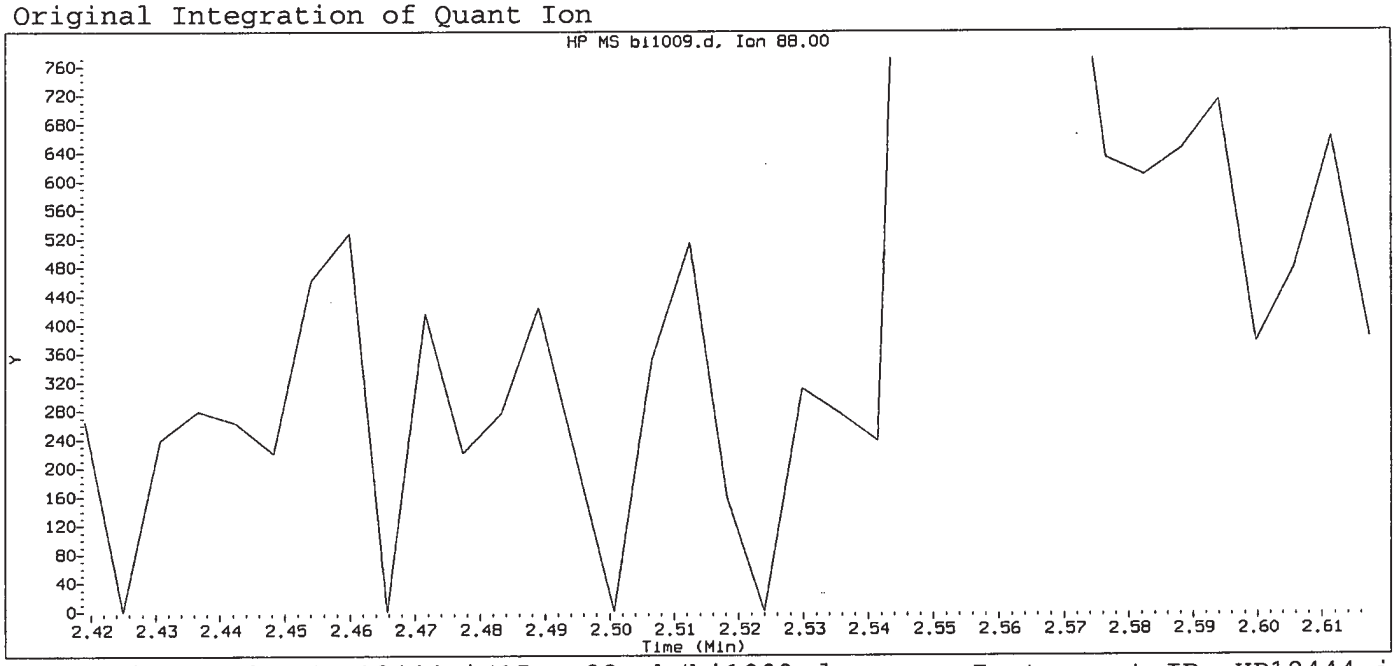
SEP 23 2015

GC/MS audit/management approval: Matthew E. Barton Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 23-SEP-2015 08:53
Date, time and analyst ID of latest file update: 23-Sep-2015 09:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

Compound Number : 1
Compound Name : 1,4-Dioxane
Expected RT (minutes) : 2.518
Quant Ion : 88.00

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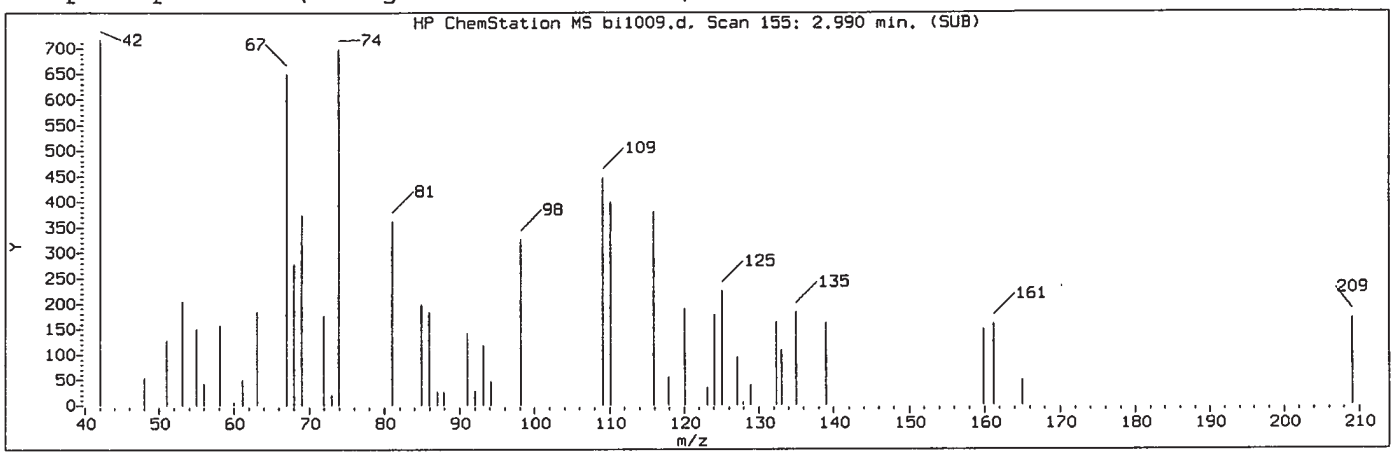
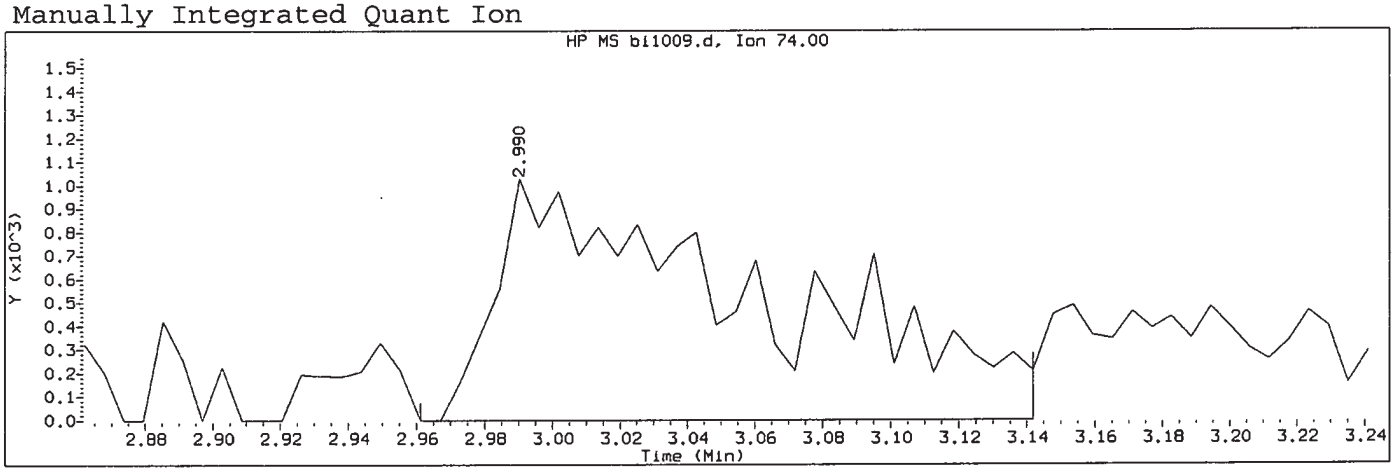
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:15 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 155		
Retention Time (minutes)	: 2.990		
Quant Ion	: 74.00		
Area (flag)	: 5488M		
On-Column Amount (ng/ul)	: 0.5982		
Integration start scan	: 149	Integration stop scan:	180
Y at integration start	: -1	Y at integration end:	-1

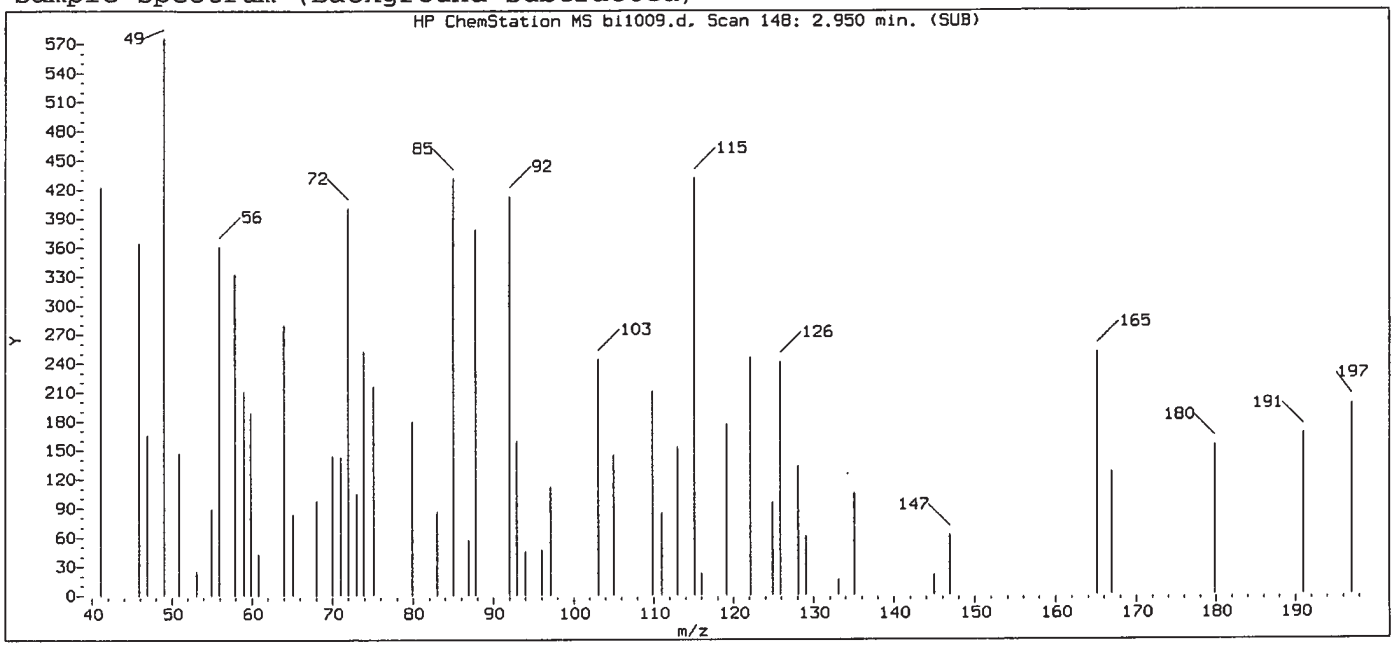
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:20 Target 3.5 signature user ID: lmh00956

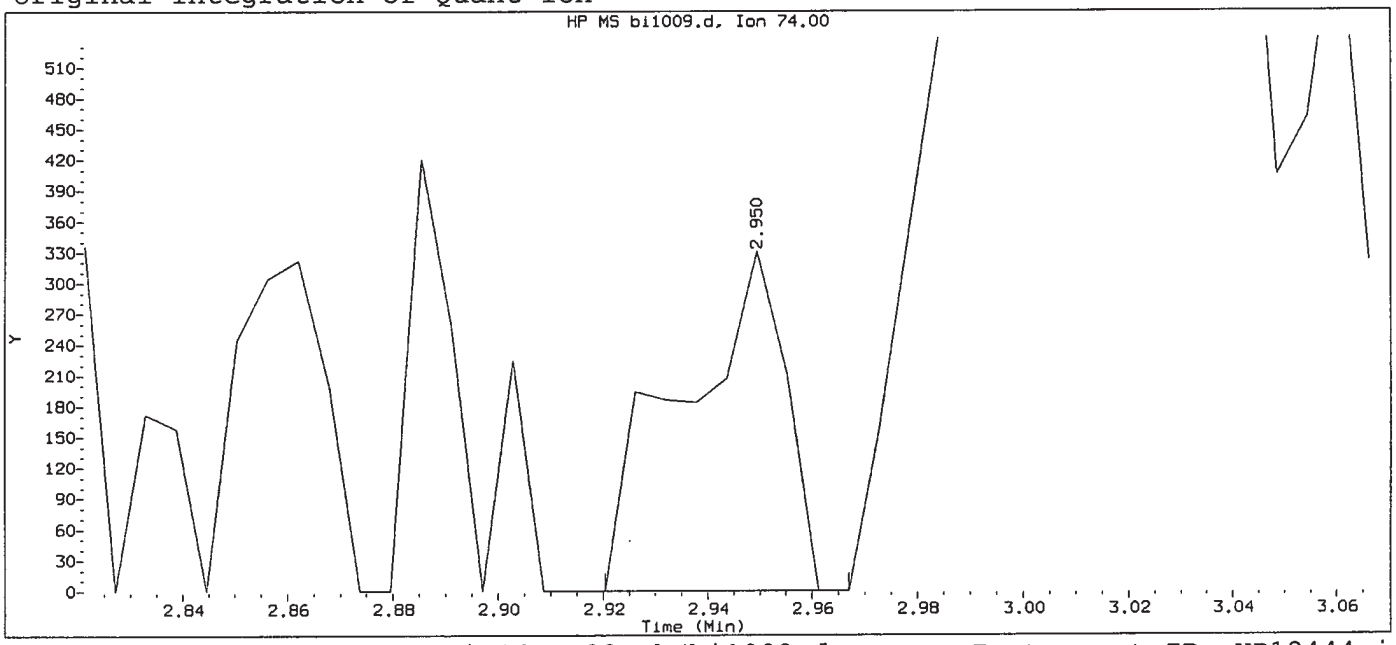
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 23-SEP-2015 08:53
Date, time and analyst ID of latest file update: 23-Sep-2015 09:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 148		
Retention Time (minutes)	: 2.950		
Quant Ion	: 74.00		
Area	: 458		
On-column Amount (ng/ul)	: 0.0500		
Integration start scan	: 142	Integration stop scan:	150
Y at integration start	: 0	Y at integration end:	0

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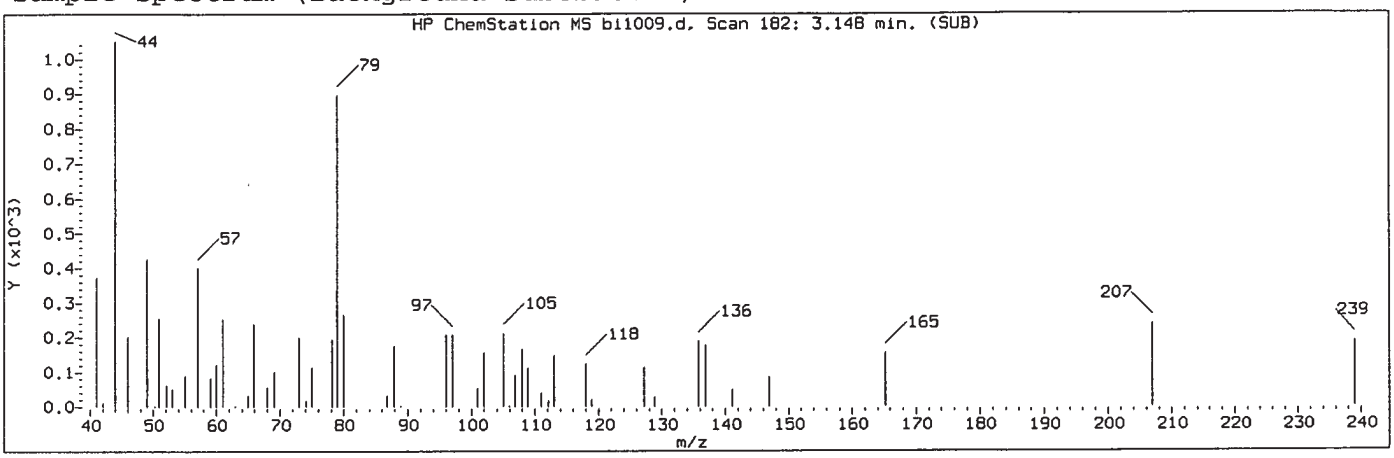
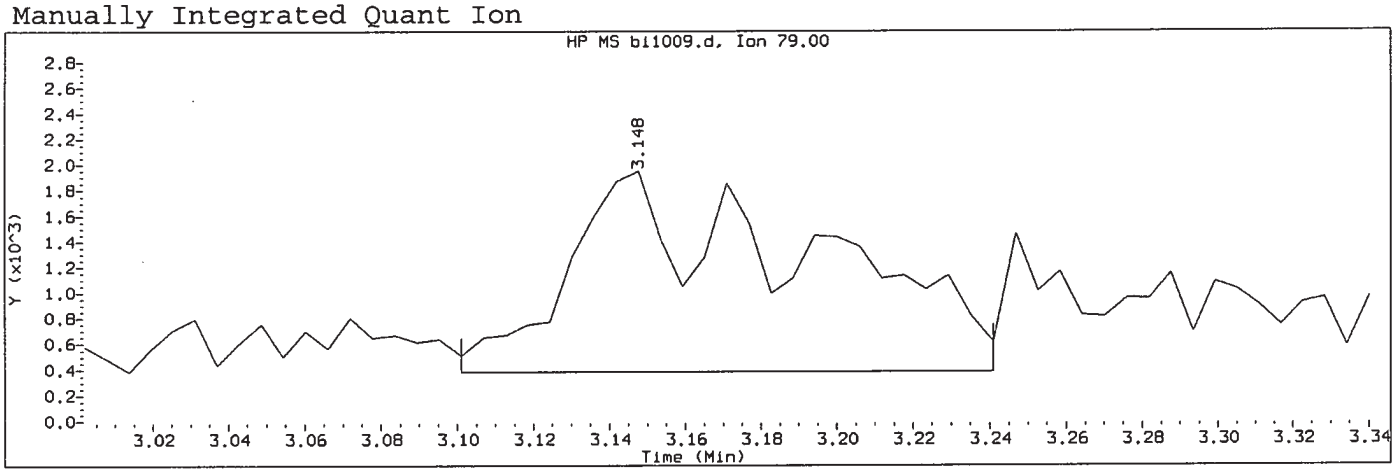
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:15 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 182		
Retention Time (minutes)	: 3.148		
Quant Ion	: 79.00		
Area (flag)	: 6915M		
On-Column Amount (ng/ul)	: 0.4516		
Integration start scan	: 173	Integration stop scan:	197
Y at integration start	: 386	Y at integration end:	386

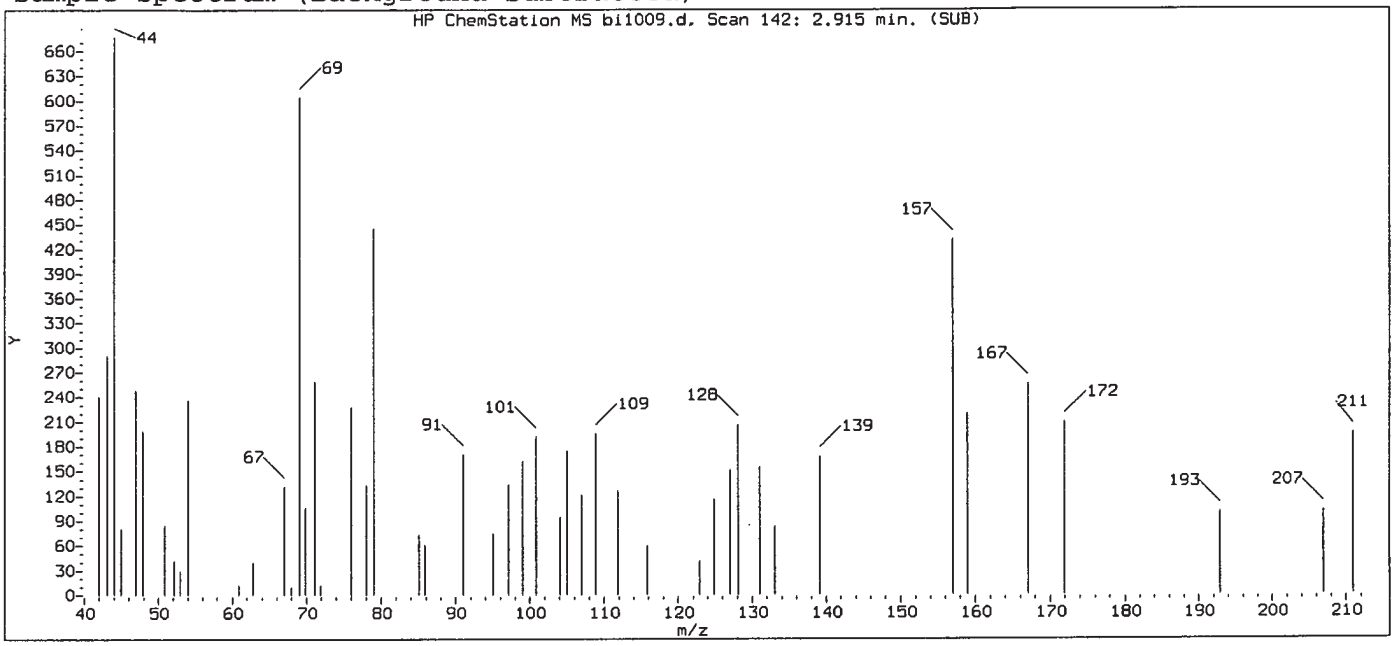
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:20. Target 3.5 signature user ID: lmh00956

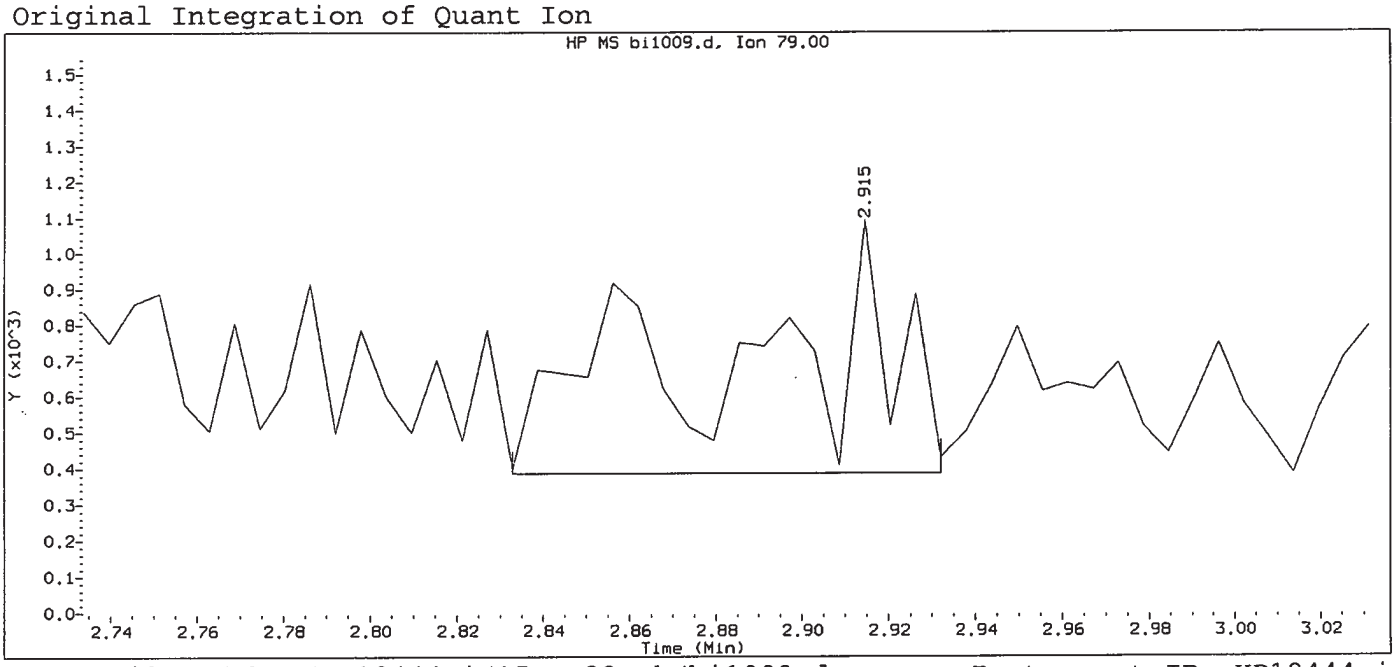
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

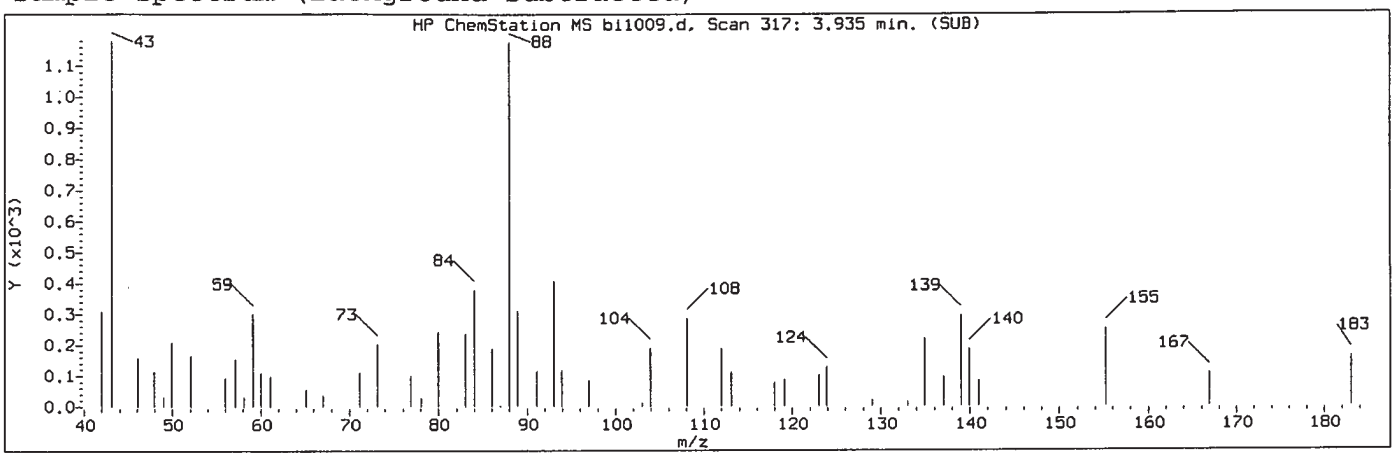
Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 23-SEP-2015 08:53
Date, time and analyst ID of latest file update: 23-Sep-2015 09:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

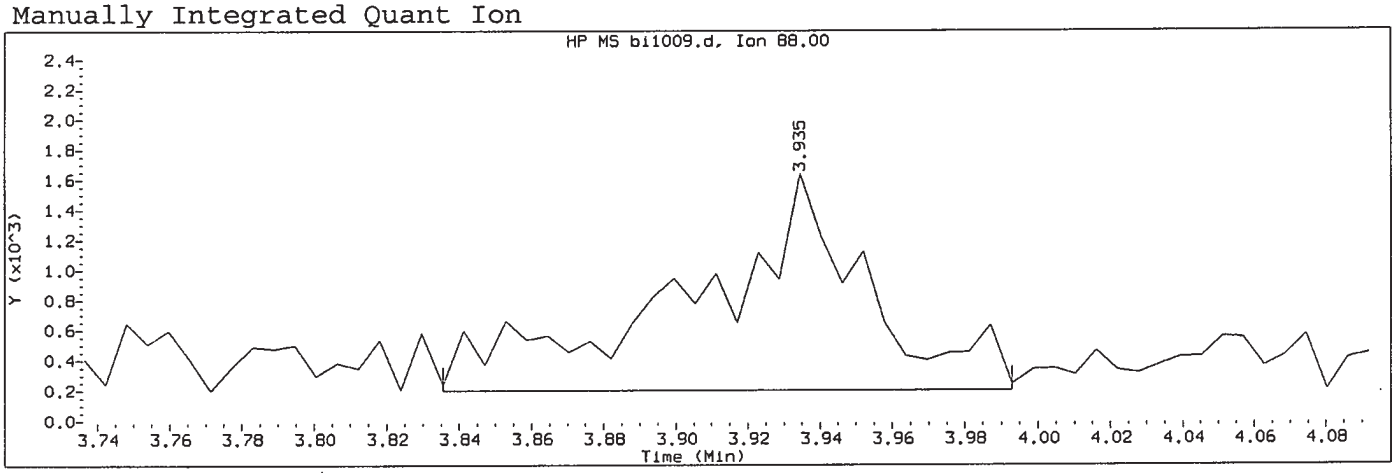
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 142		
Retention Time (minutes)	: 2.915		
Quant Ion	: 79.00		
Area	: 1812		
On-column Amount (ng/ul)	: 0.1184		
Integration start scan	: 127	Integration stop scan:	144
Y at integration start	: 386	Y at integration end:	386

Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:20.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:15 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 317		
Retention Time (minutes)	: 3.935		
Quant Ion	: 88.00		
Area (flag)	: 4828M		
On-Column Amount (ng/ul)	: 0.6797		
Integration start scan	: 299	Integration stop scan:	326
Y at integration start	: 199	Y at integration end:	199

Reason for manual integration: missed peak

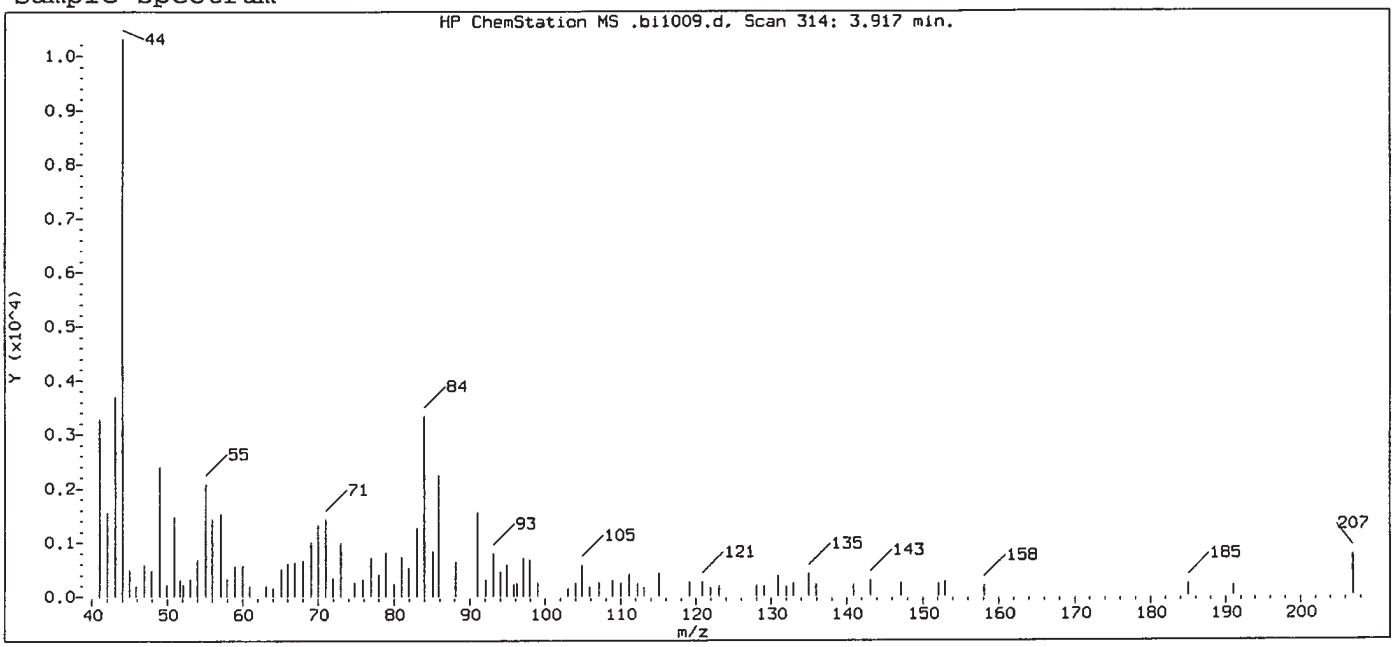
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:20. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

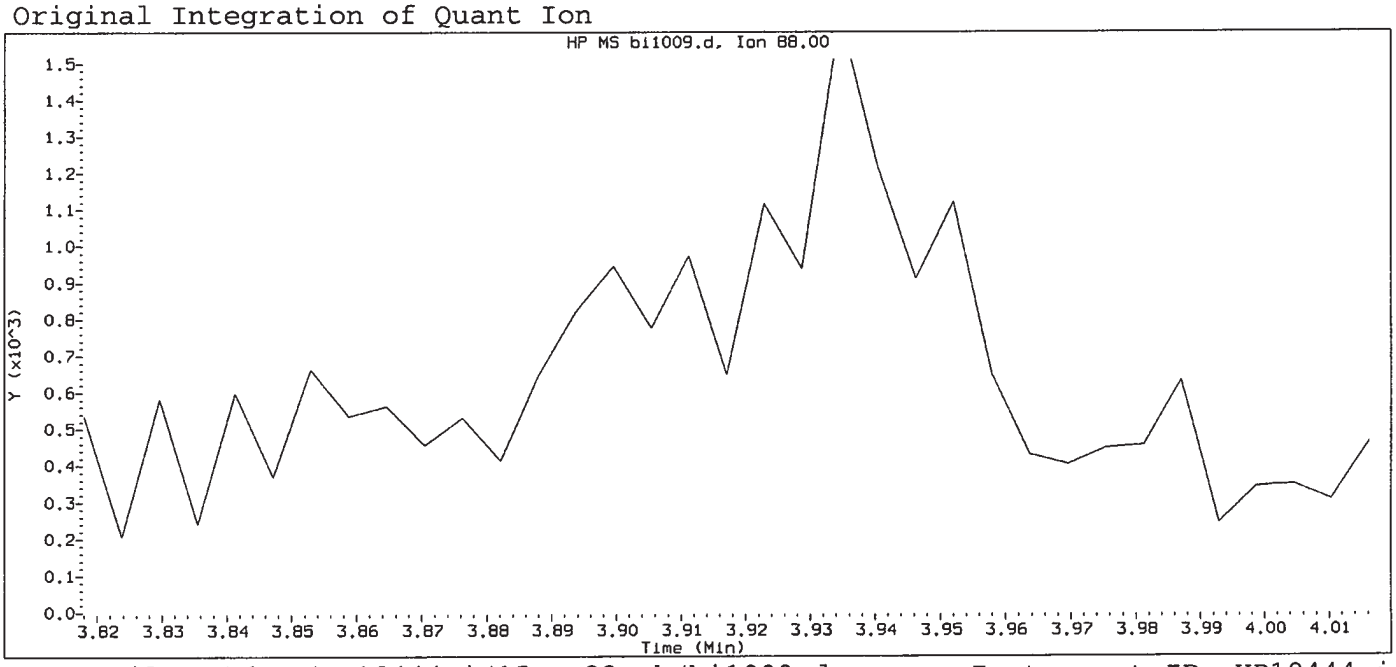
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

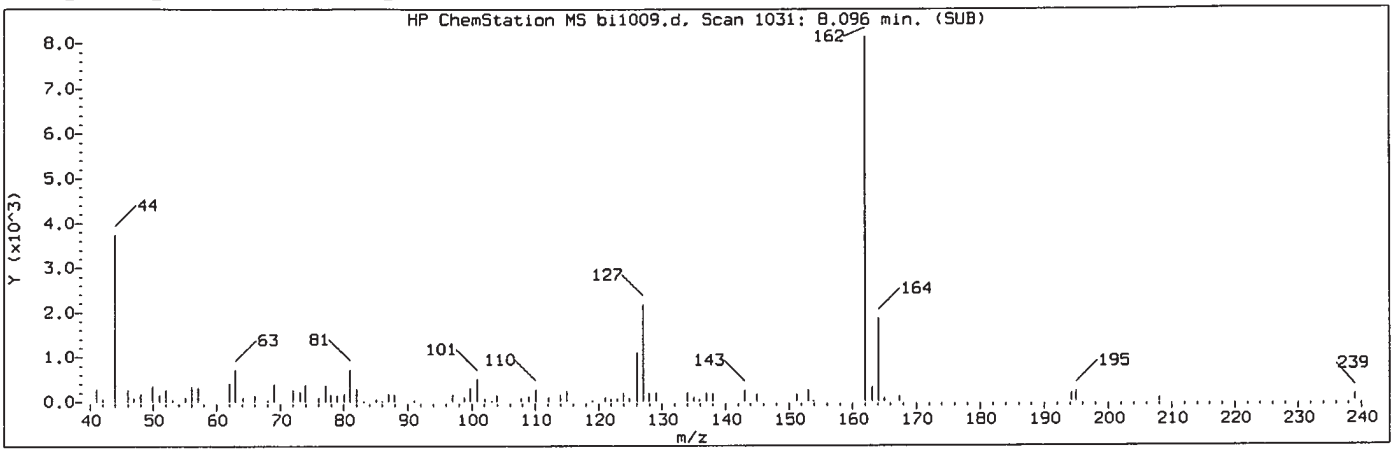
Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 23-SEP-2015 08:53
Date, time and analyst ID of latest file update: 23-Sep-2015 09:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

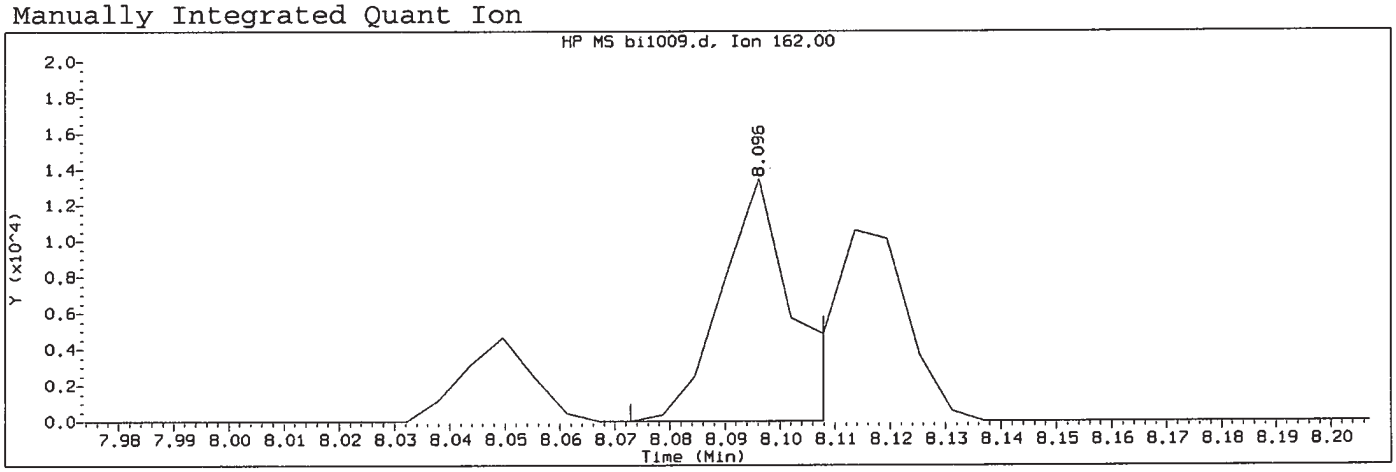
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 3.917
Quant Ion : 88.00

Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:20.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:15 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1031		
Retention Time (minutes)	: 8.096		
Quant Ion	: 162.00		
Area (flag)	: 12283M		
On-Column Amount (ng/ul)	: 0.5337		
Integration start scan	: 1026	Integration stop scan:	1032
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

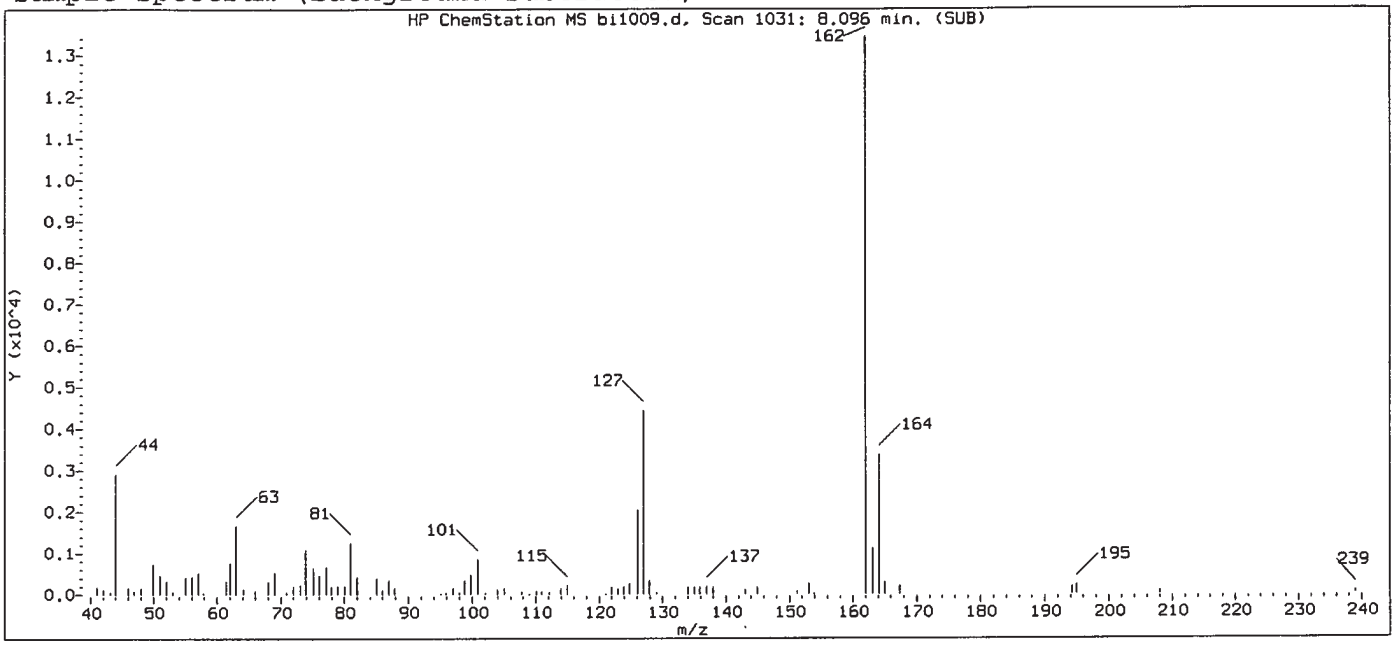
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:20. Target 3.5 esignature User ID: lmh00956

SEP 23 2015

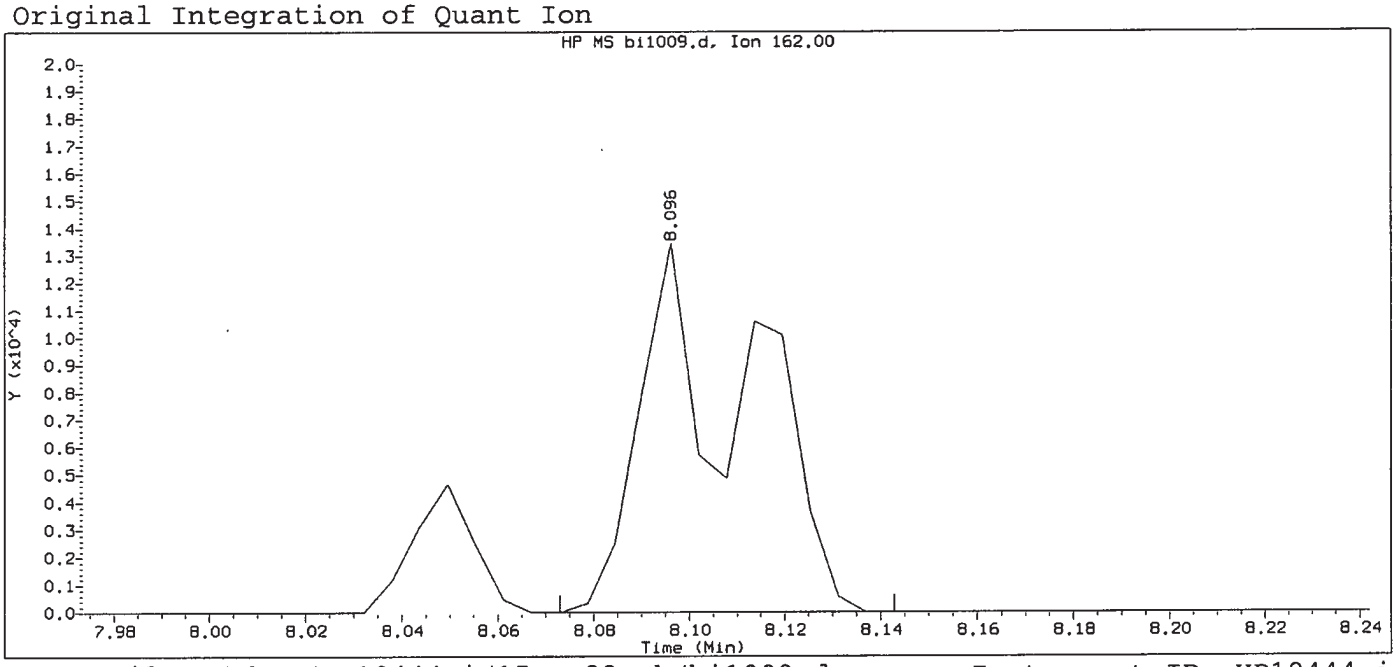
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

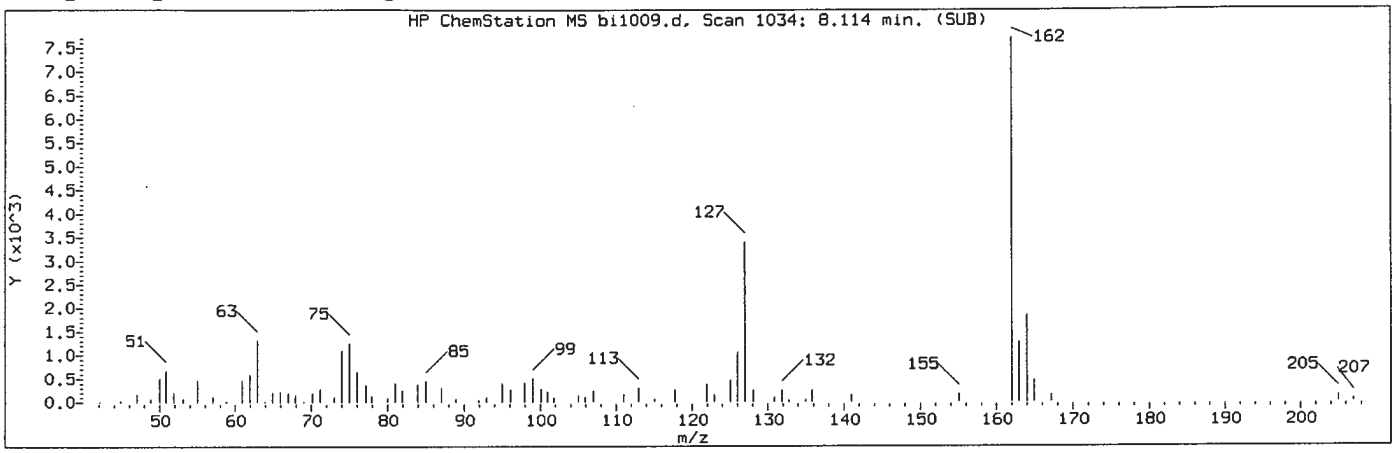
Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 23-SEP-2015 08:53
Date, time and analyst ID of latest file update: 23-Sep-2015 09:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

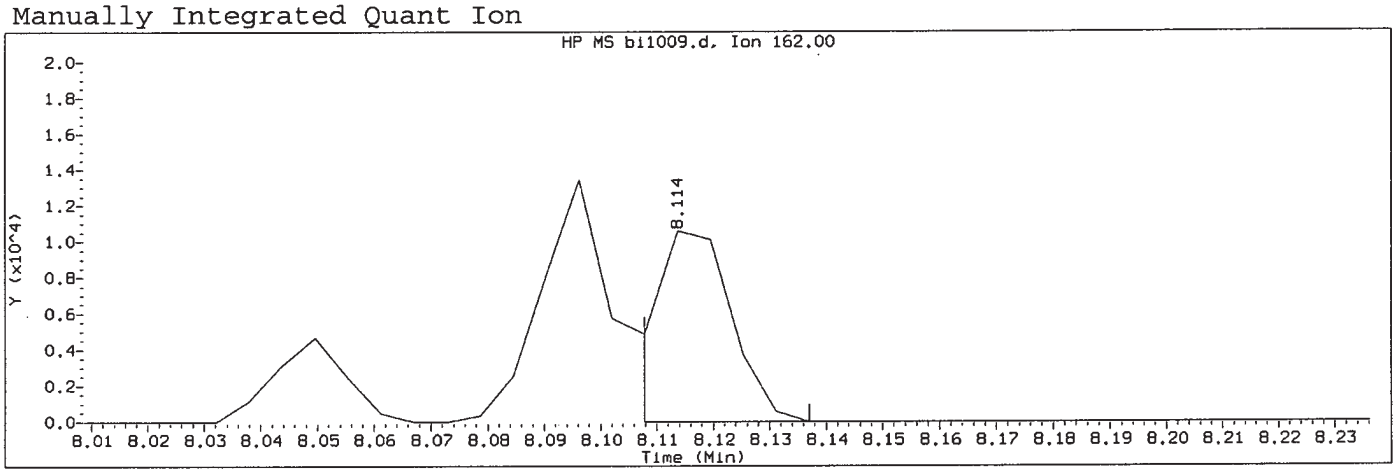
Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1031		
Retention Time (minutes)	: 8.096		
Quant Ion	: 162.00		
Area	: 21012		
On-column Amount (ng/ul)	: 0.9130		
Integration start scan	: 1026	Integration stop scan:	1038
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:20.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:15 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1034		
Retention Time (minutes)	: 8.114		
Quant Ion	: 162.00		
Area (flag)	: 10458M		
On-Column Amount (ng/ul)	: 0.5101		
Integration start scan	: 1032	Integration stop scan:	1037
Y at integration start	: -15	Y at integration end:	-15

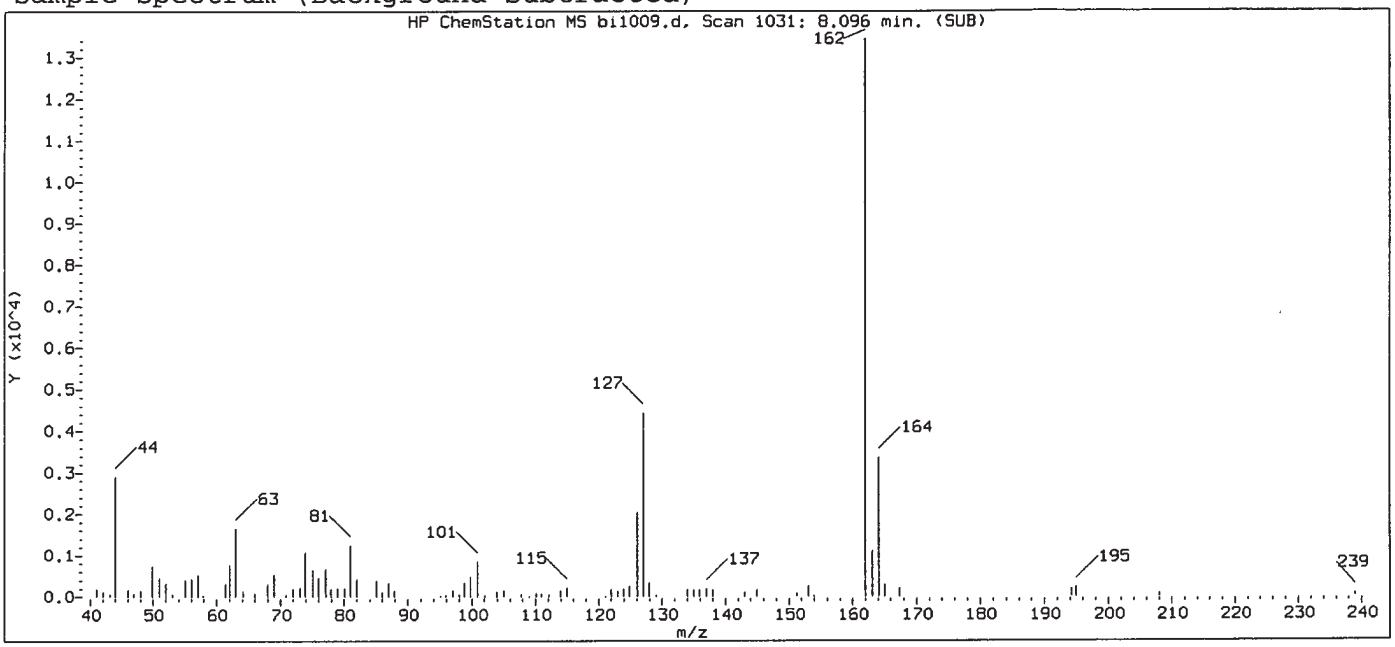
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:20 Target 3.5, signature user ID: lmh00956

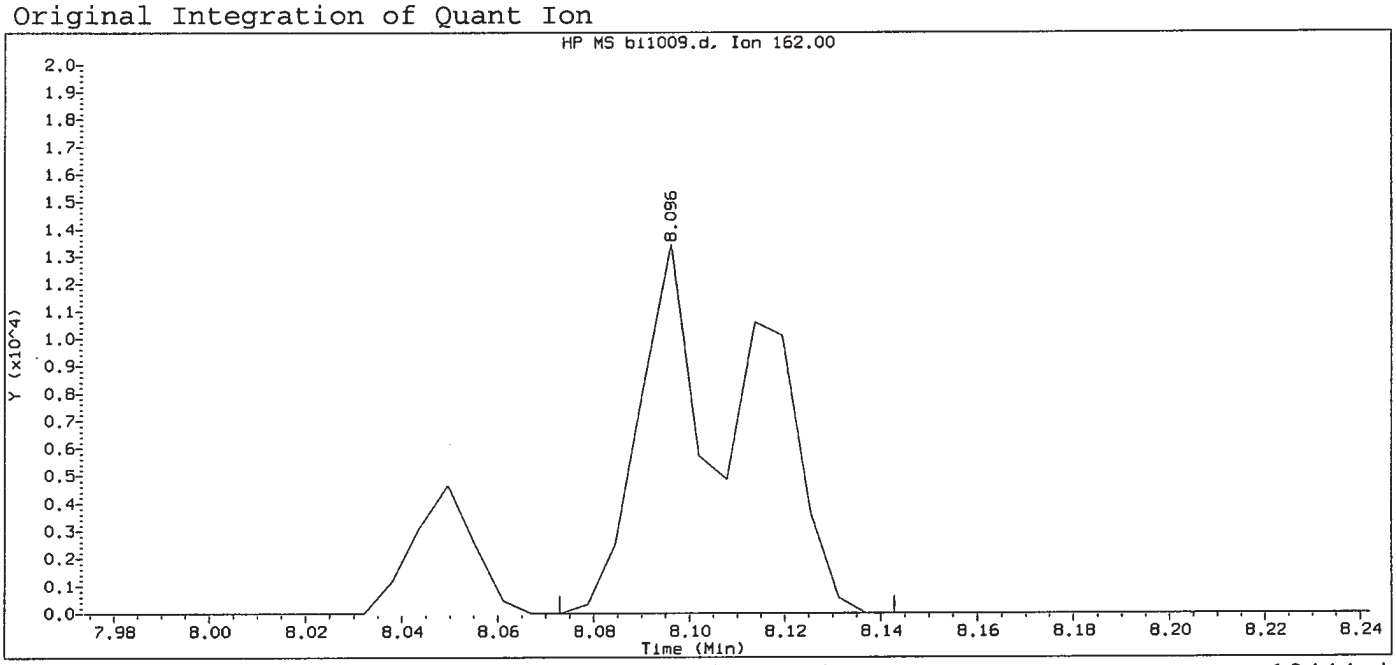
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

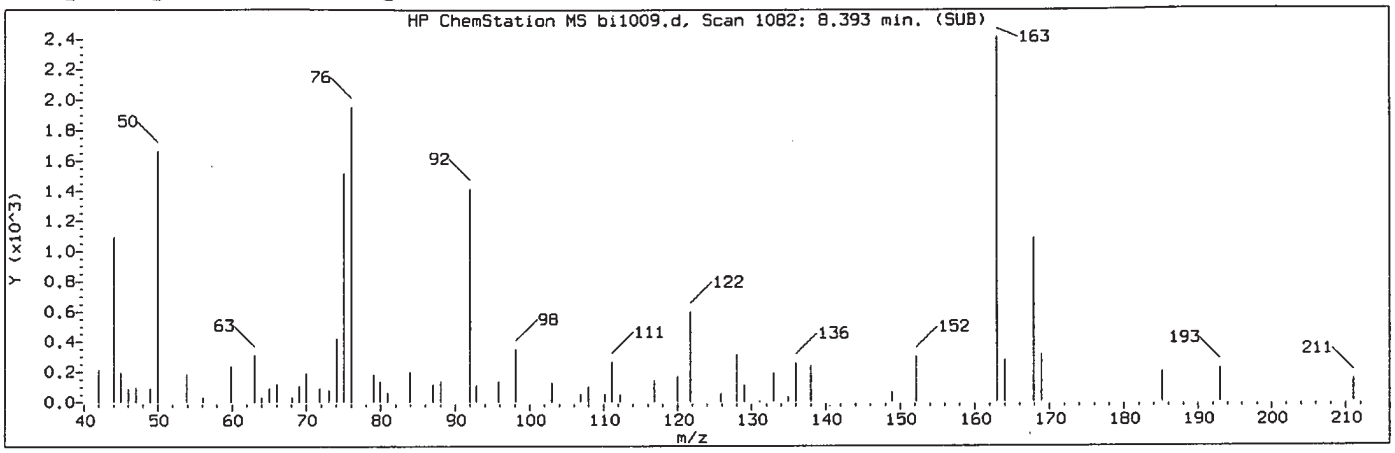
Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 23-SEP-2015 08:53
Date, time and analyst ID of latest file update: 23-Sep-2015 09:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

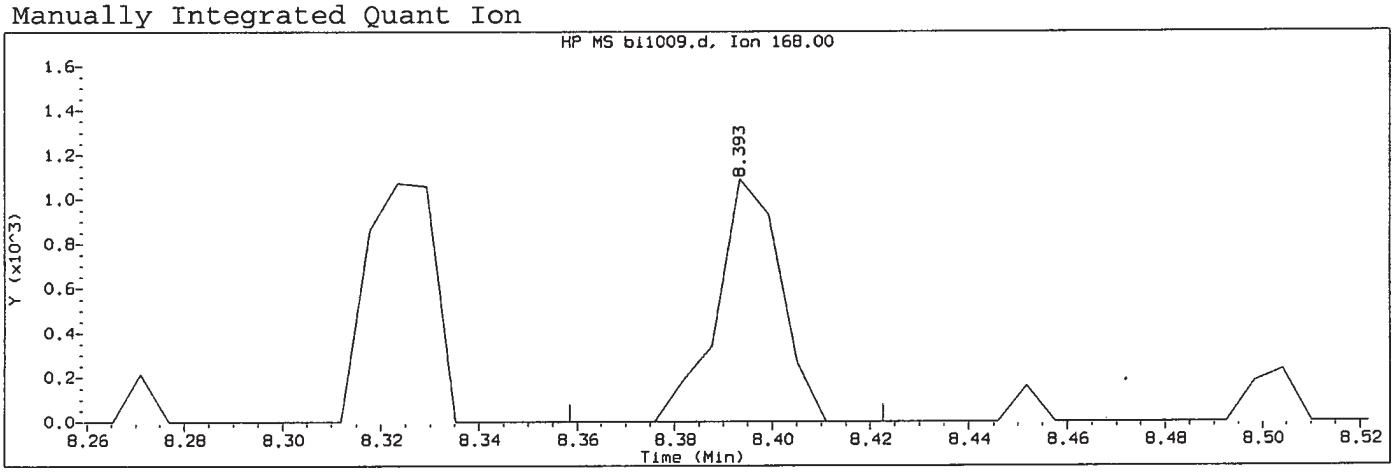
Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1031		
Retention Time (minutes)	: 8.096		
Quant Ion	: 162.00		
Area	: 21012		
On-column Amount (ng/ul)	: 1.0249		
Integration start scan	: 1026	Integration stop scan:	1038
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:20.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:15 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

Compound Number	: 107		
Compound Name	: 1,3-Dinitrobenzene		
Scan Number	: 1082		
Retention Time (minutes)	: 8.393		
Quant Ion	: 168.00		
Area (flag)	: 983M		
On-Column Amount (ng/ul)	: 0.2870		
Integration start scan	: 1075	Integration stop scan:	1086
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

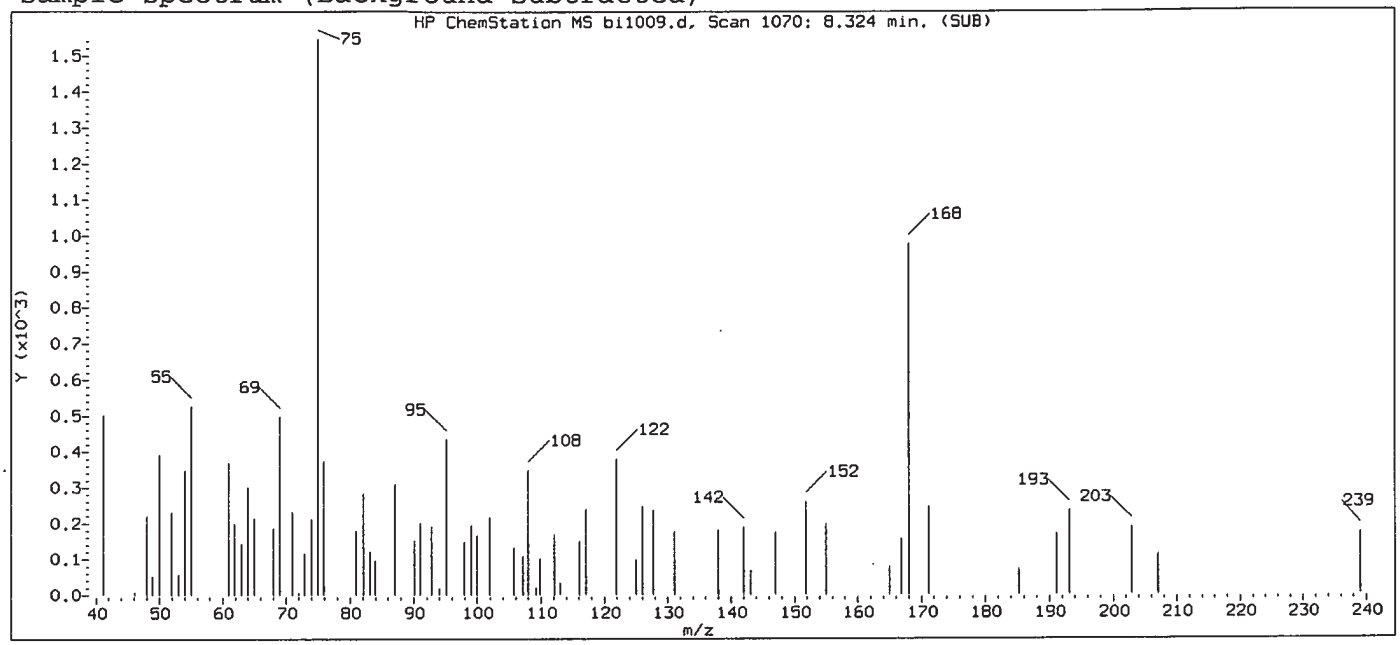
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:20. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

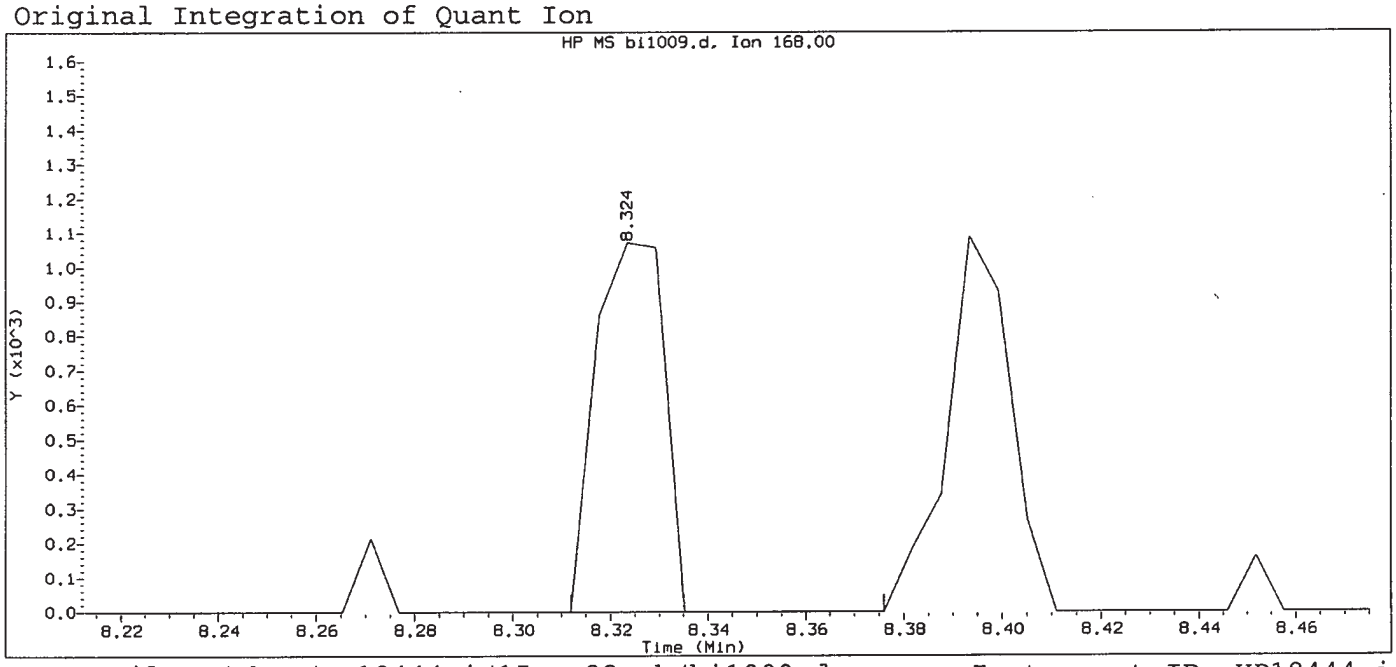
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1009.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:20 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 23-SEP-2015 08:53
Date, time and analyst ID of latest file update: 23-Sep-2015 09:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: 8270MDL2575

Compound Number	: 107		
Compound Name	: 1,3-Dinitrobenzene		
Scan Number	: 1070		
Retention Time (minutes)	: 8.324		
Quant Ion	: 168.00		
Area	: 1045		
On-column Amount (ng/ul)	: 0.3053		
Integration start scan	: 1067	Integration stop scan:	1078
Y at integration start	: 0	Y at integration end:	0

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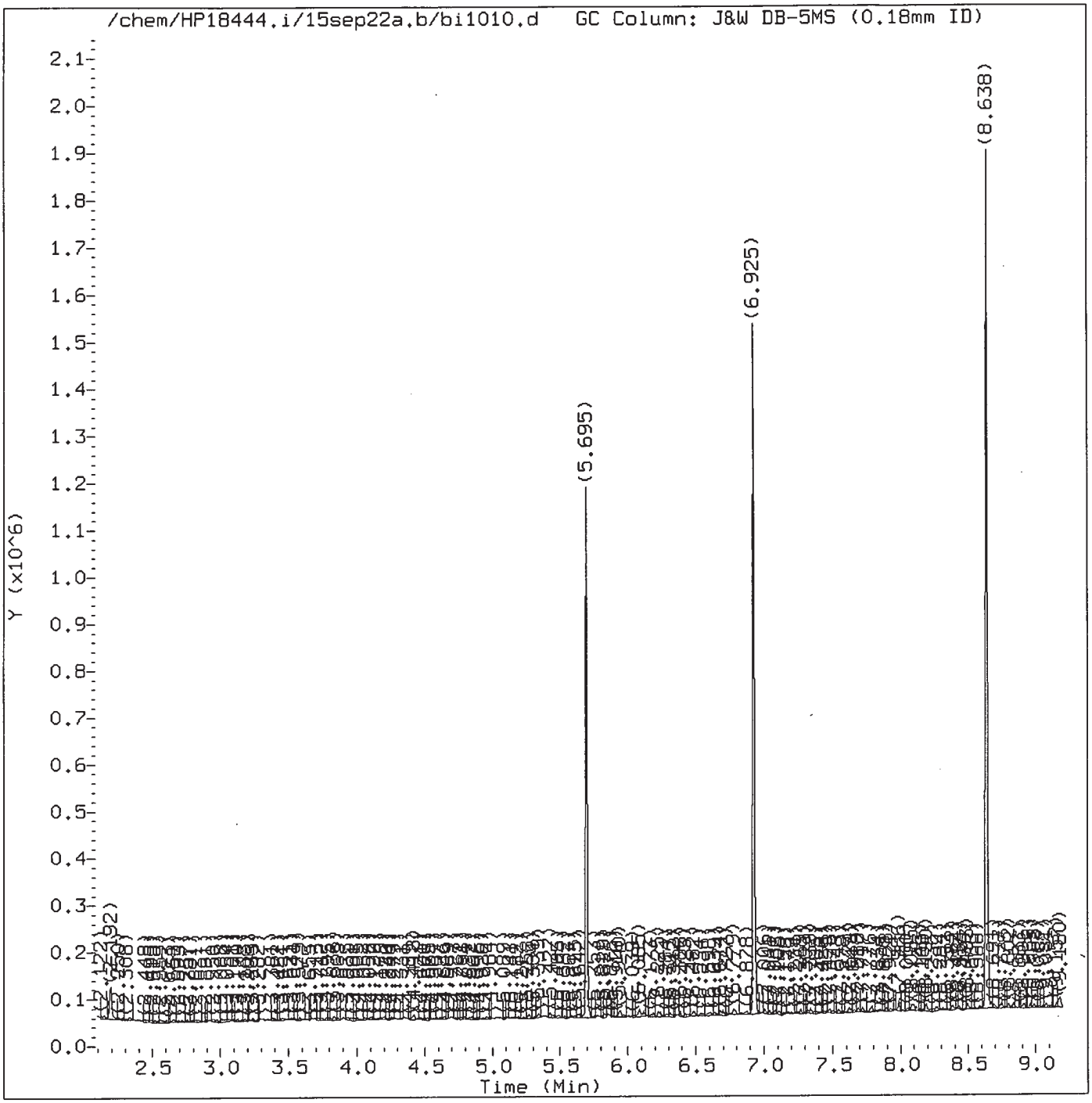
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

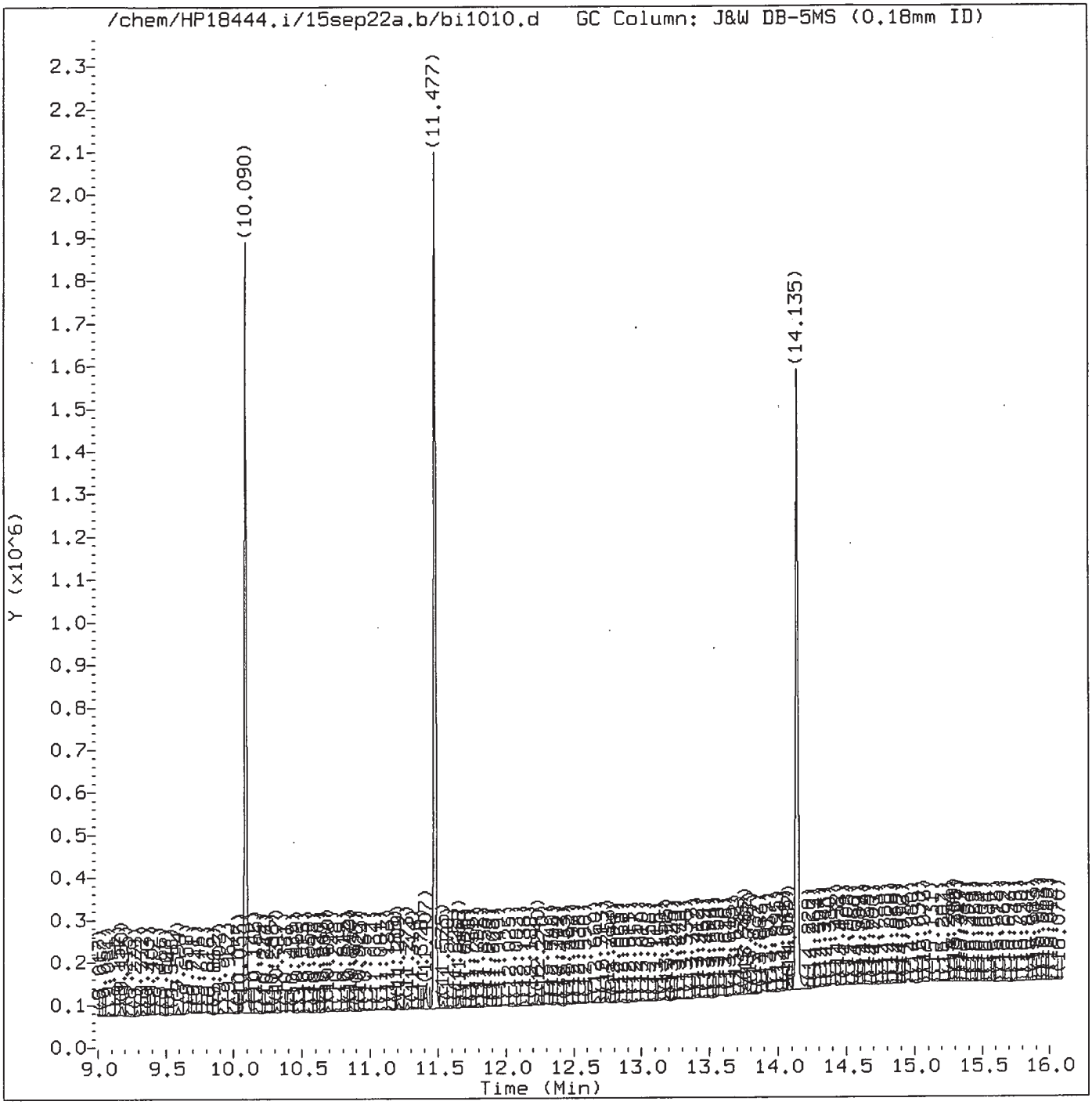
Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1010.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:42 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: pahmdlall1
Calibration date and time: 23-SEP-2015 08:53
Date, time and analyst ID of latest file update: 23-Sep-2015 09:16 lmh00956

Sample Name: SSTD0.1 Lab Sample ID: PAHMDL2575

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:18.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1010.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:42 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: pahmdlall1
Calibration date and time: 23-SEP-2015 08:53
Date, time and analyst ID of latest file update: 23-Sep-2015 09:16 lmh00956

Sample Name: SSTD0.1 Lab Sample ID: PAHMDL2575

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:18.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1010.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:42 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: pahmdlall1
Calibration date and time: 23-SEP-2015 08:53
Date, time and analyst ID of latest file update: 23-Sep-2015 09:16 lmh00956

Sample Name: SSTD0.1 Lab Sample ID: PAHMDL2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	5.695	152	153665	20.000
44)$Nitrobenzene-d5	(2)	6.225	82	4118	0.285
65)*Naphthalene-d8	(2)	6.925	136	594194	20.000
66) Naphthalene	(2)	6.948	128	4257	0.133
83) 2-Methylnaphthalene	(2)	7.624	142	3193	0.146
84) 1-Methylnaphthalene	(2)	7.717	142	2460	0.122
93)$2-Fluorobiphenyl	(3)	7.986	172	4952	0.206
109) Acenaphthylene	(3)	8.498	152	4051	0.123
113)*Acenaphthene-d10	(3)	8.638	164	353583	20.000
114) Acenaphthene	(3)	8.667	153	2636	0.121
126) Fluorene	(3)	9.175	166	2321	0.095
145) Hexachlorobenzene	(4)	9.711	284	429	0.058
153)*Phenanthrene-d10	(4)	10.090	188	675390	20.000
155) Phenanthrene	(4)	10.107	178	3897	0.107
157) Anthracene	(4)	10.160	178	3975	0.108
173) Fluoranthene	(4)	11.273	202	4582	0.114
175)*Pyrene-d10	(5)	11.477	212	787726	20.000
177) Pyrene	(5)	11.494	202	5210	0.123
179)$Terphenyl-d14	(5)	11.663	244	6098	0.212
195) Benzo(a)anthracene	(5)	12.683	228	3899	0.099
196) Chrysene	(5)	12.718	228	3685	0.101
206) Benzo(b)fluoranthene	(6)	13.762	252	3957M	0.106
208) Benzo(k)fluoranthene	(6)	13.791	252	3971M	0.111
211) Benzo(a)pyrene	(6)	14.082	252	3467	0.099
213)*Perylene-d12	(6)	14.135	264	559074	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	15.300	276	3826	0.103
220) Dibenz(a,h)anthracene	(6)	15.324	278	2980	0.098
221) Benzo(g,h,i)perylene	(6)	15.627	276	3094	0.101
222) Total PAHs	(6)			57533	1.794

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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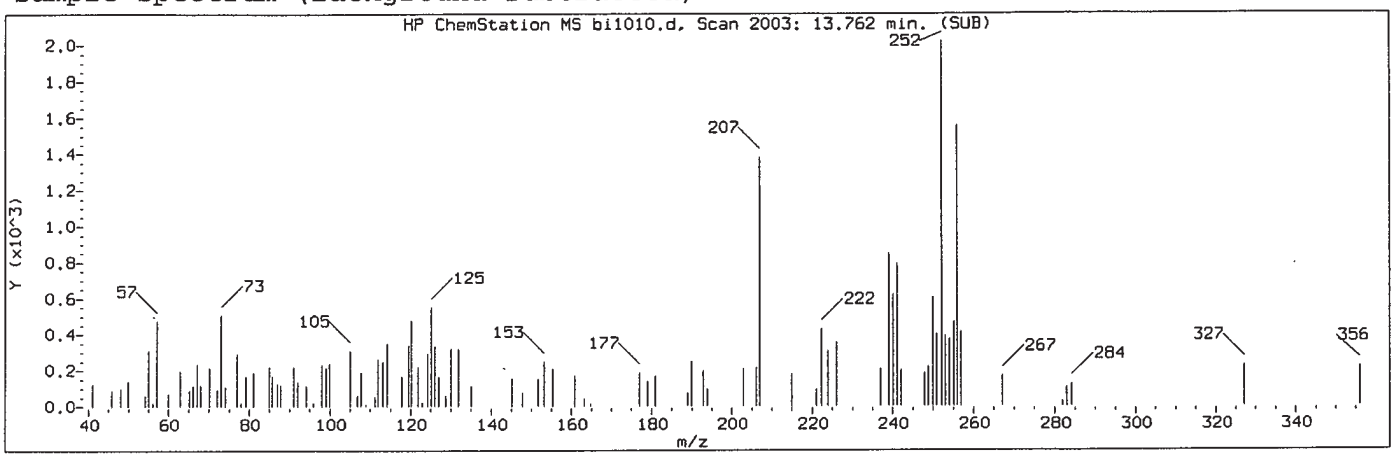
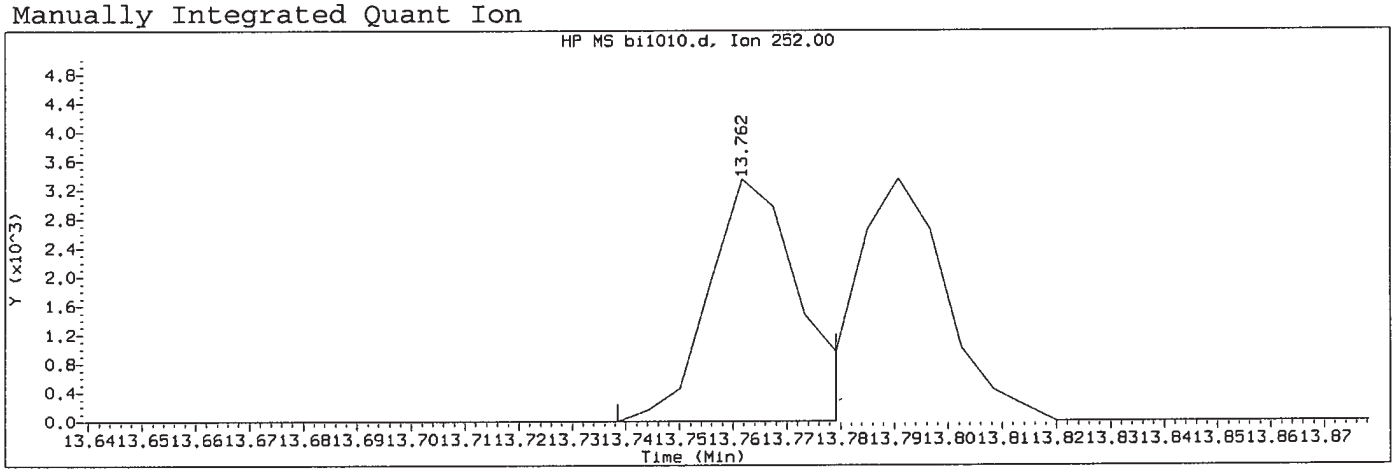
on 09/23/2015 at 09:18.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1010.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:42 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: pahmdlall1
Calibration date and time: 23-SEP-2015 08:53
Date, time and analyst ID of latest file update: 23-Sep-2015 09:16 lmh00956

Sample Name: SSTD0.1 Lab Sample ID: PAHMDL2575

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2003		
Retention Time (minutes)	: 13.762		
Quant Ion	: 252.00		
Area (flag)	: 3957M		
On-Column Amount (ng/ul)	: 0.1058		
Integration start scan	: 1998	Integration stop scan:	2005
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

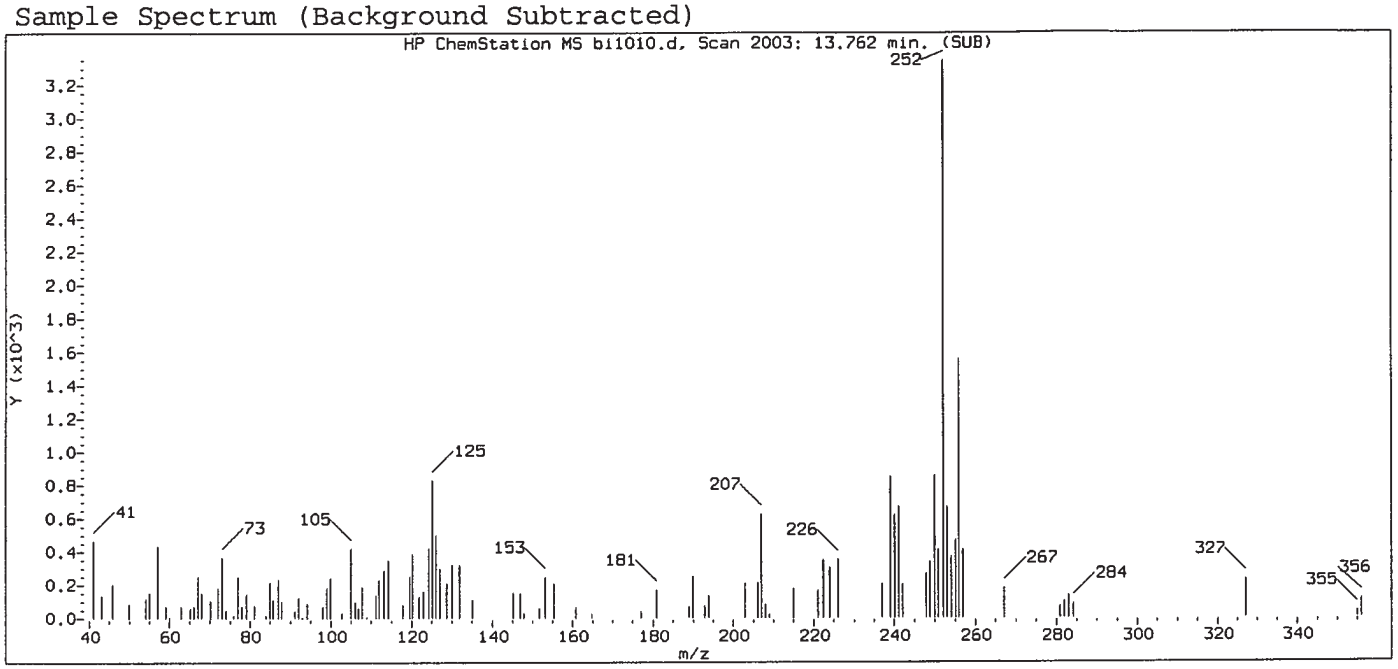
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:18. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

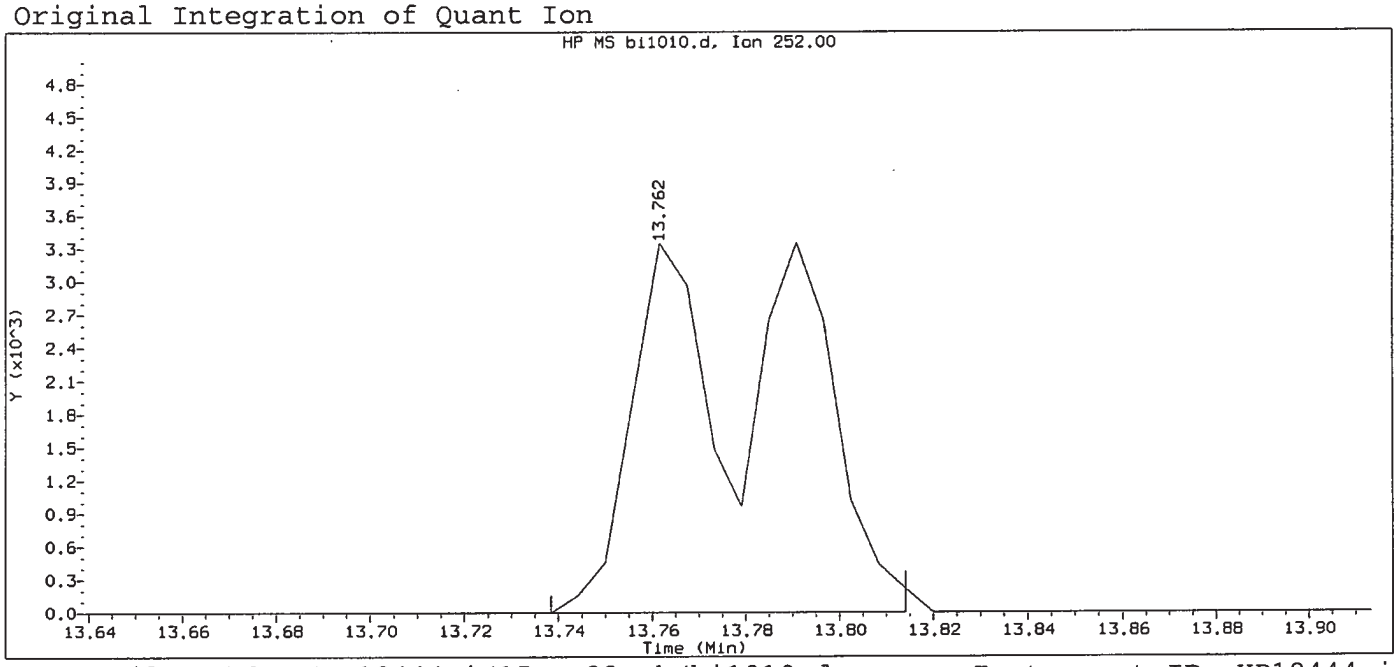
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1010.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:42 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: pahmdlall1
Calibration date and time: 23-SEP-2015 08:53
Date, time and analyst ID of latest file update: 23-Sep-2015 09:12 lmh00956

Sample Name: SSTD0.1 Lab Sample ID: PAHMDL2575

Compound Number	: 206		
Compound Name	: Benzo(b)fluoranthene		
Scan Number	: 2003		
Retention Time (minutes)	: 13.762		
Quant Ion	: 252.00		
Area	: 7537		
On-column Amount (ng/ul)	: 0.2014		
Integration start scan	: 1998	Integration stop scan:	2011
Y at integration start	: 0	Y at integration end:	0

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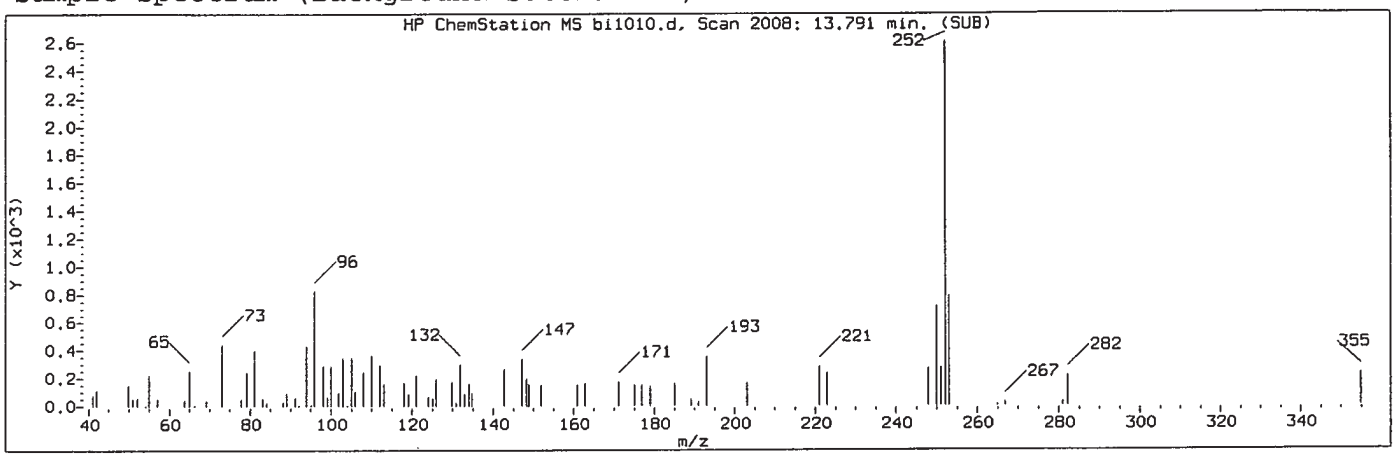
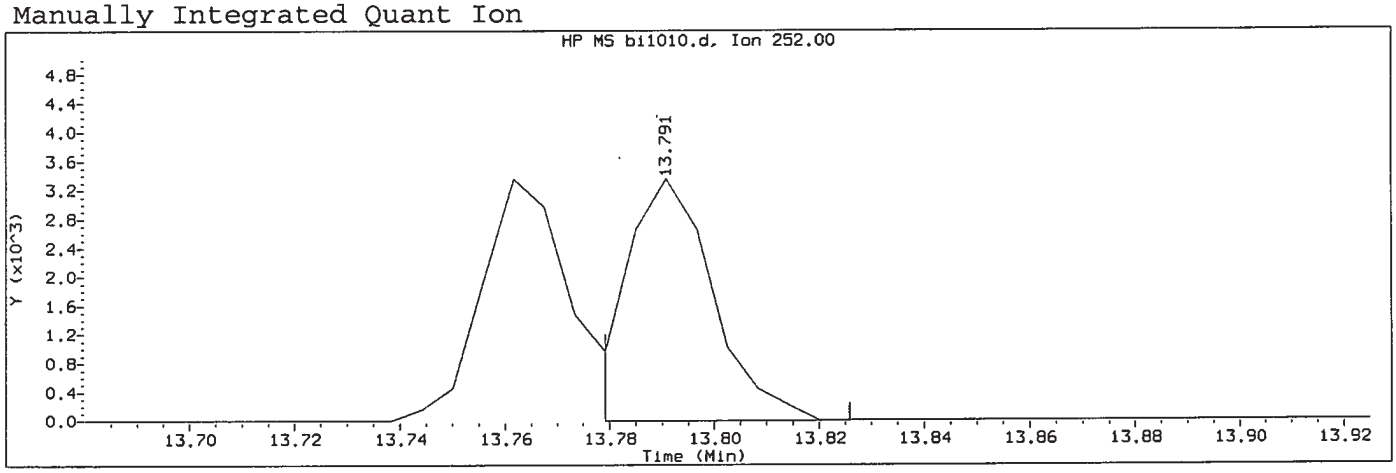
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1010.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:42 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: pahmdlall1
Calibration date and time: 23-SEP-2015 08:53
Date, time and analyst ID of latest file update: 23-Sep-2015 09:16 lmh00956

Sample Name: SSTD0.1 Lab Sample ID: PAHMDL2575

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2008		
Retention Time (minutes)	: 13.791		
Quant Ion	: 252.00		
Area (flag)	: 3971M		
On-Column Amount (ng/ul)	: 0.1112		
Integration start scan	: 2005	Integration stop scan:	2013
Y at integration start	: -5	Y at integration end:	-5

Reason for manual integration: improper integration

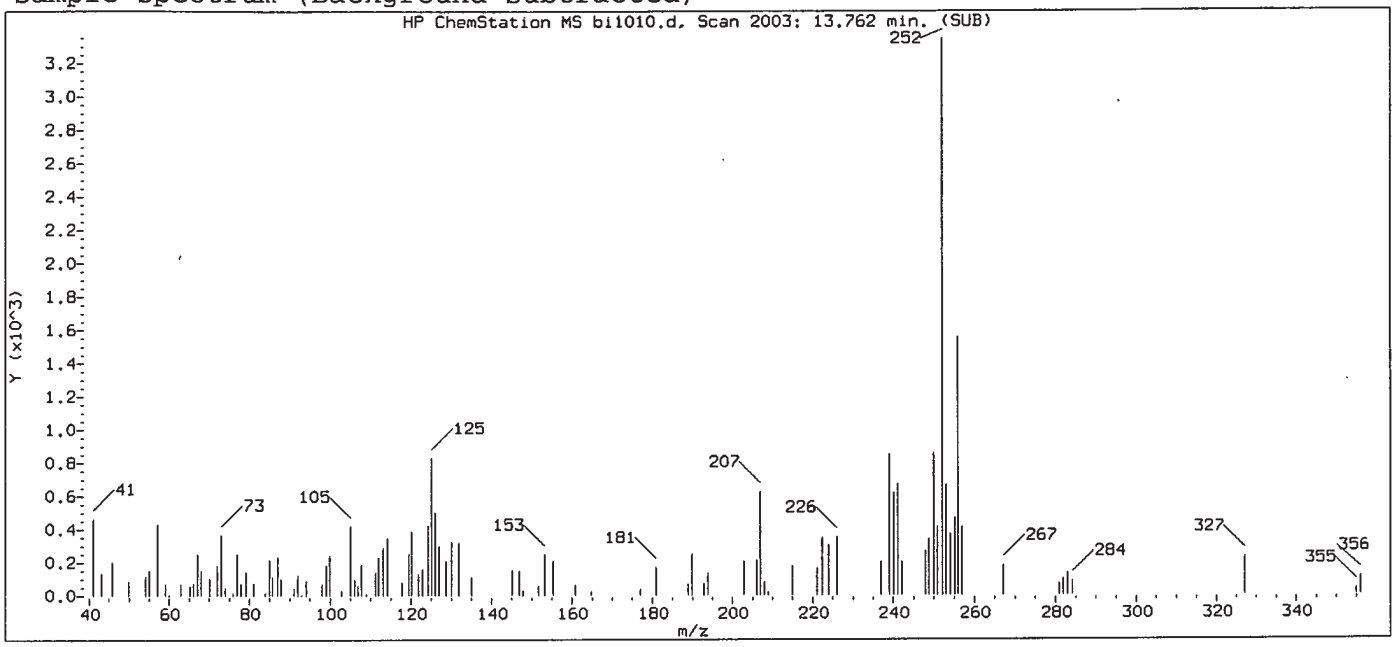
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:18. Target 3.5 ~~signature user ID: lmh00956~~

SEP 23 2015

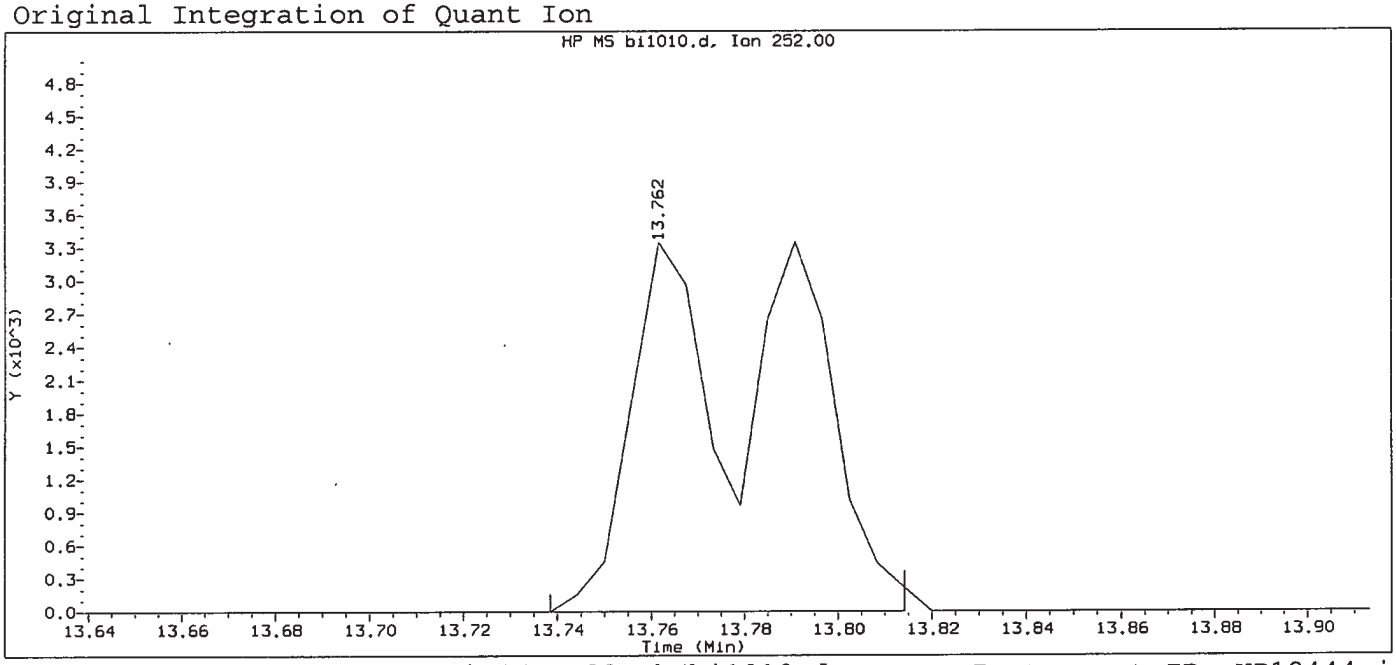
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1010.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 03:42 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: pahmdlall1
Calibration date and time: 23-SEP-2015 08:53
Date, time and analyst ID of latest file update: 23-Sep-2015 09:12 lmh00956

Sample Name: SSTD0.1 Lab Sample ID: PAHMDL2575

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2003		
Retention Time (minutes)	: 13.762		
Quant Ion	: 252.00		
Area	: 7537		
On-column Amount (ng/ul)	: 0.2112		
Integration start scan	: 1998	Integration stop scan:	2011
Y at integration start	: 0	Y at integration end:	0

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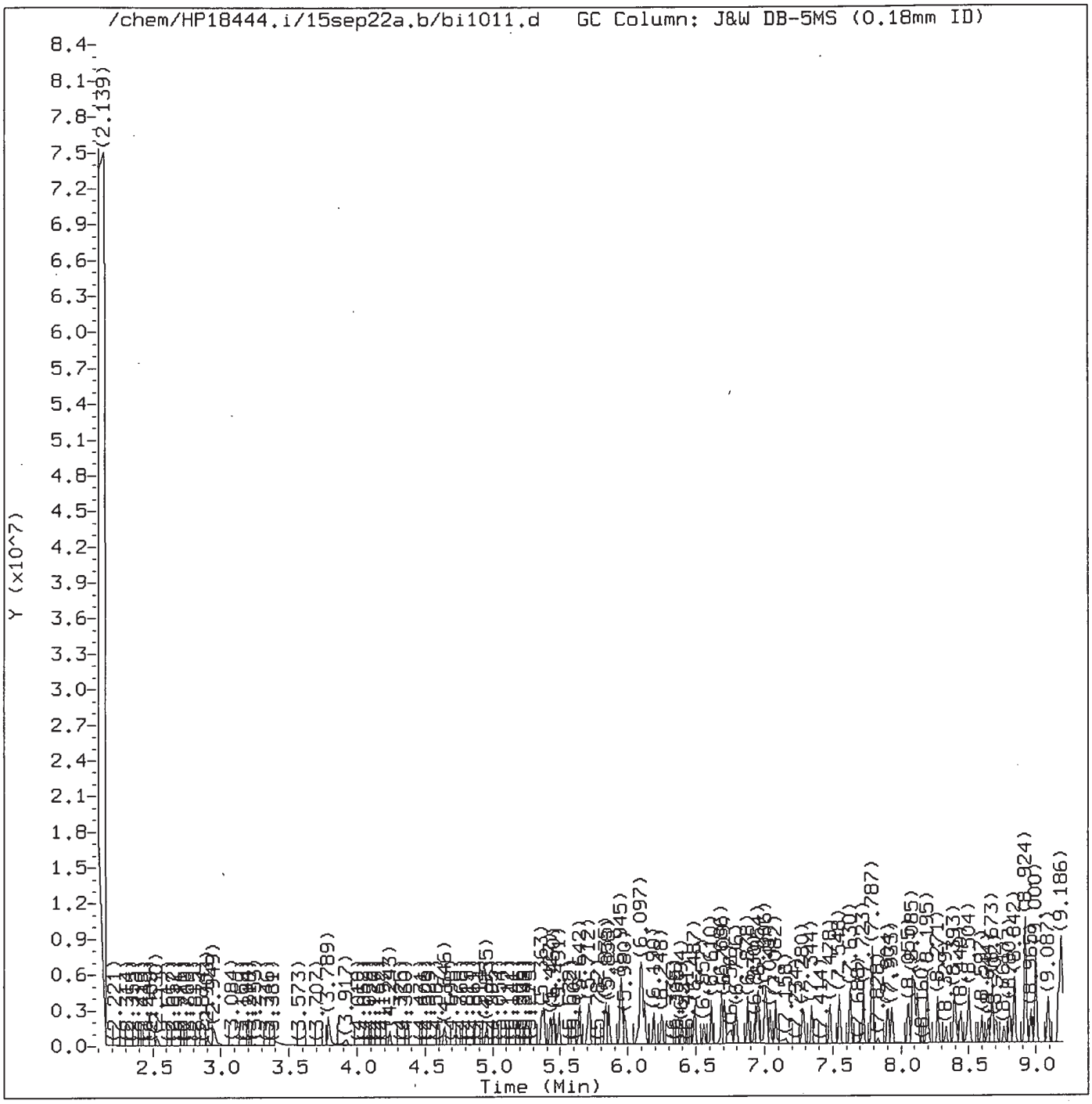
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1011.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 04:04 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: icval11
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:29 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

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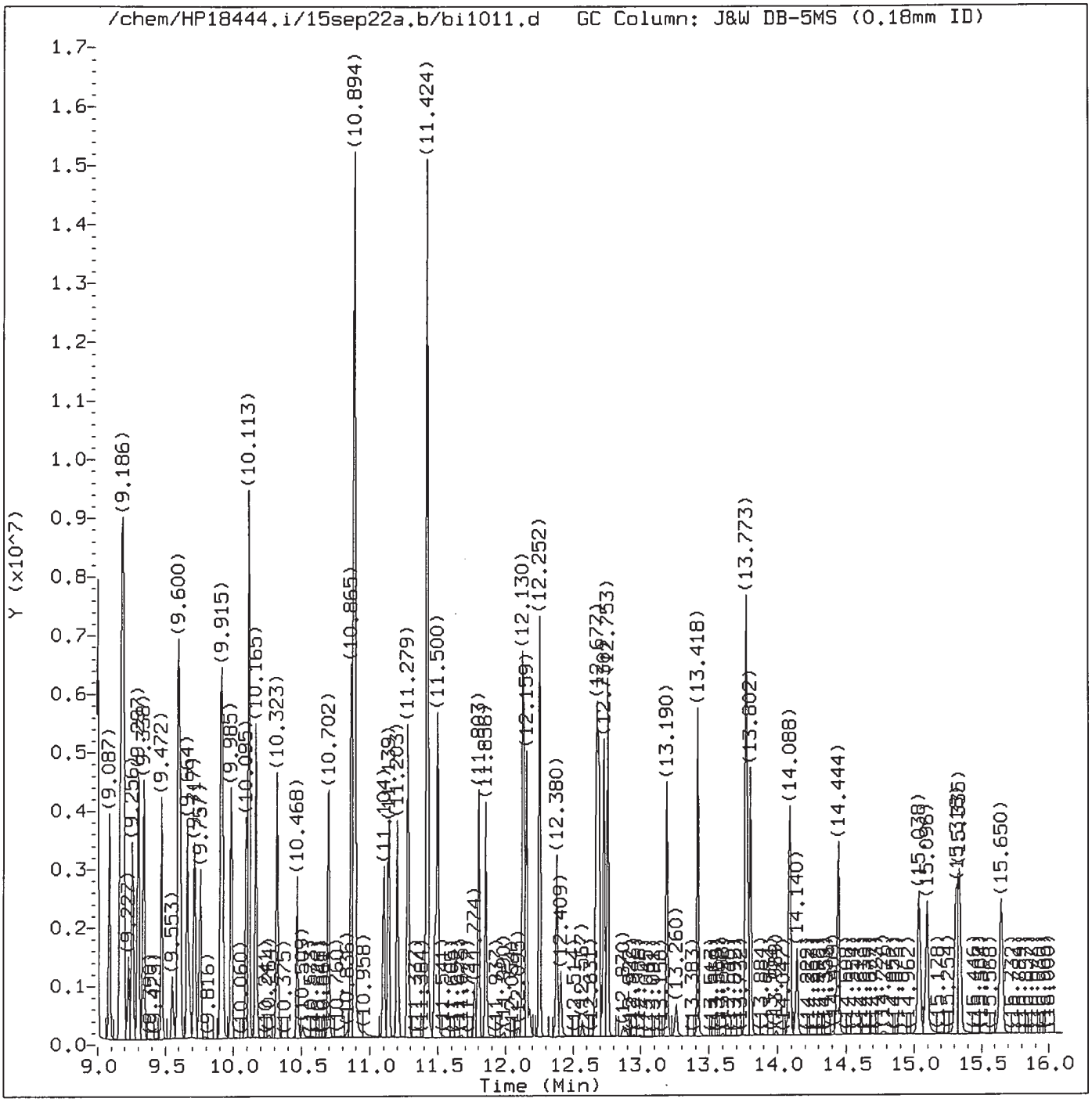
on 09/23/2015 at 09:29.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1011.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 04:04 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: icvall1
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:29 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:29.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1011.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 04:04 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: icvall1
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:29 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.530	88	294203	45.927
4) N-Nitrosodimethylamine	(1)	2.903	74	491346	46.602
5) Pyridine	(1)	2.949	79	872662	49.591
7) 2-Picoline	(1)	3.789	93	864864	48.266
8) N-Nitrosomethylethylamine	(1)	3.917	88	383792	47.014
9) Methyl methanesulfonate	(1)	4.243	80	458633	49.332
13) N-Nitrosodiethylamine	(1)	4.646	102	378416	47.887
15) Ethyl methanesulfonate	(1)	4.955	109	372861	47.542
18) Phenol	(1)	5.363	94	1094921	49.106
19) Aniline	(1)	5.374	93	1259087	49.027
22) bis(2-Chloroethyl)ether	(1)	5.450	93	809591	48.309
23) 2-Chlorophenol	(1)	5.491	128	663478	47.851
24) 1,3-Dichlorobenzene	(1)	5.642	146	699615	48.937
25)*1,4-Dichlorobenzene-d4	(1)	5.695	152	183747	20.000
26) 1,4-Dichlorobenzene	(1)	5.712	146	713919	48.648
27) Benzyl alcohol	(1)	5.835	108	512466	50.483
28) 1,2-Dichlorobenzene	(1)	5.858	146	686126	50.004
30) Indene	(1)	5.945	115	1237413	50.855
31) 2-Methylphenol	(1)	5.957	108	693198	48.480
33) 2,2'-oxybis(1-Chloropropane)	(1)	5.980	45	947584	50.578
34) bis(2-Chloroisopropyl)ether	(1)	5.980	45	947584	50.578
35) N-Nitrosopyrrolidine	(1)	6.068	100	391583	47.010
36) Acetophenone	(1)	6.091	105	1052669	46.771
37) 4-Methylphenol	(1)	6.097	108	778564	48.500
38) N-Nitroso-di-n-propylamine	(1)	6.103	70	645047	47.544
39) N-Nitrosomorpholine	(1)	6.109	56	452483	48.152
40) o-Toluidine	(1)	6.126	106	1177188	48.755
43) Hexachloroethane	(1)	6.190	117	315239	50.102
45) Nitrobenzene	(2)	6.248	77	861884	47.435
48) N-Nitrosopiperidine	(2)	6.394	114	354522	47.014
50) Isophorone	(2)	6.493	82	1706490	49.512
51) 2-Nitrophenol	(2)	6.557	139	293104	48.074
53) 2,4-Dimethylphenol	(2)	6.610	107	733136	46.046
42) Total Cresols	(1)	6.660	100	1471762	96.979
57) O,O,O-Triethylphosphorothioate	(2)	6.686	198	337988	47.860
55) bis(2-Chloroethoxy)methane	(2)	6.709	93	1028511	51.222
56) Benzoic acid	(2)	6.756	105	1038337	91.789
60) 2,4-Dichlorophenol	(2)	6.796	162	538094	49.543
62) 1,2,4-Trichlorobenzene	(2)	6.878	180	612727	49.012
65)*Naphthalene-d8	(2)	6.930	136	727939	20.000

* = Compound is an internal standard.

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:29.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1011.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 04:04 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: icvall1
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:29 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
66) Naphthalene	(2)	6.954	128	1913522	48.863
67) 4-Chloroaniline	(2)	7.006	127	836602	48.955
68) 2,6-Dichlorophenol	(2)	7.012	162	527120	49.160
69) Hexachloropropene	(2)	7.041	213	412956	50.769
71) Hexachlorobutadiene	(2)	7.082	225	359246	50.103
75) Quinoline	(2)	7.280	129	1242481	48.218
77) N-Nitrosodi-n-butylamine	(2)	7.344	84	598701	41.415
80) 4-Chloro-3-methylphenol	(2)	7.478	107	666759	48.330
82) Safrole	(2)	7.548	162	506536	48.597
83) 2-Methylnaphthalene	(2)	7.630	142	1263957	47.122
84) 1-Methylnaphthalene	(2)	7.723	142	1183207	47.926
85) Hexachlorocyclopentadiene	(3)	7.787	237	750705	102.130
86) 1,2,4,5-Tetrachlorobenzene	(3)	7.793	216	615981	49.242
88) cis-Isosafrole	(3)	7.834	162	68343	6.063
90) 2,4,6-Trichlorophenol	(3)	7.904	196	391625	49.865
92) 2,4,5-Trichlorophenol	(3)	7.933	196	428506	50.128
94) trans-Isosafrole	(3)	8.055	162	539029	44.287
95) 1,1'-Biphenyl	(3)	8.085	154	1547592	48.987
96) 2-Chloronaphthalene	(3)	8.102	162	1454967M	56.106
98) 1-Chloronaphthalene	(3)	8.119	162	1148106M	49.703
99) Diphenyl ether	(3)	8.195	170	837006	49.509
100) 2-Nitroaniline	(3)	8.201	138	353996	50.298
104) 1,4-Naphthoquinone	(3)	8.271	158	621417	60.191
105) 1,4-Dinitrobenzene	(3)	8.335	168	159539	48.533
106) Dimethylphthalate	(3)	8.393	163	1417960	48.946
107) 1,3-Dinitrobenzene	(3)	8.405	168	190670	49.411
108) 2,6-Dinitrotoluene	(3)	8.440	165	304598	51.663
109) Acenaphthylene	(3)	8.504	152	1886903	48.891
112) 3-Nitroaniline	(3)	8.597	138	315711	50.025
97) Isosafrole	(3)	8.630	162	607372	50.350
113)*Acenaphthene-d10	(3)	8.644	164	413475	20.000
114) Acenaphthene	(3)	8.673	153	1281794	50.219
115) 2,4-Dinitrophenol	(3)	8.702	184	249958	88.100
116) 4-Nitrophenol	(3)	8.761	109	202375	49.050
117) Pentachlorobenzene	(3)	8.807	250	518627	47.621
118) 2,4-Dinitrotoluene	(3)	8.836	165	395563	51.009
119) Dibenzofuran	(3)	8.842	168	1647606	48.063
121) 1-Naphthylamine	(3)	8.924	143	2520123	94.903
122) 2,3,4,6-Tetrachlorophenol	(3)	8.965	232	348836	50.990
123) 2-Naphthylamine	(3)	9.000	143	2495411	95.029

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:29.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1011.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 04:04 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: icvall1
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:29 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
124) Diethylphthalate	(3)	9.087	149	1379258	48.497
125) Thionazin	(3)	9.163	107	260665	44.599
126) Fluorene	(3)	9.180	166	1408732	49.067
127) 4-Chlorophenyl-phenylether	(3)	9.186	204	703258	49.265
128) 5-Nitro-o-toluidine	(3)	9.192	152	362982	49.125
129) 4-Nitroaniline	(3)	9.198	138	333556	49.293
130) 4,6-Dinitro-2-methylphenol	(4)	9.227	198	176083	51.013
132) NDPA as diphenylamine	(4)	9.303	169	1158032	48.439
131) N-Nitrosodiphenylamine	(4)	9.303	169	1158032	48.874
134) 1,2-Diphenylhydrazine	(4)	9.338	77	1858268	51.478
120) 2,4_2,6-Dinitrotoluenes	(3)	9.400	165	700161	102.672
137) Tetraethyldithiopyrophosphate	(4)	9.472	97	279512	48.388
139) 1,3,5-Trinitrobenzene	(4)	9.553	213	100900	42.044
140) Diallate (peak 1)	(4)	9.594	86	573610	34.978
141) Phorate	(4)	9.600	75	1152056	51.014
142) Phenacetin	(4)	9.612	108	774430	48.140
143) 4-Bromophenyl-phenylether	(4)	9.664	248	399068	49.797
144) Diallate (peak 2)	(4)	9.676	86	192051	11.829
145) Hexachlorobenzene	(4)	9.717	284	393412	47.873
147) Dimethoate	(4)	9.757	87	601862	44.802
149) Pentachlorophenol	(4)	9.909	266	248301	52.387
150) 4-Aminobiphenyl	(4)	9.915	169	1424510	54.824
151) Pentachloronitrobenzene	(4)	9.921	237	174221	49.390
152) Pronamide	(4)	9.985	173	605121	46.789
153)*Phenanthrene-d10	(4)	10.090	188	754260	20.000
154) Dinoseb	(4)	10.095	211	263097	45.965
155) Phenanthrene	(4)	10.119	178	1929257	47.370
157) Anthracene	(4)	10.165	178	2007493	48.984
146) Diallate trans/cis	(4)	10.200	86	765661	46.807
163) Carbazole	(4)	10.323	167	1740442	46.927
164) Methyl parathion	(4)	10.468	109	417534	47.576
165) Di-n-butylphthalate	(4)	10.702	149	2295804	49.473
167) Parathion	(4)	10.865	109	303119	53.139
168) 4-Nitroquinoline-1-oxide	(4)	10.894	190	2417580	782.381
171) Isodrin	(4)	11.139	193	230326	45.945
173) Fluoranthene	(4)	11.279	202	2091685	46.507
174) Benzidine	(5)	11.424	184	6070724	252.873
175)*Pyrene-d10	(5)	11.483	212	807141	20.000
177) Pyrene	(5)	11.500	202	2101250	48.480
182) p-Dimethylaminoazobenzene	(5)	11.803	225	463801	51.838

* = Compound is an internal standard.

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on 09/23/2015 at 09:29.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1011.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 04:04 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: icvall1
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:29 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
185) Chlorobenzilate	(5)	11.856	139	626660	49.813
187) 3,3'-Dimethylbenzidine	(5)	12.130	212	2324984	94.699
188) Butylbenzylphthalate	(5)	12.159	149	956775	51.108
191) 2-Acetylaminofluorene	(5)	12.380	181	787371	48.007
193) 3,3'-Dichlorobenzidine	(5)	12.672	252	665445	44.057
198) 4,4'-Methylenebis(2-chloroanil	(5)	12.677	231	380071	45.398
195) Benzo(a)anthracene	(5)	12.689	228	1936641	48.142
196) Chrysene	(5)	12.730	228	1898854	50.819
199) bis(2-Ethylhexyl)phthalate	(5)	12.753	149	1367773	50.256
203) 6-Methylchrysene	(5)	13.190	242	1261267	45.681
205) Di-n-octylphthalate	(6)	13.418	149	2304353	54.327
206) Benzo(b)fluoranthene	(6)	13.773	252	1955027	54.157
207) 7,12-Dimethylbenz[a]anthracene	(6)	13.773	256	831590	50.772
208) Benzo(k)fluoranthene	(6)	13.802	252	1660249	48.210
211) Benzo(a)pyrene	(6)	14.088	252	1631020	48.490
213)*Perylene-d12	(6)	14.140	264	539340	20.000
215) 3-Methylcholanthrene	(6)	14.444	268	870554	53.966
219) Indeno(1,2,3-cd)pyrene	(6)	15.312	276	1790258	50.053
220) Dibenz(a,h)anthracene	(6)	15.341	278	1499704	51.360
221) Benzo(g,h,i)perylene	(6)	15.650	276	1517893	51.282
222) Total PAHs	(6)	16.000	100	27342170	783.576

* = Compound is an internal standard.

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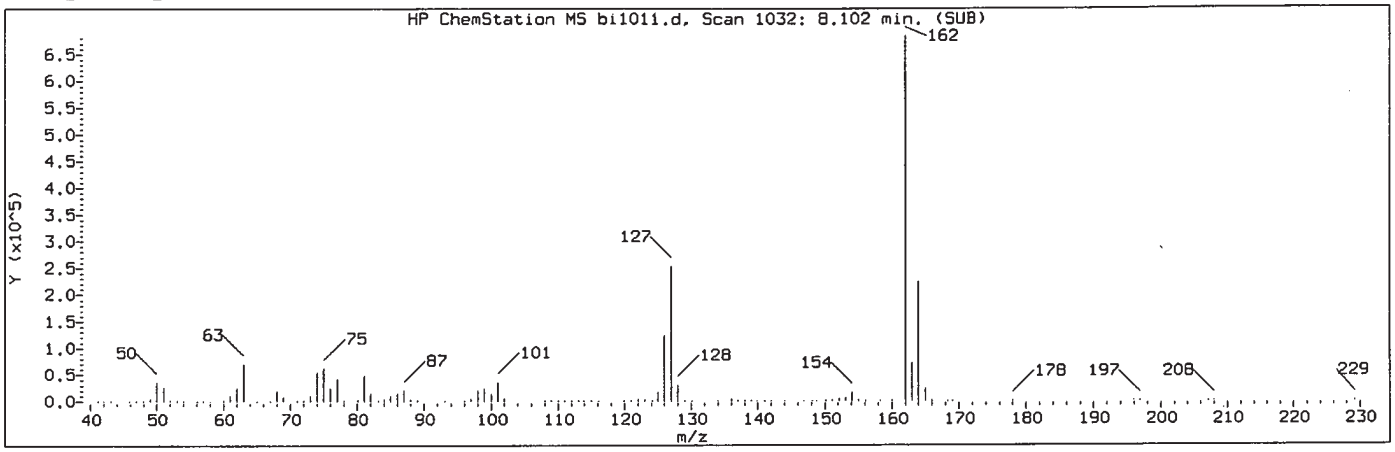
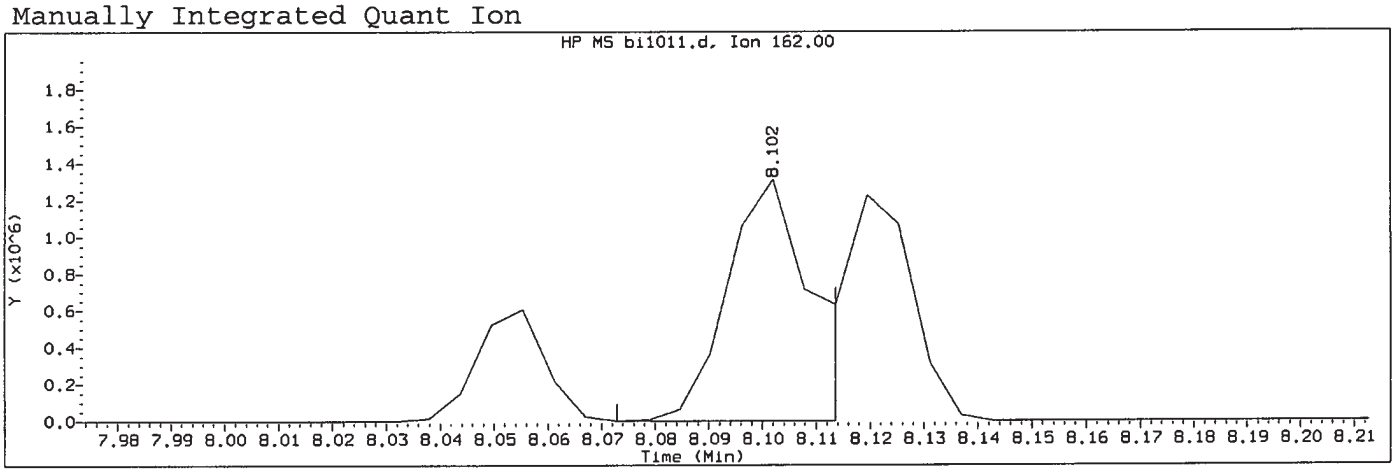
on 09/23/2015 at 09:29.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1011.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 04:04 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: icval11
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:29 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1032		
Retention Time (minutes)	: 8.102		
Quant Ion	: 162.00		
Area (flag)	: 1454967M		
On-Column Amount (ng/ul)	: 56.1061		
Integration start scan	: 1026	Integration stop scan:	1033
Y at integration start	: 0	Y at integration end:	0

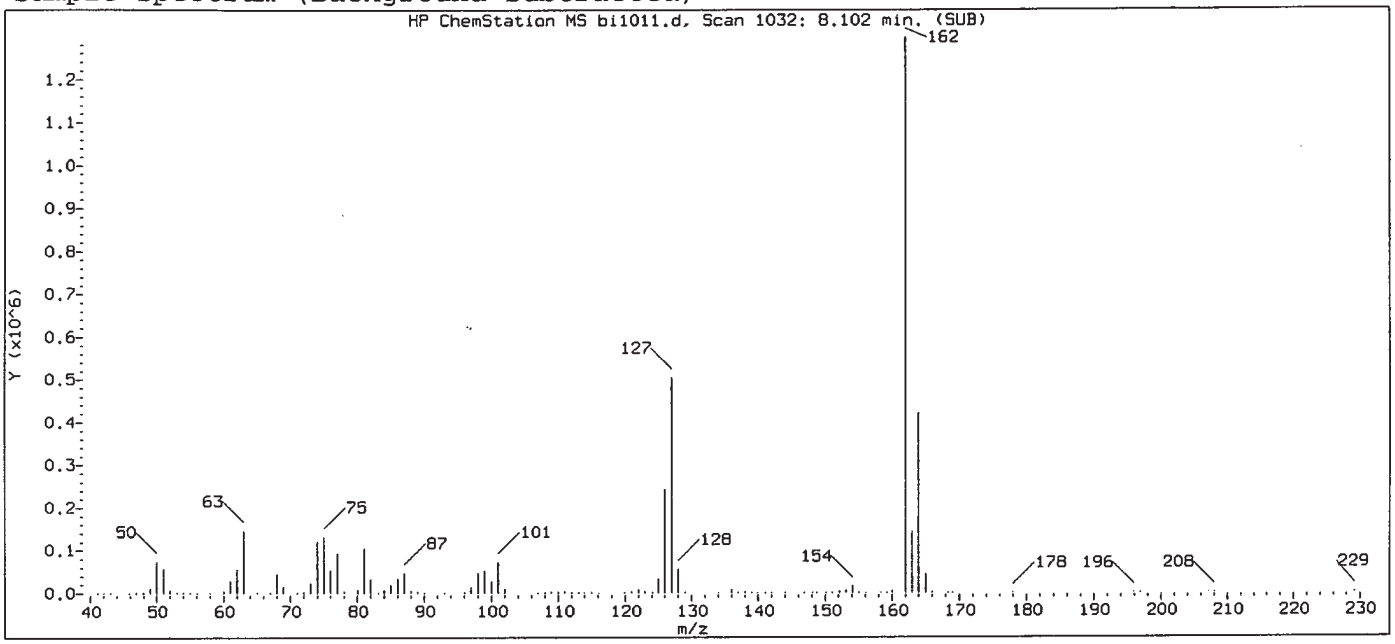
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:29. Target 3.5 signature user ID: lmh00956

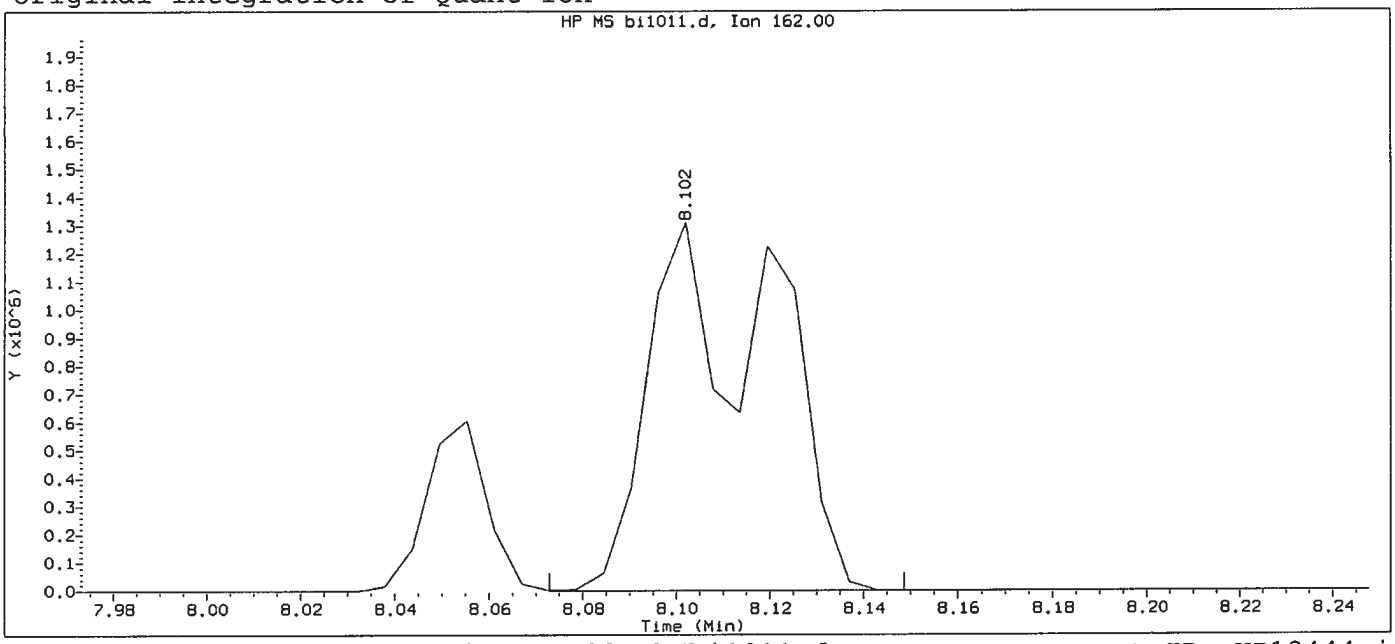
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1011.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 04:04 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: icval11
Calibration date and time: 23-SEP-2015 08:53
Date, time and analyst ID of latest file update: 23-Sep-2015 09:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1032		
Retention Time (minutes)	: 8.102		
Quant Ion	: 162.00		
Area	: 2379590		
On-column Amount (ng/ul)	: 91.7611		
Integration start scan	: 1026	Integration stop scan:	1039
Y at integration start	: 0	Y at integration end:	0

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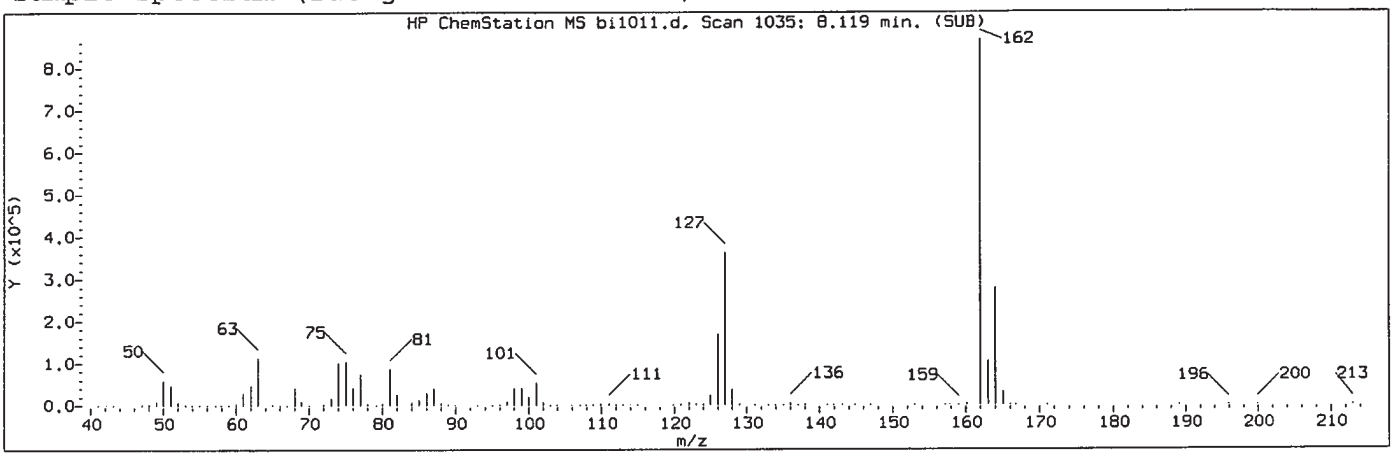
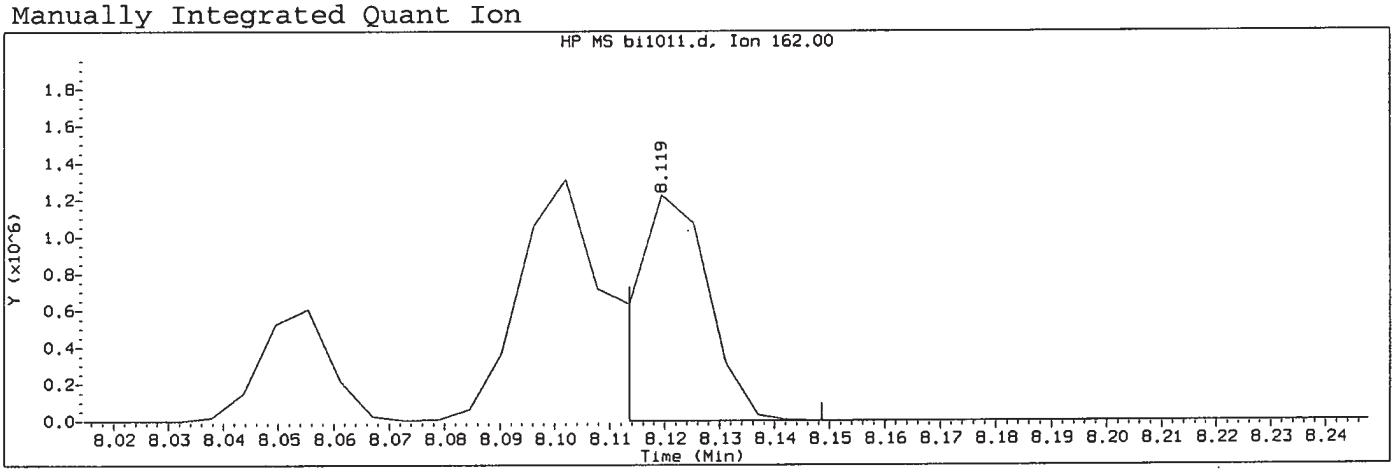
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1011.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 04:04 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: icval11
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:29 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1035		
Retention Time (minutes)	: 8.119		
Quant Ion	: 162.00		
Area (flag)	: 1148106M		
On-Column Amount (ng/ul)	: 49.7026		
Integration start scan	: 1033	Integration stop scan:	1039
Y at integration start	: -706	Y at integration end:	-706

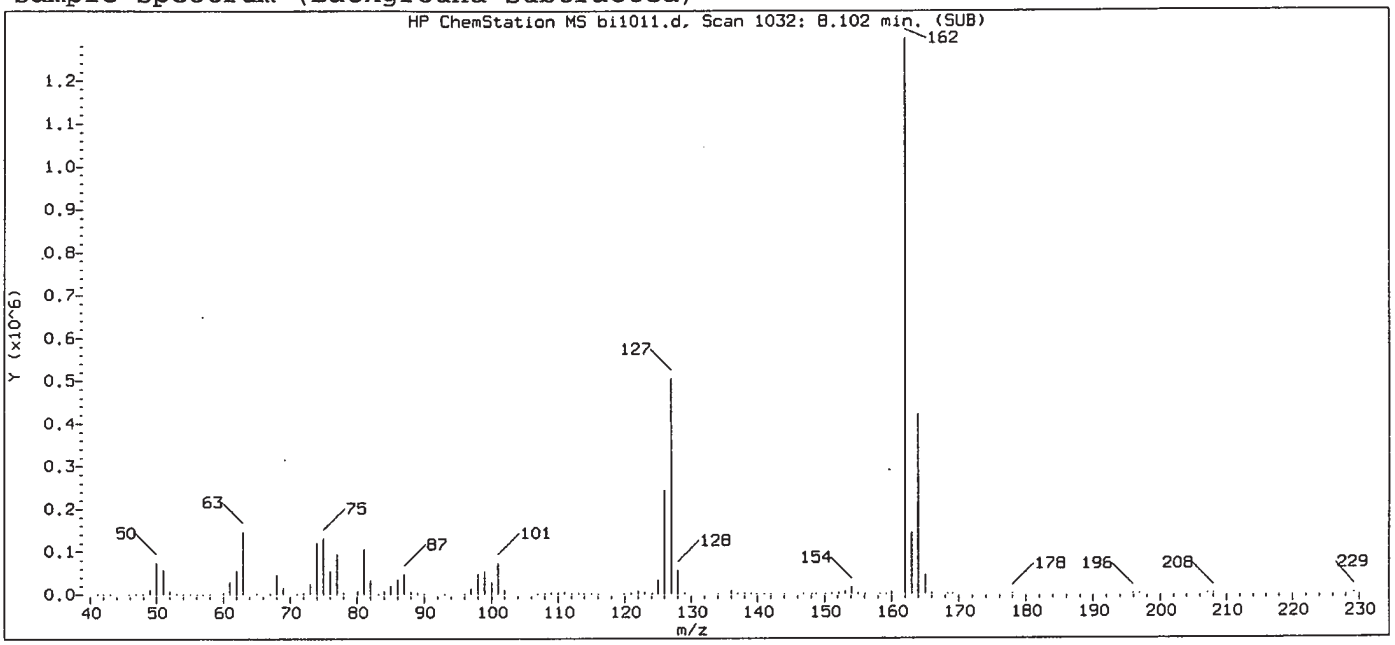
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/23/2015 at 09:29. Target 3.5 ~~signature user ID: lmh~~00956

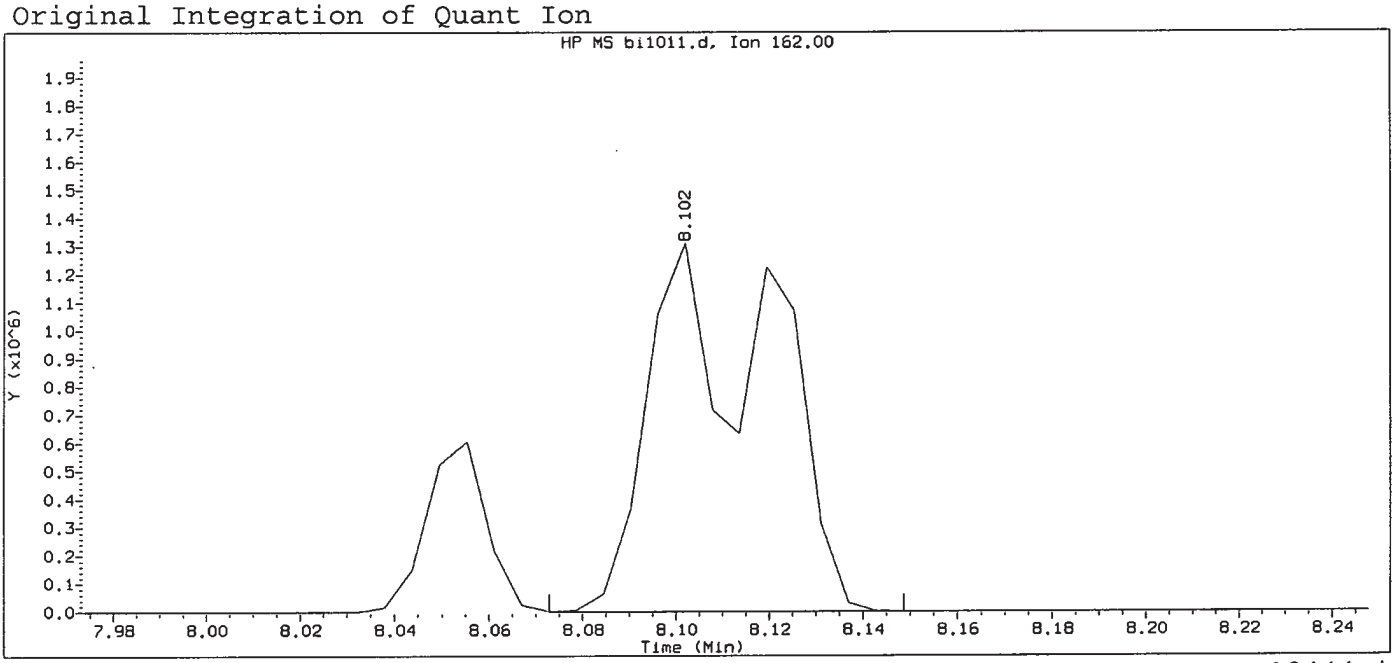
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep22a.b/bi1011.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 04:04 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: icval11
Calibration date and time: 23-SEP-2015 08:53
Date, time and analyst ID of latest file update: 23-Sep-2015 09:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1032		
Retention Time (minutes)	: 8.102		
Quant Ion	: 162.00		
Area	: 2379511		
On-column Amount (ng/ul)	: 103.0112		
Integration start scan	: 1026	Integration stop scan:	1039
Y at integration start	: 0	Y at integration end:	0

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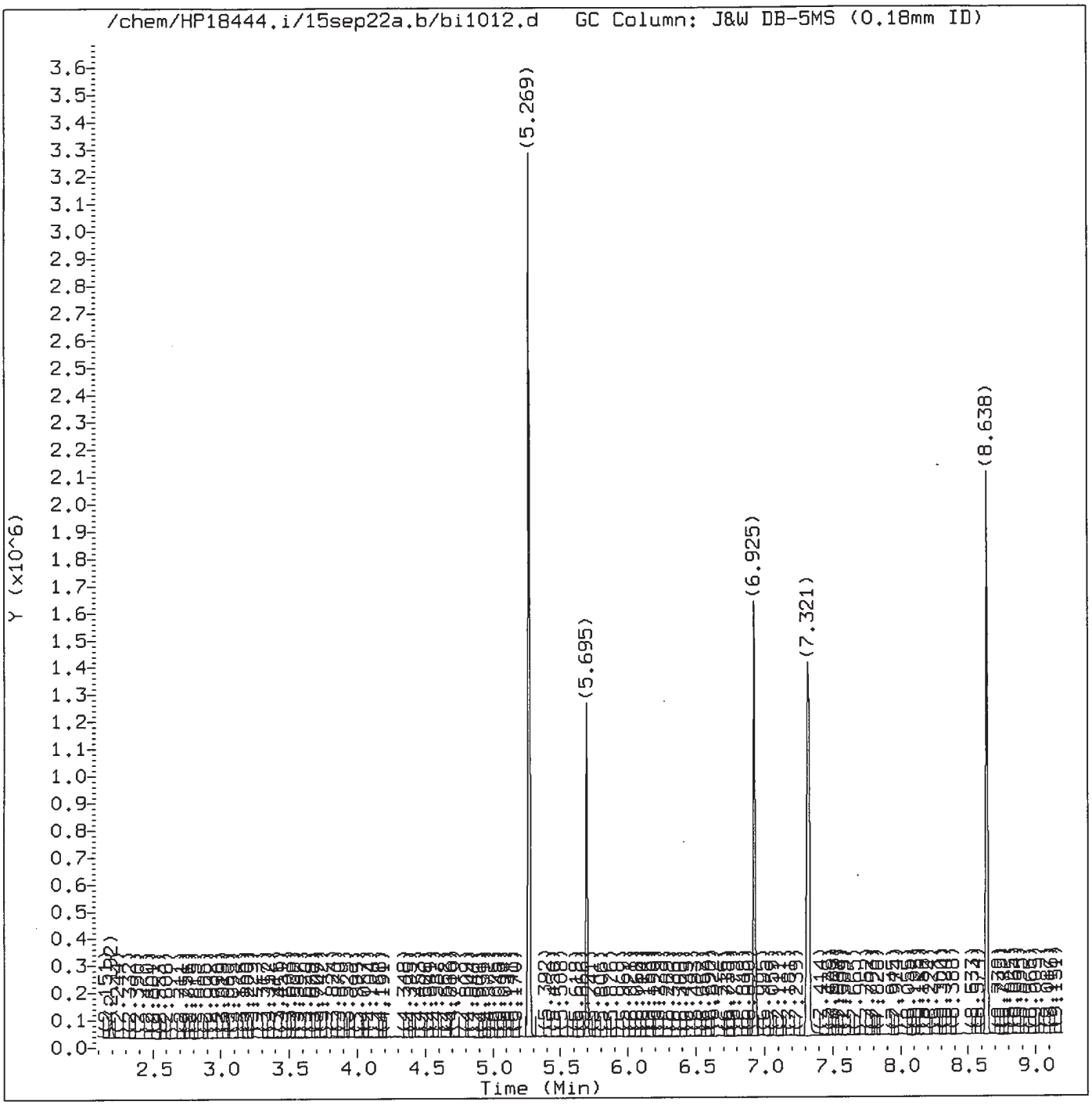
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

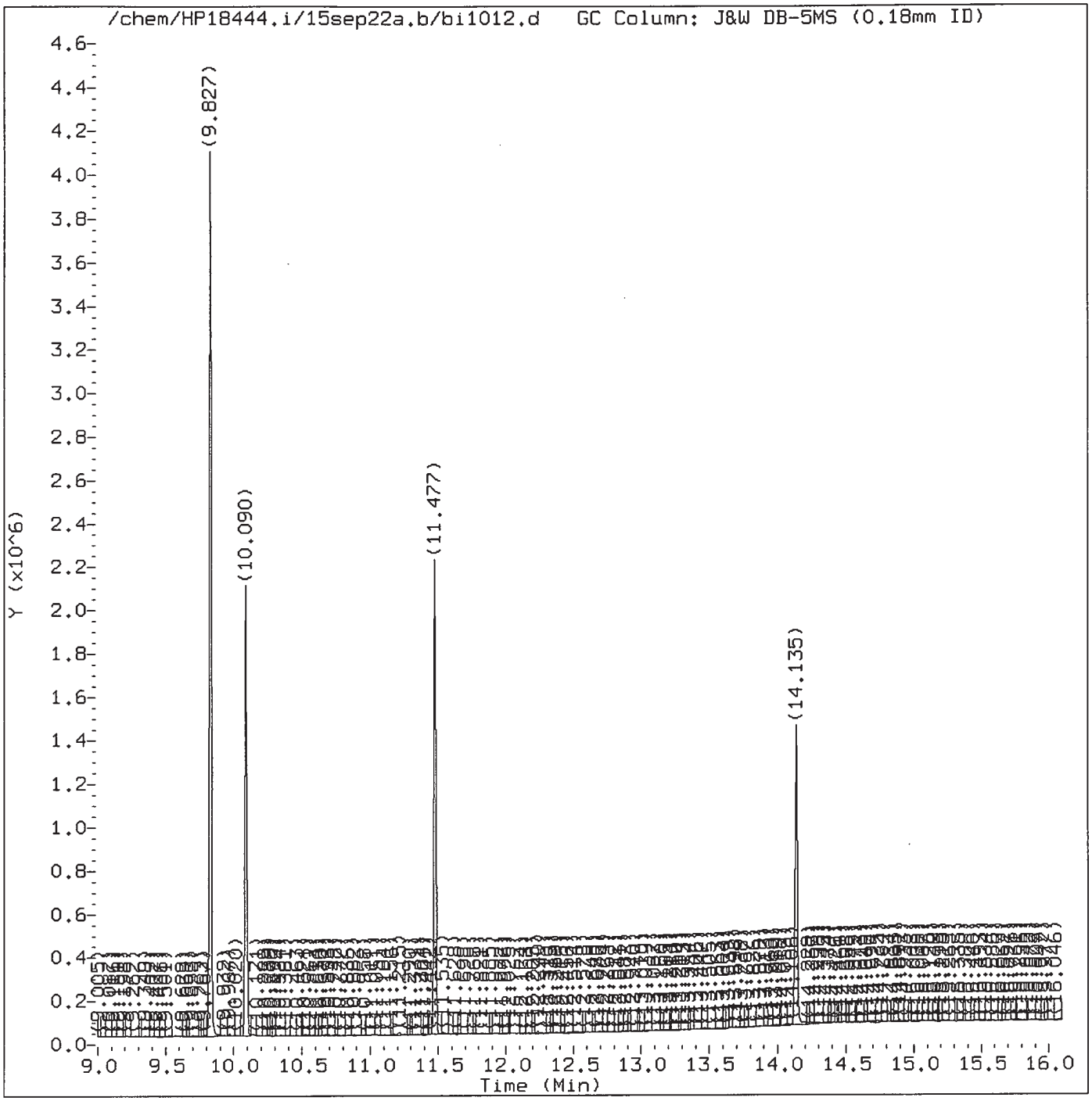
Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1012.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 06:56 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: basicval11
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:29 lmh00956

Sample Name: SSTD050 Lab Sample ID: BASICV2475

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:30.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1012.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 06:56 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: basicval11
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:29 lmh00956

Sample Name: SSTD050 Lab Sample ID: BASICV2475

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:30.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep22a.b/bi1012.d Instrument ID: HP18444.i
Injection date and time: 23-SEP-2015 06:56 Analyst ID: whs02991

Method used: /chem/HP18444.i/15sep22a.b/m8270c.m Sublist used: basicvall1
Calibration date and time: 23-SEP-2015 09:15
Date, time and analyst ID of latest file update: 23-Sep-2015 09:29 lmh00956

Sample Name: SSTD050 Lab Sample ID: BASICV2475

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
16) Benzaldehyde	(1)	5.269	77	715772	54.256
25)*1,4-Dichlorobenzene-d4	(1)	5.695	152	164198	20.000
65)*Naphthalene-d8	(2)	6.925	136	651220	20.000
76) Caprolactam	(2)	7.321	113	221021	51.637
113)*Acenaphthene-d10	(3)	8.638	164	386665	20.000
148) Atrazine	(4)	9.827	200	427867	51.633
153)*Phenanthrene-d10	(4)	10.090	188	745479	20.000
175)*Pyrene-d10	(5)	11.477	212	834501	20.000
213)*Perylene-d12	(6)	14.135	264	517667	20.000

* = Compound is an internal standard.

Digitally signed by Linda M. Hartenstine
on 09/23/2015 at 09:30.
Target 3.5 esignature user ID: lmh00956

Data File: /chem/HP18444.i/15sep30.b/bi1400w.d

Date : 30-SEP-2015 09:43

Client ID: DFTPP50

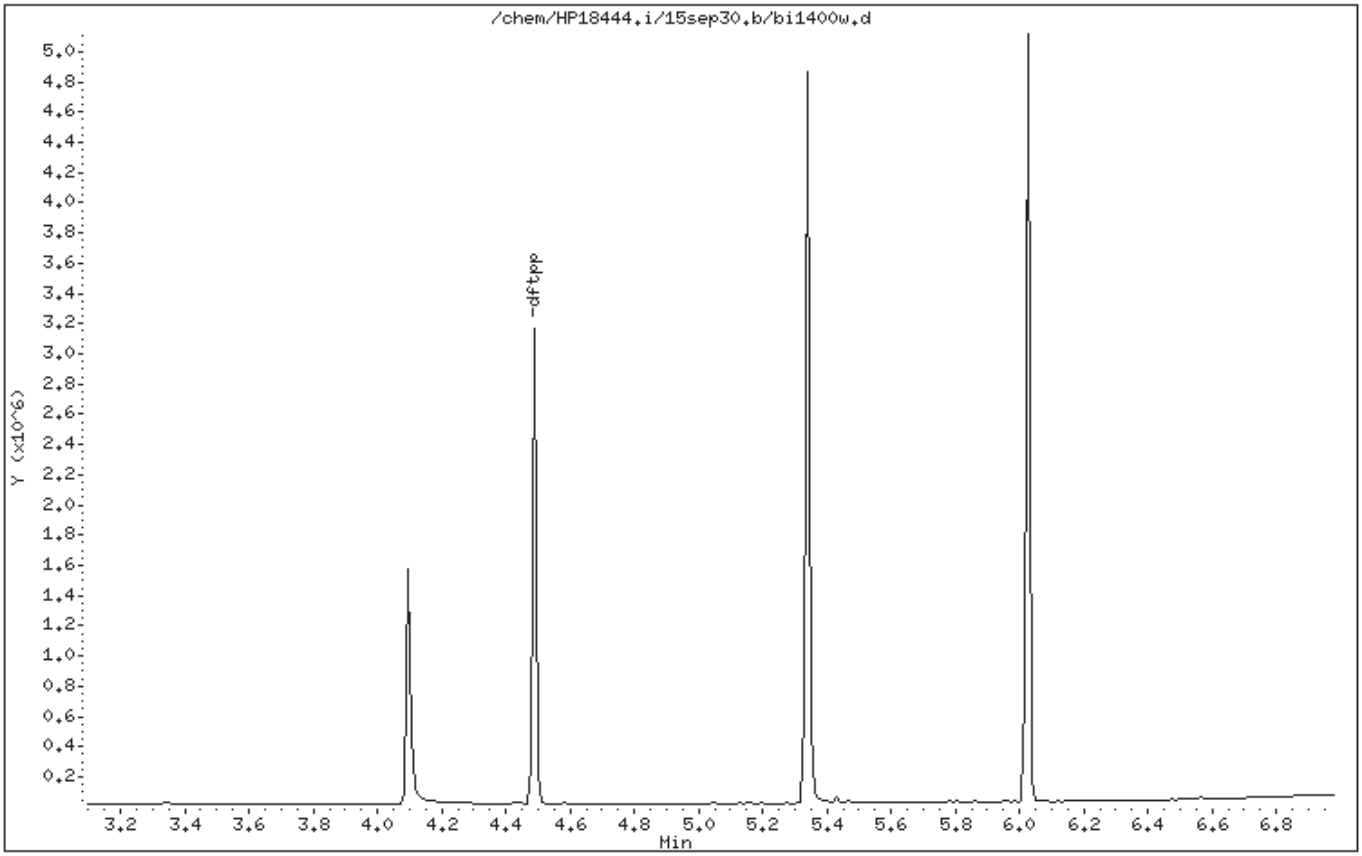
Instrument: HP18444.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Linda M. Hartenstine on 09/30/2015 at 10:18.
Target 3.5 esignature user ID: lmh00956

Data File: /chem/HP18444.i/15sep30.b/bi1400w.d

Date : 30-SEP-2015 09:43

Client ID: DFTPP50

Instrument: HP18444.i

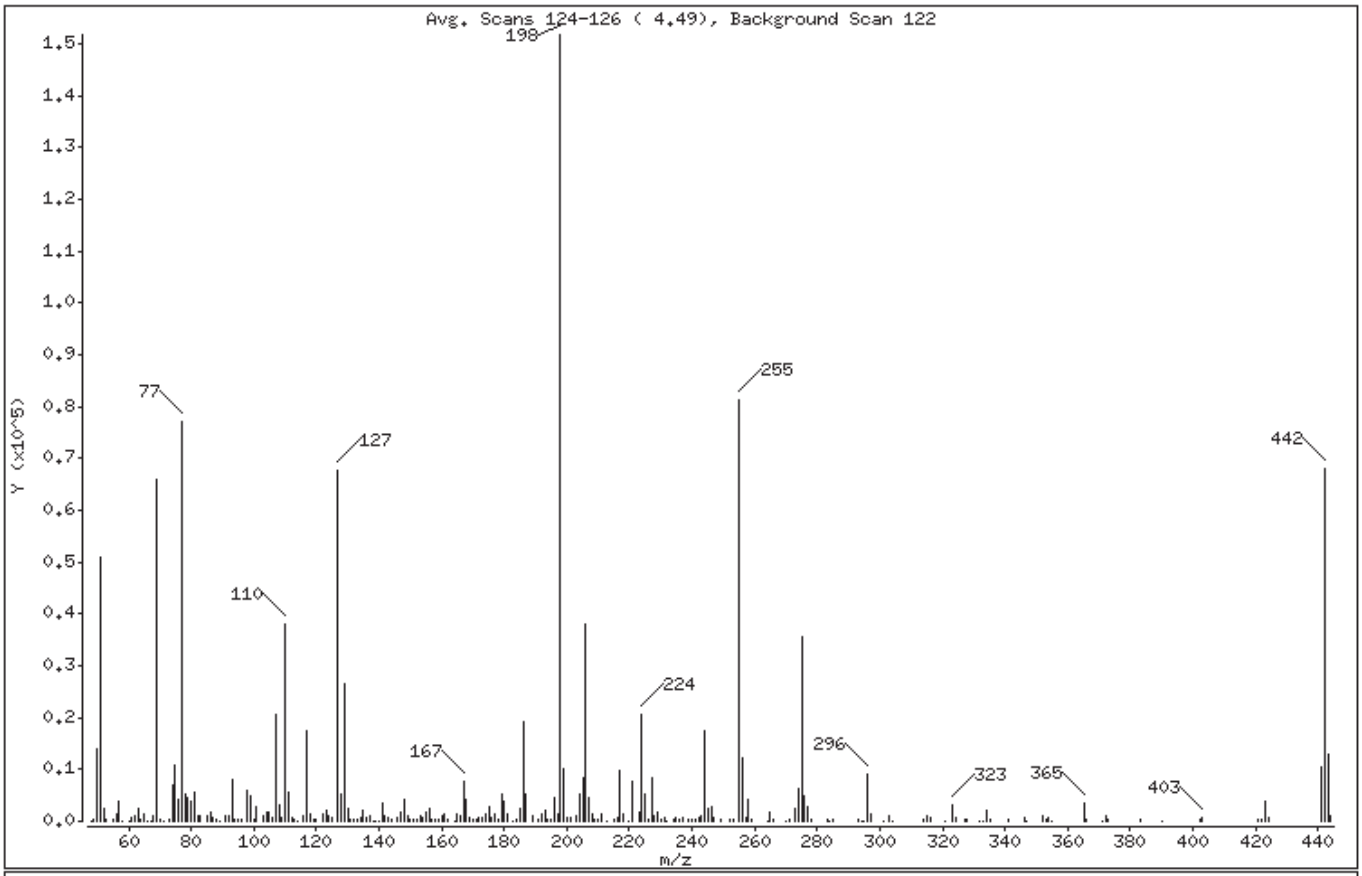
Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	33.60
68	Less than 2.00% of mass 69	0.78 (1.79)
69	Mass 69 relative abundance	43.53
70	Less than 2.00% of mass 69	0.14 (0.33)
127	40.00 - 60.00% of mass 198	44.65
197	Less than 1.00% of mass 198	0.87
199	5.00 - 9.00% of mass 198	6.66
275	10.00 - 30.00% of mass 198	23.48
365	Greater than 1.00% of mass 198	2.27
441	Present, but less than mass 443	6.79
442	40.00 - 99.99% of mass 198	44.74
443	17.00 - 23.00% of mass 442	8.50 (18.99)

Digitally signed by Linda M. Hartenstine on 09/30/2015 at 10:18.
Target 3.5 esignature user ID: lmh00956

Date : 30-SEP-2015 09:43

Client ID: DFTPP50 Instrument: HP18444.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: DB-5MS Column diameter: 0.18

Data File: bi1400w.d
Spectrum: Avg. Scans 124-126 (4.49), Background Scan 122
Location of Maximum: 198.00
Number of points: 244

m/z	Y	m/z	Y	m/z	Y	m/z	Y
48.00	79	118.00	1421	185.00	2497	264.00	73
49.00	496	119.00	221	186.00	19360	265.00	1626
50.00	14130	120.00	186	187.00	5320	266.00	249
51.00	51024	122.00	1335	189.00	1114	270.00	110
52.00	2462	123.00	1974	191.00	499	271.00	210
53.00	368	124.00	949	192.00	1512	273.00	2512
55.00	245	125.00	718	193.00	2089	274.00	6398
56.00	1503	127.00	67808	194.00	394	275.00	35664
57.00	3756	128.00	5164	195.00	249	276.00	4751
58.00	113	129.00	26544	196.00	4430	277.00	2824
60.00	74	130.00	2299	197.00	1321	278.00	192
61.00	827	131.00	467	198.00	151808	283.00	274
62.00	943	132.00	237	199.00	10114	284.00	127
63.00	2292	133.00	253	200.00	659	285.00	446
64.00	279	134.00	638	201.00	532	293.00	423
65.00	1319	135.00	1979	203.00	879	294.00	101
66.00	116	136.00	829	204.00	5133	295.00	123
67.00	8	137.00	1134	205.00	8335	296.00	9159
68.00	1182	138.00	148	206.00	37872	297.00	1386
69.00	66096	139.00	141	207.00	4466	301.00	92
70.00	220	140.00	161	208.00	1232	303.00	988
71.00	100	141.00	3393	209.00	468	304.00	108
73.00	321	142.00	1200	210.00	332	314.00	363
74.00	6987	143.00	722	211.00	1242	315.00	966
75.00	10668	144.00	196	213.00	86	316.00	556
76.00	4055	146.00	557	215.00	219	321.00	170
77.00	77064	147.00	1854	216.00	740	323.00	2989
78.00	5285	148.00	4094	217.00	9892	324.00	547
79.00	4662	149.00	1019	218.00	1355	327.00	297
80.00	3698	150.00	207	220.00	162	328.00	201
81.00	5446	151.00	423	221.00	7667	332.00	139
82.00	1072	152.00	219	223.00	1876	333.00	135
83.00	901	153.00	965	224.00	20488	334.00	1920
85.00	1141	154.00	773	225.00	5156	335.00	321
86.00	1585	155.00	1865	226.00	488	341.00	249

Digitally signed by Linda M. Hartenstine on 09/30/2015 at 10:18.
Target 3.5 esignature user ID: lmh00956

Date : 30-SEP-2015 09:43

Client ID: DFTPP50 Instrument: HP18444.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: DB-5MS Column diameter: 0.18

Data File: bi1400w.d
Spectrum: Avg. Scans 124-126 (4.49), Background Scan 122
Location of Maximum: 198.00
Number of points: 244

m/z	Y	m/z	Y	m/z	Y	m/z	Y
87.00	820	156.00	2516	227.00	8238	346.00	655
88.00	371	157.00	392	228.00	1034	347.00	86
89.00	110	158.00	441	229.00	1690	352.00	921
91.00	1199	159.00	466	230.00	188	353.00	490
92.00	1175	160.00	955	231.00	766	354.00	748
93.00	8070	161.00	1366	232.00	148	355.00	140
94.00	416	162.00	266	234.00	458	365.00	3448
95.00	220	164.00	115	235.00	526	366.00	499
96.00	272	165.00	1517	236.00	221	371.00	151
98.00	5914	166.00	897	237.00	575	372.00	1170
99.00	5024	167.00	7654	239.00	207	373.00	371
100.00	482	168.00	4269	240.00	189	383.00	353
101.00	2891	169.00	578	241.00	384	390.00	92
103.00	956	170.00	189	242.00	795	402.00	502
104.00	1743	171.00	234	243.00	1094	403.00	580
105.00	1901	172.00	524	244.00	17424	421.00	476
106.00	528	173.00	793	245.00	2282	422.00	390
107.00	20608	174.00	1470	246.00	2909	423.00	3715
108.00	3222	175.00	2903	247.00	564	424.00	613
109.00	685	176.00	748	249.00	315	441.00	10308
110.00	38192	177.00	1341	252.00	177	442.00	67944
111.00	5561	178.00	393	253.00	263	443.00	12901
112.00	659	179.00	5340	255.00	81144	444.00	1165
113.00	213	180.00	3813	256.00	12122		
114.00	93	181.00	1553	257.00	786		
116.00	1185	183.00	167	258.00	4309		
117.00	17328	184.00	309	259.00	349		

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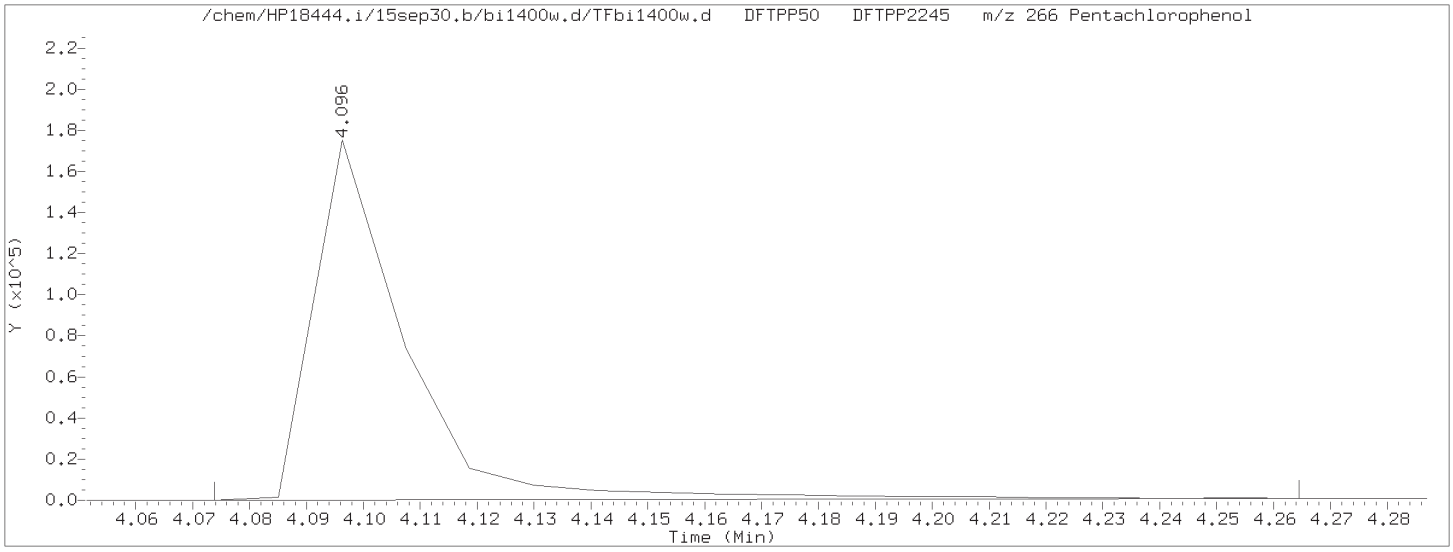
Target 3.5 esignature user ID: lmh00956

Assessment of GC Column Performance and Injection Port Inertness for

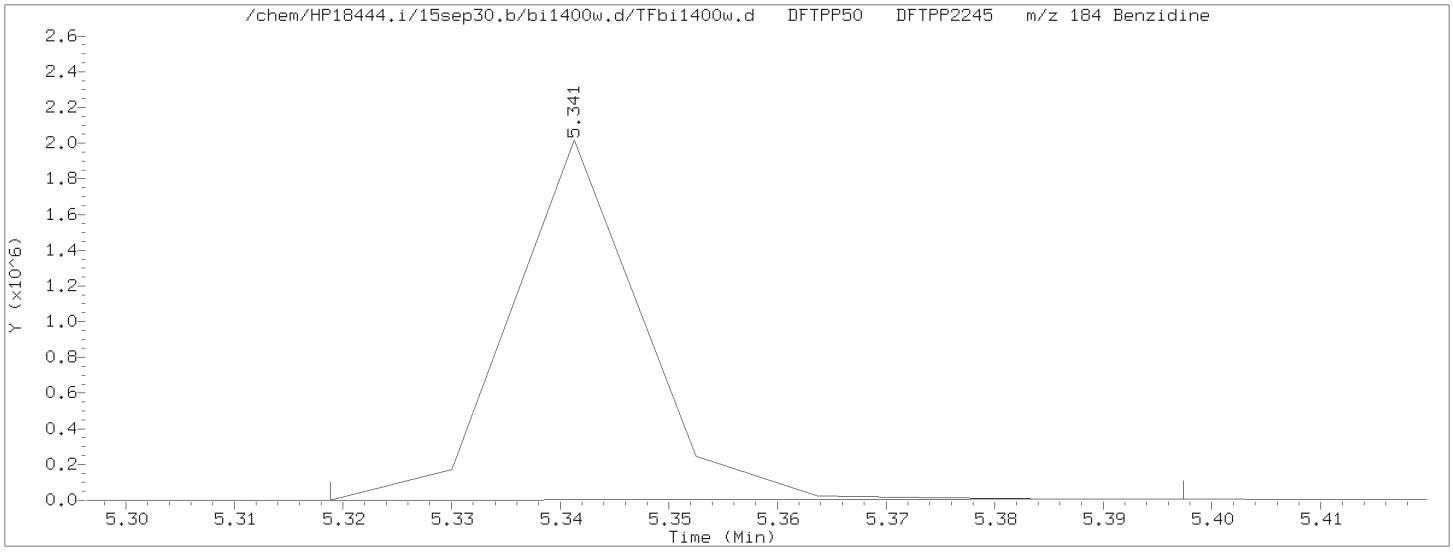
Instrument ID: HP18444.i Injection Date: 30-SEP-2015 09:43 Operator: lmh00956



Pentachlorophenol EICP peak height = 174989 EICP peak height at 10% = 17499 Pentachlorophenol EICP area = 194574

Pentachlorophenol EICP peak apex (min.) = 4.096
RT at 10% of front half of EICP (min.) = 4.086 'Front' peak width (min.) = 0.0101666667
RT at 10% of back half of EICP (min.) = 4.118 'Tailing' peak width (min.) = 0.0220166667

PCP tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0220166667}{0.0101666667} = 2.166$



Benzidine EICP peak height = 2014589 EICP peak height at 10% = 201459 Benzidine EICP area = 1658270

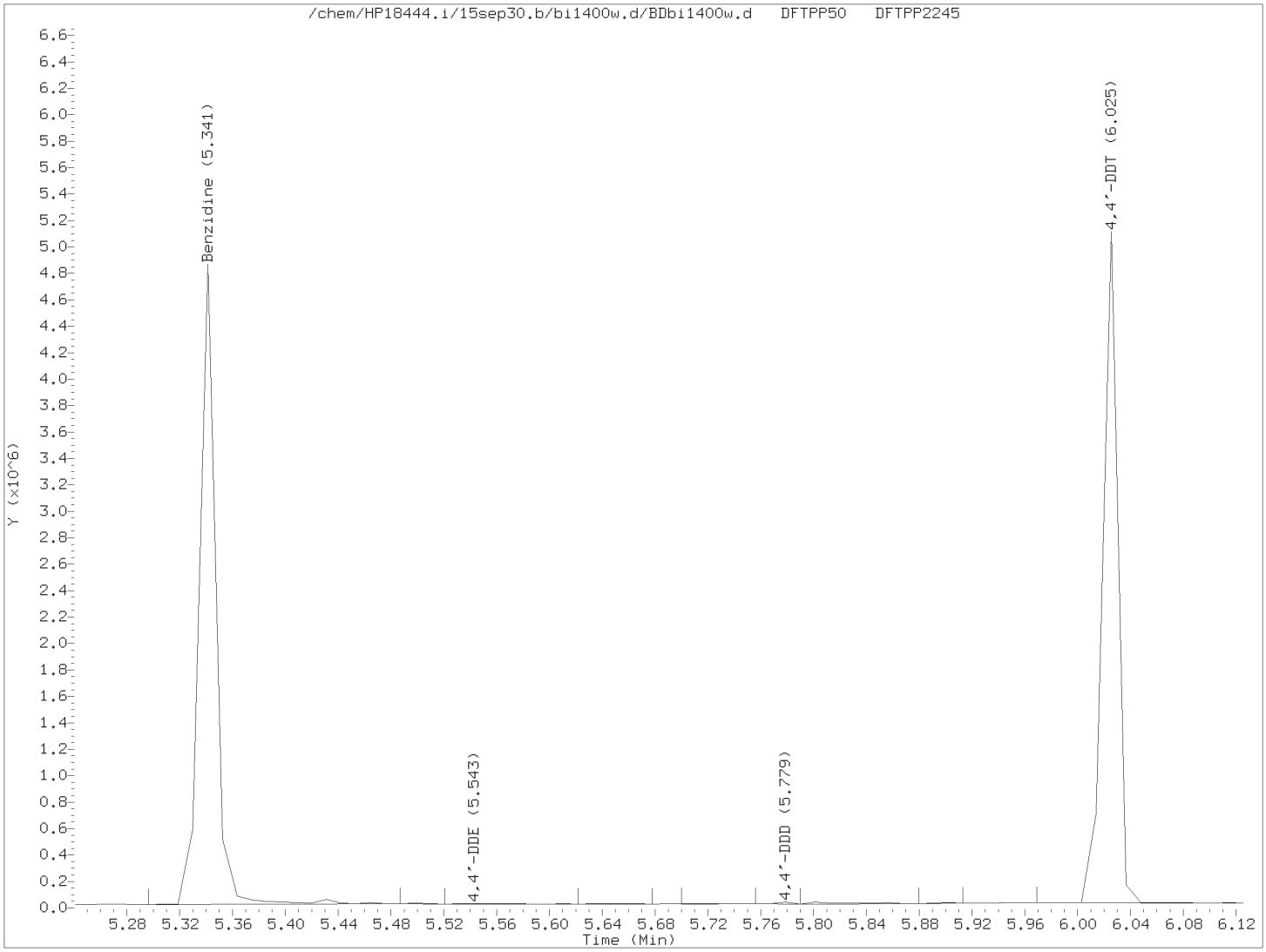
Benzidine EICP peak apex (min.) = 5.341
RT at 10% of front half of EICP (min.) = 5.330 'Front' peak width (min.) = 0.0110333333
RT at 10% of back half of EICP (min.) = 5.355 'Tailing' peak width (min.) = 0.0133333333

Benzidine tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0133333333}{0.0110333333} = 1.208$

Secondary review performed and digitally signed by Mark A. Ratcliff on 09/30/2015 at 15:10. Parallax ID: mar00486

Assessment of GC Column Performance and Injection Port Inertness for

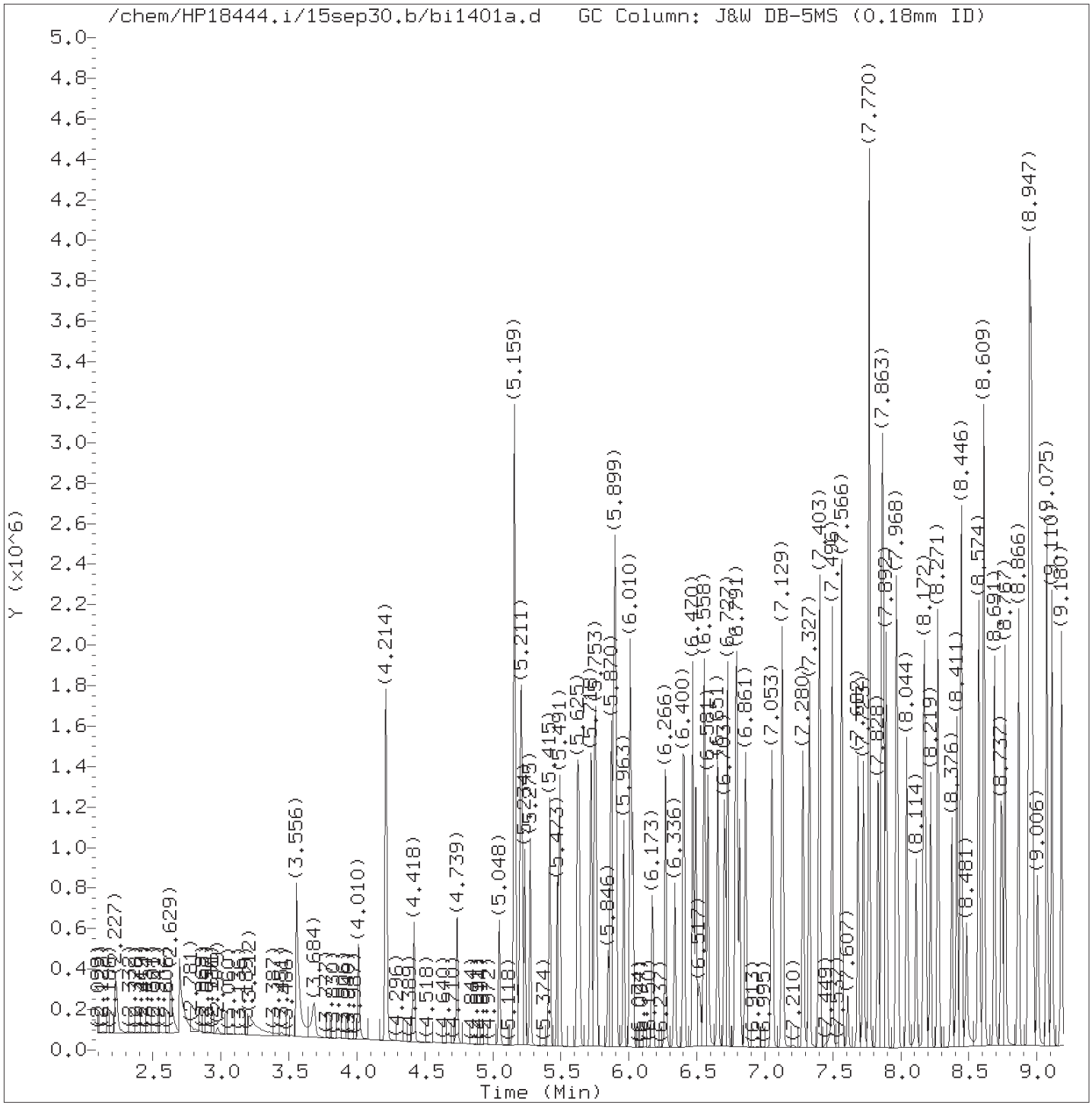
Instrument ID: HP18444.i Injection Date: 30-SEP-2015 09:43 Operator: lmh00956



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{7407 + 10480}{7407 + 10480 + 3978797} \times 100 = 0.4$$

Secondary review performed and digitally signed by Mark A. Ratcliff on 09/30/2015 at 15:10. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

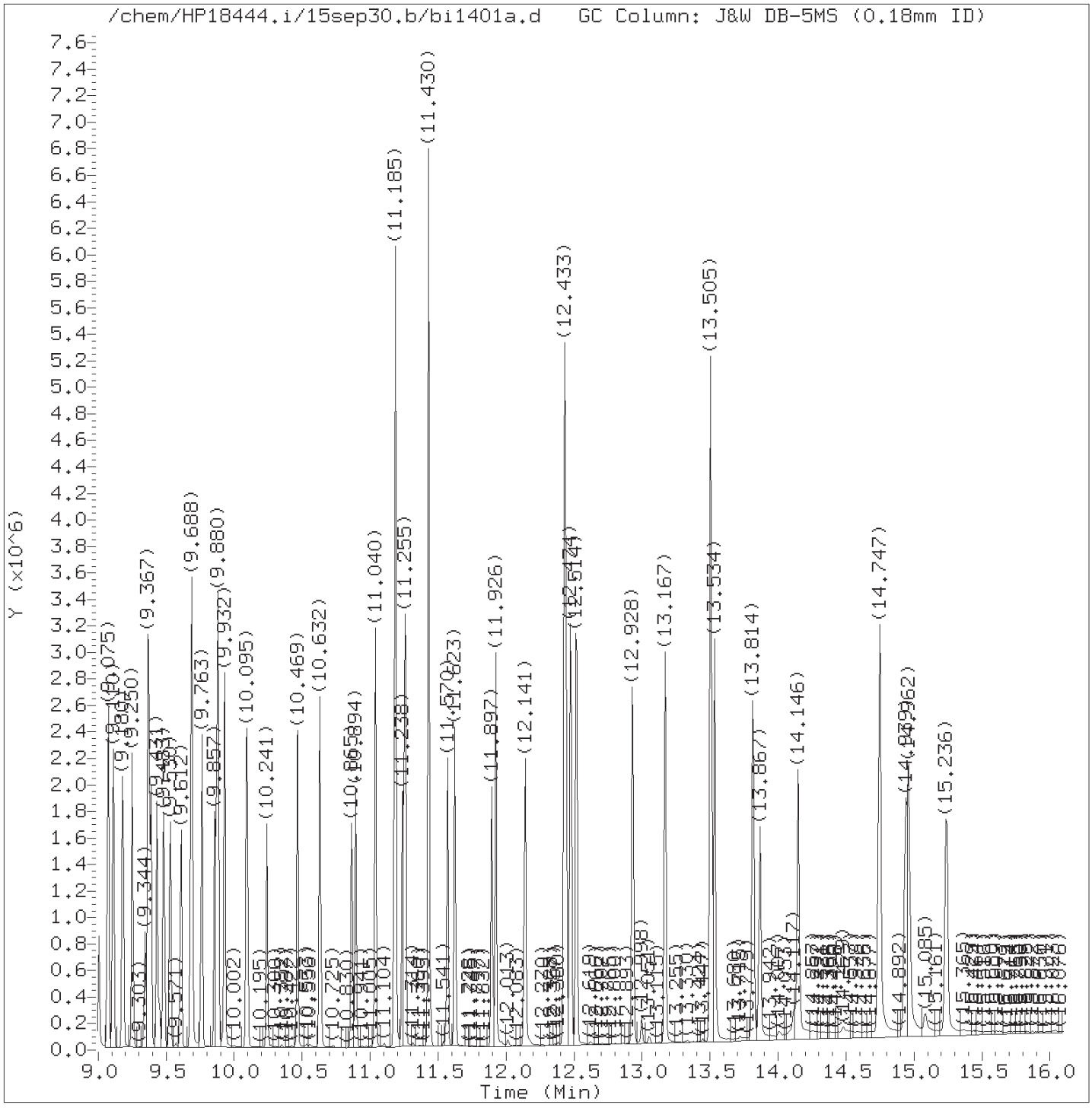
Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1401a.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 09:56 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: all1
Calibration date and time: 30-SEP-2015 10:17
Date, time and analyst ID of latest file update: 30-Sep-2015 10:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 10:18.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1401a.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 09:56 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: all1
Calibration date and time: 30-SEP-2015 10:17
Date, time and analyst ID of latest file update: 30-Sep-2015 10:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 10:18.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1401a.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 09:56 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: all1
Calibration date and time: 30-SEP-2015 10:17
Date, time and analyst ID of latest file update: 30-Sep-2015 10:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.227	88	139354	35.964
4) N-Nitrosodimethylamine	(1)	2.629	74	223114	34.985
5) Pyridine	(1)	2.693	79	344735M	32.387
7) 2-Picoline	(1)	3.556	93	344014	31.739
8) N-Nitrosomethylethylamine	(1)	3.684	88	153131	31.011
9) Methyl methanesulfonate	(1)	4.010	80	173682	30.885
11)$2-Fluorophenol	(1)	4.214	112	504113	60.189
13) N-Nitrosodiethylamine	(1)	4.418	102	140811	29.459
15) Ethyl methanesulfonate	(1)	4.739	109	140693	29.657
19) Aniline	(1)	5.159	93	457501	29.451
17)$Phenol-d6	(1)	5.159	99	697653	60.837
18) Phenol	(1)	5.170	94	404820	30.015
20) a-methylstyrene	(1)	5.211	118	265897	30.484
22) bis(2-Chloroethyl)ether	(1)	5.234	93	298663	29.463
23) 2-Chlorophenol	(1)	5.275	128	250986	29.926
24) 1,3-Dichlorobenzene	(1)	5.415	146	268476	31.047
25)*1,4-Dichlorobenzene-d4	(1)	5.473	152	111145	20.000
26) 1,4-Dichlorobenzene	(1)	5.491	146	273228	30.780
27) Benzyl alcohol	(1)	5.619	108	187034	30.460
28) 1,2-Dichlorobenzene	(1)	5.637	146	264199	31.832
30) Indene	(1)	5.718	115	470152	31.944
31) 2-Methylphenol	(1)	5.747	108	263864	30.508
34) bis(2-Chloroisopropyl)ether	(1)	5.759	45	312574	27.582
33) 2,2'-oxybis(1-Chloropropane)	(1)	5.759	45	312574	27.582
35) N-Nitrosopyrrolidine	(1)	5.846	100	161502	32.054
36) Acetophenone	(1)	5.870	105	433985	31.878
38) N-Nitroso-di-n-propylamine	(1)	5.881	70	243515	29.673
39) N-Nitrosomorpholine	(1)	5.887	56	172687	30.381
37) 4-Methylphenol	(1)	5.899	108	318942	32.846
40) o-Toluidine	(1)	5.905	106	481430	32.964
43) Hexachloroethane	(1)	5.963	117	118521	31.142
44)$Nitrobenzene-d5	(2)	6.010	82	697036	58.840
45) Nitrobenzene	(2)	6.027	77	351524	28.883
48) N-Nitrosopiperidine	(2)	6.173	114	149727	29.642
50) Isophorone	(2)	6.266	82	652138	28.247
51) 2-Nitrophenol	(2)	6.336	139	140255	34.343
53) 2,4-Dimethylphenol	(2)	6.406	107	304719	28.572
57) O,O,O-Triethylphosphorothioate	(2)	6.470	198	159434	33.704
55) bis(2-Chloroethoxy)methane	(2)	6.488	93	406019	30.187
56) Benzoic acid	(2)	6.517	105	240094	31.686

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/30/2015 at 10:18.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1401a.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 09:56 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: all1
Calibration date and time: 30-SEP-2015 10:17
Date, time and analyst ID of latest file update: 30-Sep-2015 10:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
59) 1,2,3,4-Tetrahydronaphthalene	(2)	6.558	104	443498	29.780
60) 2,4-Dichlorophenol	(2)	6.581	162	241542	33.201
62) 1,2,4-Trichlorobenzene	(2)	6.657	180	267870	31.988
42) Total Cresols	(1)			582806	63.354
65)*Naphthalene-d8	(2)	6.703	136	487598	20.000
66) Naphthalene	(2)	6.727	128	787124	30.007
67) 4-Chloroaniline	(2)	6.785	127	344722	30.115
68) 2,6-Dichlorophenol	(2)	6.796	162	241761	33.660
69) Hexachloropropene	(2)	6.814	213	168443	30.916
71) Hexachlorobutadiene	(2)	6.861	225	156528	32.591
75) Quinoline	(2)	7.053	129	537193	31.123
77) N-Nitrosodi-n-butylamine	(2)	7.129	84	320667	33.116
76) Caprolactam	(2)	7.135	113	102182	31.883
80) 4-Chloro-3-methylphenol	(2)	7.280	107	271082	29.335
82) Safrole	(2)	7.327	162	227635	32.604
83) 2-Methylnaphthalene	(2)	7.403	142	566583	31.535
84) 1-Methylnaphthalene	(2)	7.496	142	514951	31.140
85) Hexachlorocyclopentadiene	(3)	7.560	237	148056	26.270
86) 1,2,4,5-Tetrachlorobenzene	(3)	7.566	216	296158	30.877
88) cis-Isosafrole	(3)	7.612	162	40696	4.709
90) 2,4,6-Trichlorophenol	(3)	7.682	196	188657	31.328
92) 2,4,5-Trichlorophenol	(3)	7.723	196	207565	31.668
93)$2-Fluorobiphenyl	(3)	7.770	172	1318311	61.214
94) trans-Isosafrole	(3)	7.834	162	228125	24.444
95) 1,1'-Biphenyl	(3)	7.863	154	739404	30.525
96) 2-Chloronaphthalene	(3)	7.875	162	528878	26.598
98) 1-Chloronaphthalene	(3)	7.892	162	588631	33.234
99) Diphenyl ether	(3)	7.968	170	386810	29.840
100) 2-Nitroaniline	(3)	7.974	138	184818	34.249
104) 1,4-Naphthoquinone	(3)	8.044	158	252080	31.844
105) 1,4-Dinitrobenzene	(3)	8.114	168	105614	41.902
106) Dimethylphthalate	(3)	8.172	163	689521	31.042
107) 1,3-Dinitrobenzene	(3)	8.184	168	118355	40.001
108) 2,6-Dinitrotoluene	(3)	8.219	165	154139	34.097
109) Acenaphthylene	(3)	8.271	152	862500	29.146
112) 3-Nitroaniline	(3)	8.376	138	163556	33.799
113)*Acenaphthene-d10	(3)	8.411	164	317035	20.000
114) Acenaphthene	(3)	8.446	153	603140	30.818
115) 2,4-Dinitrophenol	(3)	8.481	184	104613	51.782
116) 4-Nitrophenol	(3)	8.568	109	97840	30.927

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$ = Compound is a surrogate standard.

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on 09/30/2015 at 10:18.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1401a.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 09:56 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: all1
Calibration date and time: 30-SEP-2015 10:17
Date, time and analyst ID of latest file update: 30-Sep-2015 10:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
117) Pentachlorobenzene	(3)	8.574	250	270974	32.450
118) 2,4-Dinitrotoluene	(3)	8.609	165	217119	36.515
119) Dibenzofuran	(3)	8.615	168	838378	31.896
97) Isosafrole	(3)			268821	29.153
121) 1-Naphthylamine	(3)	8.691	143	597452	29.343
122) 2,3,4,6-Tetrachlorophenol	(3)	8.743	232	165438	31.538
123) 2-Naphthylamine	(3)	8.767	143	607496	30.172
124) Diethylphthalate	(3)	8.866	149	694042	31.827
125) Thionazin	(3)	8.941	107	134914	30.105
126) Fluorene	(3)	8.947	166	719126	32.667
127) 4-Chlorophenyl-phenylether	(3)	8.959	204	353953	32.338
128) 5-Nitro-o-toluidine	(3)	8.965	152	198269	34.996
129) 4-Nitroaniline	(3)	8.971	138	180293	34.749
130) 4,6-Dinitro-2-methylphenol	(4)	9.006	198	126858	41.709
131) N-Nitrosodiphenylamine	(4)	9.075	169	609817	29.208
132) NDPA as diphenylamine	(4)	9.075	169	609817	28.948
134) 1,2-Diphenylhydrazine	(4)	9.110	77	835554	26.269
135)$2,4,6-Tribromophenol	(3)	9.180	330	202311	74.971
137) Tetraethyldithiopyrophosphate	(4)	9.250	97	132824	26.096
139) 1,3,5-Trinitrobenzene	(4)	9.344	213	87160	41.314
140) Diallate (peak 1)	(4)	9.367	86	306922	21.240
141) Phorate	(4)	9.373	75	524723	26.369
142) Phenacetin	(4)	9.390	108	399574	28.188
120) 2,4_2,6-Dinitrotoluenes	(3)			371258	70.611
143) 4-Bromophenyl-phenylether	(4)	9.431	248	212940	30.155
144) Diallate (peak 2)	(4)	9.449	86	59969	4.192
145) Hexachlorobenzene	(4)	9.483	284	232048	32.046
147) Dimethoate	(4)	9.530	87	324990	27.455
149) Pentachlorophenol	(4)	9.688	266	100729	24.119
150) 4-Aminobiphenyl	(4)	9.688	169	652576	28.503
151) Pentachloronitrobenzene	(4)	9.693	237	86842	27.939
152) Pronamide	(4)	9.763	173	331802	29.116
153)*Phenanthrene-d10	(4)	9.857	188	664617	20.000
154) Dinoseb	(4)	9.874	211	181071	37.113
155) Phenanthrene	(4)	9.880	178	1079095	30.069
157) Anthracene	(4)	9.932	178	1080165	29.912
163) Carbazole	(4)	10.095	167	1003613	30.710
146) Diallate trans/cis	(4)			366891	25.432
164) Methyl parathion	(4)	10.241	109	250747	32.425
165) Di-n-butylphthalate	(4)	10.469	149	1177991	28.809

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on 09/30/2015 at 10:18.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1401a.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 09:56 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: all1
Calibration date and time: 30-SEP-2015 10:17
Date, time and analyst ID of latest file update: 30-Sep-2015 10:17 lmh00956

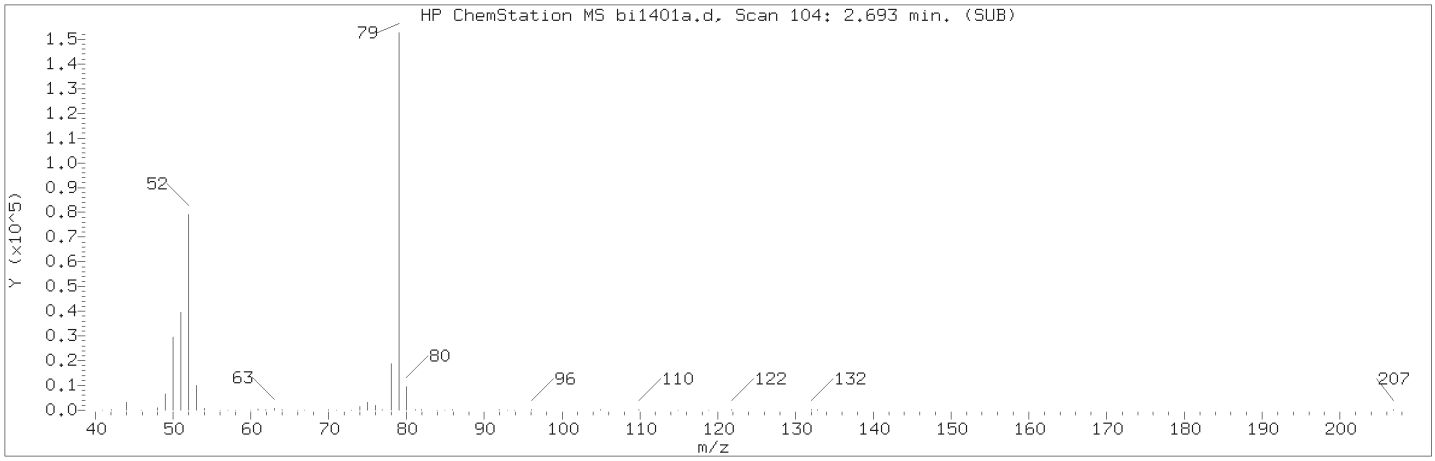
Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	10.632	109	157039	31.243
168) 4-Nitroquinoline-1-oxide	(4)	10.638	190	65759	24.151
169) Octachlorostyrene	(4)	10.865	308	88248	32.787
171) Isodrin	(4)	10.894	193	123428	27.942
173) Fluoranthene	(4)	11.040	202	1200255	30.286
174) Benzidine	(5)	11.185	184	2180759	95.416
175)*Pyrene-d10	(5)	11.238	212	768418	20.000
177) Pyrene	(5)	11.255	202	1292109	31.314
179)$Terphenyl-d14	(5)	11.430	244	1883556	67.247
182) p-Dimethylaminoazobenzene	(5)	11.570	225	249888	29.337
185) Chlorobenzilate	(5)	11.623	139	343066	28.644
187) 3,3'-Dimethylbenzidine	(5)	11.897	212	671557	28.732
188) Butylbenzylphthalate	(5)	11.926	149	552929	31.024
191) 2-Acetylaminofluorene	(5)	12.141	181	489524	31.351
193) 3,3'-Dichlorobenzidine	(5)	12.427	252	469694	32.664
198) 4,4'-Methylenebis(2-chloroanil	(5)	12.433	231	239916	30.101
195) Benzo(a)anthracene	(5)	12.439	228	1252764	32.711
196) Chrysene	(5)	12.474	228	1170637	32.909
199) bis(2-Ethylhexyl)phthalate	(5)	12.520	149	788404	30.428
203) 6-Methylchrysene	(5)	12.928	242	839912	31.953
205) Di-n-octylphthalate	(6)	13.167	149	1297478	27.356
206) Benzo(b)fluoranthene	(6)	13.505	252	1251038	30.993
207) 7,12-Dimethylbenz[a]anthracene	(6)	13.505	256	539939	29.482
208) Benzo(k)fluoranthene	(6)	13.534	252	1172813	30.457
211) Benzo(a)pyrene	(6)	13.814	252	1114644	29.636
213)*Perylene-d12	(6)	13.867	264	603079	20.000
215) 3-Methylcholanthrene	(6)	14.146	268	544916	30.210
219) Indeno(1,2,3-cd)pyrene	(6)	14.939	276	1247681	31.197
220) Dibenz(a,h)anthracene	(6)	14.962	278	1057652	32.393
221) Benzo(g,h,i)perylene	(6)	15.242	276	1005768	30.388
222) Total PAHs	(6)			15554194	496.128

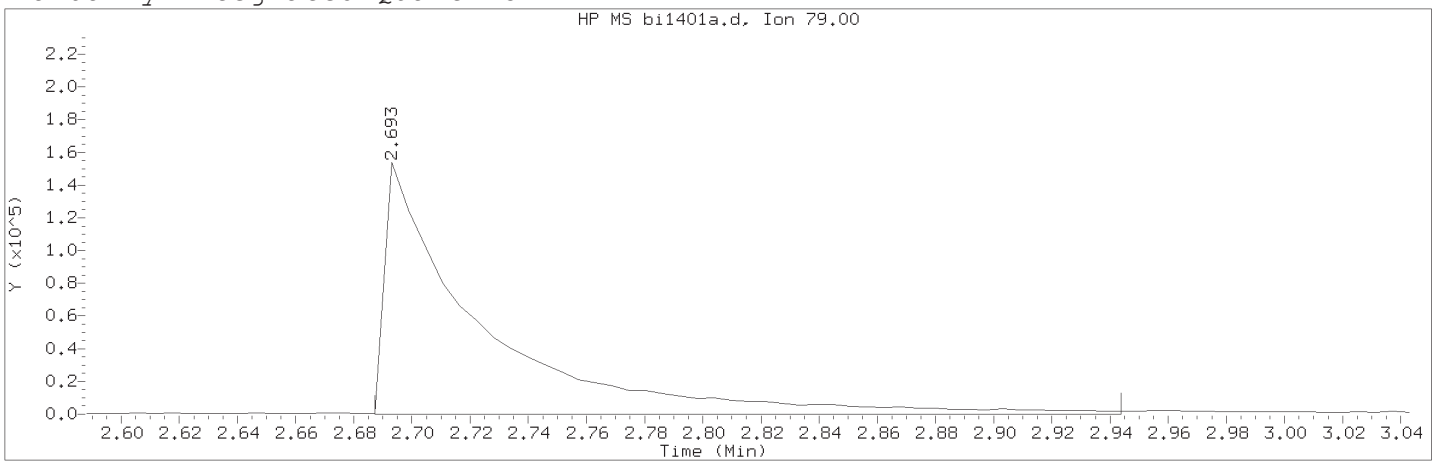
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 10:18.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18444.i/15sep30.b/bi1401a.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 09:56 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: all1
Calibration date and time: 30-SEP-2015 10:17
Date, time and analyst ID of latest file update: 30-Sep-2015 10:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

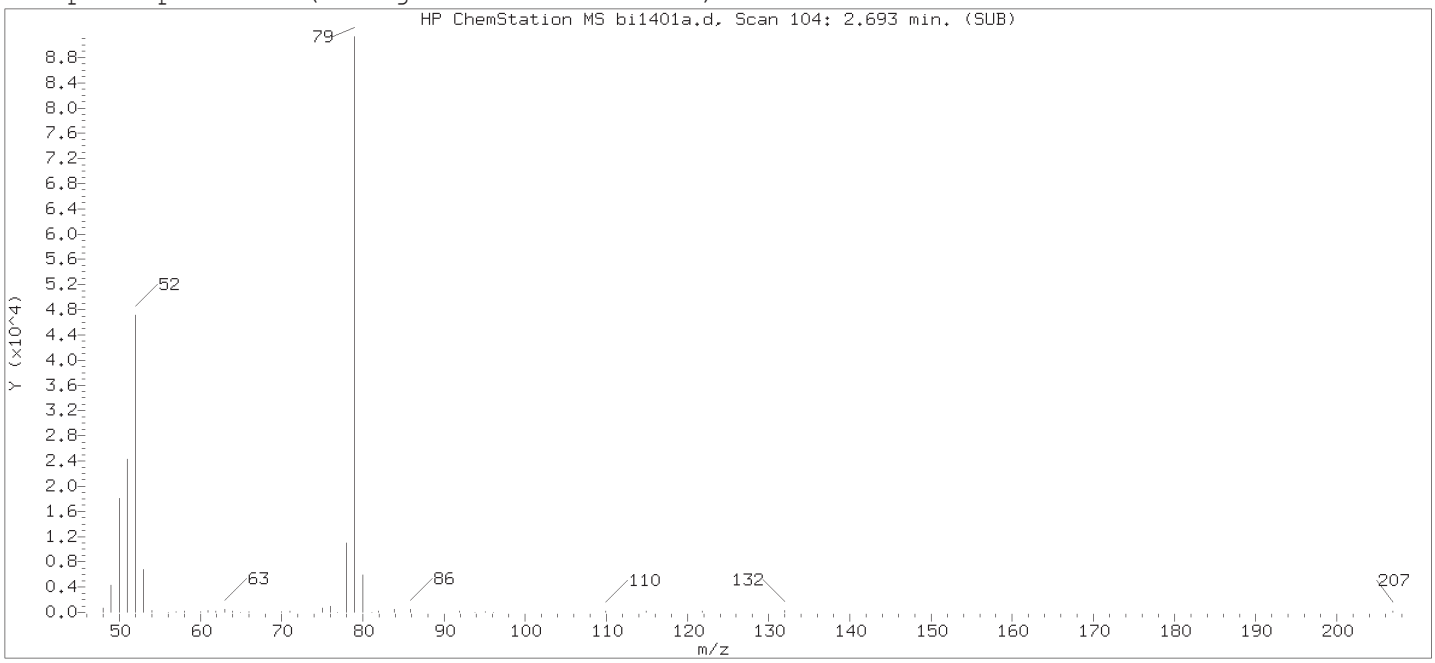
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 104		
Retention Time (minutes)	: 2.693		
Quant Ion	: 79.00		
Area (flag)	: 344735M		
On-Column Amount (ng/ul)	: 32.3874		
Integration start scan	: 102	Integration stop scan:	146
Y at integration start	: 120	Y at integration end:	120

Reason for manual integration: improper integration

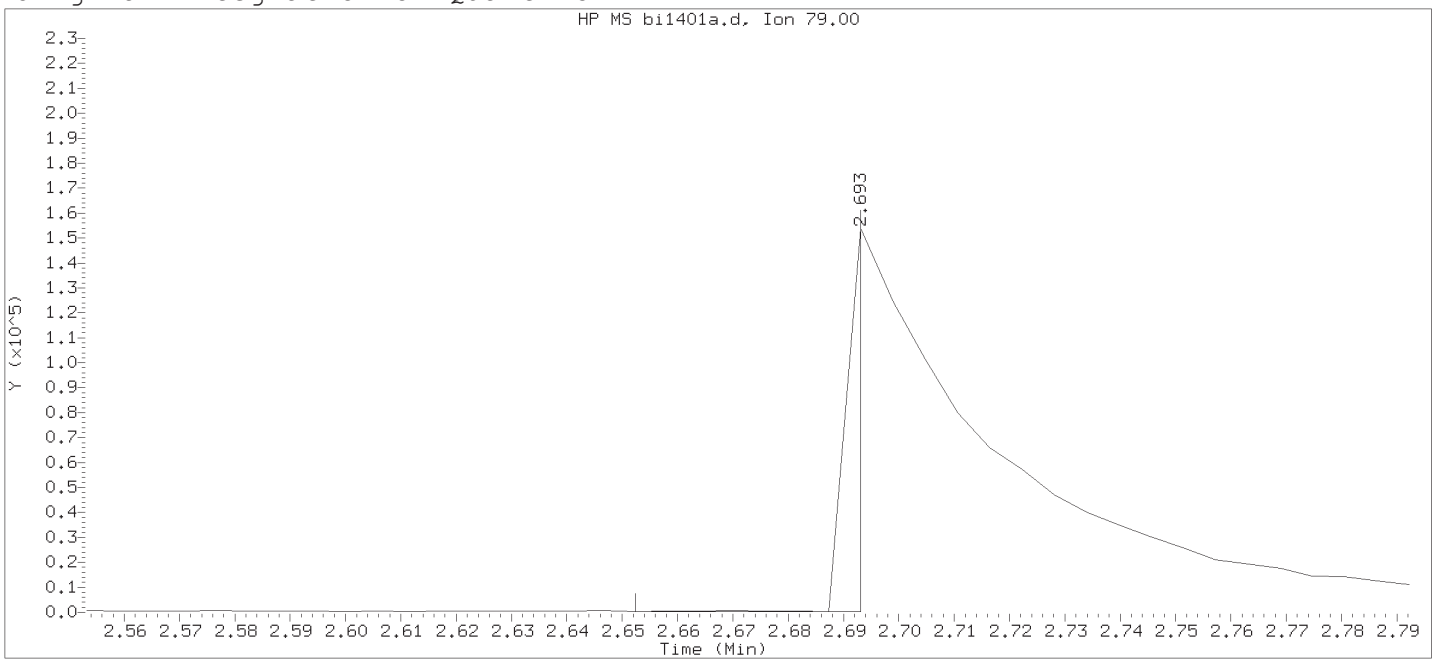
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/30/2015 at 10:18.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Mark A. Ratcliff on 09/30/2015 at 15:10.
Parallax ID: mar00486

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18444.i/15sep30.b/bi1401a.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 09:56 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: all1
Calibration date and time: 30-SEP-2015 10:14
Date, time and analyst ID of latest file update: 30-Sep-2015 10:14 Automation

Sample Name: SSTD030 Lab Sample ID: STD2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 104		
Retention Time (minutes)	: 2.693		
Quant Ion	: 79.00		
Area	: 27099		
On-column Amount (ng/ul)	: 2.5460		
Integration start scan	: 96	Integration stop scan:	103
Y at integration start	: 335	Y at integration end:	335

Digitally signed by Linda M. Hartenstine on 09/30/2015 at 10:18.
Target 3.5 esignature used: lmh00956

Data File: /chem/HP09910.i/15sep22.b/oi0980s.d

Date : 22-SEP-2015 08:46

Client ID: DFTPP50

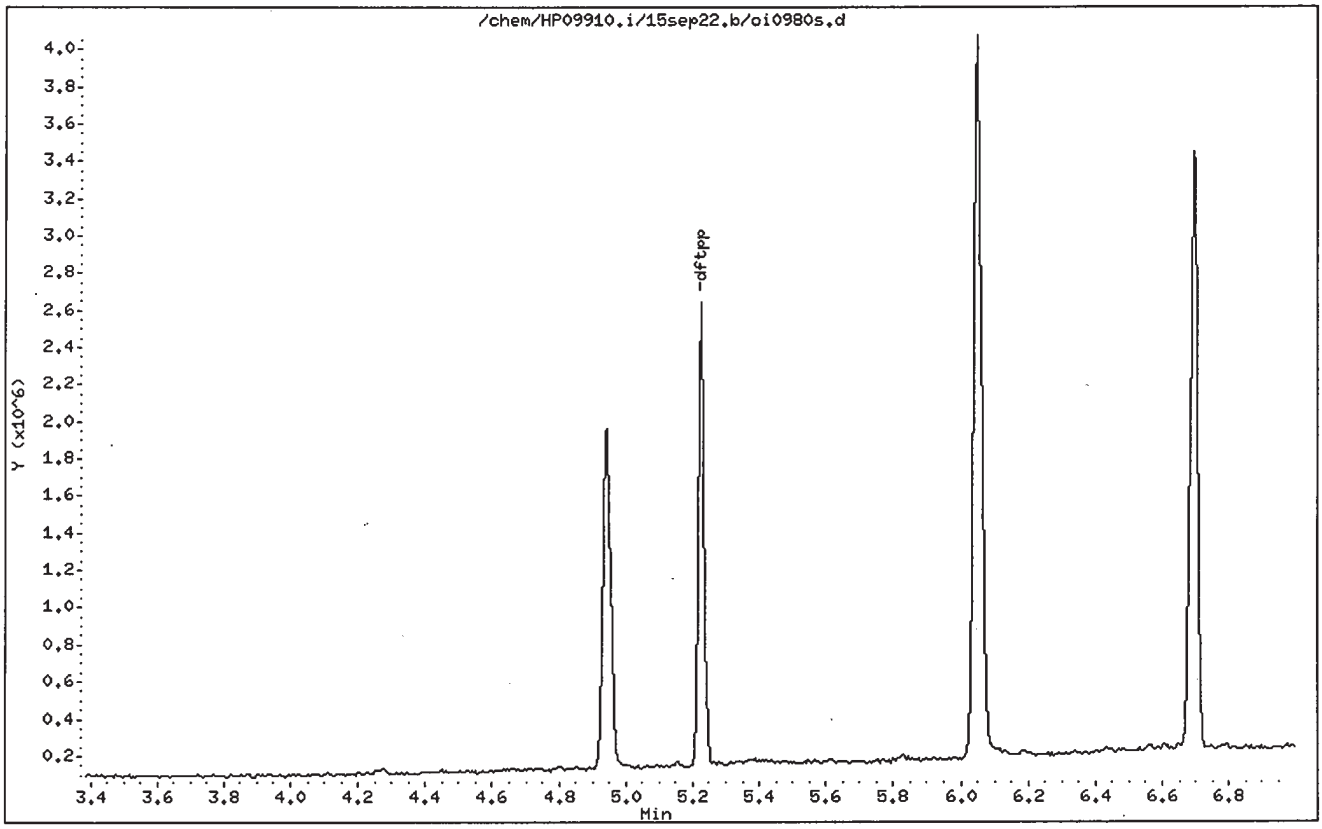
Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: JW DB-5MS

Column diameter: 0.18



Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Data File: /chem/HP09910.i/15sep22.b/oi0980s.d

Date : 22-SEP-2015 08:46

Client ID: DFTPP50

Instrument: HP09910.i

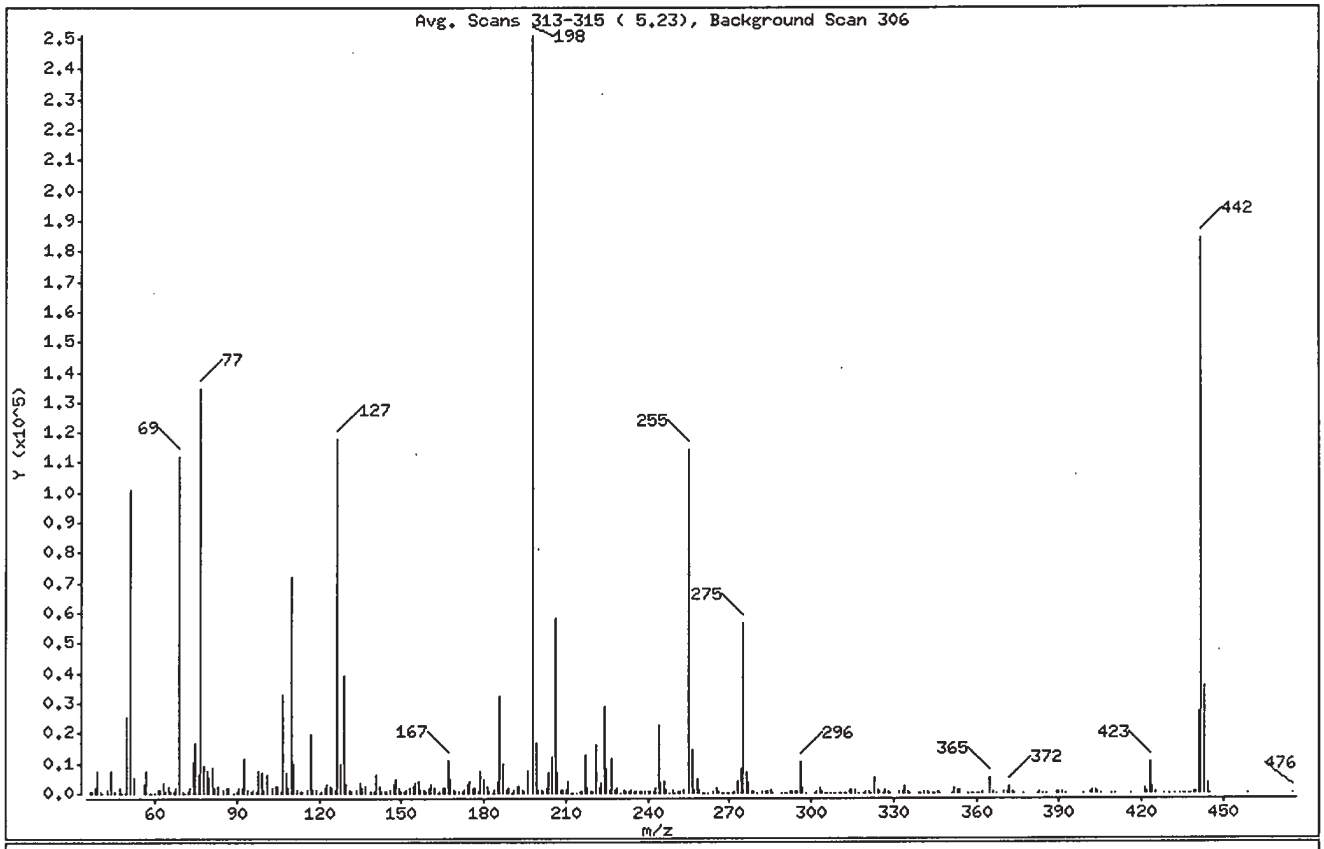
Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: JW DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	40.26
68	Less than 2.00% of mass 69	0.70 (1.57)
69	Mass 69 relative abundance	44.58
70	Less than 2.00% of mass 69	0.27 (0.61)
127	40.00 - 60.00% of mass 198	47.00
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.60
275	10.00 - 30.00% of mass 198	22.59
365	Greater than 1.00% of mass 198	2.04
441	Present, but less than mass 443	10.87
442	40.00 - 99.99% of mass 198	73.24
443	17.00 - 23.00% of mass 442	14.16 (19.33)

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Data File: /chem/HP09910.i/15sep22.b/oi0980s.d

Date : 22-SEP-2015 08:46

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: JW DB-5MS Column diameter: 0.18

Data File: oi0980s.d
Spectrum: Avg. Scans 313-315 (5.23), Background Scan 306
Location of Maximum: 198.00
Number of points: 346

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	798	132.00	569	222.00	1591	316.00	1151
37.00	338	134.00	1070	223.00	3187	317.00	145
38.00	1814	135.00	3571	224.00	28776	319.00	179
39.00	7257	136.00	1896	225.00	8050	320.00	405
40.00	384	137.00	2028	226.00	1151	321.00	389
41.00	10	139.00	325	227.00	11402	322.00	288
43.00	1083	140.00	730	228.00	1250	323.00	4989
44.00	7477	141.00	6131	229.00	1956	324.00	1220
45.00	705	142.00	2379	230.00	84	325.00	398
47.00	1514	143.00	847	231.00	1438	326.00	209
48.00	53	144.00	485	232.00	295	327.00	1086
49.00	104	145.00	363	233.00	478	328.00	451
50.00	25512	146.00	1033	234.00	999	329.00	62
51.00	101104	147.00	2961	235.00	705	332.00	551
52.00	5128	148.00	4620	236.00	848	333.00	650
56.00	2875	149.00	1615	237.00	404	334.00	2496
57.00	7746	150.00	459	238.00	403	335.00	628
58.00	103	151.00	817	239.00	451	336.00	115
59.00	110	152.00	1117	240.00	508	339.00	102
60.00	34	153.00	1957	241.00	507	340.00	93
61.00	1427	154.00	2348	242.00	368	341.00	723
62.00	1390	155.00	3227	243.00	1790	342.00	442
63.00	3450	156.00	3834	244.00	22248	343.00	129
64.00	818	157.00	1443	245.00	3551	344.00	87
65.00	2180	158.00	1290	246.00	3905	345.00	89
66.00	305	159.00	535	247.00	1413	346.00	763
67.00	369	160.00	1703	248.00	150	347.00	66
68.00	1762	161.00	2649	249.00	1318	351.00	68
69.00	111976	162.00	1483	250.00	264	352.00	1653
70.00	684	163.00	66	251.00	297	353.00	1136
71.00	251	164.00	783	252.00	394	354.00	1336
72.00	301	165.00	1847	253.00	1085	357.00	83
73.00	1718	166.00	1802	255.00	114072	358.00	99
74.00	10230	167.00	10731	256.00	14564	359.00	181
75.00	16608	168.00	4766	257.00	1208	360.00	152

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Data File: /chem/HP09910.i/15sep22.b/oi0980s.d

Date : 22-SEP-2015 08:46

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: JW DB-5MS Column diameter: 0.18

Data File: oi0980s.d
Spectrum: Avg. Scans 313-315 (5.23), Background Scan 306
Location of Maximum: 198.00
Number of points: 346

m/z	Y	m/z	Y	m/z	Y	m/z	Y
76.00	6385	169.00	896	258.00	4758	361.00	85
77.00	134336	170.00	609	259.00	1428	362.00	310
78.00	9000	171.00	835	260.00	220	365.00	5128
79.00	7569	172.00	726	261.00	176	366.00	599
80.00	5437	173.00	1131	262.00	67	367.00	94
81.00	8885	174.00	2636	264.00	496	370.00	382
82.00	1640	175.00	4042	265.00	1640	371.00	682
83.00	2475	176.00	1628	266.00	350	372.00	2533
85.00	1387	177.00	1694	267.00	35	373.00	503
86.00	1472	178.00	607	268.00	177	374.00	105
87.00	1567	179.00	7738	269.00	67	377.00	63
89.00	283	180.00	4497	270.00	148	382.00	61
90.00	441	181.00	2306	271.00	231	383.00	836
91.00	1793	182.00	463	272.00	648	384.00	149
92.00	1697	183.00	179	273.00	3840	385.00	74
93.00	11437	184.00	1005	274.00	7982	389.00	294
94.00	1107	185.00	3796	275.00	56736	390.00	445
95.00	401	186.00	32352	276.00	7101	391.00	315
96.00	985	187.00	9607	277.00	3545	392.00	150
97.00	704	188.00	1266	278.00	849	399.00	117
98.00	7455	189.00	1519	279.00	588	401.00	322
99.00	6738	190.00	245	280.00	96	402.00	1225
100.00	921	191.00	1193	282.00	497	403.00	1182
101.00	6407	192.00	2025	283.00	746	404.00	527
103.00	1926	193.00	2204	284.00	391	405.00	95
104.00	2073	194.00	896	285.00	1135	409.00	69
105.00	2264	195.00	387	286.00	263	410.00	174
106.00	775	196.00	7492	289.00	210	416.00	136
107.00	32800	198.00	251136	290.00	181	421.00	1760
108.00	6663	199.00	16576	291.00	79	422.00	557
109.00	1547	200.00	1403	292.00	413	423.00	10193
110.00	71888	201.00	1372	293.00	538	424.00	2076
111.00	10016	202.00	362	294.00	420	425.00	445
112.00	1109	203.00	1680	295.00	322	428.00	76
113.00	519	204.00	7044	296.00	10615	430.00	229

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Data File: /chem/HP09910.i/15sep22.b/oi0980s.d

Date : 22-SEP-2015 08:46

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: JW DB-5MS Column diameter: 0.18

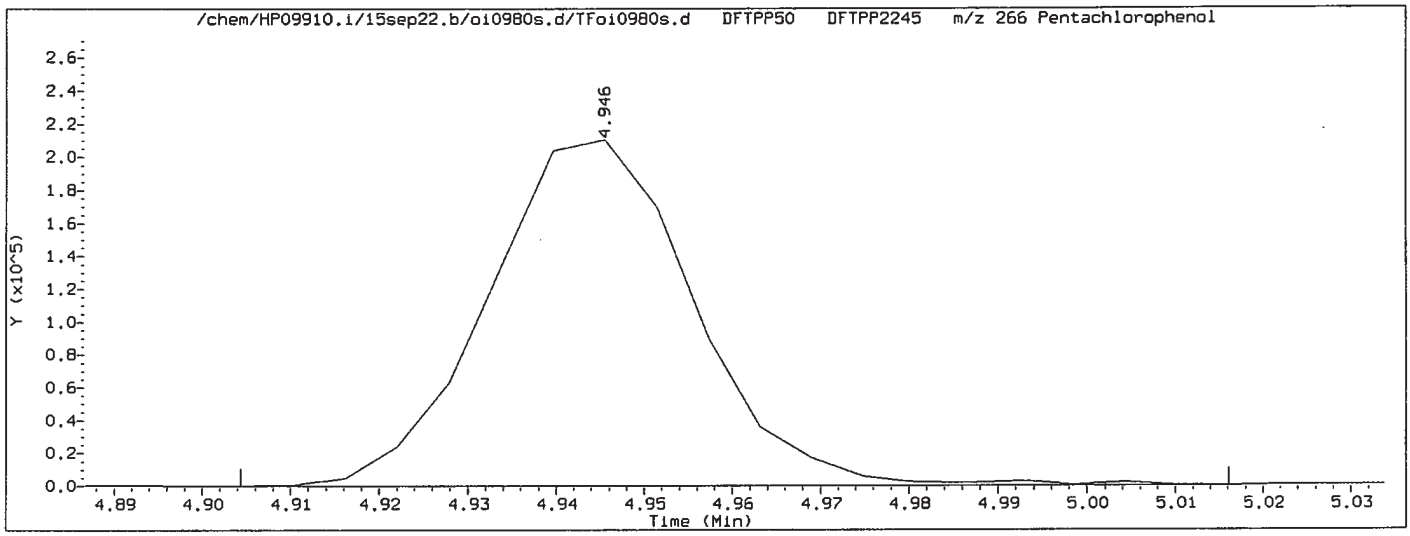
Data File: oi0980s.d
Spectrum: Avg. Scans 313-315 (5.23), Background Scan 306
Location of Maximum: 198.00
Number of points: 346

m/z	Y	m/z	Y	m/z	Y	m/z	Y
114.00	332	205.00	12152	297.00	1591	432.00	248
116.00	1386	206.00	58400	298.00	140	434.00	75
117.00	19448	207.00	6770	301.00	244	435.00	164
118.00	1367	208.00	1338	302.00	447	436.00	257
119.00	988	209.00	951	303.00	1640	437.00	131
120.00	251	210.00	1421	304.00	695	438.00	149
121.00	476	211.00	3790	305.00	142	439.00	507
122.00	1996	212.00	117	306.00	68	440.00	440
123.00	2821	213.00	272	307.00	79	441.00	27296
124.00	2541	214.00	94	308.00	157	442.00	183936
125.00	1663	215.00	532	309.00	70	443.00	35560
126.00	1360	216.00	480	310.00	251	444.00	3306
127.00	118040	217.00	12549	311.00	63	445.00	113
128.00	9803	218.00	1988	312.00	206	459.00	149
129.00	39440	219.00	502	313.00	247	476.00	91
130.00	3163	220.00	452	314.00	943		
131.00	1311	221.00	15977	315.00	1375		

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Assessment of GC Column Performance and Injection Port Inertness for

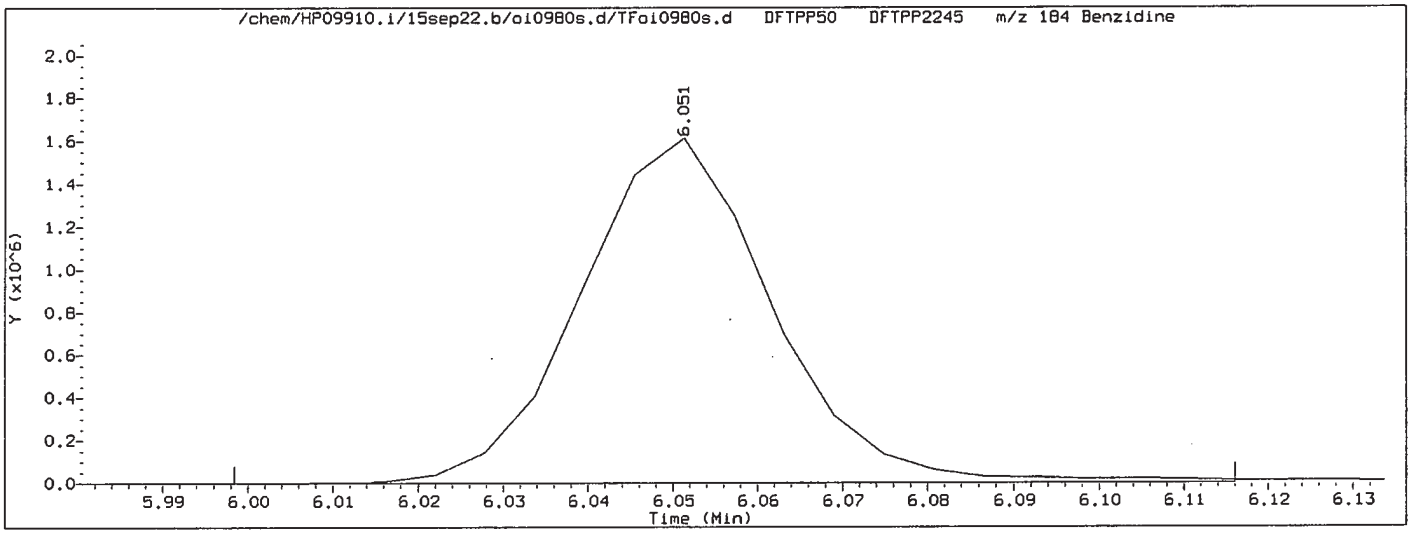
Instrument ID: HP09910.i Injection Date: 22-SEP-2015 08:46 Operator: lmh00956



Pentachlorophenol EICP peak height = 210432 EICP peak height at 10% = 21043 Pentachlorophenol EICP area = 342137

Pentachlorophenol EICP peak apex (min.) = 4.946
RT at 10% of front half of EICP (min.) = 4.921 'Front' peak width (min.) = 0.0244166667
RT at 10% of back half of EICP (min.) = 4.968 'Tailing' peak width (min.) = 0.0222666667

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0222666667}{0.0244166667} = 0.912$$



Benzidine EICP peak height = 1614734 EICP peak height at 10% = 161473 Benzidine EICP area = 2530092

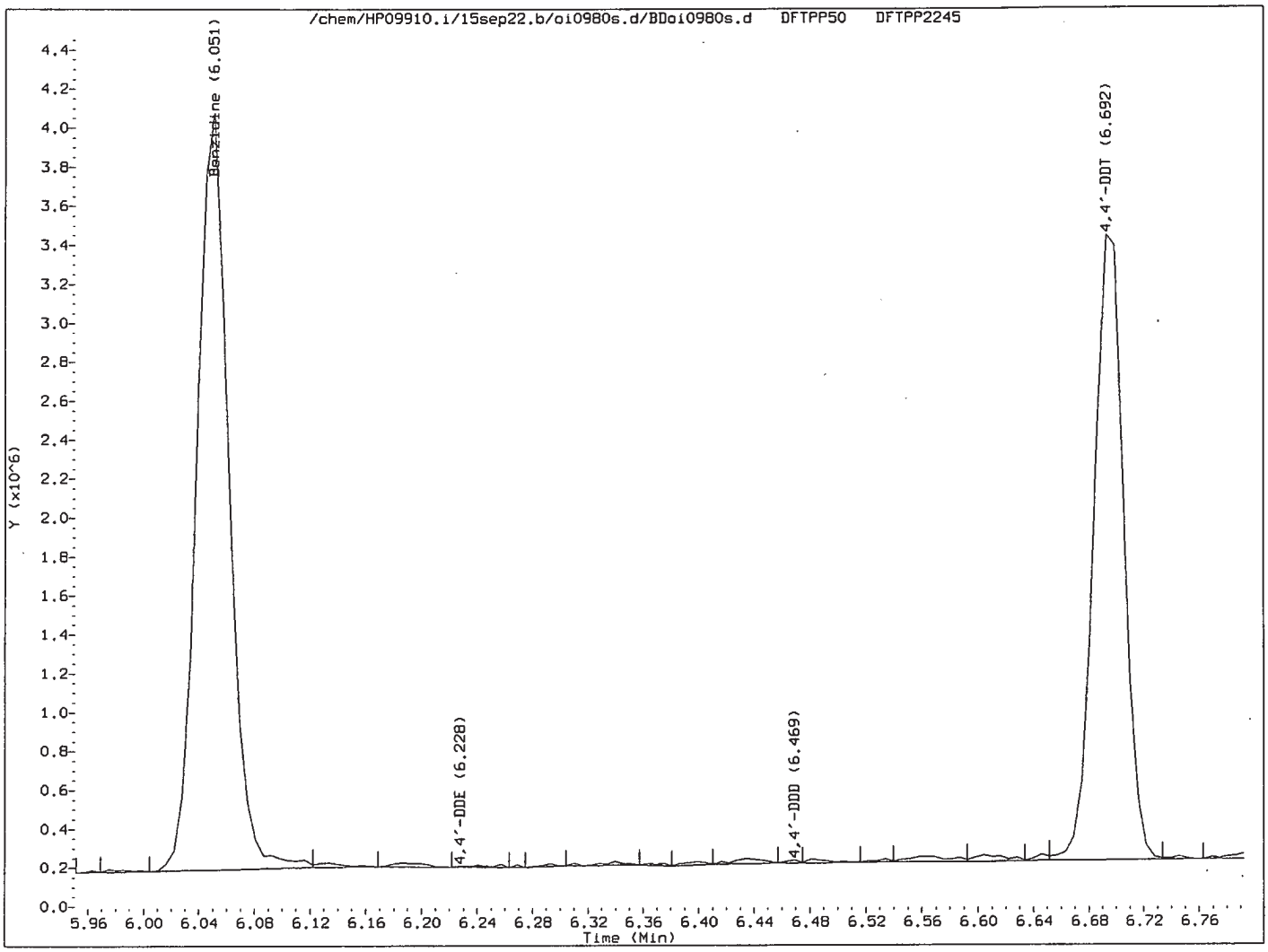
Benzidine EICP peak apex (min.) = 6.051
RT at 10% of front half of EICP (min.) = 6.028 'Front' peak width (min.) = 0.0230166667
RT at 10% of back half of EICP (min.) = 6.074 'Tailing' peak width (min.) = 0.0225333333

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0225333333}{0.0230166667} = 0.979$$

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Assessment of GC Column Performance and Injection Port Inertness for

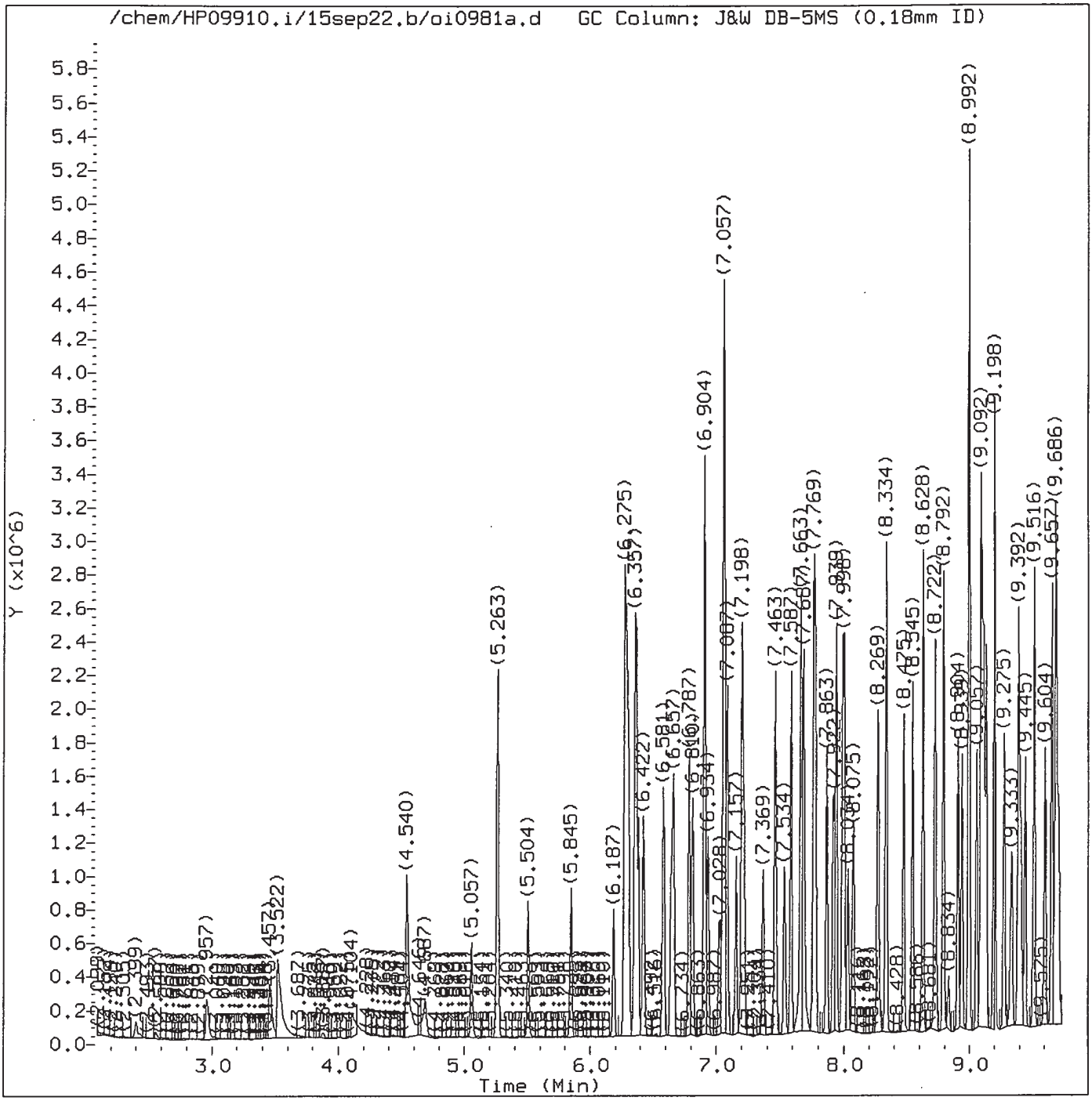
Instrument ID: HP09910.i Injection Date: 22-SEP-2015 08:46 Operator: lmh00956



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{15927 + 9633}{15927 + 9633 + 4865991} \times 100 = 0.5$$

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

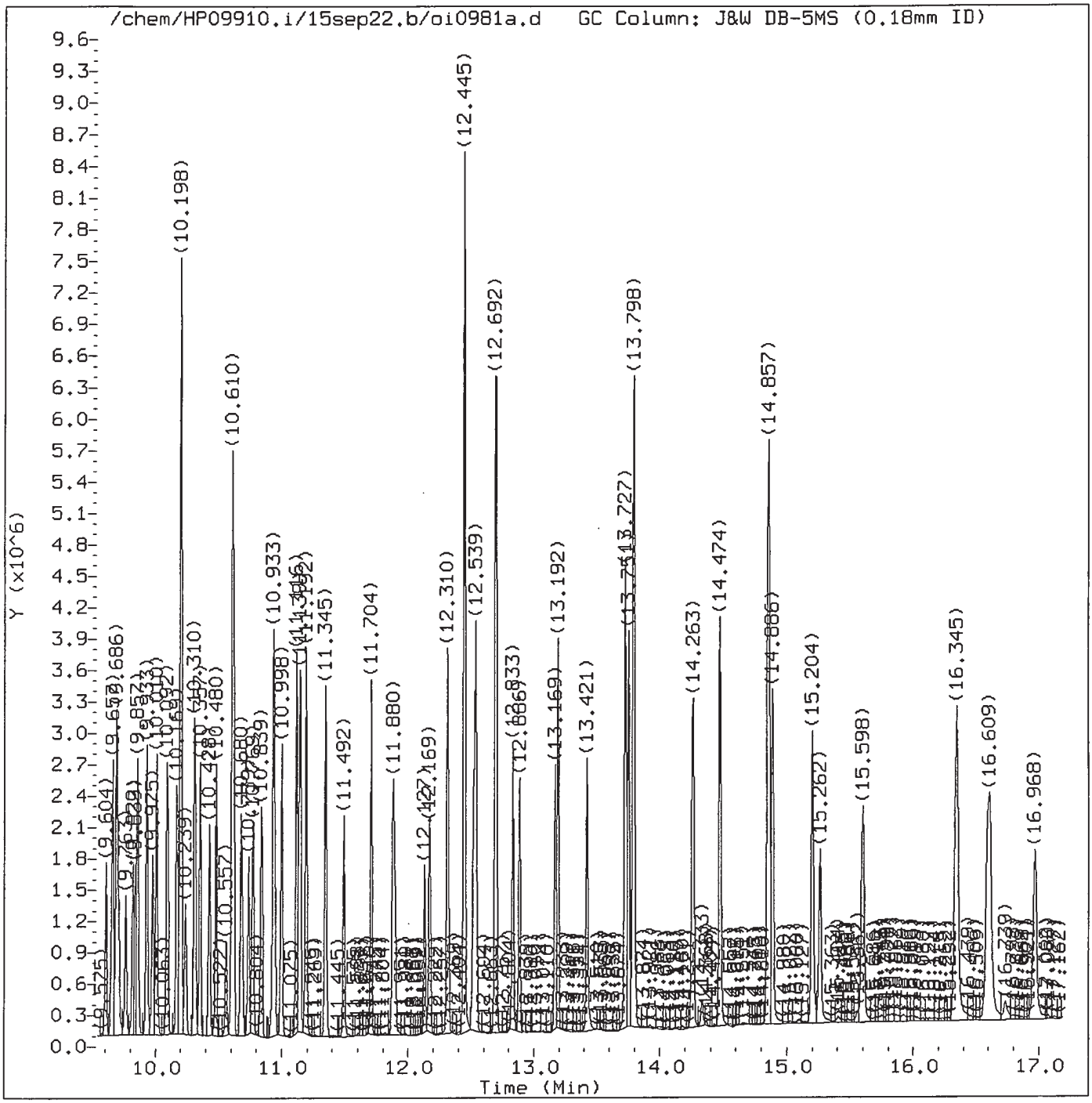
Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.957	88	168601	30.363
4) N-Nitrosodimethylamine	(1)	3.457	74	281729	30.850
5) Pyridine	(1)	3.522	79	459864	31.090
7) 2-Picoline	(1)	4.540	93	489857	31.033
8) N-Nitrosomethylethylamine	(1)	4.687	88	228725	29.948
9) Methyl methanesulfonate	(1)	5.057	80	239446	31.826
11)$2-Fluorophenol	(1)	5.263	112	753398	60.804
13) N-Nitrosodiethylamine	(1)	5.504	102	216787	29.889
15) Ethyl methanesulfonate	(1)	5.845	109	221709	32.094
17)$Phenol-d6	(1)	6.275	99	1100210	62.094
18) Phenol	(1)	6.287	94	650715	30.840
19) Aniline	(1)	6.304	93	727463	30.734
20) a-methylstyrene	(1)	6.363	118	395553	31.537
22) bis(2-Chloroethyl)ether	(1)	6.381	93	454618	30.309
23) 2-Chlorophenol	(1)	6.422	128	368127	29.867
24) 1,3-Dichlorobenzene	(1)	6.581	146	372406	31.627
25)*1,4-Dichlorobenzene-d4	(1)	6.640	152	148855	20.000
26) 1,4-Dichlorobenzene	(1)	6.657	146	375287	29.907
42) Total Cresols	(1)			847769	58.409
27) Benzyl alcohol	(1)	6.787	108	315007	31.983
28) 1,2-Dichlorobenzene	(1)	6.810	146	348796	29.490
30) Indene	(1)	6.904	115	679064	31.235
31) 2-Methylphenol	(1)	6.904	108	401263	30.104
34) bis(2-Chloroisopropyl)ether	(1)	6.934	45	592051	30.119
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.934	45	592051	30.119
35) N-Nitrosopyrrolidine	(1)	7.028	100	257934	31.922
36) Acetophenone	(1)	7.051	105	605977	31.038
37) 4-Methylphenol	(1)	7.057	108	446506	28.305
38) N-Nitroso-di-n-propylamine	(1)	7.063	70	362841	30.593
39) N-Nitrosomorpholine	(1)	7.069	56	287878	30.089
40) o-Toluidine	(1)	7.087	106	711811	31.362
43) Hexachloroethane	(1)	7.157	117	148300	30.327
44)$Nitrobenzene-d5	(2)	7.198	82	982238	60.347
45) Nitrobenzene	(2)	7.216	77	509434	31.621
48) N-Nitrosopiperidine	(2)	7.369	114	228562	31.254
50) Isophorone	(2)	7.463	82	1002973	30.149
51) 2-Nitrophenol	(2)	7.539	139	209430	31.243
53) 2,4-Dimethylphenol	(2)	7.587	107	461820	31.369
57) O,O,O-Triethylphosphorothioate	(2)	7.663	198	200399	30.481
55) bis(2-Chloroethoxy)methane	(2)	7.687	93	575652	30.828

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	7.687	105	578442	41.281
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.763	104	611138	30.740
60) 2,4-Dichlorophenol	(2)	7.775	162	325017	30.788
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	327164	30.498
65)*Naphthalene-d8	(2)	7.916	136	699436	20.000
66) Naphthalene	(2)	7.939	128	1160324	30.103
67) 4-Chloroaniline	(2)	7.992	127	528096	30.610
68) 2,6-Dichlorophenol	(2)	8.004	162	320338	30.916
69) Hexachloropropene	(2)	8.034	213	167512	30.472
71) Hexachlorobutadiene	(2)	8.075	225	160538	30.200
75) Quinoline	(2)	8.269	129	836295	30.323
77) N-Nitrosodi-n-butylamine	(2)	8.334	84	473091	34.719
76) Caprolactam	(2)	8.334	113	178151	29.413
80) 4-Chloro-3-methylphenol	(2)	8.475	107	436741	30.654
82) Safrole	(2)	8.545	162	313497	30.482
83) 2-Methylnaphthalene	(2)	8.628	142	831691	30.623
97) Isosafrole	(3)			380860	31.627
84) 1-Methylnaphthalene	(2)	8.728	142	738118	30.314
85) Hexachlorocyclopentadiene	(3)	8.792	237	160583	32.478
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.792	216	313812	30.505
88) cis-Isosafrole	(3)	8.834	162	57487	5.330
90) 2,4,6-Trichlorophenol	(3)	8.904	196	229193	30.567
92) 2,4,5-Trichlorophenol	(3)	8.939	196	265220	31.729
93)$2-Fluorobiphenyl	(3)	8.992	172	1716590	61.816
94) trans-Isosafrole	(3)	9.057	162	323373	26.297
95) 1,1'-Biphenyl	(3)	9.092	154	1049732	31.734
96) 2-Chloronaphthalene	(3)	9.110	162	930554M	36.530
98) 1-Chloronaphthalene	(3)	9.128	162	752069M	31.693
99) Diphenyl ether	(3)	9.198	170	529822	31.649
100) 2-Nitroaniline	(3)	9.204	138	291312	32.908
104) 1,4-Naphthoquinone	(3)	9.275	158	348537	32.102
105) 1,4-Dinitrobenzene	(3)	9.339	168	147115	31.181
106) Dimethylphthalate	(3)	9.392	163	934633	30.798
120) 2,4_2,6-Dinitrotoluenes	(3)			528496	62.783
107) 1,3-Dinitrobenzene	(3)	9.410	168	168049	31.082
108) 2,6-Dinitrotoluene	(3)	9.445	165	225538	32.187
109) Acenaphthylene	(3)	9.516	152	1230437	31.679
112) 3-Nitroaniline	(3)	9.604	138	265679	33.002
113)*Acenaphthene-d10	(3)	9.657	164	437487	20.000
114) Acenaphthene	(3)	9.686	153	846881	31.501

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	9.710	184	197980	40.236
116) 4-Nitrophenol	(3)	9.763	109	138229	31.797
117) Pentachlorobenzene	(3)	9.822	250	288985	31.115
118) 2,4-Dinitrotoluene	(3)	9.839	165	302958	30.595
119) Dibenzofuran	(3)	9.857	168	1158963	31.408
121) 1-Naphthylamine	(3)	9.933	143	955864	31.872
122) 2,3,4,6-Tetrachlorophenol	(3)	9.975	232	219829	30.887
123) 2-Naphthylamine	(3)	10.010	143	951297	32.037
124) Diethylphthalate	(3)	10.092	149	930973	31.301
125) Thionazin	(3)	10.169	107	180225	29.380
127) 4-Chlorophenyl-phenylether	(3)	10.198	204	437042	30.411
126) Fluorene	(3)	10.198	166	981050	31.750
146) Diallate trans/cis	(4)			571980	30.596
129) 4-Nitroaniline	(3)	10.204	138	306268	34.254
128) 5-Nitro-o-toluidine	(3)	10.204	152	294941	32.104
130) 4,6-Dinitro-2-methylphenol	(4)	10.239	198	202494	31.523
131) N-Nitrosodiphenylamine	(4)	10.310	169	872630	31.642
132) NDPA as diphenylamine	(4)	10.310	169	872630	31.065
134) 1,2-Diphenylhydrazine	(4)	10.357	77	1156029	30.722
135)$2,4,6-Tribromophenol	(3)	10.433	330	219075	61.145
137) Tetraethyldithiopyrophosphate	(4)	10.480	97	162341	30.247
139) 1,3,5-Trinitrobenzene	(4)	10.563	213	118618	30.114
140) Diallate (peak 1)	(4)	10.604	86	479791	25.589
141) Phorate	(4)	10.610	75	795638	31.413
142) Phenacetin	(4)	10.616	108	603035	31.610
143) 4-Bromophenyl-phenylether	(4)	10.680	248	240379	31.145
144) Diallate (peak 2)	(4)	10.692	86	92189	5.007
145) Hexachlorobenzene	(4)	10.739	284	245904	29.939
147) Dimethoate	(4)	10.769	87	543588	32.218
149) Pentachlorophenol	(4)	10.927	266	175017	32.115
150) 4-Aminobiphenyl	(4)	10.933	169	942362	31.428
151) Pentachloronitrobenzene	(4)	10.945	237	88905	29.275
152) Pronamide	(4)	10.998	173	413334	31.921
154) Dinoseb	(4)	11.116	211	254387	30.846
153)*Phenanthrene-d10	(4)	11.122	188	865313	20.000
155) Phenanthrene	(4)	11.145	178	1537485	30.595
157) Anthracene	(4)	11.192	178	1545838	31.128
163) Carbazole	(4)	11.345	167	1460652	31.126
164) Methyl parathion	(4)	11.492	109	383513	32.816
165) Di-n-butylphthalate	(4)	11.704	149	1665085	30.497

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	11.880	109	227796	31.140
168) 4-Nitroquinoline-1-oxide	(4)	11.898	190	141076	30.216
169) Octachlorostyrene	(4)	12.127	308	82385	31.185
171) Isodrin	(4)	12.169	193	156217	30.967
173) Fluoranthene	(4)	12.310	202	1699710	31.121
174) Benzidine	(5)	12.445	184	3625829	103.223
175)*Pyrene-d10	(5)	12.516	212	1011712	20.000
177) Pyrene	(5)	12.539	202	1786360	29.597
179)$Terphenyl-d14	(5)	12.698	244	2174249	58.396
182) p-Dimethylaminoazobenzene	(5)	12.833	225	345381	31.080
185) Chlorobenzilate	(5)	12.880	139	471221	30.060
187) 3,3'-Dimethylbenzidine	(5)	13.169	212	976649	31.182
188) Butylbenzylphthalate	(5)	13.192	149	798137	30.099
191) 2-Acetylaminofluorene	(5)	13.421	181	716714	29.768
193) 3,3'-Dichlorobenzidine	(5)	13.721	252	553107	30.920
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.727	231	318261	31.730
195) Benzo(a)anthracene	(5)	13.751	228	1561979	29.688
196) Chrysene	(5)	13.786	228	1494978	29.822
199) bis(2-Ethylhexyl)phthalate	(5)	13.798	149	1113117	30.022
203) 6-Methylchrysene	(5)	14.263	242	1061141	30.006
205) Di-n-octylphthalate	(6)	14.474	149	1883709	30.252
206) Benzo(b)fluoranthene	(6)	14.857	252	1478206	31.158
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.857	256	702547	30.698
208) Benzo(k)fluoranthene	(6)	14.886	252	1508935	31.170
211) Benzo(a)pyrene	(6)	15.204	252	1402208M	29.925
213)*Perylene-d12	(6)	15.262	264	755977	20.000
215) 3-Methylcholanthrene	(6)	15.598	268	689675	31.312
222) Total PAHs	(6)			20824457	490.396
219) Indeno(1,2,3-cd)pyrene	(6)	16.592	276	1495947	30.652
220) Dibenz(a,h)anthracene	(6)	16.615	278	1280922	31.200
221) Benzo(g,h,i)perylene	(6)	16.968	276	1230529	30.697

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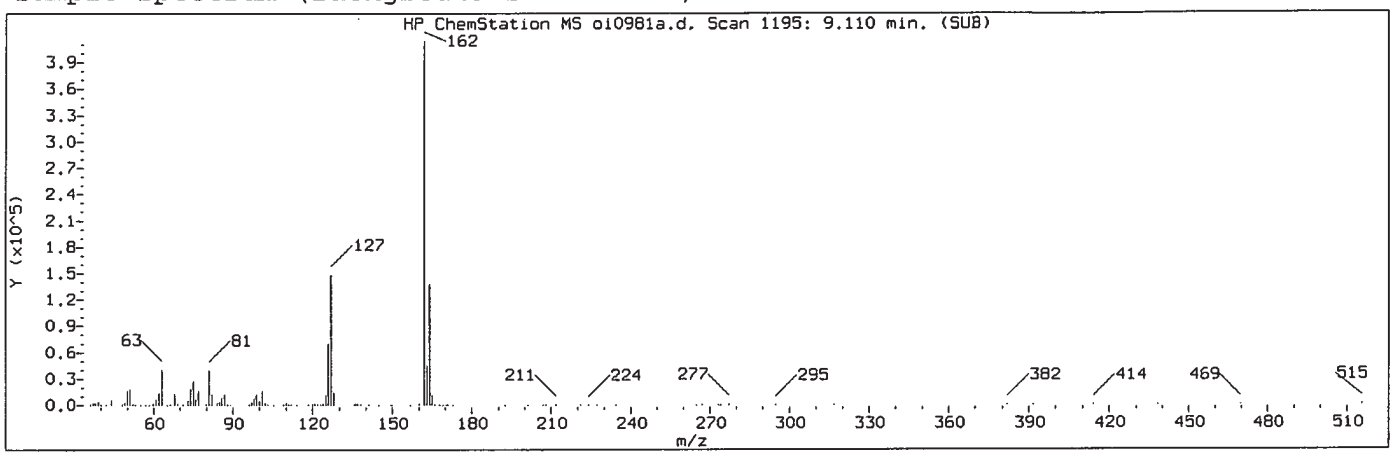
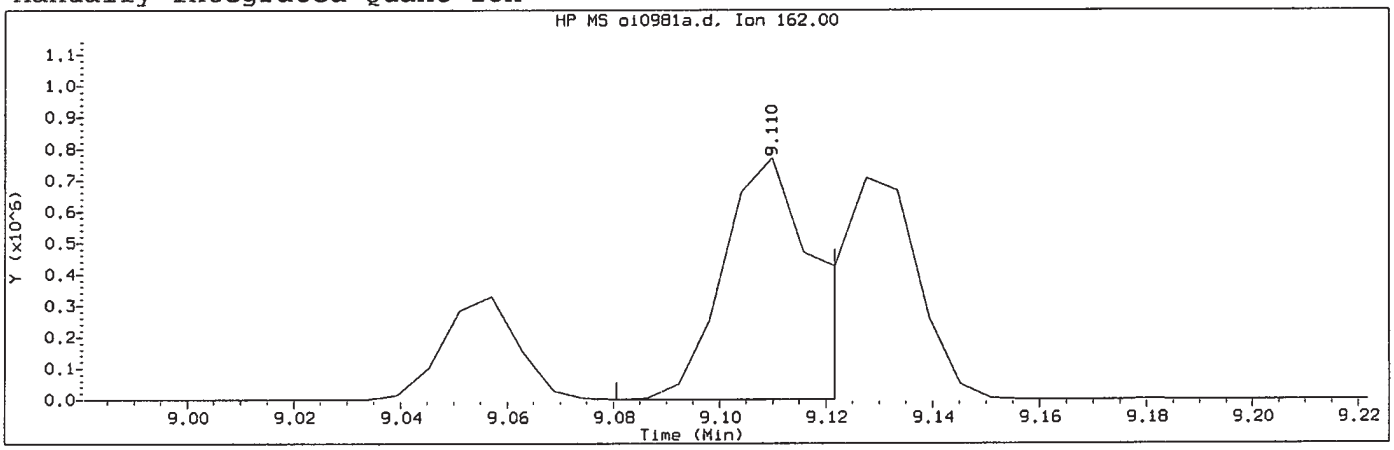
on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area (flag)	: 930554M		
On-Column Amount (ng/ul)	: 36.5299		
Integration start scan	: 1189	Integration stop scan:	1196
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

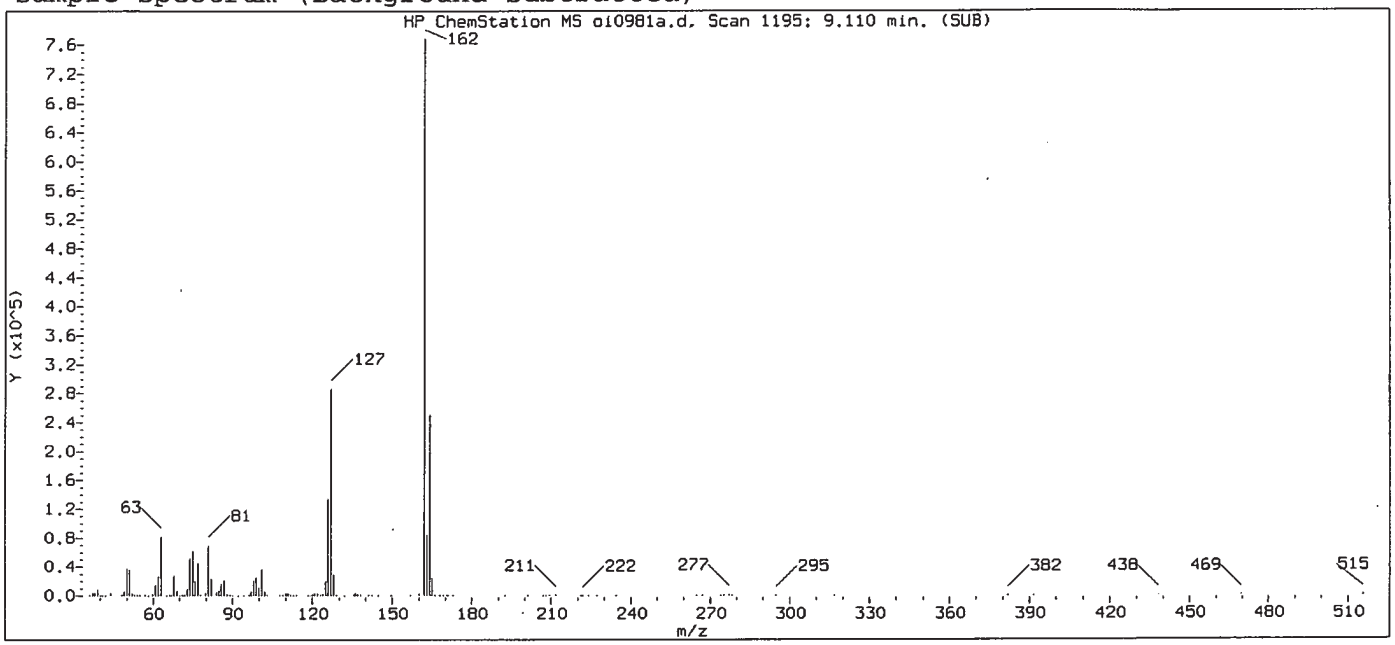
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22. Target 3.5 signature user ID: lmh00956

SEP 23 2015

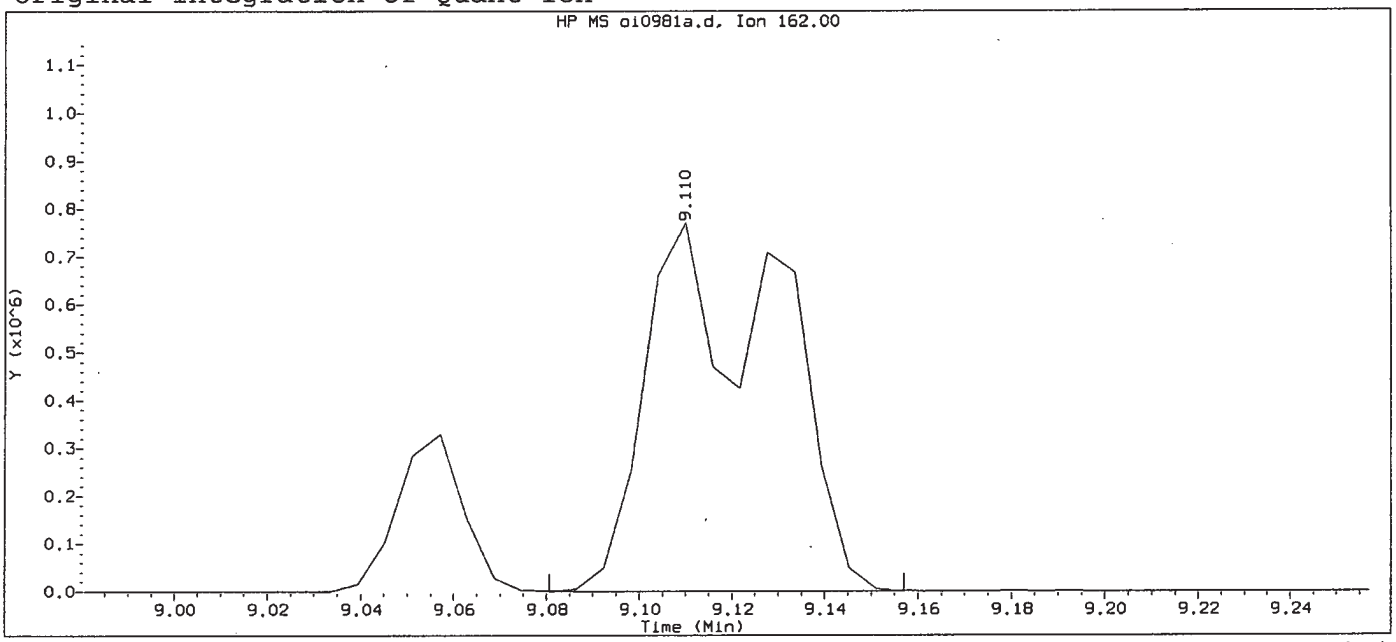
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 10:08
Date, time and analyst ID of latest file update: 22-Sep-2015 10:08 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area	: 1528444		
On-column Amount (ng/ul)	: 59.5538		
Integration start scan	: 1189	Integration stop scan:	1202
Y at integration start	: 0	Y at integration end:	0

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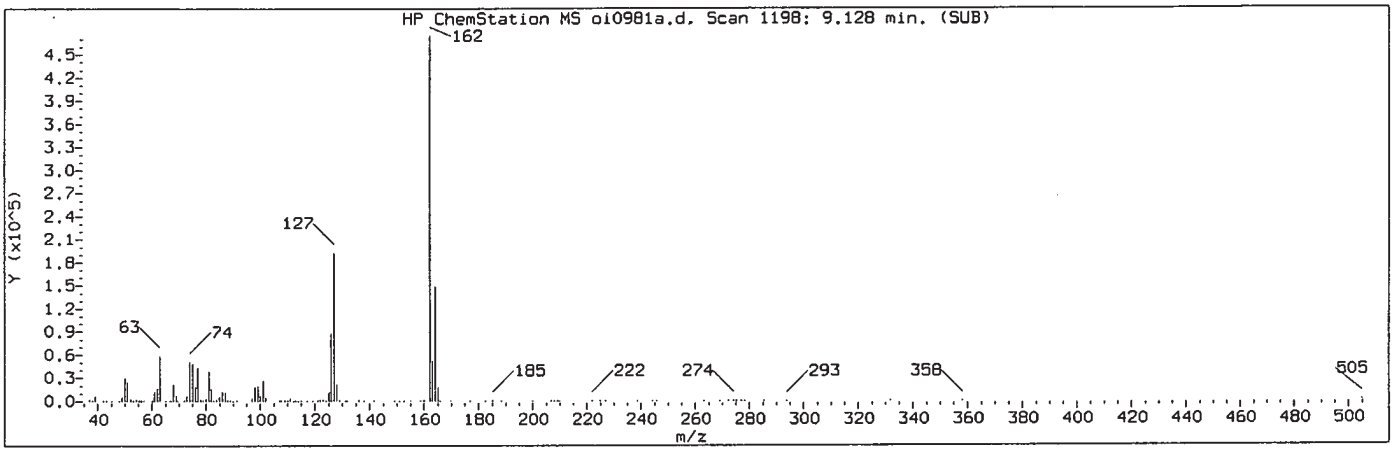
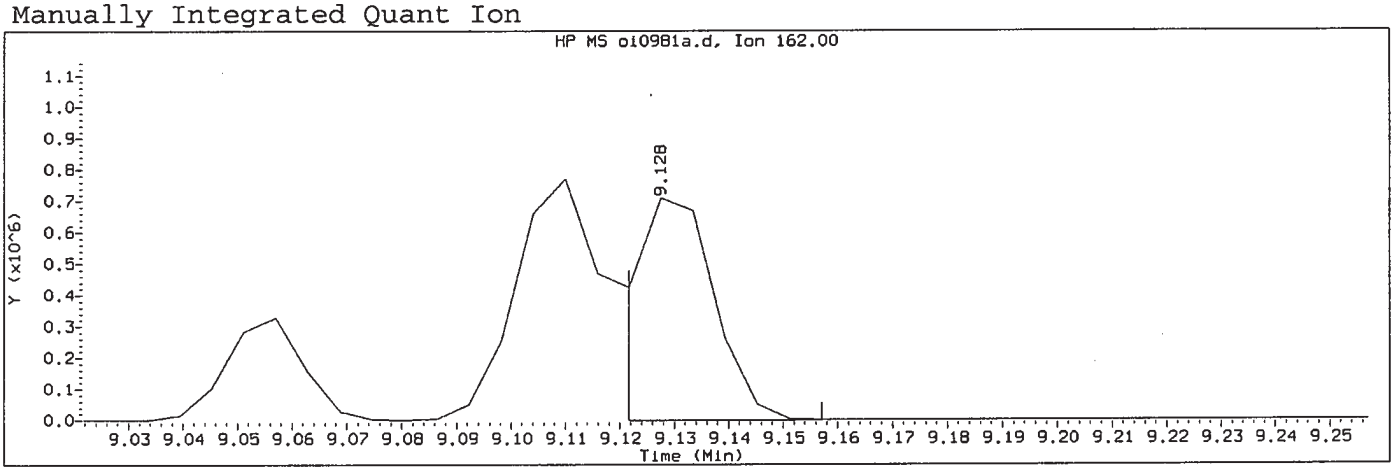
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1198		
Retention Time (minutes)	: 9.128		
Quant Ion	: 162.00		
Area (flag)	: 752069M		
On-Column Amount (ng/ul)	: 31.6927		
Integration start scan	: 1196	Integration stop scan:	1202
Y at integration start	: -1555	Y at integration end:	-1555

Reason for manual integration: improper integration

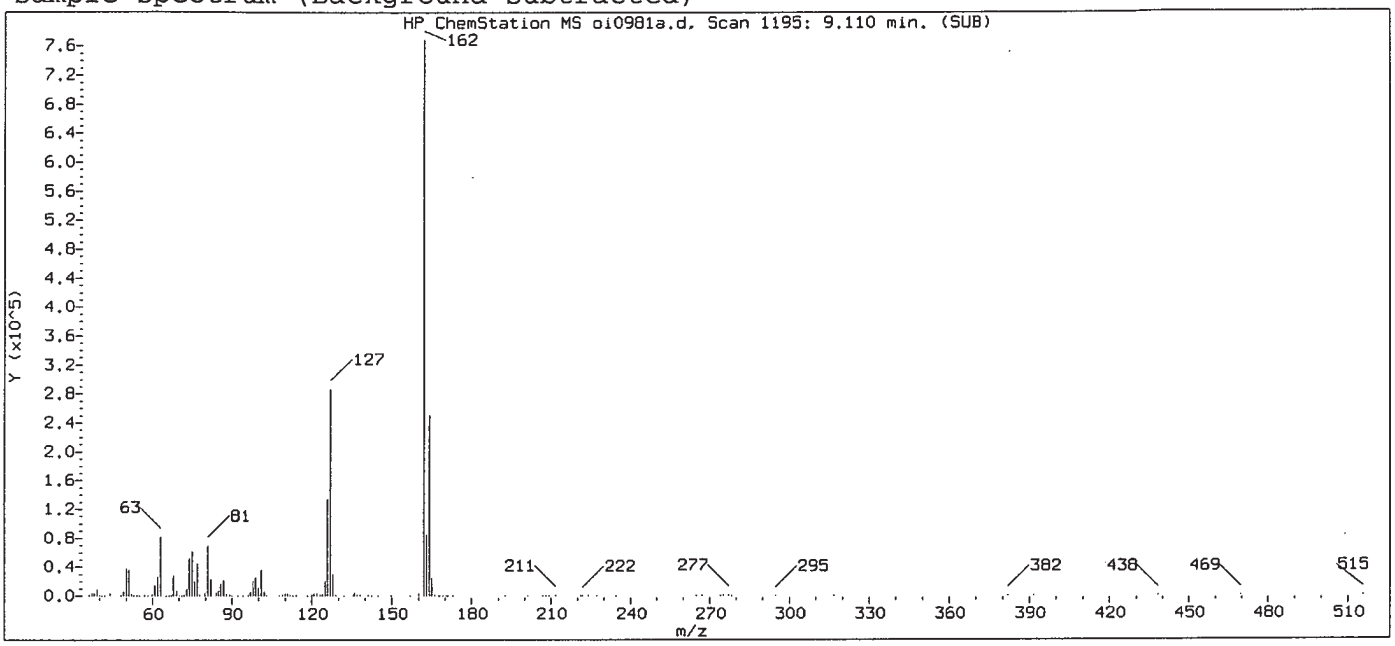
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22. Target 3.5 signature User ID: lmh00956

SEP 23 2015

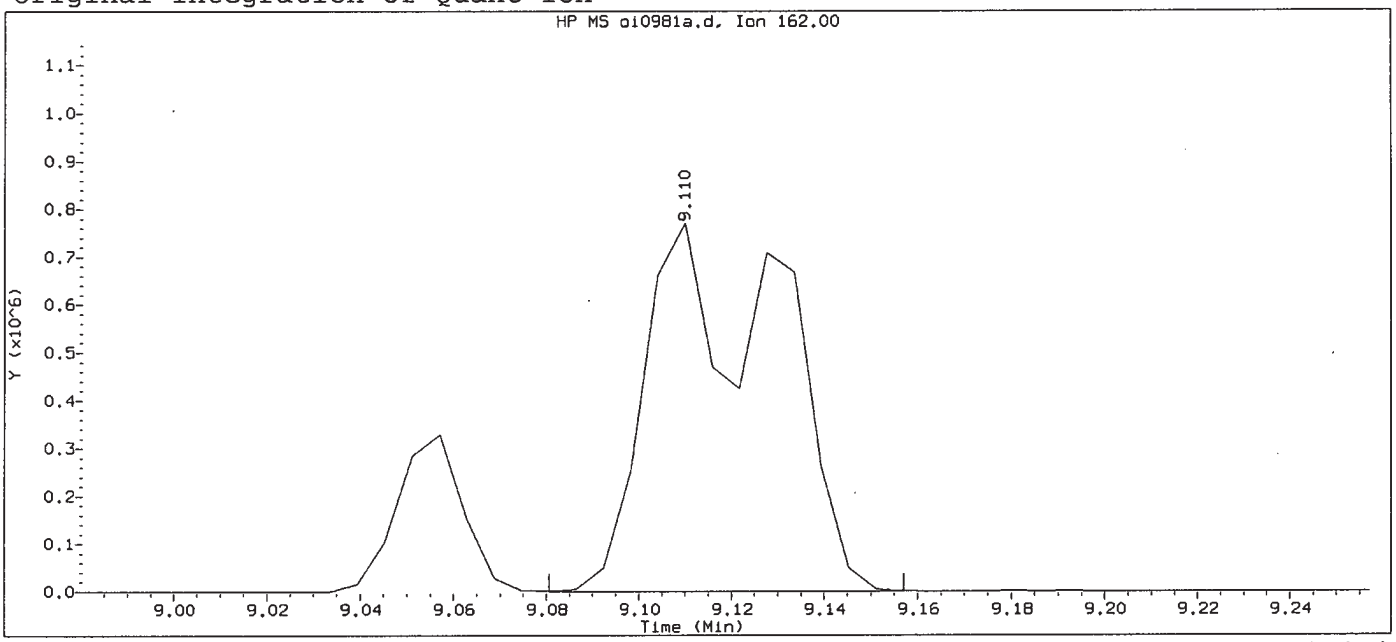
GC/MS audit/management approval:_____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

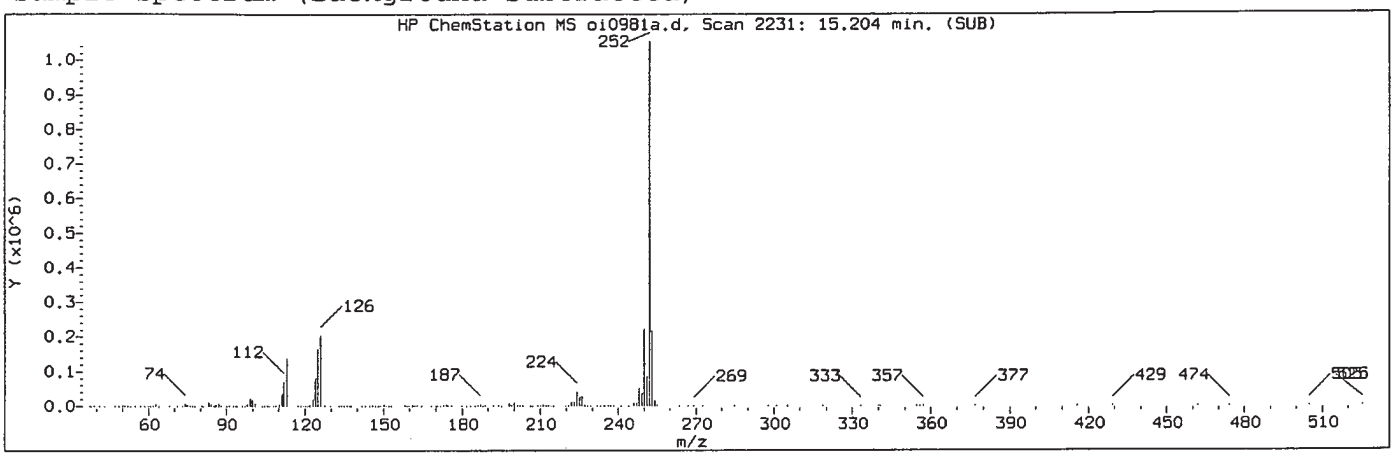
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 10:08
Date, time and analyst ID of latest file update: 22-Sep-2015 10:08 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

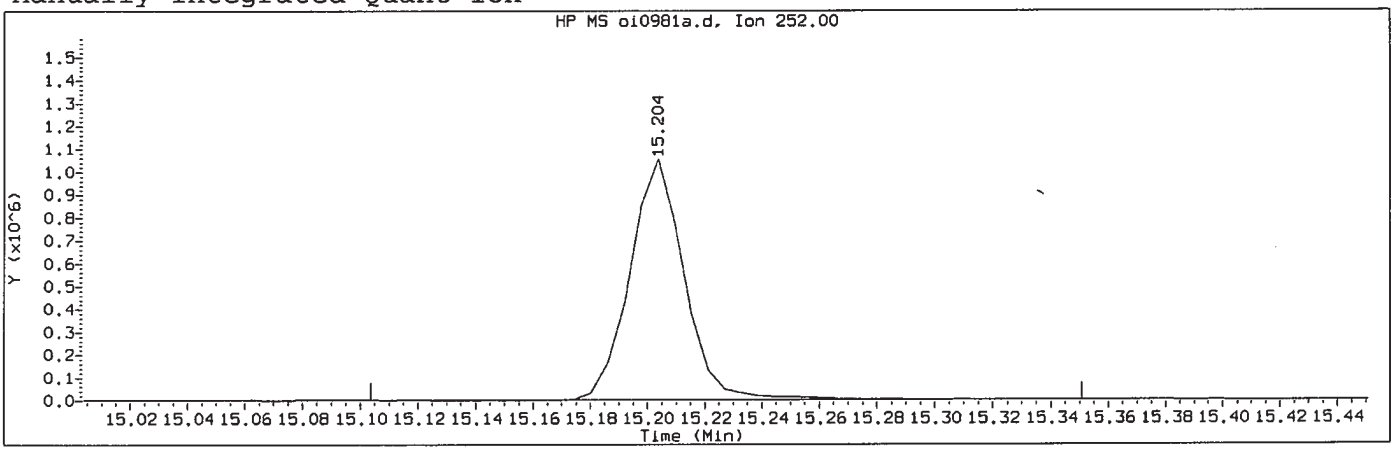
Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area	: 1528444		
On-column Amount (ng/ul)	: 67.4626		
Integration start scan	: 1189	Integration stop scan:	1202
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:17 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compound Number	: 211		
Compound Name	: Benzo(a)pyrene		
Scan Number	: 2231		
Retention Time (minutes)	: 15.204		
Quant Ion	: 252.00		
Area (flag)	: 1402208M		
On-Column Amount (ng/ul)	: 29.9249		
Integration start scan	: 2213	Integration stop scan:	2255
Y at integration start	: 1647	Y at integration end:	2185

Reason for manual integration: improper integration

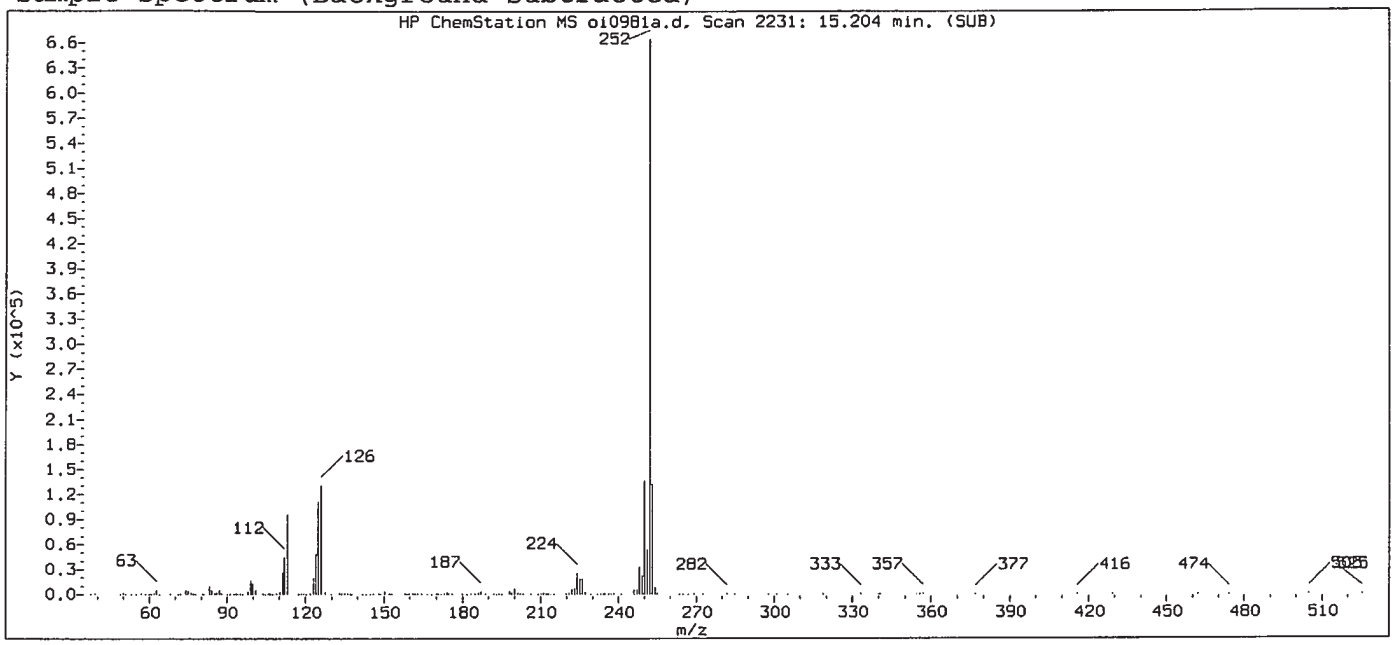
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

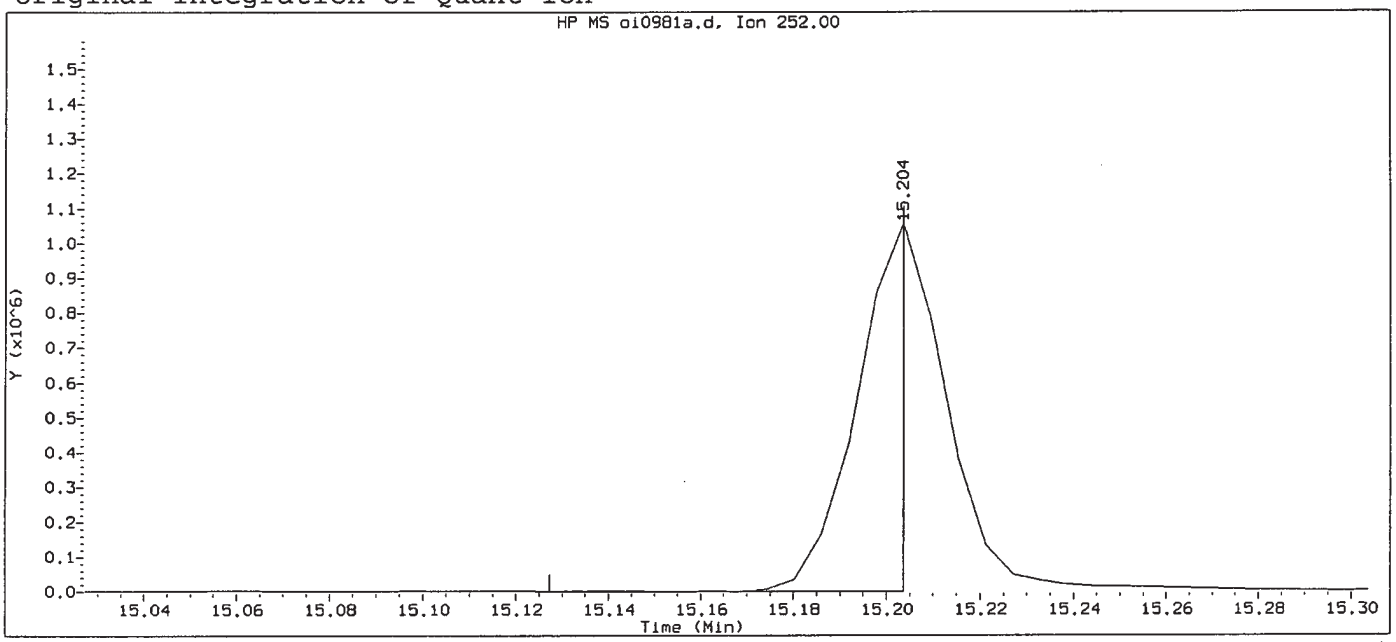
GC/MS audit/management approval:_____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0981a.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:32 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 10:08
Date, time and analyst ID of latest file update: 22-Sep-2015 10:08 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2575

Compound Number	: 211		
Compound Name	: Benzo(a)pyrene		
Scan Number	: 2231		
Retention Time (minutes)	: 15.204		
Quant Ion	: 252.00		
Area	: 710741		
On-column Amount (ng/ul)	: 15.5161		
Integration start scan	: 2217	Integration stop scan:	2230
Y at integration start	: 806	Y at integration end:	806

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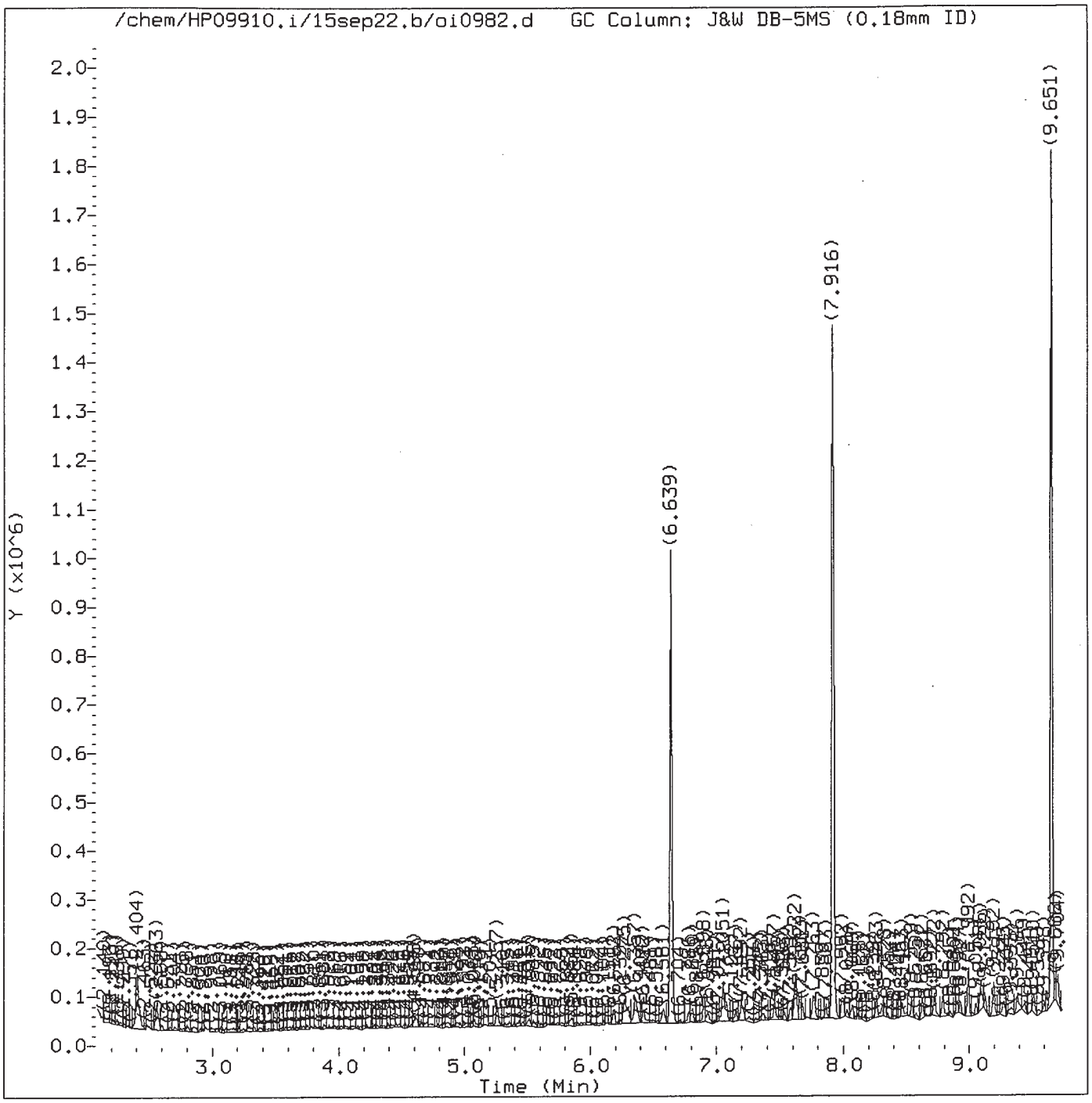
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0982.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

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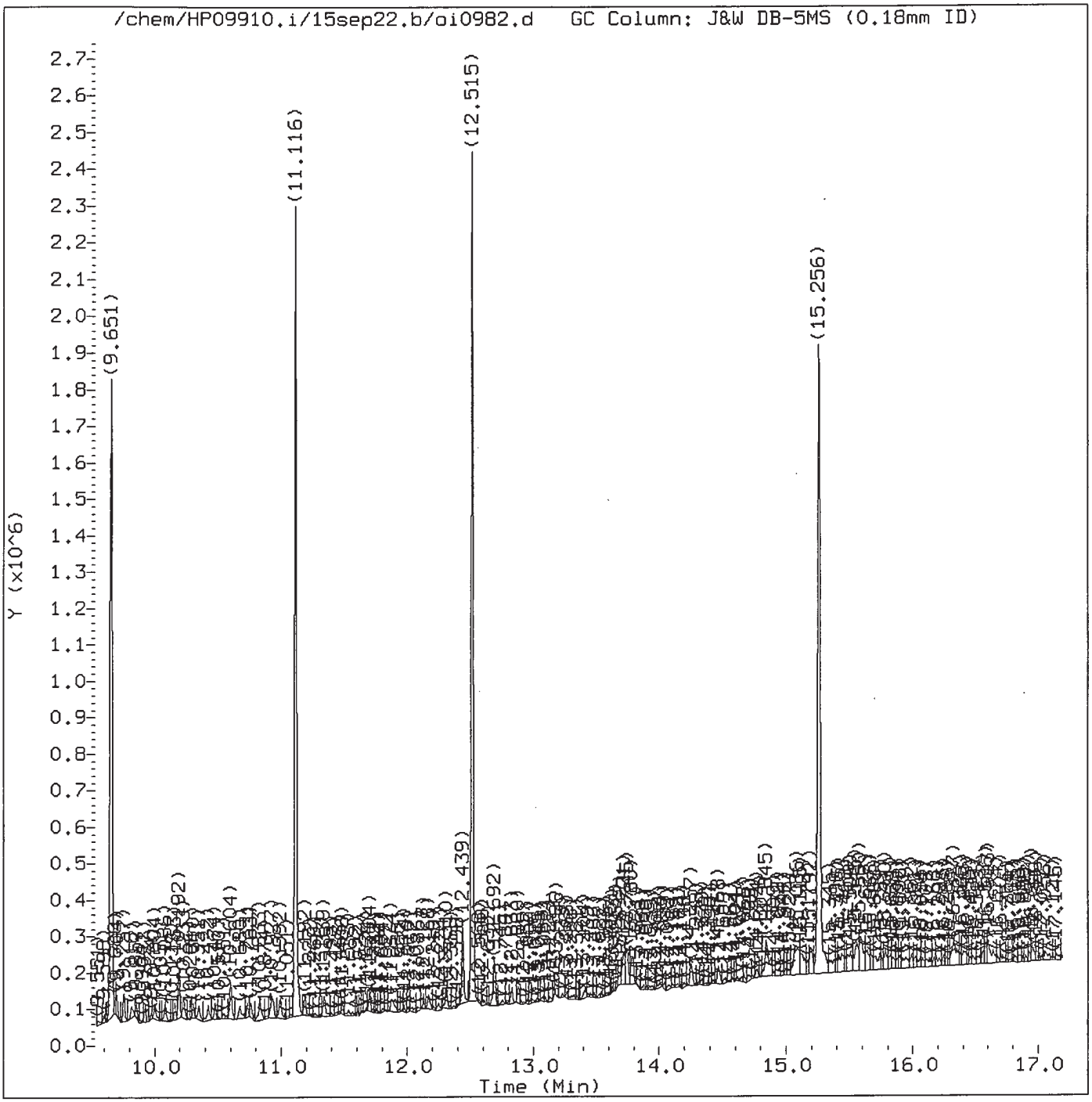
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0982.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

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on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0982.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	3.004	88	5277	0.958
4) N-Nitrosodimethylamine	(1)	3.528	74	378	0.041
5) Pyridine	(1)	3.575	79	1197	0.080
7) 2-Picoline	(1)	4.545	93	297	0.019
9) Methyl methanesulfonate	(1)	5.063	80	3768	0.481
11)$2-Fluorophenol	(1)	5.257	112	11806	0.959
13) N-Nitrosodiethylamine	(1)	5.510	102	4001	0.565
15) Ethyl methanesulfonate	(1)	5.845	109	3985	0.550
17)$Phenol-d6	(1)	6.269	99	16314	0.907
18) Phenol	(1)	6.281	94	10829	0.509
19) Aniline	(1)	6.298	93	12172	0.512
20) a-methylstyrene	(1)	6.357	118	6845	0.529
22) bis(2-Chloroethyl)ether	(1)	6.381	93	8207	0.552
23) 2-Chlorophenol	(1)	6.422	128	6865	0.571
24) 1,3-Dichlorobenzene	(1)	6.581	146	7578	0.623
25)*1,4-Dichlorobenzene-d4	(1)	6.639	152	145955	20.000
26) 1,4-Dichlorobenzene	(1)	6.657	146	6365	0.519
42) Total Cresols	(1)			14600	1.053
27) Benzyl alcohol	(1)	6.781	108	4497	0.437
28) 1,2-Dichlorobenzene	(1)	6.810	146	6501	0.570
30) Indene	(1)	6.898	115	9595	0.432
31) 2-Methylphenol	(1)	6.898	108	6784	0.517
34) bis(2-Chloroisopropyl)ether	(1)	6.934	45	10521	0.544
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.934	45	10521	0.544
35) N-Nitrosopyrrolidine	(1)	7.022	100	5300	0.629
36) Acetophenone	(1)	7.045	105	10007	0.505
37) 4-Methylphenol	(1)	7.051	108	7816	0.536
38) N-Nitroso-di-n-propylamine	(1)	7.051	70	5932	0.500
39) N-Nitrosomorpholine	(1)	7.063	56	6190	0.658
40) o-Toluidine	(1)	7.081	106	11113	0.478
43) Hexachloroethane	(1)	7.151	117	2294	0.473
44)$Nitrobenzene-d5	(2)	7.192	82	14180	0.911
45) Nitrobenzene	(2)	7.210	77	7207	0.446
48) N-Nitrosopiperidine	(2)	7.363	114	2928	0.404
50) Isophorone	(2)	7.457	82	15090	0.475
51) 2-Nitrophenol	(2)	7.516	139	3170	0.478
53) 2,4-Dimethylphenol	(2)	7.581	107	7042	0.481
56) Benzoic acid	(2)	7.622	105	39396	2.865
57) O,O,O-Triethylphosphorothioate	(2)	7.657	198	4132	0.650
55) bis(2-Chloroethoxy)methane	(2)	7.681	93	8451	0.463

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0982.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.763	104	10232	0.528
60) 2,4-Dichlorophenol	(2)	7.775	162	5308	0.515
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	4482	0.432
65)*Naphthalene-d8	(2)	7.916	136	665113	20.000
66) Naphthalene	(2)	7.939	128	19361	0.513
67) 4-Chloroaniline	(2)	7.986	127	7542	0.451
68) 2,6-Dichlorophenol	(2)	7.998	162	5171	0.509
69) Hexachloropropene	(2)	8.028	213	1548	0.292
71) Hexachlorobutadiene	(2)	8.063	225	1913	0.376
75) Quinoline	(2)	8.263	129	12406	0.468
76) Caprolactam	(2)	8.298	113	1961	0.347
77) N-Nitrosodi-n-butylamine	(2)	8.333	84	6202	0.414
80) 4-Chloro-3-methylphenol	(2)	8.463	107	6696	0.484
82) Safrole	(2)	8.539	162	5431	0.547
83) 2-Methylnaphthalene	(2)	8.627	142	13140	0.499
97) Isosafrole	(3)			5418	0.428
84) 1-Methylnaphthalene	(2)	8.722	142	11983	0.506
85) Hexachlorocyclopentadiene	(3)	8.786	237	1488	0.280
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.792	216	5103	0.491
88) cis-Isosafrole	(3)	8.827	162	654	0.058
90) 2,4,6-Trichlorophenol	(3)	8.892	196	2981	0.393
92) 2,4,5-Trichlorophenol	(3)	8.933	196	3971	0.452
93)$2-Fluorobiphenyl	(3)	8.992	172	27224	0.958
94) trans-Isosafrole	(3)	9.057	162	4764	0.369
95) 1,1'-Biphenyl	(3)	9.086	154	19304	0.555
98) 1-Chloronaphthalene	(3)	9.104	162	21114	0.848
96) 2-Chloronaphthalene	(3)	9.104	162	10715	0.348
100) 2-Nitroaniline	(3)	9.198	138	3061	0.317
99) Diphenyl ether	(3)	9.198	170	9886	0.563
104) 1,4-Naphthoquinone	(3)	9.275	158	4812	0.417
105) 1,4-Dinitrobenzene	(3)	9.333	168	1832	0.376
106) Dimethylphthalate	(3)	9.386	163	15197	0.491
120) 2,4_2,6-Dinitrotoluenes	(3)			5673	0.639
107) 1,3-Dinitrobenzene	(3)	9.404	168	2117	0.380
108) 2,6-Dinitrotoluene	(3)	9.439	165	2155	0.288
109) Acenaphthylene	(3)	9.510	152	16931	0.454
112) 3-Nitroaniline	(3)	9.580	138	3338	0.379
113)*Acenaphthene-d10	(3)	9.651	164	434746	20.000
114) Acenaphthene	(3)	9.686	153	13066	0.482
115) 2,4-Dinitrophenol	(3)	9.704	184	8594	1.747

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0982.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
116) 4-Nitrophenol	(3)	9.757	109	7933	1.733
117) Pentachlorobenzene	(3)	9.816	250	5284	0.552
118) 2,4-Dinitrotoluene	(3)	9.833	165	3518	0.351
119) Dibenzofuran	(3)	9.857	168	17182	0.448
121) 1-Naphthylamine	(3)	9.927	143	13342	0.421
122) 2,3,4,6-Tetrachlorophenol	(3)	9.974	232	3184	0.437
123) 2-Naphthylamine	(3)	10.004	143	14951	0.474
124) Diethylphthalate	(3)	10.086	149	14471	0.469
125) Thionazin	(3)	10.163	107	3397	0.569
129) 4-Nitroaniline	(3)	10.186	138	4831	0.476
128) 5-Nitro-o-toluidine	(3)	10.192	152	5551	0.568
126) Fluorene	(3)	10.192	166	14364	0.469
127) 4-Chlorophenyl-phenylether	(3)	10.198	204	5860	0.405
146) Diallate trans/cis	(4)			14530	0.773
130) 4,6-Dinitro-2-methylphenol	(4)	10.227	198	7136	1.069
132) NDPA as diphenylamine	(4)	10.310	169	14693	0.511
131) N-Nitrosodiphenylamine	(4)	10.310	169	14693	0.511
134) 1,2-Diphenylhydrazine	(4)	10.351	77	14950	0.392
135)$2,4,6-Tribromophenol	(3)	10.427	330	3722	1.026
137) Tetraethyldithiopyrophosphate	(4)	10.474	97	3591	0.671
139) 1,3,5-Trinitrobenzene	(4)	10.545	213	1115	0.285
140) Diallate (peak 1)	(4)	10.604	86	11592	0.608
142) Phenacetin	(4)	10.604	108	9249	0.465
141) Phorate	(4)	10.610	75	10022	0.382
143) 4-Bromophenyl-phenylether	(4)	10.680	248	3923	0.495
144) Diallate (peak 2)	(4)	10.692	86	2938	0.164
145) Hexachlorobenzene	(4)	10.733	284	5183	0.561
147) Dimethoate	(4)	10.763	87	6788	0.379
149) Pentachlorophenol	(4)	10.927	266	3328	0.577
150) 4-Aminobiphenyl	(4)	10.927	169	15465	0.498
151) Pentachloronitrobenzene	(4)	10.945	237	1887	0.644
152) Pronamide	(4)	10.992	173	5811	0.427
153)*Phenanthrene-d10	(4)	11.116	188	855654	20.000
155) Phenanthrene	(4)	11.139	178	24699	0.494
157) Anthracene	(4)	11.192	178	24000	0.485
163) Carbazole	(4)	11.345	167	22663	0.471
164) Methyl parathion	(4)	11.480	109	3523	0.279
165) Di-n-butylphthalate	(4)	11.704	149	24798	0.452
167) Parathion	(4)	11.874	109	3131	0.417
168) 4-Nitroquinoline-1-oxide	(4)	11.880	190	1243	0.267

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0982.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 09:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
171) Isodrin	(4)	12.168	193	2746	0.533
173) Fluoranthene	(4)	12.310	202	26022	0.482
174) Benzidine	(5)	12.439	184	96684	2.454
175)*Pyrene-d10	(5)	12.515	212	989275	20.000
177) Pyrene	(5)	12.527	202	30971	0.515
179)$Terphenyl-d14	(5)	12.692	244	36350	1.026
182) p-Dimethylaminoazobenzene	(5)	12.833	225	4430	0.394
185) Chlorobenzilate	(5)	12.880	139	7153	0.466
187) 3,3'-Dimethylbenzidine	(5)	13.162	212	10742	0.337
188) Butylbenzylphthalate	(5)	13.186	149	9950	0.382
191) 2-Acetylaminofluorene	(5)	13.415	181	8243	0.353
193) 3,3'-Dichlorobenzidine	(5)	13.721	252	8190	0.454
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.727	231	2963	0.286
195) Benzo(a)anthracene	(5)	13.745	228	25642	0.502
196) Chrysene	(5)	13.780	228	25199	0.508
199) bis(2-Ethylhexyl)phthalate	(5)	13.798	149	16904	0.466
203) 6-Methylchrysene	(5)	14.251	242	17008	0.492
205) Di-n-octylphthalate	(6)	14.468	149	20744	0.314
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.845	256	10597	0.430
206) Benzo(b)fluoranthene	(6)	14.851	252	18656	0.419
208) Benzo(k)fluoranthene	(6)	14.886	252	24046	0.476
211) Benzo(a)pyrene	(6)	15.192	252	24891	0.503
213)*Perylene-d12	(6)	15.256	264	795393	20.000
215) 3-Methylcholanthrene	(6)	15.592	268	10712	0.443
222) Total PAHs	(6)			340619	7.912
219) Indeno(1,2,3-cd)pyrene	(6)	16.586	276	26683	0.504
220) Dibenz(a,h)anthracene	(6)	16.598	278	22775	0.503
221) Benzo(g,h,i)perylene	(6)	16.956	276	20892	0.492

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$ = Compound is a surrogate standard.

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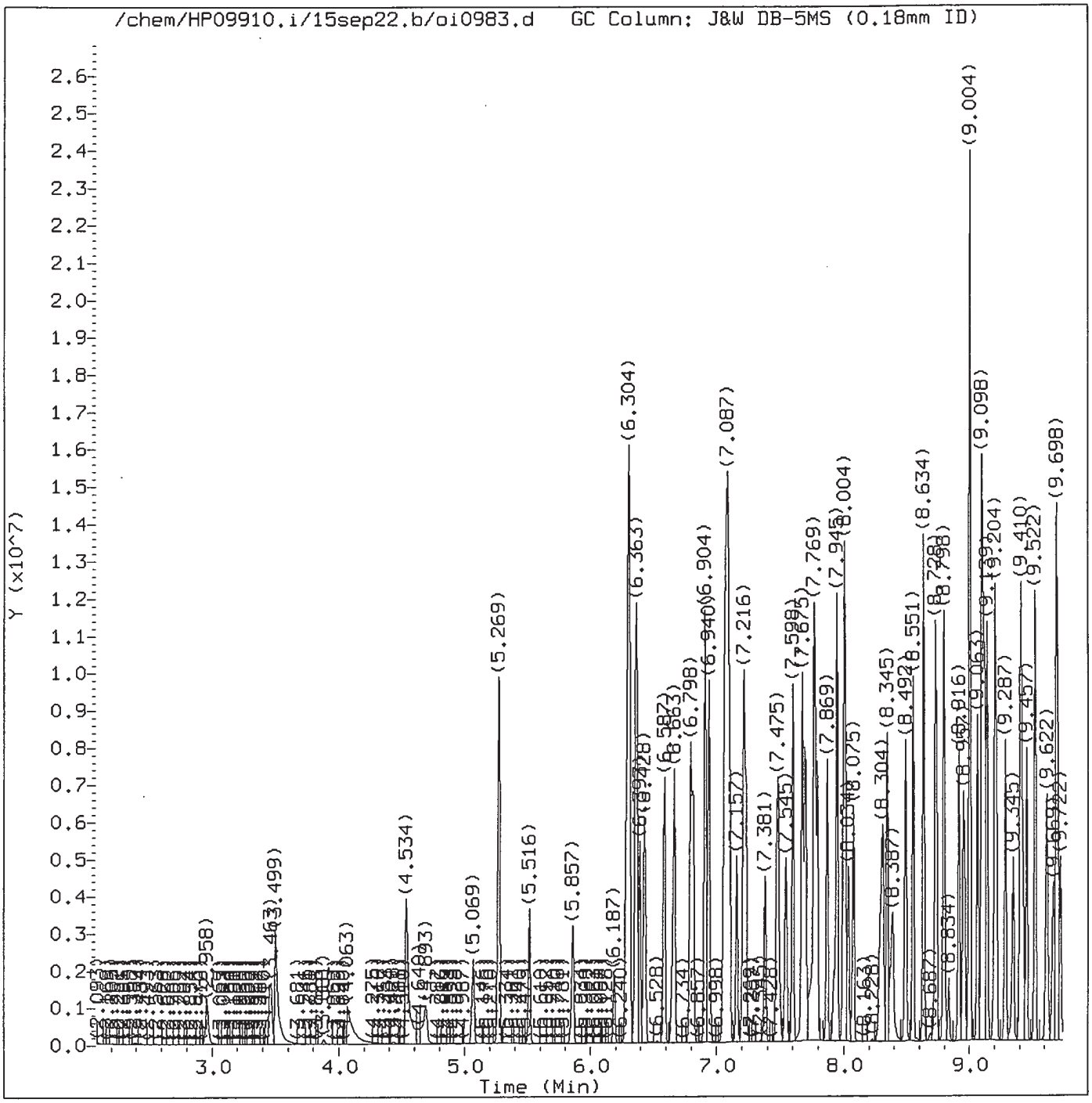
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

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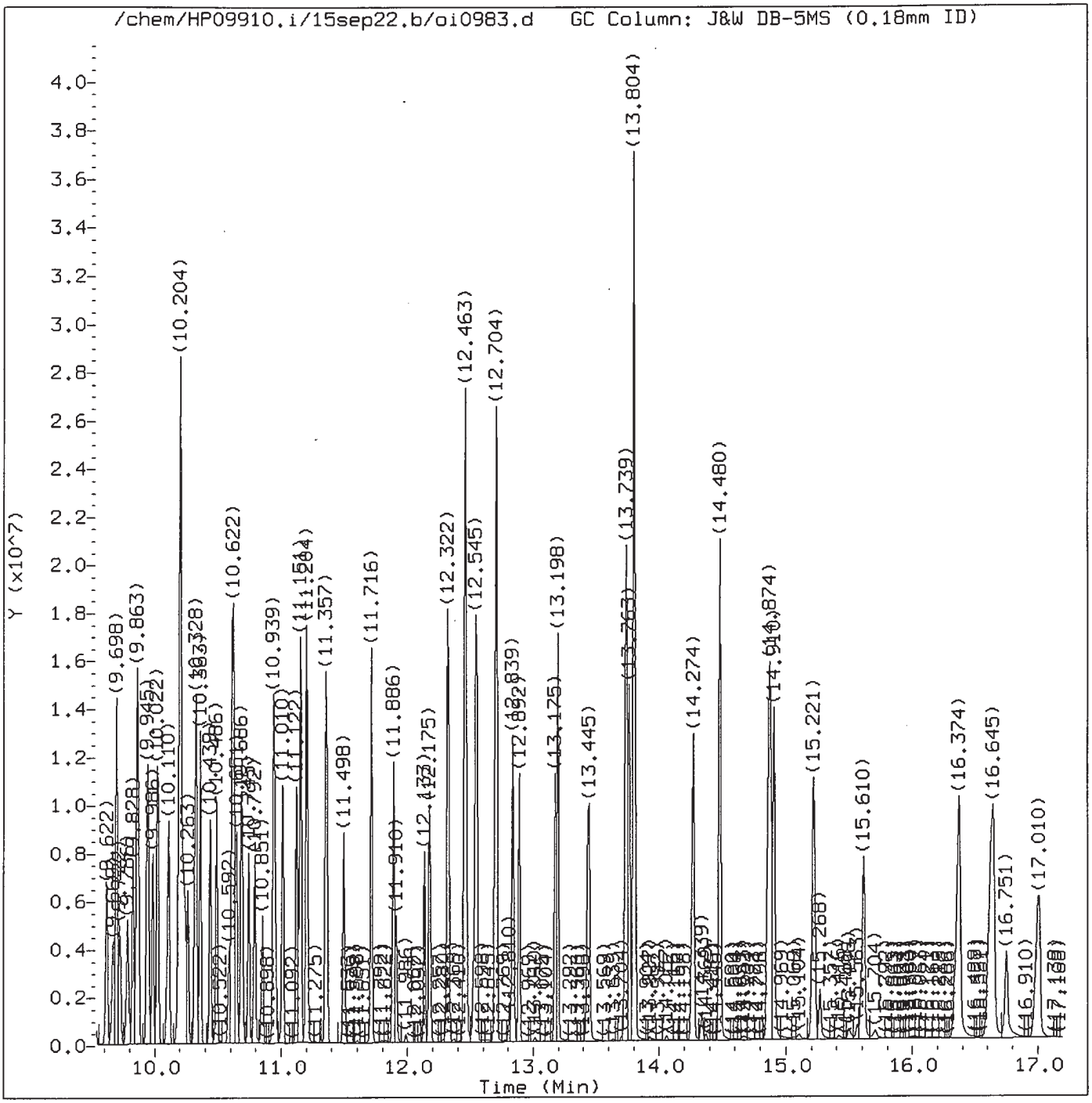
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

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on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.958	88	776391	115.542
4) N-Nitrosodimethylamine	(1)	3.463	74	1365243	118.601
5) Pyridine	(1)	3.499	79	2213912	118.208
7) 2-Picoline	(1)	4.534	93	2311426	117.004
8) N-Nitrosomethylethylamine	(1)	4.693	88	1091802	117.697
9) Methyl methanesulfonate	(1)	5.069	80	1083979	114.521
11)$2-Fluorophenol	(1)	5.275	112	3694362	238.622
13) N-Nitrosodiethylamine	(1)	5.516	102	1076159	120.047
15) Ethyl methanesulfonate	(1)	5.857	109	1036056	116.423
17)$Phenol-d6	(1)	6.293	99	5342051	237.439
19) Aniline	(1)	6.310	93	3560013	119.190
18) Phenol	(1)	6.310	94	3208801	119.648
20) a-methylstyrene	(1)	6.363	118	1877668	117.363
22) bis(2-Chloroethyl)ether	(1)	6.393	93	2219123	119.037
23) 2-Chlorophenol	(1)	6.428	128	1868409	121.378
24) 1,3-Dichlorobenzene	(1)	6.587	146	1762863	117.196
25)*1,4-Dichlorobenzene-d4	(1)	6.646	152	184589	20.000
42) Total Cresols	(1)			4537063	248.691
26) 1,4-Dichlorobenzene	(1)	6.663	146	1810499	118.333
27) Benzyl alcohol	(1)	6.798	108	1478409	116.681
28) 1,2-Dichlorobenzene	(1)	6.816	146	1735794	120.197
30) Indene	(1)	6.904	115	3345646	119.595
31) 2-Methylphenol	(1)	6.916	108	2044429	121.608
34) bis(2-Chloroisopropyl)ether	(1)	6.940	45	2875251	118.731
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.940	45	2875251	118.731
35) N-Nitrosopyrrolidine	(1)	7.057	100	1286316	120.323
36) Acetophenone	(1)	7.063	105	3010057	120.085
37) 4-Methylphenol	(1)	7.075	108	2492634	127.083
38) N-Nitroso-di-n-propylamine	(1)	7.087	70	1775284	119.178
39) N-Nitrosomorpholine	(1)	7.093	56	1396136	118.648
40) o-Toluidine	(1)	7.098	106	3495749	119.402
43) Hexachloroethane	(1)	7.157	117	725308	119.154
44)$Nitrobenzene-d5	(2)	7.216	82	4948164	242.550
45) Nitrobenzene	(2)	7.234	77	2465314	118.865
48) N-Nitrosopiperidine	(2)	7.381	114	1133787	120.349
50) Isophorone	(2)	7.475	82	5027424	120.975
51) 2-Nitrophenol	(2)	7.545	139	1054502	121.245
53) 2,4-Dimethylphenol	(2)	7.598	107	2281233	120.096
57) O,O,O-Triethylphosphorothioate	(2)	7.675	198	960173	118.267
55) bis(2-Chloroethoxy)methane	(2)	7.692	93	2778338	118.705

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	7.757	105	2308294	124.553
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.769	104	3042238	120.560
60) 2,4-Dichlorophenol	(2)	7.793	162	1637502	121.282
62) 1,2,4-Trichlorobenzene	(2)	7.869	180	1601173	119.541
65)*Naphthalene-d8	(2)	7.922	136	862356	20.000
66) Naphthalene	(2)	7.945	128	5871417	119.971
67) 4-Chloroaniline	(2)	8.004	127	2614475	120.231
68) 2,6-Dichlorophenol	(2)	8.010	162	1561095	119.285
69) Hexachloropropene	(2)	8.034	213	853803	121.977
71) Hexachlorobutadiene	(2)	8.075	225	736014	115.624
75) Quinoline	(2)	8.304	129	4128625	120.062
77) N-Nitrosodi-n-butylamine	(2)	8.345	84	1775552	103.715
76) Caprolactam	(2)	8.387	113	870255	119.428
80) 4-Chloro-3-methylphenol	(2)	8.492	107	2162457	120.238
82) Safrole	(2)	8.551	162	1536817	119.639
97) Isosafrole	(3)			1866778	116.309
83) 2-Methylnaphthalene	(2)	8.634	142	4046785	119.050
84) 1-Methylnaphthalene	(2)	8.734	142	3727235	120.924
85) Hexachlorocyclopentadiene	(3)	8.792	237	751620	113.556
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.798	216	1557810	117.080
88) cis-Isosafrole	(3)	8.834	162	279837	19.704
90) 2,4,6-Trichlorophenol	(3)	8.916	196	1157748	118.125
92) 2,4,5-Trichlorophenol	(3)	8.957	196	1266065	114.735
93)$2-Fluorobiphenyl	(3)	9.004	172	8571516	234.863
94) trans-Isosafrole	(3)	9.063	162	1586941	96.605
95) 1,1'-Biphenyl	(3)	9.098	154	5186276	116.794
96) 2-Chloronaphthalene	(3)	9.116	162	3855276	106.290
98) 1-Chloronaphthalene	(3)	9.139	162	3648565	115.702
99) Diphenyl ether	(3)	9.204	170	2585463	116.053
100) 2-Nitroaniline	(3)	9.216	138	1439878	116.821
104) 1,4-Naphthoquinone	(3)	9.287	158	1648362	114.177
105) 1,4-Dinitrobenzene	(3)	9.351	168	775855	120.710
120) 2,4_2,6-Dinitrotoluenes	(3)			2653336	235.303
106) Dimethylphthalate	(3)	9.410	163	4640929	117.096
107) 1,3-Dinitrobenzene	(3)	9.428	168	871392	119.695
108) 2,6-Dinitrotoluene	(3)	9.457	165	1117279	116.955
109) Acenaphthylene	(3)	9.522	152	6217409	124.639
112) 3-Nitroaniline	(3)	9.622	138	1270145	114.824
113)*Acenaphthene-d10	(3)	9.663	164	570021	20.000
114) Acenaphthene	(3)	9.698	153	4168027	118.211

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$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	9.722	184	865027	126.674
116) 4-Nitrophenol	(3)	9.786	109	694943	117.840
117) Pentachlorobenzene	(3)	9.828	250	1381586	114.825
118) 2,4-Dinitrotoluene	(3)	9.857	165	1536057	118.348
119) Dibenzofuran	(3)	9.869	168	5715867	116.689
121) 1-Naphthylamine	(3)	9.945	143	4622446	115.511
122) 2,3,4,6-Tetrachlorophenol	(3)	9.986	232	1080472	116.484
123) 2-Naphthylamine	(3)	10.022	143	4298103	111.445
124) Diethylphthalate	(3)	10.110	149	4574934	116.473
125) Thionazin	(3)	10.192	107	1067949	127.692
146) Diallate trans/cis	(4)			2827996	119.322
127) 4-Chlorophenyl-phenylether	(3)	10.204	204	2135536	116.133
126) Fluorene	(3)	10.204	166	4790341	119.564
128) 5-Nitro-o-toluidine	(3)	10.222	152	1428837	115.617
129) 4-Nitroaniline	(3)	10.239	138	1419687	112.977
130) 4,6-Dinitro-2-methylphenol	(4)	10.263	198	1068222	123.208
132) NDPA as diphenylamine	(4)	10.328	169	4288110	118.952
131) N-Nitrosodiphenylamine	(4)	10.328	169	4288110	118.952
134) 1,2-Diphenylhydrazine	(4)	10.363	77	5866954	120.887
135)$2,4,6-Tribromophenol	(3)	10.445	330	1051880	230.165
137) Tetraethyldithiopyrophosphate	(4)	10.486	97	813166	120.101
139) 1,3,5-Trinitrobenzene	(4)	10.592	213	659261	126.333
140) Diallate (peak 1)	(4)	10.616	86	2370432	98.998
141) Phorate	(4)	10.622	75	4011484	120.493
142) Phenacetin	(4)	10.651	108	2997991A	119.650
143) 4-Bromophenyl-phenylether	(4)	10.686	248	1137478	116.689
144) Diallate (peak 2)	(4)	10.698	86	457564	20.324
145) Hexachlorobenzene	(4)	10.745	284	1144636	104.402
147) Dimethoate	(4)	10.792	87	2315484	110.398
149) Pentachlorophenol	(4)	10.939	266	842384	117.708
150) 4-Aminobiphenyl	(4)	10.945	169	3300089	98.849
151) Pentachloronitrobenzene	(4)	10.957	237	448738	120.559
152) Pronamide	(4)	11.016	173	2079685	120.370
153)*Phenanthrene-d10	(4)	11.128	188	1081770	20.000
154) Dinoseb	(4)	11.128	211	1445972	127.677
155) Phenanthrene	(4)	11.151	178	7694101	121.079
157) Anthracene	(4)	11.204	178	7764413	122.722
163) Carbazole	(4)	11.357	167	7273715	119.750
164) Methyl parathion	(4)	11.498	109	1704891	112.948
165) Di-n-butylphthalate	(4)	11.716	149	8189275	119.004

A = User selected an alternate hit.
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on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	11.886	109	1151315	120.639
168) 4-Nitroquinoline-1-oxide	(4)	11.910	190	729181	121.984
169) Octachlorostyrene	(4)	12.133	308	391032	116.870
171) Isodrin	(4)	12.175	193	726601	115.656
173) Fluoranthene	(4)	12.322	202	8351433	121.492
174) Benzidine	(5)	12.463	184	13044309	308.470
175)*Pyrene-d10	(5)	12.522	212	1213947	20.000
177) Pyrene	(5)	12.545	202	8620778	117.933
179)$Terphenyl-d14	(5)	12.704	244	10434439	239.988
182) p-Dimethylaminoazobenzene	(5)	12.839	225	1661003	120.120
185) Chlorobenzilate	(5)	12.886	139	2323212	121.611
187) 3,3'-Dimethylbenzidine	(5)	13.175	212	4310722	114.975
188) Butylbenzylphthalate	(5)	13.198	149	3807858	119.641
191) 2-Acetylaminofluorene	(5)	13.445	181	3517672	121.341
193) 3,3'-Dichlorobenzidine	(5)	13.739	252	2433040	114.772
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.739	231	1330174	111.713
195) Benzo(a)anthracene	(5)	13.763	228	7410055	118.779
199) bis(2-Ethylhexyl)phthalate	(5)	13.804	149	5385379	120.480
196) Chrysene	(5)	13.804	228	6720158	113.491
203) 6-Methylchrysene	(5)	14.274	242	4936588	118.128
205) Di-n-octylphthalate	(6)	14.480	149	8951092	123.662
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.868	256	3154903	120.271
206) Benzo(b)fluoranthene	(6)	14.886	252	6467993	130.577
208) Benzo(k)fluoranthene	(6)	14.910	252	6782094A	124.203
211) Benzo(a)pyrene	(6)	15.221	252	6272433	119.561
213)*Perylene-d12	(6)	15.268	264	844884	20.000
215) 3-Methylcholanthrene	(6)	15.616	268	2968329	117.723
222) Total PAHs	(6)			98958810	1909.266
219) Indeno(1,2,3-cd)pyrene	(6)	16.621	276	6448459	116.431
220) Dibenz(a,h)anthracene	(6)	16.645	278	5443109	115.432
221) Benzo(g,h,i)perylene	(6)	17.010	276	5412657	119.987

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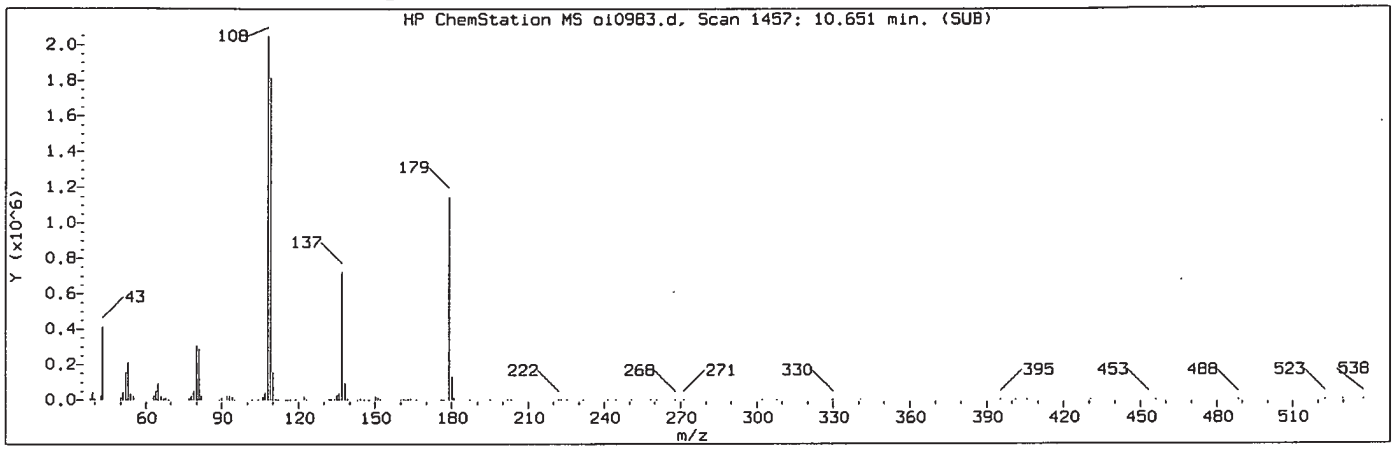
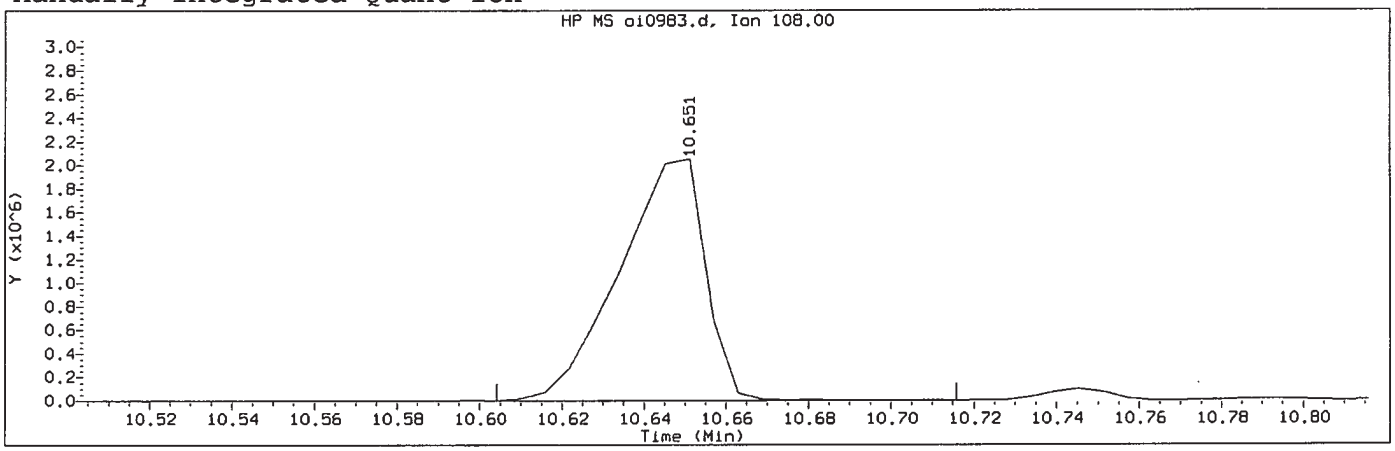
on 09/22/2015 at 13:22.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compound Number	: 142		
Compound Name	: Phenacetin		
Scan Number	: 1457		
Retention Time (minutes)	: 10.651		
Quant Ion	: 108.00		
Area (flag)	: 2997991A		
On-Column Amount (ng/ul)	: 119.6499		
Integration start scan	: 1448	Integration stop scan:	1467
Y at integration start	: 0	Y at integration end:	0

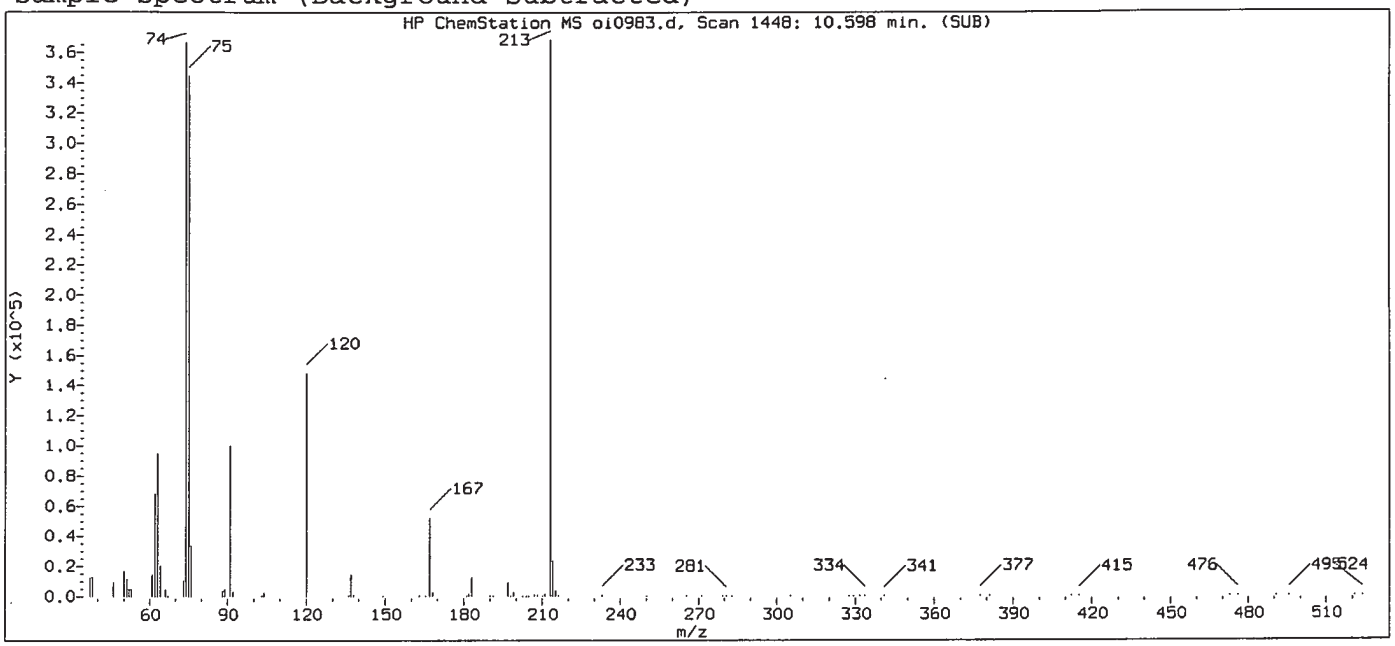
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:22. Target 3.5 signature user ID: lmh00956

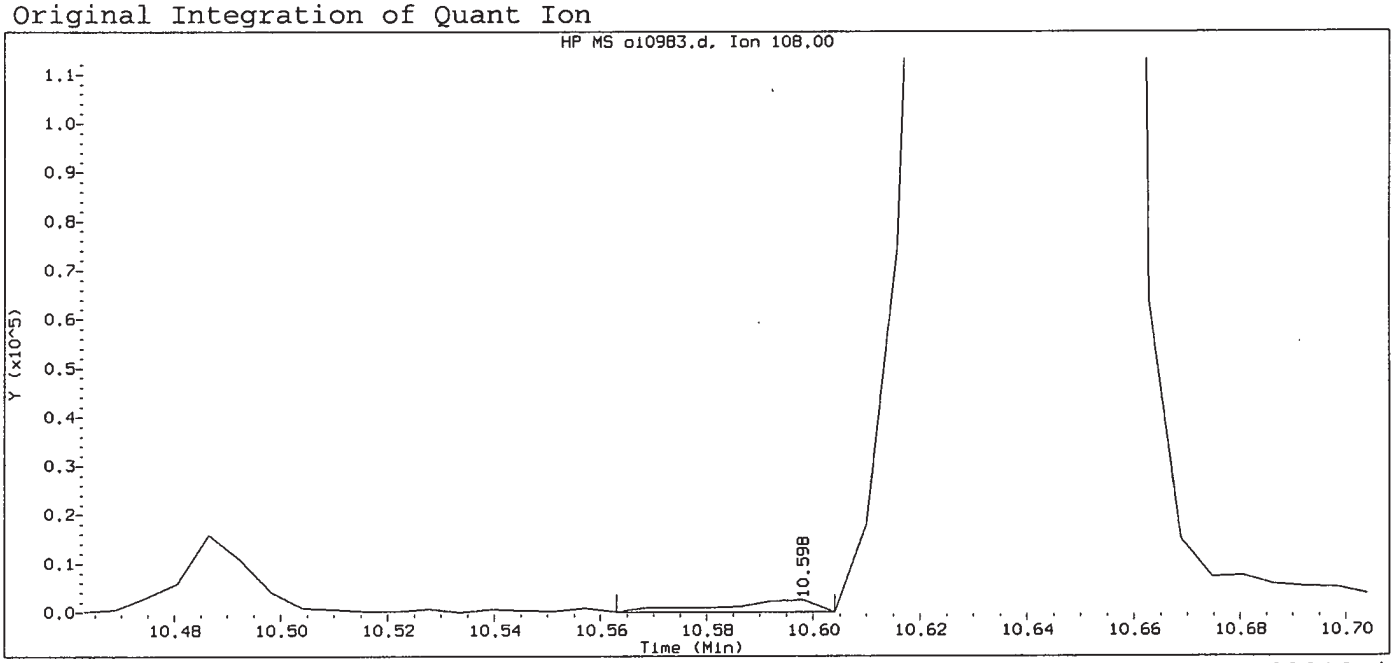
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 10:40
Date, time and analyst ID of latest file update: 22-Sep-2015 10:40 Automation

Sample Name: SSTD120 Lab Sample ID: STD2575

Compound Number	: 142		
Compound Name	: Phenacetin		
Scan Number	: 1448		
Retention Time (minutes)	: 10.598		
Quant Ion	: 108.00		
Area	: 3146		
On-column Amount (ng/ul)	: 0.1387		
Integration start scan	: 1441	Integration stop scan:	1448
Y at integration start	: 0	Y at integration end:	0

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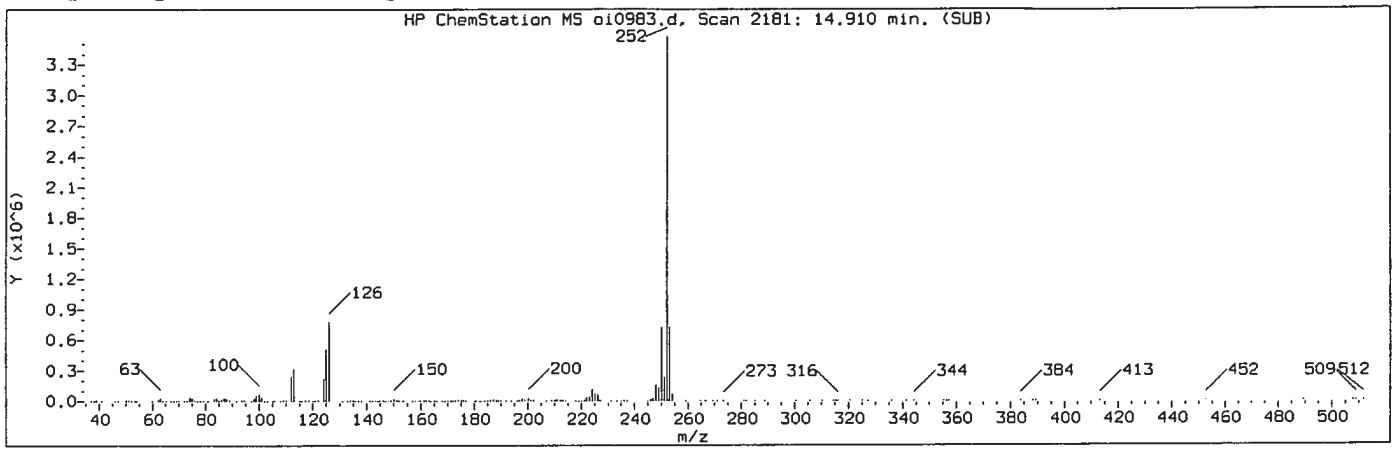
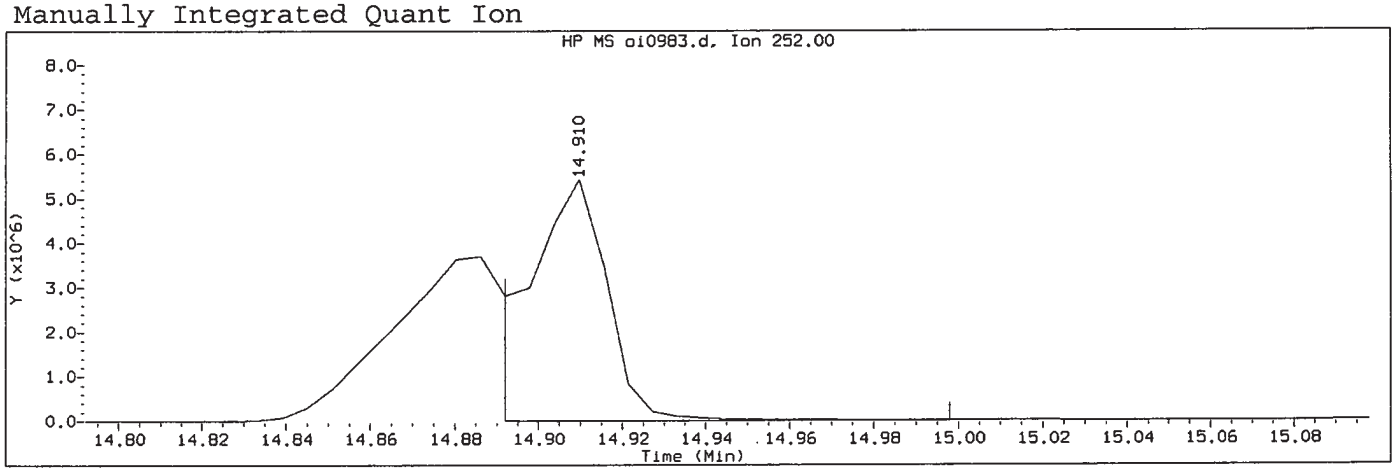
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD120 Lab Sample ID: STD2575

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2181		
Retention Time (minutes)	: 14.910		
Quant Ion	: 252.00		
Area (flag)	: 6782094A		
On-Column Amount (ng/ul)	: 124.2028		
Integration start scan	: 2177	Integration stop scan:	2195
Y at integration start	: 440	Y at integration end:	440

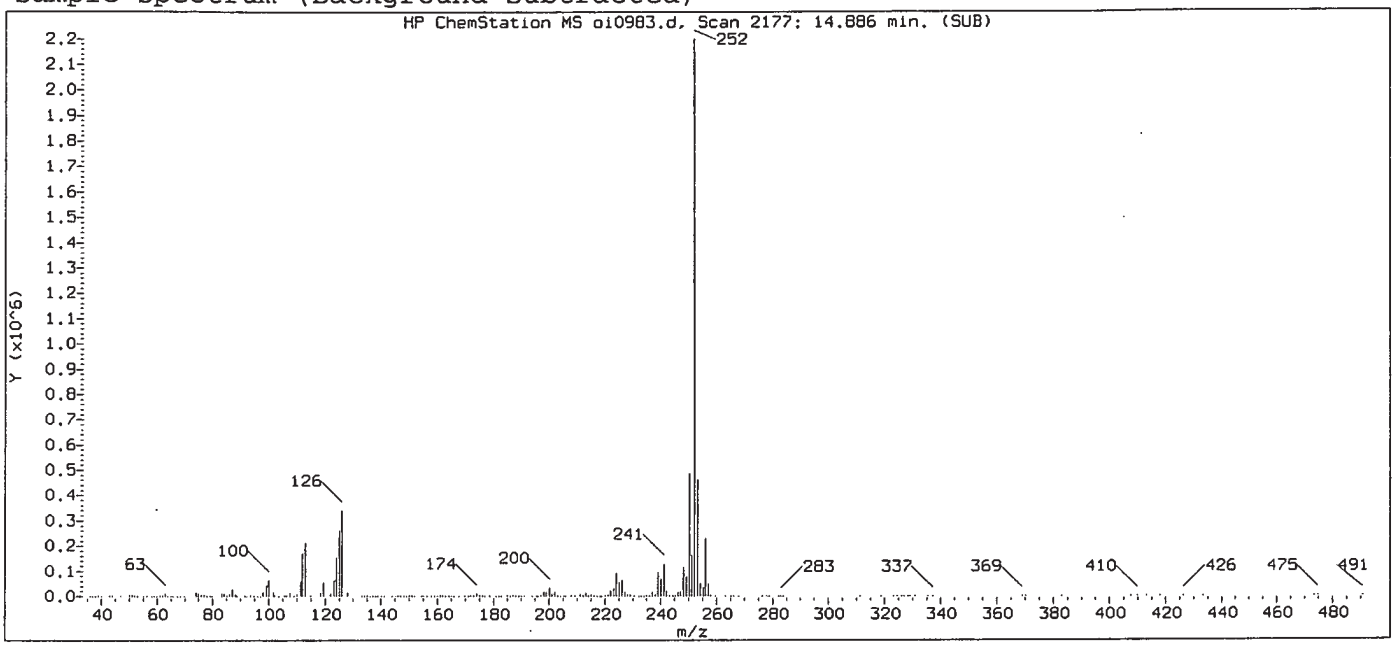
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:22
Target 3.3 signature user ID: lmh00956

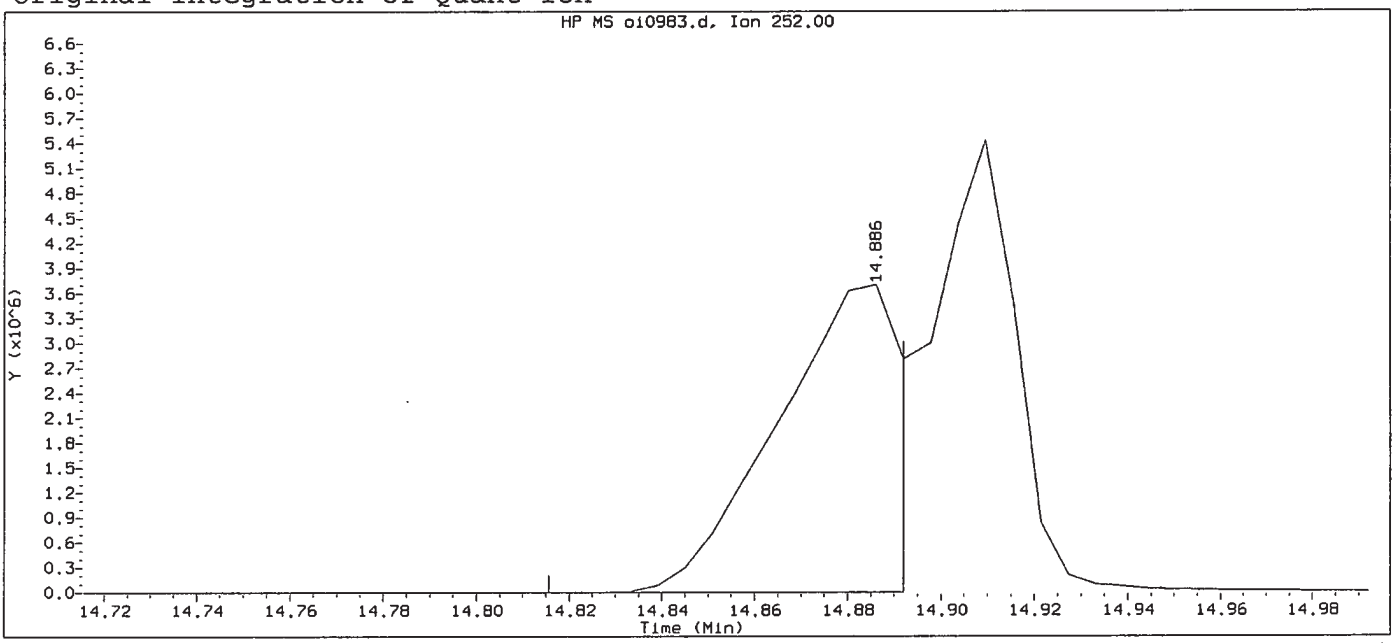
SEP 23 2015

GC/MS audit/management approval: Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0983.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:23 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 10:40
Date, time and analyst ID of latest file update: 22-Sep-2015 10:40 Automation

Sample Name: SSTD120 Lab Sample ID: STD2575

Compound Number	: 208		
Compound Name	: Benzo(k)fluoranthene		
Scan Number	: 2177		
Retention Time (minutes)	: 14.886		
Quant Ion	: 252.00		
Area	: 6467993		
On-column Amount (ng/ul)	: 119.7777		
Integration start scan	: 2164	Integration stop scan:	2177
Y at integration start	: 440	Y at integration end:	440

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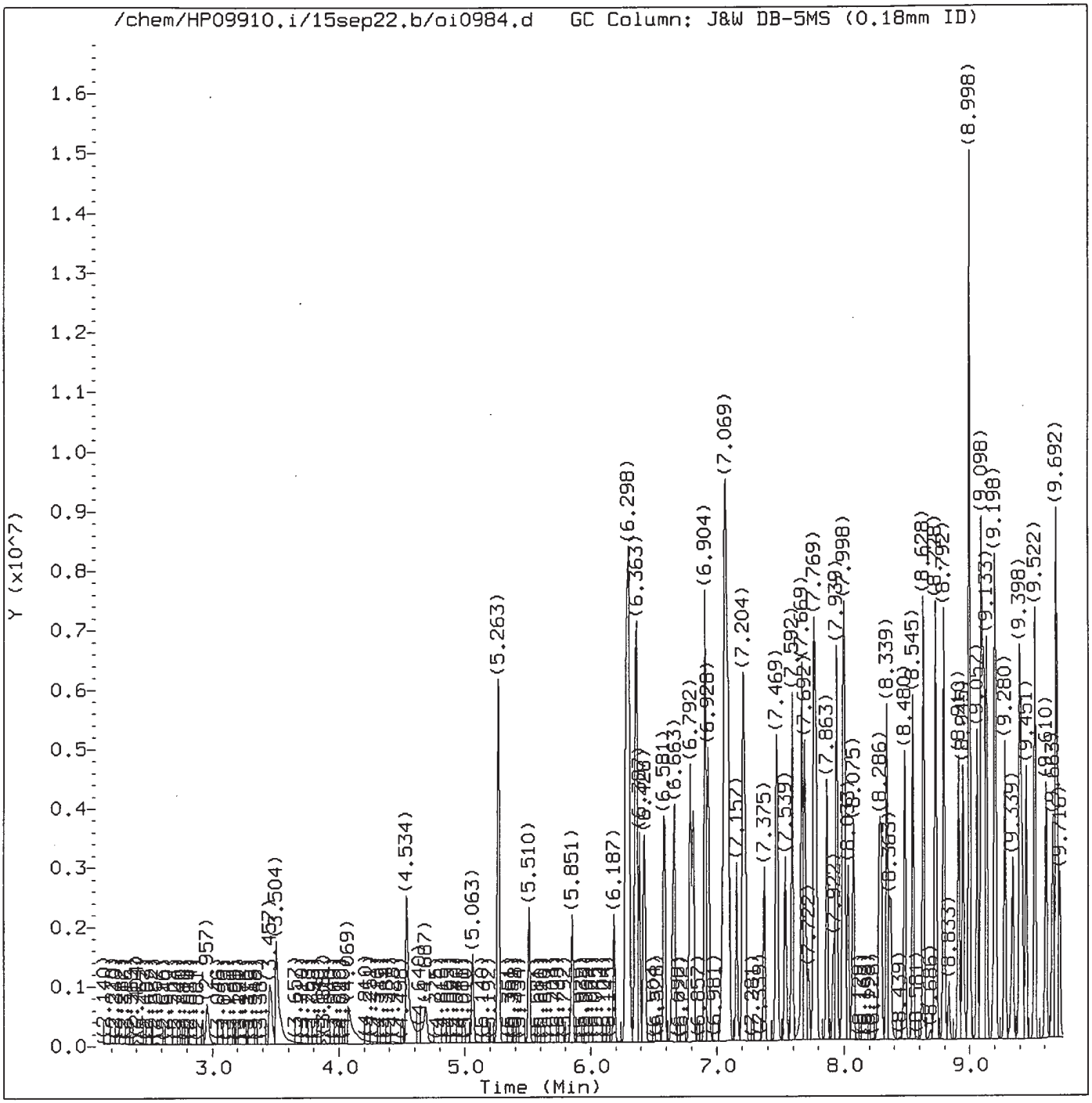
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

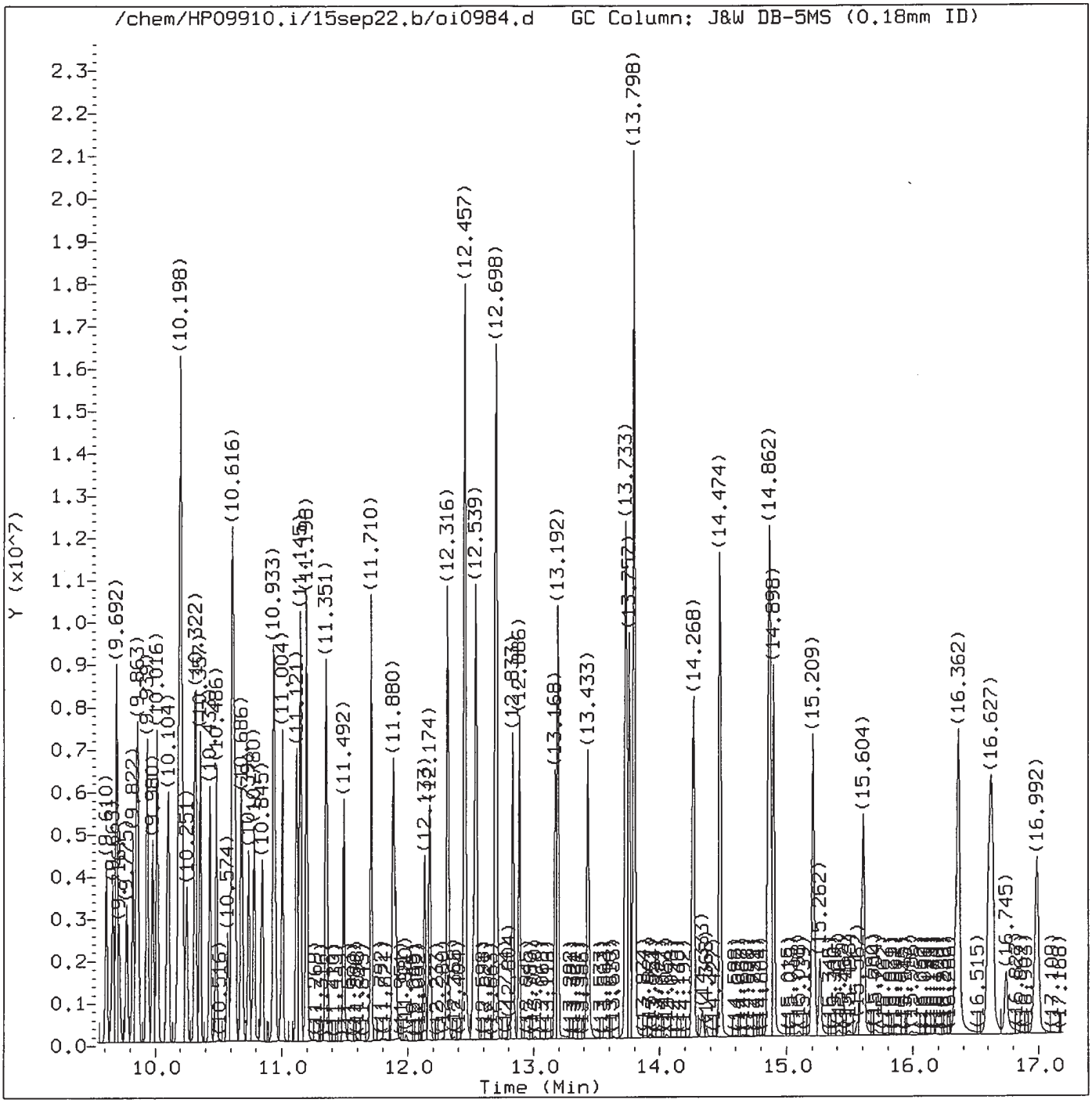
Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0984.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:49 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0984.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:49 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0984.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:49 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.957	88	463715	77.430
4) N-Nitrosodimethylamine	(1)	3.457	74	800114	77.807
5) Pyridine	(1)	3.504	79	1297372	77.628
7) 2-Picoline	(1)	4.534	93	1385173	78.267
8) N-Nitrosomethylethylamine	(1)	4.687	88	638913	77.327
9) Methyl methanesulfonate	(1)	5.063	80	650408	77.205
11)$2-Fluorophenol	(1)	5.269	112	2130084	154.528
13) N-Nitrosodiethylamine	(1)	5.510	102	643224	79.488
15) Ethyl methanesulfonate	(1)	5.851	109	617707	77.735
17)$Phenol-d6	(1)	6.287	99	3108750	154.978
18) Phenol	(1)	6.298	94	1894077	78.648
19) Aniline	(1)	6.304	93	2098891	78.383
20) a-methylstyrene	(1)	6.363	118	1099373	77.206
22) bis(2-Chloroethyl)ether	(1)	6.387	93	1308951	78.340
23) 2-Chlorophenol	(1)	6.428	128	1078239	78.213
24) 1,3-Dichlorobenzene	(1)	6.586	146	1039870	77.522
25)*1,4-Dichlorobenzene-d4	(1)	6.645	152	167159	20.000
42) Total Cresols	(1)			2644755	160.031
26) 1,4-Dichlorobenzene	(1)	6.663	146	1073108	78.282
27) Benzyl alcohol	(1)	6.792	108	886602	78.159
28) 1,2-Dichlorobenzene	(1)	6.810	146	993201	77.251
30) Indene	(1)	6.904	115	1959930	78.224
31) 2-Methylphenol	(1)	6.922	108	1190790	78.803
34) bis(2-Chloroisopropyl)ether	(1)	6.934	45	1678489	77.659
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.934	45	1678489	77.659
35) N-Nitrosopyrrolidine	(1)	7.039	100	751959	78.434
36) Acetophenone	(1)	7.057	105	1744368	77.870
37) 4-Methylphenol	(1)	7.069	108	1453965	81.229
38) N-Nitroso-di-n-propylamine	(1)	7.075	70	1043050	78.195
39) N-Nitrosomorpholine	(1)	7.081	56	842820	79.394
40) o-Toluidine	(1)	7.092	106	2026322	77.583
43) Hexachloroethane	(1)	7.157	117	418742	77.264
44)$Nitrobenzene-d5	(2)	7.204	82	2861678	155.991
45) Nitrobenzene	(2)	7.228	77	1428842	77.055
48) N-Nitrosopiperidine	(2)	7.375	114	665376	78.364
50) Isophorone	(2)	7.469	82	2897441	77.683
51) 2-Nitrophenol	(2)	7.539	139	612482	78.209
53) 2,4-Dimethylphenol	(2)	7.592	107	1326069	77.751
57) O,O,O-Triethylphosphorothioate	(2)	7.669	198	563668	77.462
55) bis(2-Chloroethoxy)methane	(2)	7.692	93	1653770	78.386

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0984.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:49 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	7.722	105	1336656	79.474
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.769	104	1790362	78.604
60) 2,4-Dichlorophenol	(2)	7.781	162	939214	77.564
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	939484	77.998
65)*Naphthalene-d8	(2)	7.922	136	785182	20.000
66) Naphthalene	(2)	7.939	128	3404502	77.271
67) 4-Chloroaniline	(2)	7.998	127	1481267	76.466
68) 2,6-Dichlorophenol	(2)	8.004	162	918551	78.033
69) Hexachloropropene	(2)	8.033	213	500802	79.047
71) Hexachlorobutadiene	(2)	8.075	225	438282	77.025
75) Quinoline	(2)	8.286	129	2381844	77.338
77) N-Nitrosodi-n-butylamine	(2)	8.339	84	1115151	74.155
76) Caprolactam	(2)	8.369	113	507582	77.635
80) 4-Chloro-3-methylphenol	(2)	8.480	107	1246435	77.369
82) Safrole	(2)	8.545	162	895752	77.692
83) 2-Methylnaphthalene	(2)	8.628	142	2369861	77.399
97) Isosafrole	(3)			1081403	77.786
84) 1-Methylnaphthalene	(2)	8.728	142	2170253	77.981
85) Hexachlorocyclopentadiene	(3)	8.792	237	450488	78.323
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.798	216	937071	80.137
88) cis-Isosafrole	(3)	8.833	162	161573	13.164
90) 2,4,6-Trichlorophenol	(3)	8.910	196	687028	79.886
92) 2,4,5-Trichlorophenol	(3)	8.945	196	746494	78.003
93)$2-Fluorobiphenyl	(3)	8.998	172	5002786	157.385
94) trans-Isosafrole	(3)	9.057	162	919830	64.622
95) 1,1'-Biphenyl	(3)	9.092	154	2949928	77.050
96) 2-Chloronaphthalene	(3)	9.110	162	2156891	71.373
98) 1-Chloronaphthalene	(3)	9.133	162	2211763	79.918
99) Diphenyl ether	(3)	9.198	170	1520923	78.484
100) 2-Nitroaniline	(3)	9.210	138	822936	77.313
104) 1,4-Naphthoquinone	(3)	9.280	158	981609	78.270
105) 1,4-Dinitrobenzene	(3)	9.345	168	447661	79.544
106) Dimethylphthalate	(3)	9.398	163	2703330	78.437
120) 2,4_2,6-Dinitrotoluenes	(3)			1543330	157.263
107) 1,3-Dinitrobenzene	(3)	9.416	168	502489	79.065
108) 2,6-Dinitrotoluene	(3)	9.451	165	651860	78.458
109) Acenaphthylene	(3)	9.522	152	3602642	81.675
112) 3-Nitroaniline	(3)	9.610	138	735282	77.081
113)*Acenaphthene-d10	(3)	9.657	164	500529	20.000
114) Acenaphthene	(3)	9.692	153	2416538	78.530

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0984.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:49 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	9.716	184	474401	79.409
116) 4-Nitrophenol	(3)	9.775	109	399089	78.021
117) Pentachlorobenzene	(3)	9.822	250	805274	77.439
118) 2,4-Dinitrotoluene	(3)	9.851	165	891470	78.805
119) Dibenzofuran	(3)	9.863	168	3325104	78.184
121) 1-Naphthylamine	(3)	9.939	143	2668684	77.251
122) 2,3,4,6-Tetrachlorophenol	(3)	9.980	232	635148	78.643
123) 2-Naphthylamine	(3)	10.016	143	2640988	78.646
124) Diethylphthalate	(3)	10.104	149	2665913	78.176
125) Thionazin	(3)	10.180	107	517297	73.362
126) Fluorene	(3)	10.198	166	2809252	79.889
146) Diallate trans/cis	(4)			1644470	77.759
127) 4-Chlorophenyl-phenylether	(3)	10.204	204	1268733	79.044
128) 5-Nitro-o-toluidine	(3)	10.210	152	835184	77.950
129) 4-Nitroaniline	(3)	10.222	138	819078	76.059
130) 4,6-Dinitro-2-methylphenol	(4)	10.251	198	587965	76.555
132) NDPA as diphenylamine	(4)	10.322	169	2484579	77.401
131) N-Nitrosodiphenylamine	(4)	10.322	169	2484579	77.401
134) 1,2-Diphenylhydrazine	(4)	10.357	77	3384352	78.017
135)$2,4,6-Tribromophenol	(3)	10.433	330	617790	155.914
137) Tetraethyldithiopyrophosphate	(4)	10.486	97	477678	78.631
139) 1,3,5-Trinitrobenzene	(4)	10.574	213	372337	79.228
140) Diallate (peak 1)	(4)	10.610	86	1374914	64.408
141) Phorate	(4)	10.616	75	2302217	77.576
142) Phenacetin	(4)	10.633	108	1724504	77.327
143) 4-Bromophenyl-phenylether	(4)	10.686	248	679177	77.971
144) Diallate (peak 2)	(4)	10.692	86	269556	13.352
145) Hexachlorobenzene	(4)	10.745	284	682588	71.296
147) Dimethoate	(4)	10.780	87	1452157	77.640
149) Pentachlorophenol	(4)	10.933	266	500383	78.157
150) 4-Aminobiphenyl	(4)	10.939	169	2177602	74.540
151) Pentachloronitrobenzene	(4)	10.951	237	264652	79.043
152) Pronamide	(4)	11.004	173	1185479	77.167
153)*Phenanthrene-d10	(4)	11.121	188	978908	20.000
154) Dinoseb	(4)	11.121	211	815052	79.686
155) Phenanthrene	(4)	11.145	178	4419928	77.624
157) Anthracene	(4)	11.198	178	4522972	79.248
163) Carbazole	(4)	11.351	167	4152079	76.970
164) Methyl parathion	(4)	11.492	109	1048068	77.790
165) Di-n-butylphthalate	(4)	11.710	149	4985787	80.043

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0984.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 10:49 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD080 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	11.880	109	658914	77.494
168) 4-Nitroquinoline-1-oxide	(4)	11.904	190	457325	82.973
169) Octachlorostyrene	(4)	12.133	308	238318	79.137
171) Isodrin	(4)	12.174	193	442456	78.539
173) Fluoranthene	(4)	12.316	202	4854847	78.526
174) Benzidine	(5)	12.457	184	8860910	240.182
175)*Pyrene-d10	(5)	12.521	212	1058679	20.000
177) Pyrene	(5)	12.539	202	4943660	78.147
179)$Terphenyl-d14	(5)	12.698	244	6229336	162.831
182) p-Dimethylaminoazobenzene	(5)	12.839	225	972982	80.454
185) Chlorobenzilate	(5)	12.886	139	1374923	81.667
187) 3,3'-Dimethylbenzidine	(5)	13.174	212	2627302	80.235
188) Butylbenzylphthalate	(5)	13.192	149	2225594	80.122
191) 2-Acetylaminofluorene	(5)	13.433	181	2079173	81.479
193) 3,3'-Dichlorobenzidine	(5)	13.727	252	1472499	79.765
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.733	231	801312	78.089
195) Benzo(a)anthracene	(5)	13.757	228	4302715	79.312
196) Chrysene	(5)	13.798	228	4036754	78.621
199) bis(2-Ethylhexyl)phthalate	(5)	13.804	149	3135291	80.285
203) 6-Methylchrysene	(5)	14.268	242	2900835	79.730
205) Di-n-octylphthalate	(6)	14.474	149	5557490	80.864
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.862	256	1899234	77.748
206) Benzo(b)fluoranthene	(6)	14.874	252	4066870	85.095
208) Benzo(k)fluoranthene	(6)	14.898	252	3881612	76.403
211) Benzo(a)pyrene	(6)	15.209	252	3841655	78.142
213)*Perylene-d12	(6)	15.268	264	797867	20.000
215) 3-Methylcholanthrene	(6)	15.604	268	1854578	78.578
222) Total PAHs	(6)			58661135	1259.428
219) Indeno(1,2,3-cd)pyrene	(6)	16.609	276	4077206	78.456
220) Dibenz(a,h)anthracene	(6)	16.633	278	3486990	78.723
221) Benzo(g,h,i)perylene	(6)	16.992	276	3401360	79.883

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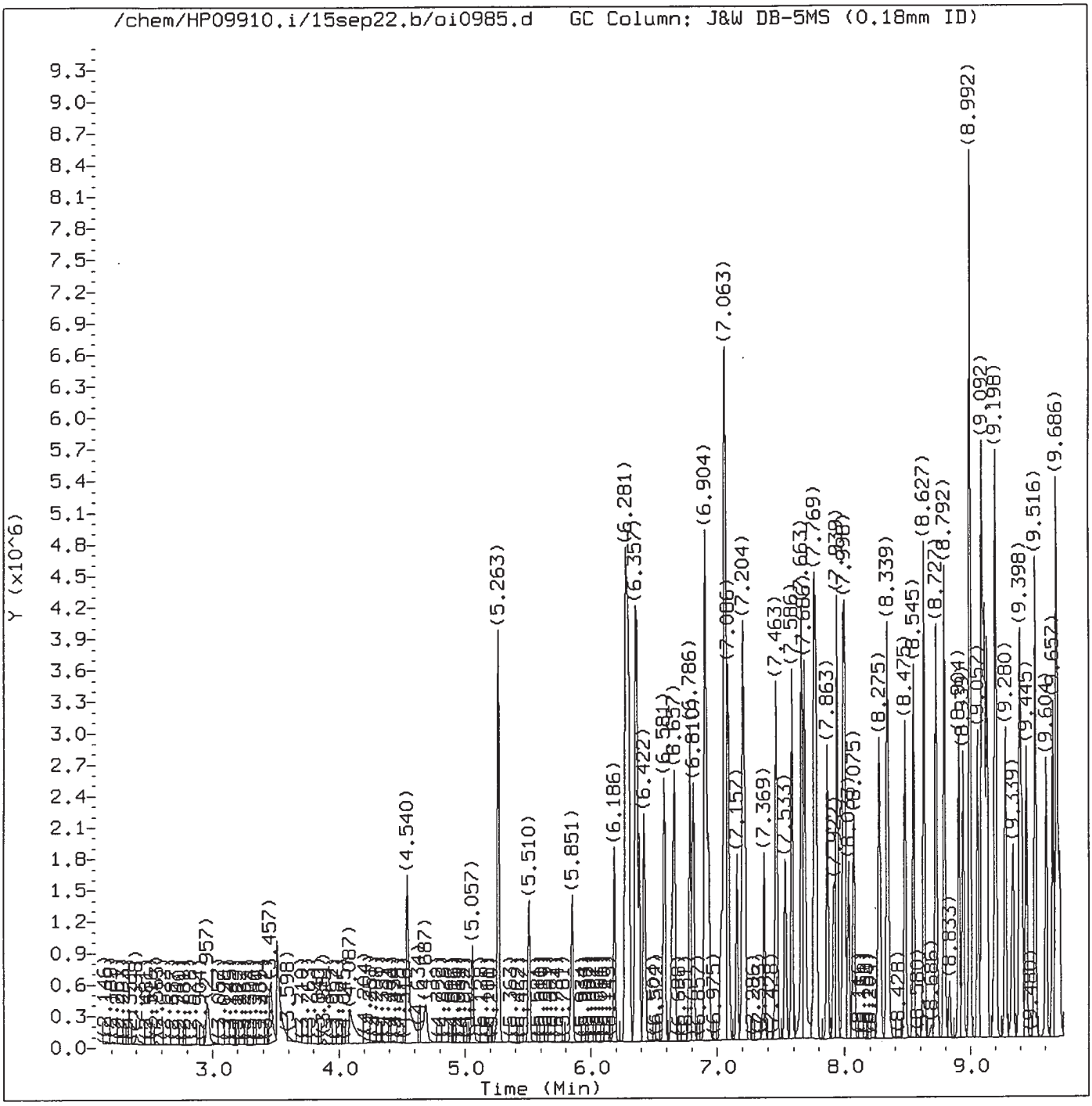
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

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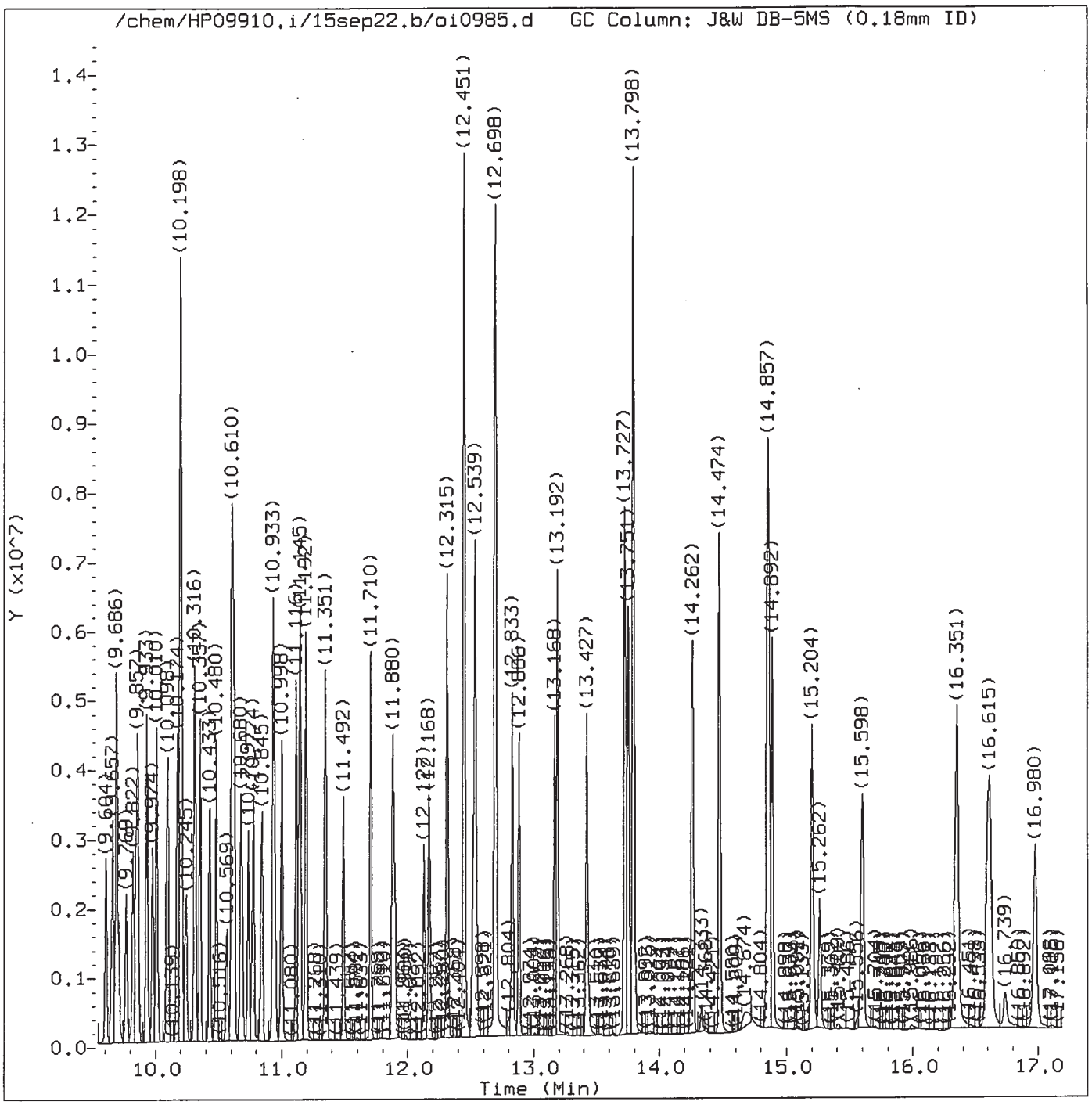
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.963	88	284532	51.383
4) N-Nitrosodimethylamine	(1)	3.457	74	482668	50.921
5) Pyridine	(1)	3.510	79	763396	49.896
7) 2-Picoline	(1)	4.540	93	824405	50.633
8) N-Nitrosomethylethylamine	(1)	4.687	88	386943	50.836
9) Methyl methanesulfonate	(1)	5.057	80	386628	50.073
11)$2-Fluorophenol	(1)	5.263	112	1284650	101.293
13) N-Nitrosodiethylamine	(1)	5.510	102	390065	51.938
15) Ethyl methanesulfonate	(1)	5.851	109	368294	50.443
17)$Phenol-d6	(1)	6.281	99	1868382	101.250
18) Phenol	(1)	6.292	94	1104061	50.032
19) Aniline	(1)	6.304	93	1263931	51.135
20) a-methylstyrene	(1)	6.363	118	666515	50.817
22) bis(2-Chloroethyl)ether	(1)	6.381	93	775681	50.505
23) 2-Chlorophenol	(1)	6.422	128	645158	50.809
24) 1,3-Dichlorobenzene	(1)	6.581	146	629582	50.920
25)*1,4-Dichlorobenzene-d4	(1)	6.639	152	153134	20.000
26) 1,4-Dichlorobenzene	(1)	6.657	146	647162	51.142
42) Total Cresols	(1)			1575570	103.008
27) Benzyl alcohol	(1)	6.786	108	520413	50.059
28) 1,2-Dichlorobenzene	(1)	6.810	146	614791	51.631
30) Indene	(1)	6.904	115	1157465	50.320
31) 2-Methylphenol	(1)	6.910	108	708520	50.881
34) bis(2-Chloroisopropyl)ether	(1)	6.933	45	1009520	50.735
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.933	45	1009520	50.735
35) N-Nitrosopyrrolidine	(1)	7.033	100	446770	50.649
36) Acetophenone	(1)	7.051	105	1036316	50.373
37) 4-Methylphenol	(1)	7.063	108	867050	52.126
38) N-Nitroso-di-n-propylamine	(1)	7.069	70	624103	50.800
39) N-Nitrosomorpholine	(1)	7.069	56	494467	50.631
40) o-Toluidine	(1)	7.086	106	1214388	50.564
43) Hexachloroethane	(1)	7.157	117	256780	51.278
44)$Nitrobenzene-d5	(2)	7.204	82	1682387	97.200
45) Nitrobenzene	(2)	7.222	77	841409	48.216
48) N-Nitrosopiperidine	(2)	7.369	114	391770	48.829
50) Isophorone	(2)	7.463	82	1746772	49.381
51) 2-Nitrophenol	(2)	7.539	139	364339	49.135
53) 2,4-Dimethylphenol	(2)	7.586	107	786571	48.812
57) O,O,O-Triethylphosphorothioate	(2)	7.663	198	344461	49.781
55) bis(2-Chloroethoxy)methane	(2)	7.686	93	1012007	50.277

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	7.692	105	788189	49.406
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.763	104	1046874	48.687
60) 2,4-Dichlorophenol	(2)	7.780	162	556697	48.696
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	566762	49.557
65)*Naphthalene-d8	(2)	7.922	136	747728	20.000
66) Naphthalene	(2)	7.939	128	2006897	48.250
67) 4-Chloroaniline	(2)	7.992	127	898227	49.012
68) 2,6-Dichlorophenol	(2)	8.004	162	546423	49.053
69) Hexachloropropene	(2)	8.033	213	295449	49.223
71) Hexachlorobutadiene	(2)	8.075	225	267076	49.464
75) Quinoline	(2)	8.275	129	1427335	48.993
77) N-Nitrosodi-n-butylamine	(2)	8.339	84	801377	54.340
76) Caprolactam	(2)	8.345	113	305469	49.293
80) 4-Chloro-3-methylphenol	(2)	8.475	107	750741	49.196
82) Safrole	(2)	8.545	162	538716	49.296
83) 2-Methylnaphthalene	(2)	8.627	142	1401899	48.452
97) Isosafrole	(3)			651952	49.863
84) 1-Methylnaphthalene	(2)	8.727	142	1262214	48.082
85) Hexachlorocyclopentadiene	(3)	8.792	237	271160	50.086
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.792	216	545828	49.714
88) cis-Isosafrole	(3)	8.833	162	94855	8.285
90) 2,4,6-Trichlorophenol	(3)	8.904	196	405558	50.097
92) 2,4,5-Trichlorophenol	(3)	8.939	196	444522	49.531
93)$2-Fluorobiphenyl	(3)	8.992	172	2977945	99.691
94) trans-Isosafrole	(3)	9.057	162	557097	41.579
95) 1,1'-Biphenyl	(3)	9.092	154	1780310	49.572
96) 2-Chloronaphthalene	(3)	9.110	162	1546626M	53.232
98) 1-Chloronaphthalene	(3)	9.127	162	1289915M	49.659
99) Diphenyl ether	(3)	9.198	170	881632	48.761
100) 2-Nitroaniline	(3)	9.204	138	495595	49.620
104) 1,4-Naphthoquinone	(3)	9.280	158	607568	51.116
105) 1,4-Dinitrobenzene	(3)	9.339	168	266162	50.206
106) Dimethylphthalate	(3)	9.392	163	1621286	50.005
120) 2,4_2,6-Dinitrotoluenes	(3)			929227	100.534
107) 1,3-Dinitrobenzene	(3)	9.410	168	307615	51.081
108) 2,6-Dinitrotoluene	(3)	9.445	165	394239	50.330
109) Acenaphthylene	(3)	9.516	152	2128857	51.038
112) 3-Nitroaniline	(3)	9.604	138	454757	50.506
113)*Acenaphthene-d10	(3)	9.657	164	470855	20.000
114) Acenaphthene	(3)	9.686	153	1421801	49.290

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	9.710	184	273837	49.038
116) 4-Nitrophenol	(3)	9.769	109	242908	50.360
117) Pentachlorobenzene	(3)	9.822	250	487931	49.909
118) 2,4-Dinitrotoluene	(3)	9.845	165	534988	50.204
119) Dibenzofuran	(3)	9.857	168	1997125	49.939
121) 1-Naphthylamine	(3)	9.933	143	1609574	49.646
122) 2,3,4,6-Tetrachlorophenol	(3)	9.974	232	382762	50.284
123) 2-Naphthylamine	(3)	10.010	143	1620551	50.968
124) Diethylphthalate	(3)	10.098	149	1576341	49.351
125) Thionazin	(3)	10.174	107	325721	49.325
127) 4-Chlorophenyl-phenylether	(3)	10.198	204	782119	51.336
126) Fluorene	(3)	10.198	166	1650367	49.913
146) Diallate trans/cis	(4)			980345	48.968
128) 5-Nitro-o-toluidine	(3)	10.204	152	495379	49.359
129) 4-Nitroaniline	(3)	10.216	138	505196	49.901
130) 4,6-Dinitro-2-methylphenol	(4)	10.245	198	364564	49.854
131) N-Nitrosodiphenylamine	(4)	10.316	169	1472750	48.592
132) NDPA as diphenylamine	(4)	10.316	169	1472750	48.592
134) 1,2-Diphenylhydrazine	(4)	10.357	77	2012267	48.997
135)$2,4,6-Tribromophenol	(3)	10.433	330	376127	100.679
137) Tetraethyldithiopyrophosphate	(4)	10.480	97	285994	49.546
139) 1,3,5-Trinitrobenzene	(4)	10.569	213	221311	49.557
140) Diallate (peak 1)	(4)	10.604	86	821949	40.670
141) Phorate	(4)	10.616	75	1373219	48.906
142) Phenacetin	(4)	10.627	108	1051070	49.588
143) 4-Bromophenyl-phenylether	(4)	10.680	248	416513	50.129
144) Diallate (peak 2)	(4)	10.692	86	158396	8.298
145) Hexachlorobenzene	(4)	10.739	284	399063	44.859
147) Dimethoate	(4)	10.774	87	912628	50.893
149) Pentachlorophenol	(4)	10.927	266	302339	49.662
150) 4-Aminobiphenyl	(4)	10.933	169	1495192	52.726
151) Pentachloronitrobenzene	(4)	10.945	237	162146	50.608
152) Pronamide	(4)	11.004	173	722168	49.491
154) Dinoseb	(4)	11.116	211	469591	48.617
153)*Phenanthrene-d10	(4)	11.121	188	932951	20.000
155) Phenanthrene	(4)	11.145	178	2649340	49.052
157) Anthracene	(4)	11.192	178	2684212	49.477
163) Carbazole	(4)	11.351	167	2520019	49.259
164) Methyl parathion	(4)	11.492	109	652869	50.630
165) Di-n-butylphthalate	(4)	11.710	149	2995492	50.344

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$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	11.880	109	408353	50.293
168) 4-Nitroquinoline-1-oxide	(4)	11.898	190	273466	51.529
169) Octachlorostyrene	(4)	12.127	308	147505	51.038
171) Isodrin	(4)	12.168	193	266375	49.709
173) Fluoranthene	(4)	12.315	202	2950330	50.057
174) Benzidine	(5)	12.451	184	5859272	156.957
175)*Pyrene-d10	(5)	12.515	212	1054682	20.000
177) Pyrene	(5)	12.539	202	3078822	49.078
179)$Terphenyl-d14	(5)	12.698	244	3920764	102.141
182) p-Dimethylaminoazobenzene	(5)	12.833	225	627167	51.526
185) Chlorobenzilate	(5)	12.886	139	849011	50.464
187) 3,3'-Dimethylbenzidine	(5)	13.168	212	1710149	51.796
188) Butylbenzylphthalate	(5)	13.192	149	1412647	50.782
191) 2-Acetylaminofluorene	(5)	13.427	181	1301962	50.906
193) 3,3'-Dichlorobenzidine	(5)	13.727	252	943570	50.974
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.733	231	521055	50.724
195) Benzo(a)anthracene	(5)	13.751	228	2784580	51.211
196) Chrysene	(5)	13.792	228	2539550	49.718
199) bis(2-Ethylhexyl)phthalate	(5)	13.798	149	1970920	50.494
203) 6-Methylchrysene	(5)	14.262	242	1864394	51.070
205) Di-n-octylphthalate	(6)	14.474	149	3373252	50.088
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.857	256	1218957	50.710
206) Benzo(b)fluoranthene	(6)	14.862	252	2633622	54.891
208) Benzo(k)fluoranthene	(6)	14.892	252	2479816	49.872
211) Benzo(a)pyrene	(6)	15.209	252	2393402	49.768
213)*Perylene-d12	(6)	15.262	264	781395	20.000
215) 3-Methylcholanthrene	(6)	15.604	268	1172251	50.535
222) Total PAHs	(6)			35682500	792.231
219) Indeno(1,2,3-cd)pyrene	(6)	16.598	276	2501932	49.325
220) Dibenz(a,h)anthracene	(6)	16.621	278	2149540	49.641
221) Benzo(g,h,i)perylene	(6)	16.980	276	2078757	49.880

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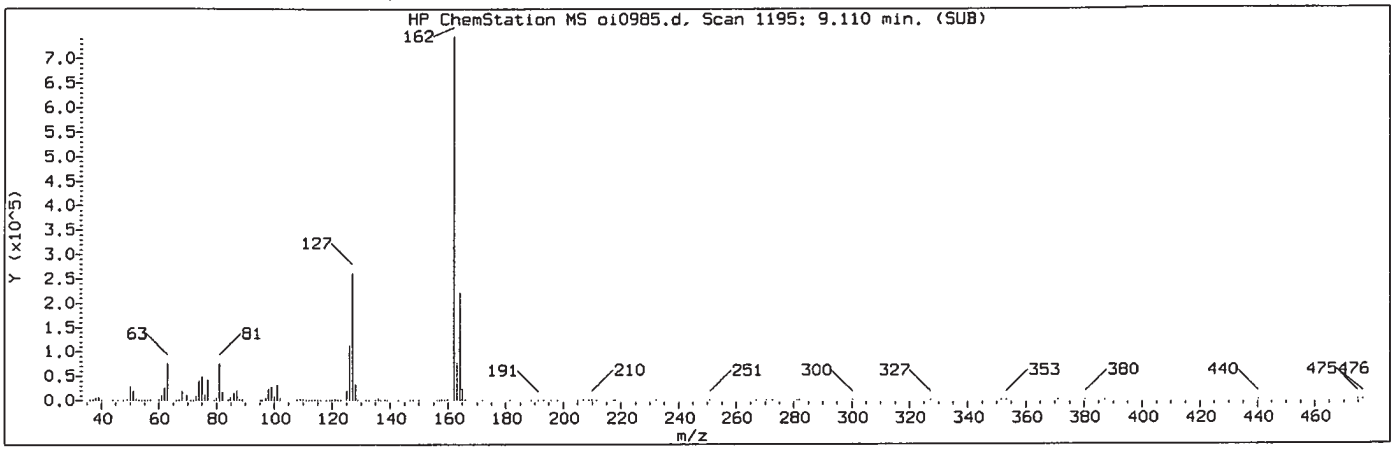
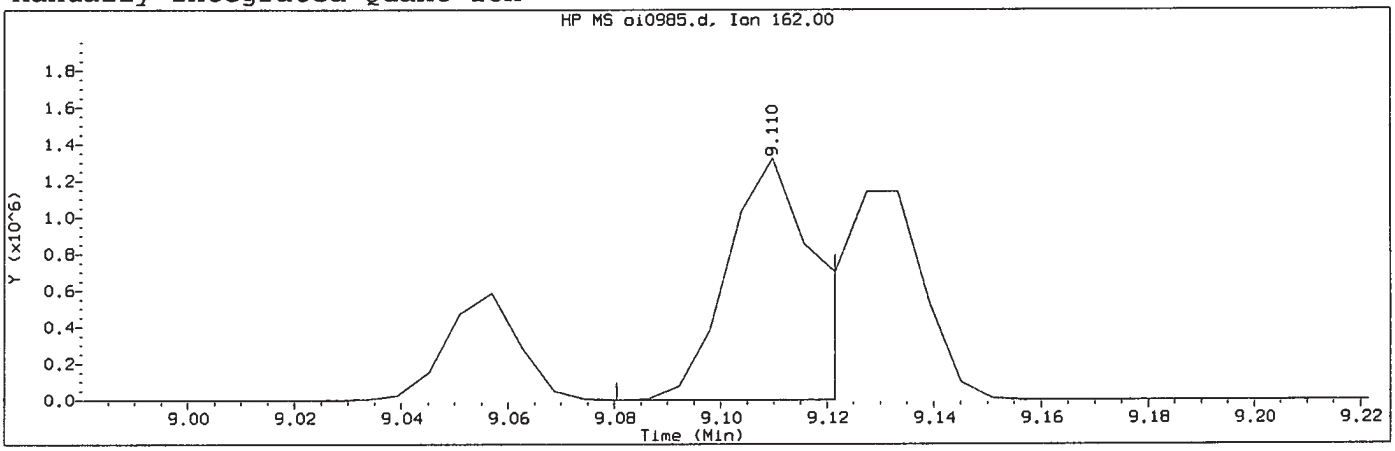
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area (flag)	: 1546626M		
On-Column Amount (ng/ul)	: 53.2320		
Integration start scan	: 1189	Integration stop scan:	1196
Y at integration start	: 0	Y at integration end:	0

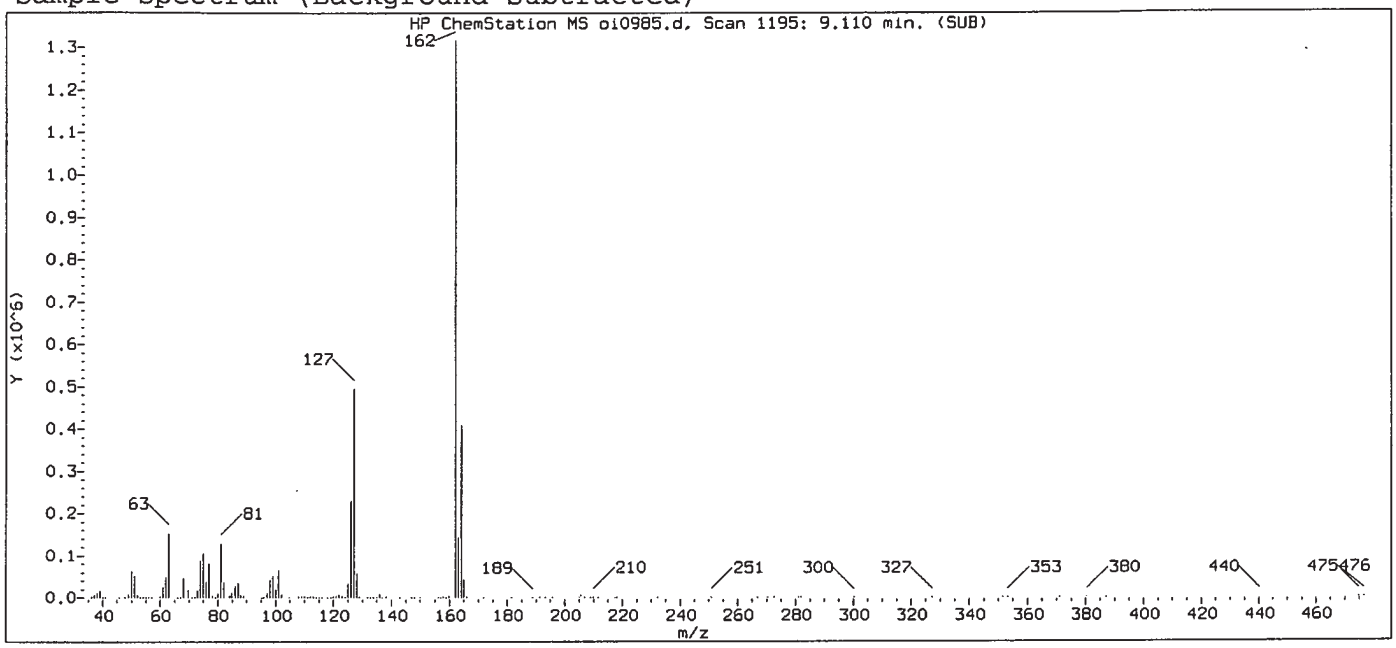
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 signature user ID: lmh00956

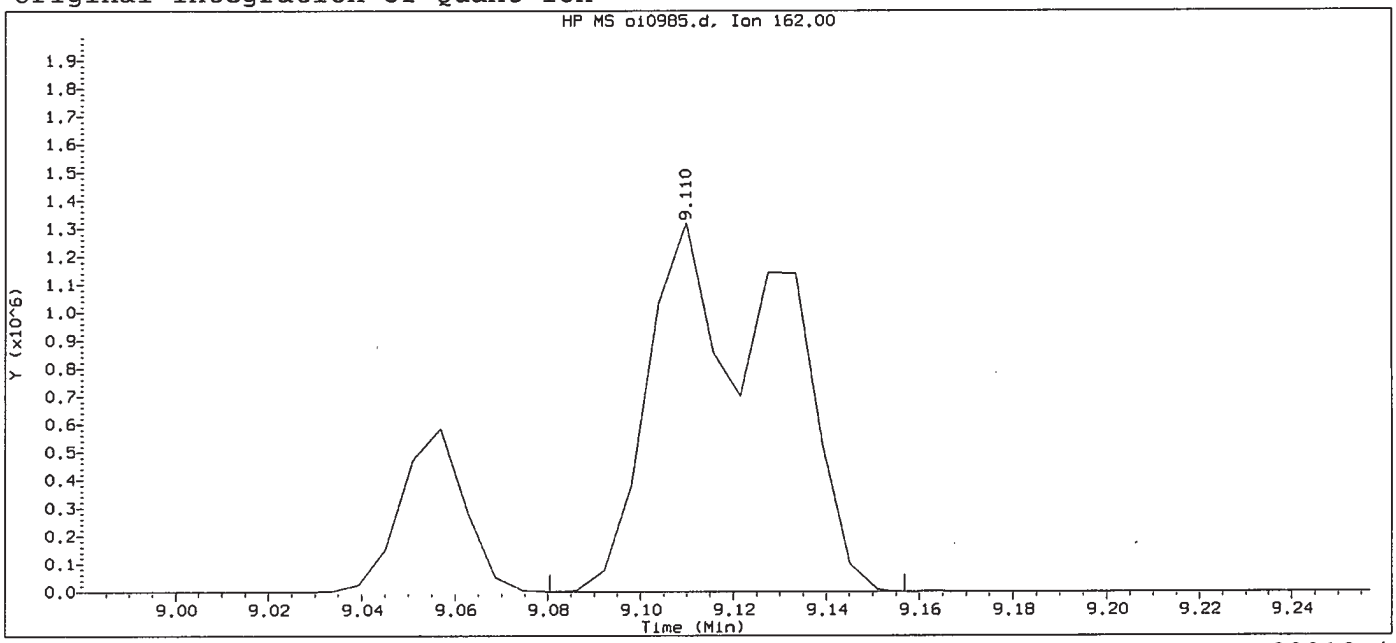
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 11:32
Date, time and analyst ID of latest file update: 22-Sep-2015 11:32 Automation

Sample Name: SSTD050 Lab Sample ID: STD2575

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area	: 2577575		
On-column Amount (ng/ul)	: 84.2946		
Integration start scan	: 1189	Integration stop scan:	1202
Y at integration start	: 0	Y at integration end:	0

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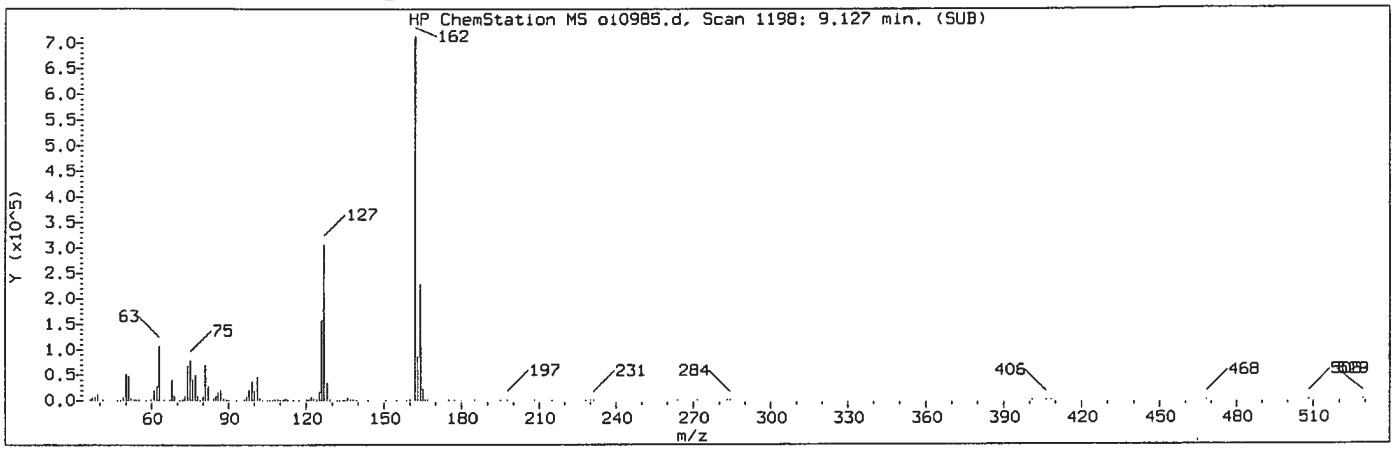
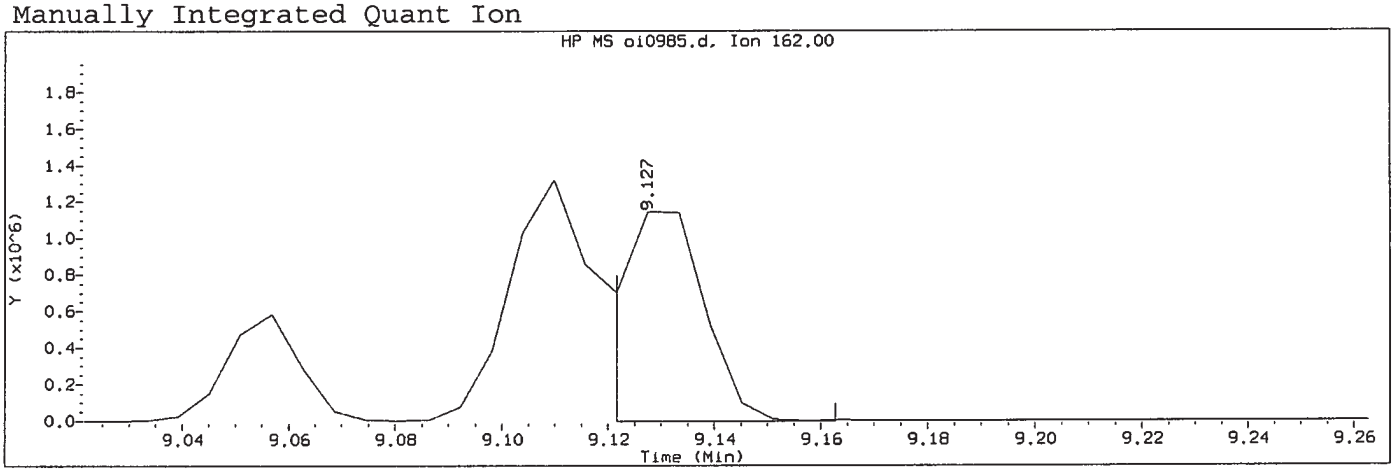
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD050 Lab Sample ID: STD2575

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1198		
Retention Time (minutes)	: 9.127		
Quant Ion	: 162.00		
Area (flag)	: 1289915M		
On-Column Amount (ng/ul)	: 49.6587		
Integration start scan	: 1196	Integration stop scan:	1203
Y at integration start	: -3811	Y at integration end:	-3811

Reason for manual integration: improper integration

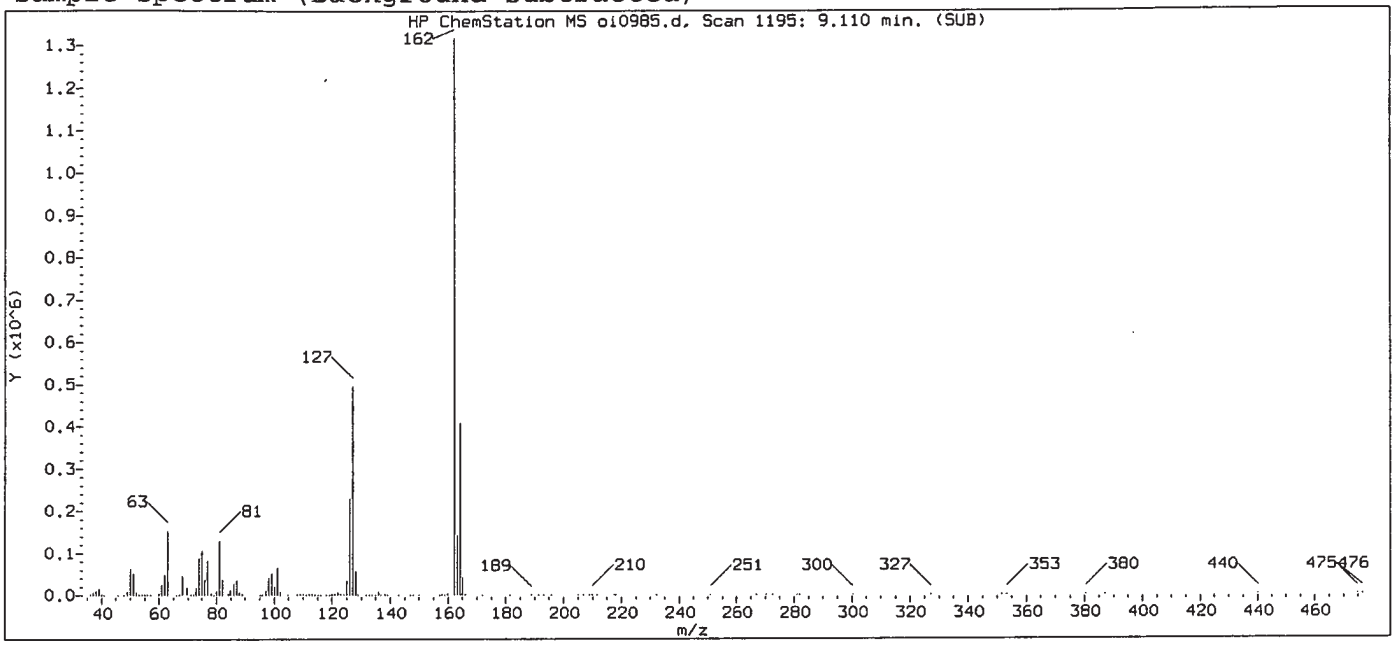
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

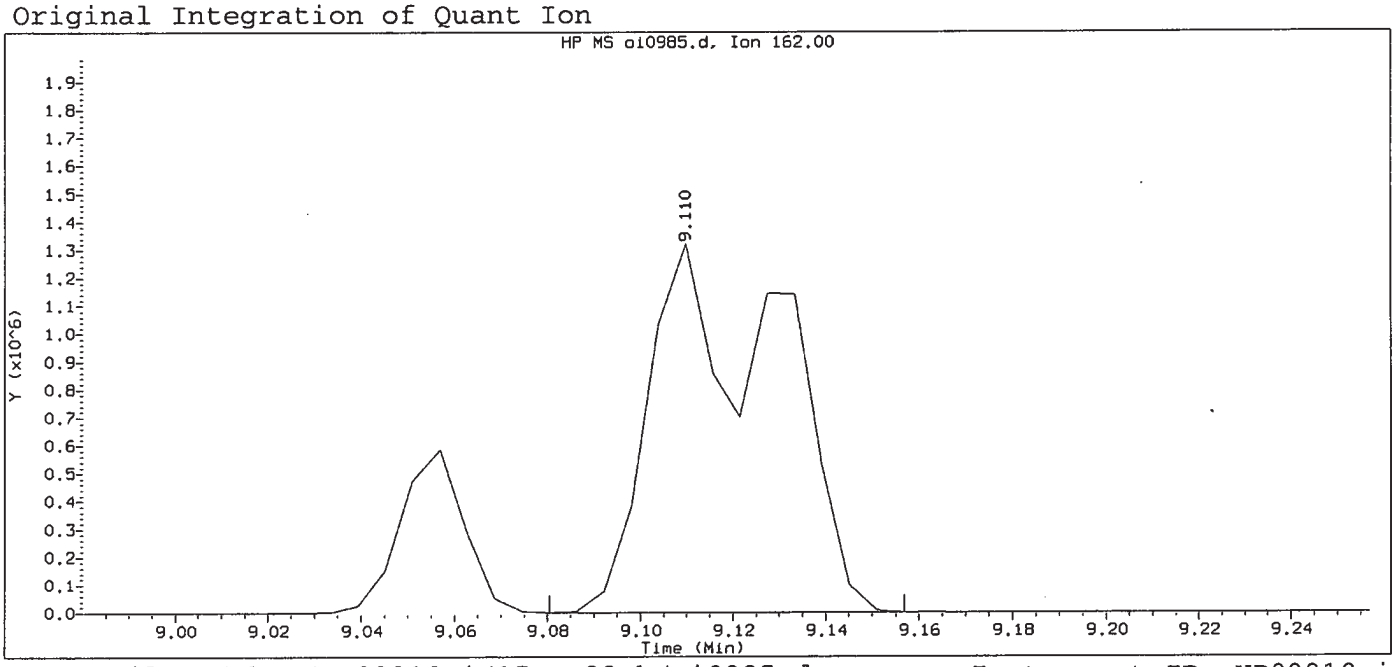
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0985.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:15 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 11:32
Date, time and analyst ID of latest file update: 22-Sep-2015 11:32 Automation

Sample Name: SSTD050 Lab Sample ID: STD2575

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area	: 2577575		
On-column Amount (ng/ul)	: 88.9268		
Integration start scan	: 1189	Integration stop scan:	1202
Y at integration start	: 0	Y at integration end:	0

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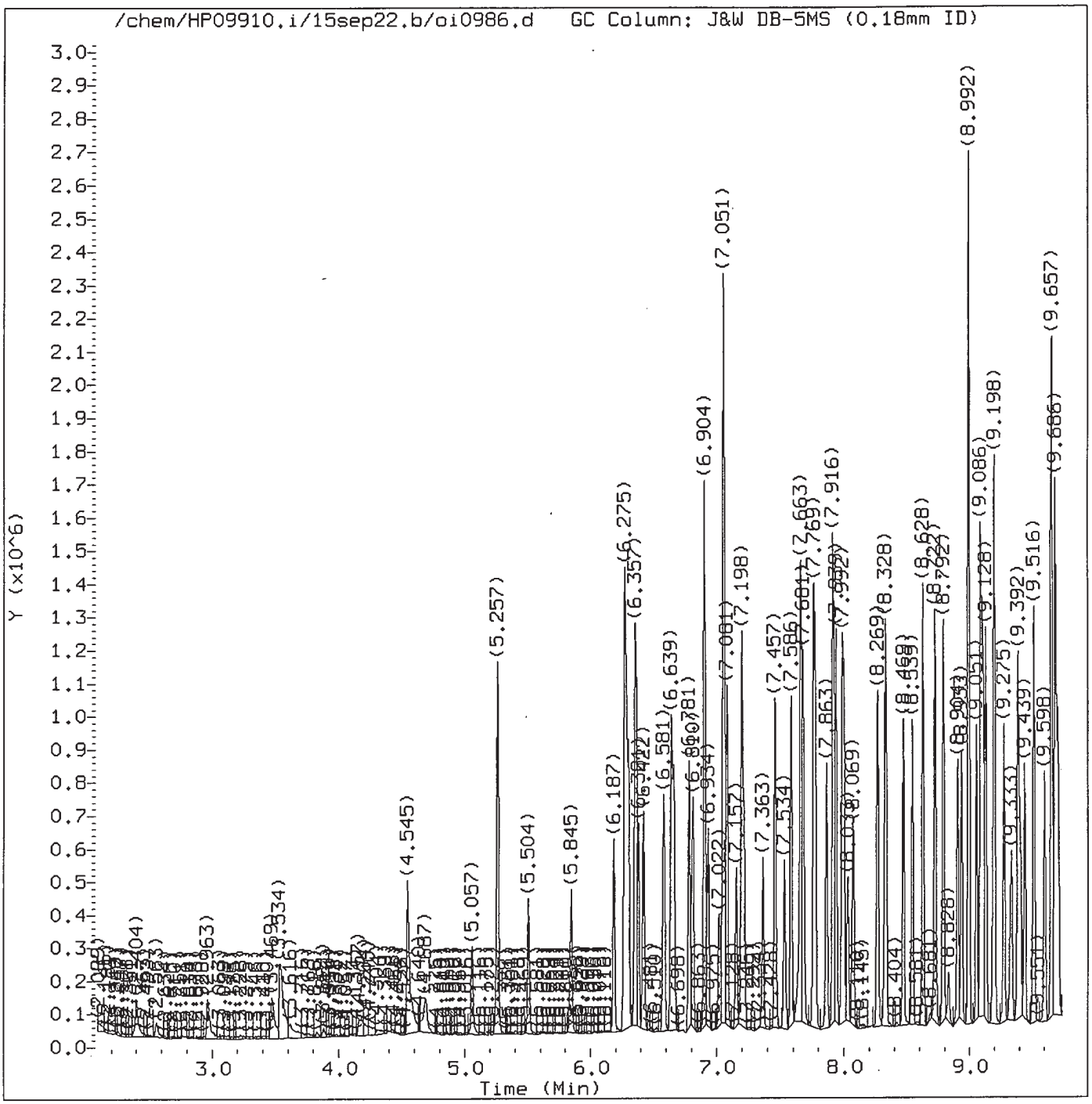
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

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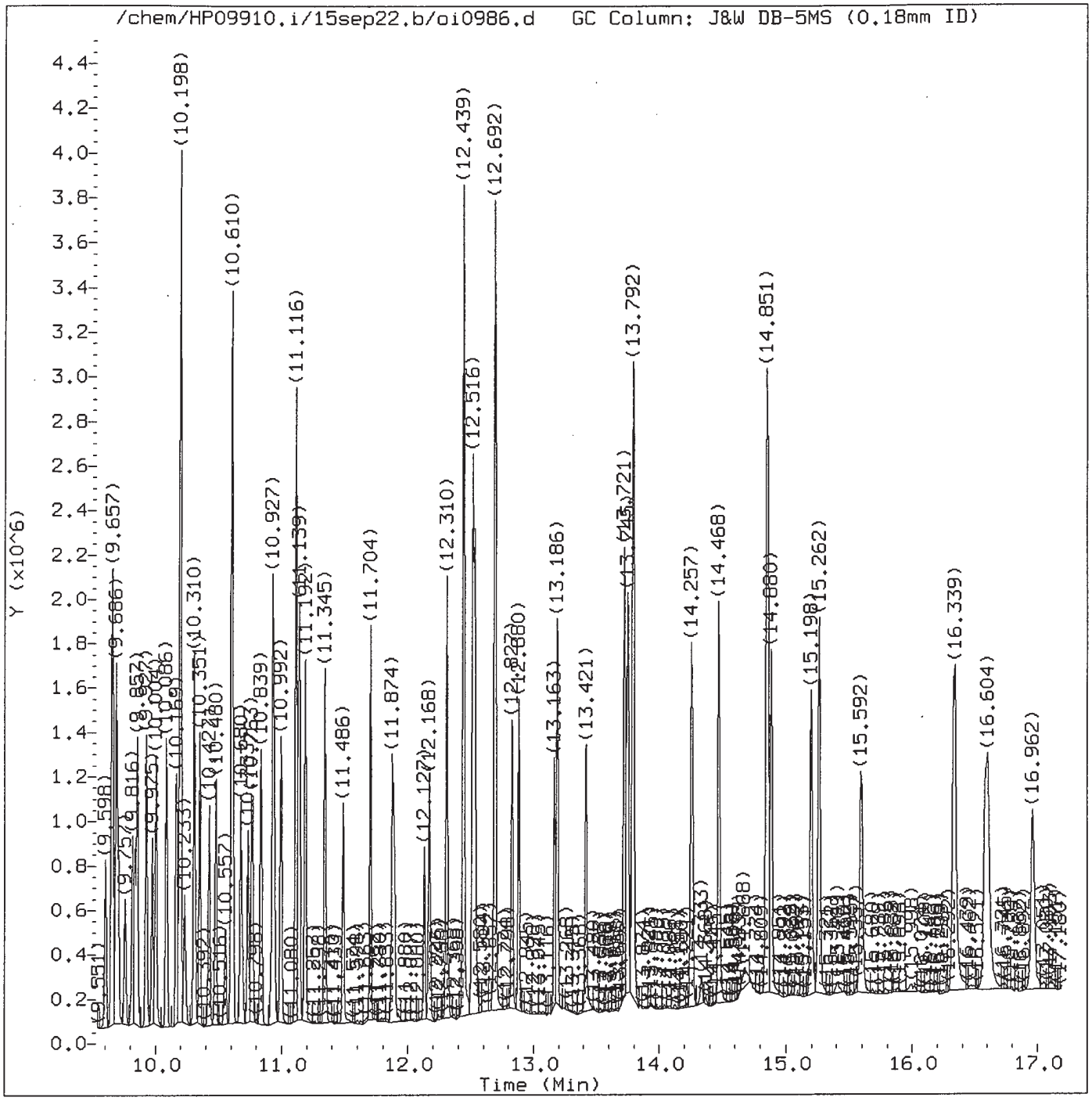
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.963	88	82638	14.705
4) N-Nitrosodimethylamine	(1)	3.469	74	131725	13.881
5) Pyridine	(1)	3.534	79	217572	14.143
7) 2-Picoline	(1)	4.545	93	234479	14.289
8) N-Nitrosomethylethylamine	(1)	4.693	88	116247M	14.980
9) Methyl methanesulfonate	(1)	5.057	80	112186	14.391
11)$2-Fluorophenol	(1)	5.257	112	373249	29.079
13) N-Nitrosodiethylamine	(1)	5.504	102	106469	14.108
15) Ethyl methanesulfonate	(1)	5.845	109	102202	13.963
17)$Phenol-d6	(1)	6.269	99	521837	28.155
18) Phenol	(1)	6.287	94	329975	14.729
19) Aniline	(1)	6.298	93	353506	14.209
20) a-methylstyrene	(1)	6.363	118	183528	13.959
22) bis(2-Chloroethyl)ether	(1)	6.381	93	219178	14.184
23) 2-Chlorophenol	(1)	6.422	128	184775	14.409
24) 1,3-Dichlorobenzene	(1)	6.581	146	179196	14.362
25)*1,4-Dichlorobenzene-d4	(1)	6.639	152	156170	20.000
26) 1,4-Dichlorobenzene	(1)	6.657	146	187438	14.617
42) Total Cresols	(1)			447889	28.989
27) Benzyl alcohol	(1)	6.781	108	141054	13.612
28) 1,2-Dichlorobenzene	(1)	6.810	146	176704	14.639
30) Indene	(1)	6.898	115	311179	13.579
31) 2-Methylphenol	(1)	6.904	108	204405	14.511
34) bis(2-Chloroisopropyl)ether	(1)	6.934	45	297885	14.743
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.934	45	297885	14.743
35) N-Nitrosopyrrolidine	(1)	7.022	100	125534	14.152
36) Acetophenone	(1)	7.051	105	301092	14.476
37) 4-Methylphenol	(1)	7.057	108	243484	14.478
38) N-Nitroso-di-n-propylamine	(1)	7.057	70	179149	14.434
39) N-Nitrosomorpholine	(1)	7.063	56	145667	14.699
40) o-Toluidine	(1)	7.081	106	333875	13.885
43) Hexachloroethane	(1)	7.157	117	72743	14.389
44)$Nitrobenzene-d5	(2)	7.198	82	481050	29.636
45) Nitrobenzene	(2)	7.216	77	240729	14.731
48) N-Nitrosopiperidine	(2)	7.363	114	116712	15.369
50) Isophorone	(2)	7.457	82	500472	15.033
51) 2-Nitrophenol	(2)	7.534	139	100725	14.550
53) 2,4-Dimethylphenol	(2)	7.586	107	221191	14.672
57) O,O,O-Triethylphosphorothioate	(2)	7.663	198	100252	15.320
56) Benzoic acid	(2)	7.675	105	392540M	26.846

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	7.681	93	283319	14.971
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.763	104	281319	14.114
60) 2,4-Dichlorophenol	(2)	7.775	162	158339	14.779
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	160142	14.909
65)*Naphthalene-d8	(2)	7.916	136	703346	20.000
66) Naphthalene	(2)	7.939	128	575017	14.747
67) 4-Chloroaniline	(2)	7.986	127	252068	14.696
68) 2,6-Dichlorophenol	(2)	7.998	162	156321	14.935
69) Hexachloropropene	(2)	8.033	213	81237	14.507
71) Hexachlorobutadiene	(2)	8.069	225	76005	14.972
75) Quinoline	(2)	8.269	129	413346	15.067
76) Caprolactam	(2)	8.322	113	94158	15.908
77) N-Nitrosodi-n-butylamine	(2)	8.333	84	231588	16.326
80) 4-Chloro-3-methylphenol	(2)	8.469	107	216873	15.087
82) Safrole	(2)	8.545	162	153505	14.946
83) 2-Methylnaphthalene	(2)	8.628	142	397135	14.658
97) Isosafrole	(3)			182228	14.688
84) 1-Methylnaphthalene	(2)	8.722	142	371008	15.021
85) Hexachlorocyclopentadiene	(3)	8.786	237	76713	14.882
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.792	216	163744	15.502
88) cis-Isosafrole	(3)	8.833	162	26739	2.468
90) 2,4,6-Trichlorophenol	(3)	8.904	196	113505	14.756
92) 2,4,5-Trichlorophenol	(3)	8.933	196	129729	15.121
93)$2-Fluorobiphenyl	(3)	8.992	172	849186	29.837
94) trans-Isosafrole	(3)	9.051	162	155489	12.220
95) 1,1'-Biphenyl	(3)	9.086	154	514072	15.003
96) 2-Chloronaphthalene	(3)	9.104	162	370526	13.665
98) 1-Chloronaphthalene	(3)	9.128	162	372497	15.025
99) Diphenyl ether	(3)	9.192	170	259175	15.020
100) 2-Nitroaniline	(3)	9.198	138	139582	14.717
104) 1,4-Naphthoquinone	(3)	9.275	158	167230	14.797
105) 1,4-Dinitrobenzene	(3)	9.333	168	70432	14.128
106) Dimethylphthalate	(3)	9.386	163	463847	14.996
120) 2,4_2,6-Dinitrotoluenes	(3)			261883	29.609
107) 1,3-Dinitrobenzene	(3)	9.404	168	82664	14.506
108) 2,6-Dinitrotoluene	(3)	9.439	165	106132	14.355
109) Acenaphthylene	(3)	9.516	152	610987	15.293
112) 3-Nitroaniline	(3)	9.598	138	121679	14.324
113)*Acenaphthene-d10	(3)	9.651	164	449218	20.000
114) Acenaphthene	(3)	9.686	153	423073	15.310

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	9.704	184	132292	25.718
116) 4-Nitrophenol	(3)	9.763	109	65445	14.371
117) Pentachlorobenzene	(3)	9.816	250	142277	15.203
118) 2,4-Dinitrotoluene	(3)	9.833	165	155751	15.255
119) Dibenzofuran	(3)	9.857	168	561564	14.774
121) 1-Naphthylamine	(3)	9.927	143	448570	14.599
122) 2,3,4,6-Tetrachlorophenol	(3)	9.975	232	109149	15.024
123) 2-Naphthylamine	(3)	10.004	143	465927	15.286
124) Diethylphthalate	(3)	10.086	149	443154	14.631
125) Thionazin	(3)	10.169	107	85774	13.871
126) Fluorene	(3)	10.192	166	465590	14.799
127) 4-Chlorophenyl-phenylether	(3)	10.198	204	222263	15.232
128) 5-Nitro-o-toluidine	(3)	10.198	152	137292	14.466
129) 4-Nitroaniline	(3)	10.198	138	140970	14.674
146) Diallate trans/cis	(4)			282916	14.733
130) 4,6-Dinitro-2-methylphenol	(4)	10.233	198	91714	13.365
132) NDPA as diphenylamine	(4)	10.310	169	428206	14.724
131) N-Nitrosodiphenylamine	(4)	10.310	169	428206	14.724
134) 1,2-Diphenylhydrazine	(4)	10.351	77	552642	14.156
135)$2,4,6-Tribromophenol	(3)	10.427	330	109900	30.664
137) Tetraethyldithiopyrophosphate	(4)	10.475	97	85516	15.293
139) 1,3,5-Trinitrobenzene	(4)	10.557	213	51397	12.447
140) Diallate (peak 1)	(4)	10.604	86	231579	11.995
142) Phenacetin	(4)	10.610	108	298634	14.691
141) Phorate	(4)	10.610	75	388504	14.478
143) 4-Bromophenyl-phenylether	(4)	10.680	248	111050	14.078
144) Diallate (peak 2)	(4)	10.692	86	51337	2.738
145) Hexachlorobenzene	(4)	10.733	284	124006	14.548
147) Dimethoate	(4)	10.763	87	278266	15.865
149) Pentachlorophenol	(4)	10.927	266	79940	13.876
150) 4-Aminobiphenyl	(4)	10.927	169	496679	17.433
151) Pentachloronitrobenzene	(4)	10.939	237	45029	14.661
152) Pronamide	(4)	10.992	173	206834	14.762
154) Dinoseb	(4)	11.110	211	115386	12.839
153)*Phenanthrene-d10	(4)	11.116	188	899352	20.000
155) Phenanthrene	(4)	11.139	178	746906	14.451
157) Anthracene	(4)	11.192	178	753923	14.510
163) Carbazole	(4)	11.345	167	714040	14.580
164) Methyl parathion	(4)	11.486	109	184982	14.905
165) Di-n-butylphthalate	(4)	11.704	149	814053	14.347

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	11.874	109	109412	14.172
168) 4-Nitroquinoline-1-oxide	(4)	11.892	190	55656	11.512
169) Octachlorostyrene	(4)	12.127	308	37897	13.861
171) Isodrin	(4)	12.168	193	73894	14.439
173) Fluoranthene	(4)	12.310	202	828884	14.656
174) Benzidine	(5)	12.439	184	1564736	44.084
175)*Pyrene-d10	(5)	12.516	212	1007925	20.000
177) Pyrene	(5)	12.533	202	891158	14.887
179)$Terphenyl-d14	(5)	12.692	244	1119131	30.404
182) p-Dimethylaminoazobenzene	(5)	12.833	225	172307	14.850
185) Chlorobenzilate	(5)	12.880	139	243110	15.096
187) 3,3'-Dimethylbenzidine	(5)	13.163	212	458324	14.618
188) Butylbenzylphthalate	(5)	13.192	149	402873	15.123
191) 2-Acetylaminofluorene	(5)	13.421	181	361717	14.839
193) 3,3'-Dichlorobenzidine	(5)	13.721	252	267357	15.090
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.727	231	158312	15.888
195) Benzo(a)anthracene	(5)	13.745	228	789966	15.168
196) Chrysene	(5)	13.786	228	757038	15.421
199) bis(2-Ethylhexyl)phthalate	(5)	13.798	149	551163	14.820
203) 6-Methylchrysene	(5)	14.257	242	526751	15.079
205) Di-n-octylphthalate	(6)	14.468	149	896361	13.524
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.851	256	355318	14.726
206) Benzo(b)fluoranthene	(6)	14.857	252	726107	15.007
208) Benzo(k)fluoranthene	(6)	14.886	252	777991	15.428
211) Benzo(a)pyrene	(6)	15.198	252	706722	14.643
213)*Perylene-d12	(6)	15.262	264	787934	20.000
215) 3-Methylcholanthrene	(6)	15.592	268	334589	14.438
222) Total PAHs	(6)			10362255	238.397
219) Indeno(1,2,3-cd)pyrene	(6)	16.586	276	772650	15.088
220) Dibenz(a,h)anthracene	(6)	16.604	278	646249	14.833
221) Benzo(g,h,i)perylene	(6)	16.962	276	625949	14.912

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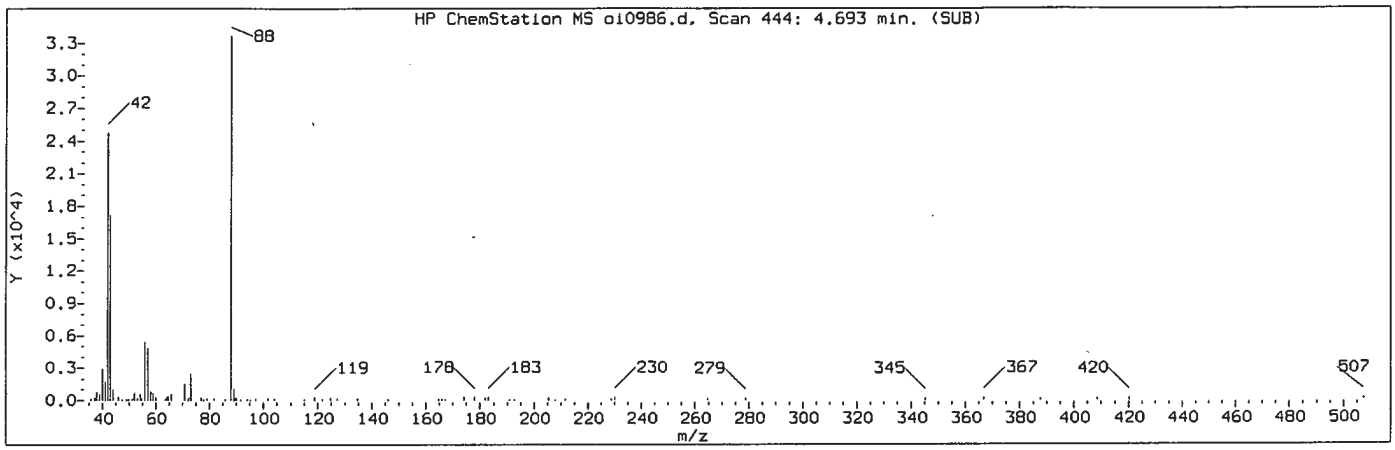
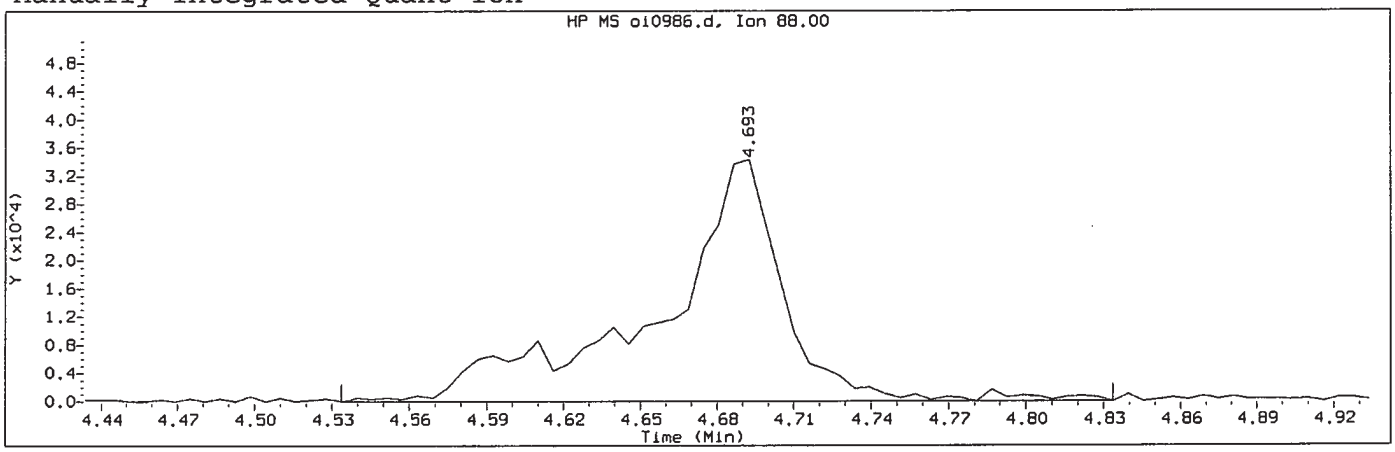
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Scan Number : 444
Retention Time (minutes) : 4.693
Quant Ion : 88.00
Area (flag) : 116247M
On-Column Amount (ng/ul) : 14.9803
Integration start scan : 416 Integration stop scan: 467
Y at integration start : 13 Y at integration end: 13

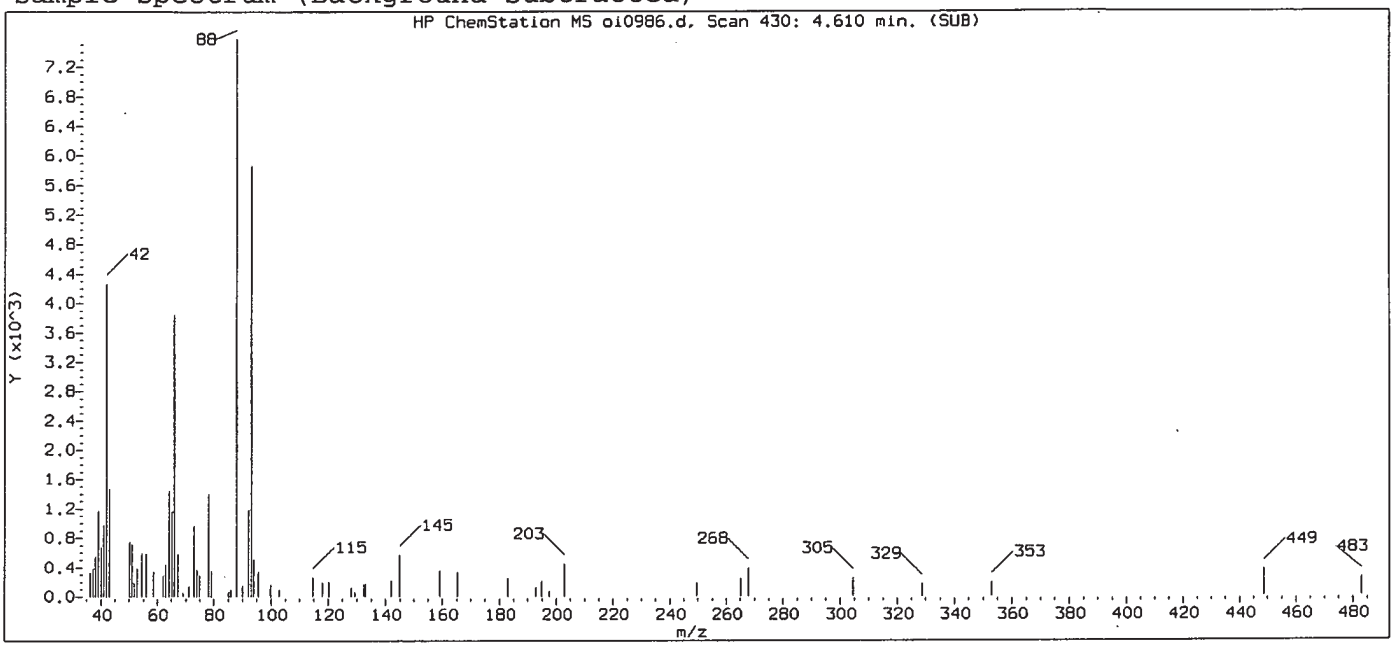
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23 Target 3.5 signature user ID: lmh00956

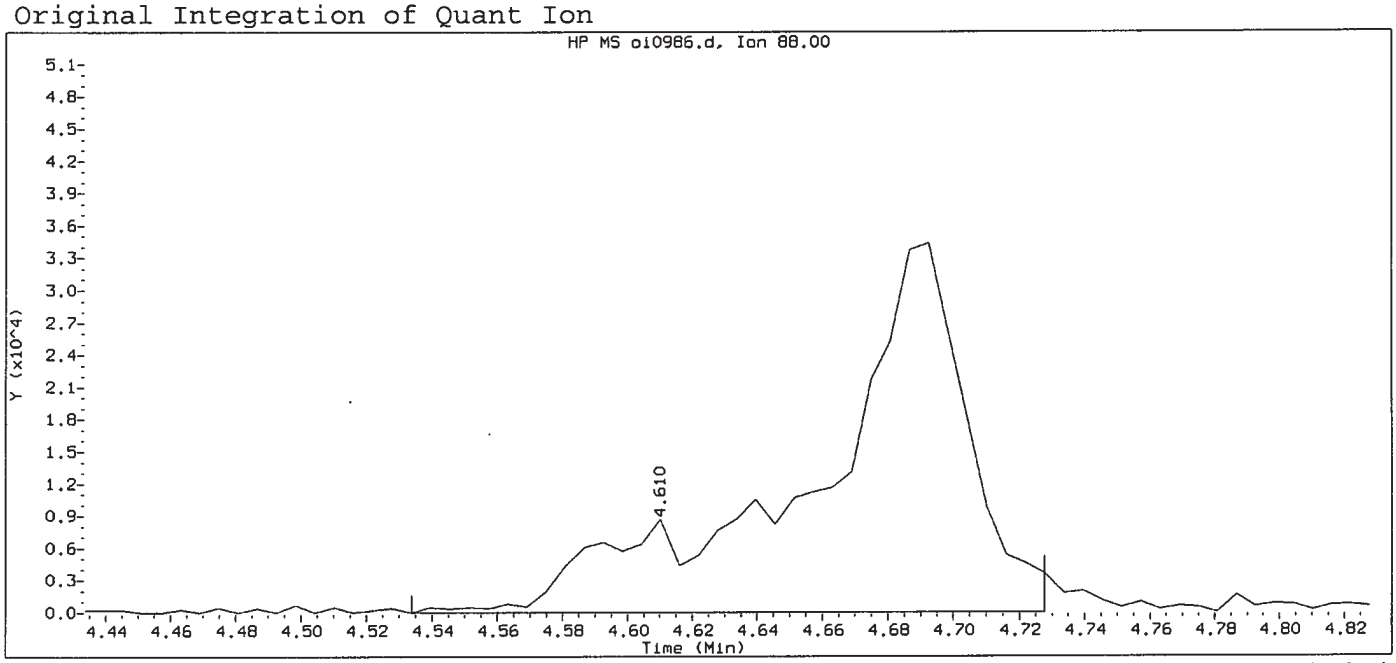
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 11:57
Date, time and analyst ID of latest file update: 22-Sep-2015 11:57 Automation

Sample Name: SSTD015 Lab Sample ID: STD2575

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 430		
Retention Time (minutes)	: 4.610		
Quant Ion	: 88.00		
Area	: 111063		
On-column Amount (ng/ul)	: 13.8354		
Integration start scan	: 416	Integration stop scan:	449
Y at integration start	: 0	Y at integration end:	0

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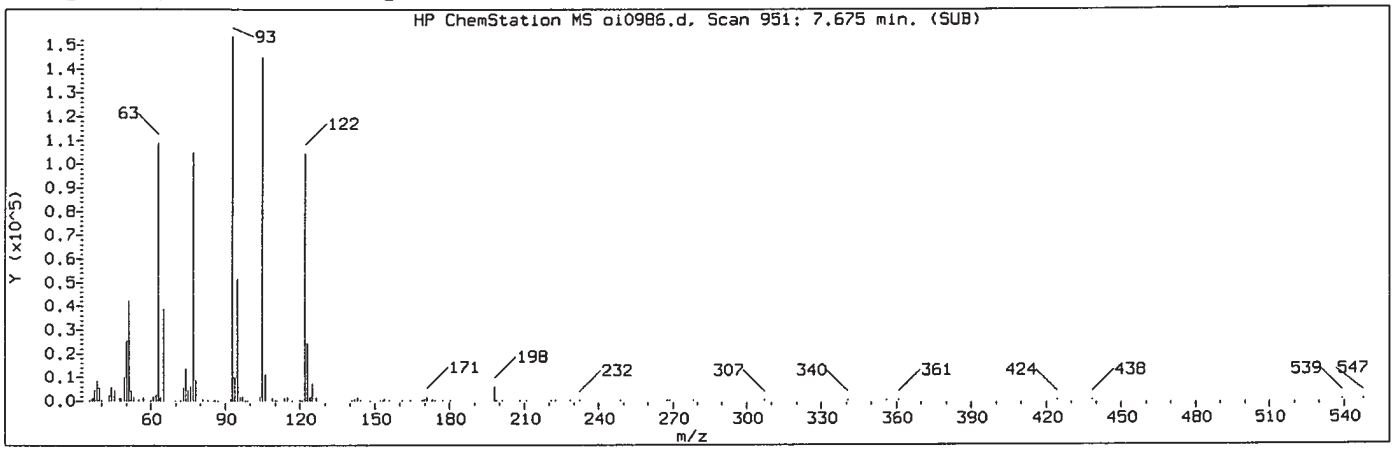
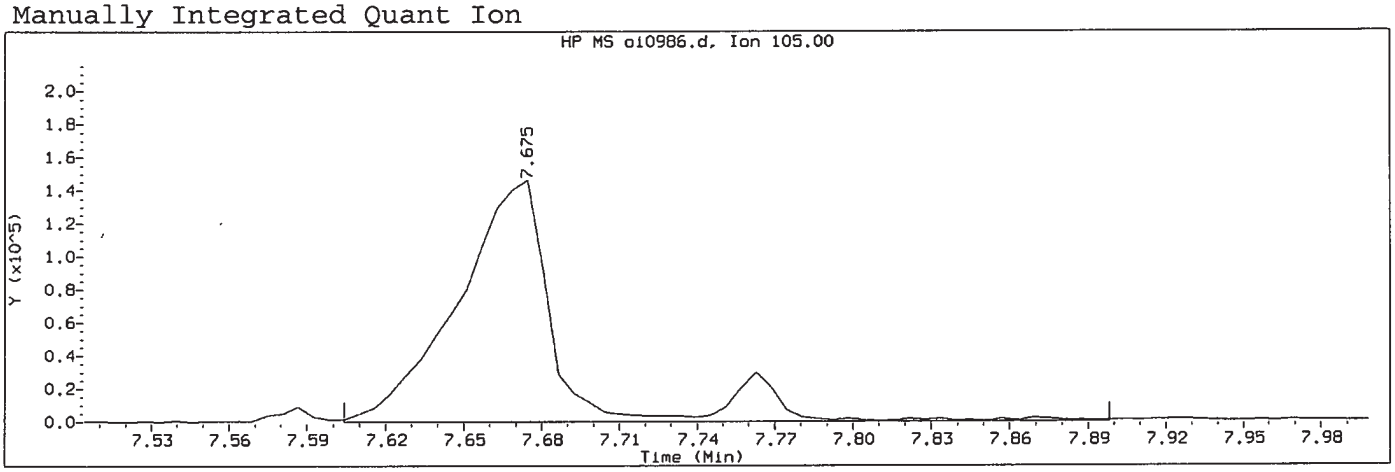
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD015 Lab Sample ID: STD2575

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 951		
Retention Time (minutes)	: 7.675		
Quant Ion	: 105.00		
Area (flag)	: 392540M		
On-Column Amount (ng/ul)	: 26.8457		
Integration start scan	: 938	Integration stop scan:	988
Y at integration start	: 0	Y at integration end:	0

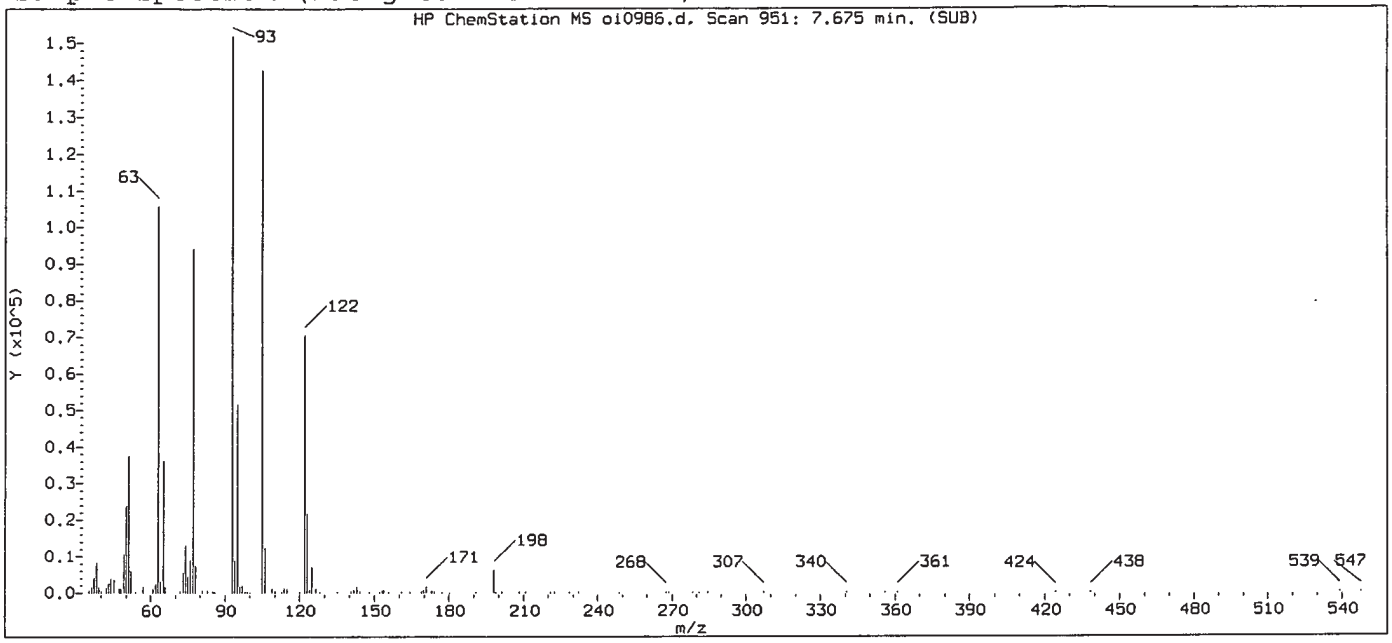
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 signature user ID: lmh00956

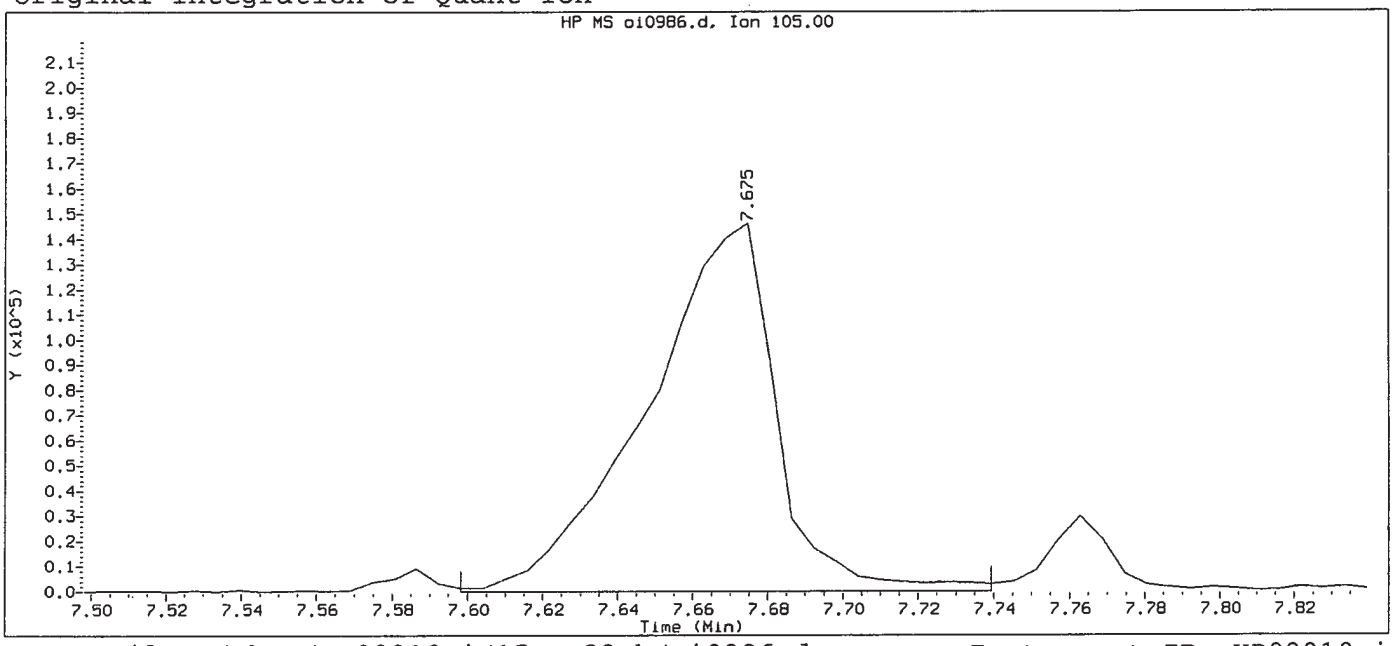
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



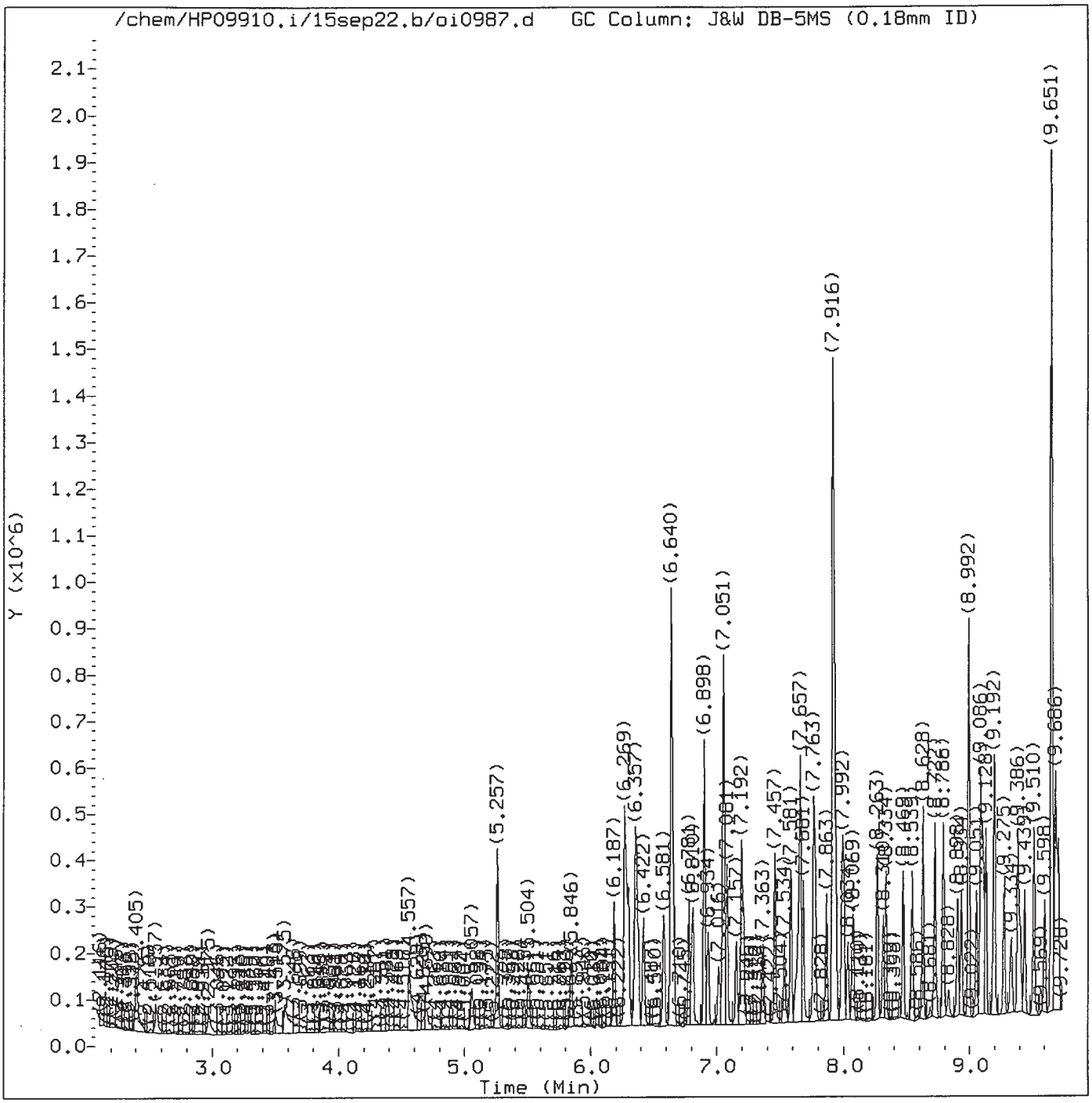
Data File: /chem/HP09910.i/15sep22.b/oi0986.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 11:41 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 11:57
Date, time and analyst ID of latest file update: 22-Sep-2015 11:57 Automation

Sample Name: SSTD015 Lab Sample ID: STD2575

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 951		
Retention Time (minutes)	: 7.675		
Quant Ion	: 105.00		
Area	: 351279		
On-column Amount (ng/ul)	: 25.6550		
Integration start scan	: 937	Integration stop scan:	961
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

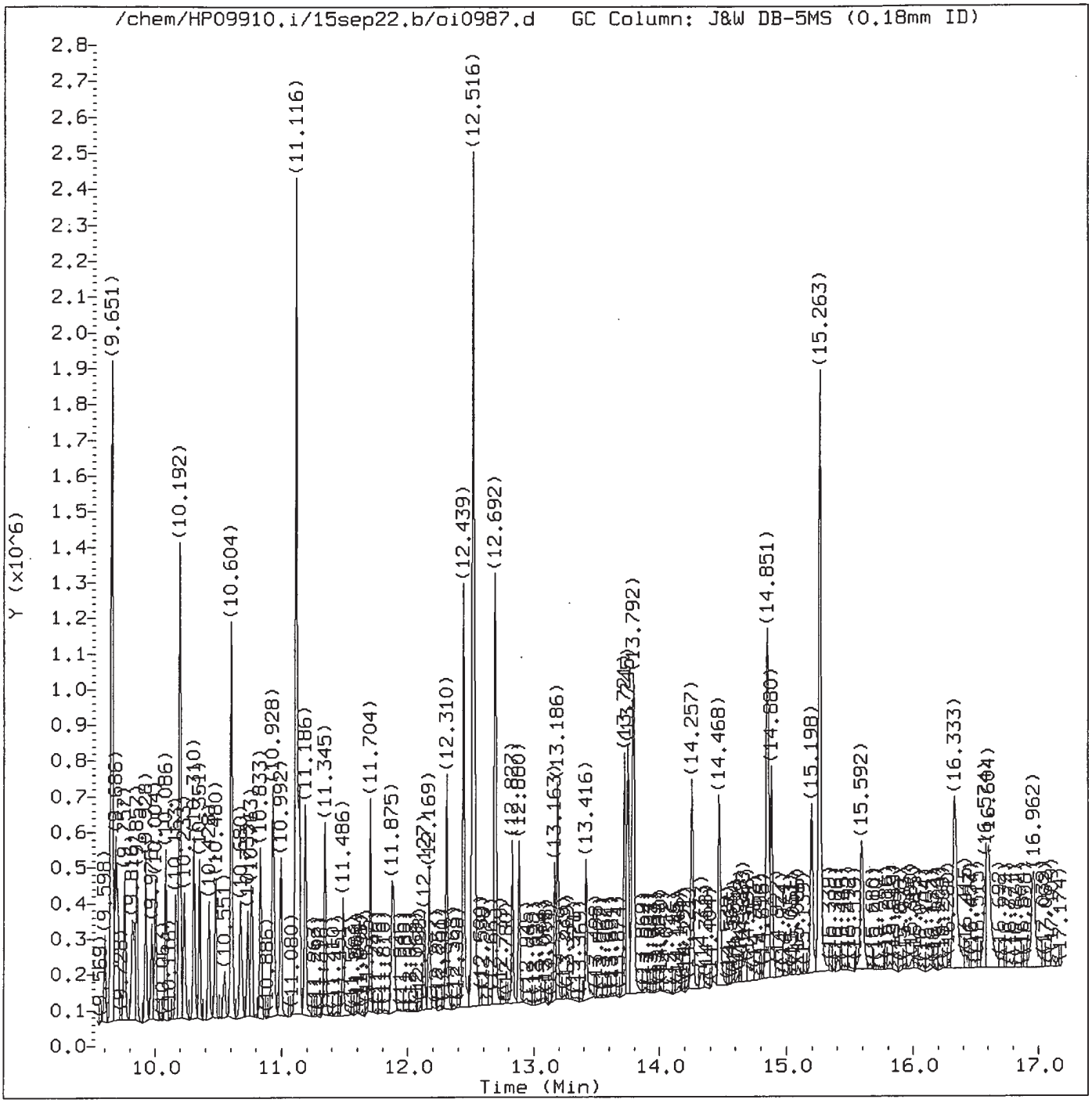
Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.975	88	31749	5.885
4) N-Nitrosodimethylamine	(1)	3.487	74	46480M	5.238
5) Pyridine	(1)	3.569	79	74980M	5.217
7) 2-Picoline	(1)	4.557	93	80165	5.227
8) N-Nitrosomethylethylamine	(1)	4.693	88	42952M	5.788
9) Methyl methanesulfonate	(1)	5.057	80	38821	5.311
11)$2-Fluorophenol	(1)	5.257	112	127979	10.631
13) N-Nitrosodiethylamine	(1)	5.504	102	38128	5.374
15) Ethyl methanesulfonate	(1)	5.846	109	34670	5.095
17)$Phenol-d6	(1)	6.269	99	174701	10.148
18) Phenol	(1)	6.287	94	108809	5.202
19) Aniline	(1)	6.298	93	117378	5.078
20) a-methylstyrene	(1)	6.363	118	61183	5.021
22) bis(2-Chloroethyl)ether	(1)	6.375	93	74947	5.196
23) 2-Chlorophenol	(1)	6.422	128	61943	5.179
24) 1,3-Dichlorobenzene	(1)	6.581	146	59021	5.090
25)*1,4-Dichlorobenzene-d4	(1)	6.640	152	144627	20.000
26) 1,4-Dichlorobenzene	(1)	6.657	146	64878	5.380
42) Total Cresols	(1)			149514	10.375
27) Benzyl alcohol	(1)	6.781	108	47176	4.930
28) 1,2-Dichlorobenzene	(1)	6.810	146	60945	5.371
30) Indene	(1)	6.898	115	103150	4.883
31) 2-Methylphenol	(1)	6.898	108	68532	5.209
34) bis(2-Chloroisopropyl)ether	(1)	6.934	45	99728	5.272
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.934	45	99728	5.272
35) N-Nitrosopyrrolidine	(1)	7.016	100	40401	4.932
36) Acetophenone	(1)	7.045	105	101432	5.220
37) 4-Methylphenol	(1)	7.051	108	80982	5.165
38) N-Nitroso-di-n-propylamine	(1)	7.051	70	58391	5.066
39) N-Nitrosomorpholine	(1)	7.063	56	49440	5.318
40) o-Toluidine	(1)	7.081	106	116898	5.206
43) Hexachloroethane	(1)	7.157	117	25490	5.365
44)$Nitrobenzene-d5	(2)	7.192	82	161146	10.414
45) Nitrobenzene	(2)	7.210	77	84055	5.362
48) N-Nitrosopiperidine	(2)	7.363	114	34506	4.838
50) Isophorone	(2)	7.457	82	164996	5.200
51) 2-Nitrophenol	(2)	7.534	139	29391	4.568
53) 2,4-Dimethylphenol	(2)	7.581	107	73857	5.151
56) Benzoic acid	(2)	7.651	105	162147M	12.172
57) O,O,O-Triethylphosphorothioate	(2)	7.657	198	32847	5.255

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	7.681	93	90802	5.062
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.763	104	95927	5.075
60) 2,4-Dichlorophenol	(2)	7.775	162	52816	5.177
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	52077	5.106
65)*Naphthalene-d8	(2)	7.916	136	664957	20.000
66) Naphthalene	(2)	7.939	128	186497	5.050
67) 4-Chloroaniline	(2)	7.987	127	85595	5.230
68) 2,6-Dichlorophenol	(2)	7.998	162	50191	5.060
69) Hexachloropropene	(2)	8.034	213	24433	4.675
71) Hexachlorobutadiene	(2)	8.069	225	27418	5.580
75) Quinoline	(2)	8.263	129	138174	5.270
76) Caprolactam	(2)	8.310	113	32855	5.706
77) N-Nitrosodi-n-butylamine	(2)	8.334	84	62988	4.745
80) 4-Chloro-3-methylphenol	(2)	8.469	107	69726	5.108
82) Safrole	(2)	8.539	162	50583	5.173
83) 2-Methylnaphthalene	(2)	8.628	142	136529	5.280
97) Isosafrole	(3)			59578	4.932
84) 1-Methylnaphthalene	(2)	8.722	142	110525	4.769
85) Hexachlorocyclopentadiene	(3)	8.792	237	22960	4.616
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.792	216	53212	5.118
88) cis-Isosafrole	(3)	8.834	162	10216	0.942
90) 2,4,6-Trichlorophenol	(3)	8.898	196	36289	4.845
92) 2,4,5-Trichlorophenol	(3)	8.934	196	45012	5.292
93)$2-Fluorobiphenyl	(3)	8.992	172	281967	10.094
94) trans-Isosafrole	(3)	9.051	162	49362	3.990
95) 1,1'-Biphenyl	(3)	9.086	154	172037	5.104
96) 2-Chloronaphthalene	(3)	9.104	162	122537	4.673
98) 1-Chloronaphthalene	(3)	9.128	162	122691	5.043
99) Diphenyl ether	(3)	9.192	170	88658	5.202
100) 2-Nitroaniline	(3)	9.198	138	44658	4.837
104) 1,4-Naphthoquinone	(3)	9.275	158	50855	4.656
105) 1,4-Dinitrobenzene	(3)	9.334	168	20285	4.274
106) Dimethylphthalate	(3)	9.386	163	158287	5.185
120) 2,4_2,6-Dinitrotoluenes	(3)			80506	9.369
107) 1,3-Dinitrobenzene	(3)	9.404	168	23599	4.339
108) 2,6-Dinitrotoluene	(3)	9.439	165	31735	4.473
109) Acenaphthylene	(3)	9.510	152	201868	5.134
112) 3-Nitroaniline	(3)	9.598	138	38309	4.665
113)*Acenaphthene-d10	(3)	9.651	164	440105	20.000
114) Acenaphthene	(3)	9.686	153	136860	5.047

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	9.704	184	56458	11.696
116) 4-Nitrophenol	(3)	9.757	109	39310	8.989
117) Pentachlorobenzene	(3)	9.816	250	51381	5.493
118) 2,4-Dinitrotoluene	(3)	9.833	165	48771	4.896
119) Dibenzofuran	(3)	9.857	168	184061	4.952
121) 1-Naphthylamine	(3)	9.928	143	152552	5.056
122) 2,3,4,6-Tetrachlorophenol	(3)	9.975	232	34660	4.891
123) 2-Naphthylamine	(3)	10.004	143	149610	5.008
124) Diethylphthalate	(3)	10.086	149	155793	5.207
125) Thionazin	(3)	10.169	107	33671	5.456
128) 5-Nitro-o-toluidine	(3)	10.192	152	49761	5.290
126) Fluorene	(3)	10.192	166	163734	5.265
129) 4-Nitroaniline	(3)	10.192	138	46912	4.987
127) 4-Chlorophenyl-phenylether	(3)	10.198	204	75856	5.253
146) Diallate trans/cis	(4)			96626	5.279
130) 4,6-Dinitro-2-methylphenol	(4)	10.233	198	54153	8.608
132) NDPA as diphenylamine	(4)	10.310	169	140191	5.096
131) N-Nitrosodiphenylamine	(4)	10.310	169	140191	5.096
134) 1,2-Diphenylhydrazine	(4)	10.351	77	188859	5.111
135)$2,4,6-Tribromophenol	(3)	10.428	330	40691	11.290
137) Tetraethyldithiopyrophosphate	(4)	10.475	97	25966	4.940
139) 1,3,5-Trinitrobenzene	(4)	10.551	213	13486	3.653
140) Diallate (peak 1)	(4)	10.604	86	79748	4.343
142) Phenacetin	(4)	10.604	108	92577	4.860
141) Phorate	(4)	10.610	75	127319	5.030
143) 4-Bromophenyl-phenylether	(4)	10.680	248	40933	5.416
144) Diallate (peak 2)	(4)	10.686	86	16878	0.936
145) Hexachlorobenzene	(4)	10.733	284	41728	5.167
147) Dimethoate	(4)	10.763	87	82524	4.995
149) Pentachlorophenol	(4)	10.928	266	24407	4.573
150) 4-Aminobiphenyl	(4)	10.928	169	167251	5.985
151) Pentachloronitrobenzene	(4)	10.939	237	16874	5.674
152) Pronamide	(4)	10.992	173	67682	5.105
154) Dinoseb	(4)	11.110	211	30582	3.787
153)*Phenanthrene-d10	(4)	11.116	188	847407	20.000
155) Phenanthrene	(4)	11.139	178	256601	5.229
157) Anthracene	(4)	11.186	178	252772	5.139
163) Carbazole	(4)	11.345	167	244545	5.247
164) Methyl parathion	(4)	11.486	109	50997	4.456
165) Di-n-butylphthalate	(4)	11.704	149	267480	5.003

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	11.875	109	33049	4.613
168) 4-Nitroquinoline-1-oxide	(4)	11.886	190	11409	2.732
169) Octachlorostyrene	(4)	12.127	308	13209	5.106
171) Isodrin	(4)	12.169	193	26969	5.484
173) Fluoranthene	(4)	12.310	202	278249	5.189
174) Benzidine	(5)	12.439	184	482188	13.928
175)*Pyrene-d10	(5)	12.516	212	997132	20.000
177) Pyrene	(5)	12.533	202	305242	5.132
179)$Terphenyl-d14	(5)	12.692	244	381076	10.385
182) p-Dimethylaminoazobenzene	(5)	12.827	225	54335	4.776
185) Chlorobenzilate	(5)	12.880	139	79354	4.984
187) 3,3'-Dimethylbenzidine	(5)	13.163	212	150654	4.880
188) Butylbenzylphthalate	(5)	13.186	149	125185	4.790
191) 2-Acetylaminofluorene	(5)	13.416	181	109005	4.594
193) 3,3'-Dichlorobenzidine	(5)	13.721	252	90728	5.146
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.727	231	50128	5.071
195) Benzo(a)anthracene	(5)	13.745	228	263370	5.095
196) Chrysene	(5)	13.786	228	266496	5.412
199) bis(2-Ethylhexyl)phthalate	(5)	13.798	149	176457	4.829
203) 6-Methylchrysene	(5)	14.257	242	181646	5.212
205) Di-n-octylphthalate	(6)	14.468	149	289593	4.468
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.845	256	116961	4.878
206) Benzo(b)fluoranthene	(6)	14.851	252	257347	5.277
208) Benzo(k)fluoranthene	(6)	14.880	252	261598	5.166
211) Benzo(a)pyrene	(6)	15.198	252	247585	5.117
213)*Perylene-d12	(6)	15.263	264	786883	20.000
215) 3-Methylcholanthrene	(6)	15.592	268	114934	4.972
222) Total PAHs	(6)			3468164	81.445
219) Indeno(1,2,3-cd)pyrene	(6)	16.580	276	253737	4.967
220) Dibenz(a,h)anthracene	(6)	16.604	278	202721	4.705
221) Benzo(g,h,i)perylene	(6)	16.962	276	205378	4.914

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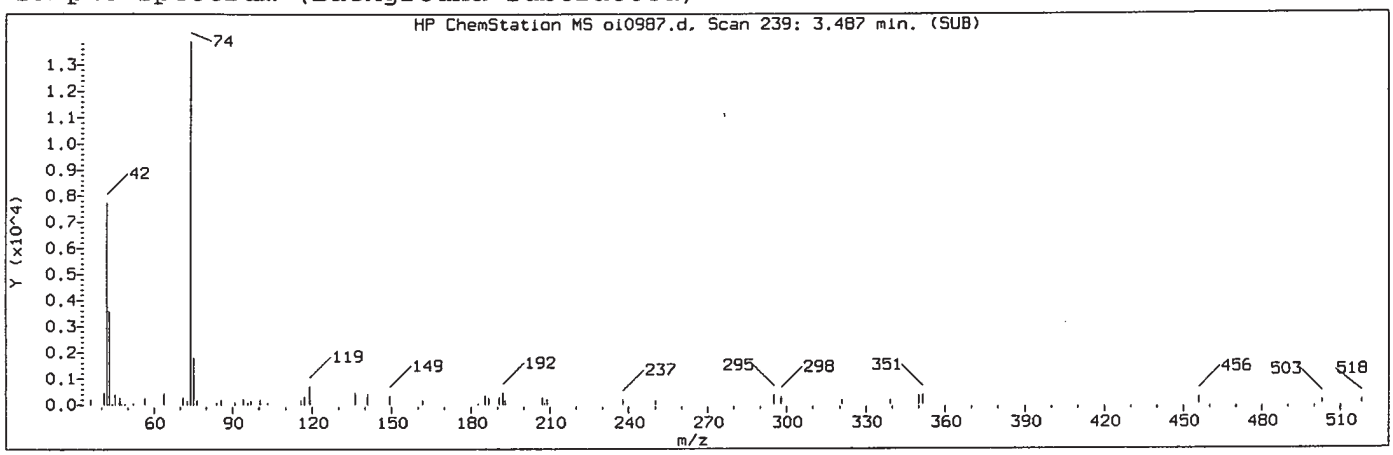
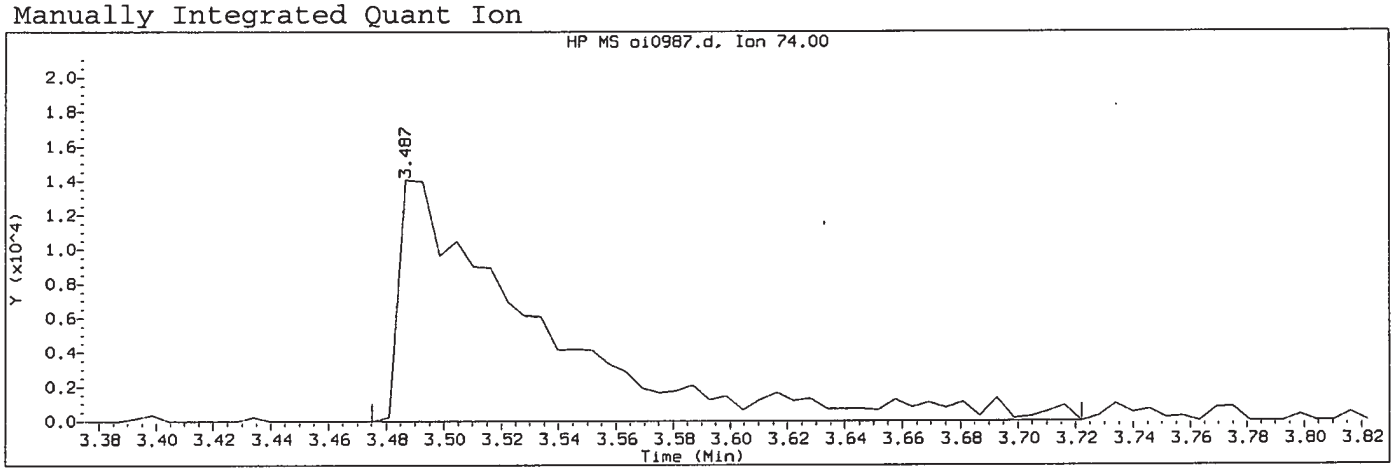
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 239		
Retention Time (minutes)	: 3.487		
Quant Ion	: 74.00		
Area (flag)	: 46480M		
On-Column Amount (ng/ul)	: 5.2384		
Integration start scan	: 236	Integration stop scan:	278
Y at integration start	: -4	Y at integration end:	-4

Reason for manual integration: improper integration

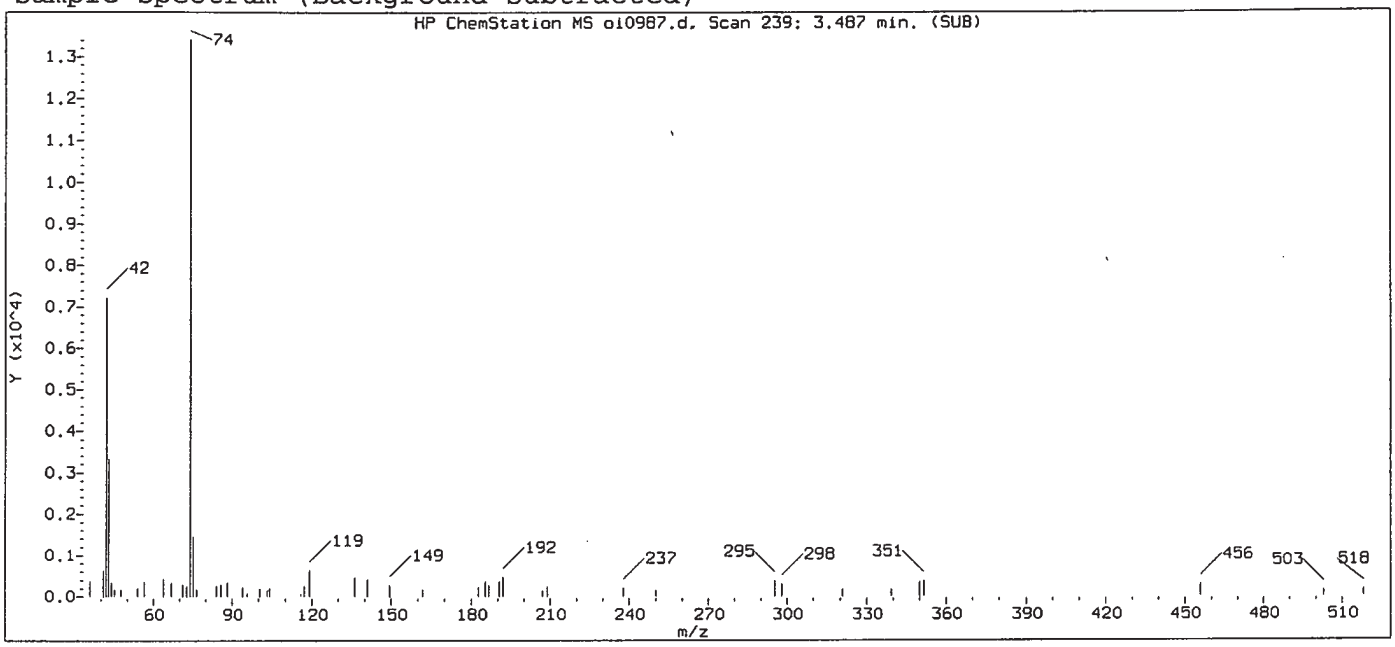
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 signature User ID: lmh00956

SEP 23 2015

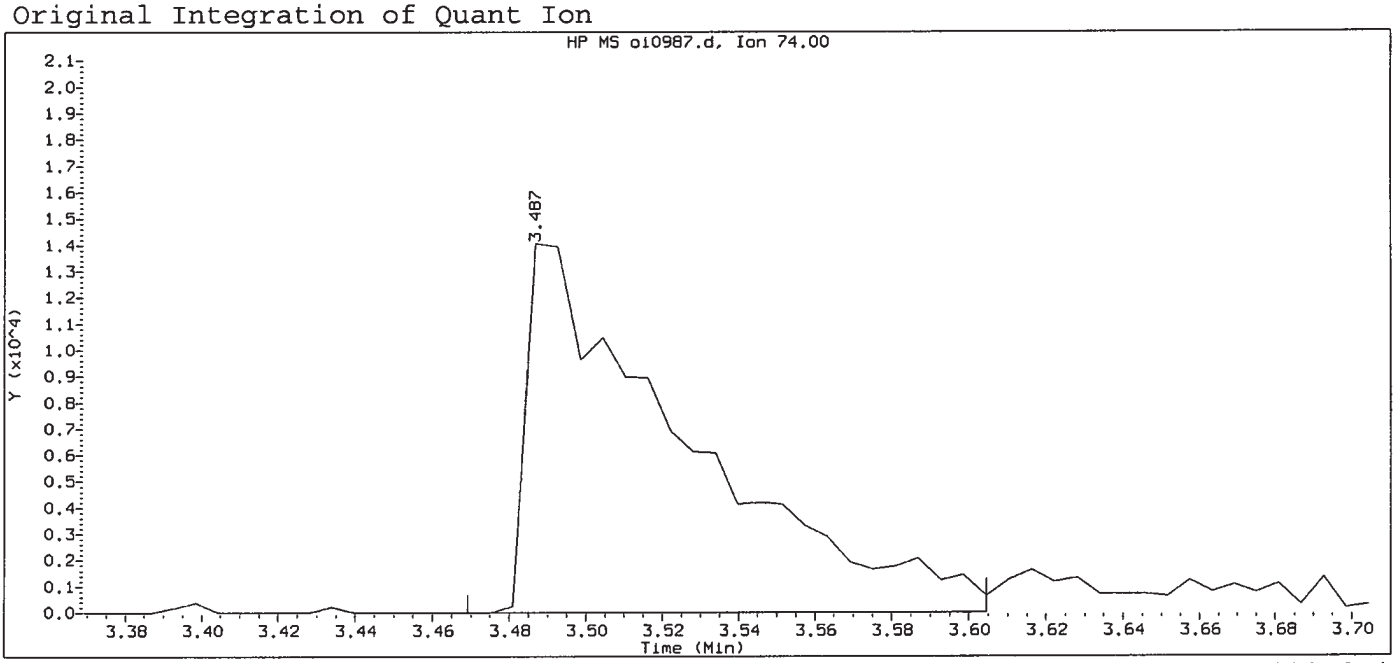
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:23
Date, time and analyst ID of latest file update: 22-Sep-2015 12:23 Automation

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 239		
Retention Time (minutes)	: 3.487		
Quant Ion	: 74.00		
Area	: 40427		
On-column Amount (ng/ul)	: 4.5792		
Integration start scan	: 235	Integration stop scan:	258
Y at integration start	: 0	Y at integration end:	0

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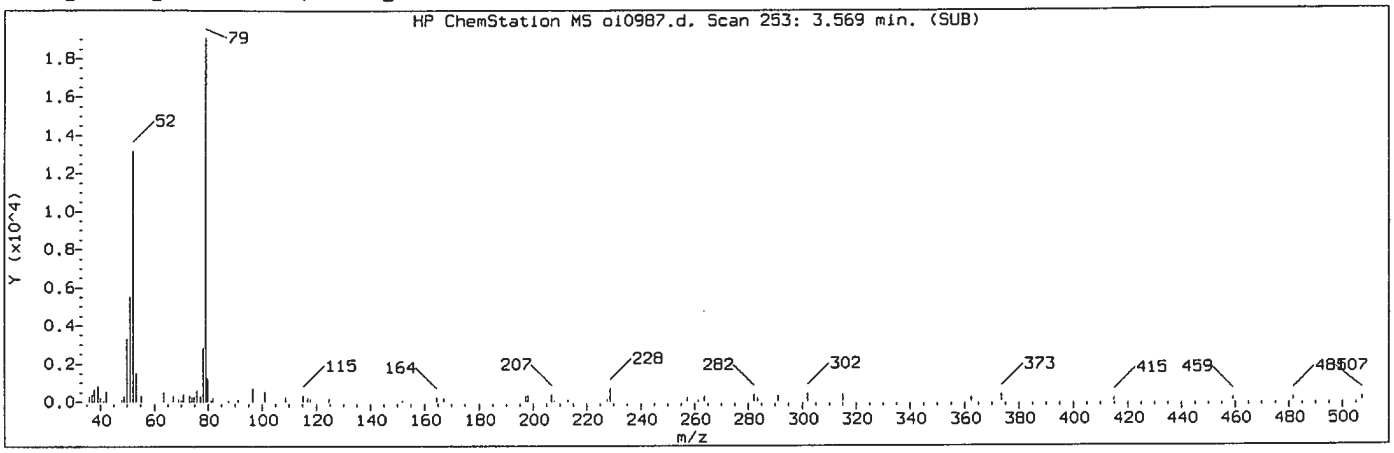
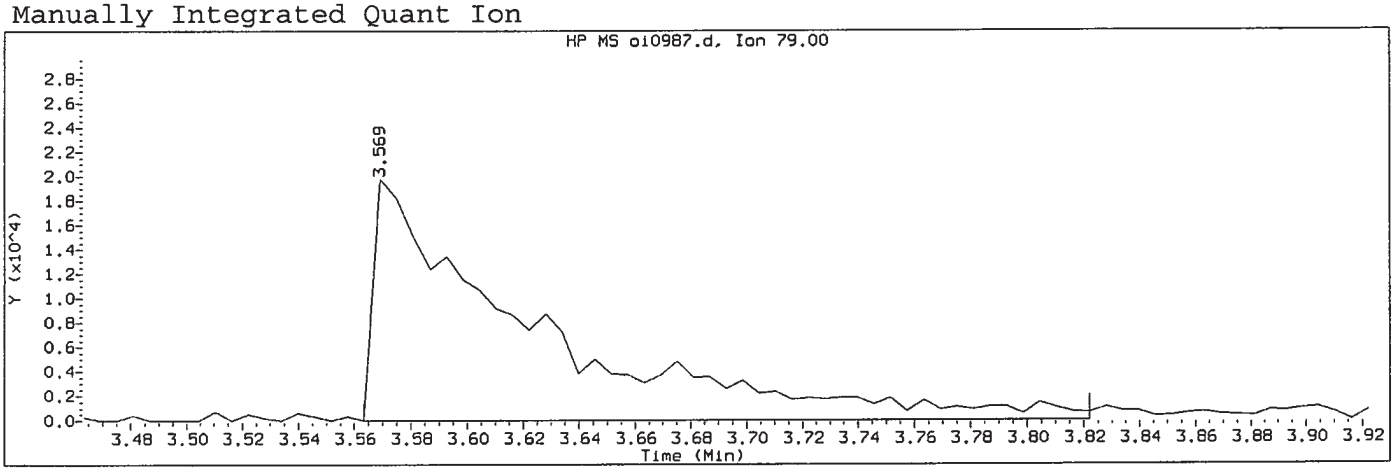
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 253		
Retention Time (minutes)	: 3.569		
Quant Ion	: 79.00		
Area (flag)	: 74980M		
On-Column Amount (ng/ul)	: 5.2173		
Integration start scan	: 251	Integration stop scan:	295
Y at integration start	: -22	Y at integration end:	-22

Reason for manual integration: improper integration

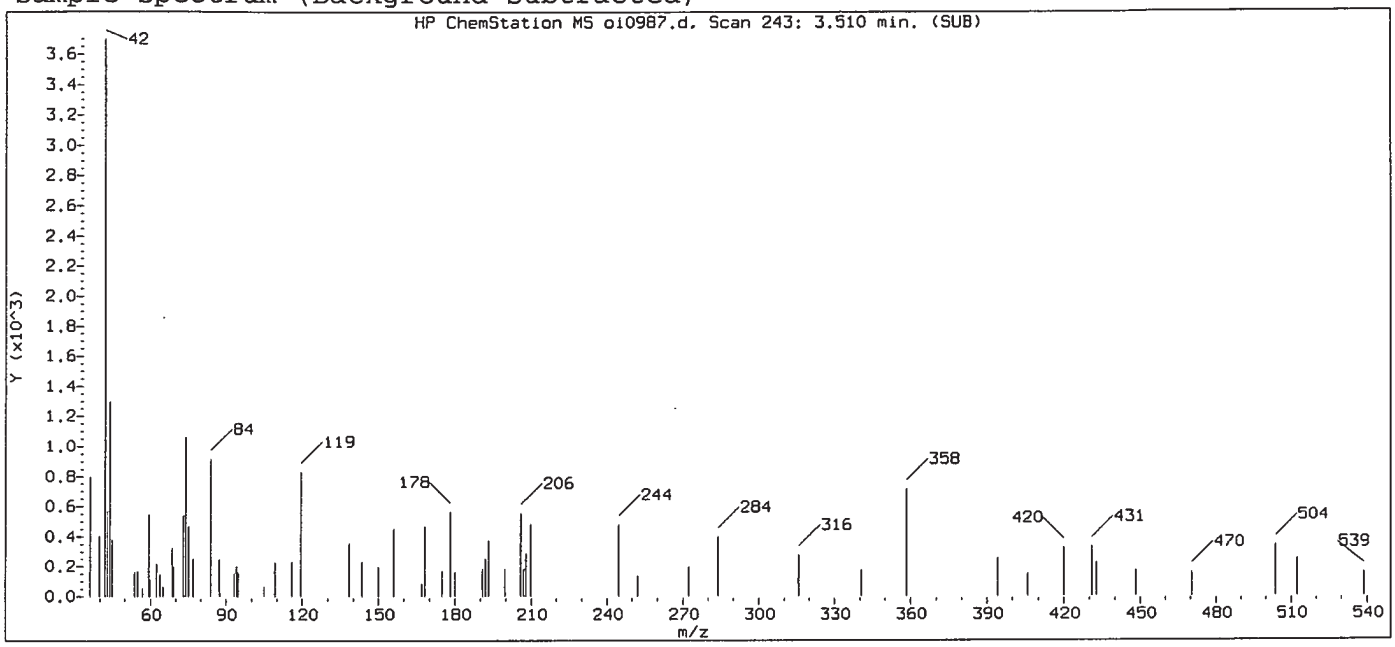
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

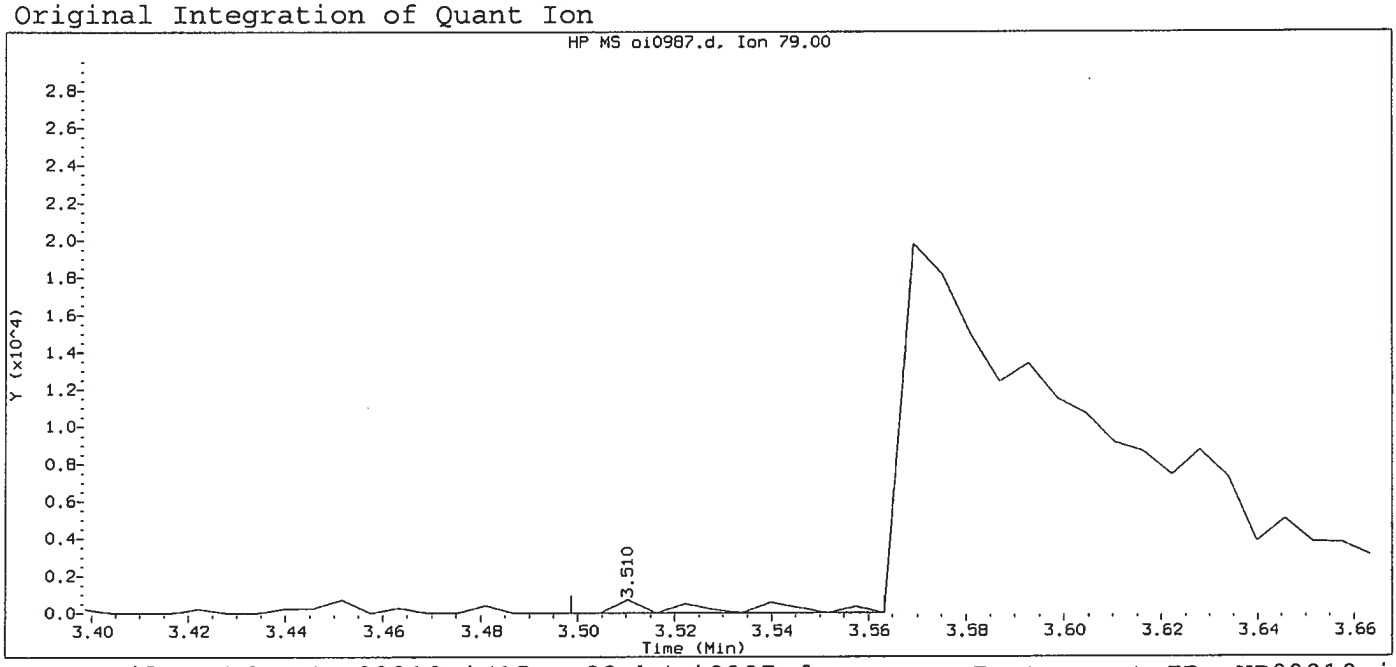
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:23
Date, time and analyst ID of latest file update: 22-Sep-2015 12:23 Automation

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 243		
Retention Time (minutes)	: 3.510		
Quant Ion	: 79.00		
Area	: 915		
On-column Amount (ng/ul)	: 0.0754		
Integration start scan	: 240	Integration stop scan:	251
Y at integration start	: 0	Y at integration end:	0

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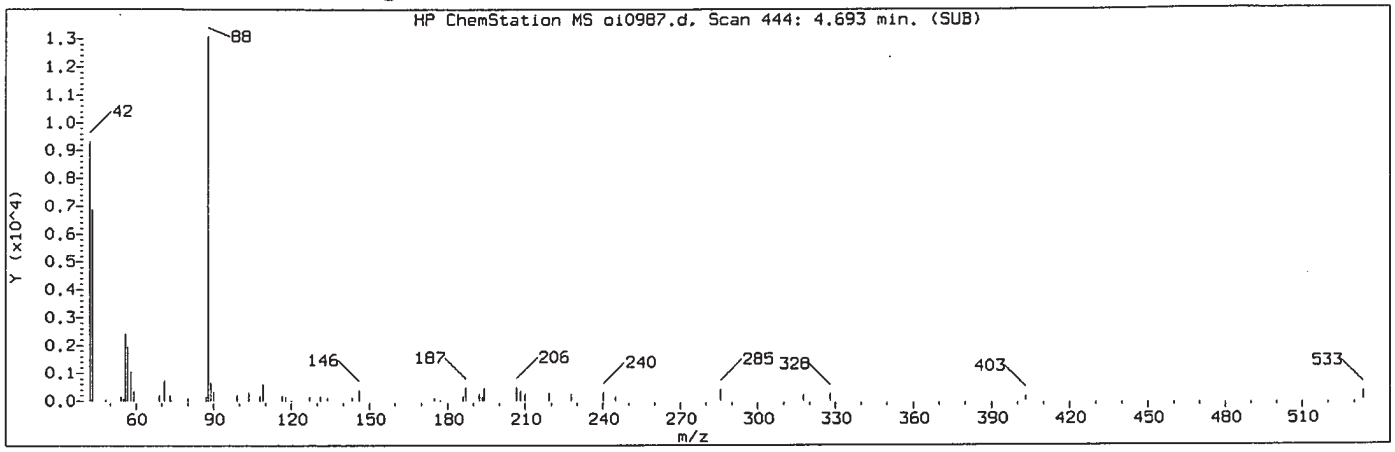
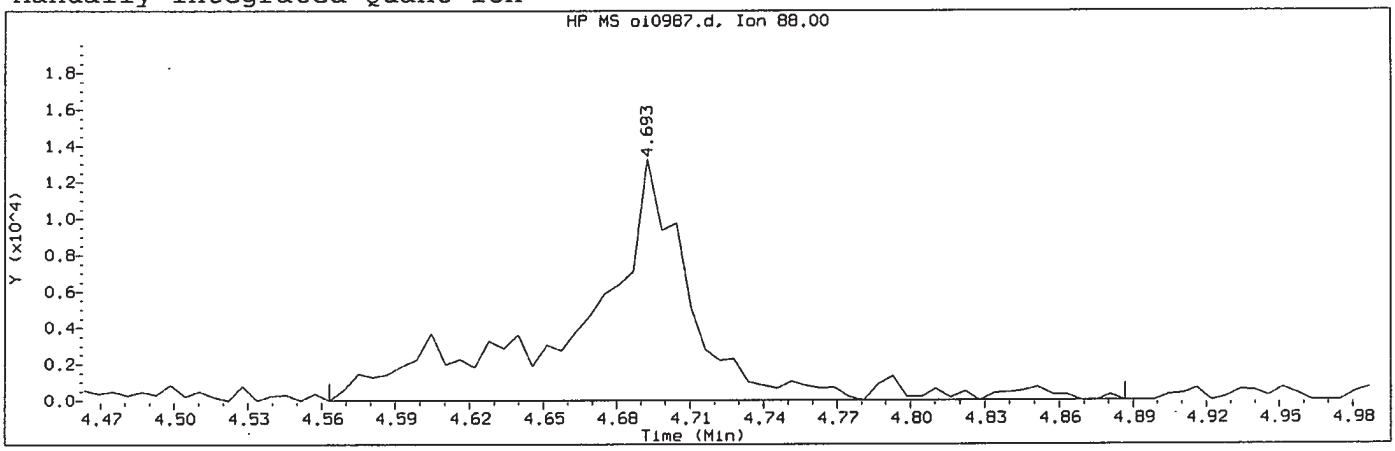
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 444		
Retention Time (minutes)	: 4.693		
Quant Ion	: 88.00		
Area (flag)	: 42952M		
On-Column Amount (ng/ul)	: 5.7884		
Integration start scan	: 421	Integration stop scan:	476
Y at integration start	: -7	Y at integration end:	-7

Reason for manual integration: improper integration

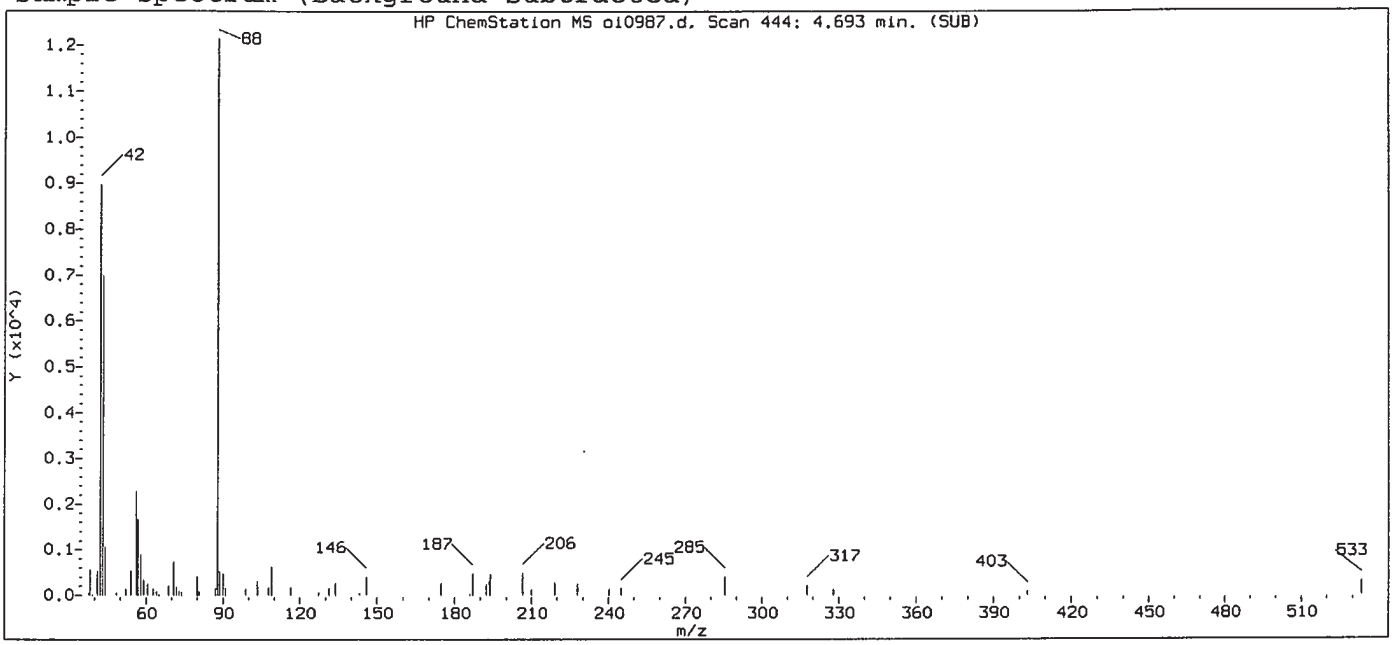
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 signature user ID: lmh00956

SEP 23 2015

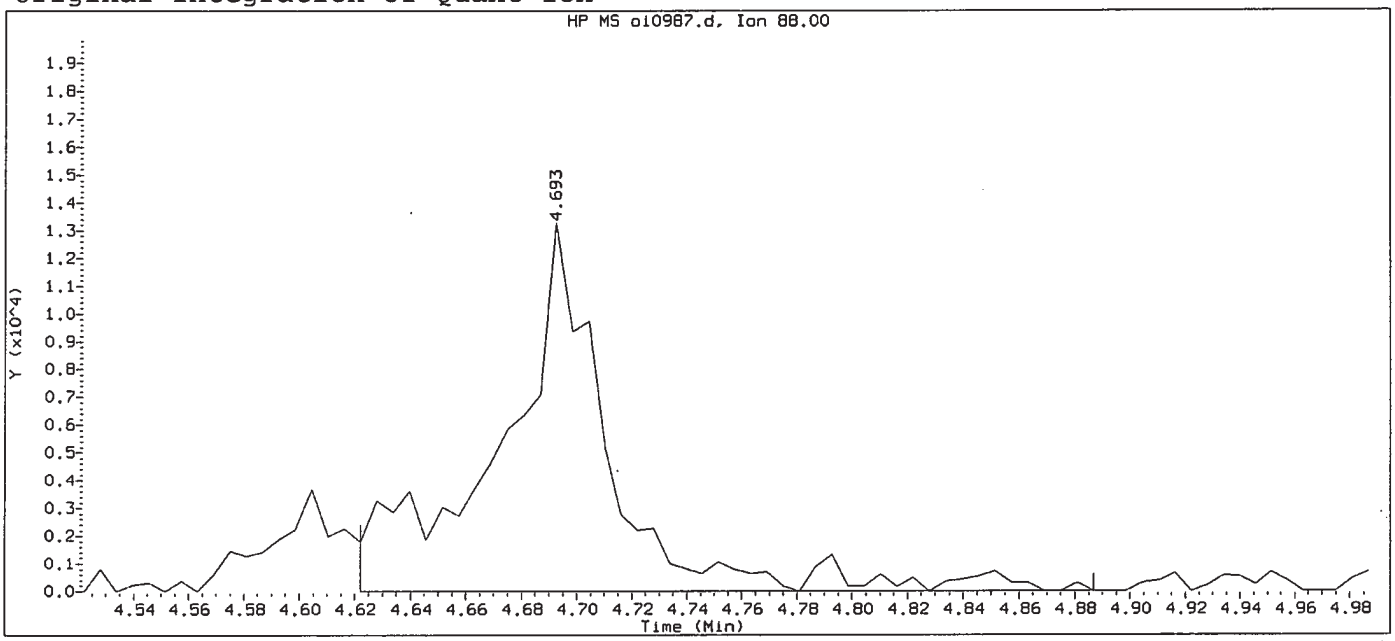
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

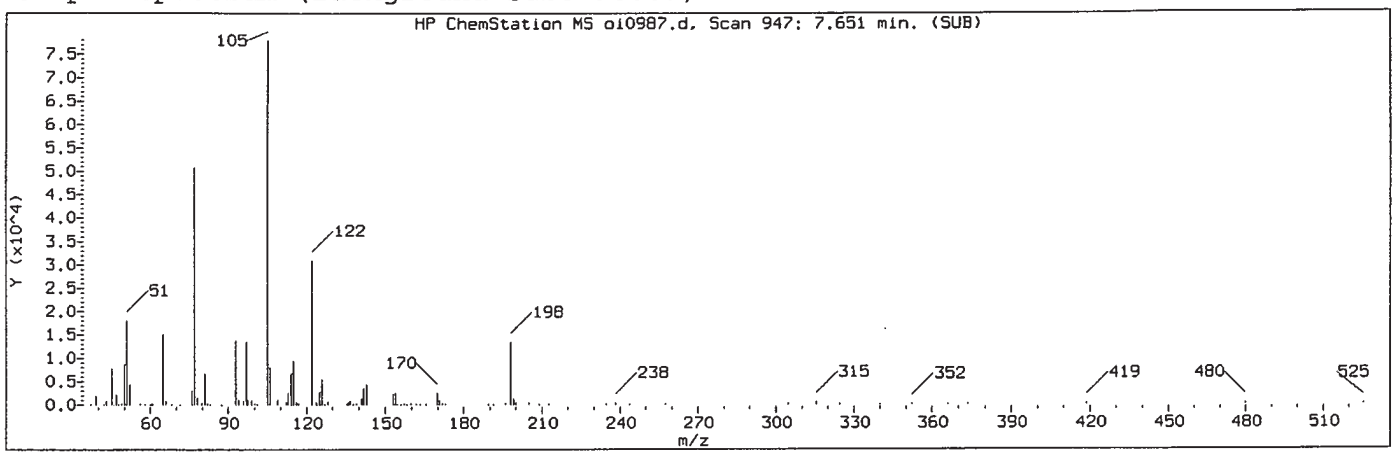
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:23
Date, time and analyst ID of latest file update: 22-Sep-2015 12:23 Automation

Sample Name: SSTD005 Lab Sample ID: STD2575

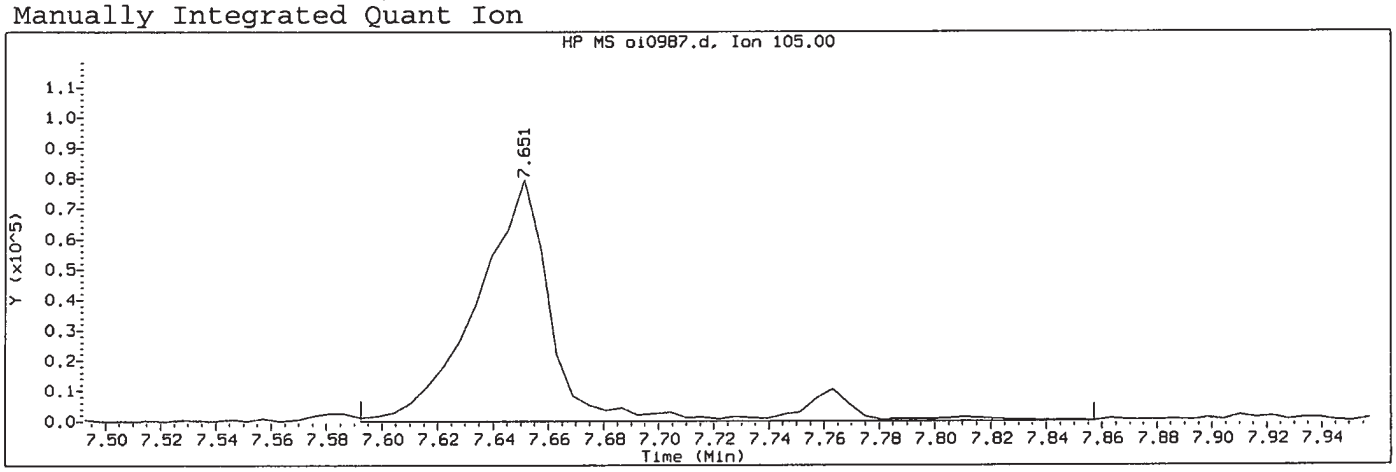
Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 444		
Retention Time (minutes)	: 4.693		
Quant Ion	: 88.00		
Area	: 36565		
On-column Amount (ng/ul)	: 5.0491		
Integration start scan	: 431	Integration stop scan:	476
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 947		
Retention Time (minutes)	: 7.651		
Quant Ion	: 105.00		
Area (flag)	: 162147M		
On-Column Amount (ng/ul)	: 12.1717		
Integration start scan	: 936	Integration stop scan:	981
Y at integration start	: -91	Y at integration end:	-91

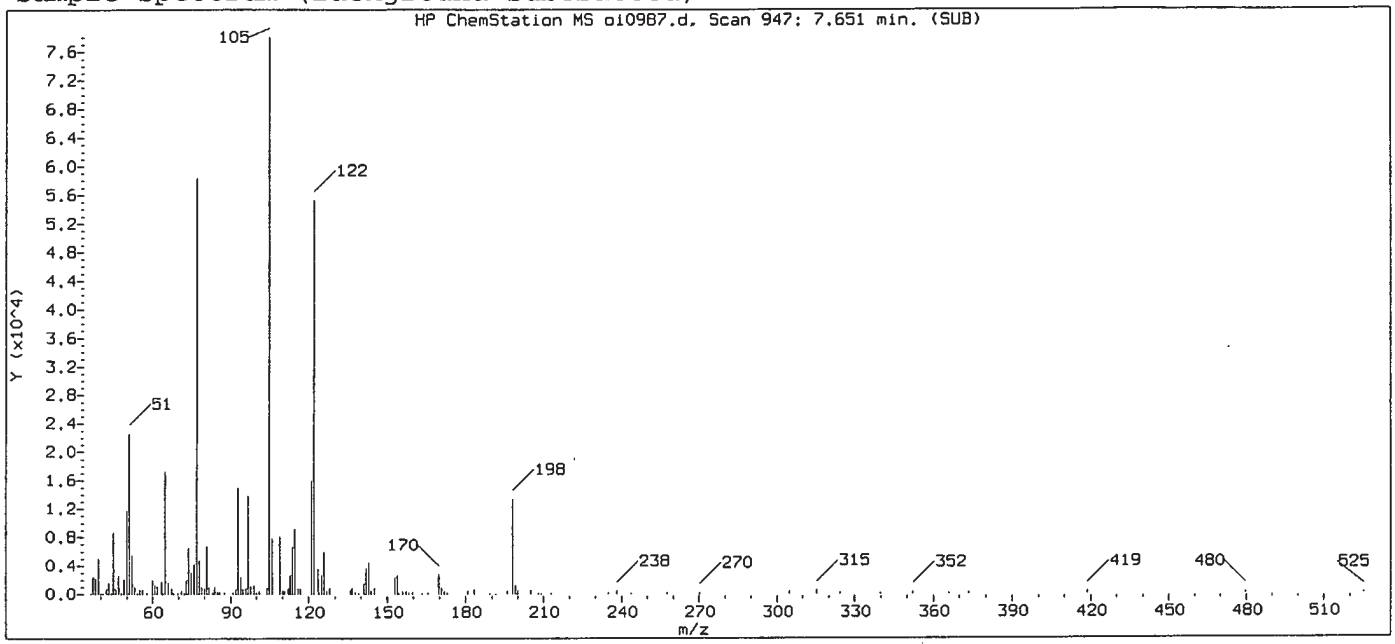
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 esignature user ID: lmh00956

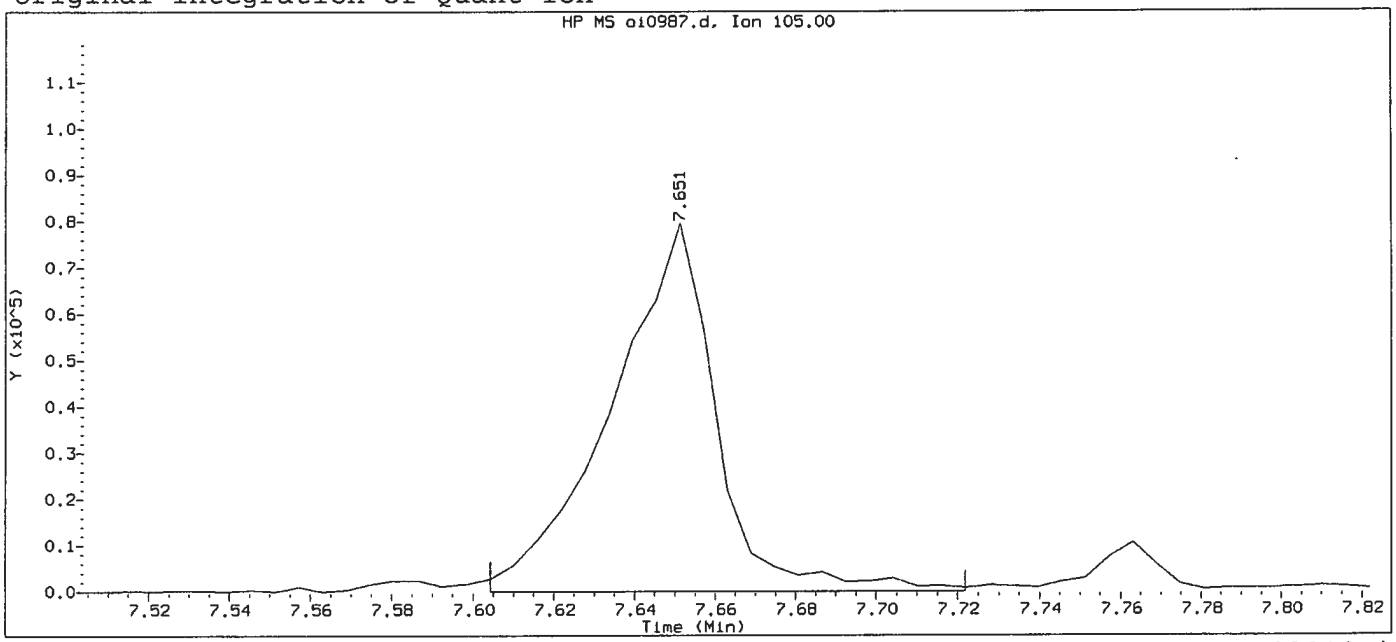
GC/MS audit/management approval: SEP 23 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0987.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:07 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:23
Date, time and analyst ID of latest file update: 22-Sep-2015 12:23 Automation

Sample Name: SSTD005 Lab Sample ID: STD2575

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 947		
Retention Time (minutes)	: 7.651		
Quant Ion	: 105.00		
Area	: 144043		
On-column Amount (ng/ul)	: 11.2961		
Integration start scan	: 938	Integration stop scan:	958
Y at integration start	: 0	Y at integration end:	0

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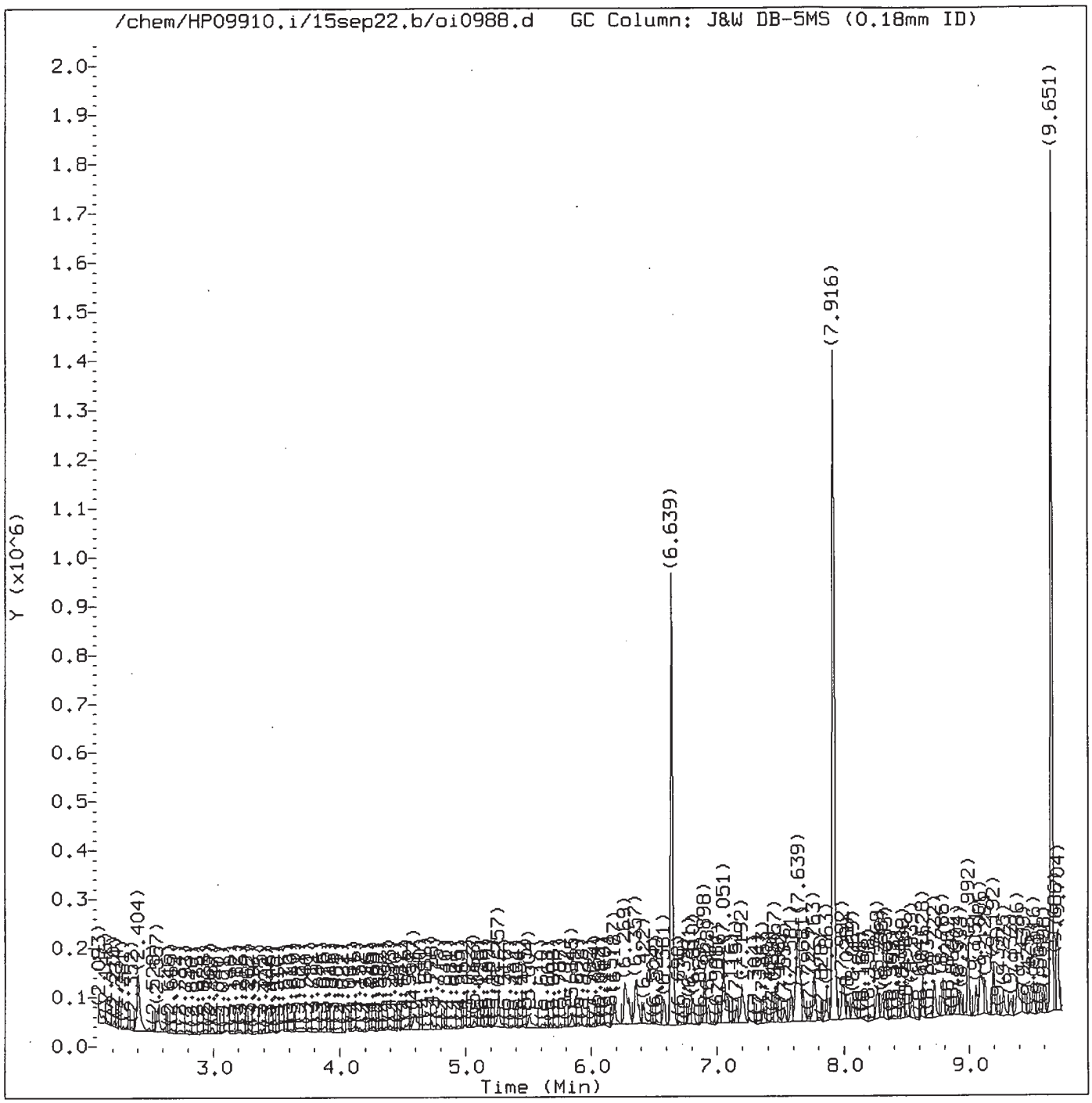
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

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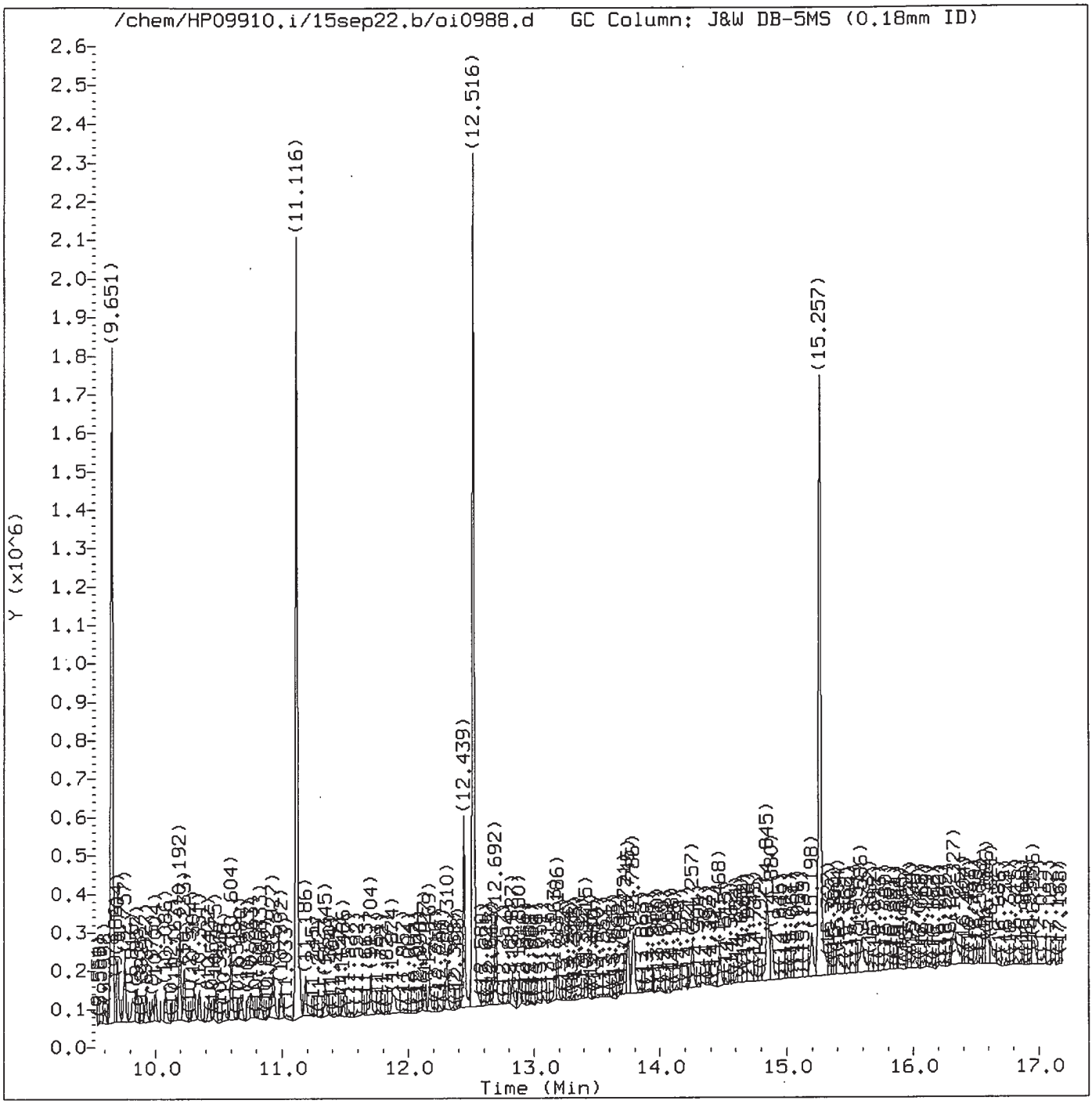
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.987	88	9126	1.658
4) N-Nitrosodimethylamine	(1)	3.557	74	9461M	1.045
5) Pyridine	(1)	3.698	79	11887M	0.811
7) 2-Picoline	(1)	4.587	93	16864M	1.078
8) N-Nitrosomethylethylamine	(1)	4.710	88	13083M	1.728
9) Methyl methanesulfonate	(1)	5.057	80	8390M	1.125
11)$2-Fluorophenol	(1)	5.257	112	21270	1.732
13) N-Nitrosodiethylamine	(1)	5.510	102	6896	0.959
15) Ethyl methanesulfonate	(1)	5.845	109	6282	0.917
17)$Phenol-d6	(1)	6.269	99	30579	1.741
18) Phenol	(1)	6.281	94	18369	0.878
19) Aniline	(1)	6.298	93	22752	0.970
20) a-methylstyrene	(1)	6.357	118	12001	0.965
22) bis(2-Chloroethyl)ether	(1)	6.381	93	15785	1.062
23) 2-Chlorophenol	(1)	6.422	128	12307	1.007
24) 1,3-Dichlorobenzene	(1)	6.581	146	10720	0.918
25)*1,4-Dichlorobenzene-d4	(1)	6.639	152	147552	20.000
26) 1,4-Dichlorobenzene	(1)	6.657	146	13253	1.065
42) Total Cresols	(1)			25448	1.768
27) Benzyl alcohol	(1)	6.781	108	8111	0.831
28) 1,2-Dichlorobenzene	(1)	6.810	146	12610	1.076
31) 2-Methylphenol	(1)	6.898	108	11960	0.905
30) Indene	(1)	6.904	115	20271	0.941
34) bis(2-Chloroisopropyl)ether	(1)	6.934	45	20591	1.057
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.934	45	20591	1.057
35) N-Nitrosopyrrolidine	(1)	7.016	100	5917	0.739
36) Acetophenone	(1)	7.045	105	16517	0.853
37) 4-Methylphenol	(1)	7.051	108	13488	0.863
38) N-Nitroso-di-n-propylamine	(1)	7.051	70	11747	0.999
39) N-Nitrosomorpholine	(1)	7.057	56	9530	1.005
40) o-Toluidine	(1)	7.081	106	20036	0.891
43) Hexachloroethane	(1)	7.151	117	5371	1.108
44)$Nitrobenzene-d5	(2)	7.192	82	26427	1.777
45) Nitrobenzene	(2)	7.210	77	12644	0.859
48) N-Nitrosopiperidine	(2)	7.363	114	5643	0.844
50) Isophorone	(2)	7.457	82	29816	0.981
51) 2-Nitrophenol	(2)	7.539	139	5773	0.942
53) 2,4-Dimethylphenol	(2)	7.581	107	11479	0.853
56) Benzoic acid	(2)	7.639	105	100717	7.865
57) O,O,O-Triethylphosphorothioate	(2)	7.657	198	6370	1.060

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	7.681	93	16004	0.938
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.763	104	17412	0.958
60) 2,4-Dichlorophenol	(2)	7.775	162	8695	0.901
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	9297	0.948
65)*Naphthalene-d8	(2)	7.916	136	639198	20.000
66) Naphthalene	(2)	7.939	128	33332	0.946
67) 4-Chloroaniline	(2)	7.986	127	15970	1.013
68) 2,6-Dichlorophenol	(2)	7.998	162	9073	0.958
69) Hexachloropropene	(2)	8.033	213	4580	0.912
71) Hexachlorobutadiene	(2)	8.069	225	5667	1.167
75) Quinoline	(2)	8.269	129	25091	0.996
76) Caprolactam	(2)	8.304	113	6257	1.130
77) N-Nitrosodi-n-butylamine	(2)	8.333	84	10600	0.851
80) 4-Chloro-3-methylphenol	(2)	8.469	107	12417	0.954
82) Safrole	(2)	8.539	162	9365	0.996
83) 2-Methylnaphthalene	(2)	8.622	142	24581	0.990
97) Isosafrole	(3)			10140	0.912
84) 1-Methylnaphthalene	(2)	8.722	142	22085	0.992
85) Hexachlorocyclopentadiene	(3)	8.786	237	3895	0.842
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.792	216	9350	0.972
88) cis-Isosafrole	(3)	8.833	162	2501	0.248
90) 2,4,6-Trichlorophenol	(3)	8.904	196	7312	1.042
92) 2,4,5-Trichlorophenol	(3)	8.928	196	7285	0.932
93)$2-Fluorobiphenyl	(3)	8.986	172	49638	1.911
94) trans-Isosafrole	(3)	9.051	162	7639	0.664
95) 1,1'-Biphenyl	(3)	9.086	154	28535	0.922
96) 2-Chloronaphthalene	(3)	9.104	162	20503	0.860
98) 1-Chloronaphthalene	(3)	9.128	162	19640	0.885
99) Diphenyl ether	(3)	9.192	170	14532	0.928
100) 2-Nitroaniline	(3)	9.198	138	6459	0.780
104) 1,4-Naphthoquinone	(3)	9.275	158	9640	0.949
105) 1,4-Dinitrobenzene	(3)	9.333	168	3096	0.701
106) Dimethylphthalate	(3)	9.386	163	30941	1.090
120) 2,4_2,6-Dinitrotoluenes	(3)			14346	1.830
107) 1,3-Dinitrobenzene	(3)	9.410	168	4173	0.825
108) 2,6-Dinitrotoluene	(3)	9.439	165	6303	0.962
109) Acenaphthylene	(3)	9.510	152	34754	0.956
112) 3-Nitroaniline	(3)	9.598	138	6898	0.916
113)*Acenaphthene-d10	(3)	9.651	164	409271	20.000
114) Acenaphthene	(3)	9.680	153	24687	0.982

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on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	9.704	184	26029	6.109
116) 4-Nitrophenol	(3)	9.757	109	19449	4.782
117) Pentachlorobenzene	(3)	9.816	250	8631	0.993
118) 2,4-Dinitrotoluene	(3)	9.833	165	8043	0.868
119) Dibenzofuran	(3)	9.857	168	34260	0.992
121) 1-Naphthylamine	(3)	9.927	143	27177	0.969
122) 2,3,4,6-Tetrachlorophenol	(3)	9.975	232	7065	1.061
123) 2-Naphthylamine	(3)	10.004	143	27023	0.973
124) Diethylphthalate	(3)	10.086	149	27089	0.974
125) Thionazin	(3)	10.163	107	4938	0.860
128) 5-Nitro-o-toluidine	(3)	10.192	152	7673	0.893
126) Fluorene	(3)	10.192	166	28816	0.997
129) 4-Nitroaniline	(3)	10.192	138	6065	0.725
127) 4-Chlorophenyl-phenylether	(3)	10.198	204	13533	1.007
146) Diallate trans/cis	(4)			18721	1.073
130) 4,6-Dinitro-2-methylphenol	(4)	10.233	198	19571	3.260
131) N-Nitrosodiphenylamine	(4)	10.310	169	22901	0.889
132) NDPA as diphenylamine	(4)	10.310	169	22901	0.872
134) 1,2-Diphenylhydrazine	(4)	10.351	77	34594	0.984
135)$2,4,6-Tribromophenol	(3)	10.416	330	4331	1.292
137) Tetraethyldithiopyrophosphate	(4)	10.475	97	5166	1.030
139) 1,3,5-Trinitrobenzene	(4)	10.551	213	2070	0.588
140) Diallate (peak 1)	(4)	10.598	86	14759	0.842
142) Phenacetin	(4)	10.604	108	15738	0.883
141) Phorate	(4)	10.610	75	20750	0.877
143) 4-Bromophenyl-phenylether	(4)	10.674	248	8443	1.171
144) Diallate (peak 2)	(4)	10.692	86	3962	0.230
145) Hexachlorobenzene	(4)	10.733	284	7455	0.971
147) Dimethoate	(4)	10.763	87	13740	0.871
150) 4-Aminobiphenyl	(4)	10.927	169	27456	1.025
149) Pentachlorophenol	(4)	10.927	266	4386	0.861
151) Pentachloronitrobenzene	(4)	10.945	237	2514	0.886
152) Pronamide	(4)	10.992	173	8800	0.727
154) Dinoseb	(4)	11.110	211	3990	0.518
153)*Phenanthrene-d10	(4)	11.116	188	808649	20.000
155) Phenanthrene	(4)	11.139	178	47874	1.019
157) Anthracene	(4)	11.186	178	42716	0.920
163) Carbazole	(4)	11.345	167	40135	0.915
164) Methyl parathion	(4)	11.486	109	6793	0.622
165) Di-n-butylphthalate	(4)	11.704	149	45158	0.885

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Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
168) 4-Nitroquinoline-1-oxide	(4)	11.874	190	1697	0.426
167) Parathion	(4)	11.874	109	4458	0.652
169) Octachlorostyrene	(4)	12.133	308	3340	1.353
171) Isodrin	(4)	12.169	193	4844	1.028
173) Fluoranthene	(4)	12.310	202	50094	0.981
174) Benzidine	(5)	12.439	184	216031	6.541
175)*Pyrene-d10	(5)	12.516	212	951211	20.000
177) Pyrene	(5)	12.527	202	56776	1.001
179)$Terphenyl-d14	(5)	12.692	244	68258	1.950
182) p-Dimethylaminoazobenzene	(5)	12.827	225	8018	0.767
185) Chlorobenzilate	(5)	12.880	139	12040	0.817
187) 3,3'-Dimethylbenzidine	(5)	13.163	212	22427	0.762
188) Butylbenzylphthalate	(5)	13.186	149	20526	0.823
191) 2-Acetylaminofluorene	(5)	13.415	181	15636	0.691
193) 3,3'-Dichlorobenzidine	(5)	13.715	252	15258	0.907
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.727	231	6647	0.705
195) Benzo(a)anthracene	(5)	13.745	228	50579	1.022
196) Chrysene	(5)	13.786	228	48248	1.024
199) bis(2-Ethylhexyl)phthalate	(5)	13.798	149	27482	0.788
203) 6-Methylchrysene	(5)	14.257	242	31291	0.941
205) Di-n-octylphthalate	(6)	14.468	149	46058	0.757
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.845	256	21465	0.960
206) Benzo(b)fluoranthene	(6)	14.851	252	50362	1.087
208) Benzo(k)fluoranthene	(6)	14.880	252	45627	0.965
211) Benzo(a)pyrene	(6)	15.198	252	48299	1.055
213)*Perylene-d12	(6)	15.257	264	738400	20.000
215) 3-Methylcholanthrene	(6)	15.592	268	20441	0.950
222) Total PAHs	(6)			635093	15.778
219) Indeno(1,2,3-cd)pyrene	(6)	16.574	276	45801	0.961
220) Dibenz(a,h)anthracene	(6)	16.604	278	37783	0.942
221) Benzo(g,h,i)perylene	(6)	16.956	276	38668	0.988

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$ = Compound is a surrogate standard.

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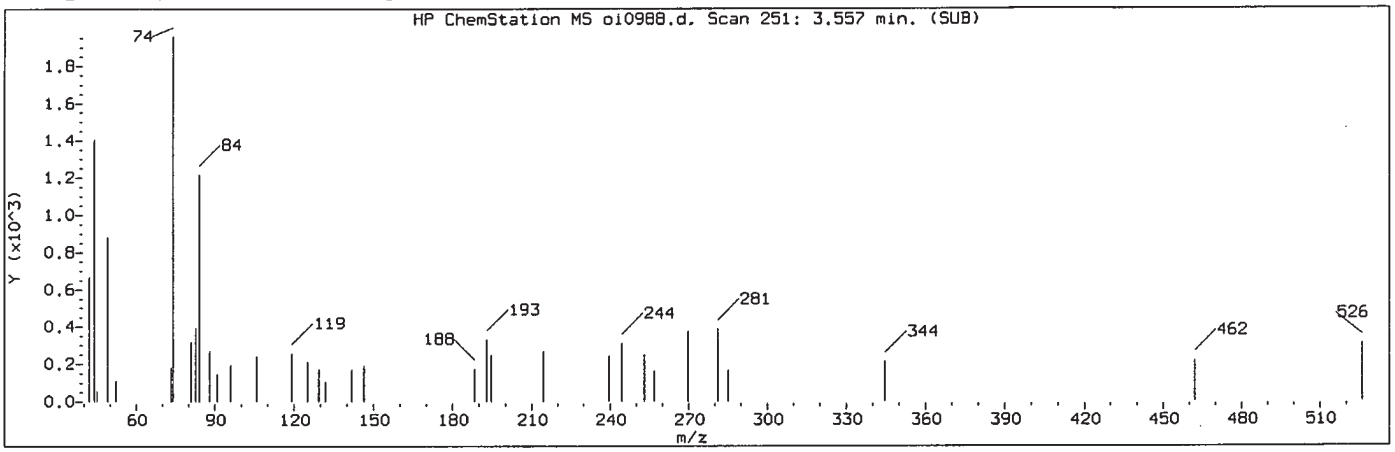
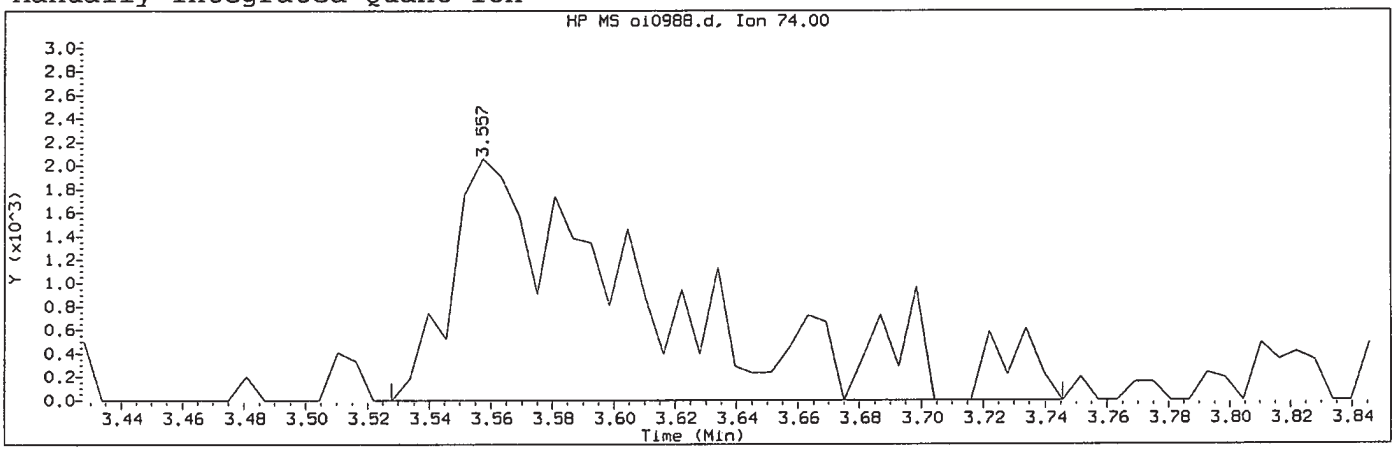
on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 251		
Retention Time (minutes)	: 3.557		
Quant Ion	: 74.00		
Area (flag)	: 9461M		
On-Column Amount (ng/ul)	: 1.0451		
Integration start scan	: 245	Integration stop scan:	282
Y at integration start	: -2	Y at integration end:	-2

Reason for manual integration: improper integration

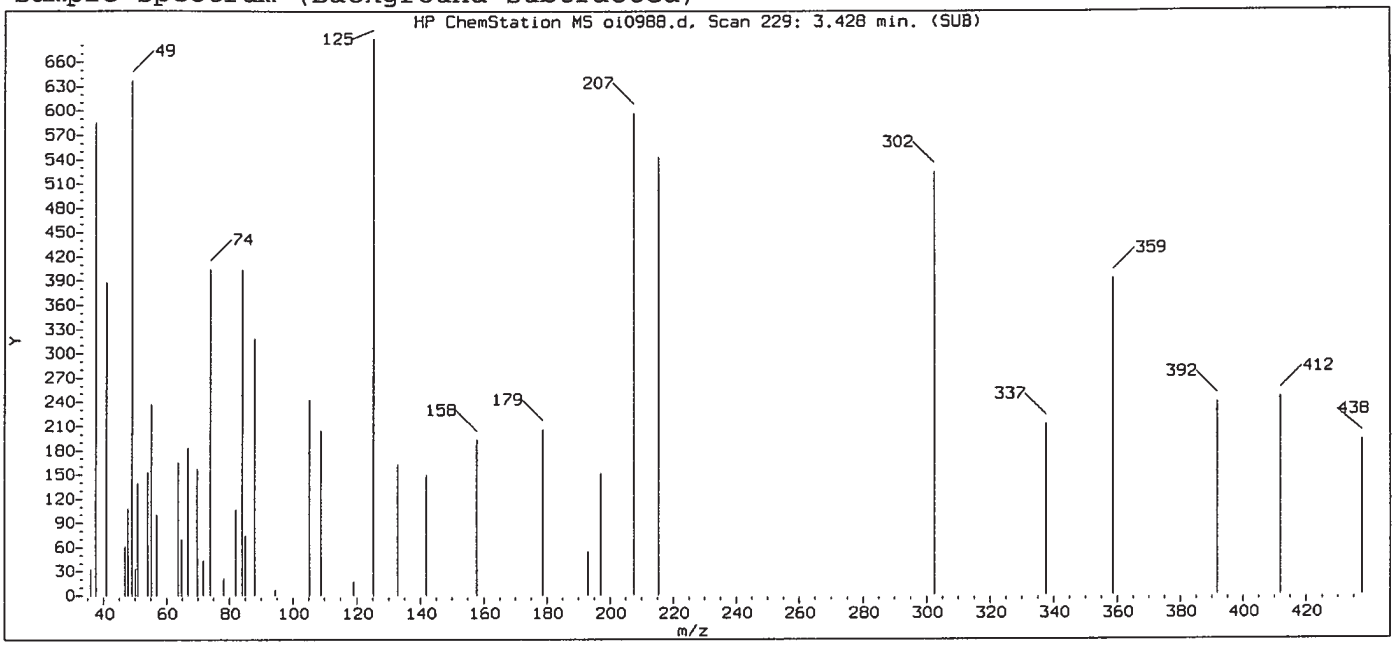
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

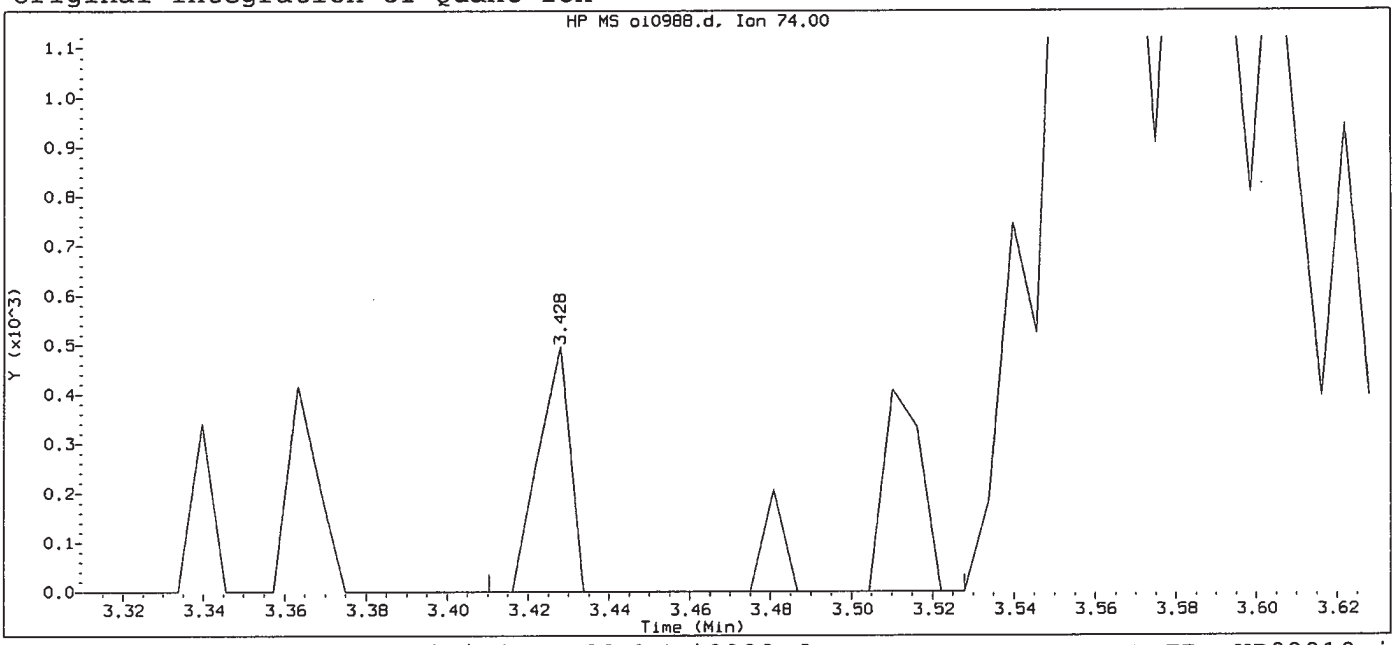
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

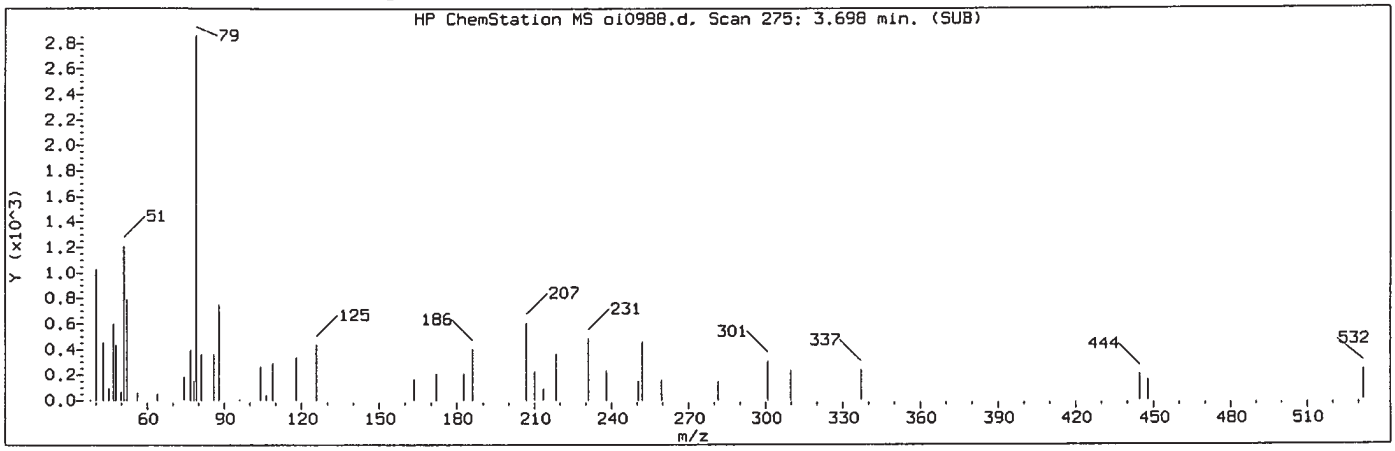
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:49
Date, time and analyst ID of latest file update: 22-Sep-2015 12:49 Automation

Sample Name: SSTD001 Lab Sample ID: STD2575

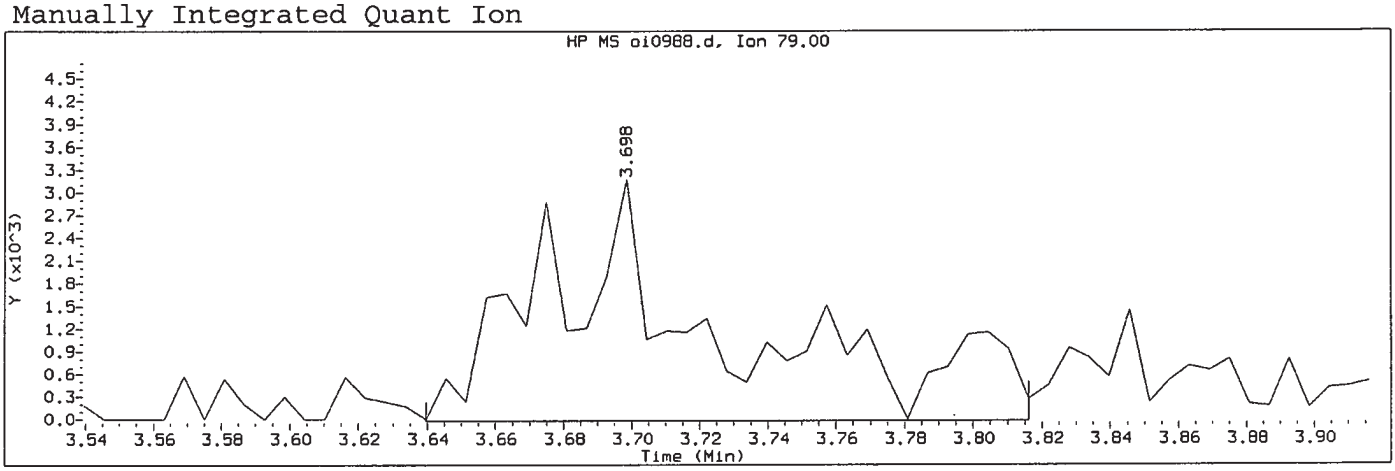
Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 229		
Retention Time (minutes)	: 3.428		
Quant Ion	: 74.00		
Area	: 604		
On-column Amount (ng/ul)	: 0.0671		
Integration start scan	: 225	Integration stop scan:	245
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 275		
Retention Time (minutes)	: 3.698		
Quant Ion	: 79.00		
Area (flag)	: 11887M		
On-Column Amount (ng/ul)	: 0.8107		
Integration start scan	: 264	Integration stop scan:	294
Y at integration start	: -21	Y at integration end:	-21

Reason for manual integration: improper integration

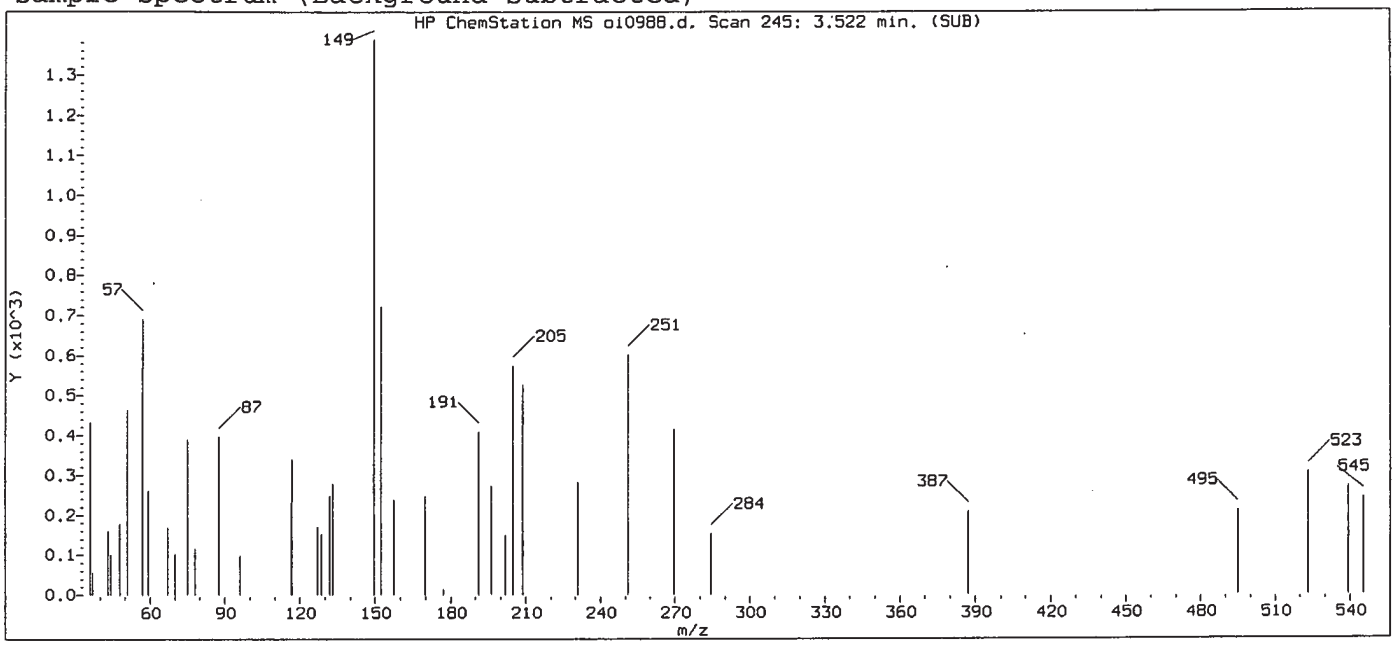
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

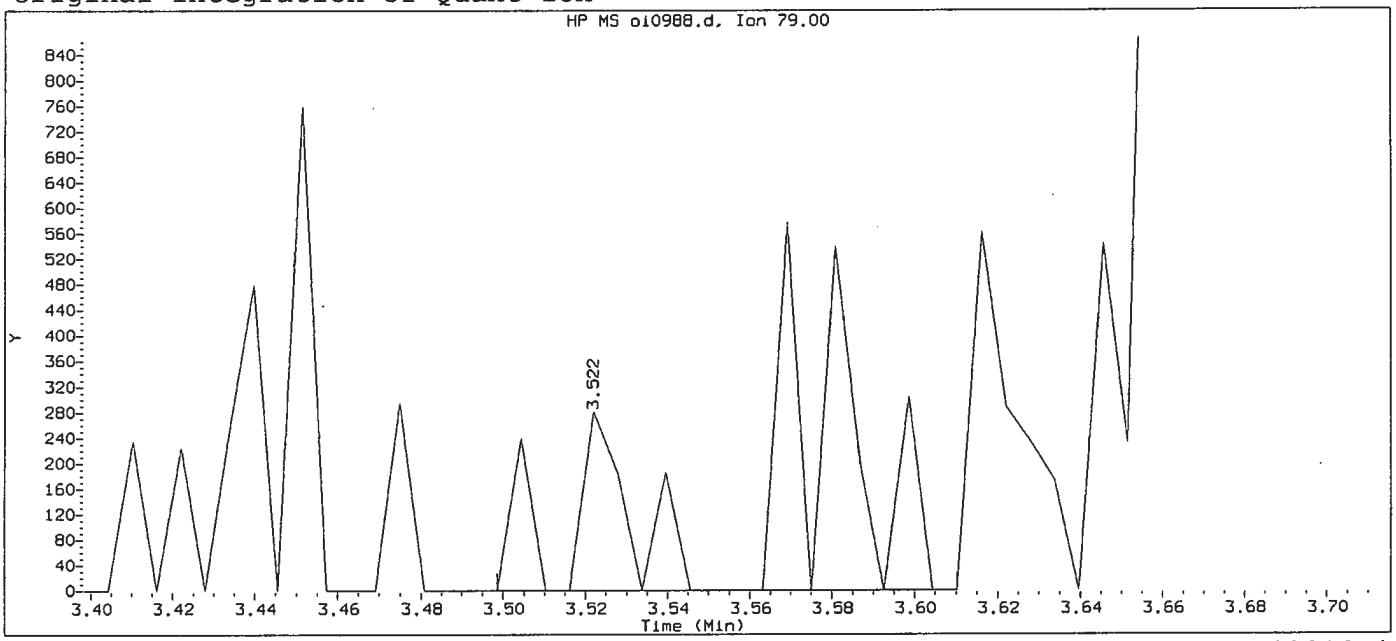
GC/MS audit/management approval:_____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

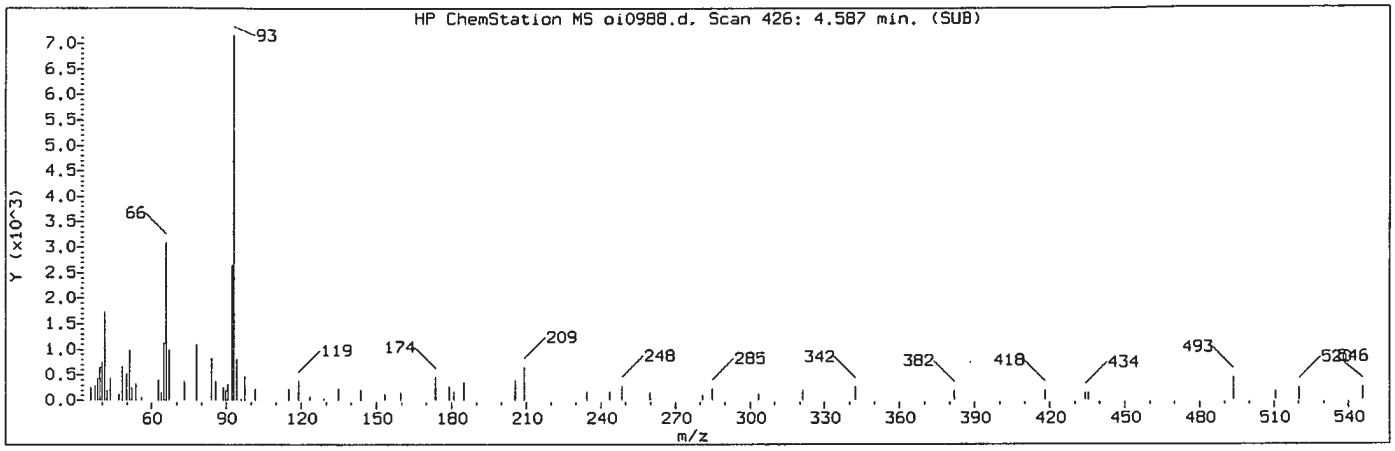
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:49
Date, time and analyst ID of latest file update: 22-Sep-2015 12:49 Automation

Sample Name: SSTD001 Lab Sample ID: STD2575

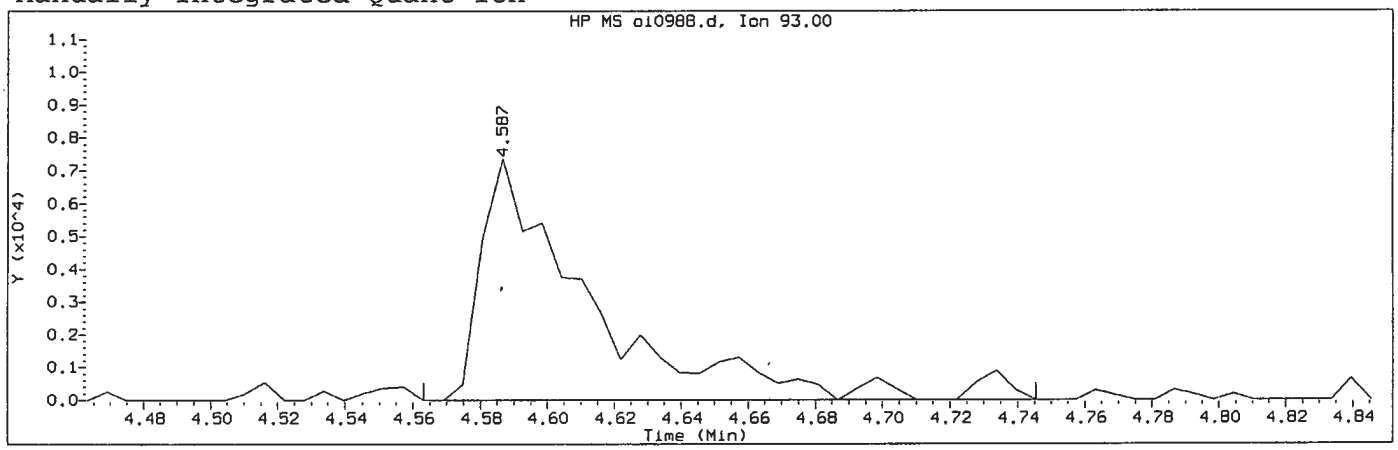
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 245		
Retention Time (minutes)	: 3.522		
Quant Ion	: 79.00		
Area	: 886		
On-column Amount (ng/ul)	: 0.0716		
Integration start scan	: 240	Integration stop scan:	259
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 426		
Retention Time (minutes)	: 4.587		
Quant Ion	: 93.00		
Area (flag)	: 16864M		
On-Column Amount (ng/ul)	: 1.0778		
Integration start scan	: 421	Integration stop scan:	452
Y at integration start	: 0	Y at integration end:	0

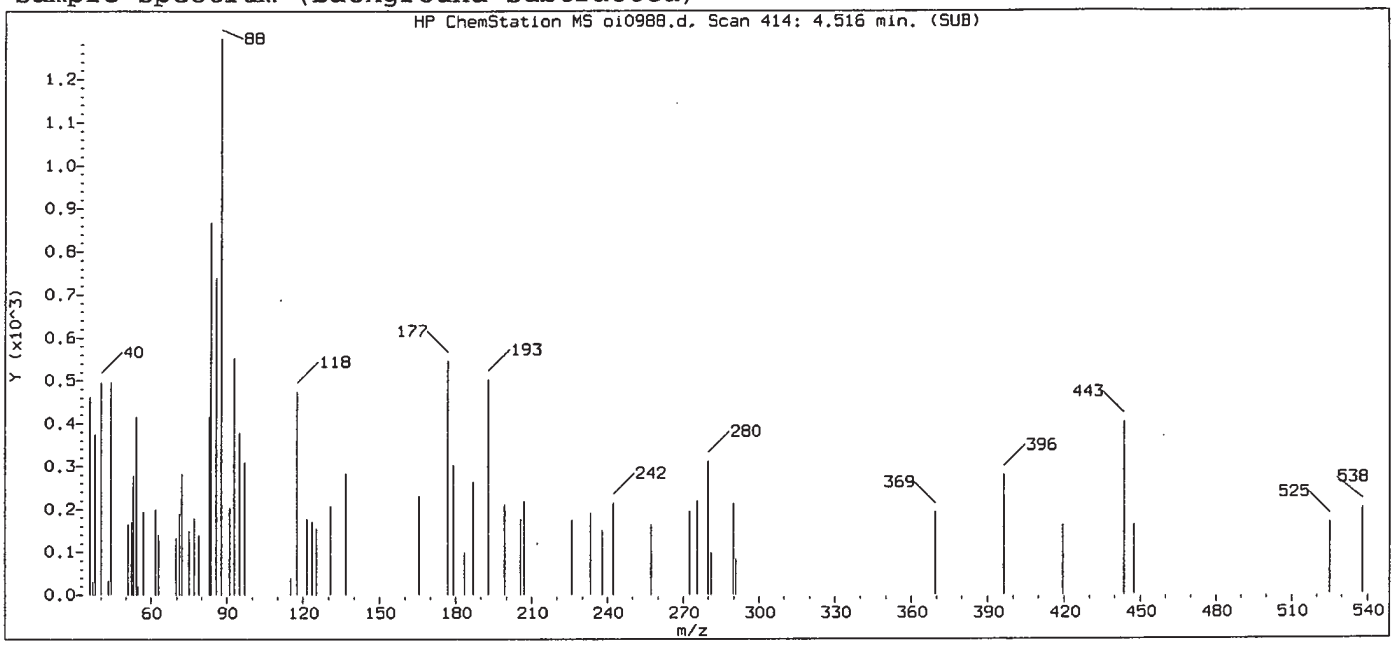
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 esignature user ID: lmh00956

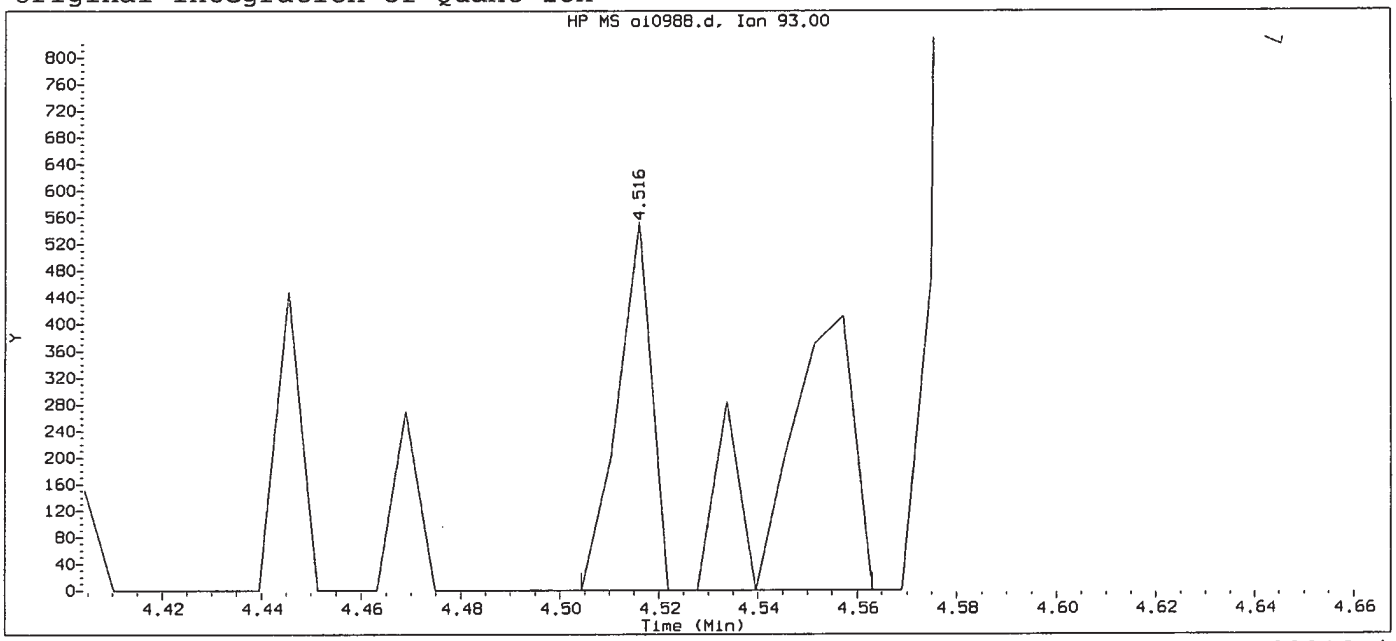
GC/MS audit/management approval: SEP 23 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:49
Date, time and analyst ID of latest file update: 22-Sep-2015 12:49 Automation

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 414		
Retention Time (minutes)	: 4.516		
Quant Ion	: 93.00		
Area	: 713		
On-column Amount (ng/ul)	: 0.0450		
Integration start scan	: 411	Integration stop scan:	421
Y at integration start	: 0	Y at integration end:	0

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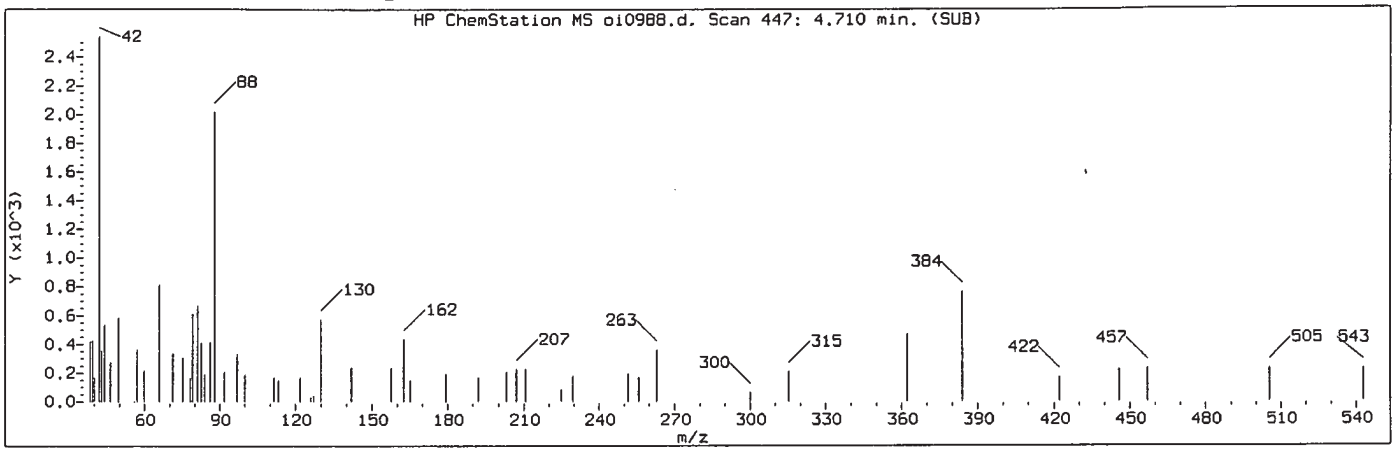
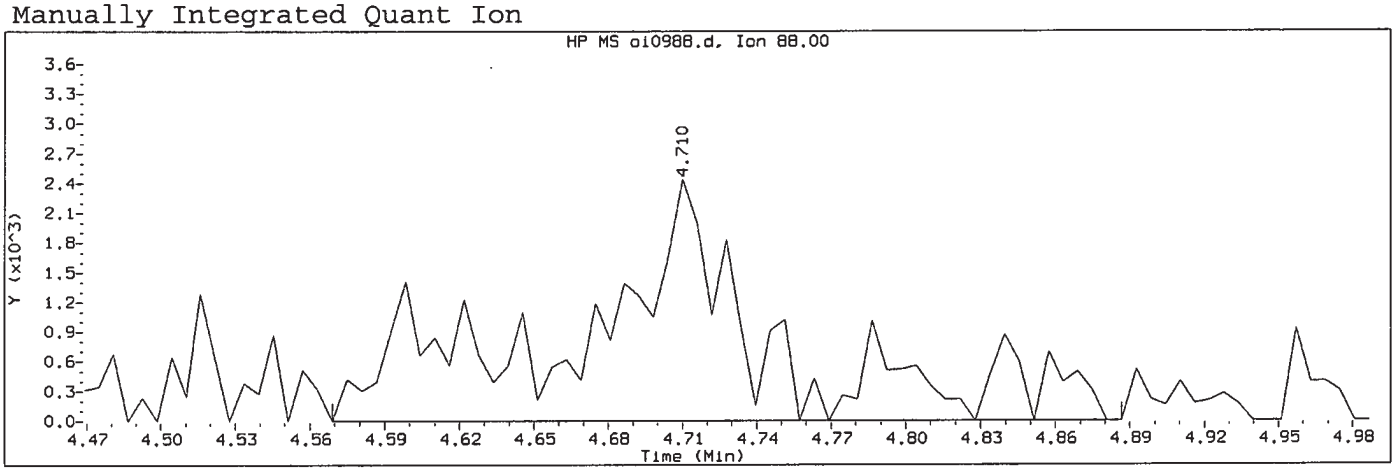
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 447		
Retention Time (minutes)	: 4.710		
Quant Ion	: 88.00		
Area (flag)	: 13083M		
On-Column Amount (ng/ul)	: 1.7282		
Integration start scan	: 422	Integration stop scan:	476
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

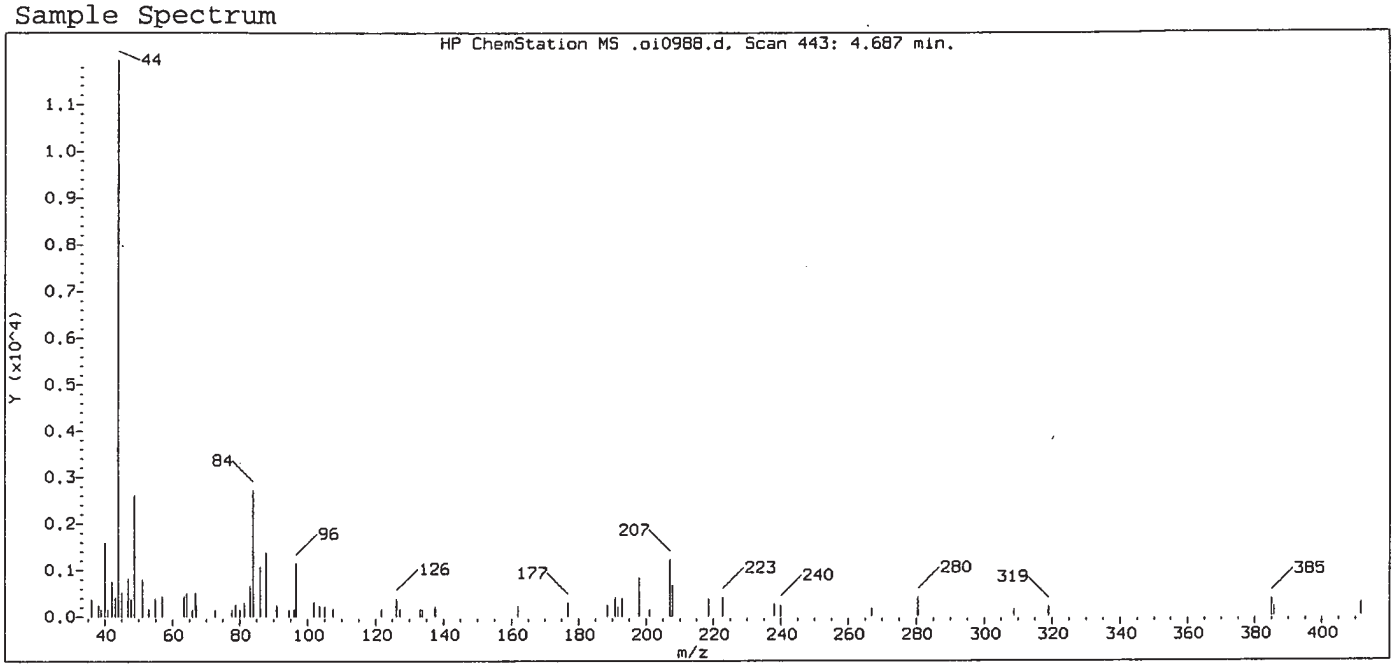
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

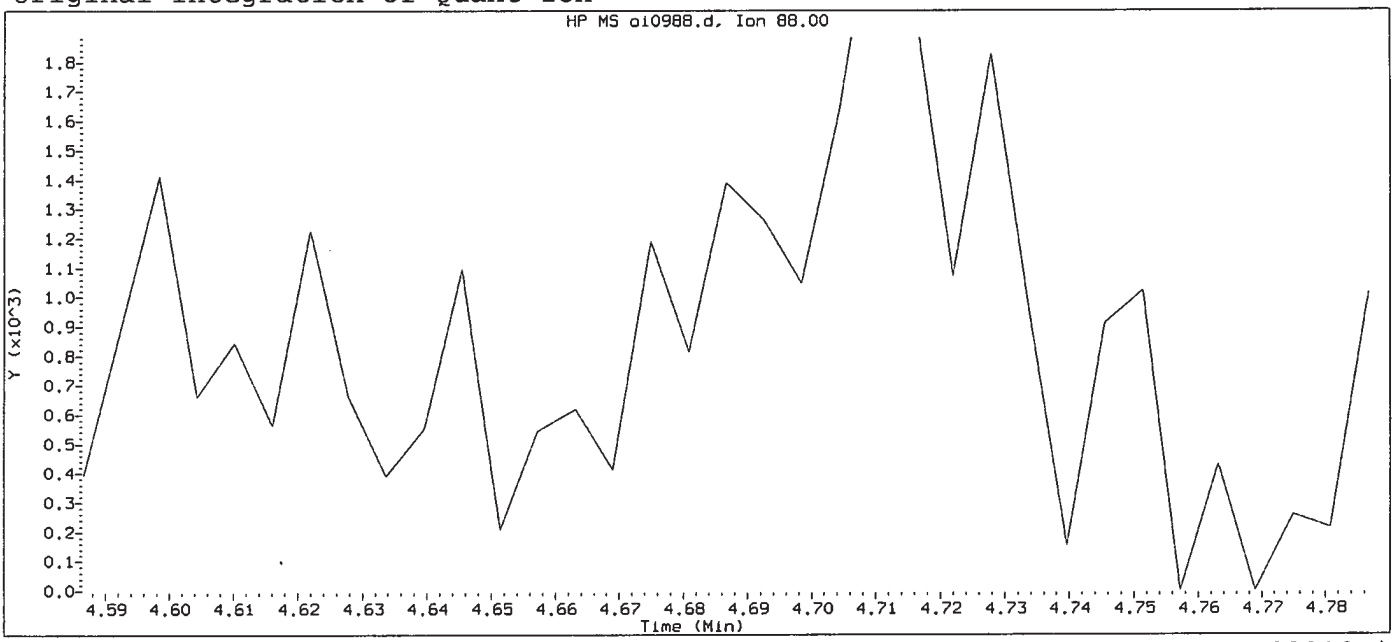
GC/MS audit/management approval:_____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

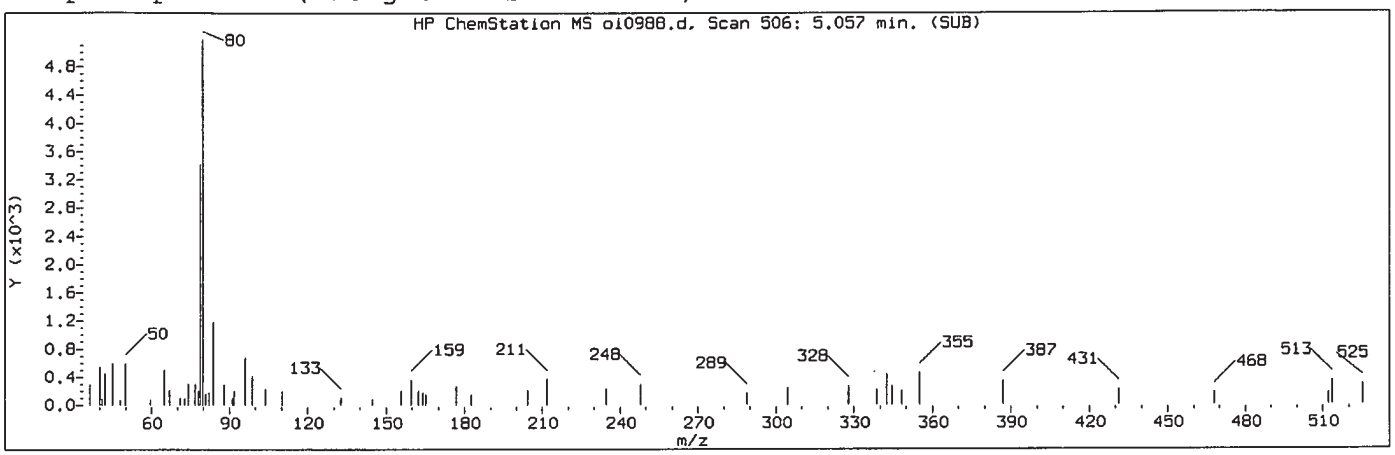
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:49
Date, time and analyst ID of latest file update: 22-Sep-2015 12:49 Automation

Sample Name: SSTD001 Lab Sample ID: STD2575

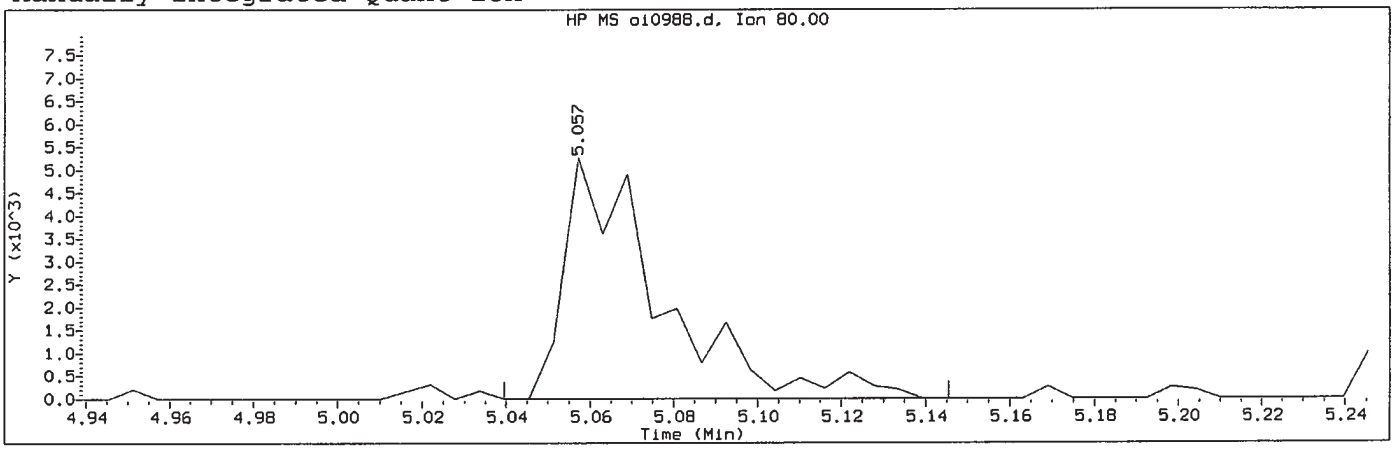
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.687
Quant Ion : 88.00

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1-b
Calibration date and time: 22-SEP-2015 13:12
Date, time and analyst ID of latest file update: 22-Sep-2015 13:12 lmh00956

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 506		
Retention Time (minutes)	: 5.057		
Quant Ion	: 80.00		
Area (flag)	: 8390M		
On-Column Amount (ng/ul)	: 1.1250		
Integration start scan	: 502	Integration stop scan:	520
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

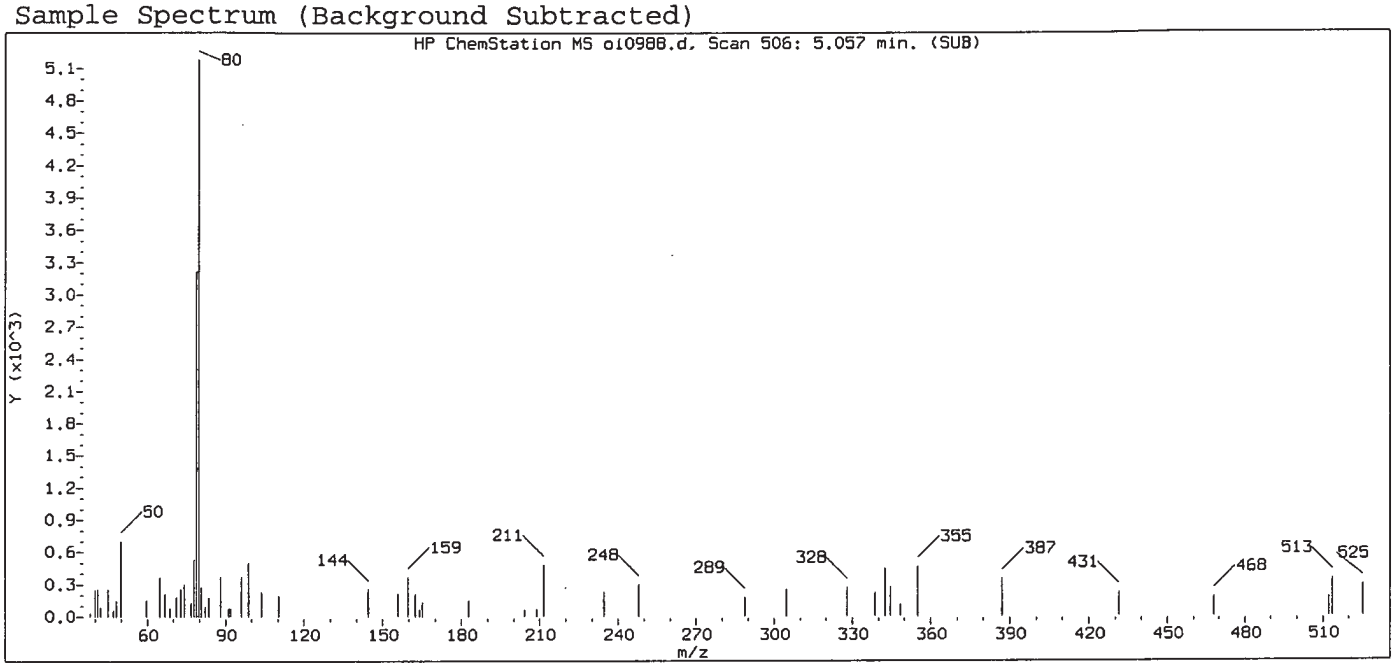
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:23. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

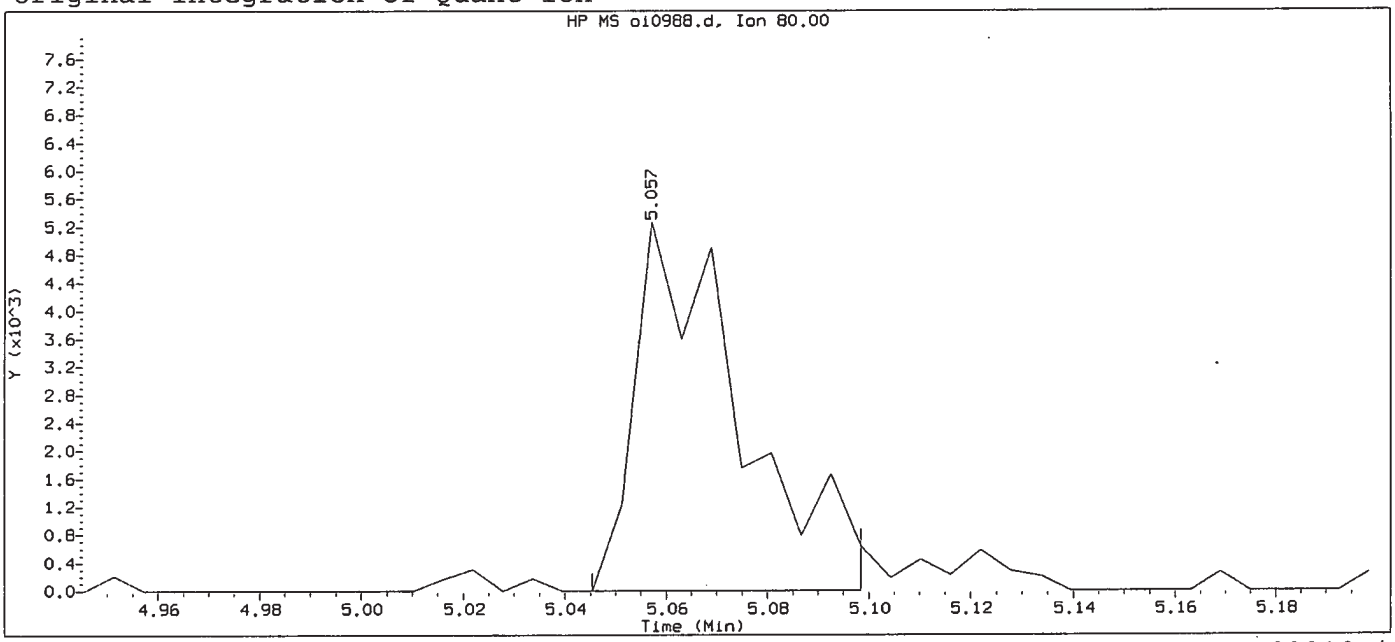
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0988.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:33 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: all1
Calibration date and time: 22-SEP-2015 12:49
Date, time and analyst ID of latest file update: 22-Sep-2015 12:49 Automation

Sample Name: SSTD001 Lab Sample ID: STD2575

Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 506		
Retention Time (minutes)	: 5.057		
Quant Ion	: 80.00		
Area	: 7600		
On-column Amount (ng/ul)	: 1.0032		
Integration start scan	: 503	Integration stop scan:	512
Y at integration start	: 0	Y at integration end:	0

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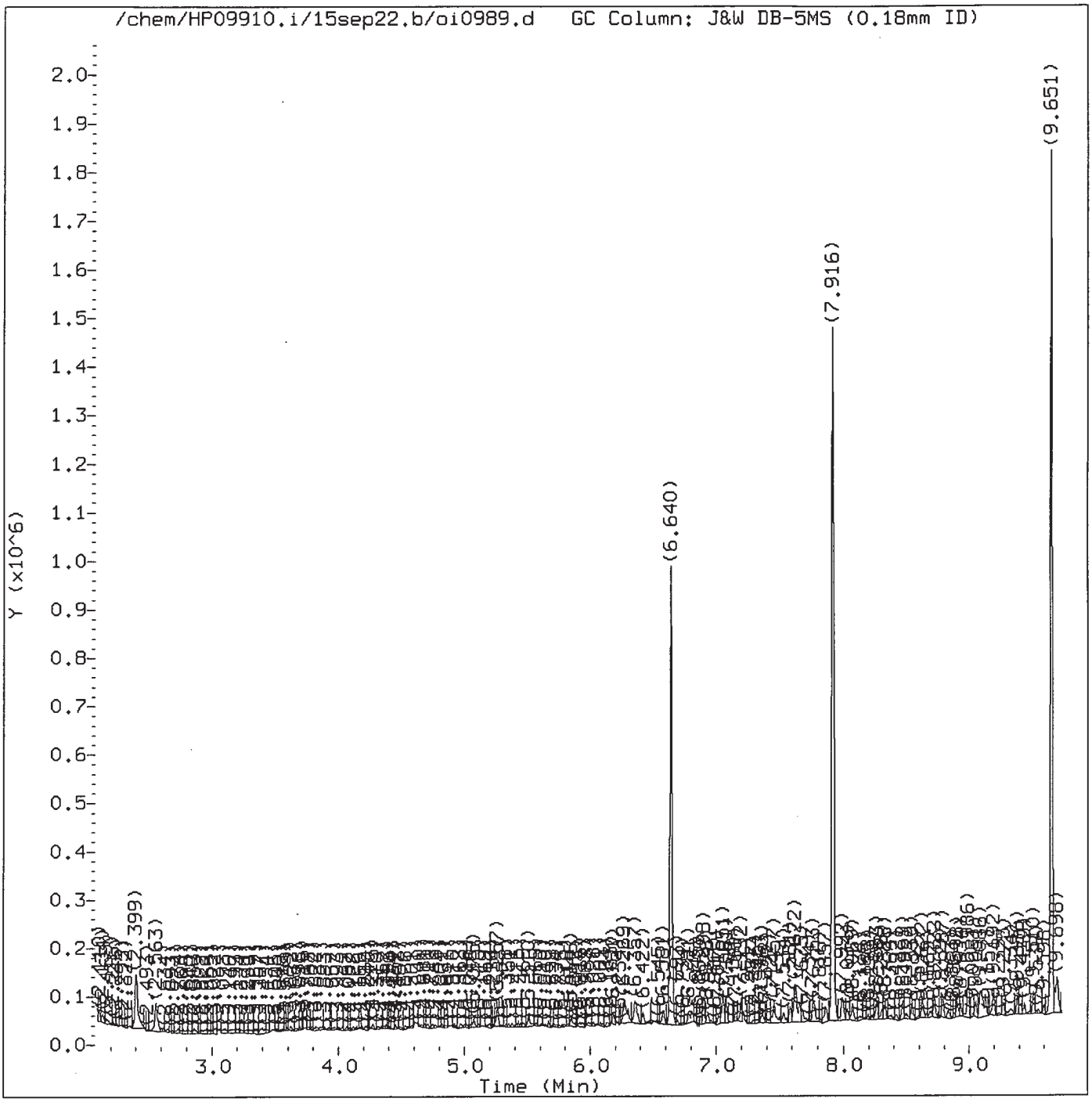
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

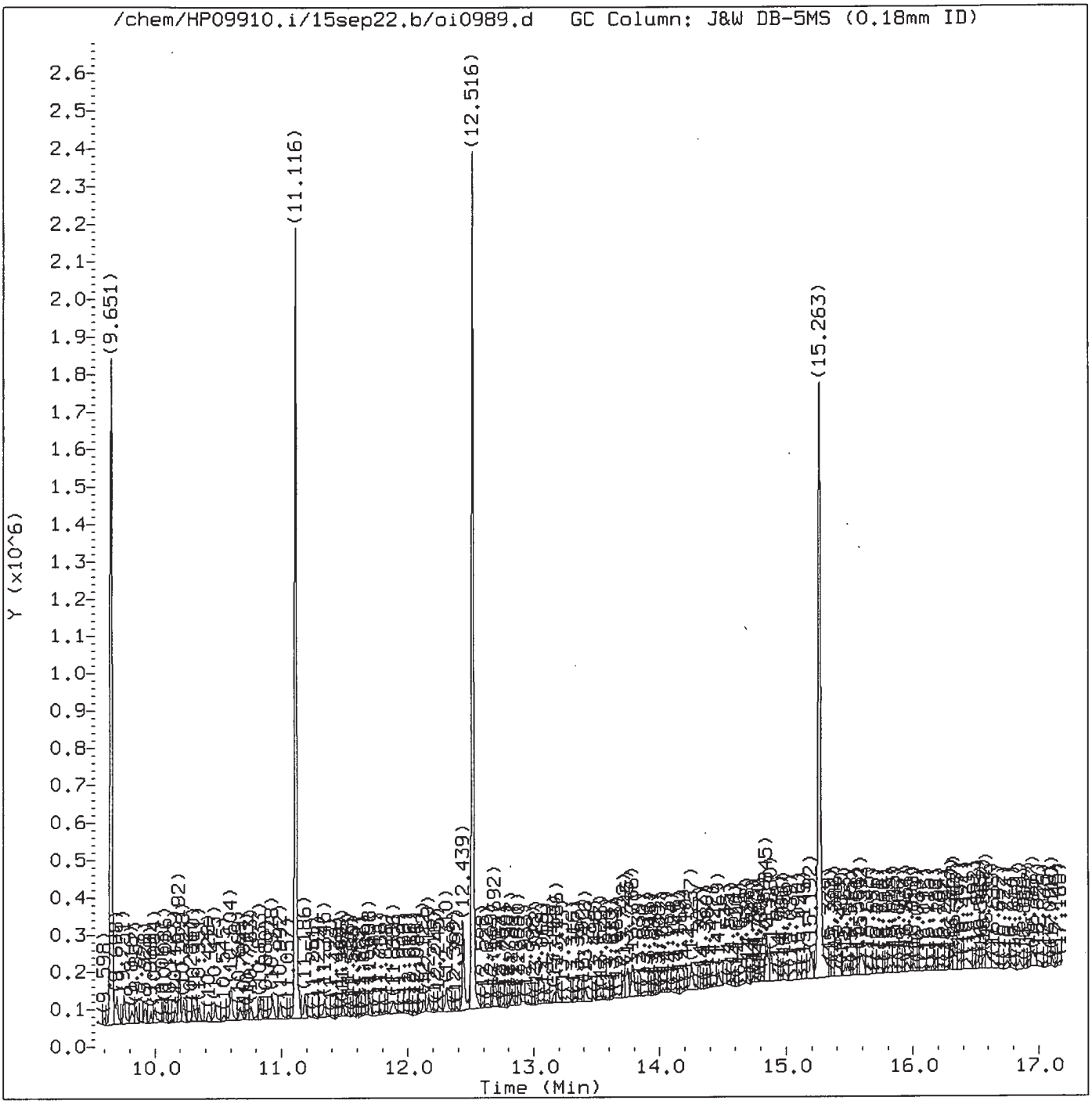
Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	3.005	88	2917	0.527
4) N-Nitrosodimethylamine	(1)	3.599	74	2397	0.263
5) Pyridine	(1)	3.716	79	5838M	0.396
7) 2-Picoline	(1)	4.610	93	8940M	0.568
8) N-Nitrosomethylethylamine	(1)	4.716	88	8030M	1.054
9) Methyl methanesulfonate	(1)	5.063	80	2933	0.391
11)$2-Fluorophenol	(1)	5.257	112	9895	0.801
13) N-Nitrosodiethylamine	(1)	5.510	102	2814	0.389
15) Ethyl methanesulfonate	(1)	5.846	109	3629	0.527
17)$Phenol-d6	(1)	6.269	99	18061	1.022
18) Phenol	(1)	6.281	94	8981	0.427
19) Aniline	(1)	6.298	93	12166	0.515
20) a-methylstyrene	(1)	6.363	118	8012	0.641
22) bis(2-Chloroethyl)ether	(1)	6.375	93	7517	0.503
23) 2-Chlorophenol	(1)	6.422	128	5543	0.451
24) 1,3-Dichlorobenzene	(1)	6.581	146	5521	0.470
25)*1,4-Dichlorobenzene-d4	(1)	6.640	152	148447	20.000
26) 1,4-Dichlorobenzene	(1)	6.657	146	5454	0.436
42) Total Cresols	(1)			11631	0.805
27) Benzyl alcohol	(1)	6.781	108	3980	0.405
28) 1,2-Dichlorobenzene	(1)	6.810	146	5647	0.479
30) Indene	(1)	6.898	115	9664	0.446
31) 2-Methylphenol	(1)	6.898	108	5631	0.424
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.934	45	9119	0.465
34) bis(2-Chloroisopropyl)ether	(1)	6.934	45	9119	0.465
35) N-Nitrosopyrrolidine	(1)	7.022	100	5322	0.660
36) Acetophenone	(1)	7.045	105	8768	0.450
37) 4-Methylphenol	(1)	7.051	108	6000	0.381
38) N-Nitroso-di-n-propylamine	(1)	7.051	70	5281	0.446
39) N-Nitrosomorpholine	(1)	7.057	56	4690	0.492
40) o-Toluidine	(1)	7.081	106	10941	0.483
43) Hexachloroethane	(1)	7.157	117	2473	0.507
44)$Nitrobenzene-d5	(2)	7.192	82	15597	1.018
45) Nitrobenzene	(2)	7.210	77	7081	0.467
48) N-Nitrosopiperidine	(2)	7.363	114	3964	0.576
50) Isophorone	(2)	7.457	82	13020	0.416
51) 2-Nitrophenol	(2)	7.534	139	2885	0.457
53) 2,4-Dimethylphenol	(2)	7.587	107	6606	0.477
56) Benzoic acid	(2)	7.622	105	28512	2.162
57) O,O,O-Triethylphosphorothioate	(2)	7.657	198	3140	0.507

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	7.681	93	8557	0.487
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.757	104	8161	0.436
60) 2,4-Dichlorophenol	(2)	7.775	162	4049	0.408
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	6127	0.607
65)*Naphthalene-d8	(2)	7.916	136	658298	20.000
67) 4-Chloroaniline	(2)	7.992	127	7573	0.466
68) 2,6-Dichlorophenol	(2)	7.992	162	6204	0.636
69) Hexachloropropene	(2)	8.028	213	3022	0.584
71) Hexachlorobutadiene	(2)	8.075	225	1674	0.335
75) Quinoline	(2)	8.263	129	12418	0.478
76) Caprolactam	(2)	8.298	113	3043	0.534
77) N-Nitrosodi-n-butylamine	(2)	8.328	84	8240	0.643
80) 4-Chloro-3-methylphenol	(2)	8.463	107	6886	0.514
82) Safrole	(2)	8.545	162	5292	0.547
97) Isosafrole	(3)			6177	0.545
85) Hexachlorocyclopentadiene	(3)	8.787	237	2104	0.451
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.787	216	4693	0.483
88) cis-Isosafrole	(3)	8.822	162	1083	0.106
90) 2,4,6-Trichlorophenol	(3)	8.904	196	3011	0.426
92) 2,4,5-Trichlorophenol	(3)	8.934	196	3255	0.413
93)$2-Fluorobiphenyl	(3)	8.986	172	24913	0.951
94) trans-Isosafrole	(3)	9.057	162	5094	0.439
95) 1,1'-Biphenyl	(3)	9.086	154	15754	0.505
96) 2-Chloronaphthalene	(3)	9.104	162	12517M	0.521
98) 1-Chloronaphthalene	(3)	9.122	162	11826M	0.528
99) Diphenyl ether	(3)	9.192	170	7852	0.497
100) 2-Nitroaniline	(3)	9.198	138	3620	0.433
104) 1,4-Naphthoquinone	(3)	9.269	158	5241	0.512
105) 1,4-Dinitrobenzene	(3)	9.334	168	1441	0.324
106) Dimethylphthalate	(3)	9.386	163	13314	0.465
107) 1,3-Dinitrobenzene	(3)	9.398	168	1386M	0.272
120) 2,4_2,6-Dinitrotoluenes	(3)			5307	0.662
108) 2,6-Dinitrotoluene	(3)	9.434	165	2128	0.322
112) 3-Nitroaniline	(3)	9.592	138	2744	0.361
113)*Acenaphthene-d10	(3)	9.651	164	412830	20.000
115) 2,4-Dinitrophenol	(3)	9.704	184	9002	7.409
116) 4-Nitrophenol	(3)	9.751	109	8856	2.159
117) Pentachlorobenzene	(3)	9.816	250	4927	0.562
118) 2,4-Dinitrotoluene	(3)	9.834	165	3179	0.340
119) Dibenzofuran	(3)	9.857	168	18929	0.544

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
121) 1-Naphthylamine	(3)	9.922	143	12971	0.458
122) 2,3,4,6-Tetrachlorophenol	(3)	9.975	232	3292	0.490
123) 2-Naphthylamine	(3)	10.004	143	11819	0.422
124) Diethylphthalate	(3)	10.086	149	13668	0.487
125) Thionazin	(3)	10.163	107	3259	0.563
128) 5-Nitro-o-toluidine	(3)	10.192	152	5031	0.580
129) 4-Nitroaniline	(3)	10.192	138	4439	0.526
127) 4-Chlorophenyl-phenylether	(3)	10.198	204	6537	0.482
146) Diallate trans/cis	(4)			12496	0.690
130) 4,6-Dinitro-2-methylphenol	(4)	10.233	198	7106	1.140
131) N-Nitrosodiphenylamine	(4)	10.310	169	13443	0.502
132) NDPA as diphenylamine	(4)	10.310	169	13443	0.493
134) 1,2-Diphenylhydrazine	(4)	10.351	77	14472	0.396
135)$2,4,6-Tribromophenol	(3)	10.422	330	2688	0.795
137) Tetraethyldithiopyrophosphate	(4)	10.475	97	3404	0.654
139) 1,3,5-Trinitrobenzene	(4)	10.533	213	1181M	3.776
140) Diallate (peak 1)	(4)	10.604	86	9548	0.525
142) Phenacetin	(4)	10.604	108	7831	0.423
141) Phorate	(4)	10.610	75	10396	0.423
144) Diallate (peak 2)	(4)	10.675	86	2948	0.165
143) 4-Bromophenyl-phenylether	(4)	10.681	248	4724	0.631
147) Dimethoate	(4)	10.763	87	8168	0.499
149) Pentachlorophenol	(4)	10.922	266	1651	0.312
150) 4-Aminobiphenyl	(4)	10.928	169	12613	0.502
151) Pentachloronitrobenzene	(4)	10.939	237	1142	0.388
152) Pronamide	(4)	10.992	173	4371	0.348
154) Dinoseb	(4)	11.110	211	2564	0.320
153)*Phenanthrene-d10	(4)	11.116	188	839560	20.000
163) Carbazole	(4)	11.345	167	19693	0.433
164) Methyl parathion	(4)	11.486	109	3328	0.294
165) Di-n-butylphthalate	(4)	11.704	149	20780	0.392
168) 4-Nitroquinoline-1-oxide	(4)	11.880	190	1117	2.579
167) Parathion	(4)	11.880	109	2495M	0.352
169) Octachlorostyrene	(4)	12.133	308	1634	0.637
171) Isodrin	(4)	12.169	193	2591	0.529
174) Benzidine	(5)	12.439	184	99400	2.912
175)*Pyrene-d10	(5)	12.516	212	983047	20.000
179)$Terphenyl-d14	(5)	12.692	244	35251	0.974
182) p-Dimethylaminoazobenzene	(5)	12.827	225	4371	0.405
185) Chlorobenzilate	(5)	12.880	139	5505	0.361

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

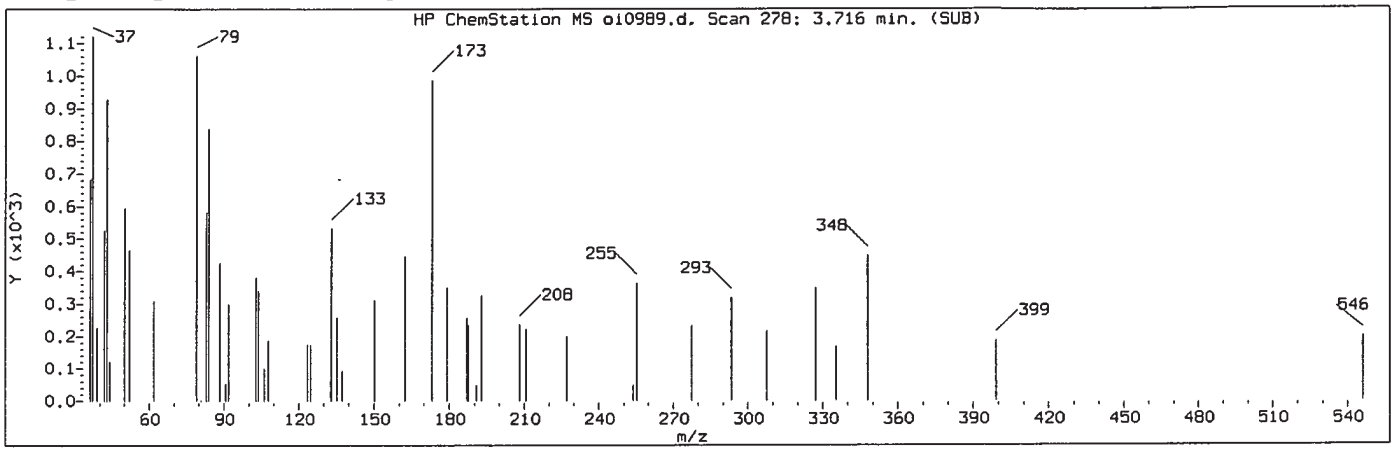
Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
187) 3,3'-Dimethylbenzidine	(5)	13.163	212	10984	0.361
188) Butylbenzylphthalate	(5)	13.186	149	11313	0.439
191) 2-Acetylaminofluorene	(5)	13.416	181	8099	0.346
193) 3,3'-Dichlorobenzidine	(5)	13.722	252	6740	0.388
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.727	231	4818	0.494
199) bis(2-Ethylhexyl)phthalate	(5)	13.798	149	13867	0.385
203) 6-Methylchrysene	(5)	14.251	242	17219	0.501
205) Di-n-octylphthalate	(6)	14.469	149	22103	0.349
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.845	256	12254	0.526
213)*Perylene-d12	(6)	15.263	264	769434	20.000
215) 3-Methylcholanthrene	(6)	15.592	268	11452	0.511

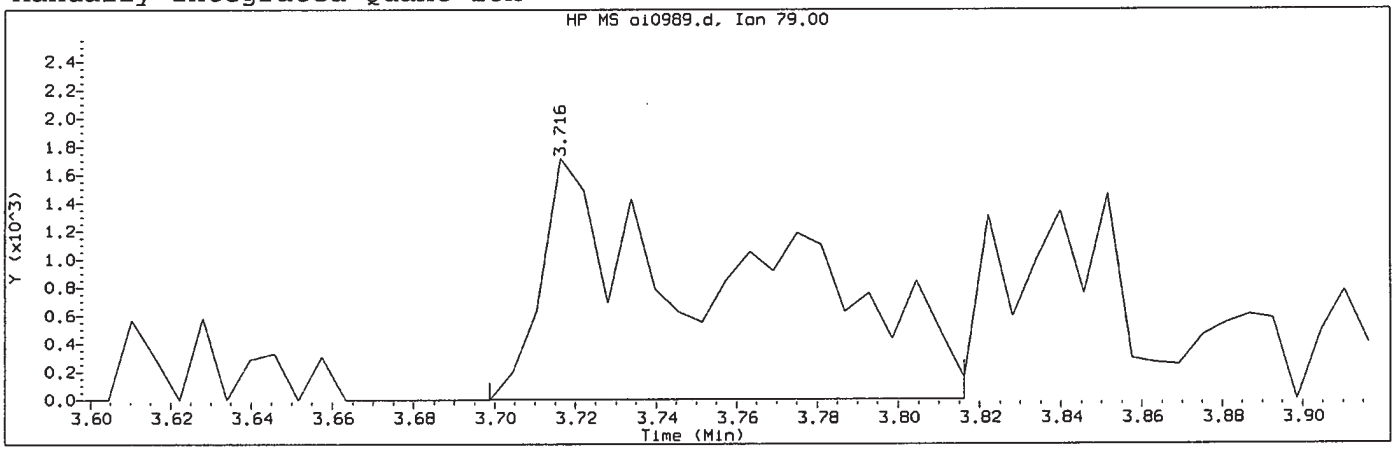
* = Compound is an internal standard.

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 278		
Retention Time (minutes)	: 3.716		
Quant Ion	: 79.00		
Area (flag)	: 5838M		
On-Column Amount (ng/ul)	: 0.3958		
Integration start scan	: 274	Integration stop scan:	294
Y at integration start	: 3	Y at integration end:	3

Reason for manual integration: improper integration

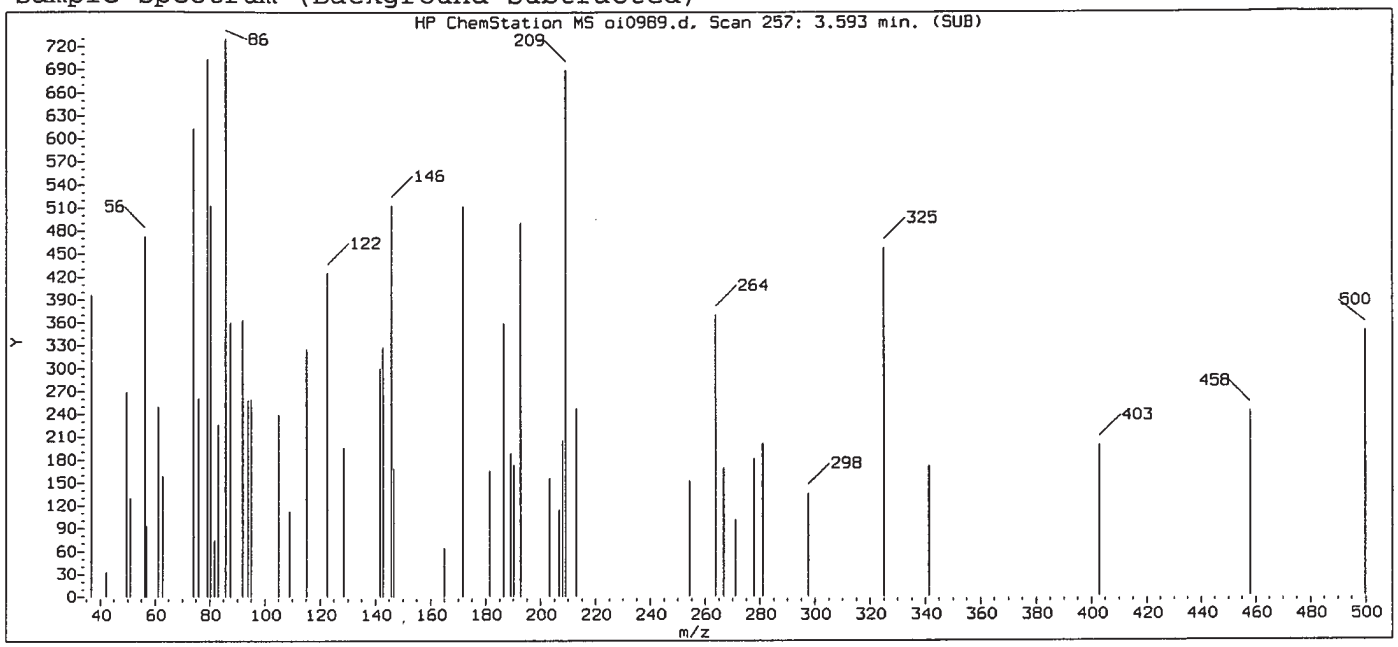
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50. Target 3.5 signature user ID: lmh00956

SEP 23 2015

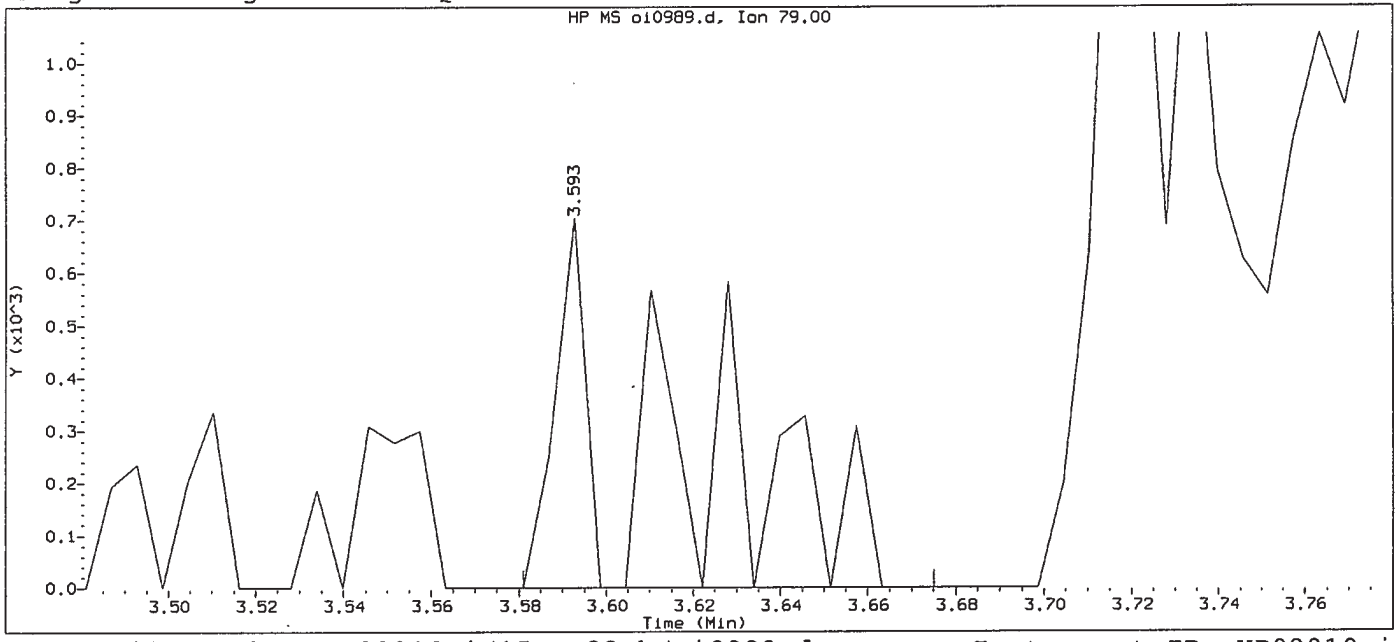
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 22-SEP-2015 13:14
Date, time and analyst ID of latest file update: 22-Sep-2015 13:15 Automation

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 257		
Retention Time (minutes)	: 3.593		
Quant Ion	: 79.00		
Area	: 1175		
On-column Amount (ng/ul)	: 0.0797		
Integration start scan	: 254	Integration stop scan:	270
Y at integration start	: 0	Y at integration end:	0

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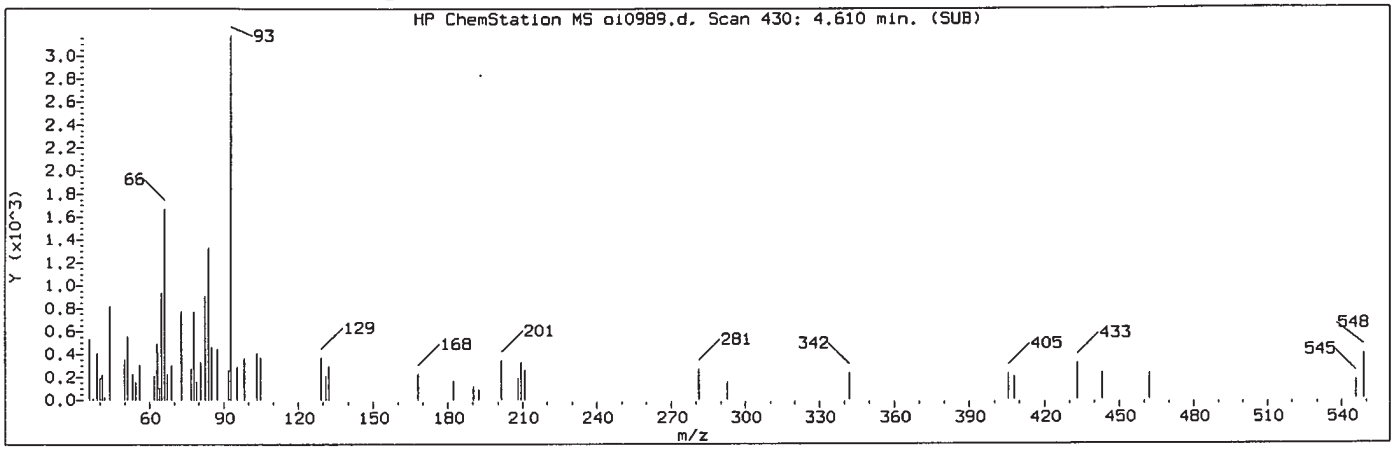
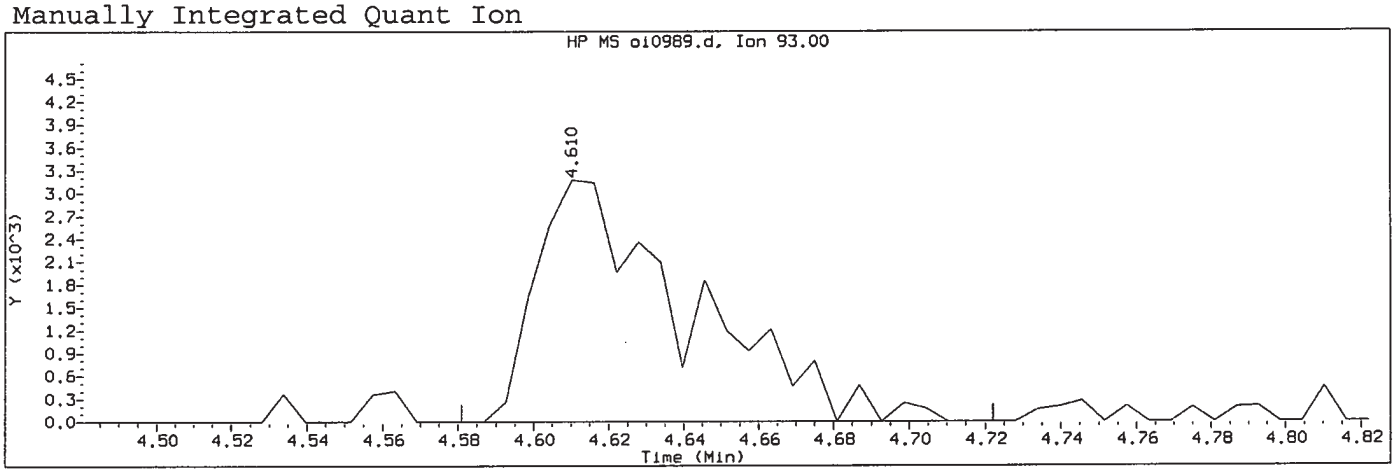
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 430		
Retention Time (minutes)	: 4.610		
Quant Ion	: 93.00		
Area (flag)	: 8940M		
On-Column Amount (ng/ul)	: 0.5679		
Integration start scan	: 424	Integration stop scan:	448
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

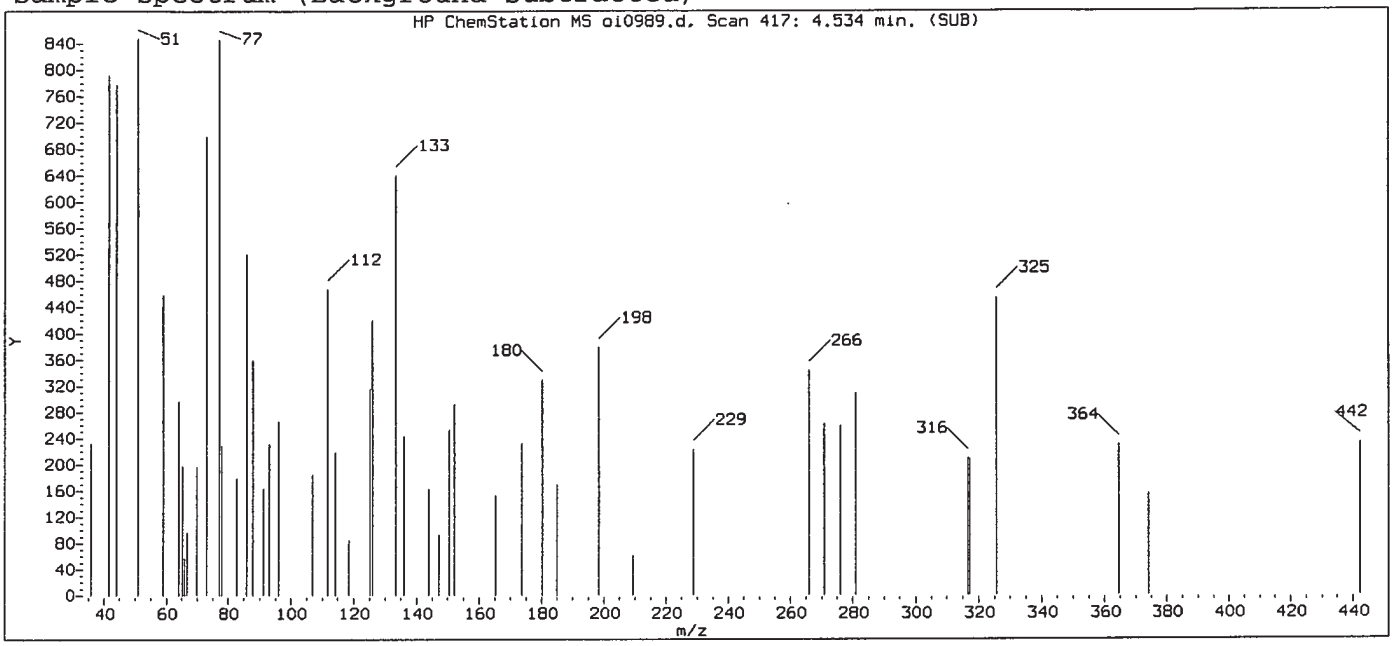
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

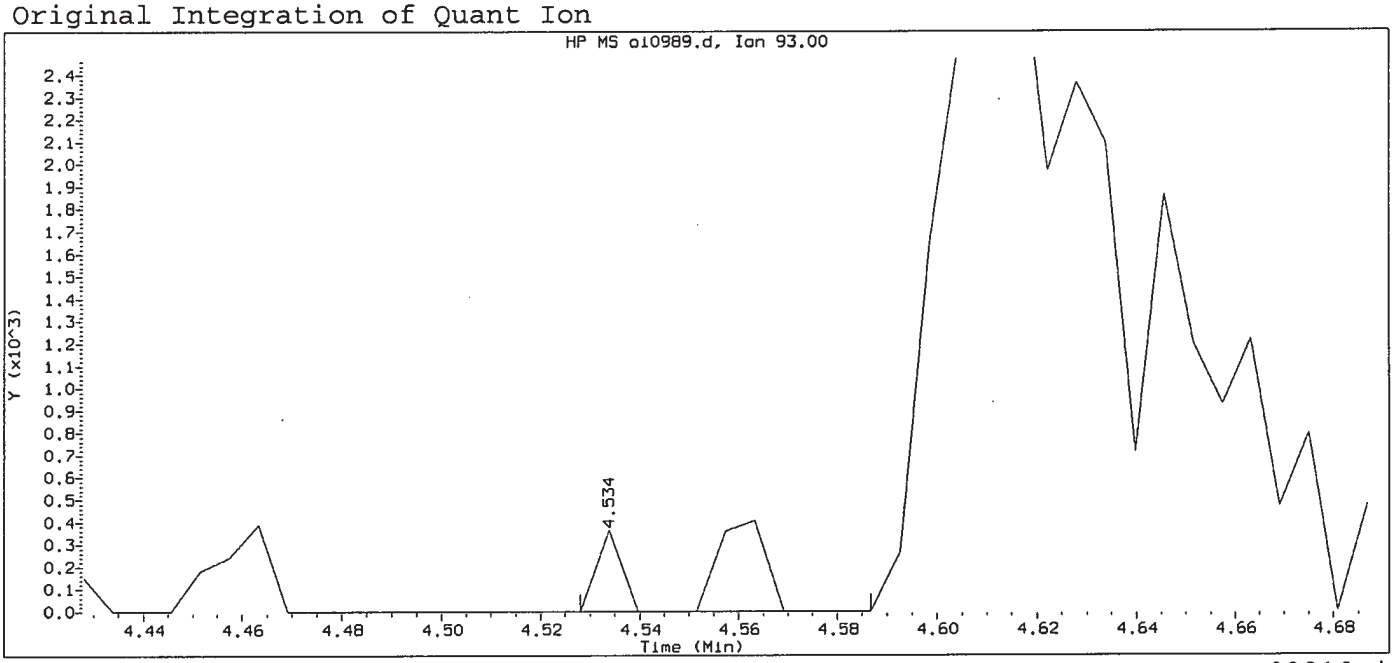
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

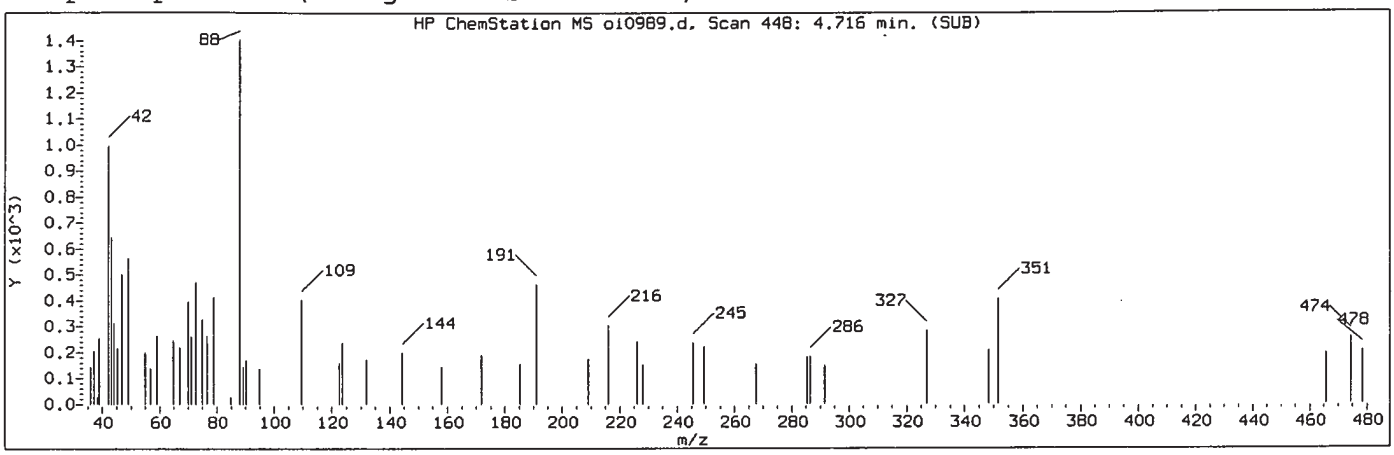
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdla111
Calibration date and time: 22-SEP-2015 13:14
Date, time and analyst ID of latest file update: 22-Sep-2015 13:15 Automation

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

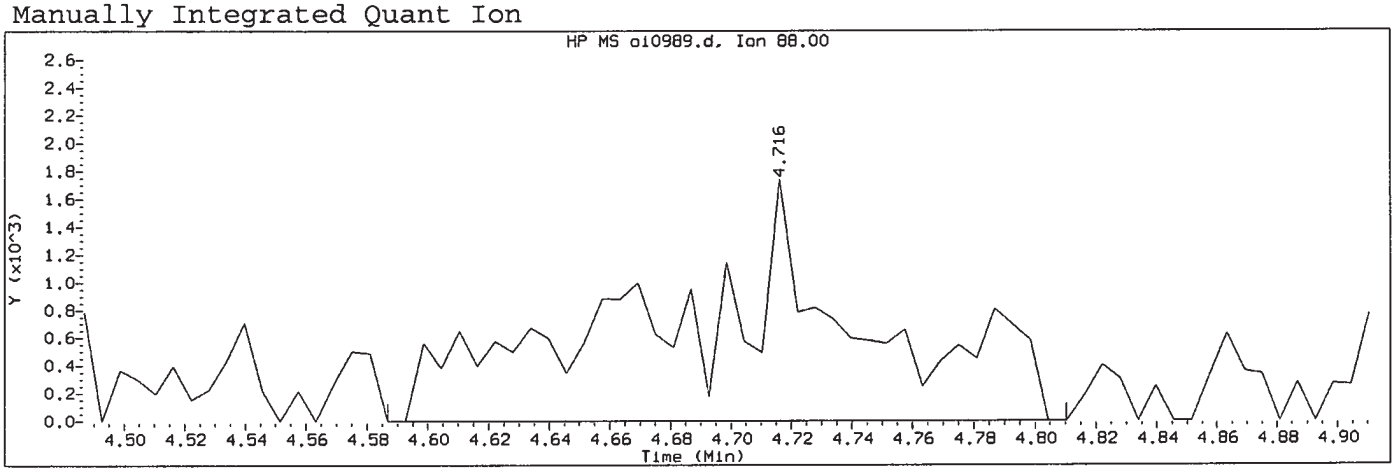
Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 417		
Retention Time (minutes)	: 4.534		
Quant Ion	: 93.00		
Area	: 399		
On-column Amount (ng/ul)	: 0.0254		
Integration start scan	: 415	Integration stop scan:	425
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 448		
Retention Time (minutes)	: 4.716		
Quant Ion	: 88.00		
Area (flag)	: 8030M		
On-Column Amount (ng/ul)	: 1.0543		
Integration start scan	: 425	Integration stop scan:	463
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

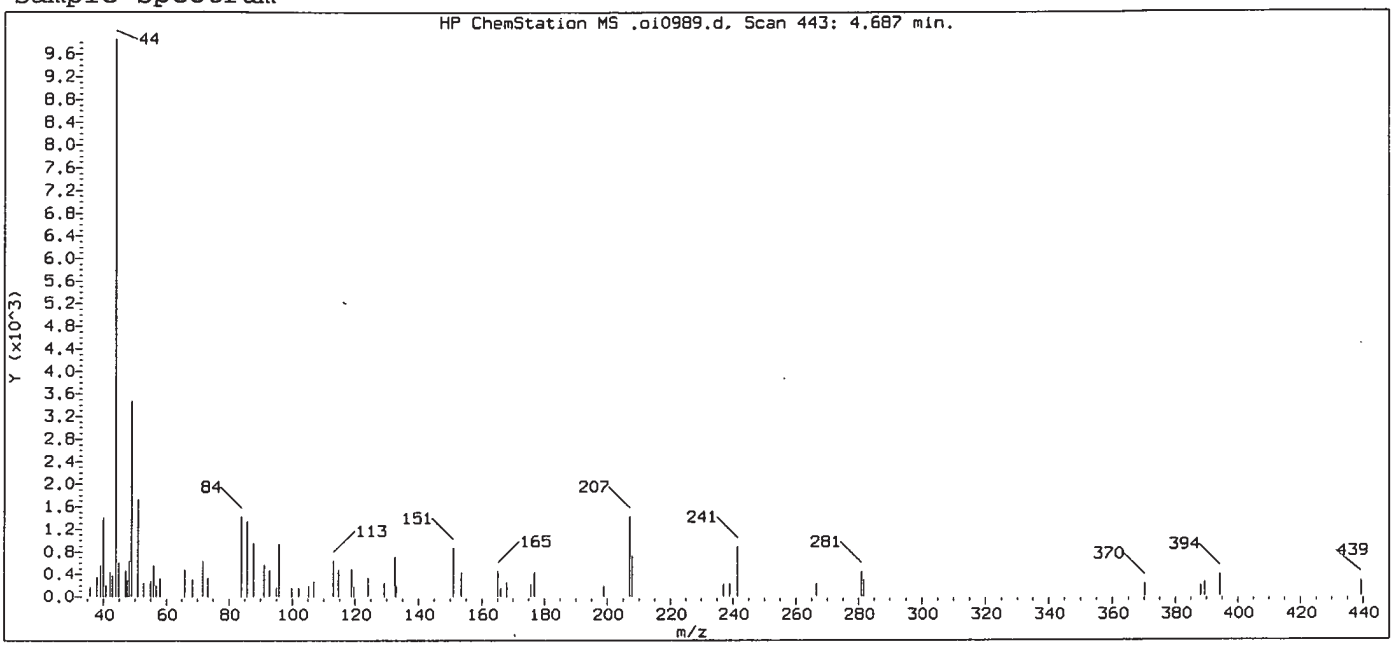
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50. Target 3.5 signature user ID: lmh00956

SEP 23 2015

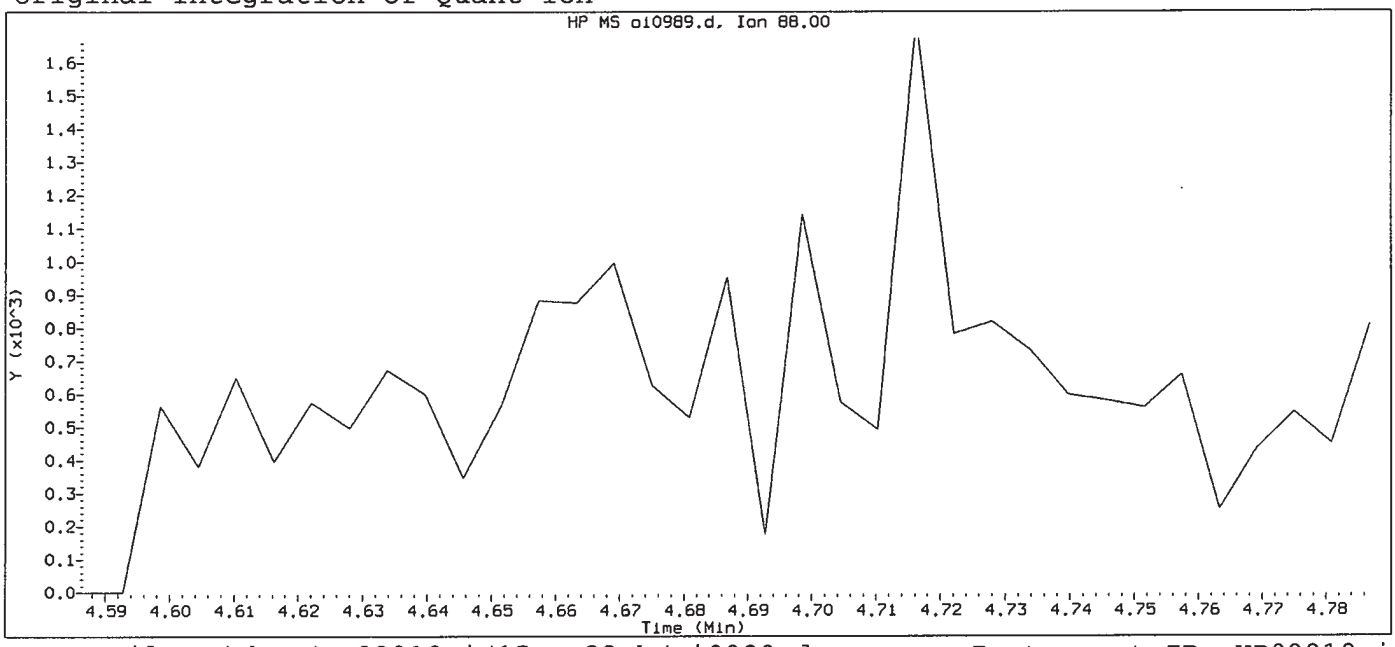
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

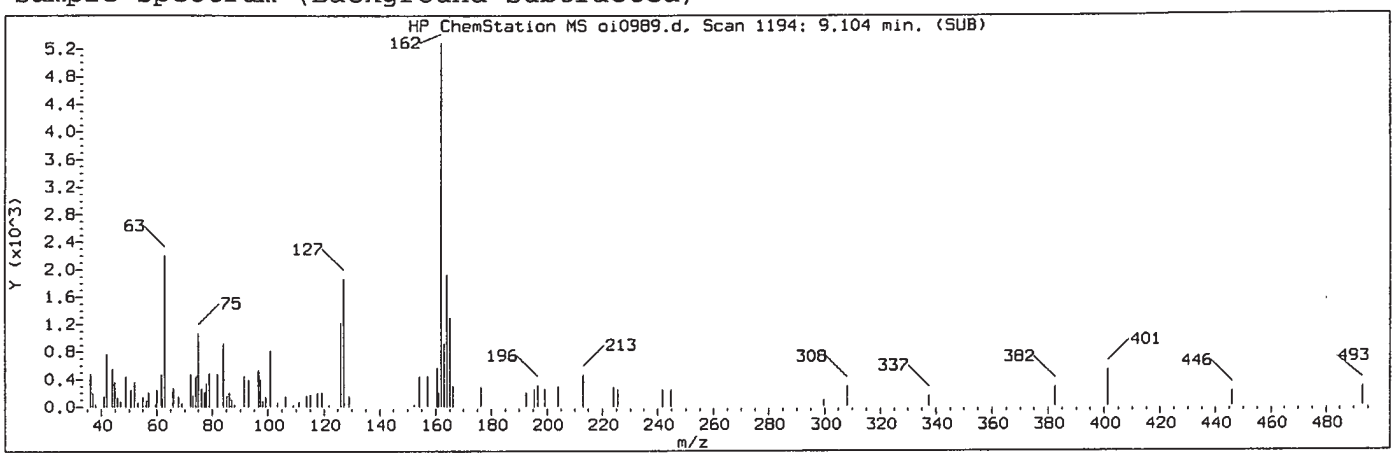
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 22-SEP-2015 13:14
Date, time and analyst ID of latest file update: 22-Sep-2015 13:15 Automation

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

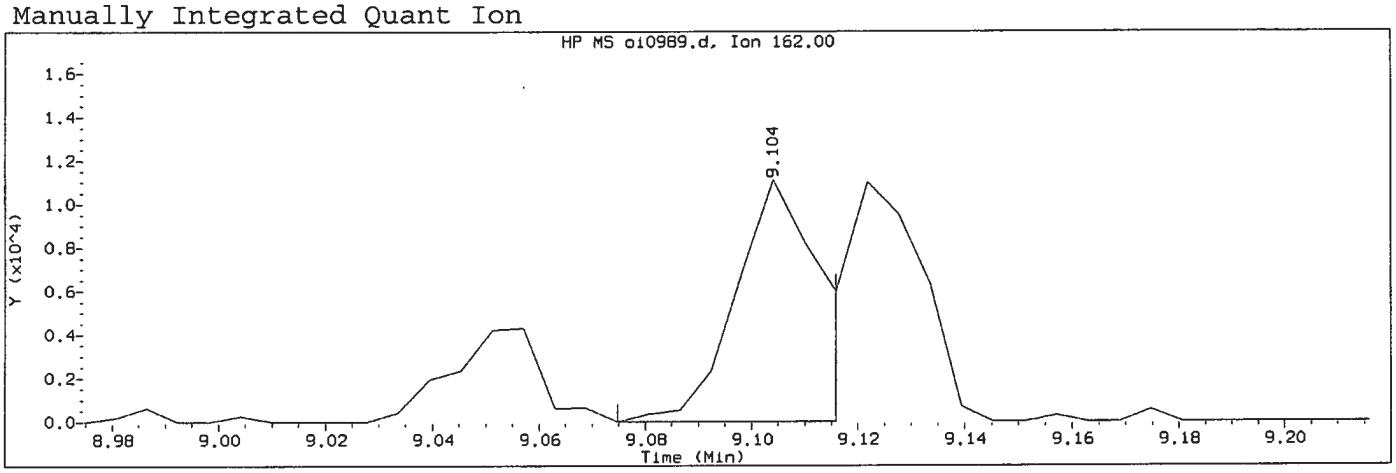
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.687
Quant Ion : 88.00

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1194		
Retention Time (minutes)	: 9.104		
Quant Ion	: 162.00		
Area (flag)	: 12517M		
On-Column Amount (ng/ul)	: 0.5207		
Integration start scan	: 1188	Integration stop scan:	1195
Y at integration start	: -12	Y at integration end:	-12

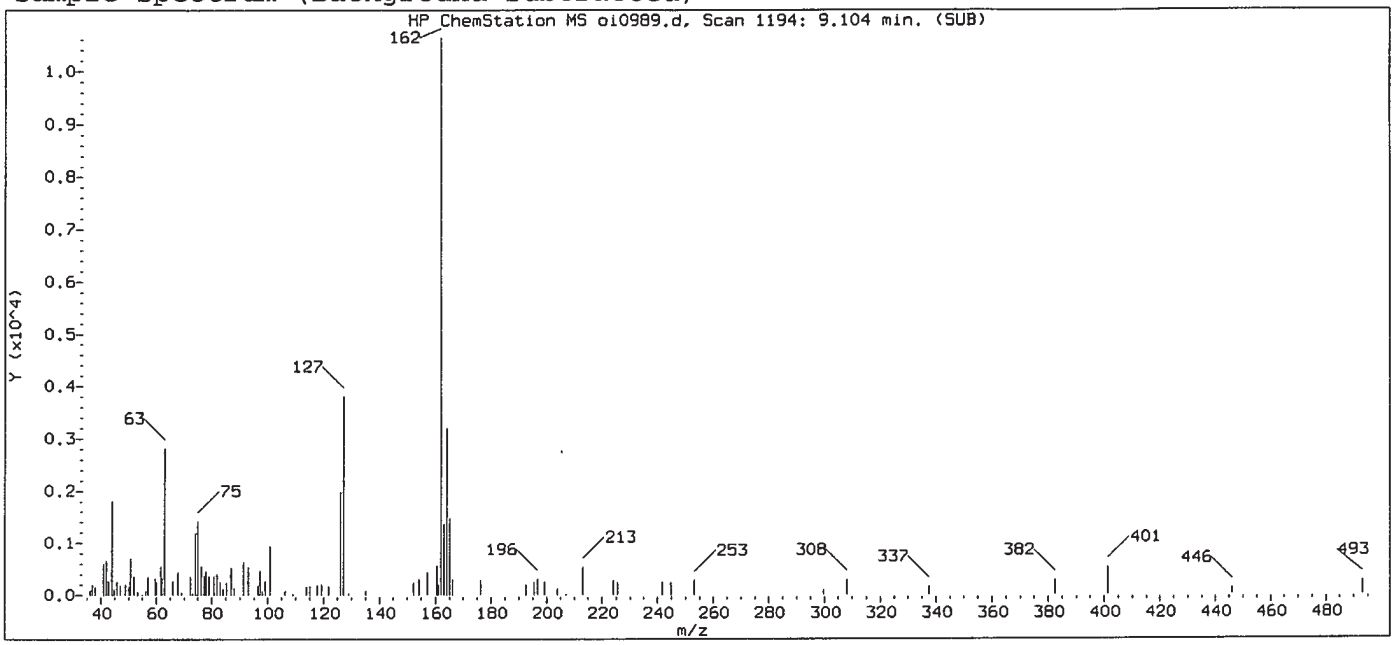
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50. Target 3.5 signature user ID: lmh00956

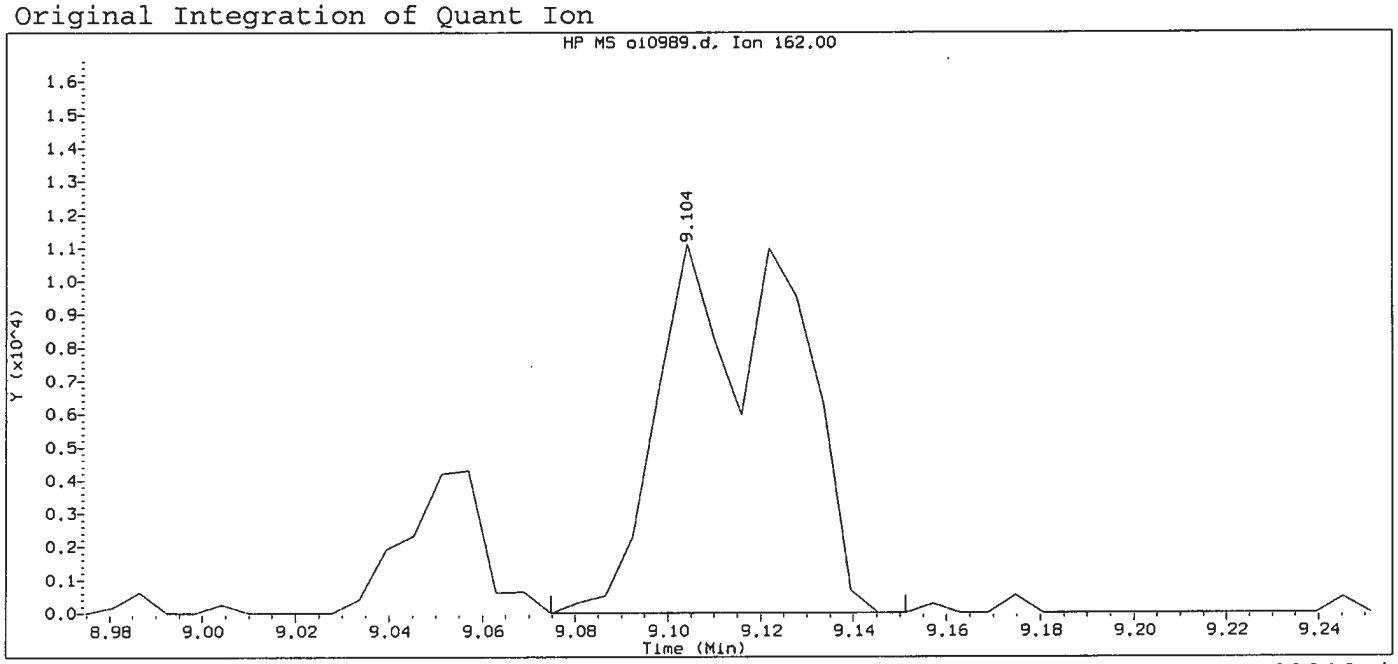
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

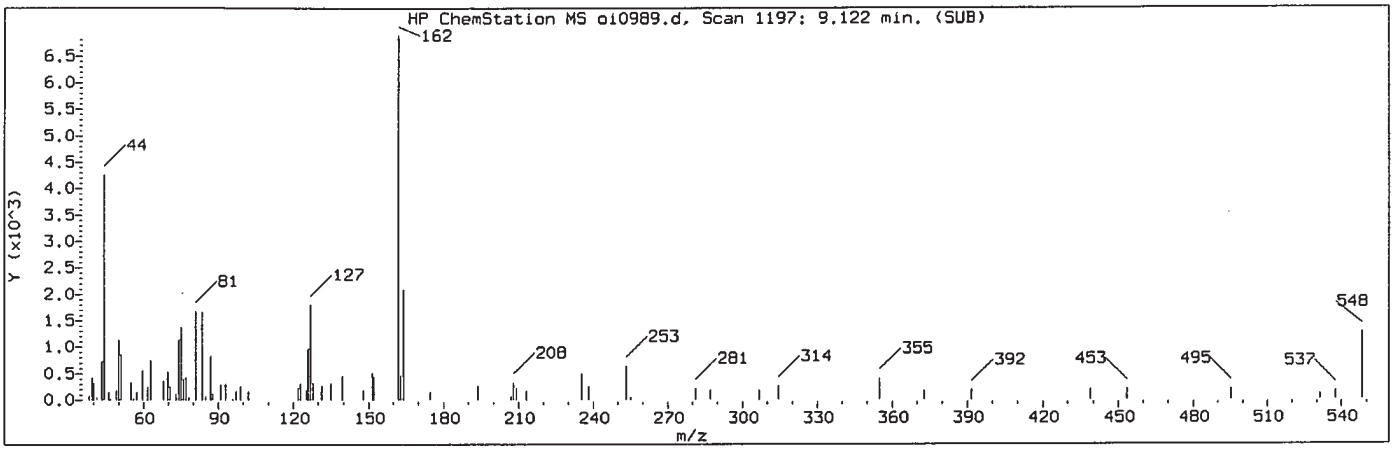
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 22-SEP-2015 13:14
Date, time and analyst ID of latest file update: 22-Sep-2015 13:15 Automation

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

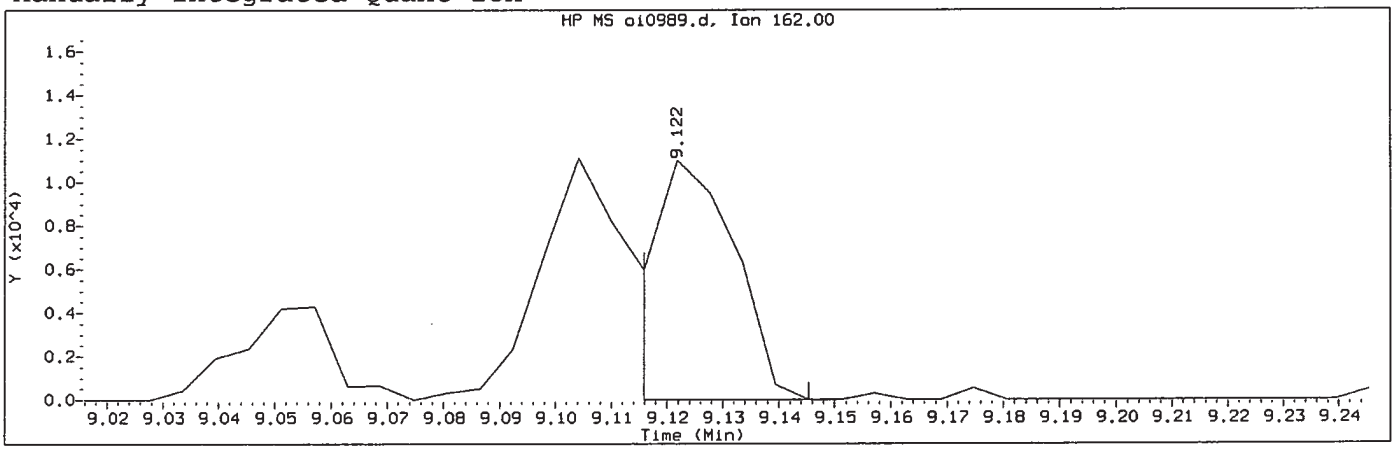
Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1194		
Retention Time (minutes)	: 9.104		
Quant Ion	: 162.00		
Area	: 22202		
On-column Amount (ng/ul)	: 0.9236		
Integration start scan	: 1188	Integration stop scan:	1201
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1197		
Retention Time (minutes)	: 9.122		
Quant Ion	: 162.00		
Area (flag)	: 11826M		
On-Column Amount (ng/ul)	: 0.5281		
Integration start scan	: 1195	Integration stop scan:	1200
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

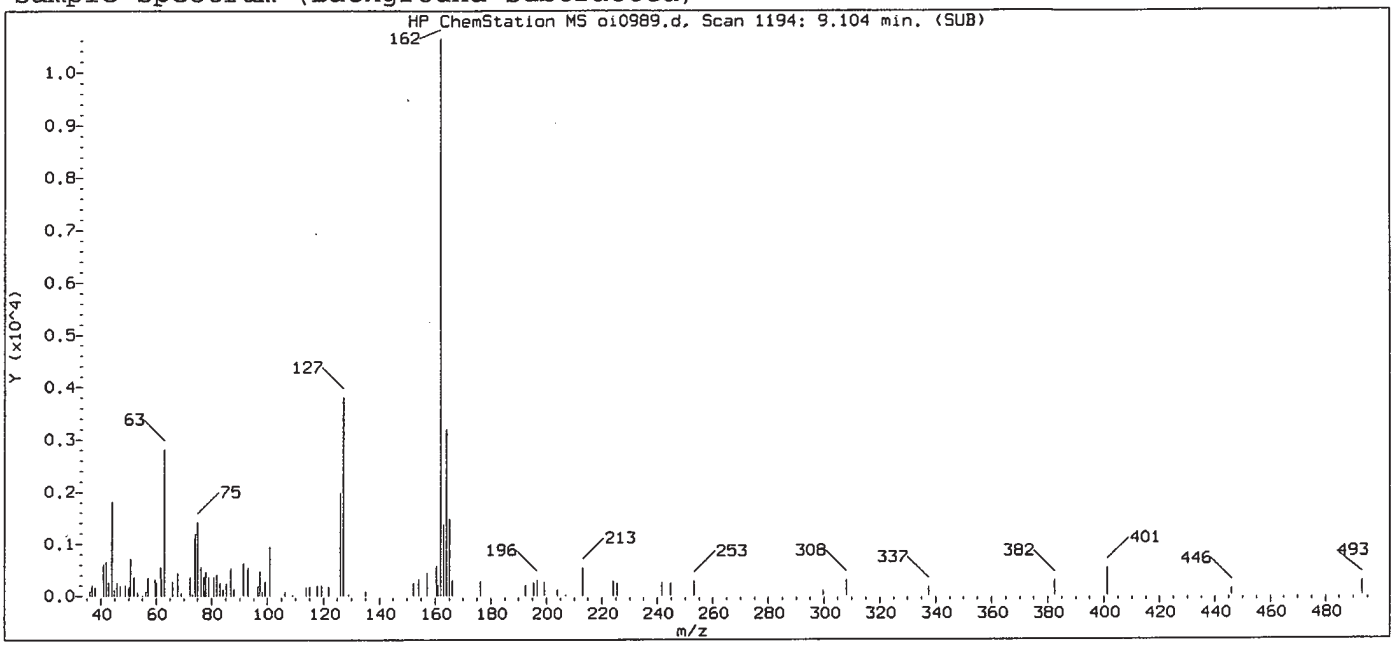
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50. Target 3.5 signature user ID: lmh00956

SEP 23 2015

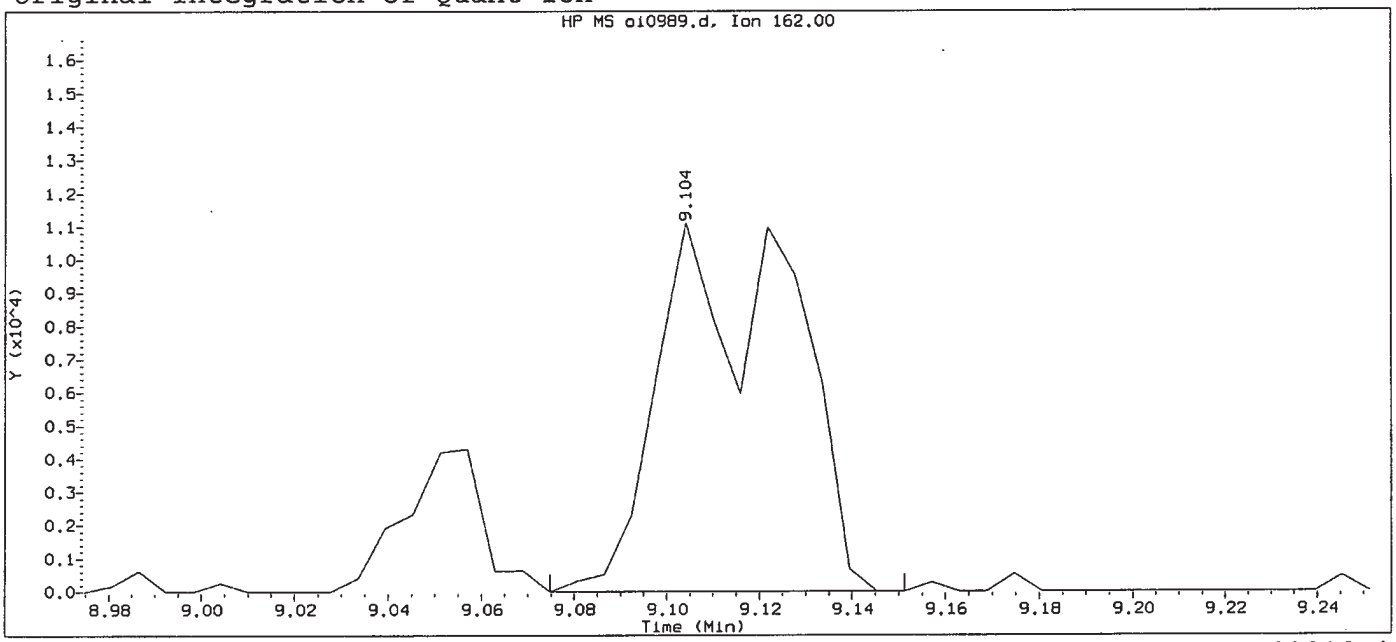
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

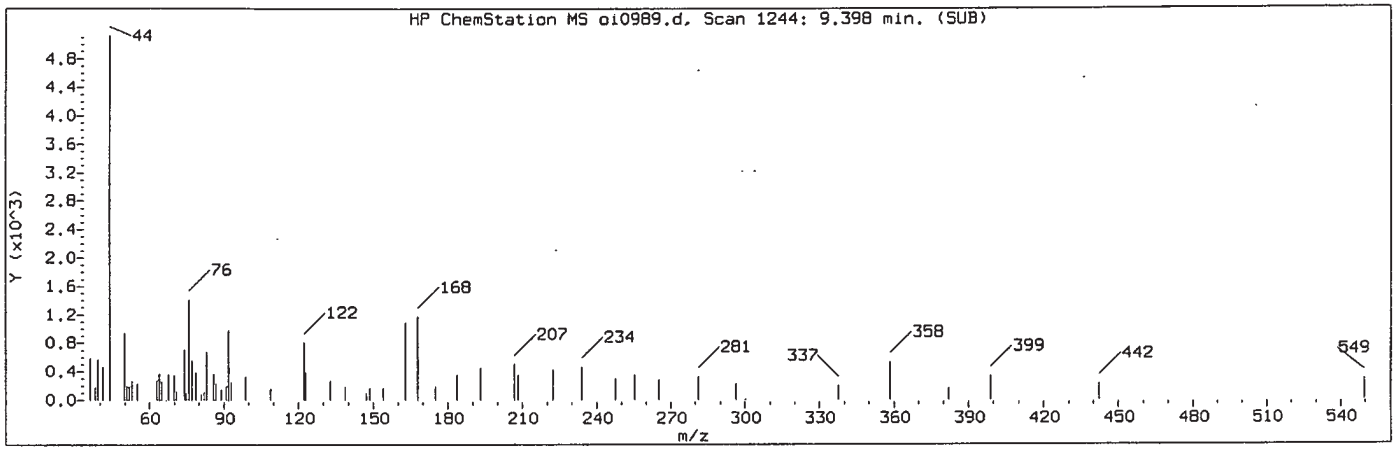
Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 22-SEP-2015 13:14
Date, time and analyst ID of latest file update: 22-Sep-2015 13:15 Automation

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

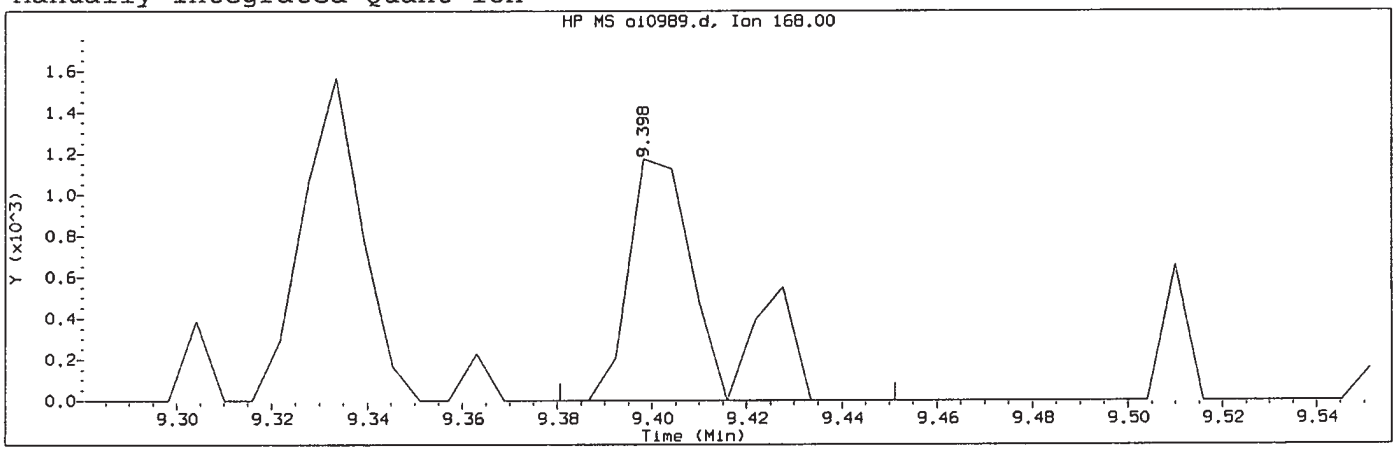
Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1194		
Retention Time (minutes)	: 9.104		
Quant Ion	: 162.00		
Area	: 22202		
On-column Amount (ng/ul)	: 0.9915		
Integration start scan	: 1188	Integration stop scan:	1201
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 107		
Compound Name	: 1,3-Dinitrobenzene		
Scan Number	: 1244		
Retention Time (minutes)	: 9.398		
Quant Ion	: 168.00		
Area (flag)	: 1386M		
On-Column Amount (ng/ul)	: 0.2717		
Integration start scan	: 1240	Integration stop scan:	1252
Y at integration start	: 0	Y at integration end:	0

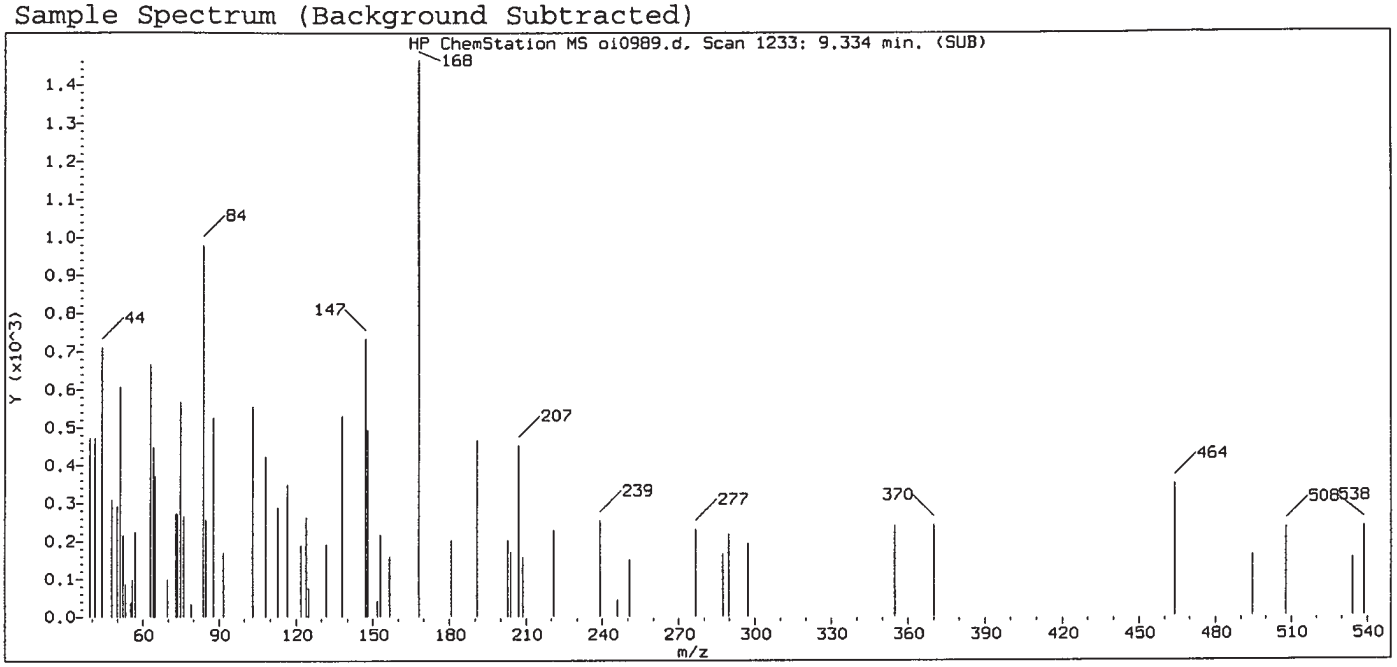
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50. Target 3.5 esignature user ID: lmh00956

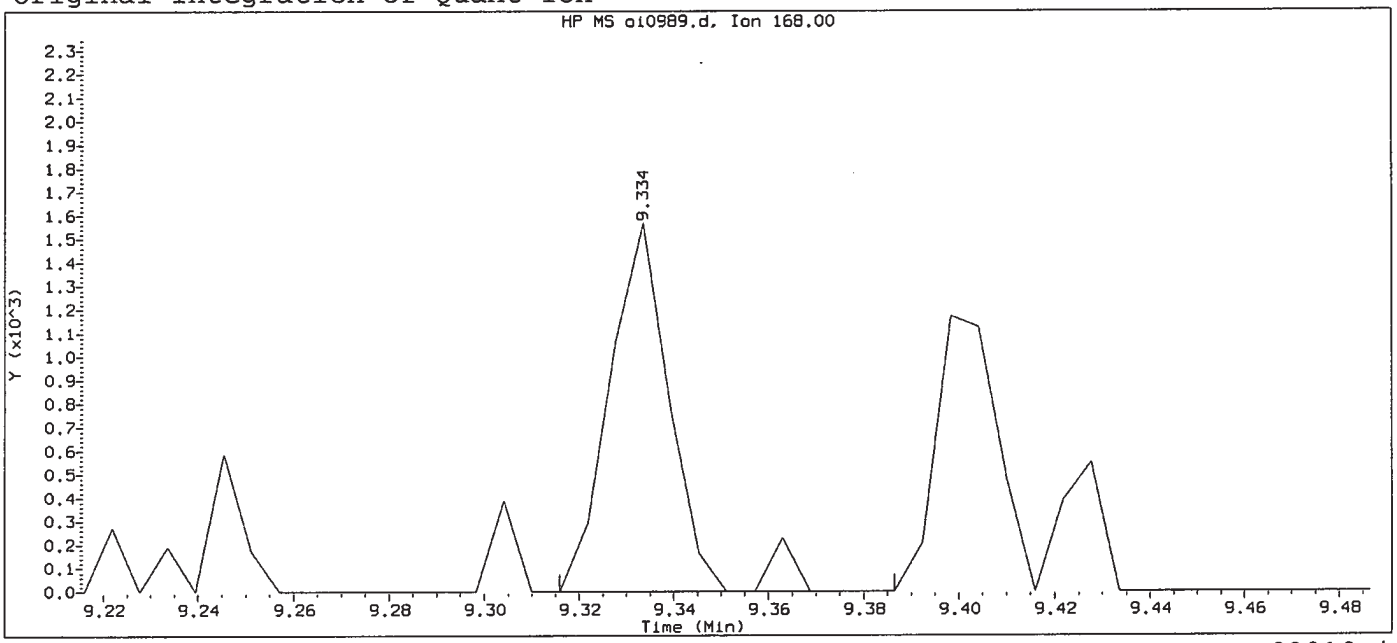
GC/MS audit/management approval: SEP 23 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 22-SEP-2015 13:14
Date, time and analyst ID of latest file update: 22-Sep-2015 13:15 Automation

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 107		
Compound Name	: 1,3-Dinitrobenzene		
Scan Number	: 1233		
Retention Time (minutes)	: 9.334		
Quant Ion	: 168.00		
Area	: 1441		
On-column Amount (ng/ul)	: 0.2825		
Integration start scan	: 1229	Integration stop scan:	1241
Y at integration start	: 0	Y at integration end:	0

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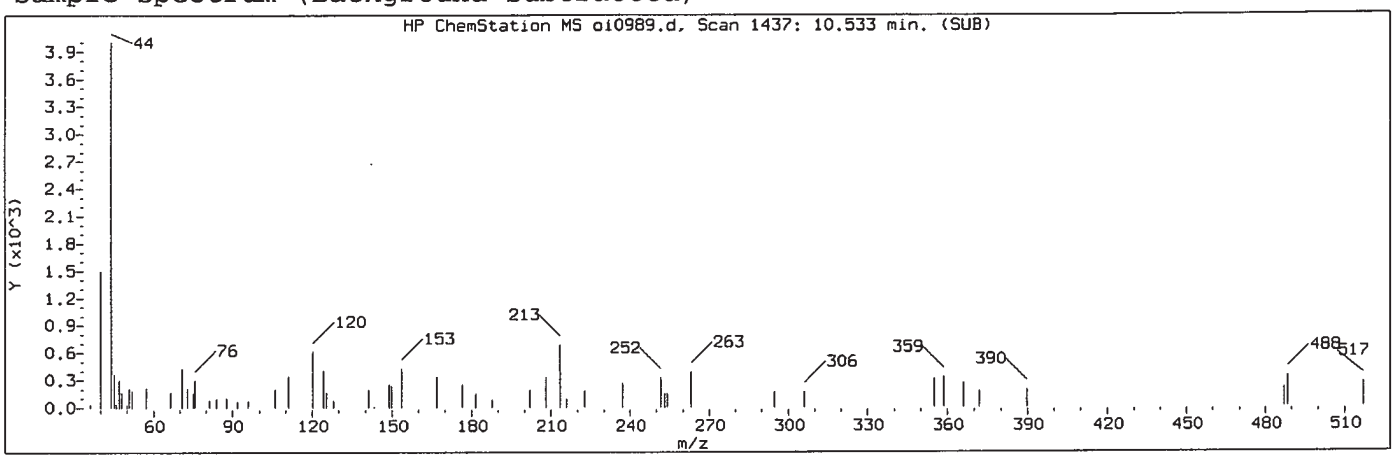
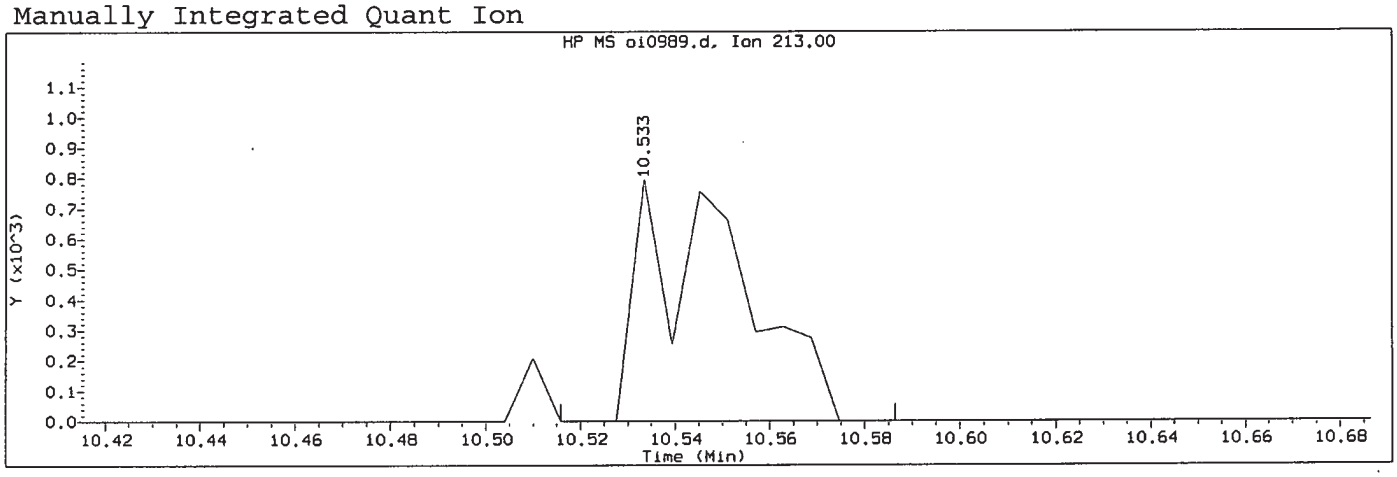
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 139		
Compound Name	: 1,3,5-Trinitrobenzene		
Scan Number	: 1437		
Retention Time (minutes)	: 10.533		
Quant Ion	: 213.00		
Area (flag)	: 1181M		
On-Column Amount (ng/ul)	: 3.7764		
Integration start scan	: 1433	Integration stop scan:	1445
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

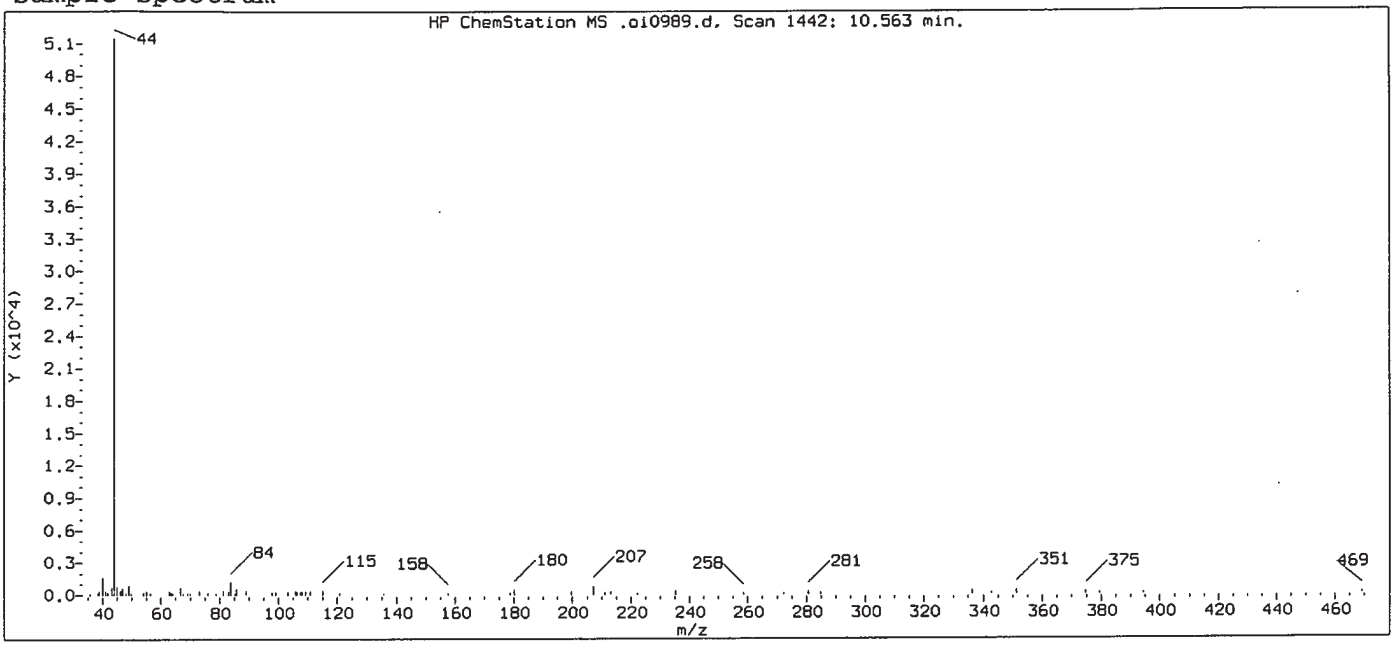
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50. Target 3.5 signature user ID: lmh00956

SEP 23 2015

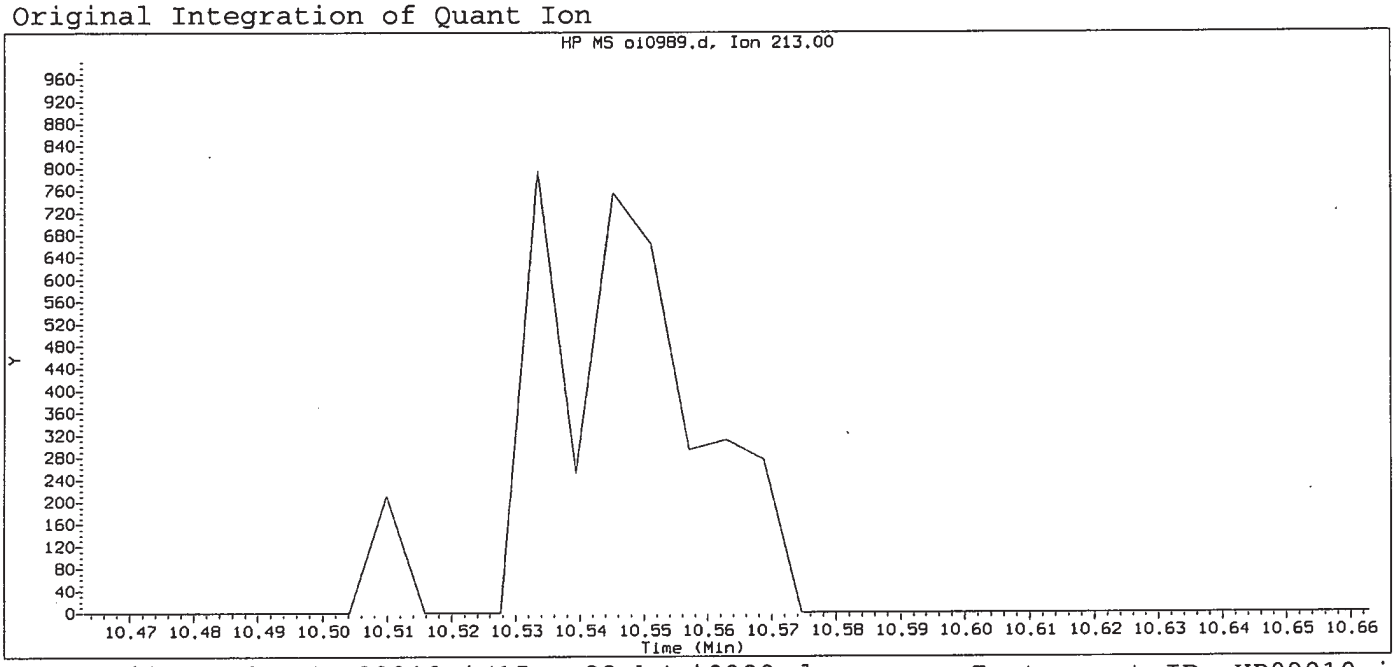
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 22-SEP-2015 13:14
Date, time and analyst ID of latest file update: 22-Sep-2015 13:15 Automation

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number : 139
Compound Name : 1,3,5-Trinitrobenzene
Expected RT (minutes) : 10.563
Quant Ion : 213.00

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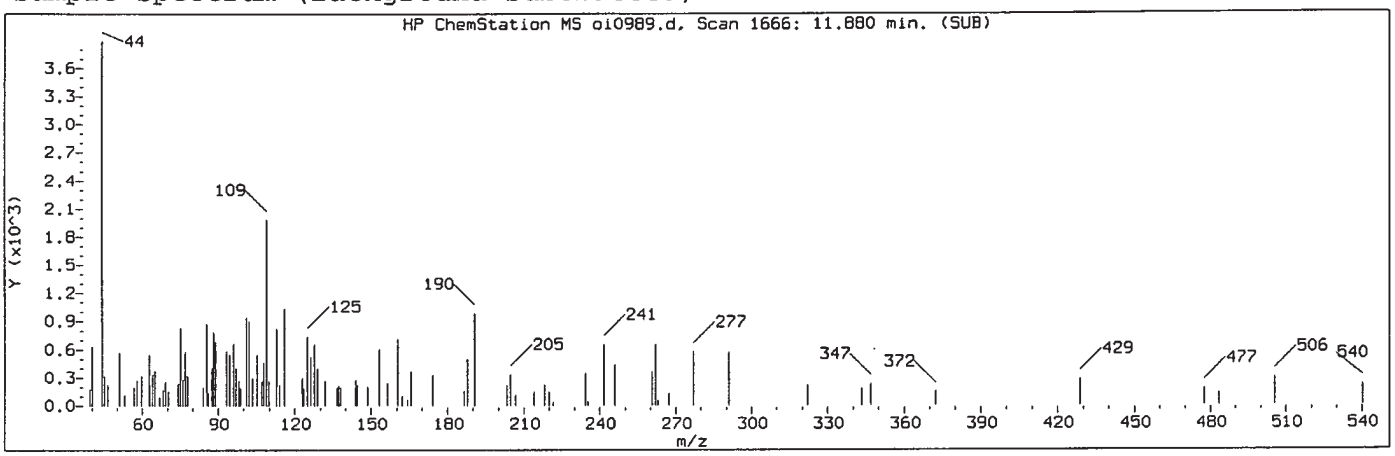
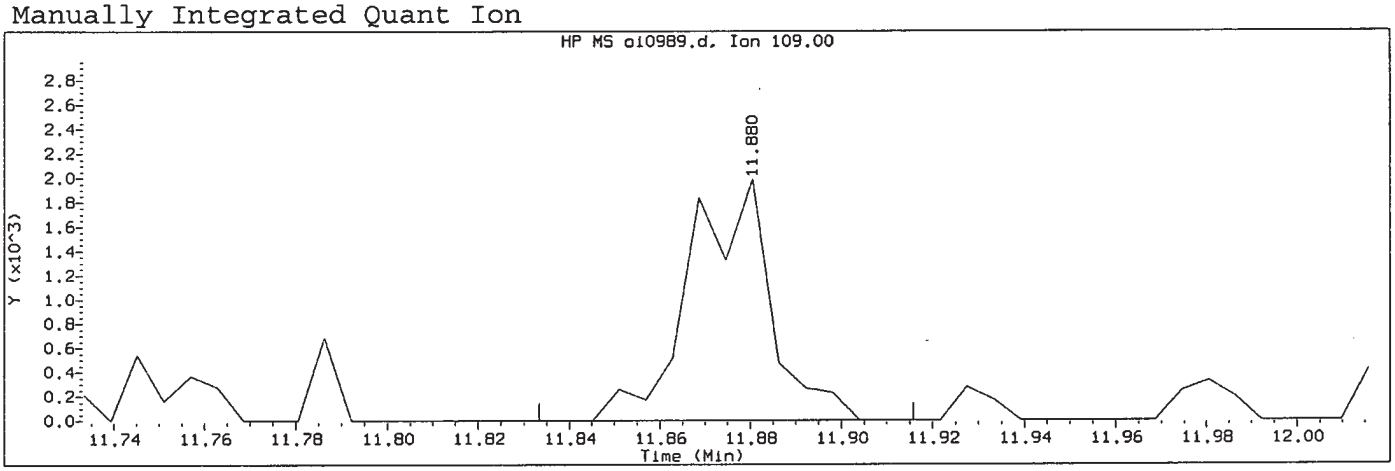
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1-b
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 13:50 lmh00956

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number	: 167		
Compound Name	: Parathion		
Scan Number	: 1666		
Retention Time (minutes)	: 11.880		
Quant Ion	: 109.00		
Area (flag)	: 2495M		
On-Column Amount (ng/ul)	: 0.3515		
Integration start scan	: 1657	Integration stop scan:	1671
Y at integration start	: 0	Y at integration end:	0

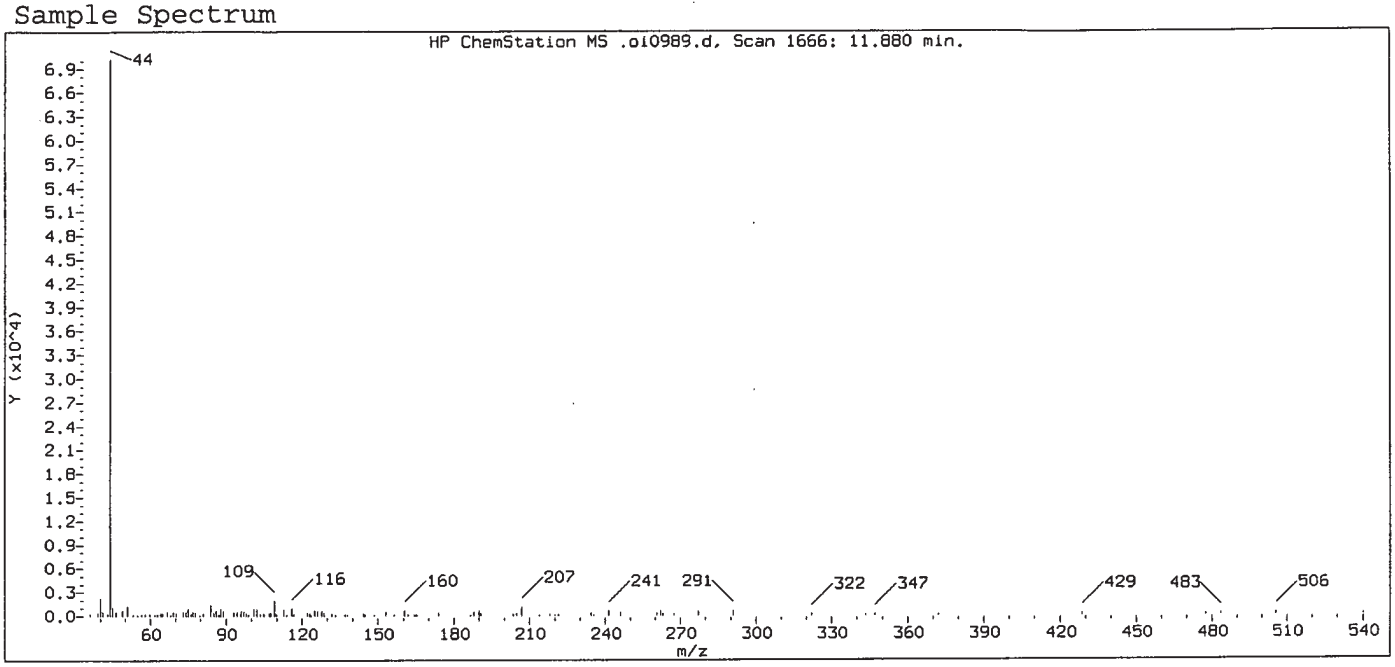
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50 Target 3.5 signature user ID: lmh00956

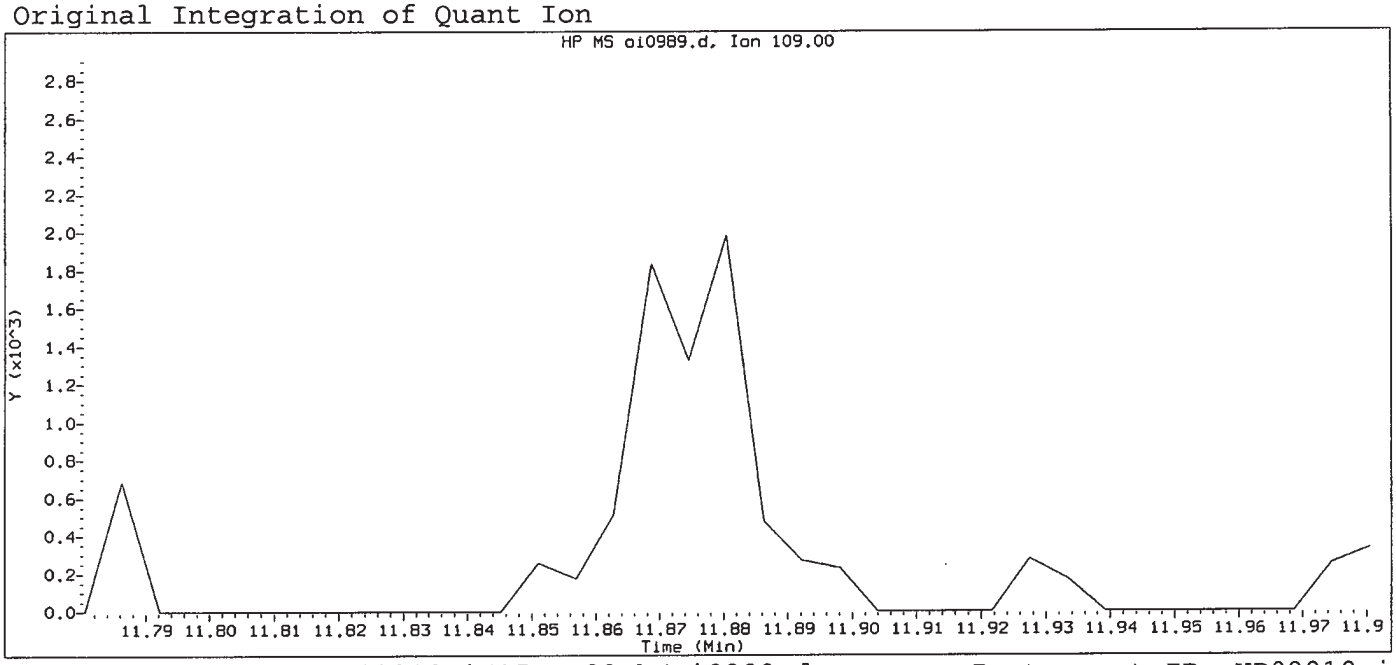
SEP 23 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



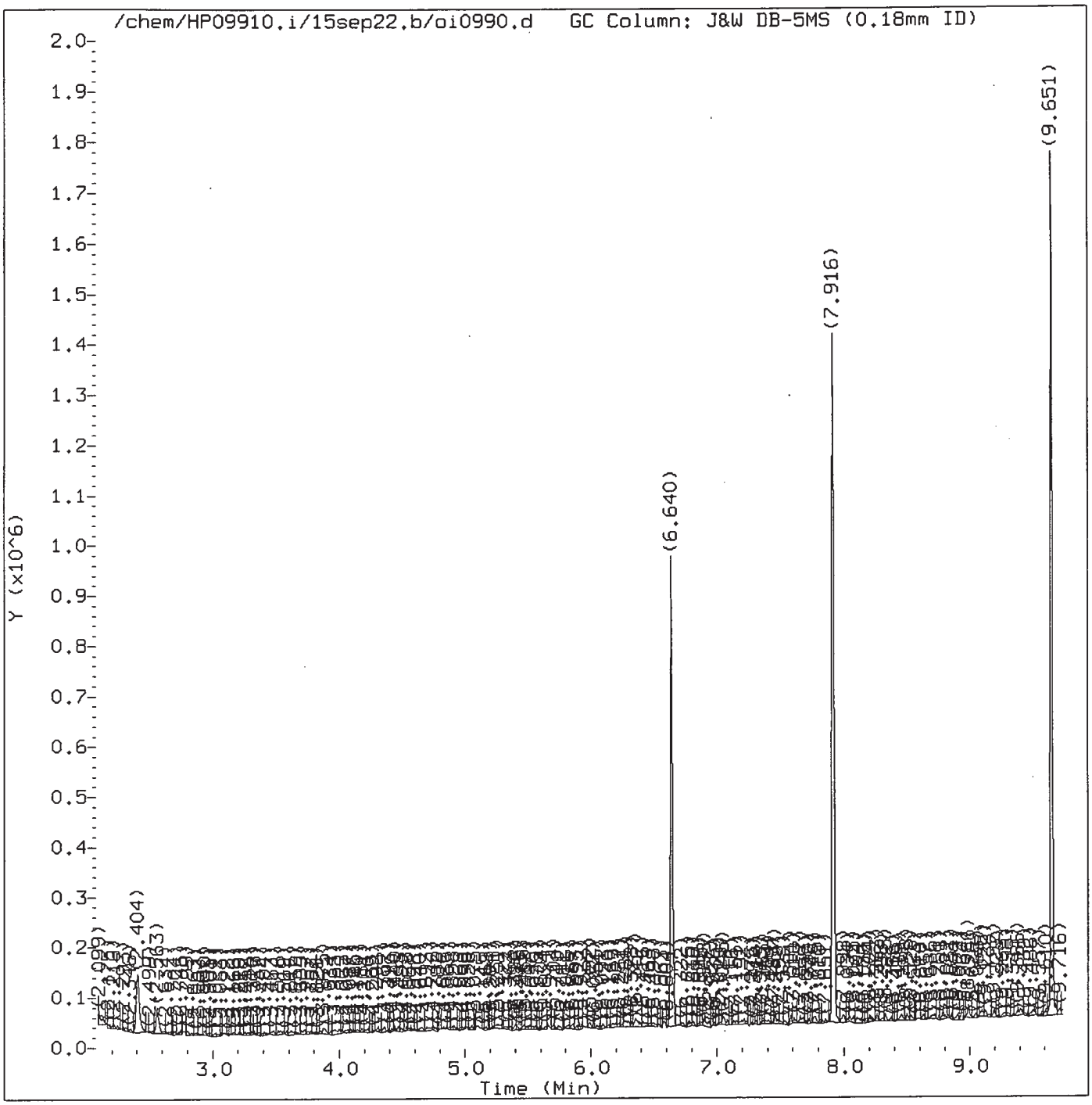
Data File: /chem/HP09910.i/15sep22.b/oi0989.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 12:58 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: mdlall1
Calibration date and time: 22-SEP-2015 13:14
Date, time and analyst ID of latest file update: 22-Sep-2015 13:15 Automation

Sample Name: SSTD0.5 Lab Sample ID: MDL2575

Compound Number : 167
Compound Name : Parathion
Expected RT (minutes) : 11.880
Quant Ion : 109.00

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 13:50.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

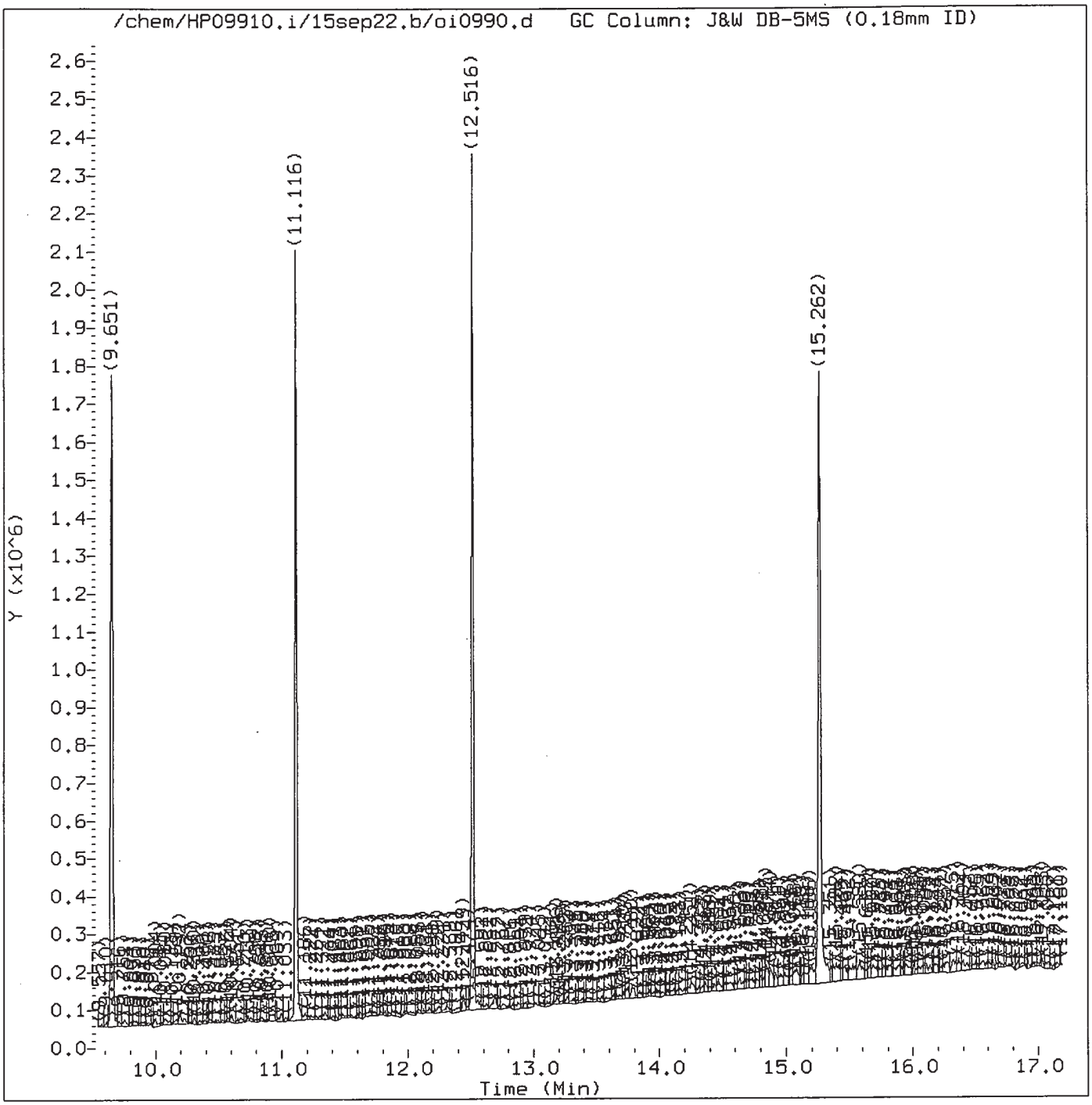
Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0990.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:24 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: pahmdlall1
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:41 Automation

Sample Name: SSTD0.1 Lab Sample ID: PAHMDL2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:49.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0990.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:24 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: pahmdlall1
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:41 Automation

Sample Name: SSTD0.1 Lab Sample ID: PAHMDL2575

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 13:49.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0990.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:24 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: pahmdlall1
Calibration date and time: 22-SEP-2015 13:17
Date, time and analyst ID of latest file update: 22-Sep-2015 13:41 Automation

Sample Name: SSTD0.1 Lab Sample ID: PAHMDL2575

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.640	152	146525	20.000
44)$Nitrobenzene-d5	(2)	7.198	82	3287	0.224
65)*Naphthalene-d8	(2)	7.916	136	630649	20.000
66) Naphthalene	(2)	7.934	128	4498	0.129
83) 2-Methylnaphthalene	(2)	8.628	142	3054	0.125
84) 1-Methylnaphthalene	(2)	8.722	142	2170	0.099
93)$2-Fluorobiphenyl	(3)	8.992	172	5584	0.216
109) Acenaphthylene	(3)	9.516	152	3758	0.104
113)*Acenaphthene-d10	(3)	9.651	164	407876	20.000
114) Acenaphthene	(3)	9.686	153	2541	0.101
126) Fluorene	(3)	10.192	166	3594	0.125
145) Hexachlorobenzene	(4)	10.727	284	1863	0.242
153)*Phenanthrene-d10	(4)	11.116	188	811108	20.000
155) Phenanthrene	(4)	11.139	178	4868	0.103
157) Anthracene	(4)	11.186	178	3972	0.085
173) Fluoranthene	(4)	12.310	202	5708	0.111
175)*Pyrene-d10	(5)	12.516	212	927901	20.000
177) Pyrene	(5)	12.533	202	8994	0.162
179)$Terphenyl-d14	(5)	12.692	244	8477	0.248
195) Benzo(a)anthracene	(5)	13.751	228	5657	0.117
196) Chrysene	(5)	13.780	228	7798	0.170
206) Benzo(b)fluoranthene	(6)	14.845	252	8322	0.183
208) Benzo(k)fluoranthene	(6)	14.874	252	8842	0.190
211) Benzo(a)pyrene	(6)	15.192	252	10559	0.235
213)*Perylene-d12	(6)	15.262	264	726160	20.000
222) Total PAHs	(6)			88116	2.168
219) Indeno(1,2,3-cd)pyrene	(6)	16.580	276	8521	0.182
220) Dibenz(a,h)anthracene	(6)	16.586	278	6304	0.160
221) Benzo(g,h,i)perylene	(6)	16.956	276	6120	0.159

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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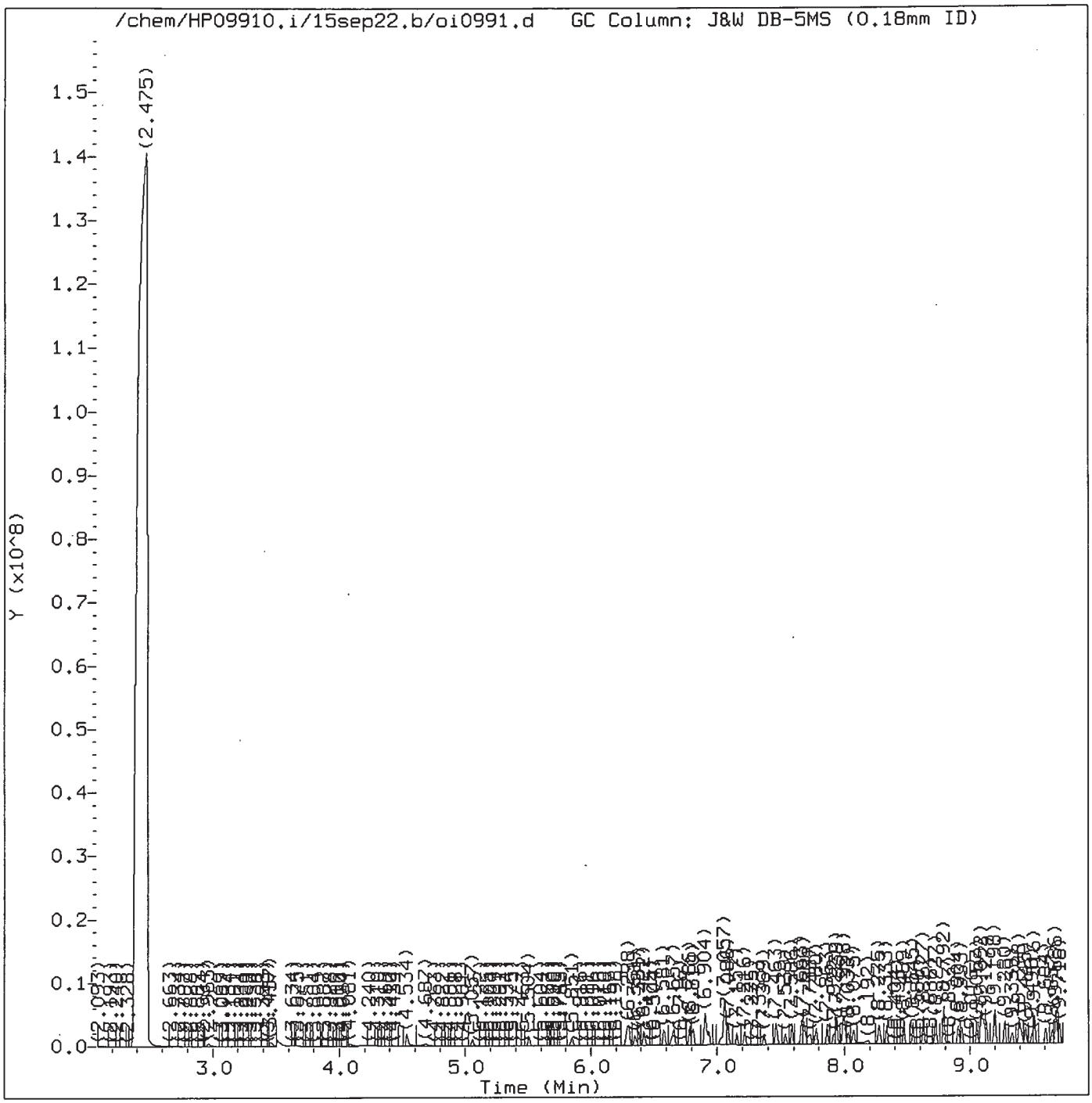
on 09/22/2015 at 13:49.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

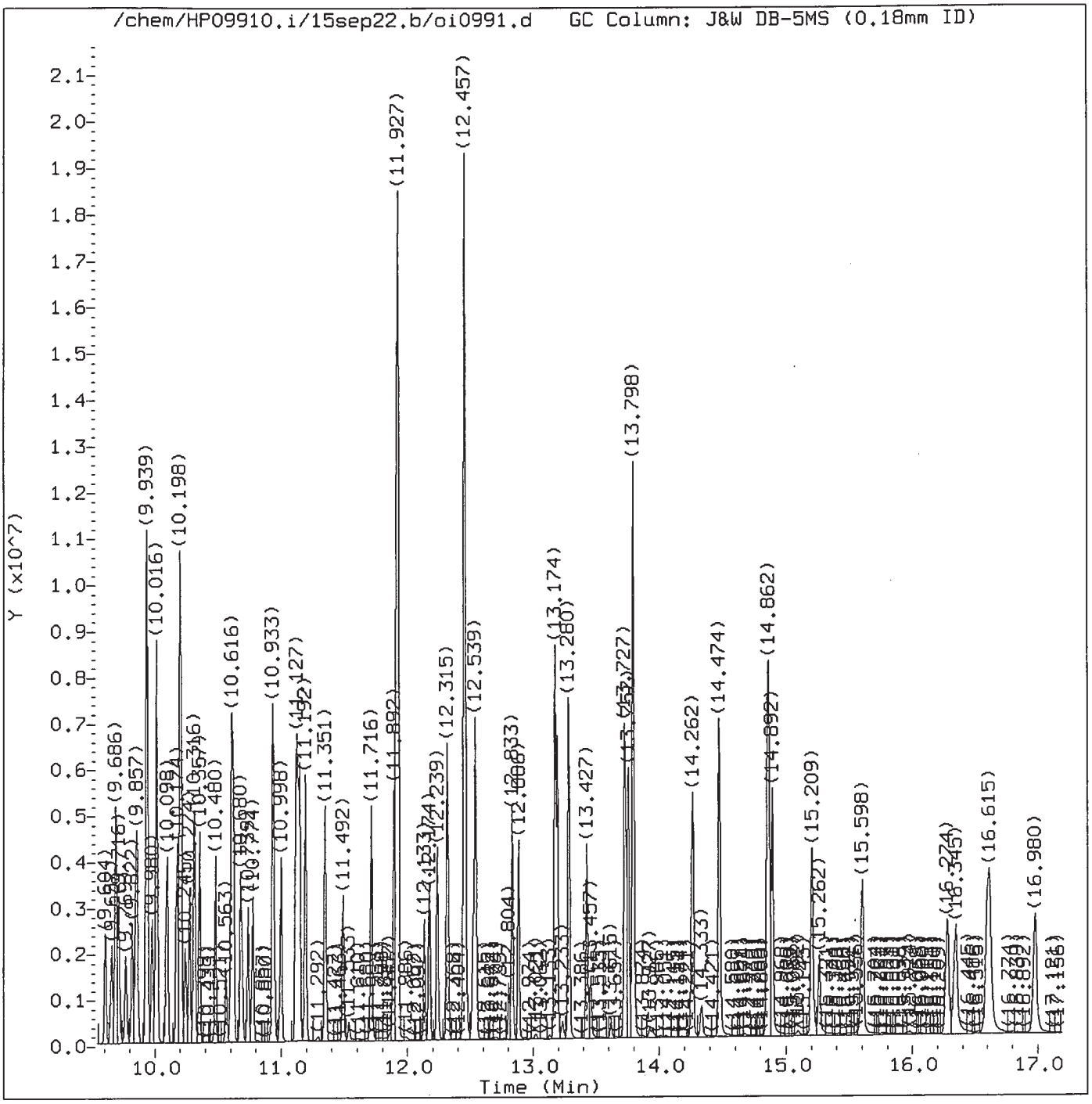
Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icvall1
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:08 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 14:09.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icvall1
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:08 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 14:09.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icvall1
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:08 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.963	88	295486	51.497
4) N-Nitrosodimethylamine	(1)	3.457	74	449516	47.635
5) Pyridine	(1)	3.510	79	785979	51.423
7) 2-Picoline	(1)	4.534	93	809798	49.648
8) N-Nitrosomethylethylamine	(1)	4.687	88	371759	47.107
9) Methyl methanesulfonate	(1)	5.057	80	379848	48.858
13) N-Nitrosodiethylamine	(1)	5.510	102	350795	46.804
15) Ethyl methanesulfonate	(1)	5.845	109	347267	48.648
18) Phenol	(1)	6.286	94	1084293	49.731
19) Aniline	(1)	6.304	93	1241559	50.762
22) bis(2-Chloroethyl)ether	(1)	6.381	93	746223	48.145
23) 2-Chlorophenol	(1)	6.422	128	630673	49.517
24) 1,3-Dichlorobenzene	(1)	6.581	146	614855	50.532
25)*1,4-Dichlorobenzene-d4	(1)	6.645	152	153816	20.000
26) 1,4-Dichlorobenzene	(1)	6.657	146	632731	48.797
42) Total Cresols	(1)	6.660	100	1534907	102.064
27) Benzyl alcohol	(1)	6.786	108	524971	51.581
28) 1,2-Dichlorobenzene	(1)	6.810	146	611283	50.015
30) Indene	(1)	6.904	115	1126788	50.157
31) 2-Methylphenol	(1)	6.916	108	702039	50.970
34) bis(2-Chloroisopropyl)ether	(1)	6.933	45	1061323	52.251
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.933	45	1061323	52.251
35) N-Nitrosopyrrolidine	(1)	7.028	100	420186	50.325
36) Acetophenone	(1)	7.051	105	994088	49.275
37) 4-Methylphenol	(1)	7.057	108	832868	51.094
38) N-Nitroso-di-n-propylamine	(1)	7.063	70	614591	50.148
39) N-Nitrosomorpholine	(1)	7.069	56	482780	48.832
40) o-Toluidine	(1)	7.086	106	1189472	50.718
43) Hexachloroethane	(1)	7.157	117	247287	48.939
45) Nitrobenzene	(2)	7.216	77	801858	47.508
48) N-Nitrosopiperidine	(2)	7.369	114	364395	47.561
50) Isophorone	(2)	7.463	82	1717447	49.278
51) 2-Nitrophenol	(2)	7.539	139	344891	49.111
53) 2,4-Dimethylphenol	(2)	7.586	107	739320	47.933
57) O,O,O-Triethylphosphorothioate	(2)	7.663	198	321353	46.656
55) bis(2-Chloroethoxy)methane	(2)	7.686	93	1004766	51.360
56) Benzoic acid	(2)	7.733	105	1408586	95.952
60) 2,4-Dichlorophenol	(2)	7.780	162	538815	48.718
62) 1,2,4-Trichlorobenzene	(2)	7.863	180	557658	49.620
65)*Naphthalene-d8	(2)	7.916	136	732769	20.000

* = Compound is an internal standard.

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 14:09.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icvall1
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:08 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
66) Naphthalene	(2)	7.939	128	1981306	49.063
67) 4-Chloroaniline	(2)	7.992	127	876072	48.470
68) 2,6-Dichlorophenol	(2)	8.004	162	524544	48.322
69) Hexachloropropene	(2)	8.033	213	294525	51.139
71) Hexachlorobutadiene	(2)	8.075	225	256756	46.103
75) Quinoline	(2)	8.275	129	1389790	48.100
77) N-Nitrosodi-n-butylamine	(2)	8.333	84	582780	40.824
80) 4-Chloro-3-methylphenol	(2)	8.469	107	718249	48.120
82) Safrole	(2)	8.545	162	502985	46.682
83) 2-Methylnaphthalene	(2)	8.627	142	1275129	44.814
97) Isosafrole	(3)	8.630	162	639194	52.011
84) 1-Methylnaphthalene	(2)	8.727	142	1214526	47.611
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.792	216	522467	50.052
85) Hexachlorocyclopentadiene	(3)	8.792	237	516008	102.850
88) cis-Isosafrole	(3)	8.827	162	69954	6.392
90) 2,4,6-Trichlorophenol	(3)	8.904	196	400082	52.584
92) 2,4,5-Trichlorophenol	(3)	8.933	196	414138	48.825
94) trans-Isosafrole	(3)	9.057	162	569240	45.619
95) 1,1'-Biphenyl	(3)	9.092	154	1650015	49.157
96) 2-Chloronaphthalene	(3)	9.110	162	1533068M	59.309
98) 1-Chloronaphthalene	(3)	9.127	162	1191993M	49.503
99) Diphenyl ether	(3)	9.198	170	855196	50.344
100) 2-Nitroaniline	(3)	9.204	138	471666	52.510
104) 1,4-Naphthoquinone	(3)	9.280	158	711702	64.600
105) 1,4-Dinitrobenzene	(3)	9.339	168	238146	49.743
106) Dimethylphthalate	(3)	9.398	163	1543517	50.124
120) 2,4_2,6-Dinitrotoluenes	(3)	9.400	165	882832	103.223
107) 1,3-Dinitrobenzene	(3)	9.416	168	276930	50.477
108) 2,6-Dinitrotoluene	(3)	9.445	165	373535	52.535
109) Acenaphthylene	(3)	9.516	152	2029957	51.505
112) 3-Nitroaniline	(3)	9.610	138	425886	52.135
113)*Acenaphthene-d10	(3)	9.657	164	443925	20.000
114) Acenaphthene	(3)	9.686	153	1404666	51.491
115) 2,4-Dinitrophenol	(3)	9.716	184	523418	95.607
116) 4-Nitrophenol	(3)	9.769	109	230962	52.358
117) Pentachlorobenzene	(3)	9.822	250	465837	49.430
118) 2,4-Dinitrotoluene	(3)	9.845	165	509297	50.687
119) Dibenzofuran	(3)	9.857	168	1886164	50.373
121) 1-Naphthylamine	(3)	9.939	143	3087267	101.447
122) 2,3,4,6-Tetrachlorophenol	(3)	9.980	232	369942	51.226

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 14:09.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icvall1
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:08 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
123) 2-Naphthylamine	(3)	10.016	143	3149473	104.527
124) Diethylphthalate	(3)	10.098	149	1544510	51.176
125) Thionazin	(3)	10.174	107	305362	49.058
126) Fluorene	(3)	10.198	166	1646319	52.508
146) Diallate trans/cis	(4)	10.200	86	870719	44.745
128) 5-Nitro-o-toluidine	(3)	10.204	152	500966	53.739
127) 4-Chlorophenyl-phenylether	(3)	10.204	204	738547	50.645
129) 4-Nitroaniline	(3)	10.216	138	482858	53.221
130) 4,6-Dinitro-2-methylphenol	(4)	10.245	198	338794	50.588
131) N-Nitrosodiphenylamine	(4)	10.316	169	1409571	49.026
132) NDPA as diphenylamine	(4)	10.316	169	1409571	48.132
134) 1,2-Diphenylhydrazine	(4)	10.357	77	1965548	50.103
137) Tetraethyldithiopyrophosphate	(4)	10.480	97	269790	48.215
139) 1,3,5-Trinitrobenzene	(4)	10.569	213	191069	44.618
140) Diallate (peak 1)	(4)	10.604	86	656633	33.591
141) Phorate	(4)	10.616	75	1288228	48.785
142) Phenacetin	(4)	10.621	108	989788	49.766
143) 4-Bromophenyl-phenylether	(4)	10.680	248	397137	49.355
144) Diallate (peak 2)	(4)	10.692	86	214086	11.153
145) Hexachlorobenzene	(4)	10.739	284	397941	46.472
147) Dimethoate	(4)	10.774	87	806481	45.849
149) Pentachlorophenol	(4)	10.933	266	304302	53.559
150) 4-Aminobiphenyl	(4)	10.933	169	1850582	69.938
151) Pentachloronitrobenzene	(4)	10.945	237	146375	46.232
152) Pronamide	(4)	10.998	173	662685	49.088
154) Dinoseb	(4)	11.116	211	439901	51.164
153)*Phenanthrene-d10	(4)	11.121	188	902132	20.000
155) Phenanthrene	(4)	11.145	178	2495714	47.637
157) Anthracene	(4)	11.192	178	2598881	50.197
163) Carbazole	(4)	11.351	167	2395578	48.965
164) Methyl parathion	(4)	11.492	109	592405	48.622
165) Di-n-butylphthalate	(4)	11.716	149	2860222	50.248
167) Parathion	(4)	11.886	109	395742	51.891
168) 4-Nitroquinoline-1-oxide	(4)	11.927	190	3874504	736.389
171) Isodrin	(4)	12.174	193	246560	46.882
173) Fluoranthene	(4)	12.315	202	2786484	48.937
174) Benzidine	(5)	12.457	184	9702682	269.849
175)*Pyrene-d10	(5)	12.521	212	1035615	20.000
177) Pyrene	(5)	12.539	202	2911225	47.121
182) p-Dimethylaminoazobenzene	(5)	12.833	225	601605	52.888

* = Compound is an internal standard.

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 14:09.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icvall1
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:08 lmh00956

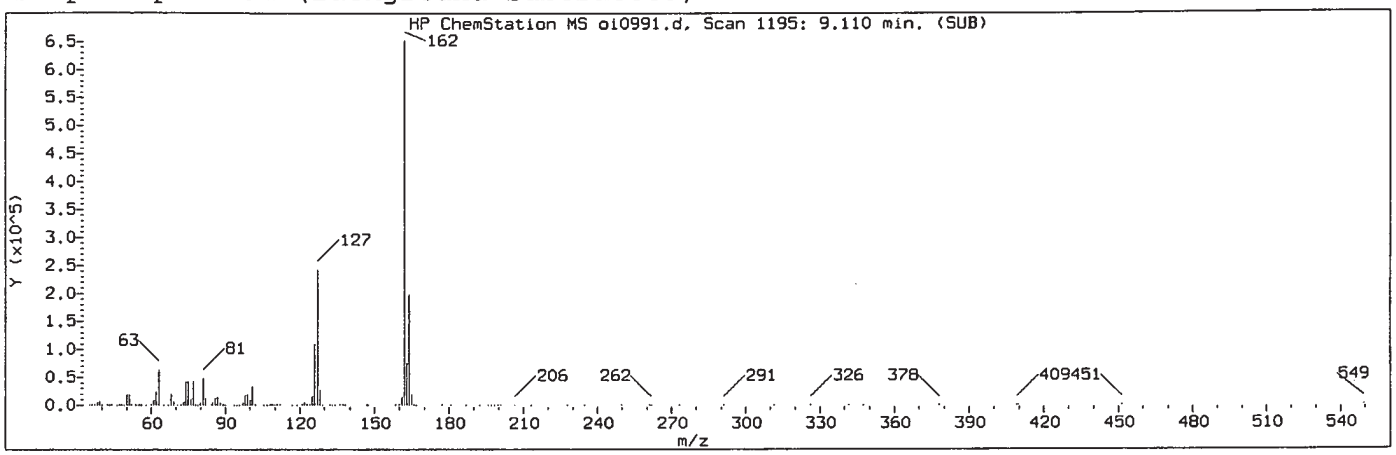
Sample Name: SSTD050 Lab Sample ID: ICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
185) Chlorobenzilate	(5)	12.886	139	798203	49.744
187) 3,3'-Dimethylbenzidine	(5)	13.174	212	3300853	102.954
188) Butylbenzylphthalate	(5)	13.192	149	1346008	49.589
191) 2-Acetylaminofluorene	(5)	13.427	181	1232222	49.998
193) 3,3'-Dichlorobenzidine	(5)	13.727	252	879551	48.035
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.733	231	488900	47.618
195) Benzo(a)anthracene	(5)	13.757	228	2636252	48.951
196) Chrysene	(5)	13.792	228	2583213	50.341
199) bis(2-Ethylhexyl)phthalate	(5)	13.798	149	1863610	49.104
203) 6-Methylchrysene	(5)	14.262	242	1763276	48.710
205) Di-n-octylphthalate	(6)	14.474	149	3273794	51.743
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.856	256	1113777	47.896
206) Benzo(b)fluoranthene	(6)	14.862	252	2546425	52.823
208) Benzo(k)fluoranthene	(6)	14.892	252	2381606	48.418
211) Benzo(a)pyrene	(6)	15.209	252	2245839	47.170
213)*Perylene-d12	(6)	15.262	264	768149	20.000
215) 3-Methylcholanthrene	(6)	15.604	268	1205260	53.853
222) Total PAHs	(6)	16.000	100	34381958	786.863
219) Indeno(1,2,3-cd)pyrene	(6)	16.598	276	2421540	48.831
220) Dibenz(a,h)anthracene	(6)	16.621	278	2110913	50.602
221) Benzo(g,h,i)perylene	(6)	16.980	276	2039994	50.084

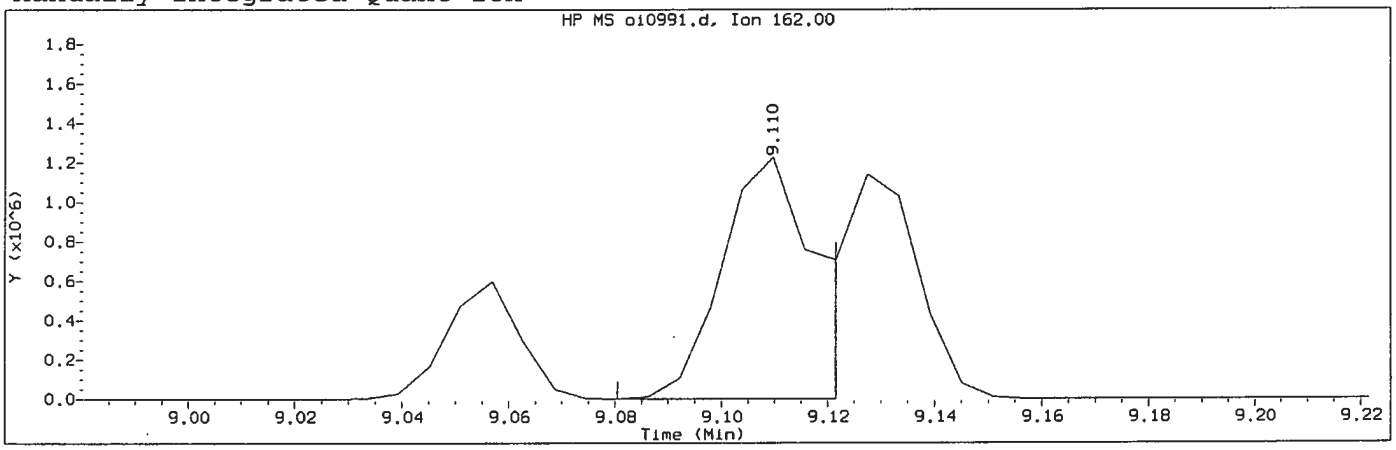
* = Compound is an internal standard.

Digitally signed by Linda M. Hartenstine
on 09/22/2015 at 14:09.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icval11
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:08 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area (flag)	: 1533068M		
On-Column Amount (ng/ul)	: 59.3094		
Integration start scan	: 1189	Integration stop scan:	1196
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

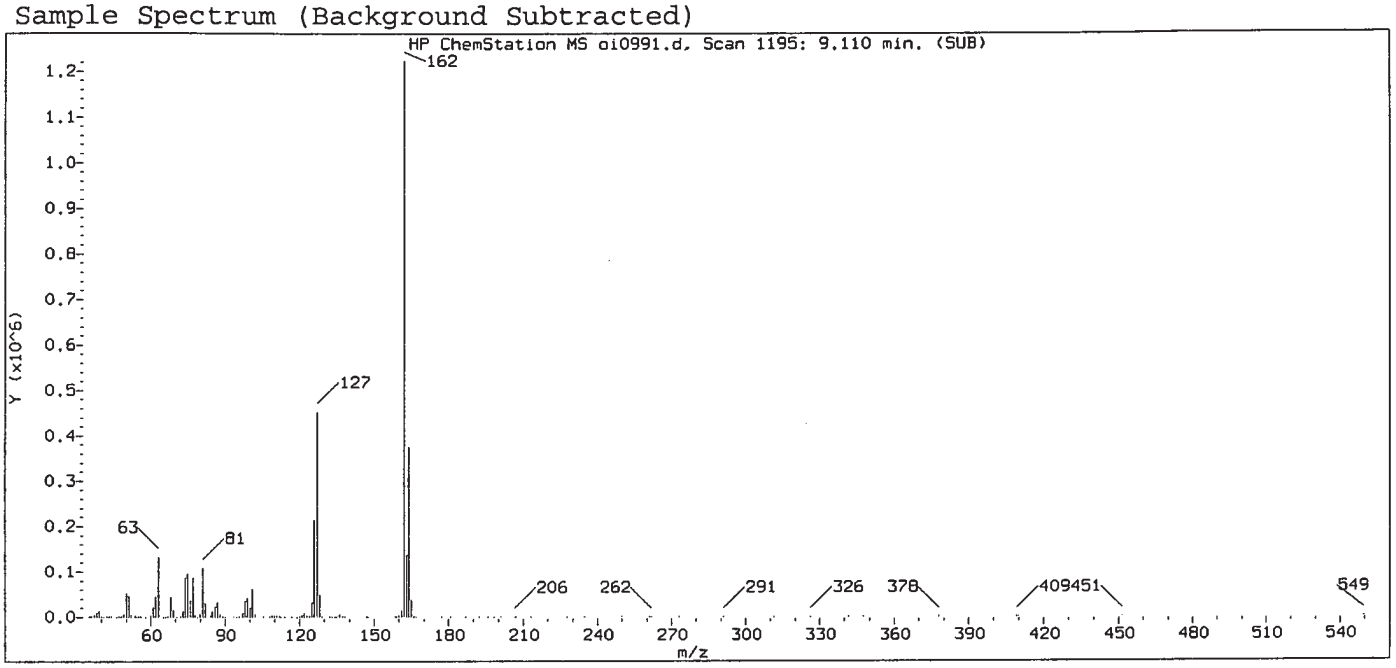
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 14:09. Target 3.5 esignature user ID: lmh00956

SEP 23 2015

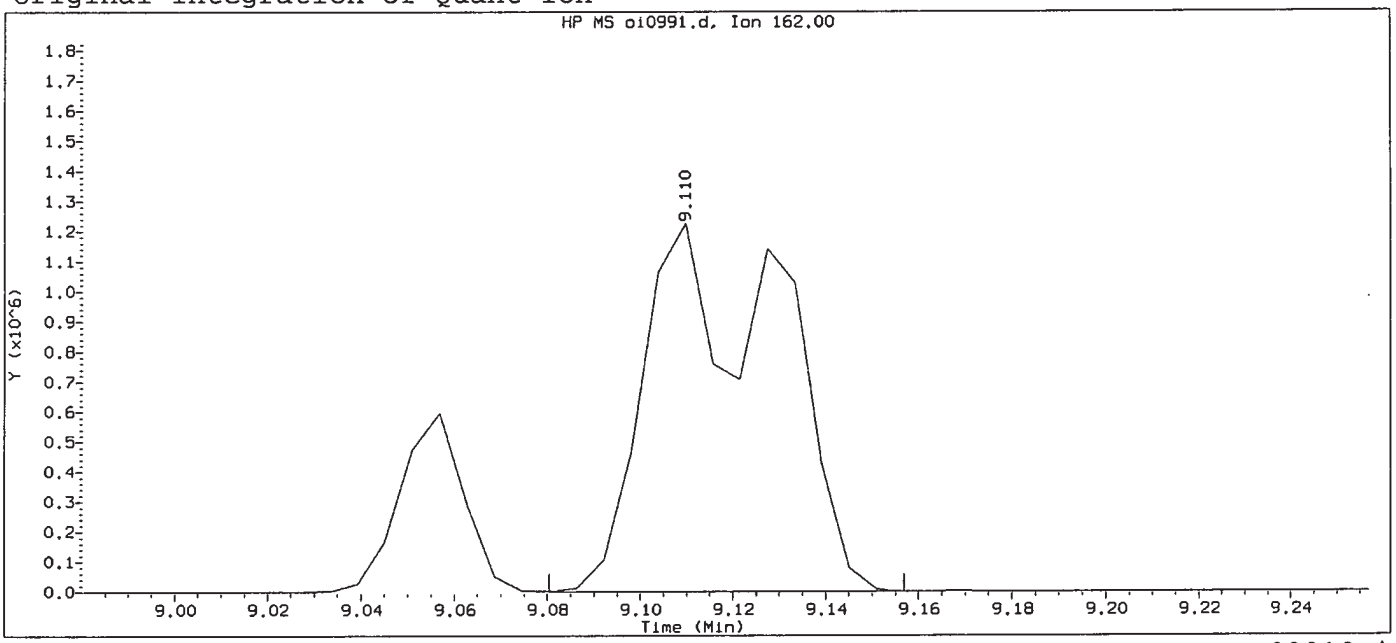
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icval11
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:07 Automation

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area	: 2481340		
On-column Amount (ng/ul)	: 95.9949		
Integration start scan	: 1189	Integration stop scan:	1202
Y at integration start	: 0	Y at integration end:	0

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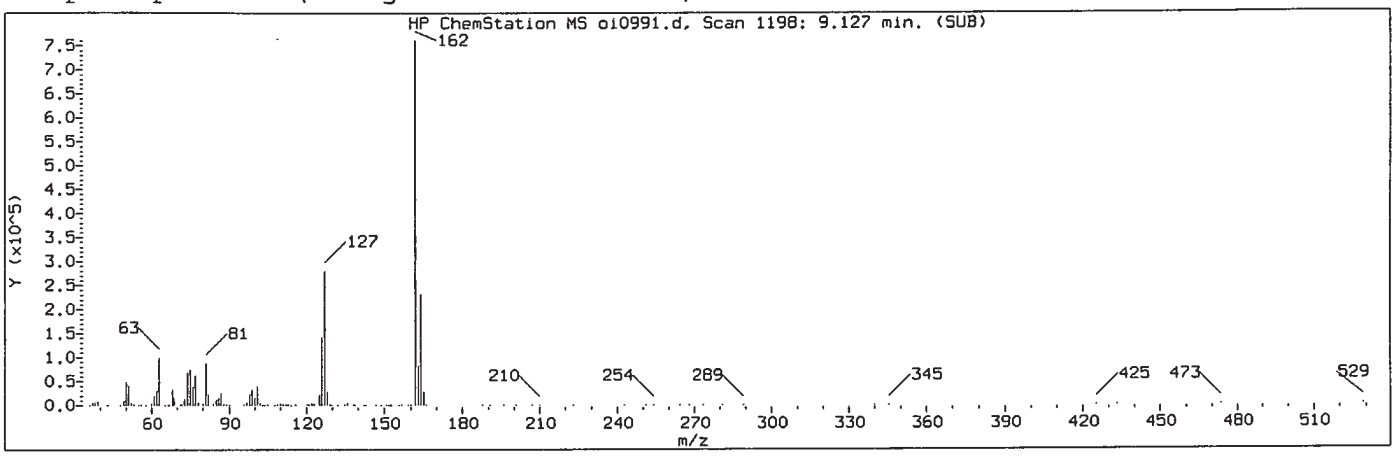
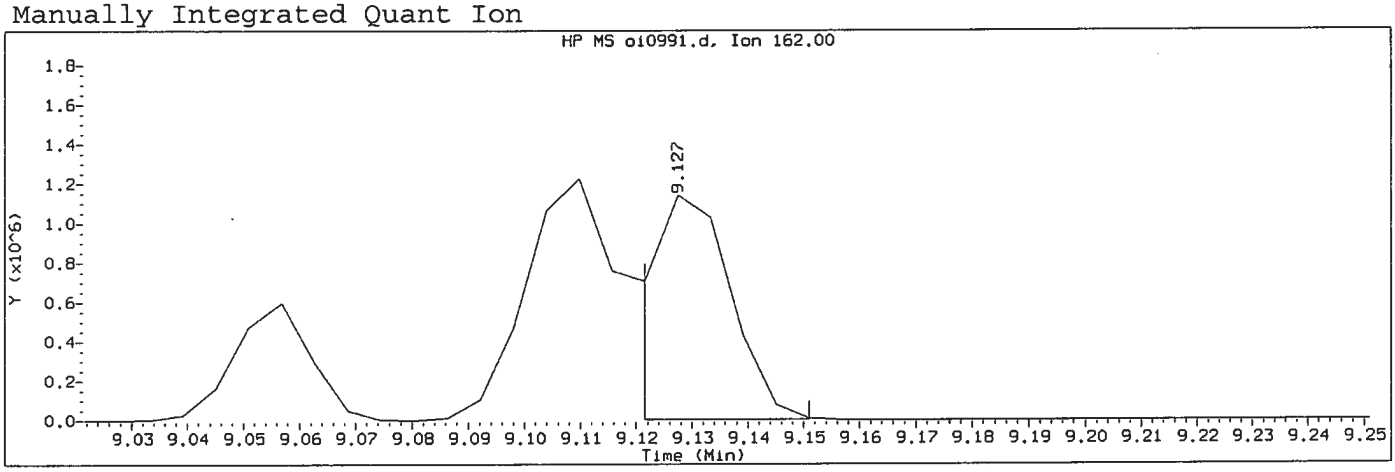
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icval11
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:08 lmh00956

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1198		
Retention Time (minutes)	: 9.127		
Quant Ion	: 162.00		
Area (flag)	: 1191993M		
On-Column Amount (ng/ul)	: 49.5029		
Integration start scan	: 1196	Integration stop scan:	1201
Y at integration start	: 2828	Y at integration end:	2828

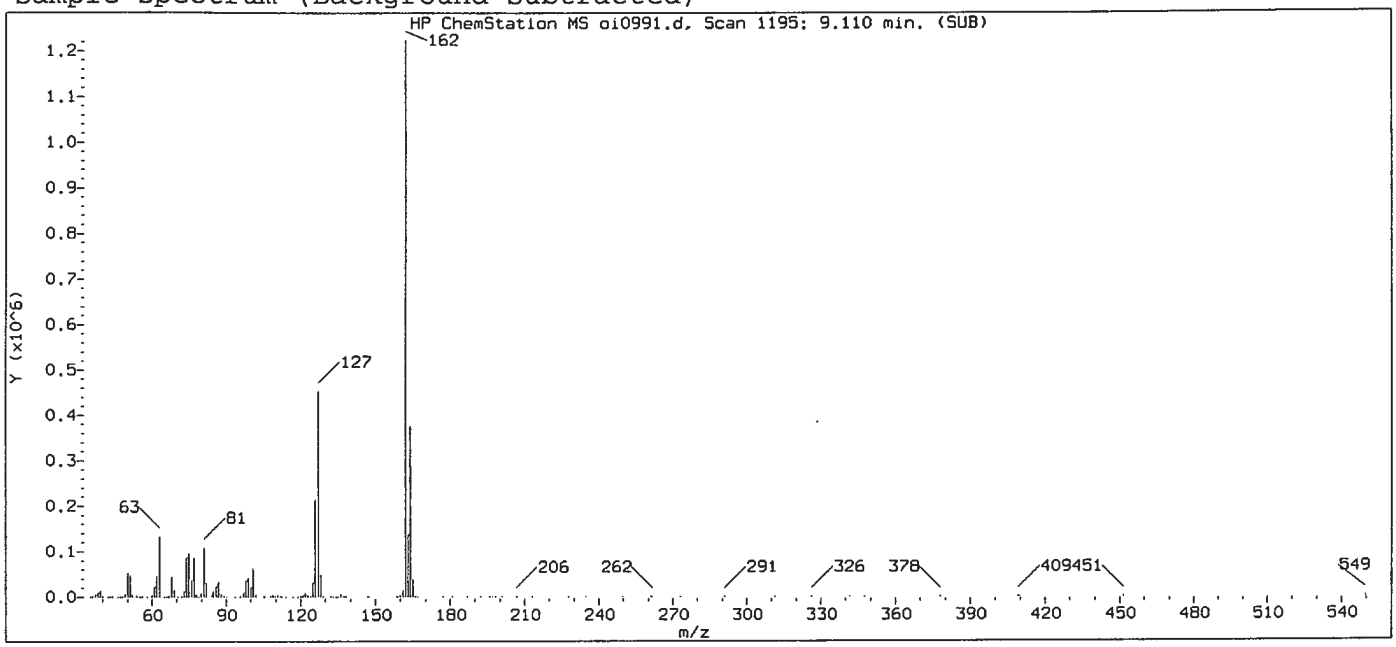
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 09/22/2015 at 14:09. Target 3.5 esignature user ID: lmh00956

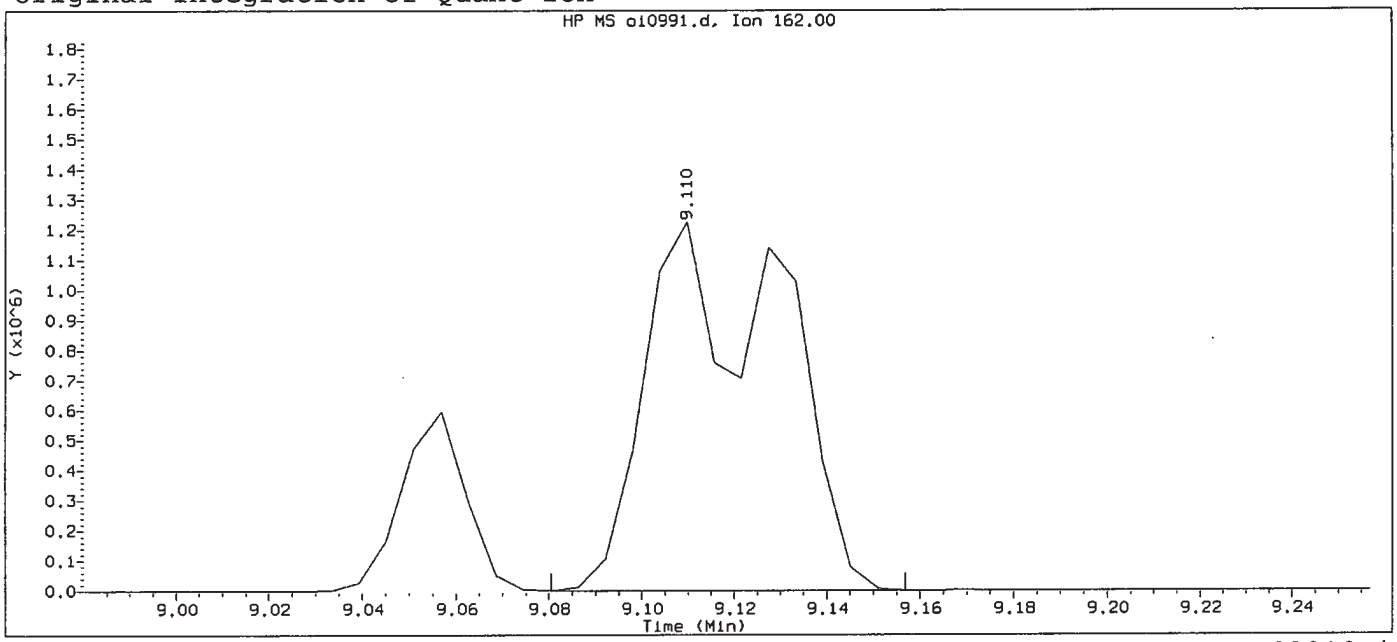
GC/MS audit/management approval: SEP 23 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15sep22.b/oi0991.d Instrument ID: HP09910.i
Injection date and time: 22-SEP-2015 13:50 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15sep22.b/m8270c.m Sublist used: icval11
Calibration date and time: 22-SEP-2015 13:49
Date, time and analyst ID of latest file update: 22-Sep-2015 14:07 Automation

Sample Name: SSTD050 Lab Sample ID: ICV2465

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1195		
Retention Time (minutes)	: 9.110		
Quant Ion	: 162.00		
Area	: 2481340		
On-column Amount (ng/ul)	: 103.0490		
Integration start scan	: 1189	Integration stop scan:	1202
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 09/22/2015 at 14:09.
Target 3.5 esignature user ID: lmh00956

Data File: /chem/HP09910.i/15oct02.b/oj0070.d

Date : 02-OCT-2015 10:02

Client ID: DFTPP050

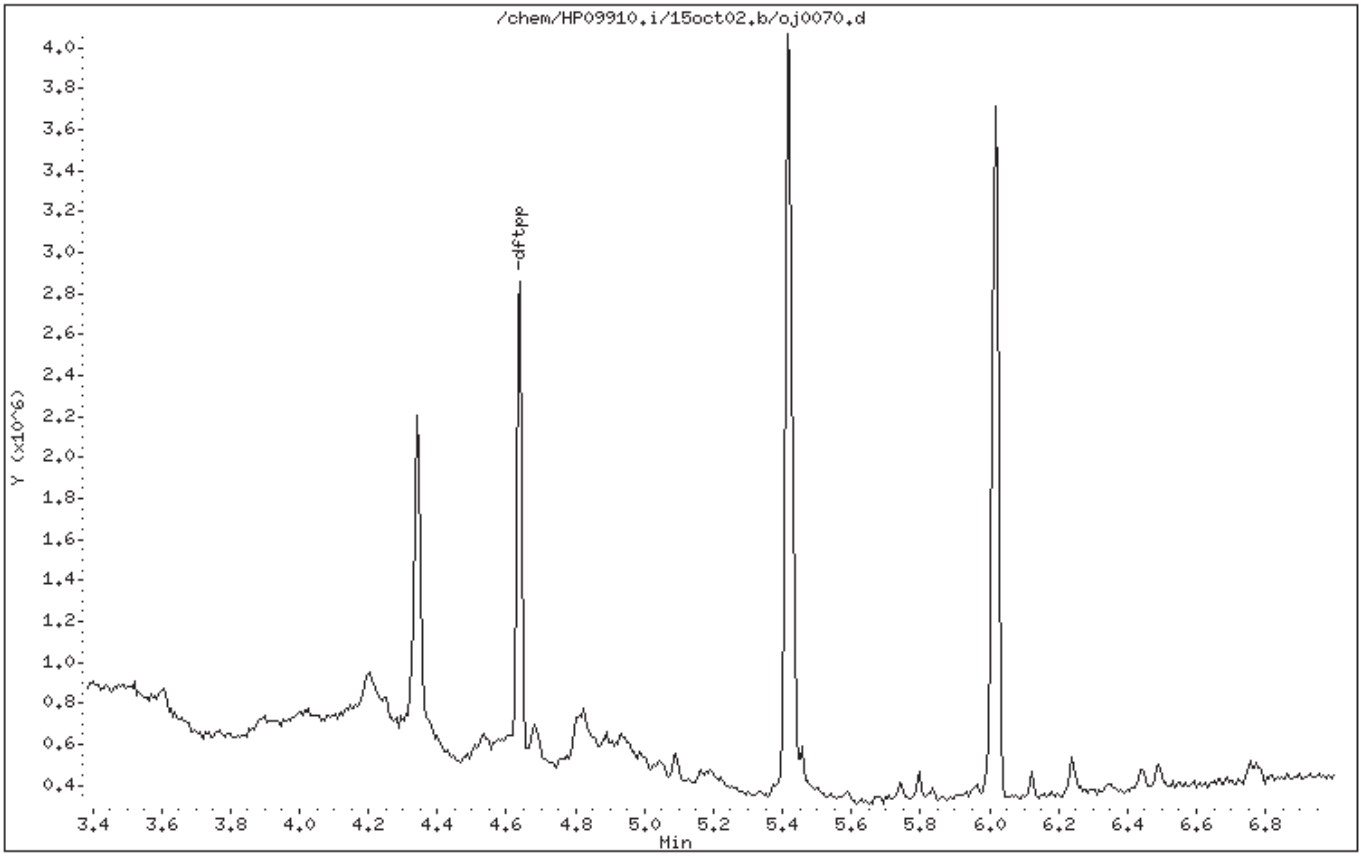
Instrument: HP09910.i

Sample Info: DFTPP050;DFTPP2245;1;3;DFTPP;

Operator: ceb05247

Column phase: JW DB-5MS

Column diameter: 0.18



Digitally signed by Catherine E. Bachman on 10/02/2015 at 11:05.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP09910.i/15oct02.b/oj0070.d

Date : 02-OCT-2015 10:02

Client ID: DFTPP050

Instrument: HP09910.i

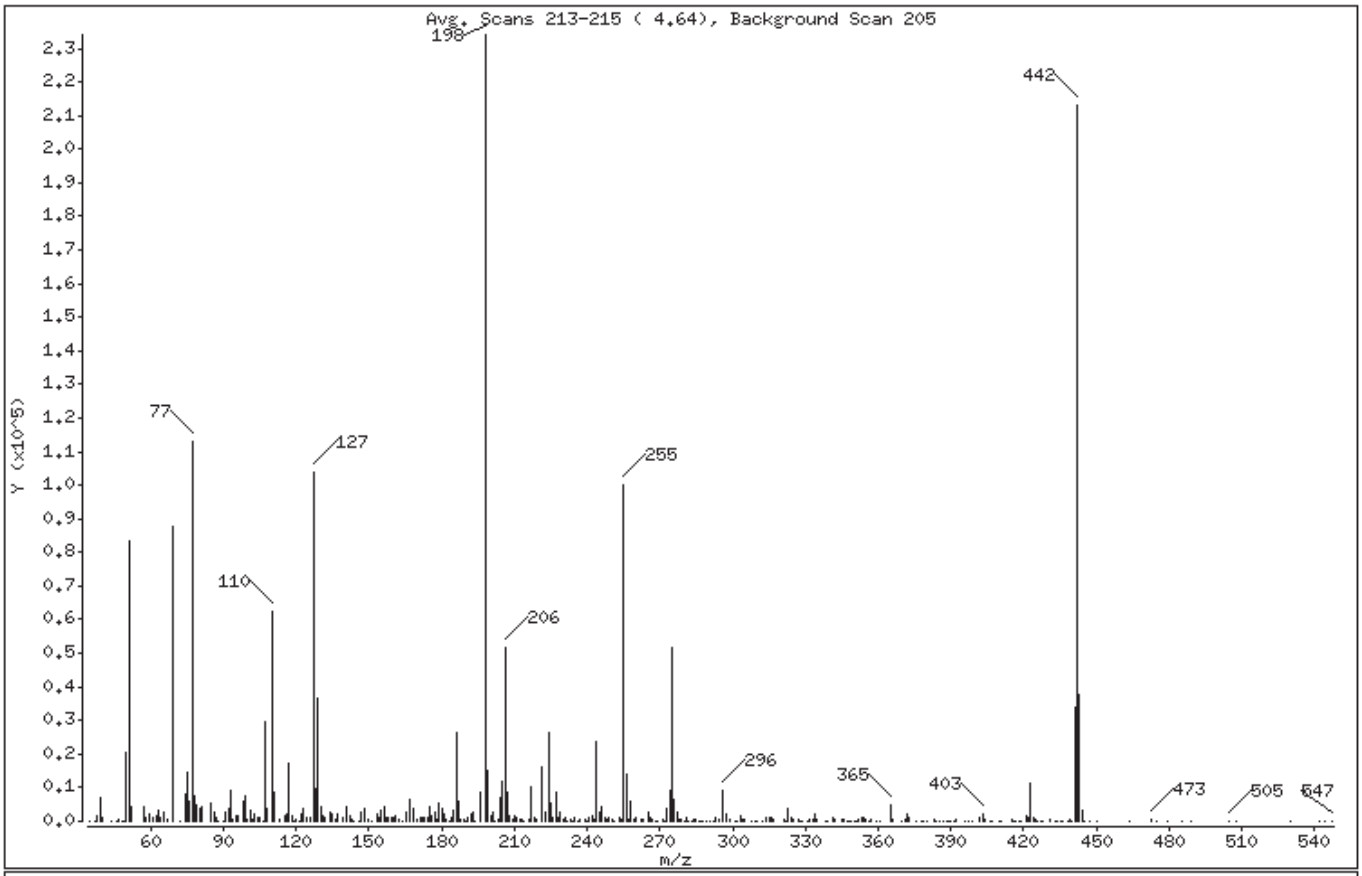
Sample Info: DFTPP050;DFTPP2245;1;3;DFTPP;

Operator: ceb05247

Column phase: JW DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	35.71
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	37.37
70	Less than 2.00% of mass 69	0.00 (0.00)
127	40.00 - 60.00% of mass 198	44.25
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.48
275	10.00 - 30.00% of mass 198	22.14
365	Greater than 1.00% of mass 198	2.14
441	Present, but less than mass 443	14.42
442	40.00 - 99.99% of mass 198	91.05
443	17.00 - 23.00% of mass 442	16.18 (17.77)

Digitally signed by Catherine E. Bachman on 10/02/2015 at 11:05.
Target 3.5 esignature user ID: ceb05247

Date : 02-OCT-2015 10:02

Client ID: DFTPP050 Instrument: HP09910.i

Sample Info: DFTPP050;DFTPP2245;1;3;DFTPP;

Operator: ceb05247

Column phase: JW DB-5MS Column diameter: 0.18

Data File: oj0070.d
Spectrum: Avg. Scans 213-215 (4.64), Background Scan 205
Location of Maximum: 198.00
Number of points: 333

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	74	147.00	2618	242.00	1403	348.00	66
37.00	196	148.00	3877	243.00	351	349.00	117
38.00	1453	150.00	461	244.00	23776	350.00	108
39.00	7105	151.00	125	245.00	2798	351.00	121
40.00	887	153.00	1907	246.00	4096	352.00	802
44.00	184	154.00	1120	247.00	1033	353.00	1256
46.00	184	155.00	3412	248.00	320	354.00	1295
47.00	433	156.00	4219	249.00	968	355.00	597
48.00	150	157.00	894	250.00	368	356.00	228
49.00	138	158.00	870	251.00	199	357.00	557
50.00	20224	159.00	1236	253.00	924	359.00	129
51.00	83600	160.00	1149	254.00	524	361.00	149
52.00	4259	161.00	1411	255.00	99904	365.00	5020
57.00	4552	162.00	667	256.00	14179	366.00	669
58.00	1248	164.00	130	257.00	681	370.00	78
59.00	2026	165.00	2781	258.00	5730	371.00	442
61.00	1268	167.00	6556	259.00	295	372.00	2333
62.00	1574	168.00	3956	260.00	1222	373.00	945
63.00	3318	170.00	604	262.00	657	376.00	65
64.00	944	171.00	1071	263.00	339	378.00	1
65.00	2429	172.00	1153	265.00	2784	379.00	102
67.00	377	173.00	1101	266.00	1237	380.00	92
69.00	87480	174.00	992	267.00	304	383.00	769
72.00	49	175.00	4310	268.00	160	384.00	217
74.00	8292	176.00	1817	269.00	17	385.00	233
75.00	14431	177.00	2548	271.00	440	387.00	116
76.00	5771	178.00	723	272.00	229	388.00	151
77.00	112968	179.00	5509	273.00	3651	389.00	57
78.00	7755	180.00	3599	274.00	9348	390.00	205
79.00	4646	181.00	2283	275.00	51824	391.00	194
80.00	3918	182.00	655	276.00	6418	392.00	608
81.00	4536	183.00	38	277.00	2562	396.00	258
85.00	5136	184.00	1095	278.00	773	397.00	102
86.00	2844	185.00	3039	279.00	301	399.00	84
87.00	899	186.00	26528	280.00	90	402.00	1116

Digitally signed by Catherine E. Bachman on 10/02/2015 at 11:05.
Target 3.5 esignature user ID: ceb05247

Date : 02-OCT-2015 10:02

Client ID: DFTPP050 Instrument: HP09910.i

Sample Info: DFTPP050;DFTPP2245;1;3;DFTPP;

Operator: ceb05247

Column phase: JW DB-5MS Column diameter: 0.18

Data File: oj0070.d
Spectrum: Avg. Scans 213-215 (4.64), Background Scan 205
Location of Maximum: 198.00
Number of points: 333

m/z	Y	m/z	Y	m/z	Y	m/z	Y
88.00	107	187.00	6139	281.00	1234	403.00	2093
90.00	133	188.00	634	282.00	59	404.00	735
91.00	2881	189.00	651	283.00	245	406.00	70
92.00	3780	190.00	180	284.00	471	407.00	144
93.00	9147	191.00	894	285.00	576	410.00	126
94.00	537	192.00	2415	286.00	121	411.00	116
95.00	1808	193.00	2560	287.00	122	415.00	337
96.00	1583	194.00	120	288.00	255	416.00	54
98.00	5758	196.00	8750	289.00	238	417.00	173
99.00	7574	198.00	234048	291.00	218	418.00	52
100.00	789	199.00	15170	292.00	239	419.00	62
101.00	3303	200.00	1623	293.00	858	421.00	1387
102.00	681	201.00	2516	294.00	379	422.00	1107
103.00	2272	202.00	44	296.00	9259	423.00	11514
104.00	992	203.00	804	297.00	1941	424.00	910
105.00	1297	204.00	7234	299.00	270	425.00	281
106.00	128	205.00	11842	301.00	222	426.00	50
107.00	29656	206.00	51664	302.00	235	427.00	119
108.00	3727	207.00	8786	303.00	1690	428.00	162
110.00	62392	208.00	1774	304.00	632	431.00	279
111.00	8743	209.00	434	305.00	324	433.00	166
113.00	398	210.00	1456	308.00	203	434.00	257
115.00	1595	211.00	1085	309.00	101	435.00	167
116.00	2152	212.00	462	310.00	126	436.00	67
117.00	17304	213.00	360	312.00	143	438.00	249
118.00	1784	214.00	5	314.00	827	439.00	404
119.00	30	216.00	615	315.00	1218	440.00	229
120.00	415	217.00	10399	316.00	1034	441.00	33760
121.00	22	218.00	988	317.00	348	442.00	213120
122.00	2125	219.00	352	321.00	509	443.00	37864
123.00	4033	221.00	16074	322.00	20	444.00	3042
124.00	1272	223.00	2500	323.00	3505	445.00	248
126.00	958	224.00	26152	324.00	1286	447.00	68
127.00	103584	225.00	5351	325.00	402	450.00	81
128.00	9831	226.00	931	327.00	789	464.00	117

Digitally signed by Catherine E. Bachman on 10/02/2015 at 11:05.
Target 3.5 esignature user ID: ceb05247

Date : 02-OCT-2015 10:02

Client ID: DFTPP050 Instrument: HP09910.i

Sample Info: DFTPP050;DFTPP2245;1;3;DFTPP;

Operator: ceb05247

Column phase: JW DB-5MS Column diameter: 0.18

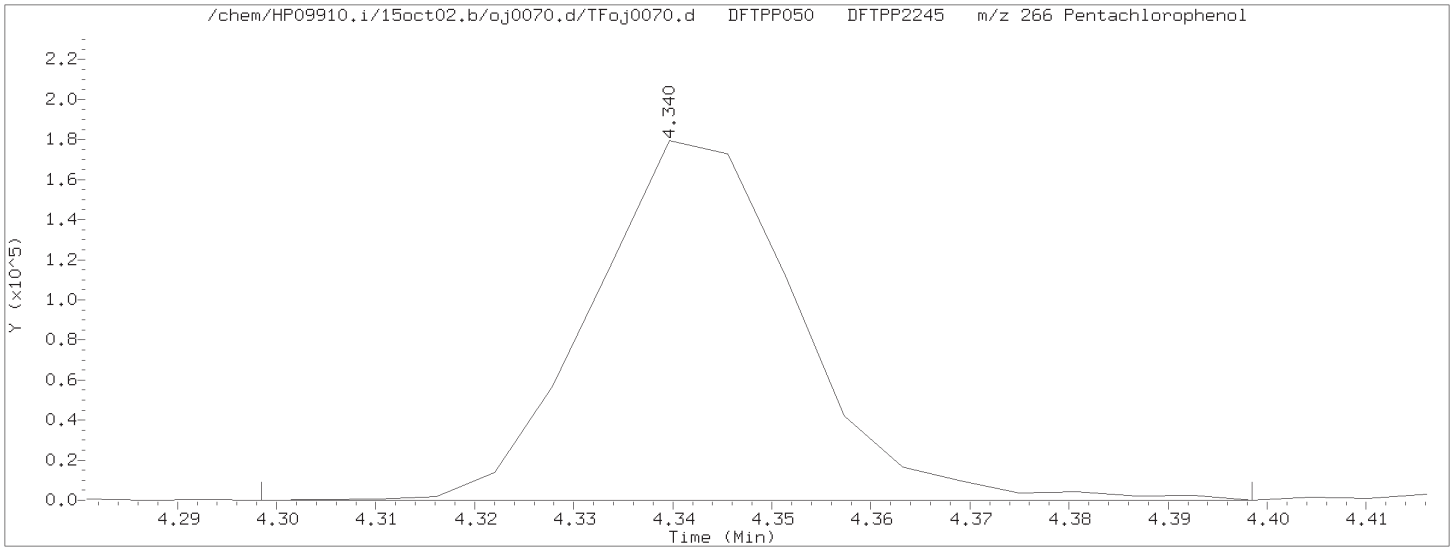
Data File: oj0070.d
Spectrum: Avg. Scans 213-215 (4.64), Background Scan 205
Location of Maximum: 198.00
Number of points: 333

m/z	Y	m/z	Y	m/z	Y	m/z	Y
129.00	36520	227.00	8425	328.00	13	473.00	301
130.00	4045	228.00	1167	329.00	211	475.00	167
131.00	1520	229.00	2476	331.00	75	479.00	67
132.00	1336	230.00	632	332.00	307	485.00	117
134.00	2821	231.00	958	333.00	339	489.00	11
135.00	1970	232.00	138	334.00	2122	505.00	212
136.00	668	233.00	375	335.00	441	508.00	58
137.00	2248	234.00	257	338.00	152	530.00	93
139.00	1167	235.00	862	339.00	79	542.00	59
141.00	4131	236.00	63	341.00	989	544.00	54
142.00	1467	237.00	748	342.00	567	547.00	182
143.00	661	239.00	669	345.00	356		
144.00	187	240.00	53	346.00	306		
146.00	120	241.00	888	347.00	260		

Digitally signed by Catherine E. Bachman on 10/02/2015 at 11:05.
Target 3.5 esignature user ID: ceb05247

Assessment of GC Column Performance and Injection Port Inertness for

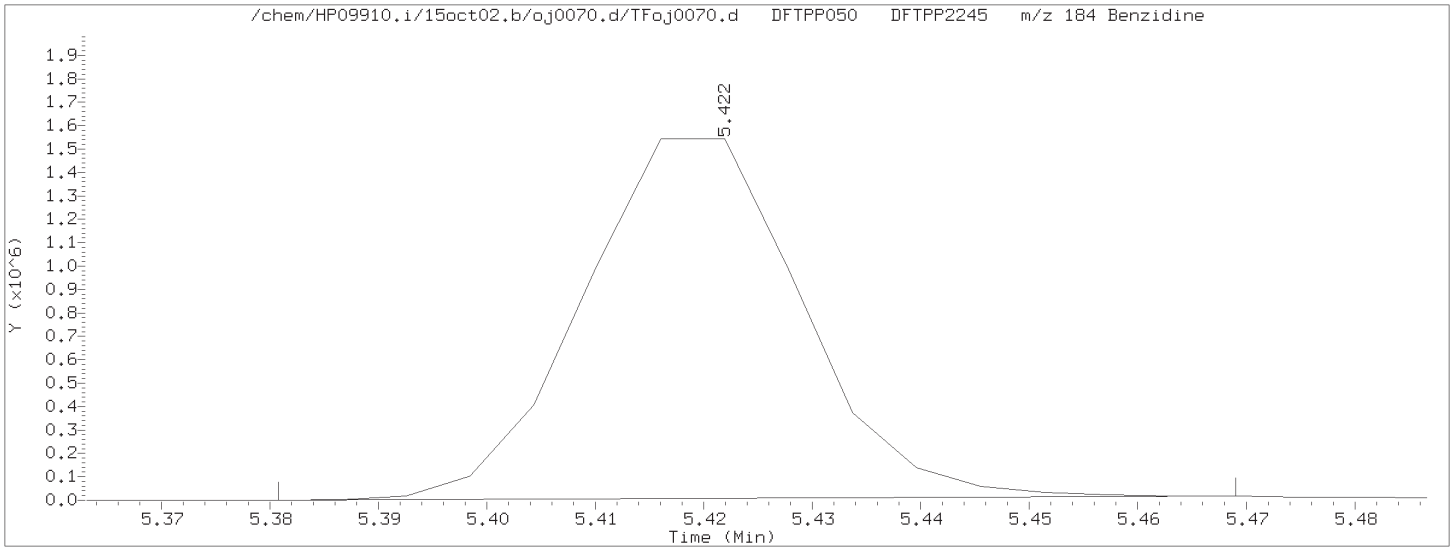
Instrument ID: HP09910.i Injection Date: 02-OCT-2015 10:02 Operator: ceb05247



Pentachlorophenol EICP peak height = 179520 EICP peak height at 10% = 17952 Pentachlorophenol EICP area = 259378

Pentachlorophenol EICP peak apex (min.) = 4.340
RT at 10% of front half of EICP (min.) = 4.323 'Front' peak width (min.) = 0.0170666667
RT at 10% of back half of EICP (min.) = 4.363 'Tailing' peak width (min.) = 0.0231833333

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0231833333}{0.0170666667} = 1.358$$



Benzidine EICP peak height = 1536379 EICP peak height at 10% = 153638 Benzidine EICP area = 2164478

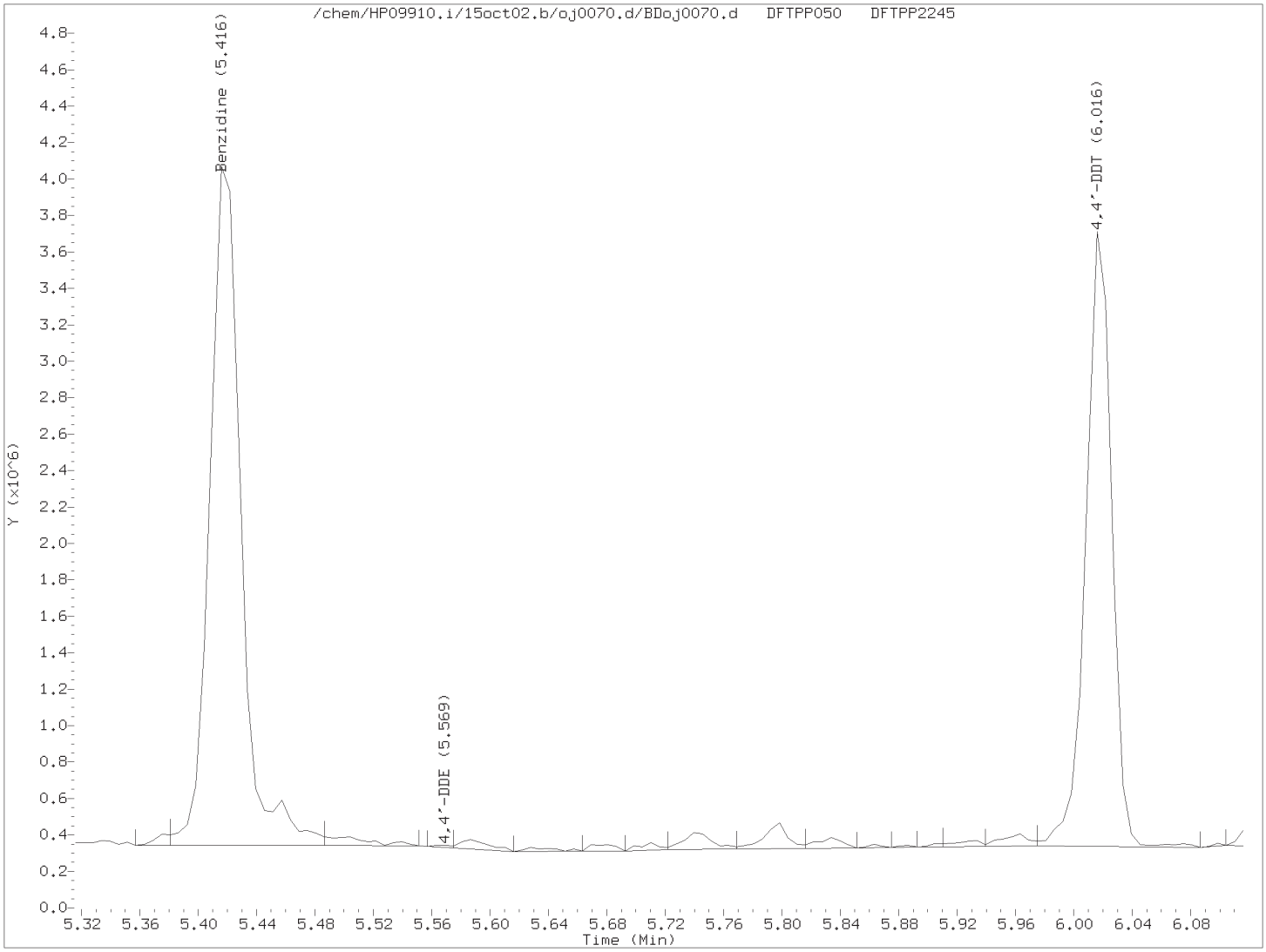
Benzidine EICP peak apex (min.) = 5.422
RT at 10% of front half of EICP (min.) = 5.400 'Front' peak width (min.) = 0.0223666667
RT at 10% of back half of EICP (min.) = 5.439 'Tailing' peak width (min.) = 0.0170500000

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0170500000}{0.0223666667} = 0.762$$

Secondary review performed and digitally signed by Matthew E. Barton on 10/02/2015 at 12:31. Parallax ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

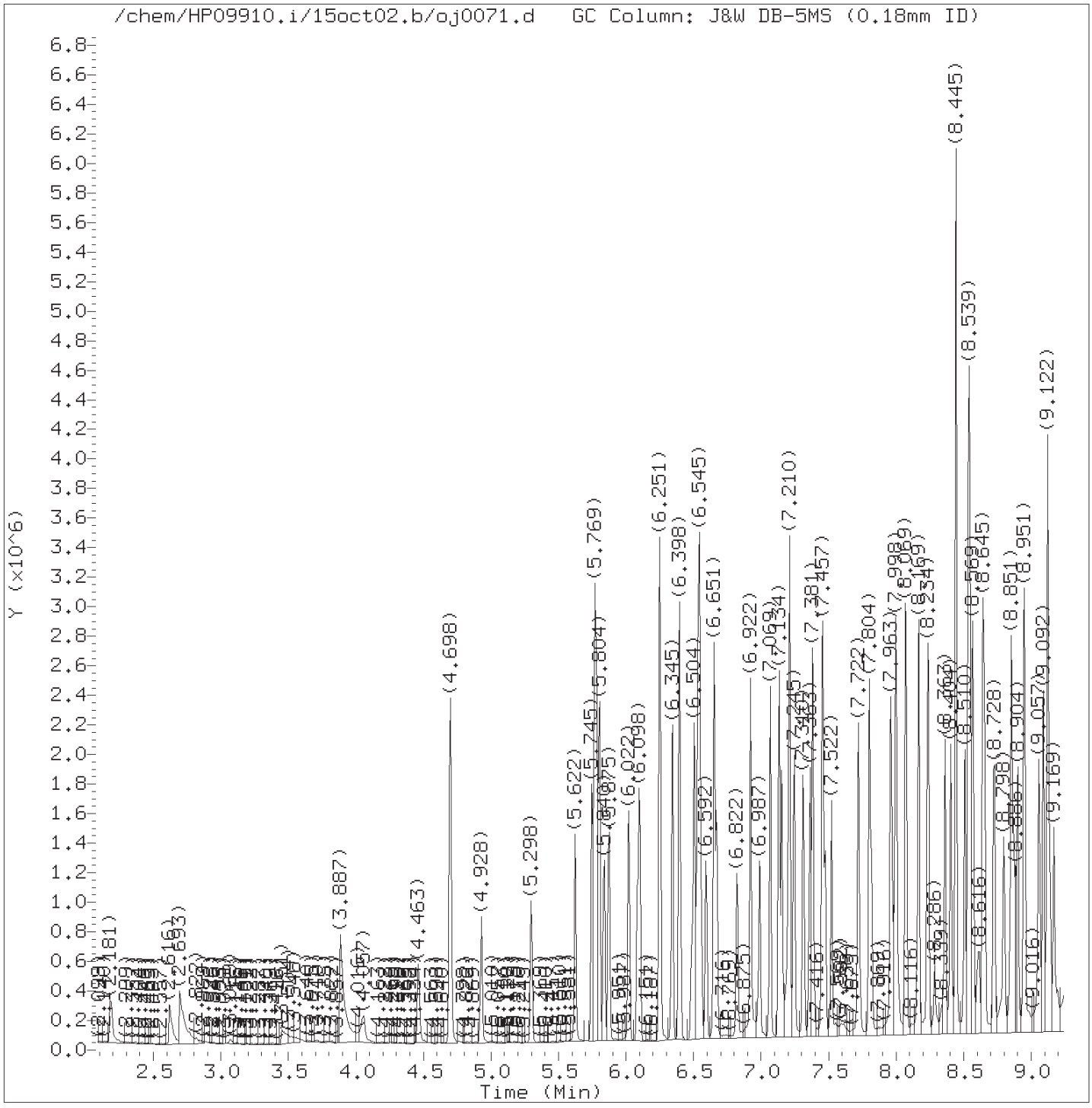
Instrument ID: HP09910.i Injection Date: 02-OCT-2015 10:02 Operator: ceb05247



$$\%\ 4,4'\text{-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\%\ 4,4'\text{-DDT breakdown} = \frac{8439 + 0}{8439 + 0 + 4171013} \times 100 = 0.2$$

Secondary review performed and digitally signed by Matthew E. Barton on 10/02/2015 at 12:31. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

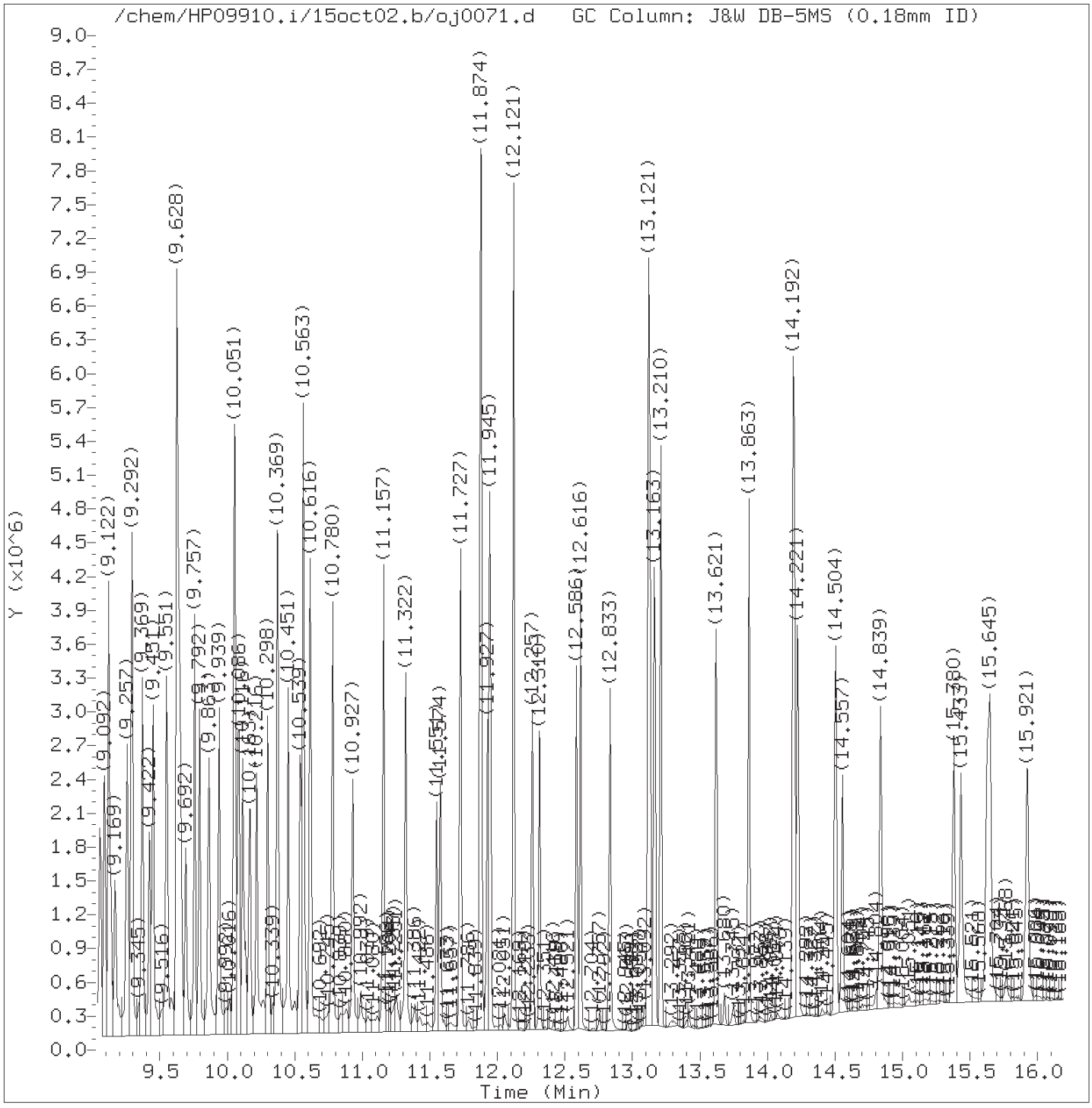
Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0071.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 10:17 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: all1
Calibration date and time: 02-OCT-2015 11:23
Date, time and analyst ID of latest file update: 02-Oct-2015 11:23 ceb05247

Sample Name: SSTD030 Lab Sample ID: STD2735

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 11:24.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0071.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 10:17 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: all1
Calibration date and time: 02-OCT-2015 11:23
Date, time and analyst ID of latest file update: 02-Oct-2015 11:23 ceb05247

Sample Name: SSTD030 Lab Sample ID: STD2735

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 11:24.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0071.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 10:17 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: all1
Calibration date and time: 02-OCT-2015 11:23
Date, time and analyst ID of latest file update: 02-Oct-2015 11:23 ceb05247

Sample Name: SSTD030 Lab Sample ID: STD2735

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.187	88	186834	29.778
4) N-Nitrosodimethylamine	(1)	2.616	74	267626	25.936
5) Pyridine	(1)	2.693	79	412517	24.682
7) 2-Picoline	(1)	3.887	93	476791	26.733
8) N-Nitrosomethylethylamine	(1)	4.057	88	247845	28.721
9) Methyl methanesulfonate	(1)	4.463	80	226679	26.665
11)$2-Fluorophenol	(1)	4.698	112	799974	57.140
13) N-Nitrosodiethylamine	(1)	4.928	102	244841	29.875
15) Ethyl methanesulfonate	(1)	5.298	109	232736	29.817
16) Benzaldehyde	(1)	5.622	77	334308	24.754
19) Aniline	(1)	5.745	93	757020	28.306
17)$Phenol-d6	(1)	5.769	99	1151168	57.500
18) Phenol	(1)	5.781	94	631880	26.504
20) a-methylstyrene	(1)	5.804	118	427946	30.197
22) bis(2-Chloroethyl)ether	(1)	5.840	93	474476	27.996
23) 2-Chlorophenol	(1)	5.875	128	415886	29.862
24) 1,3-Dichlorobenzene	(1)	6.022	146	386631	29.059
25)*1,4-Dichlorobenzene-d4	(1)	6.081	152	168193	20.000
26) 1,4-Dichlorobenzene	(1)	6.098	146	407680	28.753
27) Benzyl alcohol	(1)	6.251	108	326853	29.370
28) 1,2-Dichlorobenzene	(1)	6.251	146	383941	28.729
30) Indene	(1)	6.345	115	733542	29.861
31) 2-Methylphenol	(1)	6.398	108	446709	29.660
34) bis(2-Chloroisopropyl)ether	(1)	6.398	45	560988	25.258
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.398	45	560988	25.258
35) N-Nitrosopyrrolidine	(1)	6.492	100	278247	30.477
36) Acetophenone	(1)	6.504	105	665037	30.147
38) N-Nitroso-di-n-propylamine	(1)	6.528	70	368031	27.463
39) N-Nitrosomorpholine	(1)	6.534	56	283474	26.222
40) o-Toluidine	(1)	6.540	106	757030	29.520
37) 4-Methylphenol	(1)	6.551	108	532618	29.882
43) Hexachloroethane	(1)	6.592	117	155981	28.230
44)$Nitrobenzene-d5	(2)	6.651	82	1007985	56.432
42) Total Cresols	(1)			979327	59.542
45) Nitrobenzene	(2)	6.669	77	504347	28.527
48) N-Nitrosopiperidine	(2)	6.822	114	250700	31.238
50) Isophorone	(2)	6.922	82	1038790	28.454
51) 2-Nitrophenol	(2)	6.992	139	237127	32.235
53) 2,4-Dimethylphenol	(2)	7.069	107	489146	30.276
57) O,O,O-Triethylphosphorothioate	(2)	7.134	198	218980	30.351

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 11:24.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0071.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 10:17 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: all1
Calibration date and time: 02-OCT-2015 11:23
Date, time and analyst ID of latest file update: 02-Oct-2015 11:23 ceb05247

Sample Name: SSTD030 Lab Sample ID: STD2735

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	7.151	93	610920	29.813
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.210	104	640454	29.355
56) Benzoic acid	(2)	7.210	105	556963	36.220
60) 2,4-Dichlorophenol	(2)	7.245	162	353298	30.496
62) 1,2,4-Trichlorobenzene	(2)	7.310	180	354732	30.133
65)*Naphthalene-d8	(2)	7.363	136	767566	20.000
66) Naphthalene	(2)	7.381	128	1241070	29.340
67) 4-Chloroaniline	(2)	7.451	127	546854	28.884
68) 2,6-Dichlorophenol	(2)	7.457	162	344650	30.310
69) Hexachloropropene	(2)	7.475	213	177496	29.422
71) Hexachlorobutadiene	(2)	7.522	225	160110	27.446
75) Quinoline	(2)	7.722	129	909522	30.051
77) N-Nitrosodi-n-butylamine	(2)	7.804	84	496667	33.214
76) Caprolactam	(2)	7.816	113	202703	30.496
80) 4-Chloro-3-methylphenol	(2)	7.963	107	458892	29.350
82) Safrole	(2)	7.998	162	352083	31.195
83) 2-Methylnaphthalene	(2)	8.069	142	889836	29.855
84) 1-Methylnaphthalene	(2)	8.169	142	797670	29.852
85) Hexachlorocyclopentadiene	(3)	8.234	237	151001	27.191
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.239	216	352848	30.539
88) cis-Isosafrole	(3)	8.286	162	67127	5.541
90) 2,4,6-Trichlorophenol	(3)	8.363	196	249289	29.601
92) 2,4,5-Trichlorophenol	(3)	8.404	196	292227	31.126
93)$2-Fluorobiphenyl	(3)	8.445	172	1909895	61.236
94) trans-Isosafrole	(3)	8.510	162	345703	25.030
95) 1,1'-Biphenyl	(3)	8.534	154	1130890	30.438
96) 2-Chloronaphthalene	(3)	8.545	162	827141	28.910
98) 1-Chloronaphthalene	(3)	8.569	162	776163	29.121
97) Isosafrole	(3)			412830	30.571
99) Diphenyl ether	(3)	8.645	170	587012	31.220
100) 2-Nitroaniline	(3)	8.657	138	311490	31.329
104) 1,4-Naphthoquinone	(3)	8.728	158	362692	29.742
105) 1,4-Dinitrobenzene	(3)	8.798	168	169226	31.934
106) Dimethylphthalate	(3)	8.851	163	980561	28.768
107) 1,3-Dinitrobenzene	(3)	8.869	168	194867	32.090
108) 2,6-Dinitrotoluene	(3)	8.904	165	238810	30.344
109) Acenaphthylene	(3)	8.951	152	1316194	30.171
112) 3-Nitroaniline	(3)	9.057	138	284893	31.508
113)*Acenaphthene-d10	(3)	9.092	164	491369	20.000
114) Acenaphthene	(3)	9.122	153	895069	29.643

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$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 11:24.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0071.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 10:17 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: all1
Calibration date and time: 02-OCT-2015 11:23
Date, time and analyst ID of latest file update: 02-Oct-2015 11:23 ceb05247

Sample Name: SSTD030 Lab Sample ID: STD2735

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	9.169	184	199812	36.738
117) Pentachlorobenzene	(3)	9.257	250	316794	30.369
116) 4-Nitrophenol	(3)	9.263	109	141479	28.976
119) Dibenzofuran	(3)	9.292	168	1216813	29.359
118) 2,4-Dinitrotoluene	(3)	9.298	165	329501	29.627
121) 1-Naphthylamine	(3)	9.369	143	1044747	31.015
120) 2,4_2,6-Dinitrotoluenes	(3)			568311	59.971
122) 2,3,4,6-Tetrachlorophenol	(3)	9.428	232	230093	28.784
123) 2-Naphthylamine	(3)	9.451	143	1026458	30.777
124) Diethylphthalate	(3)	9.551	149	989651	29.625
126) Fluorene	(3)	9.628	166	1022693	29.468
125) Thionazin	(3)	9.628	107	218428	31.703
127) 4-Chlorophenyl-phenylether	(3)	9.639	204	468758	29.041
128) 5-Nitro-o-toluidine	(3)	9.651	152	308534	29.901
129) 4-Nitroaniline	(3)	9.657	138	291563	29.033
130) 4,6-Dinitro-2-methylphenol	(4)	9.698	198	204731	29.357
131) N-Nitrosodiphenylamine	(4)	9.757	169	920877	30.758
132) NDPA as diphenylamine	(4)	9.757	169	920877	30.197
134) 1,2-Diphenylhydrazine	(4)	9.792	77	1132605	27.725
135)$2,4,6-Tribromophenol	(3)	9.863	330	247186	61.426
137) Tetraethyldithiopyrophosphate	(4)	9.939	97	173992	29.861
140) Diallate (peak 1)	(4)	10.051	86	490606	24.102
139) 1,3,5-Trinitrobenzene	(4)	10.057	213	130090	30.385
141) Phorate	(4)	10.057	75	1038181	37.756
142) Phenacetin	(4)	10.080	108	614254	29.659
143) 4-Bromophenyl-phenylether	(4)	10.116	248	252476	30.132
144) Diallate (peak 2)	(4)	10.133	86	101291	5.068
145) Hexachlorobenzene	(4)	10.169	284	249731	28.007
146) Diallate trans/cis	(4)			591897	29.170
147) Dimethoate	(4)	10.216	87	551442	30.106
148) Atrazine	(4)	10.298	200	283281	29.200
149) Pentachlorophenol	(4)	10.369	266	159297	26.925
150) 4-Aminobiphenyl	(4)	10.369	169	891699	26.682
151) Pentachloronitrobenzene	(4)	10.375	237	95162	28.864
152) Pronamide	(4)	10.451	173	423599	30.133
153)*Phenanthrene-d10	(4)	10.539	188	939407	20.000
155) Phenanthrene	(4)	10.563	178	1609057	29.494
154) Dinoseb	(4)	10.563	211	280973	31.383
157) Anthracene	(4)	10.616	178	1629426	30.223
163) Carbazole	(4)	10.780	167	1486961	29.187

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$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 11:24.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0071.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 10:17 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: all1
Calibration date and time: 02-OCT-2015 11:23
Date, time and analyst ID of latest file update: 02-Oct-2015 11:23 ceb05247

Sample Name: SSTD030 Lab Sample ID: STD2735

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	10.927	109	408018	32.159
165) Di-n-butylphthalate	(4)	11.157	149	1798946	30.350
167) Parathion	(4)	11.316	109	252808	31.834
168) 4-Nitroquinoline-1-oxide	(4)	11.327	190	109668	22.304
169) Octachlorostyrene	(4)	11.551	308	91270	31.824
171) Isodrin	(4)	11.580	193	162666	29.703
173) Fluoranthene	(4)	11.727	202	1771058	29.870
174) Benzidine	(5)	11.880	184	3697064	100.700
175)*Pyrene-d10	(5)	11.927	212	1057444	20.000
177) Pyrene	(5)	11.945	202	1821130	28.868
179)$Terphenyl-d14	(5)	12.121	244	2306110	59.259
182) p-Dimethylaminoazobenzene	(5)	12.257	225	349973	30.132
185) Chlorobenzilate	(5)	12.310	139	493201	30.102
187) 3,3'-Dimethylbenzidine	(5)	12.586	212	1131954	34.577
188) Butylbenzylphthalate	(5)	12.616	149	784666	28.312
191) 2-Acetylaminofluorene	(5)	12.833	181	787628	31.298
193) 3,3'-Dichlorobenzidine	(5)	13.116	252	605510	32.386
198) 4,4'-Methylenebis(2-chloroanil	(5)	13.121	231	322149	30.729
195) Benzo(a)anthracene	(5)	13.127	228	1586999	28.859
196) Chrysene	(5)	13.163	228	1493191	28.498
199) bis(2-Ethylhexyl)phthalate	(5)	13.210	149	1140146	29.421
203) 6-Methylchrysene	(5)	13.621	242	1099916	29.757
205) Di-n-octylphthalate	(6)	13.863	149	1991604	31.192
207) 7,12-Dimethylbenz[a]anthracene	(6)	14.192	256	724897	30.889
206) Benzo(b)fluoranthene	(6)	14.198	252	1476657	30.353
208) Benzo(k)fluoranthene	(6)	14.221	252	1518414	30.589
211) Benzo(a)pyrene	(6)	14.504	252	1437498	29.917
213)*Perylene-d12	(6)	14.557	264	775199	20.000
215) 3-Methylcholanthrene	(6)	14.839	268	713231	31.578
219) Indeno(1,2,3-cd)pyrene	(6)	15.627	276	1525292	30.478
220) Dibenz(a,h)anthracene	(6)	15.651	278	1288635	30.610
221) Benzo(g,h,i)perylene	(6)	15.927	276	1243536	30.253
222) Total PAHs	(6)			21568354	475.400

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 11:24.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP09910.i/15oct04a.b/oj0210w.d

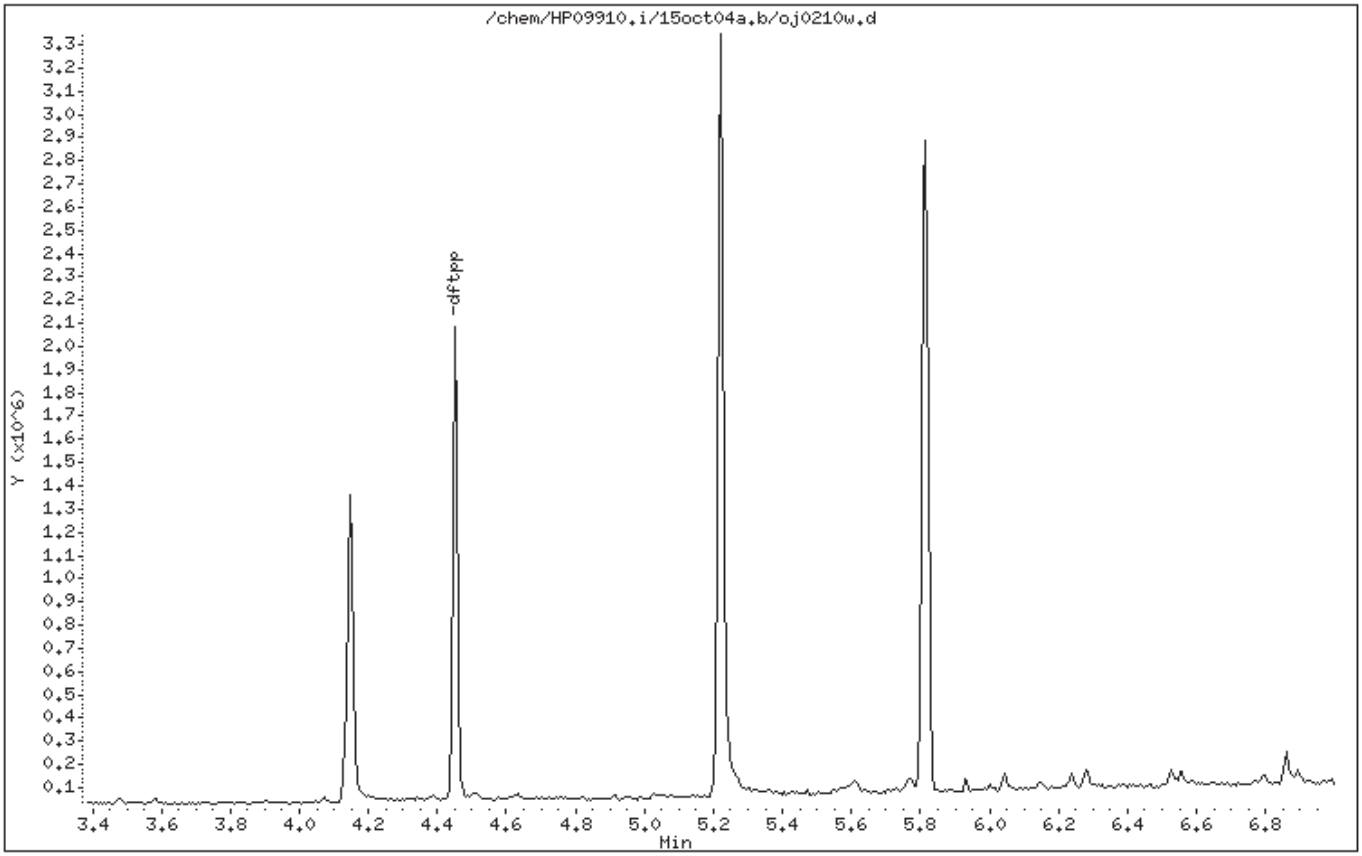
Date : 04-OCT-2015 22:31

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: whs02991

Column phase: JW DB-5MS Column diameter: 0.18



Digitally signed by William H Saadeh on 10/04/2015 at 23:36.
Target 3.5 esignature user ID: whs02991

Data File: /chem/HP09910.i/15oct04a.b/oj0210w.d

Date : 04-OCT-2015 22:31

Client ID: DFTPP50

Instrument: HP09910.i

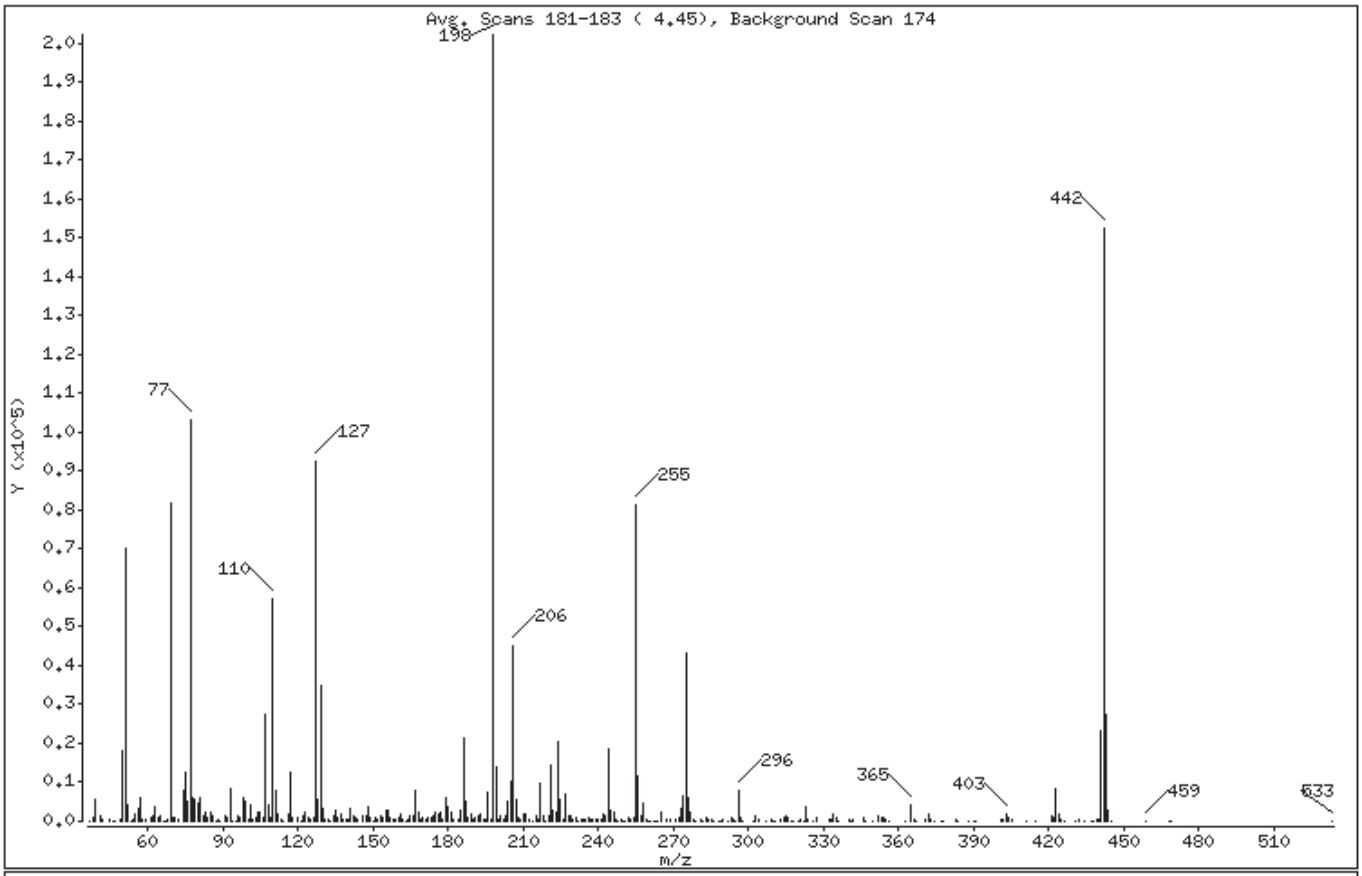
Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: whs02991

Column phase: JW DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	34.60
68	Less than 2.00% of mass 69	0.33 (0.81)
69	Mass 69 relative abundance	40.35
70	Less than 2.00% of mass 69	0.48 (1.19)
127	40.00 - 60.00% of mass 198	45.70
197	Less than 1.00% of mass 198	0.22
199	5.00 - 9.00% of mass 198	6.78
275	10.00 - 30.00% of mass 198	21.48
365	Greater than 1.00% of mass 198	2.01
441	Present, but less than mass 443	11.43
442	40.00 - 99.99% of mass 198	75.35
443	17.00 - 23.00% of mass 442	13.63 (18.09)

Digitally signed by William H Saadeh on 10/04/2015 at 23:36.
Target 3.5 esignature user ID: whs02991

Date : 04-OCT-2015 22:31

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: whs02991

Column phase: JW DB-5MS Column diameter: 0.18

Data File: oj0210w.d
Spectrum: Avg. Scans 181-183 (4.45), Background Scan 174
Location of Maximum: 198.00
Number of points: 324

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	206	128.00	5467	212.00	661	304.00	458
38.00	942	129.00	35064	214.00	142	307.00	93
39.00	5751	130.00	3268	215.00	1176	309.00	251
41.00	1265	131.00	385	216.00	639	310.00	121
42.00	412	132.00	381	217.00	9561	311.00	149
45.00	646	133.00	178	218.00	1449	313.00	512
46.00	147	134.00	1425	219.00	119	314.00	776
47.00	21	135.00	2944	220.00	1224	315.00	1220
49.00	508	136.00	1003	221.00	14284	316.00	775
50.00	18152	137.00	1876	222.00	2671	317.00	85
51.00	69968	138.00	586	223.00	2552	318.00	93
52.00	4143	139.00	384	224.00	20512	320.00	80
53.00	90	140.00	280	225.00	5455	321.00	330
54.00	340	141.00	3040	226.00	651	322.00	200
55.00	1787	142.00	1455	227.00	6809	323.00	3916
56.00	3070	143.00	740	228.00	1209	324.00	443
57.00	6074	144.00	447	229.00	1406	326.00	68
58.00	529	146.00	1374	230.00	337	327.00	951
59.00	393	147.00	1342	231.00	1158	332.00	482
61.00	1098	148.00	3655	232.00	25	333.00	576
62.00	1461	149.00	699	233.00	373	334.00	1949
63.00	3817	150.00	211	234.00	510	335.00	798
64.00	795	151.00	803	235.00	664	336.00	118
65.00	1558	152.00	292	236.00	770	340.00	241
66.00	155	153.00	1430	237.00	470	341.00	183
67.00	141	154.00	977	238.00	246	342.00	314
68.00	664	155.00	2738	239.00	326	346.00	836
69.00	81576	156.00	2964	240.00	378	347.00	91
70.00	967	157.00	1077	241.00	658	350.00	223
71.00	761	158.00	571	242.00	1707	352.00	1208
72.00	367	159.00	596	243.00	1317	353.00	980
74.00	7708	160.00	1138	244.00	18472	354.00	1089
75.00	12717	161.00	1932	245.00	2976	355.00	301
76.00	5216	162.00	461	246.00	2223	356.00	121
77.00	102960	163.00	167	247.00	355	363.00	61

Digitally signed by William H Saadeh on 10/04/2015 at 23:36.
Target 3.5 esignature user ID: whs02991

Date : 04-OCT-2015 22:31

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: whs02991

Column phase: JW DB-5MS Column diameter: 0.18

Data File: oj0210w.d
Spectrum: Avg. Scans 181-183 (4.45), Background Scan 174
Location of Maximum: 198.00
Number of points: 324

m/z	Y	m/z	Y	m/z	Y	m/z	Y
78.00	6061	164.00	301	248.00	184	365.00	4073
79.00	5580	165.00	1213	249.00	623	366.00	522
80.00	4559	166.00	1550	250.00	190	367.00	112
81.00	6059	167.00	8062	251.00	178	371.00	393
82.00	1602	168.00	2207	252.00	829	372.00	1797
83.00	2338	169.00	558	253.00	502	373.00	516
84.00	916	170.00	721	254.00	707	374.00	121
85.00	2106	171.00	524	255.00	81360	377.00	143
86.00	1324	172.00	948	256.00	11792	378.00	145
87.00	56	173.00	990	257.00	1409	383.00	592
88.00	619	174.00	1444	258.00	4544	384.00	214
89.00	206	175.00	2465	259.00	595	388.00	96
91.00	1424	176.00	1720	260.00	71	390.00	198
92.00	1130	177.00	2445	261.00	123	391.00	109
93.00	8415	178.00	581	262.00	55	401.00	241
94.00	199	179.00	5999	263.00	78	402.00	674
95.00	192	180.00	3505	264.00	107	403.00	1981
96.00	1602	181.00	2173	265.00	2538	404.00	776
97.00	1086	182.00	490	267.00	338	405.00	285
98.00	6023	184.00	455	269.00	261	411.00	65
99.00	5101	185.00	2662	271.00	308	415.00	129
100.00	554	186.00	21176	272.00	745	421.00	1412
101.00	4094	187.00	4924	273.00	3257	422.00	973
102.00	466	188.00	976	274.00	6529	423.00	8403
103.00	982	189.00	1748	275.00	43440	424.00	1923
104.00	2232	190.00	274	276.00	5905	425.00	370
105.00	2149	191.00	737	277.00	2470	426.00	88
106.00	884	192.00	1434	278.00	520	431.00	51
107.00	27192	193.00	1798	279.00	232	432.00	292
108.00	4168	194.00	614	281.00	279	434.00	165
109.00	1066	195.00	560	282.00	187	437.00	107
110.00	57136	196.00	7653	283.00	812	438.00	225
111.00	8044	197.00	445	284.00	244	439.00	298
112.00	1658	198.00	202176	285.00	440	440.00	566
113.00	451	199.00	13719	286.00	55	441.00	23120

Digitally signed by William H Saadeh on 10/04/2015 at 23:36.
Target 3.5 esignature user ID: whs02991

Date : 04-OCT-2015 22:31

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: whs02991

Column phase: JW DB-5MS Column diameter: 0.18

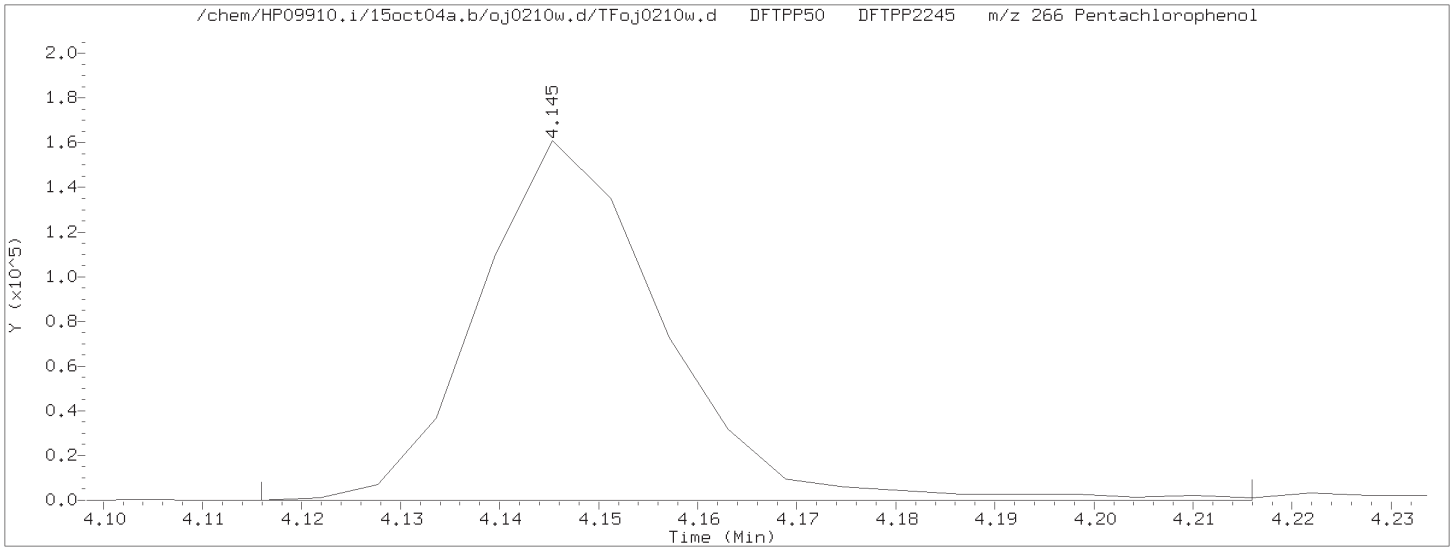
Data File: oj0210w.d
Spectrum: Avg. Scans 181-183 (4.45), Background Scan 174
Location of Maximum: 198.00
Number of points: 324

m/z	Y	m/z	Y	m/z	Y	m/z	Y
114.00	138	200.00	638	288.00	142	442.00	152320
116.00	1777	201.00	1255	289.00	168	443.00	27560
117.00	12556	202.00	382	290.00	244	444.00	2618
118.00	1156	203.00	1494	292.00	152	445.00	84
120.00	1031	204.00	5014	293.00	851	459.00	75
121.00	167	205.00	10000	294.00	246	468.00	60
122.00	1221	206.00	44928	295.00	129	469.00	60
123.00	2237	207.00	5662	296.00	7814	533.00	79
124.00	803	208.00	735	297.00	1018		
125.00	477	209.00	584	298.00	158		
126.00	743	210.00	1925	302.00	230		
127.00	92400	211.00	1785	303.00	1408		

Digitally signed by William H Saadeh on 10/04/2015 at 23:36.
Target 3.5 esignature user ID: whs02991

Assessment of GC Column Performance and Injection Port Inertness for

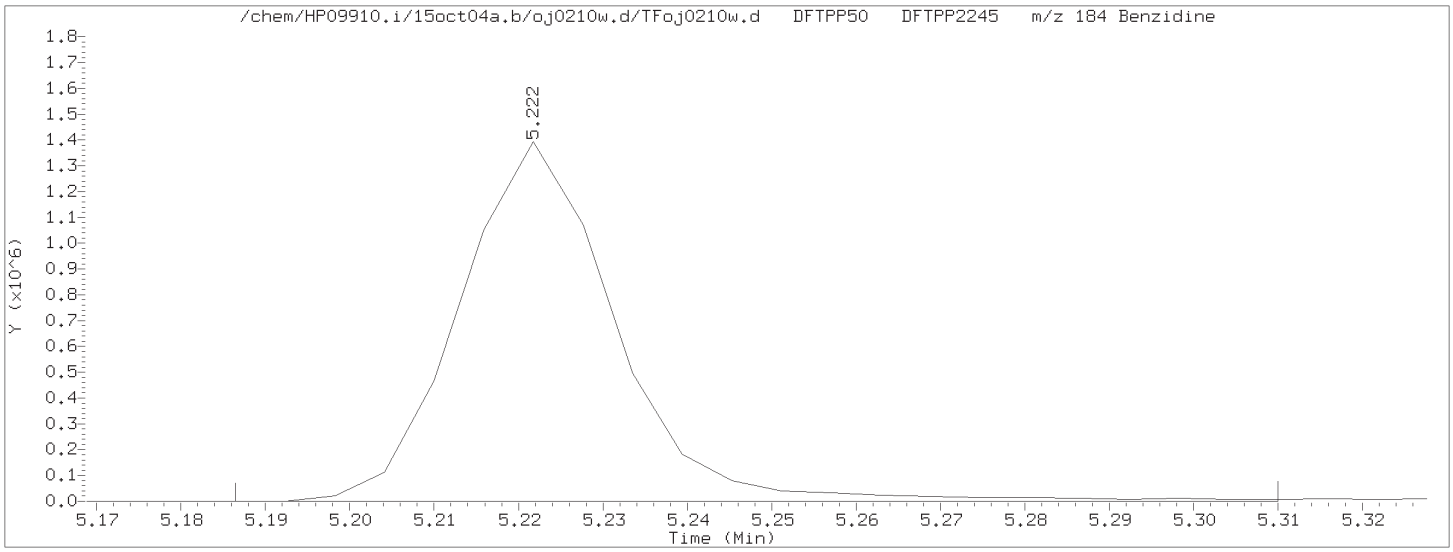
Instrument ID: HP09910.i Injection Date: 04-OCT-2015 22:31 Operator: whs02991



Pentachlorophenol EICP peak height = 160960 EICP peak height at 10% = 16096 Pentachlorophenol EICP area = 206798

Pentachlorophenol EICP peak apex (min.) = 4.145
RT at 10% of front half of EICP (min.) = 4.130 'Front' peak width (min.) = 0.0158000000
RT at 10% of back half of EICP (min.) = 4.167 'Tailing' peak width (min.) = 0.0217166667

PCP tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0217166667}{0.0158000000} = 1.374$



Benzidine EICP peak height = 1394176 EICP peak height at 10% = 139418 Benzidine EICP area = 1785762

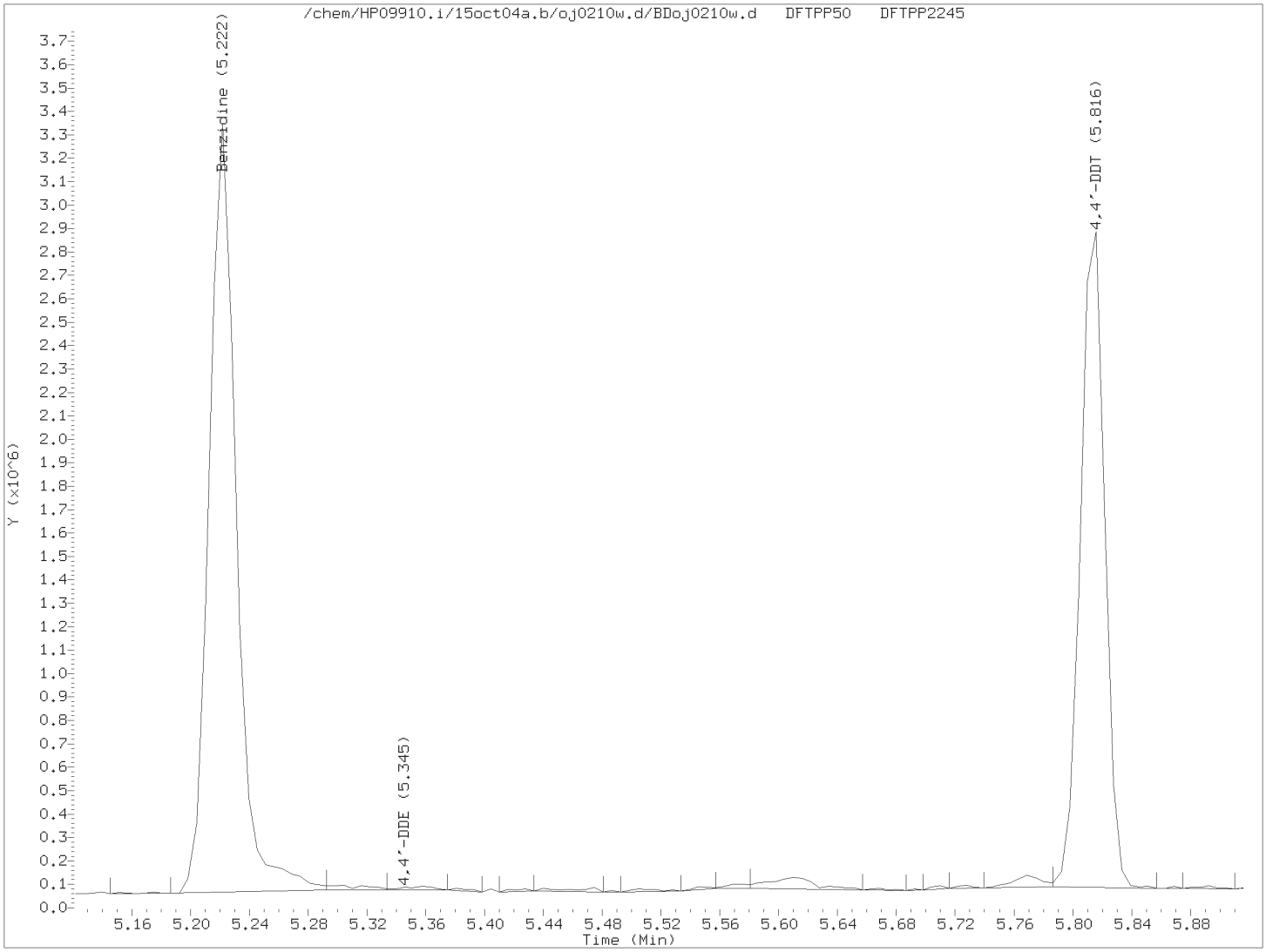
Benzidine EICP peak apex (min.) = 5.222
RT at 10% of front half of EICP (min.) = 5.205 'Front' peak width (min.) = 0.0171500000
RT at 10% of back half of EICP (min.) = 5.242 'Tailing' peak width (min.) = 0.0199666667

Benzidine tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0199666667}{0.0171500000} = 1.164$

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 10:46. Parallax ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

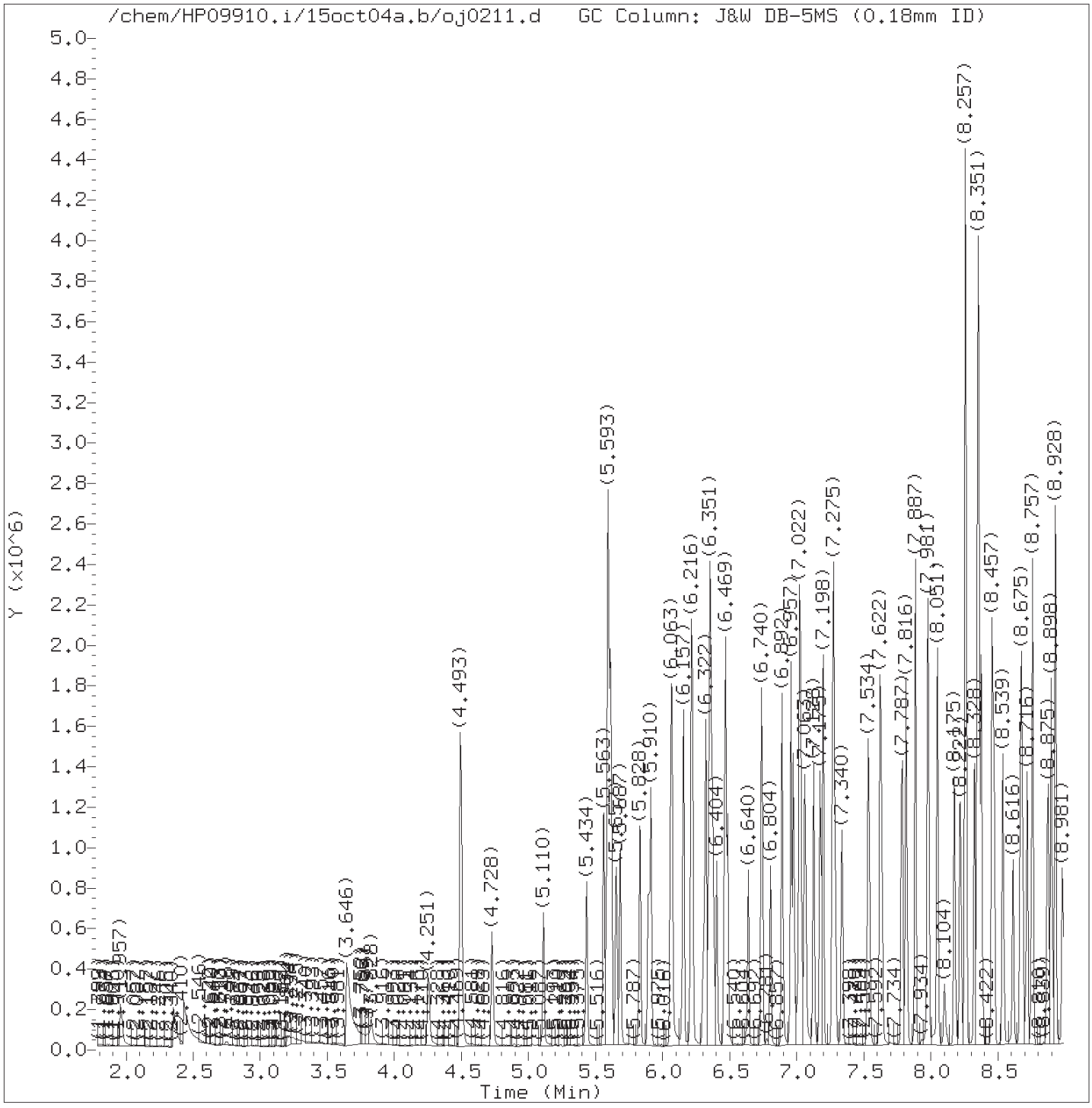
Instrument ID: HP09910.i Injection Date: 04-OCT-2015 22:31 Operator: whs02991



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{20120 + 0}{20120 + 0 + 3257320} \times 100 = 0.6$$

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 10:46. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

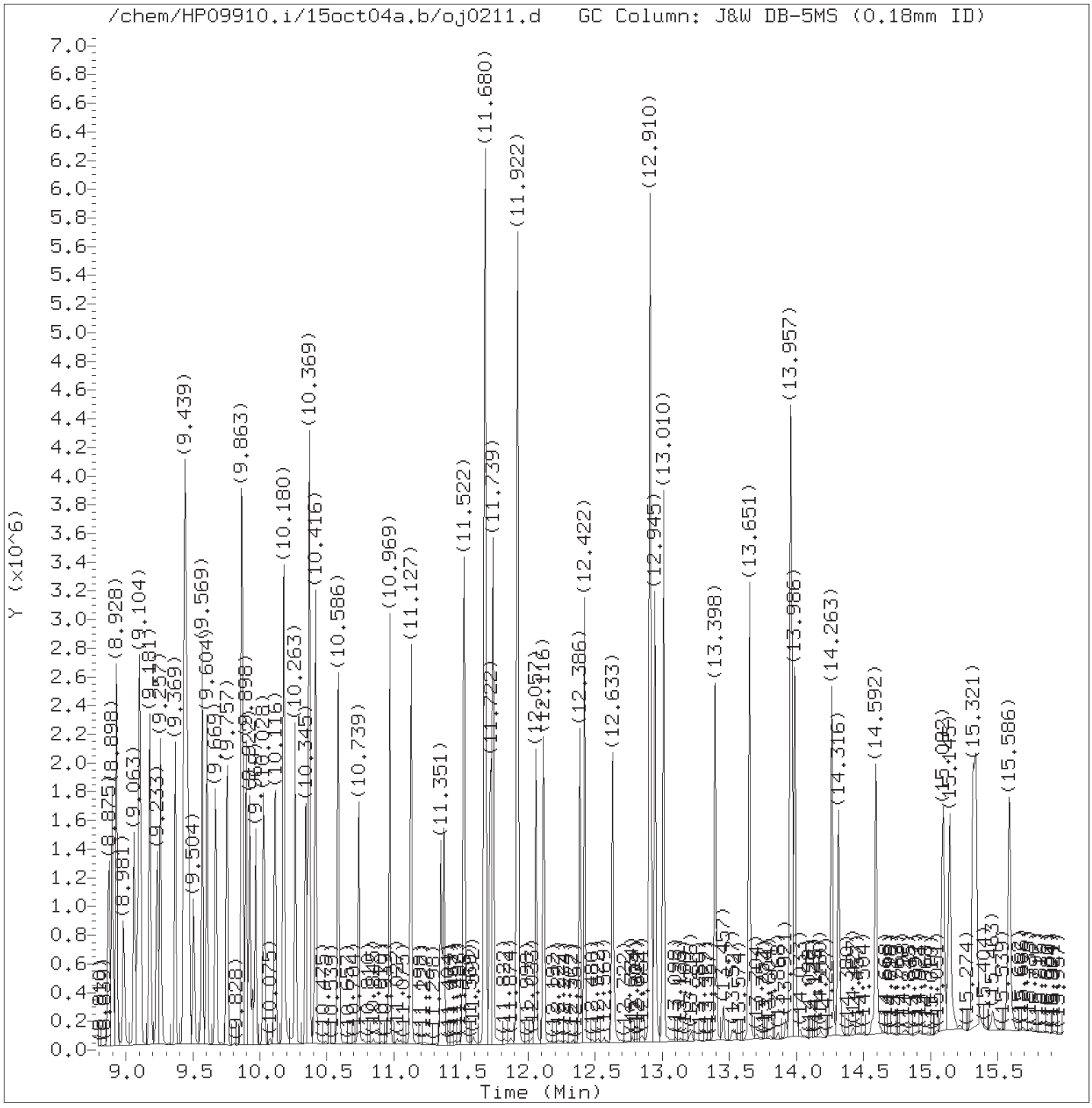
Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0211.d Instrument ID: HP09910.i
Injection date and time: 04-OCT-2015 22:45 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: all1-b
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 04-Oct-2015 23:35 whs02991

Sample Name: SSTD030 Lab Sample ID: STD2735

Digitally signed by William H Saadeh
on 10/04/2015 at 23:36.
Target 3.5 esignature user ID: whs02991



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0211.d Instrument ID: HP09910.i
Injection date and time: 04-OCT-2015 22:45 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: all1-b
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 04-Oct-2015 23:35 whs02991

Sample Name: SSTD030 Lab Sample ID: STD2735

Digitally signed by William H Saadeh
on 10/04/2015 at 23:36.
Target 3.5 esignature user ID: whs02991

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0211.d Instrument ID: HP09910.i
Injection date and time: 04-OCT-2015 22:45 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: all1-b
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 04-Oct-2015 23:35 whs02991

Sample Name: SSTD030 Lab Sample ID: STD2735

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	1.957	88	116869	26.587
4) N-Nitrosodimethylamine	(1)	2.357	74	193636	26.785
5) Pyridine	(1)	2.428	79	317722M	27.134
7) 2-Picoline	(1)	3.646	93	327015	26.170
8) N-Nitrosomethylethylamine	(1)	3.828	88	163098	26.977
9) Methyl methanesulfonate	(1)	4.251	80	157086	26.375
11)$2-Fluorophenol	(1)	4.493	112	569987	58.110
13) N-Nitrosodiethylamine	(1)	4.728	102	175346	30.539
15) Ethyl methanesulfonate	(1)	5.110	109	170988	31.267
19) Aniline	(1)	5.563	93	533989	28.499
17)$Phenol-d6	(1)	5.587	99	840097	59.894
18) Phenol	(1)	5.604	94	443690	26.563
20) a-methylstyrene	(1)	5.616	118	310219	31.244
22) bis(2-Chloroethyl)ether	(1)	5.657	93	346000	29.139
23) 2-Chlorophenol	(1)	5.687	128	297026	30.442
24) 1,3-Dichlorobenzene	(1)	5.828	146	280725	30.116
25)*1,4-Dichlorobenzene-d4	(1)	5.893	152	117837	20.000
26) 1,4-Dichlorobenzene	(1)	5.910	146	292504	29.446
28) 1,2-Dichlorobenzene	(1)	6.063	146	281442	30.059
27) Benzyl alcohol	(1)	6.069	108	217414	27.885
30) Indene	(1)	6.157	115	529129	30.745
34) bis(2-Chloroisopropyl)ether	(1)	6.216	45	375930	24.159
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.216	45	375930	24.159
31) 2-Methylphenol	(1)	6.216	108	324329	30.737
35) N-Nitrosopyrrolidine	(1)	6.310	100	201817	31.552
36) Acetophenone	(1)	6.322	105	475959	30.796
38) N-Nitroso-di-n-propylamine	(1)	6.345	70	258941	27.579
39) N-Nitrosomorpholine	(1)	6.351	56	204432	26.991
40) o-Toluidine	(1)	6.357	106	552142	30.731
37) 4-Methylphenol	(1)	6.375	108	394748	31.611
43) Hexachloroethane	(1)	6.404	117	118719	30.668
44)$Nitrobenzene-d5	(2)	6.469	82	718321	53.559
45) Nitrobenzene	(2)	6.487	77	365107	27.503
48) N-Nitrosopiperidine	(2)	6.640	114	185548	30.791
42) Total Cresols	(1)			719077	62.348
50) Isophorone	(2)	6.740	82	754019	27.507
51) 2-Nitrophenol	(2)	6.804	139	181953	32.942
53) 2,4-Dimethylphenol	(2)	6.892	107	349631	28.821
57) O,O,O-Triethylphosphorothioate	(2)	6.957	198	155742	28.748
55) bis(2-Chloroethoxy)methane	(2)	6.975	93	454287	29.525

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by William H Saadeh
on 10/04/2015 at 23:36.
Target 3.5 esignature user ID: whs02991

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0211.d Instrument ID: HP09910.i
Injection date and time: 04-OCT-2015 22:45 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: all1-b
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 04-Oct-2015 23:35 whs02991

Sample Name: SSTD030 Lab Sample ID: STD2735

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
59) 1,2,3,4-Tetrahydronaphthalene	(2)	7.022	104	472114	28.819
56) Benzoic acid	(2)	7.022	105	428119	37.079
60) 2,4-Dichlorophenol	(2)	7.063	162	257165	29.563
62) 1,2,4-Trichlorobenzene	(2)	7.128	180	256819	29.054
65)*Naphthalene-d8	(2)	7.175	136	576340	20.000
66) Naphthalene	(2)	7.198	128	913517	28.761
67) 4-Chloroaniline	(2)	7.269	127	426420	29.996
68) 2,6-Dichlorophenol	(2)	7.275	162	255620	29.939
69) Hexachloropropene	(2)	7.292	213	123233	27.205
71) Hexachlorobutadiene	(2)	7.340	225	120700	27.556
75) Quinoline	(2)	7.534	129	675713	29.733
77) N-Nitrosodi-n-butylamine	(2)	7.622	84	359324	32.002
76) Caprolactam	(2)	7.634	113	150805	30.216
80) 4-Chloro-3-methylphenol	(2)	7.787	107	337142	28.718
82) Safrole	(2)	7.816	162	259373	30.606
83) 2-Methylnaphthalene	(2)	7.887	142	656764	29.347
84) 1-Methylnaphthalene	(2)	7.981	142	618572	30.830
85) Hexachlorocyclopentadiene	(3)	8.045	237	90291	21.299
86) 1,2,4,5-Tetrachlorobenzene	(3)	8.051	216	255744	28.995
88) cis-Isosafrole	(3)	8.104	162	45500	4.920
90) 2,4,6-Trichlorophenol	(3)	8.181	196	185946	28.923
92) 2,4,5-Trichlorophenol	(3)	8.222	196	203099	28.338
93)$2-Fluorobiphenyl	(3)	8.257	172	1407601	59.120
94) trans-Isosafrole	(3)	8.328	162	256490	24.327
95) 1,1'-Biphenyl	(3)	8.351	154	854109	30.114
96) 2-Chloronaphthalene	(3)	8.357	162	718465M	32.895
98) 1-Chloronaphthalene	(3)	8.375	162	637744M	31.345
99) Diphenyl ether	(3)	8.457	170	433982	30.235
100) 2-Nitroaniline	(3)	8.469	138	245446	32.339
104) 1,4-Naphthoquinone	(3)	8.539	158	274103	29.445
105) 1,4-Dinitrobenzene	(3)	8.616	168	126615	31.299
97) Isosafrole	(3)			301990	29.247
106) Dimethylphthalate	(3)	8.675	163	732720	28.160
107) 1,3-Dinitrobenzene	(3)	8.686	168	148373	32.007
108) 2,6-Dinitrotoluene	(3)	8.716	165	188987	31.457
109) Acenaphthylene	(3)	8.757	152	989671	29.718
112) 3-Nitroaniline	(3)	8.875	138	209630	30.370
113)*Acenaphthene-d10	(3)	8.898	164	375103	20.000
114) Acenaphthene	(3)	8.928	153	680282	29.513
115) 2,4-Dinitrophenol	(3)	8.986	184	149078	36.036

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by William H Saadeh
on 10/04/2015 at 23:36.
Target 3.5 esignature user ID: whs02991

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0211.d Instrument ID: HP09910.i
Injection date and time: 04-OCT-2015 22:45 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: all1-b
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 04-Oct-2015 23:35 whs02991

Sample Name: SSTD030 Lab Sample ID: STD2735

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
117) Pentachlorobenzene	(3)	9.063	250	223814	28.106
116) 4-Nitrophenol	(3)	9.086	109	93277	25.025
119) Dibenzofuran	(3)	9.098	168	896296	28.329
118) 2,4-Dinitrotoluene	(3)	9.110	165	246113	28.988
121) 1-Naphthylamine	(3)	9.181	143	771599	30.006
122) 2,3,4,6-Tetrachlorophenol	(3)	9.233	232	165666	27.148
123) 2-Naphthylamine	(3)	9.257	143	753159	29.583
124) Diethylphthalate	(3)	9.369	149	732519	28.724
120) 2,4_2,6-Dinitrotoluenes	(3)			435100	60.445
126) Fluorene	(3)	9.433	166	781740	29.507
125) Thionazin	(3)	9.439	107	165415	31.451
127) 4-Chlorophenyl-phenylether	(3)	9.451	204	353611	28.697
128) 5-Nitro-o-toluidine	(3)	9.457	152	243662	30.933
129) 4-Nitroaniline	(3)	9.469	138	229177	29.895
130) 4,6-Dinitro-2-methylphenol	(4)	9.504	198	156571	30.811
131) N-Nitrosodiphenylamine	(4)	9.569	169	683694	31.339
132) NDPA as diphenylamine	(4)	9.569	169	683694	30.767
134) 1,2-Diphenylhydrazine	(4)	9.604	77	838975	28.185
135)$2,4,6-Tribromophenol	(3)	9.669	330	173378	56.439
137) Tetraethyldithiopyrophosphate	(4)	9.751	97	125262	29.502
140) Diallate (peak 1)	(4)	9.863	86	363466	24.505
139) 1,3,5-Trinitrobenzene	(4)	9.869	213	103613	32.886
141) Phorate	(4)	9.869	75	771695	38.514
142) Phenacetin	(4)	9.898	108	450717	29.866
143) 4-Bromophenyl-phenylether	(4)	9.922	248	186668	30.573
144) Diallate (peak 2)	(4)	9.945	86	71605	4.916
145) Hexachlorobenzene	(4)	9.969	284	186964	28.775
147) Dimethoate	(4)	10.028	87	406179	30.432
149) Pentachlorophenol	(4)	10.175	266	108173	25.091
150) 4-Aminobiphenyl	(4)	10.180	169	696861	28.991
151) Pentachloronitrobenzene	(4)	10.180	237	68869	28.667
146) Diallate trans/cis	(4)			435071	29.421
152) Pronamide	(4)	10.263	173	318826	31.125
153)*Phenanthrene-d10	(4)	10.345	188	684524	20.000
155) Phenanthrene	(4)	10.369	178	1199834	30.182
154) Dinoseb	(4)	10.369	211	206321	31.625
157) Anthracene	(4)	10.416	178	1222714	31.124
163) Carbazole	(4)	10.586	167	1116507	30.076
164) Methyl parathion	(4)	10.739	109	314205	33.987
165) Di-n-butylphthalate	(4)	10.969	149	1328056	30.748

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by William H Saadeh
on 10/04/2015 at 23:36.
Target 3.5 esignature user ID: whs02991

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct04a.b/oj0211.d Instrument ID: HP09910.i
Injection date and time: 04-OCT-2015 22:45 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: all1-b
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 04-Oct-2015 23:35 whs02991

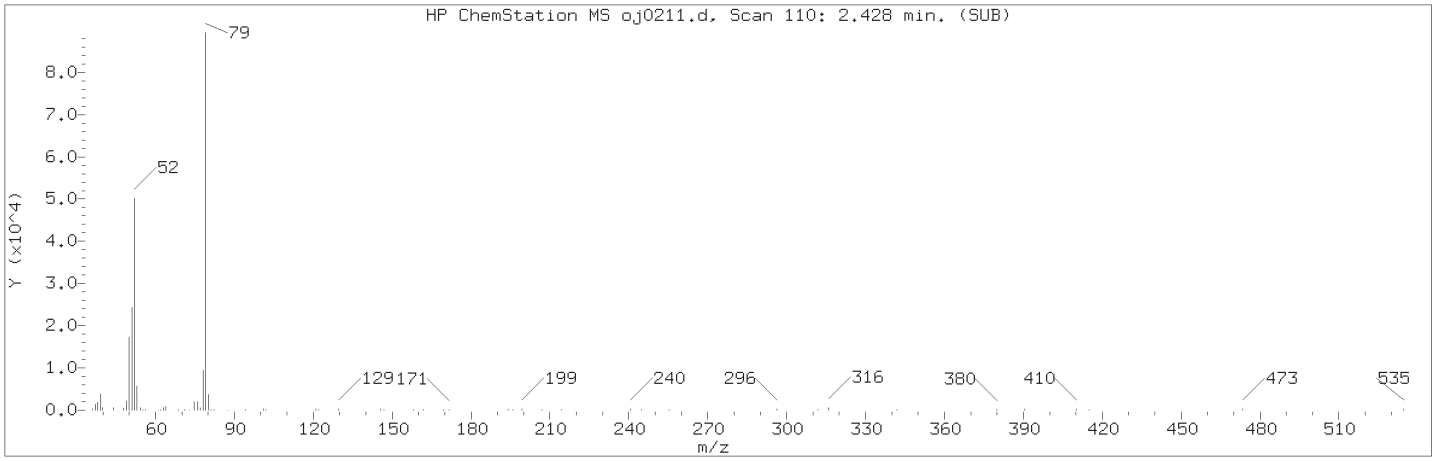
Sample Name: SSTD030 Lab Sample ID: STD2735

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	11.127	109	186523	32.233
168) 4-Nitroquinoline-1-oxide	(4)	11.127	190	77486	21.698
169) Octachlorostyrene	(4)	11.351	308	64035	30.641
171) Isodrin	(4)	11.375	193	113818	28.522
173) Fluoranthene	(4)	11.522	202	1298170	30.047
174) Benzidine	(5)	11.680	184	2650585	99.363
175)*Pyrene-d10	(5)	11.722	212	768327	20.000
177) Pyrene	(5)	11.739	202	1362086	29.716
179)$Terphenyl-d14	(5)	11.922	244	1696163	59.986
182) p-Dimethylaminoazobenzene	(5)	12.057	225	253448	30.032
185) Chlorobenzilate	(5)	12.116	139	362352	30.437
187) 3,3'-Dimethylbenzidine	(5)	12.386	212	773922	32.536
188) Butylbenzylphthalate	(5)	12.422	149	601949	29.892
191) 2-Acetylaminofluorene	(5)	12.633	181	570981	31.227
193) 3,3'-Dichlorobenzidine	(5)	12.904	252	426321	31.382
195) Benzo(a)anthracene	(5)	12.910	228	1138961	28.506
198) 4,4'-Methylenebis(2-chloroanil	(5)	12.916	231	231538	30.396
196) Chrysene	(5)	12.945	228	1128741	29.649
199) bis(2-Ethylhexyl)phthalate	(5)	13.010	149	850874	30.219
203) 6-Methylchrysene	(5)	13.398	242	790477	29.433
205) Di-n-octylphthalate	(6)	13.651	149	1452900	30.604
207) 7,12-Dimethylbenz[a]anthracene	(6)	13.957	256	539144	30.898
206) Benzo(b)fluoranthene	(6)	13.963	252	1043197	28.840
208) Benzo(k)fluoranthene	(6)	13.992	252	1130909	30.640
211) Benzo(a)pyrene	(6)	14.263	252	1023499	28.649
213)*Perylene-d12	(6)	14.316	264	576387	20.000
215) 3-Methylcholanthrene	(6)	14.592	268	481000	28.642
219) Indeno(1,2,3-cd)pyrene	(6)	15.315	276	1081819	29.073
220) Dibenz(a,h)anthracene	(6)	15.339	278	921051	29.425
221) Benzo(g,h,i)perylene	(6)	15.586	276	902732	29.537
222) Total PAHs	(6)			15920153	473.583

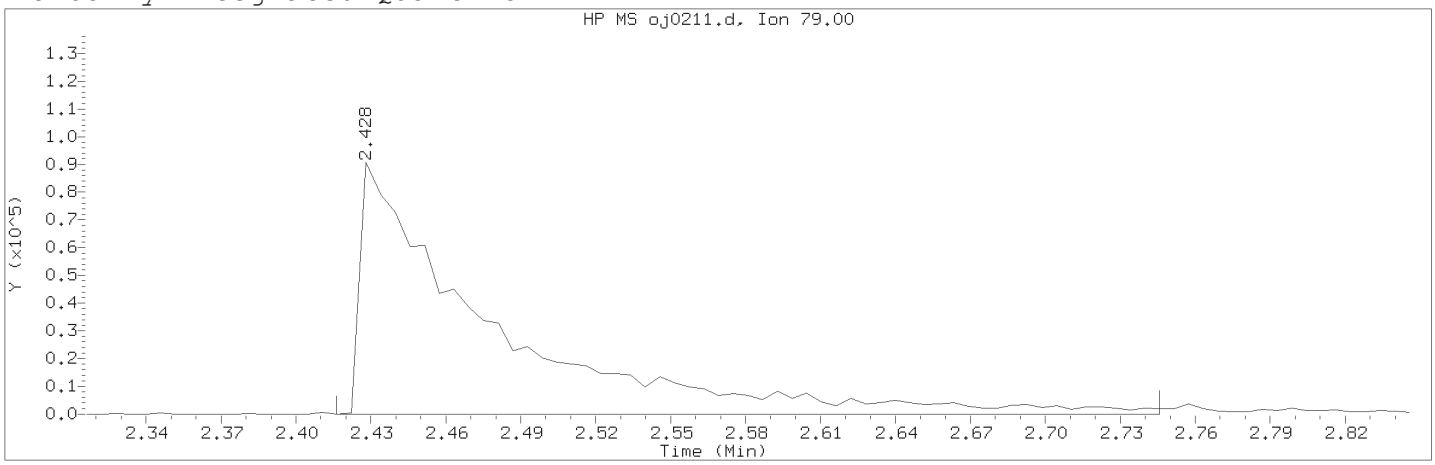
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by William H Saadeh
on 10/04/2015 at 23:36.
Target 3.5 esignature user ID: whs02991

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0211.d Instrument ID: HP09910.i
Injection date and time: 04-OCT-2015 22:45 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: all1-b
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 04-Oct-2015 23:35 whs02991

Sample Name: SSTD030 Lab Sample ID: STD2735

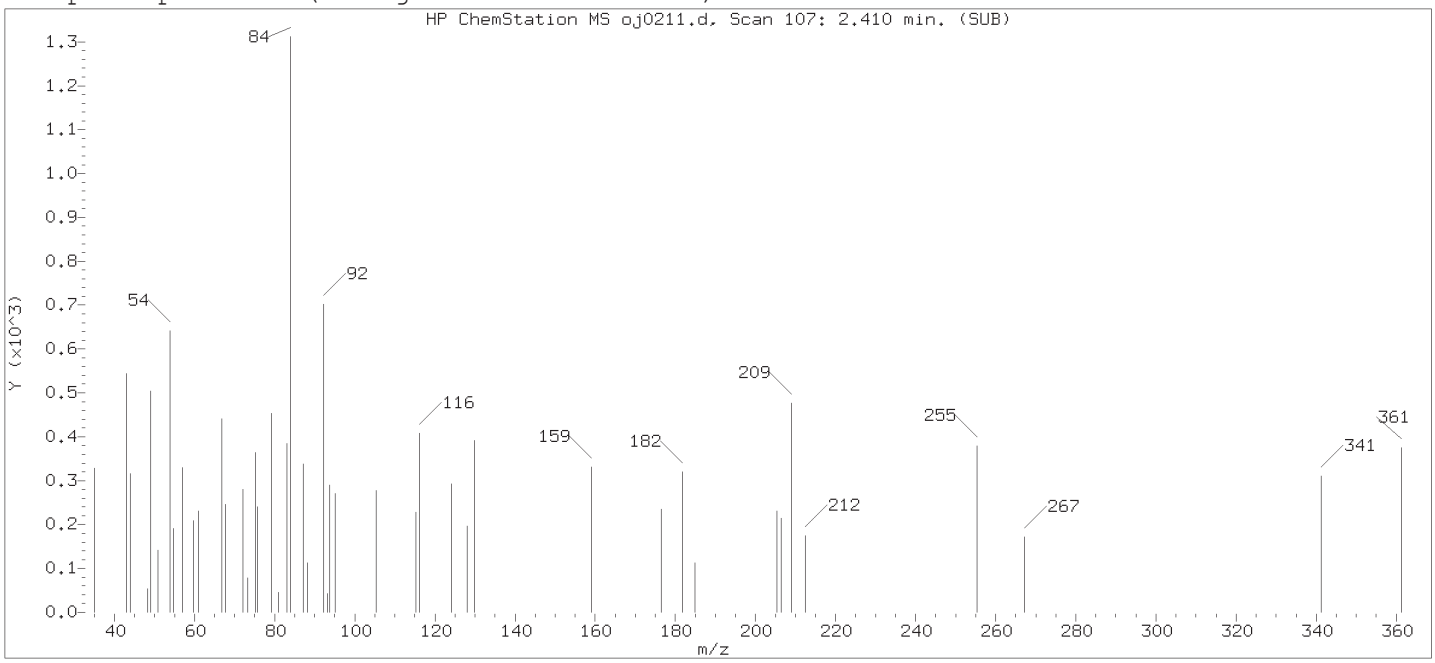
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 110		
Retention Time (minutes)	: 2.428		
Quant Ion	: 79.00		
Area (flag)	: 317722M		
On-Column Amount (ng/ul)	: 27.1342		
Integration start scan	: 107	Integration stop scan:	163
Y at integration start	: -36	Y at integration end:	-36

Reason for manual integration: improper integration

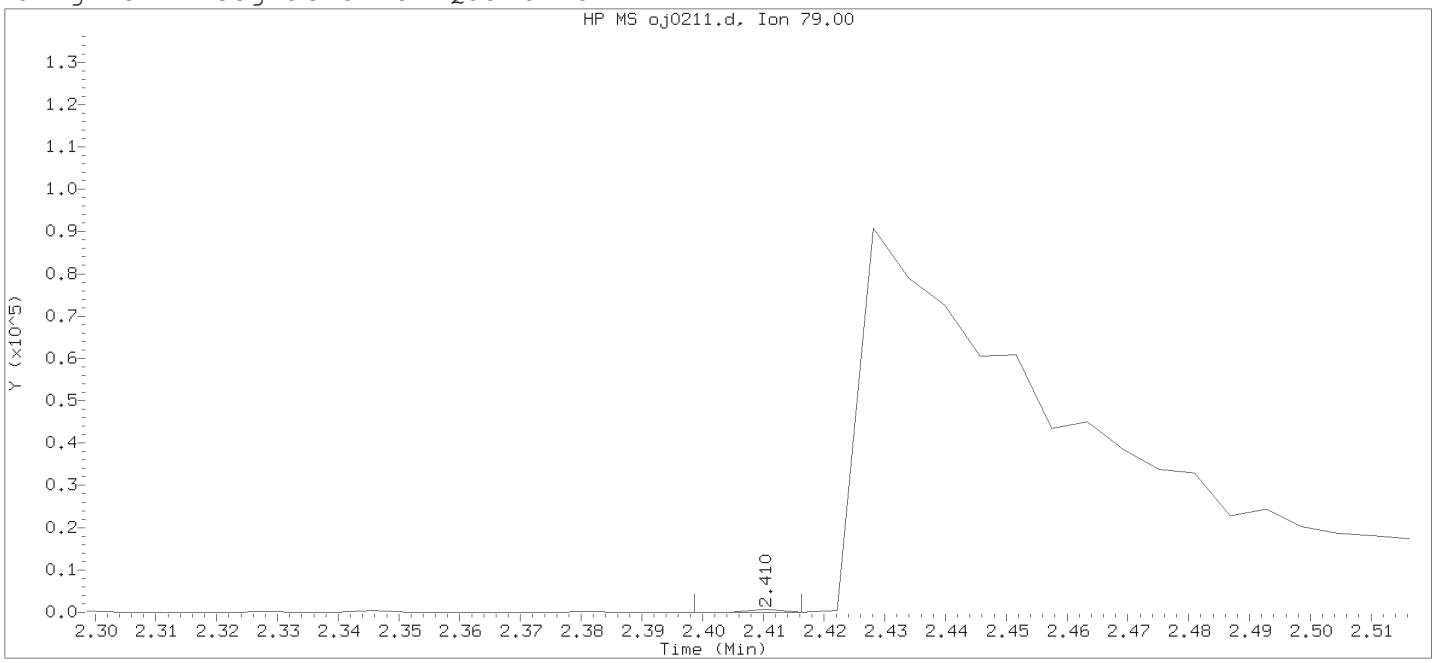
Analyst responsible for change: Digitally signed by William H Saadeh
on 10/04/2015 at 23:36.
Target 3.5 esignature user ID: whs02991

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 10:46.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0211.d Instrument ID: HP09910.i
Injection date and time: 04-OCT-2015 22:45 Analyst ID: whs02991

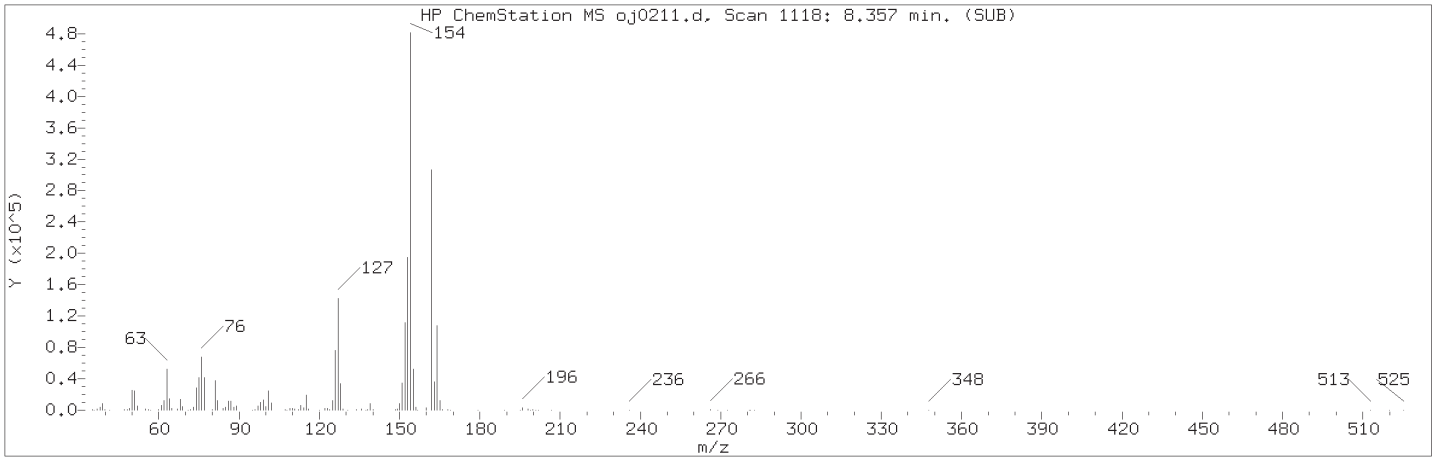
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: all1-b
Calibration date and time: 04-OCT-2015 23:32
Date, time and analyst ID of latest file update: 04-Oct-2015 23:32 whs02991

Sample Name: SSTD030 Lab Sample ID: STD2735

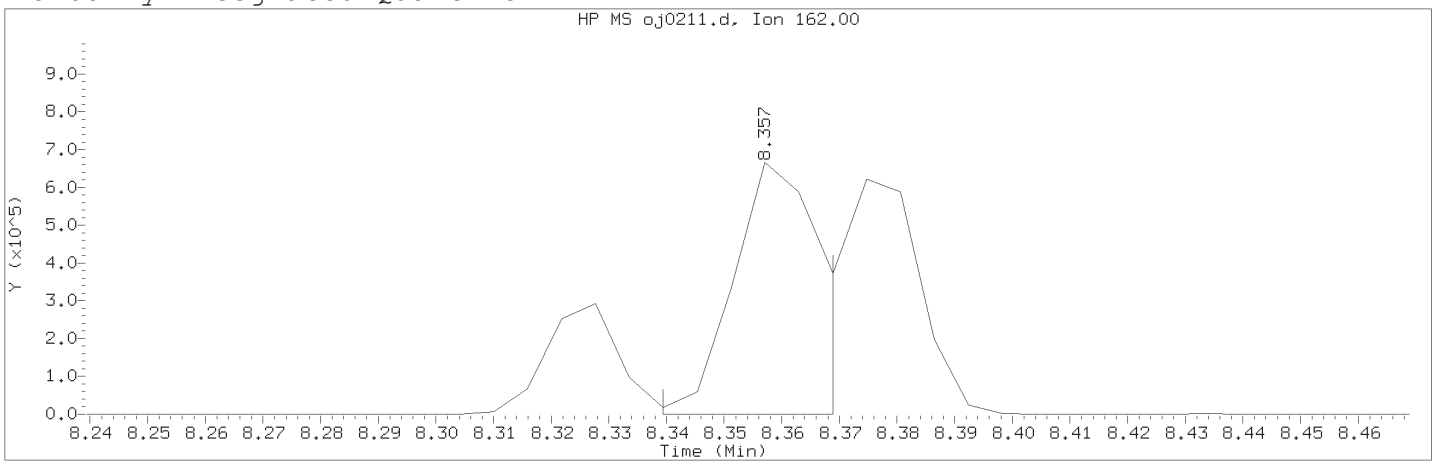
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 107		
Retention Time (minutes)	: 2.410		
Quant Ion	: 79.00		
Area	: 245		
On-column Amount (ng/ul)	: 0.0210		
Integration start scan	: 104	Integration stop scan:	107
Y at integration start	: 0	Y at integration end:	0

Digitally signed by William H Saadeh on 10/04/2015 at 23:36.
Target 3.5 esignature used ID: whs02991

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0211.d Instrument ID: HP09910.i
Injection date and time: 04-OCT-2015 22:45 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: all1-b
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 04-Oct-2015 23:35 whs02991

Sample Name: SSTD030 Lab Sample ID: STD2735

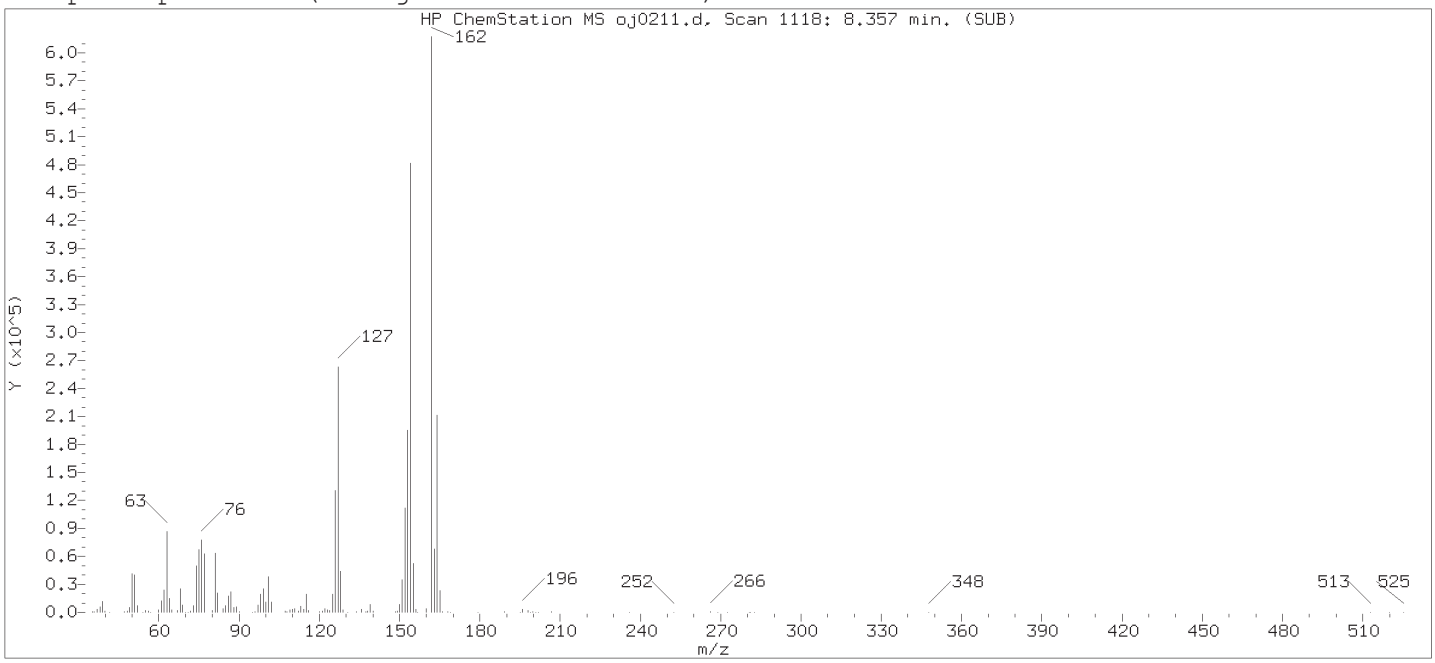
Compound Number : 96
Compound Name : 2-Chloronaphthalene
Scan Number : 1118
Retention Time (minutes) : 8.357
Quant Ion : 162.00
Area (flag) : 718465M
On-Column Amount (ng/ul) : 32.8948
Integration start scan : 1114 Integration stop scan: 1119
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

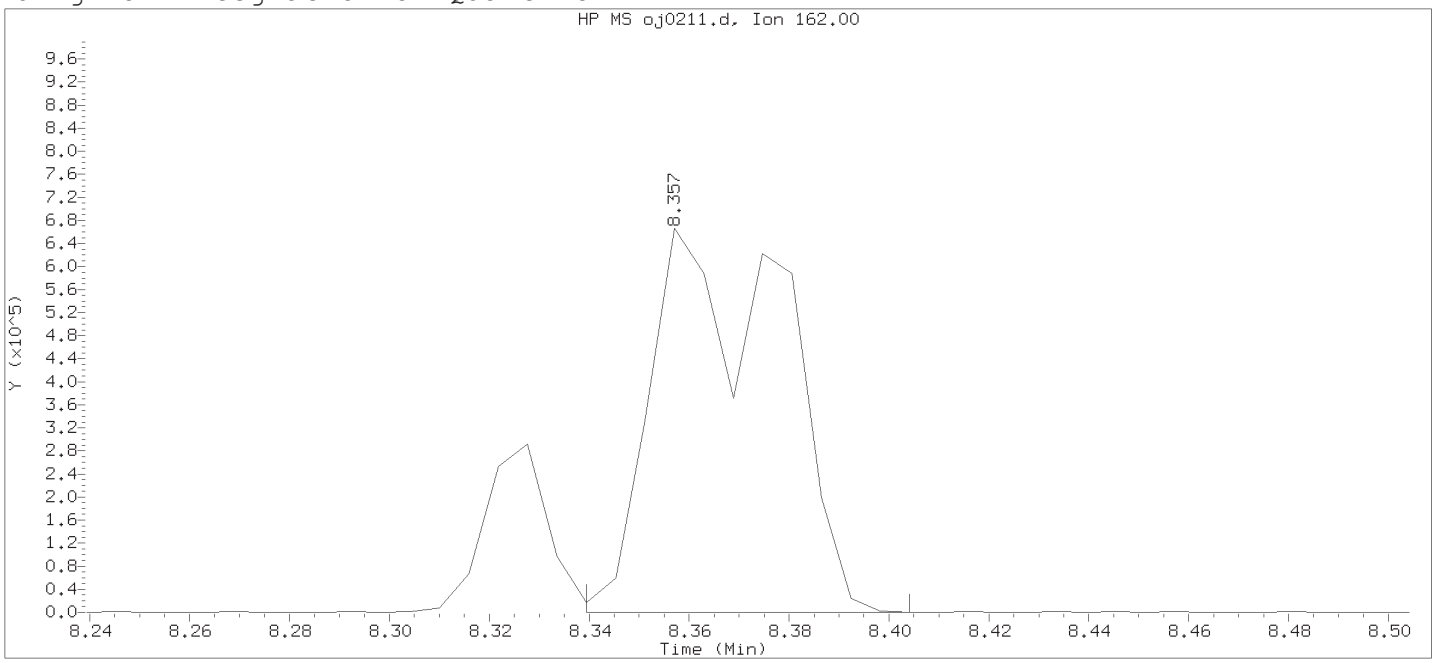
Analyst responsible for change: Digitally signed by William H Saadeh
on 10/04/2015 at 23:36.
Target 3.5 esignature user ID: whs02991

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 10:46.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0211.d Instrument ID: HP09910.i
Injection date and time: 04-OCT-2015 22:45 Analyst ID: whs02991

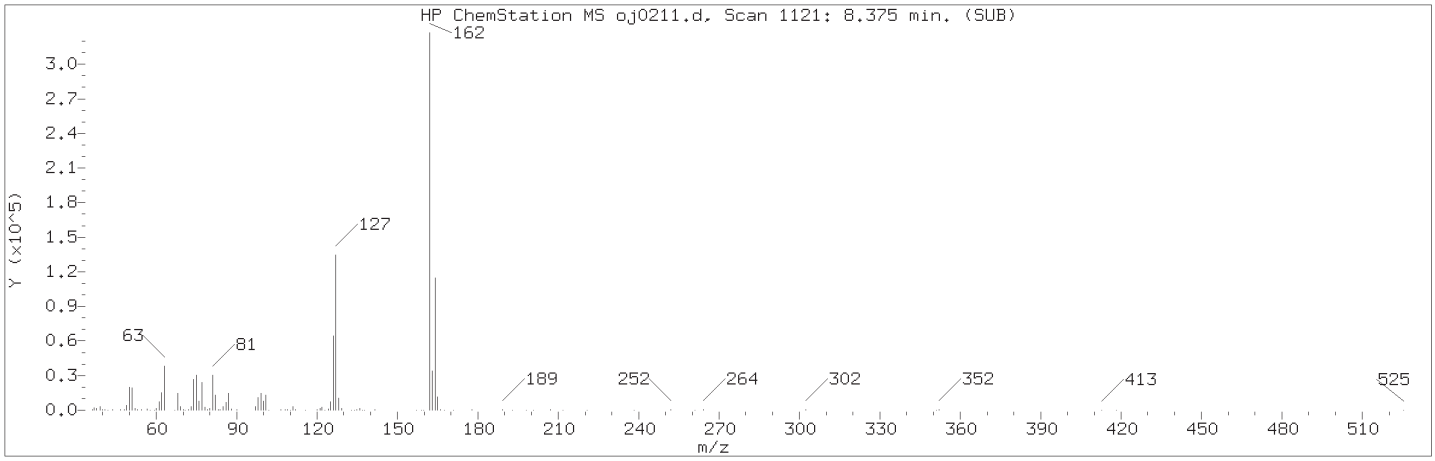
Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: all1-b
Calibration date and time: 04-OCT-2015 23:32
Date, time and analyst ID of latest file update: 04-Oct-2015 23:32 whs02991

Sample Name: SSTD030 Lab Sample ID: STD2735

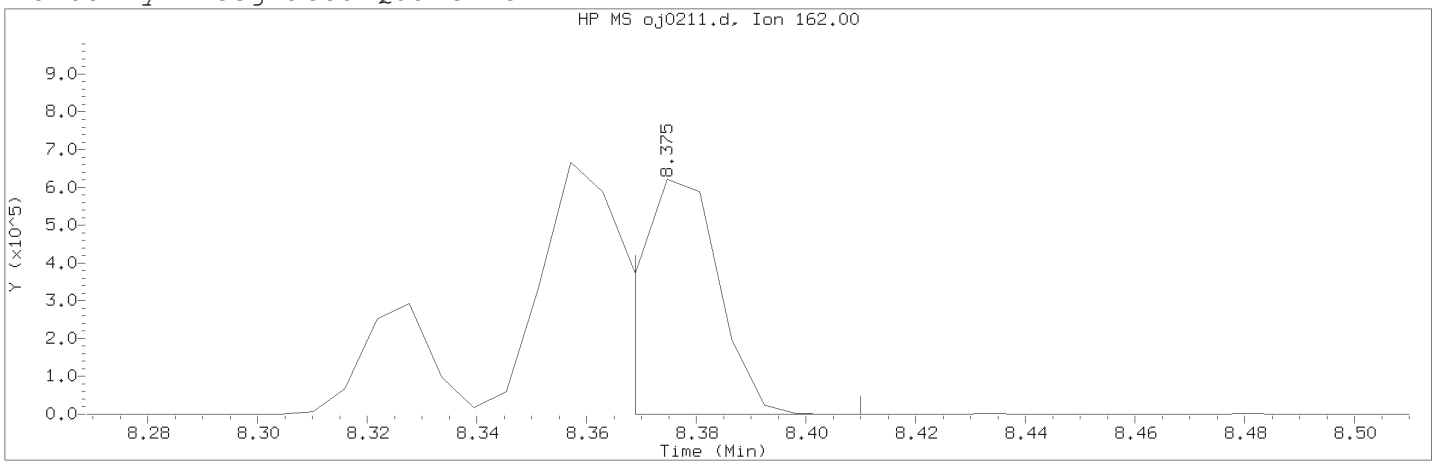
Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1118		
Retention Time (minutes)	: 8.357		
Quant Ion	: 162.00		
Area	: 1221880		
On-column Amount (ng/ul)	: 55.9435		
Integration start scan	: 1114	Integration stop scan:	1125
Y at integration start	: 0	Y at integration end:	0

Digitally signed by William H Saadeh on 10/04/2015 at 23:36.
Target 3.5 esignature used ID: whs02991

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0211.d Instrument ID: HP09910.i
Injection date and time: 04-OCT-2015 22:45 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: all1-b
Calibration date and time: 04-OCT-2015 23:35
Date, time and analyst ID of latest file update: 04-Oct-2015 23:35 whs02991

Sample Name: SSTD030 Lab Sample ID: STD2735

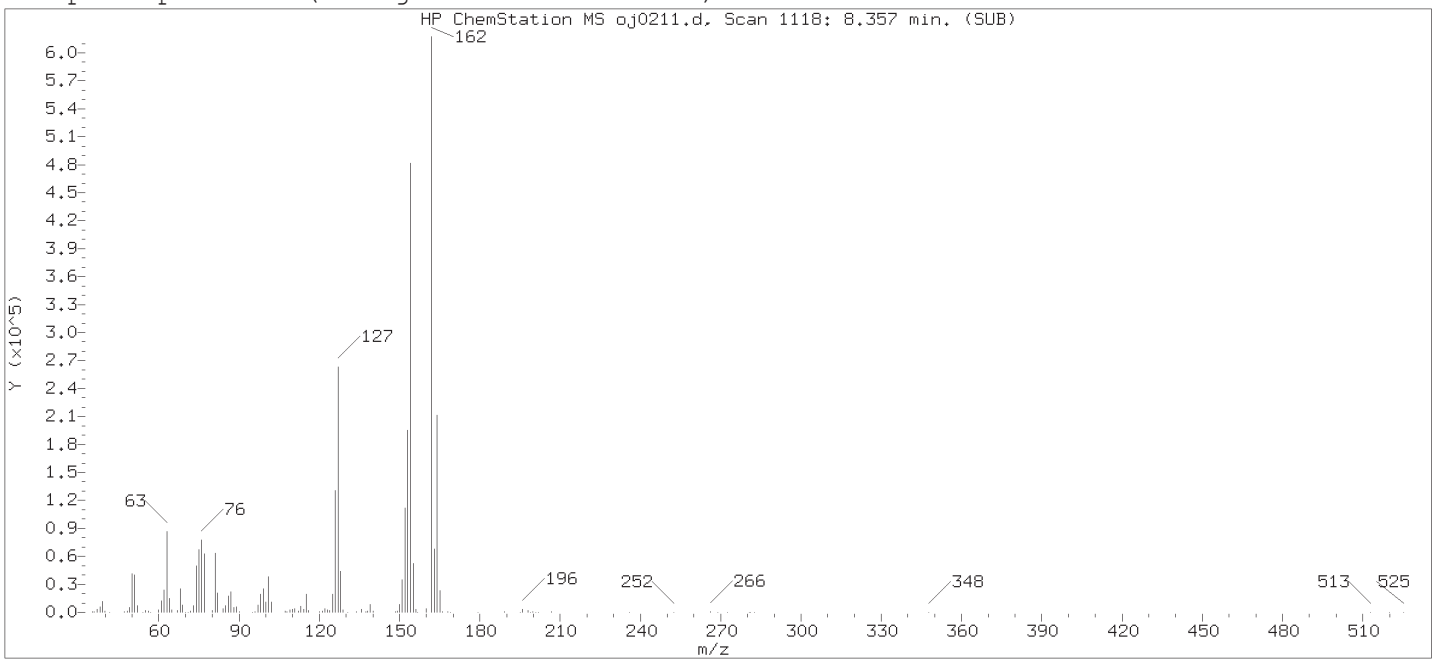
Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1121		
Retention Time (minutes)	: 8.375		
Quant Ion	: 162.00		
Area (flag)	: 637744M		
On-Column Amount (ng/ul)	: 31.3446		
Integration start scan	: 1119	Integration stop scan:	1126
Y at integration start	: -7	Y at integration end:	-7

Reason for manual integration: improper integration

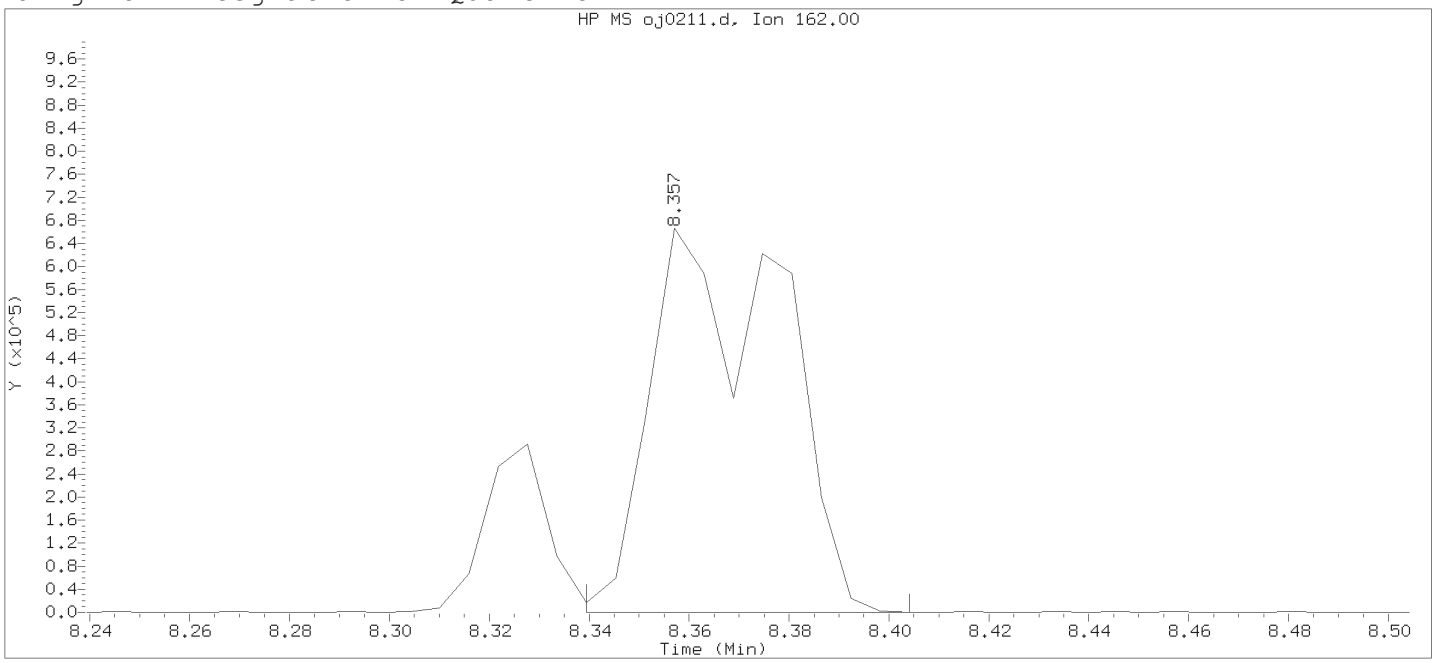
Analyst responsible for change: Digitally signed by William H Saadeh
on 10/04/2015 at 23:36.
Target 3.5 esignature user ID: whs02991

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 10:46.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct04a.b/oj0211.d Instrument ID: HP09910.i
Injection date and time: 04-OCT-2015 22:45 Analyst ID: whs02991

Method used: /chem/HP09910.i/15oct04a.b/m8270c.m Sublist used: all1-b
Calibration date and time: 04-OCT-2015 23:32
Date, time and analyst ID of latest file update: 04-Oct-2015 23:32 whs02991

Sample Name: SSTD030 Lab Sample ID: STD2735

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1118		
Retention Time (minutes)	: 8.357		
Quant Ion	: 162.00		
Area	: 1221880		
On-column Amount (ng/ul)	: 60.0544		
Integration start scan	: 1114	Integration stop scan:	1125
Y at integration start	: 0	Y at integration end:	0

Digitally signed by William H Saadeh on 10/04/2015 at 23:36.
Target 3.5 esignature used ID: whs02991

Data File: /chem/HP09910.i/15oct05.b/oj0240x.d

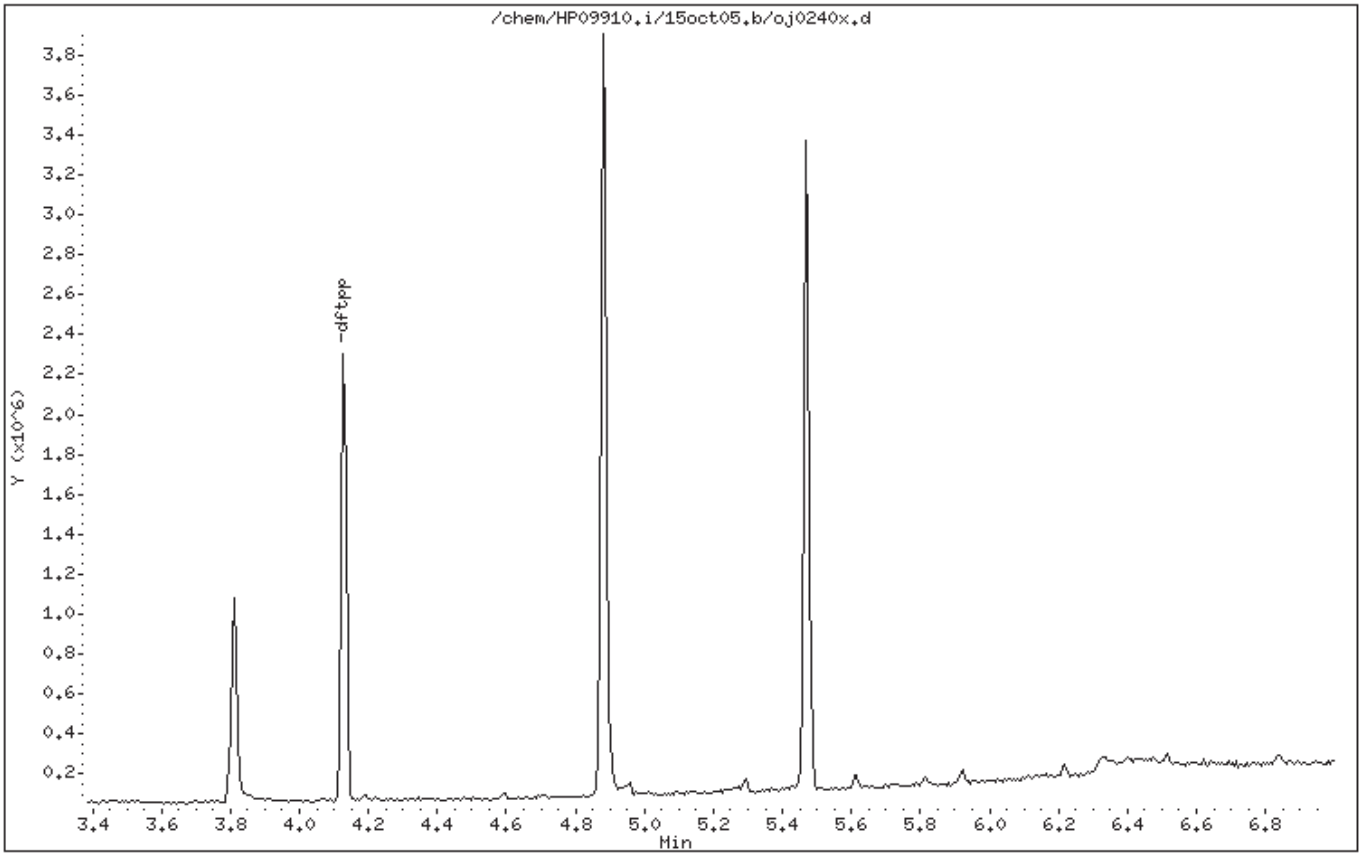
Date : 05-OCT-2015 14:34

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: JW DB-5MS Column diameter: 0.18



Digitally signed by Linda M. Hartenstine on 10/05/2015 at 15:42.
Target 3.5 esignature user ID: lmh00956

Data File: /chem/HP09910.i/15oct05.b/oj0240x.d

Date : 05-OCT-2015 14:34

Client ID: DFTPP50

Instrument: HP09910.i

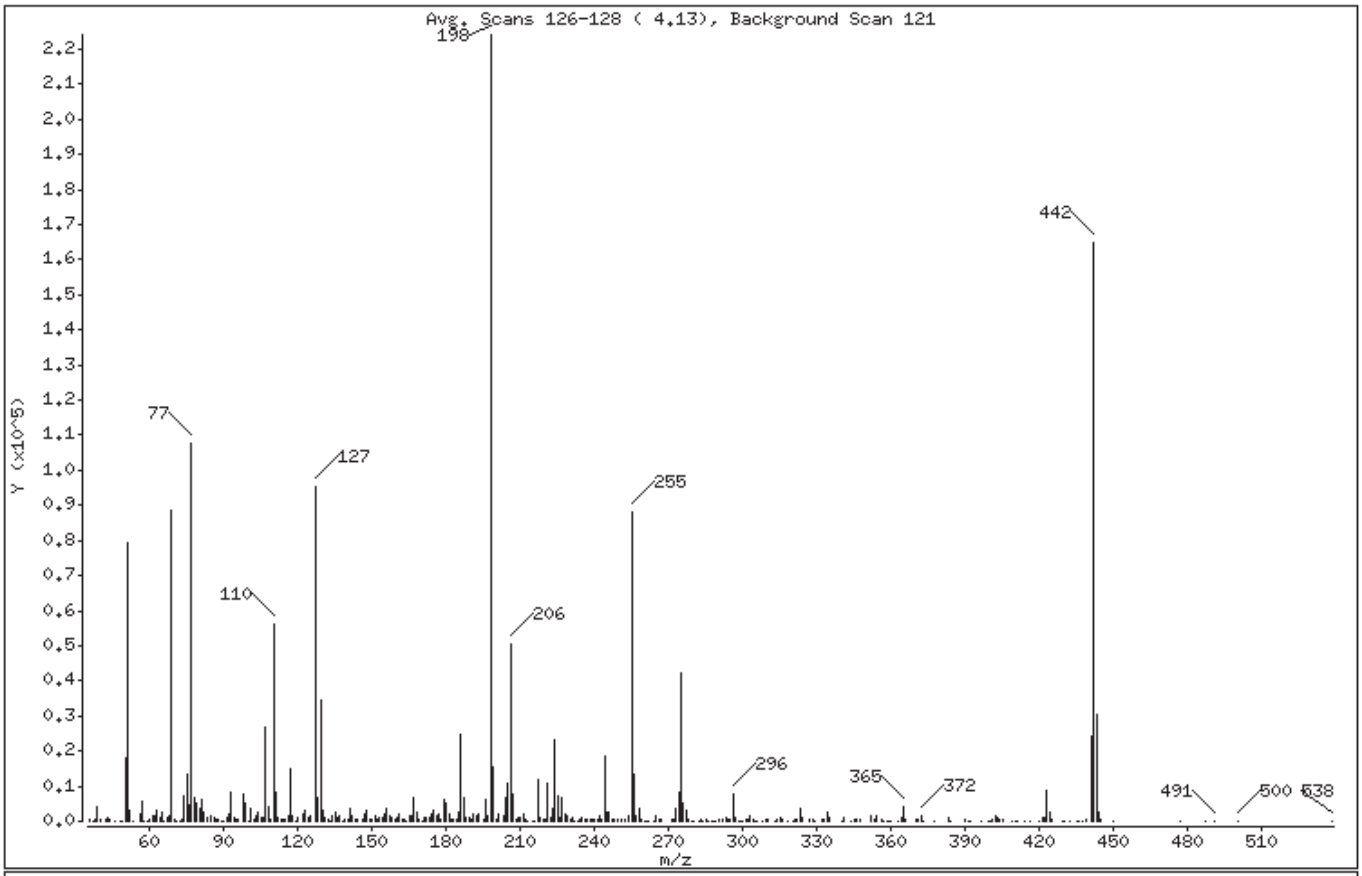
Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: JW DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	35.49
68	Less than 2.00% of mass 69	0.65 (1.63)
69	Mass 69 relative abundance	39.60
70	Less than 2.00% of mass 69	0.31 (0.79)
127	40.00 - 60.00% of mass 198	42.50
197	Less than 1.00% of mass 198	0.62
199	5.00 - 9.00% of mass 198	6.81
275	10.00 - 30.00% of mass 198	18.82
365	Greater than 1.00% of mass 198	1.83
441	Present, but less than mass 443	10.74
442	40.00 - 99.99% of mass 198	73.56
443	17.00 - 23.00% of mass 442	13.67 (18.58)

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 15:42.
Target 3.5 esignature user ID: lmh00956

Date : 05-OCT-2015 14:34

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: JW DB-5MS Column diameter: 0.18

Data File: oj0240x.d
Spectrum: Avg. Scans 126-128 (4.13), Background Scan 121
Location of Maximum: 198.00
Number of points: 335

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	359	129.00	34360	217.00	11675	310.00	274
37.00	248	130.00	2887	218.00	1062	313.00	148
38.00	599	131.00	1049	219.00	644	314.00	658
39.00	4251	132.00	700	220.00	471	315.00	1249
40.00	734	133.00	18	221.00	10827	316.00	769
42.00	647	134.00	1729	222.00	1232	318.00	109
43.00	789	135.00	2700	223.00	3362	320.00	106
44.00	377	136.00	1055	224.00	23048	321.00	334
46.00	54	137.00	1721	225.00	7364	322.00	382
48.00	85	138.00	218	226.00	1096	323.00	3379
49.00	192	139.00	635	227.00	6727	324.00	814
50.00	18256	140.00	631	228.00	1968	327.00	718
51.00	79528	141.00	3653	229.00	1682	328.00	348
52.00	3326	142.00	1648	230.00	412	329.00	121
53.00	225	143.00	383	231.00	835	332.00	579
56.00	2024	144.00	345	232.00	74	333.00	299
57.00	5721	146.00	427	233.00	142	334.00	2487
58.00	145	147.00	2006	234.00	633	335.00	873
59.00	212	148.00	3225	235.00	971	340.00	79
60.00	258	149.00	539	236.00	553	341.00	936
61.00	1312	150.00	590	237.00	415	344.00	56
62.00	1518	151.00	1390	238.00	326	345.00	342
63.00	3345	152.00	415	239.00	549	346.00	667
64.00	836	153.00	1196	240.00	282	347.00	479
65.00	2359	154.00	869	241.00	573	352.00	1289
66.00	240	155.00	2195	242.00	1409	353.00	575
67.00	989	156.00	3534	243.00	459	354.00	1361
68.00	1450	157.00	1383	244.00	18544	356.00	479
69.00	88736	158.00	1184	245.00	2686	357.00	71
70.00	700	159.00	657	246.00	2667	358.00	148
71.00	66	160.00	1067	247.00	585	359.00	72
72.00	82	161.00	1855	248.00	378	360.00	73
73.00	451	162.00	700	249.00	681	363.00	88
74.00	7412	163.00	493	251.00	339	364.00	785
75.00	13570	164.00	72	252.00	366	365.00	4090

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 15:42.
Target 3.5 esignature user ID: lmh00956

Date : 05-OCT-2015 14:34

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: JW DB-5MS Column diameter: 0.18

Data File: oj0240x.d
Spectrum: Avg. Scans 126-128 (4.13), Background Scan 121
Location of Maximum: 198.00
Number of points: 335

m/z	Y	m/z	Y	m/z	Y	m/z	Y
76.00	4495	165.00	1772	254.00	1367	366.00	375
77.00	107584	166.00	1334	255.00	87824	370.00	409
78.00	6851	167.00	6538	256.00	13207	371.00	383
79.00	5217	168.00	2694	257.00	1479	372.00	1671
80.00	3472	169.00	585	258.00	3848	373.00	240
81.00	6357	170.00	95	259.00	602	377.00	245
82.00	2365	171.00	1014	260.00	202	383.00	807
83.00	889	172.00	1040	261.00	215	384.00	206
85.00	1424	173.00	1284	262.00	142	390.00	631
86.00	1190	174.00	2173	264.00	212	391.00	147
87.00	642	175.00	3256	265.00	1650	392.00	141
88.00	682	176.00	1426	266.00	320	396.00	65
89.00	251	177.00	1852	267.00	308	399.00	82
90.00	163	178.00	533	271.00	418	400.00	143
91.00	1245	179.00	6222	272.00	397	401.00	317
92.00	2028	180.00	4938	273.00	3559	402.00	1561
93.00	8367	181.00	1971	274.00	8275	403.00	871
94.00	1039	182.00	302	275.00	42184	404.00	285
95.00	445	183.00	323	276.00	5030	405.00	261
96.00	676	184.00	733	277.00	3076	409.00	70
98.00	7496	185.00	2719	278.00	336	410.00	86
99.00	5212	186.00	24856	279.00	245	411.00	93
100.00	185	187.00	6599	280.00	11	414.00	98
101.00	3536	188.00	958	282.00	232	416.00	68
102.00	440	189.00	927	283.00	582	420.00	250
103.00	1380	190.00	272	284.00	230	421.00	860
104.00	2542	191.00	1952	285.00	681	422.00	999
105.00	1053	192.00	1721	286.00	144	423.00	8811
106.00	883	193.00	2181	287.00	114	424.00	2362
107.00	27000	195.00	682	288.00	130	425.00	385
108.00	4329	196.00	6409	289.00	210	429.00	14
109.00	384	197.00	1390	290.00	303	430.00	207
110.00	56296	198.00	224064	292.00	289	432.00	173
111.00	8088	199.00	15254	293.00	1097	435.00	243
112.00	1233	200.00	644	294.00	291	436.00	225

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Target 3.5 esignature user ID: lmh00956

Date : 05-OCT-2015 14:34

Client ID: DFTPP50 Instrument: HP09910.i

Sample Info: DFTPP50;DFTPP2245;1;3;DFTPP;

Operator: lmh00956

Column phase: JW DB-5MS Column diameter: 0.18

Data File: oj0240x.d
Spectrum: Avg. Scans 126-128 (4.13), Background Scan 121
Location of Maximum: 198.00
Number of points: 335

m/z	Y	m/z	Y	m/z	Y	m/z	Y
113.00	261	201.00	2013	295.00	431	437.00	227
114.00	387	203.00	1389	296.00	7757	439.00	576
115.00	262	204.00	6622	297.00	1283	441.00	24080
116.00	1394	205.00	10658	298.00	140	442.00	164800
117.00	14859	206.00	50344	299.00	100	443.00	30632
118.00	1395	207.00	7685	300.00	150	444.00	2358
119.00	249	208.00	681	301.00	302	445.00	428
120.00	841	209.00	781	302.00	370	450.00	88
122.00	2202	210.00	963	303.00	1588	477.00	53
123.00	3191	211.00	2271	304.00	640	487.00	79
124.00	785	212.00	380	305.00	159	491.00	121
125.00	1390	213.00	57	306.00	88	500.00	68
127.00	95256	215.00	175	308.00	178	538.00	79
128.00	6650	216.00	135	309.00	261		

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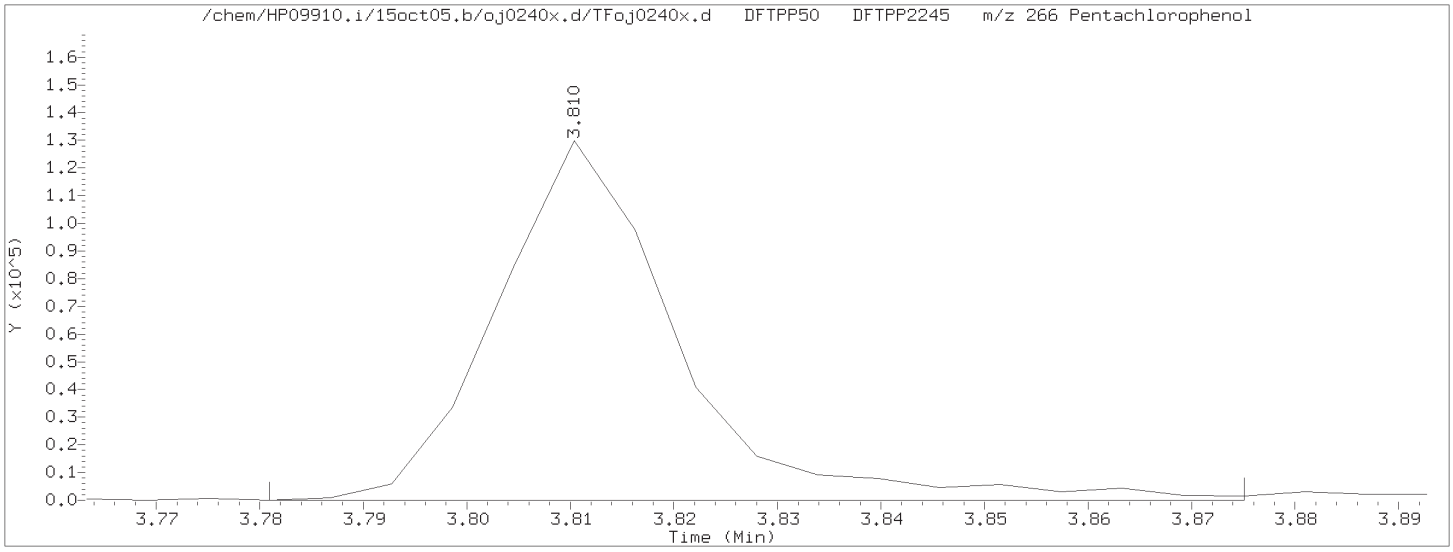
Target 3.5 esignature user ID: lmh00956

Assessment of GC Column Performance and Injection Port Inertness for

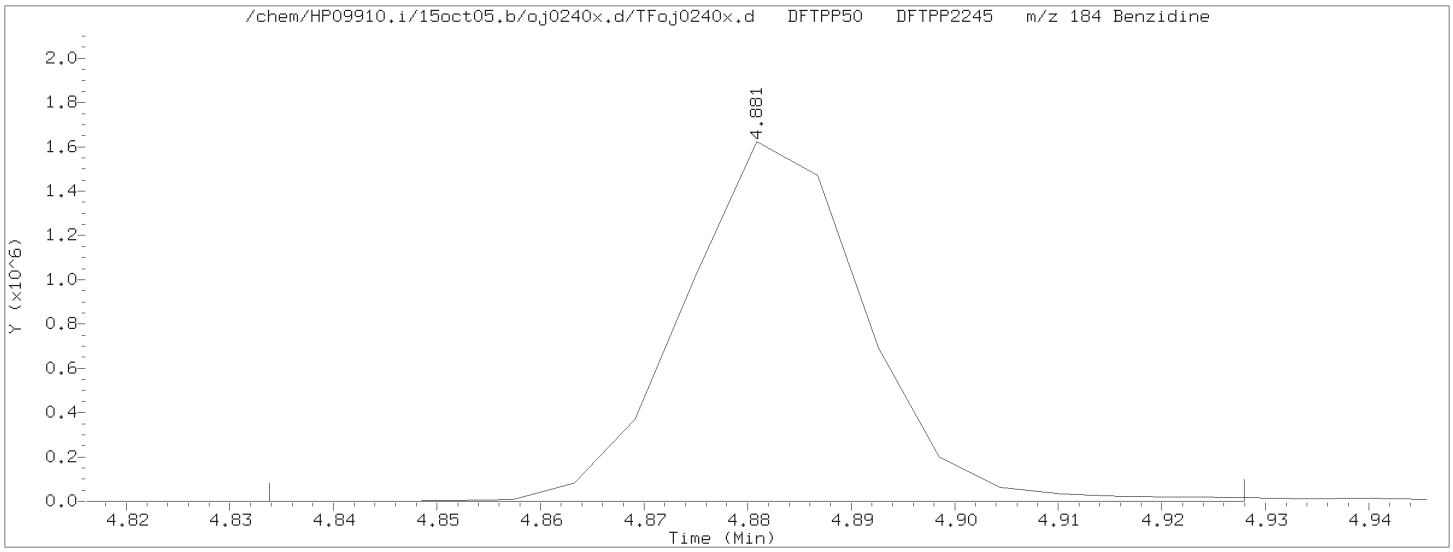
Instrument ID: HP09910.i Injection Date: 05-OCT-2015 14:34 Operator: lmh00956



Pentachlorophenol EICP peak height = 129896 EICP peak height at 10% = 12990 Pentachlorophenol EICP area = 157322

Pentachlorophenol EICP peak apex (min.) = 3.810
RT at 10% of front half of EICP (min.) = 3.794 'Front' peak width (min.) = 0.0160166667
RT at 10% of back half of EICP (min.) = 3.830 'Tailing' peak width (min.) = 0.0197500000

PCP tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0197500000}{0.0160166667} = 1.233$



Benzidine EICP peak height = 1623991 EICP peak height at 10% = 162399 Benzidine EICP area = 1979096

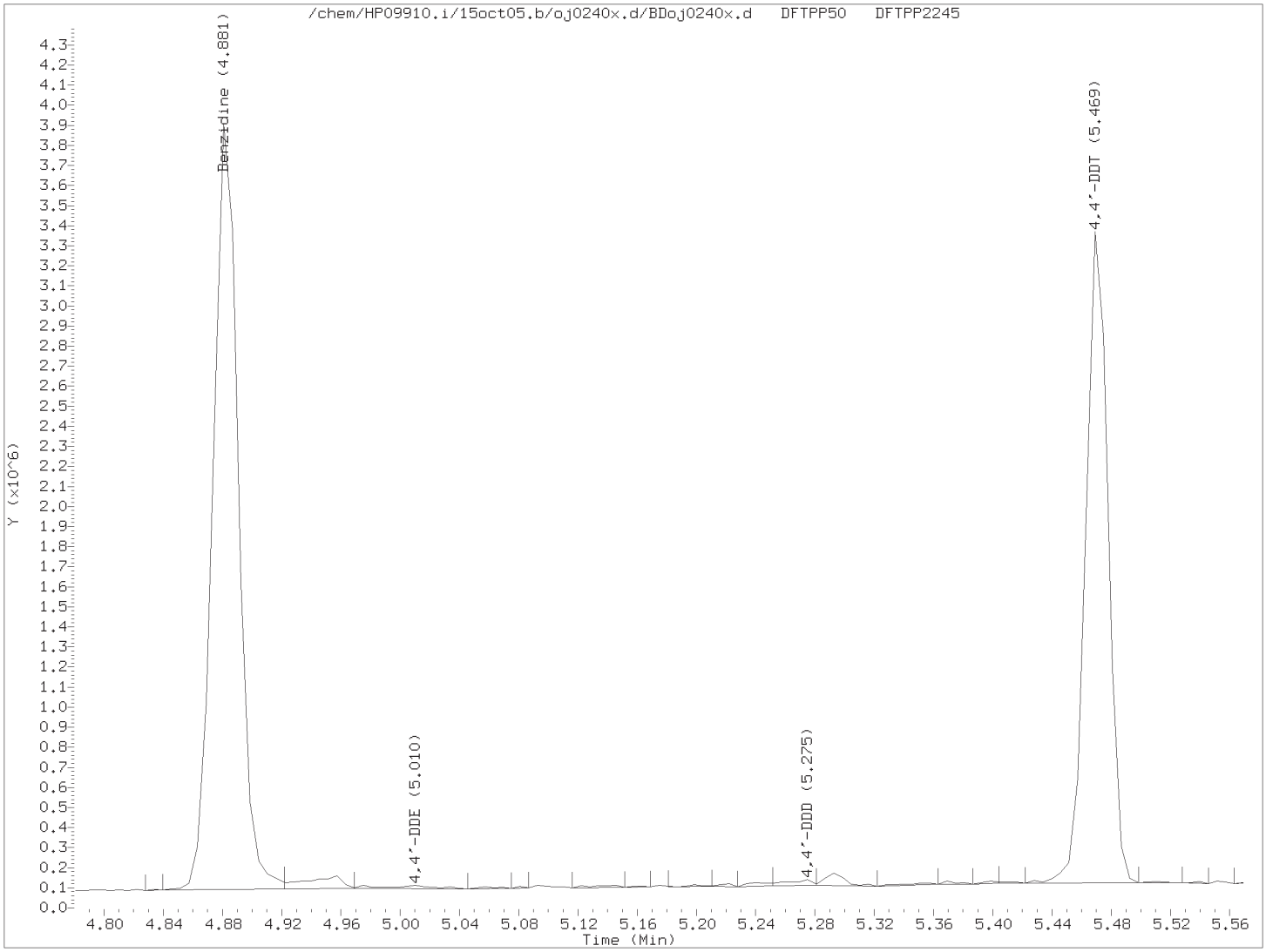
Benzidine EICP peak apex (min.) = 4.881
RT at 10% of front half of EICP (min.) = 4.865 'Front' peak width (min.) = 0.0158166667
RT at 10% of back half of EICP (min.) = 4.900 'Tailing' peak width (min.) = 0.0188666667

Benzidine tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0188666667}{0.0158166667} = 1.193$

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 10:49. Parallax ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

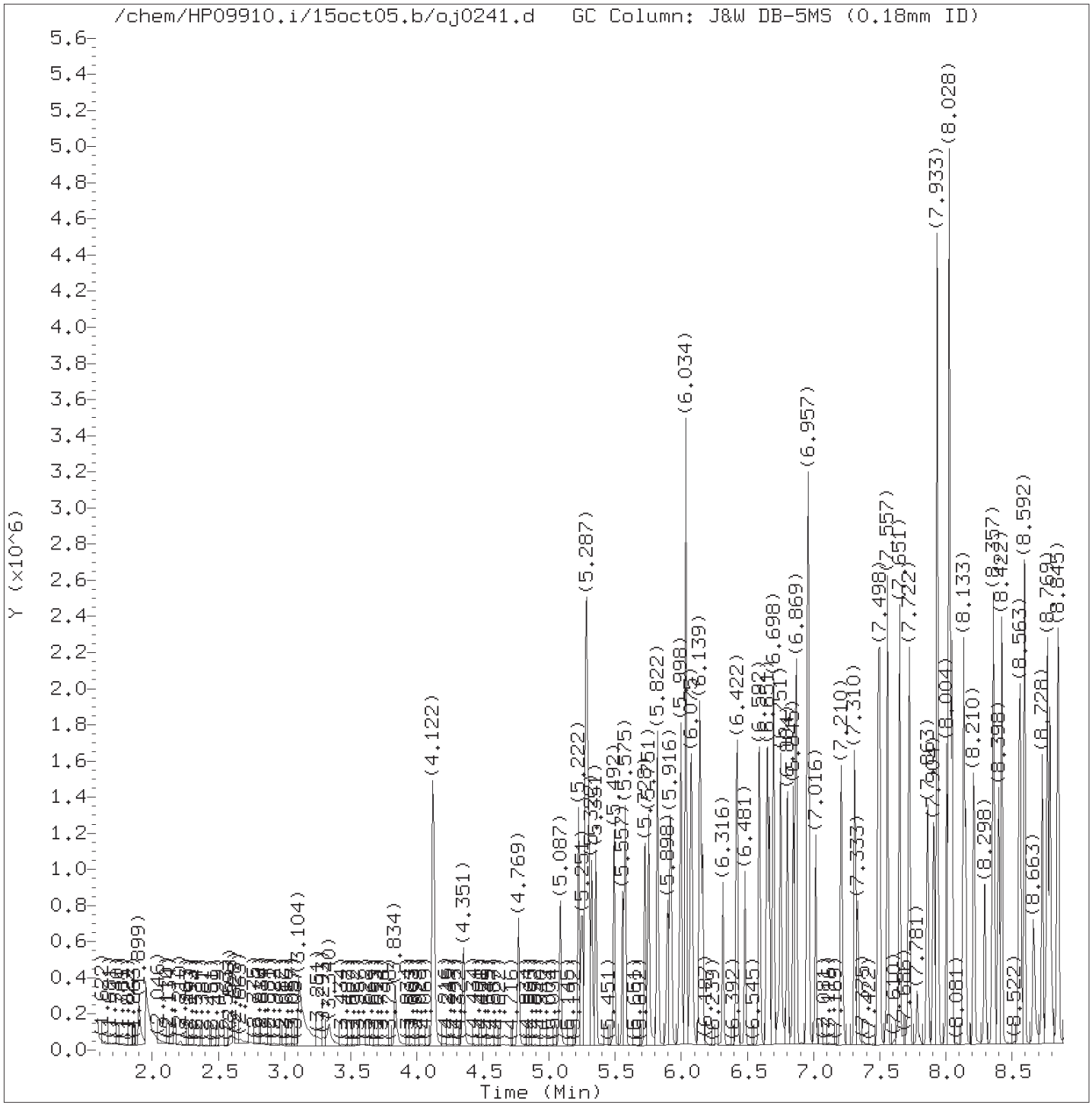
Instrument ID: HP09910.i Injection Date: 05-OCT-2015 14:34 Operator: lmh00956



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{38341 + 29930}{38341 + 29930 + 3455187} \times 100 = 1.9$$

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 10:49. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

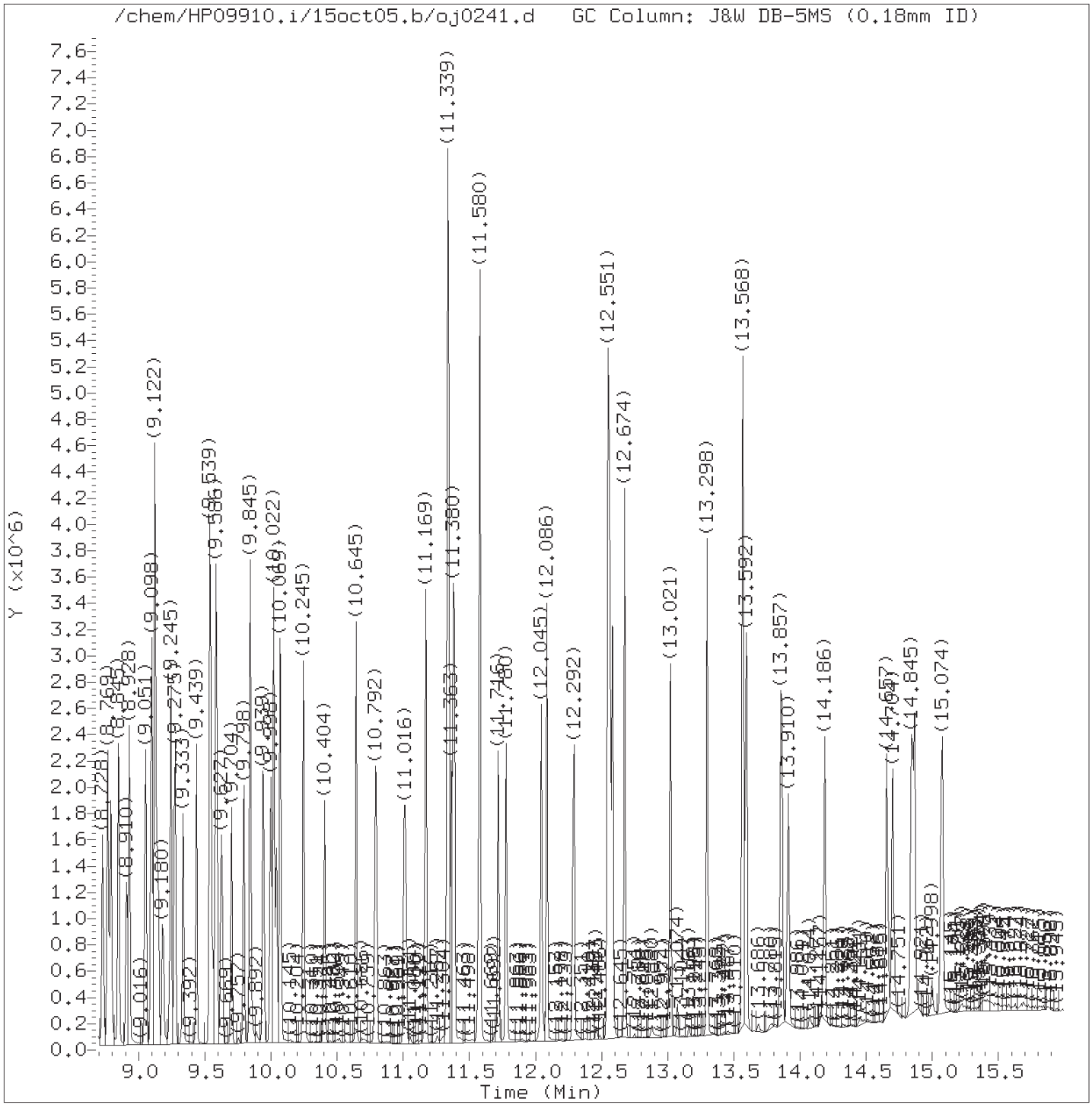
Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0241.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 14:52 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: all1-b
Calibration date and time: 05-OCT-2015 15:41
Date, time and analyst ID of latest file update: 05-Oct-2015 15:41 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2735

Digitally signed by Linda M. Hartenstine
on 10/05/2015 at 15:42.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0241.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 14:52 Analyst ID: lmh00956

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Calibration date and time: 05-OCT-2015 15:41
Date, time and analyst ID of latest file update: 05-Oct-2015 15:41 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2735

Digitally signed by Linda M. Hartenstine
on 10/05/2015 at 15:42.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0241.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 14:52 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: all1-b
Calibration date and time: 05-OCT-2015 15:41
Date, time and analyst ID of latest file update: 05-Oct-2015 15:41 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2735

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
4) N-Nitrosodimethylamine	(1)	1.899	74	208356	26.630
5) Pyridine	(1)	1.952	79	326191	25.739
7) 2-Picoline	(1)	3.104	93	378493M	27.987
8) N-Nitrosomethylethylamine	(1)	3.340	88	176443M	26.965
9) Methyl methanesulfonate	(1)	3.840	80	156157	24.225
11)$2-Fluorophenol	(1)	4.122	112	592734	55.835
13) N-Nitrosodiethylamine	(1)	4.351	102	179209	28.838
15) Ethyl methanesulfonate	(1)	4.769	109	169667	28.666
19) Aniline	(1)	5.222	93	566932	27.956
20) a-methylstyrene	(1)	5.275	118	321049	29.876
17)$Phenol-d6	(1)	5.287	99	878868	57.894
18) Phenol	(1)	5.298	94	479026	26.498
22) bis(2-Chloroethyl)ether	(1)	5.322	93	369273	28.735
23) 2-Chlorophenol	(1)	5.351	128	304708	28.854
24) 1,3-Dichlorobenzene	(1)	5.492	146	302304	29.965
25)*1,4-Dichlorobenzene-d4	(1)	5.557	152	127534	20.000
26) 1,4-Dichlorobenzene	(1)	5.575	146	304706	28.342
28) 1,2-Dichlorobenzene	(1)	5.728	146	288198	28.440
27) Benzyl alcohol	(1)	5.751	108	244164	28.934
30) Indene	(1)	5.822	115	561281	30.133
33) 2,2'-oxybis(1-Chloropropane)	(1)	5.898	45	375025	22.268
34) bis(2-Chloroisopropyl)ether	(1)	5.898	45	375025	22.268
31) 2-Methylphenol	(1)	5.922	108	341722	29.923
35) N-Nitrosopyrrolidine	(1)	5.987	100	215848	31.180
36) Acetophenone	(1)	5.998	105	501403	29.975
39) N-Nitrosomorpholine	(1)	6.034	56	203273	24.798
38) N-Nitroso-di-n-propylamine	(1)	6.034	70	258683	25.457
40) o-Toluidine	(1)	6.034	106	567569	29.188
43) Hexachloroethane	(1)	6.069	117	122221	29.172
37) 4-Methylphenol	(1)	6.081	108	368010	27.229
44)$Nitrobenzene-d5	(2)	6.139	82	722546	51.332
45) Nitrobenzene	(2)	6.157	77	359013	25.768
48) N-Nitrosopiperidine	(2)	6.316	114	202642	32.042
50) Isophorone	(2)	6.422	82	768393	26.709
51) 2-Nitrophenol	(2)	6.481	139	179064	30.890
53) 2,4-Dimethylphenol	(2)	6.592	107	369425	29.016
57) O,O,O-Triethylphosphorothioate	(2)	6.651	198	158061	27.800
42) Total Cresols	(1)			709732	57.152
55) bis(2-Chloroethoxy)methane	(2)	6.663	93	478909	29.657
59) 1,2,3,4-Tetrahydronaphthalene	(2)	6.698	104	491066	28.562

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/05/2015 at 15:42.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0241.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 14:52 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: all1-b
Calibration date and time: 05-OCT-2015 15:41
Date, time and analyst ID of latest file update: 05-Oct-2015 15:41 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2735

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
60) 2,4-Dichlorophenol	(2)	6.751	162	263185	28.828
56) Benzoic acid	(2)	6.757	105	308684M	25.473
62) 1,2,4-Trichlorobenzene	(2)	6.804	180	264276	28.487
65)*Naphthalene-d8	(2)	6.845	136	604872	20.000
66) Naphthalene	(2)	6.869	128	976333	29.289
67) 4-Chloroaniline	(2)	6.951	127	443485	29.725
68) 2,6-Dichlorophenol	(2)	6.957	162	267826	29.889
69) Hexachloropropene	(2)	6.963	213	135163	28.431
71) Hexachlorobutadiene	(2)	7.016	225	119983	26.100
75) Quinoline	(2)	7.210	129	707202	29.651
77) N-Nitrosodi-n-butylamine	(2)	7.310	84	359786	30.532
76) Caprolactam	(2)	7.333	113	162463	31.016
80) 4-Chloro-3-methylphenol	(2)	7.486	107	343530	27.881
82) Safrole	(2)	7.498	162	270521	30.416
83) 2-Methylnaphthalene	(2)	7.557	142	696391	29.650
84) 1-Methylnaphthalene	(2)	7.651	142	632230	30.025
85) Hexachlorocyclopentadiene	(3)	7.722	237	94732	21.610
86) 1,2,4,5-Tetrachlorobenzene	(3)	7.728	216	273074	29.940
88) cis-Isosafrole	(3)	7.781	162	47826	5.002
90) 2,4,6-Trichlorophenol	(3)	7.863	196	189838	28.556
92) 2,4,5-Trichlorophenol	(3)	7.910	196	204976	27.658
93)$2-Fluorobiphenyl	(3)	7.933	172	1491054	60.562
94) trans-Isosafrole	(3)	8.004	162	276613	25.371
96) 2-Chloronaphthalene	(3)	8.028	162	823081M	36.443
95) 1,1'-Biphenyl	(3)	8.028	154	889850	30.341
98) 1-Chloronaphthalene	(3)	8.045	162	636058M	30.232
99) Diphenyl ether	(3)	8.133	170	448655	30.228
100) 2-Nitroaniline	(3)	8.151	138	260119	33.143
104) 1,4-Naphthoquinone	(3)	8.210	158	289333	30.057
105) 1,4-Dinitrobenzene	(3)	8.298	168	143576	34.323
106) Dimethylphthalate	(3)	8.357	163	794302	29.521
107) 1,3-Dinitrobenzene	(3)	8.369	168	150839	31.467
108) 2,6-Dinitrotoluene	(3)	8.398	165	193697	31.179
109) Acenaphthylene	(3)	8.422	152	1042266	30.266
112) 3-Nitroaniline	(3)	8.551	138	227181	31.829
113)*Acenaphthene-d10	(3)	8.563	164	387878	20.000
114) Acenaphthene	(3)	8.598	153	705130	29.583
97) Isosafrole	(3)			324439	30.373
115) 2,4-Dinitrophenol	(3)	8.663	184	128424	30.981
117) Pentachlorobenzene	(3)	8.728	250	235848	28.642

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on 10/05/2015 at 15:42.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0241.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 14:52 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: all1-b
Calibration date and time: 05-OCT-2015 15:41
Date, time and analyst ID of latest file update: 05-Oct-2015 15:41 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2735

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
119) Dibenzofuran	(3)	8.769	168	971386	29.691
118) 2,4-Dinitrotoluene	(3)	8.786	165	263489	30.013
116) 4-Nitrophenol	(3)	8.792	109	70661	18.333
121) 1-Naphthylamine	(3)	8.845	143	836763	31.469
122) 2,3,4,6-Tetrachlorophenol	(3)	8.910	232	151228	23.966
123) 2-Naphthylamine	(3)	8.928	143	810577	30.789
124) Diethylphthalate	(3)	9.051	149	781892	29.651
126) Fluorene	(3)	9.098	166	836969	30.552
127) 4-Chlorophenyl-phenylether	(3)	9.122	204	366931	28.798
125) Thionazin	(3)	9.122	107	178545	32.829
128) 5-Nitro-o-toluidine	(3)	9.133	152	253053	31.068
129) 4-Nitroaniline	(3)	9.151	138	240934	30.393
130) 4,6-Dinitro-2-methylphenol	(4)	9.186	198	165546	29.611
132) NDPA as diphenylamine	(4)	9.245	169	731138	29.907
131) N-Nitrosodiphenylamine	(4)	9.245	169	731138	30.462
134) 1,2-Diphenylhydrazine	(4)	9.275	77	850449	25.969
135)$2,4,6-Tribromophenol	(3)	9.339	330	174404	54.903
120) 2,4_2,6-Dinitrotoluenes	(3)			457186	61.191
137) Tetraethyldithiopyrophosphate	(4)	9.439	97	124032	26.553
140) Diallate (peak 1)	(4)	9.539	86	374431	22.946
141) Phorate	(4)	9.539	75	784495	35.588
139) 1,3,5-Trinitrobenzene	(4)	9.557	213	103342	30.141
142) Phenacetin	(4)	9.586	108	465275	28.023
143) 4-Bromophenyl-phenylether	(4)	9.592	248	195602	29.120
144) Diallate (peak 2)	(4)	9.616	86	73059	4.559
145) Hexachlorobenzene	(4)	9.627	284	192403	26.916
147) Dimethoate	(4)	9.704	87	425923	29.006
151) Pentachloronitrobenzene	(4)	9.845	237	71080	26.893
149) Pentachlorophenol	(4)	9.845	266	83786	17.665
150) 4-Aminobiphenyl	(4)	9.845	169	736637	27.647
152) Pronamide	(4)	9.945	173	335885	29.805
153)*Phenanthrene-d10	(4)	9.998	188	753091	20.000
155) Phenanthrene	(4)	10.022	178	1269463	29.026
154) Dinoseb	(4)	10.039	211	224904	31.335
157) Anthracene	(4)	10.069	178	1306343	30.225
146) Diallate trans/cis	(4)			447490	27.505
163) Carbazole	(4)	10.245	167	1210723	29.645
164) Methyl parathion	(4)	10.404	109	322622	31.720
165) Di-n-butylphthalate	(4)	10.645	149	1394227	29.341
168) 4-Nitroquinoline-1-oxide	(4)	10.786	190	86334	21.945

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on 10/05/2015 at 15:42.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct05.b/oj0241.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 14:52 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: all1-b
Calibration date and time: 05-OCT-2015 15:41
Date, time and analyst ID of latest file update: 05-Oct-2015 15:41 lmh00956

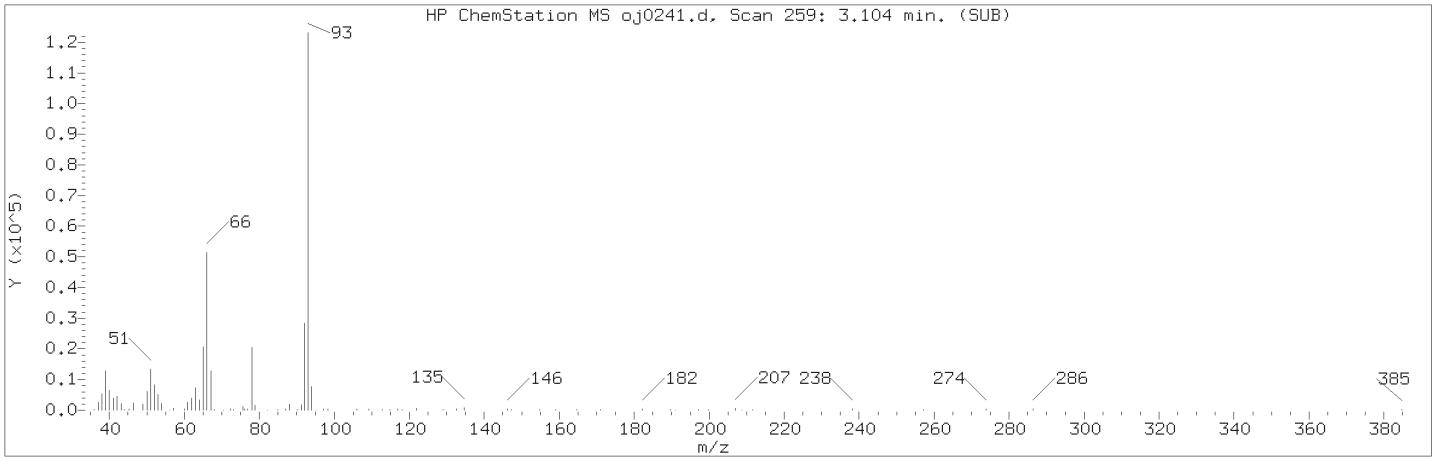
Sample Name: SSTD030 Lab Sample ID: STD2735

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	10.798	109	193137	30.337
169) Octachlorostyrene	(4)	11.004	308	69259	30.123
171) Isodrin	(4)	11.021	193	121589	27.695
173) Fluoranthene	(4)	11.169	202	1371951	28.863
174) Benzidine	(5)	11.339	184	2894961	101.408
175)*Pyrene-d10	(5)	11.363	212	822241	20.000
177) Pyrene	(5)	11.386	202	1415814	28.863
179)$Terphenyl-d14	(5)	11.580	244	1826766	60.369
182) p-Dimethylaminoazobenzene	(5)	11.721	225	269084	29.794
185) Chlorobenzilate	(5)	11.780	139	380707	29.882
187) 3,3'-Dimethylbenzidine	(5)	12.045	212	865659	34.007
188) Butylbenzylphthalate	(5)	12.086	149	647405	30.041
191) 2-Acetylaminofluorene	(5)	12.292	181	609870	31.167
195) Benzo(a)anthracene	(5)	12.551	228	1242942	29.068
193) 3,3'-Dichlorobenzidine	(5)	12.557	252	453558	31.198
198) 4,4'-Methylenebis(2-chloroanil	(5)	12.563	231	261248	32.048
196) Chrysene	(5)	12.586	228	1135288	27.865
199) bis(2-Ethylhexyl)phthalate	(5)	12.674	149	927124	30.768
203) 6-Methylchrysene	(5)	13.021	242	849428	29.554
205) Di-n-octylphthalate	(6)	13.298	149	1598864	31.875
206) Benzo(b)fluoranthene	(6)	13.568	252	1125996	29.462
207) 7,12-Dimethylbenz[a]anthracene	(6)	13.568	256	564131	30.599
208) Benzo(k)fluoranthene	(6)	13.592	252	1170065	30.004
211) Benzo(a)pyrene	(6)	13.863	252	1094019	28.983
213)*Perylene-d12	(6)	13.910	264	608999	20.000
215) 3-Methylcholanthrene	(6)	14.186	268	517902	29.188
219) Indeno(1,2,3-cd)pyrene	(6)	14.845	276	1161779	29.550
220) Dibenz(a,h)anthracene	(6)	14.868	278	985746	29.805
221) Benzo(g,h,i)perylene	(6)	15.074	276	971868	30.096
222) Total PAHs	(6)			16844532	471.710

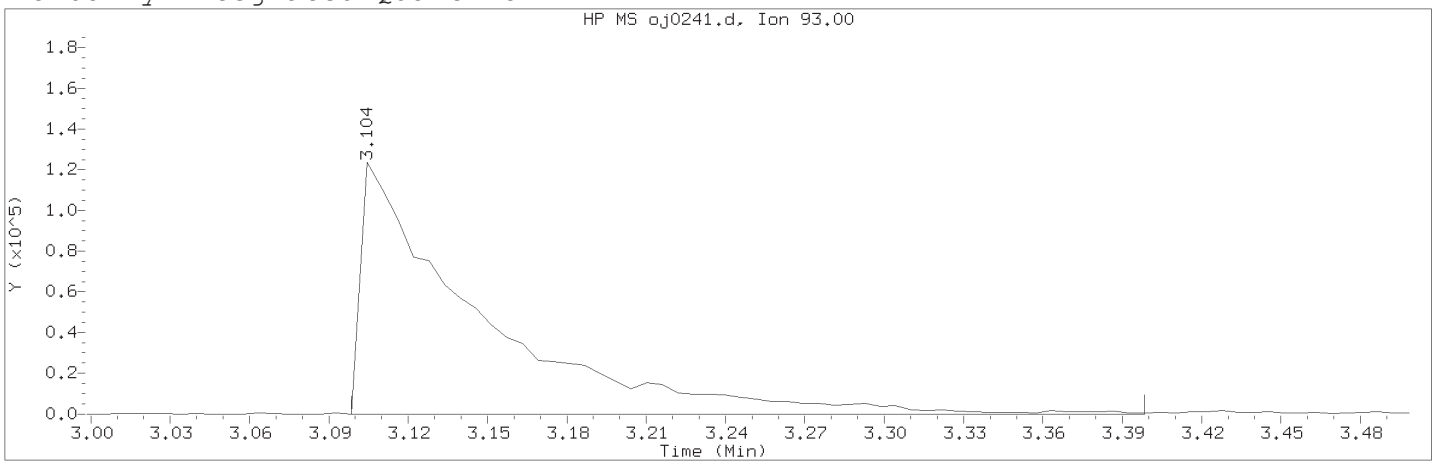
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 10/05/2015 at 15:42.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0241.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 14:52 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: all1-b
Calibration date and time: 05-OCT-2015 15:41
Date, time and analyst ID of latest file update: 05-Oct-2015 15:41 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2735

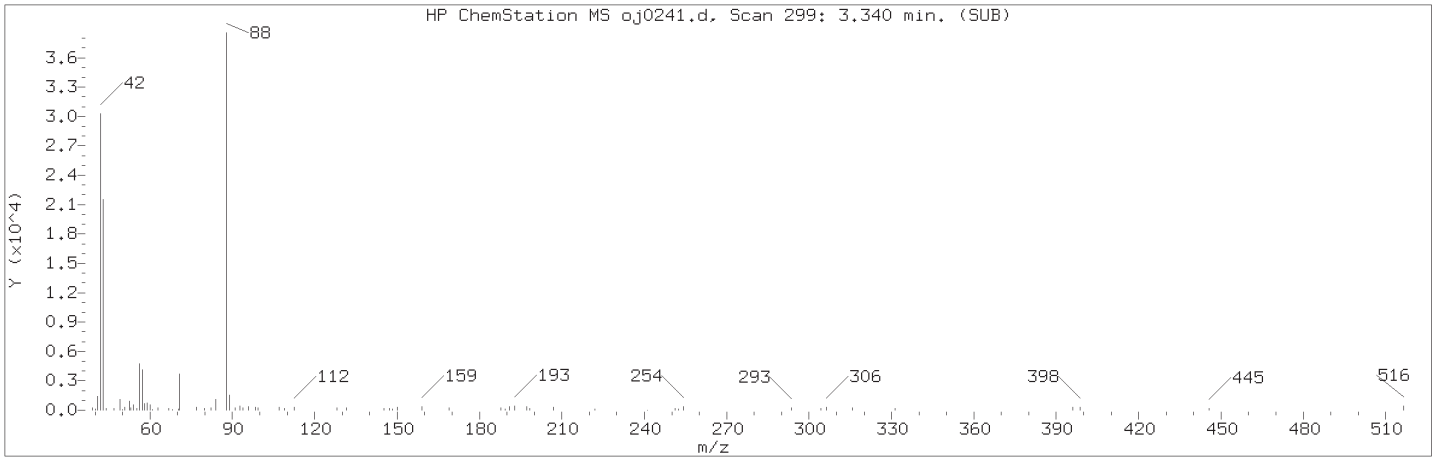
Compound Number : 7
Compound Name : 2-Picoline
Scan Number : 259
Retention Time (minutes) : 3.104
Quant Ion : 93.00
Area (flag) : 378493M
On-Column Amount (ng/ul) : 27.9869
Integration start scan : 257 Integration stop scan: 308
Y at integration start : -142 Y at integration end: -142

Reason for manual integration: compound not in processing sublist

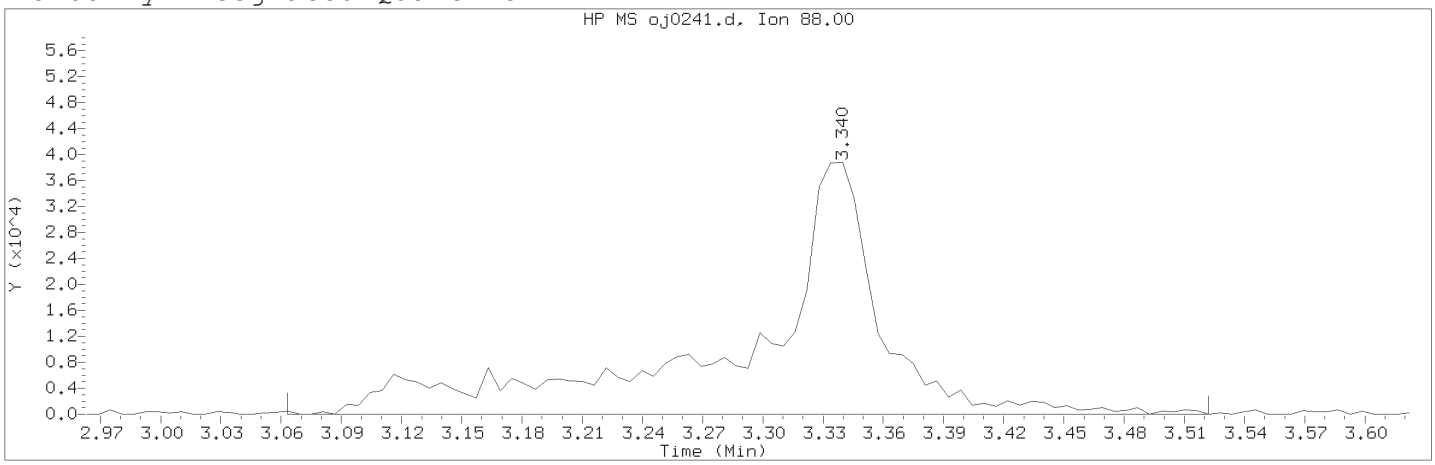
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 15:42.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 10:49.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0241.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 14:52 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: all1-b
Calibration date and time: 05-OCT-2015 15:41
Date, time and analyst ID of latest file update: 05-Oct-2015 15:41 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2735

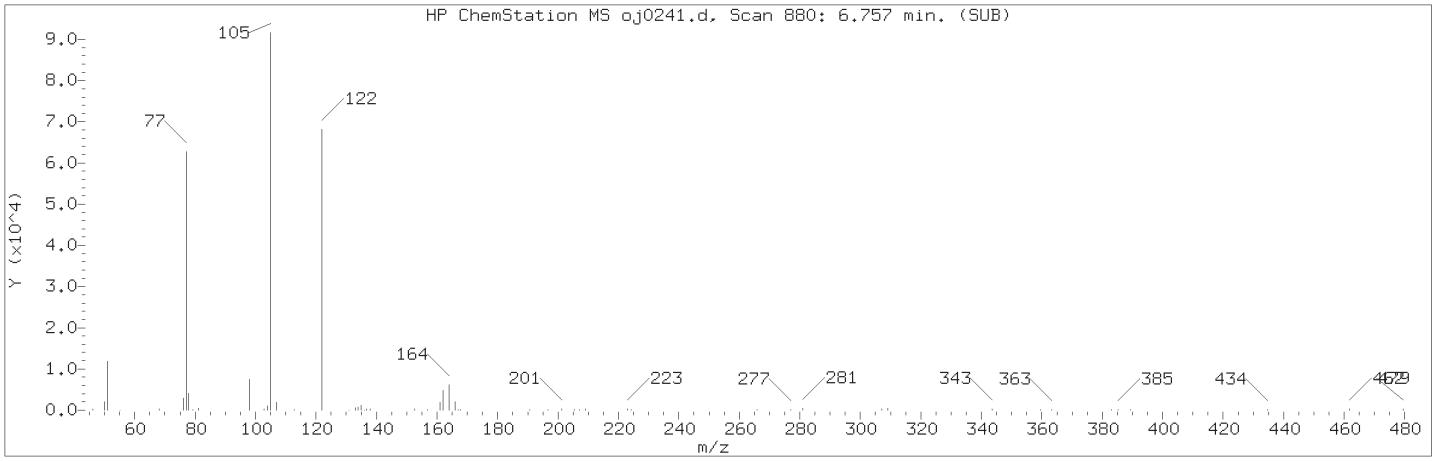
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Scan Number : 299
Retention Time (minutes) : 3.340
Quant Ion : 88.00
Area (flag) : 176443M
On-Column Amount (ng/ul) : 26.9650
Integration start scan : 251 Integration stop scan: 329
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: compound not in processing sublist

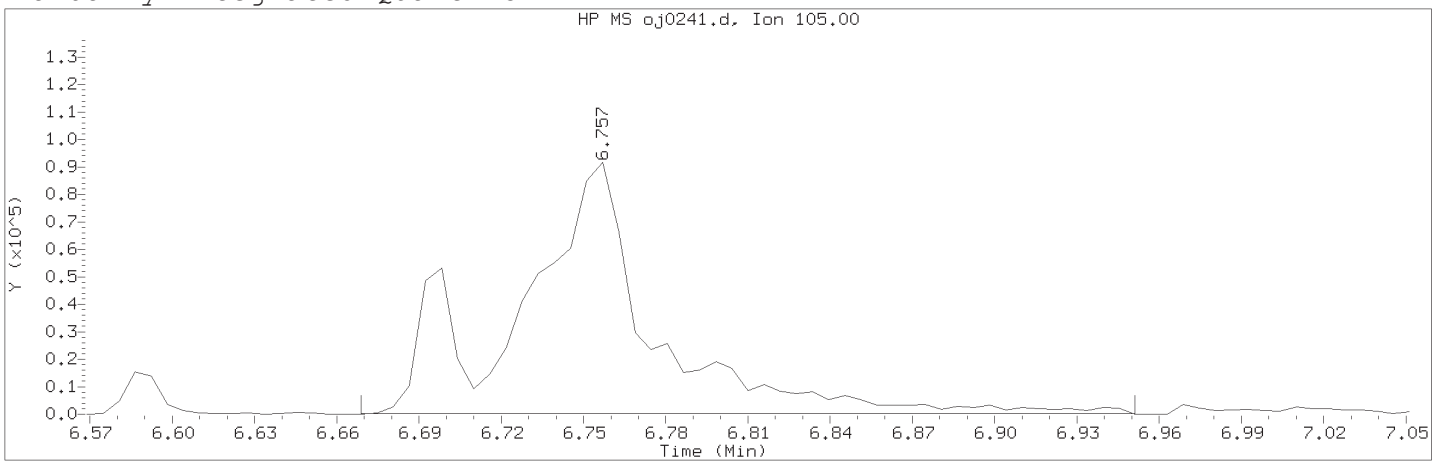
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 15:42.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 10:49.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0241.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 14:52 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: all1-b
Calibration date and time: 05-OCT-2015 15:41
Date, time and analyst ID of latest file update: 05-Oct-2015 15:41 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2735

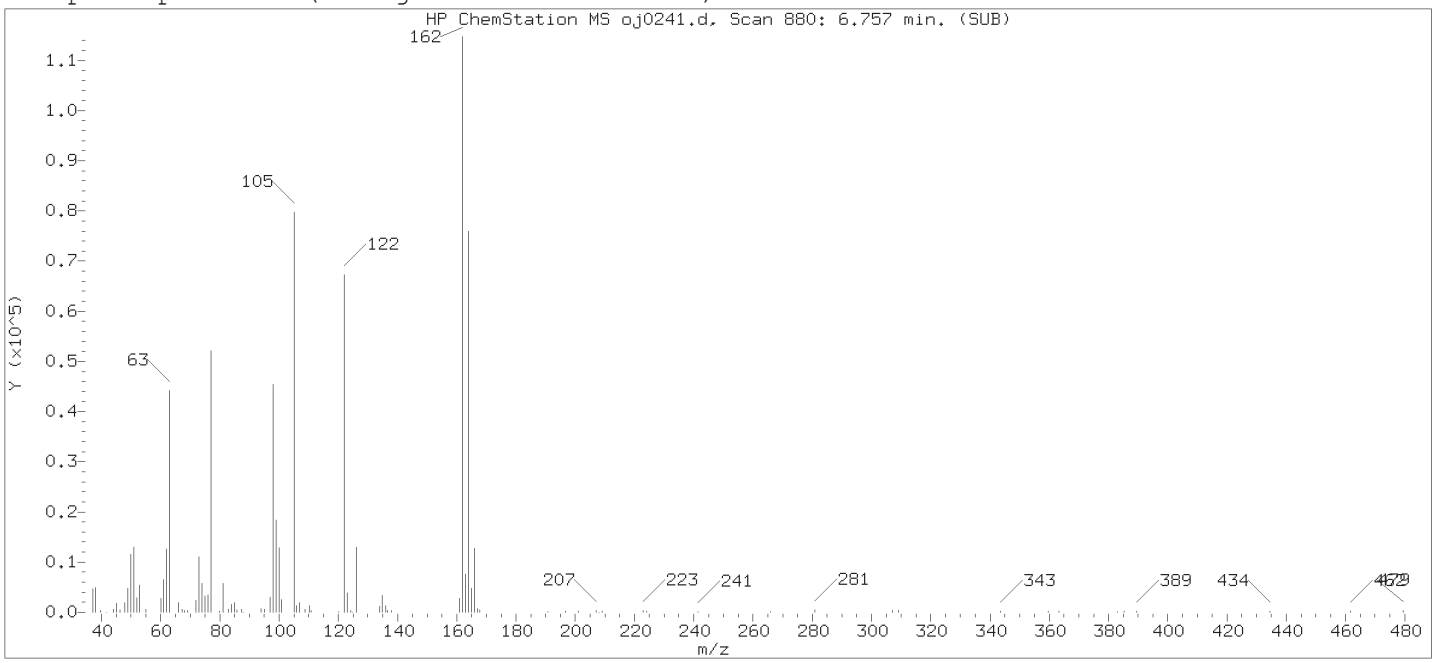
Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 880		
Retention Time (minutes)	: 6.757		
Quant Ion	: 105.00		
Area (flag)	: 308684M		
On-Column Amount (ng/ul)	: 25.4734		
Integration start scan	: 864	Integration stop scan:	912
Y at integration start	: 123	Y at integration end:	123

Reason for manual integration: improper integration

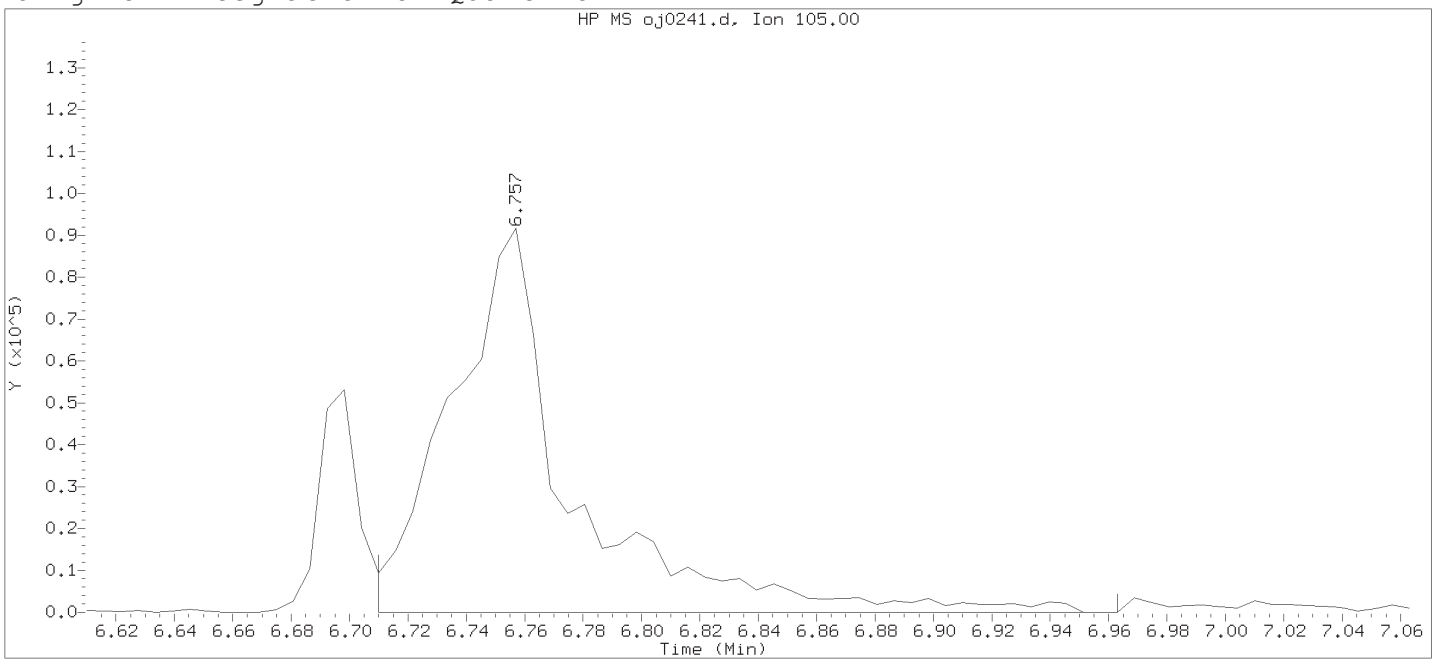
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 15:42.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 10:49.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0241.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 14:52 Analyst ID: lmh00956

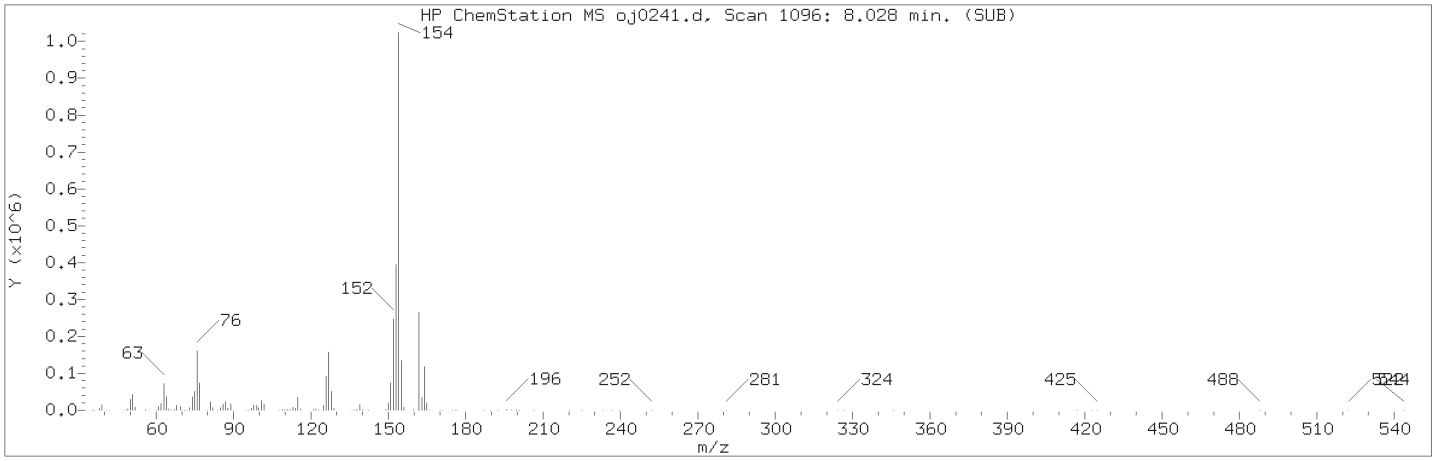
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: all1-b
Calibration date and time: 05-OCT-2015 15:39
Date, time and analyst ID of latest file update: 05-Oct-2015 15:39 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2735

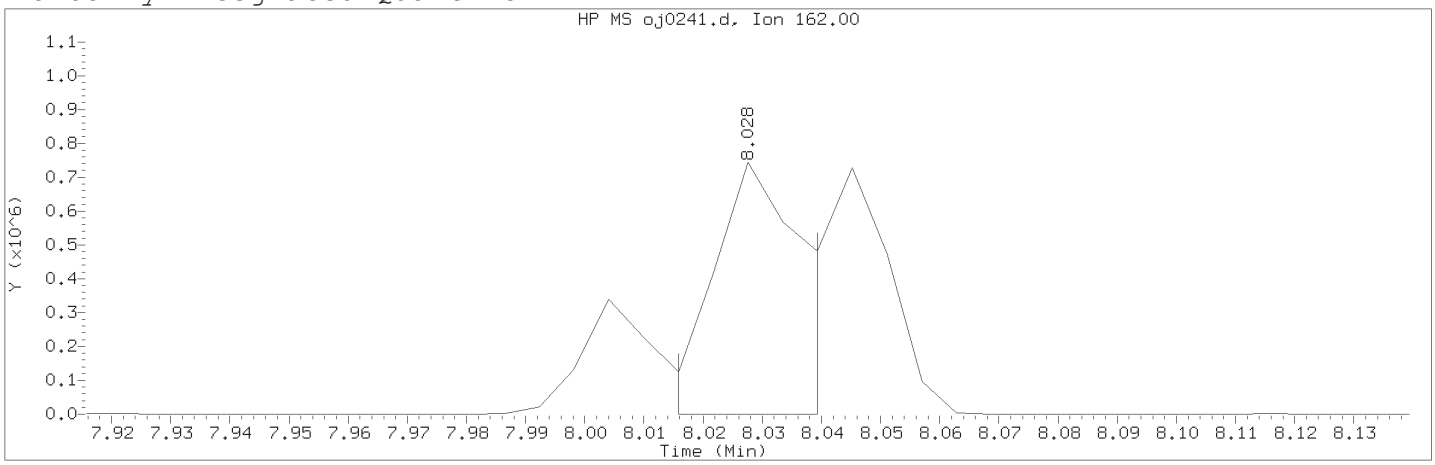
Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 880		
Retention Time (minutes)	: 6.757		
Quant Ion	: 105.00		
Area	: 261333		
On-column Amount (ng/ul)	: 21.5659		
Integration start scan	: 871	Integration stop scan:	914
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 15:42.
Target 3.5 esignature used ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0241.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 14:52 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: all1-b
Calibration date and time: 05-OCT-2015 15:41
Date, time and analyst ID of latest file update: 05-Oct-2015 15:41 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2735

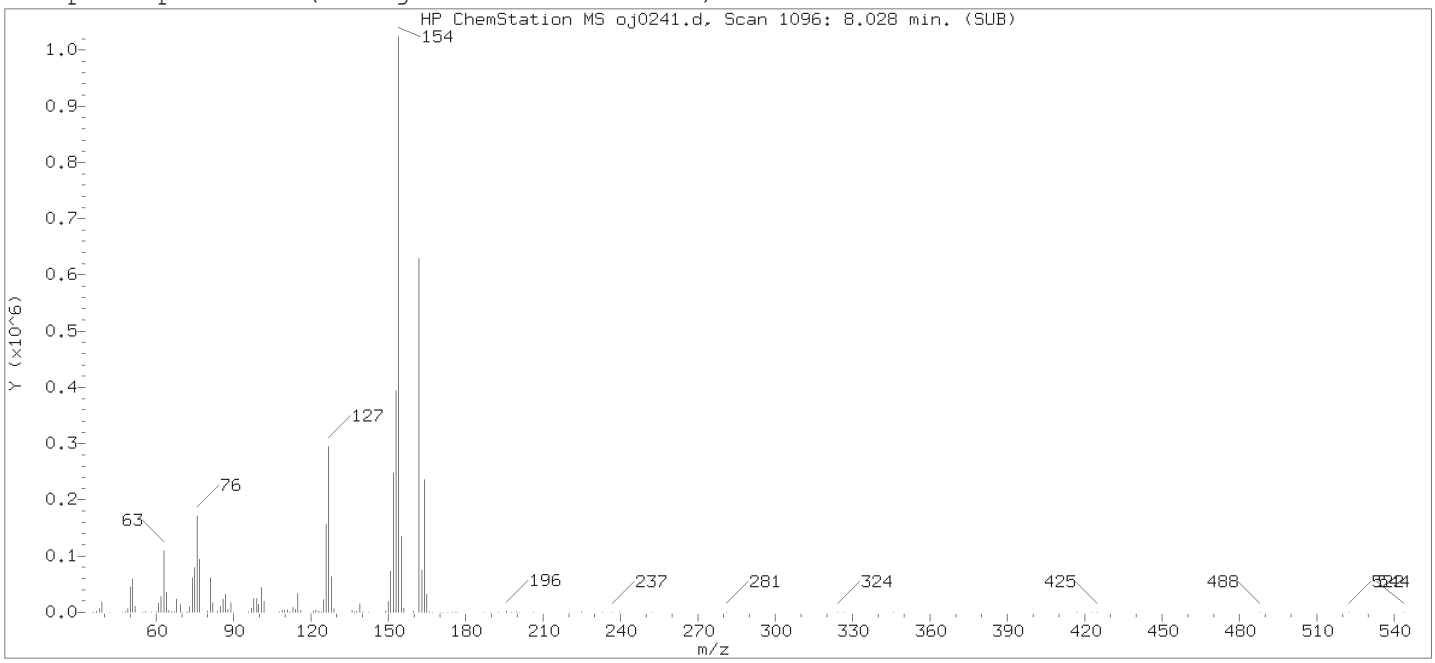
Compound Number : 96
Compound Name : 2-Chloronaphthalene
Scan Number : 1096
Retention Time (minutes) : 8.028
Quant Ion : 162.00
Area (flag) : 823081M
On-Column Amount (ng/ul) : 36.4434
Integration start scan : 1093 Integration stop scan: 1097
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

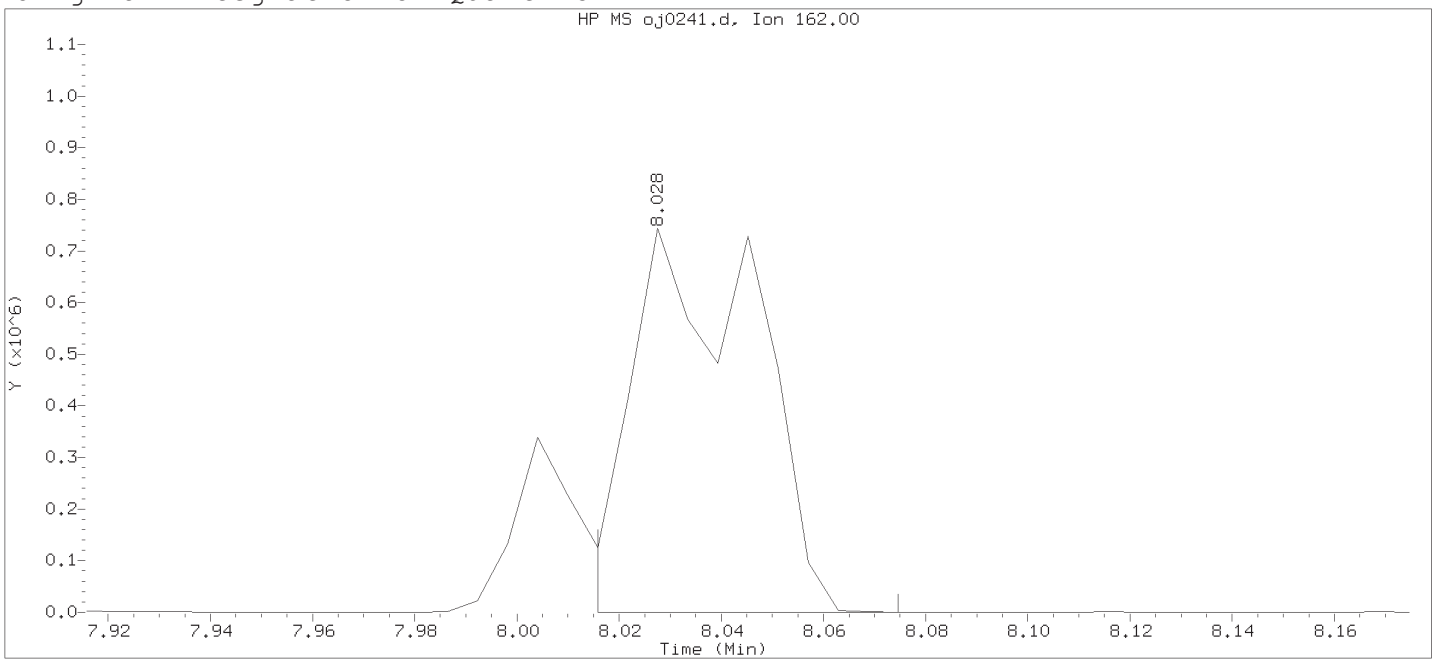
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 15:42.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 10:49.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0241.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 14:52 Analyst ID: lmh00956

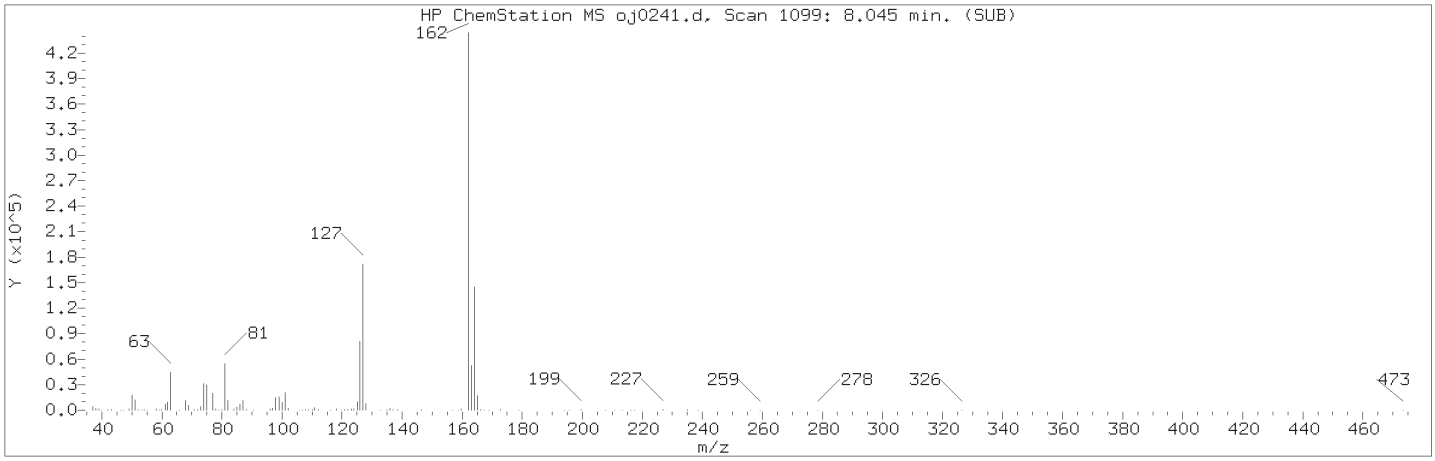
Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: all1-b
Calibration date and time: 05-OCT-2015 15:39
Date, time and analyst ID of latest file update: 05-Oct-2015 15:39 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2735

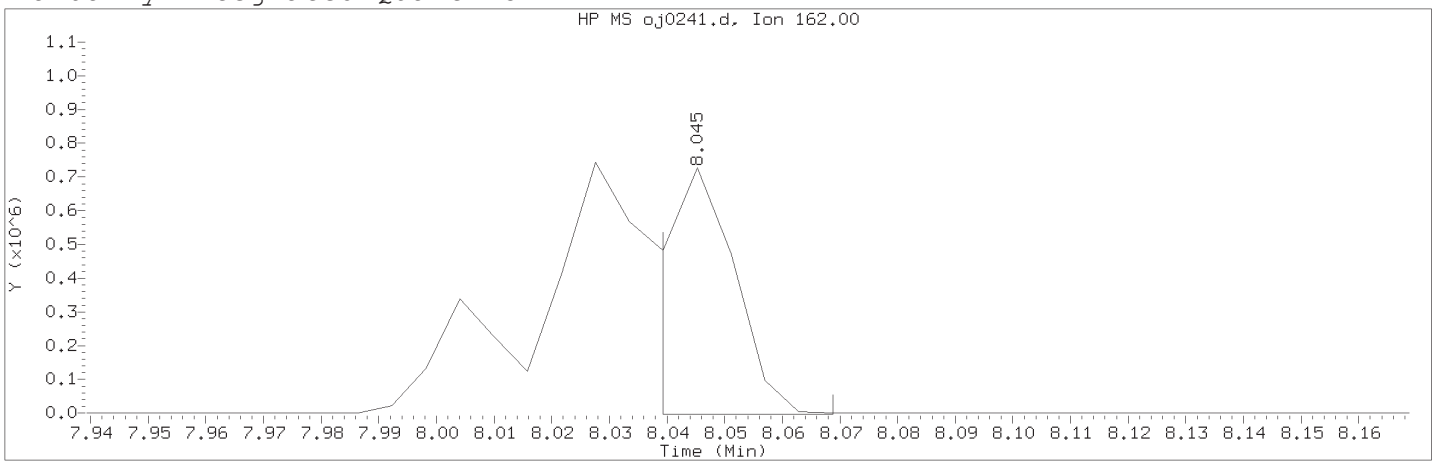
Compound Number	: 96		
Compound Name	: 2-Chloronaphthalene		
Scan Number	: 1096		
Retention Time (minutes)	: 8.028		
Quant Ion	: 162.00		
Area	: 1260676		
On-column Amount (ng/ul)	: 55.8187		
Integration start scan	: 1093	Integration stop scan:	1103
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 15:42.
Target 3.5 esignature used ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0241.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 14:52 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: all1-b
Calibration date and time: 05-OCT-2015 15:41
Date, time and analyst ID of latest file update: 05-Oct-2015 15:41 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2735

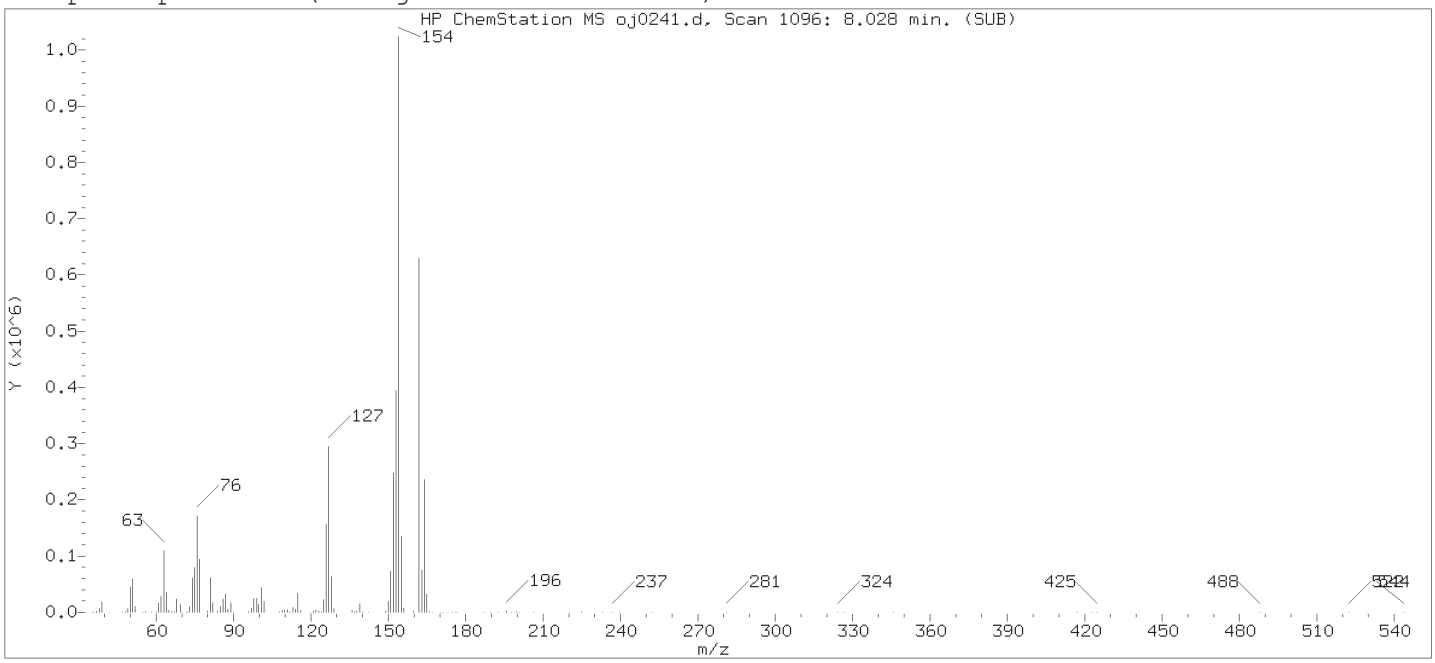
Compound Number : 98
Compound Name : 1-Chloronaphthalene
Scan Number : 1099
Retention Time (minutes) : 8.045
Quant Ion : 162.00
Area (flag) : 636058M
On-Column Amount (ng/ul) : 30.2321
Integration start scan : 1097 Integration stop scan: 1102
Y at integration start : -3001 Y at integration end: -3001

Reason for manual integration: improper integration

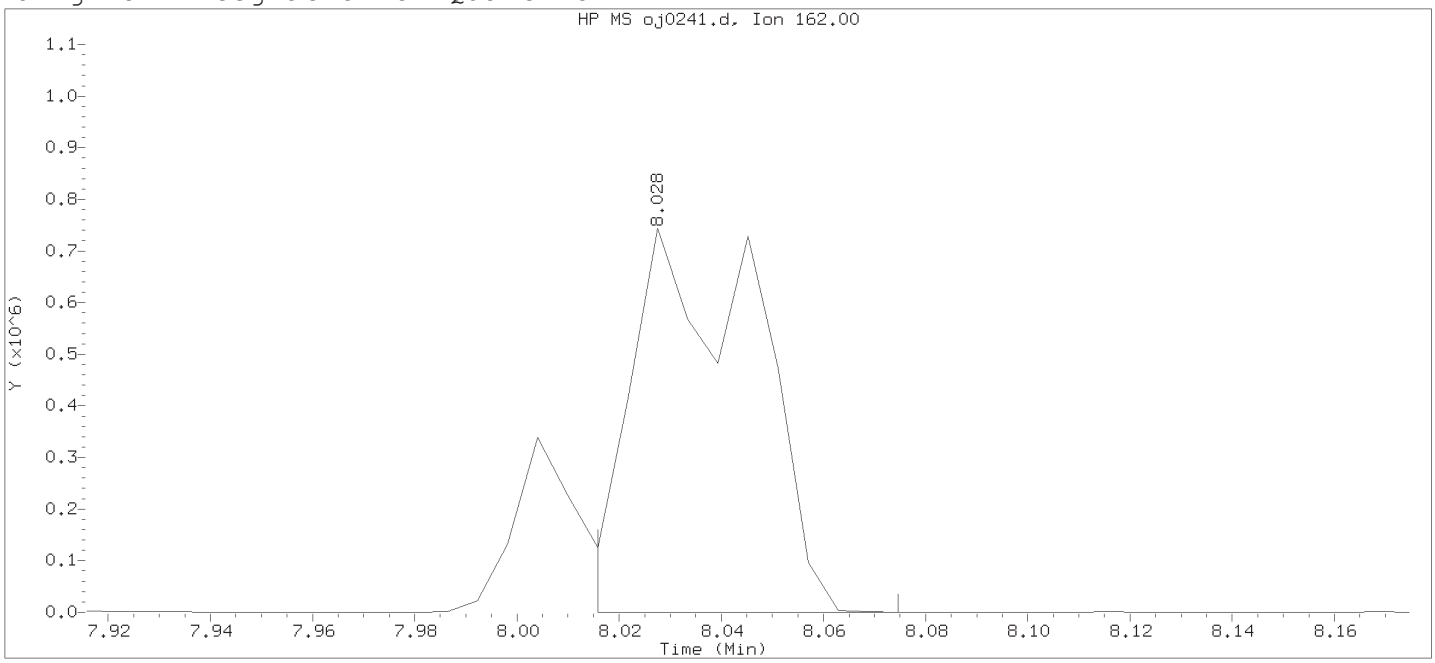
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 10/05/2015 at 15:42.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 10/06/2015 at 10:49.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09910.i/15oct05.b/oj0241.d Instrument ID: HP09910.i
Injection date and time: 05-OCT-2015 14:52 Analyst ID: lmh00956

Method used: /chem/HP09910.i/15oct05.b/m8270c.m Sublist used: all1-b
Calibration date and time: 05-OCT-2015 15:39
Date, time and analyst ID of latest file update: 05-Oct-2015 15:39 lmh00956

Sample Name: SSTD030 Lab Sample ID: STD2735

Compound Number	: 98		
Compound Name	: 1-Chloronaphthalene		
Scan Number	: 1096		
Retention Time (minutes)	: 8.028		
Quant Ion	: 162.00		
Area	: 1260680		
On-column Amount (ng/ul)	: 59.9206		
Integration start scan	: 1093	Integration stop scan:	1103
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Linda M. Hartenstine on 10/05/2015 at 15:42.
Target 3.5 esignature used: lmh00956

Raw QC Data

Semivolatiles by GC/MS

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0072.d Injection date and time: **02-OCT-2015 10:46**
Data file Sample Info. Line: SBLKLD272O;SBLKLD272;2;3;BLANK;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 11:02 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 10:37
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.081(0.000)	680	152	169275 (1)	20.00	
65) Naphthalene-d8	7.357(0.006)	897	136	736504 (-4)	20.00	
113) Acenaphthene-d10	9.086(0.006)	1191	164	441086 (-10)	20.00	
153) Phenanthrene-d10	10.539(0.000)	1438	188	913295 (-3)	20.00	
175) Pyrene-d10	11.922(0.006)	1673	212	1051517 (-1)	20.00	
213) Perylene-d12	14.557(0.000)	2121	264	804156 (4)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.651(-0.001)	82	1528937	89.208	89%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.445(-0.001)	172	2829625	101.067	101%		63 - 117
179) Terphenyl-d14	(5)	12.122(-0.001)	244	3875911	100.159	100%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)			Not Detected					0.1
157) Anthracene	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.1
177) Pyrene	(5)			Not Detected					0.1
195) Benzo(a)anthracene	(5)			Not Detected					0.1
196) Chrysene	(5)			Not Detected					0.1
206) Benzo(b)fluoranthene	(6)			Not Detected					0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.1
211) Benzo(a)pyrene	(6)			Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.1

Digitally signed by Catherine E. Bachman on 10/02/2015 at 11:37. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0072.d Injection date and time: **02-OCT-2015 10:46**
Data file Sample Info. Line: SBLKLD272O;SBLKLD272;2;3;BLANK;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 11:02 ceb05247

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 10:37
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30 g

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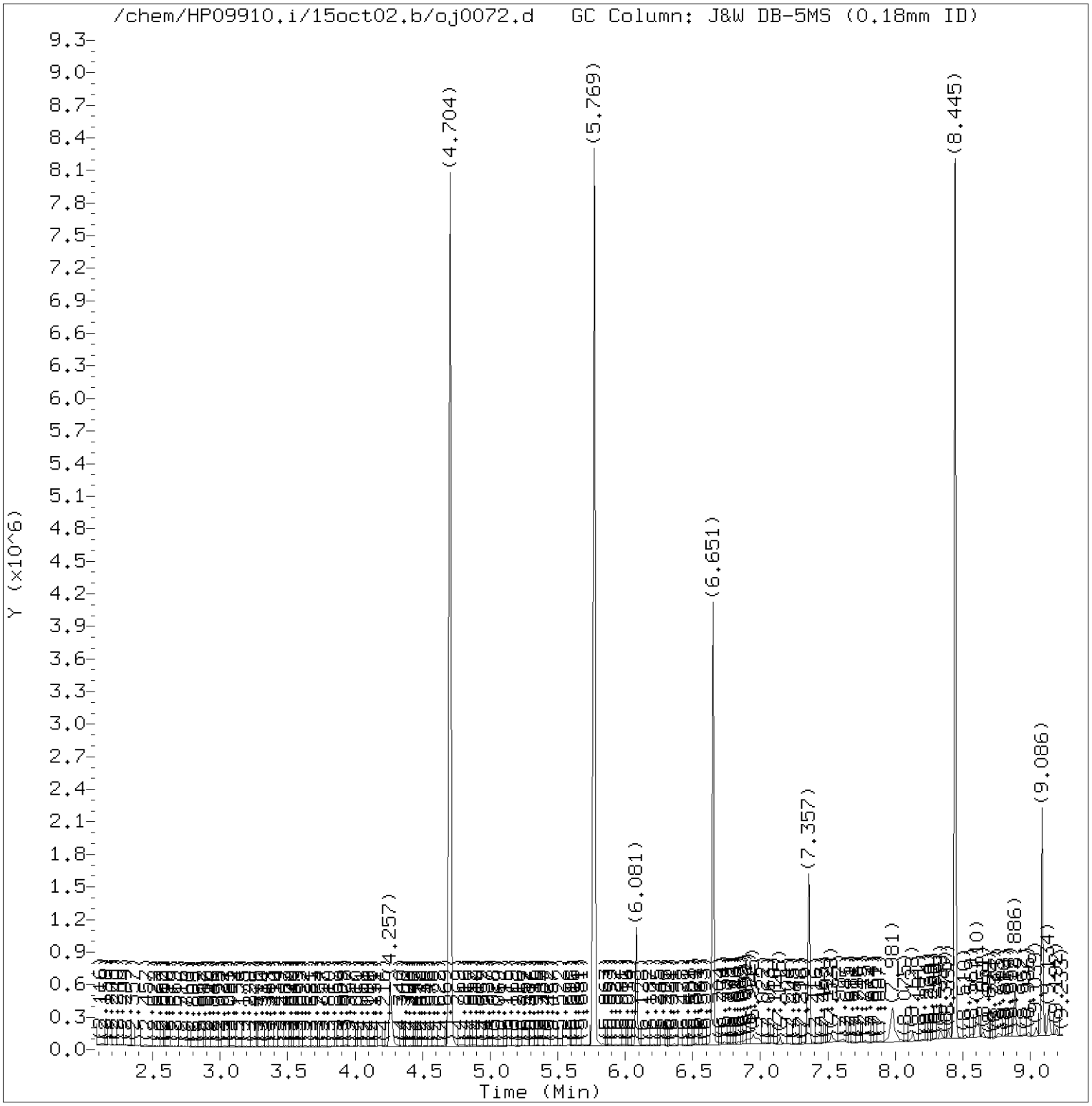
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/02/2015 at 11:37. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/02/2015 at 14:08. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

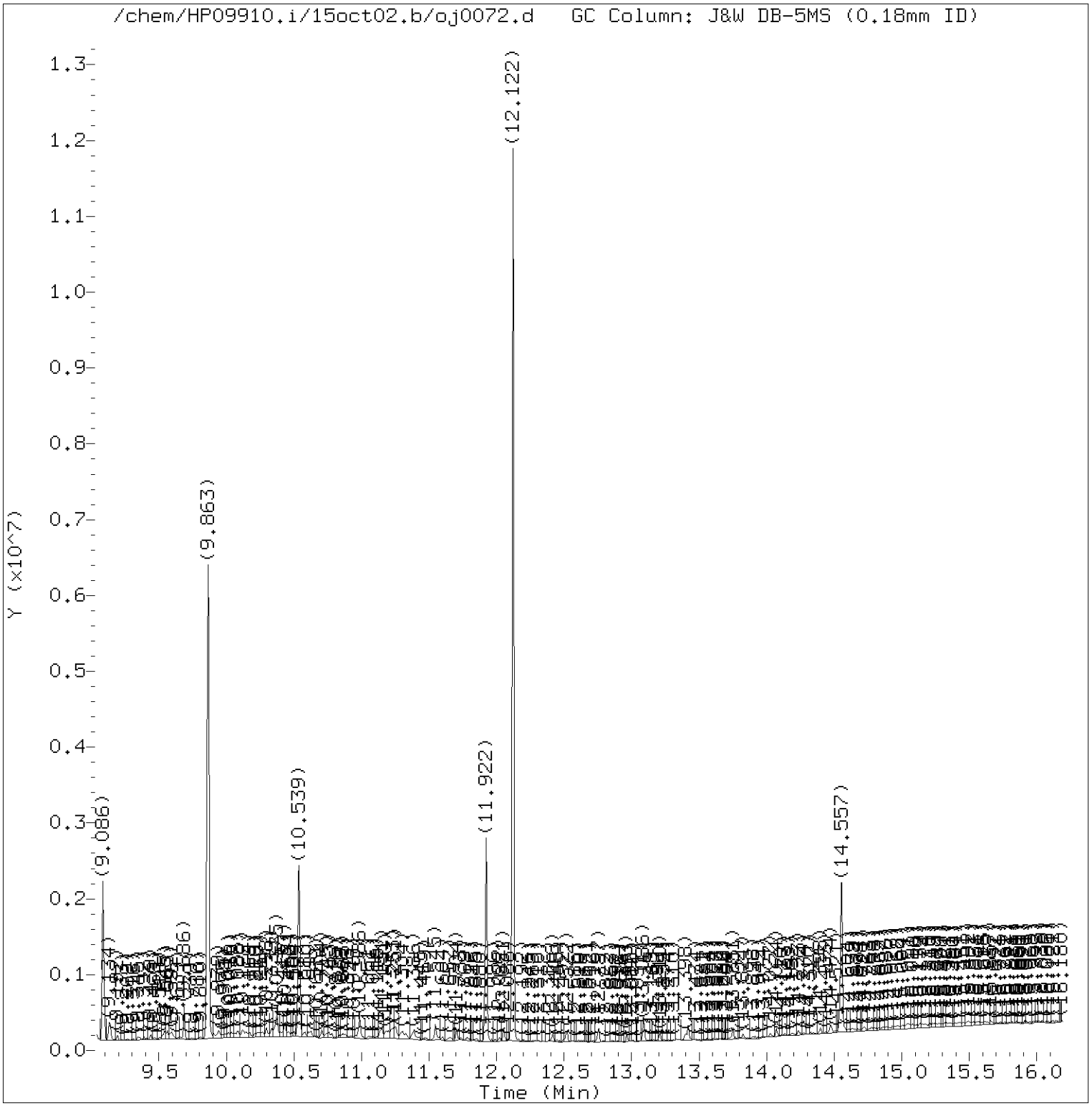
Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0072.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 10:46 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 10:37
Date, time and analyst ID of latest file update: 02-Oct-2015 11:02 ceb05247

Sample Name: SBLKLD272O Lab Sample ID: SBLKLD272

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 11:37.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0072.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 10:46 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 10:37
Date, time and analyst ID of latest file update: 02-Oct-2015 11:02 ceb05247

Sample Name: SBLKLD272O Lab Sample ID: SBLKLD272

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 11:37.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0072.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 10:46 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 10:37
Date, time and analyst ID of latest file update: 02-Oct-2015 11:02 ceb05247

Sample Name: SBLKLD272O Lab Sample ID: SBLKLD272

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.081	152	169275	20.000
44)$Nitrobenzene-d5	(2)	6.651	82	1528937	89.208
65)*Naphthalene-d8	(2)	7.357	136	736504	20.000
93)$2-Fluorobiphenyl	(3)	8.445	172	2829625	101.067
113)*Acenaphthene-d10	(3)	9.086	164	441086	20.000
153)*Phenanthrene-d10	(4)	10.539	188	913295	20.000
175)*Pyrene-d10	(5)	11.922	212	1051517	20.000
179)$Terphenyl-d14	(5)	12.122	244	3875911	100.159
213)*Perylene-d12	(6)	14.557	264	804156	20.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 11:37.
Target 3.5 esignature user ID: ceb05247

SBLKWD2712 Lancaster Laboratories, Inc. SBLKWD271

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18444.i/15sep30.b/bi1403.d Injection date and time: **30-SEP-2015 10:43**
Data file Sample Info. Line: SBLKWD2712;SBLKWD271;1;3;BLANK;;; Instrument ID: **HP18444.i** Batch: **15271WAD**
Date, time and analyst ID of latest file update: 30-Sep-2015 13:04 lmh00956

Blank Data file reference: **/chem/HP18444.i/15sep30.b/bi1403.d**

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 30-SEP-2015 13:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18444.i/15sep30.b/bi1401a.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo * Vi)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 1000 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	5.473(0.000)	581	152	81180 (-27)	20.00	
65) Naphthalene-d8	6.703(0.000)	792	136	337410 (-31)	20.00	
113) Acenaphthene-d10	8.411(0.000)	1085	164	212858 (-33)	20.00	
153) Phenanthrene-d10	9.857(0.000)	1333	188	462481 (-30)	20.00	
175) Pyrene-d10	11.238(0.000)	1570	212	525489 (-32)	20.00	
213) Perylene-d12	13.867(0.000)	2021	264	458026 (-24)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.010(0.000)	82	689451	84.106	84%		46 - 148
93) 2-Fluorobiphenyl	(3)	7.764(0.001)	172	1075011	74.347	74%		61 - 112
179) Terphenyl-d14	(5)	11.430(0.000)	244	2135569	111.492	111%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.1
126) Fluorene	(3)			Not Detected					0.1
155) Phenanthrene	(4)			Not Detected					0.1
157) Anthracene	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.1
177) Pyrene	(5)			Not Detected					0.1
195) Benzo(a)anthracene	(5)			Not Detected					0.1
196) Chrysene	(5)			Not Detected					0.1
206) Benzo(b)fluoranthene	(6)			Not Detected					0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.1
211) Benzo(a)pyrene	(6)			Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.1
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.1
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.1

Digitally signed by Linda M. Hartenstine on 09/30/2015 at 13:06. Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18444.i/15sep30.b/bi1403.d Injection date and time: **30-SEP-2015 10:43**
Data file Sample Info. Line: SBLKWD2712;SBLKWD271;1;3;BLANK;;; Instrument ID: **HP18444.i** Batch: **15271WAD**
Date, time and analyst ID of latest file update: 30-Sep-2015 13:04 lmh00956

Blank Data file reference: **/chem/HP18444.i/15sep30.b/bi1403.d**

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 30-SEP-2015 13:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18444.i/15sep30.b/bi1401a.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo * Vi)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 1000 ml Volume Injected (Vi): 1 ul

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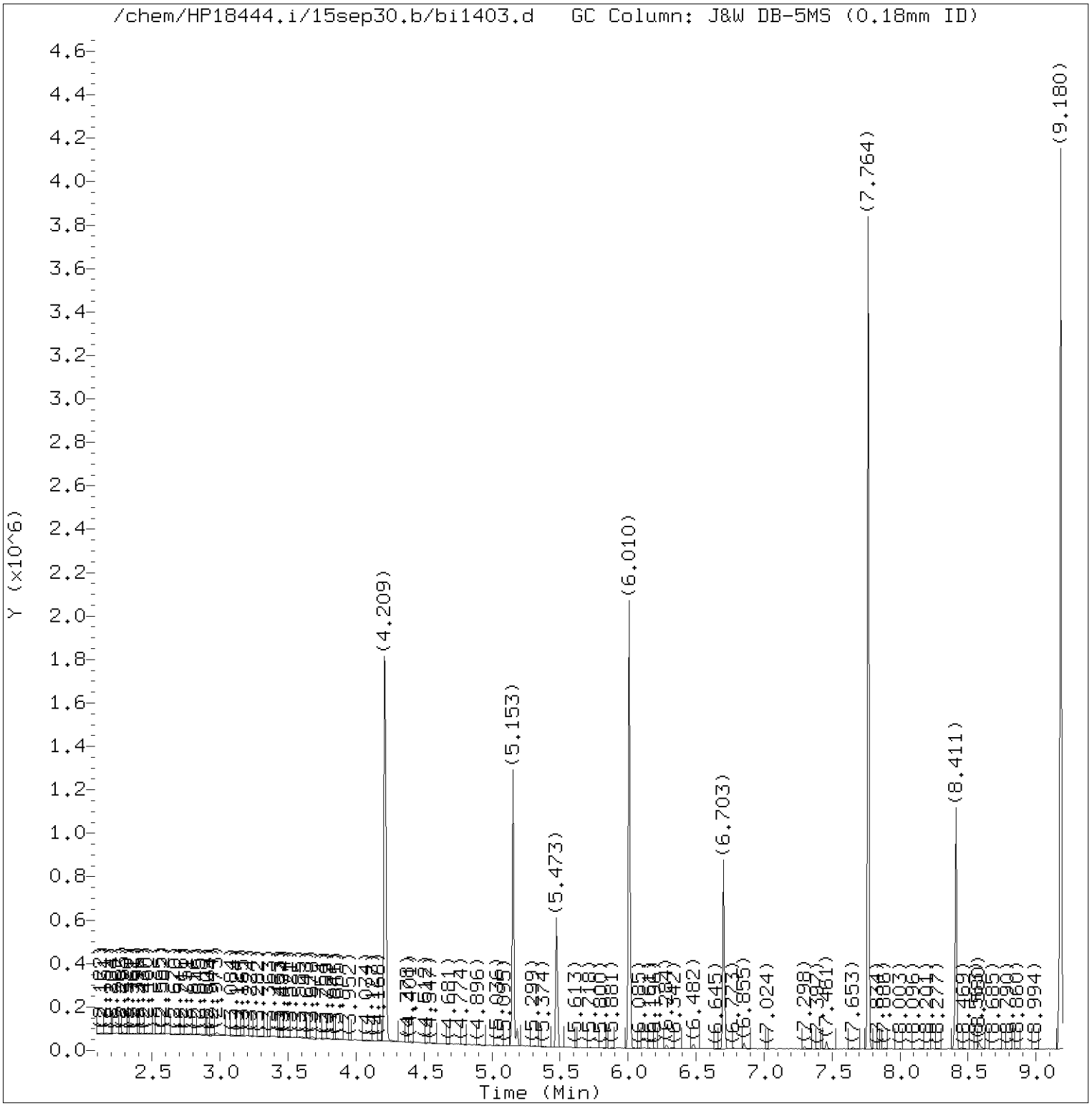
Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 09/30/2015 at 13:06. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Beth A. Rubino on 10/04/2015 at 21:17. Parallax ID: bar06484



Total Ion Chromatogram (TIC)

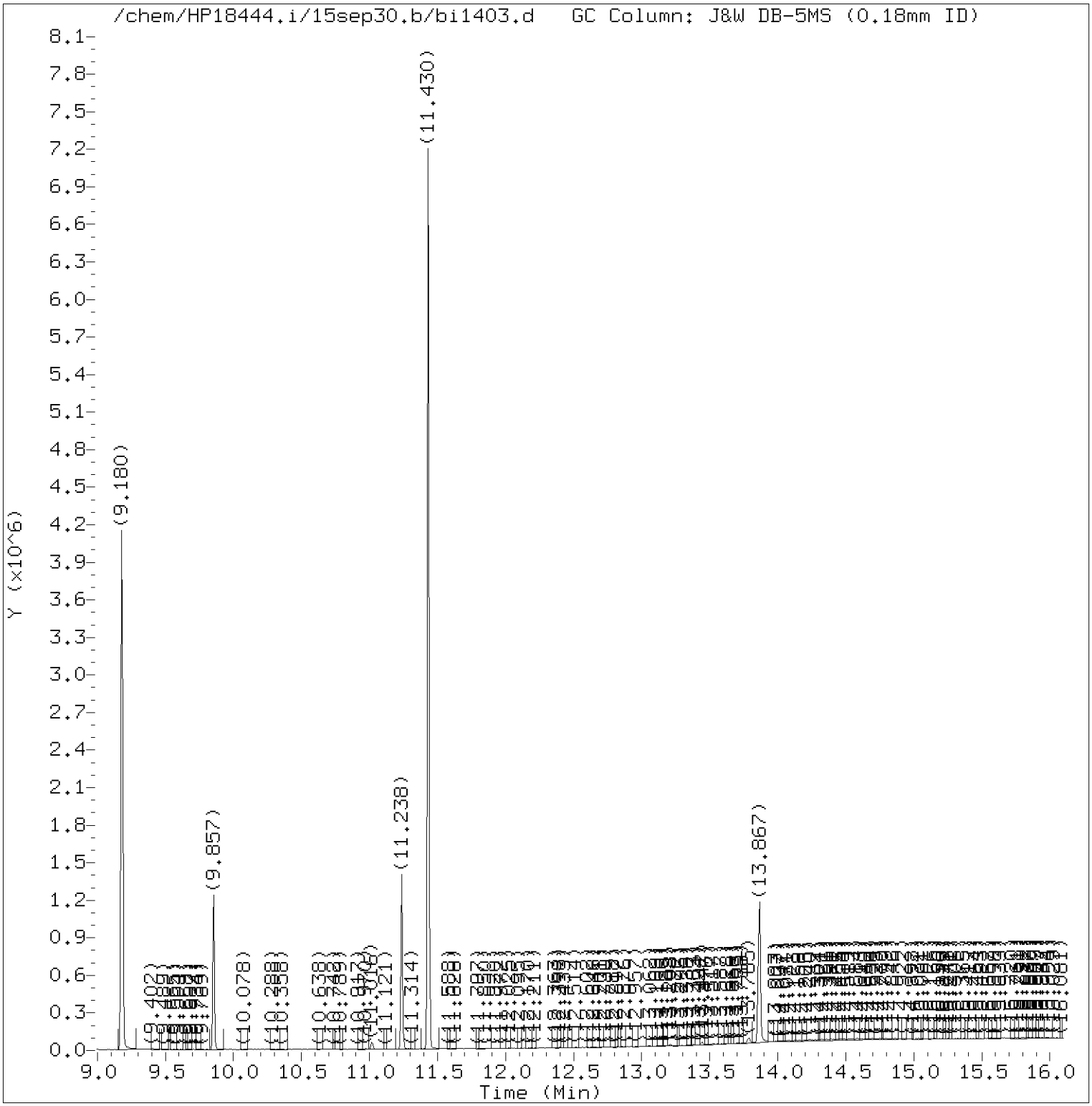
Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1403.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 10:43 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:04 lmh00956

Sample Name: SBLKWD2712 Lab Sample ID: SBLKWD271

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:06.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1403.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 10:43 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:04 lmh00956

Sample Name: SBLKWD2712 Lab Sample ID: SBLKWD271

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:06.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1403.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 10:43 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:04 lmh00956

Sample Name: SBLKWD2712 Lab Sample ID: SBLKWD271

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	5.473	152	81180	20.000
44)$Nitrobenzene-d5	(2)	6.010	82	689451	84.106
65)*Naphthalene-d8	(2)	6.703	136	337410	20.000
93)$2-Fluorobiphenyl	(3)	7.764	172	1075011	74.347
113)*Acenaphthene-d10	(3)	8.411	164	212858	20.000
153)*Phenanthrene-d10	(4)	9.857	188	462481	20.000
175)*Pyrene-d10	(5)	11.238	212	525489	20.000
179)$Terphenyl-d14	(5)	11.430	244	2135569	111.492
213)*Perylene-d12	(6)	13.867	264	458026	20.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:06.
Target 3.5 esignature user ID: lmh00956

49413MS Lancaster Laboratories, Inc. Analysis Summary for GC/MS Semivolatiles 8064454

Data file: /chem/HP09910.i/15oct02.b/oj0076.d
Data file Sample Info. Line: 49413MS;8064454;2;3;MS;;;
Date, time and analyst ID of latest file update: 02-Oct-2015 12:40 Automation

Injection date and time: **02-OCT-2015 12:25**
Instrument ID: **HP09910.i** Batch: **15272SLD**

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 11:47
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.45 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.081(0.000)	680	152	145373 (-14)	20.00	
65) Naphthalene-d8	7.363(0.000)	898	136	750624 (-2)	20.00	
113) Acenaphthene-d10	9.092(0.000)	1192	164	487574 (-1)	20.00	
153) Phenanthrene-d10	10.539(0.000)	1438	188	877888 (-7)	20.00	
175) Pyrene-d10	11.927(0.000)	1674	212	884223 (-16)	20.00	
213) Perylene-d12	14.557(0.000)	2121	264	574102 (-26)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.651(0.000)	82	1515232	86.745	87%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.445(0.000)	172	2895402	93.556	94%		63 - 117
179) Terphenyl-d14	(5)	12.122(0.000)	244	3069304	94.321	94%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	7.386(-0.000)	128	2009526	48.578	1595.35			0.1
83) 2-Methylnaphthalene	(2)	8.075(-0.000)	142	1384317	47.494	1559.75			0.1
109) Acenaphthylene	(3)	8.951(-0.000)	152	2161304	49.929	1639.69			0.1
114) Acenaphthene	(3)	9.122(-0.000)	153	1468916	49.026	1610.04			0.1
126) Fluorene	(3)	9.628(-0.000)	166	1750962	50.846	1669.81			0.1
155) Phenanthrene	(4)	10.563(-0.000)	178	2534246	49.708	1632.45			0.1
157) Anthracene	(4)	10.616(0.000)	178	2627080	52.143	1712.41			0.1
173) Fluoranthene	(4)	11.727(0.000)	202	2542504	45.886	1506.92			0.1
177) Pyrene	(5)	11.945(0.000)	202	2532703	48.013	1576.78			0.1
195) Benzo(a)anthracene	(5)	13.127(0.000)	228	2018229	43.891	1441.42			0.1
196) Chrysene	(5)	13.168(-0.000)	228	1988243	45.380	1490.31			0.1
206) Benzo(b)fluoranthene	(6)	14.198(-0.000)	252	1851786	51.397	1687.92			0.1
208) Benzo(k)fluoranthene	(6)	14.227(-0.000)	252	1719016	46.760	1535.63			0.1
211) Benzo(a)pyrene	(6)	14.510(-0.000)	252	1620166	45.530	1495.24			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	15.633(-0.000)	276	1804872	48.698	1599.26			0.1
220) Dibenz(a,h)anthracene	(6)	15.657(-0.000)	278	1562352	50.111	1645.69			0.1
221) Benzo(g,h,i)perylene	(6)	15.933(-0.000)	276	1507527	49.522	1626.33			0.1

Digitally signed by Catherine E. Bachman on 10/02/2015 at 13:33. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0076.d Injection date and time: **02-OCT-2015 12:25**
Data file Sample Info. Line: 49413MS;8064454;2;3;MS;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 12:40 Automation

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 11:47
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.45 g

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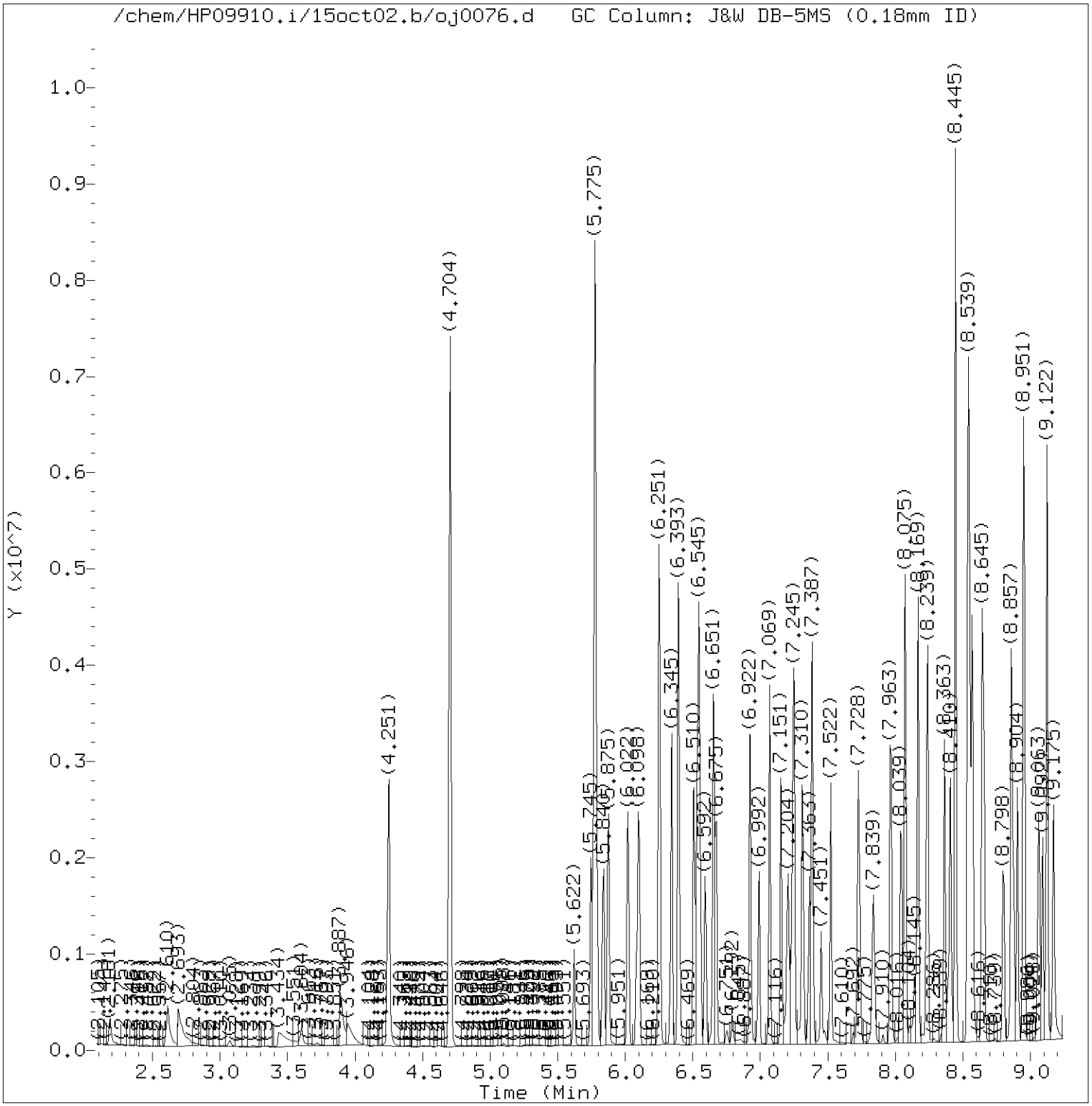
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/02/2015 at 13:33. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/02/2015 at 14:08. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

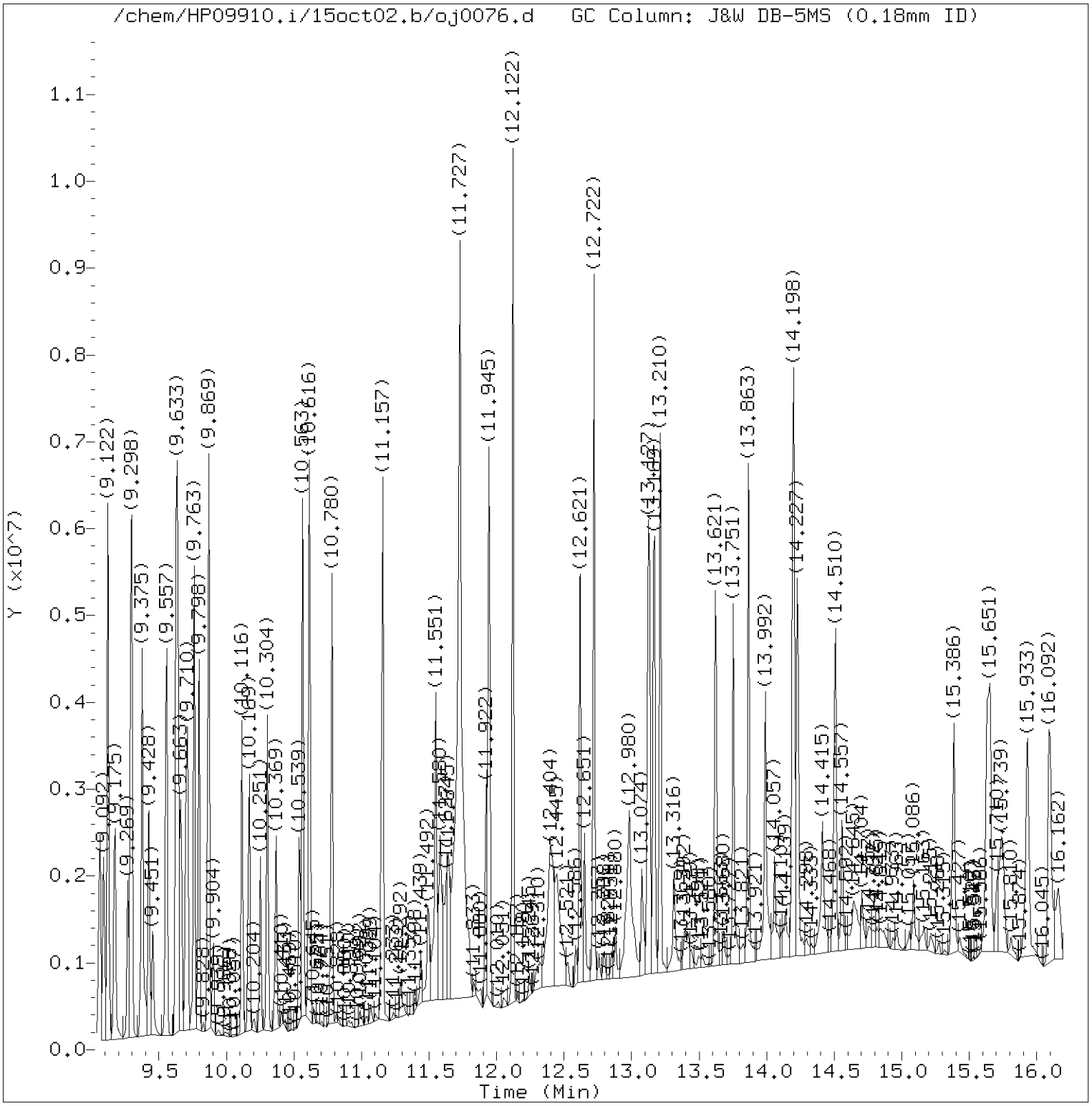
Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0076.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:25 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:40 Automation

Sample Name: 49413MS Lab Sample ID: 8064454

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 13:33.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0076.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:25 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:40 Automation

Sample Name: 49413MS Lab Sample ID: 8064454

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 13:33.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0076.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:25 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 12:40 Automation

Sample Name: 49413MS Lab Sample ID: 8064454

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.081	152	145373	20.000
44)$Nitrobenzene-d5	(2)	6.651	82	1515232	86.745
65)*Naphthalene-d8	(2)	7.363	136	750624	20.000
66) Naphthalene	(2)	7.387	128	2009526	48.578
83) 2-Methylnaphthalene	(2)	8.075	142	1384317	47.494
93)$2-Fluorobiphenyl	(3)	8.445	172	2895402	93.556
109) Acenaphthylene	(3)	8.951	152	2161304	49.929
113)*Acenaphthene-d10	(3)	9.092	164	487574	20.000
114) Acenaphthene	(3)	9.122	153	1468916	49.026
126) Fluorene	(3)	9.628	166	1750962	50.846
153)*Phenanthrene-d10	(4)	10.539	188	877888	20.000
155) Phenanthrene	(4)	10.563	178	2534246	49.708
157) Anthracene	(4)	10.616	178	2627080	52.143
173) Fluoranthene	(4)	11.727	202	2542504	45.886
175)*Pyrene-d10	(5)	11.927	212	884223	20.000
177) Pyrene	(5)	11.945	202	2532703	48.013
179)$Terphenyl-d14	(5)	12.122	244	3069304	94.321
195) Benzo(a)anthracene	(5)	13.127	228	2018229	43.891
196) Chrysene	(5)	13.169	228	1988243	45.380
206) Benzo(b)fluoranthene	(6)	14.198	252	1851786	51.397
208) Benzo(k)fluoranthene	(6)	14.227	252	1719016	46.760
211) Benzo(a)pyrene	(6)	14.510	252	1620166	45.530
213)*Perylene-d12	(6)	14.557	264	574102	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	15.633	276	1804872	48.698
220) Dibenz(a,h)anthracene	(6)	15.657	278	1562352	50.111
221) Benzo(g,h,i)perylene	(6)	15.933	276	1507527	49.522

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 13:33.
Target 3.5 esignature user ID: ceb05247

49413MSD Lancaster Laboratories, Inc. Analysis Summary for GC/MS Semivolatiles 8064455

Data file: /chem/HP09910.i/15oct02.b/oj0077.d Injection date and time: **02-OCT-2015 12:50**
Data file Sample Info. Line: 49413MSD;8064455;2;3;MSD;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 13:05 Automation

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 11:47
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.44 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.087(-0.006)	681	152	157987 (-6)	20.00	
65) Naphthalene-d8	7.363(0.000)	898	136	769748 (0)	20.00	
113) Acenaphthene-d10	9.092(0.000)	1192	164	487692 (-1)	20.00	
153) Phenanthrene-d10	10.539(0.000)	1438	188	865146 (-8)	20.00	
175) Pyrene-d10	11.927(0.000)	1674	212	854877 (-19)	20.00	
213) Perylene-d12	14.563(-0.006)	2122	264	568621 (-27)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.651(0.000)	82	1519444	84.825	85%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.445(0.000)	172	2872667	92.799	93%		63 - 117
179) Terphenyl-d14	(5)	12.122(0.000)	244	2905389	92.349	92%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	7.386(-0.000)	128	2069620	48.788	1602.77			0.1
83) 2-Methylnaphthalene	(2)	8.075(-0.000)	142	1428364	47.788	1569.91			0.1
109) Acenaphthylene	(3)	8.951(-0.000)	152	2196410	50.727	1666.47			0.1
114) Acenaphthene	(3)	9.122(0.000)	153	1486705	49.607	1629.68			0.1
126) Fluorene	(3)	9.628(0.000)	166	1732884	50.309	1652.71			0.1
155) Phenanthrene	(4)	10.563(0.000)	178	2375863	47.288	1553.47			0.1
157) Anthracene	(4)	10.616(0.000)	178	2516075	50.675	1664.75			0.1
173) Fluoranthene	(4)	11.727(0.000)	202	2509071	45.949	1509.50			0.1
177) Pyrene	(5)	11.945(0.000)	202	2453104	48.100	1580.17			0.1
195) Benzo(a)anthracene	(5)	13.133(-0.000)	228	2006092	45.125	1482.42			0.1
196) Chrysene	(5)	13.168(-0.000)	228	1874134	44.244	1453.48			0.1
206) Benzo(b)fluoranthene	(6)	14.204(-0.000)	252	1735140	48.624	1597.37			0.1
208) Benzo(k)fluoranthene	(6)	14.233(-0.000)	252	1807608	49.644	1630.87			0.1
211) Benzo(a)pyrene	(6)	14.510(-0.000)	252	1619517	45.951	1509.55			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	15.633(0.000)	276	1795306	48.906	1606.65			0.1
220) Dibenz(a,h)anthracene	(6)	15.657(0.000)	278	1596649	51.705	1698.59			0.1
221) Benzo(g,h,i)perylene	(6)	15.933(0.000)	276	1519587	50.399	1655.68			0.1

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0077.d Injection date and time: **02-OCT-2015 12:50**
Data file Sample Info. Line: 49413MSD;8064455;2;3;MSD;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 13:05 Automation

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 11:47
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30.44 g

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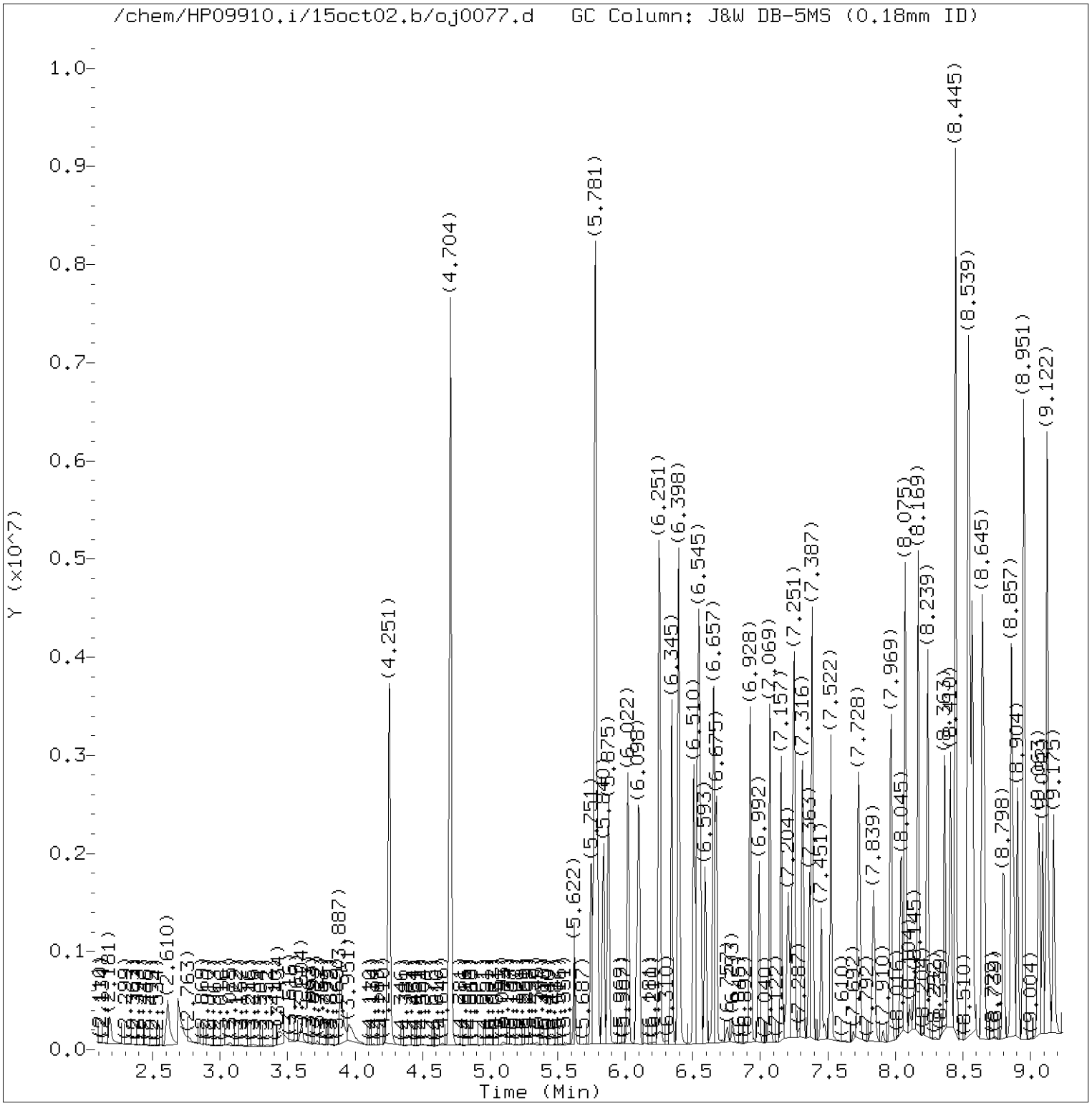
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/02/2015 at 13:33. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/02/2015 at 14:08. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

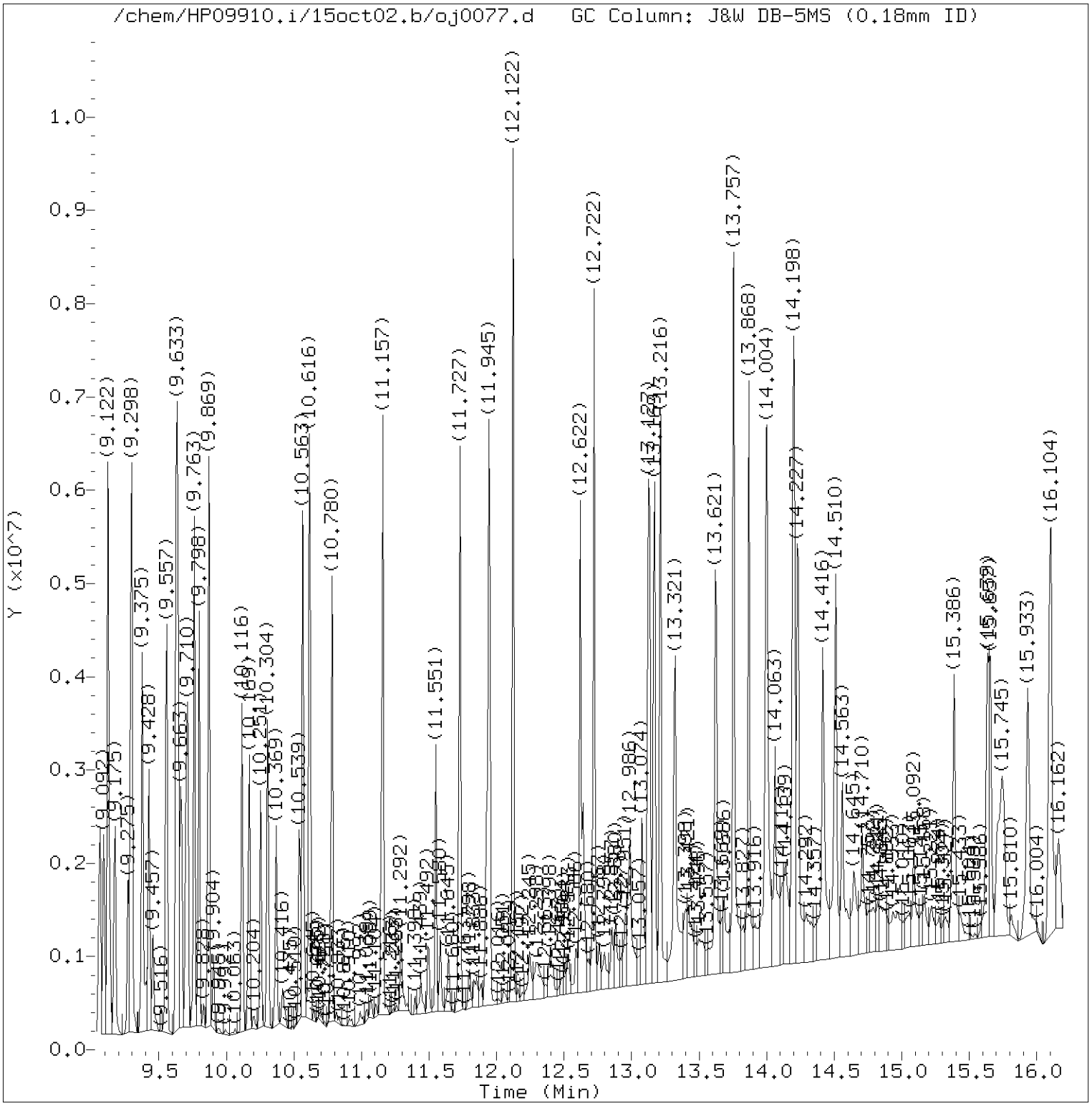
Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0077.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:50 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 13:05 Automation

Sample Name: 49413MSD Lab Sample ID: 8064455

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 13:33.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0077.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:50 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 13:05 Automation

Sample Name: 49413MSD Lab Sample ID: 8064455

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 13:33.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0077.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 12:50 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:47
Date, time and analyst ID of latest file update: 02-Oct-2015 13:05 Automation

Sample Name: 49413MSD Lab Sample ID: 8064455

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.087	152	157987	20.000
44)$Nitrobenzene-d5	(2)	6.651	82	1519444	84.825
65)*Naphthalene-d8	(2)	7.363	136	769748	20.000
66) Naphthalene	(2)	7.387	128	2069620	48.788
83) 2-Methylnaphthalene	(2)	8.075	142	1428364	47.788
93)$2-Fluorobiphenyl	(3)	8.445	172	2872667	92.799
109) Acenaphthylene	(3)	8.951	152	2196410	50.727
113)*Acenaphthene-d10	(3)	9.092	164	487692	20.000
114) Acenaphthene	(3)	9.122	153	1486705	49.607
126) Fluorene	(3)	9.628	166	1732884	50.309
153)*Phenanthrene-d10	(4)	10.539	188	865146	20.000
155) Phenanthrene	(4)	10.563	178	2375863	47.288
157) Anthracene	(4)	10.616	178	2516075	50.675
173) Fluoranthene	(4)	11.727	202	2509071	45.949
175)*Pyrene-d10	(5)	11.927	212	854877	20.000
177) Pyrene	(5)	11.945	202	2453104	48.100
179)$Terphenyl-d14	(5)	12.122	244	2905389	92.349
195) Benzo(a)anthracene	(5)	13.133	228	2006092	45.125
196) Chrysene	(5)	13.169	228	1874134	44.244
206) Benzo(b)fluoranthene	(6)	14.204	252	1735140	48.624
208) Benzo(k)fluoranthene	(6)	14.233	252	1807608	49.644
211) Benzo(a)pyrene	(6)	14.510	252	1619517	45.951
213)*Perylene-d12	(6)	14.563	264	568621	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	15.633	276	1795306	48.906
220) Dibenz(a,h)anthracene	(6)	15.657	278	1596649	51.705
221) Benzo(g,h,i)perylene	(6)	15.933	276	1519587	50.399

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/02/2015 at 13:33.
Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0073.d Injection date and time: **02-OCT-2015 11:11**
Data file Sample Info. Line: 272LDLCSO;272LDLCS;2;3;LCS;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 11:26 Automation

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 11:23
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30 g

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.087(-0.006)	681	152	167456 (0)	20.00	
65) Naphthalene-d8	7.363(0.000)	898	136	791295 (3)	20.00	
113) Acenaphthene-d10	9.092(0.000)	1192	164	518473 (6)	20.00	
153) Phenanthrene-d10	10.539(0.000)	1438	188	968960 (3)	20.00	
175) Pyrene-d10	11.927(0.000)	1674	212	1056557 (0)	20.00	
213) Perylene-d12	14.557(0.000)	2121	264	723354 (-7)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.657(-0.001)	82	1625171	88.257	88%		54 - 123
93) 2-Fluorobiphenyl	(3)	8.445(0.000)	172	3219588	97.831	98%		63 - 117
179) Terphenyl-d14	(5)	12.121(0.000)	244	3888833	100.013	100%		59 - 129

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	7.386(-0.000)	128	2145584	49.202	1640.06			0.1
83) 2-Methylnaphthalene	(2)	8.075(-0.000)	142	1481496	48.216	1607.20			0.1
109) Acenaphthylene	(3)	8.951(0.000)	152	2423557	52.650	1755.01			0.1
114) Acenaphthene	(3)	9.122(-0.000)	153	1650092	51.790	1726.35			0.1
126) Fluorene	(3)	9.628(-0.000)	166	1977620	54.005	1800.17			0.1
155) Phenanthrene	(4)	10.563(-0.000)	178	2870529	51.012	1700.40			0.1
157) Anthracene	(4)	10.616(-0.000)	178	3011959	54.163	1805.44			0.1
173) Fluoranthene	(4)	11.727(-0.000)	202	3043032	49.757	1658.57			0.1
177) Pyrene	(5)	11.945(0.000)	202	3132077	49.691	1656.36			0.1
195) Benzo(a)anthracene	(5)	13.133(-0.000)	228	2684880	48.865	1628.84			0.1
196) Chrysene	(5)	13.168(-0.000)	228	2645455	50.532	1684.39			0.1
206) Benzo(b)fluoranthene	(6)	14.204(-0.000)	252	2407241	53.028	1767.60			0.1
208) Benzo(k)fluoranthene	(6)	14.227(-0.000)	252	2283376	49.296	1643.19			0.1
211) Benzo(a)pyrene	(6)	14.510(-0.000)	252	2158660	48.146	1604.87			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	15.627(-0.000)	276	2248678	48.153	1605.11			0.1
220) Dibenz(a,h)anthracene	(6)	15.651(-0.000)	278	1960513	49.907	1663.58			0.1
221) Benzo(g,h,i)perylene	(6)	15.927(-0.000)	276	1896727	49.451	1648.36			0.1

Digitally signed by Catherine E. Bachman on 10/02/2015 at 11:37. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP09910.i/15oct02.b/oj0073.d Injection date and time: **02-OCT-2015 11:11**
Data file Sample Info. Line: 272LDLCSO;272LDLCS;2;3;LCS;;; Instrument ID: **HP09910.i** Batch: **15272SLD**
Date, time and analyst ID of latest file update: 02-Oct-2015 11:26 Automation

Blank Data file reference: **/chem/HP09910.i/15oct02.b/oj0072.d**

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: **4676**
Calibration date and time (Last Method Edit): 02-OCT-2015 11:23
Mid Level Daily Calibration Standard Reference: **/chem/HP09910.i/15oct02.b/oj0071.d**

Matrix: SOIL Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/Kg

Sample Concentration Formula: On-Column Amount * DF * (GpcCleanup+1)*Uf*Vt/(Vi*Ws)

Dilution Factor (DF): 1 GpcCleanup (No = 0, Yes = 1): 0 Unit Correction Factor (Uf): 1
Final Extract Volume (Vt): 1000 ul Volume Injected (Vi): 1 ul Sample Weight (Ws): 30 g

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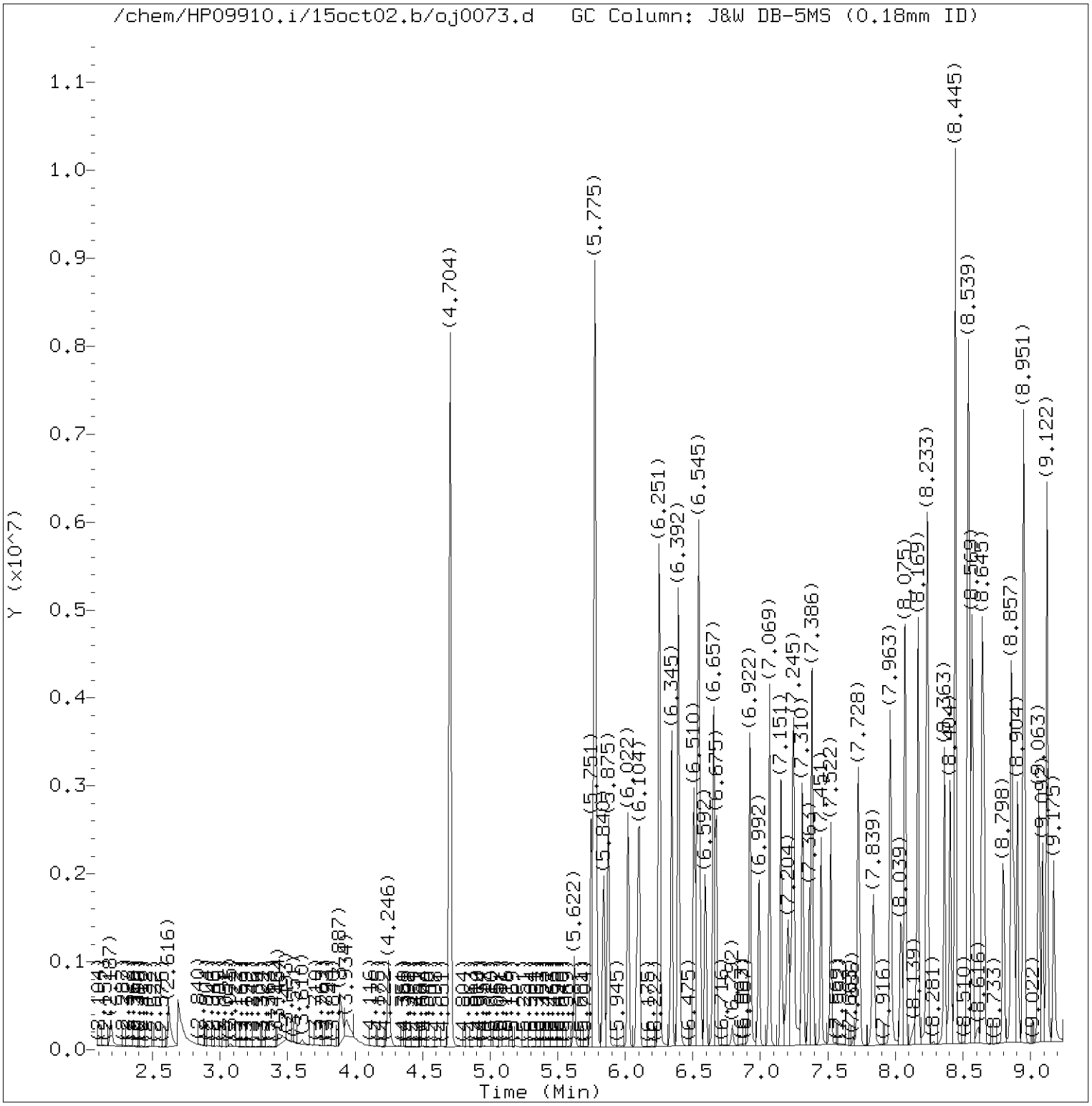
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/02/2015 at 11:37. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/02/2015 at 14:08. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0073.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 11:11 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:23
Date, time and analyst ID of latest file update: 02-Oct-2015 11:26 Automation

Sample Name: 272LDLCSO Lab Sample ID: 272LDLCS

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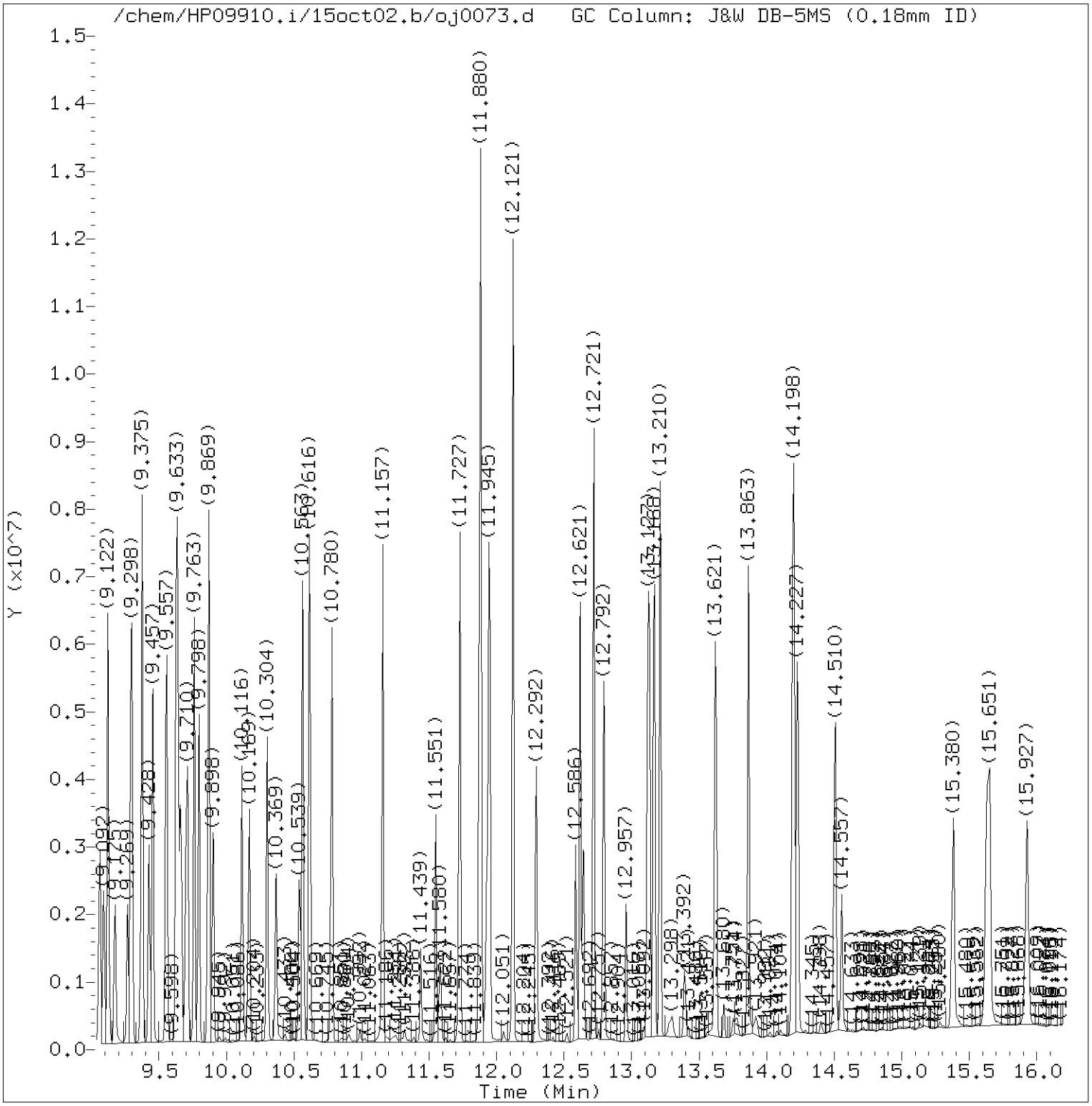
on 10/02/2015 at 11:37.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0073.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 11:11 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:23
Date, time and analyst ID of latest file update: 02-Oct-2015 11:26 Automation

Sample Name: 272LDLCSO Lab Sample ID: 272LDLCS

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 11:37.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP09910.i/15oct02.b/oj0073.d Instrument ID: HP09910.i
Injection date and time: 02-OCT-2015 11:11 Analyst ID: ceb05247

Method used: /chem/HP09910.i/15oct02.b/m8270c.m Sublist used: 4676
Calibration date and time: 02-OCT-2015 11:23
Date, time and analyst ID of latest file update: 02-Oct-2015 11:26 Automation

Sample Name: 272LDLCSO Lab Sample ID: 272LDLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.087	152	167456	20.000
44)$Nitrobenzene-d5	(2)	6.657	82	1625171	88.257
65)*Naphthalene-d8	(2)	7.363	136	791295	20.000
66) Naphthalene	(2)	7.386	128	2145584	49.202
83) 2-Methylnaphthalene	(2)	8.075	142	1481496	48.216
93)$2-Fluorobiphenyl	(3)	8.445	172	3219588	97.831
109) Acenaphthylene	(3)	8.951	152	2423557	52.650
113)*Acenaphthene-d10	(3)	9.092	164	518473	20.000
114) Acenaphthene	(3)	9.122	153	1650092	51.790
126) Fluorene	(3)	9.628	166	1977620	54.005
153)*Phenanthrene-d10	(4)	10.539	188	968960	20.000
155) Phenanthrene	(4)	10.563	178	2870529	51.012
157) Anthracene	(4)	10.616	178	3011959	54.163
173) Fluoranthene	(4)	11.727	202	3043032	49.757
175)*Pyrene-d10	(5)	11.927	212	1056557	20.000
177) Pyrene	(5)	11.945	202	3132077	49.691
179)$Terphenyl-d14	(5)	12.121	244	3888833	100.013
195) Benzo(a)anthracene	(5)	13.133	228	2684880	48.865
196) Chrysene	(5)	13.168	228	2645455	50.532
206) Benzo(b)fluoranthene	(6)	14.204	252	2407241	53.028
208) Benzo(k)fluoranthene	(6)	14.227	252	2283376	49.296
211) Benzo(a)pyrene	(6)	14.510	252	2158660	48.146
213)*Perylene-d12	(6)	14.557	264	723354	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	15.627	276	2248678	48.153
220) Dibenz(a,h)anthracene	(6)	15.651	278	1960513	49.907
221) Benzo(g,h,i)perylene	(6)	15.927	276	1896727	49.451

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/02/2015 at 11:37.
Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18444.i/15sep30.b/bi1404.d Injection date and time: **30-SEP-2015 11:05**
Data file Sample Info. Line: 271WDLCS2;271WDLCS;1;3;LCS;;; Instrument ID: **HP18444.i** Batch: **15271WAD**
Date, time and analyst ID of latest file update: 30-Sep-2015 13:05 lmh00956

Blank Data file reference: **/chem/HP18444.i/15sep30.b/bi1403.d**

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 30-SEP-2015 13:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18444.i/15sep30.b/bi1401a.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo * Vi)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 1000 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	5.473(0.000)	581	152	97456 (-12)	20.00	
65) Naphthalene-d8	6.703(0.000)	792	136	403586 (-17)	20.00	
113) Acenaphthene-d10	8.411(0.000)	1085	164	264505 (-17)	20.00	
153) Phenanthrene-d10	9.857(0.000)	1333	188	537902 (-19)	20.00	
175) Pyrene-d10	11.238(0.000)	1570	212	615381 (-20)	20.00	
213) Perylene-d12	13.867(0.000)	2021	264	492422 (-18)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.010(0.000)	82	866872	88.410	88%		46 - 148
93) 2-Fluorobiphenyl	(3)	7.770(0.000)	172	1618824	90.097	90%		61 - 112
179) Terphenyl-d14	(5)	11.436(-0.001)	244	2333844	104.045	104%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	6.726(0.000)	128	800639	36.876	36.88			0.1
83) 2-Methylnaphthalene	(2)	7.403(0.000)	142	595415	40.038	40.04			0.1
109) Acenaphthylene	(3)	8.271(-0.000)	152	1067681	43.245	43.24			0.1
114) Acenaphthene	(3)	8.446(-0.000)	153	788021	48.262	48.26			0.1
126) Fluorene	(3)	8.947(0.000)	166	942580	51.321	51.32			0.1
155) Phenanthrene	(4)	9.880(0.000)	178	1397374	48.111	48.11			0.1
157) Anthracene	(4)	9.932(-0.000)	178	1455020	49.784	49.78			0.1
173) Fluoranthene	(4)	11.040(0.000)	202	1560148	48.641	48.64			0.1
177) Pyrene	(5)	11.261(-0.000)	202	1651398	49.974	49.97			0.1
195) Benzo(a)anthracene	(5)	12.439(0.000)	228	1558333	50.809	50.81			0.1
196) Chrysene	(5)	12.474(0.000)	228	1608021	56.446	56.45			0.1
206) Benzo(b)fluoranthene	(6)	13.505(-0.000)	252	1620205	49.158	49.16			0.1
208) Benzo(k)fluoranthene	(6)	13.534(-0.000)	252	1580087	50.254	50.25			0.1
211) Benzo(a)pyrene	(6)	13.814(0.000)	252	1404246	45.726	45.73			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	14.939(0.000)	276	1571144	48.112	48.11			0.1
220) Dibenz(a,h)anthracene	(6)	14.962(0.000)	278	1358324	50.951	50.95			0.1
221) Benzo(g,h,i)perylene	(6)	15.242(0.000)	276	1322599	48.941	48.94			0.1

Digitally signed by Linda M. Hartenstine on 09/30/2015 at 13:06. Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18444.i/15sep30.b/bi1404.d Injection date and time: **30-SEP-2015 11:05**
Data file Sample Info. Line: 271WDLCS2;271WDLCS;1;3;LCS;;; Instrument ID: **HP18444.i** Batch: **15271WAD**
Date, time and analyst ID of latest file update: 30-Sep-2015 13:05 lmh00956

Blank Data file reference: **/chem/HP18444.i/15sep30.b/bi1403.d**

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 30-SEP-2015 13:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18444.i/15sep30.b/bi1401a.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo * Vi)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 1000 ml Volume Injected (Vi): 1 ul

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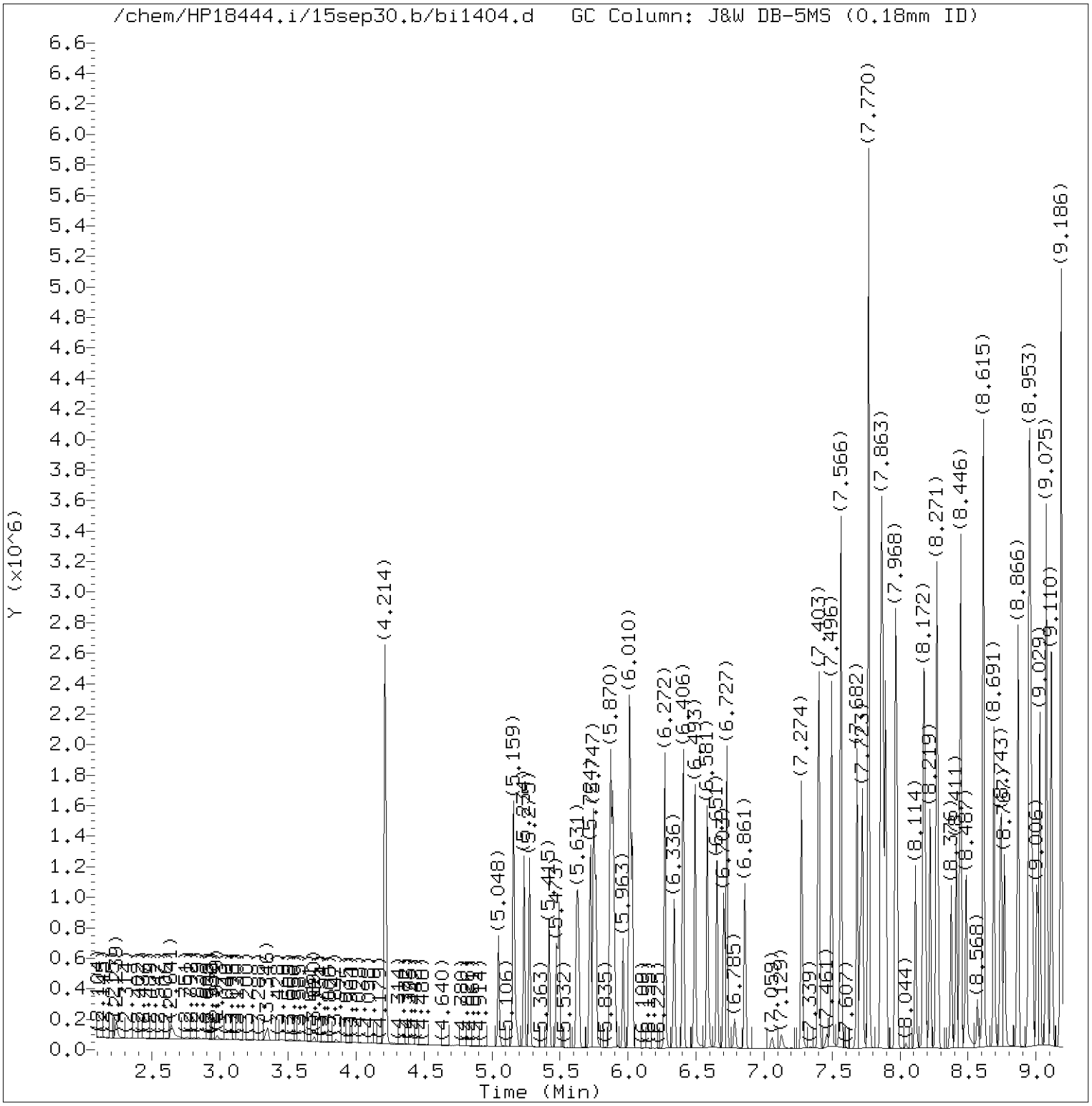
Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 09/30/2015 at 13:06. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Beth A. Rubino on 10/04/2015 at 21:17. Parallax ID: bar06484



Total Ion Chromatogram (TIC)

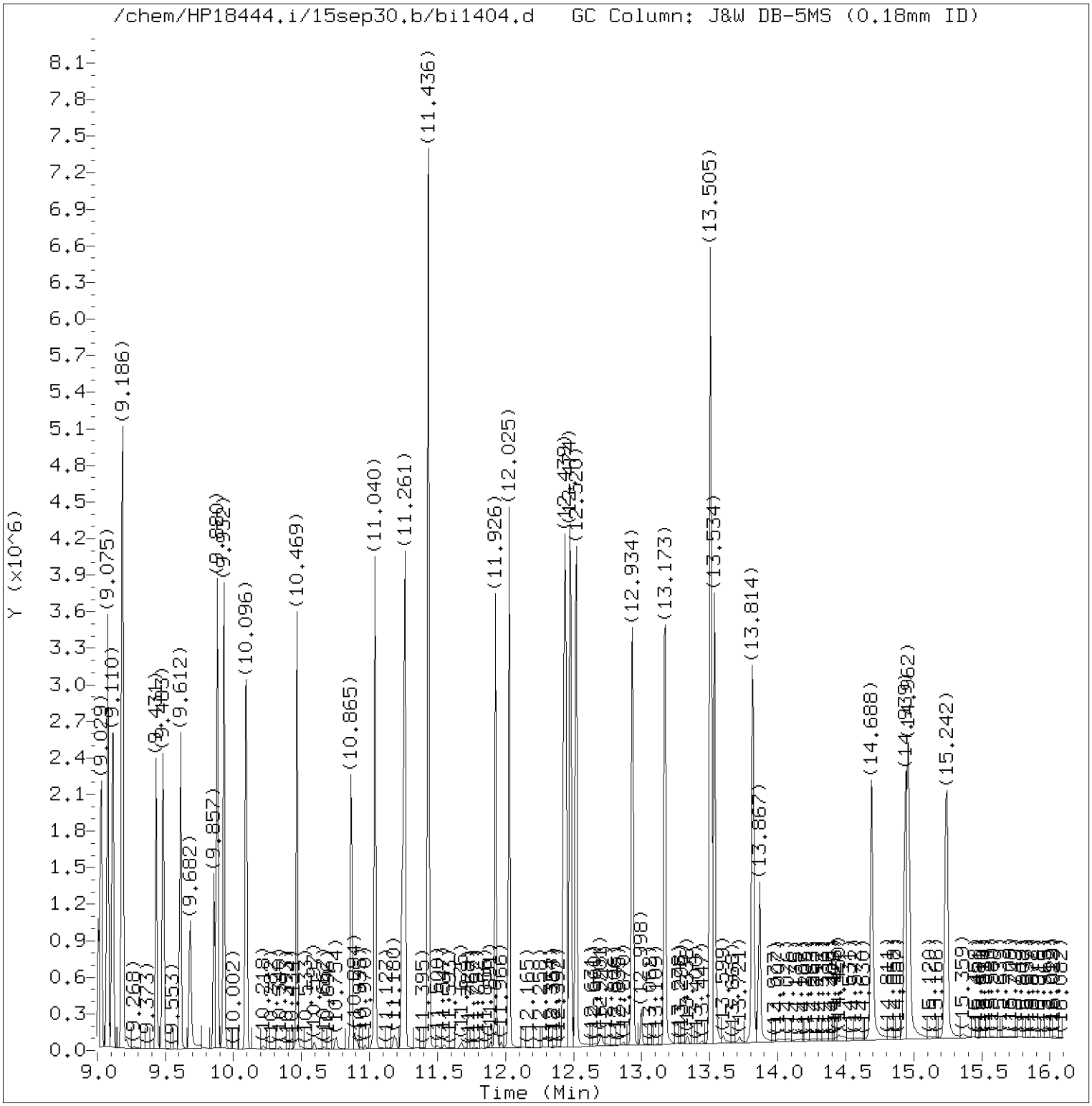
Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1404.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 11:05 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:05 lmh00956

Sample Name: 271WDLCS2 Lab Sample ID: 271WDLCS

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:06.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1404.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 11:05 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:05 lmh00956

Sample Name: 271WDLCS2 Lab Sample ID: 271WDLCS

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:06.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1404.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 11:05 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:05 lmh00956

Sample Name: 271WDLCS2 Lab Sample ID: 271WDLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	5.473	152	97456	20.000
44)$Nitrobenzene-d5	(2)	6.010	82	866872	88.410
65)*Naphthalene-d8	(2)	6.703	136	403586	20.000
66) Naphthalene	(2)	6.727	128	800639	36.876
83) 2-Methylnaphthalene	(2)	7.403	142	595415	40.038
93)$2-Fluorobiphenyl	(3)	7.770	172	1618824	90.097
109) Acenaphthylene	(3)	8.271	152	1067681	43.245
113)*Acenaphthene-d10	(3)	8.411	164	264505	20.000
114) Acenaphthene	(3)	8.446	153	788021	48.262
126) Fluorene	(3)	8.947	166	942580	51.321
153)*Phenanthrene-d10	(4)	9.857	188	537902	20.000
155) Phenanthrene	(4)	9.880	178	1397374	48.111
157) Anthracene	(4)	9.932	178	1455020	49.784
173) Fluoranthene	(4)	11.040	202	1560148	48.641
175)*Pyrene-d10	(5)	11.238	212	615381	20.000
177) Pyrene	(5)	11.261	202	1651398	49.974
179)$Terphenyl-d14	(5)	11.436	244	2333844	104.045
195) Benzo(a)anthracene	(5)	12.439	228	1558333	50.809
196) Chrysene	(5)	12.474	228	1608021	56.446
206) Benzo(b)fluoranthene	(6)	13.505	252	1620205	49.158
208) Benzo(k)fluoranthene	(6)	13.534	252	1580087	50.254
211) Benzo(a)pyrene	(6)	13.814	252	1404246	45.726
213)*Perylene-d12	(6)	13.867	264	492422	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	14.939	276	1571144	48.112
220) Dibenz(a,h)anthracene	(6)	14.962	278	1358324	50.951
221) Benzo(g,h,i)perylene	(6)	15.242	276	1322599	48.941

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:06.
Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18444.i/15sep30.b/bi1405.d
Injection date and time: **30-SEP-2015 11:27**
Data file Sample Info. Line: 271WDLCSD2;271WDLCSD;1;3;LCSD;;;
Instrument ID: **HP18444.i** Batch: **15271WAD**
Date, time and analyst ID of latest file update: 30-Sep-2015 13:05 lmh00956

Blank Data file reference: **/chem/HP18444.i/15sep30.b/bi1403.d**

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 30-SEP-2015 13:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18444.i/15sep30.b/bi1401a.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo * Vi)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 1000 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	5.473(0.000)	581	152	97151 (-13)	20.00	
65) Naphthalene-d8	6.703(0.000)	792	136	428842 (-12)	20.00	
113) Acenaphthene-d10	8.411(0.000)	1085	164	274695 (-13)	20.00	
153) Phenanthrene-d10	9.857(0.000)	1333	188	558822 (-16)	20.00	
175) Pyrene-d10	11.238(0.000)	1570	212	615283 (-20)	20.00	
213) Perylene-d12	13.867(0.000)	2021	264	466443 (-23)	20.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	6.010(0.000)	82	897307	86.124	86%		46 - 148
93) 2-Fluorobiphenyl	(3)	7.770(0.000)	172	1702106	91.218	91%		61 - 112
179) Terphenyl-d14	(5)	11.430(0.000)	244	2352437	104.891	105%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	6.726(-0.000)	128	818012	35.457	35.46			0.1
83) 2-Methylnaphthalene	(2)	7.403(-0.000)	142	614229	38.871	38.87			0.1
109) Acenaphthylene	(3)	8.271(-0.000)	152	1098507	42.843	42.84			0.1
114) Acenaphthene	(3)	8.446(-0.000)	153	819197	48.310	48.31			0.1
126) Fluorene	(3)	8.947(-0.000)	166	987448	51.770	51.77			0.1
155) Phenanthrene	(4)	9.880(-0.000)	178	1423727	47.183	47.18			0.1
157) Anthracene	(4)	9.932(-0.000)	178	1498445	49.350	49.35			0.1
173) Fluoranthene	(4)	11.040(-0.000)	202	1602971	48.105	48.11			0.1
177) Pyrene	(5)	11.261(-0.000)	202	1659222	50.219	50.22			0.1
195) Benzo(a)anthracene	(5)	12.438(-0.000)	228	1534262	50.032	50.03			0.1
196) Chrysene	(5)	12.474(-0.000)	228	1557143	54.669	54.67			0.1
206) Benzo(b)fluoranthene	(6)	13.505(-0.000)	252	1532948	49.101	49.10			0.1
208) Benzo(k)fluoranthene	(6)	13.534(0.000)	252	1471786	49.417	49.42			0.1
211) Benzo(a)pyrene	(6)	13.814(0.000)	252	1315983	45.238	45.24			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	14.939(-0.000)	276	1440674	46.574	46.57			0.1
220) Dibenz(a,h)anthracene	(6)	14.962(-0.000)	278	1250498	49.519	49.52			0.1
221) Benzo(g,h,i)perylene	(6)	15.242(-0.000)	276	1207797	47.182	47.18			0.1

Digitally signed by Linda M. Hartenstine on 09/30/2015 at 13:06. Target 3.5 esignature user ID: lmh00956

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18444.i/15sep30.b/bi1405.d Injection date and time: **30-SEP-2015 11:27**
Data file Sample Info. Line: 271WDLCSD2;271WDLCSD;1;3;LCSD;;; Instrument ID: **HP18444.i** Batch: **15271WAD**
Date, time and analyst ID of latest file update: 30-Sep-2015 13:05 lmh00956

Blank Data file reference: **/chem/HP18444.i/15sep30.b/bi1403.d**

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 30-SEP-2015 13:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18444.i/15sep30.b/bi1401a.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo * Vi)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 1000 ml Volume Injected (Vi): 1 ul

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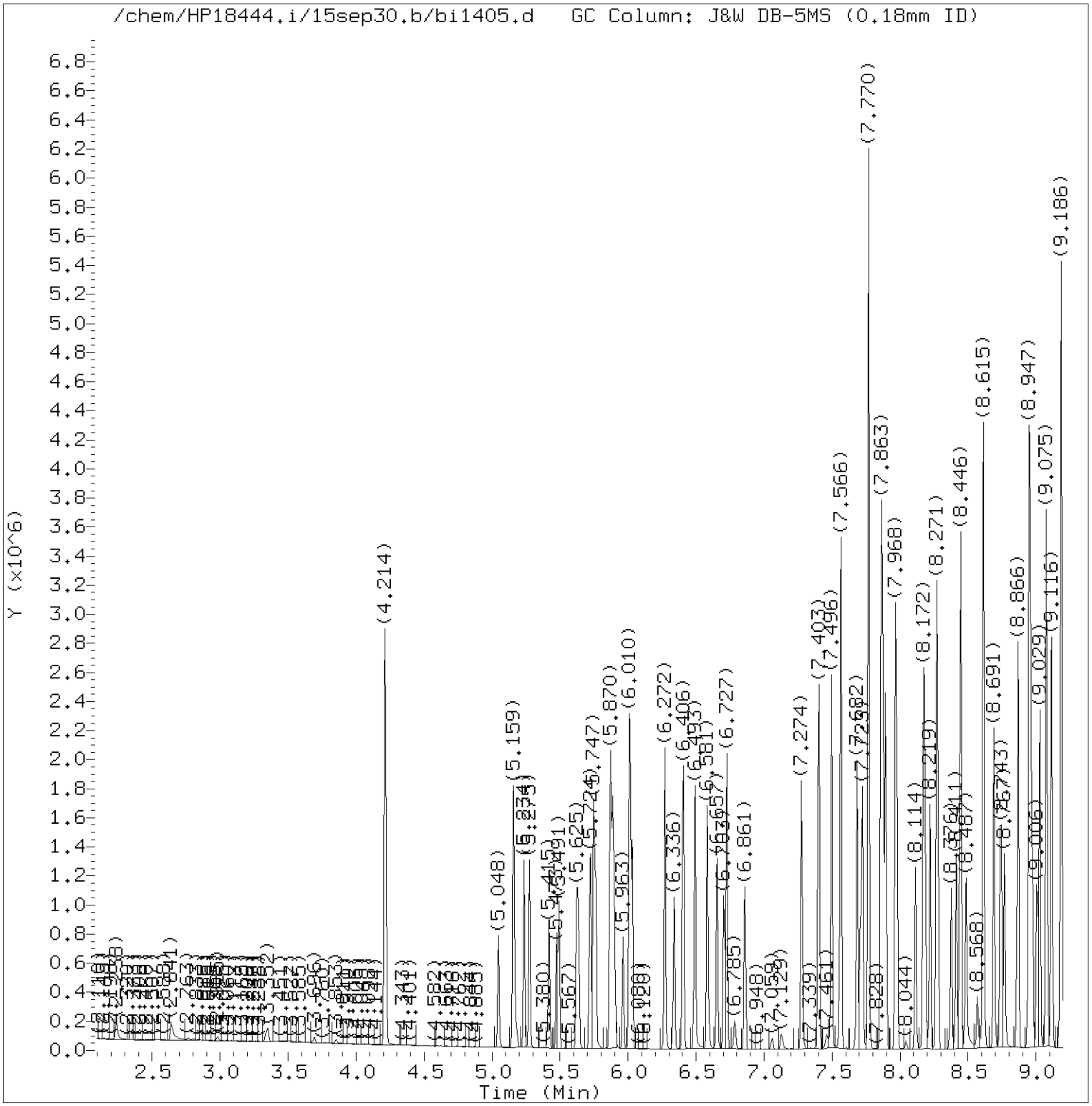
Total number of targets = 17

Digitally signed by Linda M. Hartenstine on 09/30/2015 at 13:06. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Beth A. Rubino on 10/04/2015 at 21:17. Parallax ID: bar06484



Total Ion Chromatogram (TIC)

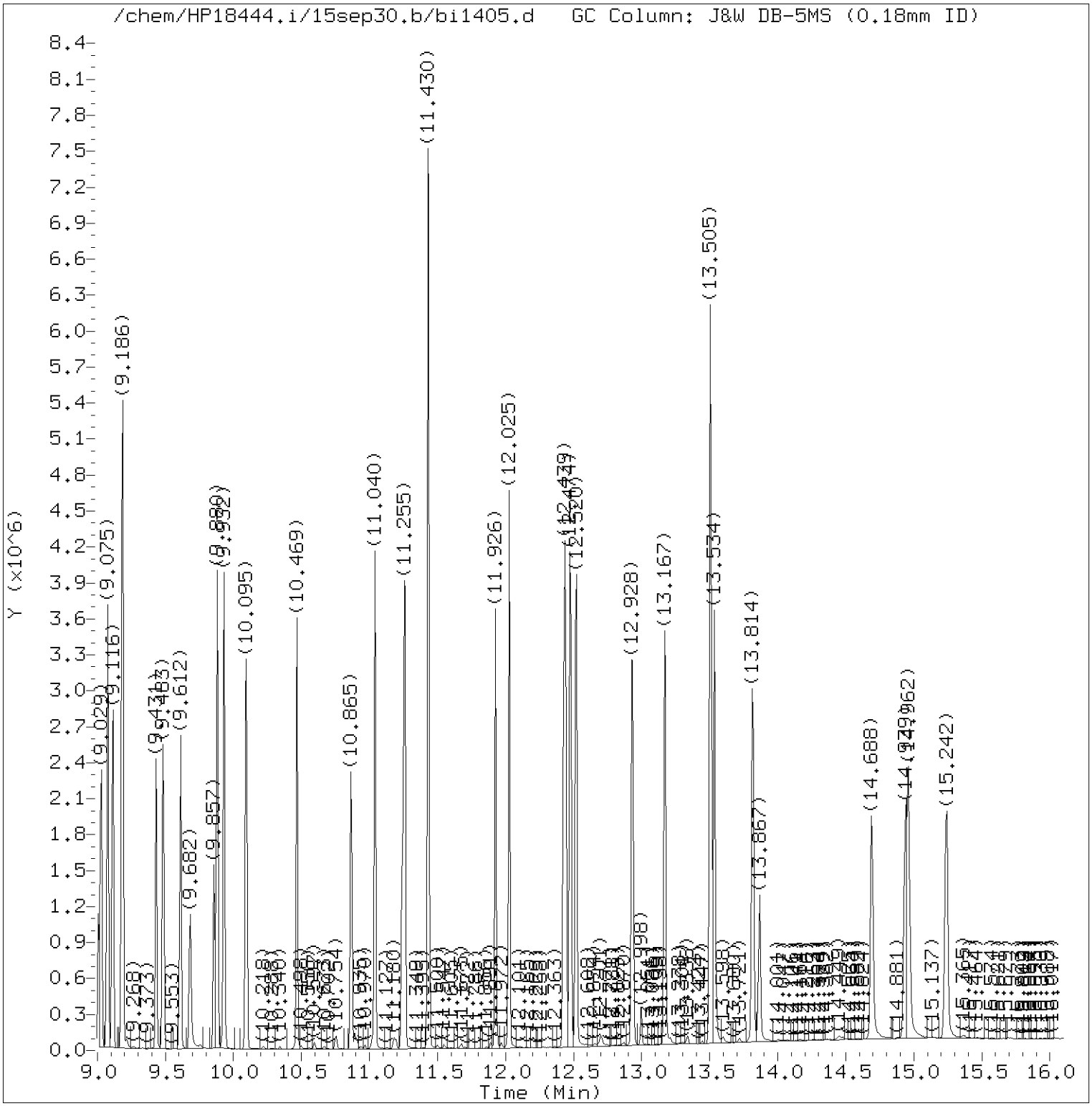
Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1405.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 11:27 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:05 lmh00956

Sample Name: 271WDLCSD2 Lab Sample ID: 271WDLCSD

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:06.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1405.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 11:27 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:05 lmh00956

Sample Name: 271WDLCSD2 Lab Sample ID: 271WDLCSD

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:06.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP18444.i/15sep30.b/bi1405.d Instrument ID: HP18444.i
Injection date and time: 30-SEP-2015 11:27 Analyst ID: lmh00956

Method used: /chem/HP18444.i/15sep30.b/m8270c.m Sublist used: 4656
Calibration date and time: 30-SEP-2015 13:01
Date, time and analyst ID of latest file update: 30-Sep-2015 13:05 lmh00956

Sample Name: 271WDLCSD2 Lab Sample ID: 271WDLCSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	5.473	152	97151	20.000
44)$Nitrobenzene-d5	(2)	6.010	82	897307	86.124
65)*Naphthalene-d8	(2)	6.703	136	428842	20.000
66) Naphthalene	(2)	6.727	128	818012	35.457
83) 2-Methylnaphthalene	(2)	7.403	142	614229	38.871
93)$2-Fluorobiphenyl	(3)	7.770	172	1702106	91.218
109) Acenaphthylene	(3)	8.271	152	1098507	42.843
113)*Acenaphthene-d10	(3)	8.411	164	274695	20.000
114) Acenaphthene	(3)	8.446	153	819197	48.310
126) Fluorene	(3)	8.947	166	987448	51.770
153)*Phenanthrene-d10	(4)	9.857	188	558822	20.000
155) Phenanthrene	(4)	9.880	178	1423727	47.183
157) Anthracene	(4)	9.932	178	1498445	49.350
173) Fluoranthene	(4)	11.040	202	1602971	48.105
175)*Pyrene-d10	(5)	11.238	212	615283	20.000
177) Pyrene	(5)	11.261	202	1659222	50.219
179)$Terphenyl-d14	(5)	11.430	244	2352437	104.891
195) Benzo(a)anthracene	(5)	12.439	228	1534262	50.032
196) Chrysene	(5)	12.474	228	1557143	54.669
206) Benzo(b)fluoranthene	(6)	13.505	252	1532948	49.101
208) Benzo(k)fluoranthene	(6)	13.534	252	1471786	49.417
211) Benzo(a)pyrene	(6)	13.814	252	1315983	45.238
213)*Perylene-d12	(6)	13.867	264	466443	20.000
219) Indeno(1,2,3-cd)pyrene	(6)	14.939	276	1440674	46.574
220) Dibenz(a,h)anthracene	(6)	14.962	278	1250498	49.519
221) Benzo(g,h,i)perylene	(6)	15.242	276	1207797	47.182

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 09/30/2015 at 13:06.
Target 3.5 esignature user ID: lmh00956

Extraction/Distillation/Digestion Logs

Semivolatiles by GC/MS

Organic Extraction Batchlog Assigned to: 2807 Nicholas Shroyer Reviewed by: 09/29/15 Start Date: 9-28-15 Start time: 18:30

15271WAD026

Tech 1: NS2807 Tech 2:

Dept: 26 Prep Analysis: 07807 BNA Water Extraction PAHs in Water by GC/MS

QC	Sample Code	Amt (mL)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH 2	BC	Comments
BLANKA	SBLKWD271	1000	SS1525426A	1.0	—	—	1.0	7	✓	—	Tap H_2O
LCSA	271WDLCS	1000	SS1525426A	1.0	MS1525926A	1.0	1.0		✓	—	↓
LCSDA	271WDLCSD	1000	SS1525426A	1.0	MS1525926A	1.0	1.0		✓	—	↓

Solvent Used	Lot No.
Methylene Chloride	154085
Sodium Sulfate	15267A
Sulfuric Acid	155108

Spike Solutions: Witness:
MS1525926A LCS SPIKE MIX
SS1525426A BNA SURROGATE STANDARD

Sample #	Sample Code	Amt (mL)	SS/IS Sol.	Amt (mL)	FV (mL)	pH	pH 2	BC	Comments	Analyses	List	Due Date	Prio
1 8064460	165FB	1056	SS1525426A	1.0	1.0	7	✓	43A	clear	07805	4656	10/07/2015	N
2 8064467	163FB	1031	SS1525426A	↓	1.0		✓	43A	↓	07805	4656	10/07/2015	N
3 8064471	161FB	1037	SS1525426A	↓	1.0		✓	43A	↓	07805	4656	10/07/2015	N

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N/A NS2807 9-28-15

Rack ID:		Work Station	H_2O Bench 2	Micro Temp 100?	
Internal Standard	LCISQ4W	Balance #	15661		

S-bath ID 1	87° C	S-bath ID 4	87° C	N-Evap	C	M-vap	C	15271WAD026

Documented temps are NIST corrected.

DF = Dilution Factor FV = Final Volume

Organic Extraction Batchlog Assigned to: 6740 Jessica Velez Reviewed by: LEB5247 10/2/15 Start Date: 9/30/15 Start time: 9:00

15272SLD026 Tech 1: QM6740 Tech 2: _____

Dept: 26 Prep Analysis: 10814 BNA Soil Microwave PAH PAH 8270 (microwave)

QC	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	BC	Comments
8064454MS	49413	30.45	SS1525426A	1.0	MS1525926A	1.0	1	Z	Z	301A	Sandy soil
8064455MSD	49413	30.44	SS1525426A	↓	MS1525926A	1.0	1	Z	Z	301A	↓
BLANKA	SBLKLD272	30.0	SS1525426A	↓	—	—	1	Z	Z	Z	Na2SO4
LCSA	272LDLCS	30.0	SS1525426A	↓	MS1525926A	1.0	1	Z	Z	Z	↓

Solvent Used	Lot No.
1:1 Methylene Chloride/Acetone	185091515A
Methylene Chloride	118677
Sodium Sulfate	15269A

Spike Solutions: Witness: _____
MS1525926A LCS SPIKE MIX
SS1525426A BNA SURROGATE STANDARD

Sample #	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	FV (mL)	pH	pH	BC	Comments	Analyses	List	Due Date	Prio
1	8064150	26F1A	30.0	SS1525426A	1.0	1	Z	Z	36B	Dirt W/ ROCKS	10724	1850	10/02/2015	S
2	8064152	26F2A	30.2	SS1525426A	↓	1	Z	Z	36B	Red Soil	10724	1850	10/02/2015	S
3	8064450	49113	30.38	SS1525426A	↓	1	Z	Z	301A	Soil;Wet;Sandy;Brown	10724	4676	10/07/2015	N
4	8064451	49213	30.26	SS1525426A	↓	1	Z	Z	301A	Soil;Wet;Sandy;Brown	10724	4676	10/07/2015	N
5	8064452	49313	30.35	SS1525426A	↓	1	Z	Z	301A	Organic Matter;Soil;Brown	10724	4676	10/07/2015	N
6	8064453BKG	49413	30.16	SS1525426A	↓	1	Z	Z	301A	Soil;Sandy;Brown	10724	4676	10/07/2015	N
7	8064457	494FD	30.23	SS1525426A	↓	1	Z	Z	301A	Organic Matter;Soil;Brown	10724	4676	10/07/2015	N
8	8064458	49513	30.08	SS1525426A	↓	1	Z	Z	301A	Organic Matter;Soil;Brown	10724	4676	10/07/2015	N
9	8064459	49613	30.45	SS1525426A	↓	1	Z	Z	301A	Soil;Sandy;Brown	10724	4676	10/07/2015	N
10	8064461	-479-	30.36	SS1525426A	↓	1	Z	Z	301A	Soil;Sandy;Brown	10724	4676	10/07/2015	N
11	8064462	-480-	30.38	SS1525426A	↓	1	Z	Z	301A	Soil;Sandy;Brown	10724	4676	10/07/2015	N
12	8064463	-489-	30.34	SS1525426A	↓	1	Z	Z	301A	Soil;Wet;Sandy;Brown	10724	4676	10/07/2015	N
13	8064464	-490-	30.48	SS1525426A	↓	1	Z	Z	301A	Soil;Sandy;Brown	10724	4676	10/07/2015	N
14	8064465	48713	30.41	SS1525426A	↓	1	Z	Z	301A	Soil;Wet;Sandy;Brown	10724	4676	10/07/2015	N
15	8064466	48813	30.35	SS1525426A	↓	1	Z	Z	301A	Soil;Sandy;Brown	10724	4676	10/07/2015	N
16	8064468	-498-	30.37	SS1525426A	↓	1	Z	Z	301A	Organic Matter;Soil;Wet;Brown	10724	4676	10/07/2015	N
17	8064469	-499-	30.49	SS1525426A	↓	1	Z	Z	301A	Organic Matter;Sludge;Soil;Wet;Black	10724	4676	10/07/2015	N
18	8064470	-497-	30.35	SS1525426A	↓	1	Z	Z	301A	Organic Matter;Sludge;Wood;Soil;Wet;Bl	10724	4676	10/07/2015	N

PSC27 Page 1016 of 1493

Rack ID:		Work Station	MICRO	Micro Temp 100?
Internal Standard	LC1561915	Balance #	13	✓

S-bath ID 6 98 C | S-bath ID — C | N-Evap — C | M-vap — C | N/A | 15272SLD026

Documented temps are NIST corrected.

DF = Dilution Factor FV = Final Volume

Metals in Liquid Data

Case Narrative/Conformance Summary

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC27

ICP Metals

Fraction: Metals in Liquid

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8064460	0165-13 FB	X		1	Field Blank
8064467	0163-13 FB	X		1	Field Blank
8064471	0161-13 FB	X		1	Field Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

The instrument detection limits (IDLs) are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The method detection limits (MDLs) are used for determining all other U flags.

Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC27

ICP Metals

Fraction: Metals in Liquid

Abbreviation Key

BKG – Background	AF - Cold Vapor Atomic Fluorescence
DUP – Duplicate	U - Below MDL
MS - Matrix Spike	B - Below LOQ
MSD - Matrix Spike Dup	N - Matrix Spike out of specifications
B – Blank	* - Duplicate out of specifications
Q - Laboratory Control Sample	E - Matrix Effects exist as proven by Serial Dilution or Spiked Dilution
Y - Laboratory Control Sample Duplicate	A - Post Digestion Spike
P - ICP Atomic Emission Spectrometer	L - Serial Dilution
MS - ICP Mass Spectrometry	R - Internal Standard Relative Intensity OOS
CV - Cold Vapor	NR - Not Required

Sample Data

Metals in Liquid

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8064460 % Solids: 0.0
Concentration Units: UG/L Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.54	U		MS
7440-39-3	Barium	0.70	B		P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	0.70	U		MS
7440-50-8	Copper	4.5	B		P
7439-92-1	Lead	0.13	U		MS
7439-97-6	Mercury	0.056	B		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P
7440-66-6	Zinc	3.9	U		P

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8064467 % Solids: 0.0
Concentration Units: UG/L Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.54	U		MS
7440-39-3	Barium	0.30	U		P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	0.70	U		MS
7440-50-8	Copper	2.5	U		P
7439-92-1	Lead	0.13	U		MS
7439-97-6	Mercury	0.063	B		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P
7440-66-6	Zinc	3.9	U		P

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8064471 % Solids: 0.0
Concentration Units: UG/L Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.54	U		MS
7440-39-3	Barium	0.92	B		P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	0.70	U		MS
7440-50-8	Copper	9.6	B		P
7439-92-1	Lead	0.13	U		MS
7439-97-6	Mercury	0.067	B		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P
7440-66-6	Zinc	3.9	U		P

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

Quality Control and Calibration Summary Forms

Metals in Liquid

QUALITY CONTROL REFERENCE LIST

SDG No.: PSC27
Matrix: WATER

Analyte	Batch ID	Lab Sample ID
Barium	P27548D	8064460
Cadmium		8064467
Copper		8064471
Silver		P27548DB
Zinc		P27548DQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

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QUALITY CONTROL REFERENCE LIST

SDG No.: PSC27
Matrix: WATER

Analyte	Batch ID	Lab Sample ID
Arsenic	P27550D	8064460
Chromium		8064467
Lead		8064471
Selenium		P27550DB
		P27550DQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

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QUALITY CONTROL REFERENCE LIST

SDG No.: PSC27
Matrix: WATER

Analyte	Batch ID	Lab Sample ID
Mercury	P27313C	8064460
		8064467
		8064471
		P27313CB
		P27313CQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC27

Method: P
Run Name: 1527906T71
Calibration Date(s): 10/06/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Barium		600.0	619.84	103.3	500.0	531.11	106.2	500.0	546.64	109.3
Cadmium		600.0	614.09	102.3	500.0	516.16	103.2	500.0	535.62	107.1
Copper		600.0	624.58	104.1	500.0	532.81	106.6	500.0	546.86	109.4
Silver		600.0	619.14	103.2	500.0	524.26	104.9	500.0	538.46	107.7
Zinc		600.0	611.83	102.0	500.0	516.27	103.3	500.0	535.55	107.1

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC27

Method: P
Run Name: 1527906T71
Calibration Date(s): 10/06/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Barium					500.0	517.74	103.5	500.0	528.30	105.7
Cadmium					500.0	510.48	102.1	500.0	519.21	103.8
Copper					500.0	525.62	105.1	500.0	529.96	106.0
Silver					500.0	515.24	103.0	500.0	520.99	104.2
Zinc					500.0	511.17	102.2	500.0	519.43	103.9

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC27

Method: MS
Run Name: 1527806E05
Calibration Date(s): 10/05/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Arsenic	75	500.0	510.94	102.2	250.0	262.57	105.0	250.0	258.44	103.4
Chromium	52	500.0	506.14	101.2	250.0	264.33	105.7	250.0	249.52	99.8
Lead	208	50.0	49.25	98.5	25.0	25.57	102.3	25.0	25.25	101.0
Selenium	78	50.0	48.33	96.7	25.0	25.38	101.5	25.0	25.30	101.2

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC27

Method: MS
Run Name: 1527806E05
Calibration Date(s): 10/05/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Arsenic	75				250.0	274.73	109.9	250.0	277.91	111.2*
Chromium	52				250.0	274.51	109.8	250.0	270.38	108.2
Lead	208				25.0	25.44	101.8	25.0	26.14	104.6
Selenium	78				25.0	26.30	105.2	25.0	26.61	106.4

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC27

Method: MS
Run Name: 1527809E05
Calibration Date(s): 10/05/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Arsenic	75	500.0	503.56	100.7	250.0	244.60	97.8	250.0	239.32	95.7
Chromium										
Lead										
Selenium										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC27

Method: MS
Run Name: 1527809E05
Calibration Date(s): 10/05/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Arsenic	75				250.0	244.88	98.0	250.0	251.79	100.7
Chromium										
Lead										
Selenium										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC27

Method: CV
Run Name: 1527501M07
Calibration Date(s): 10/02/2015
Concentration Units: UG/L

		Initial Calibration			Continuing Calibration					
Analyte	Mass	True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury		2.5	2.50	100.0	1.0	0.98	98.0	1.0	0.99	99.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC27

Method: CV
Run Name: 1527501M07
Calibration Date(s): 10/02/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.98	98.0	1.0	0.99	99.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC27

Method: CV
Run Name: 1527501M07
Calibration Date(s): 10/02/2015
Concentration Units: UG/L

		Initial Calibration			Continuing Calibration					
Analyte	Mass	True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	1.00	100.0	1.0	1.00	100.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: PSC27

Method: P
Run Name: 1527906T71
Calibration Date(s): 10/06/2015
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Barium		5.0	5.24	104.8	5.46	109.2
Cadmium		5.0	5.31	106.2	5.62	112.4
Copper		10.0	9.10	91.0	8.82	88.2
Silver		5.0	5.78	115.6	4.90	98.0
Zinc		20.0	19.94	99.7	20.94	104.7

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: PSC27

Method: MS
Run Name: 1527806E05
Calibration Date(s): 10/05/2015
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Arsenic	75	2.0	2.03	101.5	2.26	113.0
Chromium	52	2.0	1.83	91.5	2.24	112.0
Lead	208	1.0	1.00	100.0	1.01	101.0
Selenium	78	2.0	2.05	102.5	2.20	110.0

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: PSC27

Method: MS
Run Name: 1527809E05
Calibration Date(s): 10/05/2015
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Arsenic	75	2.0	2.26	113.0	2.04	102.0
Chromium						
Lead						
Selenium						

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: PSC27

Method: CV
Run Name: 1527501M07
Calibration Date(s): 10/02/2015
Concentration Units: UG/L

			Initial		Final	
Analyte	Mass	True	Found	%R	Found	%R
Mercury		0.2	0.19	95.0	0.19	95.0

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: P
Run Name: 1527906T71
Calibration Date(s): 10/06/2015
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Barium		0.33	U	0.33	U	0.33	U	0.33	U		0.300	U	P27548DB
Cadmium		0.33	U	0.33	U	0.33	U	0.33	U		0.300	U	P27548DB
Copper		-1.8	B	1.7	U	1.7	U	1.7	U		2.500	U	P27548DB
Silver		0.83	U	0.83	U	0.83	U	0.83	U		1.400	U	P27548DB
Zinc		2.0	U	2.0	U	2.0	U	2.0	U		3.900	U	P27548DB

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC27

Method: P
Run Name: 1527906T71
Calibration Date(s): 10/06/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Barium				0.36	B								
Cadmium				0.33	U								
Copper				1.7	U								
Silver				0.83	U								
Zinc				2.0	U								

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

Method: MS
Run Name: 1527806E05
Calibration Date(s): 10/05/2015
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Arsenic	75	0.47	U	0.47	U	0.47	U	0.47	U				
Chromium	52	0.40	U	0.40	U	0.40	U	0.40	U	52	0.700	U	P27550DB
Lead	208	0.030	U	0.030	U	0.030	U	0.030	U	208	0.130	U	P27550DB
Selenium	78	0.50	U	0.50	U	0.50	U	0.50	U	78	0.500	U	P27550DB

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC27

Method: MS
Run Name: 1527806E05
Calibration Date(s): 10/05/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Arsenic	75			0.47	U								
Chromium	52			0.40	U								
Lead	208			0.030	U								
Selenium	78			0.50	U								

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC27

Method: MS
Run Name: 1527809E05
Calibration Date(s): 10/05/2015
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Arsenic	75	0.47	U	0.47	U	0.47	U	0.47	U	75	0.540	U	P27550DB
Chromium													
Lead													
Selenium													

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC27

Method: MS
Run Name: 1527809E05
Calibration Date(s): 10/05/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Arsenic	75			0.47	U								
Chromium													
Lead													
Selenium													

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC27

Method: CV
Run Name: 1527501M07
Calibration Date(s): 10/02/2015
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury		0.050	U	0.050	U	0.050	U	0.050	U		0.050	U	P27313CB

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC27

Method: CV
Run Name: 1527501M07
Calibration Date(s): 10/02/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury				0.050	U	0.050	U	0.050	U				

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: PSC27

Instrument ID: 16315
Run Name: 1527906T71
Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	500000	500000	502957	100.6	514792.8	103.0	544528	108.9	531840.7	106.4
Barium	0	500	1		525.4	105.1	1		543.6	108.7
Cadmium	0	1000	0		963.3	96.3	0		961.3	96.1
Calcium	500000	500000	501396	100.3	513891.9	102.8	541124	108.2	532386.7	106.5
Copper	0	500	0		548.0	109.6	1		571.6	114.3
Iron	200000	200000	200776	100.4	206182.6	103.1	217666	108.8	212613.5	106.3
Magnesium	500000	500000	548422	109.7	584574.0	116.9	652255	130.5	630609.1	126.1
Silver	0	200	-3		218.0	109.0	-4		226.6	113.3
Zinc	0	1000	4		1015.0	101.5	3		1014.6	101.5

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: PSC27

Instrument ID: 19204
Run Name: 1527806E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	10000	10000	9629	96.3	9983.5	99.8
Arsenic	75	0	20	0		20.2	101.0
Calcium	44	10000	10000	9416	94.2	9444.1	94.4
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium	52	0	20	0		19.5	97.5
Iron	57	10000	10000	9838	98.4	9850.3	98.5
Lead	208	0	0	0		0.0	
Magnesium	24	10000	10000	9668	96.7	9749.1	97.5
Molybdenum	98	200	200	202	101.0	206.1	103.1
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	10000	10000	9822	98.2	9769.8	97.7
Selenium	78	0	0	0		0.0	
Sodium	23	10000	10000	9766	97.7	9861.5	98.6
Sulfur	34	10000	10000	NA		NA	
Titanium	47	200	200	197	98.5	205.9	103.0

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: PSC27

Instrument ID: 19204
Run Name: 1527806E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	10000	10000	10571	105.7	10625.0	106.3
Arsenic	75	0	20	0		21.2	106.0
Calcium	44	10000	10000	10378	103.8	9658.0	96.6
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium	52	0	20	0		20.5	102.5
Iron	57	10000	10000	10346	103.5	10166.4	101.7
Lead	208	0	0	0		0.0	
Magnesium	24	10000	10000	10655	106.6	10617.2	106.2
Molybdenum	98	200	200	219	109.5	215.2	107.6
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	10000	10000	10444	104.4	10414.1	104.1
Selenium	78	0	0	0		0.0	
Sodium	23	10000	10000	12092	120.9	11713.1	117.1
Sulfur	34	10000	10000	NA		NA	
Titanium	47	200	200	199	99.5	208.1	104.1

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: PSC27

Instrument ID: 19204
Run Name: 1527809E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	10000	10000	9864	98.6	10017.6	100.2
Arsenic	75	0	20	0		19.3	96.5
Calcium	44	10000	10000	10034	100.3	10083.7	100.8
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium							
Iron	57	10000	10000	9592	95.9	9994.0	99.9
Lead							
Magnesium	24	10000	10000	9609	96.1	9940.2	99.4
Molybdenum	98	200	200	198	99.0	190.8	95.4
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	10000	10000	9673	96.7	9922.7	99.2
Selenium							
Sodium	23	10000	10000	9807	98.1	10006.0	100.1
Sulfur	34	10000	10000	NA		NA	
Titanium	47	200	200	188	94.0	222.9	111.5

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: PSC27

Instrument ID: 19204
Run Name: 1527809E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	10000	10000	10359	103.6	9749.1	97.5
Arsenic	75	0	20	0		20.0	100.0
Calcium	44	10000	10000	10231	102.3	9523.1	95.2
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium							
Iron	57	10000	10000	9886	98.9	9303.5	93.0
Lead							
Magnesium	24	10000	10000	9970	99.7	9494.5	94.9
Molybdenum	98	200	200	204	102.0	195.1	97.6
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	10000	10000	10166	101.7	9729.6	97.3
Selenium							
Sodium	23	10000	10000	10926	109.3	10314.5	103.1
Sulfur	34	10000	10000	NA		NA	
Titanium	47	200	200	203	101.5	198.5	99.3

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: PSC27
Matrix: WATER

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Arsenic	75	P27550DQ	UG/L	10.000	10.786		80 - 120	108	MS	Yes
Barium		P27548DQ	UG/L	2000.000	2043.480		80 - 120	102	P	Yes
Cadmium		P27548DQ	UG/L	50.000	51.830		80 - 120	104	P	Yes
Chromium	52	P27550DQ	UG/L	50.000	51.741		80 - 120	103	MS	Yes
Copper		P27548DQ	UG/L	250.000	267.130		80 - 120	107	P	Yes
Lead	208	P27550DQ	UG/L	15.000	15.584		80 - 120	104	MS	Yes
Mercury		P27313CQ	UG/L	1.000	0.988		80 - 120	99	CV	Yes
Selenium	78	P27550DQ	UG/L	10.000	10.687		80 - 120	107	MS	Yes
Silver		P27548DQ	UG/L	50.000	51.080		80 - 120	102	P	Yes
Zinc		P27548DQ	UG/L	500.000	510.200		80 - 120	102	P	Yes

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ

Method: P
Instrument ID: 16315
Date: 07/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Barium	455.40		0.33
Cadmium	226.50		0.33
Copper	327.40		1.7
Silver	328.06		0.83
Zinc	213.86		2.0

Comments:

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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: MS
Instrument ID: 19204
Date: 08/2015

Analyte	MASS (amu)	Background	IDL (UG/L)
Arsenic	75		0.47
Chromium	52		0.40
Lead	208		0.030
Selenium	78		0.50

Comments:

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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: PSC27

Method: CV
Instrument ID: 17384
Date: 07/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Mercury	254.00		0.050

Comments:

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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC27
Matrix: WATER

Method: P
Date: 07/2015

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Barium	455.40		5.0	0.30
Cadmium	226.50		5.0	0.30
Copper	327.40		10.0	2.5
Silver	328.06		5.0	1.4
Zinc	213.86		20.0	3.9

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC27
Matrix: WATER

Method: MS
Date: 07/2015

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Arsenic	75		2.0	0.54
Chromium	52		2.0	0.70
Lead	208		1.0	0.13
Selenium	78		2.0	0.50

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC27
Matrix: WATER

Method: CV
Date: 07/2015

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Mercury	254.00		0.20	0.050

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC27

Instrument ID: 16315
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: AL	CA	FE	MG	CO
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	-0.0000060	0.0000000	0.0000880	0.0000000	0.0000120
Copper	327.40	0.0000000	0.0000400	-0.0000290	0.0000000	0.0003000
Silver	328.06	0.0000000	0.0000000	-0.0006200	0.0000000	0.0000000
Zinc	213.86	0.0000000	0.0000000	0.0000900	0.0000000	0.0000000

Comments:
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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC27

Instrument ID: 16315
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: CR	CU	MO	NI	TH
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	0.0000200	0.0000000	0.0000000	-0.0000540	0.0000000
Copper	327.40	0.0000000	0.0000000	-0.0007830	0.0000000	0.0236840
Silver	328.06	0.0000000	0.0000000	0.0000000	0.0000000	-0.0212540
Zinc	213.86	0.0000000	0.0010800	0.0000000	0.0054370	0.0000000

Comments:
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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC27

Instrument ID: 16315
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: TI	W	ZR	--	--
Barium	455.40	0.0000000	0.0000000	0.0003190		
Cadmium	226.50	0.0000000	0.0001040	0.0000000		
Copper	327.40	-0.0132100	0.0000000	-0.0006400		
Silver	328.06	-0.0004520	0.0000000	0.0019920		
Zinc	213.86	0.0000000	0.0000000	0.0000000		

Comments:
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QUALITY ASSURANCE SUMMARY
FORM 12
LINEAR RANGES
SDG No.: PSC27

Method: P
Instrument ID: 16315
Date: 07/2015

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Barium	455.4	10.00	5000.0
Cadmium	226.5	10.00	20000.0
Copper	327.4	10.00	10000.0
Silver	328.06	10.00	10000.0
Zinc	213.86	10.00	10000.0

Comments:
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METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: P
Batch ID: P27548D

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
8064460	10/06/2015	50.00	50
8064467	10/06/2015	50.00	50
8064471	10/06/2015	50.00	50
P27548DB	10/06/2015	50.00	50
P27548DQ	10/06/2015	1.00	1

METHODS:	LEGEND:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	BKG = Background DUP = Duplicate MS = Matrix Spike MSD = Matrix Spike Duplicate B = Blank Q = Laboratory Control Sample Y = Laboratory Control Sample Duplicate

Method: MS
Batch ID: P27550D

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
8064460	10/05/2015	50.00	50
8064467	10/05/2015	50.00	50
8064471	10/05/2015	50.00	50
P27550DB	10/05/2015	50.00	50
P27550DQ	10/05/2015	1.00	1

METHODS:	LEGEND:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	BKG = Background DUP = Duplicate MS = Matrix Spike MSD = Matrix Spike Duplicate B = Blank Q = Laboratory Control Sample Y = Laboratory Control Sample Duplicate

Method: CV
Batch ID: P27313C

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
8064460	10/01/2015	40.00	40
8064467	10/01/2015	40.00	40
8064471	10/01/2015	40.00	40
P27313CB	10/01/2015	40.00	40
P27313CQ	10/01/2015	1.00	1

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC27

Method: P
Instrument ID: 16315
Run Name: 1527906T71

Run Start Date: 10/06/2015
Run End Date: 10/06/2015

Lab Sample ID	D/F	Time	Analytes									
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN
S0	1.00	20:09		X	X		X				X	X
S	1.00	20:11										
S	1.00	20:14		X	X		X				X	X
S	1.00	20:17										
ICV	1.00	20:20		X	X		X				X	X
ICB	1.00	20:23		X	X		X				X	X
LLC	1.00	20:26		X	X		X				X	X
ICSA	1.00	20:29		X	X		X				X	X
ICSAB	1.00	20:32		X	X		X				X	X
CCV	1.00	20:35		X	X		X				X	X
CCB	1.00	20:38		X	X		X				X	X
P27548DB	1.00	20:41		X	X		X				X	X
P27548DQ	1.00	20:44		X	X		X				X	X
ZZZZZZ	1.00	20:47										
ZZZZZZ	1.00	20:50										
ZZZZZZ	1.00	20:53										
ZZZZZZ	1.00	20:56										
ZZZZZZ	1.00	20:59										
ZZZZZZ	5.00	21:02										
8064460	1.00	21:05		X	X		X				X	X
8064467	1.00	21:08		X	X		X				X	X
CCV	1.00	21:11		X	X		X				X	X
CCB	1.00	21:14		X	X		X				X	X
8064471	1.00	21:17		X	X		X				X	X
ZZZZZZ	1.00	21:19										
ZZZZZZ	1.00	21:23										
ZZZZZZ	1.00	21:26										
ZZZZZZ	1.00	21:29										
ZZZZZZ	1.00	21:31										
ZZZZZZ	1.00	21:35										
ZZZZZZ	1.00	21:38										
ZZZZZZ	1.00	21:41										
ZZZZZZ	1.00	21:45										
CCV	1.00	21:48		X	X		X				X	X
CCB	1.00	21:51		X	X		X				X	X
ZZZZZZ	1.00	21:54										
ZZZZZZ	1.00	21:57										
ZZZZZZ	1.00	22:01										

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC27

Method: P
Instrument ID: 16315
Run Name: 1527906T71

Run Start Date: 10/06/2015
Run End Date: 10/06/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																				
ZZZZZZ	1.00	22:04																														
ZZZZZZ	1.00	22:07																														
ZZZZZZ	1.00	22:10																														
ZZZZZZ	1.00	22:13																														
LLC	1.00	22:16		X	X		X				X	X																				
ICSA	1.00	22:19		X	X		X				X	X																				
ICSAB	1.00	22:22		X	X		X				X	X																				
CCV	1.00	22:25		X	X		X				X	X																				
CCB	1.00	22:28		X	X		X				X	X																				

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC27

Method: MS
Instrument ID: 19204
Run Name: 1527806E05

Run Start Date: 10/05/2015
Run End Date: 10/05/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																				
S0	1.00	15:18	X			X		X		X																						
S	1.00	15:20	X			X		X		X																						
CCS	1.00	15:22	X			X		X		X																						
CCS	1.00	15:25	X			X		X		X																						
ICV	1.00	15:27	X			X		X		X																						
ICB	1.00	15:30	X			X		X		X																						
LLC	1.00	15:32	X			X		X		X																						
ICSA	1.00	15:34	X			X		X		X																						
ICSAB	1.00	15:37	X			X		X		X																						
CCV	1.00	15:39	X			X		X		X																						
CCB	1.00	15:42	X			X		X		X																						
P27550DB	1.00	15:44				X		X		X																						
P27550DQ	1.00	15:46				X		X		X																						
ZZZZZZ	1.00	15:49																														
ZZZZZZ	1.00	15:51																														
ZZZZZZ	1.00	15:54																														
ZZZZZZ	1.00	15:56																														
ZZZZZZ	1.00	15:58																														
ZZZZZZ	5.00	16:01																														
8064460	1.00	16:03	X			X		X		X																						
8064467	1.00	16:05	X			X		X		X																						
CCV	1.00	16:08	X			X		X		X																						
CCB	1.00	16:10	X			X		X		X																						
8064471	1.00	16:13	X			X		X		X																						
ZZZZZZ	1.00	16:15																														
ZZZZZZ	1.00	16:17																														
ZZZZZZ	1.00	16:20																														
ZZZZZZ	1.00	16:22																														
ZZZZZZ	1.00	16:25																														
ZZZZZZ	1.00	16:27																														
ZZZZZZ	1.00	16:29																														
ZZZZZZ	1.00	16:32																														
ZZZZZZ	1.00	16:34																														
CCV	1.00	16:37	X			X		X		X																						
CCB	1.00	16:39	X			X		X		X																						
ZZZZZZ	1.00	16:41																														
ZZZZZZ	1.00	16:44																														
ZZZZZZ	1.00	16:46																														

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC27

Method: MS
Instrument ID: 19204
Run Name: 1527806E05

Run Start Date: 10/05/2015
Run End Date: 10/05/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																				
ZZZZZZ	1.00	16:48																														
ZZZZZZ	1.00	16:51																														
ZZZZZZ	1.00	16:53																														
ZZZZZZ	1.00	16:55																														
LLC	1.00	16:58	X			X		X		X																						
ICSA	1.00	17:00	X			X		X		X																						
ICSAB	1.00	17:03	X			X		X		X																						
CCV	1.00	17:05	X			X		X		X																						
CCB	1.00	17:07	X			X		X		X																						

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC27

Method: MS
Instrument ID: 19204
Run Name: 1527809E05

Run Start Date: 10/05/2015
Run End Date: 10/05/2015

Lab Sample ID	D/F	Time	Analytes																														
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																						
S0	1.00	21:09	X																														
S	1.00	21:11	X																														
CCS	1.00	21:13	X																														
CCS	1.00	21:15	X																														
ICV	1.00	21:16	X																														
ICB	1.00	21:18	X																														
LLC	1.00	21:20	X																														
ICSA	1.00	21:22	X																														
ICSAB	1.00	21:24	X																														
CCV	1.00	21:25	X																														
CCB	1.00	21:27	X																														
P27550DB	1.00	21:29	X																														
P27550DQ	1.00	21:31	X																														
ZZZZZZ	1.00	21:33																															
ZZZZZZ	1.00	21:34																															
ZZZZZZ	1.00	21:36																															
ZZZZZZ	1.00	21:38																															
ZZZZZZ	1.00	21:40																															
ZZZZZZ	1.00	21:42																															
ZZZZZZ	1.00	21:43																															
ZZZZZZ	1.00	21:45																															
CCV	1.00	21:47	X																														
CCB	1.00	21:49	X																														
ZZZZZZ	1.00	21:51																															
ZZZZZZ	1.00	21:52																															
ZZZZZZ	1.00	21:54																															
ZZZZZZ	1.00	21:56																															
ZZZZZZ	1.00	21:58																															
ZZZZZZ	1.00	22:00																															
ZZZZZZ	1.00	22:01																															
ZZZZZZ	1.00	22:03																															
ZZZZZZ	1.00	22:05																															
ZZZZZZ	1.00	22:07																															
CCV	1.00	22:09	X																														
CCB	1.00	22:10	X																														
ZZZZZZ	1.00	22:12																															
ZZZZZZ	10.00	22:14																															
LLC	1.00	22:16	X																														

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC27

Method: MS
Instrument ID: 19204
Run Name: 1527809E05

Run Start Date: 10/05/2015
Run End Date: 10/05/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																				
ICSA	1.00	22:17	X																													
ICSAB	1.00	22:19	X																													
CCV	1.00	22:21	X																													
CCB	1.00	22:23	X																													

METHODS:	LEGEND:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	BKG = Background DUP = Duplicate MS = Matrix Spike MSD = Matrix Spike Duplicate A = Post Digest Spike L = Serial Dilution B = Blank Q = Laboratory Control Sample Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC27

Method: CV
Instrument ID: 17384
Run Name: 1527501M07

Run Start Date: 10/02/2015
Run End Date: 10/02/2015

Lab Sample ID	D/F	Time	Analytes																														
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																						
S0	1.00	09:00							X																								
S0.2	1.00	09:02							X																								
S0.5	1.00	09:04							X																								
S1.0	1.00	09:06							X																								
S2.5	1.00	09:08							X																								
S5.0	1.00	09:10							X																								
ICV	1.00	09:12							X																								
ICB	1.00	09:14							X																								
CRA	1.00	09:16							X																								
CCV	1.00	09:18							X																								
CCB	1.00	09:20							X																								
P27313CB	1.00	09:22							X																								
P27313CQ	1.00	09:24							X																								
ZZZZZZ	1.00	09:26																															
ZZZZZZ	1.00	09:28																															
ZZZZZZ	1.00	09:31																															
ZZZZZZ	1.00	09:33																															
ZZZZZZ	1.00	09:35																															
ZZZZZZ	1.00	09:37																															
8064460	1.00	09:39							X																								
8064467	1.00	09:41							X																								
CCV	1.00	09:43							X																								
CCB	1.00	09:45							X																								
8064471	1.00	09:47							X																								
ZZZZZZ	1.00	09:49																															
ZZZZZZ	1.00	09:51																															
ZZZZZZ	1.00	09:53																															
ZZZZZZ	1.00	09:55																															
ZZZZZZ	1.00	09:57																															
ZZZZZZ	1.00	09:59																															
ZZZZZZ	1.00	10:01																															
ZZZZZZ	1.00	10:03																															
ZZZZZZ	1.00	10:05																															
CCV	1.00	10:07							X																								
CCB	1.00	10:09							X																								
ZZZZZZ	1.00	10:12																															
ZZZZZZ	1.00	10:14																															
ZZZZZZ	1.00	10:16																															

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC27

Method: CV
Instrument ID: 17384
Run Name: 1527501M07

Run Start Date: 10/02/2015
Run End Date: 10/02/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																				
ZZZZZZ	1.00	10:18																														
ZZZZZZ	1.00	10:20																														
ZZZZZZ	1.00	10:22																														
ZZZZZZ	1.00	10:24																														
ZZZZZZ	1.00	10:26																														
ZZZZZZ	1.00	10:28																														
ZZZZZZ	1.00	10:30																														
CCV	1.00	10:32							X																							
CCB	1.00	10:34							X																							
ZZZZZZ	1.00	10:36																														
ZZZZZZ	1.00	10:38																														
ZZZZZZ	1.00	10:40																														
ZZZZZZ	1.00	10:42																														
ZZZZZZ	1.00	10:44																														
ZZZZZZ	1.00	10:46																														
ZZZZZZ	1.00	10:48																														
ZZZZZZ	1.00	10:50																														
ZZZZZZ	1.00	10:52																														
ZZZZZZ	1.00	10:55																														
CCV	1.00	10:57							X																							
CCB	1.00	10:59							X																							
ZZZZZZ	1.00	11:01																														
ZZZZZZ	1.00	11:03																														
ZZZZZZ	1.00	11:05																														
ZZZZZZ	1.00	11:07																														
ZZZZZZ	1.00	11:09																														
ZZZZZZ	1.00	11:11																														
ZZZZZZ	1.00	11:13																														
ZZZZZZ	1.00	11:15																														
CRA	1.00	11:17							X																							
CCV	1.00	11:19							X																							
CCB	1.00	11:21							X																							

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: PSC27

Instrument ID: 19204
Run Name: 1527806E05

Start Date: 10/05/2015
End Date: 10/05/2015

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	PB	IN-1-115	SE
IN-2-115	AS	SC-2-45	CR

Lab Sample ID	Time	Internal Standards %RI For: Element SC-2-45	Q	Element IN-1-115	Q	Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q	Element	Q
S0	15:18	100		100		100		100							
S	15:20	92		97		95		97							
CCS	15:22	92		97		95		98							
CCS	15:25	96		100		98		100							
ICV	15:27	92		101		96		100							
ICB	15:30	95		99		98		98							
LLC	15:32	99		99		97		101							
ICSA	15:34	99		99		98		99							
ICSAB	15:37	98		97		97		100							
CCV	15:39	94		100		97		100							
CCB	15:42	95		100		99		98							
P27550DB	15:44	88		99		94		93							
P27550DQ	15:46	97		100		100		103							
ZZZZZZ	15:49														
ZZZZZZ	15:51														
ZZZZZZ	15:54														
ZZZZZZ	15:56														
ZZZZZZ	15:58														
ZZZZZZ	16:01														
8064460	16:03	97		101		102		101							
8064467	16:05	104		100		102		103							
CCV	16:08	102		105		102		102							
CCB	16:10	105		99		104		101							
8064471	16:13	99		102		102		102							
ZZZZZZ	16:15														
ZZZZZZ	16:17														
ZZZZZZ	16:20														
ZZZZZZ	16:22														
ZZZZZZ	16:25														
ZZZZZZ	16:27														
ZZZZZZ	16:29														
ZZZZZZ	16:32														

LEGEND:
BKG = Background
DUP = Duplicate
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
BI = Bismuth
GE = Germanium
HO = Holmium
IN = Indium
LI = Lithium
SC = Scandium
TB = Terbium
Y = Yttrium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: PSC27

Instrument ID: 19204
Run Name: 1527806E05

Start Date: 10/05/2015
End Date: 10/05/2015

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	PB	IN-1-115	SE
IN-2-115	AS	SC-2-45	CR

Lab Sample ID	Time	Internal Standards %RI For: Element SC-2-45	Q	Element IN-1-115	Q	Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	16:34														
CCV	16:37	96		102		98		101							
CCB	16:39	100		101		104		101							
ZZZZZZ	16:41														
ZZZZZZ	16:44														
ZZZZZZ	16:46														
ZZZZZZ	16:48														
ZZZZZZ	16:51														
ZZZZZZ	16:53														
ZZZZZZ	16:55														
LLC	16:58	103		105		92		92							
ICSA	17:00	100		104		92		90							
ICSAB	17:03	98		99		92		93							
CCV	17:05	96		100		92		93							
CCB	17:07	99		99		92		92							

LEGEND:
BKG = Background
DUP = Duplicate
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike

FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
BI = Bismuth
GE = Germanium
HO = Holmium
IN = Indium
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SC = Scandium
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Y = Yttrium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: PSC27

Instrument ID: 19204
Run Name: 1527809E05

Start Date: 10/05/2015
End Date: 10/05/2015

Standard	Elements Applies to	Standard	Elements Applies to
IN-1-115	AS		

Lab Sample ID	Time	Internal Standards %RI For: Element IN-1-115	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	21:09	100													
S	21:11	99													
CCS	21:13	101													
CCS	21:15	104													
ICV	21:16	104													
ICB	21:18	104													
LLC	21:20	106													
ICSA	21:22	105													
ICSAB	21:24	109													
CCV	21:25	105													
CCB	21:27	104													
P27550DB	21:29	105													
P27550DQ	21:31	106													
ZZZZZZ	21:33														
ZZZZZZ	21:34														
ZZZZZZ	21:36														
ZZZZZZ	21:38														
ZZZZZZ	21:40														
ZZZZZZ	21:42														
ZZZZZZ	21:43														
ZZZZZZ	21:45														
CCV	21:47	109													
CCB	21:49	106													
ZZZZZZ	21:51														
ZZZZZZ	21:52														
ZZZZZZ	21:54														
ZZZZZZ	21:56														
ZZZZZZ	21:58														
ZZZZZZ	22:00														
ZZZZZZ	22:01														
ZZZZZZ	22:03														
ZZZZZZ	22:05														

LEGEND:
BKG = Background
DUP = Duplicate
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
BI = Bismuth
GE = Germanium
HO = Holmium
IN = Indium
LI = Lithium
SC = Scandium
TB = Terbium
Y = Yttrium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: PSC27

Instrument ID: 19204 Start Date: 10/05/2015
Run Name: 1527809E05 End Date: 10/05/2015

Standard	Elements Applies to	Standard	Elements Applies to
IN-1-115	AS		

Lab Sample ID	Time	Internal Standards %RI For: Element IN-1-115	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	22:07														
CCV	22:09	110													
CCB	22:10	103													
ZZZZZZ	22:12														
ZZZZZZ	22:14														
LLC	22:16	112													
ICSA	22:17	106													
ICSAB	22:19	108													
CCV	22:21	104													
CCB	22:23	106													

LEGEND:
BKG = Background MS = Matrix Spike
DUP = Duplicate MSD = Matrix Spike Duplicate
L = Serial Dilution A = Post Digest Spike
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium LI = Lithium
BI = Bismuth SC = Scandium
GE = Germanium TB = Terbium
HO = Holmium Y = Yttrium
IN = Indium

Raw Data

Metals in Liquid

ICP Data

Metals in Liquid

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ICP-AES Run Data Report

Reviewed By	Reviewed Date
Elaine F Stoltzfus	10/07/2015 12:15AM

Data File Name 1527906T71.TXT
Run Name: 1527906T71

Method Reference Name(s):

Verified By:	Verified Date
Deborah A Krady	10/08/2015 11:56AM
Jennifer L Moyer	10/13/2015 10:11AM

Analyst Employee: 0463

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 1 Date/Time: 10/06/2015 20:09

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	0.00056	155.567	0.00023	-0.00010	0.00154
AL	0.000	0.03632	54.029	0.05546	0.03725	0.01625
AS	0.000	0.00596	70.504	0.00847	0.00111	0.00830
B	0.000	0.00005	21.760	0.00005	0.00005	0.00004
BA	0.000	0.00013	9.902	0.00013	0.00012	0.00015
BE	0.000	-0.01075	6.328	-0.01001	-0.01087	-0.01135
CA	0.000	0.00325	4.095	0.00340	0.00321	0.00314
CD	0.000	-0.05141	15.027	-0.04271	-0.05746	-0.05407
CO	0.000	0.01205	27.987	0.00962	0.01590	0.01064
CR	0.000	0.00000	5347.872	0.00000	0.00000	0.00001
CU	0.000	-0.00353	48.129	-0.00460	-0.00443	-0.00157
FE	0.000	0.00016	80.660	0.00027	0.00019	0.00002
K	0.000	0.15507	51.628	0.14554	0.08020	0.23947
LI	0.000	0.00139	17.159	0.00113	0.00143	0.00161
MG	0.000	0.00038	43.040	0.00049	0.00046	0.00019
MN	0.000	0.00143	23.363	0.00141	0.00110	0.00177
MO	0.000	0.00333	63.008	0.00238	0.00188	0.00574
NA	0.000	-0.00146	16.496	-0.00154	-0.00119	-0.00165
NI	0.000	0.03735	21.588	0.02864	0.04455	0.03887
P	0.000	-0.00013	50.281	-0.00018	-0.00006	-0.00016
PB	0.000	0.02661	31.437	0.03069	0.03214	0.01698
S	0.000	0.00004	439.531	-0.00002	-0.00010	0.00026
SB	0.000	-0.00007	90.119	-0.00002	-0.00005	-0.00014
SE	0.000	-0.01267	4.464	-0.01292	-0.01308	-0.01203
SI	0.000	-0.00003	222.741	-0.00009	0.00001	0.00001
SN	0.000	0.01007	6.596	0.01083	0.00959	0.00980
SR	0.000	-0.00014	20.522	-0.00016	-0.00014	-0.00011
TI	0.000	0.00167	74.839	0.00284	0.00036	0.00181
TL	0.000	-0.00523	62.984	-0.00863	-0.00499	-0.00206
V	0.000	-0.00171	30.571	-0.00124	-0.00228	-0.00161
Y1	0.000	9025.05250	0.607	9085.09289	9012.37515	8977.68946
Y2A	0.000	373518.16523	0.551	375891.92104	372447.16324	372215.41141
Y2R	0.000	18260.70542	0.790	18316.31889	18368.95725	18096.84011
ZN	0.000	0.07821	0.466	0.07806	0.07863	0.07796
ZR	0.000	0.00051	38.100	0.00029	0.00067	0.00055

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 2 Date/Time: 10/06/2015 20:11

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	15.93810	0.896	16.06618	15.96396	15.78416
CA	50.000	2.25587	0.840	2.26508	2.26845	2.23407
FE	50.000	0.75033	0.650	0.75233	0.75388	0.74477
K	50.000	35.76079	0.543	35.84169	35.90150	35.53917
MG	50.000	4.30990	0.783	4.31077	4.34319	4.27573
NA	50.000	2.83050	0.733	2.83479	2.84877	2.80793
S	50.000	0.70253	0.225	0.70195	0.70133	0.70432
SI	50.000	0.49235	0.337	0.49323	0.49338	0.49043
Y1	50.000	8580.33002	0.462	8585.90346	8616.87806	8538.20854
Y2R	50.000	17712.28474	0.585	17723.54616	17603.44398	17809.86408

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 3 Date/Time: 10/06/2015 20:14

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	2.00868	2.710	2.03973	1.94582	2.04047
AS	1.000	1.34458	0.566	1.34157	1.33894	1.35324
B	1.000	0.02018	2.743	0.02056	0.01955	0.02044
BA	1.000	1.89111	2.139	1.91557	1.84441	1.91335
BE	1.000	66.19403	2.791	67.08934	64.06983	67.42291
CD	1.000	47.19540	0.210	47.09094	47.20755	47.28771
CO	1.000	20.82392	0.168	20.78748	20.82704	20.85723
CU	1.000	1.62634	2.855	1.66006	1.57338	1.64557
LI	1.000	0.31352	0.802	0.31517	0.31477	0.31063
MN	1.000	7.73300	2.860	7.87346	7.47804	7.84750
NI	1.000	12.65573	0.203	12.66751	12.62627	12.67342
P	1.000	0.02791	0.068	0.02790	0.02789	0.02793
PB	1.000	4.40794	0.367	4.40476	4.39362	4.42545
SE	1.000	0.91701	0.510	0.91175	0.92071	0.91856
SR	1.000	1.90097	2.463	1.93298	1.84724	1.92268
TL	1.000	1.60078	0.494	1.59455	1.60968	1.59809
Y1	1.000	8743.32644	0.442	8774.42767	8700.09482	8755.45681
Y2A	1.000	368289.49307	2.488	362396.31719	378846.16667	363625.99536
Y2R	1.000	17930.56148	0.620	17903.72500	17835.34758	18052.61187
ZN	1.000	36.72200	0.233	36.62798	36.74232	36.79571

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 4 Date/Time: 10/06/2015 20:17

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	0.02627	1.641	0.02597	0.02676	0.02608
MO	1.000	10.57409	0.358	10.59363	10.53047	10.59815
SB	1.000	0.03676	0.358	0.03661	0.03686	0.03682
SN	1.000	3.34955	0.534	3.36277	3.32919	3.35668
TI	1.000	7.36301	1.712	7.28759	7.50854	7.29290
V	1.000	2.14077	1.528	2.12050	2.17850	2.12331
Y1	1.000	8861.74906	0.173	8856.98500	8878.92132	8849.34086
Y2A	1.000	381126.65104	1.721	385286.00000	373563.61977	384530.33333
Y2R	1.000	18038.46058	0.421	17986.20828	18125.64987	18003.52359
ZR	1.000	0.11917	0.529	0.11966	0.11846	0.11939

LANCASTER LABORATORIES

Run Name: 1527906T71

Instrument ID: 16315

Tube: 5

Date/Time: 10/06/2015 20:20

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.61914	8,846.33	1.448	0.62744	0.62034	0.60964
____ AL	30.82610	3,482.23	0.373	30.80377	30.95049	30.72403
____ AS	0.60160	138.33	0.651	0.59860	0.60018	0.60603
____ B	0.60875	4,468.23	1.716	0.62064	0.60455	0.60106
____ BA	0.61984	415,598.90	2.393	0.62937	0.62739	0.60275
____ BE	0.60760	284,106.48	1.583	0.61774	0.60644	0.59861
____ CA	30.79163	24,588.32	0.469	30.62491	30.87116	30.87882
____ CD	0.61409	4,938.01	0.107	0.61342	0.61410	0.61474
____ CO	0.60133	2,134.43	0.073	0.60147	0.60168	0.60083
____ CR	0.60431	5,619.77	1.605	0.61404	0.60425	0.59465
____ CU	0.62458	7,104.55	1.280	0.63289	0.62393	0.61694
____ FE	30.56857	8,149.99	0.490	30.39586	30.64980	30.66006
____ K	30.47608	7,719.73	0.614	30.26011	30.57752	30.59060
____ LI	0.60634	3,371.53	1.030	0.59959	0.60751	0.61192
____ MG	30.72866	47,331.30	0.520	30.54757	30.85010	30.78831
____ MN	0.61660	33,815.69	1.532	0.62634	0.61597	0.60748
____ MO	0.60896	1,094.47	0.283	0.60737	0.61080	0.60872
____ NA	30.74256	30,697.08	0.434	30.58934	30.83157	30.80676
____ NI	0.60491	1,300.18	0.436	0.60225	0.60752	0.60496
____ P	0.61893	146.26	0.925	0.61622	0.62551	0.61506
____ PB	0.60204	464.66	0.744	0.59859	0.60710	0.60042
____ S	31.05257	3,707.01	0.130	31.03138	31.09898	31.02734
____ SB	0.60645	189.31	0.477	0.60674	0.60342	0.60919
____ SE	0.60599	94.18	1.414	0.59767	0.60552	0.61479
____ SI	31.02063	5,395.62	0.485	30.84797	31.09058	31.12335
____ SN	0.59655	340.25	0.176	0.59571	0.59772	0.59621
____ SR	0.61251	412,996.61	2.049	0.62698	0.60596	0.60459
____ TI	0.63824	33,343.25	1.452	0.64827	0.63646	0.63000
____ TL	0.59092	159.12	0.712	0.59577	0.58844	0.58854
____ V	0.63233	9,604.75	1.521	0.64306	0.62946	0.62447
____ Y1	8496.79335	8,496.79	0.479	8543.61755	8476.66367	8470.09882
____ Y2A	354606.42004	354,606.42	1.334	350075.81287	354231.75182	359511.69542
____ Y2R	17659.74207	17,659.74	0.787	17814.54509	17545.51128	17619.16982
____ ZN	0.61183	3,840.04	0.275	0.61004	0.61337	0.61208
____ ZR	0.60467	1,276.03	1.181	0.59847	0.60307	0.61248

LANCASTER LABORATORIES

Run Name: 1527906T71

Instrument ID: 16315

Tube: 6

Date/Time: 10/06/2015 20:23

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00016	1.70	331.180	-0.00013	0.00036	-0.00071
____ AL	0.00730	13.72	516.139	-0.01490	0.05078	-0.01399
____ AS	-0.00041	0.94	927.550	-0.00223	-0.00291	0.00392
____ B	0.00117	25.95	14.197	0.00102	0.00135	0.00116
____ BA	0.00009	106.70	10.621	0.00008	0.00010	0.00008
____ BE	0.00006	-28.48	49.098	0.00009	0.00003	0.00005
____ CA	-0.00039	57.33	164.416	0.00004	-0.00111	-0.00009
____ CD	0.00020	-8.99	118.518	0.00042	-0.00004	0.00021
____ CO	0.00046	3.78	125.413	0.00070	0.00088	-0.00020
____ CR	0.00023	0.78	85.965	0.00044	0.00004	0.00021
____ CU	-0.00184	-26.22	63.330	-0.00122	-0.00111	-0.00318
____ FE	0.00344	3.76	273.477	0.00364	-0.00607	0.01276
____ K	0.05654	69.34	66.845	0.06917	0.08640	0.01405
____ LI	0.00092	29.76	211.493	0.00147	-0.00124	0.00255
____ MG	0.00309	11.65	71.828	0.00546	0.00274	0.00106
____ MN	0.00015	18.68	58.935	0.00015	0.00006	0.00024
____ MO	0.00045	1.40	128.094	-0.00008	0.00105	0.00037
____ NA	0.06537	-28.39	22.608	0.04839	0.07236	0.07535
____ NI	0.00014	6.81	424.977	0.00066	-0.00050	0.00025
____ P	0.00003	-1.32	2317.211	0.00061	0.00011	-0.00063
____ PB	0.00269	6.69	52.884	0.00138	0.00250	0.00420
____ S	0.01170	1.81	48.463	0.00539	0.01334	0.01638
____ SB	-0.00461	-2.63	44.735	-0.00620	-0.00228	-0.00535
____ SE	-0.00446	-1.45	118.289	-0.00776	-0.00722	0.00162
____ SI	0.01709	2.53	76.745	0.03219	0.00850	0.01058
____ SN	0.00053	2.06	268.286	0.00189	-0.00094	0.00063
____ SR	0.00018	5.17	25.065	0.00021	0.00019	0.00013
____ TI	0.00024	24.82	25.452	0.00018	0.00030	0.00025
____ TL	-0.00084	-0.45	382.326	0.00269	-0.00363	-0.00158
____ V	0.00015	-9.43	45.401	0.00007	0.00017	0.00019
____ Y1	8708.28110	8,708.28	0.119	8720.25070	8701.48821	8703.10438
____ Y2A	360762.66313	360,762.66	0.840	360923.68945	363708.85866	357655.44127
____ Y2R	17742.67040	17,742.67	0.528	17823.63491	17764.27931	17640.09698
____ ZN	-0.00002	13.50	892.959	-0.00010	-0.00012	0.00017
____ ZR	-0.00002	8.94	3987.096	-0.00014	0.00106	-0.00096

LANCASTER LABORATORIES

Run Name: 1527906T71

Instrument ID: 16315

Tube: 7

Date/Time: 10/06/2015 20:26

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00578	97.30	9.326	0.00596	0.00517	0.00620
____ AL	0.21800	38.98	9.802	0.24263	0.20696	0.20440
____ AS	0.01757	5.33	14.245	0.01493	0.01786	0.01990
____ B	0.04685	375.88	2.348	0.04812	0.04625	0.04618
____ BA	0.00524	3,796.05	1.576	0.00529	0.00514	0.00528
____ BE	0.00502	2,445.75	1.135	0.00506	0.00496	0.00505
____ CA	0.19762	224.35	2.970	0.19104	0.20233	0.19947
____ CD	0.00531	34.41	1.969	0.00519	0.00540	0.00533
____ CO	0.00511	21.50	6.326	0.00479	0.00543	0.00512
____ CR	0.01483	145.78	1.501	0.01505	0.01483	0.01461
____ CU	0.00910	105.20	16.228	0.01073	0.00786	0.00871
____ FE	0.19997	59.03	1.751	0.19597	0.20249	0.20145
____ K	0.53992	198.83	10.143	0.60139	0.52203	0.49633
____ LI	0.02015	141.42	6.725	0.01880	0.02151	0.02015
____ MG	0.10133	172.78	3.286	0.09895	0.10513	0.09990
____ MN	0.00531	320.95	2.212	0.00530	0.00519	0.00543
____ MO	0.01036	20.38	3.520	0.01061	0.00994	0.01052
____ NA	1.10074	1,052.00	1.190	1.09080	1.11557	1.09584
____ NI	0.01005	29.65	5.901	0.00976	0.01073	0.00965
____ P	0.10134	24.23	3.903	0.09686	0.10437	0.10278
____ PB	0.01625	17.71	10.691	0.01700	0.01748	0.01426
____ S	0.49705	63.48	0.145	0.49627	0.49719	0.49769
____ SB	0.01930	5.23	24.123	0.01417	0.02047	0.02325
____ SE	0.01506	1.75	24.791	0.01665	0.01774	0.01080
____ SI	0.05752	9.97	16.422	0.06150	0.06433	0.04674
____ SN	0.01951	13.60	6.343	0.02094	0.01891	0.01869
____ SR	0.00527	3,666.60	1.203	0.00533	0.00520	0.00528
____ TI	0.01037	590.18	1.637	0.01056	0.01024	0.01032
____ TL	0.02690	7.53	6.230	0.02683	0.02526	0.02861
____ V	0.00516	70.87	8.632	0.00503	0.00566	0.00480
____ Y1	9034.49308	9,034.49	0.356	9068.41132	9004.33480	9030.73312
____ Y2A	378052.72833	378,052.73	0.930	373994.77439	380176.24172	379987.16887
____ Y2R	18417.50694	18,417.51	1.110	18636.89645	18232.27110	18383.35328
____ ZN	0.01994	145.83	0.409	0.01989	0.02003	0.01989
____ ZR	0.04801	114.19	5.487	0.04586	0.05095	0.04722

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 8 Date/Time: 10/06/2015 20:29

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00331	-262.80	17.158	-0.00359	-0.00266	-0.00370
____ AL	502.95709	54,659.14	1.409	507.99821	494.85303	506.02002
____ AS	-0.00431	2.23	51.072	-0.00547	-0.00569	-0.00177
____ B	0.01064	826.62	10.142	0.00969	0.01042	0.01182
____ BA	0.00068	453.29	3.237	0.00066	0.00070	0.00069
____ BE	-0.00035	-193.62	3.590	-0.00036	-0.00034	-0.00036
____ CA	501.39596	370,962.36	1.184	508.24625	498.22761	497.71402
____ CD	0.00045	80.83	36.790	0.00064	0.00040	0.00032
____ CO	0.00230	9.23	25.261	0.00189	0.00203	0.00296
____ CR	0.00597	-0.85	4.523	0.00566	0.00607	0.00617
____ CU	-0.00019	152.55	691.758	-0.00048	-0.00136	0.00126
____ FE	200.77621	48,742.96	1.331	202.61389	197.71016	202.00457
____ K	0.10429	77.72	67.417	0.18260	0.08366	0.04660
____ LI	-0.00678	63.60	5.001	-0.00666	-0.00716	-0.00651
____ MG	548.42156	556,033.73	3.101	560.26724	528.93286	556.06459
____ MN	0.00260	136.68	5.698	0.00271	0.00243	0.00264
____ MO	0.00169	3.28	21.053	0.00142	0.00209	0.00156
____ NA	0.32356	221.18	5.537	0.34401	0.31060	0.31608
____ NI	0.00069	-17.48	173.529	0.00191	0.00063	-0.00047
____ P	0.01188	1.39	25.720	0.01318	0.00839	0.01408
____ PB	-0.00490	78.95	26.646	-0.00399	-0.00640	-0.00431
____ S	0.01845	1.71	43.381	0.02563	0.01989	0.00982
____ SB	-0.00001	-1.89	5714.171	0.00075	0.00561	-0.00639
____ SE	-0.01718	-4.25	79.229	-0.01406	-0.00540	-0.03208
____ SI	0.01470	0.91	75.811	0.00526	0.01184	0.02699
____ SN	0.00456	3.90	82.084	0.00517	0.00055	0.00797
____ SR	0.00004	3,076.45	275.207	-0.00003	-0.00002	0.00018
____ TI	-0.00021	0.73	45.188	-0.00023	-0.00011	-0.00030
____ TL	0.00743	-0.36	55.355	0.00842	0.00291	0.01096
____ V	-0.00188	6.48	25.764	-0.00242	-0.00173	-0.00148
____ Y1	7722.02885	7,722.03	0.462	7711.99061	7761.62268	7692.47328
____ Y2A	318233.68784	318,233.69	1.762	316879.14456	324394.69747	313427.22149
____ Y2R	16962.99803	16,963.00	1.198	16771.39572	17176.18976	16941.40859
____ ZN	0.00369	134.34	10.281	0.00337	0.00411	0.00360
____ ZR	0.00429	17.18	83.872	0.00790	0.00425	0.00071

LANCASTER LABORATORIES

Run Name: 1527906T71

Instrument ID: 16315

Tube: 9

Date/Time: 10/06/2015 20:32

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21798	2,532.28	2.463	0.21216	0.21905	0.22274
____ AL	514.79281	54,437.16	0.643	513.32275	512.47174	518.58392
____ AS	0.09749	22.85	8.860	0.10703	0.09523	0.09020
____ B	0.00820	819.99	43.036	0.00413	0.01048	0.00998
____ BA	0.52538	312,871.64	2.315	0.51194	0.52856	0.53564
____ BE	0.50994	211,733.49	2.670	0.49592	0.51078	0.52311
____ CA	513.89191	369,501.89	0.832	515.25493	509.09915	517.32165
____ CD	0.96330	6,952.98	0.267	0.96453	0.96503	0.96034
____ CO	0.48696	1,532.55	0.226	0.48712	0.48796	0.48578
____ CR	0.50482	4,124.41	2.903	0.48956	0.50610	0.51879
____ CU	0.54801	5,770.83	3.195	0.52911	0.55125	0.56367
____ FE	206.18262	48,607.34	0.748	205.46898	205.12710	207.95178
____ K	0.04819	62.53	162.301	0.13763	-0.00736	0.01429
____ LI	-0.00491	73.29	29.137	-0.00462	-0.00646	-0.00364
____ MG	584.57402	558,259.29	0.962	583.99581	579.26111	590.46515
____ MN	0.46825	22,806.93	2.531	0.45639	0.46826	0.48009
____ MO	0.00123	2.46	137.537	0.00308	0.00082	-0.00022
____ NA	0.33015	221.37	2.880	0.32198	0.32788	0.34058
____ NI	0.95671	1,804.63	0.270	0.95456	0.95957	0.95599
____ P	0.00876	1.27	55.635	0.01437	0.00630	0.00560
____ PB	0.04354	111.42	3.053	0.04499	0.04325	0.04238
____ S	0.01873	1.69	40.241	0.01350	0.01532	0.02736
____ SB	0.61865	170.78	0.479	0.62183	0.61596	0.61817
____ SE	0.04428	4.40	27.090	0.05623	0.03224	0.04436
____ SI	0.02449	2.44	29.122	0.02793	0.01629	0.02925
____ SN	0.00545	4.24	26.634	0.00447	0.00475	0.00711
____ SR	-0.00014	3,014.26	121.339	-0.00033	-0.00005	-0.00003
____ TI	-0.00029	6.33	2.191	-0.00028	-0.00029	-0.00030
____ TL	0.10408	22.47	2.649	0.10572	0.10090	0.10562
____ V	0.53221	7,260.60	3.113	0.51433	0.53525	0.54704
____ Y1	7551.07127	7,551.07	0.293	7539.73116	7536.90548	7576.57716
____ Y2A	315009.51985	315,009.52	2.713	323450.00000	315219.06023	306359.49934
____ Y2R	16499.99578	16,500.00	1.063	16582.35970	16618.96810	16298.65956
____ ZN	1.01496	5,725.99	0.219	1.01399	1.01751	1.01338
____ ZR	0.00390	15.94	101.073	-0.00018	0.00418	0.00769

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 10 Date/Time: 10/06/2015 20:35

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.52426	7,467.19	1.357	0.53065	0.52553	0.51660
____ AL	26.68448	2,987.88	2.186	27.24860	26.72115	26.08370
____ AS	0.51309	117.12	0.738	0.51585	0.50877	0.51466
____ B	0.50963	3,734.44	1.534	0.51684	0.51073	0.50132
____ BA	0.53111	355,016.34	1.778	0.53941	0.53309	0.52083
____ BE	0.51114	238,251.81	1.391	0.51753	0.51241	0.50348
____ CA	26.49869	20,979.84	1.915	27.02065	26.46831	26.00710
____ CD	0.51616	4,113.93	0.322	0.51807	0.51502	0.51539
____ CO	0.51469	1,811.50	0.400	0.51696	0.51418	0.51294
____ CR	0.51311	4,756.48	1.386	0.52001	0.51351	0.50581
____ CU	0.53281	6,043.51	1.421	0.53859	0.53559	0.52424
____ FE	26.31460	6,960.78	1.541	26.73051	26.29288	25.92042
____ K	25.97492	6,527.36	1.114	26.25202	25.99797	25.67476
____ LI	0.51914	2,863.79	0.956	0.52486	0.51655	0.51600
____ MG	26.71863	40,876.16	1.962	27.25602	26.69121	26.20866
____ MN	0.52183	28,531.02	1.267	0.52741	0.52356	0.51452
____ MO	0.50873	906.64	0.563	0.51156	0.50583	0.50879
____ NA	26.34677	26,053.51	1.114	26.62025	26.38330	26.03676
____ NI	0.51450	1,097.33	0.491	0.51724	0.51227	0.51397
____ P	0.52207	122.13	0.346	0.52388	0.52206	0.52027
____ PB	0.50824	389.79	0.320	0.50793	0.51000	0.50679
____ S	26.55055	3,142.66	0.474	26.69450	26.49655	26.46059
____ SB	0.50080	154.84	1.123	0.50251	0.50537	0.49452
____ SE	0.51359	79.04	1.121	0.50709	0.51805	0.51562
____ SI	26.27096	4,527.44	1.459	26.65320	26.27323	25.88646
____ SN	0.50531	286.02	0.314	0.50669	0.50357	0.50568
____ SR	0.52602	353,568.14	1.147	0.53003	0.52894	0.51908
____ TI	0.52820	27,510.85	1.175	0.53391	0.52910	0.52159
____ TL	0.50119	133.79	1.421	0.50252	0.50755	0.49350
____ V	0.53106	8,039.86	1.411	0.53667	0.53395	0.52255
____ Y1	8424.59300	8,424.59	0.439	8384.56969	8457.43703	8431.77229
____ Y2A	353486.94979	353,486.95	1.042	350305.98872	352630.47445	357524.38620
____ Y2R	17498.48438	17,498.48	0.724	17364.83861	17513.99440	17616.62011
____ ZN	0.51627	3,215.27	0.378	0.51852	0.51496	0.51534
____ ZR	0.50972	1,067.16	1.653	0.51887	0.50800	0.50228

LANCASTER LABORATORIES

Run Name: 1527906T71

Instrument ID: 16315

Tube: 11

Date/Time: 10/06/2015 20:38

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00006	4.70	375.505	0.00033	-0.00005	-0.00010
____ AL	0.09367	23.46	23.047	0.07026	0.09796	0.11279
____ AS	0.00128	1.34	159.370	0.00362	0.00038	-0.00015
____ B	0.00081	23.48	100.677	0.00081	-0.00001	0.00162
____ BA	0.00021	193.03	89.511	0.00009	0.00043	0.00011
____ BE	0.00016	20.27	127.318	0.00005	0.00039	0.00003
____ CA	0.06338	108.36	56.874	0.03332	0.10334	0.05347
____ CD	0.00026	-8.47	55.529	0.00010	0.00037	0.00031
____ CO	0.00020	2.82	430.841	0.00120	-0.00018	-0.00041
____ CR	0.00063	4.55	32.695	0.00067	0.00081	0.00040
____ CU	-0.00118	-18.63	50.005	-0.00051	-0.00162	-0.00142
____ FE	0.02944	10.77	75.001	0.01136	0.05404	0.02291
____ K	0.05079	67.81	108.410	0.11137	0.03718	0.00381
____ LI	0.00171	34.03	208.925	0.00029	0.00578	-0.00094
____ MG	0.06487	108.79	55.651	0.03605	0.10537	0.05319
____ MN	0.00025	24.27	95.439	0.00007	0.00052	0.00015
____ MO	0.00080	2.05	41.573	0.00044	0.00110	0.00085
____ NA	0.07409	-19.54	5.927	0.07588	0.06909	0.07731
____ NI	0.00075	8.15	37.224	0.00052	0.00105	0.00067
____ P	0.00055	-1.19	133.657	0.00131	-0.00016	0.00051
____ PB	0.00024	4.84	605.969	-0.00020	0.00182	-0.00092
____ S	0.01617	2.36	22.829	0.02036	0.01476	0.01339
____ SB	0.00082	-0.89	198.745	-0.00082	0.00246	0.00083
____ SE	-0.00126	-0.93	44.886	-0.00191	-0.00097	-0.00089
____ SI	0.02092	3.19	15.193	0.01828	0.02445	0.02003
____ SN	0.00078	2.21	149.988	0.00121	0.00166	-0.00054
____ SR	0.00025	52.76	67.145	0.00016	0.00044	0.00014
____ TI	0.00023	24.12	83.302	0.00027	0.00039	0.00002
____ TL	-0.00128	-0.58	187.498	0.00144	-0.00218	-0.00310
____ V	0.00026	-7.72	233.554	0.00057	0.00066	-0.00044
____ Y1	8717.91973	8,717.92	0.686	8652.97441	8730.06392	8770.72086
____ Y2A	362026.98518	362,026.99	0.594	360226.52621	361443.92833	364410.50100
____ Y2R	17741.63907	17,741.64	1.062	17699.33107	17577.90651	17947.67964
____ ZN	-0.00005	13.34	221.340	-0.00018	0.00005	-0.00002
____ ZR	-0.00169	5.38	190.881	0.00064	-0.00033	-0.00536

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 12 Date/Time: 10/06/2015 20:41

Sample Number: **PBW** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00015	1.78	416.543	-0.00038	0.00056	-0.00064
____ AL	0.06553	20.12	36.156	0.04120	0.08853	0.06686
____ AS	0.00050	1.13	299.617	0.00136	0.00137	-0.00123
____ B	0.00281	37.62	12.620	0.00277	0.00248	0.00318
____ BA	0.00010	118.99	54.172	0.00017	0.00008	0.00007
____ BE	0.00002	-45.67	158.149	0.00005	0.00002	-0.00001
____ CA	0.06797	111.22	12.243	0.07315	0.07239	0.05837
____ CD	0.00021	-8.71	65.793	0.00023	0.00006	0.00033
____ CO	-0.00003	1.95	1584.580	0.00019	0.00027	-0.00054
____ CR	0.00035	1.85	197.618	-0.00038	0.00043	0.00099
____ CU	-0.00154	-22.53	31.327	-0.00187	-0.00099	-0.00176
____ FE	0.01239	6.14	35.448	0.00789	0.01666	0.01262
____ K	0.00765	56.54	623.692	-0.04686	0.04182	0.02799
____ LI	-0.00038	22.38	228.873	-0.00015	-0.00134	0.00035
____ MG	0.03495	61.30	23.817	0.04223	0.03674	0.02588
____ MN	0.00041	32.95	7.478	0.00040	0.00039	0.00045
____ MO	0.00024	0.99	133.985	0.00058	-0.00004	0.00017
____ NA	0.07502	-18.55	24.263	0.09560	0.06846	0.06101
____ NI	0.00053	7.48	100.008	0.00109	0.00006	0.00043
____ P	0.00332	-0.50	104.832	-0.00004	0.00308	0.00690
____ PB	0.00460	7.95	54.891	0.00564	0.00643	0.00172
____ S	0.00353	0.79	185.906	-0.00300	0.00346	0.01011
____ SB	0.00131	-0.72	150.780	0.00307	0.00169	-0.00083
____ SE	-0.00139	-0.93	317.321	0.00084	-0.00646	0.00145
____ SI	0.01611	2.33	30.484	0.01877	0.01044	0.01911
____ SN	0.00000	1.71	0517.685	0.00076	0.00007	-0.00083
____ SR	0.00036	127.76	5.318	0.00038	0.00035	0.00035
____ TI	-0.00001	11.45	847.063	-0.00007	0.00008	-0.00004
____ TL	-0.00318	-1.08	41.118	-0.00467	-0.00220	-0.00268
____ V	0.00024	-7.95	120.650	0.00025	-0.00005	0.00052
____ Y1	8505.35878	8,505.36	0.604	8475.73412	8475.64487	8564.69736
____ Y2A	358345.96881	358,345.97	1.253	361447.24618	360395.65362	353195.00664
____ Y2R	17597.37048	17,597.37	0.673	17474.54073	17606.89346	17710.67724
____ ZN	0.00054	16.66	34.843	0.00057	0.00071	0.00034
____ ZR	-0.00043	8.00	355.032	-0.00118	0.00133	-0.00144

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 13 Date/Time: 10/06/2015 20:44

Sample Number: **LCSW** Class: **** Batch: 152751848004

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05108	872.29	2.773	0.05151	0.04949	0.05222
____ AL	2.12846	263.85	0.449	2.13937	2.12159	2.12442
____ AS	0.15417	36.68	1.609	0.15575	0.15131	0.15544
____ B	1.92064	14,269.74	1.898	1.91494	1.88736	1.95961
____ BA	2.04348	1,423,188.66	1.465	2.04426	2.01315	2.07301
____ BE	0.05225	24,528.13	1.835	0.05208	0.05139	0.05328
____ CA	4.23678	3,496.24	0.504	4.25379	4.21281	4.24374
____ CD	0.05183	410.75	0.365	0.05198	0.05189	0.05162
____ CO	0.51541	1,855.07	0.089	0.51555	0.51490	0.51579
____ CR	0.20158	1,948.90	1.505	0.20124	0.19874	0.20477
____ CU	0.26713	3,008.58	1.566	0.26725	0.26288	0.27125
____ FE	1.03815	286.69	0.891	1.03145	1.03431	1.04870
____ K	10.29028	2,686.84	0.236	10.29008	10.26613	10.31463
____ LI	1.02118	5,748.08	0.317	1.02198	1.01761	1.02394
____ MG	2.10720	3,363.43	0.533	2.11676	2.09484	2.10999
____ MN	0.51427	29,297.10	1.704	0.51389	0.50571	0.52322
____ MO	2.11699	3,845.66	0.130	2.11952	2.11739	2.11405
____ NA	10.50693	10,603.28	0.125	10.49894	10.49982	10.52203
____ NI	0.52531	1,148.19	0.316	0.52389	0.52714	0.52490
____ P	1.01915	243.79	0.249	1.01622	1.02058	1.02065
____ PB	0.15439	119.50	0.929	0.15593	0.15415	0.15309
____ S	1.07201	128.56	0.748	1.06279	1.07724	1.07600
____ SB	0.49426	153.70	0.227	0.49549	0.49329	0.49399
____ SE	0.15020	23.08	5.257	0.14469	0.14666	0.15924
____ SI	1.11793	201.63	0.552	1.11097	1.12008	1.12274
____ SN	4.14773	2,382.00	0.034	4.14634	4.14769	4.14916
____ SR	1.03985	728,065.58	1.258	1.03485	1.03001	1.05469
____ TI	1.07845	58,479.60	1.639	1.07638	1.06191	1.09708
____ TL	0.12214	32.43	1.682	0.12430	0.12192	0.12021
____ V	0.50679	7,809.98	1.819	0.50650	0.49772	0.51616
____ Y1	8591.15733	8,591.16	0.111	8582.80360	8589.14129	8601.52710
____ Y2A	368356.36474	368,356.36	1.810	368817.26941	374781.02190	361470.80292
____ Y2R	17953.20253	17,953.20	0.294	17898.61555	18003.83848	17957.15354
____ ZN	0.51020	3,225.23	0.110	0.51045	0.51059	0.50955
____ ZR	1.03832	2,221.13	0.576	1.04188	1.03141	1.04166

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 14 Date/Time: 10/06/2015 20:47

Sample Number: **8068982** Class: U*** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00035	-6.41	161.464	-0.00029	0.00018	-0.00094
____ AL	0.02948	15.85	131.094	0.07346	0.01400	0.00097
____ AS	0.00201	1.47	59.119	0.00326	0.00089	0.00188
____ B	0.11506	825.85	2.602	0.11606	0.11170	0.11743
____ BA	0.12187	79,128.31	1.886	0.12294	0.11923	0.12343
____ BE	-0.00007	-82.72	13.454	-0.00008	-0.00007	-0.00006
____ CA	120.80954	93,973.51	0.082	120.71817	120.79540	120.91504
____ CD	0.00013	-6.42	164.820	0.00021	-0.00011	0.00030
____ CO	0.00054	3.83	41.065	0.00042	0.00041	0.00080
____ CR	0.00158	11.72	37.380	0.00141	0.00110	0.00224
____ CU	-0.00095	37.57	24.756	-0.00072	-0.00119	-0.00094
____ FE	4.37997	1,158.30	0.536	4.35862	4.37619	4.40509
____ K	4.99770	1,288.16	0.988	5.02762	5.02478	4.94070
____ LI	0.00392	63.96	119.046	0.00354	0.00878	-0.00054
____ MG	27.02004	40,964.58	0.197	26.99012	27.08143	26.98858
____ MN	0.65656	34,849.85	1.815	0.66057	0.64316	0.66596
____ MO	0.00225	4.44	39.730	0.00123	0.00288	0.00265
____ NA	119.92570	117,865.34	0.164	119.70480	120.08117	119.99115
____ NI	0.00162	8.89	20.160	0.00188	0.00173	0.00125
____ P	0.00560	0.04	45.103	0.00714	0.00269	0.00697
____ PB	0.00238	7.40	53.190	0.00296	0.00093	0.00326
____ S	15.15921	1,742.93	0.091	15.17159	15.14425	15.16178
____ SB	-0.00474	-2.43	136.250	0.00226	-0.00602	-0.01046
____ SE	-0.00303	-1.06	138.717	-0.00787	-0.00083	-0.00038
____ SI	5.77455	985.73	0.588	5.73803	5.78038	5.80524
____ SN	0.00184	2.66	16.146	0.00163	0.00218	0.00172
____ SR	0.44043	288,086.23	1.426	0.44422	0.43318	0.44389
____ TI	0.00289	157.65	1.701	0.00295	0.00286	0.00287
____ TL	-0.00288	-0.85	115.095	-0.00655	-0.00012	-0.00196
____ V	-0.00030	-14.87	240.699	-0.00073	-0.00072	0.00054
____ Y1	8179.85584	8,179.86	0.069	8179.43057	8174.42767	8185.70929
____ Y2A	343235.70560	343,235.71	1.634	341256.80159	349565.94227	338884.37293
____ Y2R	17342.35258	17,342.35	0.572	17363.54562	17234.28472	17429.22739
____ ZN	0.00597	50.76	2.378	0.00589	0.00590	0.00614
____ ZR	-0.00186	4.96	126.654	0.00008	-0.00448	-0.00117

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 15 Date/Time: 10/06/2015 20:50

Sample Number: **8068982** Class: UP** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01862	370.29	8.408	0.01969	0.01935	0.01682
____ AL	1.08409	133.31	6.298	1.01602	1.15258	1.08365
____ AS	0.50495	112.99	0.468	0.50224	0.50611	0.50652
____ B	0.31104	2,210.04	1.963	0.31676	0.31174	0.30461
____ BA	0.17122	112,603.59	1.643	0.17425	0.17069	0.16870
____ BE	0.02118	9,520.56	1.738	0.02158	0.02113	0.02085
____ CA	120.18201	93,363.72	0.507	119.93889	119.73200	120.87513
____ CD	0.05055	388.21	0.291	0.05040	0.05069	0.05057
____ CO	0.10174	353.57	0.847	0.10076	0.10207	0.10238
____ CR	0.20521	1,871.75	1.686	0.20919	0.20347	0.20296
____ CU	0.51926	5,902.94	1.834	0.52885	0.51912	0.50980
____ FE	4.84751	1,279.73	0.461	4.83244	4.83693	4.87318
____ K	6.99427	1,778.97	0.964	6.92140	7.05447	7.00692
____ LI	1.03208	5,621.99	0.196	1.02976	1.03295	1.03352
____ MG	27.77524	42,033.80	0.430	27.79192	27.64844	27.88536
____ MN	0.69790	37,527.64	1.484	0.70882	0.69666	0.68821
____ MO	0.21194	371.48	0.265	0.21195	0.21249	0.21137
____ NA	120.59927	118,368.50	0.483	120.47962	120.08581	121.23237
____ NI	0.15317	325.88	0.564	0.15217	0.15371	0.15362
____ P	1.06709	245.99	0.305	1.06858	1.06336	1.06933
____ PB	0.50393	371.55	0.570	0.50140	0.50706	0.50333
____ S	15.64687	1,820.49	0.369	15.58136	15.69053	15.66873
____ SB	0.41062	124.20	0.565	0.40907	0.40949	0.41328
____ SE	0.80401	121.95	0.531	0.80846	0.79994	0.80363
____ SI	6.79690	1,159.19	0.555	6.78219	6.76876	6.83974
____ SN	0.60761	337.65	0.238	0.60739	0.60915	0.60629
____ SR	0.44816	296,965.01	0.820	0.45159	0.44861	0.44429
____ TI	0.11055	5,671.07	1.730	0.11254	0.11038	0.10872
____ TL	1.01259	267.69	0.573	1.00665	1.01825	1.01286
____ V	0.10634	1,562.74	1.968	0.10850	0.10618	0.10432
____ Y1	8278.29554	8,278.30	0.277	8302.15000	8256.50285	8276.23377
____ Y2A	347705.90024	347,705.90	1.492	342352.93630	348051.26078	352713.50365
____ Y2R	17319.28776	17,319.29	0.528	17348.23212	17392.81787	17216.81327
____ ZN	0.12682	788.40	0.176	0.12657	0.12691	0.12698
____ ZR	1.02601	2,117.35	0.220	1.02596	1.02378	1.02830

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 16 Date/Time: 10/06/2015 20:53

Sample Number: **8068982** Class: D*** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00014	-3.71	339.917	0.00038	-0.00025	-0.00056
____ AL	0.05937	18.80	24.229	0.04766	0.07543	0.05502
____ AS	0.00067	1.17	158.665	0.00100	0.00153	-0.00052
____ B	0.11382	812.39	1.991	0.11540	0.11122	0.11484
____ BA	0.12142	78,363.11	1.949	0.12212	0.11879	0.12337
____ BE	-0.00008	-86.73	22.309	-0.00008	-0.00006	-0.00009
____ CA	121.60372	92,900.23	0.780	121.13239	122.69516	120.98362
____ CD	-0.00003	-7.64	81.032	-0.00001	-0.00002	-0.00006
____ CO	0.00000	1.97	3984.814	-0.00023	0.00001	0.00021
____ CR	0.00142	10.27	8.635	0.00141	0.00155	0.00130
____ CU	-0.00172	29.20	46.127	-0.00234	-0.00197	-0.00083
____ FE	4.39049	1,140.40	0.495	4.36555	4.40529	4.40062
____ K	4.99691	1,265.06	0.753	4.96403	5.03795	4.98876
____ LI	0.00335	59.99	90.194	0.00683	0.00137	0.00185
____ MG	27.17885	40,467.72	0.693	27.06040	27.39619	27.07996
____ MN	0.65581	34,598.92	1.929	0.66037	0.64151	0.66555
____ MO	0.00137	2.89	21.811	0.00167	0.00108	0.00135
____ NA	120.94789	116,753.14	0.781	120.48688	122.03406	120.32274
____ NI	0.00046	6.46	169.960	0.00040	-0.00029	0.00127
____ P	0.00834	0.66	26.574	0.01054	0.00611	0.00838
____ PB	0.00270	7.59	54.367	0.00438	0.00201	0.00170
____ S	15.15896	1,733.52	0.392	15.11464	15.22648	15.13576
____ SB	-0.00477	-2.42	111.178	-0.01056	-0.00361	-0.00014
____ SE	-0.00554	-1.43	122.137	-0.00346	-0.01310	-0.00006
____ SI	5.82322	976.33	0.553	5.82377	5.85513	5.79076
____ SN	0.00059	1.96	34.342	0.00062	0.00038	0.00078
____ SR	0.43599	283,476.29	1.273	0.43670	0.43012	0.44115
____ TI	0.00283	153.33	4.927	0.00269	0.00297	0.00282
____ TL	-0.00360	-1.03	12.765	-0.00397	-0.00309	-0.00374
____ V	-0.00025	-13.95	175.728	0.00017	-0.00072	-0.00022
____ Y1	8135.85166	8,135.85	0.277	8146.00000	8110.06192	8151.49306
____ Y2A	341159.58859	341,159.59	1.691	337767.00398	347821.49967	337890.26211
____ Y2R	17033.79657	17,033.80	0.543	17030.68340	16942.89201	17127.81431
____ ZN	0.00574	49.06	4.587	0.00594	0.00544	0.00583
____ ZR	-0.00248	3.59	142.443	-0.00404	0.00156	-0.00495

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 17 Date/Time: 10/06/2015 20:56

Sample Number: **8068982** Class: R*** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05373	827.76	1.032	0.05361	0.05433	0.05324
____ AL	2.15091	253.23	1.224	2.13990	2.18095	2.13187
____ AS	0.16173	35.82	1.026	0.16019	0.16349	0.16149
____ B	2.19868	14,869.85	0.930	2.17594	2.21551	2.20460
____ BA	2.22847	1,411,560.29	1.410	2.19313	2.25322	2.23906
____ BE	0.05544	23,673.87	1.160	0.05472	0.05596	0.05563
____ CA	128.55359	98,158.97	1.490	128.90275	130.27059	126.48742
____ CD	0.05260	390.64	0.445	0.05273	0.05274	0.05233
____ CO	0.52171	1,747.98	0.587	0.52509	0.52089	0.51913
____ CR	0.20997	1,845.14	1.670	0.20638	0.21339	0.21014
____ CU	0.28095	2,928.76	1.240	0.27840	0.28492	0.27954
____ FE	5.56795	1,444.99	1.392	5.57124	5.64377	5.48882
____ K	15.82757	3,892.48	1.745	15.86977	16.08029	15.53264
____ LI	1.05150	5,633.65	1.861	1.05737	1.06746	1.02967
____ MG	30.02272	44,624.58	1.510	30.05640	30.45818	29.55359
____ MN	1.20380	62,362.43	1.112	1.18864	1.21400	1.20877
____ MO	2.23685	3,781.59	0.334	2.24549	2.23232	2.23275
____ NA	134.17353	129,532.13	1.407	134.32877	135.97891	132.21291
____ NI	0.52490	1,067.30	0.572	0.52833	0.52362	0.52274
____ P	1.11119	247.46	0.373	1.11544	1.10716	1.11095
____ PB	0.15743	114.62	0.425	0.15685	0.15728	0.15816
____ S	16.78781	1,885.40	0.339	16.85238	16.74456	16.76649
____ SB	0.51638	149.56	1.321	0.51328	0.52420	0.51166
____ SE	0.15236	21.89	1.997	0.15025	0.15098	0.15585
____ SI	7.17442	1,207.46	1.566	7.20196	7.27046	7.05084
____ SN	4.31895	2,308.26	0.448	4.33868	4.31816	4.30002
____ SR	1.50871	961,560.25	1.656	1.48587	1.53540	1.50487
____ TI	1.15190	56,810.55	1.200	1.13692	1.16415	1.15464
____ TL	0.12240	30.29	0.365	0.12216	0.12291	0.12212
____ V	0.53757	7,537.73	1.054	0.53269	0.54378	0.53625
____ Y1	7995.46163	7,995.46	0.414	7967.61857	7986.75632	8032.01000
____ Y2A	334996.38290	334,996.38	1.169	339184.47246	331424.03590	334380.64035
____ Y2R	17035.33332	17,035.33	1.054	17007.32363	16871.47852	17227.19780
____ ZN	0.53200	3,130.95	0.368	0.53414	0.53030	0.53155
____ ZR	1.08001	2,191.61	1.713	1.08317	1.09672	1.06013

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 18 Date/Time: 10/06/2015 20:59

Sample Number: **8068982** Class: M*** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05449	845.21	2.289	0.05584	0.05337	0.05427
____ AL	2.19451	256.66	1.650	2.17063	2.17672	2.23618
____ AS	0.16243	36.09	2.084	0.16632	0.16089	0.16009
____ B	2.21731	15,094.18	1.497	2.25448	2.19060	2.20685
____ BA	2.24823	1,433,468.11	1.450	2.28578	2.23181	2.22711
____ BE	0.05574	23,956.91	1.425	0.05664	0.05513	0.05544
____ CA	131.37172	99,770.12	0.971	129.96312	132.44870	131.70334
____ CD	0.05297	394.87	0.626	0.05267	0.05292	0.05333
____ CO	0.52662	1,770.32	0.375	0.52841	0.52450	0.52694
____ CR	0.21229	1,877.78	1.633	0.21627	0.20991	0.21068
____ CU	0.28293	2,969.70	1.626	0.28808	0.27921	0.28150
____ FE	5.69950	1,471.36	0.769	5.65557	5.74328	5.69965
____ K	16.16924	3,954.86	0.918	16.00362	16.29020	16.21392
____ LI	1.07062	5,706.34	0.462	1.06516	1.07479	1.07192
____ MG	30.48822	45,069.86	0.753	30.26681	30.72506	30.47279
____ MN	1.21062	63,126.63	1.605	1.23258	1.19567	1.20362
____ MO	2.25458	3,824.34	0.220	2.26020	2.25082	2.25271
____ NA	136.71631	131,305.15	0.882	135.41323	137.79080	136.94490
____ NI	0.53051	1,082.28	0.465	0.53136	0.52774	0.53245
____ P	1.12554	251.52	0.175	1.12617	1.12333	1.12713
____ PB	0.15402	112.63	2.056	0.15562	0.15037	0.15607
____ S	17.02137	1,918.06	0.291	17.04161	16.96488	17.05764
____ SB	0.52678	153.12	0.949	0.53059	0.52863	0.52112
____ SE	0.15139	21.81	9.097	0.16276	0.13608	0.15535
____ SI	7.29042	1,220.58	1.256	7.18962	7.36842	7.31322
____ SN	4.36995	2,343.33	0.358	4.38800	4.36037	4.36148
____ SR	1.52298	977,133.09	0.811	1.53704	1.51803	1.51388
____ TI	1.15888	57,530.61	1.421	1.17725	1.14545	1.15395
____ TL	0.12156	30.17	1.788	0.11947	0.12140	0.12380
____ V	0.54109	7,636.69	1.260	0.54887	0.53619	0.53820
____ Y1	8022.27300	8,022.27	0.542	7982.01399	8016.45835	8068.34665
____ Y2A	337206.78500	337,206.79	1.221	332544.95687	340352.52157	338722.87658
____ Y2R	16946.30510	16,946.31	0.916	17125.57351	16852.48803	16860.85376
____ ZN	0.53578	3,163.78	0.441	0.53806	0.53594	0.53334
____ ZR	1.09768	2,215.86	0.797	1.08943	1.10685	1.09676

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 19 Date/Time: 10/06/2015 21:02

Sample Number: **8068982** Class: UL** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00038	-2.64	64.518	-0.00011	-0.00044	-0.00060
____ AL	-0.01660	11.05	475.467	-0.02912	-0.08850	0.06783
____ AS	-0.00100	0.80	253.056	-0.00031	-0.00380	0.00111
____ B	0.02576	212.83	4.709	0.02508	0.02504	0.02716
____ BA	0.02474	17,353.80	4.661	0.02416	0.02400	0.02607
____ BE	-0.00002	-64.94	157.518	-0.00004	-0.00003	0.00001
____ CA	24.31649	19,544.65	1.634	24.31125	24.71630	23.92193
____ CD	0.00004	-9.52	353.741	0.00017	-0.00010	0.00005
____ CO	-0.00024	1.20	65.443	-0.00035	-0.00032	-0.00006
____ CR	0.00034	1.58	53.863	0.00013	0.00044	0.00044
____ CU	-0.00102	-5.84	39.908	-0.00055	-0.00120	-0.00131
____ FE	0.88466	242.03	2.869	0.87994	0.91207	0.86198
____ K	1.09147	331.10	6.037	1.15960	1.08678	1.02805
____ LI	0.00127	35.60	184.413	0.00202	-0.00135	0.00313
____ MG	5.56303	8,752.73	1.330	5.53666	5.64661	5.50582
____ MN	0.13271	7,602.34	2.274	0.13181	0.13024	0.13608
____ MO	0.00109	2.52	43.568	0.00116	0.00058	0.00153
____ NA	24.65185	24,730.86	1.718	24.59970	25.09899	24.25687
____ NI	0.00023	6.73	424.282	-0.00025	-0.00042	0.00137
____ P	0.00330	-0.51	29.921	0.00289	0.00258	0.00443
____ PB	0.00340	7.32	85.302	0.00054	0.00332	0.00634
____ S	3.02522	361.87	0.474	3.00865	3.03361	3.03340
____ SB	-0.00273	-1.97	103.183	-0.00563	-0.00255	0.00000
____ SE	-0.00735	-1.85	67.782	-0.01168	-0.00846	-0.00191
____ SI	1.16472	203.19	1.574	1.16773	1.18136	1.14506
____ SN	0.00049	1.99	239.329	0.00092	-0.00083	0.00137
____ SR	0.08801	61,965.52	2.205	0.08742	0.08644	0.09018
____ TI	0.00208	125.14	26.055	0.00193	0.00162	0.00268
____ TL	-0.00404	-1.29	48.096	-0.00431	-0.00198	-0.00584
____ V	-0.00029	-16.47	124.218	-0.00063	-0.00031	0.00008
____ Y1	8503.35307	8,503.35	0.579	8552.27954	8503.99420	8453.78546
____ Y2A	370048.49591	370,048.50	1.713	372592.40212	374719.14399	362833.94161
____ Y2R	17756.54821	17,756.55	0.522	17810.90256	17649.46194	17809.28015
____ ZN	0.00121	21.29	13.723	0.00124	0.00136	0.00103
____ ZR	0.00067	10.40	219.653	0.00207	-0.00086	0.00079

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 20 Date/Time: 10/06/2015 21:05

Sample Number: **8064460** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00032	8.57	123.028	-0.00013	0.00060	0.00048
____ AL	0.02089	14.62	148.403	0.00021	0.00593	0.05652
____ AS	-0.00120	0.73	58.607	-0.00113	-0.00193	-0.00053
____ B	0.00713	70.03	5.741	0.00666	0.00734	0.00738
____ BA	0.00070	534.57	10.059	0.00076	0.00072	0.00062
____ BE	-0.00001	-61.73	145.396	-0.00002	0.00001	-0.00002
____ CA	0.08207	118.43	10.336	0.07530	0.07932	0.09158
____ CD	0.00008	-9.63	21.615	0.00006	0.00010	0.00007
____ CO	0.00006	2.23	460.080	-0.00024	0.00011	0.00030
____ CR	0.00034	1.87	120.766	0.00022	0.00079	0.00001
____ CU	0.00452	48.97	31.243	0.00615	0.00375	0.00366
____ FE	0.00165	3.14	323.691	-0.00418	0.00630	0.00283
____ K	0.04371	63.37	65.855	0.03165	0.02291	0.07656
____ LI	-0.00111	17.76	159.373	-0.00314	-0.00011	-0.00006
____ MG	0.00925	20.47	23.457	0.00698	0.00947	0.01130
____ MN	0.00089	60.55	9.106	0.00098	0.00085	0.00084
____ MO	0.00095	2.25	32.231	0.00104	0.00120	0.00061
____ NA	0.26535	165.86	0.722	0.26315	0.26665	0.26624
____ NI	0.00032	6.97	205.070	0.00103	-0.00029	0.00024
____ P	0.00129	-0.98	166.415	-0.00118	0.00246	0.00257
____ PB	0.00260	6.42	48.277	0.00116	0.00316	0.00348
____ S	0.01751	2.43	31.664	0.02390	0.01464	0.01398
____ SB	-0.00078	-1.36	316.847	-0.00196	-0.00245	0.00206
____ SE	-0.00495	-1.47	46.225	-0.00400	-0.00755	-0.00328
____ SI	0.14049	23.11	4.457	0.14621	0.14147	0.13380
____ SN	0.00018	1.79	587.954	-0.00062	-0.00023	0.00140
____ SR	0.00059	289.88	10.900	0.00064	0.00061	0.00051
____ TI	0.00012	18.80	110.137	0.00007	0.00027	0.00002
____ TL	-0.00462	-1.45	61.599	-0.00155	-0.00515	-0.00717
____ V	0.00006	-10.87	569.040	0.00023	0.00031	-0.00035
____ Y1	8409.09742	8,409.10	0.378	8431.57211	8422.99241	8372.72773
____ Y2A	365449.90046	365,449.90	1.327	363666.14134	370939.11745	361744.44260
____ Y2R	17020.90396	17,020.90	0.563	17131.45950	16964.19310	16967.05929
____ ZN	0.00037	15.43	33.674	0.00022	0.00043	0.00044
____ ZR	-0.00175	5.06	119.735	-0.00416	-0.00069	-0.00039

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 21 Date/Time: 10/06/2015 21:08

Sample Number: **8064467** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00011	2.05	393.721	-0.00002	0.00027	-0.00058
____ AL	0.01200	13.51	190.230	0.01334	0.03412	-0.01146
____ AS	0.00367	1.78	45.014	0.00392	0.00191	0.00518
____ B	0.00642	62.78	10.006	0.00645	0.00576	0.00704
____ BA	0.00022	191.23	25.402	0.00016	0.00026	0.00023
____ BE	-0.00003	-68.65	36.007	-0.00003	-0.00002	-0.00004
____ CA	0.05373	95.61	11.841	0.04768	0.05313	0.06036
____ CD	-0.00015	-11.11	54.400	-0.00023	-0.00011	-0.00009
____ CO	0.00013	2.42	262.218	0.00037	0.00028	-0.00026
____ CR	-0.00016	-2.88	324.404	-0.00072	-0.00002	0.00027
____ CU	-0.00157	-22.57	49.429	-0.00071	-0.00221	-0.00180
____ FE	0.00088	2.91	429.017	-0.00081	0.00519	-0.00175
____ K	0.10024	76.25	37.791	0.11656	0.12723	0.05693
____ LI	0.00055	26.33	471.618	0.00242	-0.00240	0.00162
____ MG	0.00231	9.90	176.530	0.00201	-0.00161	0.00653
____ MN	0.00048	36.45	13.218	0.00041	0.00053	0.00051
____ MO	0.00078	1.90	34.942	0.00094	0.00047	0.00094
____ NA	0.13559	40.12	13.311	0.13754	0.15259	0.11665
____ NI	0.00039	6.93	310.979	0.00041	0.00159	-0.00083
____ P	0.00060	-1.11	288.901	-0.00139	0.00175	0.00144
____ PB	0.00004	4.39	3065.489	0.00359	-0.00084	-0.00263
____ S	0.01707	2.32	59.099	0.02865	0.01240	0.01016
____ SB	-0.00376	-2.22	50.477	-0.00284	-0.00250	-0.00594
____ SE	-0.00368	-1.24	142.925	-0.00383	0.00165	-0.00885
____ SI	0.03543	5.43	42.888	0.01794	0.04541	0.04293
____ SN	0.00104	2.22	78.412	0.00151	0.00150	0.00010
____ SR	0.00039	145.17	12.508	0.00034	0.00043	0.00039
____ TI	0.00019	21.62	140.259	0.00041	0.00025	-0.00010
____ TL	-0.00183	-0.69	94.697	-0.00006	-0.00351	-0.00191
____ V	0.00028	-7.28	130.262	0.00013	0.00002	0.00069
____ Y1	8194.39506	8,194.40	0.423	8154.50459	8216.73991	8211.94067
____ Y2A	353576.83588	353,576.84	1.804	360811.62906	348758.70936	351160.16921
____ Y2R	16838.78352	16,838.78	0.492	16887.75409	16743.20272	16885.39376
____ ZN	0.00061	16.48	27.998	0.00070	0.00042	0.00072
____ ZR	-0.00290	2.72	45.880	-0.00443	-0.00217	-0.00209

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 22 Date/Time: 10/06/2015 21:11

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.53846	7,467.44	1.397	0.54522	0.53036	0.53981
____ AL	27.14083	2,944.65	0.514	27.30021	27.04031	27.08198
____ AS	0.53257	118.28	1.216	0.53912	0.53242	0.52618
____ B	0.52768	3,763.20	1.219	0.53499	0.52288	0.52516
____ BA	0.54664	355,756.99	1.591	0.55379	0.53696	0.54916
____ BE	0.52869	239,936.91	1.175	0.53484	0.52242	0.52880
____ CA	26.93633	20,663.28	0.426	27.06860	26.87806	26.86234
____ CD	0.53562	4,155.07	0.646	0.53951	0.53290	0.53445
____ CO	0.53533	1,833.66	0.791	0.54013	0.53211	0.53376
____ CR	0.53097	4,792.47	0.882	0.53626	0.52736	0.52928
____ CU	0.54686	6,038.54	1.325	0.55431	0.53984	0.54643
____ FE	26.97048	6,911.37	0.649	27.16513	26.82612	26.92018
____ K	26.92752	6,554.65	0.383	27.00867	26.81128	26.96260
____ LI	0.53683	2,868.47	1.219	0.54420	0.53172	0.53457
____ MG	26.90706	39,883.01	0.535	27.06676	26.78719	26.86722
____ MN	0.53887	28,685.03	1.112	0.54489	0.53291	0.53880
____ MO	0.52945	918.32	0.820	0.53407	0.52545	0.52884
____ NA	27.13427	26,001.55	0.448	27.26226	27.02055	27.11999
____ NI	0.53418	1,108.65	0.969	0.53985	0.52970	0.53300
____ P	0.54275	123.61	0.720	0.54488	0.53824	0.54513
____ PB	0.53115	396.05	1.517	0.53797	0.52225	0.53321
____ S	27.55349	3,174.13	0.785	27.77593	27.34387	27.54066
____ SB	0.51801	155.91	0.746	0.51961	0.51360	0.52082
____ SE	0.53305	79.86	1.836	0.53953	0.53784	0.52179
____ SI	27.10522	4,526.26	0.243	27.17929	27.05340	27.08295
____ SN	0.52451	288.89	0.741	0.52864	0.52397	0.52092
____ SR	0.54616	357,428.45	0.766	0.54901	0.54135	0.54810
____ TI	0.54712	27,744.04	1.311	0.55462	0.54032	0.54644
____ TL	0.52428	136.23	1.133	0.52587	0.51770	0.52925
____ V	0.54808	8,078.67	1.125	0.55429	0.54196	0.54799
____ Y1	8199.34594	8,199.35	0.405	8164.88107	8231.16753	8201.98920
____ Y2A	344158.67618	344,158.68	1.009	341552.75382	348102.35567	342820.91904
____ Y2R	16954.26493	16,954.26	0.313	16902.42080	17008.42977	16951.94422
____ ZN	0.53555	3,245.43	0.646	0.53926	0.53242	0.53496
____ ZR	0.52739	1,069.61	0.465	0.52638	0.53018	0.52561

LANCASTER LABORATORIES

Run Name: 1527906T71

Instrument ID: 16315

Tube: 23

Date/Time: 10/06/2015 21:14

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00023	0.52	222.874	0.00021	-0.00010	-0.00080
____ AL	0.01859	15.26	75.082	0.01875	0.00455	0.03246
____ AS	-0.00201	0.58	45.446	-0.00221	-0.00281	-0.00101
____ B	0.00177	31.03	18.911	0.00215	0.00162	0.00153
____ BA	0.00008	107.97	70.819	0.00003	0.00008	0.00015
____ BE	-0.00001	-60.72	261.836	-0.00003	0.00001	0.00000
____ CA	0.00809	65.32	80.890	0.01476	0.00169	0.00780
____ CD	0.00017	-9.38	49.340	0.00011	0.00013	0.00026
____ CO	0.00011	2.52	43.283	0.00012	0.00014	0.00005
____ CR	0.00022	0.72	179.438	0.00059	0.00027	-0.00020
____ CU	-0.00147	-22.52	35.430	-0.00207	-0.00112	-0.00123
____ FE	0.01123	5.99	81.935	0.02059	0.01092	0.00219
____ K	0.10675	83.48	12.011	0.10698	0.11945	0.09381
____ LI	-0.00041	22.83	99.349	0.00002	-0.00045	-0.00078
____ MG	0.00683	17.92	99.764	0.01178	-0.00094	0.00965
____ MN	0.00009	15.57	32.796	0.00010	0.00011	0.00006
____ MO	0.00033	1.21	58.583	0.00051	0.00012	0.00036
____ NA	0.08983	-3.75	10.287	0.09966	0.08852	0.08132
____ NI	0.00041	7.51	44.536	0.00052	0.00052	0.00020
____ P	0.00305	-0.59	72.843	0.00472	0.00391	0.00053
____ PB	0.00049	5.09	212.639	-0.00036	0.00167	0.00018
____ S	0.00877	1.47	59.998	0.00650	0.00502	0.01478
____ SB	0.00017	-1.12	2498.773	0.00432	0.00049	-0.00429
____ SE	-0.00347	-1.31	82.866	-0.00663	-0.00279	-0.00100
____ SI	0.03136	5.12	55.558	0.04380	0.01145	0.03882
____ SN	0.00112	2.44	58.255	0.00074	0.00075	0.00188
____ SR	0.00017	-0.17	21.891	0.00013	0.00017	0.00021
____ TI	0.00013	19.28	104.001	0.00009	0.00027	0.00002
____ TL	-0.00379	-1.29	110.736	-0.00852	-0.00232	-0.00053
____ V	0.00009	-10.50	45.560	0.00014	0.00008	0.00006
____ Y1	8832.54386	8,832.54	0.323	8836.51770	8858.89433	8802.21956
____ Y2A	369727.30038	369,727.30	0.788	370777.78699	371970.47113	366433.64300
____ Y2R	18064.29031	18,064.29	0.940	18240.86462	17902.19561	18049.81072
____ ZN	-0.00008	13.34	207.800	0.00007	-0.00024	-0.00005
____ ZR	-0.00165	5.55	176.613	-0.00394	0.00164	-0.00266

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 24 Date/Time: 10/06/2015 21:17

Sample Number: **8064471** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00029	8.30	81.180	0.00025	0.00008	0.00054
____ AL	0.00840	14.19	321.751	0.01012	0.03450	-0.01944
____ AS	-0.00047	0.94	564.471	-0.00178	0.00256	-0.00217
____ B	0.00719	71.42	5.834	0.00762	0.00678	0.00718
____ BA	0.00092	690.91	18.870	0.00074	0.00093	0.00108
____ BE	0.00002	-46.50	164.490	-0.00001	0.00001	0.00007
____ CA	0.09717	139.01	0.615	0.09648	0.09750	0.09753
____ CD	-0.00001	-10.84	1977.400	0.00017	0.00000	-0.00019
____ CO	-0.00003	2.00	1099.235	0.00039	-0.00022	-0.00027
____ CR	0.00024	0.88	153.977	0.00045	-0.00019	0.00045
____ CU	0.00958	110.80	2.818	0.00943	0.00989	0.00942
____ FE	-0.00671	1.05	51.176	-0.00995	-0.00706	-0.00311
____ K	0.02935	64.05	255.390	0.10317	0.03154	-0.04667
____ LI	-0.00078	20.88	186.923	0.00080	-0.00106	-0.00208
____ MG	0.01571	32.35	12.947	0.01773	0.01366	0.01576
____ MN	0.00591	349.43	3.324	0.00581	0.00579	0.00614
____ MO	0.00087	2.21	41.220	0.00122	0.00088	0.00051
____ NA	0.34018	254.47	2.879	0.34060	0.34977	0.33019
____ NI	0.00026	7.18	228.258	-0.00042	0.00054	0.00067
____ P	0.00189	-0.87	20.628	0.00145	0.00219	0.00202
____ PB	-0.00076	4.17	159.884	-0.00204	0.00036	-0.00059
____ S	0.01019	1.64	50.399	0.01597	0.00842	0.00617
____ SB	-0.00193	-1.80	259.873	0.00349	-0.00289	-0.00638
____ SE	-0.00367	-1.34	99.465	-0.00654	-0.00490	0.00044
____ SI	0.22657	40.11	5.422	0.21340	0.22860	0.23771
____ SN	-0.00061	1.42	73.804	-0.00101	-0.00012	-0.00070
____ SR	0.00055	265.67	27.170	0.00041	0.00053	0.00070
____ TI	0.00005	15.12	188.186	-0.00005	0.00008	0.00013
____ TL	-0.00341	-1.19	60.986	-0.00131	-0.00547	-0.00346
____ V	0.00055	-3.25	61.698	0.00087	0.00058	0.00020
____ Y1	8826.13031	8,826.13	0.202	8805.94287	8839.83720	8832.61087
____ Y2A	370729.51228	370,729.51	0.444	371479.67817	371867.61778	368841.24088
____ Y2R	18191.33611	18,191.34	0.336	18257.22399	18136.39765	18180.38669
____ ZN	0.00027	15.58	42.815	0.00032	0.00034	0.00014
____ ZR	-0.00130	6.41	204.095	0.00142	-0.00387	-0.00144

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 25 Date/Time: 10/06/2015 21:19

Sample Number: **8068985** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00065	12.93	134.220	0.00010	0.00019	0.00166
____ AL	0.00012	12.64	3933.298	0.01544	0.04471	-0.05978
____ AS	0.00043	1.09	893.283	0.00478	-0.00119	-0.00230
____ B	0.09876	711.28	2.654	0.10004	0.09574	0.10049
____ BA	0.05429	36,105.34	2.400	0.05490	0.05279	0.05516
____ BE	-0.00010	-98.54	25.887	-0.00008	-0.00012	-0.00008
____ CA	116.38742	90,787.28	0.600	115.97179	117.19394	115.99654
____ CD	-0.00006	-10.60	125.047	-0.00007	-0.00012	0.00002
____ CO	-0.00066	-0.25	30.620	-0.00051	-0.00089	-0.00058
____ CR	0.00170	14.38	28.122	0.00215	0.00176	0.00120
____ CU	-0.00008	47.40	1434.928	0.00109	-0.00129	-0.00005
____ FE	0.01307	6.24	40.147	0.01471	0.01729	0.00720
____ K	2.25467	612.20	0.886	2.24535	2.24106	2.27761
____ LI	0.00382	63.00	60.017	0.00634	0.00186	0.00326
____ MG	19.45903	29,711.81	0.429	19.38597	19.55014	19.44099
____ MN	0.00098	63.23	5.149	0.00096	0.00104	0.00094
____ MO	0.00206	4.19	10.163	0.00228	0.00206	0.00186
____ NA	61.15926	60,211.71	0.509	60.92990	61.51356	61.03432
____ NI	0.00112	8.59	16.350	0.00116	0.00092	0.00128
____ P	0.00977	1.01	18.002	0.01054	0.01100	0.00775
____ PB	0.00227	7.47	65.117	0.00297	0.00326	0.00057
____ S	5.73169	672.39	0.270	5.71502	5.74555	5.73449
____ SB	-0.00279	-1.96	153.411	0.00142	-0.00266	-0.00713
____ SE	-0.00482	-1.44	172.239	0.00475	-0.00908	-0.01015
____ SI	7.07390	1,210.63	0.947	6.99682	7.11823	7.10665
____ SN	0.00011	1.74	483.846	-0.00038	0.00067	0.00003
____ SR	0.62001	414,792.05	2.002	0.62738	0.60568	0.62696
____ TI	0.00271	152.01	4.057	0.00279	0.00259	0.00276
____ TL	-0.00383	-1.23	111.177	-0.00060	-0.00224	-0.00865
____ V	0.00026	-7.74	112.024	0.00044	-0.00007	0.00040
____ Y1	8340.42698	8,340.43	0.108	8336.10278	8350.73860	8334.43956
____ Y2A	351383.46052	351,383.46	2.188	347765.84273	360211.42999	346173.10883
____ Y2R	17385.37354	17,385.37	0.440	17455.67500	17303.90594	17396.53969
____ ZN	0.00359	34.88	7.136	0.00330	0.00370	0.00377
____ ZR	-0.00016	8.45	1071.671	-0.00004	0.00151	-0.00197

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 26 Date/Time: 10/06/2015 21:23

Sample Number: **8068986** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00016	1.21	648.264	0.00102	-0.00074	-0.00076
____ AL	-0.01815	10.49	67.606	-0.01526	-0.03160	-0.00758
____ AS	0.00141	1.29	162.677	-0.00123	0.00256	0.00290
____ B	0.15945	1,103.36	1.857	0.16129	0.15604	0.16103
____ BA	0.14659	94,133.48	2.365	0.14847	0.14258	0.14870
____ BE	-0.00009	-91.97	9.071	-0.00008	-0.00010	-0.00009
____ CA	121.92695	93,775.96	0.695	121.20989	122.86229	121.70866
____ CD	0.00065	-4.92	46.566	0.00036	0.00061	0.00096
____ CO	0.00036	3.20	181.197	0.00096	0.00043	-0.00032
____ CR	0.13595	1,211.21	1.969	0.13810	0.13295	0.13680
____ CU	-0.00038	45.19	68.610	-0.00056	-0.00008	-0.00051
____ FE	0.00051	2.88	955.930	0.00334	-0.00509	0.00328
____ K	7.35565	1,849.64	1.434	7.24806	7.45891	7.35998
____ LI	0.00582	73.63	31.005	0.00700	0.00670	0.00374
____ MG	30.06001	44,981.34	0.734	29.91274	30.31372	29.95357
____ MN	0.00604	326.73	0.933	0.00604	0.00598	0.00610
____ MO	0.00137	2.91	31.534	0.00098	0.00129	0.00183
____ NA	126.51521	122,958.92	0.710	125.76767	127.51163	126.26632
____ NI	0.00235	10.95	35.002	0.00163	0.00217	0.00325
____ P	0.00930	0.88	22.092	0.01068	0.00694	0.01028
____ PB	0.00540	9.28	14.809	0.00459	0.00543	0.00619
____ S	16.60844	1,904.23	1.344	16.78298	16.68541	16.35693
____ SB	-0.00547	-2.52	34.811	-0.00357	-0.00547	-0.00738
____ SE	-0.00263	-1.07	221.228	-0.00856	-0.00235	0.00304
____ SI	5.67833	958.51	0.399	5.65272	5.69578	5.68648
____ SN	-0.00078	1.21	146.465	-0.00121	0.00051	-0.00164
____ SR	0.51248	331,482.13	1.605	0.51511	0.50326	0.51907
____ TI	0.00255	139.97	5.327	0.00254	0.00268	0.00241
____ TL	0.00101	0.08	331.555	-0.00150	-0.00030	0.00483
____ V	0.00005	-10.41	1307.479	-0.00065	0.00027	0.00052
____ Y1	8158.04899	8,158.05	1.206	8106.61074	8096.06197	8271.47426
____ Y2A	339551.70316	339,551.70	2.180	335271.81486	348097.95952	335285.33510
____ Y2R	17149.42822	17,149.43	0.852	17297.41465	17005.24476	17145.62525
____ ZN	1.08350	6,448.29	1.432	1.09433	1.09045	1.06573
____ ZR	-0.00281	2.96	78.769	-0.00210	-0.00530	-0.00105

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 27 Date/Time: 10/06/2015 21:26

Sample Number: **8068988** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00017	-4.63	28.771	-0.00022	-0.00017	-0.00012
____ AL	-0.00067	12.35	1779.386	-0.00258	0.03219	-0.03161
____ AS	0.00826	2.84	15.236	0.00895	0.00681	0.00903
____ B	0.14769	1,043.70	3.746	0.15289	0.14830	0.14187
____ BA	0.08468	54,495.85	3.515	0.08752	0.08492	0.08158
____ BE	-0.00009	-93.02	21.751	-0.00010	-0.00010	-0.00007
____ CA	132.36832	101,317.42	0.861	133.54792	131.27462	132.28242
____ CD	-0.00008	-7.65	172.858	0.00001	-0.00024	-0.00002
____ CO	0.00066	4.22	108.518	0.00140	0.00060	-0.00003
____ CR	0.00161	11.69	14.205	0.00186	0.00141	0.00155
____ CU	-0.00142	37.29	68.155	-0.00237	-0.00145	-0.00044
____ FE	5.07527	1,321.13	1.072	5.12831	5.01956	5.07795
____ K	3.18036	826.61	1.107	3.21976	3.15193	3.16940
____ LI	0.00515	71.36	30.076	0.00579	0.00627	0.00338
____ MG	20.86492	31,271.71	1.054	21.10888	20.68201	20.80387
____ MN	0.33606	17,680.43	3.660	0.34752	0.33761	0.32306
____ MO	0.00151	3.15	7.643	0.00141	0.00164	0.00149
____ NA	63.10883	61,042.98	0.873	63.70365	62.61575	63.00709
____ NI	0.00281	11.22	7.942	0.00290	0.00256	0.00298
____ P	0.01917	3.13	4.797	0.01849	0.01881	0.02022
____ PB	0.00142	7.01	125.998	0.00345	0.00016	0.00063
____ S	3.55514	408.14	0.432	3.54451	3.54816	3.57276
____ SB	-0.00157	-1.45	187.441	0.00137	-0.00157	-0.00451
____ SE	-0.00676	-1.64	73.654	-0.00914	-0.00104	-0.01010
____ SI	7.30539	1,228.31	0.613	7.33802	7.25438	7.32379
____ SN	0.00022	1.76	499.698	-0.00043	0.00146	-0.00038
____ SR	0.41260	267,548.37	3.719	0.42193	0.42099	0.39490
____ TI	0.00282	152.25	6.753	0.00302	0.00278	0.00265
____ TL	-0.00179	-0.65	181.698	-0.00066	-0.00547	0.00074
____ V	0.00036	-4.78	166.769	0.00080	-0.00032	0.00057
____ Y1	8156.38221	8,156.38	0.250	8166.74665	8132.85843	8169.54155
____ Y2A	340355.58591	340,355.59	3.751	328826.29654	338161.91108	354078.55010
____ Y2R	17080.51802	17,080.52	0.674	16958.37500	17187.22500	17095.95405
____ ZN	0.02455	161.36	0.566	0.02444	0.02451	0.02471
____ ZR	-0.00024	8.13	724.856	0.00063	-0.00227	0.00091

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 28 Date/Time: 10/06/2015 21:29

Sample Number: **8070286** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00005	4.73	439.689	0.00018	-0.00022	0.00020
____ AL	-0.03064	9.24	83.405	-0.05949	-0.01086	-0.02156
____ AS	0.00241	1.55	42.722	0.00282	0.00124	0.00317
____ B	0.00426	50.25	21.834	0.00324	0.00449	0.00505
____ BA	0.00060	478.15	8.453	0.00054	0.00063	0.00063
____ BE	-0.00002	-66.55	133.491	-0.00004	-0.00001	0.00000
____ CA	0.11845	149.84	30.787	0.09906	0.16052	0.09578
____ CD	-0.00002	-10.41	1125.405	0.00017	-0.00017	-0.00005
____ CO	0.00007	2.29	482.104	-0.00029	0.00041	0.00010
____ CR	0.00013	-0.17	576.053	0.00097	-0.00041	-0.00017
____ CU	0.00656	75.32	2.303	0.00673	0.00644	0.00650
____ FE	0.00623	4.43	75.706	0.00179	0.01118	0.00573
____ K	0.05421	67.46	61.051	0.04228	0.09162	0.02873
____ LI	-0.00018	23.20	465.918	-0.00113	0.00014	0.00045
____ MG	0.02362	43.23	27.839	0.02281	0.03057	0.01749
____ MN	0.00121	80.82	6.046	0.00113	0.00127	0.00122
____ MO	0.00058	1.60	100.357	0.00016	0.00034	0.00125
____ NA	0.42893	331.27	4.511	0.42168	0.45086	0.41425
____ NI	0.00014	6.61	469.272	-0.00031	0.00089	-0.00016
____ P	0.00322	-0.52	41.827	0.00285	0.00209	0.00471
____ PB	0.00100	5.27	147.177	0.00268	-0.00004	0.00036
____ S	0.02102	2.86	40.662	0.01748	0.01481	0.03077
____ SB	0.00012	-1.09	4317.229	0.00194	-0.00556	0.00397
____ SE	-0.00679	-1.76	53.575	-0.00352	-0.01071	-0.00614
____ SI	0.17549	29.64	2.521	0.17863	0.17742	0.17043
____ SN	0.00071	2.10	193.498	-0.00086	0.00131	0.00167
____ SR	0.00054	267.34	23.192	0.00041	0.00066	0.00057
____ TI	0.00012	19.02	28.390	0.00015	0.00009	0.00011
____ TL	-0.00433	-1.38	15.302	-0.00497	-0.00365	-0.00437
____ V	0.00038	-6.12	102.482	0.00037	0.00000	0.00077
____ Y1	8449.48062	8,449.48	0.293	8466.79984	8460.46744	8421.17459
____ Y2A	375711.30400	375,711.30	0.836	378637.02721	376106.53974	372390.34506
____ Y2R	17413.49444	17,413.49	1.274	17638.01979	17407.93024	17194.53328
____ ZN	0.00066	17.33	7.656	0.00071	0.00061	0.00066
____ ZR	-0.00199	4.71	113.808	0.00018	-0.00433	-0.00181

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 29 Date/Time: 10/06/2015 21:31

Sample Number: **8070356** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT		AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG		-0.00019	-4.03	255.080	0.00028	-0.00068	-0.00016
____ AL		0.03992	14.37	45.685	0.05340	0.01917	0.04720
____ AS		0.00585	1.68	180.471	0.01588	0.00682	-0.00516
____ B		3.60270	17,090.55	2.825	3.54124	3.54669	3.72016
____ BA		0.21581	95,988.09	2.732	0.21206	0.21278	0.22261
____ BE		-0.00020	-95.35	14.265	-0.00021	-0.00021	-0.00016
____ CA		308.51753	200,341.77	0.814	307.47097	306.69965	311.38198
____ CD		-0.00047	-7.33	36.667	-0.00030	-0.00065	-0.00048
____ CO		0.00600	16.19	13.729	0.00695	0.00549	0.00556
____ CR		0.00275	14.99	30.568	0.00368	0.00205	0.00251
____ CU		0.07257	645.52	2.997	0.07108	0.07155	0.07506
____ FE		6.10127	1,364.09	0.540	6.06455	6.11102	6.12824
____ K		288.78791	60,419.82	0.758	287.65585	287.39675	291.31113
____ LI		0.13871	696.41	4.580	0.13153	0.14361	0.14098
____ MG	k	0.00000	647,622.32	0.000	0.00000	0.00000	0.00000
____ MN		0.61309	22,298.03	2.647	0.60297	0.60450	0.63181
____ MO		0.00384	5.21	29.123	0.00419	0.00474	0.00259
____ NA		3256.48965	2,711,109.27	1.078	3296.99587	3235.23243	3237.24066
____ NI		0.00725	14.66	12.991	0.00834	0.00672	0.00669
____ P		0.84891	139.40	3.231	0.86883	0.81762	0.86026
____ PB		0.00811	9.11	3.516	0.00842	0.00805	0.00785
____ S		578.93310	48,083.28	3.056	594.14461	559.51818	583.13650
____ SB		-0.00547	-1.88	71.632	-0.00930	-0.00563	-0.00147
____ SE		-0.01881	-2.48	58.186	-0.01006	-0.01530	-0.03108
____ SI		10.79575	1,560.16	0.754	10.80035	10.71219	10.87470
____ SN		0.00212	2.01	158.975	0.00601	0.00026	0.00009
____ SR		5.12928	2,294,476.55	2.548	5.04797	5.05986	5.28001
____ TI		0.00215	82.00	18.171	0.00199	0.00186	0.00259
____ TL		-0.00493	-1.02	70.353	-0.00303	-0.00282	-0.00893
____ V		-0.00163	-23.43	19.664	-0.00127	-0.00175	-0.00188
____ Y1		5914.12866	5,914.13	2.496	5796.41074	6079.70638	5866.26885
____ Y2A		235237.09510	235,237.10	2.502	238767.80981	238501.19976	228442.27575
____ Y2R		14679.33971	14,679.34	0.705	14669.20427	14787.58986	14581.22500
____ ZN		0.15946	698.48	2.942	0.16351	0.15432	0.16056
____ ZR		0.00249	11.77	77.652	0.00036	0.00413	0.00299

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 30 Date/Time: 10/06/2015 21:35

Sample Number: **8070357** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT		AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG		-0.00068	-8.88	122.602	-0.00093	-0.00137	0.00025
____ AL		0.00562	11.67	370.513	0.00831	0.02496	-0.01641
____ AS		0.00044	0.89	1346.660	-0.00635	0.00436	0.00330
____ B		3.17911	16,863.75	2.276	3.13028	3.26224	3.14481
____ BA		0.18926	94,129.07	1.978	0.18670	0.19355	0.18752
____ BE		-0.00020	-108.63	13.644	-0.00019	-0.00019	-0.00023
____ CA		292.04826	198,077.13	0.958	293.01681	288.89597	294.23199
____ CD		-0.00037	-7.76	54.156	-0.00057	-0.00039	-0.00016
____ CO		0.00454	13.71	11.290	0.00504	0.00457	0.00401
____ CR		0.00230	13.81	10.463	0.00254	0.00229	0.00206
____ CU		0.00402	130.04	43.847	0.00440	0.00555	0.00209
____ FE		5.17633	1,207.98	0.843	5.17481	5.13346	5.22070
____ K		274.51961	59,917.54	0.995	275.74469	271.39066	276.42348
____ LI		0.12628	664.78	2.332	0.12530	0.12396	0.12959
____ MG	k	0.00000	643,917.95	0.000	0.00000	0.00000	0.00000
____ MN		0.53837	21,895.34	1.898	0.53227	0.55016	0.53266
____ MO		0.00336	5.00	35.221	0.00428	0.00378	0.00203
____ NA		3006.76521	2,611,130.80	1.994	3073.15398	2956.60173	2990.53991
____ NI		0.00633	14.55	7.681	0.00687	0.00593	0.00619
____ P		0.67527	120.32	0.278	0.67528	0.67338	0.67714
____ PB		0.00265	6.64	120.598	0.00050	0.00632	0.00112
____ S		532.79101	48,101.16	0.279	531.08141	533.50320	533.78842
____ SB		-0.00613	-2.22	45.908	-0.00767	-0.00783	-0.00288
____ SE		-0.00981	-1.64	39.981	-0.00789	-0.00721	-0.01432
____ SI		10.14226	1,529.01	1.273	10.12696	10.02151	10.27830
____ SN		0.00157	1.97	49.413	0.00146	0.00086	0.00240
____ SR		4.53941	2,270,589.36	2.166	4.46060	4.64962	4.50801
____ TI		0.00136	61.21	28.594	0.00130	0.00177	0.00100
____ TL		-0.00491	-1.11	80.173	-0.00439	-0.00908	-0.00126
____ V		-0.00179	-28.17	5.341	-0.00171	-0.00190	-0.00177
____ Y1		6425.48687	6,425.49	0.350	6451.22804	6415.37039	6409.86218
____ Y2A		262987.21730	262,987.22	1.944	265944.78681	257085.06944	265931.79563
____ Y2R		15313.90393	15,313.90	1.054	15200.97843	15498.77939	15241.95397
____ ZN		0.11128	533.05	0.478	0.11076	0.11127	0.11182
____ ZR		0.00143	10.34	62.220	0.00241	0.00121	0.00067

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 31 Date/Time: 10/06/2015 21:38

Sample Number: **8070358** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00002	-6.25	1555.726	-0.00010	-0.00014	0.00028
____ AL	0.46589	63.38	0.465	0.46350	0.46647	0.46771
____ AS	0.01386	3.97	28.743	0.01025	0.01319	0.01814
____ B	3.88607	25,496.75	0.551	3.86234	3.90390	3.89197
____ BA	0.73139	449,672.03	0.763	0.72494	0.73466	0.73457
____ BE	-0.00005	-74.50	19.150	-0.00006	-0.00005	-0.00004
____ CA	95.79088	73,973.43	0.570	95.22043	96.30791	95.84429
____ CD	0.00001	-4.69	1110.619	-0.00009	-0.00003	0.00016
____ CO	0.00134	6.47	29.969	0.00163	0.00088	0.00150
____ CR	0.00236	16.66	9.084	0.00250	0.00245	0.00211
____ CU	0.00017	33.33	199.490	0.00054	-0.00008	0.00004
____ FE	8.74269	2,285.13	0.591	8.68316	8.76945	8.77548
____ K	25.02749	6,178.51	0.411	25.03218	25.12786	24.92242
____ LI	0.00349	57.26	8.068	0.00330	0.00381	0.00335
____ MG	55.92434	82,532.37	0.675	55.49443	56.20211	56.07647
____ MN	0.37012	18,615.75	0.425	0.36834	0.37069	0.37133
____ MO	0.00370	6.71	4.357	0.00388	0.00356	0.00366
____ NA	595.72419	580,484.58	1.070	588.36360	599.45342	599.35556
____ NI	0.00125	7.30	64.522	0.00085	0.00072	0.00217
____ P	0.13966	29.66	0.913	0.13850	0.14103	0.13944
____ PB	0.00230	8.40	64.133	0.00294	0.00335	0.00061
____ S	1.24805	139.19	7.872	1.35790	1.21768	1.16858
____ SB	-0.00143	-1.30	330.280	-0.00086	-0.00640	0.00298
____ SE	-0.00363	-1.11	231.432	0.00115	-0.01332	0.00129
____ SI	11.33695	1,917.95	1.207	11.25664	11.49492	11.25930
____ SN	0.00188	2.58	35.645	0.00201	0.00247	0.00115
____ SR	0.91468	565,894.17	0.485	0.90967	0.91809	0.91628
____ TI	0.01957	946.91	16.972	0.01733	0.01800	0.02339
____ TL	0.00079	-0.01	239.683	0.00103	0.00254	-0.00121
____ V	0.00108	6.22	13.932	0.00124	0.00096	0.00103
____ Y1	7905.36531	7,905.37	0.531	7920.83999	7857.80844	7937.44751
____ Y2A	325112.94880	325,112.95	0.722	327624.33511	324741.10705	322973.40426
____ Y2R	17184.11037	17,184.11	0.658	17306.54168	17083.64886	17162.14058
____ ZN	0.00457	43.21	5.050	0.00437	0.00450	0.00482
____ ZR	0.00048	9.64	573.266	-0.00268	0.00228	0.00184

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 32 Date/Time: 10/06/2015 21:41

Sample Number: **8070359** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00046	-8.32	59.777	-0.00040	-0.00022	-0.00076
____ AL	-0.01853	10.52	137.999	0.01011	-0.03908	-0.02664
____ AS	0.01182	3.54	33.867	0.01029	0.00880	0.01635
____ B	3.78948	25,004.68	0.066	3.79235	3.78817	3.78792
____ BA	0.69743	431,442.98	0.583	0.69803	0.70116	0.69310
____ BE	-0.00008	-84.93	18.290	-0.00010	-0.00007	-0.00007
____ CA	92.68204	71,941.02	0.285	92.82115	92.84770	92.37727
____ CD	-0.00002	-6.93	1235.535	-0.00013	0.00025	-0.00018
____ CO	0.00118	5.88	16.947	0.00115	0.00100	0.00140
____ CR	0.00165	11.60	29.452	0.00123	0.00219	0.00154
____ CU	-0.00132	19.61	45.303	-0.00084	-0.00112	-0.00199
____ FE	5.21845	1,373.23	0.228	5.22587	5.22475	5.20474
____ K	23.76834	5,899.01	0.333	23.69361	23.85142	23.76000
____ LI	0.00366	58.04	41.762	0.00338	0.00229	0.00531
____ MG	53.85708	79,973.39	0.235	53.84088	53.99096	53.73939
____ MN	0.35524	17,977.79	0.462	0.35544	0.35677	0.35351
____ MO	0.00374	6.84	13.144	0.00428	0.00363	0.00332
____ NA	582.81244	570,697.83	0.192	583.89355	581.65487	582.88891
____ NI	0.00105	7.41	15.748	0.00086	0.00115	0.00113
____ P	0.04220	8.20	1.228	0.04279	0.04193	0.04187
____ PB	0.00065	6.86	109.168	0.00138	-0.00003	0.00060
____ S	0.96694	108.96	2.560	0.96528	0.99249	0.94306
____ SB	-0.00468	-2.33	76.446	-0.00780	-0.00077	-0.00548
____ SE	-0.00578	-1.45	170.189	-0.00888	-0.01368	0.00523
____ SI	10.20956	1,735.65	1.080	10.16849	10.33445	10.12573
____ SN	0.00190	2.62	64.946	0.00090	0.00152	0.00328
____ SR	0.88283	549,555.19	0.522	0.88059	0.88814	0.87977
____ TI	0.00323	166.29	3.052	0.00317	0.00317	0.00334
____ TL	-0.00280	-0.89	70.258	-0.00427	-0.00357	-0.00057
____ V	0.00026	-6.08	57.540	0.00043	0.00021	0.00015
____ Y1	7977.53015	7,977.53	0.614	7948.97623	7949.56509	8034.04914
____ Y2A	327110.81560	327,110.82	0.113	327436.25332	326710.68816	327185.50532
____ Y2R	17267.94711	17,267.95	0.237	17264.18245	17228.97103	17310.68786
____ ZN	0.00191	26.30	7.636	0.00182	0.00208	0.00182
____ ZR	0.00081	10.39	180.318	0.00102	-0.00074	0.00214

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 33 Date/Time: 10/06/2015 21:45

Sample Number: **8070360** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00069	-13.48	122.436	0.00021	-0.00081	-0.00146
____ AL	0.03894	15.19	129.728	0.02995	0.09334	-0.00648
____ AS	0.00209	1.27	113.351	-0.00064	0.00347	0.00343
____ B	1.94669	10,635.79	0.625	1.93346	1.95741	1.94918
____ BA	0.90445	462,075.23	1.264	0.89132	0.90991	0.91213
____ BE	-0.00020	-108.24	8.356	-0.00019	-0.00021	-0.00018
____ CA	251.67780	174,469.89	0.254	251.78865	250.99010	252.25466
____ CD	-0.00029	-5.51	119.096	0.00010	-0.00054	-0.00043
____ CO	0.00374	12.14	25.278	0.00267	0.00410	0.00445
____ CR	0.00203	11.33	41.100	0.00110	0.00273	0.00226
____ CU	-0.00087	75.43	183.378	-0.00184	0.00097	-0.00175
____ FE	9.57532	2,272.08	0.250	9.58093	9.54908	9.59594
____ K	147.24875	32,775.61	0.143	147.40412	147.00904	147.33307
____ LI	0.05982	348.13	4.706	0.05657	0.06146	0.06143
____ MG	556.71144	515,611.97	2.038	569.72517	551.52673	548.88243
____ MN	0.56657	23,675.77	0.963	0.56030	0.56913	0.57027
____ MO	0.00194	3.21	40.909	0.00274	0.00116	0.00191
____ NA	2562.22445	2,267,706.23	0.392	2573.40475	2559.25881	2554.00978
____ NI	0.00324	9.52	34.908	0.00409	0.00366	0.00196
____ P	0.05282	8.93	6.016	0.05318	0.04947	0.05580
____ PB	0.00191	6.29	148.775	0.00380	0.00328	-0.00136
____ S	343.33250	32,525.96	0.330	343.70727	344.22929	342.06093
____ SB	-0.00376	-1.67	135.648	0.00077	-0.00276	-0.00928
____ SE	0.00337	-0.06	218.738	-0.00072	-0.00105	0.01188
____ SI	7.35307	1,129.56	0.343	7.34705	7.33140	7.38076
____ SN	0.00278	2.61	68.822	0.00437	0.00332	0.00066
____ SR	3.28690	1,689,611.71	0.478	3.27064	3.28807	3.30198
____ TI	0.00241	104.77	5.870	0.00231	0.00257	0.00234
____ TL	-0.00092	-0.34	307.163	0.00222	-0.00177	-0.00319
____ V	-0.00218	-32.60	13.296	-0.00252	-0.00200	-0.00203
____ Y1	6742.47235	6,742.47	0.269	6741.00439	6725.08239	6761.33027
____ Y2A	270172.60730	270,172.61	0.933	273044.22052	269155.47968	268318.12169
____ Y2R	15605.53367	15,605.53	0.317	15607.99201	15653.68893	15554.92008
____ ZN	0.00552	41.95	2.332	0.00539	0.00553	0.00564
____ ZR	-0.00010	7.71	2497.722	0.00148	-0.00281	0.00104

LANCASTER LABORATORIES

Run Name: 1527906T71

Instrument ID: 16315

Tube: 34

Date/Time: 10/06/2015 21:48

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.51524	7,446.34	1.693	0.52400	0.51515	0.50655
____ AL	25.65869	2,933.69	0.234	25.64764	25.72344	25.60500
____ AS	0.50487	116.41	0.691	0.50374	0.50878	0.50208
____ B	0.50758	3,771.68	1.465	0.51375	0.50967	0.49932
____ BA	0.51774	351,166.35	1.534	0.52324	0.52135	0.50864
____ BE	0.50220	237,515.07	1.657	0.50988	0.50336	0.49336
____ CA	25.38737	20,524.12	0.236	25.35129	25.45656	25.35426
____ CD	0.51048	4,108.80	0.341	0.51227	0.50879	0.51037
____ CO	0.50933	1,810.47	0.161	0.51026	0.50901	0.50871
____ CR	0.50225	4,724.23	1.236	0.50830	0.50255	0.49590
____ CU	0.52562	6,049.45	1.763	0.53509	0.52520	0.51657
____ FE	25.50781	6,890.03	0.268	25.46729	25.58678	25.46935
____ K	25.70082	6,593.83	0.238	25.75975	25.70527	25.63744
____ LI	0.51085	2,877.06	1.016	0.51259	0.51495	0.50501
____ MG	25.77637	40,282.31	0.325	25.68346	25.84570	25.79996
____ MN	0.51263	28,438.77	1.593	0.51996	0.51412	0.50383
____ MO	0.50317	905.67	0.183	0.50423	0.50262	0.50265
____ NA	28.44113	28,720.87	2.160	28.11794	28.05574	29.14972
____ NI	0.50914	1,096.88	0.357	0.51025	0.50705	0.51014
____ P	0.51391	121.39	0.606	0.51697	0.51074	0.51401
____ PB	0.50389	390.07	0.644	0.50610	0.50017	0.50541
____ S	26.36330	3,151.60	0.414	26.45377	26.24204	26.39408
____ SB	0.49231	153.70	1.056	0.49814	0.49065	0.48814
____ SE	0.50122	77.88	0.810	0.50096	0.50540	0.49729
____ SI	25.44659	4,476.95	0.206	25.43565	25.50367	25.40044
____ SN	0.50111	286.48	0.408	0.50057	0.50337	0.49939
____ SR	0.51629	352,103.04	1.574	0.52327	0.51822	0.50737
____ TI	0.51795	27,371.62	1.753	0.52608	0.51961	0.50815
____ TL	0.49853	134.42	0.379	0.49786	0.50067	0.49706
____ V	0.52101	8,002.63	1.617	0.52852	0.52262	0.51190
____ Y1	8508.46998	8,508.47	0.096	8504.12253	8517.88853	8503.39888
____ Y2A	358680.93342	358,680.93	1.276	354723.70604	357625.99536	363693.09887
____ Y2R	17862.73973	17,862.74	0.636	17906.48037	17733.68915	17948.04968
____ ZN	0.51117	3,215.02	0.320	0.51278	0.50951	0.51122
____ ZR	0.49832	1,065.33	1.128	0.49486	0.49529	0.50480

LANCASTER LABORATORIES

Run Name: 1527906T71

Instrument ID: 16315

Tube: 35

Date/Time: 10/06/2015 21:51

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00001	3.90	5170.094	-0.00042	0.00012	0.00028
____ AL	-0.01758	10.89	142.713	-0.02536	-0.03786	0.01048
____ AS	0.00387	1.94	168.145	0.01128	-0.00083	0.00114
____ B	0.00425	48.95	8.800	0.00454	0.00383	0.00438
____ BA	0.00014	148.90	46.468	0.00022	0.00009	0.00012
____ BE	0.00006	-27.27	108.635	0.00013	0.00004	0.00000
____ CA	0.01961	73.25	45.388	0.01399	0.01497	0.02987
____ CD	0.00013	-9.55	211.031	-0.00012	0.00043	0.00008
____ CO	0.00040	3.56	152.052	0.00104	0.00034	-0.00018
____ CR	0.00003	-1.10	2318.008	0.00078	-0.00046	-0.00023
____ CU	-0.00158	-23.62	69.884	-0.00259	-0.00040	-0.00177
____ FE	-0.00012	2.79	9101.766	-0.00865	-0.00381	0.01211
____ K	0.27835	125.20	18.091	0.32156	0.29043	0.22304
____ LI	0.00020	25.72	1056.159	-0.00209	0.00050	0.00220
____ MG	0.05297	90.04	49.008	0.03044	0.04711	0.08137
____ MN	0.00018	20.55	17.736	0.00021	0.00018	0.00015
____ MO	0.00022	0.98	161.939	0.00056	0.00022	-0.00014
____ NA	1.33206	1,244.01	12.868	1.18403	1.29230	1.51986
____ NI	-0.00022	6.04	289.985	0.00030	-0.00091	-0.00003
____ P	0.00127	-1.02	157.858	0.00149	-0.00084	0.00316
____ PB	0.00137	5.70	292.836	-0.00318	0.00294	0.00434
____ S	0.04902	6.40	21.286	0.03763	0.05811	0.05134
____ SB	-0.00298	-2.12	226.248	-0.00390	0.00417	-0.00922
____ SE	-0.00690	-1.84	85.181	-0.01257	-0.00083	-0.00730
____ SI	0.01234	1.69	39.324	0.01418	0.00683	0.01600
____ SN	-0.00003	1.74	4586.766	-0.00076	-0.00085	0.00152
____ SR	0.00045	193.98	32.762	0.00062	0.00034	0.00039
____ TI	-0.00003	10.80	596.832	-0.00004	-0.00017	0.00013
____ TL	-0.00210	-0.81	13.068	-0.00242	-0.00196	-0.00193
____ V	0.00014	-9.70	272.772	0.00003	0.00055	-0.00017
____ Y1	8731.58554	8,731.59	0.441	8687.66747	8759.43867	8747.65047
____ Y2A	365675.32073	365,675.32	1.002	369905.35833	363592.40212	363528.20173
____ Y2R	17715.35347	17,715.35	0.546	17825.76816	17645.82087	17674.47137
____ ZN	-0.00017	12.59	56.250	-0.00026	-0.00016	-0.00007
____ ZR	-0.00027	8.38	588.973	-0.00188	-0.00024	0.00130

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 36 Date/Time: 10/06/2015 21:54

Sample Number: **8070361** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00071	-9.30	133.452	-0.00151	0.00033	-0.00095
____ AL	0.03504	14.96	107.809	0.06958	0.04085	-0.00530
____ AS	0.00623	1.96	104.059	0.00903	0.01085	-0.00118
____ B	1.89520	10,512.29	1.414	1.88510	1.87493	1.92557
____ BA	0.91587	475,713.61	1.146	0.91319	0.90698	0.92745
____ BE	-0.00016	-98.78	15.112	-0.00015	-0.00015	-0.00019
____ CA	245.78136	172,229.08	0.894	245.03802	244.05111	248.25494
____ CD	-0.00043	-8.68	33.936	-0.00037	-0.00060	-0.00032
____ CO	0.00381	12.25	7.225	0.00407	0.00352	0.00383
____ CR	0.00151	8.80	36.990	0.00121	0.00117	0.00215
____ CU	-0.00135	71.44	93.088	-0.00279	-0.00049	-0.00077
____ FE	4.72085	1,134.79	0.652	4.73209	4.68601	4.74445
____ K	143.51554	32,278.11	0.938	142.89701	142.58921	145.06041
____ LI	0.05428	323.74	6.455	0.05728	0.05512	0.05043
____ MG	535.00263	510,296.45	2.639	533.43700	521.73330	549.83760
____ MN	0.55128	23,420.78	1.168	0.55103	0.54496	0.55783
____ MO	0.00173	2.90	26.647	0.00183	0.00123	0.00214
____ NA	2564.25930	2,293,174.41	1.014	2590.71873	2538.75180	2563.30739
____ NI	0.00368	10.73	14.926	0.00376	0.00309	0.00418
____ P	0.00754	0.39	60.814	0.00225	0.01006	0.01031
____ PB	0.00281	6.52	56.735	0.00271	0.00127	0.00446
____ S	341.22423	32,136.62	0.055	341.44141	341.11569	341.11559
____ SB	-0.00183	-1.27	68.827	-0.00115	-0.00328	-0.00106
____ SE	-0.00544	-1.17	16.238	-0.00645	-0.00482	-0.00505
____ SI	7.02835	1,090.95	0.427	7.03421	6.99586	7.05499
____ SN	0.00190	2.20	94.376	0.00264	-0.00014	0.00321
____ SR	3.21873	1,682,088.38	1.061	3.20967	3.19002	3.25650
____ TI	0.00207	92.86	6.868	0.00211	0.00192	0.00219
____ TL	-0.00195	-0.52	171.291	0.00177	-0.00293	-0.00469
____ V	-0.00196	-31.33	33.867	-0.00121	-0.00247	-0.00219
____ Y1	6702.88111	6,702.88	0.282	6707.95727	6718.74563	6681.94042
____ Y2A	274678.28980	274,678.29	1.043	274618.58761	277571.51163	271844.77015
____ Y2R	15768.68439	15,768.68	0.942	15787.92724	15906.59286	15611.53308
____ ZN	0.00526	38.30	0.682	0.00528	0.00527	0.00522
____ ZR	-0.00057	6.91	363.874	-0.00277	0.00139	-0.00035

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 37 Date/Time: 10/06/2015 21:57

Sample Number: **8070362** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT		AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG		-0.00016	-5.19	152.540	0.00009	-0.00040	-0.00018
____ AL		0.08337	18.26	78.940	0.08702	0.14729	0.01581
____ AS		0.00361	1.33	149.906	-0.00232	0.00486	0.00828
____ B		3.58722	17,181.90	0.580	3.57340	3.57711	3.61116
____ BA		1.28425	576,455.94	1.156	1.28320	1.26996	1.29960
____ BE		-0.00017	-90.38	15.841	-0.00014	-0.00017	-0.00019
____ CA		382.60726	244,942.35	1.370	378.23242	388.41426	381.17509
____ CD		-0.00023	-5.00	154.833	0.00018	-0.00041	-0.00046
____ CO		0.00524	14.16	21.617	0.00422	0.00646	0.00503
____ CR		0.00487	27.93	6.678	0.00524	0.00475	0.00462
____ CU		-0.00289	90.89	48.716	-0.00347	-0.00391	-0.00128
____ FE		8.23359	1,822.56	1.675	8.11168	8.38333	8.20576
____ K		352.55293	73,103.36	1.141	349.12618	356.98221	351.55042
____ LI		0.09839	516.83	1.667	0.09802	0.09696	0.10018
____ MG	k	0.00000	768,059.46	0.000	0.00000	0.00000	0.00000
____ MN		0.19630	7,211.84	0.593	0.19511	0.19635	0.19744
____ MO		0.00067	1.21	179.727	0.00111	0.00159	-0.00069
____ NA		3187.43309	2,630,218.72	1.737	3191.45944	3240.67557	3130.16426
____ NI		0.00142	5.67	55.905	0.00182	0.00050	0.00192
____ P		11.45395	1,865.24	0.302	11.48656	11.45764	11.41766
____ PB		0.00065	6.17	149.738	-0.00013	0.00034	0.00173
____ S		4.68045	384.30	0.973	4.68948	4.72077	4.63109
____ SB		-0.00822	-2.42	68.678	-0.01418	-0.00294	-0.00756
____ SE		-0.00518	-1.00	71.138	-0.00108	-0.00623	-0.00822
____ SI		17.81846	2,552.71	1.255	17.60493	18.05103	17.79944
____ SN		0.00067	1.43	350.411	0.00267	0.00125	-0.00191
____ SR		6.93970	3,133,645.89	0.113	6.94872	6.93564	6.93474
____ TI		0.00942	337.17	3.746	0.00908	0.00941	0.00978
____ TL		-0.00826	-1.72	28.000	-0.01071	-0.00797	-0.00611
____ V		0.00157	9.71	26.391	0.00168	0.00111	0.00192
____ Y1		5828.24544	5,828.25	0.235	5822.50000	5818.34450	5843.89183
____ Y2A		237367.42427	237,367.42	0.489	238051.11001	238023.25581	236027.90698
____ Y2R		14551.49835	14,551.50	1.311	14684.53212	14332.91683	14637.04609
____ ZN		0.00327	26.13	4.883	0.00309	0.00329	0.00341
____ ZR		0.00816	21.40	33.095	0.00582	0.01111	0.00754

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 38 Date/Time: 10/06/2015 22:01

Sample Number: **8070363** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT		AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG		-0.00091	-11.98	21.104	-0.00112	-0.00086	-0.00074
____ AL		0.05311	15.24	65.249	0.01802	0.08731	0.05398
____ AS		0.00833	2.00	23.034	0.00998	0.00622	0.00879
____ B		3.77362	17,888.11	1.249	3.79824	3.71926	3.80337
____ BA		1.33033	591,071.46	1.039	1.34159	1.31490	1.33449
____ BE		-0.00023	-108.02	7.484	-0.00022	-0.00024	-0.00021
____ CA		405.70704	254,825.99	0.860	408.67891	401.86342	406.57880
____ CD		-0.00067	-7.26	34.788	-0.00093	-0.00058	-0.00049
____ CO		0.00510	13.44	0.789	0.00511	0.00513	0.00505
____ CR		0.00434	24.42	21.428	0.00504	0.00469	0.00328
____ CU		-0.00257	99.84	11.554	-0.00224	-0.00283	-0.00264
____ FE		8.04632	1,750.66	0.343	8.05675	8.01500	8.06722
____ K		376.90815	76,802.88	0.823	380.01754	373.81310	376.89381
____ LI		0.10567	543.30	1.254	0.10479	0.10503	0.10719
____ MG	k	0.00000	791,878.98	0.000	0.00000	0.00000	0.00000
____ MN		0.20461	7,440.47	0.735	0.20506	0.20293	0.20584
____ MO		0.00174	2.47	24.181	0.00206	0.00191	0.00126
____ NA		3198.27660	2,593,737.32	0.624	3220.23860	3181.28323	3193.30798
____ NI		0.00222	6.69	27.706	0.00159	0.00226	0.00282
____ P		12.01934	1,904.23	0.494	12.08673	11.99662	11.97468
____ PB		0.00434	7.95	39.259	0.00248	0.00582	0.00473
____ S		4.86227	388.40	1.745	4.93893	4.87675	4.77113
____ SB		-0.00860	-2.43	72.110	-0.01280	-0.00148	-0.01153
____ SE		-0.00641	-1.10	121.421	0.00125	-0.00618	-0.01431
____ SI		18.77241	2,643.08	0.449	18.84711	18.68098	18.78914
____ SN		0.00140	1.68	160.972	-0.00116	0.00228	0.00310
____ SR		7.28268	3,255,014.90	0.945	7.29652	7.20802	7.34349
____ TI		0.00646	231.24	3.056	0.00668	0.00629	0.00641
____ TL		-0.00709	-1.45	78.537	-0.01306	-0.00616	-0.00204
____ V		0.00152	9.01	60.327	0.00167	0.00235	0.00054
____ Y1		5670.07419	5,670.07	0.296	5650.68931	5678.87247	5680.66080
____ Y2A		234964.52894	234,964.53	1.137	233869.92500	238009.13621	233014.52561
____ Y2R		14299.73134	14,299.73	0.760	14226.78714	14424.58101	14247.82587
____ ZN		0.00265	22.82	11.460	0.00281	0.00283	0.00230
____ ZR		0.00882	22.23	45.675	0.00570	0.01337	0.00739

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 39 Date/Time: 10/06/2015 22:04

Sample Number: **8070364** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT		AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG		-0.00056	-4.37	129.370	-0.00072	-0.00120	0.00023
____ AL		0.04993	18.30	31.608	0.04307	0.06798	0.03873
____ AS		-0.00169	0.62	236.035	0.00038	0.00084	-0.00627
____ B		0.00992	88.73	16.519	0.01114	0.01056	0.00806
____ BA		0.00108	773.61	41.409	0.00137	0.00130	0.00056
____ BE		0.00000	-53.88	541.799	0.00001	0.00000	-0.00001
____ CA		0.29529	291.08	77.873	0.17195	0.15333	0.56060
____ CD		0.00004	-9.94	791.882	0.00012	0.00029	-0.00030
____ CO		-0.00003	1.94	1111.696	-0.00034	0.00001	0.00025
____ CR		-0.00024	-3.58	133.658	0.00008	-0.00056	-0.00024
____ CU		-0.00091	-15.12	75.590	-0.00154	-0.00101	-0.00018
____ FE		0.01457	6.69	63.235	0.01195	0.00695	0.02480
____ K		1.43946	413.65	9.241	1.44126	1.30555	1.57157
____ LI		0.00015	25.29	1280.530	-0.00131	0.00235	-0.00059
____ MG		0.65980	1,034.32	107.314	0.26391	0.23823	1.47726
____ MN		0.00123	78.10	11.385	0.00129	0.00132	0.00107
____ MO		0.00025	1.01	130.574	0.00053	-0.00011	0.00035
____ NA	k	0.00000	10,643.34	0.000	8.47005	7.69046	16.23163
____ NI		0.00020	6.70	573.302	-0.00108	0.00112	0.00056
____ P		0.00318	-0.53	23.014	0.00366	0.00234	0.00353
____ PB		0.00204	6.02	71.934	0.00268	0.00036	0.00308
____ S		0.04213	5.34	18.208	0.03625	0.03933	0.05081
____ SB		-0.00310	-2.08	208.831	0.00107	0.00019	-0.01057
____ SE		-0.00158	-0.95	210.942	-0.00040	-0.00533	0.00100
____ SI		0.17537	29.82	3.082	0.16924	0.17742	0.17945
____ SN		0.00052	1.98	44.717	0.00025	0.00063	0.00067
____ SR		0.00367	2,369.11	61.608	0.00514	0.00479	0.00107
____ TI		0.00033	29.32	28.324	0.00022	0.00038	0.00039
____ TL		-0.00251	-0.89	64.830	-0.00230	-0.00100	-0.00423
____ V		-0.00008	-12.85	757.381	-0.00073	0.00013	0.00037
____ Y1		8409.16215	8,409.16	0.147	8421.41930	8396.63404	8409.43311
____ Y2A		358126.24419	358,126.24	3.483	366531.02190	343792.80027	364054.91042
____ Y2R		17528.88360	17,528.88	0.916	17356.37714	17673.79145	17556.48222
____ ZN		0.00156	22.69	16.801	0.00129	0.00157	0.00181
____ ZR		-0.00341	1.80	115.597	-0.00673	-0.00443	0.00094

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 40 Date/Time: 10/06/2015 22:07

Sample Number: **8070365** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00005	3.08	1042.805	0.00049	-0.00010	-0.00053
____ AL	0.02605	15.18	87.838	0.05057	0.00528	0.02229
____ AS	0.00071	1.14	149.736	0.00067	0.00179	-0.00033
____ B	0.00759	72.55	3.509	0.00788	0.00736	0.00752
____ BA	0.00025	218.33	71.131	0.00045	0.00013	0.00017
____ BE	-0.00002	-65.30	75.578	-0.00001	-0.00004	-0.00002
____ CA	0.16703	183.97	50.211	0.07821	0.17803	0.24486
____ CD	0.00001	-9.98	1269.953	-0.00014	0.00018	0.00000
____ CO	0.00013	2.43	459.607	0.00044	0.00048	-0.00054
____ CR	0.00013	-0.17	93.362	0.00026	0.00003	0.00010
____ CU	-0.00083	-14.40	105.384	0.00015	-0.00112	-0.00153
____ FE	-0.00033	2.63	1658.525	-0.00025	-0.00590	0.00516
____ K	0.66902	215.11	15.361	0.57572	0.65216	0.77916
____ LI	0.00241	36.46	50.421	0.00301	0.00101	0.00320
____ MG	0.30416	466.47	85.460	0.03859	0.31582	0.55807
____ MN	0.00077	53.17	8.391	0.00081	0.00069	0.00080
____ MO	0.00067	1.72	33.392	0.00091	0.00047	0.00063
____ NA	4.96149	4,702.09	38.577	3.00588	5.04759	6.83100
____ NI	0.00078	7.80	25.067	0.00099	0.00073	0.00061
____ P	0.00064	-1.11	266.352	0.00139	0.00185	-0.00132
____ PB	0.00123	5.32	19.190	0.00131	0.00096	0.00141
____ S	0.03968	4.97	17.564	0.04512	0.04209	0.03182
____ SB	-0.00510	-2.65	49.441	-0.00525	-0.00251	-0.00755
____ SE	-0.00554	-1.54	82.630	-0.00074	-0.00985	-0.00603
____ SI	0.16648	27.47	8.075	0.17236	0.15110	0.17598
____ SN	-0.00008	1.62	1125.664	-0.00069	-0.00046	0.00092
____ SR	0.00135	807.43	70.029	0.00242	0.00066	0.00095
____ TI	0.00022	23.90	46.553	0.00011	0.00024	0.00031
____ TL	-0.00670	-1.98	50.909	-0.00919	-0.00808	-0.00281
____ V	-0.00020	-14.88	196.408	-0.00066	0.00002	0.00003
____ Y1	8270.44202	8,270.44	0.426	8310.92781	8253.72426	8246.67399
____ Y2A	361214.63725	361,214.64	0.328	361033.34439	362479.09754	360131.46981
____ Y2R	17034.19486	17,034.19	0.653	16987.40504	17161.20328	16953.97625
____ ZN	0.00113	19.74	8.132	0.00118	0.00118	0.00102
____ ZR	-0.00204	4.51	92.027	-0.00362	0.00003	-0.00252

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 41 Date/Time: 10/06/2015 22:10

Sample Number: **8073055** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00013	2.07	712.588	-0.00112	0.00011	0.00064
____ AL	0.01403	13.88	298.025	-0.03268	0.02682	0.04795
____ AS	0.00182	1.38	163.576	0.00325	0.00380	-0.00160
____ B	0.00655	64.90	6.426	0.00701	0.00647	0.00618
____ BA	0.00030	254.47	10.810	0.00026	0.00033	0.00031
____ BE	-0.00004	-71.72	84.805	-0.00004	-0.00001	-0.00007
____ CA	0.10132	133.31	25.605	0.08386	0.13113	0.08897
____ CD	0.00004	-9.70	192.784	0.00014	-0.00001	0.00001
____ CO	0.00017	2.56	230.916	-0.00027	0.00033	0.00045
____ CR	0.00002	-1.22	3857.983	-0.00082	0.00004	0.00085
____ CU	-0.00088	-14.88	70.524	-0.00021	-0.00098	-0.00144
____ FE	-0.01024	0.07	12.744	-0.01068	-0.00877	-0.01126
____ K	0.36249	140.61	7.354	0.34630	0.34791	0.39326
____ LI	-0.00101	18.34	154.416	-0.00260	0.00051	-0.00093
____ MG	0.09368	148.66	92.569	0.03000	0.19244	0.05859
____ MN	0.00075	51.97	11.969	0.00065	0.00082	0.00078
____ MO	0.00034	1.13	78.989	0.00004	0.00042	0.00055
____ NA	2.44322	2,270.38	27.653	1.97332	3.21750	2.13885
____ NI	0.00136	8.98	7.404	0.00136	0.00147	0.00126
____ P	0.00472	-0.17	31.395	0.00570	0.00544	0.00302
____ PB	0.00119	5.27	67.713	0.00055	0.00210	0.00093
____ S	0.03346	4.23	31.149	0.02164	0.03740	0.04133
____ SB	0.00014	-1.06	3197.287	0.00359	0.00151	-0.00469
____ SE	-0.00659	-1.69	62.782	-0.00564	-0.01112	-0.00301
____ SI	0.16715	27.56	1.690	0.16412	0.16972	0.16759
____ SN	0.00020	1.77	326.907	0.00082	-0.00047	0.00025
____ SR	0.00064	325.59	23.216	0.00053	0.00081	0.00059
____ TI	0.00006	15.45	282.530	-0.00003	0.00027	-0.00005
____ TL	-0.00324	-1.06	27.549	-0.00287	-0.00426	-0.00259
____ V	-0.00027	-15.80	132.527	0.00001	-0.00014	-0.00066
____ Y1	8228.70126	8,228.70	0.305	8201.37972	8234.00419	8250.71986
____ Y2A	360866.73302	360,866.73	1.227	360508.54346	365461.92767	356629.72794
____ Y2R	17015.14115	17,015.14	0.662	16925.67837	17141.62008	16978.12500
____ ZN	0.00050	15.90	32.403	0.00058	0.00031	0.00060
____ ZR	-0.00095	6.69	147.747	-0.00183	0.00067	-0.00170

LANCASTER LABORATORIES

Run Name: 1527906T71 Instrument ID: 16315

Tube: 42 Date/Time: 10/06/2015 22:13

Sample Number: **8068976** Class: **** Batch: 152751848004

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00003	3.14	2756.111	0.00032	-0.00101	0.00060
____ AL	0.04860	17.79	36.948	0.02868	0.06356	0.05356
____ AS	0.00483	2.01	42.436	0.00354	0.00719	0.00376
____ B	0.09902	703.87	1.020	0.09785	0.09963	0.09957
____ BA	0.09016	59,091.08	1.384	0.08895	0.09144	0.09009
____ BE	-0.00013	-113.34	17.316	-0.00011	-0.00013	-0.00016
____ CA	145.41673	111,829.17	0.634	146.28155	144.44591	145.52275
____ CD	0.00008	-9.24	45.063	0.00005	0.00012	0.00008
____ CO	0.00021	2.67	93.458	-0.00001	0.00036	0.00027
____ CR	0.01493	134.45	3.912	0.01437	0.01553	0.01489
____ CU	-0.00028	57.72	301.050	-0.00126	0.00012	0.00029
____ FE	0.00648	4.44	51.154	0.00972	0.00663	0.00309
____ K	5.18230	1,321.04	2.180	5.26330	5.05326	5.23033
____ LI	0.00241	59.11	158.686	-0.00180	0.00567	0.00336
____ MG	29.59745	44,374.60	1.003	29.89691	29.30331	29.59213
____ MN	0.00376	211.36	3.625	0.00362	0.00378	0.00389
____ MO	0.00153	3.16	16.766	0.00159	0.00125	0.00176
____ NA	118.34744	115,204.38	1.085	119.72441	117.18188	118.13602
____ NI	0.00156	9.24	30.317	0.00102	0.00177	0.00190
____ P	0.00860	0.72	11.151	0.00945	0.00880	0.00756
____ PB	0.00257	7.25	106.993	0.00239	-0.00009	0.00540
____ S	14.98906	1,705.72	0.422	14.95797	15.06191	14.94730
____ SB	-0.00084	-1.31	667.993	-0.00722	0.00125	0.00344
____ SE	-0.00499	-1.42	49.513	-0.00313	-0.00405	-0.00779
____ SI	5.93186	1,002.96	1.088	5.97954	5.85838	5.95765
____ SN	0.00170	2.55	189.069	0.00496	-0.00146	0.00159
____ SR	0.53155	350,894.93	1.436	0.52364	0.53887	0.53215
____ TI	0.00264	146.33	8.462	0.00284	0.00240	0.00267
____ TL	-0.00158	-0.61	106.704	-0.00064	-0.00352	-0.00057
____ V	-0.00016	-13.67	258.191	0.00032	-0.00044	-0.00036
____ Y1	8095.62921	8,095.63	0.390	8131.21500	8071.08259	8084.59003
____ Y2A	346377.54368	346,377.54	1.528	351847.37890	341282.18315	346003.06901
____ Y2R	17177.25680	17,177.26	0.236	17151.72345	17223.92194	17156.12500
____ ZN	0.01139	79.84	1.926	0.01154	0.01114	0.01149
____ ZR	-0.00315	2.26	9.776	-0.00333	-0.00280	-0.00333

LANCASTER LABORATORIES

Run Name: 1527906T71

Instrument ID: 16315

Tube: 43

Date/Time: 10/06/2015 22:16

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00490	80.68	6.067	0.00518	0.00495	0.00459
____ AL	0.23589	38.75	6.344	0.25294	0.22498	0.22973
____ AS	0.02167	5.99	29.638	0.02601	0.02472	0.01429
____ B	0.05152	394.33	0.489	0.05129	0.05150	0.05179
____ BA	0.00546	3,786.21	2.491	0.00536	0.00561	0.00540
____ BE	0.00511	2,388.77	0.455	0.00509	0.00512	0.00513
____ CA	0.29912	291.64	12.794	0.32622	0.31579	0.25534
____ CD	0.00562	35.11	3.830	0.00563	0.00540	0.00583
____ CO	0.00520	20.66	3.568	0.00537	0.00500	0.00521
____ CR	0.01572	148.13	4.683	0.01527	0.01657	0.01532
____ CU	0.00882	97.70	6.234	0.00944	0.00864	0.00838
____ FE	0.21424	59.49	1.314	0.21507	0.21654	0.21110
____ K	0.75984	242.05	8.282	0.80168	0.79036	0.68746
____ LI	0.02152	140.95	6.570	0.02113	0.02309	0.02034
____ MG	0.25997	408.54	28.340	0.32122	0.28048	0.17822
____ MN	0.00548	317.52	1.498	0.00547	0.00557	0.00541
____ MO	0.01041	19.38	1.421	0.01026	0.01039	0.01056
____ NA	3.35589	3,218.38	15.914	3.79028	3.51779	2.75961
____ NI	0.01061	29.29	5.640	0.01118	0.00999	0.01067
____ P	0.10490	23.79	1.076	0.10615	0.10397	0.10456
____ PB	0.01783	17.96	3.181	0.01837	0.01788	0.01724
____ S	0.53286	64.39	0.926	0.52781	0.53766	0.53311
____ SB	0.01942	5.00	25.275	0.02304	0.02139	0.01384
____ SE	0.01356	1.42	18.800	0.01645	0.01166	0.01256
____ SI	0.06038	9.90	12.392	0.05942	0.06830	0.05342
____ SN	0.02011	13.21	4.852	0.01955	0.02124	0.01955
____ SR	0.00611	4,091.64	11.385	0.00574	0.00691	0.00568
____ TI	0.01037	565.47	1.704	0.01049	0.01046	0.01017
____ TL	0.02625	6.95	4.973	0.02580	0.02772	0.02522
____ V	0.00487	63.38	3.907	0.00503	0.00466	0.00492
____ Y1	8552.42148	8,552.42	0.175	8567.95845	8551.13863	8538.16737
____ Y2A	362228.82106	362,228.82	0.879	365904.86065	360393.99469	360387.60783
____ Y2R	17379.59388	17,379.59	0.821	17531.11288	17359.84244	17247.82630
____ ZN	0.02094	144.31	0.533	0.02092	0.02084	0.02106
____ ZR	0.04886	109.56	2.894	0.05048	0.04792	0.04816

LANCASTER LABORATORIES

Run Name: 1527906T71

Instrument ID: 16315

Tube: 44

Date/Time: 10/06/2015 22:19

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00359	-274.47	20.120	-0.00408	-0.00393	-0.00276
____ AL	544.52759	55,284.98	1.896	556.40331	537.66910	539.51036
____ AS	-0.00742	1.67	109.356	-0.01664	-0.00427	-0.00136
____ B	0.00989	850.75	35.108	0.00866	0.01381	0.00720
____ BA	0.00072	459.87	2.886	0.00070	0.00072	0.00075
____ BE	-0.00040	-204.28	8.947	-0.00038	-0.00044	-0.00037
____ CA	541.12387	372,701.96	1.596	550.99733	537.39619	534.97808
____ CD	0.00014	81.21	285.901	-0.00032	0.00041	0.00033
____ CO	0.00205	7.98	15.485	0.00203	0.00174	0.00237
____ CR	0.00643	-1.12	5.894	0.00687	0.00625	0.00618
____ CU	0.00074	167.90	257.005	0.00272	0.00052	-0.00104
____ FE	217.66597	49,069.86	1.833	222.25352	215.01577	215.72861
____ K	0.24806	105.15	13.354	0.20981	0.26696	0.26741
____ LI	-0.00668	65.52	27.838	-0.00640	-0.00497	-0.00865
____ MG	652.25520	560,525.77	3.765	678.98630	630.69176	647.08755
____ MN	0.00275	139.00	1.473	0.00272	0.00280	0.00274
____ MO	0.00080	1.72	39.576	0.00092	0.00044	0.00104
____ NA	1.56668	1,323.34	5.022	1.58471	1.63477	1.48055
____ NI	0.00197	-16.12	46.437	0.00122	0.00299	0.00169
____ P	0.01175	1.29	33.635	0.01470	0.01330	0.00726
____ PB	-0.00710	79.39	53.640	-0.01133	-0.00394	-0.00603
____ S	0.03634	3.40	13.056	0.04181	0.03348	0.03371
____ SB	-0.00518	-3.24	105.064	-0.00549	0.00041	-0.01045
____ SE	-0.01703	-4.09	84.681	-0.00041	-0.02627	-0.02440
____ SI	0.02472	2.31	19.395	0.02987	0.02038	0.02393
____ SN	0.00718	4.97	69.651	0.00190	0.01185	0.00779
____ SR	0.00019	3,284.84	57.014	0.00007	0.00020	0.00029
____ TI	-0.00050	-12.45	1.741	-0.00049	-0.00051	-0.00051
____ TL	0.00662	-0.69	46.521	0.00497	0.00471	0.01016
____ V	-0.00234	3.67	19.995	-0.00230	-0.00189	-0.00282
____ Y1	7302.32942	7,302.33	0.434	7327.13744	7313.23412	7266.61672
____ Y2A	306178.90785	306,178.91	1.464	303621.43568	303561.46592	311353.82197
____ Y2R	15838.63091	15,838.63	1.466	15576.72328	16019.40559	15919.76385
____ ZN	0.00307	131.85	23.667	0.00223	0.00351	0.00347
____ ZR	0.00395	15.39	54.495	0.00631	0.00344	0.00210

LANCASTER LABORATORIES

Run Name: 1527906T71

Instrument ID: 16315

Tube: 45

Date/Time: 10/06/2015 22:22

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.22662	2,550.01	2.196	0.22111	0.22797	0.23078
____ AL	531.84069	54,639.46	1.090	538.40334	527.42057	529.69816
____ AS	0.08941	21.26	3.568	0.09256	0.08618	0.08948
____ B	0.01216	840.77	46.075	0.00573	0.01478	0.01597
____ BA	0.54360	313,334.28	2.290	0.52988	0.54674	0.55418
____ BE	0.53225	213,922.74	2.278	0.51902	0.53491	0.54283
____ CA	532.38667	371,284.35	2.095	544.55813	529.93964	522.66223
____ CD	0.96132	6,931.32	0.833	0.97050	0.95768	0.95578
____ CO	0.48797	1,533.46	1.392	0.49581	0.48408	0.48403
____ CR	0.52811	4,177.38	2.541	0.51305	0.53248	0.53880
____ CU	0.57160	5,825.97	2.743	0.55499	0.57366	0.58615
____ FE	212.61351	48,584.08	1.100	215.29097	210.97338	211.57618
____ K	0.27209	111.80	12.967	0.28373	0.30008	0.23246
____ LI	-0.00518	72.53	93.591	-0.00564	-0.00012	-0.00978
____ MG	630.60913	560,214.28	2.243	635.89554	614.58311	641.34875
____ MN	0.48607	22,916.57	2.266	0.47424	0.48794	0.49603
____ MO	0.00129	2.57	113.368	0.00025	0.00066	0.00297
____ NA	1.48918	1,268.74	6.550	1.45011	1.41724	1.60020
____ NI	0.95955	1,806.59	0.998	0.97060	0.95372	0.95433
____ P	0.00965	1.46	24.745	0.01236	0.00870	0.00788
____ PB	0.04150	112.49	4.778	0.04186	0.03937	0.04328
____ S	0.03150	3.02	30.058	0.02862	0.04208	0.02381
____ SB	0.62871	173.31	2.158	0.64265	0.62794	0.61555
____ SE	0.03377	2.90	13.337	0.03133	0.03100	0.03896
____ SI	0.02441	2.32	33.063	0.03069	0.01531	0.02723
____ SN	0.00331	3.15	63.003	0.00099	0.00392	0.00502
____ SR	0.00006	3,141.56	443.013	-0.00023	0.00016	0.00023
____ TI	-0.00017	11.98	189.521	0.00020	-0.00031	-0.00041
____ TL	0.10033	21.44	4.409	0.09743	0.09814	0.10542
____ V	0.55850	7,375.86	2.175	0.54555	0.56032	0.56964
____ Y1	7540.18672	7,540.19	0.630	7485.80771	7573.82212	7560.93033
____ Y2A	304885.19562	304,885.20	2.280	312507.12865	303258.04045	298890.41777
____ Y2R	16026.43889	16,026.44	0.779	15882.34266	16097.98040	16098.99362
____ ZN	1.01462	5,719.09	0.653	1.02226	1.01098	1.01061
____ ZR	0.00468	16.99	42.228	0.00690	0.00309	0.00406

LANCASTER LABORATORIES

Run Name: 1527906T71

Instrument ID: 16315

Tube: 46

Date/Time: 10/06/2015 22:25

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.52099	7,420.90	2.190	0.51010	0.53286	0.52000
____ AL	26.33807	2,956.82	0.324	26.24131	26.40260	26.37032
____ AS	0.51087	116.42	0.731	0.50662	0.51362	0.51237
____ B	0.51227	3,752.43	1.734	0.50250	0.51986	0.51445
____ BA	0.52830	353,131.76	2.284	0.51565	0.53969	0.52955
____ BE	0.51162	238,483.55	1.772	0.50278	0.52090	0.51119
____ CA	26.04236	20,672.52	0.180	26.04830	26.08605	25.99272
____ CD	0.51921	4,130.75	0.961	0.51392	0.51986	0.52384
____ CO	0.51868	1,822.27	0.978	0.51354	0.51882	0.52368
____ CR	0.51437	4,768.38	1.736	0.50592	0.52371	0.51347
____ CU	0.52996	6,010.54	2.233	0.51968	0.54290	0.52732
____ FE	26.04988	6,908.61	0.487	25.91316	26.16360	26.07289
____ K	26.06097	6,565.22	0.301	26.15115	26.02444	26.00730
____ LI	0.51525	2,849.56	0.124	0.51585	0.51532	0.51457
____ MG	26.13568	40,099.77	0.493	26.02879	26.27889	26.09936
____ MN	0.51921	28,387.12	2.058	0.50952	0.53066	0.51744
____ MO	0.51203	910.90	1.137	0.50608	0.51230	0.51771
____ NA	27.10334	26,871.20	0.162	27.05845	27.14605	27.10551
____ NI	0.51673	1,100.15	1.254	0.51007	0.51709	0.52302
____ P	0.52733	123.14	1.459	0.52083	0.52533	0.53582
____ PB	0.51340	392.79	1.188	0.50639	0.51752	0.51627
____ S	26.80969	3,167.72	0.996	26.53467	26.82666	27.06774
____ SB	0.50179	154.88	0.846	0.50632	0.49790	0.50115
____ SE	0.51486	79.09	0.509	0.51262	0.51775	0.51420
____ SI	26.09366	4,508.16	0.475	25.99269	26.23206	26.05624
____ SN	0.50801	287.03	1.045	0.50281	0.50779	0.51342
____ SR	0.52580	353,426.07	1.577	0.51812	0.53459	0.52467
____ TI	0.52798	27,498.86	1.882	0.51787	0.53774	0.52831
____ TL	0.50456	134.46	0.649	0.50381	0.50172	0.50814
____ V	0.53092	8,037.38	1.918	0.52094	0.54130	0.53052
____ Y1	8410.02633	8,410.03	0.744	8473.22249	8408.69131	8348.16518
____ Y2A	353531.16014	353,531.16	1.719	359857.41539	347738.71931	352997.34572
____ Y2R	17541.30930	17,541.31	0.466	17624.77585	17461.41760	17537.73444
____ ZN	0.51943	3,228.82	1.141	0.51348	0.51949	0.52533
____ ZR	0.51048	1,071.43	0.493	0.50915	0.51338	0.50890

LANCASTER LABORATORIES

Run Name: 1527906T71

Instrument ID: 16315

Tube: 47

Date/Time: 10/06/2015 22:28

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00033	8.48	198.408	0.00107	-0.00016	0.00008
____ AL	0.26981	43.50	130.772	0.02774	0.10704	0.67464
____ AS	-0.00031	0.96	338.443	0.00090	-0.00096	-0.00087
____ B	0.00251	35.98	5.415	0.00266	0.00248	0.00239
____ BA	0.00036	290.31	45.850	0.00044	0.00046	0.00017
____ BE	0.00016	22.45	59.612	0.00023	0.00021	0.00005
____ CA	0.38360	367.23	140.409	0.04582	0.10024	1.00474
____ CD	-0.00009	-11.23	104.139	-0.00006	-0.00002	-0.00020
____ CO	0.00023	2.92	188.796	-0.00027	0.00043	0.00054
____ CR	-0.00006	-1.97	947.293	-0.00060	-0.00002	0.00045
____ CU	-0.00097	-15.80	24.813	-0.00083	-0.00124	-0.00082
____ FE	0.11999	35.45	131.750	0.01136	0.04725	0.30135
____ K	0.27627	125.11	63.274	0.14848	0.20485	0.47548
____ LI	-0.00005	24.47	607.280	-0.00021	-0.00025	0.00030
____ MG	0.52255	834.85	143.357	0.06931	0.11112	1.38721
____ MN	0.00037	30.62	46.323	0.00051	0.00041	0.00018
____ MO	0.00038	1.26	100.561	0.00080	0.00027	0.00006
____ NA	2.42051	2,355.02	127.132	0.64957	0.63817	5.97379
____ NI	0.00081	8.20	35.299	0.00088	0.00049	0.00105
____ P	0.00116	-1.04	56.152	0.00098	0.00062	0.00188
____ PB	0.00143	5.74	159.505	0.00270	0.00279	-0.00120
____ S	0.01305	1.96	15.507	0.01140	0.01243	0.01530
____ SB	-0.00034	-1.26	302.194	0.00085	-0.00096	-0.00092
____ SE	-0.00765	-1.95	66.627	-0.00480	-0.01354	-0.00462
____ SI	0.03028	4.85	101.664	0.01470	0.01040	0.06573
____ SN	0.00074	2.17	261.750	-0.00109	0.00056	0.00274
____ SR	0.00094	531.00	42.680	0.00119	0.00116	0.00048
____ TI	0.00024	24.42	27.462	0.00020	0.00031	0.00019
____ TL	-0.00442	-1.44	82.646	-0.00131	-0.00350	-0.00844
____ V	0.00028	-7.23	151.944	0.00001	0.00006	0.00078
____ Y1	8646.42530	8,646.43	0.283	8647.92541	8670.10598	8621.24451
____ Y2A	359377.95842	359,377.96	0.543	361628.81553	358339.33311	358165.72661
____ Y2R	17759.03556	17,759.04	0.549	17716.88824	17689.70676	17870.51167
____ ZN	0.00013	14.45	59.510	0.00019	0.00004	0.00017
____ ZR	-0.00116	6.54	126.368	-0.00253	-0.00136	0.00040

ICP-MS Data

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 15J05G00.E05

Run Name: 1527806E05

Analyst: 7702

Reviewed By: Mallory L Clark

Reviewed Date: 10/05/2015 20:14

Verified By: Deborah A Krady

Verified Date: 10/06/2015 08:19

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-2		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
IN-1		115
	SE	78
IN-2		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	RB	85
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
BI-2		209
	TL	203
	PB	208
	U	238

Run Name: 1527806E05 Date/Time: 10/05/2015 15:18:13
Tube Number: 1
Sample Number: **S0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
NA	23	0.00000	1913.50000	0.000	-1.55120	-0.56554	2.11674
MG	24	0.00000	3.33000	0.000	-0.10583	0.21166	-0.10583
AL	27	0.00000	13.33000	0.000	-0.31328	-1.48003	1.79331
K	39	0.00000	2523.61000	0.000	17.84539	-11.91731	-5.92808
CA	44	0.00000	6.67000	0.000	-6.64479	3.54749	3.09730
SC-1	45	690310.46000	0.00000	0.000	684318.90000	696960.46000	689652.02000
SC-2	45	16815.20000	0.00000	0.000	16318.03000	16678.42000	17449.15000
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CR	52	0.00000	10.00000	0.000	0.02159	-0.00031	-0.02128
MN	55	0.00000	3.33000	0.000	-0.01715	0.03431	-0.01715
FE	57	0.00000	26.67000	0.000	2.62561	-1.80404	-0.82158
CO	59	0.00000	6.67000	0.000	-0.00729	0.01457	-0.00729
NI	60	0.00000	26.67000	0.000	0.05427	-0.10482	0.05056
CU	63	0.00000	76.67000	0.000	0.10160	-0.05160	-0.05000
ZN	66	0.00000	20.00000	0.000	-0.10825	-0.11425	0.22250
GE-1	72	869502.05000	0.00000	0.000	860277.57000	884824.83000	863403.74000
GE-2	72	58446.75000	0.00000	0.000	58446.61000	58276.04000	58617.59000
AS	75	0.00000	0.67000	0.000	0.03022	-0.01511	-0.01511
SE	78	0.00000	5.11000	0.000	0.00737	0.01634	-0.02370
RB	85	0.00000	3.33000	0.000	0.04892	-0.02446	-0.02446
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
MO	98	0.00000	20.00000	0.000	0.00086	-0.00093	0.00007
AG	107	0.00000	6.67000	0.000	-0.00468	0.00223	0.00245
CD	111	0.00000	2.67000	0.000	-0.01692	0.00807	0.00885
IN-1	115	424911.28000	0.00000	0.000	420527.16000	430552.34000	423654.35000
IN-2	115	27101.97000	0.00000	0.000	26401.31000	27872.35000	27032.24000
SN	120	0.00000	2271.44000	0.000	-0.54344	1.44510	-0.90166
SB	121	0.00000	3.33000	0.000	-0.01067	-0.01067	0.02135
BA	137	0.00000	6.67000	0.000	-0.05677	0.11354	-0.05677
TB-2	159	155374.69000	0.00000	0.000	154798.06000	157105.66000	154220.36000
TL	203	0.00000	10.00000	0.000	0.00001	-0.00647	0.00646
PB	208	0.00000	140.01000	0.000	-0.01411	0.01420	-0.00009
BI-2	209	129139.79000	0.00000	0.000	129200.54000	128736.51000	129482.33000
U	238	0.00000	0.00000	0.000	0.00000	0.00000	0.00000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:20:34
Tube Number: 2
Sample Number: **S1**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	15547.22000	0.00000	0.000	15507.07000	15246.99000	15887.60000
AL	27	10000.00000	81644.30000	3.200	10257.56965	10094.15756	9648.27279
CA	44	10000.00000	9145.97000	4.800	9982.75800	10487.87542	9529.36657
CR	52	1000.00000	444433.55000	2.500	1010.83988	1017.98404	971.17608
FE	57	10000.00000	86514.11000	1.000	10059.98056	10054.00260	9886.01685
K	39	10000.00000	155979.74000	1.200	9925.59611	10143.02533	9931.37855
MG	24	10000.00000	293527.01000	2.100	10062.52075	10169.46470	9768.01454
MN	55	1000.00000	181111.64000	1.600	999.94505	1015.82122	984.23372
NA	23	10000.00000	579872.74000	2.400	9977.88008	10245.91780	9776.20212
TI	47	1000.00000	7361.75000	4.900	1041.57646	1012.24836	946.17518
V	51	1000.00000	328154.67000	2.000	1007.36234	1014.77481	977.86285
IN-1	115	410749.49000	0.00000	0.000	411331.74000	402700.27000	418216.47000
IN-2	115	25842.96000	0.00000	0.000	25347.33000	25995.93000	26185.62000
AG	107	100.00000	134006.26000	0.400	99.54518	100.12690	100.32792
AS	75	1000.00000	43187.41000	1.800	1016.02153	1003.73202	980.24646
BA	137	1000.00000	108887.64000	0.700	1001.73580	1006.14484	992.11936
CD	111	100.00000	14842.48000	2.500	102.87581	98.66008	98.46411
CO	59	1000.00000	848210.12000	1.500	1016.85843	992.95575	990.18582
CU	63	1000.00000	716352.52000	1.200	1013.25119	990.90416	995.84465
MO	98	100.00000	57850.50000	1.500	101.73909	98.99292	99.26798
NI	60	1000.00000	246104.44000	1.200	1011.07326	1002.36481	986.56192
RB	85	100.00000	13338.94000	2.800	102.74958	97.12641	100.12401
SB	121	100.00000	29860.47000	0.200	100.19758	99.76534	100.03708
SE	78	100.00000	12627.13000	0.700	99.41440	100.73207	99.85353
SN	120	100.00000	39032.47000	5.800	106.28868	94.87383	98.83750
SR	88	100.00000	19047.87000	2.400	101.74716	97.22249	101.03035
ZN	66	1000.00000	86010.48000	3.100	1032.74742	995.94613	971.30645
BI-2	209	125217.96000	0.00000	0.000	124571.75000	123455.25000	127626.87000
PB	208	100.00000	482046.03000	1.500	100.21394	101.40137	98.38469
TL	203	100.00000	149619.75000	3.000	101.86425	101.57540	96.56036
U	238	100.00000	651359.49000	2.000	100.59175	101.64745	97.76080
SC-1	45	661636.32000	0.00000	0.000	655885.93000	662978.04000	666044.99000
GE-1	72	828595.07000	0.00000	0.000	829235.93000	830117.41000	826431.86000
GE-2	72	53568.03000	0.00000	0.000	51786.35000	55186.20000	53731.53000
TB-2	159	148566.86000	0.00000	0.000	144948.98000	150266.07000	150485.52000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:22:57
Tube Number: 3
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	15397.13000	0.00000	0.000	15607.15000	14426.42000	16157.82000
AL	27	-1.48000	0.00000	0.000	-1.48003	-1.48003	-1.48003
CA	44	-6.64500	0.00000	0.000	-6.64479	-6.64479	-6.64479
CR	52	0.02700	20.00000	242.500	0.00113	0.09993	-0.02128
FE	57	-0.18400	23.33000	0.000	-1.73007	-0.38992	1.56784
K	39	-2.79200	2260.23000	0.000	13.26405	12.06384	-33.70384
MG	24	0.00700	3.33000	2696.600	0.23345	-0.10583	-0.10583
MN	55	0.09000	20.00000	117.600	0.09283	-0.01715	0.19532
NA	23	1.27600	1813.51000	329.200	-0.05756	5.97967	-2.09560
TI	47	2.82200	20.00000	103.900	0.00000	5.85265	2.61275
V	51	0.06100	20.00000	85.300	0.12139	0.03283	0.02931
IN-1	115	411660.96000	0.00000	0.000	403101.22000	415384.09000	416497.57000
IN-2	115	25746.25000	0.00000	0.000	25326.27000	25901.63000	26010.85000
AG	107	0.03500	53.34000	31.700	0.03339	0.02510	0.04723
AS	75	0.31000	14.00000	13.900	0.26837	0.35447	0.30691
BA	137	-0.05700	0.00000	0.000	-0.05677	-0.05677	-0.05677
CD	111	-0.00400	2.00000	0.000	-0.01692	-0.00347	0.00986
CO	59	0.02400	26.67000	123.500	0.05285	-0.00729	0.02785
CU	63	0.16300	190.01000	68.700	0.21001	0.24483	0.03532
MO	98	0.28400	183.34000	43.000	0.14345	0.34652	0.36211
NI	60	-0.05000	13.33000	0.000	-0.06336	0.01680	-0.10482
RB	85	0.07500	13.33000	229.500	-0.02446	0.27474	-0.02446
SB	121	1.84100	550.03000	15.100	2.14252	1.59341	1.78633
SE	78	0.08700	16.00000	51.100	0.09550	0.03927	0.12758
SN	120	0.22900	2236.98000	251.600	-0.37472	0.28807	0.77441
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	-0.10600	10.00000	0.000	-0.10342	-0.22204	0.00896
BI-2	209	125924.63000	0.00000	0.000	123474.10000	125796.29000	128503.50000
PB	208	0.00800	176.67000	149.600	0.01180	-0.00547	0.01832
TL	203	0.01600	33.33000	130.600	0.03419	-0.00647	0.01958
U	238	0.05200	340.02000	20.300	0.04047	0.05348	0.06133
SC-1	45	654726.83000	0.00000	0.000	651592.65000	640978.62000	671609.21000
GE-1	72	829538.95000	0.00000	0.000	822254.21000	826590.85000	839771.78000
GE-2	72	53314.35000	0.00000	0.000	52839.97000	53230.89000	53872.20000
TB-2	159	149065.17000	0.00000	0.000	147704.14000	151496.85000	147994.51000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:25:19
Tube Number: 4
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16217.89000	0.00000	0.000	16388.03000	16758.46000	15507.19000
AL	27	-1.48000	0.00000	0.000	-1.48003	-1.48003	-1.48003
CA	44	7.10900	13.33000	223.200	24.47388	3.49881	-6.64479
CR	52	-0.02100	0.00000	0.000	-0.02128	-0.02128	-0.02128
FE	57	-1.80100	10.00000	0.000	-1.78494	-0.73667	-2.88170
K	39	-16.05000	2180.23000	0.000	-17.46117	-14.99919	-15.68820
MG	24	0.32400	13.33000	148.200	-0.10583	0.84209	0.23564
MN	55	0.03500	10.00000	144.700	-0.01715	0.08527	0.03819
NA	23	-0.77700	1796.84000	0.000	0.78636	-1.34981	-1.76859
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.03100	10.00000	173.200	0.00000	0.00000	0.09163
IN-1	115	426383.35000	0.00000	0.000	426618.97000	432809.62000	419721.47000
IN-2	115	26688.33000	0.00000	0.000	26762.33000	26797.16000	26505.49000
AG	107	-0.00200	3.33000	0.000	0.00252	-0.00468	-0.00468
AS	75	0.04500	2.67000	57.400	0.02960	0.07420	0.03004
BA	137	-0.05700	0.00000	0.000	-0.05677	-0.05677	-0.05677
CD	111	-0.01700	0.00000	0.000	-0.01692	-0.01692	-0.01692
CO	59	0.00000	6.67000	2209.200	0.00410	0.00408	-0.00729
CU	63	0.10800	156.67000	63.200	0.12579	0.16588	0.03273
MO	98	-0.00500	16.67000	0.000	-0.03299	0.00036	0.01758
NI	60	-0.05200	13.33000	0.000	-0.06559	-0.06564	-0.02559
RB	85	-0.02400	0.00000	0.000	-0.02446	-0.02446	-0.02446
SB	121	0.35700	113.34000	54.600	0.15104	0.53845	0.38122
SE	78	0.00100	5.33000	1465.900	-0.01366	0.02612	-0.00805
SN	120	0.83900	2546.12000	234.500	0.45906	-0.91064	2.96755
SR	88	0.03400	6.67000	173.200	0.00000	0.00000	0.10236
ZN	66	0.07900	26.67000	435.900	0.00247	-0.22204	0.45803
BI-2	209	128635.81000	0.00000	0.000	125098.10000	131176.62000	129632.70000
PB	208	0.00100	146.67000	727.800	-0.00949	0.00549	0.00789
TL	203	-0.00400	3.33000	0.000	0.00022	-0.00647	-0.00647
U	238	0.00700	46.67000	63.800	0.00307	0.01172	0.00593
SC-1	45	685349.44000	0.00000	0.000	687945.69000	701778.19000	666324.44000
GE-1	72	860829.21000	0.00000	0.000	860075.77000	875084.28000	847327.57000
GE-2	72	56627.38000	0.00000	0.000	55918.86000	56570.28000	57393.00000
TB-2	159	151149.09000	0.00000	0.000	150042.91000	149448.02000	153956.33000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:27:42
Tube Number: 5
Sample Number: **ICV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	15500.58000	0.00000	0.000	15297.14000	15637.42000	15567.17000
AL	27	5077.98100	41347.50000	2.200	5195.78686	4969.20175	5068.95359
CA	44	4867.76300	4444.08000	3.800	5005.95555	4940.42666	4656.90806
CR	52	506.13800	224326.95000	1.300	513.52368	500.41901	504.47148
FE	57	5039.90400	43493.70000	2.700	4988.61136	5192.12989	4938.97059
K	39	5091.56700	80340.00000	2.300	5009.35753	5036.79100	5228.55338
MG	24	5095.20900	149144.33000	0.800	5141.72722	5071.19012	5072.70992
MN	55	510.64000	92226.02000	0.500	511.84063	512.24024	507.83805
NA	23	5079.93300	294620.59000	1.500	5140.20490	4997.17986	5102.41389
TI	47	477.94200	3510.49000	3.000	463.70261	492.76864	477.35561
V	51	506.17600	165636.50000	1.500	510.56592	497.56092	510.39981
IN-1	115	428652.99000	0.00000	0.000	432157.17000	429968.60000	423833.21000
IN-2	115	26106.00000	0.00000	0.000	25663.38000	26007.28000	26647.33000
AG	107	50.86400	68841.16000	2.100	51.09505	51.77369	49.72434
AS	75	510.93700	22292.65000	1.100	512.20811	515.61631	504.98562
BA	137	519.35400	57111.09000	2.900	529.38984	526.87745	501.79370
CD	111	48.81700	7323.61000	1.600	48.90505	48.01716	49.52999
CO	59	505.17700	432817.53000	2.600	520.02142	498.75196	496.75838
CU	63	502.49000	363658.17000	1.100	505.68442	505.51979	496.26644
MO	98	49.90500	29168.75000	2.800	51.42316	49.57333	48.71723
NI	60	504.04900	125317.26000	2.700	501.84361	518.62360	491.68015
RB	85	50.20700	6768.23000	0.200	50.34179	50.12321	50.15479
SB	121	52.67100	15884.72000	4.300	55.19496	50.79985	52.01833
SE	78	48.32700	6372.26000	2.100	49.02303	48.79840	47.16035
SN	120	52.16700	21610.94000	7.100	52.46043	55.73220	48.30771
SR	88	50.65400	9746.44000	3.200	52.29526	49.09918	50.56872
ZN	66	506.14300	43978.63000	4.200	528.77223	503.36636	486.29039
BI-2	209	129683.00000	0.00000	0.000	128574.35000	129853.28000	130621.38000
PB	208	49.25100	245987.74000	2.300	49.99525	47.95298	49.80618
TL	203	49.22400	76305.85000	2.300	48.71163	50.51096	48.45055
U	238	47.30100	319135.50000	1.400	47.88769	47.44202	46.57268
SC-1	45	680978.12000	0.00000	0.000	686242.41000	680003.43000	676688.51000
GE-1	72	849697.07000	0.00000	0.000	840935.61000	856475.53000	851680.07000
GE-2	72	56096.24000	0.00000	0.000	55668.12000	56340.85000	56279.75000
TB-2	159	153289.80000	0.00000	0.000	152214.02000	155463.69000	152191.68000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:30:09
Tube Number: 6
Sample Number: **ICB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16004.26000	0.00000	0.000	16087.72000	15717.33000	16207.72000
AL	27	-0.29700	10.00000	0.000	2.07032	-1.48003	-1.48003
CA	44	-6.64500	0.00000	0.000	-6.64479	-6.64479	-6.64479
CR	52	0.03000	23.33000	151.900	0.06567	0.04547	-0.02128
FE	57	-2.88200	0.00000	0.000	-2.88170	-2.88170	-2.88170
K	39	-5.26200	2323.60000	0.000	-0.47866	-15.57841	0.27053
MG	24	0.11600	6.67000	165.500	0.22332	0.23107	-0.10583
MN	55	0.00000	3.33000	6137.200	-0.01715	-0.01715	0.03580
NA	23	-2.90800	1646.81000	0.000	-2.63990	-5.06162	-1.02191
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.04900	16.67000	91.500	0.05888	0.00000	0.08767
IN-1	115	421829.19000	0.00000	0.000	418992.83000	428356.49000	418138.25000
IN-2	115	26543.66000	0.00000	0.000	25678.08000	26403.78000	27549.12000
AG	107	0.02700	43.33000	90.500	0.05540	0.00992	0.01632
AS	75	0.15000	7.33000	35.300	0.12469	0.21149	0.11520
BA	137	-0.05700	0.00000	0.000	-0.05677	-0.05677	-0.05677
CD	111	-0.01700	0.00000	0.000	-0.01692	-0.01692	-0.01692
CO	59	0.00400	10.00000	275.600	0.01644	-0.00729	0.00377
CU	63	-0.02200	60.00000	0.000	0.00902	-0.04872	-0.02481
MO	98	0.18000	126.67000	13.000	0.19323	0.15315	0.19408
NI	60	-0.06500	10.00000	0.000	-0.02304	-0.10482	-0.06671
RB	85	-0.02400	0.00000	0.000	-0.02446	-0.02446	-0.02446
SB	121	0.67200	210.01000	19.300	0.66350	0.54663	0.80626
SE	78	0.04000	10.22000	31.200	0.05413	0.03181	0.03354
SN	120	-0.62300	1980.25000	0.000	-0.77710	-0.20002	-0.89287
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	-0.11000	10.00000	0.000	-0.22204	0.00552	-0.11299
BI-2	209	127189.63000	0.00000	0.000	125005.04000	128574.09000	127989.77000
PB	208	-0.00300	123.34000	0.000	-0.02195	0.02031	-0.00789
TL	203	0.02600	50.00000	89.000	0.02031	0.00655	0.05237
U	238	0.03300	216.68000	37.300	0.02306	0.04634	0.02853
SC-1	45	679591.27000	0.00000	0.000	669973.97000	697980.93000	670818.90000
GE-1	72	848907.80000	0.00000	0.000	836101.39000	861414.13000	849207.88000
GE-2	72	56447.48000	0.00000	0.000	56470.64000	55086.30000	57785.49000
TB-2	159	152258.58000	0.00000	0.000	149537.24000	154207.15000	153031.35000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:32:31
Tube Number: 7
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16568.17000	0.00000	0.000	15907.37000	16568.21000	17228.93000
AL	27	98.04100	863.39000	23.800	97.86579	121.48463	74.77345
CA	44	143.86800	146.68000	2.100	142.97435	147.26672	141.36430
CR	52	1.83400	876.72000	10.300	2.04537	1.77295	1.68385
FE	57	91.75300	870.06000	12.000	104.46536	84.99608	85.79789
K	39	208.02300	5887.90000	17.500	245.54940	172.87304	205.64654
MG	24	94.01000	2940.34000	8.000	102.43351	87.79450	91.80172
MN	55	2.14400	416.69000	9.500	2.35697	1.95142	2.12500
NA	23	195.82400	13939.15000	4.400	205.82138	189.89822	191.75227
TI	47	13.65800	106.67000	35.400	18.57855	8.91812	13.47798
V	51	0.48200	166.67000	53.600	0.77420	0.28588	0.38491
IN-1	115	421458.40000	0.00000	0.000	414860.05000	428700.93000	420814.22000
IN-2	115	26185.34000	0.00000	0.000	25452.03000	25975.02000	27128.97000
AG	107	0.50300	686.72000	23.500	0.63948	0.44085	0.42901
AS	75	2.03100	89.33000	44.400	1.53633	3.07136	1.48454
BA	137	1.64300	186.68000	20.800	1.90159	1.77078	1.25561
CD	111	0.55200	85.33000	18.100	0.66710	0.50587	0.48364
CO	59	0.51600	450.03000	7.100	0.48348	0.55568	0.50928
CU	63	2.30900	1750.15000	17.700	2.67494	1.86894	2.38349
MO	98	0.46200	290.01000	10.400	0.44100	0.51748	0.42817
NI	60	2.17300	570.03000	27.000	1.50426	2.60386	2.41123
RB	85	0.81000	113.34000	25.000	0.58451	0.87068	0.97543
SB	121	1.20300	366.69000	13.700	1.14562	1.38891	1.07414
SE	78	2.04900	270.23000	9.700	2.26177	1.86870	2.01781
SN	120	0.54700	2387.13000	130.300	1.36116	0.24384	0.03616
SR	88	1.13300	220.01000	31.500	0.74624	1.20125	1.45023
ZN	66	17.09700	1510.14000	5.200	17.48517	16.08736	17.71950
BI-2	209	130319.32000	0.00000	0.000	130792.43000	132205.23000	127960.30000
PB	208	1.00000	5153.92000	11.100	0.93527	0.93677	1.12920
TL	203	0.55400	873.40000	13.000	0.58851	0.60114	0.47089
U	238	0.47600	3227.16000	0.600	0.47766	0.47254	0.47771
SC-1	45	672433.69000	0.00000	0.000	672507.02000	676659.60000	668134.44000
GE-1	72	843068.76000	0.00000	0.000	837788.43000	840462.64000	850955.22000
GE-2	72	55514.50000	0.00000	0.000	55909.05000	54835.50000	55798.96000
TB-2	159	151259.41000	0.00000	0.000	149748.76000	152714.64000	151314.83000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:34:54
Tube Number: 8
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16578.27000	0.00000	0.000	16167.80000	16938.57000	16628.43000
AL	27	9629.49600	83834.44000	2.100	9844.27015	9439.21229	9605.00491
CA	44	9415.51300	9186.02000	2.100	9648.13056	9289.23772	9309.17085
CR	52	0.17000	90.00000	55.500	0.21668	0.06131	0.23109
FE	57	9838.13900	90735.11000	2.600	10053.15784	9552.92761	9908.33193
K	39	9821.91300	163412.26000	1.200	9841.83281	9696.70456	9927.20254
MG	24	9667.83400	302661.26000	0.500	9706.44902	9617.39059	9679.66233
MN	55	0.08500	20.00000	157.200	0.03593	0.23619	-0.01715
NA	23	9765.90200	604055.44000	0.400	9798.40080	9724.58361	9774.72050
TI	47	197.37600	1550.14000	0.800	198.46490	198.15961	195.50469
V	51	0.02000	6.67000	173.200	0.05859	0.00000	0.00000
IN-1	115	421665.48000	0.00000	0.000	416841.28000	424772.79000	423382.38000
IN-2	115	26495.66000	0.00000	0.000	27133.84000	25119.08000	27234.07000
AG	107	0.00200	10.00000	511.700	-0.00468	-0.00468	0.01656
AS	75	0.05900	3.33000	83.600	0.02899	0.03253	0.11670
BA	137	-0.02500	3.33000	0.000	-0.05677	0.03772	-0.05677
CD	111	-0.00400	2.00000	0.000	0.00875	-0.01692	-0.00413
CO	59	0.00800	13.33000	91.100	0.00394	0.01697	0.00390
CU	63	0.15300	186.67000	57.600	0.17584	0.22696	0.05558
MO	98	201.55800	119368.25000	5.200	193.14247	213.27040	198.26022
NI	60	0.01300	30.00000	268.700	0.01127	-0.02122	0.04940
RB	85	0.09800	16.67000	112.400	0.18975	0.12980	-0.02446
SB	121	0.04400	16.67000	111.700	-0.01067	0.05824	0.08467
SE	78	-0.01200	3.56000	0.000	-0.00261	-0.03393	0.00190
SN	120	-0.49800	2024.01000	0.000	-0.50697	-0.41139	-0.57669
SR	88	0.10400	20.00000	54.000	0.05000	0.16202	0.09962
ZN	66	0.33300	50.00000	131.000	0.33156	-0.10244	0.77077
BI-2	209	127206.92000	0.00000	0.000	124311.38000	130479.65000	126829.74000
PB	208	0.01100	190.01000	90.100	0.01780	-0.00031	0.01483
TL	203	0.01100	26.67000	88.700	0.00026	0.01918	0.01332
U	238	0.00100	6.67000	173.200	0.00000	0.00295	0.00000
SC-1	45	692618.82000	0.00000	0.000	688114.13000	694445.30000	695297.02000
GE-1	72	860152.83000	0.00000	0.000	858989.91000	859966.32000	861502.25000
GE-2	72	55042.79000	0.00000	0.000	54363.92000	54655.15000	56109.30000
TB-2	159	149693.86000	0.00000	0.000	148256.56000	153878.56000	146946.46000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:37:16
Tube Number: 9
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16468.00000	0.00000	0.000	16908.50000	15957.54000	16537.96000
AL	27	9983.54500	86322.04000	3.100	9625.67297	10194.54250	10130.42056
CA	44	9444.06800	9142.66000	7.200	8772.62730	10137.76019	9421.81589
CR	52	19.47700	9179.39000	1.400	19.15725	19.68610	19.58691
FE	57	9850.31000	90262.70000	1.700	9874.33659	10004.61640	9671.97551
K	39	9769.75800	161426.18000	3.100	9424.07619	9894.17365	9991.02428
MG	24	9749.14000	303014.41000	3.200	9434.90224	10050.13063	9762.38822
MN	55	20.05700	3843.92000	10.700	17.85272	22.14538	20.17368
NA	23	9861.46100	605617.93000	2.600	9630.60003	10141.18396	9812.59797
TI	47	205.88500	1600.14000	20.000	174.78909	252.67333	190.19117
V	51	0.02800	10.00000	99.300	0.05603	0.00000	0.02864
IN-1	115	411672.99000	0.00000	0.000	407318.42000	413888.59000	413811.96000
IN-2	115	26357.84000	0.00000	0.000	27388.94000	25849.37000	25835.22000
AG	107	20.34300	27786.66000	7.000	19.55269	21.99538	19.48010
AS	75	20.16000	889.37000	2.900	20.78149	20.07569	19.62354
BA	137	-0.05700	0.00000	0.000	-0.05677	-0.05677	-0.05677
CD	111	20.54200	3110.97000	3.200	20.00781	21.26789	20.34940
CO	59	20.87400	18052.97000	3.900	20.04583	20.90979	21.66495
CU	63	20.83000	15277.17000	5.100	19.61004	21.41281	21.46670
MO	98	206.12300	121489.02000	4.700	194.92177	211.82343	211.62434
NI	60	21.80700	5494.40000	6.000	20.64034	21.55118	23.22970
RB	85	0.09800	16.67000	116.400	0.11701	-0.02446	0.20052
SB	121	0.05500	20.00000	60.900	0.05253	0.08978	0.02283
SE	78	-0.02300	2.00000	0.000	-0.03371	-0.00235	-0.03379
SN	120	-0.89800	1860.27000	0.000	-1.40107	-1.48828	0.19589
SR	88	0.08500	16.67000	90.400	0.14859	0.10496	0.00000
ZN	66	20.00000	1770.17000	10.400	17.65889	21.63000	20.71133
BI-2	209	128862.73000	0.00000	0.000	129321.67000	127221.24000	130045.28000
PB	208	0.02000	240.02000	91.200	0.00597	0.04125	0.01377
TL	203	0.00900	23.33000	42.600	0.01294	0.00669	0.00640
U	238	0.00100	6.67000	173.200	0.00000	0.00302	0.00000
SC-1	45	667118.58000	0.00000	0.000	670982.10000	663814.52000	666559.13000
GE-1	72	847248.42000	0.00000	0.000	842796.78000	845676.39000	853272.10000
GE-2	72	55902.78000	0.00000	0.000	55277.43000	56521.63000	55909.29000
TB-2	159	152280.19000	0.00000	0.000	152204.09000	150265.85000	154370.62000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:39:38
Tube Number: 10
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	15884.19000	0.00000	0.000	16027.71000	15206.87000	16417.98000
AL	27	2628.34400	21927.15000	2.400	2604.01744	2699.48423	2581.53115
CA	44	2533.92200	2370.27000	6.500	2570.94090	2676.51633	2354.30812
CR	52	264.32600	119935.51000	4.300	260.17296	277.23167	255.57456
FE	57	2539.93600	22431.42000	7.500	2422.02046	2758.83577	2438.95104
K	39	2509.51000	41732.10000	5.500	2427.71429	2668.98409	2431.83089
MG	24	2586.15300	77529.70000	2.500	2583.66411	2653.19163	2521.60216
MN	55	263.75000	48757.23000	4.700	259.51339	277.71396	254.02360
NA	23	2582.56300	154205.63000	4.900	2507.91122	2728.83932	2510.93718
TI	47	248.22700	1863.52000	9.500	250.25145	270.69993	223.72937
V	51	258.38500	86563.76000	3.900	254.13290	269.97759	251.04562
IN-1	115	425780.12000	0.00000	0.000	432679.88000	417678.72000	426981.77000
IN-2	115	26212.77000	0.00000	0.000	25824.60000	25730.46000	27083.24000
AG	107	26.13300	35491.13000	4.900	26.68586	27.04641	24.66771
AS	75	262.56800	11499.79000	2.200	263.85601	267.61357	256.23485
BA	137	269.03800	29700.62000	4.300	281.16641	267.77393	258.17256
CD	111	26.31200	3963.15000	1.900	26.19711	26.84798	25.89186
CO	59	264.50600	227537.12000	1.600	266.81148	267.21342	259.49179
CU	63	260.39800	189236.97000	1.500	260.25393	264.32056	256.61875
MO	98	26.99000	15854.42000	4.100	25.82694	28.05913	27.08539
NI	60	257.32000	64255.79000	0.800	256.22888	259.62516	256.10632
RB	85	23.82100	3223.77000	8.400	22.48532	26.10757	22.87032
SB	121	27.26000	8258.99000	1.600	26.80933	27.68178	27.28963
SE	78	25.37500	3324.98000	1.500	25.30262	25.77643	25.04622
SN	120	28.28000	12751.37000	11.300	28.64809	31.27900	24.91432
SR	88	25.30700	4894.24000	10.900	22.11888	26.99923	26.80275
ZN	66	261.37600	22798.72000	6.300	263.80116	276.57206	243.75434
BI-2	209	128500.36000	0.00000	0.000	127506.26000	130074.90000	127919.91000
PB	208	25.57300	126612.82000	1.800	26.00653	25.09106	25.62004
TL	203	25.48400	39155.52000	2.600	24.99865	26.22659	25.22591
U	238	24.63200	164662.22000	2.400	24.63403	24.03561	25.22538
SC-1	45	676709.31000	0.00000	0.000	677837.65000	669399.68000	682890.61000
GE-1	72	851157.04000	0.00000	0.000	849807.88000	853412.72000	850250.53000
GE-2	72	55403.85000	0.00000	0.000	54433.96000	56119.77000	55657.82000
TB-2	159	152145.25000	0.00000	0.000	149930.12000	153595.63000	152910.00000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:42:01
Tube Number: 11
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	15940.96000	0.00000	0.000	15397.06000	16568.30000	15857.53000
AL	27	-0.29700	10.00000	0.000	-1.48003	-0.33091	0.92123
CA	44	-6.64500	0.00000	0.000	-6.64479	-6.64479	-6.64479
CR	52	0.07600	43.34000	152.700	0.20587	-0.02128	0.04488
FE	57	-2.10300	6.67000	0.000	-0.54701	-2.88170	-2.88170
K	39	1.30000	2413.59000	548.700	6.97541	-6.70874	3.63396
MG	24	0.00900	3.33000	2254.500	0.23808	-0.10583	-0.10583
MN	55	0.07300	16.67000	115.400	0.15007	0.08645	-0.01715
NA	23	-0.75900	1763.48000	0.000	0.00912	-3.61207	1.32575
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	425578.06000	0.00000	0.000	420447.82000	431020.55000	425265.81000
IN-2	115	26761.41000	0.00000	0.000	26124.45000	26785.63000	27374.16000
AG	107	0.01000	20.00000	73.500	0.00270	0.01692	0.00941
AS	75	0.15000	7.33000	64.900	0.25971	0.07424	0.11603
BA	137	-0.02600	3.33000	0.000	0.03408	-0.05677	-0.05677
CD	111	-0.01700	0.00000	0.000	-0.01692	-0.01692	-0.01692
CO	59	0.02700	30.00000	40.700	0.02770	0.01546	0.03723
CU	63	0.04900	113.34000	66.700	0.02090	0.08519	0.04160
MO	98	0.22400	153.34000	21.500	0.27487	0.21723	0.17921
NI	60	-0.07900	6.67000	0.000	-0.06463	-0.10482	-0.06646
RB	85	0.00000	3.33000	0.000	-0.02446	0.04787	-0.02446
SB	121	0.39900	126.68000	9.500	0.38694	0.44175	0.36878
SE	78	0.00000	5.11000	0.000	0.00219	0.01628	-0.01863
SN	120	-0.87200	1903.59000	0.000	-1.56103	0.13788	-1.19373
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	0.00100	20.00000	22993.200	0.00795	-0.22204	0.21695
BI-2	209	125984.29000	0.00000	0.000	125126.14000	123676.91000	129149.83000
PB	208	-0.01400	66.67000	0.000	-0.01988	-0.01348	-0.01008
TL	203	0.02500	46.67000	83.500	0.04703	0.00706	0.01945
U	238	0.01300	86.67000	15.700	0.01382	0.01088	0.01488
SC-1	45	683743.92000	0.00000	0.000	681188.27000	686016.08000	684027.41000
GE-1	72	859640.12000	0.00000	0.000	846040.07000	870450.30000	862429.99000
GE-2	72	56738.92000	0.00000	0.000	56280.31000	56270.56000	57665.88000
TB-2	159	150119.31000	0.00000	0.000	148699.66000	148650.19000	153008.08000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:44:25
Tube Number: 12 Batch: 152756050004A
Sample Number: **PBW** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	14836.69000	0.00000	0.000	15627.36000	16077.58000	12805.14000
AL	27	-0.27300	10.00000	0.000	0.95659	-0.29583	-1.48003
CA	44	35.92900	36.67000	50.200	15.11080	46.22113	46.45614
CR	52	0.06900	36.67000	67.800	0.06824	0.02223	0.11527
FE	57	1.52500	36.67000	145.000	-0.58141	3.82591	1.32920
K	39	12.56900	2406.91000	153.500	29.23802	-8.56841	17.03858
MG	24	2.29900	66.67000	39.600	1.24955	2.85837	2.78884
MN	55	0.54400	96.67000	10.800	0.47713	0.57011	0.58607
NA	23	21.03900	2813.68000	38.400	14.70022	18.28409	30.13337
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.04500	13.33000	57.100	0.03031	0.02946	0.07398
IN-1	115	422396.72000	0.00000	0.000	426792.86000	416243.63000	424153.67000
IN-2	115	25353.12000	0.00000	0.000	27219.78000	27749.57000	21090.00000
AG	107	0.00600	13.33000	156.400	0.00949	-0.00468	0.01361
AS	75	0.03700	2.00000	153.100	0.02885	-0.01511	0.09837
BA	137	-0.02800	3.33000	0.000	0.03043	-0.05677	-0.05677
CD	111	-0.01700	0.00000	0.000	-0.01692	-0.01692	-0.01692
CO	59	-0.00700	0.00000	0.000	-0.00729	-0.00729	-0.00729
CU	63	0.07400	123.34000	40.300	0.04241	0.07864	0.10189
MO	98	0.13100	93.34000	60.800	0.04908	0.20854	0.13651
NI	60	-0.01600	20.00000	0.000	0.01091	-0.10482	0.04454
RB	85	-0.02400	0.00000	0.000	-0.02446	-0.02446	-0.02446
SB	121	0.13100	40.00000	43.600	0.11652	0.08290	0.19453
SE	78	-0.02200	2.22000	0.000	-0.01367	-0.02343	-0.02886
SN	120	-1.48000	1560.22000	0.000	-2.09411	-1.61026	-0.73556
SR	88	0.04900	10.00000	99.400	0.04984	0.09777	0.00000
ZN	66	2.06100	193.35000	30.900	2.75818	1.51028	1.91485
BI-2	209	120534.75000	0.00000	0.000	129179.10000	130984.14000	101441.01000
PB	208	-0.00300	116.67000	0.000	-0.00606	-0.00438	0.00255
TL	203	0.01000	23.33000	66.200	0.00649	0.00631	0.01828
U	238	0.00300	16.67000	132.900	0.00149	0.00000	0.00758
SC-1	45	676185.57000	0.00000	0.000	667377.26000	673003.43000	688176.01000
GE-1	72	853245.85000	0.00000	0.000	851902.25000	850805.77000	857029.52000
GE-2	72	52065.27000	0.00000	0.000	55878.36000	56931.63000	43385.83000
TB-2	159	142060.29000	0.00000	0.000	155620.64000	156157.88000	114402.36000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:46:50
Tube Number: 13 Batch: 152756050004A
Sample Number: **LCSW** Class: **********

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16284.47000	0.00000	0.000	16177.85000	16547.87000	16127.69000
AL	27	2083.03100	17829.38000	4.400	1984.87910	2095.91698	2168.29839
CA	44	4256.31500	4080.63000	9.600	4186.52834	3887.28183	4695.13414
CR	52	51.74100	24100.11000	2.000	52.82515	50.77642	51.62204
FE	57	1072.40300	9739.69000	4.200	1121.82264	1033.63155	1061.75398
K	39	10761.15600	175624.01000	1.600	10777.94169	10578.47969	10927.04682
MG	24	2128.18400	65446.52000	0.800	2129.56550	2109.87210	2145.11521
MN	55	50.60600	9606.28000	2.500	51.40612	51.24187	49.16939
NA	23	10588.66400	643171.76000	0.900	10578.22625	10496.99500	10690.77093
TI	47	251.51100	1940.19000	9.100	276.63888	246.21061	231.68284
V	51	54.04400	18580.39000	3.300	52.20126	54.21430	55.71531
IN-1	115	423173.45000	0.00000	0.000	420797.66000	428035.33000	420687.37000
IN-2	115	27215.63000	0.00000	0.000	27165.60000	26913.54000	27567.74000
AG	107	51.65200	72888.12000	1.000	51.96228	51.93053	51.06354
AS	75	10.27200	468.01000	5.100	9.67560	10.47773	10.66278
BA	137	55.77000	6401.49000	2.600	54.12422	56.92503	56.26191
CD	111	5.38000	843.36000	5.400	5.21277	5.71456	5.21226
CO	59	271.71400	242758.49000	1.600	266.67780	274.64808	273.81730
CU	63	54.58900	41248.82000	4.100	56.15131	55.61683	51.99911
MO	98	53.20700	32424.52000	2.600	52.54888	54.82088	52.25259
NI	60	52.00200	13502.27000	2.600	52.17731	53.25259	50.57556
RB	85	-0.02400	0.00000	0.000	-0.02446	-0.02446	-0.02446
SB	121	6.09600	1920.22000	3.100	5.88440	6.16470	6.23796
SE	78	10.68700	1394.95000	0.900	10.58123	10.72095	10.75937
SN	120	54.96700	23627.78000	1.900	54.27254	56.19203	54.43654
SR	88	43.25000	8672.50000	6.200	44.40709	45.17628	40.16530
ZN	66	556.94300	50469.13000	2.800	574.04134	552.66110	544.12791
BI-2	209	132549.49000	0.00000	0.000	133151.72000	131467.05000	133029.69000
PB	208	15.58400	79655.16000	1.300	15.37398	15.61862	15.75973
TL	203	2.17800	3460.53000	4.300	2.28119	2.10040	2.15116
U	238	0.00000	3.33000	173.200	0.00144	0.00000	0.00000
SC-1	45	688935.12000	0.00000	0.000	681743.82000	694276.55000	690784.99000
GE-1	72	861564.10000	0.00000	0.000	857074.91000	863242.49000	864374.91000
GE-2	72	57620.73000	0.00000	0.000	56922.14000	57413.09000	58526.96000
TB-2	159	154220.75000	0.00000	0.000	149892.06000	156137.82000	156632.37000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:49:17
Tube Number: 14 Batch: 152756050004A
Sample Number: **8065024** Class: U*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16281.28000	0.00000	0.000	15857.42000	16568.11000	16418.32000
AL	27	-0.69300	6.67000	0.000	-0.27939	-1.48003	-0.32041
CA	44	38.98200	43.33000	65.300	68.39506	24.13564	24.41646
CR	52	0.09300	53.34000	173.400	0.02283	-0.02128	0.27695
FE	57	-1.78100	10.00000	0.000	-1.74824	-0.71203	-2.88170
K	39	2.76900	2490.28000	377.300	10.65412	6.73015	-9.07840
MG	24	7.68400	240.01000	19.600	6.23915	7.56500	9.24791
MN	55	0.33500	66.67000	10.800	0.36177	0.29366	0.34877
NA	23	125.13800	9429.45000	2.900	123.09769	123.00157	129.31575
TI	47	0.44400	3.33000	173.200	1.33112	0.00000	0.00000
V	51	0.01000	3.33000	173.200	0.02987	0.00000	0.00000
IN-1	115	422660.76000	0.00000	0.000	429786.19000	415824.91000	422371.17000
IN-2	115	27363.70000	0.00000	0.000	26694.46000	27586.87000	27809.76000
AG	107	0.01400	26.67000	55.600	0.00977	0.00930	0.02306
AS	75	0.07300	4.00000	62.600	0.11937	0.02827	0.07095
BA	137	0.17500	26.67000	29.700	0.20996	0.11530	0.19927
CD	111	-0.00900	1.33000	0.000	-0.01692	0.00833	-0.01692
CO	59	-0.00700	0.00000	0.000	-0.00729	-0.00729	-0.00729
CU	63	4.21800	3273.81000	12.600	4.73540	3.67635	4.24293
MO	98	0.06500	60.00000	23.000	0.05070	0.08038	0.06341
NI	60	-0.07900	6.67000	0.000	-0.10482	-0.02870	-0.10482
RB	85	-0.02400	0.00000	0.000	-0.02446	-0.02446	-0.02446
SB	121	0.25100	83.34000	75.100	0.08660	0.20895	0.45621
SE	78	-0.01200	3.55000	0.000	-0.00878	-0.01300	-0.01341
SN	120	0.47300	2474.24000	199.000	-0.10412	-0.03620	1.55907
SR	88	0.01700	3.33000	173.200	0.05082	0.00000	0.00000
ZN	66	0.25900	43.33000	153.500	0.67830	0.21357	-0.11401
BI-2	209	130269.65000	0.00000	0.000	127990.46000	133012.54000	129805.96000
PB	208	-0.00700	106.67000	0.000	-0.01194	-0.00084	-0.00817
TL	203	0.00000	10.00000	0.000	-0.00647	-0.00647	0.01287
U	238	0.00000	3.33000	173.200	0.00000	0.00000	0.00148
SC-1	45	679593.48000	0.00000	0.000	684827.72000	673980.30000	679972.41000
GE-1	72	850189.00000	0.00000	0.000	867044.21000	829473.27000	854049.52000
GE-2	72	56410.46000	0.00000	0.000	57814.47000	55798.79000	55618.13000
TB-2	159	151719.97000	0.00000	0.000	149055.81000	153395.22000	152708.89000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:51:39
Tube Number: 15 Batch: 152756050004A
Sample Number: **8065024** Class: UP********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16444.73000	0.00000	0.000	15827.42000	16798.43000	16708.34000
AL	27	204.69800	1780.16000	1.900	209.04988	203.67963	201.36509
CA	44	483.29000	473.36000	15.700	508.92177	398.15427	542.79374
CR	52	4.57100	2160.24000	1.200	4.50878	4.60082	4.60483
FE	57	216.18800	2003.54000	5.700	219.71963	202.57048	226.27401
K	39	424.11900	9362.74000	1.800	431.73984	423.90540	416.71185
MG	24	229.29800	7118.28000	3.900	239.49336	222.80760	225.59415
MN	55	4.98600	956.74000	10.700	5.51430	4.99025	4.45216
NA	23	547.64400	35367.98000	4.500	544.11978	524.69974	574.11331
TI	47	33.56000	263.35000	39.900	20.00604	33.92831	46.74584
V	51	1.22700	426.69000	25.900	1.10732	0.98692	1.58762
IN-1	115	424251.56000	0.00000	0.000	421382.84000	425572.29000	425799.55000
IN-2	115	26997.34000	0.00000	0.000	26803.08000	26892.11000	27296.82000
AG	107	0.95000	1336.79000	6.600	0.88765	0.94926	1.01286
AS	75	4.71300	213.33000	6.300	4.53852	5.05740	4.54383
BA	137	4.95900	570.04000	16.600	5.87653	4.70937	4.29091
CD	111	1.00500	158.67000	14.100	0.93141	0.91532	1.16937
CO	59	1.05000	936.74000	6.700	1.11798	0.97830	1.05299
CU	63	8.58900	6504.83000	4.100	8.97036	8.28269	8.51538
MO	98	1.09200	680.04000	22.300	0.81722	1.27963	1.17831
NI	60	4.15300	1093.42000	17.400	4.59675	4.54217	3.31908
RB	85	-0.02400	0.00000	0.000	-0.02446	-0.02446	-0.02446
SB	121	2.37400	743.38000	7.700	2.54059	2.40343	2.17733
SE	78	3.99700	526.23000	4.000	4.07438	4.10523	3.81262
SN	120	2.34600	3160.47000	21.800	2.40806	1.80749	2.82312
SR	88	1.70900	340.01000	16.500	1.46782	2.01790	1.64006
ZN	66	33.97800	3073.73000	5.800	31.83883	35.75489	34.34113
BI-2	209	132775.12000	0.00000	0.000	132930.09000	134187.91000	131207.35000
PB	208	2.11900	10968.71000	3.800	2.07509	2.06891	2.21163
TL	203	1.23500	1970.23000	2.000	1.25882	1.20954	1.23716
U	238	0.00200	16.67000	173.200	0.00000	0.00716	0.00000
SC-1	45	691741.01000	0.00000	0.000	687052.10000	699283.43000	688887.49000
GE-1	72	869183.69000	0.00000	0.000	872690.77000	864078.35000	870781.94000
GE-2	72	58059.29000	0.00000	0.000	57092.52000	58046.18000	59039.17000
TB-2	159	153423.98000	0.00000	0.000	152253.56000	152375.07000	155643.31000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:54:04
Tube Number: 16 Batch: 152756050004A
Sample Number: **8065027** Class: D*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16424.77000	0.00000	0.000	16998.68000	16728.39000	15547.23000
AL	27	4.59900	53.33000	72.200	7.48019	5.34872	0.96915
CA	44	113101.44700	109165.95000	3.700	111244.71738	110179.71855	117879.90397
CR	52	0.65800	320.01000	13.400	0.76053	0.60590	0.60856
FE	57	8248.81900	75291.22000	5.000	7861.14035	8201.83096	8683.48483
K	39	3393.28400	57497.75000	3.700	3256.07215	3416.75794	3507.02312
MG	24	36942.42000	1144080.58000	5.000	35564.38826	36213.44100	39049.43201
MN	55	917.22900	175300.86000	4.300	886.49937	903.78571	961.40282
NA	23	20781.45100	1269058.65000	6.400	19489.66085	20721.13409	22133.55895
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.20900	73.33000	38.200	0.27864	0.22651	0.12186
IN-1	115	424608.53000	0.00000	0.000	428350.22000	419001.72000	426473.64000
IN-2	115	27016.75000	0.00000	0.000	26134.45000	27719.55000	27196.24000
AG	107	0.00800	16.67000	279.800	0.03221	-0.00468	-0.00468
AS	75	1.59300	72.67000	14.300	1.63317	1.79792	1.34883
BA	137	464.37800	52837.08000	3.000	477.11682	449.65074	466.36567
CD	111	-0.01200	0.67000	0.000	-0.00359	-0.01692	-0.01692
CO	59	0.00400	10.00000	8.500	0.00437	0.00370	0.00391
CU	63	0.82200	693.38000	11.700	0.75251	0.78165	0.93134
MO	98	1.88500	1160.10000	9.900	1.95032	2.03036	1.67571
NI	60	1.53600	420.02000	27.600	2.02479	1.25899	1.32384
RB	85	0.52200	76.67000	87.400	0.19794	0.32501	1.04420
SB	121	0.07500	26.67000	106.500	0.08868	-0.01067	0.14846
SE	78	-0.01700	2.89000	0.000	-0.02387	-0.01833	-0.00854
SN	120	-0.98700	1870.48000	0.000	-0.32827	-1.95959	-0.67310
SR	88	167.19400	33266.02000	4.800	176.29953	161.21525	164.06814
ZN	66	1.18500	126.68000	17.400	1.15752	1.40378	0.99320
BI-2	209	127419.81000	0.00000	0.000	126760.88000	128334.32000	127164.22000
PB	208	0.05200	393.35000	32.100	0.05380	0.03457	0.06784
TL	203	-0.00600	0.00000	0.000	-0.00647	-0.00647	-0.00647
U	238	0.26200	1736.85000	9.400	0.25171	0.24414	0.29022
SC-1	45	702787.38000	0.00000	0.000	705283.97000	705007.72000	698070.46000
GE-1	72	876102.75000	0.00000	0.000	876253.97000	875815.46000	876238.82000
GE-2	72	57022.63000	0.00000	0.000	55397.43000	58286.70000	57383.76000
TB-2	159	153336.24000	0.00000	0.000	153584.00000	153010.63000	153414.08000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:56:25
Tube Number: 17 Batch: 152756050004A
Sample Number: **8065025** Class: R*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16634.91000	0.00000	0.000	16257.86000	16097.70000	17549.16000
AL	27	2095.60000	18299.81000	6.100	2032.51733	2242.18824	2012.09544
CA	44	116174.67400	113556.48000	3.800	117406.82460	119842.55562	111274.64301
CR	52	53.21500	25298.46000	4.000	55.43057	53.04471	51.17077
FE	57	8673.50500	80208.93000	3.600	8855.71266	8853.99000	8310.81246
K	39	13844.86500	229835.78000	4.100	14052.88044	14274.06515	13207.65066
MG	24	38785.32500	1216738.39000	4.400	39312.07869	40175.42805	36868.46897
MN	55	925.93200	179180.41000	5.200	936.98899	967.18063	873.62706
NA	23	31784.54000	1965919.03000	4.200	32217.34898	32863.24242	30273.02800
TI	47	282.82000	2223.56000	7.400	293.45418	296.37646	258.62803
V	51	53.37100	18737.14000	1.200	53.46057	53.96327	52.68797
IN-1	115	416231.47000	0.00000	0.000	419543.96000	418473.85000	410676.60000
IN-2	115	27417.63000	0.00000	0.000	26567.92000	26994.14000	28690.84000
AG	107	51.05800	72533.04000	3.300	51.47653	52.47864	49.21917
AS	75	12.94600	594.02000	14.800	14.57785	10.84534	13.41466
BA	137	526.46900	60784.09000	3.000	527.59091	541.84720	509.96754
CD	111	4.85300	766.69000	5.200	5.12072	4.61388	4.82553
CO	59	260.46300	234154.22000	4.400	268.82013	265.01096	247.55873
CU	63	53.23300	40520.20000	1.800	53.33399	54.15064	52.21482
MO	98	53.93900	33076.01000	5.600	57.22076	53.33056	51.26678
NI	60	54.14200	14129.50000	9.200	58.69369	54.88425	48.84832
RB	85	0.63300	93.34000	20.200	0.48601	0.69327	0.71842
SB	121	6.67700	2113.56000	8.200	7.09207	6.88386	6.05369
SE	78	10.40700	1336.50000	2.400	10.57675	10.52093	10.12455
SN	120	52.06500	22639.35000	6.100	55.41219	51.66530	49.11892
SR	88	205.90500	41586.94000	4.000	204.27601	214.75177	198.68702
ZN	66	524.25000	47811.49000	4.100	541.36336	531.03205	500.35342
BI-2	209	126938.47000	0.00000	0.000	125572.80000	128049.79000	127192.83000
PB	208	15.98600	78251.55000	0.800	15.89922	16.14182	15.91704
TL	203	2.14500	3263.82000	3.600	2.20597	2.05862	2.17122
U	238	0.24800	1640.17000	9.400	0.23879	0.27470	0.23121
SC-1	45	692485.33000	0.00000	0.000	698555.22000	692201.79000	686698.97000
GE-1	72	865550.30000	0.00000	0.000	870086.39000	863115.38000	863449.13000
GE-2	72	57775.02000	0.00000	0.000	57554.63000	57223.09000	58547.33000
TB-2	159	152636.68000	0.00000	0.000	152647.52000	153181.42000	152081.11000

Run Name: 1527806E05 Date/Time: 10/05/2015 15:58:49
Tube Number: 18 Batch: 152756050004A
Sample Number: **8065026** Class: M*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16925.08000	0.00000	0.000	16608.17000	17929.39000	16237.68000
AL	27	2067.60600	18376.47000	4.200	2160.60523	1989.57241	2052.63997
CA	44	110068.78300	109467.62000	3.400	110915.00113	106013.89641	113277.45142
CR	52	52.30300	25268.70000	6.200	53.29194	48.67893	54.93875
FE	57	8215.52300	77182.46000	7.600	8402.42002	7515.42107	8728.72759
K	39	13565.62600	229049.82000	5.700	13517.68790	12817.50743	14361.68201
MG	24	37315.70500	1190804.46000	4.600	37858.45311	35400.42763	38688.23501
MN	55	901.42000	177393.44000	6.000	916.22584	841.60775	946.42648
NA	23	30675.54600	1929063.67000	5.900	31326.30382	28620.00642	32080.32819
TI	47	265.46000	2130.20000	2.300	264.38351	271.98119	260.01495
V	51	52.41600	18693.65000	5.800	52.44662	49.37533	55.42518
IN-1	115	430158.43000	0.00000	0.000	428573.16000	428685.50000	433216.64000
IN-2	115	26827.95000	0.00000	0.000	26677.99000	26724.93000	27080.94000
AG	107	51.50800	71656.42000	0.900	50.95904	51.86231	51.70297
AS	75	12.97500	582.68000	6.200	12.54389	12.47706	13.90373
BA	137	515.28500	58249.00000	0.900	517.91787	517.90772	510.02979
CD	111	4.87200	753.36000	4.600	4.70791	5.12963	4.77904
CO	59	264.01700	232525.90000	1.700	267.33854	258.89900	265.81402
CU	63	52.23100	38920.38000	0.500	52.19195	52.00596	52.49522
MO	98	55.20400	33162.78000	2.600	55.89273	56.14652	53.57302
NI	60	53.85700	13785.88000	4.100	56.24482	51.93841	53.38849
RB	85	0.72300	103.34000	67.200	1.28283	0.41051	0.47634
SB	121	6.33500	1966.88000	3.300	6.15427	6.56457	6.28636
SE	78	10.24400	1359.39000	1.500	10.35818	10.06701	10.30683
SN	120	54.48200	23106.79000	1.200	54.71189	54.97659	53.75890
SR	88	204.35300	40414.31000	1.900	200.27348	207.80864	204.97562
ZN	66	536.87400	47965.66000	1.200	531.68440	534.58382	544.35239
BI-2	209	129011.54000	0.00000	0.000	127687.70000	128564.84000	130782.07000
PB	208	15.57300	77470.80000	0.600	15.58653	15.66414	15.46778
TL	203	2.11900	3280.50000	9.700	1.90718	2.13495	2.31624
U	238	0.21900	1473.48000	17.500	0.17612	0.23174	0.24986
SC-1	45	712174.42000	0.00000	0.000	712749.60000	709633.43000	714140.22000
GE-1	72	866502.46000	0.00000	0.000	862156.39000	865690.85000	871660.14000
GE-2	72	57323.50000	0.00000	0.000	56741.52000	58968.62000	56260.37000
TB-2	159	156164.24000	0.00000	0.000	155341.57000	158778.39000	154372.77000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:01:10
Tube Number: 19 Batch: 152756050004A
Sample Number: **8065024** Class: UL********

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16971.82000	0.00000	0.000	17148.64000	16848.38000	16918.43000
AL	27	3.01900	40.00000	65.400	0.74044	4.17007	4.14667
CA	44	13.46500	20.00000	197.400	-6.64479	3.44468	43.59368
CR	52	0.02000	20.00000	1.900	0.01951	0.02024	0.02006
FE	57	-0.41600	23.33000	0.000	0.26264	-1.81491	0.30542
K	39	8.50900	2693.65000	155.700	6.66629	-3.72163	22.58195
MG	24	4.26400	140.01000	84.800	2.98233	1.46561	8.34513
MN	55	0.16900	36.67000	75.800	0.03290	0.18661	0.28722
NA	23	24.84600	3497.14000	14.500	24.17144	21.63550	28.73064
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.01900	6.67000	173.200	0.00000	0.00000	0.05599
IN-1	115	429171.58000	0.00000	0.000	437604.91000	424189.65000	425720.18000
IN-2	115	27991.54000	0.00000	0.000	27472.50000	28367.40000	28134.72000
AG	107	-0.00200	3.33000	0.000	-0.00468	-0.00468	0.00217
AS	75	0.01300	1.33000	370.800	-0.01511	-0.01511	0.06995
BA	137	0.05500	13.33000	232.200	-0.05677	0.19423	0.02759
CD	111	0.00000	2.67000	0.000	-0.01692	-0.01692	0.03259
CO	59	0.00700	13.33000	349.700	-0.00729	-0.00729	0.03602
CU	63	0.92500	796.73000	19.900	1.10480	0.73602	0.93531
MO	98	0.17900	133.34000	57.900	0.06459	0.26628	0.20524
NI	60	0.04400	40.00000	287.800	-0.02838	0.19131	-0.03018
RB	85	-0.02400	0.00000	0.000	-0.02446	-0.02446	-0.02446
SB	121	0.20600	70.00000	1.800	0.20987	0.20291	0.20471
SE	78	-0.00400	4.66000	0.000	0.00057	0.01717	-0.02890
SN	120	-0.20600	2257.46000	0.000	-0.52186	0.37554	-0.47317
SR	88	0.04900	10.00000	100.800	0.09876	0.00000	0.04822
ZN	66	1.00000	113.34000	57.400	1.63711	0.83712	0.52543
BI-2	209	128031.37000	0.00000	0.000	128336.40000	126196.08000	129561.63000
PB	208	-0.01300	73.34000	0.000	0.00016	-0.01377	-0.02618
TL	203	-0.00200	6.67000	0.000	-0.00647	-0.00647	0.00645
U	238	0.00000	3.33000	173.200	0.00000	0.00000	0.00148
SC-1	45	696596.53000	0.00000	0.000	697481.47000	688573.43000	703734.68000
GE-1	72	875342.33000	0.00000	0.000	870657.02000	881645.38000	873724.60000
GE-2	72	58420.59000	0.00000	0.000	56691.79000	60444.13000	58125.85000
TB-2	159	151004.42000	0.00000	0.000	151484.05000	149669.89000	151859.31000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:03:32
Tube Number: 20 Batch: 152756050004A
Sample Number: **8064460** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16307.88000	0.00000	0.000	15977.62000	16538.05000	16407.97000
AL	27	3.18000	40.00000	35.000	2.09478	3.12486	4.32172
CA	44	69.74100	73.34000	21.900	67.83054	85.87464	55.51691
CR	52	0.06300	40.00000	176.300	-0.02128	0.19020	0.02135
FE	57	0.44100	30.00000	439.200	1.61802	-1.79489	1.50000
K	39	5.08000	2533.62000	77.200	0.56336	7.63178	7.04546
MG	24	8.45600	263.35000	19.000	9.17416	6.61839	9.57653
MN	55	0.63300	123.34000	50.200	0.68121	0.29422	0.92444
NA	23	140.50900	10376.62000	1.700	139.28169	139.05547	143.19032
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.13600	46.67000	26.700	0.17787	0.11456	0.11547
IN-1	115	429457.69000	0.00000	0.000	424560.66000	432624.53000	431187.87000
IN-2	115	27592.58000	0.00000	0.000	27009.30000	27560.52000	28207.92000
AG	107	0.00500	13.33000	174.300	0.00960	-0.00468	0.00899
AS	75	-0.01500	0.00000	0.000	-0.01511	-0.01511	-0.01511
BA	137	0.22600	33.34000	154.400	0.11898	-0.05677	0.61644
CD	111	-0.01700	0.00000	0.000	-0.01692	-0.01692	-0.01692
CO	59	0.00400	10.00000	532.400	-0.00729	-0.00729	0.02511
CU	63	5.57300	4337.40000	7.000	5.96152	5.57837	5.17939
MO	98	0.01500	30.00000	175.900	0.00010	-0.00056	0.04621
NI	60	-0.01600	23.33000	0.000	0.01181	-0.02862	-0.03037
RB	85	-0.00100	3.33000	0.000	-0.02446	0.04584	-0.02446
SB	121	0.07200	26.67000	64.100	0.02137	0.08354	0.11206
SE	78	-0.01700	2.89000	0.000	-0.00327	-0.02906	-0.01891
SN	120	0.05300	2324.29000	805.400	0.14165	0.43021	-0.41236
SR	88	0.11700	23.34000	173.200	0.35163	0.00000	0.00000
ZN	66	-0.00300	20.00000	0.000	0.11165	-0.00403	-0.11554
BI-2	209	130899.56000	0.00000	0.000	130850.92000	133041.20000	128806.55000
PB	208	0.00300	156.67000	337.200	0.00160	0.01282	-0.00600
TL	203	-0.00600	0.00000	0.000	-0.00647	-0.00647	-0.00647
U	238	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SC-1	45	703665.38000	0.00000	0.000	710136.16000	699466.40000	701393.58000
GE-1	72	884323.27000	0.00000	0.000	886912.41000	880642.41000	885414.99000
GE-2	72	58242.93000	0.00000	0.000	57082.72000	59118.94000	58527.14000
TB-2	159	154753.05000	0.00000	0.000	153606.14000	155794.39000	154858.63000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:05:56
Tube Number: 21 Batch: 152756050004A
Sample Number: **8064467** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	17479.10000	0.00000	0.000	17038.75000	17679.21000	17719.33000
AL	27	1.78700	30.00000	120.200	1.87215	-0.40311	3.89235
CA	44	6.40900	13.33000	93.200	13.30869	2.97053	2.94875
CR	52	0.11100	66.67000	87.700	-0.00075	0.17653	0.15635
FE	57	0.20300	30.00000	498.700	0.28292	-0.84838	1.17572
K	39	-9.48800	2460.26000	0.000	3.53041	-15.27069	-16.72412
MG	24	0.71200	26.67000	109.600	1.44805	0.79272	-0.10583
MN	55	0.44200	93.34000	33.000	0.53698	0.27413	0.51570
NA	23	23.60700	3520.49000	2.900	24.20942	23.74620	22.86388
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.09000	33.33000	74.800	0.02780	0.16075	0.08019
IN-1	115	426113.13000	0.00000	0.000	420196.72000	424433.45000	433709.21000
IN-2	115	27552.07000	0.00000	0.000	27204.17000	27174.97000	28277.07000
AG	107	0.00500	13.33000	171.600	0.00949	0.00951	-0.00468
AS	75	0.01400	1.33000	182.500	0.02888	-0.01511	0.02721
BA	137	0.00100	6.67000	7225.000	0.11772	-0.05677	-0.05677
CD	111	-0.01300	0.67000	0.000	-0.01692	-0.01692	-0.00460
CO	59	-0.00700	0.00000	0.000	-0.00729	-0.00729	-0.00729
CU	63	0.09800	153.34000	44.800	0.10881	0.13559	0.04972
MO	98	0.03800	43.33000	110.900	0.08198	0.03278	-0.00139
NI	60	0.03400	36.67000	223.000	0.01097	-0.02754	0.11798
RB	85	-0.02400	0.00000	0.000	-0.02446	-0.02446	-0.02446
SB	121	0.06300	23.33000	162.300	-0.01067	0.18043	0.01994
SE	78	-0.02900	1.34000	0.000	-0.03387	-0.03393	-0.01903
SN	120	-1.53900	1700.20000	0.000	-2.04040	-1.77839	-0.79743
SR	88	0.01700	3.33000	173.200	0.04987	0.00000	0.00000
ZN	66	0.06800	26.67000	88.600	-0.00117	0.10962	0.09669
BI-2	209	132472.72000	0.00000	0.000	129904.72000	131932.08000	135581.37000
PB	208	-0.00900	96.67000	0.000	0.00181	-0.00652	-0.02243
TL	203	-0.00400	3.33000	0.000	-0.00647	-0.00647	-0.00030
U	238	0.00100	6.67000	173.200	0.00000	0.00000	0.00284
SC-1	45	690836.73000	0.00000	0.000	695869.52000	681463.74000	695176.94000
GE-1	72	868422.46000	0.00000	0.000	868446.71000	861690.53000	875130.14000
GE-2	72	59202.88000	0.00000	0.000	59791.63000	59440.63000	58376.37000
TB-2	159	152780.97000	0.00000	0.000	149599.52000	154584.72000	154158.68000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:08:17
Tube Number: 22
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	17068.71000	0.00000	0.000	17218.80000	16838.54000	17148.80000
AL	27	2546.07900	22831.72000	4.200	2456.98859	2664.18354	2517.06602
CA	44	2625.75700	2643.66000	6.300	2807.34034	2588.17715	2481.75473
CR	52	249.51900	121780.40000	1.700	245.50488	253.74954	249.30186
FE	57	2588.86100	24600.96000	6.500	2534.38520	2776.64195	2455.55698
K	39	2472.67000	44281.09000	1.500	2512.45785	2468.51103	2437.04003
MG	24	2499.26000	80555.18000	1.500	2469.14929	2541.01682	2487.61388
MN	55	254.91900	50699.26000	0.400	253.85536	255.75437	255.14759
NA	23	2486.01900	159748.72000	2.200	2473.35114	2546.19228	2438.51297
TI	47	252.59000	2040.19000	14.400	223.12988	293.36413	241.27553
V	51	246.29400	88744.80000	1.500	242.82689	250.34803	245.70687
IN-1	115	444301.74000	0.00000	0.000	446463.48000	446616.00000	439825.73000
IN-2	115	27549.36000	0.00000	0.000	26999.46000	28078.75000	27569.87000
AG	107	25.32800	36182.51000	0.800	25.50289	25.12146	25.36068
AS	75	258.44000	11897.35000	2.500	265.63315	253.63084	256.05483
BA	137	261.69000	30375.36000	2.200	264.25991	255.02873	265.78081
CD	111	25.65900	4065.18000	4.300	24.74685	26.89580	25.33351
CO	59	262.71000	237548.85000	2.500	269.39162	262.66342	256.07455
CU	63	258.61600	197531.46000	1.700	263.34395	254.58402	257.92014
MO	98	25.89300	15981.33000	2.400	26.62333	25.56652	25.48765
NI	60	263.35900	69117.01000	1.100	266.23264	263.31274	260.53052
RB	85	25.69400	3653.88000	6.800	27.67821	24.33637	25.06725
SB	121	24.96400	7942.20000	8.100	26.09169	22.62074	26.17975
SE	78	25.30400	3460.56000	1.200	25.41446	25.52722	24.96976
SN	120	25.76000	12421.96000	8.500	28.20267	23.97127	25.10653
SR	88	26.99100	5481.13000	3.600	26.58465	26.28764	28.10217
ZN	66	269.07000	24684.72000	5.200	270.92196	254.17231	282.11512
BI-2	209	131964.00000	0.00000	0.000	130058.91000	132537.77000	133295.31000
PB	208	25.24800	128383.07000	0.900	25.51633	25.08790	25.13953
TL	203	25.75700	40629.83000	2.600	26.25628	24.99241	26.02113
U	238	24.45900	167905.47000	3.000	24.98089	24.76977	23.62676
SC-1	45	722121.03000	0.00000	0.000	732379.99000	716329.21000	717653.90000
GE-1	72	899532.64000	0.00000	0.000	904651.08000	890732.25000	903214.60000
GE-2	72	58450.71000	0.00000	0.000	56561.04000	59179.76000	59611.34000
TB-2	159	154064.41000	0.00000	0.000	153273.75000	154232.23000	154687.26000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:10:39
Tube Number: 23
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	17649.20000	0.00000	0.000	17759.36000	17498.98000	17689.25000
AL	27	-0.39600	10.00000	0.000	-1.48003	0.69598	-0.40372
CA	44	-3.44200	3.33000	0.000	-6.64479	-6.64479	2.96507
CR	52	0.00500	13.33000	913.400	0.05749	-0.02128	-0.02128
FE	57	-1.51600	13.33000	0.000	-2.88170	0.19969	-1.86562
K	39	4.64300	2733.65000	313.700	17.16194	8.11334	-11.34513
MG	24	0.39300	16.67000	43.300	0.49050	0.19677	0.49287
MN	55	0.01500	6.67000	370.400	0.07950	-0.01715	-0.01715
NA	23	-3.42000	1780.16000	0.000	-3.90429	0.02599	-6.38285
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	421673.33000	0.00000	0.000	420239.07000	427715.65000	417065.27000
IN-2	115	28218.94000	0.00000	0.000	27575.23000	27867.71000	29213.87000
AG	107	0.01600	30.00000	4.000	0.01630	0.01608	0.01512
AS	75	0.07000	4.00000	123.900	0.15847	-0.01511	0.06681
BA	137	-0.00100	6.67000	0.000	0.02930	-0.05677	0.02447
CD	111	-0.01700	0.00000	0.000	-0.01692	-0.01692	-0.01692
CO	59	0.01100	16.67000	119.200	0.02586	0.00364	0.00314
CU	63	-0.00200	80.00000	0.000	0.01437	-0.05160	0.03247
MO	98	0.06700	63.33000	55.200	0.06423	0.03114	0.10466
NI	60	-0.05500	13.33000	0.000	-0.02866	-0.10482	-0.03294
RB	85	-0.02400	0.00000	0.000	-0.02446	-0.02446	-0.02446
SB	121	0.51200	170.01000	14.300	0.52296	0.57947	0.43377
SE	78	-0.00300	4.67000	0.000	0.00740	-0.00863	-0.00785
SN	120	-0.88000	2000.39000	0.000	-1.05003	-0.26990	-1.31901
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	-0.08300	13.33000	0.000	-0.22204	-0.11424	0.08647
BI-2	209	130893.00000	0.00000	0.000	133020.72000	131478.63000	128179.64000
PB	208	-0.01600	60.00000	0.000	-0.02037	-0.01830	-0.00994
TL	203	0.00800	23.33000	43.000	0.00611	0.01262	0.00659
U	238	0.00900	60.01000	27.300	0.01156	0.00731	0.00750
SC-1	45	690047.28000	0.00000	0.000	689217.88000	699059.29000	681864.68000
GE-1	72	867529.18000	0.00000	0.000	861266.71000	886036.47000	855284.36000
GE-2	72	58223.09000	0.00000	0.000	59068.97000	57254.10000	58346.20000
TB-2	159	155983.84000	0.00000	0.000	154522.29000	156864.41000	156564.83000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:13:03
Tube Number: 24 Batch: 152756050004A
Sample Number: **8064471** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16658.40000	0.00000	0.000	15977.71000	17169.11000	16828.38000
AL	27	4.16700	50.00000	124.000	-0.28843	2.95561	9.83472
CA	44	58.05100	63.33000	36.500	67.83012	72.56314	33.76105
CR	52	0.10300	60.00000	77.800	0.02250	0.18241	0.10341
FE	57	-2.17000	6.67000	0.000	-2.88170	-2.88170	-0.74558
K	39	7.72400	2630.30000	222.100	3.72869	-7.08205	26.52443
MG	24	17.12200	543.37000	10.600	15.14023	18.70884	17.51616
MN	55	0.45700	90.00000	89.900	0.89608	0.08282	0.39085
NA	23	263.08000	18176.22000	4.500	276.52428	254.59126	258.12433
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.11200	40.00000	88.200	0.02964	0.22070	0.08444
IN-1	115	431901.87000	0.00000	0.000	433122.92000	437108.54000	425474.16000
IN-2	115	27660.51000	0.00000	0.000	28517.50000	27012.65000	27451.37000
AG	107	0.00000	6.67000	0.000	0.00884	-0.00468	-0.00468
AS	75	0.01400	1.33000	360.800	-0.01511	-0.01511	0.07207
BA	137	0.80400	100.00000	74.900	0.44259	0.47041	1.49958
CD	111	-0.01700	0.00000	0.000	-0.01692	-0.01692	-0.01692
CO	59	-0.00700	0.00000	0.000	-0.00729	-0.00729	-0.00729
CU	63	10.76500	8328.96000	2.700	10.43715	10.99762	10.85959
MO	98	0.00400	23.33000	767.100	0.01401	-0.03299	0.03212
NI	60	-0.06600	10.00000	0.000	-0.10482	0.01180	-0.10482
RB	85	-0.02400	0.00000	0.000	-0.02446	-0.02446	-0.02446
SB	121	0.11400	40.00000	46.000	0.14108	0.05341	0.14698
SE	78	-0.02900	1.33000	0.000	-0.02907	-0.02916	-0.02889
SN	120	-1.33800	1780.32000	0.000	-1.55256	-0.82017	-1.64002
SR	88	0.14700	30.00000	57.600	0.19028	0.20088	0.04942
ZN	66	-0.04300	16.67000	0.000	0.09400	-0.11082	-0.11260
BI-2	209	132257.43000	0.00000	0.000	131892.01000	132475.25000	132405.03000
PB	208	-0.00200	133.34000	0.000	-0.00258	0.00516	-0.00856
TL	203	-0.00200	6.67000	0.000	0.00622	-0.00647	-0.00647
U	238	0.00200	13.33000	173.200	0.00000	0.00580	0.00000
SC-1	45	706308.27000	0.00000	0.000	706301.63000	706825.22000	705797.96000
GE-1	72	877823.45000	0.00000	0.000	884813.03000	887934.99000	860722.33000
GE-2	72	59510.20000	0.00000	0.000	59921.95000	59198.92000	59409.72000
TB-2	159	153205.29000	0.00000	0.000	152092.20000	152818.42000	154705.26000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:15:27
Tube Number: 25 Batch: 152756050004A
Sample Number: **8065023** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	17485.74000	0.00000	0.000	16738.41000	17809.36000	17909.44000
AL	27	4.80200	56.67000	97.800	9.89554	3.86519	0.64611
CA	44	125344.53000	128792.55000	4.700	132092.04475	121253.78561	122687.76081
CR	52	0.07100	46.67000	88.100	-0.00038	0.09654	0.11541
FE	57	35.47600	373.35000	4.400	34.70344	34.46175	37.26383
K	39	1499.59900	28536.49000	3.600	1526.03042	1437.06994	1535.69632
MG	24	52440.72600	1730342.58000	3.300	54371.52562	51067.68277	51882.97043
MN	55	0.75400	156.68000	17.400	0.85457	0.80215	0.60588
NA	23	56097.36000	3646907.55000	4.000	58680.27114	55103.47453	54508.33581
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.37900	140.01000	31.300	0.36789	0.26596	0.50252
IN-1	115	421559.64000	0.00000	0.000	418902.86000	419528.77000	426247.28000
IN-2	115	26809.00000	0.00000	0.000	25915.16000	27071.91000	27439.94000
AG	107	0.00000	6.67000	12433.200	-0.00468	0.00244	0.00234
AS	75	0.24000	11.33000	79.500	0.40045	0.02909	0.29014
BA	137	50.93100	5751.24000	7.200	54.81461	50.45237	47.52520
CD	111	0.01800	5.33000	155.600	0.05026	0.00881	-0.00423
CO	59	0.05000	50.00000	22.100	0.05149	0.03772	0.05932
CU	63	0.27400	280.02000	23.400	0.32819	0.20313	0.29106
MO	98	0.54500	346.69000	10.700	0.58771	0.47867	0.56950
NI	60	1.22300	340.02000	19.400	0.98927	1.21404	1.46426
RB	85	0.09600	16.67000	113.400	0.12506	-0.02446	0.18736
SB	121	0.17300	56.67000	44.000	0.22312	0.08524	0.21013
SE	78	0.45700	64.22000	13.800	0.51502	0.39009	0.46478
SN	120	4.77200	4121.81000	231.900	-1.31018	-1.91821	17.54442
SR	88	257.37700	50825.12000	3.900	268.88857	252.32043	250.92332
ZN	66	0.78200	90.00000	85.600	0.35759	1.55364	0.43487
BI-2	209	127234.16000	0.00000	0.000	128535.37000	127243.41000	125923.69000
PB	208	0.02300	253.35000	74.100	0.04256	0.00857	0.01927
TL	203	0.00500	16.67000	85.800	0.00004	0.00668	0.00682
U	238	0.43100	2853.74000	3.200	0.44566	0.41846	0.42895
SC-1	45	713165.74000	0.00000	0.000	721079.83000	709098.58000	709318.82000
GE-1	72	876279.39000	0.00000	0.000	878641.78000	868433.82000	881762.56000
GE-2	72	58450.70000	0.00000	0.000	58477.57000	58186.19000	58688.34000
TB-2	159	155608.27000	0.00000	0.000	152949.27000	157238.40000	156637.13000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:17:51
Tube Number: 26 Batch: 152756050004A
Sample Number: **8065028** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16628.30000	0.00000	0.000	16758.54000	15987.57000	17138.78000
AL	27	13.42700	130.01000	10.300	14.42618	14.00236	11.85154
CA	44	110339.26400	107857.72000	3.400	108247.13865	114621.35353	108149.29865
CR	52	1.03300	500.03000	13.400	1.08477	1.13811	0.87659
FE	57	8463.24000	78274.69000	3.300	8600.76818	8648.68721	8140.26340
K	39	3282.11000	56391.54000	3.900	3226.22727	3429.10060	3191.00293
MG	24	36494.74300	1145130.74000	3.500	35808.24864	37952.66552	35723.31537
MN	55	876.20100	169599.30000	4.100	861.00544	917.60838	849.98980
NA	23	20323.11300	1258084.28000	4.400	19408.85161	21181.86763	20378.61984
TI	47	0.41100	3.33000	173.200	0.00000	0.00000	1.23160
V	51	0.22900	80.00000	24.000	0.25437	0.26664	0.16582
IN-1	115	418470.37000	0.00000	0.000	416751.30000	418445.98000	420213.83000
IN-2	115	27362.07000	0.00000	0.000	26759.73000	27714.61000	27611.87000
AG	107	0.02300	40.00000	135.900	0.01694	0.05795	-0.00468
AS	75	1.70300	78.67000	13.700	1.54994	1.97095	1.58832
BA	137	459.53100	52977.78000	1.000	464.45926	458.32884	455.80426
CD	111	-0.01700	0.00000	0.000	-0.01692	-0.01692	-0.01692
CO	59	0.01100	16.67000	151.900	-0.00729	0.02569	0.01478
CU	63	0.95000	796.72000	24.700	1.21787	0.78181	0.85044
MO	98	1.88100	1170.10000	15.700	2.22126	1.69213	1.73091
NI	60	1.37700	386.69000	11.900	1.19018	1.44871	1.49252
RB	85	0.56700	83.33000	27.500	0.69955	0.39498	0.60704
SB	121	0.02100	10.00000	2.900	0.02167	0.02056	0.02067
SE	78	-0.01000	3.78000	0.000	-0.00260	-0.01830	-0.00809
SN	120	-1.81000	1580.18000	0.000	-2.08173	-1.47854	-1.86823
SR	88	163.33700	32955.19000	2.400	158.81993	166.09639	165.09449
ZN	66	1.67800	173.34000	31.000	1.46209	2.27127	1.30131
BI-2	209	131904.67000	0.00000	0.000	131418.33000	131763.38000	132532.31000
PB	208	0.07200	506.69000	38.800	0.10032	0.04477	0.06983
TL	203	0.00200	13.33000	368.500	0.00627	-0.00647	0.00616
U	238	0.26500	1820.20000	3.700	0.27059	0.27134	0.25381
SC-1	45	696937.83000	0.00000	0.000	683282.33000	704400.69000	703130.46000
GE-1	72	867549.49000	0.00000	0.000	849455.38000	874899.99000	878293.11000
GE-2	72	58327.20000	0.00000	0.000	57744.67000	57624.74000	59612.19000
TB-2	159	154061.48000	0.00000	0.000	156371.75000	151062.83000	154749.85000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:20:19
Tube Number: 27 Batch: 152756050004A
Sample Number: **8065029** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16868.53000	0.00000	0.000	16388.13000	17629.26000	16588.21000
AL	27	11.78100	116.67000	41.400	11.29927	7.15969	16.88499
CA	44	114182.01300	113244.07000	2.400	115315.92328	111099.01501	116131.09925
CR	52	1.38800	680.05000	5.600	1.30187	1.40708	1.45456
FE	57	5030.52400	47179.67000	5.100	5126.82630	4741.14888	5223.59680
K	39	1918.62000	34493.50000	4.000	1999.12474	1847.68717	1909.04734
MG	24	41899.85200	1333555.03000	3.500	43028.00853	40269.98705	42401.55990
MN	55	1237.14600	242916.44000	4.000	1255.61432	1181.48429	1274.33995
NA	23	22451.38700	1409338.89000	3.400	22929.37500	21564.18788	22860.59754
TI	47	0.84800	6.67000	173.200	0.00000	0.00000	2.54496
V	51	0.13200	46.67000	63.400	0.08671	0.08060	0.22843
IN-1	115	422843.71000	0.00000	0.000	420157.24000	425647.75000	422726.14000
IN-2	115	26932.72000	0.00000	0.000	26446.04000	27367.51000	26984.60000
AG	107	0.02700	43.33000	64.800	0.04637	0.01646	0.01676
AS	75	22.53300	1014.71000	2.900	23.15183	21.84712	22.60078
BA	137	771.81500	87584.90000	1.600	769.86220	760.76319	784.81823
CD	111	-0.00800	1.33000	0.000	0.00942	-0.01692	-0.01692
CO	59	5.19700	4597.47000	7.100	5.47666	4.77988	5.33332
CU	63	1.60400	1273.44000	8.500	1.73833	1.46537	1.60797
MO	98	12.21100	7378.55000	4.000	12.38759	11.65911	12.58712
NI	60	4.47600	1173.44000	18.900	4.69997	3.54052	5.18789
RB	85	0.04800	10.00000	152.700	0.12206	0.04633	-0.02446
SB	121	0.08500	30.00000	63.200	0.05478	0.14746	0.05348
SE	78	-0.00100	4.89000	0.000	-0.00808	0.00168	0.00197
SN	120	-1.57700	1640.65000	0.000	-0.62942	-1.90950	-2.19097
SR	88	184.93900	36713.18000	2.900	189.02717	186.88376	178.90488
ZN	66	2.60000	253.34000	19.000	2.05007	2.74199	3.00671
BI-2	209	128393.52000	0.00000	0.000	127860.60000	128383.23000	128936.74000
PB	208	0.13700	816.72000	15.300	0.11609	0.15800	0.13705
TL	203	0.07000	116.67000	22.000	0.07861	0.07826	0.05194
U	238	0.23100	1540.16000	9.600	0.24053	0.20511	0.24598
SC-1	45	703703.37000	0.00000	0.000	704170.07000	712126.47000	694813.58000
GE-1	72	863411.31000	0.00000	0.000	871119.28000	869682.17000	849432.49000
GE-2	72	58667.51000	0.00000	0.000	58065.57000	58175.67000	59761.29000
TB-2	159	154651.06000	0.00000	0.000	155512.28000	154856.54000	153584.36000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:22:41
Tube Number: 28 Batch: 152756050004A
Sample Number: **8065030** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	17238.85000	0.00000	0.000	16988.65000	16808.53000	17919.38000
AL	27	11.42600	116.67000	45.000	6.36479	16.64427	11.26973
CA	44	106846.28100	108287.44000	3.700	105422.50243	111362.55201	103753.78933
CR	52	9.66900	4767.53000	8.500	9.88191	10.36270	8.76228
FE	57	8169.89200	78284.15000	5.700	8294.98253	8561.10152	7653.59179
K	39	2991.60200	53546.22000	1.500	3029.35362	3005.46467	2939.98632
MG	24	35758.61700	1163305.95000	3.100	36193.92709	36583.34983	34498.57500
MN	55	1046.84100	210140.82000	3.000	1042.72484	1080.15165	1017.64677
NA	23	19018.13800	1220713.11000	2.500	19214.83213	19370.76202	18468.81864
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.04700	16.67000	91.900	0.05576	0.08454	0.00000
IN-1	115	428594.29000	0.00000	0.000	427306.41000	433960.70000	424515.77000
IN-2	115	27679.93000	0.00000	0.000	27570.90000	27341.96000	28126.94000
AG	107	0.06900	106.67000	29.200	0.05128	0.06585	0.09132
AS	75	34.32400	1589.41000	4.600	33.62176	33.20298	36.14768
BA	137	330.34900	38528.80000	1.300	331.93009	333.49340	325.62231
CD	111	-0.01700	0.00000	0.000	-0.01692	-0.01692	-0.01692
CO	59	0.66500	610.04000	17.000	0.58939	0.79495	0.61008
CU	63	11.55100	8939.26000	4.300	11.44039	12.09158	11.12247
MO	98	1.78000	1123.42000	12.900	1.52283	1.96079	1.85746
NI	60	1.96900	546.70000	4.100	1.87579	2.00755	2.02326
RB	85	0.30100	46.67000	46.600	0.25662	0.18812	0.45771
SB	121	0.07300	26.67000	23.800	0.08351	0.05264	0.08164
SE	78	-0.01900	2.67000	0.000	-0.03906	-0.01409	-0.00327
SN	120	2.38100	3246.68000	293.800	10.45825	-1.59829	-1.71704
SR	88	167.32800	34140.98000	0.300	167.26081	167.91590	166.80606
ZN	66	6.72400	640.05000	3.600	6.97030	6.48092	6.72109
BI-2	209	129693.78000	0.00000	0.000	127948.88000	128605.25000	132527.21000
PB	208	0.14300	856.72000	10.800	0.12614	0.14757	0.15610
TL	203	-0.00200	6.67000	0.000	-0.00647	0.00004	-0.00015
U	238	0.24600	1656.84000	8.800	0.24187	0.26903	0.22626
SC-1	45	709026.55000	0.00000	0.000	709701.79000	705691.16000	711686.71000
GE-1	72	887847.31000	0.00000	0.000	882631.63000	896127.41000	884782.88000
GE-2	72	58333.35000	0.00000	0.000	57453.48000	58597.76000	58948.82000
TB-2	159	157603.67000	0.00000	0.000	156924.55000	159749.67000	156136.80000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:25:05
Tube Number: 29 Batch: 152756050004A
Sample Number: **8065031** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	15957.73000	0.00000	0.000	16307.90000	15847.64000	15717.66000
AL	27	104.48200	886.73000	12.400	89.58729	110.25639	113.60304
CA	44	117258.52000	110035.79000	3.200	113085.42925	118334.49534	120355.63621
CR	52	125.79700	57392.12000	3.200	122.51381	124.52349	130.35237
FE	57	55865.83300	495864.33000	2.500	54322.65868	56264.00151	57010.83869
K	39	1910.80500	32513.07000	6.000	1791.54684	1920.90904	2019.95802
MG	24	39293.62100	1183850.50000	2.200	38500.81040	39177.38459	40202.66736
MN	55	3072.25700	571072.15000	2.200	2994.14943	3112.73361	3109.88939
NA	23	19472.01900	1157173.37000	3.000	18904.40097	19433.01348	20078.64142
TI	47	4.41300	33.33000	18.000	3.88306	5.32778	4.02888
V	51	1.09600	370.02000	15.800	1.27804	1.07602	0.93425
IN-1	115	409052.70000	0.00000	0.000	409753.78000	404854.76000	412549.56000
IN-2	115	26311.76000	0.00000	0.000	26568.74000	25982.93000	26383.61000
AG	107	0.07600	110.00000	26.700	0.06791	0.09924	0.06111
AS	75	69.18400	3043.62000	4.200	67.99738	67.04372	72.51173
BA	137	411.14000	45593.17000	2.400	416.55455	399.92559	416.94077
CD	111	0.09400	16.67000	23.000	0.07482	0.11709	0.08866
CO	59	4.83200	4177.37000	8.100	4.38472	5.10539	5.00458
CU	63	6.84400	5067.64000	4.700	7.16228	6.85395	6.51574
MO	98	17.33700	10230.09000	6.800	16.65449	16.65208	18.70331
NI	60	45.87100	11517.54000	3.400	44.17615	47.19622	46.23916
RB	85	0.44100	63.34000	24.400	0.55899	0.34837	0.41614
SB	121	0.30800	96.67000	38.600	0.18479	0.42241	0.31742
SE	78	0.03300	9.11000	10.700	0.03503	0.03593	0.02932
SN	120	-0.63700	1957.18000	0.000	-1.71190	-0.32399	0.12472
SR	88	215.86900	41868.13000	2.800	210.41614	214.73622	222.45597
ZN	66	7.16200	646.71000	16.500	8.03300	7.64088	5.81333
BI-2	209	125056.69000	0.00000	0.000	124220.10000	124078.20000	126871.78000
PB	208	0.41900	2153.51000	6.600	0.44241	0.38851	0.42644
TL	203	0.02500	46.67000	68.700	0.04068	0.02725	0.00672
U	238	0.71000	4620.88000	7.100	0.66697	0.69718	0.76518
SC-1	45	683140.17000	0.00000	0.000	690029.13000	676649.36000	682742.02000
GE-1	72	847521.60000	0.00000	0.000	839765.38000	851895.77000	850903.66000
GE-2	72	57995.78000	0.00000	0.000	57212.76000	56551.41000	60223.17000
TB-2	159	153152.47000	0.00000	0.000	152921.01000	152466.32000	154070.09000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:27:28
Tube Number: 30 Batch: 152756050004A
Sample Number: **8065033** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16761.63000	0.00000	0.000	16888.74000	17018.35000	16377.81000
AL	27	74.30600	666.72000	10.200	79.69363	65.64840	77.57486
CA	44	131547.88500	129678.42000	2.300	131531.99686	128518.22792	134593.43058
CR	52	0.42600	213.34000	35.100	0.35147	0.32808	0.59797
FE	57	4482.22500	41809.31000	3.100	4410.33255	4394.77662	4641.56625
K	39	5621.09800	95627.00000	1.200	5611.25554	5557.24166	5694.79646
MG	24	38968.34100	1233448.19000	0.600	38729.81620	39000.13077	39175.07539
MN	55	1481.72300	289296.10000	2.200	1476.09440	1452.45349	1516.62009
NA	23	33201.76700	2071017.78000	3.200	32936.07537	32292.03926	34377.18501
TI	47	6.37400	50.01000	89.100	3.74951	2.48064	12.89087
V	51	0.50800	180.01000	33.200	0.70116	0.38965	0.43383
IN-1	115	400312.74000	0.00000	0.000	428438.37000	434496.98000	338002.87000
IN-2	115	27384.03000	0.00000	0.000	26472.25000	28213.78000	27466.07000
AG	107	-0.00200	3.33000	0.000	-0.00468	-0.00468	0.00234
AS	75	15.66000	718.02000	4.000	14.94700	16.10159	15.93042
BA	137	131.75700	15194.22000	4.400	137.72542	126.18837	131.35633
CD	111	0.02200	6.00000	123.200	0.04885	0.02011	-0.00424
CO	59	2.49100	2240.24000	11.100	2.80086	2.27116	2.39972
CU	63	1.36500	1110.09000	20.100	1.66834	1.13698	1.28900
MO	98	4.99300	3077.08000	5.300	5.26736	4.73429	4.97799
NI	60	3.22000	866.72000	2.300	3.30673	3.17058	3.18325
RB	85	0.87500	126.67000	43.300	1.21980	0.93699	0.46931
SB	121	0.45200	146.68000	32.300	0.34902	0.38817	0.61962
SE	78	0.11200	18.45000	12.500	0.11793	0.09574	0.12142
SN	120	-1.44400	1723.57000	0.000	-1.45861	-1.33244	-1.54072
SR	88	518.70400	104654.70000	2.800	527.32321	501.92174	526.86829
ZN	66	2.59200	256.68000	8.900	2.38828	2.54660	2.84073
BI-2	209	128424.53000	0.00000	0.000	126299.80000	126053.77000	132920.03000
PB	208	0.57700	2993.61000	7.000	0.53341	0.58398	0.61295
TL	203	0.07600	126.67000	82.800	0.13928	0.01345	0.07537
U	238	1.37300	9176.52000	2.300	1.40508	1.34220	1.37269
SC-1	45	670747.27000	0.00000	0.000	716673.82000	729497.33000	566070.66000
GE-1	72	829680.69000	0.00000	0.000	885431.63000	895154.67000	708455.77000
GE-2	72	58269.81000	0.00000	0.000	59019.05000	57443.48000	58346.89000
TB-2	159	154244.06000	0.00000	0.000	155976.02000	152334.45000	154421.72000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:29:51
Tube Number: 31 Batch: 152756050004A
Sample Number: **8065034** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	17682.66000	0.00000	0.000	17479.14000	17619.27000	17949.56000
AL	27	196.41300	1836.83000	10.800	220.74784	181.15372	187.33826
CA	44	112160.04800	116655.51000	2.100	114459.96805	112189.96032	109830.21541
CR	52	1.08000	556.70000	21.500	0.95914	1.34833	0.93345
FE	57	1648.17400	16241.16000	2.400	1693.59929	1616.81472	1634.10793
K	39	3205.85200	58681.83000	0.900	3222.79865	3222.51561	3172.24186
MG	24	38274.77200	1277977.66000	1.300	38747.44626	38338.22991	37738.64091
MN	55	1533.57200	315917.32000	1.700	1561.31545	1529.99283	1509.40667
NA	23	31030.86900	2042737.52000	1.500	31141.39321	31446.44978	30504.76541
TI	47	22.48200	190.06000	100.800	2.41524	17.97146	47.06008
V	51	1.12600	420.03000	13.600	1.21950	1.20980	0.95002
IN-1	115	432205.34000	0.00000	0.000	437693.46000	428427.45000	430495.11000
IN-2	115	27531.94000	0.00000	0.000	26580.81000	28126.31000	27888.70000
AG	107	0.00000	6.67000	0.000	-0.00468	-0.00468	0.00915
AS	75	4.72400	217.33000	17.400	5.65700	4.11158	4.40417
BA	137	468.54500	54328.53000	2.800	482.71664	456.86460	466.05394
CD	111	0.15300	26.67000	37.400	0.21887	0.11926	0.12042
CO	59	2.86100	2596.98000	8.700	2.59450	3.09070	2.89861
CU	63	2.14800	1720.17000	6.400	2.00045	2.26969	2.17351
MO	98	6.32500	3917.29000	3.300	6.42267	6.46512	6.08783
NI	60	6.63500	1763.49000	15.000	7.32268	5.49568	7.08734
RB	85	0.42100	63.34000	40.700	0.41287	0.59556	0.25342
SB	121	0.43200	140.01000	32.000	0.57548	0.42018	0.29971
SE	78	-0.01200	3.55000	0.000	-0.01431	0.00651	-0.02901
SN	120	-0.84800	1966.98000	0.000	-0.87035	-0.49585	-1.17930
SR	88	289.74700	58803.55000	1.400	290.77321	293.28133	285.18706
ZN	66	6.00100	570.04000	8.600	6.10774	5.43938	6.45723
BI-2	209	130022.76000	0.00000	0.000	128907.38000	130167.44000	130993.45000
PB	208	0.78100	4047.07000	4.600	0.81432	0.78420	0.74337
TL	203	0.13100	213.35000	38.300	0.17528	0.14138	0.07657
U	238	0.71900	4861.03000	4.600	0.72177	0.75024	0.68387
SC-1	45	728975.48000	0.00000	0.000	741379.68000	716641.94000	728904.83000
GE-1	72	893474.02000	0.00000	0.000	903568.97000	884731.71000	892121.39000
GE-2	72	58520.54000	0.00000	0.000	57072.54000	58998.06000	59491.01000
TB-2	159	157642.33000	0.00000	0.000	157207.28000	160226.15000	155493.57000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:32:17
Tube Number: 32 Batch: 152756050004A
Sample Number: **8065035** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	17045.30000	0.00000	0.000	16578.36000	17218.63000	17338.92000
AL	27	1739.28700	15571.16000	7.200	1862.27606	1610.29462	1745.29057
CA	44	127986.48300	128306.40000	1.700	130413.56357	127244.35490	126301.53153
CR	52	2.59900	1276.77000	7.000	2.59464	2.78175	2.41939
FE	57	1824.05600	17322.47000	1.600	1852.05323	1792.41316	1827.70236
K	39	4355.97700	75938.46000	0.800	4390.52580	4357.88250	4319.52270
MG	24	51160.54800	1646016.64000	3.200	53038.41694	50330.82757	50112.40096
MN	55	185.04200	36765.53000	3.200	179.85721	191.44926	183.81902
NA	23	427887.89700	27124753.76000	1.400	434618.04182	424524.47488	424521.17524
TI	47	29.23900	236.68000	29.900	22.91955	39.23102	25.56636
V	51	3.59100	1293.45000	9.100	3.34304	3.96153	3.46960
IN-1	115	413575.47000	0.00000	0.000	416704.18000	407652.13000	416370.11000
IN-2	115	25714.45000	0.00000	0.000	25128.93000	25543.43000	26470.99000
AG	107	0.01300	23.33000	67.400	0.01834	0.00287	0.01717
AS	75	2.18900	94.67000	5.200	2.31816	2.13976	2.10946
BA	137	35.07400	3803.94000	3.300	36.12315	35.25721	33.84046
CD	111	0.03300	7.33000	86.900	0.01080	0.06487	0.02255
CO	59	3.43200	2907.03000	7.500	3.15706	3.47549	3.66430
CU	63	2.68600	1986.88000	4.400	2.72507	2.77802	2.55442
MO	98	3.23300	1880.20000	9.000	2.95433	3.53573	3.20805
NI	60	4.46100	1116.75000	9.200	4.53385	4.82864	4.02100
RB	85	3.03700	406.69000	8.400	2.75129	3.23727	3.12290
SB	121	0.19100	60.00000	47.000	0.26488	0.09098	0.21821
SE	78	0.89400	118.67000	9.800	0.96571	0.79644	0.91962
SN	120	-0.79400	1850.98000	0.000	-1.08352	0.90073	-2.19943
SR	88	311.28700	58990.11000	1.900	312.44123	316.48586	304.93313
ZN	66	6.76200	596.70000	11.900	7.66900	6.48230	6.13389
BI-2	209	119115.91000	0.00000	0.000	118417.41000	119041.12000	119889.20000
PB	208	1.97100	9164.81000	1.000	1.99270	1.96246	1.95704
TL	203	0.03800	63.33000	45.800	0.02180	0.03570	0.05634
U	238	1.42400	8826.31000	4.100	1.46286	1.35664	1.45294
SC-1	45	705676.37000	0.00000	0.000	703693.19000	710900.69000	702435.22000
GE-1	72	861064.10000	0.00000	0.000	858625.14000	861104.05000	863463.11000
GE-2	72	57216.79000	0.00000	0.000	56661.15000	57173.48000	57815.75000
TB-2	159	152816.40000	0.00000	0.000	148551.44000	155728.24000	154169.53000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:34:39
Tube Number: 33 Batch: 152756050004A
Sample Number: **8065036** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	17485.66000	0.00000	0.000	17348.74000	17538.99000	17569.25000
AL	27	1078.04500	9914.64000	2.900	1078.87789	1046.49603	1108.76209
CA	44	154715.33500	159155.03000	0.900	153700.93725	154192.98304	156252.08400
CR	52	1.89300	956.73000	9.200	2.01479	1.69360	1.96934
FE	57	1538.25700	14993.70000	2.800	1512.47034	1587.34027	1514.95928
K	39	9519.38100	167138.81000	0.900	9611.05646	9439.81617	9507.26920
MG	24	41090.06100	1356700.50000	2.700	42329.84967	40244.21102	40696.12274
MN	55	776.50200	158203.25000	0.600	775.36838	781.85631	772.28076
NA	23	68417.18400	4451680.77000	0.600	68869.24383	68052.73301	68329.57406
TI	47	33.02900	273.39000	42.400	41.38480	16.85022	40.85216
V	51	3.25000	1200.13000	23.200	3.22186	2.51169	4.01757
IN-1	115	442528.52000	0.00000	0.000	435687.18000	440288.64000	451609.73000
IN-2	115	27779.78000	0.00000	0.000	27914.63000	27318.04000	28106.66000
AG	107	0.00500	13.33000	352.400	0.02295	-0.00468	-0.00468
AS	75	1.99500	93.33000	2.500	1.99958	2.04358	1.94325
BA	137	152.37300	17836.91000	4.200	156.99030	155.11532	145.01234
CD	111	0.03700	8.67000	134.400	-0.01692	0.04681	0.08219
CO	59	4.97500	4544.12000	1.500	4.98079	4.90006	5.04421
CU	63	2.94200	2343.59000	10.200	3.17955	3.03990	2.60511
MO	98	55.07600	34258.12000	1.900	54.45739	56.28675	54.48342
NI	60	7.18200	1926.86000	4.900	7.00547	7.58365	6.95689
RB	85	6.97500	1003.41000	13.700	7.95785	6.92636	6.04202
SB	121	0.18700	63.33000	35.600	0.11335	0.24280	0.20489
SE	78	7.50100	1025.14000	4.100	7.45967	7.82474	7.21935
SN	120	-1.81200	1600.15000	0.000	-2.06215	-1.28690	-2.08799
SR	88	594.41900	121711.03000	1.200	590.11445	602.44788	590.69533
ZN	66	6.98200	666.70000	17.200	6.02043	6.59665	8.32953
BI-2	209	129952.96000	0.00000	0.000	129392.44000	129472.57000	130993.87000
PB	208	2.15400	10915.34000	2.800	2.20489	2.17139	2.08632
TL	203	0.09900	163.34000	19.500	0.10993	0.10986	0.07657
U	238	3.06400	20711.32000	4.100	3.04715	3.19542	2.94819
SC-1	45	750482.52000	0.00000	0.000	755791.79000	749117.72000	746538.04000
GE-1	72	915123.19000	0.00000	0.000	914075.61000	913514.36000	917779.60000
GE-2	72	58938.83000	0.00000	0.000	59420.58000	57303.59000	60092.31000
TB-2	159	158990.57000	0.00000	0.000	157615.97000	159138.06000	160217.67000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:37:00
Tube Number: 34
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16177.83000	0.00000	0.000	16077.64000	16358.04000	16097.81000
AL	27	2704.72400	22998.47000	2.700	2624.36070	2770.44822	2719.36178
CA	44	2645.18200	2523.63000	9.000	2425.44289	2612.42736	2897.67542
CR	52	274.50600	126991.15000	2.400	270.12272	271.47586	281.91932
FE	57	2629.41800	23689.83000	2.000	2652.93676	2567.80825	2667.50933
K	39	2740.10500	46243.17000	0.700	2758.44662	2722.20448	2739.66527
MG	24	2729.60900	83398.41000	1.500	2688.08963	2733.72015	2767.01677
MN	55	268.65500	50642.50000	1.100	266.31012	267.58329	272.07074
NA	23	2719.81600	165500.95000	1.900	2672.48408	2711.52767	2775.43533
TI	47	263.30600	2016.86000	14.300	250.78455	233.58059	305.55184
V	51	267.89000	91491.98000	1.200	269.80590	264.13118	269.73316
IN-1	115	432357.09000	0.00000	0.000	428970.09000	430049.43000	438051.74000
IN-2	115	26681.94000	0.00000	0.000	26680.98000	26671.04000	26693.81000
AG	107	26.62200	36836.75000	0.600	26.63276	26.76593	26.46823
AS	75	274.73200	12252.95000	1.800	273.60661	270.34128	280.24833
BA	137	269.18500	30268.12000	1.700	263.93342	272.50333	271.11701
CD	111	26.89500	4124.53000	3.400	26.51744	26.24012	27.92680
CO	59	275.80700	241581.45000	1.100	272.33073	276.88528	278.20357
CU	63	272.29100	201468.62000	2.100	265.64616	276.21526	275.01103
MO	98	27.86800	16662.04000	2.600	27.29336	27.63887	28.67103
NI	60	269.15300	68418.22000	0.800	266.64762	269.94863	270.86188
RB	85	27.50000	3790.58000	8.500	25.32177	29.98176	27.19710
SB	121	27.62500	8519.19000	1.200	27.83109	27.25690	27.78606
SE	78	26.29900	3499.46000	1.200	26.10852	26.65337	26.13604
SN	120	28.04700	12912.28000	11.200	24.90309	31.19736	28.03955
SR	88	27.69700	5447.75000	3.000	28.02076	26.75937	28.31226
ZN	66	273.99300	24354.06000	0.400	275.16693	273.80444	273.00898
BI-2	209	130645.14000	0.00000	0.000	130916.25000	127958.19000	133060.97000
PB	208	25.43900	128021.95000	3.500	24.75444	26.45112	25.11084
TL	203	25.63300	40034.36000	1.100	25.96823	25.50685	25.42355
U	238	24.47100	166272.96000	4.000	23.66019	25.57016	24.18222
SC-1	45	712857.80000	0.00000	0.000	704076.63000	717075.15000	717421.63000
GE-1	72	887631.11000	0.00000	0.000	881884.91000	891805.46000	889202.96000
GE-2	72	58677.98000	0.00000	0.000	60163.07000	56410.05000	59460.83000
TB-2	159	153007.88000	0.00000	0.000	154760.62000	150417.20000	153845.82000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:39:22
Tube Number: 35
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16818.33000	0.00000	0.000	16578.13000	17398.92000	16477.93000
AL	27	-1.09700	3.33000	0.000	-0.33159	-1.48003	-1.48003
CA	44	-6.64500	0.00000	0.000	-6.64479	-6.64479	-6.64479
CR	52	-0.00800	6.67000	0.000	-0.00018	-0.00118	-0.02128
FE	57	-1.06600	16.67000	0.000	-1.79752	-2.88170	1.48140
K	39	-4.99600	2443.61000	0.000	-5.57493	-8.41317	-0.99946
MG	24	0.10800	6.67000	171.700	0.21358	-0.10583	0.21552
MN	55	0.01700	6.67000	344.300	0.08639	-0.01715	-0.01715
NA	23	10.77400	2583.62000	22.100	9.18567	9.62939	13.50670
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.05700	20.00000	51.900	0.05714	0.02722	0.08623
IN-1	115	430235.79000	0.00000	0.000	430261.89000	431732.63000	428712.86000
IN-2	115	28160.00000	0.00000	0.000	28311.96000	28381.62000	27786.43000
AG	107	0.02700	46.67000	78.000	0.02256	0.00891	0.05084
AS	75	0.02700	2.00000	269.900	-0.01511	0.11137	-0.01511
BA	137	-0.05700	0.00000	0.000	-0.05677	-0.05677	-0.05677
CD	111	-0.00900	1.33000	0.000	-0.01692	-0.01692	0.00815
CO	59	0.02900	33.33000	120.400	0.01423	0.06785	0.00368
CU	63	0.09300	153.34000	48.100	0.13873	0.04917	0.09138
MO	98	0.09400	80.00000	45.700	0.10904	0.04572	0.12781
NI	60	0.00700	30.00000	525.800	-0.03065	0.04317	0.00855
RB	85	-0.00200	3.33000	0.000	-0.02446	0.04380	-0.02446
SB	121	0.35700	120.01000	28.800	0.41736	0.41631	0.23852
SE	78	-0.00200	4.89000	0.000	-0.02394	0.01618	0.00139
SN	120	-0.23300	2261.71000	0.000	-1.34806	1.81096	-1.16218
SR	88	0.01600	3.33000	173.200	0.00000	0.04780	0.00000
ZN	66	-0.00800	20.00000	0.000	-0.00982	-0.11619	0.10232
BI-2	209	130265.17000	0.00000	0.000	132032.92000	133546.04000	125216.55000
PB	208	-0.00900	93.34000	0.000	-0.01834	-0.01457	0.00501
TL	203	0.00800	23.33000	111.900	-0.00013	0.01859	0.00690
U	238	0.01200	83.33000	28.900	0.00873	0.01583	0.01228
SC-1	45	700851.86000	0.00000	0.000	692469.83000	708411.71000	701674.05000
GE-1	72	874115.40000	0.00000	0.000	878503.42000	876885.92000	866956.86000
GE-2	72	58791.69000	0.00000	0.000	58668.37000	60503.77000	57202.94000
TB-2	159	155108.90000	0.00000	0.000	155361.19000	154804.69000	155160.82000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:41:45
Tube Number: 36 Batch: 152756050004A
Sample Number: **8065178** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	17869.33000	0.00000	0.000	17679.05000	17619.21000	18309.72000
AL	27	0.28000	16.67000	570.300	-1.48003	0.68113	1.63946
CA	44	224378.30600	235807.61000	1.900	226471.17277	227183.88770	219479.85773
CR	52	0.96600	503.37000	15.400	1.08654	1.01091	0.80005
FE	57	43.05300	456.70000	2.600	41.85468	44.04686	43.25870
K	39	10750.50500	192523.80000	2.600	10547.78399	11075.55427	10628.17586
MG	24	36126.86700	1218846.99000	1.900	36104.92173	36821.99289	35453.68512
MN	55	0.52200	113.34000	77.500	0.17703	0.42125	0.96726
NA	23	791463.25900	52602997.55000	1.300	784561.57192	803263.41150	786564.79462
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	48.06100	18126.47000	2.100	48.30501	48.92615	46.95146
IN-1	115	407748.80000	0.00000	0.000	409430.00000	405897.94000	407918.47000
IN-2	115	26325.87000	0.00000	0.000	25832.20000	26672.49000	26472.91000
AG	107	0.00800	16.67000	56.800	0.01025	0.00978	0.00260
AS	75	27.40500	1206.05000	8.000	28.01045	24.97416	29.23080
BA	137	67.81600	7528.65000	0.900	67.49040	67.41159	68.54693
CD	111	0.00500	3.33000	151.200	0.01004	-0.00386	0.00939
CO	59	0.02400	26.67000	148.800	0.01630	-0.00729	0.06176
CU	63	0.94600	766.72000	15.600	0.77649	1.04635	1.01412
MO	98	6.91200	4087.31000	11.500	7.80339	6.65176	6.28012
NI	60	0.12100	56.67000	98.800	0.09842	0.24953	0.01417
RB	85	9.93200	1353.45000	8.500	9.27634	9.63722	10.88125
SB	121	0.39400	123.34000	82.700	0.35789	0.73575	0.08741
SE	78	1.07100	139.11000	11.800	1.11596	1.16882	0.92879
SN	120	-1.93100	1473.49000	0.000	-1.97344	-1.93815	-1.88218
SR	88	2948.51500	572160.41000	1.400	2955.86047	2905.43779	2984.24626
ZN	66	3.61900	336.69000	11.300	3.38346	3.38251	4.09059
BI-2	209	115338.06000	0.00000	0.000	113712.62000	118023.76000	114277.80000
PB	208	0.08600	506.70000	10.300	0.09520	0.07748	0.08549
TL	203	0.01000	23.33000	36.500	0.00825	0.01480	0.00818
U	238	34.74300	208472.14000	2.600	34.11824	34.33496	35.77484
SC-1	45	725623.92000	0.00000	0.000	724765.30000	722625.61000	729480.85000
GE-1	72	843751.97000	0.00000	0.000	839866.63000	839516.00000	851873.27000
GE-2	72	55089.57000	0.00000	0.000	54765.11000	56279.87000	54223.72000
TB-2	159	147184.77000	0.00000	0.000	143828.87000	149145.89000	148579.54000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:44:09
Tube Number: 37 Batch: 152756050004A
Sample Number: **8065179** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16224.45000	0.00000	0.000	15837.38000	16267.84000	16568.12000
AL	27	0.85400	20.00000	269.300	0.92428	-1.48003	3.11651
CA	44	2146818	2048738	1.100	2158540	2161187	2120727
CR	52	0.44800	216.68000	31.600	0.57494	0.47318	0.29536
FE	57	384.56700	3497.16000	0.800	387.57642	381.66624	384.45807
K	39	50592.95600	813844.10000	1.000	49984.77239	50961.21692	50832.87926
MG	24	335922.03400	10292023.60000	0.400	337335.51827	335206.35768	335224.22630
MN	55	15.45800	2923.69000	9.100	16.67619	13.91253	15.78447
NA	23	6777218	408999127	0.100	6769378	6782568	6779709
TI	47	0.43300	3.33000	173.200	0.00000	1.29754	0.00000
V	51	14.96200	5127.59000	3.400	14.41772	15.02662	15.44043
IN-1	115	350222.74000	0.00000	0.000	346501.50000	356049.63000	348117.09000
IN-2	115	20786.62000	0.00000	0.000	19963.94000	20994.08000	21401.83000
AG	107	0.16900	186.68000	17.300	0.19820	0.16987	0.13951
AS	75	24.68200	858.70000	3.300	23.90072	24.60809	25.53672
BA	137	39.61600	3477.17000	3.800	38.46723	39.06509	41.31419
CD	111	0.04500	7.33000	83.000	0.08773	0.01626	0.03189
CO	59	0.16000	113.34000	68.300	0.20635	0.23940	0.03541
CU	63	5.27700	3097.07000	9.700	5.39067	5.72259	4.71806
MO	98	13.80600	6441.46000	2.200	13.50972	13.78218	14.12466
NI	60	0.37900	96.67000	51.800	0.15817	0.44541	0.53306
RB	85	51.49200	5527.79000	3.100	51.71259	49.81921	52.94447
SB	121	0.62300	153.34000	37.500	0.42288	0.56656	0.87909
SE	78	6.04500	654.46000	5.200	6.27806	5.68826	6.16770
SN	120	-1.68700	1230.14000	0.000	-0.65786	-2.38129	-2.02186
SR	88	33655.18300	5153856.49000	2.900	34745.40530	32891.81994	33328.32268
ZN	66	11.14800	786.72000	6.300	11.36601	10.36811	11.71074
BI-2	209	91535.77000	0.00000	0.000	88877.15000	91633.07000	94097.10000
PB	208	0.31100	1190.08000	18.700	0.36938	0.30922	0.25344
TL	203	0.00900	16.67000	156.700	0.01236	0.02093	-0.00647
U	238	116.73800	555814.00000	1.600	118.68567	116.43671	115.09128
SC-1	45	718435.77000	0.00000	0.000	708223.11000	719012.10000	728072.10000
GE-1	72	733876.29000	0.00000	0.000	729164.83000	733253.11000	739210.93000
GE-2	72	47685.08000	0.00000	0.000	45179.26000	47975.15000	49900.82000
TB-2	159	120823.74000	0.00000	0.000	118399.08000	121493.28000	122578.87000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:46:31
Tube Number: 38 Batch: 152756050004A
Sample Number: **8065180** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	15817.52000	0.00000	0.000	15847.69000	15827.56000	15777.30000
AL	27	0.92400	20.00000	225.300	2.12409	2.12867	-1.48003
CA	44	859964.84600	800174.65000	1.700	845255.17554	859852.87505	874786.48799
CR	52	0.05200	33.33000	121.800	0.08906	0.08920	-0.02128
FE	57	147.50800	1323.44000	11.600	158.18386	127.72083	156.62061
K	39	11732.29700	185791.28000	1.300	11568.81811	11754.81946	11873.25307
MG	24	130002.02900	3883130.77000	3.300	127650.00920	127432.67666	134923.40147
MN	55	289.63700	53380.10000	2.900	280.81787	290.41750	297.67426
NA	23	2982844	175490144	2.200	2917038	2982921	3048573
TI	47	28.92500	216.68000	23.500	22.64433	28.00767	36.12420
V	51	110.50300	36902.00000	0.700	109.59307	110.78183	111.13533
IN-1	115	386367.44000	0.00000	0.000	385860.99000	393137.15000	380104.18000
IN-2	115	20943.65000	0.00000	0.000	20247.32000	21111.60000	21472.04000
AG	107	0.00200	6.67000	660.400	0.01437	-0.00468	-0.00468
AS	75	48.80900	1709.43000	4.300	47.67957	51.22543	47.52319
BA	137	23.30500	2060.21000	3.400	24.21060	22.76743	22.93675
CD	111	3.21600	388.68000	7.300	3.40536	2.95189	3.29124
CO	59	1.23800	856.73000	6.700	1.22652	1.16157	1.32641
CU	63	3.39400	2033.55000	9.300	3.05054	3.67346	3.45883
MO	98	75157.67400	35215525.31000	2.300	77120.55282	74049.23345	74303.23571
NI	60	1.76700	373.35000	3.700	1.76230	1.83508	1.70471
RB	85	12.63100	1370.12000	7.700	11.65053	12.64110	13.60176
SB	121	0.14300	36.67000	94.800	0.24582	0.19432	-0.01067
SE	78	3.87200	464.23000	8.200	3.56472	3.85120	4.20144
SN	120	-2.15500	1103.47000	0.000	-1.69916	-2.66608	-2.09966
SR	88	12892.67900	1989678.25000	2.000	13150.91346	12891.58129	12635.54228
ZN	66	1.53000	123.34000	57.700	0.51985	1.91266	2.15666
BI-2	209	95083.15000	0.00000	0.000	92145.11000	94035.68000	99068.67000
PB	208	0.01200	146.67000	16.100	0.01411	0.01049	0.01115
TL	203	0.03000	40.00000	185.500	0.09342	0.00243	-0.00647
U	238	84127.17900	416030367.14000	1.600	84992.15838	84796.41672	82592.96328
SC-1	45	736298.87000	0.00000	0.000	735075.38000	742268.43000	731552.80000
GE-1	72	795312.49000	0.00000	0.000	799782.72000	793309.68000	792845.07000
GE-2	72	49215.64000	0.00000	0.000	48446.91000	49309.45000	49890.57000
TB-2	159	131226.41000	0.00000	0.000	127788.71000	132204.33000	133686.18000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:48:53
Tube Number: 39 Batch: 152756050004A
Sample Number: **8065181** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	15854.20000	0.00000	0.000	15827.64000	15787.34000	15947.62000
AL	27	2.52600	33.33000	73.200	0.92576	4.54980	2.10151
CA	44	598583.67800	558287.01000	0.700	596490.12950	596065.75958	603195.14548
CR	52	0.85400	396.69000	25.700	1.10563	0.75407	0.70242
FE	57	95.40900	866.73000	11.200	91.37903	107.55963	87.28761
K	39	31347.69500	493598.05000	0.200	31290.40634	31333.03487	31419.64448
MG	24	123308.14600	3691992.34000	0.700	123304.97135	122439.39810	124180.06903
MN	55	0.48800	93.33000	17.400	0.47088	0.58085	0.41339
NA	23	2475070	145957714	0.300	2481521	2476463	2467225
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	14.72200	4927.53000	2.200	14.78588	15.00376	14.37749
IN-1	115	387204.16000	0.00000	0.000	386062.32000	394052.20000	381497.95000
IN-2	115	20913.12000	0.00000	0.000	21001.58000	21082.94000	20654.84000
AG	107	0.02000	26.67000	97.600	0.01368	0.00446	0.04200
AS	75	31.09000	1088.04000	13.300	35.31131	30.91801	27.04013
BA	137	80.67300	7111.82000	3.100	79.63594	78.87777	83.50451
CD	111	0.03300	6.00000	133.700	0.04940	0.06566	-0.01692
CO	59	0.09900	73.33000	29.600	0.12326	0.10831	0.06646
CU	63	1.23700	776.72000	3.000	1.27090	1.19715	1.24157
MO	98	104.45900	48906.54000	1.000	104.70243	103.29923	105.37519
NI	60	0.59800	140.01000	9.400	0.54516	0.59251	0.65780
RB	85	27.43500	2963.70000	5.400	25.71704	28.37514	28.21307
SB	121	5.25700	1273.44000	8.100	5.10014	5.73736	4.93447
SE	78	6.09600	730.24000	4.000	6.31632	6.14336	5.82941
SN	120	-1.71700	1236.83000	0.000	-1.84882	-0.46812	-2.83302
SR	88	9669.62800	1490515.66000	2.100	9457.32993	9682.78665	9868.76690
ZN	66	14.91700	1053.41000	6.900	14.08390	14.59882	16.06961
BI-2	209	98030.69000	0.00000	0.000	95495.76000	97335.73000	101260.59000
PB	208	0.08400	423.35000	14.900	0.08064	0.07324	0.09754
TL	203	0.00500	13.33000	101.600	0.00230	0.01073	0.00180
U	238	45.07700	229937.88000	0.900	45.20799	44.60326	45.42059
SC-1	45	736844.75000	0.00000	0.000	738894.13000	741553.97000	730086.16000
GE-1	72	817274.18000	0.00000	0.000	818880.46000	824711.94000	808230.14000
GE-2	72	50292.43000	0.00000	0.000	49209.60000	50613.38000	51054.32000
TB-2	159	130685.87000	0.00000	0.000	128848.14000	132929.08000	130280.38000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:51:15
Tube Number: 40 Batch: 152756050004A
Sample Number: **8065182** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16047.69000	0.00000	0.000	16017.61000	16237.95000	15887.50000
AL	27	2.48300	33.33000	153.900	6.84037	-0.30753	0.91670
CA	44	409729.97900	386755.70000	1.700	410270.78457	402529.23745	416389.91482
CR	52	0.69900	330.02000	18.400	0.72109	0.56023	0.81521
FE	57	70.63500	656.71000	13.300	79.03876	72.39157	60.47510
K	39	17597.91400	281508.62000	1.200	17645.78880	17368.19812	17779.75577
MG	24	73439.92300	2225562.78000	0.700	73169.04279	73089.78618	74060.93919
MN	55	0.82200	156.68000	21.800	0.94738	0.61716	0.90126
NA	23	1172253	69965652	1.900	1163918	1155443	1197397
TI	47	0.44300	3.33000	173.200	0.00000	0.00000	1.32860
V	51	19.06800	6458.09000	5.700	18.54473	18.35160	20.30730
IN-1	115	399865.31000	0.00000	0.000	405040.20000	395074.05000	399481.68000
IN-2	115	22619.26000	0.00000	0.000	22580.86000	21812.78000	23464.15000
AG	107	-0.00200	3.33000	0.000	-0.00468	0.00416	-0.00468
AS	75	15.79900	596.02000	13.000	15.51178	17.97851	13.90710
BA	137	50.47200	4810.92000	8.900	45.88335	54.90184	50.63024
CD	111	0.04100	7.33000	150.200	-0.00150	0.11079	0.01276
CO	59	0.11300	90.00000	28.300	0.12762	0.07651	0.13552
CU	63	2.86000	1860.18000	5.100	2.93238	2.69188	2.95647
MO	98	617.21500	312207.99000	3.700	615.07285	640.92528	595.64609
NI	60	0.64000	160.01000	28.000	0.45325	0.80988	0.65600
RB	85	17.02000	1986.87000	7.800	17.99538	17.56413	15.50032
SB	121	0.58700	156.68000	12.800	0.60265	0.50521	0.65334
SE	78	23.10400	2843.79000	1.100	23.07860	23.36525	22.86803
SN	120	0.22100	1962.71000	970.400	2.66743	-1.32312	-0.68185
SR	88	5287.80500	881061.37000	3.300	5193.63639	5490.39989	5179.37922
ZN	66	2.33300	190.01000	59.400	1.77376	3.91012	1.31452
BI-2	209	103891.84000	0.00000	0.000	104172.13000	102882.73000	104620.67000
PB	208	0.14400	686.71000	12.300	0.14390	0.16121	0.12578
TL	203	0.02600	40.00000	113.000	0.03369	0.05046	-0.00647
U	238	719.99500	3891737.86000	1.200	711.56860	728.72457	719.69279
SC-1	45	738263.90000	0.00000	0.000	745237.96000	739572.57000	729981.16000
GE-1	72	852172.54000	0.00000	0.000	864231.47000	843709.83000	848576.32000
GE-2	72	51609.38000	0.00000	0.000	52378.72000	51043.93000	51405.50000
TB-2	159	134703.74000	0.00000	0.000	132677.16000	137132.60000	134301.47000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:53:37
Tube Number: 41 Batch: 152756050004A
Sample Number: **8065183** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	15700.61000	0.00000	0.000	15527.19000	15567.07000	16007.58000
AL	27	8.22400	80.00000	15.200	9.55551	7.08118	8.03496
CA	44	1803213	1665414	1.700	1777927	1838192	1793521
CR	52	11.50900	5180.94000	7.800	11.21941	10.78620	12.52109
FE	57	307.61100	2707.00000	17.800	329.37823	348.16559	245.28943
K	39	39176.32200	610220.50000	1.500	39114.18770	39778.05008	38636.72857
MG	24	260052.88500	7710286.55000	1.200	258049.25289	263642.06609	258467.33721
MN	55	0.94600	176.67000	30.200	0.64614	0.97530	1.21607
NA	23	6170679	360365341	0.800	6126926	6221903	6163207
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	16.06300	5327.67000	5.400	15.86538	15.30737	17.01717
IN-1	115	339302.56000	0.00000	0.000	337215.10000	339546.48000	341146.11000
IN-2	115	19161.42000	0.00000	0.000	18870.42000	18880.90000	19732.95000
AG	107	0.06900	73.34000	15.800	0.07708	0.05660	0.07352
AS	75	27.74800	889.36000	8.100	25.34971	29.77253	28.12219
BA	137	39.62500	3203.79000	0.300	39.56806	39.54569	39.76024
CD	111	0.08000	10.67000	28.800	0.09380	0.09373	0.05367
CO	59	0.05200	36.67000	72.900	0.07343	0.07338	0.00815
CU	63	4.80100	2603.64000	4.800	5.05888	4.73119	4.61386
MO	98	33.66900	14449.97000	1.800	33.57967	34.31908	33.10779
NI	60	0.64700	136.67000	55.600	0.45169	1.06314	0.42731
RB	85	39.79400	3933.94000	6.100	41.25579	41.13026	36.99596
SB	121	0.23100	53.33000	70.100	0.40213	0.08101	0.20864
SE	78	6.10400	640.46000	5.600	6.49709	5.85805	5.95754
SN	120	-0.82600	1370.33000	0.000	0.42458	-1.02818	-1.87543
SR	88	27975.02200	3951057.54000	1.700	27613.73533	28520.96936	27790.36180
ZN	66	8.75400	573.36000	11.100	8.85311	7.73410	9.67456
BI-2	209	86648.75000	0.00000	0.000	85228.58000	87770.46000	86947.20000
PB	208	0.45700	1616.78000	18.900	0.42298	0.39215	0.55451
TL	203	0.02200	30.00000	72.800	0.01317	0.04120	0.01278
U	238	132.60100	597806.06000	0.600	132.37417	131.93707	133.49057
SC-1	45	693978.32000	0.00000	0.000	685215.85000	691051.71000	705667.41000
GE-1	72	712547.57000	0.00000	0.000	704328.74000	714740.54000	718573.43000
GE-2	72	45412.49000	0.00000	0.000	43915.61000	45549.54000	46772.33000
TB-2	159	115614.49000	0.00000	0.000	114632.78000	116476.80000	115733.88000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:55:59
Tube Number: 42 Batch: 152756050004A
Sample Number: **8065184** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	15070.18000	0.00000	0.000	15207.03000	15056.76000	14946.75000
AL	27	1.47500	23.33000	132.600	1.02394	-0.21555	3.61512
CA	44	1821374	1614501	2.300	1786167	1810966	1866989
CR	52	11.29600	4877.50000	1.900	11.41014	11.43116	11.04737
FE	57	293.43400	2483.63000	7.800	267.81065	312.29873	300.19312
K	39	39493.74000	590418.18000	3.000	38237.18218	39647.90638	40596.13005
MG	24	266686.71800	7588270.93000	3.600	256336.08114	268175.77492	275548.29837
MN	55	1.19700	213.35000	23.700	1.50674	0.95193	1.13139
NA	23	6309782	353642275	2.700	6161704	6276098	6491543
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	15.41900	4904.18000	5.400	14.51691	15.57422	16.16454
IN-1	115	347288.97000	0.00000	0.000	347749.03000	348892.26000	345225.63000
IN-2	115	18747.12000	0.00000	0.000	19238.51000	18295.22000	18707.62000
AG	107	0.08800	90.00000	17.700	0.10559	0.07965	0.07779
AS	75	24.98700	783.36000	7.800	23.86925	23.85803	27.23378
BA	137	35.55000	2810.37000	6.100	33.13339	36.14233	37.37475
CD	111	0.04500	6.67000	95.500	0.01928	0.02115	0.09476
CO	59	0.12300	80.00000	12.400	0.11939	0.10927	0.13927
CU	63	5.13500	2720.32000	7.400	4.75379	5.14229	5.50888
MO	98	30.58600	12845.32000	1.100	30.30986	30.94626	30.50222
NI	60	0.60600	126.67000	51.300	0.38646	0.46913	0.96170
RB	85	38.05400	3680.55000	7.900	34.62319	39.26993	40.26858
SB	121	0.06800	16.67000	145.400	-0.01067	0.17856	0.03559
SE	78	5.65200	607.34000	3.600	5.76255	5.42019	5.77357
SN	120	1.49400	1990.70000	404.000	8.46441	-2.09906	-1.88224
SR	88	27684.34400	3823391.30000	3.900	26443.67926	28490.95944	28118.39319
ZN	66	10.64700	680.05000	17.100	12.74007	9.46702	9.73520
BI-2	209	83190.65000	0.00000	0.000	82825.47000	82202.22000	84544.26000
PB	208	0.47700	1616.79000	10.300	0.42038	0.49648	0.51268
TL	203	0.05700	63.33000	53.600	0.08445	0.02407	0.06281
U	238	131.83200	570588.59000	1.700	129.69579	134.25793	131.54206
SC-1	45	704352.49000	0.00000	0.000	697803.82000	717817.72000	697435.93000
GE-1	72	723010.85000	0.00000	0.000	718399.68000	727992.41000	722640.46000
GE-2	72	43965.46000	0.00000	0.000	44647.42000	42872.85000	44376.11000
TB-2	159	114679.33000	0.00000	0.000	113750.18000	114898.05000	115389.75000

Run Name: 1527806E05 Date/Time: 10/05/2015 16:58:21
Tube Number: 43
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	17312.37000	0.00000	0.000	17809.39000	17769.57000	16358.16000
AL	27	101.99300	940.07000	11.800	111.84588	88.52607	105.60650
CA	44	203.02700	213.34000	30.700	260.62568	136.86112	211.59403
CR	52	2.24400	1110.08000	32.500	1.92286	1.73039	3.07883
FE	57	98.86900	976.74000	11.000	91.99261	93.21671	111.39818
K	39	249.70600	6868.27000	7.000	255.37078	230.08026	263.66769
MG	24	103.65600	3380.46000	12.700	103.08153	90.79370	117.09312
MN	55	1.77400	363.35000	18.500	2.00699	1.91497	1.39950
NA	23	2670.23800	173787.72000	2.900	2677.26842	2589.41671	2744.02880
TI	47	16.27100	133.34000	4.400	16.59438	15.44368	16.77490
V	51	0.48000	173.34000	38.700	0.37237	0.37320	0.69495
IN-1	115	447982.43000	0.00000	0.000	452002.89000	450248.41000	441696.00000
IN-2	115	25065.56000	0.00000	0.000	25397.59000	23790.94000	26008.14000
AG	107	0.59500	776.72000	11.900	0.54971	0.67634	0.55894
AS	75	2.26400	95.33000	8.000	2.38771	2.34879	2.05525
BA	137	2.02700	220.01000	13.300	1.71888	2.13808	2.22474
CD	111	0.64900	96.00000	4.500	0.68228	0.62705	0.63909
CO	59	0.68100	566.70000	2.400	0.70043	0.67138	0.67210
CU	63	2.77300	1993.54000	10.800	2.48204	3.08128	2.75428
MO	98	2.88000	1633.48000	2.400	2.92275	2.91572	2.80182
NI	60	2.50200	623.37000	6.300	2.62414	2.32284	2.56004
RB	85	1.03300	136.68000	15.800	1.19617	1.03429	0.86954
SB	121	1.26600	370.02000	3.700	1.31849	1.22635	1.25401
SE	78	2.20200	308.67000	9.200	2.43266	2.11461	2.05811
SN	120	0.28600	2186.96000	308.400	-0.16940	1.30422	-0.27580
SR	88	1.48400	276.68000	62.400	0.69443	1.25451	2.50382
ZN	66	18.38600	1550.14000	5.200	18.35115	19.35288	17.45274
BI-2	209	118619.48000	0.00000	0.000	119547.35000	117158.28000	119152.81000
PB	208	1.01000	4737.19000	8.700	1.02807	1.08732	0.91382
TL	203	0.61700	883.41000	13.900	0.52548	0.62919	0.69579
U	238	0.66900	4127.42000	3.200	0.67054	0.64646	0.68890
SC-1	45	780926.29000	0.00000	0.000	789348.43000	783984.29000	769446.16000
GE-1	72	967715.92000	0.00000	0.000	976619.36000	969037.33000	957491.08000
GE-2	72	57503.90000	0.00000	0.000	57192.84000	57795.20000	57523.65000
TB-2	159	142235.25000	0.00000	0.000	143799.69000	138756.09000	144149.97000

Run Name: 1527806E05 Date/Time: 10/05/2015 17:00:42
Tube Number: 44
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16761.72000	0.00000	0.000	17599.27000	16097.79000	16588.11000
AL	27	10570.98700	92953.87000	5.100	10164.02984	11188.41481	10360.51647
CA	44	10378.28700	10229.96000	3.300	9983.98935	10598.93717	10551.93499
CR	52	0.14300	76.67000	116.600	-0.00141	0.32633	0.10522
FE	57	10345.87100	96350.48000	5.600	9682.96096	10725.37902	10629.27169
K	39	10443.95800	175241.35000	5.800	9751.75169	10876.72505	10703.39600
MG	24	10654.93000	336683.24000	5.800	9999.37847	11228.77874	10736.63134
MN	55	0.10300	23.33000	30.200	0.08038	0.08948	0.13807
NA	23	12091.64200	754695.07000	4.700	11468.71721	12586.20596	12220.00433
TI	47	198.98600	1576.81000	6.900	183.51936	209.82064	203.61865
V	51	0.01000	3.33000	173.200	0.00000	0.02942	0.00000
IN-1	115	443212.80000	0.00000	0.000	444090.39000	444228.50000	441319.50000
IN-2	115	24803.61000	0.00000	0.000	25112.62000	25145.58000	24152.62000
AG	107	0.00600	13.33000	157.100	0.01068	-0.00468	0.01129
AS	75	0.08100	4.00000	57.700	0.08019	0.12765	0.03443
BA	137	-0.05700	0.00000	0.000	-0.05677	-0.05677	-0.05677
CD	111	-0.00700	1.33000	0.000	-0.00305	-0.01692	-0.00250
CO	59	-0.00700	0.00000	0.000	-0.00729	-0.00729	-0.00729
CU	63	0.77200	603.37000	33.800	0.62930	1.07311	0.61360
MO	98	219.12900	121589.74000	4.900	208.56201	218.91455	229.91073
NI	60	0.02200	30.00000	185.000	0.02062	0.06221	-0.01787
RB	85	0.10800	16.67000	154.800	-0.02446	0.05259	0.29641
SB	121	0.01300	6.67000	313.100	-0.01067	-0.01067	0.06100
SE	78	-0.01300	3.56000	0.000	-0.01950	-0.00002	-0.01938
SN	120	-0.82900	1770.59000	0.000	-2.22503	-1.11520	0.85183
SR	88	0.14700	26.67000	58.800	0.05402	0.16185	0.22467
ZN	66	-0.02300	16.67000	0.000	0.25649	-0.10257	-0.22204
BI-2	209	116326.33000	0.00000	0.000	115093.80000	116988.45000	116896.75000
PB	208	-0.00500	103.33000	0.000	-0.01013	-0.00376	-0.00151
TL	203	-0.00600	0.00000	0.000	-0.00647	-0.00647	-0.00647
U	238	0.05000	303.35000	32.400	0.03173	0.05586	0.06248
SC-1	45	762741.27000	0.00000	0.000	766737.18000	768233.82000	753252.80000
GE-1	72	930373.11000	0.00000	0.000	930528.81000	949386.16000	911204.36000
GE-2	72	55404.17000	0.00000	0.000	54143.33000	57182.93000	54886.26000
TB-2	159	140340.63000	0.00000	0.000	137213.81000	138858.08000	144950.01000

Run Name: 1527806E05 Date/Time: 10/05/2015 17:03:04
Tube Number: 45
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16471.42000	0.00000	0.000	16137.71000	16728.32000	16548.22000
AL	27	10624.97300	91935.01000	1.600	10554.90791	10501.11802	10818.89236
CA	44	9657.99900	9359.45000	9.600	9855.98310	8643.47462	10474.53873
CR	52	20.54400	9686.33000	1.900	20.63701	20.86974	20.12444
FE	57	10166.37600	93171.38000	2.200	10415.69443	10091.13281	9992.30159
K	39	10414.07800	171993.48000	1.200	10512.15873	10273.40228	10456.67165
MG	24	10617.16400	330200.96000	1.500	10785.57418	10468.25183	10597.66460
MN	55	19.61700	3765.57000	7.400	20.48826	17.94258	20.42054
NA	23	11713.09100	719348.90000	1.700	11936.31702	11570.66361	11632.29251
TI	47	208.05900	1623.47000	14.200	198.83234	184.24142	241.10317
V	51	0.05800	20.00000	100.800	0.11740	0.00000	0.05725
IN-1	115	422519.51000	0.00000	0.000	423267.01000	426161.10000	418130.42000
IN-2	115	25009.83000	0.00000	0.000	24903.57000	25624.02000	24501.91000
AG	107	21.12300	27379.43000	5.700	22.24927	19.83673	21.28162
AS	75	21.16700	884.70000	6.000	20.88676	20.06559	22.54798
BA	137	0.00800	6.67000	1432.300	-0.05677	-0.05677	0.13696
CD	111	21.31100	3063.63000	0.700	21.25113	21.21042	21.47188
CO	59	23.17700	19037.60000	2.200	22.65951	23.66464	23.20575
CU	63	23.73400	16525.03000	0.800	23.95556	23.58922	23.65701
MO	98	215.15200	120434.85000	1.000	214.57418	213.24706	217.63563
NI	60	23.83500	5704.49000	4.000	24.39806	24.36497	22.74204
RB	85	0.00100	3.33000	3053.200	0.05334	-0.02446	-0.02446
SB	121	0.00100	3.33000	1850.400	-0.01067	-0.01067	0.02465
SE	78	-0.02400	2.00000	0.000	-0.00831	-0.03906	-0.02350
SN	120	-1.48000	1563.66000	0.000	-3.17923	-0.35536	-0.90481
SR	88	0.16100	30.00000	86.300	0.10895	0.31765	0.05537
ZN	66	20.83200	1753.50000	2.900	20.77052	21.47021	20.25636
BI-2	209	119992.64000	0.00000	0.000	119244.30000	121579.75000	119153.87000
PB	208	0.01400	196.67000	66.000	0.00886	0.02524	0.00888
TL	203	-0.00600	0.00000	0.000	-0.00647	-0.00647	-0.00647
U	238	0.02200	136.68000	17.900	0.02418	0.01739	0.02420
SC-1	45	727218.97000	0.00000	0.000	736925.61000	728429.99000	716301.32000
GE-1	72	888435.27000	0.00000	0.000	895154.91000	887830.06000	882320.85000
GE-2	72	56935.58000	0.00000	0.000	56439.79000	56340.81000	58026.14000
TB-2	159	144770.54000	0.00000	0.000	144616.72000	142498.33000	147196.57000

Run Name: 1527806E05 Date/Time: 10/05/2015 17:05:25
Tube Number: 46
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16144.38000	0.00000	0.000	15607.19000	16097.66000	16728.29000
AL	27	2757.58900	23378.80000	3.200	2846.40309	2754.86629	2671.49852
CA	44	2666.15000	2533.62000	8.400	2836.46649	2749.82031	2412.16191
CR	52	270.37900	124717.35000	4.000	281.68621	268.99494	260.45483
FE	57	2653.63400	23846.71000	2.700	2727.23452	2648.53850	2585.12833
K	39	2708.59400	45608.04000	3.900	2821.50607	2692.43203	2611.84399
MG	24	2778.12600	84622.78000	4.100	2881.22331	2799.36534	2653.78813
MN	55	266.21400	50036.77000	3.700	276.48537	265.43870	256.71824
NA	23	3604.55900	218104.09000	3.700	3733.62337	3612.02946	3468.02458
TI	47	288.40500	2203.57000	5.600	307.04223	278.01564	280.15568
V	51	269.55100	91802.28000	3.600	280.10072	267.42253	261.12974
IN-1	115	423182.21000	0.00000	0.000	429316.47000	422367.84000	417862.31000
IN-2	115	24886.98000	0.00000	0.000	23512.24000	25662.64000	25486.05000
AG	107	27.62800	35601.30000	6.000	29.06398	25.80003	28.01873
AS	75	277.90800	11534.47000	7.100	300.45024	263.37508	269.89747
BA	137	273.61300	28658.78000	4.700	285.96638	260.42406	274.44955
CD	111	26.63900	3807.78000	2.400	27.29391	26.00971	26.61364
CO	59	293.07500	239108.12000	4.400	307.37959	282.69656	289.14896
CU	63	288.37000	198671.20000	5.300	305.88137	277.89273	281.33537
MO	98	28.78500	16034.68000	5.700	29.77758	26.87889	29.69766
NI	60	281.57400	66627.72000	6.200	301.47410	268.85349	274.39589
RB	85	27.16400	3483.86000	8.600	29.64466	26.85678	24.98937
SB	121	28.60500	8225.73000	4.600	29.00518	29.67868	27.13225
SE	78	26.60500	3464.12000	3.100	25.78417	26.60454	27.42665
SN	120	27.37700	11771.31000	11.900	30.98605	26.53329	24.61227
SR	88	27.14200	4984.24000	3.200	26.14101	27.49322	27.79033
ZN	66	290.45800	24057.09000	3.300	300.63761	289.14576	281.59150
BI-2	209	120264.83000	0.00000	0.000	118208.10000	119605.57000	122980.81000
PB	208	26.13900	121103.70000	2.100	26.46823	26.45250	25.49772
TL	203	26.69400	38363.84000	2.900	27.36290	26.85414	25.86439
U	238	24.93700	155988.89000	2.500	25.44190	25.12836	24.24139
SC-1	45	724554.73000	0.00000	0.000	740551.86000	719603.27000	713509.05000
GE-1	72	896338.27000	0.00000	0.000	918829.99000	881510.61000	888674.21000
GE-2	72	56631.69000	0.00000	0.000	54775.61000	57414.62000	57704.85000
TB-2	159	145733.24000	0.00000	0.000	142359.35000	145159.37000	149681.00000

Run Name: 1527806E05 Date/Time: 10/05/2015 17:07:46
Tube Number: 47
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	16584.80000	0.00000	0.000	16558.08000	15607.11000	17589.20000
AL	27	8.87100	90.01000	157.200	24.96837	0.95976	0.68482
CA	44	682.97600	670.10000	164.000	1975.08105	80.49048	-6.64479
CR	52	0.02800	23.33000	237.900	0.10545	0.00113	-0.02128
FE	57	3.01800	53.33000	197.900	9.05874	2.87648	-2.88170
K	39	25.56800	2900.39000	112.900	52.66607	28.82692	-4.78789
MG	24	105.11700	3285.18000	163.300	303.23909	10.41266	1.70048
MN	55	0.00000	3.33000	24005.200	0.03468	-0.01715	-0.01715
NA	23	3043.33500	189043.81000	124.600	7419.27862	1002.65152	708.07531
TI	47	1.65000	13.33000	86.700	2.54959	0.00000	2.40013
V	51	0.01800	6.67000	173.200	0.00000	0.00000	0.05386
IN-1	115	421184.57000	0.00000	0.000	419777.33000	428463.62000	415312.77000
IN-2	115	24820.64000	0.00000	0.000	24300.24000	25291.15000	24870.54000
AG	107	0.01400	23.33000	67.800	0.01913	0.00294	0.01858
AS	75	0.06700	3.33000	154.200	0.18186	-0.01511	0.03300
BA	137	-0.02400	3.33000	0.000	0.04090	-0.05677	-0.05677
CD	111	-0.01700	0.00000	0.000	-0.01692	-0.01692	-0.01692
CO	59	0.06800	60.00000	145.300	0.18077	0.00476	0.01721
CU	63	0.48100	400.02000	59.900	0.78740	0.43868	0.21575
MO	98	4.33100	2390.64000	115.000	10.08288	1.39805	1.51207
NI	60	-0.00500	23.33000	0.000	0.06802	-0.02179	-0.06260
RB	85	-0.02400	0.00000	0.000	-0.02446	-0.02446	-0.02446
SB	121	0.45600	133.34000	23.600	0.52364	0.33156	0.51139
SE	78	0.02100	7.78000	88.400	0.01264	0.04197	0.00795
SN	120	-1.54100	1526.82000	0.000	-1.23898	-1.36428	-2.02078
SR	88	8.54700	1533.79000	161.900	24.51505	1.07282	0.05455
ZN	66	-0.14000	6.67000	0.000	0.02522	-0.22204	-0.22204
BI-2	209	119424.50000	0.00000	0.000	120532.64000	117812.49000	119928.38000
PB	208	-0.01100	80.00000	0.000	-0.00447	-0.01716	-0.01085
TL	203	0.02200	40.00000	87.500	0.01436	0.04325	0.00749
U	238	3.80200	23826.56000	162.900	10.95291	0.39650	0.05770
SC-1	45	719587.10000	0.00000	0.000	728910.77000	721820.77000	708029.76000
GE-1	72	891348.32000	0.00000	0.000	894396.31000	896698.89000	882949.75000
GE-2	72	56537.54000	0.00000	0.000	56420.19000	56229.27000	56963.16000
TB-2	159	141576.51000	0.00000	0.000	141064.93000	141559.90000	142104.71000

Tune Report

Batch Folder D:\Agilent\ICPMH\1\DATA\~EPATUNE.b
Report Comment ICP-MS #19204 (E05) Daily Tune Check
Instrument Name G3281A JP12071581

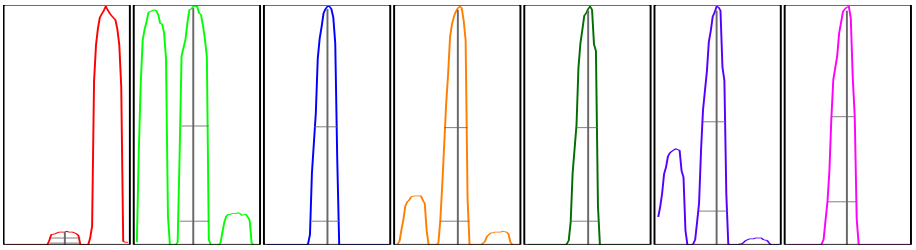
[No Gas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
6		23661	23661.04			NaN	-	
24		57149	57149.04			NaN	-	
103		110360	110359.84			NaN	-	
115		119133	119133.31			NaN	-	
140		130729	130728.90			NaN	-	
208		74678	74678.42			NaN	-	
238		172570	172570.38			NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
6	0.50	5.00				
24	1.17	5.00				
103	2.27	5.00				
115	1.66	5.00				
140	2.15	5.00				
208	1.67	5.00				
238	1.40	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
6	23510	23590	23777	23647	23781
24	56087	56946	57794	57384	57535
103	106316	109575	111533	111918	112456
115	116087	118193	120216	120797	120373
140	126425	129522	131680	133416	132600
208	72690	74224	75262	75663	75553
238	169022	171317	173213	174503	174797

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
6	3559.52	5.95	5.9 - 6.1		0.69	0.777	0.900	
24	9115.21	23.90	23.9 - 24.1		0.65	0.733	0.900	
103	20645.44	103.00	102.9 - 103.1		0.55	0.676	0.900	
115	22565.50	115.00	114.9 - 115.1		0.54	0.677	0.900	
140	25333.28	140.00	139.9 - 140.1		0.53	0.669	0.900	
208	14415.34	207.95	207.9 - 208.1		0.53	0.688	0.900	
238	32591.49	237.95	237.9 - 238.1		0.55	0.693	0.900	

X = 10 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 260.8 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1600 W	Carrier Gas	0.25 L/min	S/C Temp	20 ℃
RF Matching	1.60 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.80 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Tune Report

Extract 1		0.0 V	Omega Lens		8.0 V	Deflect		13.1 V	
Extract 2		-170.0 V	Cell Entrance		-30 V	Plate Bias		-40 V	
Mass	**Peak Height**	**Axis (Actual)**	**Axis (Required)**	**Axis (Flag)**	**W-50%**	**W-X% (Actual)**	**W-X% (Required)**	**W-X% (Flag)**	
Omega Bias		-90 V	Cell Exit			-50 V			

Cell Parameters

OctP Bias	-6.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	false	3rd Gas Flow	0 %		

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ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 15J05K00.E05

Run Name: 1527809E05

Analyst: 7702

Reviewed By: Mallory L Clark

Reviewed Date: 10/05/2015 22:31

Verified By: Deborah A Krady

Verified Date: 10/06/2015 08:19

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-1		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
IN-1		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	RB	85
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
BI-1		209
	TL	203
	PB	208
	U	238

Run Name: 1527809E05 Date/Time: 10/05/2015 21:09:48
Tube Number: 1
Sample Number: **S0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
NA	23	0.00000	9199.27000	0.000	-7.02500	9.87294	-2.84794
MG	24	0.00000	40.00000	0.000	-0.34925	0.37783	-0.02859
AL	27	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
K	39	0.00000	2490.28000	0.000	-5.96959	5.82634	0.14325
CA	44	0.00000	23.34000	0.000	-23.45832	46.91665	-23.45832
SC-1	45	18146.39000	0.00000	0.000	18970.65000	17078.69000	18389.83000
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.00000	6.67000	0.000	0.00760	0.01045	-0.01805
CR	52	0.00000	43.33000	0.000	-0.01006	-0.00171	0.01176
MN	55	0.00000	6.67000	0.000	0.06018	-0.03009	-0.03009
FE	57	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.00000	6.67000	0.000	0.00349	0.00333	-0.00681
NI	60	0.00000	20.00000	0.000	-0.03436	0.03626	-0.00191
CU	63	0.00000	113.34000	0.000	-0.00136	0.03342	-0.03206
ZN	66	0.00000	26.67000	0.000	0.13419	0.12814	-0.26233
GE-1	72	65063.55000	0.00000	0.000	64067.14000	65491.86000	65631.65000
AS	75	0.00000	0.67000	0.000	-0.01233	-0.01233	0.02466
RB	85	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SR	88	0.00000	3.33000	0.000	0.02907	-0.01454	-0.01454
MO	98	0.00000	86.67000	0.000	-0.08521	0.06859	0.01663
AG	107	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CD	111	0.00000	4.67000	0.000	0.03231	-0.00427	-0.02804
IN-1	115	30002.01000	0.00000	0.000	29324.86000	29779.55000	30901.63000
SN	120	0.00000	2212.40000	0.000	-1.65909	2.74759	-1.08850
SB	121	0.00000	3.33000	0.000	0.01893	-0.00947	-0.00947
BA	137	0.00000	10.00000	0.000	-0.07510	0.07694	-0.00184
TB-1	159	158760.98000	0.00000	0.000	159138.35000	157794.38000	159350.22000
TL	203	0.00000	3.33000	0.000	0.00445	-0.00222	-0.00222
PB	208	0.00000	183.34000	0.000	0.02030	-0.00099	-0.01931
BI-1	209	128659.17000	0.00000	0.000	127417.10000	129411.05000	129149.36000
U	238	0.00000	0.00000	0.000	0.00000	0.00000	0.00000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:11:35
Tube Number: 2
Sample Number: **S1**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	18890.53000	0.00000	0.000	19151.02000	18720.28000	18800.30000
AL	27	10000.00000	99463.77000	0.700	9965.87251	9954.45366	10079.67383
CA	44	10000.00000	11027.14000	5.700	9616.52539	9728.17647	10655.29814
CR	52	1000.00000	528488.09000	1.100	988.78595	1011.61823	999.59583
FE	57	10000.00000	103731.51000	4.500	9526.70166	10413.73515	10059.56319
K	39	10000.00000	197965.50000	1.600	9826.72753	10035.13531	10138.13716
MG	24	10000.00000	349794.51000	0.900	9939.77152	10102.70632	9957.52216
MN	55	1000.00000	220601.55000	1.400	985.84352	1013.62056	1000.53592
NA	23	10000.00000	698786.60000	0.700	9965.60721	9948.58847	10085.80432
TI	47	1000.00000	8939.22000	1.600	985.58299	996.96068	1017.45633
V	51	1000.00000	388151.26000	1.700	986.08448	1018.45021	995.46531
IN-1	115	29758.35000	0.00000	0.000	30505.27000	29005.51000	29764.27000
AG	107	100.00000	149747.75000	4.300	95.62665	104.24615	100.12719
AS	75	1000.00000	52034.06000	3.600	962.92918	1034.45590	1002.61492
BA	137	1000.00000	131427.00000	1.300	988.16974	1013.16098	998.66928
CD	111	100.00000	16820.24000	1.700	98.81271	99.28276	101.90453
CO	59	1000.00000	985058.48000	2.000	978.28325	1017.83954	1003.87720
CU	63	1000.00000	812810.38000	2.900	973.28227	1030.94040	995.77733
MO	98	100.00000	64737.83000	2.300	97.94078	102.46965	99.58957
NI	60	1000.00000	280665.58000	3.500	964.72650	1035.66593	999.60758
RB	85	100.00000	16301.50000	3.700	104.06354	96.83716	99.09931
SB	121	100.00000	35718.74000	3.100	96.59860	102.74411	100.65729
SN	120	100.00000	46504.80000	2.100	99.30288	102.37382	98.32330
SR	88	100.00000	23263.10000	3.100	98.31935	103.53621	98.14444
ZN	66	1000.00000	102349.04000	2.600	971.67181	1023.33361	1004.99458
BI-1	209	132166.73000	0.00000	0.000	134420.81000	131679.12000	130400.26000
PB	208	100.00000	500879.82000	2.100	98.22179	99.53522	102.24300
TL	203	100.00000	155441.34000	1.900	99.64067	98.27271	102.08662
U	238	100.00000	650629.30000	2.000	97.86668	100.30294	101.83037
GE-1	72	64400.76000	0.00000	0.000	63885.54000	65842.60000	63474.14000
TB-1	159	163278.71000	0.00000	0.000	164721.64000	164253.28000	160861.20000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:13:23
Tube Number: 3
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19007.37000	0.00000	0.000	18990.56000	18370.06000	19661.49000
AL	27	1.97700	20.00000	97.800	0.00000	2.06772	3.86382
CA	44	-20.54800	3.33000	0.000	-23.45832	-23.45832	-14.72667
CR	52	-0.02300	33.33000	0.000	0.00869	-0.06597	-0.01270
FE	57	2.94000	30.00000	117.700	0.95861	6.93695	0.92590
K	39	6.90100	2740.34000	274.500	15.79317	19.76353	-14.85292
MG	24	0.51600	60.00000	157.300	-0.06575	1.44298	0.17013
MN	55	-0.01500	3.33000	0.000	-0.03009	0.01652	-0.03009
NA	23	-3.47300	9412.78000	0.000	-11.49533	3.12108	-2.04500
TI	47	1.12500	10.00000	98.900	2.22536	1.15026	0.00000
V	51	-0.00100	6.67000	0.000	0.00758	0.00844	-0.01805
IN-1	115	30393.82000	0.00000	0.000	31340.50000	29112.33000	30728.62000
AG	107	0.04200	63.33000	54.900	0.01901	0.04093	0.06462
AS	75	0.35200	19.33000	43.000	0.20652	0.34106	0.50848
BA	137	-0.02500	6.67000	0.000	-0.07510	0.00266	-0.00143
CD	111	-0.02000	1.33000	0.000	-0.02804	-0.00372	-0.02804
CO	59	0.02000	26.67000	80.200	0.00282	0.03468	0.02267
CU	63	0.10200	200.01000	67.800	0.16498	0.11279	0.02810
MO	98	0.26400	260.01000	36.100	0.20539	0.37348	0.21212
NI	60	0.03600	30.00000	206.300	-0.03668	0.11151	0.03297
RB	85	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SB	121	1.27400	470.03000	20.200	1.26607	1.02040	1.53538
SN	120	-0.02700	2223.91000	0.000	-0.62840	0.67382	-0.12676
SR	88	-0.01500	0.00000	0.000	-0.01454	-0.01454	-0.01454
ZN	66	0.24700	53.33000	17.300	0.29421	0.23695	0.21068
BI-1	209	130106.54000	0.00000	0.000	133140.52000	129481.28000	127697.83000
PB	208	-0.01000	136.67000	0.000	0.00393	-0.02343	-0.01083
TL	203	0.02800	46.67000	24.300	0.03609	0.02404	0.02441
U	238	0.05200	330.02000	18.800	0.04119	0.05333	0.06044
GE-1	72	66084.35000	0.00000	0.000	64939.98000	66947.60000	66365.47000
TB-1	159	159362.79000	0.00000	0.000	160035.06000	158057.60000	159995.70000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:15:10
Tube Number: 4
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19547.91000	0.00000	0.000	19040.78000	20542.42000	19060.54000
AL	27	2.27800	23.33000	27.200	1.99489	1.84906	2.98923
CA	44	-17.66700	6.67000	0.000	-14.44203	-15.10112	-23.45832
CR	52	-0.06800	10.00000	0.000	-0.08542	-0.03322	-0.08542
FE	57	2.45600	26.67000	54.700	2.86825	3.54478	0.95509
K	39	1.05600	2703.64000	994.800	-1.86570	-7.67683	12.70965
MG	24	0.26000	53.33000	401.100	-0.91968	0.63705	1.06348
MN	55	0.05700	20.00000	133.000	0.10482	0.09496	-0.03009
NA	23	-8.80800	9292.71000	0.000	-6.35757	-15.00675	-5.05820
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	-0.01800	0.00000	0.000	-0.01805	-0.01805	-0.01805
IN-1	115	31192.42000	0.00000	0.000	30940.54000	31581.33000	31055.38000
AG	107	0.01300	20.00000	173.200	0.00000	0.03773	0.00000
AS	75	0.04800	3.33000	156.100	-0.01233	0.13245	0.02448
BA	137	-0.05100	3.33000	0.000	-0.00193	-0.07510	-0.07510
CD	111	-0.02800	0.00000	0.000	-0.02804	-0.02804	-0.02804
CO	59	0.00600	13.33000	243.500	-0.00681	0.02187	0.00291
CU	63	-0.02100	100.00000	0.000	0.05062	-0.05753	-0.05616
MO	98	0.04400	120.01000	293.000	0.00157	0.18825	-0.05820
NI	60	-0.05900	3.33000	0.000	-0.03624	-0.07049	-0.07049
RB	85	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SB	121	0.27600	106.67000	55.600	0.23280	0.14875	0.44643
SN	120	-0.82800	1916.91000	0.000	-0.65921	-1.21410	-0.61020
SR	88	-0.01500	0.00000	0.000	-0.01454	-0.01454	-0.01454
ZN	66	0.11200	40.00000	223.700	0.39545	-0.07824	0.01849
BI-1	209	132492.46000	0.00000	0.000	130732.75000	132687.44000	134057.18000
PB	208	-0.02400	70.00000	0.000	-0.02559	-0.02577	-0.01998
TL	203	0.01300	23.33000	78.200	0.02379	0.00418	0.01046
U	238	0.00700	43.33000	35.300	0.00621	0.00918	0.00454
GE-1	72	67559.53000	0.00000	0.000	67489.75000	67398.41000	67790.43000
TB-1	159	166241.57000	0.00000	0.000	166631.72000	163919.35000	168173.63000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:16:57
Tube Number: 5
Sample Number: **ICV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19888.32000	0.00000	0.000	19741.47000	20102.01000	19821.49000
AL	27	4910.65700	51422.83000	0.500	4938.40221	4897.22648	4896.34283
CA	44	5259.39200	6117.97000	5.400	5525.91257	4956.60532	5295.65889
CR	52	486.08700	270476.90000	1.800	493.80807	476.61059	487.84097
FE	57	4827.75500	52738.35000	2.000	4940.90555	4775.16425	4767.19409
K	39	4824.85500	101983.34000	0.500	4835.42112	4796.72812	4842.41686
MG	24	4860.63700	179008.53000	2.400	4972.22155	4739.82058	4869.86831
MN	55	490.22600	113864.93000	2.800	483.50893	481.31321	505.85679
NA	23	4827.11200	360334.88000	1.200	4867.42226	4762.30807	4851.60441
TI	47	493.00100	4640.82000	11.400	437.84194	490.98354	550.17633
V	51	494.72200	202180.88000	1.200	500.46992	488.38294	495.31358
IN-1	115	31130.89000	0.00000	0.000	30687.62000	31356.43000	31348.63000
AG	107	49.72400	77950.05000	0.400	49.84082	49.50975	49.82148
AS	75	503.56200	27427.10000	1.000	505.04161	497.70096	507.94239
BA	137	491.13300	67539.77000	1.600	496.16985	481.95514	495.27499
CD	111	49.47100	8706.25000	2.300	50.62722	49.46789	48.31671
CO	59	491.40800	506518.65000	1.100	497.56472	488.60317	488.05601
CU	63	491.20100	417893.60000	1.100	497.38411	489.78649	486.43372
MO	98	50.94900	34558.85000	0.900	51.45219	50.83756	50.55580
NI	60	502.36700	147594.34000	1.000	504.30416	496.64382	506.15228
RB	85	51.04100	8695.89000	4.600	53.58734	49.00452	50.53196
SB	121	48.88400	18280.52000	3.400	47.67083	50.77352	48.20714
SN	120	49.07400	25049.47000	1.000	49.39139	49.30597	48.52408
SR	88	49.56000	12064.60000	4.400	51.59566	49.80153	47.28348
ZN	66	515.84500	55259.71000	2.700	527.74157	500.39074	519.40159
BI-1	209	137058.78000	0.00000	0.000	137628.96000	135856.76000	137690.63000
PB	208	50.20700	260931.54000	0.100	50.24661	50.20274	50.17056
TL	203	49.33100	79517.58000	2.800	48.87210	50.88035	48.24132
U	238	49.14500	331645.18000	0.600	48.85618	49.40083	49.17663
GE-1	72	66983.59000	0.00000	0.000	67308.19000	66584.90000	67057.68000
TB-1	159	164865.96000	0.00000	0.000	164753.53000	164580.06000	165264.29000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:18:44
Tube Number: 6
Sample Number: **ICB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19431.05000	0.00000	0.000	19060.77000	19150.61000	20081.78000
AL	27	1.65900	16.67000	125.100	3.98559	0.99172	0.00000
CA	44	-20.60900	3.33000	0.000	-23.45832	-23.45832	-14.90942
CR	52	-0.02300	33.34000	0.000	-0.04792	0.04525	-0.06762
FE	57	1.87500	20.00000	2.900	1.91016	1.90120	1.81305
K	39	-6.56800	2540.29000	0.000	-15.70219	-1.60639	-2.39576
MG	24	-0.28900	33.33000	0.000	-0.63663	-0.63929	0.41032
MN	55	-0.00100	6.67000	0.000	-0.03009	0.01462	0.01255
NA	23	-12.72100	8959.13000	0.000	-12.68626	-2.39551	-23.08219
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.04100	23.33000	96.000	0.03301	0.08360	0.00618
IN-1	115	31286.10000	0.00000	0.000	31590.62000	31105.02000	31162.66000
AG	107	0.00800	13.33000	42.400	0.01257	0.00638	0.00637
AS	75	0.10900	6.67000	83.200	0.20478	0.02442	0.09772
BA	137	-0.07500	0.00000	0.000	-0.07510	-0.07510	-0.07510
CD	111	-0.02000	1.33000	0.000	-0.02804	-0.00528	-0.02804
CO	59	0.00000	6.67000	0.000	-0.00681	-0.00681	0.01257
CU	63	0.02500	140.01000	170.200	-0.01120	0.01432	0.07276
MO	98	0.08800	150.01000	57.100	0.11533	0.11920	0.03014
NI	60	-0.03600	10.00000	0.000	-0.07049	0.03171	-0.07049
RB	85	0.03900	6.67000	173.200	0.11564	0.00000	0.00000
SB	121	0.58500	223.34000	18.300	0.59688	0.47248	0.68537
SN	120	0.02400	2317.44000	5486.100	-1.23608	1.35024	-0.04338
SR	88	-0.01500	0.00000	0.000	-0.01454	-0.01454	-0.01454
ZN	66	0.11000	40.00000	170.500	-0.07829	0.11150	0.29738
BI-1	209	133544.20000	0.00000	0.000	132767.48000	133221.41000	134643.70000
PB	208	-0.01300	123.34000	0.000	-0.01981	-0.00997	-0.01026
TL	203	0.03000	50.00000	37.800	0.04260	0.02330	0.02303
U	238	0.03200	210.01000	21.100	0.03060	0.02592	0.03922
GE-1	72	67435.12000	0.00000	0.000	68250.99000	65952.92000	68101.44000
TB-1	159	165898.43000	0.00000	0.000	163588.66000	163912.01000	170194.63000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:20:30
Tube Number: 7
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19761.40000	0.00000	0.000	19751.48000	18960.46000	20572.27000
AL	27	109.17500	1136.75000	2.600	109.62379	106.18489	111.71605
CA	44	190.32100	243.35000	48.100	159.07958	293.46683	118.41638
CR	52	1.96600	1133.42000	13.400	1.67014	2.17700	2.05188
FE	57	113.14100	1233.43000	17.700	102.31503	100.82083	136.28751
K	39	209.71700	7004.99000	8.300	190.25252	215.46287	223.43654
MG	24	99.03900	3667.18000	2.600	101.89815	98.22234	96.99624
MN	55	1.98100	463.36000	19.000	1.57400	2.31832	2.05112
NA	23	202.59600	24583.78000	16.000	203.04545	234.69774	170.04565
TI	47	10.04900	93.33000	25.800	10.69813	12.25890	7.18991
V	51	0.56900	236.68000	31.800	0.67186	0.67495	0.36045
IN-1	115	31942.15000	0.00000	0.000	31333.43000	31572.63000	32920.39000
AG	107	0.51500	826.73000	20.700	0.63382	0.42772	0.48260
AS	75	2.25600	126.67000	33.700	1.62939	3.10142	2.03639
BA	137	1.46200	216.68000	28.300	1.15328	1.93281	1.30037
CD	111	0.35900	70.00000	11.200	0.32212	0.35310	0.40200
CO	59	0.46600	500.03000	19.200	0.37875	0.55757	0.46107
CU	63	2.09200	1943.54000	11.900	2.37291	2.00609	1.89607
MO	98	0.48700	430.02000	4.400	0.46980	0.47981	0.51067
NI	60	1.93200	603.37000	9.500	1.82357	2.14490	1.82884
RB	85	1.03100	180.01000	56.800	1.63240	0.46283	0.99879
SB	121	1.01200	393.36000	23.200	0.78793	0.99290	1.25545
SN	120	3.04600	3812.17000	40.200	1.64557	3.91595	3.57637
SR	88	0.93700	236.68000	31.800	0.92422	1.24118	0.64589
ZN	66	16.78300	1870.19000	11.300	18.94466	16.03644	15.36926
BI-1	209	137895.18000	0.00000	0.000	136238.92000	137185.66000	140260.95000
PB	208	0.94600	5140.61000	8.200	0.85736	0.97434	1.00485
TL	203	0.56700	923.41000	17.200	0.46586	0.66096	0.57367
U	238	0.48200	3270.51000	9.500	0.48009	0.52861	0.43735
GE-1	72	68634.20000	0.00000	0.000	68172.19000	68062.41000	69668.01000
TB-1	159	167882.62000	0.00000	0.000	168561.93000	165539.16000	169546.77000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:22:17
Tube Number: 8
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	20168.60000	0.00000	0.000	20232.17000	20272.02000	20001.60000
AL	27	9864.32400	104740.00000	3.000	9879.83869	9558.93955	10154.19399
CA	44	10034.27100	11814.28000	3.800	9619.35521	10100.22965	10383.22964
CR	52	0.07400	90.00000	64.100	0.02058	0.09090	0.11117
FE	57	9592.25200	106259.20000	2.300	9479.76888	9446.91651	9850.06966
K	39	9672.57900	204548.69000	1.000	9563.45396	9728.33193	9725.95108
MG	24	9609.08500	358864.12000	1.100	9609.97495	9503.99937	9713.28170
MN	55	0.08400	26.67000	156.400	-0.03009	0.05439	0.22677
NA	23	9807.16000	731829.83000	1.700	9671.82250	9756.17967	9993.47790
TI	47	187.98800	1793.50000	11.800	166.07360	187.63947	210.24967
V	51	0.00600	10.00000	401.700	0.03006	0.00596	-0.01805
IN-1	115	31510.83000	0.00000	0.000	31514.66000	31910.12000	31107.71000
AG	107	0.00800	13.33000	43.300	0.01260	0.00622	0.00638
AS	75	0.04800	3.33000	42.500	0.06022	0.05932	0.02442
BA	137	-0.05100	3.33000	0.000	-0.07510	-0.07510	-0.00233
CD	111	-0.01700	2.00000	0.000	-0.01681	-0.00586	-0.02804
CO	59	-0.00700	0.00000	0.000	-0.00681	-0.00681	-0.00681
CU	63	0.16700	263.35000	86.300	0.01233	0.29721	0.19078
MO	98	198.03100	135686.45000	2.500	199.80641	192.47574	201.81040
NI	60	0.00800	23.33000	477.200	0.03039	-0.03728	0.03171
RB	85	0.23300	40.00000	67.300	0.17388	0.11448	0.41103
SB	121	0.09600	40.00000	46.800	0.12266	0.12102	0.04408
SN	120	-0.58200	2050.43000	0.000	-1.24890	-0.89506	0.39835
SR	88	0.05300	16.67000	43.100	0.06662	0.06562	0.02657
ZN	66	0.32400	63.34000	74.100	0.29113	0.10207	0.57882
BI-1	209	135713.09000	0.00000	0.000	134614.51000	135340.87000	137183.89000
PB	208	-0.00100	186.67000	0.000	0.00347	0.00325	-0.01077
TL	203	0.00400	10.00000	154.900	-0.00222	0.00406	0.01017
U	238	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
GE-1	72	67723.16000	0.00000	0.000	66776.05000	67087.78000	69305.66000
TB-1	159	168100.53000	0.00000	0.000	165184.08000	169094.61000	170022.91000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:24:04
Tube Number: 9
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19397.77000	0.00000	0.000	19911.52000	19831.71000	18450.08000
AL	27	10017.56400	102181.65000	4.700	9642.69944	9862.51786	10547.47467
CA	44	10083.72700	11404.01000	5.400	9567.53141	10030.54124	10653.10744
CR	52	20.58900	11223.96000	1.500	20.80001	20.72167	20.24418
FE	57	9994.02900	106318.95000	6.000	9472.41785	9867.04945	10642.61957
K	39	9922.66200	201498.68000	4.500	9620.25842	9710.81171	10436.91661
MG	24	9940.20700	356611.41000	4.500	9722.20825	9647.02577	10451.38848
MN	55	20.94500	4737.49000	10.600	19.49642	19.83431	23.50364
NA	23	10006.03800	717157.23000	4.200	9660.12098	9877.97357	10480.01877
TI	47	222.87300	2040.21000	13.600	188.91533	232.29821	247.40670
V	51	0.02500	16.67000	218.600	0.00639	-0.01805	0.08745
IN-1	115	32804.91000	0.00000	0.000	32784.44000	33878.36000	31751.92000
AG	107	18.36600	30304.24000	5.500	18.32720	17.37151	19.39956
AS	75	19.33300	1110.04000	5.600	20.56070	18.51280	18.92540
BA	137	-0.02800	6.67000	0.000	-0.07510	-0.07510	0.06750
CD	111	19.40300	3599.07000	4.300	18.98501	18.85175	20.37257
CO	59	18.82400	20459.10000	3.100	18.17849	19.30487	18.98874
CU	63	19.54900	17632.61000	3.800	19.31844	18.93869	20.38953
MO	98	190.83900	136067.83000	3.200	189.59866	185.50101	197.41759
NI	60	20.37500	6328.05000	3.500	19.58647	20.57930	20.96020
RB	85	0.12800	23.33000	105.500	0.00000	0.26958	0.11505
SB	121	0.03400	16.67000	221.100	-0.00947	-0.00947	0.12167
SN	120	-1.38000	1743.57000	0.000	-1.57696	-1.62655	-0.93786
SR	88	0.09000	26.67000	53.900	0.06348	0.06096	0.14657
ZN	66	19.11700	2186.90000	13.400	22.08540	17.67328	17.59285
BI-1	209	135906.50000	0.00000	0.000	135629.25000	134491.51000	137598.74000
PB	208	-0.00200	183.34000	0.000	-0.00462	-0.00630	0.00450
TL	203	0.01500	26.67000	108.500	0.02912	0.01674	-0.00222
U	238	0.00100	6.67000	173.200	0.00299	0.00000	0.00000
GE-1	72	68165.13000	0.00000	0.000	69226.37000	68783.65000	66485.38000
TB-1	159	169063.13000	0.00000	0.000	172760.92000	166082.50000	168345.97000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:25:51
Tube Number: 10
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19978.41000	0.00000	0.000	19100.79000	20572.37000	20262.07000
AL	27	2443.97200	25678.91000	6.600	2541.33787	2256.90232	2533.67507
CA	44	2394.48400	2810.37000	8.900	2565.38127	2463.71390	2154.35760
CR	52	246.07300	137445.42000	3.900	256.64141	237.82251	243.75568
FE	57	2460.37100	26954.42000	6.700	2649.80865	2348.57109	2382.73467
K	39	2415.53000	52589.89000	5.900	2554.72202	2269.63428	2422.23506
MG	24	2450.01800	90580.88000	4.000	2558.61246	2370.47349	2420.96894
MN	55	246.48700	57432.58000	5.800	262.33300	234.88010	242.24776
NA	23	2403.18500	185090.38000	5.100	2543.90253	2331.66225	2333.99040
TI	47	252.20100	2380.28000	7.500	269.96232	232.15392	254.48580
V	51	247.25200	101390.94000	4.800	259.84244	236.04574	245.86739
IN-1	115	31464.71000	0.00000	0.000	31863.42000	30847.78000	31682.94000
AG	107	24.29700	38487.37000	3.700	24.44619	25.10922	23.33546
AS	75	244.59500	13463.79000	1.800	239.62167	247.32597	246.83625
BA	137	239.21300	33257.24000	0.200	239.54395	238.82933	239.26515
CD	111	24.13400	4293.90000	4.400	23.41202	25.35439	23.63492
CO	59	248.82600	259206.96000	1.600	246.48561	253.45232	246.54030
CU	63	248.56400	213792.24000	1.600	250.05079	251.67180	243.96954
MO	98	25.60800	17599.61000	1.600	25.22382	26.04368	25.55702
NI	60	244.84500	72711.20000	1.100	244.41384	247.73880	242.38162
RB	85	24.30300	4184.04000	4.900	23.39276	25.64399	23.87227
SB	121	25.97800	9813.34000	5.800	25.74300	27.59066	24.60122
SN	120	24.44200	13769.74000	7.700	24.74876	26.14074	22.43698
SR	88	24.33900	5991.28000	5.300	23.02760	24.36717	25.62163
ZN	66	244.29300	26473.99000	1.400	246.53953	240.41554	245.92518
BI-1	209	135490.62000	0.00000	0.000	136339.74000	133753.64000	136378.49000
PB	208	25.65200	131881.60000	0.700	25.72573	25.77431	25.45541
TL	203	25.29700	40315.07000	0.700	25.11704	25.48186	25.29147
U	238	24.70100	164788.39000	1.500	25.06857	24.72140	24.31380
GE-1	72	67208.23000	0.00000	0.000	68643.77000	65773.03000	67207.89000
TB-1	159	164580.42000	0.00000	0.000	165842.91000	166912.38000	160985.97000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:27:38
Tube Number: 11
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19427.80000	0.00000	0.000	19210.82000	18630.34000	20442.24000
AL	27	1.66900	16.67000	128.100	0.00000	4.07767	0.92906
CA	44	-23.45800	0.00000	0.000	-23.45832	-23.45832	-23.45832
CR	52	-0.06100	13.33000	0.000	-0.04821	-0.08542	-0.05045
FE	57	3.13100	33.33000	18.700	3.79049	2.93144	2.67161
K	39	-3.39100	2593.64000	0.000	-6.04442	11.92260	-16.05158
MG	24	-0.00700	43.34000	0.000	0.48376	-0.62354	0.11767
MN	55	0.02600	13.33000	375.500	-0.03009	-0.03009	0.13746
NA	23	-4.73200	9522.80000	0.000	3.88534	-4.75614	-13.32489
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.03200	20.00000	82.200	0.00728	0.06031	0.02956
IN-1	115	31324.98000	0.00000	0.000	33034.00000	29981.22000	30959.73000
AG	107	0.01700	26.67000	60.200	0.00601	0.02649	0.01924
AS	75	0.06100	4.00000	161.600	0.02227	-0.01233	0.17228
BA	137	-0.00200	10.00000	0.000	-0.07510	-0.07510	0.14427
CD	111	-0.02800	0.00000	0.000	-0.02804	-0.02804	-0.02804
CO	59	0.01600	23.33000	37.300	0.01147	0.01333	0.02245
CU	63	0.04000	150.01000	227.600	-0.05002	0.12992	0.03868
MO	98	0.13500	180.01000	66.800	0.03487	0.15932	0.20955
NI	60	-0.00100	20.00000	0.000	-0.07049	0.03554	0.03219
RB	85	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SB	121	0.55100	210.01000	27.500	0.41913	0.51832	0.71686
SN	120	0.07800	2353.78000	741.900	0.61406	0.15043	-0.53149
SR	88	-0.01500	0.00000	0.000	-0.01454	-0.01454	-0.01454
ZN	66	-0.04400	23.33000	0.000	-0.08633	0.02855	-0.07454
BI-1	209	132564.68000	0.00000	0.000	133183.59000	130126.34000	134384.10000
PB	208	-0.01600	106.67000	0.000	-0.00996	-0.01133	-0.02788
TL	203	0.00400	10.00000	154.200	0.01054	-0.00222	0.00410
U	238	0.01100	73.33000	42.600	0.00762	0.00936	0.01662
GE-1	72	67766.70000	0.00000	0.000	68262.82000	66424.65000	68612.63000
TB-1	159	163891.65000	0.00000	0.000	163213.03000	161518.67000	166943.24000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:29:27
Tube Number: 12 Batch: 152756050004A
Sample Number: **PBW** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19854.87000	0.00000	0.000	19681.29000	19651.15000	20232.16000
AL	27	1.93200	20.00000	100.100	1.92996	3.86585	0.00000
CA	44	34.08800	66.67000	26.300	28.87887	28.95914	44.42459
CR	52	-0.03800	26.67000	0.000	-0.06726	-0.06723	0.02058
FE	57	2.75100	30.00000	33.600	3.69988	1.85278	2.69935
K	39	4.53200	2820.34000	307.700	-3.67334	20.63652	-3.36610
MG	24	1.16900	86.67000	121.600	2.36434	1.54503	-0.40250
MN	55	0.70300	170.01000	40.400	0.97063	0.40564	0.73174
NA	23	4.79900	10430.00000	178.000	3.80750	13.79570	-3.20525
TI	47	0.35800	3.33000	173.200	0.00000	1.07528	0.00000
V	51	0.00600	10.00000	386.200	0.00668	-0.01805	0.03006
IN-1	115	31643.54000	0.00000	0.000	31354.89000	32966.15000	30609.57000
AG	107	0.00600	10.00000	101.700	0.01267	0.00602	0.00000
AS	75	0.04900	3.33000	115.300	0.06058	-0.01233	0.09971
BA	137	-0.07500	0.00000	0.000	-0.07510	-0.07510	-0.07510
CD	111	-0.02800	0.00000	0.000	-0.02804	-0.02804	-0.02804
CO	59	-0.00400	3.33000	0.000	-0.00681	-0.00681	0.00305
CU	63	0.11500	216.68000	91.100	0.16484	-0.00543	0.18420
MO	98	0.04200	120.01000	44.500	0.02915	0.06313	0.03308
NI	60	-0.01500	16.67000	0.000	-0.00290	-0.00620	-0.03587
RB	85	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SB	121	0.05200	23.33000	24.600	0.04365	0.06632	0.04495
SN	120	-0.31800	2193.73000	0.000	-0.28762	0.34056	-1.00768
SR	88	0.10500	30.00000	72.600	0.10782	0.17942	0.02724
ZN	66	2.44300	293.35000	29.500	1.87018	2.20686	3.25180
BI-1	209	139165.53000	0.00000	0.000	139768.82000	139311.89000	138415.89000
PB	208	-0.01400	126.67000	0.000	-0.02259	-0.01118	-0.00719
TL	203	0.00800	16.67000	221.700	-0.00222	0.02829	-0.00222
U	238	0.00100	10.00000	100.200	0.00000	0.00146	0.00293
GE-1	72	67503.23000	0.00000	0.000	67329.04000	67369.92000	67810.74000
TB-1	159	167316.88000	0.00000	0.000	169804.94000	167860.41000	164285.29000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:31:16
Tube Number: 13 Batch: 152756050004A
Sample Number: **LCSW** Class: **********

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19961.77000	0.00000	0.000	19601.27000	19360.97000	20923.07000
AL	27	2045.87400	21480.05000	4.200	2117.45942	2070.08497	1950.07699
CA	44	4075.41100	4764.18000	2.700	4198.89748	4029.51759	3997.81910
CR	52	51.60400	28847.34000	2.500	52.58697	52.09418	50.13210
FE	57	999.46700	10963.77000	1.700	1004.31187	980.08282	1014.00610
K	39	10204.26900	213110.83000	5.500	10359.11022	10670.29633	9583.40171
MG	24	2047.65900	75651.44000	3.600	2083.09475	2096.04493	1963.83616
MN	55	51.92300	12087.88000	7.100	53.67764	54.38841	47.70440
NA	23	10147.29400	748214.21000	4.500	10310.49994	10502.03111	9629.35064
TI	47	255.22900	2410.27000	2.700	263.06182	252.13874	250.48776
V	51	50.30900	20625.80000	3.900	52.19985	50.43195	48.29542
IN-1	115	31661.61000	0.00000	0.000	31829.22000	32333.06000	30822.54000
AG	107	49.82000	79400.03000	3.100	50.57273	48.02705	50.85920
AS	75	10.78600	598.02000	9.700	9.57701	11.44299	11.33680
BA	137	49.05800	6871.77000	0.600	48.87387	49.37153	48.92878
CD	111	5.13300	923.37000	5.600	4.80912	5.34679	5.24269
CO	59	254.87600	267203.28000	1.000	251.99451	255.82753	256.80629
CU	63	52.11200	45184.84000	2.300	51.78694	51.11335	53.43499
MO	98	52.39500	36141.71000	0.900	52.62911	51.83540	52.72181
NI	60	51.23600	15330.48000	1.900	50.29315	52.19846	51.21525
RB	85	0.09500	16.67000	67.300	0.05739	0.16948	0.05926
SB	121	5.66500	2156.90000	11.500	6.37525	5.09082	5.52990
SN	120	49.72900	25777.10000	3.000	50.37932	48.03998	50.76778
SR	88	40.54400	10033.29000	5.400	40.89970	38.20537	42.52670
ZN	66	523.58100	57042.26000	1.600	527.87015	514.13279	528.74005
BI-1	209	138032.07000	0.00000	0.000	138263.27000	137546.78000	138286.16000
PB	208	15.44300	80964.32000	2.100	15.72279	15.50888	15.09672
TL	203	2.00800	3263.82000	3.800	2.09497	1.97604	1.95320
U	238	0.00100	10.00000	99.800	0.00294	0.00148	0.00000
GE-1	72	67381.90000	0.00000	0.000	67338.79000	68000.99000	66805.91000
TB-1	159	166279.41000	0.00000	0.000	168610.13000	166670.80000	163557.31000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:33:03
Tube Number: 14 Batch: 152756050004A
Sample Number: **8065024** Class: UP********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19688.05000	0.00000	0.000	21563.52000	19060.69000	18439.93000
AL	27	207.24000	2126.88000	17.900	164.71458	224.21522	232.79106
CA	44	443.77700	533.36000	10.800	406.48474	426.91241	497.93413
CR	52	4.19900	2350.25000	7.800	3.87672	4.19069	4.52856
FE	57	221.29600	2380.26000	10.500	195.03929	238.79622	230.05101
K	39	412.02500	11040.49000	13.800	350.15286	461.80178	424.11924
MG	24	213.66500	7791.93000	9.400	190.69868	222.69941	227.59705
MN	55	4.40500	1013.41000	26.000	3.62336	5.72044	3.87066
NA	23	526.86400	47632.45000	11.000	471.03912	522.76480	586.78721
TI	47	33.22200	306.68000	37.000	29.39939	23.28140	46.98438
V	51	1.14000	463.36000	24.700	0.92983	1.02879	1.45988
IN-1	115	31371.01000	0.00000	0.000	30516.99000	32510.26000	31085.79000
AG	107	1.00600	1590.15000	10.000	0.91108	0.99575	1.11164
AS	75	4.44400	244.00000	13.000	5.08207	3.96099	4.29016
BA	137	4.20700	593.37000	3.500	4.07955	4.17308	4.36782
CD	111	1.01100	184.00000	11.400	1.14333	0.96264	0.92834
CO	59	0.98200	1026.74000	16.500	0.87400	0.90361	1.16879
CU	63	8.18400	7128.39000	4.200	8.28239	7.79997	8.46993
MO	98	1.16700	886.73000	5.800	1.08905	1.19817	1.21473
NI	60	4.43000	1330.12000	9.300	4.89575	4.10218	4.29346
RB	85	0.03700	6.67000	173.200	0.00000	0.11237	0.00000
SB	121	2.61300	986.74000	5.500	2.66505	2.44984	2.72330
SN	120	4.97000	4619.14000	42.100	7.31177	3.28545	4.31177
SR	88	2.15400	533.36000	16.500	1.74558	2.38513	2.33050
ZN	66	33.89500	3690.56000	6.700	33.27412	36.40531	32.00558
BI-1	209	136651.79000	0.00000	0.000	136903.82000	135946.92000	137104.62000
PB	208	2.05600	10841.99000	4.200	2.00029	2.01271	2.15522
TL	203	1.06400	1713.51000	7.700	1.01014	1.02353	1.15752
U	238	0.00200	16.67000	91.700	0.00445	0.00000	0.00296
GE-1	72	67800.35000	0.00000	0.000	67509.07000	67659.33000	68232.66000
TB-1	159	165739.07000	0.00000	0.000	168104.39000	164903.67000	164209.16000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:34:53
Tube Number: 15 Batch: 152756050004A
Sample Number: **8065027** Class: D*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19861.71000	0.00000	0.000	19801.55000	20412.49000	19371.09000
AL	27	17.66100	186.72000	68.600	10.55130	31.64622	10.78577
CA	44	113191.72200	130933.79000	2.100	114108.67511	110473.54104	114992.94996
CR	52	0.72700	450.03000	22.700	0.72694	0.56252	0.89263
FE	57	7892.08400	86049.06000	3.700	7946.61738	7577.16917	8152.46447
K	39	3207.30600	68586.18000	3.100	3255.71679	3094.35143	3271.84943
MG	24	36142.34100	1328582.01000	4.700	34628.92989	35825.27922	37972.81294
MN	55	884.07900	204952.74000	3.700	898.93499	846.91151	906.39066
NA	23	20572.86000	1499828.21000	4.000	20609.57834	19740.23529	21368.76573
TI	47	4.98600	46.68000	117.900	11.74139	1.03517	2.18164
V	51	0.26700	116.67000	16.700	0.22771	0.31574	0.25829
IN-1	115	31255.02000	0.00000	0.000	31862.77000	30986.25000	30916.05000
AG	107	0.02300	36.67000	32.600	0.01870	0.01923	0.03212
AS	75	1.44000	79.33000	29.300	1.31511	1.09441	1.91038
BA	137	442.83900	61132.22000	2.300	431.71296	451.93262	444.87130
CD	111	-0.02800	0.00000	0.000	-0.02804	-0.02804	-0.02804
CO	59	0.00000	6.67000	0.000	-0.00681	-0.00681	0.01272
CU	63	0.74400	753.38000	22.400	0.73437	0.58187	0.91502
MO	98	1.67400	1226.77000	17.500	1.70178	1.36753	1.95147
NI	60	1.30000	403.36000	26.000	1.02712	1.19496	1.67775
RB	85	0.60100	103.34000	42.100	0.85997	0.35369	0.59083
SB	121	0.05300	23.33000	105.000	-0.00947	0.09804	0.07134
SN	120	-0.79700	1936.87000	0.000	-0.55181	-1.64088	-0.19965
SR	88	161.45400	39455.44000	1.900	158.18114	161.82918	164.35227
ZN	66	0.97300	133.34000	62.100	1.47124	0.30057	1.14821
BI-1	209	134536.62000	0.00000	0.000	133090.93000	135148.57000	135370.36000
PB	208	0.04900	440.03000	48.700	0.06939	0.02284	0.05394
TL	203	0.00200	6.67000	182.800	0.00416	0.00407	-0.00222
U	238	0.25500	1690.19000	18.700	0.23503	0.30961	0.22057
GE-1	72	68442.55000	0.00000	0.000	65922.90000	69145.39000	70259.36000
TB-1	159	164878.13000	0.00000	0.000	164843.47000	164335.86000	165455.06000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:36:40
Tube Number: 16 Batch: 152756050004A
Sample Number: **8065025** Class: R*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19387.61000	0.00000	0.000	19971.58000	18910.52000	19280.72000
AL	27	2111.29900	21543.32000	3.600	2035.34582	2113.33251	2185.21832
CA	44	119310.71000	134708.00000	2.500	116860.54546	122632.76012	118438.82363
CR	52	53.05000	28797.08000	4.500	50.76702	55.49522	52.88701
FE	57	8643.40400	91998.60000	3.100	8371.84730	8908.31406	8650.04958
K	39	13606.82300	275393.97000	2.700	13263.72094	13998.10714	13558.64086
MG	24	39562.05500	1419636.75000	2.300	38698.28116	40497.48691	39490.39705
MN	55	933.89500	211325.88000	3.500	898.46881	962.83181	940.38562
NA	23	32081.14900	2277561.01000	3.600	30814.27595	33040.17103	32388.99900
TI	47	264.59100	2423.59000	10.200	243.37078	295.02299	255.38006
V	51	53.39300	21263.31000	6.600	52.18345	57.37932	50.61666
IN-1	115	30904.43000	0.00000	0.000	31029.88000	31352.62000	30330.78000
AG	107	50.07500	77917.16000	2.200	50.78972	48.79122	50.64458
AS	75	12.11200	655.35000	4.600	12.51352	11.47307	12.34996
BA	137	507.09100	69226.35000	0.700	504.75947	505.06618	511.44854
CD	111	4.99100	876.70000	6.600	4.65998	5.32296	4.98975
CO	59	253.88900	259772.47000	1.600	251.82575	251.21234	258.62822
CU	63	51.25000	43390.15000	1.100	50.65282	51.34690	51.75084
MO	98	55.78400	37554.87000	0.700	55.77197	55.38691	56.19373
NI	60	52.15800	15227.07000	2.900	52.75264	50.44983	53.27108
RB	85	0.47400	80.00000	38.800	0.29433	0.46608	0.66251
SB	121	5.76800	2143.58000	6.800	6.16405	5.38317	5.75702
SN	120	51.38300	25924.14000	3.600	52.51993	49.22581	52.40352
SR	88	205.03900	49551.17000	1.100	202.50607	205.86182	206.74973
ZN	66	512.68400	54530.75000	1.800	523.04884	505.56633	509.43639
BI-1	209	131680.67000	0.00000	0.000	132828.32000	130340.95000	131872.74000
PB	208	15.98500	79936.78000	1.400	15.80448	16.23685	15.91308
TL	203	2.07100	3210.47000	4.200	2.03993	2.17025	2.00315
U	238	0.29500	1913.58000	1.400	0.29513	0.29921	0.29112
GE-1	72	66676.26000	0.00000	0.000	65030.89000	67368.16000	67629.73000
TB-1	159	164878.86000	0.00000	0.000	162376.26000	164984.43000	167275.90000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:38:29
Tube Number: 17 Batch: 152756050004A
Sample Number: **8065026** Class: M*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	20181.99000	0.00000	0.000	19811.36000	19561.19000	21173.41000
AL	27	2016.53500	21399.85000	5.000	2022.05366	2113.99579	1913.55695
CA	44	110709.12000	130045.21000	3.700	113781.81966	112250.18790	106095.35258
CR	52	50.53900	28570.22000	1.600	50.97996	51.04775	49.58921
FE	57	7758.19900	85891.12000	4.800	7967.64887	7980.60213	7326.34619
K	39	13005.83000	274051.94000	2.800	13094.39922	13321.94620	12601.14565
MG	24	36611.77000	1366139.98000	5.200	37282.81081	38078.16810	34474.32959
MN	55	890.66300	209762.32000	3.100	910.93502	901.42457	859.62970
NA	23	30076.08000	2222065.13000	4.300	30567.49594	31056.85222	28603.89290
TI	47	255.77700	2436.93000	12.800	291.21259	249.55579	226.56184
V	51	50.14200	20779.42000	5.200	49.11288	53.12929	48.18462
IN-1	115	31439.88000	0.00000	0.000	30857.91000	30365.70000	33096.02000
AG	107	50.21000	79377.14000	4.800	51.36994	51.82820	47.43257
AS	75	11.64300	640.02000	6.000	11.65720	12.33575	10.93713
BA	137	487.09600	67586.55000	3.300	496.08579	496.63144	468.57090
CD	111	5.07300	904.03000	8.200	5.32840	5.29867	4.59189
CO	59	248.55700	258400.97000	4.800	249.29956	260.18360	236.18835
CU	63	50.48200	43423.86000	4.600	51.23313	52.31968	47.89281
MO	98	53.39300	36522.73000	4.600	54.66402	54.97477	50.54012
NI	60	50.31700	14936.83000	2.900	51.53532	50.72911	48.68601
RB	85	0.61600	106.67000	29.800	0.41436	0.66175	0.77273
SB	121	6.06000	2283.59000	11.300	6.38737	6.51845	5.27519
SN	120	52.15400	26668.83000	9.700	54.82468	55.32742	46.31063
SR	88	196.25100	48190.77000	4.100	198.43860	203.00661	187.30799
ZN	66	496.46500	53645.06000	4.700	501.87145	516.43681	471.08559
BI-1	209	130833.41000	0.00000	0.000	129845.47000	131287.03000	131367.72000
PB	208	15.97800	79396.85000	0.500	15.89714	16.03665	15.99999
TL	203	2.08600	3213.80000	3.600	2.00169	2.10925	2.14680
U	238	0.25000	1610.16000	1.300	0.24872	0.25373	0.24739
GE-1	72	66983.77000	0.00000	0.000	65682.01000	67469.01000	67800.28000
TB-1	159	167297.82000	0.00000	0.000	166588.71000	167661.68000	167643.08000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:40:17
Tube Number: 18 Batch: 152756050004A
Sample Number: **8065028** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19844.74000	0.00000	0.000	19801.55000	20942.47000	18790.20000
AL	27	12.31100	130.01000	37.000	15.34691	14.51083	7.07521
CA	44	111580.03500	128651.62000	7.600	112336.20303	102740.34286	119663.55776
CR	52	0.86800	530.03000	8.000	0.79915	0.93872	0.86578
FE	57	8110.78700	88289.68000	3.900	8143.44875	7776.63120	8412.28148
K	39	3187.19700	67984.09000	7.200	3266.51195	2928.80967	3366.26962
MG	24	36017.17600	1321314.67000	4.700	36722.08429	34076.05288	37253.39011
MN	55	861.84000	199365.50000	5.400	873.17330	810.73251	901.61365
NA	23	20446.99700	1488047.74000	4.500	20560.81759	19468.65070	21311.52179
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.38700	163.34000	36.900	0.30146	0.30729	0.55174
IN-1	115	31631.61000	0.00000	0.000	31488.24000	31656.61000	31749.99000
AG	107	0.04400	70.00000	85.600	0.04415	0.08155	0.00625
AS	75	1.71000	95.33000	11.700	1.65763	1.54041	1.93189
BA	137	439.64600	61439.85000	1.500	434.26066	437.40029	447.27798
CD	111	-0.02400	0.67000	0.000	-0.02804	-0.01686	-0.02804
CO	59	0.09800	110.01000	60.600	0.07950	0.16491	0.05027
CU	63	1.07600	1050.08000	8.000	1.02376	1.02911	1.17554
MO	98	1.91900	1410.12000	9.500	1.76743	2.12074	1.86773
NI	60	1.11300	353.35000	36.400	0.97283	1.56991	0.79734
RB	85	0.61700	106.67000	38.100	0.75418	0.75016	0.34519
SB	121	0.25400	100.01000	27.600	0.30793	0.17468	0.27908
SN	120	0.21600	2437.56000	542.300	0.11906	-0.90497	1.43483
SR	88	158.35700	39175.02000	2.000	155.46526	157.95632	161.65055
ZN	66	1.20700	160.01000	99.400	1.03026	0.10499	2.48466
BI-1	209	135534.89000	0.00000	0.000	134069.58000	136681.02000	135854.08000
PB	208	0.08900	650.04000	10.100	0.09617	0.09168	0.07887
TL	203	-0.00200	0.00000	0.000	-0.00222	-0.00222	-0.00222
U	238	0.25000	1666.84000	8.800	0.27270	0.22885	0.24819
GE-1	72	67683.41000	0.00000	0.000	68964.54000	66916.94000	67168.74000
TB-1	159	166841.89000	0.00000	0.000	165386.74000	166901.01000	168237.93000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:42:05
Tube Number: 19 Batch: 152756050004A
Sample Number: **8065029** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	20522.37000	0.00000	0.000	19771.45000	21393.35000	20402.30000
AL	27	13.31500	143.34000	14.500	15.37027	11.54084	13.03325
CA	44	109684.27700	130920.35000	6.500	115559.75519	101746.04668	111747.02891
CR	52	0.95300	596.70000	28.700	0.74624	0.85029	1.26369
FE	57	4660.27600	52497.68000	3.900	4688.73121	4466.43706	4825.65869
K	39	1726.84800	39416.88000	6.600	1792.46087	1594.38356	1793.70037
MG	24	40302.19600	1529854.40000	4.000	41680.86875	38540.62403	40685.09527
MN	55	1158.88200	277592.11000	2.300	1185.74013	1131.47398	1159.43234
NA	23	21213.35700	1596961.44000	4.200	22015.22655	20245.90299	21378.94194
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.13300	63.33000	39.800	0.15424	0.07294	0.17277
IN-1	115	31189.58000	0.00000	0.000	32458.04000	30862.75000	30247.96000
AG	107	0.03000	46.67000	70.100	0.00612	0.03861	0.04596
AS	75	19.93700	1087.38000	5.800	18.68950	20.95275	20.16933
BA	137	704.29300	96939.01000	4.300	673.61803	704.82264	734.43732
CD	111	-0.00500	4.00000	0.000	-0.01713	-0.02804	0.03047
CO	59	4.98800	5147.67000	9.600	4.58106	4.86724	5.51545
CU	63	1.42700	1326.79000	33.600	1.10177	1.20147	1.97903
MO	98	12.28700	8415.73000	4.800	12.27481	11.70809	12.87707
NI	60	4.22200	1263.44000	10.100	4.37012	3.74114	4.55447
RB	85	0.13800	23.33000	173.200	0.00000	0.41429	0.00000
SB	121	0.11500	46.67000	28.000	0.09316	0.15243	0.10066
SN	120	-1.11900	1780.18000	0.000	-1.39810	-0.84429	-1.11586
SR	88	170.25900	41477.04000	5.200	159.97958	175.31168	175.48476
ZN	66	2.34800	280.02000	24.200	2.51430	1.71580	2.81328
BI-1	209	134294.91000	0.00000	0.000	136952.69000	131308.61000	134623.42000
PB	208	0.12600	833.38000	19.600	0.14153	0.13918	0.09757
TL	203	0.07200	116.68000	6.900	0.06607	0.07548	0.07357
U	238	0.23800	1573.49000	5.700	0.22988	0.23048	0.25347
GE-1	72	67154.64000	0.00000	0.000	69657.51000	66816.94000	64989.46000
TB-1	159	167865.62000	0.00000	0.000	166283.42000	169430.17000	167883.28000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:43:52
Tube Number: 20 Batch: 152756050004A
Sample Number: **8065030** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	21089.78000	0.00000	0.000	20852.90000	20842.80000	21573.64000
AL	27	17.13600	190.01000	12.200	17.30545	19.13625	14.96663
CA	44	106241.30900	130515.22000	1.800	106057.63636	108275.07134	104391.21966
CR	52	9.33500	5554.46000	6.000	9.85859	9.40020	8.74734
FE	57	7622.27600	88280.58000	2.300	7797.79490	7617.25501	7451.77671
K	39	2755.89500	62999.45000	2.600	2831.69881	2744.23731	2691.74745
MG	24	34373.09100	1342102.37000	1.000	34556.03813	34598.30328	33964.93293
MN	55	1000.29700	246314.68000	2.200	1016.90614	1008.16426	975.82166
NA	23	18687.98800	1448299.87000	1.800	18836.22957	18918.56440	18309.16878
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.10500	53.33000	78.200	0.19198	0.02865	0.09474
IN-1	115	32328.93000	0.00000	0.000	32527.25000	33144.54000	31315.00000
AG	107	0.08500	136.67000	44.600	0.07327	0.05392	0.12683
AS	75	32.59700	1842.78000	4.700	32.04071	31.40926	34.34034
BA	137	307.43600	43874.94000	4.500	302.66991	296.69438	322.94475
CD	111	0.00400	6.00000	660.800	0.02637	0.01467	-0.02804
CO	59	0.64100	693.38000	4.200	0.67100	0.63104	0.62008
CU	63	10.77700	9632.99000	6.500	11.15051	9.96803	11.21329
MO	98	1.54600	1176.76000	14.300	1.33894	1.51978	1.77795
NI	60	1.39400	446.69000	16.100	1.13501	1.52824	1.52009
RB	85	0.17100	30.00000	36.100	0.16847	0.11022	0.23332
SB	121	0.10300	43.33000	41.400	0.06734	0.09104	0.15010
SN	120	0.29800	2530.43000	897.700	3.34365	-1.65413	-0.79637
SR	88	160.39800	40504.51000	6.500	162.27652	149.12533	169.79149
ZN	66	5.63100	653.37000	17.900	5.10028	5.00049	6.79337
BI-1	209	136461.78000	0.00000	0.000	136661.08000	135125.31000	137598.96000
PB	208	0.13700	903.39000	26.400	0.14577	0.09707	0.16754
TL	203	0.00200	6.67000	186.300	-0.00222	0.00407	0.00395
U	238	0.22400	1503.47000	7.500	0.22888	0.23750	0.20518
GE-1	72	69242.62000	0.00000	0.000	68663.88000	68091.53000	70972.45000
TB-1	159	171207.55000	0.00000	0.000	168258.90000	174245.62000	171118.12000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:45:41
Tube Number: 21 Batch: 152756050004A
Sample Number: **8065031** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19934.97000	0.00000	0.000	19701.31000	20301.99000	19801.60000
AL	27	115.28000	1210.13000	10.200	104.11990	114.13693	127.58397
CA	44	110434.25900	128236.06000	2.000	111312.26673	107914.75541	112075.75395
CR	52	114.36300	63816.94000	1.800	115.25634	112.00250	115.83025
FE	57	50007.29100	547470.64000	2.300	50898.15963	48712.05250	50411.66057
K	39	1789.43500	39627.06000	3.000	1795.35325	1733.05423	1839.89638
MG	24	37046.11400	1367375.76000	0.700	37354.86955	36869.40684	36914.06551
MN	55	2839.45500	660943.25000	2.100	2857.19941	2773.75548	2887.41077
NA	23	18521.01100	1356797.12000	2.600	18897.10051	17987.65214	18678.27949
TI	47	1.74300	16.67000	124.000	0.00000	4.16322	1.06711
V	51	0.84400	353.35000	20.400	0.94532	0.94079	0.64551
IN-1	115	31383.94000	0.00000	0.000	30679.14000	31140.54000	32332.15000
AG	107	0.04000	63.34000	63.100	0.01942	0.03188	0.06757
AS	75	61.68400	3388.35000	1.800	60.43068	62.47236	62.14993
BA	137	375.33300	52031.49000	1.300	375.89858	379.94643	370.15354
CD	111	0.04700	13.33000	118.400	-0.01650	0.08562	0.07048
CO	59	4.02200	4187.35000	6.300	4.21690	3.73714	4.11306
CU	63	6.21600	5451.05000	4.600	6.34036	5.89165	6.41680
MO	98	16.35100	11237.45000	3.000	16.77615	16.46627	15.81185
NI	60	42.51900	12608.36000	4.100	44.47222	41.05382	42.03119
RB	85	0.34900	60.00000	2.700	0.35723	0.35194	0.33897
SB	121	0.33500	130.01000	47.600	0.18055	0.49867	0.32540
SN	120	2.09300	3274.91000	114.000	4.31556	2.39109	-0.42827
SR	88	197.31800	48414.43000	1.500	199.59242	198.36869	193.99150
ZN	66	7.16100	800.05000	9.500	7.69766	7.39311	6.39158
BI-1	209	133455.68000	0.00000	0.000	135433.48000	133536.39000	131397.16000
PB	208	0.34800	1950.14000	6.500	0.36180	0.32203	0.36002
TL	203	0.01700	30.00000	37.200	0.01661	0.02324	0.01072
U	238	0.67600	4437.52000	9.300	0.62694	0.65412	0.74670
GE-1	72	67475.89000	0.00000	0.000	66124.60000	66646.26000	69656.82000
TB-1	159	166164.21000	0.00000	0.000	164871.79000	165065.10000	168555.74000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:47:27
Tube Number: 22
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	20575.66000	0.00000	0.000	19831.52000	19891.52000	22003.95000
AL	27	2382.73300	25758.80000	5.700	2503.31331	2407.75619	2237.12903
CA	44	2576.41900	3110.40000	11.900	2366.11778	2928.62079	2434.51840
CR	52	243.45800	139873.42000	5.700	253.44735	249.31361	227.61173
FE	57	2421.70000	27298.28000	6.700	2531.00779	2497.71499	2236.37740
K	39	2383.62200	53415.80000	7.000	2459.62296	2498.58142	2192.66136
MG	24	2405.79500	91485.67000	5.800	2487.26518	2486.30555	2243.81575
MN	55	247.57200	59345.16000	6.700	252.88088	260.75372	229.08123
NA	23	2367.71400	187870.17000	4.500	2424.06851	2435.55864	2243.51368
TI	47	254.80300	2470.26000	11.100	277.05872	264.53579	222.81367
V	51	248.04400	104631.75000	6.000	255.91740	257.43371	230.78189
IN-1	115	32694.30000	0.00000	0.000	33410.59000	32470.15000	32202.16000
AG	107	23.63800	38908.48000	1.800	23.15960	23.88515	23.86783
AS	75	239.31800	13684.65000	3.100	231.60715	239.79493	246.55134
BA	137	241.11100	34823.89000	2.000	236.32823	246.03802	240.96756
CD	111	24.20500	4475.95000	3.400	23.85236	23.60639	25.15527
CO	59	241.60900	261464.35000	3.200	233.20678	242.90677	248.71424
CU	63	238.41000	213020.71000	3.200	230.00760	244.55203	240.67043
MO	98	24.57100	17549.50000	4.700	23.77366	25.88455	24.05606
NI	60	240.90800	74311.53000	3.900	231.95065	240.23991	250.53264
RB	85	23.24700	4157.32000	6.900	21.43442	23.85595	24.45143
SB	121	25.63500	10070.06000	2.200	26.22130	25.08198	25.60162
SN	120	27.12600	15607.11000	12.700	25.17836	25.08349	31.11505
SR	88	23.62300	6044.61000	3.200	24.25795	22.79400	23.81790
ZN	66	247.30200	27829.30000	4.400	238.51154	243.90081	259.49246
BI-1	209	140550.42000	0.00000	0.000	138265.71000	141844.38000	141541.18000
PB	208	24.49600	130637.04000	1.300	24.87662	24.30319	24.30709
TL	203	25.88100	42778.26000	2.700	26.62303	25.26017	25.76016
U	238	24.04700	166380.91000	2.200	24.58711	23.52824	24.02429
GE-1	72	69807.23000	0.00000	0.000	69978.01000	69787.07000	69656.60000
TB-1	159	171635.55000	0.00000	0.000	171991.81000	171216.01000	171698.83000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:49:14
Tube Number: 23
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	20425.65000	0.00000	0.000	19901.56000	20052.02000	21323.37000
AL	27	2.17200	23.33000	110.100	0.00000	4.73571	1.78134
CA	44	-12.04300	13.33000	0.000	-23.45832	10.78805	-23.45832
CR	52	-0.04500	23.33000	0.000	-0.03154	-0.08542	-0.01837
FE	57	0.60800	6.67000	86.600	0.91473	0.90787	0.00000
K	39	-4.32700	2713.63000	0.000	-3.64651	0.20623	-9.54147
MG	24	-0.21700	36.67000	0.000	0.42494	-0.12596	-0.95005
MN	55	-0.00200	6.67000	0.000	0.01293	0.01261	-0.03009
NA	23	-21.70800	8745.80000	0.000	-15.13819	-19.62574	-30.35907
TI	47	0.35400	3.33000	173.200	1.06175	0.00000	0.00000
V	51	-0.01000	3.33000	0.000	0.00640	-0.01805	-0.01805
IN-1	115	31879.16000	0.00000	0.000	31550.69000	32404.42000	31682.38000
AG	107	0.00800	13.33000	114.400	0.00629	0.00000	0.01880
AS	75	0.04700	3.33000	114.900	0.06013	0.09350	-0.01233
BA	137	-0.07500	0.00000	0.000	-0.07510	-0.07510	-0.07510
CD	111	-0.02800	0.00000	0.000	-0.02804	-0.02804	-0.02804
CO	59	-0.00100	6.67000	0.000	0.00276	0.00251	-0.00681
CU	63	0.05800	170.01000	194.200	0.16296	-0.05959	0.06929
MO	98	0.00300	93.34000	2739.400	-0.04478	-0.03289	0.08557
NI	60	-0.03700	10.00000	0.000	-0.03691	-0.00509	-0.07049
RB	85	0.01900	3.33000	173.200	0.00000	0.05637	0.00000
SB	121	0.29500	116.68000	4.400	0.28090	0.29895	0.30598
SN	120	9.11900	6745.93000	151.800	0.30167	25.07298	1.98336
SR	88	-0.01500	0.00000	0.000	-0.01454	-0.01454	-0.01454
ZN	66	0.01000	30.00000	834.600	-0.07806	0.09651	0.01293
BI-1	209	137138.36000	0.00000	0.000	139030.39000	134693.68000	137691.01000
PB	208	-0.02700	56.67000	0.000	-0.01872	-0.02790	-0.03387
TL	203	0.01000	20.00000	160.300	0.02835	0.00409	-0.00222
U	238	0.01800	123.34000	32.300	0.02337	0.01960	0.01180
GE-1	72	68720.46000	0.00000	0.000	70018.16000	67800.68000	68342.55000
TB-1	159	169393.57000	0.00000	0.000	168389.65000	169586.74000	170204.33000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:51:04
Tube Number: 24 Batch: 152756050004A
Sample Number: **8065033** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	20222.07000	0.00000	0.000	20462.35000	20562.39000	19641.48000
AL	27	56.22600	600.05000	13.800	59.40707	61.88894	47.38191
CA	44	128858.66100	151723.10000	3.600	125387.72286	126990.02354	134198.23686
CR	52	0.33100	236.68000	45.500	0.24649	0.50565	0.24217
FE	57	4080.67600	45328.21000	0.600	4053.17878	4100.02669	4088.82188
K	39	5333.67400	114295.54000	2.400	5254.48761	5262.85890	5483.67447
MG	24	39510.04800	1479034.20000	1.600	39032.66019	39292.84293	40204.64231
MN	55	1455.41600	343659.90000	1.300	1445.30979	1444.43000	1476.50786
NA	23	31839.23400	2358501.32000	2.100	31365.15033	31546.30548	32606.24503
TI	47	0.35900	3.33000	173.200	0.00000	0.00000	1.07580
V	51	0.49800	213.35000	34.000	0.33870	0.47897	0.67572
IN-1	115	32877.55000	0.00000	0.000	32728.85000	32532.07000	33371.74000
AG	107	0.01600	26.67000	21.400	0.01213	0.01831	0.01785
AS	75	13.19700	759.36000	7.700	12.91111	14.32473	12.35386
BA	137	117.89700	17129.48000	3.400	122.29187	116.76229	114.63750
CD	111	-0.00300	4.67000	0.000	0.01522	-0.00628	-0.01743
CO	59	2.29600	2506.94000	6.100	2.45716	2.23065	2.20150
CU	63	1.35600	1343.45000	9.700	1.33756	1.23400	1.49558
MO	98	4.63200	3403.83000	9.000	5.11230	4.39411	4.39060
NI	60	3.45100	1093.41000	12.100	3.07048	3.38268	3.89917
RB	85	0.37000	66.67000	31.500	0.50235	0.28074	0.32841
SB	121	0.26000	106.67000	32.900	0.27045	0.16972	0.33992
SN	120	-0.15000	2354.48000	0.000	-0.56569	-0.01961	0.13627
SR	88	501.15600	128820.36000	2.700	496.88157	516.23141	490.35427
ZN	66	2.83900	350.02000	31.300	2.49132	3.84837	2.17685
BI-1	209	138188.33000	0.00000	0.000	138082.38000	138810.93000	137671.69000
PB	208	0.49300	2776.91000	11.000	0.45354	0.46998	0.55471
TL	203	0.07000	116.68000	5.500	0.07167	0.06516	0.07189
U	238	1.43700	9776.90000	4.000	1.37719	1.49146	1.44179
GE-1	72	69905.05000	0.00000	0.000	70832.97000	70791.47000	68090.71000
TB-1	159	171646.27000	0.00000	0.000	170963.16000	174195.21000	169780.45000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:52:52
Tube Number: 25 Batch: 152756050004A
Sample Number: **8065034** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	20899.51000	0.00000	0.000	21223.26000	20522.53000	20952.73000
AL	27	184.09400	2023.54000	10.900	172.72816	207.31687	172.23815
CA	44	115289.11100	140357.52000	1.500	114514.36840	117289.28858	114063.67712
CR	52	0.82900	533.37000	28.100	0.62200	1.08160	0.78467
FE	57	1591.01400	18266.51000	1.400	1584.29372	1572.68532	1616.06329
K	39	3156.79500	71102.37000	2.500	3069.85983	3174.47731	3226.04703
MG	24	39124.72400	1513425.45000	3.800	37563.77640	40488.28020	39322.11508
MN	55	1532.86800	374085.42000	1.700	1503.24815	1553.43632	1541.91953
NA	23	30908.39700	2366918.66000	1.700	30536.93624	31523.95171	30664.30279
TI	47	15.69000	153.36000	105.100	1.99125	33.98671	11.09327
V	51	1.00000	436.70000	31.900	0.66988	1.02538	1.30586
IN-1	115	34307.71000	0.00000	0.000	33752.84000	35284.78000	33885.50000
AG	107	0.00600	10.00000	173.200	0.00000	0.01688	0.00000
AS	75	3.86700	232.67000	9.600	4.28886	3.71335	3.59732
BA	137	408.85900	61962.12000	1.200	414.27472	405.68287	406.61981
CD	111	0.09900	24.67000	18.100	0.09779	0.08230	0.11819
CO	59	2.60300	2963.72000	2.600	2.58825	2.54407	2.67615
CU	63	1.74600	1766.83000	5.200	1.83500	1.74932	1.65444
MO	98	5.62700	4294.07000	1.800	5.74402	5.59316	5.54443
NI	60	5.69000	1866.85000	9.400	5.86398	6.11710	5.09012
RB	85	0.44100	83.33000	35.900	0.32470	0.62121	0.37734
SB	121	0.25800	110.00000	53.400	0.13857	0.22655	0.40836
SN	120	0.72900	2892.31000	401.700	4.10776	-0.80771	-1.11203
SR	88	264.51900	70940.69000	2.400	266.72628	257.40090	269.42934
ZN	66	7.02600	860.06000	3.900	7.31746	6.98829	6.77288
BI-1	209	140107.64000	0.00000	0.000	140756.22000	138499.49000	141067.20000
PB	208	0.75300	4197.09000	5.800	0.71612	0.80082	0.74253
TL	203	0.10500	176.68000	28.500	0.13671	0.07759	0.10024
U	238	0.61800	4267.46000	2.600	0.61767	0.60280	0.63503
GE-1	72	71524.72000	0.00000	0.000	71785.73000	72247.65000	70540.79000
TB-1	159	175530.00000	0.00000	0.000	173471.17000	176662.28000	176456.54000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:54:41
Tube Number: 26 Batch: 152756050004A
Sample Number: **8065035** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	20425.61000	0.00000	0.000	20952.79000	20232.26000	20091.79000
AL	27	1545.70900	16601.83000	9.300	1382.94187	1652.99624	1601.18802
CA	44	128378.49000	152706.77000	3.000	124772.55158	127821.83102	132541.08834
CR	52	2.33200	1383.45000	17.200	2.52491	2.60020	1.87168
FE	57	1744.69500	19574.70000	1.100	1742.18446	1727.66464	1764.23456
K	39	4216.63300	91857.11000	2.700	4098.31994	4227.40497	4324.17460
MG	24	48982.18000	1851852.16000	2.700	47745.21807	48861.93963	50339.38141
MN	55	178.48200	42581.46000	0.300	177.83449	178.82199	178.79003
NA	23	413644.59500	30822992.87000	2.700	401420.72891	416364.44874	423148.60796
TI	47	32.11800	310.02000	26.100	27.22988	41.77984	27.34508
V	51	3.35300	1416.78000	17.000	3.74479	2.70006	3.61532
IN-1	115	32482.21000	0.00000	0.000	32086.84000	33363.83000	31995.97000
AG	107	0.01200	20.00000	98.700	0.01238	0.02381	0.00000
AS	75	2.20400	126.00000	22.400	1.66210	2.31752	2.63149
BA	137	32.83600	4720.89000	6.000	35.06908	32.16251	31.27612
CD	111	0.02600	10.00000	177.300	-0.00598	0.07804	0.00515
CO	59	2.97600	3207.08000	2.800	3.00540	2.88106	3.04226
CU	63	2.00800	1903.52000	7.400	2.04016	1.84704	2.13784
MO	98	2.76300	2043.54000	1.700	2.77893	2.70887	2.80158
NI	60	4.22900	1316.78000	8.200	4.61969	3.96370	4.10301
RB	85	2.76500	490.03000	25.800	2.61886	2.13528	3.53972
SB	121	0.18000	73.33000	59.200	0.27603	0.06542	0.19875
SN	120	-0.61200	2097.13000	0.000	-1.31508	-1.23302	0.71166
SR	88	275.03500	69843.75000	1.900	280.09771	269.49111	275.51548
ZN	66	6.76700	786.72000	10.500	6.44245	7.58002	6.27969
BI-1	209	131628.33000	0.00000	0.000	130912.40000	131941.14000	132031.45000
PB	208	1.83200	9321.56000	5.300	1.90402	1.86887	1.72162
TL	203	0.03900	63.33000	42.500	0.05623	0.02355	0.03641
U	238	1.34000	8682.96000	6.800	1.29270	1.28108	1.44497
GE-1	72	68349.97000	0.00000	0.000	67480.59000	69306.47000	68262.84000
TB-1	159	171301.42000	0.00000	0.000	172861.70000	170980.82000	170061.74000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:56:28
Tube Number: 27 Batch: 152756050004A
Sample Number: **8065036** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	21453.57000	0.00000	0.000	21243.42000	21694.09000	21423.20000
AL	27	935.49300	10573.25000	7.900	862.12657	1010.31168	934.04203
CA	44	152987.96000	191191.07000	1.400	155121.55495	150797.46335	153044.86321
CR	52	1.71800	1083.43000	22.200	1.27756	1.94138	1.93370
FE	57	1457.96800	17178.73000	4.400	1527.88703	1444.06173	1401.95617
K	39	8954.16200	201633.55000	0.800	9031.86562	8907.20444	8923.41729
MG	24	39295.35300	1560906.07000	0.700	39374.91939	38997.88554	39513.25361
MN	55	759.37800	190269.15000	0.600	763.31248	760.29973	754.52172
NA	23	65847.61000	5164562.32000	1.600	66974.85150	65746.50764	64821.47224
TI	47	15.44600	156.68000	14.300	17.90523	13.63720	14.79597
V	51	3.09700	1373.47000	20.600	2.54778	2.94313	3.79869
IN-1	115	33005.37000	0.00000	0.000	32046.77000	33274.41000	33694.93000
AG	107	0.00200	3.33000	173.200	0.00000	0.00000	0.00589
AS	75	2.37300	137.33000	21.600	2.73431	2.59862	1.78574
BA	137	148.15600	21591.43000	5.900	157.78728	140.65189	146.02842
CD	111	0.03300	11.33000	93.300	0.01614	0.06769	0.01398
CO	59	4.60200	5034.23000	3.400	4.70587	4.67726	4.42156
CU	63	2.50600	2386.94000	7.000	2.43124	2.38045	2.70747
MO	98	52.33900	37621.80000	2.800	54.02656	51.58524	51.40484
NI	60	7.51700	2360.26000	17.400	7.80047	8.65692	6.09442
RB	85	7.45700	1346.78000	10.500	7.46743	8.23499	6.66838
SB	121	0.26500	110.01000	60.200	0.09448	0.29089	0.41072
SN	120	-0.06500	2389.41000	0.000	2.20434	-1.64690	-0.75118
SR	88	569.26800	146865.13000	2.400	583.97980	567.26791	556.55549
ZN	66	6.36200	750.05000	16.600	7.44876	6.29052	5.34590
BI-1	209	138805.10000	0.00000	0.000	139191.46000	139181.92000	138041.91000
PB	208	2.14600	11485.59000	5.300	2.04457	2.12631	2.26846
TL	203	0.06700	113.34000	26.500	0.07719	0.04664	0.07785
U	238	3.02200	20654.48000	3.200	3.10577	3.04457	2.91505
GE-1	72	70319.71000	0.00000	0.000	70480.23000	69064.76000	71414.13000
TB-1	159	174913.45000	0.00000	0.000	174131.83000	175764.26000	174844.27000

Run Name: 1527809E05 Date/Time: 10/05/2015 21:58:16
Tube Number: 28 Batch: 152756050004A
Sample Number: **8065178** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	21546.96000	0.00000	0.000	21003.32000	21643.57000	21994.00000
AL	27	2.67200	30.00000	68.400	4.52121	2.63248	0.86351
CA	44	229273.00500	287681.82000	2.600	236145.79528	225257.61119	226415.60984
CR	52	0.70600	476.70000	9.500	0.78257	0.65780	0.67847
FE	57	40.58700	480.03000	20.300	45.94026	31.12270	44.69949
K	39	10132.59400	228774.89000	0.300	10160.00364	10130.08781	10107.68960
MG	24	34703.83800	1383580.92000	4.800	36620.77769	33897.79709	33592.93882
MN	55	0.64800	170.01000	24.300	0.78530	0.68206	0.47605
NA	23	756421.06400	59455425.78000	2.200	775719.33708	746220.89405	747322.96063
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	47.07100	20839.43000	4.900	48.01833	48.73543	44.45904
IN-1	115	32021.63000	0.00000	0.000	32880.34000	31788.10000	31396.46000
AG	107	0.00800	13.33000	112.900	0.01812	0.00000	0.00632
AS	75	24.13700	1354.06000	7.900	25.12497	25.34139	21.94352
BA	137	59.88000	8472.60000	5.600	56.19557	60.69373	62.75116
CD	111	-0.02800	0.00000	0.000	-0.02804	-0.02804	-0.02804
CO	59	0.02800	36.67000	67.800	0.04830	0.01219	0.02204
CU	63	0.91900	926.74000	8.300	1.00794	0.87458	0.87559
MO	98	6.02400	4280.73000	7.200	5.71794	5.83205	6.52221
NI	60	0.15800	70.00000	122.200	0.38075	0.02952	0.06452
RB	85	9.73400	1706.84000	6.300	10.05622	9.02232	10.12408
SB	121	0.25100	100.01000	32.300	0.24383	0.17392	0.33538
SN	120	-0.98000	1896.97000	0.000	-1.05568	-0.32956	-1.55585
SR	88	2750.00100	688314.68000	2.600	2673.23883	2763.85357	2812.91015
ZN	66	2.94400	353.35000	18.100	2.92070	3.48732	2.42300
BI-1	209	126779.69000	0.00000	0.000	127888.16000	126982.57000	125468.33000
PB	208	0.05900	466.70000	42.900	0.08819	0.04960	0.04013
TL	203	0.01600	26.67000	65.000	0.02437	0.00447	0.01810
U	238	33.81400	211073.97000	1.100	33.83826	33.44615	34.15856
GE-1	72	67094.27000	0.00000	0.000	67960.84000	66404.67000	66917.31000
TB-1	159	172399.66000	0.00000	0.000	171556.48000	169779.08000	175863.43000

Run Name: 1527809E05 Date/Time: 10/05/2015 22:00:05
Tube Number: 29 Batch: 152756050004A
Sample Number: **8065179** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19891.54000	0.00000	0.000	20131.72000	19301.01000	20241.89000
AL	27	0.32800	3.33000	173.200	0.00000	0.98400	0.00000
CA	44	2113476	2447707	2.800	2108483	2175309	2056637
CR	52	0.56100	360.02000	18.500	0.67811	0.52576	0.47969
FE	57	353.04200	3857.25000	2.800	362.66901	353.75326	342.70358
K	39	46671.87600	962550.40000	2.700	45711.85761	48119.23238	46184.53737
MG	24	300895.94500	11078334.00000	2.000	298020.73618	307867.94276	296799.15573
MN	55	14.29900	3323.79000	15.800	15.70934	15.49909	11.68870
NA	23	6032142	437583540	2.800	5881714	6216139	5998572
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	13.89900	5684.46000	4.800	13.95641	14.53273	13.20701
IN-1	115	26959.11000	0.00000	0.000	27467.26000	26394.86000	27015.20000
AG	107	0.09100	123.34000	30.500	0.06507	0.12038	0.08822
AS	75	21.33900	1006.71000	7.800	19.71518	21.25316	23.05003
BA	137	37.90100	4517.47000	11.700	32.89935	39.38729	41.41514
CD	111	0.05500	12.67000	98.800	0.01062	0.03901	0.11607
CO	59	0.16600	153.34000	45.800	0.15812	0.24491	0.09380
CU	63	1.07100	890.06000	8.400	0.96735	1.12323	1.12136
MO	98	12.54900	7431.92000	2.000	12.83648	12.35205	12.45717
NI	60	0.59700	170.01000	31.700	0.77833	0.61208	0.40027
RB	85	47.64000	7028.38000	4.900	45.03251	48.31506	49.57326
SB	121	0.47400	156.68000	14.400	0.53631	0.40073	0.48379
SN	120	-0.72400	1700.17000	0.000	-0.70262	-1.01317	-0.45745
SR	88	30884.48000	6509389.49000	1.900	30609.93754	31542.29874	30501.20424
ZN	66	9.01600	860.06000	4.000	8.84013	9.43034	8.77745
BI-1	209	100826.66000	0.00000	0.000	100412.77000	100424.93000	101642.29000
PB	208	0.36800	1550.11000	17.900	0.38812	0.42223	0.29468
TL	203	0.01700	23.33000	110.900	0.00624	0.00624	0.03960
U	238	114.53400	568579.77000	1.200	114.48810	115.98625	113.12911
GE-1	72	56807.96000	0.00000	0.000	57884.92000	56359.56000	56179.41000
TB-1	159	143283.85000	0.00000	0.000	140238.15000	143011.93000	146601.46000

Run Name: 1527809E05 Date/Time: 10/05/2015 22:01:53
Tube Number: 30 Batch: 152756050004A
Sample Number: **8065180** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	18927.42000	0.00000	0.000	19110.95000	19431.23000	18240.08000
AL	27	3.01200	30.00000	3.300	2.98134	2.93220	3.12369
CA	44	913295.43600	1006279.00000	3.000	907078.74996	889505.39431	943302.16418
CR	52	-0.02800	30.00000	0.000	0.02680	-0.08542	-0.02663
FE	57	144.71100	1503.47000	3.600	140.99330	142.41871	150.72017
K	39	11945.13100	236300.00000	3.100	11782.15228	11688.43982	12364.80072
MG	24	127956.83100	4480725.66000	3.800	125349.24459	124954.66737	133566.58238
MN	55	297.75700	65790.54000	2.500	294.11244	292.84337	306.31610
NA	23	2916177	201235864	3.400	2891851	2831384	3025296
TI	47	28.81600	256.68000	25.600	26.53718	22.83744	37.07303
V	51	110.05700	42804.89000	1.900	107.64253	110.78861	111.74064
IN-1	115	27097.68000	0.00000	0.000	26212.37000	28461.45000	26619.21000
AG	107	0.00700	10.00000	99.500	0.00758	0.00000	0.01492
AS	75	46.58300	2206.16000	5.400	49.35826	44.49276	45.89759
BA	137	21.67400	2603.66000	5.800	20.48329	21.56363	22.97630
CD	111	3.72800	574.01000	11.200	4.21180	3.49120	3.48214
CO	59	1.16000	1043.42000	13.200	1.32978	1.03312	1.11644
CU	63	2.19900	1733.50000	9.600	1.95589	2.31767	2.32271
MO	98	68885.38200	40510291.90000	5.000	71024.28199	64916.58747	70715.27733
NI	60	1.28100	346.68000	26.800	1.46586	1.49339	0.88500
RB	85	12.49000	1853.52000	5.300	12.96263	12.77281	11.73515
SB	121	0.20600	70.00000	16.700	0.24470	0.19538	0.17824
SN	120	-1.26500	1490.14000	0.000	-1.49813	-1.27595	-1.02118
SR	88	12423.87300	2628912.41000	4.700	12932.69579	11779.01902	12559.90548
ZN	66	1.27900	143.34000	15.800	1.51223	1.16772	1.15748
BI-1	209	102683.11000	0.00000	0.000	102961.82000	101795.14000	103292.36000
PB	208	-0.00800	116.67000	0.000	-0.00950	-0.01437	0.00062
TL	203	0.02500	33.33000	104.500	0.01429	0.00613	0.05539
U	238	83289.76300	421096020.39000	0.600	83527.40002	83658.42423	82683.46559
GE-1	72	59523.83000	0.00000	0.000	59942.40000	58958.40000	59670.68000
TB-1	159	145302.43000	0.00000	0.000	144677.49000	146300.37000	144929.43000

Run Name: 1527809E05 Date/Time: 10/05/2015 22:03:41
Tube Number: 31 Batch: 152756050004A
Sample Number: **8065181** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	20151.94000	0.00000	0.000	19360.81000	20722.73000	20372.29000
AL	27	2.20800	23.33000	50.200	2.94287	2.74946	0.93225
CA	44	596755.56000	699903.09000	3.800	620671.49232	575777.15468	593818.03232
CR	52	0.76300	476.70000	15.300	0.89315	0.72533	0.66907
FE	57	106.16900	1173.43000	14.900	110.02221	88.73305	119.75254
K	39	29659.21400	620580.98000	2.900	30499.18761	28771.72445	29706.73111
MG	24	113573.24000	4234968.79000	2.800	117036.10719	110654.30718	113029.30671
MN	55	0.55800	140.01000	50.100	0.23527	0.71370	0.72650
NA	23	2260387	166074404	3.200	2341683	2204414	2235064
TI	47	0.34000	3.33000	173.200	0.00000	1.01967	0.00000
V	51	13.35400	5531.09000	5.600	14.00999	12.54790	13.50474
IN-1	115	28376.13000	0.00000	0.000	28026.02000	29025.16000	28077.20000
AG	107	0.01900	26.67000	114.500	0.01417	0.00000	0.04244
AS	75	26.21600	1302.73000	4.500	26.41962	27.28223	24.94625
BA	137	72.84900	9139.58000	0.700	73.45786	72.40923	72.67949
CD	111	0.00100	4.67000	1444.200	0.00985	0.00854	-0.01543
CO	59	0.05300	56.67000	45.400	0.06862	0.06602	0.02545
CU	63	0.99700	883.40000	27.100	0.77554	1.29892	0.91727
MO	98	86.10600	53165.84000	3.400	89.22047	83.39408	85.70382
NI	60	0.67700	200.01000	36.800	0.45891	0.62324	0.94861
RB	85	24.90300	3867.27000	4.600	24.37941	24.10651	26.22199
SB	121	5.24100	1786.86000	9.100	5.66666	4.72517	5.32993
SN	120	-1.09700	1633.55000	0.000	-1.14675	-0.58362	-1.56043
SR	88	9382.66800	2081160.91000	2.900	9467.07593	9074.43252	9606.49414
ZN	66	13.79300	1370.12000	10.600	14.98669	12.15799	14.23434
BI-1	209	104349.81000	0.00000	0.000	104380.17000	102748.48000	105920.78000
PB	208	0.08300	476.69000	27.900	0.10896	0.06505	0.07443
TL	203	0.05200	66.67000	36.200	0.03036	0.06397	0.06199
U	238	39.16700	201237.05000	3.000	37.79888	39.86511	39.83663
GE-1	72	62564.65000	0.00000	0.000	62681.81000	62852.63000	62159.52000
TB-1	159	151547.52000	0.00000	0.000	147630.04000	150953.94000	156058.59000

Run Name: 1527809E05 Date/Time: 10/05/2015 22:05:28
Tube Number: 32 Batch: 152756050004A
Sample Number: **8065182** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	20392.34000	0.00000	0.000	21213.57000	20322.13000	19641.33000
AL	27	1.91200	20.00000	101.100	0.00000	1.86911	3.86778
CA	44	404168.78400	479666.93000	3.600	388782.31723	406046.71295	417677.32195
CR	52	0.53500	356.68000	34.200	0.74025	0.47746	0.38776
FE	57	65.71400	733.39000	15.400	54.06823	70.77368	72.29995
K	39	16421.33200	348816.84000	4.000	15812.84298	16324.82517	17126.32778
MG	24	67032.67800	2529044.75000	3.100	64868.83067	67260.59418	68968.61064
MN	55	0.81000	200.01000	9.400	0.77722	0.89690	0.75465
NA	23	1054560	78407584	3.100	1025857	1047229	1090593
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	17.95400	7521.88000	6.000	16.73198	18.76055	18.37029
IN-1	115	29783.46000	0.00000	0.000	29587.58000	28710.07000	31052.72000
AG	107	0.01100	16.67000	93.600	0.00000	0.02075	0.01279
AS	75	12.52600	654.02000	9.100	11.26942	12.80893	13.49824
BA	137	48.30500	6348.15000	9.800	48.83069	52.77110	43.31350
CD	111	0.01900	8.00000	115.600	0.01981	-0.00338	0.04035
CO	59	0.11600	120.01000	39.000	0.11568	0.16150	0.07099
CU	63	2.25300	1943.53000	8.700	2.10047	2.47492	2.18343
MO	98	540.77800	349722.08000	4.500	546.13704	562.01030	514.18716
NI	60	0.61800	193.35000	34.100	0.86080	0.48321	0.50969
RB	85	14.19900	2313.60000	3.000	14.50945	14.38026	13.70733
SB	121	0.33800	123.34000	27.200	0.38461	0.39665	0.23190
SN	120	-1.29800	1620.16000	0.000	-1.12093	-1.16748	-1.60469
SR	88	4868.51000	1132340.14000	5.100	4905.72191	5094.06715	4605.74092
ZN	66	2.18700	250.02000	26.800	2.78367	2.16799	1.61008
BI-1	209	113917.66000	0.00000	0.000	112876.45000	114789.96000	114086.57000
PB	208	0.16100	860.06000	21.800	0.16105	0.19683	0.12656
TL	203	0.03300	46.67000	35.200	0.03544	0.02000	0.04249
U	238	697.93700	3914435.05000	2.200	714.53963	695.80700	683.46409
GE-1	72	64658.40000	0.00000	0.000	63454.40000	65109.24000	65411.57000
TB-1	159	155960.09000	0.00000	0.000	158196.30000	157813.65000	151870.33000

Run Name: 1527809E05 Date/Time: 10/05/2015 22:07:15
Tube Number: 33 Batch: 152756050004A
Sample Number: **8065183** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	19651.37000	0.00000	0.000	19831.73000	19180.82000	19941.57000
AL	27	7.69100	80.00000	49.000	11.49195	3.96064	7.61910
CA	44	1941585	2221848	2.700	1887910	1993512	1943333
CR	52	11.37000	6301.33000	5.300	11.16395	10.89297	12.05224
FE	57	318.57100	3440.49000	3.300	322.24821	306.60135	326.86443
K	39	39156.83200	798393.45000	1.900	38680.28082	40033.32934	38756.88631
MG	24	251783.97400	9158197.78000	2.900	245067.58761	259583.73686	250700.59752
MN	55	1.14600	270.02000	12.900	1.00622	1.13062	1.30108
NA	23	5920476	424375500	2.200	5789299	6054914	5917214
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	15.11500	6107.92000	6.000	15.66519	15.61357	14.06528
IN-1	115	25643.27000	0.00000	0.000	25733.60000	24782.75000	26413.45000
AG	107	0.07500	96.67000	34.800	0.09261	0.08815	0.04511
AS	75	24.63800	1106.05000	2.100	25.22030	24.29701	24.39773
BA	137	32.84700	3727.28000	2.600	32.21717	33.82164	32.50129
CD	111	0.01400	6.00000	347.900	-0.01429	0.07193	-0.01464
CO	59	0.07600	70.00000	57.800	0.02839	0.11506	0.08466
CU	63	4.14900	3003.72000	1.200	4.19970	4.14462	4.10187
MO	98	31.38000	17566.23000	2.600	30.54734	31.44616	32.14713
NI	60	0.61900	166.68000	5.600	0.58843	0.65648	0.61160
RB	85	38.88700	5451.10000	7.100	37.91167	42.02065	36.72793
SB	121	0.09900	33.33000	22.500	0.08762	0.12495	0.08512
SN	120	2.18900	2688.71000	249.600	-1.04235	8.49754	-0.88881
SR	88	27881.22900	5587700.54000	3.300	27146.87641	28911.53295	27585.27779
ZN	66	8.19400	746.72000	5.200	8.32381	7.71471	8.54294
BI-1	209	92615.33000	0.00000	0.000	93111.67000	91230.20000	93504.13000
PB	208	0.49800	1880.14000	7.400	0.49237	0.53802	0.46475
TL	203	0.03200	36.67000	111.700	0.00691	0.07233	0.01596
U	238	135.61900	618405.46000	0.800	135.34556	136.82400	134.68656
GE-1	72	57360.01000	0.00000	0.000	57243.12000	57172.70000	57664.20000
TB-1	159	133975.11000	0.00000	0.000	135199.32000	131588.49000	135137.52000

Run Name: 1527809E05 Date/Time: 10/05/2015 22:09:01
Tube Number: 34
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	21733.70000	0.00000	0.000	22154.10000	21783.80000	21263.19000
AL	27	2539.53900	29053.77000	2.300	2473.52397	2569.72400	2575.36994
CA	44	2538.60000	3243.79000	8.800	2704.68943	2286.00158	2625.10951
CR	52	238.08300	144785.97000	1.500	236.04006	235.91740	242.29153
FE	57	2472.57100	29514.96000	1.600	2429.44965	2504.19369	2484.06828
K	39	2554.90400	60400.55000	2.700	2480.68328	2567.39490	2616.63489
MG	24	2481.63500	99874.88000	3.100	2441.28343	2432.69376	2570.92881
MN	55	246.90800	62669.88000	1.000	244.51246	246.70162	249.50985
NA	23	4641.93800	379266.14000	3.500	4827.40427	4563.72032	4534.68984
TI	47	258.74300	2660.29000	3.600	248.01163	264.84246	263.37387
V	51	245.04700	109442.24000	0.500	243.51277	245.76211	245.86503
IN-1	115	32947.97000	0.00000	0.000	32973.23000	33055.89000	32814.80000
AG	107	24.23800	40218.03000	3.300	23.82272	25.17234	23.71901
AS	75	244.87600	14117.00000	1.300	243.56124	248.42040	242.64585
BA	137	240.58400	35024.31000	0.700	239.11689	242.43240	240.20327
CD	111	23.87800	4450.61000	5.000	24.59857	22.51290	24.52333
CO	59	252.79400	275810.41000	1.200	255.45237	253.36571	249.56289
CU	63	249.18500	224452.47000	0.200	248.77492	249.74293	249.03759
MO	98	27.67900	19915.54000	3.400	28.71481	26.88703	27.43636
NI	60	251.23000	78133.60000	0.800	250.25667	253.62233	249.81070
RB	85	26.41100	4764.20000	4.800	27.86963	25.86558	25.49858
SB	121	24.85100	9836.68000	3.500	24.90183	25.69633	23.95534
SN	120	23.51200	13969.74000	2.400	24.17708	23.16871	23.19095
SR	88	26.72700	6888.35000	7.700	26.94727	24.55716	28.67542
ZN	66	252.15500	28607.26000	2.000	251.74447	247.23724	257.48479
BI-1	209	132150.78000	0.00000	0.000	135752.33000	131166.71000	129533.29000
PB	208	25.47000	127708.31000	0.700	25.27298	25.55293	25.58273
TL	203	25.61600	39807.51000	1.900	25.04425	25.86762	25.93723
U	238	24.67300	160503.88000	1.700	24.20149	24.90306	24.91553
GE-1	72	72354.97000	0.00000	0.000	72860.24000	71756.25000	72448.42000
TB-1	159	165124.80000	0.00000	0.000	167660.74000	165014.12000	162699.54000

Run Name: 1527809E05 Date/Time: 10/05/2015 22:10:48
Tube Number: 35
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	21056.30000	0.00000	0.000	21103.11000	20702.38000	21363.42000
AL	27	0.59600	6.67000	86.600	0.89997	0.00000	0.88900
CA	44	56.03600	96.67000	135.200	0.94716	142.40263	24.75790
CR	52	-0.06300	13.33000	0.000	-0.01767	-0.08542	-0.08542
FE	57	0.57700	6.67000	86.600	0.00000	0.87935	0.85214
K	39	33.50600	3627.21000	52.200	25.19748	21.71887	53.60047
MG	24	10.88500	466.71000	118.600	1.86804	25.67044	5.11711
MN	55	0.06600	23.33000	158.100	0.05106	0.17671	-0.03009
NA	23	1593.77500	132864.33000	22.500	1397.20222	2007.18212	1376.94036
TI	47	0.33400	3.33000	173.200	1.00129	0.00000	0.00000
V	51	0.02800	20.00000	142.000	-0.01805	0.05247	0.05029
IN-1	115	31038.43000	0.00000	0.000	31098.33000	31368.06000	30648.91000
AG	107	0.02100	33.33000	70.500	0.01277	0.01266	0.03887
AS	75	0.06100	4.00000	59.000	0.06119	0.09700	0.02497
BA	137	-0.07500	0.00000	0.000	-0.07510	-0.07510	-0.07510
CD	111	-0.02400	0.67000	0.000	-0.01666	-0.02804	-0.02804
CO	59	0.02600	33.33000	21.700	0.03203	0.02207	0.02275
CU	63	0.01500	130.00000	418.100	0.08496	-0.02198	-0.01924
MO	98	2.93900	2076.92000	38.800	2.33876	4.25413	2.22486
NI	60	-0.02500	13.33000	0.000	-0.00234	-0.07049	-0.00134
RB	85	0.05900	10.00000	100.500	0.05874	0.00000	0.11920
SB	121	0.42900	163.34000	3.600	0.44580	0.41534	0.42531
SN	120	0.39300	2474.04000	135.700	-0.01150	0.99663	0.19321
SR	88	1.11700	276.69000	127.500	0.19107	2.75797	0.40276
ZN	66	-0.10600	16.67000	0.000	-0.26233	0.01569	-0.07264
BI-1	209	126163.72000	0.00000	0.000	127166.28000	125317.17000	126007.70000
PB	208	-0.02500	60.00000	0.000	-0.02940	-0.03138	-0.01466
TL	203	0.00900	16.67000	43.100	0.01115	0.01134	0.00452
U	238	0.85200	5262.27000	121.800	0.09903	2.03491	0.42077
GE-1	72	69808.21000	0.00000	0.000	71192.95000	69175.34000	69056.33000
TB-1	159	162680.75000	0.00000	0.000	160011.82000	165569.06000	162461.38000

Run Name: 1527809E05 Date/Time: 10/05/2015 22:12:37
Tube Number: 36 Batch: 152756050004A
Sample Number: **8065184** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	20045.13000	0.00000	0.000	20201.97000	20081.81000	19851.62000
AL	27	5.37600	56.67000	21.300	4.70056	4.72963	6.69692
CA	44	1855969	2166940	1.100	1834357	1860411	1873139
CR	52	10.45300	5911.23000	4.300	10.83387	10.56086	9.96379
FE	57	314.13800	3460.49000	7.400	334.37129	319.13813	288.90482
K	39	37608.39000	782407.67000	2.200	36691.08953	37806.00655	38328.07351
MG	24	242781.72300	9010474.24000	1.200	239466.14224	245134.73187	243744.29532
MN	55	0.86800	210.01000	23.400	0.64811	0.90799	1.04831
NA	23	5678385	415263580	1.500	5584216	5751764	5699174
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	14.34000	5914.60000	6.400	13.81165	15.39745	13.81032
IN-1	115	26249.53000	0.00000	0.000	27056.28000	25526.30000	26166.00000
AG	107	0.08800	116.68000	7.200	0.09542	0.08558	0.08349
AS	75	22.78200	1046.04000	4.300	22.04305	23.90238	22.40028
BA	137	31.49900	3663.93000	4.800	33.23354	30.70534	30.55848
CD	111	-0.01500	2.00000	0.000	0.01120	-0.02804	-0.02804
CO	59	0.07900	73.34000	82.400	0.00435	0.12334	0.10861
CU	63	4.10500	3043.71000	0.300	4.09585	4.12018	4.10000
MO	98	24.18000	13852.73000	6.800	22.74995	25.96149	23.82779
NI	60	0.45200	130.01000	32.400	0.59539	0.30314	0.45605
RB	85	36.77300	5284.36000	5.400	37.67892	38.14771	34.49172
SB	121	0.16000	53.33000	42.300	0.17521	0.21890	0.08601
SN	120	-0.21500	1847.38000	0.000	-0.48910	1.38762	-1.54335
SR	88	27061.98600	5551756.17000	2.900	26339.58197	27880.12431	26966.25097
ZN	66	7.91600	736.71000	15.200	7.15174	9.30461	7.29290
BI-1	209	94519.78000	0.00000	0.000	94348.42000	95415.92000	93795.01000
PB	208	0.39700	1556.78000	3.300	0.38471	0.41042	0.39565
TL	203	0.02800	33.33000	131.400	0.00679	0.00669	0.07029
U	238	128.85000	599625.29000	1.200	128.40147	127.57387	130.57390
GE-1	72	57748.58000	0.00000	0.000	56370.91000	58998.85000	57875.98000
TB-1	159	136622.44000	0.00000	0.000	137265.04000	136941.85000	135660.43000

Run Name: 1527809E05 Date/Time: 10/05/2015 22:14:22
Tube Number: 37 Batch: 152756050004A
Sample Number: **8065184** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 10.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	36452.03000	0.00000	0.000	32085.36000	42172.89000	35097.84000
AL	27	1.26100	26.67000	107.800	0.00000	2.70203	1.08224
CA	44	6157.55300	12209.49000	119.500	14554.92446	3075.31311	842.42050
CR	52	-0.01800	66.67000	0.000	0.01484	-0.04305	-0.02432
FE	57	2.22900	43.33000	45.800	3.40428	1.72666	1.55604
K	39	106.06800	8559.84000	169.600	313.60102	10.20051	-5.59749
MG	24	879.21900	55102.42000	122.400	2110.08178	413.94856	113.62551
MN	55	-0.02300	3.33000	0.000	-0.03009	-0.00979	-0.03009
NA	23	23406.34200	2921711.99000	114.200	53936.88370	12041.25527	4240.88752
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.01900	26.67000	202.300	0.05779	0.01657	-0.01805
IN-1	115	54348.13000	0.00000	0.000	47939.67000	60450.65000	54654.06000
AG	107	0.00400	13.33000	173.200	0.00000	0.01314	0.00000
AS	75	0.10900	10.67000	113.300	0.24997	0.02549	0.05042
BA	137	0.01600	20.00000	788.800	0.16102	-0.03765	-0.07510
CD	111	-0.02600	0.67000	0.000	-0.02804	-0.02804	-0.02156
CO	59	-0.00700	0.00000	0.000	-0.00681	-0.00681	-0.00681
CU	63	0.03200	253.35000	81.500	0.04458	0.04904	0.00198
MO	98	1.52900	1936.90000	26.100	1.96985	1.42823	1.18957
NI	60	0.03900	53.34000	243.400	0.08424	-0.07049	0.10403
RB	85	0.18700	53.34000	75.100	0.22861	0.03022	0.30082
SB	121	-0.00400	3.33000	0.000	0.00791	-0.00947	-0.00947
SN	120	-1.02700	3190.65000	0.000	-1.20232	-0.87945	-0.99957
SR	88	81.08200	31789.53000	124.700	196.60177	37.83622	8.80842
ZN	66	-0.04100	40.00000	0.000	0.16214	-0.02189	-0.26233
BI-1	209	208155.60000	0.00000	0.000	181156.42000	244254.94000	199055.43000
PB	208	-0.03000	60.00000	0.000	-0.02605	-0.03338	-0.02975
TL	203	-0.00100	3.33000	0.000	-0.00222	-0.00222	0.00205
U	238	0.51600	4891.96000	116.900	1.20465	0.25698	0.08571
GE-1	72	118655.36000	0.00000	0.000	99651.78000	137675.42000	118638.89000
TB-1	159	276437.72000	0.00000	0.000	239598.77000	322651.01000	267063.37000

Run Name: 1527809E05 Date/Time: 10/05/2015 22:16:09
Tube Number: 38
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	22084.18000	0.00000	0.000	22093.95000	22665.09000	21493.50000
AL	27	109.54700	1273.44000	4.800	115.19498	104.75234	108.69504
CA	44	242.63700	343.35000	24.200	201.88896	309.84340	216.17973
CR	52	1.89100	1220.10000	16.500	1.54872	1.96496	2.15986
FE	57	108.00000	1313.44000	14.200	108.77131	122.89997	92.32772
K	39	239.59700	8509.05000	1.600	235.66902	243.45374	239.66893
MG	24	106.09800	4390.72000	4.300	104.41535	111.28826	102.59067
MN	55	1.70500	446.69000	9.700	1.67521	1.55668	1.88228
NA	23	1682.02900	146730.99000	3.100	1741.61191	1642.18689	1662.28845
TI	47	16.85800	176.67000	39.200	23.91067	15.84983	10.81417
V	51	0.55700	260.02000	27.100	0.59871	0.38992	0.68387
IN-1	115	33732.16000	0.00000	0.000	34119.99000	33259.45000	33817.05000
AG	107	0.48600	826.72000	11.200	0.51220	0.42394	0.52266
AS	75	2.04100	121.33000	13.100	2.33290	1.80928	1.98207
BA	137	1.82800	283.35000	39.600	2.18101	2.30752	0.99611
CD	111	0.42000	85.33000	34.800	0.41800	0.56788	0.27547
CO	59	0.56900	643.37000	3.500	0.55969	0.59251	0.55584
CU	63	2.27300	2223.58000	5.900	2.41455	2.26050	2.14517
MO	98	1.71000	1350.12000	5.000	1.68834	1.80464	1.63662
NI	60	2.05600	676.71000	10.400	2.16585	2.19185	1.80984
RB	85	1.04600	193.34000	17.500	1.01721	0.87877	1.24238
SB	121	1.07000	436.69000	15.300	0.89366	1.21751	1.09878
SN	120	0.52800	2753.68000	79.400	0.12122	0.95937	0.50437
SR	88	1.26300	336.68000	28.000	1.44727	1.48510	0.85527
ZN	66	15.81100	1863.50000	12.500	13.54142	17.13272	16.76011
BI-1	209	130587.22000	0.00000	0.000	129823.60000	129643.16000	132294.90000
PB	208	1.08000	5527.30000	4.600	1.12729	1.08411	1.02770
TL	203	0.54000	833.39000	22.100	0.56102	0.41096	0.64691
U	238	0.59600	3834.05000	5.400	0.57110	0.63303	0.58500
GE-1	72	73750.30000	0.00000	0.000	72910.17000	74104.55000	74236.19000
TB-1	159	165441.16000	0.00000	0.000	164860.47000	167359.12000	164103.90000

Run Name: 1527809E05 Date/Time: 10/05/2015 22:17:56
Tube Number: 39
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	21163.01000	0.00000	0.000	20732.51000	21223.08000	21533.44000
AL	27	10359.02700	115402.34000	2.100	10545.22565	10409.72886	10122.12795
CA	44	10231.16500	12628.29000	8.200	11010.83047	10342.82121	9339.84358
CR	52	0.03800	73.34000	174.200	0.00078	-0.00121	0.11379
FE	57	9885.62700	114915.63000	1.300	9872.14084	10021.10046	9763.63821
K	39	10165.79600	225330.32000	3.700	10568.24350	10095.63311	9833.51088
MG	24	9969.97800	390642.16000	1.600	10115.08888	9989.74928	9805.09632
MN	55	-0.03000	0.00000	0.000	-0.03009	-0.03009	-0.03009
NA	23	10926.21600	854094.07000	2.600	11216.15982	10917.43543	10645.05144
TI	47	203.37000	2036.88000	5.900	197.74253	217.07090	195.29593
V	51	0.04400	26.67000	132.500	0.05237	0.09660	-0.01805
IN-1	115	31785.26000	0.00000	0.000	32122.21000	32163.51000	31070.06000
AG	107	0.00200	3.33000	173.200	0.00000	0.00617	0.00000
AS	75	0.02400	2.00000	152.900	0.02326	-0.01233	0.06125
BA	137	-0.07500	0.00000	0.000	-0.07510	-0.07510	-0.07510
CD	111	-0.01700	2.00000	0.000	-0.01702	-0.02804	-0.00526
CO	59	-0.00400	3.33000	0.000	0.00259	-0.00681	-0.00681
CU	63	0.09600	203.34000	34.900	0.06644	0.08894	0.13229
MO	98	203.68800	140771.87000	2.200	198.92508	204.25135	207.88837
NI	60	0.02900	30.00000	227.000	0.02848	0.09425	-0.03639
RB	85	0.24800	43.33000	57.000	0.22746	0.39754	0.11758
SB	121	0.01600	10.00000	157.500	0.01646	0.04232	-0.00947
SN	120	-1.31200	1726.86000	0.000	-0.94269	-1.36545	-1.62817
SR	88	0.01200	6.67000	187.900	-0.01454	0.02522	0.02662
ZN	66	0.10200	40.00000	233.500	0.37116	0.00881	-0.07521
BI-1	209	131565.22000	0.00000	0.000	133361.95000	128866.46000	132467.24000
PB	208	-0.00400	170.00000	0.000	0.01178	-0.00698	-0.01579
TL	203	0.00200	6.67000	350.400	-0.00222	0.01097	-0.00222
U	238	0.02000	130.01000	21.500	0.02437	0.01576	0.01993
GE-1	72	69135.96000	0.00000	0.000	71444.87000	67901.22000	68061.79000
TB-1	159	161222.61000	0.00000	0.000	162953.34000	160882.06000	159832.42000

Run Name: 1527809E05 Date/Time: 10/05/2015 22:19:43
Tube Number: 40
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	21450.16000	0.00000	0.000	21793.96000	21303.42000	21253.09000
AL	27	9749.06000	110077.19000	3.600	9426.06541	9692.26373	10128.85045
CA	44	9523.11000	11931.07000	3.300	9850.59258	9215.07381	9503.66311
CR	52	19.37100	11674.27000	1.500	19.12749	19.30108	19.68337
FE	57	9303.48700	109605.86000	1.800	9148.44969	9283.32634	9478.68543
K	39	9729.55200	218800.72000	1.300	9666.79751	9642.66291	9879.19517
MG	24	9494.46200	377090.40000	1.300	9363.17551	9524.14667	9596.06469
MN	55	19.12300	4794.15000	8.800	17.25967	19.58755	20.52063
NA	23	10314.45300	817967.88000	1.800	10129.35998	10307.26159	10506.73627
TI	47	198.47600	2013.52000	9.500	184.23155	191.44937	219.74707
V	51	0.06400	36.67000	139.900	0.16058	-0.01805	0.05064
IN-1	115	32500.02000	0.00000	0.000	33150.98000	32673.13000	31675.96000
AG	107	19.30700	31596.68000	1.500	19.46925	18.97420	19.47733
AS	75	19.95400	1134.72000	3.500	19.33323	19.82609	20.70323
BA	137	-0.07500	0.00000	0.000	-0.07510	-0.07510	-0.07510
CD	111	19.08200	3507.72000	3.700	18.35831	19.10400	19.78444
CO	59	20.19700	21730.69000	3.800	19.70142	19.81358	21.07709
CU	63	20.01400	17889.50000	2.300	19.62263	19.90043	20.51952
MO	98	195.14700	137856.38000	4.300	191.85400	188.90186	204.68450
NI	60	19.69400	6058.00000	3.700	19.24172	19.29689	20.54210
RB	85	0.13100	23.33000	63.800	0.22040	0.05591	0.11533
SB	121	0.00700	6.67000	398.400	0.04078	-0.00947	-0.00947
SN	120	0.23500	2515.34000	1008.700	-1.26992	2.96697	-0.99220
SR	88	0.01200	6.67000	193.600	0.02404	-0.01454	0.02584
ZN	66	20.70800	2343.61000	3.300	20.69833	20.02591	21.39887
BI-1	209	133901.95000	0.00000	0.000	134602.53000	134102.05000	133001.28000
PB	208	-0.00200	180.01000	0.000	0.00936	-0.00424	-0.01190
TL	203	0.00000	3.33000	0.000	-0.00222	-0.00222	0.00417
U	238	0.01600	106.67000	51.100	0.02565	0.01212	0.01069
GE-1	72	71678.83000	0.00000	0.000	73261.59000	71042.28000	70732.61000
TB-1	159	168693.33000	0.00000	0.000	170832.32000	169699.27000	165548.40000

Run Name: 1527809E05 Date/Time: 10/05/2015 22:21:30
Tube Number: 41
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	20949.48000	0.00000	0.000	21063.15000	20712.44000	21072.86000
AL	27	2493.13500	27494.68000	3.500	2429.15794	2592.43322	2457.81261
CA	44	2484.23300	3060.39000	3.500	2585.06674	2438.58896	2429.04222
CR	52	241.25200	141438.66000	0.900	241.59663	243.23715	238.92150
FE	57	2386.92600	27468.38000	0.200	2383.00041	2385.50297	2392.27506
K	39	2449.32700	55946.55000	2.200	2452.11311	2502.92722	2392.94212
MG	24	2410.99500	93559.21000	1.600	2411.05885	2448.52160	2373.40398
MN	55	241.84200	59181.49000	1.900	239.39834	239.09709	247.03092
NA	23	3080.41100	246063.72000	1.900	3017.54362	3130.78032	3092.90762
TI	47	238.99100	2370.27000	5.900	239.78815	224.46594	252.71817
V	51	242.85900	104554.67000	1.100	244.71292	244.18533	239.67892
IN-1	115	31290.41000	0.00000	0.000	30770.38000	31368.40000	31732.46000
AG	107	24.67700	38874.67000	2.900	25.02360	25.14898	23.85705
AS	75	251.78700	13782.70000	2.500	257.98670	245.26330	252.11112
BA	137	247.03300	34149.11000	1.900	251.81691	242.24174	247.04085
CD	111	24.65900	4363.25000	6.900	26.33852	22.93554	24.70246
CO	59	253.17300	262294.56000	1.400	254.76194	255.70720	249.04873
CU	63	253.15300	216487.11000	3.000	260.06835	254.47962	244.91016
MO	98	25.99500	17769.78000	0.900	25.73512	26.04980	26.19926
NI	60	255.87000	75569.71000	0.600	255.96904	257.26381	254.37676
RB	85	25.02300	4287.38000	2.000	24.52060	25.04357	25.50451
SB	121	24.53600	9219.58000	8.300	24.59987	26.54773	22.46179
SN	120	25.49200	14194.05000	7.900	23.70718	27.68648	25.08274
SR	88	27.27900	6681.60000	5.400	26.13289	26.77665	28.92837
ZN	66	250.83200	27014.57000	5.400	266.09240	240.31611	246.08846
BI-1	209	132355.40000	0.00000	0.000	131406.40000	135098.55000	130561.24000
PB	208	24.88400	124971.30000	1.200	25.19372	24.59815	24.86082
TL	203	24.57800	38270.32000	1.000	24.43912	24.87484	24.42093
U	238	24.13400	157251.59000	1.600	24.21078	23.71038	24.48203
GE-1	72	70225.97000	0.00000	0.000	69677.41000	71213.15000	69787.35000
TB-1	159	165111.50000	0.00000	0.000	163692.35000	165738.61000	165903.55000

Run Name: 1527809E05 Date/Time: 10/05/2015 22:23:16
Tube Number: 42
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	20525.74000	0.00000	0.000	21102.87000	19821.57000	20652.79000
AL	27	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CA	44	-9.72400	16.67000	0.000	9.08270	-14.79719	-23.45832
CR	52	-0.05700	16.67000	0.000	-0.06849	-0.08542	-0.01619
FE	57	0.90600	10.00000	101.400	0.00000	1.83685	0.88146
K	39	15.47100	3140.43000	135.000	0.45377	39.32285	6.63684
MG	24	0.69800	73.34000	248.700	1.10003	-1.20333	2.19651
MN	55	-0.01600	3.33000	0.000	-0.03009	0.01311	-0.03009
NA	23	613.19300	56323.23000	2.700	595.20517	628.24587	616.12862
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	-0.00300	6.67000	0.000	0.02807	-0.01805	-0.01805
IN-1	115	31769.46000	0.00000	0.000	32474.61000	30625.17000	32208.60000
AG	107	0.01700	26.67000	57.100	0.00611	0.01945	0.02466
AS	75	0.01300	1.33000	343.300	-0.01233	0.06232	-0.01233
BA	137	-0.07500	0.00000	0.000	-0.07510	-0.07510	-0.07510
CD	111	-0.02800	0.00000	0.000	-0.02804	-0.02804	-0.02804
CO	59	-0.00700	0.00000	0.000	-0.00681	-0.00681	-0.00681
CU	63	0.04900	163.34000	57.100	0.06422	0.01672	0.06589
MO	98	0.82100	656.71000	16.400	0.80289	0.96452	0.69632
NI	60	-0.01500	16.67000	0.000	-0.03786	-0.03589	0.02821
RB	85	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SB	121	0.27800	110.00000	48.600	0.17004	0.23527	0.43011
SN	120	-0.45800	2114.69000	0.000	-1.27582	1.14663	-1.24546
SR	88	0.02600	10.00000	153.700	0.06422	0.02722	-0.01454
ZN	66	0.01300	30.00000	724.800	-0.08330	0.02244	0.09869
BI-1	209	128905.22000	0.00000	0.000	128396.27000	129896.88000	128422.51000
PB	208	-0.01900	90.00000	0.000	-0.01303	-0.02551	-0.01921
TL	203	0.00400	10.00000	151.500	-0.00222	0.00432	0.01102
U	238	0.03600	226.68000	25.700	0.04271	0.03909	0.02530
GE-1	72	68743.72000	0.00000	0.000	68612.39000	69687.88000	67930.89000
TB-1	159	162966.06000	0.00000	0.000	164648.77000	160186.56000	164062.85000

Tune Report

Batch Folder D:\Agilent\ICPMH\1\DATA\~EPATUNE.b
Report Comment ICP-MS #19204 (E05) Daily Tune Check
Instrument Name G3281A JP12071581

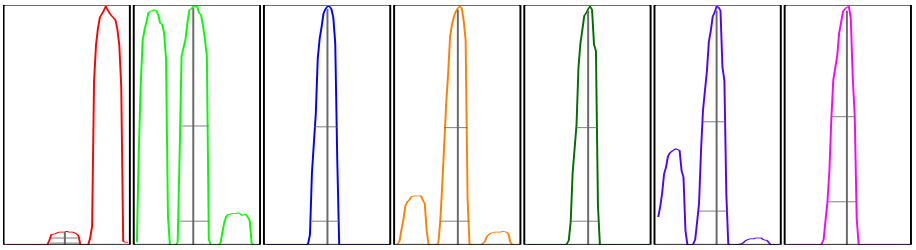
[No Gas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
6		23661	23661.04			NaN	-	
24		57149	57149.04			NaN	-	
103		110360	110359.84			NaN	-	
115		119133	119133.31			NaN	-	
140		130729	130728.90			NaN	-	
208		74678	74678.42			NaN	-	
238		172570	172570.38			NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
6	0.50	5.00				
24	1.17	5.00				
103	2.27	5.00				
115	1.66	5.00				
140	2.15	5.00				
208	1.67	5.00				
238	1.40	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
6	23510	23590	23777	23647	23781
24	56087	56946	57794	57384	57535
103	106316	109575	111533	111918	112456
115	116087	118193	120216	120797	120373
140	126425	129522	131680	133416	132600
208	72690	74224	75262	75663	75553
238	169022	171317	173213	174503	174797

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
6	3559.52	5.95	5.9 - 6.1		0.69	0.777	0.900	
24	9115.21	23.90	23.9 - 24.1		0.65	0.733	0.900	
103	20645.44	103.00	102.9 - 103.1		0.55	0.676	0.900	
115	22565.50	115.00	114.9 - 115.1		0.54	0.677	0.900	
140	25333.28	140.00	139.9 - 140.1		0.53	0.669	0.900	
208	14415.34	207.95	207.9 - 208.1		0.53	0.688	0.900	
238	32591.49	237.95	237.9 - 238.1		0.55	0.693	0.900	

X = 10 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 260.8 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1600 W	Carrier Gas	0.25 L/min	S/C Temp	20 ℃
RF Matching	1.60 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.80 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Tune Report

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	13.1 V				
Extract 2	-170.0 V	Cell Entrance	-30 V	Plate Bias	-40 V				
Mass	**Peak Height**	**Axis (Actual)**	**Axis (Required)**	**Axis (Flag)**	**W-50%**	**W-X% (Actual)**	**W-X% (Required)**	**W-X% (Flag)**	
Omega Bias	-90 V	Cell Exit	-50 V						

Cell Parameters

OctP Bias	-6.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	false	3rd Gas Flow	0 %		

Mercury Data

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

Mercury Run Data Report

Data File Name: 1527501.M07

Run Name: 1527501M07

Instrument No.: 17384

Element: Hg

Analyst Employee ID: 0354

Reviewed By
Damary Valentin

Reviewed Date
10/02/2015 11:33AM

Method Reference Name(s):
SW-846 7470A

Verified By:
Jennifer L Moyer

Verified Date
10/05/2015 11:30AM

LANCASTER LABORATORIES

Run Name: 1527501M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

1 Burn Date/Time: 10/02/2015 09:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0		1	1	1.00

AVG (ppb)	Intensity
0.0000	49.0

2 Burn Date/Time: 10/02/2015 09:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.2		1	1	1.00

AVG (ppb)	Intensity
0.0000	1777.0

3 Burn Date/Time: 10/02/2015 09:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	4325.0

4 Burn Date/Time: 10/02/2015 09:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S1.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	8726.0

5 Burn Date/Time: 10/02/2015 09:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S2.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	20663.0

6 Burn Date/Time: 10/02/2015 09:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S5.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	42769.0

CorrelationCoefficient = 1.00000
Slope = 8499.4177200000
Y-Intercept = 19.0594900000

LANCASTER LABORATORIES

Run Name: 1527501M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

7 Burn Date/Time: 10/02/2015 09:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICV		1	1	1.00

AVG (ppb)	Intensity
2.5003	21273.0

8 Burn Date/Time: 10/02/2015 09:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICB		1	1	1.00

AVG (ppb)	Intensity
-0.0131	-97.0

9 Burn Date/Time: 10/02/2015 09:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.1877	1610.0

10 Burn Date/Time: 10/02/2015 09:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 1		1	1	1.00

AVG (ppb)	Intensity
0.9760	8313.0

11 Burn Date/Time: 10/02/2015 09:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 1		1	1	1.00

AVG (ppb)	Intensity
-0.0069	-44.0

12 Burn Date/Time: 10/02/2015 09:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0125	121.0		

LANCASTER LABORATORIES

Run Name: 1527501M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

13 Burn Date/Time: 10/02/2015 09:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9879	8414.0		

14 Burn Date/Time: 10/02/2015 09:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8067985	U*********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0046	-25.0		

15 Burn Date/Time: 10/02/2015 09:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8067985	D*********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0035	44.0		

16 Burn Date/Time: 10/02/2015 09:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8067985	R*********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.4221	3603.0		

17 Burn Date/Time: 10/02/2015 09:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8067985	M*********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.3614	3087.0		

18 Burn Date/Time: 10/02/2015 09:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8063044	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0024	35.0		

LANCASTER LABORATORIES

Run Name: 1527501M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

19 Burn Date/Time: 10/02/2015 09:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8060530	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0451	398.0		

20 Burn Date/Time: 10/02/2015 09:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064460	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0564	494.0		

21 Burn Date/Time: 10/02/2015 09:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064467	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0631	551.0		

22 Burn Date/Time: 10/02/2015 09:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 2		1	1	1.00

AVG (ppb)	Intensity
0.9911	8441.0

23 Burn Date/Time: 10/02/2015 09:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 2		1	1	1.00

AVG (ppb)	Intensity
-0.0073	-48.0

24 Burn Date/Time: 10/02/2015 09:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064471	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0666	581.0		

LANCASTER LABORATORIES

Run Name: 1527501M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

25 Burn Date/Time: 10/02/2015 09:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064605	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0673	587.0		

26 Burn Date/Time: 10/02/2015 09:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8066947	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0522	458.0		

27 Burn Date/Time: 10/02/2015 09:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8063081	**********	8	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0532	467.0		

28 Burn Date/Time: 10/02/2015 09:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8065249	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0643	561.0		

29 Burn Date/Time: 10/02/2015 09:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8066551	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0682	594.0		

30 Burn Date/Time: 10/02/2015 09:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8067986	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0736	640.0		

LANCASTER LABORATORIES

Run Name: 1527501M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

31 Burn Date/Time: 10/02/2015 10:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8067987	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0705	614.0		

32 Burn Date/Time: 10/02/2015 10:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8068136	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0458	404.0		

33 Burn Date/Time: 10/02/2015 10:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8068140	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0864	749.0		

34 Burn Date/Time: 10/02/2015 10:07

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 3		1	1	1.00

AVG (ppb)	Intensity
0.9846	8386.0

35 Burn Date/Time: 10/02/2015 10:09

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 3		1	1	1.00

AVG (ppb)	Intensity
-0.0026	-8.0

36 Burn Date/Time: 10/02/2015 10:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8068193	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0971	840.0		

LANCASTER LABORATORIES

Run Name: 1527501M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

37 Burn Date/Time: 10/02/2015 10:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8068194	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0892	773.0		

38 Burn Date/Time: 10/02/2015 10:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8068195	**********	40	40	1.00	152735713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0779	677.0		

39 Burn Date/Time: 10/02/2015 10:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0324	290.0		

40 Burn Date/Time: 10/02/2015 10:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9920	8449.0		

41 Burn Date/Time: 10/02/2015 10:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064222	U*********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0045	-24.0		

42 Burn Date/Time: 10/02/2015 10:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064225	D*********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0048	55.0		

LANCASTER LABORATORIES

Run Name: 1527501M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

43 Burn Date/Time: 10/02/2015 10:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064223	R*********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9413	8018.0		

44 Burn Date/Time: 10/02/2015 10:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064224	M*********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9529	8116.0		

45 Burn Date/Time: 10/02/2015 10:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064226	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0090	-62.0		

46 Burn Date/Time: 10/02/2015 10:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 4		1	1	1.00

AVG (ppb)	Intensity
0.9928	8456.0

47 Burn Date/Time: 10/02/2015 10:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 4		1	1	1.00

AVG (ppb)	Intensity
-0.0059	-36.0

48 Burn Date/Time: 10/02/2015 10:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064227	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0013	25.0		

LANCASTER LABORATORIES

Run Name: 1527501M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

49 Burn Date/Time: 10/02/2015 10:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064228	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0074	77.0		

50 Burn Date/Time: 10/02/2015 10:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064229	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0074	77.0		

51 Burn Date/Time: 10/02/2015 10:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064230	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0096	96.0		

52 Burn Date/Time: 10/02/2015 10:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064231	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0076	79.0		

53 Burn Date/Time: 10/02/2015 10:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064232	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0098	98.0		

54 Burn Date/Time: 10/02/2015 10:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064233	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0117	114.0		

LANCASTER LABORATORIES

Run Name: 1527501M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

55 Burn Date/Time: 10/02/2015 10:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064234	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0256	232.0		

56 Burn Date/Time: 10/02/2015 10:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064235	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0367	326.0		

57 Burn Date/Time: 10/02/2015 10:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064236	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0514	451.0		

58 Burn Date/Time: 10/02/2015 10:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 5		1	1	1.00

AVG (ppb)	Intensity
1.0010	8525.0

59 Burn Date/Time: 10/02/2015 10:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 5		1	1	1.00

AVG (ppb)	Intensity
-0.0051	-29.0

60 Burn Date/Time: 10/02/2015 11:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064237	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0437	386.0		

LANCASTER LABORATORIES

Run Name: 1527501M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

61 Burn Date/Time: 10/02/2015 11:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064238	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0464	409.0		

62 Burn Date/Time: 10/02/2015 11:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064239	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0611	534.0		

63 Burn Date/Time: 10/02/2015 11:07

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064240	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0651	568.0		

64 Burn Date/Time: 10/02/2015 11:09

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064241	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0630	550.0		

65 Burn Date/Time: 10/02/2015 11:11

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064242	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0641	559.0		

66 Burn Date/Time: 10/02/2015 11:13

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064245	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0683	595.0		

LANCASTER LABORATORIES

Run Name: 1527501M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

67 Burn Date/Time: 10/02/2015 11:15

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064246	**********	40	40	1.00	152715713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0748	650.0		

68 Burn Date/Time: 10/02/2015 11:17

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.1919	1646.0

69 Burn Date/Time: 10/02/2015 11:19

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 6		1	1	1.00

AVG (ppb)	Intensity
0.9959	8482.0

70 Burn Date/Time: 10/02/2015 11:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 6		1	1	1.00

AVG (ppb)	Intensity
-0.0059	-36.0

Extraction/Distillation/Digestion Logs

Metals in Liquid

LLENS Worksheet for 1848 SW846 Water

Batch# 15 275 1848 004

Balance ID#: CLEAR **Start Time:** 10/6/15 12:26 **End Time:** 10/6/15 15:56 **Hot Block:** Deena4

Pipette ID: W/1000

Spike/Reagent	Lot#	Volume Added(mL)
1:1 HCL	P15258C	5.00
1:1 HNO3	P15191D	2.00
ICP Spike 1A	1517023#24	1.00
ICP Spike 1B	1517025#24	1.00
LCS A1	1517023#24	1.00
LCS B1	1517025#24	1.00

Method Ref: SW-846 3005A

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1501179	
2)	LCSW	.							1501179	
3)	8064460FB	10/07/15 09:25		WW	N8			008a	1501179	
4)	8064467FB	10/07/15 09:25		WW	N8			008a	1501179	
5)	8064471FB	10/07/15 09:25		WW	N8			008a	1501179	
6)	**8068982U**	10/12/15 10:10		WW	N8			008a	1501179	
7)	**8068982D**	10/12/15 10:10		WW	N8			008a	1501179	
8)	**8068982R**	10/12/15 10:10		WW	N8			008a	1501179	
9)	**8068982M**	10/12/15 10:10		WW	N8			008a	1501179	
10)	8068985	10/12/15 10:10		WW	N8			008a	1501179	
11)	8068986	10/12/15 10:10		WW	N8			008a	1501179	
12)	8068988	10/12/15 10:10		WW	N8			008a	1501179	
13)	8070286FB	10/12/15 18:00		WW	N8			008a	1501179	
14)	8070356	10/12/15 18:35		WW	N8			008a	1501179	
15)	8070357	10/12/15 18:35		WW	N8			008a	1501179	
16)	8070358	10/12/15 18:35		WW	N8			008a	1501179	
17)	8070359	10/12/15 18:35		WW	N8			008a	1501179	
18)	8070360	10/12/15 18:35		WW	N8			008a	1501179	
19)	8070361	10/12/15 18:35		WW	N8			008a	1501179	
20)	8070362	10/12/15 18:35		WW	N8			008a	1501179	
21)	8070363	10/12/15 18:35		WW	N8			008a	1501179	
22)	8070364FB	10/12/15 18:35		WW	N8			008a	1501179	
23)	8070365FB	10/12/15 18:35		WW	N8			008a	1501179	
24)	8073055FB	10/13/15 20:00		WW	N8			008a	1501179	

Prep Employee: 1184

10/6/2015

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
25)	8068976	10/12/15 10:10		WW	N8			008a	1501179	

Batch# 15 275 1848 004

LLENS Batch Chronology and Change Log - SW846 Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		10/2/15 15:57	1184
2)	Sample Vol		10/4/15 3:27	354
3)	Final Vol	CLEAR	10/4/15 3:27	354
4)	Trial		10/4/15 3:27	354
5)	Upload Prep	US19VDIELD02	10/6/15 15:56	1184

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 1848 SW846 Water

Batch# 15 275 1848 004

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
8064460FB	10/07/15	N8	165FB	PSC27-08FB	50.0000	50.0000	1
8064467FB	10/07/15	N8	163FB	PSC27-15FB	50.0000	50.0000	1
8064471FB	10/07/15	N8	161FB	PSC27-19FB	50.0000	50.0000	1
8068982U	10/12/15	N8	HYM21		50.0000	50.0000	1
8068982D	10/12/15	N8	HYM21		50.0000	50.0000	1
8068982R	10/12/15	N8	HYM21		50.0000	50.0000	1
8068982M	10/12/15	N8	HYM21		50.0000	50.0000	1
8068985	10/12/15	N8	HYMW3		50.0000	50.0000	1
8068986	10/12/15	N8	HYM19		50.0000	50.0000	1
8068988	10/12/15	N8	HYMW4		50.0000	50.0000	1
8070286FB	10/12/15	N8	F9303	CP851-06FB	50.0000	50.0000	1
8070356	10/12/15	N8	030E3	CS292-01	50.0000	50.0000	1
8070357	10/12/15	N8	030F3	CS292-02	50.0000	50.0000	1
8070358	10/12/15	N8	31RA6	CS292-03	50.0000	50.0000	1
8070359	10/12/15	N8	31RF6	CS292-04	50.0000	50.0000	1
8070360	10/12/15	N8	136C4	CS292-05	50.0000	50.0000	1
8070361	10/12/15	N8	136F4	CS292-06	50.0000	50.0000	1
8070362	10/12/15	N8	237B6	CS292-07	50.0000	50.0000	1
8070363	10/12/15	N8	237F6	CS292-08	50.0000	50.0000	1
8070364FB	10/12/15	N8	F9292	CS292-09FB	50.0000	50.0000	1
8070365FB	10/12/15	N8	FF929	CS292-10FB	50.0000	50.0000	1
8073055FB	10/13/15	N8	639FB	CP856-04FB	50.0000	50.0000	1
8068976	10/12/15	N8	HYMW9	XXX01-01BKG	50.0000	50.0000	1

LLENS Worksheet for 6050 ICP/MS SW846 Water

Batch# 15 275 6050 004

Balance ID#: CLEAR **Start Time:** 10/5/15 0:30 **End Time:** 10/5/15 4:30 **Hot Block:** 12

Pipette ID: S/500

Reflux Cap Lot#: 1501179-5175KB

Spike/Reagent	Lot#	Volume Added(mL)
HNO3	54295	3.00
ICP/MS Spike	1523621#2	0.50
LCS ICP/MS Spike	1523621#2	0.50

Method Ref: SW-846 3010A modified

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1501179	
2)	LCSW	.							1501179	
3)	8064460FB	10/07/15 09:25		WW	N8			008a	1501179	
4)	8064467FB	10/07/15 09:25		WW	N8			008a	1501179	
5)	8064471FB	10/07/15 09:25		WW	N8			008a	1501179	
6)	8065023	10/08/15 10:00		WW	N8			008a	1501179	
7)	**8065024U**	10/08/15 10:00		WW	N8			008a	1501179	
8)	**8065025R**	10/08/15 10:00		WW	N8			008a	1501179	
9)	**8065026M**	10/08/15 10:00		WW	N8			138a	1501179	
10)	**8065027D**	10/08/15 10:00		WW	N8			008a	1501179	
11)	8065028FD	10/08/15 10:00		WW	N8			008a	1501179	
12)	8065029	10/08/15 10:00		WW	N8			008a	1501179	
13)	8065030	10/08/15 10:00		WW	N8			008a	1501179	
14)	8065031	10/08/15 10:00		WW	N8			008a	1501179	
15)	8065033	10/08/15 10:00		WW	N8			008a	1501179	
16)	8065034	10/08/15 10:00		WW	N8			008a	1501179	
17)	8065035	10/08/15 10:00		WW	N8			008a	1501179	
18)	8065036	10/08/15 10:00		WW	N8			008a	1501179	
19)	8065178	10/08/15 10:00		WW	N8			008a	1501179	
20)	8065179	10/08/15 10:00		WW	N8			008a	1501179	
21)	8065180	10/08/15 10:00		WW	N8			008a	1501179	
22)	8065181	10/08/15 10:00		WW	N8			008a	1501179	
23)	8065182	10/08/15 10:00		WW	N8			008a	1501179	
24)	8065183	10/08/15 10:00		WW	N8			008a	1501179	
25)	8065184FD	10/08/15 10:00		WW	N8			008a	1501179	

Prep Employee: 862

10/5/2015

v 1.0.1

Batch# 15 275 6050 004

LLENS Batch Chronology and Change Log - ICP/MS SW846 Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		10/2/15 15:47	862
2)	Sample Vol		10/4/15 3:29	354
3)	Final Vol	CLEAR	10/4/15 3:29	354
4)	Trial		10/4/15 3:29	354
5)	Trial		10/4/15 3:34	354
6)	Upload Prep	US19VDIELD02	10/5/15 4:42	862

Sample ID	Analysis	D	Operation	Measurement	Original Entry Date/Time	Data	Units	Analyst	Data Changed Date/Time	Analyst	Reason

Analysis: 6050 ICP/MS SW846 Water

Batch# 15 275 6050 004

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
8064460FB	10/07/15	N8	165FB	PSC27-08FB	50.0000	50.0000	1
8064467FB	10/07/15	N8	163FB	PSC27-15FB	50.0000	50.0000	1
8064471FB	10/07/15	N8	161FB	PSC27-19FB	50.0000	50.0000	1
8065023	10/08/15	N8	LSW1A		50.0000	50.0000	1
8065024U	10/08/15	N8	LS125	XXX01-01BKG	50.0000	50.0000	1
8065025R	10/08/15	N8	LS125	XXX01-01MS	50.0000	50.0000	1
8065026M	10/08/15	N8	LS125	XXX01-01MSD	50.0000	50.0000	1
8065027D	10/08/15	N8	LS125	XXX01-01DUP	50.0000	50.0000	1
8065028FD	10/08/15	N8	L125D	FD	50.0000	50.0000	1
8065029	10/08/15	N8	LS126		50.0000	50.0000	1
8065030	10/08/15	N8	LS129		50.0000	50.0000	1
8065031	10/08/15	N8	LS130		50.0000	50.0000	1
8065033	10/08/15	N8	LSP01		50.0000	50.0000	1
8065034	10/08/15	N8	LSP04		50.0000	50.0000	1
8065035	10/08/15	N8	LSP07		50.0000	50.0000	1
8065036	10/08/15	N8	LSP08		50.0000	50.0000	1
8065178	10/08/15	N8	FLDD1	BLK57-01	50.0000	50.0000	1
8065179	10/08/15	N8	FLD-A	BLK57-02	50.0000	50.0000	1
8065180	10/08/15	N8	FLD-F	BLK57-03	50.0000	50.0000	1
8065181	10/08/15	N8	FLD-D	BLK57-04	50.0000	50.0000	1
8065182	10/08/15	N8	FLDD3	BLK57-05	50.0000	50.0000	1
8065183	10/08/15	N8	FLD-H	BLK57-06	50.0000	50.0000	1
8065184FD	10/08/15	N8	FLDHD	BLK57-07FD	50.0000	50.0000	1

LLENS Worksheet for 5713 Hg SW846 Digest Water

Batch# 15 273 5713 003

Balance ID#: CLEAR **Start Time:** 10/1/15 11:53 **End Time:** 10/1/15 14:16 **Hot Block:** 10

Pipette ID: W/1000

Spike/Reagent	Lot#	Volume Added(mL)
5%K2S2O8	P15269A	3.20
5%KMnO4	P15265E	6.00
H2SO4	153388	2.00
HNO3	54295	1.00
LCS 40ppb Hg	P15274A	1.00
NaCl/NH2OH.HCl	P15258E	2.40
Spike 40ppb Hg	P15274A	1.00

Method Ref: SW-846 7470A

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1501179	
2)	LCSW	.							1501179	
3)	8063044	10/07/15 07:47		WW	S8			008a	1501179	
4)	8060530	10/06/15 09:30		WW	N8			008a	1501179	
5)	8064460FB	10/07/15 09:25		WW	N8			008a	1501179	
6)	8064467FB	10/07/15 09:25		WW	N8			008a	1501179	
7)	8064471FB	10/07/15 09:25		WW	N8			008a	1501179	
8)	8064605EB	10/07/15 09:25		WW	N8			008a	1501179	
9)	8066947EB	10/07/15 09:25		WW	N8		Y	008a	1501179	
10)	8063081	10/07/15 10:00		WW	N8			008a	1501179	8/40, bad matrix
11)	8065249EB	10/08/15 11:25		WW	N8			008a	1501179	
12)	8066551FB	10/08/15 18:00		WW	N8			008a	1501179	
13)	**8067985U**	10/09/15 17:43		WW	N8		Y	008a	1501179	
14)	**8067985D**	10/09/15 17:43		WW	N8		Y	008a	1501179	
15)	**8067985R**	10/09/15 17:43		WW	N8		Y	008a	1501179	
16)	**8067985M**	10/09/15 17:43		WW	N8		Y	008a	1501179	
17)	8067986EB	10/09/15 17:43		WW	N8			008a	1501179	
18)	8067987TB	10/09/15 17:43		WW	N8			008a	1501179	
19)	8068136FB	10/09/15 18:45		WW	N8			008a	1501179	
20)	8068140FB	10/09/15 18:45		WW	N8			008a	1501179	
21)	8068193	10/09/15 18:45		G4	N8			008a	1501179	
22)	8068194	10/09/15 18:45		G4	N8			008a	1501179	
23)	8068195	10/09/15 18:45		G4	N8			008a	1501179	

Prep Employee: 1184

10/1/2015

Batch# 15 273 5713 003

LLENS Batch Chronology and Change Log - Hg SW846 Digest Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		9/30/15 18:44	1184
2)	Sample Vol		10/1/15 11:41	1184
3)	Final Vol	CLEAR	10/1/15 11:41	1184
4)	Trial		10/1/15 11:41	1184
5)	Upload Prep	US19VDIELD001	0/1/15 14:17	1184

					Original Entry				Data Changed		
Sample ID	Analysis	D	Operation	Measurement	Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason
8063081	05713	1	Sample Vol	Initial Volume	10/1/15 11:39	40	(mL)	1184	10/1/15 11:41	1184	bad matrix

Analysis: 5713 Hg SW846 Digest Water

Batch# 15 273 5713 003

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Dilution	Final Volume	Trial
PBW					40.0000		40.0000	1
LCSW					1.0000		1.0000	1
8063044	10/07/15	S8	P284F	PDC14-03	40.0000		40.0000	1
8060530	10/06/15	N8	WOOD8	DWD80-02	40.0000		40.0000	1
8064460FB	10/07/15	N8	165FB	PSC27-08FB	40.0000		40.0000	1
8064467FB	10/07/15	N8	163FB	PSC27-15FB	40.0000		40.0000	1
8064471FB	10/07/15	N8	161FB	PSC27-19FB	40.0000		40.0000	1
8064605EB	10/07/15	N8	B0426	BMS04-26EB	40.0000		40.0000	1
8066947EB	10/07/15	N8	OL16E	ONO09-11EB	40.0000		40.0000	1
8063081	10/07/15	N8	01126		8.0000		40.0000	1
8065249EB	10/08/15	N8	B0612	BMS06-12EB	40.0000		40.0000	1
8066551FB	10/08/15	N8	40505	CP845-05FB	40.0000		40.0000	1
8067985U	10/09/15	N8	CIL29		40.0000		40.0000	1
8067985D	10/09/15	N8	CIL29		40.0000		40.0000	1
8067985R	10/09/15	N8	CIL29		40.0000		40.0000	1
8067985M	10/09/15	N8	CIL29		40.0000		40.0000	1
8067986EB	10/09/15	N8	EB29-	EB	40.0000		40.0000	1
8067987TB	10/09/15	N8	TB29-	TB	40.0000		40.0000	1
8068136FB	10/09/15	N8	647FB	CP848-05FB	40.0000		40.0000	1
8068140FB	10/09/15	N8	40701	CP847-01FB	40.0000		40.0000	1
8068193	10/09/15	N8			40.0000		40.0000	1
8068194	10/09/15	N8			40.0000		40.0000	1
8068195	10/09/15	N8			40.0000		40.0000	1

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Aqua Regia	HI5-268E						21.5	14	54295
2	4792 ICV	FF	Hg-1.0mg/L Cont	7	10-02-15	HI5-268C	0.25 ml			
3	CCV	GG	Hg-1.0mg/L Cal			HI5-268A	0.10			
4	CCV	HH	↓			↓	0.10			
5	CRA	II	Hg-0.1mg/L Cont			HI5-268D	0.20			
6	Std Cal	JJ	Hg-1.0mg/L Cal			HI5-268D	0.20			
7		KK	↓			↓	0.50			
8		LL	Hg-1.0mg/L Cal			HI5-268A	0.10			
9		MM	↓			↓	0.25			
10		NN	↓		↓	↓	0.50			
11	↓	OO								
12	CRA	PP	Hg-0.1mg/L Cont	7	10-02-15	HI5-268D	0.4ml			
13	Hg-1.0mg/L Inter Cal	HI5-271A	Hg-10mg/L Cal	7	12-22-15	HI5-1730	1.0ml			
14	Hg-1.0mg/L Inter Cal	271B	Hg-1.0mg/L Cal		10-05-15	HI5-271A	1.0ml			
15	Hg-1.0mg/L Inter Cal	HI5-272A	Hg-10mg/L Cal	7	12-22-15	HI5-1730	1.0ml			
16	0.1mg/L Inter Cal	B	1.0mg/L Cal		10-06-15	HI5-272A				
17	1.0mg/L Inter Cont	C	10mg/L Cont		12-22-15	HI5-1731				
18	0.1mg/L Inter Cont	D	1.0mg/L Cont		10-06-15	HI5-272C				
19	Hg-2700 ICV		↓			↓	0.25ml	1	14	54295
20	↓ CCV		Hg-1.0mg/L Cal		↓	HI5-272A	0.20 ml	↓	↓	↓

9-29-15 DVB

(3)

Key – Manufacturer (Mo)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

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Document Title: Standard/Reagent Preparation Log

Eurofins Document Reference: 1-P-QM-FOR-9009818 | Revision: 2 | Historical Reference: Form 1105

Effective date: Feb 20, 2015 | Status: Effective

	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M∘	Lot #	Vol (mL*)	∘∘ M∘	Lot #						
1	64.5	6	92325				86	1:3	DU 354	9-25-15	9-25-15	RT
2	5	↓	↓				100	2.5ug/L			10-02-15	↓
3								1.0			↓	
4								1.0				
5								0.2				
6								0.2				
7								0.5				
8								1.0				
9								2.5				
10								5.0				
11								0.0				
12	↓	↓	↓				↓	0.4	↓	↓	↓	↓
13				To vol w/ 0.15% HNO3		H15-1880	10	1.0	DU 354	9-28-15	10-05-15	RT
14				↓	↓	↓	↓	0.1	↓	↓	↓	↓
15				To vol w/ 0.15% HNO3		H15-1880	10	1.0	DU 354	9-29-15	10-06-15	RT
16								0.1				
17								1.0				
18				↓	↓	↓	↓	0.1	↓	↓	↓	↓
19	2ml HNO3	4	153383	153383								9-29-15
20	↓	↓	↓	3.2ml Ammonia								3DU 354

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Footnotes

Key (∘∘) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Hg-5700 ICV	H15-272E	Hg-1.0mg/L Cont	7	10-06-15	H15-272C	0.25 ml	1	14	54295
2	CCV	F	Hg-1.0mg/L Cal			H15-272A	0.20			
3	CRA	G	Hg-0.1mg/L Cont			H15-272D	0.20			
4	Std Cal	H	Hg-0.1mg/L Cal			H15-272B	0.20			
5		I	↓			↓	0.50			
6		J	Hg-1.0mg/L Cal			H15-272A	0.20			
7		K					0.25			
8		L	↓		↓	↓	0.50 ↓			
9	↓	M								
10	ICV	N	Hg-1.0mg/L Cont	—	10-6-15	H15-272C	0.25ml			
11	CCV	O	Hg-1.0mg/L Cal	—	10-06-15	H15-272A	0.20ml	↓	↓	↓
12	Stannous Chloride	P	$SnCl_2$	6	1-28-16	116747 #3	500.02g			
13	↓	Q	↓	↓	↓	↓ #3-4	200.03g			
14	Waters - Blank	H15-274A						25	14	54295
15	↓	↓								
16	Soils - Blank	H15-274B						12.5	14	54295
17	Hg-1.0mg/L InterCal	H15-275A	Hg-1.0mg/L Cal	7	12-22-15	H15-1730	1.0ml			
18	0.1mg/L InterCal	B	1.0mg/L Cal		10-09-15	H15-275A	↓			
19	1.0mg/L InterCont	C	10mg/L Cont		12-22-15	H15-1730				
20	0.1mg/L InterCont	↓ D	↓ 1.0mg/L Cont	↓	10-09-15	H15-275C	↓			

Key – Manufacturer (Mo)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

a

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Document Title: Standard/Reagent Preparation Log

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Effective date: Feb 20, 2015 | Status: Effective

	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M∘	Lot #	Vol (mL*)	∘∘ M∘	Lot #						
1	2ml H_2SO_4	4	153388	1.2ml $K_2S_2O_8$ 6ml KMnO4		H15-236E H15-236C	100	2.5	DU354	9-29-15	10-06-15	RT
2							200	1.0				
3							100	0.2				
4							↓	0.2				
5							↓	0.5				
6							200	1.0				
7							100	2.5				
8							↓	5.0				
9							↓	0.0				
10							↓	2.5				
11	↓	↓	↓	↓	↓	↓	200	1.0			↓	
12	200	6	93329	—		—	2000	10.1			3-29-16	
13	↓	↓	↓				↓	↓	↓	↓	↓	↓
14	50ml H_2SO_4	4	153388	80ml $K_2S_2O_8$ 150ml KMnO4		H15 236E H15-236C	1000	0.0	DU354	10-01-15	3-24-16	RT
15	—	—	—	60ml Hydrox		H15-236F					3-24-16	
16	37.5	6	93329	60ml Hydrox 150ml KMnO4		H15-236F H15-236C	↓	↓	↓	↓	↓	↓
17	—	—	—	10ml w/ 0.5% HNO_3		H15-1880	10	1.0	DU354	10-02-15	10-09-15	RT
18								0.1				
19								1.0				
20				↓	↓	↓	↓	0.1	↓	↓	↓	↓

Footnotes

Key (∘∘) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

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b

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Hg-5700 ICV	H15-275E	Hg-1.0mg/L Cont	7	10-09-15	H15-275C	0.25 mL	1	14	54295
2	CCV	F	Hg-1.0mg/L Cal			H15-275A	0.20			
3	CBA	G	Hg-0.1mg/L Cont			H15-275D	0.20			
4	Std Cal	H	Hg-0.1mg/L Cal			H15-275B	0.20			
5		I	↓			↓	0.50			
6		J	Hg-1.0mg/L Cal			H15-275A	0.20			
7		K	↓			↓	0.25			
8		L	↓	L	↓	↓	0.50			
9	↓	M								
10	ICV	N	Hg-1.0mg/L Cont	7	10-09-15	H15-275C	0.25 mL			
11	CCV	O	Hg-1.0mg/L Cal			H15-275A	0.20	↓	↓	↓
12	Hg-5701 ICV	P	Hg-1.0mg/L Cont			H15-275C	0.25			
13	CCV	Q	Hg-1.0mg/L Cal			H15-275A	0.10			
14	CCV	R					0.10			
15	CCV	S					0.10			
16	CCV	T	↓			↓	0.10			
17	CBA	U	Hg-0.1mg/L Cont			H15-275D	0.20			
18	Std Cal	V	Hg-0.1mg/L Cal			H15-275B	0.20			
19		W	↓			↓	0.50			
20	↓	X	Hg-1.0mg/L Cal	L	↓	H15-275A	0.10			

Key – Manufacturer (Mo)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

a

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Document Title: Standard/Reagent Preparation Log

Eurofins Document Reference: 1-P-QM-FOR-9009818 | Revision: 2 | Historical Reference: Form 1105

Effective date: Feb 20, 2015 | Status: Effective

	HCl Used			Other Used									
	Vol (mL)	M∘	Lot #	Vol (mL*)	∘∘ M∘	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	153388	3.2ml $K_2S_2O_8$ 1ml $(NH_4)_6Mo_7O_{24}$		H15-236E H15-236C	100	2.5	DJ1354	10-02-15	10-09-15	RT
2							200	1.0				
3							100	0.2				
4							↓	0.2				
5							↓	0.5				
6							200	1.0				
7							100	2.5				
8							↓	5.0				
9							↓	0.0				
10							↓	2.5				
11	↓	↓	↓	↓	↓	↓	200	1.0				
12	—	—	—	5ml HNO_3 15ml $KMnO_4$		H15-275F H15-236D	100	2.5				
13							↓	1.0				
14							↓	1.0				
15							↓	1.0				
16							↓	1.0				
17							↓	0.2				
18							↓	0.2				
19							↓	0.5				
20	—	—	—	↓	↓	↓	↓	1.0	↓	↓	↓	↓

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Footnotes

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C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
* * units are mg/L unless otherwise specified

b

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Hg-5701 Std Cal	H15:275Y	Hg-1.0mg/L Cal	7	10-09-15	H15:275A	0.25ml			
2	↓ ↓	Z	↓			↓	0.50ml			
3	↓	AA								
4	SI	BB	Hg-0.1mg/L Cal	7	16-09-15	H15-275B	0.10ml			
5	CRA	CC	Hg-0.1mg/L Cont			H15-275D	0.10			
6	CRA	DD	↓			↓	0.40			
7	↓ ICV	EE	Hg-1.0mg/L Cont		↓	H15-275C	0.25 ↓			
8	Aqua Regia	FF						21.5	14	54295
9	Permanganate	GG	KMnO4	6	97834#3	4-29-20	100.02g			
10	↓	↓ HH	↓	↓	↓	↓	100.03g			
11	Hg-1.0mg/L InterCont	H15-278A	Hg-10mg/L Cont	7	12-22-15	H15-273P	1.0ml			
12	Hg-0.1mg/L InterCont	D	Hg-1.0mg/L Cont		10-13-15	H15-278A	1.0ml			
13	Stannous Chloride	E	SnCl2	6	6-28-16	116747#4	200.00g			
14	Stannous Chloride	↓ F	↓	↓	↓	↓	300.00g			
15	Hg-1.0mg/L InterCal	H15-279A	Hg-10mg/L Cal	7	12-22-15	H15-173O	1.0ml			
16	0.1mg/L InterCont	B	1.0mg/L Cal		10-13-15	H15-279A				
17	1.0mg/L InterCont	C	10mg/L Cont		12-22-15	H15-173P				
18	↓ 0.1mg/L InterCont	D	↓ 1.0mg/L Cont		10-13-15	H15-279C	↓			
19	Hg-5700 ICV	E	↓			↓	0.25ml	1	14	54295
20	↓ CCV	↓ F	Hg-1.0mg/L Cal	↓	↓	H15-279A	0.20ml	↓	↓	↓

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9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used									
	Vol (mL)	M∘	Lot #	Vol (mL*)	∘∘ M∘	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				5ml Aqua Regia 15ml HNO3		H15-275 H15-236D	100	2.5ug/L	DU354	10-02-15	10-09-15	RT
2								50				
3								0.0				
4								0.1				
5								0.1				
6								0.4				
7								2.5				
8	64.5	6	93325				86	1:3			10-02-15	
9							2000				4-02-16	
10												
11				To vol w/ 0.15% HNO3		H15-1884	10	1.0	DU354	10-05-15	16-12-15	RT
12							10	0.1				
13	200	6	93325				2000	10:1			4-05-16	
14												
15				To vol w/ 0.15% HNO3		H15-1884	10	1.0	DU354	10-01-15	10-13-15	RT
16								0.1				
17								1.0				
18								0.1				
19	2ml H2SO4	4		3.2ml Aqua Regia 4ml HNO3	08	H15-236E H15-236D	100	2.5ug/L				
20							200	10ug/L				

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Footnotes

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E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

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* * units are mg/L unless otherwise specified

b

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Hg-5700 CRA	H15-279G	Hg-0.1mg/L Cont	7	10-13-15	H15-279D	0.20 ml	1	14	54295
2	Std Cal	H	Hg-0.1mg/L Cal			H15-279B	0.20			
3		I	↓			↓	0.50			
4		J	Hg-1.0mg/L Cal			H15-279A	0.20			
5		K	↓			↓	0.25			
6		L	↓		↓	↓	0.50			
7	↓	M	—		—	—	—			
8	ICV	N	Hg-1.0mg/L Cont	7	10-13-15	H15-279C	0.25ml			
9	CCV	O	Hg-1.0mg/L Cal	↓	↓	H15-279A	0.20 ml	↓	↓	↓
10	Hg-1.0mg/L InterCal	H15-280A	Hg-10mg/L Cal	7	12-22-15	H15-173D	1.0ml	—	—	—
11	0.1mg/L InterCal	B	1.0mg/L Cal		10-14-15	H15-280A	↓			
12	1.0mg/L InterCont	C	10mg/L Cont		12-22-15	H15-173P				
13	↓ 0.1mg/L InterCont	D	↓ 1.0mg/L Cont	7	10-14-15	H15-280C	↓			
14	Hg-4792 ICV	E	↓			↓	0.25ml			
15	CCV	F	Hg-1.0mg/L Cal			H15-280A	0.10			
16	CCV	G	↓			↓	0.10			
17	CRA	H	Hg-0.1mg/L Cont			H15-280D	0.20			
18	Std Cal	I	Hg-0.1mg/L Cal			H15-280B	0.20			
19	↓	J	↓			↓	0.50			
20	↓	↓	Hg-1.0mg/L Cal	7	↓	H15-280A	0.10			

Key – Manufacturer (Mo)

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2 – Conostan Specialty Products
3 – EM Science
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5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
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12 – SPEX Industries
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a

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Document Title: Standard/Reagent Preparation Log

Eurofins Document Reference 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015		Status: Effective

	HCl Used			Other Used								
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H2SO4	4	53388	3.2ml K2S2O8 1ml KMnO4		H15 234E H15-23.8D (3)	100	0.2ug/L	DU354	10-06-15	10-13-15	RT
2						10-6-15 DU354		0.2				
3								0.5				
4							200	1.0				
5							100	2.5				
6								5.0				
7								0.0				
8								2.5				
9							200	1.0				
10				To vol w/ 0.15% HNO3		H15-1884	10	1.0	DU354	10-07-15	10-14-15	RT
11								0.1				
12								1.0				
13								0.1				
14	5	6	93325				100	2.5ug/L				
15								1.0				
16								1.0				
17								0.2				
18								0.2				
19								0.5				
20								1.0				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
* * units are mg/L unless otherwise specified

b

Metals in Solid Data

Case Narrative/Conformance Summary

Metals in Solid

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC27

ICP Metals

Fraction: Metals in Solid

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8064450	0491-13		X	1	
8064451	0492-13		X	1	
8064452	0493-13		X	1	
8064453	0494-13		X	1	Background/Unspiked
8064454	0494-13 MS		X	1	Matrix Spike
8064455	0494-13 MSD		X	1	Matrix Spike Duplicate
8064456	0494-13 DUP		X	1	Duplicate
8064457	0164-13 DP		X	1	Field Duplicate Sample
8064458	0495-13		X	1	
8064459	0496-13		X	1	
8064461	0479-13		X	1	
8064462	0480-13		X	1	
8064463	0489-13		X	1	
8064464	0490-13		X	1	
8064465	0487-13		X	1	
8064466	0488-13		X	1	
8064468	0498-13		X	1	
8064469	0499-13		X	1	
8064470	0497-13		X	1	

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC27

ICP Metals

Fraction: Metals in Solid

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Sample Duplicate

Batch#: 152795708001 (Sample number(s): 8064450-8064459, 8064461-8064466, 8064468-8064470, UNSPK: 8064453, BKG: 8064453)
The duplicate RPDs for the following analytes are outside the acceptance window: Barium, Copper

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

The instrument detection limits (IDLs) are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The method detection limits (MDLs) are used for determining all other U flags.

Abbreviation Key

BKG – Background	AF - Cold Vapor Atomic Fluorescence
DUP – Duplicate	U - Below MDL
MS - Matrix Spike	B - Below LOQ
MSD - Matrix Spike Dup	N - Matrix Spike out of specifications
B – Blank	* - Duplicate out of specifications
Q - Laboratory Control Sample	E - Matrix Effects exist as proven by Serial Dilution or Spiked Dilution
Y - Laboratory Control Sample Duplicate	A - Post Digestion Spike
P - ICP Atomic Emission Spectrometer	L - Serial Dilution
MS - ICP Mass Spectrometry	R - Internal Standard Relative Intensity OOS
CV - Cold Vapor	NR - Not Required

Sample Data

Metals in Solid

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064450 % Solids: 82.4
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	4.2			P
7440-39-3	Barium	23.4			P
7440-43-9	Cadmium	0.052	U		P
7440-47-3	Chromium	14.7			P
7440-50-8	Copper	14.9			P
7439-92-1	Lead	5.5			P
7439-97-6	Mercury	0.011	U		CV
7782-49-2	Selenium	3.4			P
7440-22-4	Silver	0.15	U		P
7440-66-6	Zinc	35.5			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064451 % Solids: 82.7
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	3.7			P
7440-39-3	Barium	24.9			P
7440-43-9	Cadmium	0.051	U		P
7440-47-3	Chromium	13.1			P
7440-50-8	Copper	13.2			P
7439-92-1	Lead	4.2			P
7439-97-6	Mercury	0.012	U		CV
7782-49-2	Selenium	3.1			P
7440-22-4	Silver	0.14	U		P
7440-66-6	Zinc	29.6			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064452 % Solids: 50.0
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	3.1	B		P
7440-39-3	Barium	51.4			P
7440-43-9	Cadmium	0.40	B		P
7440-47-3	Chromium	23.2			P
7440-50-8	Copper	15.3			P
7439-92-1	Lead	16.2			P
7439-97-6	Mercury	0.047	B		CV
7782-49-2	Selenium	2.9	B		P
7440-22-4	Silver	0.23	U		P
7440-66-6	Zinc	67.1			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064453BKG % Solids: 81.4
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	4.0			P
7440-39-3	Barium	18.1			P
7440-43-9	Cadmium	0.086	B		P
7440-47-3	Chromium	11.0			P
7440-50-8	Copper	10.4			P
7439-92-1	Lead	5.8			P
7439-97-6	Mercury	0.012	U		CV
7782-49-2	Selenium	3.0			P
7440-22-4	Silver	0.15	U		P
7440-66-6	Zinc	25.1			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064454MS % Solids: 81.4
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	22.4			P
7440-39-3	Barium	253			P
7440-43-9	Cadmium	6.0			P
7440-47-3	Chromium	39.1			P
7440-50-8	Copper	42.6			P
7439-92-1	Lead	23.1			P
7439-97-6	Mercury	0.22			CV
7782-49-2	Selenium	21.4			P
7440-22-4	Silver	5.6			P
7440-66-6	Zinc	87.2			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064455MSD % Solids: 81.4
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	22.6			P
7440-39-3	Barium	254			P
7440-43-9	Cadmium	6.1			P
7440-47-3	Chromium	38.9			P
7440-50-8	Copper	42.6			P
7439-92-1	Lead	22.9			P
7439-97-6	Mercury	0.20			CV
7782-49-2	Selenium	21.1			P
7440-22-4	Silver	5.4			P
7440-66-6	Zinc	85.8			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064456DUP % Solids: 81.4
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	5.1			P
7440-39-3	Barium	14.6			P
7440-43-9	Cadmium	0.052	U		P
7440-47-3	Chromium	12.3			P
7440-50-8	Copper	12.9			P
7439-92-1	Lead	5.1			P
7439-97-6	Mercury	0.012	U		CV
7782-49-2	Selenium	3.1			P
7440-22-4	Silver	0.15	U		P
7440-66-6	Zinc	26.5			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064457 % Solids: 50.1
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	3.1	B		P
7440-39-3	Barium	51.8			P
7440-43-9	Cadmium	0.44	B		P
7440-47-3	Chromium	13.2			P
7440-50-8	Copper	15.1			P
7439-92-1	Lead	17.1			P
7439-97-6	Mercury	0.046	B		CV
7782-49-2	Selenium	3.0	B		P
7440-22-4	Silver	0.24	U		P
7440-66-6	Zinc	63.8			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064458 % Solids: 60.3
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	2.7	B		P
7440-39-3	Barium	35.8			P
7440-43-9	Cadmium	0.27	B		P
7440-47-3	Chromium	13.8			P
7440-50-8	Copper	13.4			P
7439-92-1	Lead	12.2			P
7439-97-6	Mercury	0.034	B		CV
7782-49-2	Selenium	2.8	B		P
7440-22-4	Silver	0.19	U		P
7440-66-6	Zinc	53.9			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064459 % Solids: 85.9
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	4.0			P
7440-39-3	Barium	15.1			P
7440-43-9	Cadmium	0.048	U		P
7440-47-3	Chromium	12.7			P
7440-50-8	Copper	11.7			P
7439-92-1	Lead	5.1			P
7439-97-6	Mercury	0.011	U		CV
7782-49-2	Selenium	2.8			P
7440-22-4	Silver	0.13	U		P
7440-66-6	Zinc	26.8			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064461 % Solids: 79.3
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	2.7			P
7440-39-3	Barium	16.7			P
7440-43-9	Cadmium	0.053	U		P
7440-47-3	Chromium	13.5			P
7440-50-8	Copper	12.7			P
7439-92-1	Lead	7.0			P
7439-97-6	Mercury	0.012	U		CV
7782-49-2	Selenium	2.3	B		P
7440-22-4	Silver	0.15	U		P
7440-66-6	Zinc	37.0			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064462 % Solids: 82.8
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	3.1			P
7440-39-3	Barium	14.0			P
7440-43-9	Cadmium	0.050	U		P
7440-47-3	Chromium	12.4			P
7440-50-8	Copper	10.8			P
7439-92-1	Lead	3.7			P
7439-97-6	Mercury	0.012	U		CV
7782-49-2	Selenium	2.6			P
7440-22-4	Silver	0.14	U		P
7440-66-6	Zinc	23.5			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064463 % Solids: 80.3
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	3.8			P
7440-39-3	Barium	13.1			P
7440-43-9	Cadmium	0.051	U		P
7440-47-3	Chromium	12.8			P
7440-50-8	Copper	9.4			P
7439-92-1	Lead	4.6			P
7439-97-6	Mercury	0.012	U		CV
7782-49-2	Selenium	2.5			P
7440-22-4	Silver	0.14	U		P
7440-66-6	Zinc	27.1			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064464 % Solids: 83.5
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	3.8			P
7440-39-3	Barium	12.3			P
7440-43-9	Cadmium	0.050	U		P
7440-47-3	Chromium	12.0			P
7440-50-8	Copper	10			P
7439-92-1	Lead	3.7			P
7439-97-6	Mercury	0.011	U		CV
7782-49-2	Selenium	2.8			P
7440-22-4	Silver	0.14	U		P
7440-66-6	Zinc	21.9			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064465 % Solids: 82.4
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	3.7			P
7440-39-3	Barium	17.8			P
7440-43-9	Cadmium	0.052	U		P
7440-47-3	Chromium	12.9			P
7440-50-8	Copper	11.0			P
7439-92-1	Lead	4.3			P
7439-97-6	Mercury	0.012	U		CV
7782-49-2	Selenium	3.5			P
7440-22-4	Silver	0.15	U		P
7440-66-6	Zinc	29.4			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064466 % Solids: 85.4
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	4.1			P
7440-39-3	Barium	11.4			P
7440-43-9	Cadmium	0.050	U		P
7440-47-3	Chromium	13.3			P
7440-50-8	Copper	14.4			P
7439-92-1	Lead	3.9			P
7439-97-6	Mercury	0.012	U		CV
7782-49-2	Selenium	3.0			P
7440-22-4	Silver	0.14	U		P
7440-66-6	Zinc	24.6			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064468 % Solids: 37.6
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.3			P
7440-39-3	Barium	98.8			P
7440-43-9	Cadmium	2.0			P
7440-47-3	Chromium	82.4			P
7440-50-8	Copper	95.6			P
7439-92-1	Lead	127			P
7439-97-6	Mercury	0.26			CV
7782-49-2	Selenium	6.3			P
7440-22-4	Silver	2.0			P
7440-66-6	Zinc	387			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064469 % Solids: 28.0
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	22.3			P
7440-39-3	Barium	238			P
7440-43-9	Cadmium	1.3	B		P
7440-47-3	Chromium	67.5			P
7440-50-8	Copper	225			P
7439-92-1	Lead	89.1			P
7439-97-6	Mercury	0.35			CV
7782-49-2	Selenium	15.3			P
7440-22-4	Silver	8.4			P
7440-66-6	Zinc	976			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 8064470 % Solids: 29.3
Concentration Units: MG/KG Date Received: 09/25/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.6			P
7440-39-3	Barium	116			P
7440-43-9	Cadmium	3.4			P
7440-47-3	Chromium	69.5			P
7440-50-8	Copper	147			P
7439-92-1	Lead	140			P
7439-97-6	Mercury	0.38			CV
7782-49-2	Selenium	8.9			P
7440-22-4	Silver	12.6			P
7440-66-6	Zinc	709			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

Quality Control and Calibration Summary Forms

Metals in Solid

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QUALITY CONTROL REFERENCE LIST

SDG No.: PSC27
Matrix: SOIL

Analyte	Batch ID	Lab Sample ID
Arsenic	P27908A	8064450
Barium		8064451
Cadmium		8064452
Chromium		8064453BKG
Copper		8064454MS
Lead		8064455MSD
Selenium		8064456DUP
Silver		8064457
Zinc		8064458
		8064459
		8064461
		8064462
		8064463
		8064464
		8064465
		8064466
		8064468
		8064469
		8064470
		P27908AB
		P27908AQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

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QUALITY CONTROL REFERENCE LIST

SDG No.: PSC27
Matrix: SOIL

Analyte	Batch ID	Lab Sample ID
Mercury	P27311A	8064450
		8064451
		8064452
		8064453BKG
		8064454MS
		8064455MSD
		8064456DUP
		8064457
		8064458
		8064459
		8064461
		8064462
		8064463
		8064464
		8064465
		8064466
		8064468
		8064469
		8064470
		P27311AB
		P27311AQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC27

Method: P
Run Name: 1528007T72
Calibration Date(s): 10/07/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Arsenic		600.0	585.01	97.5	500.0	487.48	97.5	500.0	489.64	97.9
Barium		600.0	591.76	98.6	500.0	486.49	97.3	500.0	497.41	99.5
Cadmium		600.0	593.68	98.9	500.0	483.22	96.6	500.0	485.14	97.0
Chromium		600.0	611.35	101.9	500.0	511.18	102.2	500.0	516.34	103.3
Copper		600.0	603.98	100.7	500.0	498.01	99.6	500.0	500.99	100.2
Lead		600.0	588.76	98.1	500.0	484.65	96.9	500.0	483.63	96.7
Selenium		600.0	599.07	99.8	500.0	486.28	97.3	500.0	484.23	96.8
Silver		600.0	605.38	100.9	500.0	493.27	98.7	500.0	501.24	100.2
Zinc		600.0	591.43	98.6	500.0	480.37	96.1	500.0	481.89	96.4

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC27

Method: P
Run Name: 1528007T72
Calibration Date(s): 10/07/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Arsenic					500.0	477.15	95.4	500.0	479.07	95.8
Barium					500.0	479.96	96.0	500.0	483.83	96.8
Cadmium					500.0	481.14	96.2	500.0	481.15	96.2
Chromium					500.0	500.60	100.1	500.0	495.31	99.1
Copper					500.0	494.00	98.8	500.0	494.54	98.9
Lead					500.0	479.48	95.9	500.0	480.40	96.1
Selenium					500.0	481.38	96.3	500.0	480.45	96.1
Silver					500.0	487.24	97.4	500.0	486.23	97.2
Zinc					500.0	477.94	95.6	500.0	478.27	95.7

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC27

Method: CV
Run Name: 1527401M08
Calibration Date(s): 10/01/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury		2.5	2.46	98.4	1.0	0.99	99.0	1.0	0.98	98.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC27

Method: CV
Run Name: 1527401M08
Calibration Date(s): 10/01/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	1.01	101.0	1.0	0.97	97.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC27

Method: CV
Run Name: 1527401M08
Calibration Date(s): 10/01/2015
Concentration Units: UG/L

		Initial Calibration			Continuing Calibration					
Analyte	Mass	True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.97	97.0			

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: P
Run Name: 1528007T72
Calibration Date(s): 10/07/2015
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Arsenic		20.0	22.61	113.1	21.24	106.2
Barium		5.0	5.25	105.0	5.22	104.4
Cadmium		5.0	4.98	99.6	4.96	99.2
Chromium		15.0	15.56	103.7	15.41	102.7
Copper		10.0	13.47	134.7	14.17	141.7
Lead		15.0	15.14	100.9	14.48	96.5
Selenium		20.0	18.95	94.8	19.93	99.7
Silver		5.0	4.69	93.8	4.89	97.8
Zinc		20.0	18.67	93.4	18.70	93.5

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: PSC27

Method: CV
Run Name: 1527401M08
Calibration Date(s): 10/01/2015
Concentration Units: UG/L

			Initial		Final	
Analyte	Mass	True	Found	%R	Found	%R
Mercury		0.2	0.18	90.0	0.18	90.0

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: P
Run Name: 1528007T72
Calibration Date(s): 10/07/2015
Preparation Blank Matrix: SOIL

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Arsenic		2.8	U	4.0	B	2.8	U	3.7	B		0.580	U	P27908AB
Barium		0.33	U	0.33	U	0.33	U	0.33	U		0.067	U	P27908AB
Cadmium		0.33	U	0.33	U	0.33	U	0.33	U		0.043	U	P27908AB
Chromium		0.70	U	0.70	U	0.70	U	0.70	U		0.098	U	P27908AB
Copper		4.2	B	4.4	B	3.9	B	3.4	B		0.473	B	P27908AB
Lead		1.6	U	1.6	U	1.6	U	1.6	U		0.320	U	P27908AB
Selenium		3.4	U	3.4	U	3.4	U	3.4	U		0.830	U	P27908AB
Silver		0.60	U	0.60	U	0.60	U	0.60	U		0.120	U	P27908AB
Zinc		2.0	U	2.0	U	2.0	U	2.0	U		0.770	U	P27908AB

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC27

Method: P
Run Name: 1528007T72
Calibration Date(s): 10/07/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Arsenic				2.8	U								
Barium				0.33	U								
Cadmium				0.33	U								
Chromium				0.70	U								
Copper				3.2	B								
Lead				1.6	U								
Selenium				3.4	U								
Silver				0.60	U								
Zinc				2.0	U								

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC27

Method: CV
Run Name: 1527401M08
Calibration Date(s): 10/01/2015
Preparation Blank Matrix: SOIL

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury		0.050	U	0.050	U	0.050	U	0.050	U		0.010	U	P27311AB

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC27

Method: CV
Run Name: 1527401M08
Calibration Date(s): 10/01/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury				0.050	U	0.050	U						

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: PSC27

Instrument ID: 16417
Run Name: 1528007T72
Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	500000	500000	512588	102.5	520634.3	104.1	505053	101.0	509787.5	102.0
Arsenic	0	100	-3		97.5	97.5	0		95.1	95.1
Barium	0	500	1		504.0	100.8	1		491.6	98.3
Cadmium	0	1000	0		921.2	92.1	1		912.4	91.2
Calcium	500000	500000	510774	102.2	517706.8	103.5	511303	102.3	511490.1	102.3
Chromium	0	500	4		505.6	101.1	4		485.4	97.1
Copper	0	500	4		538.0	107.6	4		527.8	105.6
Iron	200000	200000	205415	102.7	208193.7	104.1	203771	101.9	205400.1	102.7
Lead	0	50	3		48.8	97.6	4		49.9	99.8
Magnesium	500000	500000	517266	103.5	526716.7	105.3	513918	102.8	515822.4	103.2
Selenium	0	50	-5		45.3	90.6	-2		48.7	97.4
Silver	0	200	-2		220.3	110.2	-2		216.7	108.4
Zinc	0	1000	2		999.3	99.9	2		992.7	99.3

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 8064453BKG Matrix Spike Lab Sample ID: 8064454MS Matrix Spike Duplicate Lab Sample ID: 8064455MSD
Batch Id(s): P27908A, P27311A

		BKG Sample		MS Sample		MSD Sample		MS Spike	MSD Spike		MS		MSD				Control Limit		
Analyte	Mass	Result	C	Result	C	Result	C	Added	Added	Units	%R	Q	%R	Q	RPD	Q	%R	RPD	M
Arsenic		3.2624		18.2624		18.3693		14.8515	14.8515	MG/KG	101		102		1		75 - 125	20	P
Barium		14.7000		206.0178		206.7436		198.0198	198.0198	MG/KG	97		97		0		75 - 125	20	P
Cadmium		0.0703	B	4.8950		4.9307		4.9505	4.9505	MG/KG	97		98		1		75 - 125	20	P
Chromium		8.9287		31.8485		31.6248		19.8020	19.8020	MG/KG	116		115		1		75 - 125	20	P
Copper		8.4277		34.6921		34.6842		24.7525	24.7525	MG/KG	106		106		0		75 - 125	20	P
Lead		4.7089		18.8257		18.6287		14.8515	14.8515	MG/KG	95		94		1		75 - 125	20	P
Mercury		0.0095	U	0.1751		0.1643		0.1636	0.1627	MG/KG	107		101		6		80 - 120	20	CV
Selenium		2.4099		17.3970		17.1416		14.8515	14.8515	MG/KG	101		99		1		75 - 125	20	P
Silver		0.1188	U	4.5297		4.4317		4.9505	4.9505	MG/KG	91		90		2		75 - 125	20	P
Zinc		20.4248		70.9782		69.8752		49.5050	49.5050	MG/KG	102		100		2		75 - 125	20	P

Note: Results shown are reported on an as-received basis.

METHODS:
P = ICP Atomic Emission Spectrometer CV = Cold Vapor
MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL, B= Below LOQ
FLAGS:
N = Matrix Spike OOS, * = Duplicate OOS

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QUALITY ASSURANCE SUMMARY
FORM 6
DUPLICATES
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 8064453BKG Duplicate Lab Sample ID: 8064456DUP
Batch ID(s): P27908A, P27311A
Concentration Units: MG/KG

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic		2.0	3.2624		4.1386		24		P
Barium			14.7000		11.9010		21	*	P
Cadmium			0.0703	B	0.0426	U	200		P
Chromium			8.9287		9.9832		11		P
Copper			8.4277		10.4693		22	*	P
Lead		1.5	4.7089		4.1772		12		P
Mercury			0.0095	U	0.0096	U			CV
Selenium		2.0	2.4099		2.5089		4		P
Silver			0.1188	U	-0.2644	B	-200		P
Zinc			20.4248		21.5465		5		P

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

Note: Results shown are reported on an as-received basis.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
* = Duplicate Out of Spec

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QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: PSC27
Matrix: SOIL

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Arsenic		P27908AQ	UG/L	15000.000	15271.000		80 - 120	102	P	Yes
Barium		P27908AQ	UG/L	200000.000	204208.000		80 - 120	102	P	Yes
Cadmium		P27908AQ	UG/L	5000.000	5129.000		80 - 120	103	P	Yes
Chromium		P27908AQ	UG/L	20000.000	20942.000		80 - 120	105	P	Yes
Copper		P27908AQ	UG/L	25000.000	26095.000		80 - 120	104	P	Yes
Lead		P27908AQ	UG/L	15000.000	15677.000		80 - 120	105	P	Yes
Mercury		P27311AQ	UG/L	100.000	97.750		80 - 120	98	CV	Yes
Selenium		P27908AQ	UG/L	15000.000	15383.000		80 - 120	103	P	Yes
Silver		P27908AQ	UG/L	5000.000	4823.000		80 - 120	96	P	Yes
Zinc		P27908AQ	UG/L	50000.000	49999.000		80 - 120	100	P	Yes

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 9
SERIAL DILUTIONS
SDG No.: PSC27
Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 8064453BKG Serial Dilution Lab Sample ID: 8064453L
Batch ID(s): P27908A
Concentration Units: UG/L

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Arsenic		32.9500		55.3000	B	68		P
Barium		148.4700		152.2500		3		P
Cadmium		0.7100	B	2.1500	U	100		P
Chromium		90.1800		92.9000		3		P
Copper		85.1200		99.5500		17		P
Lead		47.5600		42.5500	B	11		P
Selenium		24.3400		41.5000	U	100		P
Silver		1.2000	U	6.0000	U			P
Zinc		206.2900		199.7500		3		P

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
E = Matrix Effects exist as proven by Serial Dilution or Spiked Dilution

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QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: PSC27

Method: P
Instrument ID: 16417
Date: 07/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Arsenic	189.04		2.8
Barium	455.40		0.33
Cadmium	226.50		0.33
Chromium	267.72		0.70
Copper	327.40		1.7
Lead	220.35		1.6
Selenium	196.09		3.4
Silver	328.06		0.60
Zinc	213.86		2.0

Comments:
_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Instrument ID: 19302
Date: 07/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Mercury			0.050

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC27
Matrix: SOIL

Method: P
Date: 07/2015

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Arsenic	189.04		20.0	5.8
Barium	455.40		5.0	0.67
Cadmium	226.50		5.0	0.43
Chromium	267.72		15.0	0.98
Copper	327.40		10.0	2.8
Lead	220.35		15.0	3.2
Selenium	196.09		20.0	8.3
Silver	328.06		5.0	1.2
Zinc	213.86		20.0	7.7

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:
_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC27
Matrix: SOIL

Method: CV
Date: 07/2015

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Mercury			0.60	0.060

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC27

Instrument ID: 16417
Date: 11/2014

Analyte	Wavelength (nm)	Interelement Correction Factor for: AL	CA	FE	MG	CO
Arsenic	189.04	0.0000000	0.0000000	-0.0001410	0.0000000	0.0000000
Cadmium	226.50	-0.0000060	0.0000000	0.0000930	0.0000000	0.0000120
Chromium	267.72	0.0000000	0.0000000	-0.0000290	0.0000000	0.0000000
Copper	327.40	0.0000000	0.0000290	0.0000170	0.0000000	0.0003000
Lead	220.35	0.0001930	0.0000000	0.0000360	0.0000000	-0.0000890
Selenium	196.09	-0.0000020	0.0000000	0.0000010	0.0000000	-0.0000160
Silver	328.06	0.0000000	0.0000000	0.0000010	0.0000000	0.0000000
Zinc	213.86	0.0000000	0.0000000	0.0000800	0.0000000	0.0000000

Comments:
_____
_____
_____
_____

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC27

Instrument ID: 16417
Date: 11/2014

Analyte	Wavelength (nm)	Interelement Correction Factor for: CR	CU	MN	MO	NI
Arsenic	189.04	0.0003470	0.0000000	0.0000000	0.0015870	0.0000000
Cadmium	226.50	0.0000850	0.0000000	0.0000000	0.0000000	-0.0000540
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	327.40	0.0000000	0.0000000	0.0000000	-0.0007830	0.0000000
Lead	220.35	0.0000420	0.0010760	0.0000000	-0.0001780	-0.0000500
Selenium	196.09	0.0000000	0.0000000	0.0005870	0.0000000	0.0000000
Silver	328.06	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.86	0.0000000	0.0010800	0.0000000	0.0000000	0.0054370

Comments:
_____
_____
_____
_____

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC27

Instrument ID: 16417
Date: 11/2014

Analyte	Wavelength (nm)	Interelement Correction Factor for: SI	TH	TI	W	ZR
Arsenic	189.04	0.0000000	0.0000000	0.0000000	0.0009450	0.0000000
Cadmium	226.50	0.0000000	0.0000000	0.0000000	0.0004220	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0005050	0.0000000
Copper	327.40	0.0000000	0.0289010	-0.0017350	0.0000000	0.0000000
Lead	220.35	0.0001590	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000000	0.0000000	0.0072180	0.0000000
Silver	328.06	0.0000000	0.0011310	0.0000000	0.0000000	0.0080000
Zinc	213.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:
_____
_____
_____
_____

QUALITY ASSURANCE SUMMARY
FORM 12
LINEAR RANGES
SDG No.: PSC27

Method: P
Instrument ID: 16417
Date: 07/2015

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Arsenic	189.04	10.00	20000.0
Barium	455.4	10.00	10000.0
Cadmium	226.5	10.00	10000.0
Chromium	267.72	10.00	20000.0
Copper	327.4	10.00	10000.0
Lead	220.35	10.00	10000.0
Selenium	196.09	10.00	10000.0
Silver	328.06	10.00	10000.0
Zinc	213.86	10.00	10000.0

Comments:
_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: P
Batch ID: P27908A

Lab Sample ID	Date	Sample Weight(gram)	Final Volume(ml)
8064450	10/06/2015	1.00	100
8064451	10/06/2015	1.02	100
8064452	10/06/2015	1.03	100
8064457	10/06/2015	1.01	100
8064458	10/06/2015	1.03	100
8064459	10/06/2015	1.04	100
8064461	10/06/2015	1.03	100
8064462	10/06/2015	1.04	100
8064463	10/06/2015	1.04	100
8064464	10/06/2015	1.02	100
8064465	10/06/2015	1.00	100
8064466	10/06/2015	1.00	100
8064468	10/06/2015	1.02	100
8064469	10/06/2015	1.02	100
8064470	10/06/2015	1.02	100
8064453BKG	10/06/2015	1.01	100
8064456DUP	10/06/2015	1.01	100
8064455MSD	10/06/2015	1.01	100
8064454MS	10/06/2015	1.01	100
P27908AB	10/06/2015	1.00	100
P27908AQ	10/06/2015	1.00	100

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

Method: CV
Batch ID: P27311A

Lab Sample ID	Date	Sample Weight(gram)	Final Volume(ml)
8064450	10/01/2015	0.63	100
8064451	10/01/2015	0.62	100
8064452	10/01/2015	0.63	100
8064457	10/01/2015	0.63	100
8064458	10/01/2015	0.63	100
8064459	10/01/2015	0.61	100
8064461	10/01/2015	0.61	100
8064462	10/01/2015	0.61	100
8064463	10/01/2015	0.64	100
8064464	10/01/2015	0.63	100
8064465	10/01/2015	0.60	100
8064466	10/01/2015	0.61	100
8064468	10/01/2015	0.64	100
8064469	10/01/2015	0.62	100
8064470	10/01/2015	0.64	100
8064453BKG	10/01/2015	0.63	100
8064456DUP	10/01/2015	0.63	100
8064455MSD	10/01/2015	0.61	100
8064454MS	10/01/2015	0.61	100
P27311AB	10/01/2015	0.60	100
P27311AQ	10/01/2015	1.00	100

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC27

Method: P
Instrument ID: 16417
Run Name: 1528007T72

Run Start Date: 10/07/2015
Run End Date: 10/07/2015

Lab Sample ID	D/F	Time	Analytes									
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN
S0	1.00	18:16	X	X	X	X	X	X		X	X	X
S	1.00	18:19										
S	1.00	18:22	X	X	X		X	X		X	X	X
S	1.00	18:25				X						
ICV	1.00	18:28	X	X	X	X	X	X		X	X	X
ICB	1.00	18:32	X	X	X	X	X	X		X	X	X
LLC	1.00	18:35	X	X	X	X	X	X		X	X	X
ICSA	1.00	18:38	X	X	X	X	X	X		X	X	X
ICSAB	1.00	18:41	X	X	X	X	X	X		X	X	X
CCV	1.00	18:44	X	X	X	X	X	X		X	X	X
CCB	1.00	18:47	X	X	X	X	X	X		X	X	X
P27908AB	1.00	18:51	X	X	X	X	X	X		X	X	X
P27908AQ	1.00	18:54	X	X	X	X	X	X		X	X	X
8064453BKG	1.00	18:57	X	X	X	X	X	X		X	X	X
8064453A	1.00	19:00										
8064456DUP	1.00	19:03	X	X	X	X	X	X		X	X	X
8064454MS	1.00	19:06	X	X	X	X	X	X		X	X	X
8064455MSD	1.00	19:09	X	X	X	X	X	X		X	X	X
8064453L	5.00	19:12	X	X	X	X	X	X		X	X	X
8064450	1.00	19:15	X	X	X	X	X	X		X	X	X
8064451	1.00	19:18	X	X	X	X	X	X		X	X	X
CCV	1.00	19:21	X	X	X	X	X	X		X	X	X
CCB	1.00	19:24	X	X	X	X	X	X		X	X	X
8064452	1.00	19:28	X	X	X	X	X	X		X	X	X
8064457	1.00	19:31	X	X	X	X	X	X		X	X	X
8064458	1.00	19:34	X	X	X	X	X	X		X	X	X
8064459	1.00	19:36	X	X	X	X	X	X		X	X	X
8064461	1.00	19:39	X	X	X	X	X	X		X	X	X
8064462	1.00	19:42	X	X	X	X	X	X		X	X	X
8064463	1.00	19:45	X	X	X	X	X	X		X	X	X
8064464	1.00	19:48	X	X	X	X	X	X		X	X	X
8064465	1.00	19:51	X	X	X	X	X	X		X	X	X
8064466	1.00	19:54	X	X	X	X	X	X		X	X	X
CCV	1.00	19:57	X	X	X	X	X	X		X	X	X
CCB	1.00	20:00	X	X	X	X	X	X		X	X	X
8064468	1.00	20:03	X	X	X	X	X	X		X	X	X
8064469	1.00	20:06	X	X	X	X	X	X		X	X	X
8064470	1.00	20:09	X	X	X	X	X	X		X	X	X

METHODS:	LEGEND:
P = ICP Atomic Emission Spectrometer	BKG = Background
MS = ICP Mass Spectrometry	DUP = Duplicate
CV = Cold Vapor	MS = Matrix Spike
AF = Cold Vapor Atomic Fluorescence	MSD = Matrix Spike Duplicate
	A = Post Digest Spike
	L = Serial Dilution
	B = Blank
	Q = Laboratory Control Sample
	Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC27

Method: P
Instrument ID: 16417
Run Name: 1528007T72

Run Start Date: 10/07/2015
Run End Date: 10/07/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																					
LLC	1.00	20:12	X	X	X	X	X	X		X	X	X																					
ICSA	1.00	20:16	X	X	X	X	X	X		X	X	X																					
ICSAB	1.00	20:19	X	X	X	X	X	X		X	X	X																					
CCV	1.00	20:22	X	X	X	X	X	X		X	X	X																					
CCB	1.00	20:25	X	X	X	X	X	X		X	X	X																					

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC27

Method: CV
Instrument ID: 19302
Run Name: 1527401M08

Run Start Date: 10/01/2015
Run End Date: 10/01/2015

Lab Sample ID	D/F	Time	Analytes																														
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																						
S0	1.00	07:08							X																								
S0.2	1.00	07:11							X																								
S0.5	1.00	07:13							X																								
S1.0	1.00	07:15							X																								
S2.5	1.00	07:17							X																								
S5.0	1.00	07:19							X																								
ICV	1.00	07:21							X																								
ICB	1.00	07:23							X																								
CRA	1.00	07:25							X																								
CCV	1.00	07:27							X																								
CCB	1.00	07:29							X																								
P27311AB	1.00	07:31							X																								
P27311AQ	1.00	07:33							X																								
8064453BKG	1.00	07:35							X																								
8064453A	1.00	07:37																															
8064456DUP	1.00	07:39							X																								
8064454MS	1.00	07:41							X																								
8064455MSD	1.00	07:43							X																								
ZZZZZZ	1.00	07:45																															
ZZZZZZ	1.00	07:47																															
8064450	1.00	07:49							X																								
CCV	1.00	07:51							X																								
CCB	1.00	07:53							X																								
8064451	1.00	07:55							X																								
8064452	1.00	07:57							X																								
8064457	1.00	07:59							X																								
8064458	1.00	08:01							X																								
8064459	1.00	08:03							X																								
8064461	1.00	08:05							X																								
8064462	1.00	08:07							X																								
8064463	1.00	08:09							X																								
8064464	1.00	08:11							X																								
8064465	1.00	08:13							X																								
CCV	1.00	08:15							X																								
CCB	1.00	08:17							X																								
8064466	1.00	08:19							X																								
8064468	1.00	08:21							X																								
8064469	1.00	08:23							X																								

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC27

Method: CV
Instrument ID: 19302
Run Name: 1527401M08

Run Start Date: 10/01/2015
Run End Date: 10/01/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	CU	PB	HG	SE	AG	ZN																				
8064470	1.00	08:26							X																							
ZZZZZZ	1.00	08:28																														
ZZZZZZ	1.00	08:30																														
ZZZZZZ	1.00	08:32																														
ZZZZZZ	1.00	08:34																														
ZZZZZZ	1.00	08:36																														
ZZZZZZ	1.00	08:38																														
CCV	1.00	08:40							X																							
CCB	1.00	08:42							X																							
ZZZZZZ	1.00	08:44																														
ZZZZZZ	1.00	08:46																														
ZZZZZZ	1.00	08:48																														
ZZZZZZ	1.00	08:50																														
CRA	1.00	08:52							X																							
CCV	1.00	08:54							X																							
CCB	1.00	08:56							X																							

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

Raw Data

Metals in Solid

ICP Data

Metals in Solid

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ICP-AES Run Data Report

Reviewed By
Elaine F Stoltzfus

Reviewed Date
10/07/2015 8:47PM

Data File Name 1528007T72.TXT
Run Name: 1528007T72

Method Reference Name(s):

Verified By:
Deborah A Krady

Verified Date
10/08/2015 12:32PM

Analyst Employee: 0463

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 1 Date/Time: 10/07/2015 18:16

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-0.00228	27.749	-0.00291	-0.00164	-0.00229
AL	0.000	-0.00209	99.677	-0.00043	-0.00141	-0.00442
AS	0.000	-0.00017	1301.329	0.00133	0.00081	-0.00264
B	0.000	0.00002	32.709	0.00002	0.00002	0.00001
BA	0.000	0.00000	3742.211	0.00003	-0.00002	-0.00002
BE	0.000	-0.01832	3.948	-0.01835	-0.01758	-0.01903
CA	0.000	0.00320	2.120	0.00312	0.00325	0.00322
CD	0.000	-0.00995	46.573	-0.01417	-0.01070	-0.00499
CO	0.000	-0.00445	125.727	0.00074	-0.00370	-0.01037
CR	0.000	0.00000	882.546	0.00000	0.00001	0.00000
CU	0.000	-0.01733	3.120	-0.01778	-0.01673	-0.01748
FE	0.000	0.00001	298.525	-0.00002	0.00000	0.00006
K	0.000	0.06870	29.490	0.05449	0.09190	0.05971
LI	0.000	0.00053	22.835	0.00041	0.00052	0.00065
MG	0.000	0.00074	2.455	0.00076	0.00074	0.00072
MN	0.000	0.00108	22.925	0.00102	0.00087	0.00135
MO	0.000	0.00433	48.953	0.00524	0.00584	0.00191
NA	0.000	-0.00237	3.416	-0.00229	-0.00246	-0.00237
NI	0.000	0.03288	8.111	0.03565	0.03033	0.03266
P	0.000	-0.00001	139.505	-0.00003	-0.00001	0.00000
PB	0.000	0.00505	42.773	0.00728	0.00492	0.00297
S	0.000	0.00014	33.397	0.00017	0.00016	0.00009
SB	0.000	0.00001	603.507	0.00002	-0.00003	0.00002
SE	0.000	-0.00337	16.136	-0.00372	-0.00364	-0.00274
SI	0.000	0.00013	29.800	0.00010	0.00017	0.00010
SN	0.000	0.00428	54.714	0.00206	0.00405	0.00673
SR	0.000	-0.00011	16.747	-0.00009	-0.00010	-0.00013
TI	0.000	0.00203	10.070	0.00180	0.00220	0.00209
TL	0.000	-0.00959	11.618	-0.00866	-0.01082	-0.00928
V	0.000	-0.00030	140.169	-0.00036	-0.00069	0.00015
Y1	0.000	16325.56168	0.253	16305.65655	16373.04490	16297.98360
Y2A	0.000	444494.56042	0.518	441850.56329	446072.56461	445560.55335
Y2R	0.000	40733.41110	0.222	40837.13331	40669.77500	40693.32500
ZN	0.000	0.09235	2.269	0.09092	0.09475	0.09137
ZR	0.000	0.00019	25.121	0.00022	0.00014	0.00021

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 2 Date/Time: 10/07/2015 18:19

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	10.90871	0.517	10.85812	10.96943	10.89856
CA	50.000	1.79997	0.163	1.79996	1.80291	1.79703
FE	50.000	0.64805	0.208	0.64746	0.64959	0.64710
K	50.000	23.85471	0.271	23.82321	23.92899	23.81193
MG	50.000	3.05585	0.257	3.05779	3.06255	3.04719
NA	50.000	1.69233	0.286	1.69056	1.69782	1.68862
S	50.000	0.62303	0.394	0.62579	0.62109	0.62222
SI	50.000	0.41619	0.675	0.41297	0.41750	0.41811
Y1	50.000	15644.85385	0.274	15626.75977	15693.80791	15613.99387
Y2R	50.000	40562.76171	0.161	40503.94448	40632.84216	40551.49850

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 3 Date/Time: 10/07/2015 18:22

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	1.88099	0.890	1.86243	1.89497	1.88557
AS	1.000	1.06239	0.719	1.05652	1.05962	1.07103
B	1.000	0.01881	1.046	0.01859	0.01892	0.01894
BA	1.000	1.71118	0.633	1.69886	1.71925	1.71543
BE	1.000	45.66051	1.472	44.88600	46.09040	46.00513
CD	1.000	38.59249	0.320	38.55867	38.48933	38.72949
CO	1.000	15.87204	0.009	15.87267	15.87309	15.87037
CU	1.000	1.46815	0.566	1.45883	1.47477	1.47083
LI	1.000	0.21373	0.384	0.21337	0.21314	0.21466
MN	1.000	8.23502	1.004	8.14375	8.30486	8.25644
NI	1.000	9.74449	0.270	9.71664	9.74781	9.76902
P	1.000	0.02458	0.205	0.02452	0.02460	0.02461
PB	1.000	3.30173	0.319	3.29830	3.29333	3.31357
SE	1.000	0.85698	0.572	0.85811	0.85161	0.86121
SR	1.000	1.93226	0.905	1.91276	1.93744	1.94657
TL	1.000	1.68876	0.035	1.68937	1.68869	1.68821
Y1	1.000	15807.57503	0.133	15795.60527	15831.79971	15795.32010
Y2A	1.000	421087.11619	1.125	426550.36448	418577.12061	418133.86349
Y2R	1.000	40247.10745	0.054	40268.34131	40225.24925	40247.73180
ZN	1.000	30.30010	0.207	30.24894	30.28148	30.36987

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 4 Date/Time: 10/07/2015 18:25

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	0.02144	0.402	0.02154	0.02138	0.02140
MO	1.000	11.16403	0.269	11.13117	11.17082	11.19010
SB	1.000	0.03439	0.333	0.03426	0.03448	0.03443
SN	1.000	2.86530	0.411	2.85170	2.87202	2.87219
TI	1.000	5.75236	0.348	5.77475	5.73620	5.74612
V	1.000	1.66270	0.445	1.67099	1.65678	1.66033
Y1	1.000	16253.60763	0.193	16289.36213	16230.92543	16240.53532
Y2A	1.000	444895.84714	0.205	443937.95560	444995.94102	445753.64480
Y2R	1.000	40451.01854	0.337	40600.18474	40419.46275	40333.40814
ZR	1.000	0.08655	1.077	0.08548	0.08695	0.08722

LANCASTER LABORATORIES

Run Name: 1528007T72

Instrument ID: 16417

Tube: 5

Date/Time: 10/07/2015 18:28

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.60538	9,302.72	1.465	0.61514	0.59782	0.60317
____ AL	29.80685	5,195.20	0.254	29.75062	29.89301	29.77694
____ AS	0.58501	195.14	0.368	0.58664	0.58257	0.58583
____ B	0.59225	4,823.65	1.384	0.60167	0.58842	0.58668
____ BA	0.59176	420,440.55	0.994	0.59670	0.58525	0.59334
____ BE	0.59387	224,236.30	1.573	0.60417	0.58595	0.59148
____ CA	29.89873	43,062.81	0.182	29.83810	29.94382	29.91426
____ CD	0.59368	7,218.26	0.148	0.59389	0.59271	0.59444
____ CO	0.58949	2,937.78	0.389	0.59210	0.58779	0.58859
____ CR	0.61135	5,433.42	1.489	0.62169	0.60454	0.60781
____ CU	0.60398	7,277.94	1.131	0.61167	0.59865	0.60161
____ FE	29.30917	15,331.43	0.198	29.26942	29.37564	29.28245
____ K	29.50233	11,228.94	0.368	29.37710	29.56409	29.56581
____ LI	0.58943	5,026.83	0.603	0.58612	0.59319	0.58899
____ MG	29.56265	72,547.63	0.227	29.53046	29.63969	29.51780
____ MN	0.59820	40,907.54	1.624	0.60864	0.58944	0.59650
____ MO	0.59976	2,099.48	0.354	0.60206	0.59788	0.59934
____ NA	29.51476	39,740.45	0.354	29.42189	29.62784	29.49456
____ NI	0.58519	1,791.83	0.334	0.58738	0.58365	0.58453
____ P	0.59404	228.54	0.356	0.59567	0.59165	0.59479
____ PB	0.58876	614.92	0.724	0.59345	0.58513	0.58771
____ S	29.12053	5,687.71	0.259	29.19541	29.04431	29.12186
____ SB	0.61751	331.05	0.545	0.61790	0.61397	0.62067
____ SE	0.59907	158.87	0.484	0.59642	0.60217	0.59862
____ SI	30.81959	10,216.60	0.833	30.52364	30.95429	30.98084
____ SN	0.59207	532.34	0.487	0.59414	0.58877	0.59330
____ SR	0.59690	479,074.99	1.326	0.60518	0.58941	0.59610
____ TI	0.62303	29,820.88	1.653	0.63379	0.61327	0.62204
____ TL	0.58514	306.94	0.278	0.58700	0.58399	0.58444
____ V	0.63116	8,723.56	1.546	0.64177	0.62258	0.62913
____ Y1	15673.67309	15,673.67	0.219	15662.44336	15712.20373	15646.37218
____ Y2A	415240.74994	415,240.75	1.567	407906.47780	420323.64148	417492.13055
____ Y2R	39808.94221	39,808.94	0.047	39826.94422	39789.53929	39810.34311
____ ZN	0.59143	5,659.45	0.283	0.59230	0.58950	0.59249
____ ZR	0.60521	2,088.20	0.111	0.60599	0.60484	0.60480

LANCASTER LABORATORIES

Run Name: 1528007T72

Instrument ID: 16417

Tube: 6

Date/Time: 10/07/2015 18:32

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00013	-20.90	341.593	0.00032	0.00042	-0.00037
____ AL	0.04610	6.38	9.211	0.04485	0.05083	0.04262
____ AS	0.00270	0.18	32.093	0.00367	0.00203	0.00238
____ B	0.00193	23.77	13.089	0.00223	0.00179	0.00178
____ BA	0.00007	55.99	8.107	0.00007	0.00007	0.00008
____ BE	0.00005	-129.35	40.051	0.00005	0.00003	0.00006
____ CA	-0.01124	111.17	7.755	-0.01024	-0.01165	-0.01183
____ CD	0.00017	-1.23	134.048	0.00007	0.00042	0.00000
____ CO	0.00028	-2.38	78.060	0.00004	0.00047	0.00032
____ CR	0.00033	1.80	232.078	0.00070	0.00083	-0.00055
____ CU	0.00420	-146.58	8.984	0.00427	0.00380	0.00454
____ FE	0.01292	6.90	37.558	0.01529	0.01614	0.00734
____ K	0.02688	64.95	136.522	-0.00582	0.06656	0.01989
____ LI	0.00121	31.32	71.280	0.00220	0.00073	0.00069
____ MG	-0.00348	20.81	82.525	-0.00270	-0.00108	-0.00666
____ MN	-0.00003	7.05	43.505	-0.00005	-0.00003	-0.00002
____ MO	0.00102	5.08	2.921	0.00099	0.00101	0.00105
____ NA	-0.02076	-95.72	68.380	-0.01987	-0.03539	-0.00703
____ NI	0.00008	10.91	570.909	0.00050	0.00013	-0.00040
____ P	-0.00014	-0.79	359.771	-0.00063	-0.00018	0.00038
____ PB	-0.00023	1.40	416.164	0.00086	-0.00062	-0.00094
____ S	0.00945	4.16	45.367	0.00591	0.01421	0.00821
____ SB	0.00466	0.79	34.942	0.00589	0.00529	0.00281
____ SE	0.00137	-1.24	190.475	0.00399	0.00134	-0.00122
____ SI	0.03195	15.64	17.497	0.03180	0.03762	0.02644
____ SN	0.00124	2.54	79.877	0.00165	0.00196	0.00011
____ SR	0.00005	-4.58	27.860	0.00006	0.00004	0.00004
____ TI	0.00006	20.58	220.920	0.00005	0.00018	-0.00006
____ TL	0.00106	-2.80	44.674	0.00133	0.00135	0.00052
____ V	-0.00011	-3.87	328.824	0.00021	-0.00004	-0.00049
____ Y1	16213.25287	16,213.25	0.151	16195.56532	16202.94294	16241.25033
____ Y2A	438574.22134	438,574.22	0.025	438626.82240	438449.05567	438646.78595
____ Y2R	39870.04205	39,870.04	0.442	40070.96081	39797.51199	39741.65334
____ ZN	-0.00133	17.11	12.141	-0.00139	-0.00114	-0.00144
____ ZR	0.00064	9.73	68.627	0.00057	0.00024	0.00110

LANCASTER LABORATORIES

Run Name: 1528007T72

Instrument ID: 16417

Tube: 7

Date/Time: 10/07/2015 18:35

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00469	59.48	9.509	0.00517	0.00462	0.00428
____ AL	0.20667	34.88	9.877	0.22913	0.20160	0.18926
____ AS	0.02261	7.06	3.614	0.02191	0.02351	0.02241
____ B	0.04688	397.62	1.889	0.04618	0.04788	0.04658
____ BA	0.00525	3,956.96	0.848	0.00520	0.00527	0.00528
____ BE	0.00491	1,818.23	0.648	0.00489	0.00488	0.00494
____ CA	0.18305	396.38	1.970	0.18094	0.18721	0.18099
____ CD	0.00498	59.28	1.510	0.00490	0.00501	0.00504
____ CO	0.00523	23.26	2.202	0.00536	0.00519	0.00514
____ CR	0.01556	145.55	1.537	0.01569	0.01570	0.01528
____ CU	0.01347	-25.73	0.655	0.01355	0.01338	0.01349
____ FE	0.19972	107.78	0.104	0.19960	0.19996	0.19959
____ K	0.46175	232.39	8.201	0.42368	0.49941	0.46214
____ LI	0.01928	186.95	7.125	0.02086	0.01842	0.01855
____ MG	0.08924	254.05	3.509	0.08580	0.09191	0.09002
____ MN	0.00515	383.18	0.918	0.00516	0.00520	0.00510
____ MO	0.01017	38.19	1.753	0.01008	0.01006	0.01038
____ NA	0.99675	1,292.49	0.885	0.98917	0.99464	1.00643
____ NI	0.00994	41.97	1.104	0.00982	0.01004	0.00996
____ P	0.09866	38.50	0.104	0.09874	0.09869	0.09854
____ PB	0.01514	17.81	13.115	0.01542	0.01696	0.01302
____ S	0.48052	99.26	0.365	0.48165	0.47850	0.48140
____ SB	0.02525	12.46	1.327	0.02563	0.02510	0.02500
____ SE	0.01895	3.66	5.133	0.01935	0.01967	0.01784
____ SI	0.06018	25.30	7.506	0.05500	0.06227	0.06327
____ SN	0.02109	20.95	0.983	0.02085	0.02121	0.02122
____ SR	0.00517	4,356.04	0.723	0.00514	0.00521	0.00516
____ TI	0.01039	544.87	1.411	0.01027	0.01056	0.01035
____ TL	0.03132	13.81	2.004	0.03192	0.03136	0.03067
____ V	0.00509	71.75	5.780	0.00517	0.00533	0.00476
____ Y1	16206.14693	16,206.15	0.113	16187.59156	16224.04346	16206.80576
____ Y2A	440442.23548	440,442.24	0.500	441027.08748	438005.21869	442294.40027
____ Y2R	40298.51523	40,298.52	0.264	40421.27872	40234.52761	40239.73936
____ ZN	0.01867	212.44	0.463	0.01877	0.01864	0.01860
____ ZR	0.04782	174.04	3.459	0.04854	0.04592	0.04899

LANCASTER LABORATORIES

Run Name: 1528007T72

Instrument ID: 16417

Tube: 8

Date/Time: 10/07/2015 18:38

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00156	-1,395.68	58.219	-0.00232	-0.00055	-0.00181
____ AL	512.58841	83,433.57	0.112	512.73481	513.07670	511.95371
____ AS	-0.00273	1.50	129.510	-0.00680	-0.00073	-0.00064
____ B	0.07184	1,837.98	2.266	0.07333	0.07011	0.07209
____ BA	0.00065	406.80	0.657	0.00066	0.00065	0.00065
____ BE	-0.00017	-179.95	7.655	-0.00019	-0.00017	-0.00016
____ CA	510.77411	642,915.34	0.566	507.51032	513.01257	511.79942
____ CD	0.00043	214.28	22.546	0.00032	0.00051	0.00046
____ CO	0.00183	4.93	20.907	0.00217	0.00192	0.00142
____ CR	0.00427	-15.07	11.630	0.00372	0.00443	0.00467
____ CU	0.00386	28.20	8.369	0.00407	0.00349	0.00403
____ FE	205.41503	91,609.30	0.203	205.73399	205.56731	204.94379
____ K	0.04681	69.84	39.460	0.04926	0.06393	0.02723
____ LI	0.00128	83.80	35.962	0.00143	0.00076	0.00164
____ MG	517.26560	978,233.02	0.864	517.03385	512.91437	521.84859
____ MN	0.00216	138.12	4.783	0.00218	0.00205	0.00226
____ MO	-0.00254	-6.78	9.686	-0.00261	-0.00273	-0.00226
____ NA	0.21392	213.09	4.227	0.20442	0.22242	0.21493
____ NI	-0.00106	-0.84	39.997	-0.00059	-0.00141	-0.00117
____ P	0.01529	4.66	12.613	0.01469	0.01744	0.01372
____ PB	0.00312	79.62	62.820	0.00224	0.00176	0.00537
____ S	-0.00332	0.34	220.587	0.00468	-0.00969	-0.00494
____ SB	0.01600	-0.16	14.850	0.01404	0.01864	0.01531
____ SE	-0.00451	-4.28	119.102	-0.00288	-0.00014	-0.01050
____ SI	0.01635	7.90	31.676	0.02116	0.01087	0.01701
____ SN	0.00780	7.53	22.787	0.00908	0.00854	0.00577
____ SR	0.00003	3,521.80	193.347	0.00011	-0.00001	0.00000
____ TI	0.00056	38.52	17.496	0.00045	0.00060	0.00064
____ TL	0.00536	-3.53	49.363	0.00655	0.00233	0.00720
____ V	-0.00052	31.18	115.432	-0.00100	0.00016	-0.00072
____ Y1	14152.41929	14,152.42	0.360	14154.69749	14100.42308	14202.13729
____ Y2A	365531.62351	365,531.62	0.509	363451.02922	367038.84462	366104.99668
____ Y2R	38393.52913	38,393.53	0.264	38442.04885	38277.07293	38461.46560
____ ZN	0.00207	235.33	8.128	0.00210	0.00223	0.00189
____ ZR	0.00649	28.80	20.990	0.00767	0.00500	0.00680

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 9 Date/Time: 10/07/2015 18:41

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.22033	1,640.39	0.694	0.22207	0.21969	0.21922
____ AL	520.63429	84,436.73	0.461	519.12262	519.38050	523.39974
____ AS	0.09751	31.60	6.619	0.10466	0.09574	0.09212
____ B	0.07039	1,842.74	5.918	0.07435	0.07077	0.06604
____ BA	0.50402	315,072.83	1.255	0.50692	0.50838	0.49676
____ BE	0.50443	167,603.91	1.053	0.50695	0.50801	0.49832
____ CA	517.70683	648,601.53	0.897	516.54318	513.75776	522.81955
____ CD	0.92117	10,211.56	0.386	0.91851	0.92520	0.91980
____ CO	0.45784	2,042.11	0.307	0.45711	0.45946	0.45696
____ CR	0.50563	3,911.69	0.595	0.50622	0.50830	0.50237
____ CU	0.53803	5,849.69	0.977	0.54111	0.54102	0.53196
____ FE	208.19366	92,358.78	0.508	207.82685	207.36824	209.38589
____ K	0.05601	73.00	96.529	0.02008	0.11819	0.02976
____ LI	0.00133	84.71	156.207	0.00248	0.00256	-0.00107
____ MG	526.71674	988,047.17	1.136	524.60953	522.07381	533.46689
____ MN	0.45353	27,292.86	1.036	0.45577	0.45670	0.44813
____ MO	-0.00266	-7.12	11.448	-0.00238	-0.00298	-0.00261
____ NA	0.22591	227.94	3.650	0.22941	0.21649	0.23182
____ NI	0.89284	2,441.10	0.336	0.89038	0.89618	0.89198
____ P	0.01493	5.39	10.947	0.01371	0.01679	0.01431
____ PB	0.04879	122.77	11.655	0.04505	0.05533	0.04598
____ S	-0.00787	-0.48	53.613	-0.00312	-0.00931	-0.01118
____ SB	0.62201	300.78	0.749	0.62342	0.62579	0.61681
____ SE	0.04529	7.88	7.294	0.04872	0.04501	0.04213
____ SI	0.01337	6.89	23.132	0.01240	0.01683	0.01088
____ SN	0.00716	6.91	4.853	0.00680	0.00749	0.00721
____ SR	0.00000	3,544.26	3918.542	0.00001	0.00007	-0.00008
____ TI	0.00003	38.01	606.453	0.00016	-0.00015	0.00006
____ TL	0.09588	39.78	2.944	0.09263	0.09767	0.09735
____ V	0.51296	6,327.96	0.732	0.51341	0.51647	0.50900
____ Y1	14061.08576	14,061.09	0.312	14101.39574	14014.27715	14067.58439
____ Y2A	365350.91082	365,350.91	1.149	362764.01792	363092.79548	370195.91904
____ Y2R	38270.82341	38,270.82	0.493	38393.72126	38365.10989	38053.63908
____ ZN	0.99931	8,698.97	0.336	0.99761	1.00317	0.99714
____ ZR	0.00535	24.93	9.642	0.00480	0.00583	0.00542

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 10 Date/Time: 10/07/2015 18:44

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49327	7,620.21	1.042	0.49230	0.48869	0.49883
____ AL	25.23697	4,412.28	0.464	25.23443	25.35542	25.12107
____ AS	0.48748	163.98	0.499	0.48658	0.49023	0.48563
____ B	0.48372	3,972.81	1.230	0.48110	0.47952	0.49053
____ BA	0.48649	347,895.03	1.127	0.48398	0.48271	0.49277
____ BE	0.47997	182,393.24	0.712	0.48012	0.47647	0.48330
____ CA	24.96382	36,115.92	0.347	24.96409	25.05030	24.87708
____ CD	0.48322	5,929.67	0.419	0.48370	0.48497	0.48100
____ CO	0.48469	2,436.99	0.215	0.48530	0.48529	0.48349
____ CR	0.51118	4,572.81	1.203	0.50840	0.50691	0.51823
____ CU	0.49801	6,006.91	0.635	0.49787	0.49491	0.50123
____ FE	24.73649	13,016.77	0.295	24.75212	24.80045	24.65690
____ K	24.80135	9,476.31	0.324	24.85454	24.84073	24.70877
____ LI	0.48919	4,187.86	0.390	0.48893	0.49122	0.48743
____ MG	24.90090	61,410.00	0.330	24.92096	24.97129	24.81045
____ MN	0.49132	33,822.22	0.810	0.49027	0.48796	0.49571
____ MO	0.49227	1,739.25	0.247	0.49354	0.49215	0.49111
____ NA	24.97631	33,718.31	0.402	24.96785	25.08056	24.88052
____ NI	0.48214	1,491.65	0.371	0.48413	0.48159	0.48069
____ P	0.48007	186.26	0.117	0.48001	0.47954	0.48065
____ PB	0.48465	511.22	0.476	0.48729	0.48367	0.48300
____ S	24.11059	4,752.77	0.292	24.06649	24.19193	24.07336
____ SB	0.50447	272.49	0.571	0.50205	0.50765	0.50372
____ SE	0.48628	129.80	0.555	0.48896	0.48357	0.48630
____ SI	25.10212	8,346.78	0.352	25.03951	25.20320	25.06365
____ SN	0.49076	445.53	0.229	0.49197	0.49057	0.48975
____ SR	0.49054	396,293.44	1.146	0.48761	0.48700	0.49703
____ TI	0.51072	24,609.68	0.889	0.50865	0.50759	0.51593
____ TL	0.48725	257.39	0.528	0.48450	0.48960	0.48765
____ V	0.51536	7,169.65	0.553	0.51570	0.51235	0.51802
____ Y1	15817.49195	15,817.49	0.357	15794.32704	15776.31246	15881.83634
____ Y2A	417934.69737	417,934.70	0.836	419137.75679	420669.81445	413996.52087
____ Y2R	39926.86684	39,926.87	0.590	39953.27779	39679.15334	40148.16939
____ ZN	0.48037	4,645.71	0.342	0.48027	0.48205	0.47877
____ ZR	0.49916	1,728.65	1.010	0.50180	0.50233	0.49334

LANCASTER LABORATORIES

Run Name: 1528007T72

Instrument ID: 16417

Tube: 11

Date/Time: 10/07/2015 18:47

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00048	-15.07	94.735	0.00096	0.00005	0.00043
____ AL	0.06540	9.87	16.628	0.05525	0.06407	0.07687
____ AS	0.00397	0.62	61.747	0.00675	0.00215	0.00300
____ B	0.00160	21.05	21.898	0.00196	0.00159	0.00126
____ BA	0.00008	62.85	31.178	0.00007	0.00011	0.00007
____ BE	0.00007	-121.50	28.996	0.00006	0.00005	0.00009
____ CA	0.03374	178.45	21.276	0.02617	0.04045	0.03460
____ CD	0.00009	-2.12	93.746	0.00001	0.00018	0.00009
____ CO	0.00035	-2.01	61.831	0.00022	0.00059	0.00023
____ CR	0.00026	1.13	233.964	-0.00027	0.00013	0.00090
____ CU	0.00444	-142.98	3.726	0.00433	0.00463	0.00436
____ FE	0.02492	13.47	9.098	0.02241	0.02681	0.02554
____ K	-0.02382	46.31	84.301	-0.03991	-0.03022	-0.00132
____ LI	-0.00120	10.90	74.427	-0.00070	-0.00224	-0.00067
____ MG	0.04122	133.64	14.834	0.03448	0.04643	0.04274
____ MN	0.00000	9.62	2562.469	0.00001	0.00007	-0.00007
____ MO	0.00075	4.12	28.697	0.00053	0.00096	0.00078
____ NA	-0.00782	-79.27	203.965	0.01017	-0.02023	-0.01339
____ NI	-0.00028	9.76	42.163	-0.00034	-0.00035	-0.00014
____ P	0.00105	-0.32	17.604	0.00123	0.00106	0.00086
____ PB	-0.00145	0.10	35.204	-0.00159	-0.00089	-0.00188
____ S	0.00446	3.14	57.196	0.00656	0.00162	0.00518
____ SB	0.00329	0.01	32.314	0.00206	0.00386	0.00394
____ SE	0.00246	-0.93	102.336	0.00114	0.00088	0.00537
____ SI	0.01698	10.79	27.378	0.02194	0.01273	0.01626
____ SN	0.00044	1.79	85.824	0.00071	0.00059	0.00001
____ SR	0.00005	-6.93	11.525	0.00005	0.00004	0.00005
____ TI	0.00009	22.15	116.468	-0.00001	0.00008	0.00019
____ TL	0.00211	-2.22	16.947	0.00194	0.00252	0.00187
____ V	0.00017	0.17	250.503	0.00055	0.00021	-0.00027
____ Y1	16170.39234	16,170.39	0.047	16176.77454	16162.00040	16172.40208
____ Y2A	437295.61520	437,295.62	0.804	434035.28827	436829.27435	441022.28297
____ Y2R	40363.49676	40,363.50	0.736	40170.91582	40705.54946	40214.02500
____ ZN	-0.00130	17.27	2.273	-0.00130	-0.00133	-0.00127
____ ZR	0.00108	11.42	112.676	0.00190	0.00167	-0.00032

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 12 Date/Time: 10/07/2015 18:51

Sample Number: **PBS** Class: **** Batch: 152795708001

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00002	-23.82	2665.456	0.00031	-0.00067	0.00030
____ AL	0.09292	14.89	28.216	0.09013	0.06821	0.12043
____ AS	0.00223	0.02	72.983	0.00330	0.00036	0.00302
____ B	0.01577	139.60	1.185	0.01562	0.01598	0.01572
____ BA	0.00053	401.13	2.503	0.00052	0.00054	0.00053
____ BE	0.00002	-141.10	135.587	-0.00001	0.00004	0.00004
____ CA	0.15276	356.43	2.013	0.15315	0.14950	0.15562
____ CD	0.00006	-2.58	99.739	0.00001	0.00011	0.00005
____ CO	0.00052	-1.09	51.819	0.00053	0.00025	0.00079
____ CR	0.00034	1.90	107.109	0.00040	0.00066	-0.00005
____ CU	0.00473	-141.17	4.387	0.00492	0.00451	0.00476
____ FE	0.03067	16.75	5.657	0.03265	0.02939	0.02997
____ K	-0.00117	55.60	1515.203	0.01841	-0.00558	-0.01635
____ LI	0.00019	23.19	800.127	-0.00038	0.00191	-0.00096
____ MG	0.01493	68.11	6.346	0.01489	0.01400	0.01589
____ MN	0.00018	22.45	33.310	0.00014	0.00014	0.00024
____ MO	0.00069	3.87	5.715	0.00065	0.00073	0.00069
____ NA	0.00226	-66.11	496.658	-0.00864	0.00162	0.01380
____ NI	-0.00006	10.37	606.087	0.00015	0.00018	-0.00052
____ P	0.01270	4.28	15.878	0.01092	0.01489	0.01230
____ PB	-0.00068	0.92	210.896	0.00085	-0.00089	-0.00198
____ S	0.00147	2.53	197.715	0.00474	-0.00081	0.00047
____ SB	0.00589	1.49	14.740	0.00537	0.00689	0.00542
____ SE	0.00222	-0.99	81.804	0.00091	0.00429	0.00145
____ SI	0.01224	9.31	46.224	0.01158	0.00694	0.01820
____ SN	0.01603	16.12	6.652	0.01710	0.01601	0.01497
____ SR	0.00276	2,321.48	0.675	0.00274	0.00276	0.00278
____ TI	0.00022	29.08	42.985	0.00021	0.00013	0.00031
____ TL	0.00153	-2.52	50.342	0.00235	0.00082	0.00141
____ V	-0.00004	-2.90	1229.373	-0.00005	-0.00058	0.00050
____ Y1	16078.37779	16,078.38	0.145	16052.12886	16086.34849	16096.65601
____ Y2A	443392.09189	443,392.09	0.194	442547.29954	444265.49039	443363.48575
____ Y2R	40793.84891	40,793.85	0.038	40810.73137	40780.72055	40790.09481
____ ZN	-0.00038	26.16	10.630	-0.00036	-0.00042	-0.00034
____ ZR	0.00003	7.84	1404.645	0.00059	-0.00032	-0.00017

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 13 Date/Time: 10/07/2015 18:54

Sample Number: **LCSW** Class: **** Batch: 152795708001

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04823	868.72	1.750	0.04917	0.04801	0.04752
____ AL	2.15747	389.25	0.380	2.16531	2.14893	2.15817
____ AS	0.15271	51.15	0.922	0.15434	0.15193	0.15187
____ B	1.93366	15,399.47	0.846	1.94876	1.93592	1.91629
____ BA	2.04208	1,478,432.91	0.568	2.05458	2.03995	2.03170
____ BE	0.05332	19,713.94	1.015	0.05393	0.05313	0.05291
____ CA	4.25134	6,318.36	0.976	4.21826	4.23787	4.29789
____ CD	0.05129	626.28	0.303	0.05129	0.05144	0.05113
____ CO	0.50549	2,555.47	0.280	0.50557	0.50403	0.50686
____ CR	0.20942	1,898.30	0.869	0.21119	0.20953	0.20755
____ CU	0.26095	3,057.82	0.392	0.26212	0.26053	0.26021
____ FE	1.03149	554.56	0.435	1.02797	1.02995	1.03654
____ K	10.20998	3,957.07	1.043	10.14401	10.15314	10.33280
____ LI	1.00891	8,661.59	0.540	1.00860	1.00362	1.01451
____ MG	2.06377	5,195.59	0.580	2.05228	2.06287	2.07616
____ MN	0.51215	35,692.03	0.963	0.51774	0.51031	0.50841
____ MO	2.00648	7,107.82	0.352	2.00956	1.99839	2.01149
____ NA	10.22431	13,846.20	0.385	10.18854	10.21791	10.26646
____ NI	0.51300	1,595.54	0.274	0.51311	0.51154	0.51434
____ P	1.00285	390.20	0.206	1.00455	1.00055	1.00344
____ PB	0.15677	158.51	0.648	0.15769	0.15694	0.15568
____ S	0.97955	193.97	0.222	0.98040	0.97708	0.98117
____ SB	0.54165	277.95	0.390	0.54359	0.53940	0.54194
____ SE	0.15383	40.53	0.534	0.15335	0.15478	0.15337
____ SI	1.27807	439.62	1.510	1.26146	1.27350	1.29925
____ SN	3.98635	3,621.42	0.288	3.98242	3.97733	3.99930
____ SR	1.03185	843,580.68	0.893	1.04248	1.02685	1.02623
____ TI	1.05235	51,218.42	0.847	1.06222	1.04997	1.04488
____ TL	0.15744	80.80	0.903	0.15870	0.15590	0.15772
____ V	0.53854	7,382.21	0.950	0.54424	0.53701	0.53436
____ Y1	15868.48242	15,868.48	0.336	15922.89016	15866.08487	15816.47224
____ Y2A	423107.16258	423,107.16	1.050	418615.14248	423204.27435	427502.07091
____ Y2R	40168.41494	40,168.41	0.593	40284.06824	40326.76929	39894.40730
____ ZN	0.49999	4,822.00	0.211	0.49989	0.49899	0.50109
____ ZR	1.01995	3,545.75	0.774	1.01233	1.01944	1.02809

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 14 Date/Time: 10/07/2015 18:57

Sample Number: **8064453** Class: U*** Batch: 152795708001

Initial Vol: 1.01 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00044	-905.88	107.556	-0.00089	0.00005	-0.00046
____ AL	32.37307	5,830.06	0.184	32.31485	32.37069	32.43367
____ AS	0.03295	12.36	6.324	0.03526	0.03122	0.03236
____ B	0.05793	1,340.49	2.123	0.05697	0.05751	0.05932
____ BA	0.14847	110,189.38	0.943	0.14886	0.14691	0.14963
____ BE	0.00121	197.96	0.498	0.00121	0.00120	0.00121
____ CA	31.69617	47,244.78	0.092	31.66374	31.71986	31.70490
____ CD	0.00071	155.72	13.106	0.00067	0.00064	0.00081
____ CO	0.04063	232.46	1.371	0.04127	0.04028	0.04034
____ CR	0.09018	806.55	1.090	0.09109	0.08914	0.09030
____ CU	0.08512	841.89	0.861	0.08454	0.08487	0.08595
____ FE	112.31798	57,507.83	0.251	112.00951	112.56129	112.38312
____ K	2.90660	1,196.50	3.093	2.98179	2.93098	2.80703
____ LI	0.05406	500.31	4.501	0.05531	0.05561	0.05125
____ MG	19.93072	50,853.96	0.452	19.84663	20.02595	19.91959
____ MN	1.58960	113,548.10	0.757	1.59127	1.57682	1.60071
____ MO	0.00282	11.46	9.374	0.00254	0.00307	0.00283
____ NA	2.09784	2,859.74	0.334	2.09361	2.10592	2.09399
____ NI	0.11963	378.52	0.299	0.11972	0.11994	0.11924
____ P	4.20289	1,651.43	0.069	4.20499	4.20407	4.19959
____ PB	0.04756	58.71	6.170	0.05000	0.04430	0.04838
____ S	1.10791	222.30	0.108	1.10685	1.10769	1.10920
____ SB	0.01838	2.52	3.208	0.01799	0.01810	0.01906
____ SE	0.02434	-2.49	10.350	0.02688	0.02184	0.02432
____ SI	9.85190	3,383.19	0.813	9.93467	9.77467	9.84636
____ SN	0.01911	18.88	0.358	0.01905	0.01909	0.01918
____ SR	0.13962	117,230.79	0.963	0.13982	0.13818	0.14085
____ TI	2.97485	148,374.55	0.812	2.98010	2.94851	2.99594
____ TL	0.00572	-3.65	16.686	0.00639	0.00463	0.00615
____ V	0.09406	1,406.88	0.755	0.09468	0.09329	0.09422
____ Y1	16022.97134	16,022.97	0.088	16039.27905	16015.09359	16014.54139
____ Y2A	433741.10890	433,741.11	0.534	432917.90921	436354.70510	431950.71239
____ Y2R	41219.04418	41,219.04	0.223	41115.98426	41292.79729	41248.35099
____ ZN	0.20629	2,139.37	0.101	0.20611	0.20624	0.20652
____ ZR	0.02737	105.24	8.005	0.02525	0.02724	0.02962

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 15 Date/Time: 10/07/2015 19:00

Sample Number: **8064453** Class: UP** Batch: 152795708001

Initial Vol: 1.01 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01565	-486.15	6.136	0.01530	0.01490	0.01673
____ AL	32.54354	5,824.80	0.387	32.47146	32.47016	32.68900
____ AS	0.51289	175.16	0.681	0.51553	0.51421	0.50893
____ B	0.24921	2,827.22	2.242	0.25270	0.25217	0.24277
____ BA	0.19575	142,574.42	1.096	0.19694	0.19703	0.19327
____ BE	0.02194	8,108.40	1.183	0.02204	0.02213	0.02164
____ CA	31.98815	47,366.97	0.513	31.90112	31.88604	32.17730
____ CD	0.05047	763.96	0.592	0.05078	0.05044	0.05019
____ CO	0.13795	724.78	0.470	0.13863	0.13734	0.13787
____ CR	0.29323	2,645.35	1.583	0.29493	0.29679	0.28798
____ CU	0.59052	7,236.35	1.401	0.59376	0.59668	0.58111
____ FE	109.85441	55,977.58	0.481	109.58206	109.51750	110.46367
____ K	4.78337	1,920.00	1.690	4.70269	4.78300	4.86442
____ LI	1.04409	9,141.02	0.116	1.04331	1.04347	1.04548
____ MG	20.38020	51,652.82	0.629	20.34767	20.27152	20.52142
____ MN	1.63947	114,930.18	0.993	1.64640	1.65116	1.62087
____ MO	0.19999	712.69	0.651	0.20149	0.19913	0.19935
____ NA	4.03997	5,535.91	0.477	4.01937	4.04298	4.05758
____ NI	0.26593	829.88	0.245	0.26654	0.26524	0.26602
____ P	5.11697	2,000.27	0.488	5.14532	5.09830	5.10729
____ PB	0.53583	570.71	0.819	0.54079	0.53427	0.53245
____ S	2.05943	409.83	0.447	2.06918	2.05821	2.05090
____ SB	0.40955	220.84	1.007	0.41413	0.40612	0.40840
____ SE	0.83264	219.65	0.955	0.84125	0.82559	0.83106
____ SI	10.38381	3,543.32	0.458	10.37739	10.33979	10.43425
____ SN	0.59378	542.83	0.813	0.59928	0.59024	0.59183
____ SR	0.15827	130,393.64	1.101	0.15915	0.15940	0.15626
____ TI	3.05787	149,678.89	1.091	3.07214	3.08171	3.01975
____ TL	0.98717	526.49	0.547	0.99257	0.98716	0.98178
____ V	0.19763	2,833.49	1.619	0.19853	0.20028	0.19408
____ Y1	15935.75119	15,935.75	0.389	15865.90425	15984.43289	15956.91642
____ Y2A	425685.60857	425,685.61	1.124	422676.11001	423176.44135	431204.27435
____ Y2R	40952.49581	40,952.50	0.593	40933.52659	41204.08673	40719.87410
____ ZN	0.32205	3,245.19	0.272	0.32303	0.32176	0.32135
____ ZR	1.00971	3,578.70	0.237	1.00847	1.00820	1.01247

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 16 Date/Time: 10/07/2015 19:03

Sample Number: **8064456** Class: D*** Batch: 152795708001

Initial Vol: 1.01 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00267	-1,001.58	24.704	-0.00198	-0.00330	-0.00272
____ AL	35.97036	6,431.18	0.368	35.84477	36.10867	35.95765
____ AS	0.04180	15.64	6.305	0.04276	0.04382	0.03882
____ B	0.05969	1,401.12	1.284	0.05952	0.05902	0.06052
____ BA	0.12020	86,740.56	0.307	0.11977	0.12041	0.12041
____ BE	0.00130	211.13	1.248	0.00130	0.00128	0.00131
____ CA	23.80701	35,321.63	0.491	23.69711	23.92980	23.79413
____ CD	0.00029	166.51	29.757	0.00020	0.00037	0.00030
____ CO	0.04612	264.90	0.587	0.04583	0.04618	0.04636
____ CR	0.10083	877.58	0.616	0.10012	0.10109	0.10128
____ CU	0.10574	1,067.57	1.347	0.10416	0.10692	0.10614
____ FE	123.60235	62,346.89	0.520	122.95020	124.23517	123.62168
____ K	3.18817	1,297.75	1.269	3.18913	3.22813	3.14725
____ LI	0.06752	613.42	1.276	0.06794	0.06810	0.06653
____ MG	23.74121	60,051.38	0.390	23.65369	23.83819	23.73174
____ MN	1.53407	106,548.44	0.280	1.52932	1.53768	1.53521
____ MO	0.00084	4.43	12.108	0.00085	0.00074	0.00094
____ NA	1.33381	1,780.21	0.594	1.33679	1.32482	1.33981
____ NI	0.14508	459.64	0.780	0.14510	0.14394	0.14620
____ P	4.48072	1,769.65	0.538	4.45651	4.48090	4.50474
____ PB	0.04219	54.10	4.383	0.04287	0.04361	0.04010
____ S	0.59197	119.74	1.275	0.58327	0.59583	0.59680
____ SB	0.02146	3.70	1.695	0.02107	0.02152	0.02179
____ SE	0.02534	-3.02	13.078	0.02320	0.02915	0.02365
____ SI	11.06954	3,774.03	0.699	11.01813	11.15851	11.03198
____ SN	0.01806	18.01	2.066	0.01763	0.01832	0.01823
____ SR	0.11624	94,874.81	0.303	0.11585	0.11653	0.11634
____ TI	3.29195	159,644.09	0.293	3.28113	3.29506	3.29966
____ TL	0.00706	-3.41	18.429	0.00557	0.00764	0.00798
____ V	0.10455	1,520.68	0.985	0.10338	0.10498	0.10530
____ Y1	16104.73386	16,104.73	0.094	16112.76312	16114.18820	16087.25027
____ Y2A	421723.96178	421,723.96	0.250	421859.42677	420606.61034	422705.84824
____ Y2R	40930.15846	40,930.16	0.495	40991.36554	40704.02500	41095.08483
____ ZN	0.21762	2,273.38	0.478	0.21659	0.21761	0.21867
____ ZR	0.03178	120.08	2.494	0.03258	0.03178	0.03099

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 17 Date/Time: 10/07/2015 19:06

Sample Number: **8064454** Class: R*** Batch: 152795708001

Initial Vol: 1.01 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04575	-143.03	0.468	0.04550	0.04587	0.04587
____ AL	46.30968	8,247.97	0.524	46.05876	46.32697	46.54330
____ AS	0.18445	64.15	0.609	0.18572	0.18356	0.18408
____ B	1.92693	16,372.46	1.653	1.95657	1.93099	1.89324
____ BA	2.08078	1,513,879.08	0.849	2.08881	2.09300	2.06052
____ BE	0.05343	19,699.99	1.422	0.05409	0.05360	0.05260
____ CA	31.24986	46,044.95	0.346	31.13140	31.27539	31.34279
____ CD	0.04944	774.30	0.627	0.04969	0.04909	0.04952
____ CO	0.53643	2,767.84	0.600	0.53642	0.53322	0.53966
____ CR	0.32167	2,896.60	1.356	0.32491	0.32340	0.31671
____ CU	0.35039	4,104.20	1.364	0.35581	0.34858	0.34678
____ FE	128.44180	64,270.11	0.353	127.93731	128.57464	128.81346
____ K	13.72666	5,376.79	0.333	13.67742	13.73479	13.76776
____ LI	1.05805	9,215.00	0.575	1.05122	1.06008	1.06287
____ MG	29.64465	74,449.28	0.493	29.50784	29.62748	29.79863
____ MN	2.13060	149,176.82	1.502	2.15941	2.13622	2.09617
____ MO	1.94382	6,907.24	0.453	1.95347	1.93621	1.94176
____ NA	11.58745	15,925.30	0.453	11.52708	11.61298	11.62231
____ NI	0.64118	1,991.81	0.378	0.64300	0.63843	0.64211
____ P	5.69357	2,223.21	0.681	5.72221	5.64946	5.70905
____ PB	0.19014	203.65	0.653	0.19127	0.18881	0.19033
____ S	1.62505	321.34	0.883	1.63019	1.60885	1.63612
____ SB	0.51102	255.45	0.488	0.51254	0.50814	0.51238
____ SE	0.17571	38.25	0.863	0.17418	0.17573	0.17721
____ SI	18.79759	6,383.92	0.546	18.72105	18.91425	18.75748
____ SN	3.82348	3,484.30	0.398	3.83182	3.80593	3.83268
____ SR	1.11331	914,756.42	2.228	1.13740	1.11467	1.08786
____ TI	5.94085	290,445.12	1.209	5.99677	5.96593	5.85983
____ TL	0.15575	75.06	1.378	0.15822	0.15436	0.15467
____ V	0.64697	9,026.22	1.045	0.65314	0.64801	0.63975
____ Y1	15917.90062	15,917.90	0.439	15848.02557	15987.70415	15917.97214
____ Y2A	425211.70201	425,211.70	1.618	419059.39364	423933.81378	432641.89861
____ Y2R	40741.33610	40,741.34	0.400	40920.91072	40700.14465	40602.95291
____ ZN	0.71688	7,050.46	0.465	0.71996	0.71335	0.71732
____ ZR	1.03473	3,648.40	0.240	1.03228	1.03467	1.03725

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 18 Date/Time: 10/07/2015 19:09

Sample Number: **8064455** Class: M*** Batch: 152795708001

Initial Vol: 1.01 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04476	-106.08	0.398	0.04484	0.04455	0.04488
____ AL	44.35737	7,985.95	0.198	44.27559	44.34660	44.44993
____ AS	0.18553	64.62	0.847	0.18661	0.18373	0.18626
____ B	1.93987	16,425.97	1.716	1.91216	1.93066	1.97679
____ BA	2.08811	1,519,319.44	1.357	2.06591	2.07840	2.12001
____ BE	0.05311	19,585.79	1.359	0.05256	0.05285	0.05393
____ CA	28.92136	43,097.40	0.295	28.83550	28.92263	29.00596
____ CD	0.04980	772.15	0.446	0.04965	0.05005	0.04969
____ CO	0.53387	2,760.61	0.175	0.53280	0.53451	0.53431
____ CR	0.31941	2,878.08	1.969	0.31410	0.31778	0.32636
____ CU	0.35031	4,110.81	1.688	0.34601	0.34787	0.35705
____ FE	121.56689	61,776.62	0.264	121.38405	121.37881	121.93780
____ K	13.46157	5,330.28	0.359	13.50092	13.40756	13.47622
____ LI	1.05669	9,301.27	0.273	1.05587	1.05991	1.05431
____ MG	27.60938	70,138.79	0.045	27.59908	27.60574	27.62334
____ MN	2.09969	147,032.98	1.500	2.07307	2.09154	2.13446
____ MO	1.93728	6,907.06	0.069	1.93593	1.93860	1.93732
____ NA	11.44228	15,892.85	0.229	11.42663	11.47254	11.42766
____ NI	0.63281	1,972.75	0.222	0.63143	0.63424	0.63275
____ P	5.45424	2,136.88	0.199	5.44170	5.46045	5.46056
____ PB	0.18815	201.89	1.509	0.19008	0.18489	0.18948
____ S	1.55605	308.75	0.311	1.55099	1.55650	1.56064
____ SB	0.51423	258.57	0.843	0.50993	0.51860	0.51416
____ SE	0.17313	38.15	1.891	0.17641	0.16986	0.17313
____ SI	18.80936	6,456.00	0.646	18.73627	18.74226	18.94956
____ SN	3.83564	3,507.07	0.163	3.84278	3.83289	3.83125
____ SR	1.11727	918,200.70	1.329	1.10424	1.11413	1.13343
____ TI	5.58634	273,152.46	1.179	5.52238	5.58270	5.65393
____ TL	0.15461	75.06	0.721	0.15448	0.15356	0.15578
____ V	0.64260	8,962.17	1.692	0.63492	0.63785	0.65504
____ Y1	15970.95164	15,970.95	0.049	15978.77657	15970.98794	15963.09040
____ Y2A	425261.37619	425,261.38	1.415	430017.39563	427270.54341	418496.18953
____ Y2R	41175.73199	41,175.73	0.437	41189.45976	41348.38565	40989.35056
____ ZN	0.70574	6,959.63	0.150	0.70455	0.70608	0.70659
____ ZR	1.03501	3,688.24	0.720	1.02874	1.03304	1.04325

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 19 Date/Time: 10/07/2015 19:12

Sample Number: **8064453** Class: UL** Batch: 152795708001

Initial Vol: 1.01 Final Vol: 100.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00107	-205.50	31.078	-0.00118	-0.00070	-0.00134
____ AL	6.49408	1,159.19	0.235	6.48051	6.51061	6.49112
____ AS	0.01106	3.44	5.290	0.01038	0.01141	0.01138
____ B	0.01934	327.26	5.781	0.02046	0.01933	0.01822
____ BA	0.03045	22,488.78	0.408	0.03041	0.03059	0.03036
____ BE	0.00023	-81.51	2.589	0.00023	0.00023	0.00024
____ CA	6.43228	9,648.40	0.862	6.40612	6.49594	6.39479
____ CD	0.00019	28.07	39.710	0.00024	0.00010	0.00023
____ CO	0.00860	46.78	3.303	0.00849	0.00893	0.00839
____ CR	0.01858	164.86	3.789	0.01938	0.01806	0.01830
____ CU	0.01991	45.73	3.118	0.01985	0.01931	0.02055
____ FE	21.35789	11,520.50	0.950	21.12746	21.43640	21.50980
____ K	0.58701	284.15	4.511	0.55952	0.58915	0.61235
____ LI	0.01190	125.85	17.922	0.01328	0.00944	0.01296
____ MG	3.99317	10,184.34	1.015	3.97247	4.03988	3.96716
____ MN	0.33024	23,479.04	0.350	0.32925	0.33151	0.32997
____ MO	0.00317	12.94	7.966	0.00299	0.00307	0.00346
____ NA	0.38614	464.97	1.047	0.38785	0.38153	0.38905
____ NI	0.02458	87.58	0.600	0.02467	0.02465	0.02441
____ P	0.82714	329.59	0.122	0.82645	0.82830	0.82667
____ PB	0.00851	12.16	13.998	0.00962	0.00725	0.00867
____ S	0.21710	46.08	2.126	0.21388	0.22239	0.21503
____ SB	0.00760	1.30	4.681	0.00801	0.00743	0.00736
____ SE	0.00390	-1.99	25.058	0.00468	0.00421	0.00280
____ SI	1.97830	677.20	0.723	1.96181	1.98577	1.98732
____ SN	0.00591	6.90	15.229	0.00645	0.00642	0.00487
____ SR	0.02866	23,911.29	0.455	0.02858	0.02881	0.02859
____ TI	0.60850	30,211.52	0.412	0.60615	0.61114	0.60821
____ TL	0.00126	-3.38	147.275	-0.00035	0.00085	0.00328
____ V	0.01906	281.34	1.048	0.01928	0.01900	0.01890
____ Y1	16278.16351	16,278.16	0.224	16313.33067	16240.61855	16280.54131
____ Y2A	431557.37795	431,557.38	0.357	433072.81312	429988.65142	431610.66932
____ Y2R	40837.89460	40,837.89	0.646	41136.76002	40739.20432	40637.71947
____ ZN	0.03995	444.82	0.363	0.04007	0.03999	0.03979
____ ZR	0.00758	34.49	22.360	0.00918	0.00581	0.00776

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 20 Date/Time: 10/07/2015 19:15

Sample Number: **8064450** Class: **** Batch: 152795708001

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00012	-1,194.64	978.448	0.00065	-0.00118	0.00088
____ AL	49.85644	8,958.86	0.634	49.74824	49.60844	50.21265
____ AS	0.03428	13.53	2.691	0.03322	0.03466	0.03495
____ B	0.07488	1,769.25	5.270	0.07351	0.07933	0.07180
____ BA	0.19259	141,937.34	0.596	0.19143	0.19372	0.19262
____ BE	0.00173	358.21	0.584	0.00172	0.00173	0.00174
____ CA	19.01303	28,427.01	0.714	18.94808	18.92187	19.16914
____ CD	0.00011	201.80	100.752	0.00024	0.00007	0.00003
____ CO	0.05562	325.37	0.444	0.05537	0.05564	0.05586
____ CR	0.12123	1,076.91	2.199	0.12017	0.12427	0.11927
____ CU	0.12264	1,277.58	1.174	0.12132	0.12417	0.12242
____ FE	151.81837	75,503.09	0.705	151.12354	151.28115	153.05043
____ K	6.34994	2,543.94	0.170	6.33871	6.35087	6.36023
____ LI	0.08681	785.82	0.598	0.08659	0.08644	0.08740
____ MG	27.04159	68,704.40	0.416	26.96491	26.98907	27.17079
____ MN	2.56738	182,105.79	0.381	2.55731	2.57688	2.56795
____ MO	0.00098	4.93	28.630	0.00101	0.00125	0.00069
____ NA	1.08925	1,449.50	0.495	1.09265	1.08304	1.09207
____ NI	0.16112	508.66	0.193	0.16146	0.16085	0.16104
____ P	5.44233	2,149.52	0.236	5.43883	5.43161	5.45656
____ PB	0.04562	60.34	3.808	0.04414	0.04753	0.04520
____ S	0.37250	75.35	1.423	0.37266	0.37772	0.36712
____ SB	0.02317	3.20	4.294	0.02261	0.02432	0.02259
____ SE	0.02790	-3.97	11.454	0.02666	0.02551	0.03153
____ SI	12.55723	4,305.65	0.374	12.53598	12.52462	12.61108
____ SN	0.01935	19.20	3.750	0.01888	0.01899	0.02019
____ SR	0.09462	78,858.88	0.572	0.09405	0.09512	0.09469
____ TI	4.48954	222,350.85	0.229	4.47776	4.49689	4.49395
____ TL	0.00791	-3.83	12.757	0.00844	0.00675	0.00854
____ V	0.12360	1,840.60	0.945	0.12275	0.12493	0.12312
____ Y1	16104.20174	16,104.20	0.300	16049.29009	16123.36576	16139.94935
____ Y2A	430705.93108	430,705.93	0.646	433226.06030	427718.68787	431173.04506
____ Y2R	41170.83196	41,170.83	0.303	41189.43711	41285.08378	41037.97500
____ ZN	0.29217	3,024.90	0.432	0.29337	0.29085	0.29230
____ ZR	0.05128	190.09	2.935	0.05107	0.04988	0.05287

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 21 Date/Time: 10/07/2015 19:18

Sample Number: **8064451** Class: **** Batch: 152795708001

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00097	-1,151.48	57.384	-0.00051	-0.00081	-0.00159
____ AL	52.79008	9,540.55	0.414	52.60882	53.03304	52.72838
____ AS	0.03094	12.32	4.398	0.03049	0.02986	0.03247
____ B	0.06803	1,660.25	2.951	0.06665	0.06711	0.07034
____ BA	0.21044	156,473.23	0.452	0.21044	0.20948	0.21138
____ BE	0.00180	393.33	0.137	0.00180	0.00180	0.00180
____ CA	16.79078	25,279.51	0.469	16.70054	16.82586	16.84594
____ CD	0.00009	190.24	41.640	0.00008	0.00013	0.00006
____ CO	0.05493	328.50	0.791	0.05444	0.05527	0.05507
____ CR	0.11015	985.73	1.160	0.10934	0.10948	0.11162
____ CU	0.11122	1,130.70	0.792	0.11026	0.11139	0.11200
____ FE	142.74488	71,876.29	0.503	141.95216	143.35234	142.93013
____ K	6.96756	2,802.36	0.799	6.90851	7.01902	6.97514
____ LI	0.08456	770.35	2.917	0.08185	0.08666	0.08518
____ MG	25.94125	66,330.53	0.651	25.74688	26.02635	26.05053
____ MN	3.15117	225,501.30	0.582	3.14689	3.13535	3.17127
____ MO	0.00062	3.64	9.553	0.00065	0.00066	0.00055
____ NA	0.76805	1,007.41	0.513	0.77013	0.76350	0.77051
____ NI	0.15105	480.91	0.497	0.15039	0.15089	0.15186
____ P	5.62945	2,239.19	0.538	5.60038	5.62720	5.66078
____ PB	0.03547	50.19	1.252	0.03523	0.03519	0.03598
____ S	0.04503	9.79	2.181	0.04469	0.04614	0.04427
____ SB	0.02187	3.02	11.764	0.01890	0.02341	0.02329
____ SE	0.02601	-3.64	16.990	0.02872	0.02091	0.02840
____ SI	10.76036	3,711.97	1.224	10.62088	10.88258	10.77764
____ SN	0.01950	19.47	1.555	0.01935	0.01930	0.01985
____ SR	0.08382	70,477.55	0.579	0.08389	0.08331	0.08427
____ TI	4.93265	246,467.51	0.683	4.92274	4.90504	4.97018
____ TL	0.00763	-3.89	19.495	0.00824	0.00593	0.00872
____ V	0.12187	1,831.99	0.839	0.12110	0.12148	0.12303
____ Y1	16218.49253	16,218.49	0.229	16260.13122	16189.02138	16206.32498
____ Y2A	434541.08681	434,541.09	0.588	433879.39032	437363.15441	432380.71571
____ Y2R	41415.02552	41,415.03	0.302	41559.01320	41353.88767	41332.17569
____ ZN	0.24988	2,624.24	0.472	0.24866	0.24995	0.25101
____ ZR	0.05451	202.79	3.709	0.05453	0.05652	0.05248

LANCASTER LABORATORIES

Run Name: 1528007T72

Instrument ID: 16417

Tube: 22

Date/Time: 10/07/2015 19:21

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50124	7,665.08	0.460	0.50306	0.49865	0.50202
____ AL	25.09635	4,380.72	0.469	25.01998	25.03710	25.23199
____ AS	0.48964	165.20	0.913	0.49067	0.49350	0.48474
____ B	0.49049	3,984.19	0.591	0.49134	0.49287	0.48726
____ BA	0.49741	351,994.64	0.726	0.49432	0.49653	0.50138
____ BE	0.48578	182,674.67	0.575	0.48572	0.48302	0.48861
____ CA	25.01396	36,128.80	0.428	24.89248	25.05447	25.09494
____ CD	0.48514	5,971.10	0.413	0.48473	0.48732	0.48338
____ CO	0.48514	2,446.67	0.414	0.48401	0.48746	0.48395
____ CR	0.51634	4,570.76	0.762	0.51940	0.51771	0.51190
____ CU	0.50099	5,980.56	0.137	0.50042	0.50175	0.50078
____ FE	24.76191	13,008.64	0.444	24.66270	24.74288	24.88015
____ K	24.89067	9,494.60	0.737	24.72349	24.86173	25.08679
____ LI	0.49082	4,194.90	0.221	0.49021	0.49018	0.49207
____ MG	24.92874	61,377.50	0.528	24.83206	24.87539	25.07877
____ MN	0.49878	33,976.88	0.487	0.49882	0.49633	0.50120
____ MO	0.49138	1,741.33	0.502	0.49047	0.49417	0.48949
____ NA	25.00618	33,703.57	0.539	24.86831	25.01259	25.13763
____ NI	0.48142	1,493.91	0.477	0.48083	0.48395	0.47948
____ P	0.48167	187.45	0.644	0.47810	0.48324	0.48368
____ PB	0.48363	511.67	0.396	0.48468	0.48479	0.48142
____ S	24.12235	4,769.42	0.411	24.03232	24.22857	24.10616
____ SB	0.50238	272.12	0.395	0.50010	0.50360	0.50346
____ SE	0.48423	129.63	0.884	0.47942	0.48565	0.48762
____ SI	25.13408	8,343.71	0.627	24.95792	25.26167	25.18264
____ SN	0.48966	445.87	0.480	0.48827	0.49237	0.48834
____ SR	0.49642	396,847.38	0.346	0.49805	0.49657	0.49463
____ TI	0.52169	24,874.64	0.445	0.51977	0.52103	0.52427
____ TL	0.48762	258.36	0.203	0.48648	0.48817	0.48822
____ V	0.51990	7,157.70	0.342	0.52121	0.52060	0.51787
____ Y1	15865.17872	15,865.18	0.442	15853.11438	15801.88133	15940.54045
____ Y2A	413543.79280	413,543.79	0.332	412077.12061	414799.12194	413755.13585
____ Y2R	39861.71670	39,861.72	0.492	40080.05394	39805.25110	39699.84506
____ ZN	0.48189	4,674.27	0.527	0.48029	0.48482	0.48057
____ ZR	0.50429	1,743.59	0.675	0.50628	0.50623	0.50036

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 23 Date/Time: 10/07/2015 19:24

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00002	-22.27	2501.153	0.00023	-0.00062	0.00046
____ AL	0.03820	5.06	49.071	0.05983	0.02688	0.02788
____ AS	0.00231	0.05	5.558	0.00246	0.00222	0.00224
____ B	0.00207	24.63	16.773	0.00238	0.00213	0.00170
____ BA	0.00010	72.10	13.042	0.00009	0.00011	0.00009
____ BE	0.00005	-125.98	34.598	0.00007	0.00005	0.00003
____ CA	-0.01698	103.81	3.337	-0.01762	-0.01674	-0.01657
____ CD	0.00001	-3.26	2039.898	-0.00001	0.00011	-0.00008
____ CO	0.00032	-2.14	49.200	0.00026	0.00020	0.00050
____ CR	0.00034	1.88	72.170	0.00048	0.00048	0.00006
____ CU	0.00387	-149.37	17.971	0.00435	0.00417	0.00307
____ FE	0.01366	7.35	16.853	0.01184	0.01625	0.01289
____ K	0.02057	63.17	184.724	0.05344	-0.02104	0.02932
____ LI	-0.00087	13.79	39.266	-0.00118	-0.00092	-0.00050
____ MG	-0.00674	12.82	20.179	-0.00691	-0.00800	-0.00530
____ MN	0.00030	30.55	22.926	0.00037	0.00023	0.00029
____ MO	0.00085	4.48	6.234	0.00091	0.00081	0.00082
____ NA	-0.03099	-110.53	11.189	-0.02839	-0.03493	-0.02965
____ NI	-0.00034	9.62	75.459	-0.00022	-0.00017	-0.00064
____ P	0.00034	-0.60	173.595	-0.00022	0.00028	0.00095
____ PB	-0.00042	1.20	155.318	-0.00098	-0.00055	0.00029
____ S	0.00388	3.04	42.988	0.00360	0.00237	0.00566
____ SB	0.00465	0.79	51.740	0.00742	0.00321	0.00331
____ SE	0.00190	-1.09	76.844	0.00266	0.00022	0.00283
____ SI	0.01715	10.83	20.382	0.01963	0.01315	0.01867
____ SN	0.00129	2.59	20.248	0.00150	0.00137	0.00100
____ SR	0.00007	11.97	24.336	0.00008	0.00007	0.00005
____ TI	0.00061	48.28	8.279	0.00067	0.00056	0.00061
____ TL	-0.00019	-3.50	281.134	-0.00021	-0.00071	0.00035
____ V	0.00012	-0.53	504.109	-0.00009	-0.00034	0.00077
____ Y1	16260.02704	16,260.03	0.084	16245.52239	16272.48367	16262.07506
____ Y2A	433812.43097	433,812.43	0.176	434276.50762	432930.00331	434230.78197
____ Y2R	40237.68493	40,237.68	0.229	40336.98364	40221.07314	40154.99801
____ ZN	-0.00137	16.70	7.941	-0.00133	-0.00129	-0.00149
____ ZR	0.00133	12.22	48.689	0.00202	0.00074	0.00121

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 24 Date/Time: 10/07/2015 19:28

Sample Number: **8064452** Class: **** Batch: 152795708001

Initial Vol: 1.03 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00059	-608.47	73.042	-0.00090	-0.00078	-0.00010
____ AL	34.97865	6,379.07	0.275	35.02833	34.86786	35.03974
____ AS	0.01615	6.03	13.558	0.01841	0.01404	0.01600
____ B	0.05006	981.68	3.349	0.05197	0.04932	0.04887
____ BA	0.26452	197,534.22	0.243	0.26501	0.26379	0.26475
____ BE	0.00128	256.86	0.770	0.00129	0.00127	0.00128
____ CA	32.05806	48,394.88	0.301	32.00154	32.16965	32.00299
____ CD	0.00205	120.00	3.164	0.00200	0.00213	0.00203
____ CO	0.02568	149.92	0.337	0.02578	0.02561	0.02565
____ CR	0.11971	1,098.66	0.515	0.12012	0.11900	0.12001
____ CU	0.07902	786.28	0.328	0.07881	0.07931	0.07894
____ FE	73.34055	39,067.81	0.160	73.24855	73.47307	73.30005
____ K	4.02994	1,658.17	0.025	4.02887	4.03005	4.03088
____ LI	0.05110	480.56	2.084	0.05013	0.05093	0.05224
____ MG	12.69861	32,926.58	0.459	12.64923	12.76283	12.68376
____ MN	1.86976	134,383.00	0.155	1.87272	1.86694	1.86963
____ MO	0.00278	11.41	3.243	0.00269	0.00279	0.00287
____ NA	2.24036	3,098.16	0.483	2.25233	2.23745	2.23129
____ NI	0.08221	265.20	0.134	0.08214	0.08234	0.08215
____ P	4.12176	1,629.51	0.251	4.13304	4.11948	4.11277
____ PB	0.08346	97.30	2.118	0.08442	0.08454	0.08142
____ S	3.72787	750.28	0.344	3.72158	3.74261	3.71941
____ SB	0.01470	2.38	6.407	0.01512	0.01362	0.01536
____ SE	0.01519	-1.88	19.952	0.01290	0.01863	0.01404
____ SI	9.09439	3,164.08	0.524	9.14941	9.06655	9.06721
____ SN	0.02077	20.52	2.535	0.02021	0.02125	0.02084
____ SR	0.14966	126,429.23	0.155	0.14985	0.14940	0.14974
____ TI	2.23034	111,932.87	0.256	2.23685	2.22626	2.22792
____ TL	0.00370	-3.39	25.937	0.00456	0.00388	0.00267
____ V	0.07269	1,089.96	0.631	0.07311	0.07276	0.07220
____ Y1	16121.90556	16,121.91	0.387	16117.60554	16061.80292	16186.30822
____ Y2A	436406.94721	436,406.95	0.386	434570.74221	437877.98211	436772.11730
____ Y2R	41750.27243	41,750.27	0.436	41670.92500	41621.50908	41958.38320
____ ZN	0.34539	3,455.22	0.293	0.34648	0.34448	0.34522
____ ZR	0.01529	63.01	8.204	0.01520	0.01658	0.01408

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 25 Date/Time: 10/07/2015 19:31

Sample Number: **8064457** Class: **** Batch: 152795708001

Initial Vol: 1.01 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00171	-603.80	21.255	-0.00203	-0.00179	-0.00132
____ AL	33.00647	5,983.95	0.769	32.71351	33.14590	33.16000
____ AS	0.01552	5.79	7.037	0.01654	0.01567	0.01437
____ B	0.04982	950.65	2.796	0.05104	0.05011	0.04830
____ BA	0.26206	192,221.10	0.236	0.26263	0.26215	0.26140
____ BE	0.00122	227.45	1.138	0.00121	0.00124	0.00122
____ CA	32.21454	48,337.26	0.632	31.99359	32.25541	32.39462
____ CD	0.00224	120.43	2.430	0.00225	0.00218	0.00229
____ CO	0.02423	144.17	0.413	0.02418	0.02415	0.02434
____ CR	0.06659	591.34	0.684	0.06611	0.06701	0.06665
____ CU	0.07625	733.57	0.591	0.07621	0.07672	0.07582
____ FE	71.76593	38,039.86	0.865	71.08941	71.89909	72.30928
____ K	3.83906	1,572.83	1.076	3.79203	3.85579	3.86936
____ LI	0.04795	449.77	1.331	0.04792	0.04860	0.04733
____ MG	12.04980	31,066.78	0.441	11.99745	12.04833	12.10364
____ MN	1.93938	136,909.23	0.185	1.93853	1.94331	1.93629
____ MO	0.00127	5.96	26.620	0.00162	0.00095	0.00123
____ NA	2.22337	3,055.71	0.599	2.21296	2.21877	2.23839
____ NI	0.05856	191.39	0.503	0.05823	0.05879	0.05866
____ P	3.80087	1,504.36	0.755	3.81600	3.76778	3.81883
____ PB	0.08652	100.31	2.426	0.08780	0.08766	0.08410
____ S	3.39824	684.92	0.856	3.39299	3.37213	3.42958
____ SB	0.01097	0.56	14.295	0.00941	0.01095	0.01255
____ SE	0.01515	-1.81	19.368	0.01351	0.01854	0.01341
____ SI	8.66542	2,996.95	0.748	8.59387	8.72032	8.68206
____ SN	0.02105	20.81	0.970	0.02104	0.02085	0.02125
____ SR	0.14613	121,260.24	0.046	0.14619	0.14615	0.14606
____ TI	2.38586	117,608.97	0.150	2.38766	2.38818	2.38175
____ TL	0.00400	-3.30	47.551	0.00617	0.00263	0.00320
____ V	0.07505	1,105.20	0.750	0.07447	0.07509	0.07560
____ Y1	16141.08579	16,141.09	0.151	16123.57761	16168.89207	16130.78767
____ Y2A	428651.81135	428,651.81	0.288	427801.77270	428085.98410	430067.67727
____ Y2R	41500.21573	41,500.22	0.390	41687.02500	41406.30622	41407.31598
____ ZN	0.32275	3,237.03	0.633	0.32134	0.32182	0.32509
____ ZR	0.01345	56.07	6.978	0.01377	0.01240	0.01420

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 26 Date/Time: 10/07/2015 19:34

Sample Number: **8064458** Class: **** Batch: 152795708001

Initial Vol: 1.03 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00139	-744.40	49.873	-0.00209	-0.00071	-0.00136
____ AL	39.37146	7,074.11	0.277	39.37917	39.47660	39.25860
____ AS	0.01664	6.44	19.360	0.01537	0.01424	0.02030
____ B	0.05637	1,146.23	3.951	0.05856	0.05411	0.05645
____ BA	0.22262	163,489.06	0.518	0.22395	0.22204	0.22188
____ BE	0.00133	255.95	0.700	0.00133	0.00132	0.00133
____ CA	37.98984	56,428.16	0.321	38.04350	38.07581	37.85021
____ CD	0.00165	137.39	7.132	0.00164	0.00154	0.00178
____ CO	0.03410	196.31	0.842	0.03388	0.03442	0.03399
____ CR	0.08548	760.73	1.297	0.08623	0.08421	0.08600
____ CU	0.08331	819.90	0.509	0.08379	0.08310	0.08302
____ FE	90.51820	46,963.48	0.371	90.60462	90.80214	90.14784
____ K	3.68133	1,497.62	0.558	3.65774	3.69530	3.69095
____ LI	0.06741	617.27	1.704	0.06718	0.06639	0.06866
____ MG	17.52848	44,689.92	0.111	17.51158	17.54976	17.52410
____ MN	2.18531	154,453.57	0.454	2.19676	2.17987	2.17930
____ MO	0.00066	3.75	8.490	0.00071	0.00067	0.00060
____ NA	2.98216	4,087.21	0.033	2.98285	2.98103	2.98260
____ NI	0.08872	283.40	0.658	0.08927	0.08811	0.08880
____ P	4.26785	1,678.42	0.405	4.27462	4.28074	4.24818
____ PB	0.07607	89.96	2.240	0.07802	0.07528	0.07490
____ S	2.50296	501.45	0.108	2.50103	2.50182	2.50604
____ SB	0.01468	1.65	25.688	0.01270	0.01903	0.01231
____ SE	0.01725	-2.47	7.001	0.01630	0.01861	0.01684
____ SI	10.96326	3,757.71	0.886	11.01944	11.01921	10.85113
____ SN	0.02067	20.33	3.470	0.02116	0.01985	0.02100
____ SR	0.18654	154,964.09	0.546	0.18766	0.18630	0.18567
____ TI	2.66600	131,572.55	0.496	2.68030	2.66346	2.65424
____ TL	0.00412	-3.62	22.583	0.00501	0.00315	0.00420
____ V	0.08417	1,243.53	0.341	0.08424	0.08386	0.08442
____ Y1	16037.06490	16,037.06	0.038	16038.57486	16042.29258	16030.32727
____ Y2A	429171.33311	429,171.33	0.688	425807.07422	431327.78330	430379.14182
____ Y2R	41143.54750	41,143.55	0.301	41090.35693	41055.13166	41285.15391
____ ZN	0.33447	3,350.48	0.466	0.33566	0.33271	0.33506
____ ZR	0.01469	59.95	19.408	0.01719	0.01528	0.01159

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 27 Date/Time: 10/07/2015 19:36

Sample Number: **8064459** Class: **** Batch: 152795708001

Initial Vol: 1.04 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00058	-1,102.58	154.436	0.00042	-0.00086	-0.00131
____ AL	40.86631	7,329.48	0.374	40.69514	40.91399	40.98980
____ AS	0.03584	13.81	2.269	0.03676	0.03524	0.03551
____ B	0.06419	1,575.38	4.939	0.06061	0.06531	0.06664
____ BA	0.13447	98,023.98	1.828	0.13172	0.13524	0.13645
____ BE	0.00143	244.10	1.217	0.00142	0.00145	0.00143
____ CA	33.65403	49,953.64	0.841	33.38796	33.62282	33.95131
____ CD	0.00021	186.44	108.880	0.00041	0.00026	-0.00004
____ CO	0.04978	286.84	0.964	0.05033	0.04956	0.04945
____ CR	0.11360	998.74	2.684	0.11114	0.11265	0.11701
____ CU	0.10466	1,057.89	1.523	0.10336	0.10419	0.10644
____ FE	139.78701	69,946.07	0.855	138.73929	139.53357	141.08818
____ K	3.76670	1,528.24	1.539	3.72021	3.74821	3.83168
____ LI	0.07580	689.12	0.578	0.07535	0.07584	0.07622
____ MG	26.97472	68,367.35	0.719	26.84907	26.87686	27.19824
____ MN	2.11768	148,577.07	1.636	2.07972	2.12571	2.14762
____ MO	0.00015	1.91	103.714	0.00001	0.00031	0.00013
____ NA	2.12388	2,885.57	0.429	2.11410	2.12542	2.13213
____ NI	0.15370	483.90	0.251	0.15389	0.15326	0.15396
____ P	4.94652	1,945.35	0.136	4.93885	4.95140	4.94930
____ PB	0.04521	57.86	0.740	0.04553	0.04487	0.04523
____ S	0.68784	138.26	0.279	0.68588	0.68972	0.68792
____ SB	0.02120	2.68	4.678	0.02042	0.02085	0.02231
____ SE	0.02500	-4.14	8.649	0.02423	0.02332	0.02744
____ SI	9.43512	3,228.17	1.022	9.32813	9.51529	9.46194
____ SN	0.01812	17.99	5.957	0.01930	0.01791	0.01717
____ SR	0.16640	137,209.13	1.760	0.16315	0.16722	0.16883
____ TI	3.73985	183,208.53	1.649	3.66974	3.76401	3.78580
____ TL	0.00760	-3.44	13.019	0.00730	0.00680	0.00871
____ V	0.12058	1,771.14	1.930	0.11821	0.12067	0.12286
____ Y1	16035.98755	16,035.99	0.341	15982.96894	16092.33868	16032.65503
____ Y2A	426090.20875	426,090.21	1.586	433673.62492	423884.27767	420712.72366
____ Y2R	41069.41789	41,069.42	0.242	41129.10000	41124.47647	40954.67719
____ ZN	0.23907	2,487.66	0.231	0.23968	0.23861	0.23892
____ ZR	0.03358	126.86	4.098	0.03458	0.03201	0.03415

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 28 Date/Time: 10/07/2015 19:39

Sample Number: **8064461** Class: **** Batch: 152795708001

Initial Vol: 1.03 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00134	-945.47	24.365	-0.00131	-0.00103	-0.00167
____ AL	37.89775	6,833.12	0.767	37.69010	38.22989	37.77325
____ AS	0.02240	8.90	2.883	0.02287	0.02268	0.02166
____ B	0.05625	1,357.92	4.815	0.05548	0.05401	0.05926
____ BA	0.13605	102,007.07	0.248	0.13596	0.13577	0.13643
____ BE	0.00125	210.21	1.404	0.00126	0.00126	0.00123
____ CA	17.54318	26,317.96	0.462	17.45411	17.61259	17.56284
____ CD	0.00042	156.53	3.044	0.00043	0.00040	0.00042
____ CO	0.04263	247.48	0.913	0.04304	0.04227	0.04258
____ CR	0.11062	1,006.28	1.458	0.11053	0.10906	0.11228
____ CU	0.10345	1,080.09	0.469	0.10373	0.10289	0.10372
____ FE	114.44988	58,601.22	0.512	113.85081	115.02252	114.47630
____ K	3.84558	1,567.16	0.243	3.83478	3.85105	3.85090
____ LI	0.06943	634.80	1.082	0.07001	0.06858	0.06969
____ MG	23.17283	59,132.53	0.334	23.10202	23.25539	23.16108
____ MN	1.62622	117,348.40	0.185	1.62615	1.62324	1.62925
____ MO	0.00039	2.81	34.743	0.00041	0.00025	0.00051
____ NA	1.00082	1,329.75	0.532	1.00270	1.00495	0.99481
____ NI	0.13932	445.04	0.054	0.13934	0.13939	0.13924
____ P	4.96299	1,973.67	0.480	4.98883	4.94187	4.95827
____ PB	0.05678	70.11	2.436	0.05773	0.05519	0.05740
____ S	1.52158	308.43	1.095	1.53337	1.50251	1.52887
____ SB	0.01873	2.62	6.052	0.02003	0.01796	0.01819
____ SE	0.01870	-4.11	13.232	0.02040	0.01586	0.01984
____ SI	8.43994	2,903.30	0.779	8.43097	8.50970	8.37915
____ SN	0.01900	19.00	4.904	0.01887	0.01998	0.01813
____ SR	0.08370	70,967.70	0.225	0.08354	0.08365	0.08391
____ TI	3.16588	159,512.81	0.062	3.16366	3.16732	3.16665
____ TL	0.00671	-3.32	15.390	0.00771	0.00565	0.00678
____ V	0.09860	1,489.75	1.211	0.09992	0.09760	0.09828
____ Y1	16215.73968	16,215.74	0.392	16147.71516	16225.91569	16273.58817
____ Y2A	438155.15242	438,155.15	0.241	438496.10669	438999.58582	436969.76474
____ Y2R	41282.03863	41,282.04	0.153	41352.29088	41230.32500	41263.50000
____ ZN	0.30247	3,104.77	0.527	0.30423	0.30208	0.30111
____ ZR	0.03761	141.90	3.232	0.03810	0.03850	0.03623

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 29 Date/Time: 10/07/2015 19:42

Sample Number: **8064462** Class: **** Batch: 152795708001

Initial Vol: 1.04 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00181	-995.66	48.571	-0.00281	-0.00142	-0.00119
____ AL	38.72430	6,936.12	0.867	38.33736	38.89733	38.93822
____ AS	0.02709	10.56	7.040	0.02534	0.02912	0.02679
____ B	0.05775	1,403.92	3.240	0.05975	0.05743	0.05605
____ BA	0.12015	88,452.15	0.725	0.12115	0.11960	0.11969
____ BE	0.00130	216.31	2.582	0.00126	0.00131	0.00132
____ CA	21.06033	31,340.19	0.669	20.89762	21.14602	21.13735
____ CD	0.00036	165.14	36.464	0.00048	0.00038	0.00022
____ CO	0.04838	278.62	0.977	0.04853	0.04876	0.04785
____ CR	0.10706	953.06	1.163	0.10771	0.10783	0.10562
____ CU	0.09291	918.31	1.007	0.09361	0.09327	0.09185
____ FE	122.22019	61,832.16	0.878	120.98246	122.88622	122.79189
____ K	4.14645	1,674.29	1.147	4.09830	4.14765	4.19339
____ LI	0.07461	676.30	2.337	0.07261	0.07579	0.07543
____ MG	24.42094	61,875.69	0.740	24.21547	24.49159	24.55576
____ MN	2.07887	147,295.37	1.008	2.10225	2.07258	2.06179
____ MO	-0.00009	1.06	27.210	-0.00012	-0.00008	-0.00008
____ NA	1.07527	1,424.48	0.654	1.07433	1.08272	1.06875
____ NI	0.17962	567.32	0.437	0.18000	0.18013	0.17871
____ P	4.88803	1,929.01	0.427	4.88326	4.91085	4.86998
____ PB	0.03162	43.20	8.811	0.02951	0.03478	0.03057
____ S	0.07746	16.49	6.823	0.07292	0.07619	0.08326
____ SB	0.01968	2.76	12.211	0.01741	0.01943	0.02220
____ SE	0.02225	-3.61	18.677	0.02539	0.02382	0.01754
____ SI	9.95405	3,400.93	0.468	9.90058	9.98593	9.97565
____ SN	0.01801	17.95	8.141	0.01676	0.01963	0.01765
____ SR	0.10273	85,529.18	0.835	0.10371	0.10233	0.10214
____ TI	3.53179	174,726.77	1.020	3.57273	3.51764	3.50498
____ TL	0.00777	-2.90	18.056	0.00873	0.00842	0.00616
____ V	0.10438	1,549.93	1.096	0.10466	0.10536	0.10312
____ Y1	16091.76809	16,091.77	0.364	16141.52446	16027.14581	16106.63401
____ Y2A	430248.81268	430,248.81	0.799	426325.54672	431679.58913	432741.30219
____ Y2R	41012.05419	41,012.05	0.466	41202.82925	40820.55888	41012.77445
____ ZN	0.20279	2,128.46	0.686	0.20305	0.20403	0.20129
____ ZR	0.04349	161.80	0.324	0.04333	0.04360	0.04354

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 30 Date/Time: 10/07/2015 19:45

Sample Number: **8064463** Class: **** Batch: 152795708001

Initial Vol: 1.04 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00242	-913.37	9.135	-0.00263	-0.00219	-0.00245
____ AL	33.39249	5,962.10	0.723	33.11960	33.57790	33.47997
____ AS	0.03135	11.82	12.262	0.03514	0.03146	0.02745
____ B	0.05403	1,278.98	1.780	0.05449	0.05293	0.05468
____ BA	0.10980	80,085.62	0.610	0.10905	0.10999	0.11034
____ BE	0.00114	176.82	1.541	0.00112	0.00115	0.00115
____ CA	15.78931	23,470.82	0.860	15.63422	15.84675	15.88697
____ CD	0.00032	149.76	39.232	0.00046	0.00023	0.00027
____ CO	0.04209	239.90	0.760	0.04245	0.04183	0.04198
____ CR	0.10704	947.01	1.473	0.10522	0.10806	0.10783
____ CU	0.07831	735.96	0.093	0.07826	0.07827	0.07839
____ FE	111.29447	56,539.75	0.905	110.13097	111.88568	111.86675
____ K	3.38187	1,371.19	1.088	3.34593	3.38020	3.41949
____ LI	0.06157	559.77	1.381	0.06064	0.06230	0.06177
____ MG	21.41194	54,133.97	0.871	21.19797	21.49745	21.54039
____ MN	1.86942	131,234.83	0.846	1.85116	1.87839	1.87871
____ MO	-0.00001	1.37	4782.320	0.00028	-0.00017	-0.00013
____ NA	1.22238	1,623.13	1.704	1.19856	1.23721	1.23136
____ NI	0.12645	400.52	0.072	0.12653	0.12645	0.12635
____ P	4.14580	1,632.02	0.152	4.14433	4.15271	4.14035
____ PB	0.03828	49.11	2.364	0.03853	0.03903	0.03727
____ S	0.46349	93.76	1.120	0.45799	0.46418	0.46830
____ SB	0.01765	2.13	0.779	0.01760	0.01781	0.01755
____ SE	0.02103	-3.26	13.417	0.01778	0.02252	0.02279
____ SI	8.96502	3,052.88	0.925	8.87331	8.98694	9.03482
____ SN	0.01791	17.81	2.075	0.01773	0.01766	0.01833
____ SR	0.07701	63,516.11	0.689	0.07641	0.07720	0.07742
____ TI	2.93224	143,732.10	0.617	2.91146	2.94444	2.94081
____ TL	0.00628	-3.16	22.342	0.00467	0.00693	0.00725
____ V	0.08825	1,299.49	1.323	0.08697	0.08925	0.08854
____ Y1	16052.74347	16,052.74	0.121	16044.87940	16074.78519	16038.56581
____ Y2A	426272.00685	426,272.01	0.506	428739.56262	425318.25712	424758.20080
____ Y2R	40870.80964	40,870.81	0.841	41243.43681	40566.44212	40802.55000
____ ZN	0.22646	2,336.87	0.268	0.22624	0.22599	0.22714
____ ZR	0.03449	129.45	4.718	0.03333	0.03635	0.03379

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 31 Date/Time: 10/07/2015 19:48

Sample Number: **8064464** Class: **** Batch: 152795708001

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00072	-960.43	187.243	-0.00129	0.00082	-0.00167
____ AL	36.26181	6,411.54	0.737	35.96850	36.49151	36.32541
____ AS	0.03210	12.20	9.230	0.03537	0.03133	0.02959
____ B	0.05110	1,331.05	1.682	0.05188	0.05124	0.05018
____ BA	0.10511	77,522.35	1.072	0.10640	0.10432	0.10461
____ BE	0.00124	202.35	0.535	0.00125	0.00123	0.00124
____ CA	17.11183	25,176.43	0.595	17.01472	17.21784	17.10294
____ CD	-0.00002	156.68	478.255	0.00009	-0.00002	-0.00013
____ CO	0.04930	279.84	0.260	0.04943	0.04917	0.04929
____ CR	0.10260	914.29	0.757	0.10349	0.10207	0.10224
____ CU	0.08485	820.86	0.999	0.08581	0.08455	0.08420
____ FE	119.71363	59,882.53	0.609	118.99814	120.45445	119.68829
____ K	3.94370	1,574.45	0.537	3.95373	3.95800	3.91937
____ LI	0.06866	615.76	2.784	0.06648	0.06943	0.07007
____ MG	22.60050	56,563.64	0.422	22.49987	22.68938	22.61223
____ MN	2.26476	160,752.08	1.018	2.29136	2.25061	2.25230
____ MO	0.00023	2.23	44.258	0.00032	0.00012	0.00025
____ NA	0.95792	1,245.03	1.440	0.97173	0.95789	0.94413
____ NI	0.14301	451.59	0.380	0.14335	0.14330	0.14238
____ P	4.23984	1,668.13	0.696	4.24844	4.26410	4.20698
____ PB	0.03150	42.74	2.273	0.03229	0.03134	0.03089
____ S	0.06379	13.72	3.817	0.06412	0.06604	0.06120
____ SB	0.02027	3.21	7.823	0.02171	0.01857	0.02052
____ SE	0.02356	-3.07	2.930	0.02431	0.02296	0.02341
____ SI	12.99518	4,381.14	0.752	12.88234	13.05195	13.05123
____ SN	0.01813	18.01	3.326	0.01746	0.01863	0.01830
____ SR	0.08211	68,474.97	1.141	0.08318	0.08147	0.08167
____ TI	3.26873	162,004.07	0.913	3.30319	3.25112	3.25188
____ TL	0.00658	-3.20	34.839	0.00880	0.00423	0.00670
____ V	0.09810	1,459.93	0.627	0.09863	0.09743	0.09824
____ Y1	16043.98077	16,043.98	0.282	16005.02233	16033.27448	16093.64551
____ Y2A	431022.55909	431,022.56	0.940	426345.17893	433488.32008	433234.17826
____ Y2R	40478.74215	40,478.74	0.272	40556.16159	40352.74451	40527.32036
____ ZN	0.18664	1,962.00	0.542	0.18720	0.18725	0.18548
____ ZR	0.04180	153.78	1.315	0.04124	0.04234	0.04182

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 32 Date/Time: 10/07/2015 19:51

Sample Number: **8064465** Class: **** Batch: 152795708001

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00167	-975.61	40.187	-0.00145	-0.00243	-0.00114
____ AL	39.78585	7,087.07	0.247	39.68866	39.78376	39.88512
____ AS	0.03086	11.82	4.251	0.02957	0.03081	0.03219
____ B	0.06015	1,397.94	5.485	0.05636	0.06233	0.06177
____ BA	0.14636	106,255.97	0.476	0.14575	0.14712	0.14620
____ BE	0.00137	253.51	1.031	0.00135	0.00138	0.00137
____ CA	15.56174	23,090.02	0.522	15.54543	15.48986	15.64992
____ CD	0.00022	162.14	63.814	0.00027	0.00032	0.00006
____ CO	0.04866	273.07	0.246	0.04877	0.04853	0.04867
____ CR	0.10608	931.06	1.361	0.10559	0.10770	0.10494
____ CU	0.09060	888.51	0.293	0.09065	0.09031	0.09083
____ FE	121.63192	61,226.80	0.419	121.64975	121.11323	122.13279
____ K	4.04951	1,627.60	0.239	4.05369	4.03844	4.05640
____ LI	0.07319	659.66	0.664	0.07333	0.07264	0.07358
____ MG	23.89816	60,236.39	0.587	23.97309	23.73636	23.98502
____ MN	1.89922	132,703.88	0.451	1.89425	1.90912	1.89430
____ MO	0.00046	3.03	103.903	0.00094	-0.00002	0.00045
____ NA	1.16602	1,542.21	0.922	1.16423	1.17755	1.15628
____ NI	0.14673	463.55	0.576	0.14626	0.14622	0.14770
____ P	4.20873	1,657.45	0.354	4.21830	4.19154	4.21633
____ PB	0.03562	47.63	3.310	0.03484	0.03698	0.03504
____ S	0.39581	80.12	0.549	0.39777	0.39620	0.39347
____ SB	0.02058	3.30	2.432	0.02094	0.02001	0.02078
____ SE	0.02861	-1.79	9.108	0.02938	0.02571	0.03075
____ SI	11.67002	3,964.99	0.871	11.56054	11.76145	11.68806
____ SN	0.01791	17.82	4.047	0.01843	0.01708	0.01821
____ SR	0.07890	64,767.36	0.347	0.07877	0.07921	0.07872
____ TI	2.88657	140,831.44	0.419	2.88550	2.89915	2.87506
____ TL	0.00554	-3.69	4.449	0.00577	0.00559	0.00528
____ V	0.09513	1,393.38	0.763	0.09479	0.09597	0.09464
____ Y1	16058.83587	16,058.84	0.045	16062.95445	16050.48637	16063.06678
____ Y2A	424276.89419	424,276.89	0.690	425486.24917	420936.29887	426408.13453
____ Y2R	40789.43671	40,789.44	0.367	40826.28512	40917.25000	40624.77500
____ ZN	0.24208	2,500.47	0.346	0.24290	0.24122	0.24211
____ ZR	0.03977	147.80	2.585	0.03858	0.04033	0.04039

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 33 Date/Time: 10/07/2015 19:54

Sample Number: **8064466** Class: **** Batch: 152795708001

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00065	-974.24	77.341	-0.00073	-0.00011	-0.00111
____ AL	38.70202	6,874.97	0.818	38.38813	39.02124	38.69669
____ AS	0.03495	13.21	3.627	0.03607	0.03521	0.03357
____ B	0.05485	1,380.23	0.303	0.05502	0.05484	0.05468
____ BA	0.09725	71,995.54	0.529	0.09698	0.09693	0.09785
____ BE	0.00124	203.28	0.319	0.00124	0.00123	0.00124
____ CA	15.63854	23,137.44	0.820	15.50559	15.76140	15.64863
____ CD	0.00019	161.16	83.127	0.00036	0.00011	0.00009
____ CO	0.04742	266.60	0.233	0.04755	0.04738	0.04734
____ CR	0.11388	1,021.95	0.850	0.11298	0.11490	0.11375
____ CU	0.12325	1,327.52	0.511	0.12272	0.12308	0.12394
____ FE	121.14737	60,831.33	0.605	120.43976	121.90272	121.09964
____ K	3.73297	1,500.43	2.156	3.66000	3.81928	3.71962
____ LI	0.07271	653.67	3.572	0.07385	0.07454	0.06974
____ MG	26.35457	66,170.56	0.560	26.23449	26.51934	26.30989
____ MN	1.84586	131,513.48	0.582	1.84102	1.83838	1.85816
____ MO	0.00009	1.71	138.476	0.00023	0.00001	0.00003
____ NA	0.98057	1,282.20	1.482	0.97169	0.99734	0.97268
____ NI	0.16831	530.92	0.492	0.16923	0.16809	0.16762
____ P	3.80149	1,497.01	0.541	3.80932	3.81696	3.77817
____ PB	0.03313	44.67	0.088	0.03312	0.03311	0.03316
____ S	0.06999	14.94	7.121	0.07327	0.07244	0.06425
____ SB	0.02074	3.38	3.663	0.02153	0.02069	0.02001
____ SE	0.02578	-2.58	10.137	0.02630	0.02809	0.02295
____ SI	9.48384	3,213.76	1.020	9.38829	9.58178	9.48145
____ SN	0.01838	18.26	6.546	0.01806	0.01972	0.01738
____ SR	0.07844	65,654.36	0.507	0.07821	0.07820	0.07890
____ TI	2.86789	142,672.37	0.814	2.85558	2.85327	2.89482
____ TL	0.00664	-3.10	9.596	0.00639	0.00737	0.00617
____ V	0.09787	1,460.42	0.628	0.09772	0.09735	0.09855
____ Y1	16058.38586	16,058.39	0.266	16019.30637	16051.92538	16103.92581
____ Y2A	432624.64104	432,624.64	0.451	433159.62558	434252.56793	430461.72962
____ Y2R	40674.56193	40,674.56	0.476	40790.80156	40451.12275	40781.76148
____ ZN	0.21041	2,196.13	0.450	0.21108	0.21083	0.20933
____ ZR	0.04140	153.10	3.363	0.04288	0.04119	0.04012

LANCASTER LABORATORIES

Run Name: 1528007T72

Instrument ID: 16417

Tube: 34

Date/Time: 10/07/2015 19:57

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.48724	7,615.04	1.370	0.48636	0.48105	0.49431
____ AL	24.86239	4,348.18	0.318	24.91691	24.89847	24.77179
____ AS	0.47715	161.73	0.364	0.47531	0.47875	0.47740
____ B	0.47559	3,955.47	1.221	0.47488	0.47017	0.48172
____ BA	0.47996	347,325.28	1.721	0.47889	0.47228	0.48870
____ BE	0.47710	183,475.61	1.157	0.47736	0.47146	0.48249
____ CA	24.91997	36,063.56	0.216	24.91213	24.97720	24.87057
____ CD	0.48114	5,949.48	0.205	0.48013	0.48209	0.48120
____ CO	0.48411	2,452.60	0.386	0.48208	0.48575	0.48450
____ CR	0.50060	4,531.51	1.771	0.49898	0.49266	0.51016
____ CU	0.49400	6,028.41	1.158	0.49281	0.48896	0.50022
____ FE	24.68667	12,994.76	0.121	24.67107	24.72100	24.66795
____ K	24.72525	9,450.12	0.561	24.85635	24.73920	24.58021
____ LI	0.48585	4,160.60	0.663	0.48323	0.48944	0.48487
____ MG	24.74452	61,046.14	0.561	24.89804	24.70810	24.62741
____ MN	0.48379	33,702.26	1.321	0.48403	0.47728	0.49006
____ MO	0.48589	1,729.86	0.599	0.48257	0.48800	0.48709
____ NA	24.75786	33,432.62	0.544	24.87409	24.78933	24.61016
____ NI	0.47671	1,486.25	0.330	0.47504	0.47817	0.47692
____ P	0.47924	187.36	0.877	0.47466	0.48014	0.48292
____ PB	0.47948	509.66	0.563	0.47742	0.48254	0.47849
____ S	23.81149	4,729.80	0.507	23.69129	23.93279	23.81038
____ SB	0.50128	272.89	0.364	0.49974	0.50080	0.50329
____ SE	0.48138	129.44	0.934	0.47893	0.47864	0.48657
____ SI	25.00184	8,315.88	0.585	24.83306	25.09084	25.08162
____ SN	0.48549	444.13	0.592	0.48220	0.48750	0.48676
____ SR	0.48228	394,291.68	1.143	0.48027	0.47806	0.48852
____ TI	0.50021	24,391.95	1.267	0.50038	0.49379	0.50646
____ TL	0.48406	257.64	0.554	0.48097	0.48570	0.48552
____ V	0.50909	7,167.05	1.355	0.50736	0.50322	0.51669
____ Y1	15938.71066	15,938.71	0.233	15981.44952	15919.39876	15915.28370
____ Y2A	422948.80716	422,948.81	1.078	422171.22266	427846.09013	418829.10868
____ Y2R	39938.03708	39,938.04	0.052	39917.06539	39938.54623	39958.49960
____ ZN	0.47794	4,657.76	0.103	0.47808	0.47834	0.47739
____ ZR	0.49492	1,714.56	0.194	0.49503	0.49581	0.49390

LANCASTER LABORATORIES

Run Name: 1528007T72

Instrument ID: 16417

Tube: 35

Date/Time: 10/07/2015 20:00

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00031	-18.05	213.677	0.00078	-0.00044	0.00058
____ AL	-0.00653	-2.82	206.753	0.00556	-0.00405	-0.02112
____ AS	0.00373	0.54	36.577	0.00294	0.00530	0.00294
____ B	0.00115	17.50	10.666	0.00101	0.00124	0.00121
____ BA	0.00008	60.42	23.529	0.00010	0.00007	0.00007
____ BE	0.00003	-136.63	16.476	0.00004	0.00003	0.00003
____ CA	-0.01597	104.82	19.845	-0.01290	-0.01923	-0.01578
____ CD	0.00009	-2.21	85.377	0.00003	0.00017	0.00005
____ CO	0.00033	-2.09	79.243	0.00033	0.00059	0.00007
____ CR	0.00014	0.02	310.409	0.00022	0.00052	-0.00033
____ CU	0.00341	-157.75	4.645	0.00329	0.00359	0.00336
____ FE	0.01965	10.53	27.600	0.02590	0.01691	0.01615
____ K	0.02258	63.67	182.565	-0.02262	0.05808	0.03228
____ LI	0.00040	24.57	265.483	0.00065	0.00132	-0.00077
____ MG	-0.00543	16.01	60.087	-0.00197	-0.00587	-0.00846
____ MN	0.00015	20.40	25.118	0.00011	0.00015	0.00019
____ MO	0.00065	3.76	12.858	0.00060	0.00060	0.00075
____ NA	-0.03628	-117.24	14.558	-0.03449	-0.03212	-0.04222
____ NI	-0.00030	9.70	75.383	-0.00033	-0.00006	-0.00052
____ P	-0.00122	-1.22	24.115	-0.00123	-0.00092	-0.00150
____ PB	-0.00029	1.33	177.236	-0.00044	0.00028	-0.00070
____ S	0.00339	2.94	18.508	0.00412	0.00299	0.00308
____ SB	0.00470	0.82	28.335	0.00335	0.00602	0.00473
____ SE	0.00244	-0.94	118.011	0.00385	-0.00087	0.00435
____ SI	0.01641	10.53	13.363	0.01701	0.01398	0.01824
____ SN	0.00094	2.25	27.108	0.00119	0.00068	0.00094
____ SR	0.00004	-13.45	51.884	0.00006	0.00002	0.00003
____ TI	0.00033	34.62	27.764	0.00038	0.00038	0.00022
____ TL	0.00003	-3.36	3389.800	0.00006	-0.00106	0.00110
____ V	-0.00015	-4.48	224.140	-0.00022	-0.00045	0.00022
____ Y1	16203.17838	16,203.18	0.312	16174.22093	16261.61404	16173.70017
____ Y2A	440939.06008	440,939.06	0.190	440073.22730	441747.92909	440996.02386
____ Y2R	40063.50033	40,063.50	0.235	39957.05000	40098.58453	40134.86645
____ ZN	-0.00145	15.83	6.186	-0.00151	-0.00135	-0.00150
____ ZR	0.00096	10.91	24.125	0.00121	0.00092	0.00076

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 36 Date/Time: 10/07/2015 20:03

Sample Number: **8064468** Class: **** Batch: 152795708001

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00749	-827.31	13.642	0.00633	0.00827	0.00788
____ AL	56.14822	10,144.39	0.229	56.00838	56.26073	56.17556
____ AS	0.02818	10.94	7.372	0.02765	0.02642	0.03047
____ B	0.07043	1,493.77	2.736	0.07254	0.06878	0.06995
____ BA	0.37875	281,532.95	0.940	0.38276	0.37750	0.37598
____ BE	0.00350	1,034.74	1.017	0.00353	0.00346	0.00352
____ CA	31.44118	47,084.26	0.156	31.38904	31.48677	31.44773
____ CD	0.00786	252.97	1.754	0.00777	0.00802	0.00780
____ CO	0.05332	293.50	1.303	0.05268	0.05406	0.05320
____ CR	0.31588	2,908.15	1.854	0.32198	0.31533	0.31031
____ CU	0.36666	4,501.64	1.433	0.37272	0.36381	0.36344
____ FE	118.54107	60,709.61	0.127	118.38609	118.55069	118.68642
____ K	6.55047	2,637.68	0.255	6.53747	6.56928	6.54467
____ LI	0.09542	867.74	1.622	0.09620	0.09363	0.09641
____ MG	28.49205	72,764.33	0.230	28.49512	28.42491	28.55611
____ MN	1.36400	97,584.17	0.917	1.37689	1.36321	1.35191
____ MO	0.01438	53.18	1.172	0.01456	0.01433	0.01423
____ NA	2.85404	3,933.87	0.465	2.85109	2.84251	2.86854
____ NI	0.16258	515.68	0.584	0.16310	0.16315	0.16148
____ P	4.50262	1,782.20	0.756	4.52582	4.51848	4.46356
____ PB	0.48650	529.94	0.936	0.48711	0.49071	0.48166
____ S	4.84323	974.72	1.008	4.88623	4.85330	4.79016
____ SB	0.02780	6.66	2.763	0.02697	0.02792	0.02849
____ SE	0.02414	-2.44	6.775	0.02237	0.02559	0.02448
____ SI	8.39889	2,898.11	0.609	8.37675	8.45738	8.36254
____ SN	0.03455	33.25	5.836	0.03378	0.03684	0.03304
____ SR	0.12212	102,723.49	1.009	0.12350	0.12172	0.12114
____ TI	2.39945	119,863.96	1.010	2.42612	2.39346	2.37877
____ TL	0.00557	-3.56	28.166	0.00689	0.00384	0.00599
____ V	0.14462	2,143.03	1.188	0.14651	0.14315	0.14420
____ Y1	16138.15067	16,138.15	0.331	16093.65587	16123.31180	16197.48434
____ Y2A	434418.82041	434,418.82	0.913	429936.79589	435833.99602	437485.66932
____ Y2R	41409.23798	41,409.24	0.104	41367.26856	41407.03016	41453.41522
____ ZN	1.48498	14,552.89	0.376	1.49060	1.48489	1.47944
____ ZR	0.01951	77.62	2.262	0.01980	0.01900	0.01973

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 37 Date/Time: 10/07/2015 20:06

Sample Number: **8064469** Class: **** Batch: 152795708001

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.02387	-1,144.94	2.922	0.02346	0.02468	0.02348
____ AL	40.43112	7,295.98	0.707	40.10820	40.65222	40.53295
____ AS	0.06362	23.98	2.201	0.06430	0.06455	0.06201
____ B	0.11316	2,384.63	3.342	0.11559	0.10880	0.11509
____ BA	0.68012	491,978.29	1.601	0.66979	0.67908	0.69149
____ BE	0.00371	1,070.00	1.317	0.00366	0.00370	0.00376
____ CA	64.93832	96,272.42	0.913	64.27414	65.41300	65.12782
____ CD	0.00379	305.70	4.584	0.00399	0.00373	0.00366
____ CO	0.03863	206.99	0.933	0.03834	0.03903	0.03850
____ CR	0.19270	1,692.70	1.287	0.19028	0.19258	0.19523
____ CU	0.64159	7,871.93	0.639	0.63838	0.64019	0.64621
____ FE	197.22298	95,228.51	1.037	194.95397	198.92550	197.78947
____ K	6.84734	2,748.37	1.645	6.72227	6.94079	6.87896
____ LI	0.06481	599.90	2.351	0.06359	0.06652	0.06432
____ MG	25.61265	65,344.81	0.690	25.45788	25.80514	25.57493
____ MN	11.03785	768,470.24	0.334	10.99798	11.04472	11.07085
____ MO	0.00869	32.15	1.279	0.00859	0.00881	0.00869
____ NA	9.51871	13,254.42	0.768	9.43608	9.57491	9.54512
____ NI	0.09646	299.91	0.648	0.09582	0.09707	0.09650
____ P	6.26265	2,436.37	0.125	6.25468	6.26293	6.27035
____ PB	0.25443	276.45	1.950	0.25247	0.26007	0.25075
____ S	14.29143	2,824.14	0.066	14.29500	14.29859	14.28071
____ SB	0.03974	9.67	4.553	0.04183	0.03883	0.03857
____ SE	0.04373	-1.99	2.969	0.04367	0.04247	0.04506
____ SI	10.57943	3,640.39	0.946	10.47167	10.66954	10.59706
____ SN	0.03125	29.70	3.643	0.03229	0.03142	0.03004
____ SR	0.24641	201,765.45	1.017	0.24422	0.24586	0.24914
____ TI	1.64371	79,911.61	1.061	1.62703	1.64227	1.66183
____ TL	0.00780	1.57	21.735	0.00719	0.00971	0.00649
____ V	0.15676	2,272.35	1.192	0.15639	0.15511	0.15879
____ Y1	15859.32506	15,859.33	0.166	15879.10836	15829.51049	15869.35634
____ Y2A	422773.35984	422,773.36	0.951	425493.53877	424673.87343	418152.66733
____ Y2R	41317.86548	41,317.87	0.665	41606.73596	41059.58549	41287.27500
____ ZN	2.78860	26,792.96	0.149	2.78823	2.79292	2.78466
____ ZR	0.01967	78.01	9.245	0.01892	0.01835	0.02175

LANCASTER LABORATORIES

Run Name: 1528007T72 Instrument ID: 16417

Tube: 38 Date/Time: 10/07/2015 20:09

Sample Number: **8064470** Class: **** Batch: 152795708001

Initial Vol: 1.02 Final Vol: 100.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.03778	-312.37	1.574	0.03719	0.03838	0.03777
____ AL	36.10348	6,522.10	0.209	36.10028	36.02951	36.18065
____ AS	0.03454	12.96	6.491	0.03708	0.03284	0.03370
____ B	0.07162	1,460.24	0.225	0.07170	0.07143	0.07172
____ BA	0.34710	252,830.07	0.116	0.34730	0.34736	0.34663
____ BE	0.00191	441.26	0.490	0.00192	0.00190	0.00190
____ CA	34.48018	51,525.16	0.346	34.38970	34.43567	34.61516
____ CD	0.01011	277.48	1.321	0.00997	0.01013	0.01023
____ CO	0.03347	180.78	0.840	0.03374	0.03349	0.03318
____ CR	0.20757	1,861.83	1.053	0.20930	0.20828	0.20511
____ CU	0.43783	5,336.41	0.127	0.43818	0.43813	0.43719
____ FE	116.88103	59,850.50	0.288	116.60002	116.78844	117.25463
____ K	5.87985	2,370.30	0.960	5.88653	5.82035	5.93268
____ LI	0.06337	584.43	2.333	0.06449	0.06393	0.06170
____ MG	24.26861	62,008.89	0.245	24.24850	24.22184	24.33548
____ MN	3.44838	241,743.30	0.192	3.45544	3.44736	3.44234
____ MO	0.01088	40.21	2.787	0.01116	0.01056	0.01092
____ NA	3.13338	4,320.07	0.478	3.12849	3.12146	3.15020
____ NI	0.09705	307.34	0.177	0.09689	0.09723	0.09702
____ P	3.58089	1,404.03	0.095	3.58158	3.58387	3.57721
____ PB	0.41900	450.64	0.257	0.41809	0.42019	0.41871
____ S	9.47420	1,888.03	0.247	9.47574	9.49677	9.45010
____ SB	0.02972	8.14	6.874	0.02871	0.03207	0.02839
____ SE	0.02663	-1.81	13.474	0.02599	0.02341	0.03050
____ SI	9.28955	3,200.81	0.464	9.33832	9.27369	9.25664
____ SN	0.03013	28.91	2.052	0.03027	0.02946	0.03067
____ SR	0.11520	94,994.02	0.180	0.11539	0.11523	0.11498
____ TI	1.47080	72,008.45	0.320	1.47617	1.46890	1.46734
____ TL	0.00497	-2.11	18.114	0.00440	0.00450	0.00600
____ V	0.11140	1,621.12	0.359	0.11186	0.11117	0.11117
____ Y1	15986.60002	15,986.60	0.217	16012.13595	15947.16428	16000.49983
____ Y2A	425682.07422	425,682.07	0.038	425547.13386	425860.33797	425638.75083
____ Y2R	41355.02696	41,355.03	0.531	41165.79341	41595.96211	41303.32534
____ ZN	2.11834	20,489.51	0.112	2.11565	2.12014	2.11922
____ ZR	0.01933	76.86	10.987	0.01958	0.01710	0.02133

LANCASTER LABORATORIES

Run Name: 1528007T72

Instrument ID: 16417

Tube: 39

Date/Time: 10/07/2015 20:12

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00489	63.13	6.325	0.00523	0.00480	0.00464
____ AL	0.23889	40.72	11.819	0.26673	0.23965	0.21028
____ AS	0.02124	6.63	4.334	0.02154	0.02197	0.02020
____ B	0.04527	389.30	0.460	0.04503	0.04542	0.04535
____ BA	0.00522	3,983.72	0.458	0.00520	0.00524	0.00524
____ BE	0.00486	1,818.72	1.812	0.00478	0.00483	0.00495
____ CA	0.19572	416.23	1.837	0.19216	0.19935	0.19567
____ CD	0.00496	59.46	1.082	0.00501	0.00491	0.00495
____ CO	0.00525	23.51	3.251	0.00505	0.00535	0.00535
____ CR	0.01541	145.92	4.262	0.01466	0.01571	0.01587
____ CU	0.01417	-16.73	4.248	0.01468	0.01432	0.01351
____ FE	0.24566	132.98	3.538	0.23667	0.25402	0.24628
____ K	0.45171	229.23	8.436	0.40782	0.47094	0.47637
____ LI	0.01969	191.06	2.016	0.01973	0.01928	0.02007
____ MG	0.09768	276.15	2.657	0.09605	0.10067	0.09631
____ MN	0.00612	458.82	1.928	0.00625	0.00609	0.00601
____ MO	0.00984	37.25	2.504	0.00959	0.00985	0.01008
____ NA	0.98484	1,280.20	1.853	0.96401	0.99252	0.99799
____ NI	0.00997	42.36	5.042	0.00951	0.00991	0.01051
____ P	0.09655	37.92	0.593	0.09661	0.09594	0.09708
____ PB	0.01448	17.24	5.625	0.01403	0.01542	0.01399
____ S	0.48446	100.75	0.933	0.48633	0.48774	0.47930
____ SB	0.02501	12.41	1.384	0.02475	0.02540	0.02486
____ SE	0.01993	3.96	21.571	0.01503	0.02170	0.02306
____ SI	0.07252	29.53	4.735	0.06862	0.07507	0.07388
____ SN	0.02041	20.46	3.714	0.02102	0.02065	0.01956
____ SR	0.00507	4,325.59	0.884	0.00503	0.00507	0.00512
____ TI	0.01068	566.32	2.306	0.01058	0.01050	0.01096
____ TL	0.03174	14.15	2.065	0.03150	0.03124	0.03248
____ V	0.00516	73.68	8.510	0.00476	0.00507	0.00563
____ Y1	16319.31230	16,319.31	0.487	16400.69916	16241.95643	16315.28130
____ Y2A	445789.29203	445,789.29	0.601	448542.90921	445637.83963	443187.12724
____ Y2R	40426.84121	40,426.84	0.839	40692.89631	40542.93988	40044.68744
____ ZN	0.01870	214.22	0.509	0.01862	0.01880	0.01867
____ ZR	0.04693	171.48	1.275	0.04730	0.04624	0.04724

LANCASTER LABORATORIES

Run Name: 1528007T72

Instrument ID: 16417

Tube: 40

Date/Time: 10/07/2015 20:16

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00179	-1,412.60	95.327	0.00018	-0.00281	-0.00273
____ AL	505.05264	82,915.11	0.543	507.89009	504.85214	502.41568
____ AS	-0.00026	2.24	1663.986	0.00387	-0.00467	0.00003
____ B	0.07728	1,897.82	1.300	0.07623	0.07823	0.07739
____ BA	0.00063	399.75	4.108	0.00064	0.00065	0.00060
____ BE	-0.00022	-197.83	12.564	-0.00021	-0.00024	-0.00019
____ CA	511.30284	648,729.71	0.988	517.03956	509.35013	507.51881
____ CD	0.00067	217.09	32.295	0.00056	0.00053	0.00092
____ CO	0.00192	5.37	3.575	0.00185	0.00199	0.00193
____ CR	0.00378	-18.90	9.234	0.00375	0.00344	0.00414
____ CU	0.00360	26.05	12.343	0.00314	0.00403	0.00365
____ FE	203.77120	91,727.79	0.496	204.85599	203.60352	202.85409
____ K	0.03127	64.68	70.900	0.02848	0.05471	0.01063
____ LI	0.00252	94.77	26.504	0.00314	0.00181	0.00260
____ MG	513.91769	981,400.41	1.714	523.23877	512.77819	505.73609
____ MN	0.00239	154.38	3.451	0.00246	0.00230	0.00241
____ MO	-0.00260	-7.03	10.588	-0.00291	-0.00239	-0.00249
____ NA	0.19557	190.86	5.118	0.18437	0.19869	0.20365
____ NI	-0.00082	-0.12	53.666	-0.00132	-0.00055	-0.00058
____ P	0.01509	4.63	14.983	0.01513	0.01281	0.01733
____ PB	0.00379	79.74	60.543	0.00392	0.00601	0.00143
____ S	0.00544	1.94	45.506	0.00259	0.00701	0.00673
____ SB	0.01381	-1.23	38.944	0.00940	0.01980	0.01224
____ SE	-0.00234	-3.85	136.197	-0.00076	-0.00602	-0.00025
____ SI	0.01719	8.26	29.036	0.01238	0.01686	0.02234
____ SN	0.00650	6.52	17.165	0.00557	0.00619	0.00774
____ SR	-0.00010	3,493.85	55.638	-0.00015	-0.00004	-0.00010
____ TI	0.00050	36.40	32.862	0.00041	0.00069	0.00040
____ TL	0.00527	-3.57	29.729	0.00384	0.00695	0.00503
____ V	-0.00075	28.53	43.631	-0.00059	-0.00113	-0.00054
____ Y1	14259.49806	14,259.50	0.221	14241.27132	14295.90186	14241.32099
____ Y2A	372019.88367	372,019.88	0.227	371826.52722	371290.56072	372942.56308
____ Y2R	38706.92434	38,706.92	0.923	38351.02398	38704.14585	39065.60319
____ ZN	0.00217	236.38	9.869	0.00215	0.00196	0.00239
____ ZR	0.00632	28.42	17.734	0.00681	0.00710	0.00503

LANCASTER LABORATORIES

Run Name: 1528007T72

Instrument ID: 16417

Tube: 41

Date/Time: 10/07/2015 20:19

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21665	1,653.47	0.381	0.21736	0.21684	0.21575
____ AL	509.78746	84,115.62	0.274	511.09991	508.32009	509.94239
____ AS	0.09508	31.29	5.595	0.10029	0.09530	0.08966
____ B	0.07233	1,889.46	1.302	0.07244	0.07321	0.07133
____ BA	0.49157	315,921.63	0.221	0.49266	0.49157	0.49049
____ BE	0.49622	169,509.24	0.220	0.49727	0.49631	0.49509
____ CA	511.49010	652,351.97	0.878	516.60925	508.20632	509.65474
____ CD	0.91241	10,264.73	0.223	0.91243	0.91443	0.91036
____ CO	0.45475	2,058.57	0.583	0.45257	0.45770	0.45398
____ CR	0.48537	3,858.83	0.425	0.48758	0.48349	0.48503
____ CU	0.52779	5,897.23	0.355	0.52599	0.52764	0.52973
____ FE	205.40005	92,833.72	0.243	205.97018	205.04703	205.18295
____ K	0.00232	54.25	2481.649	0.06779	-0.03975	-0.02110
____ LI	0.00207	91.60	62.274	0.00129	0.00136	0.00355
____ MG	515.82240	989,337.87	0.498	517.49483	512.86621	517.10614
____ MN	0.44078	27,270.27	0.111	0.44135	0.44045	0.44055
____ MO	-0.00291	-8.03	16.298	-0.00306	-0.00329	-0.00238
____ NA	0.21027	211.11	4.498	0.22038	0.20878	0.20164
____ NI	0.88128	2,445.58	0.645	0.87652	0.88757	0.87975
____ P	0.01513	5.53	4.896	0.01479	0.01598	0.01462
____ PB	0.04989	124.05	6.381	0.04849	0.05353	0.04765
____ S	-0.00396	0.24	16.530	-0.00379	-0.00468	-0.00341
____ SB	0.62067	304.73	1.483	0.61137	0.62978	0.62088
____ SE	0.04865	8.75	7.961	0.04423	0.05026	0.05145
____ SI	0.01404	7.25	7.751	0.01351	0.01332	0.01529
____ SN	0.00651	6.48	17.129	0.00660	0.00757	0.00535
____ SR	-0.00013	3,506.42	48.345	-0.00020	-0.00009	-0.00010
____ TI	0.00023	47.47	120.759	-0.00002	0.00053	0.00018
____ TL	0.09560	40.28	3.136	0.09340	0.09438	0.09901
____ V	0.49975	6,338.36	0.272	0.49888	0.49905	0.50132
____ Y1	14270.86257	14,270.86	0.047	14264.42039	14277.86285	14270.30448
____ Y2A	375575.38775	375,575.39	0.251	375203.02125	374874.25348	376648.88852
____ Y2R	38909.32102	38,909.32	0.561	38665.95214	38973.47652	39088.53440
____ ZN	0.99269	8,768.88	0.207	0.99257	0.99481	0.99071
____ ZR	0.00654	29.35	22.932	0.00578	0.00827	0.00558

LANCASTER LABORATORIES

Run Name: 1528007T72

Instrument ID: 16417

Tube: 42

Date/Time: 10/07/2015 20:22

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.48623	7,616.17	0.573	0.48757	0.48303	0.48810
____ AL	24.84228	4,405.45	0.379	24.86835	24.92059	24.73790
____ AS	0.47907	162.40	0.507	0.47671	0.47894	0.48156
____ B	0.47225	3,935.73	0.951	0.46946	0.46986	0.47743
____ BA	0.48383	350,866.21	1.345	0.48736	0.47633	0.48782
____ BE	0.47809	184,246.56	0.422	0.48039	0.47661	0.47728
____ CA	24.83393	36,443.03	0.135	24.86440	24.83920	24.79820
____ CD	0.48115	5,950.27	0.298	0.48014	0.48279	0.48051
____ CO	0.48327	2,448.75	0.394	0.48126	0.48505	0.48349
____ CR	0.49531	4,493.24	0.621	0.49342	0.49366	0.49886
____ CU	0.49454	6,048.00	0.375	0.49444	0.49274	0.49645
____ FE	24.47274	13,064.26	0.275	24.51677	24.50633	24.39513
____ K	24.52859	9,506.60	0.204	24.52047	24.58223	24.48308
____ LI	0.48238	4,188.87	0.651	0.48592	0.47995	0.48126
____ MG	24.63094	61,619.48	0.401	24.69212	24.68357	24.51712
____ MN	0.48242	33,677.61	0.573	0.48472	0.47935	0.48319
____ MO	0.48538	1,728.36	0.508	0.48260	0.48729	0.48624
____ NA	24.61420	33,703.40	0.174	24.62819	24.64837	24.56603
____ NI	0.47711	1,487.76	0.642	0.47359	0.47920	0.47854
____ P	0.47913	187.35	0.371	0.48084	0.47729	0.47927
____ PB	0.48040	510.69	0.537	0.47866	0.48336	0.47917
____ S	23.86587	4,741.45	0.089	23.88098	23.87505	23.84157
____ SB	0.50105	272.84	0.587	0.50140	0.50380	0.49795
____ SE	0.48045	129.22	0.626	0.47852	0.47891	0.48391
____ SI	24.80457	8,365.74	0.130	24.76748	24.82220	24.82403
____ SN	0.48473	443.53	0.264	0.48346	0.48471	0.48602
____ SR	0.48357	396,164.34	0.548	0.48652	0.48141	0.48277
____ TI	0.49963	24,415.20	0.280	0.50078	0.49807	0.50004
____ TL	0.48111	256.10	0.612	0.47839	0.48070	0.48423
____ V	0.50765	7,161.79	0.356	0.50728	0.50606	0.50962
____ Y1	15941.48941	15,941.49	0.339	15964.31761	15879.73945	15980.41117
____ Y2A	423807.65408	423,807.65	0.533	421881.70974	426292.66070	423248.59178
____ Y2R	40496.88010	40,496.88	0.131	40557.71346	40471.91124	40461.01559
____ ZN	0.47827	4,661.48	0.507	0.47775	0.48091	0.47615
____ ZR	0.49107	1,725.07	0.382	0.48908	0.49281	0.49131

LANCASTER LABORATORIES

Run Name: 1528007T72

Instrument ID: 16417

Tube: 43

Date/Time: 10/07/2015 20:25

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00026	-27.15	118.552	-0.00047	-0.00039	0.00009
____ AL	0.06863	10.39	19.823	0.08289	0.05578	0.06723
____ AS	0.00154	-0.22	124.264	0.00224	0.00302	-0.00063
____ B	0.00161	21.12	14.889	0.00133	0.00175	0.00174
____ BA	0.00008	59.49	34.674	0.00009	0.00010	0.00005
____ BE	0.00006	-124.07	29.313	0.00008	0.00005	0.00005
____ CA	0.02327	162.31	3.194	0.02308	0.02408	0.02263
____ CD	0.00008	-2.27	43.215	0.00012	0.00004	0.00009
____ CO	0.00037	-1.92	26.476	0.00030	0.00032	0.00048
____ CR	0.00045	2.93	152.382	-0.00033	0.00074	0.00094
____ CU	0.00319	-159.67	9.947	0.00284	0.00329	0.00345
____ FE	0.01550	8.34	27.038	0.01120	0.01957	0.01572
____ K	-0.02155	46.96	3.567	-0.02200	-0.02067	-0.02199
____ LI	0.00056	26.02	252.993	-0.00104	0.00164	0.00107
____ MG	0.03136	108.24	7.333	0.03195	0.02882	0.03331
____ MN	0.00003	11.87	216.975	0.00012	0.00000	-0.00001
____ MO	0.00067	3.83	45.000	0.00037	0.00065	0.00098
____ NA	-0.02178	-97.87	57.785	-0.00923	-0.03440	-0.02171
____ NI	-0.00002	10.64	1437.896	-0.00007	0.00025	-0.00023
____ P	0.00015	-0.68	1307.373	0.00222	0.00005	-0.00181
____ PB	-0.00014	1.51	496.979	0.00056	-0.00019	-0.00077
____ S	0.00299	2.86	67.809	0.00066	0.00394	0.00436
____ SB	0.00341	0.08	12.538	0.00352	0.00377	0.00294
____ SE	0.00244	-0.94	16.142	0.00259	0.00199	0.00273
____ SI	0.01243	9.23	20.392	0.01519	0.01187	0.01021
____ SN	0.00113	2.44	10.787	0.00099	0.00121	0.00119
____ SR	0.00003	-18.50	15.730	0.00004	0.00003	0.00003
____ TI	0.00018	26.58	27.444	0.00018	0.00022	0.00012
____ TL	0.00024	-3.26	104.519	-0.00004	0.00041	0.00033
____ V	-0.00008	-3.37	636.508	-0.00063	0.00034	0.00005
____ Y1	16258.34596	16,258.35	0.170	16289.49594	16236.67511	16248.86682
____ Y2A	438288.54650	438,288.55	0.555	437159.79125	436627.31942	441078.52883
____ Y2R	40176.29603	40,176.30	0.404	40046.01580	40358.34663	40124.52566
____ ZN	-0.00124	17.98	8.063	-0.00133	-0.00114	-0.00125
____ ZR	0.00118	11.70	93.620	0.00082	0.00242	0.00030

Mercury Data

Metals in Solid

eurofins | Lancaster Laboratories Environmental

Mercury Run Data Report

Data File Name: 1527410.M08

Run Name: 1527401M08

Instrument No.: 19302

Element: Hg

Analyst Employee ID: 0354

Reviewed By
Damary Valentin

Reviewed Date
10/01/2015 9:08AM

Method Reference Name(s):
SW-846 7471A
SW-846 7471A modified

Verified By:
Jennifer L Moyer

Verified Date
10/01/2015 10:49AM

LANCASTER LABORATORIES

Run Name: 1527401M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

1 Burn Date/Time: 10/01/2015 07:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0		1	1	1.00

AVG (ppb)	Intensity
0.0000	20.0

2 Burn Date/Time: 10/01/2015 07:11

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.2		1	1	1.00

AVG (ppb)	Intensity
0.0000	1906.0

3 Burn Date/Time: 10/01/2015 07:13

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	5072.0

4 Burn Date/Time: 10/01/2015 07:15

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S1.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	9431.0

5 Burn Date/Time: 10/01/2015 07:17

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S2.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	23114.0

6 Burn Date/Time: 10/01/2015 07:19

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S5.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	45911.0

CorrelationCoefficient = 1.00000
Slope = 9149.6600400000
Y-Intercept = 212.8546100000

LANCASTER LABORATORIES

Run Name: 1527401M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

7 Burn Date/Time: 10/01/2015 07:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICV		1	1	1.00

AVG (ppb)	Intensity
2.4566	22691.0

8 Burn Date/Time: 10/01/2015 07:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICB		1	1	1.00

AVG (ppb)	Intensity
-0.0209	20.0

9 Burn Date/Time: 10/01/2015 07:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.1838	1893.0

10 Burn Date/Time: 10/01/2015 07:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 1		1	1	1.00

AVG (ppb)	Intensity
0.9925	9293.0

11 Burn Date/Time: 10/01/2015 07:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 1		1	1	1.00

AVG (ppb)	Intensity
-0.0269	-35.0

12 Burn Date/Time: 10/01/2015 07:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBS	**********	0.6000	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0103	117.0		

LANCASTER LABORATORIES

Run Name: 1527401M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

13 Burn Date/Time: 10/01/2015 07:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1.0000	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9775	9156.0		

14 Burn Date/Time: 10/01/2015 07:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064453	U*********	0.6290	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0103	306.0		

15 Burn Date/Time: 10/01/2015 07:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064453	UP********	0.6290	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0205	9550.0		

16 Burn Date/Time: 10/01/2015 07:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064456	D*********	0.6260	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0047	255.0		

17 Burn Date/Time: 10/01/2015 07:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064454	R*********	0.6113	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0706	10008.0		

18 Burn Date/Time: 10/01/2015 07:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064455	M*********	0.6148	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0100	9454.0		

LANCASTER LABORATORIES

Run Name: 1527401M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

19 Burn Date/Time: 10/01/2015 07:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8053572	**********	10.1695	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.6044	5742.0		

20 Burn Date/Time: 10/01/2015 07:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8063957	**********	0.6074	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0058	265.0		

21 Burn Date/Time: 10/01/2015 07:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064450	**********	0.6345	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0017	196.0		

22 Burn Date/Time: 10/01/2015 07:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 2		1	1	1.00

AVG (ppb)	Intensity
0.9841	9217.0

23 Burn Date/Time: 10/01/2015 07:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 2		1	1	1.00

AVG (ppb)	Intensity
-0.0196	32.0

24 Burn Date/Time: 10/01/2015 07:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064451	**********	0.6178	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0136	87.0		

LANCASTER LABORATORIES

Run Name: 1527401M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

25 Burn Date/Time: 10/01/2015 07:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064452	**********	0.6312	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.1486	1571.0		

26 Burn Date/Time: 10/01/2015 07:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064457	**********	0.6252	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.1436	1526.0		

27 Burn Date/Time: 10/01/2015 08:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064458	**********	0.6342	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.1303	1404.0		

28 Burn Date/Time: 10/01/2015 08:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064459	**********	0.6133	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0033	242.0		

29 Burn Date/Time: 10/01/2015 08:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064461	**********	0.6124	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0123	324.0		

30 Burn Date/Time: 10/01/2015 08:07

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064462	**********	0.6108	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0114	107.0		

LANCASTER LABORATORIES

Run Name: 1527401M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

31 Burn Date/Time: 10/01/2015 08:09

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064463	**********	0.6377	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0070	276.0		

32 Burn Date/Time: 10/01/2015 08:11

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064464	**********	0.6266	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0132	91.0		

33 Burn Date/Time: 10/01/2015 08:13

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064465	**********	0.6048	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0042	173.0		

34 Burn Date/Time: 10/01/2015 08:15

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 3		1	1	1.00

AVG (ppb)	Intensity
1.0056	9413.0

35 Burn Date/Time: 10/01/2015 08:17

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 3		1	1	1.00

AVG (ppb)	Intensity
-0.0205	24.0

36 Burn Date/Time: 10/01/2015 08:19

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064466	**********	0.6109	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0120	102.0		

LANCASTER LABORATORIES

Run Name: 1527401M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

37 Burn Date/Time: 10/01/2015 08:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064468	**********	0.6427	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.6266	5945.0		

38 Burn Date/Time: 10/01/2015 08:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064469	**********	0.6194	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.6036	5735.0		

39 Burn Date/Time: 10/01/2015 08:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8064470	**********	0.6414	100	1.00	152735711001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.7076	6686.0		

40 Burn Date/Time: 10/01/2015 08:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBS	**********	0.6000	100	1.00	152735711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0193	35.0		

41 Burn Date/Time: 10/01/2015 08:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1.0000	100	1.00	152735711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9766	9148.0		

42 Burn Date/Time: 10/01/2015 08:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8066925	U**********	0.6223	100	1.00	152735711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	2.4936	23029.0		

LANCASTER LABORATORIES

Run Name: 1527401M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

43 Burn Date/Time: 10/01/2015 08:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8066925	UP********	0.6223	100	1.00	152735711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	3.4910	32156.0		

44 Burn Date/Time: 10/01/2015 08:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8066925	D*********	0.6046	100	1.00	152735711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.9879	18402.0		

45 Burn Date/Time: 10/01/2015 08:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8066925	R*********	0.6336	100	1.00	152735711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	2.9448	27158.0		

46 Burn Date/Time: 10/01/2015 08:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 4		1	1	1.00

AVG (ppb)	Intensity
0.9693	9081.0

47 Burn Date/Time: 10/01/2015 08:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 4		1	1	1.00

AVG (ppb)	Intensity
-0.0215	15.0

48 Burn Date/Time: 10/01/2015 08:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8066925	M*********	0.6106	100	1.00	152735711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	2.8651	26429.0		

LANCASTER LABORATORIES

Run Name: 1527401M08

Analyst ID: 0354

Instrument ID: 19302

CV Element: Hg

49 Burn Date/Time: 10/01/2015 08:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8066926	**********	0.6358	100	1.00	152735711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.7777	7328.0		

50 Burn Date/Time: 10/01/2015 08:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8066927	**********	0.6182	100	1.00	152735711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8278	7786.0		

51 Burn Date/Time: 10/01/2015 08:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8066928	**********	0.6211	100	1.00	152735711002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.9896	18417.0		

52 Burn Date/Time: 10/01/2015 08:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.1769	1830.0

53 Burn Date/Time: 10/01/2015 08:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 5		1	1	1.00

AVG (ppb)	Intensity
0.9713	9099.0

54 Burn Date/Time: 10/01/2015 08:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 5		1	1	1.00

AVG (ppb)	Intensity
-0.0209	20.0

Extraction/Distillation/Digestion Logs

Metals in Solid

LLENS Worksheet for 5708 SW846 ICP/ICP MS Digest

Batch# 15 279 5708 001

Balance ID#: 10685 **Start Time:** 10/6/15 21:24 **End Time:** 10/7/15 2:25 **Hot Block:** 8

Pipette ID: 24111202 /2000

Spike/Reagent	Lot#	Volume Added(mL)
1:1 HNO3	P15-257G	10.00
30% H2O2	152097	4.00
HCL	93325	10.00
HNO3	54295	5.00
ICP Spike 1A	1517023#24	2.00
ICP Spike 1B	1517025#24	2.00
LCS A1	1517023#24	2.00
LCS B1	1517025#24	2.00

Method Ref: SW-846 3050B

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBS	.							1501179	1.00g Teflon chips used, Lot: N330-5G001
2)	LCSW	.							1501179	1.00g Teflon chips used, Lot: N330-5G001
3)	8064450	10/07/15 09:25		SW	N8			020a	1501179	
4)	8064451	10/07/15 09:25		SW	N8			020a	1501179	
5)	8064452	10/07/15 09:25		SW	N8			020a	1501179	
6)	**8064453U**	10/07/15 09:25		SW	N8			020a	1501179	
7)	**8064454R**	10/07/15 09:25		SW	N8			020a	1501179	
8)	**8064455M**	10/07/15 09:25		SW	N8			020a	1501179	
9)	**8064456D**	10/07/15 09:25		SW	N8			020a	1501179	
10)	8064457FD	10/07/15 09:25		SW	N8			020a	1501179	
11)	8064458	10/07/15 09:25		SW	N8			020a	1501179	
12)	8064459	10/07/15 09:25		SW	N8			020a	1501179	
13)	8064461	10/07/15 09:25		SW	N8			020a	1501179	
14)	8064462	10/07/15 09:25		SW	N8			020a	1501179	
15)	8064463	10/07/15 09:25		SW	N8			020a	1501179	
16)	8064464	10/07/15 09:25		SW	N8			020a	1501179	
17)	8064465	10/07/15 09:25		SW	N8			020a	1501179	
18)	8064466	10/07/15 09:25		SW	N8			020a	1501179	
19)	8064468	10/07/15 09:25		SW	N8			020a	1501179	
20)	8064469	10/07/15 09:25		SW	N8			020a	1501179	
21)	8064470	10/07/15 09:25		SW	N8			020a	1501179	

Prep Employee: 862

10/7/2015

v 1.0.1

Batch# 15 279 5708 001

LLENS Batch Chronology and Change Log - SW846 ICP/ICP MS Digest

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		10/6/15 12:58	862
2)	Sample Wt		10/6/15 21:24	862
3)	Final Vol	10685	10/6/15 21:24	862
4)	Trial		10/6/15 21:24	862
5)	Upload Prep	US19VDIELD03	10/7/15 3:20	862

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 5708 SW846 ICP/ICP MS Digest

Batch# 15 279 5708 001

Sample ID	Due Date	P	EPA#	SDG#	Sample Wt	Final Volume	Trial
PBS					1.0000	100.0000	1
LCSW					1.0000	100.0000	1
8064450	10/07/15	N8	49113	PSC27-01	1.0000	100.0000	1
8064451	10/07/15	N8	49213	PSC27-02	1.0200	100.0000	1
8064452	10/07/15	N8	49313	PSC27-03	1.0300	100.0000	1
8064453U	10/07/15	N8	49413	PSC27-04BKG	1.0100	100.0000	1
8064454R	10/07/15	N8	49413	PSC27-04MS	1.0100	100.0000	1
8064455M	10/07/15	N8	49413	PSC27-04MSD	1.0100	100.0000	1
8064456D	10/07/15	N8	49413	PSC27-04DUP	1.0100	100.0000	1
8064457FD	10/07/15	N8	494FD	PSC27-05FD	1.0100	100.0000	1
8064458	10/07/15	N8	49513	PSC27-06	1.0300	100.0000	1
8064459	10/07/15	N8	49613	PSC27-07	1.0400	100.0000	1
8064461	10/07/15	N8	-479-	PSC27-09	1.0300	100.0000	1
8064462	10/07/15	N8	-480-	PSC27-10	1.0400	100.0000	1
8064463	10/07/15	N8	-489-	PSC27-11	1.0400	100.0000	1
8064464	10/07/15	N8	-490-	PSC27-12	1.0200	100.0000	1
8064465	10/07/15	N8	48713	PSC27-13	1.0000	100.0000	1
8064466	10/07/15	N8	48813	PSC27-14	1.0000	100.0000	1
8064468	10/07/15	N8	-498-	PSC27-16	1.0200	100.0000	1
8064469	10/07/15	N8	-499-	PSC27-17	1.0200	100.0000	1
8064470	10/07/15	N8	-497-	PSC27-18	1.0200	100.0000	1

LLENS Worksheet for 5711 SW SW846 Hg Digest

Batch# 15 273 5711 001

Balance ID#: 19119 **Start Time:** 10/1/15 4:20 **End Time:** 10/1/15 4:50 **Hot Block:** 1

Pipette ID: W/1000

Spike/Reagent	Lot#	Volume Added(mL)
5%KMnO4	P15-265E	15.00
Aqua Regia	P15-274B	5.00
LCS 100 ppb Hg	P15-267E	1.00
Spike 100 ppb Hg	P15-267E	1.00

Method Ref: SW-846 7471A modified

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBS	.							1408268	0.6075g Teflon chips used, Lot: N330-5G001
2)	LCSW	.							1408268	0.6105g Teflon chips used, Lot: N330-5G001
3)	8053572	10/01/15 16:54		SW	N9			034a	1408268	SQAR sample
4)	8063957	10/07/15 09:25		SW	N8			034a	1408268	
5)	8064450	10/07/15 09:25		SW	N8			020a	1408268	
6)	8064451	10/07/15 09:25		SW	N8			020a	1408268	
7)	8064452	10/07/15 09:25		SW	N8			020a	1408268	
8)	**8064453U**	10/07/15 09:25		SW	N8			020a	1408268	
9)	**8064454R**	10/07/15 09:25		SW	N8			020a	1408268	
10)	**8064455M**	10/07/15 09:25		SW	N8			020a	1408268	
11)	**8064456D**	10/07/15 09:25		SW	N8			020a	1408268	
12)	8064457FD	10/07/15 09:25		SW	N8			020a	1408268	
13)	8064458	10/07/15 09:25		SW	N8			020a	1408268	
14)	8064459	10/07/15 09:25		SW	N8			020a	1408268	
15)	8064461	10/07/15 09:25		SW	N8			020a	1408268	
16)	8064462	10/07/15 09:25		SW	N8			020a	1408268	
17)	8064463	10/07/15 09:25		SW	N8			020a	1408268	
18)	8064464	10/07/15 09:25		SW	N8			020a	1408268	
19)	8064465	10/07/15 09:25		SW	N8			020a	1408268	
20)	8064466	10/07/15 09:25		SW	N8			020a	1408268	
21)	8064468	10/07/15 09:25		SW	N8			020a	1408268	
22)	8064469	10/07/15 09:25		SW	N8			020a	1408268	
23)	8064470	10/07/15 09:25		SW	N8			020a	1408268	

Prep Employee: 862

10/1/2015

v 1.0.1

Batch# 15 273 5711 001

LLENS Batch Chronology and Change Log - SW SW846 Hg Digest

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		9/30/15 14:50	862
2)	Sample Wt	19119	10/1/15 3:43	862
3)	Final Vol	19119	10/1/15 3:43	862
4)	Trial		10/1/15 3:43	862
5)	Upload Prep	US19VDIELD05	10/1/15 5:25	862

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 5711 SW SW846 Hg Digest

Batch# 15 273 5711 001

Sample ID	Due Date	P	EPA#	SDG#	Sample Wt	Final Volume	Trial
PBS					.6000	100.0000	1
LCSW					1.0000	100.0000	1
8053572	10/01/15	N9			10.1695	100.0000	1
8063957	10/07/15	N8	1078T		.6074	100.0000	1
8064450	10/07/15	N8	49113	PSC27-01	.6345	100.0000	1
8064451	10/07/15	N8	49213	PSC27-02	.6178	100.0000	1
8064452	10/07/15	N8	49313	PSC27-03	.6312	100.0000	1
8064453U	10/07/15	N8	49413	PSC27-04BKG	.6290	100.0000	1
8064454R	10/07/15	N8	49413	PSC27-04MS	.6113	100.0000	1
8064455M	10/07/15	N8	49413	PSC27-04MSD	.6148	100.0000	1
8064456D	10/07/15	N8	49413	PSC27-04DUP	.6260	100.0000	1
8064457FD	10/07/15	N8	494FD	PSC27-05FD	.6252	100.0000	1
8064458	10/07/15	N8	49513	PSC27-06	.6342	100.0000	1
8064459	10/07/15	N8	49613	PSC27-07	.6133	100.0000	1
8064461	10/07/15	N8	-479-	PSC27-09	.6124	100.0000	1
8064462	10/07/15	N8	-480-	PSC27-10	.6108	100.0000	1
8064463	10/07/15	N8	-489-	PSC27-11	.6377	100.0000	1
8064464	10/07/15	N8	-490-	PSC27-12	.6266	100.0000	1
8064465	10/07/15	N8	48713	PSC27-13	.6048	100.0000	1
8064466	10/07/15	N8	48813	PSC27-14	.6109	100.0000	1
8064468	10/07/15	N8	-498-	PSC27-16	.6427	100.0000	1
8064469	10/07/15	N8	-499-	PSC27-17	.6194	100.0000	1
8064470	10/07/15	N8	-497-	PSC27-18	.6414	100.0000	1

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Aqua Regia	HI5-268E						21.5	14	54295
2	4792 ICV	FF	Hg-1.0mg/L Cont	7	10-02-15	HI5-268C	0.25 ml			
3	CCV	GG	Hg-1.0mg/L Cal			HI5-268A	0.10			
4	CCV	HH	↓			↓	0.10			
5	CRA	II	Hg-0.1mg/L Cont			HI5-268D	0.20			
6	Std Cal	JJ	Hg-0.1mg/L Cal			HI5-268D	0.20			
7		KK	↓			↓	0.50			
8		LL	Hg-1.0mg/L Cal			HI5-268A	0.10			
9		MM	↓			↓	0.25			
10		NN	↓		↓ 15 NOV 15	↓	0.50			
11	↓	OO								
12	↓ CRA	↓ PP	Hg-0.1mg/L Cont		10-02-15	HI5-268D	0.4ml			
13	Hg-1.0mg/L Inter Cal	HI5-271A	Hg-10mg/L Cal	7	12-22-15	HI5-1730	1.0ml			
14	Hg-0.1mg/L Inter Cal	271B	Hg-1.0mg/L Cal		10-05-15	HI5-271A	1.0ml			
15	Hg-1.0mg/L Inter Cal	HI5-272A	Hg-10mg/L Cal	7	12-22-15	HI5-1730	1.0ml			
16	0.1mg/L Inter Cal	B	1.0mg/L Cal		10-06-15	HI5-272A				
17	1.0mg/L Inter Cont	C	10mg/L Cont		12-22-15	HI5-1731				
18	↓ 0.1mg/L Inter Cont	↓ D	↓ 1.0mg/L Cont		10-06-15	HI5-272C	↓			
19	Hg-2700 ICV		↓			↓	0.25ml	1	14	54295
20	↓ CCV		Hg-1.0mg/L Cal		↓	HI5-272A	0.20 ml	↓	↓	↓

9-29-15 DVB3Y (3)

Key – Manufacturer (Mo)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

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Document Title: Standard/Reagent Preparation Log

Eurofins Document Reference: 1-P-QM-FOR-9009818 | Revision: 2 | Historical Reference: Form 1105

Effective date: Feb 20, 2015 | Status: Effective

	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M∘	Lot #	Vol (mL*)	∘∘ M∘	Lot #						
1	64.5	6	92325				86	1:3	DU 354	9-25-15	9-25-15	RT
2	5						100	2.5 µg/L			10-02-15	
3								1.0				
4								1.0				
5								0.2				
6								0.2				
7								0.5				
8								1.0				
9								2.5				
10								5.0				
11								0.0				
12	↓	↓	↓				↓	0.4	↓	↓	↓	↓
13				To vol w/ 0.15% HNO3		H15-1880	10	1.0	DU 354	9-28-15	10-05-15	RT
14				↓	↓	↓	↓	0.1	↓	↓	↓	↓
15				To vol w/ 0.15% HNO3		H15-1880	10	1.0	DU 354	9-29-15	10-06-15	RT
16								0.1				
17								1.0				
18				↓	↓	↓	↓	0.1	↓	↓	↓	↓
19	2mL HNO3	4	153383	153383								9-29-15
20	↓	↓	↓	3.2mL HNO3								DU 354

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Footnotes

Key (∘∘) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Hg-5700 ICV	H15-272E	Hg-1.0mg/L Cont	7	10-06-15	H15-272C	0.25 ml	1	14	54295
2	CCV	F	Hg-1.0mg/L Cal			H15-272A	0.20			
3	CRA	G	Hg-0.1mg/L Cont			H15-272D	0.20			
4	Std Cal	H	Hg-0.1mg/L Cal			H15-272B	0.20			
5		I	↓			↓	0.50			
6		J	Hg-1.0mg/L Cal			H15-272A	0.20			
7		K					0.25			
8		L	↓		↓	↓	0.50 ↓			
9	↓	M								
10	ICV	N	Hg-1.0mg/L Cont	—	10-6-15	H15-272C	0.25ml			
11	CCV	O	Hg-1.0mg/L Cal	—	10-06-15	H15-272A	0.20ml	↓	↓	↓
12	Stannous Chloride	P	$SnCl_2$	6	1-28-16	116747 #3	500.02g			
13	↓	Q	↓	↓	↓	↓ #3-4	200.03g			
14	Waters - Blank	H15-274A						25	14	54295
15	↓	↓								
16	Soils - Blank	H15-274B						12.5	14	54295
17	Hg-1.0mg/L InterCal	H15-275A	Hg-1.0mg/L Cal	7	12-22-15	H15-1730	1.0ml			
18	0.1mg/L InterCal	B	1.0mg/L Cal		10-09-15	H15-275A	↓			
19	1.0mg/L InterCont	C	10mg/L Cont		12-22-15	H15-1731				
20	0.1mg/L InterCont	↓ D	↓ 1.0mg/L Cont	↓	10-09-15	H15-275C	↓			

Key – Manufacturer (Mo)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

a

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Document Title: Standard/Reagent Preparation Log

Eurofins Document Reference: 1-P-QM-FOR-9009818 | Revision: 2 | Historical Reference: Form 1105

Effective date: Feb 20, 2015 | Status: Effective

	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M∘	Lot #	Vol (mL*)	∘∘ M∘	Lot #						
1	2ml H_2SO_4	4	153388	1.2ml K2S2O8 / 6ml KMnO4		HIS-2361E / HIS-2361C	100	2.5	DU354	9-29-15	10-06-15	RT
2							200	1.0				
3							100	0.2				
4							↓	0.2				
5							↓	0.5				
6							200	1.0				
7							100	2.5				
8							↓	5.0				
9							↓	0.0				
10							↓	2.5				
11	↓	↓	↓	↓	↓	↓	200	1.0			↓	
12	200	6	93329	—		—	2000	10.1			3-29-16	
13	↓	↓	↓	—		—	↓	↓	↓	↓	↓	↓
14	50ml H_2SO_4	4	153388	80ml K2S2O8 / 150ml KMnO4		HIS 2361E / HIS-2361C	1000	0.0	DU354	10-01-15	3-24-16	RT
15	—	—	—	60ml Hydrox		HIS-2361F					2-24-16	
16	37.5	6	93329	60ml Hydrox / 150ml KMnO4		HIS-2361F / HIS-2361C	↓	↓	↓	↓	↓	↓
17	—	—	—	Top vol w/ 0.5% HNO_3		HIS-1880	10	1.0	DU354	10-02-15	10-09-15	RT
18								0.1				
19								1.0				
20				↓	↓	↓	↓	0.1	↓	↓	↓	↓

Footnotes

Key (∘∘) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Hg-5700 ICV	H15-275E	Hg-1.0mg/L Cont	7	10-09-15	H15-275C	0.25 mL	1	14	54295
2	CCV	F	Hg-1.0mg/L Cal			H15-275A	0.20			
3	CBA	G	Hg-0.1mg/L Cont			H15-275D	0.20			
4	Std Cal	H	Hg-0.1mg/L Cal			H15-275B	0.20			
5		I	↓			↓	0.50			
6		J	Hg-1.0mg/L Cal			H15-275A	0.20			
7		K	↓			↓	0.25			
8		L	↓	L	↓	↓	0.50			
9	↓	M								
10	ICV	N	Hg-1.0mg/L Cont	7	10-09-15	H15-275C	0.25 mL			
11	CCV	O	Hg-1.0mg/L Cal			H15-275A	0.20	↓	↓	↓
12	Hg-5701 ICV	P	Hg-1.0mg/L Cont			H15-275C	0.25			
13	CCV	Q	Hg-1.0mg/L Cal			H15-275A	0.10			
14	CCV	R					0.10			
15	CCV	S					0.10			
16	CCV	T	↓			↓	0.10			
17	CBA	U	Hg-0.1mg/L Cont			H15-275D	0.20			
18	Std Cal	V	Hg-0.1mg/L Cal			H15-275B	0.20			
19		W	↓			↓	0.50			
20	↓	X	Hg-1.0mg/L Cal	L	↓	H15-275A	0.10			

Key – Manufacturer (Mo)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

a

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Document Title: Standard/Reagent Preparation Log

Eurofins Document Reference: 1-P-QM-FOR-9009818 | Revision: 2 | Historical Reference: Form 1105

Effective date: Feb 20, 2015 | Status: Effective

	HCl Used			Other Used									
	Vol (mL)	M∘	Lot #	Vol (mL*)	∘∘ M∘	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	153388	3.2ml $K_2S_2O_8$ 1ml NH_4NO_3		H15-236E H15-236C	100	2.5	DJ	10-02-15	10-09-15	RT
2							200	1.0				
3							100	0.2				
4							↓	0.2				
5							↓	0.5				
6							200	1.0				
7							100	2.5				
8							↓	5.0				
9							↓	0.0				
10							↓	2.5				
11	↓	↓	↓	↓	↓	↓	200	1.0				
12	—	—	—	5ml Aqua Regia 15ml $KMnO_4$		H15-275F H15-236D	100	2.5				
13							↓	1.0				
14							↓	1.0				
15							↓	1.0				
16							↓	1.0				
17							↓	0.2				
18							↓	0.2				
19							↓	0.5				
20	—	—	—	↓	↓	↓	↓	1.0	↓	↓	↓	↓

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Footnotes

Key (∘∘) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
* * units are mg/L unless otherwise specified

b

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Hg-5701 Std Cal	H15:275Y	Hg-1.0mg/L Cal	7	10-09-15	H15:275A	0.25ml			
2	↓	Z	↓	↓		↓	0.50ml			
3	↓	AA								
4	SI	BB	Hg-0.1mg/L Cal	7	10-09-15	H15:275B	0.10ml			
5	CRA	CC	Hg-0.1mg/L Cont	↓	↓	H15:275D	0.10			
6	CRA	DD	↓	↓	↓	↓	0.40			
7	↓ ICV	EE	Hg-1.0mg/L Cont	↓	↓	H15:275C	0.25 ↓			
8	Aqua Regia	FF						21.5	14	54295
9	Permanganate	GG	KMnO4	6	97834[#3]	4-29-20	100.02g			
10	↓	HH	↓	↓	↓	↓	100.03g			
11	Hg-1.0mg/L InterCont	H15:278A	Hg-10mg/L Cont	7	12-22-15	H15:273P	1.0ml			
12	Hg-0.1mg/L InterCont	B	Hg-1.0mg/L Cont	↓	10-13-15	H15:278A	1.0ml			
13	Stannous Chloride	C	SnCl2	6	6-28-16	116747[#4]	200.00g			
14	Stannous Chloride	D	↓	↓	↓	↓	300.00g			
15	Hg-1.0mg/L InterCal	H15:279A	Hg-10mg/L Cal	7	12-22-15	H15-173O	1.0ml			
16	0.1mg/L InterCont	B	1.0mg/L Cal		10-13-15	H15:279A				
17	1.0mg/L InterCont	C	10mg/L Cont		12-22-15	H15-173P				
18	↓ 0.1mg/L InterCont	D	↓ 1.0mg/L Cont		10-13-15	H15:279C	↓			
19	Hg-5700 ICV	E	↓			↓	0.25ml	1	14	54295
20	↓ CCV	F	Hg-1.0mg/L Cal	↓	↓	H15:279A	0.20ml	↓	↓	↓

Key – Manufacturer (Mo)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used									
	Vol (mL)	M∘	Lot #	Vol (mL*)	∘∘ M∘	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				5ml Aqua Regia 15ml HNO3		H15-2751F H15-2360	100	2.5ug/L	DU354	10-02-15	10-09-15	RT
2								50				
3								0.0				
4								0.1				
5								0.1				
6								0.4				
7								2.5				
8	64.5	6	93325				86	1:3			10-02-15	
9							2000				4-02-16	
10												
11				To vol w/ 0.15% HNO3		H15-1884	10	1.0	DU354	10-05-15	10-12-15	RT
12							10	0.1				
13	200	6	93325				2000	10:1			4-05-16	
14												
15				To vol w/ 0.15% HNO3		H15-1884	10	1.0	DU354	10-01-15	10-13-15	RT
16								0.1				
17								1.0				
18								0.1				
19	2ml H2SO4	4		3.2ml Aqua Regia 1ml HNO3	08	H15-2360 H15-2360	100	2.5ug/L				
20							200	10ug/L				

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Footnotes

Key (∘∘) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
* * units are mg/L unless otherwise specified

b

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	Mo	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	Mo	Lot #
1	Hg-5700 CRA	H15-279G	Hg-0.1mg/L Cont	7	10-13-15	H15-279D	0.20 ml	1	14	54295
2	Std Cal	H	Hg-0.1mg/L Cal			H15-279B	0.20			
3		I	↓			↓	0.50			
4		J	Hg-1.0mg/L Cal			H15-279A	0.20			
5		K	↓			↓	0.25			
6		L	↓	L	↓	↓	0.50			
7	↓	M	—	—	—	—	—			
8	ICV	N	Hg-1.0mg/L Cont	7	10-13-15	H15-279C	0.25ml			
9	CCV	O	Hg-1.0mg/L Cal	L	↓	H15-279A	0.20 ml	↓	↓	↓
10	Hg-1.0mg/L InterCal	H15-280A	Hg-10mg/L Cal	7	12-22-15	H15-173D	1.0ml	—	—	—
11	0.1mg/L InterCal	B	1.0mg/L Cal		10-14-15	H15-280A	↓			
12	1.0mg/L InterCont	C	10mg/L Cont		12-22-15	H15-173P				
13	0.1mg/L InterCont	D	1.0mg/L Cont	L	10-14-15	H15-280C	↓			
14	Hg-4792 ICV	E	↓	7		↓	0.25ml			
15	CCV	F	Hg-1.0mg/L Cal			H15-280A	0.10			
16	CCV	G	↓			↓	0.10			
17	CRA	H	Hg-0.1mg/L Cont			H15-280D	0.20			
18	Std Cal	I	Hg-0.1mg/L Cal			H15-280B	0.20			
19	↓	J	↓			↓	0.50			
20	↓	M	Hg-1.0mg/L Cal	L	↓	H15-280A	0.10			

Key – Manufacturer (Mo)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Log

Eurofins Document Reference 1-P-QM-FOR-9009818 | Revision: 2 | Historical Reference: Form 1105

Effective date: Feb 20, 2015 | Status: Effective

	HCl Used			Other Used								
	Vol (mL)	M°	Lot #	Vol (mL*)	°° M°	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H2SO4	4	53388	3.2ml K2S2O8 1ml KMnO4		H15 234E H15 23.8D (3) 10-6-15 DU354	100	0.2ug/L	DU354	10-06-15	10-13-15	RT
2								0.2				
3								0.5				
4							200	1.0				
5							100	2.5				
6								5.0				
7								0.0				
8								2.5				
9							200	1.0				
10				To vol in 0.15% HNO3		H15 188D	10	1.0	DU354	10-07-15	10-14-15	RT
11								0.1				
12								1.0				
13								0.1				
14	5	6	93325				100	2.5ug/L				
15								1.0				
16								1.0				
17								0.2				
18								0.2				
19								0.5				
20								1.0				

Footnotes

Key (°°) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
* * units are mg/L unless otherwise specified

b

Instrumental Wet Chemistry Data

eurofins | Spectrum Analytical

Quality Assurance/Quality Control Data Deliverable

Level IV

Prepared for

Eurofins Lancaster Laboratories Environmental, LLC

Project/Number: See Chain of Custody / 1596027

Work Order: SC13115

SDG# 13115

Submitted on October 2nd, 2015

Table of Contents

Laboratory Name: Eurofins Spectrum Analytical, Inc.
City/Sate: Agawam, MA
Client Name: Eurofins Lancaster Laboratories Environmental, LLC
Project Name/Number: See Chain of Custody / 1596027
SDG#: 13115
Associated Work Orders: SC13115

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2. Table of Contents		
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eurofins | Spectrum Analytical

NY Lab ID #11393/11840
NJ Lab ID#MA011/MA012

Eurofins Lancaster Laboratories Environmental, LLC

Client Project: See Chain of Custody

Project Number: 1596027
Eurofins Spectrum Analytical, Inc. Project ID: SC13115

10/22/2015

Prepared for: Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17605-2425
Attn: Kathy Binkley

Prepared By: Eurofins Spectrum Analytical, Inc.
830 Silver Street
Agawam, MA 01001
(800)789-9115

SDG13115

SC13115 General Narrative

Eurofins Spectrum Analytical, Inc. submits the enclosed data package for the site characterization of See Chain of Custody. Samples submitted for analysis by Eurofins Lancaster Laboratories Environmental, LLC. Under this deliverable, analysis results are presented for ten Sediment samples submitted on October 2nd, 2015.

The analyses were performed according to USEPA SW846 method analytical guidelines and other methods. In addition the analyses were performed according to criteria dictated by National Environmental Laboratory Accreditation Conference (NELAC) and in accordance with project contract requirements and chain of custody forms.

Observations and/or deviations observed for specific analyses can be found in the analysis narrative:

1. Overall Observations:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual Integrations are coded to provide the data reviewer justification for such action. The codes are labeled on corresponding raw data for GC/MS and GC analysis as follows:

- M1 peak tailing or fronting
- M2 peak co-elution
- M3 rising or failing baseline
- M4 retention time shift
- M5 miscellaneous - under this category, the justification is explained
- M6 software did not integrate peak
- M7 partial peak integration

The enclosed report includes the originals of all data with the exception of logbook pages and certain initial calibrations. Scanned copies of logbook pages are included, with the originals are archived within the laboratory.

The pages in this report have been numbered consecutively, starting with the general narrative and ending with the page labeled as "Last Page of data Report".

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this electronic data package, has been authorized by the laboratory director as verified by the following signature.

Nicole Leja Date: 10/22/2015

Laboratory Director

Executive Summary - Detection Highlights

Sample ID: 0164-13 DP

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	106000		1430	mg/kg	Lloyd Kahn

Sample ID: 0479-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	2440		120	mg/kg	Lloyd Kahn

Sample ID: 0487-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	1010		156	mg/kg	Lloyd Kahn

Sample ID: 0489-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	2790		188	mg/kg	Lloyd Kahn

Sample ID: 0491-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	1030		165	mg/kg	Lloyd Kahn

Sample ID: 0493-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	112000		851	mg/kg	Lloyd Kahn

Sample ID: 0495-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	73100		870	mg/kg	Lloyd Kahn

Sample ID: 0497-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	204000		3330	mg/kg	Lloyd Kahn

Sample ID: 0498-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	64500		976	mg/kg	Lloyd Kahn

Sample ID: 0499-13

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Organic Carbon	174000		2350	mg/kg	Lloyd Kahn

Please note that this summary does not include hits from hazardous waste characterizations or micro analyses, because they do not have minimum detection limits.

Sample Identification and Analytical Requirements Summary

Project Name: See Chain of Custody SDG: SC13115

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		VOC Method #	SVOC Method #	GC Method #	Metals	Other
0491-13	SC13115-01					Lloyd Kahn
0493-13	SC13115-02					Lloyd Kahn
0164-13 DP	SC13115-03					Lloyd Kahn
0495-13	SC13115-04					Lloyd Kahn
0479-13	SC13115-05					Lloyd Kahn
0489-13	SC13115-06					Lloyd Kahn
0487-13	SC13115-07					Lloyd Kahn
0498-13	SC13115-08					Lloyd Kahn
0499-13	SC13115-09					Lloyd Kahn
0497-13	SC13115-10					Lloyd Kahn

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Sample Transmittal Documentation

Analysis Request / Environmental Services Subcontracting Form

eurofins | Lancaster Laboratories

For Lancaster Laboratories Use Only

Acct: _____ Group No.: 1596027 Sample Nos.: 8064450, 52, 57-58, 61, 63, 65 68-70

Date: 10/1/2015

SC 13115

Subcontractor: **EUROFINS SPECTRUM ANALYTICAL, INC.**

LLI P.O.# : _____ Courier: FED EX

Submit report to: Kathy Binkley Ext.: 1393

Submit invoice to: Kathy Binkley

State where samples were collected: VT

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Sediment	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Other	Total # of Containers	Analyses Requested / Preservation Codes: TOC by Lloyd Kahn											Preservation Codes / Comments	Temperature of samples upon receipt (if requested)
0491-13 13115-01	09/24/15	10:10		X	X				X											8064450	
0493-13 -02	09/24/15	12:00		X	X				X											8064452	
0164-13 -03	09/24/15	12:15		X	X				X											8064457	
0495-13 -04	09/24/15	13:00		X	X				X											8064458	
0479-13 -05	09/23/15	10:45		X	X				X											8064461	
0489-13 -06	09/23/15	13:30		X	X				X											8064463	
0487-13 -07	09/23/15	14:50		X	X				X											8064465	
0498-13 -08	09/22/15	10:30		X	X				X											8064468	
0499-13 -09	09/22/15	10:45		X	X				X											8064469	
0497-13 -10	09/22/15	13:25		X	X				X											8064470	

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments: Type 1 DP Level 4 and EDD. EDD format will follow.

Turnaround Time Requested (TAT): Standard Rush

Date Results are Needed:

Email Results to: KathyBinkley@EurofinsUS.com

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	10/1/15	1700			
Fed Ex	10/2		[signature]	10/2/15	12:46

Data Package Options (circled when required)
Type I (validation/NJ Reg) Type VI(Raw Data)
Type II (Tier II) Type III (Reduced NJ)
Type IV (CLP SOW) TX TRRP-13

SDG Complete? Yes No

MA MCP
CT RCP

Site-specific QC Required (MS/MSD/DUP)? Yes No
Internal Chain of Custody Required? Yes No

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

Rec'd, custody sealed
0-7/-1/-0.3 AA 10/2

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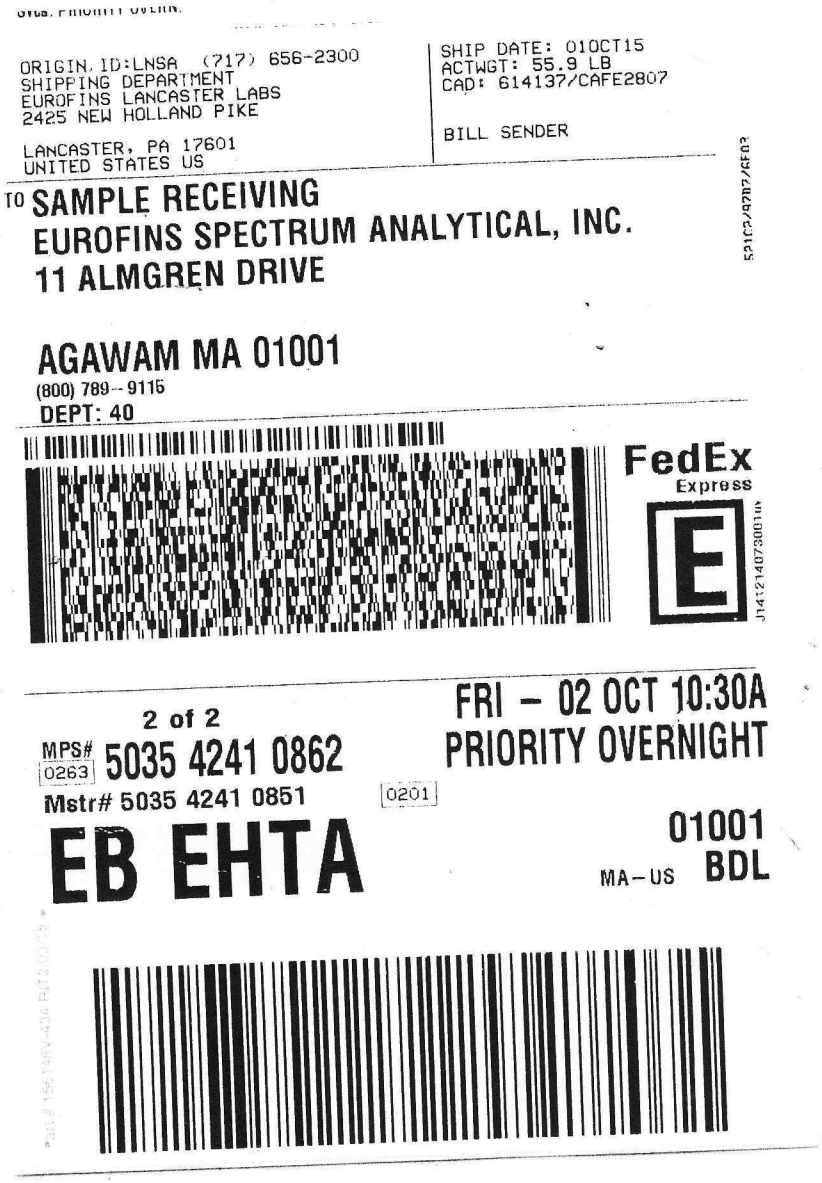

FROM: PRIORITY OVERN.

ORIGIN ID:LNSA (717) 656-2300
SHIPPING DEPARTMENT
EUROFINS LANCASTER LABS
2425 NEW HOLLAND PIKE

LANCASTER, PA 17601
UNITED STATES US

SHIP DATE: 01OCT15
ACTWGT: 55.9 LB
CAD: 614137/CAFE2807

BILL SENDER

TO SAMPLE RECEIVING
EUROFINS SPECTRUM ANALYTICAL, INC.
11 ALMGREN DRIVE

AGAWAM MA 01001
(800) 789--9115
DEPT: 40

FedEx Express

2 of 2
MPS# 0263 5035 4241 0862
Mstr# 5035 4241 0851

0201

FRI – 02 OCT 10:30A
PRIORITY OVERNIGHT

EB EHTA

01001
MA-US BDL

Analysis Request / Environmental Services Subcontracting Form

eurofins | Lancaster Laboratories

For Lancaster Laboratories Use Only

Acct: _____ Group No.: 1596027 Sample Nos.: 8064450, 52, 57-58, 61, 63, 65 68-70

Date: 10/1/2015

SC 13115

Subcontractor: **EUROFINS SPECTRUM ANALYTICAL, INC.**

LLI P.O.# : _____ Courier: FED EX

Submit report to: Kathy Binkley Ext.: 1393

Submit invoice to: Kathy Binkley

State where samples were collected: VT

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Sediment	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Other	Total # of Containers	Analyses Requested: TOC by Lloyd Kahn												Preservation Codes: 8064450
0491-13 13115-01	09/24/15	10:10		X	X				X												8064450
0493-13 -02	09/24/15	12:00		X	X				X												8064452
0164-13 DP -03	09/24/15	12:15		X	X				X												8064457
0495-13 -04	09/24/15	13:00		X	X				X												8064458
0479-13 -05	09/23/15	10:45		X	X				X												8064461
0489-13 -06	09/23/15	13:30		X	X				X												8064463
0487-13 -07	09/23/15	14:50		X	X				X												8064465
0498-13 -08	09/22/15	10:30		X	X				X												8064468
0499-13 -09	09/22/15	10:45		X	X				X												8064469
0497-13 -10	09/22/15	13:25		X	X				X												8064470

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments: Type 1 DP Level 4 and EDD. EDD format will follow.

Temperature of samples upon receipt (if requested)

* changed Sample 03 per email 10/5/15

Turnaround Time Requested (TAT): Standard Rush

Date Results are Needed:

Email Results to: KathyBinkley@EurofinsUS.com

Data Package Options (circled when required)
Type I (validation/NJ Reg) Type VI(Raw Data)
Type II (Tier II) Type III (Reduced NJ)
Type IV (CLP SOW) TX TRRP-13

SDG Complete? Yes No

MA MCP
CT RCP

Site-specific QC Required (MS/MSD/DUP)? Yes No
Internal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
	10/1/15	1700			
Fed Ex	10/2		AA	10/2/15	12:46

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

Lead, Cadmium Reduced
0-7/-1/-0-3 AA 10/2

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SC13115

Eurofins Spectrum Analytical, Inc. - MA

Report To:

Eurofins Lancaster Laboratories Environmental, LLC
Kathy Binkley
2425 New Holland Pike
Lancaster, PA 17605-2425
Phone: (717) 656-2300
Fax: -

Project #: 1596027
Project: See Chain of Custody
Date Due: 09-Oct-15 17:00
Received By: Arshik Ahamed
Date Received: 02-Oct-15 12:46
Temperature: -0.3°C
PO #:

✓ Containers Intact	Frozen vials
✓ Properly Labeled	Frozen soil jars
✓ COC/Labels Agree	State EDD
✓ Received On Ice	✓ COC present
✓ Recd within hold time	✓ Custody seal present
Air-tight containers (Encore device)	✓ Custody seal intact
Refrigerated	COC complete
DW Field QC	

Lab ID	Client ID	Sampled	Lab Matrix / Report Matrix	Containers
SC13115-01	0491-13	24-Sep-15 10:10	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-02	0493-13	24-Sep-15 12:00	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-03	0164-13 DP	24-Sep-15 12:15	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-04	0495-13	24-Sep-15 13:00	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-05	0479-13	23-Sep-15 10:45	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-06	0489-13	23-Sep-15 13:30	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-07	0487-13	23-Sep-15 14:50	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-08	0498-13	22-Sep-15 10:30	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-09	0499-13	22-Sep-15 10:45	Soil/Sediment / Sediment	A - 2 oz. jar
SC13115-10	0497-13	22-Sep-15 13:25	Soil/Sediment / Sediment	A - 2 oz. jar

SC13115

Eurofins Spectrum Analytical, Inc. - MA

Analysis	Due	TAT	Comments
SC13115-01 0491-13			
wc-TOC-Lloyd Kahn	09-Oct-15 15:00	5	Type 1 DP Level 4
SC13115-02 0493-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13115-03 0164-13 DP			
wc-TOC-Lloyd Kahn	"	"	"
SC13115-04 0495-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13115-05 0479-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13115-06 0489-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13115-07 0487-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13115-08 0498-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13115-09 0499-13			
wc-TOC-Lloyd Kahn	"	"	"
SC13115-10 0497-13			
wc-TOC-Lloyd Kahn	"	"	"

EUROFINS SPECTRUM ANALYTICAL, INC.

SAMPLE INTEGRITY FORM

Sample ID			Preservative Added						Notes
	Initial pH	Sample split	50% HCl - Element # 15D1359	50% H2SO4 - Element # 15H0773	50% NaOH - Element # 15B0084	Final pH	Chlorinated? (Y/N)	10% Na2S2O3 - Element # 15D0952	Work Order No. SC13115 Solid samples for VOC analyses: _____ Submitted in SA provided CH3OH/DI/NaHSO4 vials _____ Submitted in CH3OH/DI/NaHSO4, not SA _____ Not submitted in CH3OH/DI/NaHSO4

Notes:

COC login reviewed by: _____ Login Analyst Initials: _____ Date: 10/2/2015 (Rev. 2/5/2013)

Lisa Chaffee [Agawam]

From: Katy Wilkinson [Agawam]
Sent: Monday, October 05, 2015 1:55 PM
To: Client Services Dept; Alejandro Paredes [Agawam]
Cc: Sample Dept
Subject: FW: SC13115 - Sample confirmation from Eurofins Spectrum Analytical, Inc. for Project: See Chain of Custody
Attachments: SC13115_COC.pdf; ATT00001.htm; SC13115_SAF.pdf; ATT00002.htm; SC13115.pdf; ATT00003.htm

This is all set in Element.

CS – please revise, rescan and attach.

Thanks!

From: Rebecca Merz [Agawam]
Sent: Monday, October 05, 2015 1:51 PM
To: Sample Dept; Client Services Dept
Subject: Fwd: SC13115 - Sample confirmation from Eurofins Spectrum Analytical, Inc. for Project: See Chain of Custody

Please see below.

Sent from my iPhone

Begin forwarded message:

> **From:** "Kathy Binkley" <KathyBinkley@eurofinsUS.com>
> **To:** "Rebecca Merz [Agawam]" <RebeccaMerz@EurofinsUS.com>
> **Subject: FW: SC13115 - Sample confirmation from Eurofins Spectrum Analytical, Inc. for Project: See Chain of Custody**
>
> Hi Rebecca,
>
> Please see the SC13115 attachment and make sure that the sample ID is changed to 0164-13 DP for work order SC13115-03.
>
> Thanks,
>
> Kathy Binkley
> Senior Administrator, Environmental Client Services
>
> Eurofins Lancaster Laboratories
> Environmental, LLC
> 2425 New Holland Pike
> Lancaster, PA 17601
> USA
> Phone: +1 717-656-2300 Ext. 1393
> Fax: +1 717-656-6766
>
> www.LancasterLabsEnv.com
>
> From: online@spectrum-analytical.com [mailto:online@spectrum-analytical.com]
> Sent: Friday, October 02, 2015 7:00 PM
> To: Kathy Binkley
> Subject: SC13115 - Sample confirmation from Eurofins Spectrum Analytical, Inc. for Project: See Chain of Custody
>
> [http://www.spectrum-analytical.com/images/sai_logo.jpg][Eurofins Spectrum Analytical, Inc.]
>
> This message is to notify you that your samples have been received by Eurofins Spectrum Analytical, Inc. The Chain of Custody is attached. Please review the attached Sample Acknowledgment form for sample details. Please respond to this email to resolve any discrepancies or you may contact the Sample Department at (413) 789-9018 to discuss.
> Work Order #:
>
> SC13115
>
> Project:
>
> See Chain of Custody
>
> Project #:
>
> 8064450, 52, 57-58, 61, 63, 65 68-70
>
> PO #:
>
> *
>
> Received:

10/02/2015 12:46 PM

Estimated completion:

10/09/2015 5:00 PM

Sample temperature:

-0.3°C

* A PO number was not listed on the COC. If a PO is required for billing purposes, please respond immediately to this email with the information so that it may be included on the invoice.

The following outlines the condition of samples for the attached Chain of Custody upon receipt.
Were cooler custody seals present?

Yes

Were custody seals intact?

Yes

Were samples received at a temperature of ≤ 6°C?

Yes

Were samples cooled on ice upon custody transfer to laboratory representative?

Yes

Were sample containers received intact?

Yes

Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?

Yes

Were samples accompanied by a Chain of Custody document?

Yes

Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?

No

Did sample container labels agree with Chain of Custody document?

Yes

Were samples received within method-specific holding times?

Yes

You may track the status of your samples and view results on Eurofins Spectrum's eServices website at http://www.spectrum-analytical.com/eservices/. If you do not have an online account, you may sign up for one by completing the Internet Access Agreement form located at the bottom of the login page.

If you have any questions or concerns about your samples, please reply to this message.

To ensure delivery of laboratory report notices, please add online@spectrum-analytical.com<mailto:online@spectrum-analytical.com> to your address book.

Notify us here<https://www.mailcontrol.com/sr/sa81rSR2SmXWQxILzJ5p92RAvMb6FycwL7gQx33L57vtiGgWteCCctj7bfN2vL+B8b9wfVKnxppLI8gXu2Q!XQ==> to report this email as spam.

eurofins | Spectrum Analytical

Form I Summary Pack

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0491-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-01	File ID:	10031610
Sampled:	09/24/15 10:10	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 16:14
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0243 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	1030	1	163	165	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0493-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-02	File ID:	10031255
Sampled:	09/24/15 12:00	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 12:59
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0047 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	112000	1	843	851	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0164-13 DP

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-03	File ID:	10031418
Sampled:	09/24/15 12:15	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 14:22
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0028 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	106000	1	1420	1430	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0495-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-04	File ID:	10031218
Sampled:	09/24/15 13:00	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 12:24
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0046 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	73100	1	861	870	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0479-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-05	File ID:	10031615
Sampled:	09/23/15 10:45	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 16:19
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0334 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	2440	1	119	120	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0489-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-06	File ID:	10031620
Sampled:	09/23/15 13:30	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 16:24
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0213 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	2790	1	186	188	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0487-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-07	File ID:	10031720
Sampled:	09/23/15 14:50	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 17:25
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0257 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	1010	1	154	156	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0498-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-08	File ID:	10031226
Sampled:	09/22/15 10:30	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 12:31
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0041 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	64500	1	966	976	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0499-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-09	File ID:	10031240
Sampled:	09/22/15 10:45	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 12:46
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0017 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	174000	1	2330	2350	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0497-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-10	File ID:	10031303
Sampled:	09/22/15 13:25	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 13:09
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0012 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	204000	1	3300	3330	

Lloyd Kahn

CROSS REFERENCE TABLE

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Project Number:	1596027		

Client Sample ID:	Lab Sample ID:
0491-13	SC13115-01
0493-13	SC13115-02
0164-13 DP	SC13115-03
0495-13	SC13115-04
0479-13	SC13115-05
0489-13	SC13115-06
0487-13	SC13115-07
0498-13	SC13115-08
0499-13	SC13115-09
0497-13	SC13115-10

CASE NARRATIVE

Spectrum Analytical, Inc. Lab Reference No. SC13115

Client: Eurofins Lancaster Laboratories Environmental, LLC

Project: See Chain of Custody / 1596027

SDG #: 13115

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception or a communication form is included in the addendum with this package.

II. HOLDING TIMES

All samples were prepared and analyzed within the method-specific holding time.

III. METHODS

Analyses were performed according to Lloyd Kahn.

IV. PREPARATION

Soil/Sediment samples were prepared according to General Preparation.

V. INSTRUMENTATION

The following equipment was used to analyze Lloyd Kahn:

TOC2 details: Teledyne Tekmar Apollo 9000 / TOC Boat Sampler Model 183

VI. ANALYSIS

A. Calibration:

All quality control samples were within the acceptance criteria.

B. Blanks:

All blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Samples (LCS):

All method criteria were met.

2. Matrix Spike / Matrix Spike Duplicate Samples (MS/MSD):

No matrix spike or matrix spike duplicates were analyzed.

3. Reference:

All method criteria were met.

D. Duplicates:

A duplicate was analyzed.

In batch 1518708 from source sample 0495-13 (SC13115-04).

In batch 1518720 from source sample 0489-13 (SC13115-06).

All method criteria were met.

E. Samples:

All method criteria were met with the following exceptions:

Total Organic Carbon in batch 1518708, sample 0495-13 (SC13115-04): This sample was analyzed in quadruplicate. The % RSD is 12.3.

Total Organic Carbon in batch 1518720, sample 0489-13 (SC13115-06): This sample was analyzed in quadruplicate. The % RSD is 9.89.

Lloyd Kahn

QC Summary

FORM IIa - INITIAL AND CONTINUING CALIBRATION CHECK

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Instrument ID: TOC2

SDG: 13115
Project: See Chain of Custody
Calibration: 1507063
Sequence: S506983

Lab Sample ID	Analyte	True	Found	%R	QC Limits	Units	Method
S506983-ICV1	Total Organic Carbon	5430	5860	108	85 - 115	µg	Lloyd Kahn

* Values outside of QC limits

FORM IIa - INITIAL AND CONTINUING CALIBRATION CHECK

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Instrument ID: TOC2

SDG: 13115
Project: See Chain of Custody
Calibration: 1507063
Sequence: S508898

Lab Sample ID	Analyte	True	Found	%R	QC Limits	Units	Method
1518708-CCV1	Total Organic Carbon	8000	9140	114	85 - 115	mg/kg	Lloyd Kahn
1518708-CCV2	Total Organic Carbon	8000	8840	111	85 - 115	mg/kg	Lloyd Kahn
1518708-CCV3	Total Organic Carbon	8000	8540	107	85 - 115	mg/kg	Lloyd Kahn

* Values outside of QC limits

FORM IIa - INITIAL AND CONTINUING CALIBRATION CHECK

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Instrument ID: TOC2

SDG: 13115
Project: See Chain of Custody
Calibration: 1507063
Sequence: S508901

Lab Sample ID	Analyte	True	Found	%R	QC Limits	Units	Method
1518720-CCV1	Total Organic Carbon	1000	947	95	85 - 115	mg/kg	Lloyd Kahn
1518720-CCV2	Total Organic Carbon	1000	944	94	85 - 115	mg/kg	Lloyd Kahn
1518720-CCV3	Total Organic Carbon	1000	1010	101	85 - 115	mg/kg	Lloyd Kahn

* Values outside of QC limits

FORM III - BLANKS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13115
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Instrument ID: TOC2
Calibration: 1507063
Sequence: S506983
Matrix: Soil/Sediment

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
S506983-ICB1	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn

FORM III - BLANKS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13115
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Instrument ID: TOC2
Calibration: 1507063
Sequence: S508898
Matrix: Soil/Sediment

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
1518708-CCB1	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn
1518708-BLK1	Total Organic Carbon	BRL	100	mg/kg	U	Lloyd Kahn
1518708-CCB2	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn
1518708-CCB3	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn

FORM III - BLANKS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13115
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Instrument ID: TOC2
Calibration: 1507063
Sequence: S508901
Matrix: Soil/Sediment

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
1518720-CCB1	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn
1518720-BLK1	Total Organic Carbon	BRL	100	mg/kg	U	Lloyd Kahn
1518720-CCB2	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn
1518720-CCB3	Total Organic Carbon	BRL	4.00	µg	U	Lloyd Kahn

FORM IIIc - DUPLICATES

0495-13

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Matrix: Soil/Sediment
Batch: 1518708
Preparation: General Preparation
Source Sample Name: 0495-13

SDG: 13115
Project: See Chain of Custody
Laboratory ID: 1518708-DUP1
Lab Source ID: SC13115-04
Initial/Final: 0.0054 g / 1 ml
% Solids:
File ID: 10031331

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/kg)	C	DUPLICATE CONCENTRATION (mg/kg)	C	RPD %	Q	METHOD
Total Organic Carbon	20	73100		69000		6		Lloyd Kahn

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM IIIc - DUPLICATES

0489-13

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
Client: Eurofins Lancaster Laboratories Environmental, LLC
Matrix: Soil/Sediment
Batch: 1518720
Preparation: General Preparation
Source Sample Name: 0489-13

SDG: 13115
Project: See Chain of Custody
Laboratory ID: 1518720-DUP1
Lab Source ID: SC13115-06
Initial/Final: 0.021 g / 1 ml
% Solids:
File ID: 10031629

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/kg)	C	DUPLICATE CONCENTRATION (mg/kg)	C	RPD %	Q	METHOD
Total Organic Carbon	20	2790		2490		11		Lloyd Kahn

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM IIIa - LCS / LCS DUPLICATE RECOVERY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Matrix:	Soil/Sediment	Instrument:	TOC2
Batch:	1518708	Laboratory ID:	1518708-BS1
Preparation:	General Preparation	Initial/Final:	0.04 g / 1 ml
Analyzed:	10/03/15 11:54	Spike ID:	15G0891
		File ID:	10031149

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	8000	9060	113	75 - 125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM IIIa - LCS / LCS DUPLICATE RECOVERY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Matrix:	Soil/Sediment	Instrument:	TOC2
Batch:	1518720	Laboratory ID:	1518720-BS1
Preparation:	General Preparation	Initial/Final:	0.04 g / 1 ml
Analyzed:	10/03/15 15:30	Spike ID:	15G0890
		File ID:	10031528

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	1000	877	88	75 - 125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VIIb(Inorganics) - STANDARD REFERENCE MATERIAL RECOVERY

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13115
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Matrix: Soil/Sediment
Spike ID: 15C0320
Batch: 1518708
Laboratory ID: 1518708-SRM1
Preparation: General Preparation
Initial/Final: 0.0206 g / 1 ml

ANALYTE	TRUE (mg/kg)	FOUND (mg/kg)	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	5430	5830	107	49 - 151

* Values outside of QC limits

FORM VIIb(Inorganics) - STANDARD REFERENCE MATERIAL RECOVERY

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA
SDG: 13115
Client: Eurofins Lancaster Laboratories Environmental, LLC
Project: See Chain of Custody
Matrix: Soil/Sediment
Spike ID: 15C0320
Batch: 1518720
Laboratory ID: 1518720-SRM1
Preparation: General Preparation
Initial/Final: 0.0152 g / 1 ml

ANALYTE	TRUE (mg/kg)	FOUND (mg/kg)	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	5430	6430	118	49 - 151

* Values outside of QC limits

Organic/FORM IX(Inorganic) - METHOD DETECTION AND REPORTING LIMITS

Lloyd Kahn

Laboratory: Eurofins Spectrum Analytical, Inc. - MA **SDG:** 13115

Client: Eurofins Lancaster Laboratories Environmental, LLC **Project:** See Chain of Custody

Analyte	MDL	MRL	Units
Total Organic Carbon	99.0	100	mg/kg

Lloyd Kahn

Sample Data

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0491-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-01	File ID:	10031610
Sampled:	09/24/15 10:10	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 16:14
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0243 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	1030	1	163	165	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0493-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-02	File ID:	10031255
Sampled:	09/24/15 12:00	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 12:59
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0047 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	112000	1	843	851	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0164-13 DP

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-03	File ID:	10031418
Sampled:	09/24/15 12:15	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 14:22
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0028 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	106000	1	1420	1430	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0495-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-04	File ID:	10031218
Sampled:	09/24/15 13:00	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 12:24
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0046 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	73100	1	861	870	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0479-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-05	File ID:	10031615
Sampled:	09/23/15 10:45	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 16:19
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0334 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	2440	1	119	120	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0489-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-06	File ID:	10031620
Sampled:	09/23/15 13:30	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 16:24
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0213 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	2790	1	186	188	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0487-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-07	File ID:	10031720
Sampled:	09/23/15 14:50	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 17:25
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0257 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	1010	1	154	156	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0498-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-08	File ID:	10031226
Sampled:	09/22/15 10:30	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 12:31
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0041 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	64500	1	966	976	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0499-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-09	File ID:	10031240
Sampled:	09/22/15 10:45	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 12:46
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0017 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	174000	1	2330	2350	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0497-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-10	File ID:	10031303
Sampled:	09/22/15 13:25	Prepared:	10/02/15 17:28	Analyzed:	10/03/15 13:09
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0012 g / 1 ml
Batch:	1518708	Sequence:	S508898	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	204000	1	3300	3330	

Lloyd Kahn

Standards Data

FORM VI - INITIAL CALIBRATION DATA

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	0	0	1000	2110.995	2000	2020.206	4000	1984.608	8000	1905.392	12500	1875.863

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	15000	1812.287										

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

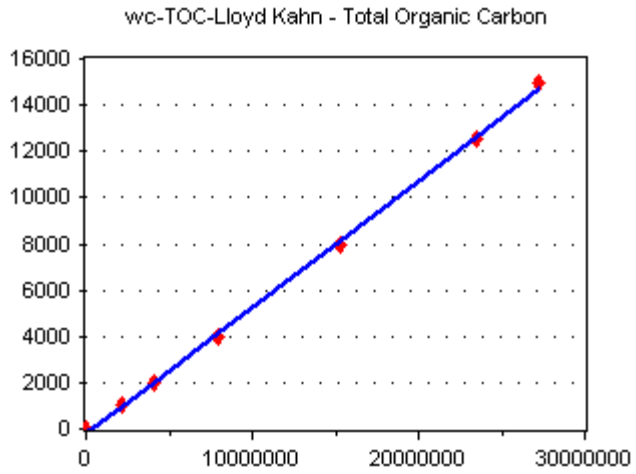
Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Total Organic Carbon	1672.765	44.48907	0	0	0.9990526		0.997	

Individual peaks for multi-component analytes are indicated by a number in parentheses

Instrument:	TOC2	Calibration Date:	23-Jul-15 11:19 By RLT
Calibration ID:	1507063	Last Edit Date:	24-Jul-15 11:20 By RLT

wc-TOC-Lloyd Kahn

Total Organic Carbon



Linear Regression

r2: 0.9990526

[Conc] = 5.486597E-04 * [Response] + -197.7798

Lloyd Kahn

Raw Quality Control Data

1518720 10.03.15 *072415low 10.03.15 rlt see curve raw data s508901

Detailed Analysis Report Print Date/Time: 2015/10/03 17:52:11

Sample ID: SEQ-CCV1 Mode: TOC
Method: Filename: 10031456
Cal. Curve: 063015 LOW Timestamp: 2015/10/03 14:58
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	947.2405	37.8896	1808740	104.576	105.570	109

Sample ID: SEQ-CCB1 Mode: TOC
Method: Filename: 10031508
Cal. Curve: 063015 LOW Timestamp: 2015/10/03 15:11
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-114.6453	-4.5858	-218913	108.548	106.883	120

Last Message: Low Sample Detected

Sample ID: 1518720-BLK1 Mode: TOC
Method: Filename: 10031513
Cal. Curve: 063015 LOW Timestamp: 2015/10/03 15:19
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-79.9042	-3.1962	-152576	106.297	105.680	120

Last Message: Low Sample Detected

Sample ID: 1518720-BS1 Mode: TOC
Method: Filename: 10031528
Cal. Curve: 063015 LOW Timestamp: 2015/10/03 15:30
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	877.4440	35.0978	1675465	108.949	109.948	95

accidentally used CN SRM, see rr

Sample ID: 1518720-SRM1 Mode: TOC
Method: Filename: 10031532
Cal. Curve: 063015 LOW Timestamp: 2015/10/03 15:36
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2060.2559	23.4869	1121197	108.414	109.392	92

Sample ID: 1518720-SRM1 RR Mode: TOC
Method: Filename: 10031539
Cal. Curve: 063015 LOW Timestamp: 2015/10/03 15:43
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6433.6226	97.7911	4668261	107.295	108.268	106

Sample ID: SC13114-01A Mode: TOC
Method: Filename: 10031545
Cal. Curve: 063015 LOW Timestamp: 2015/10/03 15:48
Operator ID: rlt Sample Type: Sample

*072415low 10.03.15 rlt

1518720 10.03.15 see curve raw data

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2748.1335	54.4130	2597520	104.276	105.272	133

Sample ID: SC13114-02A
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031550
Timestamp: 2015/10/03 15:54
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	846.0126	17.8509	852148	103.652	104.643	114

Sample ID: SC13114-03A
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031556
Timestamp: 2015/10/03 15:59
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	708.8113	14.6724	700417	104.108	105.100	112

Sample ID: SC13114-04A
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031602
Timestamp: 2015/10/03 16:05
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1729.8488	35.6349	1701105	105.388	106.380	119

Sample ID: SC13115-01A
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031610
Timestamp: 2015/10/03 16:14
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1031.0355	25.0542	1196013	106.511	107.499	112

Sample ID: SEQ-CCV2
Method:
Cal. Curve: ~~063015~~ ~~LOW~~ *
Operator ID: rlt
Mode: TOC
Filename: 10031613
Timestamp: 2015/10/03 16:15
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	943.9693	37.7588	1802494	107.763	108.760	108

Sample ID: SEQ-CCB2
Method: *
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt
Mode: TOC
Filename: 10031614
Timestamp: 2015/10/03 16:17
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	3.2506	0.1300	6207	103.414	104.003	120

Last Message: Low Sample Detected

Sample ID: SC13115-05A
Method:
Mode: TOC
Filename: 10031615

*072415low 10.03.15 rlt

1518720 10.03.15 see curve raw data

*

Cal. Curve: 063015 LOW Timestamp: 2015/10/03 16:19
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2440.9529	81.5278	3891901	105.159	106.154	140

Sample ID: SC13115-06A Mode: TOC
Method: * Filename: 10031620
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 16:24
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2793.9929	59.5121	2840932	104.351	105.348	136

Sample ID: SC13115-06A(2) Mode: TOC
Method: * Filename: 10031625
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 16:28
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2189.5110	51.0156	2435336	105.822	106.816	113

1518708-dup1

Sample ID: SC13115-06A(3) Mode: TOC
Method: * Filename: 10031629
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 16:32
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2493.1526	52.3562	2499333	105.621	106.619	121

Sample ID: SC13115-06A(4) Mode: TOC
Method: Filename: 10031633
Cal. Curve: ~~063015~~ ~~LOW~~ * Timestamp: 2015/10/03 16:37
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2518.7451	64.4799	3078081	104.429	105.423	141

boat stuck

Sample ID: ~~SC13115-07A~~ Mode: TOC
Method: Filename: 10031639
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 16:41
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	0.4697	0.0121	576	105.715	106.024	2

Last Message: Canceled

Sample ID: SC13115-07A * Mode: TOC
Method: Filename: 10031720
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/10/03 17:25
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1014.0529	26.0612	1244084	106.248	107.238	123

*072415low 10.03.15 rlt

1518720 10.03.15 see curve raw data

Sample ID: SEQ-CCV3 *
Method:
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt

Mode: TOC
Filename: 10031728
Timestamp: 2015/10/03 17:31
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1007.2994	40.2920	1923421	105.497	106.487	110

Sample ID: SEQ-CCB3 *
Method:
Cal. Curve: ~~063015~~ ~~LOW~~
Operator ID: rlt

Mode: TOC
Filename: 10031742
Timestamp: 2015/10/03 17:45
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-73.1463	-2.9259	-139672	104.369	101.844	120

Last Message: Low Sample Detected

Detailed Analysis Report Print Date/Time: 2015/10/03 15:09:17

Sample ID: CLN Mode: TOC
Method: Filename: 10031115
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:19
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	706.0037	28.2401	1285560	102.169	103.169	149

Sample ID: CLN Mode: TOC
Method: Filename: 10031121
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:24
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	27.7574	1.1103	50543	101.598	101.667	120

Last Message: Low Sample Detected

Sample ID: SEQ-CCV1 Mode: TOC
Method: Filename: 10031134
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:38
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	9142.5049	365.7002	16647557	101.747	102.746	217

Sample ID: SEQ-CCB1 Mode: TOC
Method: Filename: 10031141
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:43
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	36.0305	1.4412	65608	101.271	102.268	42

Sample ID: 1518708-BLK1 Mode: TOC
Method: Filename: 10031145
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:48
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2.7114	0.1085	4937	101.993	101.452	120

Last Message: Low Sample Detected

Sample ID: 1518708-BS1 Mode: TOC
Method: Filename: 10031149
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:54
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	9058.7637	362.3505	16495072	101.237	102.235	234

Sample ID: 1518708-SRM1 Mode: TOC
Method: Filename: 10031155
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 11:59
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5825.3506	120.0022	5462791	102.545	103.544	166

Sample ID: SC12113-01A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031201
Timestamp: 2015/10/03 12:05
Sample Type: Sample

over range, see rr

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	96906.3984	978.7546	44555276	104.192	105.191	230

Sample ID: SC12113-01A RR
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031207
Timestamp: 2015/10/03 12:12
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	86197.0625	387.8868	17657544	103.485	104.485	211

over range, see rr

Sample ID: SC12115-04A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031213
Timestamp: 2015/10/03 12:17
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	64879.8438	772.0701	35146500	104.695	105.695	173

sample

Sample ID: SC12115-04A RR
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031218
Timestamp: 2015/10/03 12:24
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	73127.5000	336.3865	15313127	102.676	103.675	217

Sample ID: SC12115-08A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031226
Timestamp: 2015/10/03 12:31
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	64498.0742	264.4421	12038044	103.048	104.046	196

over range, see rr

Sample ID: SC12115-09A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031232
Timestamp: 2015/10/03 12:39
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	181495.7188	707.8333	32222282	103.205	104.204	283

Sample ID: SC12115-09A RR
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031240
Timestamp: 2015/10/03 12:46
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	174037.5938	295.8639	13468441	103.393	104.391	271

Sample ID: SEQ-CCV2 Mode: TOC
Method: Filename: 10031247
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 12:51
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	8841.3281	353.6531	16099145	104.933	105.931	187

Sample ID: SEQ-CCB2 Mode: TOC
Method: Filename: 10031252
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 12:55
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	32.6277	1.3051	59412	104.387	105.385	76

Sample ID: SC12115-02A Mode: TOC
Method: Filename: 10031255
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 12:59
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	111551.0156	524.2898	23866938	103.959	104.955	183

Sample ID: SC12115-010A Mode: TOC
Method: Filename: 10031303
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 13:09
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	203915.0938	244.6981	11139250	103.982	104.980	199

1518708-dup1

Sample ID: SC12115-04(2) Mode: TOC
Method: Filename: 10031331
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 13:35
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	68953.5859	372.3493	16950244	101.922	102.922	156

Sample ID: SC12115-04(3) Mode: TOC
Method: Filename: 10031336
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 13:39
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	64234.0234	295.4765	13450805	103.302	104.288	135

Sample ID: SC12115-04(4) Mode: TOC
Method: Filename: 10031341
Cal. Curve: HIGH 072315 Timestamp: 2015/10/03 13:46
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	85188.7969	442.9818	20165600	101.044	102.042	177

Sample ID: SC12118-01A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031353
Timestamp: 2015/10/03 13:58
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	219100.1094	175.2801	7979173	100.897	101.896	201

Sample ID: SC13118-02A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031400
Timestamp: 2015/10/03 14:05
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	192264.0312	403.7544	18379880	100.916	101.916	183

Sample ID: SC13118-03A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031406
Timestamp: 2015/10/03 14:10
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	50033.4922	145.0971	6605172	100.906	101.906	144

Sample ID: SC13118-04A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031411
Timestamp: 2015/10/03 14:15
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	54797.3906	284.9464	12971450	101.007	102.005	168

Sample ID: SC13115-03A
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031418
Timestamp: 2015/10/03 14:22
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	106298.5312	297.6359	13549105	101.340	102.337	156

Sample ID: SEQ-CCV3
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031424
Timestamp: 2015/10/03 14:28
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	8543.1475	341.7259	15556188	101.420	102.420	196

Sample ID: SEQ-CCB3
Method:
Cal. Curve: HIGH 072315
Operator ID: rlt
Mode: TOC
Filename: 10031429
Timestamp: 2015/10/03 14:32
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	68.1085	2.7243	124018	101.882	102.614	120

Last Message: Low Sample Detected

Lloyd Kahn

Data Processing Summary

PREPARATION BENCH SHEET

1518708

Eurofins Spectrum Analytical, Inc. - Agawam, MA

Temp °C	Correction Factor	Corrected Temp °C
10.4	-2	10.2

Balance ID: HS — 10.280 KW

Thermometer ID: NF44D

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **Sequence: S508898**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518708-BLK1	Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-BS1	LCS		QC	0.04	1	15G0891			02-Oct-15 17:28	
1518708-CCB1	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB2	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB3	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCV1	Calibration Check		QC	0.04	1	15G0891			02-Oct-15 17:28	
1518708-CCV2	Calibration Check		QC	0.04	1	15G0891			02-Oct-15 17:28	
1518708-CCV3	Calibration Check		QC	0.04	1	15G0891			02-Oct-15 17:28	
1518708-DUP1	Duplicate		QC	0.0054	1		SC13115-04		24-Sep-15 13:00	
1518708-SRM1	Reference		QC	0.0206	1	15C0320			02-Oct-15 17:28	
SC13113-01	BCP-SED-OF7(12-24)	A	wc-TOC-Lloyd	0.0045	1			09-Oct-15 15:00	22-Sep-15 11:30	DP-NYSDEC Cat B
SC13115-02	0493-13	A	wc-TOC-Lloyd	0.0047	1			09-Oct-15 15:00	24-Sep-15 12:00	Type 1 DP Level 4
SC13115-03	0164-13 DP	A	wc-TOC-Lloyd	0.0028	1			09-Oct-15 15:00	24-Sep-15 12:15	Type 1 DP Level 4
SC13115-04	0495-13	A	wc-TOC-Lloyd	0.0046	1			09-Oct-15 15:00	24-Sep-15 13:00	Type 1 DP Level 4
SC13115-08	0498-13	A	wc-TOC-Lloyd	0.0041	1			09-Oct-15 15:00	22-Sep-15 10:30	Type 1 DP Level 4
SC13115-09	0499-13	A	wc-TOC-Lloyd	0.0017	1			09-Oct-15 15:00	22-Sep-15 10:45	Type 1 DP Level 4
SC13115-10	0497-13	A	wc-TOC-Lloyd	0.0012	1			09-Oct-15 15:00	22-Sep-15 13:25	Type 1 DP Level 4
SC13118-01	0498-13	A	wc-TOC-Lloyd	0.0008	1			09-Oct-15 15:00	22-Sep-15 10:45	Type 1 DP Level 4
SC13118-02	0479-13	A	wc-TOC-Lloyd	0.0021	1			09-Oct-15 15:00	23-Sep-15 10:45	Type 1 DP Level 4
SC13118-03	0489-13	A	wc-TOC-Lloyd	0.0029	1			09-Oct-15 15:00	23-Sep-15 13:30	Type 1 DP Level 4

Analyst Reviewed 10/8/15 Date

Manager Reviewed 10/9/15 Date

Extracts Received By Date

Printed: 10/8/2015 6:47:07PM

PREPARATION BENCH SHEET

1518708

Eurofins Spectrum Analytical, Inc. - Agawam, MA

Temp °C	Correction Factor	Corrected Temp °C
104	-2	102

Balance ID: C

Thermometer ID: N7440

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **Sequence: S508898**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
SC13118-04	0489-13 DP Low	A	wc-TOC-Lloyd	0.0052	1			09-Oct-15 15:00	23-Sep-15 13:40	Type 1 DP Level 4

10.02.15
rlt
toc soil

Reagents Used:

15G0336 Nitric Acid 50%

Analyst Reviewed 10/8/15 Date

Manager Reviewed 10/9/15 Date

Extracts Received By Date

Printed: 10/8/2015 6:47:07PM

PREPARATION BENCH SHEET

1518708

Balance ID _____

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **(No Surrogate)**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518708-BLK1	Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-BS1	LCS		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB1	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB2	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCB3	Calibration Blank		QC	0.04	1				02-Oct-15 17:28	
1518708-CCV1	Calibration Check		QC	0.04	1				02-Oct-15 17:28	
1518708-CCV2	Calibration Check		QC	0.04	1				02-Oct-15 17:28	
1518708-CCV3	Calibration Check		QC	0.04	1				02-Oct-15 17:28	
1518708-DUP1	Duplicate		QC	0.04	1				02-Oct-15 17:28	
1518708-SRM1	Reference		QC	0.04	1	0.0206			02-Oct-15 17:28	
SC13113-01	BCP-SED-DF7(12-24)	A	wc-TOC-Lloyd	0.04	1	0.0181	0.0045	09-Oct-15 15:00	22-Sep-15 11:30	**DP-NYSDEC Cat B**
SC13114-01	0481-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	21-Sep-15 11:10	**Type 1 DP Level 4**
SC13114-02	0488-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	21-Sep-15 13:30	**Type 1 DP Level 4**
SC13114-03	0163-13DP	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	21-Sep-15 13:50	**Type 1 DP Level 4**
SC13114-04	0485-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	21-Sep-15 14:40	**Type 1 DP Level 4**
SC13115-04	0495-13	A	wc-TOC-Lloyd	0.04	1	0.0119	0.0046	09-Oct-15 15:00	24-Sep-15 13:00	**Type 1 DP Level 4**
SC13115-05	0479-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	23-Sep-15 10:45	**Type 1 DP Level 4**
SC13115-06	0489-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	23-Sep-15 13:30	**Type 1 DP Level 4**
SC13115-07	0487-13	A	wc-TOC-Lloyd	0.04	1			09-Oct-15 15:00	23-Sep-15 14:50	**Type 1 DP Level 4**
SC13115-08	0498-13	A	wc-TOC-Lloyd	0.04	1	0.0041		09-Oct-15 15:00	22-Sep-15 10:30	**Type 1 DP Level 4**
SC13115-09	0499-13	A	wc-TOC-Lloyd	0.04	1	0.0039	0.0017	09-Oct-15 15:00	22-Sep-15 10:45	**Type 1 DP Level 4**
SC13115-10	0497-13	A	wc-TOC-Lloyd	0.04	1	0.0012		09-Oct-15 15:00	22-Sep-15 13:35	**Type 1 DP Level 4**

09 (2) 0.0004 (3) 0.0046 [4] 0.0052

Analyst Reviewed Date

Manager Reviewed Date

Extracts Received By Date

HIGH CHROME

PREPARATION BENCH SHEET

1518720

CS 10/8

Balance ID _____

Matrix: Soil/Sediment

Prepared using: Wet Chem - General Preparation

(No Surrogate)

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518720-BLK1	Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-BS1	LCS		QC	0.04	1				03-Oct-15 10:08	
1518720-DUP1	Duplicate		QC	0.04	1				03-Oct-15 10:08	
1518720-SRM1	Reference		QC	0.04	1				03-Oct-15 10:08	
SC13118-01	0498-13 HIGH	A	wc-TOC-Lloyd	0.04	0.0008			09-Oct-15 15:00	22-Sep-15 10:45	**Type 1 DP Level 4**
SC13118-02	0479-13 HIGH	A	wc-TOC-Lloyd	0.04	10 0020			09-Oct-15 15:00	23-Sep-15 10:45	**Type 1 DP Level 4**
SC13118-03	0489-13 HIGH	A	wc-TOC-Lloyd	0.04	1	0.0029		09-Oct-15 15:00	23-Sep-15 13:30	**Type 1 DP Level 4**
SC13118-04	0489-13 DP HIGH	A	wc-TOC-Lloyd	0.04	1	0.0052		09-Oct-15 15:00	23-Sep-15 13:40	**Type 1 DP Level 4**

10.03.15
rlt
toc soil

Reagents Used:

15G0336 Nitric Acid 50%

1/1= 02A 0.0047

~~05A~~

~~05A 0.0012~~

01A LOW

03A 0.0028

Analyst Reviewed Date

Manager Reviewed Date

Extracts Received By Date

Printed: 10/3/2015 10:09:35AM

Lloyd Kahn Method - TOC							
10/3/2015							
Sample ID:	Replicate 1	Replicate 2	Replicate 3	Replicate 4	Standard Deviation	Mean	% RSD
SC13115-04A	73127.5	68953.5859	64234.0234	85188.7969	8976.586428	72875.98	12.31762
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Rev. 4/15/09

PREPARATION BENCH SHEET

1518720

Eurofins Spectrum Analytical, Inc. - Agawam, MA

Temp °C	Correction Factor	Corrected Temp °C
10.4	-2	10.2

Balance ID: 5
Thermometer ID: IR71440

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **Sequence: S508901**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518720-BLK1	Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-BS1	LCS		QC	0.04	1	15G0890			03-Oct-15 10:08	
1518720-CCB1	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCB2	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCB3	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCV1	Calibration Check		QC	0.04	1	15G0890			03-Oct-15 10:08	
1518720-CCV2	Calibration Check		QC	0.04	1	15G0890			03-Oct-15 10:08	
1518720-CCV3	Calibration Check		QC	0.04	1	15G0890			03-Oct-15 10:08	
1518720-DUP1	Duplicate		QC	0.021	1		SC13115-06		23-Sep-15 13:30	
1518720-SRM1	Reference		QC	0.0152	1	15C0320			03-Oct-15 10:08	
SC13114-01	0481-13	A	wc-TOC-Lloyd	0.0198	1			09-Oct-15 15:00	21-Sep-15 11:10	Type 1 DP Level 4
SC13114-02	0483-13	A	wc-TOC-Lloyd	0.0211	1			09-Oct-15 15:00	21-Sep-15 13:30	Type 1 DP Level 4
SC13114-03	0163-13DP	A	wc-TOC-Lloyd	0.0207	1			09-Oct-15 15:00	21-Sep-15 13:50	Type 1 DP Level 4
SC13114-04	0485-13	A	wc-TOC-Lloyd	0.0206	1			09-Oct-15 15:00	21-Sep-15 14:40	Type 1 DP Level 4
SC13115-01	0491-13	A	wc-TOC-Lloyd	0.0243	1			09-Oct-15 15:00	24-Sep-15 10:10	Type 1 DP Level 4
SC13115-05	0479-13	A	wc-TOC-Lloyd	0.0334	1			09-Oct-15 15:00	23-Sep-15 10:45	Type 1 DP Level 4
SC13115-06	0489-13	A	wc-TOC-Lloyd	0.0213	1			09-Oct-15 15:00	23-Sep-15 13:30	Type 1 DP Level 4
SC13115-07	0487-13	A	wc-TOC-Lloyd	0.0257	1			09-Oct-15 15:00	23-Sep-15 14:50	Type 1 DP Level 4

10.03.15
rlt
toc soil

Analyst Reviewed 10/8/15 Date

Manager Reviewed 10/9/15 Date

Extracts Received By Date

Printed: 10/8/2015 7:10:57PM

PREPARATION BENCH SHEET

1518720

Eurofins Spectrum Analytical, Inc. - Agawam, MA

Temp °C	Correction Factor	Corrected Temp °C
104	-2	102

Balance ID: 5

Thermometer ID: NJ1440

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **Sequence: S508901**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments

Reagents Used:

15G0336 Nitric Acid 50%

Analyst Reviewed 10/8/15 Date

Manager Reviewed 10/9/15 Date

Extracts Received By Date

Printed: 10/8/2015 7:10:57PM

PREPARATION BENCH SHEET

1518720

Balance ID _____

Matrix: Soil/Sediment **Prepared using: Wet Chem - General Preparation** **(No Surrogate)**

Lab Number	Client ID	ID	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	Due Date	Collection Date	Sample Comments
1518720-BLK1	Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-BS1	LCS		QC	0.04	1	15G0891			03-Oct-15 10:08	
1518720-CCB1	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCB2	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCB3	Calibration Blank		QC	0.04	1				03-Oct-15 10:08	
1518720-CCV1	Calibration Check		QC	0.04	1	15G0891			03-Oct-15 10:08	
1518720-CCV2	Calibration Check		QC	0.04	1	15G0891			03-Oct-15 10:08	
1518720-CCV3	Calibration Check		QC	0.04	1	15G0891			03-Oct-15 10:08	
1518720-DUP1	Duplicate		QC	0.0054	1		SC13115-06		23-Sep-15 13:30	
1518720-SRM1	Reference		QC	~~0.0206~~	1	~~15G0820~~	0.0152		03-Oct-15 10:08	
SC13114-01	0481-13	A	wc-TOC-Lloyd	0.04	1	0.0198		09-Oct-15 15:00	21-Sep-15 11:10	**Type 1 DP Level 4**
SC13114-02	0483-13	A	wc-TOC-Lloyd	0.04	1	0.0211		09-Oct-15 15:00	21-Sep-15 13:30	**Type 1 DP Level 4**
SC13114-03	0163-13DP	A	wc-TOC-Lloyd	0.04	1	0.0207		09-Oct-15 15:00	21-Sep-15 13:50	**Type 1 DP Level 4**
SC13114-04	0485-13	A	wc-TOC-Lloyd	0.04	1	0.0256		09-Oct-15 15:00	21-Sep-15 14:40	**Type 1 DP Level 4**
SC13115-01	0491-13	A	wc-TOC-Lloyd	0.04	1	0.0243		09-Oct-15 15:00	24-Sep-15 10:10	**Type 1 DP Level 4**
SC13115-05	0479-13	A	wc-TOC-Lloyd	0.04	1	0.0354		09-Oct-15 15:00	23-Sep-15 10:45	**Type 1 DP Level 4**
SC13115-06	0489-13	A	wc-TOC-Lloyd	0.04	1	0.0212		09-Oct-15 15:00	23-Sep-15 13:30	**Type 1 DP Level 4**
SC13115-07	0487-13	A	wc-TOC-Lloyd	0.04	1	0.0207		09-Oct-15 15:00	23-Sep-15 14:50	**Type 1 DP Level 4**

10.03.15
rlt
toc soil

(2) 0.0243 (3) 0.0210 (4) 0.0256

Reagents Used:

15G0336 Nitric Acid 50%

Analyst Reviewed Date

Manager Reviewed Date

Extracts Received By Date

Printed: 10/3/2015 3:13:16PM

Lloyd Kahn Method - TOC							
10/3/2015							
Sample ID:	Replicate 1	Replicate 2	Replicate 3	Replicate 4	Standard Deviation	Mean	% RSD
sc13152-06a	2793.9929	2189.511	2493.1526	2518.7451	247.1357412	2498.85	9.889977
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Rev. 4/15/09

FORM VIII(Organics)/FORM XIII(Inorganics)
ANALYSIS BATCH (SEQUENCE) SUMMARY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Sequence:	S506983	Instrument:	TOC2
		Calibration:	1507063

Sample Name	Lab Sample ID	Lab File ID	Analyzed
Cal Standard	S506983-CAL1	07231501	07/23/15 15:04
Cal Standard	S506983-CAL2	07231505	07/23/15 15:08
Cal Standard	S506983-CAL3	07231508	07/23/15 15:11
Cal Standard	S506983-CAL4	07231512	07/23/15 15:15
Cal Standard	S506983-CAL5	07231516	07/23/15 15:19
Cal Standard	S506983-CAL6	07231520	07/23/15 15:23
Cal Standard	S506983-CAL7	07231545	07/23/15 15:49
Initial Cal Check	S506983-ICV1	07231605	07/23/15 16:08
Initial Cal Blank	S506983-ICB1	07231608	07/23/15 16:11

FORM VIII(Organics)/FORM XIII(Inorganics)
ANALYSIS BATCH (SEQUENCE) SUMMARY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Sequence:	S508898	Instrument:	TOC2
		Calibration:	1507063

Sample Name	Lab Sample ID	Lab File ID	Analyzed
Calibration Check	1518708-CCV1	10031134	10/03/15 11:38
Calibration Blank	1518708-CCB1	10031141	10/03/15 11:43
Blank	1518708-BLK1	10031145	10/03/15 11:48
LCS	1518708-BS1	10031149	10/03/15 11:54
Reference	1518708-SRM1	10031155	10/03/15 11:59
0495-13	SC13115-04	10031218	10/03/15 12:24
0498-13	SC13115-08	10031226	10/03/15 12:31
0499-13	SC13115-09	10031240	10/03/15 12:46
Calibration Check	1518708-CCV2	10031247	10/03/15 12:51
Calibration Blank	1518708-CCB2	10031252	10/03/15 12:55
0493-13	SC13115-02	10031255	10/03/15 12:59
0497-13	SC13115-10	10031303	10/03/15 13:09
0495-13	1518708-DUP1	10031331	10/03/15 13:35
0164-13 DP	SC13115-03	10031418	10/03/15 14:22
Calibration Check	1518708-CCV3	10031424	10/03/15 14:28
Calibration Blank	1518708-CCB3	10031429	10/03/15 14:32

FORM VIII(Organics)/FORM XIII(Inorganics)
ANALYSIS BATCH (SEQUENCE) SUMMARY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Sequence:	S508901	Instrument:	TOC2
		Calibration:	1507063

Sample Name	Lab Sample ID	Lab File ID	Analyzed
Calibration Check	1518720-CCV1	10031456	10/03/15 14:58
Calibration Blank	1518720-CCB1	10031508	10/03/15 15:11
Blank	1518720-BLK1	10031513	10/03/15 15:19
LCS	1518720-BS1	10031528	10/03/15 15:30
Reference	1518720-SRM1	10031539	10/03/15 15:43
0491-13	SC13115-01	10031610	10/03/15 16:14
Calibration Check	1518720-CCV2	10031613	10/03/15 16:15
Calibration Blank	1518720-CCB2	10031614	10/03/15 16:17
0479-13	SC13115-05	10031615	10/03/15 16:19
0489-13	SC13115-06	10031620	10/03/15 16:24
0489-13	1518720-DUP1	10031629	10/03/15 16:32
0487-13	SC13115-07	10031720	10/03/15 17:25
Calibration Check	1518720-CCV3	10031728	10/03/15 17:31
Calibration Blank	1518720-CCB3	10031742	10/03/15 17:45

Multiple Analysis Report Print Date/Time: 2015/10/22 12:31:05

Sample ID	Result	Std. Dev.	RSD	Mode	ALT	Method ID	Sample Type	Vial	Timestamp	Message
SEQ-CCV1	947.2405			TOC			Sample		2015/10/03 14:58	
SEQ-CCB1	-114.6453			TOC			Sample		2015/10/03 15:11	Low Sample Detected
1518720-BLK1	-79.9042			TOC			Sample		2015/10/03 15:19	Low Sample Detected
1518720-BS1	877.4440			TOC			Sample		2015/10/03 15:30.	
1518720-SRM1	2060.2559			TOC			Sample		2015/10/03 15:36	
1518720-SRM1 RR	6433.6226			TOC			Sample		2015/10/03 15:43	
SC13114-01A	2748.1335			TOC			Sample		2015/10/03 15:48.	
SC13114-02A	846.0126			TOC			Sample		2015/10/03 15:54	
SC13114-03A	708.8113			TOC			Sample		2015/10/03 15:59	
SC13114-04A	1729.8488			TOC			Sample		2015/10/03 16:05.	
SC13115-01A	1031.0355			TOC			Sample		2015/10/03 16:14	
SEQ-CCV2	943.9693			TOC			Sample		2015/10/03 16:15	
SEQ-CCB2	3.2506			TOC			Sample		2015/10/03 16:17	Low Sample Detected
SC13115-05A	2440.9529			TOC			Sample		2015/10/03 16:19	
SC13115-06A	2793.9929			TOC			Sample		2015/10/03 16:24	
SC13115-06A(2)	2189.5110			TOC			Sample		2015/10/03 16:28.	
SC13115-06A(3)	2493.1526			TOC			Sample		2015/10/03 16:32	
SC13115-06A(4)	2518.7451			TOC			Sample		2015/10/03 16:37	
SC13115-07A	0.4697			TOC			Sample		2015/10/03 16:41	Canceled
SC13115-07A	1014.0529			TOC			Sample		2015/10/03 17:25	
SEQ-CCV3	1007.2994			TOC			Sample		2015/10/03 17:31	
SEQ-CCB3	-73.1463			TOC			Sample		2015/10/03 17:45	Low Sample Detected

Multiple Analysis Report Print Date/Time: 2015/10/22 12:35:01

Sample ID	Result	Std. Dev.	RSD	Mode	ALT	Method ID	Sample Type	Vial	Timestamp	Message
CLN	706.0037			TOC			Sample		2015/10/03 11:19	
CLN	27.7574			TOC			Sample		2015/10/03 11:24	Low Sample Detected
SEQ-CCV1	9142.5049			TOC			Sample		2015/10/03 11:38	
SEQ-CCB1	36.0305			TOC			Sample		2015/10/03 11:43	
1518708-BLK1	2.7114			TOC			Sample		2015/10/03 11:48	Low Sample Detected
1518708-BS1	9058.7637			TOC			Sample		2015/10/03 11:54	
1518708-SRM1	5825.3506			TOC			Sample		2015/10/03 11:59	
SC12113-01A	96906.3984			TOC			Sample		2015/10/03 12:05	
SC12113-01A RR	86197.0625			TOC			Sample		2015/10/03 12:12	
SC12115-04A	64879.8438			TOC			Sample		2015/10/03 12:17	
SC12115-04A RR	73127.5000			TOC			Sample		2015/10/03 12:24	
SC12115-08A	64498.0742			TOC			Sample		2015/10/03 12:31	
SC12115-09A	181495.7188			TOC			Sample		2015/10/03 12:39	
SC12115-09A RR	174037.5938			TOC			Sample		2015/10/03 12:46	
SEQ-CCV2	8841.3281			TOC			Sample		2015/10/03 12:51	
SEQ-CCB2	32.6277			TOC			Sample		2015/10/03 12:55	
SC12115-02A	111551.0156			TOC			Sample		2015/10/03 12:59	
SC12115-010A	203915.0938			TOC			Sample		2015/10/03 13:09	
SC12115-04(2)	68953.5859			TOC			Sample		2015/10/03 13:35	
SC12115-04(3)	64234.0234			TOC			Sample		2015/10/03 13:39	
SC12115-04(4)	85188.7969			TOC			Sample		2015/10/03 13:46	
SC12118-01A	219100.1094			TOC			Sample		2015/10/03 13:58	
SC13118-02A	192264.0312			TOC			Sample		2015/10/03 14:05	
SC13118-03A	50033.4922			TOC			Sample		2015/10/03 14:10	
SC13118-04A	54797.3906			TOC			Sample		2015/10/03 14:15	
SC13115-03A	106298.5312			TOC			Sample		2015/10/03 14:22	
SEQ-CCV3	8543.1475			TOC			Sample		2015/10/03 14:28	
SEQ-CCB3	68.1085			TOC			Sample		2015/10/03 14:32	Low Sample Detected

Notes & Definitions

BRL Below the reporting limit and also indicates there are no detections between the MDL and MRL

Form I 'Q' column

B The analyte was found in the associated blank as well as the sample

D All identified compounds in the analysis are at a secondary dilution factor

E The identified compound's concentration exceeds the calibration range of the instrument for this specific analysis

J Compound detected but below the reporting limit and above the minimum detection limit (MDL); therefore, the result is an estimated concentration

N Included for TIC that indicates presumptive evidence of a compound

P Used for a Dual Column target analyte when the concentration difference between the two GC columns is greater than 40%.

U Compound was analyzed for but not detected

Form IIa 'Method' column

This column refers to the instrument used for analysis

IR Iris ICP
MS Thermo ICP/MS
AV Mercury analyzer

Form VI 'Q' column

***** indicates that:
Mean RF is above the value in the LIMIT column, or
Linear COD is below the value in the LIMIT column, or
Quad COD is below the value in the LIMIT column

Form VII 'Type' column

A average of response factor
L linear regression
Q quadratic equation

Form VIII 'Q' column for Inorganics

E The dilution analysis is not within a control limit of 10%, therefore a chemical or physical interference effect must be suspected

Last Page of Data Report

Case Narrative/Conformance Summary

Instrumental Wet Chemistry

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC27

Instrumental Water Quality

Fraction: Instrumental Wet Chemistry

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8064450	0491-13		X	1	
8064452	0493-13		X	1	
8064457	0164-13 DP		X	1	Field Duplicate Sample
8064458	0495-13		X	1	
8064461	0479-13		X	1	
8064463	0489-13		X	1	
8064465	0487-13		X	1	
8064468	0498-13		X	1	
8064469	0499-13		X	1	
8064470	0497-13		X	1	

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC27

Instrumental Water Quality

Fraction: Instrumental Wet Chemistry

SAMPLE ANALYSIS:

The TOC analysis was subcontracted to another laboratory.

Abbreviation Key

U = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
R = Matrix Spike (MS)	MDL = Method Detection Limit
M = Matrix Spike Duplicate (MSD)	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	NA = Not Applicable
HS = High Spike	ME = Method
LS = Low Spike	CO = Colorimetric
SS = Soluble Spike	G = Gravimetric
IS = Insoluble Spike	IR = Infrared Spectrophotometry
ISD = Insoluble Spike Duplicate	MTR = Meter
PDS = Post Digestion Spike	OD = Oven Dried
* = Out of Specification	TI = Titration
V = Visual	TOC = Total Organic Carbon
AK = Alpkem	IC = Ion Chromatography
TC = Total Carbon	RA = Rapid Analyzer

Quality Control and Calibration Summary Forms

Instrumental Wet Chemistry

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Quality Control Reference List
Instrumental Water Quality

CLIENT: The Johnson Company, Inc.
SDG: PSC27

Fraction: Instrumental Wet Chemistry

Analysis	Batch Number	Sample Number	Analysis Date
TOC Subcontracted - Spectrum	1518708	P123456B	10/03/2015 00:00:00
		P123456Q	10/03/2015 00:00:00
		8064452	10/03/2015 00:00:00
		8064457	10/03/2015 00:00:00
		8064458 BKG,DUP	10/03/2015 00:00:00
		8064468	10/03/2015 00:00:00
		8064469	10/03/2015 00:00:00
		8064470	10/03/2015 00:00:00
TOC Subcontracted - Spectrum	1518720	P123456B	10/03/2015 00:00:00
		P123456Q	10/03/2015 00:00:00
		8064450	10/03/2015 00:00:00
		8064461	10/03/2015 00:00:00
		8064463 BKG,DUP	10/03/2015 00:00:00
		8064465	10/03/2015 00:00:00

Quality Control Summary
Method Blank
Instrumental Water Quality
SDG: PSC27
Matrix: SOLID

Fraction: Instrumental Wet Chemistry

1518708 / P123456B Parameter	ME	Analysis Date	Blank Results	Units	MDL	LOQ
TOC Subcontracted - Spectrum	TOC	10/03/15	N.D.	mg/kg	99.0	100

1518720 / P123456B Parameter	ME	Analysis Date	Blank Results	Units	MDL	LOQ
TOC Subcontracted - Spectrum	TOC	10/03/15	N.D.	mg/kg	99.0	100

Instrumental Water Quality

Fraction: Instrumental Wet Chemistry

BKG: 8064458 DUP: 8064458	Batch: **1518708** (Sample number(s): 8064452, 8064457-8064458, 8064468-8064470)				
Parameter	**ME**	**Unspiked Conc mg/kg**	**DUP Conc mg/kg**	**%RPD**	**%RPD Limits**
TOC Subcontracted - Spectrum	TOC	73100.	69000.	6	20

BKG: 8064463 DUP: 8064463	Batch: **1518720** (Sample number(s): 8064450, 8064461, 8064463, 8064465)				
Parameter	**ME**	**Unspiked Conc mg/kg**	**DUP Conc mg/kg**	**%RPD**	**%RPD Limits**
TOC Subcontracted - Spectrum	TOC	2790.	2490.	11	20

Comments:
(1) The sample and/or duplicate result is less than five times the LOQ.
* = Out of Specification

Results are being reported on an as received basis.

Instrumental Water Quality

Fraction: Instrumental Wet Chemistry

LCS: P123456Q	Batch: **1518708** (Sample number(s): 8064452, 8064457-8064458, 8064468-8064470)								
Parameter	**ME**	**Spike Added mg/kg**	**LCS Conc mg/kg**	**LCSD Conc mg/kg**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
TOC Subcontracted - Spectrum	TOC	8000	9060	NA	113	NA	75-125	NA	NA

LCS: P123456Q	Batch: **1518720** (Sample number(s): 8064450, 8064461, 8064463, 8064465)								
Parameter	**ME**	**Spike Added mg/kg**	**LCS Conc mg/kg**	**LCSD Conc mg/kg**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
TOC Subcontracted - Spectrum	TOC	1000	877	NA	88	NA	75-125	NA	NA

Fraction: Instrumental Wet Chemistry

13994: TOC Subcontracted - Spectrum Analyte Name	Default MDL	Default LOQ	Units
TOC Subcontracted - Spectrum	99.0	100	mg/kg

Moisture Data

MOISTURE

SAMPLE NUMBERS:

Sample #	Sample Code
8064450	49113
8064451	49213
8064452	49313
8064453	49413BKG
8064454	49413MS
8064455	49413MSD
8064456	49413DUP
8064457	494FDFD
8064458	49513
8064459	49613
8064461	-479-
8064462	-480-
8064463	-489-
8064464	-490-
8064465	48713
8064466	48813
8064468	-498-
8064469	-499-
8064470	-497-

COMMENTS:

Method defined actions are taken for any failed matrix QC.

Laboratory Compliance Quality Control

Analysis Name	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 15274820003A	Sample number(s): 8064450-8064459, 8064461-8064466, 8064468-8064470				
Moisture	100		99-101		
Moisture	100		99-101		
Moisture Duplicate	100		99-101		

Sample Matrix Quality Control

Analysis Name	BKG Conc	DUP Conc	RPD	RPD Max
Batch number: 15274820003A	Sample number(s): 8064450-8064459, 8064461-8064466, 8064468-8064470			
Moisture	18.6	20.3	9*	5
Moisture	18.6	20.3	9*	5
Moisture Duplicate	18.6	20.3	9*	5

* - Outside of specification

(1) - The result for one or both determinations was less than five times the LOQ.

Moisture Data Report

Batch #: 15274820003

Sample ID	Batch ID	Analysis#	Tare Wt	Sample Wt	Dry Wt	%Moisture	Analysis Date (Emp#)	Verified Date (Emp#)
8064450	A	00111	1.0780	8.2300	7.8619	17.57	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064451	A	00111	1.0693	9.6682	9.0682	17.27	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064452	A	00111	1.0771	7.2690	4.7110	50.01	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064453BKG	A	00111	1.0791	8.4151	7.9330	18.55	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064454MS	A	00118				18.55	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064455MSD	A	00118				18.55	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064456DUP	A	00118				18.55	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064456DUP	A	00121	1.0908	8.9318	8.2081	20.32	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064457FD	A	00111	1.0784	7.5313	4.8485	49.94	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064458	A	00111	1.0846	9.1549	6.6051	39.70	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064459	A	00111	1.0704	9.6517	9.3595	14.12	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064461	A	00111	1.0751	9.1995	8.3703	20.70	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064462	A	00111	1.0936	7.8972	7.6303	17.23	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064463	A	00111	1.0902	9.0017	8.3154	19.74	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064464	A	00111	1.0796	8.9487	8.5510	16.51	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064465	A	00111	1.0833	8.5522	8.1276	17.63	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064466	A	00111	1.0759	8.8239	8.6146	14.56	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064468	A	00111	1.0945	9.7991	4.7835	62.35	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064469	A	00111	1.0742	6.1844	2.8057	72.00	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
8064470	A	00111	1.0631	7.1375	3.1563	70.67	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)
LCS 89.5% Std.		00111	1.0704	5.0325	1.6012	89.45	10/ 1/15 (1201/SWF)	10/ 2/15 (236/CW)

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Type I Data Package

Prepared for:

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

Project: Pine Street Canal- Surfacewaters
Surface Water and Water Samples
Collected on 09/22/15

SDG# PSC25

GROUP	SAMPLE NUMBERS
1596004	8064318-8064322

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman **Date:** **11/16/2015**

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Wendy Kozma at (717) 556-7257.

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Sample Reference List for SDG Number PSC25
with a Data Package Type of I

06556 - The Johnson Company, Inc.

Project: Pine Street Canal- Surfacewaters

Lab Sample Number	Lab Sample Code	Client Sample Description
8064318	17924	0179-24 Grab Surface Water
8064319	17924	0179-24 MS Grab Surface Water
8064320	17924	0179-24 MSD Grab Surface Water
8064321	12224	0122-24 Grab Surface Water
8064322	12324	0123-24 Grab Water

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

07807 BNA Water Extraction

The sample aliquot is extracted with methylene chloride by either separatory funnel or liquid/liquid apparatus. Extraction is performed at a pH of 2. The extract is concentrated prior to analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3510C, December 1996

07805 PAHs in Water by GC/MS

The sample extract is analyzed by capillary column Gas Chromatography/Mass Spectrometry.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8270C, December 1996

Analysis Reports / Field Chain of Custody

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

October 07, 2015

Project: Pine Street Canal- Surfacewaters

Submittal Date: 09/25/2015
Group Number: 1596004
SDG: PSC25
PO Number: 1-0870-2
State of Sample Origin: VT

Client Sample Description	Lancaster Labs (LL) #
0179-24 Grab Surface Water	8064318
0179-24 MS Grab Surface Water	8064319
0179-24 MSD Grab Surface Water	8064320
0122-24 Grab Surface Water	8064321
0123-24 Grab Water	8064322

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	The Johnson Company, Inc.	Attn: Jim Bowes
ELECTRONIC COPY TO	Phoenix Chemistry Services	Attn: Deborah H. Gaynor

Respectfully Submitted,

Wendy A. Kozma
Principal Specialist Group Leader

(717) 556-7257

Sample Description: 0179-24 Grab Surface Water
Pine Street Canal

LL Sample # WW 8064318
LL Group # 1596004
Account # 06556

Project Name: Pine Street Canal- Surfacewaters

Collected: 09/22/2015 14:15 by RJP

Submitted: 09/25/2015 09:25
Reported: 10/07/2015 11:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

17924 SDG#: PSC25-01BKG

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		ug/l		ug/l	ug/l	
07805	Acenaphthene	83-32-9	0.5	U	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5	U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.5	U	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07805	PAHs 8270C (17)	SW-846 8270C	1	15272WAG026	10/05/2015 18:13	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15272WAG026	09/29/2015 19:00	Nicholas W Shroyer	1

*=This limit was used in the evaluation of the final result

Sample Description: 0179-24 MS Grab Surface Water
Pine Street Canal

LL Sample # WW 8064319
LL Group # 1596004
Account # 06556

Project Name: Pine Street Canal- Surfacewaters

Collected: 09/22/2015 14:15 by RJP

Submitted: 09/25/2015 09:25
Reported: 10/07/2015 11:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

17924 SDG#: PSC25-01MS

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Acenaphthene	83-32-9	46	0.5	0.1	1
07805	Acenaphthylene	208-96-8	47	0.5	0.1	1
07805	Anthracene	120-12-7	45	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	48	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	51	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	52	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	48	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	51	0.5	0.1	1
07805	Chrysene	218-01-9	50	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	48	0.5	0.1	1
07805	Fluoranthene	206-44-0	47	0.5	0.1	1
07805	Fluorene	86-73-7	48	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	48	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	45	0.5	0.1	1
07805	Naphthalene	91-20-3	46	0.5	0.1	1
07805	Phenanthrene	85-01-8	42	0.5	0.1	1
07805	Pyrene	129-00-0	46	0.5	0.1	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07805	PAHs 8270C (17)	SW-846 8270C	1	15272WAG026	10/05/2015 18:41	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15272WAG026	09/29/2015 19:00	Nicholas W Shroyer	1

*=This limit was used in the evaluation of the final result

Sample Description: 0179-24 MSD Grab Surface Water
Pine Street Canal

LL Sample # WW 8064320
LL Group # 1596004
Account # 06556

Project Name: Pine Street Canal- Surfacewaters

Collected: 09/22/2015 14:15 by RJP

Submitted: 09/25/2015 09:25
Reported: 10/07/2015 11:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

17924 SDG#: PSC25-01MSD

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Acenaphthene	83-32-9	50	0.5	0.1	1
07805	Acenaphthylene	208-96-8	51	0.5	0.1	1
07805	Anthracene	120-12-7	46	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	49	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	53	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	54	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	52	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	55	0.5	0.1	1
07805	Chrysene	218-01-9	51	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	53	0.5	0.1	1
07805	Fluoranthene	206-44-0	48	0.5	0.1	1
07805	Fluorene	86-73-7	52	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	52	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	47	0.5	0.1	1
07805	Naphthalene	91-20-3	48	0.5	0.1	1
07805	Phenanthrene	85-01-8	44	0.5	0.1	1
07805	Pyrene	129-00-0	48	0.5	0.1	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07805	PAHs 8270C (17)	SW-846 8270C	1	15272WAG026	10/05/2015 22:59	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	15272WAG026	09/29/2015 19:00	Nicholas W Shroyer	1

*=This limit was used in the evaluation of the final result

Sample Description: 0122-24 Grab Surface Water
Pine Street Canal

LL Sample # WW 8064321
LL Group # 1596004
Account # 06556

Project Name: Pine Street Canal- Surfacewaters

Collected: 09/22/2015 14:20 by RJP

Submitted: 09/25/2015 09:25
Reported: 10/07/2015 11:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

12224 SDG#: PSC25-02FD

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		ug/l		ug/l	ug/l	
07805	Acenaphthene	83-32-9	0.5	U	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.1	J	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.2	J	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5	U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.5	U	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.2	J	0.5	0.1	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07805	PAHs 8270C (17)	SW-846 8270C	1	15272WAG026	10/05/2015 23:27	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	15272WAG026	09/29/2015 19:00	Nicholas W Shroyer	1

*=This limit was used in the evaluation of the final result

Sample Description: 0123-24 Grab Water
Pine Street Canal

LL Sample # WW 8064322
LL Group # 1596004
Account # 06556

Project Name: Pine Street Canal- Surfacewaters

Collected: 09/22/2015 14:45 by RJP

Submitted: 09/25/2015 09:25
Reported: 10/07/2015 11:46

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

12324 SDG#: PSC25-03FB

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		ug/l		ug/l	ug/l	
07805	Acenaphthene	83-32-9	0.5	U	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5	U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.5	U	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07805	PAHs 8270C (17)	SW-846 8270C	1	15272WAG026	10/05/2015 23:55	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	15272WAG026	09/29/2015 19:00	Nicholas W Shroyer	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1596004
Reported: 10/07/2015 11:46

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result		Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 15272WAG026	Sample number(s): 8064318-8064322									
Acenaphthene	0.5	U	0.5	0.1	ug/l	96		75-111		
Acenaphthylene	0.5	U	0.5	0.1	ug/l	96		78-117		
Anthracene	0.5	U	0.5	0.1	ug/l	94		82-116		
Benzo(a)anthracene	0.5	U	0.5	0.1	ug/l	100		76-122		
Benzo(a)pyrene	0.5	U	0.5	0.1	ug/l	104		73-115		
Benzo(b)fluoranthene	0.5	U	0.5	0.1	ug/l	107		75-123		
Benzo(g,h,i)perylene	0.5	U	0.5	0.1	ug/l	99		70-126		
Benzo(k)fluoranthene	0.5	U	0.5	0.1	ug/l	106		74-119		
Chrysene	0.5	U	0.5	0.1	ug/l	107		77-126		
Dibenz(a,h)anthracene	0.5	U	0.5	0.1	ug/l	100		72-127		
Fluoranthene	0.5	U	0.5	0.1	ug/l	95		76-117		
Fluorene	0.5	U	0.5	0.1	ug/l	100		80-117		
Indeno(1,2,3-cd)pyrene	0.5	U	0.5	0.1	ug/l	100		70-121		
2-Methylnaphthalene	0.5	U	0.5	0.1	ug/l	86		69-103		
Naphthalene	0.5	U	0.5	0.1	ug/l	88		69-109		
Phenanthrene	0.5	U	0.5	0.1	ug/l	88		75-110		
Pyrene	0.5	U	0.5	0.1	ug/l	94		76-111		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 15272WAG026	Sample number(s): 8064318-8064322 UNSPK: 8064318								
Acenaphthene	92	98	75-111	8	30				
Acenaphthylene	93	100	78-117	7	30				
Anthracene	89	91	82-116	2	30				
Benzo(a)anthracene	95	97	76-122	2	30				
Benzo(a)pyrene	100	104	73-115	5	30				
Benzo(b)fluoranthene	102	107	75-123	5	30				
Benzo(g,h,i)perylene	94	103	70-126	10	30				
Benzo(k)fluoranthene	101	107	74-119	7	30				
Chrysene	99	100	77-126	2	30				
Dibenz(a,h)anthracene	96	104	72-127	9	30				
Fluoranthene	92	94	76-117	3	30				
Fluorene	96	103	80-117	8	30				
Indeno(1,2,3-cd)pyrene	95	101	70-121	7	30				
2-Methylnaphthalene	89	93	69-103	4	30				

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1596004
Reported: 10/07/2015 11:46

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Naphthalene	90	93	69-109	4	30				
Phenanthrene	84	86	75-110	3	30				
Pyrene	90	94	76-111	5	30				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PAHs 8270C (17)
Batch number: 15272WAG026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8064318	77	84	46
8064319	79	84	54
8064320	80	88	62
8064321	76	81	47
8064322	77	82	57
Blank	78	87	74
LCS	78	86	72
MS	79	84	54
MSD	80	88	62
Limits:	46-128	61-112	43-131

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 6556 For Eurofins Lancaster Laboratories Environmental use only Group # 1596004 Sample # 8064318-22
Instructions on reverse side correspond with circled numbers.

384726

1 Client Information

Client: The Johnson Company	Acct. #: 06556
Project Name/#: Pine Street Canal Site / 1-0870-2	PWSID #:
Project Manager: Jim Bowes	P.O. #:
Sampler: RJP	Quote #:

Name of state where samples were collected: VT

4 Matrix: Soil ☐ Sediment ☐ | Water: Potable ☐ Ground ☐ Surface ☒ NPDES ☐ | Other: ____

5 Analysis Requested — Preservation Codes

2 Sample Identification SLD	SIN	Collected Date	Collected Time	3 Grab	Composite	Total # of Containers	8270 - Pine St. PAHs
J-TI+50 W80	0179-24	9.22.15	14:15	X		2	X
J-TI+50 W80 MS	0179-24 MS	↓	14:15	X		2	X
J-TI+50 W80 MSD	0179-24 MSD	↓	14:15	X		2	X
J-SW-DP	0122-24	↓	14:20	X		2	X
J-SW-FB	0123-24	↓	14:45	X		2	X

For Lab Use Only
FSC:
SCR#: 174978

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

7 Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: JRBejcomail.com

8 Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP)
Type VI (Raw Data Only)
Type III (Reduced non-CLP)
TX TRRP-13
NYSDEC Category A or B
MA MCP
CT RCP

Relinquished by	Date	Time	Received by	Date	Time
	9-21-15	1440		9-22-15	0700
	9/24/15	1500			
				9/25/15	925

9

EDD Required? Yes No
If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS ____ FedEx ____ Other ____

Temperature upon receipt 26 °C

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 108439

Group Number(s): 1596004

Client: The Johnson Company

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/25/2015 9:25
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	VT		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Jordan Woods (6698) at 16:12 on 09/25/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	2.6	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17601-5419
T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Semivolatiles by GC/MS Data

Case Narrative/Conformance Summary

Semivolatiles by GC/MS

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC25

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8064318	0179-24	X		1	Unspiked
8064319	0179-24 MS	X		1	Matrix Spike
8064320	0179-24 MSD	X		1	Matrix Spike Duplicate
8064321	0122-24	X		1	Field Duplicate Sample
8064322	0123-24	X		1	Field Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Semivolatiles by GC/MS

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Quality Control Reference List
GC/MS Semivolatiles

CLIENT: The Johnson Company, Inc.
SDG: PSC25

Fraction: Semivolatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
PAHs 8270C (17)	15272WAG026	SBLKWG272	10/05/2015 08:28:00
		272WGLCS	10/05/2015 08:55:00
		8064318 UNSPK	10/05/2015 18:13:00
		8064319 MS	10/05/2015 18:41:00
		8064320 MSD	10/05/2015 22:59:00
		8064321	10/05/2015 23:27:00
		8064322	10/05/2015 23:55:00

Quality Control Summary
Method Blank
GC/MS Semivolatiles
SDG: PSC25
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

15272WAG026 / SBLKWG272 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Naphthalene	10/05/15	N.D.	ug/l	0.1	0.5
2-Methylnaphthalene	10/05/15	N.D.	ug/l	0.1	0.5
Acenaphthylene	10/05/15	N.D.	ug/l	0.1	0.5
Acenaphthene	10/05/15	N.D.	ug/l	0.1	0.5
Fluorene	10/05/15	N.D.	ug/l	0.1	0.5
Phenanthrene	10/05/15	N.D.	ug/l	0.1	0.5
Anthracene	10/05/15	N.D.	ug/l	0.1	0.5
Fluoranthene	10/05/15	N.D.	ug/l	0.1	0.5
Pyrene	10/05/15	N.D.	ug/l	0.1	0.5
Benzo(a)anthracene	10/05/15	N.D.	ug/l	0.1	0.5
Chrysene	10/05/15	N.D.	ug/l	0.1	0.5
Benzo(b)fluoranthene	10/05/15	N.D.	ug/l	0.1	0.5
Benzo(k)fluoranthene	10/05/15	N.D.	ug/l	0.1	0.5
Benzo(a)pyrene	10/05/15	N.D.	ug/l	0.1	0.5
Indeno(1,2,3-cd)pyrene	10/05/15	N.D.	ug/l	0.1	0.5
Dibenz(a,h)anthracene	10/05/15	N.D.	ug/l	0.1	0.5
Benzo(g,h,i)perylene	10/05/15	N.D.	ug/l	0.1	0.5

Quality Control Summary
Surrogates
GC/MS Semivolatiles
SDG: PSC25
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

15272WAG026	2-Fluorobiphenyl		Nitrobenzene-d5		Terphenyl-d14	
	Spike Added	100 ug/l	Spike Added	100 ug/l	Spike Added	100 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKWG272	87	61 - 112	78	46 - 128	74	43 - 131
272WGLCS	86	61 - 112	78	46 - 128	72	43 - 131
8064318 US	84	61 - 112	77	46 - 128	46	43 - 131
8064319 MS	84	61 - 112	79	46 - 128	54	43 - 131
8064320 MSD	88	61 - 112	80	46 - 128	62	43 - 131
8064321	81	61 - 112	76	46 - 128	47	43 - 131
8064322	82	61 - 112	77	46 - 128	57	43 - 131

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

UNSPK: 8064318 MS: 8064319 MSD: 8064320 **Analyte**	Batch: **15272WAG026** (Sample number(s): 8064318-8064322)								
	Spike Added ug/l MS/MSD	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Naphthalene	50.61 / 51.02	N.D.	45.63	47.58	90	93	69-109	4	30
2-Methylnaphthalene	50.61 / 51.02	N.D.	45.15	47.22	89	93	69-103	4	30
Acenaphthylene	50.61 / 51.02	N.D.	47.28	50.88	93	100	78-117	7	30
Acenaphthene	50.61 / 51.02	N.D.	46.42	50.11	92	98	75-111	8	30
Fluorene	50.61 / 51.02	N.D.	48.44	52.43	96	103	80-117	8	30
Phenanthrene	50.61 / 51.02	N.D.	42.46	43.92	84	86	75-110	3	30
Anthracene	50.61 / 51.02	N.D.	45.07	46.18	89	91	82-116	2	30
Fluoranthene	50.61 / 51.02	N.D.	46.72	47.92	92	94	76-117	3	30
Pyrene	50.61 / 51.02	N.D.	45.75	47.96	90	94	76-111	5	30
Benzo(a)anthracene	50.61 / 51.02	N.D.	48.28	49.4	95	97	76-122	2	30
Chrysene	50.61 / 51.02	N.D.	49.91	51.06	99	100	77-126	2	30
Benzo(b)fluoranthene	50.61 / 51.02	N.D.	51.72	54.46	102	107	75-123	5	30
Benzo(k)fluoranthene	50.61 / 51.02	N.D.	51.08	54.81	101	107	74-119	7	30
Benzo(a)pyrene	50.61 / 51.02	N.D.	50.84	53.21	100	104	73-115	5	30
Indeno(1,2,3-cd)pyrene	50.61 / 51.02	N.D.	48.21	51.51	95	101	70-121	7	30
Dibenz(a,h)anthracene	50.61 / 51.02	N.D.	48.36	52.86	96	104	72-127	9	30
Benzo(g,h,i)perylene	50.61 / 51.02	N.D.	47.57	52.46	94	103	70-126	10	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 272WGLCS	Batch: **15272WAG026** (Sample number(s): 8064318-8064322)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Naphthalene	50	44.18	NA	88	NA	69-109	NA	NA
2-Methylnaphthalene	50	43.18	NA	86	NA	69-103	NA	NA
Acenaphthylene	50	47.92	NA	96	NA	78-117	NA	NA
Acenaphthene	50	47.79	NA	96	NA	75-111	NA	NA
Fluorene	50	50.14	NA	100	NA	80-117	NA	NA
Phenanthrene	50	44.05	NA	88	NA	75-110	NA	NA
Anthracene	50	47.07	NA	94	NA	82-116	NA	NA
Fluoranthene	50	47.57	NA	95	NA	76-117	NA	NA
Pyrene	50	47.24	NA	94	NA	76-111	NA	NA
Benzo(a)anthracene	50	50	NA	100	NA	76-122	NA	NA
Chrysene	50	53.33	NA	107	NA	77-126	NA	NA
Benzo(b)fluoranthene	50	53.63	NA	107	NA	75-123	NA	NA
Benzo(k)fluoranthene	50	53.14	NA	106	NA	74-119	NA	NA
Benzo(a)pyrene	50	51.78	NA	104	NA	73-115	NA	NA
Indeno(1,2,3-cd)pyrene	50	49.9	NA	100	NA	70-121	NA	NA
Dibenz(a,h)anthracene	50	49.76	NA	100	NA	72-127	NA	NA
Benzo(g,h,i)perylene	50	49.65	NA	99	NA	70-126	NA	NA

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lh2070z.d DFTPP Injection Date: 08/05/15

Instrument ID: HP20296 DFTPP Injection Time: 12:47

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	52.3
68	Less than 2.0% of mass 69	0.78 (1.58)1
69	Mass 69 relative abundance	49.4
70	Less than 2.0% of mass 69	0.27 (0.55)1
127	40.0 - 60.0% of mass 198	48.9
197	Less than 1.0% of mass 198	0.57
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.71
275	10.0 - 30.0% of mass 198	21.3
365	Greater than 1.00% of mass 198	2.18
441	Present, and less than mass 443	9.7
442	Greater than 40.0 % of mass 198	59.4
443	17.0 - 23.0% of mass 442	12.3 (20.8)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD2065 - SSTD7.5	lh2071.d	08/05/15	13:01
02	RVSTD2065 - SSTD.125	lh2072.d	08/05/15	13:58
03	RVSTD2065 - SSTD30	lh2073.d	08/05/15	14:26
04	RVSTD2065 - SSTD20	lh2074.d	08/05/15	14:53
05	RVSTD2065 - SSTD12.5	lh2075.d	08/05/15	15:22
06	RVSTD2065 - SSTD3.75	lh2076.d	08/05/15	15:49
07	RVSTD2065 - SSTD1.25	lh2077.d	08/05/15	16:17
08	RVSTD2065 - SSTD.25	lh2078.d	08/05/15	16:46
09	MDLSTD2065 - SSTD0.125	lh2079.d	08/05/15	17:13
10	PAHMDL2065 - SSTD0.025	lh2080.d	08/05/15	17:41
11	RVICV1465 - SSTD12.5	lh2081.d	08/05/15	18:09
12	BASICV1045 - SSTD12.5	lh2082.d	08/05/15	18:37

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lj0150z.d DFTPP Injection Date: 10/05/15

Instrument ID: HP20296 DFTPP Injection Time: 06:56

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	42.6
68	Less than 2.0% of mass 69	0.72 (1.73)1
69	Mass 69 relative abundance	41.7
70	Less than 2.0% of mass 69	0.21 (0.5)1
127	40.0 - 60.0% of mass 198	47.4
197	Less than 1.0% of mass 198	0.22
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.49
275	10.0 - 30.0% of mass 198	18.6
365	Greater than 1.00% of mass 198	1.72
441	Present, and less than mass 443	7.51
442	Greater than 40.0 % of mass 198	45.7
443	17.0 - 23.0% of mass 442	9.18 (20.1)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD2745 - SSTD7.5	lj0151.d	10/05/15	07:09
02	SBLKWG272	lj0152.d	10/05/15	08:28
03	272WGLCS	lj0153.d	10/05/15	08:55
04	SBLKWE272	lj0154.d	10/05/15	09:23
05	272WELCS	lj0155.d	10/05/15	09:51
06	8059062	lj0156.d	10/05/15	10:19
07	8064062	lj0157.d	10/05/15	10:47
08	8064063MS	lj0158.d	10/05/15	11:15
09	8064064MSD	lj0159.d	10/05/15	11:43
10	8060822DL	lj0160.d	10/05/15	12:11
11	8060823DL	lj0161.d	10/05/15	12:39
12	8060824DL	lj0162.d	10/05/15	13:07
13	8064236DL	lj0163.d	10/05/15	13:34
14	8064065	lj0164.d	10/05/15	14:02
15	8064066	lj0165.d	10/05/15	14:30
16	8064067	lj0166.d	10/05/15	14:58
17	8064068	lj0167.d	10/05/15	15:26
18	8060824DL2	lj0162a.d	10/05/15	15:54

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lj0150z.d DFTPP Injection Date: 10/05/15

Instrument ID: HP20296 DFTPP Injection Time: 06:56

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	42.6
68	Less than 2.0% of mass 69	0.72 (1.73)1
69	Mass 69 relative abundance	41.7
70	Less than 2.0% of mass 69	0.21 (0.5)1
127	40.0 - 60.0% of mass 198	47.4
197	Less than 1.0% of mass 198	0.22
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.49
275	10.0 - 30.0% of mass 198	18.6
365	Greater than 1.00% of mass 198	1.72
441	Present, and less than mass 443	7.51
442	Greater than 40.0 % of mass 198	45.7
443	17.0 - 23.0% of mass 442	9.18 (20.1)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	8064069	lj0168.d	10/05/15	16:22
20	8064070	lj0169.d	10/05/15	16:50
21	8064071	lj0170.d	10/05/15	17:18
22	8064116	lj0171.d	10/05/15	17:46
23	8064318	lj0172.d	10/05/15	18:13
24	8064319MS	lj0173.d	10/05/15	18:41

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lj0180b.d DFTPP Injection Date: 10/05/15

Instrument ID: HP20296 DFTPP Injection Time: 20:41

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	39.3
68	Less than 2.0% of mass 69	0.67 (1.74)1
69	Mass 69 relative abundance	38.7
70	Less than 2.0% of mass 69	0.22 (0.56)1
127	40.0 - 60.0% of mass 198	45.3
197	Less than 1.0% of mass 198	0.54
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.56
275	10.0 - 30.0% of mass 198	19.4
365	Greater than 1.00% of mass 198	1.87
441	Present, and less than mass 443	7.78
442	Greater than 40.0 % of mass 198	51.2
443	17.0 - 23.0% of mass 442	9.59 (18.7)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD2745 - SSTD7.5	lj0181.d	10/05/15	20:53
02	SBLKWN273	lj0182.d	10/05/15	21:36
03	273WNLCS	lj0183.d	10/05/15	22:04
04	273WNLCSD	lj0184.d	10/05/15	22:32
05	8064320MSD	lj0185.d	10/05/15	22:59
06	8064321	lj0186.d	10/05/15	23:27
07	8064322	lj0187.d	10/05/15	23:55
08	8063897	lj0189.d	10/06/15	00:51
09	8063899	lj0190.d	10/06/15	01:19
10	8063901	lj0191.d	10/06/15	01:46
11	8063903	lj0192.d	10/06/15	02:14
12	8063905	lj0193.d	10/06/15	02:42
13	8063907	lj0194.d	10/06/15	03:10
14	8063909	lj0195.d	10/06/15	03:37
15	8063911	lj0196.d	10/06/15	04:05
16	8063913	lj0197.d	10/06/15	04:33

FORM V SV

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date(s): 08/05/15 08/05/15

Calibration Times: 13:01 16:46

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = lh2072.d RRF0.25 = lh2078.d RRF1.25 = lh2077.d RRF3.75 = lh2076.d
RRF7.5 = lh2071.d RRF12.5 = lh2075.d RRF20 = lh2074.d RRF30 = lh2073.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1,4-Dioxane			0.667	0.638	0.690	0.654	0.653	0.686	0.665	3	AVG
N-Nitrosodimethylamine		1.017	1.019	1.019	1.114	1.067	1.082	1.133	1.064	5	AVG
Pyridine			1.657	1.741	1.842	1.825	1.853	1.930	1.808	5	AVG
2-Picoline		1.864	1.848	1.833	1.927	1.866	1.847	1.917	1.872	2	AVG
N-Nitrosomethylethylamine		0.676	0.742	0.759	0.779	0.768	0.764	0.779	0.752	5	AVG
Methyl methanesulfonate		0.879	0.937	0.949	0.950	0.925	0.929	0.941	0.930	3	AVG
N-Nitrosodiethylamine		0.650	0.703	0.714	0.749	0.739	0.739	0.745	0.720	5	AVG
Ethyl methanesulfonate		0.823	0.722	0.755	0.760	0.750	0.759	0.764	0.762	4	AVG
Benzaldehyde			1.359	1.437	1.444	1.437	1.375	1.308	1.393	4	AVG
Aniline		2.602	2.662	2.730	2.700	2.694	2.679	2.717	2.683	2	AVG
Phenol		2.055	2.262	2.316	2.360	2.317	2.313	2.320	2.278	4	AVG
bis(2-Chloroethyl)ether		1.715	1.704	1.654	1.697	1.667	1.671	1.692	1.686	1	AVG
2-Chlorophenol		1.371	1.405	1.420	1.435	1.429	1.446	1.459	1.423	2	AVG
1,3-Dichlorobenzene		1.643	1.598	1.599	1.589	1.569	1.571	1.590	1.594	2	AVG
1,4-Dichlorobenzene		1.643	1.591	1.619	1.622	1.592	1.608	1.613	1.612	1	AVG
Benzyl alcohol			0.938	0.985	1.050	1.049	1.032	1.053	1.018	5	AVG
1,2-Dichlorobenzene		1.640	1.552	1.515	1.551	1.489	1.495	1.522	1.538	3	AVG
Indene			2.507	2.504	2.575	2.589	2.549	2.573	2.549	1	AVG
2-Methylphenol		1.342	1.395	1.474	1.458	1.456	1.457	1.479	1.437	4	AVG
2,2'-oxybis(1-Chloropropane)		2.899	2.621	2.565	2.553	2.537	2.507	2.556	2.606	5	AVG
bis(2-Chloroisopropyl)ether		2.899	2.621	2.565	2.553	2.537	2.507	2.556	2.606	5	AVG
N-Nitrosopyrrolidine		0.658	0.702	0.761	0.745	0.772	0.783	0.791	0.745	6	AVG
Acetophenone		2.192	2.094	2.168	2.214	2.217	2.206	2.221	2.187	2	AVG
N-Nitroso-di-n-propylamine		1.223	1.247	1.262	1.283	1.258	1.258	1.267	1.257	1	AVG
N-Nitrosomorpholine		1.046	1.053	1.079	1.077	1.066	1.056	1.069	1.064	1	AVG
4-Methylphenol		1.558	1.607	1.646	1.541	1.676	1.633	1.674	1.619	3	AVG
o-Toluidine		2.444	2.434	2.515	2.501	2.512	2.527	2.529	2.495	2	AVG
Hexachloroethane		0.648	0.645	0.651	0.682	0.661	0.669	0.672	0.661	2	AVG
Nitrobenzene		0.449	0.483	0.483	0.483	0.491	0.490	0.496	0.482	3	AVG
N-Nitrosopiperidine		0.179	0.170	0.183	0.185	0.187	0.189	0.194	0.184	4	AVG
Isophorone		0.741	0.799	0.825	0.832	0.830	0.852	0.877	0.822	5	AVG
2-Nitrophenol		0.149	0.160	0.182	0.184	0.189	0.194	0.197	0.179	10	AVG
2,4-Dimethylphenol		0.362	0.385	0.399	0.405	0.411	0.414	0.421	0.400	5	AVG
O,O,O-triethylphosphorothioate		0.171	0.175	0.184	0.179	0.182	0.188	0.187	0.181	3	AVG
bis(2-Chloroethoxy)methane		0.537	0.527	0.524	0.519	0.520	0.489	0.509	0.518	3	AVG
Benzoic acid			0.138	0.227	0.255	0.284	0.311	0.328	0.257	27	1STDEG
2,4-Dichlorophenol		0.259	0.293	0.303	0.303	0.304	0.307	0.315	0.298	6	AVG
1,2,4-Trichlorobenzene		0.338	0.334	0.340	0.342	0.339	0.341	0.347	0.340	1	AVG
Naphthalene	1.108	1.126	1.073	1.061	1.066	1.052	1.069	1.081	1.080	2	AVG
4-Chloroaniline		0.415	0.437	0.448	0.451	0.450	0.456	0.468	0.446	4	AVG
2,6-Dichlorophenol		0.277	0.290	0.288	0.299	0.295	0.299	0.304	0.293	3	AVG
Hexachloropropene		0.179	0.204	0.212	0.216	0.226	0.229	0.237	0.215	9	AVG
Hexachlorobutadiene		0.186	0.196	0.193	0.194	0.194	0.200	0.197	0.194	2	AVG
Quinoline		0.646	0.624	0.649	0.653	0.652	0.665	0.680	0.653	3	AVG
Caprolactam			0.075	0.094	0.089	0.095	0.095	0.094	0.090	8	AVG
N-Nitrosodi-n-butylamine			0.281	0.293	0.294	0.296	0.298	0.378	0.307	12	AVG
4-Chloro-3-methylphenol		0.306	0.333	0.340	0.341	0.350	0.349	0.355	0.339	5	AVG
Safrole		0.229	0.250	0.263	0.263	0.266	0.272	0.280	0.260	6	AVG
2-Methylnaphthalene	0.633	0.674	0.703	0.697	0.689	0.689	0.703	0.713	0.688	4	AVG
1-Methylnaphthalene	0.642	0.616	0.624	0.626	0.625	0.624	0.639	0.645	0.630	2	AVG
Hexachlorocyclopentadiene			0.344	0.353	0.368	0.378	0.391	0.385	0.370	5	AVG
1,2,4,5-Tetrachlorobenzene		0.612	0.618	0.617	0.607	0.619	0.616	0.614	0.614	1	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

FORM VI SV-1

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date(s): 08/05/15 08/05/15

Calibration Times: 13:01 16:46

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = lh2072.d RRF0.25 = lh2078.d RRF1.25 = lh2077.d RRF3.75 = lh2076.d
RRF7.5 = lh2071.d RRF12.5 = lh2075.d RRF20 = lh2074.d RRF30 = lh2073.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
cis-Isosafrole		0.517	0.540	0.506	0.526	0.518	0.528	0.540	0.525	2	AVG
2,4,6-Trichlorophenol		0.363	0.354	0.375	0.382	0.388	0.398	0.413	0.382	5	AVG
2,4,5-Trichlorophenol		0.343	0.384	0.393	0.409	0.410	0.415	0.400	0.393	6	AVG
trans-Isosafrole		0.536	0.553	0.562	0.567	0.579	0.602	0.601	0.571	4	AVG
Isosafrole		0.445	0.459	0.467	0.470	0.481	0.500	0.499	0.474	4	AVG
1,1'-Biphenyl		1.567	1.433	1.447	1.477	1.450	1.469	1.463	1.472	3	AVG
2-Chloronaphthalene		1.186	1.209	1.183	1.233	1.214	1.209	1.278	1.216	3	AVG
1-Chloronaphthalene		1.153	1.105	1.141	1.110	1.102	1.151	1.070	1.119	3	AVG
Diphenyl ether		0.779	0.802	0.798	0.807	0.799	0.812	0.815	0.802	1	AVG
2-Nitroaniline		0.291	0.319	0.357	0.375	0.378	0.384	0.385	0.356	10	AVG
1,4-Naphthoquinone			0.399	0.450	0.470	0.482	0.486	0.475	0.460	7	AVG
1,4-Dinitrobenzene			0.152	0.177	0.187	0.189	0.193	0.188	0.181	8	AVG
Dimethylphthalate			1.279	1.308	1.292	1.260	1.232	1.203	1.262	3	AVG
1,3-Dinitrobenzene			0.179	0.191	0.208	0.205	0.208	0.203	0.199	6	AVG
2,6-Dinitrotoluene		0.189	0.255	0.279	0.286	0.287	0.284	0.280	0.266	13	AVG
Acenaphthylene	1.588	1.678	1.741	1.797	1.823	1.841	1.881	1.880	1.779	6	AVG
3-Nitroaniline		0.267	0.298	0.312	0.326	0.320	0.334	0.325	0.312	7	AVG
Acenaphthene	1.145	1.222	1.191	1.218	1.213	1.191	1.221	1.221	1.203	2	AVG
2,4-Dinitrophenol			0.121	0.153	0.160	0.176	0.185	0.196	0.165	16	1STDEG
Pentachlorobenzene		0.490	0.475	0.488	0.475	0.480	0.487	0.484	0.483	1	AVG
4-Nitrophenol			0.187	0.196	0.209	0.206	0.244	0.244	0.214	11	AVG
Dibenzofuran		1.702	1.686	1.681	1.677	1.656	1.670	1.663	1.677	1	AVG
2,4-Dinitrotoluene		0.323	0.346	0.374	0.371	0.384	0.391	0.391	0.368	7	AVG
2,4_2,6-Dinitrotoluenes		0.256	0.300	0.327	0.329	0.335	0.338	0.335	0.317	9	AVG
1-Naphthylamine		1.069	1.138	1.195	1.196	1.183	1.188	1.213	1.169	4	AVG
2,3,4,6-Tetrachlorophenol		0.292	0.282	0.308	0.307	0.316	0.329	0.333	0.310	6	AVG
2-Naphthylamine		1.066	1.173	1.220	1.185	1.183	1.205	1.195	1.175	4	AVG
Diethylphthalate			1.176	1.195	1.235	1.216	1.226	1.223	1.212	2	AVG
Thionazin		0.207	0.229	0.243	0.249	0.248	0.250	0.251	0.240	7	AVG
Fluorene	1.399	1.201	1.243	1.297	1.301	1.277	1.288	1.248	1.282	5	AVG
4-Chlorophenyl-phenylether		0.645	0.624	0.629	0.622	0.614	0.623	0.596	0.622	2	AVG
5-Nitro-o-toluidine		0.285	0.321	0.345	0.353	0.360	0.363	0.364	0.342	9	AVG
4-Nitroaniline		0.260	0.303	0.335	0.343	0.337	0.344	0.348	0.324	10	AVG
4,6-Dinitro-2-methylphenol			0.112	0.124	0.132	0.137	0.143	0.146	0.132	10	AVG
N-Nitrosodiphenylamine (1)		0.620	0.637	0.637	0.647	0.656	0.645	0.643	0.641	2	AVG
1,2-Diphenylhydrazine		0.927	0.953	0.953	0.977	0.956	0.958	0.933	0.951	2	AVG
Tetraethyldithiopyrophosphate		0.125	0.131	0.146	0.144	0.145	0.145	0.147	0.140	6	AVG
1,3,5-Trinitrobenzene			0.064	0.074	0.077	0.083	0.086	0.091	0.079	12	AVG
Diallate (peak 1)		0.354	0.370	0.388	0.395	0.397	0.391	0.390	0.384	4	AVG
Phorate		0.487	0.542	0.593	0.598	0.605	0.603	0.607	0.576	8	AVG
Phenacetin		0.292	0.389	0.424	0.429	0.442	0.454	0.460	0.413	14	AVG
4-Bromophenyl-phenylether		0.204	0.205	0.199	0.196	0.200	0.198	0.197	0.200	2	AVG
Diallate (peak 2)		0.279	0.375	0.365	0.375	0.387	0.386	0.388	0.365	11	AVG
Hexachlorobenzene	0.222	0.214	0.204	0.208	0.205	0.206	0.205	0.204	0.208	3	AVG
Dimethoate			0.319	0.368	0.371	0.377	0.380	0.392	0.368	7	AVG
Atrazine		0.177	0.195	0.204	0.203	0.208	0.202	0.197	0.198	5	AVG
Pentachlorophenol			0.097	0.127	0.137	0.140	0.147	0.145	0.132	14	AVG
Pentachloronitrobenzene		0.080	0.095	0.097	0.098	0.099	0.100	0.101	0.096	7	AVG
4-Aminobiphenyl		0.692	0.717	0.755	0.775	0.788	0.785	0.798	0.758	5	AVG
Pronamide		0.272	0.303	0.339	0.343	0.352	0.361	0.367	0.334	10	AVG
Phenanthrene	1.147	1.138	1.150	1.134	1.156	1.158	1.170	1.206	1.157	2	AVG
Dinoseb			0.127	0.173	0.187	0.207	0.217	0.227	0.190	19	1STDEG

(1) Cannot be separated from Diphenylamine
4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date(s): 08/05/15 08/05/15

Calibration Times: 13:01 16:46

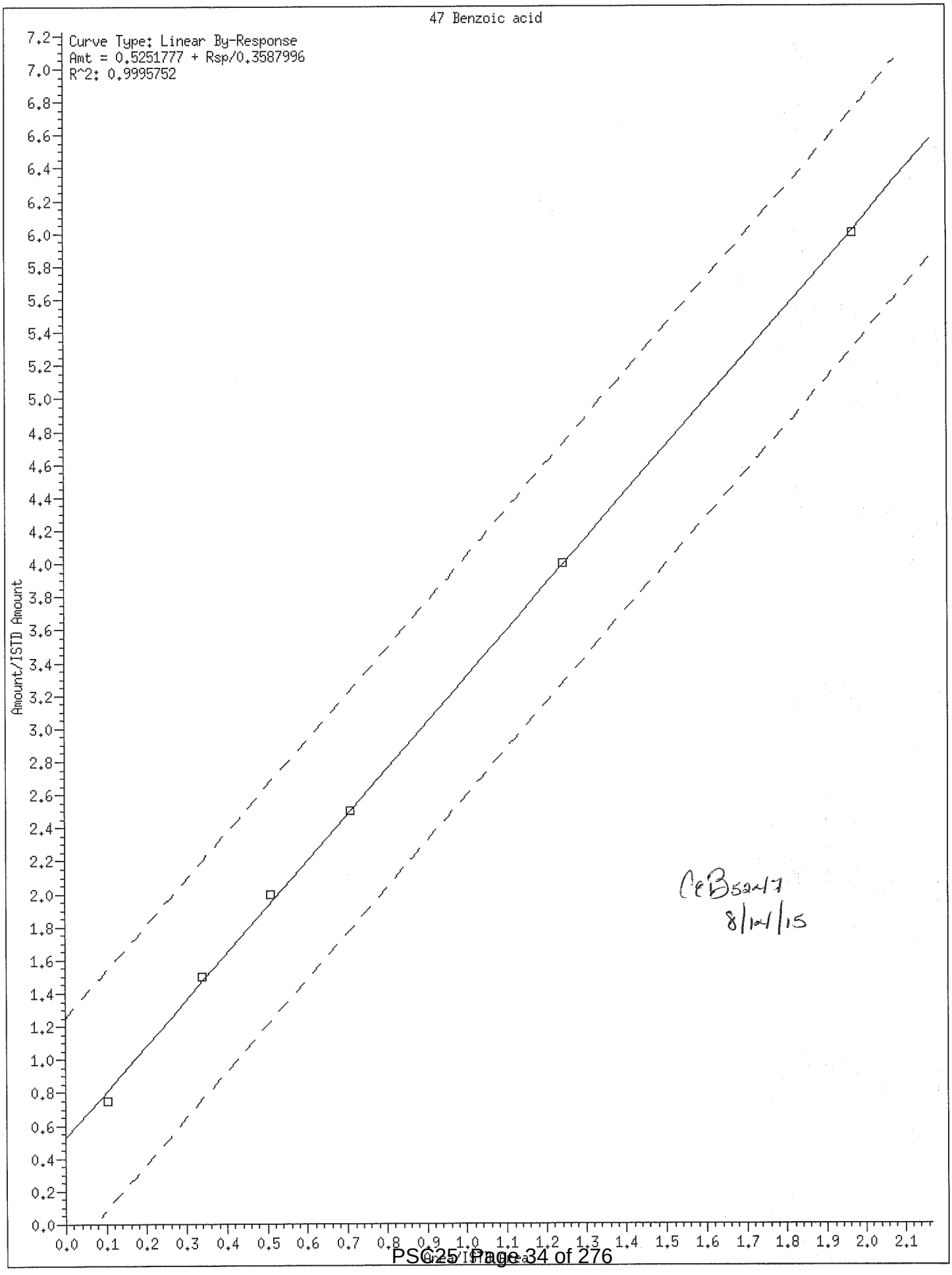
Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.125 = lh2072.d RRF0.25 = lh2078.d RRF1.25 = lh2077.d RRF3.75 = lh2076.d
RRF7.5 = lh2071.d RRF12.5 = lh2075.d RRF20 = lh2074.d RRF30 = lh2073.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
Anthracene	0.968	1.062	1.096	1.123	1.144	1.151	1.161	1.174	1.110	6	AVG
Carbazole		0.931	1.013	1.055	1.069	1.073	1.086	1.115	1.049	6	AVG
Methyl parathion			0.210	0.260	0.271	0.286	0.291	0.304	0.270	12	AVG
Di-n-butylphthalate			1.069	1.210	1.246	1.261	1.297	1.360	1.241	8	AVG
Parathion			0.124	0.159	0.167	0.175	0.179	0.189	0.165	14	AVG
4-Nitroquinoline-1-oxide			0.061	0.082	0.098	0.114	0.128	0.140	0.104	28	1STDEG
Isodrin		0.116	0.116	0.127	0.126	0.129	0.130	0.134	0.126	5	AVG
Fluoranthene	1.115	1.078	1.158	1.227	1.254	1.261	1.288	1.337	1.215	7	AVG
Benzidine			0.619	0.661	0.675	0.698	0.707	0.714	0.679	5	AVG
Pyrene	1.174	1.116	1.075	1.090	1.079	1.085	1.088	1.104	1.102	3	AVG
p-Dimethylaminoazobenzene		0.104	0.130	0.160	0.173	0.185	0.193	0.203	0.164	22	1STDEG
Chlorobenzilate			0.275	0.307	0.312	0.319	0.322	0.333	0.311	6	AVG
3,3'-Dimethylbenzidine			0.504	0.616	0.657	0.678	0.717	0.738	0.652	13	AVG
Butylbenzylphthalate			0.393	0.450	0.463	0.475	0.487	0.500	0.461	8	AVG
2-Acetylaminofluorene			0.263	0.339	0.390	0.403	0.430	0.465	0.382	19	1STDEG
Benzo(a)anthracene	0.815	0.816	0.907	0.954	0.997	1.007	1.036	1.066	0.950	10	AVG
3,3'-Dichlorobenzidine			0.298	0.328	0.350	0.356	0.374	0.390	0.350	9	AVG
4,4'-Methylenebis(2-Chloroanil			0.165	0.196	0.204	0.207	0.216	0.221	0.201	10	AVG
Chrysene	0.759	0.805	0.891	0.911	0.928	0.928	0.953	0.994	0.896	9	AVG
bis(2-Ethylhexyl)phthalate			0.531	0.617	0.665	0.667	0.700	0.747	0.655	11	AVG
6-Methylchrysene		0.500	0.567	0.604	0.641	0.638	0.673	0.713	0.619	11	AVG
Di-n-octylphthalate			1.034	1.346	1.405	1.452	1.480	1.516	1.372	13	AVG
7,12-Dimethylbenz[a]anthracene		0.390	0.428	0.500	0.501	0.515	0.526	0.532	0.485	11	AVG
Benzo(b)fluoranthene	1.012	1.033	1.116	1.197	1.183	1.176	1.229	1.262	1.151	8	AVG
Benzo(k)fluoranthene	1.049	1.081	1.113	1.193	1.169	1.182	1.179	1.173	1.143	5	AVG
Benzo(a)pyrene	0.889	0.938	1.043	1.109	1.122	1.126	1.161	1.187	1.072	10	AVG
NDPA as diphenylamine		0.620	0.637	0.637	0.647	0.656	0.645	0.643	0.641	2	AVG
3-Methylcholanthrene		0.333	0.416	0.472	0.510	0.513	0.538	0.548	0.476	16	1STDEG
Indeno(1,2,3-cd)pyrene	1.098	1.092	1.220	1.252	1.352	1.353	1.353	1.326	1.256	9	AVG
Dibenz(a,h)anthracene	0.918	0.854	0.994	1.056	1.121	1.121	1.122	1.113	1.037	10	AVG
Benzo(g,h,i)perylene	1.098	1.001	1.055	1.097	1.160	1.152	1.149	1.115	1.103	5	AVG
Diallate TRANS/CIS		0.342	0.371	0.384	0.392	0.395	0.390	0.389	0.380	5	AVG
2-Fluorophenol		1.389	1.436	1.494	1.522	1.502	1.495	1.539	1.482	4	AVG
Phenol-d5		1.784	1.918	1.972	1.991	1.980	1.967	1.993	1.944	4	AVG
Phenol-d6		1.784	1.918	1.972	1.991	1.980	1.967	1.993	1.944	4	AVG
Nitrobenzene-d5		0.464	0.469	0.471	0.478	0.481	0.481	0.493	0.477	2	AVG
2-Fluorobiphenyl		1.389	1.397	1.394	1.408	1.391	1.407	1.405	1.399	1	AVG
2,4,6-Tribromophenol			0.133	0.148	0.149	0.151	0.158	0.154	0.149	6	AVG
Terphenyl-d14		0.644	0.657	0.680	0.681	0.687	0.701	0.702	0.679	3	AVG

Average %RSD 6

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.



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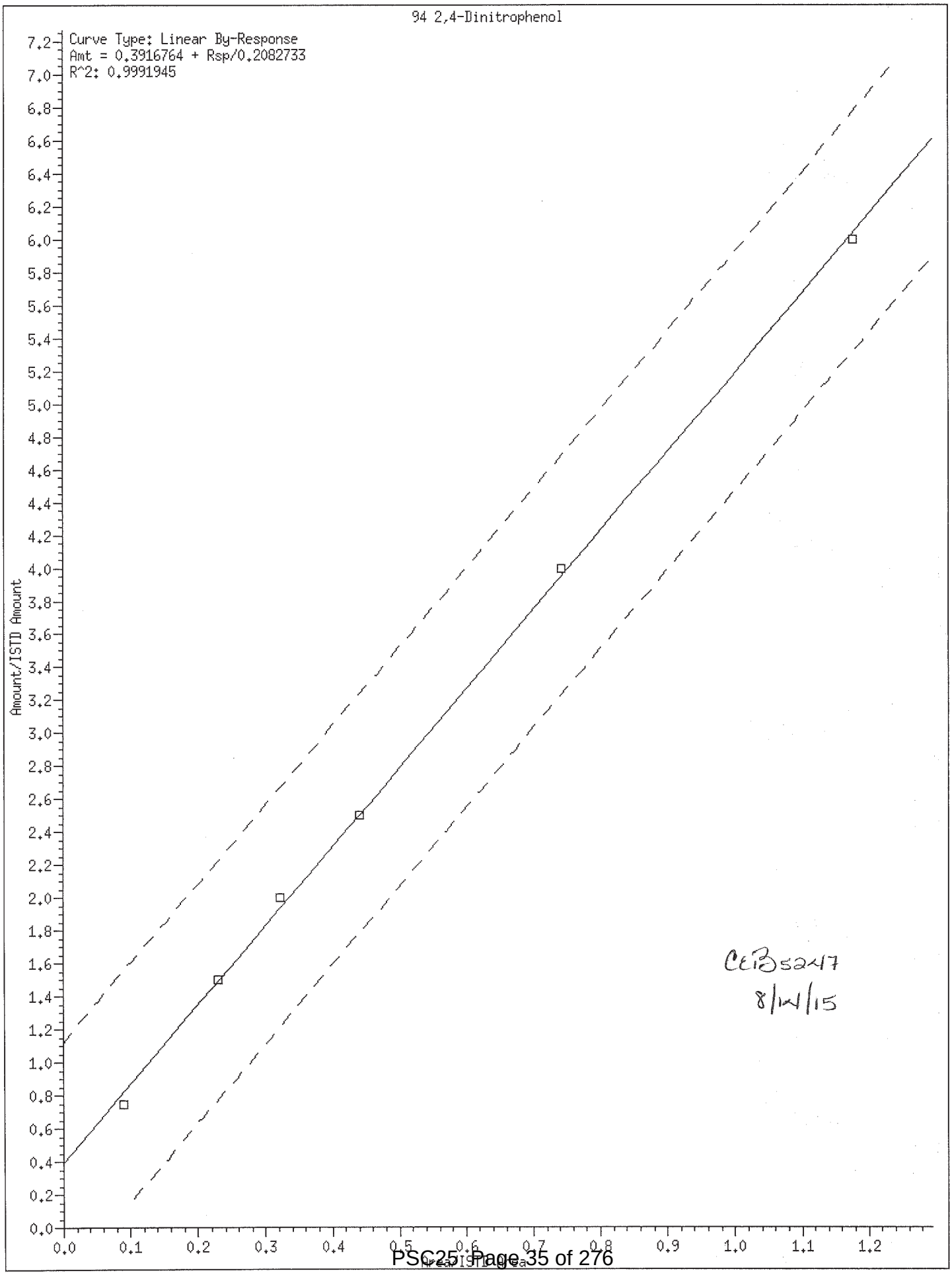
8/14/15



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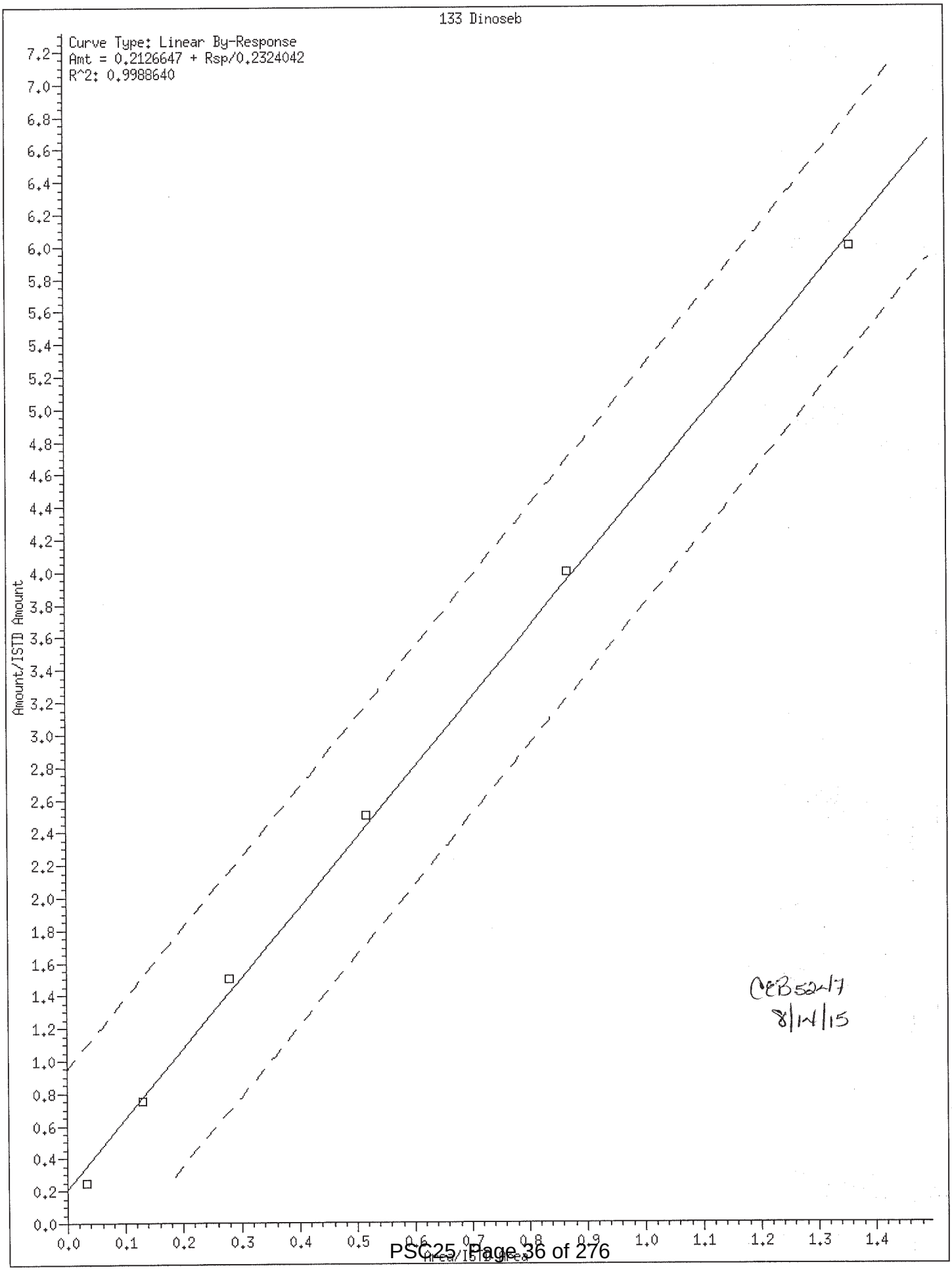

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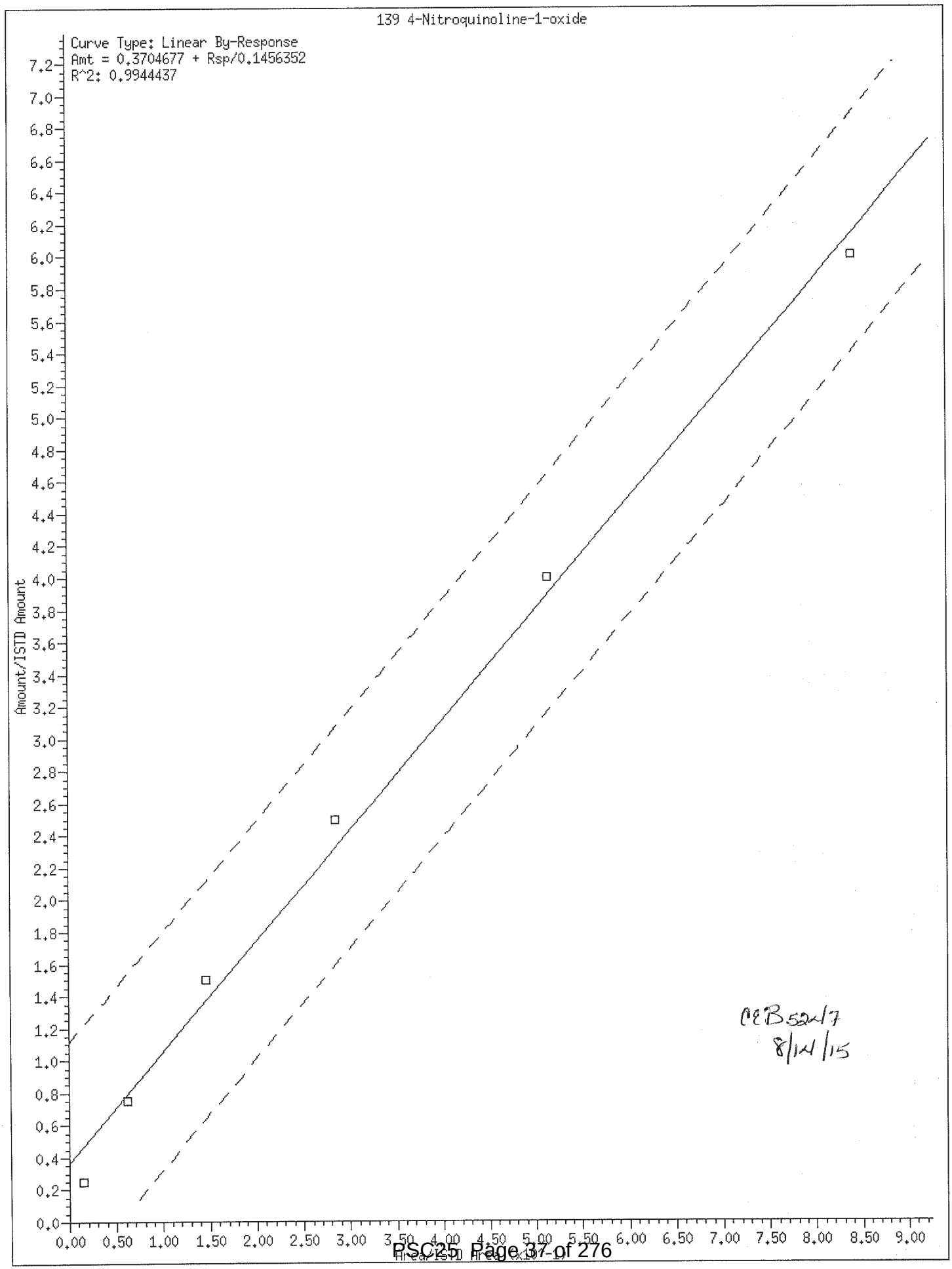
8/14/15



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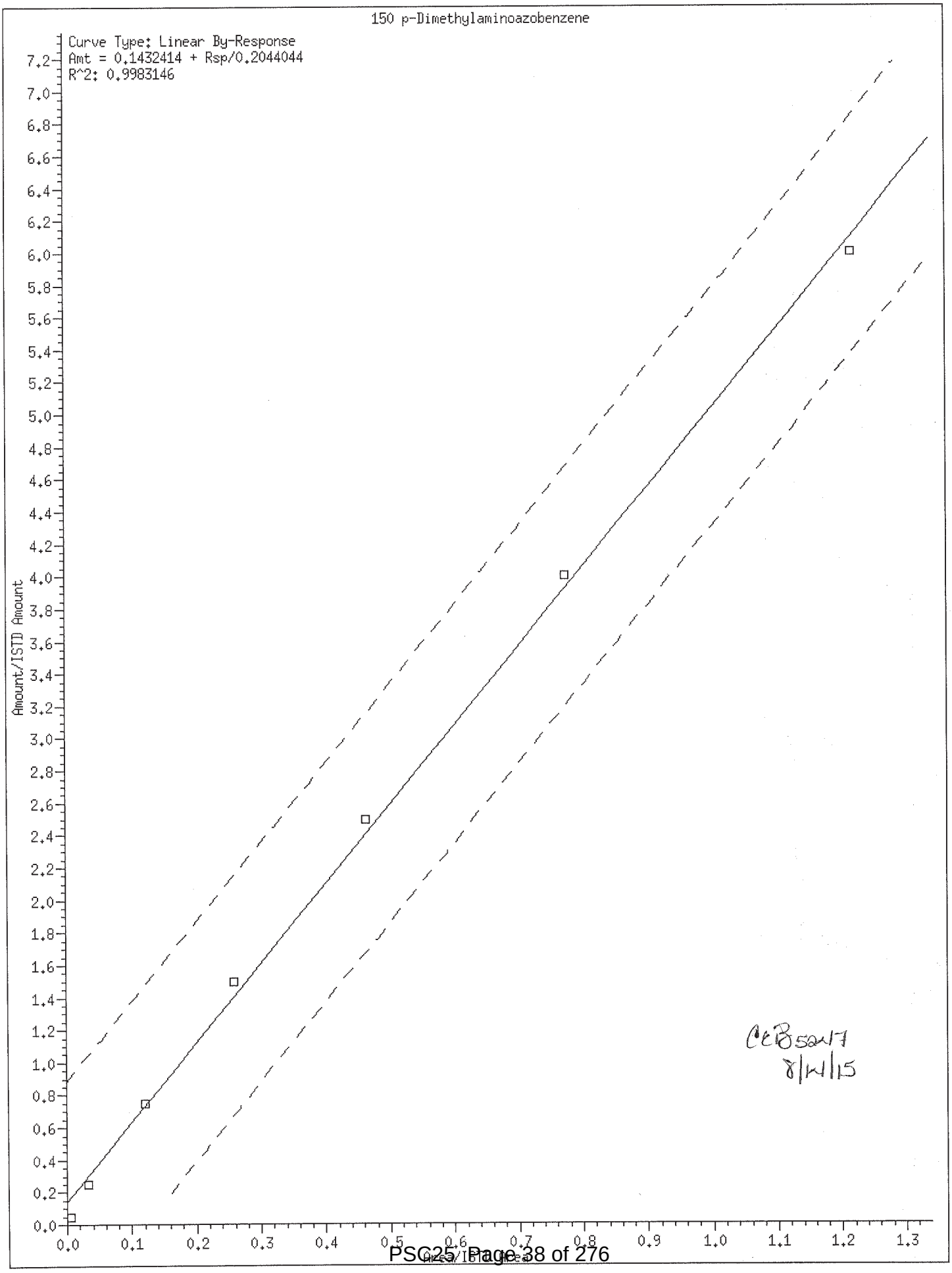
8/14/15



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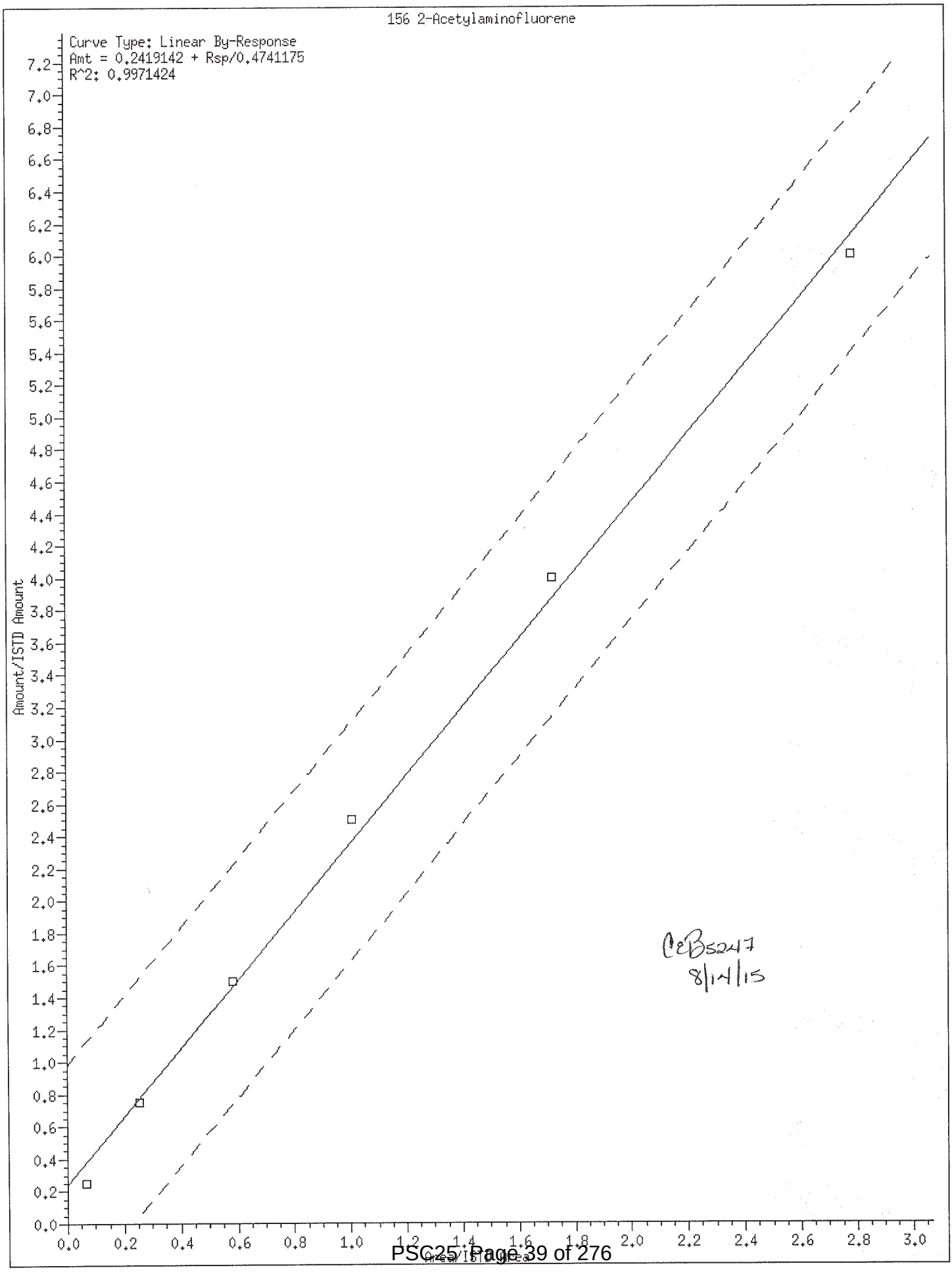
8/11/15



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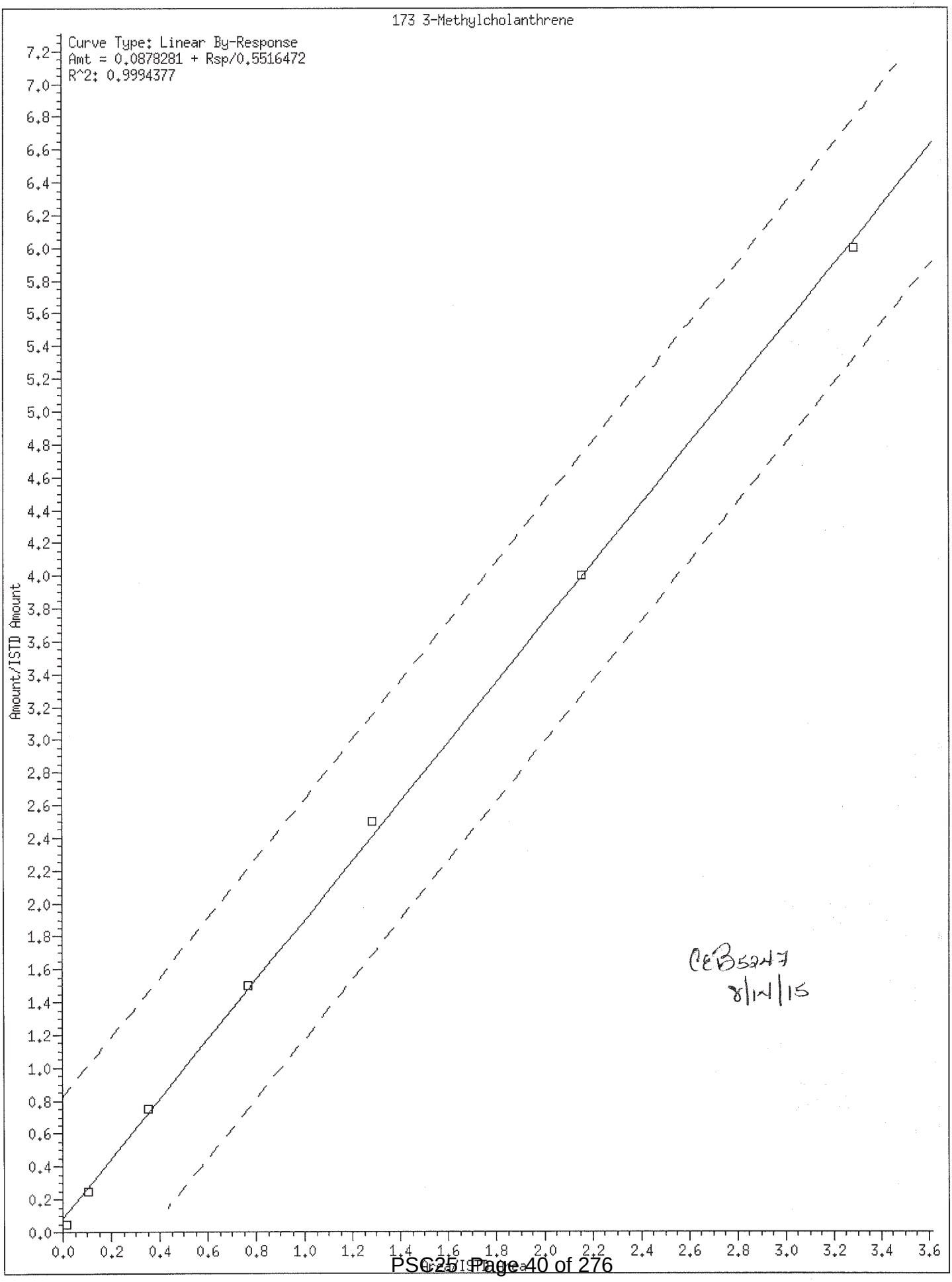
8/14/15



CeBS247
8/14/15

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP20296.i/15aug05x.b/lh2071.d SSTD7.5
/chem/HP20296.i/15aug05x.b/lh2072.d SSTD0.125
/chem/HP20296.i/15aug05x.b/lh2073.d SSTD030
/chem/HP20296.i/15aug05x.b/lh2074.d SSTD020
/chem/HP20296.i/15aug05x.b/lh2075.d SSTD12.5
/chem/HP20296.i/15aug05x.b/lh2076.d SSTD3.75
/chem/HP20296.i/15aug05x.b/lh2077.d SSTD1.25
/chem/HP20296.i/15aug05x.b/lh2078.d SSTD0.25

Area Summary

	File ID:									
Internal Standard Name	lh2071.d	lh2072.d	lh2073.d	lh2074.d	lh2075.d	lh2076.d	lh2077.d	lh2078.d	Avg. Area	%RSD
1,4-Dichlorobenzene-d4	165254	163236	152557	161583	156886	162953	159370	156474	159789	3
Naphthalene-d8	641646	625870	580152	622038	611500	636795	619095	611683	618597	3
Acenaphthene-d10	350094	340626	325280	342439	338035	352558	341098	331180	340164	3
Phenanthrene-d10	573365	554075	535999	565292	549711	579881	551316	531312	555119	3
Pyrene-d10	705017	644836	684581	696776	671307	712280	670749	647005	679069	4
Perylene-d12	582944	487818	612613	598172	551379	543713	517508	489087	547904	9

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

	File ID:							
Internal Standard Name	lh2071.d	lh2072.d	lh2073.d	lh2074.d	lh2075.d	lh2076.d	lh2077.d	lh2078.d
1,4-Dichlorobenzene-d4	6.988	6.988	6.988	6.988	6.988	6.983	6.988	6.988
Naphthalene-d8	8.978	8.978	8.978	8.978	8.973	8.973	8.973	8.973
Acenaphthene-d10	11.808	11.807	11.807	11.807	11.808	11.802	11.802	11.802
Phenanthrene-d10	13.733	13.738	13.738	13.738	13.738	13.733	13.733	13.733
Pyrene-d10	15.792	15.792	15.792	15.792	15.792	15.787	15.787	15.787
Perylene-d12	20.376	20.376	20.381	20.376	20.376	20.371	20.376	20.371

Comments: _____

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Report generated on 08/14/2015 at 17:26

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: lh2081.d

ICV SAMPLE ID: ICV1465 BATCH: 15AUG05026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	12.50	12.06	-4	20	YES
N-Nitrosodimethylamine	12.50	13.21	6	20	YES
Pyridine	12.50	13.58	9	20	YES
2-Picoline	12.50	13.19	5	20	YES
N-Nitrosomethylethylamine	12.50	12.74	2	20	YES
Methyl methanesulfonate	12.50	13.09	5	20	YES
N-Nitrosodiethylamine	12.50	12.75	2	20	YES
Ethyl methanesulfonate	12.50	12.59	1	20	YES
Phenol	12.50	13.21	6	20	YES
Aniline	12.50	13.08	5	20	YES
bis(2-Chloroethyl)ether	12.50	13.04	4	20	YES
2-Chlorophenol	12.50	13.02	4	20	YES
1,3-Dichlorobenzene	12.50	13.05	4	20	YES
1,4-Dichlorobenzene	12.50	12.94	4	20	YES
Benzyl alcohol	12.50	13.72	10	20	YES
1,2-Dichlorobenzene	12.50	13.02	4	20	YES
Indene	12.50	14.16	13	20	YES
2-Methylphenol	12.50	13.48	8	20	YES
2,2'-oxybis(1-Chloropropane	12.50	13.80	10	20	YES
bis(2-Chloroisopropyl)ether	12.50	13.80	10	20	YES
N-Nitrosopyrrolidine	12.50	13.19	6	20	YES
Acetophenone	12.50	13.48	8	20	YES
N-Nitroso-di-n-propylamine	12.50	13.31	6	20	YES
N-Nitrosomorpholine	12.50	13.11	5	20	YES
4-Methylphenol	12.50	13.42	7	20	YES
o-Toluidine	12.50	13.19	5	20	YES
Hexachloroethane	12.50	13.32	7	20	YES
Nitrobenzene	12.50	12.97	4	20	YES
N-Nitrosopiperidine	12.50	12.42	-1	20	YES
Isophorone	12.50	13.59	9	20	YES
2-Nitrophenol	12.50	13.59	9	20	YES
2,4-Dimethylphenol	12.50	12.54	0	20	YES
O,O,O-triethylphosphorothio	12.50	12.77	2	20	YES
Benzoic acid	25.00	22.90	-8	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: 1h2081.d

ICV SAMPLE ID: ICV1465 BATCH: 15AUG05026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
bis(2-Chloroethoxy)methane	12.50	13.30	6	20	YES
2,4-Dichlorophenol	12.50	13.22	6	20	YES
1,2,4-Trichlorobenzene	12.50	12.80	2	20	YES
Naphthalene	12.50	12.86	3	20	YES
4-Chloroaniline	12.50	13.19	6	20	YES
2,6-Dichlorophenol	12.50	12.67	1	20	YES
Hexachloropropene	12.50	13.61	9	20	YES
Hexachlorobutadiene	12.50	13.21	6	20	YES
Quinoline	12.50	13.03	4	20	YES
N-Nitrosodi-n-butylamine	12.50	12.31	-2	20	YES
4-Chloro-3-methylphenol	12.50	13.28	6	20	YES
Safrole	12.50	12.96	4	20	YES
2-Methylnaphthalene	12.50	12.62	1	20	YES
1-Methylnaphthalene	12.50	12.95	4	20	YES
Hexachlorocyclopentadiene	25.00	26.87	7	20	YES
1,2,4,5-Tetrachlorobenzene	12.50	12.71	2	20	YES
2,4,6-Trichlorophenol	12.50	13.38	7	20	YES
2,4,5-Trichlorophenol	12.50	13.59	9	20	YES
Isosafrole	12.50	14.16	13	20	YES
1,1'-Biphenyl	12.50	13.31	7	20	YES
2-Chloronaphthalene	12.50	13.25	6	20	YES
Diphenyl ether	12.50	12.88	3	20	YES
2-Nitroaniline	12.50	14.08	13	20	YES
1,4-Naphthoquinone	15.63	16.78	7	20	YES
1,4-Dinitrobenzene	12.50	13.60	9	20	YES
Dimethylphthalate	12.50	13.17	5	20	YES
1,3-Dinitrobenzene	12.50	13.54	8	20	YES
2,6-Dinitrotoluene	12.50	14.23	14	20	YES
Acenaphthylene	12.50	13.80	10	20	YES
3-Nitroaniline	12.50	13.98	12	20	YES
Acenaphthene	12.50	13.53	8	20	YES
2,4-Dinitrophenol	25.00	24.88	0	20	YES
Pentachlorobenzene	12.50	12.43	-1	20	YES
4-Nitrophenol	12.50	14.76	18	20	YES
Dibenzofuran	12.50	13.09	5	20	YES
2,4-Dinitrotoluene	12.50	14.21	14	20	YES
1-Naphthylamine	25.00	27.43	10	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: lh2081.d

ICV SAMPLE ID: ICV1465 BATCH: 15AUG05026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
2,3,4,6-Tetrachlorophenol	12.50	13.73	10	20	YES
2-Naphthylamine	25.00	27.42	10	20	YES
Diethylphthalate	12.50	13.79	10	20	YES
Fluorene	12.50	13.79	10	20	YES
Thionazin	12.50	13.92	11	20	YES
4-Chlorophenyl-phenylether	12.50	13.56	9	20	YES
5-Nitro-o-toluidine	12.50	14.14	13	20	YES
4-Nitroaniline	12.50	14.00	12	20	YES
4,6-Dinitro-2-methylphenol	12.50	13.52	8	20	YES
N-Nitrosodiphenylamine	12.50	12.98	4	20	YES
1,2-Diphenylhydrazine	12.50	13.66	9	20	YES
Tetraethyldithiopyrophospha	12.50	13.22	6	20	YES
1,3,5-Trinitrobenzene	12.50	12.89	3	20	YES
Diallate (peak 1)	9.38	9.56	2	20	YES
Phorate	12.50	13.21	6	20	YES
Phenacetin	12.50	13.81	11	20	YES
4-Bromophenyl-phenylether	12.50	12.88	3	20	YES
Diallate (peak 2)	3.13	3.28	5	20	YES
Hexachlorobenzene	12.50	12.65	1	20	YES
Dimethoate	12.50	13.32	7	20	YES
Pentachlorophenol	12.50	14.71	18	20	YES
Pentachloronitrobenzene	12.50	13.01	4	20	YES
4-Aminobiphenyl	12.50	14.31	15	20	YES
Pronamide	12.50	13.25	6	20	YES
Phenanthrene	12.50	12.93	3	20	YES
Dinoseb	12.50	12.60	1	20	YES
Anthracene	12.50	13.92	11	20	YES
Carbazole	12.50	13.49	8	20	YES
Methyl parathion	12.50	13.88	11	20	YES
Di-n-butylphthalate	12.50	14.11	13	20	YES
Parathion	12.50	15.03	20	20	YES
4-Nitroquinoline-1-oxide	150.00	167.87	12	20	YES
Isodrin	12.50	13.26	6	20	YES
Fluoranthene	12.50	14.03	12	20	YES
Benzidine	62.50	66.87	7	20	YES
Pyrene	12.50	12.76	2	20	YES
p-Dimethylaminoazobenzene	12.50	13.28	6	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: 1h2081.d

ICV SAMPLE ID: ICV1465 BATCH: 15AUG05026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Chlorobenzilate	12.50	13.45	8	20	YES
3,3'-Dimethylbenzidine	25.00	26.49	6	20	YES
Butylbenzylphthalate	12.50	14.44	16	20	YES
2-Acetylaminofluorene	12.50	12.29	-2	20	YES
Benzo(a)anthracene	12.50	14.26	14	20	YES
3,3'-Dichlorobenzidine	12.50	13.14	5	20	YES
4,4'-Methylenebis(2-Chloroa	12.50	12.87	3	20	YES
Chrysene	12.50	14.71	18	20	YES
bis(2-Ethylhexyl)phthalate	12.50	14.63	17	20	YES
6-Methylchrysene	12.50	13.42	7	20	YES
Di-n-octylphthalate	12.50	14.84	19	20	YES
Benzo(b)fluoranthene	12.50	14.07	13	20	YES
7,12-Dimethylbenz[a]anthrac	12.50	13.79	10	20	YES
Benzo(k)fluoranthene	12.50	13.48	8	20	YES
Benzo(a)pyrene	12.50	13.42	7	20	YES
3-Methylcholanthrene	12.50	13.49	8	20	YES
Indeno(1,2,3-cd)pyrene	12.50	13.39	7	20	YES
Dibenz(a,h)anthracene	12.50	13.83	11	20	YES
Benzo(g,h,i)perylene	12.50	13.33	7	20	YES
Diallate TRANS/CIS	12.50	12.84	3	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: lh2082.d

ICV SAMPLE ID: BASICV1045 BATCH: 15AUG05026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzaldehyde	12.50	13.58	9	20	YES
Caprolactam	12.50	12.57	1	20	YES
Atrazine	12.50	12.87	3	20	YES

NC = Could not calculate

Comments: _____

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/05/15 Time: 07:09

Lab File ID: lj0151.d Init. Calib. Date(s): 08/05/15 08/05/15

Init. Calib. Times(s): 13:01 16:46

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.665	0.566	6.390	7.5	-15
N-Nitrosodimethylamine	1.064	0.924	6.510	7.5	-13
Pyridine	1.808	1.428	5.920	7.5	-21
2-Picoline	1.872	1.631	6.540	7.5	-13
N-Nitrosomethylethylamine	0.752	0.654	6.520	7.5	-13
Methyl methanesulfonate	0.930	0.782	6.310	7.5	-16
N-Nitrosodiethylamine	0.720	0.651	6.790	7.5	-10
Ethyl methanesulfonate	0.762	0.682	6.710	7.5	-11
Benzaldehyde	1.393	1.208	6.500	7.5	-13
Aniline	2.683	2.356	6.590	7.5	-12
Phenol	2.278	1.912	6.290	7.5	-16
bis(2-Chloroethyl)ether	1.686	1.500	6.670	7.5	-11
2-Chlorophenol	1.423	1.380	7.270	7.5	-3
1,3-Dichlorobenzene	1.594	1.546	7.270	7.5	-3
1,4-Dichlorobenzene	1.612	1.561	7.260	7.5	-3
Benzyl alcohol	1.018	0.841	6.200	7.5	-17
1,2-Dichlorobenzene	1.538	1.477	7.210	7.5	-4
Indene	2.549	2.353	6.920	7.5	-8
2-Methylphenol	1.437	1.306	6.820	7.5	-9
2,2'-oxybis(1-Chloropropane)	2.605	2.123	6.110	7.5	-19
bis(2-Chloroisopropyl)ether	2.605	2.123	6.110	7.5	-19
N-Nitrosopyrrolidine	0.745	0.695	7.000	7.5	-7
Acetophenone	2.187	1.952	6.690	7.5	-11
N-Nitroso-di-n-propylamine	1.257	1.090	6.510	7.5	-13
N-Nitrosomorpholine	1.064	0.877	6.180	7.5	-18
4-Methylphenol	1.619	1.410	6.530	7.5	-13
o-Toluidine	2.495	2.303	6.920	7.5	-8
Hexachloroethane	0.661	0.611	6.930	7.5	-8
Nitrobenzene	0.482	0.423	6.590	7.5	-12
N-Nitrosopiperidine	0.184	0.179	7.300	7.5	-3
Isophorone	0.822	0.746	6.800	7.5	-9
2-Nitrophenol	0.179	0.190	7.930	7.5	6
2,4-Dimethylphenol	0.400	0.374	7.030	7.5	-6
O,O,O-triethylphosphorothioate	0.181	0.187	7.740	7.5	3
bis(2-Chloroethoxy)methane	0.518	0.497	7.190	7.5	-4
Benzoic acid	0.257	0.191	7.960	10.0	-20

FORM VII SV-1

7C
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/05/15 Time: 07:09

Lab File ID: lj0151.d Init. Calib. Date(s): 08/05/15 08/05/15

Init. Calib. Times(s): 13:01 16:46

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
2,4-Dichlorophenol	0.298	0.300	7.540	7.5	1
1,2,4-Trichlorobenzene	0.340	0.337	7.430	7.5	-1
Naphthalene	1.080	1.041	7.230	7.5	-4
4-Chloroaniline	0.446	0.439	7.370	7.5	-2
2,6-Dichlorophenol	0.293	0.298	7.620	7.5	2
Hexachloropropene	0.215	0.230	8.040	7.5	7
Hexachlorobutadiene	0.194	0.196	7.550	7.5	1
Quinoline	0.653	0.661	7.590	7.5	1
Caprolactam	0.090	0.091	7.540	7.5	1
N-Nitrosodi-n-butylamine	0.307	0.271	6.620	7.5	-12
4-Chloro-3-methylphenol	0.339	0.328	7.250	7.5	-3
Safrole	0.260	0.271	7.790	7.5	4
2-Methylnaphthalene	0.688	0.704	7.680	7.5	2
1-Methylnaphthalene	0.630	0.635	7.550	7.5	1
Hexachlorocyclopentadiene	0.370	0.334	6.780	7.5	-10
1,2,4,5-Tetrachlorobenzene	0.614	0.603	7.370	7.5	-2
cis-Isosafrole	0.525	0.502	1.220	1.3	-4
2,4,6-Trichlorophenol	0.382	0.392	7.690	7.5	3
2,4,5-Trichlorophenol	0.393	0.403	7.680	7.5	2
trans-Isosafrole	0.571	0.571	6.220	6.2	0
Isosafrole	0.474	0.474	7.490	7.5	0
1,1'-Biphenyl	1.472	1.448	7.370	7.5	-2
2-Chloronaphthalene	1.216	1.157	7.130	7.5	-5
1-Chloronaphthalene	1.119	1.131	7.580	7.5	1
Diphenyl ether	0.802	0.805	7.530	7.5	0
2-Nitroaniline	0.356	0.360	7.590	7.5	1
1,4-Naphthoquinone	0.460	0.462	7.540	7.5	0
1,4-Dinitrobenzene	0.181	0.181	7.490	7.5	0
Dimethylphthalate	1.262	1.293	7.680	7.5	2
1,3-Dinitrobenzene	0.199	0.207	7.810	7.5	4
2,6-Dinitrotoluene	0.266	0.294	8.280	7.5	10
Acenaphthylene	1.779	1.835	7.740	7.5	3
3-Nitroaniline	0.312	0.310	7.450	7.5	-1
Acenaphthene	1.203	1.212	7.560	7.5	1
2,4-Dinitrophenol	0.165	0.157	9.500	10.0	-5
Pentachlorobenzene	0.483	0.477	7.410	7.5	-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/05/15 Time: 07:09

Lab File ID: lj0151.d Init. Calib. Date(s): 08/05/15 08/05/15

Init. Calib. Times(s): 13:01 16:46

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
4-Nitrophenol	0.214	0.190	6.640	7.5	-11
Dibenzofuran	1.676	1.666	7.450	7.5	-1
2,4-Dinitrotoluene	0.368	0.390	7.930	7.5	6
2,4_2,6-Dinitrotoluenes	0.317	0.342	16.210	15.0	8
1-Naphthylamine	1.169	1.221	7.840	7.5	5
2,3,4,6-Tetrachlorophenol	0.310	0.323	7.830	7.5	4
2-Naphthylamine	1.175	1.188	7.580	7.5	1
Diethylphthalate	1.212	1.276	7.900	7.5	5
Thionazin	0.240	0.244	7.650	7.5	2
Fluorene	1.282	1.341	7.850	7.5	5
4-Chlorophenyl-phenylether	0.622	0.639	7.710	7.5	3
5-Nitro-o-toluidine	0.342	0.354	7.770	7.5	4
4-Nitroaniline	0.324	0.316	7.320	7.5	-2
4,6-Dinitro-2-methylphenol	0.132	0.118	6.670	7.5	-11
N-Nitrosodiphenylamine (1)	0.641	0.566	6.630	7.5	-12
1,2-Diphenylhydrazine	0.951	0.762	6.010	7.5	-20
Tetraethyldithiopyrophosphate	0.140	0.126	6.750	7.5	-10
1,3,5-Trinitrobenzene	0.079	0.070	6.660	7.5	-11
Diallate (peak 1)	0.384	0.329	5.340	6.2	-14
Phorate	0.576	0.688	8.950	7.5	19
Phenacetin	0.413	0.365	6.640	7.5	-11
4-Bromophenyl-phenylether	0.200	0.175	6.580	7.5	-12
Diallate (peak 2)	0.365	0.309	1.080	1.3	-15
Hexachlorobenzene	0.208	0.171	6.150	7.5	-18
Dimethoate	0.368	0.315	6.430	7.5	-14
Atrazine	0.198	0.192	7.260	7.5	-3
Pentachlorophenol	0.132	0.107	6.090	7.5	-19
Pentachloronitrobenzene	0.096	0.089	6.980	7.5	-7
4-Aminobiphenyl	0.758	0.672	6.640	7.5	-11
Pronamide	0.334	0.319	7.160	7.5	-5
Phenanthrene	1.157	1.046	6.780	7.5	-10
Dinoseb	0.190	0.176	6.750	7.5	-10
Anthracene	1.110	1.054	7.120	7.5	-5
Carbazole	1.049	0.960	6.870	7.5	-8
Methyl parathion	0.270	0.248	6.870	7.5	-8
Di-n-butylphthalate	1.241	1.169	7.070	7.5	-6

(1) Cannot be Separated from Diphenylamine

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/05/15 Time: 07:09

Lab File ID: lj0151.d Init. Calib. Date(s): 08/05/15 08/05/15

Init. Calib. Times(s): 13:01 16:46

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Parathion	0.165	0.155	7.010	7.5	-6
4-Nitroquinoline-1-oxide	0.104	0.070	5.450	7.5	-27
Isodrin	0.126	0.123	7.340	7.5	-2
Fluoranthene	1.215	1.160	7.160	7.5	-5
Benzidine	0.679	0.660	21.860	22.5	-3
Pyrene	1.102	1.046	7.120	7.5	-5
p-Dimethylaminoazobenzene	0.164	0.172	7.040	7.5	-6
Chlorobenzilate	0.311	0.305	7.340	7.5	-2
3,3'-Dimethylbenzidine	0.652	0.652	7.500	7.5	0
Butylbenzylphthalate	0.461	0.462	7.520	7.5	0
2-Acetylaminofluorene	0.382	0.392	7.400	7.5	-1
Benzo(a)anthracene	0.950	0.941	7.430	7.5	-1
3,3'-Dichlorobenzidine	0.350	0.342	7.340	7.5	-2
4,4'-Methylenebis(2-Chloroanil	0.201	0.199	7.400	7.5	-1
Chrysene	0.896	0.912	7.630	7.5	2
bis(2-Ethylhexyl)phthalate	0.655	0.653	7.480	7.5	0
6-Methylchrysene	0.619	0.614	7.430	7.5	-1
Di-n-octylphthalate	1.372	1.549	8.470	7.5	13
7,12-Dimethylbenz[a]anthracene	0.485	0.545	8.440	7.5	12
Benzo(b)fluoranthene	1.151	1.241	8.080	7.5	8
Benzo(k)fluoranthene	1.143	1.221	8.010	7.5	7
Benzo(a)pyrene	1.072	1.184	8.280	7.5	10
3-Methylcholanthrene	0.476	0.518	7.490	7.5	0
NDPA as diphenylamine	0.641	0.566	6.630	7.5	-12
Indeno(1,2,3-cd)pyrene	1.256	1.301	7.770	7.5	4
Dibenz(a,h)anthracene	1.037	1.052	7.610	7.5	1
Benzo(g,h,i)perylene	1.103	1.102	7.490	7.5	0
Diallate TRANS/CIS	0.380	0.326	6.420	7.5	-14
2-Fluorophenol	1.482	1.383	13.990	15.0	-7
Phenol-d5	1.944	1.751	13.510	15.0	-10
Phenol-d6	1.944	1.751	13.510	15.0	-10
Nitrobenzene-d5	0.477	0.419	13.180	15.0	-12
2-Fluorobiphenyl	1.399	1.380	14.800	15.0	-1
2,4,6-Tribromophenol	0.149	0.137	13.770	15.0	-8
Terphenyl-d14	0.679	0.646	14.270	15.0	-5

Continuing Calibration
Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP20296.i/15aug05x.b/lh2071.d **
/chem/HP20296.i/15aug05x.b/lh2072.d
/chem/HP20296.i/15aug05x.b/lh2073.d
/chem/HP20296.i/15aug05x.b/lh2074.d
/chem/HP20296.i/15aug05x.b/lh2075.d
/chem/HP20296.i/15aug05x.b/lh2076.d
/chem/HP20296.i/15aug05x.b/lh2077.d
/chem/HP20296.i/15aug05x.b/lh2078.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP20296.i/15oct05.b/lj0151.d

Area Summary

File ID:

Internal Standard Name	lj0151.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	261402	165254	82627	330508	Yes
Naphthalene-d8	994699	641646	320823	1283292	Yes
Acenaphthene-d10	572082	350094	175047	700188	Yes
Phenanthrene-d10	1084799	573365	286682	1146730	Yes
Pyrene-d10	1257717	705017	352508	1410034	Yes
Perylene-d12	931235	582944	291472	1165888	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

File ID:

Internal Standard Name	lj0151.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	5.980	6.988	No
Naphthalene-d8	7.959	8.978	No
Acenaphthene-d10	10.789	11.808	No
Phenanthrene-d10	12.816	13.733	No
Pyrene-d10	14.677	15.792	No
Perylene-d12	19.058	20.376	No

+

A "No" indicates the retention time is greater than 30 seconds from the RT of the referenced standard.

Comments: + column cut HB2/1886 10/5/15

Report generated on 10/05/2015 at 07:39

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/05/15 Time: 20:53

Lab File ID: lj0181.d Init. Calib. Date(s): 08/05/15 08/05/15

Init. Calib. Times(s): 13:01 16:46

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.665	0.551	6.220	7.5	-17
N-Nitrosodimethylamine	1.064	0.905	6.380	7.5	-15
Pyridine	1.808	1.390	5.760	7.5	-23
2-Picoline	1.872	1.634	6.550	7.5	-13
N-Nitrosomethylethylamine	0.752	0.556	5.540	7.5	-26
Methyl methanesulfonate	0.930	0.791	6.380	7.5	-15
N-Nitrosodiethylamine	0.720	0.648	6.750	7.5	-10
Ethyl methanesulfonate	0.762	0.681	6.700	7.5	-11
Benzaldehyde	1.393	1.222	6.580	7.5	-12
Aniline	2.683	2.348	6.560	7.5	-12
Phenol	2.278	1.942	6.400	7.5	-15
bis(2-Chloroethyl)ether	1.686	1.504	6.690	7.5	-11
2-Chlorophenol	1.423	1.376	7.250	7.5	-3
1,3-Dichlorobenzene	1.594	1.547	7.280	7.5	-3
1,4-Dichlorobenzene	1.612	1.576	7.330	7.5	-2
Benzyl alcohol	1.018	0.874	6.440	7.5	-14
1,2-Dichlorobenzene	1.538	1.499	7.310	7.5	-3
Indene	2.549	2.332	6.860	7.5	-9
2-Methylphenol	1.437	1.328	6.930	7.5	-8
2,2'-oxybis(1-Chloropropane)	2.605	2.115	6.090	7.5	-19
bis(2-Chloroisopropyl)ether	2.605	2.115	6.090	7.5	-19
N-Nitrosopyrrolidine	0.745	0.696	7.010	7.5	-7
Acetophenone	2.187	1.966	6.740	7.5	-10
N-Nitroso-di-n-propylamine	1.257	1.071	6.390	7.5	-15
N-Nitrosomorpholine	1.064	0.900	6.350	7.5	-15
4-Methylphenol	1.619	1.410	6.530	7.5	-13
o-Toluidine	2.495	2.309	6.940	7.5	-7
Hexachloroethane	0.661	0.625	7.080	7.5	-6
Nitrobenzene	0.482	0.425	6.620	7.5	-12
N-Nitrosopiperidine	0.184	0.177	7.230	7.5	-4
Isophorone	0.822	0.734	6.700	7.5	-11
2-Nitrophenol	0.179	0.186	7.770	7.5	4
2,4-Dimethylphenol	0.400	0.375	7.040	7.5	-6
O,O,O-triethylphosphorothioate	0.181	0.185	7.670	7.5	2
bis(2-Chloroethoxy)methane	0.518	0.466	6.750	7.5	-10
Benzoic acid	0.257	0.154	6.920	10.0	-31

FORM VII SV-1

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/05/15 Time: 20:53

Lab File ID: lj0181.d Init. Calib. Date(s): 08/05/15 08/05/15

Init. Calib. Times(s): 13:01 16:46

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
2,4-Dichlorophenol	0.298	0.311	7.820	7.5	4
1,2,4-Trichlorobenzene	0.340	0.347	7.640	7.5	2
Naphthalene	1.080	1.044	7.260	7.5	-3
4-Chloroaniline	0.446	0.443	7.440	7.5	-1
2,6-Dichlorophenol	0.293	0.304	7.770	7.5	4
Hexachloropropene	0.215	0.234	8.190	7.5	9
Hexachlorobutadiene	0.194	0.198	7.630	7.5	2
Quinoline	0.653	0.657	7.540	7.5	1
Caprolactam	0.090	0.090	7.490	7.5	0
N-Nitrosodi-n-butylamine	0.307	0.267	6.530	7.5	-13
4-Chloro-3-methylphenol	0.339	0.329	7.280	7.5	-3
Safrole	0.260	0.272	7.840	7.5	4
2-Methylnaphthalene	0.688	0.697	7.600	7.5	1
1-Methylnaphthalene	0.630	0.643	7.650	7.5	2
Hexachlorocyclopentadiene	0.370	0.337	6.830	7.5	-9
1,2,4,5-Tetrachlorobenzene	0.614	0.603	7.360	7.5	-2
cis-Isosafrole	0.525	0.495	1.200	1.3	-6
2,4,6-Trichlorophenol	0.382	0.379	7.440	7.5	-1
2,4,5-Trichlorophenol	0.393	0.407	7.750	7.5	3
trans-Isosafrole	0.571	0.503	5.480	6.2	-12
Isosafrole	0.474	0.417	6.600	7.5	-12
1,1'-Biphenyl	1.472	1.430	7.290	7.5	-3
2-Chloronaphthalene	1.216	1.131	6.980	7.5	-7
1-Chloronaphthalene	1.119	1.158	7.760	7.5	4
Diphenyl ether	0.802	0.788	7.370	7.5	-2
2-Nitroaniline	0.356	0.359	7.580	7.5	1
1,4-Naphthoquinone	0.460	0.447	7.280	7.5	-3
1,4-Dinitrobenzene	0.181	0.187	7.760	7.5	4
Dimethylphthalate	1.262	1.286	7.640	7.5	2
1,3-Dinitrobenzene	0.199	0.204	7.700	7.5	3
2,6-Dinitrotoluene	0.266	0.286	8.060	7.5	7
Acenaphthylene	1.779	1.807	7.620	7.5	2
3-Nitroaniline	0.312	0.309	7.430	7.5	-1
Acenaphthene	1.203	1.178	7.350	7.5	-2
2,4-Dinitrophenol	0.165	0.173	10.270	10.0	3
Pentachlorobenzene	0.483	0.474	7.360	7.5	-2

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/05/15 Time: 20:53

Lab File ID: lj0181.d Init. Calib. Date(s): 08/05/15 08/05/15

Init. Calib. Times(s): 13:01 16:46

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
4-Nitrophenol	0.214	0.189	6.630	7.5	-12
Dibenzofuran	1.676	1.636	7.320	7.5	-2
2,4-Dinitrotoluene	0.368	0.382	7.780	7.5	4
2,4_2,6-Dinitrotoluenes	0.317	0.334	15.840	15.0	6
1-Naphthylamine	1.169	1.197	7.680	7.5	2
2,3,4,6-Tetrachlorophenol	0.310	0.326	7.900	7.5	5
2-Naphthylamine	1.175	1.148	7.330	7.5	-2
Diethylphthalate	1.212	1.244	7.700	7.5	3
Thionazin	0.240	0.242	7.570	7.5	1
Fluorene	1.282	1.313	7.680	7.5	2
4-Chlorophenyl-phenylether	0.622	0.635	7.670	7.5	2
5-Nitro-o-toluidine	0.342	0.342	7.500	7.5	0
4-Nitroaniline	0.324	0.315	7.290	7.5	-3
4,6-Dinitro-2-methylphenol	0.132	0.122	6.930	7.5	-8
N-Nitrosodiphenylamine (1)	0.641	0.575	6.730	7.5	-10
1,2-Diphenylhydrazine	0.951	0.760	6.000	7.5	-20
Tetraethyldithiopyrophosphate	0.140	0.125	6.700	7.5	-11
1,3,5-Trinitrobenzene	0.079	0.070	6.670	7.5	-11
Diallate (peak 1)	0.384	0.322	5.230	6.2	-16
Phorate	0.576	0.678	8.820	7.5	18
Phenacetin	0.413	0.359	6.530	7.5	-13
4-Bromophenyl-phenylether	0.200	0.176	6.610	7.5	-12
Diallate (peak 2)	0.365	0.301	1.050	1.3	-18
Hexachlorobenzene	0.208	0.173	6.220	7.5	-17
Dimethoate	0.368	0.315	6.420	7.5	-14
Atrazine	0.198	0.188	7.110	7.5	-5
Pentachlorophenol	0.132	0.111	6.320	7.5	-16
Pentachloronitrobenzene	0.096	0.090	7.100	7.5	-5
4-Aminobiphenyl	0.758	0.665	6.580	7.5	-12
Pronamide	0.334	0.317	7.130	7.5	-5
Phenanthrene	1.157	1.031	6.680	7.5	-11
Dinoseb	0.190	0.183	6.980	7.5	-7
Anthracene	1.110	1.040	7.030	7.5	-6
Carbazole	1.049	0.956	6.840	7.5	-9
Methyl parathion	0.270	0.241	6.680	7.5	-11
Di-n-butylphthalate	1.241	1.165	7.040	7.5	-6

(1) Cannot be Separated from Diphenylamine

FORM VII SV-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/05/15 Time: 20:53

Lab File ID: lj0181.d Init. Calib. Date(s): 08/05/15 08/05/15

Init. Calib. Times(s): 13:01 16:46

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Parathion	0.165	0.157	7.110	7.5	-5
4-Nitroquinoline-1-oxide	0.104	0.069	5.400	7.5	-28
Isodrin	0.126	0.126	7.510	7.5	0
Fluoranthene	1.215	1.160	7.160	7.5	-5
Benzidine	0.679	0.650	21.550	22.5	-4
Pyrene	1.102	1.065	7.250	7.5	-3
p-Dimethylaminoazobenzene	0.164	0.169	6.910	7.5	-8
Chlorobenzilate	0.311	0.310	7.450	7.5	-1
3,3'-Dimethylbenzidine	0.652	0.665	7.660	7.5	2
Butylbenzylphthalate	0.461	0.462	7.510	7.5	0
2-Acetylaminofluorene	0.382	0.394	7.440	7.5	-1
Benzo(a)anthracene	0.950	0.953	7.530	7.5	0
3,3'-Dichlorobenzidine	0.350	0.341	7.310	7.5	-3
4,4'-Methylenebis(2-Chloroanil	0.201	0.193	7.190	7.5	-4
Chrysene	0.896	0.901	7.550	7.5	1
bis(2-Ethylhexyl)phthalate	0.655	0.669	7.670	7.5	2
6-Methylchrysene	0.619	0.608	7.360	7.5	-2
Di-n-octylphthalate	1.372	1.608	8.790	7.5	17
7,12-Dimethylbenz[a]anthracene	0.485	0.539	8.350	7.5	11
Benzo(b)fluoranthene	1.151	1.219	7.950	7.5	6
Benzo(k)fluoranthene	1.143	1.219	8.000	7.5	7
Benzo(a)pyrene	1.072	1.195	8.360	7.5	12
3-Methylcholanthrene	0.476	0.527	7.610	7.5	1
NDPA as diphenylamine	0.641	0.575	6.730	7.5	-10
Indeno(1,2,3-cd)pyrene	1.256	1.338	7.990	7.5	7
Dibenz(a,h)anthracene	1.037	1.087	7.860	7.5	5
Benzo(g,h,i)perylene	1.103	1.170	7.950	7.5	6
Diallate TRANS/CIS	0.380	0.319	6.280	7.5	-16
2-Fluorophenol	1.482	1.389	14.050	15.0	-6
Phenol-d5	1.944	1.779	13.730	15.0	-8
Phenol-d6	1.944	1.779	13.730	15.0	-8
Nitrobenzene-d5	0.477	0.411	12.930	15.0	-14
2-Fluorobiphenyl	1.399	1.349	14.470	15.0	-4
2,4,6-Tribromophenol	0.149	0.134	13.490	15.0	-10
Terphenyl-d14	0.679	0.646	14.270	15.0	-5

FORM VII SV-1

Continuing Calibration
Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP20296.i/15aug05x.b/lh2071.d **
/chem/HP20296.i/15aug05x.b/lh2072.d
/chem/HP20296.i/15aug05x.b/lh2073.d
/chem/HP20296.i/15aug05x.b/lh2074.d
/chem/HP20296.i/15aug05x.b/lh2075.d
/chem/HP20296.i/15aug05x.b/lh2076.d
/chem/HP20296.i/15aug05x.b/lh2077.d
/chem/HP20296.i/15aug05x.b/lh2078.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP20296.i/15oct05a.b/lj0181.d

Area Summary

File ID:

Internal Standard Name	lj0181.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	233007	165254	82627	330508	Yes
Naphthalene-d8	898783	641646	320823	1283292	Yes
Acenaphthene-d10	524587	350094	175047	700188	Yes
Phenanthrene-d10	974339	573365	286682	1146730	Yes
Pyrene-d10	1112883	705017	352508	1410034	Yes
Perylene-d12	816544	582944	291472	1165888	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

File ID:

Internal Standard Name	lj0181.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	5.954	6.988	No
Naphthalene-d8	7.938	8.978	No
Acenaphthene-d10	10.768	11.808	No
Phenanthrene-d10	12.800	13.733	No
Pyrene-d10	14.656	15.792	No
Perylene-d12	19.031	20.376	No

A "No" indicates the retention time is greater than 30 seconds from the RT of the referenced standard.

Comments: * Due to column maintenance. EB 52v1 10/5/15

Report generated on 10/05/2015 at 21:21

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0151.d Date Analyzed: 10/05/15

Instrument ID: HP20296 Time Analyzed: 07:09

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	261402	5.980	994699	7.959	572082	10.789
UPPER LIMIT	522804	6.480	1989398	8.459	1144164	11.289
LOWER LIMIT	130701	5.480	497350	7.459	286041	10.289
LLI SAMPLE NO.						
01 SBLKWG272	246923	5.986	946880	7.960	520937	10.789
02 272WGLCS	232278	5.980	913809	7.959	528607	10.789
03 SBLKWE272	202329	5.975	794366	7.954	437600	10.784
04 272WELCS	207025	5.981	817026	7.960	471953	10.789
05 8059062	210583	5.975	805124	7.954	629730	10.789
06 8064062	210177	5.975	796334	7.960	459286	10.784
07 8064063MS	206470	5.981	778930	7.960	448004	10.789
08 8064064MSD	208429	5.981	812320	7.960	471146	10.789
09 8060822DL	242360	5.975	943244	7.959	531724	10.789
10 8060823DL	270407	5.980	1046641	7.959	600181	10.789
11 8060824DL	266358	5.975	985060	7.960	558237	10.789
12 8064236DL	255339	5.981	984837	7.960	556565	10.789
13 8064065	213372	5.981	835793	7.960	475884	10.789
14 8064066	218586	5.981	830975	7.960	477777	10.789
15 8064067	215378	5.981	815459	7.960	463911	10.789
16 8064068	216481	5.981	820342	7.960	481221	10.789
17 8060824DL2	226415	5.981	868143	7.960	494039	10.789

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0151.d Date Analyzed: 10/05/15

Instrument ID: HP20296 Time Analyzed: 07:09

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	1084799	12.816	1257717	14.677	931235	19.058
UPPER LIMIT	2169598	13.316	2515434	15.177	1862470	19.558
LOWER LIMIT	542400	12.316	628859	14.177	465618	18.558
LLI SAMPLE NO.						
01 SBLKWG272	994177	12.816	1100933	14.677	777660	19.058
02 272WGLCS	950381	12.816	1097806	14.677	815882	19.058
03 SBLKWE272	829158	12.811	933563	14.672	653625	19.053
04 272WELCS	862596	12.816	993180	14.677	712908	19.058
05 8059062	821701	12.821	1033880	14.688	797338	19.069
06 8064062	849621	12.816	964274	14.678	757527	19.058
07 8064063MS	843961	12.816	943579	14.683	714947	19.063
08 8064064MSD	819948	12.816	992644	14.677	744210	19.058
09 8060822DL	1025017	12.816	1185668	14.677	856086	19.058
10 8060823DL	1118008	12.816	1281320	14.677	944108	19.058
11 8060824DL	1051590	12.816	1211425	14.678	888769	19.058
12 8064236DL	1052446	12.816	1183616	14.677	843284	19.058
13 8064065	895271	12.816	1019079	14.678	753245	19.058
14 8064066	892149	12.816	1024443	14.677	724509	19.058
15 8064067	798355	12.821	1020349	14.683	783656	19.063
16 8064068	820893	12.822	1074192	14.688	850866	19.069
17 8060824DL2	932193	12.816	1091426	14.677	810280	19.063

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0151.d Date Analyzed: 10/05/15

Instrument ID: HP20296 Time Analyzed: 07:09

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	261402	5.980	994699	7.959	572082	10.789
UPPER LIMIT	522804	6.480	1989398	8.459	1144164	11.289
LOWER LIMIT	130701	5.480	497350	7.459	286041	10.289
LLI SAMPLE NO.						
18 8064069	211180	5.981	824169	7.960	480412	10.789
19 8064070	213461	5.980	827206	7.959	479190	10.789
20 8064071	219989	5.975	847123	7.960	474987	10.789
21 8064116	201445	5.981	768436	7.960	462816	10.789
22 8064318	232297	5.986	903885	7.960	508647	10.789
23 8064319MS	242179	5.986	942894	7.965	555982	10.794

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0151.d Date Analyzed: 10/05/15

Instrument ID: HP20296 Time Analyzed: 07:09

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	1084799	12.816	1257717	14.677	931235	19.058
UPPER LIMIT	2169598	13.316	2515434	15.177	1862470	19.558
LOWER LIMIT	542400	12.316	628859	14.177	465618	18.558
LLI SAMPLE NO.						
18 8064069	822280	12.816	985720	14.683	770053	19.058
19 8064070	878952	12.816	1017523	14.677	755408	19.063
20 8064071	847905	12.821	1056072	14.688	826996	19.069
21 8064116	767048	12.822	984348	14.688	796487	19.069
22 8064318	955123	12.816	1096701	14.677	812918	19.063
23 8064319MS	1004520	12.816	1171879	14.683	859184	19.063

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0181.d Date Analyzed: 10/05/15

Instrument ID: HP20296 Time Analyzed: 20:53

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	233007	5.954	898783	7.938	524587	10.768
UPPER LIMIT	466014	6.454	1797566	8.438	1049174	11.268
LOWER LIMIT	116504	5.454	449392	7.438	262294	10.268
LLI SAMPLE NO.						
01 SBLKWN273	192101	5.965	763729	7.938	436933	10.768
02 273WNLCS	299478	5.965	1159703	7.938	686849	10.768
03 273WNLCSD	270607	5.959	1058337	7.938	621336	10.768
04 8064320MSD	207257	5.964	802758	7.938	461500	10.767
05 8064321	211880	5.959	817017	7.938	466347	10.762
06 8064322	208308	5.959	806887	7.938	458058	10.768
07 8063897	214532	5.959	819947	7.938	479823	10.768
08 8063899	204199	5.959	777487	7.938	399874	10.768
09 8063901	214230	5.959	818542	7.938	481896	10.768
10 8063903	210699	5.959	821114	7.938	469777	10.768
11 8063905	214452	5.959	826352	7.938	477893	10.768
12 8063907	217613	5.965	840603	7.938	488088	10.768
13 8063909	217243	5.959	832275	7.938	484955	10.768
14 8063911	212106	5.959	831151	7.938	482172	10.768
15 8063913	211992	5.965	829160	7.938	551388	10.794

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0181.d Date Analyzed: 10/05/15

Instrument ID: HP20296 Time Analyzed: 20:53

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	974339	12.800	1112883	14.656	816544	19.031
UPPER LIMIT	1948678	13.300	2225766	15.156	1633088	19.531
LOWER LIMIT	487170	12.300	556442	14.156	408272	18.531
LLI SAMPLE NO.						
01 SBLKWN273	815518	12.800	896399	14.656	641828	19.031
02 273WNLCS	1266642	12.800	1459078	14.656	1063896	19.037
03 273WNLCSD	1152618	12.800	1341738	14.656	1023390	19.031
04 8064320MSD	865349	12.800	978407	14.656	685152	19.031
05 8064321	877050	12.795	965427	14.656	714786	19.031
06 8064322	847085	12.795	947028	14.656	672597	19.031
07 8063897	942275	12.800	1067148	14.656	814252	19.031
08 8063899	760806	12.816	946895	14.683	784825	19.037
09 8063901	903254	12.800	1055185	14.656	823497	19.031
10 8063903	903388	12.800	1029421	14.656	793968	19.031
11 8063905	907562	12.800	1040391	14.656	780534	19.031
12 8063907	911384	12.800	1024220	14.656	770985	19.031
13 8063909	912811	12.800	1019458	14.656	787469	19.031
14 8063911	913580	12.800	1029232	14.656	770858	19.037
15 8063913	777962	12.832	923024	14.688	765638	19.037

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

Sample Data

Semivolatiles by GC/MS

Fraction: Semivolatiles by GC/MS

07805: PAHs 8270C (17) Analyte Name	Default MDL	Default LOQ	Units
Naphthalene	0.1	0.5	ug/l
2-Methylnaphthalene	0.1	0.5	ug/l
Acenaphthylene	0.1	0.5	ug/l
Acenaphthene	0.1	0.5	ug/l
Fluorene	0.1	0.5	ug/l
Phenanthrene	0.1	0.5	ug/l
Anthracene	0.1	0.5	ug/l
Fluoranthene	0.1	0.5	ug/l
Pyrene	0.1	0.5	ug/l
Benzo(a)anthracene	0.1	0.5	ug/l
Chrysene	0.1	0.5	ug/l
Benzo(b)fluoranthene	0.1	0.5	ug/l
Benzo(k)fluoranthene	0.1	0.5	ug/l
Benzo(a)pyrene	0.1	0.5	ug/l
Indeno(1,2,3-cd)pyrene	0.1	0.5	ug/l
Dibenz(a,h)anthracene	0.1	0.5	ug/l
Benzo(g,h,i)perylene	0.1	0.5	ug/l

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct05.b/lj0172.d Injection date and time: **05-OCT-2015 18:13**
Data file Sample Info. Line: 17924;8064318;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15272WAG**
Date, time and analyst ID of latest file update: 05-Oct-2015 18:39 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct05.b/lj0152.d**

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 05-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct05.b/lj0151.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
19) 1,4-Dichlorobenzene-d4	5.986(-0.005)	944	152	232297 (-11)	5.00	
52) Naphthalene-d8	7.960(0.000)	1313	136	903885 (-9)	5.00	
92) Acenaphthene-d10	10.789(0.000)	1842	164	508647 (-11)	5.00	
130) Phenanthrene-d10	12.816(0.000)	2221	188	955123 (-12)	5.00	
145) Pyrene-d10	14.677(0.000)	2569	212	1096701 (-13)	5.00	
172) Perylene-d12	19.063(-0.005)	3389	264	812918 (-13)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
36) Nitrobenzene-d5	(2)	6.847(-0.001)	82	1651572	19.167	77%		46 - 128
72) 2-Fluorobiphenyl	(3)	9.757(0.000)	172	3004450	21.116	84%		61 - 112
149) Terphenyl-d14	(5)	15.009(0.000)	244	1723713	11.576	46%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
53) Naphthalene	(2)			Not Detected					0.03
65) 2-Methylnaphthalene	(2)			Not Detected					0.03
90) Acenaphthylene	(3)			Not Detected					0.03
93) Acenaphthene	(3)			Not Detected					0.03
103) Fluorene	(3)			Not Detected					0.03
131) Phenanthrene	(4)			Not Detected					0.03
134) Anthracene	(4)			Not Detected					0.03
142) Fluoranthene	(4)			Not Detected					0.03
146) Pyrene	(5)			Not Detected					0.03
158) Benzo(a)anthracene	(5)			Not Detected					0.03
161) Chrysene	(5)			Not Detected					0.03
168) Benzo(b)fluoranthene	(6)			Not Detected					0.03
170) Benzo(k)fluoranthene	(6)			Not Detected					0.03
171) Benzo(a)pyrene	(6)			Not Detected					0.03
176) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
177) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
178) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Catherine E. Bachman on 10/05/2015 at 20:33. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct05.b/lj0172.d Injection date and time: **05-OCT-2015 18:13**
Data file Sample Info. Line: 17924;8064318;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15272WAG**
Date, time and analyst ID of latest file update: 05-Oct-2015 18:39 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct05.b/lj0152.d**

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 05-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct05.b/lj0151.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

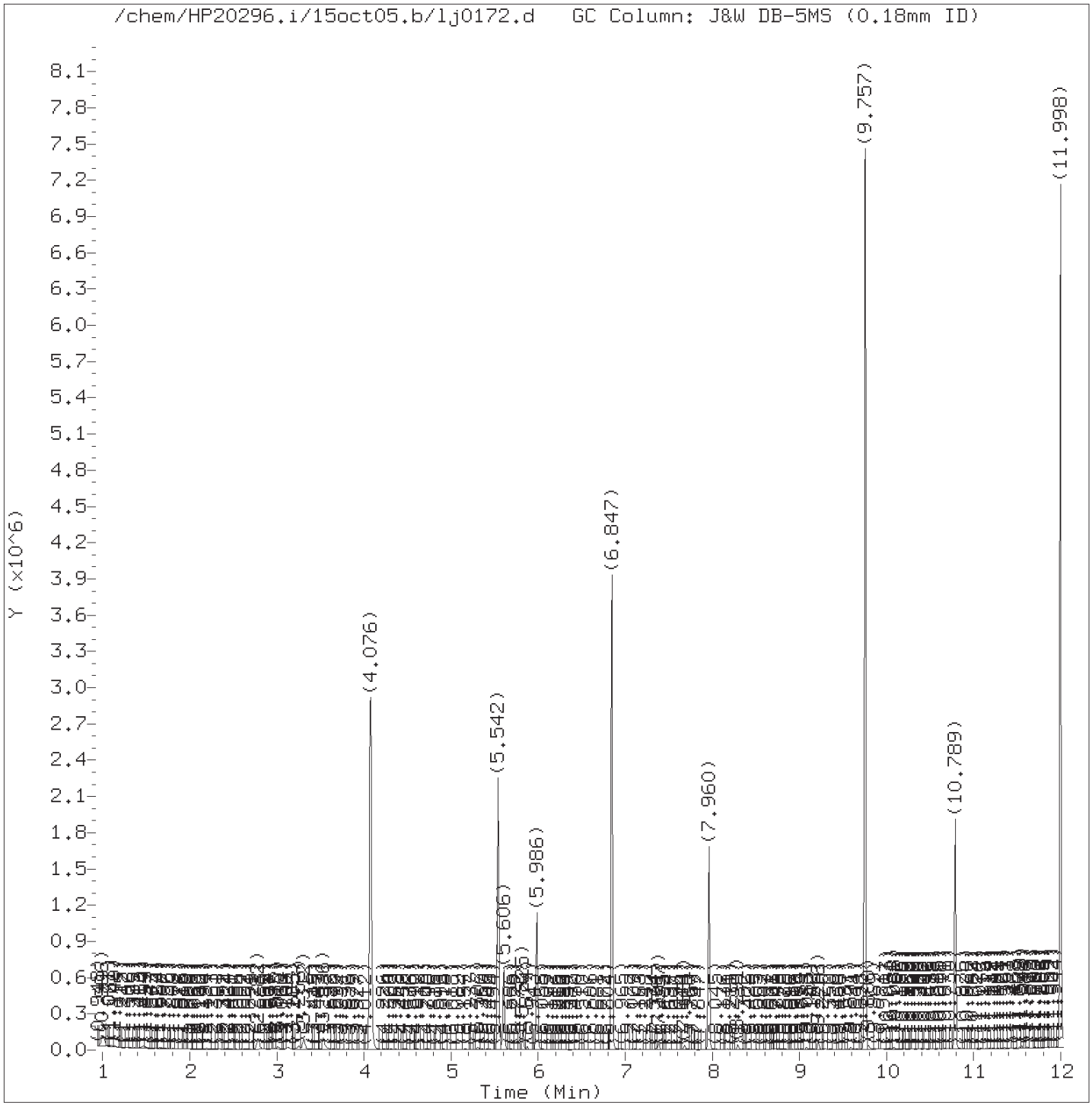
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 0.5 ul

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/05/2015 at 20:33. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/07/2015 at 10:52. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

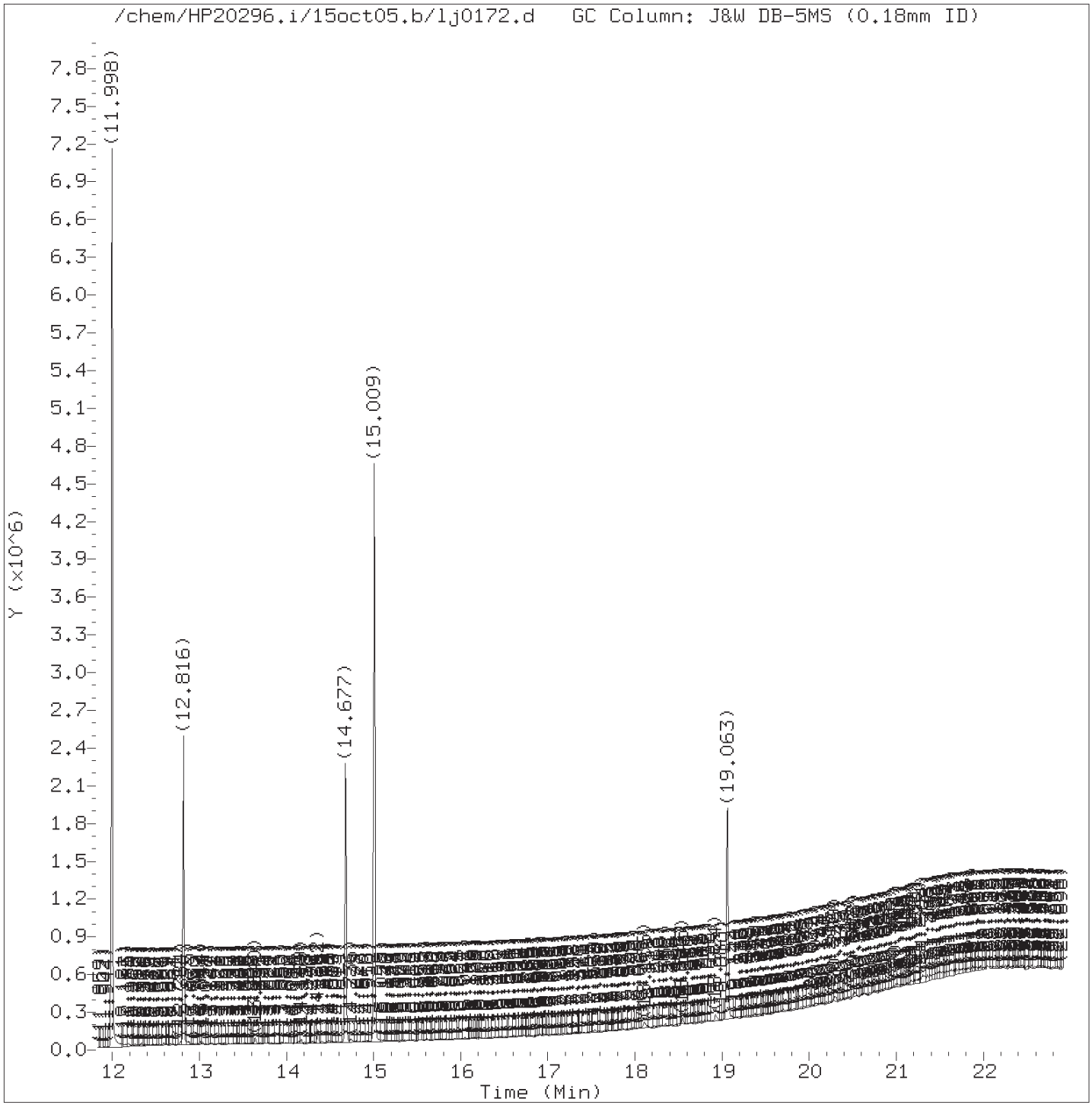
Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0172.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 18:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 13:10
Date, time and analyst ID of latest file update: 05-Oct-2015 18:39 Unknown

Sample Name: 17924 Lab Sample ID: 8064318

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 20:33.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0172.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 18:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 13:10
Date, time and analyst ID of latest file update: 05-Oct-2015 18:39 Unknown

Sample Name: 17924 Lab Sample ID: 8064318

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 20:33.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0172.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 18:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 13:10
Date, time and analyst ID of latest file update: 05-Oct-2015 18:39 Unknown

Sample Name: 17924 Lab Sample ID: 8064318

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
19)*1,4-Dichlorobenzene-d4	(1)	5.986	152	232297	5.000
36)$Nitrobenzene-d5	(2)	6.847	82	1651572	19.167
52)*Naphthalene-d8	(2)	7.960	136	903885	5.000
72)$2-Fluorobiphenyl	(3)	9.757	172	3004450	21.116
92)*Acenaphthene-d10	(3)	10.789	164	508647	5.000
130)*Phenanthrene-d10	(4)	12.816	188	955123	5.000
145)*Pyrene-d10	(5)	14.677	212	1096701	5.000
149)$Terphenyl-d14	(5)	15.009	244	1723713	11.576
172)*Perylene-d12	(6)	19.063	264	812918	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 20:33.
Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct05a.b/lj0186.d Injection date and time: **05-OCT-2015 23:27**
Data file Sample Info. Line: 12224;8064321;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15272WAG**
Date, time and analyst ID of latest file update: 06-Oct-2015 09:55 kvd02804

Blank Data file reference: **/chem/HP20296.i/15oct05.b/lj0152.d**

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 05-OCT-2015 21:20
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct05a.b/lj0181.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
19) 1,4-Dichlorobenzene-d4	5.959(-0.005)	939	152	211880 (-9)	5.00	
52) Naphthalene-d8	7.938(0.000)	1309	136	817017 (-9)	5.00	
92) Acenaphthene-d10	10.762(0.005)	1837	164	466347 (-11)	5.00	
130) Phenanthrene-d10	12.795(0.005)	2217	188	877050 (-10)	5.00	
145) Pyrene-d10	14.656(0.000)	2565	212	965427 (-13)	5.00	
172) Perylene-d12	19.031(0.000)	3383	264	714786 (-12)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
36) Nitrobenzene-d5	(2)	6.820(0.000)	82	1471698	18.896	76%		46 - 128
72) 2-Fluorobiphenyl	(3)	9.730(0.000)	172	2628991	20.153	81%		61 - 112
149) Terphenyl-d14	(5)	14.982(0.000)	244	1530762	11.678	47%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
53) Naphthalene	(2)			Not Detected					0.03
65) 2-Methylnaphthalene	(2)			Not Detected					0.03
90) Acenaphthylene	(3)			Not Detected					0.03
93) Acenaphthene	(3)			Not Detected					0.03
103) Fluorene	(3)			Not Detected					0.03
131) Phenanthrene	(4)			Not Detected					0.03
134) Anthracene	(4)			Not Detected					0.03
142) Fluoranthene	(4)	14.367(-0.000)	202	11161M	0.052	0.21			0.03
146) Pyrene	(5)	14.683(0.000)	202	10470M	0.049	0.20			0.03
158) Benzo(a)anthracene	(5)			Not Detected					0.03
161) Chrysene	(5)			Not Detected					0.03
168) Benzo(b)fluoranthene	(6)	18.427(0.000)	252	4826	0.029	0.12			0.03
170) Benzo(k)fluoranthene	(6)			Not Detected					0.03
171) Benzo(a)pyrene	(6)			Not Detected					0.03
176) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
177) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
178) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

M = Compound was manually integrated.

Digitally signed by Katheryne V. Dinan on 10/06/2015 at 09:56. Target 3.5 esignature user ID: kvd02804

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct05a.b/lj0186.d Injection date and time: **05-OCT-2015 23:27**
Data file Sample Info. Line: 12224;8064321;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15272WAG**
Date, time and analyst ID of latest file update: 06-Oct-2015 09:55 kvd02804

Blank Data file reference: **/chem/HP20296.i/15oct05.b/lj0152.d**

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 05-OCT-2015 21:20
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct05a.b/lj0181.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

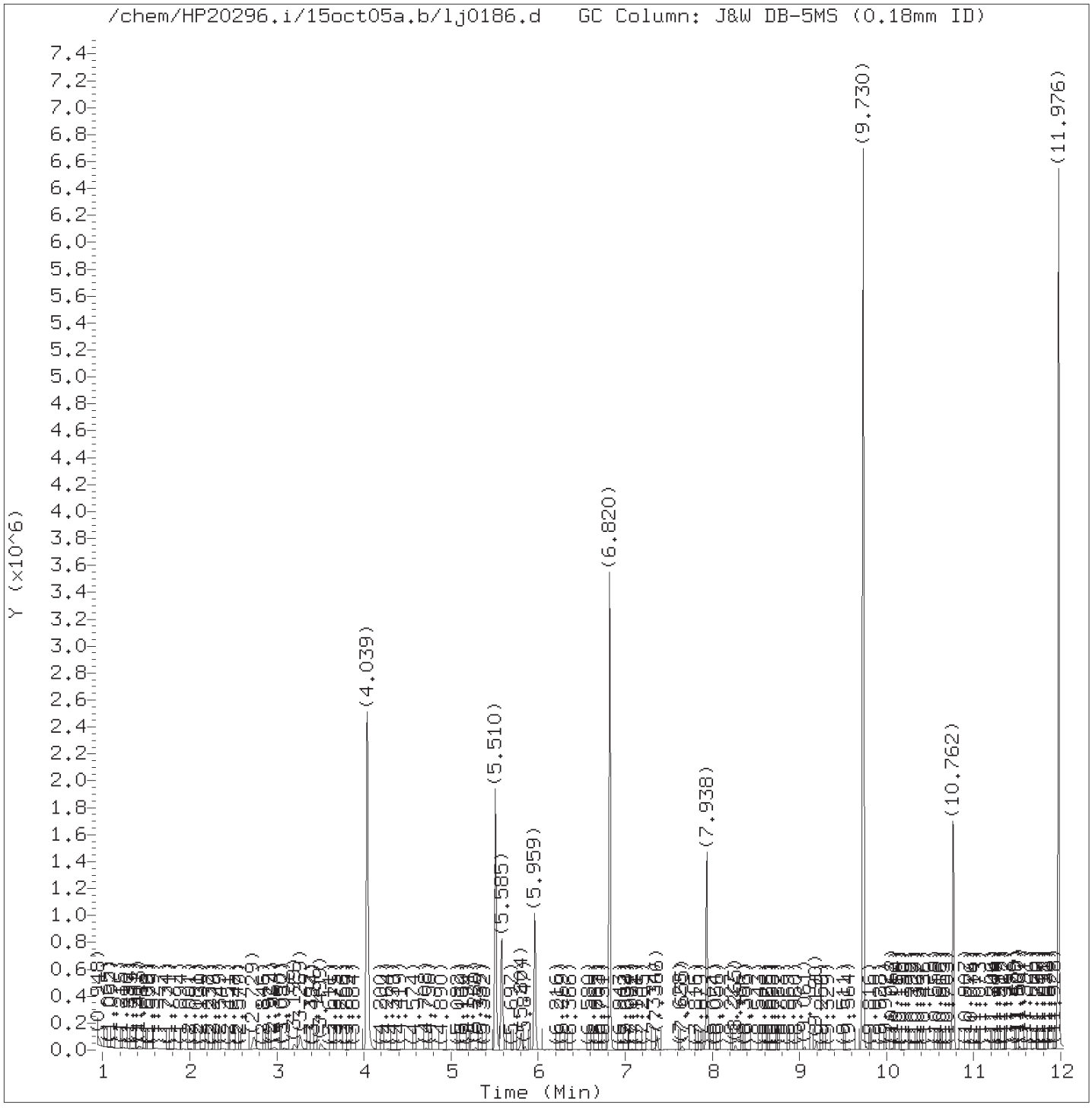
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Katheryne V. Dinan on 10/06/2015 at 09:56. Target 3.5 esignature user ID: kvd02804

Secondary review performed and digitally signed by Matthew E. Barton on 10/07/2015 at 10:52. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

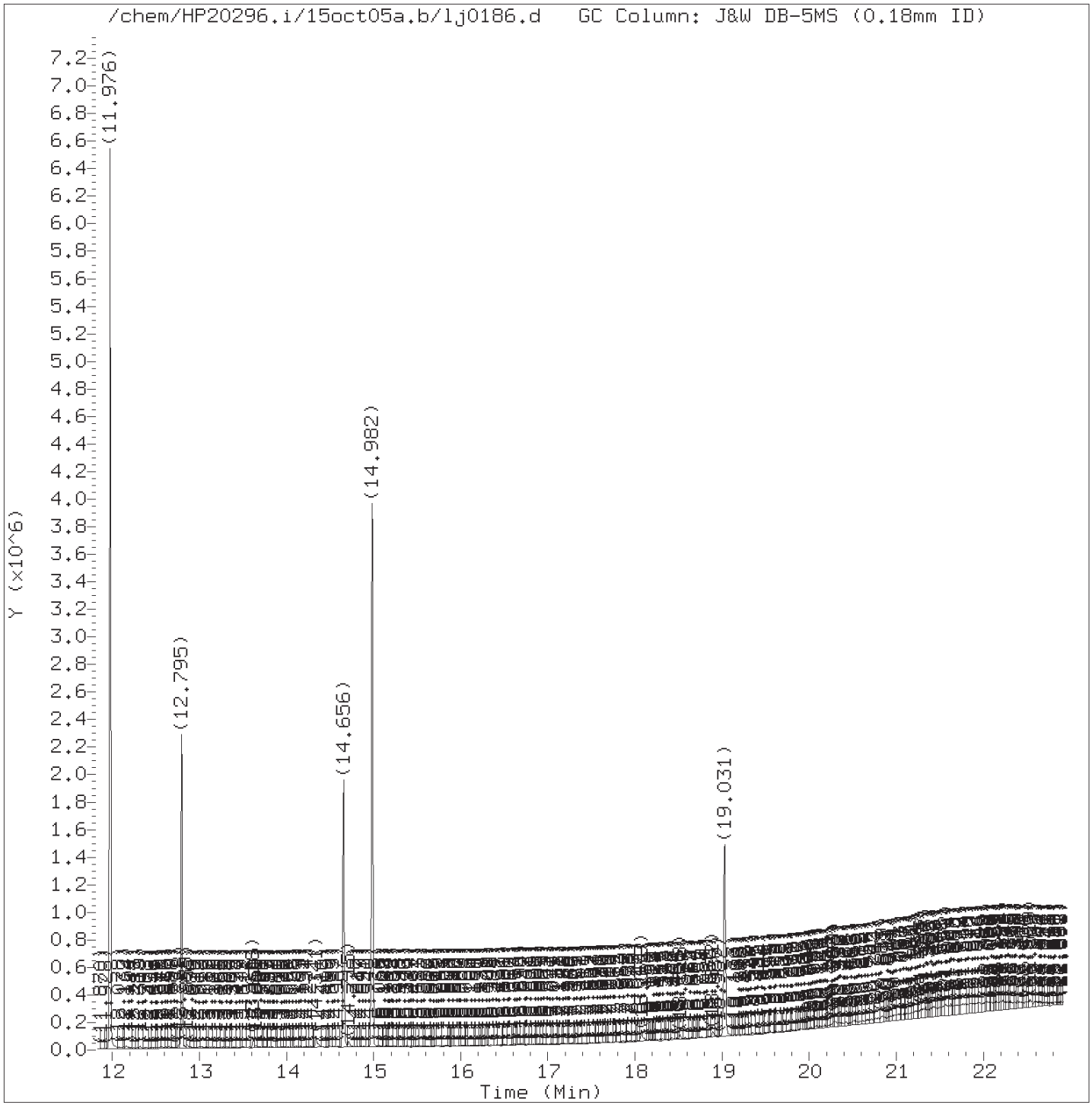
Target Revision 3.5

Data File: /chem/HP20296.i/15oct05a.b/lj0186.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 23:27 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 06-Oct-2015 09:55 kvd02804

Sample Name: 12224 Lab Sample ID: 8064321

Digitally signed by Katheryne V. Dinan
on 10/06/2015 at 09:56.
Target 3.5 esignature user ID: kvd02804



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05a.b/lj0186.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 23:27 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 06-Oct-2015 09:55 kvd02804

Sample Name: 12224 Lab Sample ID: 8064321

Digitally signed by Katheryne V. Dinan
on 10/06/2015 at 09:56.
Target 3.5 esignature user ID: kvd02804

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05a.b/lj0186.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 23:27 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 06-Oct-2015 09:55 kvd02804

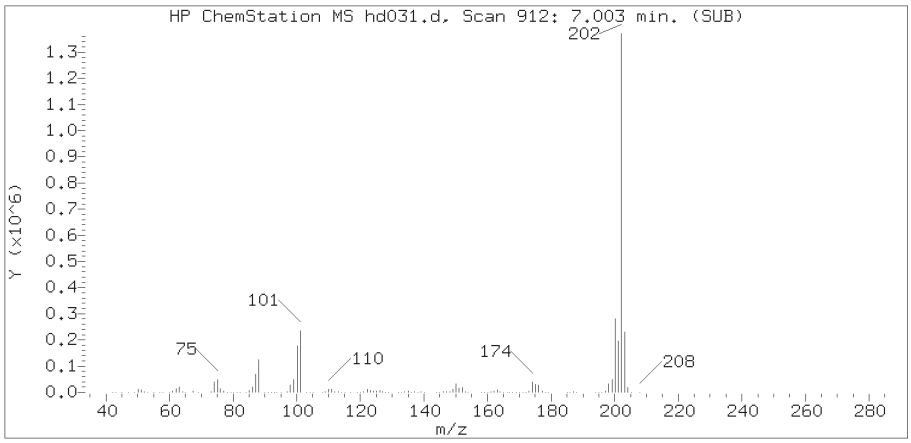
Sample Name: 12224 Lab Sample ID: 8064321

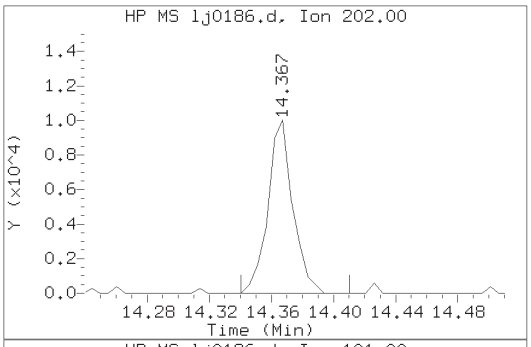
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
19)*1,4-Dichlorobenzene-d4	(1)	5.959	152	211880	5.000
36)$Nitrobenzene-d5	(2)	6.820	82	1471698	18.896
52)*Naphthalene-d8	(2)	7.938	136	817017	5.000
72)$2-Fluorobiphenyl	(3)	9.730	172	2628991	20.153
92)*Acenaphthene-d10	(3)	10.762	164	466347	5.000
130)*Phenanthrene-d10	(4)	12.795	188	877050	5.000
142) Fluoranthene	(4)	14.367	202	11161M	0.052
145)*Pyrene-d10	(5)	14.656	212	965427	5.000
146) Pyrene	(5)	14.683	202	10470M	0.049
149)$Terphenyl-d14	(5)	14.982	244	1530762	11.678
168) Benzo(b)fluoranthene	(6)	18.427	252	4826	0.029
172)*Perylene-d12	(6)	19.031	264	714786	5.000

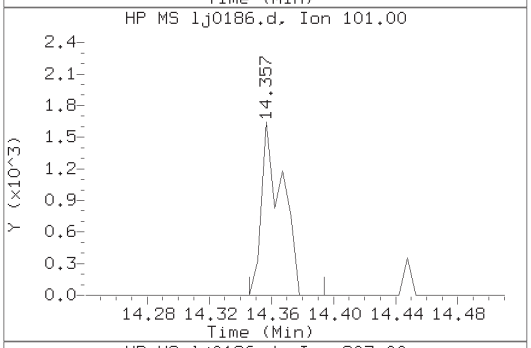
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Katheryne V. Dinan
on 10/06/2015 at 09:56.
Target 3.5 esignature user ID: kvd02804

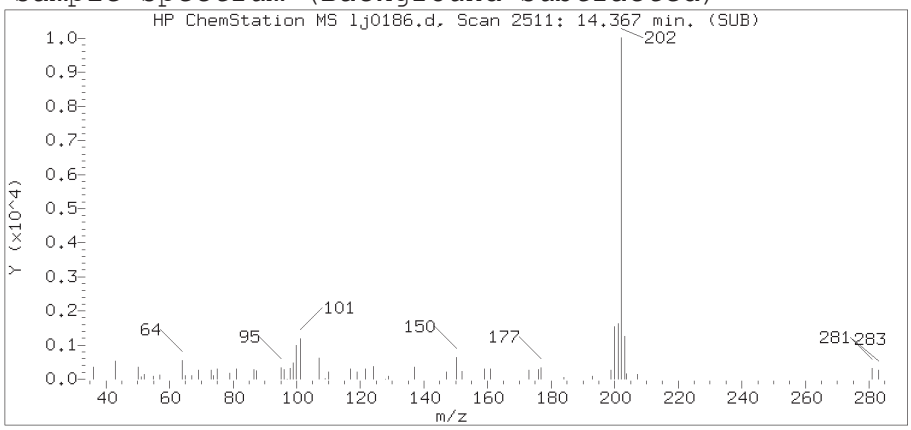
Reference Standard Spectrum for Fluoranthene

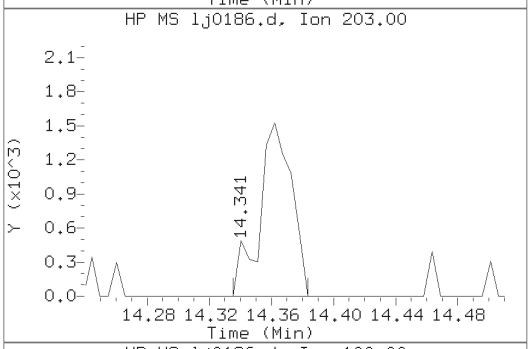




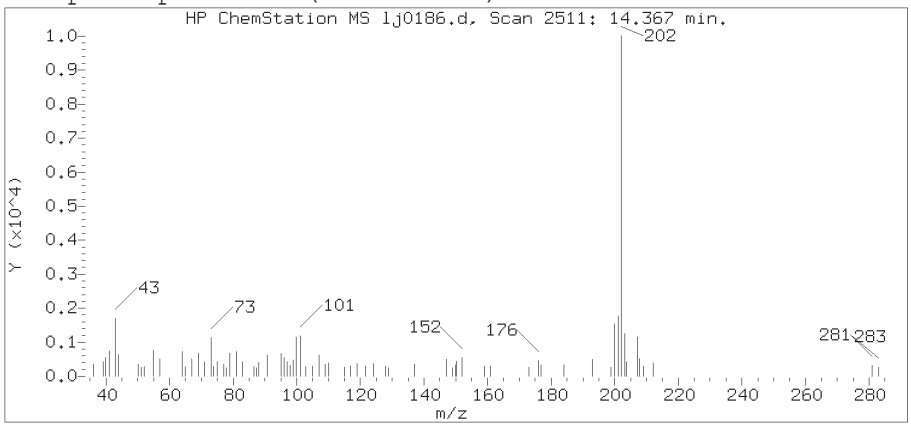


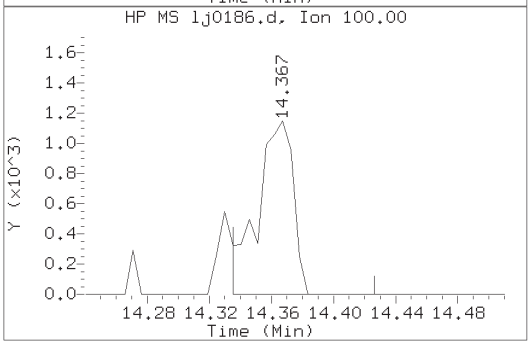
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct05a.b/lj0186.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 23:27 Analyst ID: ceb05247

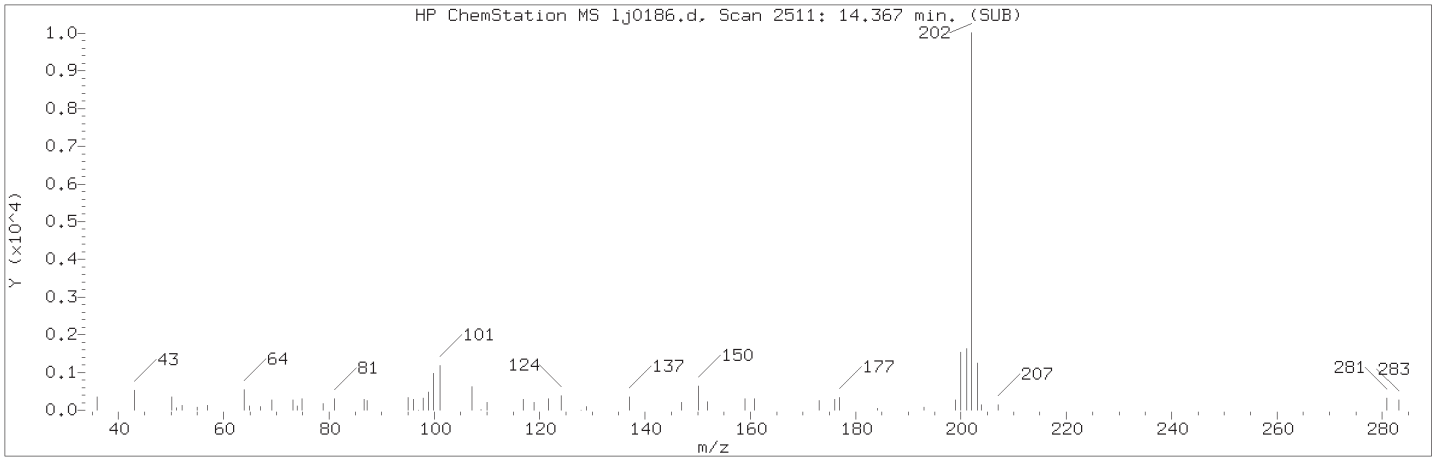
Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 06-Oct-2015 09:55 kvd02804

Sample Name: 12224 Lab Sample ID: 8064321

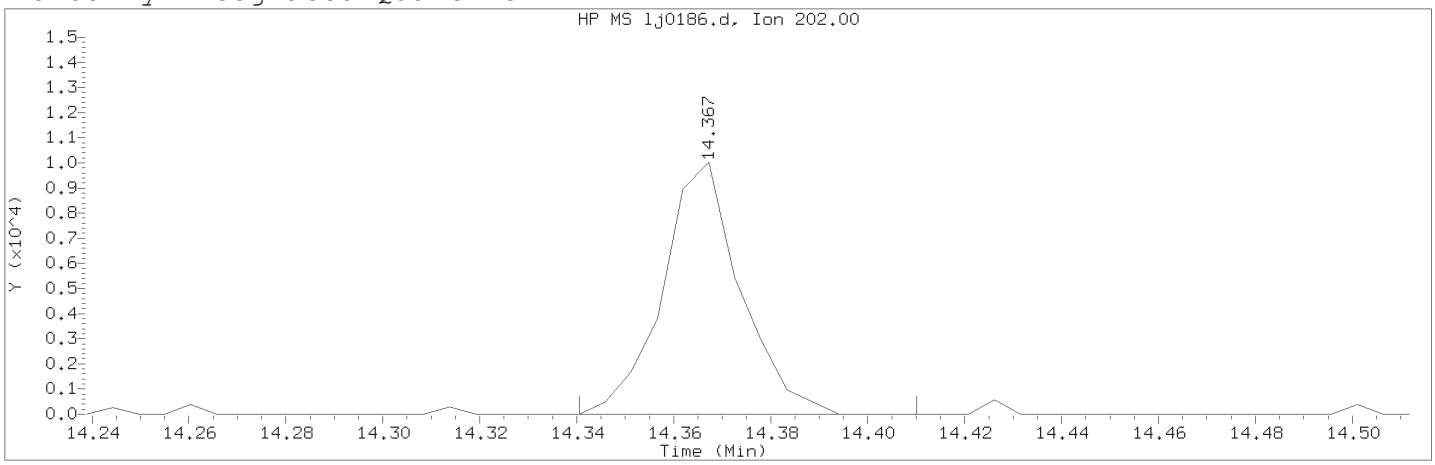
Compound Number	: 142
Compound Name	: Fluoranthene
Scan Number	: 2511
Retention Time (minutes)	: 14.367
Relative Retention Time	:-0.00047
Quant Ion	: 202.00
Area (flag)	: 11161M
On-column Amount (ng/ul)	: 0.0524

Digitally signed by Katheryne V. Dinan on 10/06/2015 at 09:56.
Target 3.5 esignature ID: kvd02804

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct05a.b/lj0186.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 23:27 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 06-Oct-2015 09:55 kvd02804

Sample Name: 12224 Lab Sample ID: 8064321

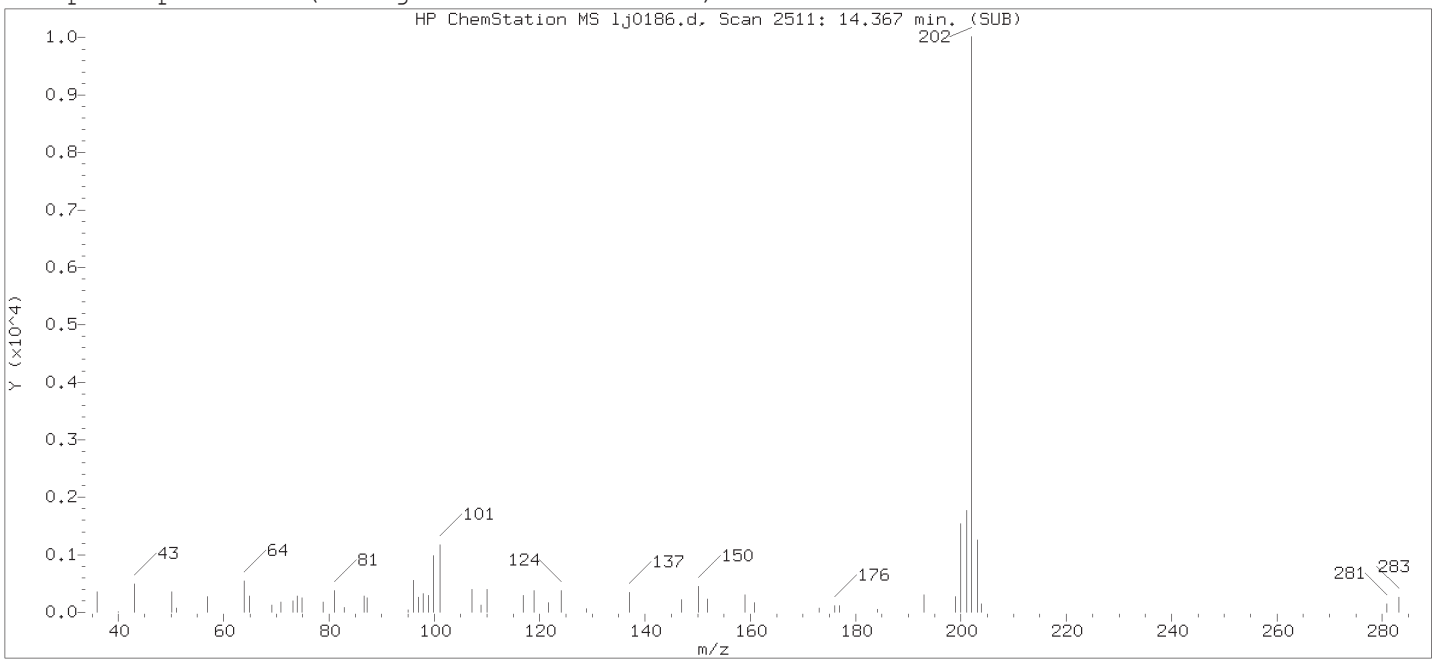
Compound Number : 142
Compound Name : Fluoranthene
Scan Number : 2511
Retention Time (minutes) : 14.367
Quant Ion : 202.00
Area (flag) : 11161M
On-column Amount (ng/ul) : 0.0524
Integration start scan : 2505 Integration stop scan: 2518
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

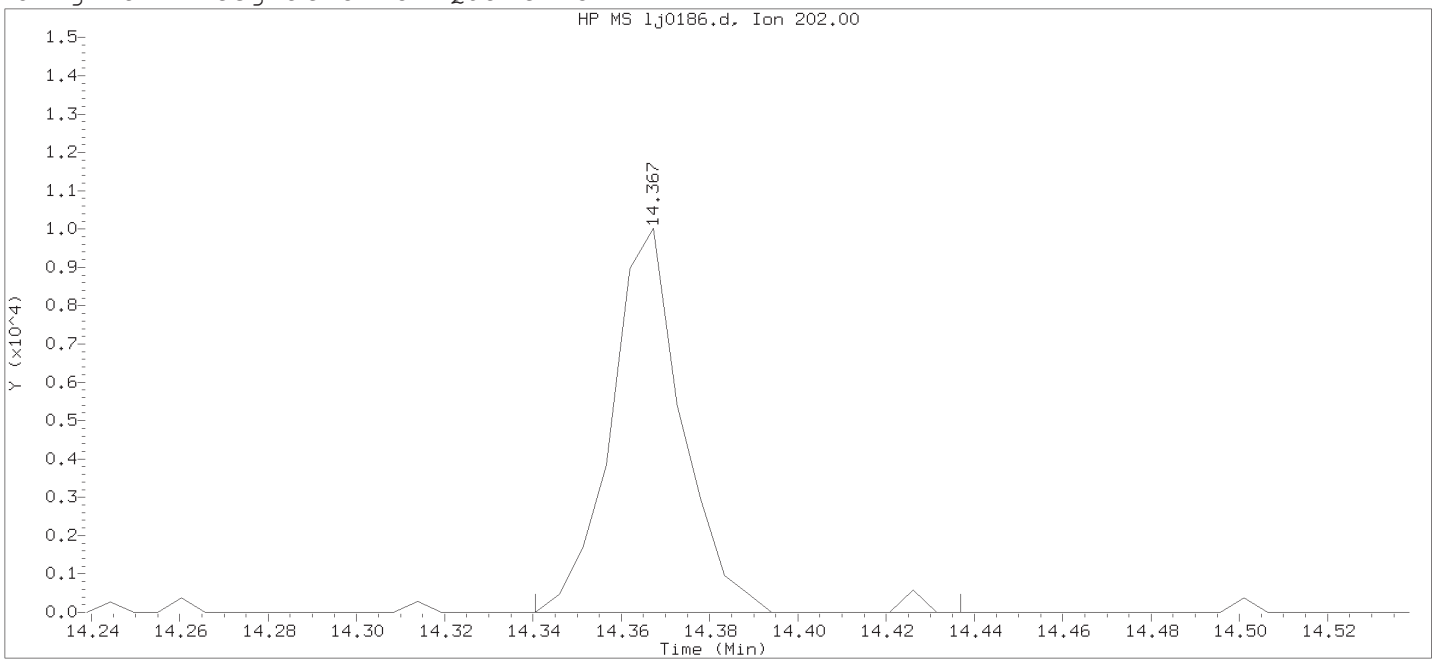
Analyst responsible for change: Digitally signed by Katheryne V. Dinan on 10/06/2015 at 09:56.
Target 3.5 esignature user ID: kvd02804

Secondary review performed and digitally signed by Matthew E. Barton on 10/07/2015 at 10:52.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct05a.b/lj0186.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 23:27 Analyst ID: ceb05247

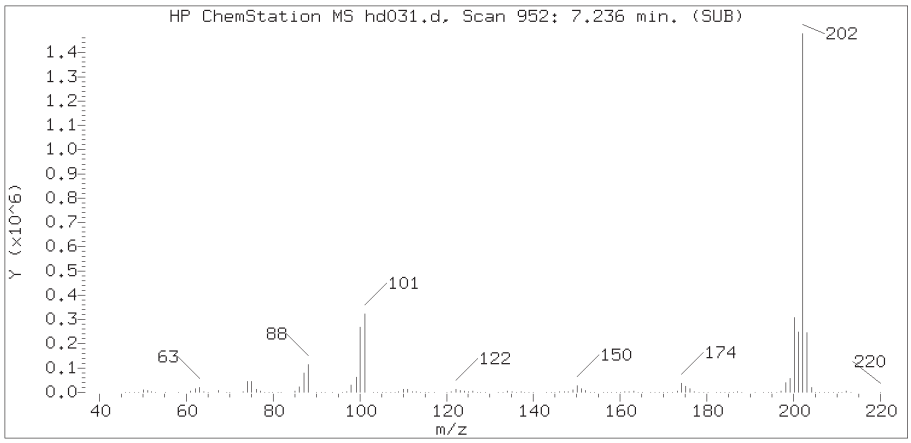
Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 05-Oct-2015 23:52 Unknown

Sample Name: 12224 Lab Sample ID: 8064321

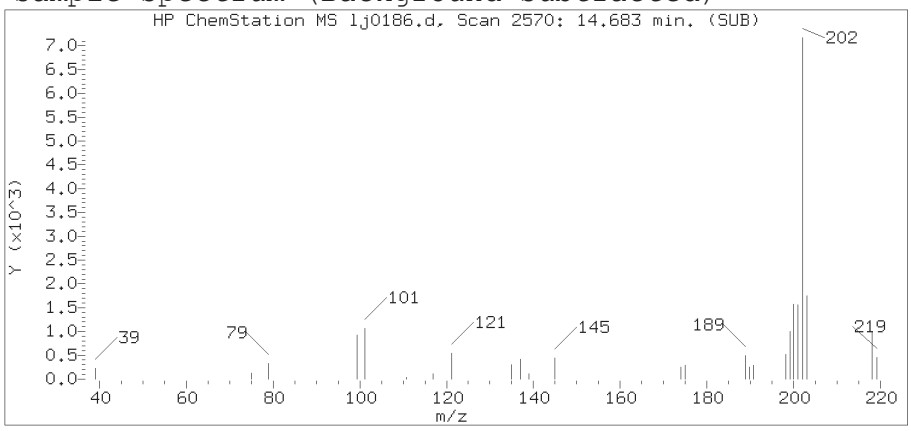
Compound Number	: 142		
Compound Name	: Fluoranthene		
Scan Number	: 2511		
Retention Time (minutes)	: 14.367		
Quant Ion	: 202.00		
Area	: 11346		
On-column Amount (ng/ul)	: 0.0532		
Integration start scan	: 2505	Integration stop scan:	2523
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Katheryne V. Dinan on 10/06/2015 at 09:56.
Target 3.5 esignature used: rv8270d0204

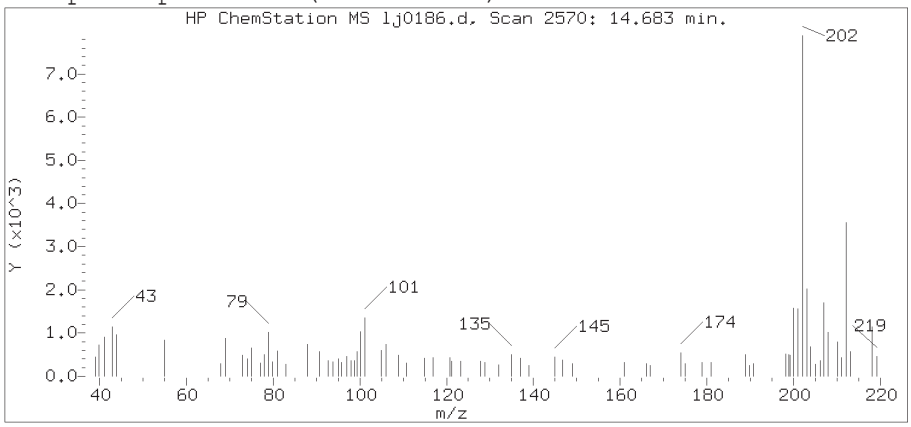
Reference Standard Spectrum for Pyrene

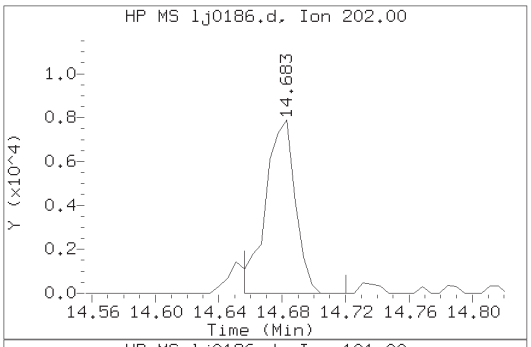


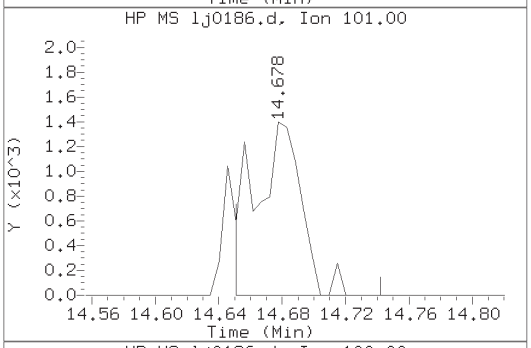
Sample Spectrum (Background Subtracted)

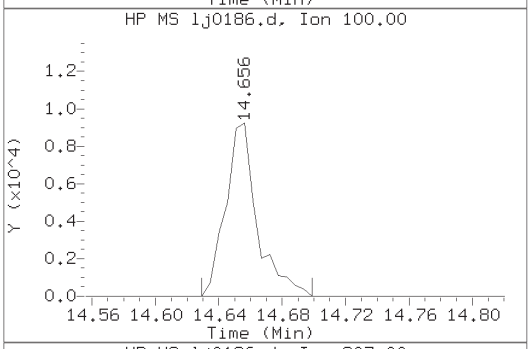


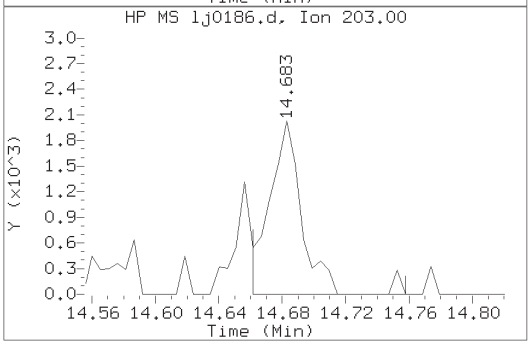
Sample Spectrum (Unaltered)











Data File: /chem/HP20296.i/15oct05a.b/lj0186.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 23:27 Analyst ID: ceb05247

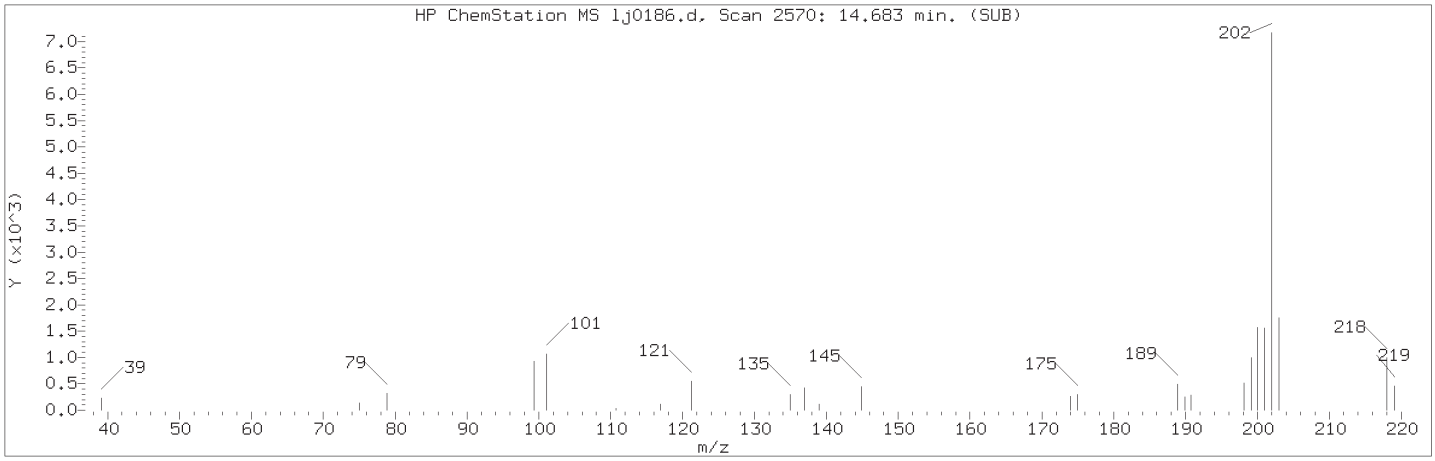
Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 06-Oct-2015 09:55 kvd02804

Sample Name: 12224 Lab Sample ID: 8064321

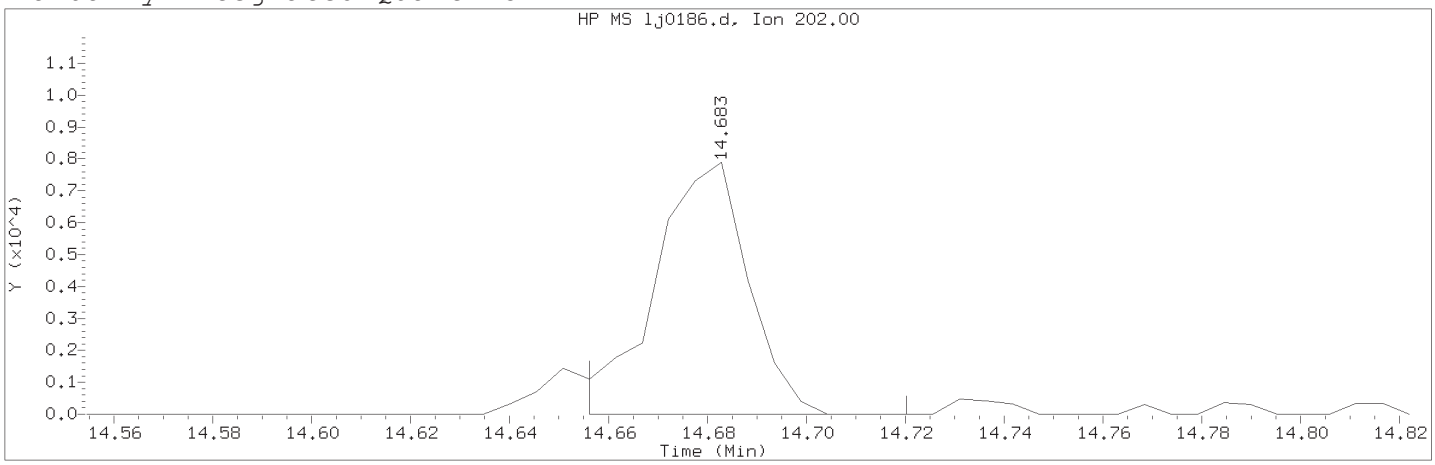
Compound Number	: 146
Compound Name	: Pyrene
Scan Number	: 2570
Retention Time (minutes)	: 14.683
Relative Retention Time	: 0.00000
Quant Ion	: 202.00
Area (flag)	: 10470M
On-column Amount (ng/ul)	: 0.0492

Digitally signed by Katheryne V. Dinan on 10/06/2015 at 09:56.
Target 3.5 esignature [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct05a.b/lj0186.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 23:27 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 06-Oct-2015 09:55 kvd02804

Sample Name: 12224 Lab Sample ID: 8064321

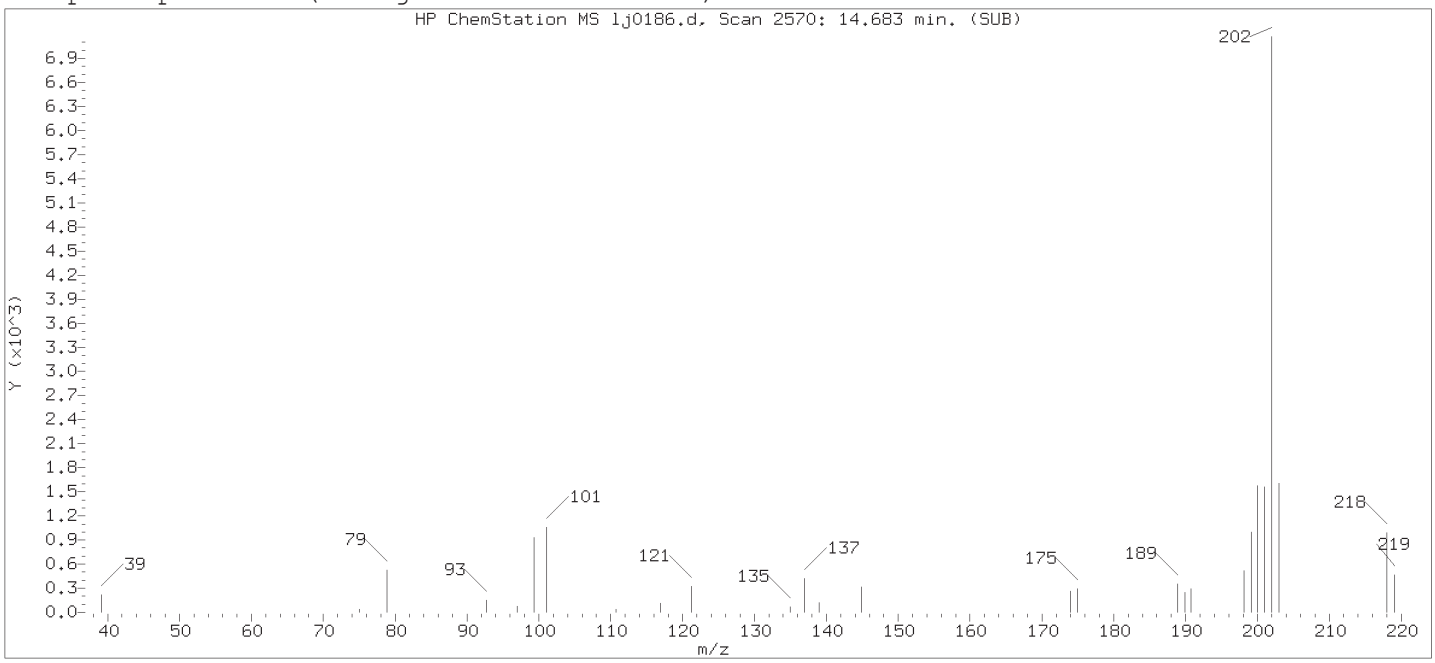
Compound Number	: 146		
Compound Name	: Pyrene		
Scan Number	: 2570		
Retention Time (minutes)	: 14.683		
Quant Ion	: 202.00		
Area (flag)	: 10470M		
On-column Amount (ng/ul)	: 0.0492		
Integration start scan	: 2564	Integration stop scan:	2576
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

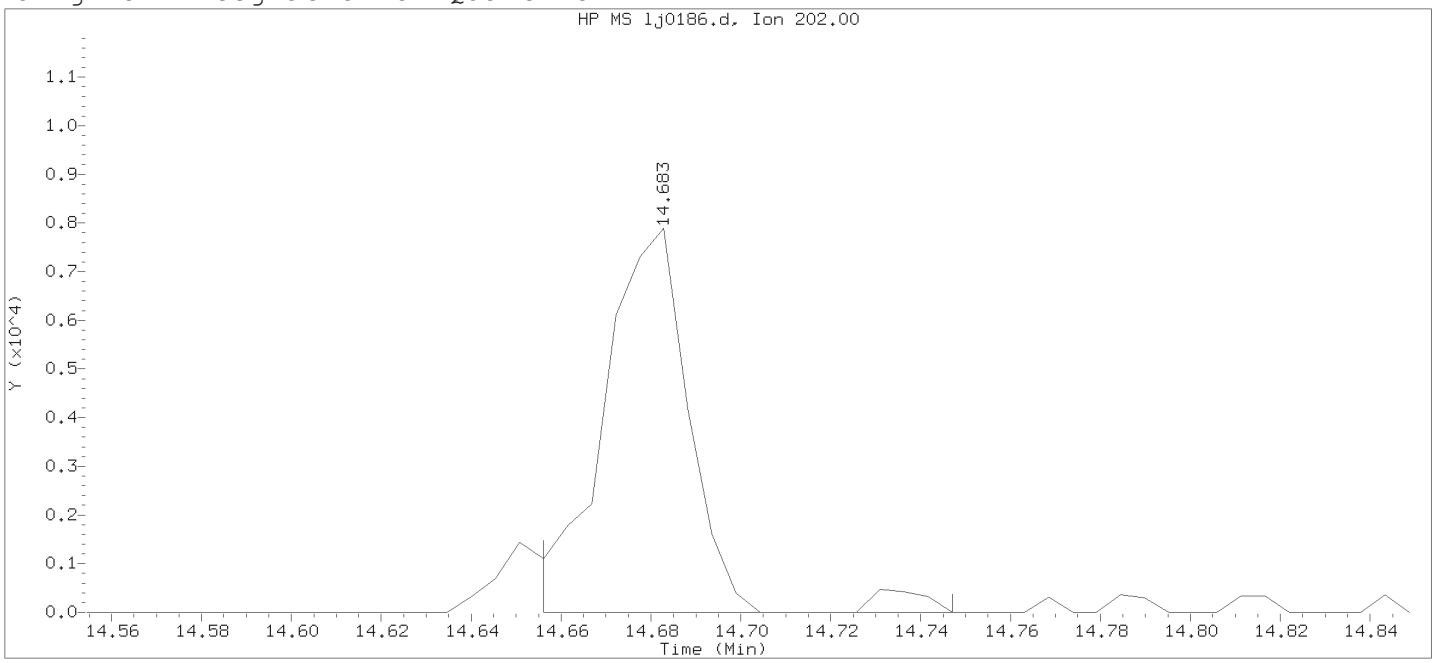
Analyst responsible for change: Digitally signed by Katheryne V. Dinan
on 10/06/2015 at 09:56.
Target 3.5 esignature user ID: kvd02804

Secondary review performed and digitally signed by Matthew E. Barton on 10/07/2015 at 10:52.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct05a.b/lj0186.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 23:27 Analyst ID: ceb05247

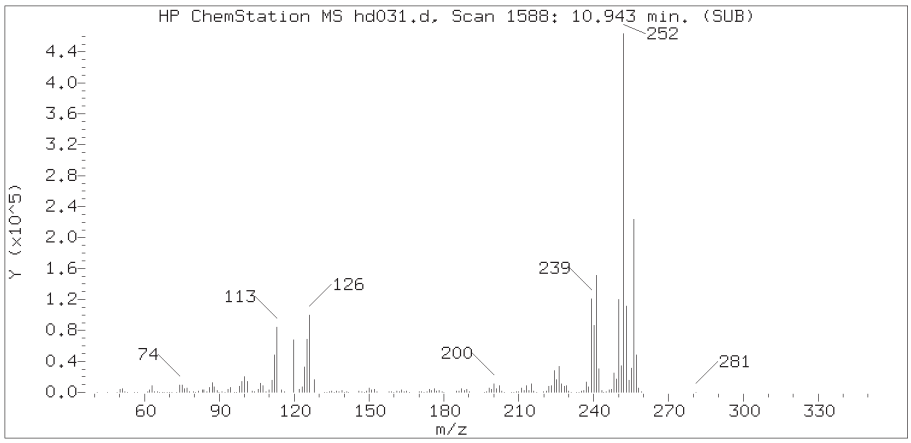
Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 05-Oct-2015 23:52 Unknown

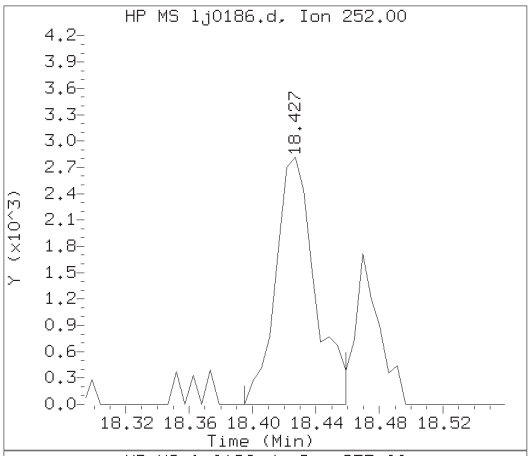
Sample Name: 12224 Lab Sample ID: 8064321

Compound Number	: 146		
Compound Name	: Pyrene		
Scan Number	: 2570		
Retention Time (minutes)	: 14.683		
Quant Ion	: 202.00		
Area	: 10684		
On-column Amount (ng/ul)	: 0.0502		
Integration start scan	: 2564	Integration stop scan:	2581
Y at integration start	: 0	Y at integration end:	0

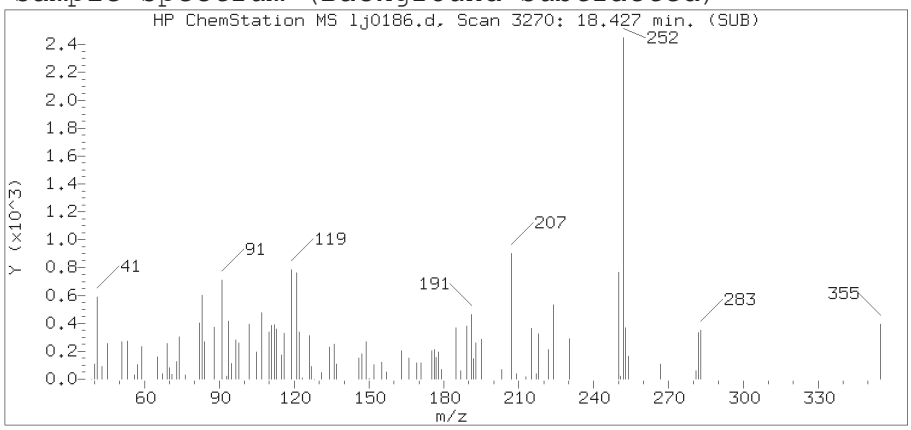
Digitally signed by Katheryne V. Dinan on 10/06/2015 at 09:56.
Target 3.5 esignature used: rv8270c4

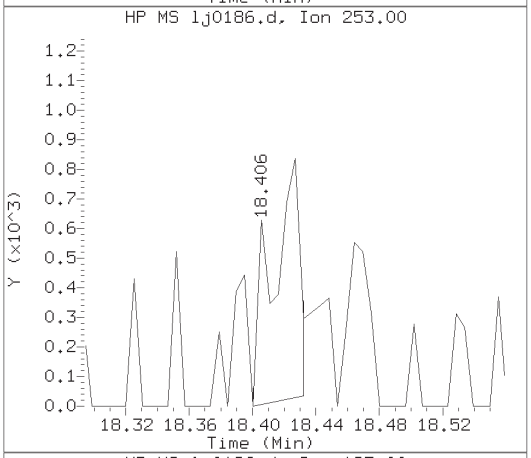
Reference Standard Spectrum for Benzo(b)fluoranthene



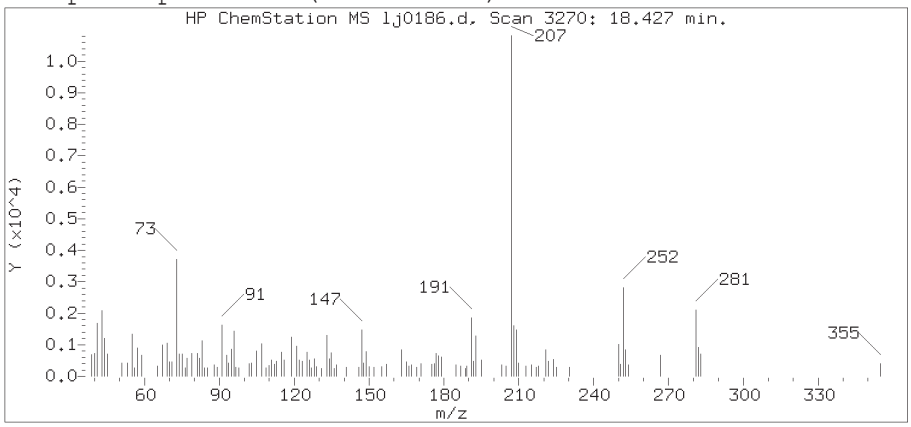


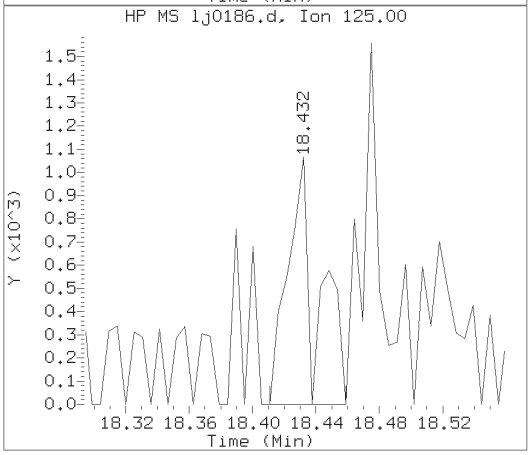
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct05a.b/lj0186.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 23:27 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 06-Oct-2015 09:55 kvd02804

Sample Name: 12224 Lab Sample ID: 8064321

Compound Number	: 168
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 3270
Retention Time (minutes)	: 18.427
Relative Retention Time	: 0.00028
Quant Ion	: 252.00
Area (flag)	: 4826
On-column Amount (ng/ul)	: 0.0293

Digitally signed by Katheryne V. Dinan on 10/06/2015 at 09:56.
Target 3.5 esignature [illegible]

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct05a.b/lj0187.d Injection date and time: **05-OCT-2015 23:55**
Data file Sample Info. Line: 12324;8064322;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15272WAG**
Date, time and analyst ID of latest file update: 06-Oct-2015 09:56 kvd02804

Blank Data file reference: **/chem/HP20296.i/15oct05.b/lj0152.d**

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 05-OCT-2015 21:20
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct05a.b/lj0181.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
19) 1,4-Dichlorobenzene-d4	5.959(-0.005)	939	152	208308 (-11)	5.00	
52) Naphthalene-d8	7.938(0.000)	1309	136	806887 (-10)	5.00	
92) Acenaphthene-d10	10.768(0.000)	1838	164	458058 (-13)	5.00	
130) Phenanthrene-d10	12.795(0.005)	2217	188	847085 (-13)	5.00	
145) Pyrene-d10	14.656(0.000)	2565	212	947028 (-15)	5.00	
172) Perylene-d12	19.031(0.000)	3383	264	672597 (-18)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
36) Nitrobenzene-d5	(2)	6.820(0.000)	82	1483619	19.288	77%		46 - 128
72) 2-Fluorobiphenyl	(3)	9.730(0.000)	172	2629507	20.522	82%		61 - 112
149) Terphenyl-d14	(5)	14.988(0.000)	244	1842548	14.330	57%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
53) Naphthalene	(2)			Not Detected					0.03
65) 2-Methylnaphthalene	(2)			Not Detected					0.03
90) Acenaphthylene	(3)			Not Detected					0.03
93) Acenaphthene	(3)			Not Detected					0.03
103) Fluorene	(3)			Not Detected					0.03
131) Phenanthrene	(4)			Not Detected					0.03
134) Anthracene	(4)			Not Detected					0.03
142) Fluoranthene	(4)			Not Detected					0.03
146) Pyrene	(5)			Not Detected					0.03
158) Benzo(a)anthracene	(5)			Not Detected					0.03
161) Chrysene	(5)			Not Detected					0.03
168) Benzo(b)fluoranthene	(6)			Not Detected					0.03
170) Benzo(k)fluoranthene	(6)			Not Detected					0.03
171) Benzo(a)pyrene	(6)			Not Detected					0.03
176) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
177) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
178) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Katheryne V. Dinan on 10/06/2015 at 09:56. Target 3.5 esignature user ID: kvd02804

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct05a.b/lj0187.d Injection date and time: **05-OCT-2015 23:55**
Data file Sample Info. Line: 12324;8064322;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15272WAG**
Date, time and analyst ID of latest file update: 06-Oct-2015 09:56 kvd02804

Blank Data file reference: **/chem/HP20296.i/15oct05.b/lj0152.d**

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 05-OCT-2015 21:20
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct05a.b/lj0181.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

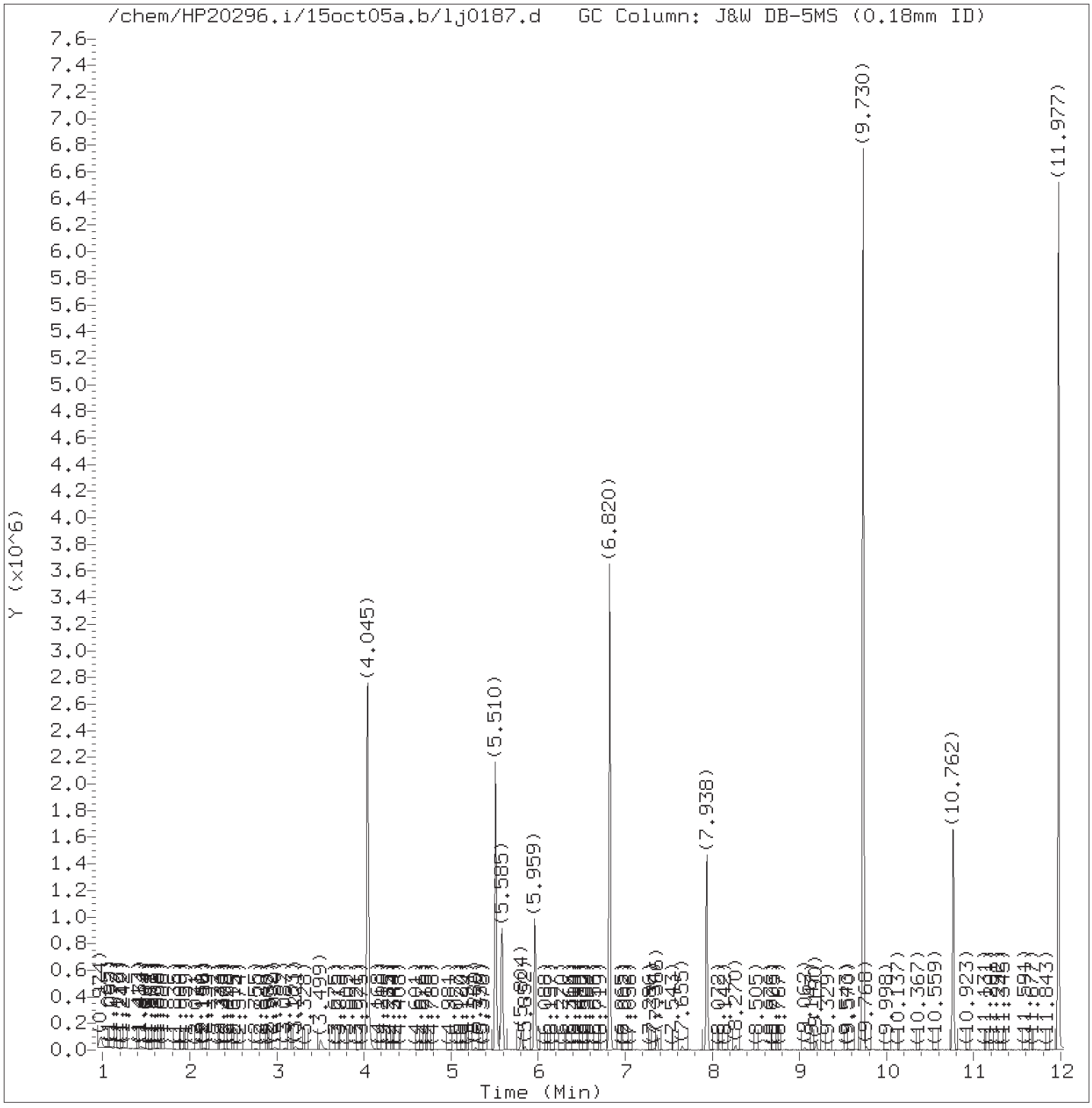
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Katheryne V. Dinan on 10/06/2015 at 09:56. Target 3.5 esignature user ID: kvd02804

Secondary review performed and digitally signed by Matthew E. Barton on 10/07/2015 at 10:52. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

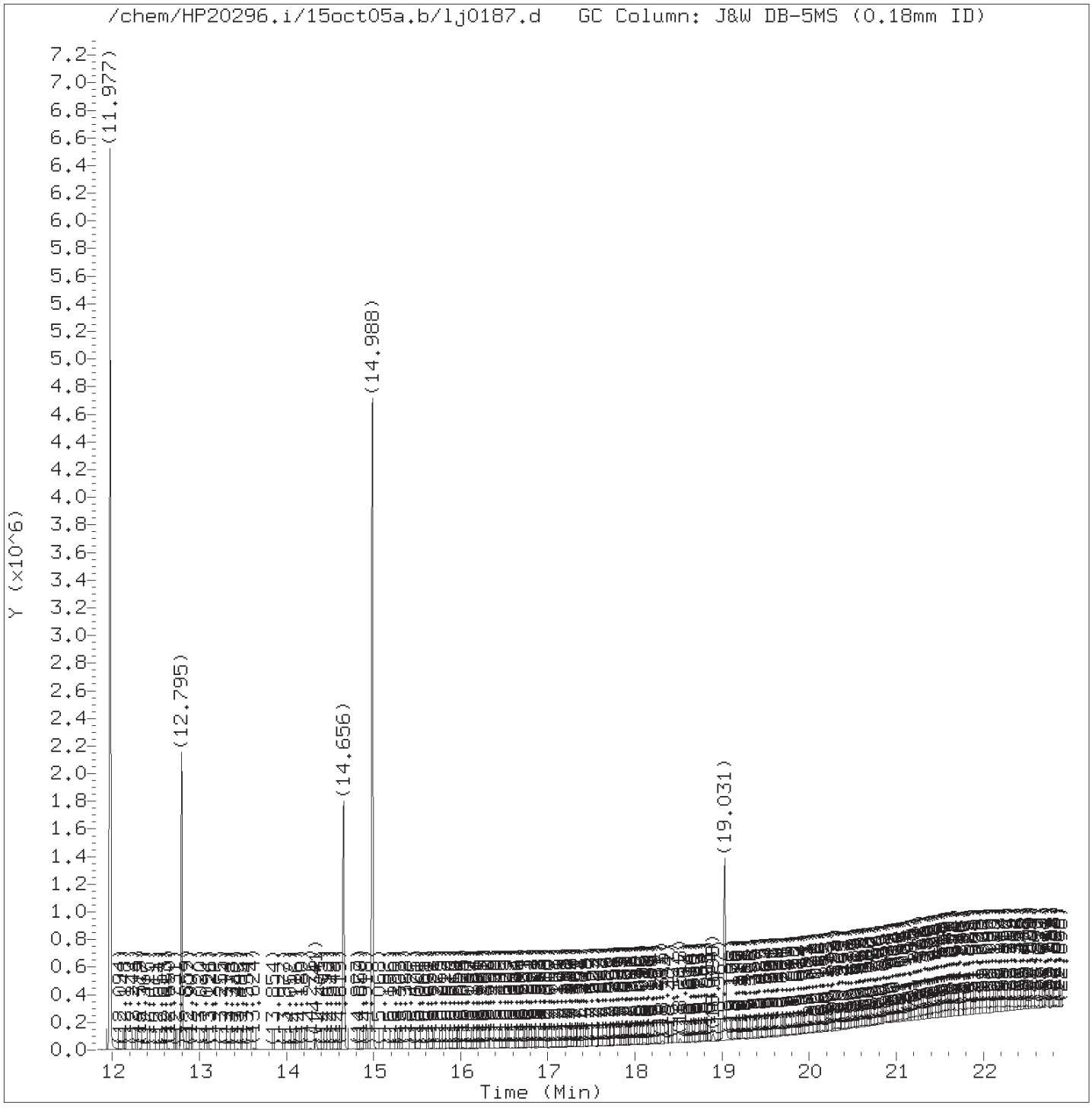
Target Revision 3.5

Data File: /chem/HP20296.i/15oct05a.b/lj0187.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 23:55 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 06-Oct-2015 09:56 kvd02804

Sample Name: 12324 Lab Sample ID: 8064322

Digitally signed by Katheryne V. Dinan
on 10/06/2015 at 09:56.
Target 3.5 esignature user ID: kvd02804



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05a.b/lj0187.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 23:55 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 06-Oct-2015 09:56 kvd02804

Sample Name: 12324 Lab Sample ID: 8064322

Digitally signed by Katheryne V. Dinan
on 10/06/2015 at 09:56.
Target 3.5 esignature user ID: kvd02804

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05a.b/lj0187.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 23:55 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 06-Oct-2015 09:56 kvd02804

Sample Name: 12324 Lab Sample ID: 8064322

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
19)*1,4-Dichlorobenzene-d4	(1)	5.959	152	208308	5.000
36)$Nitrobenzene-d5	(2)	6.820	82	1483619	19.288
52)*Naphthalene-d8	(2)	7.938	136	806887	5.000
72)$2-Fluorobiphenyl	(3)	9.730	172	2629507	20.522
92)*Acenaphthene-d10	(3)	10.768	164	458058	5.000
130)*Phenanthrene-d10	(4)	12.795	188	847085	5.000
145)*Pyrene-d10	(5)	14.656	212	947028	5.000
149)$Terphenyl-d14	(5)	14.988	244	1842548	14.330
172)*Perylene-d12	(6)	19.031	264	672597	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Katheryne V. Dinan
on 10/06/2015 at 09:56.
Target 3.5 esignature user ID: kvd02804

Standards Data

Semivolatiles by GC/MS

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP20296 **HP #12**

Data Directory Path is - D:\DATA\15aug05\

	OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
	hbz01996	LH0060.D	RVDFTPP1915	08/05/2015	10:00		
	hbz01996	LH0061a.D	RVSTD2065	08/05/2015	11:24		
	hbz01996	LH0070.D	RVDFTPP1915	08/05/2015	12:27		
	hbz01996	LH0070z.D	RVDFTPP1915	08/05/2015	12:47		
	hbz01996	LH0071.D	RVSTD2065	08/05/2015	13:01		
	hbz01996	LH0072.D	RVSTD2065	08/05/2015	13:58		
	hbz01996	LH0073.D	RVSTD2065	08/05/2015	14:26		
	hbz01996	LH0074.D	RVSTD2065	08/05/2015	14:53		
	hbz01996	LH0075.D	RVSTD2065	08/05/2015	15:22		
*	hbz01996	LH0076.D	RVSTD2065	08/05/2015	15:49		
	hbz01996	LH0077.D	RVSTD2065	08/05/2015	16:17		
	hbz01996	LH0078.D	RVSTD2065	08/05/2015	16:46		
	hbz01996	LH0079.D	MDLSTD2065	08/05/2015	17:13		
	hbz01996	LH0080.D	PAHMDL2065	08/05/2015	17:41		
	hbz01996	LH0081.D	RVICV1465	08/05/2015	18:09		
	hbz01996	LH0082.D	BASICV1045	08/05/2015	18:37		
	hbz01996	LH0083.D	7978632	08/05/2015	19:05	15209WAN	
	hbz01996	LH0084.D	7977098	08/05/2015	19:33	15209WAN	
	whs02991	LH0090.D	RVDFTPP1915	08/05/2015	20:48		
	whs02991	LH0091.D	RVSTD2065	08/05/2015	21:04		

* Files LH0070z - LH0082.d copied to \15aug05x\ and renamed LH2070z - LH2082.d.
Reprocessed for rr82701. CEB 8/14/15

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP20296 **HP #12**

Data Directory Path is - D:\DATA\15oct05\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
lmh00956	LJ0150.D	RVDFTPP2435	10/05/2015	06:43		
lmh00956	LJ0150z.D	RVDFTPP2435	10/05/2015	06:56		
lmh00956	LJ0151.D	RVSTD2745	10/05/2015	07:09		
hbz01996	LJ0152.D	SBLKWG272	10/05/2015	08:28	15272WAG	
hbz01996	LJ0153.D	272WGLCS	10/05/2015	08:55	15272WAG	
hbz01996	LJ0154.D	SBLKWE272	10/05/2015	09:23	15272WAE	
hbz01996	LJ0155.D	272WELCS	10/05/2015	09:51	15272WAE	
hbz01996	LJ0156.D	8059062	10/05/2015	10:19	15272WAE	
hbz01996	LJ0157.D	8064062	10/05/2015	10:47	15272WAE	
hbz01996	LJ0158.D	8064063	10/05/2015	11:15	15272WAE	
hbz01996	LJ0159.D	8064064	10/05/2015	11:43	15272WAE	
hbz01996	LJ0160.D	8060822DL	10/05/2015	12:11	15272WAI	25
hbz01996	LJ0161.D	8060823DL	10/05/2015	12:39	15272WAI	5
hbz01996	LJ0162.D	8060824DL	10/05/2015	13:07	15272WAI	25
hbz01996	LJ0163.D	8064236DL	10/05/2015	13:34	15272WAI	10
hbz01996	LJ0164.D	8064065	10/05/2015	14:02	15272WAE	
hbz01996	LJ0165.D	8064066	10/05/2015	14:30	15272WAE	
hbz01996	LJ0166.D	8064067	10/05/2015	14:58	15272WAE	
hbz01996	LJ0167.D	8064068	10/05/2015	15:26	15272WAE	
hbz01996	LJ0162a.D	8060824DL2	10/05/2015	15:54	15272WAI	50
hbz01996	LJ0168.D	8064069	10/05/2015	16:22	15272WAE	
hbz01996	LJ0169.D	8064070	10/05/2015	16:50	15272WAE	
hbz01996	LJ0170.D	8064071	10/05/2015	17:18	15272WAE	
hbz01996	LJ0171.D	8064116	10/05/2015	17:46	15272WAE	
hbz01996	LJ0172.D	8064318	10/05/2015	18:13	15272WAG	
hbz01996	LJ0173.D	8064319	10/05/2015	18:41	15272WAG	

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP20296 **HP #12**

Data Directory Path is - D:\DATA\15oct05a\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
ceb05247	LJ0180.D	RVDFTPP2435	10/05/2015	20:18		
ceb05247	LJ0180a.D	RVDFTPP2435	10/05/2015	20:29		
ceb05247	LJ0180b.D	RVDFTPP2435	10/05/2015	20:41		
ceb05247	LJ0181.D	RVSTD2745	10/05/2015	20:53		
ceb05247	LJ0182.D	SBLKWN273	10/05/2015	21:36	15273WAN	
ceb05247	LJ0183.D	273WNLCS	10/05/2015	22:04	15273WAN	
ceb05247	LJ0184.D	273WNLCSD	10/05/2015	22:32	15273WAN	
ceb05247	LJ0185.D	8064320	10/05/2015	22:59	15272WAG	
ceb05247	LJ0186.D	8064321	10/05/2015	23:27	15272WAG	
ceb05247	LJ0187.D	8064322	10/05/2015	23:55	15272WAG	
ceb05247	LJ0188.D	8063081	10/06/2015	00:23	15273WAN	
ceb05247	LJ0189.D	8063897	10/06/2015	00:51	15273WAN	
ceb05247	LJ0190.D	8063899	10/06/2015	01:19	15273WAN	
ceb05247	LJ0191.D	8063901	10/06/2015	01:46	15273WAN	
ceb05247	LJ0192.D	8063903	10/06/2015	02:14	15273WAN	
ceb05247	LJ0193.D	8063905	10/06/2015	02:42	15273WAN	
ceb05247	LJ0194.D	8063907	10/06/2015	03:10	15273WAN	
ceb05247	LJ0195.D	8063909	10/06/2015	03:37	15273WAN	
ceb05247	LJ0196.D	8063911	10/06/2015	04:05	15273WAN	
ceb05247	LJ0197.D	8063913	10/06/2015	04:33	15273WAN	

Data File: /chem/HP20296.i/15aug05x.b/lh2070z.d

Date : 05-AUG-2015 12:47

Client ID: DFTPP12.5

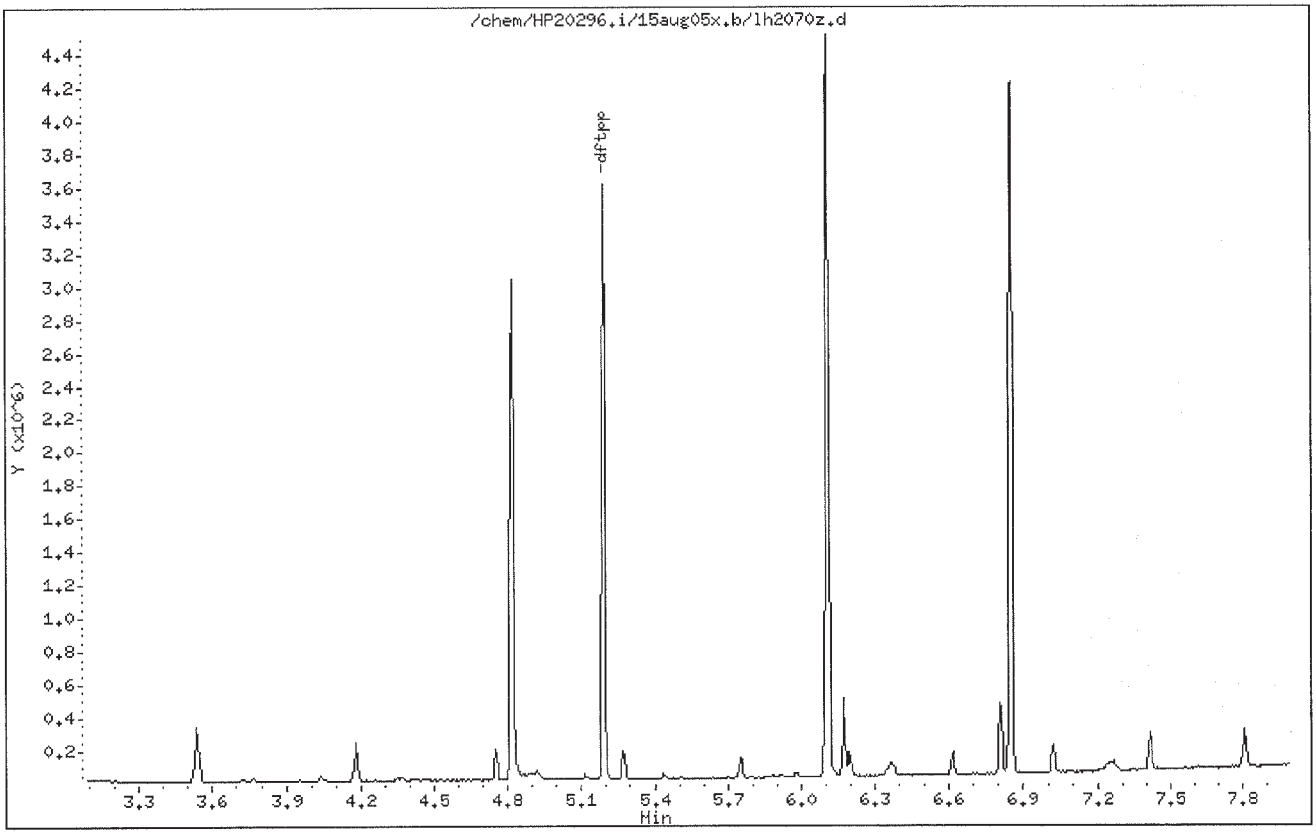
Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP1915;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15aug05x.b/lh2070z.d

Date : 05-AUG-2015 12:47

Client ID: DFTPP12.5

Instrument: HP20296.i

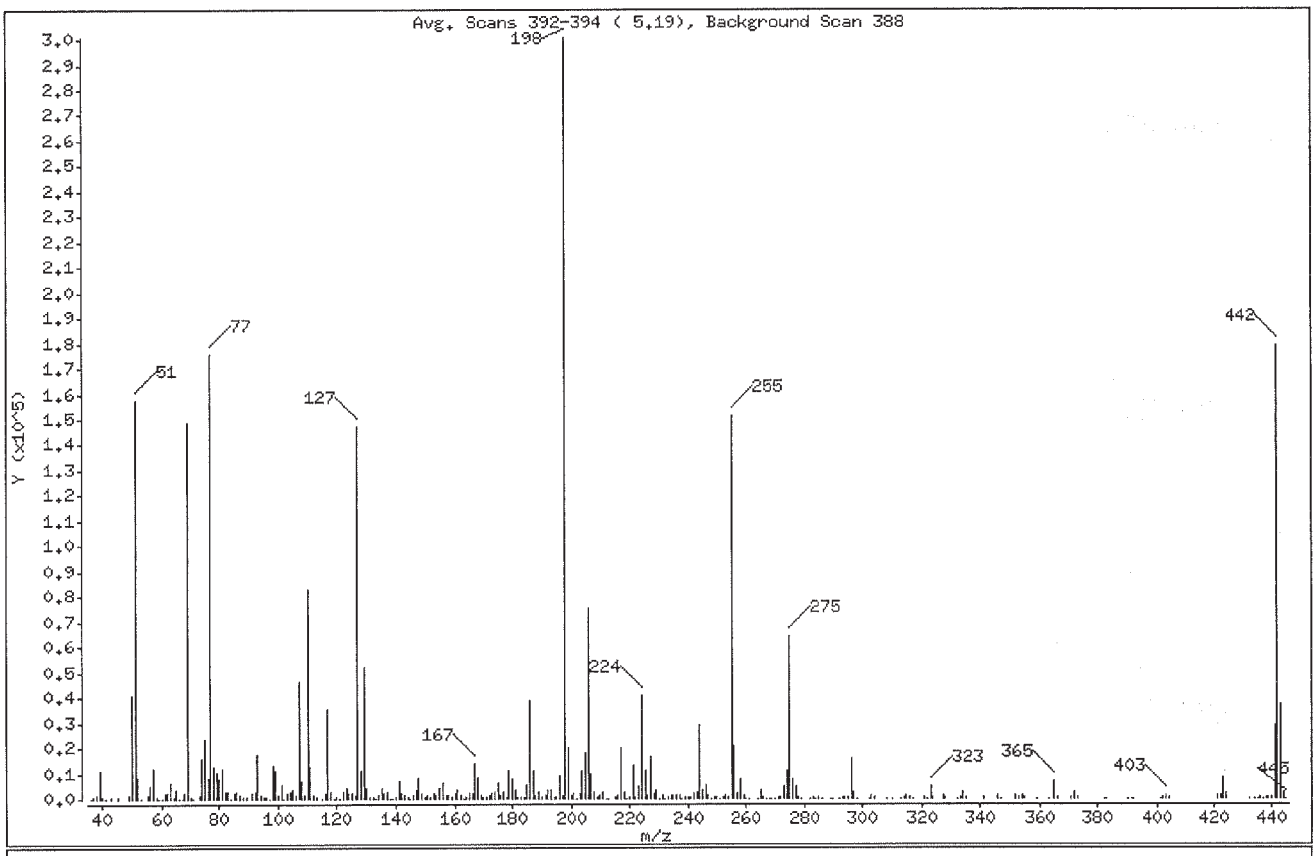
Sample Info: DFTPP12.5;RVDFTPP1915;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	52.34
68	Less than 2.00% of mass 69	0.78 (1.58)
69	Mass 69 relative abundance	49.39
70	Less than 2.00% of mass 69	0.27 (0.55)
127	40.00 - 60.00% of mass 198	48.90
197	Less than 1.00% of mass 198	0.57
199	5.00 - 9.00% of mass 198	6.71
275	10.00 - 30.00% of mass 198	21.27
365	Greater than 1.00% of mass 198	2.18
441	Present, but less than mass 443	9.70
442	40.00 - 99.99% of mass 198	59.44
443	17.00 - 23.00% of mass 442	12.34 (20.77)

Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15aug05x.b/lh2070z.d

Date : 05-AUG-2015 12:47

Client ID: DFTPP12.5

Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP1915;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18

Data File: lh2070z.d

Spectrum: Avg. Scans 392-394 (5.19), Background Scan 388

Location of Maximum: 198.00

Number of points: 306

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	71	122.00	3079	199.00	20168	279.00	114
37.00	588	123.00	4346	200.00	1669	282.00	125
38.00	1728	124.00	1970	201.00	1885	283.00	662
39.00	11348	125.00	2105	202.00	167	284.00	331
40.00	362	126.00	1525	203.00	2171	285.00	845
41.00	126	127.00	147008	204.00	11333	286.00	86
43.00	524	128.00	11084	205.00	18104	289.00	107
45.00	369	129.00	51968	206.00	75240	290.00	127
49.00	1101	130.00	4308	207.00	9361	292.00	271
50.00	40512	131.00	885	208.00	2555	293.00	1014
51.00	157376	132.00	533	209.00	884	294.00	494
52.00	7989	133.00	284	210.00	1502	295.00	357
53.00	267	134.00	1559	211.00	2871	296.00	16148
55.00	1217	135.00	4257	212.00	323	297.00	2885
56.00	4698	136.00	2135	213.00	214	298.00	319
57.00	11598	137.00	2508	215.00	875	302.00	296
58.00	566	138.00	287	216.00	1692	303.00	1686
59.00	95	139.00	325	217.00	19824	304.00	484
60.00	84	140.00	753	218.00	2619	308.00	227
61.00	1868	141.00	6752	219.00	209	310.00	177
62.00	2126	142.00	2373	220.00	528	313.00	143
63.00	5886	143.00	1602	221.00	12885	314.00	756
64.00	970	144.00	378	222.00	768	315.00	1599
65.00	3135	145.00	342	223.00	4936	316.00	945
66.00	210	146.00	1136	224.00	40688	317.00	107
67.00	236	147.00	3269	225.00	10940	321.00	577
68.00	2347	148.00	8189	226.00	1333	322.00	145
69.00	148544	149.00	2172	227.00	16416	323.00	5113
70.00	814	150.00	563	228.00	2319	324.00	811
71.00	103	151.00	1210	229.00	3622	327.00	1095
73.00	1176	152.00	511	230.00	169	328.00	436
74.00	15622	153.00	2303	231.00	1504	332.00	97
75.00	23320	154.00	1709	232.00	117	333.00	508
76.00	8493	155.00	4023	233.00	359	334.00	2836
77.00	175680	156.00	5945	234.00	1355	335.00	957

Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15aug05x.b/lh2070z.d

Date : 05-AUG-2015 12:47

Client ID: DFTPP12,5

Instrument: HP20296.i

Sample Info: DFTPP12,5;RVDFTPP1915;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18

Data File: lh2070z.d

Spectrum: Avg. Scans 392-394 (5.19), Background Scan 388

Location of Maximum: 198.00

Number of points: 306

m/z	Y	m/z	Y	m/z	Y	m/z	Y
78.00	12117	157.00	1355	235.00	1165	341.00	634
79.00	10521	158.00	1189	236.00	1091	346.00	1040
80.00	7748	159.00	922	237.00	1568	347.00	93
81.00	11772	160.00	2192	238.00	266	352.00	1383
82.00	3070	161.00	3691	239.00	660	353.00	1026
83.00	2475	162.00	1076	240.00	438	354.00	1545
84.00	288	163.00	306	241.00	986	355.00	494
85.00	1762	164.00	369	242.00	2169	359.00	205
86.00	2908	165.00	2197	243.00	2451	363.00	94
87.00	1432	166.00	2243	244.00	29000	365.00	6569
88.00	761	167.00	14171	245.00	3795	366.00	402
89.00	409	168.00	8049	246.00	5829	371.00	410
91.00	2175	169.00	1365	247.00	1082	372.00	2713
92.00	2940	170.00	378	248.00	296	373.00	387
93.00	17160	171.00	691	249.00	972	382.00	163
94.00	1389	172.00	1314	250.00	491	383.00	324
95.00	418	173.00	1750	251.00	269	390.00	298
96.00	942	174.00	2509	252.00	520	391.00	117
97.00	161	175.00	6003	253.00	1092	392.00	88
98.00	13445	176.00	1673	254.00	848	401.00	311
99.00	11092	177.00	2586	255.00	151168	402.00	1026
100.00	1127	178.00	872	256.00	21024	403.00	1321
101.00	5810	179.00	10736	257.00	1755	404.00	648
102.00	316	180.00	7660	258.00	7883	421.00	1124
103.00	2068	181.00	3353	259.00	1193	422.00	1431
104.00	2956	182.00	752	260.00	214	423.00	8046
105.00	3218	183.00	353	261.00	264	424.00	2064
106.00	1445	184.00	853	264.00	131	432.00	84
107.00	46664	185.00	5357	265.00	3322	434.00	93
108.00	7031	186.00	39056	266.00	669	435.00	215
109.00	1564	187.00	11064	267.00	95	436.00	415
110.00	83168	188.00	1061	268.00	104	437.00	101
111.00	12203	189.00	2792	269.00	126	438.00	502
112.00	1673	190.00	427	270.00	167	439.00	848
113.00	657	191.00	1464	271.00	533	440.00	392

Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15aug05x.b/lh2070z.d

Date : 05-AUG-2015 12:47

Client ID: DFTPP12.5

Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP1915;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18

Data File: lh2070z.d
Spectrum: Avg. Scans 392-394 (5.19), Background Scan 388
Location of Maximum: 198.00
Number of points: 306

m/z	Y	m/z	Y	m/z	Y	m/z	Y
115.00	289	192.00	3436	272.00	418	441.00	29176
116.00	2323	193.00	3309	273.00	4587	442.00	178752
117.00	35272	194.00	750	274.00	10823	443.00	37112
118.00	2601	195.00	850	275.00	63968	444.00	2901
119.00	246	196.00	8950	276.00	7943	445.00	214
120.00	506	197.00	1727	277.00	4989		
121.00	96	198.00	300736	278.00	1014		

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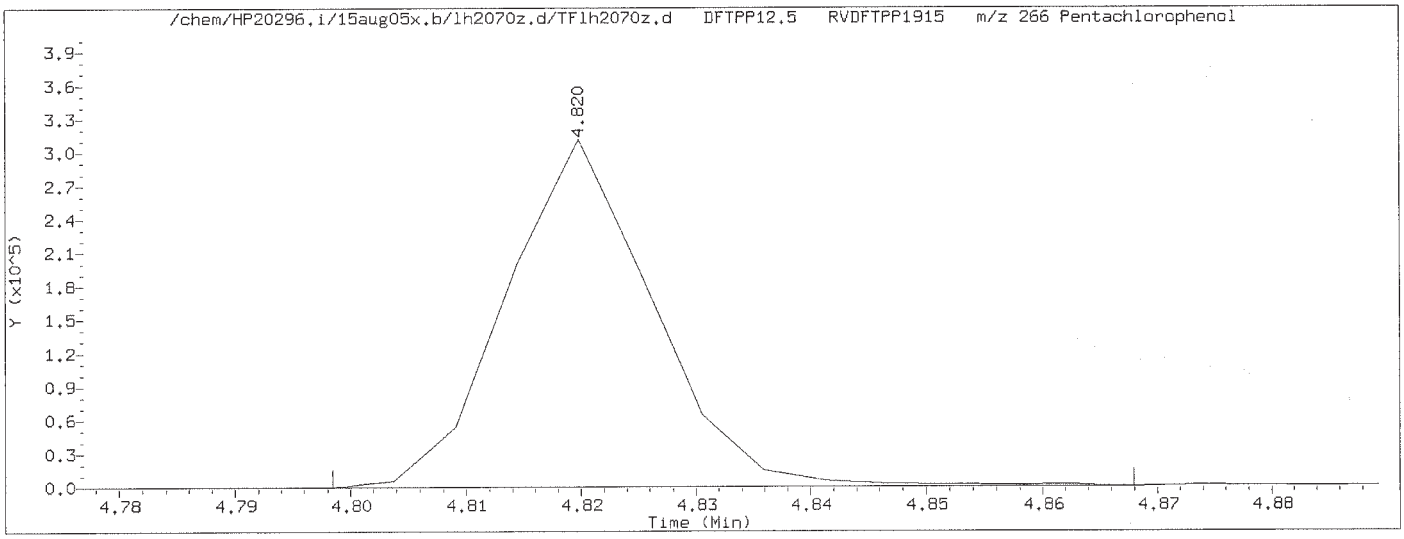
Target 3.5 esignature user ID: ceb05247

Assessment of GC Column Performance and Injection Port Inertness for

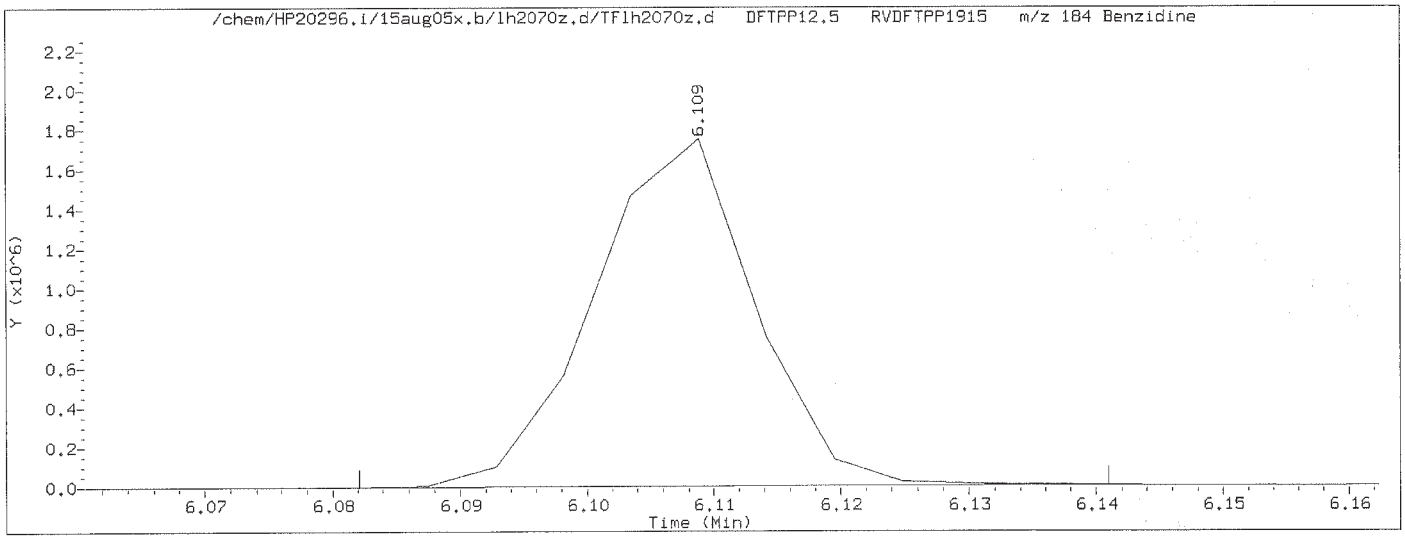
Instrument ID: HP20296.i Injection Date: 05-AUG-2015 12:47 Operator: hbz01996



Pentachlorophenol EICP peak height = 311744 EICP peak height at 10% = 31174 Pentachlorophenol EICP area = 276264

Pentachlorophenol EICP peak apex (min.) = 4.820
RT at 10% of front half of EICP (min.) = 4.807 'Front' peak width (min.) = 0.0132666667
RT at 10% of back half of EICP (min.) = 4.834 'Tailing' peak width (min.) = 0.0143000000

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0143000000}{0.0132666667} = 1.078$$



Benzidine EICP peak height = 1754708 EICP peak height at 10% = 175471 Benzidine EICP area = 1542359

Benzidine EICP peak apex (min.) = 6.109
RT at 10% of front half of EICP (min.) = 6.094 'Front' peak width (min.) = 0.0151500000
RT at 10% of back half of EICP (min.) = 6.119 'Tailing' peak width (min.) = 0.0103333333

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0103333333}{0.0151500000} = 0.682$$

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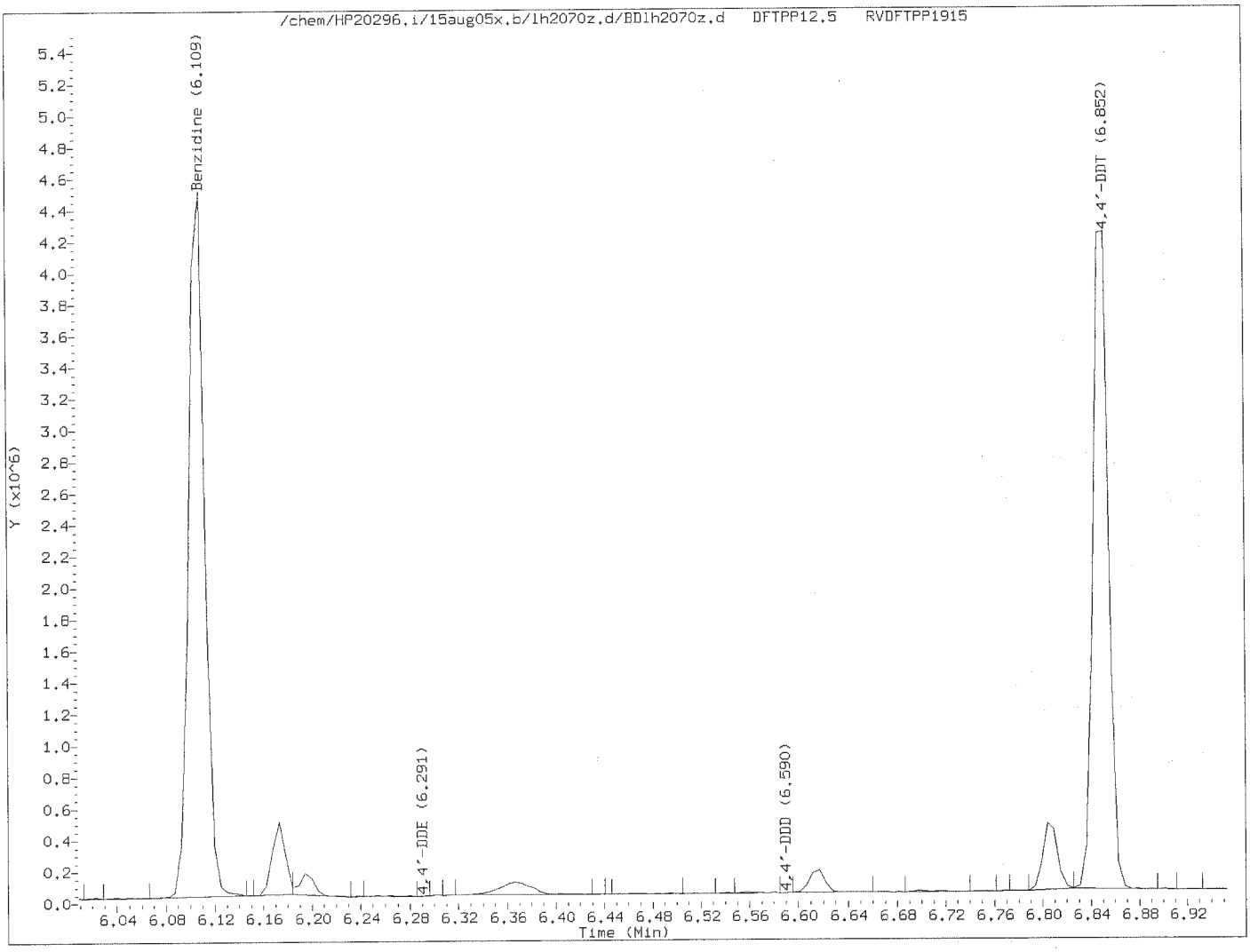
Target 3.5 esignature user ID: ceb05247

Assessment of GC Column Performance and Injection Port Inertness for

Instrument ID: HP20296.i Injection Date: 05-AUG-2015 12:47 Operator: hbz01996



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{581 + 253}{581 + 253 + 3810220} \times 100 = 0.0$$

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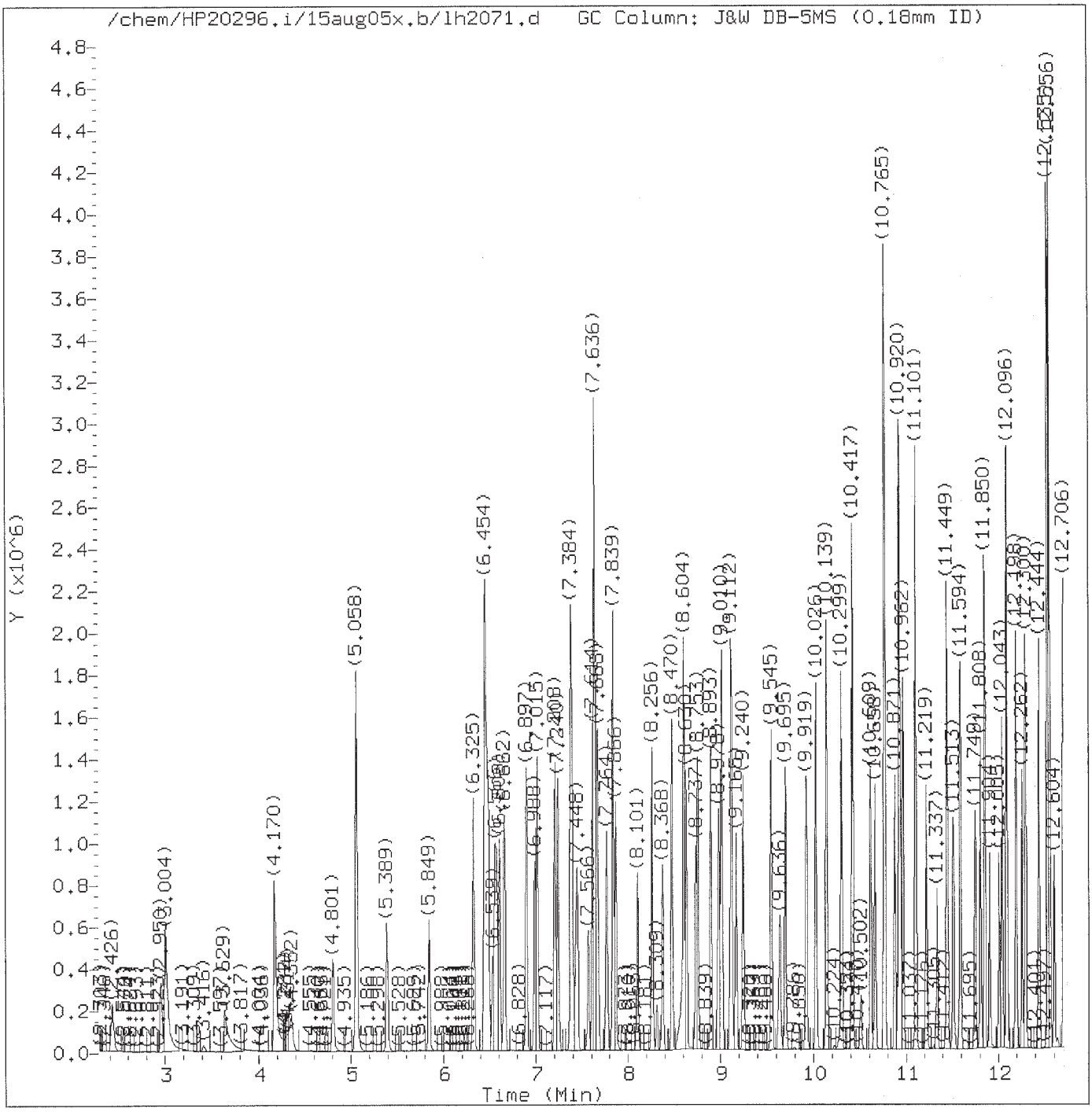
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2071.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 13:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2065

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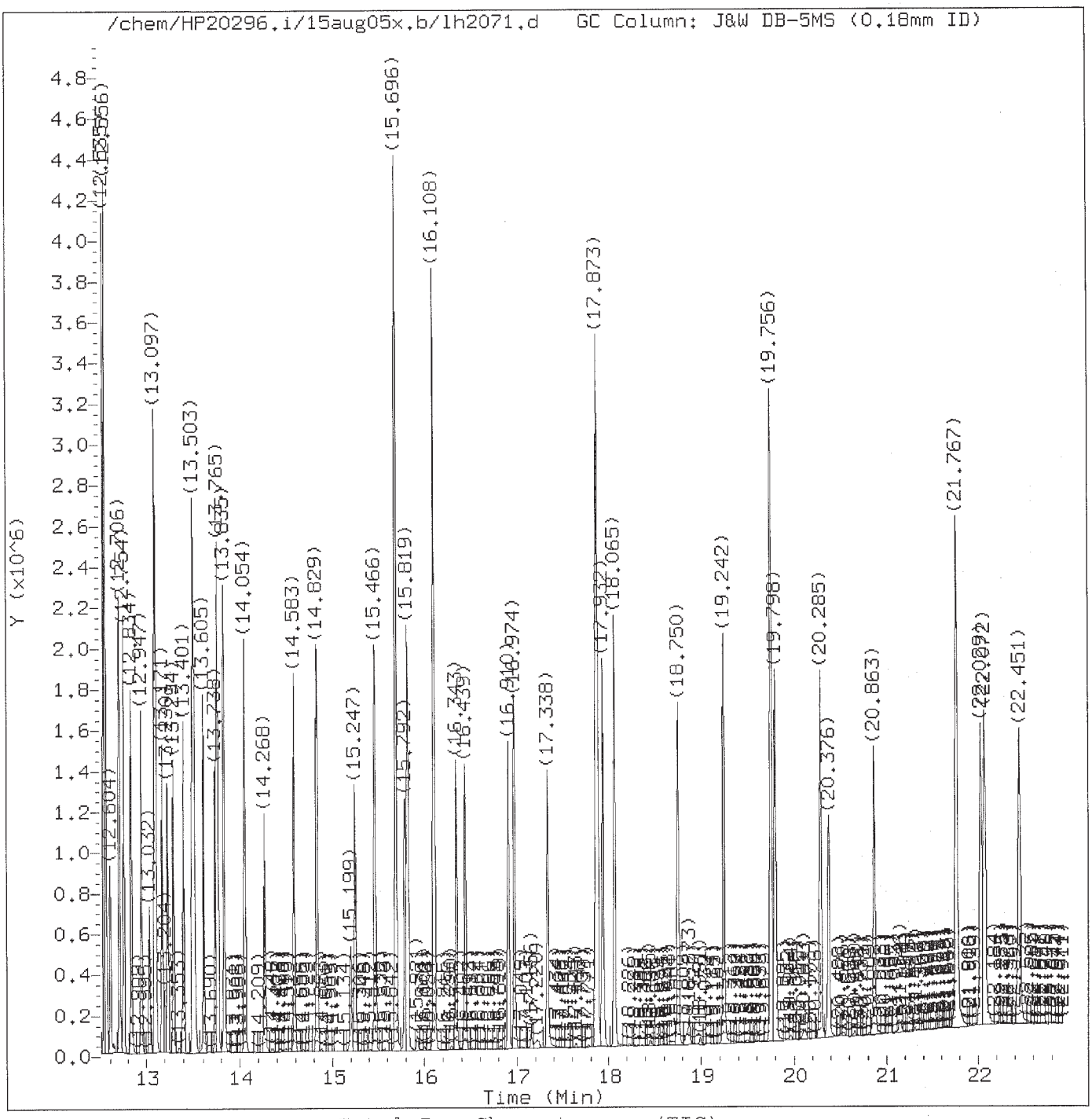
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2071.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 13:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2065

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2071.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 13:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.426	88	170915	7.500
2) N-Nitrosodimethylamine	(1)	2.950	74	276220	7.500
3) Pyridine	(1)	2.998	79	456682	7.500
4) 2-Picoline	(1)	4.170	93	477546	7.500
5) N-Nitrosomethylethylamine	(1)	4.352	88	193154	7.500
6) Methyl methanesulfonate	(1)	4.801	80	235474	7.500
7)$2-Fluorophenol	(1)	5.058	112	754717	15.000
8) N-Nitrosodiethylamine	(1)	5.389	102	185760	7.500
10) Ethyl methanesulfonate	(1)	5.849	109	188296	7.500
11) Benzaldehyde	(1)	6.325	77	357821	7.500
12)$Phenol-d5	(1)	6.454	99	986901	15.000
13)$Phenol-d6	(1)	6.454	99	986901	15.000
14) Phenol	(1)	6.470	94	584976	7.500
15) Aniline	(1)	6.491	93	669173	7.500
16) bis(2-Chloroethyl)ether	(1)	6.609	93	420651	7.500
17) 2-Chlorophenol	(1)	6.662	128	355633	7.500
18) 1,3-Dichlorobenzene	(1)	6.897	146	393773	7.500
19)*1,4-Dichlorobenzene-d4	(1)	6.988	152	165254	5.000
20) 1,4-Dichlorobenzene	(1)	7.015	146	402104	7.500
23) Benzyl alcohol	(1)	7.208	108	260328	7.500
24) 1,2-Dichlorobenzene	(1)	7.240	146	384414	7.500
25) Indene	(1)	7.379	115	638251	7.500
26) 2-Methylphenol	(1)	7.395	108	361431	7.500
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.448	45	632917	7.500
28) bis(2-Chloroisopropyl)ether	(1)	7.448	45	632917	7.500
29) N-Nitrosopyrrolidine	(1)	7.566	100	184648	7.500
30) Acetophenone	(1)	7.614	105	548771	7.500
31) N-Nitroso-di-n-propylamine	(1)	7.636	70	317971	7.500
32) N-Nitrosomorpholine	(1)	7.636	56	267049	7.500
33) 4-Methylphenol	(1)	7.636	108	381871	7.500
34) o-Toluidine	(1)	7.668	106	619959	7.500
35) Hexachloroethane	(1)	7.764	117	169161	7.500
36)$Nitrobenzene-d5	(2)	7.839	82	919901	15.000
37) Nitrobenzene	(2)	7.866	77	464984	7.500
39) N-Nitrosopiperidine	(2)	8.101	114	177607	7.500
40) Isophorone	(2)	8.256	82	800552	7.500
42) 2-Nitrophenol	(2)	8.374	139	176978	7.500
45) 2,4-Dimethylphenol	(2)	8.475	107	389609	7.500
47) Benzoic acid	(2)	8.604	105	327394M	10.000
46) O,O,O-triethylphosphorothioate	(2)	8.604	198	171882	7.500

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2071.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 13:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
48) bis(2-Chloroethoxy)methane	(2)	8.630	93	499853	7.500
49) 2,4-Dichlorophenol	(2)	8.753	162	291672	7.500
51) 1,2,4-Trichlorobenzene	(2)	8.893	180	329349	7.500
52)*Naphthalene-d8	(2)	8.978	136	641646	5.000
53) Naphthalene	(2)	9.010	128	1025631	7.500
55) 4-Chloroaniline	(2)	9.112	127	433852	7.500
56) 2,6-Dichlorophenol	(2)	9.123	162	287801	7.500
57) Hexachloropropene	(2)	9.165	213	207691	7.500
58) Hexachlorobutadiene	(2)	9.246	225	187071	7.500
60) Quinoline	(2)	9.545	129	628477	7.500
61) Caprolactam	(2)	9.636	113	85540	7.500
62) N-Nitrosodi-n-butylamine	(2)	9.695	84	282769	7.500
63) 4-Chloro-3-methylphenol	(2)	9.919	107	327747	7.500
64) Safrole	(2)	10.026	162	252827	7.500
65) 2-Methylnaphthalene	(2)	10.139	142	663102	7.500
66) 1-Methylnaphthalene	(2)	10.299	142	601907	7.500
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.417	216	318563	7.500
67) Hexachlorocyclopentadiene	(3)	10.417	237	193118	7.500
69) cis-Isosafrole	(3)	10.502	162	46999	1.275
70) 2,4,6-Trichlorophenol	(3)	10.609	196	200824	7.500
71) 2,4,5-Trichlorophenol	(3)	10.658	196	214747	7.500
72)$2-Fluorobiphenyl	(3)	10.765	172	1478378	15.000
74) Isosafrole	(3)	10.871	162	247002	7.500
73) trans-Isosafrole	(3)	10.871	162	247002	6.225
75) 1,1'-Biphenyl	(3)	10.920	154	775816	7.500
76) 2-Chloronaphthalene	(3)	10.930	162	647614	7.500
77) 1-Chloronaphthalene	(3)	10.962	162	582824	7.500
82) Diphenyl ether	(3)	11.101	170	423876	7.500
83) 2-Nitroaniline	(3)	11.101	138	196917	7.500
84) 1,4-Naphthoquinone	(3)	11.219	158	246625	7.500
85) 1,4-Dinitrobenzene	(3)	11.337	168	98219	7.500
86) Dimethylphthalate	(3)	11.449	163	678725	7.500
87) 1,3-Dinitrobenzene	(3)	11.454	168	109430	7.500
88) 2,6-Dinitrotoluene	(3)	11.519	165	150353	7.500
90) Acenaphthylene	(3)	11.594	152	957489	7.500
91) 3-Nitroaniline	(3)	11.749	138	171029	7.500
92)*Acenaphthene-d10	(3)	11.808	164	350094	5.000
93) Acenaphthene	(3)	11.850	153	636790	7.500
94) 2,4-Dinitrophenol	(3)	11.904	184	112356	10.000
96) 4-Nitrophenol	(3)	12.005	109	109713	7.500

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2071.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 13:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
95) Pentachlorobenzene	(3)	12.043	250	249389	7.500
98) 2,4-Dinitrotoluene	(3)	12.091	165	194800	7.500
97) Dibenzofuran	(3)	12.096	168	880475	7.500
99) 1-Naphthylamine	(3)	12.198	143	627888	7.500
100) 2,3,4,6-Tetrachlorophenol	(3)	12.268	232	161212	7.500
101) 2-Naphthylamine	(3)	12.300	143	622034	7.500
102) Diethylphthalate	(3)	12.444	149	648355	7.500
104) Thionazin	(3)	12.535	107	130812	7.500
103) Fluorene	(3)	12.535	166	683017	7.500
106) 5-Nitro-o-toluidine	(3)	12.551	152	185595	7.500
107) 4-Nitroaniline	(3)	12.556	138	180065	7.500
105) 4-Chlorophenyl-phenylether	(3)	12.556	204	326559	7.500
108) 4,6-Dinitro-2-methylphenol	(4)	12.604	198	113197	7.500
110) NDPA as diphenylamine	(4)	12.706	169	556703	7.500
109) N-Nitrosodiphenylamine	(4)	12.706	169	556703	7.500
111) 1,2-Diphenylhydrazine	(4)	12.754	77	840164	7.500
112)$2,4,6-Tribromophenol	(3)	12.834	330	156612	15.000
115) Tetraethyldithiopyrophosphate	(4)	12.947	97	123993	7.500
116) 1,3,5-Trinitrobenzene	(4)	13.038	213	66024	7.500
117) Diallate (peak 1)	(4)	13.091	86	281987	6.225
118) Phorate	(4)	13.097	75	514301	7.500
119) Phenacetin	(4)	13.107	108	369324	7.500
120) 4-Bromophenyl-phenylether	(4)	13.177	248	168270	7.500
121) Diallate (peak 2)	(4)	13.204	86	54858	1.275
122) Hexachlorobenzene	(4)	13.236	284	176359	7.500
123) Dimethoate	(4)	13.294	87	318879	7.500
124) Atrazine	(4)	13.401	200	174895	7.500
125) Pentachlorophenol	(4)	13.492	266	117471	7.500
127) 4-Aminobiphenyl	(4)	13.503	169	666552	7.500
126) Pentachloronitrobenzene	(4)	13.508	237	84198	7.500
129) Pronamide	(4)	13.605	173	295382	7.500
130)*Phenanthrene-d10	(4)	13.733	188	573365	5.000
133) Dinoseb	(4)	13.754	211	160752	7.500
131) Phenanthrene	(4)	13.765	178	994529	7.500
134) Anthracene	(4)	13.835	178	983982	7.500
135) Carbazole	(4)	14.054	167	918992	7.500
136) Methyl parathion	(4)	14.268	109	233339	7.500
137) Di-n-butylphthalate	(4)	14.583	149	1071418	7.500
138) Parathion	(4)	14.829	109	143486	7.500
139) 4-Nitroquinoline-1-oxide	(4)	14.835	190	83889	7.500

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$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2071.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 13:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	15.252	193	108459	7.500
142) Fluoranthene	(4)	15.466	202	1078416	7.500
144) Benzidine	(5)	15.696	184	2142583	22.500
145)*Pyrene-d10	(5)	15.792	212	705017	5.000
146) Pyrene	(5)	15.819	202	1140751	7.500
149)$Terphenyl-d14	(5)	16.108	244	1440297	15.000
150) p-Dimethylaminoazobenzene	(5)	16.343	225	182969	7.500
151) Chlorobenzilate	(5)	16.439	139	329880	7.500
152) 3,3'-Dimethylbenzidine	(5)	16.910	212	695045	7.500
153) Butylbenzylphthalate	(5)	16.974	149	489648	7.500
156) 2-Acetylaminofluorene	(5)	17.338	181	412113	7.500
159) 3,3'-Dichlorobenzidine	(5)	17.857	252	369791	7.500
158) Benzo(a)anthracene	(5)	17.873	228	1053888	7.500
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.873	231	215254	7.500
161) Chrysene	(5)	17.937	228	981545	7.500
162) bis(2-Ethylhexyl)phthalate	(5)	18.065	149	702915	7.500
165) 6-Methylchrysene	(5)	18.750	242	677652	7.500
166) Di-n-octylphthalate	(6)	19.242	149	1228771	7.500
168) Benzo(b)fluoranthene	(6)	19.750	252	1034079	7.500
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.756	256	438293	7.500
170) Benzo(k)fluoranthene	(6)	19.798	252	1022386	7.500
171) Benzo(a)pyrene	(6)	20.285	252	980909	7.500
172)*Perylene-d12	(6)	20.376	264	582944	5.000
173) 3-Methylcholanthrene	(6)	20.863	268	446068	7.500
176) Indeno(1,2,3-cd)pyrene	(6)	22.029	276	1182123M	7.500
177) Dibenz(a,h)anthracene	(6)	22.072	278	979800	7.500
178) Benzo(g,h,i)perylene	(6)	22.451	276	1014713	7.500
179) Diallate TRANS/CIS	(4)			336845	7.500
182) 2,4_2,6-Dinitrotoluenes	(3)			345153	15.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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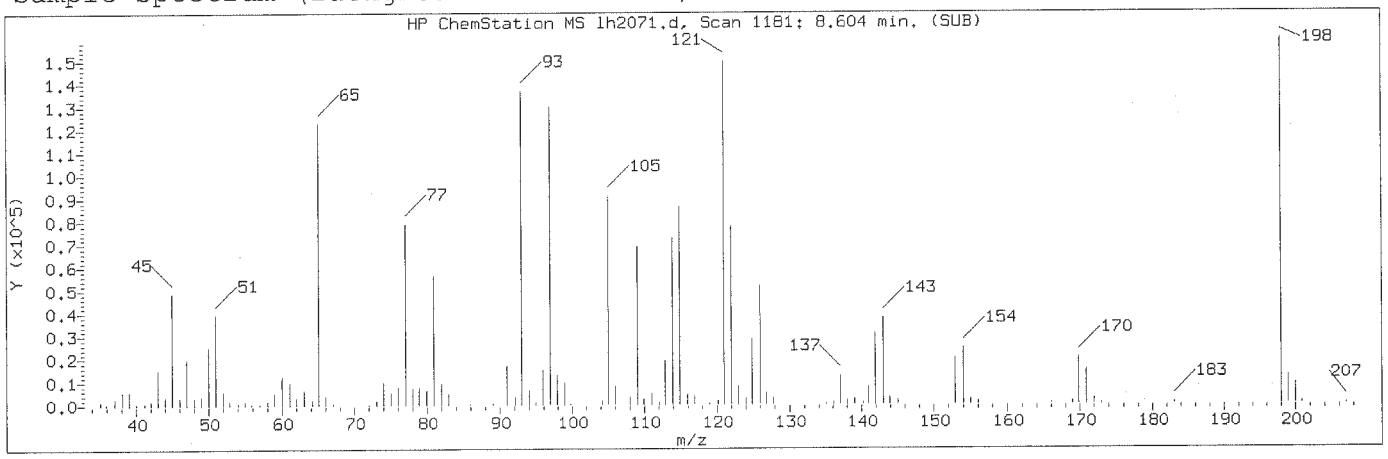
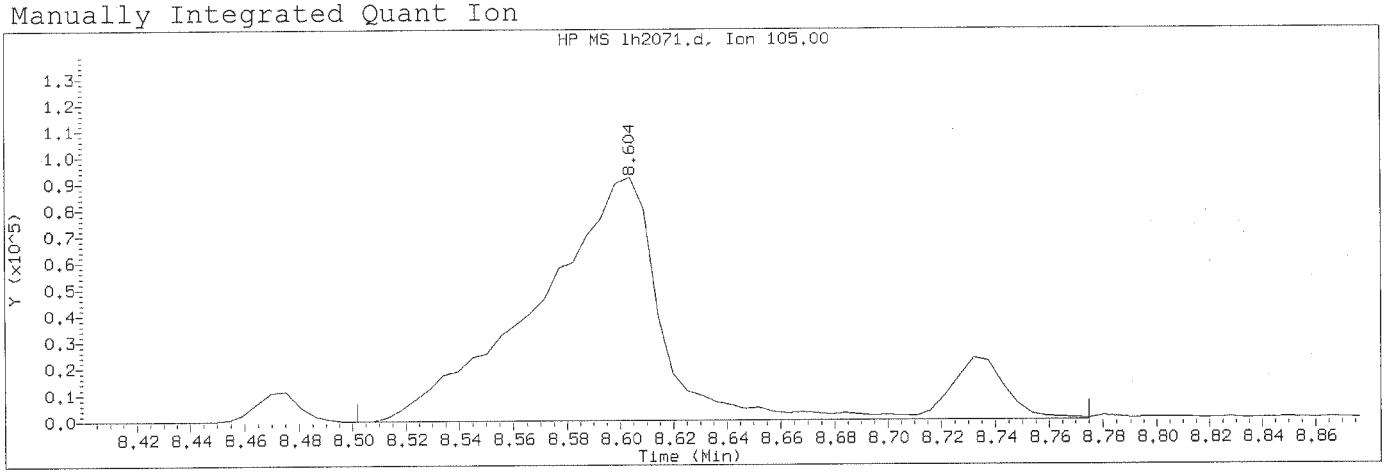
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2071.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 13:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1181		
Retention Time (minutes)	: 8.604		
Quant Ion	: 105.00		
Area (flag)	: 327394M		
On-Column Amount (ng/ul)	: 10.0000		
Integration start scan	: 1161	Integration stop scan:	1212
Y at integration start	: -34	Y at integration end:	-34

Reason for manual integration: improper integration

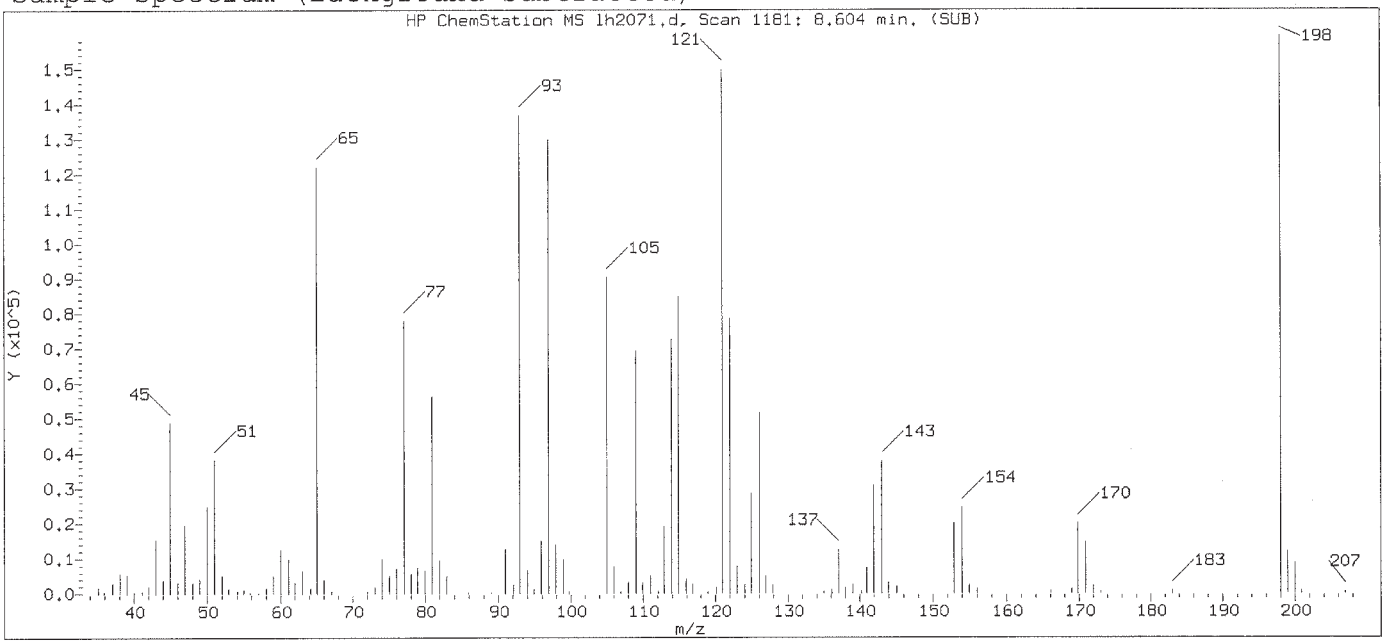
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27. Target 3.5 esignature user ID: ceb05247

Mark A. Ratcliff
Senior Specialist

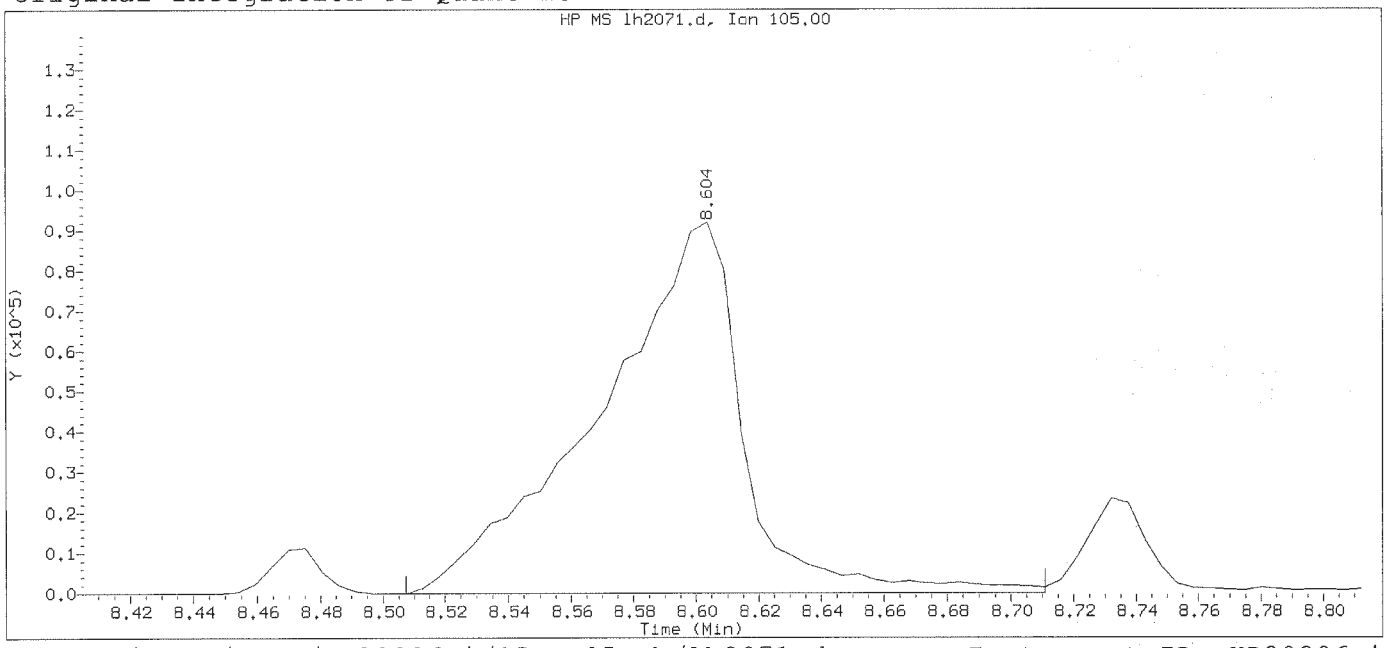
AUG 18 2015

GC/MS audit/management approval: _____

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2071.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 13:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:09 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1181		
Retention Time (minutes)	: 8.604		
Quant Ion	: 105.00		
Area	: 294206		
On-column Amount (ng/ul)	: 9.1606		
Integration start scan	: 1162	Integration stop scan:	1200
Y at integration start	: 0	Y at integration end:	0

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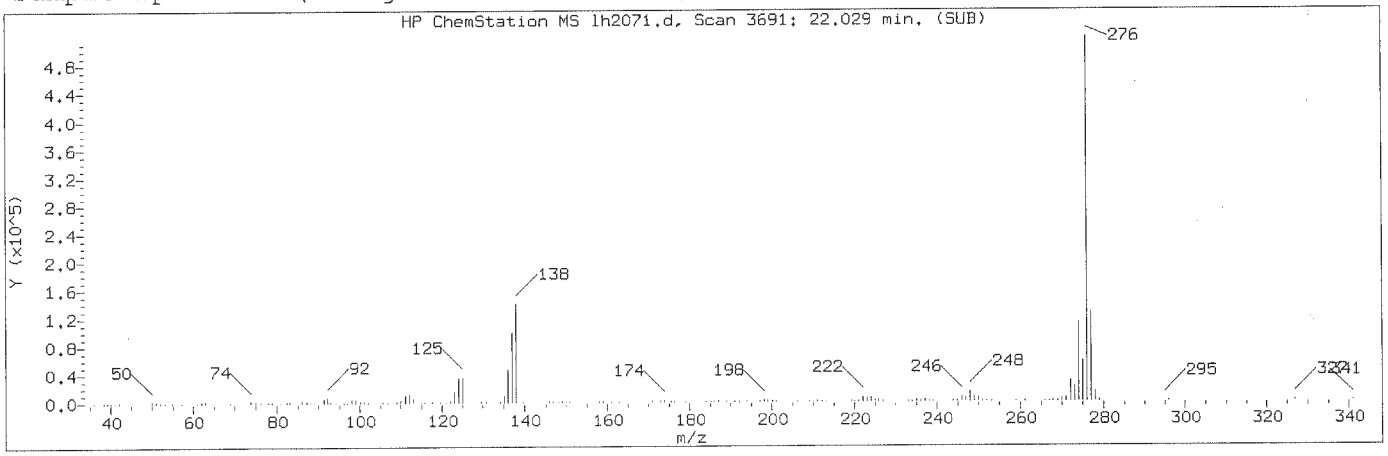
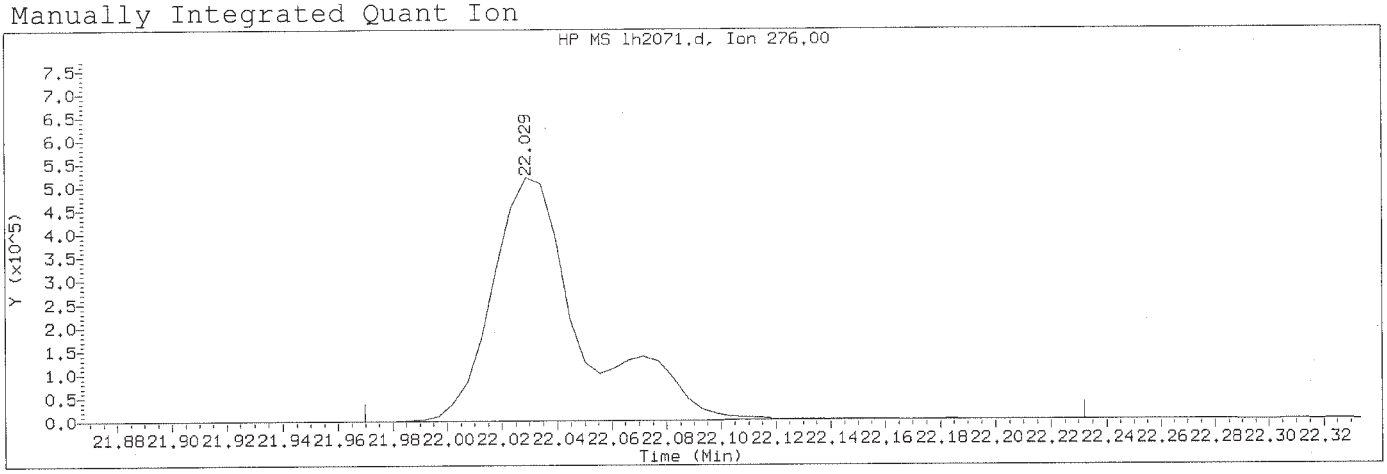
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2071.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 13:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2065

Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3691		
Retention Time (minutes)	: 22.029		
Quant Ion	: 276.00		
Area (flag)	: 1182123M		
On-Column Amount (ng/ul)	: 7.5000		
Integration start scan	: 3679	Integration stop scan:	3728
Y at integration start	: 0	Y at integration end:	900

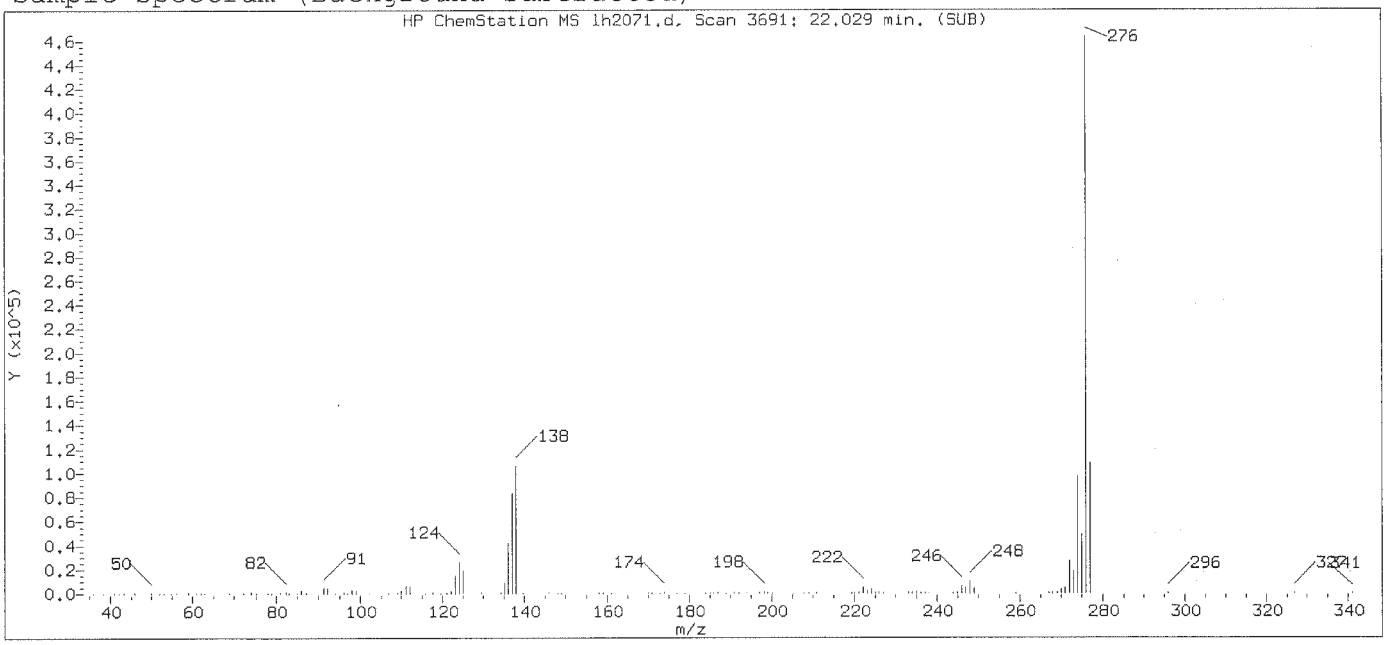
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27. Target 3.5 esignature used ID: ceb05247

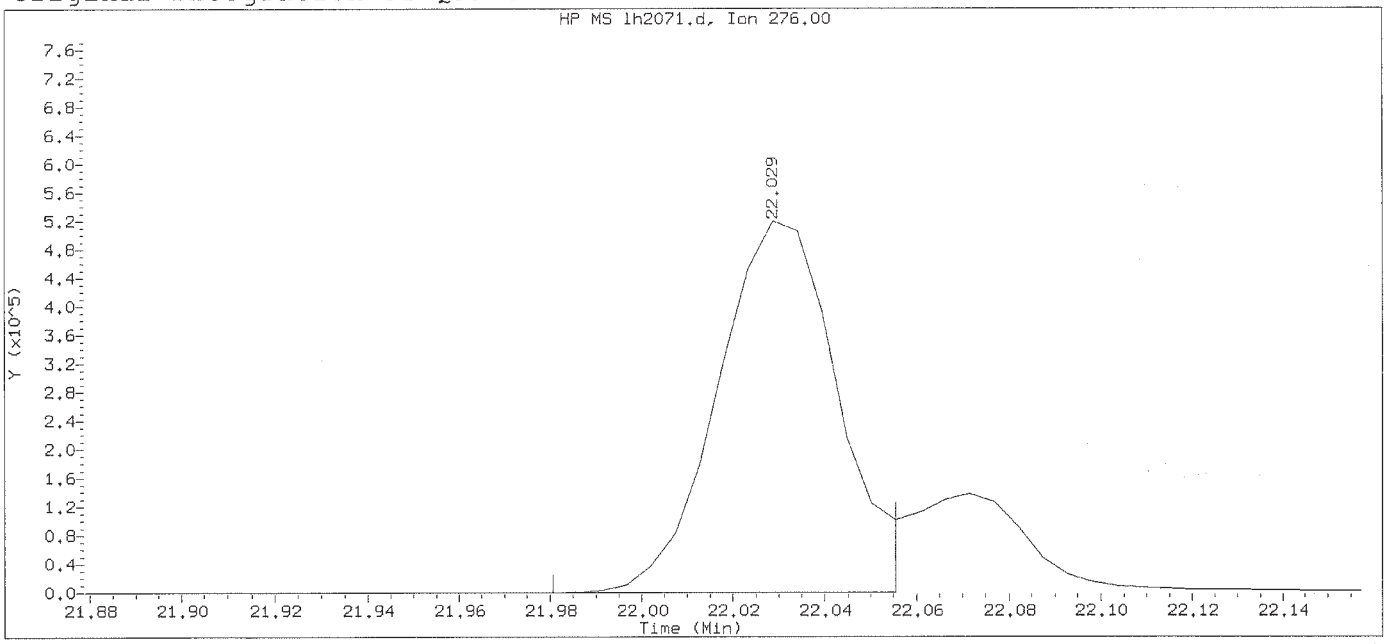
Mark A. Ratcliff
Senior Specialist
AUG 18 2015

GC/MS audit/management approval: _____

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2071.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 13:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:09 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2065

Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3691		
Retention Time (minutes)	: 22.029		
Quant Ion	: 276.00		
Area	: 931344		
On-column Amount (ng/ul)	: 6.4634		
Integration start scan	: 3681	Integration stop scan:	3695
Y at integration start	: 0	Y at integration end:	0

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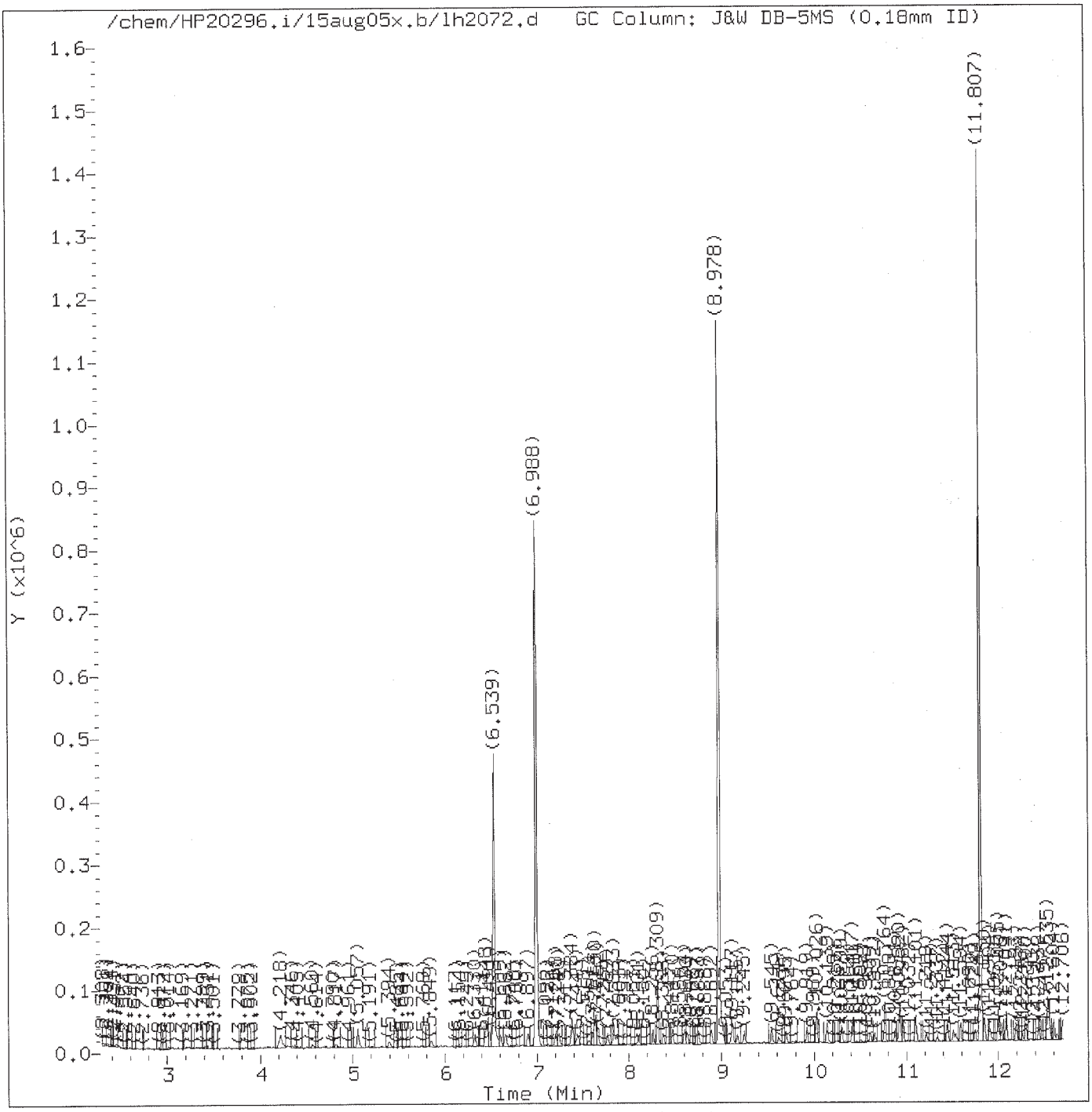
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

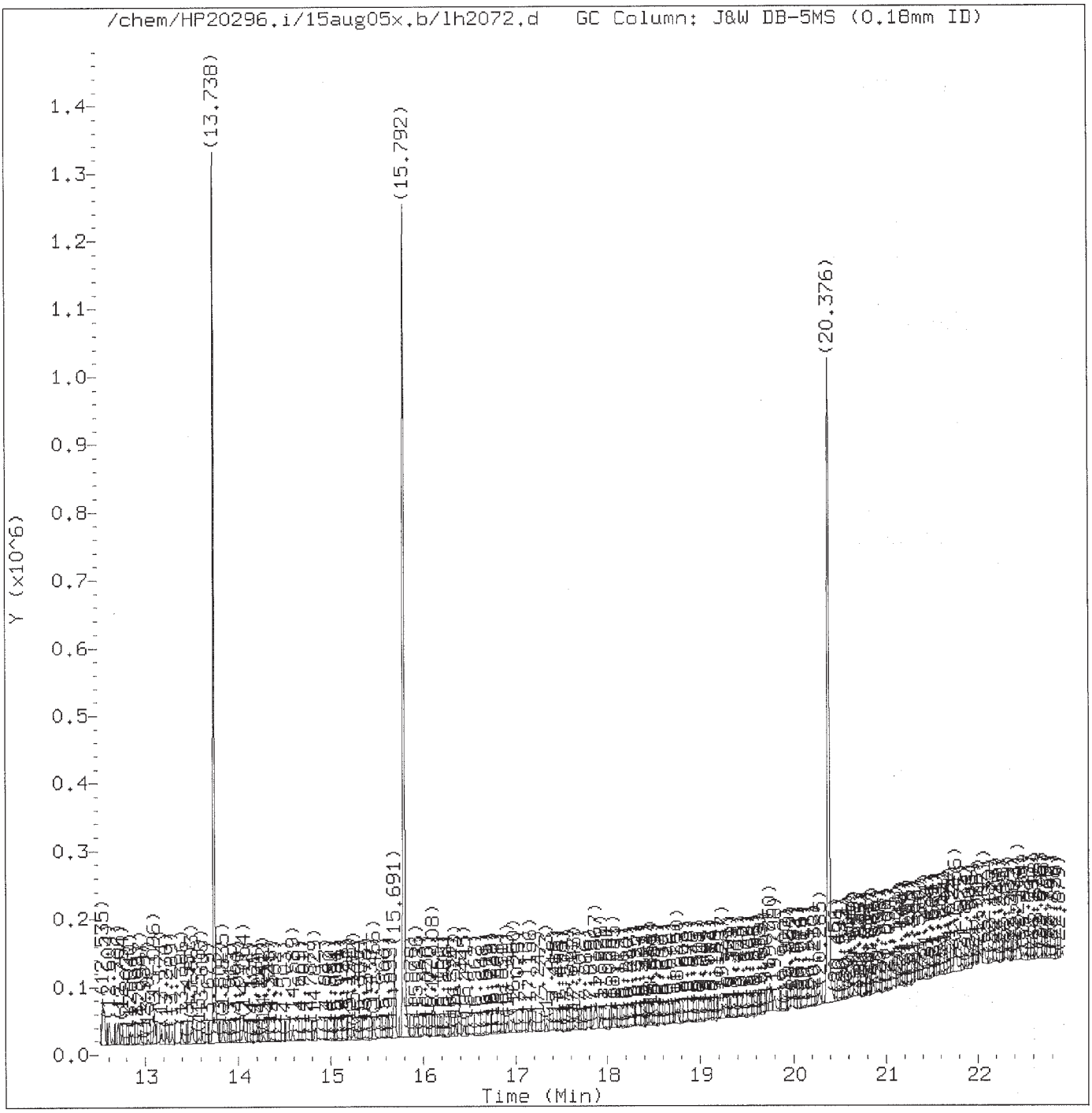
Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2072.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 13:58 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2065

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2072.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 13:58 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2065

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2072.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 13:58 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
2) N-Nitrosodimethylamine	(1)	3.025	74	3414	0.094
3) Pyridine	(1)	3.207	79	4387	0.073
4) 2-Picoline	(1)	4.218	93	7530	0.120
5) N-Nitrosomethylethylamine	(1)	4.351	88	1625	0.064
6) Methyl methanesulfonate	(1)	4.817	80	3172	0.102
7)$2-Fluorophenol	(1)	5.057	112	11155	0.224
8) N-Nitrosodiethylamine	(1)	5.389	102	2595	0.106
10) Ethyl methanesulfonate	(1)	5.849	109	2981	0.120
11) Benzaldehyde	(1)	6.325	77	5876	0.125
12)$Phenol-d5	(1)	6.448	99	15210	0.234
13)$Phenol-d6	(1)	6.448	99	15210	0.234
14) Phenol	(1)	6.464	94	8750	0.114
15) Aniline	(1)	6.491	93	10714	0.122
16) bis(2-Chloroethyl)ether	(1)	6.609	93	6986	0.126
17) 2-Chlorophenol	(1)	6.662	128	5929	0.127
18) 1,3-Dichlorobenzene	(1)	6.897	146	6474	0.125
19)*1,4-Dichlorobenzene-d4	(1)	6.988	152	163236	5.000
20) 1,4-Dichlorobenzene	(1)	7.020	146	6865	0.130
23) Benzyl alcohol	(1)	7.208	108	3386	0.099
24) 1,2-Dichlorobenzene	(1)	7.240	146	6051	0.120
25) Indene	(1)	7.384	115	8870	0.106
26) 2-Methylphenol	(1)	7.389	108	4995	0.105
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.448	45	12288	0.147
28) bis(2-Chloroisopropyl)ether	(1)	7.448	45	12288	0.147
29) N-Nitrosopyrrolidine	(1)	7.566	100	2478	0.102
30) Acetophenone	(1)	7.614	105	8784	0.122
33) 4-Methylphenol	(1)	7.630	108	6405	0.127
31) N-Nitroso-di-n-propylamine	(1)	7.636	70	4851	0.116
32) N-Nitrosomorpholine	(1)	7.636	56	4598	0.131
34) o-Toluidine	(1)	7.662	106	9348	0.114
35) Hexachloroethane	(1)	7.769	117	2549	0.114
36)$Nitrobenzene-d5	(2)	7.833	82	13945	0.233
37) Nitrobenzene	(2)	7.865	77	7436	0.123
39) N-Nitrosopiperidine	(2)	8.101	114	2484	0.108
40) Isophorone	(2)	8.261	82	12154	0.117
42) 2-Nitrophenol	(2)	8.374	139	2256	0.098
45) 2,4-Dimethylphenol	(2)	8.470	107	5464	0.108
47) Benzoic acid	(2)	8.539	105	1300	0.041
46) O,O,O-triethylphosphorothioate	(2)	8.598	198	2044	0.091
48) bis(2-Chloroethoxy)methane	(2)	8.620	93	2902	0.045

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2072.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 13:58 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
49) 2,4-Dichlorophenol	(2)	8.759	162	4489	0.118
51) 1,2,4-Trichlorobenzene	(2)	8.898	180	4920	0.115
52)*Naphthalene-d8	(2)	8.978	136	625870	5.000
53) Naphthalene	(2)	9.010	128	17335	0.127
55) 4-Chloroaniline	(2)	9.112	127	6728	0.119
56) 2,6-Dichlorophenol	(2)	9.117	162	4349	0.116
57) Hexachloropropene	(2)	9.165	213	3426	0.127
58) Hexachlorobutadiene	(2)	9.245	225	3286	0.135
60) Quinoline	(2)	9.545	129	10208	0.125
62) N-Nitrosodi-n-butylamine	(2)	9.695	84	4169	0.113
63) 4-Chloro-3-methylphenol	(2)	9.919	107	5085	0.119
64) Safrole	(2)	10.026	162	3936	0.120
65) 2-Methylnaphthalene	(2)	10.139	142	9899	0.120
66) 1-Methylnaphthalene	(2)	10.299	142	10048	0.127
67) Hexachlorocyclopentadiene	(3)	10.411	237	2565	0.102
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.417	216	5127	0.124
69) cis-Isosafrole	(3)	10.508	162	631	0.018
70) 2,4,6-Trichlorophenol	(3)	10.609	196	2928	0.112
71) 2,4,5-Trichlorophenol	(3)	10.657	196	3212	0.115
72)$2-Fluorobiphenyl	(3)	10.764	172	23669	0.247
74) Isosafrole	(3)	10.871	162	4052	0.126
73) trans-Isosafrole	(3)	10.871	162	4052	0.105
75) 1,1'-Biphenyl	(3)	10.914	154	13184	0.131
76) 2-Chloronaphthalene	(3)	10.930	162	10401	0.124
77) 1-Chloronaphthalene	(3)	10.962	162	9221	0.122
82) Diphenyl ether	(3)	11.101	170	7263	0.132
83) 2-Nitroaniline	(3)	11.101	138	2386	0.093
84) 1,4-Naphthoquinone	(3)	11.219	158	3204	0.100
86) Dimethylphthalate	(3)	11.444	163	10673	0.121
88) 2,6-Dinitrotoluene	(3)	11.513	165	1826	0.094
90) Acenaphthylene	(3)	11.594	152	13522	0.116
91) 3-Nitroaniline	(3)	11.749	138	1781	0.080
92)*Acenaphthene-d10	(3)	11.807	164	340626	5.000
93) Acenaphthene	(3)	11.856	153	9749	0.121
94) 2,4-Dinitrophenol	(3)	11.904	184	3788	0.347
96) 4-Nitrophenol	(3)	12.005	109	6153	0.432
95) Pentachlorobenzene	(3)	12.043	250	3949	0.122
98) 2,4-Dinitrotoluene	(3)	12.086	165	1975	0.078
97) Dibenzofuran	(3)	12.096	168	15045	0.132
99) 1-Naphthylamine	(3)	12.193	143	9111	0.112

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2072.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 13:58 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
100) 2,3,4,6-Tetrachlorophenol	(3)	12.267	232	2544	0.122
101) 2-Naphthylamine	(3)	12.300	143	9429	0.117
102) Diethylphthalate	(3)	12.444	149	9715	0.116
103) Fluorene	(3)	12.535	166	11912	0.130
104) Thionazin	(3)	12.535	107	1702	0.100
107) 4-Nitroaniline	(3)	12.551	138	2064	0.088
106) 5-Nitro-o-toluidine	(3)	12.551	152	2118	0.088
105) 4-Chlorophenyl-phenylether	(3)	12.556	204	5123	0.121
108) 4,6-Dinitro-2-methylphenol	(4)	12.604	198	3750	0.257
109) N-Nitrosodiphenylamine	(4)	12.706	169	7971	0.111
110) NDPA as diphenylamine	(4)	12.706	169	7971	0.111
111) 1,2-Diphenylhydrazine	(4)	12.754	77	11036	0.102
112)$2,4,6-Tribromophenol	(3)	12.840	330	1821	0.179
115) Tetraethyldithiopyrophosphate	(4)	12.947	97	1498	0.094
117) Diallate (peak 1)	(4)	13.091	86	3800	0.087
121) Diallate (peak 2)	(4)	13.091	86	3800	0.091
118) Phorate	(4)	13.096	75	6125	0.092
119) Phenacetin	(4)	13.102	108	4089	0.086
120) 4-Bromophenyl-phenylether	(4)	13.177	248	2543	0.117
122) Hexachlorobenzene	(4)	13.236	284	3071	0.130
123) Dimethoate	(4)	13.289	87	3743	0.091
124) Atrazine	(4)	13.401	200	2731	0.121
125) Pentachlorophenol	(4)	13.498	266	865	0.057
127) 4-Aminobiphenyl	(4)	13.503	169	8205	0.096
126) Pentachloronitrobenzene	(4)	13.508	237	910	0.084
129) Pronamide	(4)	13.605	173	3579	0.094
130)*Phenanthrene-d10	(4)	13.738	188	554075	5.000
131) Phenanthrene	(4)	13.765	178	15887	0.124
134) Anthracene	(4)	13.835	178	13403	0.115
135) Carbazole	(4)	14.054	167	12403	0.105
138) Parathion	(4)	14.262	109	2057	0.111
136) Methyl parathion	(4)	14.262	109	2057	0.068
137) Di-n-butylphthalate	(4)	14.589	149	12925	0.094
142) Fluoranthene	(4)	15.466	202	15447	0.118
144) Benzidine	(5)	15.691	184	61305	0.704
145)*Pyrene-d10	(5)	15.792	212	644836	5.000
146) Pyrene	(5)	15.819	202	18934	0.130
149)$Terphenyl-d14	(5)	16.108	244	20940	0.238
151) Chlorobenzilate	(5)	16.439	139	4505	0.112
152) 3,3'-Dimethylbenzidine	(5)	16.910	212	6876	0.081

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2072.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 13:58 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
153) Butylbenzylphthalate	(5)	16.980	149	5295	0.089
156) 2-Acetylaminofluorene	(5)	17.333	181	3578	0.071
159) 3,3'-Dichlorobenzidine	(5)	17.851	252	3807	0.084
158) Benzo(a)anthracene	(5)	17.867	228	13142	0.112
161) Chrysene	(5)	17.932	228	12231	0.112
162) bis(2-Ethylhexyl)phthalate	(5)	18.065	149	7408	0.086
165) 6-Methylchrysene	(5)	18.750	242	7938	0.096
166) Di-n-octylphthalate	(6)	19.242	149	9964	0.073
168) Benzo(b)fluoranthene	(6)	19.750	252	12342	0.115
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.756	256	4468	0.091
170) Benzo(k)fluoranthene	(6)	19.798	252	12799	0.118
171) Benzo(a)pyrene	(6)	20.285	252	10846	0.111
172)*Perylene-d12	(6)	20.376	264	487818	5.000
173) 3-Methylcholanthrene	(6)	20.863	268	5591	0.112
176) Indeno(1,2,3-cd)pyrene	(6)	22.023	276	13390	0.112
177) Dibenz(a,h)anthracene	(6)	22.071	278	11193	0.113
178) Benzo(g,h,i)perylene	(6)	22.441	276	13386	0.122
179) Diallate TRANS/CIS	(4)			7600	0.178
182) 2,4_2,6-Dinitrotoluenes	(3)			3801	0.172

* = Compound is an internal standard.

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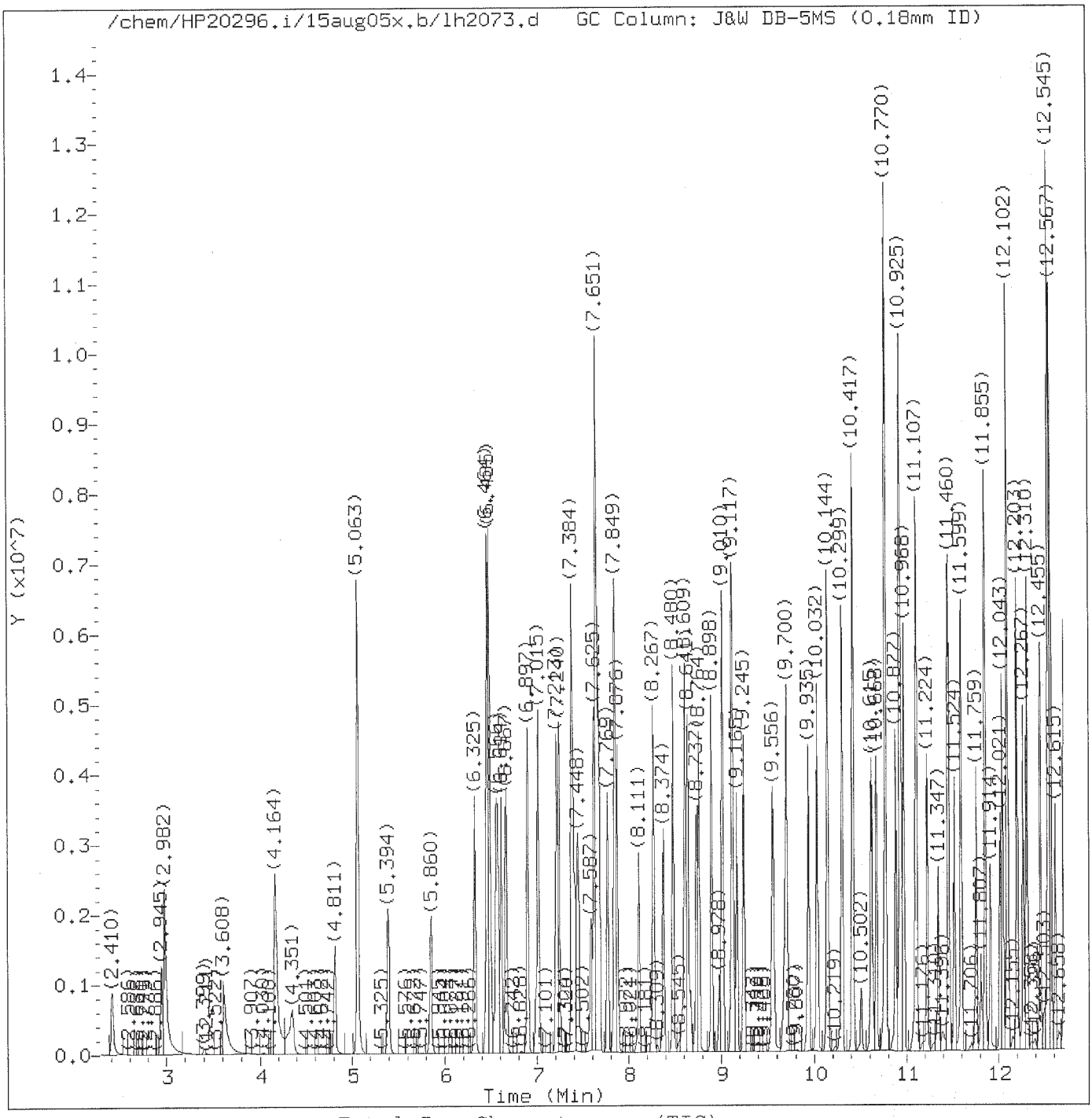
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2073.d
Injection date and time: 05-AUG-2015 14:26

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sublist used: newall1-d

Sample Name: SSTD030

Lab Sample ID: RVSTD2065

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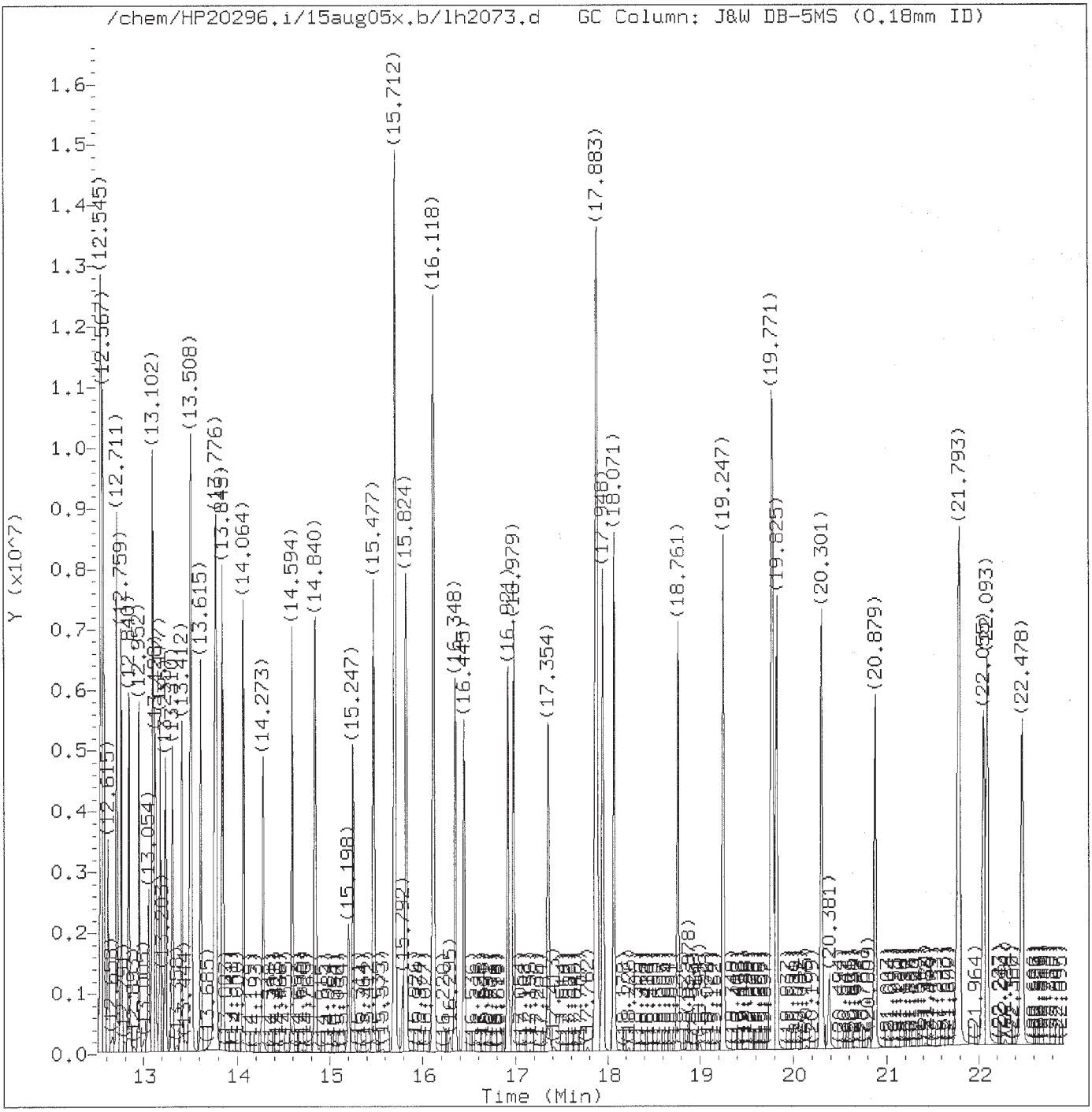
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2073.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:26 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2073.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:26 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.410	88	628241	29.931
2) N-Nitrosodimethylamine	(1)	2.945	74	1036665	30.243
3) Pyridine	(1)	2.982	79	1766354	30.695
4) 2-Picoline	(1)	4.164	93	1754596	29.925
5) N-Nitrosomethylethylamine	(1)	4.346	88	713213	29.999
6) Methyl methanesulfonate	(1)	4.811	80	861416	29.859
7)$2-Fluorophenol	(1)	5.063	112	2816694	60.319
8) N-Nitrosodiethylamine	(1)	5.394	102	681642	29.906
10) Ethyl methanesulfonate	(1)	5.860	109	699109	30.082
11) Benzaldehyde	(1)	6.325	77	1196838	28.517
12)$Phenol-d5	(1)	6.464	99	3649300	60.041
13)$Phenol-d6	(1)	6.464	99	3649300	60.041
14) Phenol	(1)	6.485	94	2123919	29.746
15) Aniline	(1)	6.496	93	2486676	30.095
16) bis(2-Chloroethyl)ether	(1)	6.614	93	1549013	29.958
17) 2-Chlorophenol	(1)	6.667	128	1335448	30.252
18) 1,3-Dichlorobenzene	(1)	6.903	146	1455563	30.015
19)*1,4-Dichlorobenzene-d4	(1)	6.988	152	152557	5.000
20) 1,4-Dichlorobenzene	(1)	7.015	146	1476717	29.918
23) Benzyl alcohol	(1)	7.213	108	963802	30.039
24) 1,2-Dichlorobenzene	(1)	7.240	146	1392883	29.716
25) Indene	(1)	7.379	115	2354833	29.987
26) 2-Methylphenol	(1)	7.395	108	1353562	30.211
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.448	45	2339654	30.016
28) bis(2-Chloroisopropyl)ether	(1)	7.448	45	2339654	30.016
29) N-Nitrosopyrrolidine	(1)	7.587	100	723603	30.891
30) Acetophenone	(1)	7.619	105	2032727	30.047
33) 4-Methylphenol	(1)	7.646	108	1532508	31.248
32) N-Nitrosomorpholine	(1)	7.651	56	978231	29.879
31) N-Nitroso-di-n-propylamine	(1)	7.651	70	1159964	29.818
34) o-Toluidine	(1)	7.673	106	2315049	30.168
35) Hexachloroethane	(1)	7.764	117	614825	29.762
36)$Nitrobenzene-d5	(2)	7.849	82	3431897	60.932
37) Nitrobenzene	(2)	7.876	77	1726517	30.395
39) N-Nitrosopiperidine	(2)	8.111	114	675149	30.747
40) Isophorone	(2)	8.267	82	3053142	30.796
42) 2-Nitrophenol	(2)	8.374	139	684889	31.015
45) 2,4-Dimethylphenol	(2)	8.480	107	1466321	30.597
46) O,O,O-triethylphosphorothioate	(2)	8.609	198	651976	30.715
48) bis(2-Chloroethoxy)methane	(2)	8.641	93	1770054	29.684

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/1h2073.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:26 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
47) Benzoic acid	(2)	8.668	105	1143011M	33.766
49) 2,4-Dichlorophenol	(2)	8.764	162	1096625	30.582
51) 1,2,4-Trichlorobenzene	(2)	8.898	180	1208945	30.223
52)*Naphthalene-d8	(2)	8.978	136	580152	5.000
53) Naphthalene	(2)	9.010	128	3762035	29.889
55) 4-Chloroaniline	(2)	9.117	127	1629406	30.566
56) 2,6-Dichlorophenol	(2)	9.128	162	1057881	30.243
57) Hexachloropropene	(2)	9.165	213	825102	31.408
58) Hexachlorobutadiene	(2)	9.245	225	686766	30.224
60) Quinoline	(2)	9.556	129	2366427	30.604
61) Caprolactam	(2)	9.695	113	326414A	30.804
62) N-Nitrosodi-n-butylamine	(2)	9.700	84	1316248	33.765
63) 4-Chloro-3-methylphenol	(2)	9.935	107	1234158	30.605
64) Safrole	(2)	10.032	162	972934	30.931
65) 2-Methylnaphthalene	(2)	10.144	142	2482396	31.543
66) 1-Methylnaphthalene	(2)	10.299	142	2245445	30.354
67) Hexachlorocyclopentadiene	(3)	10.417	237	751869	30.697
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.422	216	1197571	30.172
69) cis-Isosafrole	(3)	10.502	162	179077	5.164
70) 2,4,6-Trichlorophenol	(3)	10.615	196	805257	31.139
71) 2,4,5-Trichlorophenol	(3)	10.668	196	781546	29.686
72)$2-Fluorobiphenyl	(3)	10.770	172	5483373	59.940
74) Isosafrole	(3)	10.877	162	973864	30.886
73) trans-Isosafrole	(3)	10.877	162	973864	25.636
75) 1,1'-Biphenyl	(3)	10.925	154	2854893	29.851
76) 2-Chloronaphthalene	(3)	10.936	162	2494019	30.534
77) 1-Chloronaphthalene	(3)	10.968	162	2088148	29.451
82) Diphenyl ether	(3)	11.107	170	1590280	30.142
83) 2-Nitroaniline	(3)	11.112	138	750734	30.382
84) 1,4-Naphthoquinone	(3)	11.224	158	926093	30.155
85) 1,4-Dinitrobenzene	(3)	11.347	168	367076	30.084
86) Dimethylphthalate	(3)	11.454	163	2347513	28.922
87) 1,3-Dinitrobenzene	(3)	11.465	168	395861	29.595
88) 2,6-Dinitrotoluene	(3)	11.524	165	546602	29.669
90) Acenaphthylene	(3)	11.599	152	3668491	31.974
91) 3-Nitroaniline	(3)	11.759	138	634526	29.974
92)*Acenaphthene-d10	(3)	11.807	164	325280	5.000
93) Acenaphthene	(3)	11.855	153	2383263	30.711
94) 2,4-Dinitrophenol	(3)	11.914	184	382867	33.004
96) 4-Nitrophenol	(3)	12.021	109	476576	32.335

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2073.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:26 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
95) Pentachlorobenzene	(3)	12.043	250	944531	30.283
98) 2,4-Dinitrotoluene	(3)	12.102	165	762653	30.781
97) Dibenzofuran	(3)	12.102	168	3245648	29.877
99) 1-Naphthylamine	(3)	12.203	143	2367880	30.219
100) 2,3,4,6-Tetrachlorophenol	(3)	12.267	232	649798	31.217
101) 2-Naphthylamine	(3)	12.310	143	2332217	30.132
102) Diethylphthalate	(3)	12.455	149	2386333	29.854
103) Fluorene	(3)	12.540	166	2435064	28.449
104) Thionazin	(3)	12.545	107	490544	30.135
105) 4-Chlorophenyl-phenylether	(3)	12.562	204	1162506	29.354
106) 5-Nitro-o-toluidine	(3)	12.567	152	709874	30.431
107) 4-Nitroaniline	(3)	12.572	138	679250	30.223
108) 4,6-Dinitro-2-methylphenol	(4)	12.615	198	468357	31.517
110) NDPA as diphenylamine	(4)	12.711	169	2066804	29.892
109) N-Nitrosodiphenylamine	(4)	12.711	169	2066804	29.892
111) 1,2-Diphenylhydrazine	(4)	12.759	77	2999922	29.308
112)$2,4,6-Tribromophenol	(3)	12.845	330	599902	60.906
115) Tetraethyldithiopyrophosphate	(4)	12.947	97	474191	30.337
116) 1,3,5-Trinitrobenzene	(4)	13.054	213	293265	32.576
117) Diallate (peak 1)	(4)	13.096	86	1040524	24.735
118) Phorate	(4)	13.102	75	1953362	30.234
119) Phenacetin	(4)	13.128	108	1480497	31.043
120) 4-Bromophenyl-phenylether	(4)	13.177	248	634085	30.116
121) Diallate (peak 2)	(4)	13.203	86	211874	5.182
122) Hexachlorobenzene	(4)	13.235	284	657071	29.138
123) Dimethoate	(4)	13.310	87	1259437	30.820
124) Atrazine	(4)	13.412	200	632295	29.494
125) Pentachlorophenol	(4)	13.498	266	466086	30.889
127) 4-Aminobiphenyl	(4)	13.508	169	2566704	30.440
126) Pentachloronitrobenzene	(4)	13.519	237	323881	30.424
129) Pronamide	(4)	13.615	173	1180967	31.003
130)*Phenanthrene-d10	(4)	13.738	188	535999	5.000
133) Dinoseb	(4)	13.760	211	729087	32.886
131) Phenanthrene	(4)	13.776	178	3879529	30.935
134) Anthracene	(4)	13.845	178	3776404	32.162
135) Carbazole	(4)	14.064	167	3587048	30.643
136) Methyl parathion	(4)	14.273	109	978023	31.710
137) Di-n-butylphthalate	(4)	14.594	149	4372670	31.311
138) Parathion	(4)	14.835	109	606447	31.835
139) 4-Nitroquinoline-1-oxide	(4)	14.845	190	450382	35.367

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2073.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:26 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	15.247	193	430861	30.907
142) Fluoranthene	(4)	15.477	202	4298379	32.462
144) Benzidine	(5)	15.712	184	8797204	92.499
145)*Pyrene-d10	(5)	15.792	212	684581	5.000
146) Pyrene	(5)	15.824	202	4535932	29.602
149)$Terphenyl-d14	(5)	16.118	244	5765734	60.906
150) p-Dimethylaminoazobenzene	(5)	16.348	225	833487	32.386
151) Chlorobenzilate	(5)	16.445	139	1368208	30.984
152) 3,3'-Dimethylbenzidine	(5)	16.921	212	3029524	31.728
153) Butylbenzylphthalate	(5)	16.979	149	2053316	31.149
156) 2-Acetylaminofluorene	(5)	17.359	181	1909660	32.641
159) 3,3'-Dichlorobenzidine	(5)	17.867	252	1602946	31.645
158) Benzo(a)anthracene	(5)	17.883	228	4376526	33.328
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.883	231	909159	31.257
161) Chrysene	(5)	17.948	228	4081615	33.364
162) bis(2-Ethylhexyl)phthalate	(5)	18.071	149	3066263	31.740
165) 6-Methylchrysene	(5)	18.761	242	2927886	31.596
166) Di-n-octylphthalate	(6)	19.247	149	5572932	31.139
168) Benzo(b)fluoranthene	(6)	19.771	252	4639891	32.864
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.777	256	1956770	30.903
170) Benzo(k)fluoranthene	(6)	19.825	252	4309731	31.117
171) Benzo(a)pyrene	(6)	20.301	252	4361333	33.396
172)*Perylene-d12	(6)	20.381	264	612613	5.000
173) 3-Methylcholanthrene	(6)	20.879	268	2013725	31.070
176) Indeno(1,2,3-cd)pyrene	(6)	22.055	276	4872185	31.599
177) Dibenz(a,h)anthracene	(6)	22.093	278	4089273	31.778
178) Benzo(g,h,i)perylene	(6)	22.478	276	4098386	29.750
179) Diallate TRANS/CIS	(4)			1252398	29.917
182) 2,4_2,6-Dinitrotoluenes	(3)			1309255	60.450

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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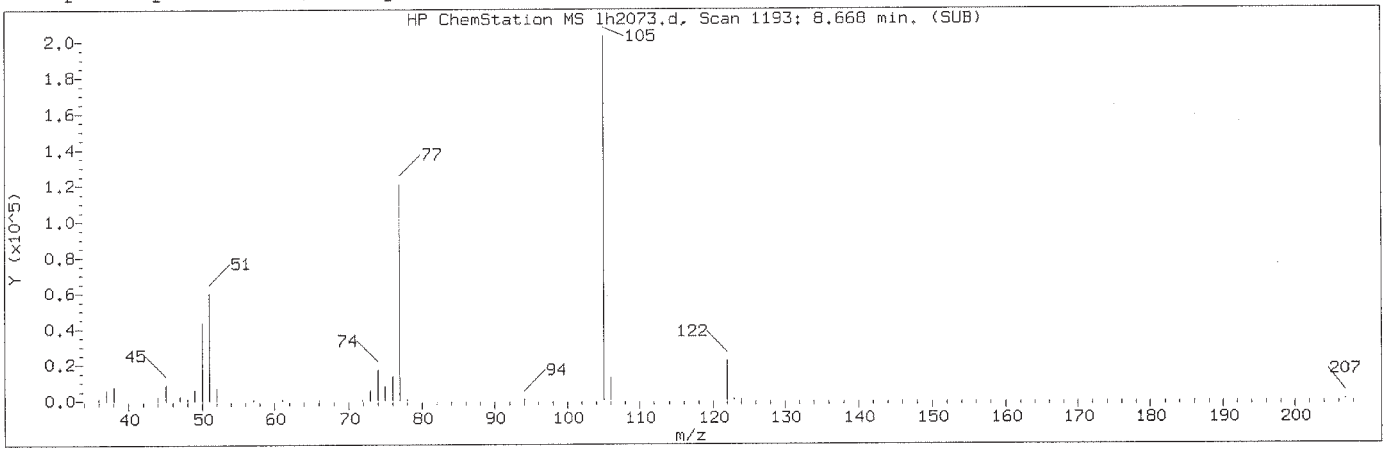
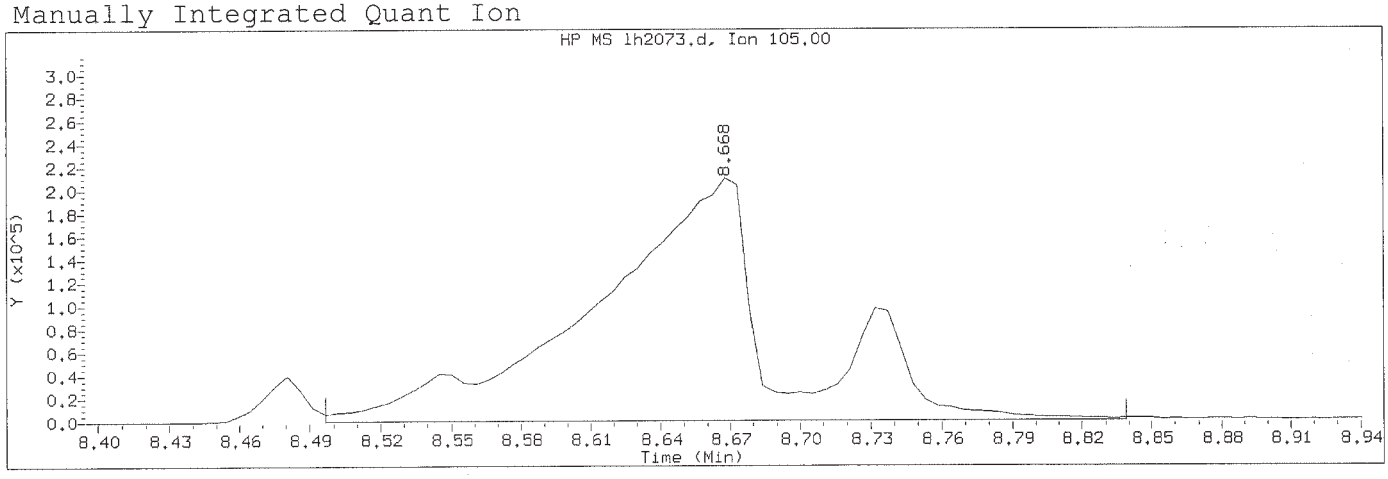
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2073.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:26 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

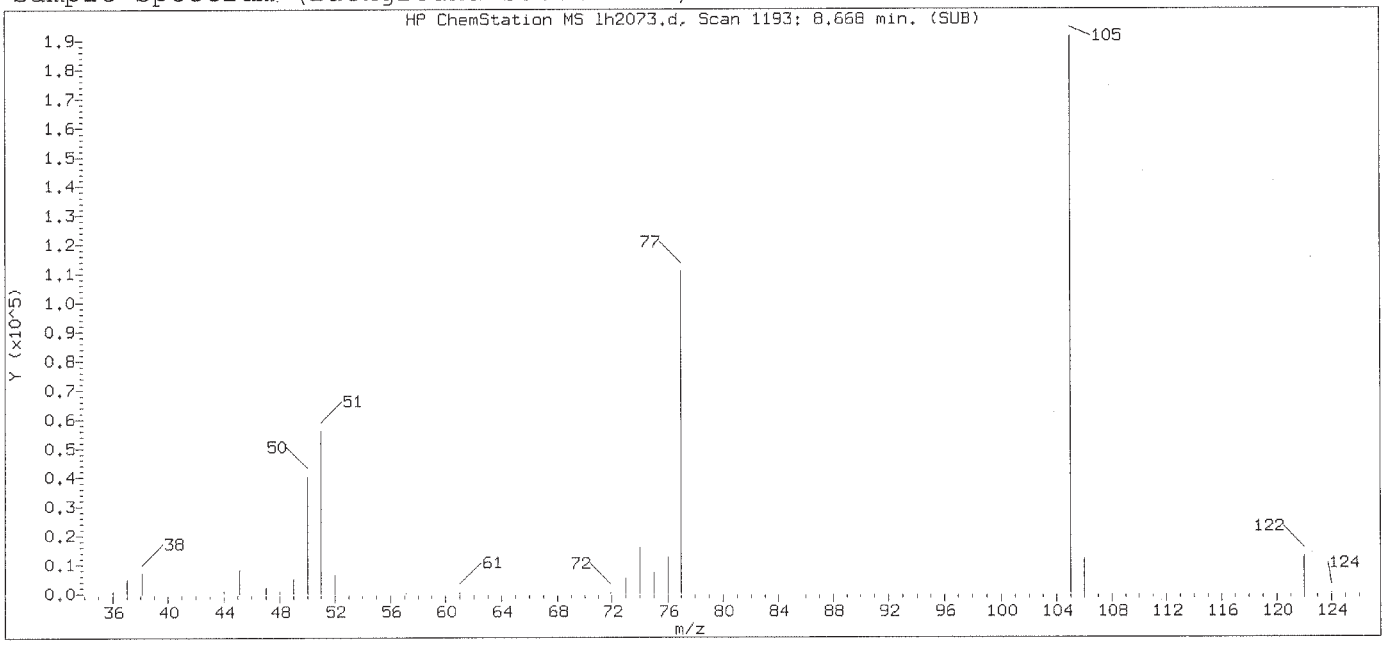
Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1193		
Retention Time (minutes)	: 8.668		
Quant Ion	: 105.00		
Area (flag)	: 1143011M		
On-Column Amount (ng/ul)	: 33.7659		
Integration start scan	: 1160	Integration stop scan:	1224
Y at integration start	: 277	Y at integration end:	694

Reason for manual integration: improper integration

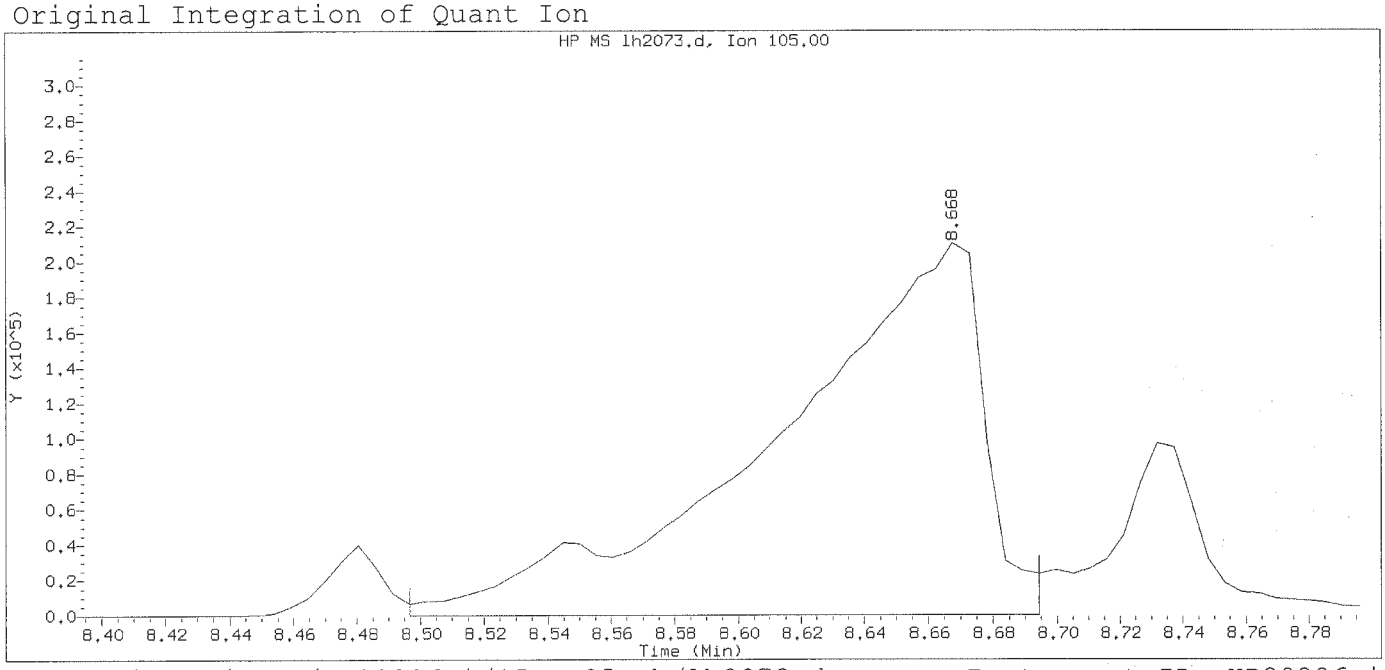
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27. Target 3.5 esignature user ID: ceb05247

GC/MS audit/management approval: _____
Mark A. Ratcliff
Senior Specialist
AUG 18 2015

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2073.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:26 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:07
Date, time and analyst ID of latest file update: 14-Aug-2015 17:07 ceb05247

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1193		
Retention Time (minutes)	: 8.668		
Quant Ion	: 105.00		
Area	: 946824		
On-column Amount (ng/ul)	: 27.9851		
Integration start scan	: 1160	Integration stop scan:	1197
Y at integration start	: 37	Y at integration end:	124

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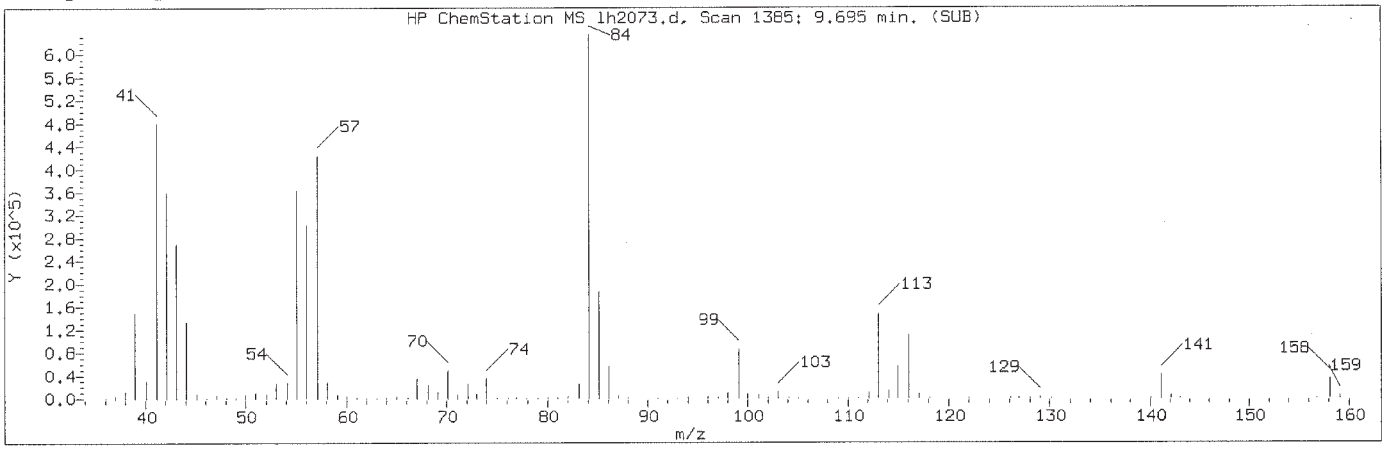
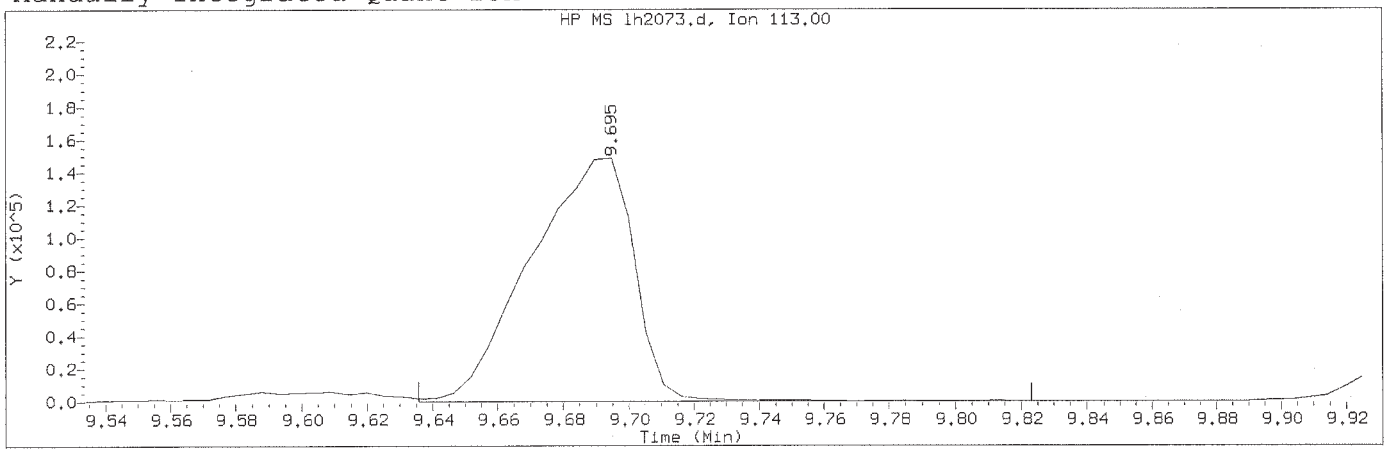
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2073.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:26 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

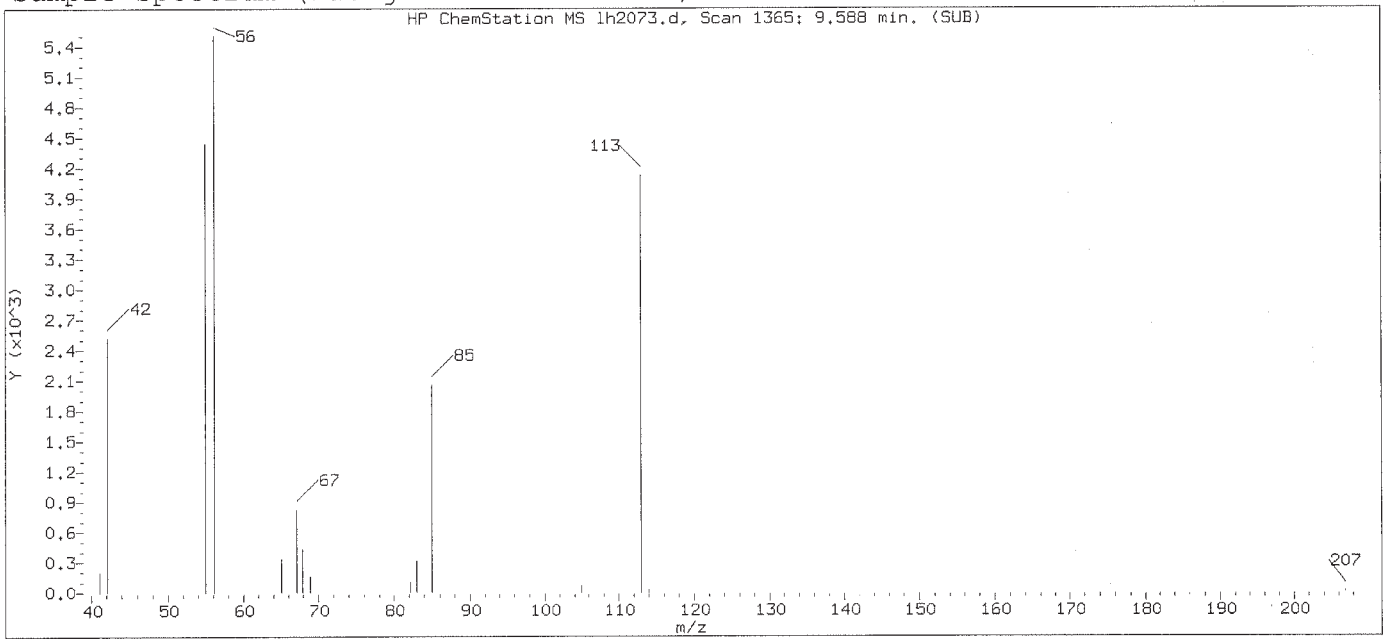
Compound Number	: 61		
Compound Name	: Caprolactam		
Scan Number	: 1385		
Retention Time (minutes)	: 9.695		
Quant Ion	: 113.00		
Area (flag)	: 326414A		
On-Column Amount (ng/ul)	: 30.8043		
Integration start scan	: 1373	Integration stop scan:	1408
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

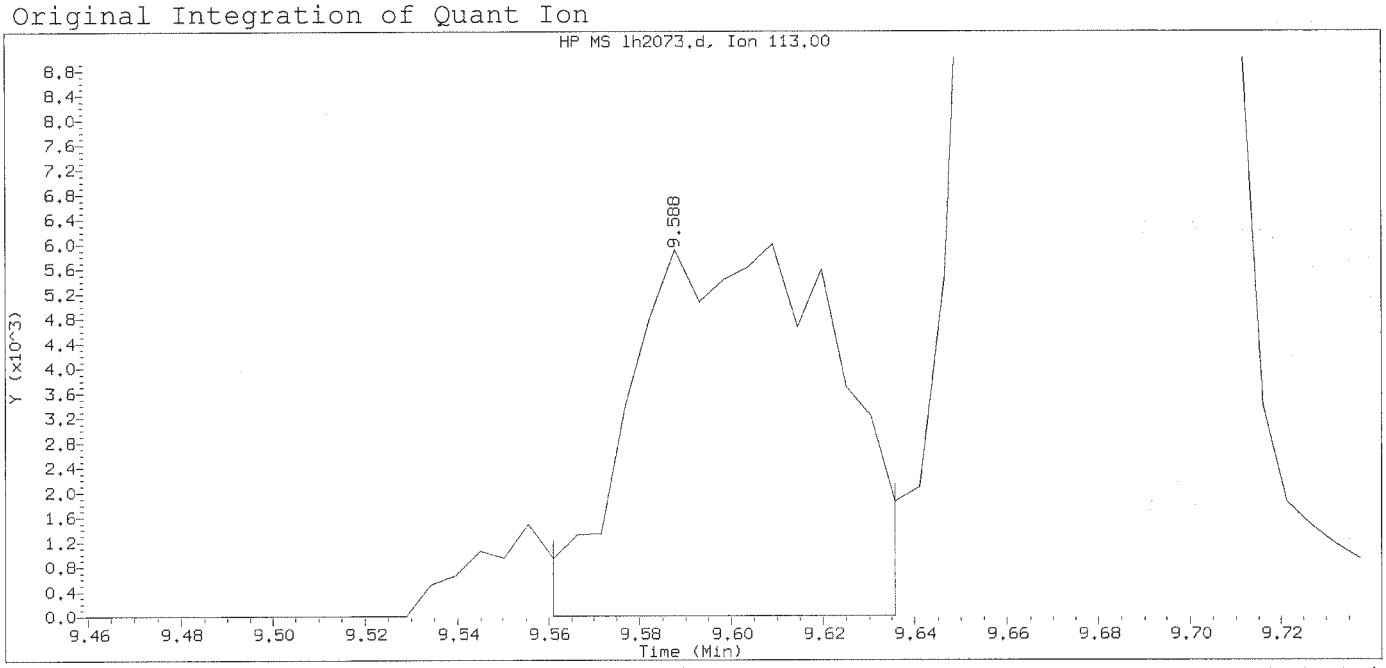
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27. Target 3.5 esignature user ID: ceb05247

GC/MS audit/management approval: _____
Mark A. Ratcliff
Senior Specialist
AUG 18 2015

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



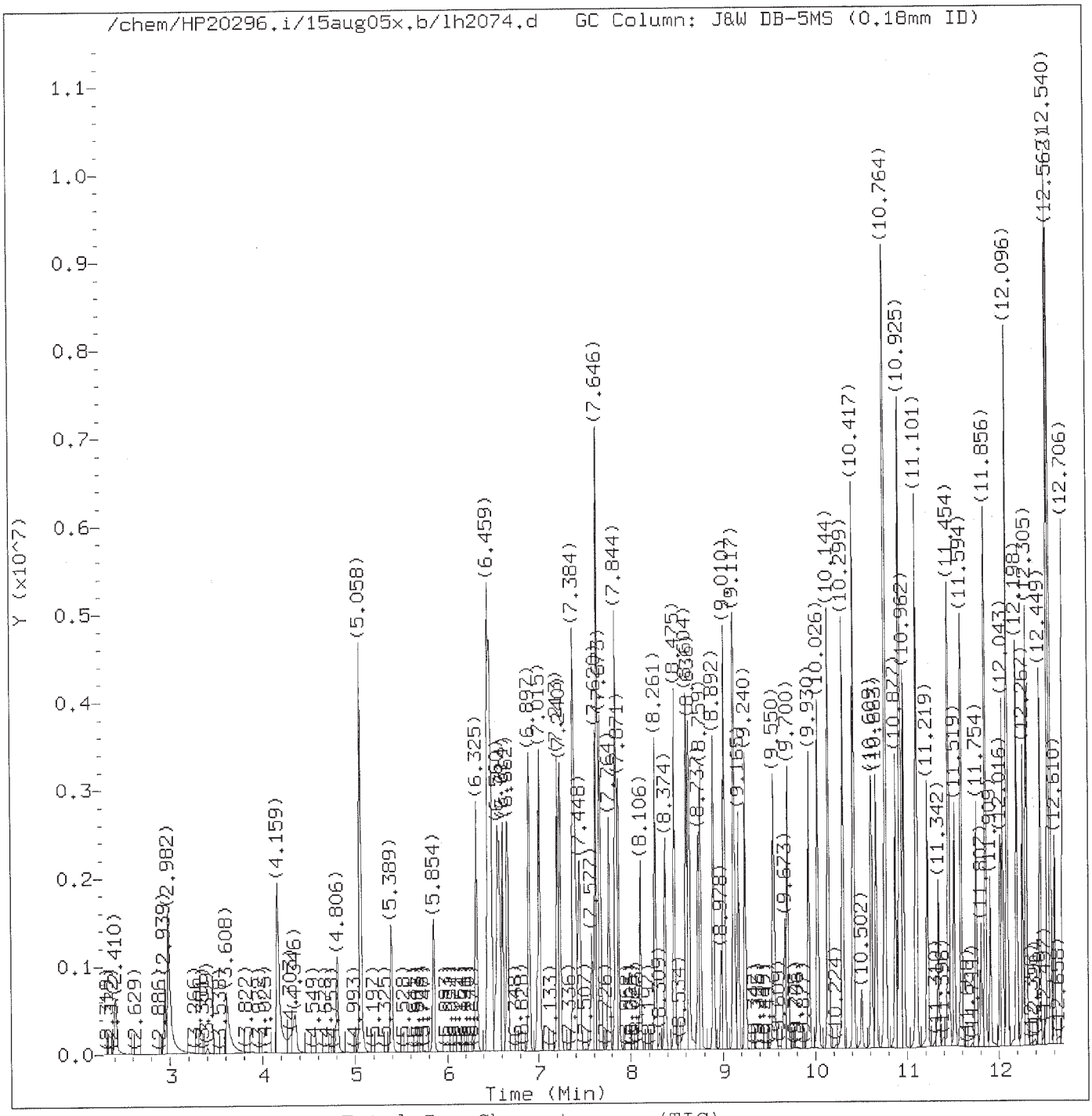
Data File: /chem/HP20296.i/15aug05x.b/lh2073.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:26 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:07
Date, time and analyst ID of latest file update: 14-Aug-2015 17:07 ceb05247

Sample Name: SSTD030 Lab Sample ID: RVSTD2065

Compound Number	: 61		
Compound Name	: Caprolactam		
Scan Number	: 1365		
Retention Time (minutes)	: 9.588		
Quant Ion	: 113.00		
Area	: 18428		
On-column Amount (ng/ul)	: 2.0818		
Integration start scan	: 1359	Integration stop scan:	1373
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27.
Target 3.5 esignature used: TD_ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2074.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:53 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

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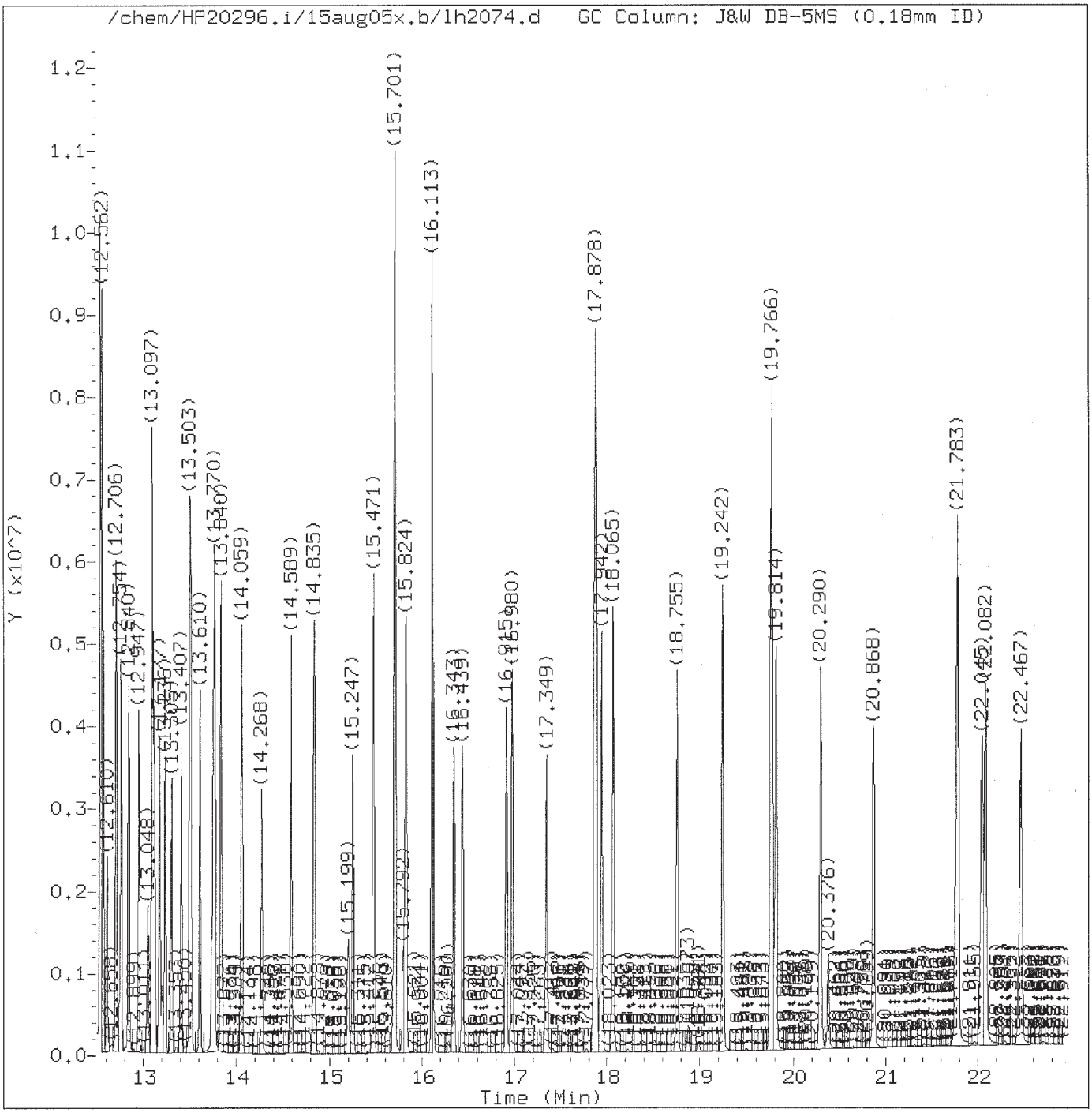
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2074.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:53 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2074.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:53 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.410	88	422026	19.311
2) N-Nitrosodimethylamine	(1)	2.939	74	699283	19.501
3) Pyridine	(1)	2.982	79	1197342	19.762
4) 2-Picoline	(1)	4.159	93	1193479	19.472
5) N-Nitrosomethylethylamine	(1)	4.346	88	494051	19.745
6) Methyl methanesulfonate	(1)	4.806	80	600669	19.771
7)$2-Fluorophenol	(1)	5.058	112	1933023	39.384
8) N-Nitrosodiethylamine	(1)	5.394	102	477804	19.861
10) Ethyl methanesulfonate	(1)	5.854	109	490801	19.959
11) Benzaldehyde	(1)	6.325	77	888809	19.996
12)$Phenol-d5	(1)	6.459	99	2542170	39.658
13)$Phenol-d6	(1)	6.459	99	2542170	39.658
14) Phenol	(1)	6.475	94	1494692	19.842
15) Aniline	(1)	6.491	93	1731448	19.856
16) bis(2-Chloroethyl)ether	(1)	6.614	93	1080267	19.816
17) 2-Chlorophenol	(1)	6.667	128	934587	19.992
18) 1,3-Dichlorobenzene	(1)	6.897	146	1015392	19.845
19)*1,4-Dichlorobenzene-d4	(1)	6.988	152	161583	5.000
20) 1,4-Dichlorobenzene	(1)	7.015	146	1039037	19.916
23) Benzyl alcohol	(1)	7.213	108	667305	19.756
24) 1,2-Dichlorobenzene	(1)	7.240	146	966427	19.641
25) Indene	(1)	7.379	115	1647659	19.873
26) 2-Methylphenol	(1)	7.395	108	941592	19.894
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.448	45	1620049	19.747
28) bis(2-Chloroisopropyl)ether	(1)	7.448	45	1620049	19.747
29) N-Nitrosopyrrolidine	(1)	7.577	100	506353	20.271
30) Acetophenone	(1)	7.620	105	1425999	19.934
33) 4-Methylphenol	(1)	7.641	108	1055523	20.212
32) N-Nitrosomorpholine	(1)	7.646	56	682250	19.782
31) N-Nitroso-di-n-propylamine	(1)	7.646	70	812979	19.820
34) o-Toluidine	(1)	7.673	106	1633576	20.065
35) Hexachloroethane	(1)	7.764	117	432314	19.838
36)$Nitrobenzene-d5	(2)	7.844	82	2393332	39.753
37) Nitrobenzene	(2)	7.871	77	1219322	20.013
39) N-Nitrosopiperidine	(2)	8.106	114	470977	20.003
40) Isophorone	(2)	8.261	82	2119983	19.962
42) 2-Nitrophenol	(2)	8.374	139	482814	20.259
45) 2,4-Dimethylphenol	(2)	8.475	107	1031136	20.045
46) O,O,O-triethylphosphorothioate	(2)	8.609	198	466534	20.330
48) bis(2-Chloroethoxy)methane	(2)	8.636	93	1217814	19.355

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2074.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:53 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
47) Benzoic acid	(2)	8.646	105	774756	20.878
49) 2,4-Dichlorophenol	(2)	8.759	162	764209	19.918
51) 1,2,4-Trichlorobenzene	(2)	8.892	180	847743	19.843
52)*Naphthalene-d8	(2)	8.978	136	622038	5.000
53) Naphthalene	(2)	9.010	128	2660968	19.788
55) 4-Chloroaniline	(2)	9.112	127	1134255	19.896
56) 2,6-Dichlorophenol	(2)	9.122	162	743423	19.881
57) Hexachloropropene	(2)	9.165	213	570008	20.157
58) Hexachlorobutadiene	(2)	9.240	225	496842	20.261
60) Quinoline	(2)	9.550	129	1655449	19.978
61) Caprolactam	(2)	9.673	113	235290A	20.468
62) N-Nitrosodi-n-butylamine	(2)	9.700	84	741256	18.431
63) 4-Chloro-3-methylphenol	(2)	9.930	107	869541	20.074
64) Safrole	(2)	10.026	162	677760	20.064
65) 2-Methylnaphthalene	(2)	10.144	142	1748407	20.536
66) 1-Methylnaphthalene	(2)	10.299	142	1589633	20.031
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.417	216	843585	20.125
67) Hexachlorocyclopentadiene	(3)	10.417	237	535346	20.501
69) cis-Isosafrole	(3)	10.502	162	122953	3.378
70) 2,4,6-Trichlorophenol	(3)	10.615	196	544694	20.005
71) 2,4,5-Trichlorophenol	(3)	10.663	196	568521	20.339
72)$2-Fluorobiphenyl	(3)	10.770	172	3854525	40.016
74) Isosafrole	(3)	10.877	162	684739	20.415
73) trans-Isosafrole	(3)	10.877	162	684739	16.944
75) 1,1'-Biphenyl	(3)	10.920	154	2012400	19.992
76) 2-Chloronaphthalene	(3)	10.930	162	1656570	19.504
77) 1-Chloronaphthalene	(3)	10.962	162	1575992	20.729
82) Diphenyl ether	(3)	11.101	170	1111942	20.013
83) 2-Nitroaniline	(3)	11.107	138	525864	20.143
84) 1,4-Naphthoquinone	(3)	11.224	158	665360	20.383
85) 1,4-Dinitrobenzene	(3)	11.342	168	264509	20.391
86) Dimethylphthalate	(3)	11.454	163	1687093	19.829
87) 1,3-Dinitrobenzene	(3)	11.460	168	284677	20.144
88) 2,6-Dinitrotoluene	(3)	11.519	165	389223	20.045
90) Acenaphthylene	(3)	11.594	152	2577091	20.985
91) 3-Nitroaniline	(3)	11.754	138	456851	20.330
92)*Acenaphthene-d10	(3)	11.807	164	342439	5.000
93) Acenaphthene	(3)	11.856	153	1672926	20.356
94) 2,4-Dinitrophenol	(3)	11.909	184	253899	20.520
96) 4-Nitrophenol	(3)	12.016	109	333759	20.982

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2074.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:53 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
95) Pentachlorobenzene	(3)	12.043	250	666578	20.200
98) 2,4-Dinitrotoluene	(3)	12.096	165	535953	20.361
97) Dibenzofuran	(3)	12.096	168	2287958	20.004
99) 1-Naphthylamine	(3)	12.198	143	1626749	19.813
100) 2,3,4,6-Tetrachlorophenol	(3)	12.267	232	451306	20.393
101) 2-Naphthylamine	(3)	12.305	143	1649926	20.165
102) Diethylphthalate	(3)	12.449	149	1678719	19.966
103) Fluorene	(3)	12.535	166	1764282	19.683
104) Thionazin	(3)	12.540	107	342995	20.010
105) 4-Chlorophenyl-phenylether	(3)	12.562	204	853187	20.307
106) 5-Nitro-o-toluidine	(3)	12.562	152	497737	20.178
107) 4-Nitroaniline	(3)	12.567	138	470556	19.925
108) 4,6-Dinitro-2-methylphenol	(4)	12.610	198	323676	20.430
110) NDPA as diphenylamine	(4)	12.706	169	1457956	19.996
109) N-Nitrosodiphenylamine	(4)	12.706	169	1457956	19.996
111) 1,2-Diphenylhydrazine	(4)	12.754	77	2165514	20.040
112)$2,4,6-Tribromophenol	(3)	12.840	330	432845	41.146
115) Tetraethyldithiopyrophosphate	(4)	12.947	97	326932	19.888
116) 1,3,5-Trinitrobenzene	(4)	13.048	213	194285	20.306
117) Diallate (peak 1)	(4)	13.091	86	733089	16.549
118) Phorate	(4)	13.102	75	1362928	20.001
119) Phenacetin	(4)	13.118	108	1026047	20.264
120) 4-Bromophenyl-phenylether	(4)	13.177	248	448745	20.139
121) Diallate (peak 2)	(4)	13.198	86	148253	3.425
122) Hexachlorobenzene	(4)	13.236	284	463384	19.611
123) Dimethoate	(4)	13.305	87	858708	19.950
124) Atrazine	(4)	13.407	200	457687	20.161
125) Pentachlorophenol	(4)	13.498	266	333239	20.617
127) 4-Aminobiphenyl	(4)	13.503	169	1773986	19.966
126) Pentachloronitrobenzene	(4)	13.514	237	226156	20.096
129) Pronamide	(4)	13.610	173	815997	20.207
130)*Phenanthrene-d10	(4)	13.738	188	565292	5.000
133) Dinoseb	(4)	13.754	211	490983	20.655
131) Phenanthrene	(4)	13.770	178	2644779	19.997
134) Anthracene	(4)	13.840	178	2625706	20.889
135) Carbazole	(4)	14.059	167	2455674	19.927
136) Methyl parathion	(4)	14.268	109	657144	20.134
137) Di-n-butylphthalate	(4)	14.589	149	2932649	19.941
138) Parathion	(4)	14.829	109	404894	20.102
139) 4-Nitroquinoline-1-oxide	(4)	14.840	190	289944	21.032

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2074.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:53 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	15.247	193	293906	19.994
142) Fluoranthene	(4)	15.471	202	2913402	20.640
144) Benzidine	(5)	15.701	184	5915045	60.733
145)*Pyrene-d10	(5)	15.792	212	696776	5.000
146) Pyrene	(5)	15.824	202	3031514	19.575
149)$Terphenyl-d14	(5)	16.113	244	3909249	40.380
150) p-Dimethylaminoazobenzene	(5)	16.348	225	539027	20.382
151) Chlorobenzilate	(5)	16.439	139	898304	19.991
152) 3,3'-Dimethylbenzidine	(5)	16.915	212	1999354	20.378
153) Butylbenzylphthalate	(5)	16.980	149	1356756	20.147
156) 2-Acetylaminofluorene	(5)	17.349	181	1199519	20.096
159) 3,3'-Dichlorobenzidine	(5)	17.862	252	1042839	20.151
158) Benzo(a)anthracene	(5)	17.878	228	2886628	21.175
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.878	231	601921	20.220
161) Chrysene	(5)	17.942	228	2655872	20.981
162) bis(2-Ethylhexyl)phthalate	(5)	18.065	149	1951975	19.901
165) 6-Methylchrysene	(5)	18.755	242	1874753	19.918
166) Di-n-octylphthalate	(6)	19.242	149	3541254	20.176
168) Benzo(b)fluoranthene	(6)	19.761	252	2939824	20.978
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.766	256	1257782	20.228
170) Benzo(k)fluoranthene	(6)	19.814	252	2820153	20.634
171) Benzo(a)pyrene	(6)	20.296	252	2778701	21.314
172)*Perylene-d12	(6)	20.376	264	598172	5.000
173) 3-Methylcholanthrene	(6)	20.868	268	1288044	20.234
176) Indeno(1,2,3-cd)pyrene	(6)	22.045	276	3238137	21.110
177) Dibenz(a,h)anthracene	(6)	22.082	278	2684710	21.008
178) Benzo(g,h,i)perylene	(6)	22.467	276	2750358	20.333
179) Diallate TRANS/CIS	(4)			881342	19.974
182) 2,4_2,6-Dinitrotoluenes	(3)			925176	40.407

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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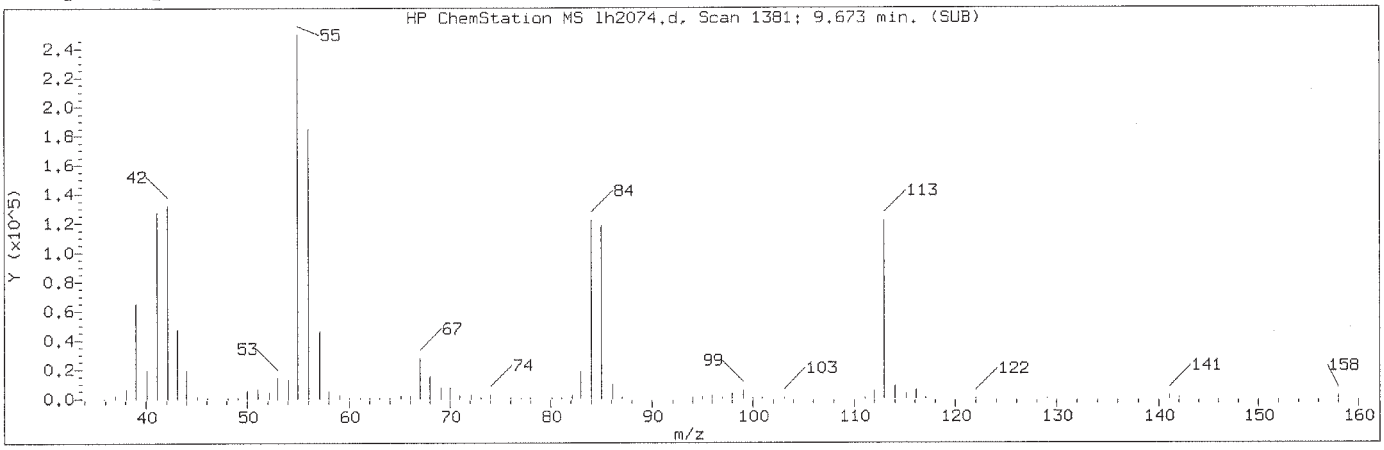
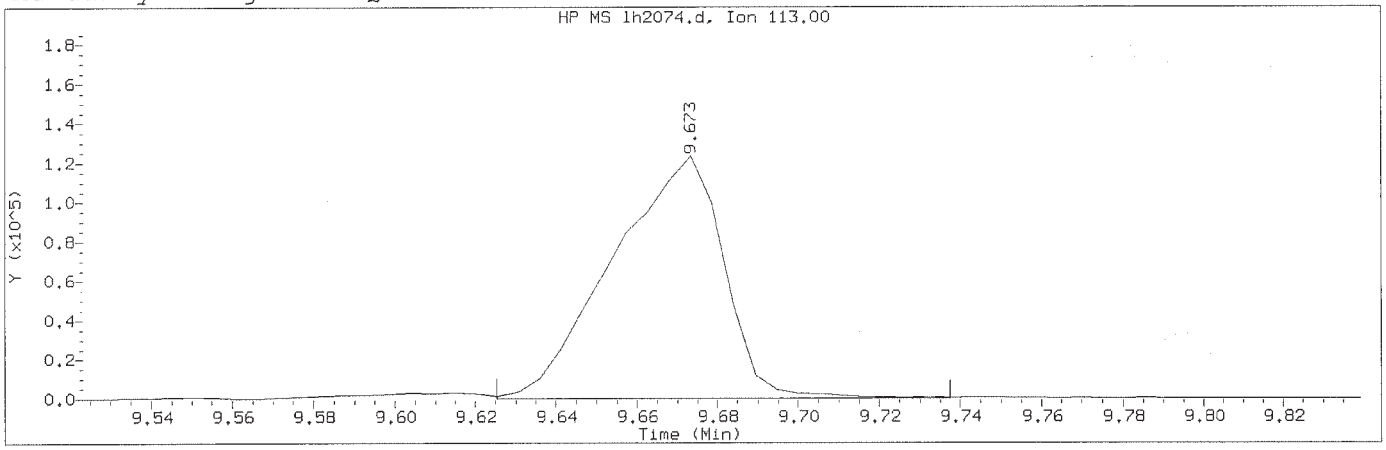
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2074.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:53 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

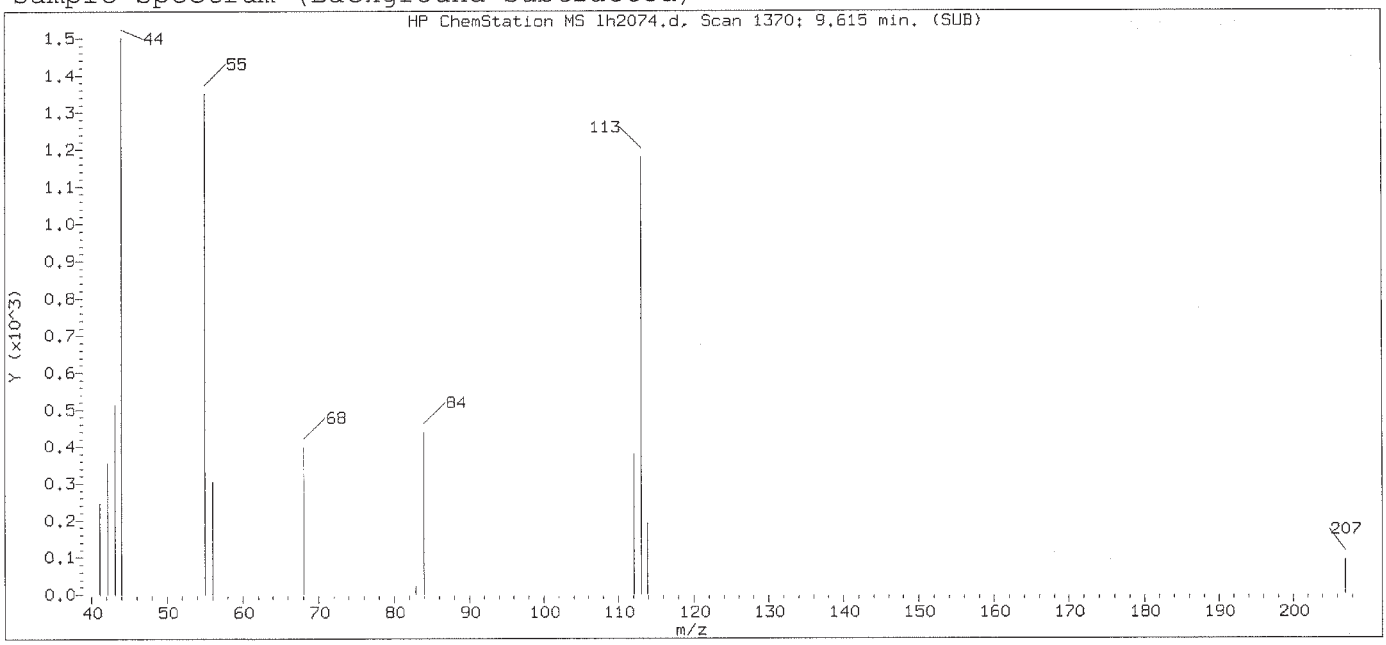
Compound Number	: 61		
Compound Name	: Caprolactam		
Scan Number	: 1381		
Retention Time (minutes)	: 9.673		
Quant Ion	: 113.00		
Area (flag)	: 235290A		
On-Column Amount (ng/ul)	: 20.4675		
Integration start scan	: 1371	Integration stop scan:	1392
Y at integration start	: 89	Y at integration end:	118

Reason for manual integration: improper integration

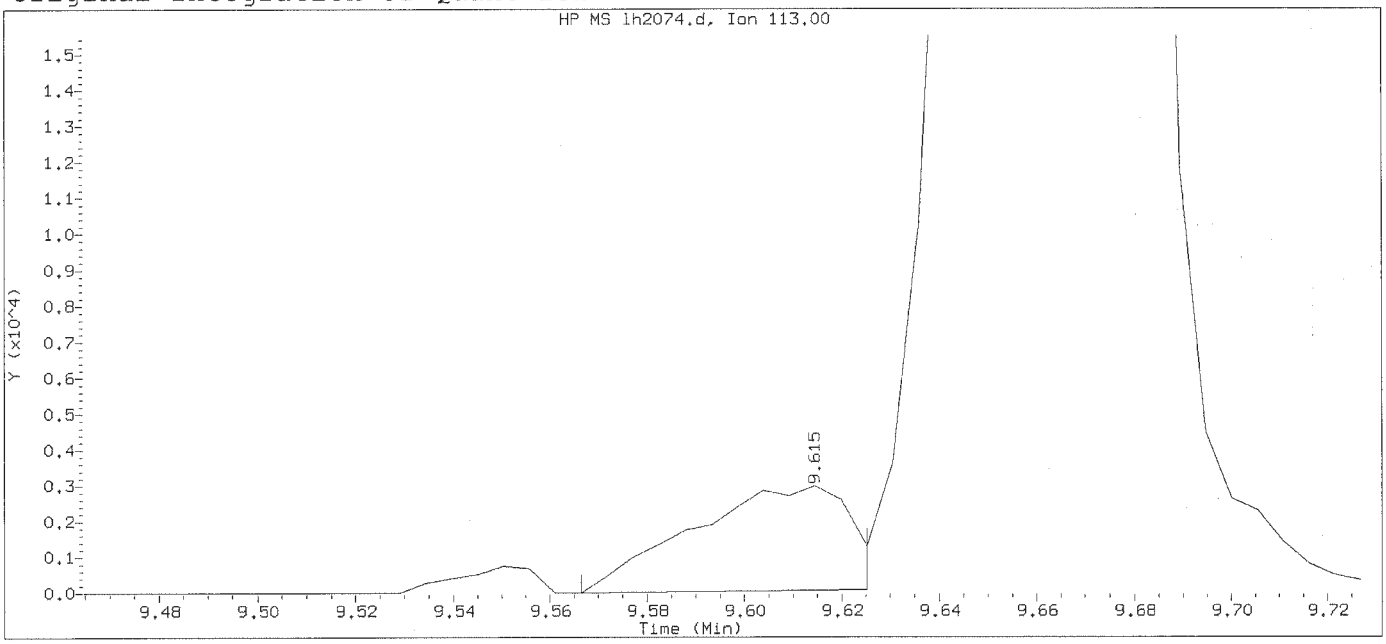
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27. Target 3.5 esignature user ID: ceb05247

GC/MS audit/management approval: Mark A. Ratcliff Senior Specialist AUG 18 2015

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2074.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 14:53 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:08
Date, time and analyst ID of latest file update: 14-Aug-2015 17:08 ceb05247

Sample Name: SSTD020 Lab Sample ID: RVSTD2065

Compound Number	: 61		
Compound Name	: Caprolactam		
Scan Number	: 1370		
Retention Time (minutes)	: 9.615		
Quant Ion	: 113.00		
Area	: 6468		
On-column Amount (ng/ul)	: 0.8465		
Integration start scan	: 1360	Integration stop scan:	1371
Y at integration start	: 0	Y at integration end:	89

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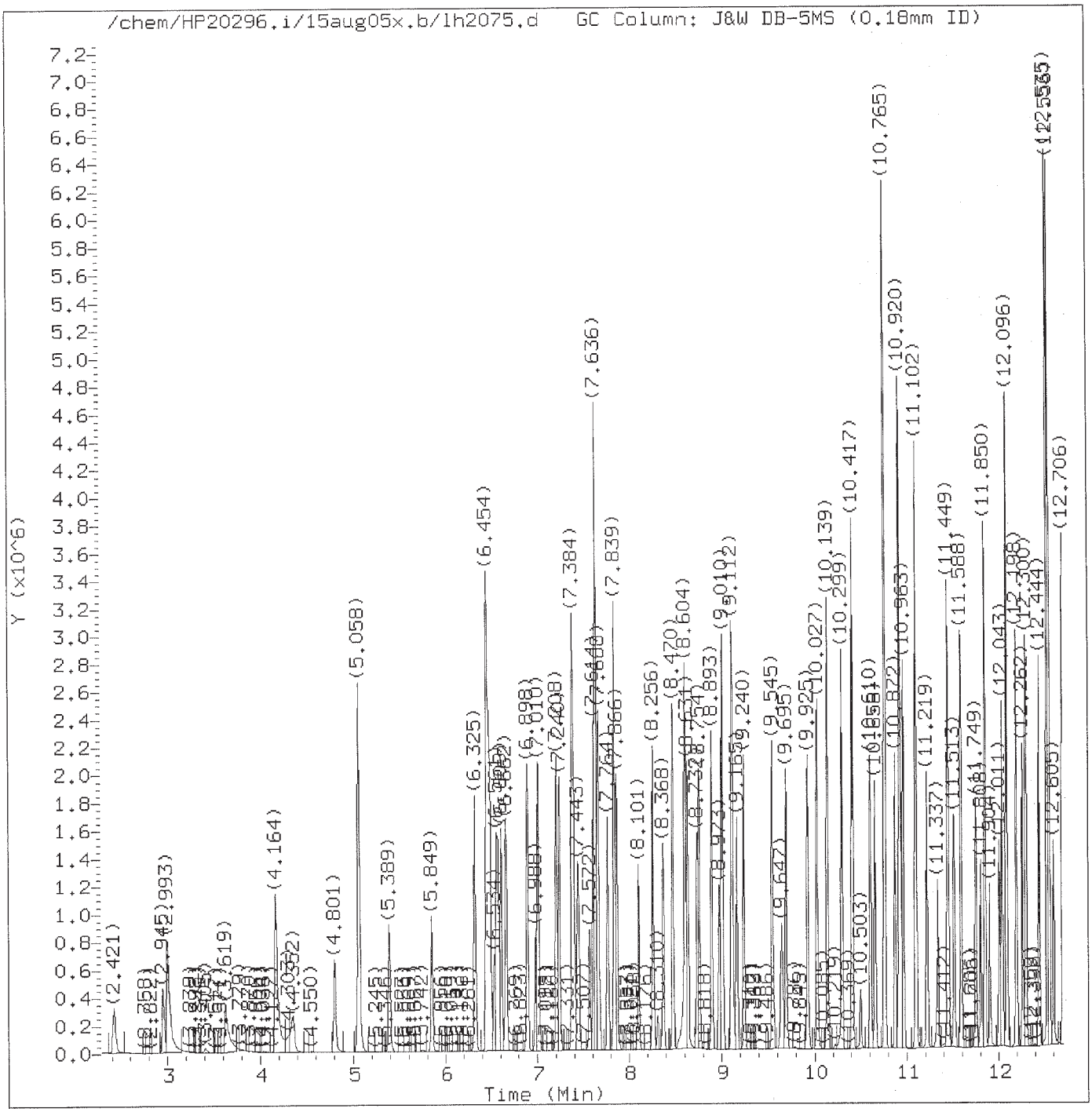
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2075.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:22 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

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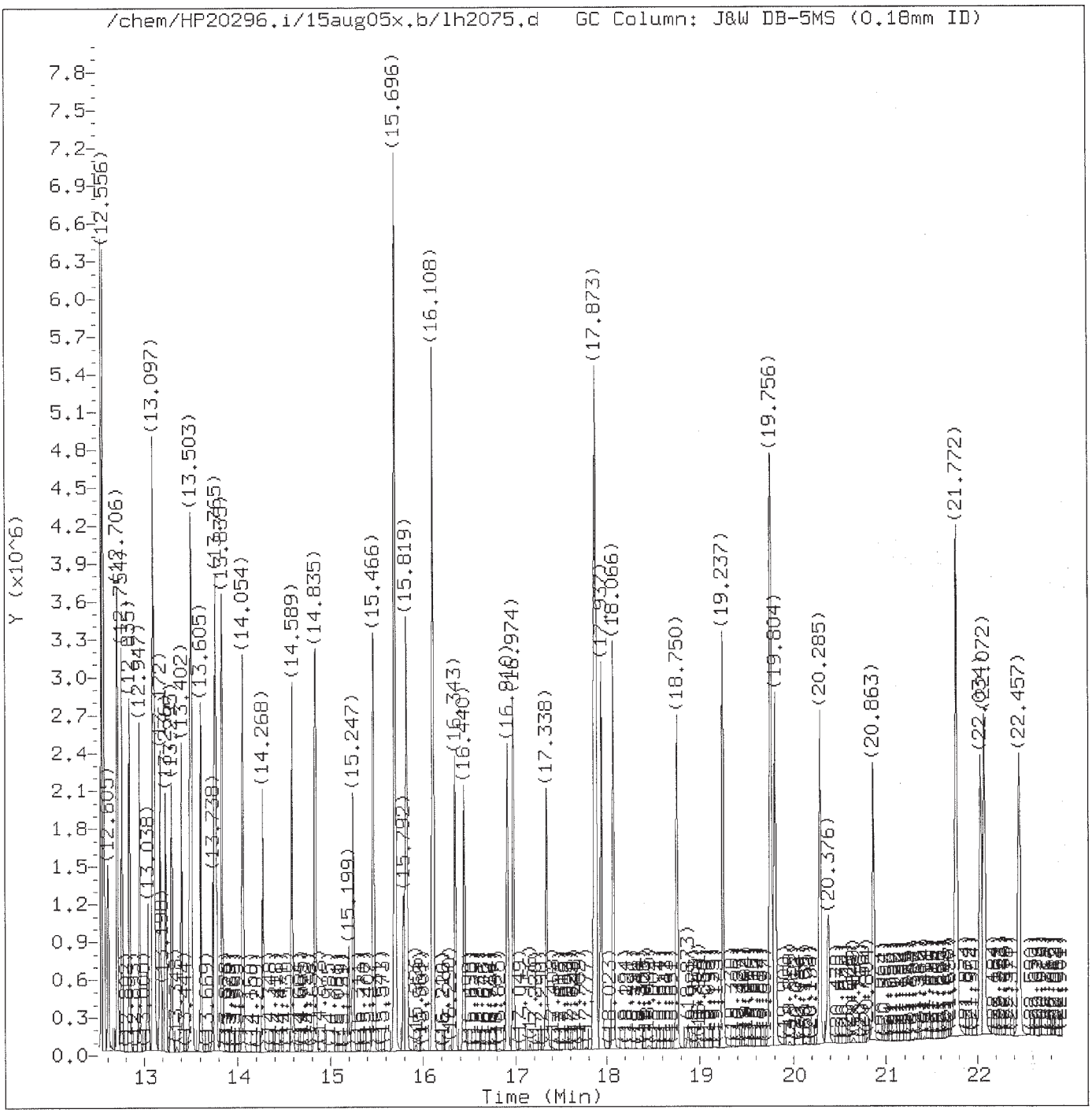
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2075.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:22 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2075.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:22 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.421	88	256585	12.191
2) N-Nitrosodimethylamine	(1)	2.945	74	418547	12.138
3) Pyridine	(1)	2.993	79	715932	12.251
4) 2-Picoline	(1)	4.164	93	731878	12.348
5) N-Nitrosomethylethylamine	(1)	4.352	88	301062	12.419
6) Methyl methanesulfonate	(1)	4.801	80	362956	12.353
7)$2-Fluorophenol	(1)	5.058	112	1178547	24.798
8) N-Nitrosodiethylamine	(1)	5.389	102	289857	12.432
10) Ethyl methanesulfonate	(1)	5.849	109	294253	12.368
11) Benzaldehyde	(1)	6.325	77	563644	12.916
12)$Phenol-d5	(1)	6.454	99	1553260	24.967
13)$Phenol-d6	(1)	6.454	99	1553260	24.967
14) Phenol	(1)	6.470	94	908603	12.442
15) Aniline	(1)	6.491	93	1056522	12.484
16) bis(2-Chloroethyl)ether	(1)	6.609	93	653714	12.388
17) 2-Chlorophenol	(1)	6.662	128	560412	12.385
18) 1,3-Dichlorobenzene	(1)	6.898	146	615574	12.418
19)*1,4-Dichlorobenzene-d4	(1)	6.988	152	156886	5.000
20) 1,4-Dichlorobenzene	(1)	7.015	146	624342	12.369
23) Benzyl alcohol	(1)	7.208	108	411609	12.538
24) 1,2-Dichlorobenzene	(1)	7.240	146	583881	12.290
25) Indene	(1)	7.379	115	1015254	12.584
26) 2-Methylphenol	(1)	7.395	108	571029	12.445
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.443	45	995068	12.494
28) bis(2-Chloroisopropyl)ether	(1)	7.443	45	995068	12.494
29) N-Nitrosopyrrolidine	(1)	7.572	100	302807	12.489
30) Acetophenone	(1)	7.614	105	869515	12.514
33) 4-Methylphenol	(1)	7.636	108	657480	12.847
31) N-Nitroso-di-n-propylamine	(1)	7.636	70	493268	12.414
32) N-Nitrosomorpholine	(1)	7.641	56	417924	12.485
34) o-Toluidine	(1)	7.668	106	985396	12.475
35) Hexachloroethane	(1)	7.764	117	259437	12.320
36)$Nitrobenzene-d5	(2)	7.839	82	1470829	24.888
37) Nitrobenzene	(2)	7.866	77	750557	12.524
39) N-Nitrosopiperidine	(2)	8.101	114	285410	12.373
40) Isophorone	(2)	8.256	82	1268333	12.235
42) 2-Nitrophenol	(2)	8.368	139	289695	12.399
45) 2,4-Dimethylphenol	(2)	8.470	107	628186	12.442
46) O,O,O-triethylphosphorothioate	(2)	8.604	198	278504	12.384
47) Benzoic acid	(2)	8.614	105	433723M	12.036

M = Compound was manually integrated.
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$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2075.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:22 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
48) bis(2-Chloroethoxy)methane	(2)	8.631	93	795077M	12.764
49) 2,4-Dichlorophenol	(2)	8.759	162	464413	12.359
51) 1,2,4-Trichlorobenzene	(2)	8.893	180	518624	12.386
52)*Naphthalene-d8	(2)	8.973	136	611500	5.000
53) Naphthalene	(2)	9.010	128	1608926	12.235
55) 4-Chloroaniline	(2)	9.107	127	688206	12.334
56) 2,6-Dichlorophenol	(2)	9.123	162	450890	12.323
57) Hexachloropropene	(2)	9.165	213	345031	12.433
58) Hexachlorobutadiene	(2)	9.240	225	296267	12.342
60) Quinoline	(2)	9.545	129	996720	12.301
61) Caprolactam	(2)	9.652	113	145726	12.794
62) N-Nitrosodi-n-butylamine	(2)	9.695	84	452446	11.691
63) 4-Chloro-3-methylphenol	(2)	9.925	107	535375	12.554
64) Safrole	(2)	10.027	162	406680	12.309
65) 2-Methylnaphthalene	(2)	10.139	142	1053524	12.570
66) 1-Methylnaphthalene	(2)	10.299	142	953373	12.276
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.417	216	523242	12.609
67) Hexachlorocyclopentadiene	(3)	10.417	237	319401	12.418
69) cis-Isosafrole	(3)	10.503	162	74458	2.085
70) 2,4,6-Trichlorophenol	(3)	10.610	196	328255	12.283
71) 2,4,5-Trichlorophenol	(3)	10.658	196	346138	12.533
72)$2-Fluorobiphenyl	(3)	10.765	172	2351342	24.796
74) Isosafrole	(3)	10.872	162	406182	12.325
73) trans-Isosafrole	(3)	10.872	162	406182	10.230
75) 1,1'-Biphenyl	(3)	10.920	154	1225499	12.374
76) 2-Chloronaphthalene	(3)	10.930	162	1026135	12.303
77) 1-Chloronaphthalene	(3)	10.963	162	930977	12.428
82) Diphenyl ether	(3)	11.102	170	674865	12.353
83) 2-Nitroaniline	(3)	11.102	138	319097	12.411
84) 1,4-Naphthoquinone	(3)	11.219	158	407643	12.612
85) 1,4-Dinitrobenzene	(3)	11.337	168	159718	12.480
86) Dimethylphthalate	(3)	11.449	163	1064913	12.634
87) 1,3-Dinitrobenzene	(3)	11.455	168	173645	12.460
88) 2,6-Dinitrotoluene	(3)	11.519	165	242551	12.615
90) Acenaphthylene	(3)	11.594	152	1555850	12.766
91) 3-Nitroaniline	(3)	11.749	138	270179	12.258
92)*Acenaphthene-d10	(3)	11.808	164	338035	5.000
93) Acenaphthene	(3)	11.850	153	1006671	12.427
94) 2,4-Dinitrophenol	(3)	11.904	184	148696	12.254
96) 4-Nitrophenol	(3)	12.011	109	174090	11.409

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Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2075.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:22 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
95) Pentachlorobenzene	(3)	12.043	250	405696	12.466
98) 2,4-Dinitrotoluene	(3)	12.091	165	324160	12.482
97) Dibenzofuran	(3)	12.096	168	1399547	12.422
99) 1-Naphthylamine	(3)	12.198	143	999847	12.377
100) 2,3,4,6-Tetrachlorophenol	(3)	12.262	232	267267	12.299
101) 2-Naphthylamine	(3)	12.300	143	999487	12.406
102) Diethylphthalate	(3)	12.449	149	1027791	12.412
103) Fluorene	(3)	12.535	166	1079089	12.255
104) Thionazin	(3)	12.540	107	209588	12.415
106) 5-Nitro-o-toluidine	(3)	12.556	152	304573	12.506
107) 4-Nitroaniline	(3)	12.562	138	284676	12.282
105) 4-Chlorophenyl-phenylether	(3)	12.562	204	518630	12.504
108) 4,6-Dinitro-2-methylphenol	(4)	12.605	198	188068	12.279
110) NDPA as diphenylamine	(4)	12.706	169	901616	12.661
109) N-Nitrosodiphenylamine	(4)	12.706	169	901616	12.661
111) 1,2-Diphenylhydrazine	(4)	12.754	77	1314066	12.504
112)$2,4,6-Tribromophenol	(3)	12.835	330	254471	24.627
115) Tetraethyldithiopyrophosphate	(4)	12.947	97	198849	12.454
116) 1,3,5-Trinitrobenzene	(4)	13.038	213	113471	12.271
117) Diallate (peak 1)	(4)	13.091	86	452644	10.474
118) Phorate	(4)	13.097	75	831435	12.536
119) Phenacetin	(4)	13.113	108	607609	12.380
120) 4-Bromophenyl-phenylether	(4)	13.177	248	275071	12.645
121) Diallate (peak 2)	(4)	13.198	86	90478	2.144
122) Hexachlorobenzene	(4)	13.236	284	282604	12.339
123) Dimethoate	(4)	13.295	87	517865	12.404
124) Atrazine	(4)	13.402	200	285367	12.817
125) Pentachlorophenol	(4)	13.492	266	192118	12.291
127) 4-Aminobiphenyl	(4)	13.503	169	1082812	12.524
126) Pentachloronitrobenzene	(4)	13.508	237	135610	12.418
129) Pronamide	(4)	13.605	173	484296	12.374
130)*Phenanthrene-d10	(4)	13.738	188	549711	5.000
133) Dinoseb	(4)	13.755	211	285074	12.374
131) Phenanthrene	(4)	13.771	178	1591461	12.399
134) Anthracene	(4)	13.835	178	1582014	12.852
135) Carbazole	(4)	14.059	167	1474976	12.356
136) Methyl parathion	(4)	14.268	109	393077	12.414
137) Di-n-butylphthalate	(4)	14.589	149	1733245	12.212
138) Parathion	(4)	14.830	109	240464	12.332
139) 4-Nitroquinoline-1-oxide	(4)	14.835	190	156280	11.857

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$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2075.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:22 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	15.247	193	177571	12.441
142) Fluoranthene	(4)	15.471	202	1733207	12.601
144) Benzidine	(5)	15.696	184	3514808	37.468
145)*Pyrene-d10	(5)	15.792	212	671307	5.000
146) Pyrene	(5)	15.819	202	1821355	12.265
149)$Terphenyl-d14	(5)	16.108	244	2305321	24.786
150) p-Dimethylaminoazobenzene	(5)	16.343	225	310616	12.267
151) Chlorobenzilate	(5)	16.440	139	535056	12.394
152) 3,3'-Dimethylbenzidine	(5)	16.910	212	1137761	12.149
153) Butylbenzylphthalate	(5)	16.974	149	796548	12.332
156) 2-Acetylaminofluorene	(5)	17.343	181	676955	11.945
159) 3,3'-Dichlorobenzidine	(5)	17.857	252	597904	12.115
158) Benzo(a)anthracene	(5)	17.873	228	1689688	12.790
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.873	231	347116	12.200
161) Chrysene	(5)	17.937	228	1557241	12.714
162) bis(2-Ethylhexyl)phthalate	(5)	18.066	149	1119400	12.003
165) 6-Methylchrysene	(5)	18.750	242	1071528	11.980
166) Di-n-octylphthalate	(6)	19.237	149	2001581	12.403
168) Benzo(b)fluoranthene	(6)	19.756	252	1621186	12.540
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.761	256	709722	12.412
170) Benzo(k)fluoranthene	(6)	19.804	252	1629896	12.847
171) Benzo(a)pyrene	(6)	20.285	252	1552087	12.830
172)*Perylene-d12	(6)	20.376	264	551379	5.000
173) 3-Methylcholanthrene	(6)	20.863	268	707203	12.161
176) Indeno(1,2,3-cd)pyrene	(6)	22.034	276	1865334	13.048
177) Dibenz(a,h)anthracene	(6)	22.072	278	1545810	12.993
178) Benzo(g,h,i)perylene	(6)	22.457	276	1587403	12.685
179) Diallate TRANS/CIS	(4)			543122	12.618
182) 2,4_2,6-Dinitrotoluenes	(3)			566711	25.097

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$ = Compound is a surrogate standard.

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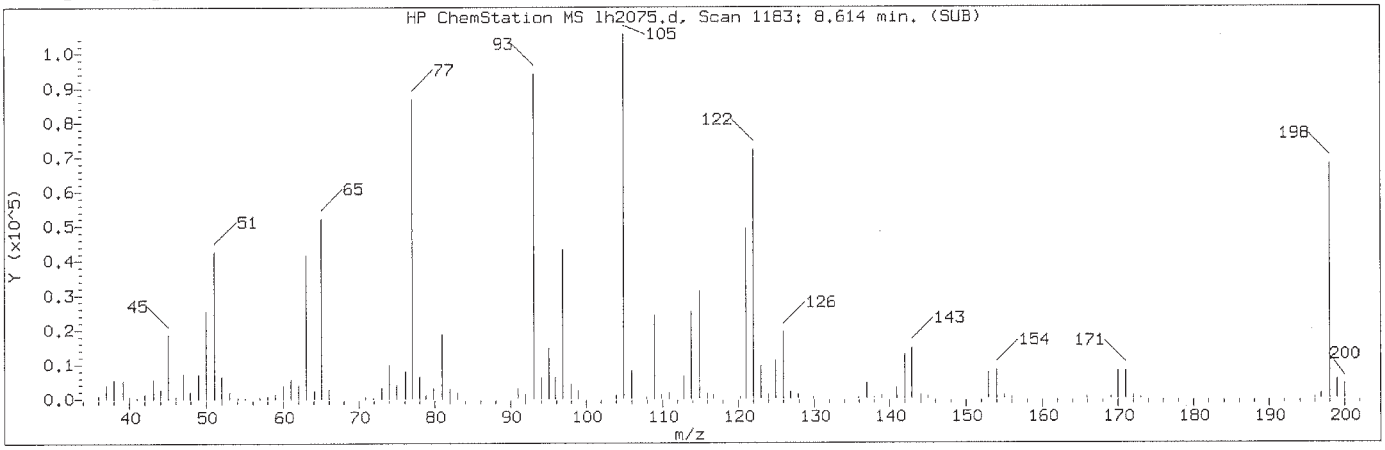
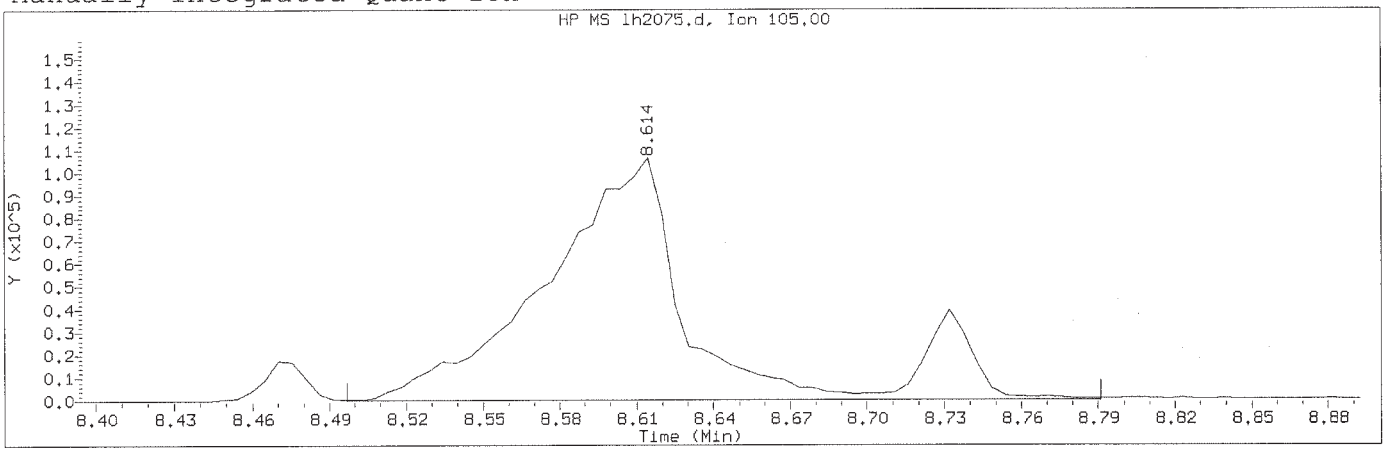
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2075.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:22 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1183		
Retention Time (minutes)	: 8.614		
Quant Ion	: 105.00		
Area (flag)	: 433723M		
On-Column Amount (ng/ul)	: 12.0362		
Integration start scan	: 1160	Integration stop scan:	1215
Y at integration start	: 210	Y at integration end:	321

Reason for manual integration: improper integration

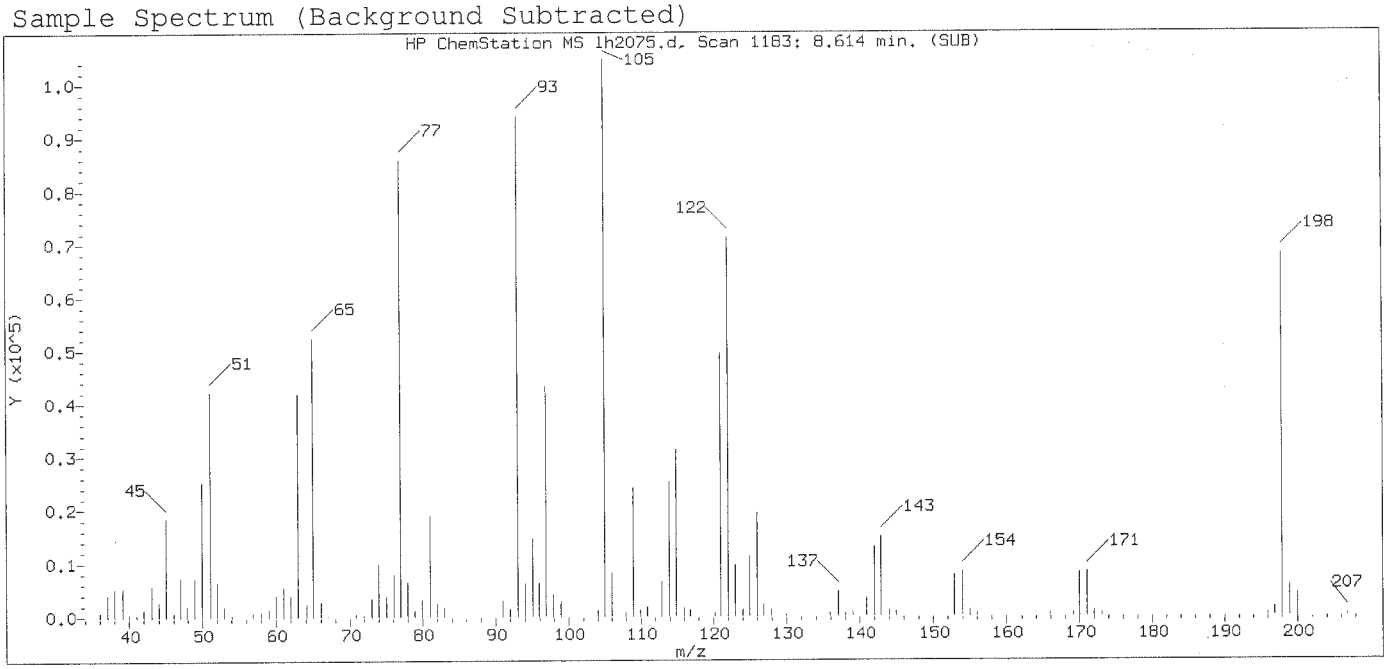
Analyst responsible for change: Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:27
Target 3.5 esignature user ID: ceb05247

Mark A. Ratcliff
Senior Specialist

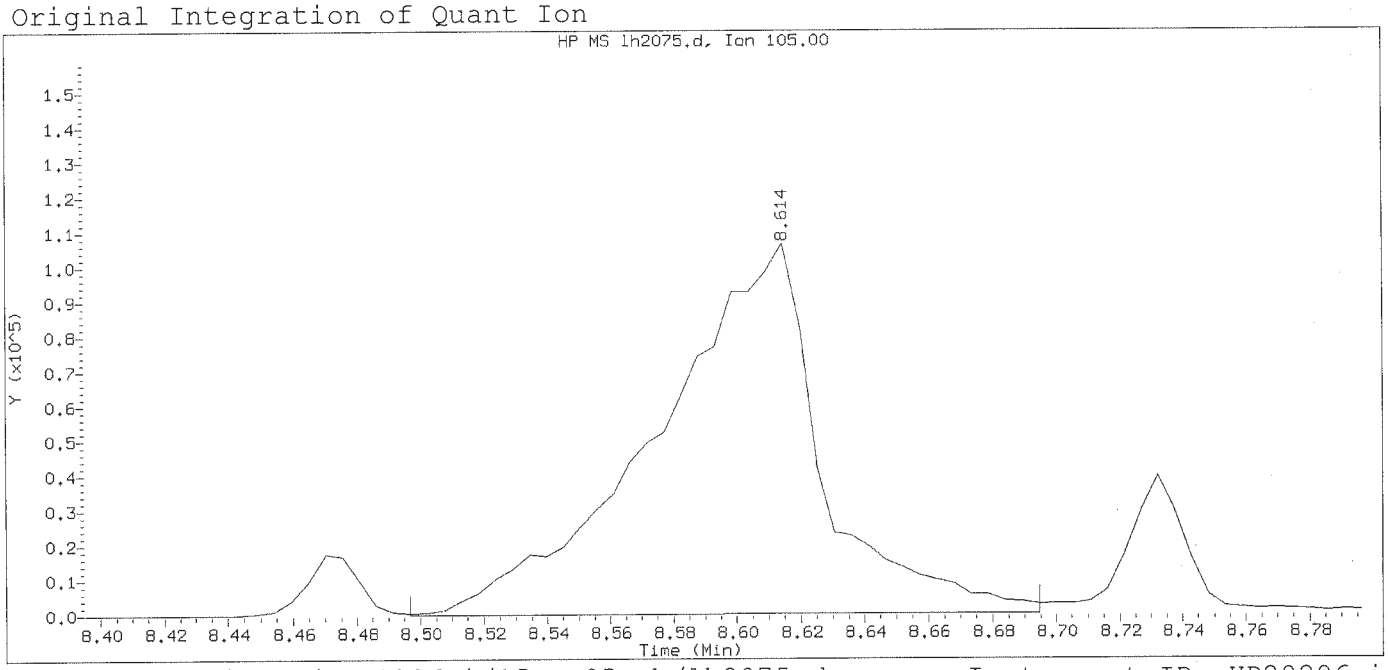
AUG 18 2015

GC/MS audit/management approval:_____

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2075.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:22 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:08
Date, time and analyst ID of latest file update: 14-Aug-2015 17:08 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1183		
Retention Time (minutes)	: 8.614		
Quant Ion	: 105.00		
Area	: 383131		
On-column Amount (ng/ul)	: 11.5763		
Integration start scan	: 1160	Integration stop scan:	1197
Y at integration start	: 64	Y at integration end:	150

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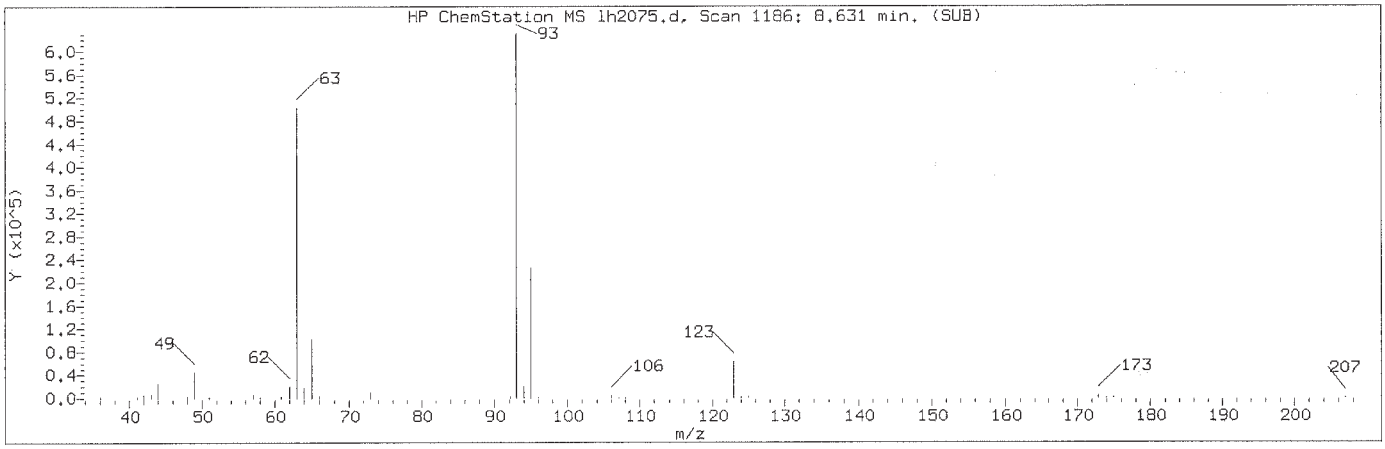
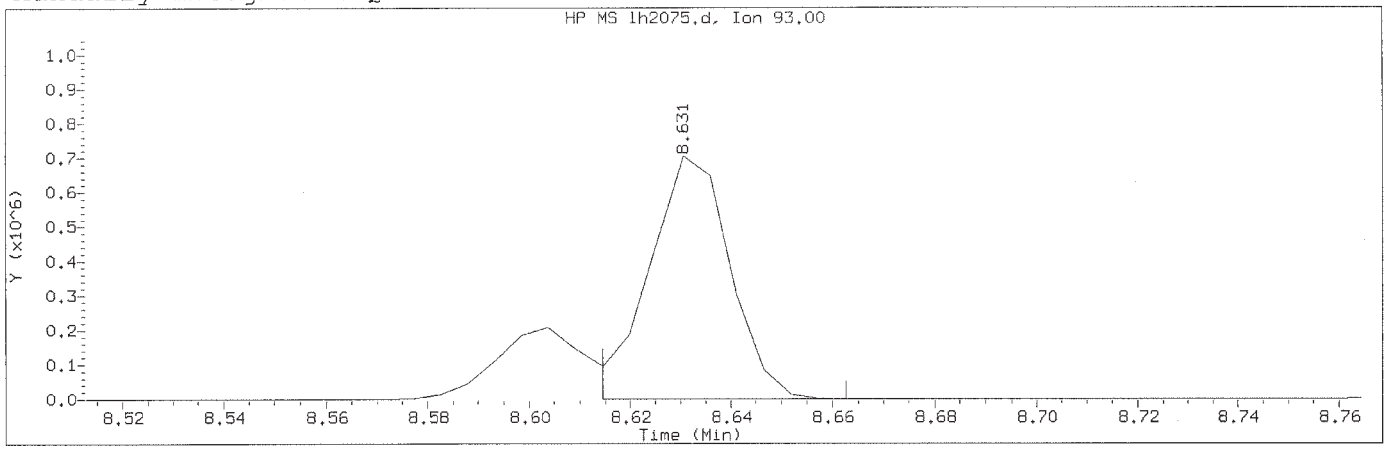
Target 3.5 esignature used: TD_ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2075.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:22 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compound Number	:	48
Compound Name	:	bis(2-Chloroethoxy)methane
Scan Number	:	1186
Retention Time (minutes)	:	8.631
Quant Ion	:	93.00
Area (flag)	:	795077M
On-Column Amount (ng/ul)	:	12.7636
Integration start scan	:	1182 Integration stop scan: 1191
Y at integration start	:	531 Y at integration end: 531

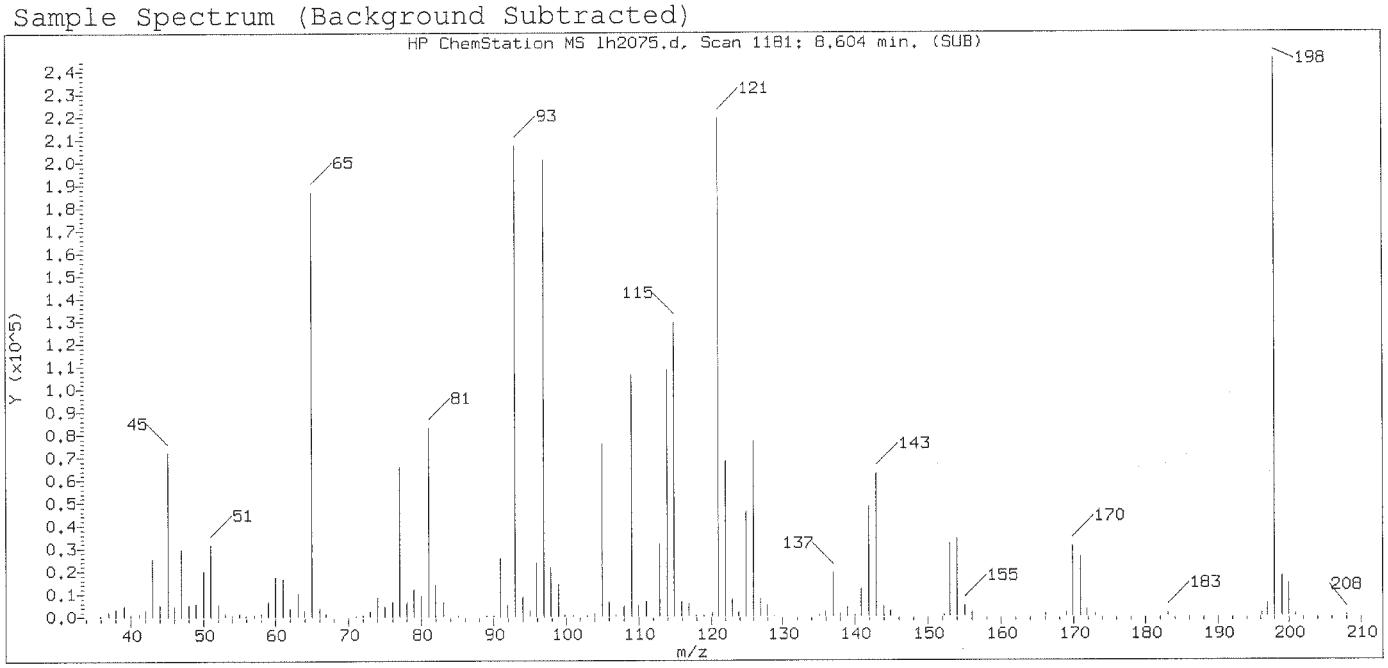
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27. Target 3.5 esignature user ID: ceb05247

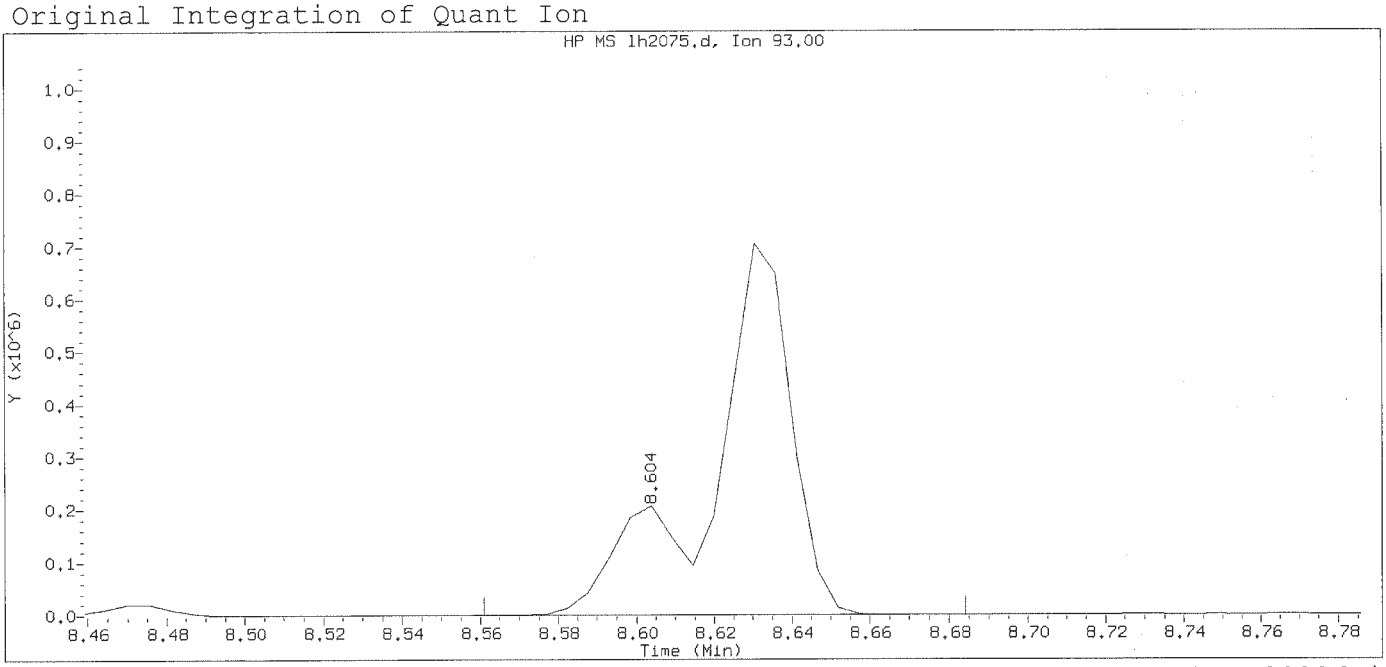
Mark A. Ratcliff
Senior Specialist
AUG 18 2015

GC/MS audit/management approval: _____

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/1h2075.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:22 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:08
Date, time and analyst ID of latest file update: 14-Aug-2015 17:08 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2065

Compound Number	: 48		
Compound Name	: bis(2-Chloroethoxy)methane		
Scan Number	: 1181		
Retention Time (minutes)	: 8.604		
Quant Ion	: 93.00		
Area	: 1023564		
On-column Amount (ng/ul)	: 15.9036		
Integration start scan	: 1172	Integration stop scan:	1195
Y at integration start	: 0	Y at integration end:	0

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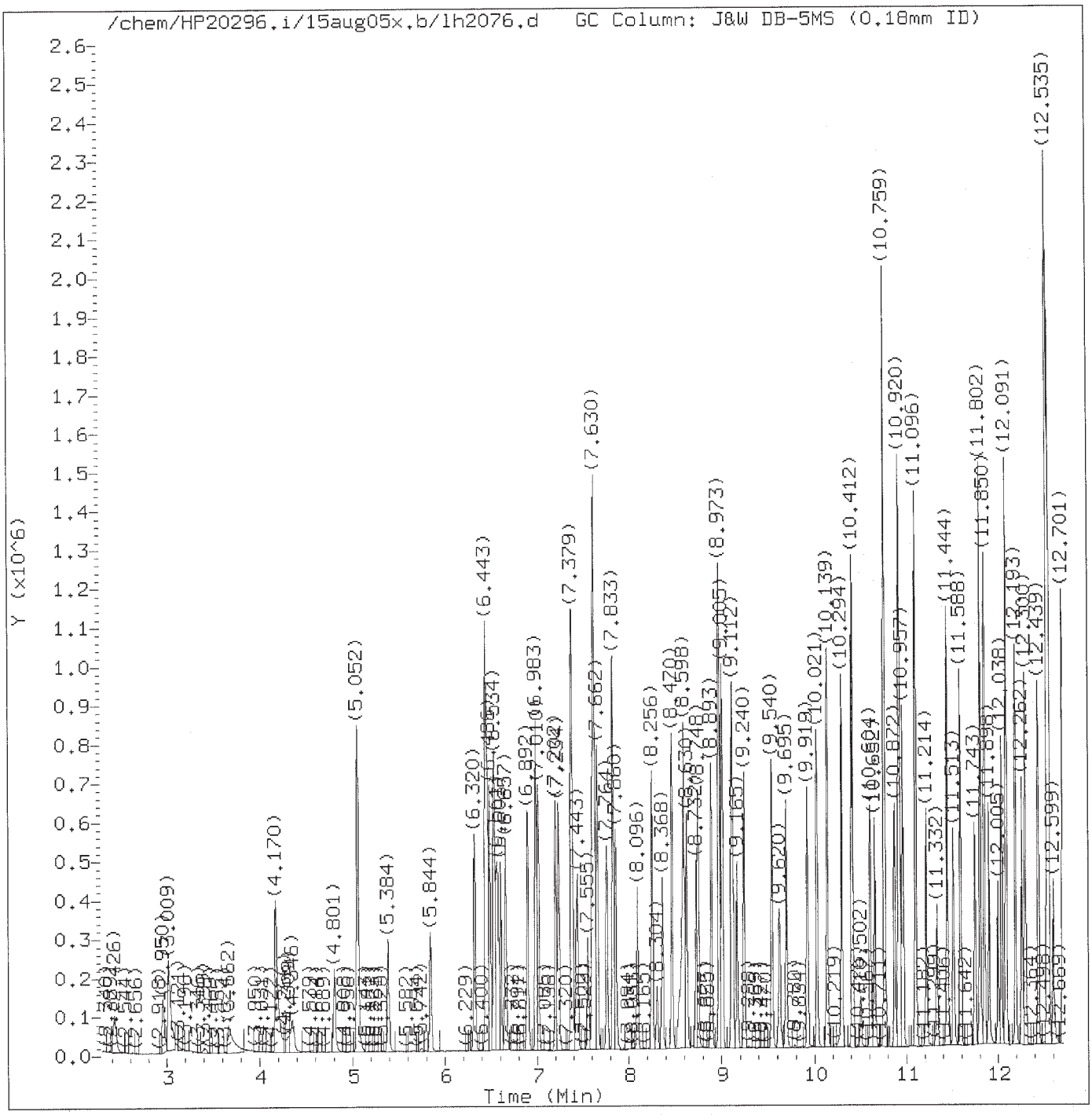
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

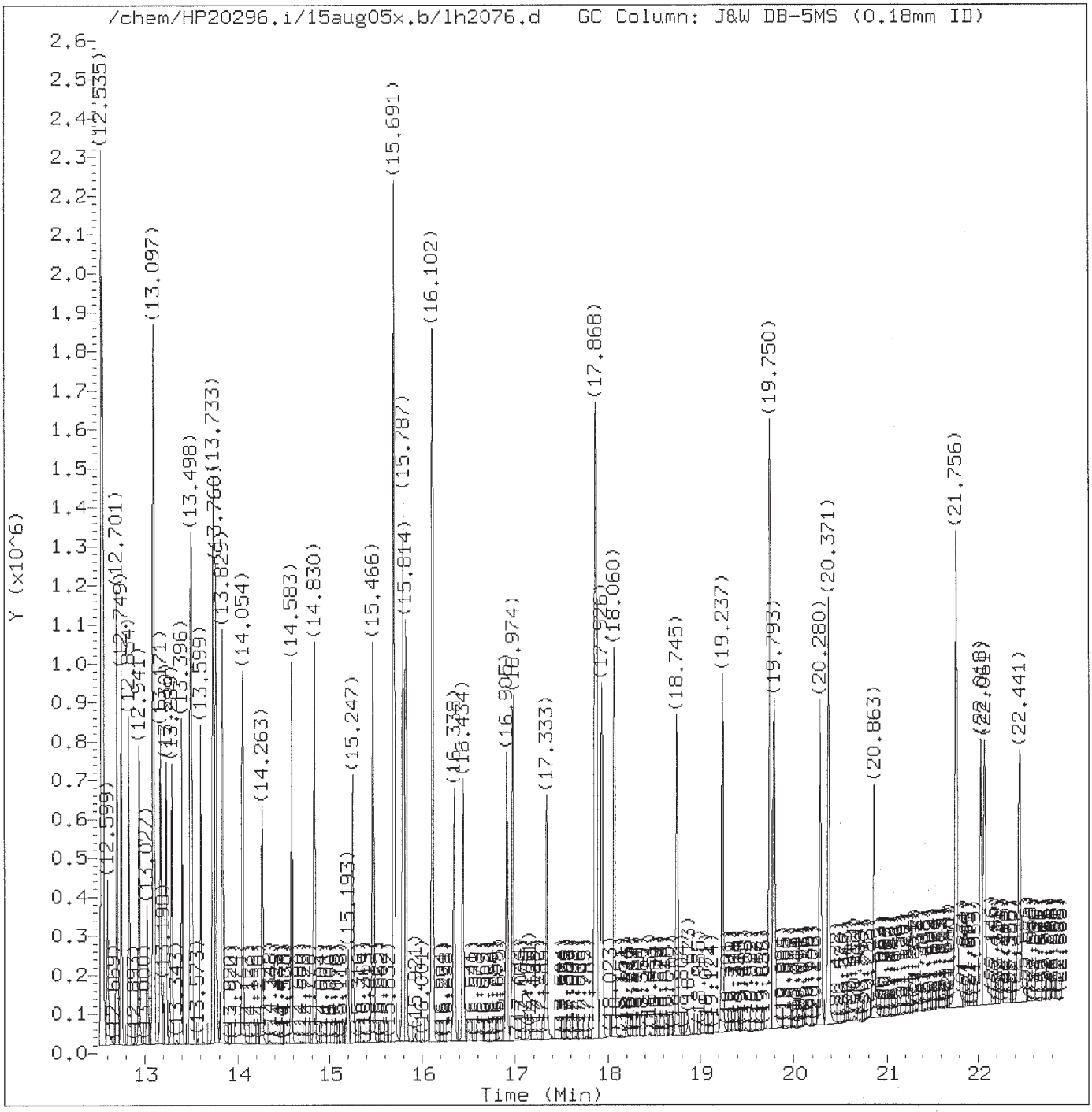
Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2076.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:49 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2076.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:49 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2076.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:49 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.426	88	78009	3.603
2) N-Nitrosodimethylamine	(1)	2.950	74	124507	3.528
3) Pyridine	(1)	3.009	79	212764	3.552
4) 2-Picoline	(1)	4.170	93	224073	3.661
5) N-Nitrosomethylethylamine	(1)	4.352	88	92779	3.698
6) Methyl methanesulfonate	(1)	4.801	80	115929	3.789
7)$2-Fluorophenol	(1)	5.052	112	365120	7.417
8) N-Nitrosodiethylamine	(1)	5.389	102	87273	3.632
10) Ethyl methanesulfonate	(1)	5.844	109	92313	3.738
11) Benzaldehyde	(1)	6.320	77	175576	3.848
12)$Phenol-d5	(1)	6.443	99	482134	7.469
13)$Phenol-d6	(1)	6.443	99	482134	7.469
14) Phenol	(1)	6.464	94	283074	3.736
15) Aniline	(1)	6.486	93	333656	3.786
16) bis(2-Chloroethyl)ether	(1)	6.603	93	202174	3.701
17) 2-Chlorophenol	(1)	6.657	128	173535	3.704
18) 1,3-Dichlorobenzene	(1)	6.892	146	195474	3.787
19)*1,4-Dichlorobenzene-d4	(1)	6.983	152	162953	5.000
20) 1,4-Dichlorobenzene	(1)	7.010	146	197889	3.769
23) Benzyl alcohol	(1)	7.202	108	120412	3.573
24) 1,2-Dichlorobenzene	(1)	7.234	146	185119	3.751
25) Indene	(1)	7.374	115	306012	3.671
26) 2-Methylphenol	(1)	7.390	108	180177	3.774
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.443	45	313498	3.782
28) bis(2-Chloroisopropyl)ether	(1)	7.443	45	313498	3.782
29) N-Nitrosopyrrolidine	(1)	7.561	100	93032	3.705
30) Acetophenone	(1)	7.609	105	264919	3.686
31) N-Nitroso-di-n-propylamine	(1)	7.630	70	154199	3.739
32) N-Nitrosomorpholine	(1)	7.630	56	131930	3.786
33) 4-Methylphenol	(1)	7.630	108	201141	3.777
34) o-Toluidine	(1)	7.662	106	307375	3.747
35) Hexachloroethane	(1)	7.764	117	79538	3.659
36)$Nitrobenzene-d5	(2)	7.833	82	449734	7.345
37) Nitrobenzene	(2)	7.860	77	230613	3.706
39) N-Nitrosopiperidine	(2)	8.096	114	87595	3.667
40) Isophorone	(2)	8.256	82	394063	3.670
42) 2-Nitrophenol	(2)	8.368	139	86861	3.605
45) 2,4-Dimethylphenol	(2)	8.470	107	190651	3.650
47) Benzoic acid	(2)	8.582	105	216865M	6.057
46) O,O,O-triethylphosphorothioate	(2)	8.598	198	88005	3.756

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2076.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:49 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
48) bis(2-Chloroethoxy)methane	(2)	8.630	93	250420	3.838
49) 2,4-Dichlorophenol	(2)	8.753	162	144845	3.711
51) 1,2,4-Trichlorobenzene	(2)	8.893	180	162182	3.726
52)*Naphthalene-d8	(2)	8.973	136	636795	5.000
53) Naphthalene	(2)	9.005	128	506919	3.710
55) 4-Chloroaniline	(2)	9.106	127	214083	3.697
56) 2,6-Dichlorophenol	(2)	9.117	162	137343	3.633
57) Hexachloropropene	(2)	9.165	213	101454	3.556
58) Hexachlorobutadiene	(2)	9.240	225	92008	3.694
60) Quinoline	(2)	9.540	129	309991	3.689
61) Caprolactam	(2)	9.620	113	44781	3.770
62) N-Nitrosodi-n-butylamine	(2)	9.695	84	140156	3.529
63) 4-Chloro-3-methylphenol	(2)	9.919	107	162466	3.676
64) Safrole	(2)	10.021	162	125444	3.666
65) 2-Methylnaphthalene	(2)	10.139	142	332779	3.802
66) 1-Methylnaphthalene	(2)	10.294	142	299213	3.708
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.412	216	163016	3.763
67) Hexachlorocyclopentadiene	(3)	10.412	237	93305	3.529
69) cis-Isosafrole	(3)	10.502	162	22727	0.616
70) 2,4,6-Trichlorophenol	(3)	10.604	196	99062	3.592
71) 2,4,5-Trichlorophenol	(3)	10.658	196	103991	3.637
72)$2-Fluorobiphenyl	(3)	10.759	172	736967	7.461
74) Isosafrole	(3)	10.872	162	123404	3.621
73) trans-Isosafrole	(3)	10.872	162	123404	3.005
75) 1,1'-Biphenyl	(3)	10.914	154	382582	3.713
76) 2-Chloronaphthalene	(3)	10.925	162	312818	3.626
77) 1-Chloronaphthalene	(3)	10.957	162	301695	3.839
82) Diphenyl ether	(3)	11.096	170	210897	3.711
83) 2-Nitroaniline	(3)	11.096	138	94356	3.563
84) 1,4-Naphthoquinone	(3)	11.214	158	119005	3.572
85) 1,4-Dinitrobenzene	(3)	11.337	168	46760	3.550
86) Dimethylphthalate	(3)	11.444	163	345760	3.895
87) 1,3-Dinitrobenzene	(3)	11.449	168	50435	3.523
88) 2,6-Dinitrotoluene	(3)	11.513	165	73846	3.696
90) Acenaphthylene	(3)	11.588	152	475141	3.740
91) 3-Nitroaniline	(3)	11.743	138	82471	3.619
92)*Acenaphthene-d10	(3)	11.802	164	352558	5.000
93) Acenaphthene	(3)	11.850	153	322024	3.801
94) 2,4-Dinitrophenol	(3)	11.898	184	80795	6.580
96) 4-Nitrophenol	(3)	12.000	109	51752	3.341

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2076.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:49 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
95) Pentachlorobenzene	(3)	12.038	250	129091	3.792
98) 2,4-Dinitrotoluene	(3)	12.086	165	98945	3.672
97) Dibenzofuran	(3)	12.091	168	444574	3.777
99) 1-Naphthylamine	(3)	12.193	143	315958	3.750
100) 2,3,4,6-Tetrachlorophenol	(3)	12.262	232	81520	3.627
101) 2-Naphthylamine	(3)	12.300	143	322648	3.821
102) Diethylphthalate	(3)	12.439	149	316075	3.678
104) Thionazin	(3)	12.535	107	64157	3.664
103) Fluorene	(3)	12.535	166	342850	3.736
106) 5-Nitro-o-toluidine	(3)	12.551	152	91313	3.625
107) 4-Nitroaniline	(3)	12.551	138	88651	3.684
105) 4-Chlorophenyl-phenylether	(3)	12.556	204	166428	3.827
108) 4,6-Dinitro-2-methylphenol	(4)	12.604	198	53953	3.414
110) NDPA as diphenylamine	(4)	12.701	169	277177	3.702
109) N-Nitrosodiphenylamine	(4)	12.701	169	277177	3.702
111) 1,2-Diphenylhydrazine	(4)	12.749	77	414622	3.742
112)$2,4,6-Tribromophenol	(3)	12.834	330	78259	7.308
115) Tetraethyldithiopyrophosphate	(4)	12.941	97	63455	3.764
116) 1,3,5-Trinitrobenzene	(4)	13.032	213	32004	3.365
117) Diallate (peak 1)	(4)	13.091	86	140012	3.079
118) Phorate	(4)	13.097	75	257863	3.698
119) Phenacetin	(4)	13.102	108	184345	3.597
120) 4-Bromophenyl-phenylether	(4)	13.171	248	86565	3.768
121) Diallate (peak 2)	(4)	13.198	86	26972	0.612
122) Hexachlorobenzene	(4)	13.230	284	90379	3.742
123) Dimethoate	(4)	13.289	87	160072	3.657
124) Atrazine	(4)	13.396	200	88594	3.768
125) Pentachlorophenol	(4)	13.487	266	55364	3.429
127) 4-Aminobiphenyl	(4)	13.498	169	328452	3.630
126) Pentachloronitrobenzene	(4)	13.508	237	41977	3.665
129) Pronamide	(4)	13.605	173	147603	3.609
130)*Phenanthrene-d10	(4)	13.733	188	579881	5.000
133) Dinoseb	(4)	13.749	211	75401	3.214
131) Phenanthrene	(4)	13.765	178	493136	3.660
134) Anthracene	(4)	13.835	178	488212	3.758
135) Carbazole	(4)	14.054	167	458676	3.663
136) Methyl parathion	(4)	14.263	109	112962	3.450
137) Di-n-butylphthalate	(4)	14.583	149	526429	3.561
139) 4-Nitroquinoline-1-oxide	(4)	14.830	190	35763	2.745
138) Parathion	(4)	14.830	109	69066	3.429

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2076.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:49 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	15.247	193	55307	3.689
142) Fluoranthene	(4)	15.466	202	533647	3.690
144) Benzidine	(5)	15.691	184	1058615	10.753
145)*Pyrene-d10	(5)	15.787	212	712280	5.000
146) Pyrene	(5)	15.814	202	582437	3.705
149)$Terphenyl-d14	(5)	16.108	244	726810	7.392
150) p-Dimethylaminoazobenzene	(5)	16.343	225	85730	3.289
151) Chlorobenzilate	(5)	16.434	139	164015	3.613
152) 3,3'-Dimethylbenzidine	(5)	16.905	212	329102	3.391
153) Butylbenzylphthalate	(5)	16.974	149	240591	3.556
156) 2-Acetylaminofluorene	(5)	17.333	181	180843	3.132
159) 3,3'-Dichlorobenzidine	(5)	17.852	252	175468	3.424
158) Benzo(a)anthracene	(5)	17.868	228	509823	3.655
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.873	231	104462	3.515
161) Chrysene	(5)	17.932	228	486725	3.746
162) bis(2-Ethylhexyl)phthalate	(5)	18.065	149	329813	3.409
165) 6-Methylchrysene	(5)	18.745	242	322879	3.467
166) Di-n-octylphthalate	(6)	19.237	149	549025	3.506
168) Benzo(b)fluoranthene	(6)	19.745	252	488259	3.816
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.750	256	203896	3.642
170) Benzo(k)fluoranthene	(6)	19.793	252	486661	3.866
171) Benzo(a)pyrene	(6)	20.280	252	452114	3.783
172)*Perylene-d12	(6)	20.371	264	543713	5.000
173) 3-Methylcholanthrene	(6)	20.863	268	192637	3.431
176) Indeno(1,2,3-cd)pyrene	(6)	22.023	276	510413	3.642
177) Dibenz(a,h)anthracene	(6)	22.066	278	430638	3.684
178) Benzo(g,h,i)perylene	(6)	22.446	276	447327	3.645
179) Diallate TRANS/CIS	(4)			166984	3.691
182) 2,4_2,6-Dinitrotoluenes	(3)			172791	7.368

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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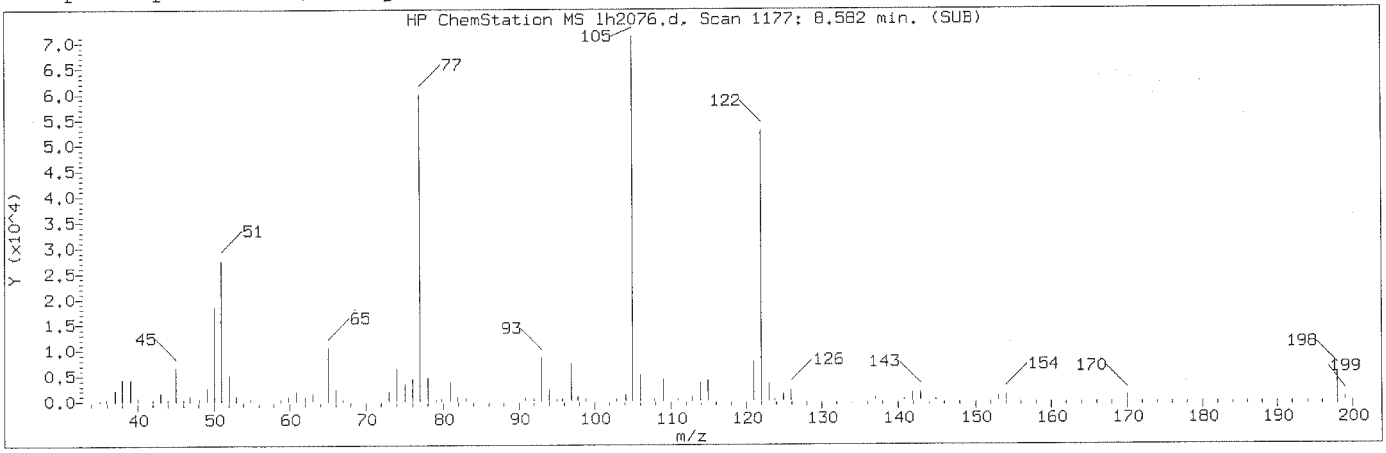
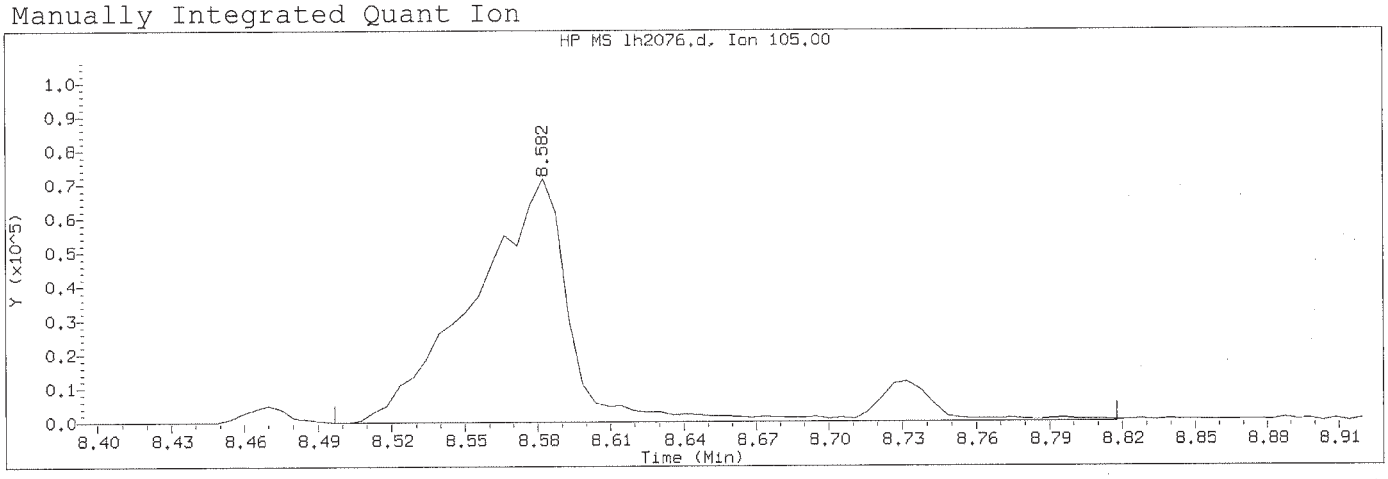
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2076.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:49 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

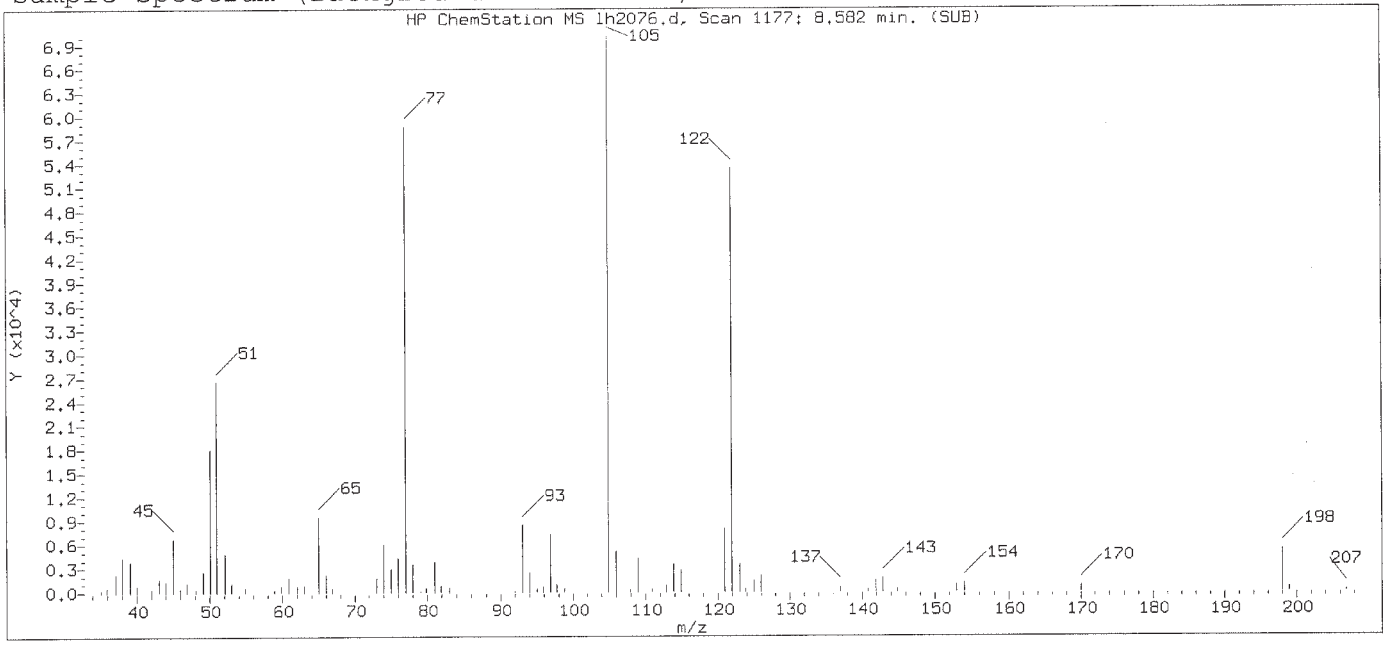
Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1177		
Retention Time (minutes)	: 8.582		
Quant Ion	: 105.00		
Area (flag)	: 216865M		
On-Column Amount (ng/ul)	: 6.0571		
Integration start scan	: 1160	Integration stop scan:	1220
Y at integration start	: -1	Y at integration end:	-1

Reason for manual integration: improper integration

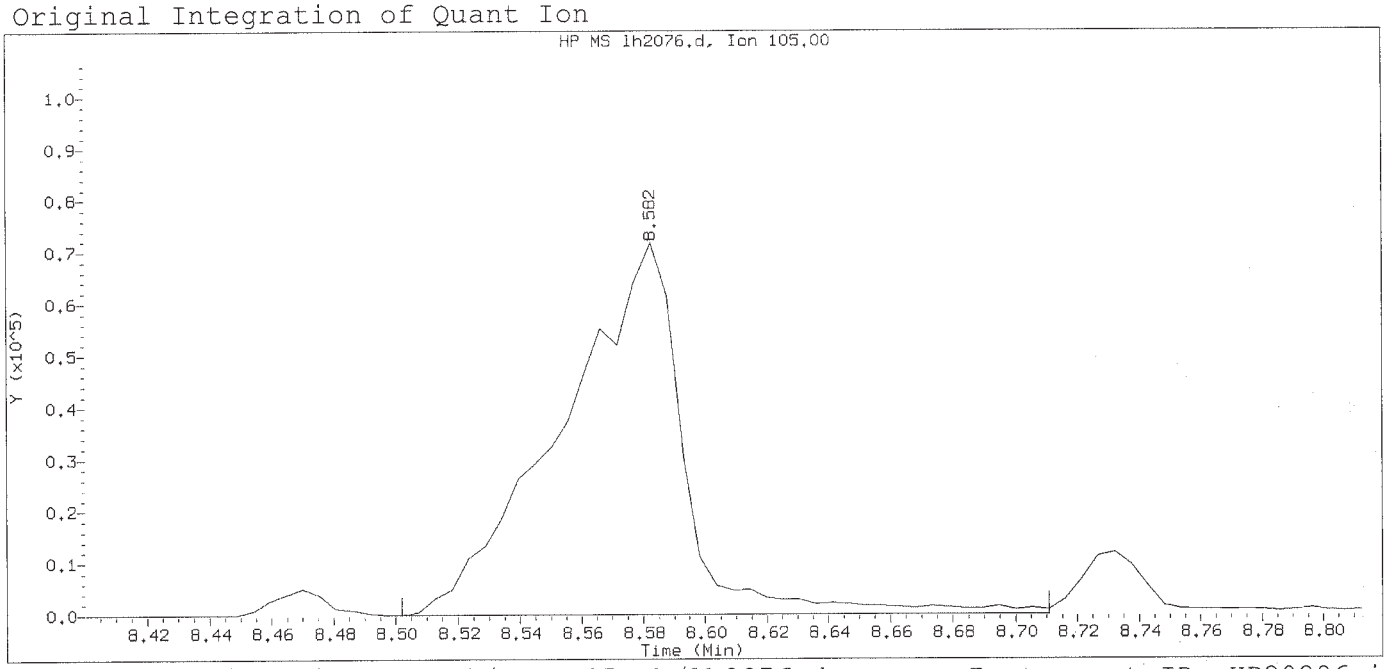
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27. Target 3.5 esignature user ID: ceb05247

GC/MS audit/management approval: Mark A. Ratcliff Senior Specialist AUG 18 2015

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2076.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 15:49 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:08
Date, time and analyst ID of latest file update: 14-Aug-2015 17:08 ceb05247

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1177		
Retention Time (minutes)	: 8.582		
Quant Ion	: 105.00		
Area	: 197579		
On-column Amount (ng/ul)	: 6.5570		
Integration start scan	: 1161	Integration stop scan:	1200
Y at integration start	: 0	Y at integration end:	0

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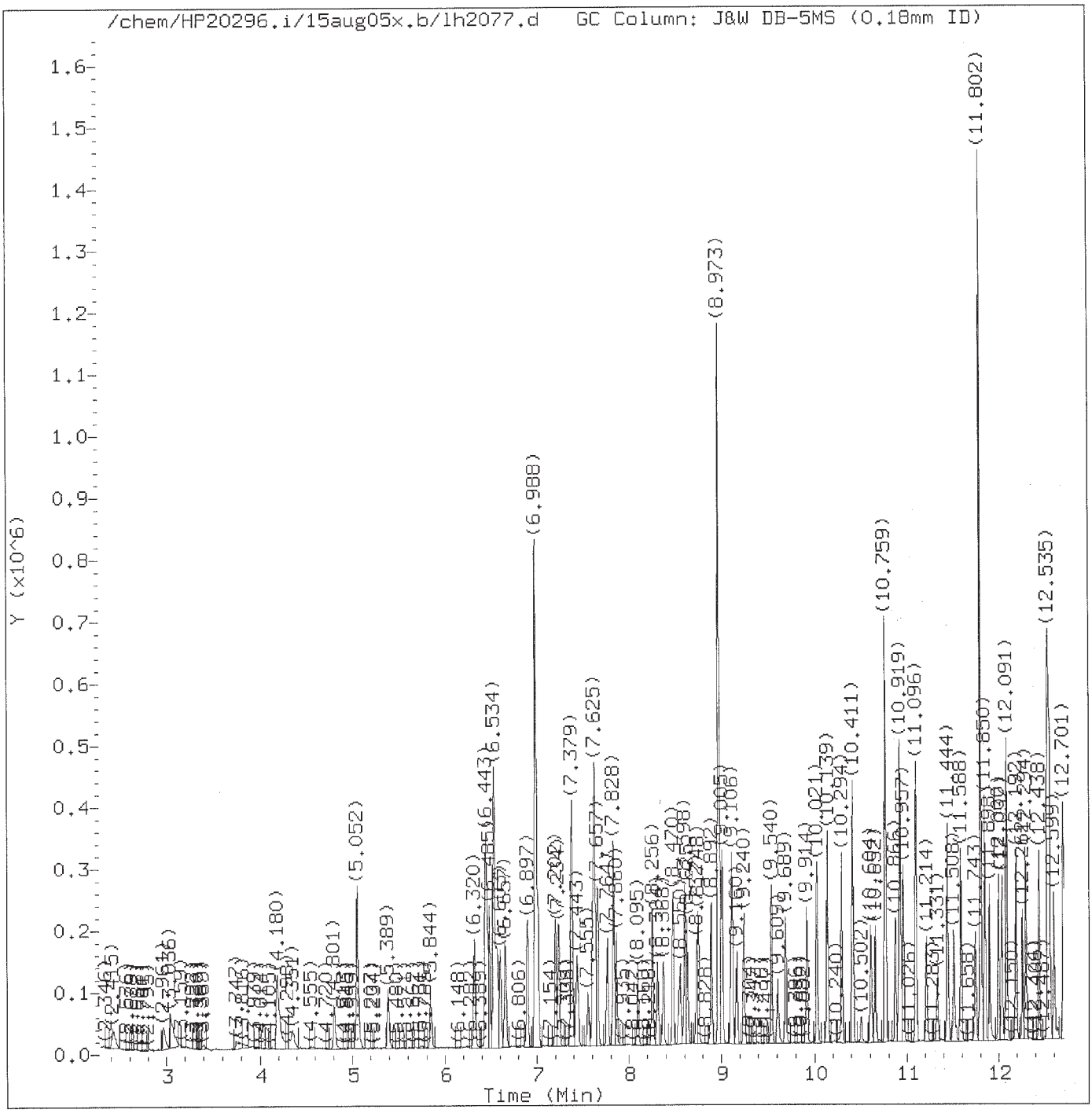
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2077.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:19 ceb05247

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

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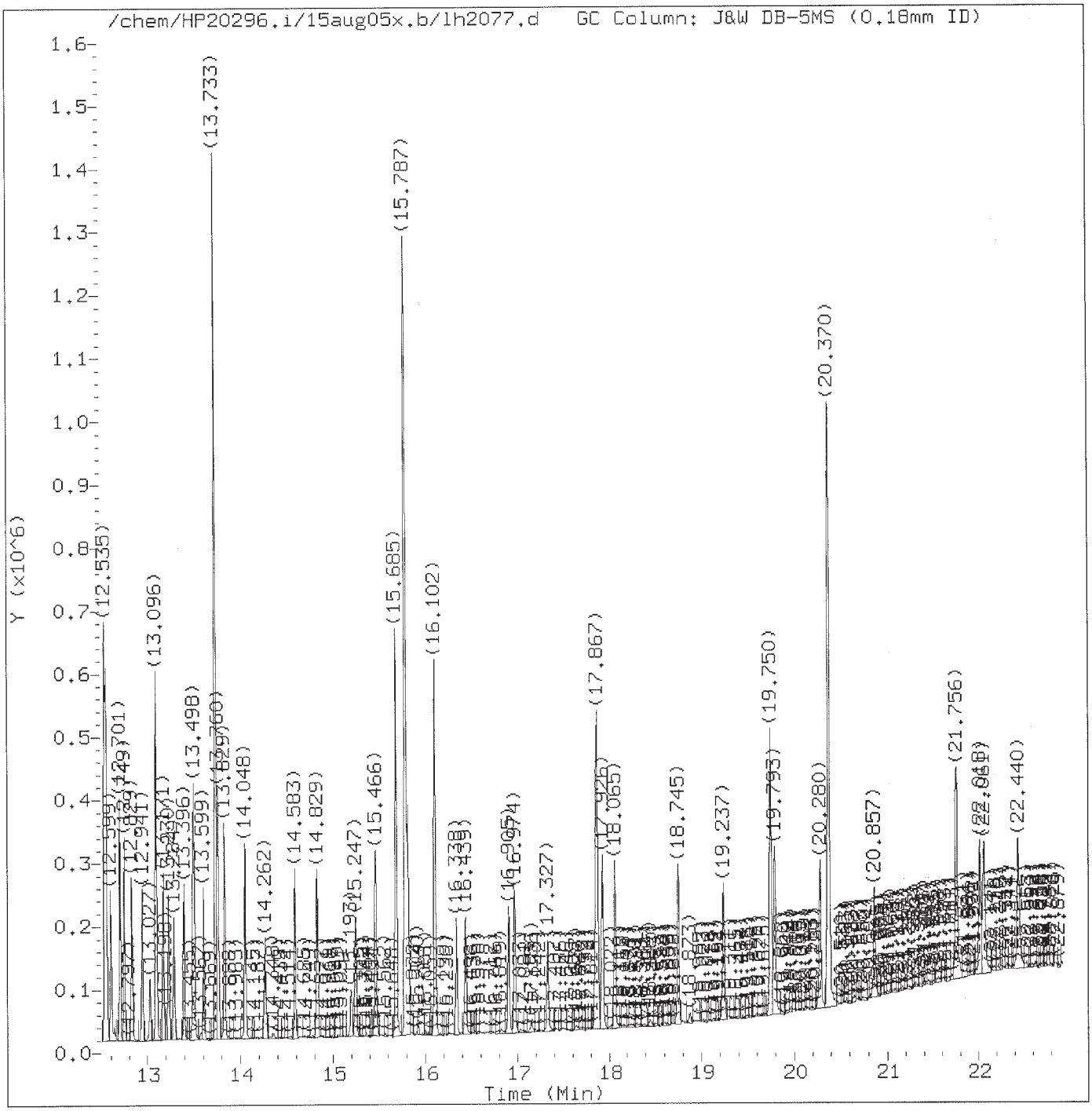
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2077.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:19 ceb05247

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2077.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:19 ceb05247

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.415	88	26575	1.254
2) N-Nitrosodimethylamine	(1)	2.961	74	40588	1.196
3) Pyridine	(1)	3.036	79	66037	1.146
4) 2-Picoline	(1)	4.186	93	73648	1.235
5) N-Nitrosomethylethylamine	(1)	4.357	88	29568	1.233
6) Methyl methanesulfonate	(1)	4.806	80	37321	1.259
7)$2-Fluorophenol	(1)	5.052	112	114436	2.422
8) N-Nitrosodiethylamine	(1)	5.389	102	28014	1.221
10) Ethyl methanesulfonate	(1)	5.844	109	28774	1.185
11) Benzaldehyde	(1)	6.320	77	54129	1.219
12)$Phenol-d5	(1)	6.443	99	152852	2.467
13)$Phenol-d6	(1)	6.443	99	152852	2.467
14) Phenol	(1)	6.464	94	90133	1.242
15) Aniline	(1)	6.485	93	106050	1.240
16) bis(2-Chloroethyl)ether	(1)	6.603	93	67879	1.263
17) 2-Chlorophenol	(1)	6.662	128	55963	1.233
18) 1,3-Dichlorobenzene	(1)	6.892	146	63667	1.253
19)*1,4-Dichlorobenzene-d4	(1)	6.988	152	159370	5.000
20) 1,4-Dichlorobenzene	(1)	7.010	146	63378	1.233
23) Benzyl alcohol	(1)	7.202	108	37363	1.151
24) 1,2-Dichlorobenzene	(1)	7.240	146	61825	1.262
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.261	45	104434A	1.258
28) bis(2-Chloroisopropyl)ether	(1)	7.261	45	104434A	1.258
25) Indene	(1)	7.379	115	99902	1.229
26) 2-Methylphenol	(1)	7.384	108	55588	1.213
29) N-Nitrosopyrrolidine	(1)	7.555	100	27979	1.179
30) Acetophenone	(1)	7.609	105	83433	1.197
31) N-Nitroso-di-n-propylamine	(1)	7.625	70	49691	1.240
32) N-Nitrosomorpholine	(1)	7.630	56	41940	1.237
33) 4-Methylphenol	(1)	7.630	108	64027	1.241
34) o-Toluidine	(1)	7.657	106	96971	1.219
35) Hexachloroethane	(1)	7.764	117	25712	1.220
36)$Nitrobenzene-d5	(2)	7.828	82	145104	2.459
37) Nitrobenzene	(2)	7.860	77	74760	1.252
39) N-Nitrosopiperidine	(2)	8.095	114	26243	1.153
40) Isophorone	(2)	8.256	82	123703	1.215
42) 2-Nitrophenol	(2)	8.368	139	24718	1.114
45) 2,4-Dimethylphenol	(2)	8.470	107	59569	1.204
47) Benzoic acid	(2)	8.550	105	64084	2.012
46) O,O,O-triethylphosphorothioate	(2)	8.598	198	27125	1.211

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2077.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:19 ceb05247

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
48) bis(2-Chloroethoxy)methane	(2)	8.625	93	81621	1.273
49) 2,4-Dichlorophenol	(2)	8.753	162	45306	1.229
51) 1,2,4-Trichlorobenzene	(2)	8.892	180	51726	1.228
52)*Naphthalene-d8	(2)	8.973	136	619095	5.000
53) Naphthalene	(2)	9.005	128	166014	1.242
55) 4-Chloroaniline	(2)	9.106	127	67665	1.224
56) 2,6-Dichlorophenol	(2)	9.117	162	44907	1.238
57) Hexachloropropene	(2)	9.165	213	31531	1.187
58) Hexachlorobutadiene	(2)	9.240	225	30377	1.262
60) Quinoline	(2)	9.540	129	96538	1.194
61) Caprolactam	(2)	9.609	113	11676	1.044
62) N-Nitrosodi-n-butylamine	(2)	9.689	84	43522	1.146
63) 4-Chloro-3-methylphenol	(2)	9.914	107	51536	1.227
64) Safrole	(2)	10.026	162	38728	1.202
65) 2-Methylnaphthalene	(2)	10.139	142	108799	1.278
66) 1-Methylnaphthalene	(2)	10.294	142	96560	1.237
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.411	216	52706	1.257
67) Hexachlorocyclopentadiene	(3)	10.411	237	29329	1.163
69) cis-Isosafrole	(3)	10.502	162	7824	0.218
70) 2,4,6-Trichlorophenol	(3)	10.604	196	30208	1.159
71) 2,4,5-Trichlorophenol	(3)	10.652	196	32718	1.219
72)$2-Fluorobiphenyl	(3)	10.759	172	238254	2.497
74) Isosafrole	(3)	10.866	162	39114	1.209
73) trans-Isosafrole	(3)	10.866	162	39114	1.003
75) 1,1'-Biphenyl	(3)	10.914	154	122182	1.216
76) 2-Chloronaphthalene	(3)	10.925	162	103111	1.243
77) 1-Chloronaphthalene	(3)	10.957	162	94205	1.234
82) Diphenyl ether	(3)	11.096	170	68353	1.250
83) 2-Nitroaniline	(3)	11.096	138	27241	1.123
84) 1,4-Naphthoquinone	(3)	11.214	158	33987	1.083
85) 1,4-Dinitrobenzene	(3)	11.331	168	13004	1.053
86) Dimethylphthalate	(3)	11.444	163	109094	1.267
87) 1,3-Dinitrobenzene	(3)	11.449	168	15267	1.124
88) 2,6-Dinitrotoluene	(3)	11.508	165	21768	1.200
90) Acenaphthylene	(3)	11.588	152	148434	1.223
91) 3-Nitroaniline	(3)	11.743	138	25416	1.196
92)*Acenaphthene-d10	(3)	11.802	164	341098	5.000
93) Acenaphthene	(3)	11.850	153	101522	1.237
94) 2,4-Dinitrophenol	(3)	11.898	184	30924	2.743
96) 4-Nitrophenol	(3)	12.000	109	31926	2.184

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2077.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:19 ceb05247

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
95) Pentachlorobenzene	(3)	12.037	250	40471	1.229
98) 2,4-Dinitrotoluene	(3)	12.085	165	29465	1.172
97) Dibenzofuran	(3)	12.091	168	143773	1.257
99) 1-Naphthylamine	(3)	12.192	143	97025	1.217
100) 2,3,4,6-Tetrachlorophenol	(3)	12.262	232	24023	1.137
101) 2-Naphthylamine	(3)	12.294	143	99999	1.247
102) Diethylphthalate	(3)	12.438	149	100246	1.213
103) Fluorene	(3)	12.529	166	105985	1.212
104) Thionazin	(3)	12.535	107	19486	1.192
106) 5-Nitro-o-toluidine	(3)	12.545	152	27365	1.174
107) 4-Nitroaniline	(3)	12.545	138	25880	1.170
105) 4-Chlorophenyl-phenylether	(3)	12.556	204	53197	1.254
108) 4,6-Dinitro-2-methylphenol	(4)	12.599	198	30913	2.120
110) NDPA as diphenylamine	(4)	12.701	169	87741	1.242
109) N-Nitrosodiphenylamine	(4)	12.701	169	87741	1.242
111) 1,2-Diphenylhydrazine	(4)	12.749	77	131372	1.253
112)$2,4,6-Tribromophenol	(3)	12.834	330	22709	2.238
115) Tetraethyldithiopyrophosphate	(4)	12.941	97	18009	1.164
116) 1,3,5-Trinitrobenzene	(4)	13.027	213	8862	1.017
117) Diallate (peak 1)	(4)	13.086	86	42349	1.001
119) Phenacetin	(4)	13.096	108	53588	1.177
118) Phorate	(4)	13.096	75	74764	1.176
120) 4-Bromophenyl-phenylether	(4)	13.171	248	28288	1.283
121) Diallate (peak 2)	(4)	13.198	86	8779	0.218
122) Hexachlorobenzene	(4)	13.230	284	28105	1.223
123) Dimethoate	(4)	13.284	87	43974	1.085
124) Atrazine	(4)	13.396	200	26890	1.232
125) Pentachlorophenol	(4)	13.487	266	13346	0.916
127) 4-Aminobiphenyl	(4)	13.498	169	98802	1.181
126) Pentachloronitrobenzene	(4)	13.508	237	13077	1.241
129) Pronamide	(4)	13.599	173	41816	1.135
130)*Phenanthrene-d10	(4)	13.733	188	551316	5.000
133) Dinoseb	(4)	13.749	211	17503	0.837
131) Phenanthrene	(4)	13.760	178	158525	1.242
134) Anthracene	(4)	13.829	178	151006	1.234
135) Carbazole	(4)	14.048	167	139598	1.207
136) Methyl parathion	(4)	14.262	109	28910	0.970
137) Di-n-butylphthalate	(4)	14.583	149	147397	1.078
138) Parathion	(4)	14.824	109	17052	0.935
139) 4-Nitroquinoline-1-oxide	(4)	14.829	190	8465	0.739

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2077.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:19 ceb05247

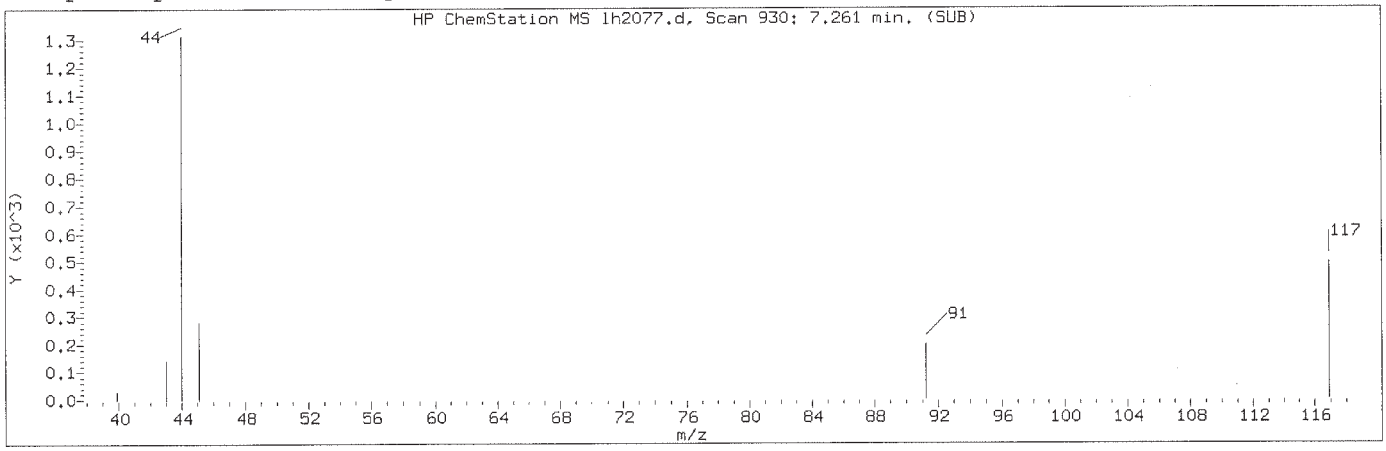
Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	15.247	193	16020	1.157
142) Fluoranthene	(4)	15.460	202	159657	1.192
144) Benzidine	(5)	15.685	184	311372	3.418
145)*Pyrene-d10	(5)	15.787	212	670749	5.000
146) Pyrene	(5)	15.813	202	180340	1.220
149)$Terphenyl-d14	(5)	16.102	244	220358	2.420
150) p-Dimethylaminoazobenzene	(5)	16.338	225	21741	0.987
151) Chlorobenzilate	(5)	16.439	139	46172	1.105
152) 3,3'-Dimethylbenzidine	(5)	16.905	212	84559	0.967
153) Butylbenzylphthalate	(5)	16.974	149	65839	1.064
156) 2-Acetylaminofluorene	(5)	17.332	181	44054	0.861
159) 3,3'-Dichlorobenzidine	(5)	17.851	252	49983	1.066
158) Benzo(a)anthracene	(5)	17.867	228	152064	1.194
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.867	231	27737	1.026
161) Chrysene	(5)	17.932	228	149343	1.242
162) bis(2-Ethylhexyl)phthalate	(5)	18.065	149	89092	1.015
165) 6-Methylchrysene	(5)	18.745	242	95139	1.145
166) Di-n-octylphthalate	(6)	19.237	149	133790	0.942
168) Benzo(b)fluoranthene	(6)	19.745	252	144326	1.211
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.750	256	55361	1.104
170) Benzo(k)fluoranthene	(6)	19.793	252	144053	1.218
171) Benzo(a)pyrene	(6)	20.280	252	134975	1.217
172)*Perylene-d12	(6)	20.376	264	517508	5.000
173) 3-Methylcholanthrene	(6)	20.857	268	53801	1.092
176) Indeno(1,2,3-cd)pyrene	(6)	22.018	276	157839M	1.214
177) Dibenz(a,h)anthracene	(6)	22.061	278	128626	1.198
178) Benzo(g,h,i)perylene	(6)	22.440	276	136481	1.195
179) Diallate TRANS/CIS	(4)			51128	1.220
182) 2,4_2,6-Dinitrotoluenes	(3)			51233	2.372

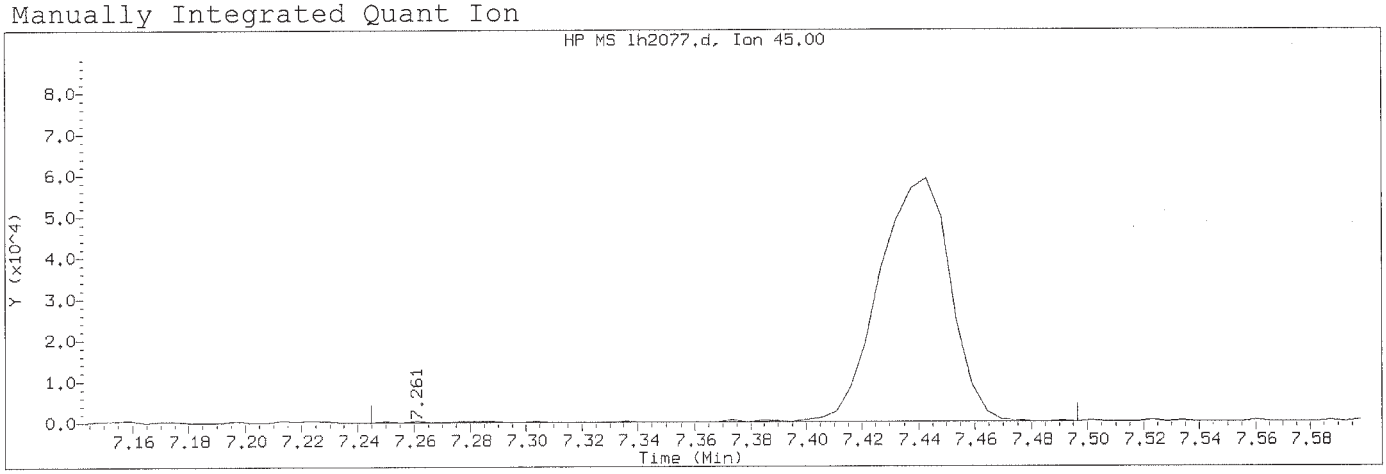
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2077.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:19 ceb05247

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

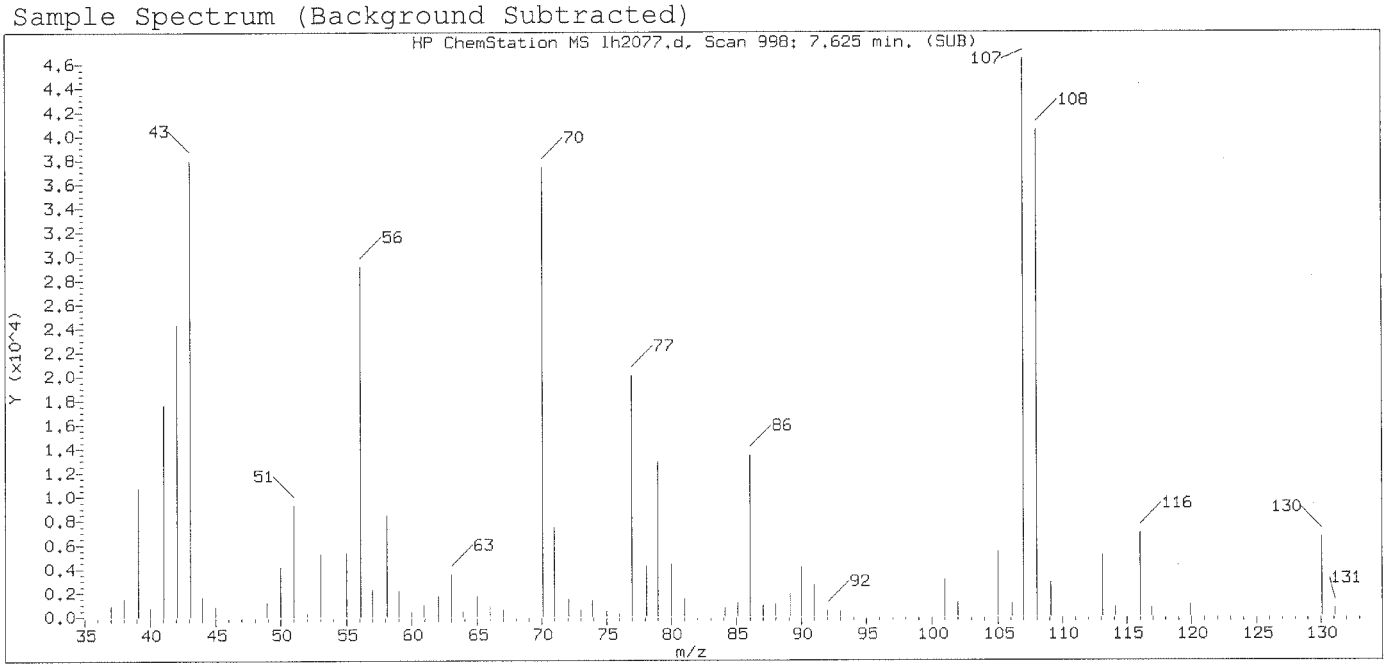
Compound Number	: 27		
Compound Name	: 2,2'-oxybis(1-Chloropropane)		
Scan Number	: 930		
Retention Time (minutes)	: 7.261		
Quant Ion	: 45.00		
Area (flag)	: 104434A		
On-Column Amount (ng/ul)	: 1.2575		
Integration start scan	: 926	Integration stop scan:	973
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

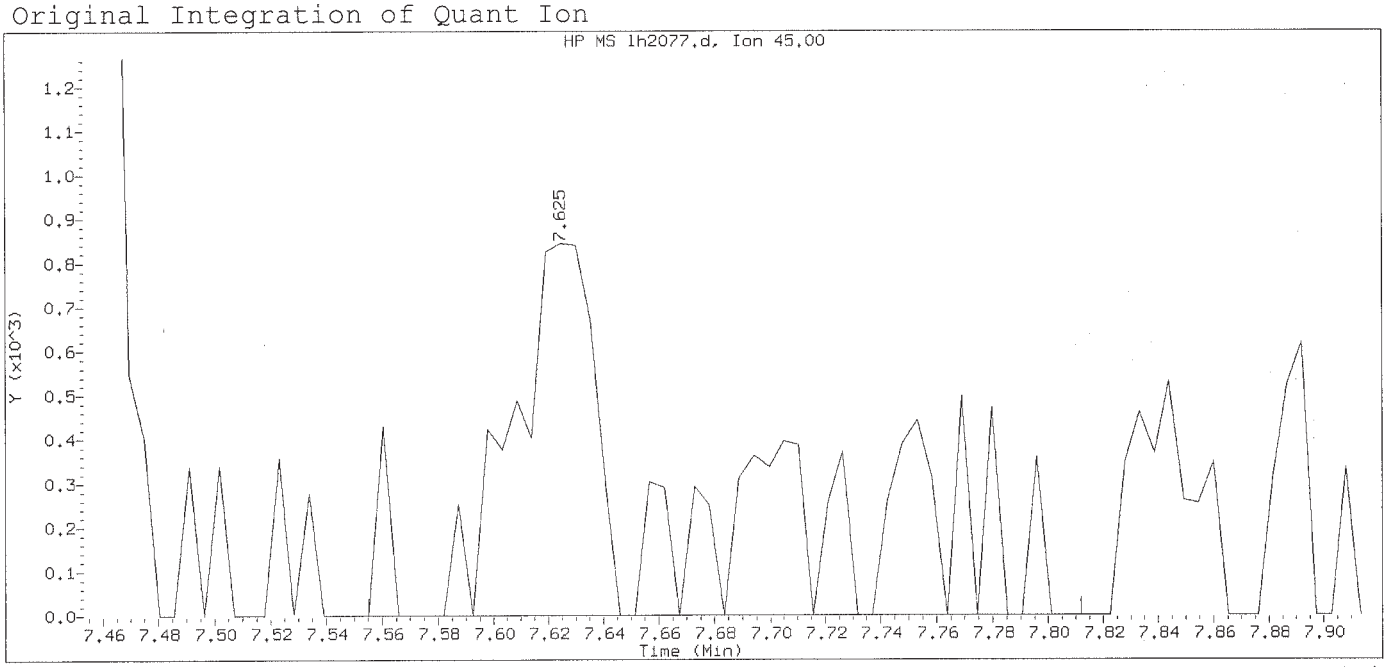
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27. Target 3.5 esignature user ID: ceb05247

GC/MS audit/management approval: Mark A. Ratcliff Senior Specialist AUG 18 2015

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/1h2077.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:17 Analyst ID: hbz01996

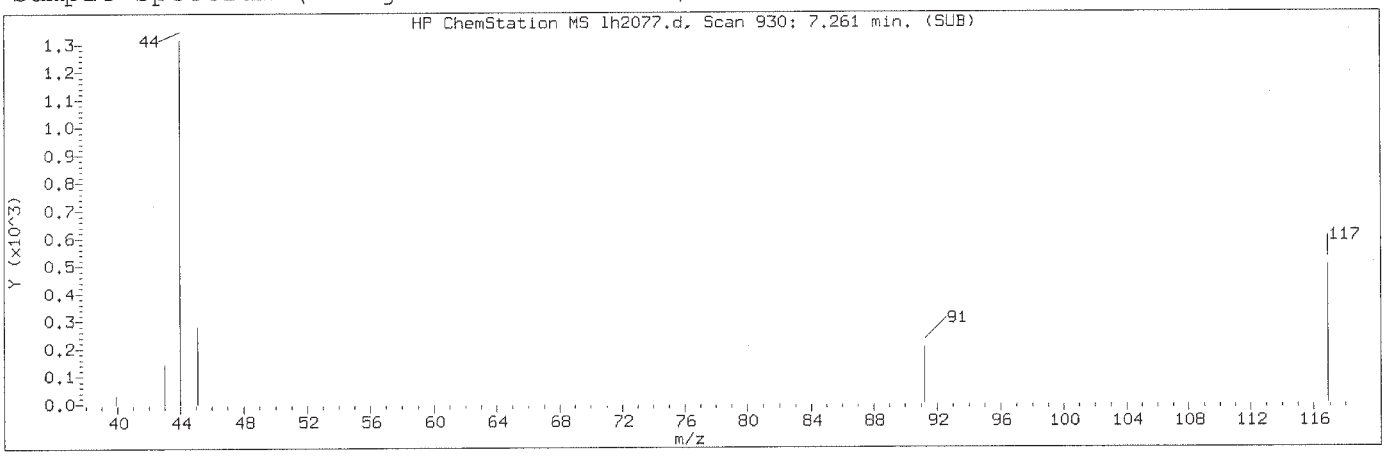
Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:08
Date, time and analyst ID of latest file update: 14-Aug-2015 17:08 ceb05247

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

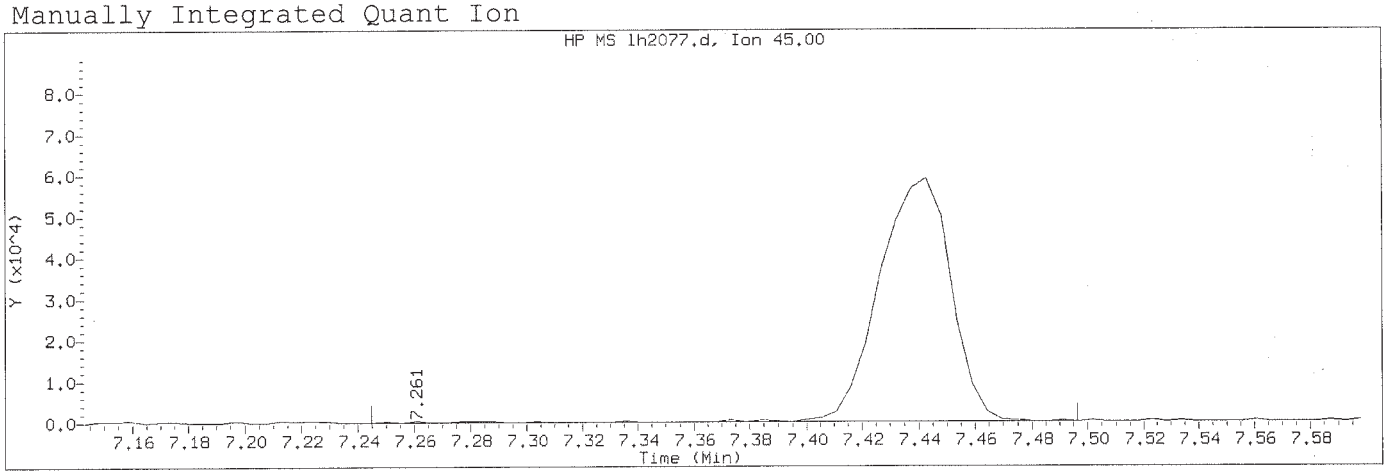
Compound Number	: 27		
Compound Name	: 2,2'-oxybis(1-Chloropropane)		
Scan Number	: 998		
Retention Time (minutes)	: 7.625		
Quant Ion	: 45.00		
Area	: 3898		
On-column Amount (ng/ul)	: 0.0564		
Integration start scan	: 984	Integration stop scan:	1032
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27.
Target 3.5 esignature used: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/1h2077.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:19 ceb05247

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compound Number	: 28		
Compound Name	: bis(2-Chloroisopropyl)ether		
Scan Number	: 930		
Retention Time (minutes)	: 7.261		
Quant Ion	: 45.00		
Area (flag)	: 104434A		
On-Column Amount (ng/ul)	: 1.2575		
Integration start scan	: 926	Integration stop scan:	973
Y at integration start	: 0	Y at integration end:	0

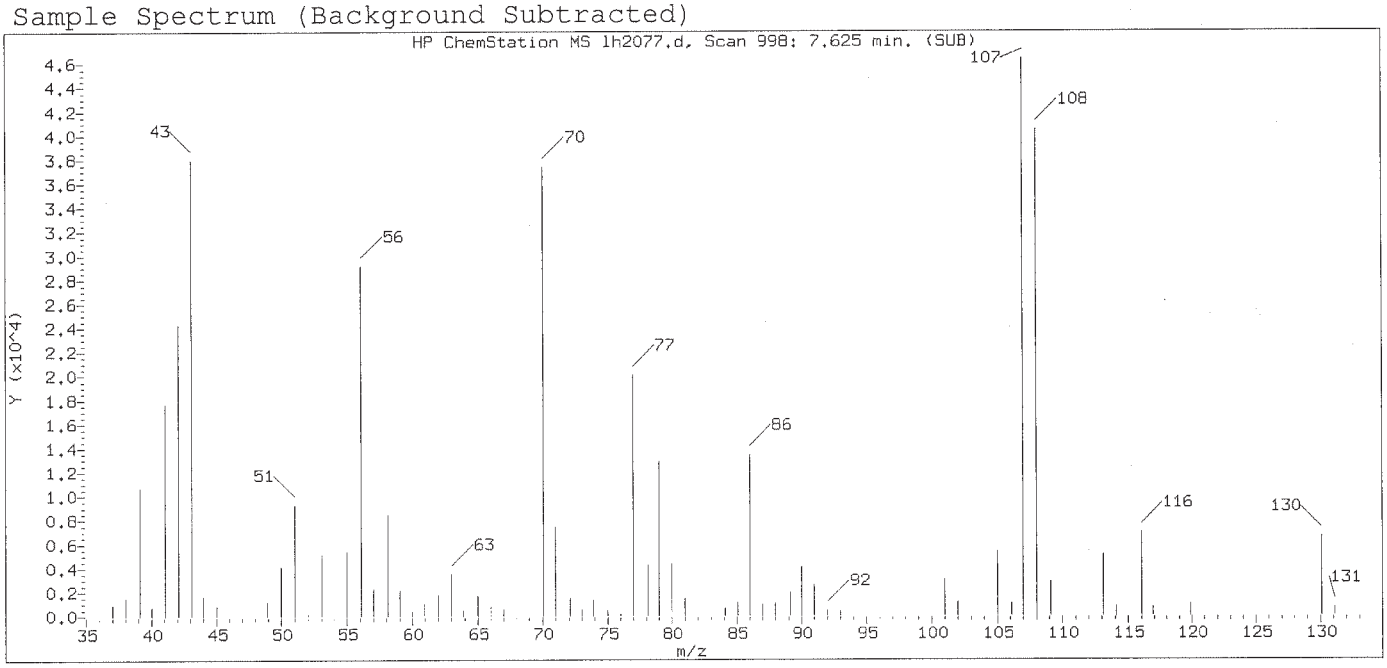
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27. Target 3.5 esignature user ID: ceb05247

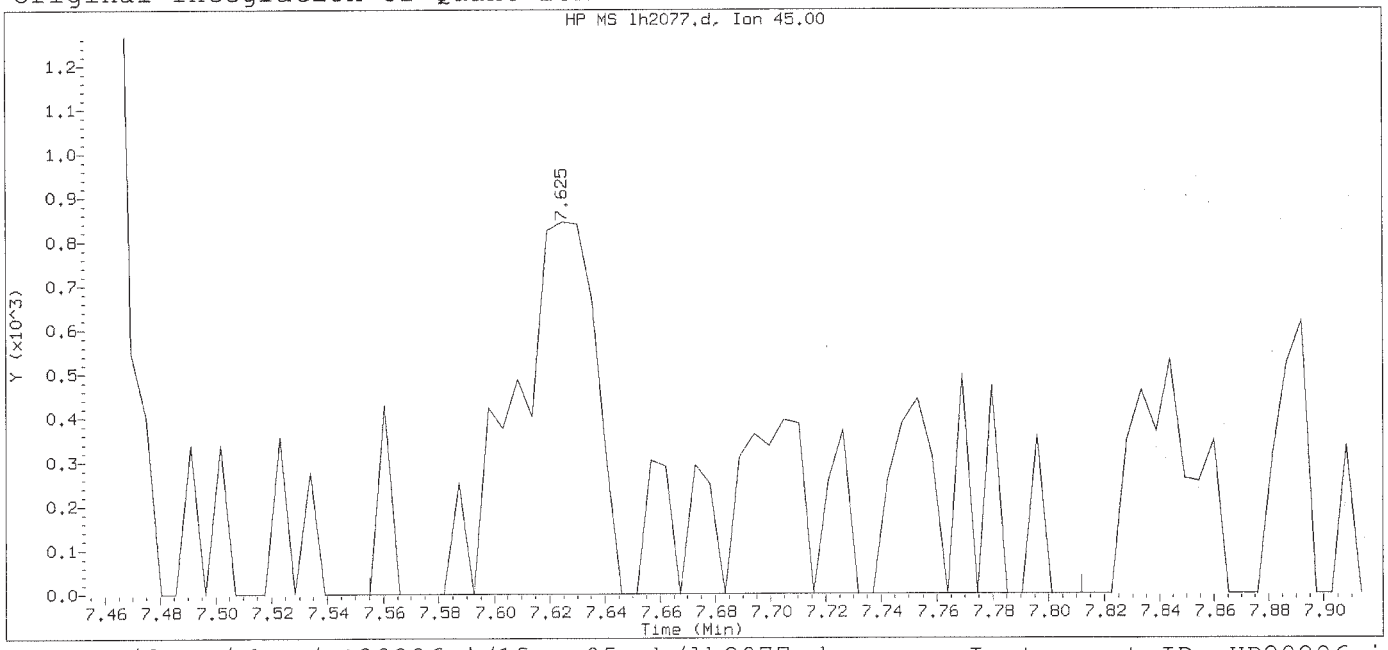
Mark A. Ratcliff
Senior Specialist
AUG 18 2015

GC/MS audit/management approval: _____

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2077.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:17 Analyst ID: hbz01996

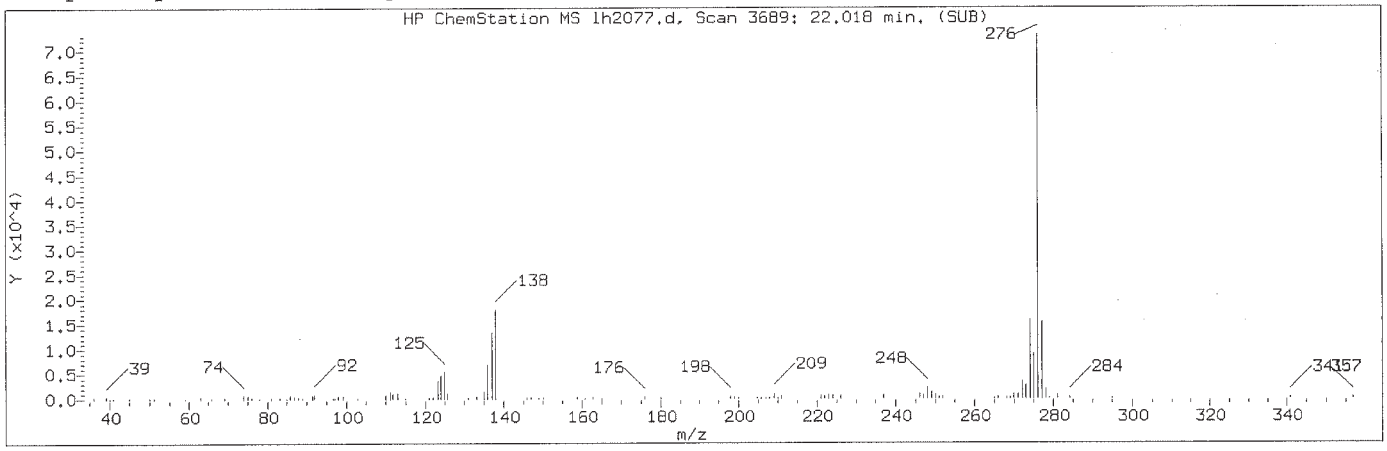
Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:08
Date, time and analyst ID of latest file update: 14-Aug-2015 17:08 ceb05247

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

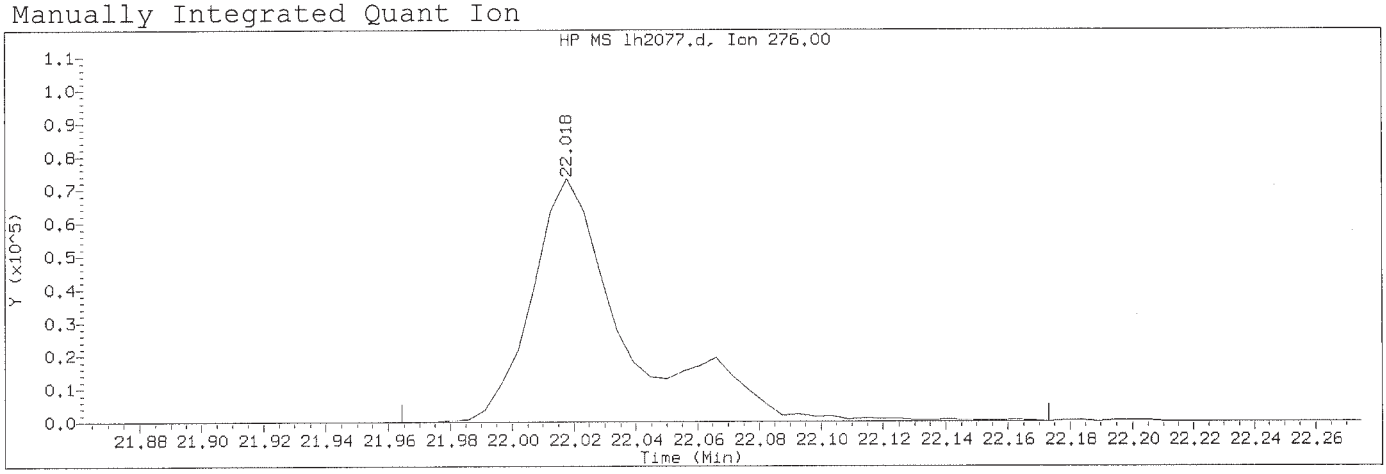
Compound Number	: 28		
Compound Name	: bis(2-Chloroisopropyl)ether		
Scan Number	: 998		
Retention Time (minutes)	: 7.625		
Quant Ion	: 45.00		
Area	: 3898		
On-column Amount (ng/ul)	: 0.0564		
Integration start scan	: 984	Integration stop scan:	1032
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2077.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:19 ceb05247

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3689		
Retention Time (minutes)	: 22.018		
Quant Ion	: 276.00		
Area (flag)	: 157839M		
On-Column Amount (ng/ul)	: 1.2144		
Integration start scan	: 3678	Integration stop scan:	3717
Y at integration start	: 0	Y at integration end:	0

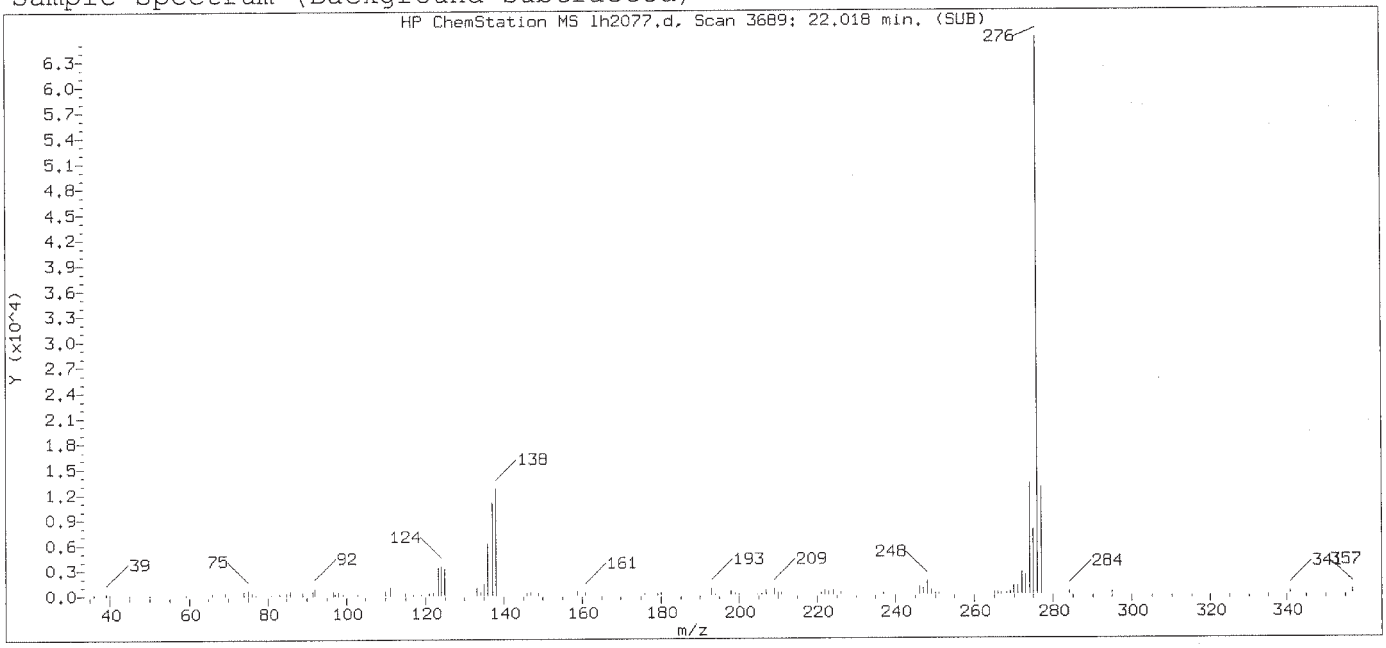
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27. Target 3.5 esignature user ID: ceb05247

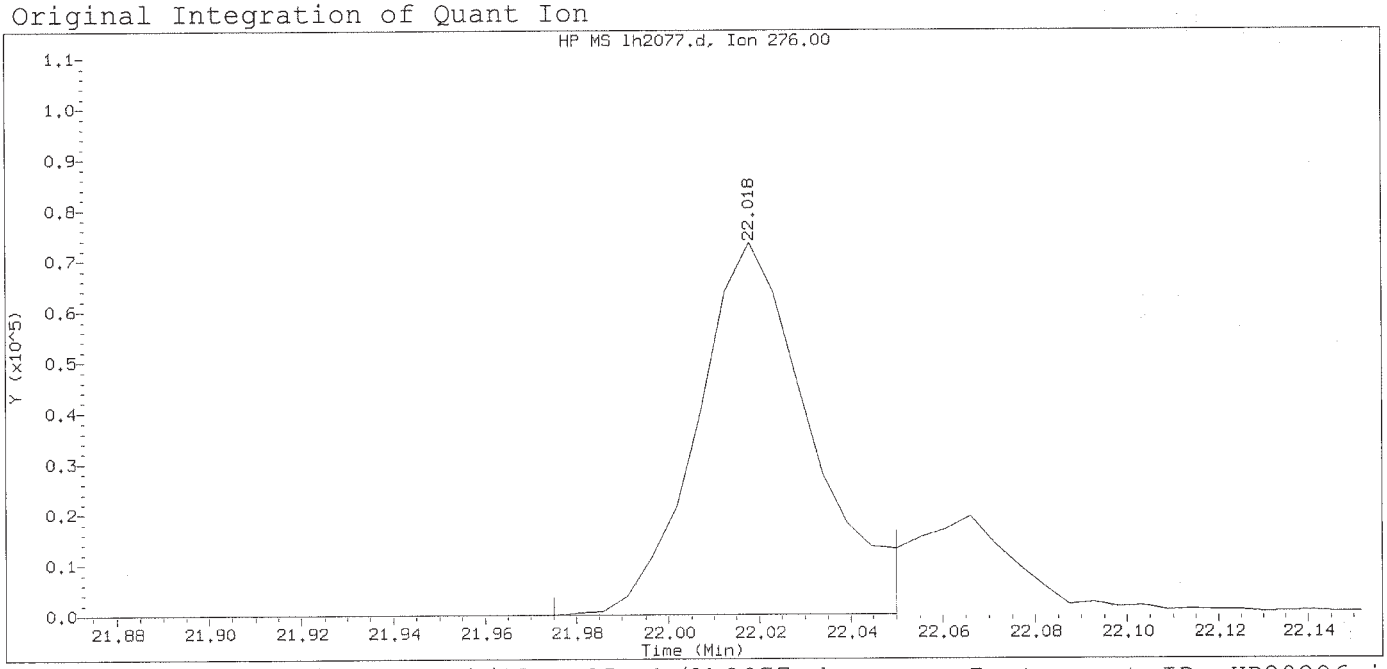
Mark A. Ratcliff
Senior Specialist
AUG 18 2015

GC/MS audit/management approval: _____

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



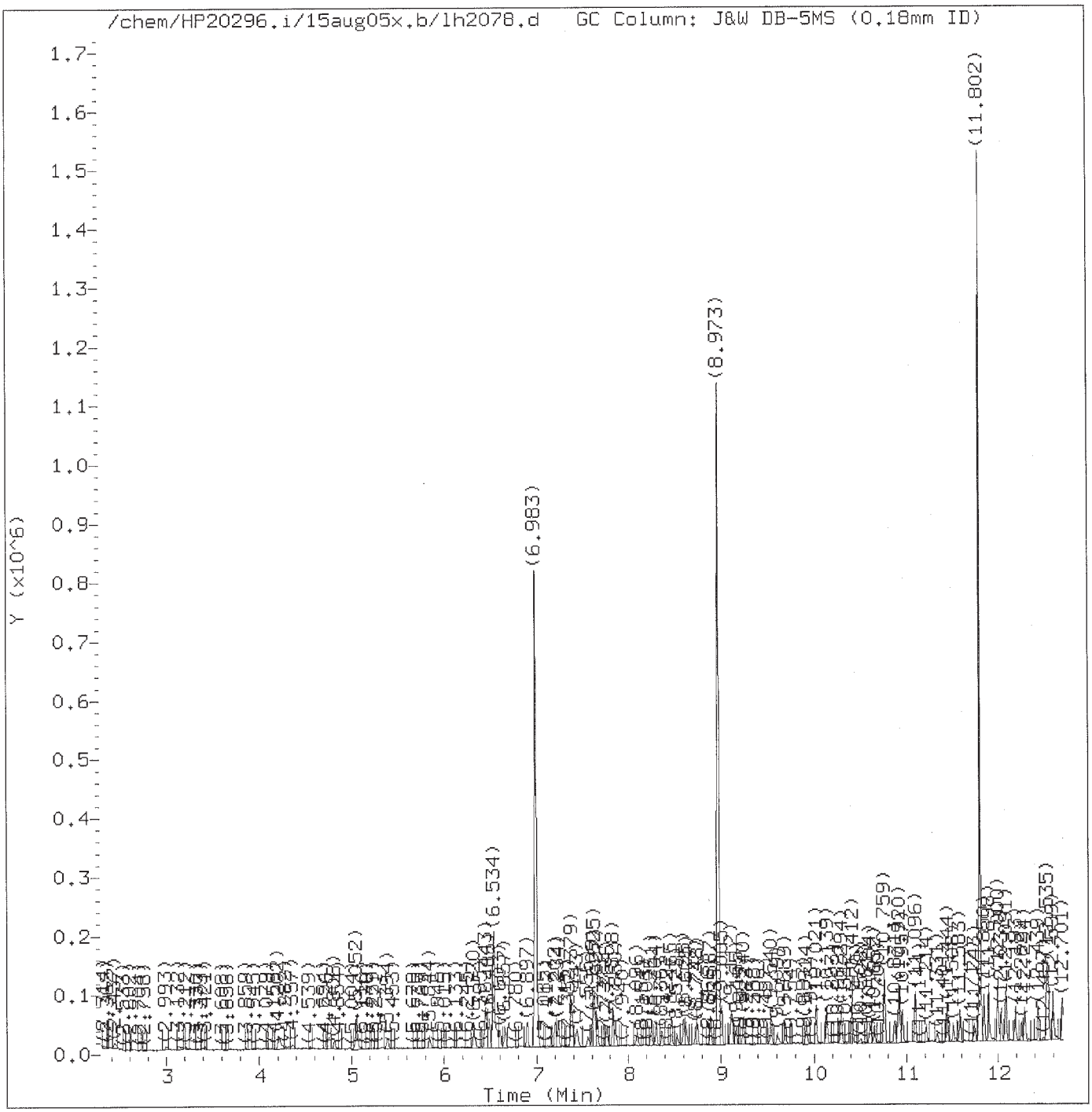
Data File: /chem/HP20296.i/15aug05x.b/lh2077.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:08
Date, time and analyst ID of latest file update: 14-Aug-2015 17:08 ceb05247

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2065

Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3689		
Retention Time (minutes)	: 22.018		
Quant Ion	: 276.00		
Area	: 125198		
On-column Amount (ng/ul)	: 0.9884		
Integration start scan	: 3680	Integration stop scan:	3694
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:27.
Target 3.5 esignature used: TD2, ceb05247



Total Ion Chromatogram (TIC)

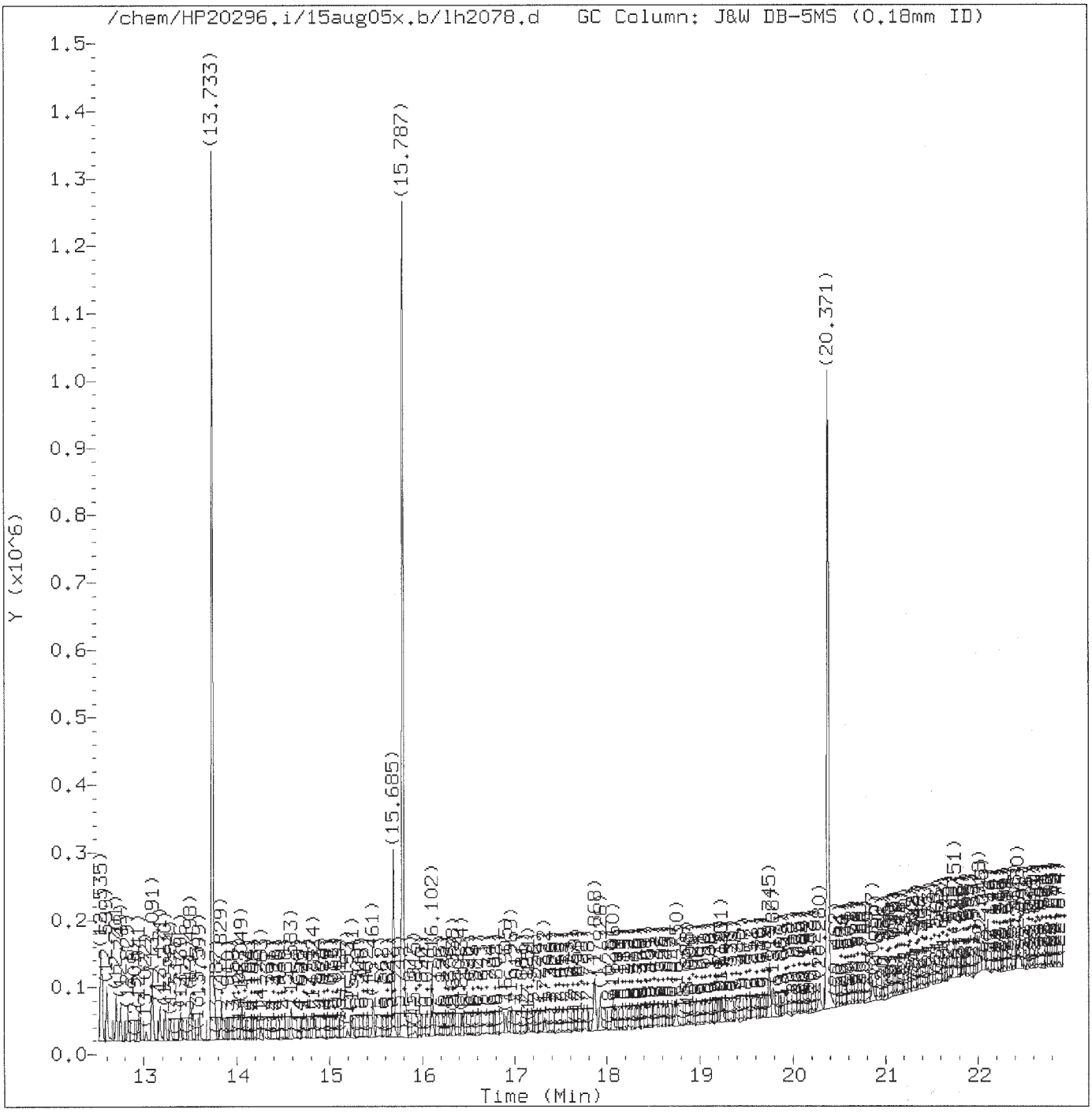
Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2078.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:46 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2078.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:46 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/1h2078.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:46 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.437	88	5282M	0.254
2) N-Nitrosodimethylamine	(1)	2.998	74	7957	0.239
3) Pyridine	(1)	3.137	79	10809	0.191
4) 2-Picoline	(1)	4.202	93	14581	0.249
5) N-Nitrosomethylethylamine	(1)	4.357	88	5288	0.225
6) Methyl methanesulfonate	(1)	4.806	80	6878	0.236
7)$2-Fluorophenol	(1)	5.052	112	21728	0.468
8) N-Nitrosodiethylamine	(1)	5.389	102	5087	0.226
10) Ethyl methanesulfonate	(1)	5.849	109	6441	0.270
11) Benzaldehyde	(1)	6.325	77	12289	0.282
12)$Phenol-d5	(1)	6.443	99	27910	0.459
13)$Phenol-d6	(1)	6.443	99	27910	0.459
14) Phenol	(1)	6.459	94	16080	0.226
15) Aniline	(1)	6.486	93	20357	0.242
16) bis(2-Chloroethyl)ether	(1)	6.603	93	13417	0.254
17) 2-Chlorophenol	(1)	6.657	128	10728	0.241
18) 1,3-Dichlorobenzene	(1)	6.892	146	12857	0.258
19)*1,4-Dichlorobenzene-d4	(1)	6.988	152	156474	5.000
20) 1,4-Dichlorobenzene	(1)	7.015	146	12852	0.255
23) Benzyl alcohol	(1)	7.202	108	7557	0.237
24) 1,2-Dichlorobenzene	(1)	7.240	146	12829	0.267
25) Indene	(1)	7.379	115	18951	0.238
26) 2-Methylphenol	(1)	7.384	108	10496	0.233
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.443	45	22684	0.278
28) bis(2-Chloroisopropyl)ether	(1)	7.443	45	22684	0.323
29) N-Nitrosopyrrolidine	(1)	7.561	100	5145	0.221
30) Acetophenone	(1)	7.609	105	17147	0.250
31) N-Nitroso-di-n-propylamine	(1)	7.625	70	9569	0.243
32) N-Nitrosomorpholine	(1)	7.630	56	8180	0.246
33) 4-Methylphenol	(1)	7.630	108	12187	0.240
34) o-Toluidine	(1)	7.657	106	19125	0.245
35) Hexachloroethane	(1)	7.759	117	5071	0.245
36)$Nitrobenzene-d5	(2)	7.828	82	28387	0.487
37) Nitrobenzene	(2)	7.855	77	13728	0.233
39) N-Nitrosopiperidine	(2)	8.096	114	5469	0.243
40) Isophorone	(2)	8.256	82	22652	0.225
42) 2-Nitrophenol	(2)	8.368	139	4555	0.208
45) 2,4-Dimethylphenol	(2)	8.470	107	11069	0.226
47) Benzoic acid	(2)	8.523	105	6940	0.221
46) O,O,O-triethylphosphorothioate	(2)	8.593	198	5223	0.236

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2078.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:46 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
48) bis(2-Chloroethoxy)methane	(2)	8.625	93	16409	0.259
49) 2,4-Dichlorophenol	(2)	8.753	162	7935	0.218
51) 1,2,4-Trichlorobenzene	(2)	8.887	180	10324	0.248
52)*Naphthalene-d8	(2)	8.973	136	611683	5.000
53) Naphthalene	(2)	9.005	128	34447	0.261
55) 4-Chloroaniline	(2)	9.106	127	12678	0.232
56) 2,6-Dichlorophenol	(2)	9.117	162	8465	0.236
57) Hexachloropropene	(2)	9.165	213	5461	0.208
58) Hexachlorobutadiene	(2)	9.240	225	5696	0.240
60) Quinoline	(2)	9.540	129	19766	0.248
61) Caprolactam	(2)	9.604	113	1786M	0.162
62) N-Nitrosodi-n-butylamine	(2)	9.695	84	7876	0.210
63) 4-Chloro-3-methylphenol	(2)	9.914	107	9366	0.226
64) Safrole	(2)	10.021	162	6992	0.220
65) 2-Methylnaphthalene	(2)	10.139	142	20621	0.245
66) 1-Methylnaphthalene	(2)	10.294	142	18845	0.244
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.412	216	10126	0.249
67) Hexachlorocyclopentadiene	(3)	10.412	237	4847	0.198
69) cis-Isosafrole	(3)	10.502	162	1455	0.042
70) 2,4,6-Trichlorophenol	(3)	10.604	196	6017	0.238
71) 2,4,5-Trichlorophenol	(3)	10.652	196	5678	0.218
72)$2-Fluorobiphenyl	(3)	10.759	172	46014	0.497
74) Isosafrole	(3)	10.871	162	7361	0.234
73) trans-Isosafrole	(3)	10.871	162	7361	0.194
75) 1,1'-Biphenyl	(3)	10.914	154	25946	0.266
76) 2-Chloronaphthalene	(3)	10.925	162	19633	0.244
77) 1-Chloronaphthalene	(3)	10.957	162	19091	0.258
82) Diphenyl ether	(3)	11.096	170	12902	0.243
83) 2-Nitroaniline	(3)	11.096	138	4824	0.205
84) 1,4-Naphthoquinone	(3)	11.214	158	5321	0.175
85) 1,4-Dinitrobenzene	(3)	11.331	168	2252M	0.188
86) Dimethylphthalate	(3)	11.438	163	19317	0.231
87) 1,3-Dinitrobenzene	(3)	11.449	168	2239	0.170
88) 2,6-Dinitrotoluene	(3)	11.508	165	3134	0.178
90) Acenaphthylene	(3)	11.588	152	27782	0.236
91) 3-Nitroaniline	(3)	11.743	138	4424	0.214
92)*Acenaphthene-d10	(3)	11.802	164	331180	5.000
93) Acenaphthene	(3)	11.850	153	20230	0.254
94) 2,4-Dinitrophenol	(3)	11.898	184	11846	1.082
96) 4-Nitrophenol	(3)	12.000	109	12328	0.869

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on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2078.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:46 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
95) Pentachlorobenzene	(3)	12.037	250	8111	0.254
98) 2,4-Dinitrotoluene	(3)	12.086	165	5355	0.219
97) Dibenzofuran	(3)	12.091	168	28185	0.254
99) 1-Naphthylamine	(3)	12.193	143	17701	0.229
100) 2,3,4,6-Tetrachlorophenol	(3)	12.262	232	4841M	0.236
101) 2-Naphthylamine	(3)	12.294	143	17651	0.227
102) Diethylphthalate	(3)	12.439	149	19583	0.244
104) Thionazin	(3)	12.535	107	3429	0.216
103) Fluorene	(3)	12.535	166	19885	0.234
106) 5-Nitro-o-toluidine	(3)	12.546	152	4720	0.209
107) 4-Nitroaniline	(3)	12.546	138	4303	0.200
105) 4-Chlorophenyl-phenylether	(3)	12.556	204	10675	0.259
108) 4,6-Dinitro-2-methylphenol	(4)	12.599	198	9357	0.666
110) NDPA as diphenylamine	(4)	12.701	169	16461	0.242
109) N-Nitrosodiphenylamine	(4)	12.701	169	16461	0.242
111) 1,2-Diphenylhydrazine	(4)	12.749	77	24625	0.244
112)$2,4,6-Tribromophenol	(3)	12.834	330	3553	0.361
115) Tetraethyldithiopyrophosphate	(4)	12.941	97	3317	0.222
116) 1,3,5-Trinitrobenzene	(4)	13.027	213	1413	0.168
117) Diallate (peak 1)	(4)	13.086	86	7816	0.192
118) Phorate	(4)	13.091	75	12931	0.211
119) Phenacetin	(4)	13.097	108	7744	0.177
120) 4-Bromophenyl-phenylether	(4)	13.171	248	5407	0.255
121) Diallate (peak 2)	(4)	13.193	86	1259	0.032
122) Hexachlorobenzene	(4)	13.230	284	5687	0.257
123) Dimethoate	(4)	13.284	87	6738	0.172
124) Atrazine	(4)	13.396	200	4699	0.223
125) Pentachlorophenol	(4)	13.487	266	1633	0.116
127) 4-Aminobiphenyl	(4)	13.498	169	18375	0.228
126) Pentachloronitrobenzene	(4)	13.508	237	2132	0.210
129) Pronamide	(4)	13.599	173	7225	0.204
130)*Phenanthrene-d10	(4)	13.733	188	531312	5.000
133) Dinoseb	(4)	13.749	211	2008	0.100
131) Phenanthrene	(4)	13.760	178	30224	0.246
134) Anthracene	(4)	13.829	178	28202	0.239
135) Carbazole	(4)	14.054	167	24741	0.222
136) Methyl parathion	(4)	14.263	109	4640	0.162
137) Di-n-butylphthalate	(4)	14.583	149	25813	0.196
138) Parathion	(4)	14.824	109	2786	0.159
139) 4-Nitroquinoline-1-oxide	(4)	14.829	190	1268	0.115

M = Compound was manually integrated.
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on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2078.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:46 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	15.241	193	3087	0.231
142) Fluoranthene	(4)	15.466	202	28645	0.222
144) Benzidine	(5)	15.685	184	129908	1.478
145)*Pyrene-d10	(5)	15.787	212	647005	5.000
146) Pyrene	(5)	15.814	202	36113	0.253
149)$Terphenyl-d14	(5)	16.102	244	41656	0.474
150) p-Dimethylaminoazobenzene	(5)	16.338	225	3375	0.159
151) Chlorobenzilate	(5)	16.439	139	7641	0.190
152) 3,3'-Dimethylbenzidine	(5)	16.905	212	13128	0.156
153) Butylbenzylphthalate	(5)	16.969	149	9613	0.161
156) 2-Acetylaminofluorene	(5)	17.327	181	6270	0.127
159) 3,3'-Dichlorobenzidine	(5)	17.851	252	8042	0.178
158) Benzo(a)anthracene	(5)	17.868	228	26409	0.215
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.868	231	4428	0.170
161) Chrysene	(5)	17.926	228	26044	0.225
162) bis(2-Ethylhexyl)phthalate	(5)	18.060	149	12093	0.143
165) 6-Methylchrysene	(5)	18.750	242	16178	0.202
166) Di-n-octylphthalate	(6)	19.237	149	19256	0.143
168) Benzo(b)fluoranthene	(6)	19.745	252	25271	0.224
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.750	256	9544	0.201
170) Benzo(k)fluoranthene	(6)	19.788	252	26445	0.237
171) Benzo(a)pyrene	(6)	20.274	252	22935	0.219
172)*Perylene-d12	(6)	20.371	264	489087	5.000
173) 3-Methylcholanthrene	(6)	20.852	268	8150	0.175
176) Indeno(1,2,3-cd)pyrene	(6)	22.018	276	26716M	0.217
177) Dibenz(a,h)anthracene	(6)	22.055	278	20879	0.206
178) Benzo(g,h,i)perylene	(6)	22.435	276	24482	0.227
179) Diallate TRANS/CIS	(4)			9075	0.224
182) 2,4_2,6-Dinitrotoluenes	(3)			8489	0.397

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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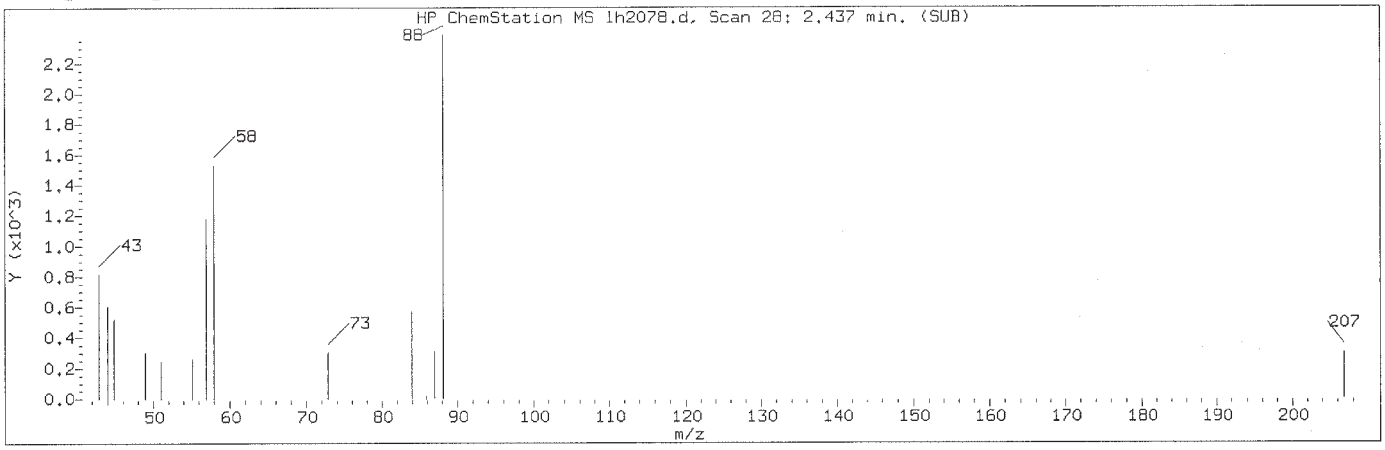
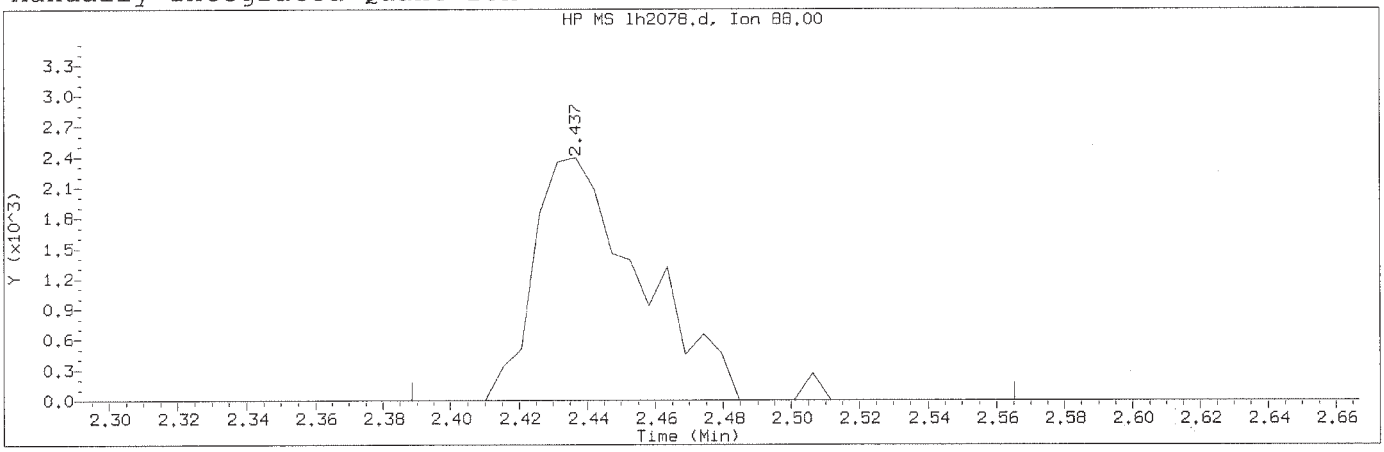
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2078.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:46 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 28		
Retention Time (minutes)	: 2.437		
Quant Ion	: 88.00		
Area (flag)	: 5282M		
On-Column Amount (ng/ul)	: 0.2539		
Integration start scan	: 18	Integration stop scan:	51
Y at integration start	: 0	Y at integration end:	0

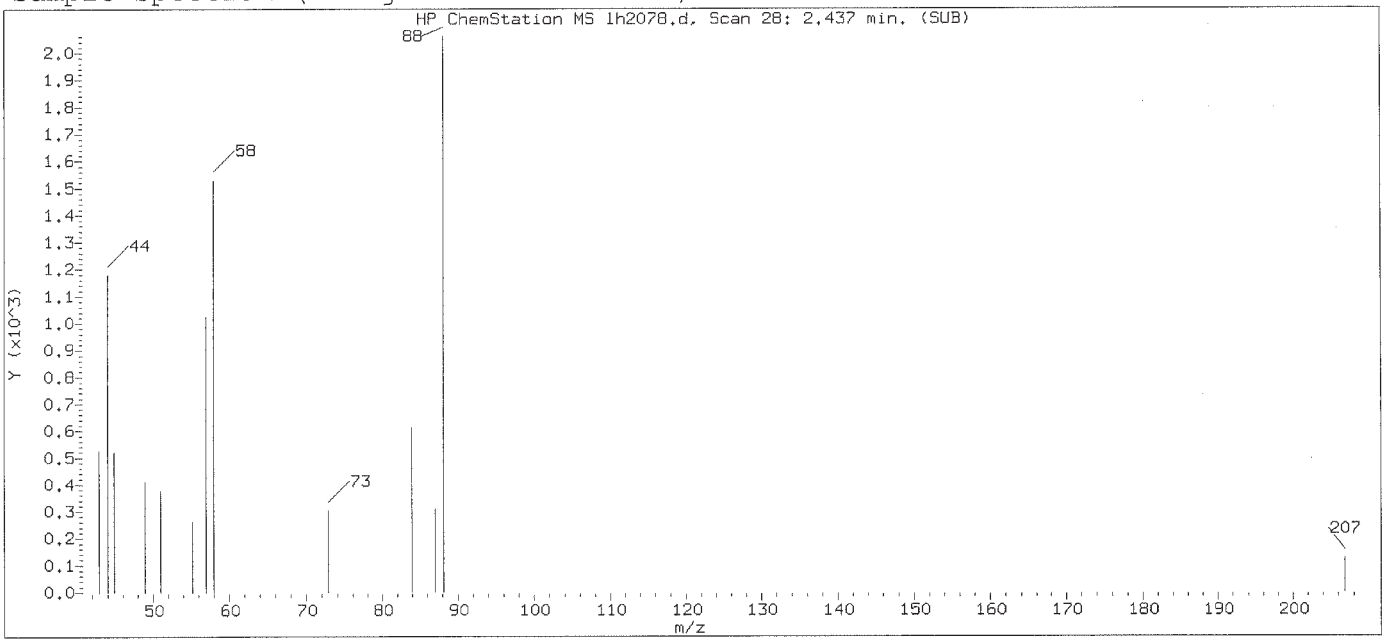
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28. Target 3.5 esignature user ID: ceb05247

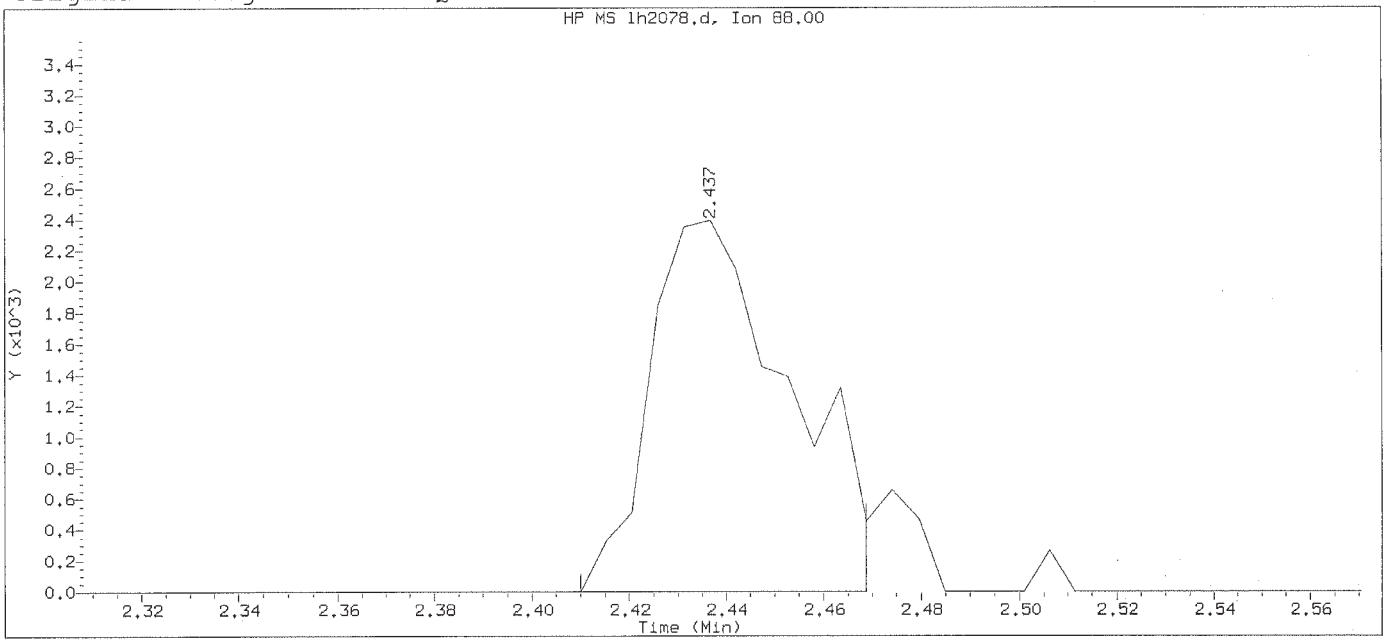
Mark A. Ratcliff
Senior Specialist

GC/MS audit/management approval: _____ AUG 18 2015

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2078.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:46 Analyst ID: hbz01996

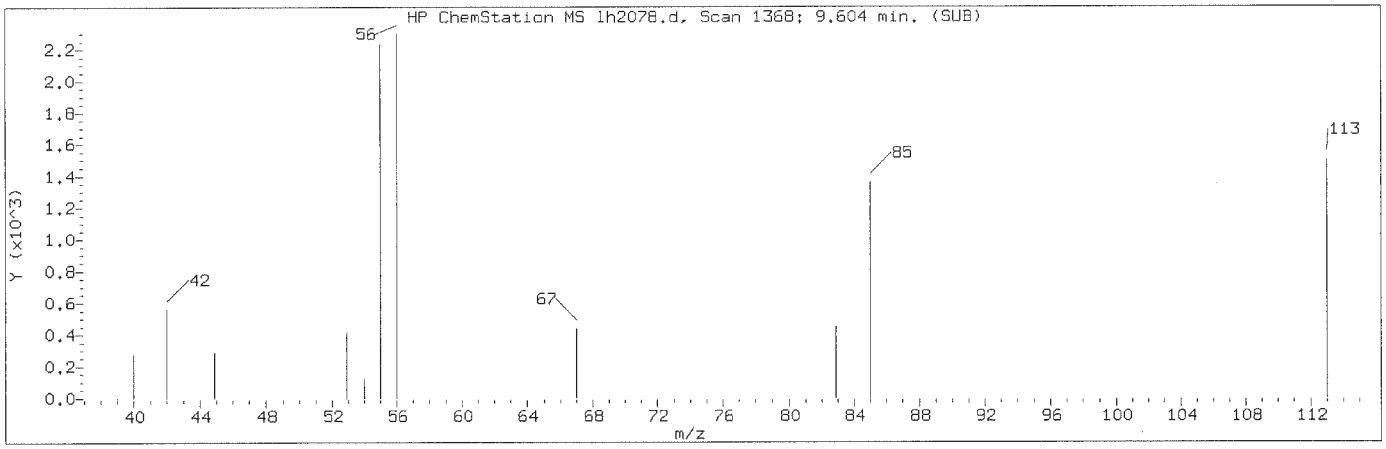
Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:08
Date, time and analyst ID of latest file update: 14-Aug-2015 17:08 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

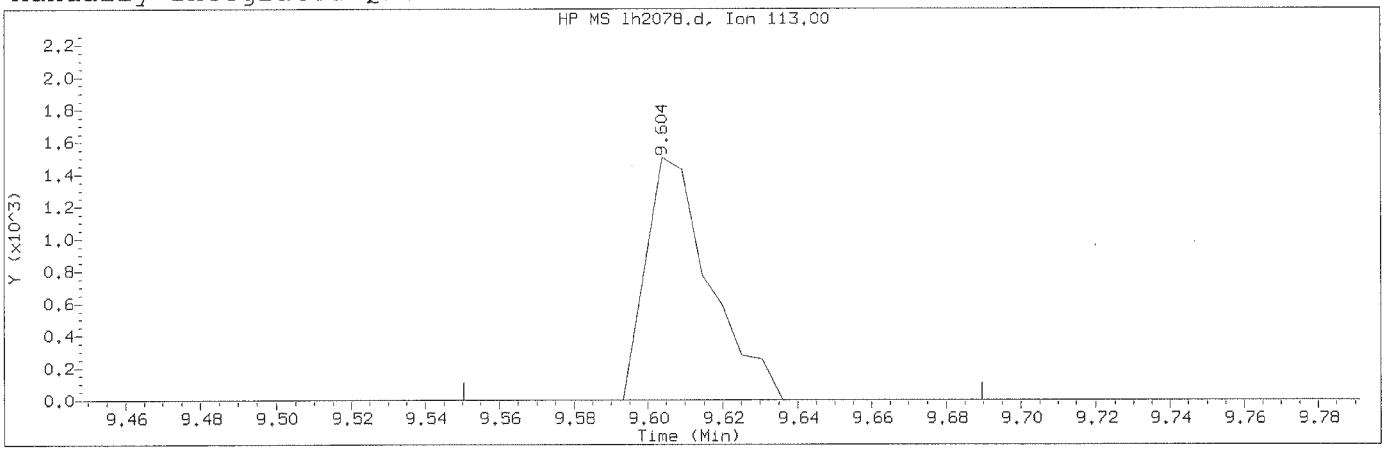
Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 28		
Retention Time (minutes)	: 2.437		
Quant Ion	: 88.00		
Area	: 4763		
On-column Amount (ng/ul)	: 0.2314		
Integration start scan	: 22	Integration stop scan:	33
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2078.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:46 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compound Number	: 61		
Compound Name	: Caprolactam		
Scan Number	: 1368		
Retention Time (minutes)	: 9.604		
Quant Ion	: 113.00		
Area (flag)	: 1786M		
On-Column Amount (ng/ul)	: 0.1617		
Integration start scan	: 1357	Integration stop scan:	1383
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

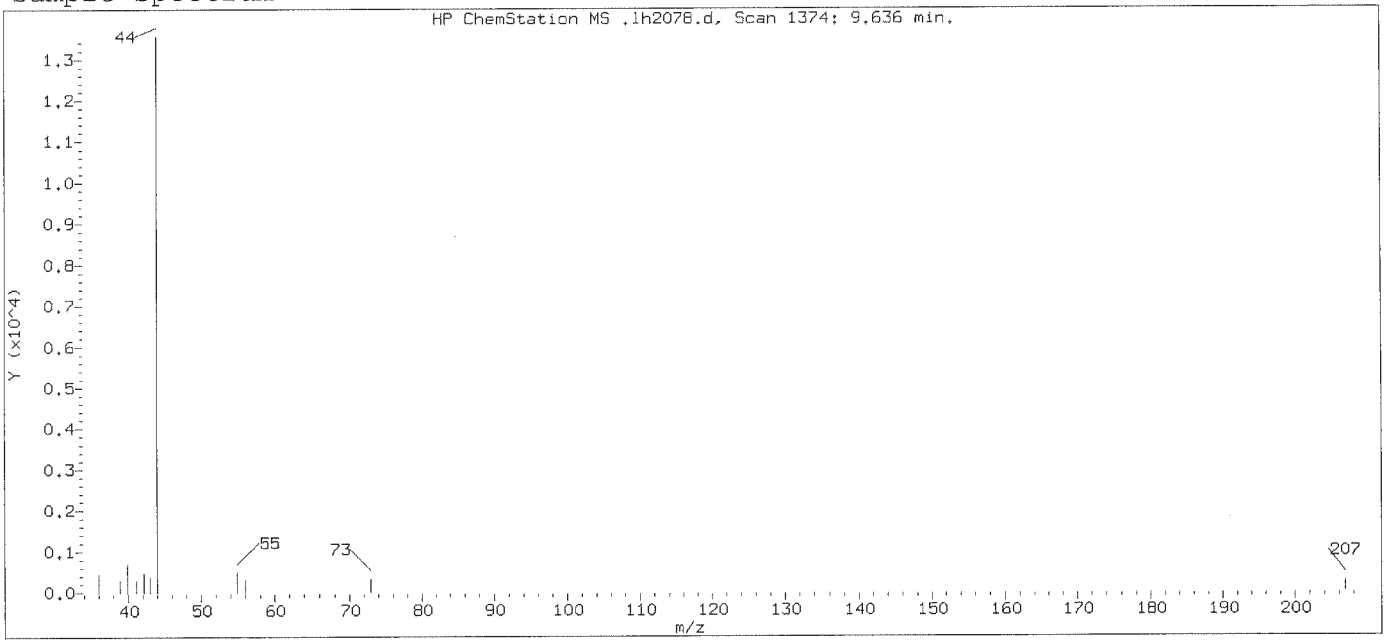
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28. Target 3.5 esignature user ID: ceb05247

Mark A. Ratcliff
Senior Specialist

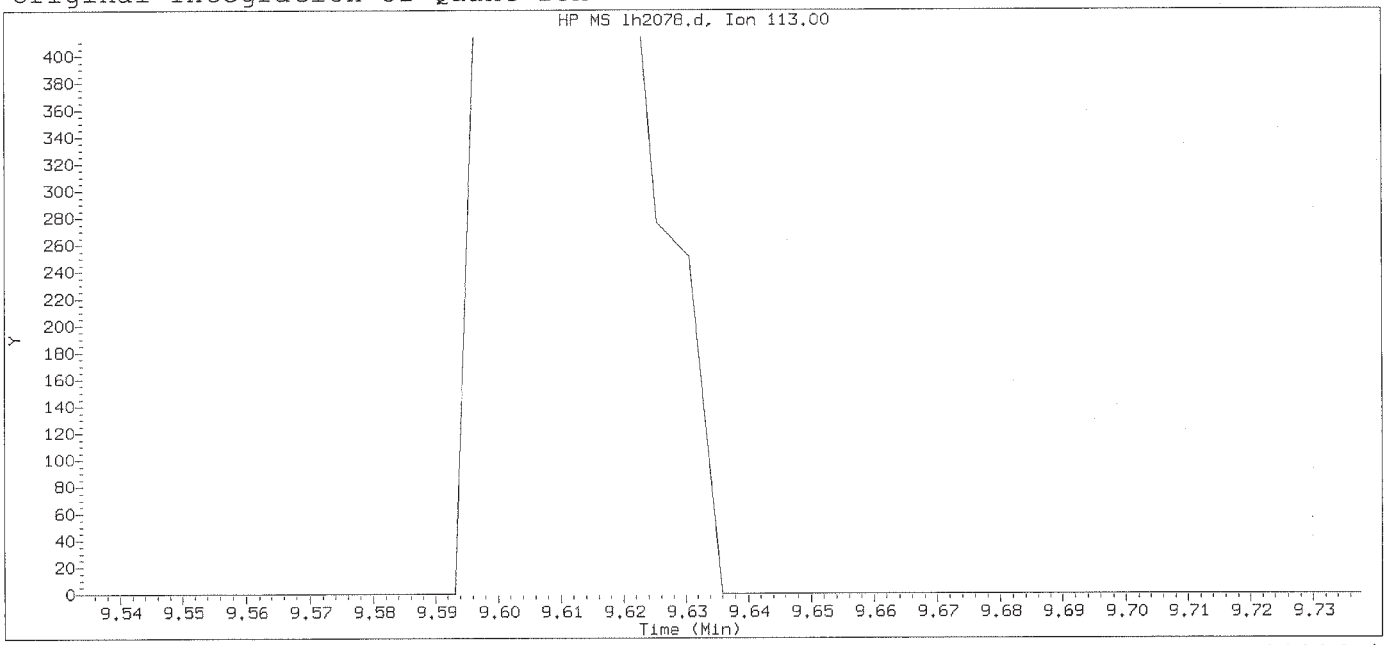
AUG 18 2015

GC/MS audit/management approval: _____

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2078.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:46 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:08
Date, time and analyst ID of latest file update: 14-Aug-2015 17:08 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compound Number : 61
Compound Name : Caprolactam
Expected RT (minutes) : 9.636
Quant Ion : 113.00

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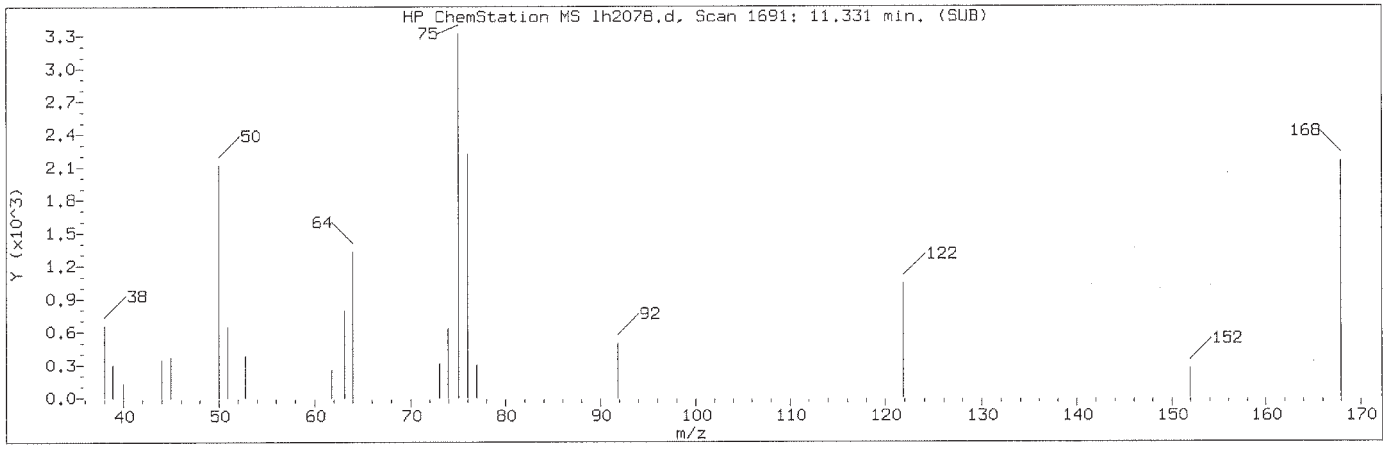
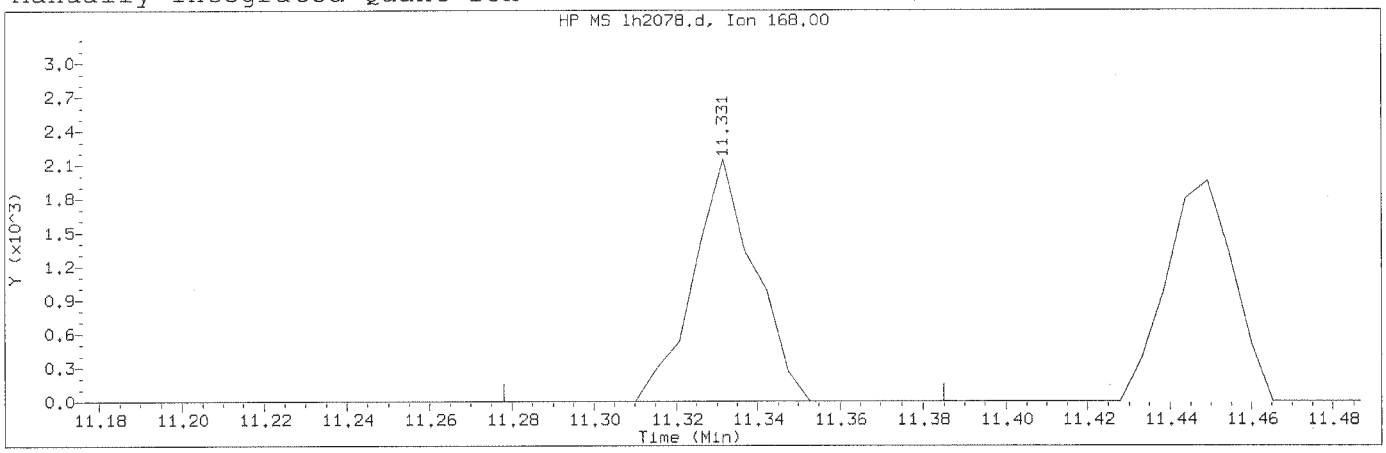
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2078.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:46 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compound Number	: 85		
Compound Name	: 1,4-Dinitrobenzene		
Scan Number	: 1691		
Retention Time (minutes)	: 11.331		
Quant Ion	: 168.00		
Area (flag)	: 2252M		
On-Column Amount (ng/ul)	: 0.1877		
Integration start scan	: 1680	Integration stop scan:	1700
Y at integration start	: 0	Y at integration end:	0

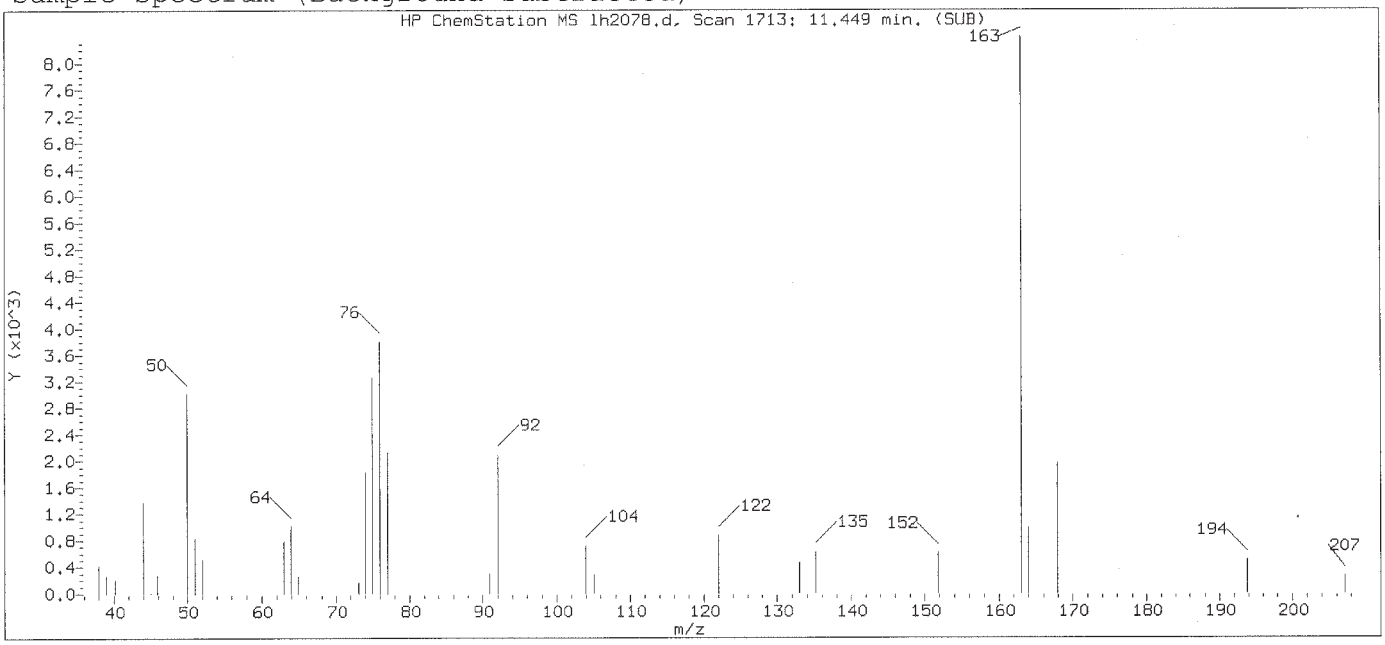
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28. Target 3.5 esignature user ID: ceb05247

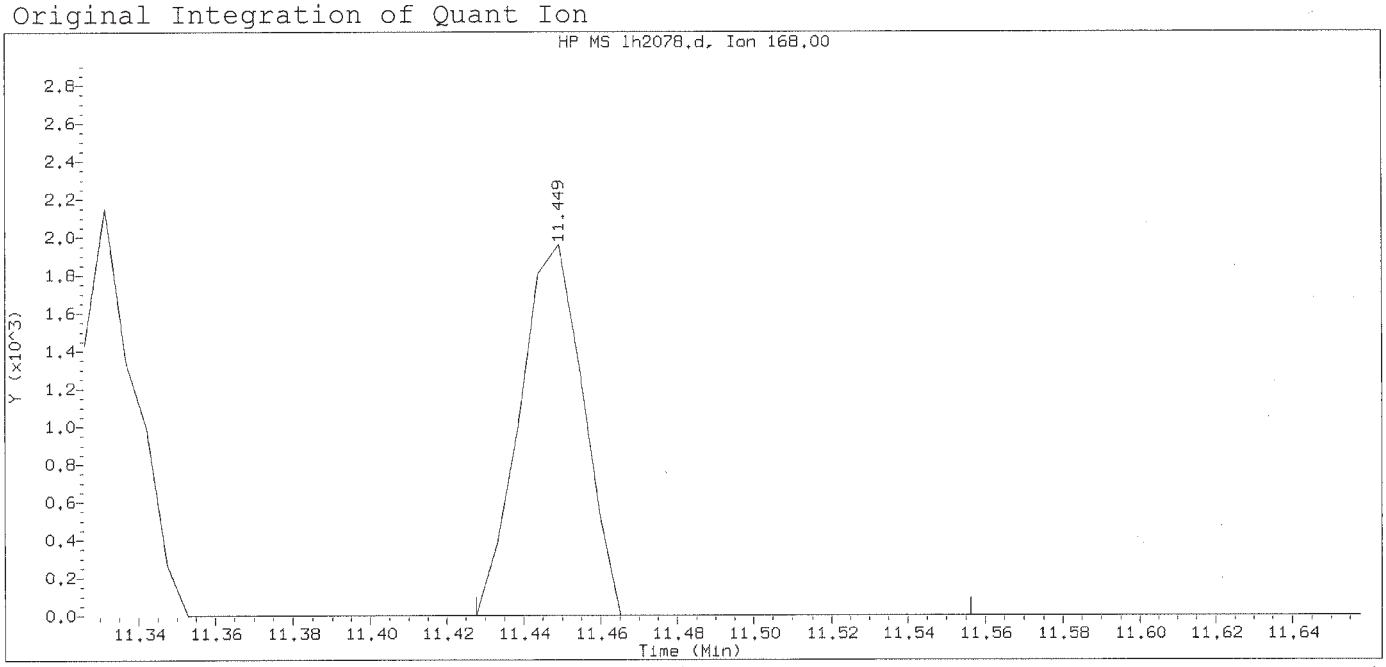
Mark A. Ratcliff
Senior Specialist
AUG 18 2015

GC/MS audit/management approval: _____

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2078.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:46 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:08
Date, time and analyst ID of latest file update: 14-Aug-2015 17:08 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compound Number	: 85		
Compound Name	: 1,4-Dinitrobenzene		
Scan Number	: 1713		
Retention Time (minutes)	: 11.449		
Quant Ion	: 168.00		
Area	: 2239		
On-column Amount (ng/ul)	: 0.1863		
Integration start scan	: 1708	Integration stop scan:	1732
Y at integration start	: 0	Y at integration end:	0

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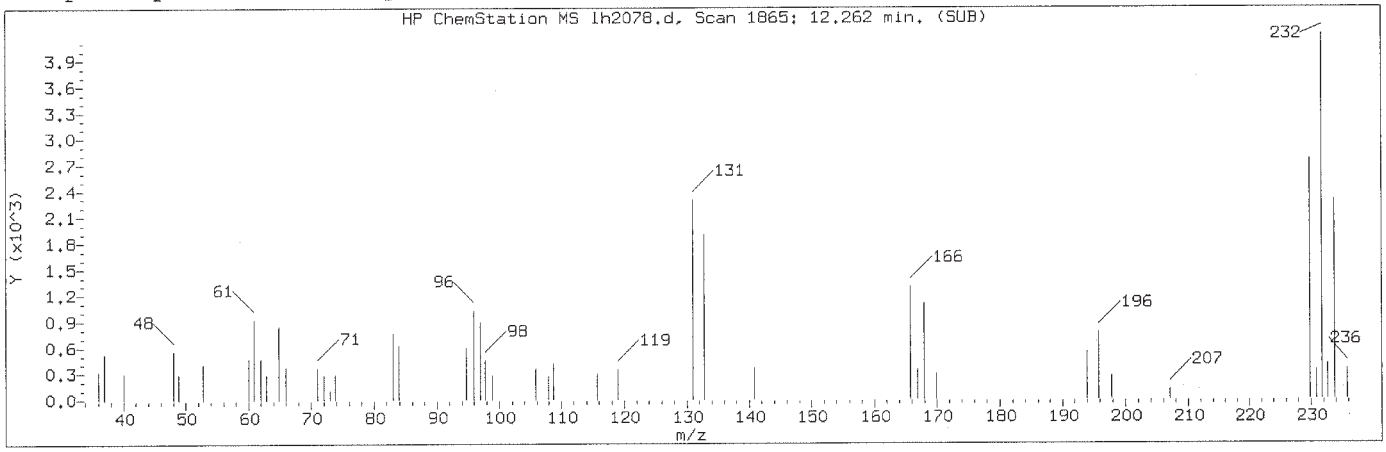
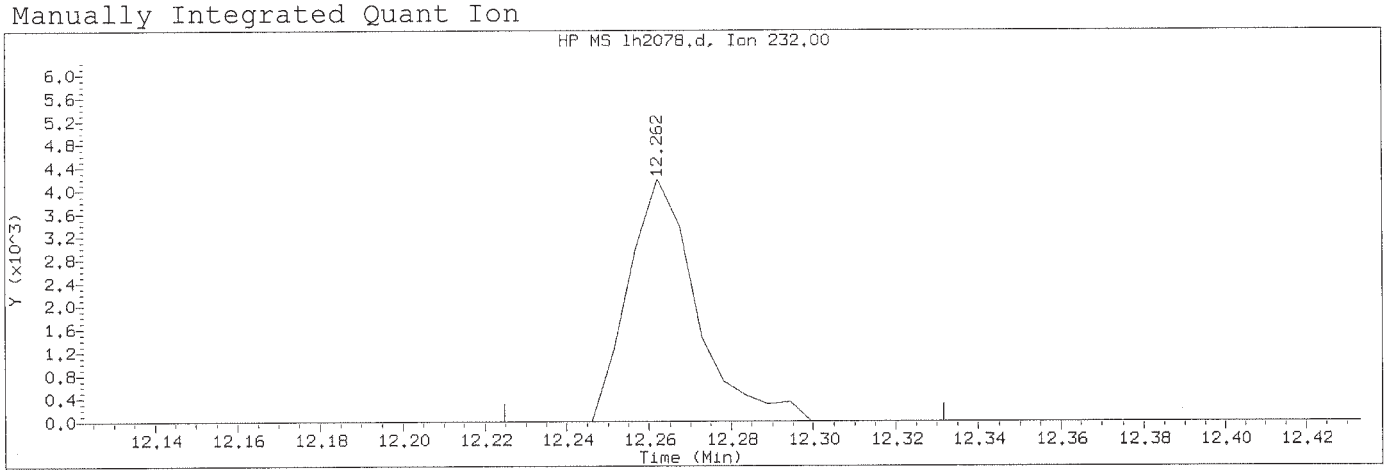
Target 3.5 esignature used: ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2078.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:46 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compound Number	: 100		
Compound Name	: 2,3,4,6-Tetrachlorophenol		
Scan Number	: 1865		
Retention Time (minutes)	: 12.262		
Quant Ion	: 232.00		
Area (flag)	: 4841M		
On-Column Amount (ng/ul)	: 0.2360		
Integration start scan	: 1857	Integration stop scan:	1877
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

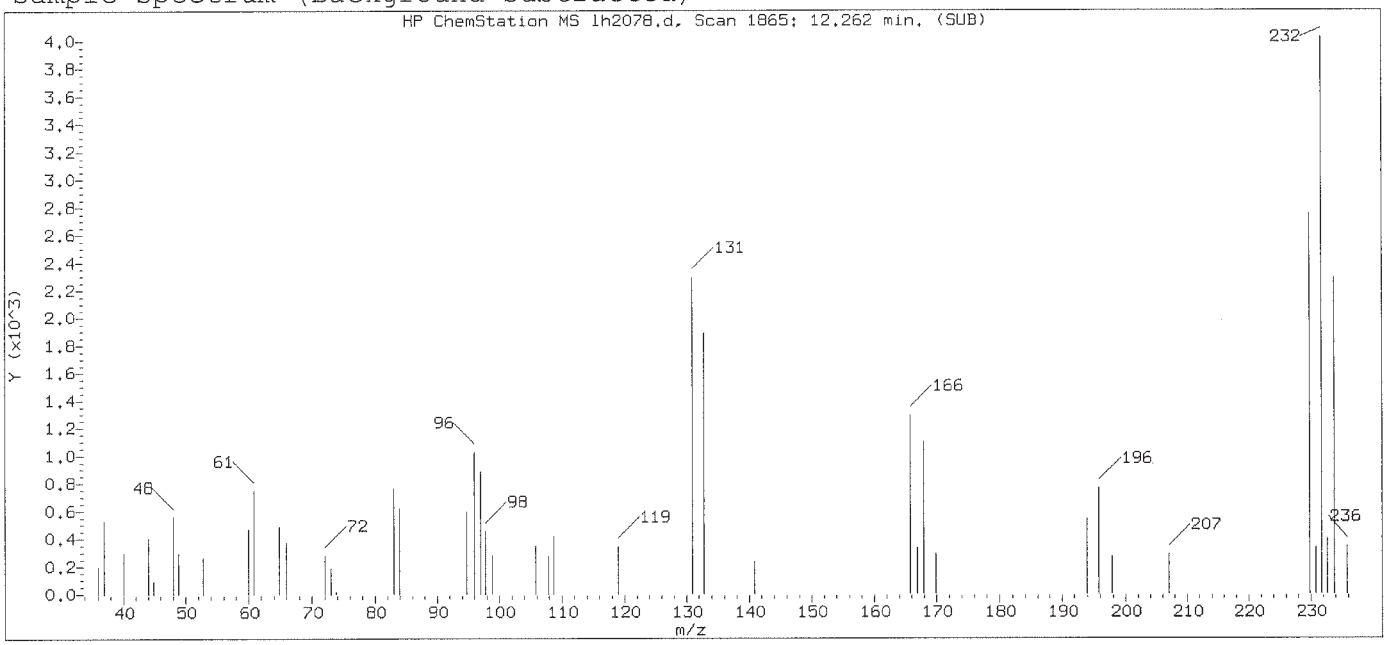
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28. Target 3.5 esignature user ID: ceb05247

Mark A. Ratcliff
Senior Specialist

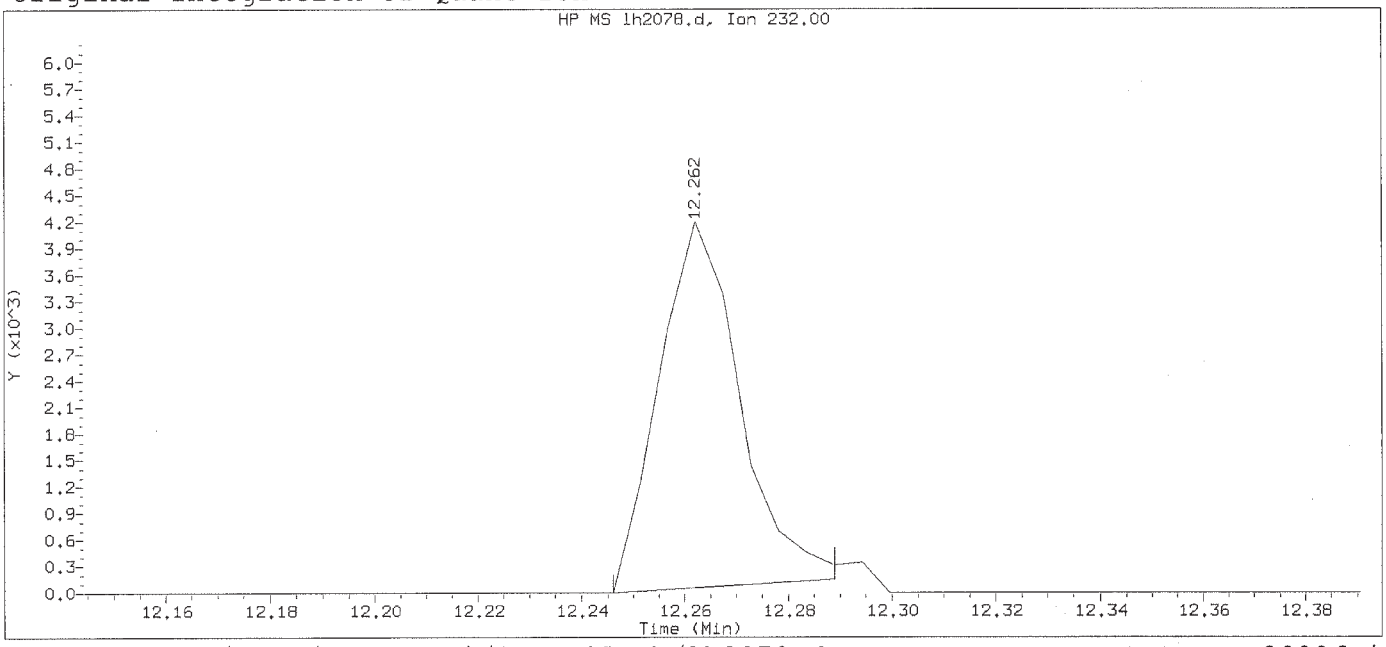
AUG 18 2015

GC/MS audit/management approval: _____

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2078.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:46 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:08
Date, time and analyst ID of latest file update: 14-Aug-2015 17:08 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compound Number	:	100
Compound Name	:	2,3,4,6-Tetrachlorophenol
Scan Number	:	1865
Retention Time (minutes)	:	12.262
Quant Ion	:	232.00
Area	:	4484
On-column Amount (ng/ul)	:	0.2187
Integration start scan	:	1861 Integration stop scan: 1869
Y at integration start	:	0 Y at integration end: 153

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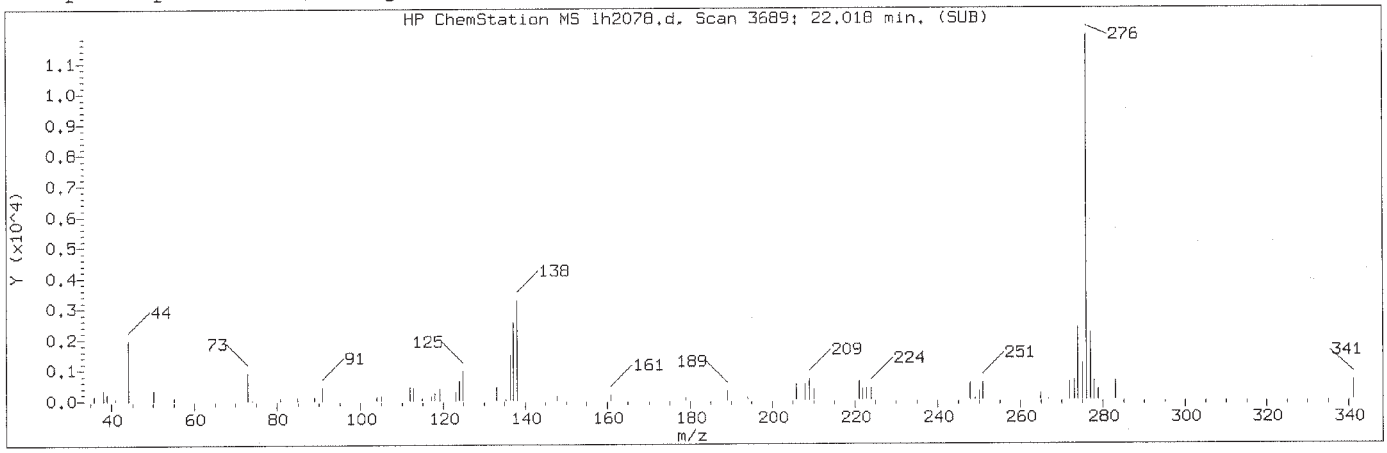
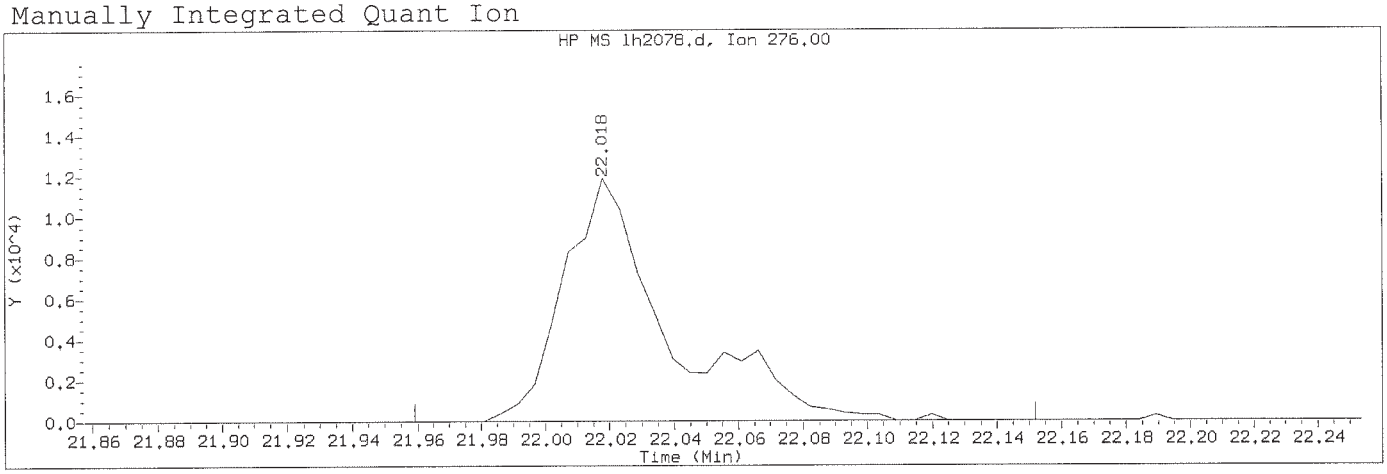
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2078.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:46 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:17
Date, time and analyst ID of latest file update: 14-Aug-2015 17:17 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

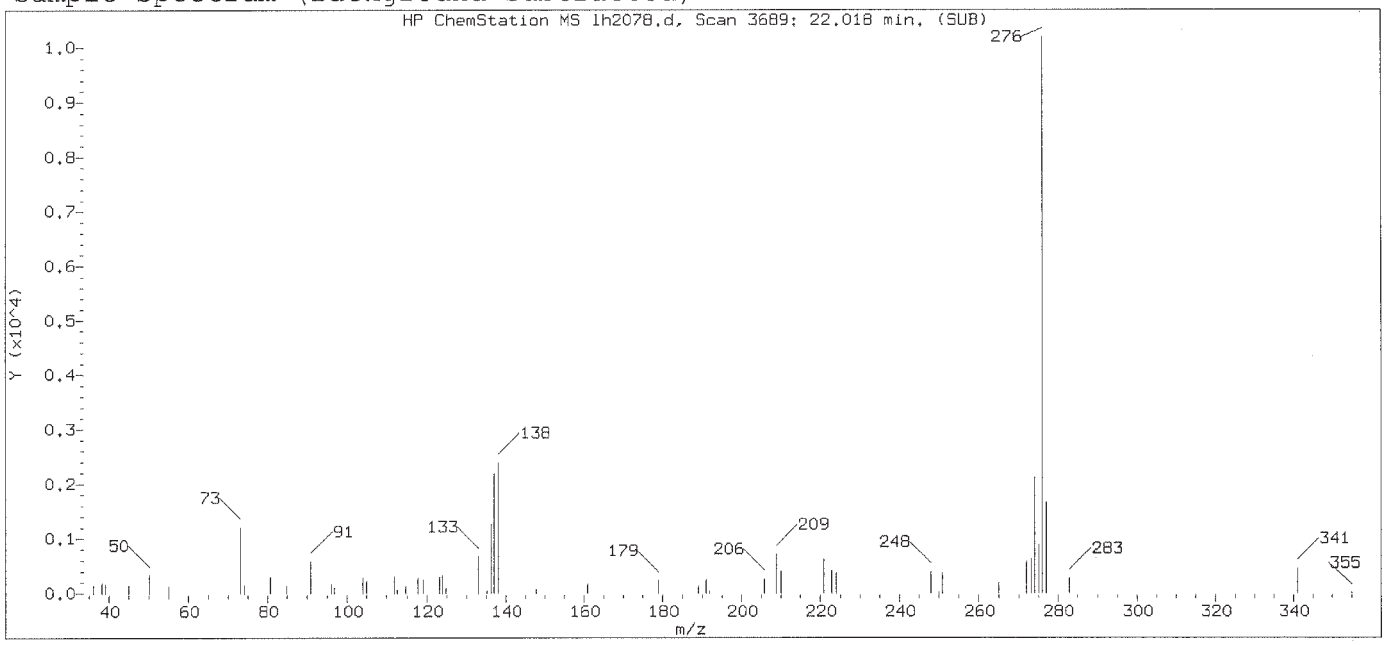
Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3689		
Retention Time (minutes)	: 22.018		
Quant Ion	: 276.00		
Area (flag)	: 26716M		
On-Column Amount (ng/ul)	: 0.2175		
Integration start scan	: 3677	Integration stop scan:	3713
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

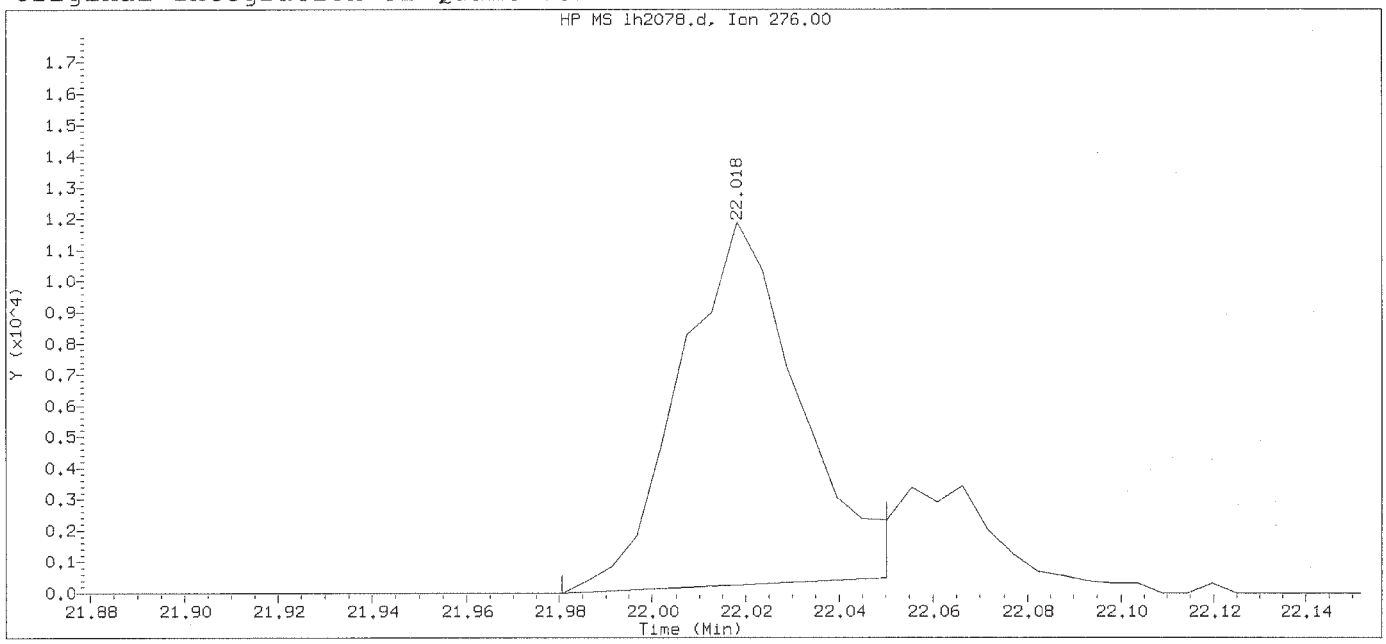
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28. Target 3.5 esignature user ID: ceb05247

GC/MS audit/management approval: Mark A. Ratcliff Senior Specialist AUG 18 2015

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2078.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 16:46 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 14-AUG-2015 17:08
Date, time and analyst ID of latest file update: 14-Aug-2015 17:08 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2065

Compound Number	:	176
Compound Name	:	Indeno(1,2,3-cd)pyrene
Scan Number	:	3689
Retention Time (minutes)	:	22.018
Quant Ion	:	276.00
Area	:	20315
On-column Amount (ng/ul)	:	0.1741
Integration start scan	:	3681 Integration stop scan: 3694
Y at integration start	:	0 Y at integration end: 482

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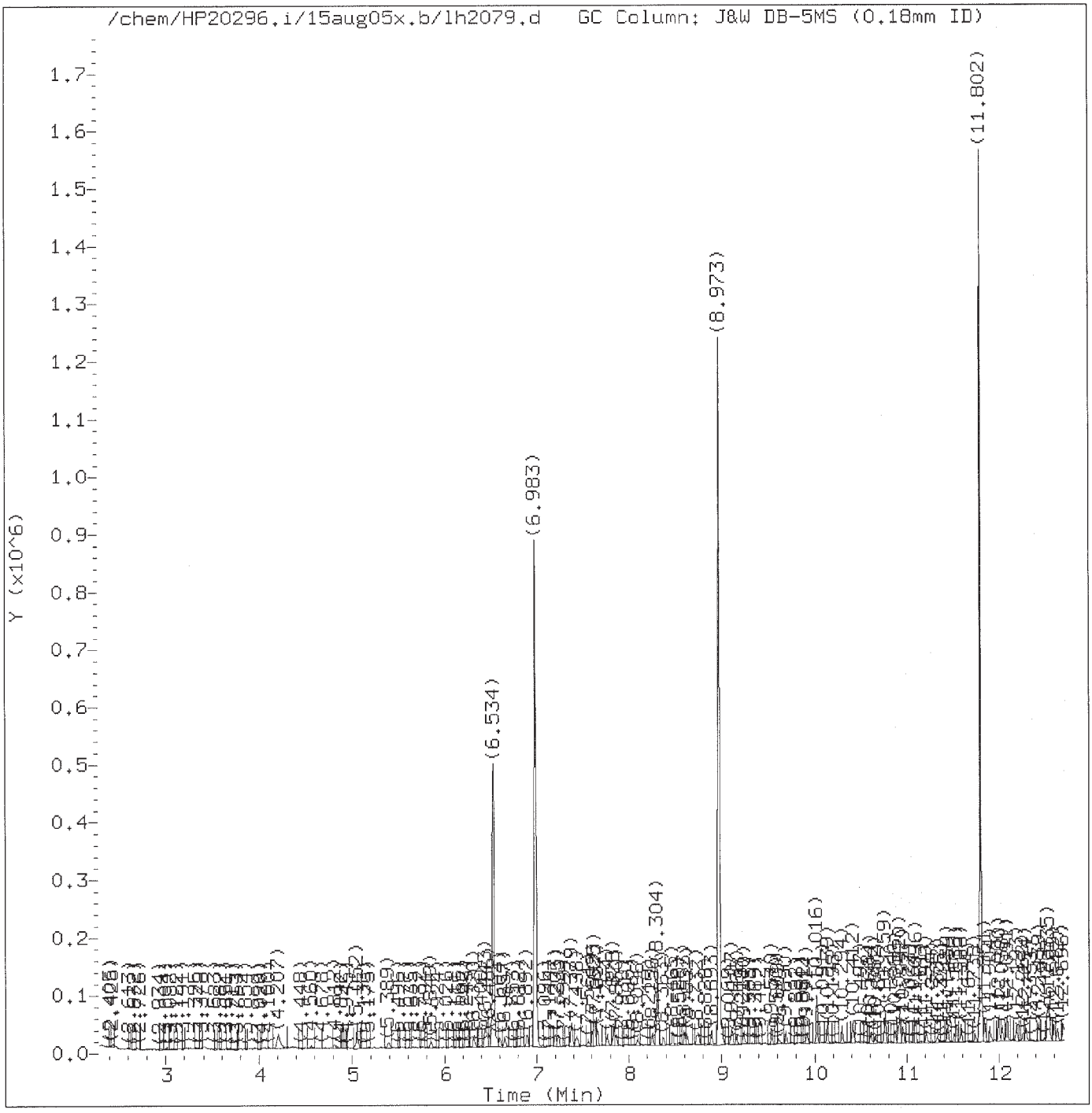
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

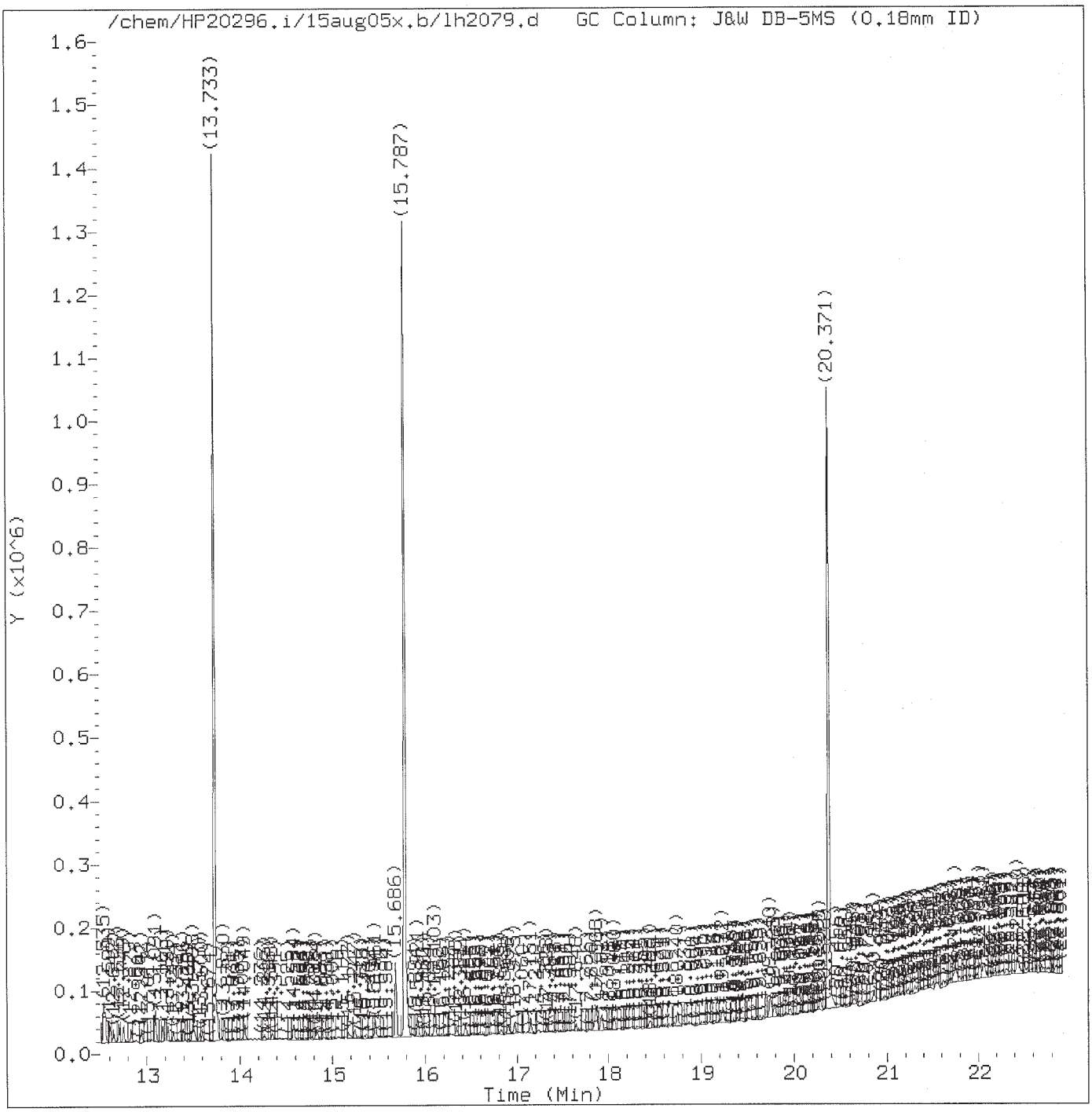
Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: 0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:24 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: 0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:24 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: 0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:24 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.437	88	2592M	0.120
2) N-Nitrosodimethylamine	(1)	3.004	74	3878M	0.112
3) Pyridine	(1)	3.212	79	4729	0.080
4) 2-Picoline	(1)	4.213	93	7082	0.116
5) N-Nitrosomethylethylamine	(1)	4.362	88	2589	0.106
6) Methyl methanesulfonate	(1)	4.812	80	3577	0.118
7)$2-Fluorophenol	(1)	5.052	112	10870	0.226
8) N-Nitrosodiethylamine	(1)	5.389	102	2679	0.115
10) Ethyl methanesulfonate	(1)	5.844	109	2900	0.117
11) Benzaldehyde	(1)	6.325	77	5823	0.129
12)$Phenol-d5	(1)	6.443	99	15094	0.239
13)$Phenol-d6	(1)	6.443	99	15094	0.239
14) Phenol	(1)	6.459	94	8701	0.118
15) Aniline	(1)	6.486	93	10887	0.125
16) bis(2-Chloroethyl)ether	(1)	6.604	93	6745	0.123
17) 2-Chlorophenol	(1)	6.657	128	5034	0.109
18) 1,3-Dichlorobenzene	(1)	6.892	146	6176	0.119
19)*1,4-Dichlorobenzene-d4	(1)	6.983	152	162481	5.000
20) 1,4-Dichlorobenzene	(1)	7.010	146	6342	0.121
23) Benzyl alcohol	(1)	7.203	108	3652	0.110
24) 1,2-Dichlorobenzene	(1)	7.235	146	6333	0.127
25) Indene	(1)	7.374	115	10179	0.123
26) 2-Methylphenol	(1)	7.384	108	5276	0.113
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.438	45	13986	0.165
28) bis(2-Chloroisopropyl)ether	(1)	7.438	45	13986	0.165
29) N-Nitrosopyrrolidine	(1)	7.561	100	2660	0.110
30) Acetophenone	(1)	7.604	105	8724	0.123
32) N-Nitrosomorpholine	(1)	7.625	56	4135	0.120
33) 4-Methylphenol	(1)	7.625	108	6130	0.116
31) N-Nitroso-di-n-propylamine	(1)	7.630	70	4341	0.106
34) o-Toluidine	(1)	7.657	106	10197	0.126
35) Hexachloroethane	(1)	7.759	117	2916	0.136
36)$Nitrobenzene-d5	(2)	7.828	82	13725	0.225
37) Nitrobenzene	(2)	7.860	77	7647	0.124
39) N-Nitrosopiperidine	(2)	8.096	114	2440	0.104
40) Isophorone	(2)	8.256	82	11529	0.110
42) 2-Nitrophenol	(2)	8.369	139	2275	0.099
45) 2,4-Dimethylphenol	(2)	8.465	107	5468	0.107
46) O,O,O-triethylphosphorothioate	(2)	8.599	198	2547	0.110
48) bis(2-Chloroethoxy)methane	(2)	8.631	93	7791	0.118

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: 0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:24 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
47) Benzoic acid	(2)	8.732	105	2286M	2.676
49) 2,4-Dichlorophenol	(2)	8.754	162	4200	0.110
51) 1,2,4-Trichlorobenzene	(2)	8.887	180	5659	0.130
52)*Naphthalene-d8	(2)	8.973	136	639991	5.000
55) 4-Chloroaniline	(2)	9.107	127	5774	0.101
56) 2,6-Dichlorophenol	(2)	9.117	162	3999	0.107
57) Hexachloropropene	(2)	9.160	213	2979	0.108
58) Hexachlorobutadiene	(2)	9.240	225	3020	0.121
60) Quinoline	(2)	9.540	129	10262	0.123
61) Caprolactam	(2)	9.609	113	1017M	0.088
62) N-Nitrosodi-n-butylamine	(2)	9.690	84	4208	0.107
63) 4-Chloro-3-methylphenol	(2)	9.914	107	4907	0.113
64) Safrole	(2)	10.021	162	4169	0.125
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.412	216	6116	0.145
67) Hexachlorocyclopentadiene	(3)	10.412	237	2415	0.095
69) cis-Isosafrole	(3)	10.497	162	715	0.020
70) 2,4,6-Trichlorophenol	(3)	10.604	196	2372	0.091
71) 2,4,5-Trichlorophenol	(3)	10.652	196	2704	0.100
72)$2-Fluorobiphenyl	(3)	10.759	172	22898	0.239
73) trans-Isosafrole	(3)	10.866	162	3831	0.098
74) Isosafrole	(3)	10.866	162	3831	0.118
75) 1,1'-Biphenyl	(3)	10.915	154	12303	0.122
76) 2-Chloronaphthalene	(3)	10.920	162	11199	0.134
77) 1-Chloronaphthalene	(3)	10.957	162	10460	0.137
83) 2-Nitroaniline	(3)	11.091	138	1771	0.073
82) Diphenyl ether	(3)	11.096	170	7098	0.129
84) 1,4-Naphthoquinone	(3)	11.214	158	2977	0.094
85) 1,4-Dinitrobenzene	(3)	11.337	168	870	0.070
86) Dimethylphthalate	(3)	11.444	163	10115	0.117
87) 1,3-Dinitrobenzene	(3)	11.449	168	1197	0.088
88) 2,6-Dinitrotoluene	(3)	11.508	165	1636	0.090
91) 3-Nitroaniline	(3)	11.738	138	1680	0.079
92)*Acenaphthene-d10	(3)	11.802	164	342431	5.000
94) 2,4-Dinitrophenol	(3)	11.904	184	3527	2.206
96) 4-Nitrophenol	(3)	12.000	109	5970	0.407
95) Pentachlorobenzene	(3)	12.038	250	4196	0.127
98) 2,4-Dinitrotoluene	(3)	12.086	165	1895	0.075
97) Dibenzofuran	(3)	12.091	168	14378	0.125
99) 1-Naphthylamine	(3)	12.193	143	8752	0.109
100) 2,3,4,6-Tetrachlorophenol	(3)	12.262	232	1955	0.092

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: 0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:24 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
101) 2-Naphthylamine	(3)	12.294	143	8989	0.112
102) Diethylphthalate	(3)	12.439	149	9439	0.114
104) Thionazin	(3)	12.530	107	1846	0.113
107) 4-Nitroaniline	(3)	12.546	138	1236M	0.056
106) 5-Nitro-o-toluidine	(3)	12.546	152	1972	0.084
105) 4-Chlorophenyl-phenylether	(3)	12.557	204	5753	0.135
108) 4,6-Dinitro-2-methylphenol	(4)	12.599	198	3475	0.236
109) N-Nitrosodiphenylamine	(4)	12.701	169	7819	0.109
110) NDPA as diphenylamine	(4)	12.701	169	7819	0.109
111) 1,2-Diphenylhydrazine	(4)	12.749	77	11466	0.108
112)$2,4,6-Tribromophenol	(3)	12.835	330	1833	0.180
115) Tetraethyldithiopyrophosphate	(4)	12.942	97	1808	0.115
116) 1,3,5-Trinitrobenzene	(4)	13.022	213	728	0.083
117) Diallate (peak 1)	(4)	13.091	86	4243	0.099
119) Phenacetin	(4)	13.097	108	3540	0.077
118) Phorate	(4)	13.097	75	5680	0.088
120) 4-Bromophenyl-phenylether	(4)	13.172	248	2822	0.127
121) Diallate (peak 2)	(4)	13.198	86	854	0.021
123) Dimethoate	(4)	13.284	87	3541	0.086
124) Atrazine	(4)	13.396	200	2818	0.128
127) 4-Aminobiphenyl	(4)	13.498	169	8179	0.097
125) Pentachlorophenol	(4)	13.498	266	789	0.054
126) Pentachloronitrobenzene	(4)	13.503	237	1110	0.104
129) Pronamide	(4)	13.600	173	3254	0.087
130)*Phenanthrene-d10	(4)	13.733	188	557785	5.000
133) Dinoseb	(4)	13.760	211	878M	1.097
135) Carbazole	(4)	14.049	167	12106	0.103
136) Methyl parathion	(4)	14.263	109	2335	0.077
137) Di-n-butylphthalate	(4)	14.584	149	12618	0.091
138) Parathion	(4)	14.824	109	928	0.050
139) 4-Nitroquinoline-1-oxide	(4)	14.830	190	376	1.875
140) Isodrin	(4)	15.242	193	1777	0.127
144) Benzidine	(5)	15.686	184	59752	0.667
145)*Pyrene-d10	(5)	15.787	212	659325	5.000
149)$Terphenyl-d14	(5)	16.103	244	20196	0.226
150) p-Dimethylaminoazobenzene	(5)	16.338	225	1819	0.784
151) Chlorobenzilate	(5)	16.434	139	3593	0.087
152) 3,3'-Dimethylbenzidine	(5)	16.905	212	6591	0.077
153) Butylbenzylphthalate	(5)	16.975	149	4124	0.068
156) 2-Acetylaminofluorene	(5)	17.328	181	3372	1.264

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: 0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:24 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
159) 3,3'-Dichlorobenzidine	(5)	17.846	252	3623	0.079
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.873	231	1796M	0.068
162) bis(2-Ethylhexyl)phthalate	(5)	18.066	149	6205	0.072
165) 6-Methylchrysene	(5)	18.740	242	8397	0.103
166) Di-n-octylphthalate	(6)	19.232	149	9848	0.072
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.745	256	4205	0.087
172)*Perylene-d12	(6)	20.371	264	498903	5.000
173) 3-Methylcholanthrene	(6)	20.858	268	4207	0.516
179) Diallate TRANS/CIS	(4)			5097	0.120

M = Compound was manually integrated.
* = Compound is an internal standard.

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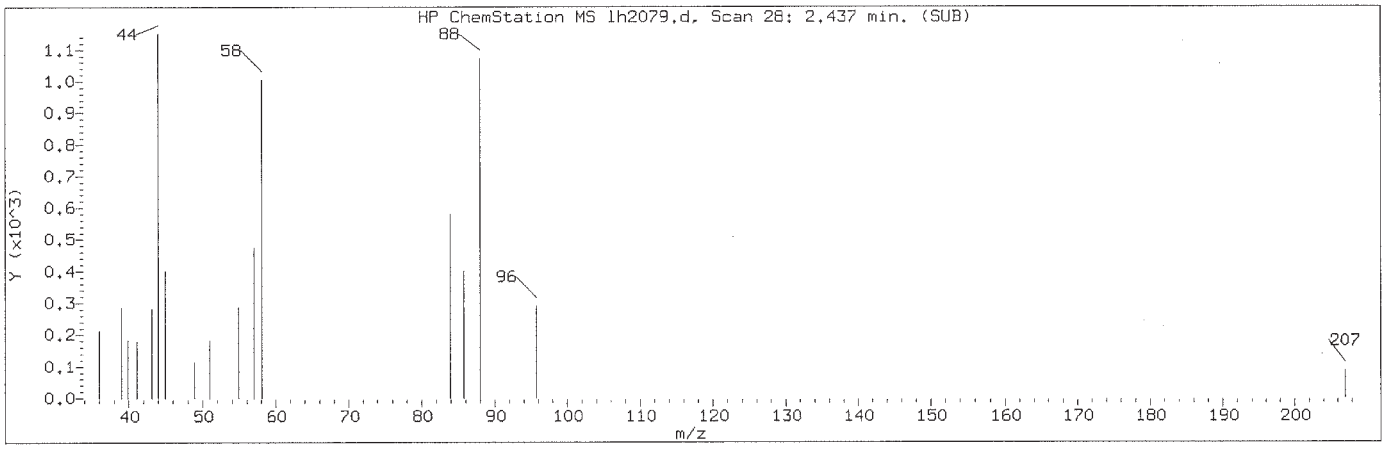
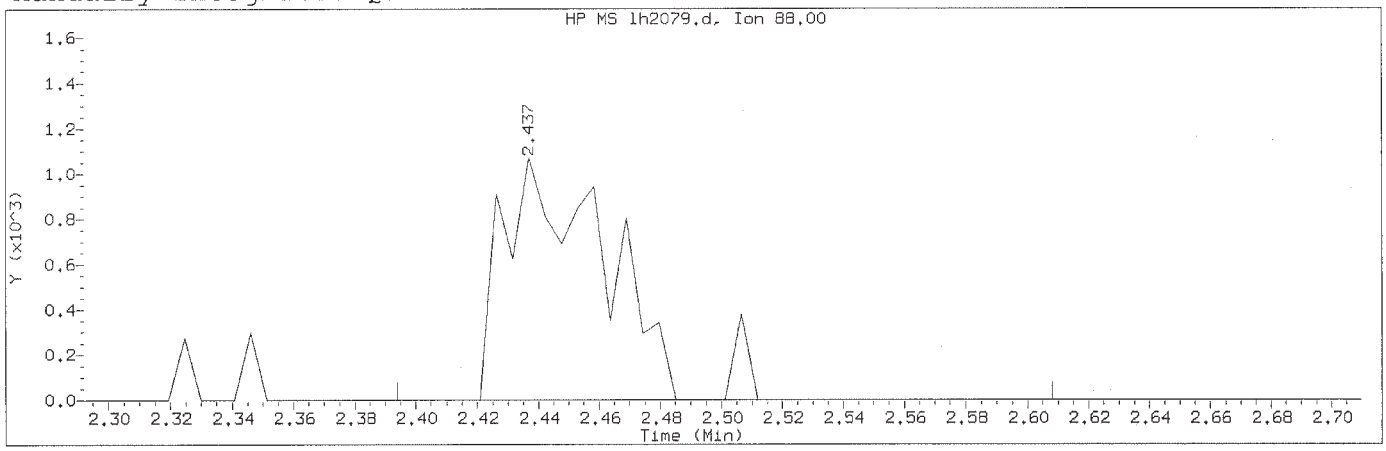
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:24 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

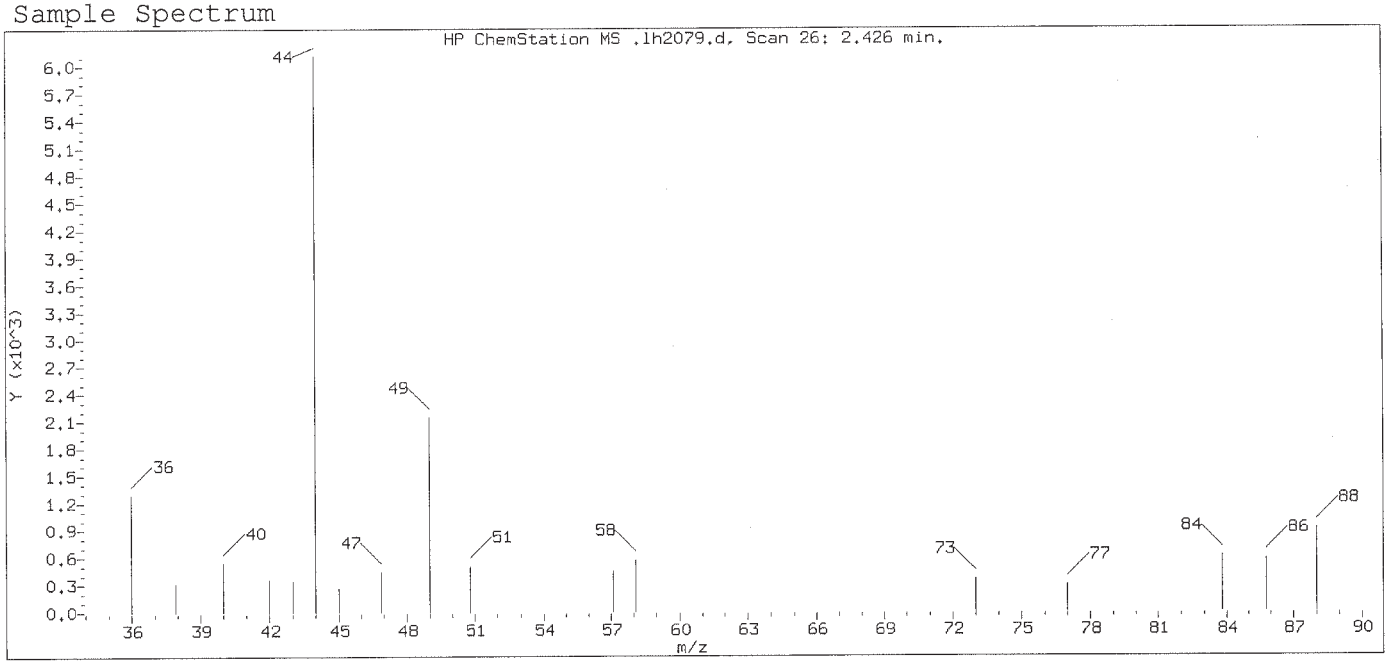
Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 28		
Retention Time (minutes)	: 2.437		
Quant Ion	: 88.00		
Area (flag)	: 2592M		
On-Column Amount (ng/ul)	: 0.1200		
Integration start scan	: 19	Integration stop scan:	59
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

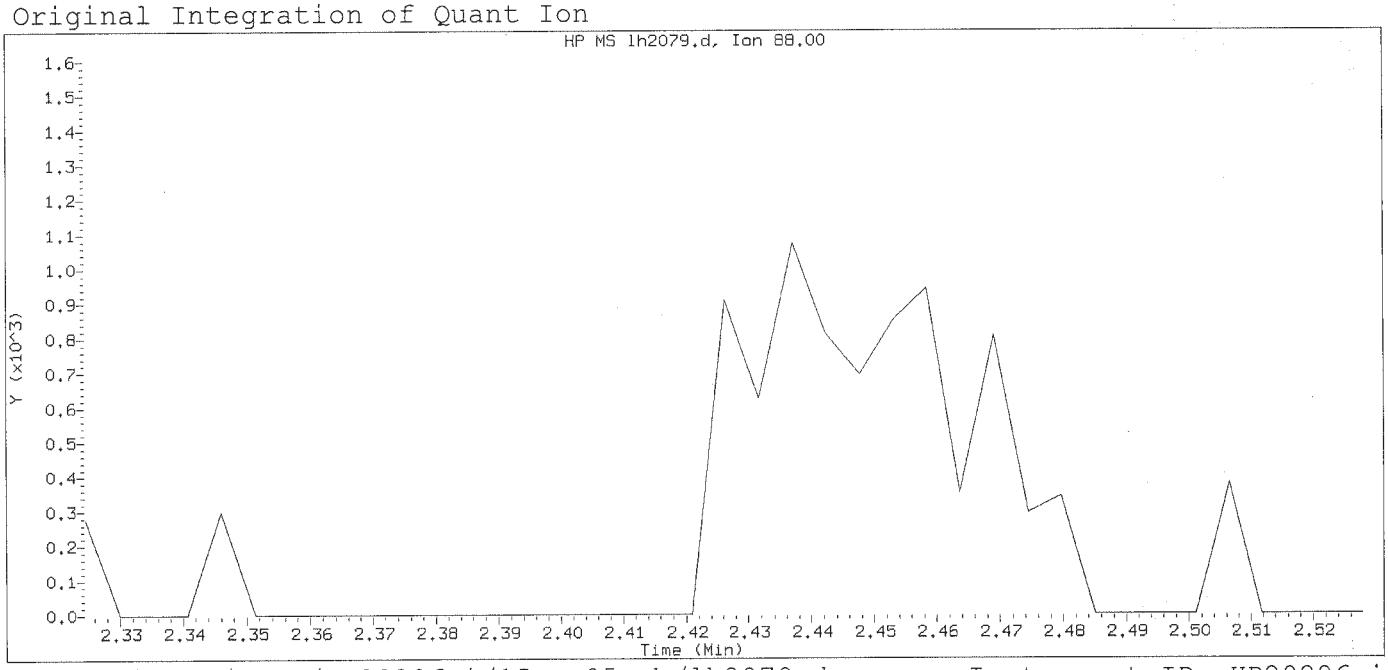
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28. Target 3.5 esignature user ID: ceb05247

GC/MS audit/management approval: Mark A. Ratcliff Senior Specialist AUG 18 2015

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

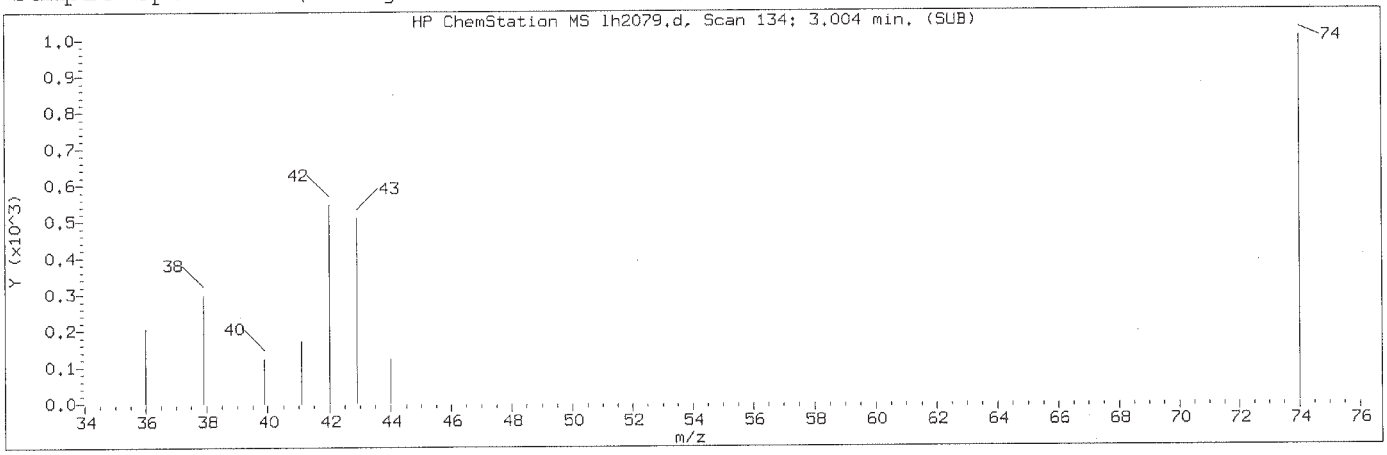
Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: 0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:16 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

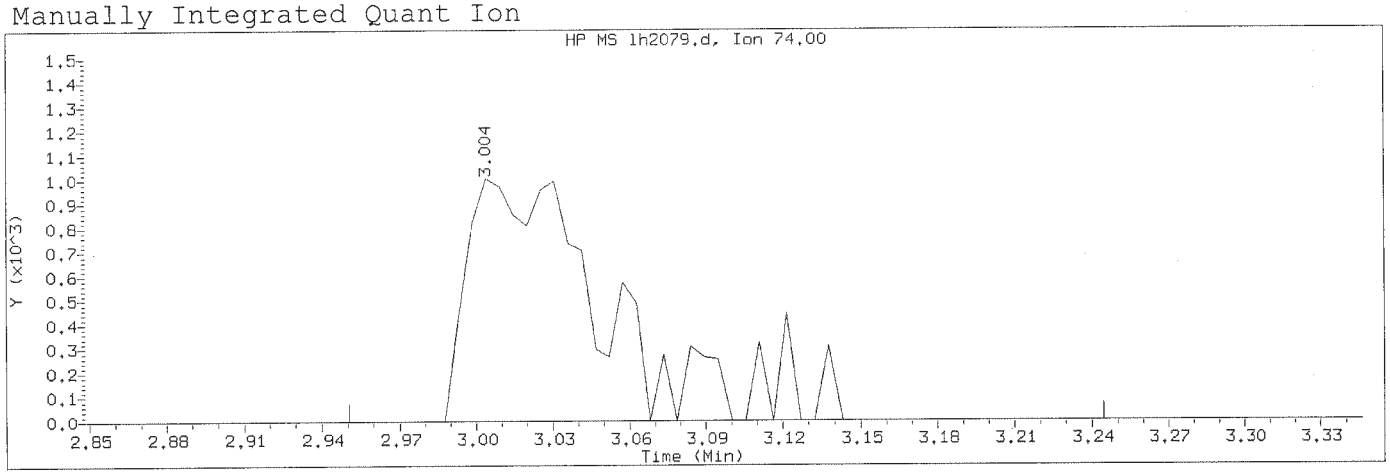
Compound Number : 1
Compound Name : 1,4-Dioxane
Expected RT (minutes) : 2.426
Quant Ion : 88.00

Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28.
Target 3.5 esignature used: TD2 ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/1h2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:24 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

Compound Number	: 2		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 134		
Retention Time (minutes)	: 3.004		
Quant Ion	: 74.00		
Area (flag)	: 3878M		
On-Column Amount (ng/ul)	: 0.1121		
Integration start scan	: 123	Integration stop scan:	178
Y at integration start	: 0	Y at integration end:	0

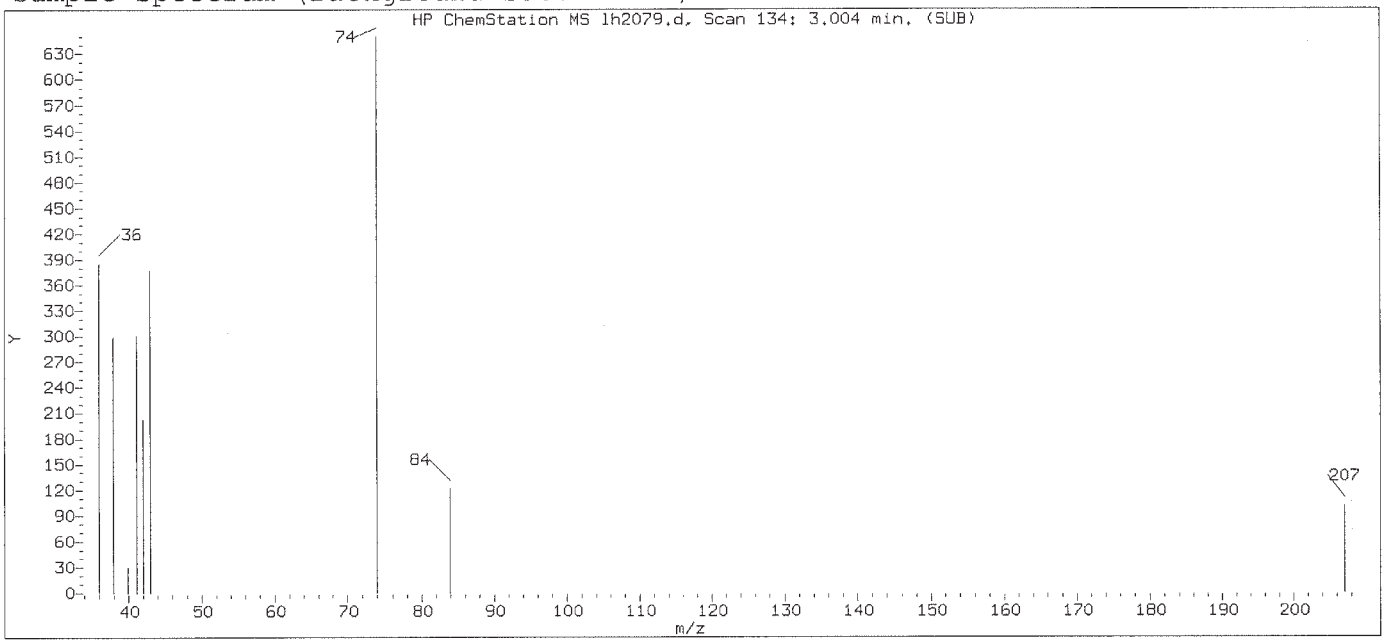
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28. Target 3.5 esignature user ID: ceb05247

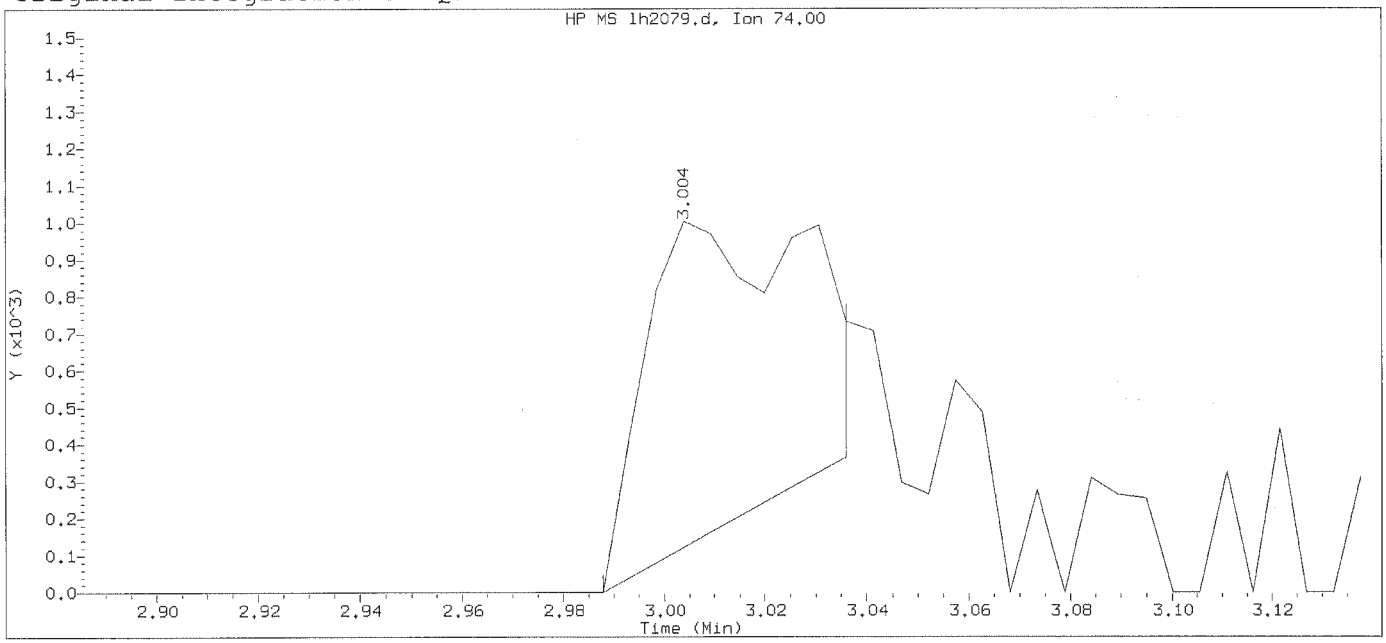
Mark A. Ratcliff
Senior Specialist

GC/MS audit/management approval: _____ AUG 18 2015

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:16 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

Compound Number	: 2		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 134		
Retention Time (minutes)	: 3.004		
Quant Ion	: 74.00		
Area	: 1786		
On-column Amount (ng/ul)	: 0.0516		
Integration start scan	: 130	Integration stop scan:	139
Y at integration start	: 0	Y at integration end:	366

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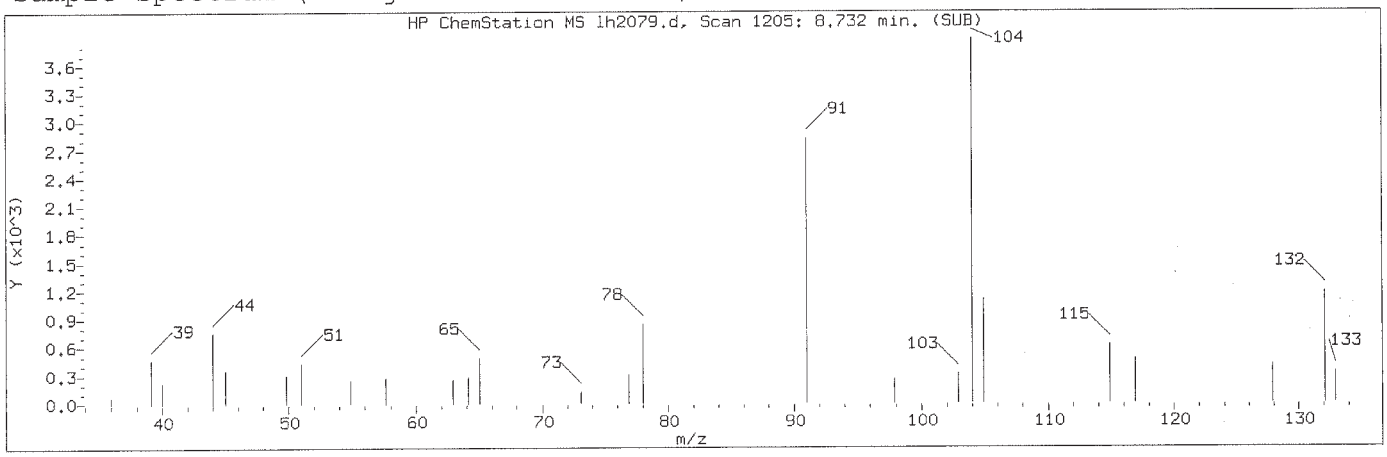
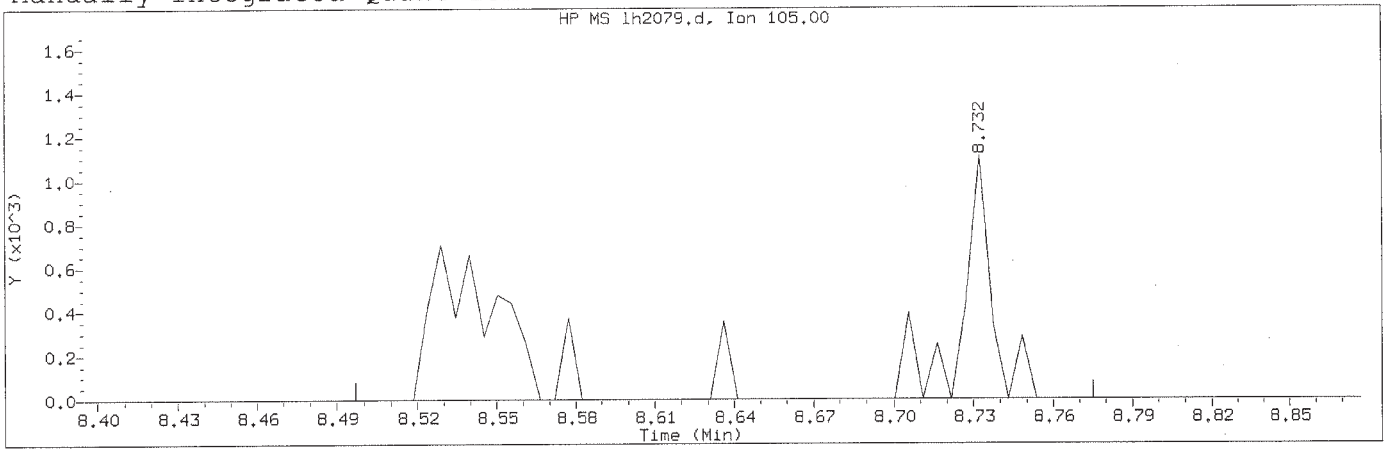
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: 0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:24 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1205		
Retention Time (minutes)	: 8.732		
Quant Ion	: 105.00		
Area (flag)	: 2286M		
On-Column Amount (ng/ul)	: 2.6757		
Integration start scan	: 1160	Integration stop scan:	1212
Y at integration start	: 0	Y at integration end:	0

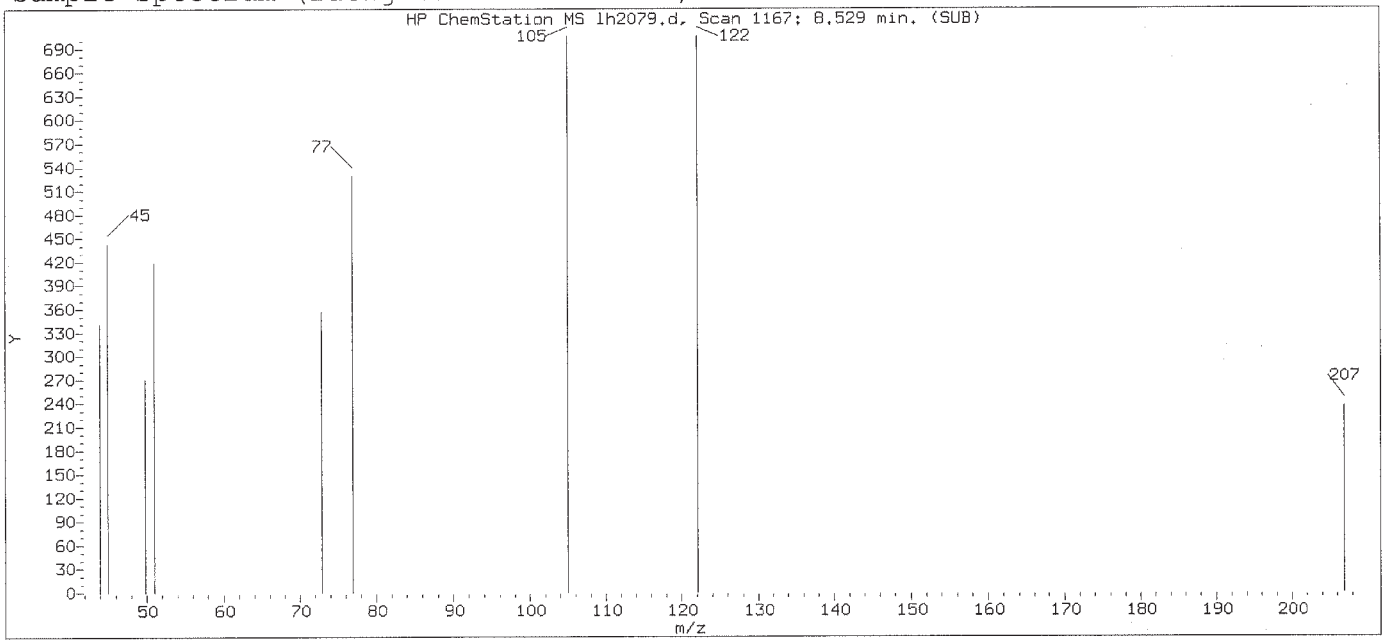
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28. Target 3.5 esignature user ID: ceb05247

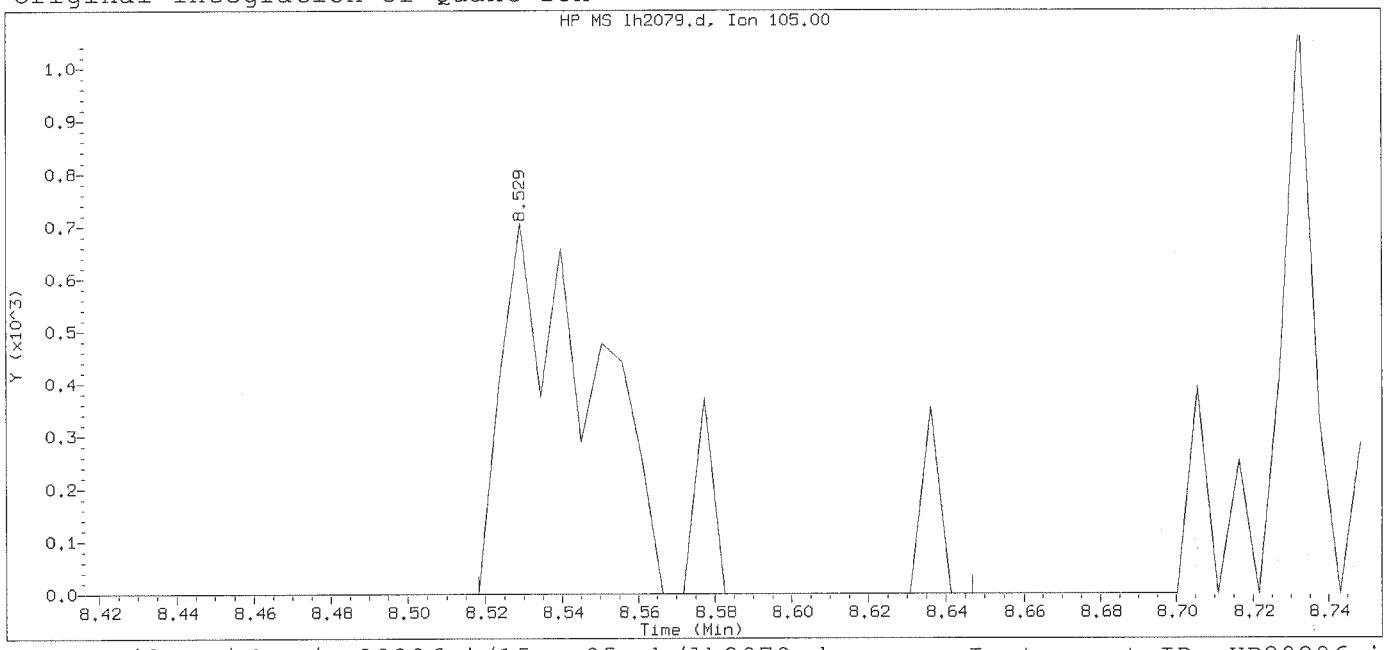
Mark A. Ratcliff
Senior Specialist
AUG 18 2015

GC/MS audit/management approval: _____

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:16 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

Compound Number	: 47		
Compound Name	: Benzoic acid		
Scan Number	: 1167		
Retention Time (minutes)	: 8.529		
Quant Ion	: 105.00		
Area	: 1393		
On-column Amount (ng/ul)	: 2.6562		
Integration start scan	: 1164	Integration stop scan:	1188
Y at integration start	: 0	Y at integration end:	0

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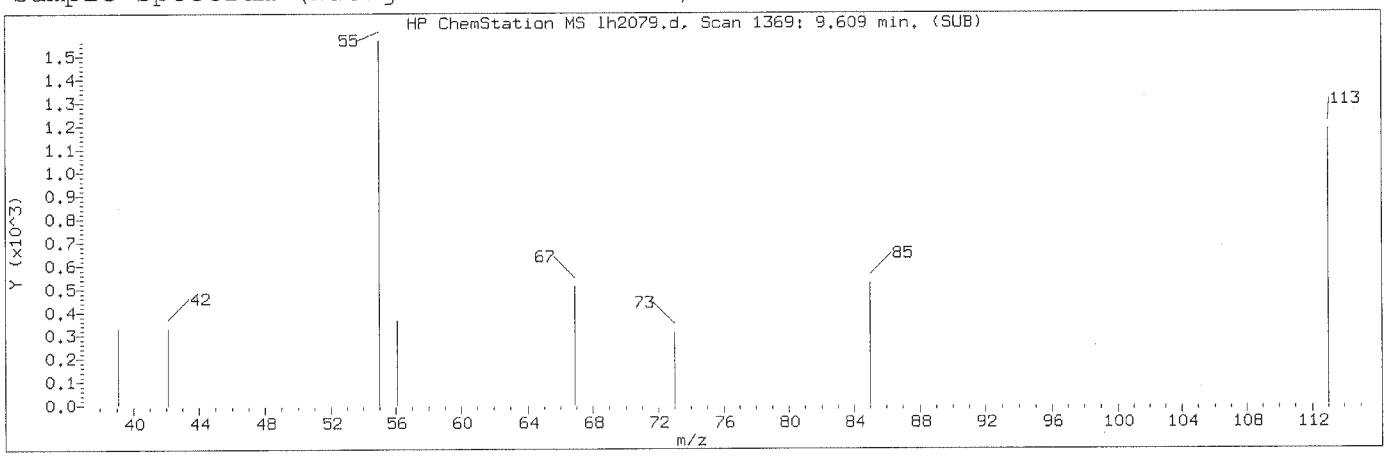
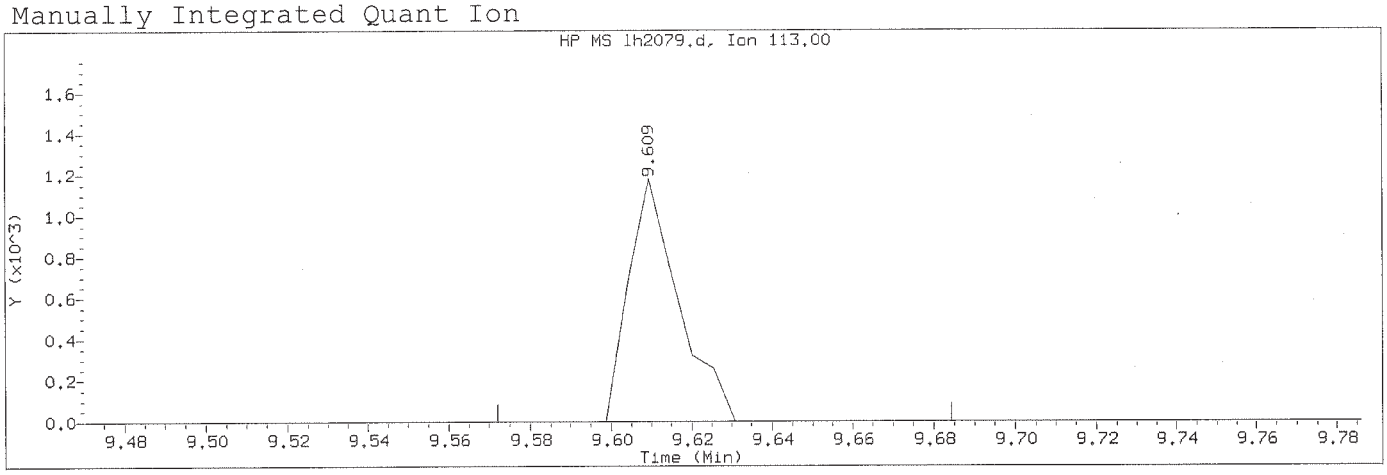
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: 0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:24 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

Compound Number	: 61		
Compound Name	: Caprolactam		
Scan Number	: 1369		
Retention Time (minutes)	: 9.609		
Quant Ion	: 113.00		
Area (flag)	: 1017M		
On-Column Amount (ng/ul)	: 0.0881		
Integration start scan	: 1361	Integration stop scan:	1382
Y at integration start	: 0	Y at integration end:	0

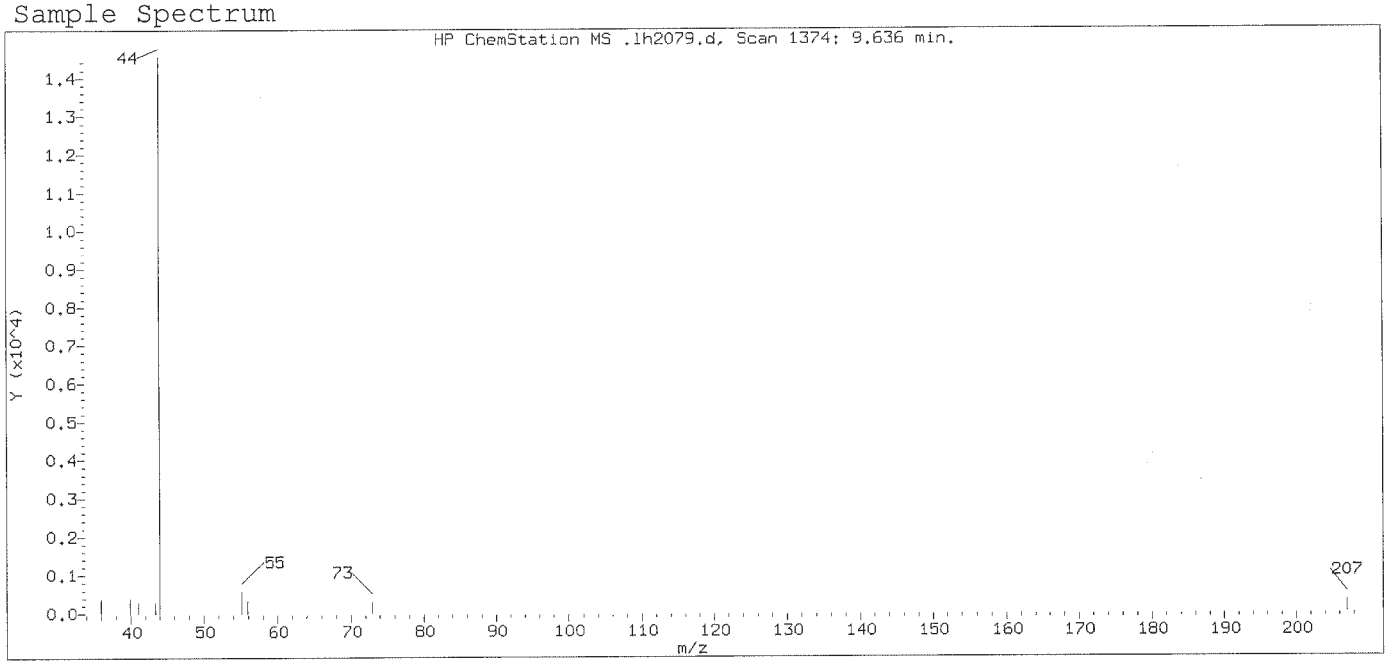
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

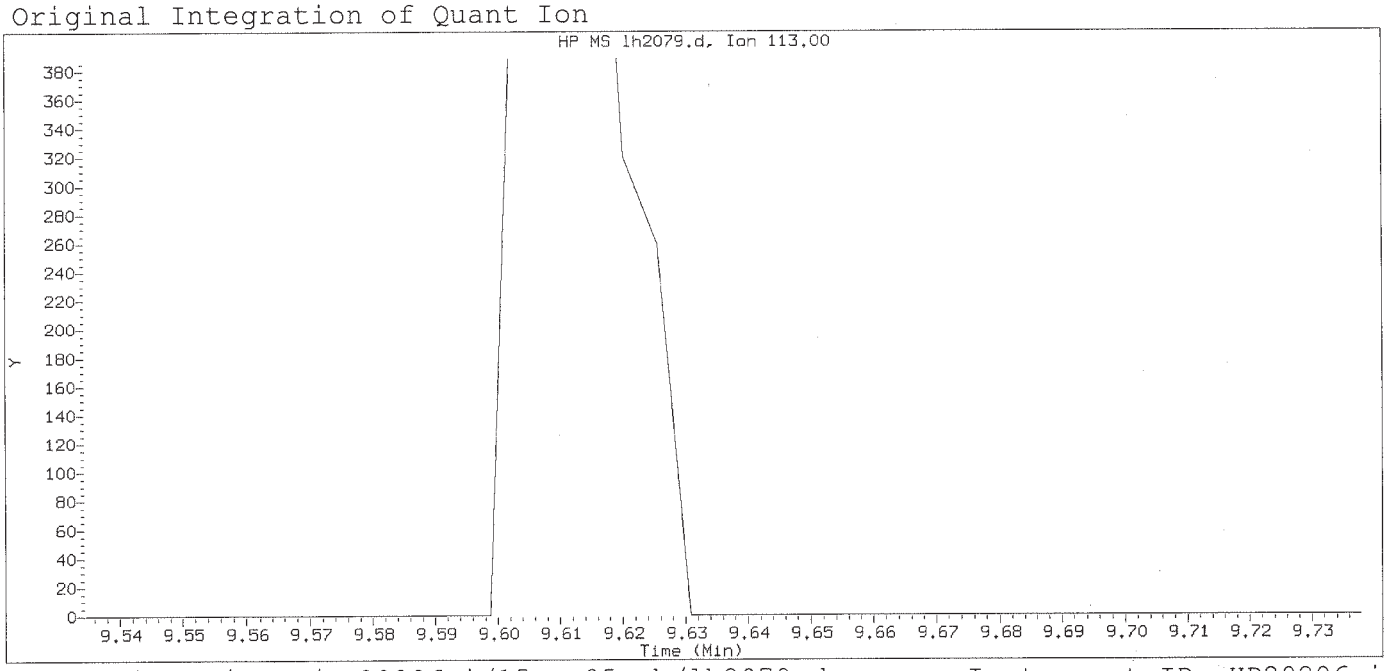
Mark A. Ratcliff
Senior Specialist
AUG 18 2015

GC/MS audit/management approval: _____

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

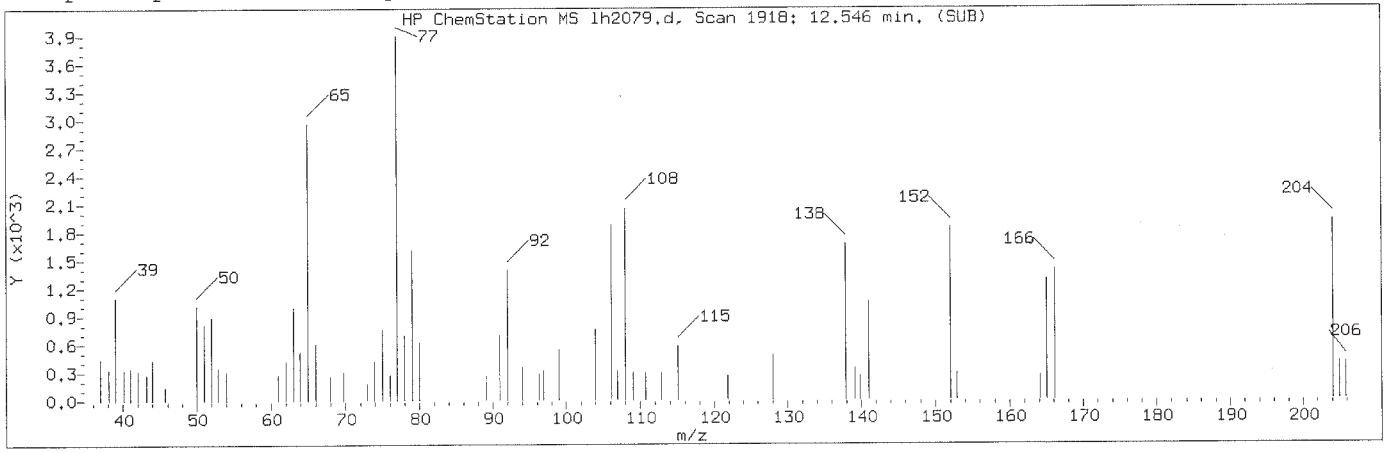
Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:16 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

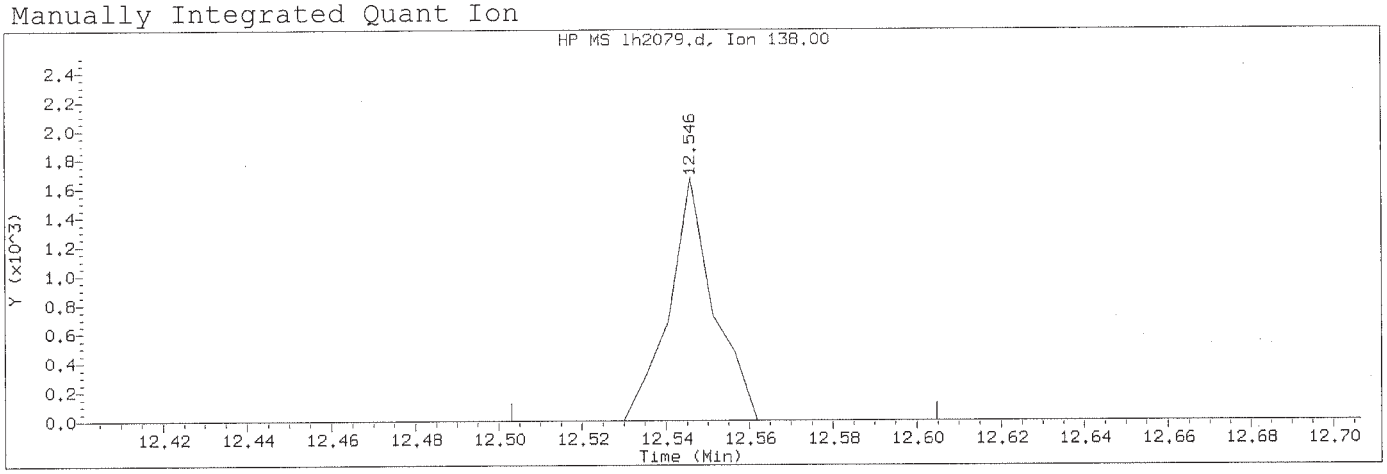
Compound Number : 61
Compound Name : Caprolactam
Expected RT (minutes) : 9.636
Quant Ion : 113.00

Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28.
Target 3.5 esignature used. ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: 0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:24 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

Compound Number	: 107		
Compound Name	: 4-Nitroaniline		
Scan Number	: 1918		
Retention Time (minutes)	: 12.546		
Quant Ion	: 138.00		
Area (flag)	: 1236M		
On-Column Amount (ng/ul)	: 0.0557		
Integration start scan	: 1909	Integration stop scan:	1928
Y at integration start	: 0	Y at integration end:	0

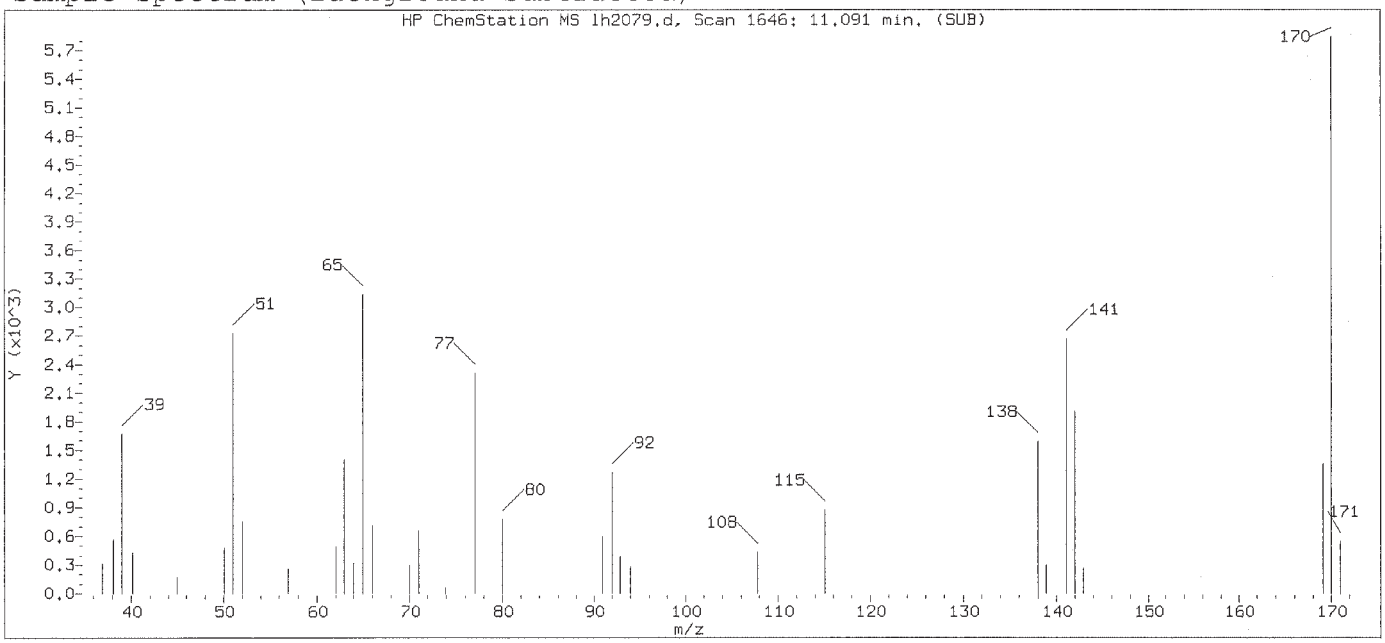
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28 Target 3.5 esignature user ID: ceb05247

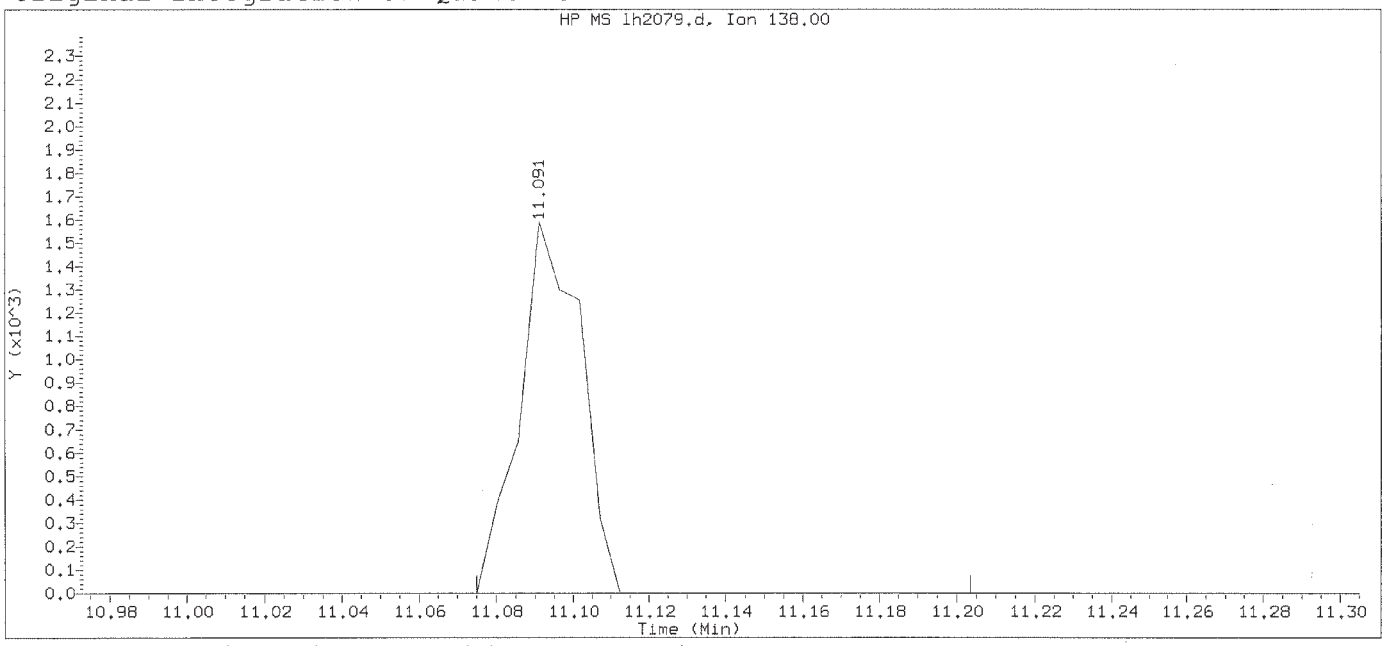
Mark A. Ratcliff
Senior Specialist
AUG 18 2015

GC/MS audit/management approval: _____

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

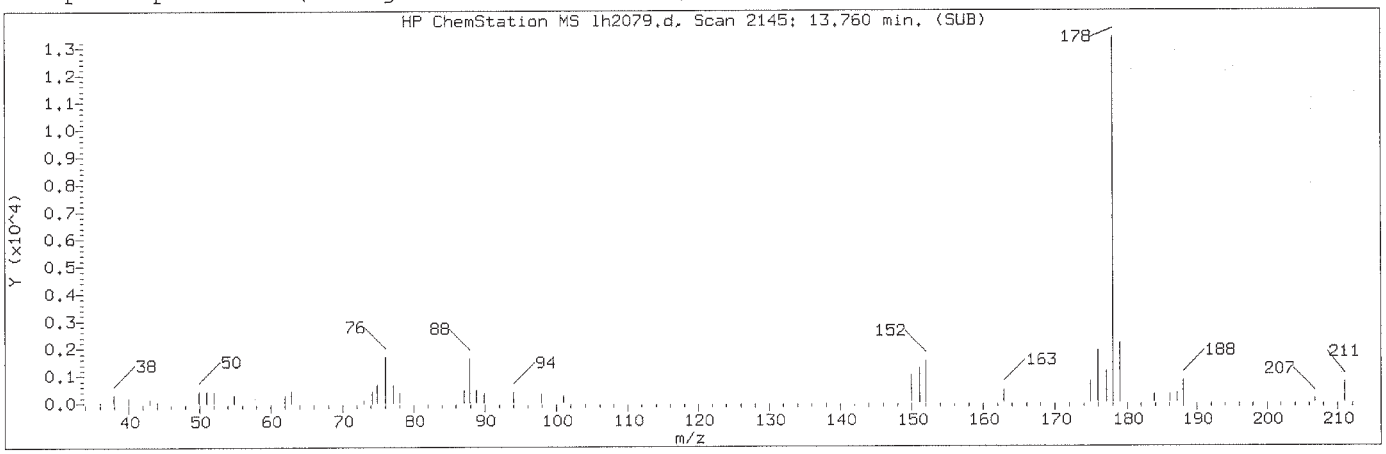
Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:16 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

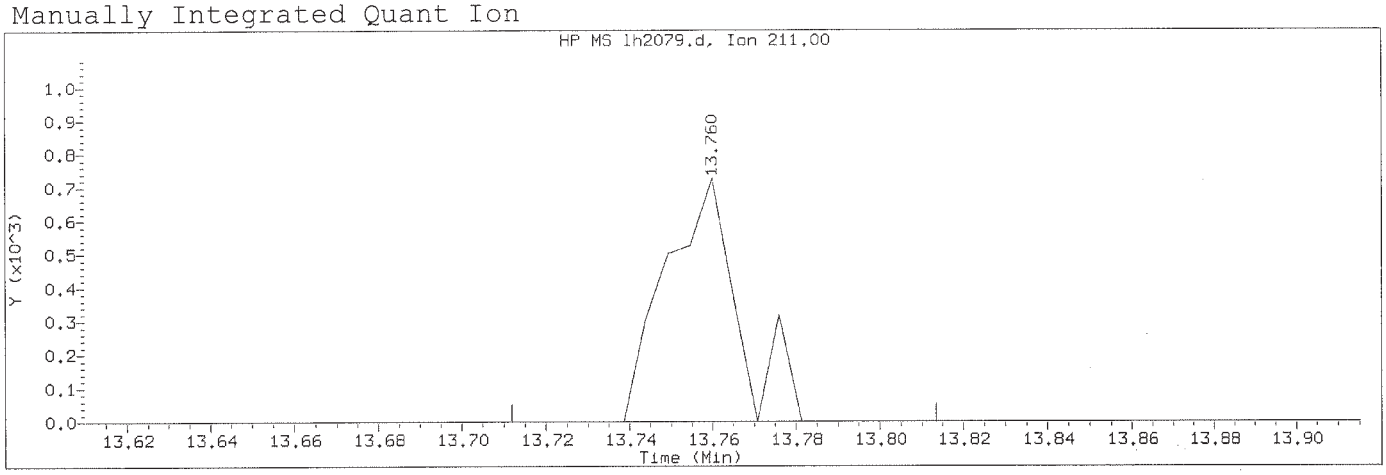
Compound Number	: 107		
Compound Name	: 4-Nitroaniline		
Scan Number	: 1646		
Retention Time (minutes)	: 11.091		
Quant Ion	: 138.00		
Area	: 1771		
On-column Amount (ng/ul)	: 0.2436		
Integration start scan	: 1642	Integration stop scan:	1666
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:24 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

Compound Number	: 133		
Compound Name	: Dinoseb		
Scan Number	: 2145		
Retention Time (minutes)	: 13.760		
Quant Ion	: 211.00		
Area (flag)	: 878M		
On-Column Amount (ng/ul)	: 1.0972		
Integration start scan	: 2135	Integration stop scan:	2154
Y at integration start	: 0	Y at integration end:	0

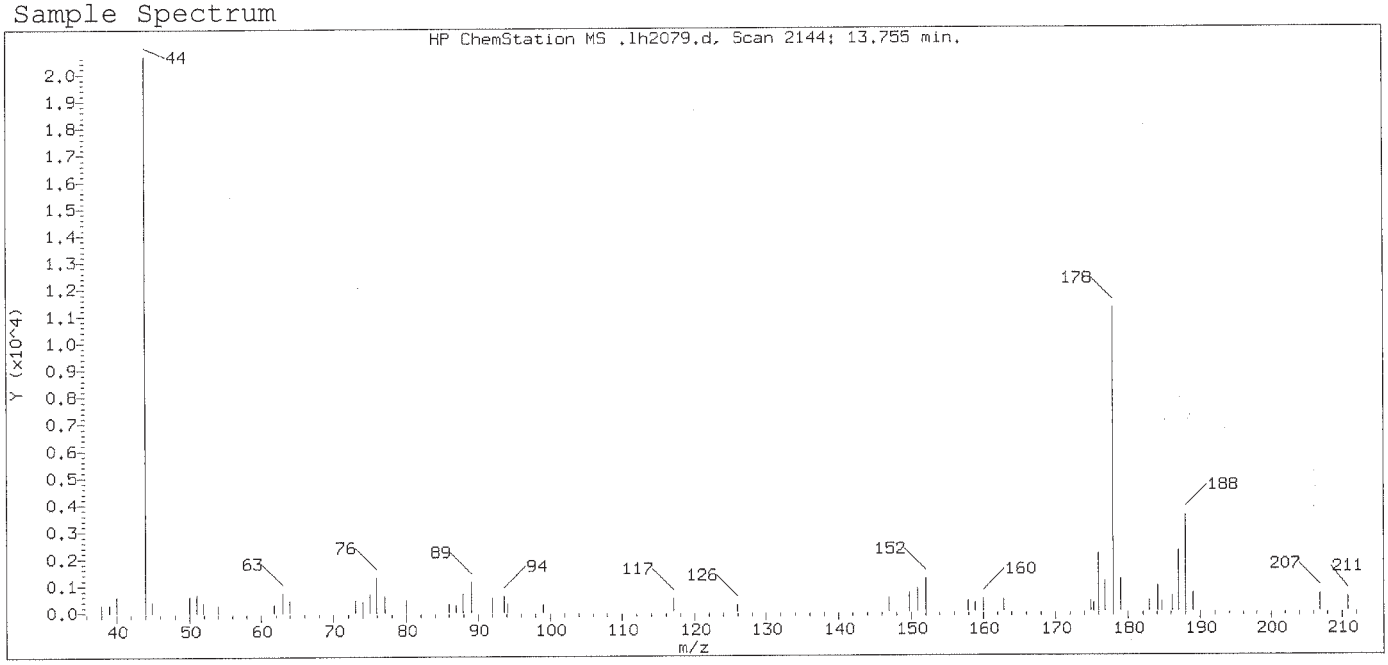
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

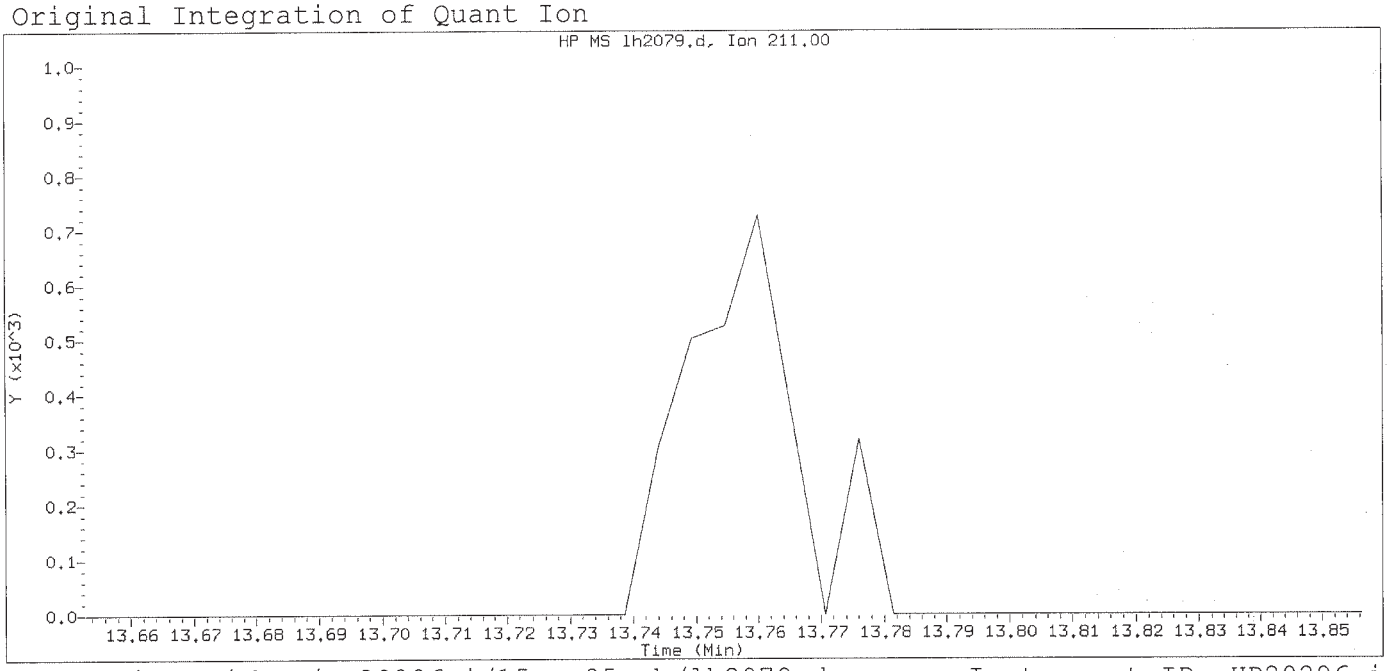
Mark A. Ratcliff
Senior Specialist
AUG 18 2015

GC/MS audit/management approval: _____

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used:0.5md1all1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:16 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

Compound Number : 133
Compound Name : Dinoseb
Expected RT (minutes) : 13.754
Quant Ion : 211.00

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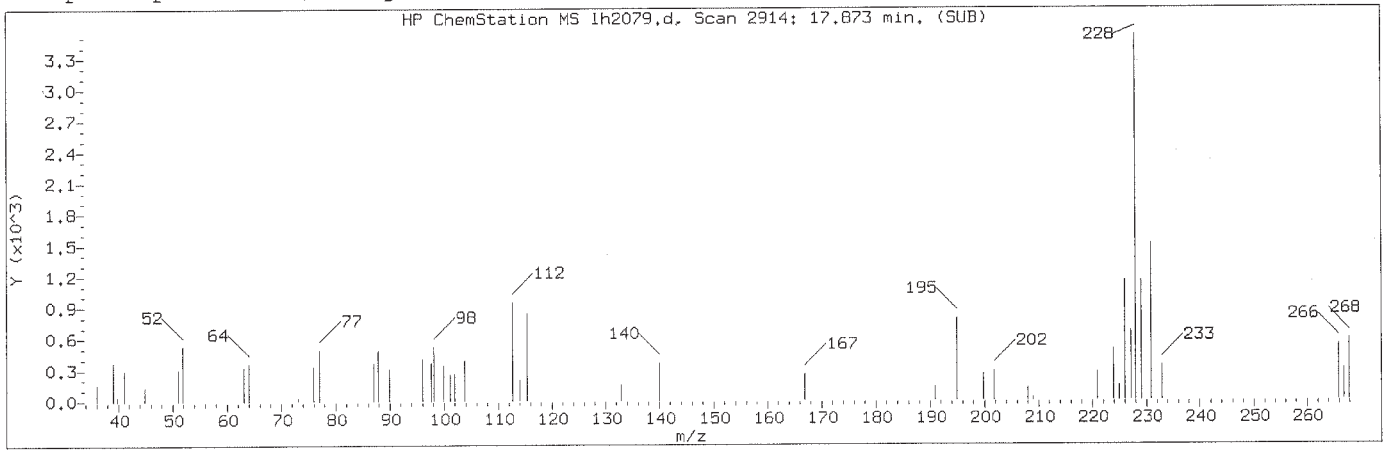
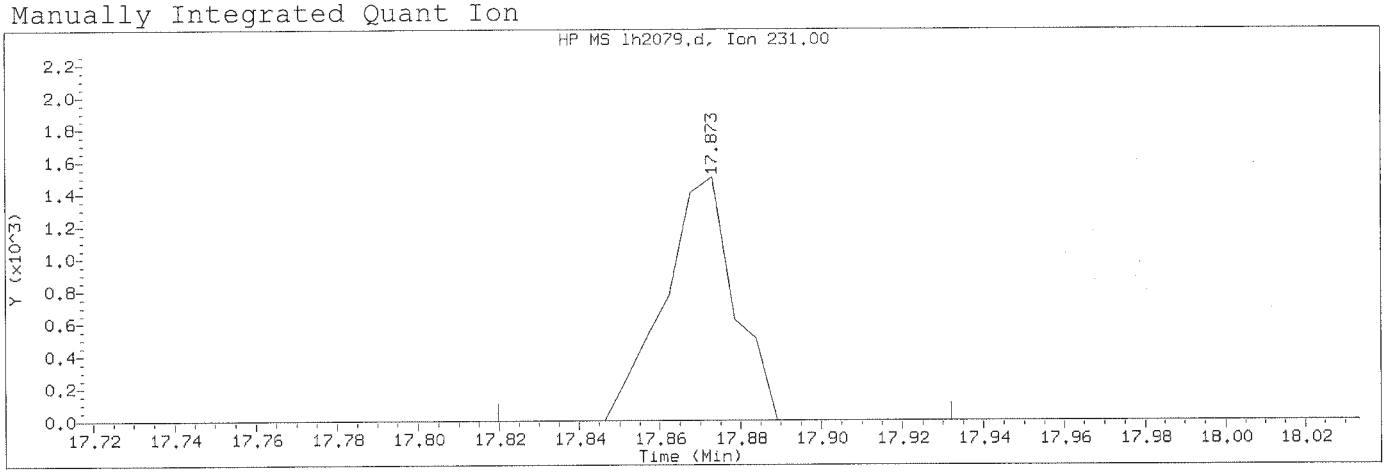
Target 3.5 esignature used. ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:24 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

Compound Number	: 160		
Compound Name	: 4,4'-Methylenebis(2-Chloroanil		
Scan Number	: 2914		
Retention Time (minutes)	: 17.873		
Quant Ion	: 231.00		
Area (flag)	: 1796M		
On-Column Amount (ng/ul)	: 0.0676		
Integration start scan	: 2903	Integration stop scan:	2924
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

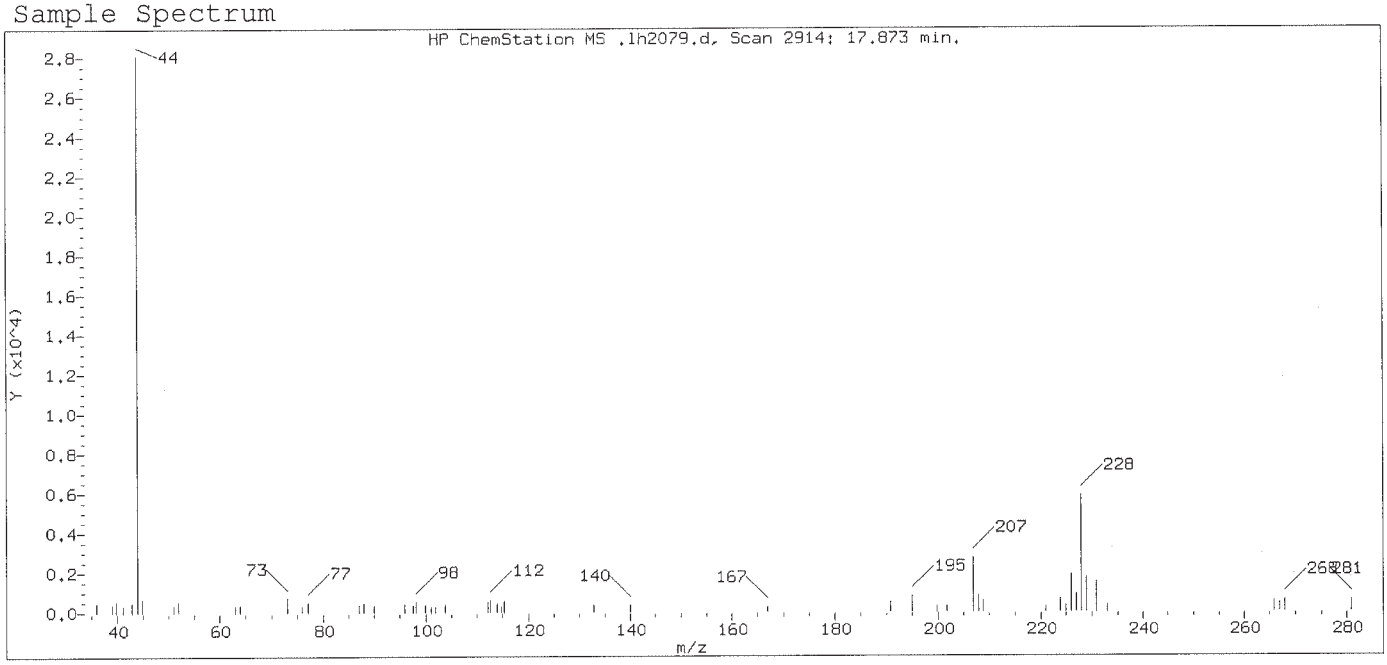
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28. Target 3.5 esignature user ID: ceb05247

Mark A. Ratcliff
Senior Specialist

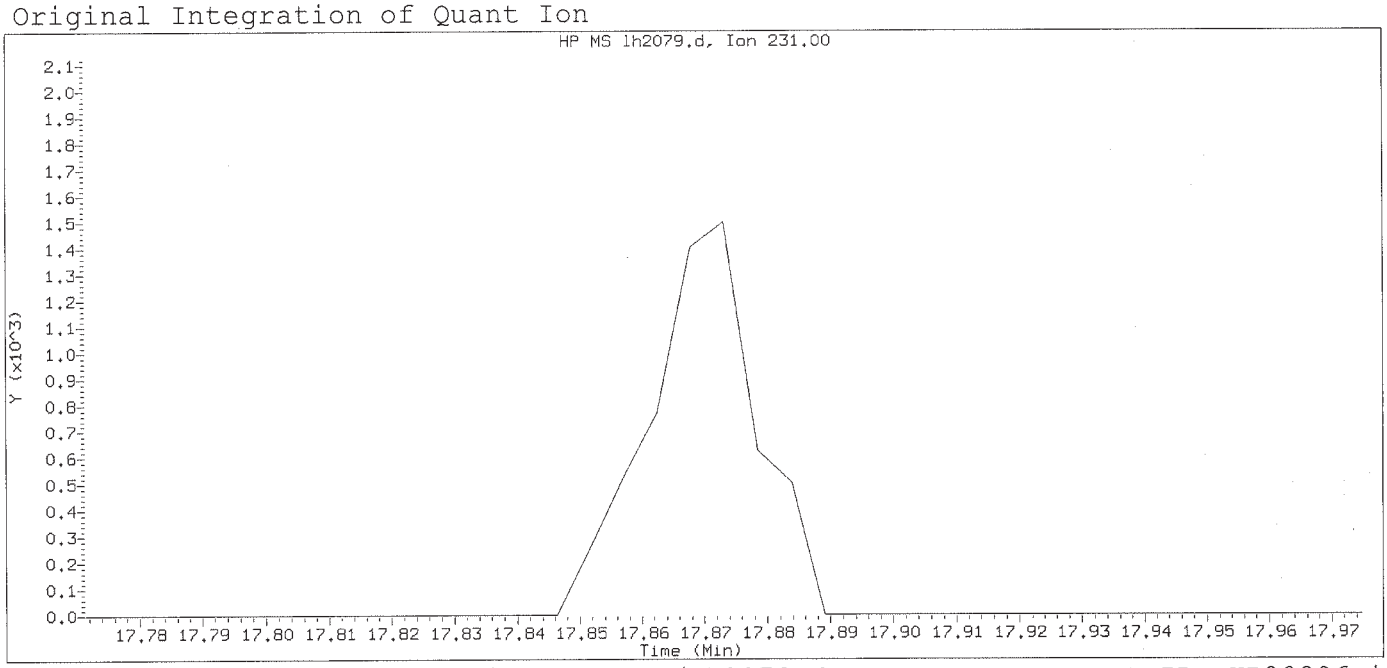
AUG 18 2015

GC/MS audit/management approval:_____

Sample Spectrum



Original Integration of Quant Ion



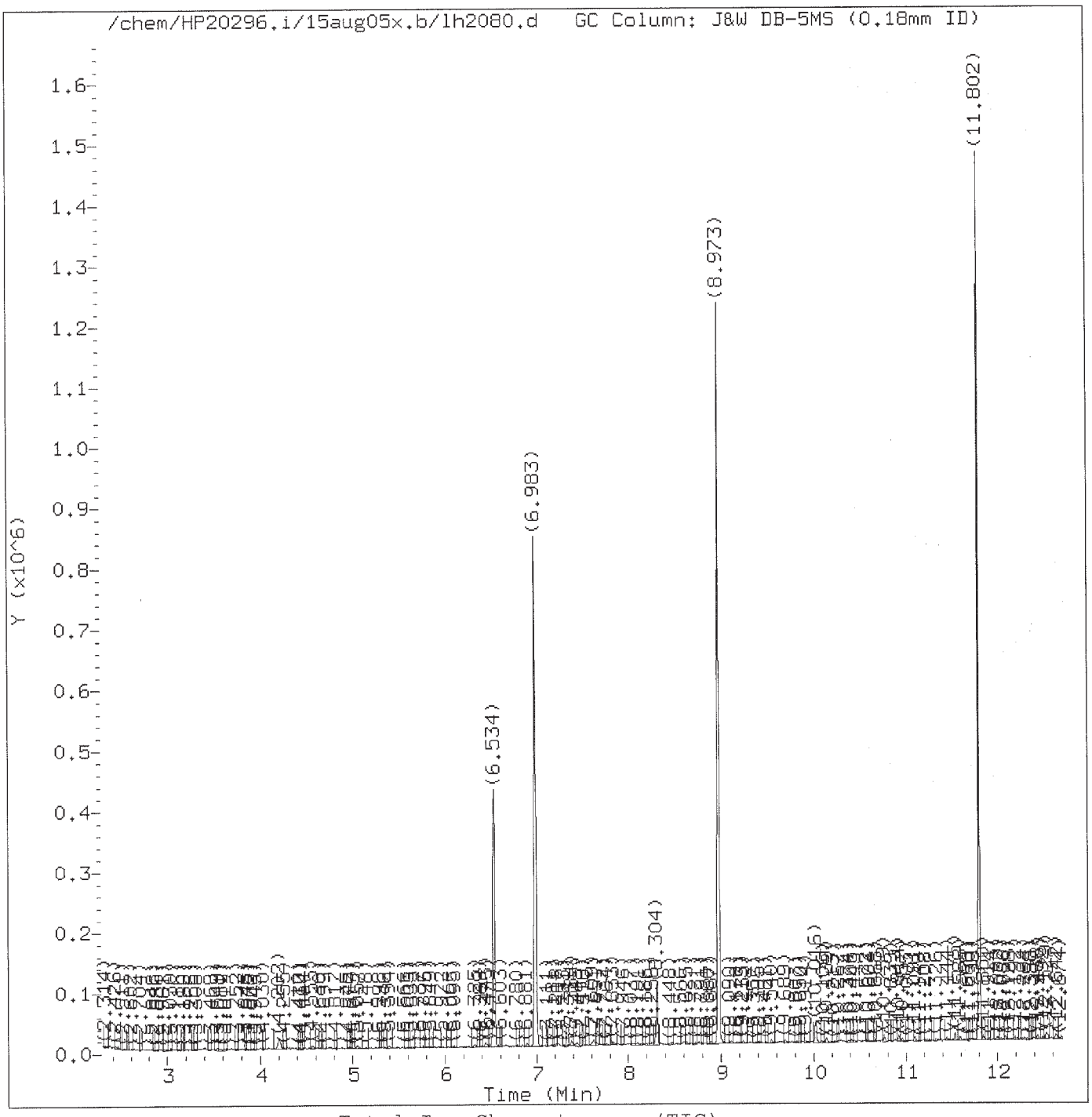
Data File: /chem/HP20296.i/15aug05x.b/lh2079.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:13 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used:0.5mdlall1-d
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:16 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD2065

Compound Number : 160
Compound Name : 4,4'-Methylenebis(2-Chloroanil
Expected RT (minutes) : 17.873
Quant Ion : 231.00

Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

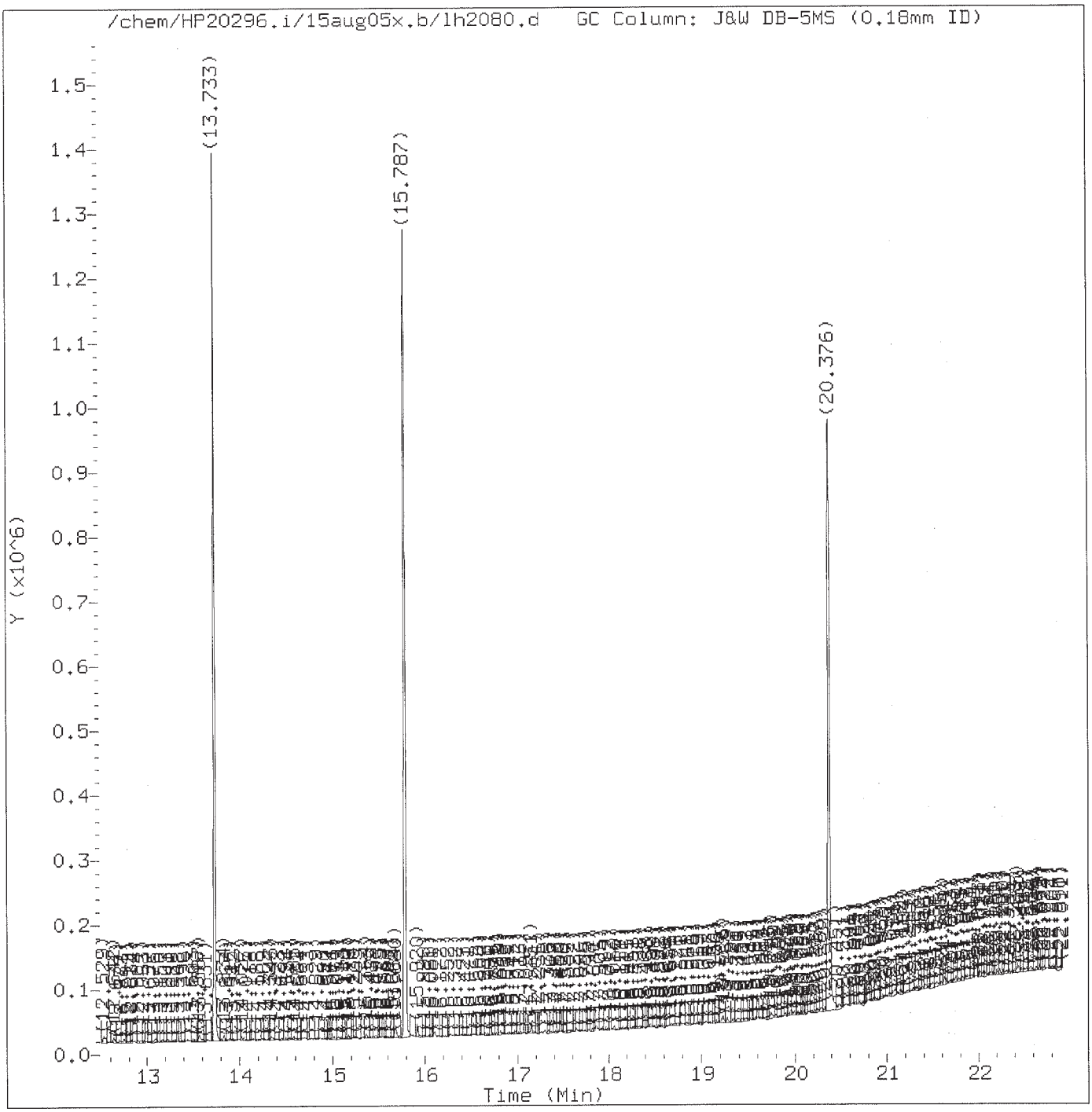
Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2080.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:41 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: 0.1mdlall1
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:25 ceb05247

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL2065

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2080.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:41 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: 0.1mdlall1
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:25 ceb05247

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL2065

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2080.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:41 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: 0.1mdlall1
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:25 ceb05247

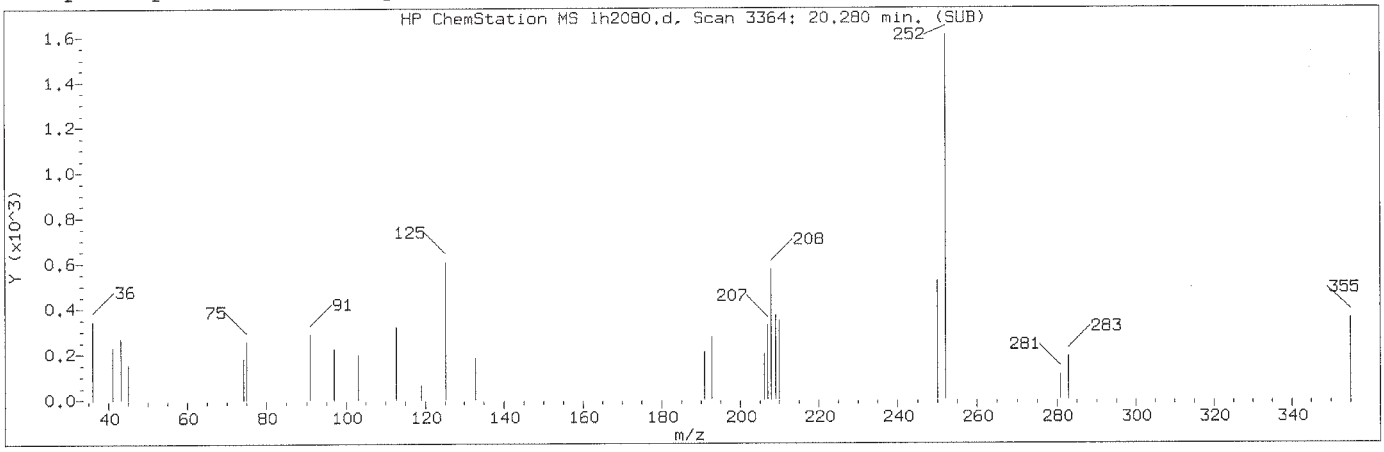
Sample Name: SSTD0.025 Lab Sample ID: PAHMDL2065

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
7)$2-Fluorophenol	(1)	5.047	112	1723	0.037
12)$Phenol-d5	(1)	6.443	99	2707	0.044
13)$Phenol-d6	(1)	6.443	99	2707	0.044
19)*1,4-Dichlorobenzene-d4	(1)	6.983	152	158446	5.000
36)$Nitrobenzene-d5	(2)	7.823	82	2534	0.043
52)*Naphthalene-d8	(2)	8.973	136	618561	5.000
53) Naphthalene	(2)	8.999	128	2898	0.022
65) 2-Methylnaphthalene	(2)	10.139	142	1865	0.022
66) 1-Methylnaphthalene	(2)	10.294	142	1741	0.022
72)$2-Fluorobiphenyl	(3)	10.759	172	4103	0.044
90) Acenaphthylene	(3)	11.583	152	2626	0.022
92)*Acenaphthene-d10	(3)	11.802	164	331080	5.000
93) Acenaphthene	(3)	11.850	153	2382	0.030
103) Fluorene	(3)	12.535	166	2237	0.026
122) Hexachlorobenzene	(4)	13.230	284	508	0.022
130)*Phenanthrene-d10	(4)	13.733	188	544065	5.000
131) Phenanthrene	(4)	13.760	178	3009	0.024
134) Anthracene	(4)	13.834	178	2900	0.024
142) Fluoranthene	(4)	15.460	202	2527	0.019
145)*Pyrene-d10	(5)	15.787	212	642061	5.000
146) Pyrene	(5)	15.813	202	3801	0.027
149)$Terphenyl-d14	(5)	16.102	244	3780	0.043
158) Benzo(a)anthracene	(5)	17.862	228	2210	0.018
161) Chrysene	(5)	17.926	228	2254	0.020
168) Benzo(b)fluoranthene	(6)	19.745	252	2578	0.023
170) Benzo(k)fluoranthene	(6)	19.793	252	2116	0.019
171) Benzo(a)pyrene	(6)	20.280	252	1968M	0.019
172)*Perylene-d12	(6)	20.376	264	487787	5.000
176) Indeno(1,2,3-cd)pyrene	(6)	22.018	276	1952	0.016
177) Dibenz(a,h)anthracene	(6)	22.066	278	2109	0.021
178) Benzo(g,h,i)perylene	(6)	22.430	276	2122	0.020

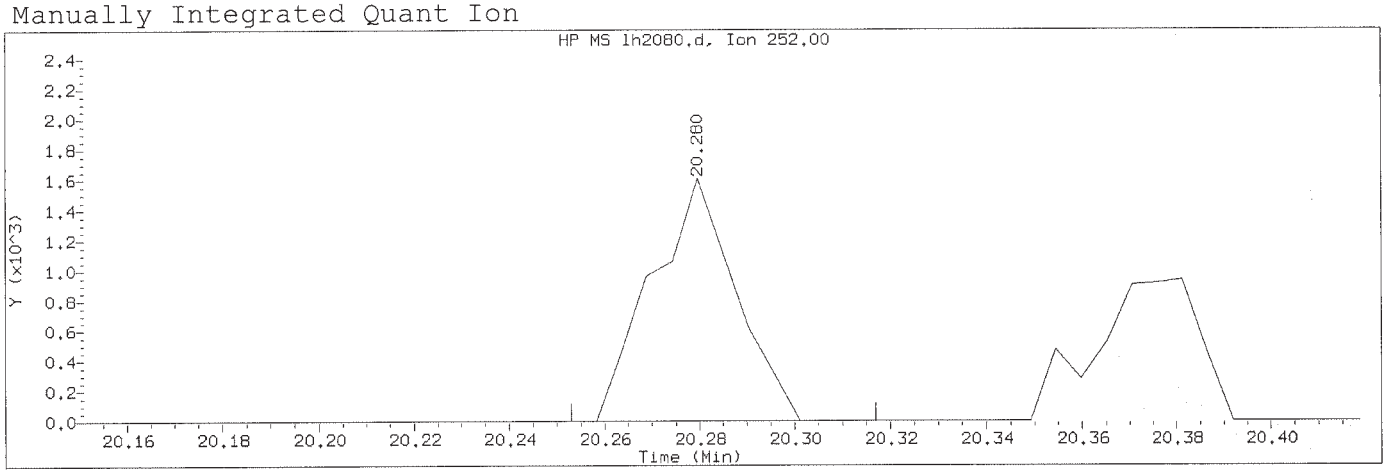
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2080.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:41 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: 0.1mdlall1
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:25 ceb05247

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL2065

Compound Number	:	171
Compound Name	:	Benzo(a)pyrene
Scan Number	:	3364
Retention Time (minutes)	:	20.280
Quant Ion	:	252.00
Area (flag)	:	1968M
On-Column Amount (ng/ul)	:	0.0188
Integration start scan	:	3358
Integration stop scan	:	3370
Y at integration start	:	0
Y at integration end	:	0

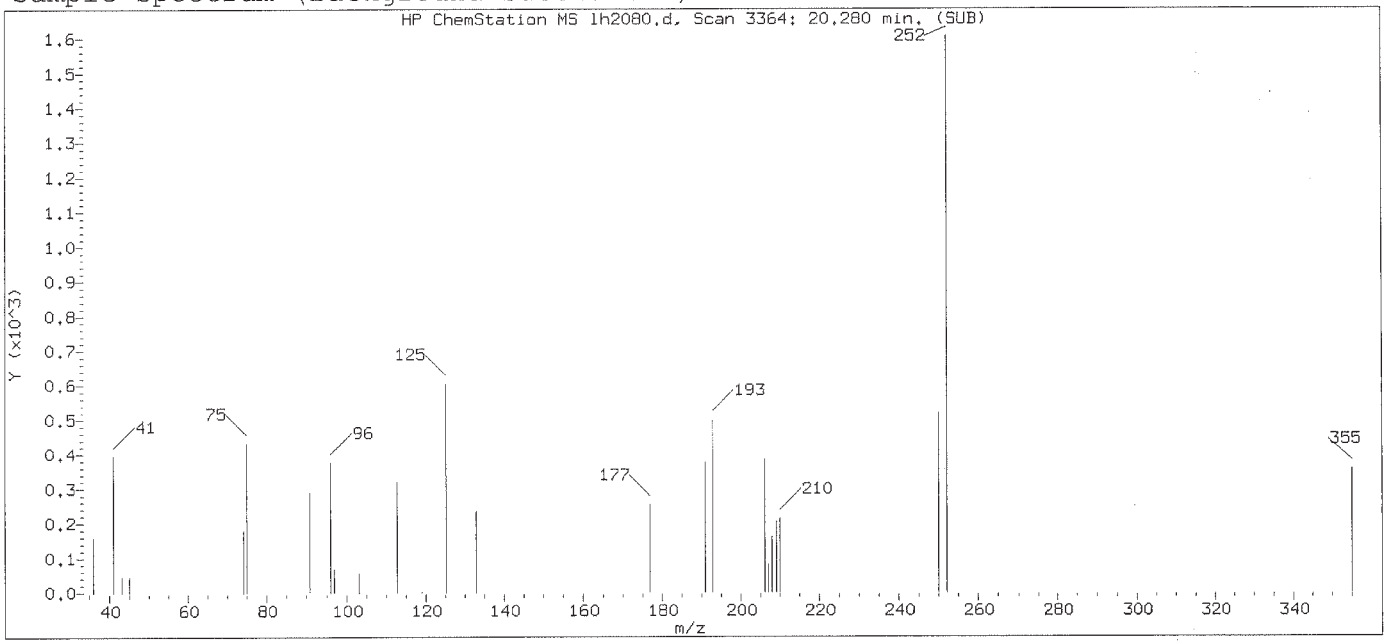
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28. Target 3.5 esignature user ID: ceb05247

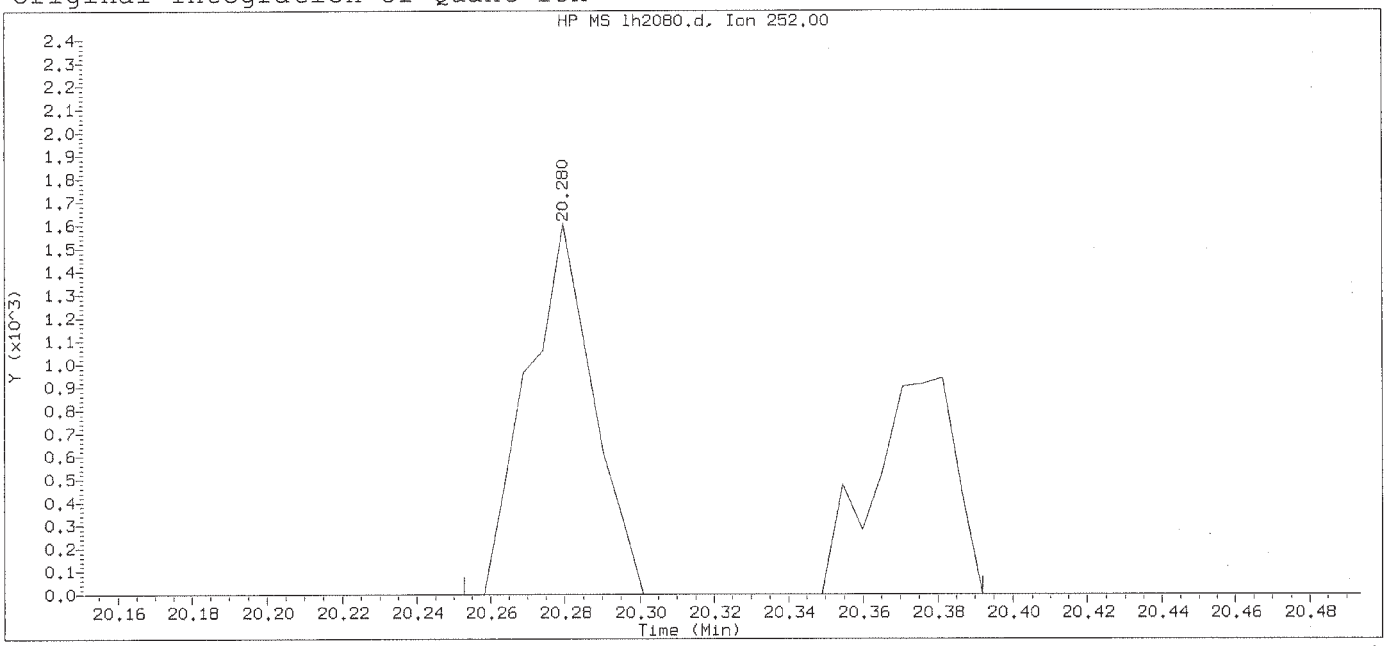
Mark A. Ratcliff
Senior Specialist

GC/MS audit/management approval: _____ AUG 18 2015

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



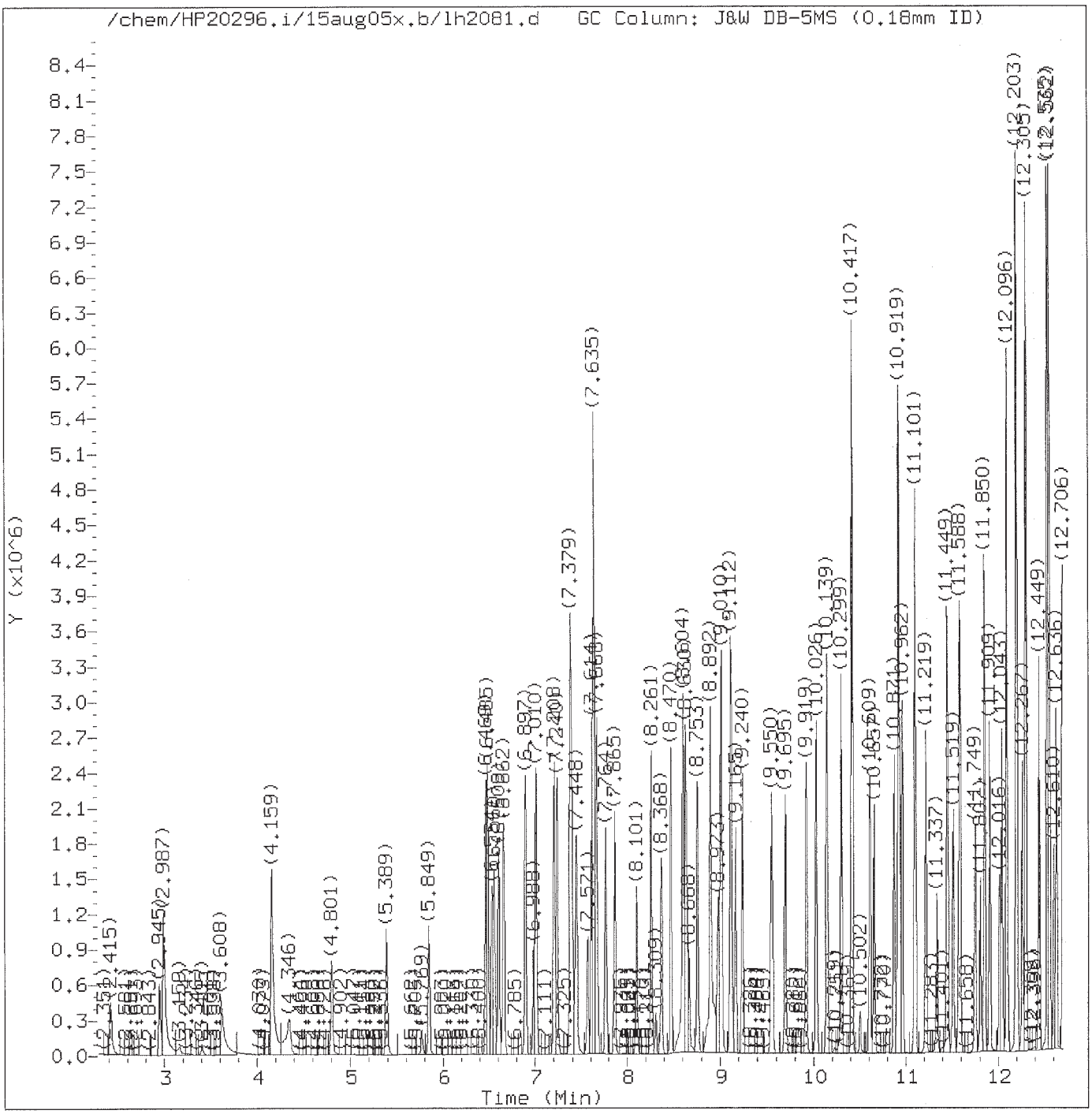
Data File: /chem/HP20296.i/15aug05x.b/lh2080.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 17:41 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: 0.1mdlall1
Calibration date and time: 14-AUG-2015 17:09
Date, time and analyst ID of latest file update: 14-Aug-2015 17:16 ceb05247

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL2065

Compound Number	: 171		
Compound Name	: Benzo(a)pyrene		
Scan Number	: 3364		
Retention Time (minutes)	: 20.280		
Quant Ion	: 252.00		
Area	: 3405		
On-column Amount (ng/ul)	: 0.0326		
Integration start scan	: 3358	Integration stop scan:	3384
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28.
Target 3.5 esignature used: TD: ceb05247



Total Ion Chromatogram (TIC)

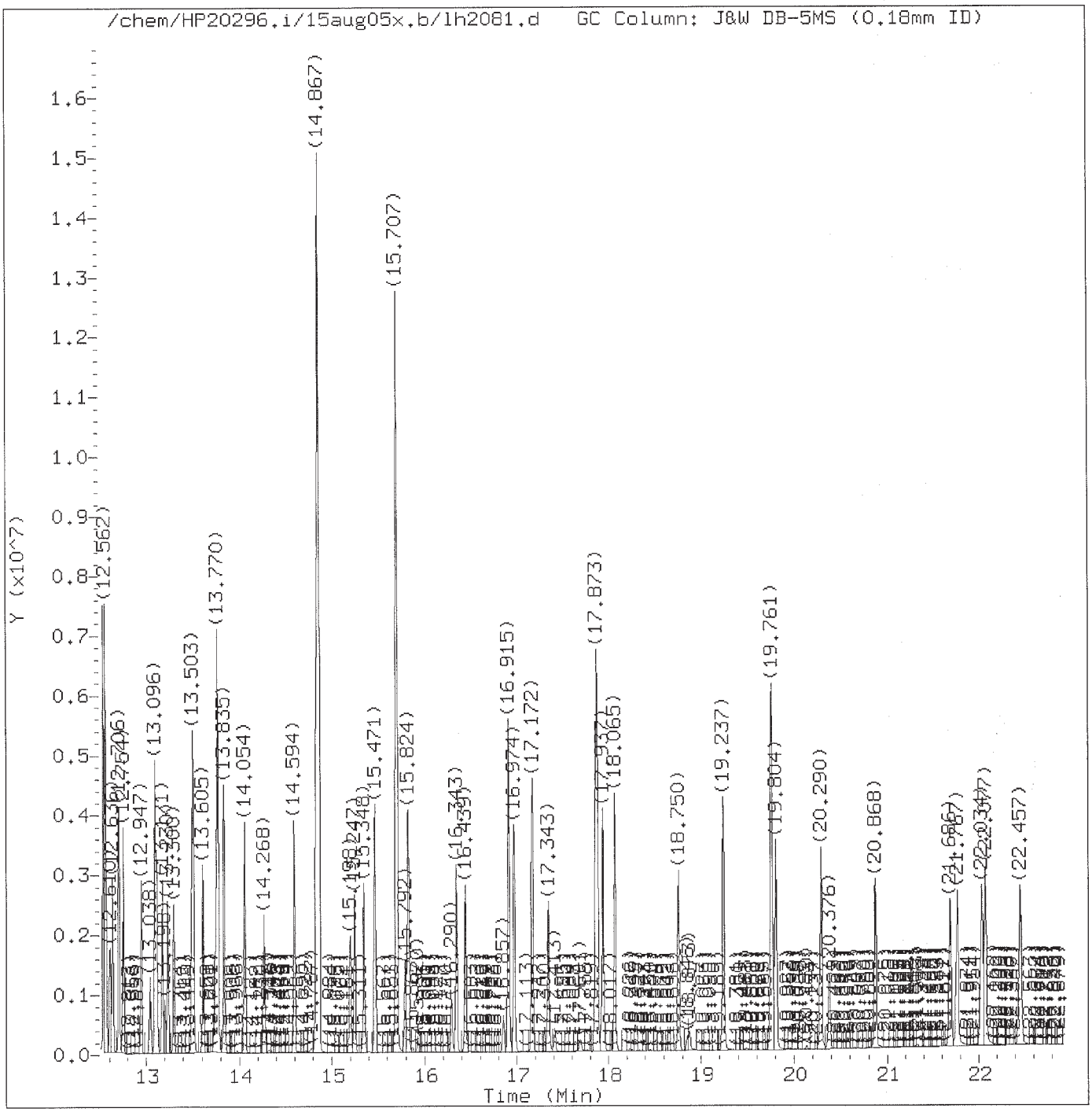
Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2081.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 18:09 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newicval11-d
Calibration date and time: 14-AUG-2015 17:23
Date, time and analyst ID of latest file update: 14-Aug-2015 17:26 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVICV1465

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2081.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 18:09 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newicvall1-d
Calibration date and time: 14-AUG-2015 17:23
Date, time and analyst ID of latest file update: 14-Aug-2015 17:26 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVICV1465

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2081.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 18:09 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newicvall1-d
Calibration date and time: 14-AUG-2015 17:23
Date, time and analyst ID of latest file update: 14-Aug-2015 17:26 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVICV1465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.415	88	272641	12.062
2) N-Nitrosodimethylamine	(1)	2.945	74	478035	13.208
3) Pyridine	(1)	2.987	79	835196	13.584
4) 2-Picoline	(1)	4.159	93	839294	13.187
5) N-Nitrosomethylethylamine	(1)	4.346	88	326042	12.741
6) Methyl methanesulfonate	(1)	4.801	80	414105	13.094
8) N-Nitrosodiethylamine	(1)	5.389	102	312093	12.747
10) Ethyl methanesulfonate	(1)	5.849	109	326300	12.593
14) Phenol	(1)	6.469	94	1023296	13.212
15) Aniline	(1)	6.485	93	1193274	13.078
16) bis(2-Chloroethyl)ether	(1)	6.609	93	747656	13.042
17) 2-Chlorophenol	(1)	6.662	128	630442	13.024
18) 1,3-Dichlorobenzene	(1)	6.897	146	707689	13.054
19)*1,4-Dichlorobenzene-d4	(1)	6.988	152	170028	5.000
20) 1,4-Dichlorobenzene	(1)	7.010	146	709633	12.941
23) Benzyl alcohol	(1)	7.208	108	475074	13.723
24) 1,2-Dichlorobenzene	(1)	7.240	146	680965	13.024
25) Indene	(1)	7.379	115	1227726	14.162
26) 2-Methylphenol	(1)	7.395	108	658848	13.481
27) 2,2'-oxybis(1-Chloropropane)	(1)	7.448	45	1222381	13.796
28) bis(2-Chloroisopropyl)ether	(1)	7.448	45	1222381	13.796
29) N-Nitrosopyrrolidine	(1)	7.571	100	334060	13.194
30) Acetophenone	(1)	7.614	105	1002316	13.475
33) 4-Methylphenol	(1)	7.635	108	738725	13.416
31) N-Nitroso-di-n-propylamine	(1)	7.635	70	568750	13.308
32) N-Nitrosomorpholine	(1)	7.641	56	474119	13.109
34) o-Toluidine	(1)	7.668	106	1118636	13.186
35) Hexachloroethane	(1)	7.764	117	299467	13.318
37) Nitrobenzene	(2)	7.865	77	833196	12.967
39) N-Nitrosopiperidine	(2)	8.101	114	304280	12.425
40) Isophorone	(2)	8.261	82	1489319	13.591
42) 2-Nitrophenol	(2)	8.368	139	324598	13.588
45) 2,4-Dimethylphenol	(2)	8.475	107	668007	12.542
46) O,O,O-triethylphosphorothioate	(2)	8.604	198	307850	12.773
48) bis(2-Chloroethoxy)methane	(2)	8.630	93	918014M	13.299
47) Benzoic acid	(2)	8.668	105	969408	22.898
49) 2,4-Dichlorophenol	(2)	8.759	162	524561	13.217
51) 1,2,4-Trichlorobenzene	(2)	8.892	180	580063	12.797
52)*Naphthalene-d8	(2)	8.973	136	666383	5.000
53) Naphthalene	(2)	9.010	128	1850491	12.861

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2081.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 18:09 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newicvall1-d
Calibration date and time: 14-AUG-2015 17:23
Date, time and analyst ID of latest file update: 14-Aug-2015 17:26 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVICV1465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) 4-Chloroaniline	(2)	9.112	127	784829	13.191
56) 2,6-Dichlorophenol	(2)	9.122	162	494931	12.673
57) Hexachloropropene	(2)	9.165	213	389234	13.608
58) Hexachlorobutadiene	(2)	9.240	225	342062	13.207
60) Quinoline	(2)	9.550	129	1133469	13.029
62) N-Nitrosodi-n-butylamine	(2)	9.695	84	503116	12.307
63) 4-Chloro-3-methylphenol	(2)	9.919	107	600341	13.281
64) Safrole	(2)	10.026	162	449484	12.956
65) 2-Methylnaphthalene	(2)	10.139	142	1156824	12.624
66) 1-Methylnaphthalene	(2)	10.299	142	1087673	12.950
67) Hexachlorocyclopentadiene	(3)	10.417	237	728307	26.871
68) 1,2,4,5-Tetrachlorobenzene	(3)	10.417	216	572464	12.710
70) 2,4,6-Trichlorophenol	(3)	10.609	196	374655	13.383
71) 2,4,5-Trichlorophenol	(3)	10.657	196	391975	13.593
74) Isosafrole	(3)	10.871	162	492178	14.158
75) 1,1'-Biphenyl	(3)	10.919	154	1436903	13.315
76) 2-Chloronaphthalene	(3)	10.930	162	1181472	13.254
77) 1-Chloronaphthalene	(3)	10.962	162	1014681	12.374
82) Diphenyl ether	(3)	11.101	170	756723	12.880
83) 2-Nitroaniline	(3)	11.101	138	367068	14.085
84) 1,4-Naphthoquinone	(3)	11.219	158	565935	16.779
85) 1,4-Dinitrobenzene	(3)	11.337	168	180572	13.603
86) Dimethylphthalate	(3)	11.449	163	1219012	13.174
87) 1,3-Dinitrobenzene	(3)	11.454	168	197512	13.537
88) 2,6-Dinitrotoluene	(3)	11.519	165	277292	14.227
90) Acenaphthylene	(3)	11.593	152	1799495	13.803
91) 3-Nitroaniline	(3)	11.754	138	319244	13.977
92) *Acenaphthene-d10	(3)	11.807	164	366503	5.000
93) Acenaphthene	(3)	11.850	153	1192903	13.532
94) 2,4-Dinitrophenol	(3)	11.909	184	349940	24.880
96) 4-Nitrophenol	(3)	12.016	109	231853	14.761
95) Pentachlorobenzene	(3)	12.043	250	439744	12.431
97) Dibenzofuran	(3)	12.096	168	1609111	13.094
98) 2,4-Dinitrotoluene	(3)	12.096	165	383981	14.215
99) 1-Naphthylamine	(3)	12.198	143	2349688	27.427
100) 2,3,4,6-Tetrachlorophenol	(3)	12.267	232	311624	13.726
101) 2-Naphthylamine	(3)	12.305	143	2361622	27.418
102) Diethylphthalate	(3)	12.449	149	1224338	13.785
103) Fluorene	(3)	12.535	166	1295574	13.792
104) Thionazin	(3)	12.540	107	244404	13.917

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2081.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 18:09 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newicval11-d
Calibration date and time: 14-AUG-2015 17:23
Date, time and analyst ID of latest file update: 14-Aug-2015 17:26 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVICV1465

	Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
106)	5-Nitro-o-toluidine	(3)	12.556	152	354243	14.141
107)	4-Nitroaniline	(3)	12.562	138	332762	13.999
105)	4-Chlorophenyl-phenylether	(3)	12.562	204	618055	13.562
108)	4,6-Dinitro-2-methylphenol	(4)	12.610	198	222105	13.517
109)	N-Nitrosodiphenylamine	(4)	12.706	169	1033124	12.979
111)	1,2-Diphenylhydrazine	(4)	12.754	77	1613925	13.658
115)	Tetraethyldithiopyrophosphate	(4)	12.941	97	230588	13.224
116)	1,3,5-Trinitrobenzene	(4)	13.043	213	126574	12.886
117)	Diallate (peak 1)	(4)	13.091	86	455406	9.556
118)	Phorate	(4)	13.096	75	945937	13.207
119)	Phenacetin	(4)	13.112	108	708526	13.813
120)	4-Bromophenyl-phenylether	(4)	13.171	248	319854	12.878
121)	Diallate (peak 2)	(4)	13.198	86	148719	3.281
122)	Hexachlorobenzene	(4)	13.230	284	327546	12.648
123)	Dimethoate	(4)	13.294	87	608750	13.325
125)	Pentachlorophenol	(4)	13.492	266	241472	14.708
127)	4-Aminobiphenyl	(4)	13.503	169	1348870	14.313
126)	Pentachloronitrobenzene	(4)	13.508	237	154433	13.006
129)	Pronamide	(4)	13.605	173	549897	13.247
130)	*Phenanthrene-d10	(4)	13.733	188	621259	5.000
133)	Dinoseb	(4)	13.754	211	333090	12.598
131)	Phenanthrene	(4)	13.765	178	1859404	12.930
134)	Anthracene	(4)	13.835	178	1919392	13.920
135)	Carbazole	(4)	14.054	167	1757859	13.489
136)	Methyl parathion	(4)	14.268	109	466195	13.883
137)	Di-n-butylphthalate	(4)	14.594	149	2175026	14.110
138)	Parathion	(4)	14.835	109	308816	15.033
139)	4-Nitroquinoline-1-oxide	(4)	14.867	190	3004223	167.873
140)	Isodrin	(4)	15.247	193	206922	13.264
142)	Fluoranthene	(4)	15.471	202	2118072	14.032
144)	Benzidine	(5)	15.707	184	7059534	66.874
145)	*Pyrene-d10	(5)	15.792	212	777292	5.000
146)	Pyrene	(5)	15.824	202	2184640	12.757
150)	p-Dimethylaminoazobenzene	(5)	16.343	225	399173	13.278
151)	Chlorobenzilate	(5)	16.439	139	651299	13.453
152)	3,3'-Dimethylbenzidine	(5)	16.915	212	2684245	26.493
153)	Butylbenzylphthalate	(5)	16.974	149	1035346	14.440
156)	2-Acetylaminofluorene	(5)	17.343	181	816944	12.293
159)	3,3'-Dichlorobenzidine	(5)	17.857	252	713739	13.137
158)	Benzo(a)anthracene	(5)	17.873	228	2105132	14.259

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2081.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 18:09 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: newicval11-d
Calibration date and time: 14-AUG-2015 17:23
Date, time and analyst ID of latest file update: 14-Aug-2015 17:26 ceb05247

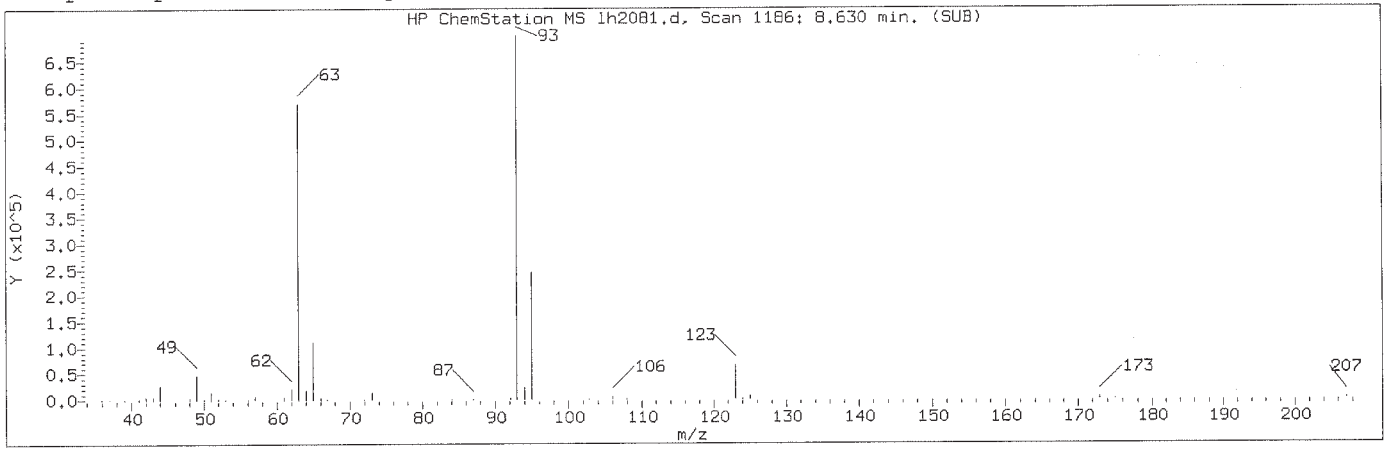
Sample Name: SSTD12.5 Lab Sample ID: RVICV1465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
160) 4,4'-Methylenebis(2-Chloroanil	(5)	17.878	231	402965	12.868
161) Chrysene	(5)	17.937	228	2049327	14.712
162) bis(2-Ethylhexyl)phthalate	(5)	18.065	149	1488543	14.629
165) 6-Methylchrysene	(5)	18.750	242	1292519	13.421
166) Di-n-octylphthalate	(6)	19.237	149	2648673	14.844
168) Benzo(b)fluoranthene	(6)	19.755	252	2106202	14.074
169) 7,12-Dimethylbenz[a]anthracene	(6)	19.761	256	868834	13.788
170) Benzo(k)fluoranthene	(6)	19.809	252	2001960	13.476
171) Benzo(a)pyrene	(6)	20.290	252	1870707	13.423
172)*Perylene-d12	(6)	20.376	264	650119	5.000
173) 3-Methylcholanthrene	(6)	20.868	268	936285	13.493
176) Indeno(1,2,3-cd)pyrene	(6)	22.034	276	2186376	13.390
177) Dibenz(a,h)anthracene	(6)	22.077	278	1865213	13.829
178) Benzo(g,h,i)perylene	(6)	22.457	276	1912559	13.331
179) Diallate TRANS/CIS	(4)	23.156	86	604125	12.837

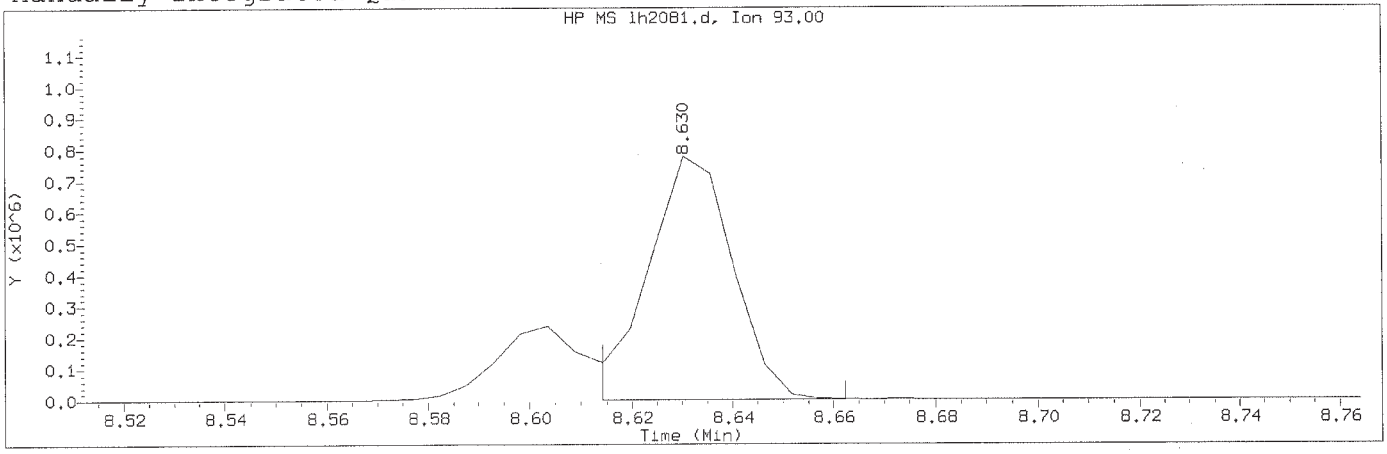
* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2081.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 18:09 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used:newicval11-d
Calibration date and time: 14-AUG-2015 17:23
Date, time and analyst ID of latest file update: 14-Aug-2015 17:26 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVICV1465

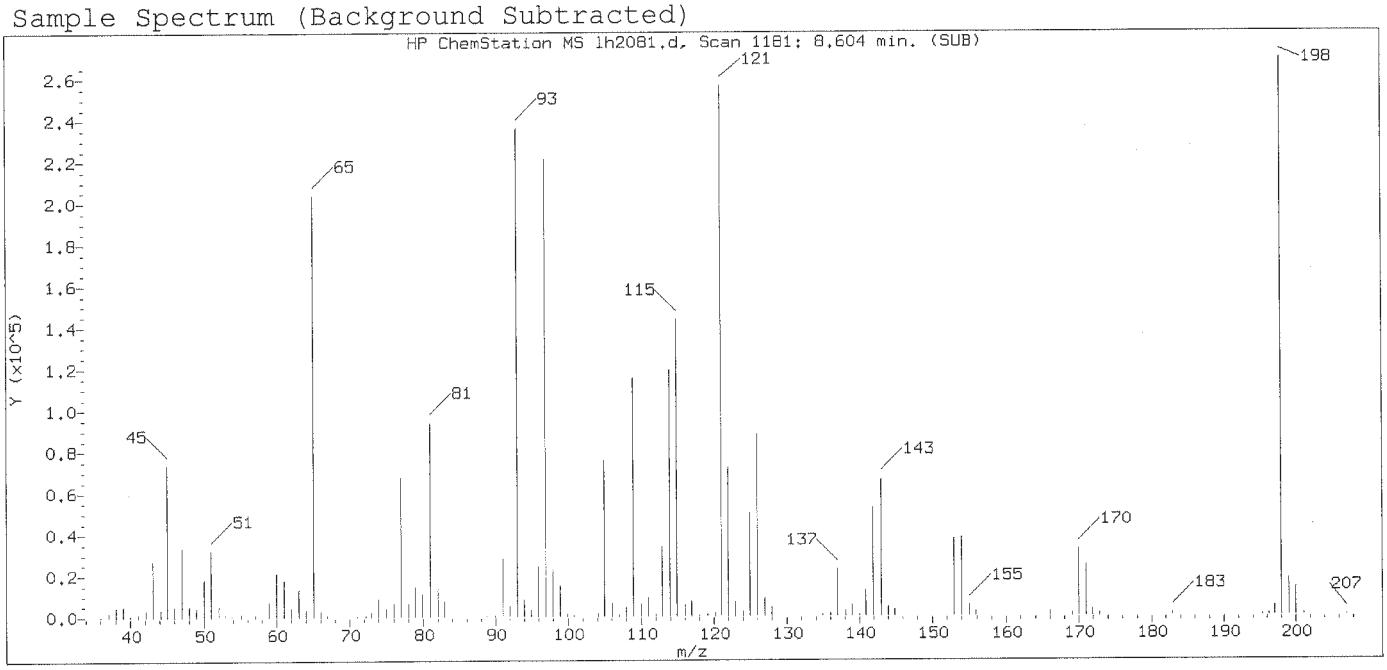
Compound Number	: 48		
Compound Name	: bis(2-Chloroethoxy)methane		
Scan Number	: 1186		
Retention Time (minutes)	: 8.630		
Quant Ion	: 93.00		
Area (flag)	: 918014M		
On-Column Amount (ng/ul)	: 13.2989		
Integration start scan	: 1182	Integration stop scan:	1191
Y at integration start	: 805	Y at integration end:	805

Reason for manual integration: improper integration

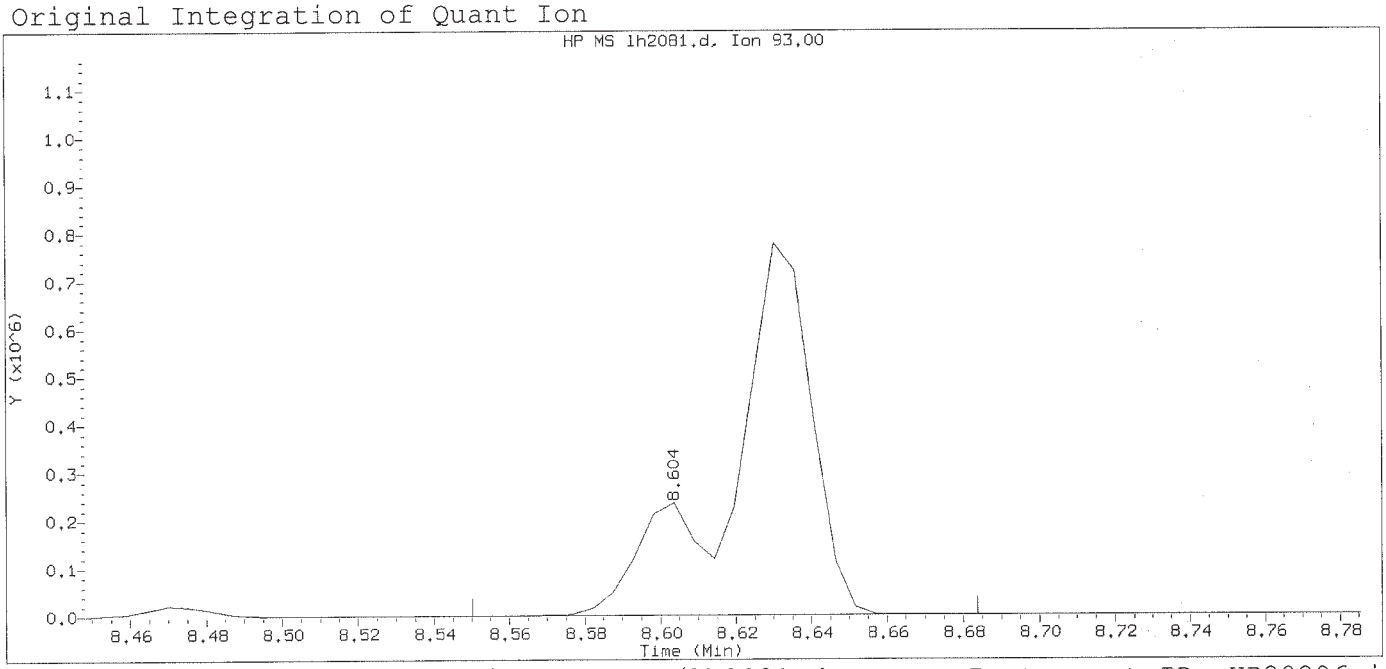
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 08/14/2015 at 17:28. Target 3.5 esignature user ID: ceb05247

GC/MS audit/management approval: Mark A. Ratcliff Senior Specialist AUG 18 2015

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15aug05x.b/lh2081.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 18:09 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used:newicvall1-d
Calibration date and time: 14-AUG-2015 17:23
Date, time and analyst ID of latest file update: 14-Aug-2015 17:23 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVICV1465

Compound Number	: 48		
Compound Name	: bis(2-Chloroethoxy)methane		
Scan Number	: 1181		
Retention Time (minutes)	: 8.604		
Quant Ion	: 93.00		
Area	: 1174839		
On-column Amount (ng/ul)	: 17.0194		
Integration start scan	: 1170	Integration stop scan:	1195
Y at integration start	: 0	Y at integration end:	0

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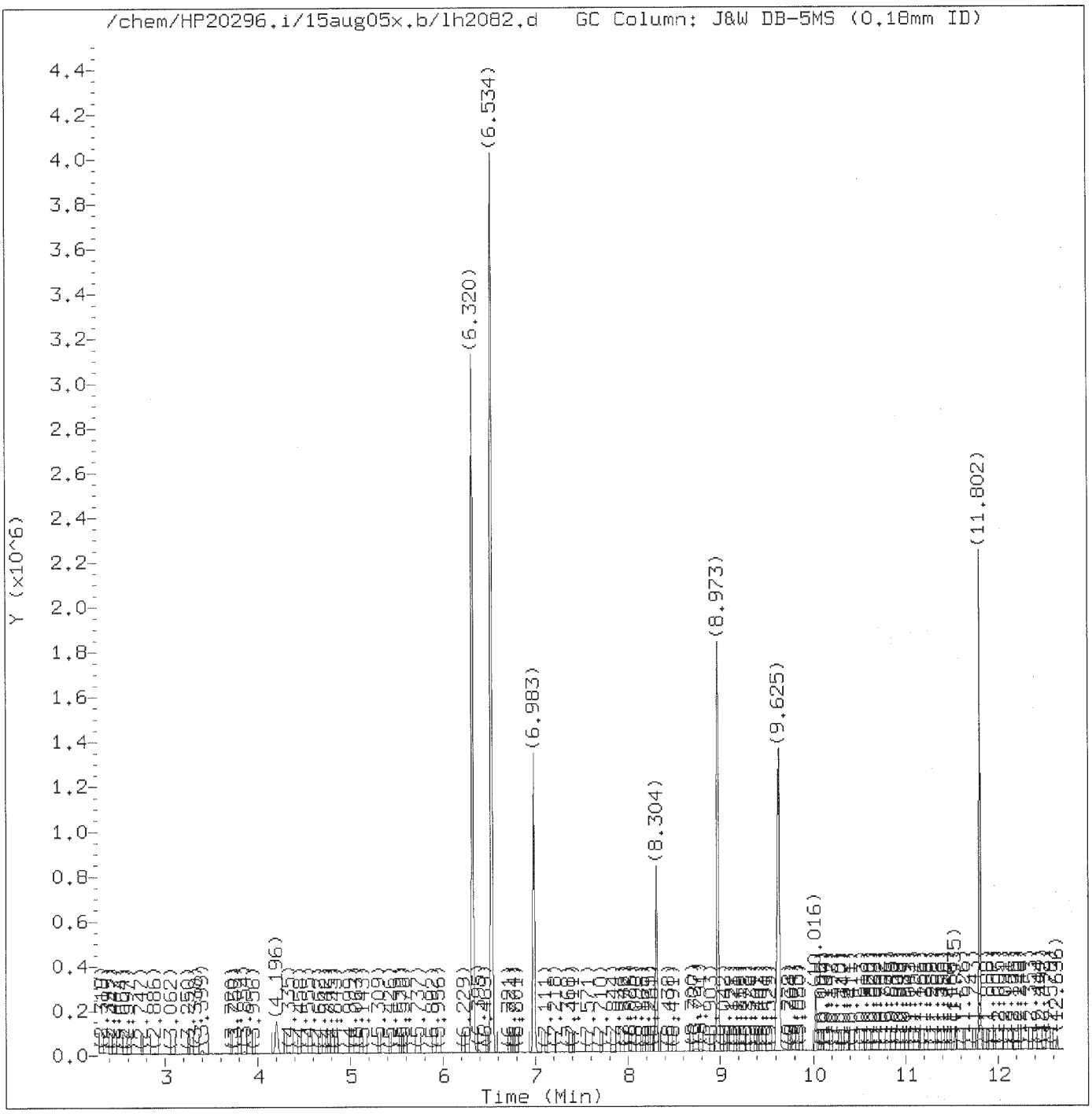
Target 3.5 esignature used: TCO ceb05247



Total Ion Chromatogram (TIC)

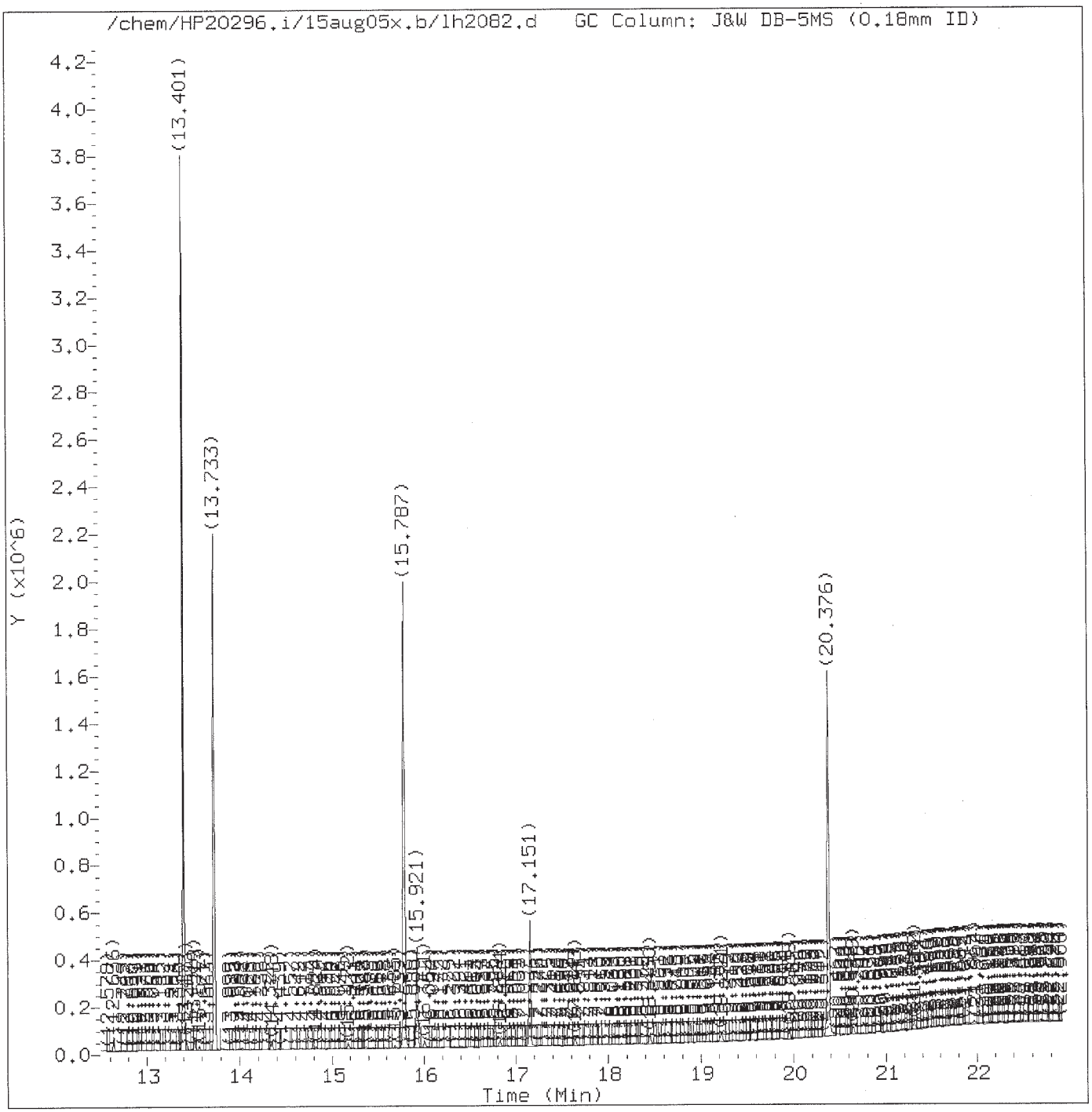
Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2082.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 18:37 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: basicvall1
Calibration date and time: 14-AUG-2015 17:23
Date, time and analyst ID of latest file update: 14-Aug-2015 17:23 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: BASICV1045

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2082.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 18:37 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: basicvall1
Calibration date and time: 14-AUG-2015 17:23
Date, time and analyst ID of latest file update: 14-Aug-2015 17:23 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: BASICV1045

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15aug05x.b/lh2082.d Instrument ID: HP20296.i
Injection date and time: 05-AUG-2015 18:37 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15aug05x.b/rv8270c.m Sublist used: basicval11
Calibration date and time: 14-AUG-2015 17:23
Date, time and analyst ID of latest file update: 14-Aug-2015 17:23 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: BASICV1045

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11) Benzaldehyde	(1)	6.320	77	949487	13.581
19)*1,4-Dichlorobenzene-d4	(1)	6.983	152	250924	5.000
52)*Naphthalene-d8	(2)	8.973	136	982007	5.000
61) Caprolactam	(2)	9.631	113	222845	12.567
92)*Acenaphthene-d10	(3)	11.802	164	513810	5.000
124) Atrazine	(4)	13.401	200	441505	12.874
130)*Phenanthrene-d10	(4)	13.733	188	866211	5.000
145)*Pyrene-d10	(5)	15.787	212	1054489	5.000
172)*Perylene-d12	(6)	20.376	264	798396	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 08/14/2015 at 17:28.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15oct05.b/lj0150z.d

Page 1

Date : 05-OCT-2015 06:56

Client ID: DFTPP12.5

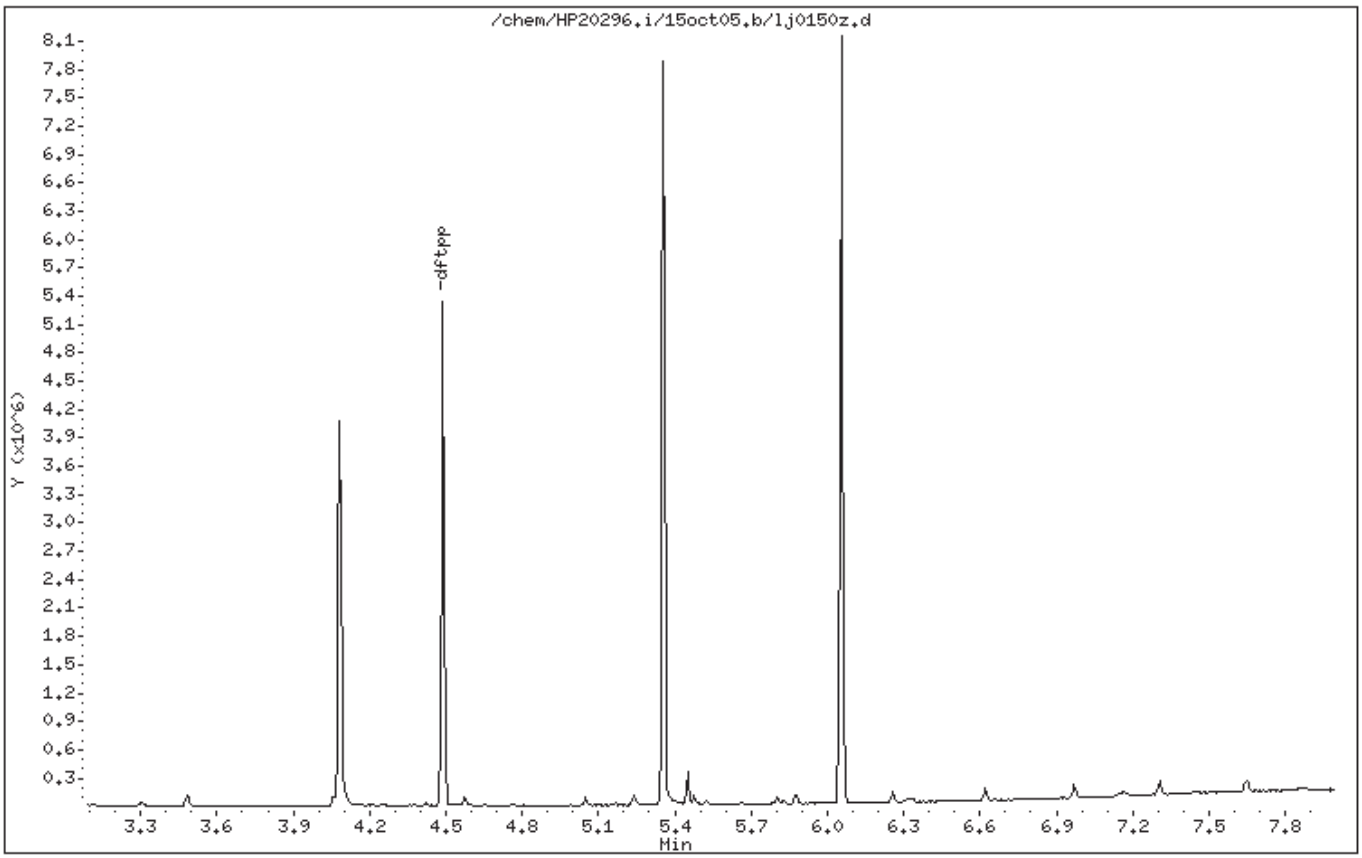
Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: lmh00956

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Holly B. Ziegler on 10/05/2015 at 11:38.
Target 3.5 esignature user ID: hbz01996

Data File: /chem/HP20296.i/15oct05.b/lj0150z.d

Date : 05-OCT-2015 06:56

Client ID: DFTPP12.5

Instrument: HP20296.i

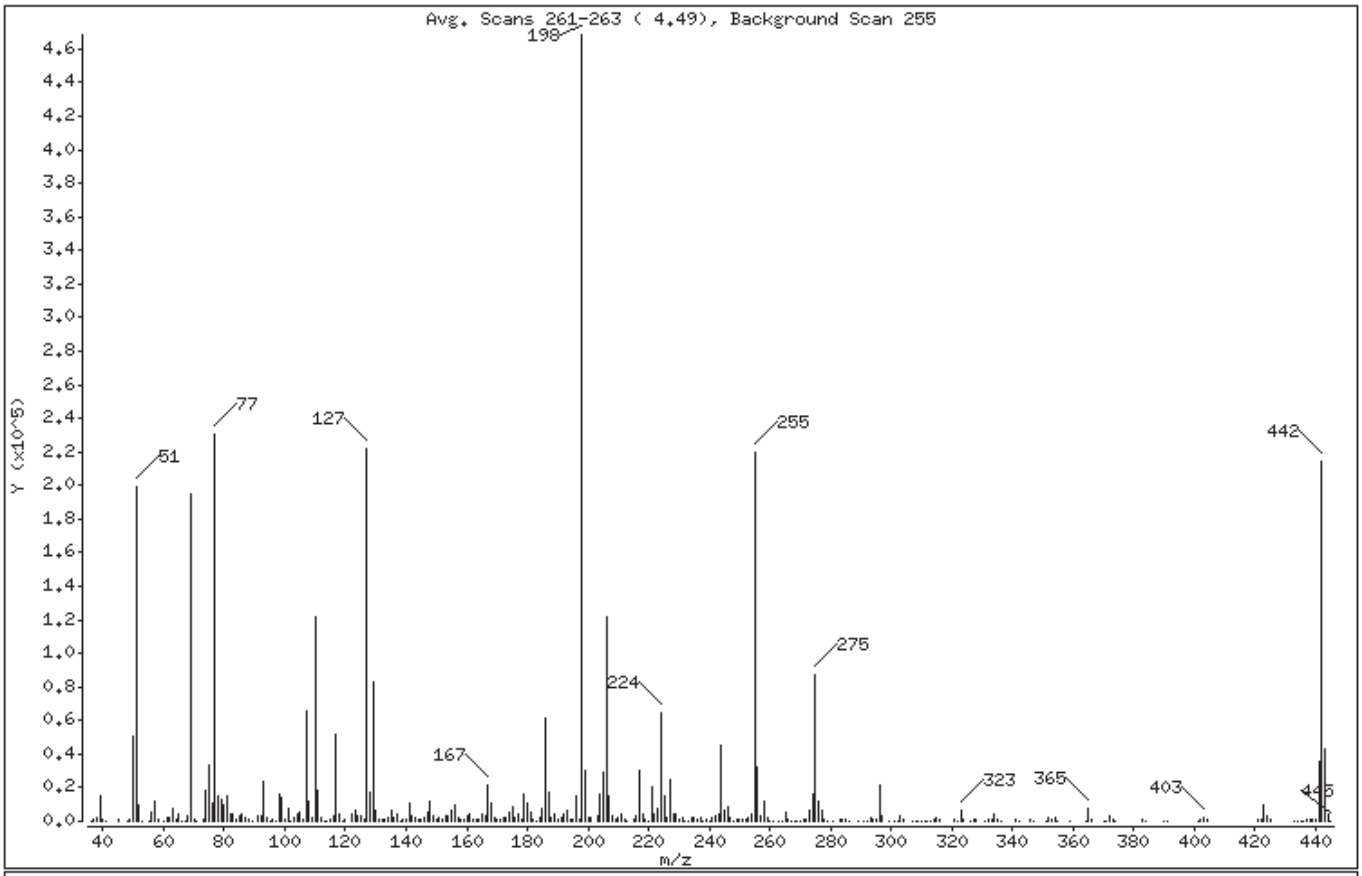
Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: lmh00956

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	42.63
68	Less than 2.00% of mass 69	0.72 (1.73)
69	Mass 69 relative abundance	41.71
70	Less than 2.00% of mass 69	0.21 (0.50)
127	40.00 - 60.00% of mass 198	47.40
197	Less than 1.00% of mass 198	0.22
199	5.00 - 9.00% of mass 198	6.49
275	10.00 - 30.00% of mass 198	18.63
365	Greater than 1.00% of mass 198	1.72
441	Present, but less than mass 443	7.51
442	40.00 - 99.99% of mass 198	45.71
443	17.00 - 23.00% of mass 442	9.18 (20.09)

Digitally signed by Holly B. Ziegler on 10/05/2015 at 11:38.
Target 3.5 esignature user ID: hbz01996

Data File: /chem/HP20296.i/15oct05.b/lj0150z.d

Date : 05-OCT-2015 06:56

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: lmh00956

Column phase: DB-5MS Column diameter: 0.18

Data File: lj0150z.d
Spectrum: Avg. Scans 261-263 (4.49), Background Scan 255
Location of Maximum: 198.00
Number of points: 316

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	381	126.00	1557	207.00	14686	294.00	699
37.00	822	127.00	222080	208.00	3753	295.00	1099
38.00	2144	128.00	17728	209.00	1252	296.00	21384
39.00	15076	129.00	82632	210.00	1898	297.00	3144
40.00	724	130.00	6697	211.00	4027	299.00	146
41.00	224	131.00	1553	212.00	963	301.00	321
45.00	543	132.00	863	213.00	121	302.00	291
48.00	194	133.00	780	215.00	1410	303.00	3452
49.00	1567	134.00	2304	216.00	3112	304.00	698
50.00	50264	135.00	6063	217.00	30224	307.00	176
51.00	199680	136.00	2469	218.00	4517	308.00	374
52.00	9279	137.00	4419	219.00	933	309.00	164
53.00	468	138.00	465	220.00	477	310.00	102
55.00	477	139.00	676	221.00	19960	311.00	227
56.00	5146	140.00	1070	222.00	3960	312.00	125
57.00	11944	141.00	10625	223.00	7609	313.00	222
58.00	735	142.00	3137	224.00	64368	314.00	987
60.00	110	143.00	2546	225.00	15072	315.00	2525
61.00	1805	144.00	653	226.00	1959	316.00	1355
62.00	2549	145.00	671	227.00	25192	321.00	768
63.00	7697	146.00	1858	228.00	3901	322.00	441
64.00	1009	147.00	4934	229.00	4223	323.00	6684
65.00	4275	148.00	12322	230.00	866	324.00	1447
66.00	241	149.00	2857	231.00	1761	326.00	212
67.00	354	150.00	1197	232.00	378	327.00	909
68.00	3387	151.00	1759	233.00	495	328.00	847
69.00	195392	152.00	1059	234.00	1903	331.00	89
70.00	986	153.00	2779	235.00	1922	332.00	794
71.00	133	154.00	2824	236.00	1548	333.00	673
73.00	1402	155.00	6738	237.00	2094	334.00	4299
74.00	18040	156.00	9616	238.00	466	335.00	1179
75.00	33104	157.00	1723	239.00	1178	336.00	141
76.00	11305	158.00	1560	240.00	500	341.00	769
77.00	230976	159.00	1421	241.00	1634	342.00	457
78.00	15256	160.00	3234	242.00	3186	346.00	892

Digitally signed by Holly B. Ziegler on 10/05/2015 at 11:38.
Target 3.5 esignature user ID: hbz01996

Date : 05-OCT-2015 06:56

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: lmh00956

Column phase: DB-5MS Column diameter: 0.18

Data File: lj0150z.d
Spectrum: Avg. Scans 261-263 (4.49), Background Scan 255
Location of Maximum: 198.00
Number of points: 316

m/z	Y	m/z	Y	m/z	Y	m/z	Y
79.00	13421	161.00	4180	243.00	4069	347.00	110
80.00	9956	162.00	1580	244.00	45632	351.00	98
81.00	15200	163.00	857	245.00	6575	352.00	1752
82.00	3863	164.00	652	246.00	8393	353.00	1473
83.00	3779	165.00	4086	247.00	1839	354.00	2242
84.00	727	166.00	3134	248.00	451	355.00	495
85.00	2693	167.00	21288	249.00	1435	359.00	182
86.00	4297	168.00	11033	250.00	637	364.00	293
87.00	2292	169.00	2009	251.00	739	365.00	8061
88.00	771	170.00	813	252.00	770	366.00	1369
89.00	267	171.00	852	253.00	1621	370.00	171
91.00	3151	172.00	1733	254.00	4343	371.00	415
92.00	3376	173.00	2211	255.00	219456	372.00	2916
93.00	23880	174.00	5218	256.00	32368	373.00	632
94.00	1672	175.00	8798	257.00	3008	374.00	186
95.00	191	176.00	2487	258.00	11413	383.00	723
96.00	1104	177.00	3986	259.00	1929	384.00	342
97.00	335	178.00	1424	260.00	215	390.00	225
98.00	16432	179.00	15810	261.00	486	391.00	262
99.00	14245	180.00	11140	263.00	154	401.00	113
100.00	1470	181.00	5590	264.00	371	402.00	1071
101.00	7940	182.00	1214	265.00	4853	403.00	1658
102.00	409	183.00	189	266.00	871	404.00	807
103.00	2514	184.00	1687	267.00	405	421.00	1536
104.00	4366	185.00	7987	268.00	46	422.00	1381
105.00	5075	186.00	61632	269.00	158	423.00	9989
106.00	1604	187.00	16824	270.00	356	424.00	2907
107.00	65288	188.00	1923	271.00	752	425.00	583
108.00	12046	189.00	4003	272.00	562	433.00	348
109.00	2209	190.00	710	273.00	6636	434.00	431
110.00	121448	191.00	1812	274.00	16600	435.00	331
111.00	18560	192.00	4683	275.00	87304	436.00	480
112.00	1841	193.00	6277	276.00	11479	437.00	1006
113.00	505	194.00	1002	277.00	5953	438.00	1218
114.00	352	195.00	1591	278.00	1463	439.00	924

Digitally signed by Holly B. Ziegler on 10/05/2015 at 11:38.
Target 3.5 esignature user ID: hbz01996

Date : 05-OCT-2015 06:56

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: lmh00956

Column phase: DB-5MS Column diameter: 0.18

Data File: lj0150z.d
Spectrum: Avg. Scans 261-263 (4.49), Background Scan 255
Location of Maximum: 198.00
Number of points: 316

m/z	Y	m/z	Y	m/z	Y	m/z	Y
115.00	775	196.00	15126	279.00	289	440.00	681
116.00	3406	197.00	1020	281.00	309	441.00	35184
117.00	51272	198.00	468480	283.00	1047	442.00	214144
118.00	4092	199.00	30400	284.00	603	443.00	43024
119.00	464	200.00	2550	285.00	1388	444.00	4224
120.00	797	201.00	2190	286.00	304	445.00	371
122.00	4195	203.00	2954	289.00	289		
123.00	6436	204.00	16448	291.00	122		
124.00	2835	205.00	29056	292.00	253		
125.00	2876	206.00	121288	293.00	2006		

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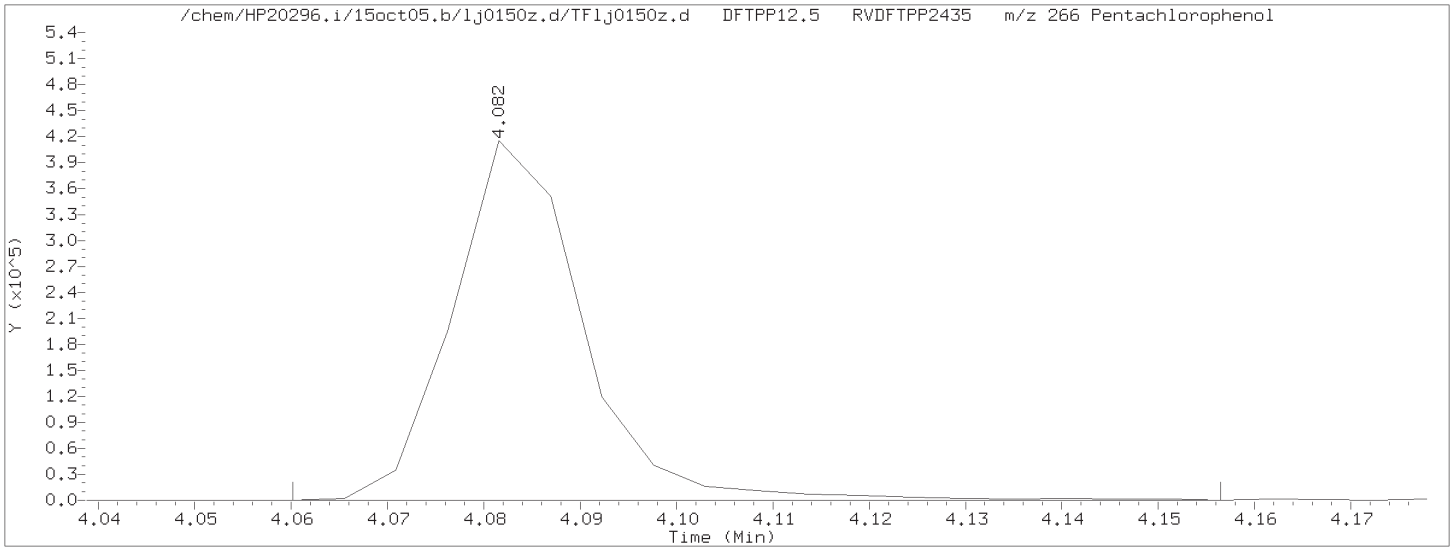
Target 3.5 esignature user ID: hbz01996

Assessment of GC Column Performance and Injection Port Inertness for

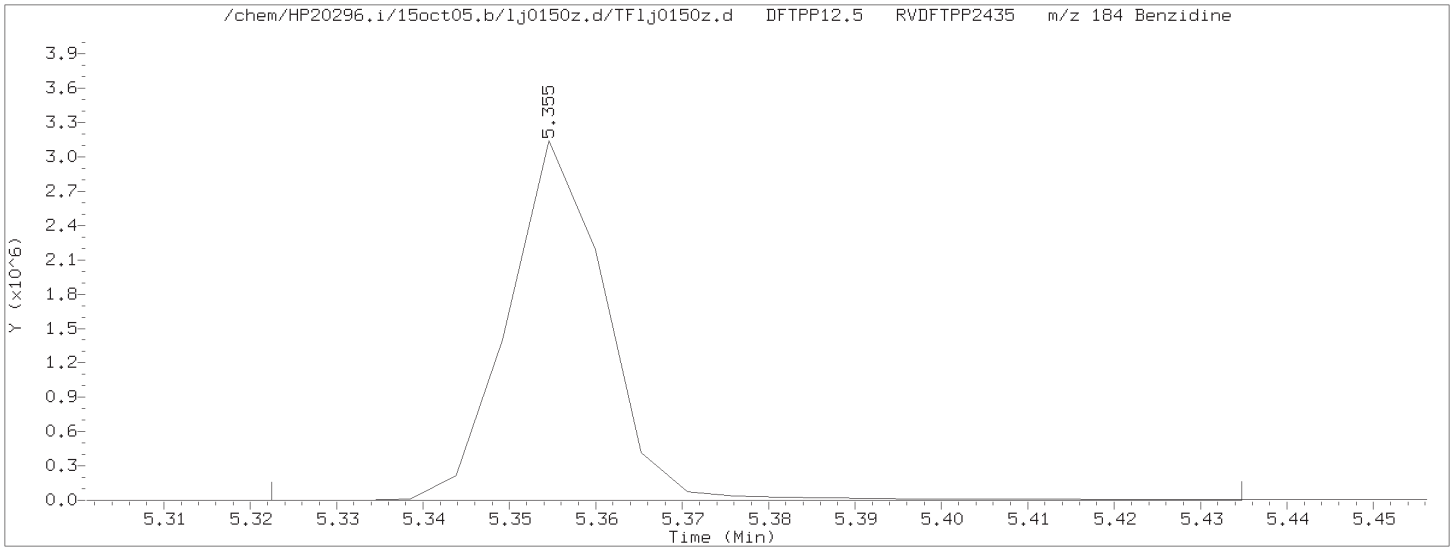
Instrument ID: HP20296.i Injection Date: 05-OCT-2015 06:56 Operator: lmh00956



Pentachlorophenol EICP peak height = 415488 EICP peak height at 10% = 41549 Pentachlorophenol EICP area = 388880

Pentachlorophenol EICP peak apex (min.) = 4.082
RT at 10% of front half of EICP (min.) = 4.071 'Front' peak width (min.) = 0.0104666667
RT at 10% of back half of EICP (min.) = 4.098 'Tailing' peak width (min.) = 0.0159666667

PCP tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0159666667}{0.0104666667} = 1.525$



Benzidine EICP peak height = 3143168 EICP peak height at 10% = 314317 Benzidine EICP area = 2444533

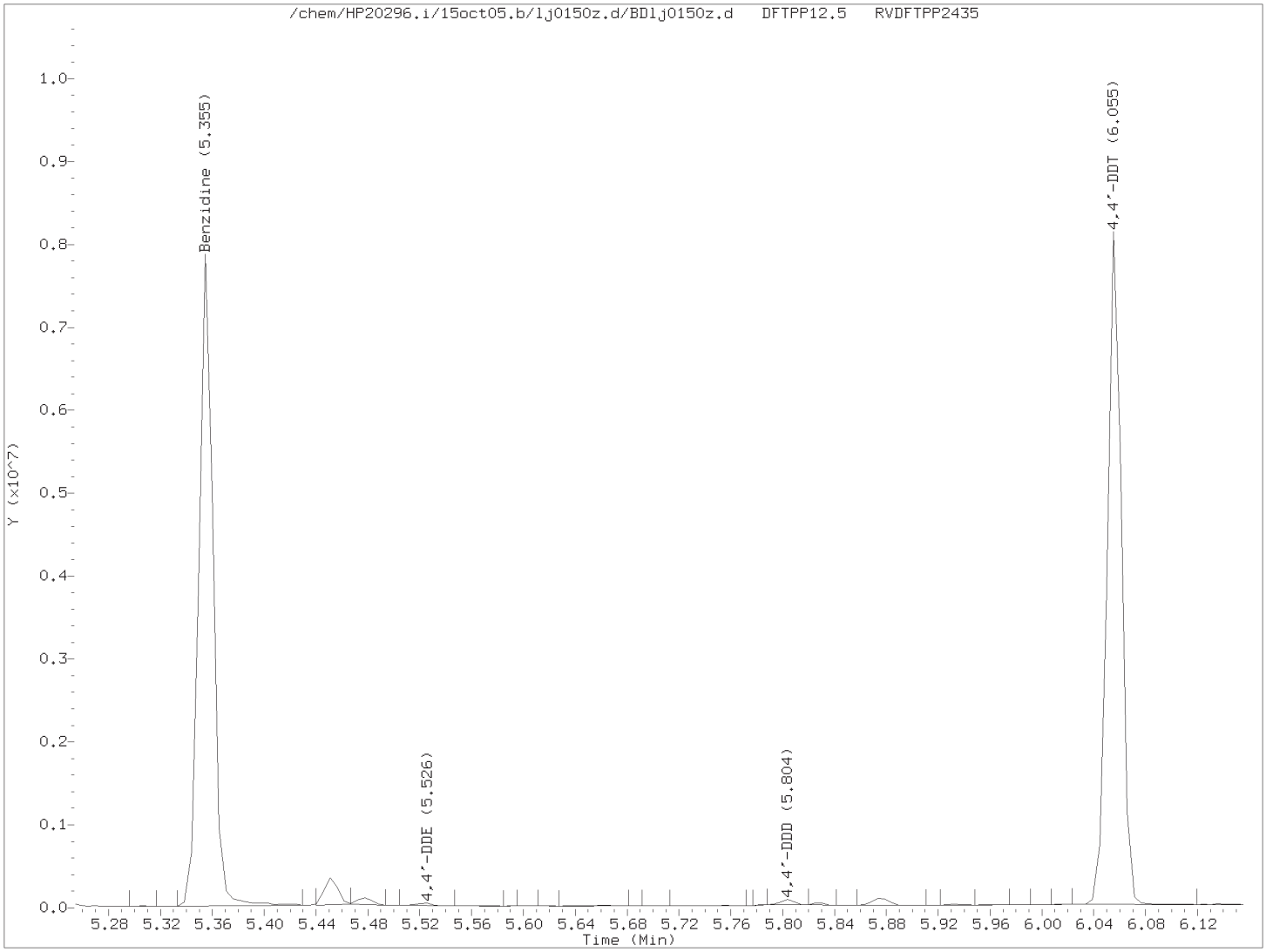
Benzidine EICP peak apex (min.) = 5.355
RT at 10% of front half of EICP (min.) = 5.344 'Front' peak width (min.) = 0.0102333333
RT at 10% of back half of EICP (min.) = 5.367 'Tailing' peak width (min.) = 0.0122833333

Benzidine tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0122833333}{0.0102333333} = 1.200$

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/06/2015 at 12:29. Parallax ID: mar00486

Assessment of GC Column Performance and Injection Port Inertness for

Instrument ID: HP20296.i Injection Date: 05-OCT-2015 06:56 Operator: lmh00956

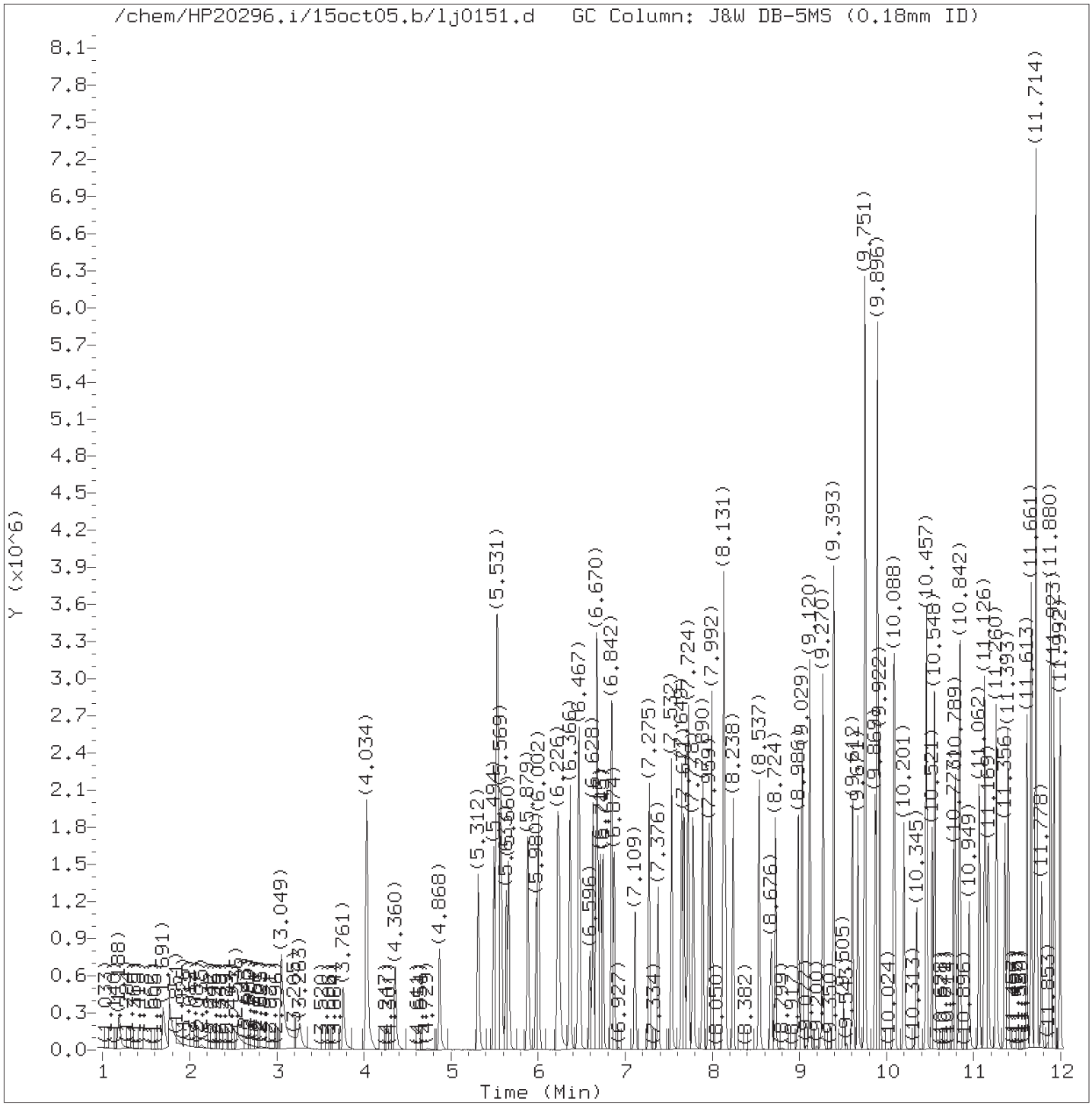


$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{24078 + 42383}{24078 + 42383 + 6230568} \times 100 = 1.1$$

printed on 10/05/2015 at 07:06

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/06/2015 at 12:29. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

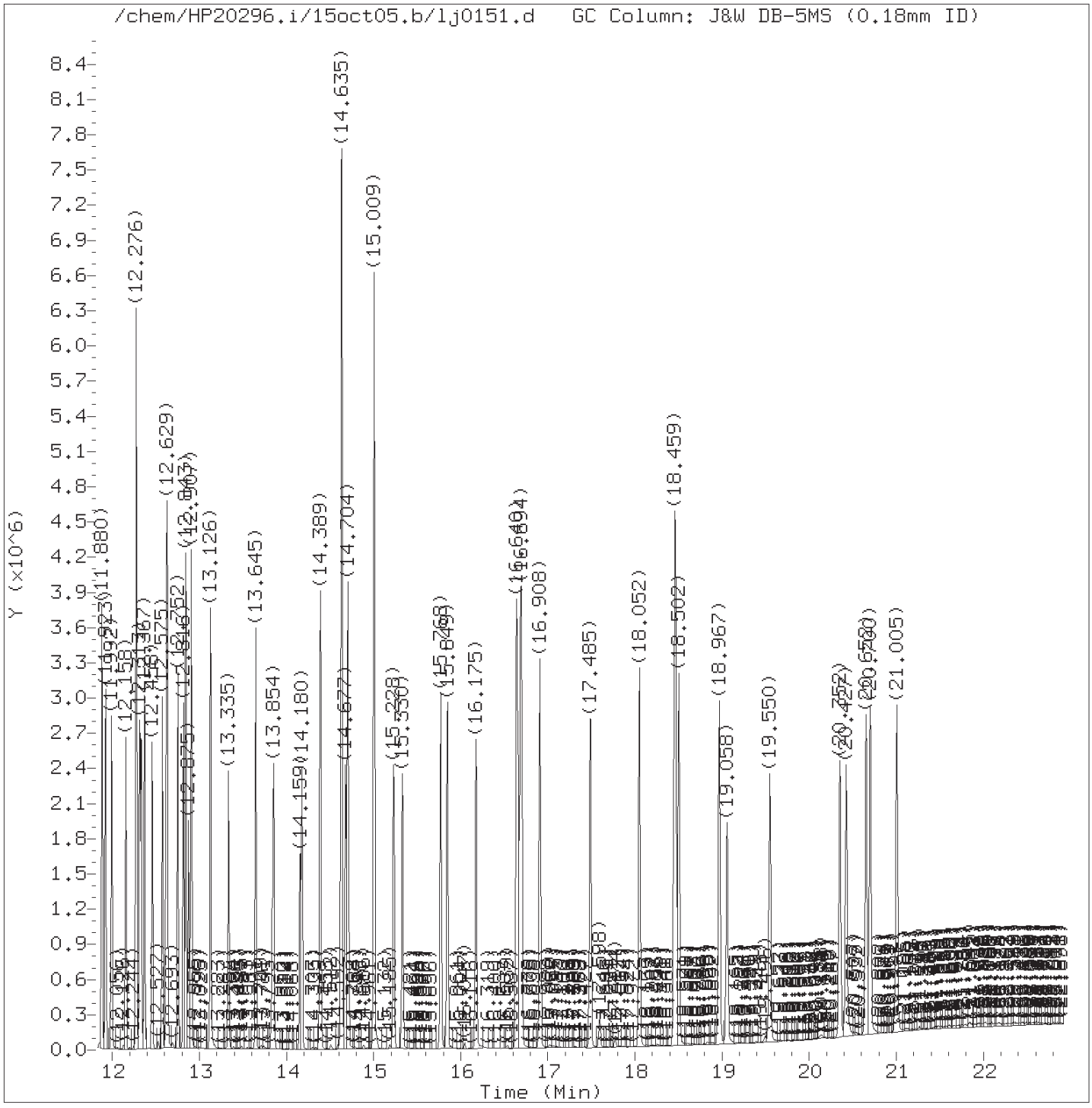
Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0151.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 07:09 Analyst ID: lmh00956

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 07:39
Date, time and analyst ID of latest file update: 05-Oct-2015 07:39 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Digitally signed by Holly B. Ziegler
on 10/05/2015 at 11:38.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0151.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 07:09 Analyst ID: lmh00956

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 07:39
Date, time and analyst ID of latest file update: 05-Oct-2015 07:39 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Digitally signed by Holly B. Ziegler
on 10/05/2015 at 11:38.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0151.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 07:09 Analyst ID: lmh00956

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 07:39
Date, time and analyst ID of latest file update: 05-Oct-2015 07:39 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	1.188	88	221932	6.386
2) N-Nitrosodimethylamine	(1)	1.691	74	362245	6.510
3) Pyridine	(1)	1.760	79	559818	5.922
4) 2-Picoline	(1)	3.049	93	639670	6.537
5) N-Nitrosomethylethylamine	(1)	3.263	88	256354	6.516
6) Methyl methanesulfonate	(1)	3.761	80	306740	6.309
7)$2-Fluorophenol	(1)	4.034	112	1084368	13.991
8) N-Nitrosodiethylamine	(1)	4.360	102	255400	6.785
10) Ethyl methanesulfonate	(1)	4.868	109	267239	6.708
11) Benzaldehyde	(1)	5.312	77	473747	6.505
15) Aniline	(1)	5.494	93	923796	6.585
13)$Phenol-d6	(1)	5.526	99	1372935	13.512
12)$Phenol-d5	(1)	5.526	99	1372935	13.512
14) Phenol	(1)	5.542	94	749540	6.295
16) bis(2-Chloroethyl)ether	(1)	5.633	93	588218	6.674
17) 2-Chlorophenol	(1)	5.660	128	541295	7.274
18) 1,3-Dichlorobenzene	(1)	5.884	146	606070	7.271
19)*1,4-Dichlorobenzene-d4	(1)	5.980	152	261402	5.000
20) 1,4-Dichlorobenzene	(1)	6.002	146	611973	7.259
24) 1,2-Dichlorobenzene	(1)	6.226	146	579325	7.207
23) Benzyl alcohol	(1)	6.243	108	329826	6.197
25) Indene	(1)	6.366	115	922459	6.921
26) 2-Methylphenol	(1)	6.467	108	512180	6.816
28) bis(2-Chloroisopropyl)ether	(1)	6.478	45	832530	6.112
27) 2,2'-oxybis(1-Chloropropane)	(1)	6.478	45	832530	6.112
29) N-Nitrosopyrrolidine	(1)	6.596	100	272347	6.996
30) Acetophenone	(1)	6.628	105	765317	6.693
32) N-Nitrosomorpholine	(1)	6.670	56	343876	6.185
31) N-Nitroso-di-n-propylamine	(1)	6.670	70	427567	6.507
34) o-Toluidine	(1)	6.681	106	903089	6.924
33) 4-Methylphenol	(1)	6.713	108	552701	6.529
35) Hexachloroethane	(1)	6.745	117	239594	6.931
36)$Nitrobenzene-d5	(2)	6.842	82	1249429	13.176
37) Nitrobenzene	(2)	6.874	77	631714	6.586
39) N-Nitrosopiperidine	(2)	7.114	114	266764	7.298
40) Isophorone	(2)	7.275	82	1113026	6.804
42) 2-Nitrophenol	(2)	7.376	139	282827	7.932
45) 2,4-Dimethylphenol	(2)	7.532	107	558723	7.028
46) O,O,O-triethylphosphorothioate	(2)	7.649	198	278317	7.736
48) bis(2-Chloroethoxy)methane	(2)	7.671	93	741060M	7.192

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/05/2015 at 11:38.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0151.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 07:09 Analyst ID: lmh00956

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 07:39
Date, time and analyst ID of latest file update: 05-Oct-2015 07:39 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
47) Benzoic acid	(2)	7.713	105	380969	7.963
49) 2,4-Dichlorophenol	(2)	7.778	162	446931	7.544
51) 1,2,4-Trichlorobenzene	(2)	7.890	180	502642	7.429
52)*Naphthalene-d8	(2)	7.959	136	994699	5.000
53) Naphthalene	(2)	7.992	128	1553650	7.234
55) 4-Chloroaniline	(2)	8.125	127	654702	7.372
56) 2,6-Dichlorophenol	(2)	8.131	162	444279	7.621
57) Hexachloropropene	(2)	8.147	213	343365	8.042
58) Hexachlorobutadiene	(2)	8.238	225	291734	7.546
60) Quinoline	(2)	8.537	129	985820	7.592
61) Caprolactam	(2)	8.676	113	135470	7.542
62) N-Nitrosodi-n-butylamine	(2)	8.724	84	404237	6.624
63) 4-Chloro-3-methylphenol	(2)	8.986	107	489202	7.250
64) Safrole	(2)	9.029	162	403635	7.795
65) 2-Methylnaphthalene	(2)	9.120	142	1050910	7.683
66) 1-Methylnaphthalene	(2)	9.270	142	946880	7.552
67) Hexachlorocyclopentadiene	(3)	9.393	237	287006	6.784
68) 1,2,4,5-Tetrachlorobenzene	(3)	9.393	216	517859	7.366
69) cis-Isosafrole	(3)	9.505	162	73229	1.219
70) 2,4,6-Trichlorophenol	(3)	9.612	196	336013	7.690
71) 2,4,5-Trichlorophenol	(3)	9.671	196	345897	7.684
72)$2-Fluorobiphenyl	(3)	9.751	172	2368291	14.799
74) Isosafrole	(3)	9.869	162	406343	7.488
73) trans-Isosafrole	(3)	9.869	162	406343	6.215
76) 2-Chloronaphthalene	(3)	9.890	162	992661	7.134
75) 1,1'-Biphenyl	(3)	9.896	154	1242269	7.375
77) 1-Chloronaphthalene	(3)	9.922	162	970746	7.584
82) Diphenyl ether	(3)	10.083	170	690505	7.529
83) 2-Nitroaniline	(3)	10.099	138	308615	7.587
84) 1,4-Naphthoquinone	(3)	10.201	158	396749	7.536
85) 1,4-Dinitrobenzene	(3)	10.345	168	155222	7.491
87) 1,3-Dinitrobenzene	(3)	10.457	168	177923	7.812
86) Dimethylphthalate	(3)	10.457	163	1109373	7.681
88) 2,6-Dinitrotoluene	(3)	10.521	165	251888	8.279
90) Acenaphthylene	(3)	10.554	152	1574416	7.737
91) 3-Nitroaniline	(3)	10.767	138	265618	7.450
92)*Acenaphthene-d10	(3)	10.789	164	572082	5.000
93) Acenaphthene	(3)	10.842	153	1040288	7.560
94) 2,4-Dinitrophenol	(3)	10.949	184	179783	9.503
95) Pentachlorobenzene	(3)	11.062	250	409117	7.409

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/05/2015 at 11:38.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0151.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 07:09 Analyst ID: lmh00956

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 07:39
Date, time and analyst ID of latest file update: 05-Oct-2015 07:39 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
97) Dibenzofuran	(3)	11.126	168	1429870	7.454
96) 4-Nitrophenol	(3)	11.147	109	162789	6.640
98) 2,4-Dinitrotoluene	(3)	11.169	165	334396	7.931
99) 1-Naphthylamine	(3)	11.260	143	1048106	7.838
100) 2,3,4,6-Tetrachlorophenol	(3)	11.361	232	277480	7.830
101) 2-Naphthylamine	(3)	11.393	143	1019225	7.581
102) Diethylphthalate	(3)	11.613	149	1094565	7.895
103) Fluorene	(3)	11.661	166	1151111	7.850
105) 4-Chlorophenyl-phenylether	(3)	11.709	204	548129	7.706
104) Thionazin	(3)	11.714	107	209777	7.653
106) 5-Nitro-o-toluidine	(3)	11.714	152	303651	7.766
107) 4-Nitroaniline	(3)	11.725	138	271450	7.316
108) 4,6-Dinitro-2-methylphenol	(4)	11.778	198	191431	6.672
109) N-Nitrosodiphenylamine	(4)	11.880	169	921679	6.631
110) NDPA as diphenylamine	(4)	11.880	169	921679	6.631
111) 1,2-Diphenylhydrazine	(4)	11.923	77	1240635	6.013
112)$2,4,6-Tribromophenol	(3)	11.992	330	234370	13.771
115) Tetraethyldithiopyrophosphate	(4)	12.153	97	205424	6.747
116) 1,3,5-Trinitrobenzene	(4)	12.270	213	114191	6.658
118) Phorate	(4)	12.276	75	1119838	8.954
117) Diallate (peak 1)	(4)	12.276	86	444544	5.342
119) Phenacetin	(4)	12.313	108	594678	6.639
120) 4-Bromophenyl-phenylether	(4)	12.335	248	285567	6.585
122) Hexachlorobenzene	(4)	12.367	284	278082	6.149
121) Diallate (peak 2)	(4)	12.372	86	85459	1.080
123) Dimethoate	(4)	12.458	87	512804	6.428
124) Atrazine	(4)	12.575	200	311746	7.259
125) Pentachlorophenol	(4)	12.618	266	174697	6.094
126) Pentachloronitrobenzene	(4)	12.623	237	144807	6.984
127) 4-Aminobiphenyl	(4)	12.634	169	1093233	6.643
129) Pronamide	(4)	12.752	173	518959	7.159
130)*Phenanthrene-d10	(4)	12.816	188	1084799	5.000
131) Phenanthrene	(4)	12.843	178	1702670	6.781
133) Dinoseb	(4)	12.875	211	286573	6.747
134) Anthracene	(4)	12.907	178	1714847	7.122
135) Carbazole	(4)	13.126	167	1562507	6.866
136) Methyl parathion	(4)	13.335	109	402913	6.871
137) Di-n-butylphthalate	(4)	13.645	149	1902462	7.068
139) 4-Nitroquinoline-1-oxide	(4)	13.838	190	113707	5.451
138) Parathion	(4)	13.854	109	251585	7.014

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/05/2015 at 11:38.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0151.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 07:09 Analyst ID: lmh00956

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 07:39
Date, time and analyst ID of latest file update: 05-Oct-2015 07:39 hbz01996

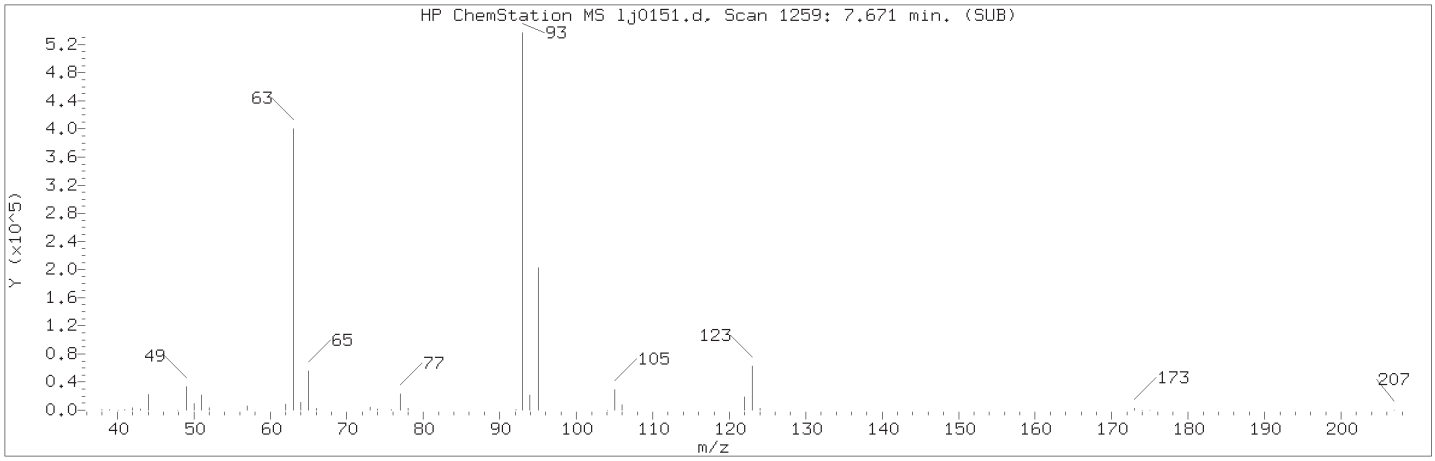
Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	14.180	193	199819	7.335
142) Fluoranthene	(4)	14.389	202	1886907	7.159
144) Benzidine	(5)	14.635	184	3733387	21.857
145)*Pyrene-d10	(5)	14.677	212	1257717	5.000
146) Pyrene	(5)	14.704	202	1973995	7.124
149)$Terphenyl-d14	(5)	15.009	244	2437109	14.272
150) p-Dimethylaminoazobenzene	(5)	15.234	225	325210	7.041
151) Chlorobenzilate	(5)	15.330	139	575346	7.345
152) 3,3'-Dimethylbenzidine	(5)	15.768	212	1229994	7.503
153) Butylbenzylphthalate	(5)	15.849	149	872427	7.520
156) 2-Acetylaminofluorene	(5)	16.175	181	738837	7.405
158) Benzo(a)anthracene	(5)	16.640	228	1775656	7.433
159) 3,3'-Dichlorobenzidine	(5)	16.656	252	645392	7.342
160) 4,4'-Methylenebis(2-Chloroanil	(5)	16.683	231	374765	7.396
161) Chrysene	(5)	16.699	228	1720703	7.634
162) bis(2-Ethylhexyl)phthalate	(5)	16.908	149	1232243	7.484
165) 6-Methylchrysene	(5)	17.491	242	1157995	7.431
166) Di-n-octylphthalate	(6)	18.052	149	2163949	8.466
168) Benzo(b)fluoranthene	(6)	18.453	252	1732892	8.084
169) 7,12-Dimethylbenz[a]anthracene	(6)	18.470	256	761509	8.437
170) Benzo(k)fluoranthene	(6)	18.502	252	1704943	8.012
171) Benzo(a)pyrene	(6)	18.967	252	1653868	8.285
172)*Perylene-d12	(6)	19.058	264	931235	5.000
173) 3-Methylcholanthrene	(6)	19.550	268	724112	7.487
176) Indeno(1,2,3-cd)pyrene	(6)	20.652	276	1817042M	7.769
177) Dibenz(a,h)anthracene	(6)	20.700	278	1469605	7.607
178) Benzo(g,h,i)perylene	(6)	21.005	276	1539443	7.491
179) Diallate TRANS/CIS	(4)			530003	6.422
182) 2,4_2,6-Dinitrotoluenes	(3)			586284	16.210

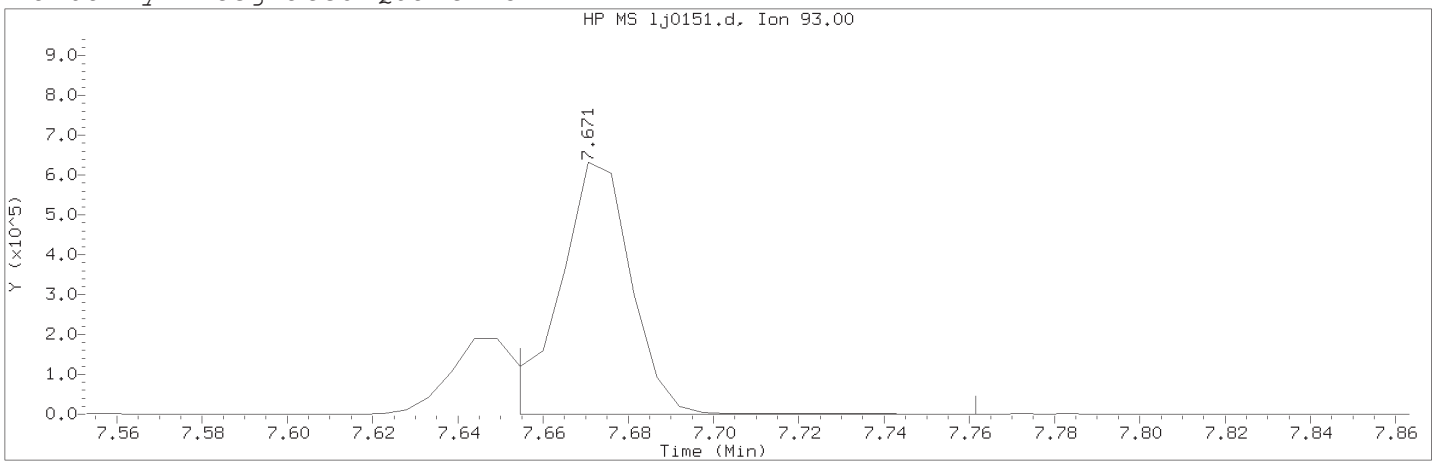
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/05/2015 at 11:38.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct05.b/lj0151.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 07:09 Analyst ID: lmh00956

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 07:39
Date, time and analyst ID of latest file update: 05-Oct-2015 07:39 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

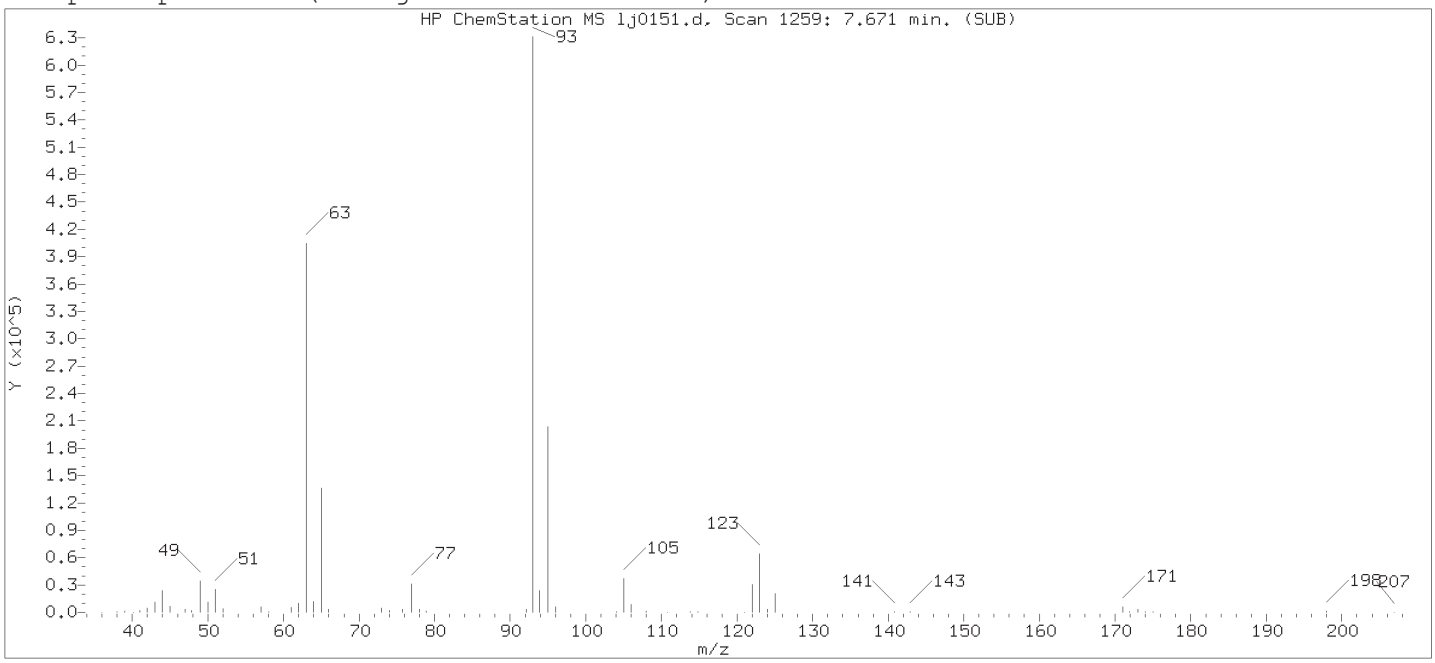
Compound Number : 48
Compound Name : bis(2-Chloroethoxy)methane
Scan Number : 1259
Retention Time (minutes) : 7.671
Quant Ion : 93.00
Area (flag) : 741060M
On-Column Amount (ng/ul) : 7.1920
Integration start scan : 1255 Integration stop scan: 1275
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

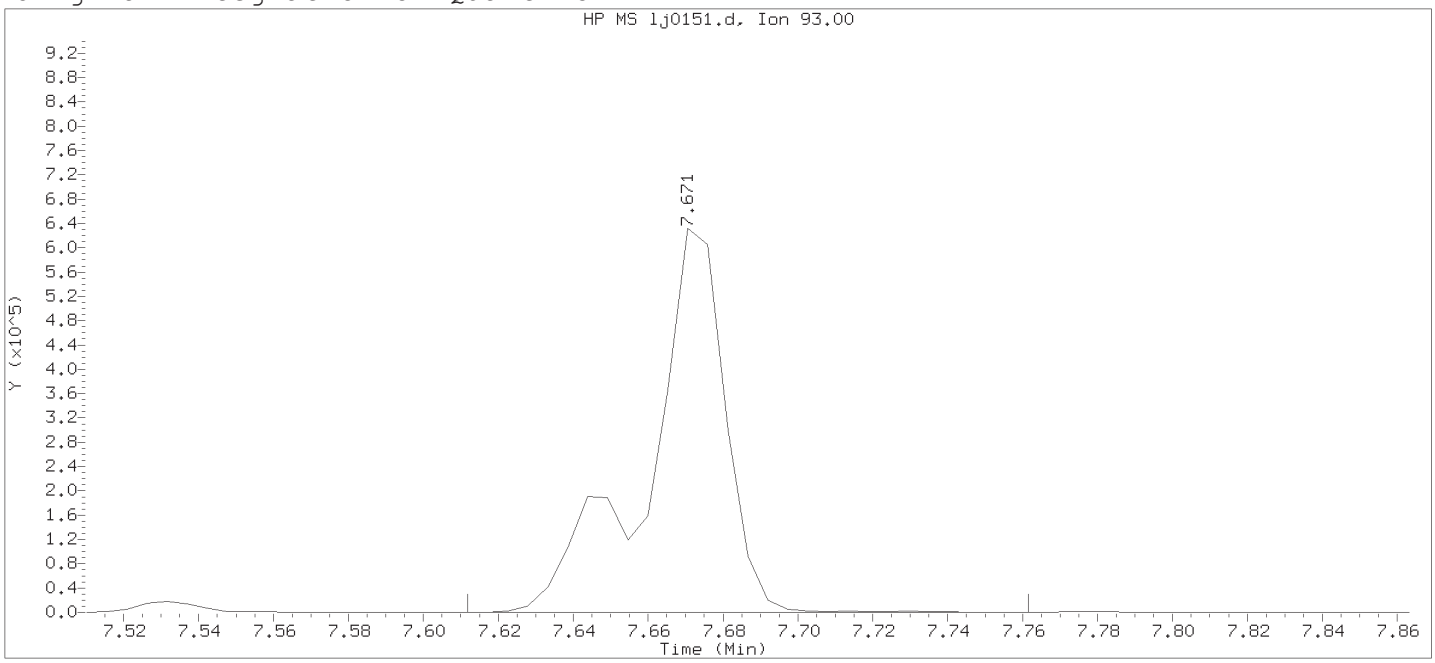
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 10/05/2015 at 11:38.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/06/2015 at 12:29.
Parallax ID: mar00486

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct05.b/lj0151.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 07:09 Analyst ID: lmh00956

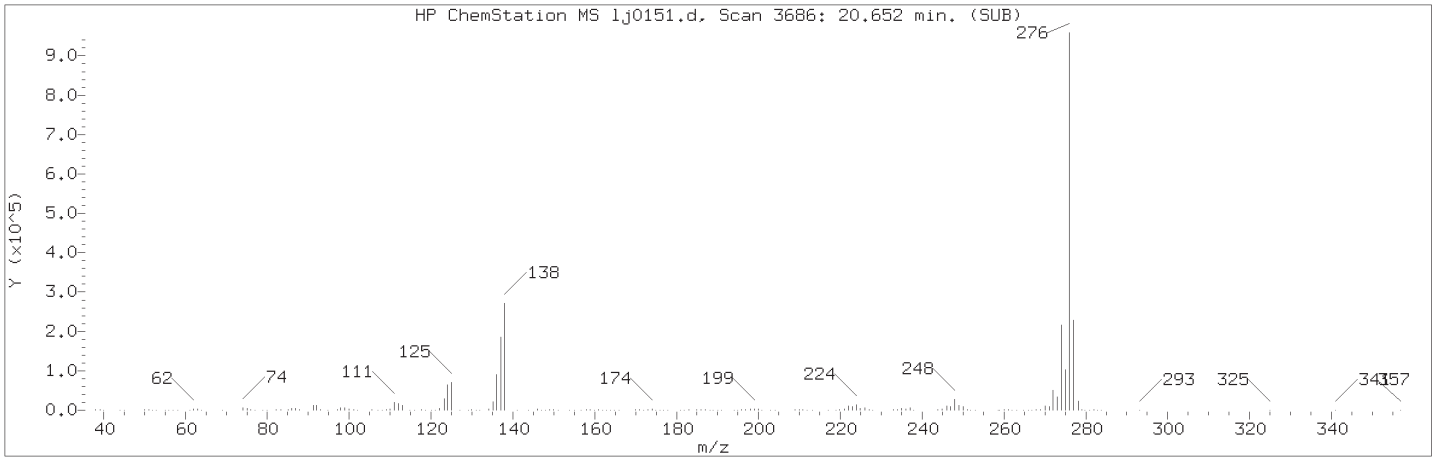
Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 07:34
Date, time and analyst ID of latest file update: 05-Oct-2015 07:35 Unknown

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

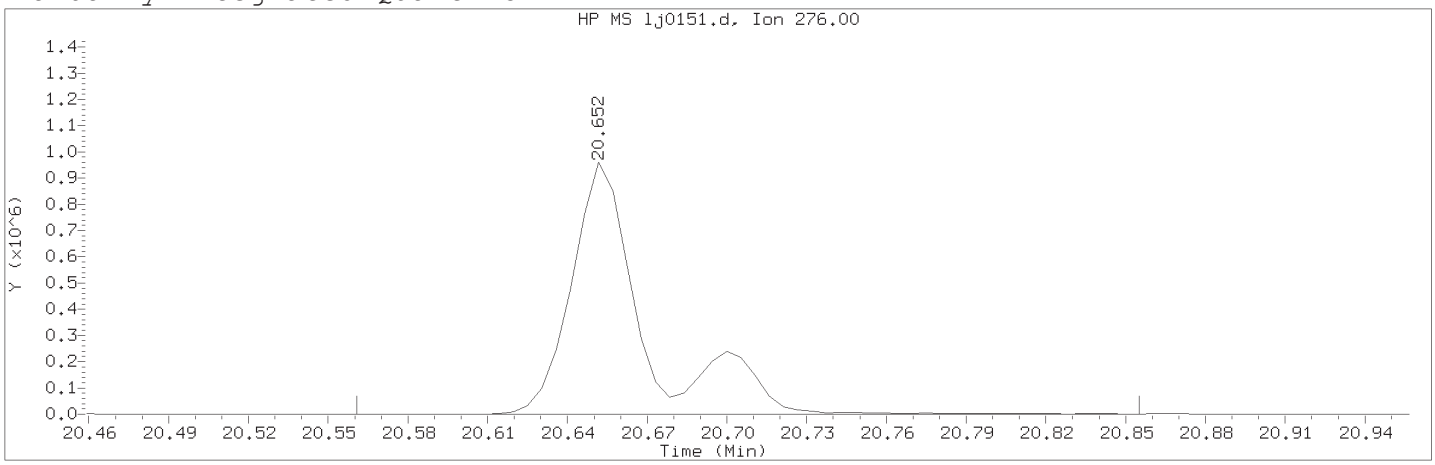
Compound Number	: 48		
Compound Name	: bis(2-Chloroethoxy)methane		
Scan Number	: 1259		
Retention Time (minutes)	: 7.671		
Quant Ion	: 93.00		
Area	: 913986		
On-column Amount (ng/ul)	: 8.8703		
Integration start scan	: 1247	Integration stop scan:	1275
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 10/05/2015 at 11:38.
Target 3.5 esignature user ID: HBZ01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct05.b/lj0151.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 07:09 Analyst ID: lmh00956

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 07:39
Date, time and analyst ID of latest file update: 05-Oct-2015 07:39 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

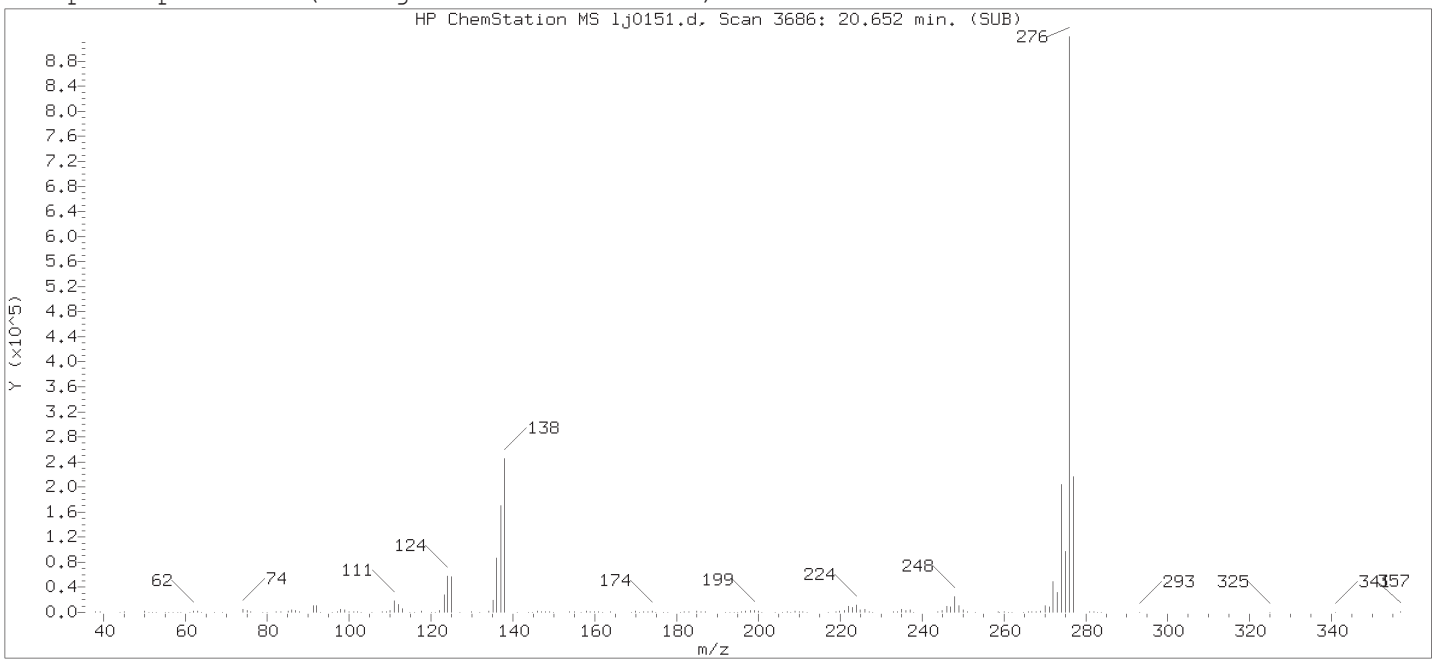
Compound Number : 176
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3686
Retention Time (minutes) : 20.652
Quant Ion : 276.00
Area (flag) : 1817042M
On-Column Amount (ng/ul) : 7.7691
Integration start scan : 3668 Integration stop scan: 3723
Y at integration start : 0 Y at integration end: 1081

Reason for manual integration: improper integration

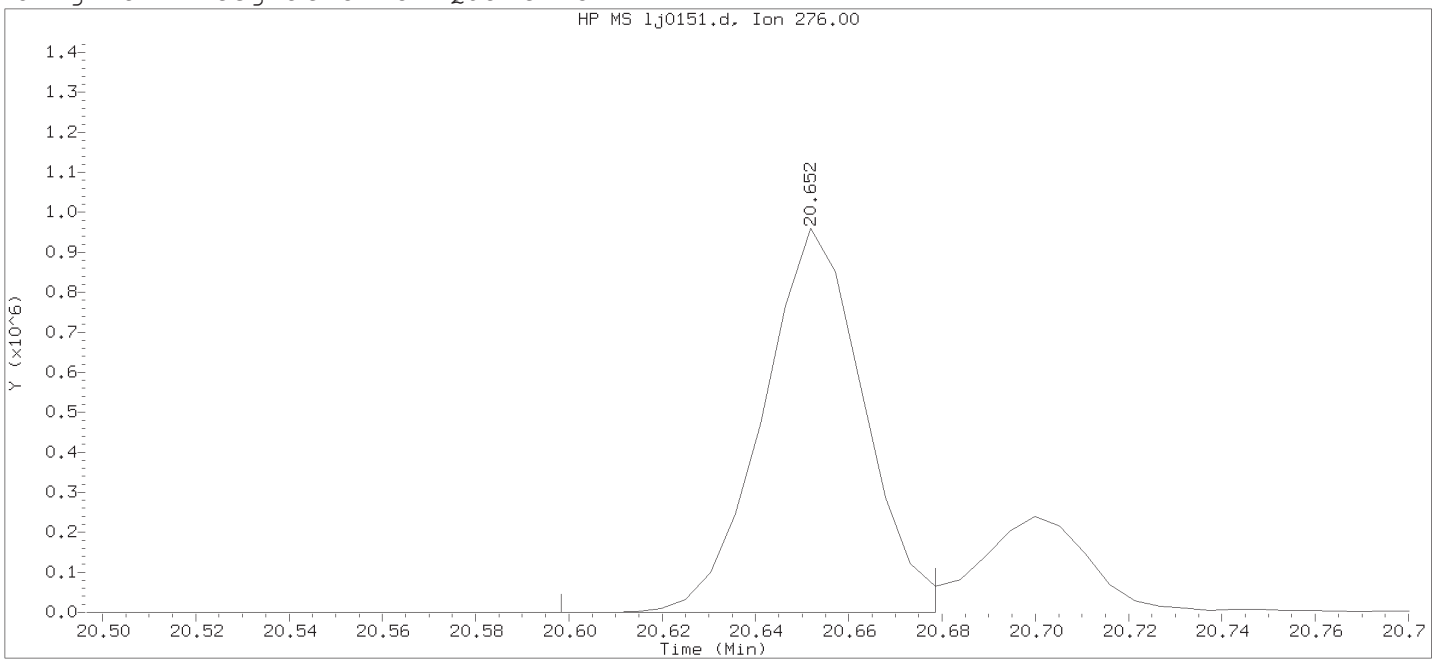
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 10/05/2015 at 11:38.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/06/2015 at 12:29.
Parallax ID: mar00486

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct05.b/lj0151.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 07:09 Analyst ID: lmh00956

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 07:34
Date, time and analyst ID of latest file update: 05-Oct-2015 07:35 Unknown

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3686		
Retention Time (minutes)	: 20.652		
Quant Ion	: 276.00		
Area	: 1427120		
On-column Amount (ng/ul)	: 6.1019		
Integration start scan	: 3675	Integration stop scan:	3690
Y at integration start	: 0	Y at integration end:	186

Digitally signed by Holly B. Ziegler on 10/05/2015 at 11:38.
Target 3.5 esignature user ID: HBZ01996

Data File: /chem/HP20296.i/15oct05a.b/lj0180b.d

Date : 05-OCT-2015 20:41

Client ID: DFTPP12.5

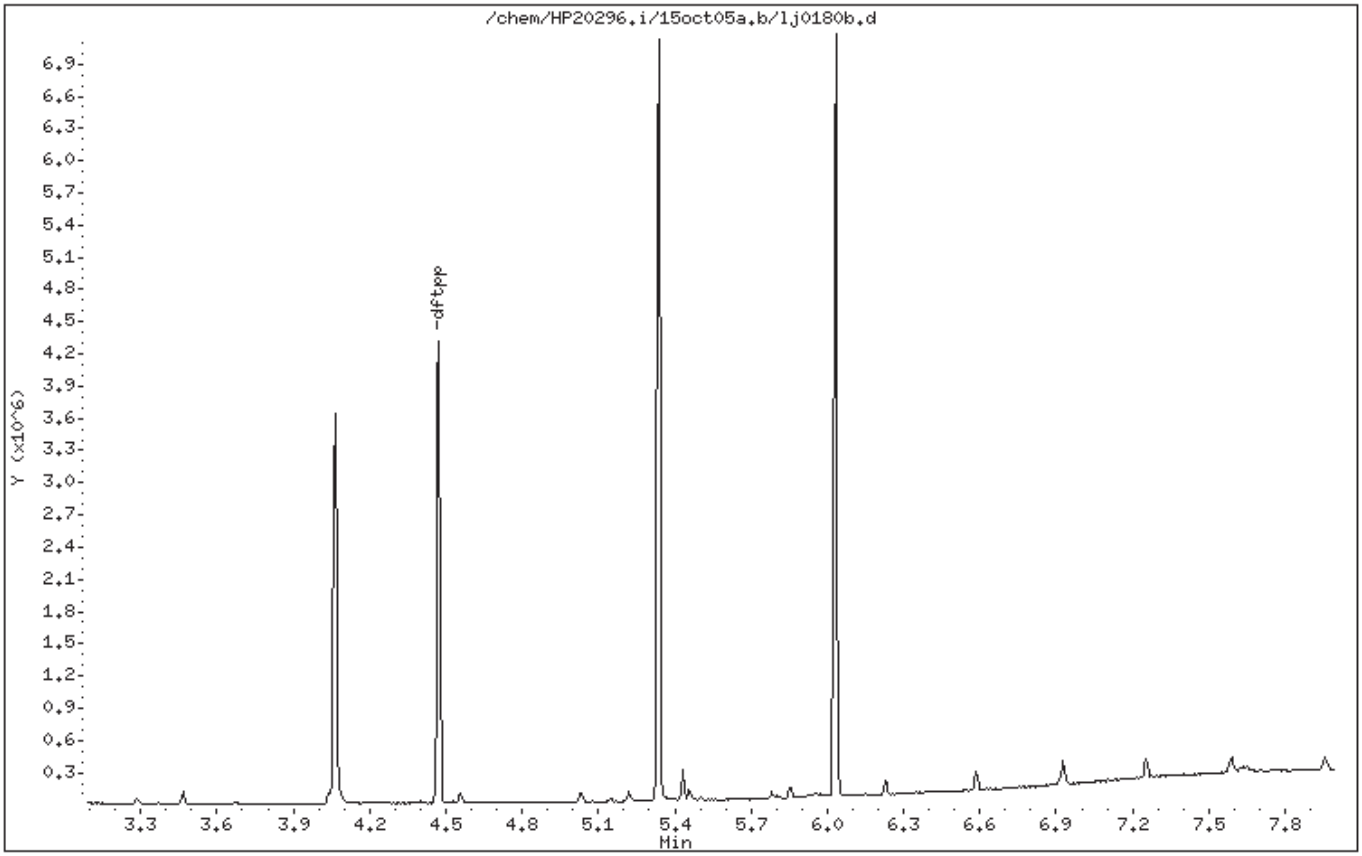
Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Catherine E. Bachman on 10/05/2015 at 21:22.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15oct05a.b/lj0180b.d

Date : 05-OCT-2015 20:41

Client ID: DFTPP12.5

Instrument: HP20296.i

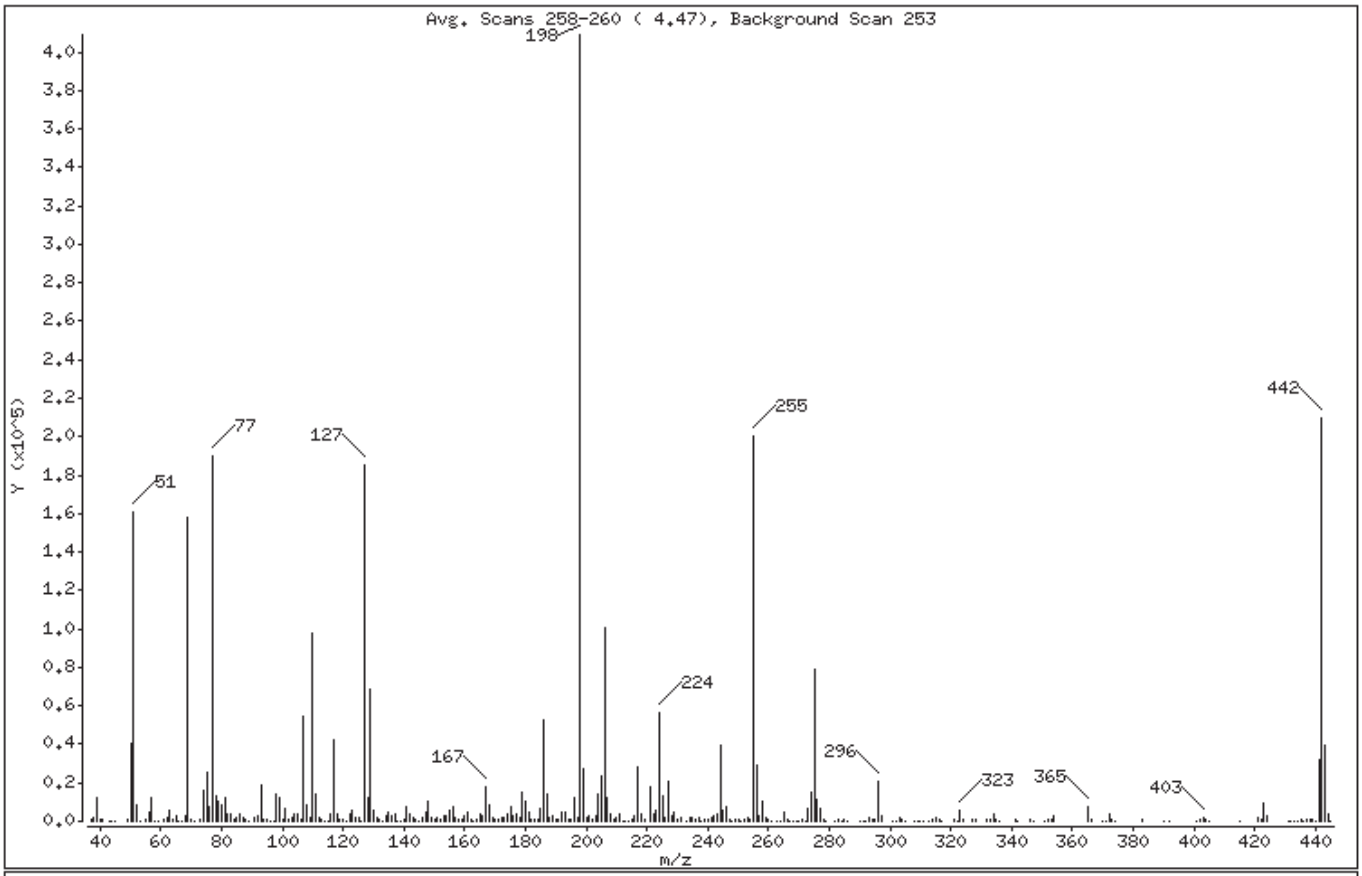
Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	39.30
68	Less than 2.00% of mass 69	0.67 (1.74)
69	Mass 69 relative abundance	38.72
70	Less than 2.00% of mass 69	0.22 (0.56)
127	40.00 - 60.00% of mass 198	45.27
197	Less than 1.00% of mass 198	0.54
199	5.00 - 9.00% of mass 198	6.56
275	10.00 - 30.00% of mass 198	19.40
365	Greater than 1.00% of mass 198	1.87
441	Present, but less than mass 443	7.78
442	40.00 - 99.99% of mass 198	51.17
443	17.00 - 23.00% of mass 442	9.59 (18.74)

Digitally signed by Catherine E. Bachman on 10/05/2015 at 21:22.
Target 3.5 esignature user ID: ceb05247

Date : 05-OCT-2015 20:41

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS Column diameter: 0.18

Data File: lj0180b.d
Spectrum: Avg. Scans 258-260 (4.47), Background Scan 253
Location of Maximum: 198.00
Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	595	124.00	2315	203.00	3027	290.00	278
38.00	1629	125.00	2336	204.00	13972	291.00	123
39.00	11904	126.00	177	205.00	23168	292.00	223
40.00	635	127.00	185152	206.00	100560	293.00	1624
41.00	567	128.00	12676	207.00	12684	294.00	810
43.00	157	129.00	68952	208.00	3323	295.00	780
44.00	249	130.00	5497	209.00	1230	296.00	20472
45.00	77	131.00	1483	210.00	2330	297.00	2849
49.00	770	132.00	857	211.00	3592	301.00	225
50.00	40560	133.00	283	212.00	399	302.00	215
51.00	160704	134.00	2366	213.00	178	303.00	2191
52.00	8043	135.00	5096	214.00	99	304.00	689
53.00	372	136.00	2435	215.00	902	305.00	90
55.00	685	137.00	3327	216.00	2559	308.00	83
56.00	4397	138.00	426	217.00	28168	309.00	190
57.00	11843	139.00	469	218.00	4088	310.00	293
58.00	461	140.00	879	219.00	749	311.00	199
59.00	137	141.00	7535	221.00	18032	313.00	122
61.00	1355	142.00	3731	222.00	3964	314.00	1035
62.00	2047	143.00	1468	223.00	5794	315.00	1944
63.00	6072	144.00	786	224.00	56496	316.00	1127
64.00	1164	145.00	464	225.00	12730	317.00	228
65.00	3161	146.00	1656	226.00	1920	321.00	655
66.00	269	147.00	4293	227.00	21064	322.00	310
67.00	30	148.00	10127	228.00	3191	323.00	6004
68.00	2750	149.00	2097	229.00	4554	324.00	1237
69.00	158336	150.00	686	230.00	763	327.00	1083
70.00	881	151.00	1493	231.00	1899	328.00	588
71.00	224	152.00	641	233.00	470	332.00	703
73.00	918	153.00	2899	234.00	1628	333.00	691
74.00	15902	154.00	2384	235.00	1807	334.00	3622
75.00	25320	155.00	5940	236.00	1088	335.00	1280
76.00	7874	156.00	7504	237.00	1828	336.00	205
77.00	190016	157.00	1732	238.00	450	341.00	831
78.00	13323	158.00	1249	239.00	933	342.00	272

Digitally signed by Catherine E. Bachman on 10/05/2015 at 21:22.
Target 3.5 esignature user ID: ceb05247

Date : 05-OCT-2015 20:41

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS Column diameter: 0.18

Data File: lj0180b.d
Spectrum: Avg. Scans 258-260 (4.47), Background Scan 253
Location of Maximum: 198.00
Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
79.00	10285	159.00	1317	240.00	847	346.00	1223
80.00	8580	160.00	2830	241.00	1574	347.00	252
81.00	12238	161.00	5134	242.00	2777	351.00	193
82.00	3394	162.00	1171	243.00	3576	352.00	1405
83.00	3560	163.00	428	244.00	39528	353.00	1125
84.00	603	164.00	527	245.00	5264	354.00	2356
85.00	2030	165.00	3421	246.00	7636	365.00	7642
86.00	3669	166.00	3016	247.00	1318	366.00	1323
87.00	1600	167.00	17600	248.00	437	370.00	161
88.00	625	168.00	8855	249.00	1238	371.00	282
89.00	202	169.00	1777	250.00	555	372.00	3436
91.00	2222	170.00	563	251.00	454	373.00	1200
92.00	2894	171.00	729	252.00	933	374.00	111
93.00	18800	172.00	1572	253.00	1697	383.00	815
94.00	1266	173.00	2256	254.00	1041	390.00	248
95.00	523	174.00	4190	255.00	200320	392.00	95
96.00	417	175.00	7169	256.00	28832	401.00	224
97.00	258	176.00	2363	257.00	2724	402.00	1181
98.00	14356	177.00	3581	258.00	10807	403.00	1626
99.00	12051	178.00	1605	259.00	1813	404.00	488
100.00	864	179.00	14961	260.00	516	405.00	160
101.00	6736	180.00	10685	261.00	286	415.00	91
102.00	528	181.00	4860	263.00	98	421.00	1654
103.00	2094	182.00	1041	264.00	314	422.00	1208
104.00	3867	183.00	820	265.00	4390	423.00	9841
105.00	3908	184.00	923	266.00	1037	424.00	2773
106.00	1152	185.00	6732	267.00	223	431.00	110
107.00	54152	186.00	52936	268.00	410	432.00	90
108.00	8427	187.00	13952	269.00	138	433.00	87
109.00	1959	188.00	1854	270.00	303	434.00	364
110.00	97856	189.00	2833	271.00	766	435.00	580
111.00	14325	190.00	728	272.00	460	436.00	397
112.00	2265	191.00	1222	273.00	6322	437.00	713
113.00	824	192.00	4529	274.00	14678	438.00	477
114.00	114	193.00	4739	275.00	79336	439.00	611

Digitally signed by Catherine E. Bachman on 10/05/2015 at 21:22.
Target 3.5 esignature user ID: ceb05247

Date : 05-OCT-2015 20:41

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS Column diameter: 0.18

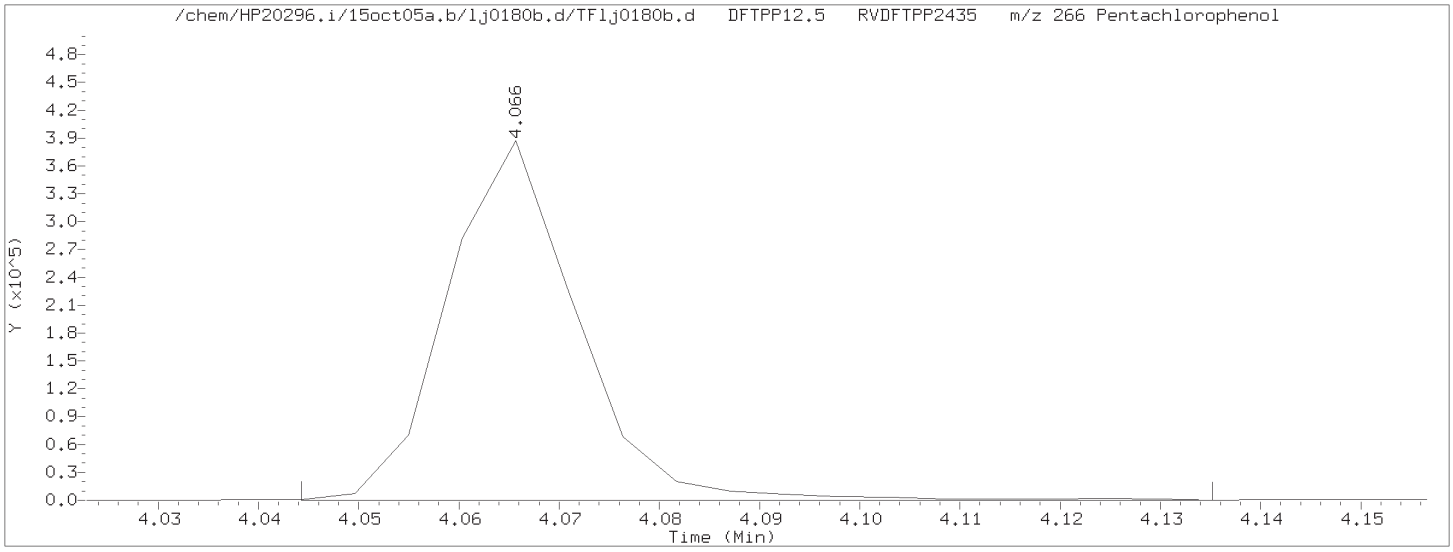
Data File: lj0180b.d
Spectrum: Avg. Scans 258-260 (4.47), Background Scan 253
Location of Maximum: 198.00
Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
115.00	431	194.00	1307	276.00	11116	440.00	265
116.00	3292	195.00	1120	277.00	6424	441.00	31840
117.00	41864	196.00	12014	278.00	1148	442.00	209280
118.00	3469	197.00	2223	279.00	177	443.00	39216
119.00	594	198.00	409024	282.00	40	444.00	3753
120.00	827	199.00	26848	283.00	1069	445.00	405
121.00	279	200.00	1928	284.00	272		
122.00	3591	201.00	2489	285.00	1374		
123.00	5733	202.00	607	286.00	199		

Digitally signed by Catherine E. Bachman on 10/05/2015 at 21:22.
Target 3.5 esignature user ID: ceb05247

Assessment of GC Column Performance and Injection Port Inertness for

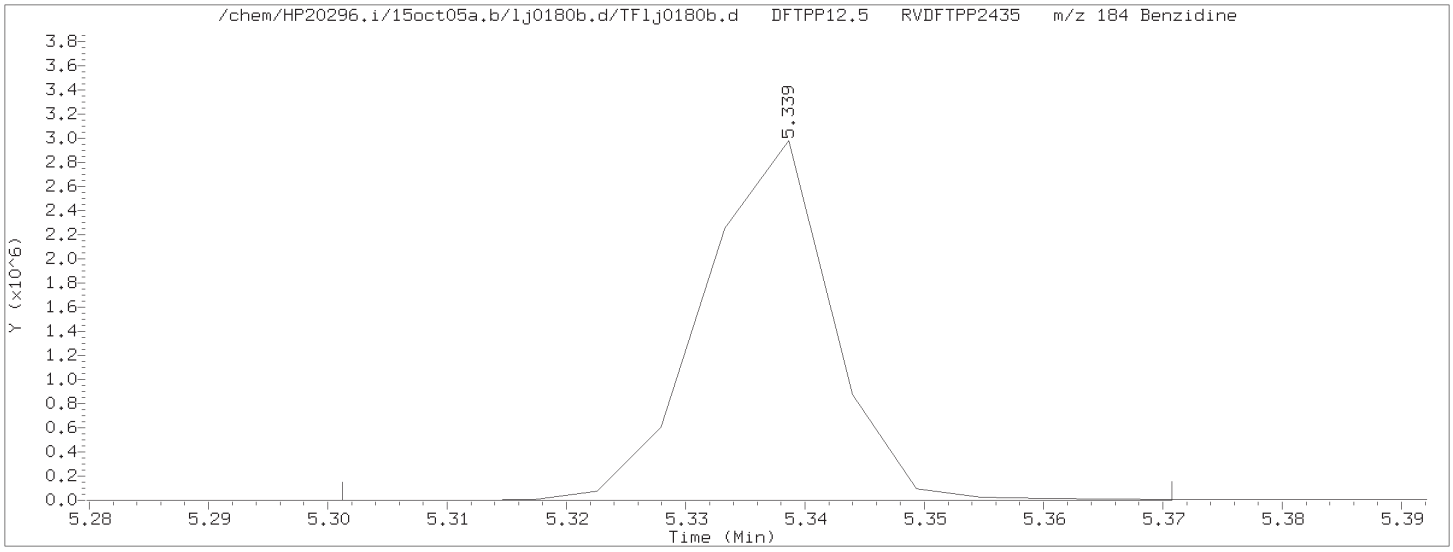
Instrument ID: HP20296.i Injection Date: 05-OCT-2015 20:41 Operator: ceb05247



Pentachlorophenol EICP peak height = 387392 EICP peak height at 10% = 38739 Pentachlorophenol EICP area = 349085

Pentachlorophenol EICP peak apex (min.) = 4.066
RT at 10% of front half of EICP (min.) = 4.052 'Front' peak width (min.) = 0.0133333333
RT at 10% of back half of EICP (min.) = 4.080 'Tailing' peak width (min.) = 0.0139166667

PCP tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0139166667}{0.0133333333} = 1.044$



Benzidine EICP peak height = 2981888 EICP peak height at 10% = 298189 Benzidine EICP area = 2228744

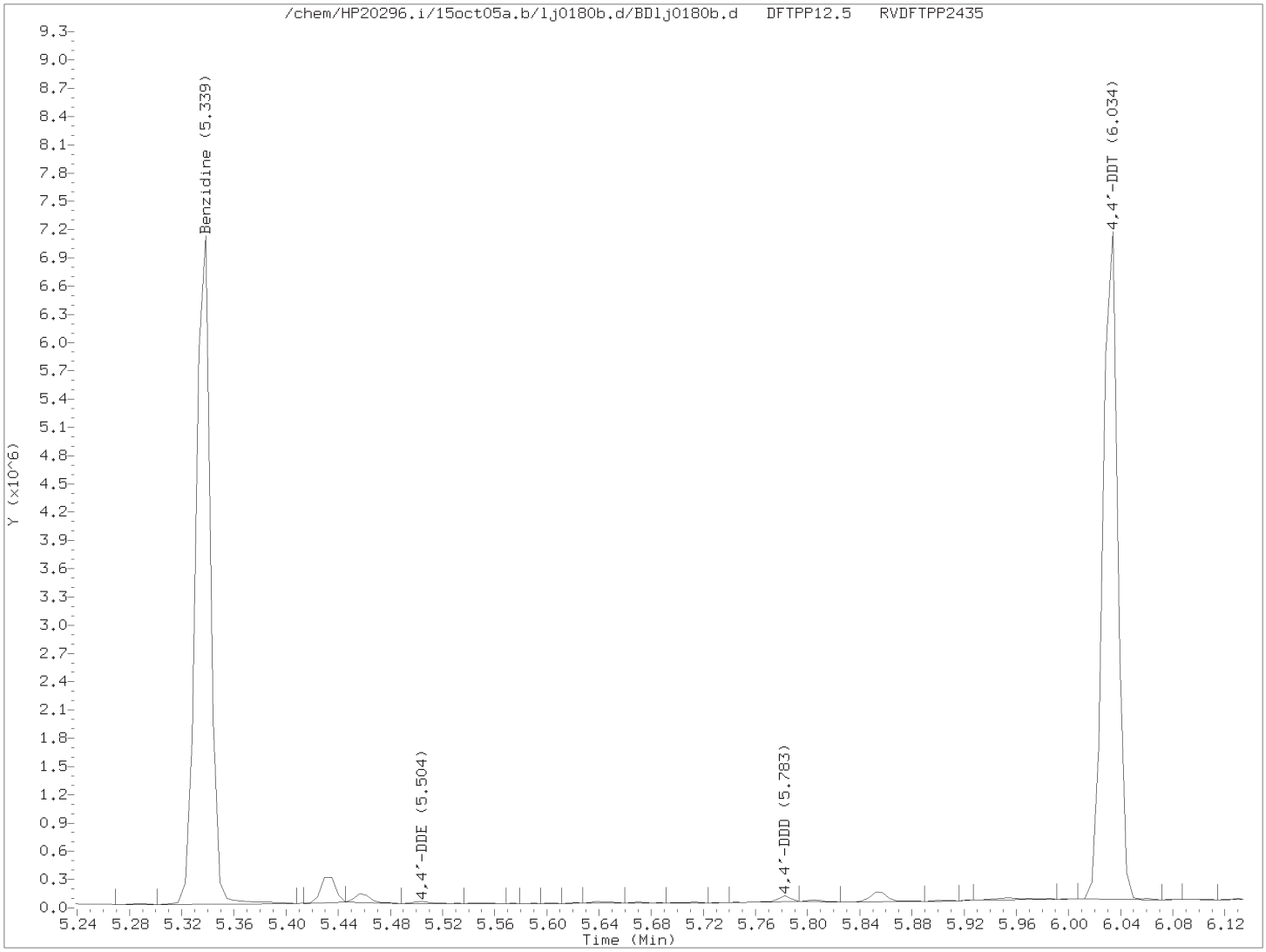
Benzidine EICP peak apex (min.) = 5.339
RT at 10% of front half of EICP (min.) = 5.325 'Front' peak width (min.) = 0.0137333333
RT at 10% of back half of EICP (min.) = 5.348 'Tailing' peak width (min.) = 0.0092833333

Benzidine tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0092833333}{0.0137333333} = 0.676$

Secondary review performed and digitally signed by Matthew E. Barton on 10/07/2015 at 10:52. Parallax ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

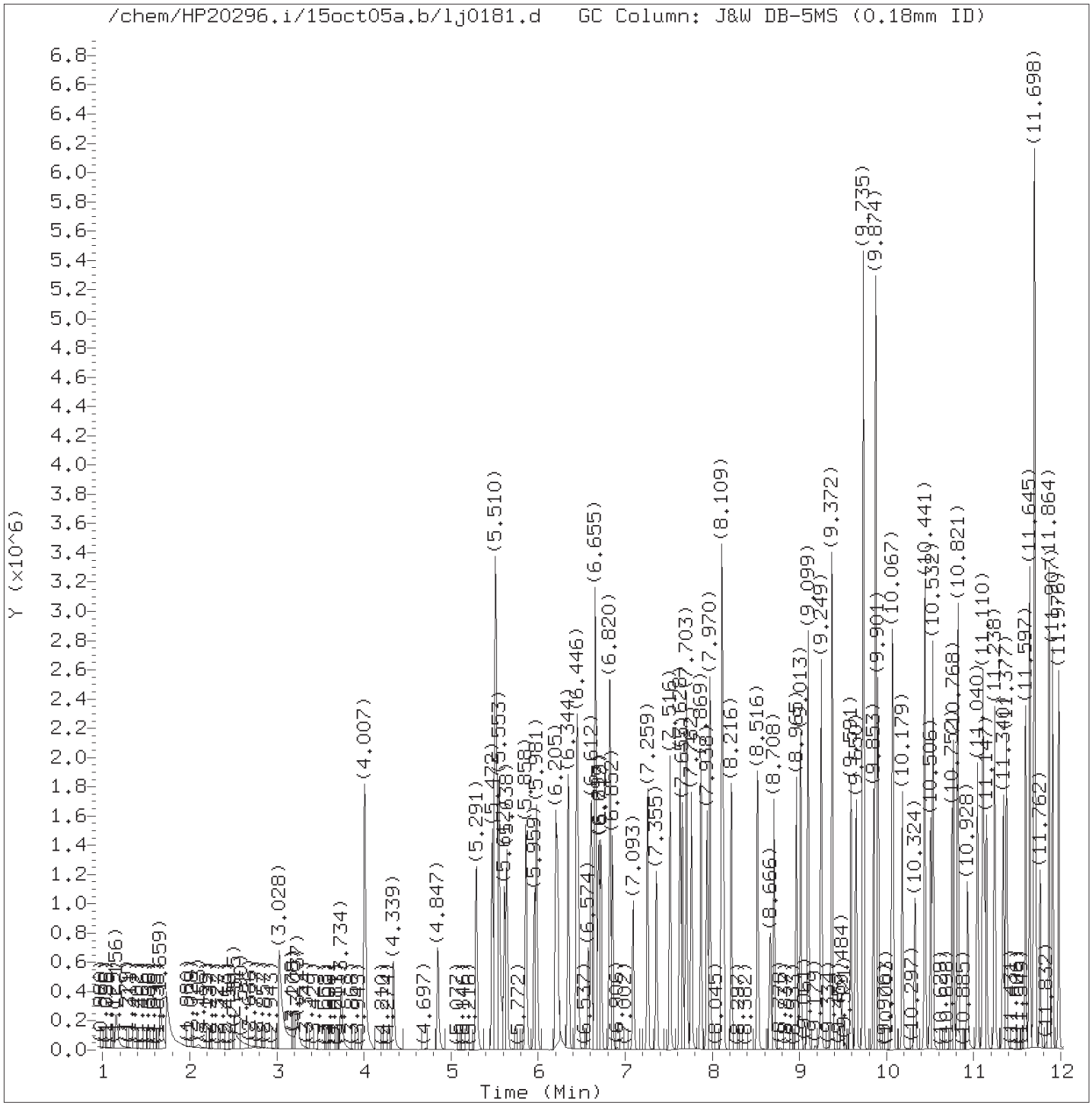
Instrument ID: HP20296.i Injection Date: 05-OCT-2015 20:41 Operator: ceb05247



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{20056 + 45491}{20056 + 45491 + 5650706} \times 100 = 1.1$$

Secondary review performed and digitally signed by Matthew E. Barton on 10/07/2015 at 10:52. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

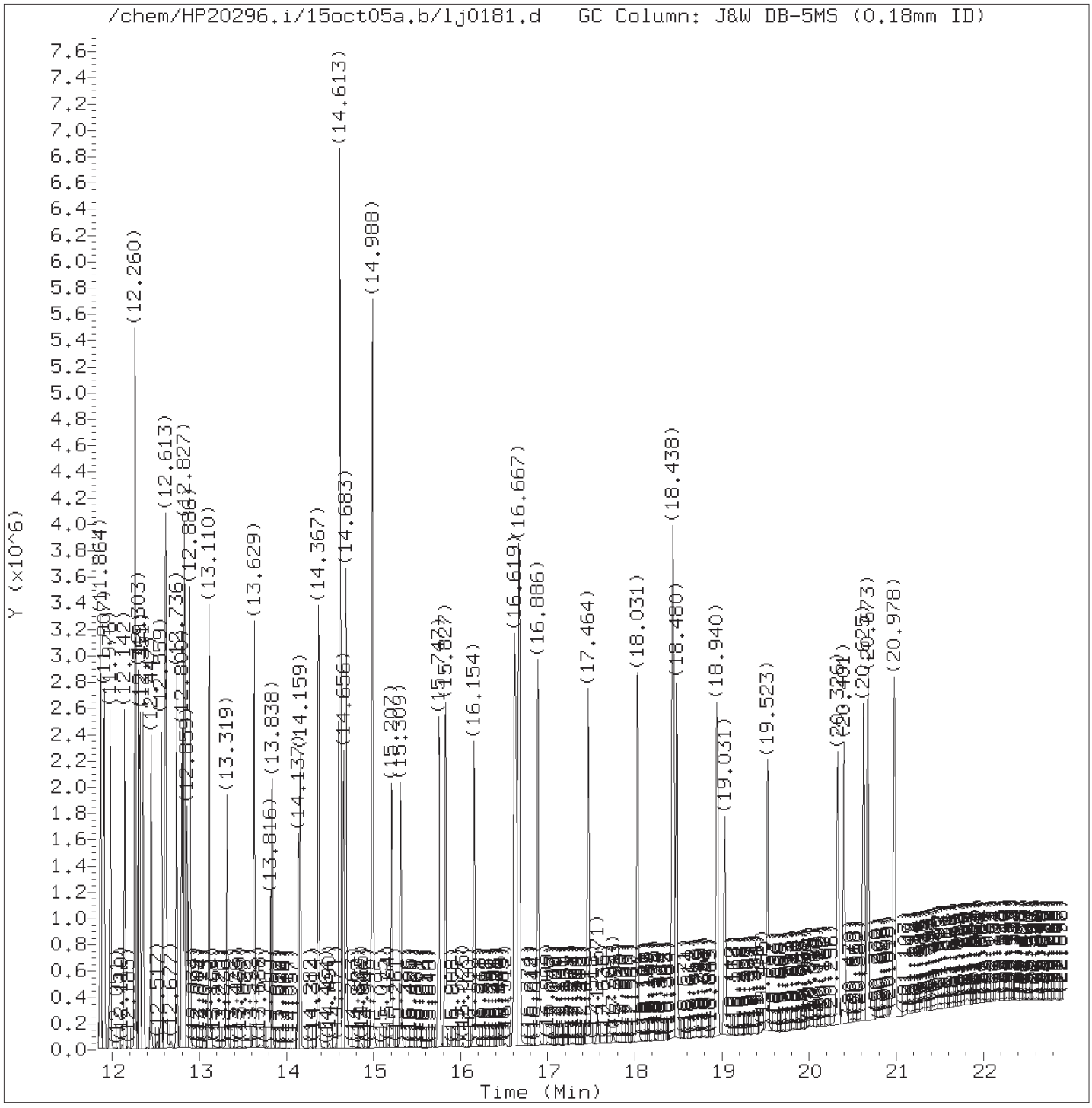
Target Revision 3.5

Data File: /chem/HP20296.i/15oct05a.b/lj0181.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 20:53 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 05-Oct-2015 21:20 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 21:22.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05a.b/lj0181.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 20:53 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 05-Oct-2015 21:20 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 21:22.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05a.b/lj0181.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 20:53 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 05-Oct-2015 21:20 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	1.156	88	192561	6.216
2) N-Nitrosodimethylamine	(1)	1.664	74	316298	6.377
3) Pyridine	(1)	1.728	79	485709M	5.765
4) 2-Picoline	(1)	3.028	93	570982	6.546
5) N-Nitrosomethylethylamine	(1)	3.237	88	194279	5.540
6) Methyl methanesulfonate	(1)	3.734	80	276391	6.377
7)$2-Fluorophenol	(1)	4.007	112	970638	14.050
8) N-Nitrosodiethylamine	(1)	4.339	102	226633	6.755
10) Ethyl methanesulfonate	(1)	4.852	109	237891	6.699
11) Benzaldehyde	(1)	5.291	77	427020	6.578
15) Aniline	(1)	5.472	93	820683	6.563
13)$Phenol-d6	(1)	5.505	99	1243303	13.727
12)$Phenol-d5	(1)	5.505	99	1243303	13.727
14) Phenol	(1)	5.526	94	678823	6.396
16) bis(2-Chloroethyl)ether	(1)	5.612	93	525828	6.693
17) 2-Chlorophenol	(1)	5.638	128	480807	7.248
18) 1,3-Dichlorobenzene	(1)	5.858	146	540573	7.276
19)*1,4-Dichlorobenzene-d4	(1)	5.954	152	233007	5.000
20) 1,4-Dichlorobenzene	(1)	5.981	146	550753	7.329
24) 1,2-Dichlorobenzene	(1)	6.205	146	523929	7.312
23) Benzyl alcohol	(1)	6.221	108	305590	6.442
25) Indene	(1)	6.344	115	815014	6.860
26) 2-Methylphenol	(1)	6.446	108	464292	6.932
28) bis(2-Chloroisopropyl)ether	(1)	6.457	45	739380	6.089
27) 2,2'-oxybis(1-Chloropropane)	(1)	6.457	45	739380	6.089
29) N-Nitrosopyrrolidine	(1)	6.580	100	243296	7.012
30) Acetophenone	(1)	6.612	105	687183	6.742
32) N-Nitrosomorpholine	(1)	6.649	56	314527	6.346
31) N-Nitroso-di-n-propylamine	(1)	6.649	70	374250	6.390
34) o-Toluidine	(1)	6.660	106	806902	6.940
33) 4-Methylphenol	(1)	6.697	108	492674	6.529
35) Hexachloroethane	(1)	6.724	117	218301	7.084
36)$Nitrobenzene-d5	(2)	6.820	82	1107418	12.925
37) Nitrobenzene	(2)	6.852	77	573466	6.617
39) N-Nitrosopiperidine	(2)	7.093	114	238876	7.232
40) Isophorone	(2)	7.259	82	989636	6.696
42) 2-Nitrophenol	(2)	7.355	139	250334	7.770
45) 2,4-Dimethylphenol	(2)	7.516	107	506034	7.044
46) O,O,O-triethylphosphorothioate	(2)	7.628	198	249277	7.668
48) bis(2-Chloroethoxy)methane	(2)	7.655	93	628713	6.753

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 21:22.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05a.b/lj0181.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 20:53 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 05-Oct-2015 21:20 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
47) Benzoic acid	(2)	7.687	105	276697	6.916
49) 2,4-Dichlorophenol	(2)	7.762	162	418824	7.824
51) 1,2,4-Trichlorobenzene	(2)	7.869	180	467224	7.642
52)*Naphthalene-d8	(2)	7.938	136	898783	5.000
53) Naphthalene	(2)	7.970	128	1408005	7.256
55) 4-Chloroaniline	(2)	8.109	127	596670	7.436
56) 2,6-Dichlorophenol	(2)	8.115	162	409272	7.770
57) Hexachloropropene	(2)	8.131	213	316024	8.192
58) Hexachlorobutadiene	(2)	8.216	225	266682	7.634
60) Quinoline	(2)	8.516	129	885278	7.545
61) Caprolactam	(2)	8.666	113	121515	7.487
62) N-Nitrosodi-n-butylamine	(2)	8.708	84	359817	6.526
63) 4-Chloro-3-methylphenol	(2)	8.965	107	443585	7.276
64) Safrole	(2)	9.013	162	366669	7.836
65) 2-Methylnaphthalene	(2)	9.099	142	939453	7.601
66) 1-Methylnaphthalene	(2)	9.249	142	866244	7.647
67) Hexachlorocyclopentadiene	(3)	9.372	237	264925	6.829
68) 1,2,4,5-Tetrachlorobenzene	(3)	9.372	216	474602	7.362
69) cis-Isosafrole	(3)	9.489	162	66227	1.202
70) 2,4,6-Trichlorophenol	(3)	9.591	196	298262	7.444
71) 2,4,5-Trichlorophenol	(3)	9.650	196	319869	7.750
72)$2-Fluorobiphenyl	(3)	9.735	172	2123738	14.473
74) Isosafrole	(3)	9.853	162	328230	6.597
73) trans-Isosafrole	(3)	9.853	162	328230	5.475
76) 2-Chloronaphthalene	(3)	9.874	162	890334	6.978
75) 1,1'-Biphenyl	(3)	9.880	154	1125385	7.286
77) 1-Chloronaphthalene	(3)	9.901	162	911139	7.763
82) Diphenyl ether	(3)	10.067	170	620157	7.375
83) 2-Nitroaniline	(3)	10.078	138	282596	7.576
84) 1,4-Naphthoquinone	(3)	10.179	158	351352	7.278
85) 1,4-Dinitrobenzene	(3)	10.324	168	147523	7.764
87) 1,3-Dinitrobenzene	(3)	10.441	168	160740	7.697
86) Dimethylphthalate	(3)	10.441	163	1011932	7.641
88) 2,6-Dinitrotoluene	(3)	10.506	165	224785	8.057
90) Acenaphthylene	(3)	10.532	152	1421961	7.620
91) 3-Nitroaniline	(3)	10.752	138	242819	7.428
92)*Acenaphthene-d10	(3)	10.768	164	524587	5.000
93) Acenaphthene	(3)	10.821	153	927025	7.347
94) 2,4-Dinitrophenol	(3)	10.933	184	181619	10.270
95) Pentachlorobenzene	(3)	11.040	250	372669	7.360

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$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 21:22.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05a.b/lj0181.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 20:53 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 05-Oct-2015 21:20 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
97) Dibenzofuran	(3)	11.110	168	1287269	7.318
96) 4-Nitrophenol	(3)	11.126	109	149014	6.628
98) 2,4-Dinitrotoluene	(3)	11.147	165	300845	7.781
99) 1-Naphthylamine	(3)	11.238	143	941663	7.679
100) 2,3,4,6-Tetrachlorophenol	(3)	11.340	232	256563	7.895
101) 2-Naphthylamine	(3)	11.377	143	903687	7.330
102) Diethylphthalate	(3)	11.597	149	978814	7.700
103) Fluorene	(3)	11.645	166	1032843	7.682
105) 4-Chlorophenyl-phenylether	(3)	11.693	204	500039	7.666
104) Thionazin	(3)	11.698	107	190185	7.566
106) 5-Nitro-o-toluidine	(3)	11.698	152	268914	7.500
107) 4-Nitroaniline	(3)	11.709	138	247882	7.286
108) 4,6-Dinitro-2-methylphenol	(4)	11.768	198	178597	6.931
109) N-Nitrosodiphenylamine	(4)	11.864	169	839738	6.727
110) NDPA as diphenylamine	(4)	11.864	169	839738	6.727
111) 1,2-Diphenylhydrazine	(4)	11.907	77	1111228	5.996
112)$2,4,6-Tribromophenol	(3)	11.982	330	210508	13.489
115) Tetraethyldithiopyrophosphate	(4)	12.142	97	183159	6.698
116) 1,3,5-Trinitrobenzene	(4)	12.260	213	102722	6.668
117) Diallate (peak 1)	(4)	12.260	86	390981	5.231
118) Phorate	(4)	12.265	75	990642	8.819
119) Phenacetin	(4)	12.303	108	524936	6.525
120) 4-Bromophenyl-phenylether	(4)	12.319	248	257494	6.610
122) Hexachlorobenzene	(4)	12.351	284	252452	6.216
121) Diallate (peak 2)	(4)	12.356	86	74771	1.052
123) Dimethoate	(4)	12.447	87	459819	6.418
124) Atrazine	(4)	12.565	200	274148	7.107
125) Pentachlorophenol	(4)	12.602	266	162697	6.319
126) Pentachloronitrobenzene	(4)	12.608	237	132236	7.101
127) 4-Aminobiphenyl	(4)	12.618	169	972316	6.578
129) Pronamide	(4)	12.736	173	463983	7.127
130)*Phenanthrene-d10	(4)	12.800	188	974339	5.000
131) Phenanthrene	(4)	12.827	178	1506295	6.679
133) Dinoseb	(4)	12.859	211	268142	6.984
134) Anthracene	(4)	12.891	178	1520617	7.032
135) Carbazole	(4)	13.110	167	1397298	6.836
136) Methyl parathion	(4)	13.319	109	351724	6.679
137) Di-n-butylphthalate	(4)	13.629	149	1702759	7.044
139) 4-Nitroquinoline-1-oxide	(4)	13.816	190	100575	5.396
138) Parathion	(4)	13.838	109	229176	7.113

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$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 21:22.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05a.b/lj0181.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 20:53 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 05-Oct-2015 21:20 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Isodrin	(4)	14.159	193	183720	7.509
142) Fluoranthene	(4)	14.367	202	1694774	7.159
144) Benzidine	(5)	14.613	184	3257377	21.552
145)*Pyrene-d10	(5)	14.656	212	1112883	5.000
146) Pyrene	(5)	14.683	202	1778518	7.254
149)$Terphenyl-d14	(5)	14.988	244	2155766	14.267
150) p-Dimethylaminoazobenzene	(5)	15.212	225	281641	6.907
151) Chlorobenzilate	(5)	15.309	139	516702	7.454
152) 3,3'-Dimethylbenzidine	(5)	15.747	212	1110600	7.656
153) Butylbenzylphthalate	(5)	15.827	149	770625	7.507
156) 2-Acetylaminofluorene	(5)	16.154	181	657720	7.442
158) Benzo(a)anthracene	(5)	16.614	228	1591149	7.528
159) 3,3'-Dichlorobenzidine	(5)	16.635	252	568728	7.311
160) 4,4'-Methylenebis(2-Chloroanil	(5)	16.662	231	322519	7.193
161) Chrysene	(5)	16.673	228	1504796	7.545
162) bis(2-Ethylhexyl)phthalate	(5)	16.886	149	1117574	7.671
165) 6-Methylchrysene	(5)	17.464	242	1014631	7.358
166) Di-n-octylphthalate	(6)	18.031	149	1969460	8.788
168) Benzo(b)fluoranthene	(6)	18.432	252	1493547	7.946
169) 7,12-Dimethylbenz[a]anthracene	(6)	18.443	256	660676	8.348
170) Benzo(k)fluoranthene	(6)	18.480	252	1492568	7.999
171) Benzo(a)pyrene	(6)	18.940	252	1463963	8.363
172)*Perylene-d12	(6)	19.031	264	816544	5.000
173) 3-Methylcholanthrene	(6)	19.523	268	645812	7.608
176) Indeno(1,2,3-cd)pyrene	(6)	20.625	276	1638744M	7.991
177) Dibenz(a,h)anthracene	(6)	20.673	278	1331951	7.863
178) Benzo(g,h,i)perylene	(6)	20.978	276	1432819	7.952
179) Diallate TRANS/CIS	(4)			465752	6.283
182) 2,4_2,6-Dinitrotoluenes	(3)			525630	15.838

M = Compound was manually integrated.
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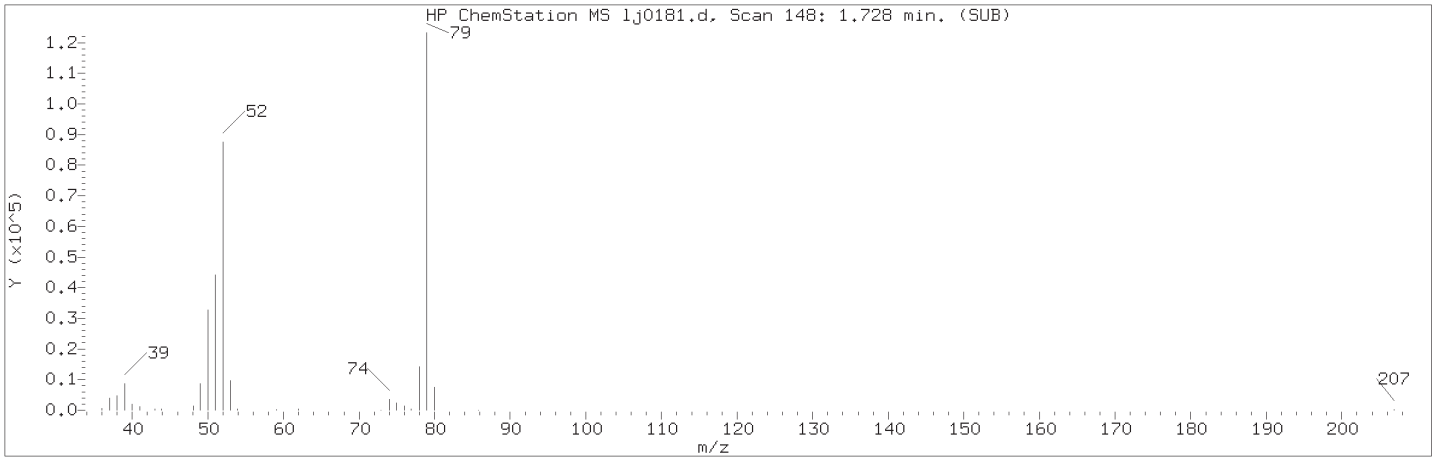
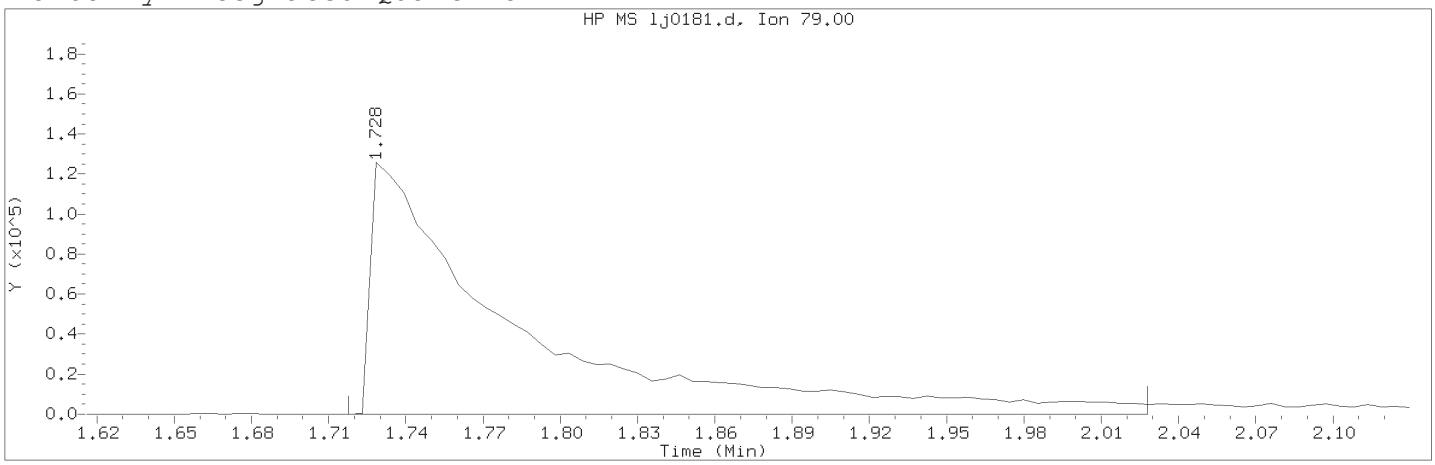
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 21:22.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct05a.b/lj0181.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 20:53 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 05-Oct-2015 21:20 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

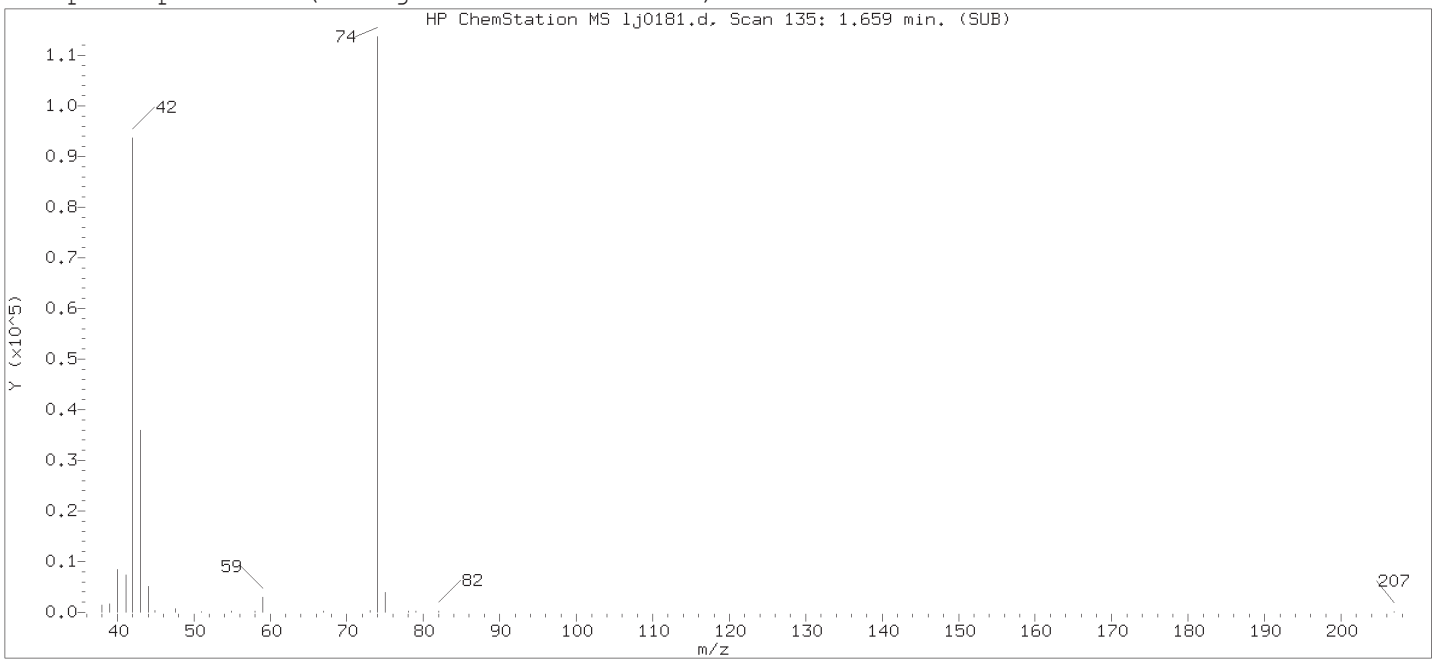
Compound Number	: 3		
Compound Name	: Pyridine		
Scan Number	: 148		
Retention Time (minutes)	: 1.728		
Quant Ion	: 79.00		
Area (flag)	: 485709M		
On-Column Amount (ng/ul)	: 5.7646		
Integration start scan	: 145	Integration stop scan:	203
Y at integration start	: -76	Y at integration end:	7

Reason for manual integration: improper integration

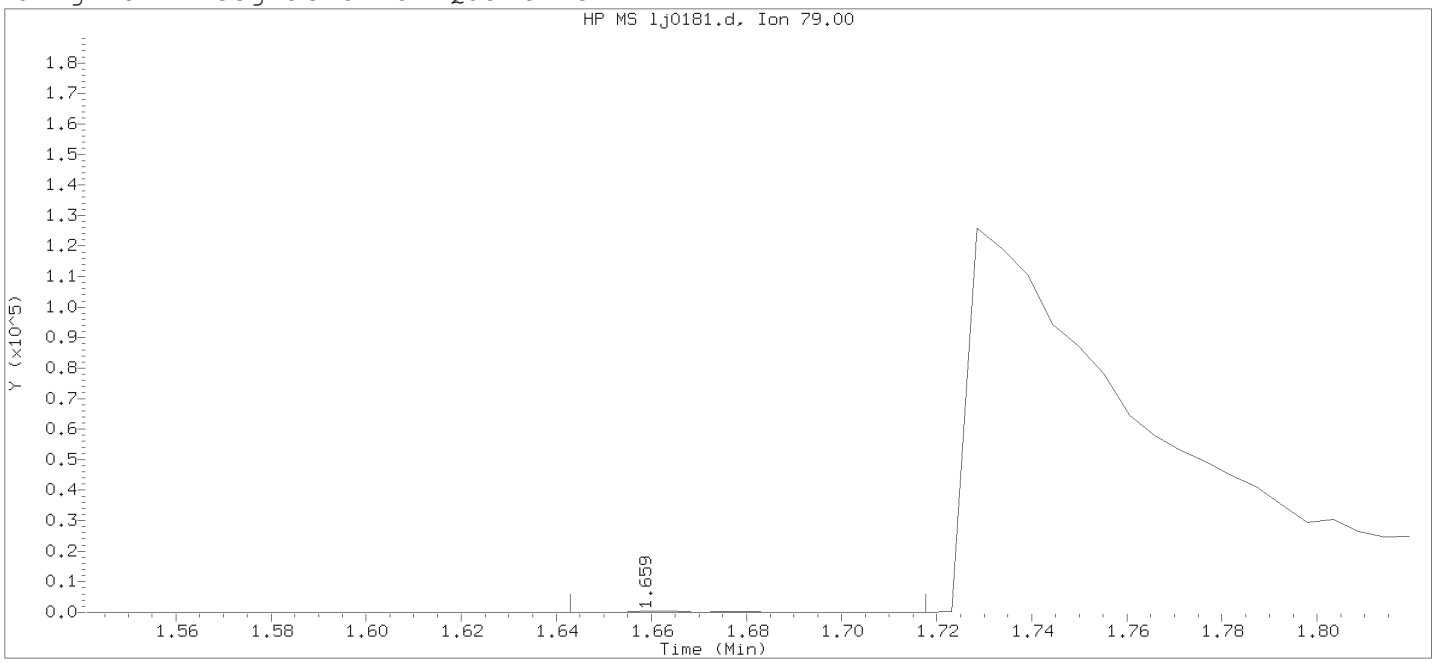
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 21:22.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/07/2015 at 10:52.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct05a.b/lj0181.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 20:53 Analyst ID: ceb05247

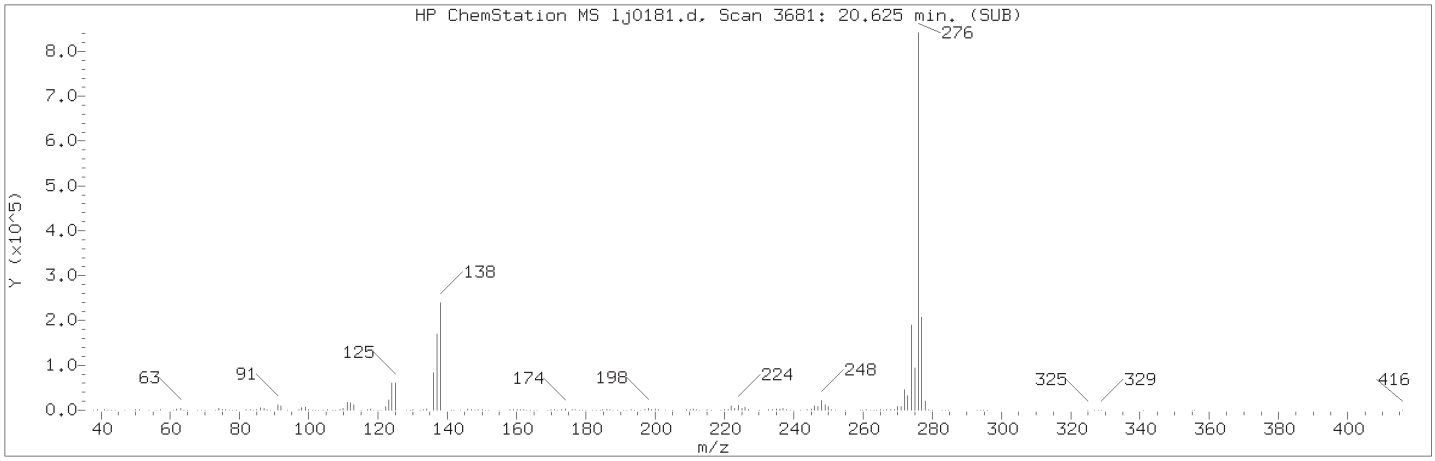
Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 21:19
Date, time and analyst ID of latest file update: 05-Oct-2015 21:19 Unknown

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

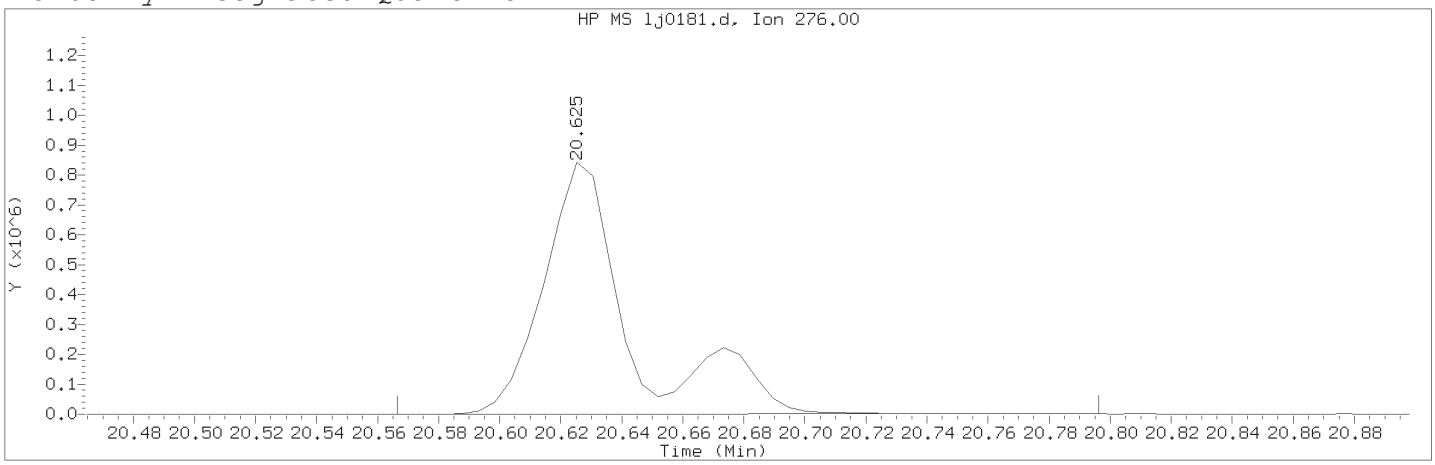
Compound Number	: 3		
Compound Name	: Pyridine		
Scan Number	: 135		
Retention Time (minutes)	: 1.659		
Quant Ion	: 79.00		
Area	: 402		
On-column Amount (ng/ul)	: 0.0048		
Integration start scan	: 131	Integration stop scan:	145
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/05/2015 at 21:22.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct05a.b/lj0181.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 20:53 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 05-Oct-2015 21:20 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

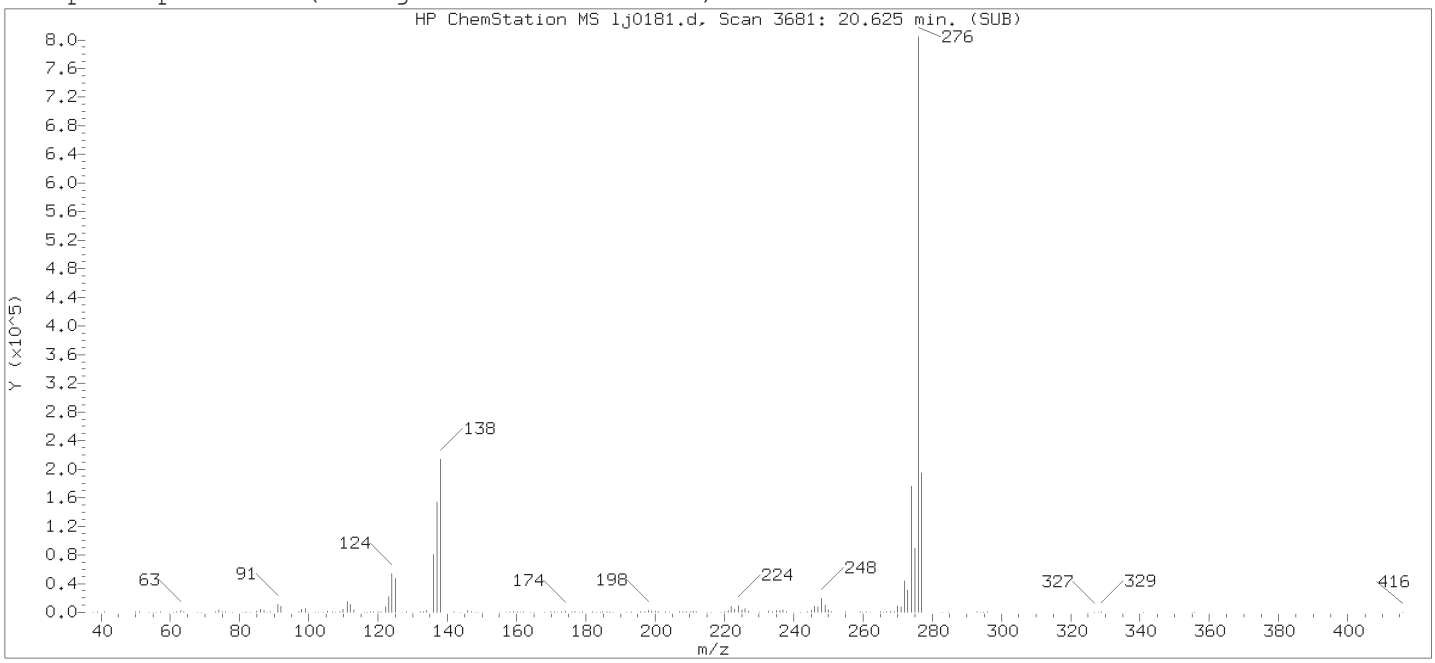
Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3681		
Retention Time (minutes)	: 20.625		
Quant Ion	: 276.00		
Area (flag)	: 1638744M		
On-Column Amount (ng/ul)	: 7.9909		
Integration start scan	: 3669	Integration stop scan:	3712
Y at integration start	: 286	Y at integration end:	1253

Reason for manual integration: improper integration

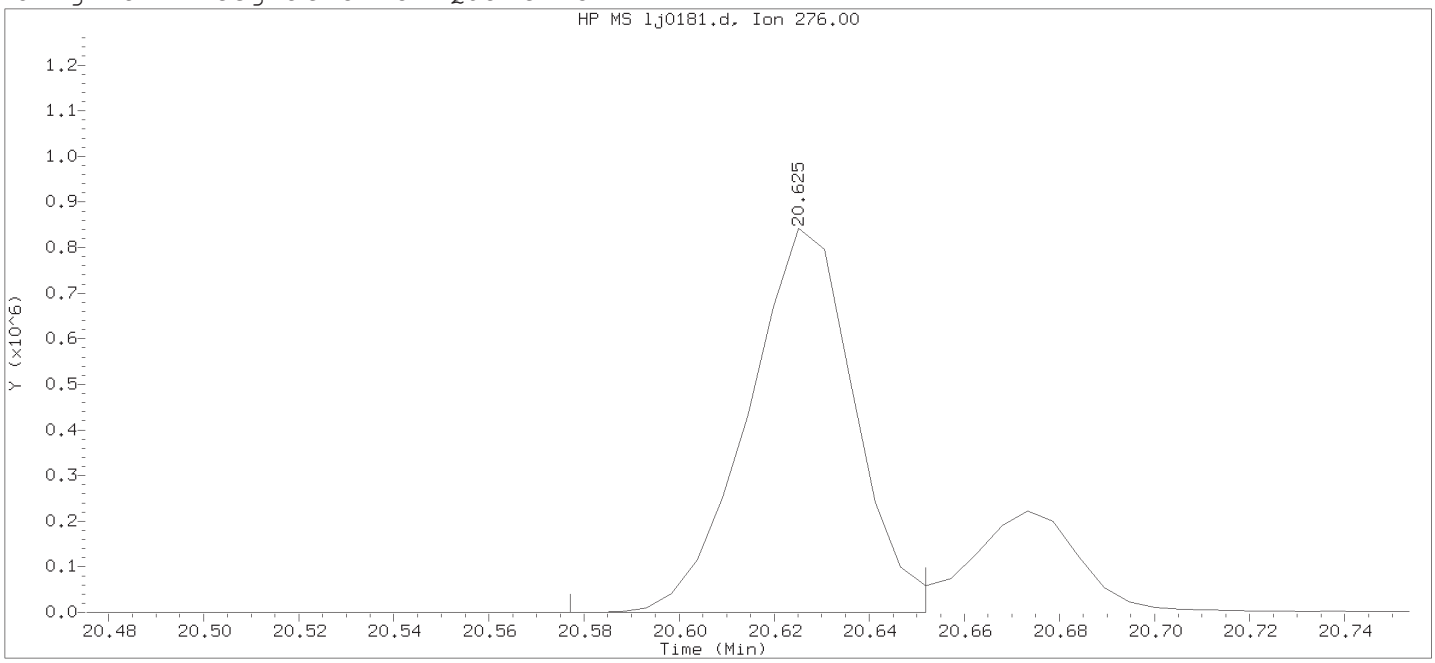
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 21:22.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/07/2015 at 10:52.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct05a.b/lj0181.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 20:53 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: newall1-d
Calibration date and time: 05-OCT-2015 21:19
Date, time and analyst ID of latest file update: 05-Oct-2015 21:19 Unknown

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3681		
Retention Time (minutes)	: 20.625		
Quant Ion	: 276.00		
Area	: 1297477		
On-column Amount (ng/ul)	: 6.3268		
Integration start scan	: 3671	Integration stop scan:	3685
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/05/2015 at 21:22.
Target 3.5 esignature user ID: ceb05247

Raw QC Data

Semivolatiles by GC/MS

Data file: /chem/HP20296.i/15oct05.b/lj0152.d Injection date and time: **05-OCT-2015 08:28**
Data file Sample Info. Line: SBLKWG272L;SBLKWG272;1;3;BLANK;;; Instrument ID: **HP20296.i** Batch: **15272WAG**
Date, time and analyst ID of latest file update: 05-Oct-2015 13:10 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct05.b/lj0152.d**

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 05-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct05.b/lj0151.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
19) 1,4-Dichlorobenzene-d4	5.986	(-0.005)	944	152	246923	(-6)	5.00	
52) Naphthalene-d8	7.960	(0.000)	1313	136	946880	(-5)	5.00	
92) Acenaphthene-d10	10.789	(0.000)	1842	164	520937	(-9)	5.00	
130) Phenanthrene-d10	12.816	(0.000)	2221	188	994177	(-8)	5.00	
145) Pyrene-d10	14.677	(0.000)	2569	212	1100933	(-12)	5.00	
172) Perylene-d12	19.058	(0.000)	3388	264	777660	(-16)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
36) Nitrobenzene-d5	(2)	6.847	(-0.001)	82	1762800	19.529	78%		46 - 128
72) 2-Fluorobiphenyl	(3)	9.751	(0.000)	172	3174008	21.781	87%		61 - 112
149) Terphenyl-d14	(5)	15.009	(0.000)	244	2767826	18.517	74%		43 - 131

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
53) Naphthalene	(2)				Not Detected					0.03
65) 2-Methylnaphthalene	(2)				Not Detected					0.03
90) Acenaphthylene	(3)				Not Detected					0.03
93) Acenaphthene	(3)				Not Detected					0.03
103) Fluorene	(3)				Not Detected					0.03
131) Phenanthrene	(4)				Not Detected					0.03
134) Anthracene	(4)				Not Detected					0.03
142) Fluoranthene	(4)				Not Detected					0.03
146) Pyrene	(5)				Not Detected					0.03
158) Benzo(a)anthracene	(5)				Not Detected					0.03
161) Chrysene	(5)				Not Detected					0.03
168) Benzo(b)fluoranthene	(6)				Not Detected					0.03
170) Benzo(k)fluoranthene	(6)				Not Detected					0.03
171) Benzo(a)pyrene	(6)				Not Detected					0.03
176) Indeno(1,2,3-cd)pyrene	(6)				Not Detected					0.03
177) Dibenz(a,h)anthracene	(6)				Not Detected					0.03
178) Benzo(g,h,i)perylene	(6)				Not Detected					0.03

Digitally signed by Holly B. Ziegler on 10/05/2015 at 13:11. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP20296.i/15oct05.b/lj0152.d Injection date and time: **05-OCT-2015 08:28**
Data file Sample Info. Line: SBLKWG272L;SBLKWG272;1;3;BLANK;;; Instrument ID: **HP20296.i** Batch: **15272WAG**
Date, time and analyst ID of latest file update: 05-Oct-2015 13:10 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct05.b/lj0152.d**

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 05-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct05.b/lj0151.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

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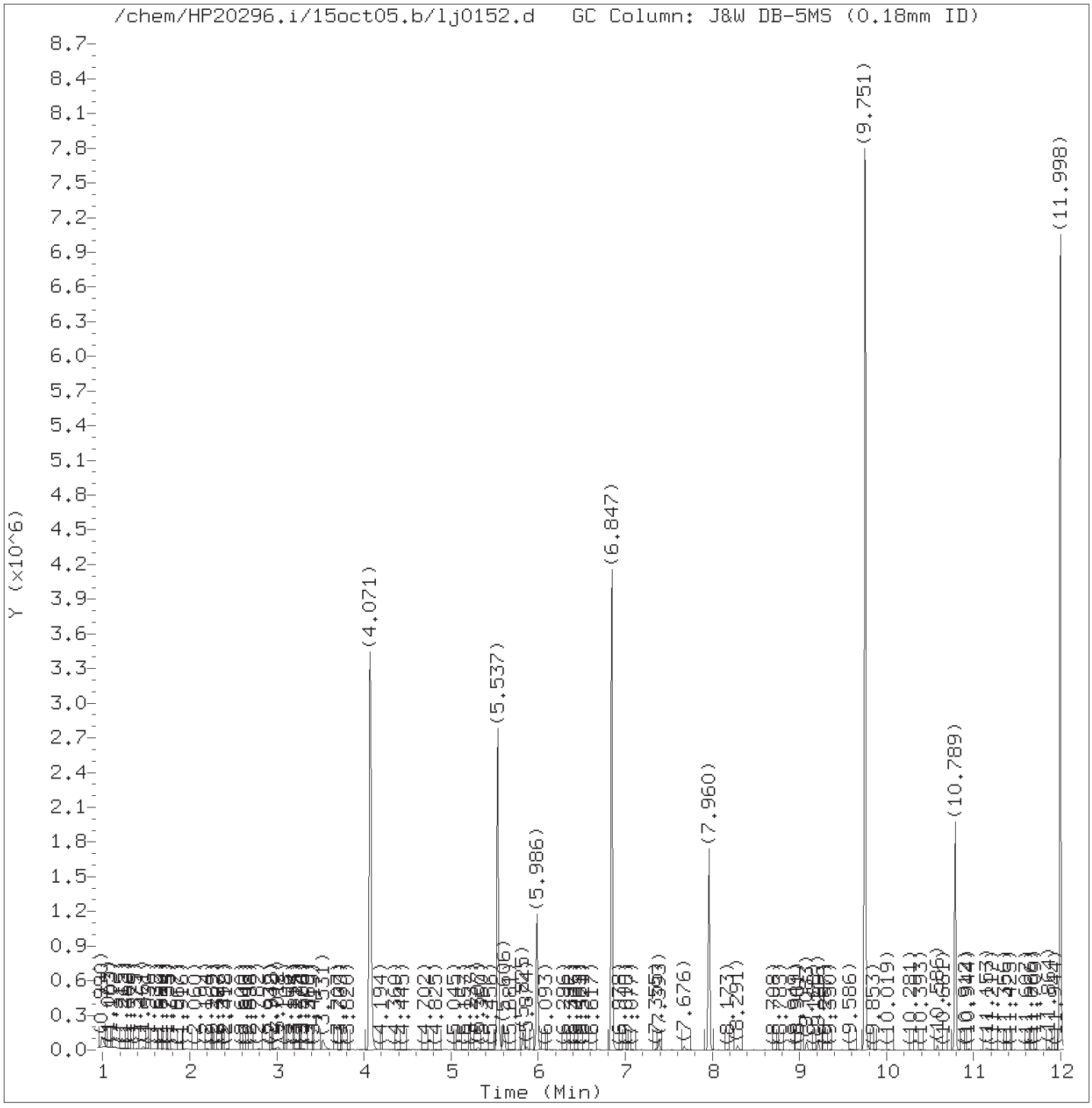
Total number of targets = 17

Digitally signed by Holly B. Ziegler on 10/05/2015 at 13:11. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 10/07/2015 at 10:52. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

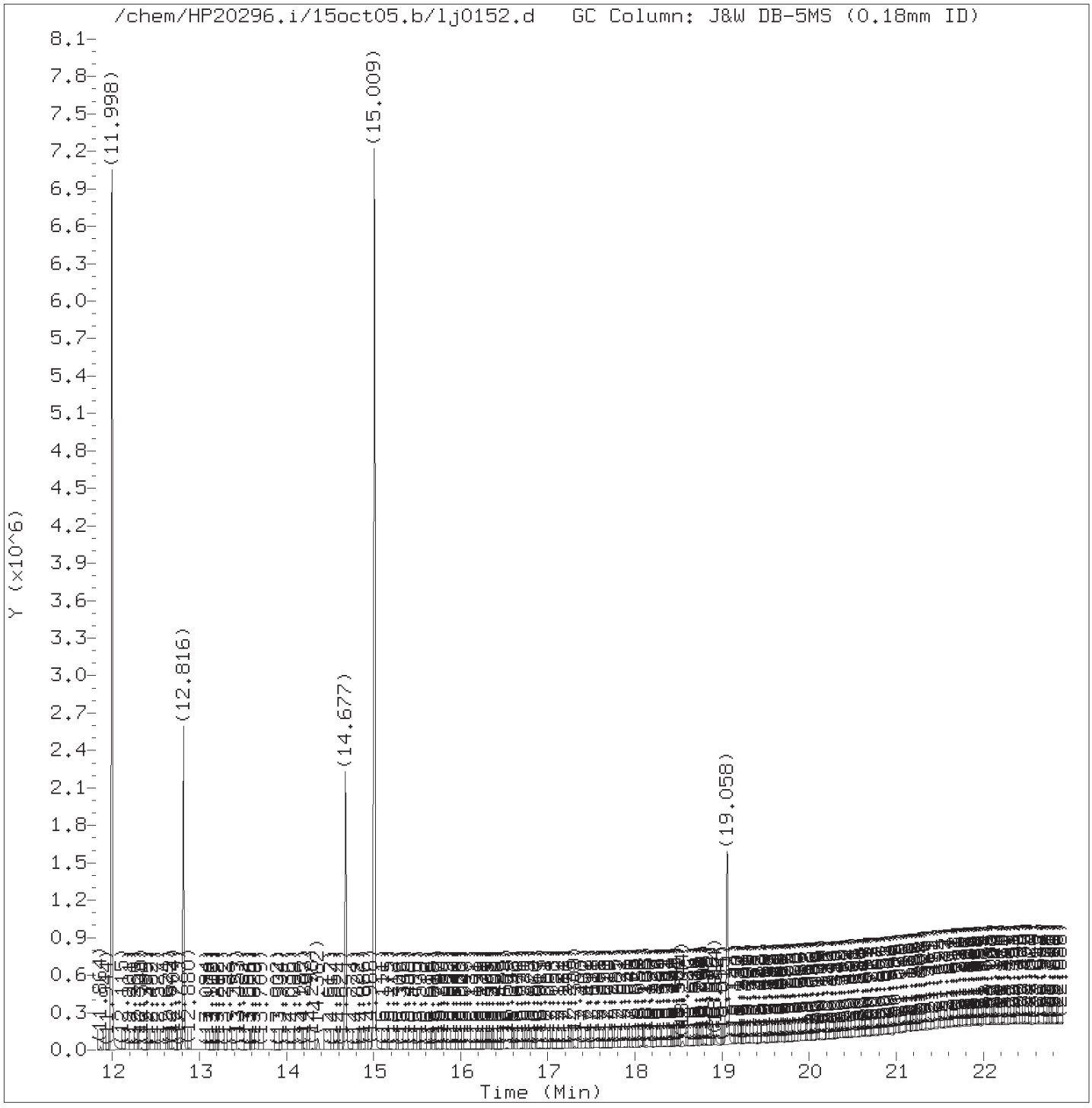
Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0152.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 08:28 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 13:10
Date, time and analyst ID of latest file update: 05-Oct-2015 13:10 hbz01996

Sample Name: SBLKWG272L Lab Sample ID: SBLKWG272

Digitally signed by Holly B. Ziegler
on 10/05/2015 at 13:11.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0152.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 08:28 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 13:10
Date, time and analyst ID of latest file update: 05-Oct-2015 13:10 hbz01996

Sample Name: SBLKWG272L Lab Sample ID: SBLKWG272

Digitally signed by Holly B. Ziegler
on 10/05/2015 at 13:11.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0152.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 08:28 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 13:10
Date, time and analyst ID of latest file update: 05-Oct-2015 13:10 hbz01996

Sample Name: SBLKWG272L Lab Sample ID: SBLKWG272

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
19)*1,4-Dichlorobenzene-d4	(1)	5.986	152	246923	5.000
36)$Nitrobenzene-d5	(2)	6.847	82	1762800	19.529
52)*Naphthalene-d8	(2)	7.960	136	946880	5.000
72)$2-Fluorobiphenyl	(3)	9.751	172	3174008	21.781
92)*Acenaphthene-d10	(3)	10.789	164	520937	5.000
130)*Phenanthrene-d10	(4)	12.816	188	994177	5.000
145)*Pyrene-d10	(5)	14.677	212	1100933	5.000
149)$Terphenyl-d14	(5)	15.009	244	2767826	18.517
172)*Perylene-d12	(6)	19.058	264	777660	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/05/2015 at 13:11.
Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP20296.i/15oct05.b/lj0173.d Injection date and time: **05-OCT-2015 18:41**
Data file Sample Info. Line: 17924MS;8064319;1;3;MS;;; Instrument ID: **HP20296.i** Batch: **15272WAG**
Date, time and analyst ID of latest file update: 05-Oct-2015 20:00 ceb05247

Blank Data file reference: **/chem/HP20296.i/15oct05.b/lj0152.d**

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 05-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct05.b/lj0151.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
19) 1,4-Dichlorobenzene-d4	5.986	(-0.005)	944	152	242179	(-7)	5.00	
52) Naphthalene-d8	7.965	(-0.005)	1314	136	942894	(-5)	5.00	
92) Acenaphthene-d10	10.794	(-0.005)	1843	164	555982	(-3)	5.00	
130) Phenanthrene-d10	12.816	(0.000)	2221	188	1004520	(-7)	5.00	
145) Pyrene-d10	14.683	(-0.005)	2570	212	1171879	(-7)	5.00	
172) Perylene-d12	19.063	(-0.005)	3389	264	859184	(-8)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
36) Nitrobenzene-d5	(2)	6.847	(0.000)	82	1771321	19.706	79%		46 - 128
72) 2-Fluorobiphenyl	(3)	9.757	(0.000)	172	3257374	20.944	84%		61 - 112
149) Terphenyl-d14	(5)	15.009	(0.000)	244	2160109	13.576	54%		43 - 131

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
53) Naphthalene	(2)	7.997	(0.000)	128	2294589	11.271	45.63			0.03
65) 2-Methylnaphthalene	(2)	9.120	(0.000)	142	1445968	11.152	45.15			0.03
90) Acenaphthylene	(3)	10.554	(0.000)	152	2309462	11.677	47.28			0.03
93) Acenaphthene	(3)	10.842	(0.000)	153	1533470	11.467	46.42			0.03
103) Fluorene	(3)	11.666	(0.000)	166	1705007	11.965	48.44			0.03
131) Phenanthrene	(4)	12.848	(-0.000)	178	2438503	10.487	42.46			0.03
134) Anthracene	(4)	12.907	(-0.000)	178	2482202	11.133	45.07			0.03
142) Fluoranthene	(4)	14.394	(-0.000)	202	2816607	11.540	46.72			0.03
146) Pyrene	(5)	14.710	(0.000)	202	2917638	11.301	45.75			0.03
158) Benzo(a)anthracene	(5)	16.646	(0.000)	228	2654113	11.924	48.28			0.03
161) Chrysene	(5)	16.704	(0.000)	228	2589131	12.329	49.91			0.03
168) Benzo(b)fluoranthene	(6)	18.464	(-0.000)	252	2526507	12.774	51.72			0.03
170) Benzo(k)fluoranthene	(6)	18.512	(-0.000)	252	2476907	12.616	51.08			0.03
171) Benzo(a)pyrene	(6)	18.978	(-0.000)	252	2312837	12.557	50.84			0.03
176) Indeno(1,2,3-cd)pyrene	(6)	20.662	(-0.000)	276	2569486M	11.908	48.21			0.03
177) Dibenz(a,h)anthracene	(6)	20.711	(-0.000)	278	2129327	11.946	48.36			0.03
178) Benzo(g,h,i)perylene	(6)	21.021	(-0.000)	276	2227749	11.750	47.57			0.03

M = Compound was manually integrated.

Digitally signed by Catherine E. Bachman on 10/05/2015 at 20:33. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct05.b/lj0173.d Injection date and time: **05-OCT-2015 18:41**
Data file Sample Info. Line: 17924MS;8064319;1;3;MS;;; Instrument ID: **HP20296.i** Batch: **15272WAG**
Date, time and analyst ID of latest file update: 05-Oct-2015 20:00 ceb05247

Blank Data file reference: **/chem/HP20296.i/15oct05.b/lj0152.d**

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 05-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct05.b/lj0151.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

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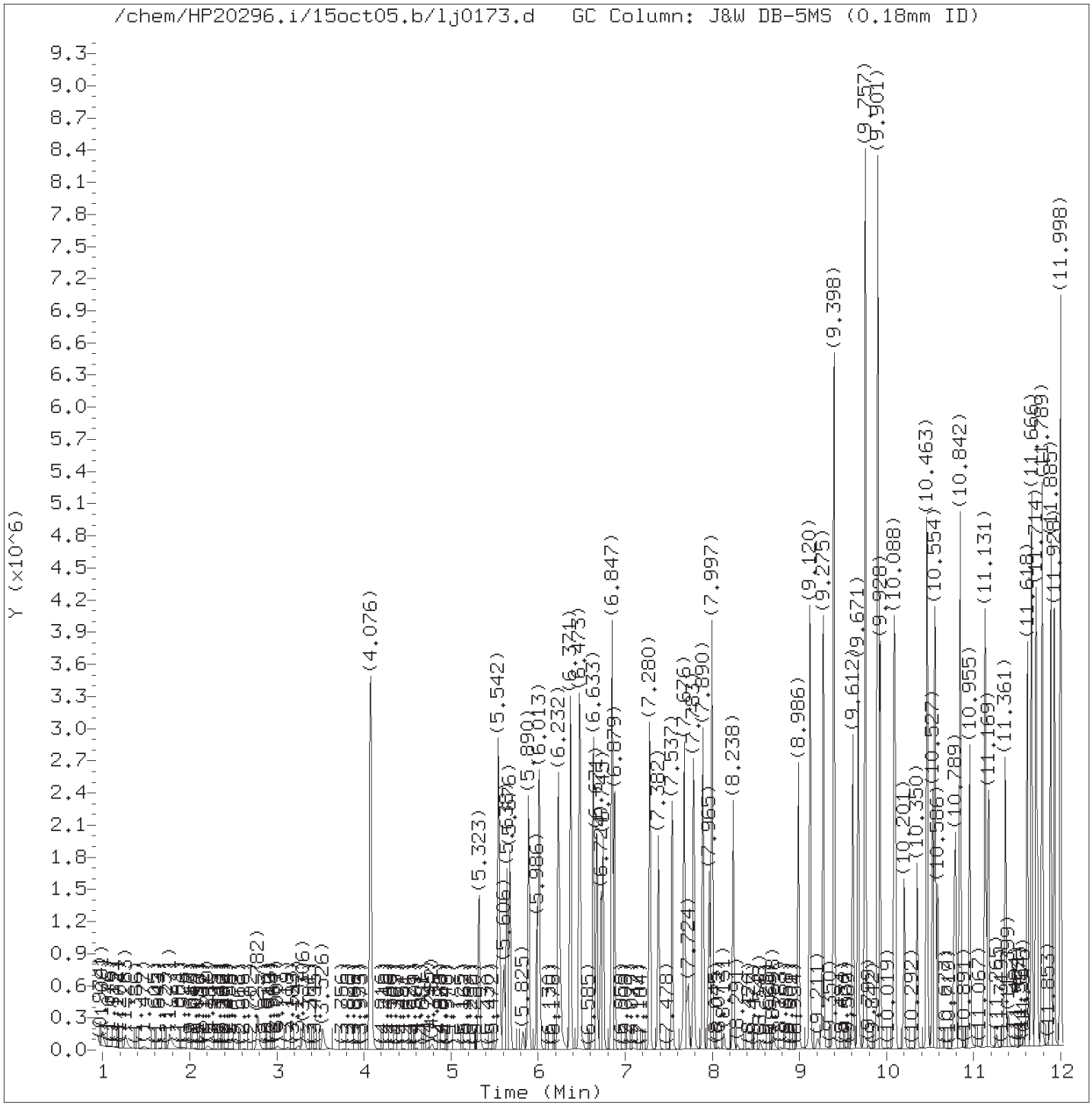
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/05/2015 at 20:33. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/07/2015 at 10:52. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

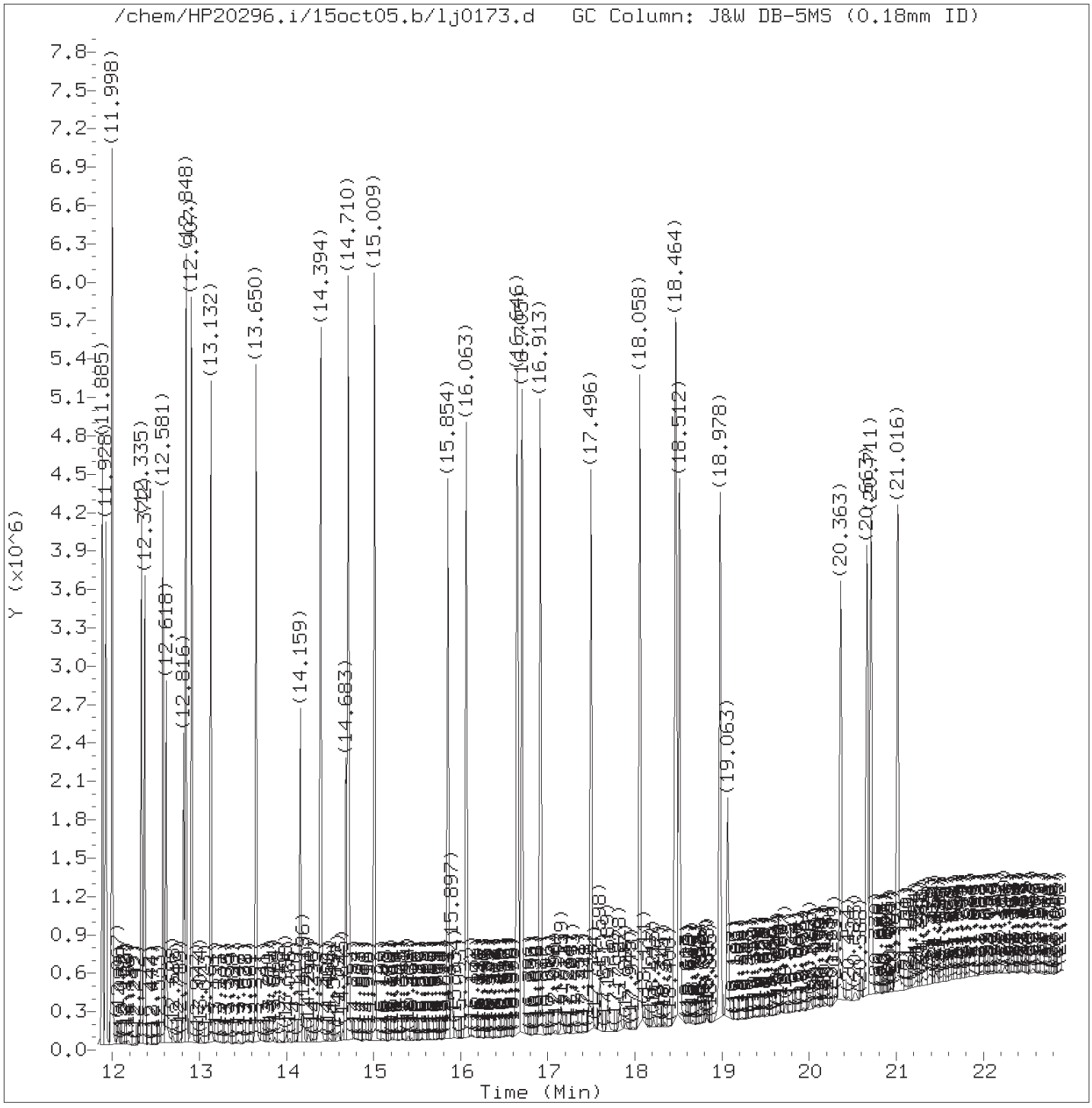
Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0173.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 18:41 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 13:10
Date, time and analyst ID of latest file update: 05-Oct-2015 20:00 ceb05247

Sample Name: 17924MS Lab Sample ID: 8064319

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 20:33.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0173.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 18:41 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 13:10
Date, time and analyst ID of latest file update: 05-Oct-2015 20:00 ceb05247

Sample Name: 17924MS Lab Sample ID: 8064319

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 20:33.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0173.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 18:41 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 13:10
Date, time and analyst ID of latest file update: 05-Oct-2015 20:00 ceb05247

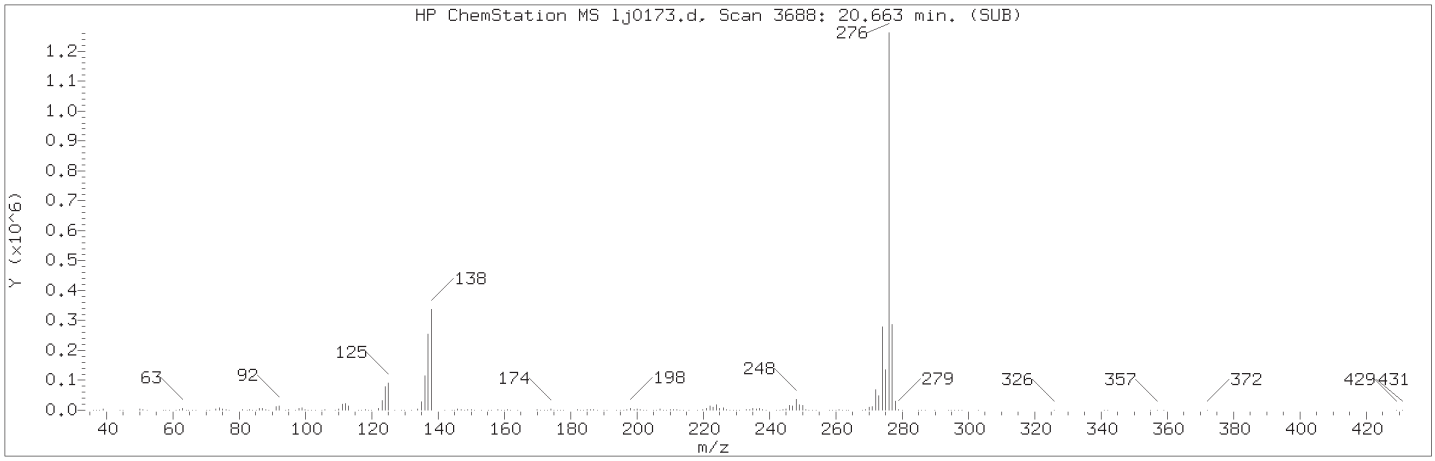
Sample Name: 17924MS Lab Sample ID: 8064319

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
19)*1,4-Dichlorobenzene-d4	(1)	5.986	152	242179	5.000
36)$Nitrobenzene-d5	(2)	6.847	82	1771321	19.706
52)*Naphthalene-d8	(2)	7.965	136	942894	5.000
53) Naphthalene	(2)	7.997	128	2294589	11.271
65) 2-Methylnaphthalene	(2)	9.120	142	1445968	11.152
72)$2-Fluorobiphenyl	(3)	9.757	172	3257374	20.944
90) Acenaphthylene	(3)	10.554	152	2309462	11.677
92)*Acenaphthene-d10	(3)	10.794	164	555982	5.000
93) Acenaphthene	(3)	10.842	153	1533470	11.467
103) Fluorene	(3)	11.666	166	1705007	11.965
130)*Phenanthrene-d10	(4)	12.816	188	1004520	5.000
131) Phenanthrene	(4)	12.848	178	2438503	10.487
134) Anthracene	(4)	12.907	178	2482202	11.133
142) Fluoranthene	(4)	14.394	202	2816607	11.540
145)*Pyrene-d10	(5)	14.683	212	1171879	5.000
146) Pyrene	(5)	14.710	202	2917638	11.301
149)$Terphenyl-d14	(5)	15.009	244	2160109	13.576
158) Benzo(a)anthracene	(5)	16.646	228	2654113	11.924
161) Chrysene	(5)	16.705	228	2589131	12.329
168) Benzo(b)fluoranthene	(6)	18.464	252	2526507	12.774
170) Benzo(k)fluoranthene	(6)	18.512	252	2476907	12.616
171) Benzo(a)pyrene	(6)	18.978	252	2312837	12.557
172)*Perylene-d12	(6)	19.063	264	859184	5.000
176) Indeno(1,2,3-cd)pyrene	(6)	20.663	276	2569486M	11.908
177) Dibenz(a,h)anthracene	(6)	20.711	278	2129327	11.946
178) Benzo(g,h,i)perylene	(6)	21.021	276	2227749	11.750

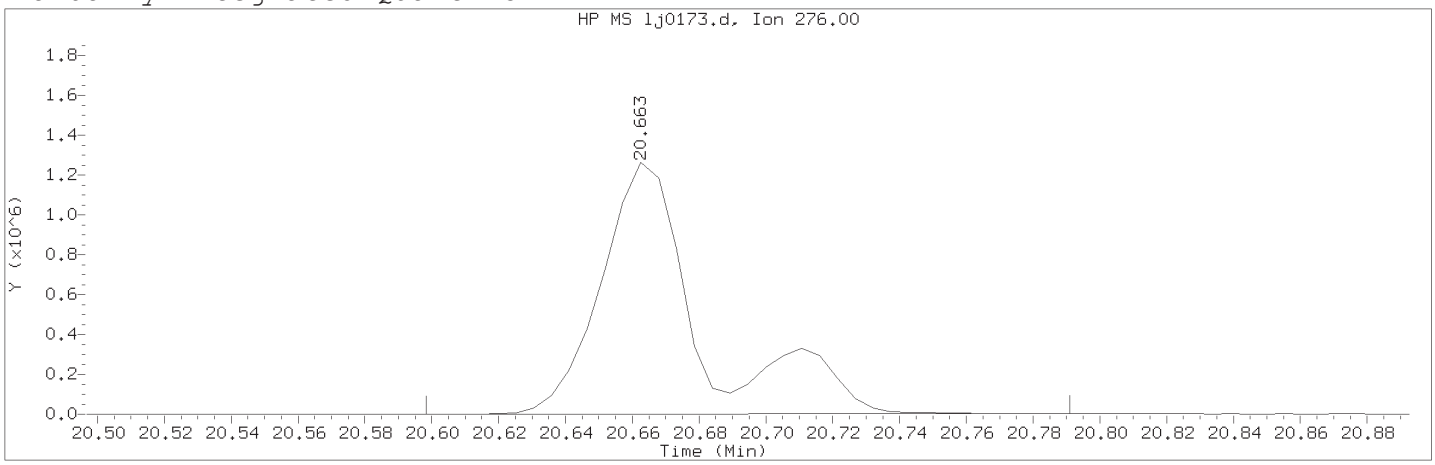
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/05/2015 at 20:33.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct05.b/lj0173.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 18:41 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 13:10
Date, time and analyst ID of latest file update: 05-Oct-2015 20:00 ceb05247

Sample Name: 17924MS Lab Sample ID: 8064319

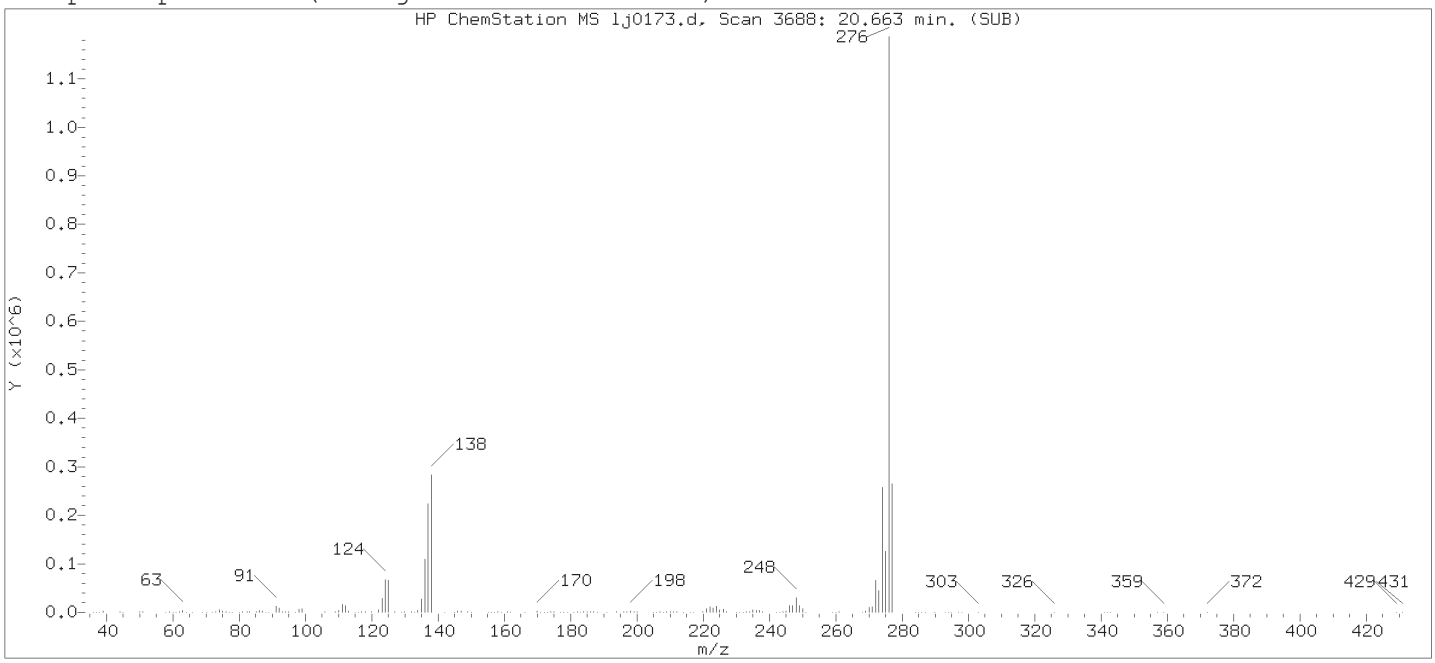
Compound Number : 176
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3688
Retention Time (minutes) : 20.663
Quant Ion : 276.00
Area (flag) : 2569486M
On-Column Amount (ng/ul) : 11.9076
Integration start scan : 3675 Integration stop scan: 3711
Y at integration start : 418 Y at integration end: 4497

Reason for manual integration: improper integration

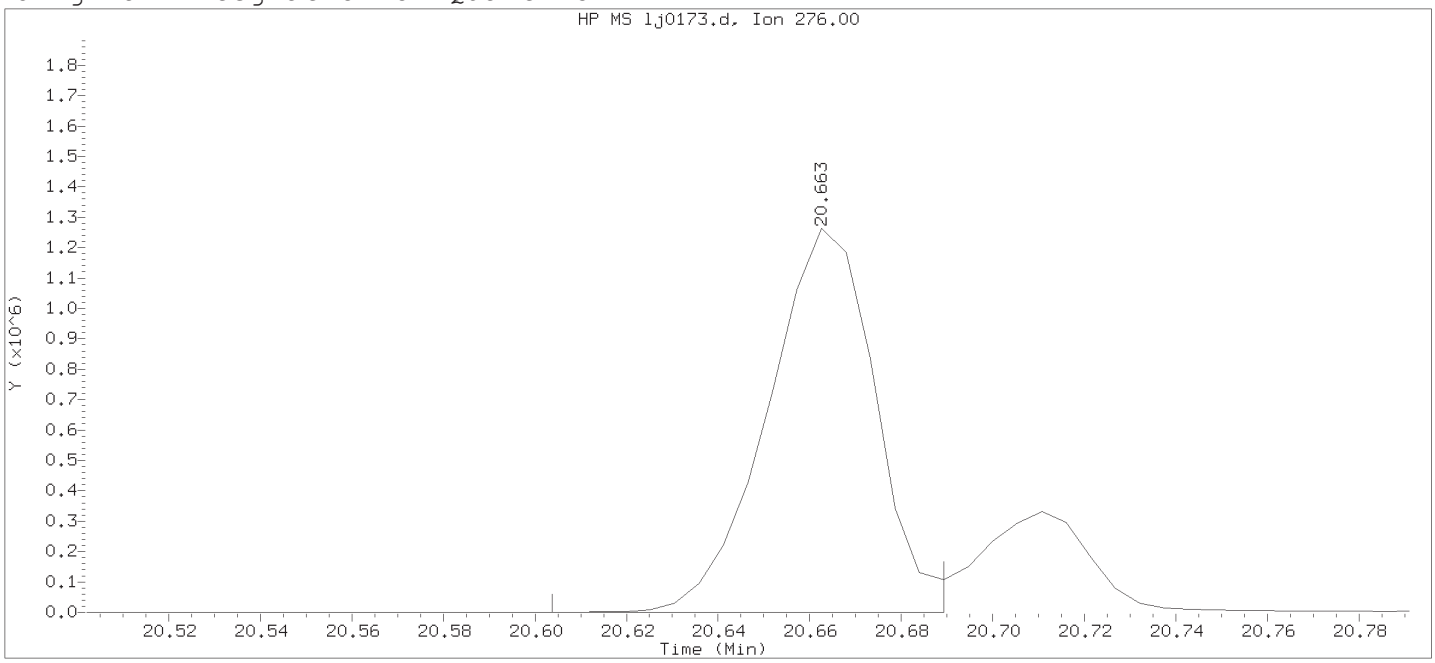
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/05/2015 at 20:33.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 10/07/2015 at 10:52.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct05.b/lj0173.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 18:41 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 13:10
Date, time and analyst ID of latest file update: 05-Oct-2015 19:06 Unknown

Sample Name: 17924MS Lab Sample ID: 8064319

Compound Number	:	176
Compound Name	:	Indeno(1,2,3-cd)pyrene
Scan Number	:	3688
Retention Time (minutes)	:	20.663
Quant Ion	:	276.00
Area	:	2048181
On-column Amount (ng/ul)	:	9.4917
Integration start scan	:	3676 Integration stop scan: 3692
Y at integration start	:	0 Y at integration end: 269

Digitally signed by Catherine E. Bachman on 10/05/2015 at 20:33.
Target 3.5 esignature user ID: cebachman

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct05a.b/lj0185.d Injection date and time: **05-OCT-2015 22:59**
Data file Sample Info. Line: 17924MSD;8064320;1;3;MSD;;; Instrument ID: **HP20296.i** Batch: **15272WAG**
Date, time and analyst ID of latest file update: 06-Oct-2015 09:54 kvd02804

Blank Data file reference: **/chem/HP20296.i/15oct05.b/lj0152.d**

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 05-OCT-2015 21:20
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct05a.b/lj0181.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 245 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
19) 1,4-Dichlorobenzene-d4	5.964	(-0.011)	940	152	207257	(-11)	5.00	
52) Naphthalene-d8	7.938	(0.000)	1309	136	802758	(-11)	5.00	
92) Acenaphthene-d10	10.767	(0.000)	1838	164	461500	(-12)	5.00	
130) Phenanthrene-d10	12.800	(0.000)	2218	188	865349	(-11)	5.00	
145) Pyrene-d10	14.656	(0.000)	2565	212	978407	(-12)	5.00	
172) Perylene-d12	19.031	(0.000)	3383	264	685152	(-16)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
36) Nitrobenzene-d5	(2)	6.826	(-0.001)	82	1524982	19.928	80%		46 - 128
72) 2-Fluorobiphenyl	(3)	9.735	(0.000)	172	2836846	21.975	88%		61 - 112
149) Terphenyl-d14	(5)	14.988	(0.000)	244	2053250	15.456	62%		43 - 131

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
53) Naphthalene	(2)	7.970	(-0.000)	128	2020533	11.657	47.58			0.03
65) 2-Methylnaphthalene	(2)	9.099	(-0.000)	142	1277226	11.570	47.22			0.03
90) Acenaphthylene	(3)	10.532	(0.000)	152	2046218	12.465	50.88			0.03
93) Acenaphthene	(3)	10.821	(0.000)	153	1362931	12.278	50.11			0.03
103) Fluorene	(3)	11.645	(-0.000)	166	1519365	12.845	52.43			0.03
131) Phenanthrene	(4)	12.827	(-0.000)	178	2155231	10.760	43.92			0.03
134) Anthracene	(4)	12.886	(0.000)	178	2173063	11.314	46.18			0.03
142) Fluoranthene	(4)	14.367	(-0.000)	202	2468545	11.741	47.92			0.03
146) Pyrene	(5)	14.683	(0.000)	202	2532922	11.751	47.96			0.03
158) Benzo(a)anthracene	(5)	16.614	(-0.000)	228	2248916	12.102	49.40			0.03
161) Chrysene	(5)	16.678	(-0.000)	228	2193579	12.511	51.06			0.03
168) Benzo(b)fluoranthene	(6)	18.432	(0.000)	252	2104328	13.342	54.46			0.03
170) Benzo(k)fluoranthene	(6)	18.480	(0.000)	252	2102499	13.429	54.81			0.03
171) Benzo(a)pyrene	(6)	18.946	(-0.000)	252	1914729	13.036	53.21			0.03
176) Indeno(1,2,3-cd)pyrene	(6)	20.625	(-0.000)	276	2171625M	12.620	51.51			0.03
177) Dibenz(a,h)anthracene	(6)	20.678	(-0.000)	278	1840726	12.950	52.86			0.03
178) Benzo(g,h,i)perylene	(6)	20.983	(-0.000)	276	1943361	12.853	52.46			0.03

M = Compound was manually integrated.

Digitally signed by Katheryne V. Dinan on 10/06/2015 at 09:56. Target 3.5 esignature user ID: kvd02804

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct05a.b/lj0185.d Injection date and time: **05-OCT-2015 22:59**
Data file Sample Info. Line: 17924MSD;8064320;1;3;MSD;;; Instrument ID: **HP20296.i** Batch: **15272WAG**
Date, time and analyst ID of latest file update: 06-Oct-2015 09:54 kvd02804

Blank Data file reference: **/chem/HP20296.i/15oct05.b/lj0152.d**

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 05-OCT-2015 21:20
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct05a.b/lj0181.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 245 ml Volume Injected (Vi): 0.5 ul

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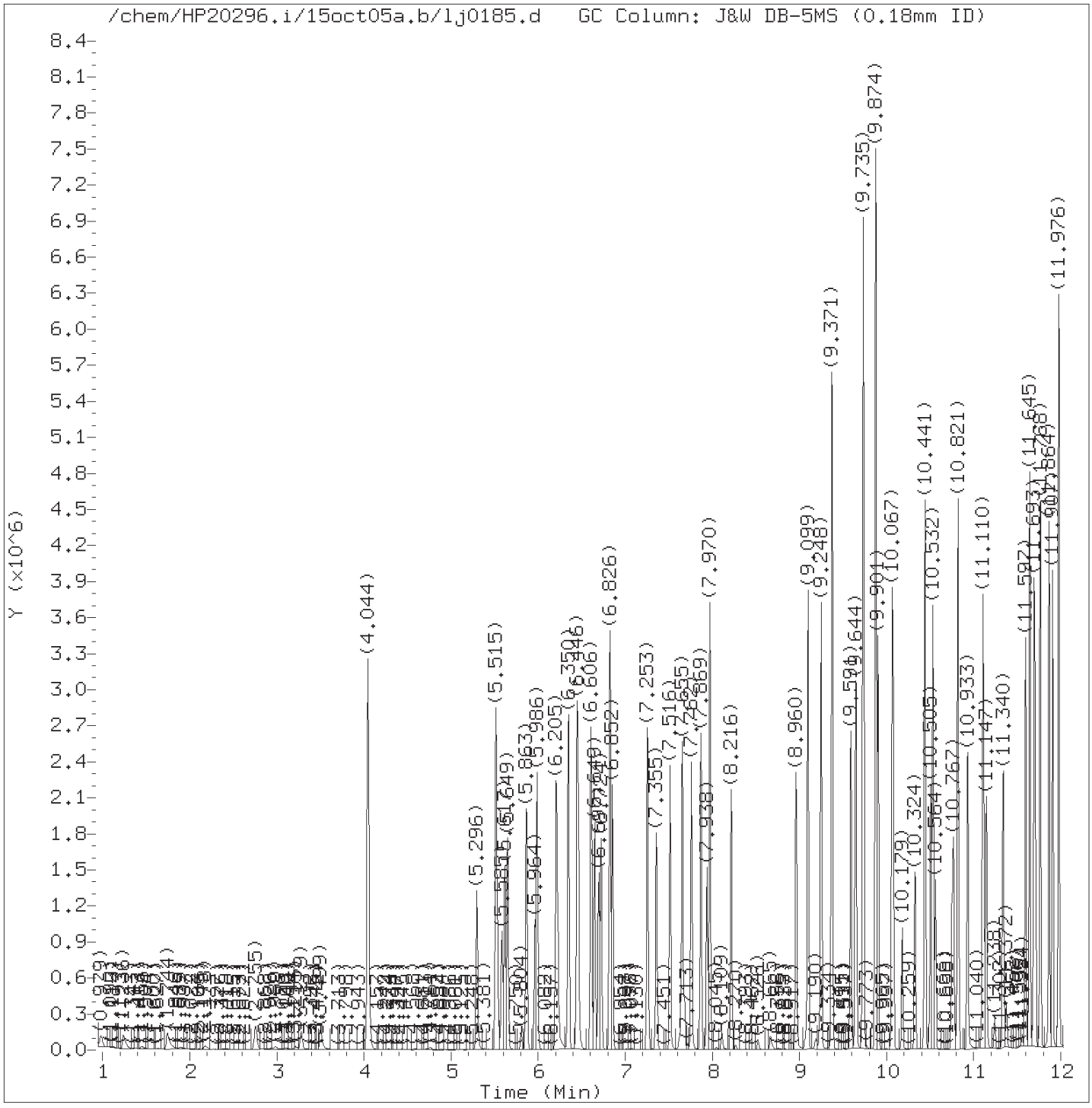
Total number of targets = 17

Digitally signed by Katheryne V. Dinan on 10/06/2015 at 09:56. Target 3.5 esignature user ID: kvd02804

Secondary review performed and digitally signed by Matthew E. Barton on 10/07/2015 at 10:52. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

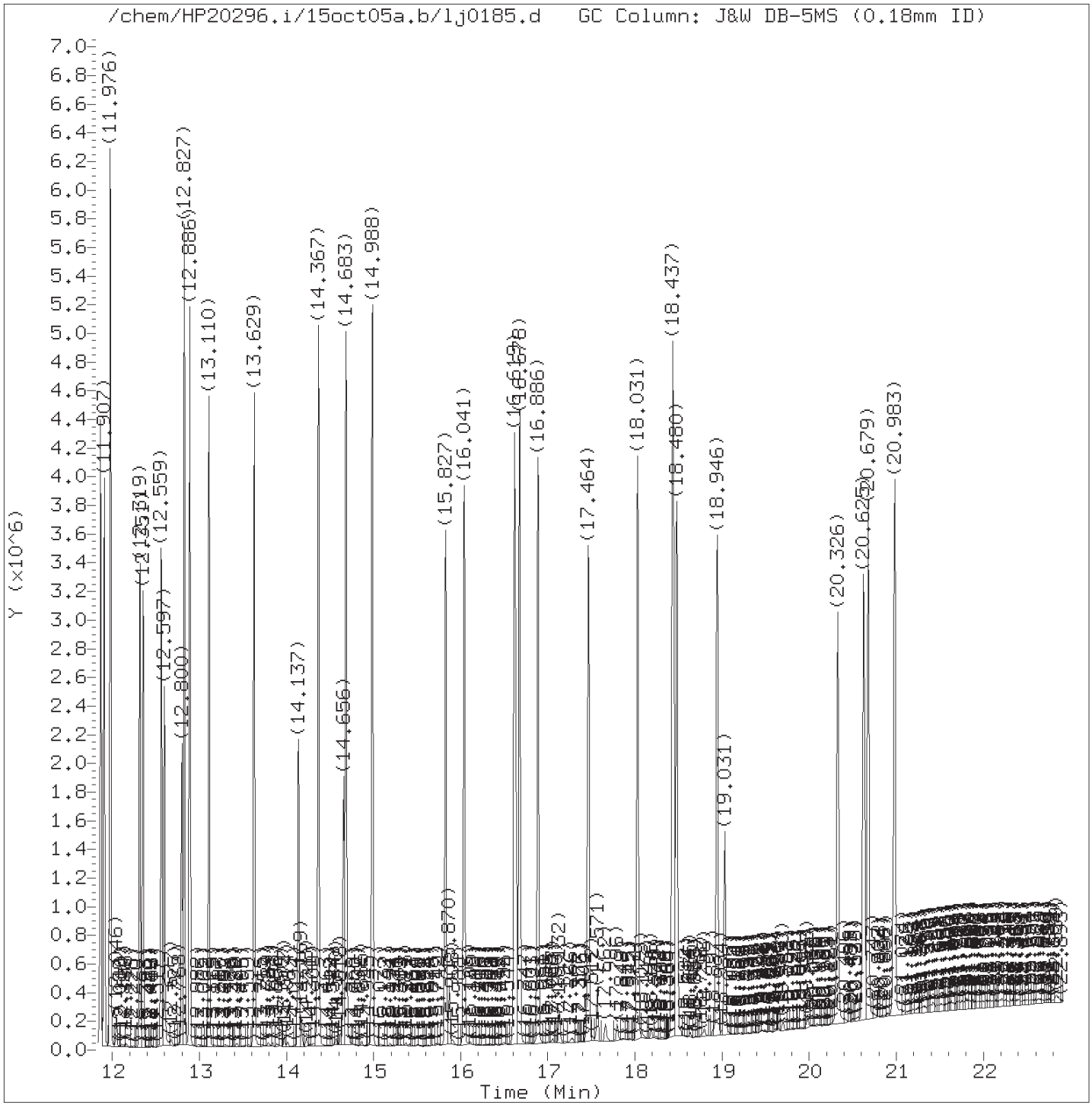
Target Revision 3.5

Data File: /chem/HP20296.i/15oct05a.b/lj0185.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 22:59 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 06-Oct-2015 09:54 kvd02804

Sample Name: 17924MSD Lab Sample ID: 8064320

Digitally signed by Katheryne V. Dinan
on 10/06/2015 at 09:56.
Target 3.5 esignature user ID: kvd02804



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05a.b/lj0185.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 22:59 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 06-Oct-2015 09:54 kvd02804

Sample Name: 17924MSD Lab Sample ID: 8064320

Digitally signed by Katheryne V. Dinan
on 10/06/2015 at 09:56.
Target 3.5 esignature user ID: kvd02804

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05a.b/lj0185.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 22:59 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 06-Oct-2015 09:54 kvd02804

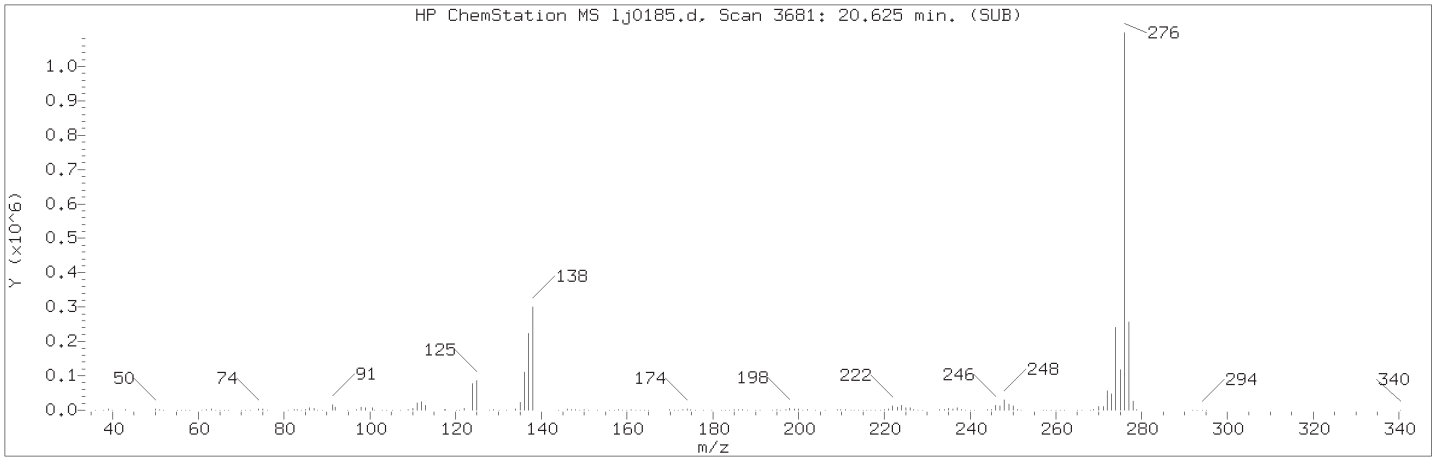
Sample Name: 17924MSD Lab Sample ID: 8064320

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
19)*1,4-Dichlorobenzene-d4	(1)	5.964	152	207257	5.000
36)$Nitrobenzene-d5	(2)	6.826	82	1524982	19.928
52)*Naphthalene-d8	(2)	7.938	136	802758	5.000
53) Naphthalene	(2)	7.970	128	2020533	11.657
65) 2-Methylnaphthalene	(2)	9.099	142	1277226	11.570
72)$2-Fluorobiphenyl	(3)	9.735	172	2836846	21.975
90) Acenaphthylene	(3)	10.532	152	2046218	12.465
92)*Acenaphthene-d10	(3)	10.767	164	461500	5.000
93) Acenaphthene	(3)	10.821	153	1362931	12.278
103) Fluorene	(3)	11.645	166	1519365	12.845
130)*Phenanthrene-d10	(4)	12.800	188	865349	5.000
131) Phenanthrene	(4)	12.827	178	2155231	10.760
134) Anthracene	(4)	12.886	178	2173063	11.314
142) Fluoranthene	(4)	14.367	202	2468545	11.741
145)*Pyrene-d10	(5)	14.656	212	978407	5.000
146) Pyrene	(5)	14.683	202	2532922	11.751
149)$Terphenyl-d14	(5)	14.988	244	2053250	15.456
158) Benzo(a)anthracene	(5)	16.614	228	2248916	12.102
161) Chrysene	(5)	16.678	228	2193579	12.511
168) Benzo(b)fluoranthene	(6)	18.432	252	2104328	13.342
170) Benzo(k)fluoranthene	(6)	18.480	252	2102499	13.429
171) Benzo(a)pyrene	(6)	18.946	252	1914729	13.036
172)*Perylene-d12	(6)	19.031	264	685152	5.000
176) Indeno(1,2,3-cd)pyrene	(6)	20.625	276	2171625M	12.620
177) Dibenz(a,h)anthracene	(6)	20.679	278	1840726	12.950
178) Benzo(g,h,i)perylene	(6)	20.983	276	1943361	12.853

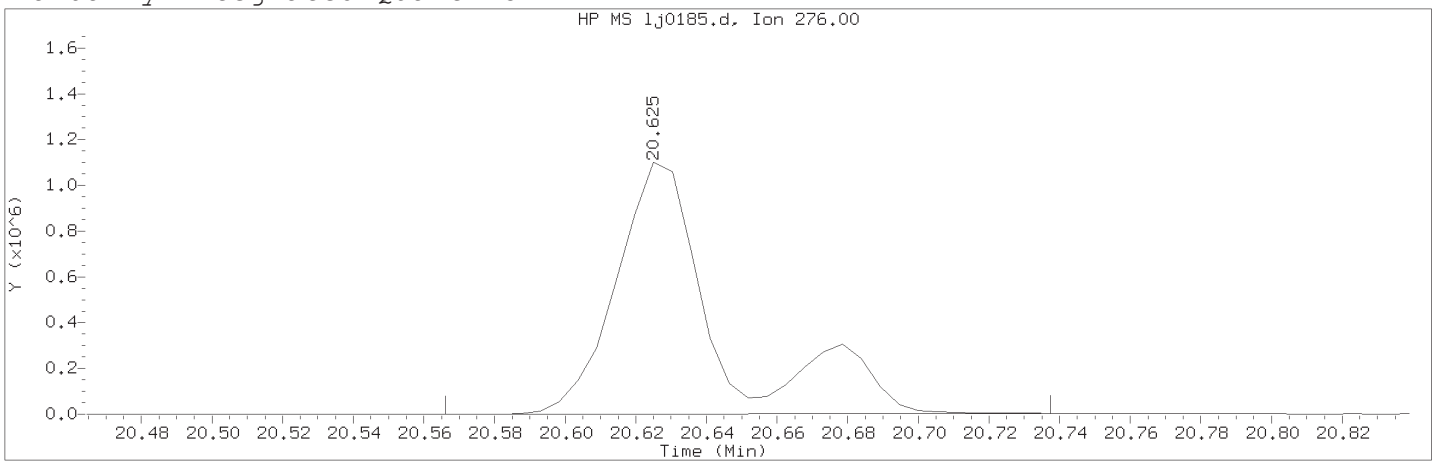
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Katheryne V. Dinan
on 10/06/2015 at 09:56.
Target 3.5 esignature user ID: kvd02804

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct05a.b/lj0185.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 22:59 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 06-Oct-2015 09:54 kvd02804

Sample Name: 17924MSD Lab Sample ID: 8064320

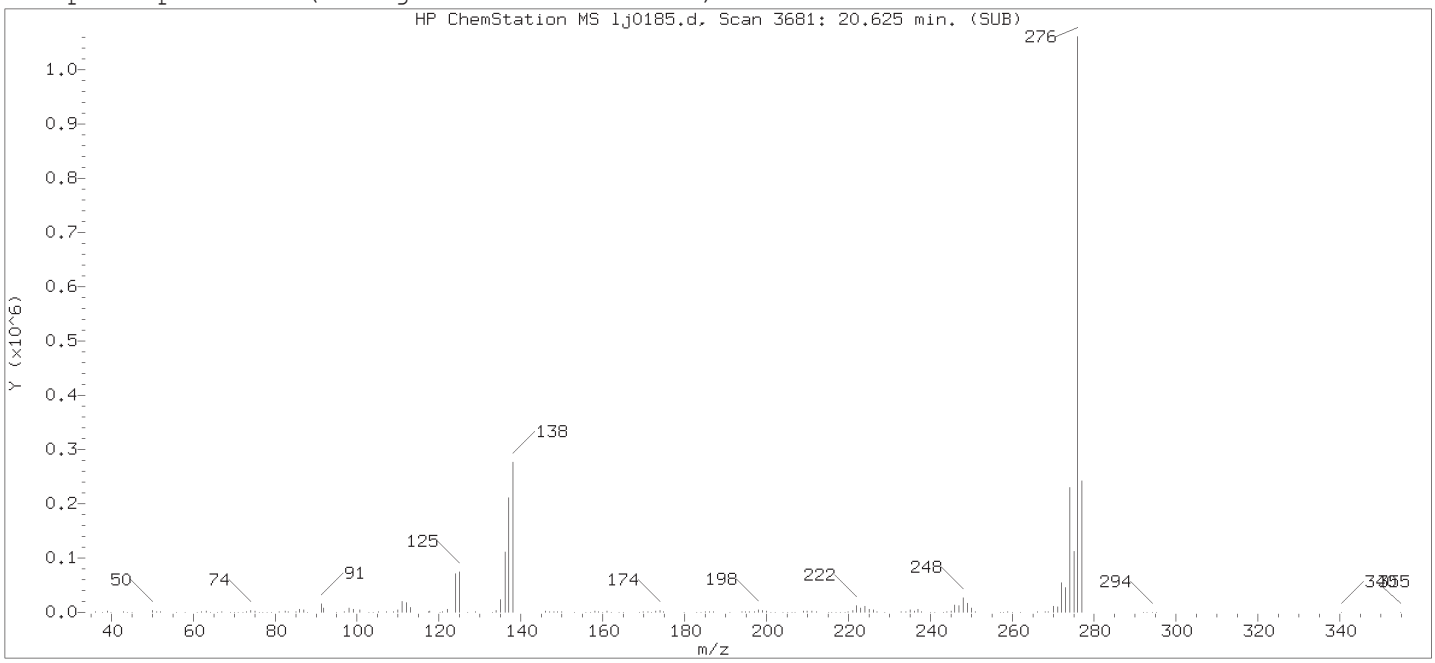
Compound Number : 176
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3681
Retention Time (minutes) : 20.625
Quant Ion : 276.00
Area (flag) : 2171625M
On-Column Amount (ng/ul) : 12.6201
Integration start scan : 3669 Integration stop scan: 3701
Y at integration start : 0 Y at integration end: 3387

Reason for manual integration: improper integration

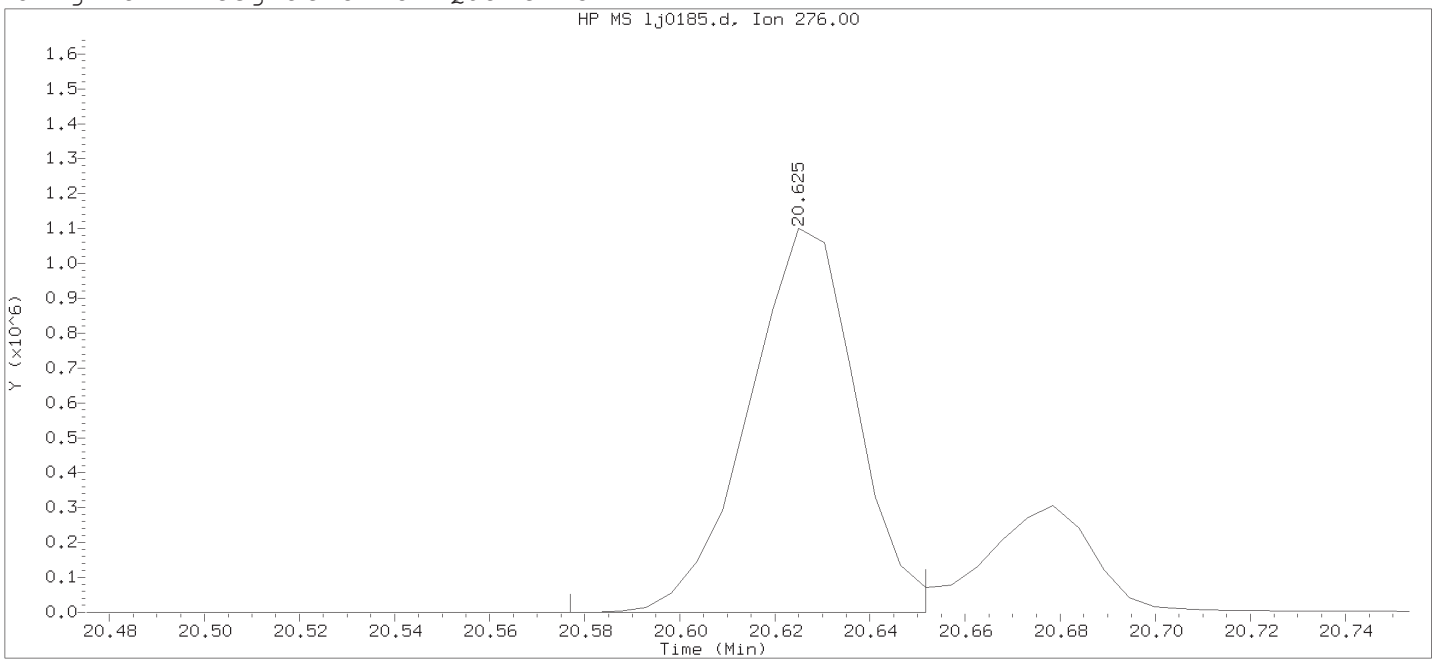
Analyst responsible for change: Digitally signed by Katheryne V. Dinan
on 10/06/2015 at 09:56.
Target 3.5 esignature user ID: kvd02804

Secondary review performed and digitally signed by Matthew E. Barton on 10/07/2015 at 10:52.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct05a.b/lj0185.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 22:59 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct05a.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 21:20
Date, time and analyst ID of latest file update: 05-Oct-2015 23:25 Unknown

Sample Name: 17924MSD Lab Sample ID: 8064320

Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3681		
Retention Time (minutes)	: 20.625		
Quant Ion	: 276.00		
Area	: 1711433		
On-column Amount (ng/ul)	: 9.9457		
Integration start scan	: 3671	Integration stop scan:	3685
Y at integration start	: 0	Y at integration end:	211

Digitally signed by Katheryne V. Dinan on 10/06/2015 at 09:56.
Target 3.5 esignature user ID: kvd02004

Data file: /chem/HP20296.i/15oct05.b/lj0153.d Injection date and time: **05-OCT-2015 08:55**
Data file Sample Info. Line: 272WGLCSL;272WGLCS;1;3;LCS;;; Instrument ID: **HP20296.i** Batch: **15272WAG**
Date, time and analyst ID of latest file update: 05-Oct-2015 13:11 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct05.b/lj0152.d**

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 05-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct05.b/lj0151.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
19) 1,4-Dichlorobenzene-d4	5.980(0.000)	943	152	232278 (-11)	5.00	
52) Naphthalene-d8	7.959(0.000)	1313	136	913809 (-8)	5.00	
92) Acenaphthene-d10	10.789(0.000)	1842	164	528607 (-8)	5.00	
130) Phenanthrene-d10	12.816(0.000)	2221	188	950381 (-12)	5.00	
145) Pyrene-d10	14.677(0.000)	2569	212	1097806 (-13)	5.00	
172) Perylene-d12	19.058(0.000)	3388	264	815882 (-12)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
36) Nitrobenzene-d5	(2)	6.842(0.000)	82	1707777	19.604	78%		46 - 128
72) 2-Fluorobiphenyl	(3)	9.751(0.000)	172	3161044	21.378	86%		61 - 112
149) Terphenyl-d14	(5)	15.004(0.000)	244	2669649	17.911	72%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
53) Naphthalene	(2)	7.992(0.000)	128	2179289	11.045	44.18			0.03
65) 2-Methylnaphthalene	(2)	9.120(0.000)	142	1356532	10.795	43.18			0.03
90) Acenaphthylene	(3)	10.548(0.000)	152	2252776	11.981	47.92			0.03
93) Acenaphthene	(3)	10.837(0.000)	153	1519133	11.948	47.79			0.03
103) Fluorene	(3)	11.661(0.000)	166	1698293	12.535	50.14			0.03
131) Phenanthrene	(4)	12.843(0.000)	178	2422526	11.012	44.05			0.03
134) Anthracene	(4)	12.907(0.000)	178	2482398	11.768	47.07			0.03
142) Fluoranthene	(4)	14.388(0.000)	202	2746067	11.892	47.57			0.03
146) Pyrene	(5)	14.704(0.000)	202	2856332	11.810	47.24			0.03
158) Benzo(a)anthracene	(5)	16.640(0.000)	228	2606393	12.500	50.00			0.03
161) Chrysene	(5)	16.699(0.000)	228	2622952	13.333	53.33			0.03
168) Benzo(b)fluoranthene	(6)	18.459(-0.000)	252	2518305	13.408	53.63			0.03
170) Benzo(k)fluoranthene	(6)	18.507(-0.000)	252	2476923	13.285	53.14			0.03
171) Benzo(a)pyrene	(6)	18.967(-0.000)	252	2263968	12.944	51.78			0.03
176) Indeno(1,2,3-cd)pyrene	(6)	20.657(-0.000)	276	2556270M	12.475	49.90			0.03
177) Dibenz(a,h)anthracene	(6)	20.705(-0.000)	278	2105698	12.440	49.76			0.03
178) Benzo(g,h,i)perylene	(6)	21.010(-0.000)	276	2234812	12.412	49.65			0.03

M = Compound was manually integrated.

Digitally signed by Holly B. Ziegler on 10/05/2015 at 13:11. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP20296.i/15oct05.b/lj0153.d Injection date and time: **05-OCT-2015 08:55**
Data file Sample Info. Line: 272WGLCSL;272WGLCS;1;3;LCS;;; Instrument ID: **HP20296.i** Batch: **15272WAG**
Date, time and analyst ID of latest file update: 05-Oct-2015 13:11 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct05.b/lj0152.d**

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 05-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct05.b/lj0151.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

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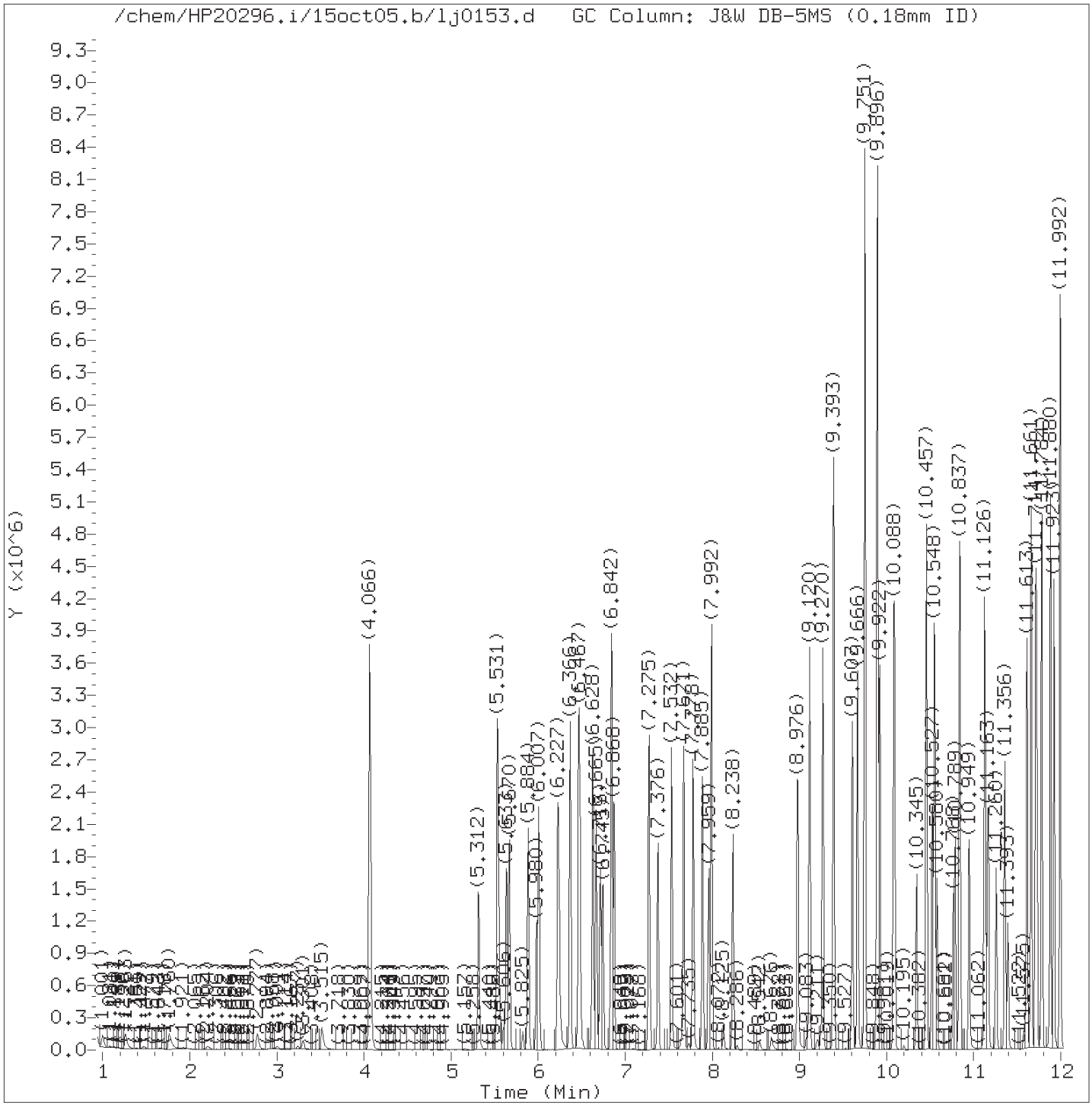
Total number of targets = 17

Digitally signed by Holly B. Ziegler on 10/05/2015 at 13:11. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 10/07/2015 at 10:52. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

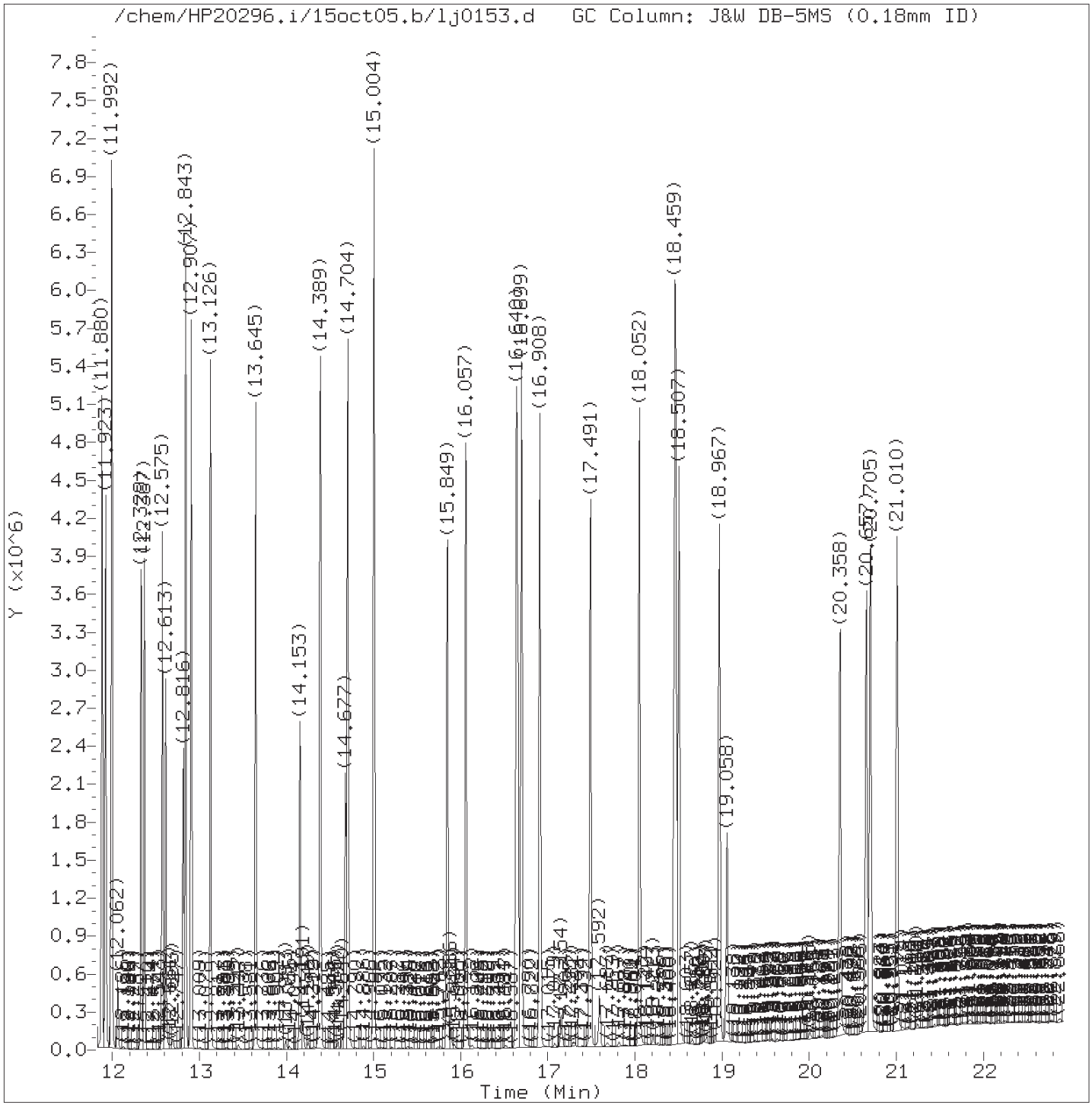
Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0153.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 08:55 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 13:10
Date, time and analyst ID of latest file update: 05-Oct-2015 13:11 hbz01996

Sample Name: 272WGLCSL Lab Sample ID: 272WGLCS

Digitally signed by Holly B. Ziegler
on 10/05/2015 at 13:11.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0153.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 08:55 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 13:10
Date, time and analyst ID of latest file update: 05-Oct-2015 13:11 hbz01996

Sample Name: 272WGLCSL Lab Sample ID: 272WGLCS

Digitally signed by Holly B. Ziegler
on 10/05/2015 at 13:11.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct05.b/lj0153.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 08:55 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 13:10
Date, time and analyst ID of latest file update: 05-Oct-2015 13:11 hbz01996

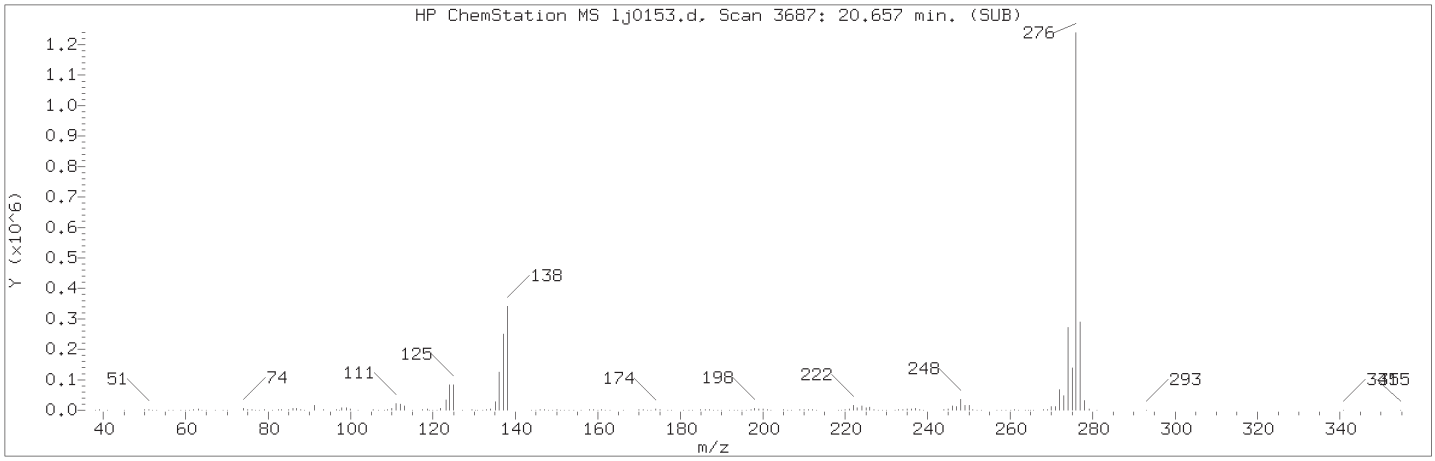
Sample Name: 272WGLCSL Lab Sample ID: 272WGLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
19)*1,4-Dichlorobenzene-d4	(1)	5.980	152	232278	5.000
36)$Nitrobenzene-d5	(2)	6.842	82	1707777	19.604
52)*Naphthalene-d8	(2)	7.959	136	913809	5.000
53) Naphthalene	(2)	7.992	128	2179289	11.045
65) 2-Methylnaphthalene	(2)	9.120	142	1356532	10.795
72)$2-Fluorobiphenyl	(3)	9.751	172	3161044	21.378
90) Acenaphthylene	(3)	10.548	152	2252776	11.981
92)*Acenaphthene-d10	(3)	10.789	164	528607	5.000
93) Acenaphthene	(3)	10.837	153	1519133	11.948
103) Fluorene	(3)	11.661	166	1698293	12.535
130)*Phenanthrene-d10	(4)	12.816	188	950381	5.000
131) Phenanthrene	(4)	12.843	178	2422526	11.012
134) Anthracene	(4)	12.907	178	2482398	11.768
142) Fluoranthene	(4)	14.389	202	2746067	11.892
145)*Pyrene-d10	(5)	14.677	212	1097806	5.000
146) Pyrene	(5)	14.704	202	2856332	11.810
149)$Terphenyl-d14	(5)	15.004	244	2669649	17.911
158) Benzo(a)anthracene	(5)	16.640	228	2606393	12.500
161) Chrysene	(5)	16.699	228	2622952	13.333
168) Benzo(b)fluoranthene	(6)	18.459	252	2518305	13.408
170) Benzo(k)fluoranthene	(6)	18.507	252	2476923	13.285
171) Benzo(a)pyrene	(6)	18.967	252	2263968	12.944
172)*Perylene-d12	(6)	19.058	264	815882	5.000
176) Indeno(1,2,3-cd)pyrene	(6)	20.657	276	2556270M	12.475
177) Dibenz(a,h)anthracene	(6)	20.705	278	2105698	12.440
178) Benzo(g,h,i)perylene	(6)	21.010	276	2234812	12.412

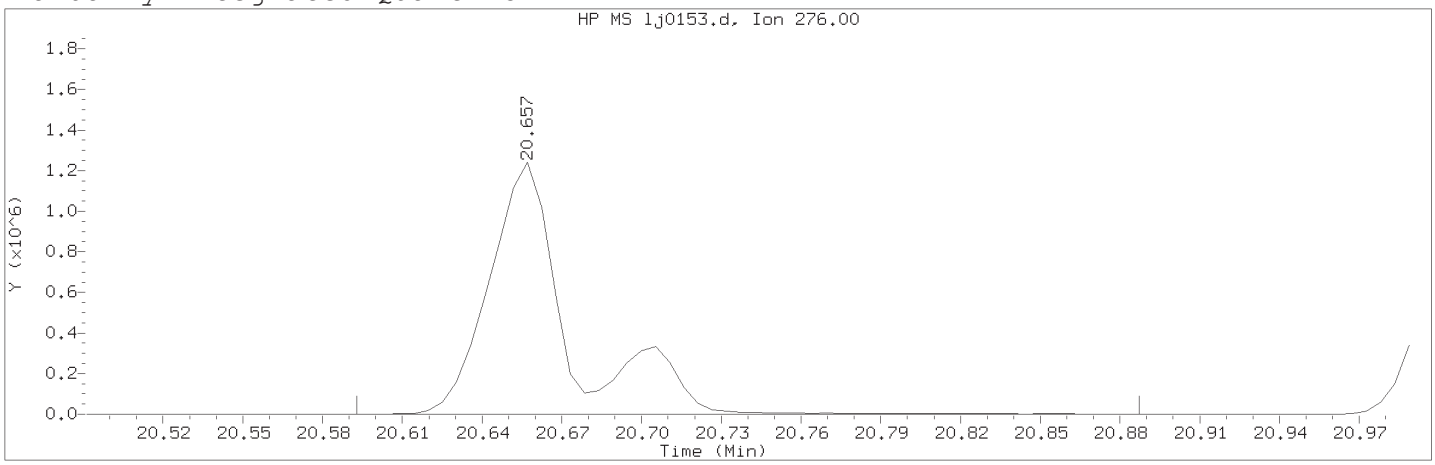
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/05/2015 at 13:11.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct05.b/lj0153.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 08:55 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 13:10
Date, time and analyst ID of latest file update: 05-Oct-2015 13:11 hbz01996

Sample Name: 272WGLCSL Lab Sample ID: 272WGLCS

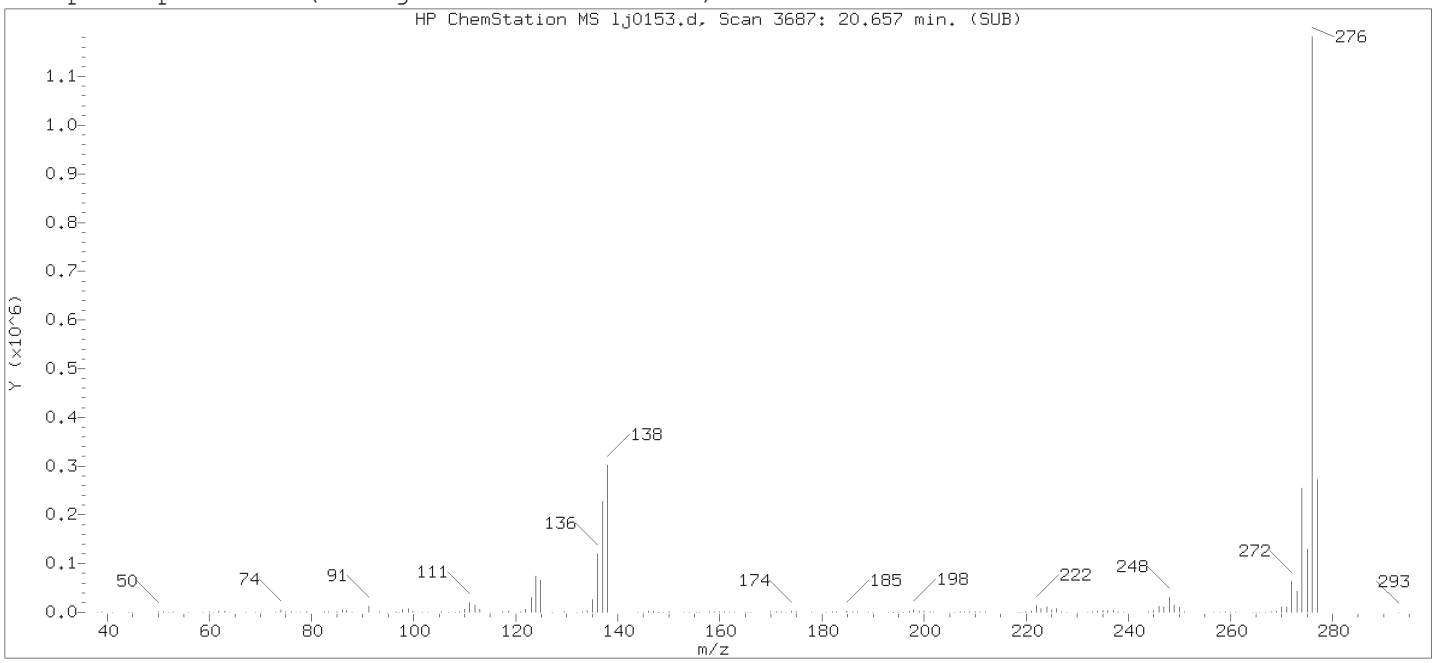
Compound Number : 176
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3687
Retention Time (minutes) : 20.657
Quant Ion : 276.00
Area (flag) : 2556270M
On-Column Amount (ng/ul) : 12.4751
Integration start scan : 3674 Integration stop scan: 3729
Y at integration start : 0 Y at integration end: 1045

Reason for manual integration: improper integration

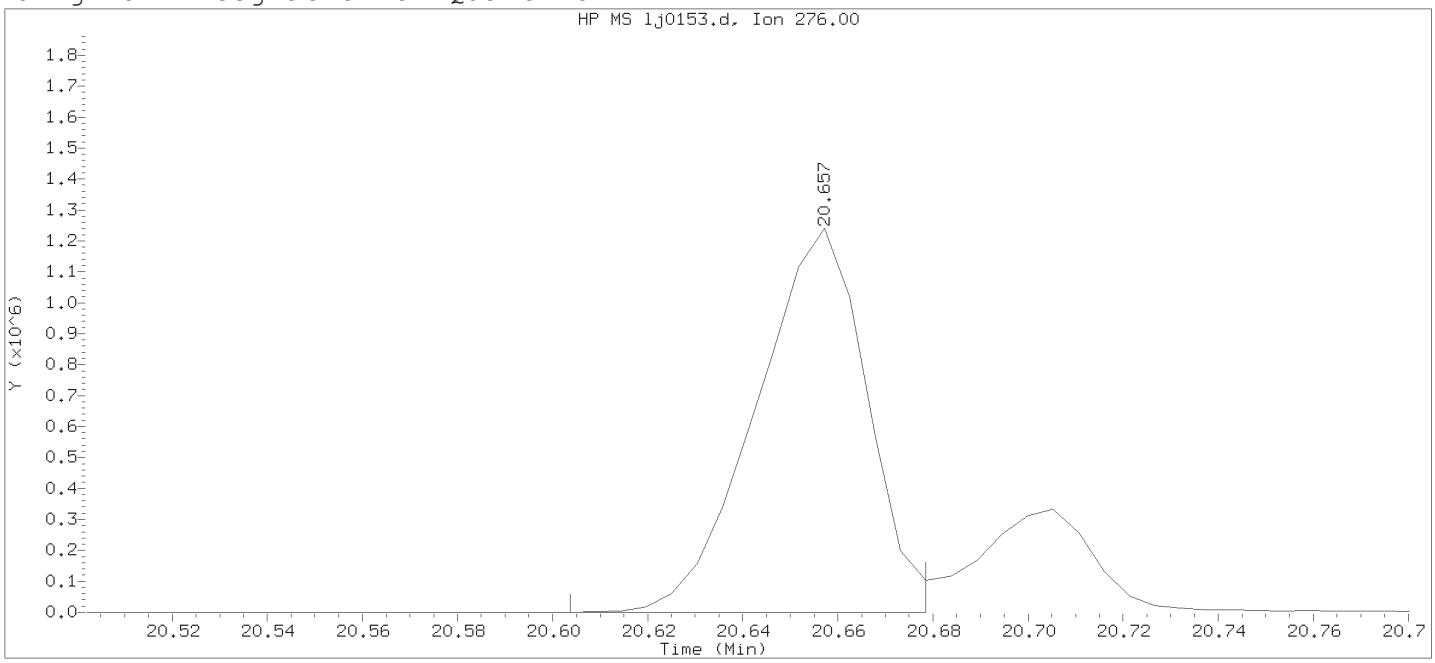
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 10/05/2015 at 13:11.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 10/07/2015 at 10:52.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct05.b/lj0153.d Instrument ID: HP20296.i
Injection date and time: 05-OCT-2015 08:55 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct05.b/rv8270c.m Sublist used: 4656
Calibration date and time: 05-OCT-2015 07:39
Date, time and analyst ID of latest file update: 05-Oct-2015 09:20 Unknown

Sample Name: 272WGLCSL Lab Sample ID: 272WGLCS

Compound Number	: 176		
Compound Name	: Indeno(1,2,3-cd)pyrene		
Scan Number	: 3687		
Retention Time (minutes)	: 20.657		
Quant Ion	: 276.00		
Area	: 1990477		
On-column Amount (ng/ul)	: 9.7139		
Integration start scan	: 3676	Integration stop scan:	3690
Y at integration start	: 0	Y at integration end:	160

Digitally signed by Holly B. Ziegler on 10/05/2015 at 13:11.
Target 3.5 esignature user ID: HBZ01996

Extraction/Distillation/Digestion Logs

Semivolatiles by GC/MS

Organic Extraction Batchlog Assigned to: 2807 Nicholas Shroyer Reviewed by: HBZ 10/5/15 Start Date: 9-29-15 Start time: 19:00

15272WAG026

Tech 1: NS2807 Tech 2: _____

Dept: 26 Prep Analysis: 07807 BNA Water Extraction PAHs in Water by GC/MS

QC	Sample Code	Amt (mL)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH 2	BC	Comments
8064319MS	17924	247	SS1527126B	1.0	~~MS1525926B~~ (SA)	1.0	1.0	7	✓	153A	cloudy, beige
8064320MSD	17924	245	SS1527126B	1.0	~~MS1525926B~~ (SA)	1.0	1.0		✓	153A	" "
BLANKA	SBLKWG272	250	SS1527126B	1.0	—	—	1.0		✓	—	Tap H_2O
LCSA	272WGLCS	250	SS1527126B	1.0	~~MS1525926B~~ (SA)	1.0	1.0		✓	—	"

Solvent Used	Lot No.
Methylene Chloride	154085
Sodium Sulfate	15268A
Sulfuric Acid	155108

Spike Solutions: Witness: _____

(SA) MS1527226B (SA) ~~MS1525926B~~ (SA) MINI SEP. LCS SPIKE

SS1527126B MINI SEP. BNA SURROGATE

(8) Analysis deleted thr 031 9.29.15

Sample #	Sample Code	Amt (mL)	SS/IS Sol.	Amt (mL)	FV (mL)	pH	pH 2	BC	Comments	Analyses	List	Due Date	Prio
1 8064318BKG	17924	246	SS1527126B	1.0	1.0	7	✓	153A	cloudy beige	07805	4656	10/07/2015	N
2 8064321	12224	248	SS1527126B	"	1.0		✓	153A	" "	07805	4656	10/07/2015	N
3 8064322	12324	248	SS1527126B	"	1.0		✓	153A	" "	07805	4656	10/07/2015	N
~~4 8064324~~	~~LCK01~~		~~SS1527126B~~							~~07805~~	~~4426~~	~~10/07/2015~~	~~N~~ (8)
~~5 8064325~~	~~LCK02~~		~~SS1527126B~~							~~07805~~	~~4426~~	~~10/07/2015~~	~~N~~ (8)
~~6 8064326~~	~~LCK03~~		~~SS1527126B~~							~~07805~~	~~4426~~	~~10/07/2015~~	~~N~~ (8)
~~7 8064327~~	~~LCK04~~		~~SS1527126B~~							~~07805~~	~~4426~~	~~10/07/2015~~	~~N~~ (8)
~~8 8064328~~	~~LCK05~~		~~SS1527126B~~							~~07805~~	~~4426~~	~~10/07/2015~~	~~N~~ (8)
~~9 8064329~~	~~LCK06~~		~~SS1527126B~~							~~07805~~	~~4426~~	~~10/07/2015~~	~~N~~ (8)
~~10 8064330~~	~~LCK07~~		~~SS1527126B~~							~~07805~~	~~4426~~	~~10/07/2015~~	~~N~~ (8)
~~11 8064331~~	~~LCK08~~		~~SS1527126B~~							~~07805~~	~~4426~~	~~10/07/2015~~	~~N~~ (8)
~~12 8064332~~	~~LCK-A~~		~~SS1527126B~~							~~07805~~	~~4426~~	~~10/07/2015~~	~~N~~ (8)
~~13 8064333~~	~~LCK-B~~		~~SS1527126B~~							~~07805~~	~~4426~~	~~10/07/2015~~	~~N~~ (8)
~~14 8064334~~	~~LCK-C~~		~~SS1527126B~~							~~07805~~	~~4426~~	~~10/07/2015~~	~~N~~ (8)

(SA) New spike. NS2807 9-29-15

N/A NS2807 9-29-15

PSC25 Page 276 of 276

Rack ID:	—	Work Station	H_2O Bench 6	Micro Temp 100?	
Internal Standard	MISTD2765	Balance #	15661		

S-bath ID 11	87° C	S-bath ID	C	N-Evap	C	M-vap	C	15272WAG026

Documented temps are NIST corrected.

DF = Dilution Factor FV = Final Volume

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Type I Data Package

Prepared for:

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

Project: Pine Street Canal- Groundwaters
Groundwater and Water Samples
Collected on 10/05/15-10/07/15

SDG# PSC28

GROUP	SAMPLE NUMBERS
1599398	8082097-8082119

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman **Date:** **11/23/2015**

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Wendy Kozma at (717) 556-7257.

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Sample Reference List for SDG Number PSC28
with a Data Package Type of I

06556 - The Johnson Company, Inc.

Project: Pine Street Canal- Groundwaters

Lab Sample Number	Lab Sample Code	Client Sample Description
8082097	P2801	0509-04DP Grab Groundwater
8082098	P2802	0084-33 Grab Groundwater
8082099	P2803	0080-33 Grab Groundwater
8082100	P2804	0081-33 Grab Groundwater
8082101	P2805	0085-33 Grab Groundwater
8082102	P2806	0500-04 Grab Groundwater
8082103	P2806	0500-04MS Grab Groundwater
8082104	P2806	0500-04MSD Grab Groundwater
8082105	P2807	0072-33TB Water
8082106	P2808	0504-04TB Water
8082107	P2809	0502-04 Grab Groundwater
8082108	P2810	0501-04 Grab Groundwater
8082109	P2811	0503-04 Grab Groundwater
8082110	P2812	0504-04 Grab Groundwater
8082111	P2813	0508-04FB Grab Water
8082112	P2814	0505-04 Grab Groundwater
8082113	P2815	0506-04 Grab Groundwater
8082114	P2816	0098-16 Grab Groundwater
8082115	P2817	0099-16 Grab Groundwater
8082116	P2818	0077-33TB Water
8082117	P2819	0074-33 Grab Groundwater
8082118	P2820	0071-33 Grab Groundwater
8082119	P2821	0097-16 Grab Groundwater

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Sample pH Log

SDG: PSC28

LLI Sample Number	Bottle Code	Actual pH	Exp. pH	pH Check Code	Adj. pH	Adjusted Date	Adjusted Time	Preservative Added	Preservative Lot #	LLI Supplied Bottle?	Sulfide Present?	Corrective Substance	CS Lot #	Res. Cl. Present?	Corrective Substance	CS Lot #
8082097	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082098	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082098	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082099	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082099	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082100	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082100	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082101	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082101	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082102	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082103	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082104	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082105	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082106	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082107	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082108	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082109	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082110	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082111	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082112	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082113	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082113	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082114	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082114	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082114	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082114	038C	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082115	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082115	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082116	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082117	008A	6	<2	PA	<2	10/09/2015	09:16	HNO3	142056	Y	NA	NA	NA	NA	NA	NA
8082117	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082118	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082118	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082119	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082119	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA

LLI Sample Number	Bottle Code	Actual pH	Exp. pH	pH Check Code	Adj. pH	Adjusted Date	Adjusted Time	Preservative Added	Preservative Lot #	LLI Supplied Bottle?	Sulfide Present?	Corrective Substance	CS Lot #	Res. Cl. Present?	Corrective Substance	CS Lot #

Check Code Key
PK = Original container checked - pH is within the correct range. (No preservative was added)
PA = Original container checked - pH adjusted to correct range. (Preservative was added)
PV = Volatile container checked
PC = pH checked (unpreserved container)
SPK = Subsampled from an original container. Original container checked - pH is within correct range
SPA = Subsampled from an original container. Subsample container checked - pH adjusted to correct range.
SPC = Subsampled from an original container. pH checked (unpreserved container).
SUP = Subsampled from original container. Unable to be preserved due to the matrix of the sample.
UP = Unable to preserve due to matrix of the sample.
NA = Not applicable

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01163 GC/MS VOA Water Prep

An undiluted aliquot of the water sample or a dilution of the sample is purged with an inert gas and the volatiles are collected on an adsorbent trap that is subsequently desorbed onto a gas chromatographic column.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5030B, December 1996.

10945 VOCs- 5ml Water by 8260B UST

The water sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8260B, December 1996

00259 Mercury

The solution resulting from the mercury digestion is analyzed by Cold Vapor AA.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7470A, September 1994

01848 ICP-WW, 3005A (tot rec) - U3

The sample is digested with nitric acid and hydrochloric acid.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3005A, July 1992

05713 WW SW846 Hg Digest

The sample is heated at 95 c with nitric acid, sulfuric acid, potassium persulfate, and potassium permanganate. Excess potassium permanganate is reduced with sodium chloride/hydroxylamine hydrochloride. Mercuric ions are reduced to mercury metal using stannous chloride.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7470A, September 1994

07046 Barium
07049 Cadmium
07066 Silver

The solution resulting from the metals digestion is analyzed by Trace ICP.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6010B, December 1996.

06025 Arsenic
06031 Chromium
06035 Lead
06041 Selenium

The solution resulting from the metals digestion is analyzed by ICP/MS.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6020, September 1994.

06050 ICPMS-Water, 3020A - U3

The sample is digested with nitric acid.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3020A, July 1992

07807 BNA Water Extraction

The sample aliquot is extracted with methylene chloride by either separatory funnel or liquid/liquid apparatus. Extraction is performed at a pH of 2. The extract is concentrated prior to analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3510C, December 1996

07805 PAHs in Water by GC/MS

The sample extract is analyzed by capillary column Gas Chromatography/Mass Spectrometry.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8270C, December 1996

Analysis Reports / Field Chain of Custody

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

October 20, 2015

Project: Pine Street Canal- Groundwaters

Submittal Date: 10/08/2015
Group Number: 1599398
SDG: PSC28
PO Number: 1-0870-2
State of Sample Origin: VT

Client Sample Description	Lancaster Labs (LL) #
0509-04DP Grab Groundwater	8082097
0084-33 Grab Groundwater	8082098
0080-33 Grab Groundwater	8082099
0081-33 Grab Groundwater	8082100
0085-33 Grab Groundwater	8082101
0500-04 Grab Groundwater	8082102
0500-04MS Grab Groundwater	8082103
0500-04MSD Grab Groundwater	8082104
0072-33TB Water	8082105
0504-04TB Water	8082106
0502-04 Grab Groundwater	8082107
0501-04 Grab Groundwater	8082108
0503-04 Grab Groundwater	8082109
0504-04 Grab Groundwater	8082110
0508-04FB Grab Water	8082111
0505-04 Grab Groundwater	8082112
0506-04 Grab Groundwater	8082113
0098-16 Grab Groundwater	8082114
0099-16 Grab Groundwater	8082115
0077-33TB Water	8082116
0074-33 Grab Groundwater	8082117
0071-33 Grab Groundwater	8082118
0097-16 Grab Groundwater	8082119

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	The Johnson Company, Inc.	Attn: Jim Bowes
ELECTRONIC COPY TO	Phoenix Chemistry Services	Attn: Deborah H. Gaynor

Respectfully Submitted,

Wendy A. Kozma
Principal Specialist Group Leader

(717) 556-7257

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Analysis Report

Sample Description: 0509-04DP Grab Groundwater
Pine Street Canal

LL Sample # WW 8082097
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 12:05 by JP

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2801 SDG#: PSC28-01FD

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l		ug/l	ug/l	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	4	U	4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 13:39	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 13:39	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

Sample Description: 0084-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082098
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 10:10 by JP

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2802 SDG#: PSC28-02

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	450		10	5	10
10945	Ethylbenzene	100-41-4	10	U	10	5	10
10945	Naphthalene	91-20-3	620		40	10	10
10945	Toluene	108-88-3	10	U	10	5	10
10945	Xylene (Total)	1330-20-7	13		10	5	10
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
07805	Acenaphthene	83-32-9	0.4	J	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.1	J	0.5	0.1	1
07805	Naphthalene	91-20-3	590		5	1	10
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		**mg/l**		**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.0602		0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
	SW-846 6020		**mg/l**		**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.00085	J	0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0025		0.0020	0.00070	1
06035	Lead	7439-92-1	0.0011		0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020	U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

Sample Description: 0084-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082098
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 10:10 by JP

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2802 SDG#: PSC28-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 14:02	Daniel H Heller	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 14:02	Daniel H Heller	10
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/16/2015 14:36	Holly B Ziegler	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/17/2015 14:44	Catherine E Bachman	10
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 17:39	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 17:39	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 17:39	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 09:45	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 09:45	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 09:45	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 09:45	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 07:03	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: 0080-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082099
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 13:05 by JP

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2803 SDG#: PSC28-03

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	590		10	5	10
10945	Ethylbenzene	100-41-4	320		10	5	10
10945	Naphthalene	91-20-3	710		40	10	10
10945	Toluene	108-88-3	5	J	10	5	10
10945	Xylene (Total)	1330-20-7	460		10	5	10
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
07805	Acenaphthene	83-32-9	3		0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.2	J	0.5	0.1	1
07805	Naphthalene	91-20-3	680		10	2	20
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		**mg/l**		**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.0483		0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
	SW-846 6020		**mg/l**		**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.0046		0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0016	J	0.0020	0.00070	1
06035	Lead	7439-92-1	0.00097	J	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020	U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

Sample Description: 0080-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082099
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 13:05 by JP

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2803 SDG#: PSC28-03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 14:25	Daniel H Heller	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 14:25	Daniel H Heller	10
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/16/2015 15:03	Holly B Ziegler	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/17/2015 15:12	Catherine E Bachman	20
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 17:42	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 17:42	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 17:42	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 09:47	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 09:47	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 09:47	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 09:47	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 07:05	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: 0081-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082100
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 11:40 by JP

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2804 SDG#: PSC28-04

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	1,500		10	5	10
10945	Ethylbenzene	100-41-4	490		10	5	10
10945	Naphthalene	91-20-3	760		40	10	10
10945	Toluene	108-88-3	15		10	5	10
10945	Xylene (Total)	1330-20-7	630		10	5	10
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
07805	Acenaphthene	83-32-9	2		0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.4	J	0.5	0.1	1
07805	Naphthalene	91-20-3	600		10	2	20
07805	Phenanthrene	85-01-8	0.1	J	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		**mg/l**		**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.0575		0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
	SW-846 6020		**mg/l**		**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.0022		0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0015	J	0.0020	0.00070	1
06035	Lead	7439-92-1	0.00076	J	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020	U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

Sample Description: 0081-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082100
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 11:40 by JP

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2804 SDG#: PSC28-04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 14:48	Daniel H Heller	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 14:48	Daniel H Heller	10
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/16/2015 15:31	Holly B Ziegler	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/17/2015 15:39	Catherine E Bachman	20
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 17:49	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 17:49	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 17:49	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 09:54	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 09:54	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 09:54	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 09:54	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 07:08	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: 0085-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082101
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 12:00 by JP

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2805 SDG#: PSC28-05

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	1,400		10	5	10
10945	Ethylbenzene	100-41-4	470		10	5	10
10945	Naphthalene	91-20-3	740		40	10	10
10945	Toluene	108-88-3	14		10	5	10
10945	Xylene (Total)	1330-20-7	610		10	5	10
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
07805	Acenaphthene	83-32-9	2		0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.4	J	0.5	0.1	1
07805	Naphthalene	91-20-3	590		10	2	20
07805	Phenanthrene	85-01-8	0.1	J	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		**mg/l**		**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.0581		0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
	SW-846 6020		**mg/l**		**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.0021		0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0016	J	0.0020	0.00070	1
06035	Lead	7439-92-1	0.00076	J	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020	U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

Sample Description: 0085-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082101
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 12:00 by JP

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2805 SDG#: PSC28-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 15:11	Daniel H Heller	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 15:11	Daniel H Heller	10
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/16/2015 15:59	Holly B Ziegler	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/17/2015 16:07	Catherine E Bachman	20
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 17:52	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 17:52	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 17:52	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 09:56	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 09:56	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 09:56	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 09:56	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 07:10	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: 0500-04 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082102
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 15:05 by JP

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2806 SDG#: PSC28-06BKG

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l		ug/l	ug/l	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	4	U	4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 12:30	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 12:30	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

Sample Description: 0500-04MS Grab Groundwater
Pine Street Canal

LL Sample # WW 8082103
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 15:05 by JP

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2806 SDG#: PSC28-06MS

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	20	1	0.5	1
10945	Ethylbenzene	100-41-4	18	1	0.5	1
10945	Naphthalene	91-20-3	14	4	1	1
10945	Toluene	108-88-3	19	1	0.5	1
10945	Xylene (Total)	1330-20-7	56	1	0.5	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 12:53	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 12:53	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

Sample Description: 0500-04MSD Grab Groundwater
Pine Street Canal

LL Sample # WW 8082104
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 15:05 by JP

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2806 SDG#: PSC28-06MSD

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	21	1	0.5	1
10945	Ethylbenzene	100-41-4	20	1	0.5	1
10945	Naphthalene	91-20-3	15	4	1	1
10945	Toluene	108-88-3	20	1	0.5	1
10945	Xylene (Total)	1330-20-7	60	1	0.5	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 13:16	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 13:16	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

Sample Description: 0072-33TB Water
Pine Street Canal

LL Sample # WW 8082105
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 09:00

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2807 SDG#: PSC28-07TB

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l		ug/l	ug/l	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	4	U	4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 11:44	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 11:44	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: 0504-04TB Water
Pine Street Canal

LL Sample # WW 8082106
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/05/2015 11:00

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2808 SDG#: PSC28-08TB

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l		ug/l	ug/l	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	4	U	4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 12:07	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 12:07	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

Sample Description: 0502-04 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082107
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/05/2015 12:12 by BO

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2809 SDG#: PSC28-09

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l		ug/l	ug/l	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	4	U	4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 15:34	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 15:34	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: 0501-04 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082108
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/05/2015 13:20 by BO

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2810 SDG#: PSC28-10

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l		ug/l	ug/l	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	4	U	4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 15:57	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 15:57	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

Sample Description: 0503-04 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082109
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/05/2015 14:27 by BO

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2811 SDG#: PSC28-11

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l		ug/l	ug/l	
10945	Benzene	71-43-2	2		1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	8		4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	0.5	J	1	0.5	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 16:20	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 16:20	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: 0504-04 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082110
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/05/2015 15:27 by BO

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2812 SDG#: PSC28-12

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	73		5	3	5
10945	Ethylbenzene	100-41-4	27		5	3	5
10945	Naphthalene	91-20-3	100		20	5	5
10945	Toluene	108-88-3	5	U	5	3	5
10945	Xylene (Total)	1330-20-7	6		5	3	5

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 16:43	Daniel H Heller	5
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 16:43	Daniel H Heller	5

*=This limit was used in the evaluation of the final result

Sample Description: 0508-04FB Grab Water
Pine Street Canal

LL Sample # WW 8082111
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/05/2015 16:00 by BO

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2813 SDG#: PSC28-13FB

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l		ug/l	ug/l	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	4	U	4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 17:06	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 17:06	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

Sample Description: 0505-04 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082112
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/05/2015 13:40 by BO

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2814 SDG#: PSC28-14

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l		ug/l	ug/l	
10945	Benzene	71-43-2	7		1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	4	U	4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 17:28	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 17:28	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

Sample Description: 0506-04 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082113
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/05/2015 12:35 by BO

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2815 SDG#: PSC28-15

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l		ug/l	ug/l	
10945	Benzene	71-43-2	180		10	5	10
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	4	U	4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152881AA	10/15/2015 17:51	Daniel H Heller	1
10945	BTEX and Naphthalene	SW-846 8260B	1	D152891AA	10/17/2015 01:58	Hu Yang	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152881AA	10/15/2015 17:51	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	D152891AA	10/17/2015 01:58	Hu Yang	10

*=This limit was used in the evaluation of the final result

Sample Description: 0098-16 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082114
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/07/2015 11:35 by JP

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2816 SDG#: PSC28-16

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
07805	Acenaphthene	83-32-9	0.5	U	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5	U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.5	U	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		**mg/l**		**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.0285		0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
	SW-846 6020		**mg/l**		**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.0029		0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0027		0.0020	0.00070	1
06035	Lead	7439-92-1	0.0010	U	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020	U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX 8260B	SW-846 8260B	1	D152871AA	10/14/2015 13:01	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

Sample Description: 0098-16 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082114
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/07/2015 11:35 by JP

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2816 SDG#: PSC28-16

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152871AA	10/14/2015 13:01	Daniel H Heller	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/16/2015 16:27	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 17:55	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 17:55	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 17:55	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 09:59	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 09:59	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 09:59	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 09:59	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 07:12	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: 0099-16 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082115
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/07/2015 13:50 by JP

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2817 SDG#: PSC28-17

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
07805	Acenaphthene	83-32-9	0.5	U	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5	U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.5	U	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		**mg/l**		**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.0139		0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
	SW-846 6020		**mg/l**		**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.0058		0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0020	U	0.0020	0.00070	1
06035	Lead	7439-92-1	0.0010	U	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020	U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX 8260B	SW-846 8260B	1	D152871AA	10/14/2015 14:56	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

Sample Description: 0099-16 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082115
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/07/2015 13:50 by JP

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2817 SDG#: PSC28-17

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152871AA	10/14/2015 14:56	Daniel H Heller	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/16/2015 16:55	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/19/2015 23:57	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 17:57	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 17:57	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 10:01	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 10:01	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 10:01	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 10:01	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 07:14	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: 0077-33TB Water
Pine Street Canal

LL Sample # WW 8082116
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/07/2015 09:30

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2818 SDG#: PSC28-18TB

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l		ug/l	ug/l	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX 8260B	SW-846 8260B	1	D152871AA	10/14/2015 15:19	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152871AA	10/14/2015 15:19	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

Sample Description: 0074-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082117
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/07/2015 11:22 by BO

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2819 SDG#: PSC28-19

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
07805	Acenaphthene	83-32-9	0.5	U	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5	U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.5	U	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		**mg/l**		**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.0746		0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
	SW-846 6020		**mg/l**		**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.0161		0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0035		0.0020	0.00070	1
06035	Lead	7439-92-1	0.0062		0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020	U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX 8260B	SW-846 8260B	1	D152871AA	10/14/2015 15:42	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

Sample Description: 0074-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082117
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/07/2015 11:22 by BO

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2819 SDG#: PSC28-19

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152871AA	10/14/2015 15:42	Daniel H Heller	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/16/2015 17:23	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 18:00	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 18:00	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 18:00	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 10:03	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 10:03	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 10:03	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 10:03	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 07:16	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: 0071-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082118
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/07/2015 12:37 by BO

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2820 SDG#: PSC28-20

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
07805	Acenaphthene	83-32-9	0.6		0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5	U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.5	U	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		**mg/l**		**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.123		0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
	SW-846 6020		**mg/l**		**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.00088	J	0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0020	U	0.0020	0.00070	1
06035	Lead	7439-92-1	0.00013	J	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020	U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX 8260B	SW-846 8260B	1	D152871AA	10/14/2015 16:05	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

Sample Description: 0071-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082118
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/07/2015 12:37 by BO

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2820 SDG#: PSC28-20

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152871AA	10/14/2015 16:05	Daniel H Heller	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/16/2015 17:51	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 18:03	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 18:03	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 18:03	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 10:06	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 10:06	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 10:06	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 10:06	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 07:18	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: 0097-16 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082119
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/07/2015 14:32 by BO

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2821 SDG#: PSC28-21

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
07805	Acenaphthene	83-32-9	0.5	U	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5	U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.5	U	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		**mg/l**		**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.0905		0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
	SW-846 6020		**mg/l**		**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.0011	J	0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0020	U	0.0020	0.00070	1
06035	Lead	7439-92-1	0.0010	U	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020	U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX 8260B	SW-846 8260B	1	D152871AA	10/14/2015 16:28	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

Sample Description: 0097-16 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082119
LL Group # 1599398
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/07/2015 14:32 by BO

Submitted: 10/08/2015 10:00
Reported: 10/20/2015 15:52

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2821 SDG#: PSC28-21

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152871AA	10/14/2015 16:28	Daniel H Heller	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/16/2015 18:19	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 18:06	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 18:06	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 18:06	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 10:08	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 10:08	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 10:08	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 10:08	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 07:20	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1599398
Reported: 10/20/2015 15:52

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result		Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: D152871AA	Sample number(s): 8082114-8082119									
Benzene	1	U	1.	0.5	ug/l	95		78-120		
Ethylbenzene	1	U	1.	0.5	ug/l	90		78-120		
Toluene	1	U	1.	0.5	ug/l	90		80-120		
Xylene (Total)	1	U	1.	0.5	ug/l	91		80-120		
Batch number: D152881AA	Sample number(s): 8082097-8082113									
Benzene	1	U	1.	0.5	ug/l	93		78-120		
Ethylbenzene	1	U	1.	0.5	ug/l	89		78-120		
Naphthalene	4	U	4.	1	ug/l	80		59-120		
Toluene	1	U	1.	0.5	ug/l	90		80-120		
Xylene (Total)	1	U	1.	0.5	ug/l	90		80-120		
Batch number: D152891AA	Sample number(s): 8082113									
Benzene	1	U	1.	0.5	ug/l	102		78-120		
Batch number: 15283WAB026	Sample number(s): 8082098-8082101,8082114-8082115,8082117-8082119									
Acenaphthene	0.5	U	0.5	0.1	ug/l	89		75-111		
Acenaphthylene	0.5	U	0.5	0.1	ug/l	89		78-117		
Anthracene	0.5	U	0.5	0.1	ug/l	89		82-116		
Benzo(a)anthracene	0.5	U	0.5	0.1	ug/l	92		76-122		
Benzo(a)pyrene	0.5	U	0.5	0.1	ug/l	81		73-115		
Benzo(b)fluoranthene	0.1	J	0.5	0.1	ug/l	92		75-123		
Benzo(g,h,i)perylene	0.1	J	0.5	0.1	ug/l	78		70-126		
Benzo(k)fluoranthene	0.1	J	0.5	0.1	ug/l	90		74-119		
Chrysene	0.5	U	0.5	0.1	ug/l	94		77-126		
Dibenz(a,h)anthracene	0.1	J	0.5	0.1	ug/l	79		72-127		
Fluoranthene	0.5	U	0.5	0.1	ug/l	90		76-117		
Fluorene	0.5	U	0.5	0.1	ug/l	89		80-117		
Indeno(1,2,3-cd)pyrene	0.5	U	0.5	0.1	ug/l	76		70-121		
2-Methylnaphthalene	0.5	U	0.5	0.1	ug/l	82		69-103		
Naphthalene	0.5	U	0.5	0.1	ug/l	87		69-109		
Phenanthrene	0.5	U	0.5	0.1	ug/l	87		75-110		
Pyrene	0.5	U	0.5	0.1	ug/l	87		76-111		
Batch number: 152881848003	Sample number(s): 8082098-8082101,8082114-8082115,8082117-8082119									
Barium	0.0050	U	0.0050	0.00030	mg/l	103		80-120		
Cadmium	0.0050	U	0.0050	0.00030	mg/l	108		80-120		
Silver	0.0050	U	0.0050	0.0014	mg/l	98		80-120		
Batch number: 152886050004A	Sample number(s): 8082098-8082101,8082114-8082115,8082117-8082119									
Arsenic	0.0020	U	0.0020	0.00054	mg/l	107		80-120		
Chromium	0.0020	U	0.0020	0.00070	mg/l	104		80-120		
Lead	0.0010	U	0.0010	0.00013	mg/l	104		80-120		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1599398
Reported: 10/20/2015 15:52

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 152886050004B	Sample number(s): 8082098-8082101,8082114-8082115,8082117-8082119								
Selenium	0.0020 U	0.0020	0.00050	mg/l	105		80-120		
Batch number: 152895713005	Sample number(s): 8082098-8082101,8082114-8082115,8082117-8082119								
Mercury	0.00020 U	0.00020	0.00005 0	mg/l	102		80-120		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: D152871AA	Sample number(s): 8082114-8082119 UNSPK: 8082114								
Benzene	101	113	78-120	12	30				
Ethylbenzene	97	106	78-120	9	30				
Toluene	94	106	80-120	12	30				
Xylene (Total)	96	107	80-120	10	30				
Batch number: D152881AA	Sample number(s): 8082097-8082113 UNSPK: 8082102								
Benzene	98	104	78-120	6	30				
Ethylbenzene	92	98	78-120	7	30				
Naphthalene	70	77	59-120	8	30				
Toluene	93	101	80-120	7	30				
Xylene (Total)	94	100	80-120	6	30				
Batch number: D152891AA	Sample number(s): 8082113 UNSPK: P082251								
Benzene	99	101	78-120	2	30				
Batch number: 15283WAB026	Sample number(s): 8082098-8082101,8082114-8082115,8082117-8082119 UNSPK: P082120								
Acenaphthene	94	95	75-111	2	30				
Acenaphthylene	95	95	78-117	1	30				
Anthracene	95	95	82-116	0	30				
Benzo(a)anthracene	95	98	76-122	2	30				
Benzo(a)pyrene	89	91	73-115	2	30				
Benzo(b)fluoranthene	95	97	75-123	2	30				
Benzo(g,h,i)perylene	87	90	70-126	4	30				
Benzo(k)fluoranthene	93	96	74-119	3	30				
Chrysene	97	100	77-126	3	30				
Dibenz(a,h)anthracene	89	93	72-127	5	30				
Fluoranthene	96	96	76-117	0	30				
Fluorene	93	96	80-117	3	30				
Indeno(1,2,3-cd)pyrene	86	89	70-121	3	30				
2-Methylnaphthalene	85	87	69-103	2	30				
Naphthalene	89	92	69-109	3	30				
Phenanthrene	91	92	75-110	1	30				
Pyrene	90	92	76-111	2	30				
Batch number: 152881848003	Sample number(s): 8082098-8082101,8082114-8082115,8082117-8082119 UNSPK: P082120 BKG: P082120								
Barium	103	103	75-125	1	20	0.0271	0.0248	9 (1)	20

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1599398
Reported: 10/20/2015 15:52

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Cadmium	100	99	75-125	1	20	0.0050 U	0.0050 U	0 (1)	20
Silver	99	96	75-125	3	20	0.0050 U	0.0050 U	0 (1)	20
Batch number: 152886050004A	Sample number(s): 8082098-8082101,8082114-8082115,8082117-8082119 UNSPK: P082120 BKG: P082120								
Arsenic	144 (2)	146 (2)	75-125	0	20	0.0728	0.0797	9	20
Chromium	103	98	75-125	5	20	0.00092 J	0.00078 J	16 (1)	20
Lead	103	104	75-125	0	20	0.00063 J	0.00078 J	21* (1)	20
Batch number: 152886050004B	Sample number(s): 8082098-8082101,8082114-8082115,8082117-8082119 UNSPK: P082120 BKG: P082120								
Selenium	99	100	75-125	1	20	0.0020 U	0.0020 U	0 (1)	20
Batch number: 152895713005	Sample number(s): 8082098-8082101,8082114-8082115,8082117-8082119 UNSPK: P082120 BKG: P082120								
Mercury	97	93	80-120	3	20	0.00020 U	0.00020 U	0 (1)	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: BTEX 8260B
Batch number: D152871AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8082114	106	101	97	99
8082115	105	99	97	98
8082116	106	99	97	97
8082117	106	101	95	95
8082118	107	103	97	97
8082119	106	99	96	97
Blank	106	101	98	97
LCS	105	102	97	101
MS	104	100	96	102
MSD	103	100	96	100
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX and Naphthalene
Batch number: D152881AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8082097	106	103	96	97
8082098	104	100	96	98
8082099	104	101	96	101
8082100	102	97	95	100
8082101	103	99	95	100
8082102	106	103	96	97
8082103	103	103	96	103
8082104	103	102	97	103
8082105	105	103	96	97

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1599398
Reported: 10/20/2015 15:52

Surrogate Quality Control

8082106	105	101	97	96
8082107	106	102	96	96
8082108	106	101	94	95
8082109	107	102	95	95
8082110	106	99	95	98
8082111	107	102	95	97
8082112	107	100	94	96
8082113	103	100	95	96
Blank	105	103	96	97
LCS	103	101	97	101
MS	103	103	96	103
MSD	103	102	97	103
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PAHs 8270C (17)
Batch number: 15283WAB026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8082098	90	84	77
8082099	96	82	69
8082100	80	78	71
8082101	82	77	66
8082114	87	79	79
8082115	85	83	89
8082117	84	82	81
8082118	84	82	80
8082119	82	80	80
Blank	89	87	83
LCS	85	81	78
MS	87	85	82
MSD	90	87	88
Limits:	46-128	61-112	43-131

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

376957

eurofins | Lancaster Laboratories Environmental

Acct. # 6556 For Eurofins Lancaster Laboratories Environmental use only Group # 1599393 Sample # 8052097-119
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: THE JOHNSON CO	Acct. #:
Project Name/#: PINE STREET CANAL SITE	PWSID #:
Project Manager: Guy Vaillancourt	P.O. #: 1-0870-2
Sampler: [signature] / J. Palmer	Quote #:
Name of state where samples were collected:	

4 Matrix

Sediment ☐ Soil ☐ | Ground ☐ Potable ☐ Water ☒ | Surface ☐ NPDES ☐ | Other: DI

5 Analysis Requested

Preservation Codes: N | H | O | N

2 Sample Identification SLID	SIN	Collected Date	Collected Time	3 Grab	3 Composite	Total # of Containers	8260B BTEX+NAPHTH	8260B BTEX	8270C PAHs (LIT)	6010B-RCRA 8 No Cr,Ni, 7470A Hg
T-0509-04 DP	0509-04DP	10-6-15	12:05	✓		3	3			
T-MW-21A	0094-33		10:10			6	3		2	1
T-MW-22B	0080-33		13:05			6	3		2	1
T-MW-22A	0091-33 ~~0085-33~~ dup	10-6-15	11:40			6	3		2	1
T-MW25BMS	0500-04MS		15:05			3	3			
T-MW25BMSD	0500-04MSD		15:05			3	3			
T-0085-33	0085-33		12:00			6	3		2	1
T-MW-25B	0500-04		15:05	✓		3	3			
T-0072-33B	0072-33B		0900	✓		2	2			

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

site site specific QAPP

7 Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address: JEP@JTCMAIL.COM JRB@JTCMAIL.COM

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
[signature]	10-6-15	16:00			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by [signature]	10/7/15	1000

EDD Required? Yes No
If yes, format: EXCEL

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt 0.8 °C

9

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300
The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client. 7044 0315

Environmental Analysis Request/Chain of Custody

376954

eurofins | Lancaster Laboratories Environmental

Acct. # 6556 For Eurofins Lancaster Laboratories Environmental use only Group # 1599398 Sample # 8082097-119
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: The Johnson Co	Acct. #: 06556
Project Name/#: Pine St. Canal Site	PWSID #:
Project Manager: Guy Vaillancourt	P.O. #: 1-0870-02
Sampler: Bob Osborne / Jo Palmer	Quote #:
Name of state where samples were collected: VT	

2 Sample Identification

3 Collected

4 Matrix

5 Analysis Requested

6 Remarks

SLID / SIN	Date	Time	Grab	Composite	Soil	Sediment	Water: Ground	Water: Potable	Water: Surface	Water: NPDES	Other: DI water	Total # of Containers	8260B/BTEX+MTBE	Preservation Codes H	Remarks
J_0507-04TB / 0504-04TB	10-5-15	1100	X								X	3	3		Please Report Samples By SIN #
T_MW-26B / 0502-04	↓	1212	↓				X					3	3		
T_MW-26A / 0501-04		1320					X					3	3		
T_MW-27A / 0503-04		1427					X					3	3		
T_MW-27B / 0504-04		1527	↓				X					3	3		
J_0508-04FB / 0508-04FB		1600	X								X	3	3		
T_MW-28A / 0505-04		1340	X				X					3	3		
T_MW-28B / 0506-04	↓	1235	X				X					3	3		

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

7 Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address: JEP@jcomail.com; JRB@jcomail.com

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP)
Type VI (Raw Data Only)
Type III (Reduced non-CLP)
TX TRRP-13
NYSDEC Category A or B
MA MCP
CT RCP

9

Relinquished by	Date	Time	Received by	Date	Time
John Palmer	10-7-15	1600			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
				10/8/15	0000

EDD Required? (Yes) No
If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? (Yes) No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt 0.4 °C

Environmental Analysis Request/Chain of Custody

376958

eurofins | Lancaster Laboratories Environmental

Acct. # 6556 For Eurofins Lancaster Laboratories Environmental use only Group # 1599398 Sample # 608209 7-119
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: THE JOHNSON CO.	Acct. #: 06556
Project Name/#: PINE STREET CANAL SITE	PWSID #:
Project Manager: GUY VAILLANCOURT	P.O. #: 1-0870-2
Sampler: Jo Palmer	Quote #:

Name of state where samples were collected: VT

2 Sample Identification

SLID	SIN	Collected Date	Collected Time	3 Grab	3 Composite	4 Matrix: Soil	Sediment	Water	Ground	Potable	Surface	NPDES	Other:	Total # of Containers	5 Analysis Requested: 8260B BTEX	8270C 17 PAHs	6010B RCRA 8 No Zn 7420A - Pb	Preservation Codes: H	O	N
8-MW-11D	0098-16	10-7-15	1135	✓				✓						6	3	2	1			
6-MW-18	0099-16	10-7-15	1350	✓				✓						6	3	2	1			

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

site specific QAPP

7 Turnaround Time (TAT) Requested (please circle)

(Standard) Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address: JEP@JCOMAIL.COM JRB@JCOMAIL.COM

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP)
Type VI (Raw Data Only)
Type III (Reduced non-CLP)
TX TRRP-13
NYSDEC Category A or B
MA MCP
CT RCP

Relinquished by	Date	Time	Received by	Date	Time
[signature]	10.7.15	1600			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by [signature]	Date 10/8/15	Time 1000

9

EDD Required? (Yes) No
If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? (Yes) No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt 2.5 °C

Environmental Analysis Request/Chain of Custody

376959

eurofins | Lancaster Laboratories Environmental

Acct. # 06556 For Eurofins Lancaster Laboratories Environmental use only Group # 1599398 Sample # 5083097-119
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: The Johnson Co	Acct. #: 06556
Project Name/#: Pine St. Canal Site	PWSID #:
Project Manager: Guy Vaillancourt	P.O. #: 1-0870-02
Sampler: Bob Osborne (TRC)	Quote #:

Name of state where samples were collected: VT

4 Matrix: Soil ☐ Sediment ☐ Water ☒ (Ground ☒ Potable ☐ Surface ☐ NPDES ☐) Other: DI water

3 Grab / Composite

2 Sample Identification | Collected Date / Time | **5 Analysis Requested** (Preservation Codes: H / O / N)

SLID	SIN	Date	Time	Grab	Composite	Soil	Sediment	Ground	Potable	Surface	NPDES	Water	Other	Total # of Containers	H	O	N	Analysis Requested
1 0077-33TB	0077-33TB	10-7-15	0930	X									X	3	3			8260B-BTEX
2 MW-9A	0074-33	↓	1122	X								X		6	X	X	X	8270C-17PAH
3 MW-9B	0071-33	↓	1237	X								X		6	X	X	X	Lead-Rcra8 No Cu,Zn / Hg by 7470A
6 MW-13	0097-16	10-7-15	1432	X								X		6	X	X	X	

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks: site specific QAPP

7 Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:
E-mail address: JEP@JTCOMAIL.COM JRB@JTCOMAIL.COM

8 Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP)
Type III (Reduced non-CLP)
NYSDEC Category A or B
Type VI (Raw Data Only)
TX TRRP-13
MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
	10-7-15	1600			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	10/8/15	1000

EDD Required? (Yes) No
If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? (Yes) No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ____ Other ____

Temperature upon receipt 2.5 °C

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 112318

Group Number(s): 1599398

Client: The Johnson Co.

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	10/08/2015 10:00
Number of Packages:	4	Number of Projects:	1
State/Province of Origin:	VT		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	10
Paperwork Enclosed:	Yes	Trip Blank Type:	HCl
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Jordan Woods (6698) at 16:35 on 10/08/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	0.8	DT	Wet	Y	Loose/Bag	N
2	DT146	0.4	DT	Wet	Y	Bagged	N
3	DT146	2.5	DT	Wet	Y	Bagged	N
4	DT146	2.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17601-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Volatiles by GC/MS-GRO Data

Case Narrative/Conformance Summary

Volatiles by GC/MS-GRO

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC28

GC/MS Volatiles

Fraction: Volatiles by GC/MS-GRO

BTEX 8260B

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8082097	0509-04DP	X		1	Field Duplicate Sample
8082098	0084-33	X		10	
8082099	0080-33	X		10	
8082100	0081-33	X		10	
8082101	0085-33	X		10	
8082102	0500-04	X		1	Unspiked
8082103	0500-04MS	X		1	Matrix Spike
8082104	0500-04MSD	X		1	Matrix Spike Duplicate
8082105	0072-33TB	X		1	Trip Blank
8082106	0504-04TB	X		1	Trip Blank
8082107	0502-04	X		1	
8082108	0501-04	X		1	
8082109	0503-04	X		1	
8082110	0504-04	X		5	
8082111	0508-04FB	X		1	Field Blank
8082112	0505-04	X		1	
8082113	0506-04	X		1; 10	
8082114	0098-16	X		1	
8082115	0099-16	X		1	
8082116	0077-33TB	X		1	Trip Blank
8082117	0074-33	X		1	
8082118	0071-33	X		1	
8082119	0097-16	X		1	

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC28

GC/MS Volatiles

Fraction: Volatiles by GC/MS-GRO

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Volatiles by GC/MS-GRO

eurofins | Lancaster Laboratories Environmental

Quality Control Reference List
GC/MS Volatiles

CLIENT: The Johnson Company, Inc.
SDG: PSC28

Fraction: Volatiles by GC/MS-GRO

Analysis	Batch Number	Sample Number	Analysis Date
BTEX 8260B	D152871AA	VBLKD30	10/14/2015 11:33:00
		LCSD30	10/14/2015 11:10:00
		8082114 UNSPK	10/14/2015 13:01:00
		8082114 MS	10/14/2015 13:24:00
		8082114 MSD	10/14/2015 13:47:00
		8082115	10/14/2015 14:56:00
		8082116	10/14/2015 15:19:00
		8082117	10/14/2015 15:42:00
		8082118	10/14/2015 16:05:00
		8082119	10/14/2015 16:28:00
BTEX and Naphthalene	D152881AA	VBLKD32	10/15/2015 11:08:00
		LCSD32	10/15/2015 10:45:00
		8082097	10/15/2015 13:39:00
		8082098	10/15/2015 14:02:00
		8082099	10/15/2015 14:25:00
		8082100	10/15/2015 14:48:00
		8082101	10/15/2015 15:11:00
		8082102 UNSPK	10/15/2015 12:30:00
		8082103 MS	10/15/2015 12:53:00
		8082104 MSD	10/15/2015 13:16:00
		8082105	10/15/2015 11:44:00
		8082106	10/15/2015 12:07:00
		8082107	10/15/2015 15:34:00
		8082108	10/15/2015 15:57:00
		8082109	10/15/2015 16:20:00
		8082110	10/15/2015 16:43:00
		8082111	10/15/2015 17:06:00
		8082112	10/15/2015 17:28:00
		8082113	10/15/2015 17:51:00
BTEX and Naphthalene	D152891AA	VBLKD34	10/16/2015 18:24:00
		LCSD34	10/16/2015 18:01:00
		8082113	10/17/2015 01:58:00

Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: PSC28
Matrix: LIQUID

Fraction: Volatiles by GC/MS-GRO

D152871AA / VBLKD30 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Benzene	10/14/15	N.D.	ug/l	0.5	1
Toluene	10/14/15	N.D.	ug/l	0.5	1
Ethylbenzene	10/14/15	N.D.	ug/l	0.5	1
Xylene (Total)	10/14/15	N.D.	ug/l	0.5	1

D152881AA / VBLKD32 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Benzene	10/15/15	N.D.	ug/l	0.5	1
Toluene	10/15/15	N.D.	ug/l	0.5	1
Ethylbenzene	10/15/15	N.D.	ug/l	0.5	1
Xylene (Total)	10/15/15	N.D.	ug/l	0.5	1
Naphthalene	10/15/15	N.D.	ug/l	1	4

D152891AA / VBLKD34 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Benzene	10/16/15	N.D.	ug/l	0.5	1

Quality Control Summary
Surrogates
GC/MS Volatiles
SDG: PSC28
Matrix: LIQUID

Fraction: Volatiles by GC/MS-GRO

D152871AA	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKD30	106	80 - 116	101	77 - 113	98	80 - 113	97	78 - 113
LCSD30	105	80 - 116	102	77 - 113	97	80 - 113	101	78 - 113
8082114 UNSPK	106	80 - 116	101	77 - 113	97	80 - 113	99	78 - 113
8082114 MS	104	80 - 116	100	77 - 113	96	80 - 113	102	78 - 113
8082114 MSD	103	80 - 116	100	77 - 113	96	80 - 113	100	78 - 113
8082115	105	80 - 116	99	77 - 113	97	80 - 113	98	78 - 113
8082116	106	80 - 116	99	77 - 113	97	80 - 113	97	78 - 113
8082117	106	80 - 116	101	77 - 113	95	80 - 113	95	78 - 113
8082118	107	80 - 116	103	77 - 113	97	80 - 113	97	78 - 113
8082119	106	80 - 116	99	77 - 113	96	80 - 113	97	78 - 113

D152881AA	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKD32	105	80 - 116	103	77 - 113	96	80 - 113	97	78 - 113
LCSD32	103	80 - 116	101	77 - 113	97	80 - 113	101	78 - 113
8082097	106	80 - 116	103	77 - 113	96	80 - 113	97	78 - 113
8082098	104	80 - 116	100	77 - 113	96	80 - 113	98	78 - 113
8082099	104	80 - 116	101	77 - 113	96	80 - 113	101	78 - 113
8082100	102	80 - 116	97	77 - 113	95	80 - 113	100	78 - 113
8082101	103	80 - 116	99	77 - 113	95	80 - 113	100	78 - 113
8082102 UNSPK	106	80 - 116	103	77 - 113	96	80 - 113	97	78 - 113
8082103 MS	103	80 - 116	103	77 - 113	96	80 - 113	103	78 - 113
8082104 MSD	103	80 - 116	102	77 - 113	97	80 - 113	103	78 - 113
8082105	105	80 - 116	103	77 - 113	96	80 - 113	97	78 - 113
8082106	105	80 - 116	101	77 - 113	97	80 - 113	96	78 - 113
8082107	106	80 - 116	102	77 - 113	96	80 - 113	96	78 - 113
8082108	106	80 - 116	101	77 - 113	94	80 - 113	95	78 - 113
8082109	107	80 - 116	102	77 - 113	95	80 - 113	95	78 - 113
8082110	106	80 - 116	99	77 - 113	95	80 - 113	98	78 - 113
8082111	107	80 - 116	102	77 - 113	95	80 - 113	97	78 - 113
8082112	107	80 - 116	100	77 - 113	94	80 - 113	96	78 - 113
8082113	103	80 - 116	100	77 - 113	95	80 - 113	96	78 - 113

D152891AA	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l
Sample								

Quality Control Summary
Surrogates
GC/MS Volatiles
SDG: PSC28
Matrix: LIQUID

Fraction: Volatiles by GC/MS-GRO

	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKD34	106	80 - 116	102	77 - 113	94	80 - 113	95	78 - 113
LCSD34	104	80 - 116	102	77 - 113	97	80 - 113	103	78 - 113

GC/MS Volatiles

Fraction: Volatiles by GC/MS-GRO

UNSPK: 8082114 MS: 8082114 MSD: 8082114 **Analyte**	Batch: **D152871AA** (Sample number(s): 8082114-8082119)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Benzene	20	N.D.	20.12	22.62	101	113	78-120	12	30
Toluene	20	N.D.	18.83	21.25	94	106	80-120	12	30
Ethylbenzene	20	N.D.	19.34	21.14	97	106	78-120	9	30
Xylene (Total)	60	N.D.	57.62	63.95	96	107	80-120	10	30

UNSPK: 8082102 MS: 8082103 MSD: 8082104 **Analyte**	Batch: **D152881AA** (Sample number(s): 8082097-8082113)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Benzene	20	N.D.	19.58	20.75	98	104	78-120	6	30
Toluene	20	N.D.	18.7	20.1	93	101	80-120	7	30
Ethylbenzene	20	N.D.	18.35	19.68	92	98	78-120	7	30
Xylene (Total)	60	N.D.	56.48	59.9	94	100	80-120	6	30
Naphthalene	20	N.D.	14.09	15.34	70	77	59-120	8	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: PSC28
Matrix: LIQUID

GC/MS Volatiles

Fraction: Volatiles by GC/MS-GRO

LCS: LCSD30	Batch: **D152871AA** (Sample number(s): 8082114-8082119)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Benzene	20	18.9	NA	95	NA	78-120	NA	NA
Toluene	20	18	NA	90	NA	80-120	NA	NA
Ethylbenzene	20	17.94	NA	90	NA	78-120	NA	NA
Xylene (Total)	60	54.69	NA	91	NA	80-120	NA	NA

LCS: LCSD32	Batch: **D152881AA** (Sample number(s): 8082097-8082113)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Benzene	20	18.63	NA	93	NA	78-120	NA	NA
Toluene	20	17.94	NA	90	NA	80-120	NA	NA
Ethylbenzene	20	17.82	NA	89	NA	78-120	NA	NA
Xylene (Total)	60	54.17	NA	90	NA	80-120	NA	NA
Naphthalene	20	15.93	NA	80	NA	59-120	NA	NA

LCS: LCSD34	Batch: **D152891AA** (Sample number(s): 8082113)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Benzene	20	20.34	NA	102	NA	78-120	NA	NA

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID: dl02t01.d BFB Injection Date: 07/02/15

Instrument ID: HP10534 BFB Injection Time: 11:15

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.28
75	30.0 - 60.0% of mass 95	48.84
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.09
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	83.48
175	5.0 - 9.0% of mass 174	5.85 (7.01)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.61 (97.76)1
177	5.0 - 9.0% of mass 176	5.40 (6.62)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD200	dl02i01.d	07/02/15	11:54
02	VSTD200	dl02i02.d	07/02/15	12:05
03	VSTD100	dl02i03.d	07/02/15	12:17
04	VSTD100	dl02i04.d	07/02/15	12:28
05	VSTD50	dl02i05.d	07/02/15	12:40
06	VSTD50	dl02i06.d	07/02/15	12:51
07	VSTD10	dl02i09.d	07/02/15	13:26
08	VSTD10	dl02i10.d	07/02/15	13:37
09	VSTD2	dl02i11.d	07/02/15	13:49
10	VSTD2	dl02i12.d	07/02/15	14:00
11	VSTD1	dl02i13.d	07/02/15	14:11
12	VSTD1	dl02i14.d	07/02/15	14:23
13	VSTD20	dl02i07a.d	07/02/15	14:34
14	VSTD20	dl02i08a.d	07/02/15	14:46
15	0.4PPBMDL - VSTD0.4	dl02m01.d	07/02/15	14:57
16	0.4PPBMDL - VSTD0.4	dl02m02.d	07/02/15	15:08
17	LCS-01	dl02v01.d	07/02/15	15:20
18	ICV-01	dl02v01a.d	07/02/15	16:01
19	LCSD92	dl02s01.d	07/02/15	16:01
20	ICV-02	dl02v02a.d	07/02/15	16:12
21	LCSD93	dl02s02.d	07/02/15	16:12
22	VBLKD92	dl02b01.d	07/02/15	16:28

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID: dl02t01.d BFB Injection Date: 07/02/15

Instrument ID: HP10534 BFB Injection Time: 11:15

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.28
75	30.0 - 60.0% of mass 95	48.84
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.09
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	83.48
175	5.0 - 9.0% of mass 174	5.85 (7.01)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.61 (97.76)1
177	5.0 - 9.0% of mass 176	5.40 (6.62)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	VBLKD93	dl02b02.d	07/02/15	16:39
24	7940691	dl02s03.d	07/02/15	16:51
25	7940665	dl02s04.d	07/02/15	17:02
26	7940678	dl02s05.d	07/02/15	17:14
27	7940667	dl02s06.d	07/02/15	17:25
28	7940679	dl02s07.d	07/02/15	17:37
29	7940667MS	dl02s08.d	07/02/15	17:48
30	7940679MS	dl02s09.d	07/02/15	18:00
31	7940667MSD	dl02s10.d	07/02/15	18:11
32	7940679MSD	dl02s11.d	07/02/15	18:23
33	7940668	dl02s12.d	07/02/15	18:34
34	7940680	dl02s13.d	07/02/15	18:46
35	7940670	dl02s14.d	07/02/15	18:57
36	7940681	dl02s15.d	07/02/15	19:08
37	7940671	dl02s16.d	07/02/15	19:20
38	7940682	dl02s17.d	07/02/15	19:32
39	7940672	dl02s18.d	07/02/15	19:43
40	7940684	dl02s19.d	07/02/15	19:55
41	7940673	dl02s20.d	07/02/15	20:06
42	7940685	dl02s21.d	07/02/15	20:18
43	7940674	dl02s22.d	07/02/15	20:29
44	7940686	dl02s23.d	07/02/15	20:41

FORM V VOA

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID: dl02t01.d BFB Injection Date: 07/02/15

Instrument ID: HP10534 BFB Injection Time: 11:15

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.28
75	30.0 - 60.0% of mass 95	48.84
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.09
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	83.48
175	5.0 - 9.0% of mass 174	5.85 (7.01)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.61 (97.76)1
177	5.0 - 9.0% of mass 176	5.40 (6.62)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
45	7940675	dl02s24.d	07/02/15	20:52
46	7940687	dl02s25.d	07/02/15	21:04
47	7940676	dl02s26.d	07/02/15	21:15
48	7940688	dl02s27.d	07/02/15	21:27
49	7940677	dl02s28.d	07/02/15	21:38
50	7940689	dl02s29.d	07/02/15	21:50
51	7940645DL	dl02s30.d	07/02/15	22:01

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID: dc14t01.d BFB Injection Date: 10/14/15

Instrument ID: HP10534 BFB Injection Time: 09:05

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.94
75	30.0 - 60.0% of mass 95	49.67
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.12
173	Less than 2.0% of mass 174	0.21 (0.23)1
174	Greater than 50.0% of mass 95	88.26
175	5.0 - 9.0% of mass 174	6.26 (7.09)1
176	Greater than 95.0%, but less than 101.0% of mass 174	85.10 (96.42)1
177	5.0 - 9.0% of mass 176	5.64 (6.63)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	dc14c01.d	10/14/15	10:47
02	VSTD50	dc14c02.d	10/14/15	10:58
03	LCSD30	dc14s01.d	10/14/15	11:10
04	LCSD31	dc14s02.d	10/14/15	11:21
05	VBLKD30	dc14b01.d	10/14/15	11:33
06	VBLKD31	dc14b02.d	10/14/15	11:44
07	8079780	dc14s03.d	10/14/15	12:38
08	8079408	dc14s04.d	10/14/15	12:49
09	8082114	dc14s05.d	10/14/15	13:01
10	8079409	dc14s06.d	10/14/15	13:12
11	8082114MS	dc14s07.d	10/14/15	13:24
12	8079410	dc14s08.d	10/14/15	13:35
13	8082114MSD	dc14s09.d	10/14/15	13:47
14	8079410MS	dc14s10.d	10/14/15	13:58
15	8083683	dc14s25.d	10/14/15	14:10
16	8079410MSD	dc14s12.d	10/14/15	14:21
17	8083684	dc14s27.d	10/14/15	14:33
18	8077847DL	dc14s14.d	10/14/15	14:44
19	8082115	dc14s15.d	10/14/15	14:56
20	8079648	dc14s16.d	10/14/15	15:07
21	8082116	dc14s17.d	10/14/15	15:19
22	8079649	dc14s18.d	10/14/15	15:30

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID: dc14t01.d BFB Injection Date: 10/14/15

Instrument ID: HP10534 BFB Injection Time: 09:05

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.94
75	30.0 - 60.0% of mass 95	49.67
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.12
173	Less than 2.0% of mass 174	0.21 (0.23)1
174	Greater than 50.0% of mass 95	88.26
175	5.0 - 9.0% of mass 174	6.26 (7.09)1
176	Greater than 95.0%, but less than 101.0% of mass 174	85.10 (96.42)1
177	5.0 - 9.0% of mass 176	5.64 (6.63)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	8082117	dc14s19.d	10/14/15	15:42
24	8079650	dc14s20.d	10/14/15	15:53
25	8082118	dc14s21.d	10/14/15	16:05
26	8079651	dc14s22.d	10/14/15	16:16
27	8082119	dc14s23.d	10/14/15	16:28
28	8079652	dc14s24.d	10/14/15	16:39
29	8079779	dc14s11.d	10/14/15	16:51
30	8079654	dc14s26.d	10/14/15	17:02
31	8079655	dc14s28.d	10/14/15	17:25
32	8079664	dc14s29.d	10/14/15	17:37
33	8079656	dc14s30.d	10/14/15	17:48
34	8079665	dc14s31.d	10/14/15	18:00
35	8079657	dc14s32.d	10/14/15	18:11
36	8079658	dc14s34.d	10/14/15	18:34
37	8079659	dc14s36.d	10/14/15	18:57
38	8079660	dc14s38.d	10/14/15	19:20
39	8079661	dc14s40.d	10/14/15	19:43
40	8079662	dc14s42.d	10/14/15	20:06
41	8075486	dc14s44.d	10/14/15	20:29
42	8075526DL	dc14s46.d	10/14/15	20:52

FORM V VOA

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID: dc15t01.d BFB Injection Date: 10/15/15

Instrument ID: HP10534 BFB Injection Time: 09:29

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.27
75	30.0 - 60.0% of mass 95	48.68
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.96
173	Less than 2.0% of mass 174	0.29 (0.33)1
174	Greater than 50.0% of mass 95	89.08
175	5.0 - 9.0% of mass 174	6.54 (7.34)1
176	Greater than 95.0%, but less than 101.0% of mass 174	86.54 (97.15)1
177	5.0 - 9.0% of mass 176	5.74 (6.63)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	dc15c01.d	10/15/15	10:22
02	VSTD50	dc15c02.d	10/15/15	10:34
03	LCSD32	dc15s01.d	10/15/15	10:45
04	LCSD33	dc15s02.d	10/15/15	10:57
05	VBLKD32	dc15b01.d	10/15/15	11:08
06	VBLKD33	dc15b02.d	10/15/15	11:20
07	8082105	dc15s03.d	10/15/15	11:44
08	8080064	dc15s04.d	10/15/15	11:55
09	8082106	dc15s05.d	10/15/15	12:07
10	8082000	dc15s06.d	10/15/15	12:18
11	8082102	dc15s07.d	10/15/15	12:30
12	8082120	dc15s08.d	10/15/15	12:41
13	8082103MS	dc15s09.d	10/15/15	12:53
14	8082121MS	dc15s10.d	10/15/15	13:04
15	8082104MSD	dc15s11.d	10/15/15	13:16
16	8082122MSD	dc15s12.d	10/15/15	13:27
17	8082097	dc15s13.d	10/15/15	13:39
18	8082124	dc15s14.d	10/15/15	13:50
19	8082098	dc15s15.d	10/15/15	14:02
20	8082099	dc15s17.d	10/15/15	14:25
21	8082126	dc15s18.d	10/15/15	14:36
22	8082100	dc15s19.d	10/15/15	14:48

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID: dc15t01.d BFB Injection Date: 10/15/15

Instrument ID: HP10534 BFB Injection Time: 09:29

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.27
75	30.0 - 60.0% of mass 95	48.68
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.96
173	Less than 2.0% of mass 174	0.29 (0.33)1
174	Greater than 50.0% of mass 95	89.08
175	5.0 - 9.0% of mass 174	6.54 (7.34)1
176	Greater than 95.0%, but less than 101.0% of mass 174	86.54 (97.15)1
177	5.0 - 9.0% of mass 176	5.74 (6.63)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	8082127	dc15s20.d	10/15/15	14:59
24	8082101	dc15s21.d	10/15/15	15:11
25	8082128	dc15s22.d	10/15/15	15:22
26	8082107	dc15s23.d	10/15/15	15:34
27	8082129	dc15s24.d	10/15/15	15:45
28	8082108	dc15s25.d	10/15/15	15:57
29	8082130	dc15s26.d	10/15/15	16:08
30	8082109	dc15s27.d	10/15/15	16:20
31	8082246	dc15s28.d	10/15/15	16:31
32	8082110	dc15s29.d	10/15/15	16:43
33	8082247	dc15s30.d	10/15/15	16:54
34	8082111	dc15s31.d	10/15/15	17:06
35	8082248	dc15s32.d	10/15/15	17:17
36	8082112	dc15s33.d	10/15/15	17:28
37	8081992	dc15s34.d	10/15/15	17:40
38	8082113	dc15s35.d	10/15/15	17:51
39	8081993	dc15s36.d	10/15/15	18:03
40	8080056	dc15s37.d	10/15/15	18:15
41	8081994	dc15s38.d	10/15/15	18:26
42	8080058	dc15s39.d	10/15/15	18:37
43	8081995	dc15s40.d	10/15/15	18:49
44	8080059	dc15s41.d	10/15/15	19:00

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID: dc15t01.d BFB Injection Date: 10/15/15

Instrument ID: HP10534 BFB Injection Time: 09:29

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.27
75	30.0 - 60.0% of mass 95	48.68
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.96
173	Less than 2.0% of mass 174	0.29 (0.33)1
174	Greater than 50.0% of mass 95	89.08
175	5.0 - 9.0% of mass 174	6.54 (7.34)1
176	Greater than 95.0%, but less than 101.0% of mass 174	86.54 (97.15)1
177	5.0 - 9.0% of mass 176	5.74 (6.63)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
45	8081996	dc15s42.d	10/15/15	19:12
46	8080060	dc15s43.d	10/15/15	19:23

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID: dc16t01.d BFB Injection Date: 10/16/15

Instrument ID: HP10534 BFB Injection Time: 16:53

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.55
75	30.0 - 60.0% of mass 95	48.77
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.77
173	Less than 2.0% of mass 174	0.49 (0.56)1
174	Greater than 50.0% of mass 95	87.51
175	5.0 - 9.0% of mass 174	6.29 (7.19)1
176	Greater than 95.0%, but less than 101.0% of mass 174	84.73 (96.82)1
177	5.0 - 9.0% of mass 176	5.73 (6.76)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	dc16c01.d	10/16/15	17:38
02	VSTD50	dc16c02.d	10/16/15	17:49
03	LCSD34	dc16s01.d	10/16/15	18:01
04	LCSD35	dc16s02.d	10/16/15	18:12
05	VBLKD34	dc16b01.d	10/16/15	18:24
06	VBLKD35	dc16b02.d	10/16/15	18:35
07	8082125	dc16s03.d	10/16/15	19:05
08	8084025	dc16s04.d	10/16/15	19:16
09	8082251	dc16s05.d	10/16/15	19:28
10	8084021	dc16s06.d	10/16/15	19:39
11	8082251MS	dc16s07.d	10/16/15	19:51
12	8084021MS	dc16s08.d	10/16/15	20:02
13	8082251MSD	dc16s09.d	10/16/15	20:13
14	8084021MSD	dc16s10.d	10/16/15	20:25
15	8080061	dc16s11.d	10/16/15	20:36
16	8090030	dc16s12.d	10/16/15	20:48
17	8081997	dc16s13.d	10/16/15	20:59
18	8090031	dc16s14.d	10/16/15	21:11
19	8082254	dc16s15.d	10/16/15	21:22
20	8090032	dc16s16.d	10/16/15	21:34
21	8082255	dc16s17.d	10/16/15	21:45
22	8090033	dc16s18.d	10/16/15	21:57

FORM V VOA

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID: dc16t01.d BFB Injection Date: 10/16/15

Instrument ID: HP10534 BFB Injection Time: 16:53

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.55
75	30.0 - 60.0% of mass 95	48.77
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.77
173	Less than 2.0% of mass 174	0.49 (0.56)1
174	Greater than 50.0% of mass 95	87.51
175	5.0 - 9.0% of mass 174	6.29 (7.19)1
176	Greater than 95.0%, but less than 101.0% of mass 174	84.73 (96.82)1
177	5.0 - 9.0% of mass 176	5.73 (6.76)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	8082256	dc16s19.d	10/16/15	22:08
24	8090034	dc16s20.d	10/16/15	22:20
25	8082257	dc16s21.d	10/16/15	22:31
26	8090035	dc16s22.d	10/16/15	22:43
27	8082258	dc16s23.d	10/16/15	22:54
28	8090037	dc16s24.d	10/16/15	23:06
29	8082259	dc16s25.d	10/16/15	23:17
30	8090038	dc16s26.d	10/16/15	23:29
31	8082252	dc16s27.d	10/16/15	23:40
32	8090039	dc16s28.d	10/16/15	23:51
33	8080062	dc16s29.d	10/17/15	00:03
34	8090040	dc16s30.d	10/17/15	00:14
35	8080063	dc16s31.d	10/17/15	00:26
36	8090079	dc16s32.d	10/17/15	00:37
37	8082253	dc16s33.d	10/17/15	00:49
38	8090080	dc16s34.d	10/17/15	01:01
39	8081998	dc16s35.d	10/17/15	01:12
40	8084019	dc16s36.d	10/17/15	01:24
41	8081999	dc16s37.d	10/17/15	01:35
42	8084020	dc16s38.d	10/17/15	01:47
43	8082113DL	dc16s39.d	10/17/15	01:58
44	8084022	dc16s40.d	10/17/15	02:10

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID: dc16t01.d BFB Injection Date: 10/16/15

Instrument ID: HP10534 BFB Injection Time: 16:53

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.55
75	30.0 - 60.0% of mass 95	48.77
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.77
173	Less than 2.0% of mass 174	0.49 (0.56)1
174	Greater than 50.0% of mass 95	87.51
175	5.0 - 9.0% of mass 174	6.29 (7.19)1
176	Greater than 95.0%, but less than 101.0% of mass 174	84.73 (96.82)1
177	5.0 - 9.0% of mass 176	5.73 (6.76)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
45	8082124DL	dc16s41.d	10/17/15	02:21
46	8084023	dc16s42.d	10/17/15	02:33
47	8084024	dc16s44.d	10/17/15	02:56
48	8090036	dc16s46.d	10/17/15	03:19

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP10534 Calibration Date(s): 07/02/15 07/02/15

Heated Purge: (Y/N) Y Calibration Times: 11:54 14:34

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-VRX ID: .18

LAB FILE ID: RRF 1 = dl02i13.d RRF 2 = dl02i11.d RRF 10= dl02i09.d
RRF 20= dl02i07a.d RRF 50= dl02i05.d RRF100= dl02i03.d RRF200= dl02i01.d

COMPOUND	RRF 1	RRF 2	RRF 10	RRF 20	RRF 50	RRF100	RRF200	RRF	% RSD	CAL. METHOD
Ethanol		0.1746	0.1873	0.1692	0.1539	0.1275	0.1391	0.1586	14	AVG
t-Butyl alcohol	1.6775	1.4469	1.4677	1.8163	1.4867	1.2711	1.3515	1.5025	12	AVG
Methyl Tertiary Butyl Ether	1.1619	1.0157	1.0729	1.0484	1.0054	0.8584	0.9277	1.0129	10	AVG
di-Isopropyl ether	1.3685	1.1625	1.2124	1.2506	1.2582	1.0992	1.1495	1.2144	7	AVG
Ethyl t-butyl ether	1.1663	1.0621	1.1296	1.1642	1.1801	1.0277	1.0794	1.1156	5	AVG
1,2-Dichloroethane	0.5251	0.4638	0.4666	0.4845	0.4898	0.4259	0.4442	0.4714	7	AVG
Benzene	1.6139	1.4102	1.4846	1.5380	1.5335	1.3522	1.4173	1.4785	6	AVG
t-Amyl methyl ether	0.2822	0.2363	0.2637	0.2711	0.2752	0.2409	0.2554	0.2607	7	AVG
t-Amyl ethyl ether	0.6307	0.5410	0.5670	0.5985	0.5662	0.5027	0.5478	0.5648	7	AVG
Toluene	1.4243	1.2231	1.2682	1.3133	1.3067	1.1585	1.1836	1.2682	7	AVG
1,2-Dibromoethane	0.4667	0.4022	0.4392	0.4521	0.4666	0.4121	0.4317	0.4387	6	AVG
Ethylbenzene	2.5623	2.2972	2.3919	2.4856	2.4622	2.1813	2.2358	2.3737	6	AVG
m+p-Xylene	1.0031	0.8613	0.9306	0.9735	0.9612	0.8431	0.8529	0.9180	7	AVG
o-Xylene	0.9682	0.8036	0.9135	0.9437	0.9387	0.8251	0.8427	0.8908	7	AVG
Isopropylbenzene	2.5087	2.2130	2.3194	2.3889	2.3777	2.1103	2.1612	2.2970	6	AVG
1,3,5-Trimethylbenzene	3.8022	3.2261	3.4455	3.5021	3.6288	3.1502	3.1975	3.4217	7	AVG
1,2,4-Trimethylbenzene	3.9400	3.2590	3.4876	3.5669	3.6577	3.1651	3.2360	3.4732	8	AVG
Naphthalene	4.3264	3.6859	3.8759	3.8834	4.0934	3.5051	3.5051	3.8393	8	AVG
Dibromofluoromethane	0.2336	0.2308	0.2334	0.2343	0.2319	0.2339	0.2338	0.2331	1	AVG
Dibromofluoromethane(2)	0.2374	0.2359	0.2357	0.2369	0.2382	0.2382	0.2399	0.2375	1	AVG
1,2-Dichloroethane-d4	0.0598	0.0599	0.0618	0.0621	0.0643	0.0625	0.0643	0.0621	3	AVG
1,2-Dichloroethane-d4(2)	0.2993	0.3000	0.3048	0.3059	0.3183	0.3073	0.3200	0.3079	3	AVG
1,2-Dichloroethane-d4(3)	0.0378	0.0390	0.0394	0.0388	0.0386	0.0393	0.0405	0.0391	2	AVG
Toluene-d8	1.3512	1.3433	1.3421	1.3527	1.3369	1.3477	1.3398	1.3448	0	AVG
Toluene-d8(2)	0.8836	0.8767	0.8808	0.8729	0.8684	0.8756	0.8721	0.8757	1	AVG
4-Bromofluorobenzene	0.5050	0.5005	0.5050	0.4990	0.4956	0.5023	0.5006	0.5011	1	AVG
4-Bromofluorobenzene(2)	0.4293	0.4337	0.4364	0.4372	0.4260	0.4332	0.4332	0.4327	1	AVG

Average %RSD 6

Minimum RRF for SPCC(#) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%

FORM VI VOA

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP10534.i/15jul02i.b/dl02i01.d	VSTD200
/chem2/HP10534.i/15jul02i.b/dl02i03.d	VSTD100
/chem2/HP10534.i/15jul02i.b/dl02i05.d	VSTD050
/chem2/HP10534.i/15jul02i.b/dl02i07a.d	VSTD020
/chem2/HP10534.i/15jul02i.b/dl02i09.d	VSTD010
/chem2/HP10534.i/15jul02i.b/dl02i11.d	VSTD002
/chem2/HP10534.i/15jul02i.b/dl02i13.d	VSTD001

Area Summary

File ID:

Internal Standard Name	dl02i01.d	dl02i03.d	dl02i05.d	dl02i07a.d	dl02i09.d	dl02i11.d	dl02i13.d	Avg. Area	%RSD	In Spec
t-Butyl alcohol-d10	126756	146706	126572	109916	111070	118670	113621	121902	11	Yes
Fluorobenzene	612224	696862	648888	597250	585836	638273	586821	623736	6	Yes
Chlorobenzene-d5	458037	513157	481942	439750	435270	473156	431744	461865	6	Yes
1,4-Dichlorobenzene-d4	253364	281292	259631	241725	237354	255683	231014	251438	7	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	dl02i01.d	dl02i03.d	dl02i05.d	dl02i07a.d	dl02i09.d	dl02i11.d	dl02i13.d	Avg. RT
t-Butyl alcohol-d10	1.946	1.946	1.940	1.946	1.952	1.934	1.934	1.943
Fluorobenzene	3.544	3.550	3.543	3.544	3.550	3.543	3.544	3.545
Chlorobenzene-d5	4.897	4.897	4.897	4.897	4.897	4.897	4.891	4.896
1,4-Dichlorobenzene-d4	5.854	5.854	5.854	5.854	5.854	5.854	5.854	5.854

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 07/02/2015 at 14:55.

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP10534 ICV Date: 07/02/15 Time: 16:01

Lab File ID: dl02v01a.d Init. Calib. Date(s): 07/02/15 07/02/15

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-VRX ID: .18

COMPOUND	$\overline{RRF}$	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Ethanol	0.1586	0.1758	554.20	500	11
t-Butyl alcohol	1.5025	1.5035	200.14	200	0
Methyl Tertiary Butyl Ether	1.0129	1.0291	20.32	20	2
di-Isopropyl ether	1.1156	1.1971	19.72	20	-1
Ethyl t-butyl ether	1.0029	1.1050	19.81	20	-1
1,2-Dichloroethane	0.4714	0.4623	19.61	20	-2
Benzene	1.4785	1.4648	19.81	20	-1
t-Amyl methyl ether	0.2607	0.2632	20.19	20	1
t-Amyl ethyl ether	0.5648	0.5213	18.46	20	-8
Toluene	1.2682	1.2725	20.07	20	0
1,2-Dibromoethane	0.4387	0.4361	19.88	20	-1
Ethylbenzene	2.3737	2.3654	19.93	20	0
m+p-Xylene	0.9180	0.9275	40.41	40	1
o-Xylene	0.8908	0.8887	19.95	20	0
Isopropylbenzene	2.2970	2.3363	20.34	20	2
1,3,5-Trimethylbenzene	3.4217	3.3789	19.75	20	-1
1,2,4-Trimethylbenzene	3.4732	3.4461	19.84	20	-1
Naphthalene	3.8393	3.7524	19.55	20	-2

Average %Drift 2

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP10534.i/15jul02i.b/dl02i13.d
/chem2/HP10534.i/15jul02i.b/dl02i11.d
/chem2/HP10534.i/15jul02i.b/dl02i09.d
/chem2/HP10534.i/15jul02i.b/dl02i07a.d
/chem2/HP10534.i/15jul02i.b/dl02i05.d
/chem2/HP10534.i/15jul02i.b/dl02i03.d
/chem2/HP10534.i/15jul02i.b/dl02i01.d

File /chem2/HP10534.i/15jul02i.b/dl02i05.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP10534.i/15oct14a.b/dc14c01.d

RT Summary

Internal Standard Name	File ID: dc14c01.d	ICAL RT	In Spec
t-Butyl alcohol-d10	1.934	1.940	Yes
Fluorobenzene	3.544	3.543	Yes
Chlorobenzene-d5	4.891	4.897	Yes
1,4-Dichlorobenzene-d4	5.854	5.854	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

Internal Standard Name	File ID: dc14c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl alcohol-d10	89685	126572	63286	253144	Yes
Fluorobenzene	413786	648888	324444	1297776	Yes
Chlorobenzene-d5	320362	481942	240971	963884	Yes
1,4-Dichlorobenzene-d4	175666	259631	129816	519262	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments: _____

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP10534 Calibration Date: 10/14/15 Time: 10:47

Lab File ID: dc14c01.d Init. Calib. Date(s): 07/02/15 07/02/15

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-VRX ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT	
Ethanol	0.1586	0.1668	1314.89	1250	5	
t-Butyl alcohol	1.5025	2.1041	350.10	250	40	<-
Methyl Tertiary Butyl Ether	1.0129	1.1427	225.63	200	13	
di-Isopropyl ether	1.2144	1.3500	55.58	50	11	
Ethyl t-butyl ether	1.1156	1.3104	58.73	50	17	
1,2-Dichloroethane	0.4714	0.5924	62.83	50	26	<-
Benzene	1.4785	1.6886	57.11	50	14	
t-Amyl methyl ether	0.2607	0.3110	59.64	50	19	
Toluene	1.2682	1.4267	56.25	50	12	
1,2-Dibromoethane	0.4387	0.5365	61.15	50	22	<-
Ethylbenzene	2.3737	2.7792	58.54	50	17	
m+p-Xylene	0.9180	1.0942	119.20	100	19	
o-Xylene	0.8908	1.0531	59.11	50	18	
Isopropylbenzene	2.2970	2.7550	59.97	50	20	
1,3,5-Trimethylbenzene	3.4217	4.0418	59.06	50	18	
1,2,4-Trimethylbenzene	3.4732	4.1479	59.71	50	19	
Naphthalene	3.8393	4.7337	61.65	50	23	<-
Dibromofluoromethane	0.2331	0.2412	51.74	50	3	
Dibromofluoromethane(2)	0.2375	0.2488	52.40	50	5	
1,2-Dichloroethane-d4	0.0621	0.0668	53.80	50	8	
1,2-Dichloroethane-d4(2)	0.3079	0.3420	55.53	50	11	
1,2-Dichloroethane-d4(3)	0.0391	0.0389	49.80	50	0	
Toluene-d8	1.3448	1.2856	47.80	50	-4	
Toluene-d8(2)	0.8757	0.8373	47.80	50	-4	
4-Bromofluorobenzene	0.5011	0.5077	50.66	50	1	
4-Bromofluorobenzene(2)	0.4327	0.4462	51.55	50	3	

Average %Drift 14

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP10534.i/15jul02i.b/dl02i13.d
/chem2/HP10534.i/15jul02i.b/dl02i11.d
/chem2/HP10534.i/15jul02i.b/dl02i09.d
/chem2/HP10534.i/15jul02i.b/dl02i07a.d
/chem2/HP10534.i/15jul02i.b/dl02i05.d
/chem2/HP10534.i/15jul02i.b/dl02i03.d
/chem2/HP10534.i/15jul02i.b/dl02i01.d

File /chem2/HP10534.i/15jul02i.b/dl02i05.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP10534.i/15oct15a.b/dc15c01.d

RT Summary

Internal Standard Name	File ID: dc15c01.d	ICAL RT	In Spec
t-Butyl alcohol-d10	1.946	1.940	Yes
Fluorobenzene	3.544	3.543	Yes
Chlorobenzene-d5	4.891	4.897	Yes
1,4-Dichlorobenzene-d4	5.854	5.854	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

Internal Standard Name	File ID: dc15c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl alcohol-d10	82624	126572	63286	253144	Yes
Fluorobenzene	420869	648888	324444	1297776	Yes
Chlorobenzene-d5	324280	481942	240971	963884	Yes
1,4-Dichlorobenzene-d4	179992	259631	129816	519262	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments: _____

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP10534 Calibration Date: 10/15/15 Time: 10:22

Lab File ID: dc15c01.d Init. Calib. Date(s): 07/02/15 07/02/15

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-VRX ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Ethanol	0.1586	0.1722	1356.90	1250	9
t-Butyl alcohol	1.5025	1.9921	331.46	250	33
Methyl Tertiary Butyl Ether	1.0129	1.0810	213.44	200	7
di-Isopropyl ether	1.2144	1.1727	48.28	50	-3
Ethyl t-butyl ether	1.1156	1.1254	50.44	50	1
1,2-Dichloroethane	0.4714	0.5225	55.41	50	11
Benzene	1.4785	1.4966	50.61	50	1
t-Amyl methyl ether	0.2607	0.2704	51.87	50	4
Toluene	1.2682	1.2796	50.45	50	1
1,2-Dibromoethane	0.4387	0.4828	55.03	50	10
Ethylbenzene	2.3737	2.4750	52.13	50	4
m+p-Xylene	0.9180	0.9747	106.18	100	6
o-Xylene	0.8908	0.9278	52.08	50	4
Isopropylbenzene	2.2970	2.4638	53.63	50	7
1,3,5-Trimethylbenzene	3.4217	3.4932	51.04	50	2
1,2,4-Trimethylbenzene	3.4732	3.6228	52.15	50	4
Naphthalene	3.8393	4.0491	52.73	50	5
Dibromofluoromethane	0.2331	0.2386	51.18	50	2
Dibromofluoromethane(2)	0.2375	0.2429	51.14	50	2
1,2-Dichloroethane-d4	0.0621	0.0659	53.08	50	6
1,2-Dichloroethane-d4(2)	0.3079	0.3368	54.68	50	9
1,2-Dichloroethane-d4(3)	0.0391	0.0391	50.00	50	0
Toluene-d8	1.3448	1.2910	48.00	50	-4
Toluene-d8(2)	0.8757	0.8358	47.72	50	-5
4-Bromofluorobenzene	0.5011	0.5027	50.15	50	0
4-Bromofluorobenzene(2)	0.4327	0.4464	51.58	50	3

Average %Drift 6

Lancaster Laboratories
Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP10534.i/15jul02i.b/dl02i13.d
/chem2/HP10534.i/15jul02i.b/dl02i11.d
/chem2/HP10534.i/15jul02i.b/dl02i09.d
/chem2/HP10534.i/15jul02i.b/dl02i07a.d
/chem2/HP10534.i/15jul02i.b/dl02i05.d
/chem2/HP10534.i/15jul02i.b/dl02i03.d
/chem2/HP10534.i/15jul02i.b/dl02i01.d

File /chem2/HP10534.i/15jul02i.b/dl02i05.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP10534.i/15oct16a.b/dc16c01.d

RT Summary

Internal Standard Name	File ID: dc16c01.d	ICAL RT	In Spec
t-Butyl alcohol-d10	1.940	1.940	Yes
Fluorobenzene	3.544	3.543	Yes
Chlorobenzene-d5	4.897	4.897	Yes
1,4-Dichlorobenzene-d4	5.848	5.854	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

Internal Standard Name	File ID: dc16c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl alcohol-d10	82598	126572	63286	253144	Yes
Fluorobenzene	413386	648888	324444	1297776	Yes
Chlorobenzene-d5	325602	481942	240971	963884	Yes
1,4-Dichlorobenzene-d4	180931	259631	129816	519262	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments: _____

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP10534 Calibration Date: 10/16/15 Time: 17:38

Lab File ID: dc16c01.d Init. Calib. Date(s): 07/02/15 07/02/15

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-VRX ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Ethanol	0.1586	0.1625	1281.20	1250	2
t-Butyl alcohol	1.5025	1.4427	240.04	250	-4
Methyl Tertiary Butyl Ether	1.0129	1.0775	212.76	200	6
di-Isopropyl ether	1.2144	1.1379	46.85	50	-6
Ethyl t-butyl ether	1.1156	1.0874	48.74	50	-3
1,2-Dichloroethane	0.4714	0.5278	55.98	50	12
Benzene	1.4785	1.5002	50.73	50	1
t-Amyl methyl ether	0.2607	0.2508	48.11	50	-4
t-Amyl ethyl ether	0.5648	0.4944	43.76	50	-12
Toluene	1.2682	1.2054	47.52	50	-5
1,2-Dibromoethane	0.4387	0.4197	47.84	50	-4
Ethylbenzene	2.3737	2.1648	45.60	50	-9
m+p-Xylene	0.9180	0.8591	93.59	100	-6
o-Xylene	0.8908	0.8155	45.77	50	-8
Isopropylbenzene	2.2970	2.0033	43.61	50	-13
1,3,5-Trimethylbenzene	3.4217	2.9366	42.91	50	-14
1,2,4-Trimethylbenzene	3.4732	3.0023	43.22	50	-14
Naphthalene	3.8393	3.1920	41.57	50	-17
Dibromofluoromethane	0.2331	0.2434	52.20	50	4
Dibromofluoromethane(2)	0.2375	0.2459	51.78	50	4
1,2-Dichloroethane-d4	0.0621	0.0641	51.65	50	3
1,2-Dichloroethane-d4(2)	0.3079	0.3454	56.07	50	12
1,2-Dichloroethane-d4(3)	0.0391	0.0383	49.08	50	-2
Toluene-d8	1.3448	1.2748	47.40	50	-5
Toluene-d8(2)	0.8757	0.8213	46.89	50	-6
4-Bromofluorobenzene	0.5011	0.5108	50.96	50	2
4-Bromofluorobenzene(2)	0.4327	0.4505	52.05	50	4

Average %Drift 7

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID (Standard): dc14c01.d Date Analyzed: 10/14/15

Instrument ID: HP10534 Time Analyzed: 10:47

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	89685	1.934	413786	3.544	320362	4.891	175666	5.854
UPPER LIMIT	179370	2.434	827572	4.044	640724	5.391	351332	6.354
LOWER LIMIT	44842	1.434	206893	3.044	160181	4.391	87833	5.354
LAB SAMPLE ID								
01 LCSD30	103421	1.940	466002	3.544	360060	4.891	200579	5.854
02 LCSD31	88061	1.928	428341	3.537	328439	4.891	182472	5.854
03 VBLKD30	88812	1.940	419170	3.543	328915	4.891	178996	5.854
04 VBLKD31	106480	1.934	492479	3.544	385453	4.891	213530	5.854
05 8079780	94897	1.940	430308	3.544	340793	4.897	182555	5.854
06 8079408	95476	1.934	446946	3.544	349398	4.891	193742	5.854
07 8082114	98438	1.946	441782	3.544	345287	4.891	189723	5.854
08 8079409	86503	1.934	409886	3.543	326504	4.891	185237	5.854
09 8082114MS	104187	1.934	477367	3.544	379307	4.891	204203	5.854
10 8079410	96223	1.928	441326	3.544	344378	4.891	184036	5.854
11 8082114MSD	94747	1.934	435166	3.544	341414	4.891	187131	5.854
12 8079410MS	101017	1.934	465182	3.544	358178	4.891	200120	5.854
13 8083683	96250	1.934	454472	3.544	361979	4.891	199089	5.854
14 8079410MSD	96412	1.928	447021	3.544	345138	4.891	191427	5.854
15 8083684	105104	1.934	489294	3.544	386555	4.891	213360	5.854
16 8077847DL	101517	1.922	471469	3.537	375568	4.891	213067	5.854
17 8082115	89187	1.940	416325	3.544	325684	4.891	176632	5.854
18 8079648	87578	1.928	436391	3.537	337779	4.891	185451	5.854
19 8082116	88282	1.946	415499	3.544	326126	4.891	175241	5.854
20 8079649	89462	1.922	432173	3.538	340711	4.891	185271	5.854
21 8082117	95104	1.940	429102	3.543	344209	4.891	185612	5.854
22 8079650	88408	1.934	443549	3.544	340027	4.891	188273	5.848

IS1 (TBA)=t-Butyl alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID (Standard): dc14c01.d Date Analyzed: 10/14/15

Instrument ID: HP10534 Time Analyzed: 10:47

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	89685	1.934	413786	3.544	320362	4.891	175666	5.854
UPPER LIMIT	179370	2.434	827572	4.044	640724	5.391	351332	6.354
LOWER LIMIT	44842	1.434	206893	3.044	160181	4.391	87833	5.354
LAB SAMPLE ID								
23 8082118	91153	1.940	406253	3.544	323512	4.891	176219	5.848
24 8079651	97306	1.940	453316	3.544	352962	4.891	195350	5.854
25 8082119	96879	1.940	461235	3.543	365753	4.891	198006	5.848
26 8079652	103754	1.934	470817	3.544	366420	4.891	203272	5.848
27 8079779	103383	1.952	486215	3.544	378628	4.891	217192	5.848
28 8079654	101947	1.922	504242	3.537	397434	4.891	217934	5.848
29 8079655	93036	1.922	464720	3.537	365099	4.891	197391	5.848
30 8079664	99404	1.946	459228	3.544	361585	4.891	199676	5.848
31 8079656	96281	1.928	457951	3.538	359671	4.891	196767	5.848
32 8079665	106805	1.934	474018	3.544	373890	4.891	201511	5.848
33 8079657	109488	1.928	503366	3.537	392318	4.891	213605	5.848
34 8079658	89977	1.928	437039	3.538	343906	4.891	186401	5.854
35 8079659	93870	1.928	430786	3.537	336160	4.891	185666	5.854
36 8079660	95425	1.934	441166	3.544	344714	4.891	189106	5.854
37 8079661	91529	1.934	455251	3.544	355737	4.891	197099	5.854
38 8079662	87968	1.928	424924	3.537	333763	4.891	180098	5.854
39 8075486	85045	1.934	432843	3.544	338661	4.891	179198	5.854
40 8075526DL	94941	1.940	455598	3.544	353499	4.891	194390	5.854

IS1 (TBA)=t-Butyl alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID (Standard): dc15c01.d Date Analyzed: 10/15/15

Instrument ID: HP10534 Time Analyzed: 10:22

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	82624	1.946	420869	3.544	324280	4.891	179992	5.854
UPPER LIMIT	165248	2.446	841738	4.044	648560	5.391	359984	6.354
LOWER LIMIT	41312	1.446	210434	3.044	162140	4.391	89996	5.354
LAB SAMPLE ID								
01 LCSD32	93626	1.946	475840	3.544	368671	4.891	203592	5.854
02 LCSD33	97406	1.928	486699	3.537	374665	4.891	206964	5.848
03 VBLKD32	97030	1.946	466937	3.544	369858	4.897	204224	5.854
04 VBLKD33	98100	1.928	471905	3.543	367708	4.891	203062	5.848
05 8082105	102893	1.940	469642	3.544	370828	4.891	201197	5.854
06 8080064	100190	1.934	474482	3.544	375876	4.891	203703	5.854
07 8082106	96301	1.952	445613	3.544	349801	4.891	187648	5.854
08 8082000	84543	1.928	428348	3.544	337730	4.891	179683	5.848
09 8082102	90811	1.946	442145	3.544	350417	4.891	189195	5.854
10 8082120	96914	1.922	474147	3.538	370515	4.891	198185	5.848
11 8082103MS	96113	1.946	470035	3.544	362623	4.897	207332	5.854
12 8082121MS	99299	1.922	482415	3.538	370495	4.891	207437	5.854
13 8082104MSD	90941	1.952	456032	3.544	351868	4.897	200596	5.854
14 8082122MSD	90788	1.934	453405	3.544	350644	4.891	198576	5.854
15 8082097	101901	1.952	486747	3.544	388889	4.897	213717	5.854
16 8082124	102669	1.934	495539	3.544	386794	4.891	226287	5.848
17 8082098	93785	1.940	453242	3.544	356169	4.891	196835	5.854
18 8082099	94968	1.946	466857	3.544	362768	4.897	204736	5.848
19 8082126	91122	1.928	455839	3.544	359259	4.891	201605	5.848
20 8082100	85756	1.946	431176	3.544	334937	4.891	187169	5.848
21 8082127	106252	1.922	488807	3.538	384045	4.891	214108	5.848
22 8082101	85682	1.946	426691	3.544	331520	4.891	186476	5.854

IS1 (TBA)=t-Butyl alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID (Standard): dc15c01.d Date Analyzed: 10/15/15

Instrument ID: HP10534 Time Analyzed: 10:22

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	82624	1.946	420869	3.544	324280	4.891	179992	5.854
UPPER LIMIT	165248	2.446	841738	4.044	648560	5.391	359984	6.354
LOWER LIMIT	41312	1.446	210434	3.044	162140	4.391	89996	5.354
LAB SAMPLE ID								
23 8082128	91219	1.928	431281	3.544	344099	4.891	184785	5.848
24 8082107	88779	1.934	440404	3.544	350545	4.891	189992	5.854
25 8082129	106379	1.934	475448	3.544	376687	4.891	207716	5.848
26 8082108	80444	1.946	410835	3.543	330912	4.897	179830	5.848
27 8082130	94735	1.928	466176	3.538	369118	4.891	203199	5.848
28 8082109	82672	1.940	412426	3.544	331589	4.891	181693	5.854
29 8082246	88730	1.922	444916	3.538	354656	4.891	193049	5.848
30 8082110	98883	1.946	480728	3.544	382953	4.891	211011	5.848
31 8082247	82647	1.934	410319	3.544	328916	4.891	175265	5.848
32 8082111	90669	1.940	431225	3.544	346326	4.891	186091	5.848
33 8082248	84078	1.934	399417	3.544	320368	4.891	171609	5.848
34 8082112	91686	1.946	456851	3.544	365231	4.897	196635	5.848
35 8081992	102843	1.928	468680	3.544	373554	4.891	207911	5.848
36 8082113	84916	1.946	430526	3.544	337164	4.897	186934	5.848
37 8081993	89768	1.928	405186	3.544	329472	4.891	181337	5.848
38 8080056	82923	1.946	399178	3.550	321273	4.897	175134	5.848
39 8081994	88708	1.940	435325	3.544	346067	4.891	197695	5.854
40 8080058	98329	1.959	503277	3.550	390733	4.897	219790	5.854
41 8081995	82103	1.934	430251	3.544	347588	4.891	196497	5.854
42 8080059	103644	1.940	489161	3.544	395113	4.891	222671	5.854
43 8081996	98108	1.946	466023	3.550	377241	4.891	211645	5.854
44 8080060	85492	1.959	415643	3.550	335452	4.891	187256	5.848

IS1 (TBA)=t-Butyl alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID (Standard): dc16c01.d Date Analyzed: 10/16/15

Instrument ID: HP10534 Time Analyzed: 17:38

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	82598	1.940	413386	3.544	325602	4.897	180931	5.848
UPPER LIMIT	165196	2.440	826772	4.044	651204	5.397	361862	6.348
LOWER LIMIT	41299	1.440	206693	3.044	162801	4.397	90466	5.348
	LAB SAMPLE ID							
01	LCSD34	83128	1.946	419383	3.550	327784	4.897	185835	5.848
02	LCSD35	82272	1.940	420185	3.544	323962	4.891	182129	5.848
03	VBLKD34	87607	1.952	430460	3.550	349093	4.897	185929	5.848
04	VBLKD35	92015	1.940	434439	3.544	347255	4.891	192403	5.854
05	8082125	94378	1.946	410095	3.544	329904	4.897	179388	5.854
06	8084025	101510	1.928	442814	3.544	355030	4.891	195347	5.854
07	8082251	94717	1.934	423306	3.544	342185	4.891	192427	5.854
08	8084021	81662	1.928	398745	3.544	323506	4.891	177936	5.848
09	8082251MS	93984	1.952	453582	3.544	355995	4.891	206462	5.854
10	8084021MS	89704	1.934	434668	3.544	345466	4.891	193785	5.848
11	8082251MSD	96349	1.946	463258	3.544	363849	4.897	206177	5.848
12	8084021MSD	90206	1.934	454292	3.544	356235	4.891	199597	5.848
13	8080061	99716	1.940	450375	3.544	361024	4.891	200654	5.848
14	8090030	86299	1.928	441460	3.537	354085	4.891	193906	5.848
15	8081997	93553	1.940	450844	3.544	363069	4.891	202696	5.848
16	8090031	77899	1.934	410275	3.544	332330	4.891	181359	5.854
17	8082254	97756	1.946	441128	3.544	361539	4.891	193132	5.854
18	8090032	82754	1.928	445569	3.544	358339	4.891	197099	5.854
19	8082255	89402	1.940	405168	3.544	330454	4.891	176984	5.854
20	8090033	77014	1.922	397450	3.544	319518	4.891	174272	5.854
21	8082256	85095	1.958	405993	3.544	334400	4.897	178717	5.848
22	8090034	81989	1.940	407710	3.544	327119	4.891	189487	5.848

IS1 (TBA)=t-Butyl alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID (Standard): dc16c01.d Date Analyzed: 10/16/15

Instrument ID: HP10534 Time Analyzed: 17:38

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	82598	1.940	413386	3.544	325602	4.897	180931	5.848
UPPER LIMIT	165196	2.440	826772	4.044	651204	5.397	361862	6.348
LOWER LIMIT	41299	1.440	206693	3.044	162801	4.397	90466	5.348
LAB SAMPLE ID								
23 8082257	96027	1.940	430707	3.544	342312	4.897	199297	5.854
24 8090035	83869	1.934	457583	3.543	367170	4.891	206090	5.848
25 8082258	106863	1.946	488587	3.544	396965	4.891	218030	5.848
26 8090037	84023	1.934	443040	3.544	352564	4.891	196823	5.848
27 8082259	107862	1.946	472392	3.544	387046	4.891	216939	5.848
28 8090038	79426	1.934	398747	3.544	323723	4.891	178568	5.848
29 8082252	103212	1.946	449202	3.544	365667	4.897	199406	5.848
30 8090039	84615	1.928	429770	3.544	349378	4.891	190771	5.848
31 8080062	95390	1.946	475597	3.544	388266	4.897	221042	5.848
32 8090040	78695	1.928	394241	3.544	320822	4.891	174197	5.848
33 8080063	107755	1.952	438049	3.544	355666	4.891	197903	5.848
34 8090079	79518	1.928	401549	3.538	324681	4.891	184497	5.848
35 8082253	85619	1.946	399153	3.544	322902	4.897	175197	5.848
36 8090080	92050	1.934	452627	3.544	360516	4.891	198338	5.848
37 8081998	89987	1.934	426670	3.544	349882	4.891	192653	5.848
38 8084019	81590	1.928	408322	3.544	334457	4.891	183192	5.848
39 8081999	103912	1.952	449779	3.550	362146	4.897	203114	5.848
40 8084020	85050	1.928	409436	3.537	334128	4.891	182031	5.848
41 8082113DL	98644	1.940	442054	3.544	357104	4.891	197359	5.848
42 8084022	84220	1.934	414817	3.537	335505	4.891	182876	5.848
43 8082124DL	88311	1.946	418021	3.544	340907	4.891	195063	5.848
44 8084023	89116	1.934	426377	3.544	348208	4.891	191355	5.848

IS1 (TBA)=t-Butyl alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC28___

Lab File ID (Standard): dc16c01.d Date Analyzed: 10/16/15

Instrument ID: HP10534 Time Analyzed: 17:38

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	82598	1.940	413386	3.544	325602	4.897	180931	5.848
UPPER LIMIT	165196	2.440	826772	4.044	651204	5.397	361862	6.348
LOWER LIMIT	41299	1.440	206693	3.044	162801	4.397	90466	5.348
LAB SAMPLE ID								
45 8084024	87847	1.928	419521	3.537	336702	4.891	183026	5.848
46 8090036	95313	1.934	458112	3.544	375968	4.891	217364	5.848

IS1 (TBA)=t-Butyl alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

Sample Data

Volatiles by GC/MS-GRO

Fraction: Volatiles by GC/MS-GRO

10945: BTEX 8260B Analyte Name	Default MDL	Default LOQ	Units
Benzene	0.5	1	ug/l
Toluene	0.5	1	ug/l
Ethylbenzene	0.5	1	ug/l
Xylene (Total)	0.5	1	ug/l
Naphthalene	1	4	ug/l

P2801 Lancaster Laboratories 8082097
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s13.d Injection date and time: **15-OCT-2015 13:39**
Data file Sample Info. Line: P2801;8082097;1;0;;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 13:48 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.953	(-0.006)	142	65	101901	(23)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	486747	(16)	50.00	
20) Chlorobenzene-d5	4.897	(-0.006)	625	117	388889	(20)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	213717	(19)	50.00	

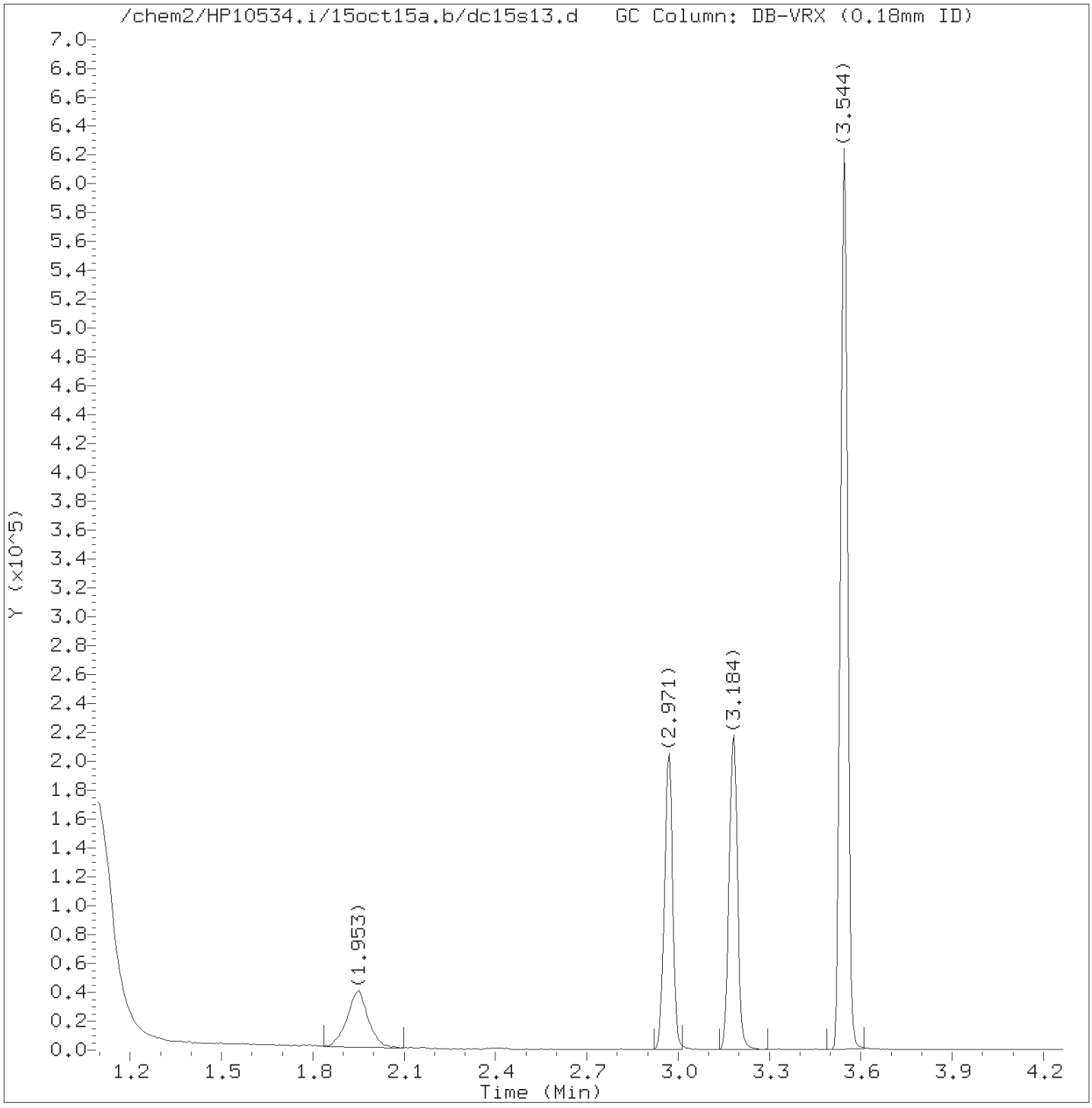
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.971	(0.000)	113	120770	53.219	106%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184	(0.000)	102	31241	51.685	103%		77 - 113
16) Toluene-d8	(3)	4.324	(0.001)	98	500344	47.836	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.001)	95	188696	48.412	97%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
30) Naphthalene	(4)				Not Detected					1	4

Total number of targets = 7

Digitally signed by Daniel H. Heller on 10/15/2015 at 14:26. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:34. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

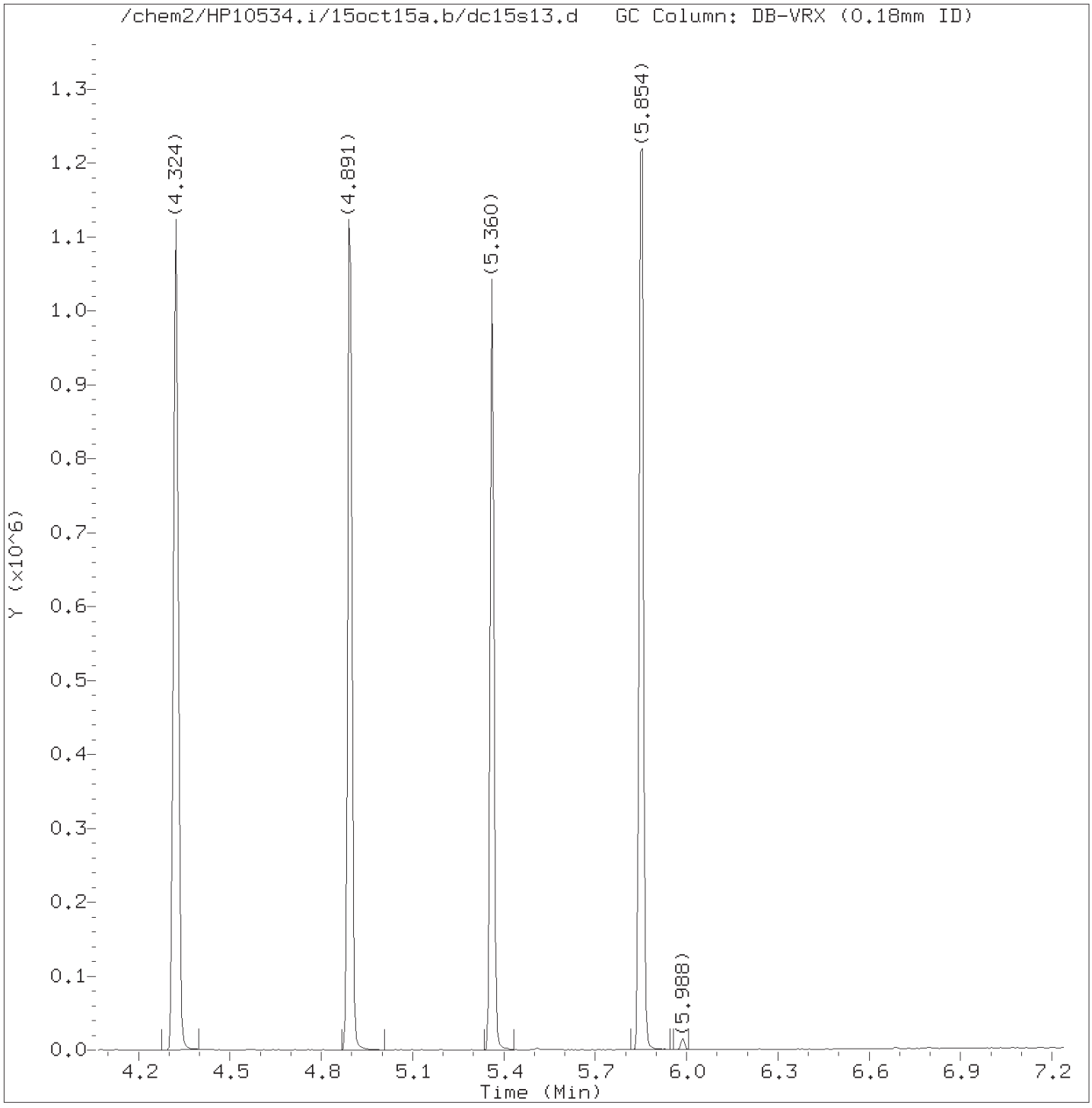
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s13.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:39 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 13:48 Unknown

Sample Name: P2801 Lab Sample ID: 8082097

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:26.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s13.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:39 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 13:48 Unknown

Sample Name: P2801 Lab Sample ID: 8082097

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:26.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s13.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:39 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 13:48 Unknown

Sample Name: P2801 Lab Sample ID: 8082097

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.953	65	101901	250.000
7)$Dibromofluoromethane	(2)	2.971	113	120770	53.219
10)$1,2-Dichloroethane-d4	(2)	3.184	102	31241	51.685
14)*Fluorobenzene	(2)	3.544	96	486747	50.000
16)$Toluene-d8	(3)	4.324	98	500344	47.836
20)*Chlorobenzene-d5	(3)	4.897	117	388889	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	188696	48.412
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	213717	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 14:26.
Target 3.5 esignature user ID: dhh02035

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s15.d Injection date and time: **15-OCT-2015 14:02**
Data file Sample Info. Line: P2802;8082098;1;0;;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 14:11 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **10.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.940	(0.006)	140	65	93785	(14)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	453242	(8)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	356169	(10)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	196835	(9)	50.00	

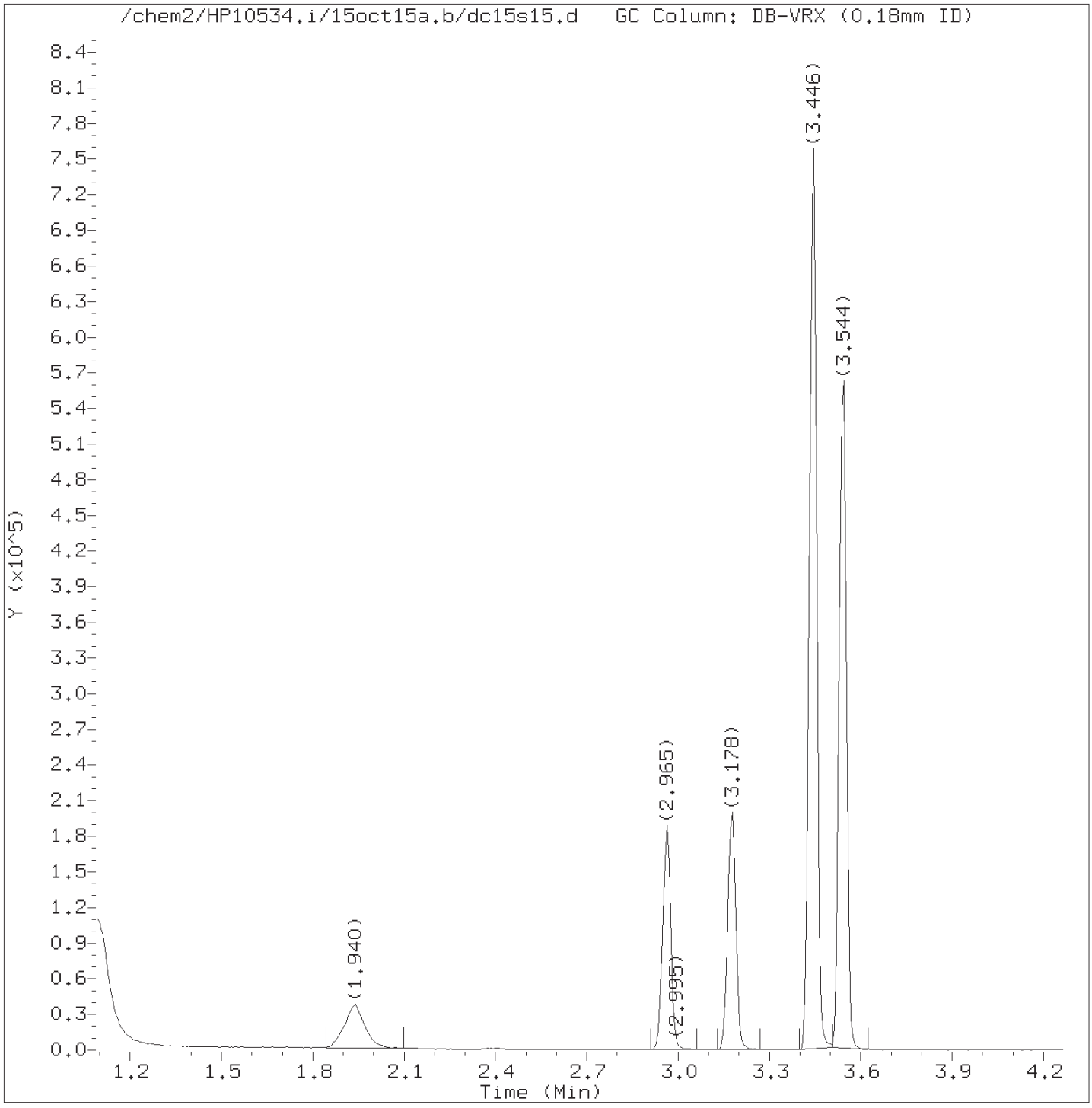
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.965	(0.002)	113	110179	52.141	104%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.002)	102	28132	49.983	100%		77 - 113
16) Toluene-d8	(3)	4.318	(0.001)	98	461255	48.150	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	175002	49.023	98%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
12) Benzene	(2)	3.446	(0.000)	78	599300	44.716	447.16			5	10
17) Toluene	(3)				Not Detected					5	10
21) Ethylbenzene	(3)				Not Detected					5	10
22) m+p-Xylene	(3)				Not Detected					5	10
23) o-Xylene	(3)	5.208	(0.000)	106	8151	1.285	12.85			5	10
24) Xylene (Total)	(3)			106	8151	1.285	12.85			5	10
30) Naphthalene	(4)	6.793	(0.000)	128	933791	61.782	617.82			10	40

Total number of targets = 7

Digitally signed by Daniel H. Heller on 10/15/2015 at 14:26. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:34. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

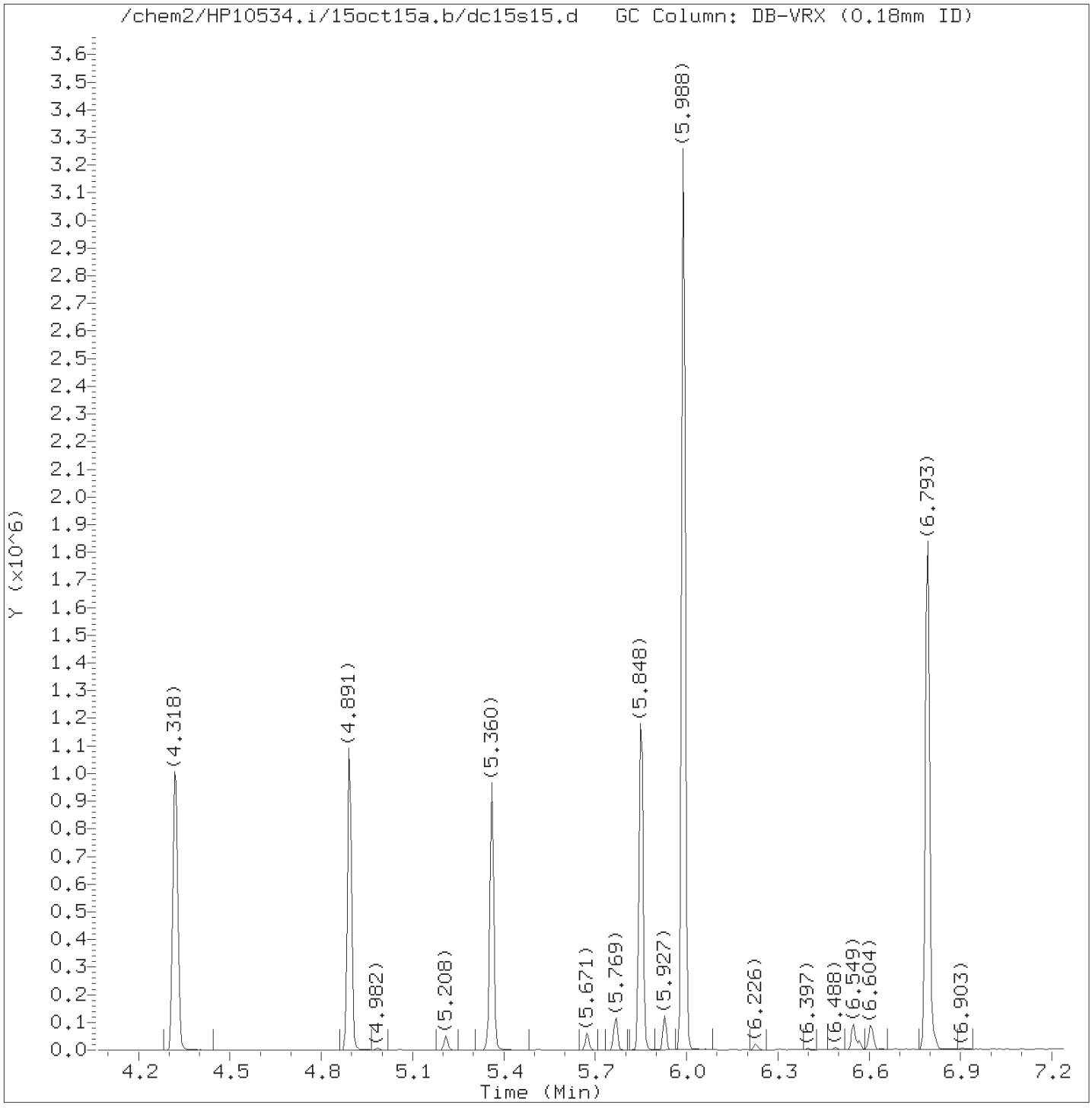
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s15.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:02 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:11 Unknown

Sample Name: P2802 Lab Sample ID: 8082098

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:26.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s15.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:02 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:11 Unknown

Sample Name: P2802 Lab Sample ID: 8082098

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:26.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s15.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:02 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:11 Unknown

Sample Name: P2802 Lab Sample ID: 8082098

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.940	65	93785	250.000
7)$Dibromofluoromethane	(2)	2.965	113	110179	52.141
10)$1,2-Dichloroethane-d4	(2)	3.178	102	28132	49.983
12) Benzene	(2)	3.446	78	599300	44.716
14)*Fluorobenzene	(2)	3.544	96	453242	50.000
16)$Toluene-d8	(3)	4.318	98	461255	48.150
20)*Chlorobenzene-d5	(3)	4.891	117	356169	50.000
23) o-Xylene	(3)	5.208	106	8151	1.285
24) Xylene (Total)	(3)		106	8151	1.285
26)$4-Bromofluorobenzene	(3)	5.360	95	175002	49.023
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	196835	50.000
30) Naphthalene	(4)	6.793	128	933791	61.782

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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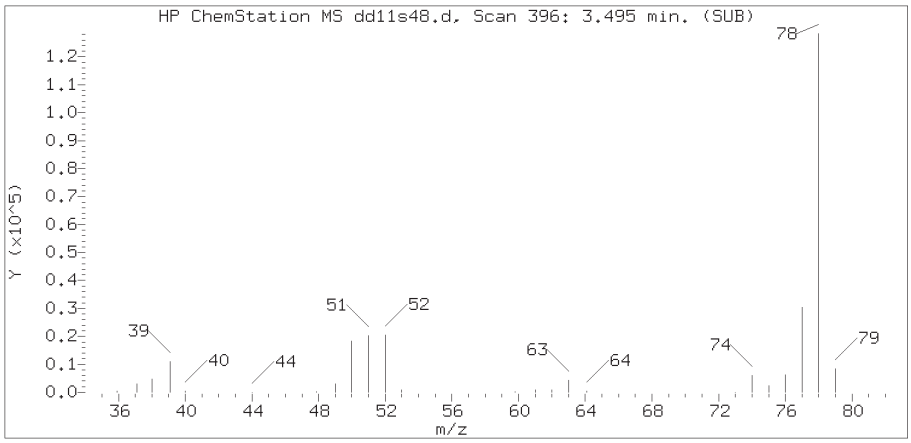
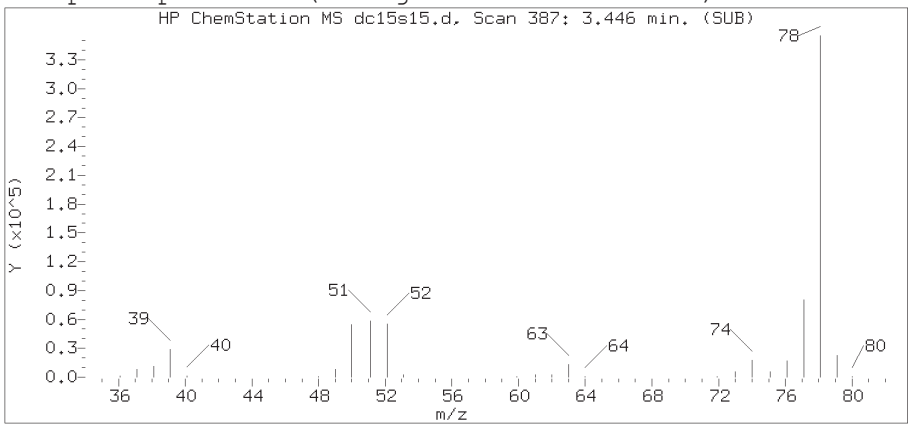
on 10/15/2015 at 14:26.
Target 3.5 esignature user ID: dhh02035

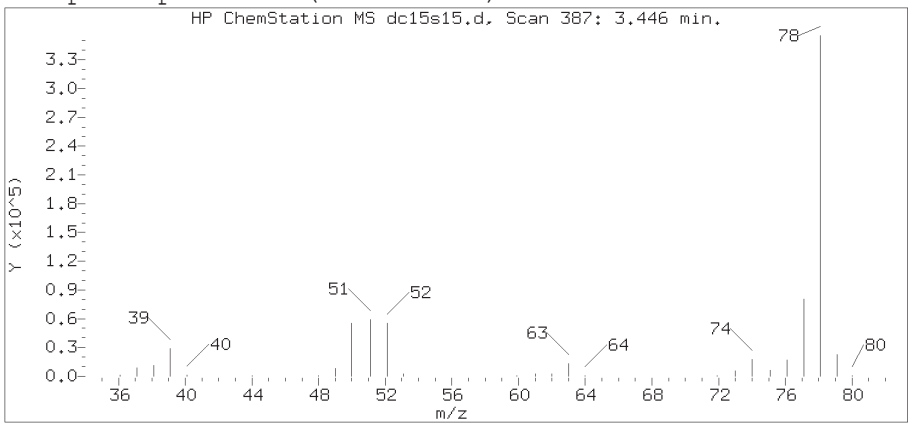
Reference Standard Spectrum for Benzene

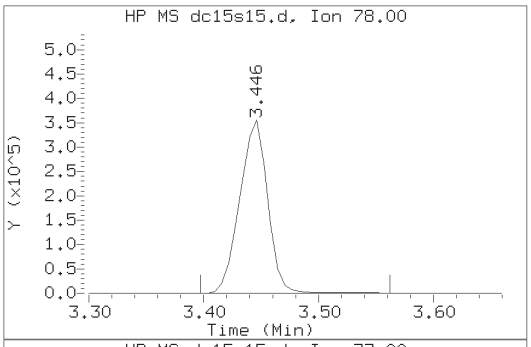


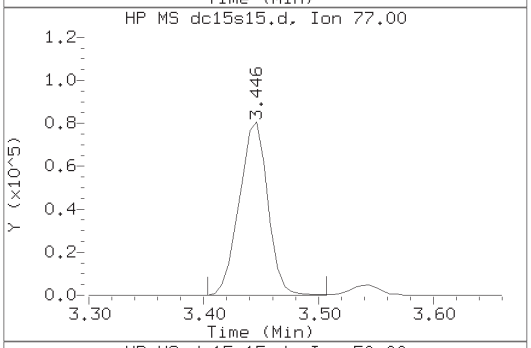
Sample Spectrum (Background Subtracted)

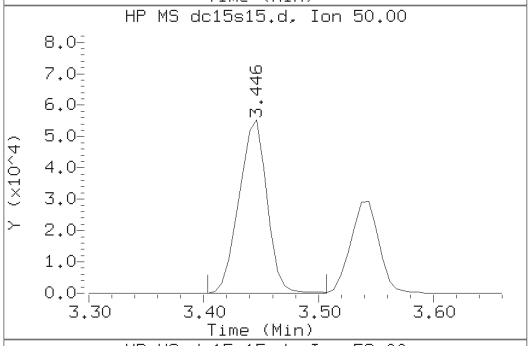


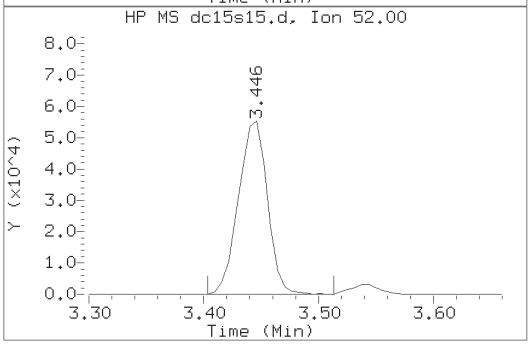
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s15.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:02 Analyst ID: DHH02035

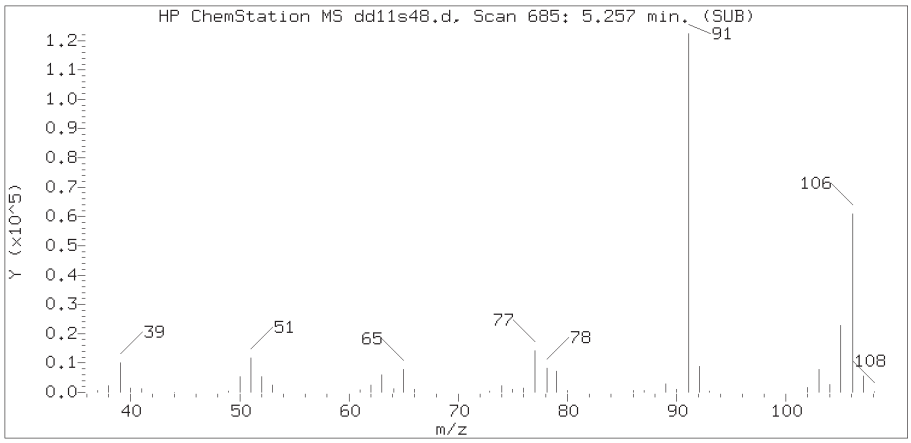
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:11 Unknown

Sample Name: P2802 Lab Sample ID: 8082098

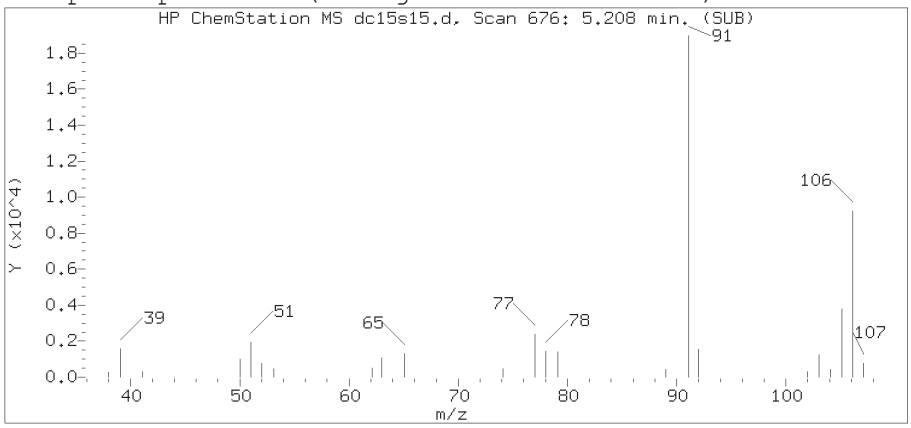
Compound Number	: 12
Compound Name	: Benzene
Scan Number	: 387
Retention Time (minutes)	: 3.446
Relative Retention Time	: 0.00000
Quant Ion	: 78.00
Area (flag)	: 599300
On-Column Amount (ng)	: 44.7155

Digitally signed by Daniel H. Heller on 10/15/2015 at 14:26.
Target 3.5 esignature [illegible] dhh02035

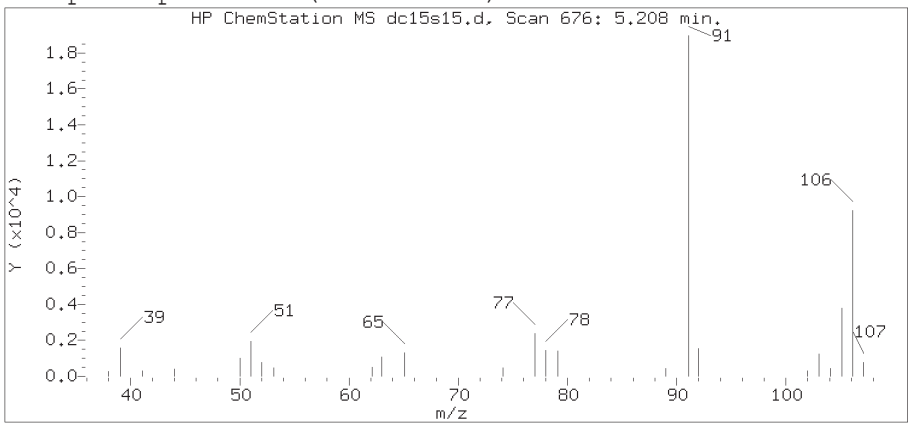
Reference Standard Spectrum for o-Xylene

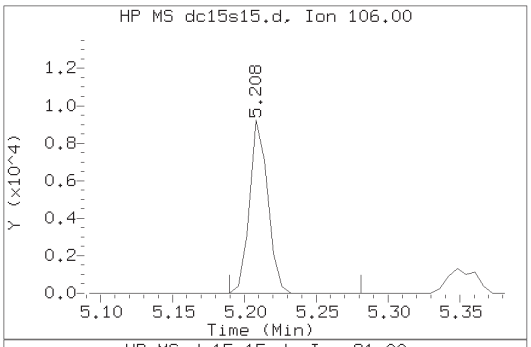


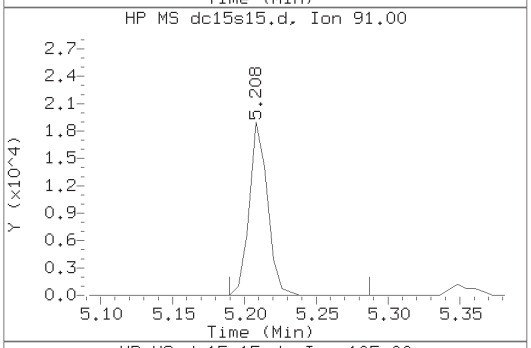
Sample Spectrum (Background Subtracted)

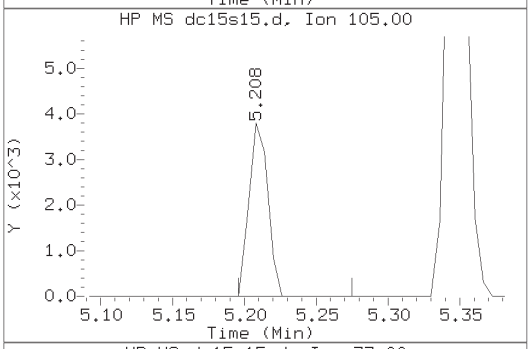


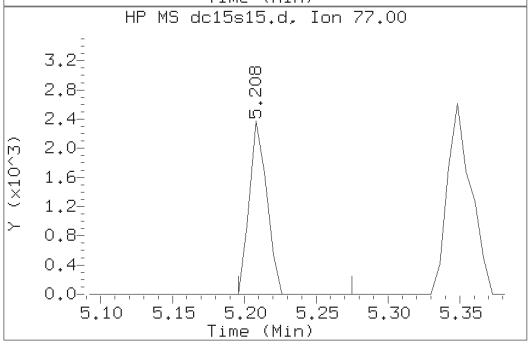
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s15.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:02 Analyst ID: DHH02035

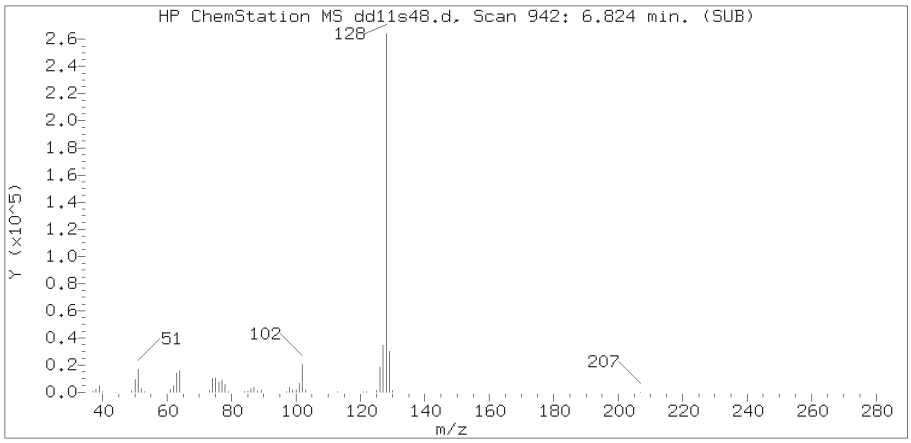
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:11 Unknown

Sample Name: P2802 Lab Sample ID: 8082098

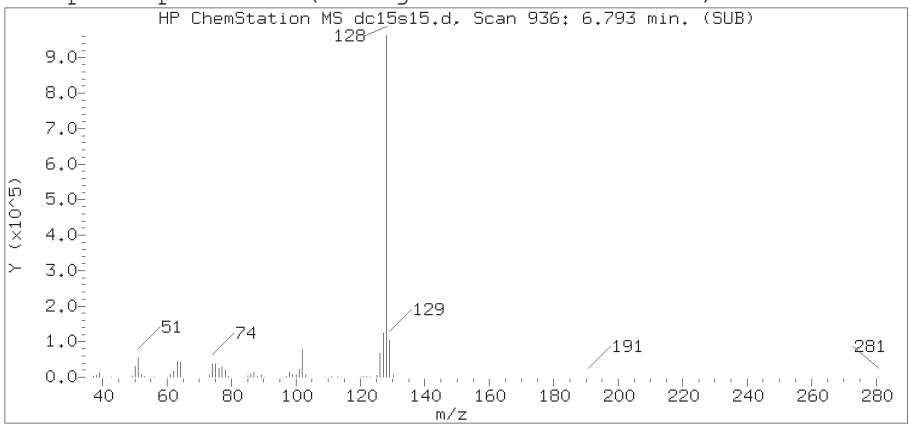
Compound Number	: 23
Compound Name	: o-Xylene
Scan Number	: 676
Retention Time (minutes)	: 5.208
Relative Retention Time	: 0.00000
Quant Ion	: 106.00
Area (flag)	: 8151
On-Column Amount (ng)	: 1.2845

Digitally signed by Daniel H. Heller on 10/15/2015 at 14:26.
Target 3.5 esignature [illegible]

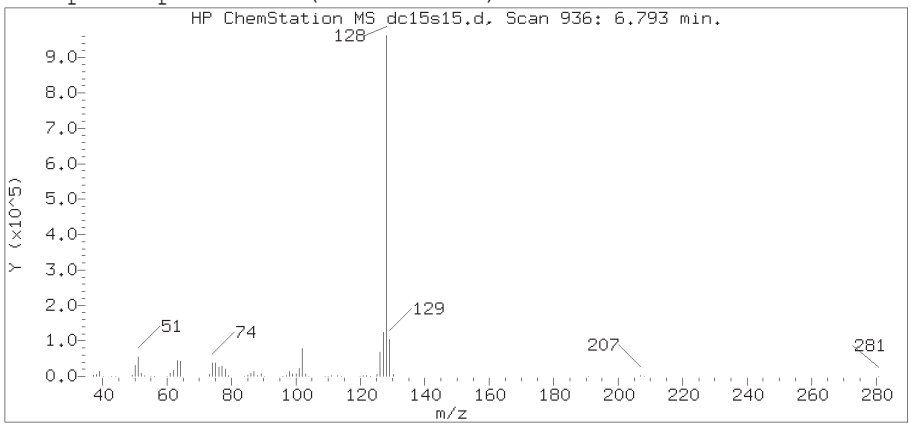
Reference Standard Spectrum for Naphthalene

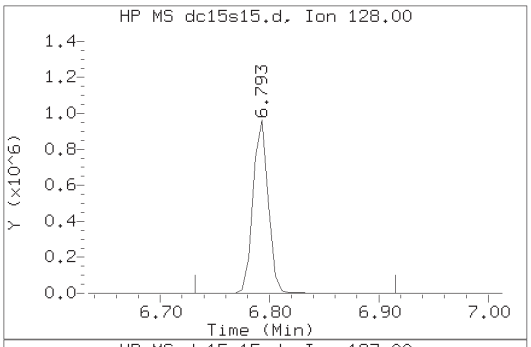


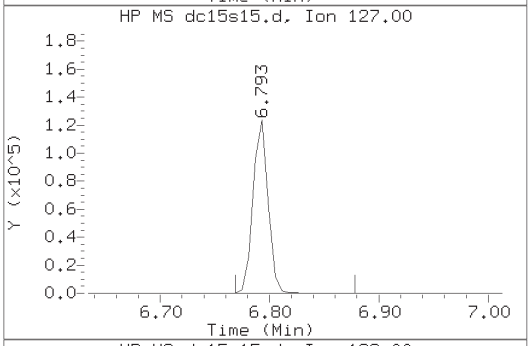
Sample Spectrum (Background Subtracted)

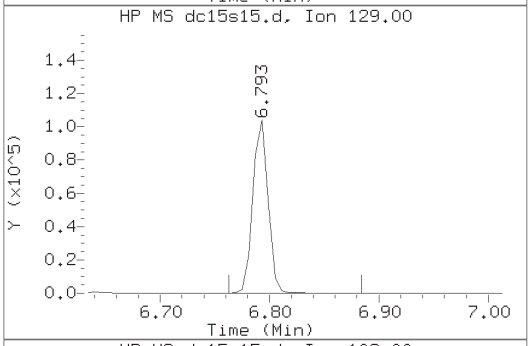


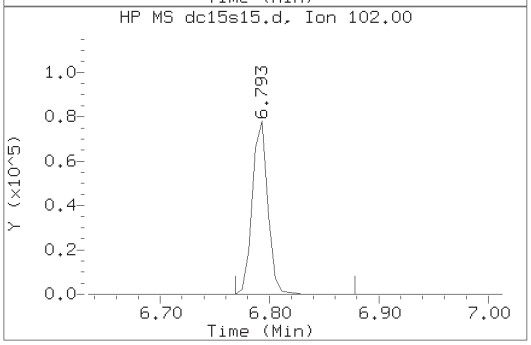
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s15.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:02 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:11 Unknown

Sample Name: P2802 Lab Sample ID: 8082098

Compound Number	: 30
Compound Name	: Naphthalene
Scan Number	: 936
Retention Time (minutes)	: 6.793
Relative Retention Time	: 0.00000
Quant Ion	: 128.00
Area (flag)	: 933791
On-Column Amount (ng)	: 61.7821

Digitally signed by Daniel H. Heller on 10/15/2015 at 14:26.
Target 3.5 esignature [illegible] dh02035

P2803 Lancaster Laboratories 8082099
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s17.d Injection date and time: **15-OCT-2015 14:25**
Data file Sample Info. Line: P2803;8082099;1;0;;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 14:34 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **10.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946	(0.000)	141	65	94968	(15)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	466857	(11)	50.00	
20) Chlorobenzene-d5	4.897	(-0.006)	625	117	362768	(12)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	204736	(14)	50.00	

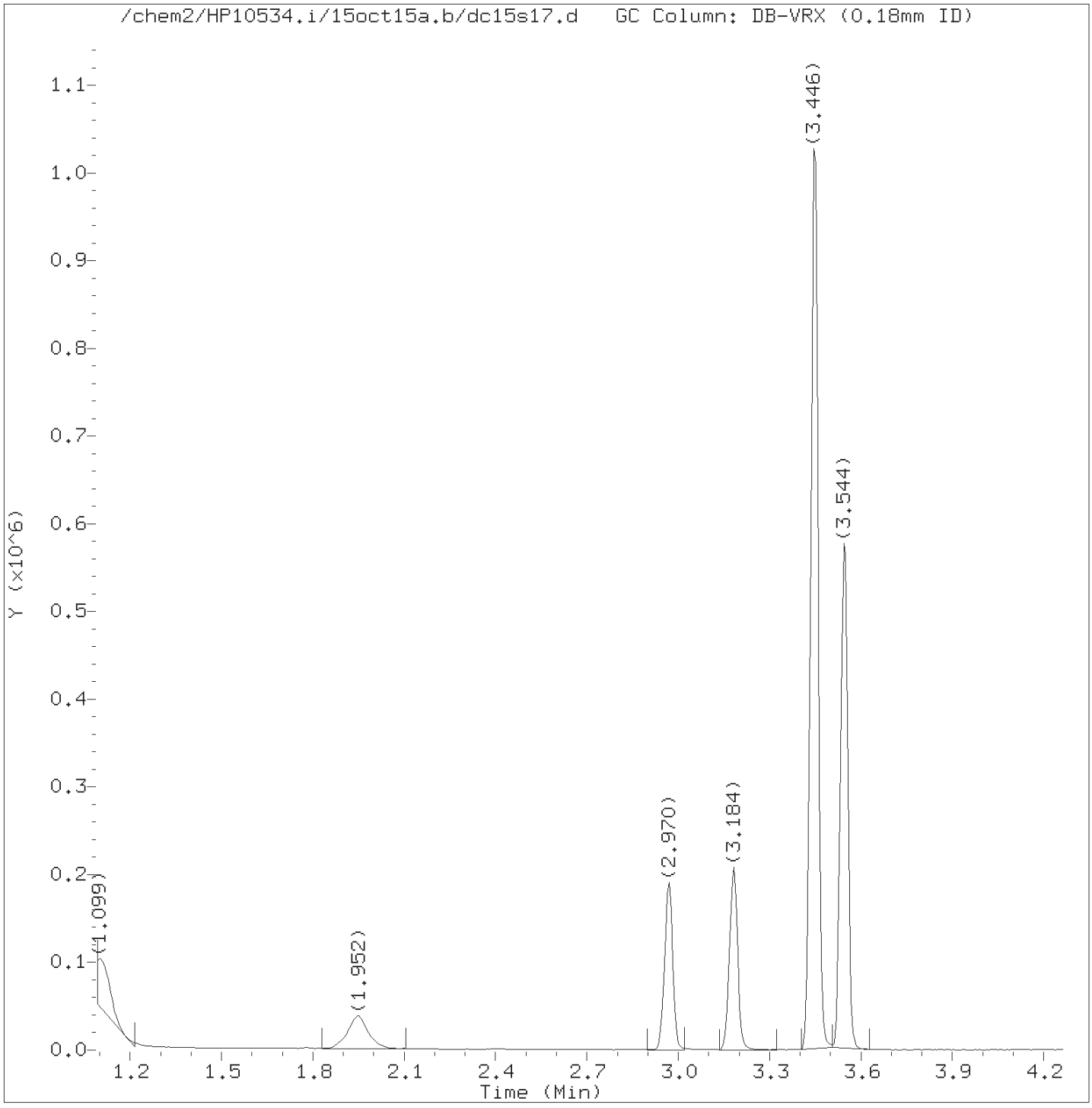
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.970	(0.000)	113	113109	51.967	104%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184	(0.000)	102	29146	50.274	101%		77 - 113
16) Toluene-d8	(3)	4.324	(0.001)	98	469882	48.159	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.001)	95	183011	50.334	101%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)	3.452	(-0.001)	78	816660	59.156	591.56			5	10
17) Toluene	(3)	4.348	(0.001)	92	4937	0.537	5.37		J	5	10
21) Ethylbenzene	(3)	4.982	(0.001)	91	558355	32.420	324.20			5	10
22) m+p-Xylene	(3)	5.055	(0.001)	106	174676	26.226	262.26			5	10
23) o-Xylene	(3)	5.208	(0.001)	106	125815	19.467	194.67			5	10
24) Xylene (Total)	(3)			106	300491	45.693	456.93			5	10
30) Naphthalene	(4)	6.793	(-0.001)	128	1117348	71.074	710.74			10	40

Total number of targets = 7

Digitally signed by Hu Yang on 10/16/2015 at 16:26. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:34. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

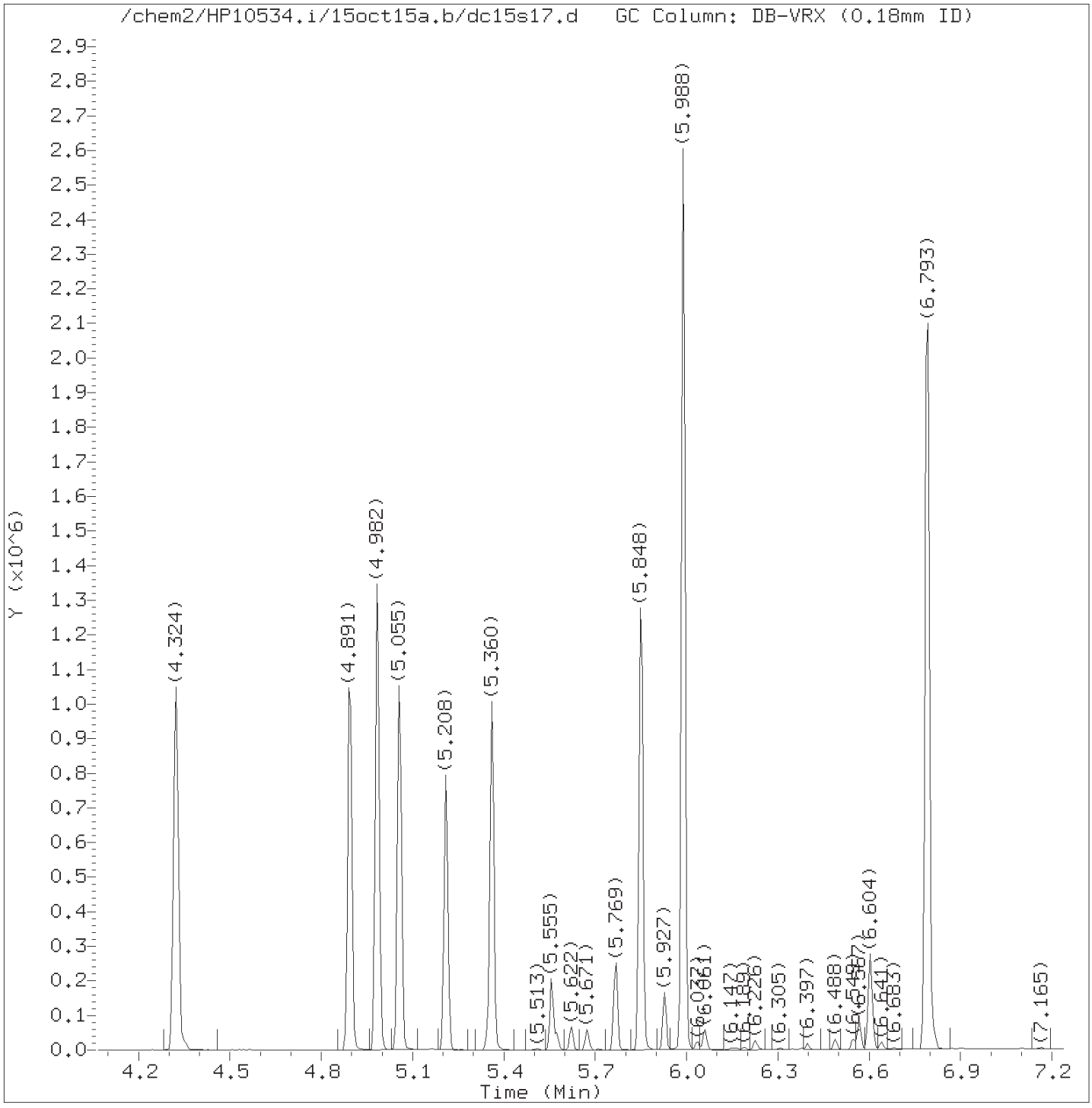
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s17.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:25 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:34 Unknown

Sample Name: P2803 Lab Sample ID: 8082099

Digitally signed by Hu Yang
on 10/16/2015 at 16:26.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s17.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:25 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:34 Unknown

Sample Name: P2803 Lab Sample ID: 8082099

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on 10/16/2015 at 16:26.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s17.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:25 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:34 Unknown

Sample Name: P2803 Lab Sample ID: 8082099

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.946	65	94968	250.000
7)$Dibromofluoromethane	(2)	2.970	113	113109	51.967
10)$1,2-Dichloroethane-d4	(2)	3.184	102	29146	50.274
12) Benzene	(2)	3.452	78	816660	59.156
14)*Fluorobenzene	(2)	3.544	96	466857	50.000
16)$Toluene-d8	(3)	4.324	98	469882	48.159
17) Toluene	(3)	4.348	92	4937	0.537
20)*Chlorobenzene-d5	(3)	4.897	117	362768	50.000
21) Ethylbenzene	(3)	4.982	91	558355	32.420
22) m+p-Xylene	(3)	5.055	106	174676	26.226
23) o-Xylene	(3)	5.208	106	125815	19.467
24) Xylene (Total)	(3)		106	300491	45.693
26)$4-Bromofluorobenzene	(3)	5.360	95	183011	50.334
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	204736	50.000
30) Naphthalene	(4)	6.793	128	1117348	71.074

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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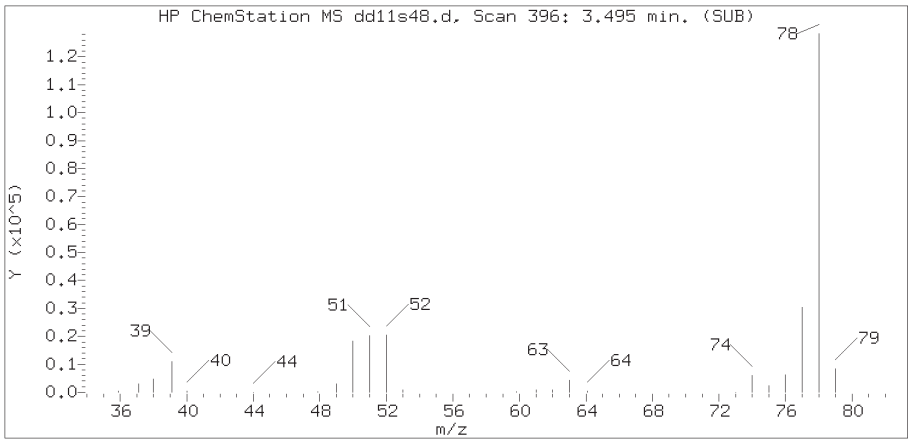
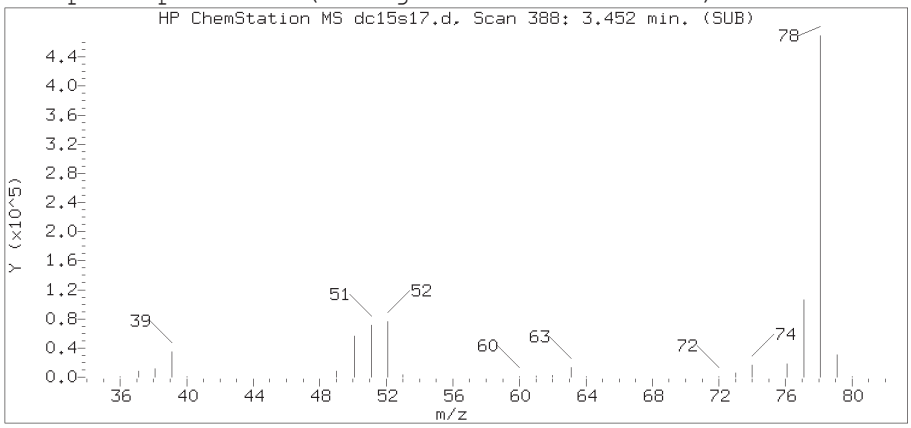
Target 3.5 esignature user ID: hy07820

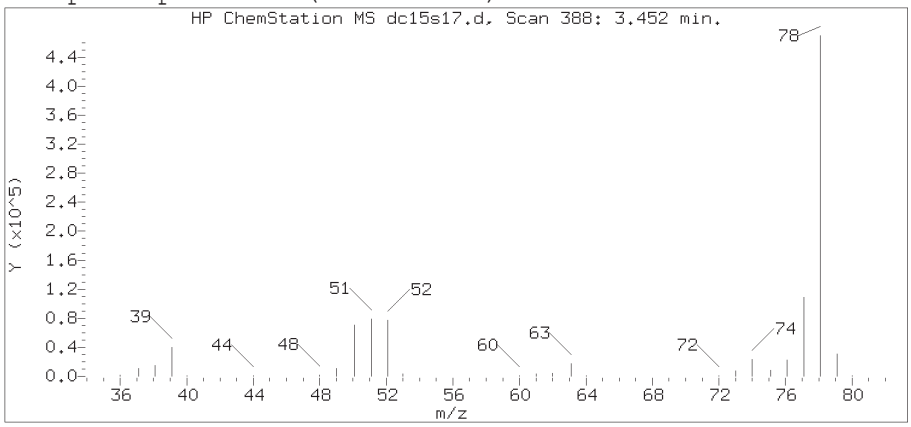
Reference Standard Spectrum for Benzene

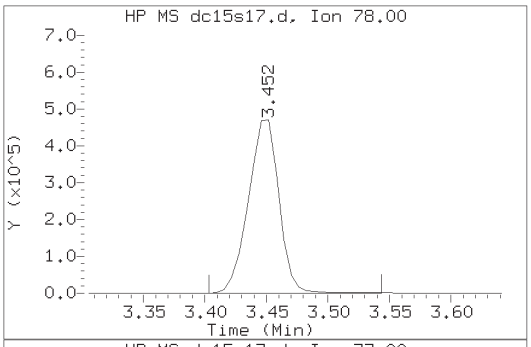


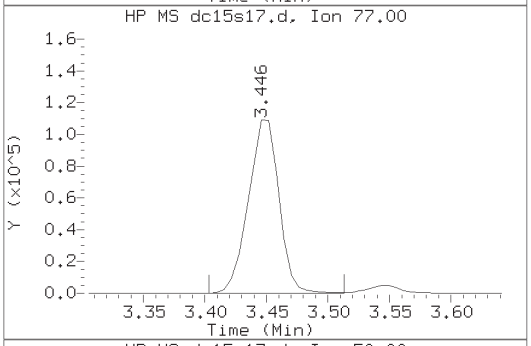
Sample Spectrum (Background Subtracted)

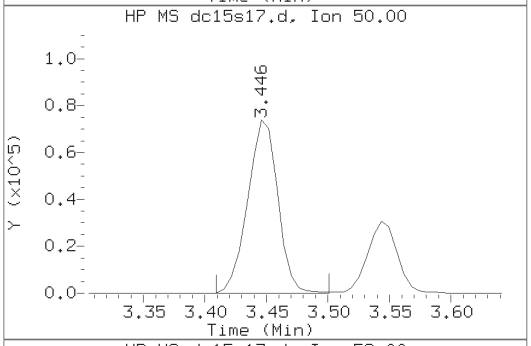


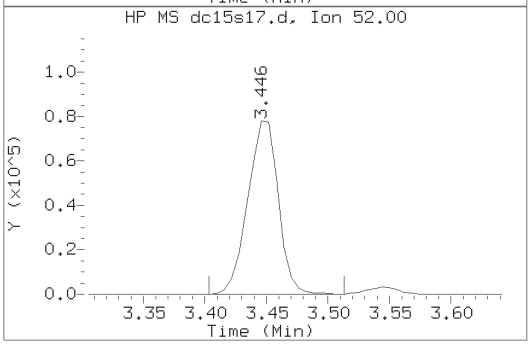
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s17.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:25 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:34 Unknown

Sample Name: P2803 Lab Sample ID: 8082099

Compound Number : 12
Compound Name : Benzene
Scan Number : 388
Retention Time (minutes): 3.452
Relative Retention Time :-0.00172
Quant Ion : 78.00
Area (flag) : 816660
On-Column Amount (ng) : 59.1564

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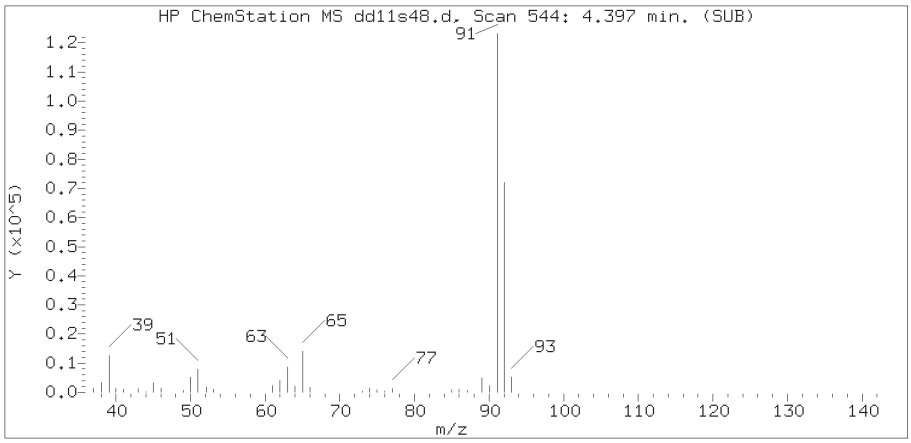
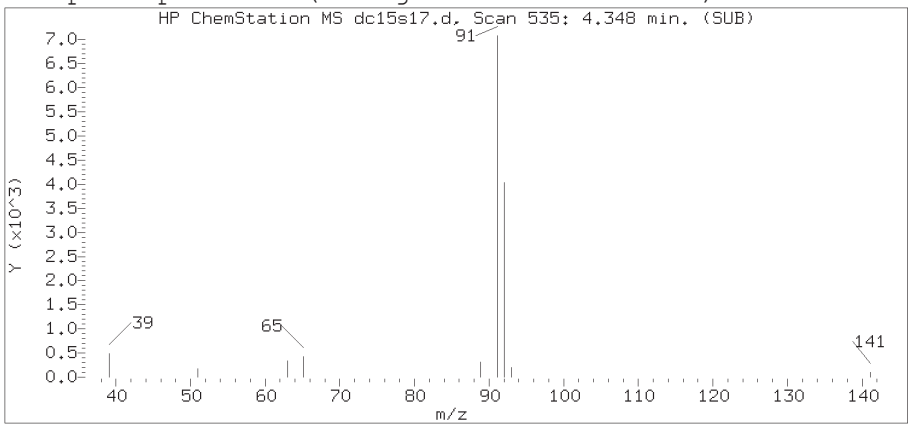
Target 3.5 esignature [illegible]

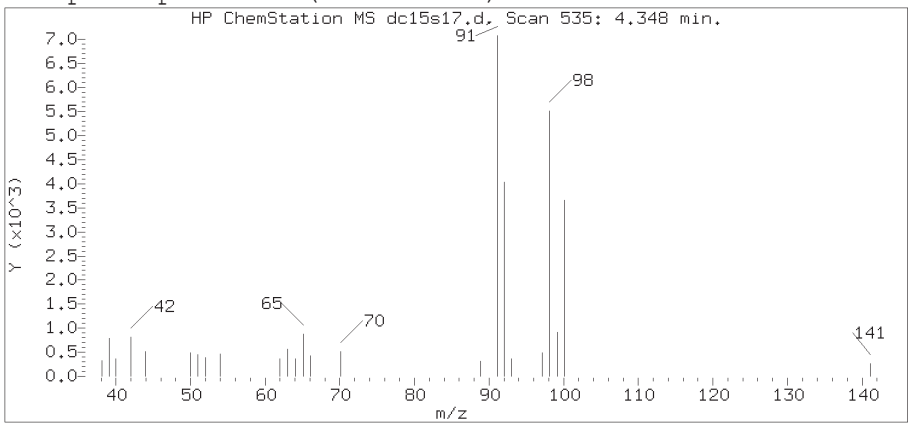
Reference Standard Spectrum for Toluene

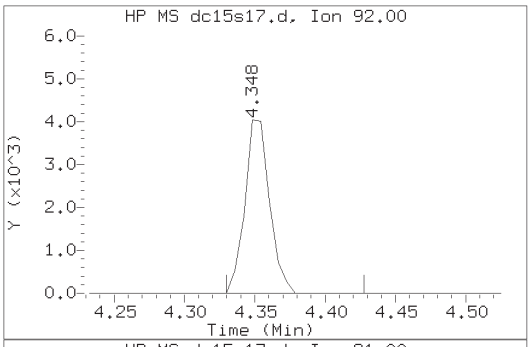


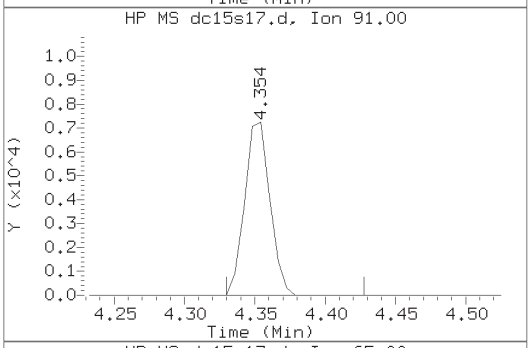
Sample Spectrum (Background Subtracted)

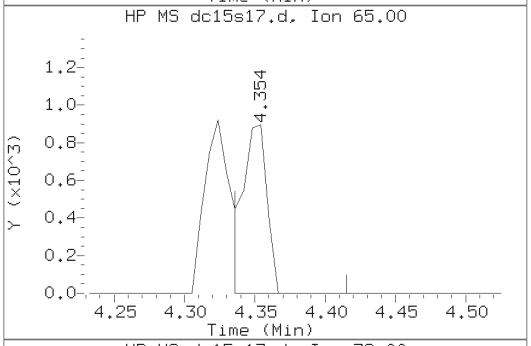


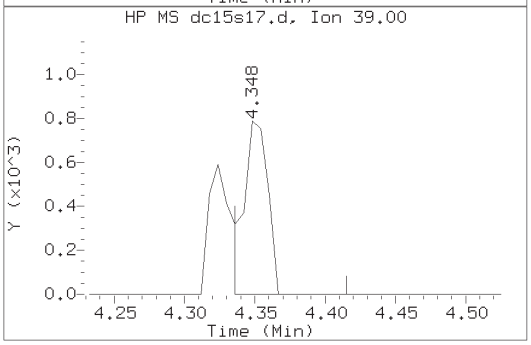
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s17.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:25 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:34 Unknown

Sample Name: P2803 Lab Sample ID: 8082099

Compound Number : 17
Compound Name : Toluene
Scan Number : 535
Retention Time (minutes): 4.348
Relative Retention Time : 0.00111
Quant Ion : 92.00
Area (flag) : 4937
On-Column Amount (ng) : 0.5366

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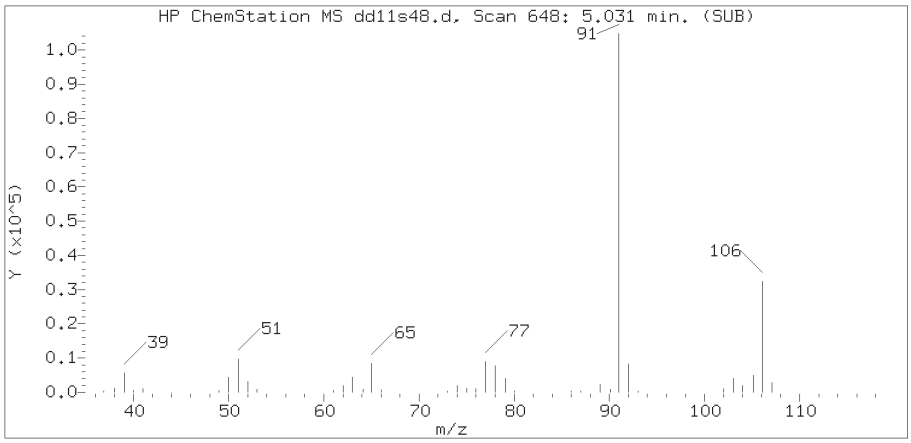
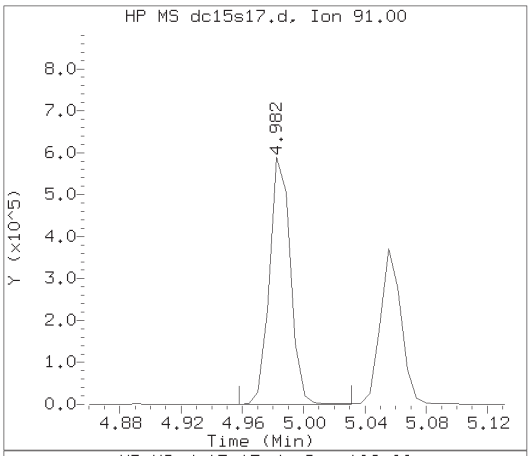
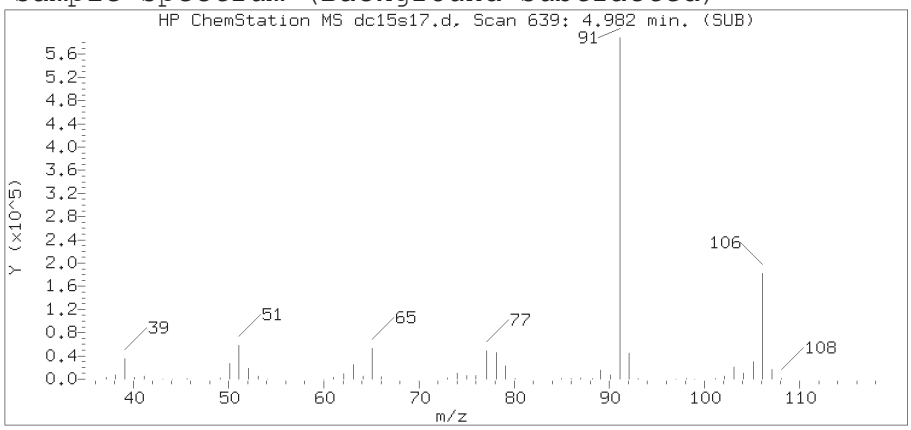
Target 3.5 esignature [illegible]

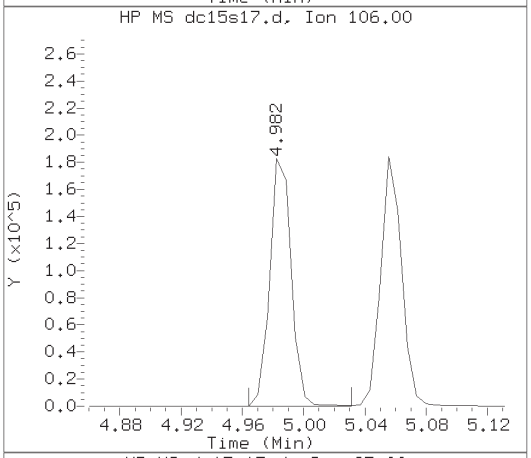
Reference Standard Spectrum for Ethylbenzene



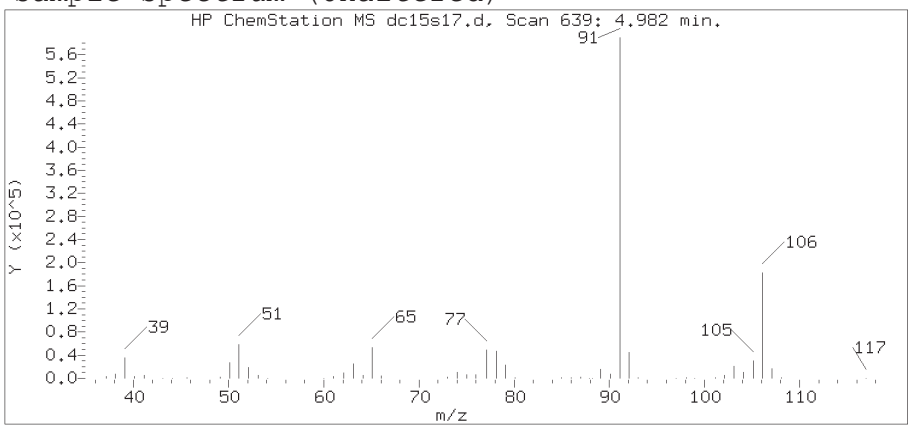


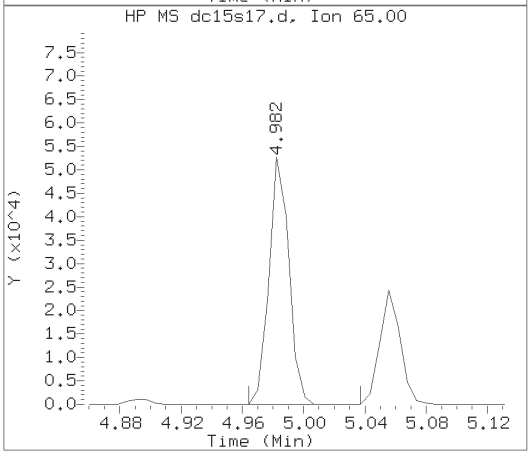
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP10534.i/15oct15a.b/dc15s17.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:25 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:34 Unknown

Sample Name: P2803 Lab Sample ID: 8082099

Compound Number : 21
Compound Name : Ethylbenzene
Scan Number : 639
Retention Time (minutes): 4.982
Relative Retention Time : 0.00127
Quant Ion : 91.00
Area (flag) : 558355
On-Column Amount (ng) : 32.4203

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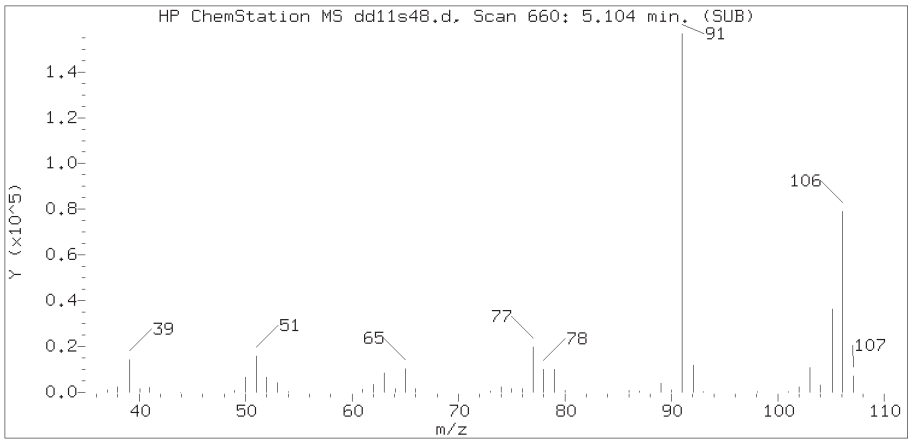
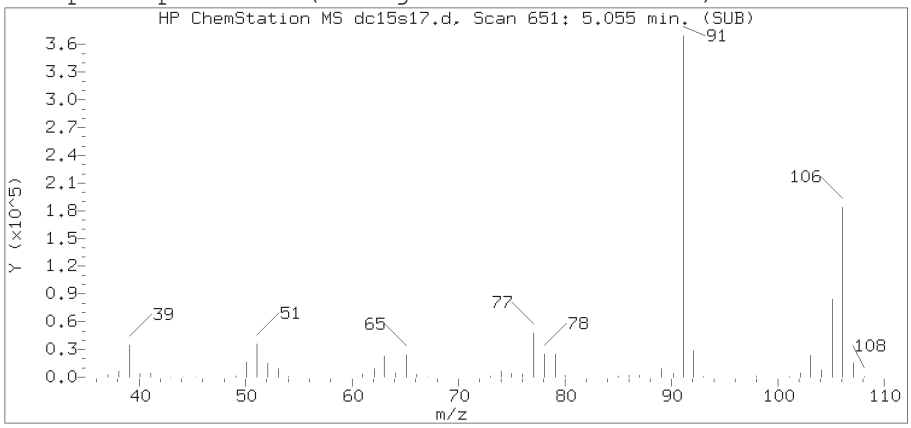
Target 3.5 esignature [illegible]

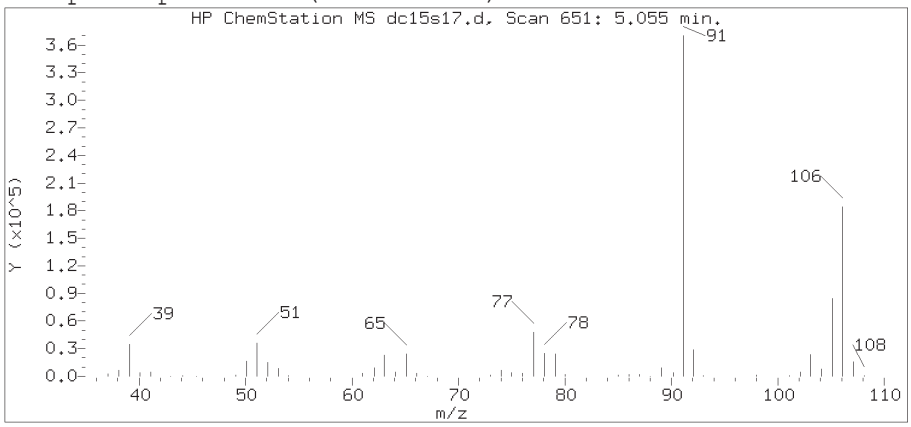
Reference Standard Spectrum for m+p-Xylene

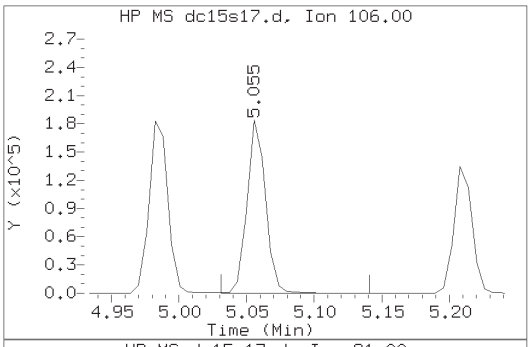


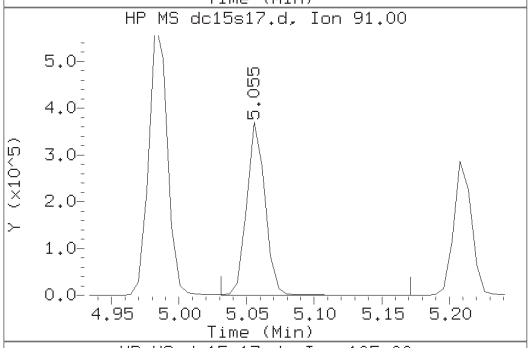
Sample Spectrum (Background Subtracted)

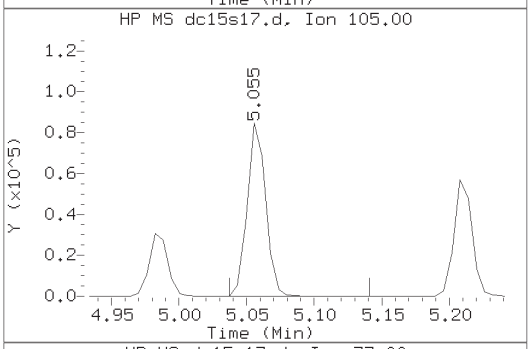


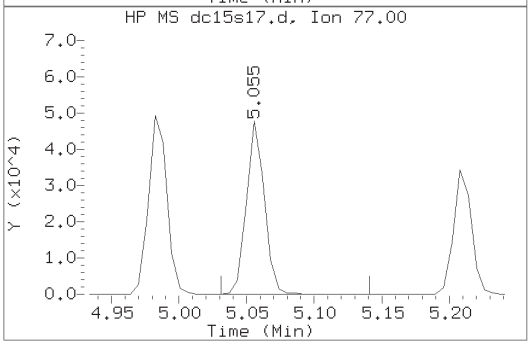
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s17.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:25 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:34 Unknown

Sample Name: P2803 Lab Sample ID: 8082099

Compound Number	: 22
Compound Name	: m+p-Xylene
Scan Number	: 651
Retention Time (minutes)	: 5.055
Relative Retention Time	: 0.00128
Quant Ion	: 106.00
Area (flag)	: 174676
On-Column Amount (ng)	: 26.2265

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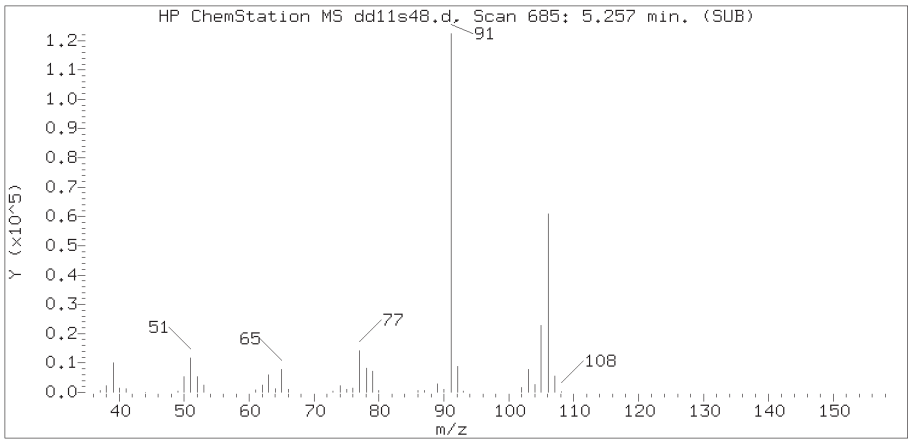
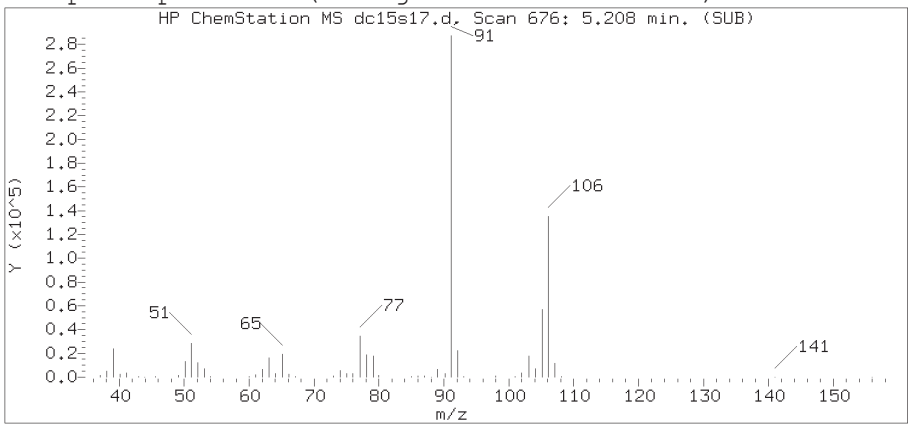
Target 3.5 esignature [illegible]

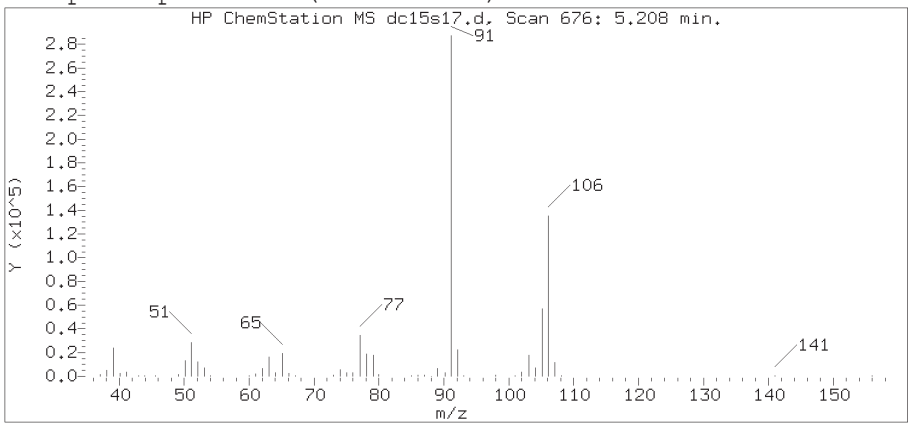
Reference Standard Spectrum for o-Xylene

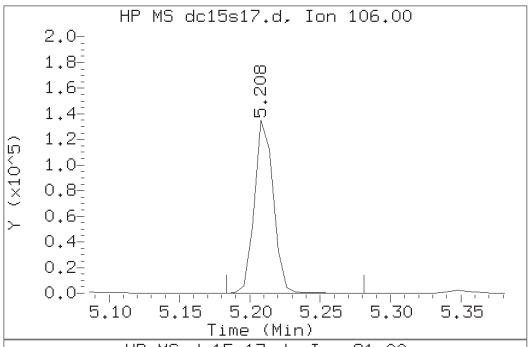


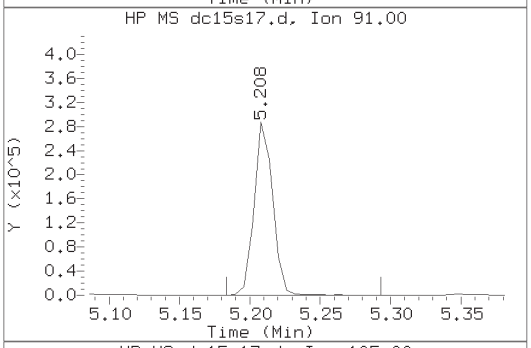
Sample Spectrum (Background Subtracted)

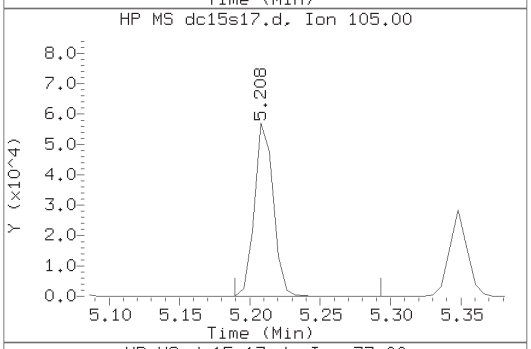


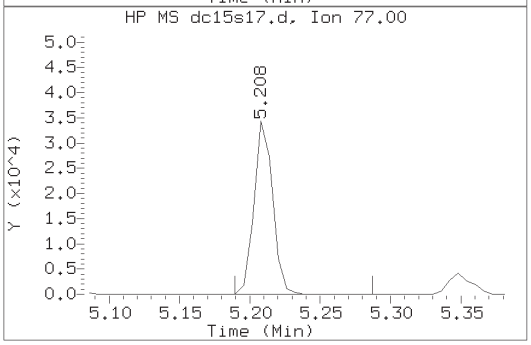
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s17.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:25 Analyst ID: DHH02035

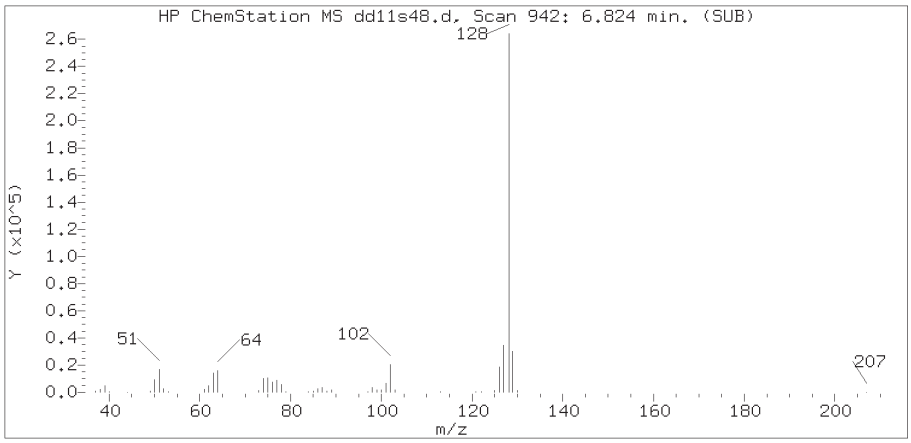
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:34 Unknown

Sample Name: P2803 Lab Sample ID: 8082099

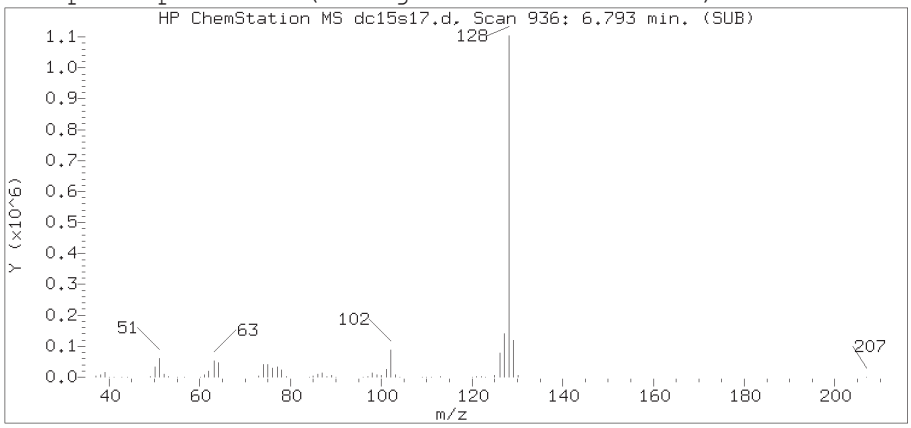
Compound Number	: 23
Compound Name	: o-Xylene
Scan Number	: 676
Retention Time (minutes)	: 5.208
Relative Retention Time	: 0.00132
Quant Ion	: 106.00
Area (flag)	: 125815
On-Column Amount (ng)	: 19.4669

Digitally signed by Hu Yang on 10/16/2015 at 16:26.
Target 3.5 esignature [illegible]

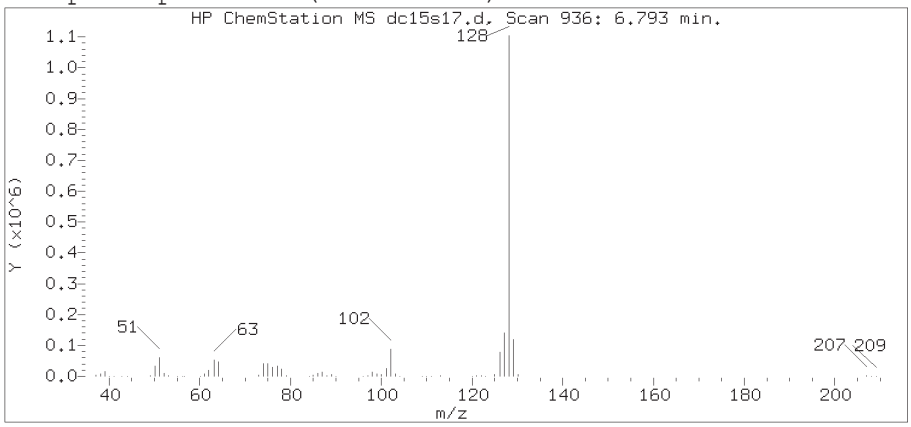
Reference Standard Spectrum for Naphthalene

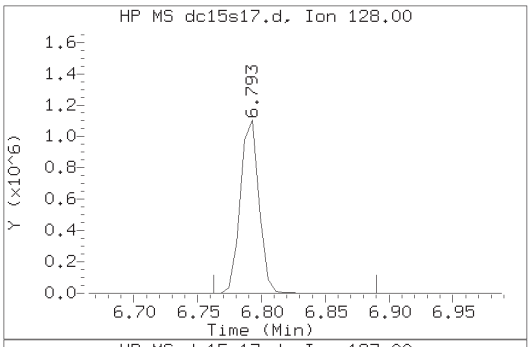


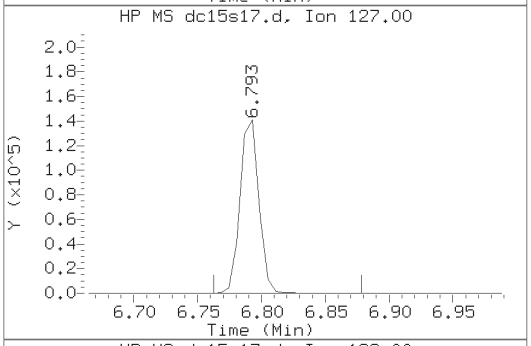
Sample Spectrum (Background Subtracted)

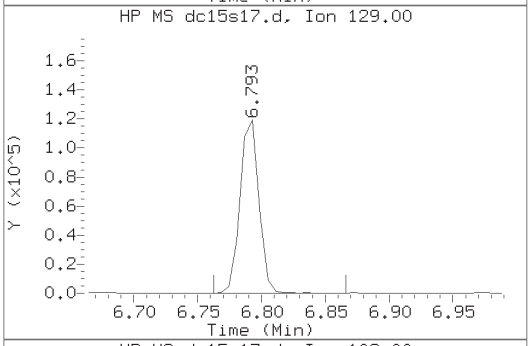


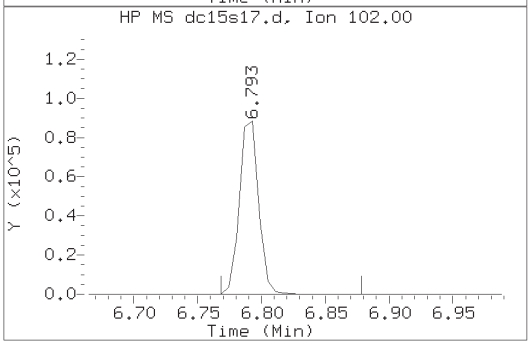
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s17.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:25 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:34 Unknown

Sample Name: P2803 Lab Sample ID: 8082099

Compound Number : 30
Compound Name : Naphthalene
Scan Number : 936
Retention Time (minutes): 6.793
Relative Retention Time :-0.00122
Quant Ion : 128.00
Area (flag) : 1117348
On-Column Amount (ng) : 71.0740

Digitally signed by Hu Yang on 10/16/2015 at 16:26.
Target 3.5 esignature [illegible]

P2804 Lancaster Laboratories 8082100
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s19.d Injection date and time: **15-OCT-2015 14:48**
Data file Sample Info. Line: P2804;8082100;1;0;;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 14:58 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **10.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946	(0.000)	141	65	85756	(4)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	431176	(2)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	334937	(3)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	187169	(4)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.965	(0.002)	113	102179	50.830	102%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184	(0.000)	102	25976	48.514	97%		77 - 113
16) Toluene-d8	(3)	4.324	(0.000)	98	429676	47.697	95%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	167061	49.765	100%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)	3.446	(0.000)	78	1908004	149.647	1496.47			5	10
17) Toluene	(3)	4.348	(0.000)	92	12413	1.461	14.61			5	10
21) Ethylbenzene	(3)	4.982	(0.000)	91	785677	49.410	494.10			5	10
22) m+p-Xylene	(3)	5.056	(-0.000)	106	206619	33.600	336.00			5	10
23) o-Xylene	(3)	5.208	(0.000)	106	177910	29.815	298.15			5	10
24) Xylene (Total)	(3)			106	384529	63.415	634.15			5	10
30) Naphthalene	(4)	6.793	(-0.001)	128	1092308	76.002	760.02			10	40

Total number of targets = 7

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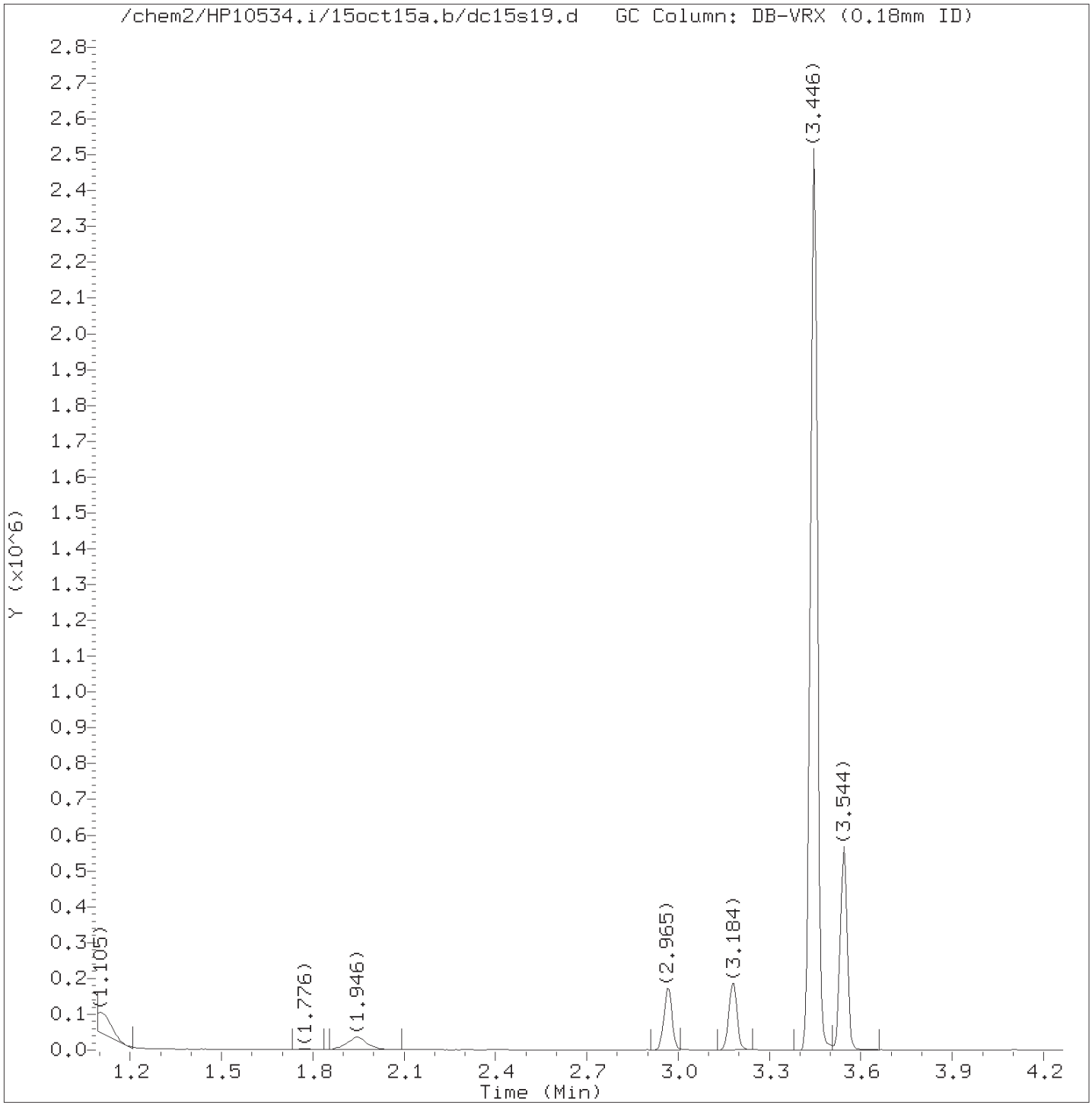
Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:34. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

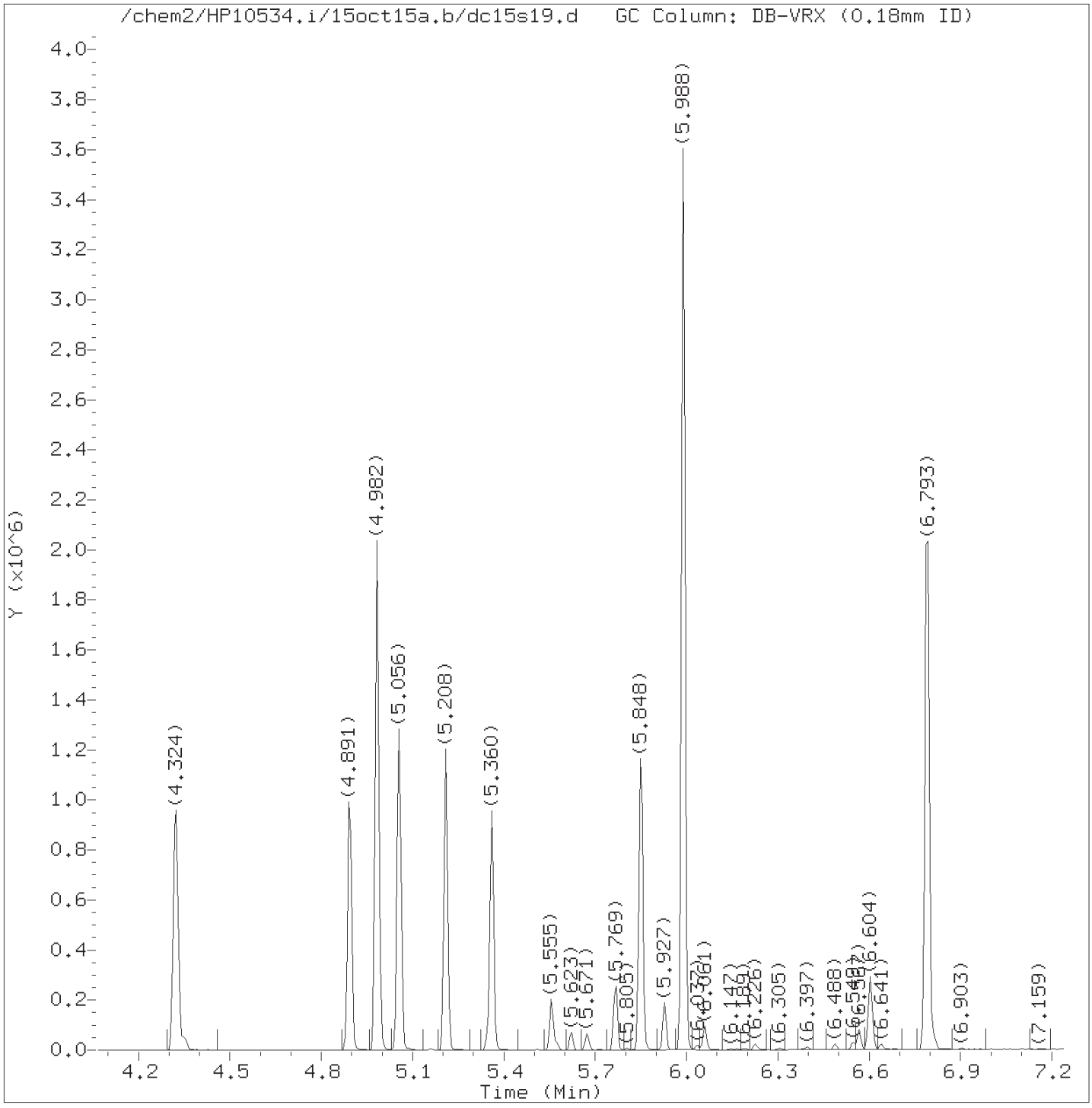
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s19.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:48 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:58 Unknown

Sample Name: P2804 Lab Sample ID: 8082100

Digitally signed by Hu Yang
on 10/16/2015 at 16:26.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s19.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:48 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:58 Unknown

Sample Name: P2804 Lab Sample ID: 8082100

Digitally signed by Hu Yang
on 10/16/2015 at 16:26.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s19.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:48 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:58 Unknown

Sample Name: P2804 Lab Sample ID: 8082100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.946	65	85756	250.000
7)$Dibromofluoromethane	(2)	2.965	113	102179	50.830
10)$1,2-Dichloroethane-d4	(2)	3.184	102	25976	48.514
12) Benzene	(2)	3.446	78	1908004	149.647
14)*Fluorobenzene	(2)	3.544	96	431176	50.000
16)$Toluene-d8	(3)	4.324	98	429676	47.697
17) Toluene	(3)	4.348	92	12413	1.461
20)*Chlorobenzene-d5	(3)	4.891	117	334937	50.000
21) Ethylbenzene	(3)	4.982	91	785677	49.410
22) m+p-Xylene	(3)	5.056	106	206619	33.600
23) o-Xylene	(3)	5.208	106	177910	29.815
24) Xylene (Total)	(3)		106	384529	63.415
26)$4-Bromofluorobenzene	(3)	5.360	95	167061	49.765
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	187169	50.000
30) Naphthalene	(4)	6.793	128	1092308	76.002

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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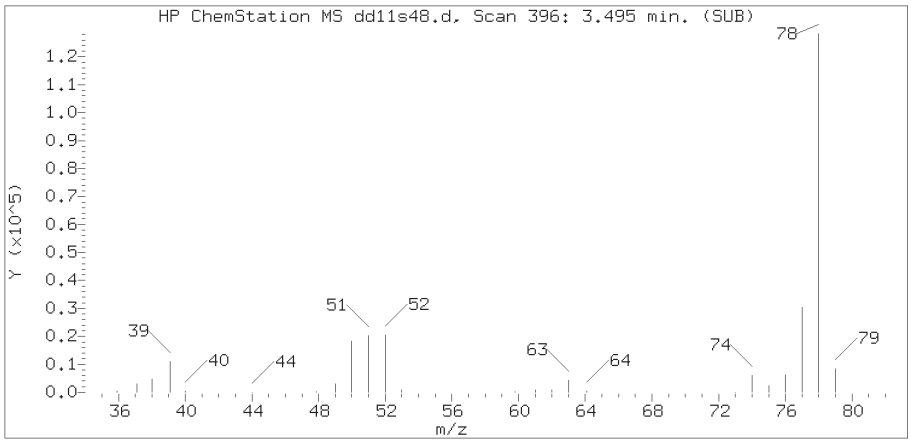
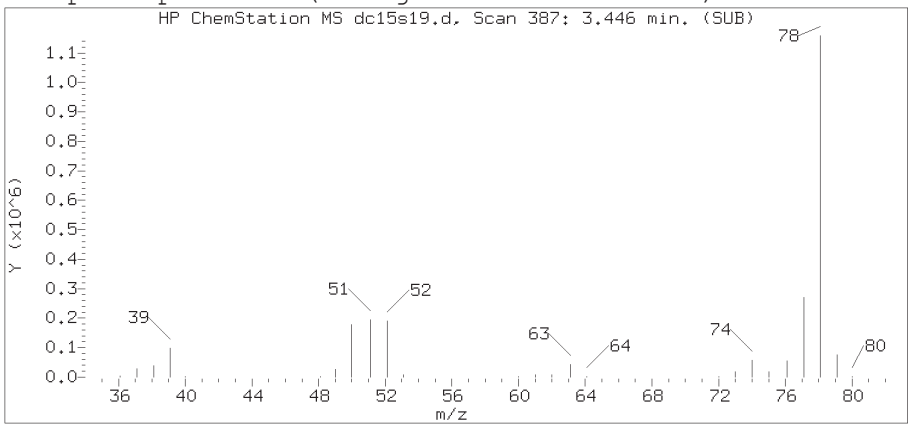
on 10/16/2015 at 16:26.
Target 3.5 esignature user ID: hy07820

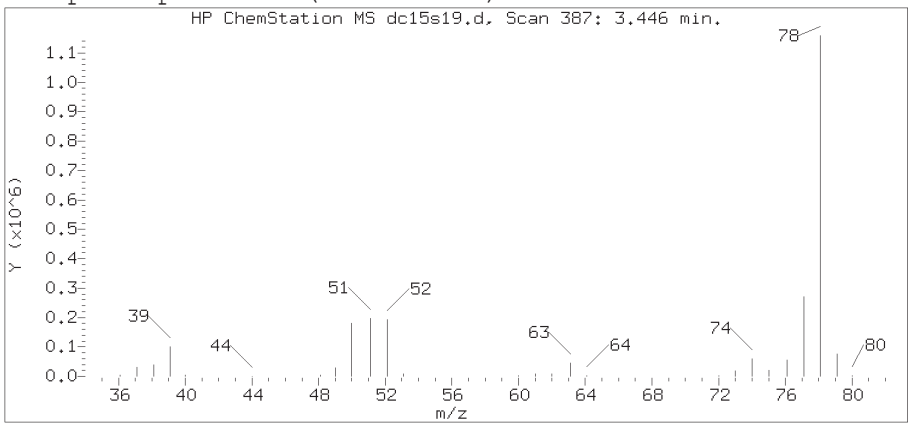
Reference Standard Spectrum for Benzene

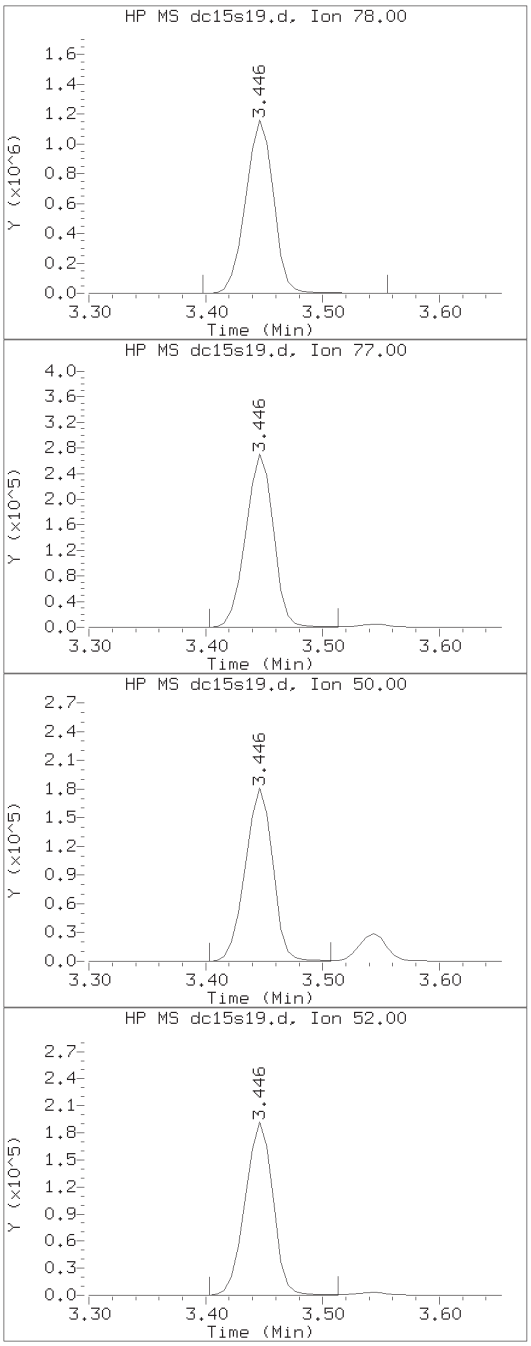


Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)





Data File: /chem2/HP10534.i/15oct15a.b/dc15s19.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:48 Analyst ID: DHH02035

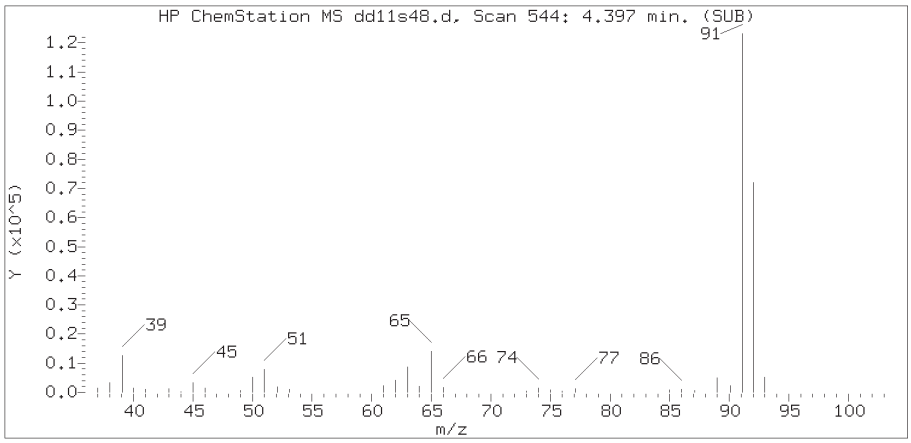
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:58 Unknown

Sample Name: P2804 Lab Sample ID: 8082100

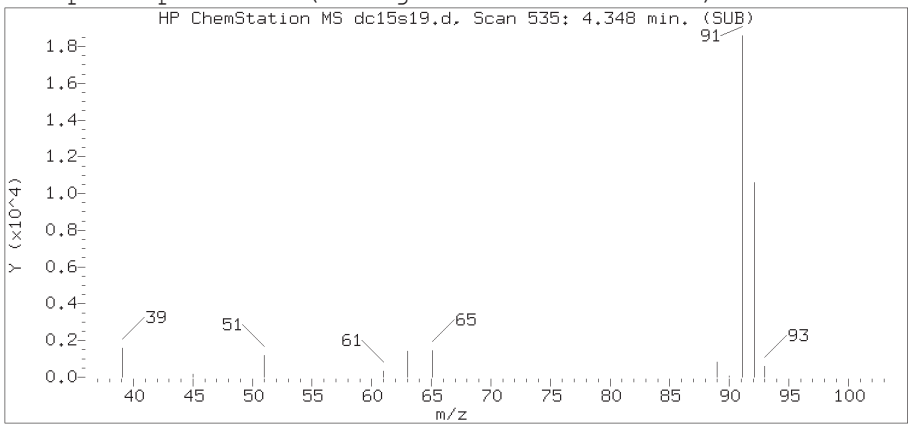
Compound Number	: 12
Compound Name	: Benzene
Scan Number	: 387
Retention Time (minutes)	: 3.446
Relative Retention Time	: 0.00000
Quant Ion	: 78.00
Area (flag)	: 1908004
On-Column Amount (ng)	: 149.6472

Digitally signed by Hu Yang on 10/16/2015 at 16:26.
Target 3.5 esignature [illegible]

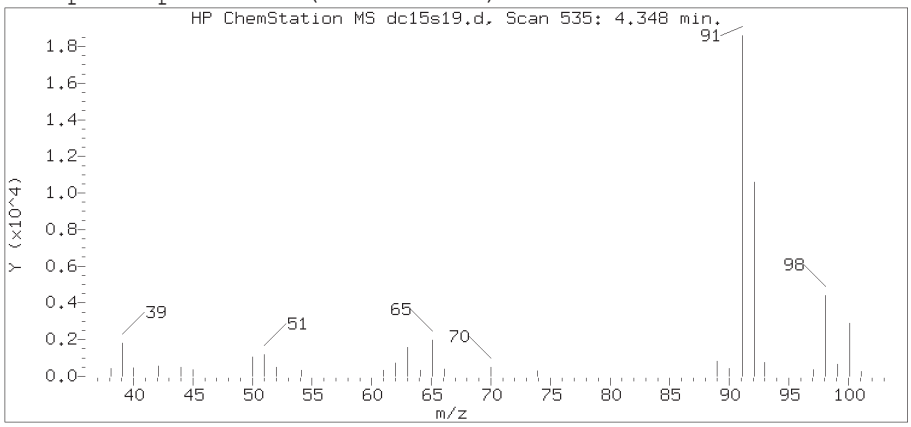
Reference Standard Spectrum for Toluene

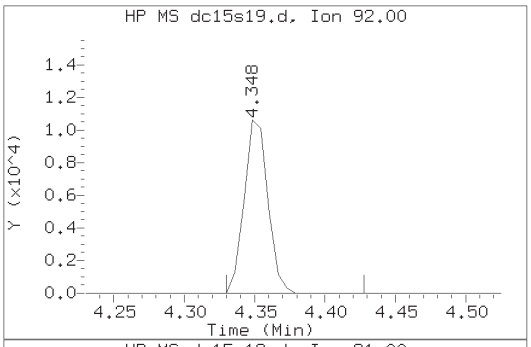


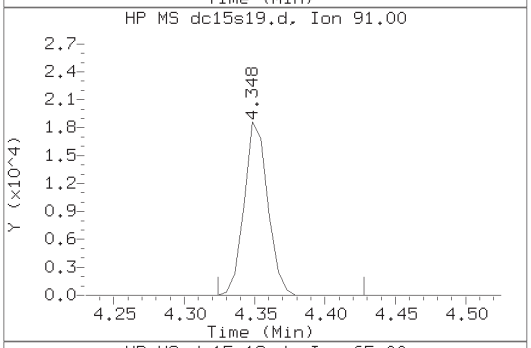
Sample Spectrum (Background Subtracted)

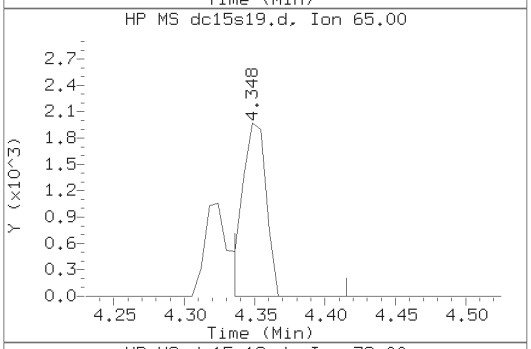


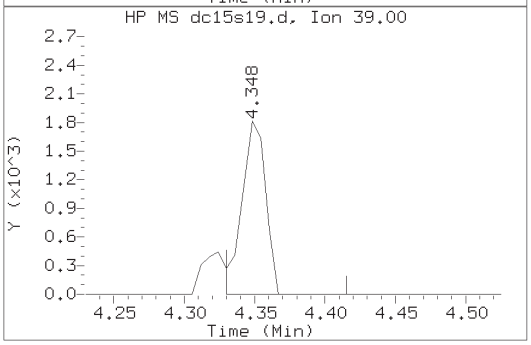
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s19.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:48 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:58 Unknown

Sample Name: P2804 Lab Sample ID: 8082100

Compound Number	: 17
Compound Name	: Toluene
Scan Number	: 535
Retention Time (minutes)	: 4.348
Relative Retention Time	: 0.00000
Quant Ion	: 92.00
Area (flag)	: 12413
On-Column Amount (ng)	: 1.4612

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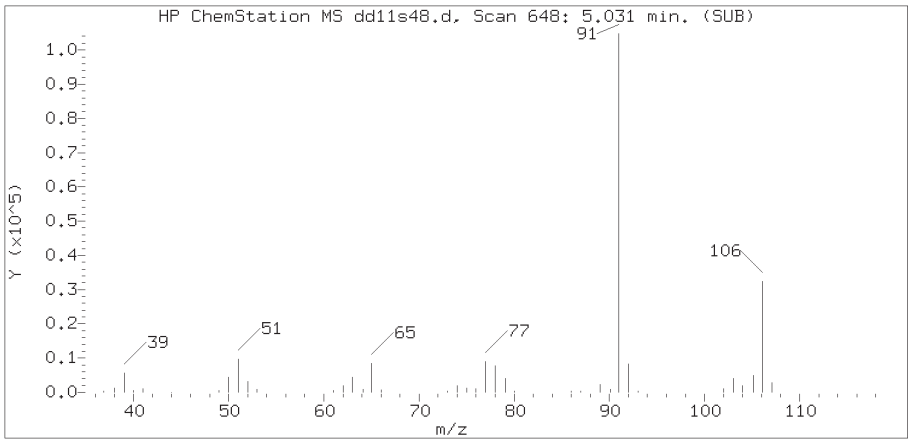
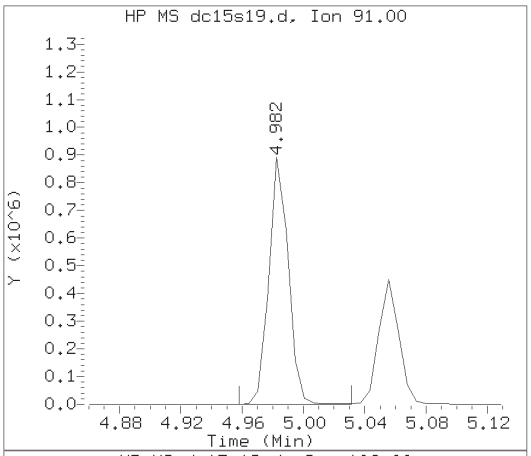
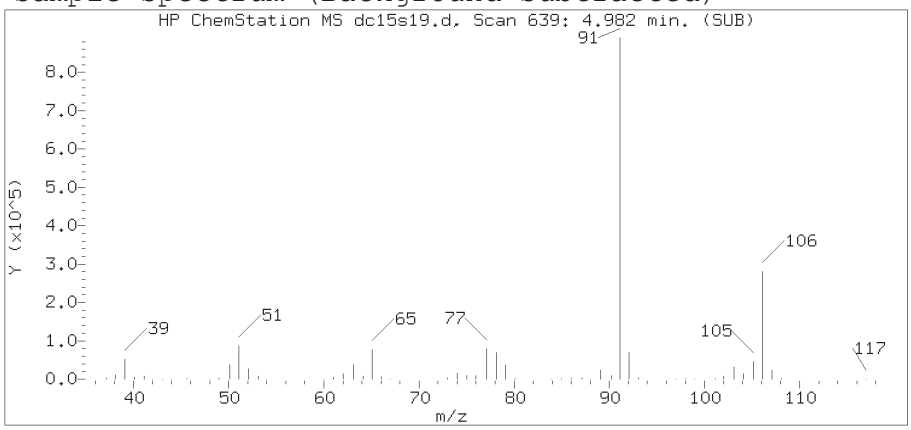
Target 3.5 esignature [illegible]

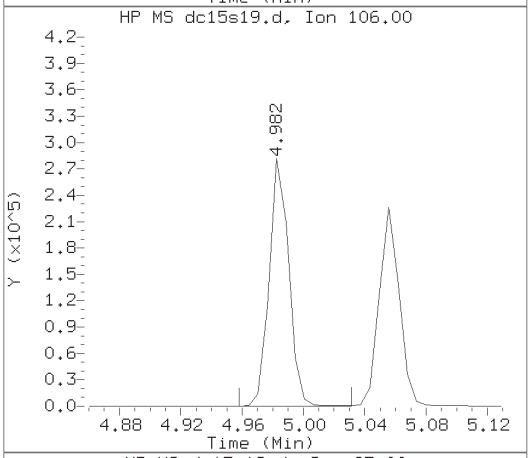
Reference Standard Spectrum for Ethylbenzene



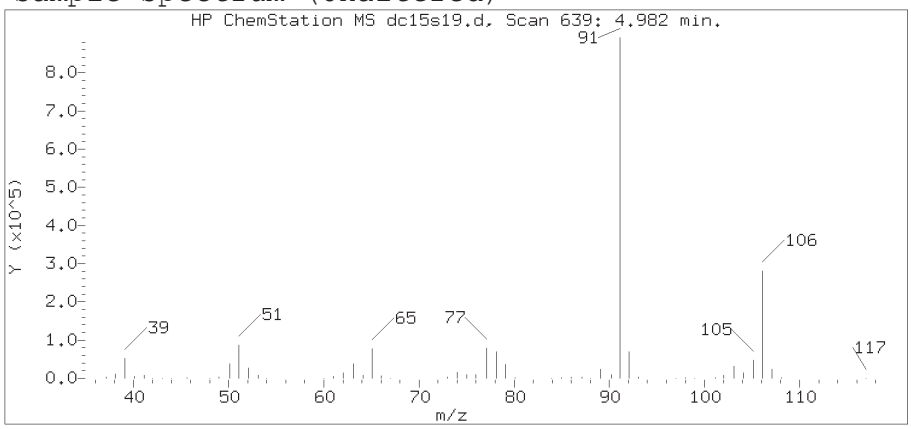


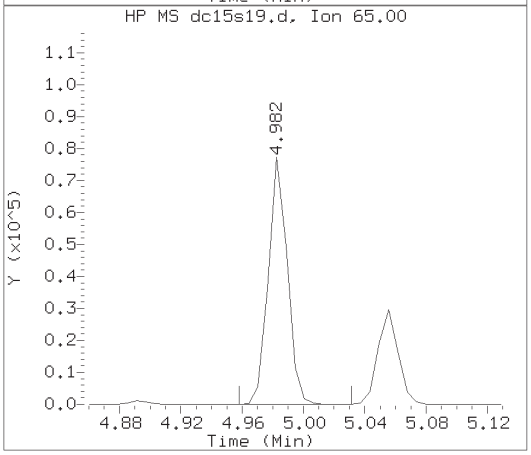
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP10534.i/15oct15a.b/dc15s19.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:48 Analyst ID: DHH02035

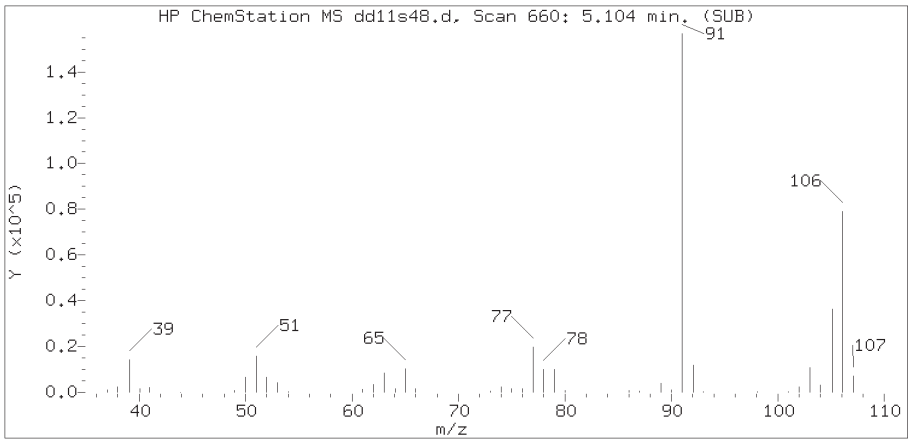
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:58 Unknown

Sample Name: P2804 Lab Sample ID: 8082100

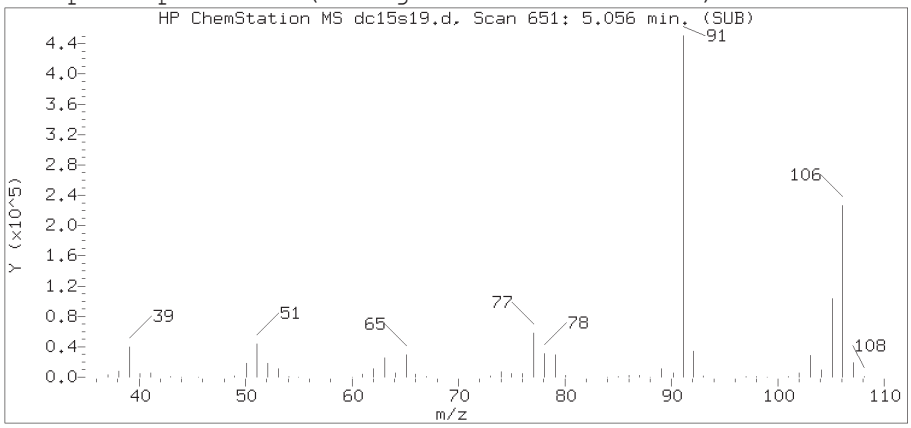
Compound Number : 21
Compound Name : Ethylbenzene
Scan Number : 639
Retention Time (minutes): 4.982
Relative Retention Time : 0.00000
Quant Ion : 91.00
Area (flag) : 785677
On-Column Amount (ng) : 49.4102

Digitally signed by Hu Yang on 10/16/2015 at 16:26.
Target 3.5 esignature [illegible]

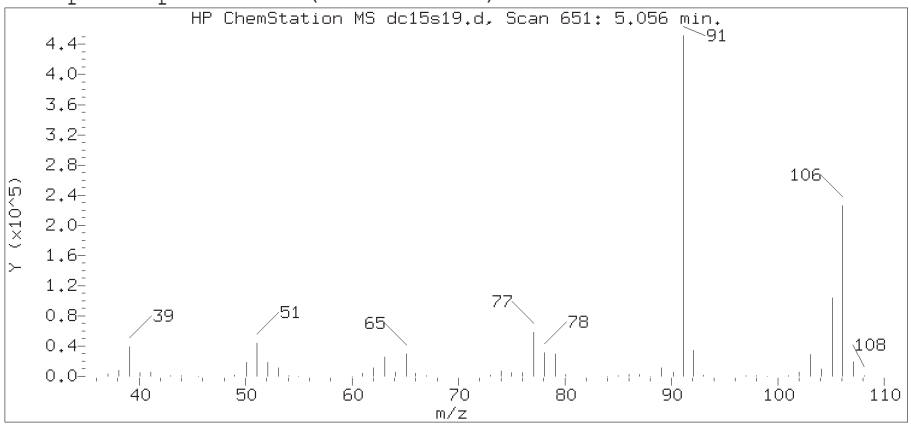
Reference Standard Spectrum for m+p-Xylene

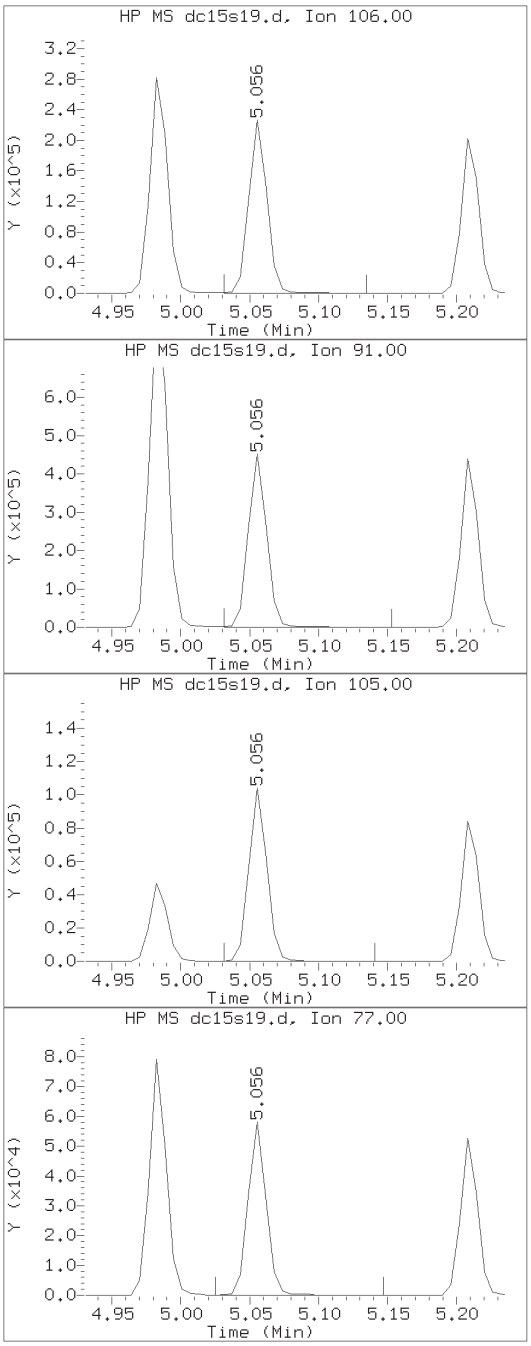


Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)





Data File: /chem2/HP10534.i/15oct15a.b/dc15s19.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:48 Analyst ID: DHH02035

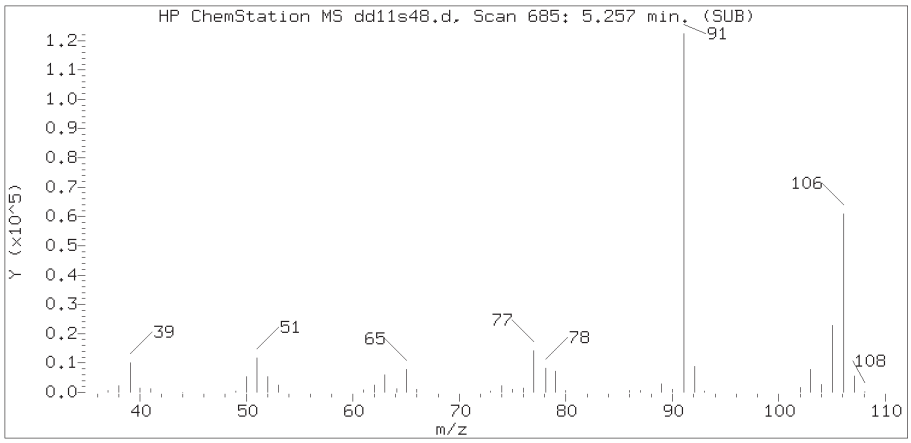
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:58 Unknown

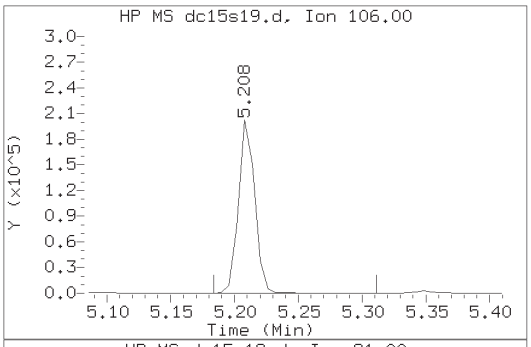
Sample Name: P2804 Lab Sample ID: 8082100

Compound Number : 22
Compound Name : m+p-Xylene
Scan Number : 651
Retention Time (minutes): 5.056
Relative Retention Time :-0.00000
Quant Ion : 106.00
Area (flag) : 206619
On-Column Amount (ng) : 33.6002

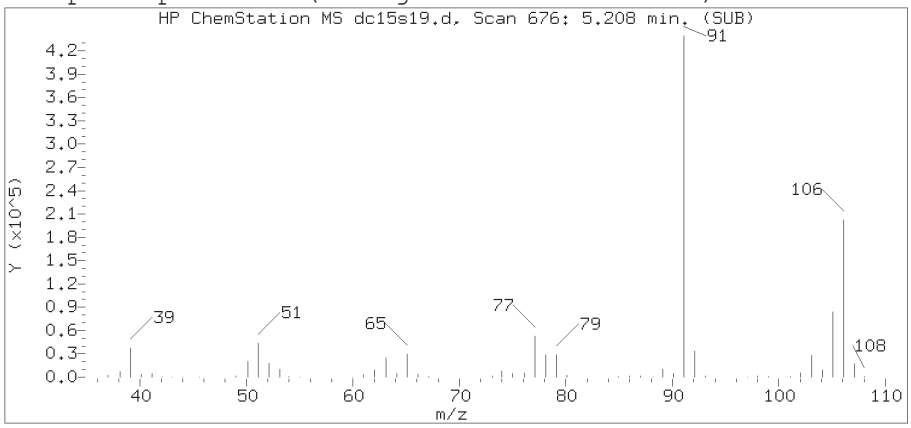
Digitally signed by Hu Yang on 10/16/2015 at 16:26.
Target 3.5 esignature [illegible]

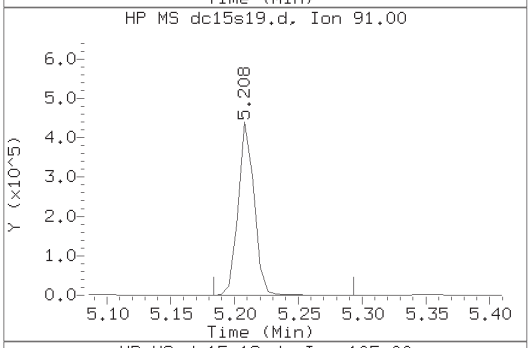
Reference Standard Spectrum for o-Xylene

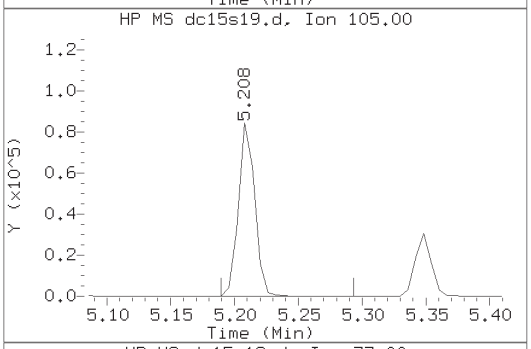




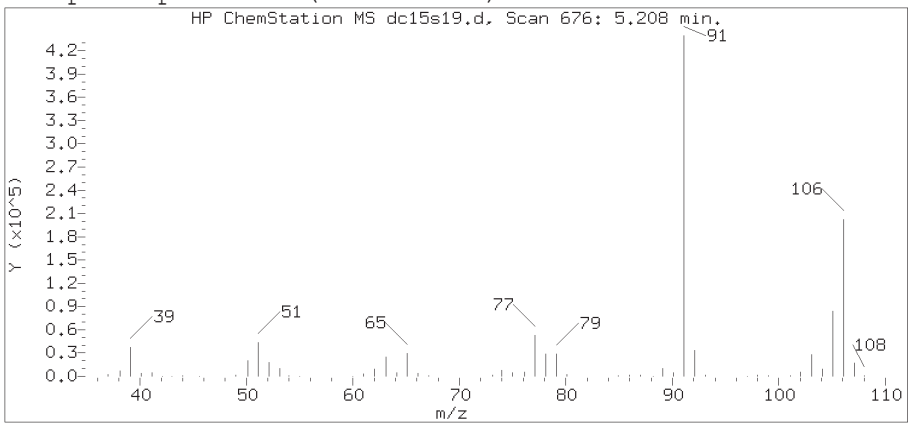
Sample Spectrum (Background Subtracted)

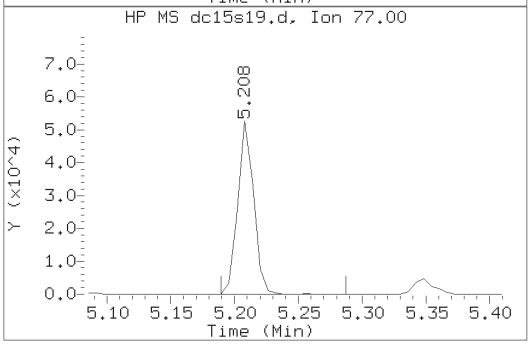






Sample Spectrum (Unaltered)





Data File: /chem2/HP10534.i/15oct15a.b/dc15s19.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:48 Analyst ID: DHH02035

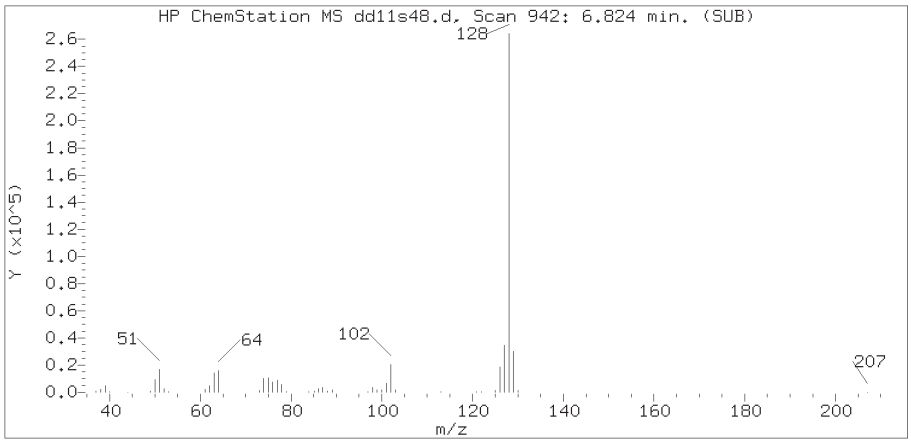
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:58 Unknown

Sample Name: P2804 Lab Sample ID: 8082100

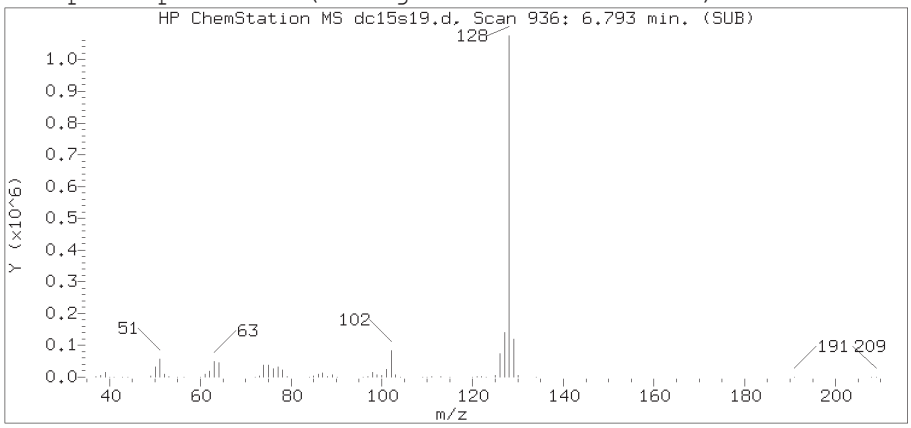
Compound Number : 23
Compound Name : o-Xylene
Scan Number : 676
Retention Time (minutes): 5.208
Relative Retention Time : 0.00000
Quant Ion : 106.00
Area (flag) : 177910
On-Column Amount (ng) : 29.8147

Digitally signed by Hu Yang on 10/16/2015 at 16:26.
Target 3.5 esignature [illegible]

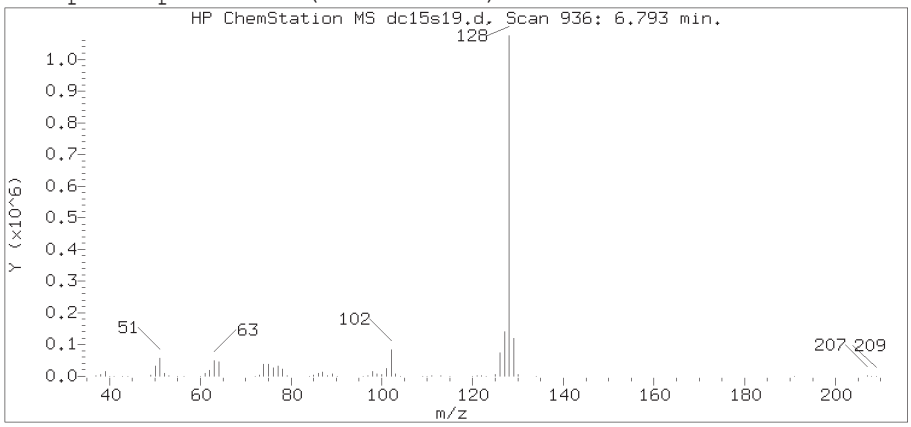
Reference Standard Spectrum for Naphthalene

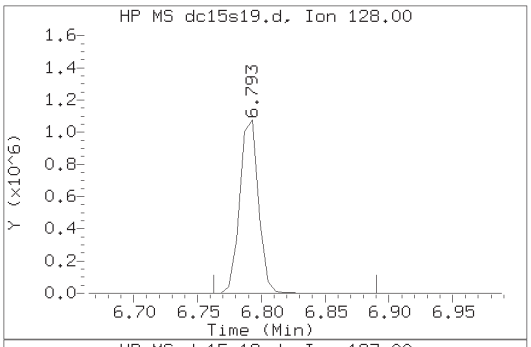


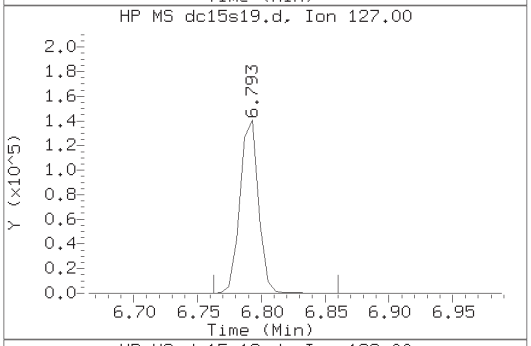
Sample Spectrum (Background Subtracted)

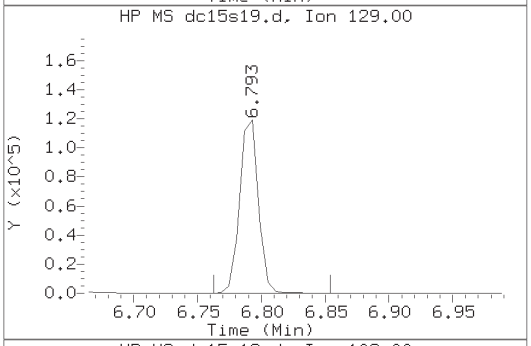


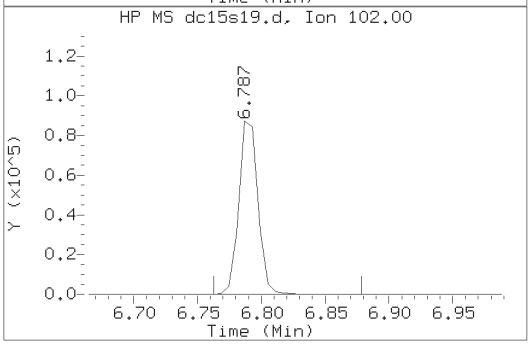
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s19.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:48 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 14:58 Unknown

Sample Name: P2804 Lab Sample ID: 8082100

Compound Number : 30
Compound Name : Naphthalene
Scan Number : 936
Retention Time (minutes): 6.793
Relative Retention Time :-0.00121
Quant Ion : 128.00
Area (flag) : 1092308
On-Column Amount (ng) : 76.0020

Digitally signed by Hu Yang on 10/16/2015 at 16:26.
Target 3.5 esignature [illegible]

P2805 Lancaster Laboratories 8082101
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s21.d Injection date and time: **15-OCT-2015 15:11**
Data file Sample Info. Line: P2805;8082101;1;0;;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 15:20 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **10.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946	(0.000)	141	65	85682	(4)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	426691	(1)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	331520	(2)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	186476	(4)	50.00	

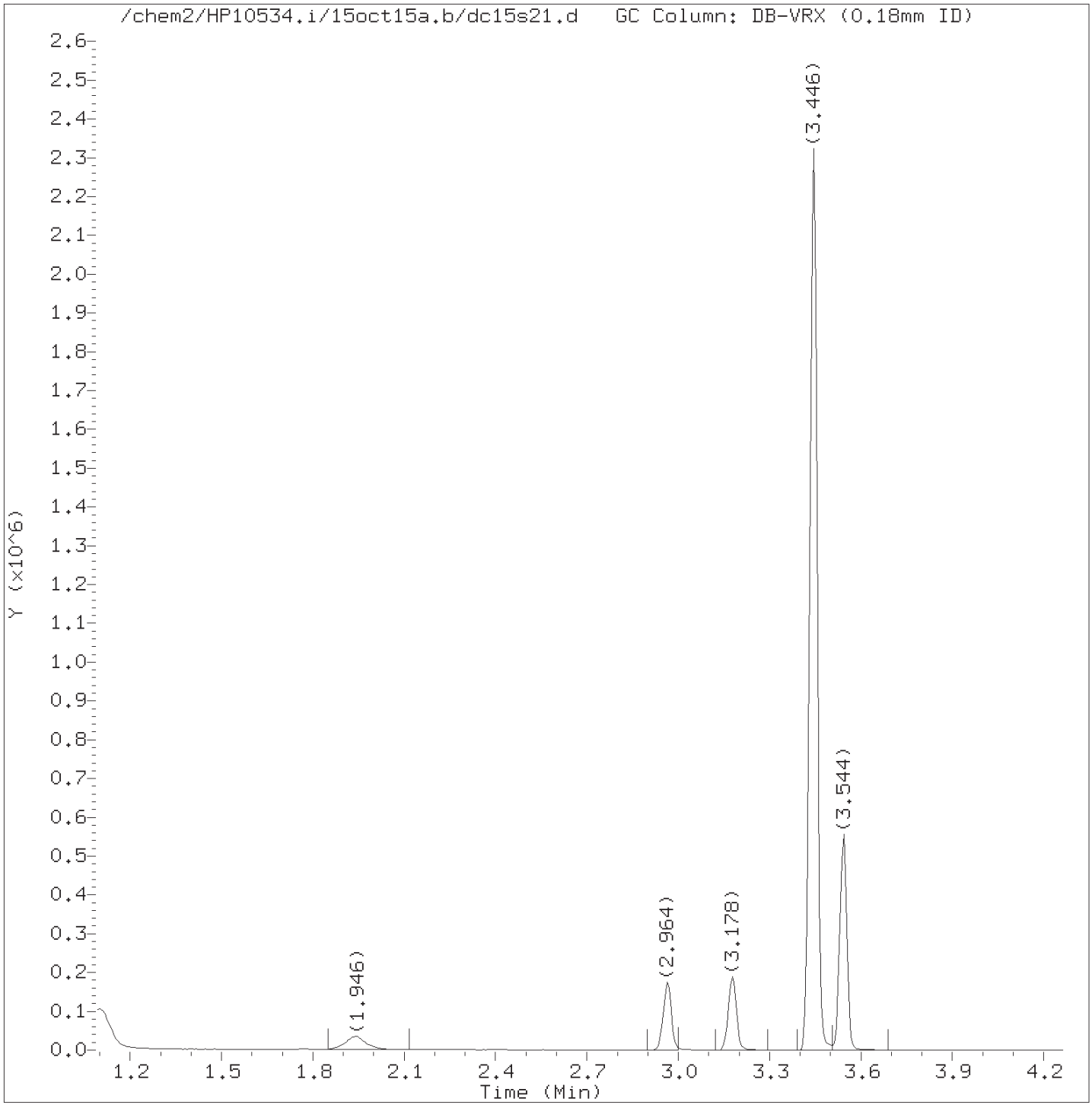
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.964	(0.002)	113	102067	51.308	103%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.002)	102	26269	49.576	99%		77 - 113
16) Toluene-d8	(3)	4.324	(0.000)	98	423045	47.445	95%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	166326	50.057	100%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)	3.446	(0.000)	78	1821995	144.403	1444.03			5	10
17) Toluene	(3)	4.348	(0.000)	92	11658	1.386	13.86			5	10
21) Ethylbenzene	(3)	4.982	(0.000)	91	742556	47.180	471.80			5	10
22) m+p-Xylene	(3)	5.055	(-0.000)	106	197688	32.479	324.79			5	10
23) o-Xylene	(3)	5.208	(0.000)	106	168486	28.526	285.26			5	10
24) Xylene (Total)	(3)			106	366174	61.006	610.06			5	10
30) Naphthalene	(4)	6.793	(-0.000)	128	1058700	73.937	739.37			10	40

Total number of targets = 7

Digitally signed by Hu Yang on 10/16/2015 at 16:27. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:34. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

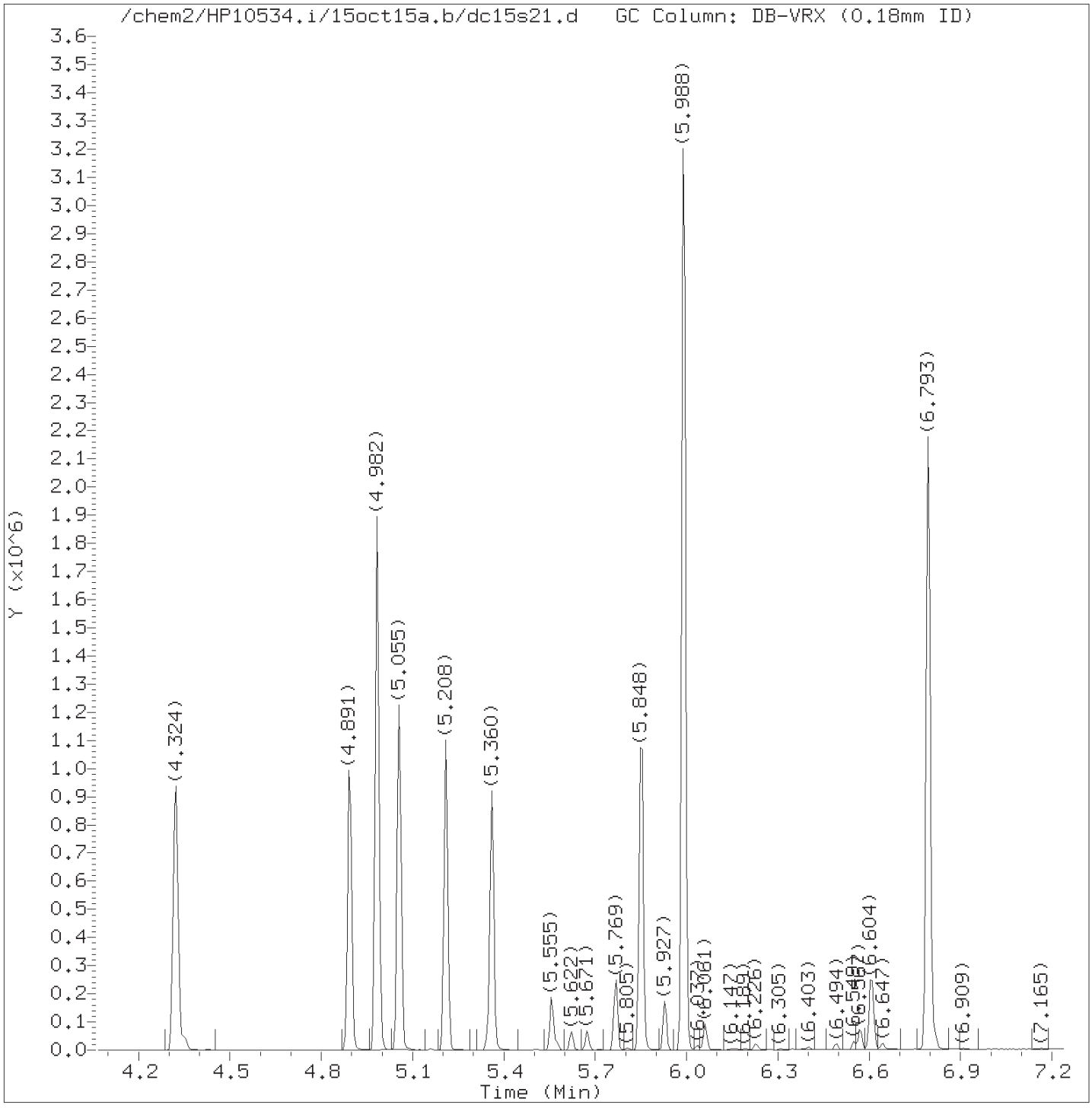
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s21.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:11 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 15:20 Unknown

Sample Name: P2805 Lab Sample ID: 8082101

Digitally signed by Hu Yang
on 10/16/2015 at 16:27.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s21.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:11 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 15:20 Unknown

Sample Name: P2805 Lab Sample ID: 8082101

Digitally signed by Hu Yang
on 10/16/2015 at 16:27.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s21.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:11 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 15:20 Unknown

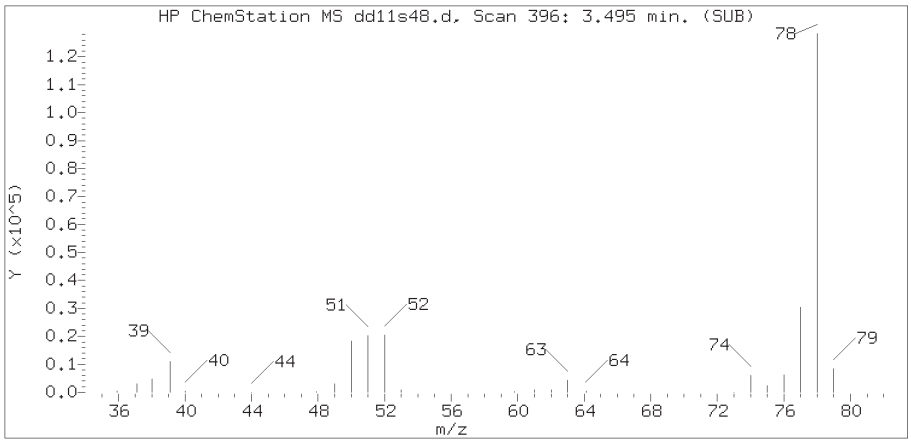
Sample Name: P2805 Lab Sample ID: 8082101

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.946	65	85682	250.000
7)$Dibromofluoromethane	(2)	2.964	113	102067	51.308
10)$1,2-Dichloroethane-d4	(2)	3.178	102	26269	49.576
12) Benzene	(2)	3.446	78	1821995	144.403
14)*Fluorobenzene	(2)	3.544	96	426691	50.000
16)$Toluene-d8	(3)	4.324	98	423045	47.445
17) Toluene	(3)	4.348	92	11658	1.386
20)*Chlorobenzene-d5	(3)	4.891	117	331520	50.000
21) Ethylbenzene	(3)	4.982	91	742556	47.180
22) m+p-Xylene	(3)	5.055	106	197688	32.479
23) o-Xylene	(3)	5.208	106	168486	28.526
24) Xylene (Total)	(3)		106	366174	61.006
26)$4-Bromofluorobenzene	(3)	5.360	95	166326	50.057
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	186476	50.000
30) Naphthalene	(4)	6.793	128	1058700	73.937

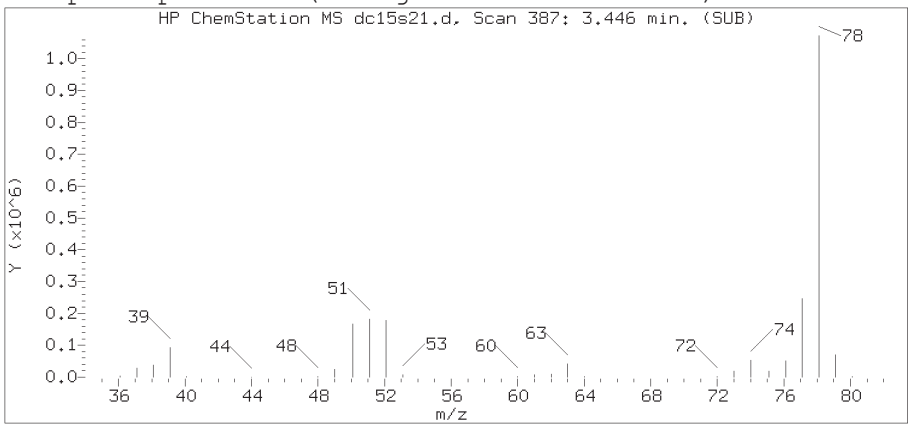
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 16:27.
Target 3.5 esignature user ID: hy07820

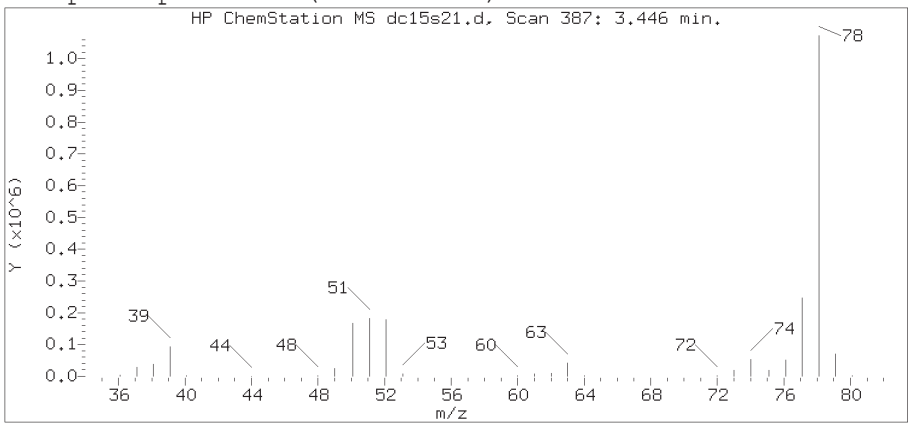
Reference Standard Spectrum for Benzene

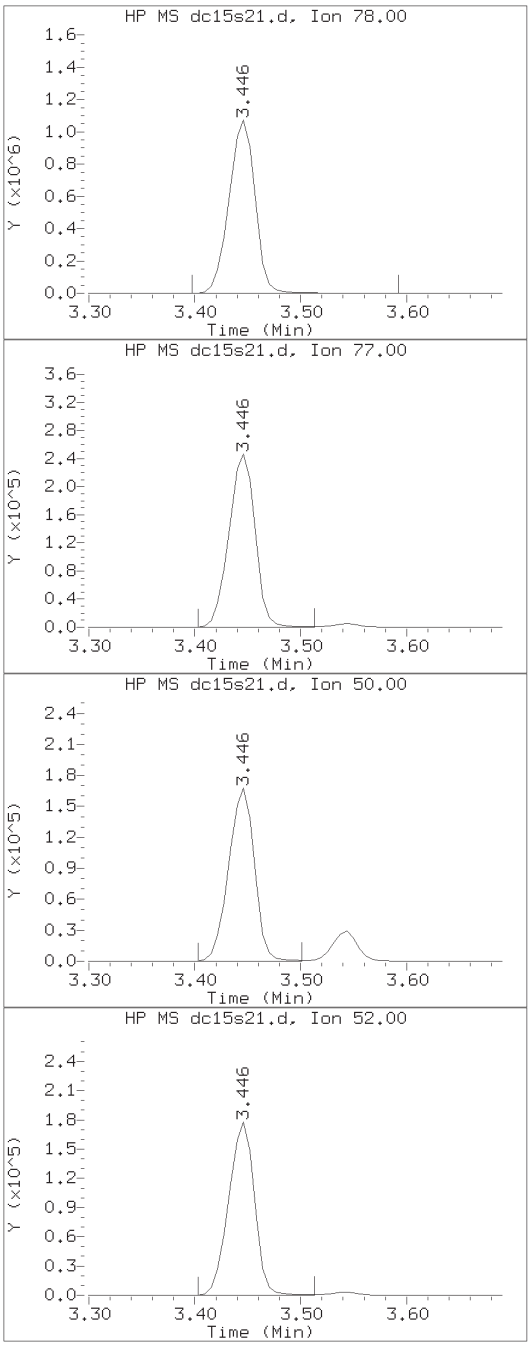


Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)





Data File: /chem2/HP10534.i/15oct15a.b/dc15s21.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:11 Analyst ID: DHH02035

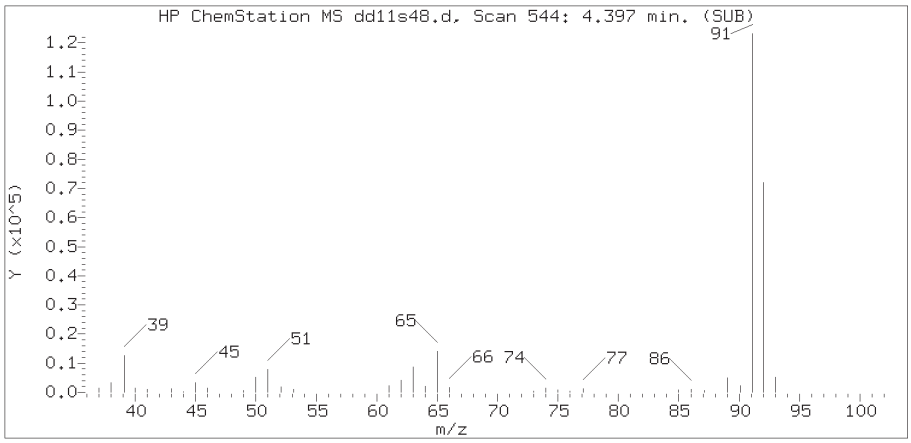
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 15:20 Unknown

Sample Name: P2805 Lab Sample ID: 8082101

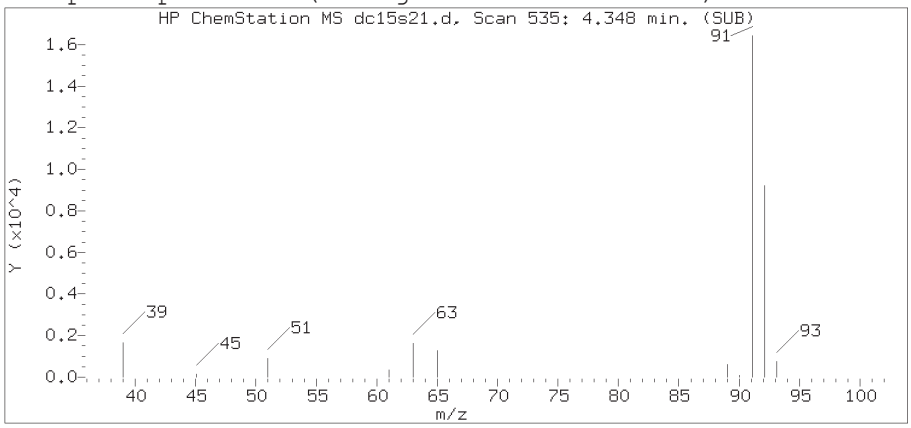
Compound Number	: 12
Compound Name	: Benzene
Scan Number	: 387
Retention Time (minutes)	: 3.446
Relative Retention Time	: 0.00001
Quant Ion	: 78.00
Area (flag)	: 1821995
On-Column Amount (ng)	: 144.4033

Digitally signed by Hu Yang on 10/16/2015 at 16:27.
Target 3.5 esignature [illegible]

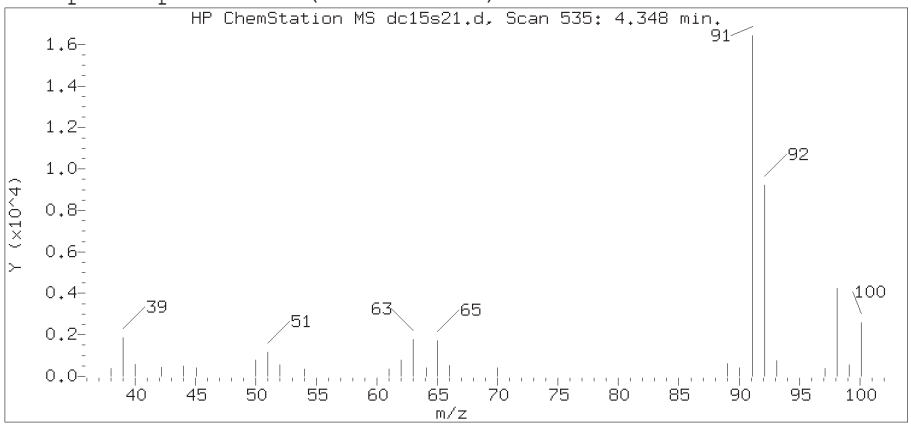
Reference Standard Spectrum for Toluene

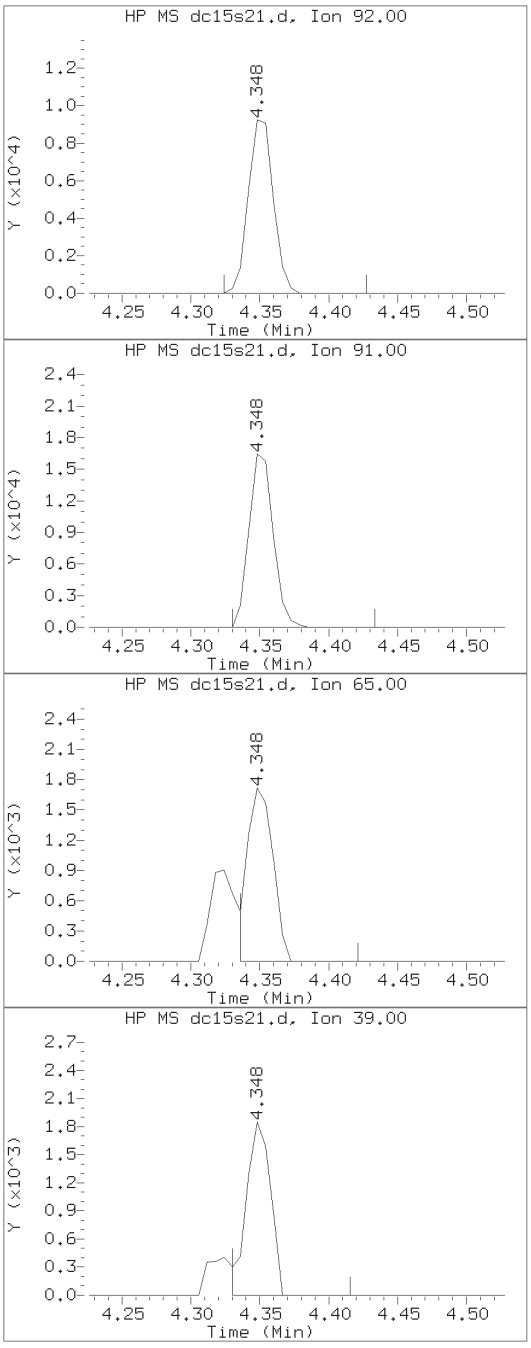


Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)





Data File: /chem2/HP10534.i/15oct15a.b/dc15s21.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:11 Analyst ID: DHH02035

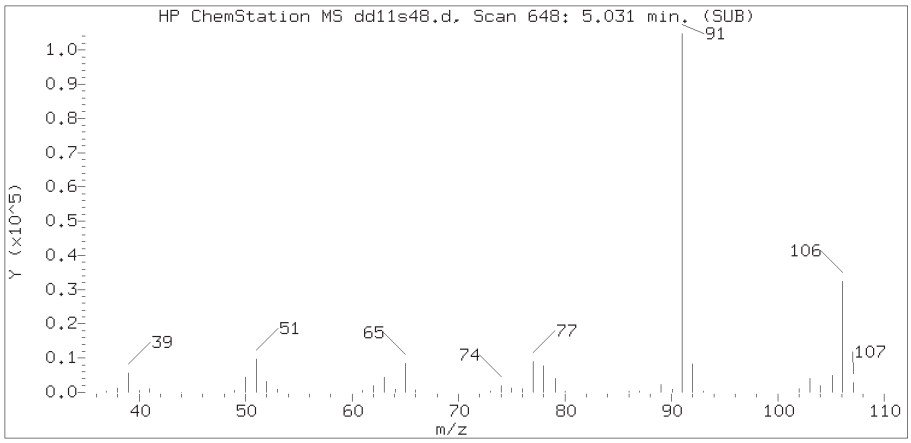
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 15:20 Unknown

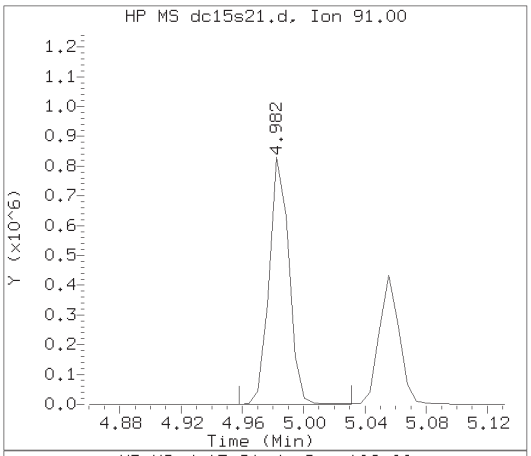
Sample Name: P2805 Lab Sample ID: 8082101

Compound Number	: 17
Compound Name	: Toluene
Scan Number	: 535
Retention Time (minutes)	: 4.348
Relative Retention Time	: 0.00000
Quant Ion	: 92.00
Area (flag)	: 11658
On-Column Amount (ng)	: 1.3864

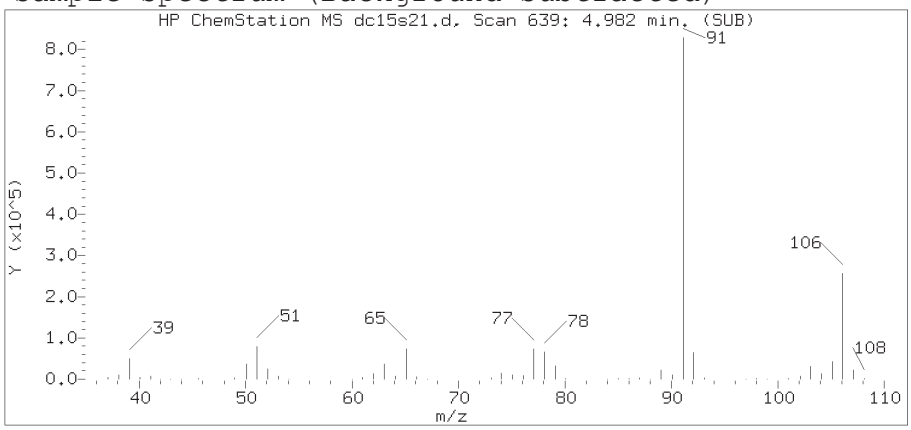
Digitally signed by Hu Yang on 10/16/2015 at 16:27.
Target 3.5 esignature [illegible]

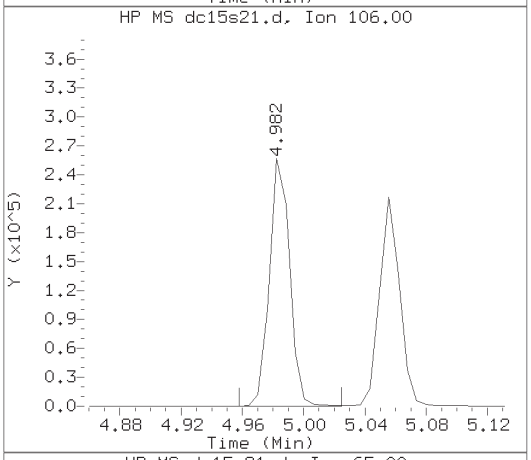
Reference Standard Spectrum for Ethylbenzene



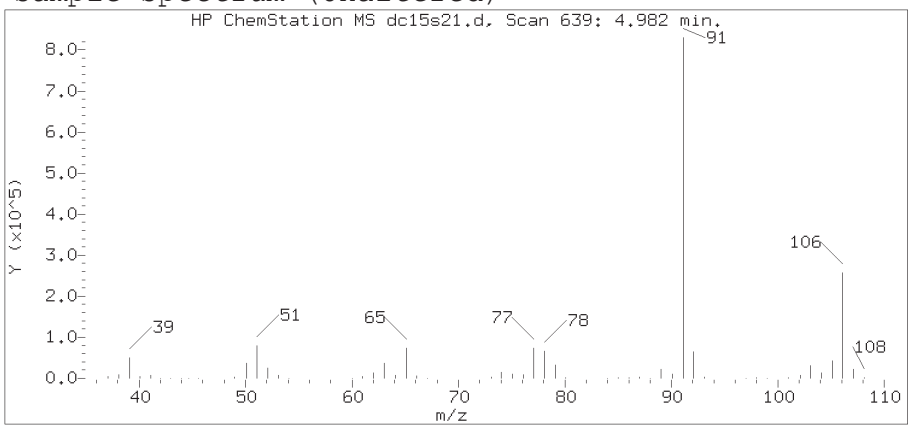


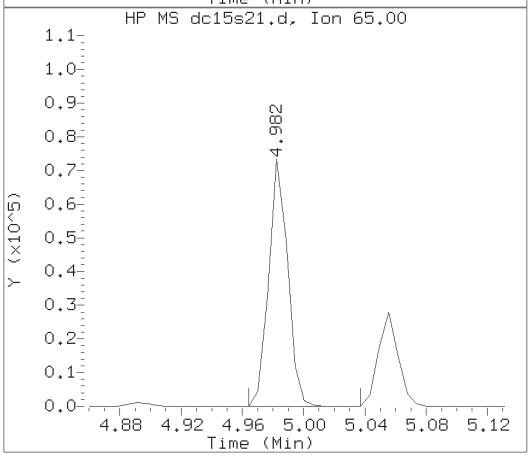
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP10534.i/15oct15a.b/dc15s21.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:11 Analyst ID: DHH02035

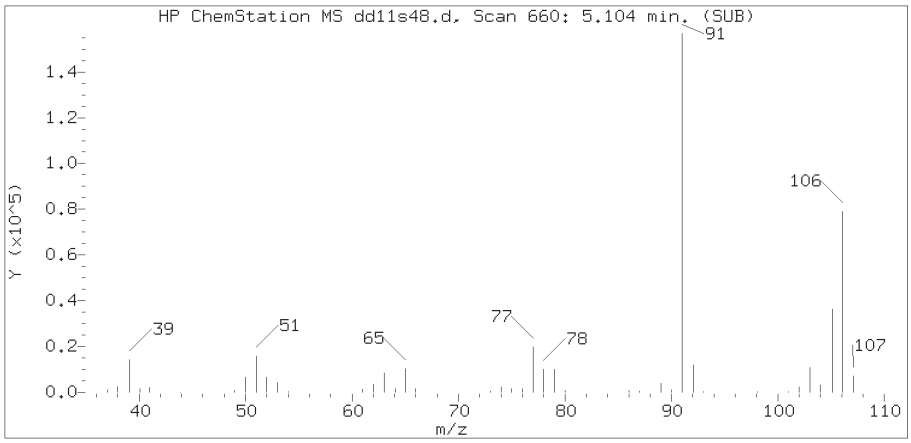
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 15:20 Unknown

Sample Name: P2805 Lab Sample ID: 8082101

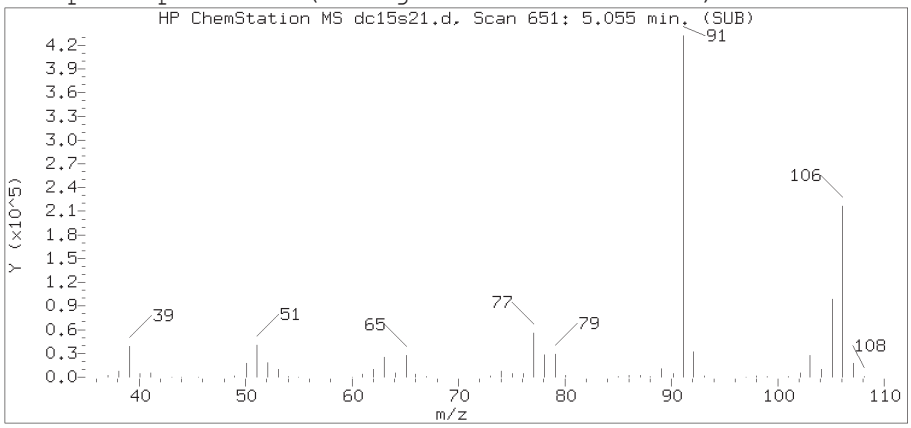
Compound Number : 21
Compound Name : Ethylbenzene
Scan Number : 639
Retention Time (minutes): 4.982
Relative Retention Time : 0.00000
Quant Ion : 91.00
Area (flag) : 742556
On-Column Amount (ng) : 47.1796

Digitally signed by Hu Yang on 10/16/2015 at 16:27.
Target 3.5 esignature [illegible]

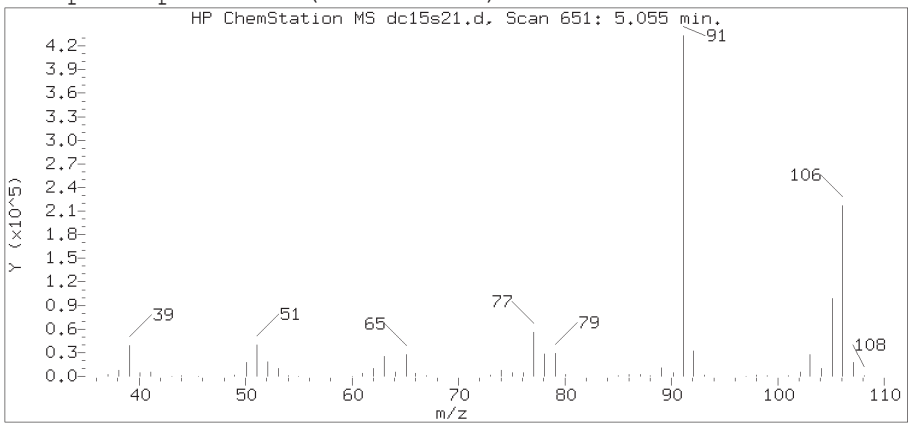
Reference Standard Spectrum for m+p-Xylene

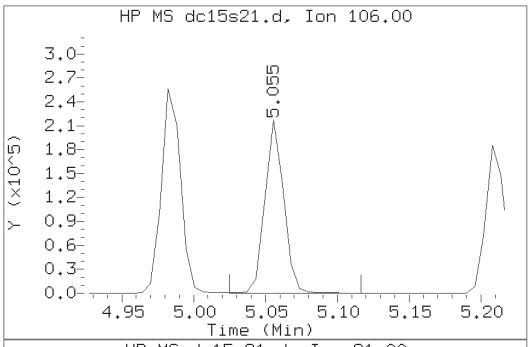


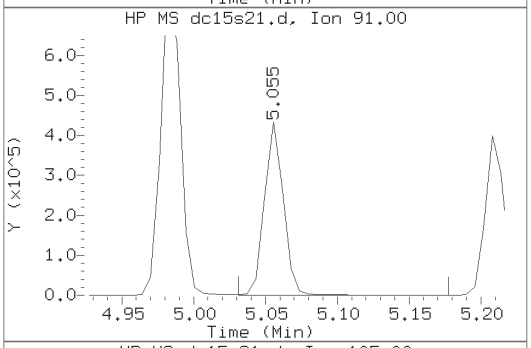
Sample Spectrum (Background Subtracted)

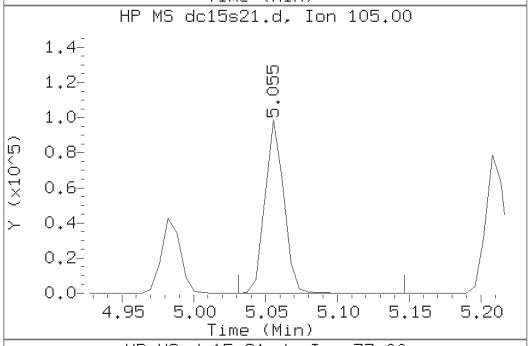


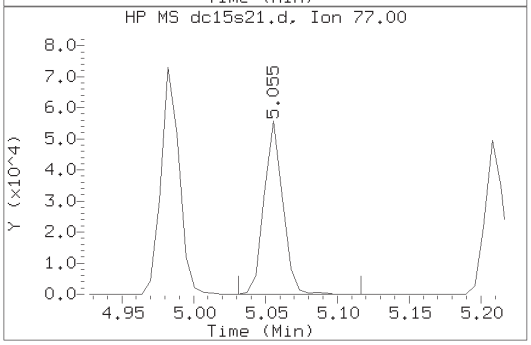
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s21.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:11 Analyst ID: DHH02035

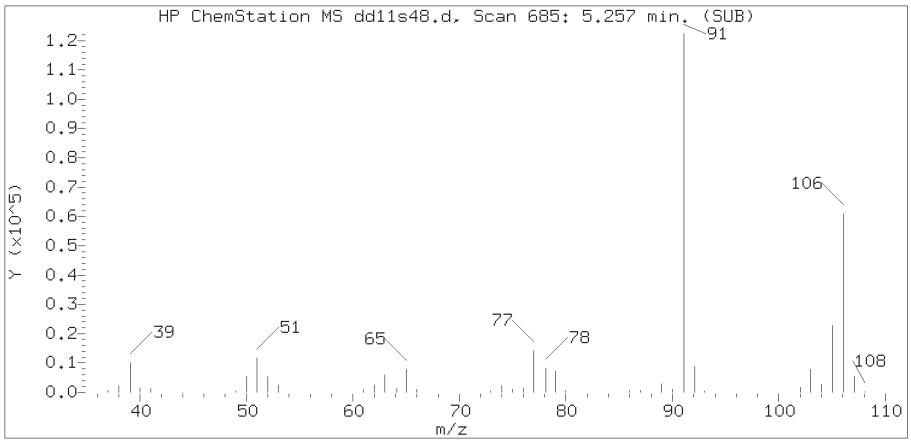
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 15:20 Unknown

Sample Name: P2805 Lab Sample ID: 8082101

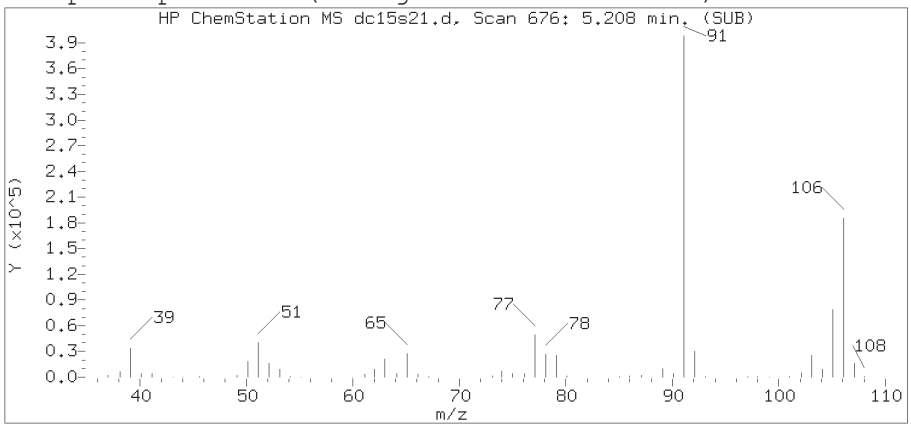
Compound Number : 22
Compound Name : m+p-Xylene
Scan Number : 651
Retention Time (minutes): 5.055
Relative Retention Time :-0.00000
Quant Ion : 106.00
Area (flag) : 197688
On-Column Amount (ng) : 32.4792

Digitally signed by Hu Yang on 10/16/2015 at 16:27.
Target 3.5 esignature [illegible]

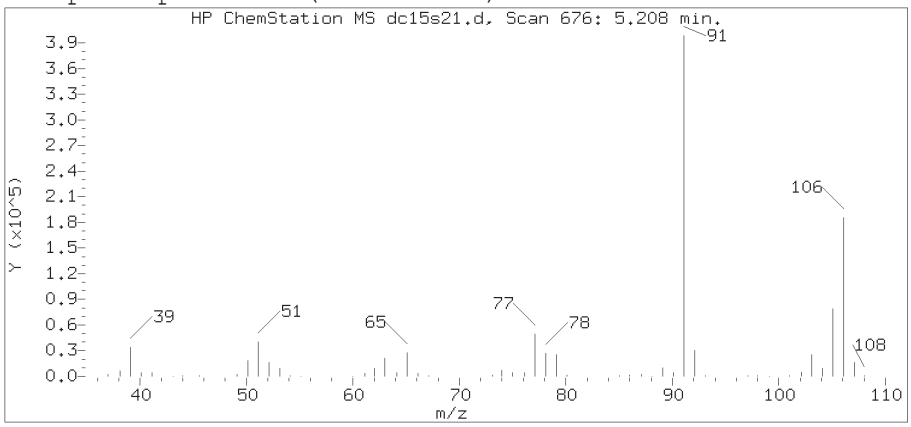
Reference Standard Spectrum for o-Xylene

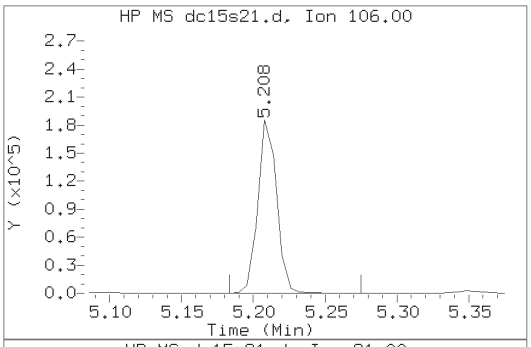


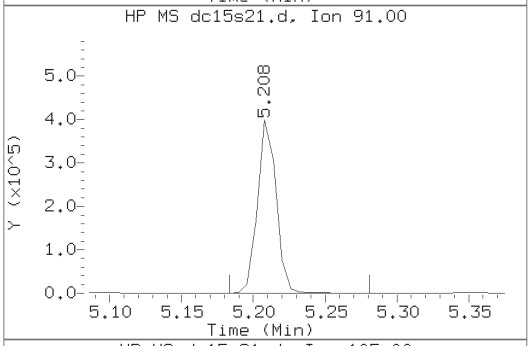
Sample Spectrum (Background Subtracted)

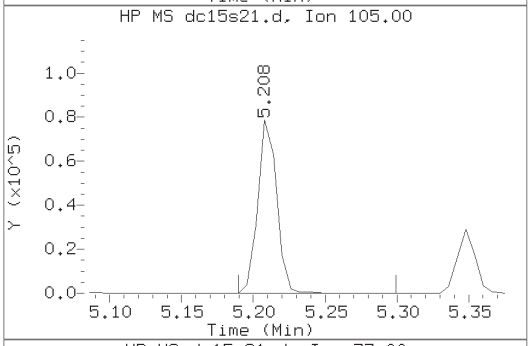


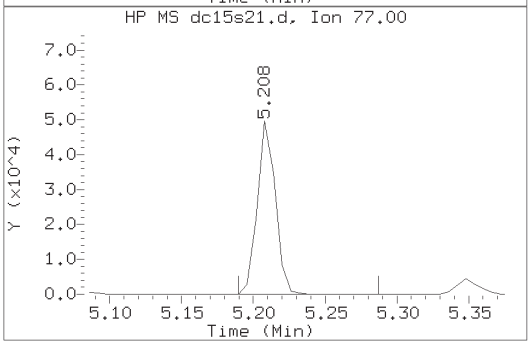
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s21.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:11 Analyst ID: DHH02035

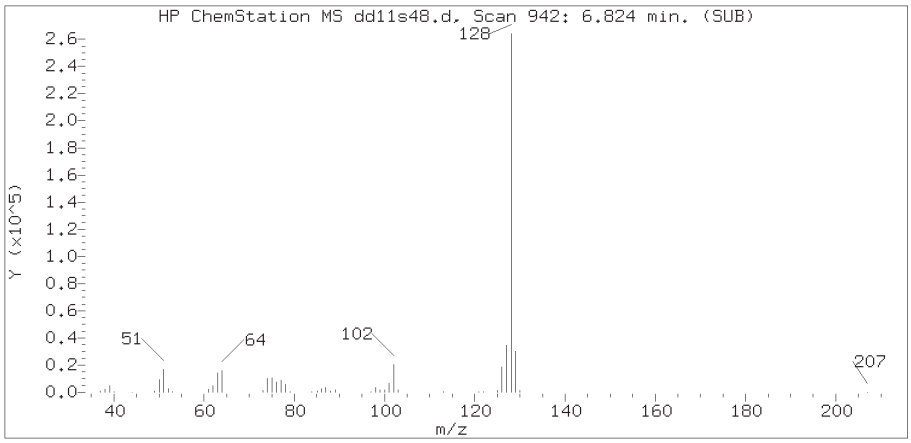
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 15:20 Unknown

Sample Name: P2805 Lab Sample ID: 8082101

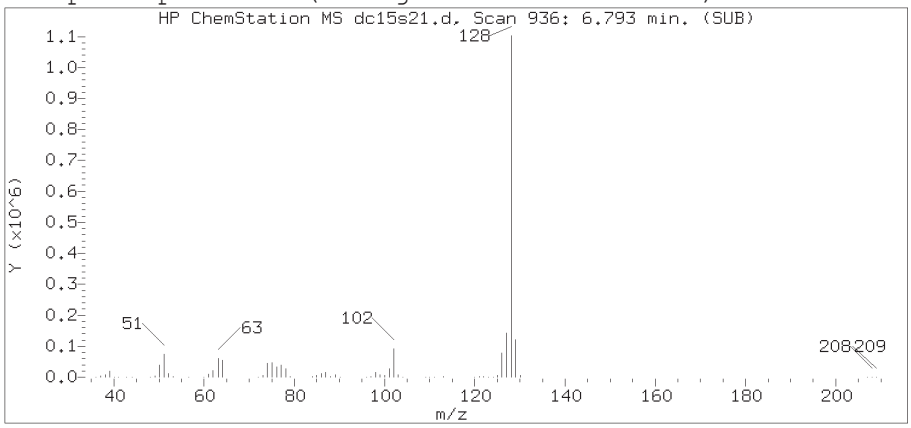
Compound Number	: 23
Compound Name	: o-Xylene
Scan Number	: 676
Retention Time (minutes)	: 5.208
Relative Retention Time	: 0.00000
Quant Ion	: 106.00
Area (flag)	: 168486
On-Column Amount (ng)	: 28.5263

Digitally signed by Hu Yang on 10/16/2015 at 16:27.
Target 3.5 esignature [illegible]

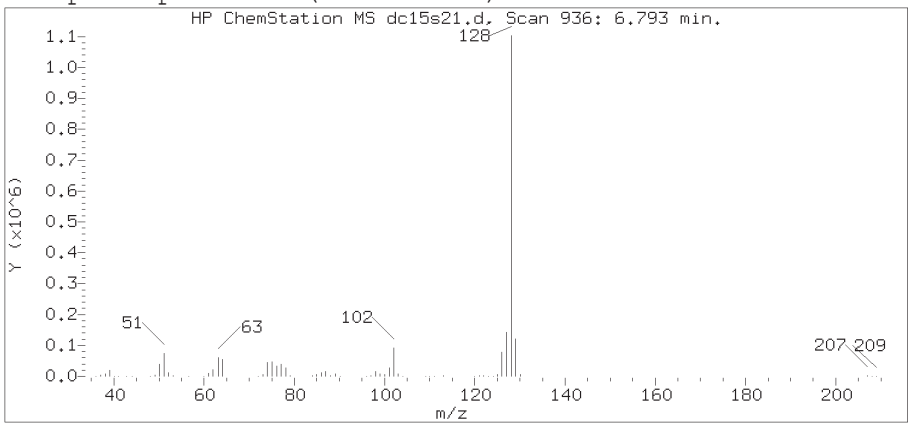
Reference Standard Spectrum for Naphthalene

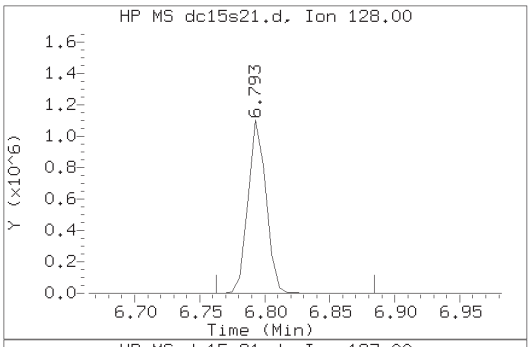


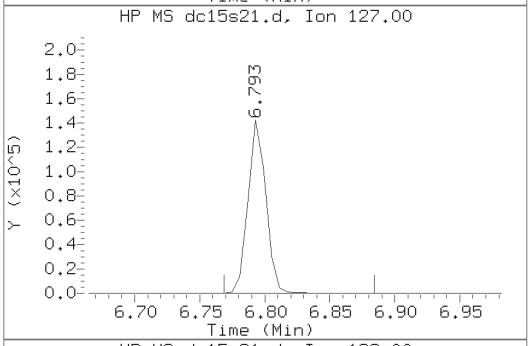
Sample Spectrum (Background Subtracted)

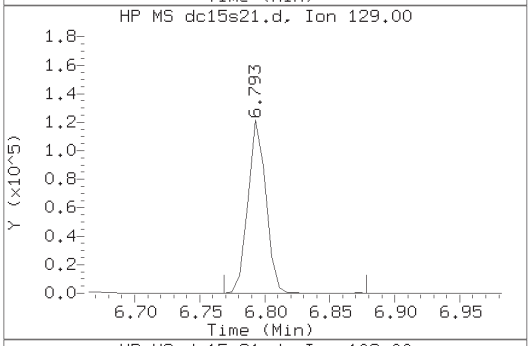


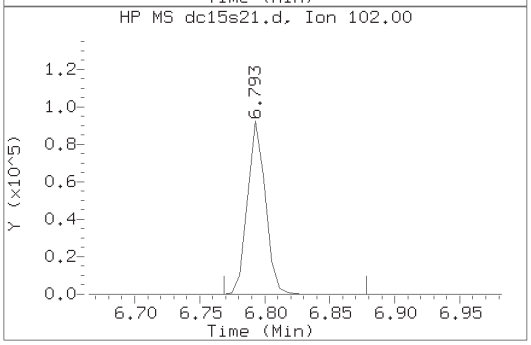
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s21.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:11 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 15:20 Unknown

Sample Name: P2805 Lab Sample ID: 8082101

Compound Number : 30
Compound Name : Naphthalene
Scan Number : 936
Retention Time (minutes): 6.793
Relative Retention Time :-0.00001
Quant Ion : 128.00
Area (flag) : 1058700
On-Column Amount (ng) : 73.9375

Digitally signed by Hu Yang on 10/16/2015 at 16:27.
Target 3.5 esignature [illegible]

P2806 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8082102

Data file: /chem2/HP10534.i/15oct15a.b/dc15s07.d Injection date and time: **15-OCT-2015 12:30**
Data file Sample Info. Line: P2806;8082102;1;0;;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 19-Oct-2015 17:19 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946(0.000)	141	65	90811 (10)	250.00	
14) Fluorobenzene	3.544(0.000)	403	96	442145 (5)	50.00	
20) Chlorobenzene-d5	4.891(0.000)	624	117	350417 (8)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854(0.000)	782	152	189195 (5)	50.00	

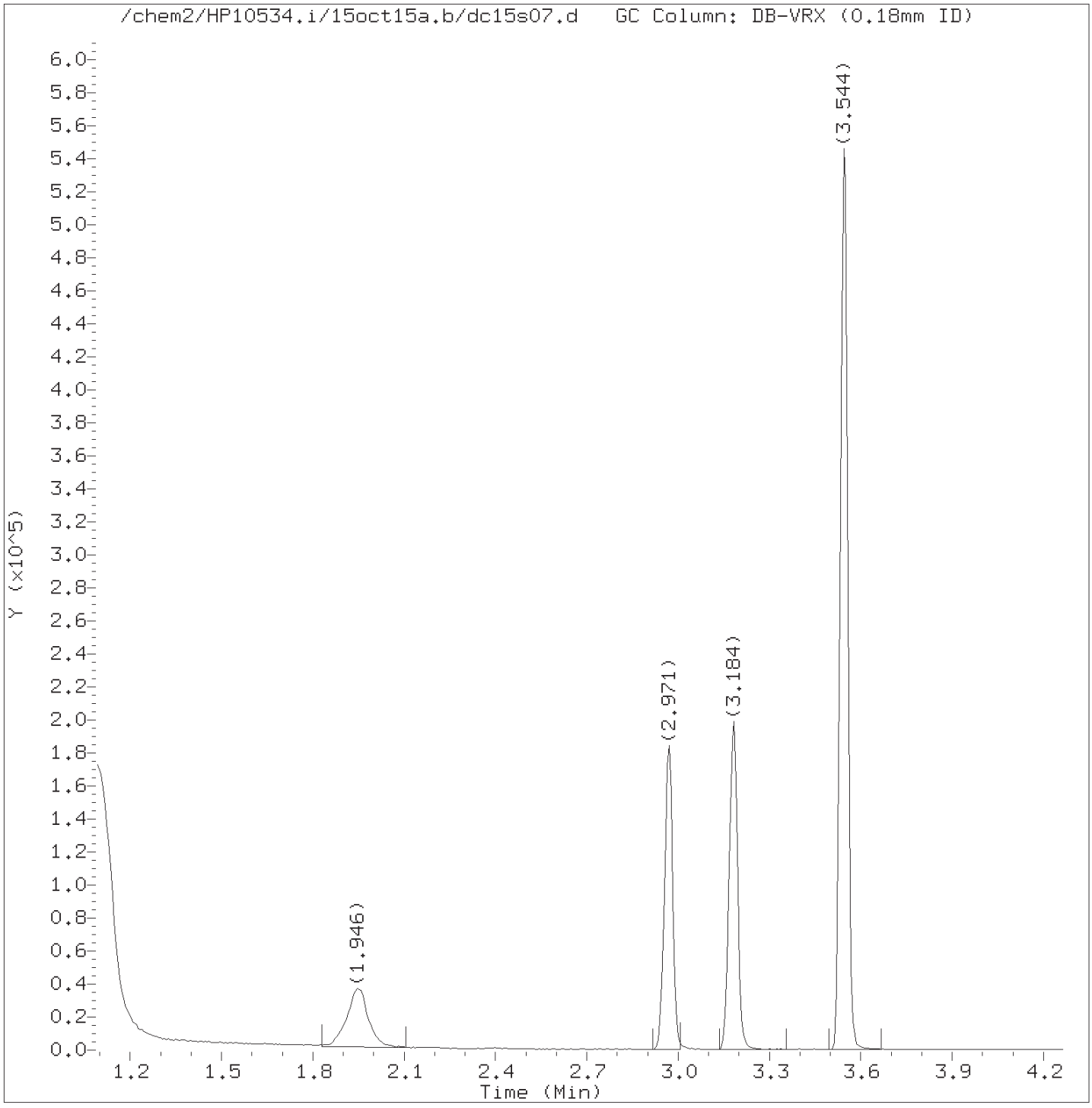
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.971(0.000)	113	108932	52.845	106%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184(0.000)	102	28334	51.604	103%		77 - 113
16) Toluene-d8	(3)	4.324(0.000)	98	450302	47.779	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360(0.000)	95	169590	48.287	97%		78 - 113

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)			Not Detected					0.5	1
17) Toluene	(3)			Not Detected					0.5	1
21) Ethylbenzene	(3)			Not Detected					0.5	1
22) m+p-Xylene	(3)			Not Detected					0.5	1
23) o-Xylene	(3)			Not Detected					0.5	1
24) Xylene (Total)	(3)			Not Detected					0.5	1
30) Naphthalene	(4)			Not Detected					1	4

Total number of targets = 7

Digitally signed by Daniel H. Heller on 10/19/2015 at 17:20. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/19/2015 at 17:39. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

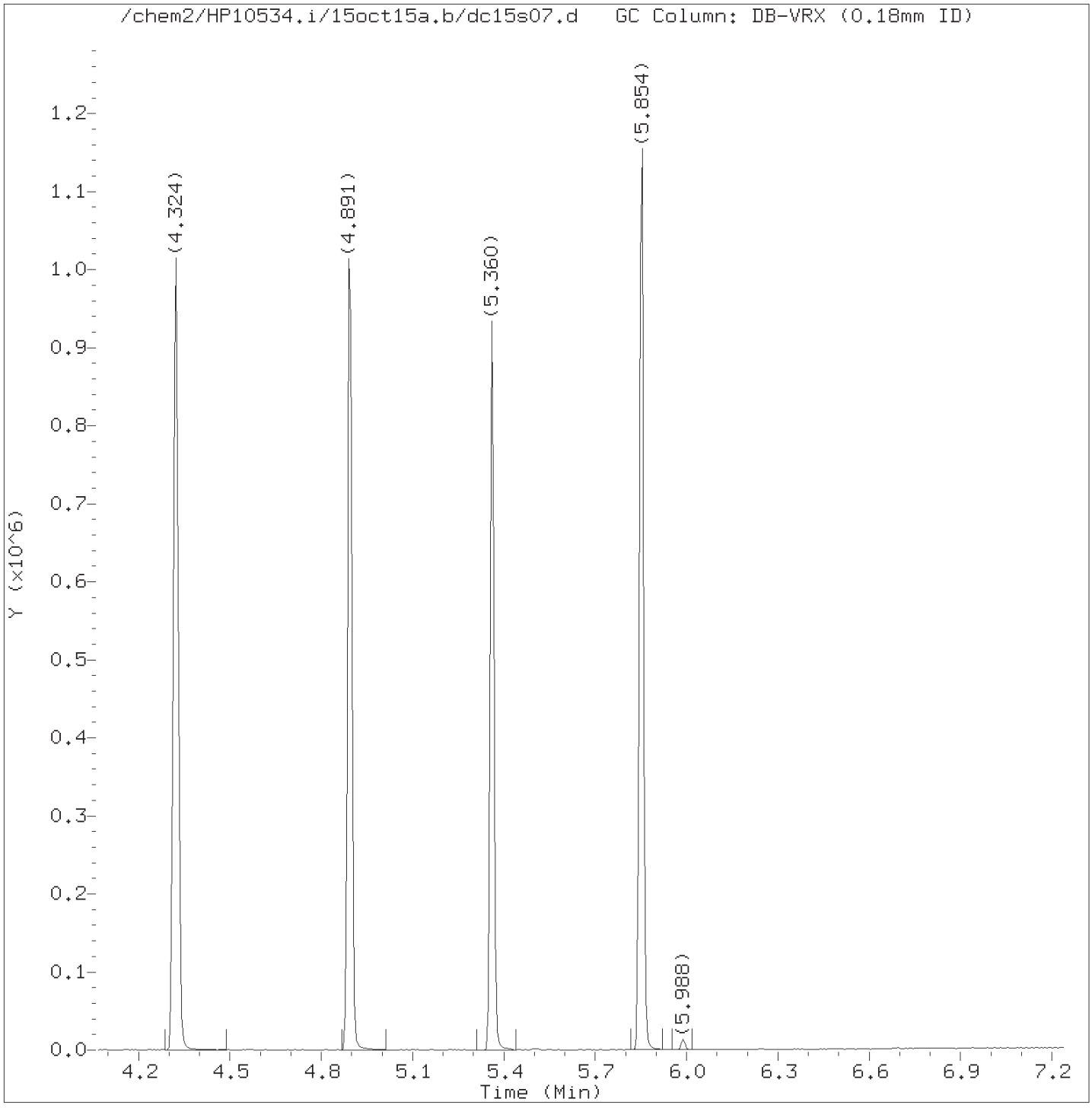
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s07.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:30 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 19-Oct-2015 17:19 dhh02035

Sample Name: P2806 Lab Sample ID: 8082102

Digitally signed by Daniel H. Heller
on 10/19/2015 at 17:20.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s07.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:30 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 19-Oct-2015 17:19 dhh02035

Sample Name: P2806 Lab Sample ID: 8082102

Digitally signed by Daniel H. Heller
on 10/19/2015 at 17:20.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s07.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:30 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 19-Oct-2015 17:19 dhh02035

Sample Name: P2806 Lab Sample ID: 8082102

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.946	65	90811	250.000
7)$Dibromofluoromethane	(2)	2.971	113	108932	52.845
10)$1,2-Dichloroethane-d4	(2)	3.184	102	28334	51.604
14)*Fluorobenzene	(2)	3.544	96	442145	50.000
16)$Toluene-d8	(3)	4.324	98	450302	47.779
20)*Chlorobenzene-d5	(3)	4.891	117	350417	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	169590	48.287
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	189195	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/19/2015 at 17:20.
Target 3.5 esignature user ID: dhh02035

P2807 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8082105

Data file: /chem2/HP10534.i/15oct15a.b/dc15s03.d Injection date and time: **15-OCT-2015 11:44**
Data file Sample Info. Line: P2807;8082105;1;0;;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 11:53 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.940	(0.006)	140	65	102893	(25)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	469642	(12)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	370828	(14)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	201197	(12)	50.00	

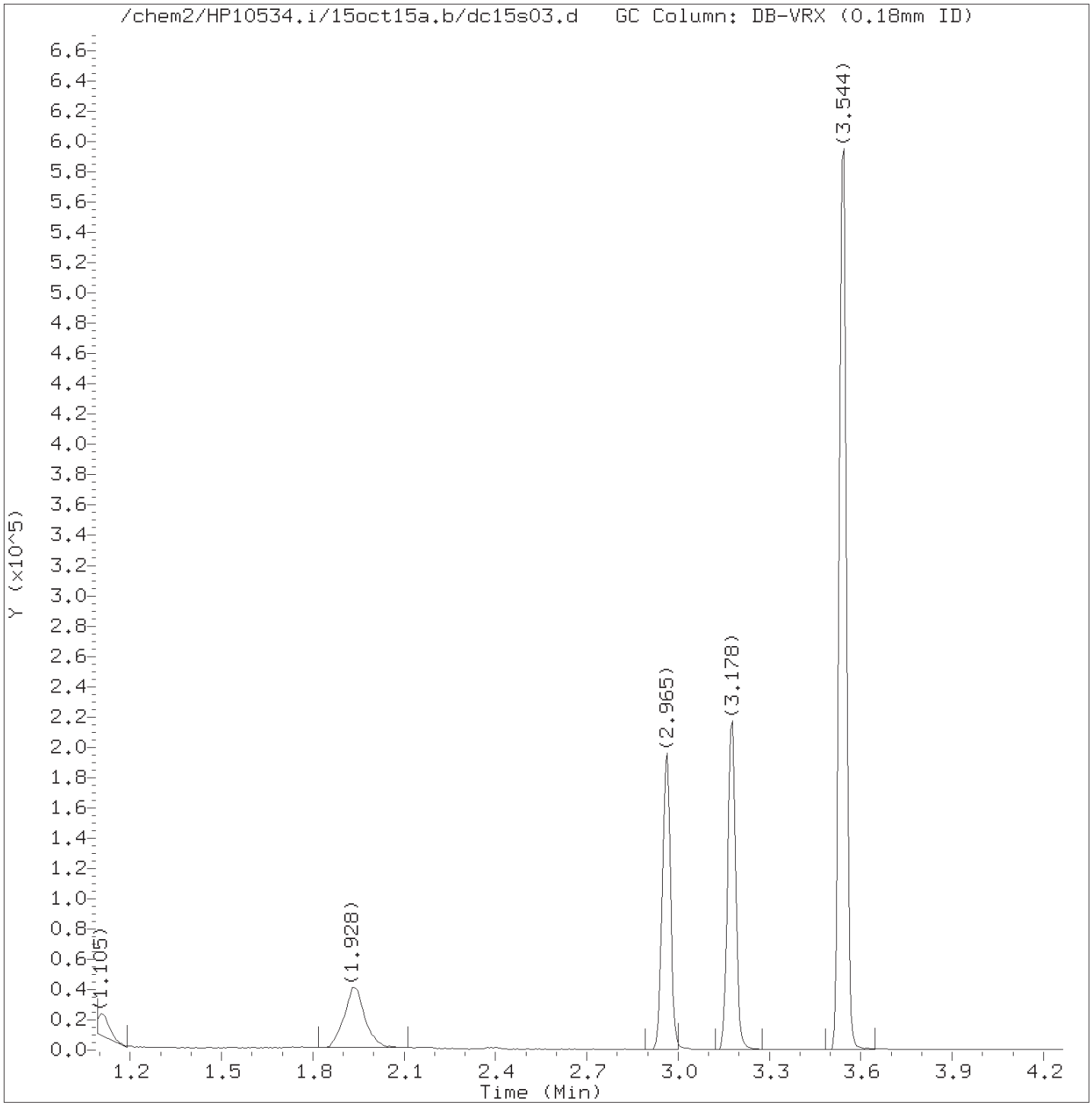
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.965	(0.002)	113	115012	52.528	105%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.002)	102	30068	51.557	103%		77 - 113
16) Toluene-d8	(3)	4.324	(0.000)	98	479852	48.111	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	180083	48.452	97%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
30) Naphthalene	(4)				Not Detected					1	4

Total number of targets = 7

Digitally signed by Daniel H. Heller on 10/15/2015 at 14:25. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:34. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

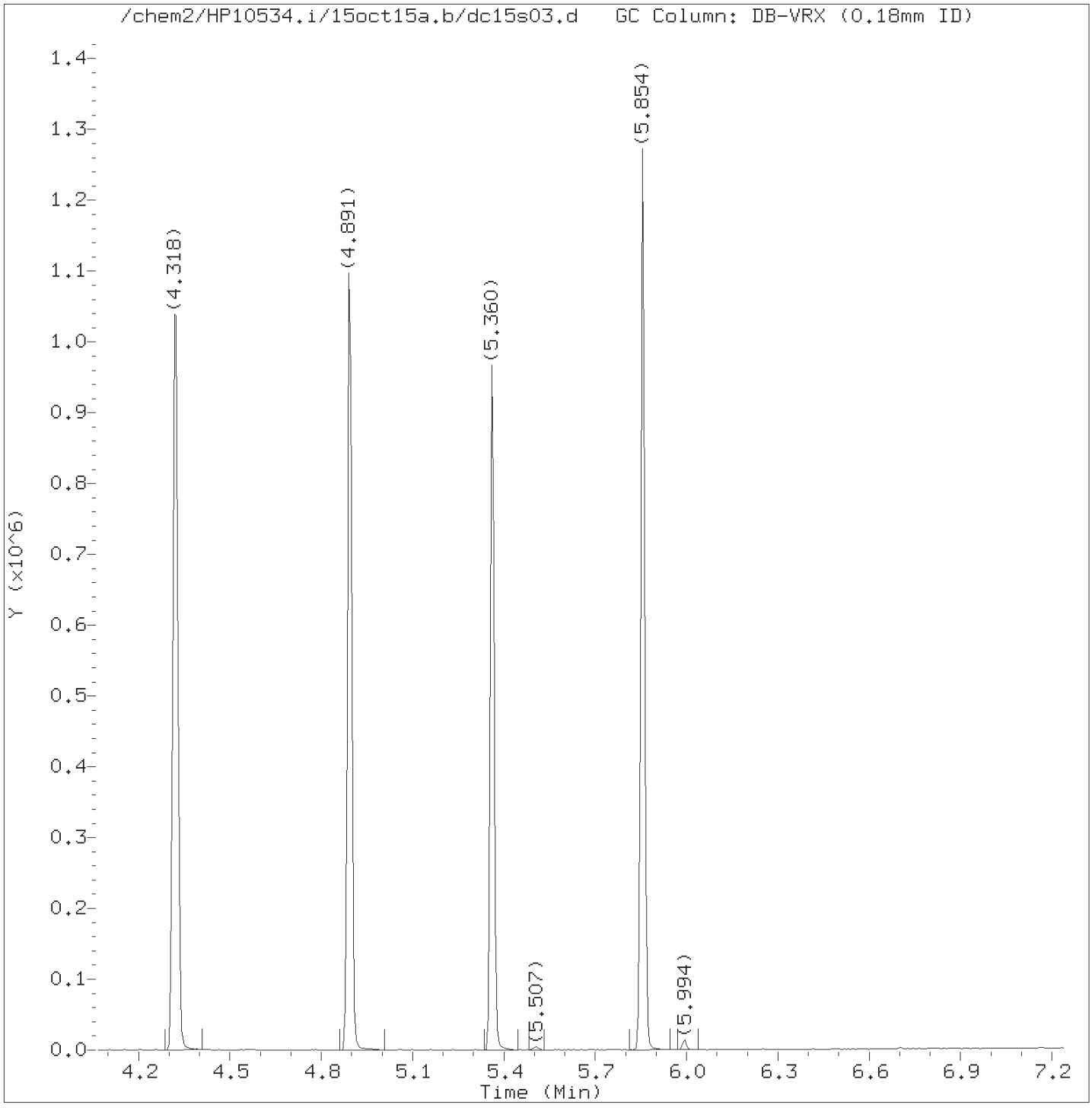
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s03.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 11:44 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 11:53 Unknown

Sample Name: P2807 Lab Sample ID: 8082105

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:25.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s03.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 11:44 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 11:53 Unknown

Sample Name: P2807 Lab Sample ID: 8082105

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:25.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s03.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 11:44 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 11:53 Unknown

Sample Name: P2807 Lab Sample ID: 8082105

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.940	65	102893	250.000
7)$Dibromofluoromethane	(2)	2.965	113	115012	52.528
10)$1,2-Dichloroethane-d4	(2)	3.178	102	30068	51.557
14)*Fluorobenzene	(2)	3.544	96	469642	50.000
16)$Toluene-d8	(3)	4.324	98	479852	48.111
20)*Chlorobenzene-d5	(3)	4.891	117	370828	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	180083	48.452
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	201197	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:25.
Target 3.5 esignature user ID: dhh02035

P2808 Lancaster Laboratories 8082106
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s05.d Injection date and time: **15-OCT-2015 12:07**
Data file Sample Info. Line: P2808;8082106;1;0;;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 12:16 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.952	(-0.006)	142	65	96301	(17)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	445613	(6)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	349801	(8)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	187648	(4)	50.00	

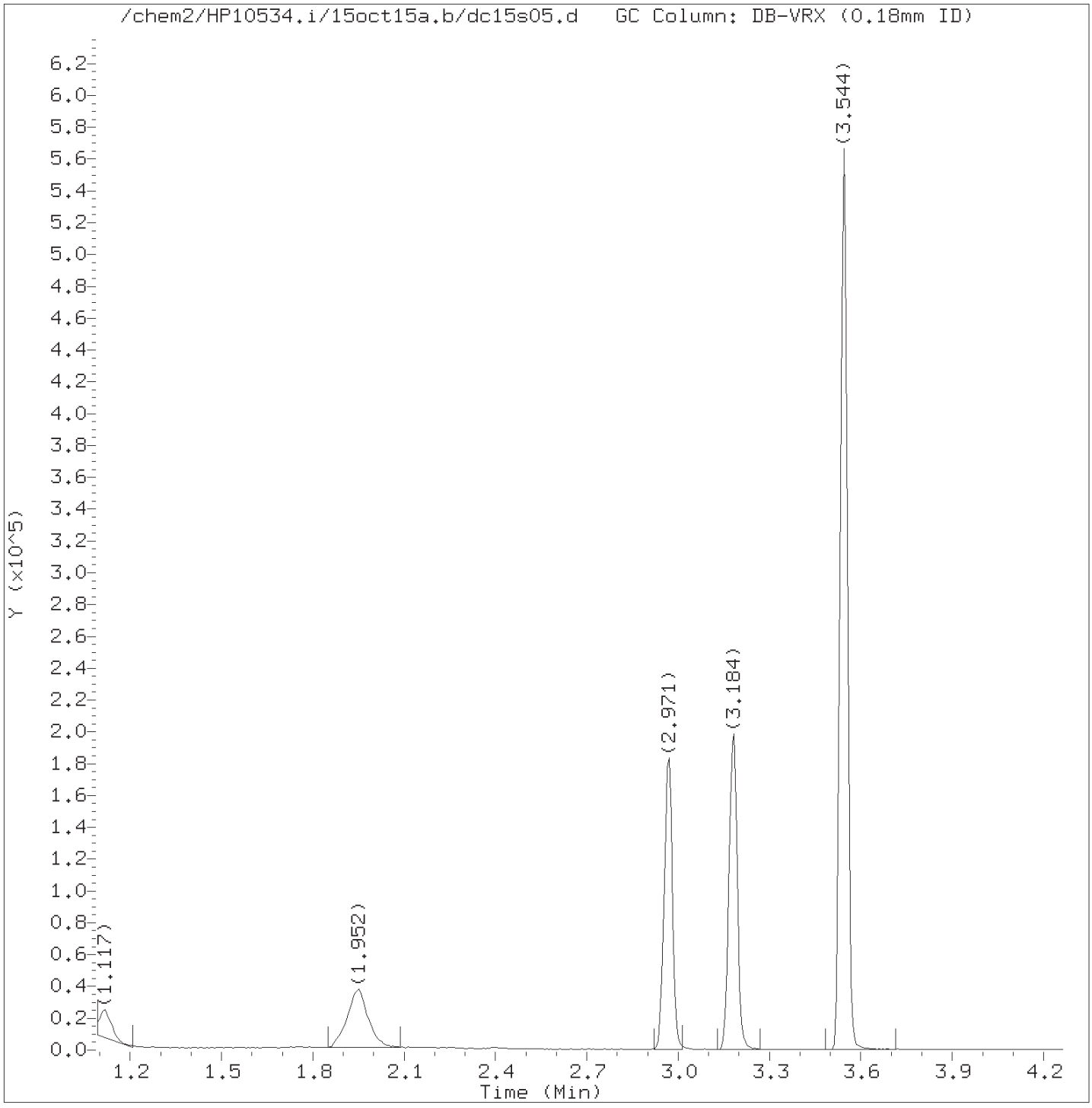
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.971	(0.000)	113	108974	52.454	105%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184	(0.000)	102	27871	50.367	101%		77 - 113
16) Toluene-d8	(3)	4.324	(0.000)	98	454377	48.296	97%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	169024	48.211	96%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
30) Naphthalene	(4)				Not Detected					1	4

Total number of targets = 7

Digitally signed by Daniel H. Heller on 10/15/2015 at 14:25. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:34. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

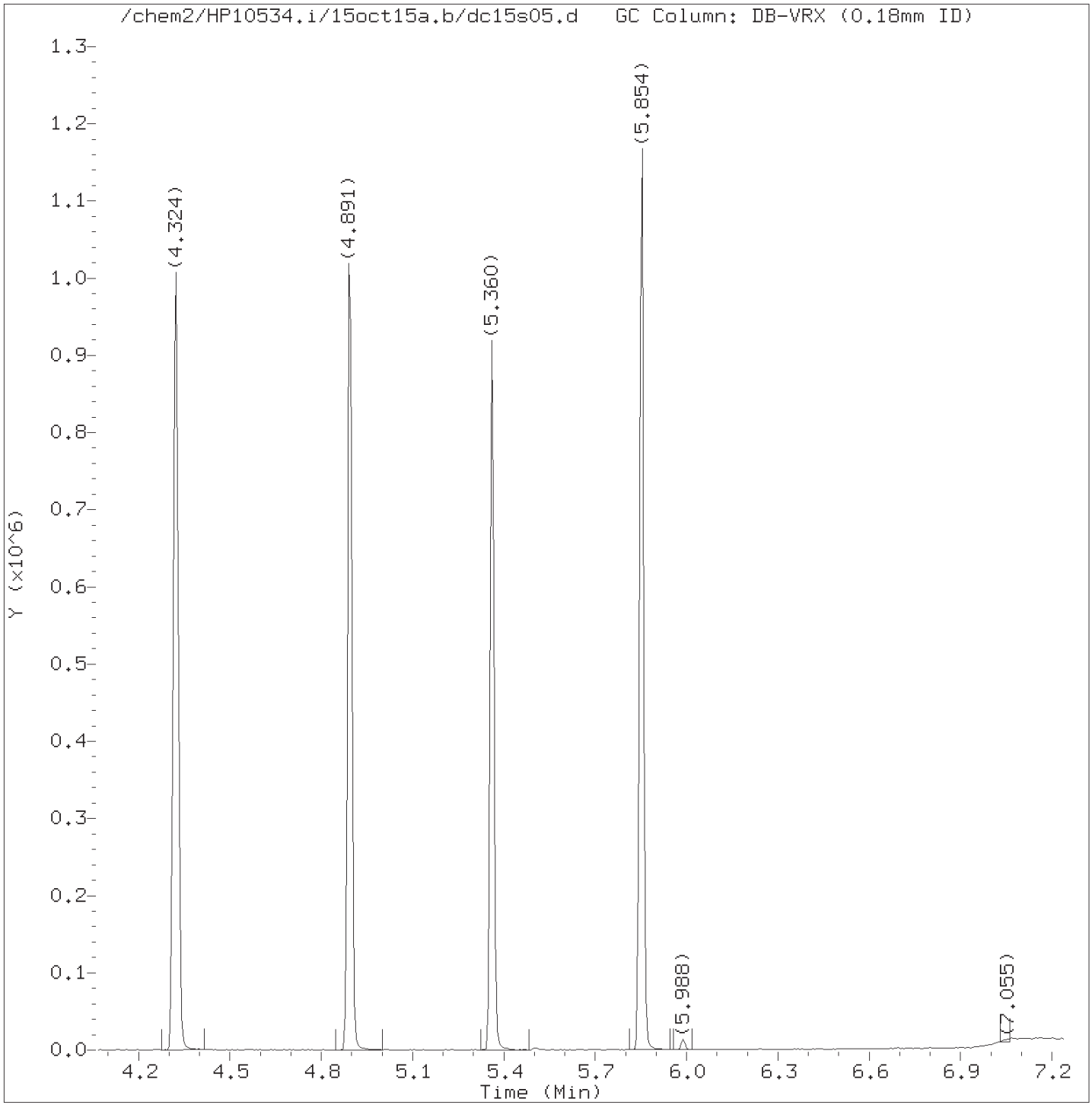
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s05.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:07 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 12:16 Unknown

Sample Name: P2808 Lab Sample ID: 8082106

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:25.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s05.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:07 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 12:16 Unknown

Sample Name: P2808 Lab Sample ID: 8082106

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:25.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s05.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:07 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 12:16 Unknown

Sample Name: P2808 Lab Sample ID: 8082106

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.952	65	96301	250.000
7)$Dibromofluoromethane	(2)	2.971	113	108974	52.454
10)$1,2-Dichloroethane-d4	(2)	3.184	102	27871	50.367
14)*Fluorobenzene	(2)	3.544	96	445613	50.000
16)$Toluene-d8	(3)	4.324	98	454377	48.296
20)*Chlorobenzene-d5	(3)	4.891	117	349801	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	169024	48.211
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	187648	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:25.
Target 3.5 esignature user ID: dhh02035

P2809 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8082107

Data file: /chem2/HP10534.i/15oct15a.b/dc15s23.d Injection date and time: **15-OCT-2015 15:34**
Data file Sample Info. Line: P2809;8082107;1;0;;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 15:43 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.934	(0.012)	139	65	88779	(7)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	440404	(5)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	350545	(8)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	189992	(6)	50.00	

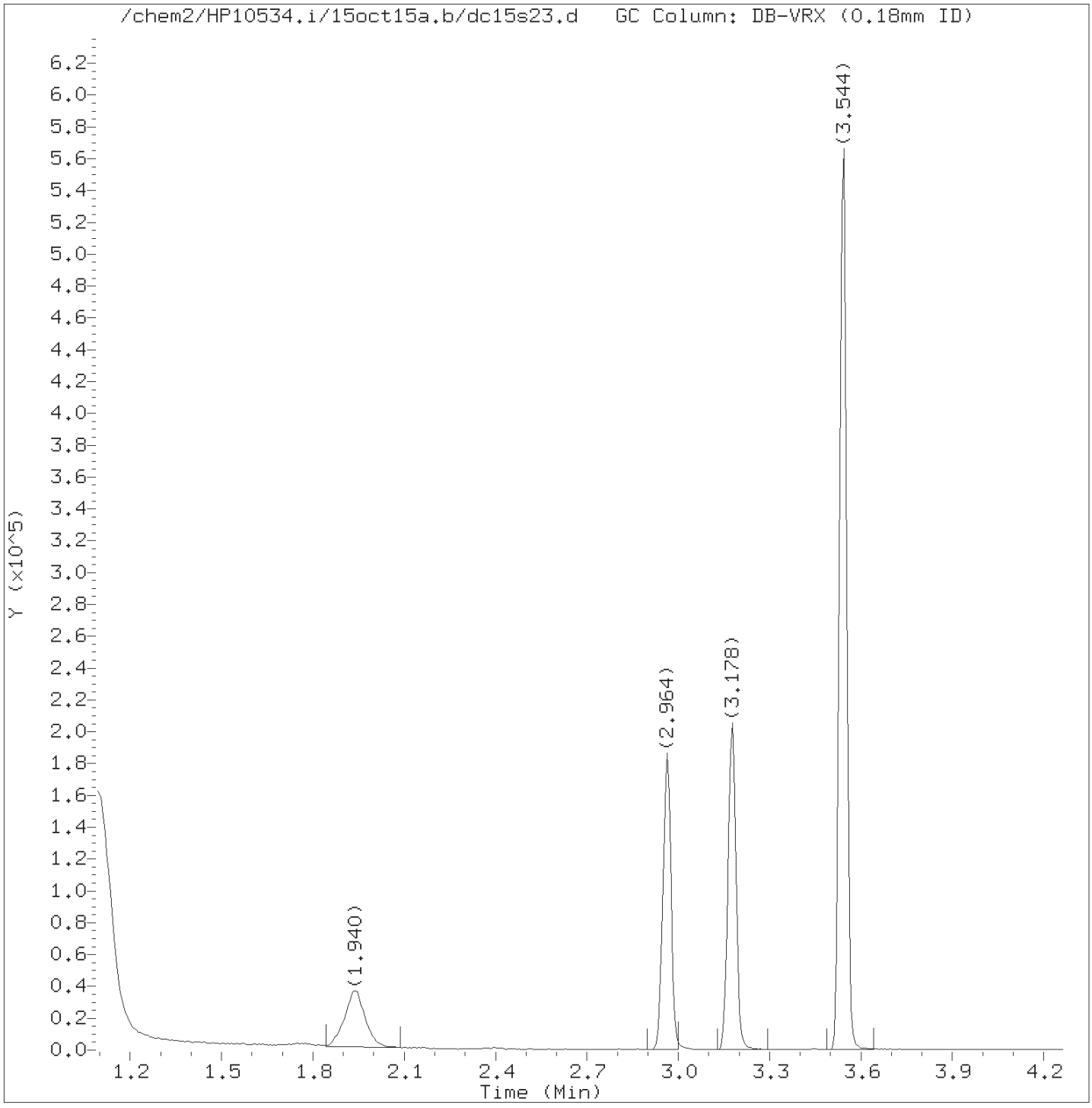
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.964	(0.002)	113	108501	52.844	106%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.002)	102	27808	50.848	102%		77 - 113
16) Toluene-d8	(3)	4.324	(0.000)	98	451997	47.941	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	169070	48.121	96%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
30) Naphthalene	(4)				Not Detected					1	4

Total number of targets = 7

Digitally signed by Hu Yang on 10/16/2015 at 16:57. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:34. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

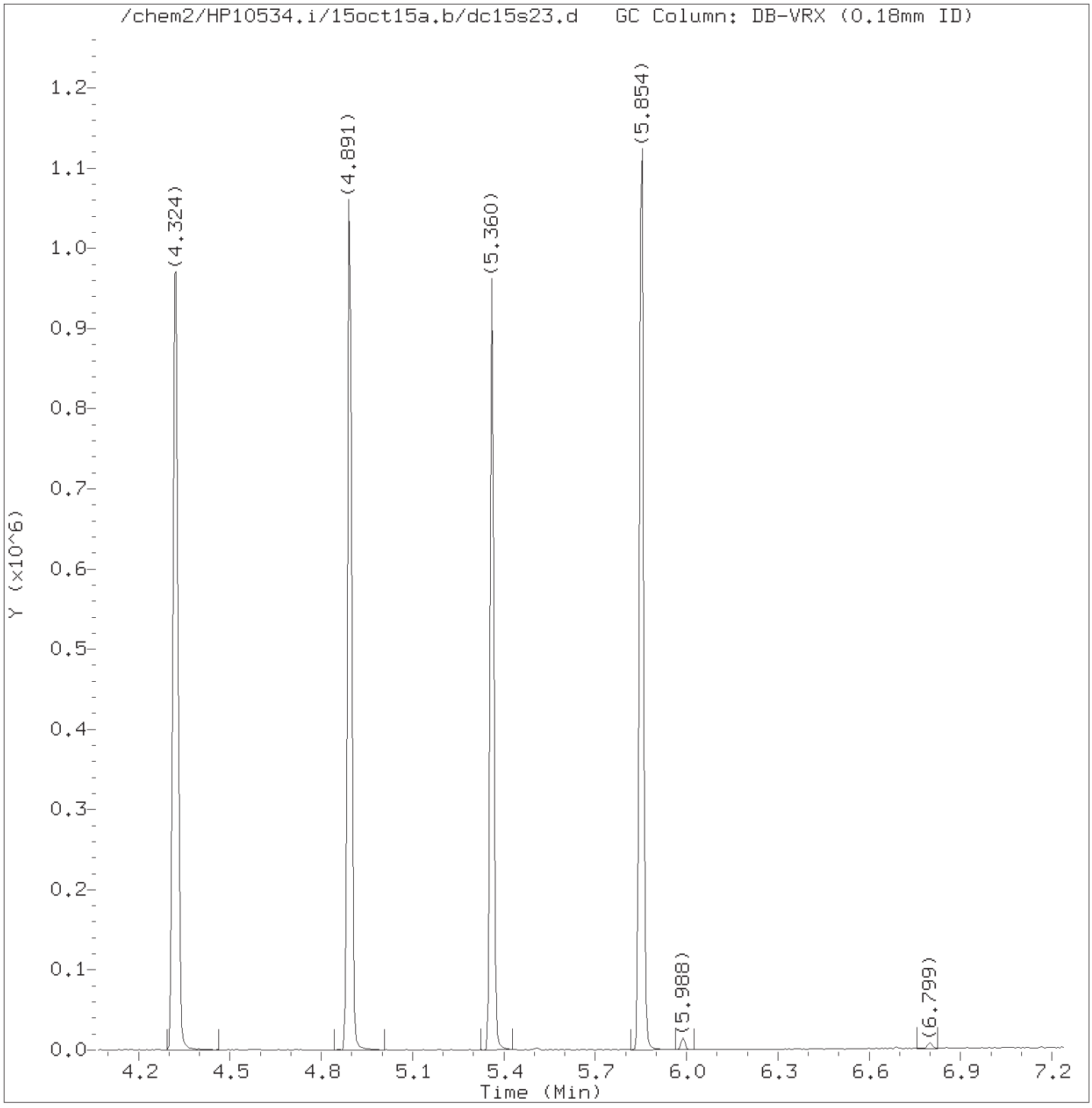
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s23.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:34 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 15:43 Unknown

Sample Name: P2809 Lab Sample ID: 8082107

Digitally signed by Hu Yang
on 10/16/2015 at 16:57.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s23.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:34 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 15:43 Unknown

Sample Name: P2809 Lab Sample ID: 8082107

Digitally signed by Hu Yang
on 10/16/2015 at 16:57.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s23.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:34 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 15:43 Unknown

Sample Name: P2809 Lab Sample ID: 8082107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.934	65	88779	250.000
7)$Dibromofluoromethane	(2)	2.964	113	108501	52.844
10)$1,2-Dichloroethane-d4	(2)	3.178	102	27808	50.848
14)*Fluorobenzene	(2)	3.544	96	440404	50.000
16)$Toluene-d8	(3)	4.324	98	451997	47.941
20)*Chlorobenzene-d5	(3)	4.891	117	350545	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	169070	48.121
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	189992	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 16:57.
Target 3.5 esignature user ID: hy07820

P2810 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8082108

Data file: /chem2/HP10534.i/15oct15a.b/dc15s25.d Injection date and time: **15-OCT-2015 15:57**
Data file Sample Info. Line: P2810;8082108;1;0;;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 16:06 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946	(0.000)	141	65	80444	(-3)	250.00	
14) Fluorobenzene	3.543	(0.000)	403	96	410835	(-2)	50.00	
20) Chlorobenzene-d5	4.897	(-0.006)	625	117	330912	(2)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	179830	(0)	50.00	

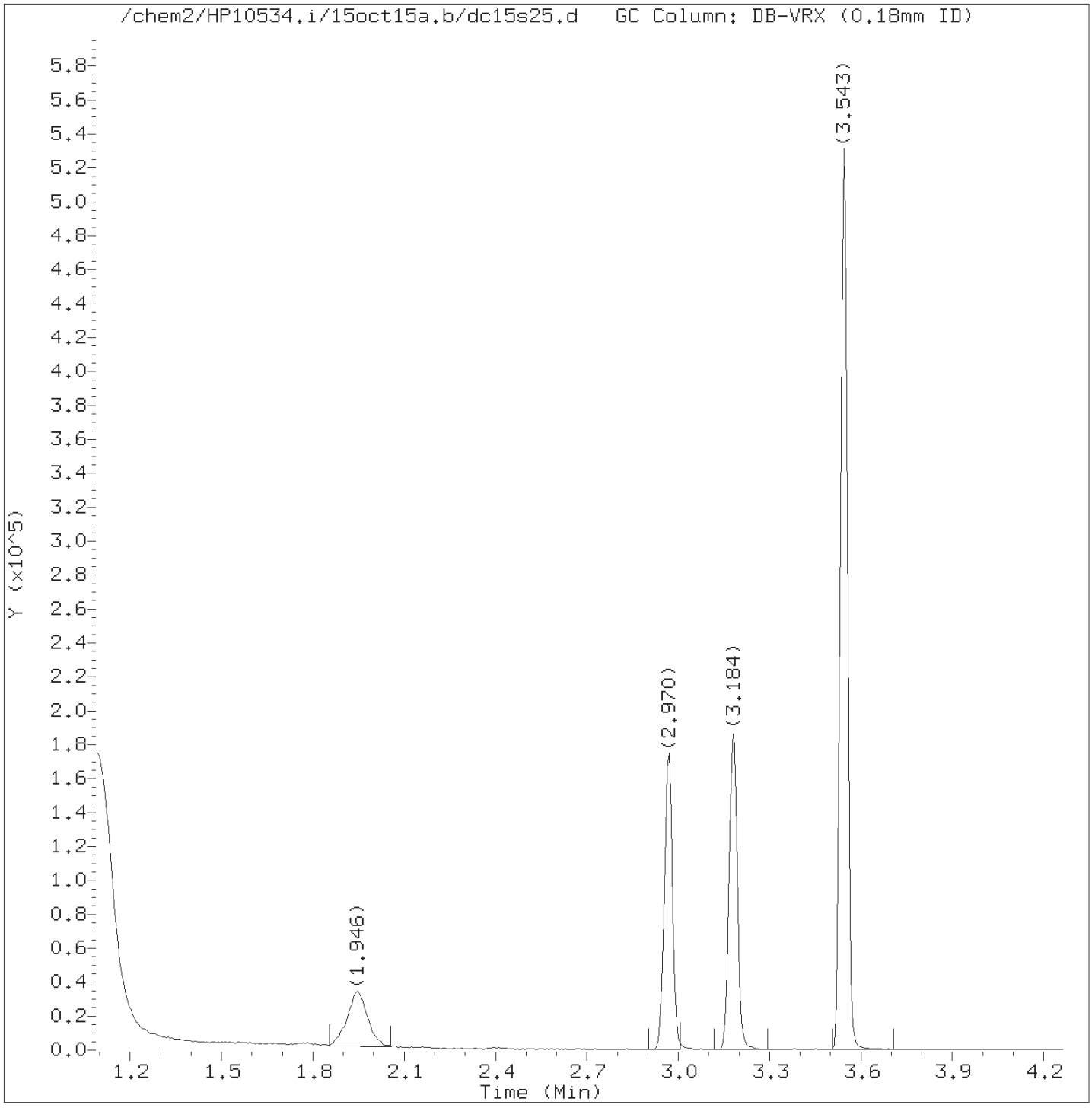
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.970	(0.000)	113	101828	53.163	106%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184	(0.000)	102	25855	50.679	101%		77 - 113
16) Toluene-d8	(3)	4.324	(0.001)	98	417316	46.889	94%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.001)	95	157969	47.629	95%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
30) Naphthalene	(4)				Not Detected					1	4

Total number of targets = 7

Digitally signed by Hu Yang on 10/16/2015 at 16:28. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:34. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

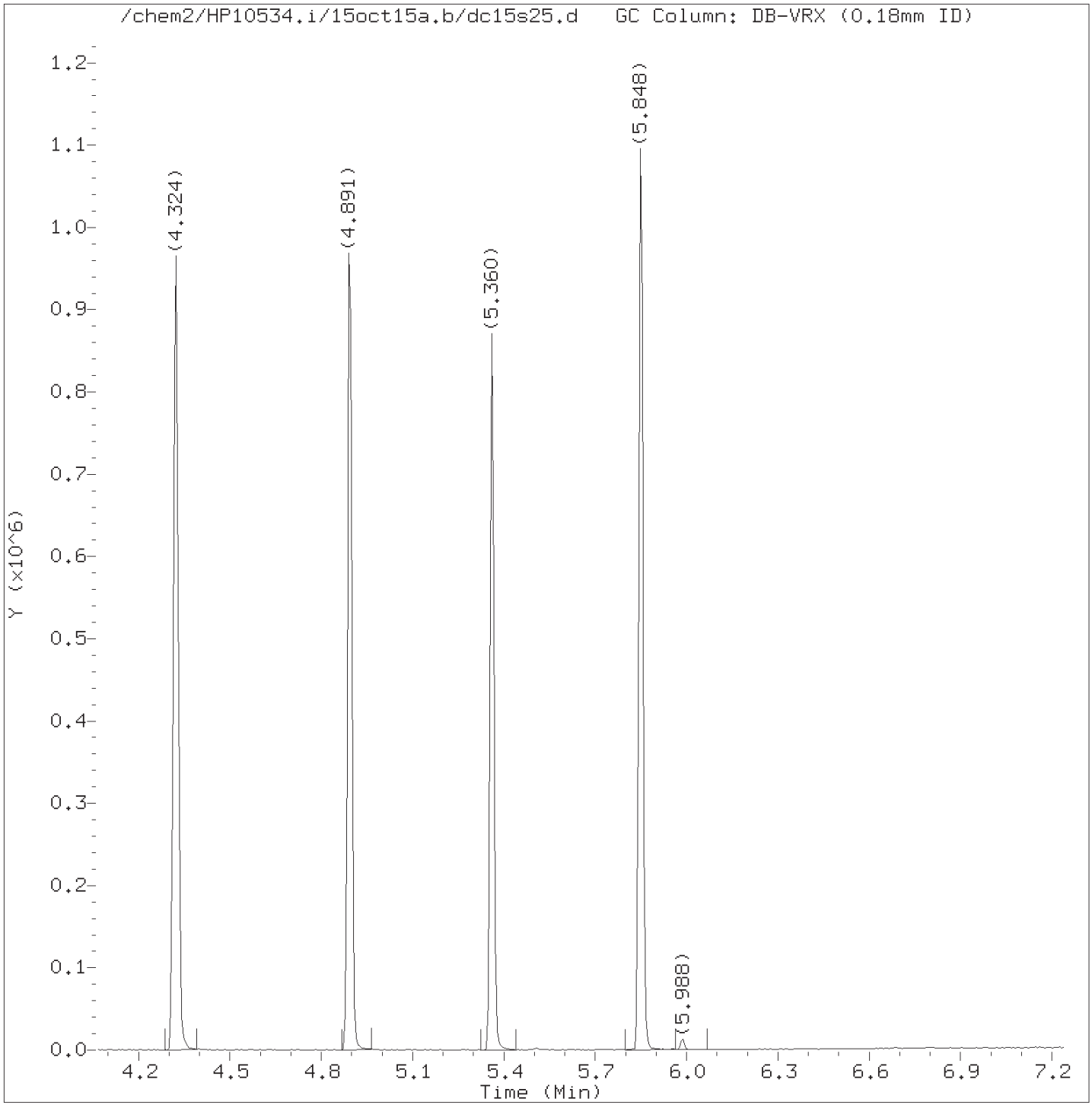
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s25.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:57 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 16:06 Unknown

Sample Name: P2810 Lab Sample ID: 8082108

Digitally signed by Hu Yang
on 10/16/2015 at 16:28.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s25.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:57 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 16:06 Unknown

Sample Name: P2810 Lab Sample ID: 8082108

Digitally signed by Hu Yang
on 10/16/2015 at 16:28.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s25.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:57 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 16:06 Unknown

Sample Name: P2810 Lab Sample ID: 8082108

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.946	65	80444	250.000
7)$Dibromofluoromethane	(2)	2.970	113	101828	53.163
10)$1,2-Dichloroethane-d4	(2)	3.184	102	25855	50.679
14)*Fluorobenzene	(2)	3.543	96	410835	50.000
16)$Toluene-d8	(3)	4.324	98	417316	46.889
20)*Chlorobenzene-d5	(3)	4.897	117	330912	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	157969	47.629
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	179830	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 16:28.
Target 3.5 esignature user ID: hy07820

P2811 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8082109

Data file: /chem2/HP10534.i/15oct15a.b/dc15s27.d Injection date and time: **15-OCT-2015 16:20**
Data file Sample Info. Line: P2811;8082109;1;0;;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 16:29 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.940	(0.006)	140	65	82672	(0)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	412426	(-2)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	331589	(2)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	181693	(1)	50.00	

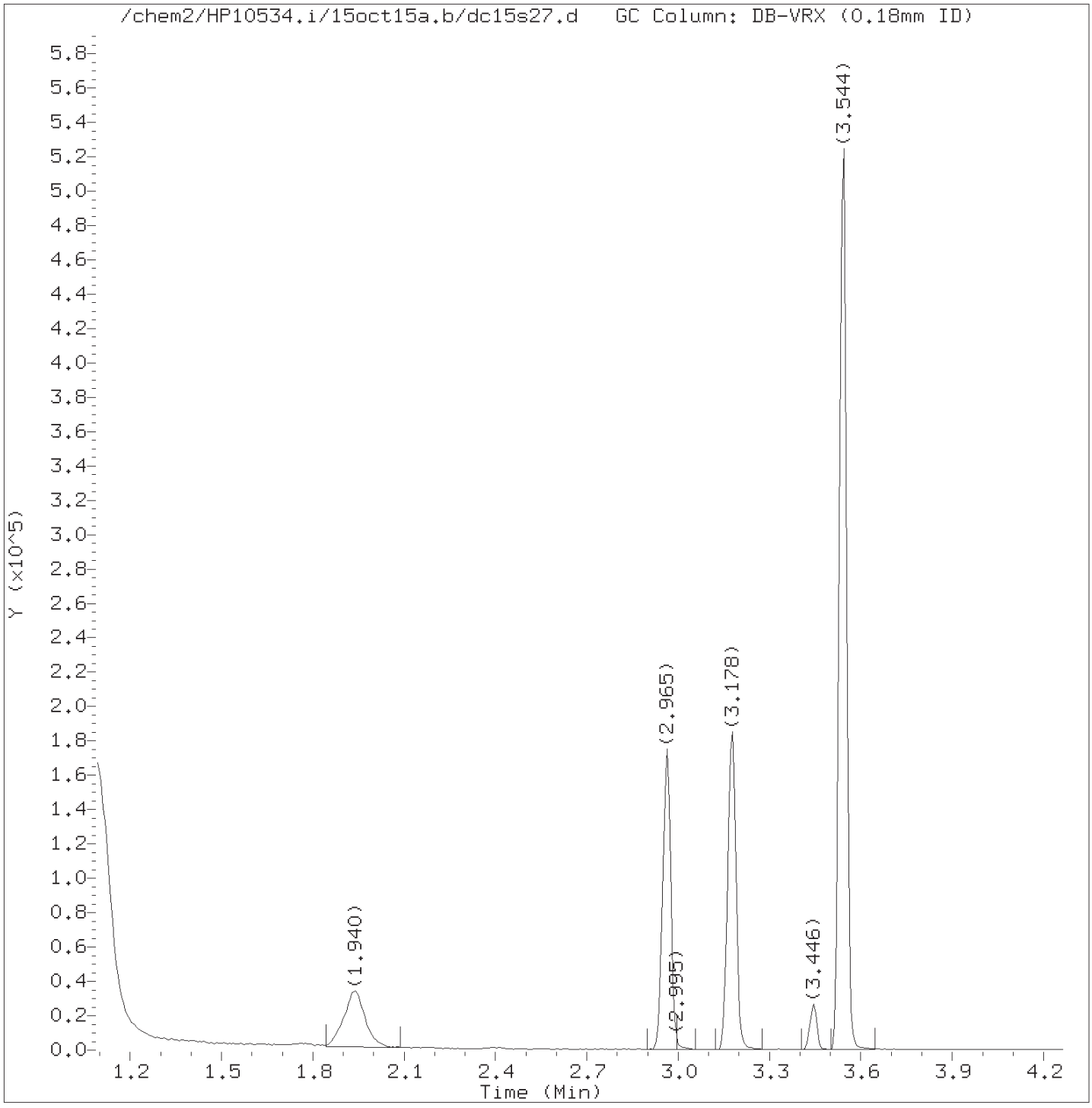
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.965	(0.002)	113	102628	53.374	107%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.002)	102	26215	51.187	102%		77 - 113
16) Toluene-d8	(3)	4.318	(0.001)	98	424990	47.653	95%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	158395	47.660	95%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)	3.446	(0.000)	78	20380	1.671	1.67			0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)	5.208	(-0.000)	106	2956	0.500	0.50		J	0.5	1
24) Xylene (Total)	(3)			106	2956	0.500	0.50		J	0.5	1
30) Naphthalene	(4)	6.793	(-0.000)	128	110743	7.938	7.94			1	4

Total number of targets = 7

Digitally signed by Hu Yang on 10/16/2015 at 16:28. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:34. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

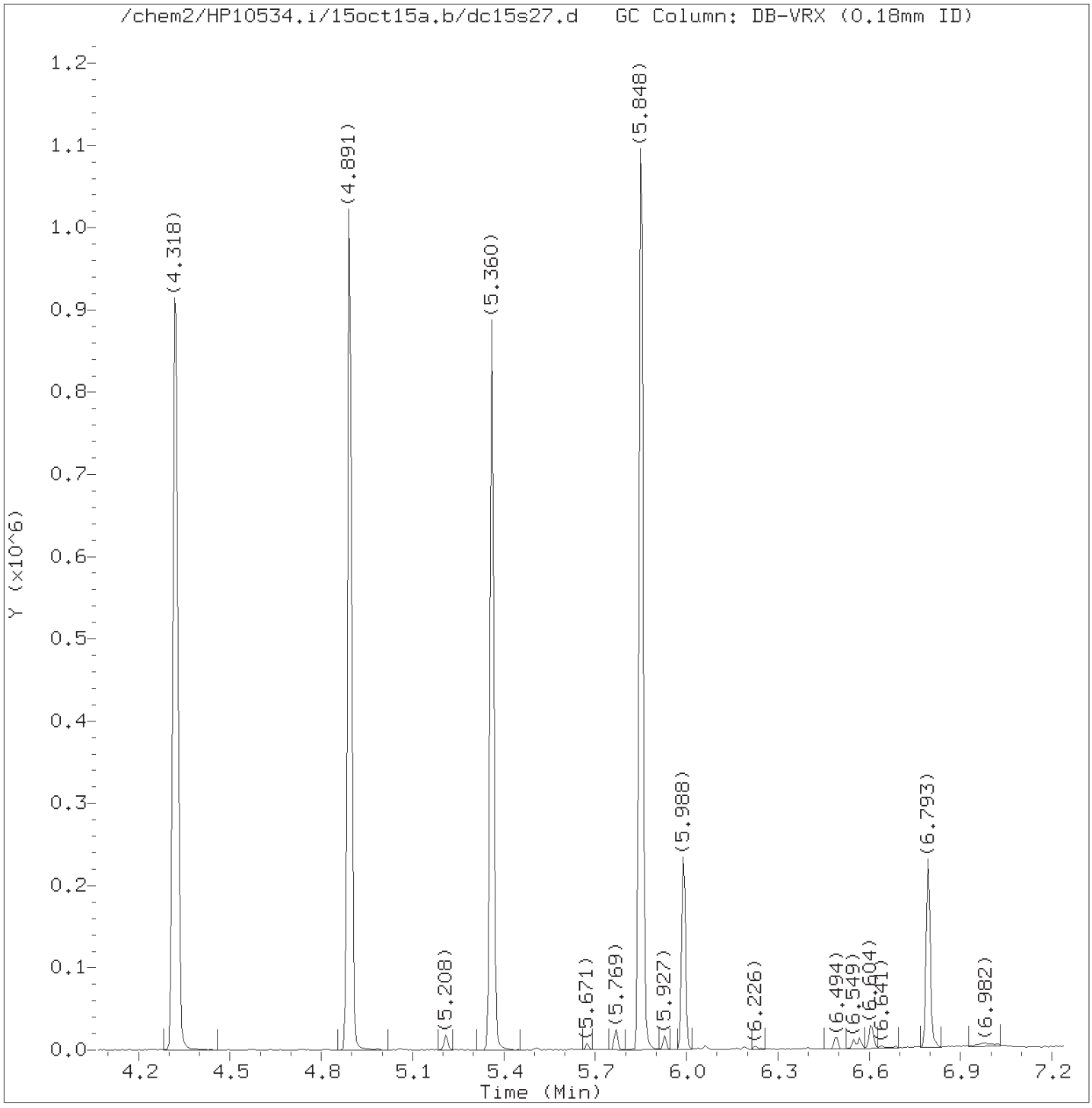
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s27.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 16:20 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 16:29 Unknown

Sample Name: P2811 Lab Sample ID: 8082109

Digitally signed by Hu Yang
on 10/16/2015 at 16:28.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s27.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 16:20 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 16:29 Unknown

Sample Name: P2811 Lab Sample ID: 8082109

Digitally signed by Hu Yang
on 10/16/2015 at 16:28.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s27.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 16:20 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 16:29 Unknown

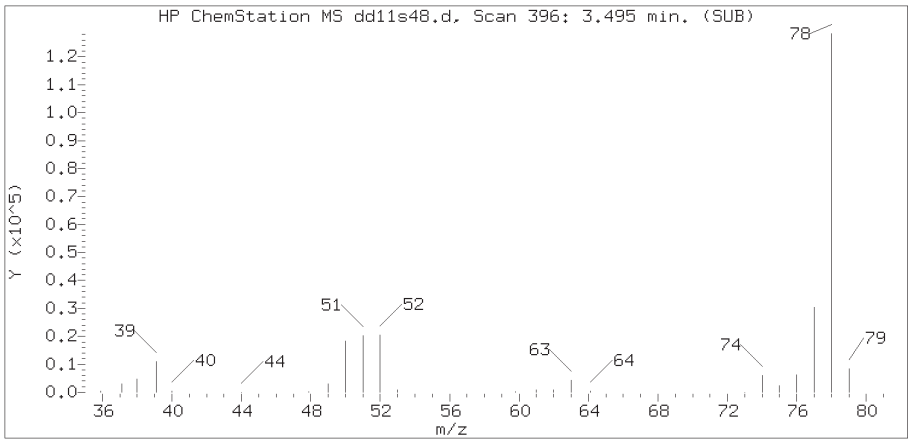
Sample Name: P2811 Lab Sample ID: 8082109

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.940	65	82672	250.000
7)$Dibromofluoromethane	(2)	2.965	113	102628	53.374
10)$1,2-Dichloroethane-d4	(2)	3.178	102	26215	51.187
12) Benzene	(2)	3.446	78	20380	1.671
14)*Fluorobenzene	(2)	3.544	96	412426	50.000
16)$Toluene-d8	(3)	4.318	98	424990	47.653
20)*Chlorobenzene-d5	(3)	4.891	117	331589	50.000
23) o-Xylene	(3)	5.208	106	2956	0.500
24) Xylene (Total)	(3)		106	2956	0.500
26)$4-Bromofluorobenzene	(3)	5.360	95	158395	47.660
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	181693	50.000
30) Naphthalene	(4)	6.793	128	110743	7.938

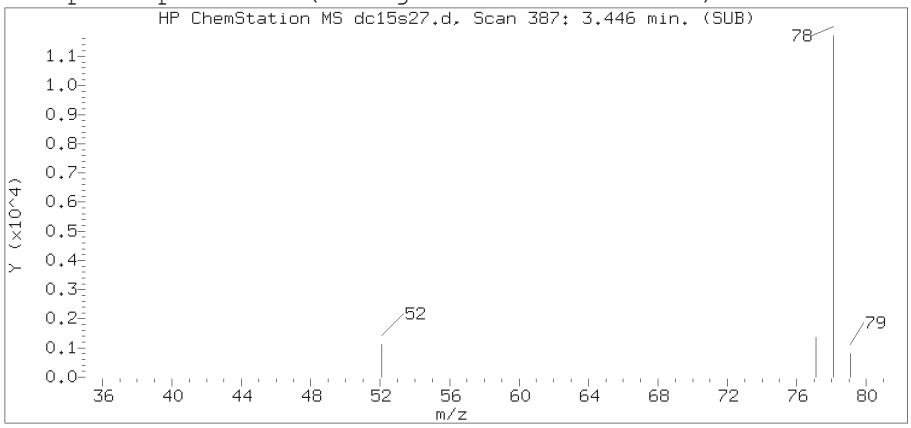
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 16:28.
Target 3.5 esignature user ID: hy07820

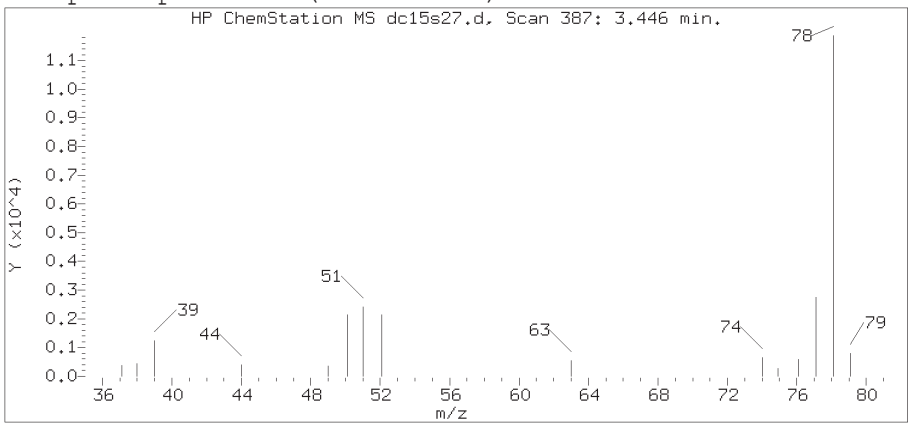
Reference Standard Spectrum for Benzene

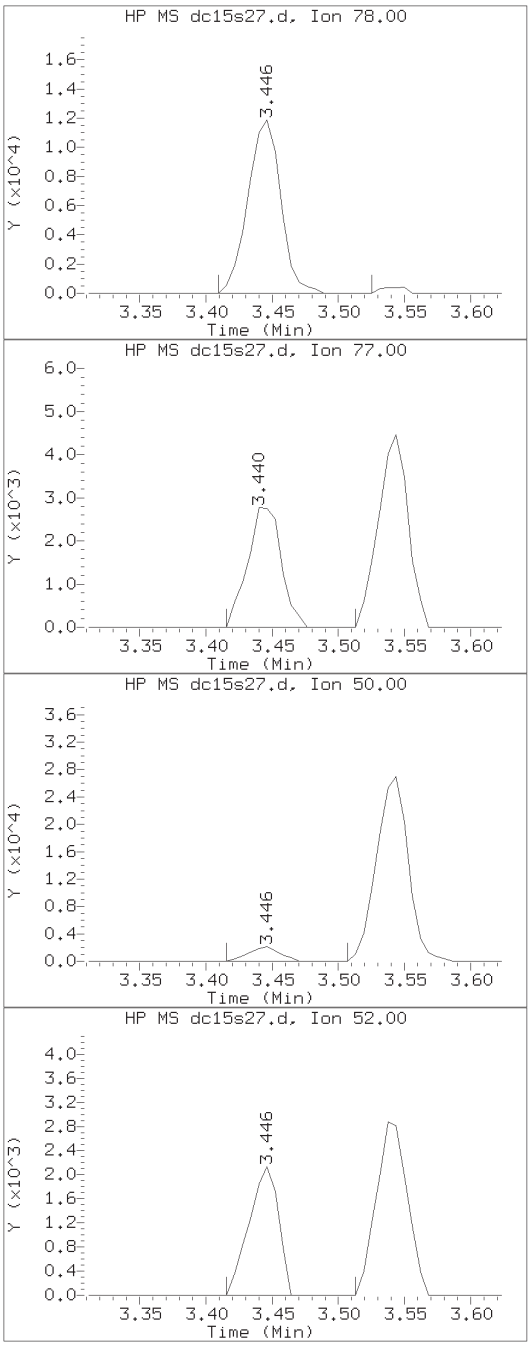


Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)





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Injection date and time: 15-OCT-2015 16:20 Analyst ID: DHH02035

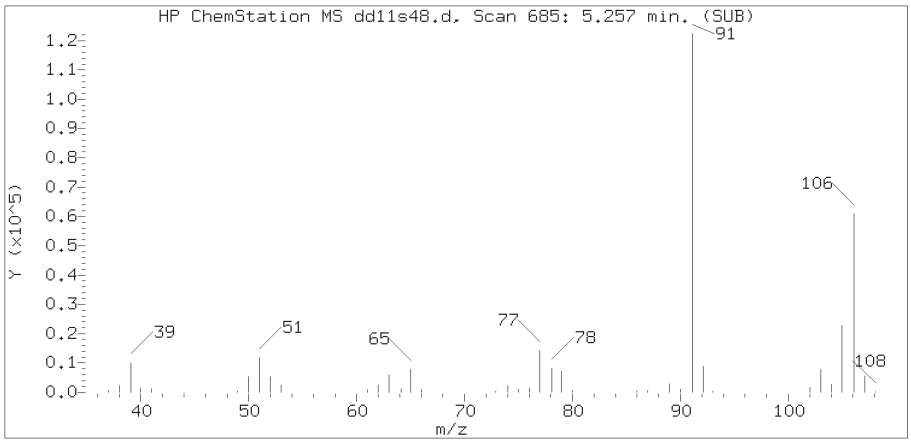
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 16:29 Unknown

Sample Name: P2811 Lab Sample ID: 8082109

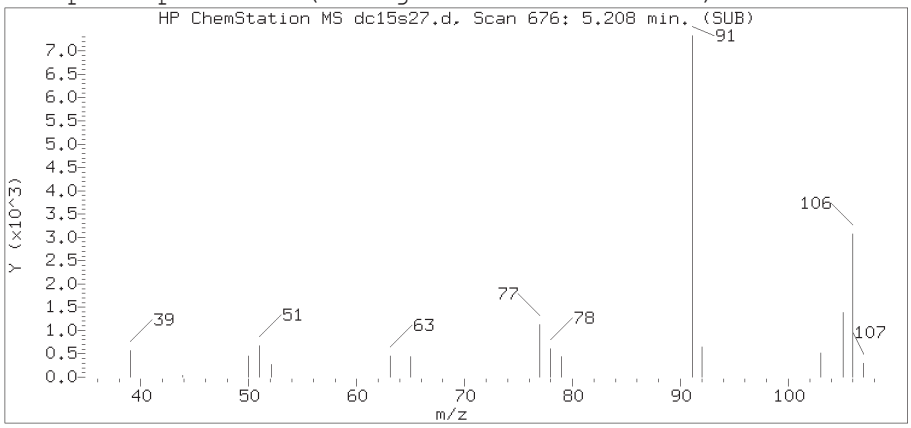
Compound Number	: 12
Compound Name	: Benzene
Scan Number	: 387
Retention Time (minutes)	: 3.446
Relative Retention Time	: 0.00000
Quant Ion	: 78.00
Area (flag)	: 20380
On-Column Amount (ng)	: 1.6711

Digitally signed by Hu Yang on 10/16/2015 at 16:28.
Target 3.5 esignature [illegible]

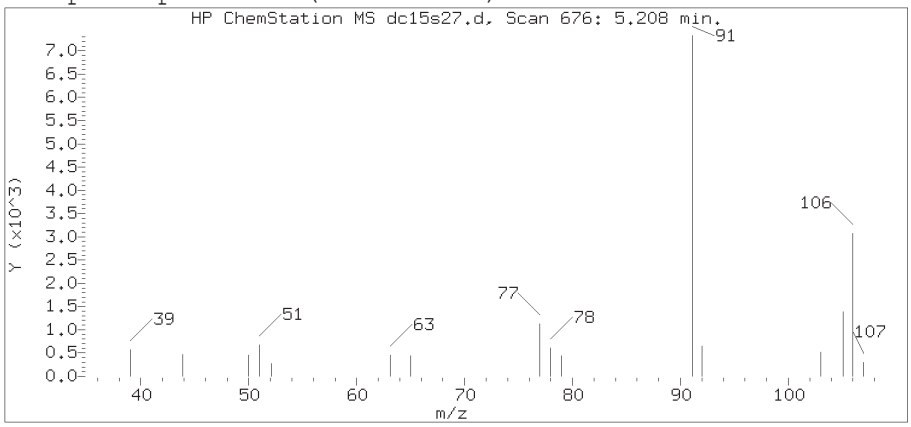
Reference Standard Spectrum for o-Xylene

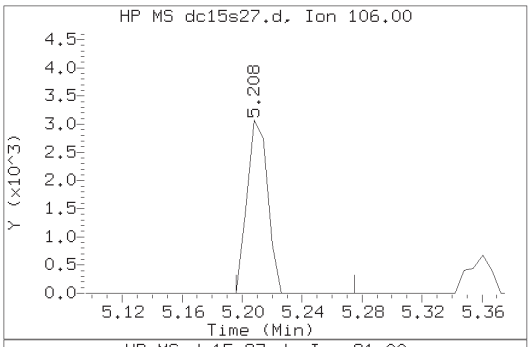


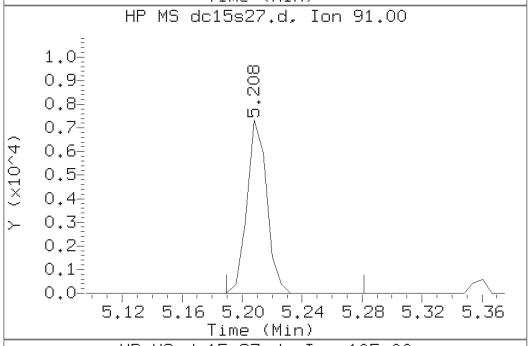
Sample Spectrum (Background Subtracted)

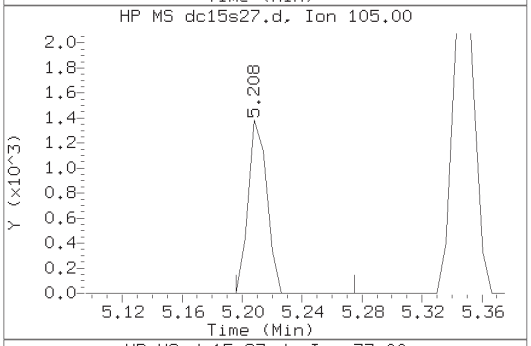


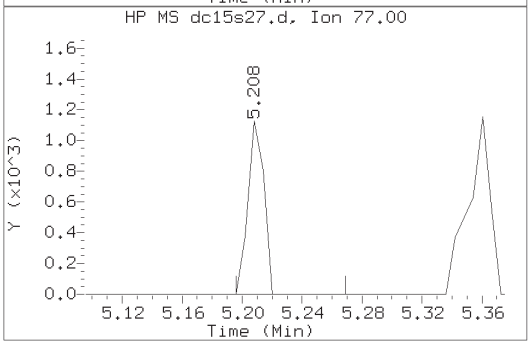
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s27.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 16:20 Analyst ID: DHH02035

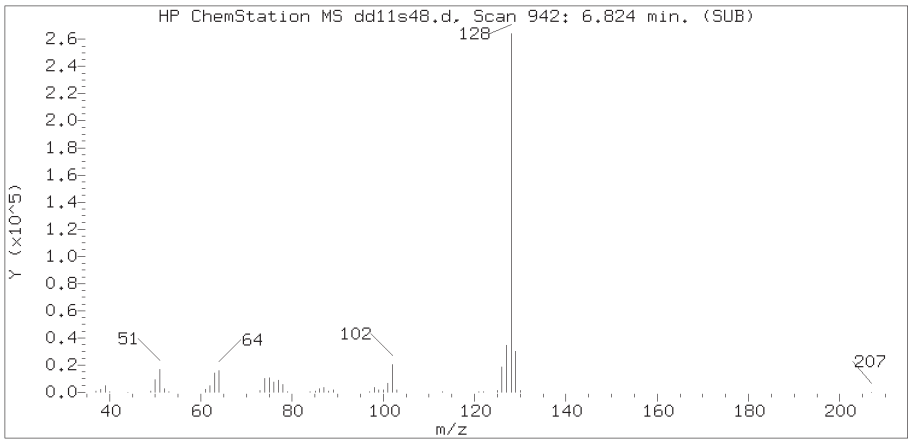
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 16:29 Unknown

Sample Name: P2811 Lab Sample ID: 8082109

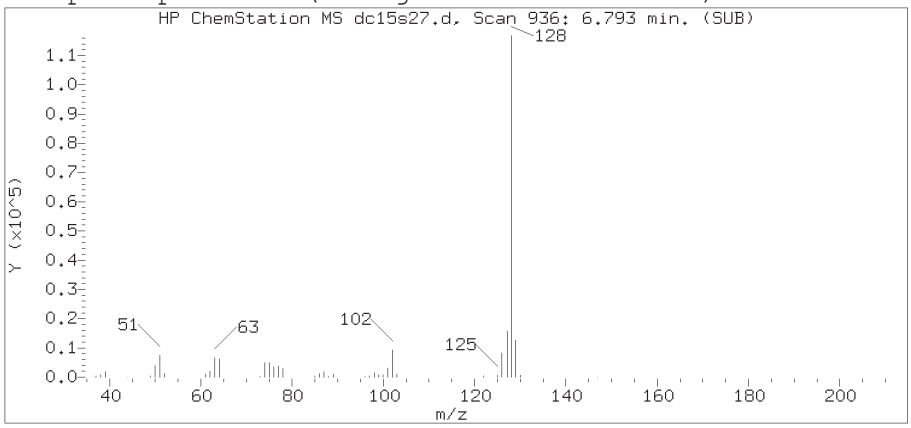
Compound Number : 23
Compound Name : o-Xylene
Scan Number : 676
Retention Time (minutes): 5.208
Relative Retention Time :-0.00000
Quant Ion : 106.00
Area (flag) : 2956
On-Column Amount (ng) : 0.5005

Digitally signed by Hu Yang on 10/16/2015 at 16:28.
Target 3.5 esignature [illegible]

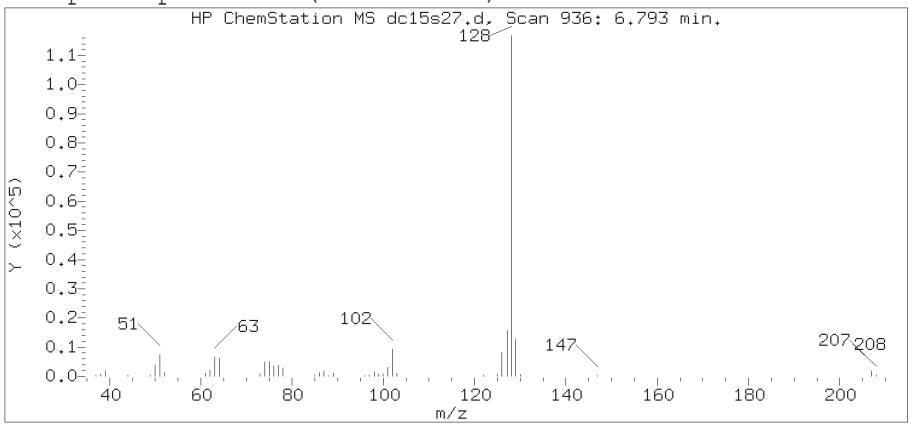
Reference Standard Spectrum for Naphthalene

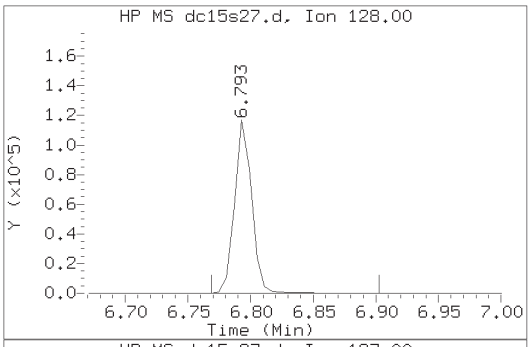


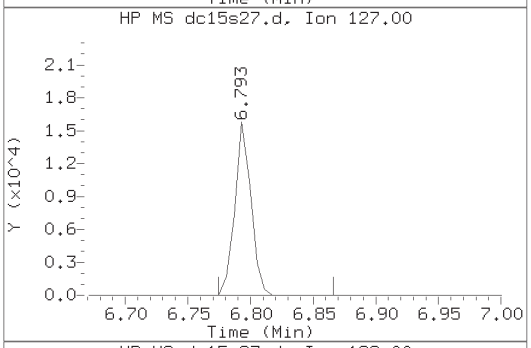
Sample Spectrum (Background Subtracted)

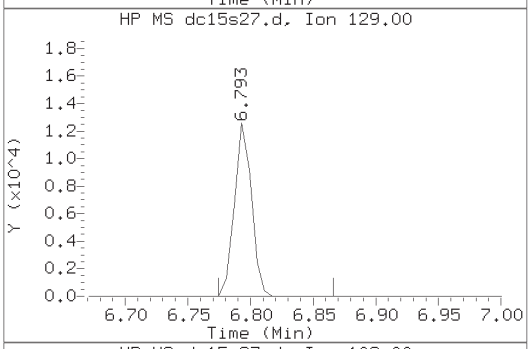


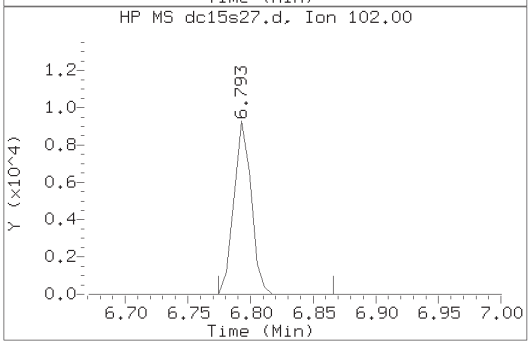
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s27.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 16:20 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 16:29 Unknown

Sample Name: P2811 Lab Sample ID: 8082109

Compound Number : 30
Compound Name : Naphthalene
Scan Number : 936
Retention Time (minutes): 6.793
Relative Retention Time :-0.00000
Quant Ion : 128.00
Area (flag) : 110743
On-Column Amount (ng) : 7.9377

Digitally signed by Hu Yang on 10/16/2015 at 16:28.
Target 3.5 esignature [illegible]

P2812 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8082110

Data file: /chem2/HP10534.i/15oct15a.b/dc15s29.d Injection date and time: **15-OCT-2015 16:43**
Data file Sample Info. Line: P2812;8082110;1;0;;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 16:52 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **5.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 1 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946	(0.000)	141	65	98883	(20)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	480728	(14)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	382953	(18)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	211011	(17)	50.00	

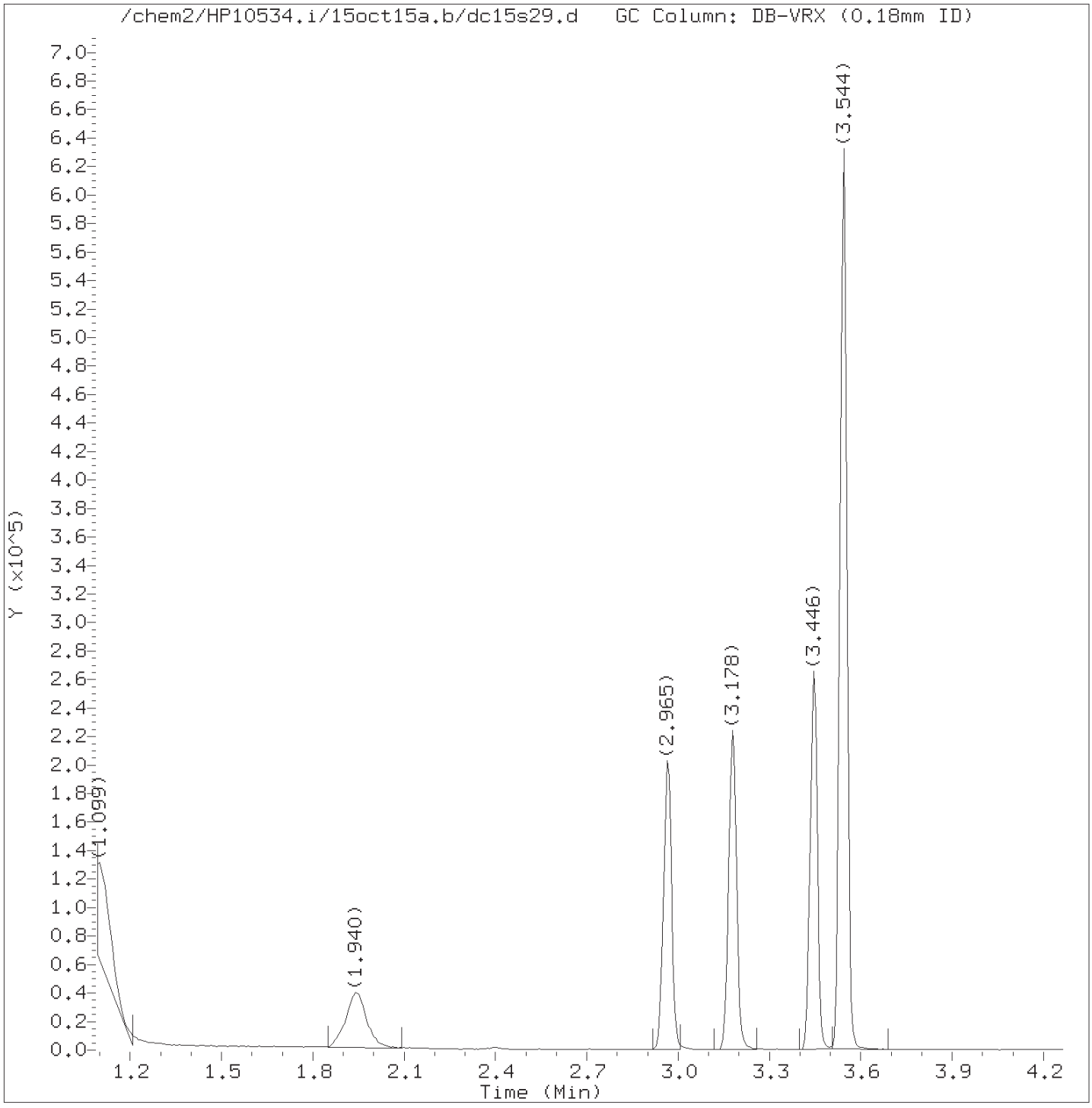
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.965	(0.002)	113	118469	52.859	106%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.002)	102	29499	49.415	99%		77 - 113
16) Toluene-d8	(3)	4.324	(0.000)	98	488057	47.385	95%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	188568	49.129	98%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
12) Benzene	(2)	3.446	(0.000)	78	207929	14.627	73.14			3	5
17) Toluene	(3)				Not Detected					3	5
21) Ethylbenzene	(3)	4.982	(-0.000)	91	98103	5.396	26.98			3	5
22) m+p-Xylene	(3)				Not Detected					3	5
23) o-Xylene	(3)	5.208	(-0.000)	106	8236	1.207	6.04			3	5
24) Xylene (Total)	(3)			106	8236	1.207	6.04			3	5
30) Naphthalene	(4)	6.787	(-0.000)	128	333359	20.574	102.87			5	20

Total number of targets = 7

Digitally signed by Hu Yang on 10/16/2015 at 16:30. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:34. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

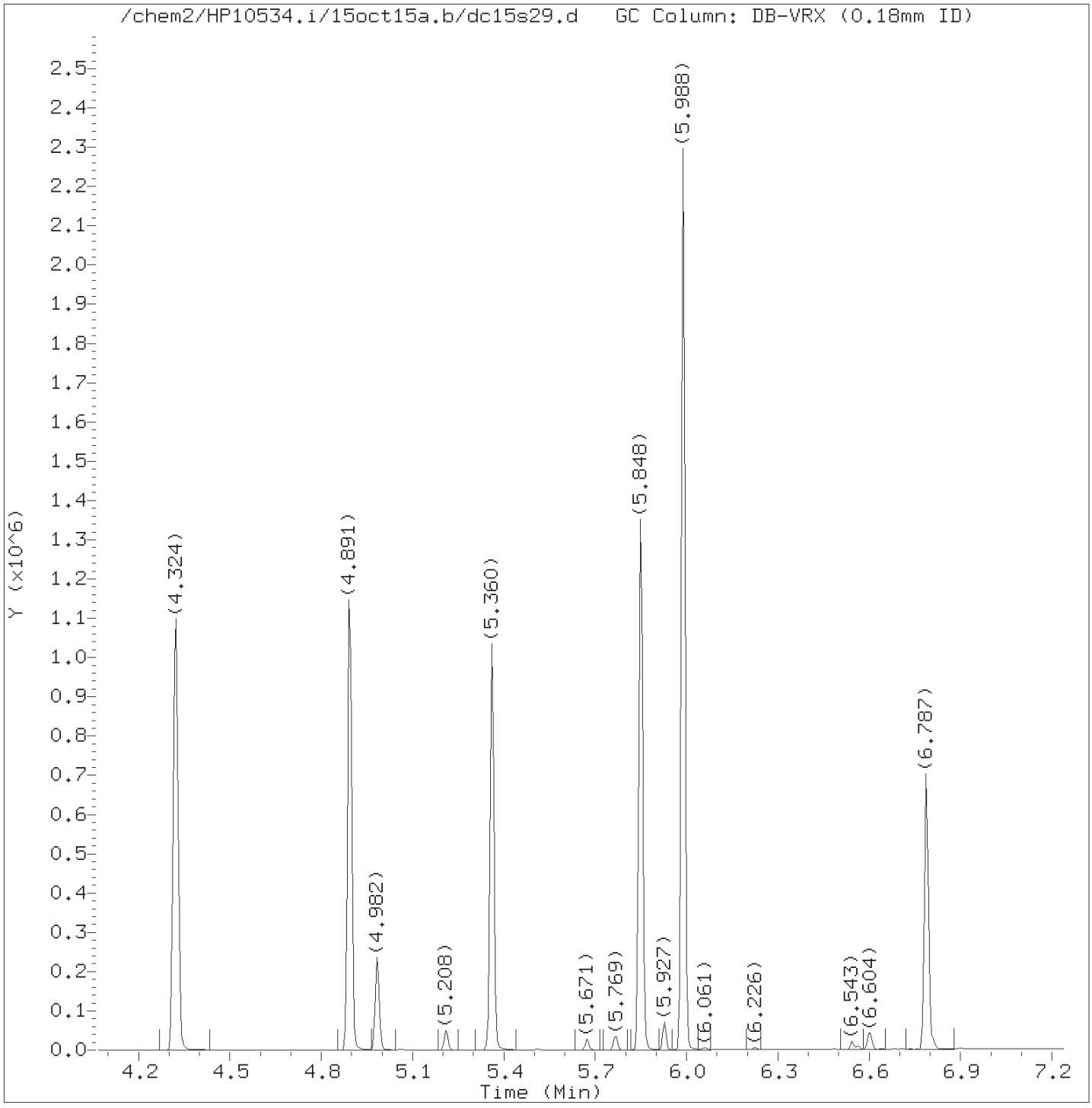
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s29.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 16:43 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 16:52 Unknown

Sample Name: P2812 Lab Sample ID: 8082110

Digitally signed by Hu Yang
on 10/16/2015 at 16:30.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s29.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 16:43 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 16:52 Unknown

Sample Name: P2812 Lab Sample ID: 8082110

Digitally signed by Hu Yang
on 10/16/2015 at 16:30.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s29.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 16:43 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 16:52 Unknown

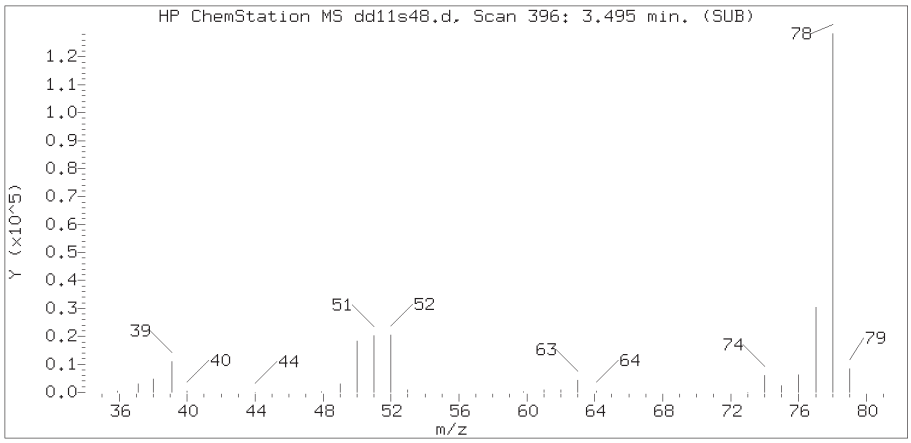
Sample Name: P2812 Lab Sample ID: 8082110

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.946	65	98883	250.000
7)$Dibromofluoromethane	(2)	2.965	113	118469	52.859
10)$1,2-Dichloroethane-d4	(2)	3.178	102	29499	49.415
12) Benzene	(2)	3.446	78	207929	14.627
14)*Fluorobenzene	(2)	3.544	96	480728	50.000
16)$Toluene-d8	(3)	4.324	98	488057	47.385
20)*Chlorobenzene-d5	(3)	4.891	117	382953	50.000
21) Ethylbenzene	(3)	4.982	91	98103	5.396
23) o-Xylene	(3)	5.208	106	8236	1.207
24) Xylene (Total)	(3)		106	8236	1.207
26)$4-Bromofluorobenzene	(3)	5.360	95	188568	49.129
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	211011	50.000
30) Naphthalene	(4)	6.787	128	333359	20.574

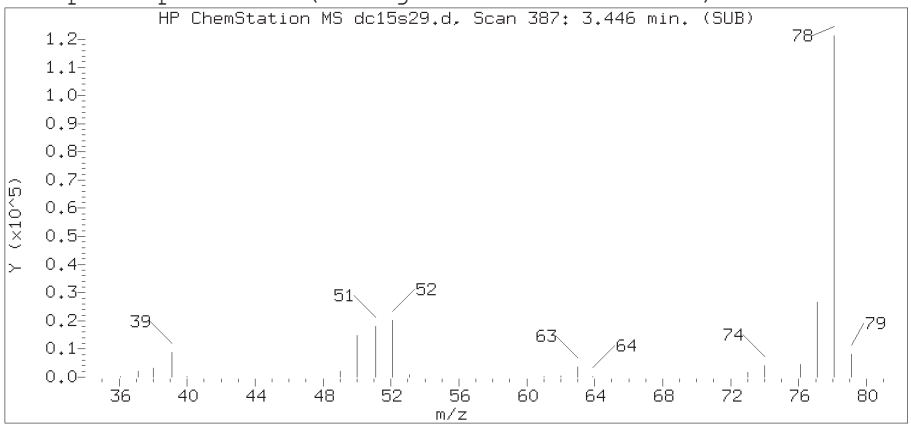
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 16:30.
Target 3.5 esignature user ID: hy07820

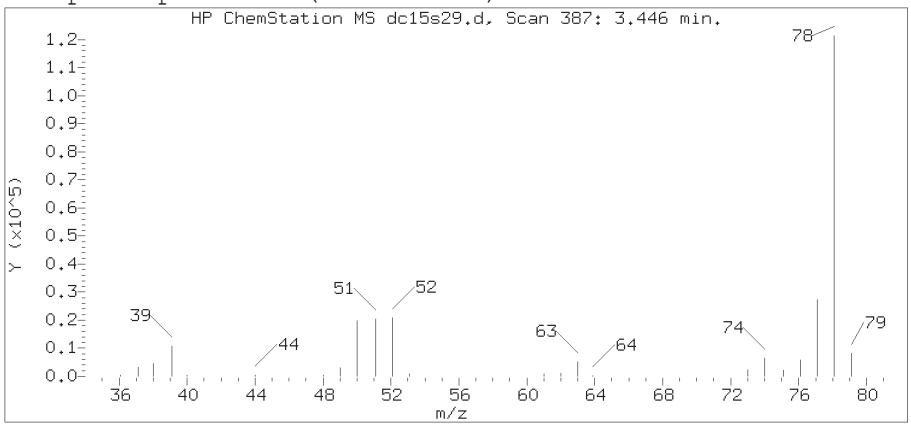
Reference Standard Spectrum for Benzene

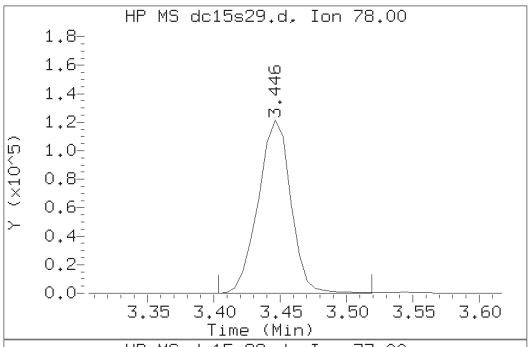


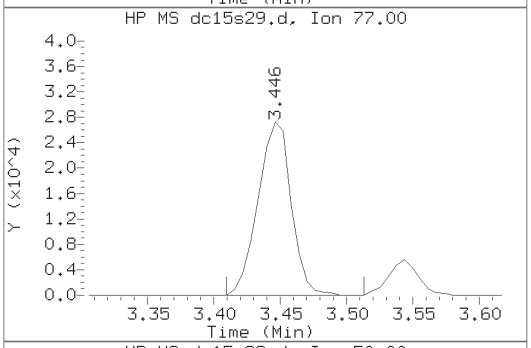
Sample Spectrum (Background Subtracted)

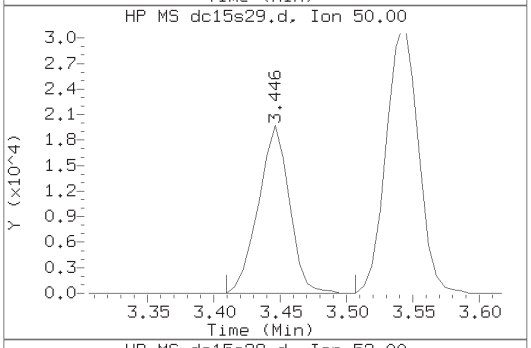


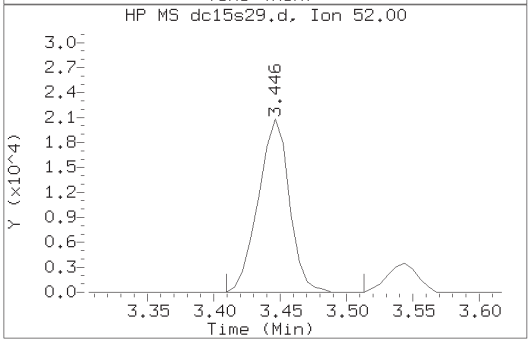
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s29.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 16:43 Analyst ID: DHH02035

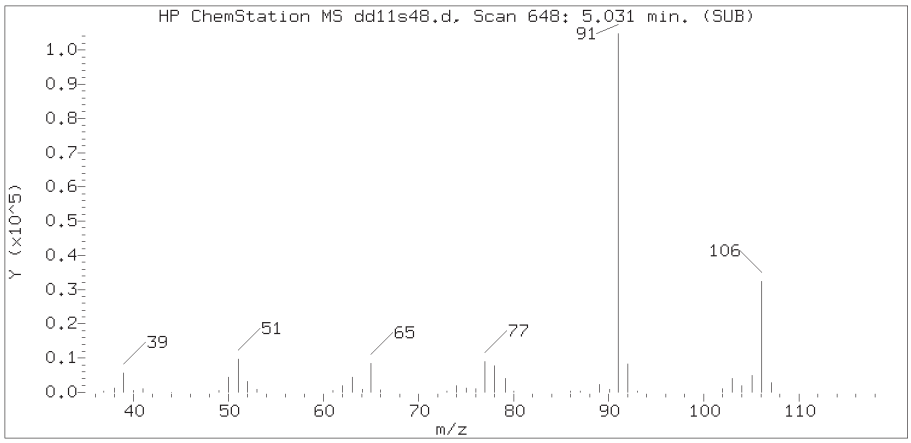
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 16:52 Unknown

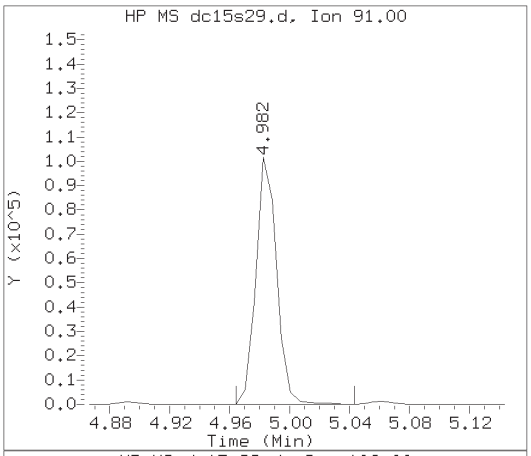
Sample Name: P2812 Lab Sample ID: 8082110

Compound Number	: 12
Compound Name	: Benzene
Scan Number	: 387
Retention Time (minutes)	: 3.446
Relative Retention Time	: 0.00000
Quant Ion	: 78.00
Area (flag)	: 207929
On-Column Amount (ng)	: 14.6271

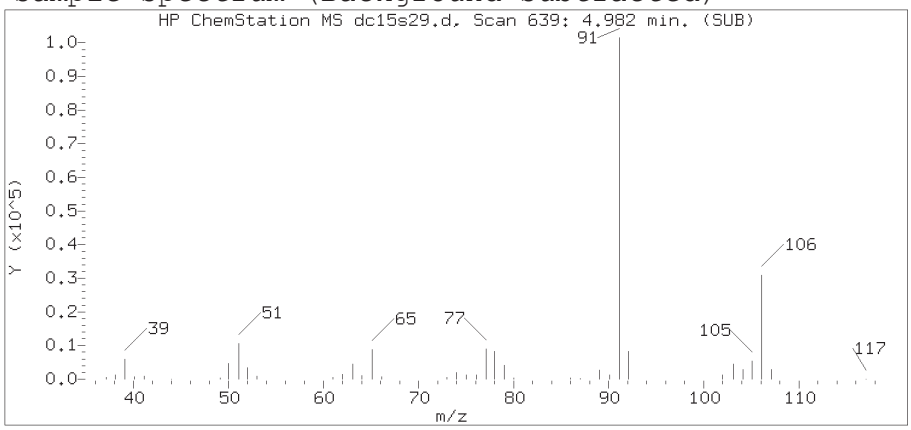
Digitally signed by Hu Yang on 10/16/2015 at 16:30.
Target 3.5 esignature [illegible]

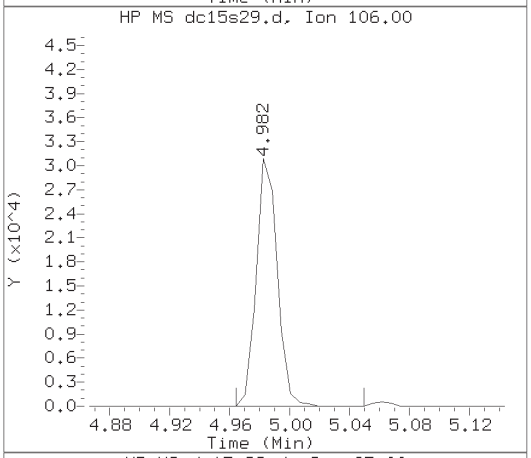
Reference Standard Spectrum for Ethylbenzene



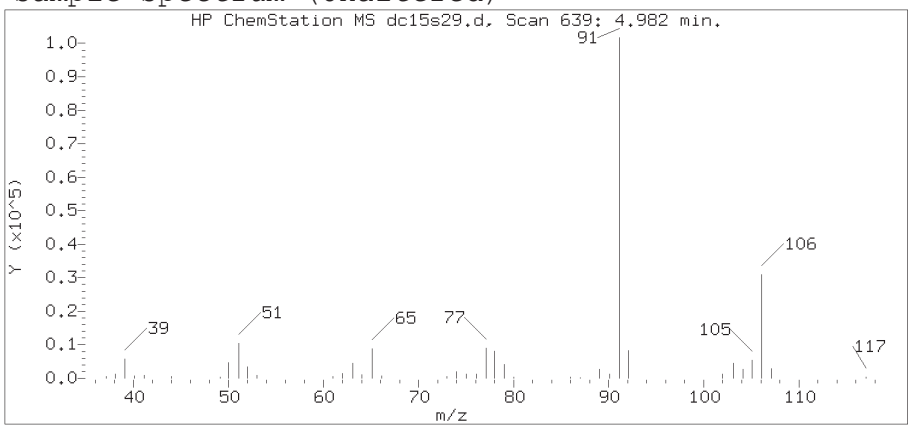


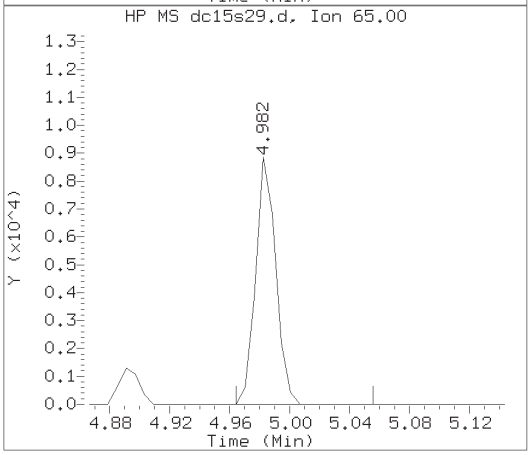
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP10534.i/15oct15a.b/dc15s29.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 16:43 Analyst ID: DHH02035

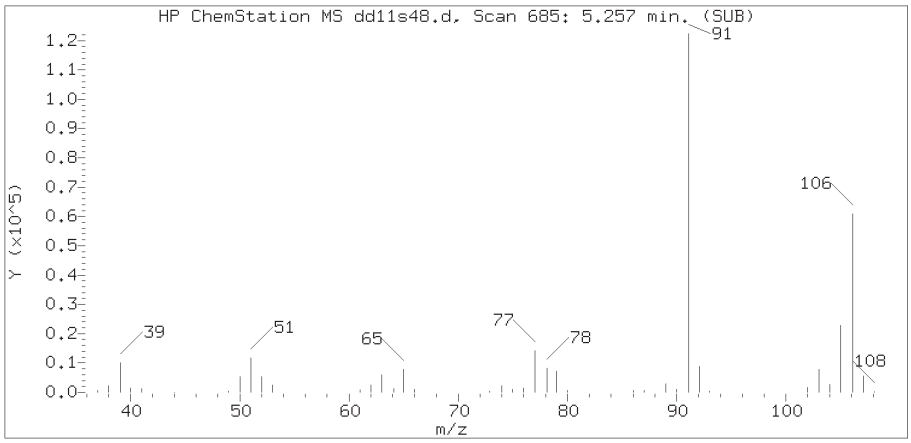
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 16:52 Unknown

Sample Name: P2812 Lab Sample ID: 8082110

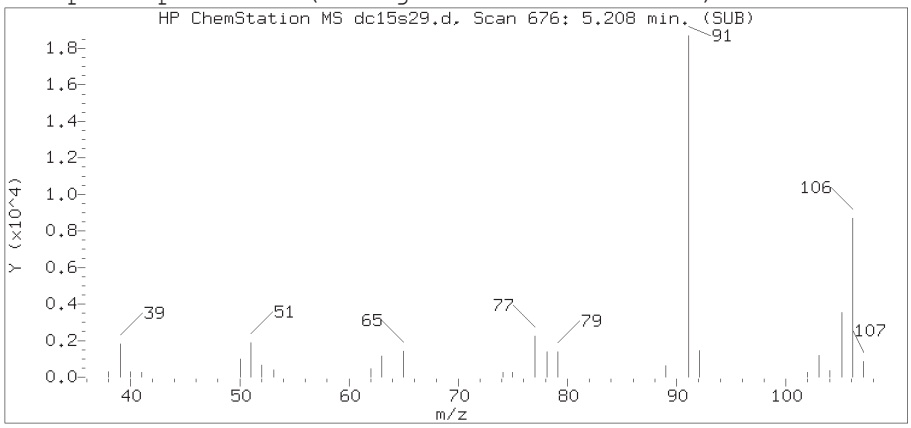
Compound Number : 21
Compound Name : Ethylbenzene
Scan Number : 639
Retention Time (minutes): 4.982
Relative Retention Time :-0.00000
Quant Ion : 91.00
Area (flag) : 98103
On-Column Amount (ng) : 5.3960

Digitally signed by Hu Yang on 10/16/2015 at 16:30.
Target 3.5 esignature [illegible]

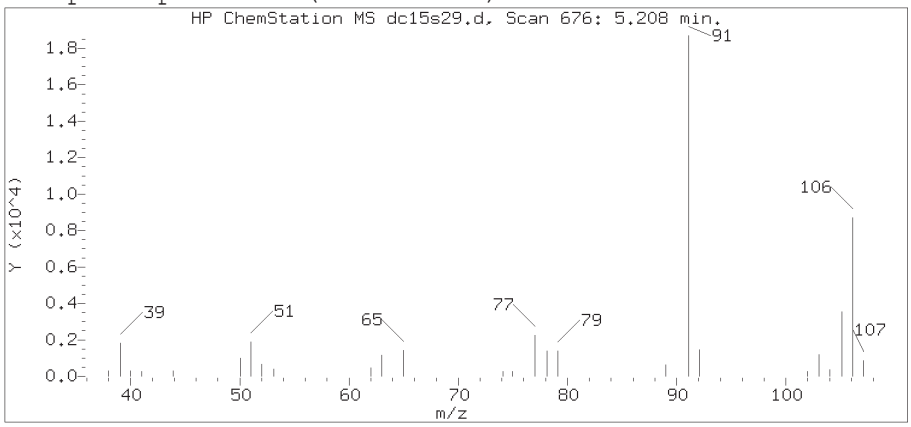
Reference Standard Spectrum for o-Xylene

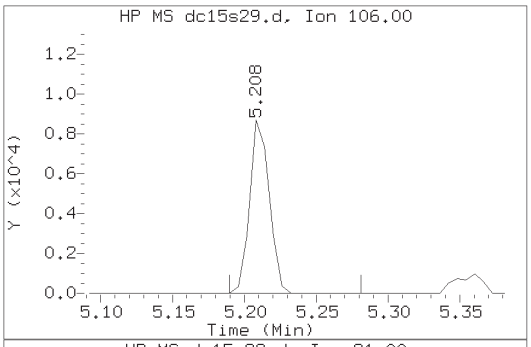


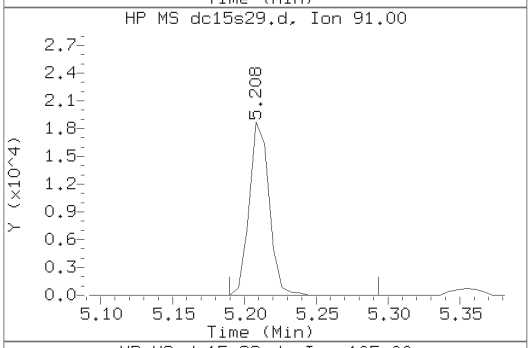
Sample Spectrum (Background Subtracted)

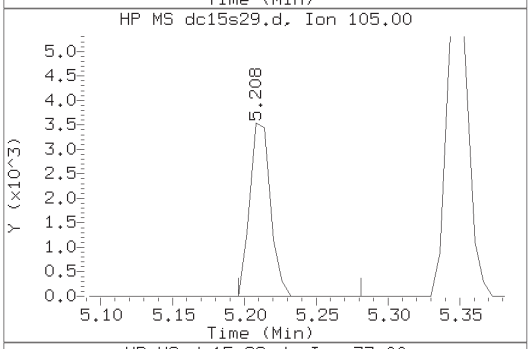


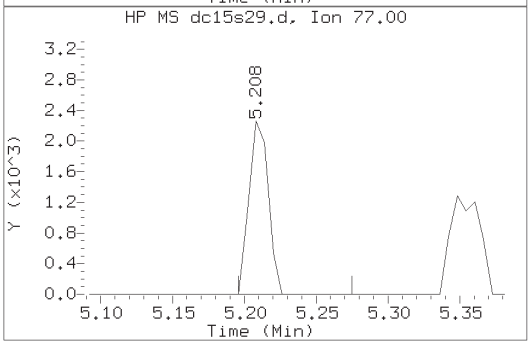
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s29.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 16:43 Analyst ID: DHH02035

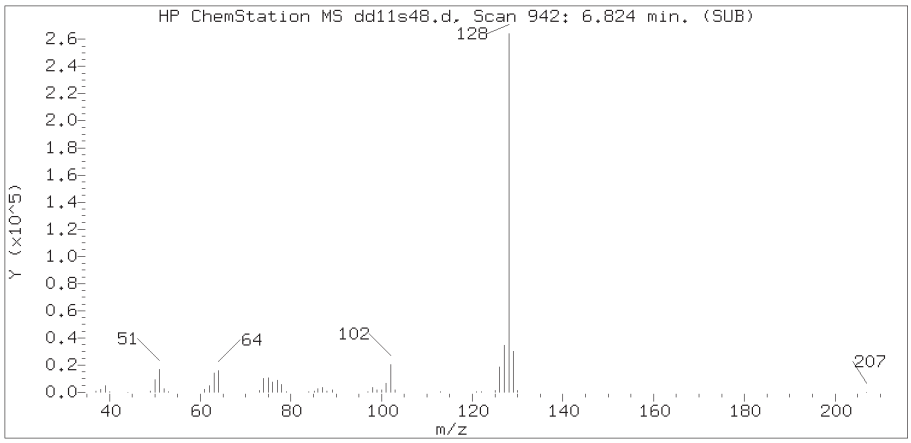
Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 16:52 Unknown

Sample Name: P2812 Lab Sample ID: 8082110

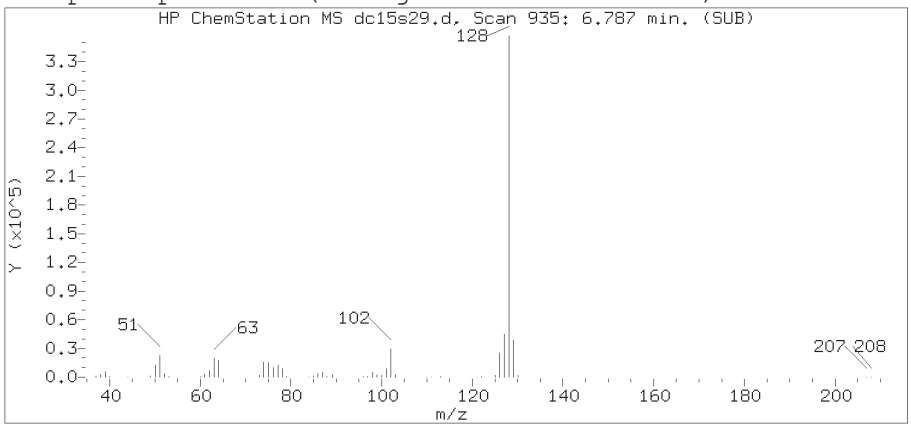
Compound Number : 23
Compound Name : o-Xylene
Scan Number : 676
Retention Time (minutes): 5.208
Relative Retention Time :-0.00000
Quant Ion : 106.00
Area (flag) : 8236
On-Column Amount (ng) : 1.2072

Digitally signed by Hu Yang on 10/16/2015 at 16:30.
Target 3.5 esignature [illegible]

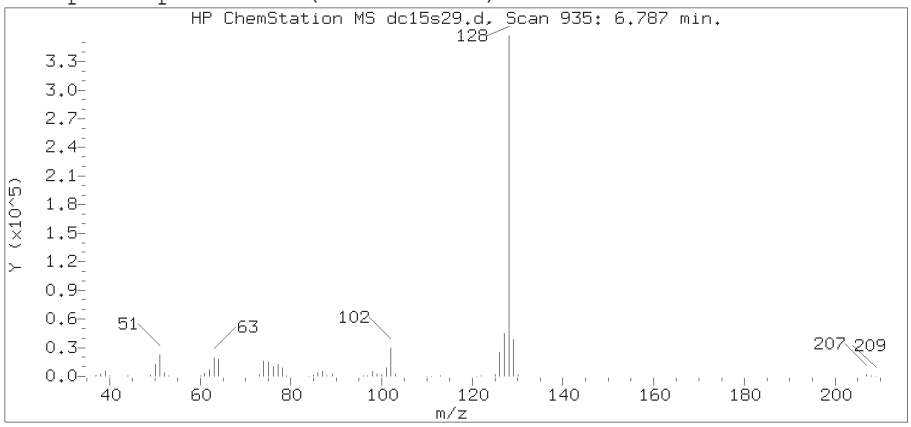
Reference Standard Spectrum for Naphthalene

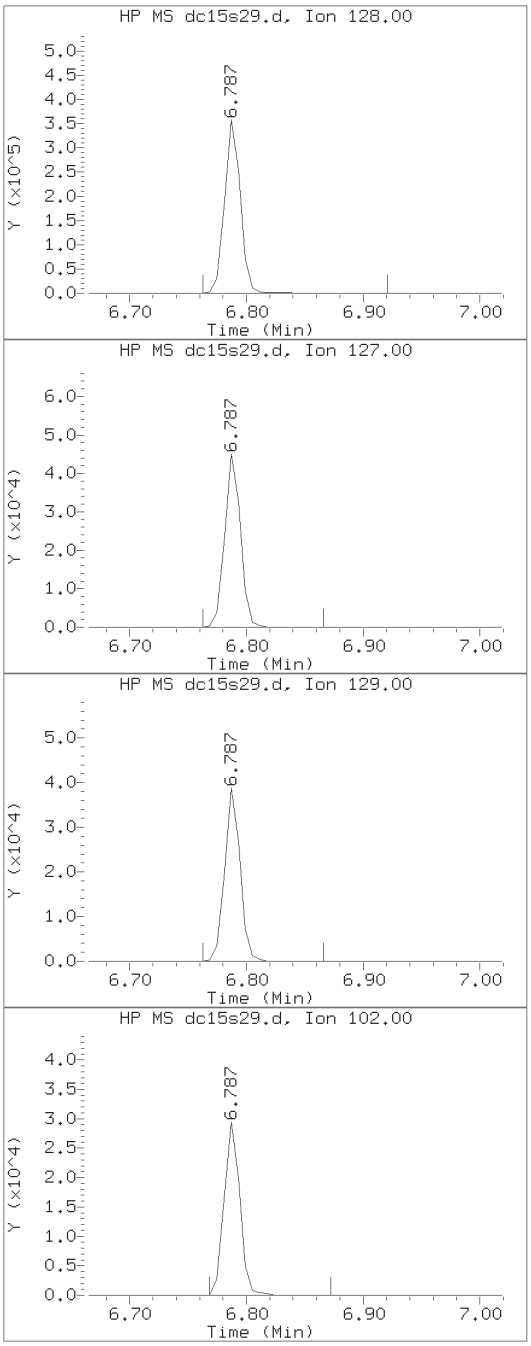


Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)





Data File: /chem2/HP10534.i/15oct15a.b/dc15s29.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 16:43 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 16:52 Unknown

Sample Name: P2812 Lab Sample ID: 8082110

Compound Number : 30
Compound Name : Naphthalene
Scan Number : 935
Retention Time (minutes): 6.787
Relative Retention Time :-0.00017
Quant Ion : 128.00
Area (flag) : 333359
On-Column Amount (ng) : 20.5742

Digitally signed by Hu Yang on 10/16/2015 at 16:30.
Target 3.5 esignature [illegible]

P2813 Lancaster Laboratories 8082111
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s31.d Injection date and time: **15-OCT-2015 17:06**
Data file Sample Info. Line: P2813;8082111;1;0;;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 17:15 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.940	(0.006)	140	65	90669	(10)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	431225	(2)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	346326	(7)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	186091	(3)	50.00	

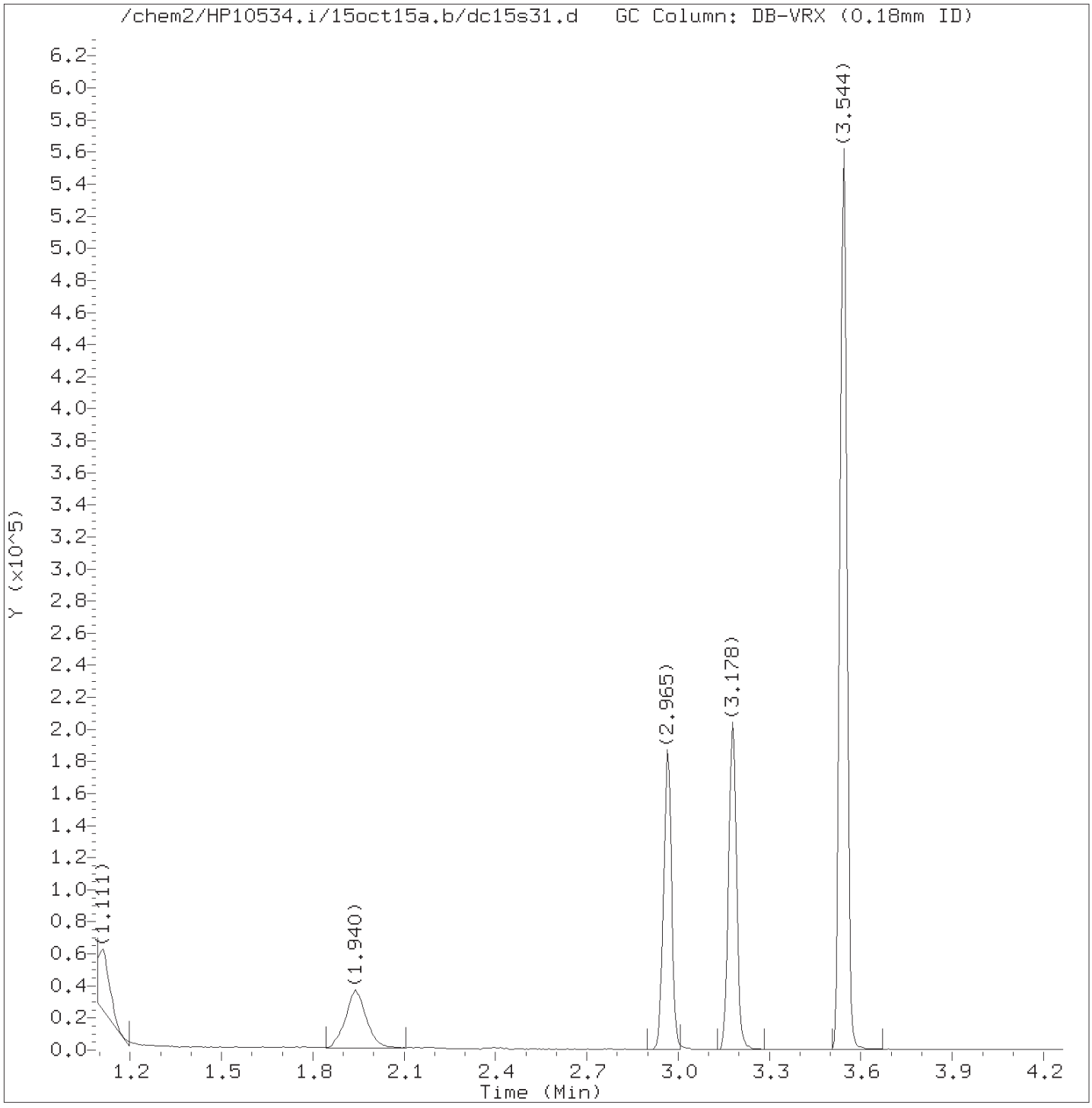
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.965	(0.002)	113	107240	53.341	107%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.002)	102	27353	51.081	102%		77 - 113
16) Toluene-d8	(3)	4.324	(0.000)	98	444450	47.715	95%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	167854	48.357	97%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
30) Naphthalene	(4)				Not Detected					1	4

Total number of targets = 7

Digitally signed by Hu Yang on 10/16/2015 at 16:30. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:34. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

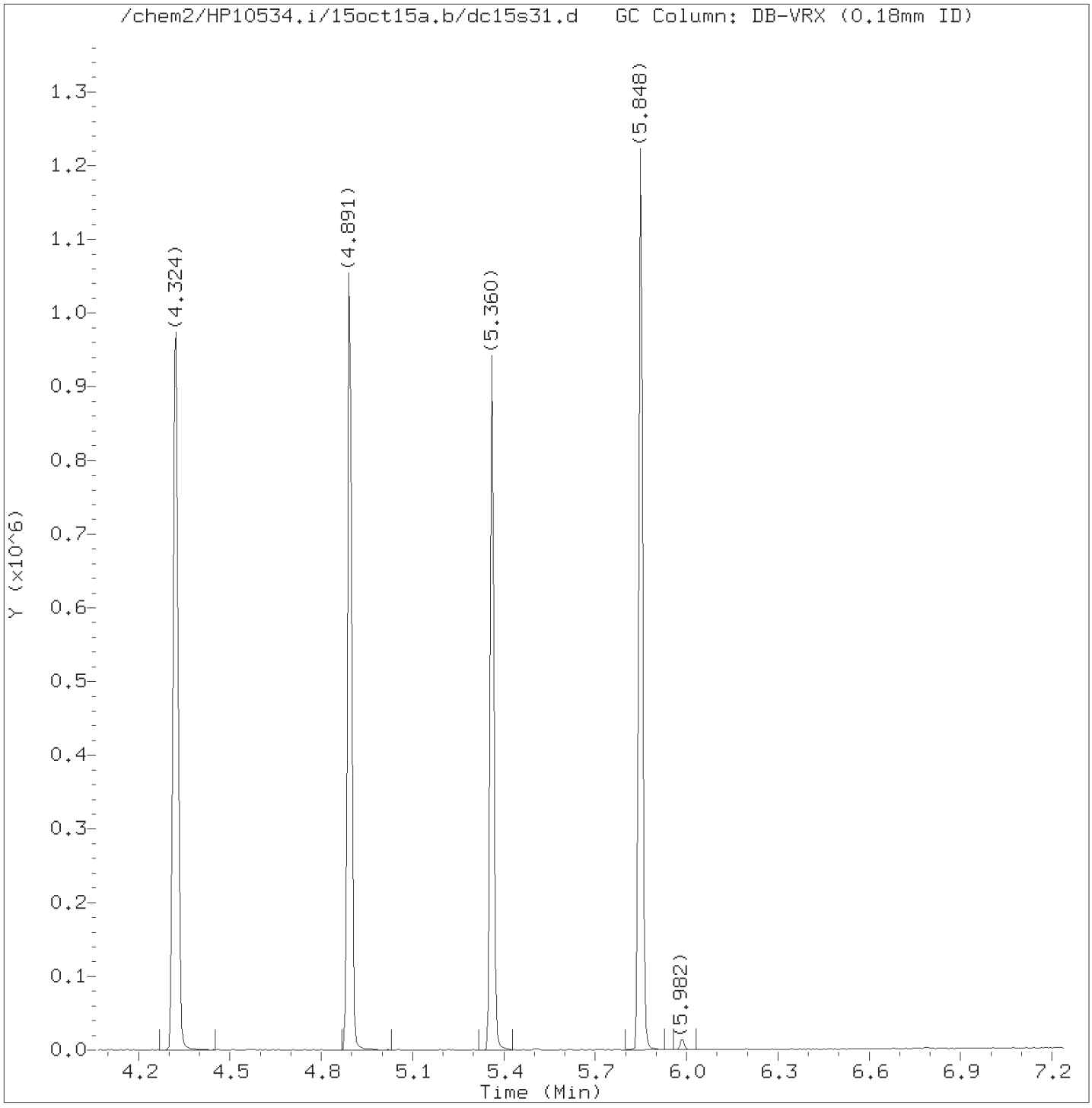
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s31.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 17:06 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 17:15 Unknown

Sample Name: P2813 Lab Sample ID: 8082111

Digitally signed by Hu Yang
on 10/16/2015 at 16:30.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s31.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 17:06 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 17:15 Unknown

Sample Name: P2813 Lab Sample ID: 8082111

Digitally signed by Hu Yang
on 10/16/2015 at 16:30.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s31.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 17:06 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 17:15 Unknown

Sample Name: P2813 Lab Sample ID: 8082111

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.940	65	90669	250.000
7)$Dibromofluoromethane	(2)	2.965	113	107240	53.341
10)$1,2-Dichloroethane-d4	(2)	3.178	102	27353	51.081
14)*Fluorobenzene	(2)	3.544	96	431225	50.000
16)$Toluene-d8	(3)	4.324	98	444450	47.715
20)*Chlorobenzene-d5	(3)	4.891	117	346326	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	167854	48.357
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	186091	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 16:30.
Target 3.5 esignature user ID: hy07820

P2814 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8082112

Data file: /chem2/HP10534.i/15oct15a.b/dc15s33.d Injection date and time: **15-OCT-2015 17:28**
Data file Sample Info. Line: P2814;8082112;1;0;;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 17:38 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946	(0.000)	141	65	91686	(11)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	456851	(9)	50.00	
20) Chlorobenzene-d5	4.897	(-0.006)	625	117	365231	(13)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	196635	(9)	50.00	

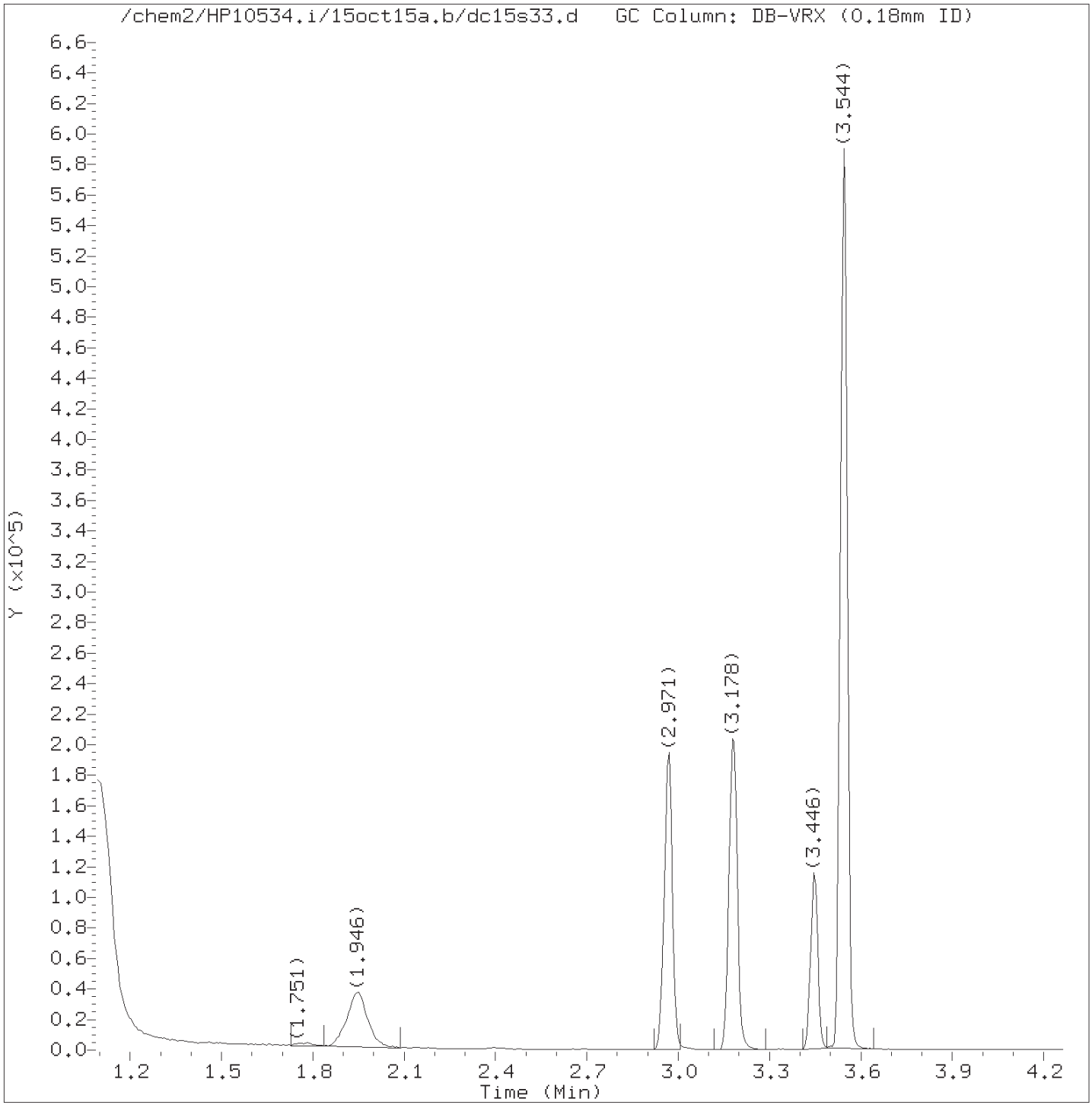
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.971	(0.000)	113	113520	53.298	107%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184	(0.000)	102	28394	50.050	100%		77 - 113
16) Toluene-d8	(3)	4.324	(0.001)	98	464003	47.235	94%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.001)	95	175047	47.819	96%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)	3.446	(0.000)	78	90971	6.734	6.73			0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
30) Naphthalene	(4)				Not Detected					1	4

Total number of targets = 7

Digitally signed by Hu Yang on 10/16/2015 at 16:57. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:34. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

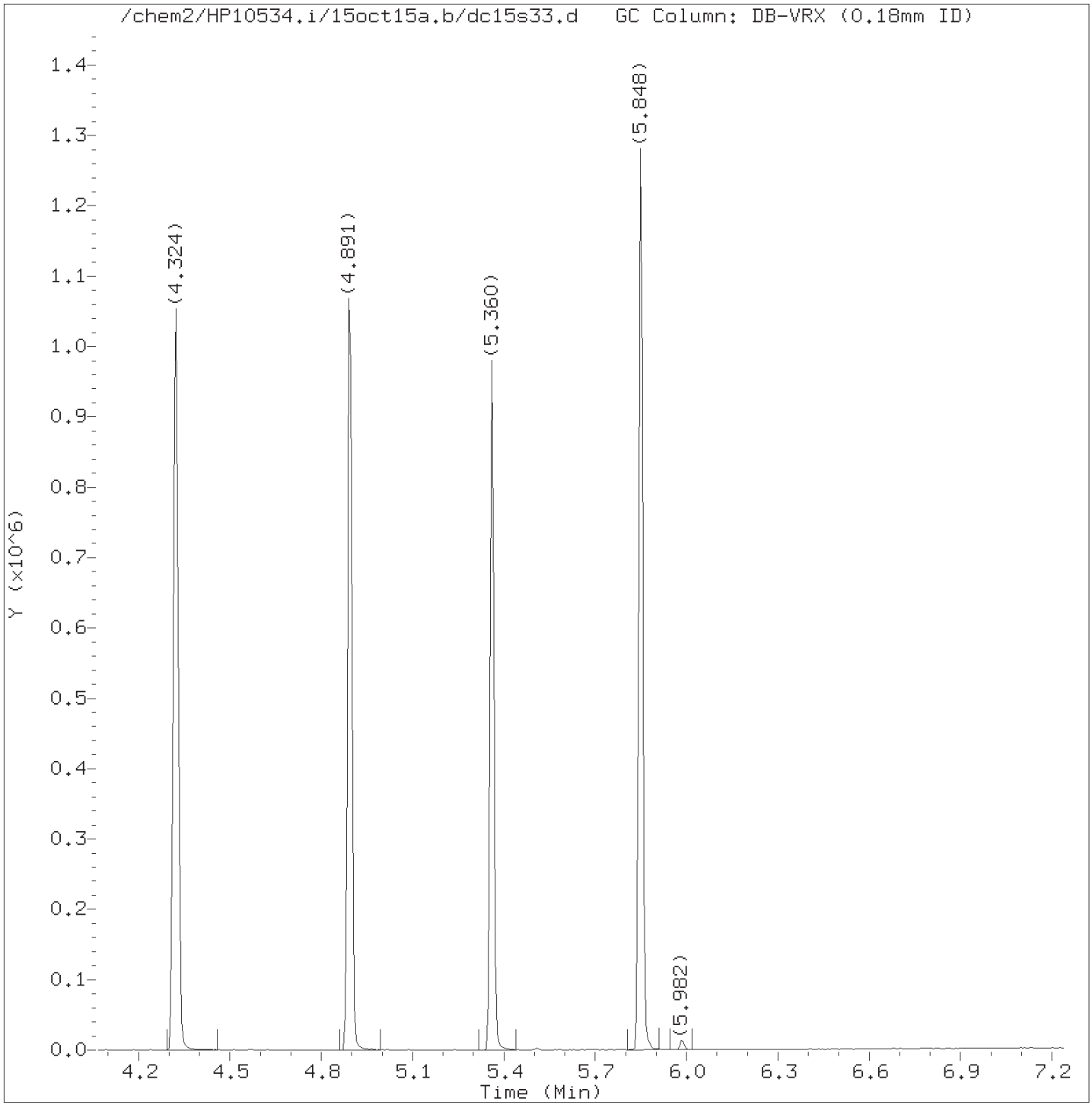
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s33.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 17:28 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 17:38 Unknown

Sample Name: P2814 Lab Sample ID: 8082112

Digitally signed by Hu Yang
on 10/16/2015 at 16:57.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s33.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 17:28 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 17:38 Unknown

Sample Name: P2814 Lab Sample ID: 8082112

Digitally signed by Hu Yang
on 10/16/2015 at 16:57.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s33.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 17:28 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 17:38 Unknown

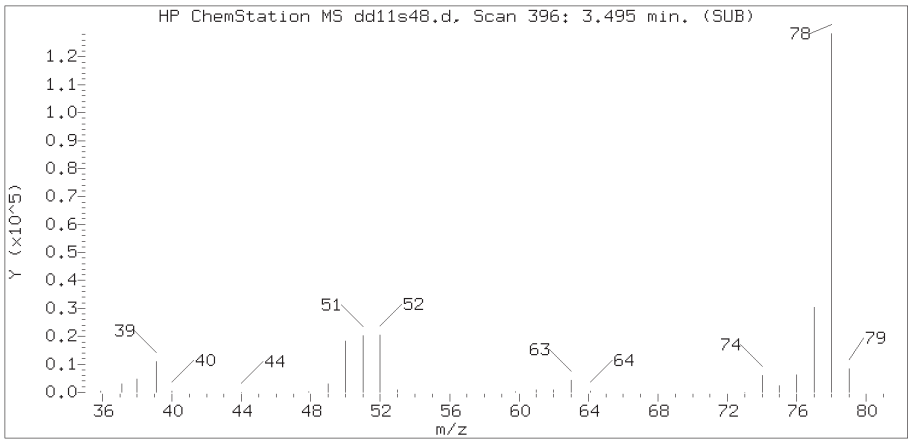
Sample Name: P2814 Lab Sample ID: 8082112

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.946	65	91686	250.000
7)$Dibromofluoromethane	(2)	2.971	113	113520	53.298
10)$1,2-Dichloroethane-d4	(2)	3.184	102	28394	50.050
12) Benzene	(2)	3.446	78	90971	6.734
14)*Fluorobenzene	(2)	3.544	96	456851	50.000
16)$Toluene-d8	(3)	4.324	98	464003	47.235
20)*Chlorobenzene-d5	(3)	4.897	117	365231	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	175047	47.819
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	196635	50.000

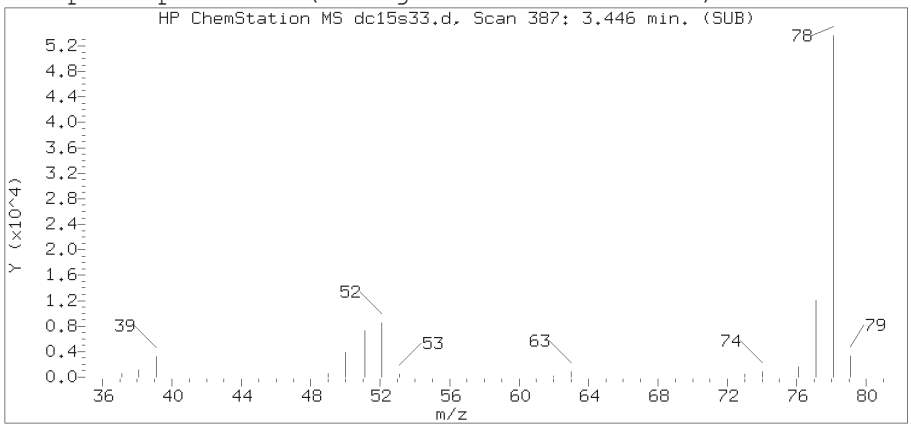
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 16:57.
Target 3.5 esignature user ID: hy07820

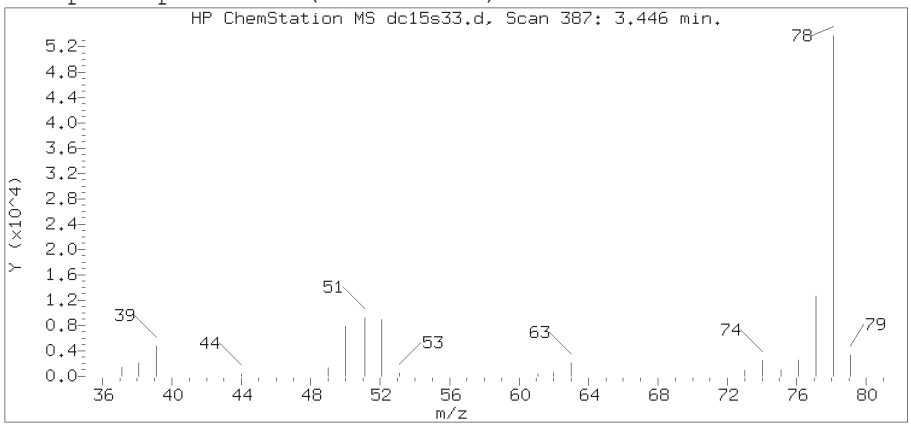
Reference Standard Spectrum for Benzene

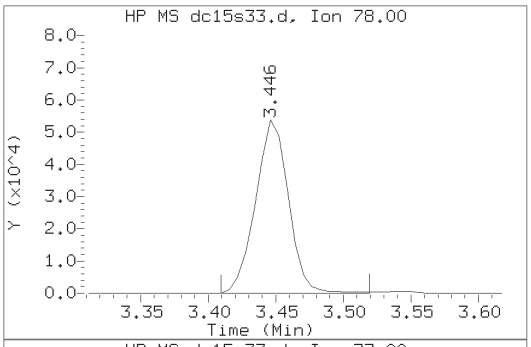


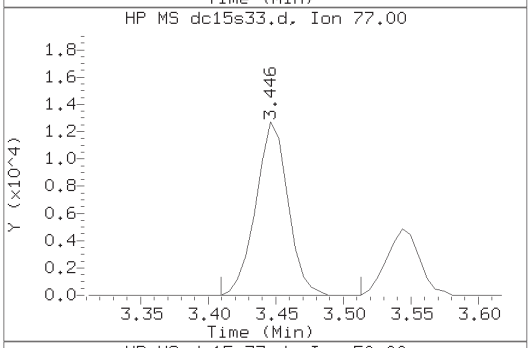
Sample Spectrum (Background Subtracted)

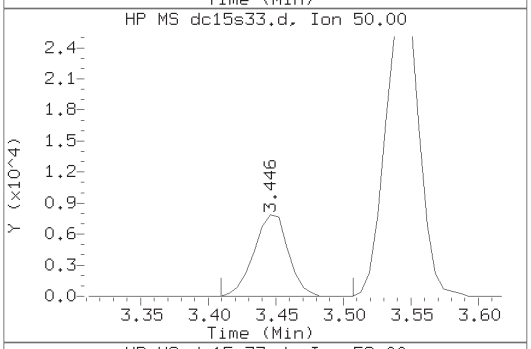


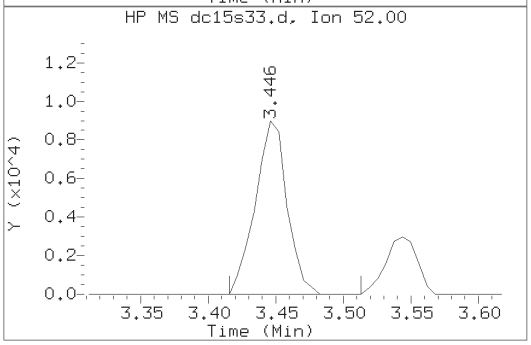
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s33.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 17:28 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 17:38 Unknown

Sample Name: P2814 Lab Sample ID: 8082112

Compound Number	: 12
Compound Name	: Benzene
Scan Number	: 387
Retention Time (minutes)	: 3.446
Relative Retention Time	: 0.00000
Quant Ion	: 78.00
Area (flag)	: 90971
On-Column Amount (ng)	: 6.7340

Digitally signed by Hu Yang on 10/16/2015 at 16:57.
Target 3.5 esignature [illegible]

P2815 Lancaster Laboratories 8082113
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s35.d Injection date and time: **15-OCT-2015 17:51**
Data file Sample Info. Line: P2815;8082113;1;0;;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 18:01 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946	(0.000)	141	65	84916	(3)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	430526	(2)	50.00	
20) Chlorobenzene-d5	4.897	(-0.006)	625	117	337164	(4)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	186934	(4)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.971	(0.000)	113	102899	51.266	103%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184	(0.000)	102	26770	50.072	100%		77 - 113
16) Toluene-d8	(3)	4.324	(0.001)	98	431640	47.599	95%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.001)	95	162903	48.206	96%		78 - 113

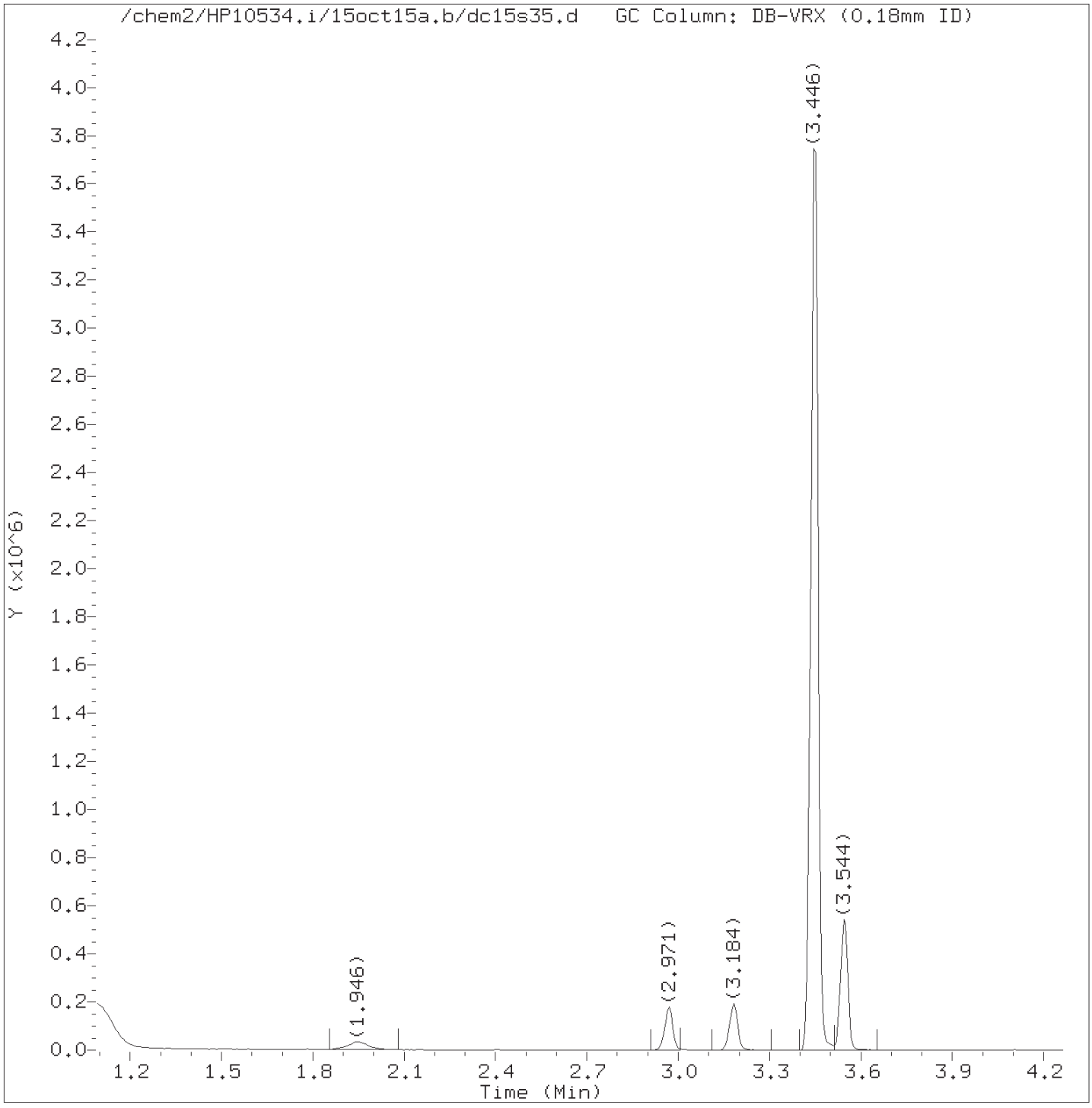
Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)	3.452	(-0.001)	78	2958376	232.379	232.38		E	0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
30) Naphthalene	(4)				Not Detected					1	4

E = Compound concentration above calibration range.

Total number of targets = 7

Digitally signed by Hu Yang on 10/16/2015 at 16:31. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:34. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

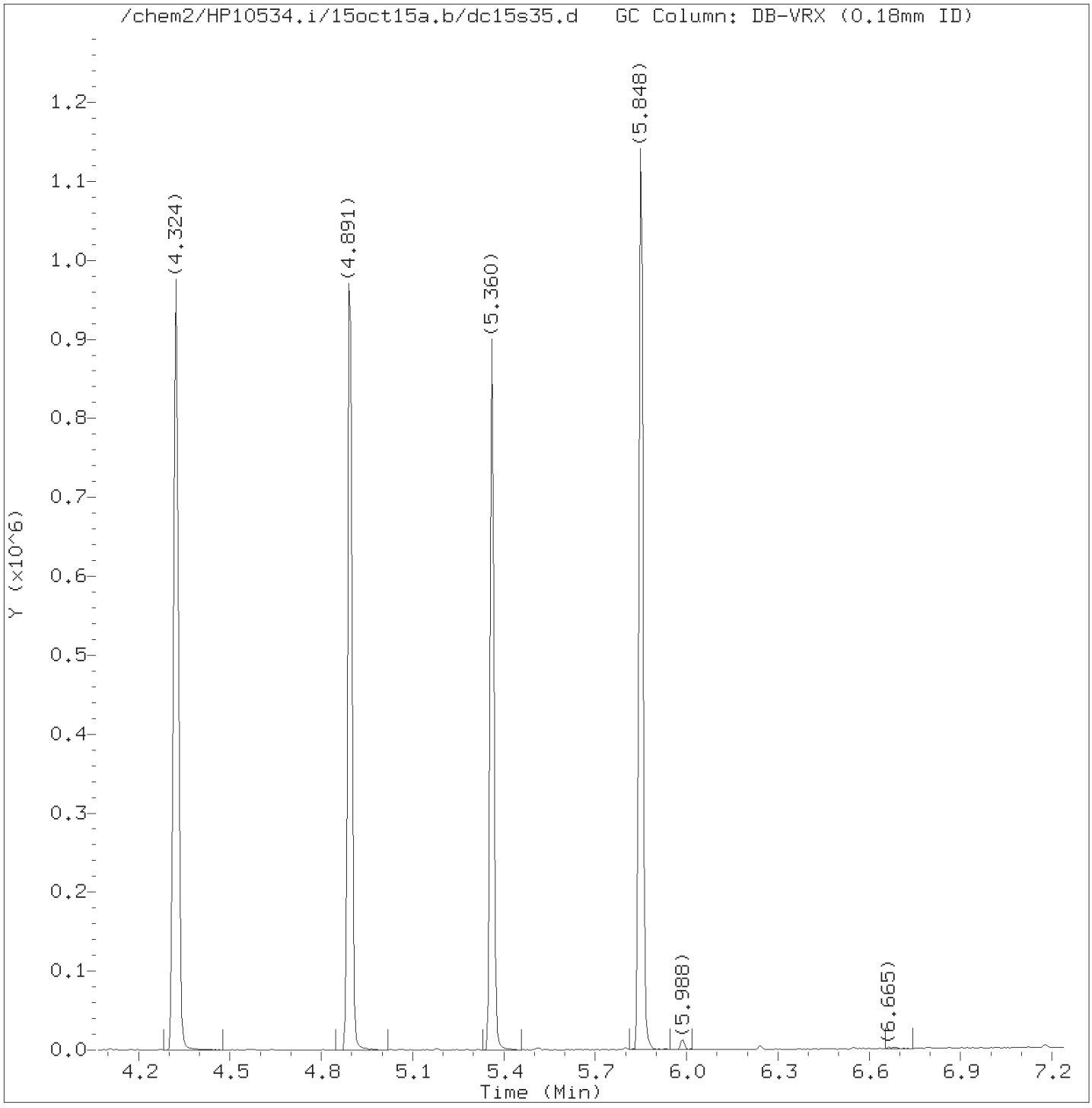
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s35.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 17:51 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 18:01 Unknown

Sample Name: P2815 Lab Sample ID: 8082113

Digitally signed by Hu Yang
on 10/16/2015 at 16:31.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s35.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 17:51 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 18:01 Unknown

Sample Name: P2815 Lab Sample ID: 8082113

Digitally signed by Hu Yang
on 10/16/2015 at 16:31.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s35.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 17:51 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 18:01 Unknown

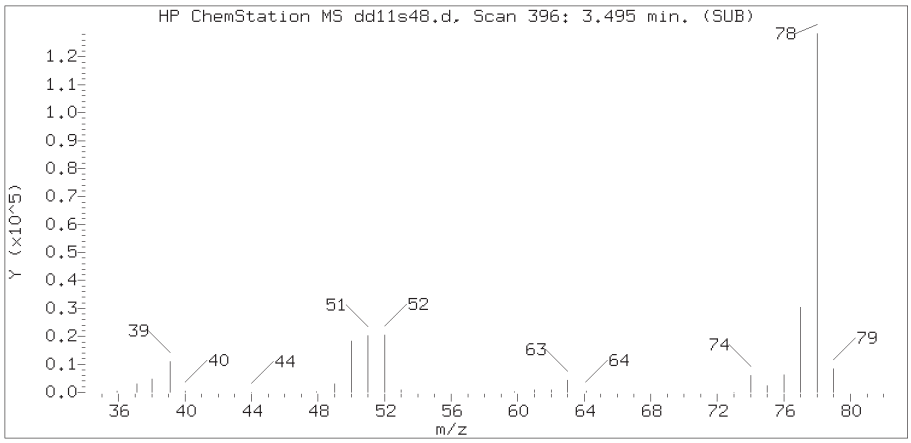
Sample Name: P2815 Lab Sample ID: 8082113

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.946	65	84916	250.000
7)$Dibromofluoromethane	(2)	2.971	113	102899	51.266
10)$1,2-Dichloroethane-d4	(2)	3.184	102	26770	50.072
12) Benzene	(2)	3.452	78	2958376	232.379
14)*Fluorobenzene	(2)	3.544	96	430526	50.000
16)$Toluene-d8	(3)	4.324	98	431640	47.599
20)*Chlorobenzene-d5	(3)	4.897	117	337164	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	162903	48.206
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	186934	50.000

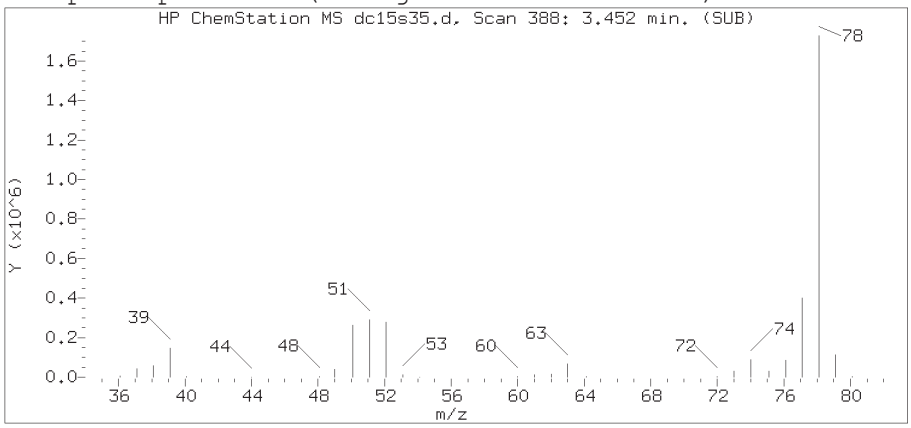
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 16:31.
Target 3.5 esignature user ID: hy07820

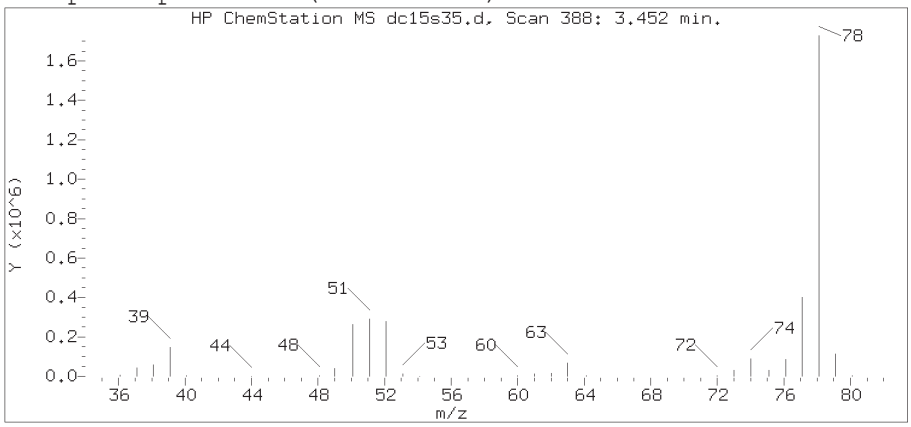
Reference Standard Spectrum for Benzene

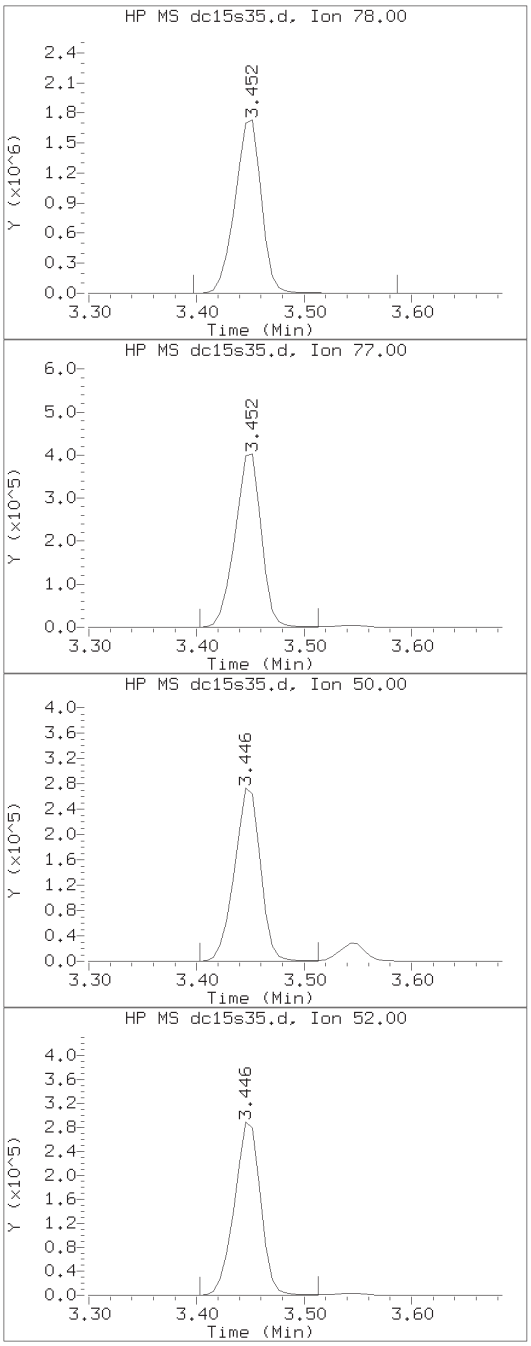


Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)





Data File: /chem2/HP10534.i/15oct15a.b/dc15s35.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 17:51 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 18:01 Unknown

Sample Name: P2815 Lab Sample ID: 8082113

Compound Number	: 12
Compound Name	: Benzene
Scan Number	: 388
Retention Time (minutes)	: 3.452
Relative Retention Time	:-0.00172
Quant Ion	: 78.00
Area (flag)	: 2958376
On-Column Amount (ng)	: 232.3795

Digitally signed by Hu Yang on 10/16/2015 at 16:31.
Target 3.5 esignature [illegible]

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct16a.b/dc16s39.d Injection date and time: **17-OCT-2015 01:58**
Data file Sample Info. Line: P2815DL;8082113DL;1;0;;PSC28;;;dc16b01; Instrument ID: **HP10534.i** Batch: **D152891AA**
Date, time and analyst ID of latest file update: 17-Oct-2015 02:08 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct16a.b/dc16b01.d**

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 16-OCT-2015 17:48
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct16a.b/dc16c01.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **10.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.940	(0.000)	140	65	98644	(19)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	442054	(7)	50.00	
20) Chlorobenzene-d5	4.891	(0.006)	624	117	357104	(10)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.000)	781	152	197359	(9)	50.00	

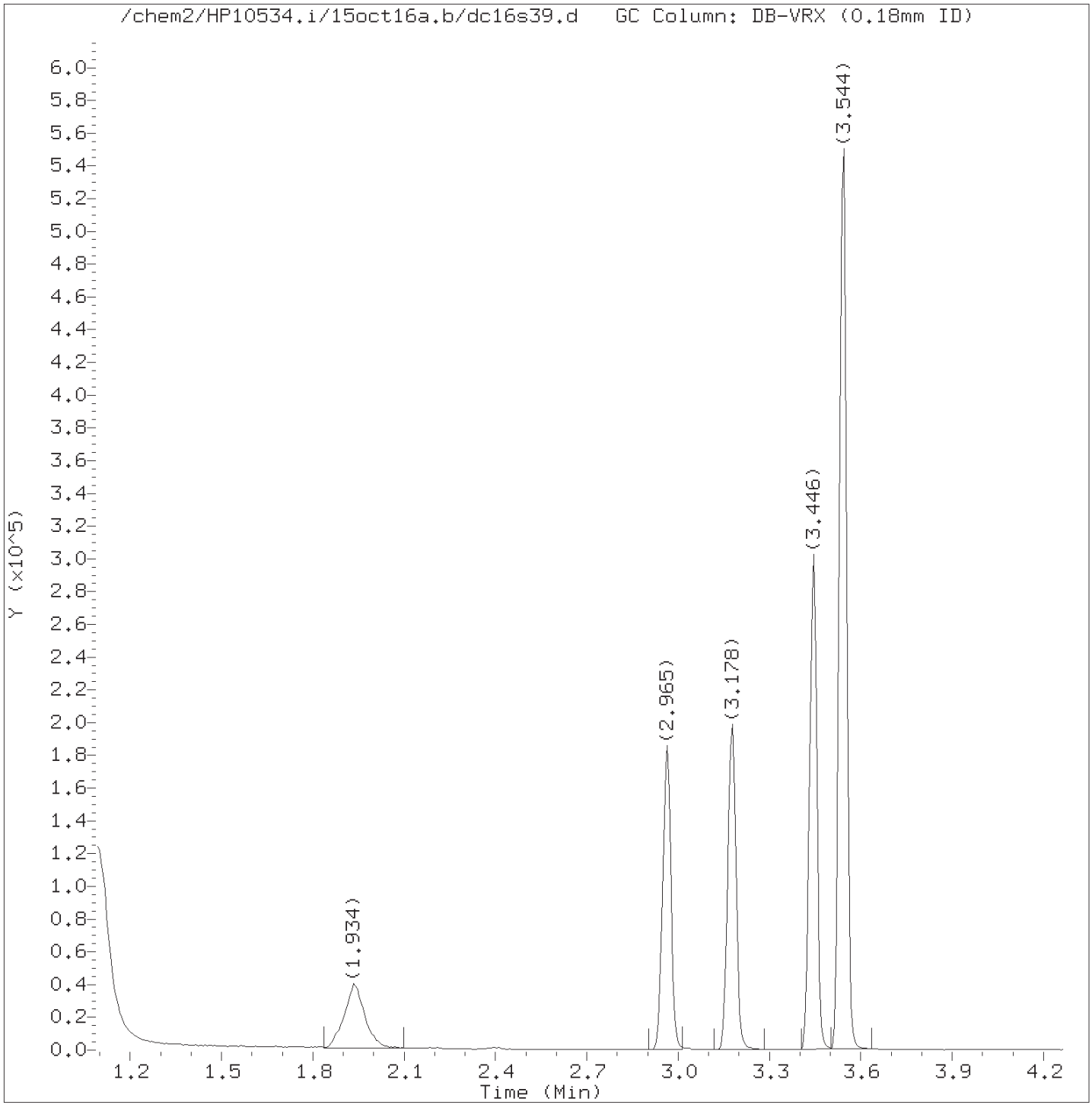
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.965	(0.000)	113	108239	52.520	105%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	28158	51.295	103%		77 - 113
16) Toluene-d8	(3)	4.318	(0.000)	98	451371	46.995	94%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(-0.001)	95	172977	48.329	97%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)	3.446	(-0.000)	78	237727	18.186	181.86			5	10
17) Toluene	(3)				Not Detected					5	10
21) Ethylbenzene	(3)				Not Detected					5	10
22) m+p-Xylene	(3)				Not Detected					5	10
23) o-Xylene	(3)				Not Detected					5	10
24) Xylene (Total)	(3)				Not Detected					5	10
30) Naphthalene	(4)				Not Detected					10	40

Total number of targets = 7

Digitally signed by Hu Yang on 10/18/2015 at 21:50. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/19/2015 at 15:05. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

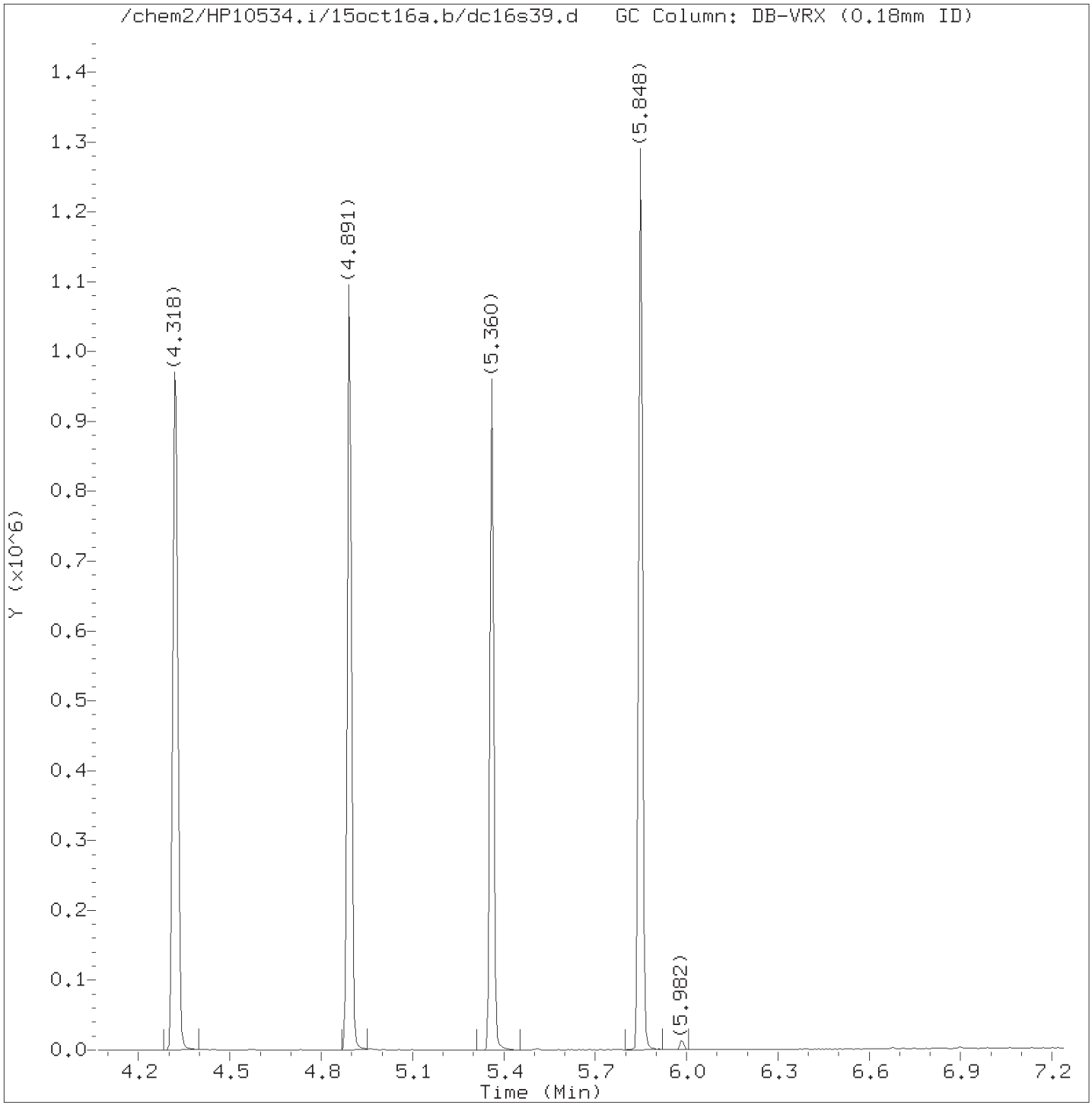
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16s39.d Instrument ID: HP10534.i
Injection date and time: 17-OCT-2015 01:58 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 17-Oct-2015 02:08 Unknown

Sample Name: P2815DL Lab Sample ID: 8082113DL

Digitally signed by Hu Yang
on 10/18/2015 at 21:50.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16s39.d Instrument ID: HP10534.i
Injection date and time: 17-OCT-2015 01:58 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 17-Oct-2015 02:08 Unknown

Sample Name: P2815DL Lab Sample ID: 8082113DL

Digitally signed by Hu Yang
on 10/18/2015 at 21:50.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16s39.d Instrument ID: HP10534.i
Injection date and time: 17-OCT-2015 01:58 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 17-Oct-2015 02:08 Unknown

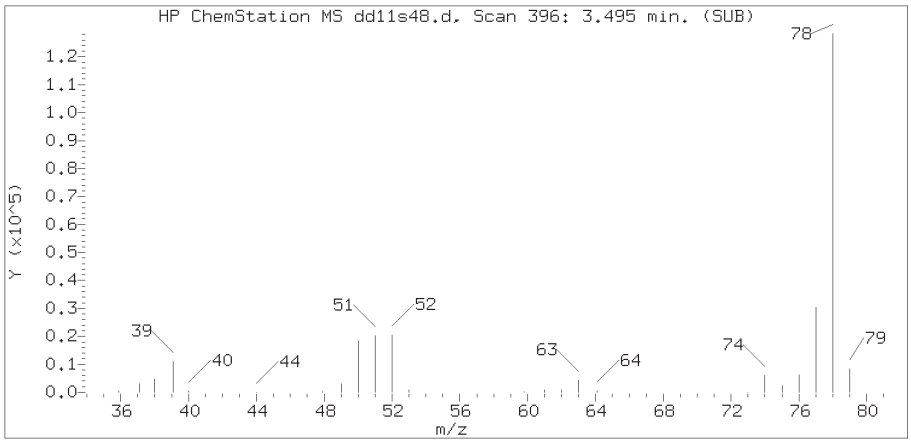
Sample Name: P2815DL Lab Sample ID: 8082113DL

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.940	65	98644	250.000
7)$Dibromofluoromethane	(2)	2.965	113	108239	52.520
10)$1,2-Dichloroethane-d4	(2)	3.178	102	28158	51.295
12) Benzene	(2)	3.446	78	237727	18.186
14)*Fluorobenzene	(2)	3.544	96	442054	50.000
16)$Toluene-d8	(3)	4.318	98	451371	46.995
20)*Chlorobenzene-d5	(3)	4.891	117	357104	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	172977	48.329
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	197359	50.000

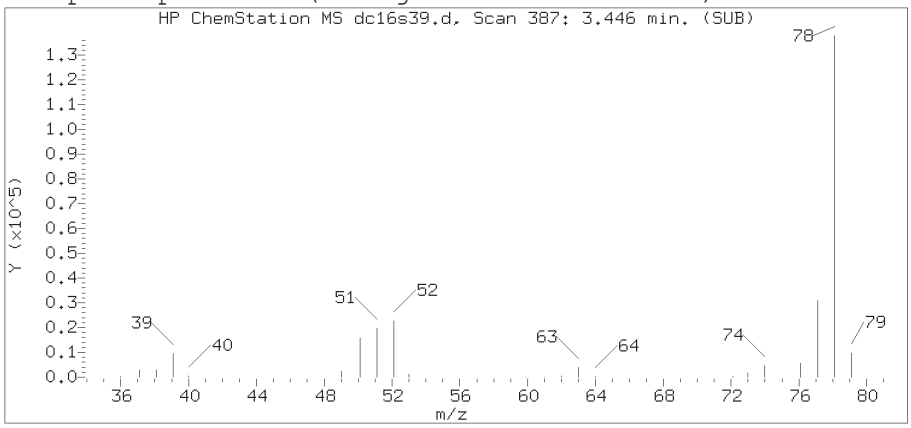
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/18/2015 at 21:50.
Target 3.5 esignature user ID: hy07820

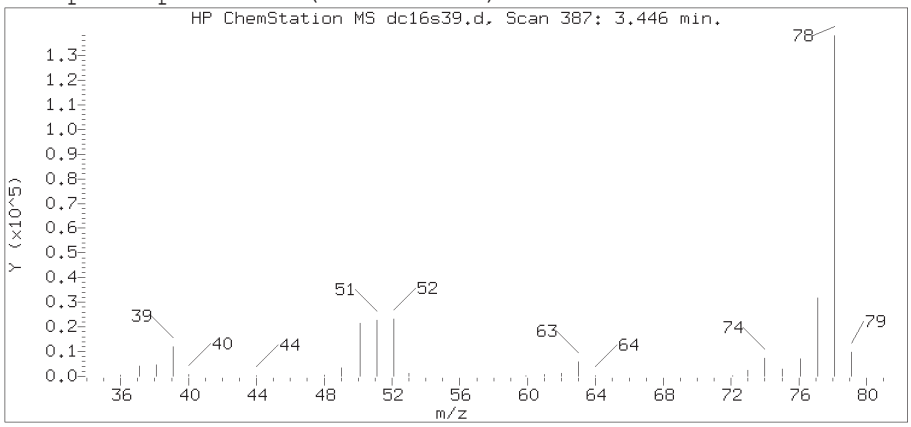
Reference Standard Spectrum for Benzene

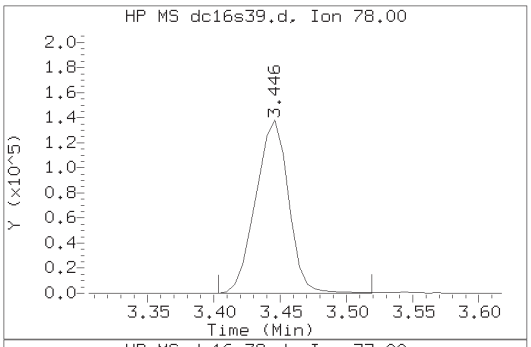


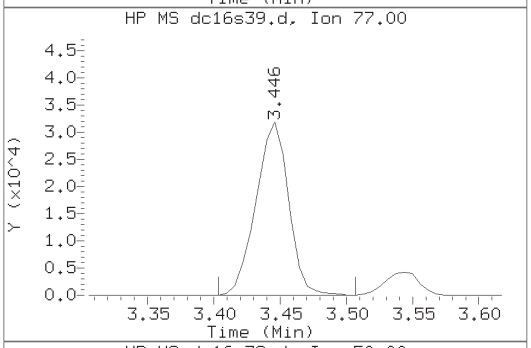
Sample Spectrum (Background Subtracted)

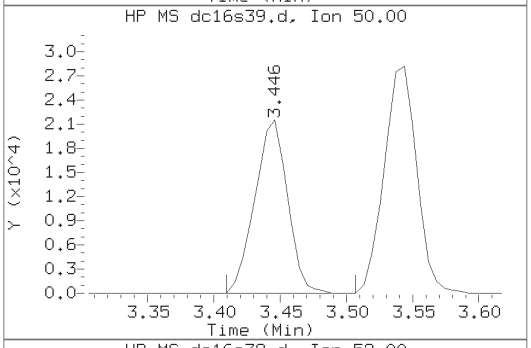


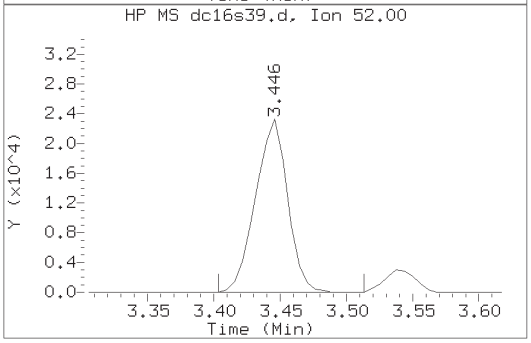
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct16a.b/dc16s39.d Instrument ID: HP10534.i
Injection date and time: 17-OCT-2015 01:58 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 17-Oct-2015 02:08 Unknown

Sample Name: P2815DL Lab Sample ID: 8082113DL

Compound Number : 12
Compound Name : Benzene
Scan Number : 387
Retention Time (minutes): 3.446
Relative Retention Time :-0.00000
Quant Ion : 78.00
Area (flag) : 237727
On-Column Amount (ng) : 18.1864

Digitally signed by Hu Yang on 10/18/2015 at 21:50.
Target 3.5 esignature [illegible]

P2816 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8082114

Data file: /chem2/HP10534.i/15oct14a.b/dc14s05.d Injection date and time: **14-OCT-2015 13:01**
Data file Sample Info. Line: P2816;8082114;1;0;;PSC28;;;dc14b01; Instrument ID: **HP10534.i** Batch: **D152871AA**
Date, time and analyst ID of latest file update: 14-Oct-2015 13:10 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct14a.b/dc14b01.d**

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: **8706**
Calibration date and time (Last Method Edit): 14-OCT-2015 11:02
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct14a.b/dc14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946	(-0.012)	141	65	98438	(10)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	441782	(7)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	345287	(8)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	189723	(8)	50.00	

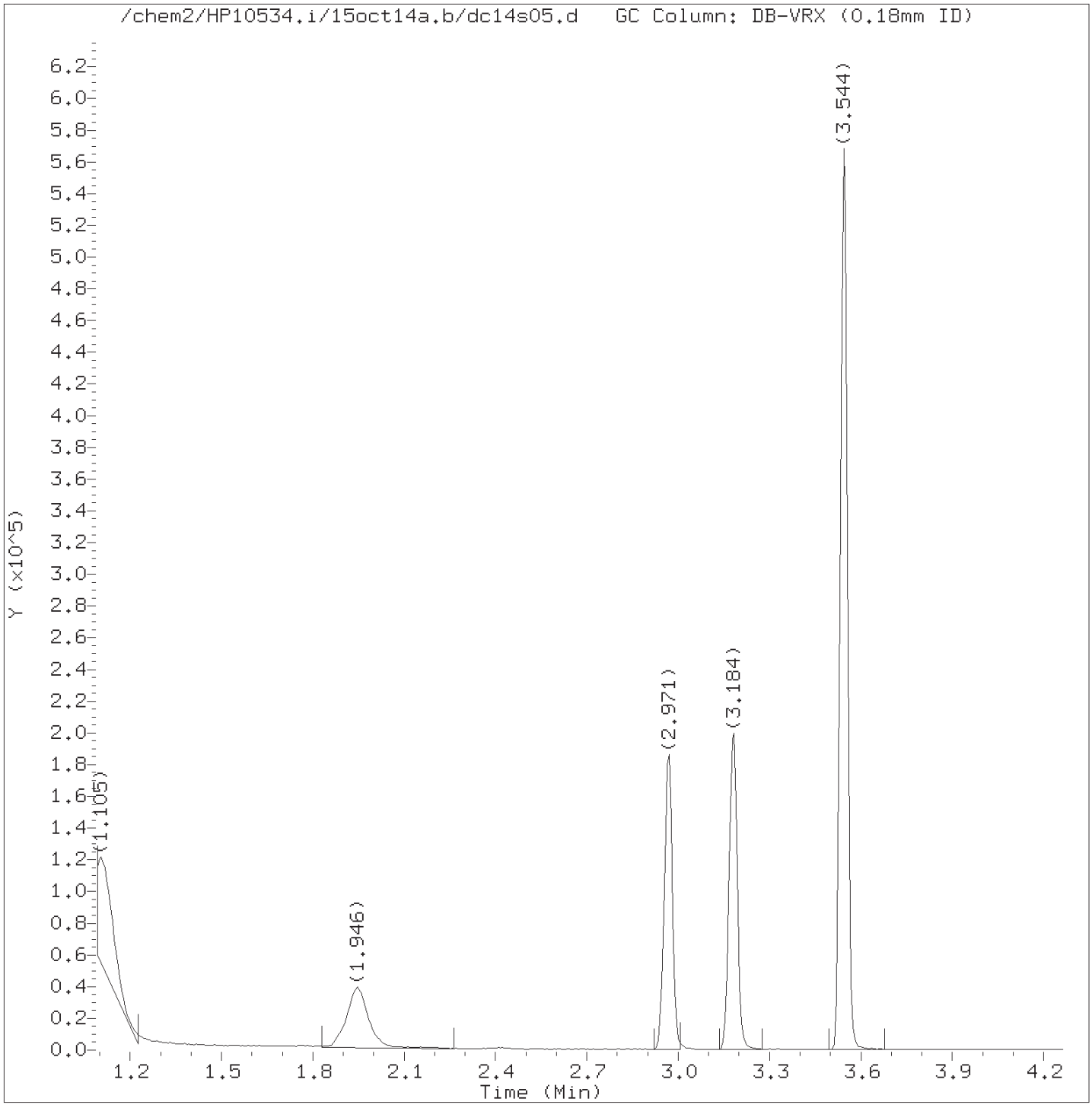
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.971	(-0.003)	113	109211	53.023	106%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184	(-0.002)	102	27610	50.328	101%		77 - 113
16) Toluene-d8	(3)	4.324	(-0.001)	98	448546	48.299	97%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	170739	49.336	99%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
4) Methyl Tertiary Butyl Ether	(2)				Not Detected					0.5	1
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1

Total number of targets = 7

Digitally signed by Daniel H. Heller on 10/15/2015 at 09:28. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 16:07. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

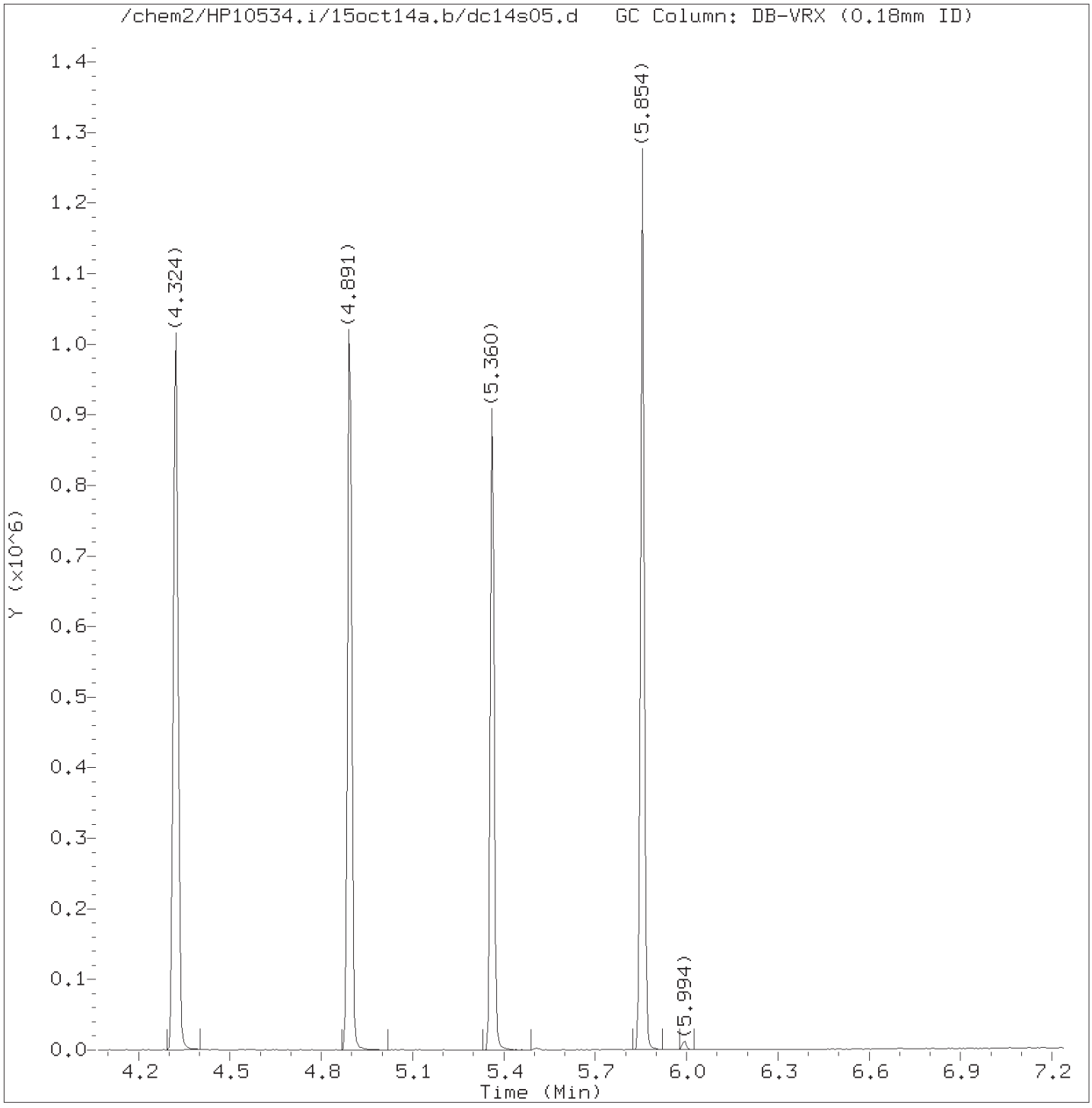
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s05.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 13:01 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8706
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 13:10 Unknown

Sample Name: P2816 Lab Sample ID: 8082114

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:28.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s05.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 13:01 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8706
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 13:10 Unknown

Sample Name: P2816 Lab Sample ID: 8082114

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:28.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s05.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 13:01 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8706
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 13:10 Unknown

Sample Name: P2816 Lab Sample ID: 8082114

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.946	65	98438	250.000
7)$Dibromofluoromethane	(2)	2.971	113	109211	53.023
10)$1,2-Dichloroethane-d4	(2)	3.184	102	27610	50.328
14)*Fluorobenzene	(2)	3.544	96	441782	50.000
16)$Toluene-d8	(3)	4.324	98	448546	48.299
20)*Chlorobenzene-d5	(3)	4.891	117	345287	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	170739	49.336
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	189723	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:28.
Target 3.5 esignature user ID: dhh02035

P2817 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8082115

Data file: /chem2/HP10534.i/15oct14a.b/dc14s15.d Injection date and time: **14-OCT-2015 14:56**
Data file Sample Info. Line: P2817;8082115;1;0;;PSC28;;;dc14b01; Instrument ID: **HP10534.i** Batch: **D152871AA**
Date, time and analyst ID of latest file update: 14-Oct-2015 15:05 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct14a.b/dc14b01.d**

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: **8056**
Calibration date and time (Last Method Edit): 14-OCT-2015 11:02
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct14a.b/dc14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.940	(-0.006)	140	65	89187	(-1)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	416325	(1)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	325684	(2)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	176632	(1)	50.00	

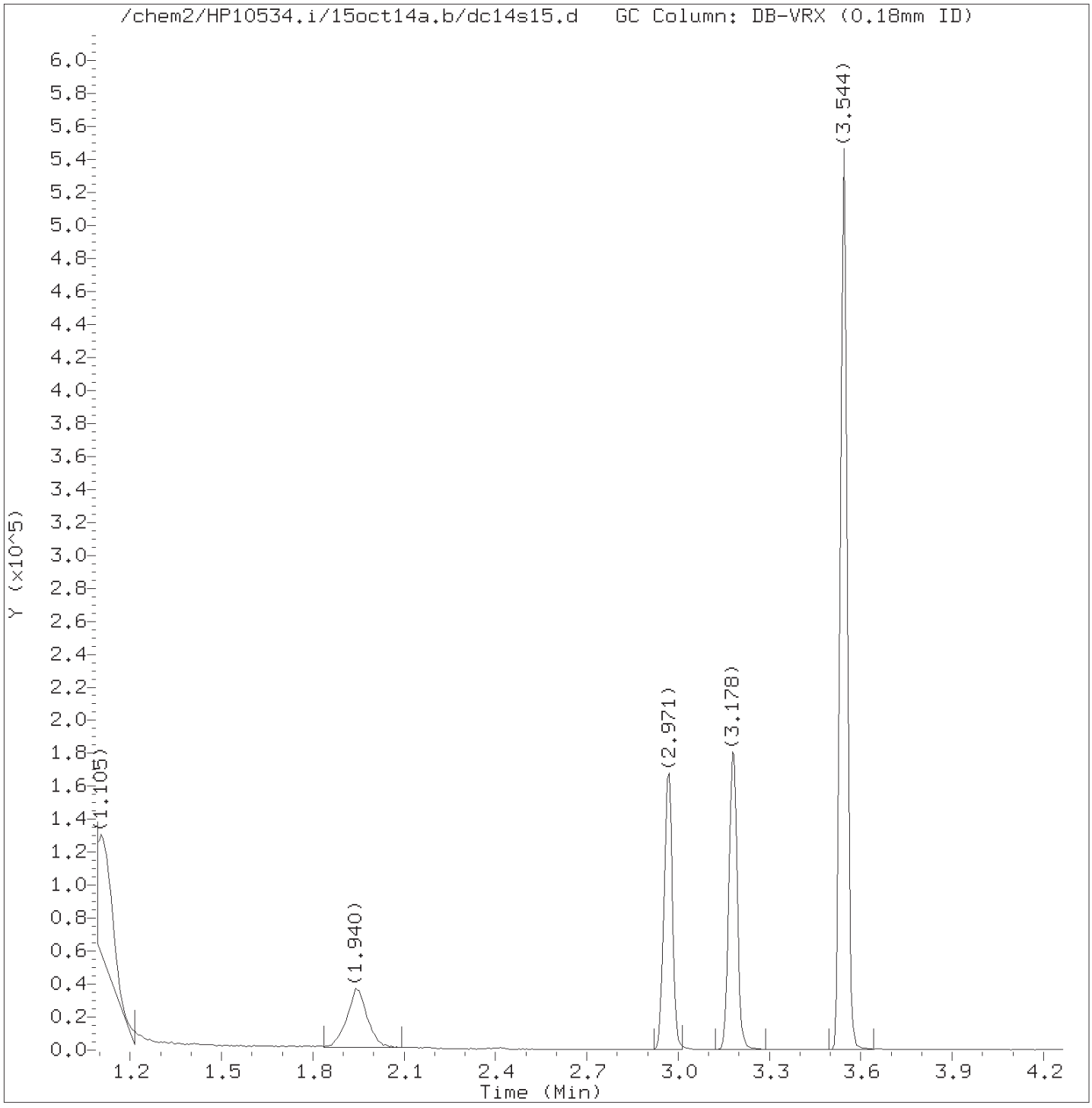
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.971	(-0.003)	113	101699	52.396	105%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184	(-0.002)	102	25711	49.732	99%		77 - 113
16) Toluene-d8	(3)	4.324	(-0.001)	98	425053	48.524	97%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	159281	48.796	98%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1

Total number of targets = 6

Digitally signed by Daniel H. Heller on 10/15/2015 at 09:12. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 16:08. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

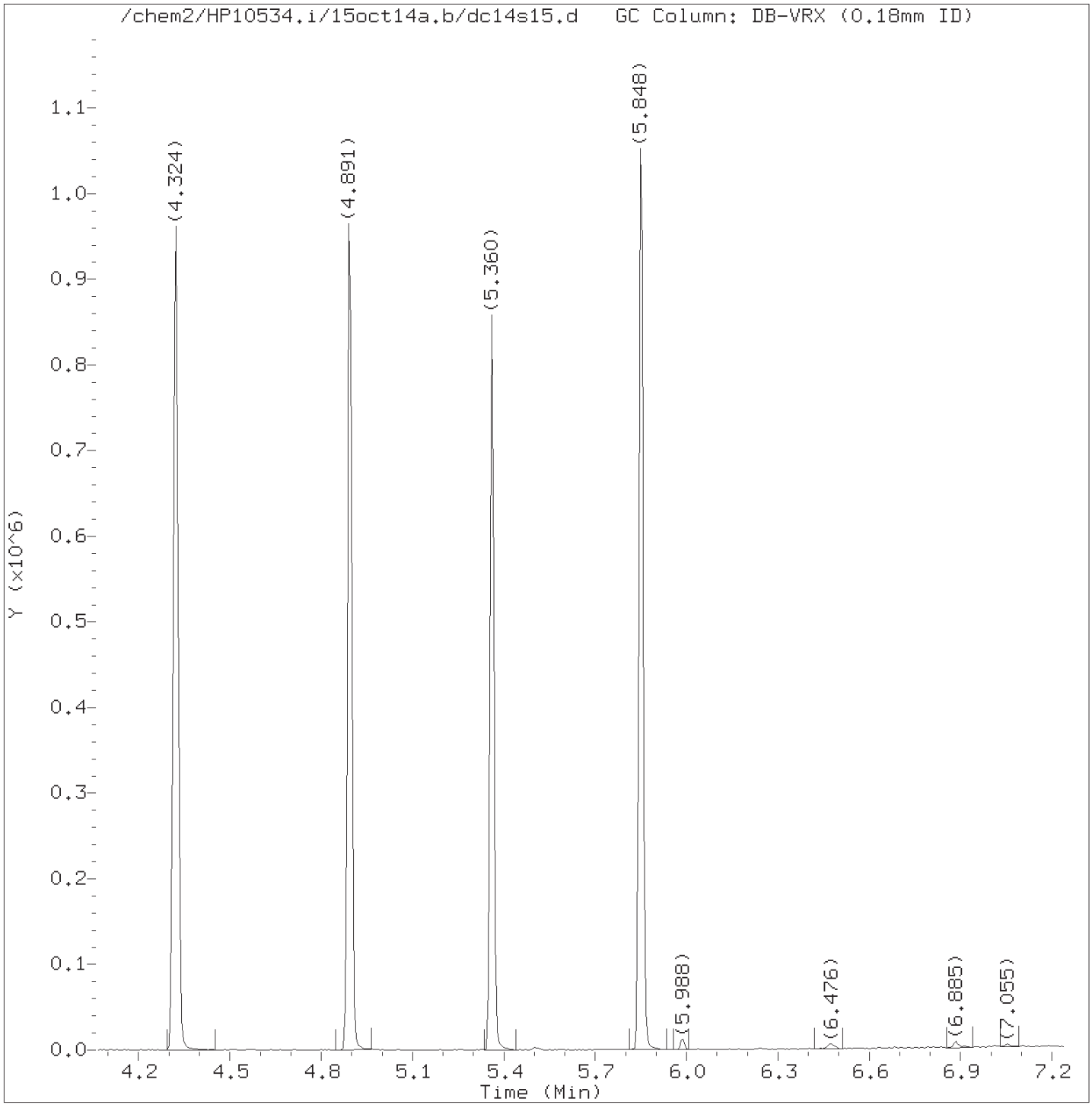
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s15.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 14:56 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8056
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 15:05 Unknown

Sample Name: P2817 Lab Sample ID: 8082115

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:12.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s15.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 14:56 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8056
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 15:05 Unknown

Sample Name: P2817 Lab Sample ID: 8082115

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:12.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s15.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 14:56 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8056
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 15:05 Unknown

Sample Name: P2817 Lab Sample ID: 8082115

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.940	65	89187	250.000
7)$Dibromofluoromethane	(2)	2.971	113	101699	52.396
10)$1,2-Dichloroethane-d4	(2)	3.184	102	25711	49.732
14)*Fluorobenzene	(2)	3.544	96	416325	50.000
16)$Toluene-d8	(3)	4.324	98	425053	48.524
20)*Chlorobenzene-d5	(3)	4.891	117	325684	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	159281	48.796
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	176632	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:12.
Target 3.5 esignature user ID: dhh02035

P2818 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8082116

Data file: /chem2/HP10534.i/15oct14a.b/dc14s17.d Injection date and time: **14-OCT-2015 15:19**
Data file Sample Info. Line: P2818;8082116;1;0;;PSC28;;;dc14b01; Instrument ID: **HP10534.i** Batch: **D152871AA**
Date, time and analyst ID of latest file update: 14-Oct-2015 15:28 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct14a.b/dc14b01.d**

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: **8056**
Calibration date and time (Last Method Edit): 14-OCT-2015 11:02
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct14a.b/dc14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946	(-0.012)	141	65	88282	(-2)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	415499	(0)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	326126	(2)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	175241	(0)	50.00	

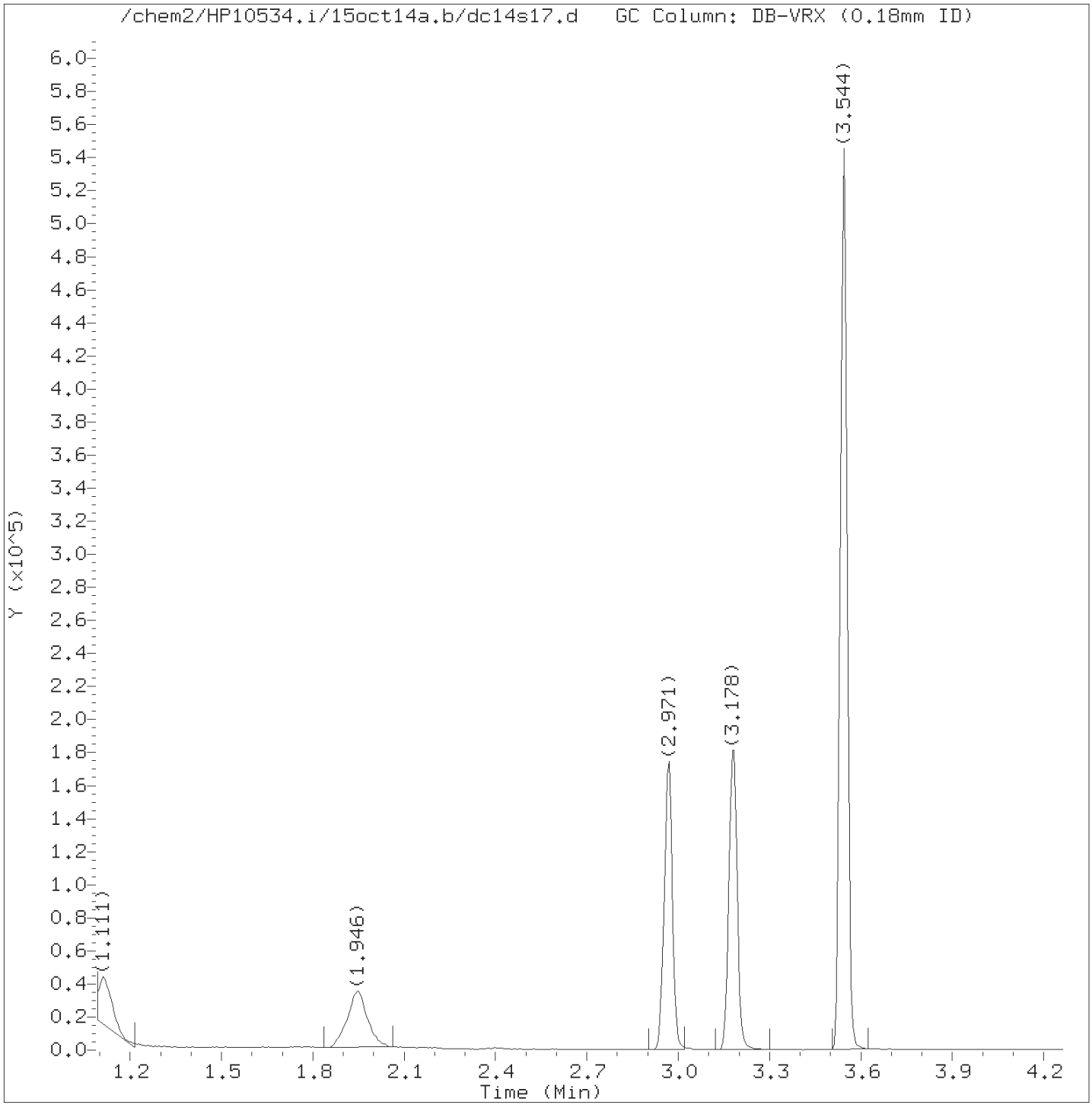
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.971	(-0.003)	113	102789	53.063	106%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	25453	49.331	99%		77 - 113
16) Toluene-d8	(3)	4.324	(-0.001)	98	426055	48.573	97%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	158384	48.455	97%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1

Total number of targets = 6

Digitally signed by Daniel H. Heller on 10/15/2015 at 09:12. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 16:08. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

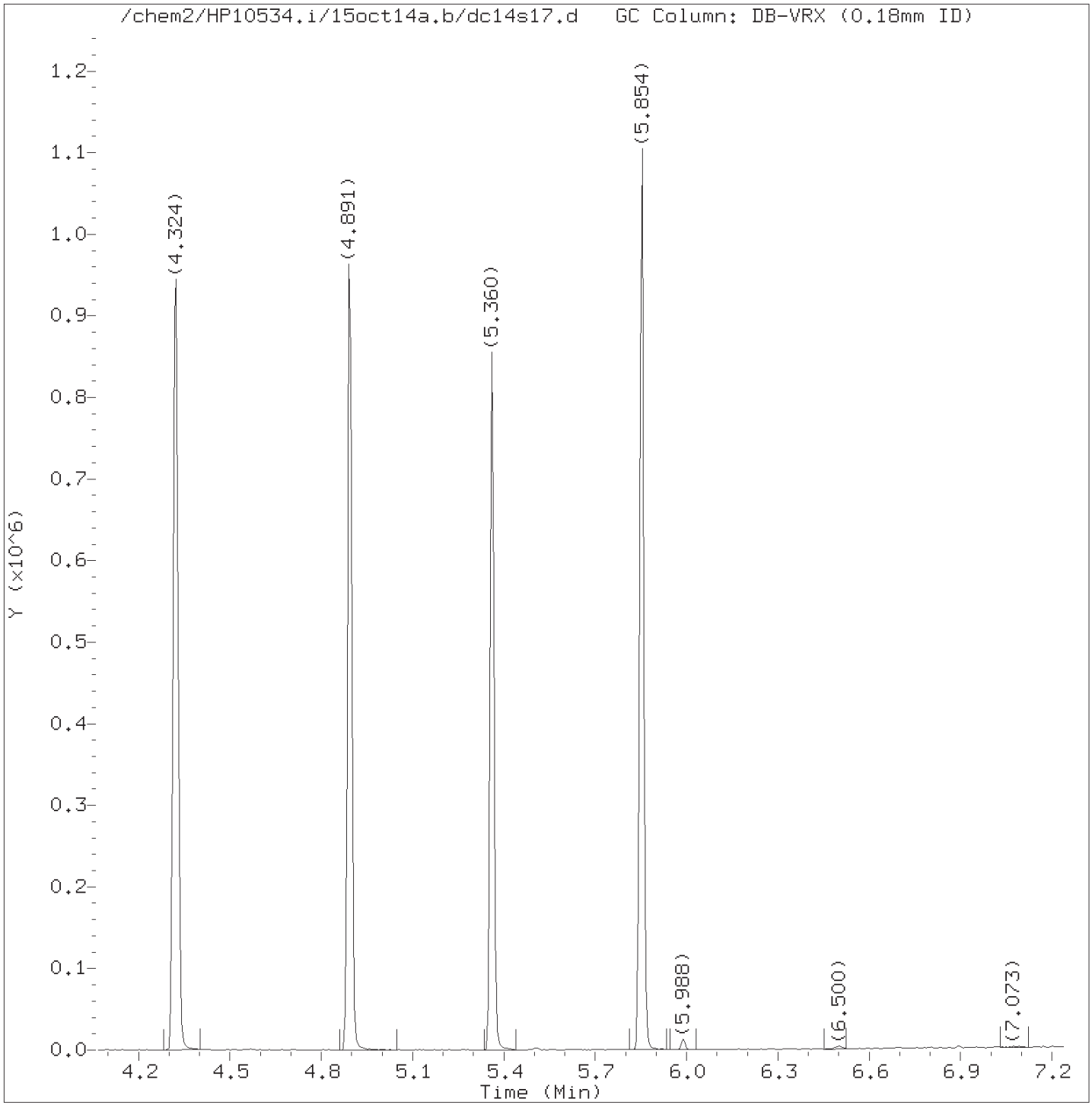
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s17.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 15:19 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8056
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 15:28 Unknown

Sample Name: P2818 Lab Sample ID: 8082116

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:12.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s17.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 15:19 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8056
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 15:28 Unknown

Sample Name: P2818 Lab Sample ID: 8082116

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:12.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s17.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 15:19 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8056
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 15:28 Unknown

Sample Name: P2818 Lab Sample ID: 8082116

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.946	65	88282	250.000
7)$Dibromofluoromethane	(2)	2.971	113	102789	53.063
10)$1,2-Dichloroethane-d4	(2)	3.178	102	25453	49.331
14)*Fluorobenzene	(2)	3.544	96	415499	50.000
16)$Toluene-d8	(3)	4.324	98	426055	48.573
20)*Chlorobenzene-d5	(3)	4.891	117	326126	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	158384	48.455
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	175241	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:12.
Target 3.5 esignature user ID: dhh02035

P2819 Lancaster Laboratories 8082117
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct14a.b/dc14s19.d Injection date and time: **14-OCT-2015 15:42**
Data file Sample Info. Line: P2819;8082117;1;0;;PSC28;;;dc14b01; Instrument ID: **HP10534.i** Batch: **D152871AA**
Date, time and analyst ID of latest file update: 14-Oct-2015 15:51 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct14a.b/dc14b01.d**

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: **8056**
Calibration date and time (Last Method Edit): 14-OCT-2015 11:02
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct14a.b/dc14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.940	(-0.006)	140	65	95104	(6)	250.00	
14) Fluorobenzene	3.543	(0.000)	403	96	429102	(4)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	344209	(7)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	185612	(6)	50.00	

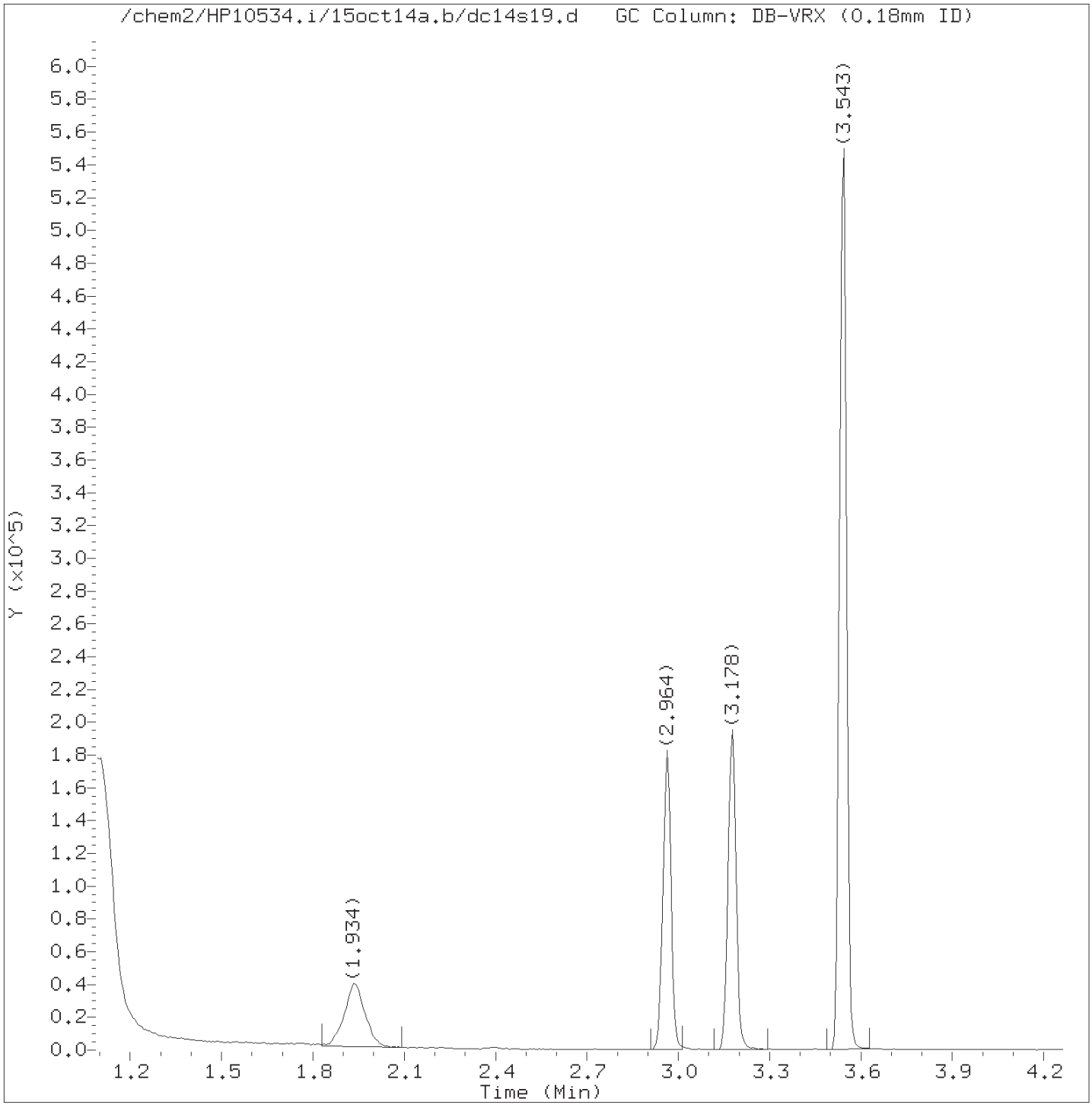
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.964	(-0.002)	113	105724	52.847	106%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	26859	50.406	101%		77 - 113
16) Toluene-d8	(3)	4.318	(0.000)	98	439967	47.524	95%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	164453	47.669	95%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1

Total number of targets = 6

Digitally signed by Daniel H. Heller on 10/15/2015 at 09:13. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 16:08. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

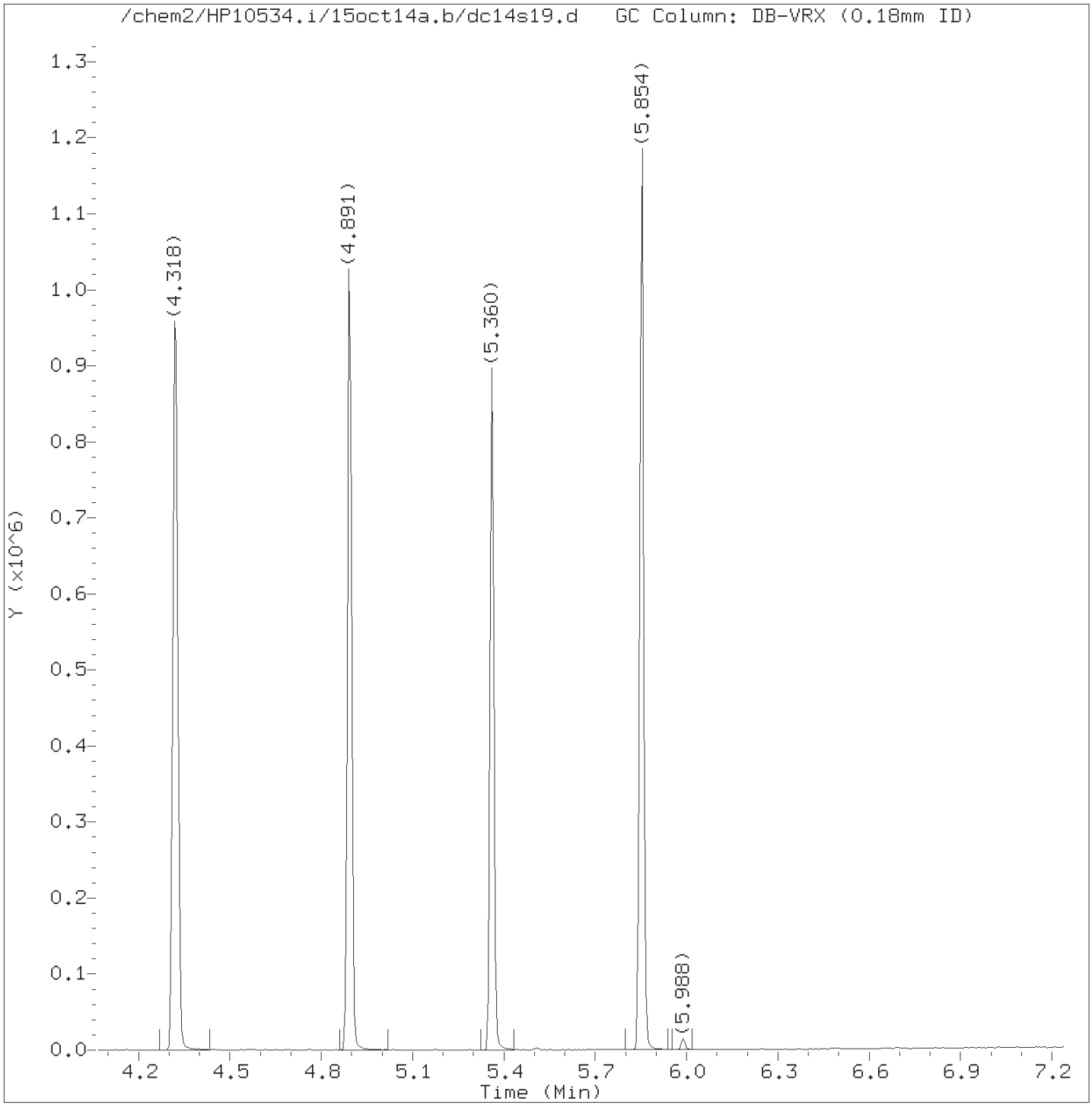
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s19.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 15:42 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8056
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 15:51 Unknown

Sample Name: P2819 Lab Sample ID: 8082117

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:13.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s19.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 15:42 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8056
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 15:51 Unknown

Sample Name: P2819 Lab Sample ID: 8082117

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:13.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s19.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 15:42 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8056
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 15:51 Unknown

Sample Name: P2819 Lab Sample ID: 8082117

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.940	65	95104	250.000
7)$Dibromofluoromethane	(2)	2.964	113	105724	52.847
10)$1,2-Dichloroethane-d4	(2)	3.178	102	26859	50.406
14)*Fluorobenzene	(2)	3.543	96	429102	50.000
16)$Toluene-d8	(3)	4.318	98	439967	47.524
20)*Chlorobenzene-d5	(3)	4.891	117	344209	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	164453	47.669
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	185612	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:13.
Target 3.5 esignature user ID: dhh02035

P2820 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8082118

Data file: /chem2/HP10534.i/15oct14a.b/dc14s21.d Injection date and time: **14-OCT-2015 16:05**
Data file Sample Info. Line: P2820;8082118;1;0;;PSC28;;;dc14b01; Instrument ID: **HP10534.i** Batch: **D152871AA**
Date, time and analyst ID of latest file update: 14-Oct-2015 16:15 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct14a.b/dc14b01.d**

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: **8056**
Calibration date and time (Last Method Edit): 14-OCT-2015 11:02
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct14a.b/dc14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.940	(-0.006)	140	65	91153	(2)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	406253	(-2)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	323512	(1)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	176219	(0)	50.00	

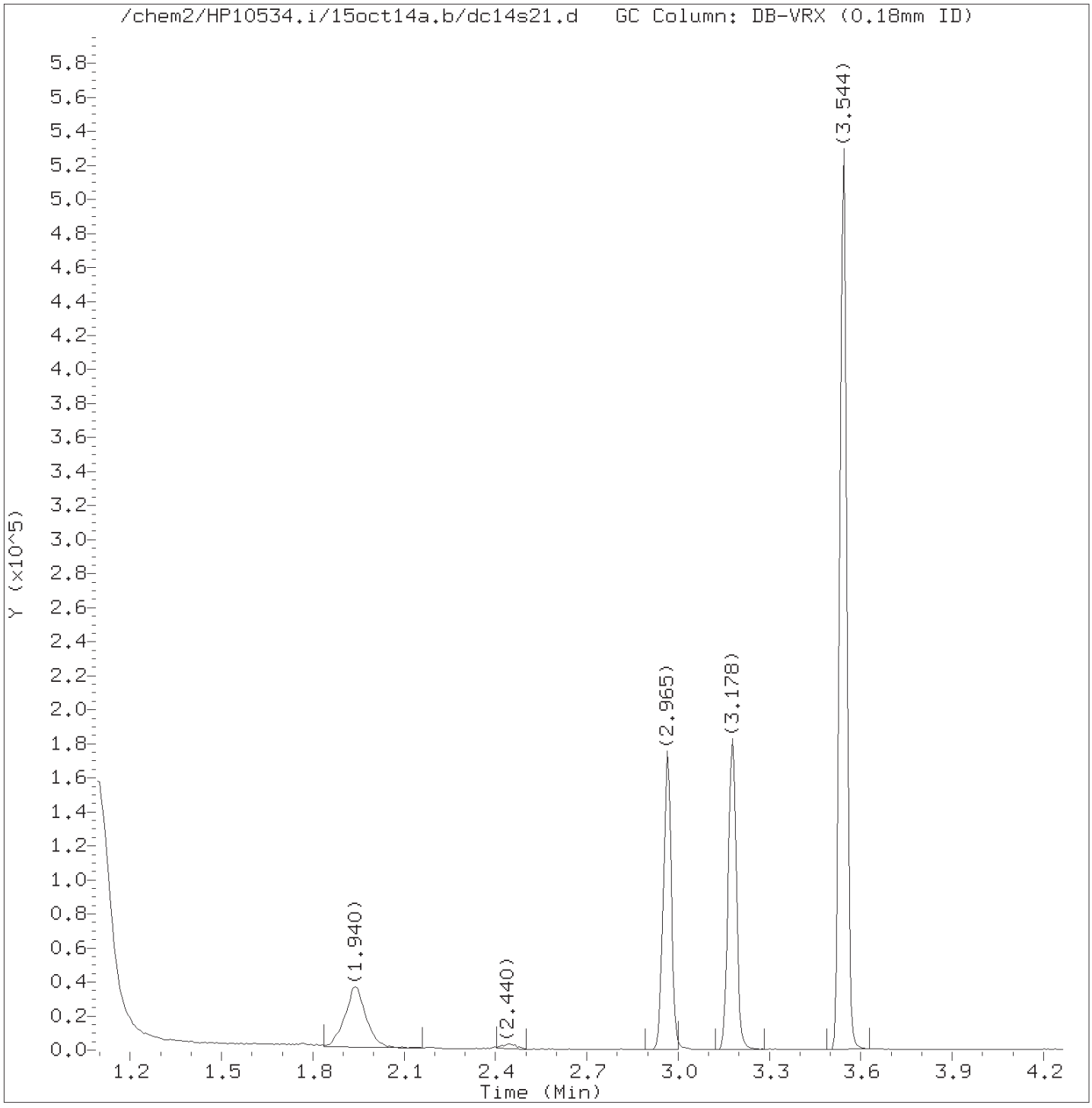
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.965	(-0.002)	113	101528	53.604	107%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	26014	51.565	103%		77 - 113
16) Toluene-d8	(3)	4.324	(-0.001)	98	420229	48.296	97%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	157435	48.554	97%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1

Total number of targets = 6

Digitally signed by Daniel H. Heller on 10/15/2015 at 09:13. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 16:08. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

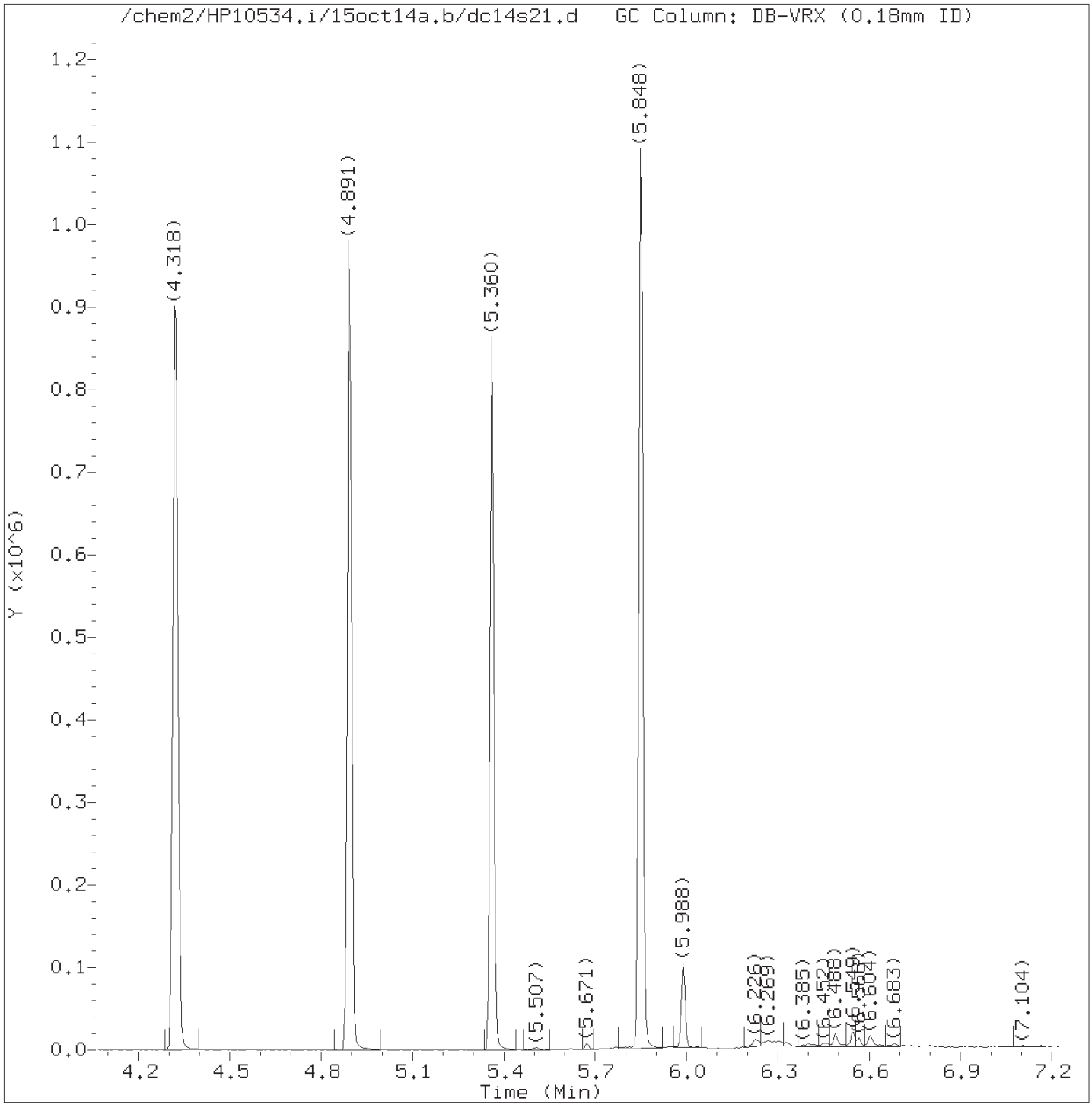
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s21.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 16:05 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8056
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 16:15 Unknown

Sample Name: P2820 Lab Sample ID: 8082118

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:13.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s21.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 16:05 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8056
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 16:15 Unknown

Sample Name: P2820 Lab Sample ID: 8082118

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:13.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s21.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 16:05 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8056
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 16:15 Unknown

Sample Name: P2820 Lab Sample ID: 8082118

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.940	65	91153	250.000
7)$Dibromofluoromethane	(2)	2.965	113	101528	53.604
10)$1,2-Dichloroethane-d4	(2)	3.178	102	26014	51.565
14)*Fluorobenzene	(2)	3.544	96	406253	50.000
16)$Toluene-d8	(3)	4.324	98	420229	48.296
20)*Chlorobenzene-d5	(3)	4.891	117	323512	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	157435	48.554
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	176219	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:13.
Target 3.5 esignature user ID: dhh02035

P2821 Lancaster Laboratories 8082119
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct14a.b/dc14s23.d Injection date and time: **14-OCT-2015 16:28**
Data file Sample Info. Line: P2821;8082119;1;0;;PSC28;;;dc14b01; Instrument ID: **HP10534.i** Batch: **D152871AA**
Date, time and analyst ID of latest file update: 14-Oct-2015 16:37 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct14a.b/dc14b01.d**

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: **8056**
Calibration date and time (Last Method Edit): 14-OCT-2015 11:02
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct14a.b/dc14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.940	(-0.006)	140	65	96879	(8)	250.00	
14) Fluorobenzene	3.543	(0.000)	403	96	461235	(11)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	365753	(14)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	198006	(13)	50.00	

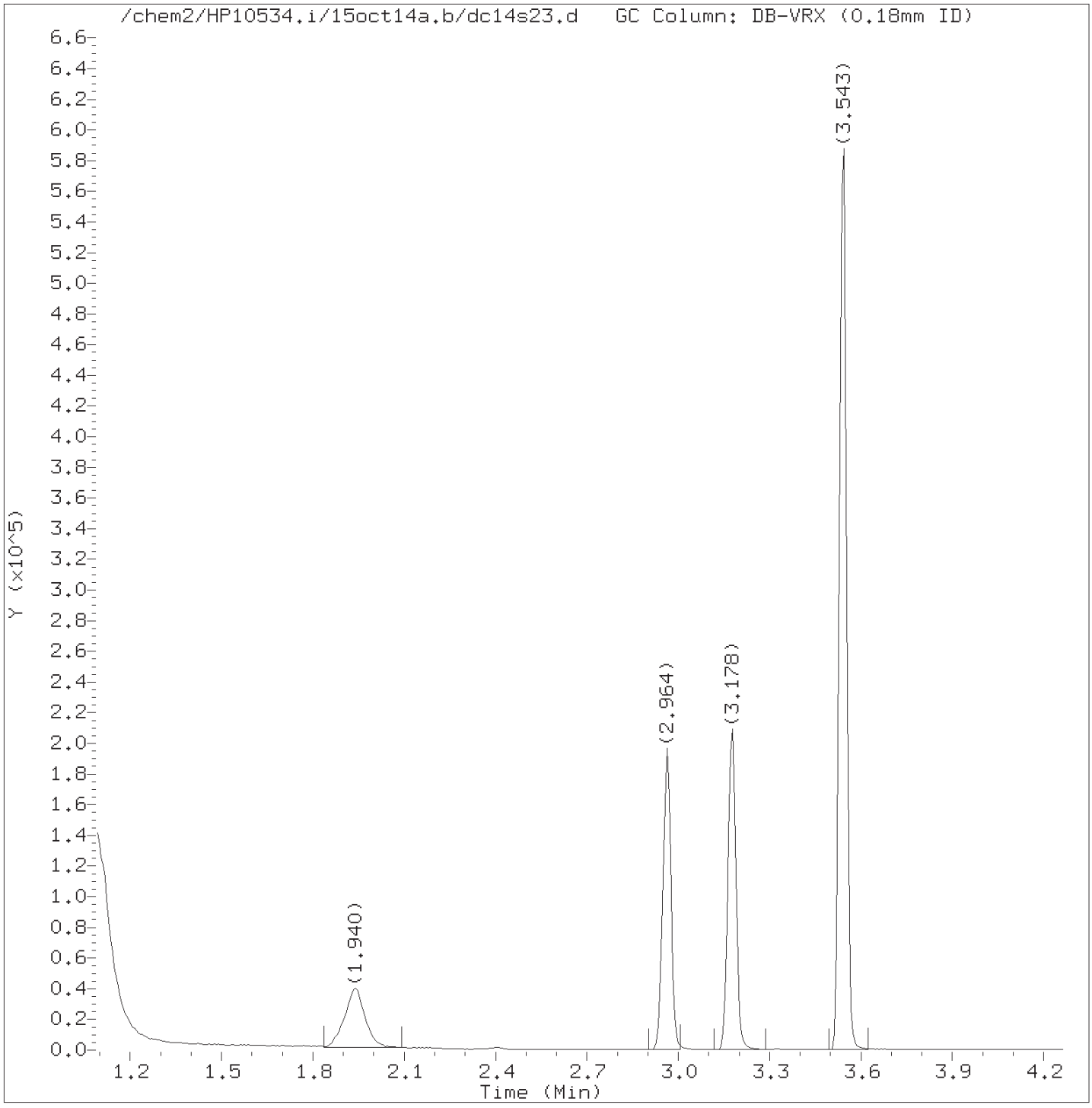
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.964	(-0.002)	113	113713	52.881	106%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	28460	49.690	99%		77 - 113
16) Toluene-d8	(3)	4.318	(0.000)	98	473905	48.175	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	177272	48.358	97%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1

Total number of targets = 6

Digitally signed by Daniel H. Heller on 10/15/2015 at 09:13. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 16:08. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

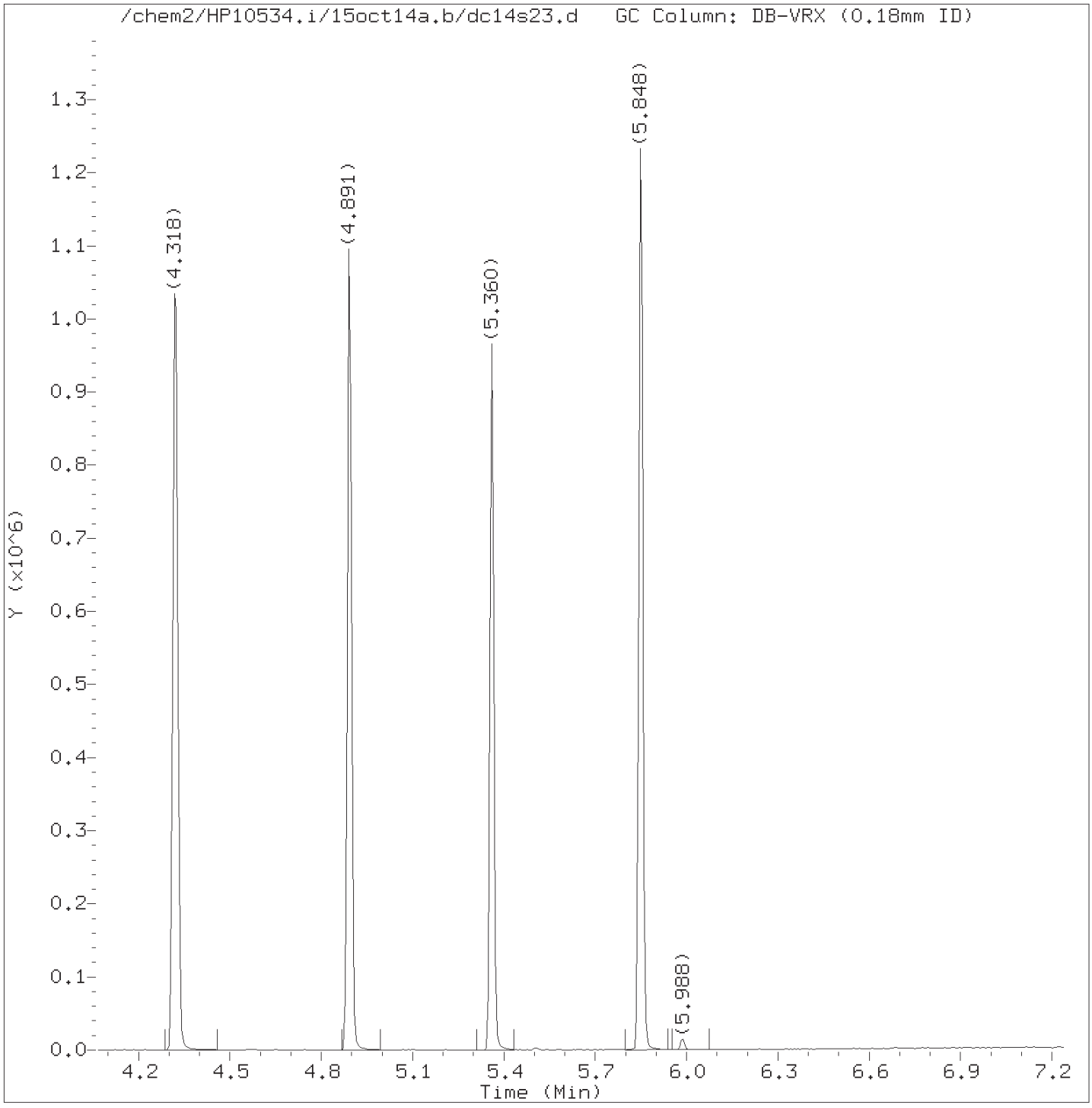
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s23.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 16:28 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8056
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 16:37 Unknown

Sample Name: P2821 Lab Sample ID: 8082119

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:13.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s23.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 16:28 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8056
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 16:37 Unknown

Sample Name: P2821 Lab Sample ID: 8082119

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:13.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s23.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 16:28 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8056
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 16:37 Unknown

Sample Name: P2821 Lab Sample ID: 8082119

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.940	65	96879	250.000
7)$Dibromofluoromethane	(2)	2.964	113	113713	52.881
10)$1,2-Dichloroethane-d4	(2)	3.178	102	28460	49.690
14)*Fluorobenzene	(2)	3.543	96	461235	50.000
16)$Toluene-d8	(3)	4.318	98	473905	48.175
20)*Chlorobenzene-d5	(3)	4.891	117	365753	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	177272	48.358
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	198006	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:13.
Target 3.5 esignature user ID: dhh02035

Standards Data

Volatiles by GC/MS-GRO

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP10534 **HP #26**

Data Directory Path is - C:\msdchem\1\DATA\15jul02i\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
AKR02850	dl02t01.D	50NGBFB	07/02/2015	11:15		
akr02850	dl02x01.D	BLANK	07/02/2015	11:31		
akr02850	dl02x02.D	BLANK	07/02/2015	11:42		
akr02850	dl02i01.D	VSTD200	07/02/2015	11:54		
akr02850	dl02i02.D	VSTD200	07/02/2015	12:05		
akr02850	dl02i03.D	VSTD100	07/02/2015	12:17		
akr02850	dl02i04.D	VSTD100	07/02/2015	12:28		
akr02850	dl02i05.D	VSTD050	07/02/2015	12:40		
akr02850	dl02i06.D	VSTD050	07/02/2015	12:51		
akr02850	dl02i07.D	VSTD020	07/02/2015	13:03		
akr02850	dl02i08.D	VSTD020	07/02/2015	13:14		
akr02850	dl02i09.D	VSTD010	07/02/2015	13:26		
akr02850	dl02i10.D	VSTD010	07/02/2015	13:37		
akr02850	dl02i11.D	VSTD002	07/02/2015	13:49		
akr02850	dl02i12.D	VSTD002	07/02/2015	14:00		
akr02850	dl02i13.D	VSTD001	07/02/2015	14:11		
akr02850	dl02i14.D	VSTD001	07/02/2015	14:23		
akr02850	dl02i07a.D	VSTD020	07/02/2015	14:34		
akr02850	dl02i08a.D	VSTD020	07/02/2015	14:46		
akr02850	dl02m01.D	0.4PPB MDL	07/02/2015	14:57		
akr02850	dl02m02.D	0.4PPB MDL	07/02/2015	15:08		
akr02850	dl02v01.D	LCS-01	07/02/2015	15:20		
akr02850	dl02v02.D	LCS-02	07/02/2015	15:32		
akr02850	dl02v01a.D	LCS-01	07/02/2015	16:01		
akr02850	dl02v02a.D	LCS-02	07/02/2015	16:12		
akr02850	DL02B01.D	VBLKD92	07/02/2015	16:28	D151831AA	
akr02850	DL02B02.D	VBLKD93	07/02/2015	16:39	D151832AA	
akr02850	DL02S03.D	7940691	07/02/2015	16:51	D151831AA	
akr02850	DL02S04.D	7940665	07/02/2015	17:02	D151832AA	
akr02850	DL02S05.D	7940678	07/02/2015	17:14	D151831AA	
akr02850	DL02S06.D	7940667	07/02/2015	17:25	D151832AA	
akr02850	DL02S07.D	7940679	07/02/2015	17:37	D151831AA	
akr02850	DL02S08.D	7940667MS	07/02/2015	17:48	D151832AA	
akr02850	DL02S09.D	7940679MS	07/02/2015	18:00	D151831AA	
akr02850	DL02S10.D	7940667MSD	07/02/2015	18:11	D151832AA	
akr02850	DL02S11.D	7940679MSD	07/02/2015	18:23	D151831AA	
akr02850	DL02S12.D	7940668	07/02/2015	18:34	D151832AA	
akr02850	DL02S13.D	7940680	07/02/2015	18:46	D151831AA	
akr02850	DL02S14.D	7940670	07/02/2015	18:57	D151832AA	
akr02850	DL02S15.D	7940681	07/02/2015	19:08	D151831AA	
akr02850	DL02S16.D	7940671	07/02/2015	19:20	D151832AA	
akr02850	DL02S17.D	7940682	07/02/2015	19:32	D151831AA	
akr02850	DL02S18.D	7940672	07/02/2015	19:43	D151832AA	
akr02850	DL02S19.D	7940684	07/02/2015	19:55	D151831AA	
akr02850	DL02S20.D	7940673	07/02/2015	20:06	D151832AA	
akr02850	DL02S21.D	7940685	07/02/2015	20:18	D151831AA	
akr02850	DL02S22.D	7940674	07/02/2015	20:29	D151832AA	
akr02850	DL02S23.D	7940686	07/02/2015	20:41	D151831AA	
akr02850	DL02S24.D	7940675	07/02/2015	20:52	D151832AA	
akr02850	DL02S25.D	7940687	07/02/2015	21:04	D151831AA	
akr02850	DL02S26.D	7940676	07/02/2015	21:15	D151832AA	
akr02850	DL02S27.D	7940688	07/02/2015	21:27	D151831AA	
akr02850	DL02S28.D	7940677	07/02/2015	21:38	D151832AA	
akr02850	DL02S29.D	7940689	07/02/2015	21:50	D151831AA	
akr02850	DL02S30.D	7940645DL	07/02/2015	22:01	D151832AA	10

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP10534 **HP #26**

Data Directory Path is - c:\msdchem\1\data\15oct14a\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
DHH02035	DC14X01.D	VBLKD30	10/14/2015	08:03	D152871AA	
DHH02035	DC14X02.D	VBLKD31	10/14/2015	08:26	D152872AA	
DHH02035	DC14X03.D	VBLKD30	10/14/2015	08:37	D152871AA	
DHH02035	DC14T01.D	50NGBFB	10/14/2015	09:05	D152871AA	
DHH02035	DC14X05.D	VBLKD30	10/14/2015	10:24	D152871AA	
DHH02035	DC14X06.D	VBLKD31	10/14/2015	10:35	D152872AA	
DHH02035	DC14C01.D	VSTD050	10/14/2015	10:47	D152871AA	
DHH02035	DC14C02.D	VSTD050	10/14/2015	10:58	D152872AA	
DHH02035	DC14S01.D	LCSD30	10/14/2015	11:10	D152871AA	
DHH02035	DC14S02.D	LCSD31	10/14/2015	11:21	D152872AA	
DHH02035	DC14B01.D	VBLKD30	10/14/2015	11:33	D152871AA	
DHH02035	DC14B02.D	VBLKD31	10/14/2015	11:44	D152872AA	
DHH02035	DC14S03.D	8079780	10/14/2015	12:38	D152871AA	
DHH02035	DC14S04.D	8079408	10/14/2015	12:49	D152872AA	
DHH02035	DC14S05.D	8082114	10/14/2015	13:01	D152871AA	
DHH02035	DC14S06.D	8079409	10/14/2015	13:12	D152872AA	
DHH02035	DC14S07.D	8082114MS	10/14/2015	13:24	D152871AA	
DHH02035	DC14S08.D	8079410	10/14/2015	13:35	D152872AA	
DHH02035	DC14S09.D	8082114MSD	10/14/2015	13:47	D152871AA	
DHH02035	DC14S10.D	8079410MS	10/14/2015	13:58	D152872AA	
DHH02035	DC14S25.D	8083683	10/14/2015	14:10	D152871AA	200
DHH02035	DC14S12.D	8079410MSD	10/14/2015	14:21	D152872AA	
DHH02035	DC14S27.D	8083684	10/14/2015	14:33	D152871AA	10
DHH02035	DC14S14.D	8077847DL	10/14/2015	14:44	D152872AA	10
DHH02035	DC14S15.D	8082115	10/14/2015	14:56	D152871AA	
DHH02035	DC14S16.D	8079648	10/14/2015	15:07	D152872AA	
DHH02035	DC14S17.D	8082116	10/14/2015	15:19	D152871AA	
DHH02035	DC14S18.D	8079649	10/14/2015	15:30	D152872AA	
DHH02035	DC14S19.D	8082117	10/14/2015	15:42	D152871AA	
DHH02035	DC14S20.D	8079650	10/14/2015	15:53	D152872AA	
DHH02035	DC14S21.D	8082118	10/14/2015	16:05	D152871AA	
DHH02035	DC14S22.D	8079651	10/14/2015	16:16	D152872AA	
DHH02035	DC14S23.D	8082119	10/14/2015	16:28	D152871AA	
DHH02035	DC14S24.D	8079652	10/14/2015	16:39	D152872AA	
DHH02035	DC14S11.D	8079779	10/14/2015	16:51	D152871AA	10
DHH02035	DC14S26.D	8079654	10/14/2015	17:02	D152872AA	
DHH02035	DC14S13.D	8079779DL	10/14/2015	17:14	D152871AA	100
DHH02035	DC14S28.D	8079655	10/14/2015	17:25	D152872AA	
DHH02035	DC14S29.D	8079664	10/14/2015	17:37	D152871AA	
DHH02035	DC14S30.D	8079656	10/14/2015	17:48	D152872AA	
DHH02035	DC14S31.D	8079665	10/14/2015	18:00	D152871AA	
DHH02035	DC14S32.D	8079657	10/14/2015	18:11	D152872AA	
DHH02035	DC14S34.D	8079658	10/14/2015	18:34	D152872AA	
DHH02035	DC14S36.D	8079659	10/14/2015	18:57	D152872AA	
DHH02035	DC14S38.D	8079660	10/14/2015	19:20	D152872AA	
DHH02035	DC14S40.D	8079661	10/14/2015	19:43	D152872AA	
DHH02035	DC14S42.D	8079662	10/14/2015	20:06	D152872AA	
DHH02035	DC14S44.D	8075486	10/14/2015	20:29	D152872AA	
DHH02035	DC14S46.D	8075526DL	10/14/2015	20:52	D152872AA	10

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP10534 **HP #26**

Data Directory Path is - c:\msdchem\1\data\15oct15a\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
DHH02035	DC15X01.D	VBLKD32	10/15/2015	08:02	D152881AA	
DHH02035	DC15X01A.D	VBLKD32	10/15/2015	08:24	D152881AA	
DHH02035	DC15X02.D	VBLKD33	10/15/2015	08:35	D152882AA	
DHH02035	DC15X03.D	VBLKD32	10/15/2015	08:46	D152881AA	
DHH02035	DC15X04.D	VBLKD33	10/15/2015	08:58	D152882AA	
DHH02035	DC15T01.D	50NGBFB	10/15/2015	09:29	D152881AA	
DHH02035	DC15X05.D	VBLKD32	10/15/2015	09:59	D152881AA	
DHH02035	DC15X06.D	VBLKD33	10/15/2015	10:10	D152882AA	
DHH02035	DC15C01.D	VSTD050	10/15/2015	10:22	D152881AA	
DHH02035	DC15C02.D	VSTD050	10/15/2015	10:34	D152882AA	
DHH02035	DC15S01.D	LCSD32	10/15/2015	10:45	D152881AA	
DHH02035	DC15S02.D	LCSD33	10/15/2015	10:57	D152882AA	
DHH02035	DC15B01.D	VBLKD32	10/15/2015	11:08	D152881AA	
DHH02035	DC15B02.D	VBLKD33	10/15/2015	11:20	D152882AA	
DHH02035	DC15S03.D	8082105	10/15/2015	11:44	D152881AA	
DHH02035	DC15S04.D	8080064	10/15/2015	11:55	D152882AA	
DHH02035	DC15S05.D	8082106	10/15/2015	12:07	D152881AA	
DHH02035	DC15S06.D	8082000	10/15/2015	12:18	D152882AA	
DHH02035	DC15S07.D	8082102	10/15/2015	12:30	D152881AA	
DHH02035	DC15S08.D	8082120	10/15/2015	12:41	D152882AA	
DHH02035	DC15S09.D	8082103MS	10/15/2015	12:53	D152881AA	
DHH02035	DC15S10.D	8082121MS	10/15/2015	13:04	D152882AA	
DHH02035	DC15S11.D	8082104MSD	10/15/2015	13:16	D152881AA	
DHH02035	DC15S12.D	8082122MSD	10/15/2015	13:27	D152882AA	
DHH02035	DC15S13.D	8082097	10/15/2015	13:39	D152881AA	
DHH02035	DC15S14.D	8082124	10/15/2015	13:50	D152882AA	5
DHH02035	DC15S15.D	8082098	10/15/2015	14:02	D152881AA	10
DHH02035	DC15S16.D	8082125	10/15/2015	14:13	D152882AA	
DHH02035	DC15S17.D	8082099	10/15/2015	14:25	D152881AA	10
DHH02035	DC15S18.D	8082126	10/15/2015	14:36	D152882AA	
DHH02035	DC15S19.D	8082100	10/15/2015	14:48	D152881AA	10
DHH02035	DC15S20.D	8082127	10/15/2015	14:59	D152882AA	
DHH02035	DC15S21.D	8082101	10/15/2015	15:11	D152881AA	10
DHH02035	DC15S22.D	8082128	10/15/2015	15:22	D152882AA	
DHH02035	DC15S23.D	8082107	10/15/2015	15:34	D152881AA	
DHH02035	DC15S24.D	8082129	10/15/2015	15:45	D152882AA	
DHH02035	DC15S25.D	8082108	10/15/2015	15:57	D152881AA	
DHH02035	DC15S26.D	8082130	10/15/2015	16:08	D152882AA	
DHH02035	DC15S27.D	8082109	10/15/2015	16:20	D152881AA	
DHH02035	DC15S28.D	8082246	10/15/2015	16:31	D152882AA	
DHH02035	DC15S29.D	8082110	10/15/2015	16:43	D152881AA	5
DHH02035	DC15S30.D	8082247	10/15/2015	16:54	D152882AA	
DHH02035	DC15S31.D	8082111	10/15/2015	17:06	D152881AA	
DHH02035	DC15S32.D	8082248	10/15/2015	17:17	D152882AA	
DHH02035	DC15S33.D	8082112	10/15/2015	17:28	D152881AA	
DHH02035	DC15S34.D	8081992	10/15/2015	17:40	D152882AA	5
DHH02035	DC15S35.D	8082113	10/15/2015	17:51	D152881AA	
DHH02035	DC15S36.D	8081993	10/15/2015	18:03	D152882AA	
DHH02035	DC15S37.D	8080056	10/15/2015	18:15	D152881AA	
DHH02035	DC15S38.D	8081994	10/15/2015	18:26	D152882AA	
DHH02035	DC15S39.D	8080058	10/15/2015	18:37	D152881AA	
DHH02035	DC15S40.D	8081995	10/15/2015	18:49	D152882AA	
DHH02035	DC15S41.D	8080059	10/15/2015	19:00	D152881AA	
DHH02035	DC15S42.D	8081996	10/15/2015	19:12	D152882AA	
DHH02035	DC15S43.D	8080060	10/15/2015	19:23	D152881AA	
DHH02035	DC15S44.D	8081997	10/16/2015	07:33	D152882AA	

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP10534 **HP #26**

Data Directory Path is - C:\msdchem\1\data\15OCT16A\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
HY07820	dc16t01.D	50NGBFB	10/16/2015	16:53		
HY07820	DC16X01.D	BLANK	10/16/2015	17:15	D152891AA	
HY07820	DC16X02.D	BLANK	10/16/2015	17:26	D152892AA	
HY07820	DC16C01.D	VSTD050	10/16/2015	17:38	D152891AA	
HY07820	DC16C02.D	VSTD050	10/16/2015	17:49	D152892AA	
HY07820	DC16S01.D	LCSD34	10/16/2015	18:01	D152891AA	
HY07820	DC16S02.D	LCSD35	10/16/2015	18:12	D152892AA	
HY07820	DC16B01.D	VBLKD34	10/16/2015	18:24	D152891AA	
HY07820	DC16B02.D	VBLKD35	10/16/2015	18:35	D152892AA	
HY07820	DC16S03.D	8082125	10/16/2015	19:05	D152891AA	
HY07820	DC16S04.D	8084025	10/16/2015	19:16	D152892AA	
HY07820	DC16S05.D	8082251	10/16/2015	19:28	D152891AA	
HY07820	DC16S06.D	8084021	10/16/2015	19:39	D152892AA	
HY07820	DC16S07.D	8082251MS	10/16/2015	19:51	D152891AA	
HY07820	DC16S08.D	8084021MS	10/16/2015	20:02	D152892AA	
HY07820	DC16S09.D	8082251MSD	10/16/2015	20:13	D152891AA	
HY07820	DC16S10.D	8084021MSD	10/16/2015	20:25	D152892AA	
HY07820	DC16S11.D	8080061	10/16/2015	20:36	D152891AA	
HY07820	DC16S12.D	8090030	10/16/2015	20:48	D152892AA	
HY07820	DC16S13.D	8081997	10/16/2015	20:59	D152891AA	
HY07820	DC16S14.D	8090031	10/16/2015	21:11	D152892AA	
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HY07820	DC16S16.D	8090032	10/16/2015	21:34	D152892AA	
HY07820	DC16S17.D	8082255	10/16/2015	21:45	D152891AA	
HY07820	DC16S18.D	8090033	10/16/2015	21:57	D152892AA	
HY07820	DC16S19.D	8082256	10/16/2015	22:08	D152891AA	
HY07820	DC16S20.D	8090034	10/16/2015	22:20	D152892AA	
HY07820	DC16S21.D	8082257	10/16/2015	22:31	D152891AA	
HY07820	DC16S22.D	8090035	10/16/2015	22:43	D152892AA	
HY07820	DC16S23.D	8082258	10/16/2015	22:54	D152891AA	
HY07820	DC16S24.D	8090037	10/16/2015	23:06	D152892AA	
HY07820	DC16S25.D	8082259	10/16/2015	23:17	D152891AA	
HY07820	DC16S26.D	8090038	10/16/2015	23:29	D152892AA	
HY07820	DC16S27.D	8082252	10/16/2015	23:40	D152891AA	
HY07820	DC16S28.D	8090039	10/16/2015	23:51	D152892AA	
HY07820	DC16S29.D	8080062	10/17/2015	00:03	D152891AA	
HY07820	DC16S30.D	8090040	10/17/2015	00:14	D152892AA	
HY07820	DC16S31.D	8080063	10/17/2015	00:26	D152891AA	
HY07820	DC16S32.D	8090079	10/17/2015	00:37	D152892AA	
HY07820	DC16S33.D	8082253	10/17/2015	00:49	D152891AA	
HY07820	DC16S34.D	8090080	10/17/2015	01:01	D152892AA	
HY07820	DC16S35.D	8081998	10/17/2015	01:12	D152891AA	
HY07820	DC16S36.D	8084019	10/17/2015	01:24	D152892AA	
HY07820	DC16S37.D	8081999	10/17/2015	01:35	D152891AA	
HY07820	DC16S38.D	8084020	10/17/2015	01:47	D152892AA	
HY07820	DC16S39.D	8082113DL	10/17/2015	01:58	D152891AA	10
HY07820	DC16S40.D	8084022	10/17/2015	02:10	D152892AA	
HY07820	DC16S41.D	8082124DL	10/17/2015	02:21	D152891AA	50
HY07820	DC16S42.D	8084023	10/17/2015	02:33	D152892AA	
HY07820	DC16S43.D	8082250	10/17/2015	02:44	D152891AA	50
HY07820	DC16S44.D	8084024	10/17/2015	02:56	D152892AA	
HY07820	DC16S45.D	8080059DL	10/17/2015	03:07	D152891AA	20
HY07820	DC16S46.D	8090036	10/17/2015	03:19	D152892AA	5

Data File: /chem2/HP10534.i/15jul02i.b/d102t01.d

Date : 02-JUL-2015 11:15

Client ID: BFBMAR06-15

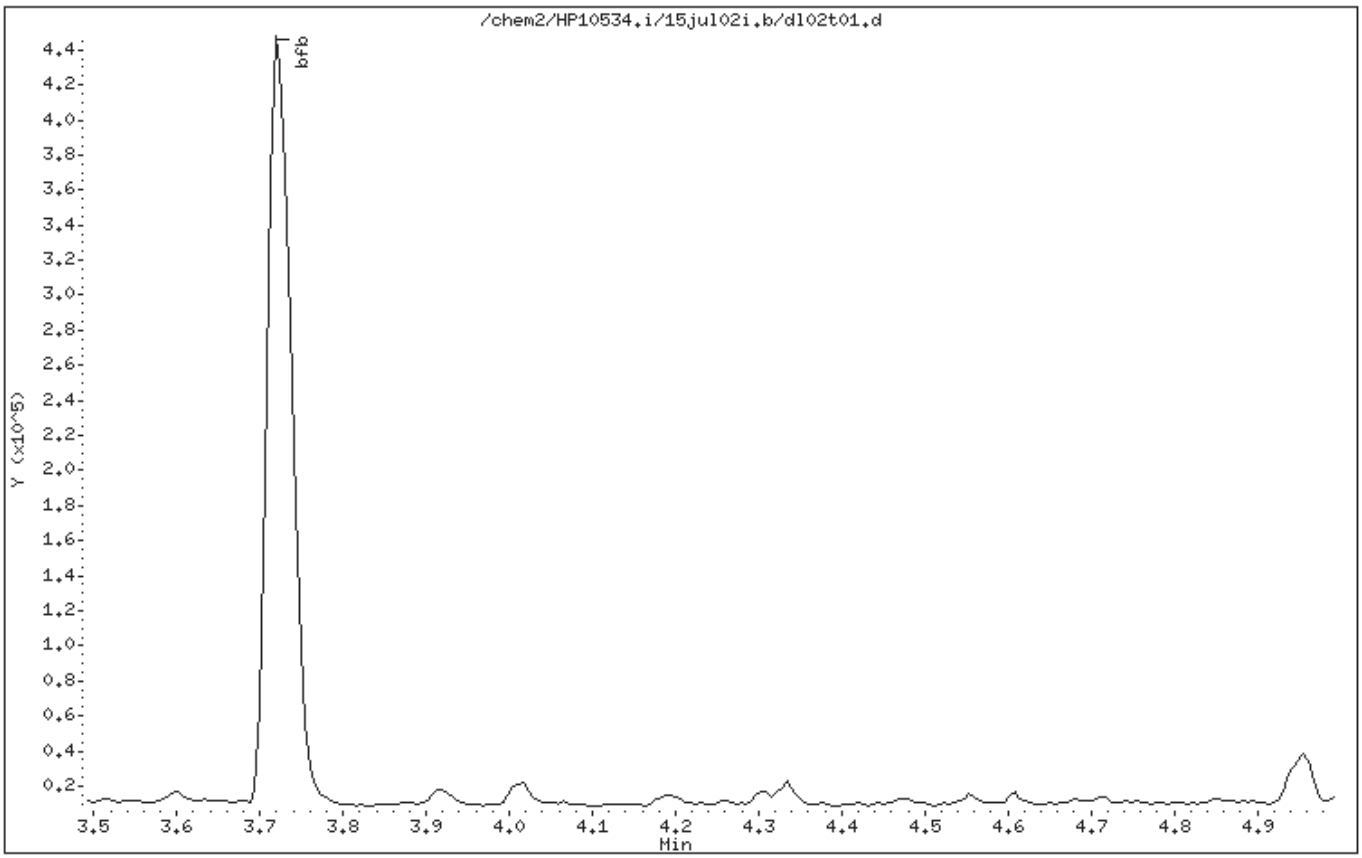
Instrument: HP10534.i

Sample Info: BFBMAR06-15;50NGBFB;1;3;;;

Operator: AKR02850

Column phase: DB-VRX

Column diameter: 0.18



Digitally signed by Amanda K. Richards on 07/02/2015 at 15:02.
Target 3.5 esignature user ID: akr02850

Data File: /chem2/HP10534.i/15jul02i.b/d102t01.d

Date : 02-JUL-2015 11:15

Client ID: BFBMAR06-15

Instrument: HP10534.i

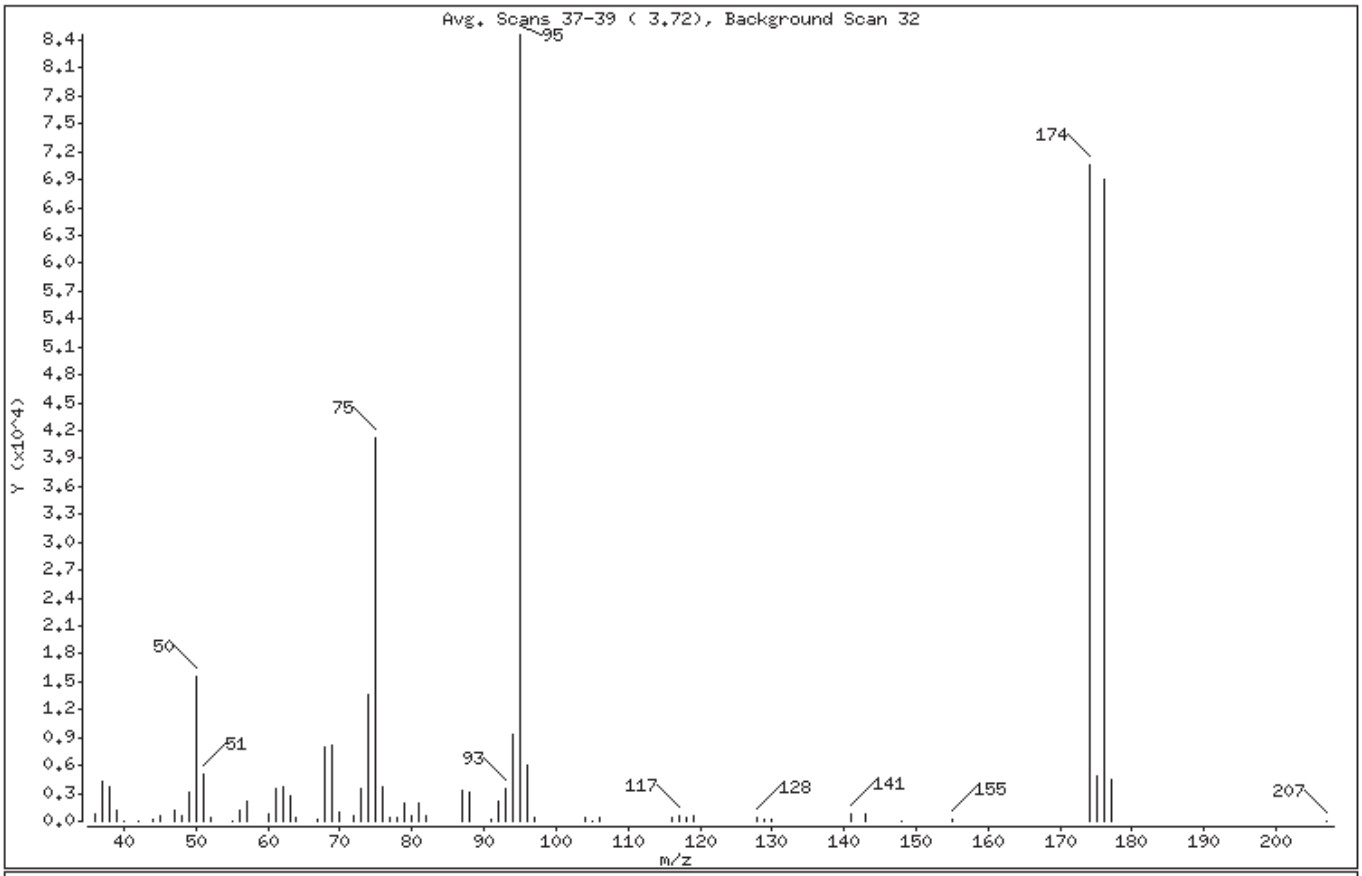
Sample Info: BFBMAR06-15;50NGBFB;1;3;;;

Operator: AKR02850

Column phase: DB-VRX

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.28
75	30.00 - 60.00% of mass 95	48.84
96	5.00 - 9.00% of mass 95	7.09
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 100.00% of mass 95	83.48
175	5.00 - 9.00% of mass 174	5.85 (7.01)
176	95.00 - 101.00% of mass 174	81.61 (97.76)
177	5.00 - 9.00% of mass 176	5.40 (6.62)

Digitally signed by Amanda K. Richards on 07/02/2015 at 15:02.
Target 3.5 esignature user ID: akr02850

Date : 02-JUL-2015 11:15

Client ID: BFBMAR06-15 Instrument: HP10534.i

Sample Info: BFBMAR06-15;50NGBFB;1;3;;;

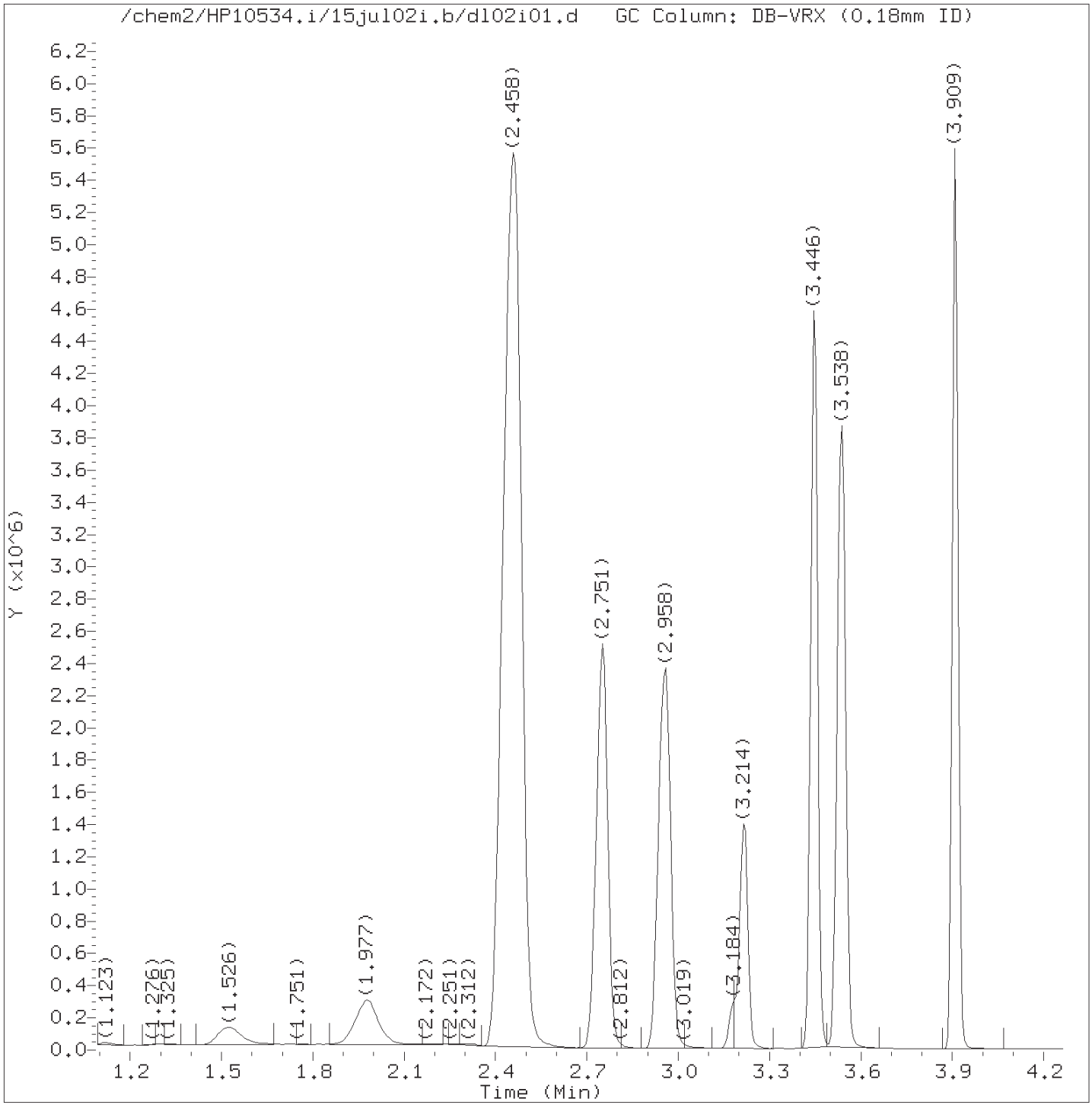
Operator: AKR02850

Column phase: DB-VRX Column diameter: 0.18

Data File: dl02t01.d
Spectrum: Avg. Scans 37-39 (3.72), Background Scan 32
Location of Maximum: 95.00
Number of points: 65

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	823	60.00	793	80.00	567	118.00	297
37.00	4224	61.00	3596	81.00	1938	119.00	517
38.00	3630	62.00	3637	82.00	530	128.00	395
39.00	1172	63.00	2677	87.00	3337	129.00	197
40.00	24	64.00	387	88.00	3117	130.00	286
42.00	23	67.00	170	91.00	149	141.00	797
44.00	266	68.00	7943	92.00	2156	143.00	772
45.00	585	69.00	8102	93.00	3421	148.00	89
47.00	1082	70.00	908	94.00	9345	155.00	280
48.00	588	72.00	543	95.00	84584	174.00	70608
49.00	3179	73.00	3528	96.00	5996	175.00	4950
50.00	15467	74.00	13540	97.00	342	176.00	69032
51.00	5075	75.00	41312	104.00	469	177.00	4568
52.00	345	76.00	3602	105.00	63	207.00	45
55.00	95	77.00	421	106.00	385		
56.00	1251	78.00	440	116.00	360		
57.00	2079	79.00	1899	117.00	638		

Digitally signed by Amanda K. Richards on 07/02/2015 at 15:02.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

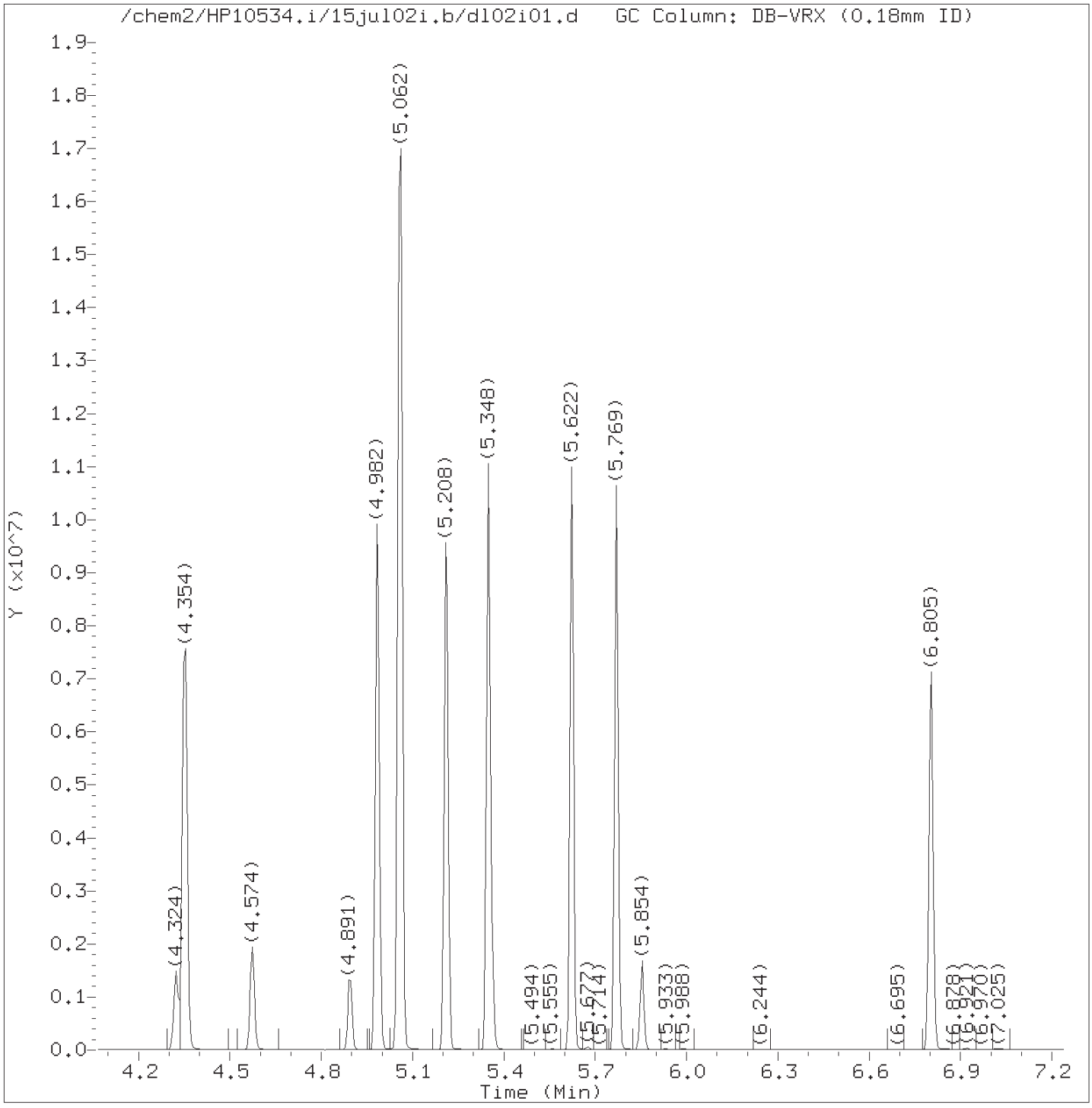
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 11:54 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD200 Lab Sample ID: VSTD200

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 11:54 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD200 Lab Sample ID: VSTD200

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 11:54 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

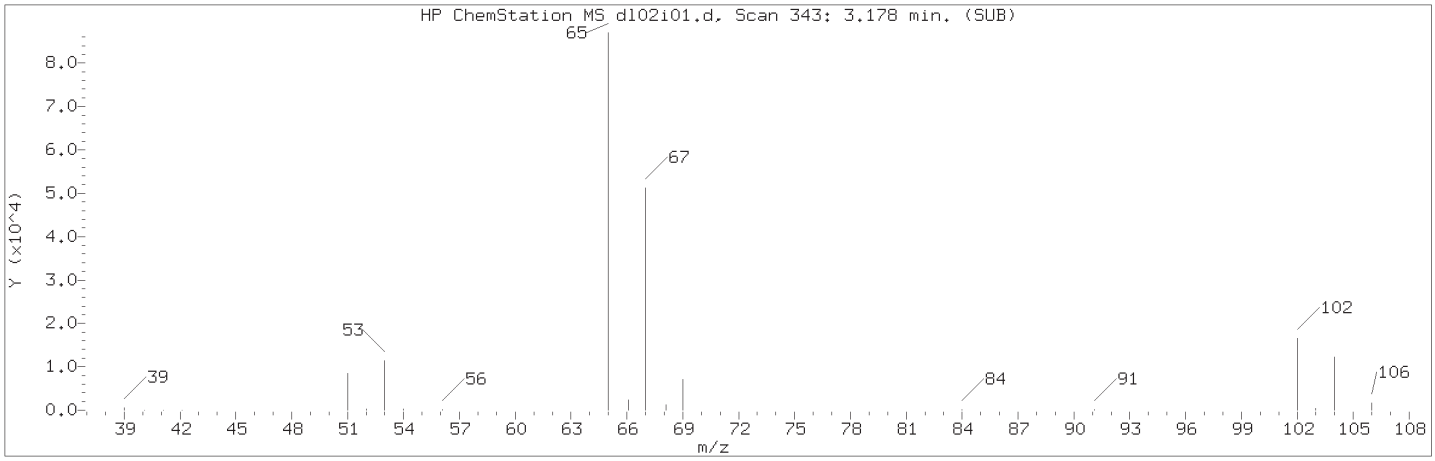
Sample Name: VSTD200 Lab Sample ID: VSTD200

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	352522	5000.000
2)*t-Butyl alcohol-d10	(1)	1.946	65	126756	250.000
3) t-Butyl alcohol	(1)	1.983	59	685221	1000.000
4) Methyl Tertiary Butyl Ether	(2)	2.458	73	11359404	1000.000
5) di-Isopropyl ether	(2)	2.751	45	2814939	200.000
6) Ethyl t-butyl ether	(2)	2.952	59	2643260	200.000
7)$Dibromofluoromethane	(2)	2.964	113	143121	50.000
7)$Dibromofluoromethane	(2)	2.964	111	146849	50.000
10)$1,2-Dichloroethane-d4	(2)	3.178	102	39353M	50.000
10)$1,2-Dichloroethane-d4	(2)	3.178	65	195921M	50.000
10)$1,2-Dichloroethane-d4	(2)	3.184	104	24820	50.000
11) 1,2-Dichloroethane	(2)	3.214	62	1087877	200.000
12) Benzene	(2)	3.446	78	3470832	200.000
13) t-Amyl methyl ether	(2)	3.531	87	625386	200.000
14)*Fluorobenzene	(2)	3.544	96	612224	50.000
15) t-Amyl ethyl ether	(2)	3.909	87	1341517	200.000
16)$Toluene-d8	(3)	4.324	98	613660	50.000
16)$Toluene-d8	(3)	4.324	100	399441	50.000
17) Toluene	(3)	4.354	92	2168607	200.000
19) 1,2-Dibromoethane	(3)	4.574	107	790881	200.000
20)*Chlorobenzene-d5	(3)	4.897	117	458037	50.000
21) Ethylbenzene	(3)	4.982	91	4096235	200.000
22) m+p-Xylene	(3)	5.062	106	3125402	400.000
23) o-Xylene	(3)	5.208	106	1544033	200.000
24) Xylene (Total)	(3)		106	4669435	600.000
25) Isopropylbenzene	(3)	5.348	105	3959680	200.000
26)$4-Bromofluorobenzene	(3)	5.360	95	229293	50.000
26)$4-Bromofluorobenzene	(3)	5.360	174	198415	50.000
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	3240535	200.000
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	3279543	200.000
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	253364	50.000
30) Naphthalene	(4)	6.805	128	3552309	200.000

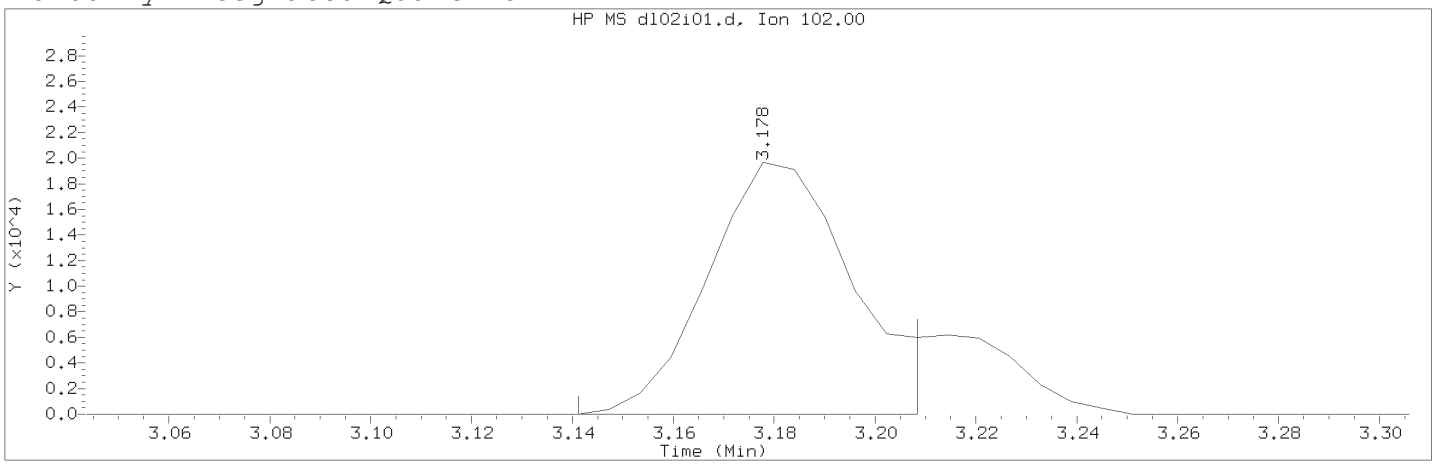
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 11:54 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD200 Lab Sample ID: VSTD200

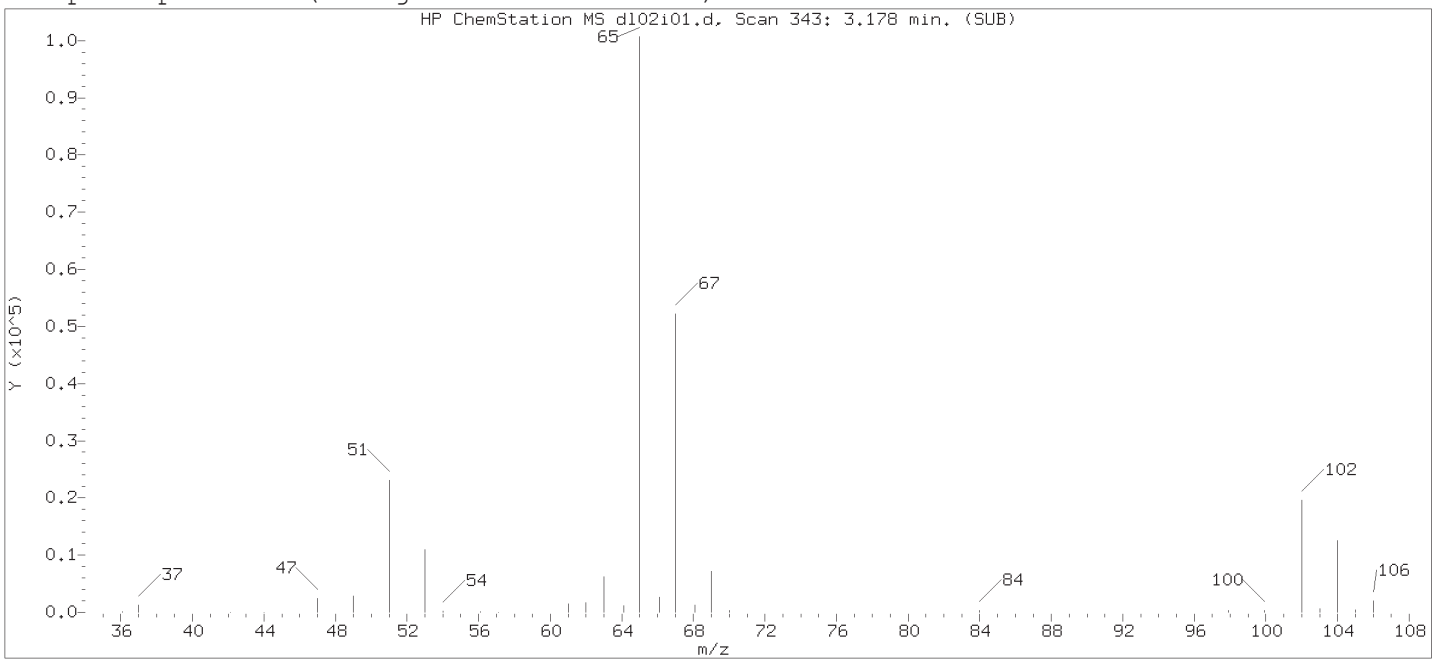
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 343
Retention Time (minutes): 3.178
Quant Ion : 102.00
Area (flag) : 39353M
On-Column Amount (ng) : 50.0000
Integration start scan : 336 Integration stop scan: 347
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

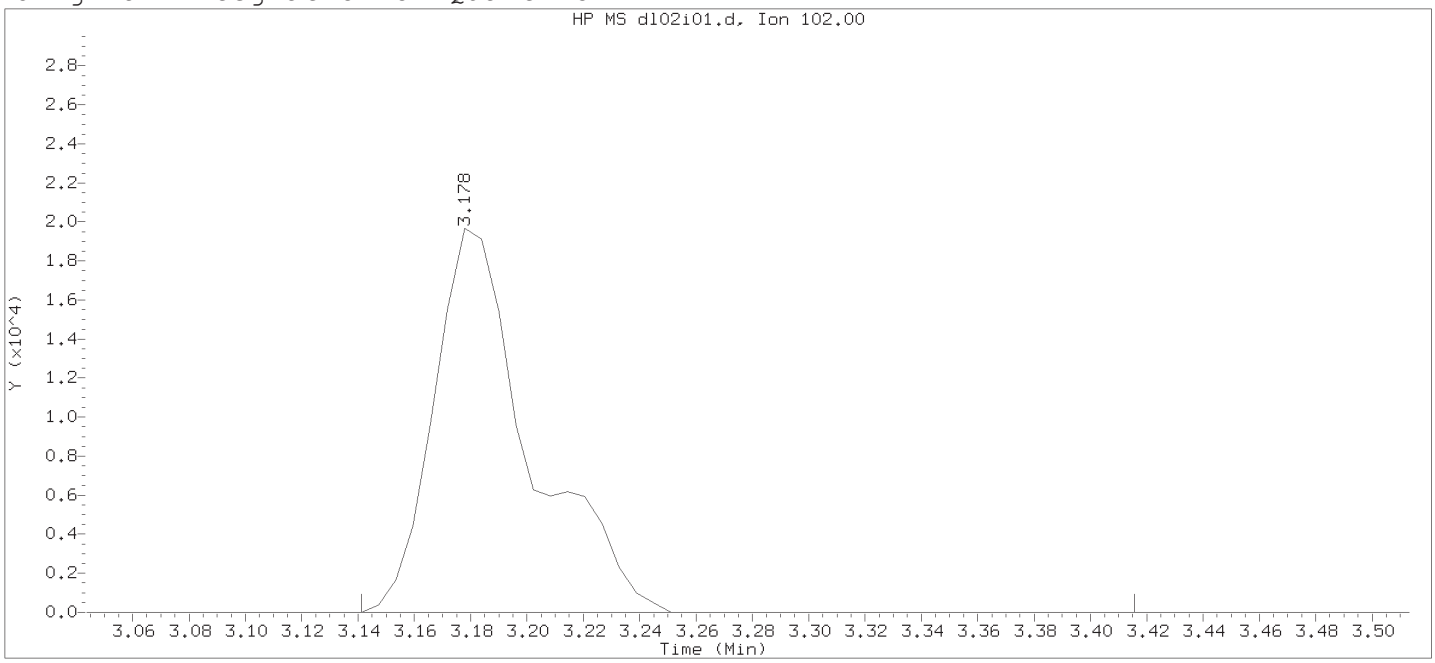
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 11:54 Analyst ID: akr02850

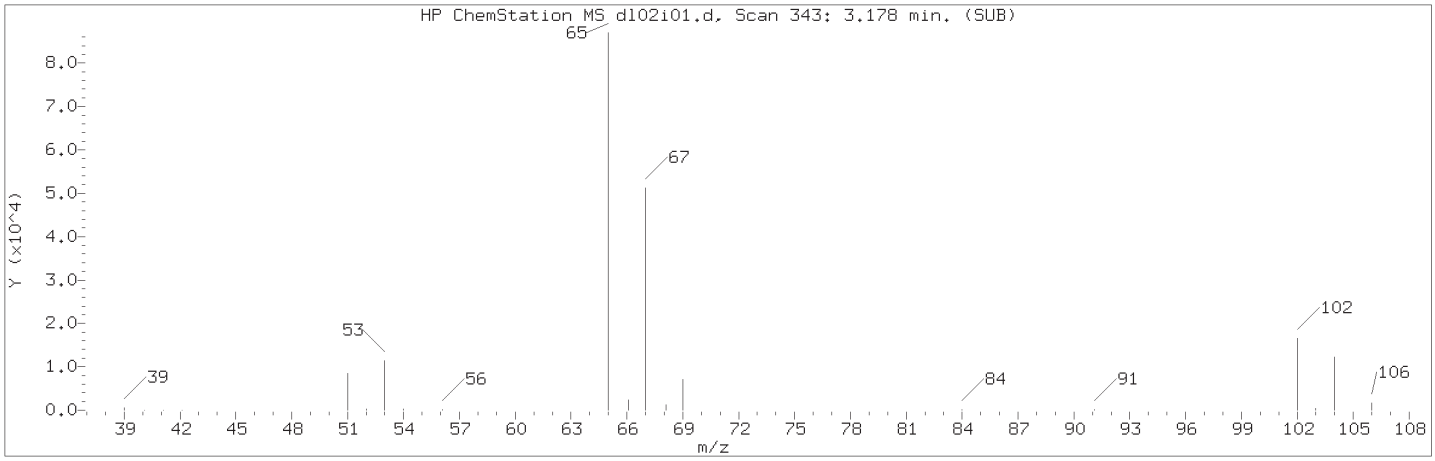
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 12:04
Date, time and analyst ID of latest file update: 02-Jul-2015 12:04 chemist

Sample Name: VSTD200 Lab Sample ID: VSTD200

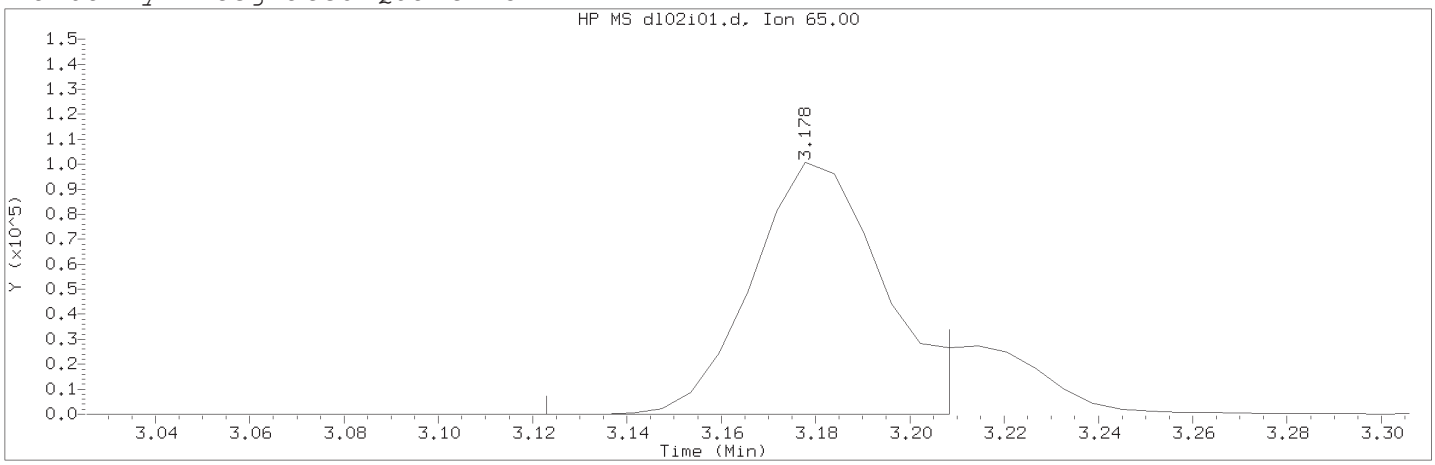
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 343
Retention Time (minutes): 3.178
Quant Ion : 102.00
Area : 46829
On-column Amount (ng) : 59.7084
Integration start scan : 336 Integration stop scan: 381
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 11:54 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD200 Lab Sample ID: VSTD200

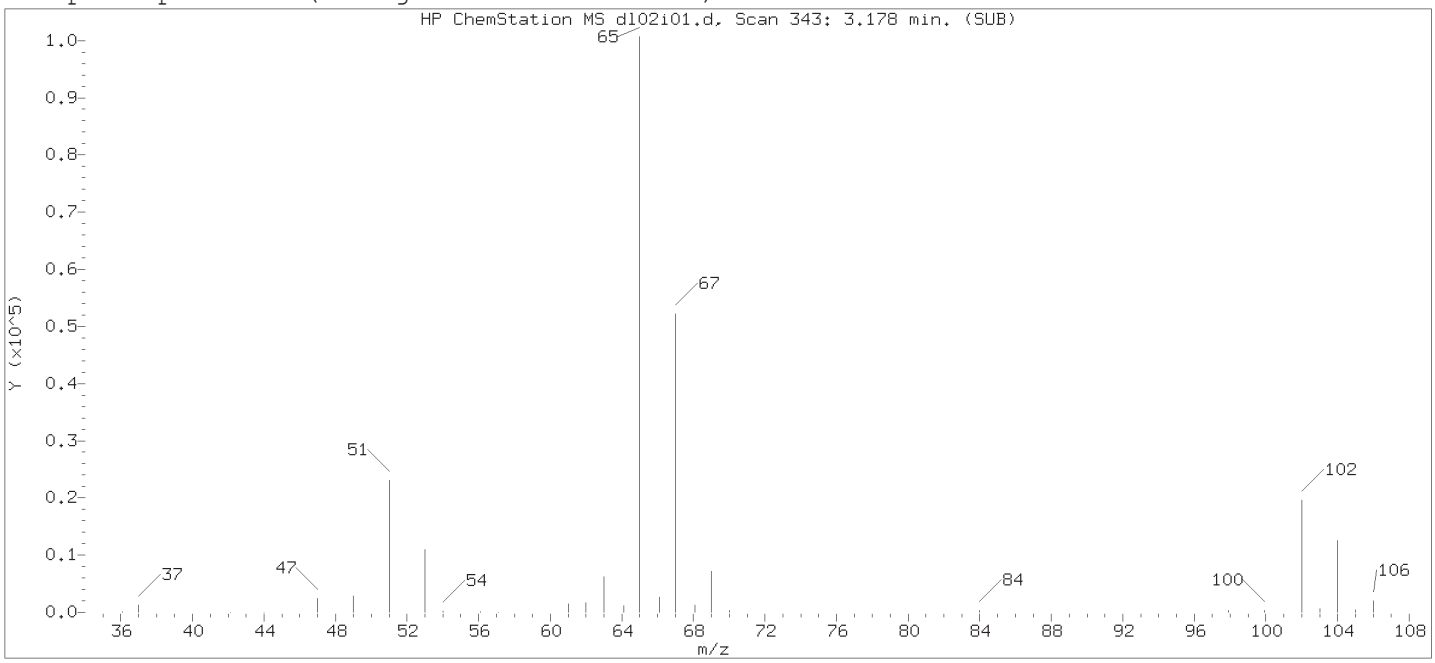
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 343
Retention Time (minutes): 3.178
Quant Ion : 65.00
Area (flag) : 195921M
On-Column Amount (ng) : 50.0000
Integration start scan : 333 Integration stop scan: 347
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

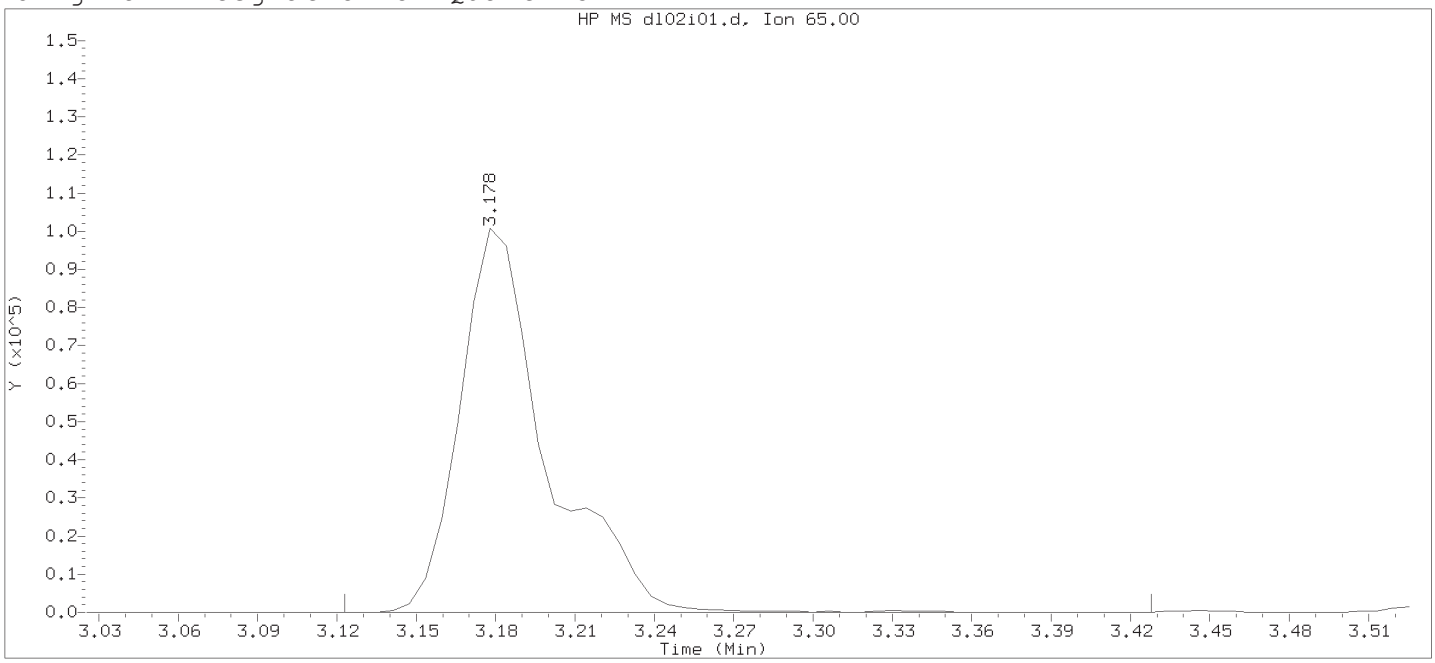
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



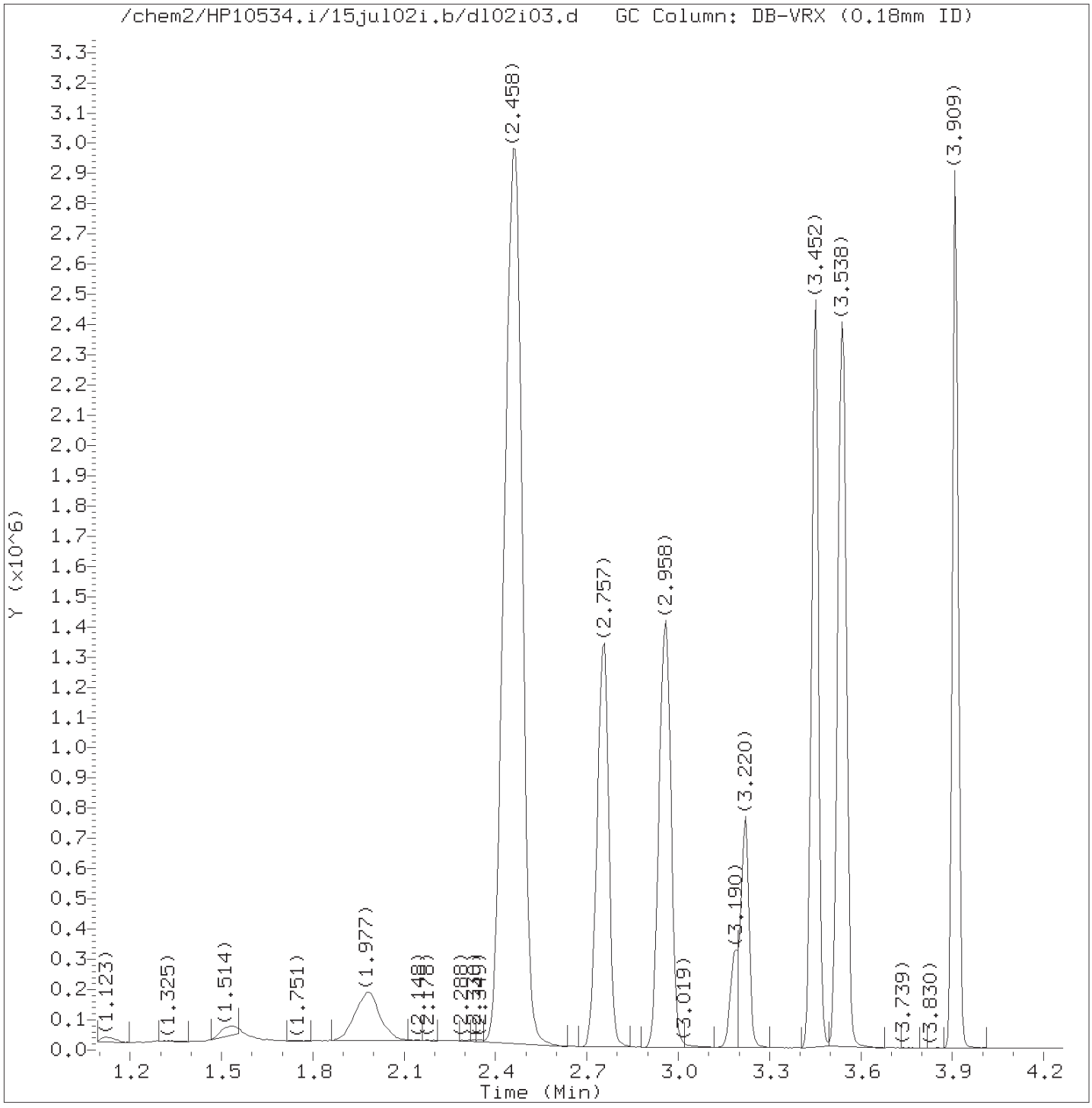
Data File: /chem2/HP10534.i/15jul02i.b/dl02i01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 11:54 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 12:04
Date, time and analyst ID of latest file update: 02-Jul-2015 12:04 chemist

Sample Name: VSTD200 Lab Sample ID: VSTD200

Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 343
Retention Time (minutes): 3.178
Quant Ion : 65.00
Area : 230110
On-column Amount (ng) : 61.6297
Integration start scan : 333 Integration stop scan: 383
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

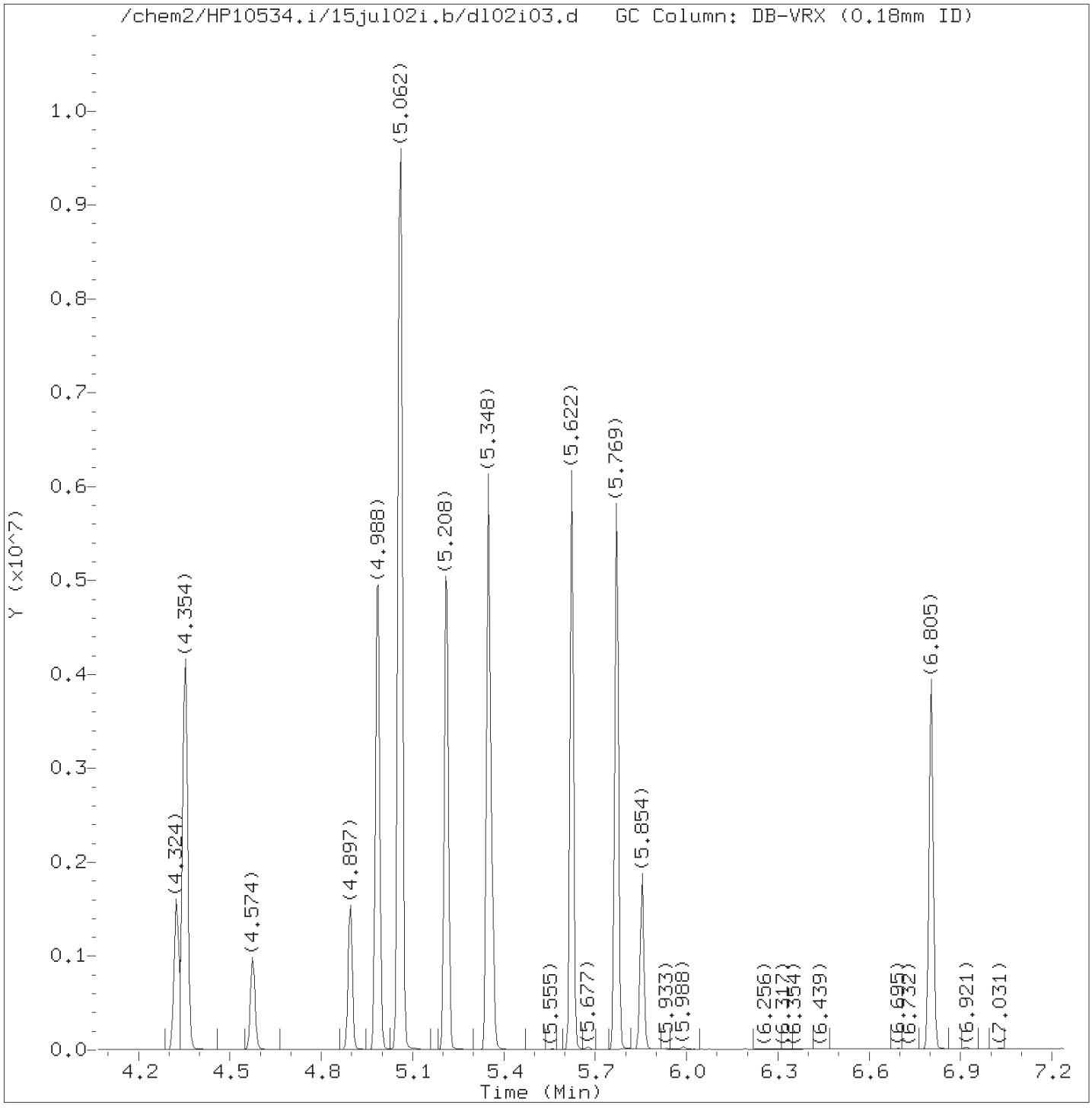
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i03.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:17 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD100 Lab Sample ID: VSTD100

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i03.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:17 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD100 Lab Sample ID: VSTD100

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i03.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:17 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

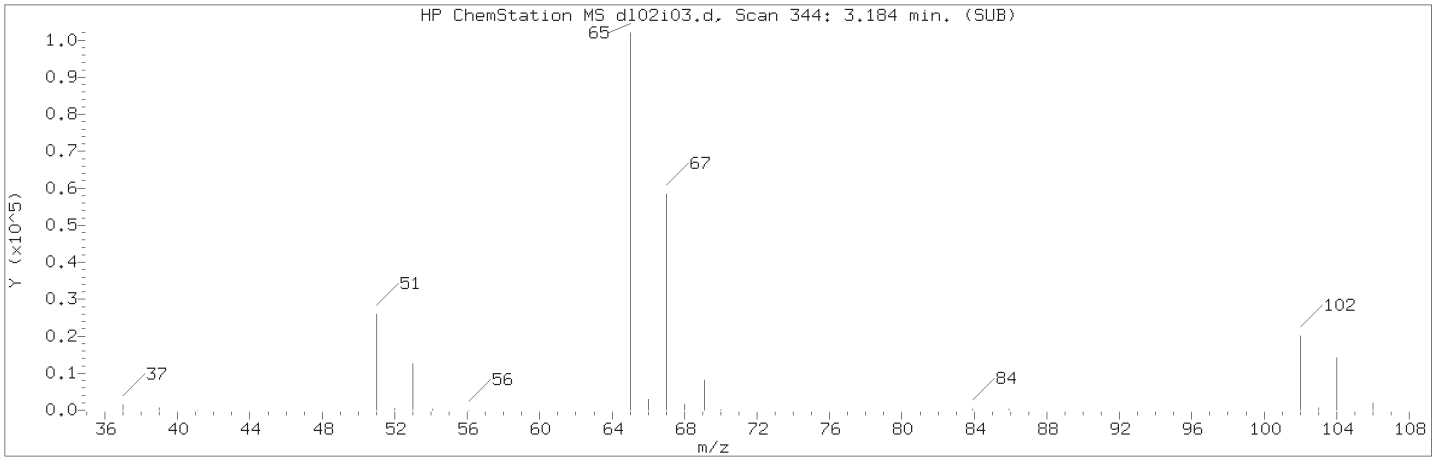
Sample Name: VSTD100 Lab Sample ID: VSTD100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	186977	2391.135
2)*t-Butyl alcohol-d10	(1)	1.946	65	146706	250.000
3) t-Butyl alcohol	(1)	1.989	59	372944	484.672
4) Methyl Tertiary Butyl Ether	(2)	2.465	73	5981977	480.601
5) di-Isopropyl ether	(2)	2.757	45	1532045	97.766
6) Ethyl t-butyl ether	(2)	2.952	59	1432377	97.550
7)$Dibromofluoromethane	(2)	2.971	113	163004	50.015
7)$Dibromofluoromethane	(2)	2.971	111	166005	49.828
10)$1,2-Dichloroethane-d4	(2)	3.184	102	43526M	49.282
10)$1,2-Dichloroethane-d4	(2)	3.184	65	214116M	48.983
10)$1,2-Dichloroethane-d4	(2)	3.184	104	27381	49.218
11) 1,2-Dichloroethane	(2)	3.220	62	593554	97.890
12) Benzene	(2)	3.452	78	1884601	97.649
13) t-Amyl methyl ether	(2)	3.538	87	335757	97.085
14)*Fluorobenzene	(2)	3.550	96	696862	50.000
15) t-Amyl ethyl ether	(2)	3.909	87	700666	95.709
16)$Toluene-d8	(3)	4.324	98	691602	50.148
16)$Toluene-d8	(3)	4.324	100	449309	50.100
17) Toluene	(3)	4.354	92	1188944	98.925
19) 1,2-Dibromoethane	(3)	4.574	107	422971	97.684
20)*Chlorobenzene-d5	(3)	4.897	117	513157	50.000
21) Ethylbenzene	(3)	4.988	91	2238669	98.766
22) m+p-Xylene	(3)	5.062	106	1730597	198.842
23) o-Xylene	(3)	5.214	106	846791	98.941
24) Xylene (Total)	(3)		106	2577388	297.783
25) Isopropylbenzene	(3)	5.348	105	2165871	98.809
26)$4-Bromofluorobenzene	(3)	5.360	95	257750	50.084
26)$4-Bromofluorobenzene	(3)	5.360	174	222288	50.000
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	1772234	99.254
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	1780638	98.892
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	281292	50.000
30) Naphthalene	(4)	6.805	128	1971928	100.000

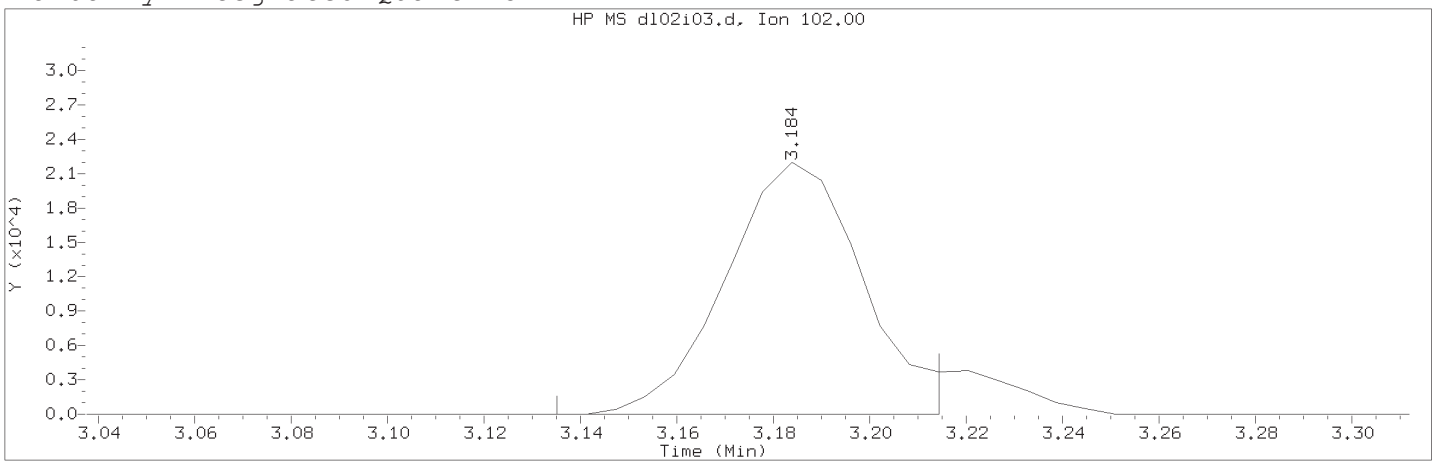
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i03.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:17 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD100 Lab Sample ID: VSTD100

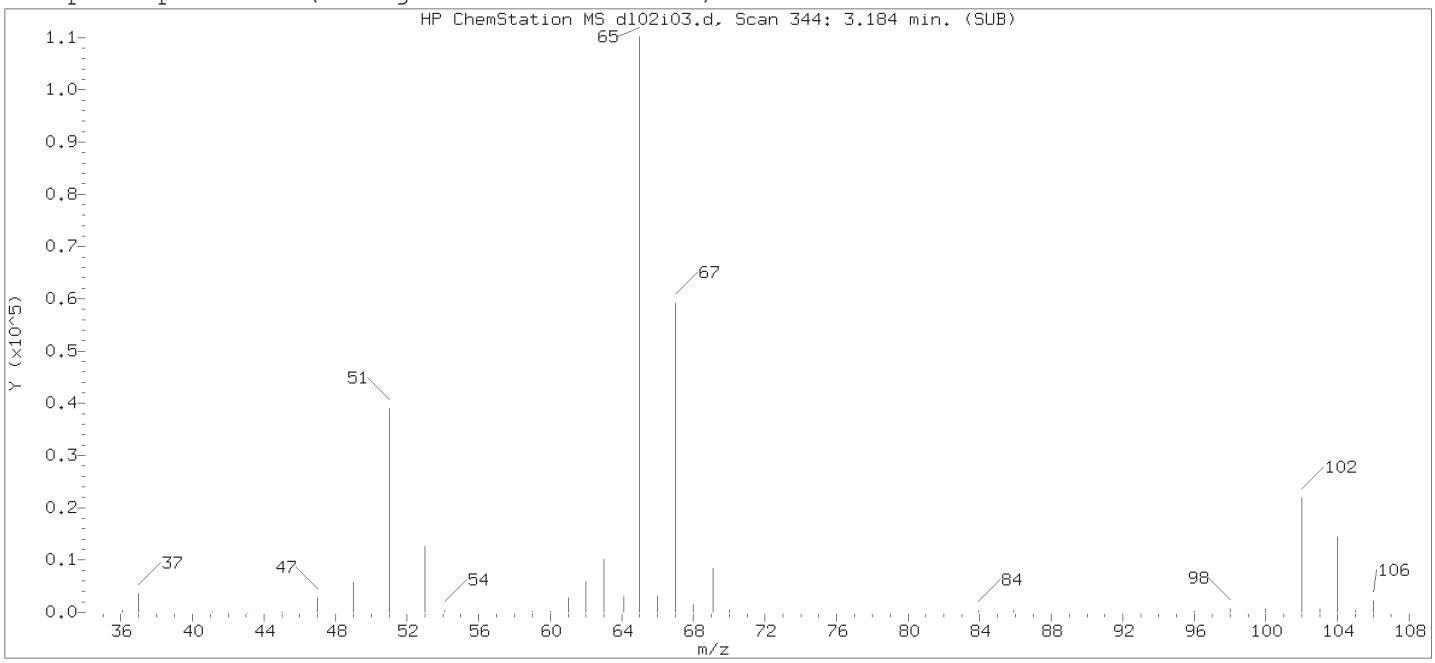
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 344
Retention Time (minutes): 3.184
Quant Ion : 102.00
Area (flag) : 43526M
On-Column Amount (ng) : 49.2825
Integration start scan : 335 Integration stop scan: 348
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

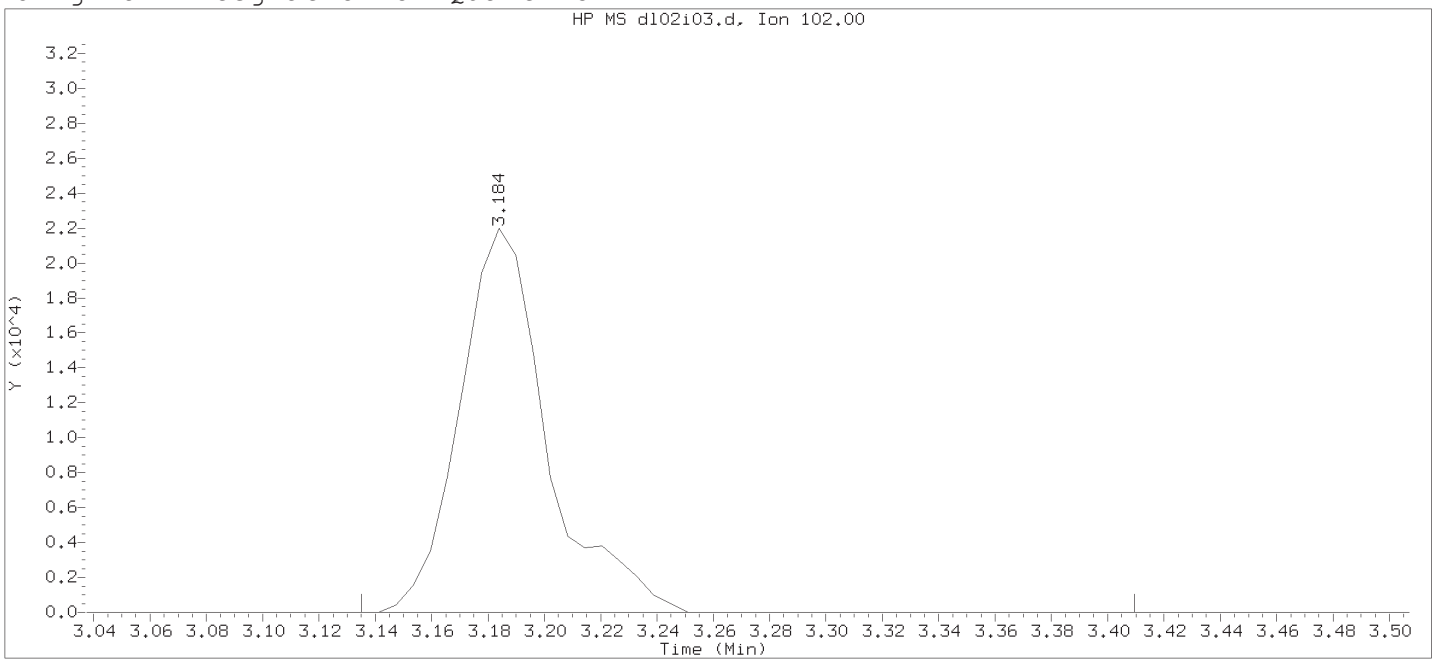
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i03.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:17 Analyst ID: akr02850

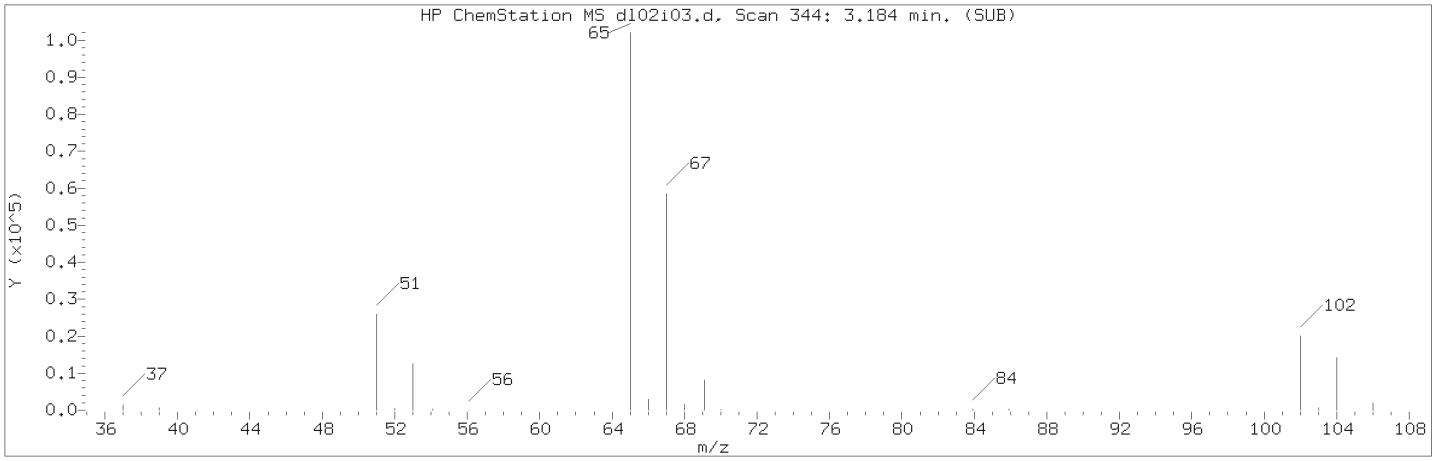
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 12:27
Date, time and analyst ID of latest file update: 02-Jul-2015 12:27 chemist

Sample Name: VSTD100 Lab Sample ID: VSTD100

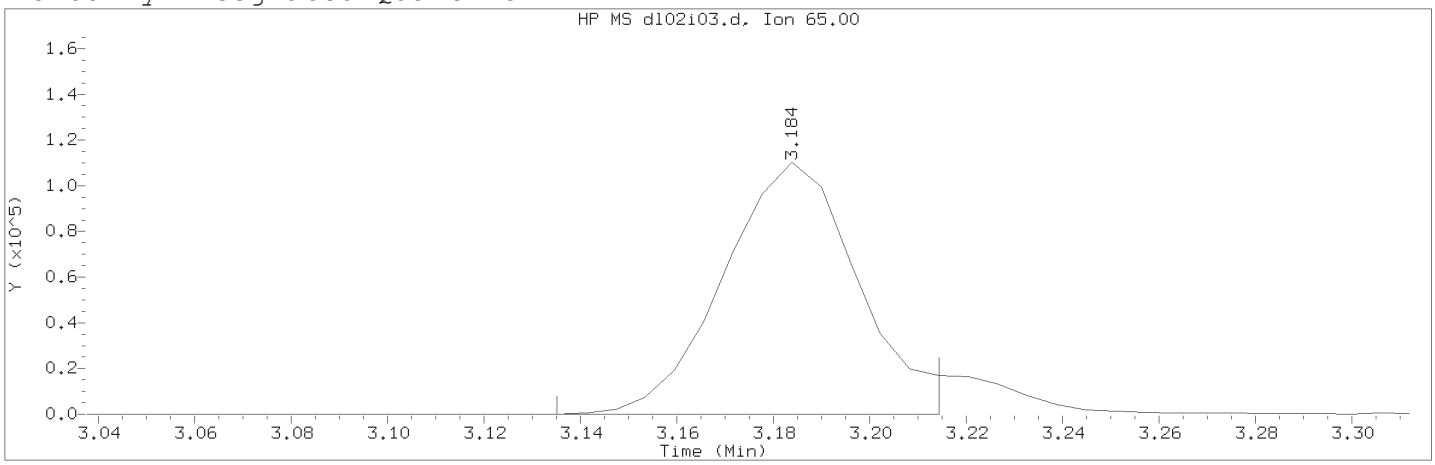
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 344
Retention Time (minutes): 3.184
Quant Ion : 102.00
Area : 47287
On-column Amount (ng) : 50.0000
Integration start scan : 335 Integration stop scan: 380
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i03.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:17 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD100 Lab Sample ID: VSTD100

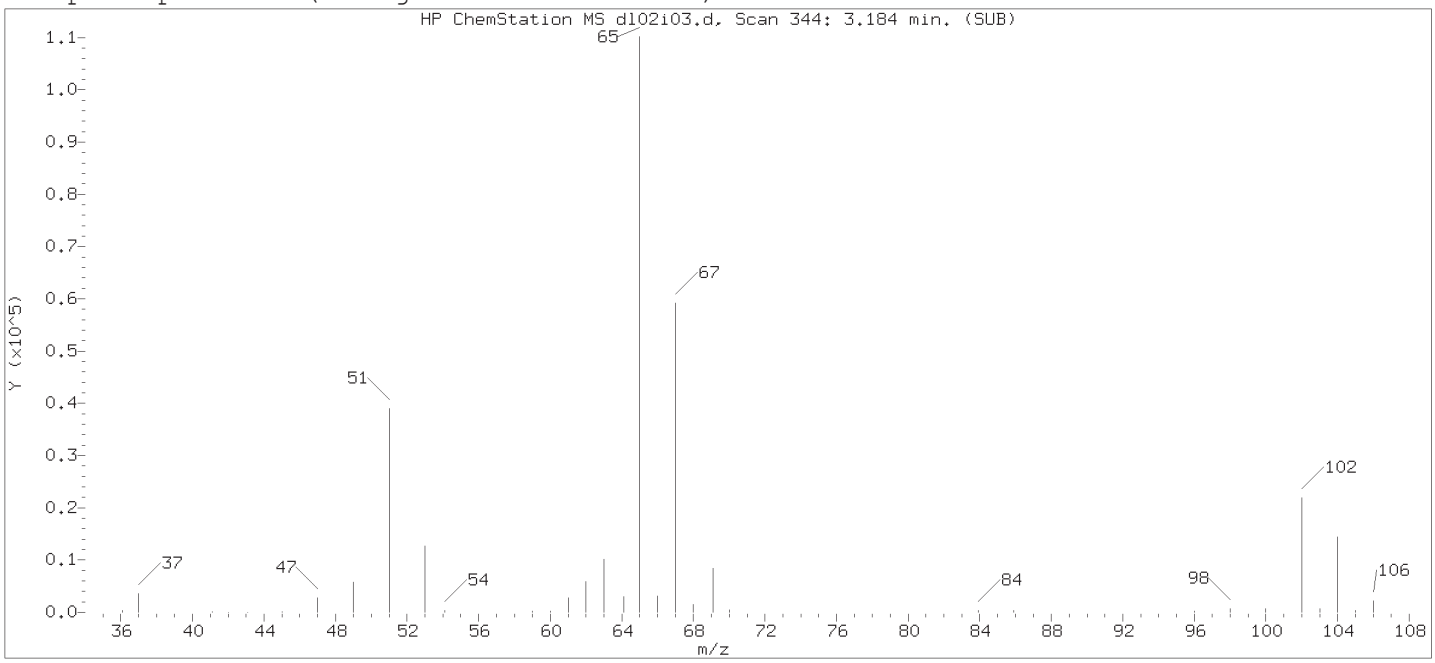
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 344
Retention Time (minutes): 3.184
Quant Ion : 65.00
Area (flag) : 214116M
On-Column Amount (ng) : 48.9831
Integration start scan : 335 Integration stop scan: 348
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

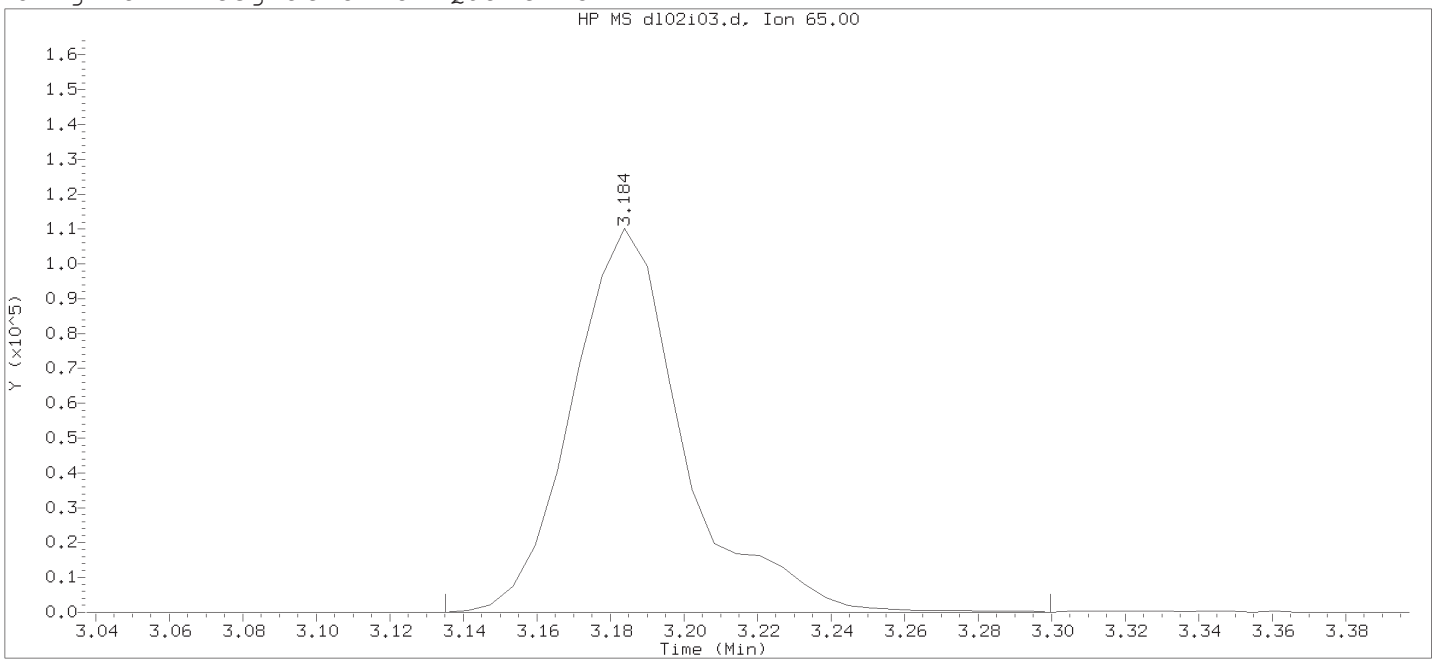
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



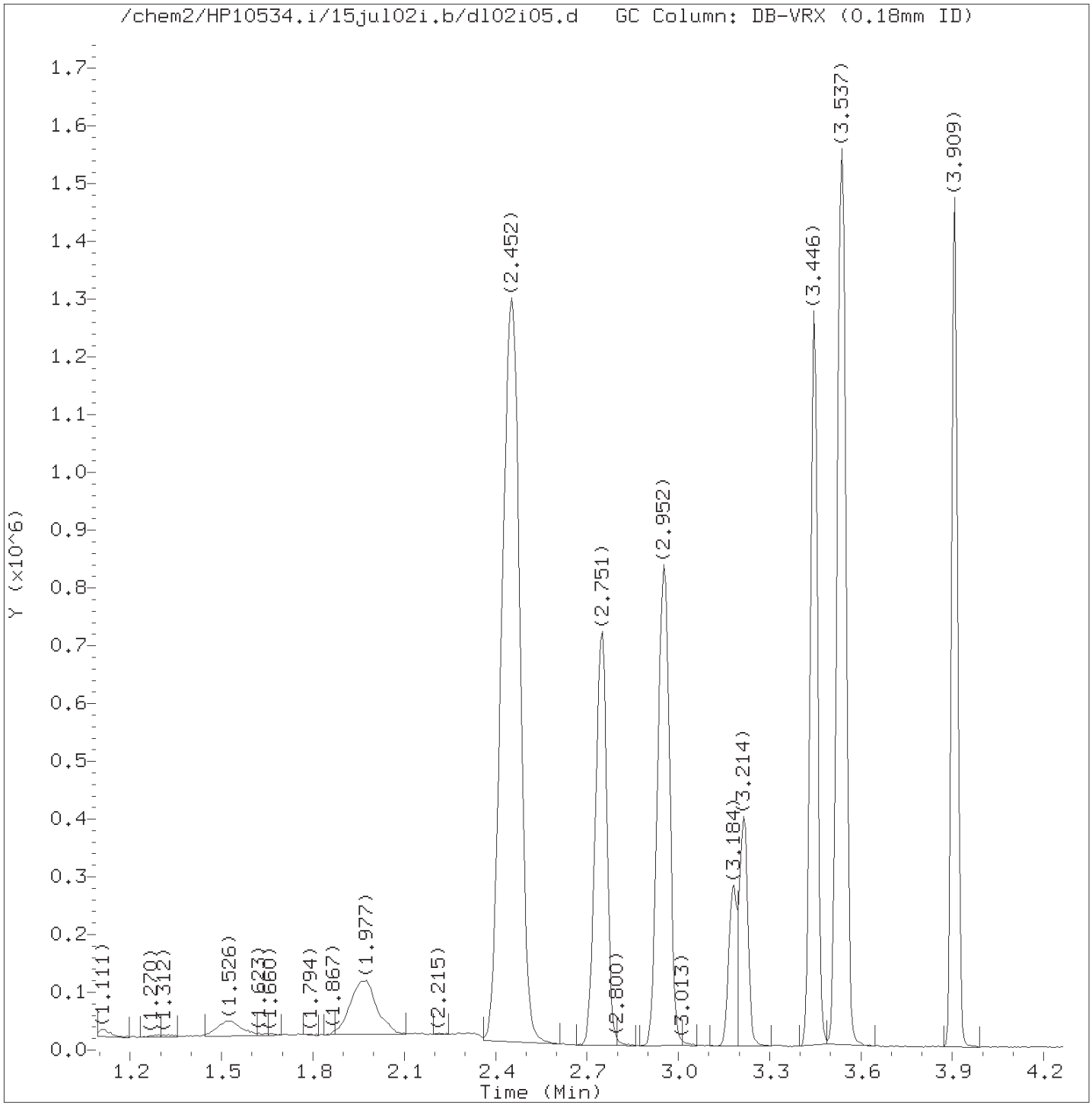
Data File: /chem2/HP10534.i/15jul02i.b/dl02i03.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:17 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 12:27
Date, time and analyst ID of latest file update: 02-Jul-2015 12:27 chemist

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 344
Retention Time (minutes): 3.184
Quant Ion : 65.00
Area : 231807
On-column Amount (ng) : 50.0000
Integration start scan : 335 Integration stop scan: 362
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

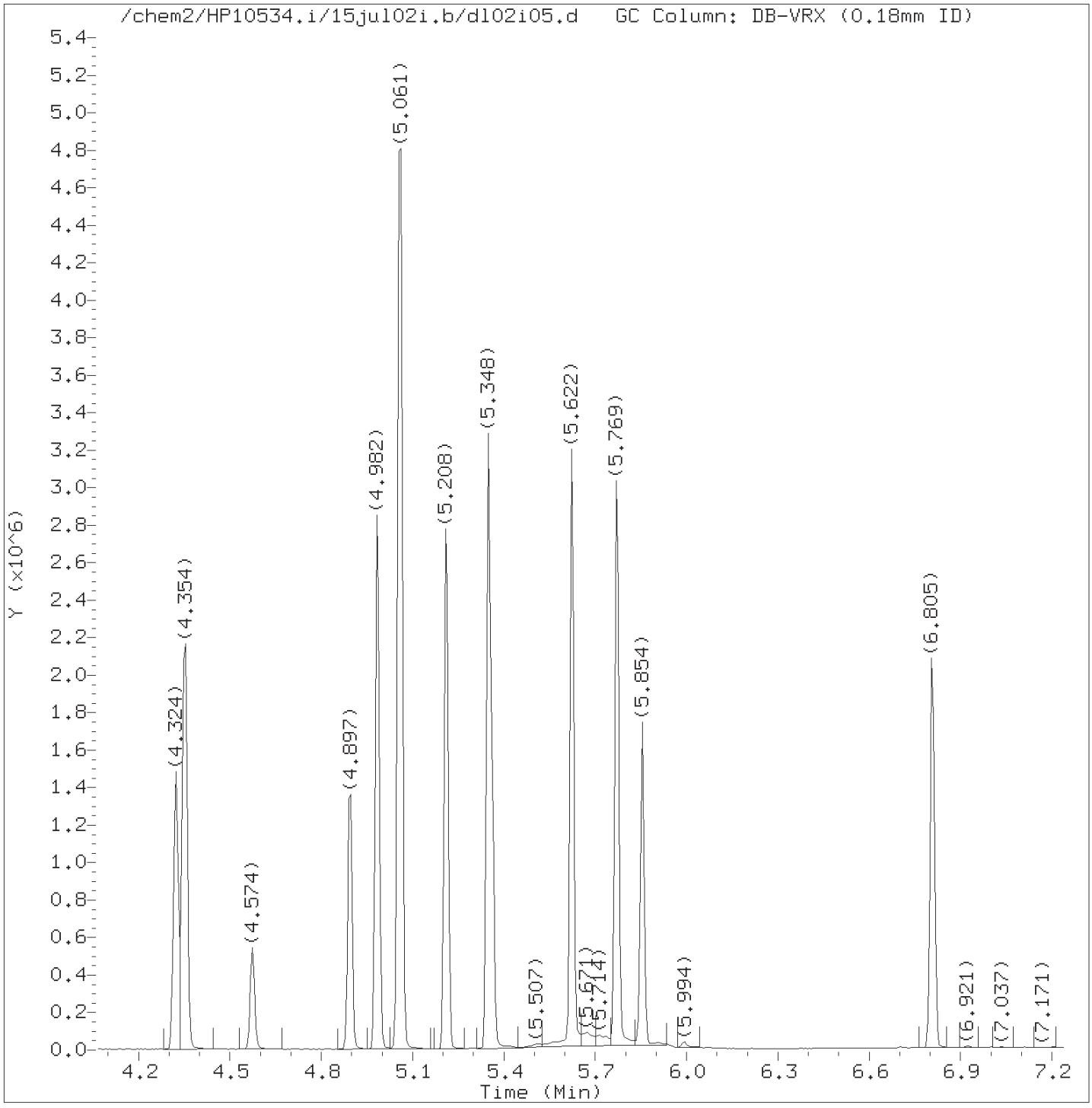
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i05.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:40 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i05.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:40 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i05.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:40 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

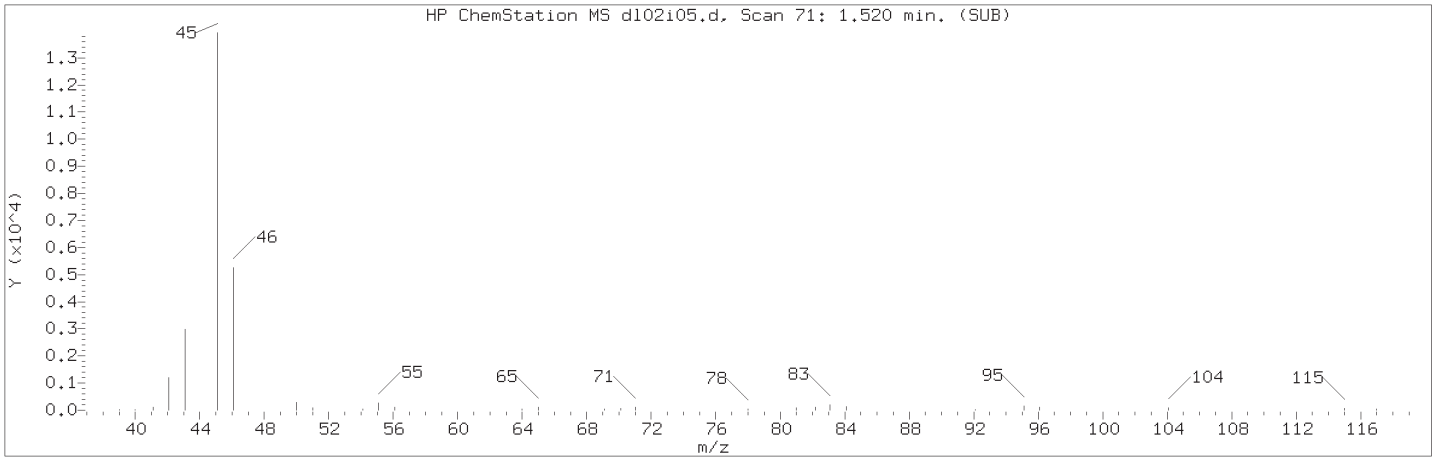
Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.520	45	97392M	1372.736
2)*t-Butyl alcohol-d10	(1)	1.940	65	126572M	250.000
3) t-Butyl alcohol	(1)	1.977	59	188169	271.342
4) Methyl Tertiary Butyl Ether	(2)	2.452	73	2609493	216.092
5) di-Isopropyl ether	(2)	2.751	45	816447	53.817
6) Ethyl t-butyl ether	(2)	2.952	59	765774	53.851
7)$Dibromofluoromethane	(2)	2.964	113	150477	49.722
7)$Dibromofluoromethane	(2)	2.964	111	154594	49.889
10)$1,2-Dichloroethane-d4	(2)	3.178	102	41735	50.496
10)$1,2-Dichloroethane-d4	(2)	3.178	65	206519	50.490
10)$1,2-Dichloroethane-d4	(2)	3.178	104	25030	48.866
11) 1,2-Dichloroethane	(2)	3.214	62	317811	54.024
12) Benzene	(2)	3.446	78	995041	53.456
13) t-Amyl methyl ether	(2)	3.531	87	178583	53.509
14)*Fluorobenzene	(2)	3.543	96	648888	50.000
15) t-Amyl ethyl ether	(2)	3.909	87	367388	52.531
16)$Toluene-d8	(3)	4.324	98	644289	49.829
16)$Toluene-d8	(3)	4.324	100	418522	49.793
17) Toluene	(3)	4.354	92	629750	53.717
19) 1,2-Dibromoethane	(3)	4.574	107	224862	53.410
20)*Chlorobenzene-d5	(3)	4.897	117	481942	50.000
21) Ethylbenzene	(3)	4.982	91	1186629	53.687
22) m+p-Xylene	(3)	5.061	106	926520	108.521
23) o-Xylene	(3)	5.208	106	452413	54.021
24) Xylene (Total)	(3)		106	1378933	162.542
25) Isopropylbenzene	(3)	5.348	105	1145911	53.638
26)$4-Bromofluorobenzene	(3)	5.360	95	238839	49.609
26)$4-Bromofluorobenzene	(3)	5.360	174	205322	49.447
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	942144	54.560
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	949653	54.545
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	259631	50.000
30) Naphthalene	(4)	6.805	128	1062772	55.298

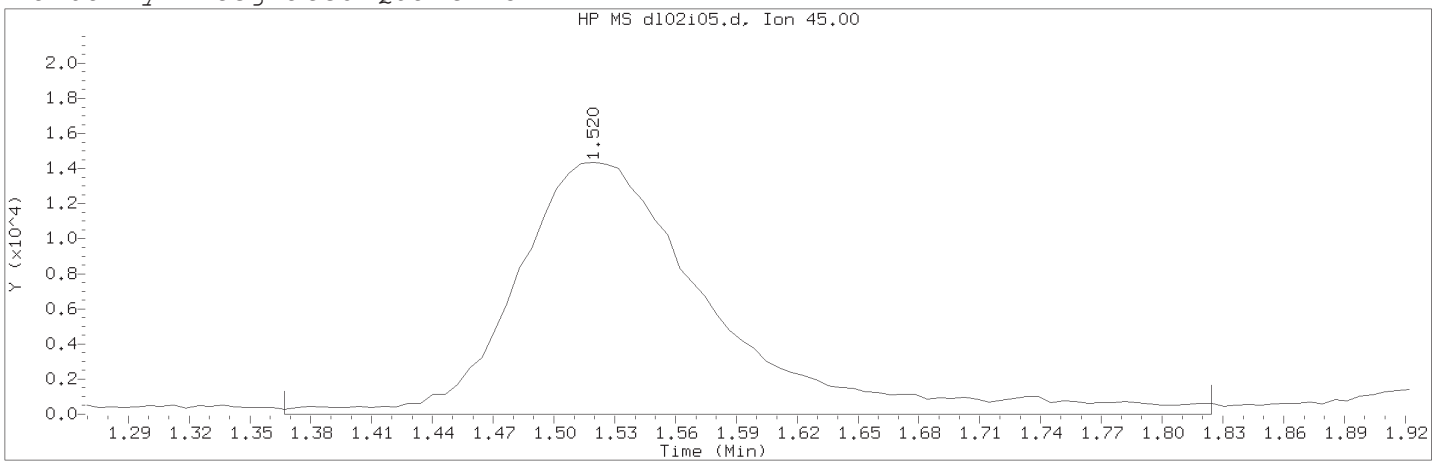
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i05.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:40 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD050 Lab Sample ID: VSTD050

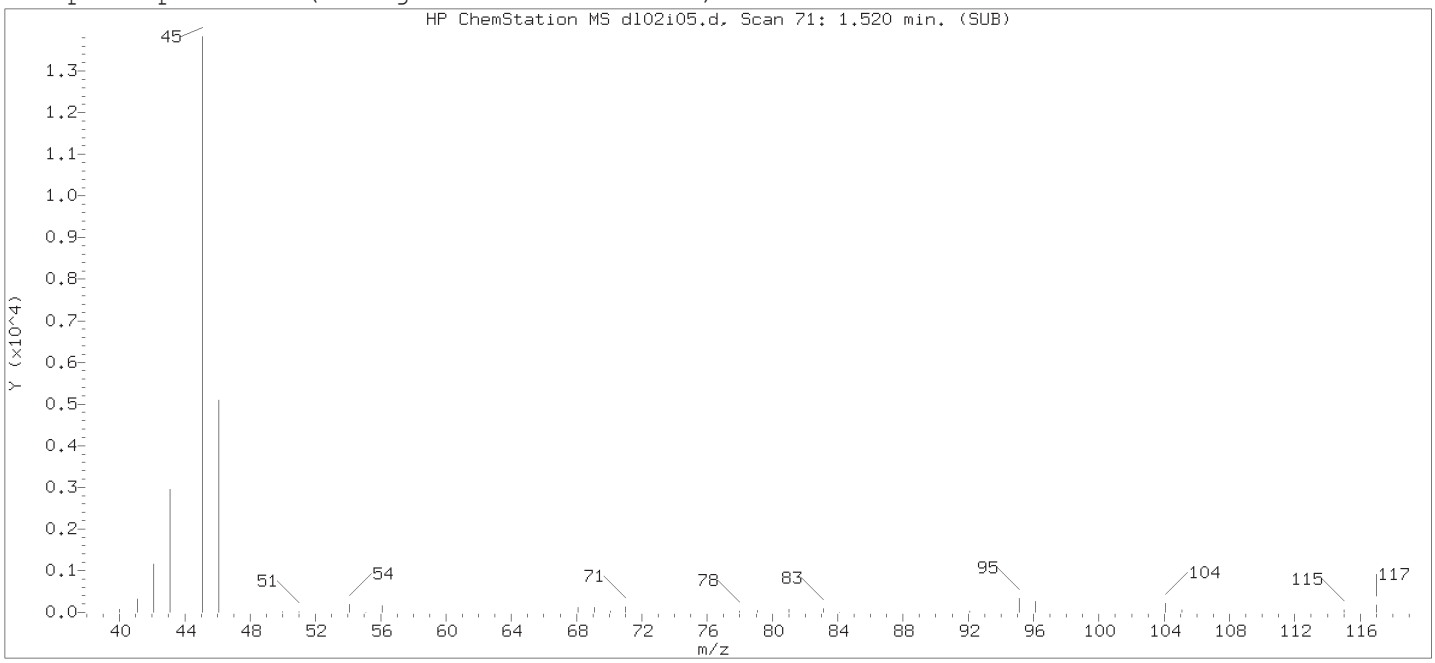
Compound Number : 1
Compound Name : Ethanol
Scan Number : 71
Retention Time (minutes): 1.520
Quant Ion : 45.00
Area (flag) : 97392M
On-Column Amount (ng) : 1372.7357
Integration start scan : 45 Integration stop scan: 120
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

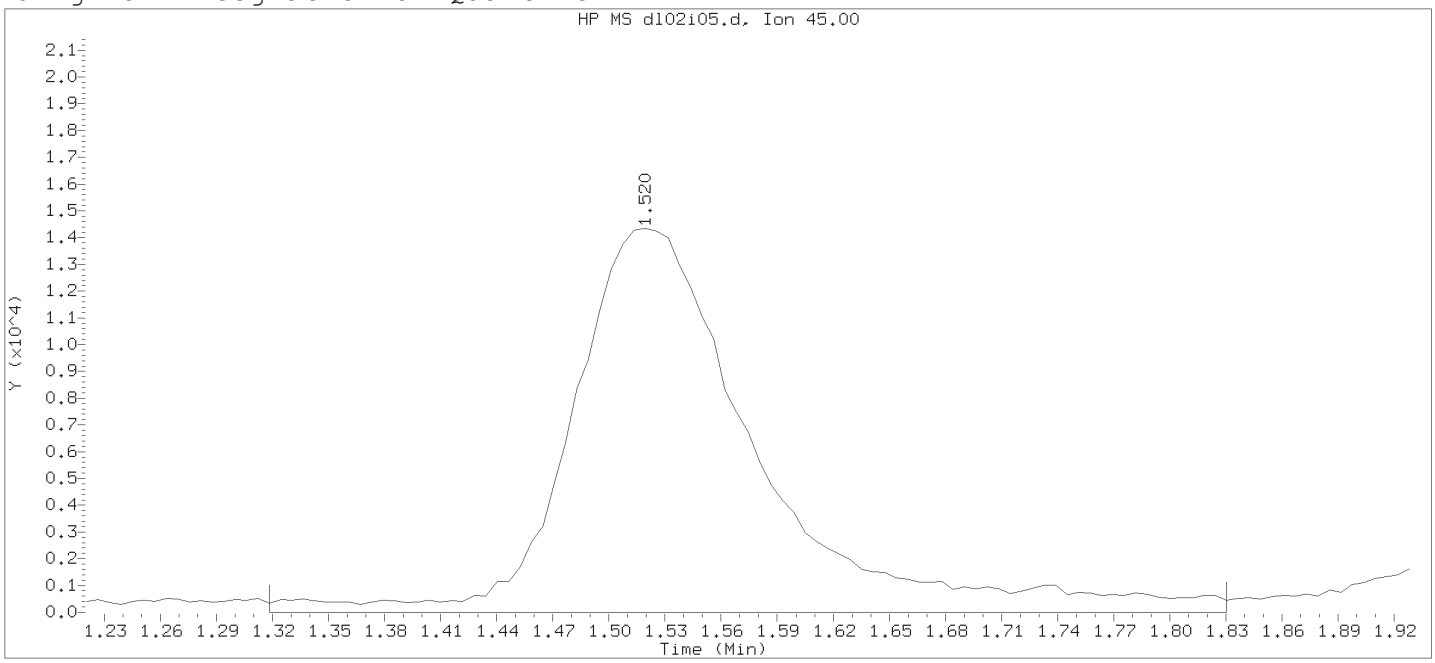
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i05.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:40 Analyst ID: akr02850

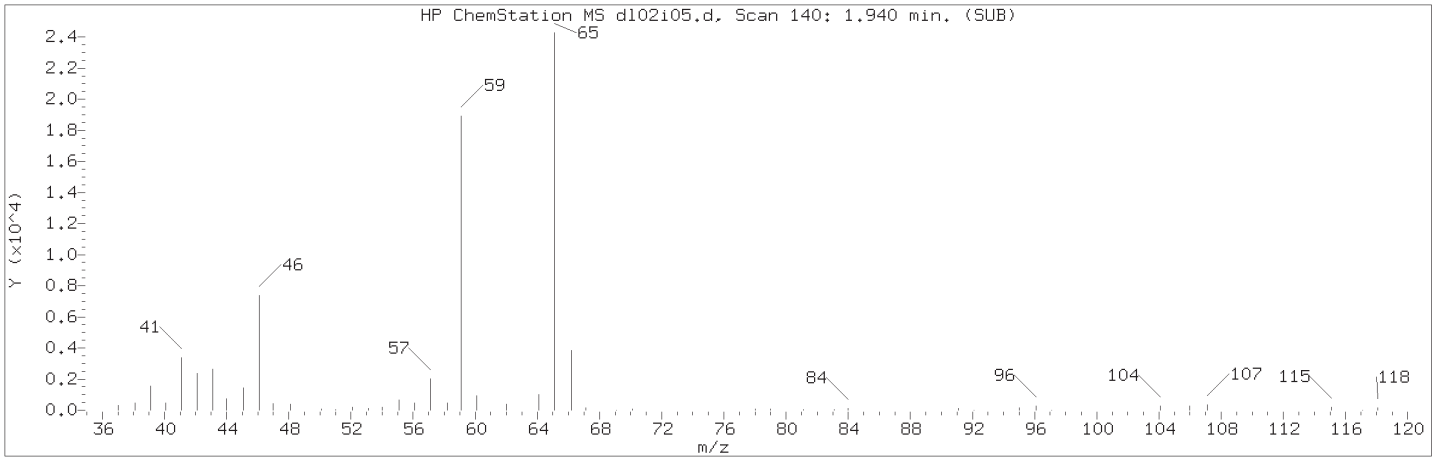
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 12:50
Date, time and analyst ID of latest file update: 02-Jul-2015 12:50 chemist

Sample Name: VSTD050 Lab Sample ID: VSTD050

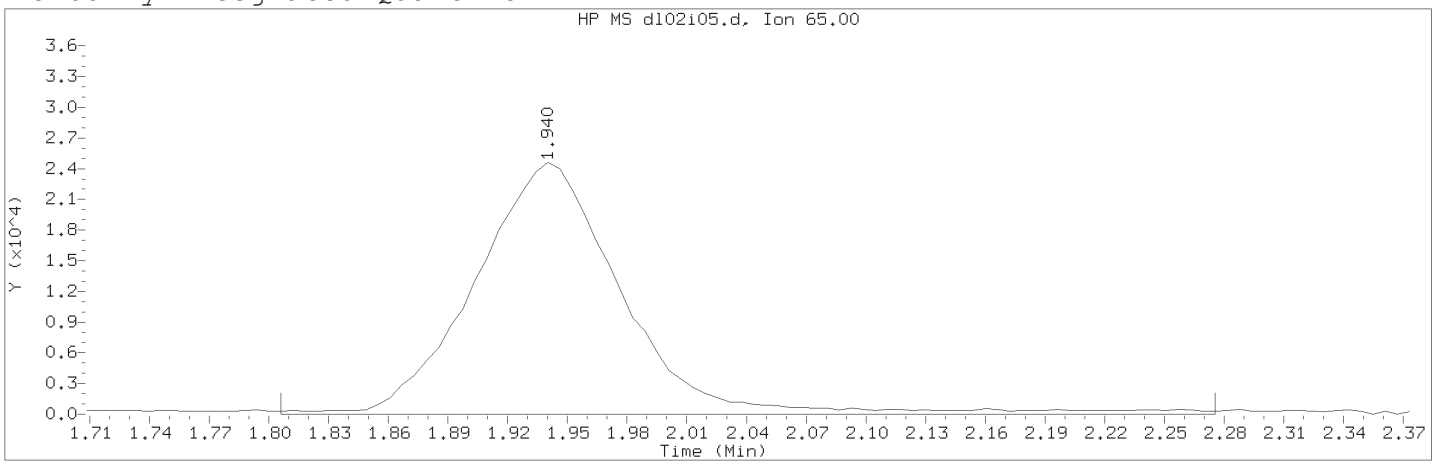
Compound Number : 1
Compound Name : Ethanol
Scan Number : 71
Retention Time (minutes): 1.520
Quant Ion : 45.00
Area : 98623
On-column Amount (ng) : 172.3073
Integration start scan : 37 Integration stop scan: 121
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i05.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:40 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD050 Lab Sample ID: VSTD050

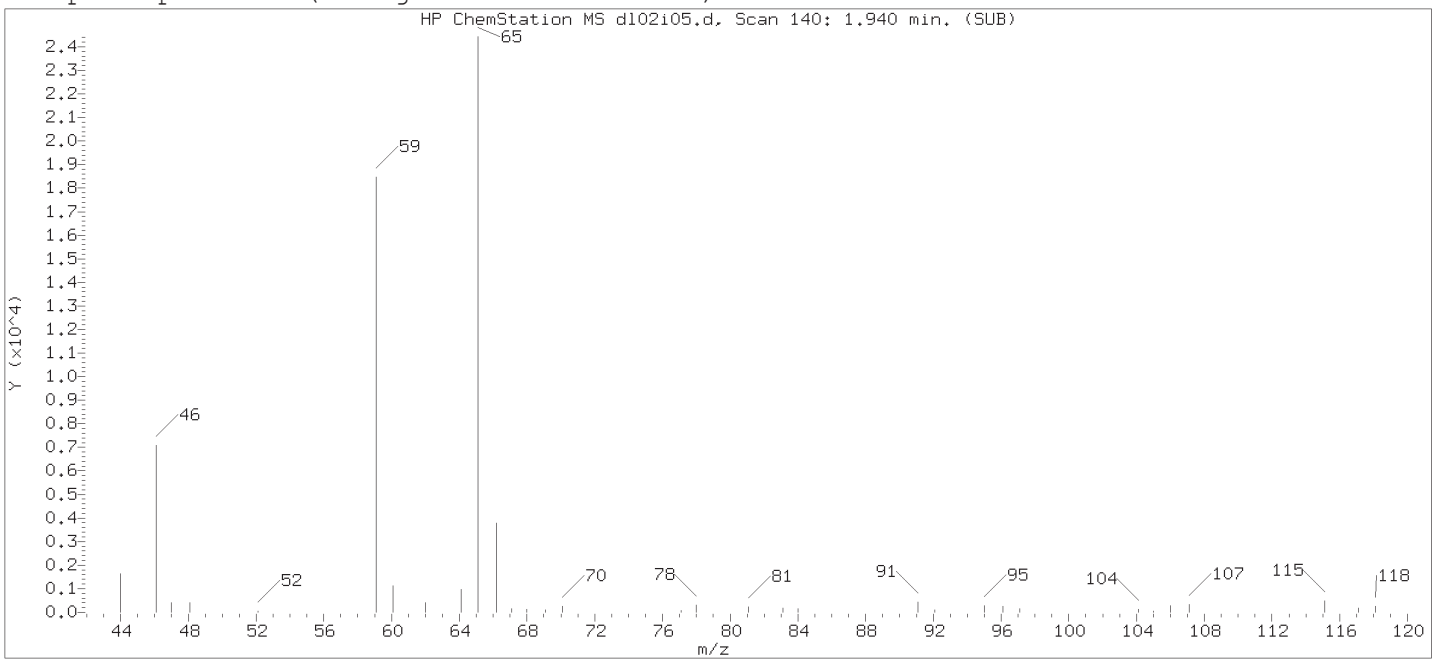
Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 140
Retention Time (minutes): 1.940
Quant Ion : 65.00
Area (flag) : 126572M
On-Column Amount (ng) : 250.0000
Integration start scan : 117 Integration stop scan: 194
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

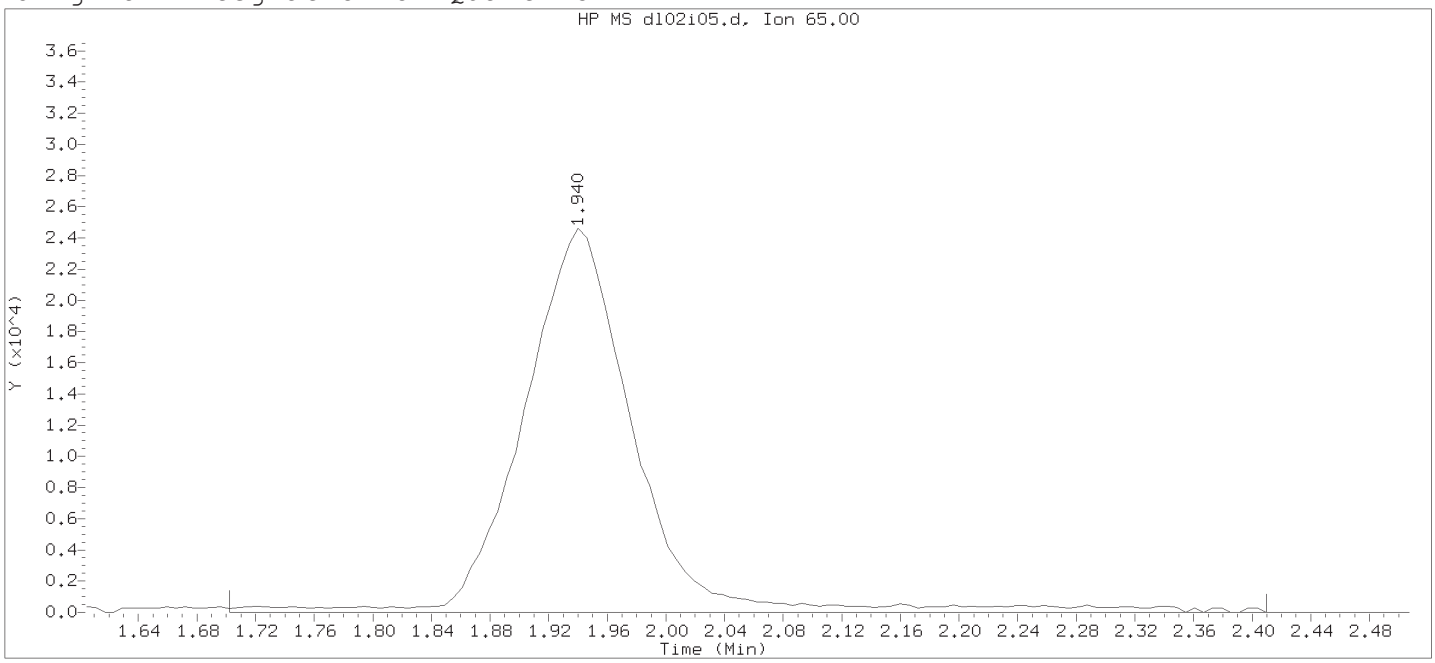
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



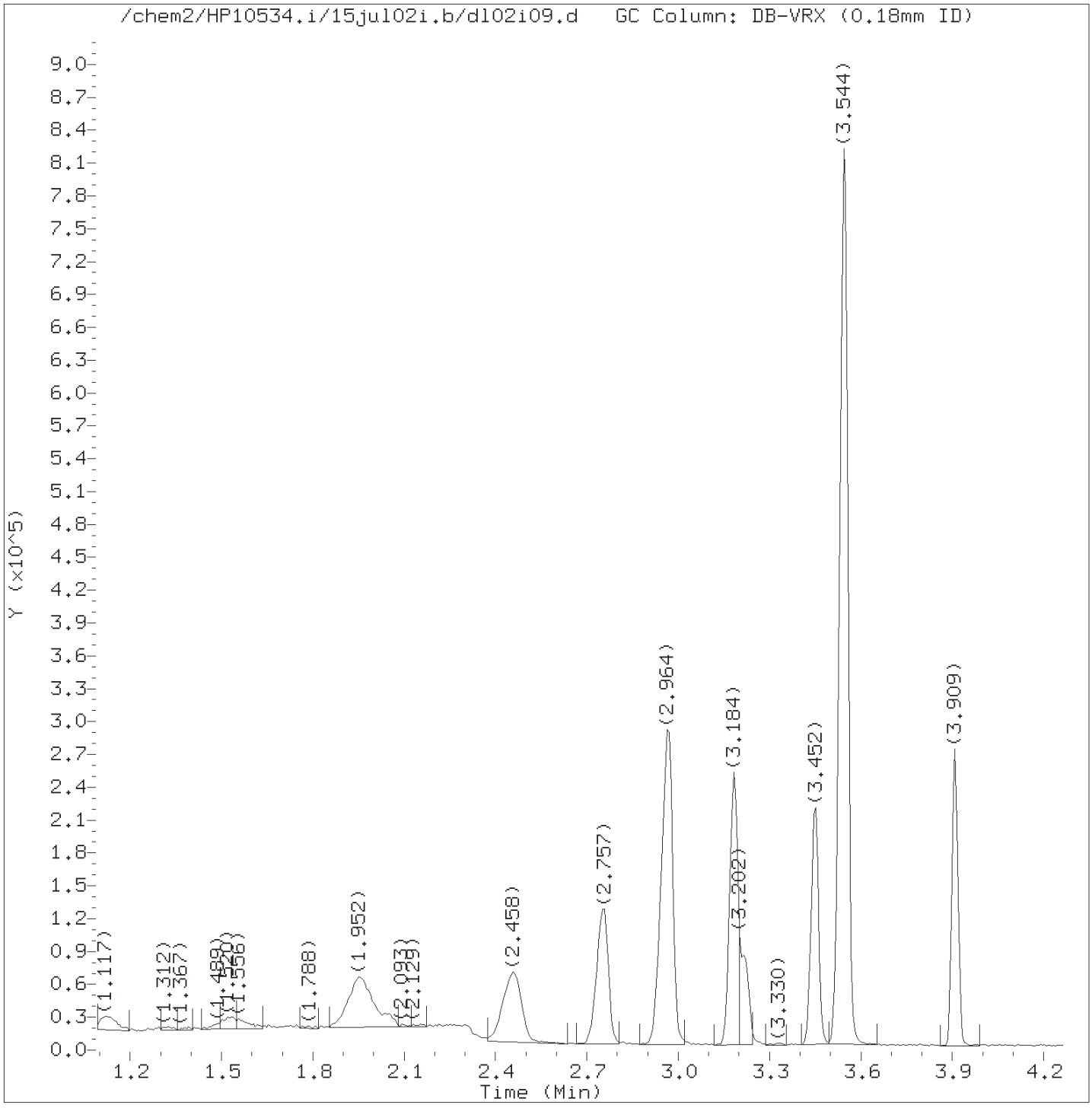
Data File: /chem2/HP10534.i/15jul02i.b/dl02i05.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:40 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 12:50
Date, time and analyst ID of latest file update: 02-Jul-2015 12:50 chemist

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 140
Retention Time (minutes): 1.940
Quant Ion : 65.00
Area : 130515
On-column Amount (ng) : 250.0000
Integration start scan : 100 Integration stop scan: 216
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

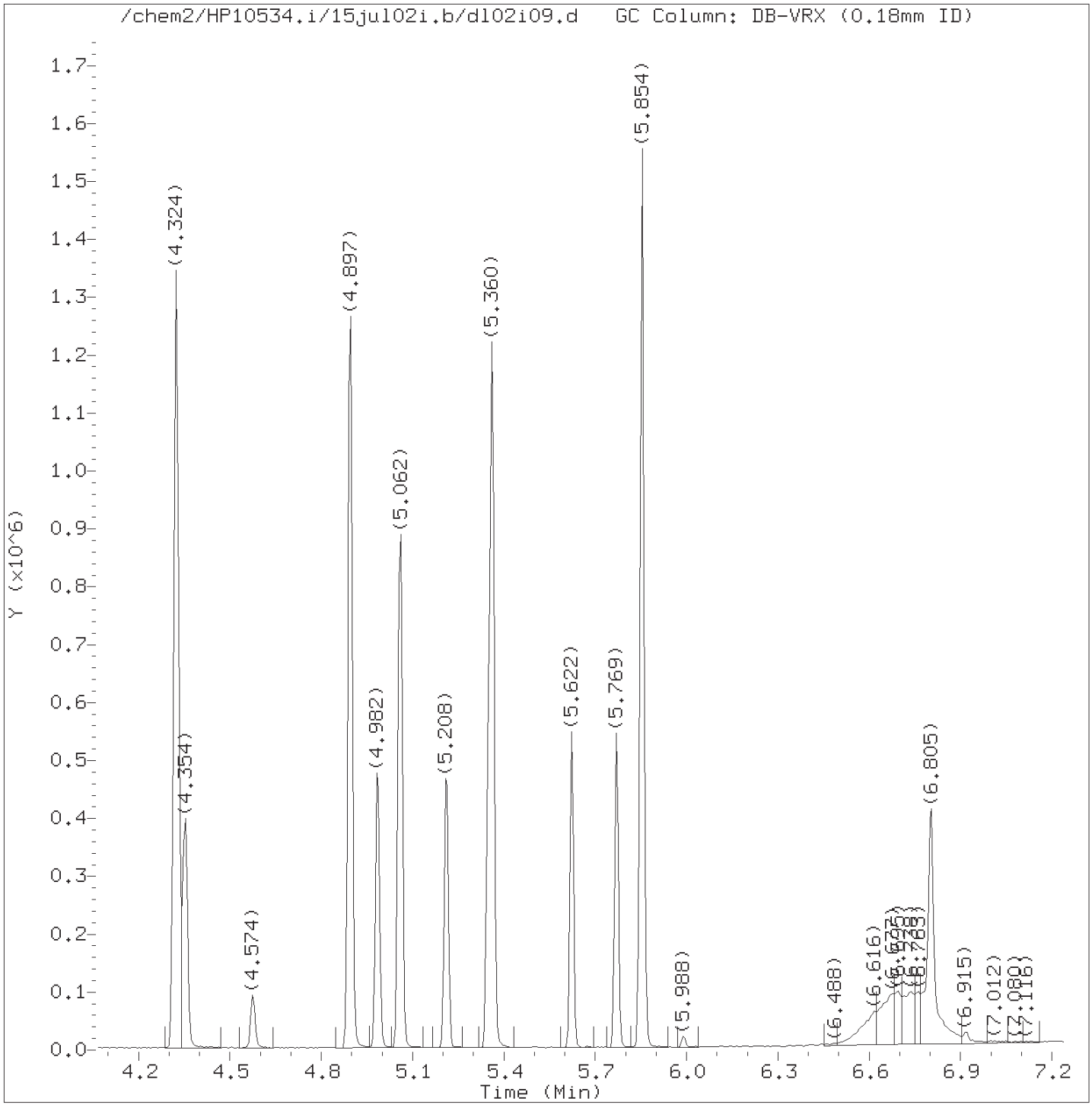
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

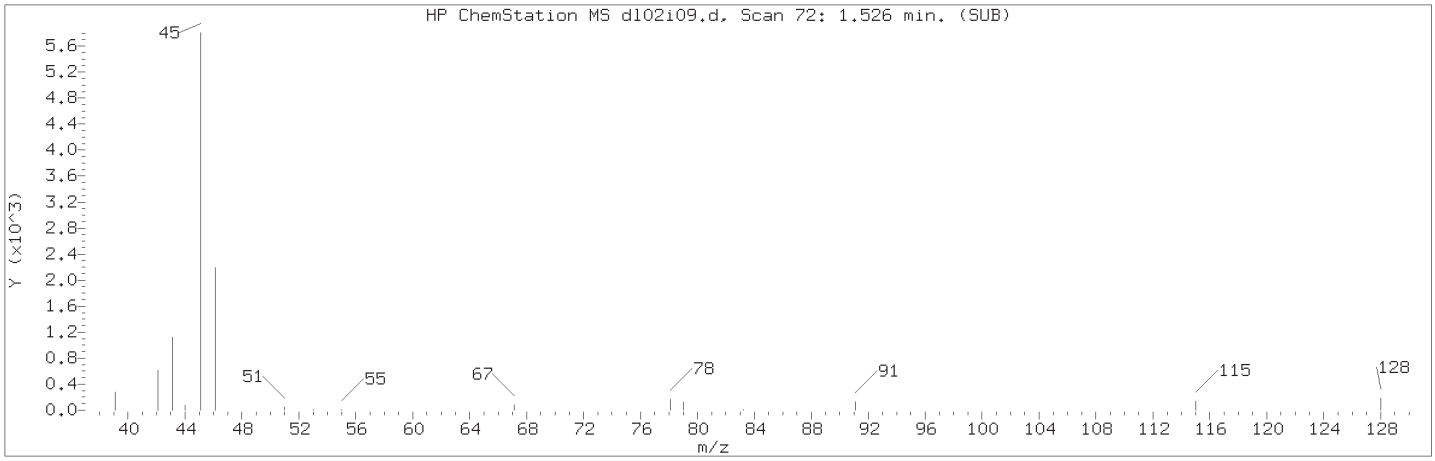
Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	41617M	602.839
2)*t-Butyl alcohol-d10	(1)	1.952	65	111070M	250.000
3) t-Butyl alcohol	(1)	1.989	59	32604	49.631
4) Methyl Tertiary Butyl Ether	(2)	2.458	73	125705	10.919
5) di-Isopropyl ether	(2)	2.757	45	142053	10.154
6) Ethyl t-butyl ether	(2)	2.946	59	132351	10.120
7)$Dibromofluoromethane	(2)	2.971	113	136761	49.996
7)$Dibromofluoromethane	(2)	2.971	111	138108	49.571
10)$1,2-Dichloroethane-d4	(2)	3.184	102	36229	49.084
10)$1,2-Dichloroethane-d4	(2)	3.184	65	178573	48.966
10)$1,2-Dichloroethane-d4	(2)	3.184	104	23078	50.097
11) 1,2-Dichloroethane	(2)	3.220	62	54672	10.096
12) Benzene	(2)	3.452	78	173949	10.133
13) t-Amyl methyl ether	(2)	3.531	87	30899	10.094
14)*Fluorobenzene	(2)	3.550	96	585836	50.000
15) t-Amyl ethyl ether	(2)	3.909	87	66429	10.189
16)$Toluene-d8	(3)	4.324	98	584162	49.935
16)$Toluene-d8	(3)	4.324	100	383403	50.394
17) Toluene	(3)	4.354	92	110400	10.178
19) 1,2-Dibromoethane	(3)	4.574	107	38237	9.975
20)*Chlorobenzene-d5	(3)	4.897	117	435270	50.000
21) Ethylbenzene	(3)	4.982	91	208227	10.173
22) m+p-Xylene	(3)	5.062	106	162033	20.402
23) o-Xylene	(3)	5.214	106	79525	10.233
24) Xylene (Total)	(3)		106	241558	30.635
25) Isopropylbenzene	(3)	5.348	105	201913	10.211
26)$4-Bromofluorobenzene	(3)	5.360	95	219816	50.451
26)$4-Bromofluorobenzene	(3)	5.360	174	189957	50.370
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	163559M	10.179
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	165559	10.190
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	237354	50.000
30) Naphthalene	(4)	6.805	128	183991	10.274

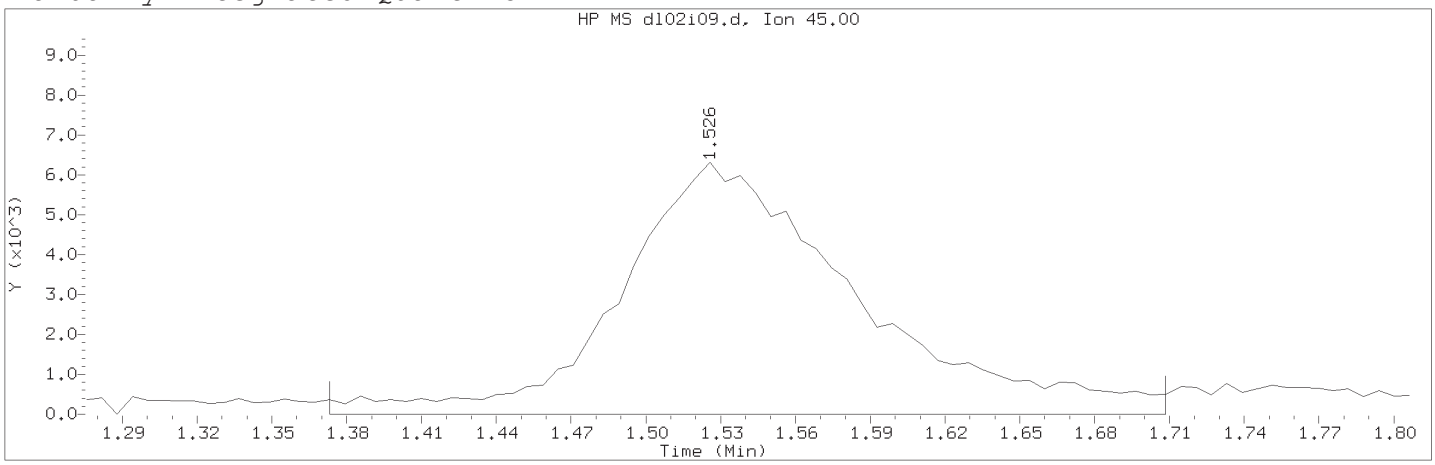
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD010 Lab Sample ID: VSTD010

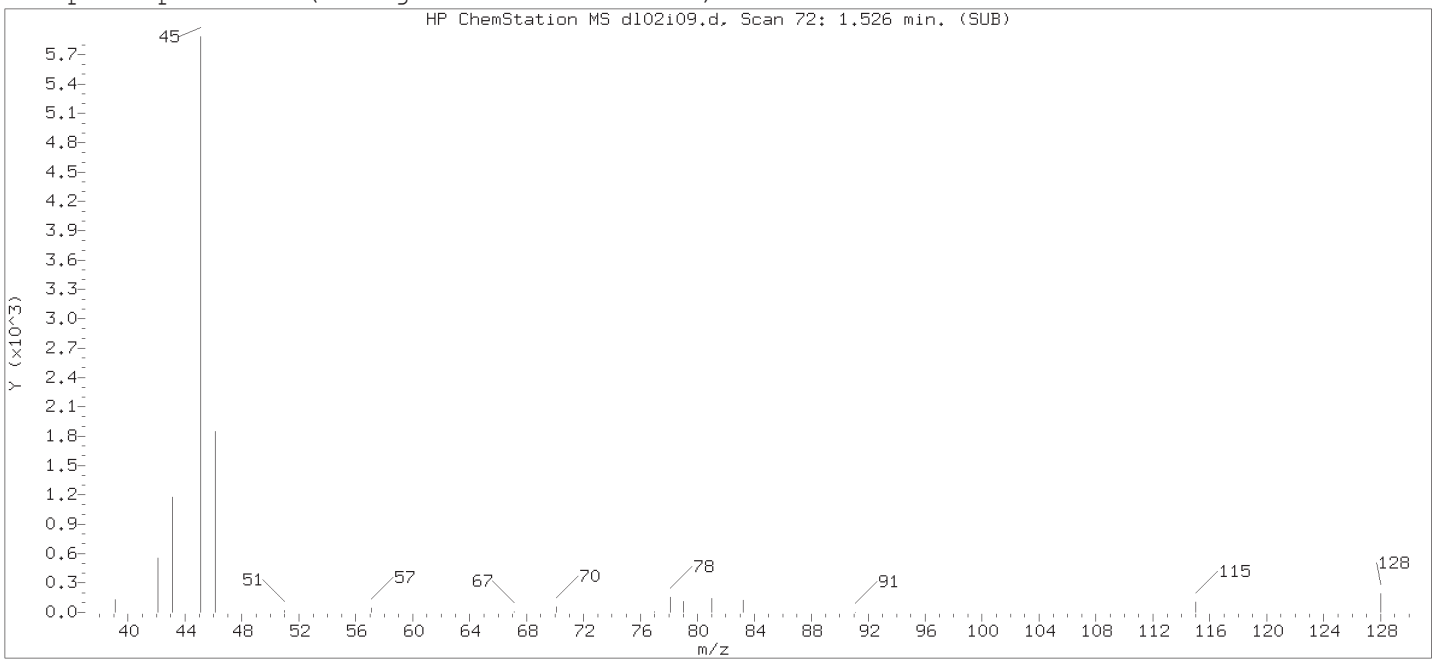
Compound Number : 1
Compound Name : Ethanol
Scan Number : 72
Retention Time (minutes): 1.526
Quant Ion : 45.00
Area (flag) : 41617M
On-Column Amount (ng) : 602.8390
Integration start scan : 46 Integration stop scan: 101
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

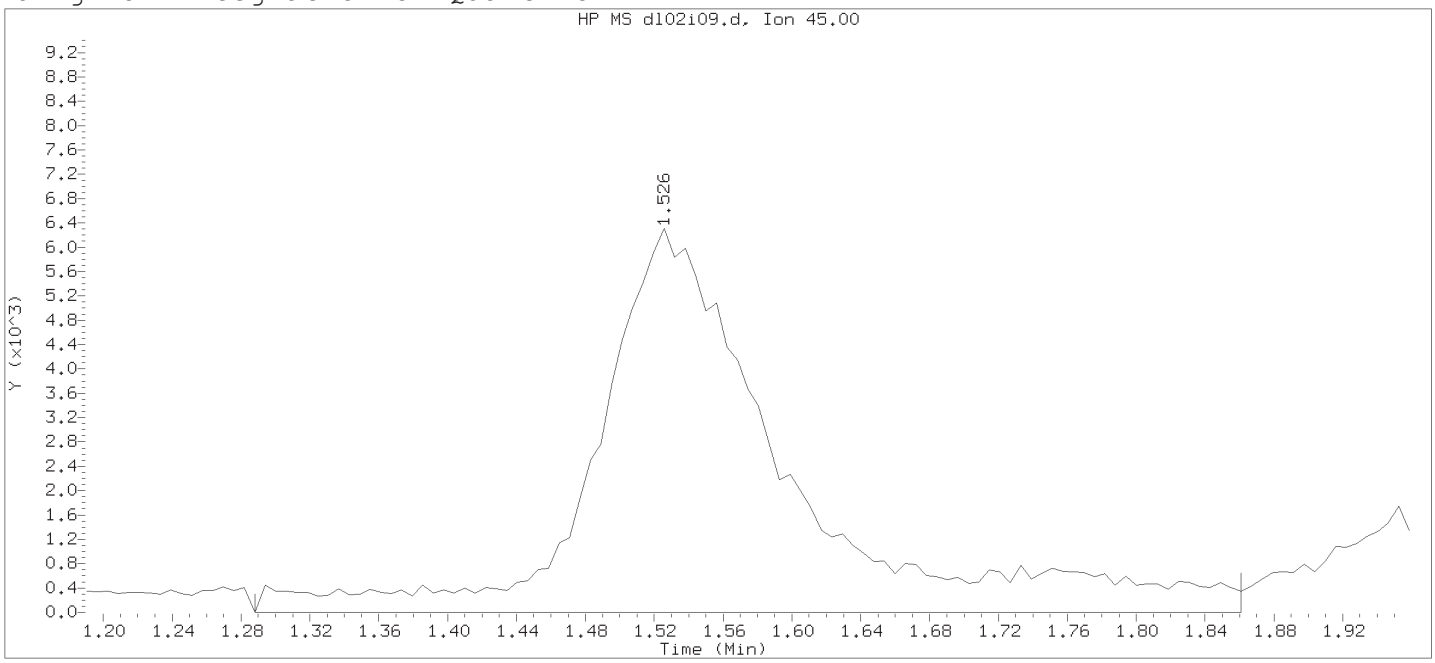
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

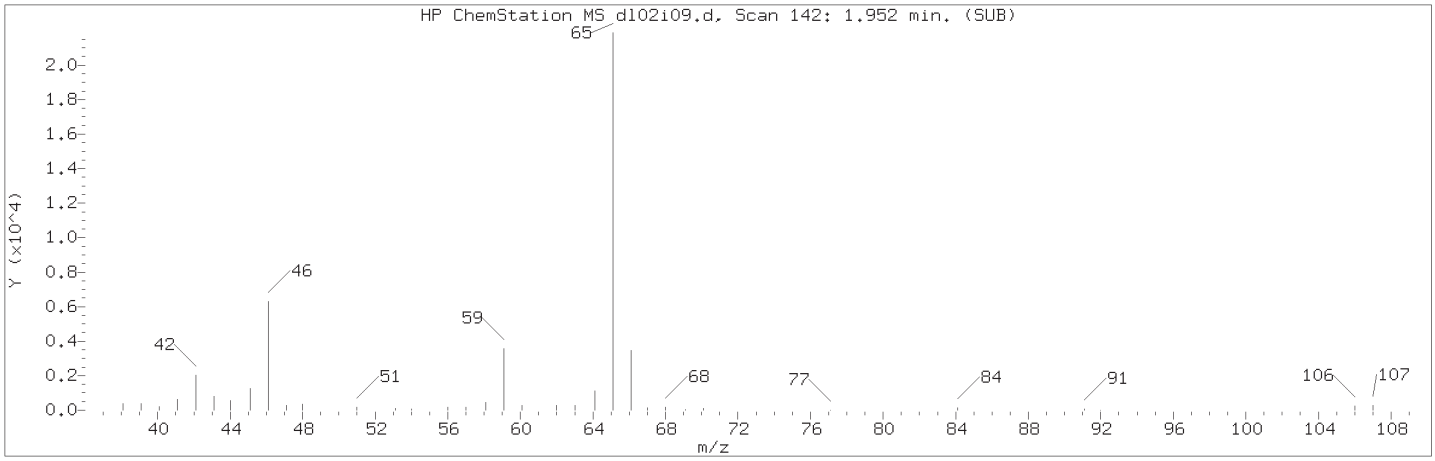
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 13:35
Date, time and analyst ID of latest file update: 02-Jul-2015 13:36 chemist

Sample Name: VSTD010 Lab Sample ID: VSTD010

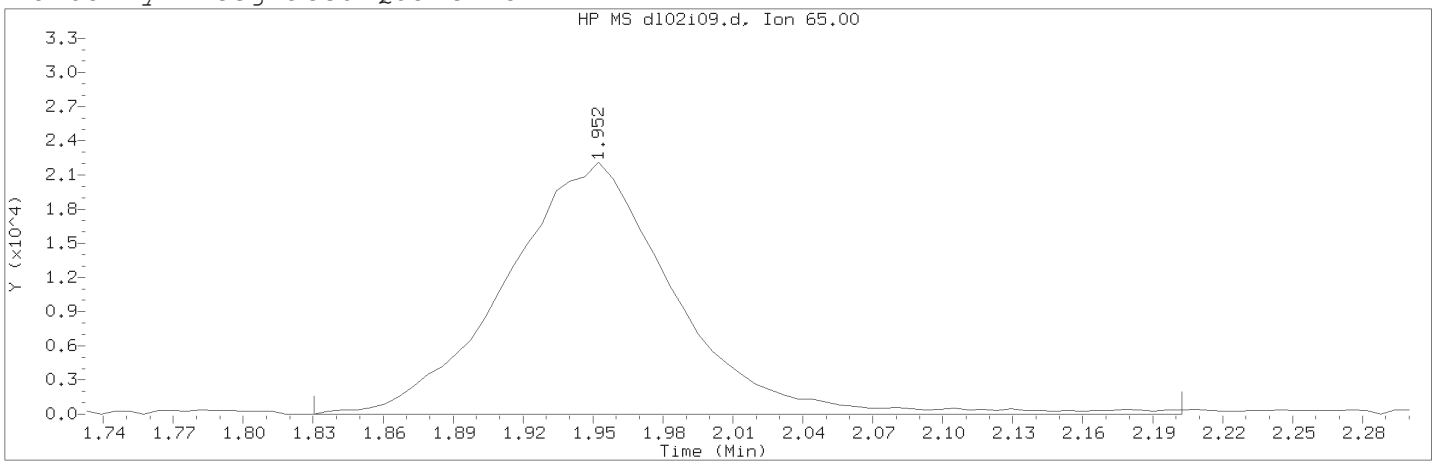
Compound Number : 1
Compound Name : Ethanol
Scan Number : 72
Retention Time (minutes): 1.526
Quant Ion : 45.00
Area : 48113
On-column Amount (ng) : 234.1114
Integration start scan : 32 Integration stop scan: 126
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD010 Lab Sample ID: VSTD010

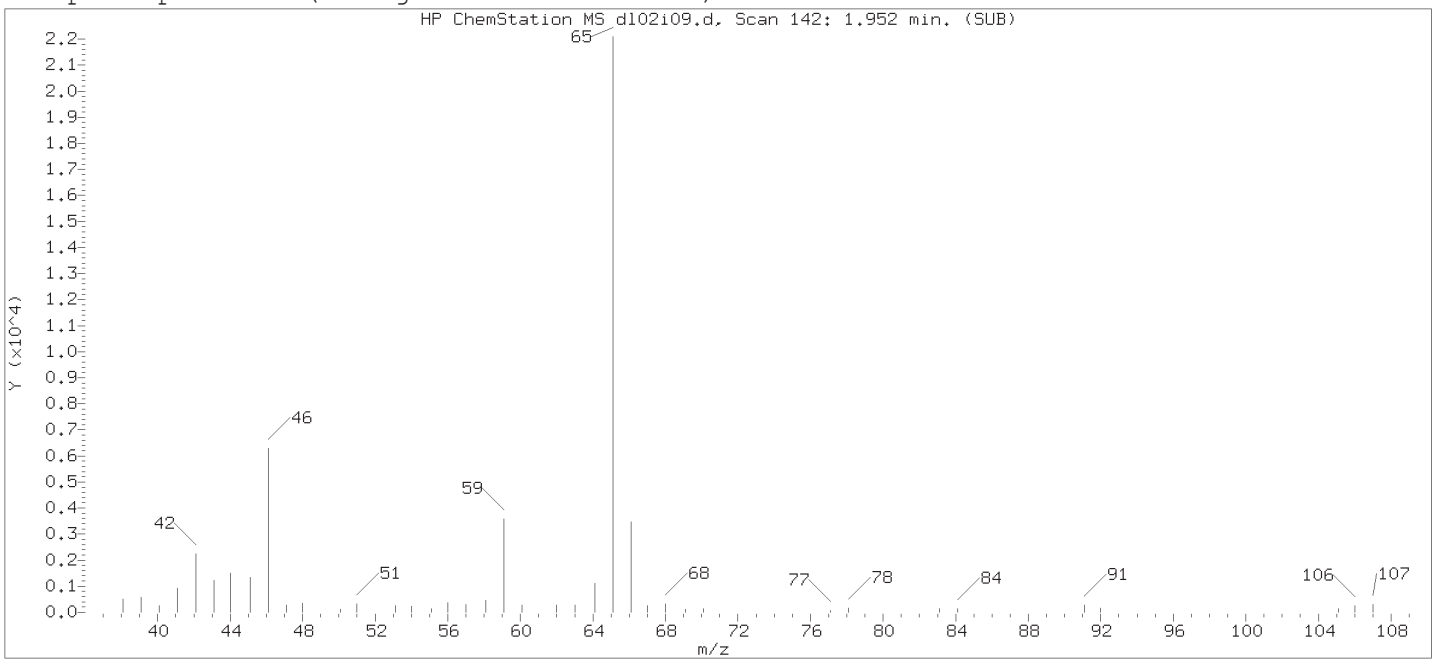
Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 142
Retention Time (minutes): 1.952
Quant Ion : 65.00
Area (flag) : 111070M
On-Column Amount (ng) : 250.0000
Integration start scan : 121 Integration stop scan: 182
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

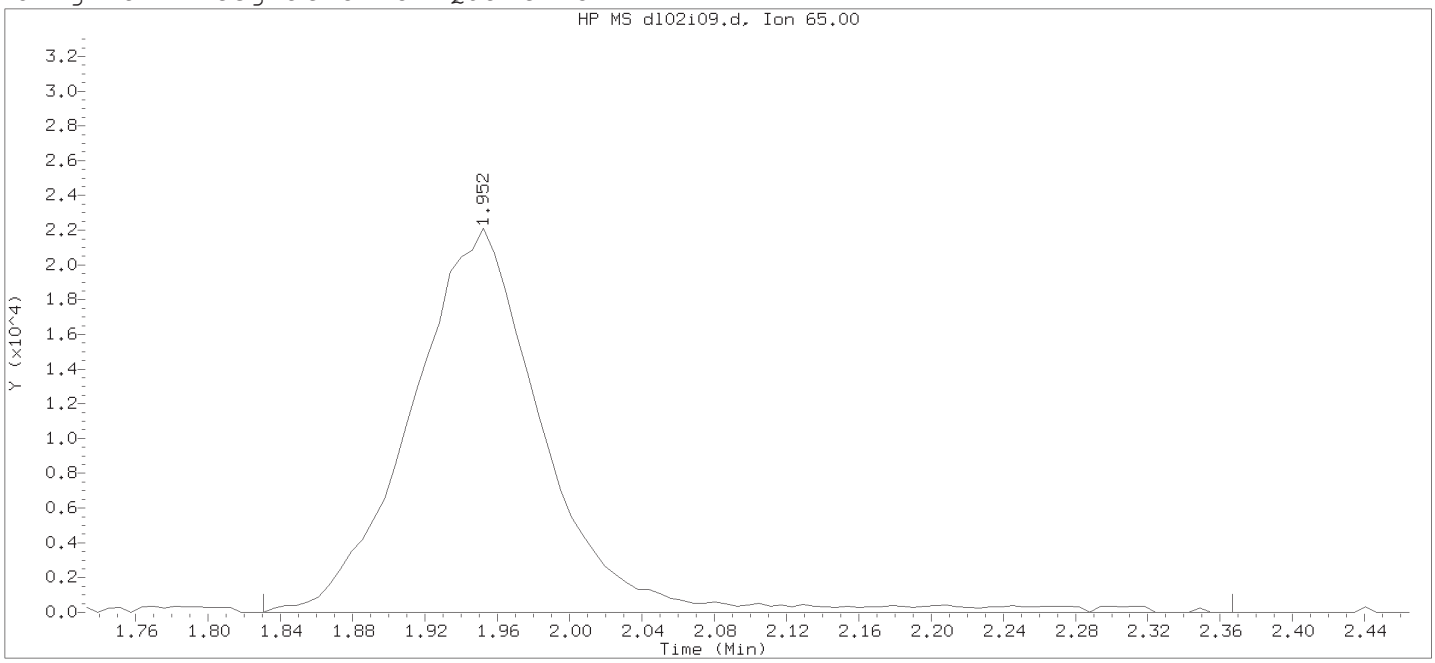
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

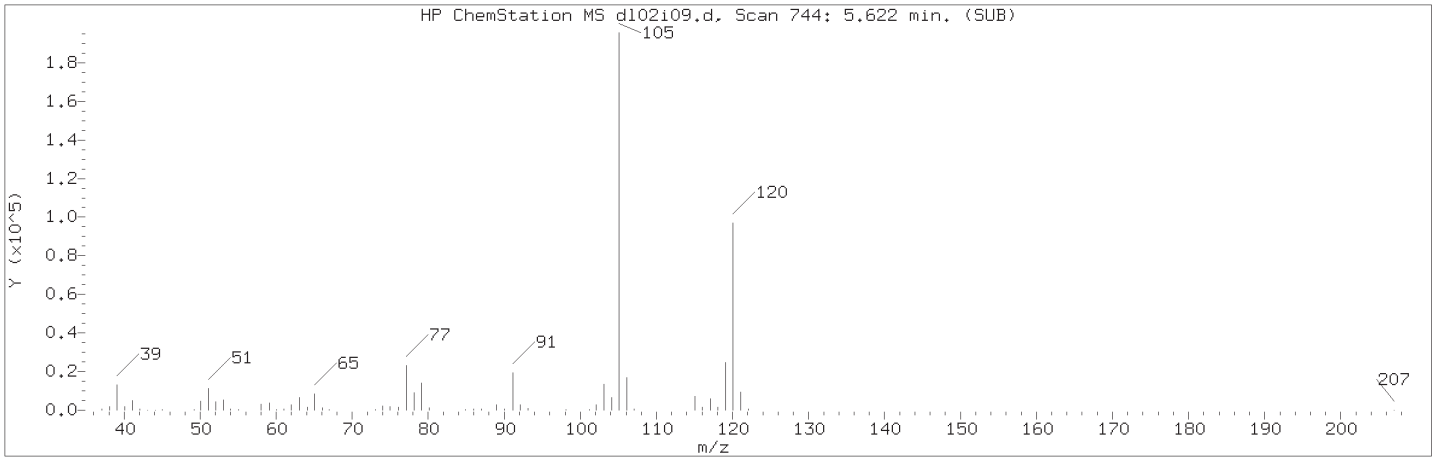
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 13:35
Date, time and analyst ID of latest file update: 02-Jul-2015 13:36 chemist

Sample Name: VSTD010 Lab Sample ID: VSTD010

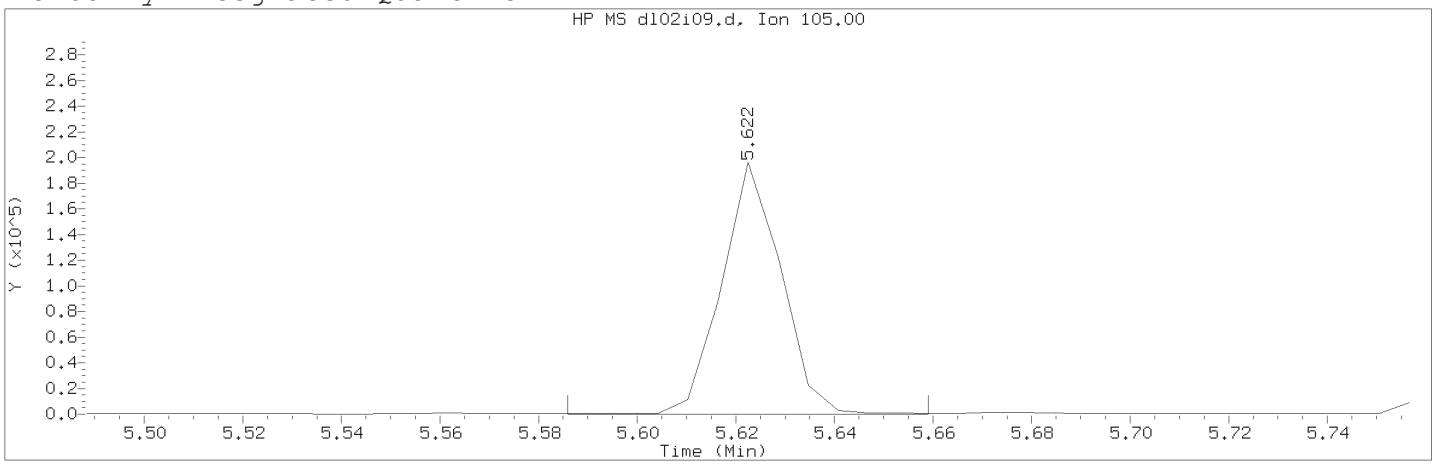
Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 142
Retention Time (minutes): 1.952
Quant Ion : 65.00
Area : 113356
On-column Amount (ng) : 250.0000
Integration start scan : 121 Integration stop scan: 209
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD010 Lab Sample ID: VSTD010

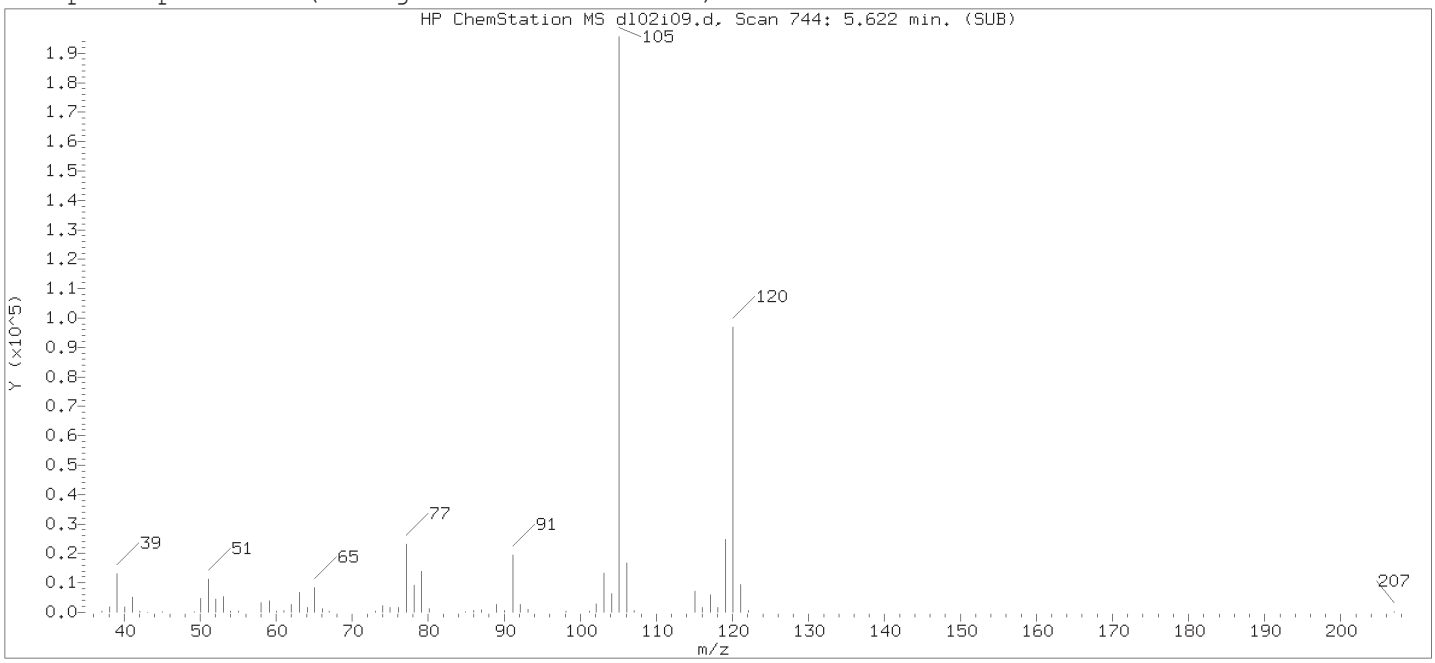
Compound Number : 27
Compound Name : 1,3,5-Trimethylbenzene
Scan Number : 744
Retention Time (minutes): 5.622
Quant Ion : 105.00
Area (flag) : 163559M
On-Column Amount (ng) : 10.1792
Integration start scan : 737 Integration stop scan: 749
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

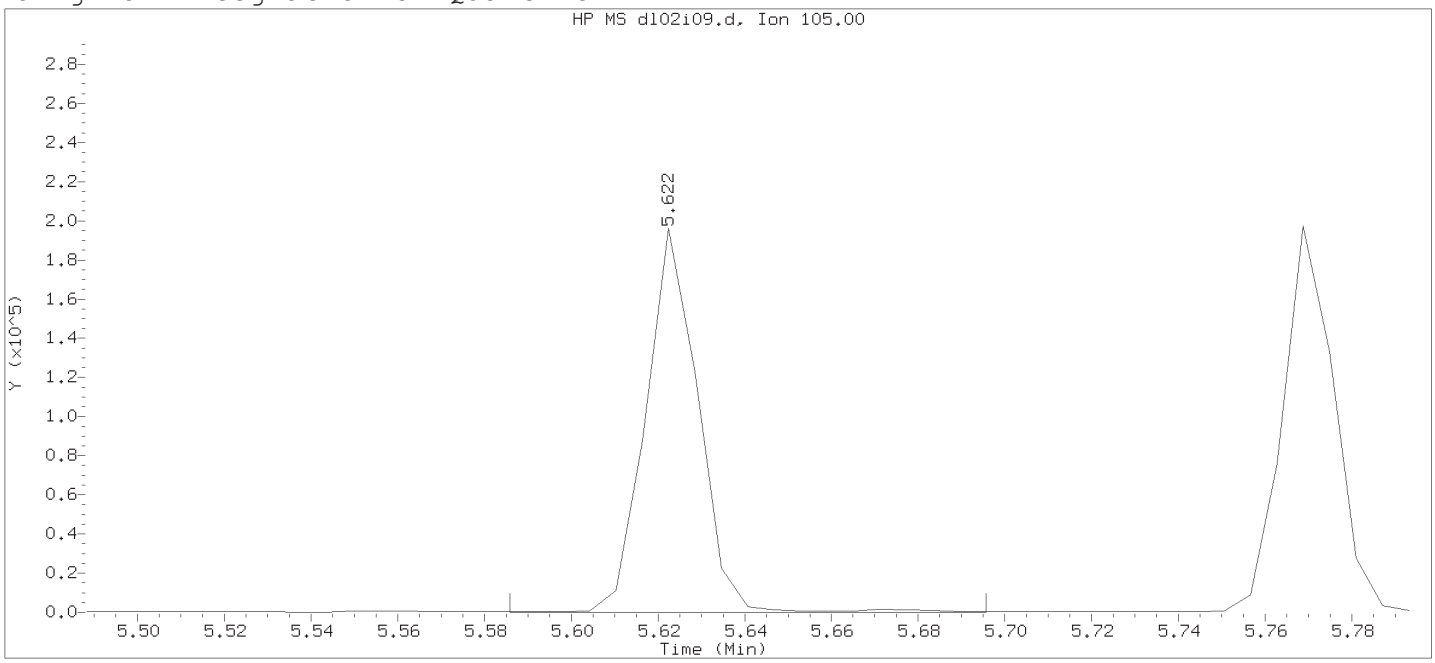
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



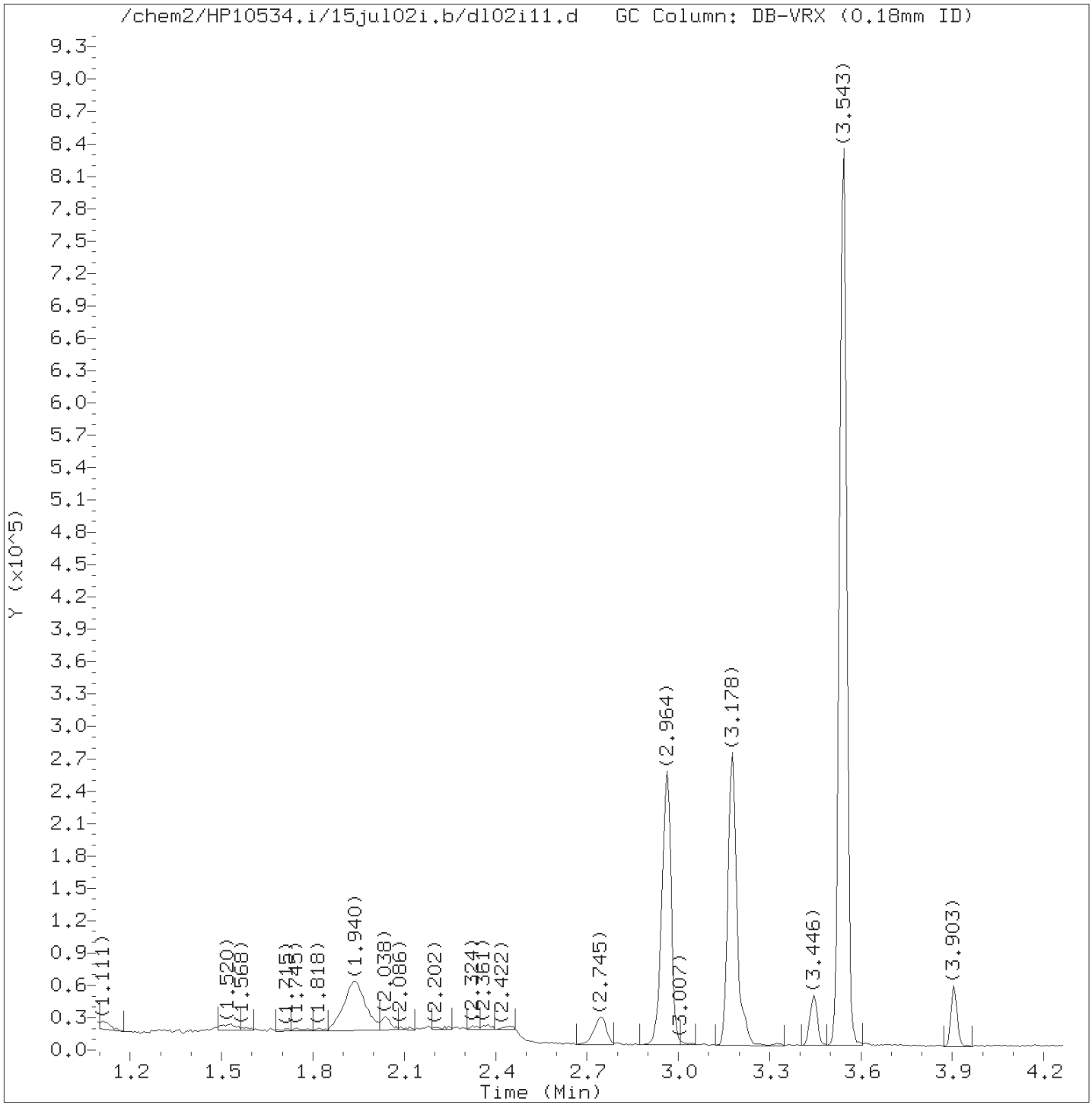
Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 13:35
Date, time and analyst ID of latest file update: 02-Jul-2015 13:36 chemist

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number : 27
Compound Name : 1,3,5-Trimethylbenzene
Scan Number : 744
Retention Time (minutes): 5.622
Quant Ion : 105.00
Area : 165290
On-column Amount (ng) : 2.0907
Integration start scan : 737 Integration stop scan: 755
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

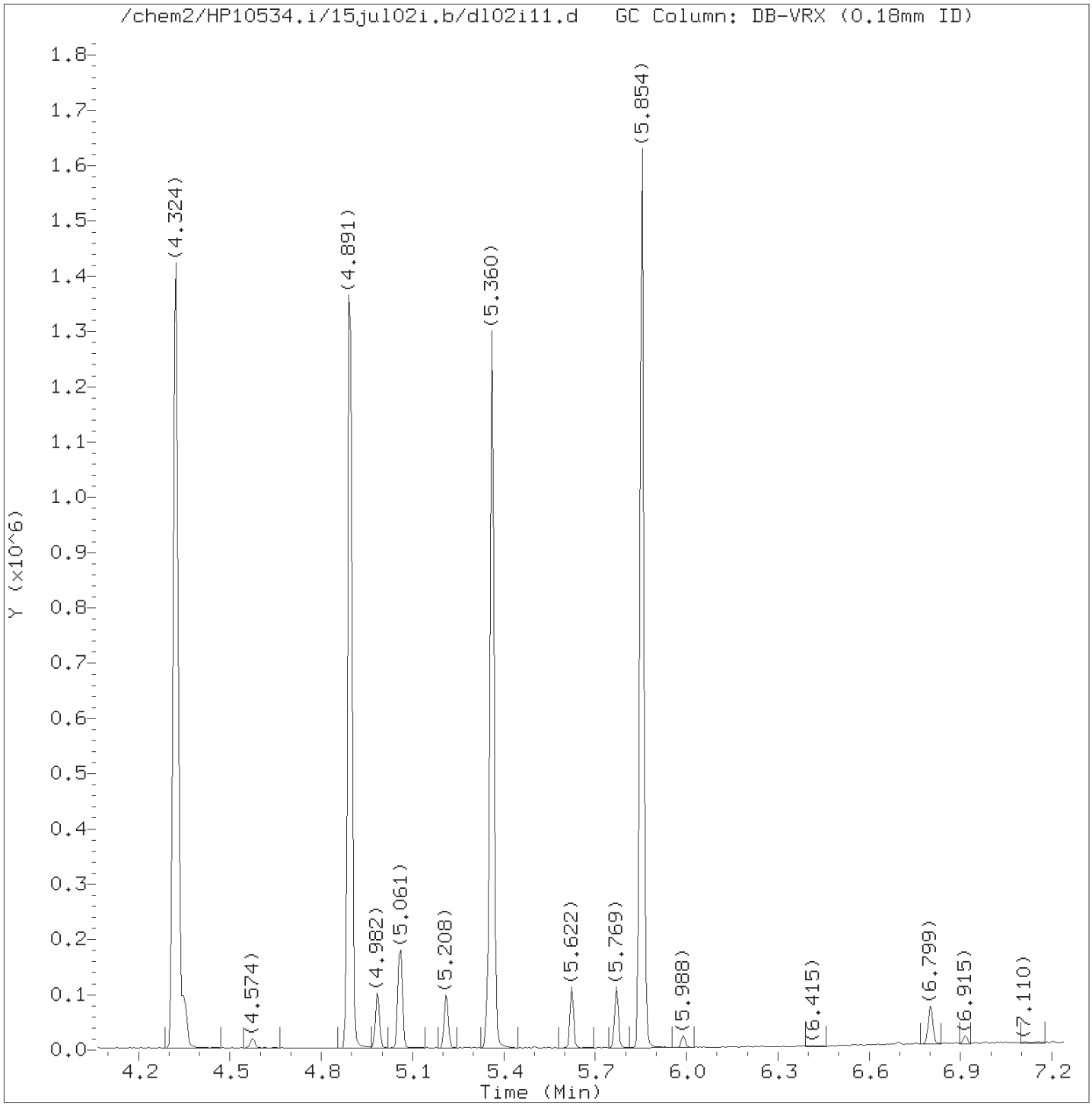
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i11.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:49 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

Sample Name: VSTD002 Lab Sample ID: VSTD002

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i11.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:49 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

Sample Name: VSTD002 Lab Sample ID: VSTD002

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i11.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:49 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

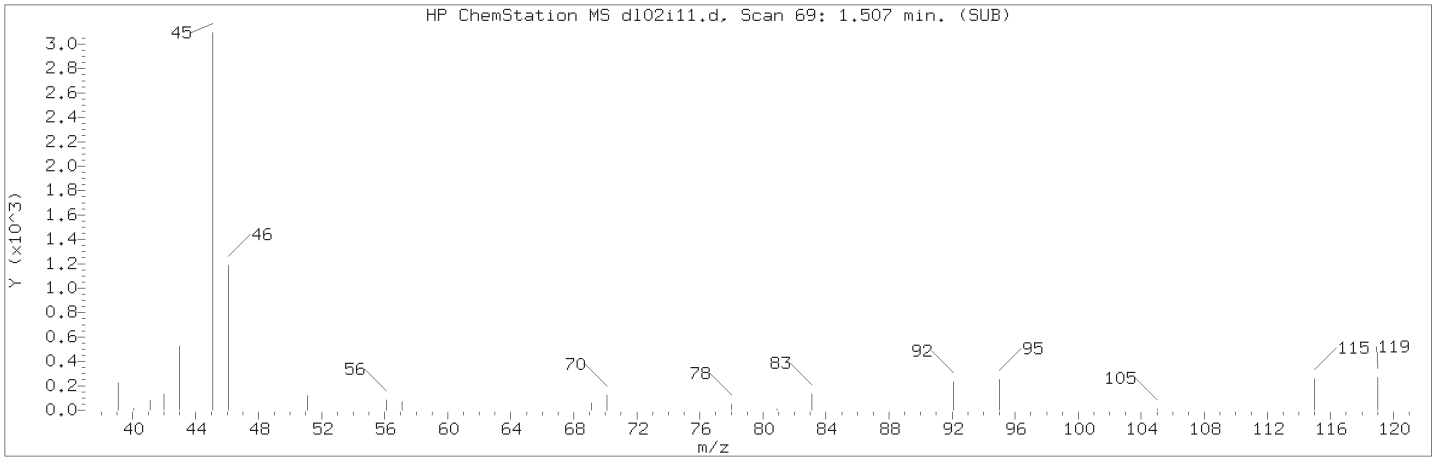
Sample Name: VSTD002 Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.507	45	20720M	275.250
2)*t-Butyl alcohol-d10	(1)	1.934	65	118670	250.000
3) t-Butyl alcohol	(1)	1.971	59	6868	9.630
4) Methyl Tertiary Butyl Ether	(2)	2.458	73	25932	2.006
5) di-Isopropyl ether	(2)	2.745	45	29680	1.915
6) Ethyl t-butyl ether	(2)	2.946	59	27116	1.904
7)$Dibromofluoromethane	(2)	2.964	113	147345	49.515
7)$Dibromofluoromethane	(2)	2.964	111	150559	49.668
10)$1,2-Dichloroethane-d4	(2)	3.178	102	38233	48.236
10)$1,2-Dichloroethane-d4	(2)	3.178	65	191497	48.713
10)$1,2-Dichloroethane-d4	(2)	3.178	104	24904	49.955
11) 1,2-Dichloroethane	(2)	3.214	62	11841	1.968
12) Benzene	(2)	3.446	78	36003	1.908
13) t-Amyl methyl ether	(2)	3.531	87	6034	1.813
14)*Fluorobenzene	(2)	3.543	96	638273	50.000
15) t-Amyl ethyl ether	(2)	3.903	87	13811	1.915
16)$Toluene-d8	(3)	4.324	98	635569	49.943
16)$Toluene-d8	(3)	4.324	100	414811	50.055
17) Toluene	(3)	4.348	92	23149	1.929
19) 1,2-Dibromoethane	(3)	4.574	107	7612	1.834
20)*Chlorobenzene-d5	(3)	4.897	117	473156	50.000
21) Ethylbenzene	(3)	4.982	91	43478M	1.936
22) m+p-Xylene	(3)	5.061	106	32604	3.753
23) o-Xylene	(3)	5.208	106	15210	1.804
24) Xylene (Total)	(3)		106	47814	5.558
25) Isopropylbenzene	(3)	5.348	105	41884	1.927
26)$4-Bromofluorobenzene	(3)	5.360	95	236812	49.936
26)$4-Bromofluorobenzene	(3)	5.360	174	205213	50.114
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	32994	1.886
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	33331	1.877
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	255683	50.000
30) Naphthalene	(4)	6.799	128	37697	1.920

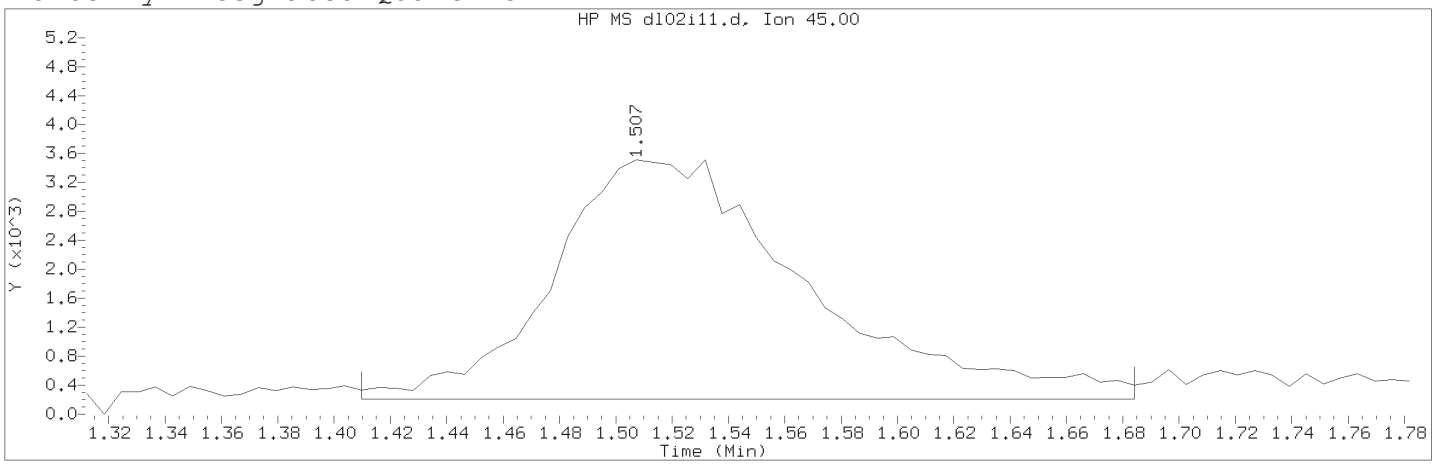
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i11.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:49 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

Sample Name: VSTD002 Lab Sample ID: VSTD002

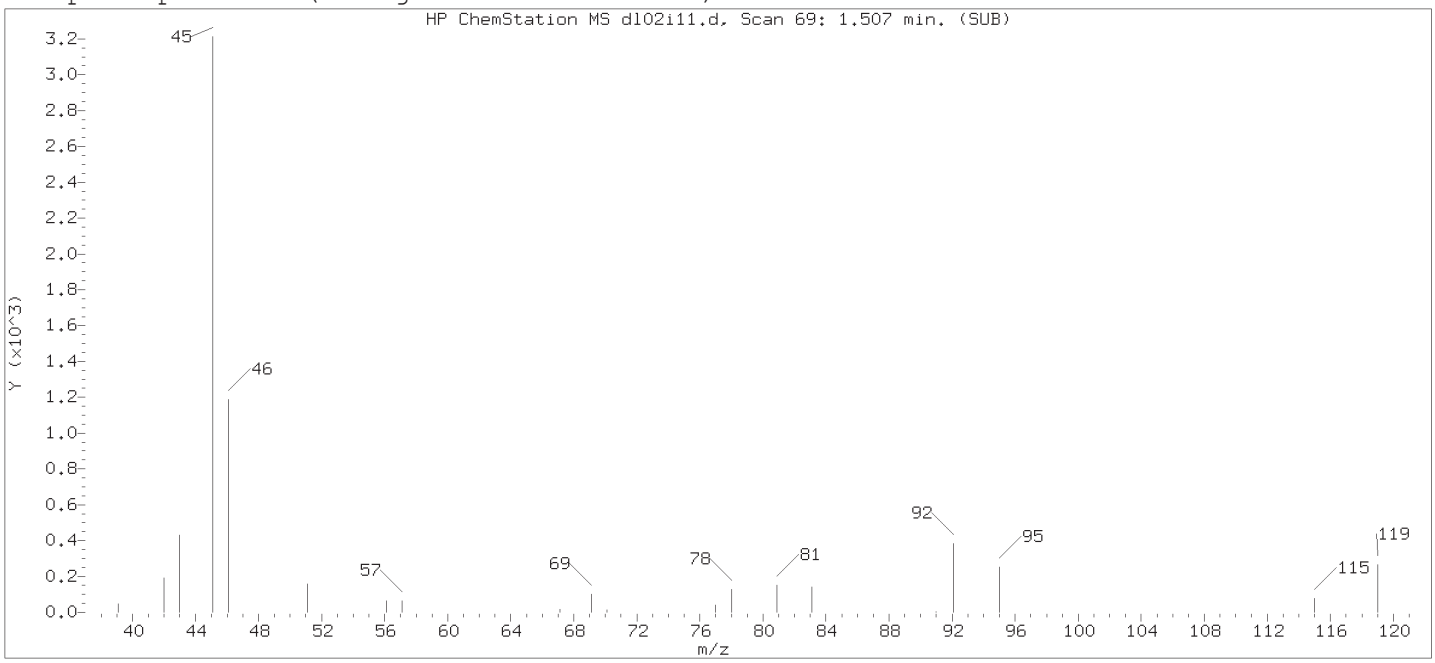
Compound Number : 1
Compound Name : Ethanol
Scan Number : 69
Retention Time (minutes): 1.507
Quant Ion : 45.00
Area (flag) : 20720M
On-Column Amount (ng) : 275.2498
Integration start scan : 52 Integration stop scan: 97
Y at integration start : 211 Y at integration end: 211

Reason for manual integration: improper integration

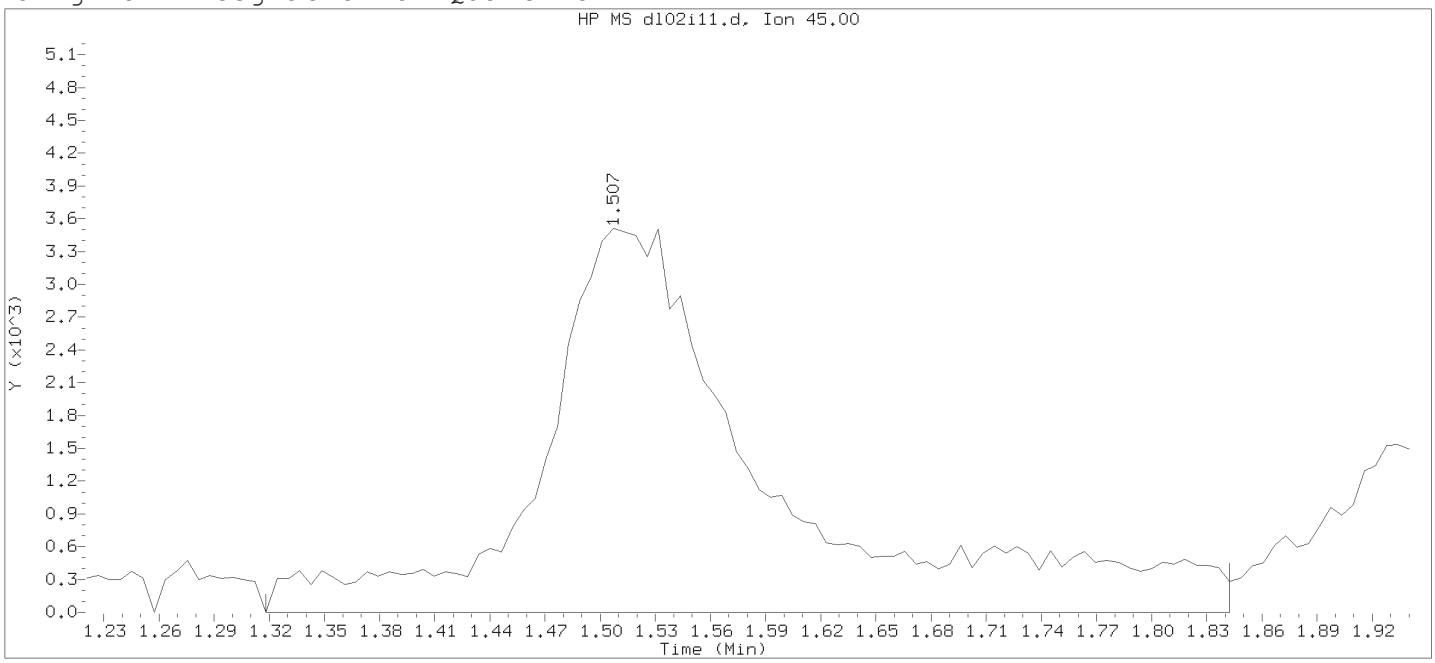
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i11.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:49 Analyst ID: akr02850

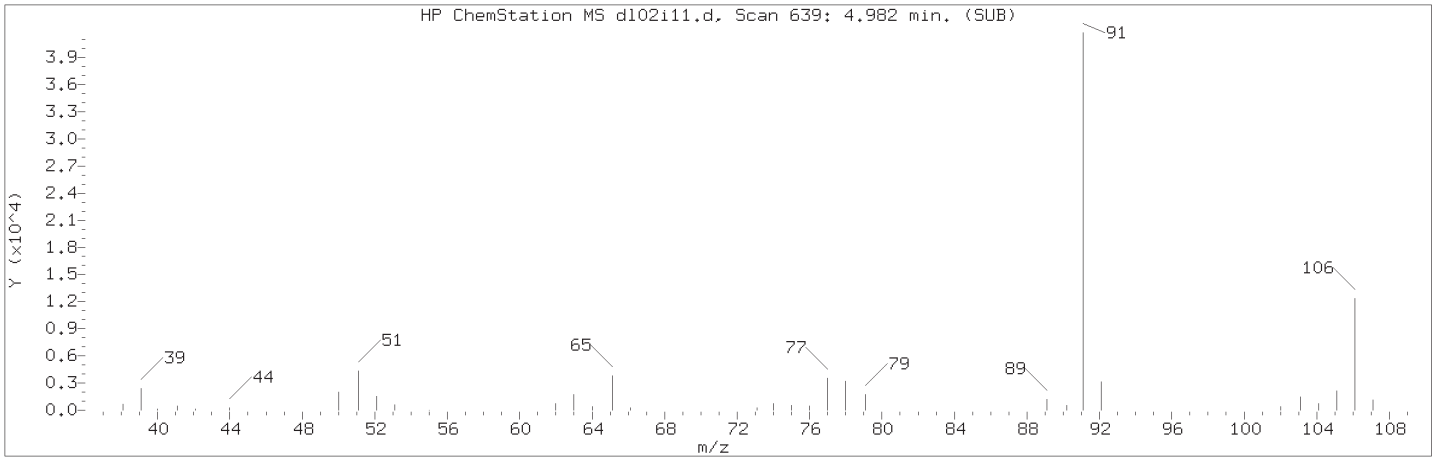
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 13:59
Date, time and analyst ID of latest file update: 02-Jul-2015 13:59 chemist

Sample Name: VSTD002 Lab Sample ID: VSTD002

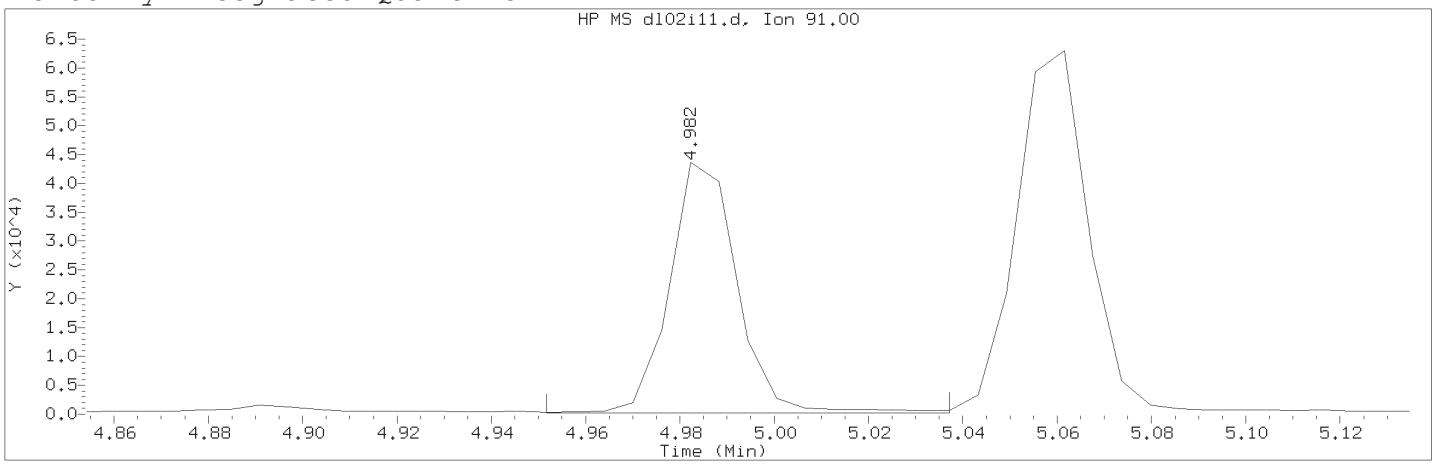
Compound Number : 1
Compound Name : Ethanol
Scan Number : 69
Retention Time (minutes): 1.507
Quant Ion : 45.00
Area : 30385
On-column Amount (ng) : 215.7713
Integration start scan : 37 Integration stop scan: 123
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i11.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:49 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

Sample Name: VSTD002 Lab Sample ID: VSTD002

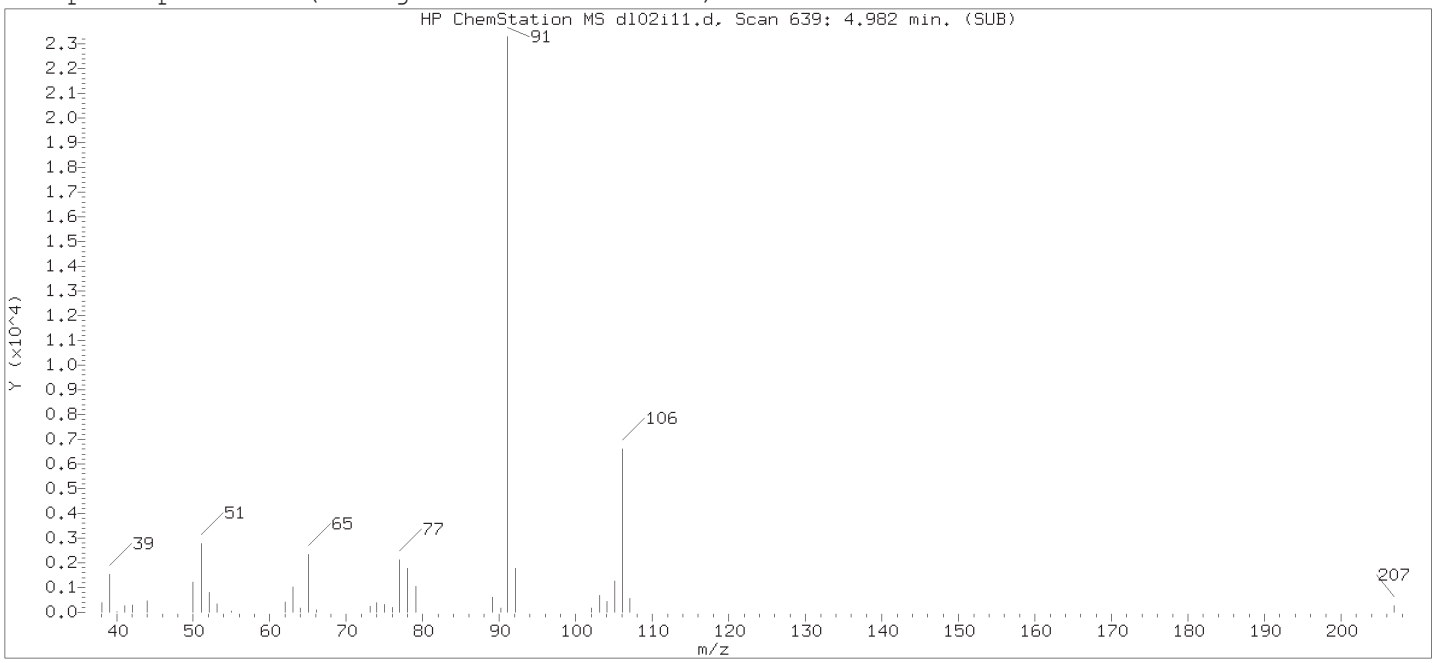
Compound Number : 21
Compound Name : Ethylbenzene
Scan Number : 639
Retention Time (minutes): 4.982
Quant Ion : 91.00
Area (flag) : 43478M
On-Column Amount (ng) : 1.9355
Integration start scan : 633 Integration stop scan: 647
Y at integration start : 206 Y at integration end: 206

Reason for manual integration: improper integration

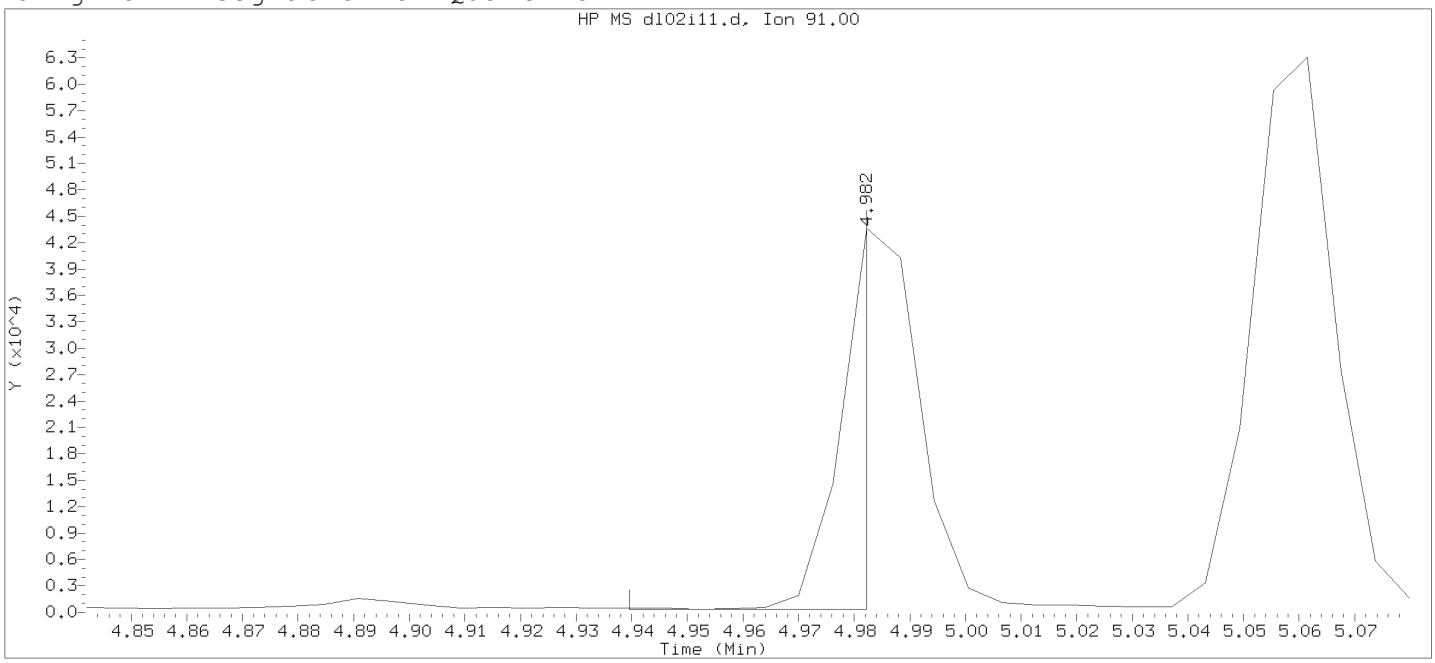
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



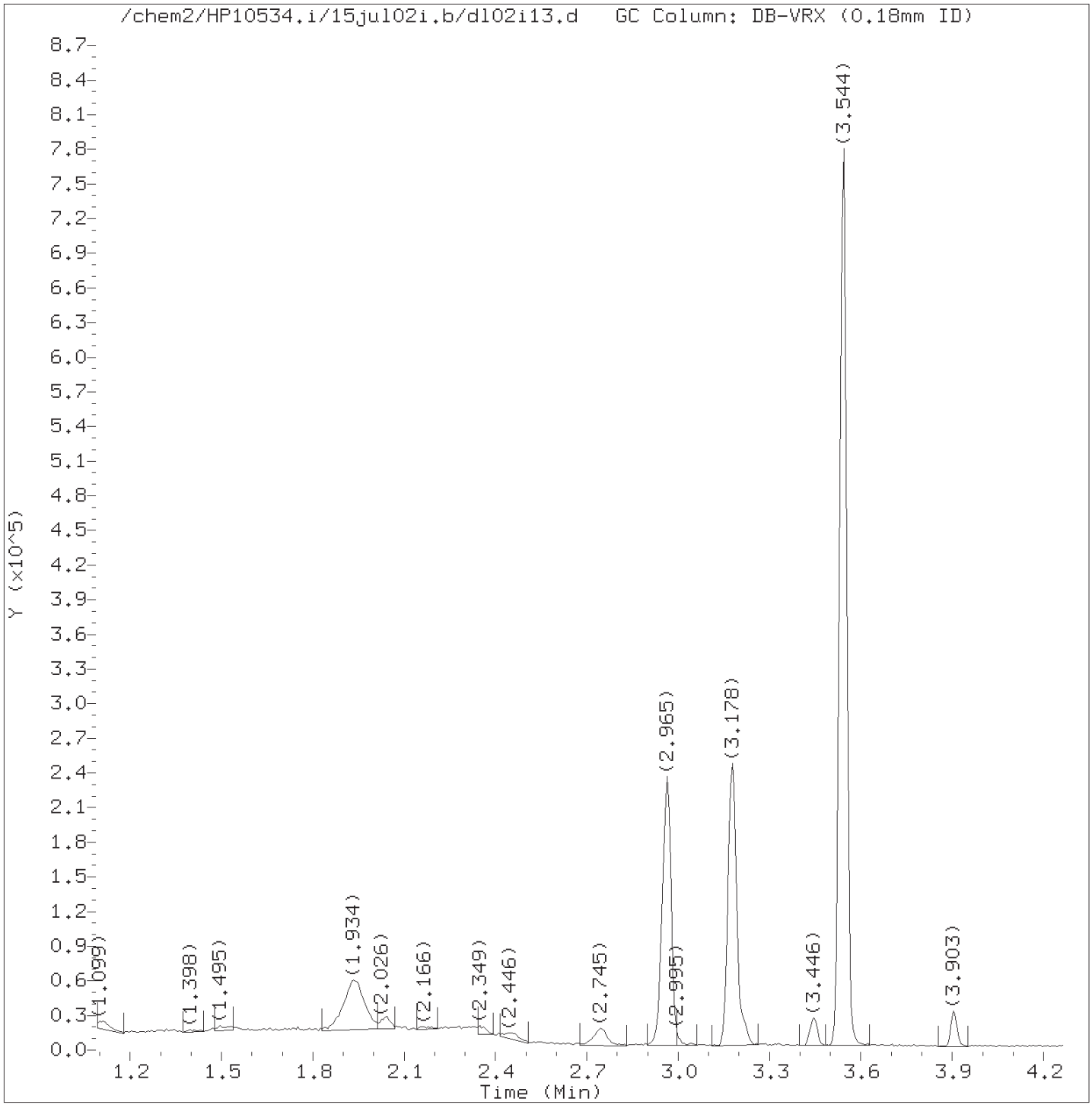
Data File: /chem2/HP10534.i/15jul02i.b/dl02i11.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:49 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 13:59
Date, time and analyst ID of latest file update: 02-Jul-2015 13:59 chemist

Sample Name: VSTD002 Lab Sample ID: VSTD002

Compound Number : 21
Compound Name : Ethylbenzene
Scan Number : 639
Retention Time (minutes): 4.982
Quant Ion : 91.00
Area : 13872
On-column Amount (ng) : 0.5972
Integration start scan : 631 Integration stop scan: 638
Y at integration start : 355 Y at integration end: 355

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

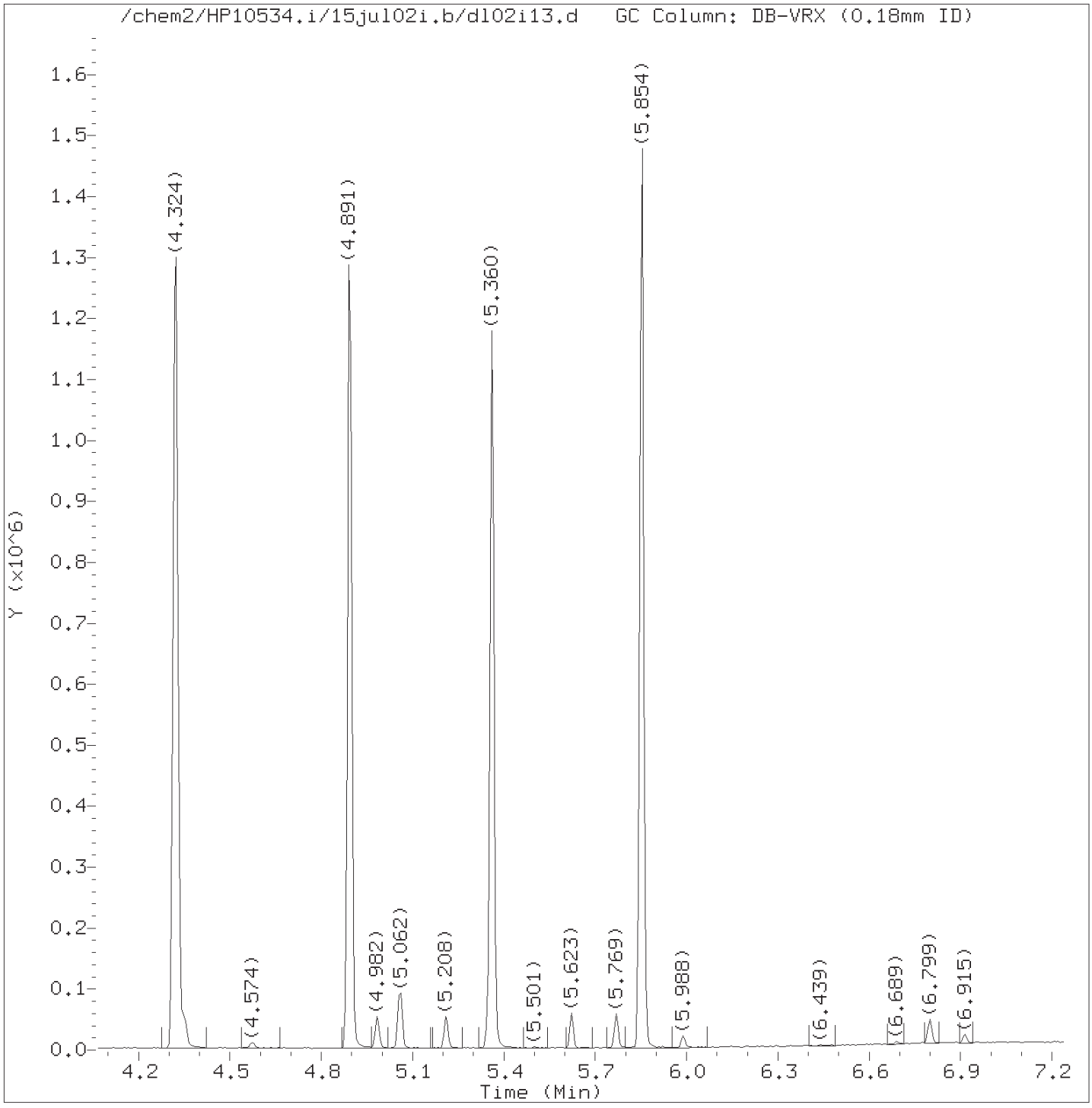
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i13.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:11 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i13.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:11 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i13.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:11 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

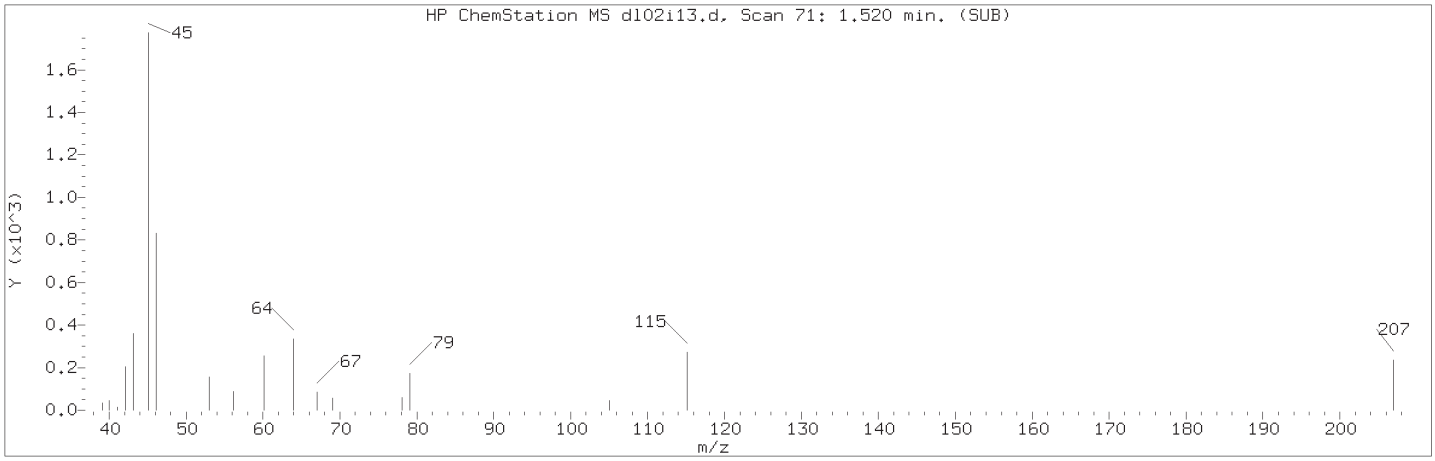
Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.520	45	11708M	162.442
2)*t-Butyl alcohol-d10	(1)	1.934	65	113621	250.000
3) t-Butyl alcohol	(1)	1.971	59	3812	5.582
4) Methyl Tertiary Butyl Ether	(2)	2.446	73	13637	1.147
5) di-Isopropyl ether	(2)	2.745	45	16061	1.127
6) Ethyl t-butyl ether	(2)	2.946	59	13688	1.045
7)$Dibromofluoromethane	(2)	2.965	113	137084	50.106
7)$Dibromofluoromethane	(2)	2.965	111	139334	49.995
10)$1,2-Dichloroethane-d4	(2)	3.178	102	35069	48.124
10)$1,2-Dichloroethane-d4	(2)	3.178	65	175663	48.604
10)$1,2-Dichloroethane-d4	(2)	3.178	104	22165	48.359
11) 1,2-Dichloroethane	(2)	3.214	62	6163	1.114
12) Benzene	(2)	3.446	78	18941	1.092
13) t-Amyl methyl ether	(2)	3.531	87	3312	1.082
14)*Fluorobenzene	(2)	3.544	96	586821	50.000
15) t-Amyl ethyl ether	(2)	3.903	87	7402	1.117
16)$Toluene-d8	(3)	4.324	98	583376	50.238
16)$Toluene-d8	(3)	4.324	100	381495	50.451
17) Toluene	(3)	4.348	92	12299	1.123
19) 1,2-Dibromoethane	(3)	4.574	107	4030	1.064
20)*Chlorobenzene-d5	(3)	4.891	117	431744	50.000
21) Ethylbenzene	(3)	4.982	91	22125	1.079
22) m+p-Xylene	(3)	5.062	106	17323	2.185
23) o-Xylene	(3)	5.208	106	8360	1.087
24) Xylene (Total)	(3)		106	25683	3.272
25) Isopropylbenzene	(3)	5.348	105	21662	1.092
26)$4-Bromofluorobenzene	(3)	5.360	95	218019	50.383
26)$4-Bromofluorobenzene	(3)	5.360	174	185368	49.609
27) 1,3,5-Trimethylbenzene	(4)	5.623	105	17567	1.111
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	18204	1.134
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	231014	50.000
30) Naphthalene	(4)	6.799	128	19989	1.127

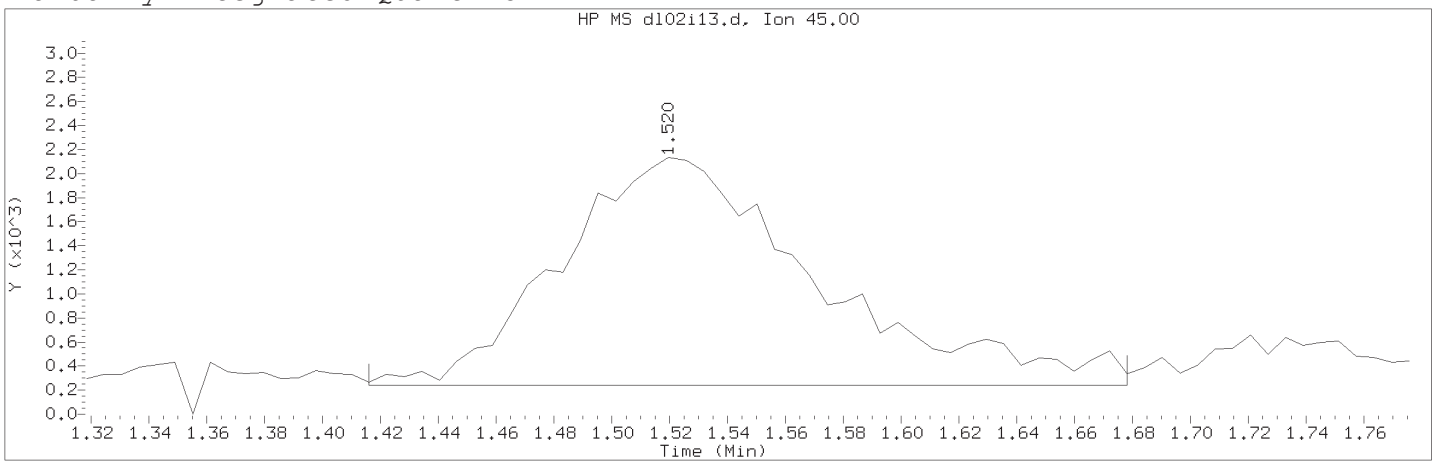
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i13.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:11 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

Sample Name: VSTD001 Lab Sample ID: VSTD001

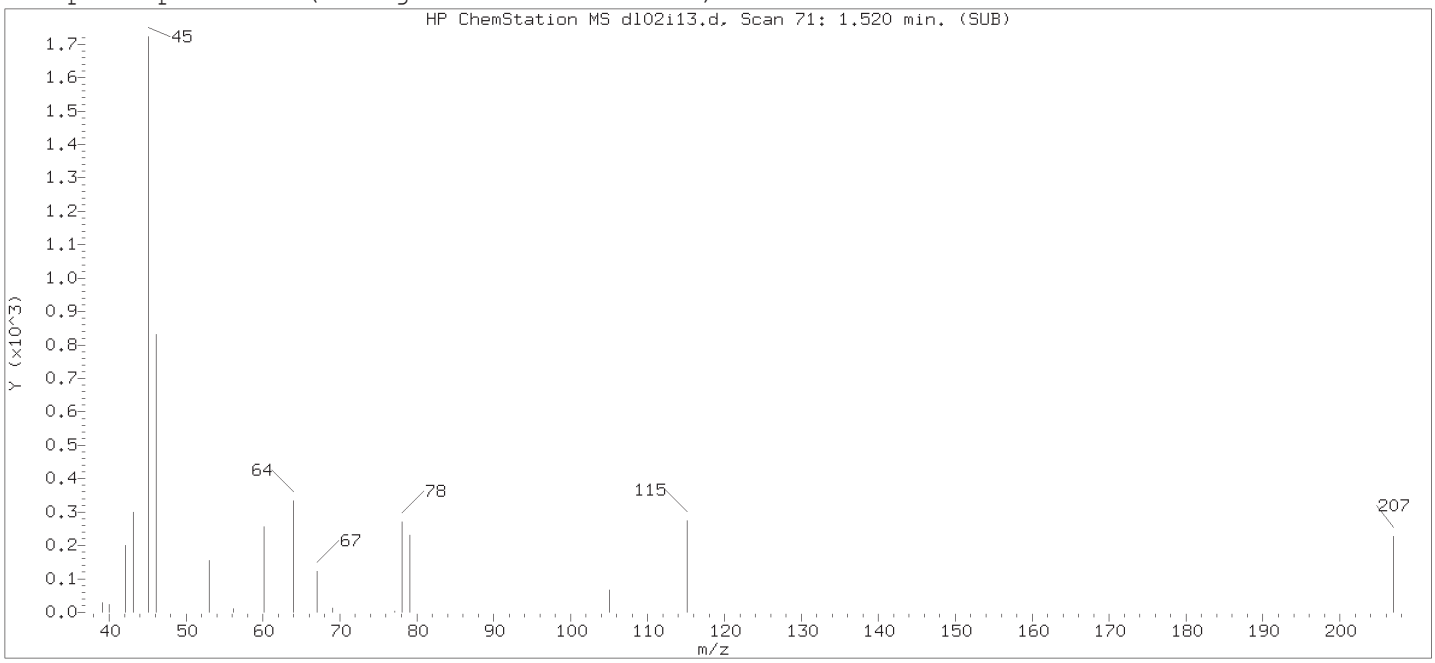
Compound Number : 1
Compound Name : Ethanol
Scan Number : 71
Retention Time (minutes): 1.520
Quant Ion : 45.00
Area (flag) : 11708M
On-Column Amount (ng) : 162.4423
Integration start scan : 53 Integration stop scan: 96
Y at integration start : 239 Y at integration end: 239

Reason for manual integration: improper integration

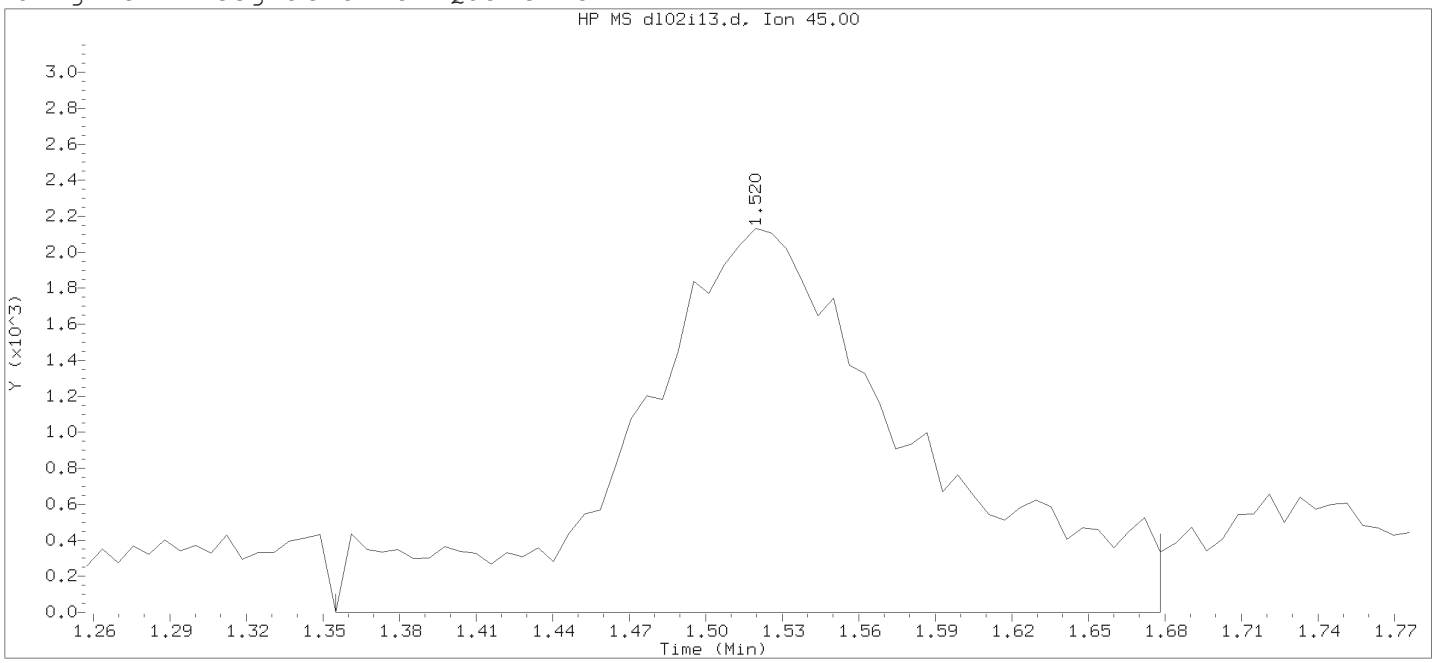
Analyst responsible for change: Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



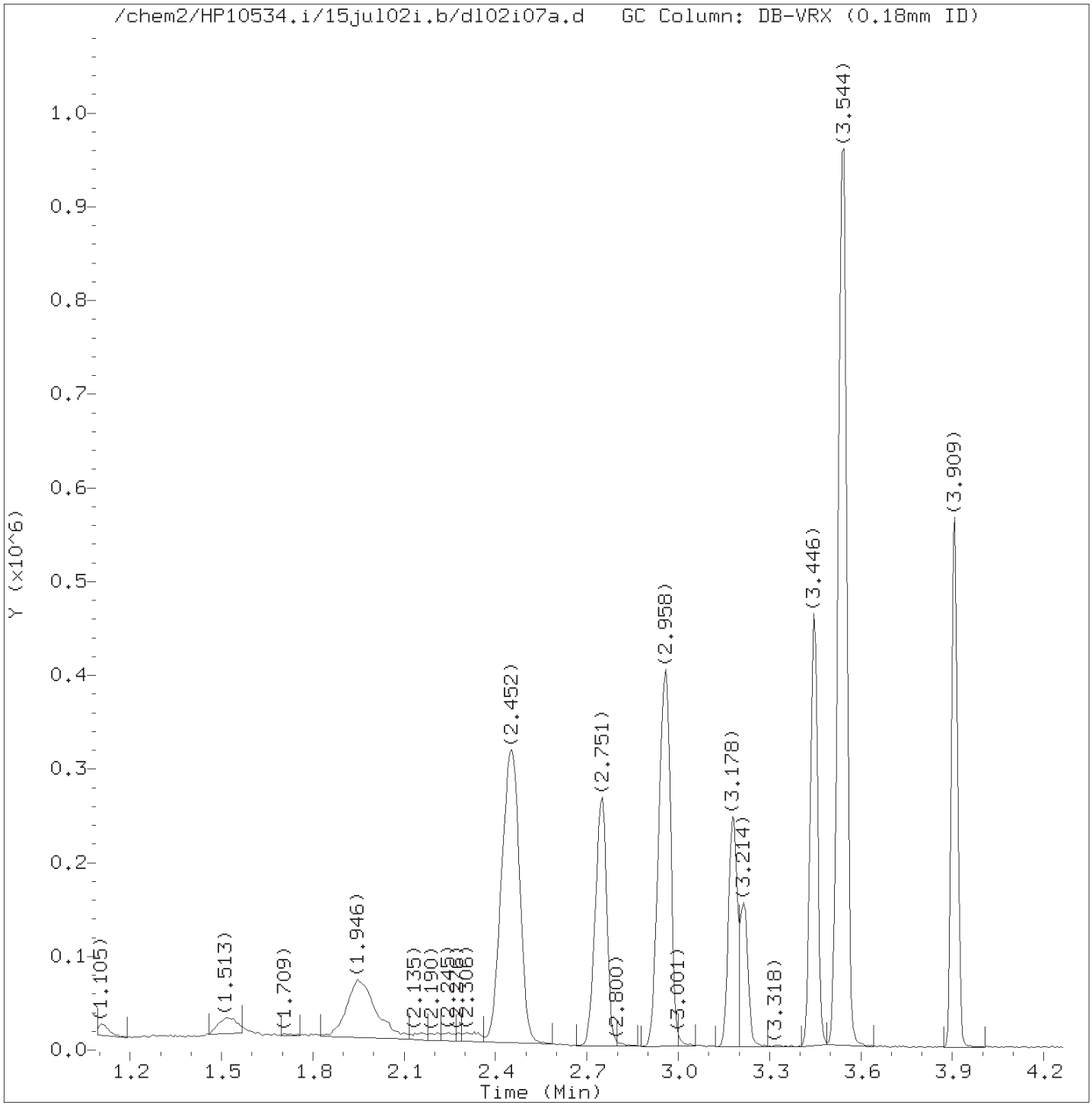
Data File: /chem2/HP10534.i/15jul02i.b/dl02i13.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:11 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:22
Date, time and analyst ID of latest file update: 02-Jul-2015 14:22 chemist

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compound Number : 1
Compound Name : Ethanol
Scan Number : 71
Retention Time (minutes): 1.520
Quant Ion : 45.00
Area : 16625
On-column Amount (ng) : 164.1436
Integration start scan : 43 Integration stop scan: 96
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

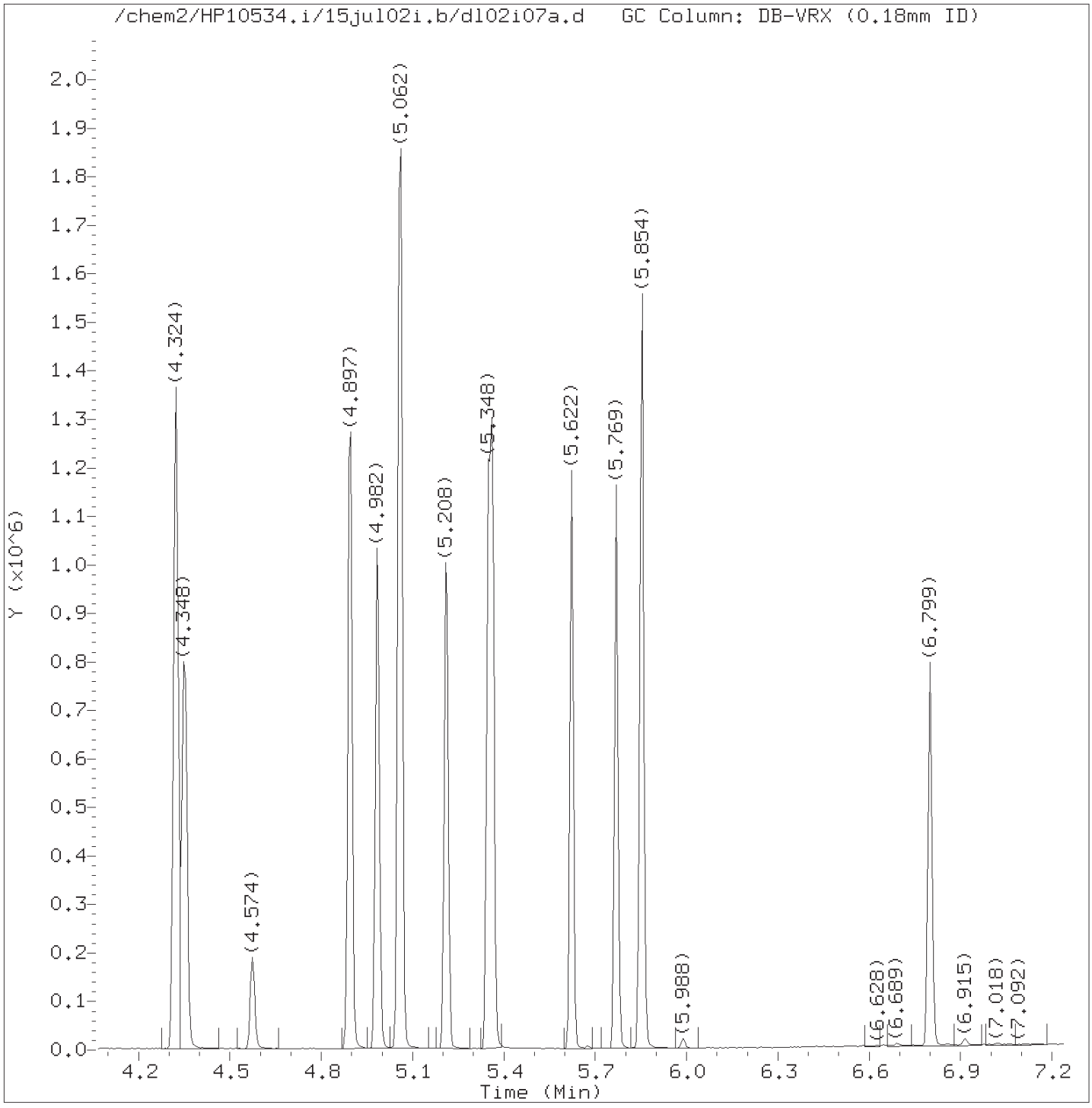
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i07a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:34 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD020 Lab Sample ID: VSTD020

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i07a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:34 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD020 Lab Sample ID: VSTD020

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i07a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:34 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

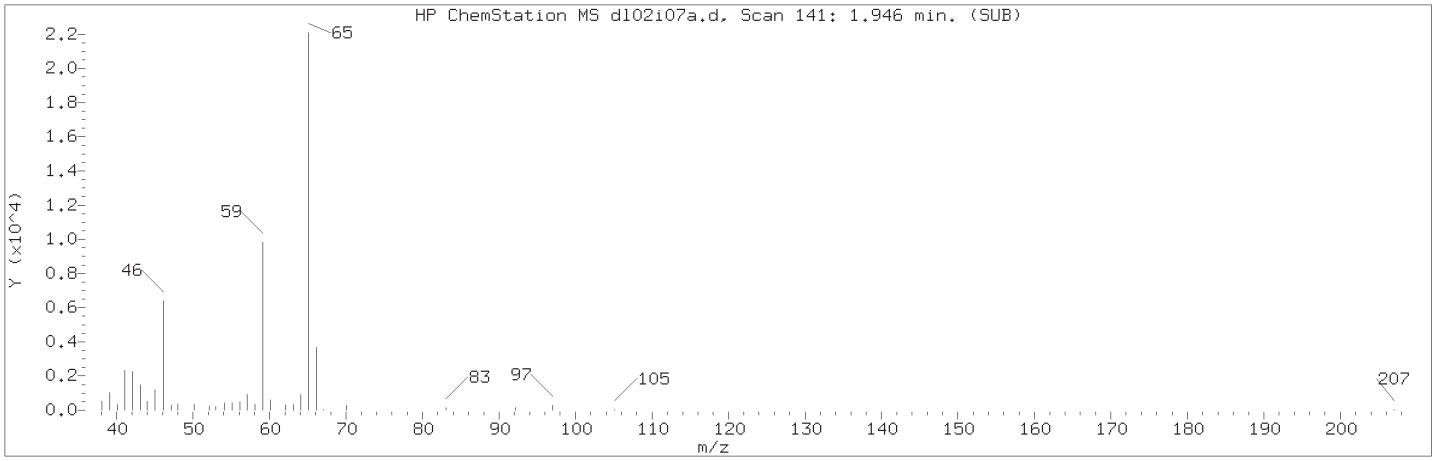
Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.520	45	74386	1147.845
2)*t-Butyl alcohol-d10	(1)	1.946	65	109916M	250.000
3) t-Butyl alcohol	(1)	1.977	59	79856	122.609
4) Methyl Tertiary Butyl Ether	(2)	2.452	73	626149	54.605
5) di-Isopropyl ether	(2)	2.751	45	298773	21.030
6) Ethyl t-butyl ether	(2)	2.946	59	278131	20.923
7)$Dibromofluoromethane	(2)	2.964	113	139925	50.175
7)$Dibromofluoromethane	(2)	2.964	111	141462	49.698
10)$1,2-Dichloroethane-d4	(2)	3.184	102	37076	49.047
10)$1,2-Dichloroethane-d4	(2)	3.178	65	182702	48.888
10)$1,2-Dichloroethane-d4	(2)	3.184	104	23164	49.347
11) 1,2-Dichloroethane	(2)	3.214	62	115736	21.014
12) Benzene	(2)	3.446	78	367426	21.065
13) t-Amyl methyl ether	(2)	3.531	87	64771	20.803
14)*Fluorobenzene	(2)	3.544	96	597250	50.000
15) t-Amyl ethyl ether	(2)	3.909	87	142993	21.615
16)$Toluene-d8	(3)	4.324	98	594839	50.313
16)$Toluene-d8	(3)	4.324	100	383837	50.036
17) Toluene	(3)	4.348	92	231006	21.173
19) 1,2-Dibromoethane	(3)	4.574	107	79521	20.521
20)*Chlorobenzene-d5	(3)	4.897	117	439750	50.000
21) Ethylbenzene	(3)	4.982	91	437212	21.233
22) m+p-Xylene	(3)	5.062	106	342494	42.901
23) o-Xylene	(3)	5.208	106	165999	21.265
24) Xylene (Total)	(3)		106	508493	64.167
25) Isopropylbenzene	(3)	5.348	105	420203	21.145
26)$4-Bromofluorobenzene	(3)	5.360	95	219440	49.964
26)$4-Bromofluorobenzene	(3)	5.366	174	192269	50.557
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	338618	20.786
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	344883	20.942
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	241725	50.000
30) Naphthalene	(4)	6.799	128	375486	20.729

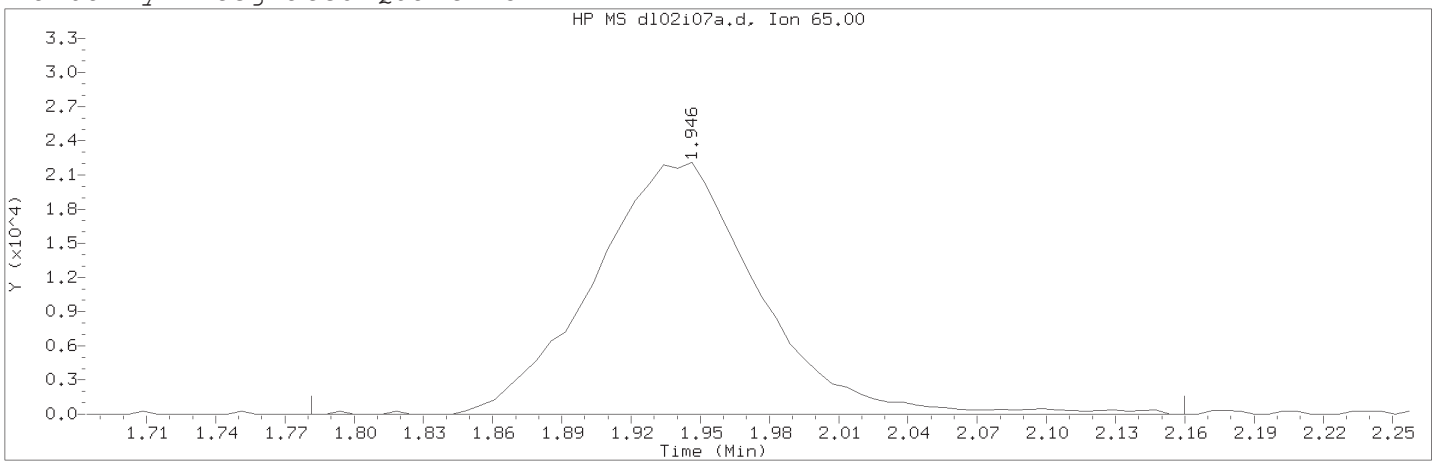
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i07a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:34 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD020 Lab Sample ID: VSTD020

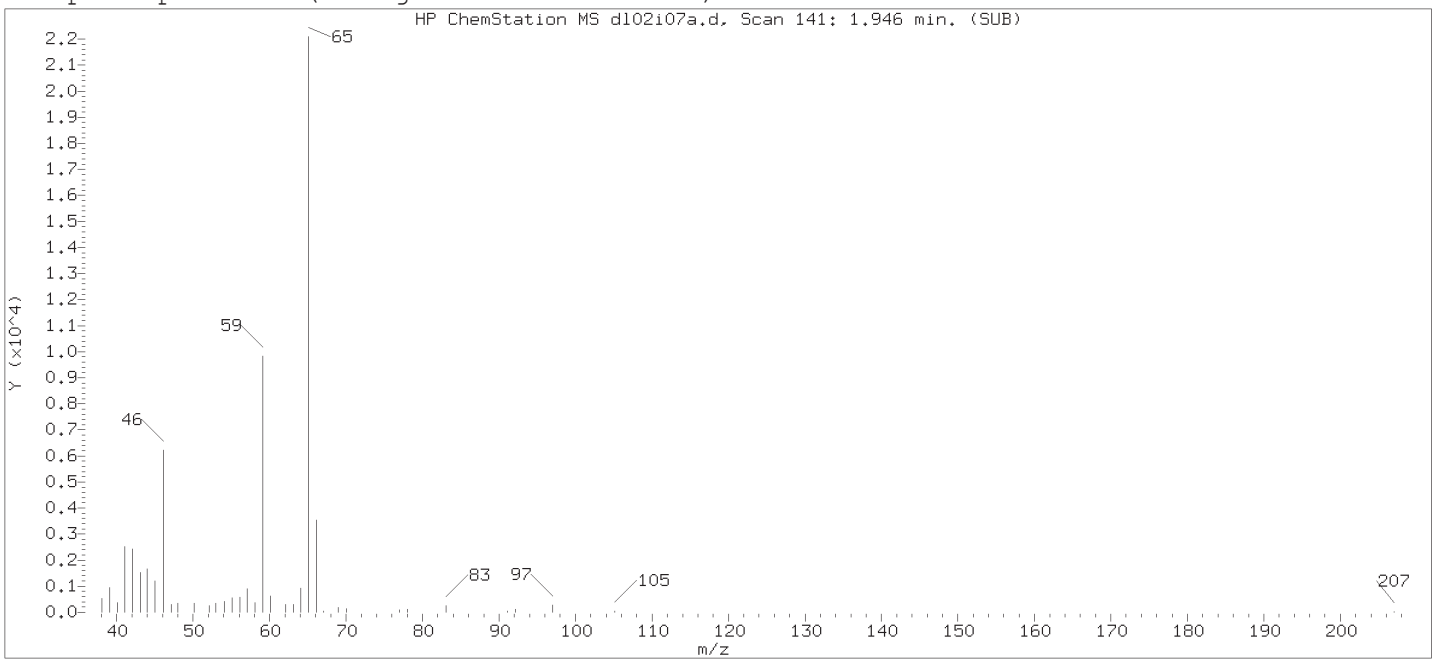
Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 141
Retention Time (minutes): 1.946
Quant Ion : 65.00
Area (flag) : 109916M
On-Column Amount (ng) : 250.0000
Integration start scan : 113 Integration stop scan: 175
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

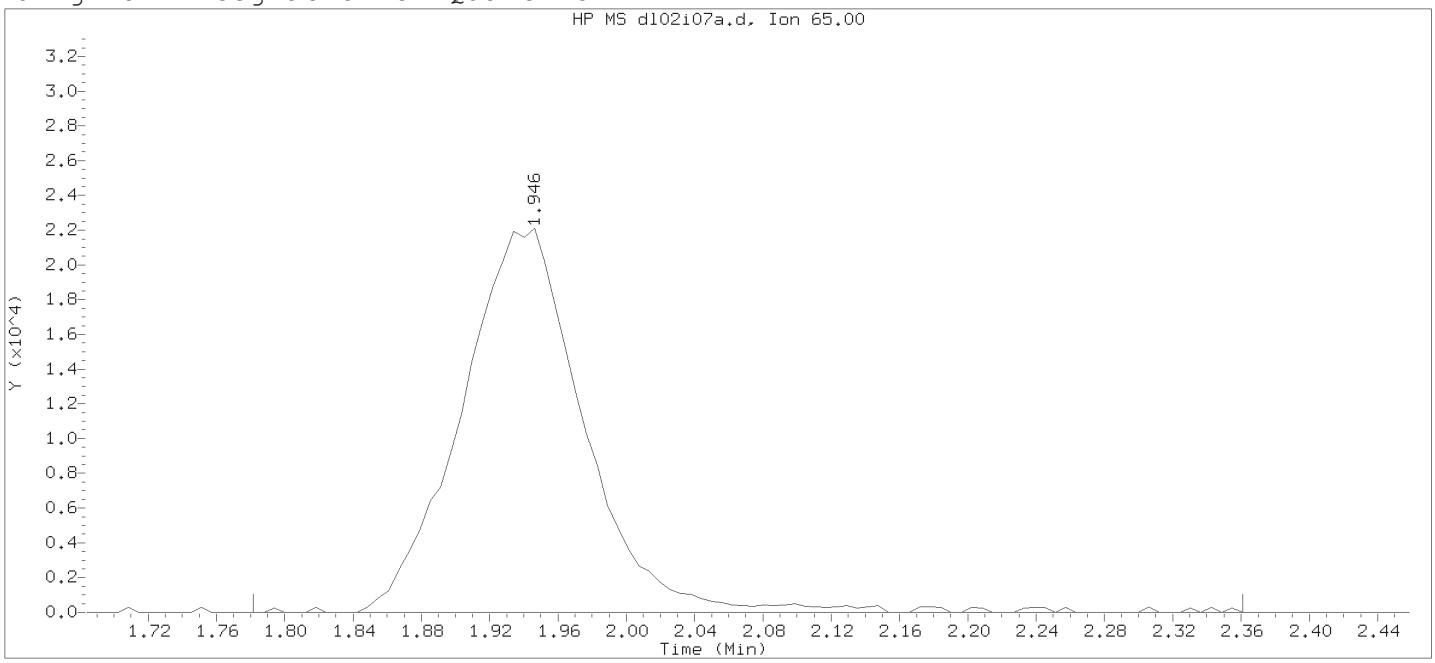
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



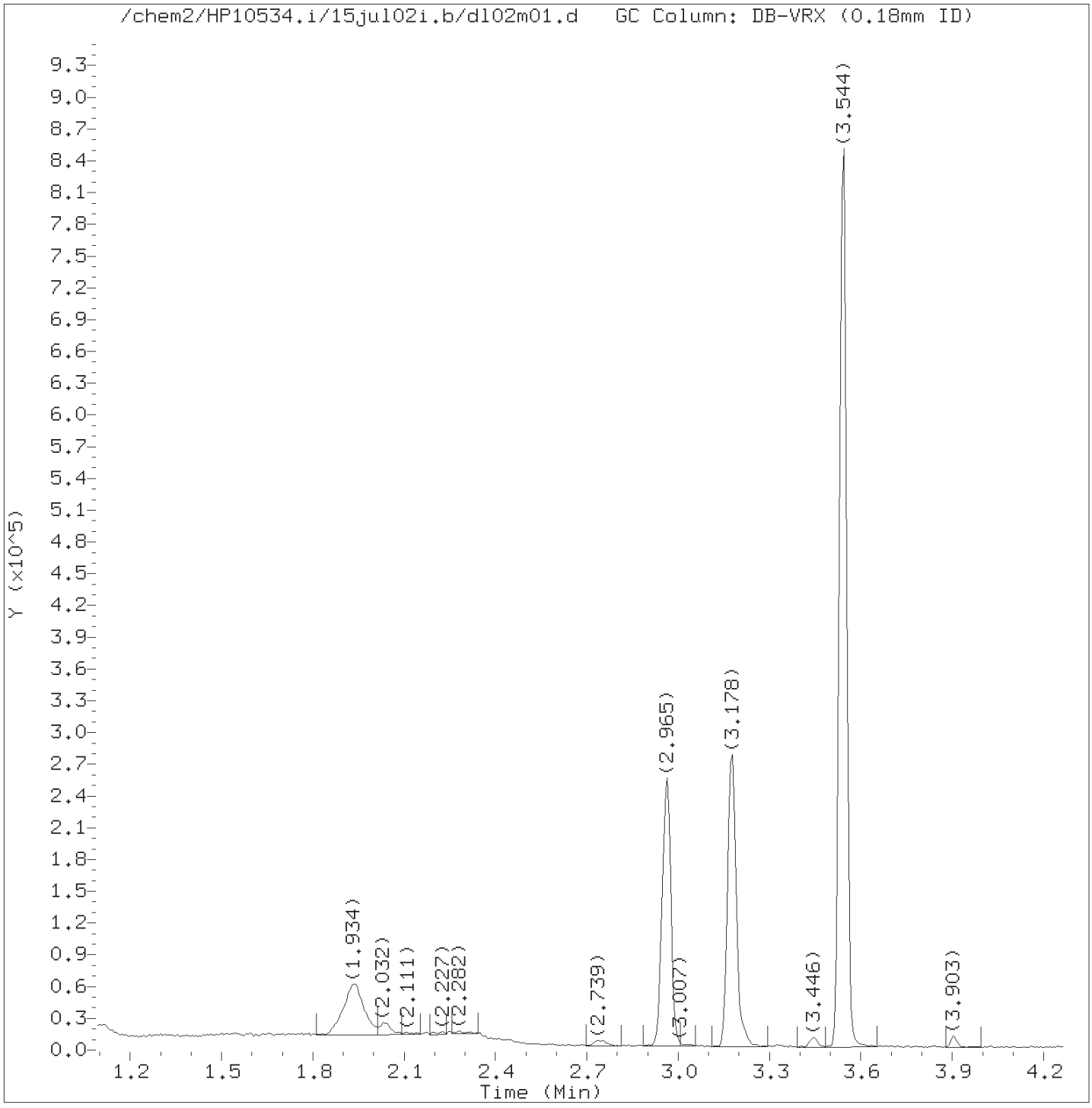
Data File: /chem2/HP10534.i/15jul02i.b/dl02i07a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:34 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:45
Date, time and analyst ID of latest file update: 02-Jul-2015 14:45 chemist

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 141
Retention Time (minutes): 1.946
Quant Ion : 65.00
Area : 111234
On-column Amount (ng) : 250.0000
Integration start scan : 113 Integration stop scan: 208
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

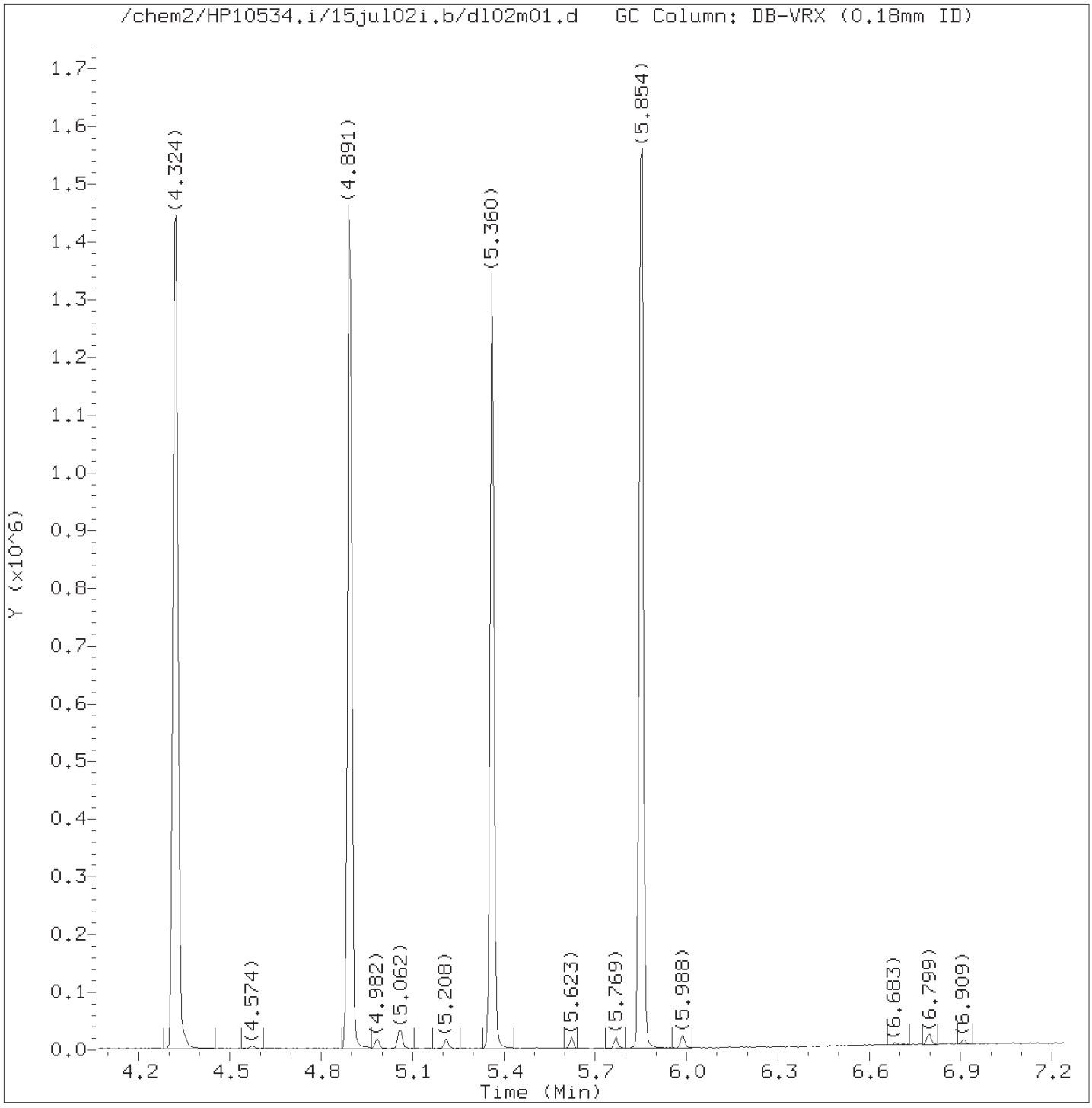
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02m01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:57 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:55
Date, time and analyst ID of latest file update: 02-Jul-2015 15:08 chemist

Sample Name: VSTD0.4 Lab Sample ID: 0.4PPB MDL

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:11.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02m01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:57 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:55
Date, time and analyst ID of latest file update: 02-Jul-2015 15:08 chemist

Sample Name: VSTD0.4 Lab Sample ID: 0.4PPB MDL

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:11.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02m01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:57 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:55
Date, time and analyst ID of latest file update: 02-Jul-2015 15:08 chemist

Sample Name: VSTD0.4 Lab Sample ID: 0.4PPB MDL

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.532	45	9651	120.578
2)*t-Butyl alcohol-d10	(1)	1.934	65	126185	250.000
3) t-Butyl alcohol	(1)	1.989	59	1689	2.227
4) Methyl Tertiary Butyl Ether	(2)	2.440	73	4890	0.364
5) di-Isopropyl ether	(2)	2.739	45	5891	0.365
6) Ethyl t-butyl ether	(2)	2.946	59	4875	0.329
7)$Dibromofluoromethane	(2)	2.965	113	153841	49.719
10)$1,2-Dichloroethane-d4	(2)	3.178	102	40384	49.000
11) 1,2-Dichloroethane	(2)	3.214	62	2269	0.363
12) Benzene	(2)	3.446	78	7334	0.374
13) t-Amyl methyl ether	(2)	3.525	87	1045	0.302
14)*Fluorobenzene	(2)	3.544	96	663679	50.000
15) t-Amyl ethyl ether	(2)	3.903	87	2448	0.327
16)$Toluene-d8	(3)	4.324	98	662923	49.918
17) Toluene	(3)	4.348	92	4471	0.357
19) 1,2-Dibromoethane	(3)	4.574	107	1518	0.351
20)*Chlorobenzene-d5	(3)	4.891	117	493765	50.000
21) Ethylbenzene	(3)	4.982	91	8739	0.373
22) m+p-Xylene	(3)	5.062	106	5963	0.658
23) o-Xylene	(3)	5.214	106	3084	0.351
24) Xylene (Total)	(3)		106	9047	1.009
25) Isopropylbenzene	(3)	5.348	105	7859	0.346
26)$4-Bromofluorobenzene	(3)	5.360	95	245774	49.663
27) 1,3,5-Trimethylbenzene	(4)	5.623	105	7071	0.386
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	6919	0.372
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	267868	50.000
30) Naphthalene	(4)	6.799	128	9060	0.441

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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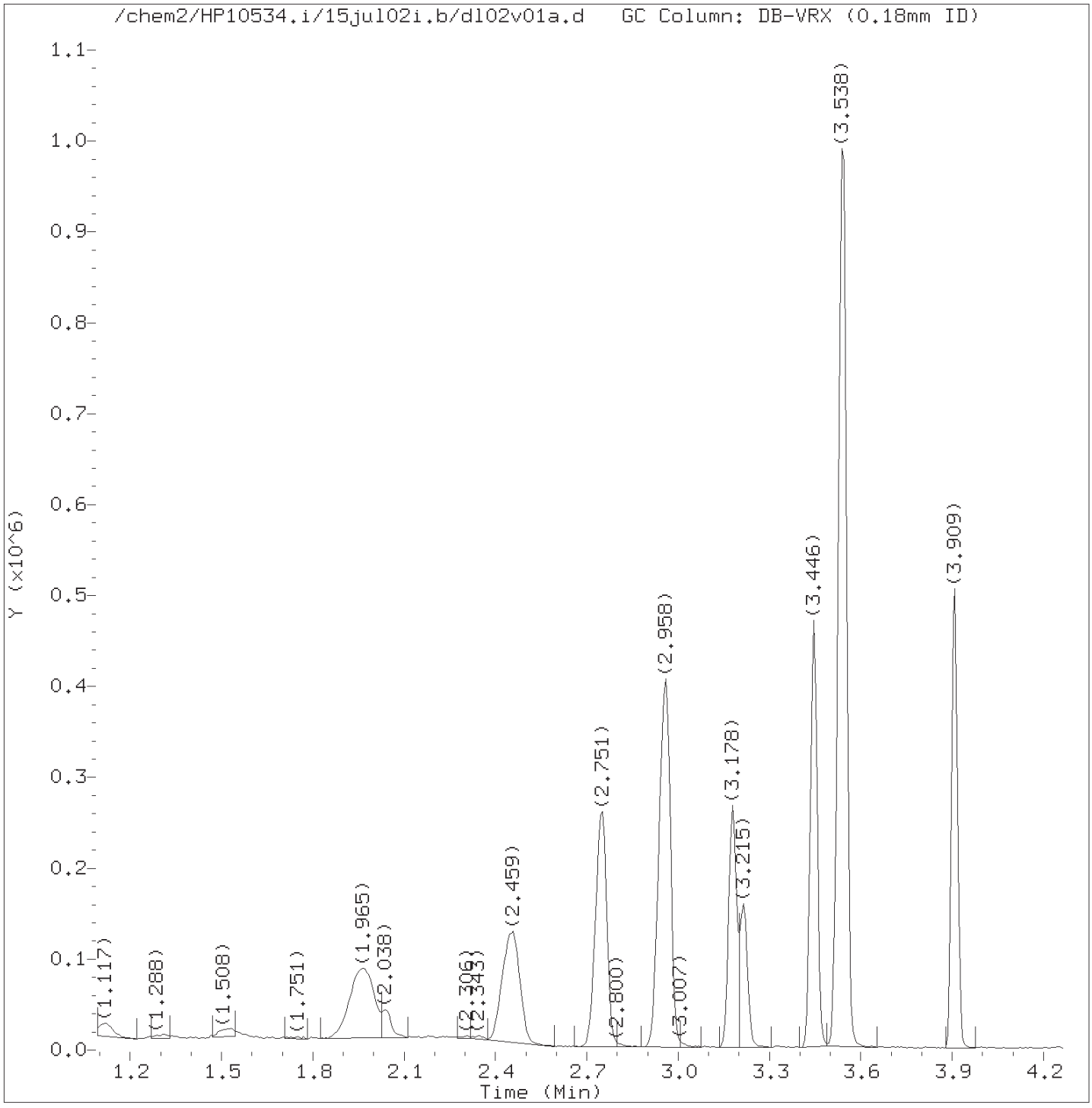
on 07/02/2015 at 15:11.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

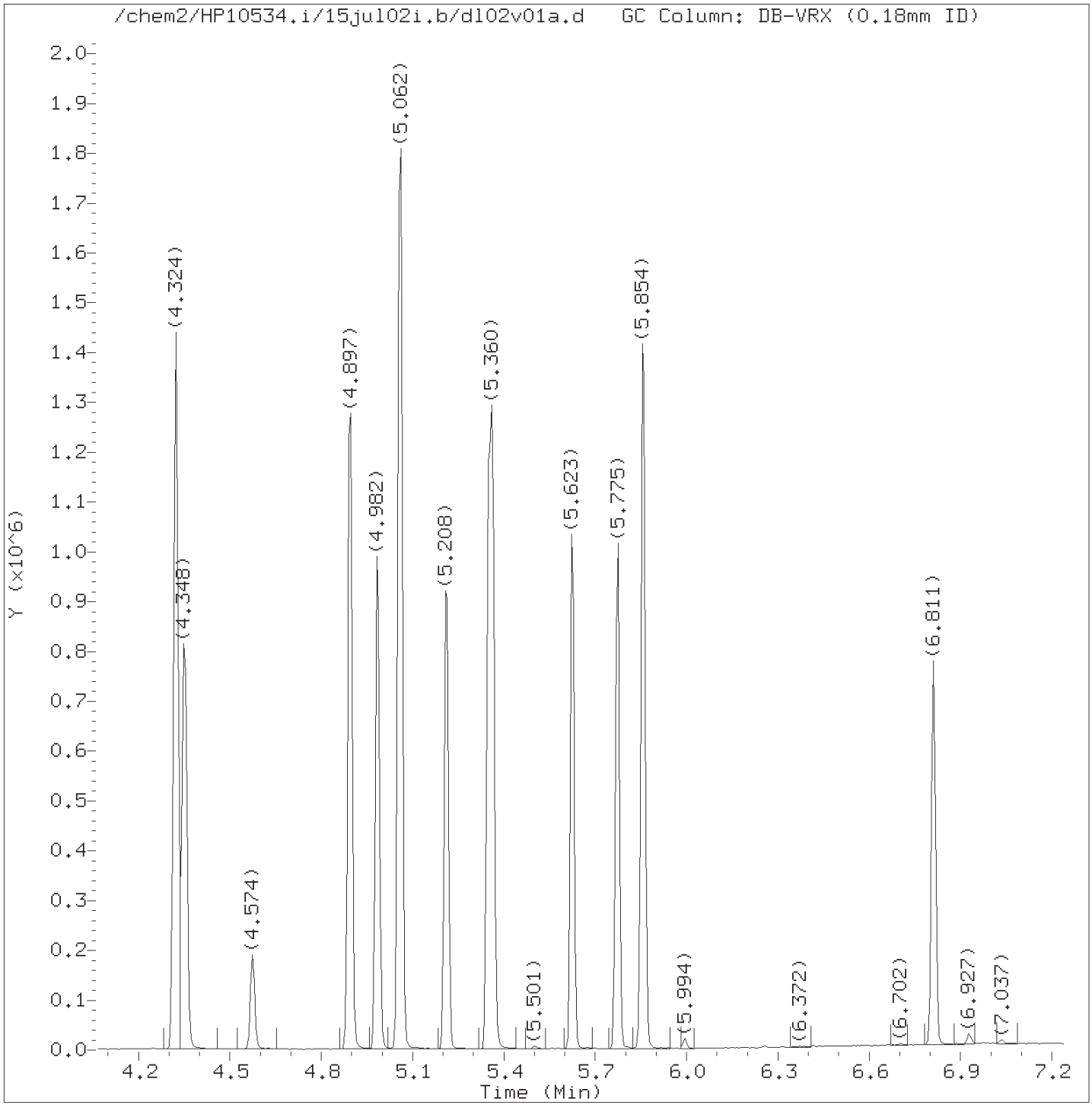
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02v01a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 16:01 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:55
Date, time and analyst ID of latest file update: 02-Jul-2015 16:31 akr02850

Sample Name: ICV-01 Lab Sample ID: ICV-01

Digitally signed by Amanda K. Richards
on 07/02/2015 at 16:31.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02v01a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 16:01 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:55
Date, time and analyst ID of latest file update: 02-Jul-2015 16:31 akr02850

Sample Name: ICV-01 Lab Sample ID: ICV-01

Digitally signed by Amanda K. Richards
on 07/02/2015 at 16:31.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02v01a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 16:01 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:55
Date, time and analyst ID of latest file update: 02-Jul-2015 16:31 akr02850

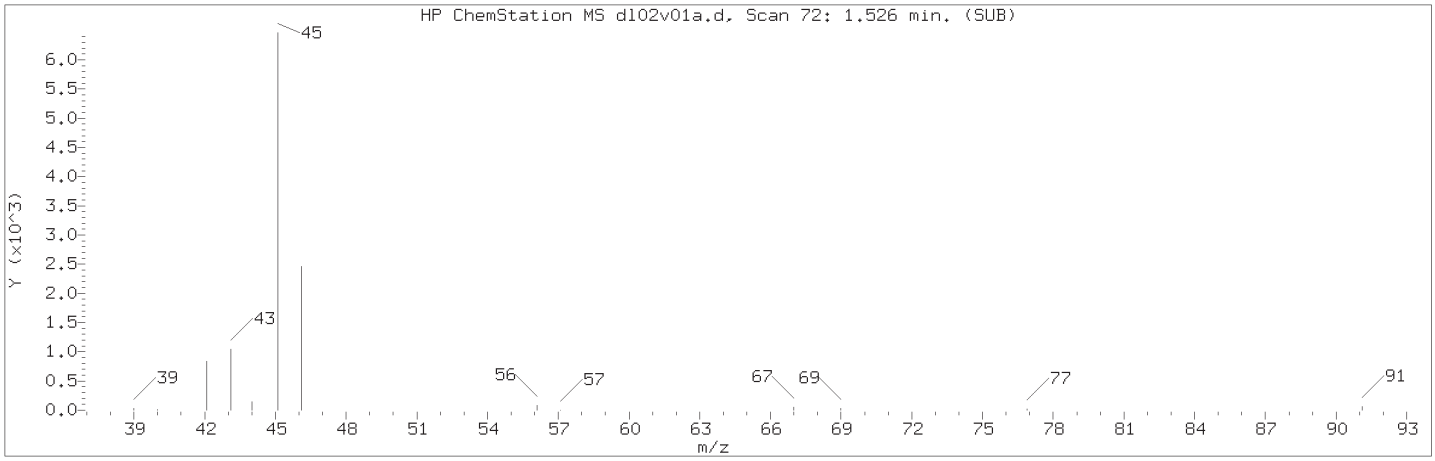
Sample Name: ICV-01 Lab Sample ID: ICV-01

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	39795M	554.200
2)*t-Butyl alcohol-d10	(1)	1.940	65	113196	250.000
3) t-Butyl alcohol	(1)	1.983	59	136155	200.136
4) Methyl Tertiary Butyl Ether	(2)	2.459	73	245008	20.320
5) di-Isopropyl ether	(2)	2.751	45	285009	19.715
6) Ethyl t-butyl ether	(2)	2.946	59	263081	19.810
7)$Dibromofluoromethane	(2)	2.965	113	137739	49.637
10)$1,2-Dichloroethane-d4	(2)	3.178	102	36471	49.343
11) 1,2-Dichloroethane	(2)	3.215	62	110065	19.614
12) Benzene	(2)	3.446	78	348745	19.815
13) t-Amyl methyl ether	(2)	3.532	87	62659	20.191
14)*Fluorobenzene	(2)	3.544	96	595199	50.000
15) t-Amyl ethyl ether	(2)	3.909	87	124101	18.457
16)$Toluene-d8	(3)	4.324	98	592906	49.603
17) Toluene	(3)	4.348	92	226202	20.067
19) 1,2-Dibromoethane	(3)	4.574	107	77527	19.884
20)*Chlorobenzene-d5	(3)	4.897	117	444418	50.000
21) Ethylbenzene	(3)	4.982	91	420486	19.929
22) m+p-Xylene	(3)	5.062	106	329757	40.414
23) o-Xylene	(3)	5.214	106	157986	19.953
24) Xylene (Total)	(3)		106	487743	60.368
25) Isopropylbenzene	(3)	5.348	105	415325	20.342
26)$4-Bromofluorobenzene	(3)	5.360	95	223180	50.105
27) 1,3,5-Trimethylbenzene	(4)	5.623	105	329114	19.750
28) 1,2,4-Trimethylbenzene	(4)	5.775	105	335657	19.844
29)*1,4-Dichlorobenzene-d4	(4)	5.860	152	243504	50.000
30) Naphthalene	(4)	6.811	128	365493	19.547

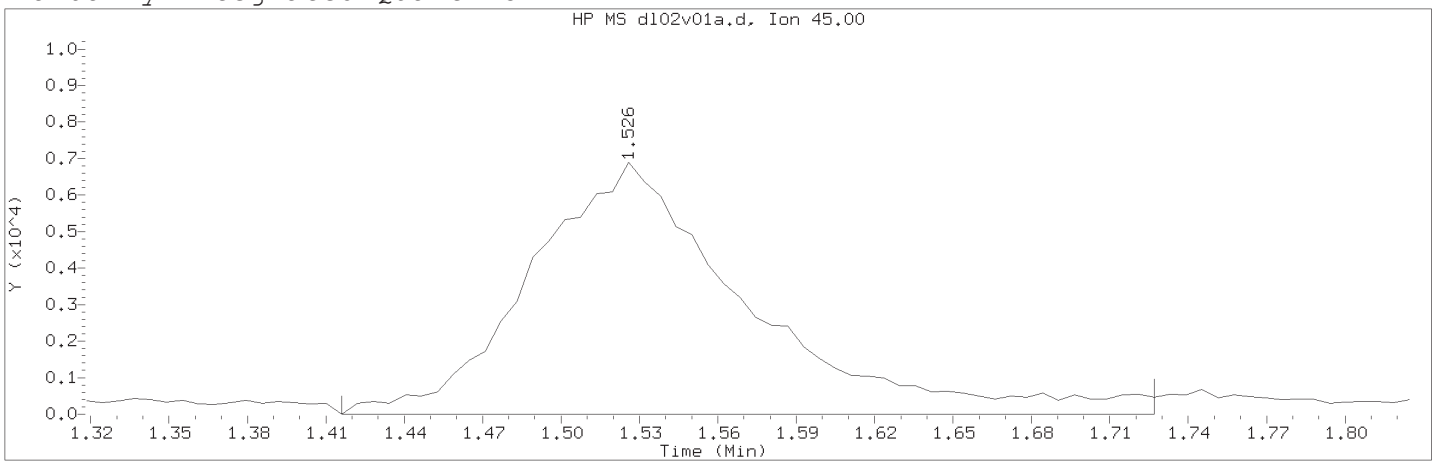
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 16:31.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02v01a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 16:01 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:55
Date, time and analyst ID of latest file update: 02-Jul-2015 16:31 akr02850

Sample Name: ICV-01 Lab Sample ID: ICV-01

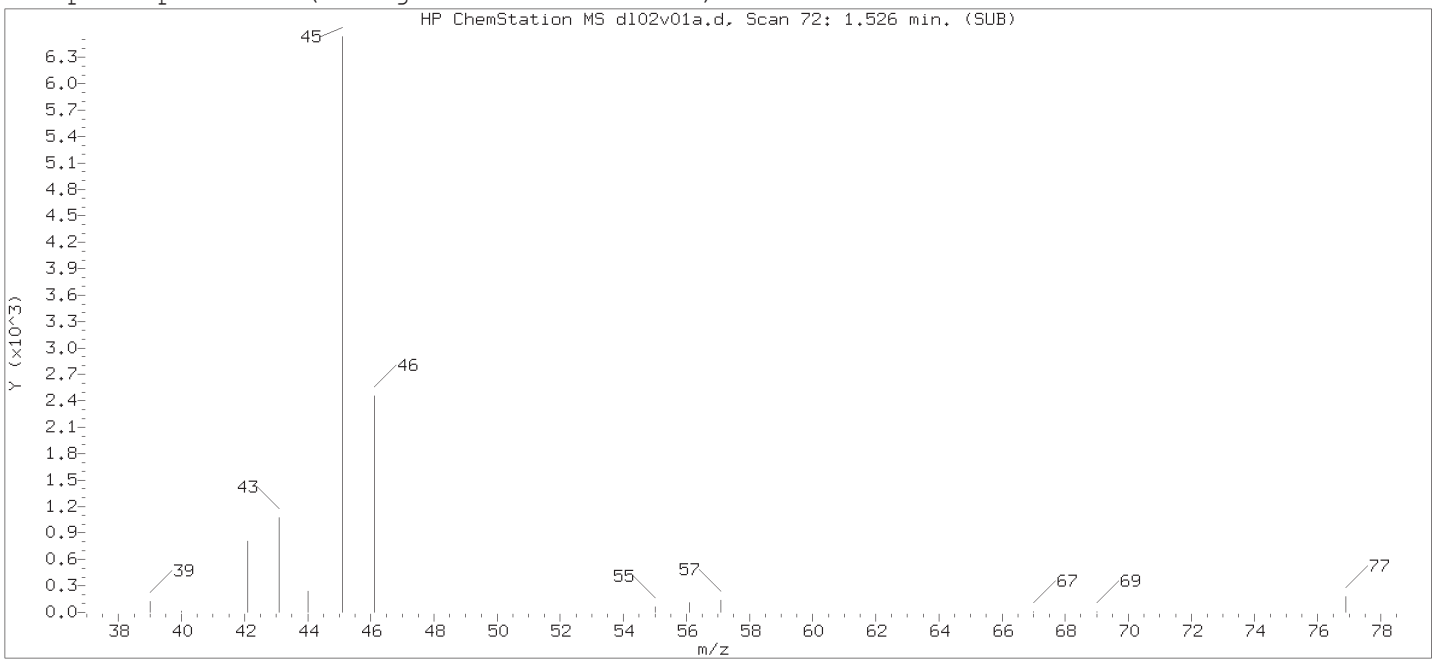
Compound Number : 1
Compound Name : Ethanol
Scan Number : 72
Retention Time (minutes): 1.526
Quant Ion : 45.00
Area (flag) : 39795M
On-Column Amount (ng) : 554.2001
Integration start scan : 53 Integration stop scan: 104
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

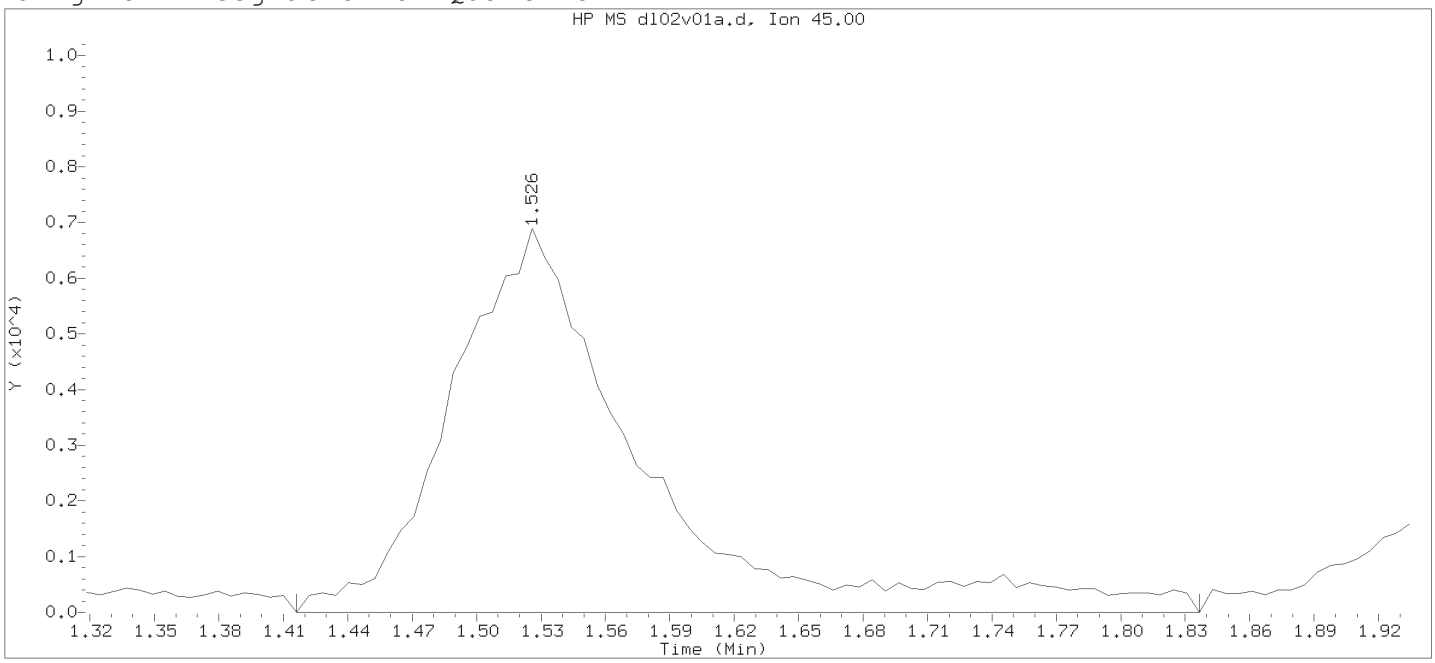
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 16:31.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:22.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02v01a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 16:01 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:55
Date, time and analyst ID of latest file update: 02-Jul-2015 16:11 chemist

Sample Name: ICV-01 Lab Sample ID: ICV-01

Compound Number : 1
Compound Name : Ethanol
Scan Number : 72
Retention Time (minutes): 1.526
Quant Ion : 45.00
Area : 42472
On-column Amount (ng) : 591.4745
Integration start scan : 53 Integration stop scan: 122
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 16:31.
Target 3.5 esignature user ID: akr02850

Data File: /chem2/HP10534.i/15oct14a.b/dc14t01.d

Date : 14-OCT-2015 09:05

Client ID: BFBAUG28-15

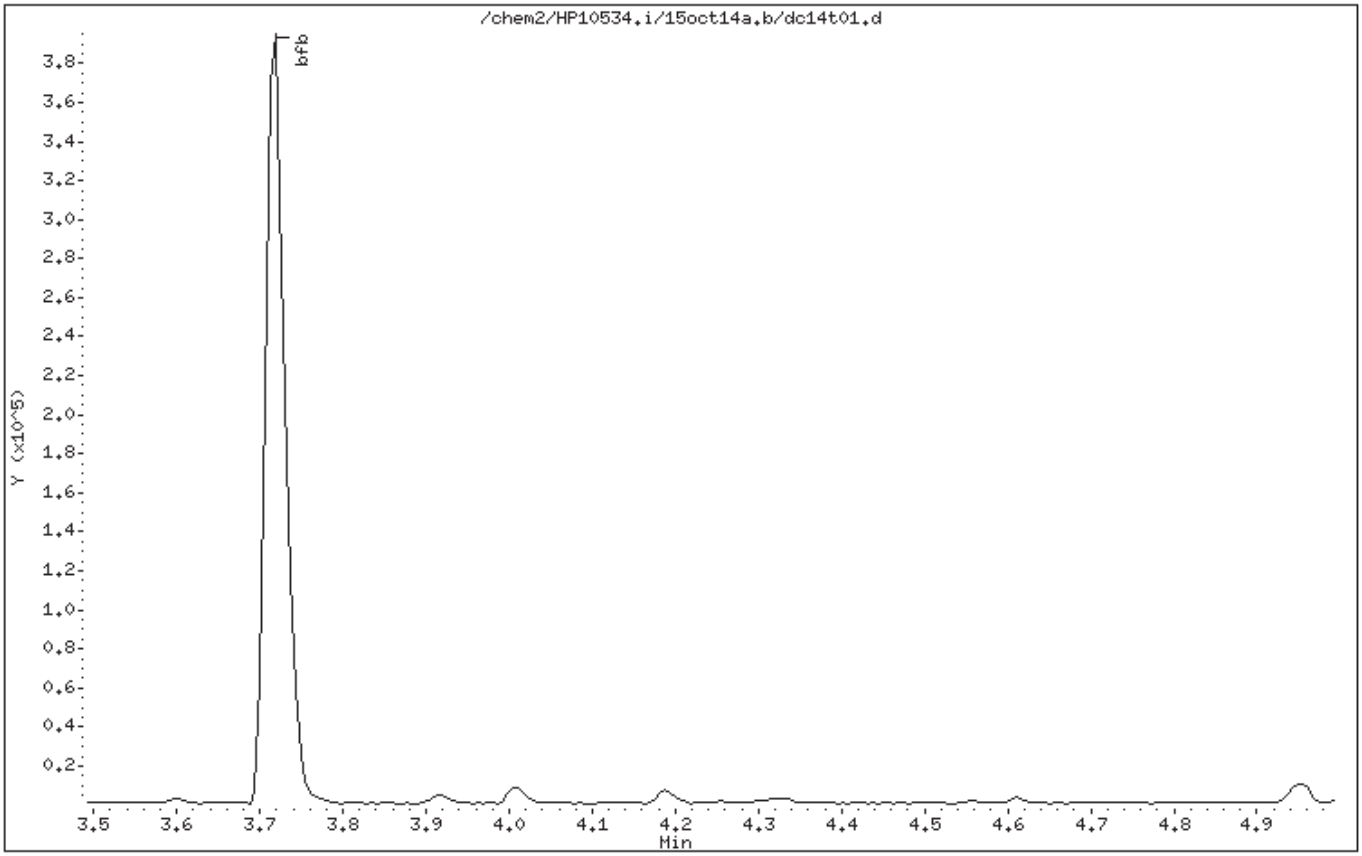
Instrument: HP10534.i

Sample Info: BFBAUG28-15;50NGBFB;1;3;;;;;;

Operator: DHH02035

Column phase: DB-VRX

Column diameter: 0.18



Digitally signed by Daniel H. Heller on 10/14/2015 at 12:06.
Target 3.5 esignature user ID: dhh02035

Data File: /chem2/HP10534.i/15oct14a.b/dc14t01.d

Date : 14-OCT-2015 09:05

Client ID: BFBAUG28-15

Instrument: HP10534.i

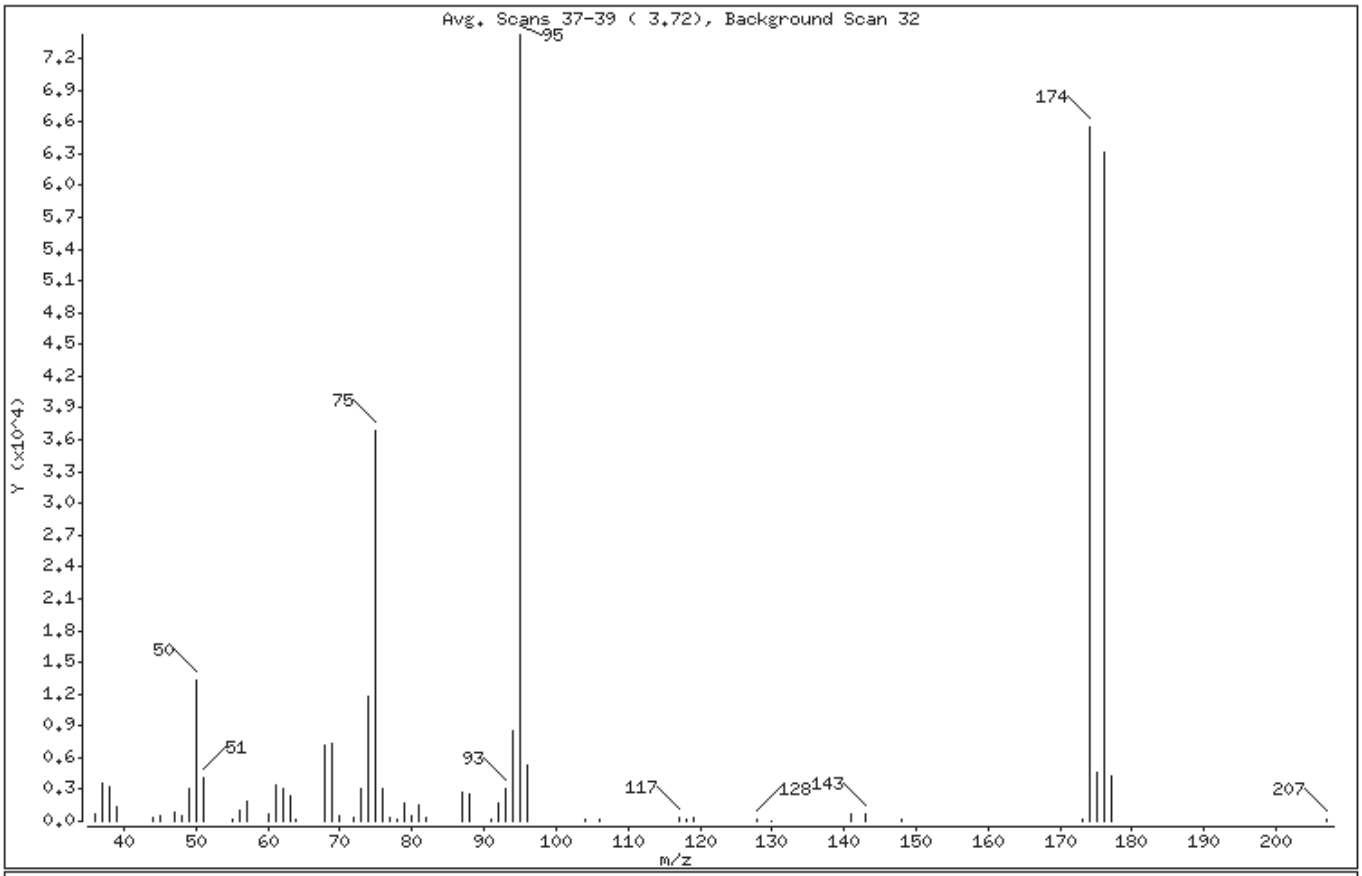
Sample Info: BFBAUG28-15;50NGBFB;1;3;;;;;;

Operator: DHH02035

Column phase: DB-VRX

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.94
75	30.00 - 60.00% of mass 95	49.67
96	5.00 - 9.00% of mass 95	7.12
173	Less than 2.00% of mass 174	0.21 (0.23)
174	50.00 - 100.00% of mass 95	88.26
175	5.00 - 9.00% of mass 174	6.26 (7.09)
176	95.00 - 101.00% of mass 174	85.10 (96.42)
177	5.00 - 9.00% of mass 176	5.64 (6.63)

Digitally signed by Daniel H. Heller on 10/14/2015 at 12:06.
Target 3.5 esignature user ID: dhh02035

Date : 14-OCT-2015 09:05

Client ID: BFBAUG28-15 Instrument: HP10534.i

Sample Info: BFBAUG28-15;50NGBFB;1;3;;;;;;

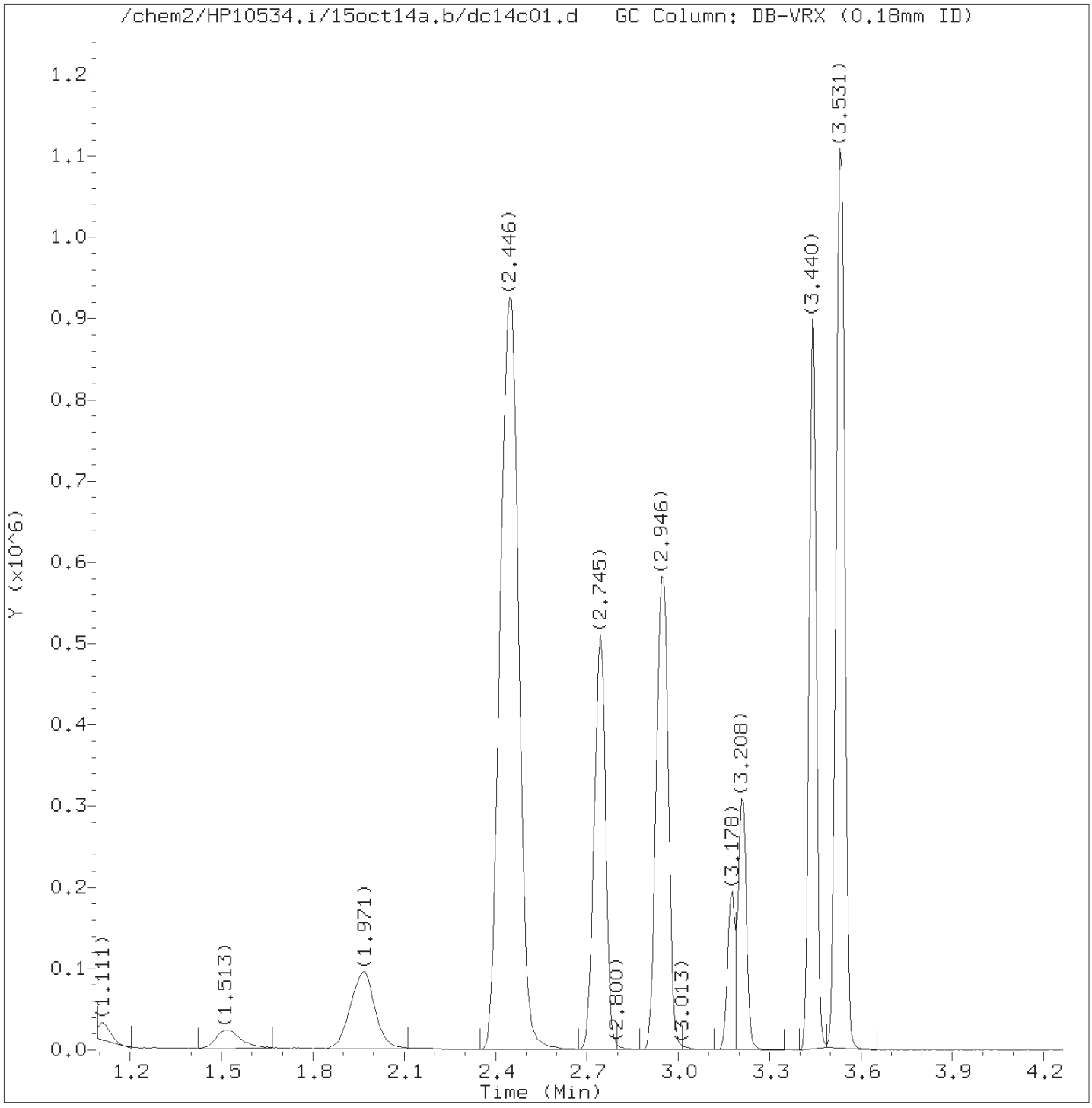
Operator: DHH02035

Column phase: DB-VRX Column diameter: 0.18

Data File: dc14t01.d
Spectrum: Avg. Scans 37-39 (3.72), Background Scan 32
Location of Maximum: 95.00
Number of points: 57

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	676	61.00	3414	80.00	499	119.00	298
37.00	3526	62.00	3141	81.00	1581	128.00	196
38.00	3281	63.00	2375	82.00	287	130.00	83
39.00	1311	64.00	146	87.00	2699	141.00	613
44.00	269	68.00	7105	88.00	2561	143.00	625
45.00	578	69.00	7274	91.00	172	148.00	87
47.00	772	70.00	588	92.00	1783	173.00	153
48.00	466	72.00	419	93.00	3051	174.00	65520
49.00	2989	73.00	3070	94.00	8487	175.00	4646
50.00	13319	74.00	11768	95.00	74232	176.00	63168
51.00	4108	75.00	36872	96.00	5288	177.00	4187
55.00	209	76.00	3114	104.00	186	207.00	95
56.00	963	77.00	423	106.00	88		
57.00	1835	78.00	105	117.00	423		
60.00	642	79.00	1646	118.00	88		

Digitally signed by Daniel H. Heller on 10/14/2015 at 12:06.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

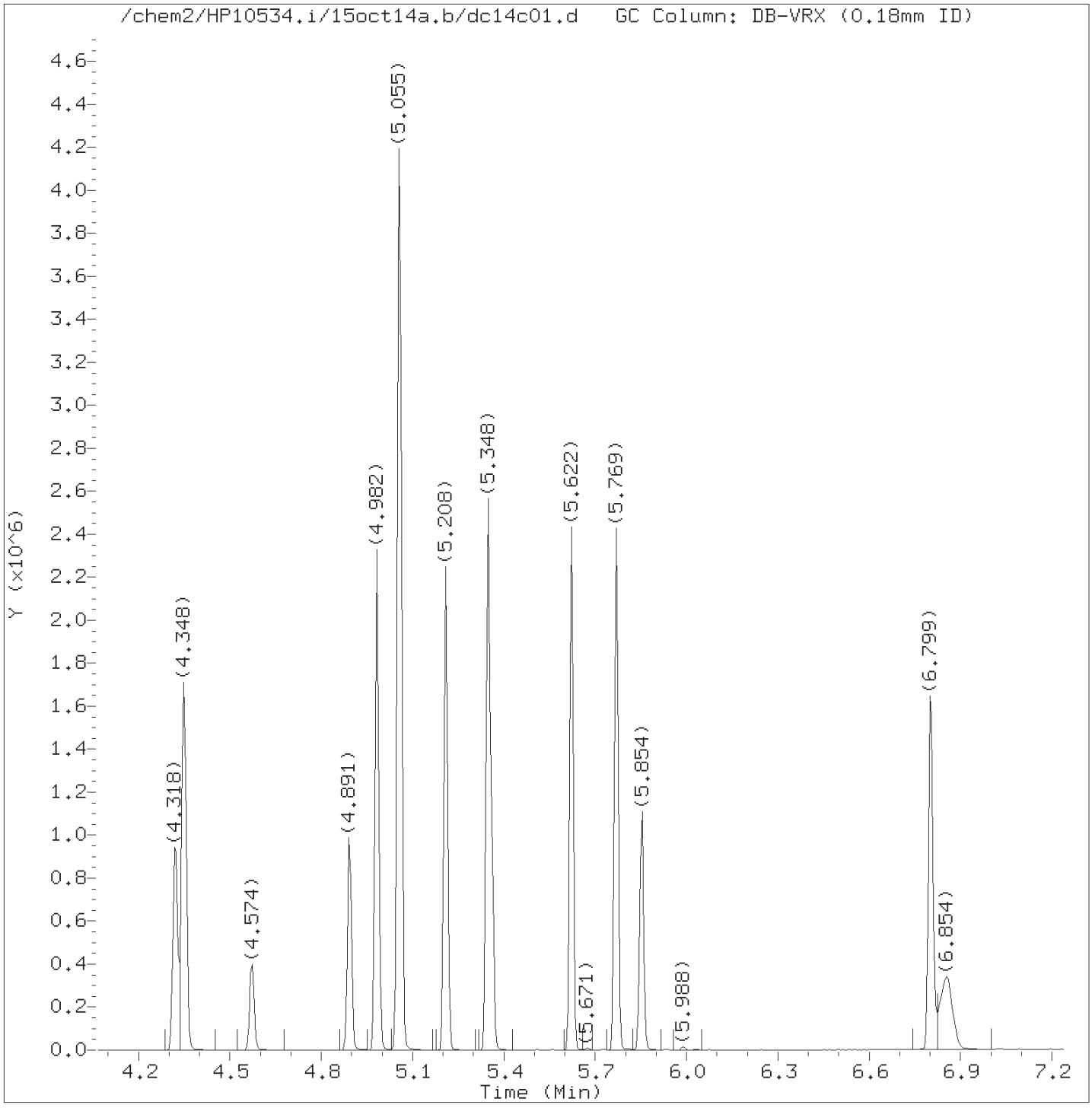
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14c01.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 10:47 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 11:02 dhh02035

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Daniel H. Heller
on 10/14/2015 at 12:05.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14c01.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 10:47 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 11:02 dhh02035

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Daniel H. Heller
on 10/14/2015 at 12:05.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14c01.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 10:47 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 11:02 dhh02035

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.520	45	74807	1314.891
2)*t-Butyl alcohol-d10	(1)	1.934	65	89685	250.000
3) t-Butyl alcohol	(1)	1.971	59	188710	350.105
4) Methyl Tertiary Butyl Ether	(2)	2.452	73	1891369	225.630
5) di-Isopropyl ether	(2)	2.745	45	558603	55.581
6) Ethyl t-butyl ether	(2)	2.946	59	542213	58.728
7)$Dibromofluoromethane	(2)	2.958	113	99805	51.735
7)$Dibromofluoromethane	(2)	2.958	111	102967	52.396
10)$1,2-Dichloroethane-d4	(2)	3.178	102	27647	53.804
10)$1,2-Dichloroethane-d4	(2)	3.178	65	141527	55.534
10)$1,2-Dichloroethane-d4	(2)	3.178	104	16095	49.800
11) 1,2-Dichloroethane	(2)	3.208	62	245130	62.834
12) Benzene	(2)	3.440	78	698728	57.105
13) t-Amyl methyl ether	(2)	3.525	87	128671	59.640
14)*Fluorobenzene	(2)	3.544	96	413786	50.000
16)$Toluene-d8	(3)	4.318	98	411872	47.801
16)$Toluene-d8	(3)	4.318	100	268226	47.804
17) Toluene	(3)	4.348	92	457047	56.245
19) 1,2-Dibromoethane	(3)	4.574	107	171869	61.151
20)*Chlorobenzene-d5	(3)	4.891	117	320362	50.000
21) Ethylbenzene	(3)	4.982	91	890365	58.541
22) m+p-Xylene	(3)	5.055	106	701111	119.201
23) o-Xylene	(3)	5.208	106	337362	59.108
24) Xylene (Total)	(3)		106	1038473	178.309
25) Isopropylbenzene	(3)	5.348	105	882610	59.970
26)$4-Bromofluorobenzene	(3)	5.360	95	162650	50.656
26)$4-Bromofluorobenzene	(3)	5.360	174	142940	51.555
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	710010	59.061
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	728642	59.713
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	175666	50.000
30) Naphthalene	(4)	6.799	128	831555	61.648

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/14/2015 at 12:05.
Target 3.5 esignature user ID: dhh02035

Data File: /chem2/HP10534.i/15oct15a.b/dc15t01.d

Date : 15-OCT-2015 09:29

Client ID: BFBAUG28-15

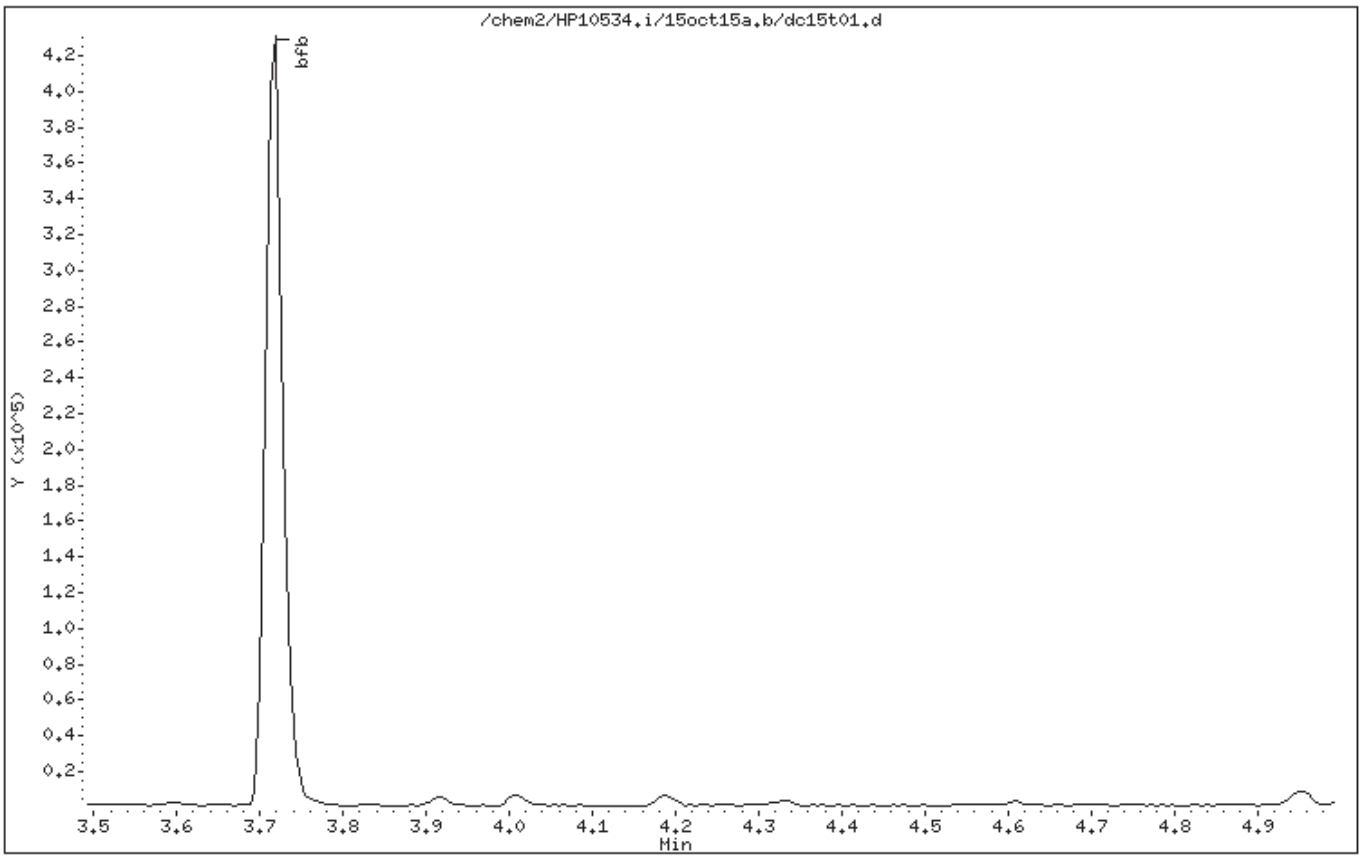
Instrument: HP10534.i

Sample Info: BFBAUG28-15;50NGBFB;1;3;;;;;;

Operator: DHH02035

Column phase: DB-VRX

Column diameter: 0.18



Digitally signed by Daniel H. Heller on 10/15/2015 at 09:47.
Target 3.5 esignature user ID: dhh02035

Data File: /chem2/HP10534.i/15oct15a.b/dc15t01.d

Date : 15-OCT-2015 09:29

Client ID: BFBAUG28-15

Instrument: HP10534.i

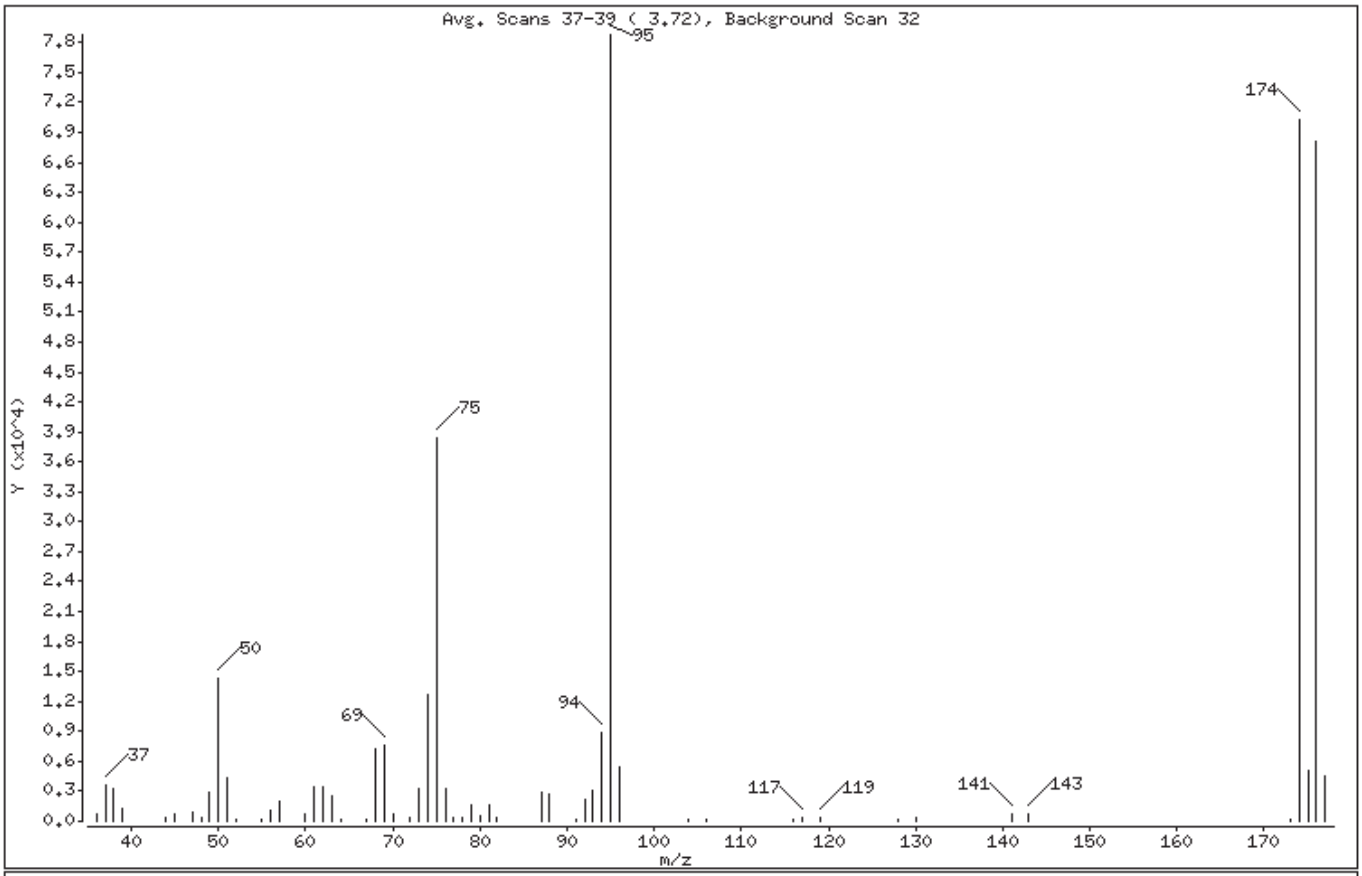
Sample Info: BFBAUG28-15;50NGBFB;1;3;;;;;;

Operator: DHH02035

Column phase: DB-VRX

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.27
75	30.00 - 60.00% of mass 95	48.68
96	5.00 - 9.00% of mass 95	6.96
173	Less than 2.00% of mass 174	0.29 (0.33)
174	50.00 - 100.00% of mass 95	89.08
175	5.00 - 9.00% of mass 174	6.54 (7.34)
176	95.00 - 101.00% of mass 174	86.54 (97.15)
177	5.00 - 9.00% of mass 176	5.74 (6.63)

Digitally signed by Daniel H. Heller on 10/15/2015 at 09:47.
Target 3.5 esignature user ID: dhh02035

Date : 15-OCT-2015 09:29

Client ID: BFBAUG28-15 Instrument: HP10534.i

Sample Info: BFBAUG28-15;50NGBFB;1;3;;;;;;

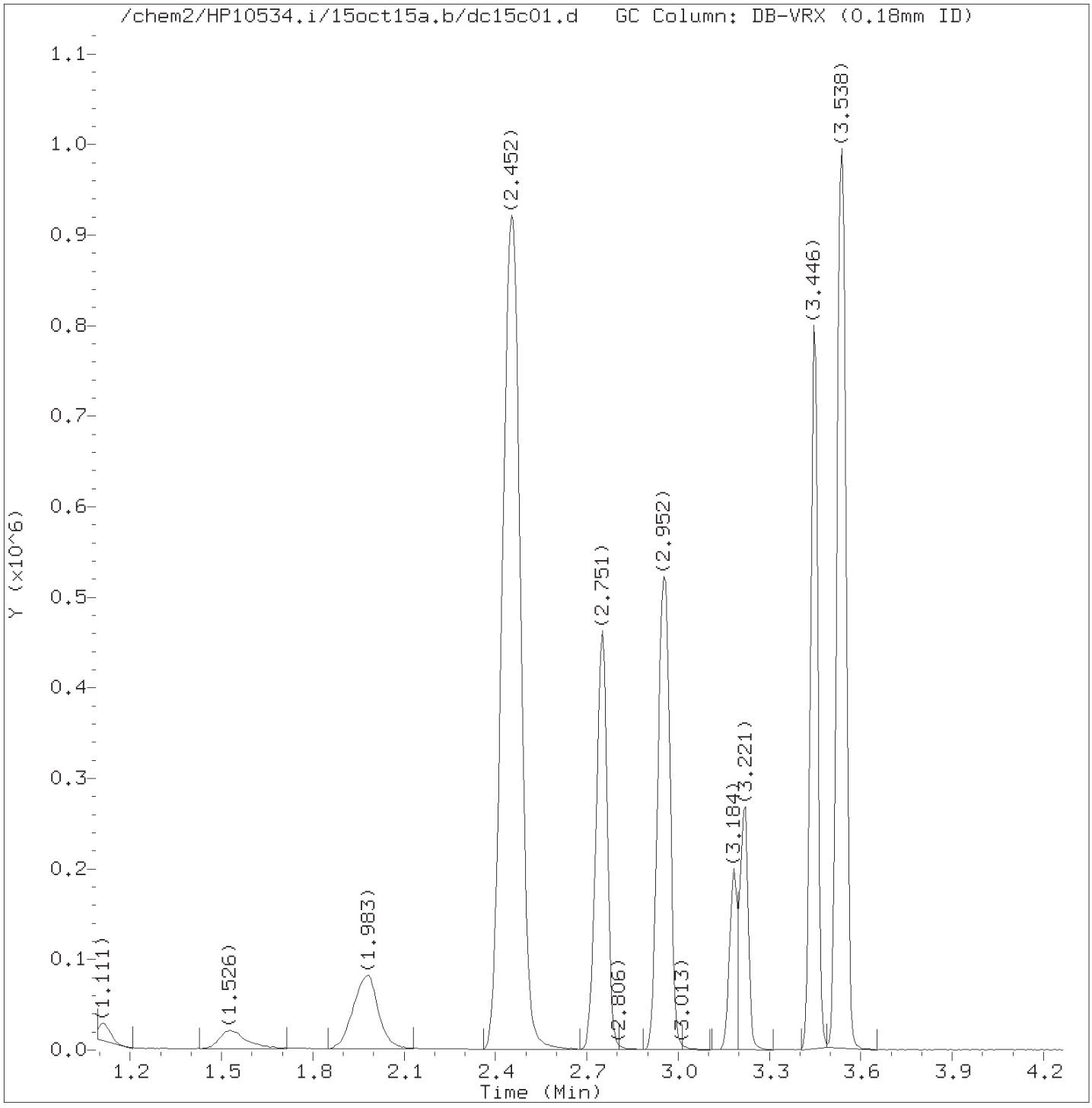
Operator: DHH02035

Column phase: DB-VRX Column diameter: 0.18

Data File: dc15t01.d
Spectrum: Avg. Scans 37-39 (3.72), Background Scan 32
Location of Maximum: 95.00
Number of points: 57

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	682	60.00	697	78.00	299	116.00	97
37.00	3617	61.00	3474	79.00	1574	117.00	444
38.00	3263	62.00	3477	80.00	508	119.00	332
39.00	1204	63.00	2456	81.00	1583	128.00	151
44.00	291	64.00	125	82.00	311	130.00	303
45.00	683	67.00	92	87.00	2814	141.00	693
47.00	897	68.00	7218	88.00	2807	143.00	721
48.00	445	69.00	7525	91.00	173	173.00	230
49.00	2926	70.00	641	92.00	2211	174.00	70184
50.00	14392	72.00	303	93.00	3121	175.00	5155
51.00	4431	73.00	3308	94.00	8883	176.00	68184
52.00	203	74.00	12613	95.00	78784	177.00	4523
55.00	93	75.00	38352	96.00	5487		
56.00	1061	76.00	3245	104.00	195		
57.00	1925	77.00	412	106.00	97		

Digitally signed by Daniel H. Heller on 10/15/2015 at 09:47.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

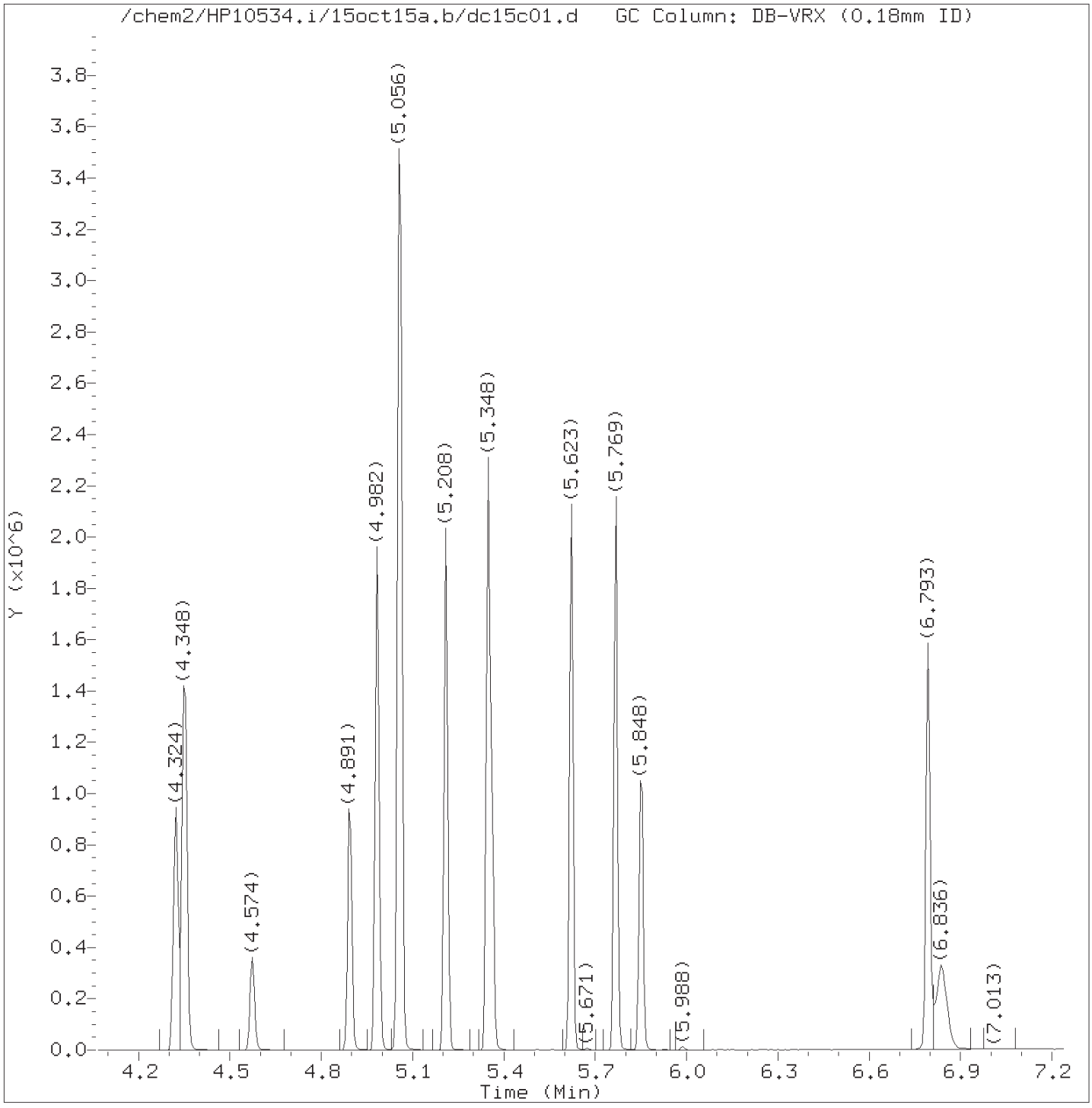
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15c01.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 10:22 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 10:40 dhh02035

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Daniel H. Heller
on 10/19/2015 at 17:19.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15c01.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 10:22 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 10:40 dhh02035

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Daniel H. Heller
on 10/19/2015 at 17:19.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15c01.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 10:22 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 10:40 dhh02035

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	71119	1356.896
2)*t-Butyl alcohol-d10	(1)	1.946	65	82624	250.000
3) t-Butyl alcohol	(1)	1.989	59	164595	331.462
4) Methyl Tertiary Butyl Ether	(2)	2.452	73	1819809	213.440
5) di-Isopropyl ether	(2)	2.751	45	493563	48.283
6) Ethyl t-butyl ether	(2)	2.946	59	473655	50.439
7)$Dibromofluoromethane	(2)	2.971	113	100422	51.179
7)$Dibromofluoromethane	(2)	2.971	111	102228	51.144
10)$1,2-Dichloroethane-d4	(2)	3.184	102	27741	53.078
10)$1,2-Dichloroethane-d4	(2)	3.184	65	141738	54.681
10)$1,2-Dichloroethane-d4	(2)	3.184	104	16437	50.002
11) 1,2-Dichloroethane	(2)	3.221	62	219886	55.414
12) Benzene	(2)	3.446	78	629868	50.611
13) t-Amyl methyl ether	(2)	3.532	87	113816	51.867
14)*Fluorobenzene	(2)	3.544	96	420869	50.000
16)$Toluene-d8	(3)	4.324	98	418652	48.001
16)$Toluene-d8	(3)	4.324	100	271019	47.718
17) Toluene	(3)	4.348	92	414962	50.449
19) 1,2-Dibromoethane	(3)	4.574	107	156561	55.031
20)*Chlorobenzene-d5	(3)	4.891	117	324280	50.000
21) Ethylbenzene	(3)	4.982	91	802600	52.133
22) m+p-Xylene	(3)	5.056	106	632159	106.179
23) o-Xylene	(3)	5.208	106	300865	52.077
24) Xylene (Total)	(3)		106	933024	158.256
25) Isopropylbenzene	(3)	5.348	105	798949	53.629
26)$4-Bromofluorobenzene	(3)	5.360	95	163003	50.152
26)$4-Bromofluorobenzene	(3)	5.360	174	144751	51.577
27) 1,3,5-Trimethylbenzene	(4)	5.623	105	628746	51.044
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	652080	52.154
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	179992	50.000
30) Naphthalene	(4)	6.793	128	728801	52.732

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/19/2015 at 17:19.
Target 3.5 esignature user ID: dhh02035

Data File: /chem2/HP10534.i/15oct16a.b/dc16t01.d

Date : 16-OCT-2015 16:53

Client ID: BFBAUG28-15

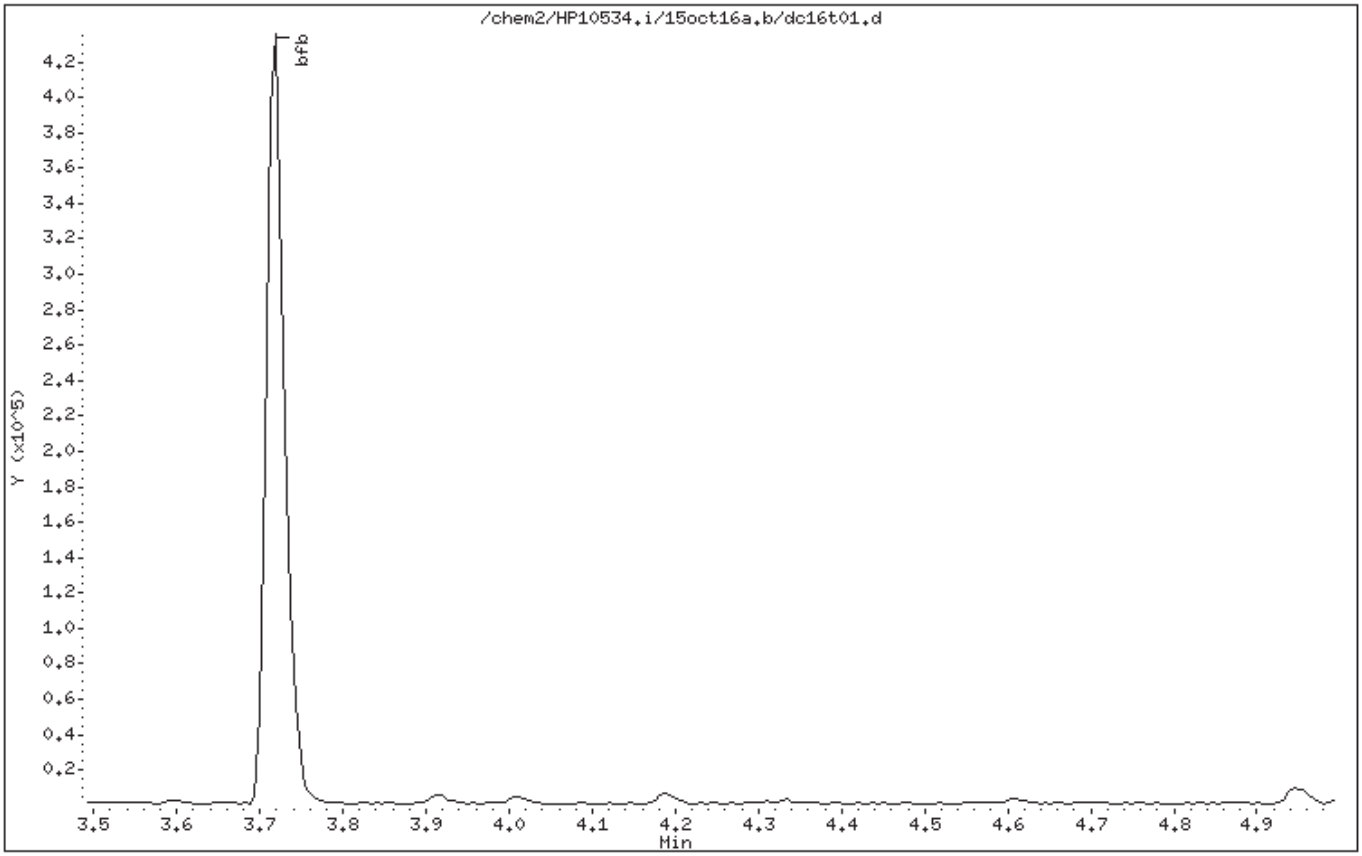
Instrument: HP10534.i

Sample Info: BFBAUG28-15;50NGBFB;1;3;;;

Operator: HY07820

Column phase: DB-VRX

Column diameter: 0.18



Digitally signed by Hu Yang on 10/16/2015 at 17:49.
Target 3.5 esignature user ID: hy07820

Data File: /chem2/HP10534.i/15oct16a.b/dc16t01.d

Date : 16-OCT-2015 16:53

Client ID: BFBAUG28-15

Instrument: HP10534.i

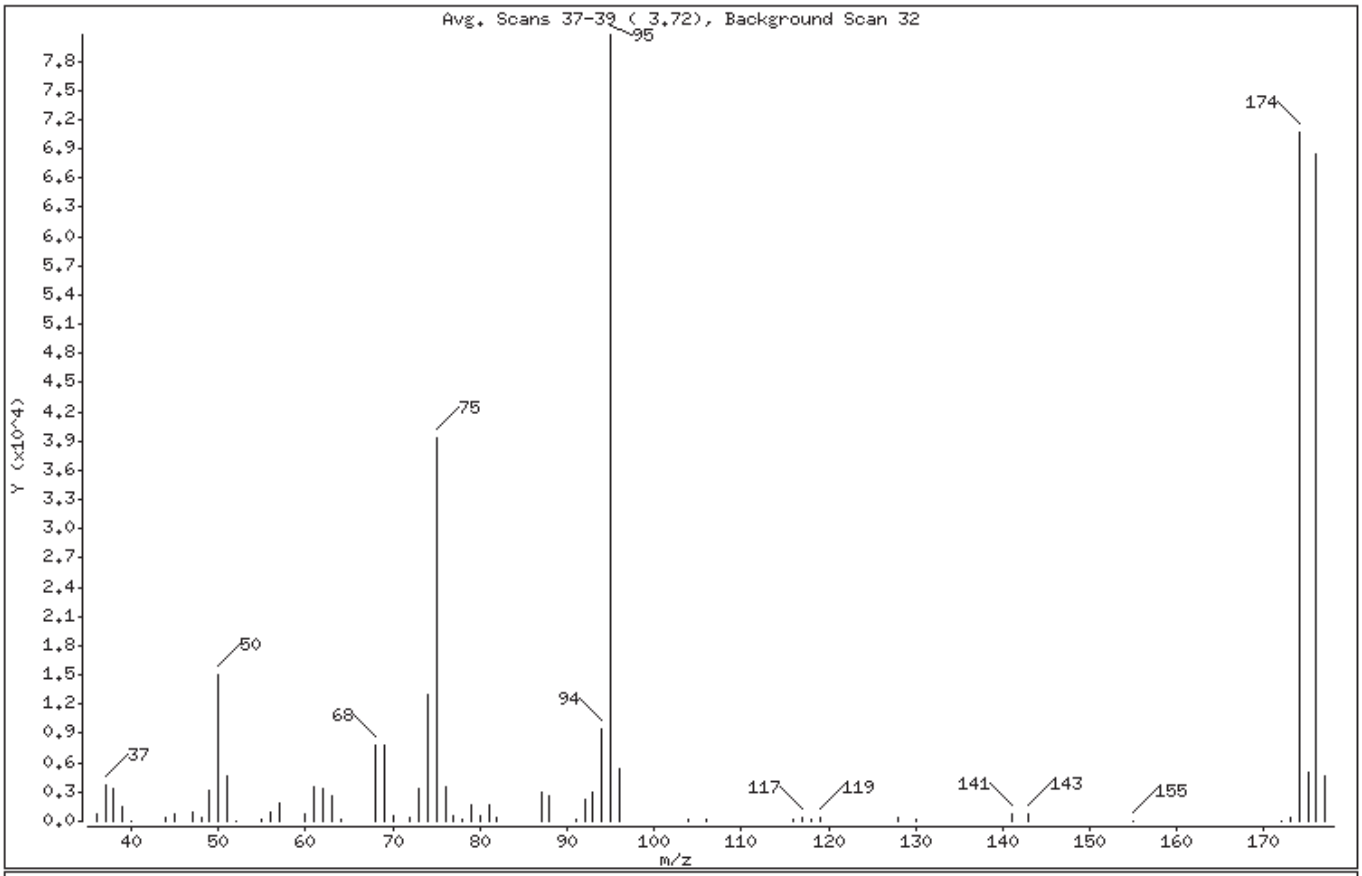
Sample Info: BFBAUG28-15;50NGBFB;1;3;;;

Operator: HY07820

Column phase: DB-VRX

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.55
75	30.00 - 60.00% of mass 95	48.77
96	5.00 - 9.00% of mass 95	6.77
173	Less than 2.00% of mass 174	0.49 (0.56)
174	50.00 - 100.00% of mass 95	87.51
175	5.00 - 9.00% of mass 174	6.29 (7.19)
176	95.00 - 101.00% of mass 174	84.73 (96.82)
177	5.00 - 9.00% of mass 176	5.73 (6.76)

Digitally signed by Hu Yang on 10/16/2015 at 17:49.
Target 3.5 esignature user ID: hy07820

Date : 16-OCT-2015 16:53

Client ID: BFBAUG28-15 Instrument: HP10534.i

Sample Info: BFBAUG28-15;50NGBFB;1;3;;;

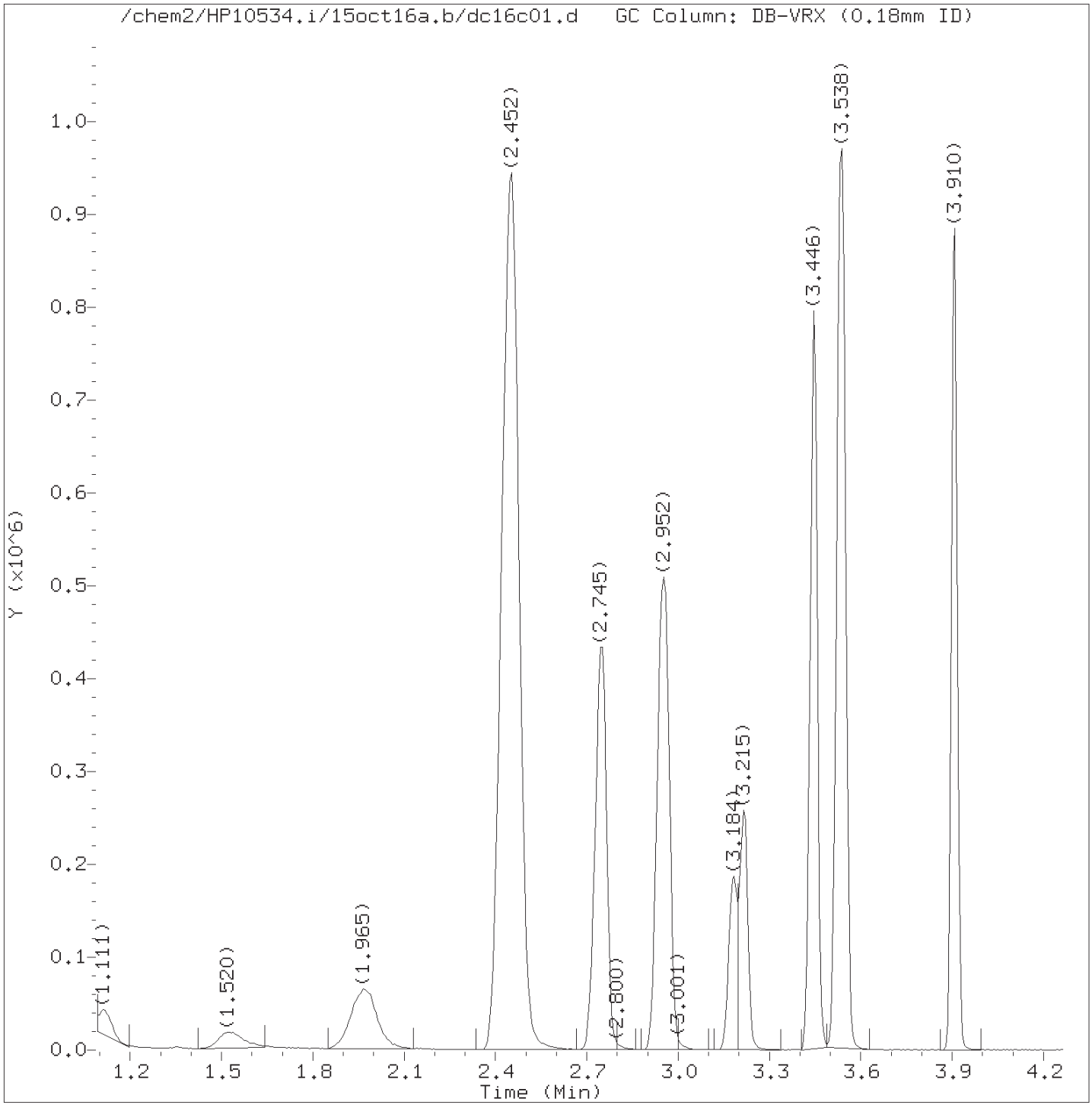
Operator: HY07820

Column phase: DB-VRX Column diameter: 0.18

Data File: dc16t01.d
Spectrum: Avg. Scans 37-39 (3.72), Background Scan 32
Location of Maximum: 95.00
Number of points: 60

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	767	60.00	715	80.00	473	119.00	351
37.00	3697	61.00	3571	81.00	1749	128.00	286
38.00	3403	62.00	3385	82.00	334	130.00	190
39.00	1397	63.00	2591	87.00	2986	141.00	740
40.00	36	64.00	214	88.00	2672	143.00	777
44.00	281	68.00	7841	91.00	108	155.00	86
45.00	713	69.00	7700	92.00	2165	172.00	84
47.00	924	70.00	605	93.00	3006	173.00	395
48.00	431	72.00	432	94.00	9489	174.00	70624
49.00	3240	73.00	3356	95.00	80696	175.00	5080
50.00	14971	74.00	12914	96.00	5466	176.00	68376
51.00	4714	75.00	39360	104.00	231	177.00	4624
52.00	88	76.00	3526	106.00	216		
55.00	182	77.00	506	116.00	101		
56.00	1000	78.00	273	117.00	438		
57.00	1907	79.00	1703	118.00	196		

Digitally signed by Hu Yang on 10/16/2015 at 17:49.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

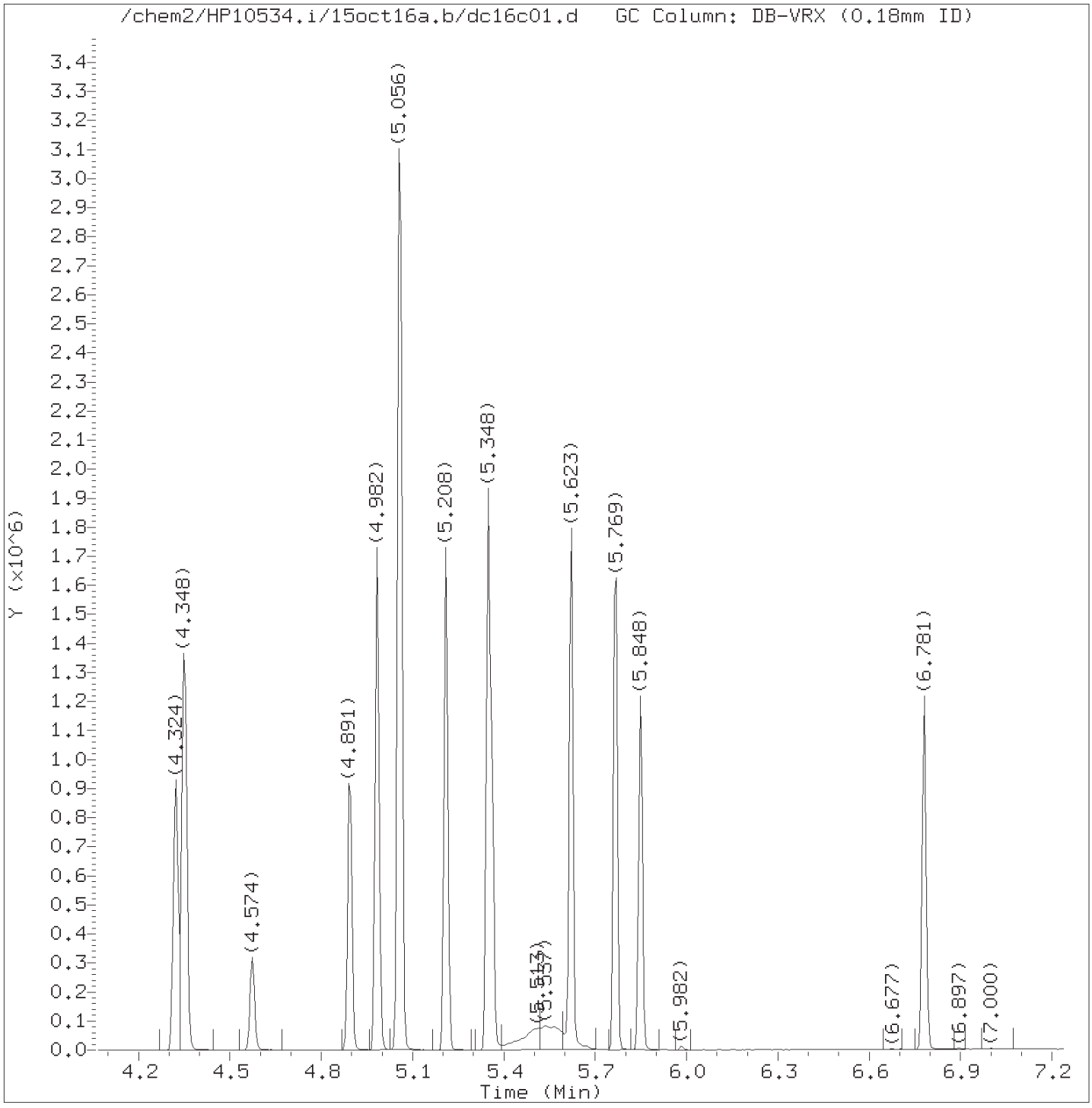
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16c01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 17:38 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 17:48 Unknown

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Hu Yang
on 10/16/2015 at 18:07.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16c01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 17:38 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 17:48 Unknown

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Hu Yang
on 10/16/2015 at 18:07.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16c01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 17:38 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 17:48 Unknown

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.520	45	67130	1281.201
2)*t-Butyl alcohol-d10	(1)	1.940	65	82598	250.000
3) t-Butyl alcohol	(1)	1.989	59	119161	240.041
4) Methyl Tertiary Butyl Ether	(2)	2.452	73	1781753	212.759
5) di-Isopropyl ether	(2)	2.751	45	470382	46.848
6) Ethyl t-butyl ether	(2)	2.946	59	449533	48.737
7)$Dibromofluoromethane	(2)	2.965	113	100600	52.198
7)$Dibromofluoromethane	(2)	2.965	111	101659	51.780
10)$1,2-Dichloroethane-d4	(2)	3.178	102	26514	51.650
10)$1,2-Dichloroethane-d4	(2)	3.178	65	142765	56.074
10)$1,2-Dichloroethane-d4	(2)	3.178	104	15846	49.079
11) 1,2-Dichloroethane	(2)	3.215	62	218199	55.985
12) Benzene	(2)	3.446	78	620176	50.734
13) t-Amyl methyl ether	(2)	3.532	87	103684	48.105
14)*Fluorobenzene	(2)	3.544	96	413386	50.000
15) t-Amyl ethyl ether	(2)	3.910	87	204365	43.762
16)$Toluene-d8	(3)	4.324	98	415074	47.397
16)$Toluene-d8	(3)	4.324	100	267428	46.895
17) Toluene	(3)	4.348	92	392466	47.521
19) 1,2-Dibromoethane	(3)	4.574	107	136667	47.844
20)*Chlorobenzene-d5	(3)	4.897	117	325602	50.000
21) Ethylbenzene	(3)	4.982	91	704855	45.598
22) m+p-Xylene	(3)	5.056	106	559475	93.590
23) o-Xylene	(3)	5.208	106	265533	45.774
24) Xylene (Total)	(3)		106	825008	139.364
25) Isopropylbenzene	(3)	5.348	105	652263	43.605
26)$4-Bromofluorobenzene	(3)	5.360	95	166303	50.960
26)$4-Bromofluorobenzene	(3)	5.360	174	146673	52.050
27) 1,3,5-Trimethylbenzene	(4)	5.623	105	531318	42.910
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	543204	43.221
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	180931	50.000
30) Naphthalene	(4)	6.781	128	577530	41.570

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 18:07.
Target 3.5 esignature user ID: hy07820

Raw QC Data

Volatiles by GC/MS-GRO

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

VBLKD30

Data file: /chem2/HP10534.i/15oct14a.b/dc14b01.d Injection date and time: **14-OCT-2015 11:33**
Data file Sample Info. Line: VBLKD30;VBLKD30;1;3;;;;;; Instrument ID: **HP10534.i** Batch: **D152871AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 09:31 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct14a.b/dc14b01.d**

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: **10943A**
Calibration date and time (Last Method Edit): 14-OCT-2015 11:02
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct14a.b/dc14c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.940	(-0.006)	140	65	88812	(-1)	250.00	
14) Fluorobenzene	3.543	(0.000)	403	96	419170	(1)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	328915	(3)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	178996	(2)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.964	(-0.002)	113	103873	53.152	106%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	26333	50.588	101%		77 - 113
16) Toluene-d8	(3)	4.324	(-0.001)	98	433775	49.034	98%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	159556	48.400	97%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
1) Ethanol	(1)				Not Detected					50	250
3) t-Butyl alcohol	(1)				Not Detected					2	5
4) Methyl Tertiary Butyl Ether	(2)				Not Detected					0.5	1
5) di-Isopropyl ether	(2)				Not Detected					0.5	1
6) Ethyl t-butyl ether	(2)				Not Detected					0.5	1
11) 1,2-Dichloroethane	(2)				Not Detected					0.5	1
12) Benzene	(2)				Not Detected					0.5	1
13) t-Amyl methyl ether	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
19) 1,2-Dibromoethane	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
25) Isopropylbenzene	(3)				Not Detected					0.5	2
27) 1,3,5-Trimethylbenzene	(4)				Not Detected					0.5	2
28) 1,2,4-Trimethylbenzene	(4)				Not Detected					0.5	2
30) Naphthalene	(4)				Not Detected					1	4

Digitally signed by Daniel H. Heller on 10/15/2015 at 09:31. Target 3.5 esignature user ID: dhh02035

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct14a.b/dc14b01.d Injection date and time: **14-OCT-2015 11:33**
Data file Sample Info. Line: VBLKD30;VBLKD30;1;3;;;;;; Instrument ID: **HP10534.i** Batch: **D152871AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 09:31 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct14a.b/dc14b01.d**

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: **10943A**
Calibration date and time (Last Method Edit): 14-OCT-2015 11:02
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct14a.b/dc14c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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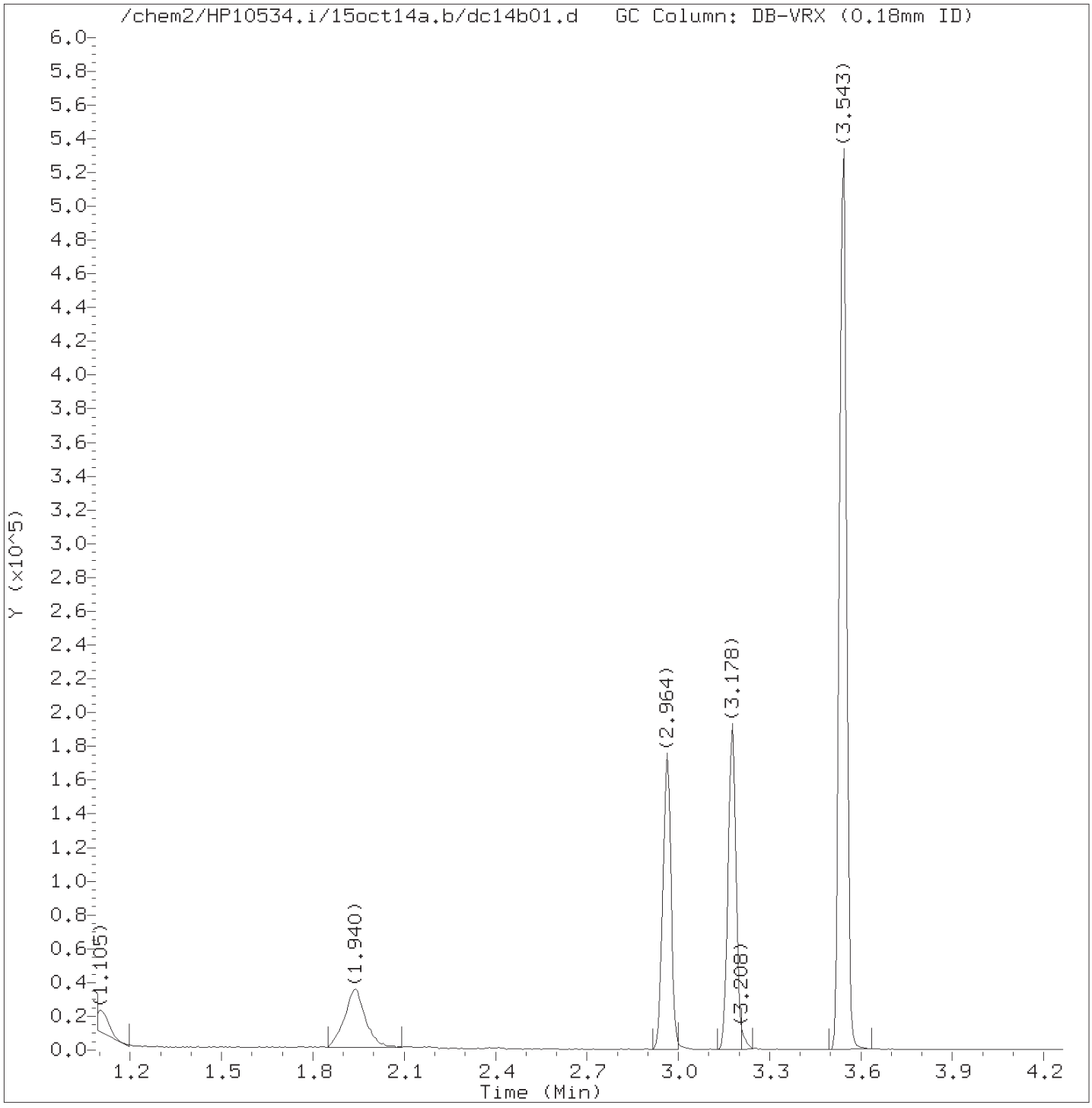
WAS LEFT

BLANK INTENTIONALLY

Total number of targets = 18

Digitally signed by Daniel H. Heller on 10/15/2015 at 09:31. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 16:07. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

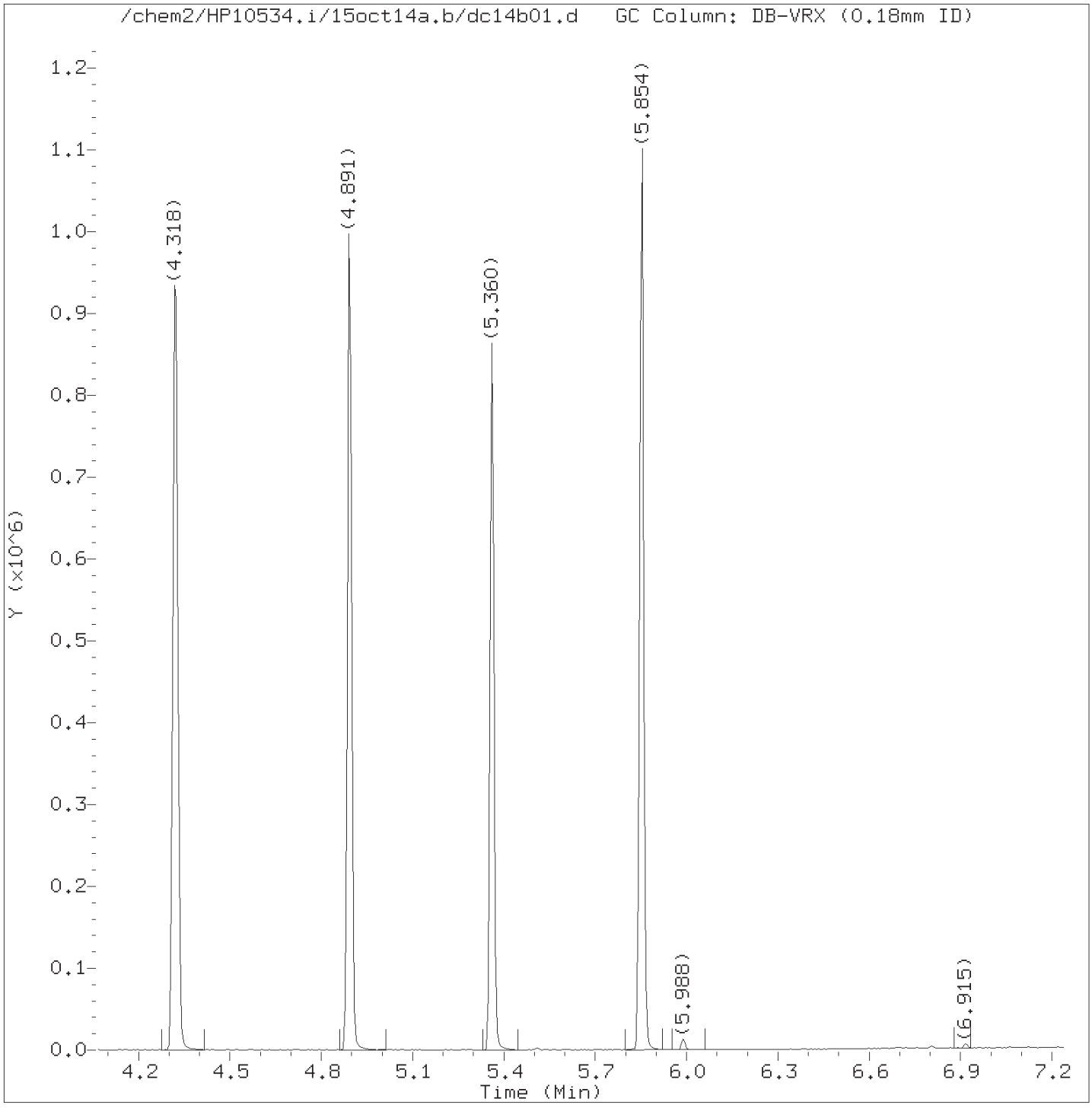
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14b01.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 11:33 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 15-Oct-2015 09:31 dhh02035

Sample Name: VBLKD30 Lab Sample ID: VBLKD30

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:31.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14b01.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 11:33 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 15-Oct-2015 09:31 dhh02035

Sample Name: VBLKD30 Lab Sample ID: VBLKD30

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:31.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14b01.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 11:33 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 15-Oct-2015 09:31 dhh02035

Sample Name: VBLKD30 Lab Sample ID: VBLKD30

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.940	65	88812	250.000
7)$Dibromofluoromethane	(2)	2.964	113	103873	53.152
10)$1,2-Dichloroethane-d4	(2)	3.178	102	26333	50.588
14)*Fluorobenzene	(2)	3.543	96	419170	50.000
16)$Toluene-d8	(3)	4.324	98	433775	49.034
20)*Chlorobenzene-d5	(3)	4.891	117	328915	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	159556	48.400
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	178996	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:31.
Target 3.5 esignature user ID: dhh02035

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15b01.d Injection date and time: **15-OCT-2015 11:08**
Data file Sample Info. Line: VBLKD32;VBLKD32;1;3;;;;;; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 12:03 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **10943A**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946	(0.000)	141	65	97030	(17)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	466937	(11)	50.00	
20) Chlorobenzene-d5	4.897	(-0.006)	625	117	369858	(14)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	204224	(13)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.971	(0.000)	113	113946	52.342	105%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184	(0.000)	102	29802	51.396	103%		77 - 113
16) Toluene-d8	(3)	4.324	(0.001)	98	478419	48.094	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.001)	95	180107	48.586	97%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
1) Ethanol	(1)				Not Detected					50	250
3) t-Butyl alcohol	(1)				Not Detected					2	5
4) Methyl Tertiary Butyl Ether	(2)				Not Detected					0.5	1
5) di-Isopropyl ether	(2)				Not Detected					0.5	1
6) Ethyl t-butyl ether	(2)				Not Detected					0.5	1
11) 1,2-Dichloroethane	(2)				Not Detected					0.5	1
12) Benzene	(2)				Not Detected					0.5	1
13) t-Amyl methyl ether	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
19) 1,2-Dibromoethane	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
25) Isopropylbenzene	(3)				Not Detected					0.5	2
27) 1,3,5-Trimethylbenzene	(4)				Not Detected					0.5	2
28) 1,2,4-Trimethylbenzene	(4)				Not Detected					0.5	2
30) Naphthalene	(4)				Not Detected					1	4

Digitally signed by Daniel H. Heller on 10/15/2015 at 12:03. Target 3.5 esignature user ID: dhh02035

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15b01.d Injection date and time: **15-OCT-2015 11:08**
Data file Sample Info. Line: VBLKD32;VBLKD32;1;3;;;;;; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 12:03 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **10943A**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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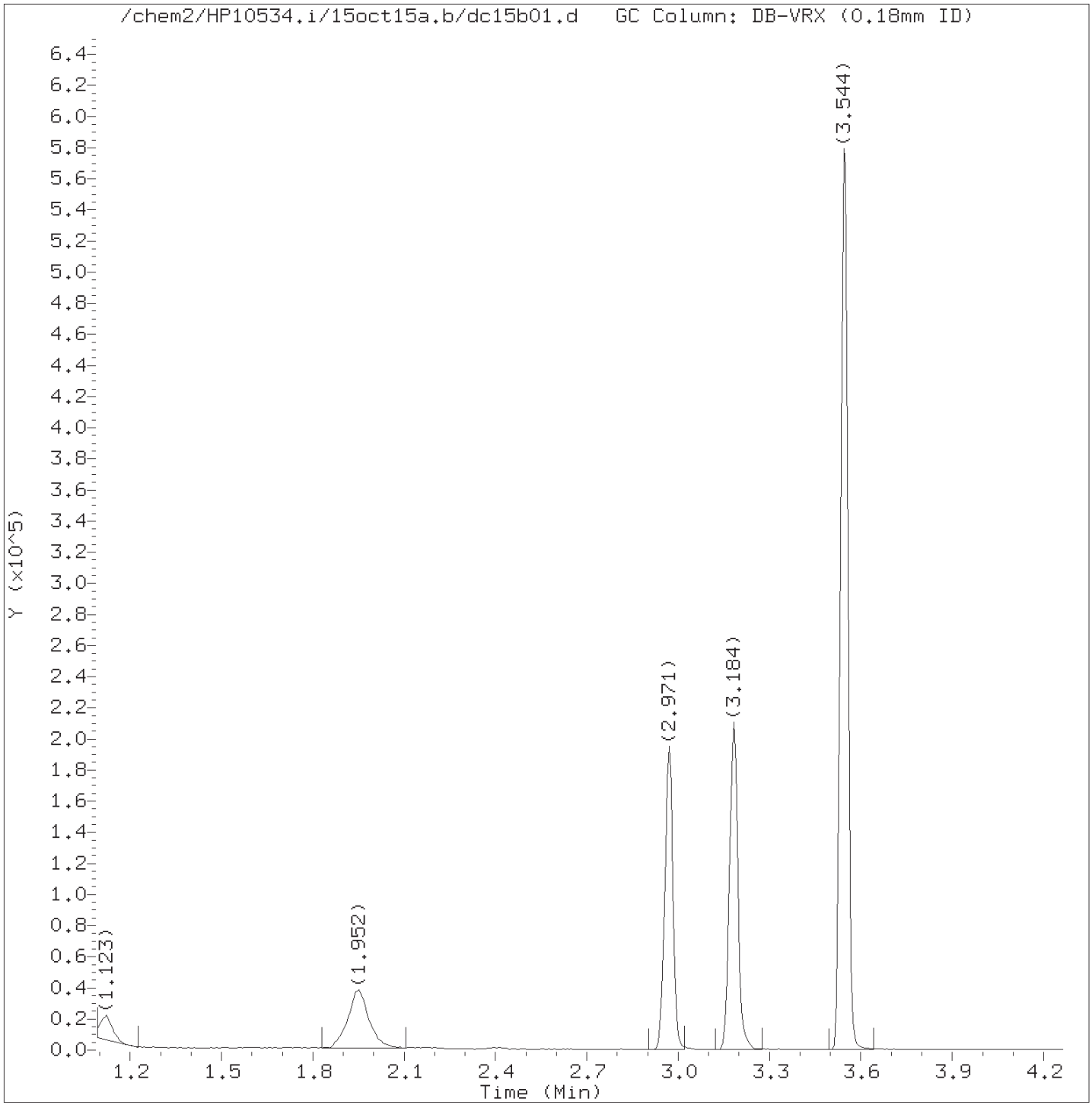
Total number of targets = 18

Digitally signed by Daniel H. Heller on 10/15/2015 at 12:03. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:34. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

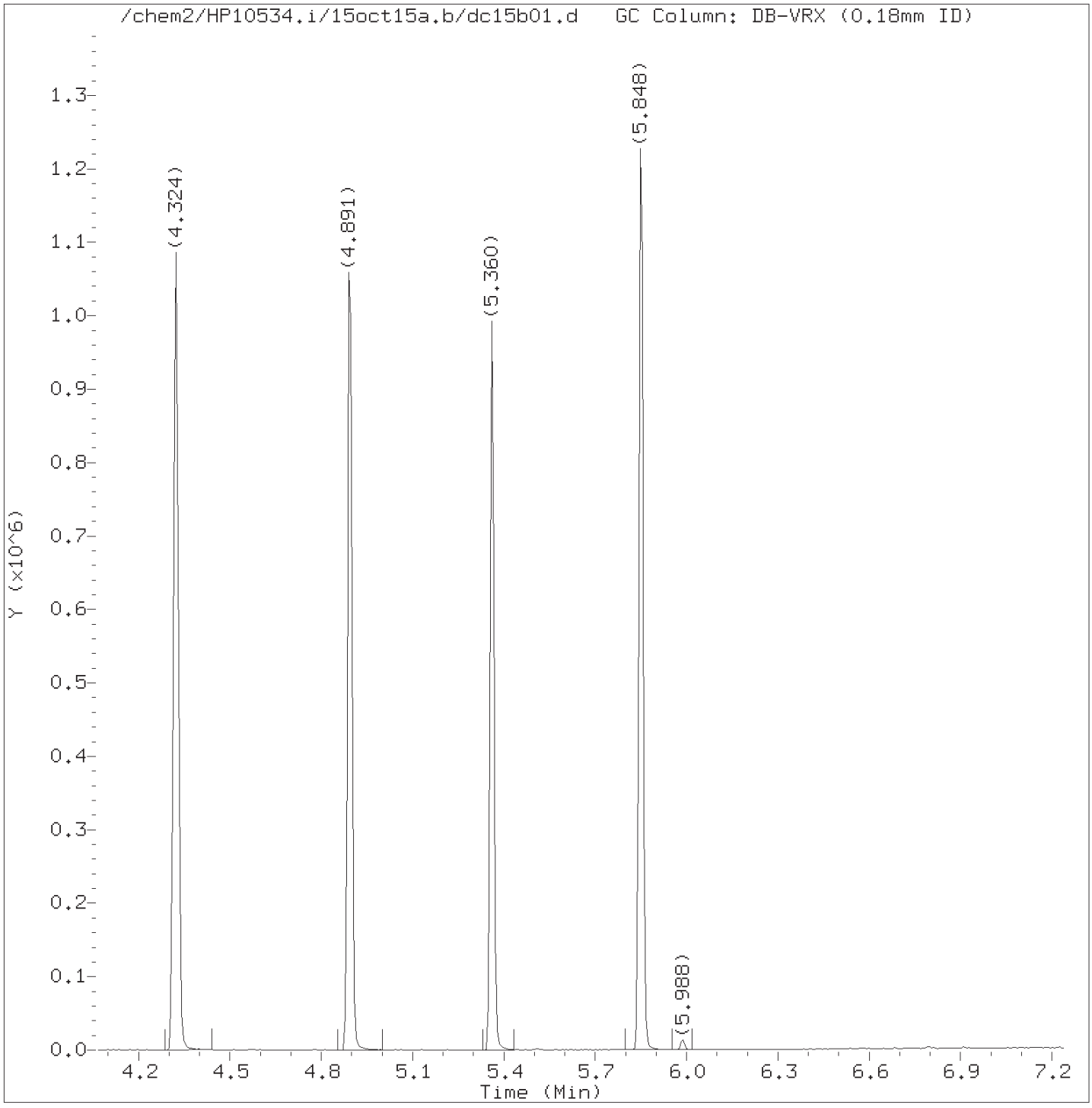
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15b01.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 11:08 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 12:03 dhh02035

Sample Name: VBLKD32 Lab Sample ID: VBLKD32

Digitally signed by Daniel H. Heller
on 10/15/2015 at 12:03.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15b01.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 11:08 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 12:03 dhh02035

Sample Name: VBLKD32 Lab Sample ID: VBLKD32

Digitally signed by Daniel H. Heller
on 10/15/2015 at 12:03.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15b01.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 11:08 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 12:03 dhh02035

Sample Name: VBLKD32 Lab Sample ID: VBLKD32

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.946	65	97030	250.000
7)$Dibromofluoromethane	(2)	2.971	113	113946	52.342
10)$1,2-Dichloroethane-d4	(2)	3.184	102	29802	51.396
14)*Fluorobenzene	(2)	3.544	96	466937	50.000
16)$Toluene-d8	(3)	4.324	98	478419	48.094
20)*Chlorobenzene-d5	(3)	4.897	117	369858	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	180107	48.586
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	204224	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 12:03.
Target 3.5 esignature user ID: dhh02035

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

VBLKD34

Data file: /chem2/HP10534.i/15oct16a.b/dc16b01.d Injection date and time: **16-OCT-2015 18:24**
Data file Sample Info. Line: VBLKD34;VBLKD34;1;3;;;;;; Instrument ID: **HP10534.i** Batch: **D152891AA**
Date, time and analyst ID of latest file update: 16-Oct-2015 18:37 hy07820

Blank Data file reference: **/chem2/HP10534.i/15oct16a.b/dc16b01.d**

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: **M10945A-4G**
Calibration date and time (Last Method Edit): 16-OCT-2015 17:48
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct16a.b/dc16c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.952	(-0.012)	142	65	87607	(6)	250.00	
14) Fluorobenzene	3.550	(-0.006)	404	96	430460	(4)	50.00	
20) Chlorobenzene-d5	4.897	(0.000)	625	117	349093	(7)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.000)	781	152	185929	(3)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.970	(0.000)	113	106569	53.102	106%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184	(0.000)	102	27317	51.102	102%		77 - 113
16) Toluene-d8	(3)	4.324	(0.000)	98	442347	47.112	94%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	165981	47.439	95%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
1) Ethanol	(1)				Not Detected					50	250
3) t-Butyl alcohol	(1)				Not Detected					2	5
4) Methyl Tertiary Butyl Ether	(2)				Not Detected					0.5	1
5) di-Isopropyl ether	(2)				Not Detected					0.5	1
6) Ethyl t-butyl ether	(2)				Not Detected					0.5	1
11) 1,2-Dichloroethane	(2)				Not Detected					0.5	1
12) Benzene	(2)				Not Detected					0.5	1
13) t-Amyl methyl ether	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
19) 1,2-Dibromoethane	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
25) Isopropylbenzene	(3)				Not Detected					0.5	2
27) 1,3,5-Trimethylbenzene	(4)				Not Detected					0.5	2
28) 1,2,4-Trimethylbenzene	(4)				Not Detected					0.5	2
30) Naphthalene	(4)				Not Detected					1	4

Digitally signed by Hu Yang on 10/16/2015 at 18:38. Target 3.5 esignature user ID: hy07820

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct16a.b/dc16b01.d Injection date and time: **16-OCT-2015 18:24**
Data file Sample Info. Line: VBLKD34;VBLKD34;1;3;;;;;; Instrument ID: **HP10534.i** Batch: **D152891AA**
Date, time and analyst ID of latest file update: 16-Oct-2015 18:37 hy07820

Blank Data file reference: **/chem2/HP10534.i/15oct16a.b/dc16b01.d**

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: **M10945A-4G**
Calibration date and time (Last Method Edit): 16-OCT-2015 17:48
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct16a.b/dc16c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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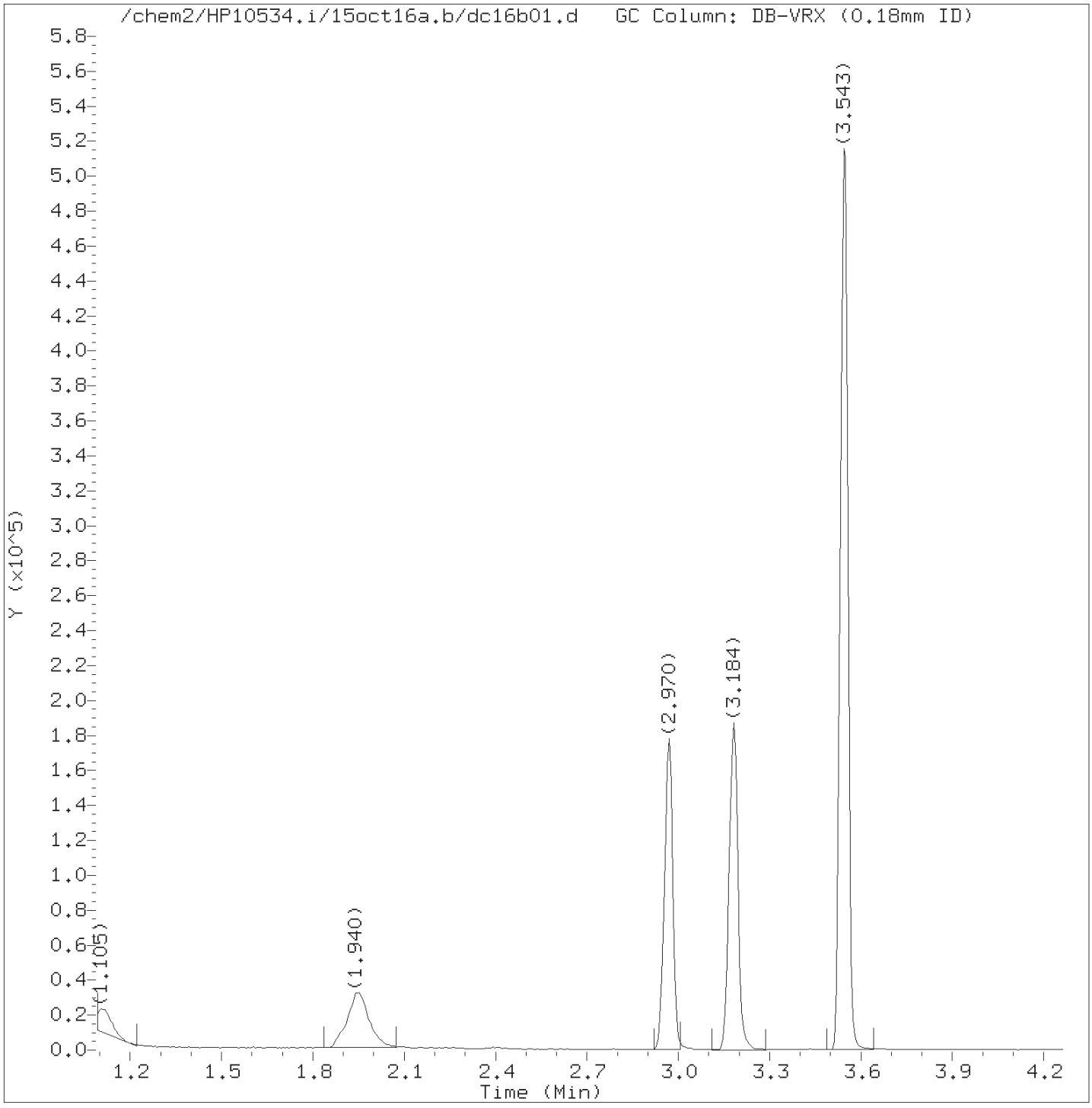
Total number of targets = 18

Digitally signed by Hu Yang on 10/16/2015 at 18:38. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/19/2015 at 15:05. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

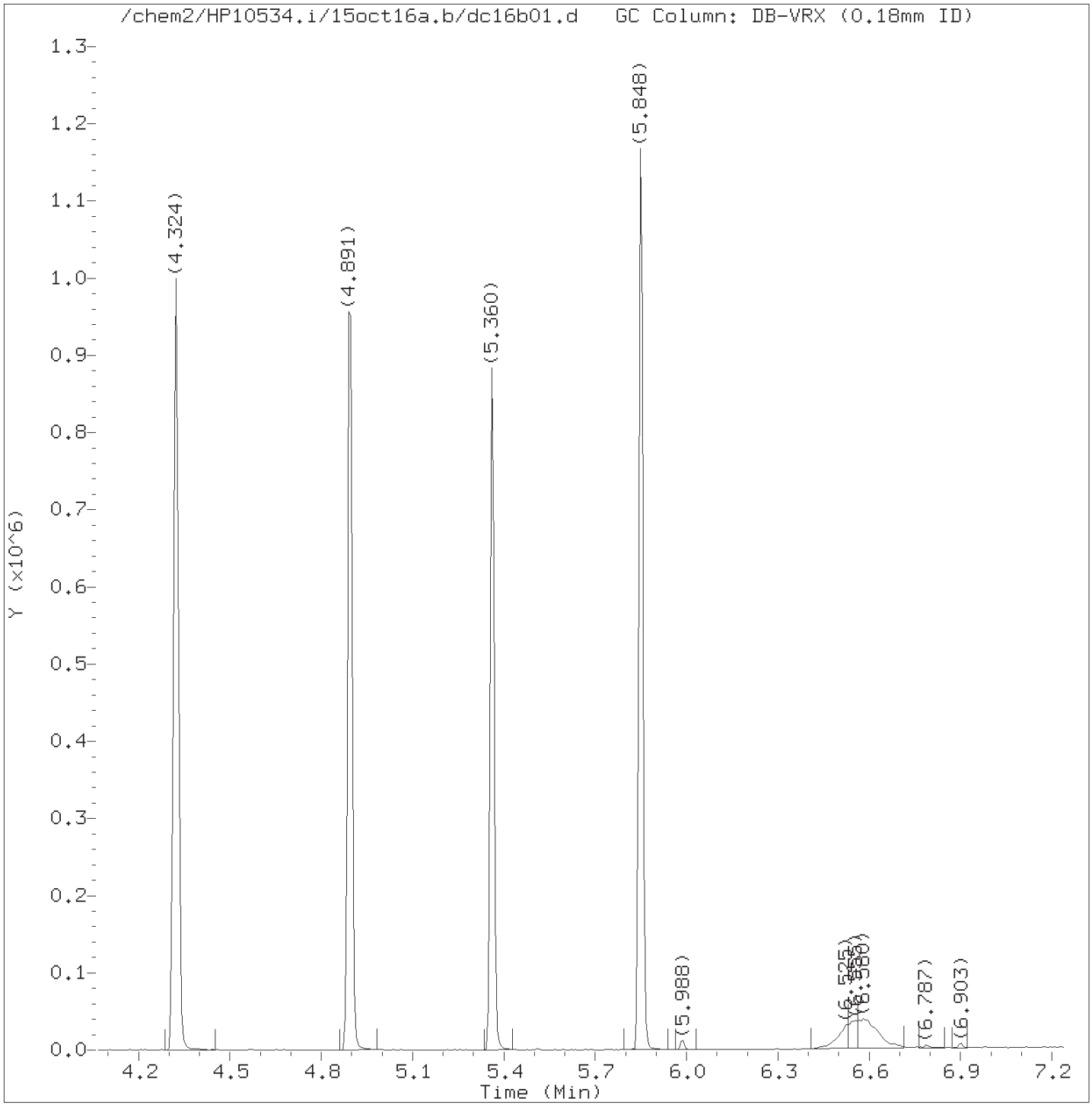
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16b01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 18:24 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: M10945A-4G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 18:37 hy07820

Sample Name: VBLKD34 Lab Sample ID: VBLKD34

Digitally signed by Hu Yang
on 10/16/2015 at 18:38.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16b01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 18:24 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: M10945A-4G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 18:37 hy07820

Sample Name: VBLKD34 Lab Sample ID: VBLKD34

Digitally signed by Hu Yang
on 10/16/2015 at 18:38.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16b01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 18:24 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: M10945A-4G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 18:37 hy07820

Sample Name: VBLKD34 Lab Sample ID: VBLKD34

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.952	65	87607	250.000
7)$Dibromofluoromethane	(2)	2.970	113	106569	53.102
10)$1,2-Dichloroethane-d4	(2)	3.184	102	27317	51.102
14)*Fluorobenzene	(2)	3.550	96	430460	50.000
16)$Toluene-d8	(3)	4.324	98	442347	47.112
20)*Chlorobenzene-d5	(3)	4.897	117	349093	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	165981	47.439
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	185929	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 18:38.
Target 3.5 esignature user ID: hy07820

P2816MS

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8082114MS

Data file: /chem2/HP10534.i/15oct14a.b/dc14s07.d Injection date and time: **14-OCT-2015 13:24**
Data file Sample Info. Line: P2816MS;8082114MS;1;3;MS;PSC28;;;dc14b01; Instrument ID: **HP10534.i** Batch: **D152871AA**
Date, time and analyst ID of latest file update: 14-Oct-2015 13:33 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct14a.b/dc14b01.d**

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: **8706**
Calibration date and time (Last Method Edit): 14-OCT-2015 11:02
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct14a.b/dc14c01.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.934	(0.000)	139	65	104187	(16)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	477367	(15)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	379307	(18)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	204203	(16)	50.00	

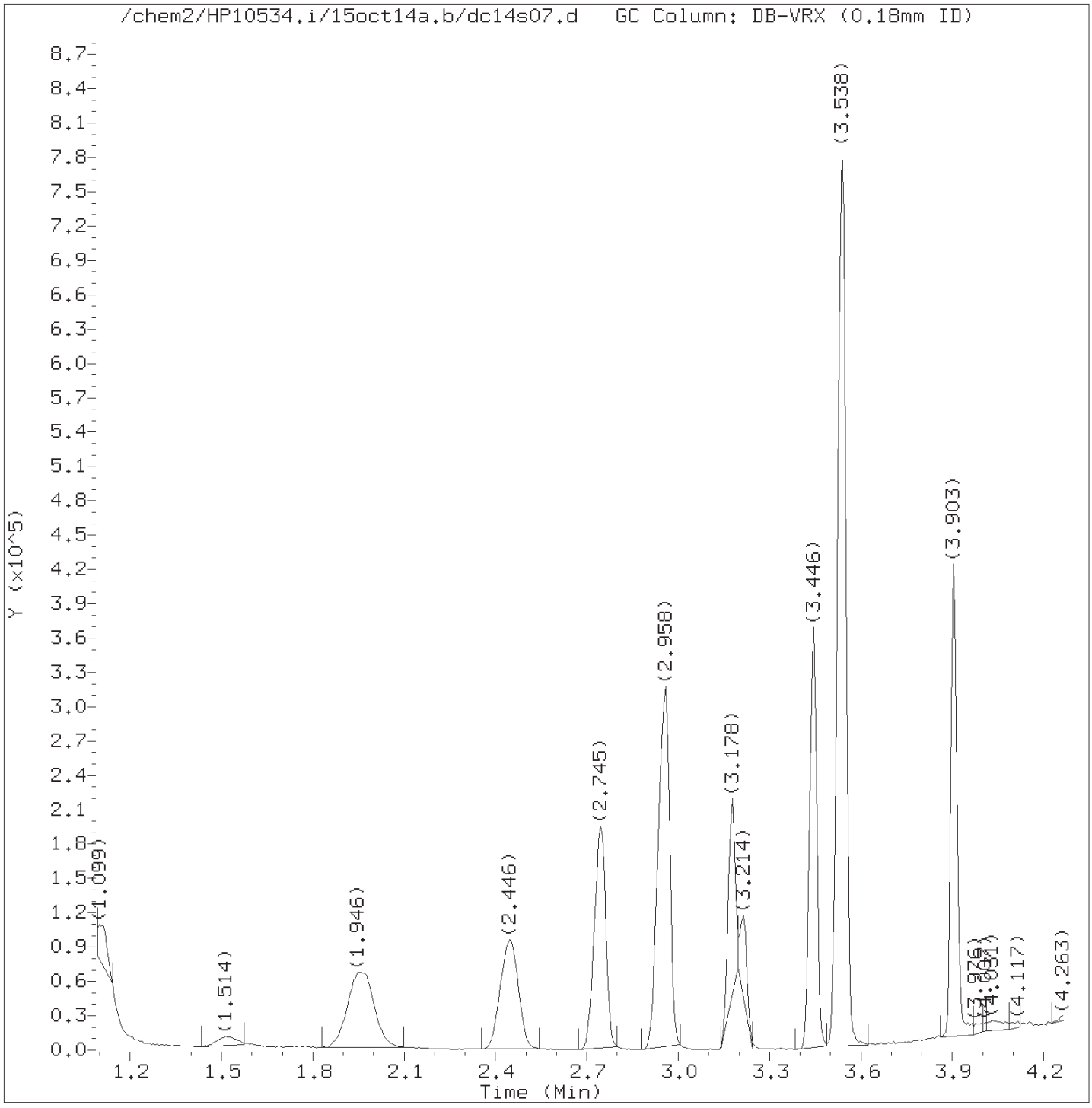
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.964	(-0.002)	113	115804	52.033	104%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	29774	50.227	100%		77 - 113
16) Toluene-d8	(3)	4.318	(0.000)	98	490781	48.107	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	193012	50.770	102%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
4) Methyl Tertiary Butyl Ether	(2)	2.446	(0.001)	73	186870	19.323	19.32			0.5	1
12) Benzene	(2)	3.446	(-0.001)	78	284007	20.120	20.12			0.5	1
17) Toluene	(3)	4.348	(-0.000)	92	181198	18.833	18.83			0.5	1
21) Ethylbenzene	(3)	4.982	(-0.000)	91	348257	19.339	19.34			0.5	1
22) m+p-Xylene	(3)	5.056	(-0.000)	106	270761	38.880	38.88			0.5	1
23) o-Xylene	(3)	5.208	(-0.000)	106	126615	18.736	18.74			0.5	1
24) Xylene (Total)	(3)			106	397376	57.617	57.62			0.5	1

Total number of targets = 7

Digitally signed by Daniel H. Heller on 10/15/2015 at 09:28. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 16:08. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

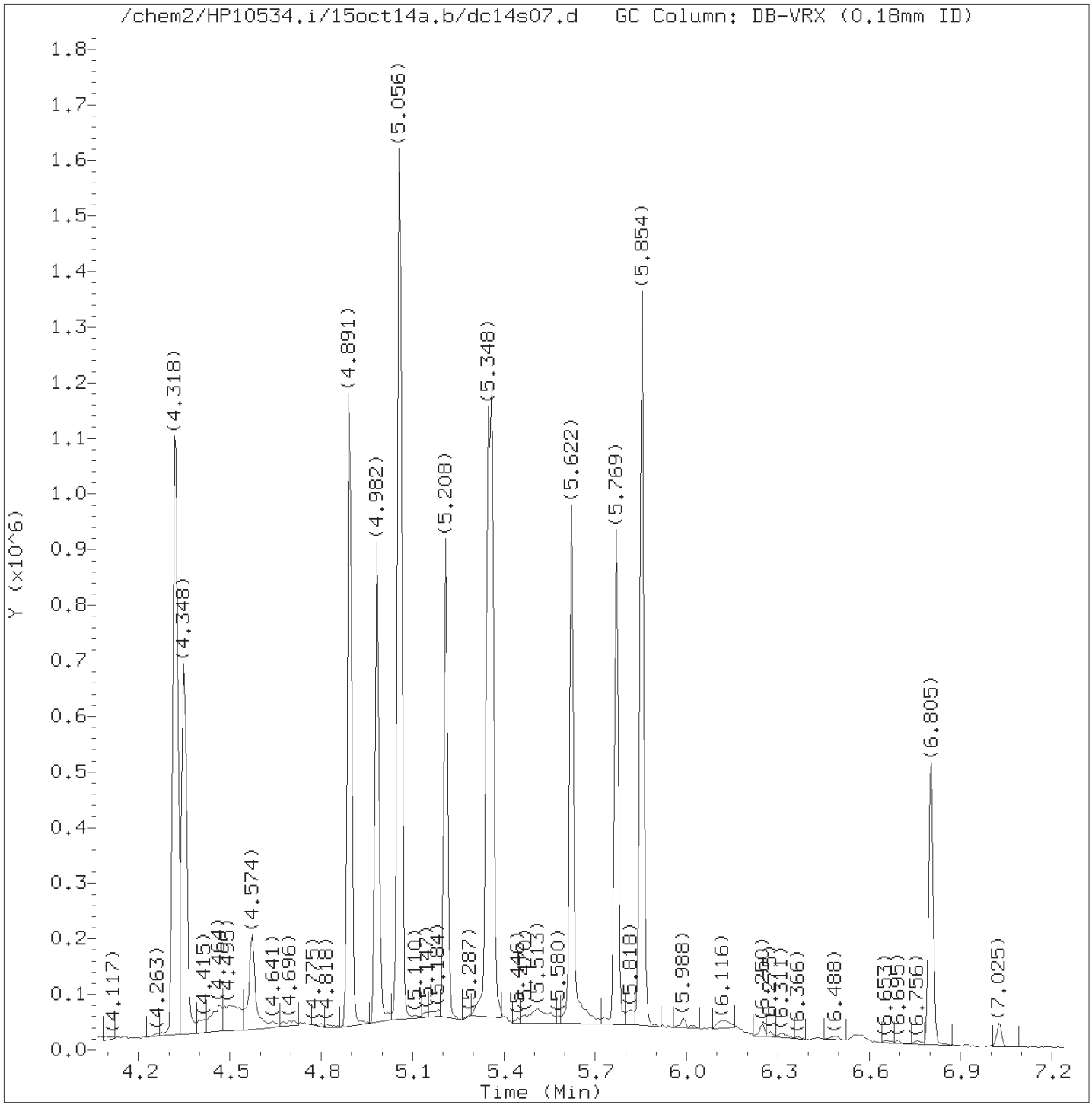
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s07.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 13:24 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8706
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 13:33 Unknown

Sample Name: P2816MS Lab Sample ID: 8082114MS

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:28.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s07.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 13:24 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8706
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 13:33 Unknown

Sample Name: P2816MS Lab Sample ID: 8082114MS

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:28.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s07.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 13:24 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8706
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 13:33 Unknown

Sample Name: P2816MS Lab Sample ID: 8082114MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.934	65	104187	250.000
4) Methyl Tertiary Butyl Ether	(2)	2.446	73	186870	19.323
7)$Dibromofluoromethane	(2)	2.964	113	115804	52.033
10)$1,2-Dichloroethane-d4	(2)	3.178	102	29774	50.227
12) Benzene	(2)	3.446	78	284007	20.120
14)*Fluorobenzene	(2)	3.544	96	477367	50.000
16)$Toluene-d8	(3)	4.318	98	490781	48.107
17) Toluene	(3)	4.348	92	181198	18.833
20)*Chlorobenzene-d5	(3)	4.891	117	379307	50.000
21) Ethylbenzene	(3)	4.982	91	348257	19.339
22) m+p-Xylene	(3)	5.056	106	270761	38.880
23) o-Xylene	(3)	5.208	106	126615	18.736
24) Xylene (Total)	(3)		106	397376	57.617
26)$4-Bromofluorobenzene	(3)	5.360	95	193012	50.770
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	204203	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:28.
Target 3.5 esignature user ID: dhh02035

P2816MSD

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8082114MSD

Data file: /chem2/HP10534.i/15oct14a.b/dc14s09.d Injection date and time: **14-OCT-2015 13:47**
Data file Sample Info. Line: P2816MSD;8082114MSD;1;3;MSD;PSC28;;;dc14b01; Instrument ID: **HP10534.i** Batch: **D152871AA**
Date, time and analyst ID of latest file update: 14-Oct-2015 13:57 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct14a.b/dc14b01.d**

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: **8706**
Calibration date and time (Last Method Edit): 14-OCT-2015 11:02
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct14a.b/dc14c01.d**

Bottle Code: **038C** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.934	(0.000)	139	65	94747	(6)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	435166	(5)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	341414	(7)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	187131	(7)	50.00	

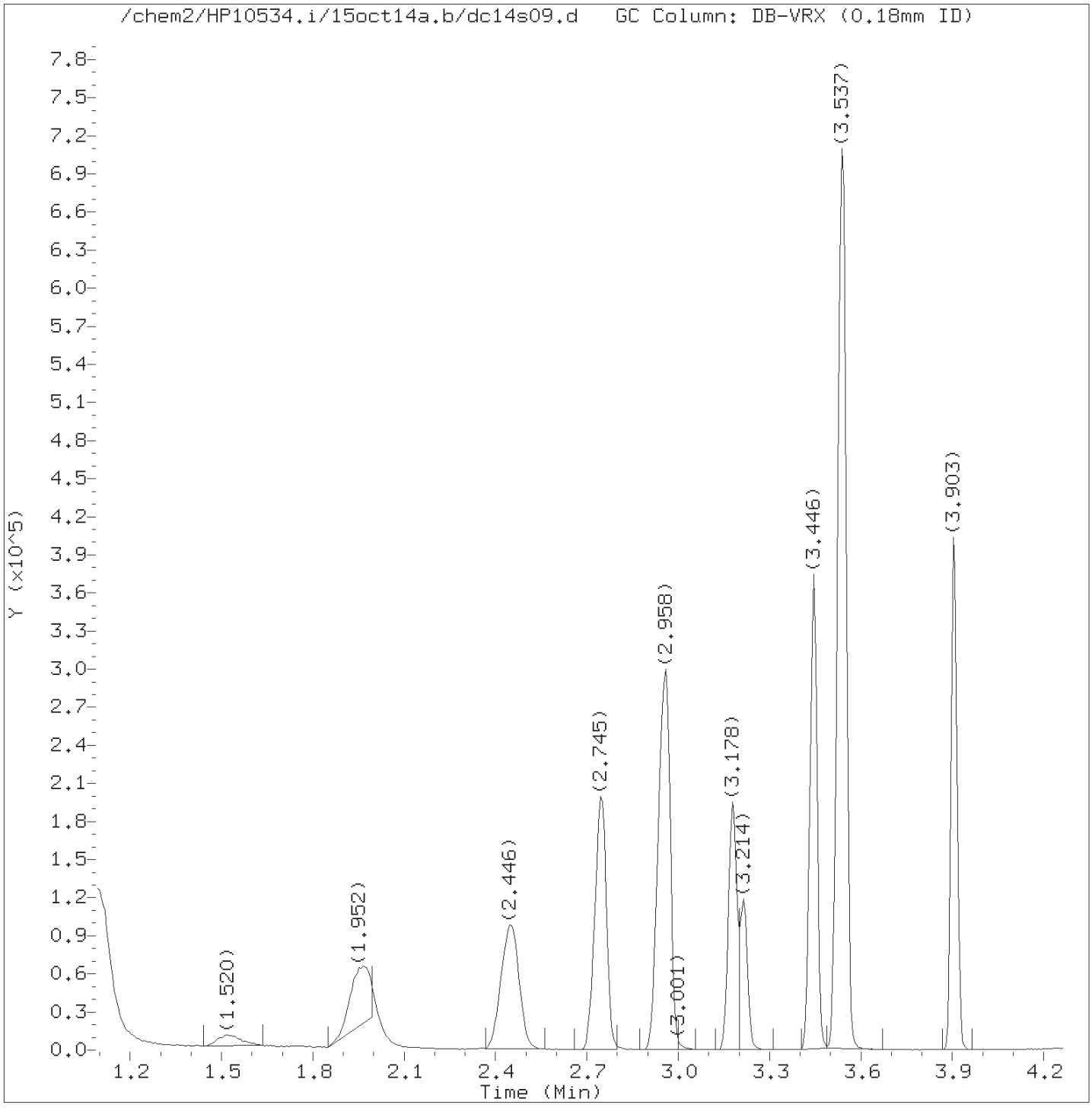
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.964	(-0.002)	113	104949	51.729	103%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	27028	50.015	100%		77 - 113
16) Toluene-d8	(3)	4.324	(-0.001)	98	440662	47.989	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	170634	49.866	100%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
4) Methyl Tertiary Butyl Ether	(2)	2.452	(-0.000)	73	192529	21.839	21.84			0.5	1
12) Benzene	(2)	3.446	(-0.001)	78	291102	22.622	22.62			0.5	1
17) Toluene	(3)	4.348	(-0.000)	92	184049	21.253	21.25			0.5	1
21) Ethylbenzene	(3)	4.982	(-0.000)	91	342713	21.144	21.14			0.5	1
22) m+p-Xylene	(3)	5.055	(0.000)	106	270940	43.224	43.22			0.5	1
23) o-Xylene	(3)	5.208	(-0.000)	106	126051	20.723	20.72			0.5	1
24) Xylene (Total)	(3)			106	396991	63.947	63.95			0.5	1

Total number of targets = 7

Digitally signed by Daniel H. Heller on 10/15/2015 at 09:28. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 16:08. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

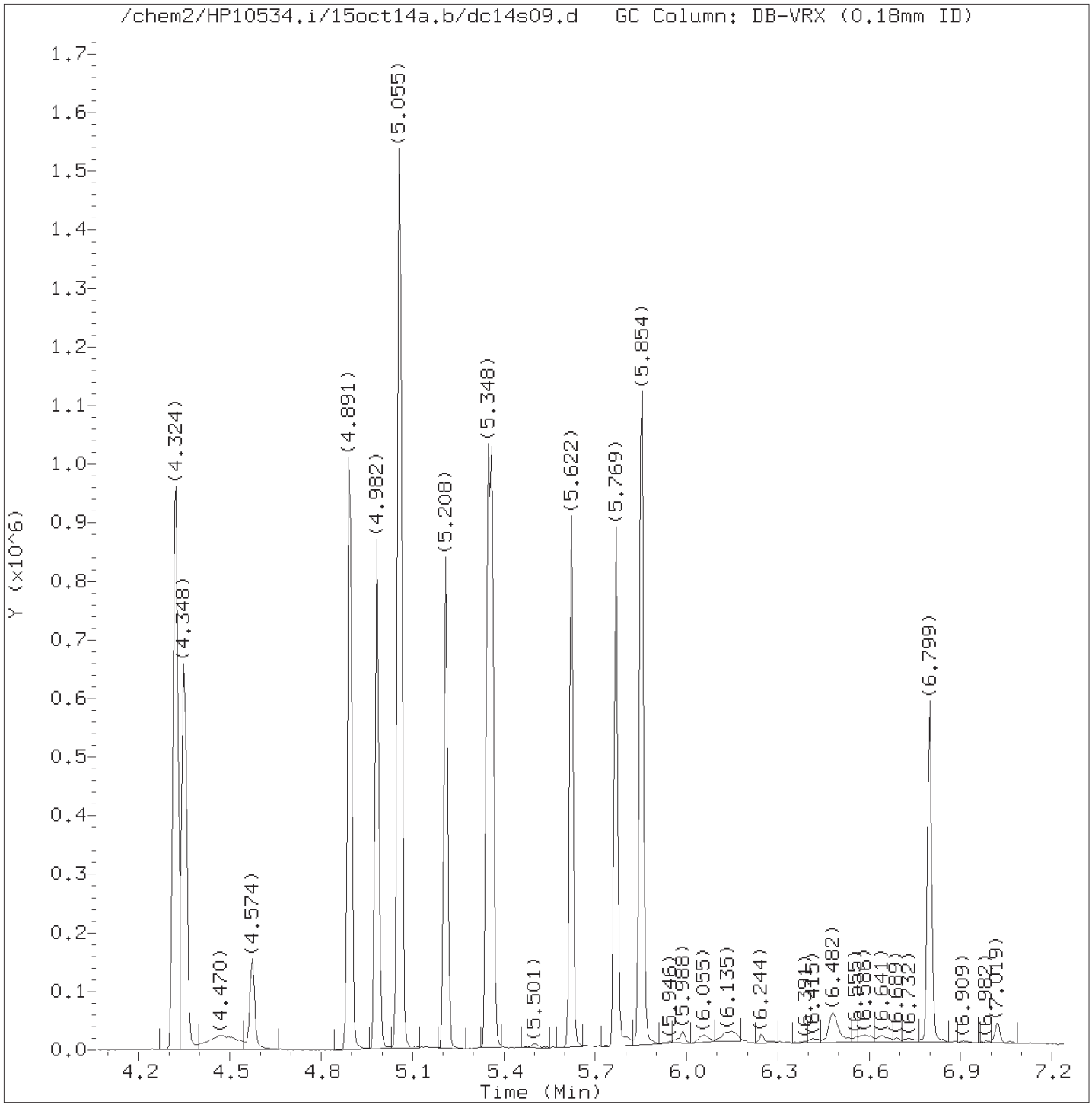
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s09.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 13:47 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8706
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 13:57 Unknown

Sample Name: P2816MSD Lab Sample ID: 8082114MSD

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:28.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s09.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 13:47 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8706
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 13:57 Unknown

Sample Name: P2816MSD Lab Sample ID: 8082114MSD

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:28.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s09.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 13:47 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 8706
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 13:57 Unknown

Sample Name: P2816MSD Lab Sample ID: 8082114MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.934	65	94747	250.000
4) Methyl Tertiary Butyl Ether	(2)	2.452	73	192529	21.839
7)$Dibromofluoromethane	(2)	2.964	113	104949	51.729
10)$1,2-Dichloroethane-d4	(2)	3.178	102	27028	50.015
12) Benzene	(2)	3.446	78	291102	22.622
14)*Fluorobenzene	(2)	3.544	96	435166	50.000
16)$Toluene-d8	(3)	4.324	98	440662	47.989
17) Toluene	(3)	4.348	92	184049	21.253
20)*Chlorobenzene-d5	(3)	4.891	117	341414	50.000
21) Ethylbenzene	(3)	4.982	91	342713	21.144
22) m+p-Xylene	(3)	5.055	106	270940	43.224
23) o-Xylene	(3)	5.208	106	126051	20.723
24) Xylene (Total)	(3)		106	396991	63.947
26)$4-Bromofluorobenzene	(3)	5.360	95	170634	49.866
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	187131	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 09:28.
Target 3.5 esignature user ID: dhh02035

P2806MS

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8082103MS

Data file: /chem2/HP10534.i/15oct15a.b/dc15s09.d Injection date and time: **15-OCT-2015 12:53**
Data file Sample Info. Line: P2806MS;8082103MS;1;3;MS;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 19-Oct-2015 17:19 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946	(0.000)	141	65	96113	(16)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	470035	(12)	50.00	
20) Chlorobenzene-d5	4.897	(-0.006)	625	117	362623	(12)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	207332	(15)	50.00	

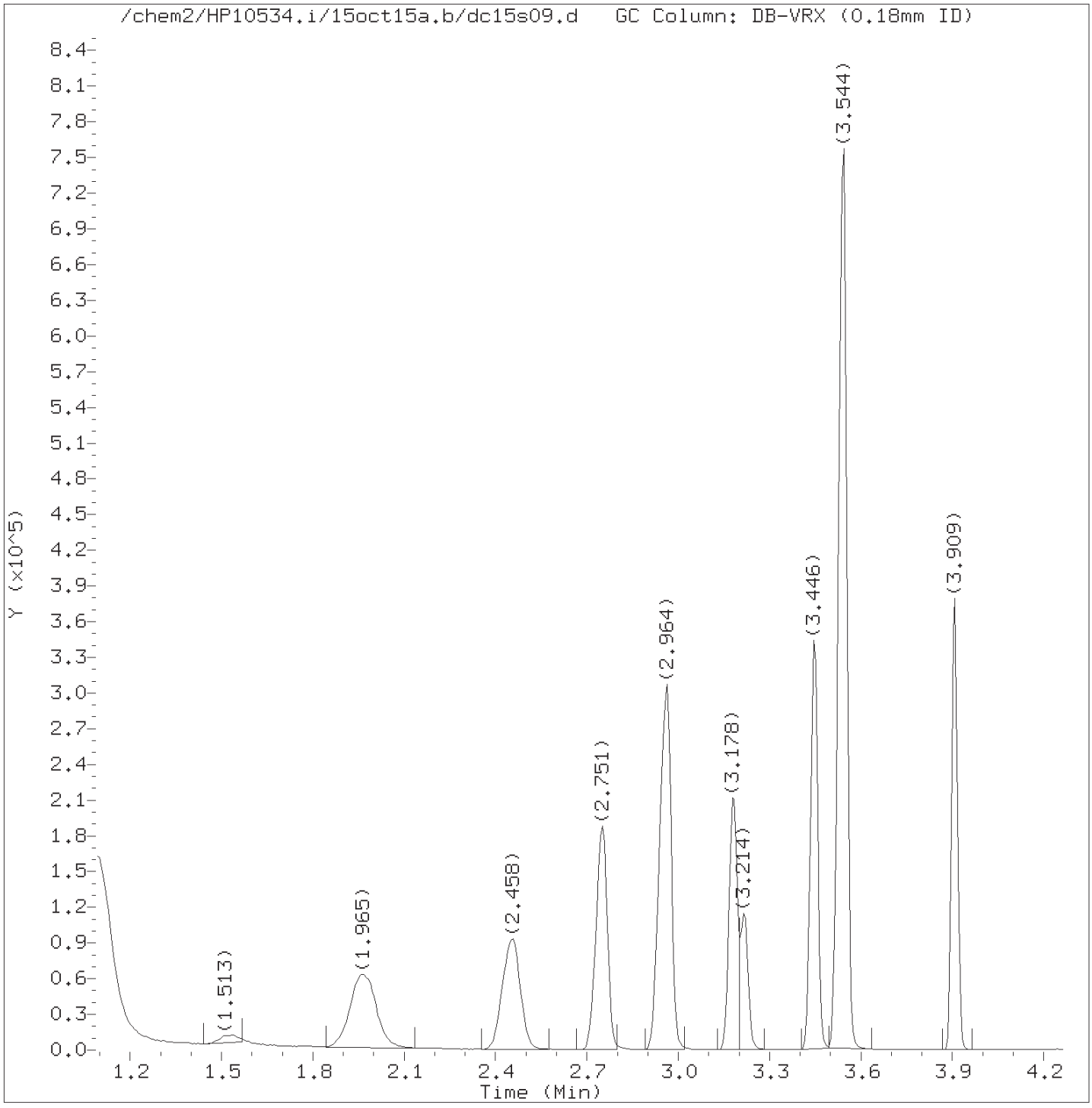
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.964	(0.002)	113	113266	51.687	103%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184	(0.000)	102	30184	51.712	103%		77 - 113
16) Toluene-d8	(3)	4.324	(0.001)	98	470581	48.250	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.001)	95	187475	51.583	103%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)	3.446	(0.000)	78	272207	19.585	19.58			0.5	1
17) Toluene	(3)	4.348	(0.001)	92	171983	18.698	18.70			0.5	1
21) Ethylbenzene	(3)	4.982	(0.001)	91	315834	18.346	18.35			0.5	1
22) m+p-Xylene	(3)	5.055	(0.001)	106	255207	38.333	38.33			0.5	1
23) o-Xylene	(3)	5.208	(0.001)	106	117238	18.147	18.15			0.5	1
24) Xylene (Total)	(3)			106	372445	56.480	56.48			0.5	1
30) Naphthalene	(4)	6.793	(-0.000)	128	224346	14.092	14.09			1	4

Total number of targets = 7

Digitally signed by Daniel H. Heller on 10/19/2015 at 17:20. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/19/2015 at 17:39. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

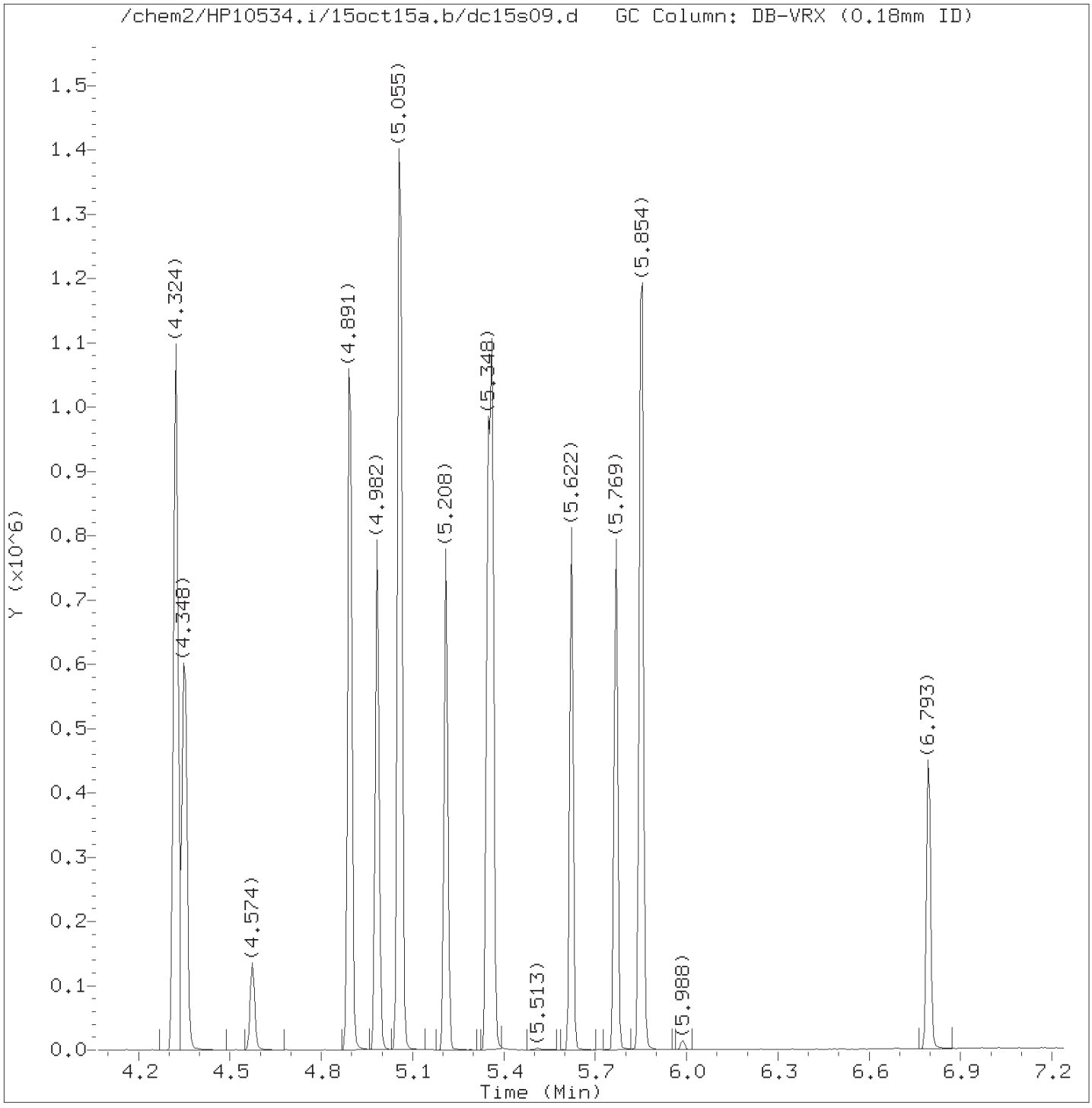
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s09.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:53 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 19-Oct-2015 17:19 dhh02035

Sample Name: P2806MS Lab Sample ID: 8082103MS

Digitally signed by Daniel H. Heller
on 10/19/2015 at 17:20.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s09.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:53 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 19-Oct-2015 17:19 dhh02035

Sample Name: P2806MS Lab Sample ID: 8082103MS

Digitally signed by Daniel H. Heller
on 10/19/2015 at 17:20.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s09.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:53 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 19-Oct-2015 17:19 dhh02035

Sample Name: P2806MS Lab Sample ID: 8082103MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.946	65	96113	250.000
7)$Dibromofluoromethane	(2)	2.964	113	113266	51.687
10)$1,2-Dichloroethane-d4	(2)	3.184	102	30184	51.712
12) Benzene	(2)	3.446	78	272207	19.585
14)*Fluorobenzene	(2)	3.544	96	470035	50.000
16)$Toluene-d8	(3)	4.324	98	470581	48.250
17) Toluene	(3)	4.348	92	171983	18.698
20)*Chlorobenzene-d5	(3)	4.897	117	362623	50.000
21) Ethylbenzene	(3)	4.982	91	315834	18.346
22) m+p-Xylene	(3)	5.055	106	255207	38.333
23) o-Xylene	(3)	5.208	106	117238	18.147
24) Xylene (Total)	(3)		106	372445	56.480
26)$4-Bromofluorobenzene	(3)	5.360	95	187475	51.583
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	207332	50.000
30) Naphthalene	(4)	6.793	128	224346	14.092

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/19/2015 at 17:20.
Target 3.5 esignature user ID: dhh02035

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s11.d Injection date and time: **15-OCT-2015 13:16**
Data file Sample Info. Line: P2806MSD;8082104MSD;1;3;MSD;PSC28;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 19-Oct-2015 17:19 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.952	(-0.006)	142	65	90941	(10)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	456032	(8)	50.00	
20) Chlorobenzene-d5	4.897	(-0.006)	625	117	351868	(9)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	200596	(11)	50.00	

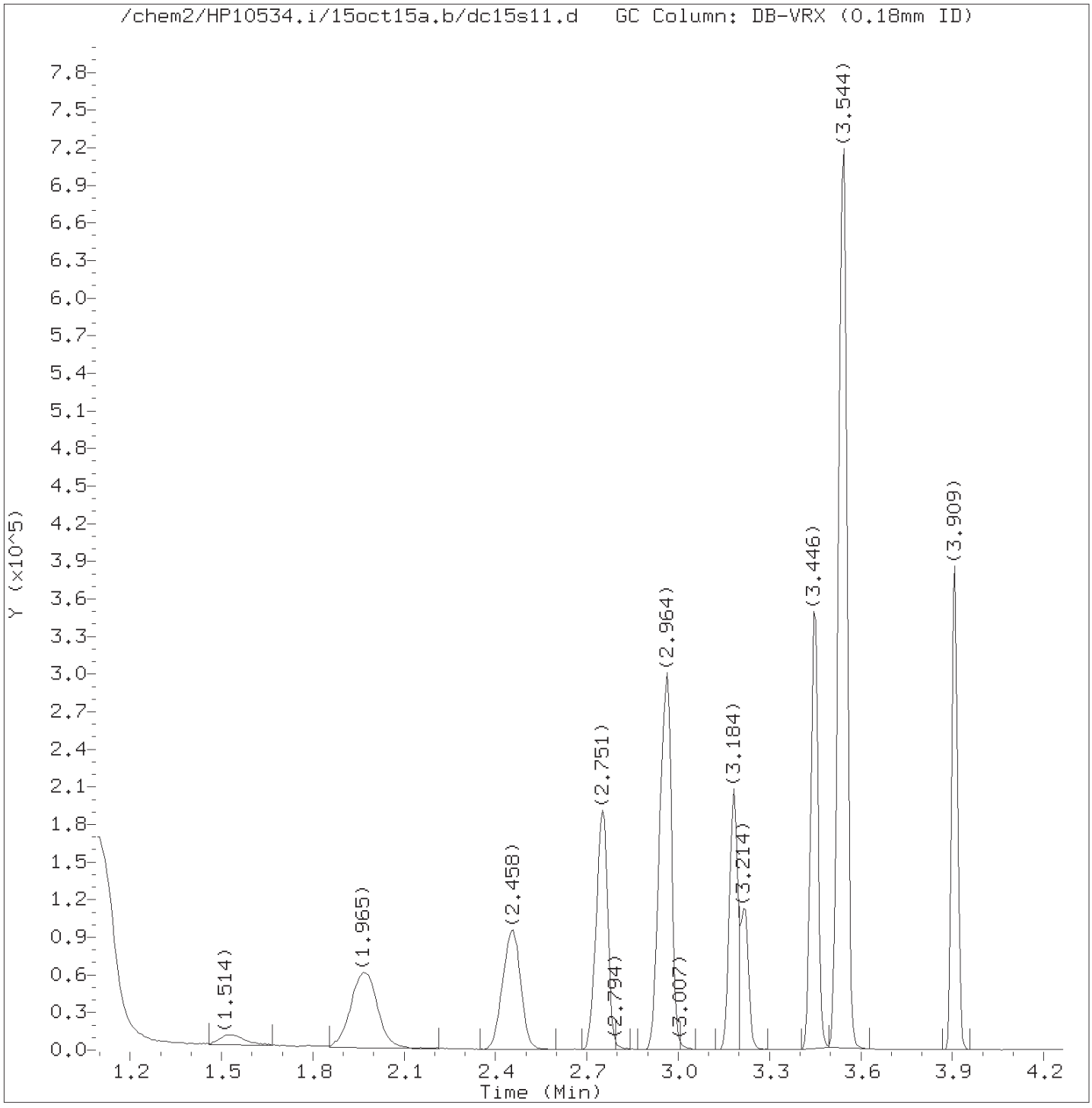
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.971	(0.000)	113	109313	51.415	103%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184	(0.000)	102	28800	50.856	102%		77 - 113
16) Toluene-d8	(3)	4.324	(0.001)	98	457106	48.300	97%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.001)	95	181772	51.542	103%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)	3.452	(-0.001)	78	279848	20.753	20.75			0.5	1
17) Toluene	(3)	4.354	(-0.000)	92	179397	20.100	20.10			0.5	1
21) Ethylbenzene	(3)	4.982	(0.001)	91	328734	19.679	19.68			0.5	1
22) m+p-Xylene	(3)	5.062	(0.000)	106	261629	40.499	40.50			0.5	1
23) o-Xylene	(3)	5.208	(0.001)	106	121609	19.399	19.40			0.5	1
24) Xylene (Total)	(3)			106	383238	59.897	59.90			0.5	1
30) Naphthalene	(4)	6.799	(-0.001)	128	236292	15.341	15.34			1	4

Total number of targets = 7

Digitally signed by Daniel H. Heller on 10/19/2015 at 17:20. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/19/2015 at 17:39. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

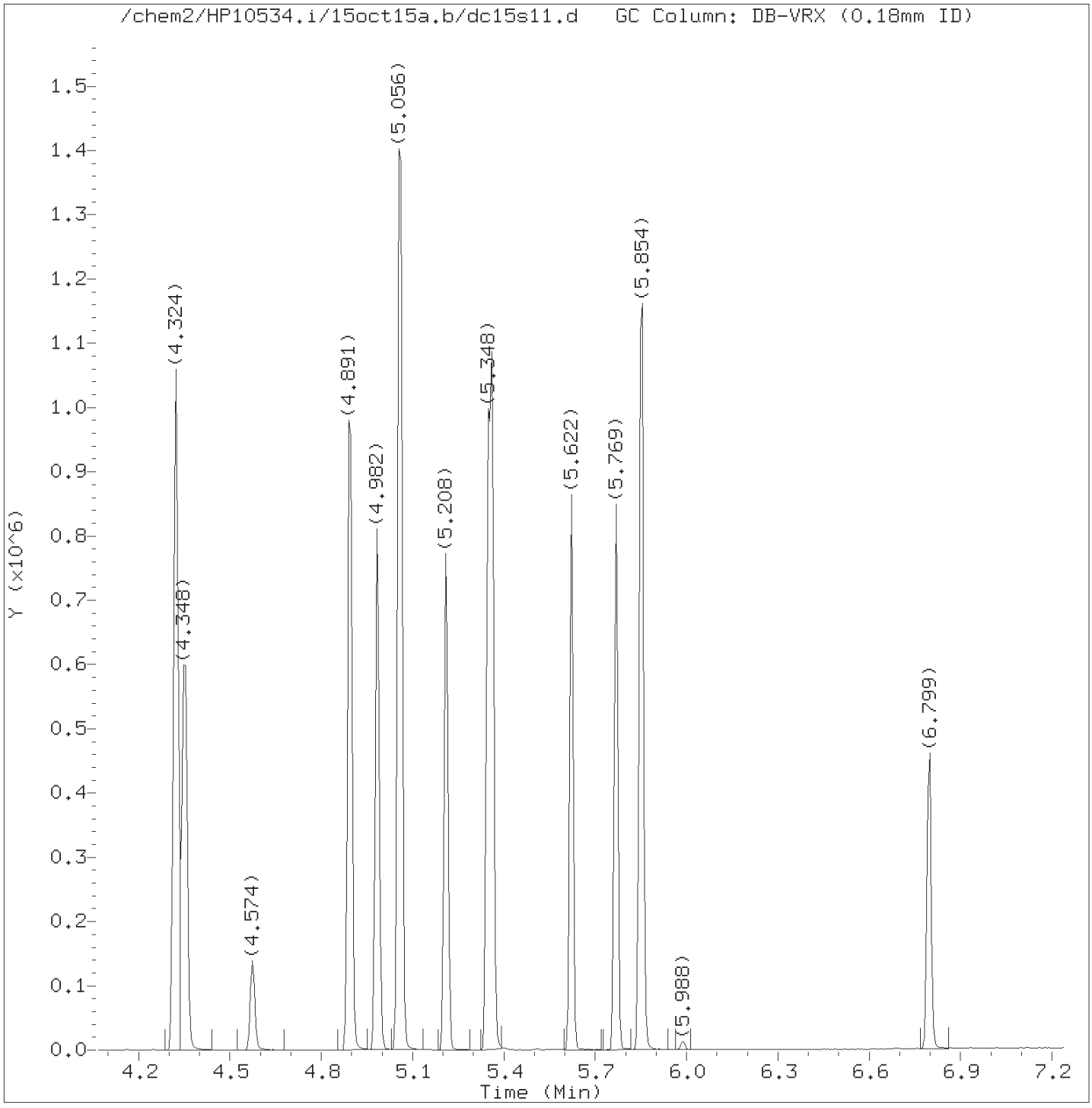
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s11.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:16 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 19-Oct-2015 17:19 dhh02035

Sample Name: P2806MSD Lab Sample ID: 8082104MSD

Digitally signed by Daniel H. Heller
on 10/19/2015 at 17:20.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s11.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:16 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 19-Oct-2015 17:19 dhh02035

Sample Name: P2806MSD Lab Sample ID: 8082104MSD

Digitally signed by Daniel H. Heller
on 10/19/2015 at 17:20.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s11.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:16 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 19-Oct-2015 17:19 dhh02035

Sample Name: P2806MSD Lab Sample ID: 8082104MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.952	65	90941	250.000
7)$Dibromofluoromethane	(2)	2.971	113	109313	51.415
10)$1,2-Dichloroethane-d4	(2)	3.184	102	28800	50.856
12) Benzene	(2)	3.452	78	279848	20.753
14)*Fluorobenzene	(2)	3.544	96	456032	50.000
16)$Toluene-d8	(3)	4.324	98	457106	48.300
17) Toluene	(3)	4.354	92	179397	20.100
20)*Chlorobenzene-d5	(3)	4.897	117	351868	50.000
21) Ethylbenzene	(3)	4.982	91	328734	19.679
22) m+p-Xylene	(3)	5.062	106	261629	40.499
23) o-Xylene	(3)	5.208	106	121609	19.399
24) Xylene (Total)	(3)		106	383238	59.897
26)$4-Bromofluorobenzene	(3)	5.360	95	181772	51.542
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	200596	50.000
30) Naphthalene	(4)	6.799	128	236292	15.341

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/19/2015 at 17:20.
Target 3.5 esignature user ID: dhh02035

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct14a.b/dc14s01.d Injection date and time: **14-OCT-2015 11:10**
Data file Sample Info. Line: LCSD30;LCSD30;1;3;LCS;;;;dc14b01; Instrument ID: **HP10534.i** Batch: **D152871AA**
Date, time and analyst ID of latest file update: 14-Oct-2015 12:04 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct14a.b/dc14b01.d**

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: **10943A**
Calibration date and time (Last Method Edit): 14-OCT-2015 11:02
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct14a.b/dc14c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.940	(-0.006)	140	65	103421	(15)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	466002	(13)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	360060	(12)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	200579	(14)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.965	(-0.002)	113	114059	52.499	105%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	29374	50.759	102%		77 - 113
16) Toluene-d8	(3)	4.318	(0.000)	98	471439	48.682	97%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	182780	50.649	101%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Ethanol	(1)	1.520	(0.002)	45	29413	448.330	448.33			50	250
3) t-Butyl alcohol	(1)	1.971	(0.003)	59	112296	180.667	180.67			2	5
4) Methyl Tertiary Butyl Ether	(2)	2.446	(0.001)	73	178568	18.915	18.92			0.5	1
5) di-Isopropyl ether	(2)	2.745	(-0.000)	45	203537	17.983	17.98			0.5	1
6) Ethyl t-butyl ether	(2)	2.946	(-0.000)	59	188048	18.086	18.09			0.5	1
11) 1,2-Dichloroethane	(2)	3.214	(-0.001)	62	88228	20.081	20.08			0.5	1
12) Benzene	(2)	3.446	(-0.001)	78	260500	18.904	18.90			0.5	1
13) t-Amyl methyl ether	(2)	3.532	(-0.001)	87	43687	17.980	17.98			0.5	1
17) Toluene	(3)	4.348	(-0.000)	92	164397	18.001	18.00			0.5	1
19) 1,2-Dibromoethane	(3)	4.574	(-0.000)	107	57895	18.328	18.33			0.5	1
21) Ethylbenzene	(3)	4.982	(-0.000)	91	306644	17.939	17.94			0.5	1
22) m+p-Xylene	(3)	5.056	(0.000)	106	243363	36.814	36.81			0.5	1
23) o-Xylene	(3)	5.208	(-0.000)	106	114676	17.877	17.88			0.5	1
24) Xylene (Total)	(3)			106	358039	54.691	54.69			0.5	1
25) Isopropylbenzene	(3)	5.348	(0.000)	105	305256	18.454	18.45			0.5	2
27) 1,3,5-Trimethylbenzene	(4)	5.623	(0.000)	105	231962	16.899	16.90			0.5	2
28) 1,2,4-Trimethylbenzene	(4)	5.769	(-0.000)	105	237484	17.045	17.04			0.5	2
30) Naphthalene	(4)	6.805	(-0.001)	128	256314	16.642	16.64			1	4

Digitally signed by Daniel H. Heller on 10/14/2015 at 12:06. Target 3.5 esignature user ID: dhh02035

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct14a.b/dc14s01.d Injection date and time: **14-OCT-2015 11:10**
Data file Sample Info. Line: LCSD30;LCSD30;1;3;LCS;;;;dc14b01; Instrument ID: **HP10534.i** Batch: **D152871AA**
Date, time and analyst ID of latest file update: 14-Oct-2015 12:04 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct14a.b/dc14b01.d**

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: **10943A**
Calibration date and time (Last Method Edit): 14-OCT-2015 11:02
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct14a.b/dc14c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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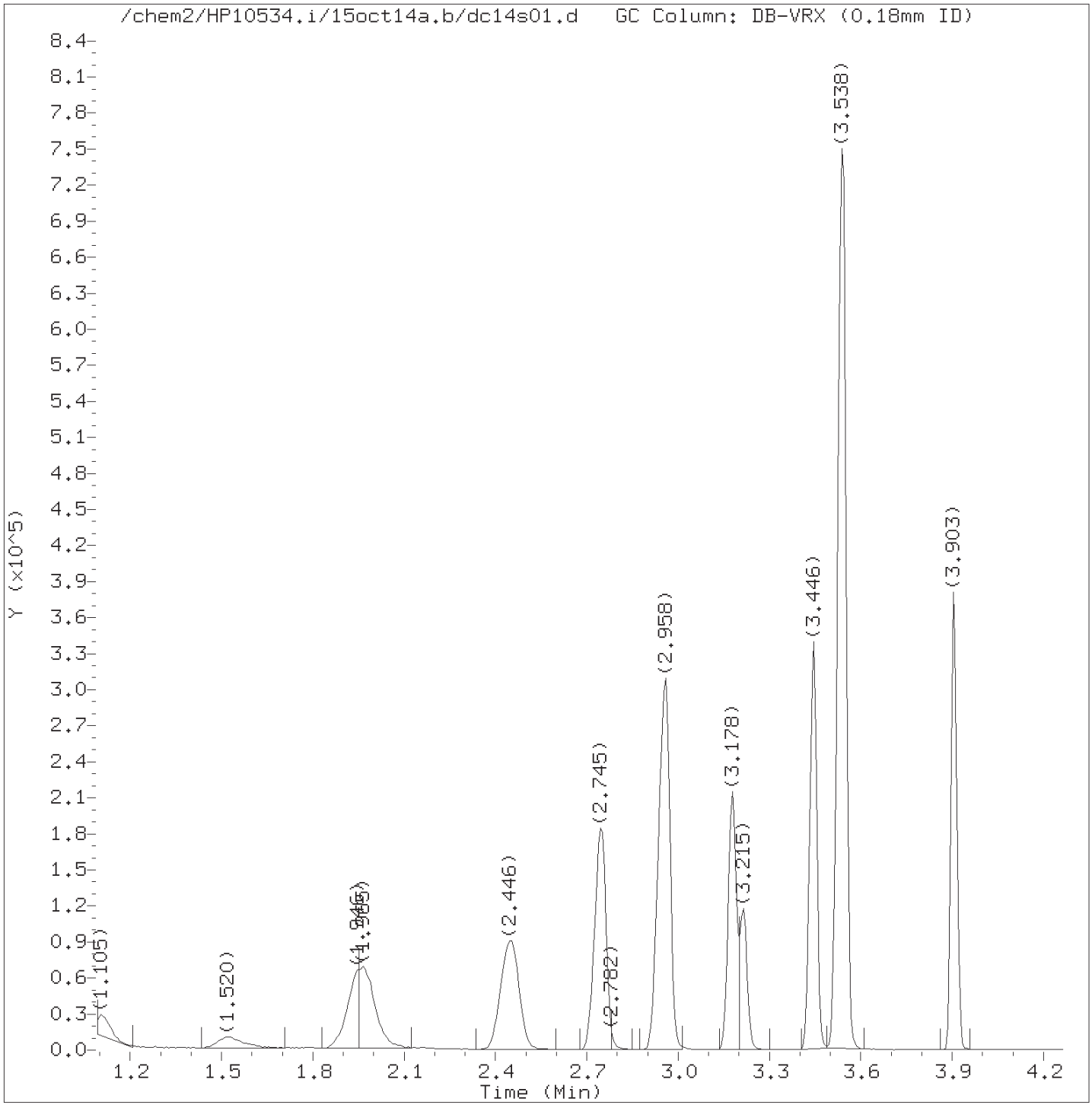
Total number of targets = 18

Digitally signed by Daniel H. Heller on 10/14/2015 at 12:06. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 16:07. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

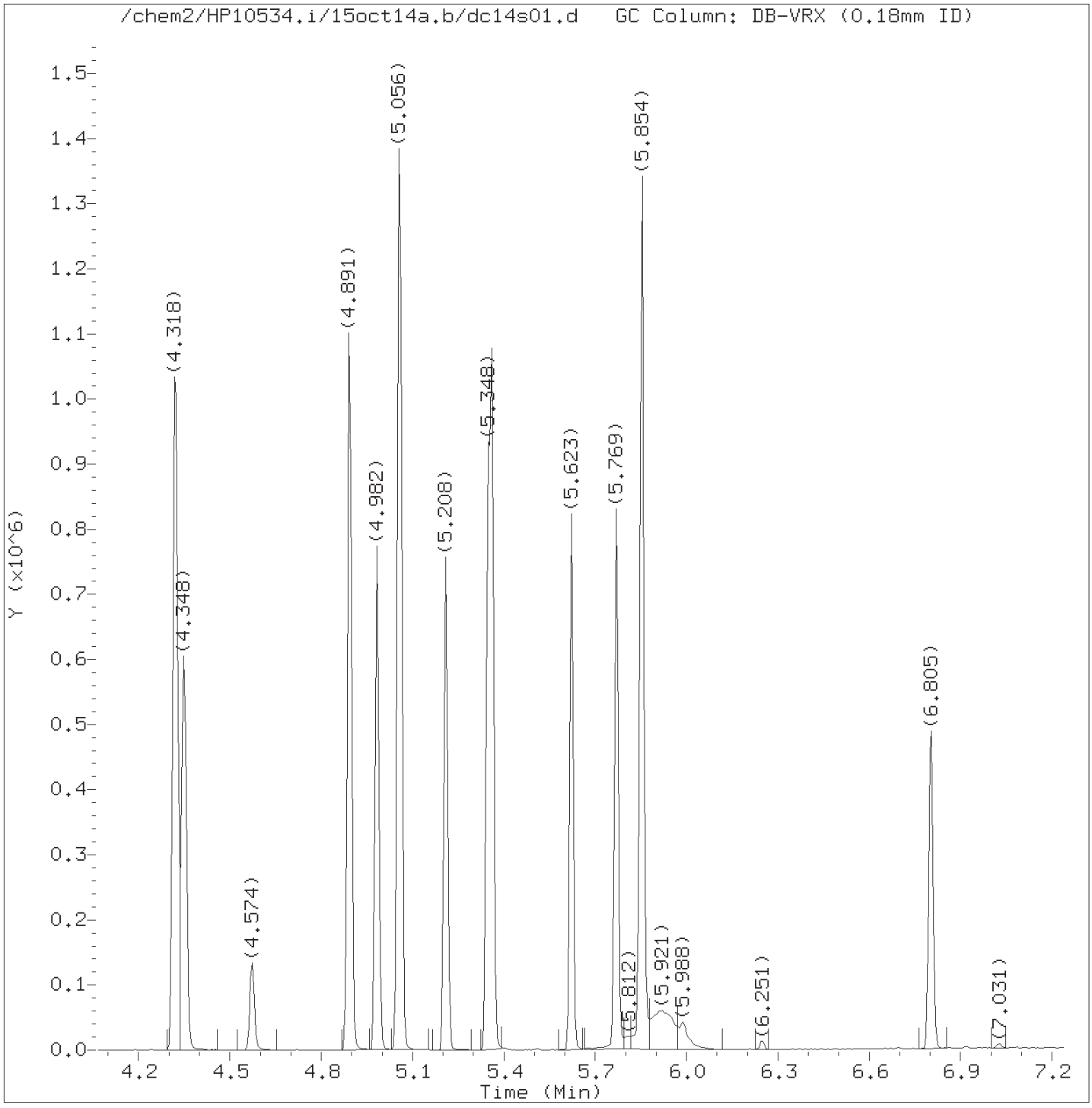
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s01.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 11:10 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 12:04 dhh02035

Sample Name: LCSD30 Lab Sample ID: LCSD30

Digitally signed by Daniel H. Heller
on 10/14/2015 at 12:06.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s01.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 11:10 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 12:04 dhh02035

Sample Name: LCSD30 Lab Sample ID: LCSD30

Digitally signed by Daniel H. Heller
on 10/14/2015 at 12:06.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct14a.b/dc14s01.d Instrument ID: HP10534.i
Injection date and time: 14-OCT-2015 11:10 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct14a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 14-OCT-2015 11:02
Date, time and analyst ID of latest file update: 14-Oct-2015 12:04 dhh02035

Sample Name: LCSD30 Lab Sample ID: LCSD30

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.520	45	29413	448.330
2)*t-Butyl alcohol-d10	(1)	1.940	65	103421	250.000
3) t-Butyl alcohol	(1)	1.971	59	112296	180.667
4) Methyl Tertiary Butyl Ether	(2)	2.446	73	178568	18.915
5) di-Isopropyl ether	(2)	2.745	45	203537	17.983
6) Ethyl t-butyl ether	(2)	2.946	59	188048	18.086
7)$Dibromofluoromethane	(2)	2.965	113	114059	52.499
10)$1,2-Dichloroethane-d4	(2)	3.178	102	29374	50.759
11) 1,2-Dichloroethane	(2)	3.215	62	88228	20.081
12) Benzene	(2)	3.446	78	260500	18.904
13) t-Amyl methyl ether	(2)	3.532	87	43687	17.980
14)*Fluorobenzene	(2)	3.544	96	466002	50.000
16)$Toluene-d8	(3)	4.318	98	471439	48.682
17) Toluene	(3)	4.348	92	164397	18.001
19) 1,2-Dibromoethane	(3)	4.574	107	57895	18.328
20)*Chlorobenzene-d5	(3)	4.891	117	360060	50.000
21) Ethylbenzene	(3)	4.982	91	306644	17.939
22) m+p-Xylene	(3)	5.056	106	243363	36.814
23) o-Xylene	(3)	5.208	106	114676	17.877
24) Xylene (Total)	(3)		106	358039	54.691
25) Isopropylbenzene	(3)	5.348	105	305256	18.454
26)$4-Bromofluorobenzene	(3)	5.360	95	182780	50.649
27) 1,3,5-Trimethylbenzene	(4)	5.623	105	231962	16.899
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	237484	17.045
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	200579	50.000
30) Naphthalene	(4)	6.805	128	256314	16.642

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/14/2015 at 12:06.
Target 3.5 esignature user ID: dhh02035

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s01.d Injection date and time: **15-OCT-2015 10:45**
Data file Sample Info. Line: LCSD32;LCSD32;1;3;LCS;;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 11:50 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **10943A**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946	(0.000)	141	65	93626	(13)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	475840	(13)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	368671	(14)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	203592	(13)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.965	(0.002)	113	114120	51.441	103%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.002)	102	29943	50.673	101%		77 - 113
16) Toluene-d8	(3)	4.324	(0.000)	98	478575	48.264	97%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	186029	50.345	101%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
1) Ethanol	(1)	1.520	(0.003)	45	27311	459.842	459.84			50	250
3) t-Butyl alcohol	(1)	1.983	(0.003)	59	101852	181.007	181.01			2	5
4) Methyl Tertiary Butyl Ether	(2)	2.452	(-0.000)	73	180824	18.758	18.76			0.5	1
5) di-Isopropyl ether	(2)	2.745	(0.001)	45	202964	17.561	17.56			0.5	1
6) Ethyl t-butyl ether	(2)	2.946	(-0.000)	59	189938	17.890	17.89			0.5	1
11) 1,2-Dichloroethane	(2)	3.214	(0.001)	62	89837	20.025	20.02			0.5	1
12) Benzene	(2)	3.446	(0.000)	78	262178	18.633	18.63			0.5	1
13) t-Amyl methyl ether	(2)	3.532	(0.000)	87	43744	17.632	17.63			0.5	1
17) Toluene	(3)	4.348	(-0.000)	92	167786	17.943	17.94			0.5	1
19) 1,2-Dibromoethane	(3)	4.574	(-0.000)	107	58814	18.184	18.18			0.5	1
21) Ethylbenzene	(3)	4.982	(0.000)	91	311910	17.821	17.82			0.5	1
22) m+p-Xylene	(3)	5.056	(0.000)	106	247231	36.526	36.53			0.5	1
23) o-Xylene	(3)	5.208	(0.000)	106	115903	17.646	17.65			0.5	1
24) Xylene (Total)	(3)			106	363134	54.172	54.17			0.5	1
25) Isopropylbenzene	(3)	5.348	(0.000)	105	307232	18.140	18.14			0.5	2
27) 1,3,5-Trimethylbenzene	(4)	5.622	(-0.000)	105	236265	16.957	16.96			0.5	2
28) 1,2,4-Trimethylbenzene	(4)	5.769	(-0.000)	105	245236	17.341	17.34			0.5	2
30) Naphthalene	(4)	6.793	(-0.000)	128	248963	15.925	15.93			1	4

Digitally signed by Daniel H. Heller on 10/15/2015 at 11:50. Target 3.5 esignature user ID: dhh02035

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s01.d Injection date and time: **15-OCT-2015 10:45**
Data file Sample Info. Line: LCSD32;LCSD32;1;3;LCS;;;;dc15b01; Instrument ID: **HP10534.i** Batch: **D152881AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 11:50 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b01.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: **10943A**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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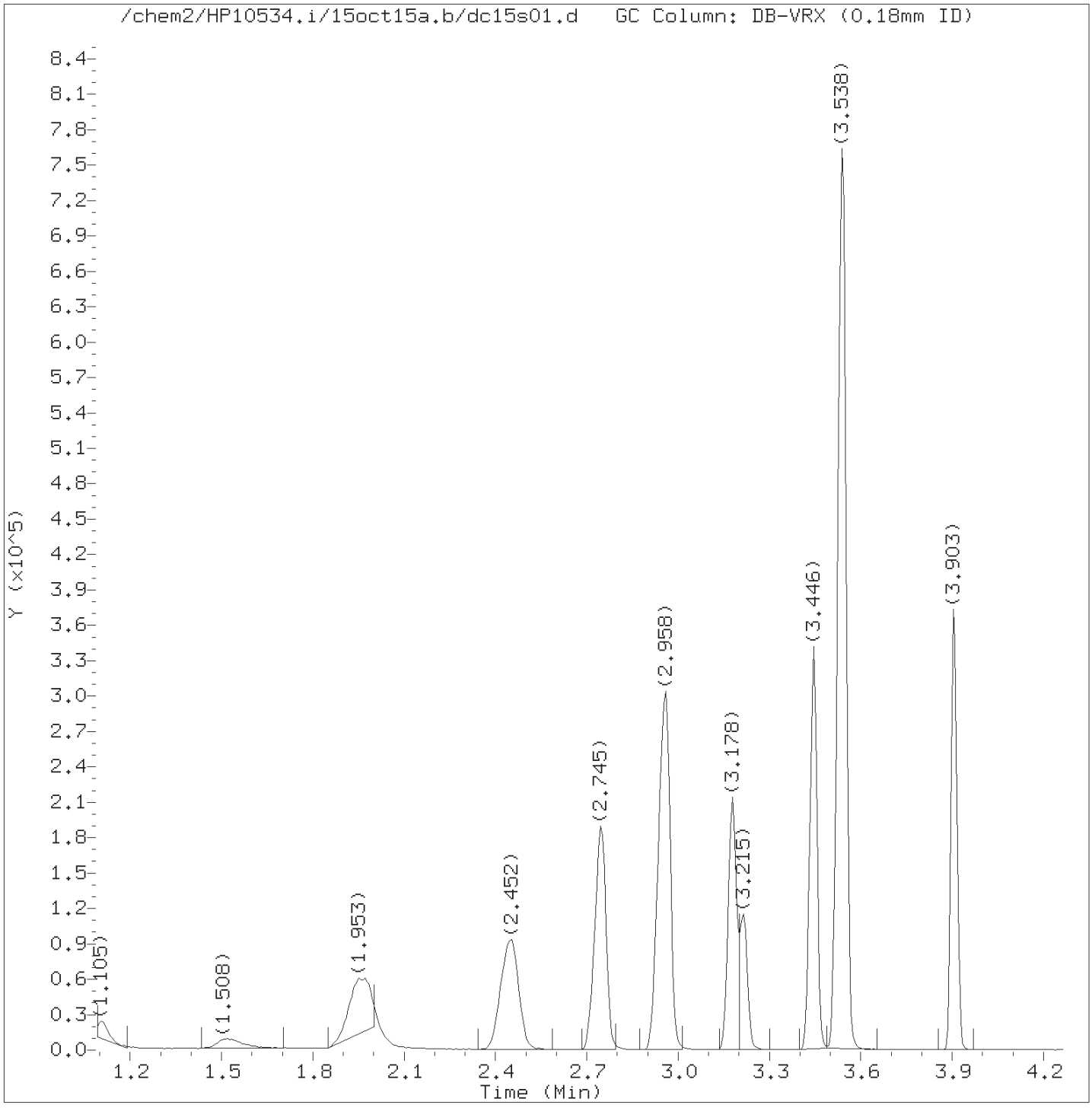
Total number of targets = 18

Digitally signed by Daniel H. Heller on 10/15/2015 at 11:50. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:34. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

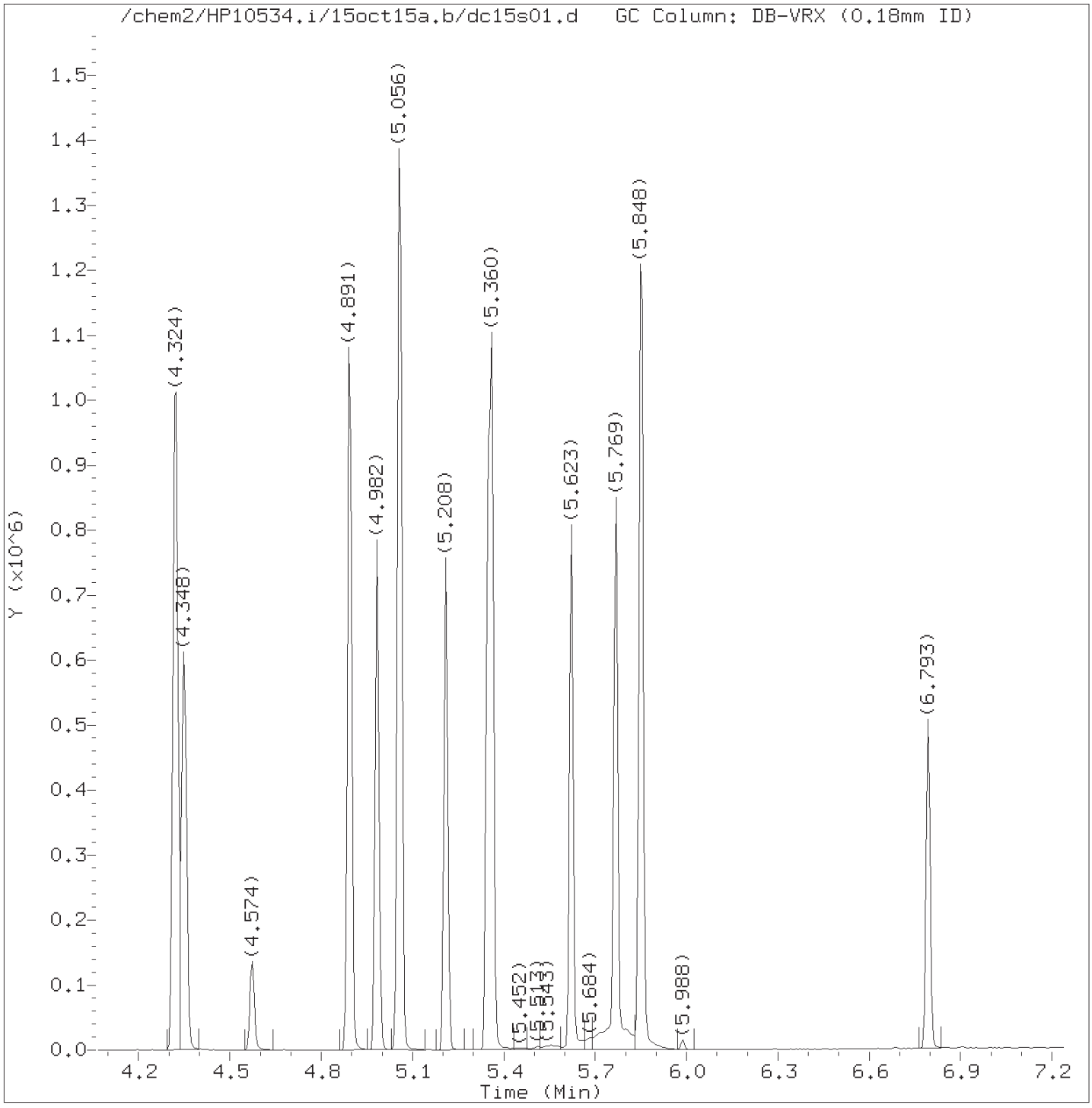
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s01.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 10:45 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 11:50 dhh02035

Sample Name: LCSD32 Lab Sample ID: LCSD32

Digitally signed by Daniel H. Heller
on 10/15/2015 at 11:50.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s01.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 10:45 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 11:50 dhh02035

Sample Name: LCSD32 Lab Sample ID: LCSD32

Digitally signed by Daniel H. Heller
on 10/15/2015 at 11:50.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s01.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 10:45 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT1.m Sublist used: 10943A
Calibration date and time: 15-OCT-2015 10:40
Date, time and analyst ID of latest file update: 15-Oct-2015 11:50 dhh02035

Sample Name: LCSD32 Lab Sample ID: LCSD32

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.520	45	27311	459.842
2)*t-Butyl alcohol-d10	(1)	1.946	65	93626	250.000
3) t-Butyl alcohol	(1)	1.983	59	101852	181.007
4) Methyl Tertiary Butyl Ether	(2)	2.452	73	180824	18.758
5) di-Isopropyl ether	(2)	2.745	45	202964	17.561
6) Ethyl t-butyl ether	(2)	2.946	59	189938	17.890
7)$Dibromofluoromethane	(2)	2.965	113	114120	51.441
10)$1,2-Dichloroethane-d4	(2)	3.178	102	29943	50.673
11) 1,2-Dichloroethane	(2)	3.215	62	89837	20.025
12) Benzene	(2)	3.446	78	262178	18.633
13) t-Amyl methyl ether	(2)	3.532	87	43744	17.632
14)*Fluorobenzene	(2)	3.544	96	475840	50.000
16)$Toluene-d8	(3)	4.324	98	478575	48.264
17) Toluene	(3)	4.348	92	167786	17.943
19) 1,2-Dibromoethane	(3)	4.574	107	58814	18.184
20)*Chlorobenzene-d5	(3)	4.891	117	368671	50.000
21) Ethylbenzene	(3)	4.982	91	311910	17.821
22) m+p-Xylene	(3)	5.056	106	247231	36.526
23) o-Xylene	(3)	5.208	106	115903	17.646
24) Xylene (Total)	(3)		106	363134	54.172
25) Isopropylbenzene	(3)	5.348	105	307232	18.140
26)$4-Bromofluorobenzene	(3)	5.360	95	186029	50.345
27) 1,3,5-Trimethylbenzene	(4)	5.623	105	236265	16.957
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	245236	17.341
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	203592	50.000
30) Naphthalene	(4)	6.793	128	248963	15.925

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 11:50.
Target 3.5 esignature user ID: dhh02035

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCSD34

Data file: /chem2/HP10534.i/15oct16a.b/dc16s01.d Injection date and time: **16-OCT-2015 18:01**
Data file Sample Info. Line: LCSD34;LCSD34;1;3;LCS;;;;dc16b01; Instrument ID: **HP10534.i** Batch: **D152891AA**
Date, time and analyst ID of latest file update: 16-Oct-2015 18:38 hy07820

Blank Data file reference: **/chem2/HP10534.i/15oct16a.b/dc16b01.d**

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: **M10945A-4G**
Calibration date and time (Last Method Edit): 16-OCT-2015 17:48
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct16a.b/dc16c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946	(-0.006)	141	65	83128	(1)	250.00	
14) Fluorobenzene	3.550	(-0.006)	404	96	419383	(1)	50.00	
20) Chlorobenzene-d5	4.897	(0.000)	625	117	327784	(1)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.000)	781	152	185835	(3)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.971	(0.000)	113	102151	52.245	104%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184	(0.000)	102	26668	51.206	102%		77 - 113
16) Toluene-d8	(3)	4.324	(0.000)	98	426182	48.342	97%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	169207	51.505	103%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
1) Ethanol	(1)	1.526	(-0.000)	45	31109	589.954	589.95			50	250
3) t-Butyl alcohol	(1)	1.983	(0.006)	59	98834	197.826	197.83			2	5
4) Methyl Tertiary Butyl Ether	(2)	2.452	(0.001)	73	170064	20.017	20.02			0.5	1
5) di-Isopropyl ether	(2)	2.751	(0.001)	45	191166	18.767	18.77			0.5	1
6) Ethyl t-butyl ether	(2)	2.952	(-0.000)	59	178735	19.101	19.10			0.5	1
11) 1,2-Dichloroethane	(2)	3.221	(-0.000)	62	88002	22.256	22.26			0.5	1
12) Benzene	(2)	3.452	(-0.000)	78	252303	20.345	20.34			0.5	1
13) t-Amyl methyl ether	(2)	3.532	(0.001)	87	41214	18.848	18.85			0.5	1
17) Toluene	(3)	4.354	(-0.001)	92	158183	19.026	19.03			0.5	1
19) 1,2-Dibromoethane	(3)	4.574	(-0.000)	107	56144	19.524	19.52			0.5	1
21) Ethylbenzene	(3)	4.982	(-0.000)	91	289568	18.608	18.61			0.5	1
22) m+p-Xylene	(3)	5.062	(-0.001)	106	235790	39.181	39.18			0.5	1
23) o-Xylene	(3)	5.208	(-0.000)	106	108326	18.550	18.55			0.5	1
24) Xylene (Total)	(3)			106	344116	57.730	57.73			0.5	1
25) Isopropylbenzene	(3)	5.348	(-0.000)	105	285398	18.953	18.95			0.5	2
27) 1,3,5-Trimethylbenzene	(4)	5.622	(-0.000)	105	217774	17.124	17.12			0.5	2
28) 1,2,4-Trimethylbenzene	(4)	5.769	(-0.000)	105	224827	17.417	17.42			0.5	2
30) Naphthalene	(4)	6.781	(-0.000)	128	223193	15.641	15.64			1	4

Digitally signed by Hu Yang on 10/16/2015 at 18:38. Target 3.5 esignature user ID: hy07820

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct16a.b/dc16s01.d Injection date and time: **16-OCT-2015 18:01**
Data file Sample Info. Line: LCSD34;LCSD34;1;3;LCS;;;;dc16b01; Instrument ID: **HP10534.i** Batch: **D152891AA**
Date, time and analyst ID of latest file update: 16-Oct-2015 18:38 hy07820

Blank Data file reference: **/chem2/HP10534.i/15oct16a.b/dc16b01.d**

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: **M10945A-4G**
Calibration date and time (Last Method Edit): 16-OCT-2015 17:48
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct16a.b/dc16c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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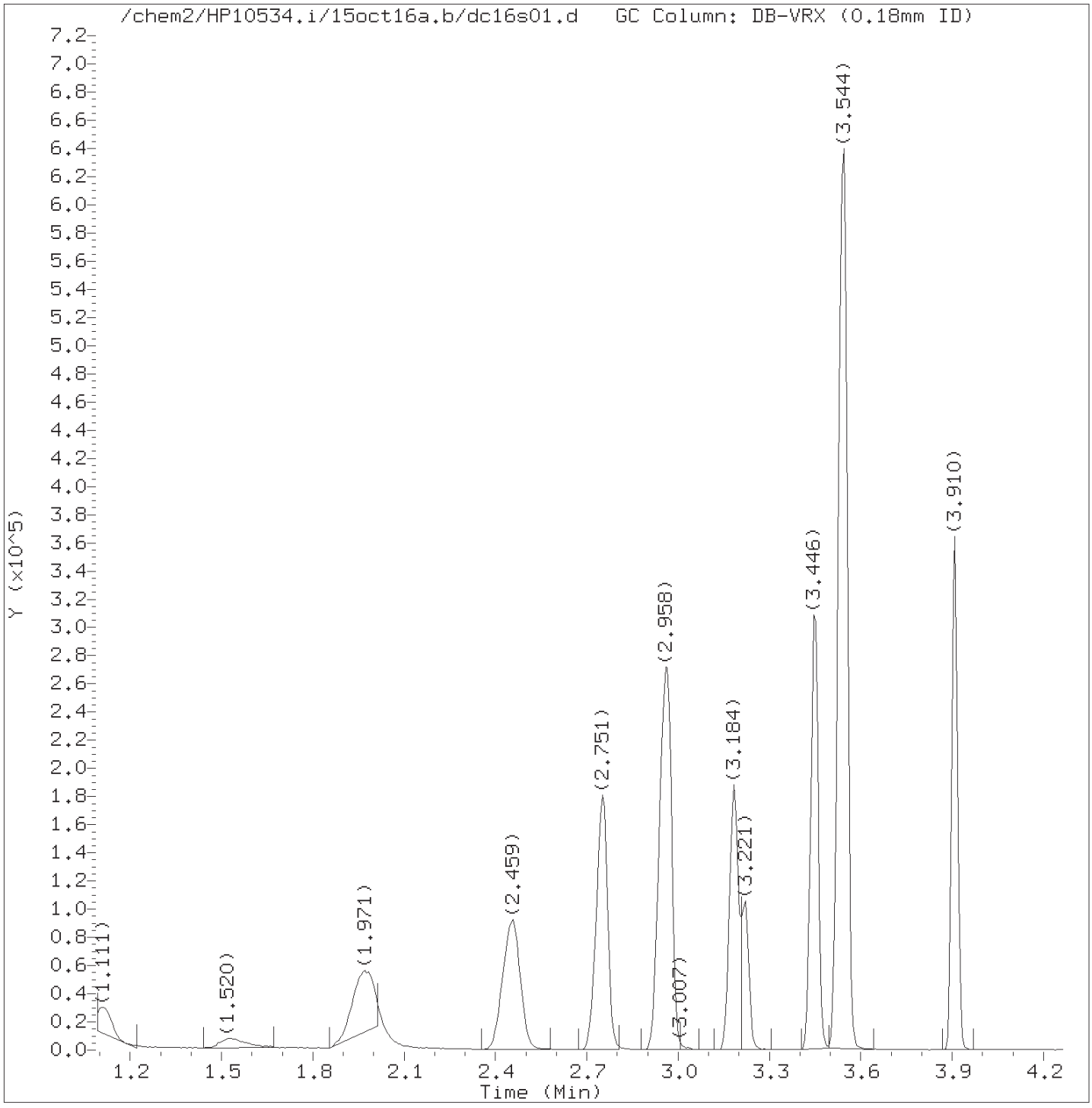
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 18

Digitally signed by Hu Yang on 10/16/2015 at 18:38. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/19/2015 at 15:05. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

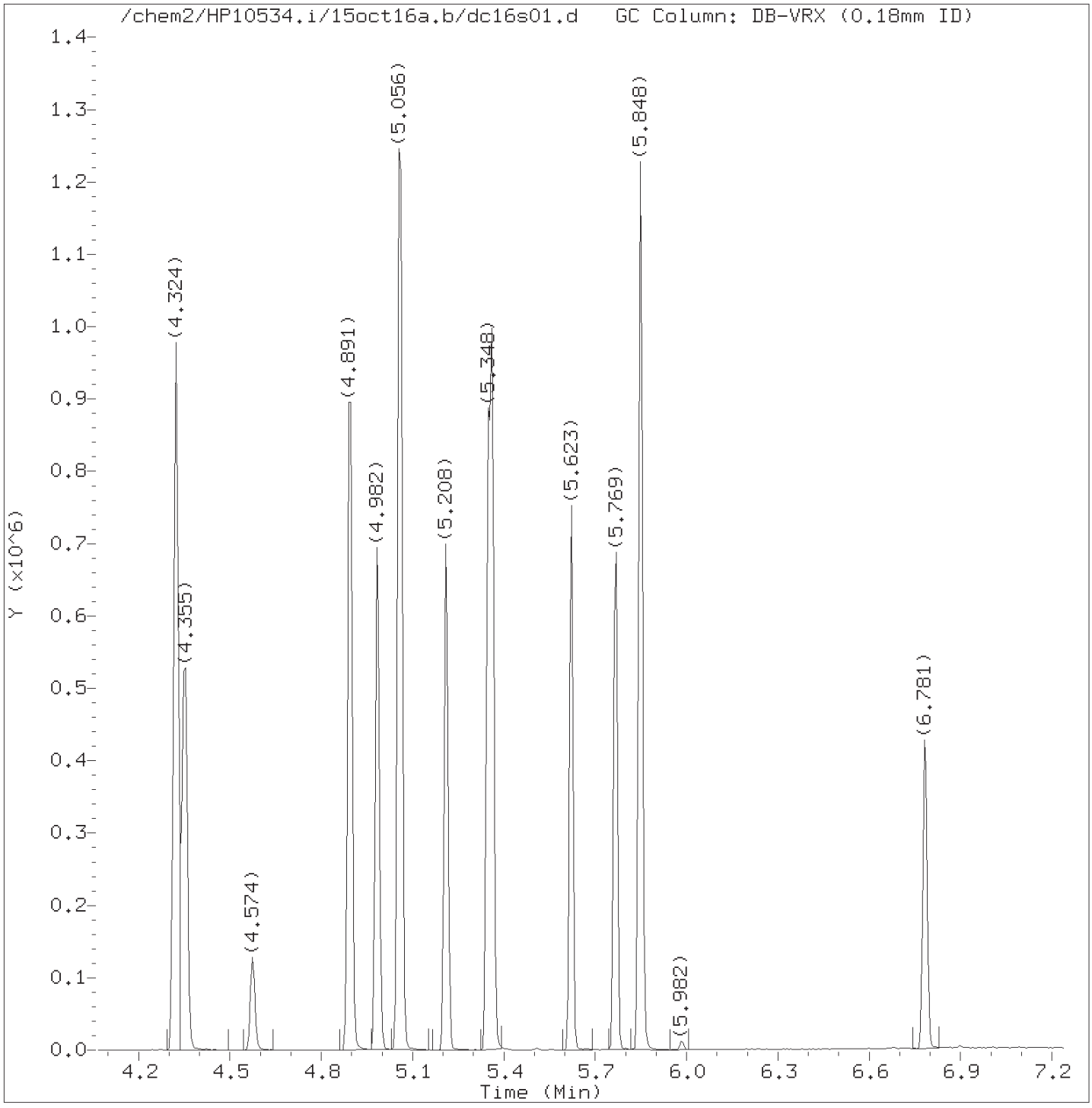
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16s01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 18:01 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: M10945A-4G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 18:38 hy07820

Sample Name: LCSD34 Lab Sample ID: LCSD34

Digitally signed by Hu Yang
on 10/16/2015 at 18:38.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16s01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 18:01 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: M10945A-4G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 18:38 hy07820

Sample Name: LCSD34 Lab Sample ID: LCSD34

Digitally signed by Hu Yang
on 10/16/2015 at 18:38.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16s01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 18:01 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: M10945A-4G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 18:38 hy07820

Sample Name: LCSD34 Lab Sample ID: LCSD34

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	31109	589.954
2)*t-Butyl alcohol-d10	(1)	1.946	65	83128	250.000
3) t-Butyl alcohol	(1)	1.983	59	98834	197.826
4) Methyl Tertiary Butyl Ether	(2)	2.452	73	170064	20.017
5) di-Isopropyl ether	(2)	2.751	45	191166	18.767
6) Ethyl t-butyl ether	(2)	2.952	59	178735	19.101
7)$Dibromofluoromethane	(2)	2.971	113	102151	52.245
10)$1,2-Dichloroethane-d4	(2)	3.184	102	26668	51.206
11) 1,2-Dichloroethane	(2)	3.221	62	88002	22.256
12) Benzene	(2)	3.452	78	252303	20.345
13) t-Amyl methyl ether	(2)	3.532	87	41214	18.848
14)*Fluorobenzene	(2)	3.550	96	419383	50.000
16)$Toluene-d8	(3)	4.324	98	426182	48.342
17) Toluene	(3)	4.355	92	158183	19.026
19) 1,2-Dibromoethane	(3)	4.574	107	56144	19.524
20)*Chlorobenzene-d5	(3)	4.897	117	327784	50.000
21) Ethylbenzene	(3)	4.982	91	289568	18.608
22) m+p-Xylene	(3)	5.062	106	235790	39.181
23) o-Xylene	(3)	5.208	106	108326	18.550
24) Xylene (Total)	(3)		106	344116	57.730
25) Isopropylbenzene	(3)	5.348	105	285398	18.953
26)$4-Bromofluorobenzene	(3)	5.360	95	169207	51.505
27) 1,3,5-Trimethylbenzene	(4)	5.623	105	217774	17.124
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	224827	17.417
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	185835	50.000
30) Naphthalene	(4)	6.781	128	223193	15.641

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 18:38.
Target 3.5 esignature user ID: hy07820

Semivolatiles by GC/MS Data

Case Narrative/Conformance Summary

Semivolatiles by GC/MS

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC28

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8082098	0084-33	X		1; 10	
8082099	0080-33	X		1; 20	
8082100	0081-33	X		1; 20	
8082101	0085-33	X		1; 20	
8082114	0098-16	X		1	
8082115	0099-16	X		1	
8082117	0074-33	X		1	
8082118	0071-33	X		1	
8082119	0097-16	X		1	

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC28

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Semivolatiles by GC/MS

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Quality Control Reference List
GC/MS Semivolatiles

CLIENT: The Johnson Company, Inc.
SDG: PSC28

Fraction: Semivolatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
PAHs 8270C (17)	15283WAB026	SBLKWB283	10/16/2015 12:16:00
		283WBLCS	10/16/2015 11:48:00
		8082098	10/16/2015 14:36:00
		8082098	10/17/2015 14:44:00
		8082099	10/16/2015 15:03:00
		8082099	10/17/2015 15:12:00
		8082100	10/16/2015 15:31:00
		8082100	10/17/2015 15:39:00
		8082101	10/16/2015 15:59:00
		8082101	10/17/2015 16:07:00
		8082114	10/16/2015 16:27:00
		8082115	10/16/2015 16:55:00
		8082117	10/16/2015 17:23:00
		8082118	10/16/2015 17:51:00
		8082119	10/16/2015 18:19:00

Quality Control Summary
Method Blank
GC/MS Semivolatiles
SDG: PSC28
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

15283WAB026 / SBLKWB283 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Naphthalene	10/16/15	N.D.	ug/l	0.1	0.5
2-Methylnaphthalene	10/16/15	N.D.	ug/l	0.1	0.5
Acenaphthylene	10/16/15	N.D.	ug/l	0.1	0.5
Acenaphthene	10/16/15	N.D.	ug/l	0.1	0.5
Fluorene	10/16/15	N.D.	ug/l	0.1	0.5
Phenanthrene	10/16/15	N.D.	ug/l	0.1	0.5
Anthracene	10/16/15	N.D.	ug/l	0.1	0.5
Fluoranthene	10/16/15	N.D.	ug/l	0.1	0.5
Pyrene	10/16/15	N.D.	ug/l	0.1	0.5
Benzo(a)anthracene	10/16/15	N.D.	ug/l	0.1	0.5
Chrysene	10/16/15	N.D.	ug/l	0.1	0.5
Benzo(b)fluoranthene	10/16/15	0.1	ug/l	0.1	0.5
Benzo(k)fluoranthene	10/16/15	0.1	ug/l	0.1	0.5
Benzo(a)pyrene	10/16/15	N.D.	ug/l	0.1	0.5
Indeno(1,2,3-cd)pyrene	10/16/15	N.D.	ug/l	0.1	0.5
Dibenz(a,h)anthracene	10/16/15	0.1	ug/l	0.1	0.5
Benzo(g,h,i)perylene	10/16/15	0.1	ug/l	0.1	0.5

Quality Control Summary
Surrogates
GC/MS Semivolatiles
SDG: PSC28
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

15283WAB026	2-Fluorobiphenyl		Nitrobenzene-d5		Terphenyl-d14	
	Spike Added	100 ug/l	Spike Added	100 ug/l	Spike Added	100 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKWB283	87	61 - 112	89	46 - 128	83	43 - 131
283WBLCS	81	61 - 112	85	46 - 128	78	43 - 131
8082098	84	61 - 112	90	46 - 128	77	43 - 131
8082099	82	61 - 112	96	46 - 128	69	43 - 131
8082100	78	61 - 112	80	46 - 128	71	43 - 131
8082101	77	61 - 112	82	46 - 128	66	43 - 131
8082114	79	61 - 112	87	46 - 128	79	43 - 131
8082115	83	61 - 112	85	46 - 128	89	43 - 131
8082117	82	61 - 112	84	46 - 128	81	43 - 131
8082118	82	61 - 112	84	46 - 128	80	43 - 131
8082119	80	61 - 112	82	46 - 128	80	43 - 131

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 283WBLCS	Batch: **15283WAB026** (Sample number(s): 8082098-8082101, 8082114-8082115, 8082117-8082119)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Naphthalene	50	43.39	NA	87	NA	69-109	NA	NA
2-Methylnaphthalene	50	41.05	NA	82	NA	69-103	NA	NA
Acenaphthylene	50	44.43	NA	89	NA	78-117	NA	NA
Acenaphthene	50	44.44	NA	89	NA	75-111	NA	NA
Fluorene	50	44.66	NA	89	NA	80-117	NA	NA
Phenanthrene	50	43.38	NA	87	NA	75-110	NA	NA
Anthracene	50	44.38	NA	89	NA	82-116	NA	NA
Fluoranthene	50	45.15	NA	90	NA	76-117	NA	NA
Pyrene	50	43.63	NA	87	NA	76-111	NA	NA
Benzo(a)anthracene	50	45.88	NA	92	NA	76-122	NA	NA
Chrysene	50	47.06	NA	94	NA	77-126	NA	NA
Benzo(b)fluoranthene	50	45.77	NA	92	NA	75-123	NA	NA
Benzo(k)fluoranthene	50	44.97	NA	90	NA	74-119	NA	NA
Benzo(a)pyrene	50	40.72	NA	81	NA	73-115	NA	NA
Indeno(1,2,3-cd)pyrene	50	38.17	NA	76	NA	70-121	NA	NA
Dibenz(a,h)anthracene	50	39.54	NA	79	NA	72-127	NA	NA
Benzo(g,h,i)perylene	50	38.97	NA	78	NA	70-126	NA	NA

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lj0530.d DFTPP Injection Date: 10/15/15

Instrument ID: HP20296 DFTPP Injection Time: 11:57

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	46.8
68	Less than 2.0% of mass 69	0.97 (1.92)1
69	Mass 69 relative abundance	50.3
70	Less than 2.0% of mass 69	0.15 (0.3)1
127	40.0 - 60.0% of mass 198	47.2
197	Less than 1.0% of mass 198	0.39
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.3
275	10.0 - 30.0% of mass 198	21.8
365	Greater than 1.00% of mass 198	2.05
441	Present, and less than mass 443	9.92
442	Greater than 40.0 % of mass 198	60.3
443	17.0 - 23.0% of mass 442	11.0 (18.3)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD2745 - SSTD7.5	lj0531.d	10/15/15	13:06
02	RVSTD2745 - SSTD.125	lj0532.d	10/15/15	14:04
03	RVSTD2745 - SSTD30	lj0533.d	10/15/15	14:32
04	RVSTD2745 - SSTD20	lj0534.d	10/15/15	15:00
05	RVSTD2745 - SSTD12.5	lj0535.d	10/15/15	15:28
06	RVSTD2745 - SSTD3.75	lj0536.d	10/15/15	15:56
07	RVSTD2745 - SSTD1.25	lj0537.d	10/15/15	16:23
08	RVSTD2745 - SSTD.25	lj0538.d	10/15/15	16:51
09	RVMDL2745 - SSTD0.125	lj0539.d	10/15/15	17:19
10	PAHMDL2745 - SSTD0.025	lj0540.d	10/15/15	17:47
11	RVICV2465 - SSTD12.5	lj0541.d	10/15/15	18:15
12	RVBASICV2475 - SSTD12.5	lj0542.d	10/15/15	18:43

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lj0580z.d DFTPP Injection Date: 10/16/15

Instrument ID: HP20296 DFTPP Injection Time: 09:57

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	51.4
68	Less than 2.0% of mass 69	0.89 (1.73)1
69	Mass 69 relative abundance	51.5
70	Less than 2.0% of mass 69	0.29 (0.56)1
127	40.0 - 60.0% of mass 198	50.8
197	Less than 1.0% of mass 198	0.17
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.75
275	10.0 - 30.0% of mass 198	20.2
365	Greater than 1.00% of mass 198	2.19
441	Present, and less than mass 443	8.02
442	Greater than 40.0 % of mass 198	49.5
443	17.0 - 23.0% of mass 442	9.58 (19.4)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD2745 - SSTD7.5	lj0581.d	10/16/15	10:17
02	283WBLCS	lj0583.d	10/16/15	11:48
03	SBLKWB283	lj0582a.d	10/16/15	12:16
04	8081061	lj0584.d	10/16/15	12:44
05	8081062	lj0585.d	10/16/15	13:12
06	8081063	lj0586.d	10/16/15	13:40
07	8081064	lj0587.d	10/16/15	14:08
08	8082098	lj0588.d	10/16/15	14:36
09	8082099	lj0589.d	10/16/15	15:03
10	8082100	lj0590.d	10/16/15	15:31
11	8082101	lj0591.d	10/16/15	15:59
12	8082114	lj0592.d	10/16/15	16:27
13	8082115	lj0593.d	10/16/15	16:55
14	8082117	lj0594.d	10/16/15	17:23
15	8082118	lj0595.d	10/16/15	17:51
16	8082119	lj0596.d	10/16/15	18:19
17	8082120	lj0597.d	10/16/15	18:47
18	8082121MS	lj0598.d	10/16/15	19:15

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lj0580z.d DFTPP Injection Date: 10/16/15

Instrument ID: HP20296 DFTPP Injection Time: 09:57

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	51.4
68	Less than 2.0% of mass 69	0.89 (1.73)1
69	Mass 69 relative abundance	51.5
70	Less than 2.0% of mass 69	0.29 (0.56)1
127	40.0 - 60.0% of mass 198	50.8
197	Less than 1.0% of mass 198	0.17
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.75
275	10.0 - 30.0% of mass 198	20.2
365	Greater than 1.00% of mass 198	2.19
441	Present, and less than mass 443	8.02
442	Greater than 40.0 % of mass 198	49.5
443	17.0 - 23.0% of mass 442	9.58 (19.4)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	8082122MSD	lj0599.d	10/16/15	19:42
20	8082124	lj0600.d	10/16/15	20:10
21	8082126	lj0601.d	10/16/15	20:38
22	8082127	lj0602.d	10/16/15	21:06
23	8082128	lj0603.d	10/16/15	21:34

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lj0610a.d DFTPP Injection Date: 10/17/15

Instrument ID: HP20296 DFTPP Injection Time: 12:29

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	56.5
68	Less than 2.0% of mass 69	0.94 (1.68)1
69	Mass 69 relative abundance	55.7
70	Less than 2.0% of mass 69	0.34 (0.62)1
127	40.0 - 60.0% of mass 198	52.3
197	Less than 1.0% of mass 198	0.43
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.52
275	10.0 - 30.0% of mass 198	18.1
365	Greater than 1.00% of mass 198	1.84
441	Present, and less than mass 443	6.58
442	Greater than 40.0 % of mass 198	42.3
443	17.0 - 23.0% of mass 442	8.33 (19.7)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD2745 - SSTD7.5	lj0611.d	10/17/15	12:42
02	SBLKWD288	lj0612.d	10/17/15	13:20
03	288WDLCS	lj0613.d	10/17/15	13:48
04	288WDLCSD	lj0614.d	10/17/15	14:16
05	8082098DL	lj0615.d	10/17/15	14:44
06	8082099DL	lj0616.d	10/17/15	15:12
07	8082100DL	lj0617.d	10/17/15	15:39
08	8082101DL	lj0618.d	10/17/15	16:07
09	8082124DL	lj0619.d	10/17/15	16:35
10	8082124DL2	lj0620.d	10/17/15	17:03
11	8082129	lj0621.d	10/17/15	17:31
12	8082130	lj0622.d	10/17/15	17:59
13	8083925	lj0623.d	10/17/15	18:27
14	8083928	lj0624.d	10/17/15	18:55
15	8083929	lj0625.d	10/17/15	19:22
16	8083930	lj0626.d	10/17/15	19:50
17	8083931	lj0627.d	10/17/15	20:18
18	8083932	lj0628.d	10/17/15	20:46

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lj0610a.d DFTPP Injection Date: 10/17/15

Instrument ID: HP20296 DFTPP Injection Time: 12:29

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	56.5
68	Less than 2.0% of mass 69	0.94 (1.68)1
69	Mass 69 relative abundance	55.7
70	Less than 2.0% of mass 69	0.34 (0.62)1
127	40.0 - 60.0% of mass 198	52.3
197	Less than 1.0% of mass 198	0.43
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.52
275	10.0 - 30.0% of mass 198	18.1
365	Greater than 1.00% of mass 198	1.84
441	Present, and less than mass 443	6.58
442	Greater than 40.0 % of mass 198	42.3
443	17.0 - 23.0% of mass 442	8.33 (19.7)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	8083933	lj0629.d	10/17/15	21:14
20	8083934	lj0630.d	10/17/15	21:42
21	8083935	lj0631.d	10/17/15	22:09
22	8083937	lj0632.d	10/17/15	22:37
23	8083938	lj0633.d	10/17/15	23:05
24	8083939	lj0634.d	10/17/15	23:33
25	8083940	lj0635.d	10/18/15	00:01
26	8083941	lj0636.d	10/18/15	00:29

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date(s): 10/15/15 10/15/15

Calibration Times: 13:06 16:51

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.125 = lj0532.d RRF0.25 = lj0538.d RRF1.25 = lj0537.d RRF3.75 = lj0536.d
RRF7.5 = lj0531.d RRF12.5 = lj0535.d RRF20 = lj0534.d RRF30 = lj0533.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1,4-Dioxane			0.671	0.708	0.736	0.718	0.688	0.711	0.705	3	AVG
N-Nitrosodimethylamine			1.037	1.100	1.131	1.157	1.105	1.154	1.114	4	AVG
Pyridine			1.752	1.880	1.913	1.913	1.898	1.941	1.883	4	AVG
2-Picoline			1.923	2.012	1.976	2.003	1.910	1.957	1.964	2	AVG
N-Nitrosomethylethylamine			0.781	0.806	0.816	0.826	0.788	0.805	0.804	2	AVG
Methyl methanesulfonate			0.914	0.978	0.960	0.979	0.922	0.938	0.948	3	AVG
N-Nitrosodiethylamine		0.675	0.737	0.768	0.777	0.794	0.758	0.770	0.754	5	AVG
Ethyl methanesulfonate		0.792	0.741	0.782	0.786	0.799	0.748	0.773	0.774	3	AVG
Benzaldehyde			1.554	1.552	1.487	1.451	1.437	1.332	1.469	6	AVG
Phenol		2.226	2.080	2.152	2.203	2.239	2.150	2.332	2.197	4	AVG
Aniline		2.703	2.714	2.783	2.760	2.811	2.759	2.767	2.757	1	AVG
a-methylstyrene			1.450	1.560	1.523	1.593	1.553	1.561	1.540	3	AVG
bis(2-Chloroethyl)ether		1.805	1.705	1.694	1.711	1.719	1.658	1.663	1.708	3	AVG
2-Chlorophenol		1.332	1.389	1.403	1.433	1.452	1.372	1.395	1.397	3	AVG
1,3-Dichlorobenzene		1.592	1.499	1.589	1.571	1.590	1.516	1.546	1.557	2	AVG
1,4-Dichlorobenzene		1.595	1.559	1.606	1.604	1.637	1.548	1.566	1.588	2	AVG
Benzyl alcohol			1.003	1.046	1.056	1.094	1.051	1.064	1.052	3	AVG
1,2-Dichlorobenzene		1.492	1.475	1.490	1.516	1.546	1.464	1.482	1.495	2	AVG
Indene			2.579	2.654	2.591	2.761	2.686	2.677	2.658	3	AVG
2-Methylphenol		1.500	1.445	1.467	1.495	1.512	1.443	1.463	1.475	2	AVG
2,2'-oxybis(1-Chloropropane)		2.537	2.370	2.404	2.407	2.447	2.339	2.326	2.404	3	AVG
bis(2-Chloroisopropyl)ether		2.537	2.370	2.404	2.407	2.447	2.339	2.326	2.404	3	AVG
N-Nitrosopyrrolidine		0.758	0.749	0.787	0.805	0.834	0.809	0.798	0.792	4	AVG
Acetophenone		2.534	2.227	2.316	2.244	2.275	2.301	2.229	2.304	5	AVG
4-Methylphenol		1.507	1.471	1.563	1.573	1.612	1.523	1.528	1.540	3	AVG
Total Cresols		1.504	1.458	1.515	1.534	1.562	1.483	1.496	1.507	2	AVG
N-Nitroso-di-n-propylamine		1.318	1.316	1.336	1.354	1.384	1.304	1.317	1.333	2	AVG
N-Nitrosomorpholine			0.982	1.031	1.056	1.070	1.012	1.013	1.028	3	AVG
o-Toluidine		2.517	2.486	2.623	2.663	2.687	2.572	2.550	2.585	3	AVG
Hexachloroethane			0.640	0.668	0.661	0.685	0.646	0.653	0.659	2	AVG
Nitrobenzene		0.478	0.482	0.510	0.525	0.515	0.493	0.504	0.501	3	AVG
N-Nitrosopiperidine		0.177	0.185	0.197	0.198	0.200	0.190	0.194	0.191	4	AVG
Isophorone		0.840	0.841	0.902	0.915	0.908	0.872	0.888	0.881	3	AVG
2-Nitrophenol		0.168	0.178	0.177	0.192	0.193	0.183	0.189	0.183	5	AVG
2,4-Dimethylphenol		0.381	0.413	0.419	0.440	0.429	0.414	0.420	0.417	4	AVG
O,O,O-Triethylphosphorothioate			0.173	0.189	0.191	0.185	0.178	0.183	0.183	4	AVG
bis(2-Chloroethoxy)methane		0.545	0.522	0.538	0.547	0.544	0.520	0.530	0.535	2	AVG
Benzoic acid			0.216	0.287	0.317	0.347	0.353	0.363	0.314	18	1STDEG
1,2,3,4-Tetrahydronaphthalene			0.602	0.609	0.612	0.630	0.617	0.624	0.615	2	AVG
2,4-Dichlorophenol		0.273	0.283	0.304	0.309	0.306	0.296	0.301	0.296	4	AVG
1,2,4-Trichlorobenzene		0.349	0.327	0.346	0.345	0.345	0.328	0.336	0.339	3	AVG
Naphthalene	1.113	1.082	1.044	1.098	1.089	1.081	1.033	1.050	1.074	3	AVG
4-Chloroaniline		0.425	0.422	0.451	0.454	0.455	0.436	0.442	0.441	3	AVG
2,6-Dichlorophenol		0.283	0.297	0.294	0.310	0.307	0.289	0.298	0.297	3	AVG
Hexachloropropene			0.203	0.219	0.231	0.232	0.226	0.231	0.224	5	AVG
Hexachlorobutadiene		0.185	0.192	0.193	0.201	0.198	0.189	0.194	0.193	3	AVG
Quinoline			0.646	0.673	0.695	0.687	0.661	0.668	0.672	3	AVG
Caprolactam			0.090	0.102	0.102	0.104	0.099	0.099	0.099	5	AVG
N-Nitrosodi-n-butylamine			0.290	0.322	0.409	0.403	0.390	0.398	0.368	14	AVG
4-Chloro-3-methylphenol		0.301	0.341	0.365	0.378	0.379	0.353	0.359	0.354	8	AVG
Safrole			0.254	0.276	0.278	0.278	0.270	0.273	0.271	3	AVG
2-Methylnaphthalene	0.754	0.705	0.701	0.722	0.723	0.716	0.684	0.694	0.712	3	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

FORM VI SV-1

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date(s): 10/15/15 10/15/15

Calibration Times: 13:06 16:51

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.125 = lj0532.d RRF0.25 = lj0538.d RRF1.25 = lj0537.d RRF3.75 = lj0536.d
RRF7.5 = lj0531.d RRF12.5 = lj0535.d RRF20 = lj0534.d RRF30 = lj0533.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1-Methylnaphthalene	0.733	0.608	0.647	0.651	0.655	0.649	0.625	0.633	0.650	6	AVG
Hexachlorocyclopentadiene			0.347	0.354	0.371	0.382	0.379	0.383	0.370	4	AVG
1,2,4,5-Tetrachlorobenzene		0.615	0.591	0.605	0.589	0.594	0.594	0.591	0.597	2	AVG
cis-Isosafrole			0.527	0.527	0.528	0.528	0.522	0.521	0.526	1	AVG
2,4,6-Trichlorophenol		0.346	0.345	0.385	0.386	0.388	0.389	0.390	0.376	6	AVG
2,4,5-Trichlorophenol		0.405	0.396	0.421	0.412	0.421	0.407	0.401	0.409	2	AVG
trans-Isosafrole			0.552	0.564	0.571	0.580	0.570	0.573	0.568	2	AVG
Isosafrole			0.548	0.558	0.564	0.571	0.562	0.564	0.561	1	AVG
1,1'-Biphenyl		1.601	1.465	1.517	1.452	1.481	1.493	1.467	1.497	3	AVG
2-Chloronaphthalene		1.239	1.155	1.157	1.152	1.178	1.205	1.163	1.178	3	AVG
1-Chloronaphthalene		1.170	1.128	1.157	1.114	1.119	1.055	1.110	1.122	3	AVG
Diphenyl ether		0.795	0.790	0.819	0.800	0.806	0.799	0.786	0.799	1	AVG
2-Nitroaniline		0.336	0.312	0.360	0.372	0.376	0.371	0.371	0.357	7	AVG
1,4-Naphthoquinone			0.421	0.467	0.485	0.492	0.480	0.480	0.471	5	AVG
1,4-Dinitrobenzene			0.156	0.180	0.181	0.194	0.192	0.196	0.183	8	AVG
Dimethylphthalate			1.271	1.304	1.267	1.280	1.261	1.255	1.273	1	AVG
1,3-Dinitrobenzene			0.172	0.205	0.201	0.207	0.208	0.207	0.200	7	AVG
2,6-Dinitrotoluene		0.225	0.265	0.285	0.289	0.288	0.290	0.289	0.276	9	AVG
Acenaphthylene	1.748	1.709	1.740	1.847	1.815	1.844	1.828	1.822	1.794	3	AVG
3-Nitroaniline		0.233	0.293	0.315	0.316	0.319	0.321	0.323	0.303	11	AVG
Acenaphthene	1.101	1.248	1.183	1.244	1.213	1.211	1.174	1.190	1.195	4	AVG
2,4-Dinitrophenol				0.165	0.171	0.186	0.194	0.199	0.183	8	AVG
4-Nitrophenol				0.235	0.231	0.237	0.235	0.232	0.234	1	AVG
Pentachlorobenzene		0.451	0.469	0.477	0.476	0.470	0.462	0.462	0.467	2	AVG
2,4-Dinitrotoluene			0.351	0.388	0.380	0.398	0.396	0.390	0.384	5	AVG
2,4_2,6-Dinitrotoluenes		0.280	0.308	0.336	0.334	0.343	0.343	0.340	0.326	7	AVG
Dibenzofuran		1.715	1.616	1.671	1.609	1.634	1.590	1.600	1.634	3	AVG
1-Naphthylamine				1.209	1.148	1.208	1.184	1.204	1.191	2	AVG
2,3,4,6-Tetrachlorophenol		0.270	0.288	0.315	0.314	0.318	0.320	0.322	0.307	7	AVG
2-Naphthylamine				1.165	1.121	1.163	1.163	1.179	1.158	2	AVG
Diethylphthalate			1.220	1.246	1.253	1.287	1.262	1.245	1.252	2	AVG
Thionazin			0.242	0.272	0.232	0.240	0.237	0.234	0.243	6	AVG
Fluorene	1.220	1.297	1.279	1.327	1.277	1.285	1.271	1.267	1.278	2	AVG
4-Chlorophenyl-phenylether		0.566	0.615	0.629	0.622	0.630	0.619	0.611	0.613	4	AVG
5-Nitro-o-toluidine		0.327	0.315	0.365	0.355	0.370	0.370	0.368	0.353	6	AVG
4-Nitroaniline		0.236	0.299	0.326	0.326	0.331	0.322	0.322	0.309	11	AVG
4,6-Dinitro-2-methylphenol				0.119	0.128	0.130	0.134	0.135	0.129	5	AVG
N-Nitrosodiphenylamine (1)		0.588	0.582	0.597	0.587	0.586	0.573	0.584	0.585	1	AVG
NDPA as diphenylamine		0.588	0.582	0.597	0.587	0.586	0.573	0.584	0.585	1	AVG
1,2-Diphenylhydrazine		0.819	0.870	0.911	0.896	0.896	0.882	0.897	0.882	3	AVG
Tetraethyldithiopyrophosphate			0.140	0.143	0.143	0.140	0.138	0.136	0.140	2	AVG
1,3,5-Trinitrobenzene				0.068	0.076	0.077	0.078	0.081	0.076	6	AVG
Diallate (peak 1)			0.377	0.390	0.391	0.388	0.375	0.382	0.384	2	AVG
Phorate		0.467	0.543	0.564	0.580	0.579	0.559	0.564	0.551	7	AVG
Phenacetin		0.361	0.361	0.410	0.427	0.428	0.415	0.418	0.403	7	AVG
4-Bromophenyl-phenylether		0.182	0.169	0.176	0.179	0.177	0.174	0.178	0.177	2	AVG
Diallate (peak 2)			0.367	0.386	0.376	0.379	0.372	0.380	0.377	2	AVG
Diallate trans/cis			0.375	0.389	0.388	0.386	0.374	0.382	0.383	2	AVG
Hexachlorobenzene	0.188	0.183	0.182	0.185	0.184	0.183	0.180	0.186	0.184	1	AVG
Dimethoate			0.336	0.362	0.372	0.372	0.356	0.358	0.359	4	AVG
Atrazine			0.188	0.199	0.195	0.196	0.189	0.183	0.191	3	AVG
Pentachlorophenol			0.106	0.115	0.125	0.128	0.126	0.131	0.122	8	AVG

(1) Cannot be separated from Diphenylamine
4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

FORM VI SV-1

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date(s): 10/15/15 10/15/15

Calibration Times: 13:06 16:51

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

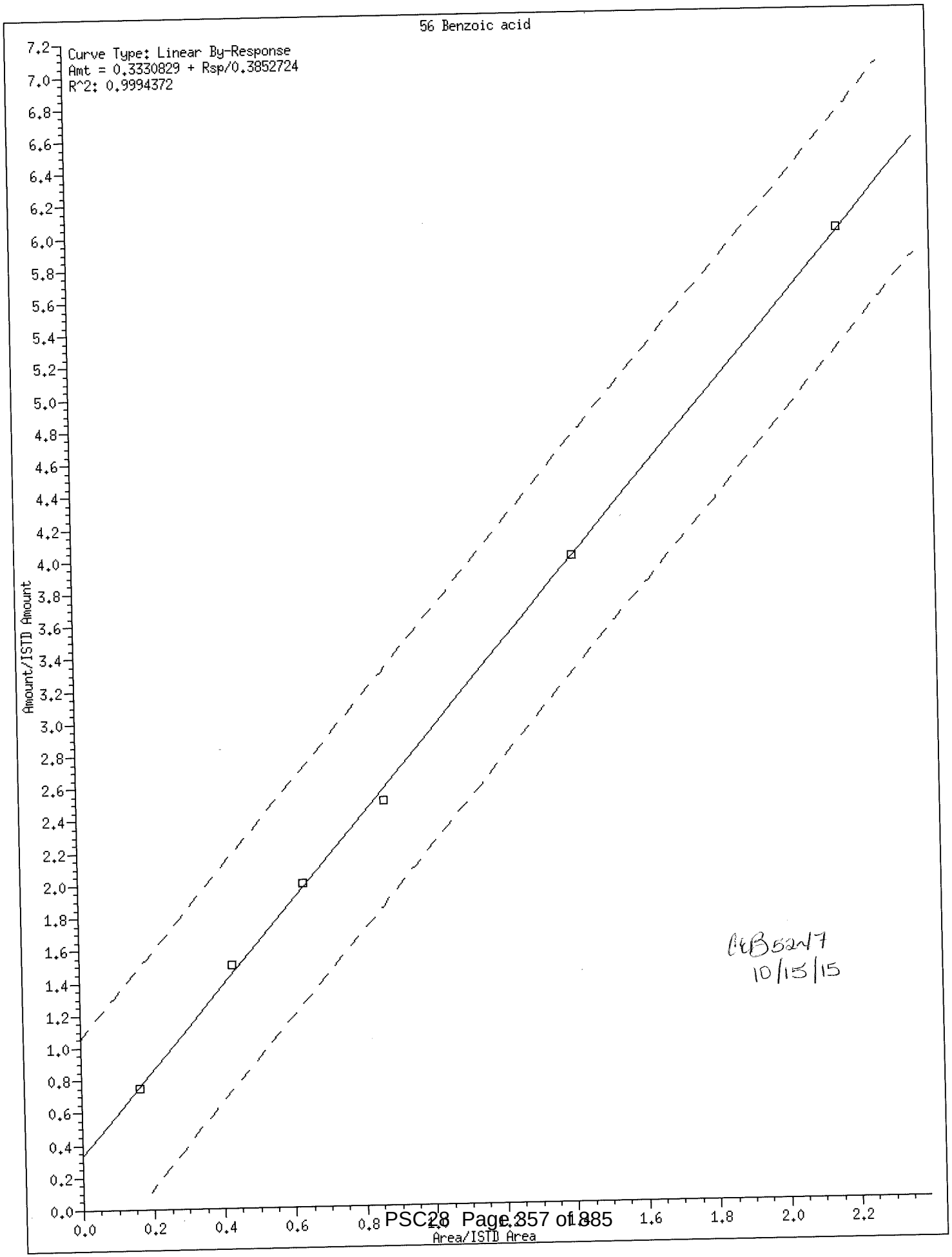
LAB FILE ID: RRF0.125 = lj0532.d RRF0.25 = lj0538.d RRF1.25 = lj0537.d RRF3.75 = lj0536.d
RRF7.5 = lj0531.d RRF12.5 = lj0535.d RRF20 = lj0534.d RRF30 = lj0533.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
4-Aminobiphenyl		0.609	0.629	0.685	0.690	0.684	0.674	0.690	0.666	5	AVG
Pentachloronitrobenzene			0.086	0.090	0.088	0.090	0.089	0.090	0.089	2	AVG
Pronamide		0.244	0.275	0.317	0.333	0.331	0.321	0.328	0.307	11	AVG
Dinoseb			0.132	0.168	0.189	0.198	0.204	0.210	0.184	16	1STDEG
Phenanthrene	1.072	1.027	1.024	1.051	1.043	1.040	1.024	1.050	1.042	2	AVG
Anthracene	1.033	0.996	1.006	1.048	1.048	1.057	1.033	1.047	1.034	2	AVG
Carbazole		0.868	0.929	0.967	0.986	0.982	0.958	0.967	0.951	4	AVG
Methyl parathion			0.216	0.261	0.277	0.284	0.275	0.276	0.265	9	AVG
Di-n-butylphthalate			1.068	1.164	1.192	1.191	1.174	1.197	1.164	4	AVG
Parathion			0.123	0.155	0.161	0.167	0.165	0.168	0.156	11	AVG
4-Nitroquinoline-1-oxide				0.090	0.102	0.118	0.123	0.128	0.112	14	AVG
Octachlorostyrene			0.061	0.066	0.066	0.066	0.066	0.067	0.065	3	AVG
Isodrin		0.132	0.114	0.119	0.123	0.122	0.121	0.121	0.122	4	AVG
Fluoranthene	1.163	1.030	1.089	1.155	1.176	1.164	1.137	1.155	1.134	4	AVG
Benzidine				0.664	0.662	0.667	0.640	0.633	0.653	2	AVG
Pyrene	1.199	1.094	1.047	1.076	1.058	1.057	1.029	1.048	1.076	5	AVG
p-Dimethylaminoazobenzene		0.128	0.151	0.177	0.190	0.193	0.188	0.194	0.174	15	AVG
Chlorobenzilate			0.282	0.316	0.320	0.318	0.312	0.315	0.310	5	AVG
3,3'-Dimethylbenzidine			0.572	0.643	0.686	0.687	0.664	0.683	0.656	7	AVG
Butylbenzylphthalate			0.407	0.462	0.468	0.468	0.455	0.463	0.454	5	AVG
2-Acetylaminofluorene			0.310	0.385	0.413	0.419	0.415	0.437	0.397	11	AVG
3,3'-Dichlorobenzidine			0.314	0.352	0.357	0.359	0.351	0.365	0.350	5	AVG
4,4'-Methylenebis(2-chloroanil				0.201	0.201	0.205	0.200	0.205	0.203	1	AVG
Benzo(a)anthracene	0.904	0.830	0.877	0.968	0.955	0.968	0.945	0.963	0.926	6	AVG
Chrysene	0.901	0.827	0.877	0.912	0.890	0.907	0.875	0.890	0.885	3	AVG
bis(2-Ethylhexyl)phthalate			0.546	0.653	0.671	0.680	0.665	0.690	0.651	8	AVG
6-Methylchrysene			0.570	0.628	0.639	0.635	0.623	0.657	0.625	5	AVG
Di-n-octylphthalate			1.256	1.479	1.602	1.632	1.603	1.630	1.533	10	AVG
Benzo(b)fluoranthene	1.231	1.188	1.172	1.266	1.234	1.256	1.247	1.249	1.231	3	AVG
7,12-Dimethylbenz[a]anthracene		0.440	0.496	0.547	0.553	0.569	0.557	0.562	0.532	9	AVG
Benzo(k)fluoranthene	1.201	1.128	1.198	1.206	1.213	1.239	1.180	1.210	1.197	3	AVG
Benzo(a)pyrene	1.021	1.109	1.126	1.166	1.174	1.184	1.183	1.207	1.146	5	AVG
3-Methylcholanthrene		0.461	0.494	0.536	0.559	0.567	0.555	0.576	0.535	8	AVG
Dibenz(a,h)acridine			0.882	0.956	0.999	1.015	0.998	1.038	0.981	6	AVG
Dibenz(a,j)acridine			0.905	0.971	1.007	1.025	1.006	1.020	0.989	5	AVG
Indeno(1,2,3-cd)pyrene	1.244	1.294	1.300	1.356	1.378	1.399	1.361	1.392	1.341	4	AVG
Dibenz(a,h)anthracene	1.067	1.009	1.060	1.142	1.167	1.175	1.144	1.175	1.117	6	AVG
Benzo(g,h,i)perylene	1.141	1.108	1.106	1.135	1.173	1.187	1.147	1.168	1.146	3	AVG
Total PAHs	1.164	1.121	1.132	1.155	1.135	1.153	1.118	1.108	1.136	2	AVG
2-Fluorophenol		1.390	1.447	1.515	1.533	1.535	1.470	1.517	1.487	4	AVG
Phenol-d6		2.052	1.955	2.093	2.079	2.109	2.017	2.029	2.048	3	AVG
Nitrobenzene-d5		0.513	0.486	0.507	0.515	0.512	0.498	0.503	0.505	2	AVG
2-Fluorobiphenyl		1.377	1.365	1.413	1.370	1.391	1.357	1.375	1.378	1	AVG
2,4,6-Tribromophenol		0.128	0.141	0.148	0.146	0.149	0.151	0.150	0.145	6	AVG
Terphenyl-d14		0.657	0.643	0.675	0.673	0.676	0.656	0.668	0.664	2	AVG

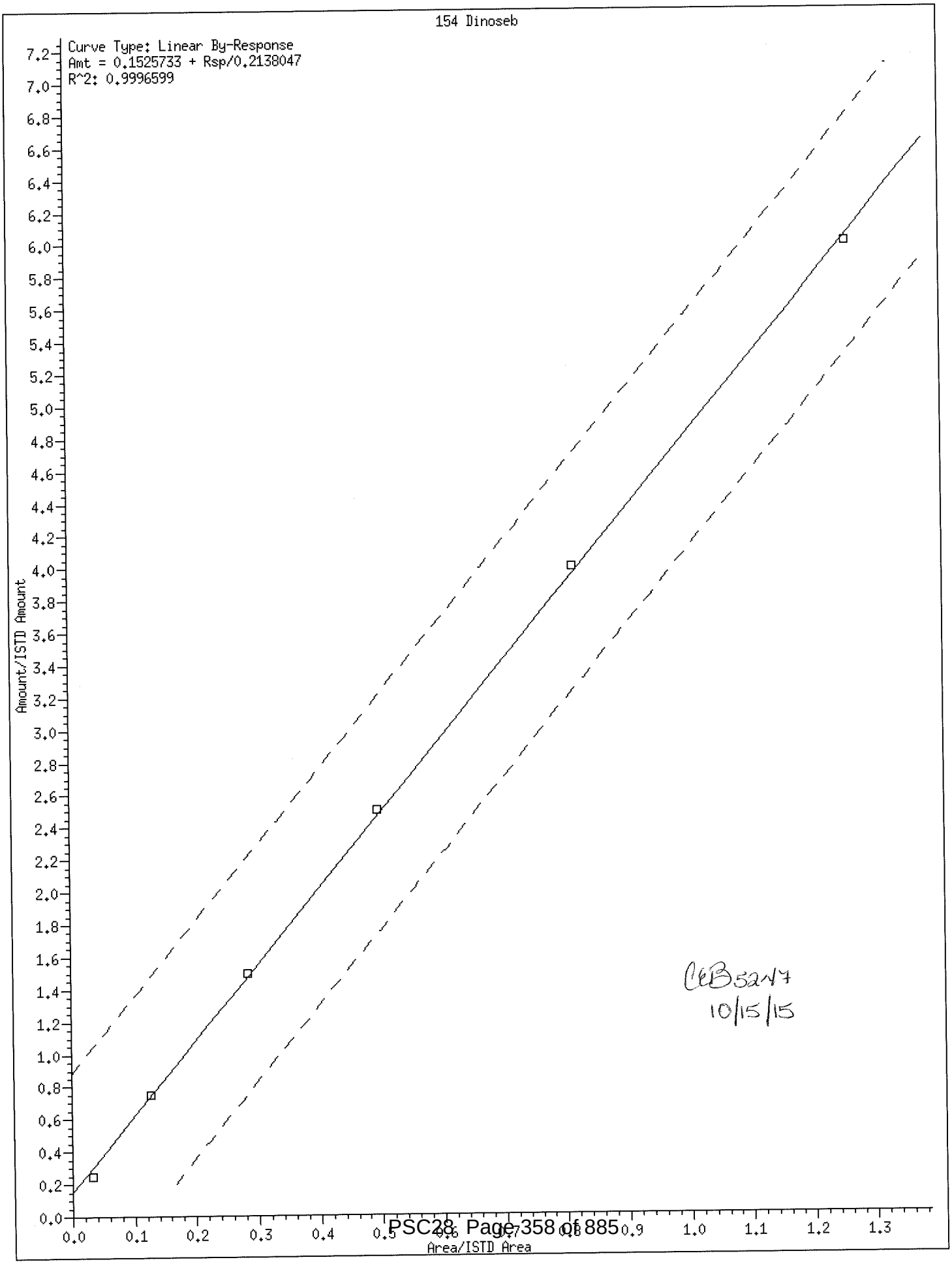
Average %RSD 4

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzidine Levels in the 5,15,30 standards are at 15 ng/ul, 30 ng/ul,40 ng/ul.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.

FORM VI SV-1



MB5247
10/15/15



CB5247
10/15/15

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP20296.i/15oct15.b/lj0531.d SSTD7.5
/chem/HP20296.i/15oct15.b/lj0532.d SSTD0.125
/chem/HP20296.i/15oct15.b/lj0533.d SSTD030
/chem/HP20296.i/15oct15.b/lj0534.d SSTD020
/chem/HP20296.i/15oct15.b/lj0535.d SSTD12.5
/chem/HP20296.i/15oct15.b/lj0536.d SSTD3.75
/chem/HP20296.i/15oct15.b/lj0537.d SSTD1.25
/chem/HP20296.i/15oct15.b/lj0538.d SSTD0.25

Area Summary

Internal Standard Name	lj0531.d	lj0532.d	lj0533.d	lj0534.d	lj0535.d	lj0536.d	lj0537.d	lj0538.d	Avg. Area	%RSD
	File ID:									
1,4-Dichlorobenzene-d4	185789	172168	169733	172350	164820	166396	175058	177531	172981	4
Naphthalene-d8	704214	666639	649919	670534	645068	644442	677442	683133	667674	3
Acenaphthene-d10	414115	384995	368836	375673	370090	363918	378866	377362	379232	4
Phenanthrene-d10	752998	693584	676284	702612	688510	667346	687996	684811	694268	4
Pyrene-d10	869908	797125	773974	802565	786512	760948	791702	772801	794442	4
Perylene-d12	649934	566613	603092	599209	580842	563925	565243	559095	585994	5

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

Internal Standard Name	lj0531.d	lj0532.d	lj0533.d	lj0534.d	lj0535.d	lj0536.d	lj0537.d	lj0538.d
	File ID:							
1,4-Dichlorobenzene-d4	7.049	7.049	7.049	7.049	7.049	7.043	7.043	7.043
Naphthalene-d8	9.039	9.038	9.039	9.039	9.038	9.033	9.033	9.033
Acenaphthene-d10	11.868	11.868	11.868	11.868	11.862	11.862	11.863	11.862
Phenanthrene-d10	13.799	13.799	13.804	13.799	13.799	13.793	13.793	13.793
Pyrene-d10	15.874	15.874	15.879	15.874	15.874	15.874	15.874	15.869
Perylene-d12	20.495	20.495	20.501	20.495	20.495	20.495	20.495	20.490

Comments: _____

_____

Report generated on 10/15/2015 at 18:14

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: 1j0541.d

ICV SAMPLE ID: RVICV2465 BATCH: 15OCT15026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	12.50	12.64	1	20	YES
N-Nitrosodimethylamine	12.50	12.40	-1	20	YES
Pyridine	12.50	13.16	5	20	YES
2-Picoline	12.50	12.46	0	20	YES
N-Nitrosomethylethylamine	12.50	12.22	-2	20	YES
Methyl methanesulfonate	12.50	12.63	1	20	YES
N-Nitrosodiethylamine	12.50	12.25	-2	20	YES
Ethyl methanesulfonate	12.50	12.38	-1	20	YES
Phenol	12.50	12.23	-2	20	YES
Aniline	12.50	12.38	-1	20	YES
bis(2-Chloroethyl)ether	12.50	12.22	-2	20	YES
2-Chlorophenol	12.50	12.45	0	20	YES
1,3-Dichlorobenzene	12.50	12.58	1	20	YES
1,4-Dichlorobenzene	12.50	12.54	0	20	YES
Benzyl alcohol	12.50	12.76	2	20	YES
1,2-Dichlorobenzene	12.50	12.89	3	20	YES
Indene	12.50	12.95	4	20	YES
2-Methylphenol	12.50	12.69	2	20	YES
2,2'-oxybis(1-Chloropropane	12.50	13.05	4	20	YES
bis(2-Chloroisopropyl)ether	12.50	13.05	4	20	YES
N-Nitrosopyrrolidine	12.50	12.23	-2	20	YES
Acetophenone	12.50	12.33	-1	20	YES
4-Methylphenol	12.50	12.38	-1	20	YES
N-Nitroso-di-n-propylamine	12.50	12.19	-2	20	YES
N-Nitrosomorpholine	12.50	12.24	-2	20	YES
o-Toluidine	12.50	12.39	-1	20	YES
Total Cresols	25.00	25.08	0	20	YES
Hexachloroethane	12.50	12.73	2	20	YES
Nitrobenzene	12.50	12.65	1	20	YES
N-Nitrosopiperidine	12.50	12.38	-1	20	YES
Isophorone	12.50	12.95	4	20	YES
2-Nitrophenol	12.50	12.72	2	20	YES
2,4-Dimethylphenol	12.50	12.15	-3	20	YES
bis(2-Chloroethoxy)methane	12.50	12.75	2	20	YES
Benzoic acid	25.00	20.80	-17	20	YES
O,O,O-Triethylphosphorothio	12.50	12.25	-2	20	YES
2,4-Dichlorophenol	12.50	12.72	2	20	YES

NC = Could not calculate

Comments:

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: lj0541.d

ICV SAMPLE ID: RVICV2465 BATCH: 15OCT15026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,2,4-Trichlorobenzene	12.50	12.74	2	20	YES
Naphthalene	12.50	12.71	2	20	YES
4-Chloroaniline	12.50	12.56	1	20	YES
2,6-Dichlorophenol	12.50	12.55	0	20	YES
Hexachloropropene	12.50	13.64	9	20	YES
Hexachlorobutadiene	12.50	13.08	5	20	YES
Quinoline	12.50	12.48	0	20	YES
N-Nitrosodi-n-butylamine	12.50	10.58	-15	20	YES
4-Chloro-3-methylphenol	12.50	12.96	4	20	YES
Safrole	12.50	12.41	-1	20	YES
2-Methylnaphthalene	12.50	11.98	-4	20	YES
1-Methylnaphthalene	12.50	12.40	-1	20	YES
Hexachlorocyclopentadiene	25.00	27.00	8	20	YES
1,2,4,5-Tetrachlorobenzene	12.50	12.58	1	20	YES
cis-Isosafrole	2.13	1.56	-27	20	NO*
2,4,6-Trichlorophenol	12.50	13.30	6	20	YES
2,4,5-Trichlorophenol	12.50	12.60	1	20	YES
trans-Isosafrole	10.38	11.71	13	20	YES
1,1'-Biphenyl	12.50	12.77	2	20	YES
2-Chloronaphthalene	12.50	13.04	4	20	YES
Isosafrole	12.50	13.27	6	20	YES
1-Chloronaphthalene	12.50	12.37	-1	20	YES
Diphenyl ether	12.50	12.73	2	20	YES
2-Nitroaniline	12.50	13.04	4	20	YES
1,4-Naphthoquinone	15.63	16.13	3	20	YES
1,4-Dinitrobenzene	12.50	12.82	3	20	YES
Dimethylphthalate	12.50	12.71	2	20	YES
1,3-Dinitrobenzene	12.50	13.03	4	20	YES
2,6-Dinitrotoluene	12.50	13.43	7	20	YES
Acenaphthylene	12.50	13.12	5	20	YES
3-Nitroaniline	12.50	13.36	7	20	YES
Acenaphthene	12.50	13.27	6	20	YES
2,4-Dinitrophenol	25.00	25.68	3	20	YES
4-Nitrophenol	12.50	13.14	5	20	YES
Pentachlorobenzene	12.50	12.66	1	20	YES
2,4-Dinitrotoluene	12.50	13.19	6	20	YES
Dibenzofuran	12.50	12.70	2	20	YES

NC = Could not calculate

Comments: _*See Isosafrole summary compound.

CEB 52W 7
10/15/15

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: lj0541.d

ICV SAMPLE ID: RVICV2465 BATCH: 15OCT15026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
2,4_2,6-Dinitrotoluenes	25.00	26.62	6	20	YES
1-Naphthylamine	25.00	25.22	1	20	YES
2,3,4,6-Tetrachlorophenol	12.50	13.32	7	20	YES
2-Naphthylamine	25.00	25.39	2	20	YES
Diethylphthalate	12.50	13.00	4	20	YES
Thionazin	12.50	12.49	0	20	YES
Fluorene	12.50	13.09	5	20	YES
4-Chlorophenyl-phenylether	12.50	13.11	5	20	YES
5-Nitro-o-toluidine	12.50	13.59	9	20	YES
4-Nitroaniline	12.50	13.22	6	20	YES
4,6-Dinitro-2-methylphenol	12.50	12.67	1	20	YES
N-Nitrosodiphenylamine	12.50	12.56	0	20	YES
NDPA as diphenylamine	12.50	12.56	0	20	YES
1,2-Diphenylhydrazine	12.50	13.27	6	20	YES
Tetraethyldithiopyrophospha	12.50	12.45	0	20	YES
1,3,5-Trinitrobenzene	12.50	12.19	-2	20	YES
Diallate (peak 1)	9.38	8.85	-6	20	YES
Phorate	12.50	12.84	3	20	YES
Phenacetin	12.50	12.76	2	20	YES
4-Bromophenyl-phenylether	12.50	12.72	2	20	YES
Diallate (peak 2)	3.13	2.95	-5	20	YES
Hexachlorobenzene	12.50	12.23	-2	20	YES
Diallate trans/cis	12.50	11.81	-6	20	YES
Dimethoate	12.50	12.56	0	20	YES
Pentachlorophenol	12.50	13.80	10	20	YES
4-Aminobiphenyl	12.50	14.59	17	20	YES
Pentachloronitrobenzene	12.50	12.58	1	20	YES
Pronamide	12.50	12.99	4	20	YES
Dinoseb	12.50	12.22	-2	20	YES
Phenanthrene	12.50	12.48	0	20	YES
Anthracene	12.50	12.94	4	20	YES
Carbazole	12.50	12.74	2	20	YES
Methyl parathion	12.50	12.96	4	20	YES
Di-n-butylphthalate	12.50	13.01	4	20	YES
Parathion	12.50	13.36	7	20	NO*
4-Nitroquinoline-1-oxide	150.00	188.66	26	20	YES
Isodrin	12.50	12.28	-2		

NC = Could not calculate

Comments: _*Non-CCC < 50% D OK.

CCB5247
10/15/15

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: lj0541.d

ICV SAMPLE ID: RVICV2465 BATCH: 15OCT15026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Fluoranthene	12.50	12.92	3	20	YES
Benzidine	62.50	63.36	1	20	YES
Pyrene	12.50	12.30	-2	20	YES
p-Dimethylaminoazobenzene	12.50	14.75	18	20	YES
Chlorobenzilate	12.50	12.90	3	20	YES
3,3'-Dimethylbenzidine	25.00	24.18	-3	20	YES
Butylbenzylphthalate	12.50	13.52	8	20	YES
2-Acetylaminofluorene	12.50	13.03	4	20	YES
3,3'-Dichlorobenzidine	12.50	12.29	-2	20	YES
Benzo(a)anthracene	12.50	13.20	6	20	YES
Chrysene	12.50	13.27	6	20	YES
4,4'-Methylenebis(2-chloroa	12.50	12.30	-2	20	YES
bis(2-Ethylhexyl)phthalate	12.50	13.56	9	20	YES
6-Methylchrysene	12.50	12.84	3	20	YES
Di-n-octylphthalate	12.50	13.90	11	20	YES
Benzo(b)fluoranthene	12.50	13.29	6	20	YES
7,12-Dimethylbenz[a]anthrac	12.50	12.83	3	20	YES
Benzo(k)fluoranthene	12.50	12.99	4	20	YES
Benzo(a)pyrene	12.50	12.86	3	20	YES
3-Methylcholanthrene	12.50	14.38	15	20	YES
Dibenz(a,h)acridine	12.50	13.01	4	20	YES
Dibenz(a,j)acridine	12.50	12.28	-2	20	YES
Indeno(1,2,3-cd)pyrene	12.50	13.05	4	20	YES
Dibenz(a,h)anthracene	12.50	13.43	7	20	YES
Benzo(g,h,i)perylene	12.50	13.24	6	20	YES
Total PAHs	225.00	232.53	3	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: lj0542.d

ICV SAMPLE ID: RVBASICV2475 BATCH: 15OCT15026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzaldehyde	12.50	14.30	14	20	YES
Caprolactam	12.50	13.24	6	20	YES
Atrazine	12.50	13.69	10	20	YES

NC = Could not calculate

Comments:

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/16/15 Time: 10:17

Lab File ID: lj0581.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.705	0.761	8.100	7.5	8
N-Nitrosodimethylamine	1.114	1.289	8.680	7.5	16
Pyridine	1.883	2.148	8.560	7.5	14
2-Picoline	1.964	2.235	8.540	7.5	14
N-Nitrosomethylethylamine	0.804	0.880	8.210	7.5	10
Methyl methanesulfonate	0.948	1.132	8.950	7.5	19
N-Nitrosodiethylamine	0.754	0.871	8.660	7.5	16
Ethyl methanesulfonate	0.774	0.887	8.590	7.5	15
Benzaldehyde	1.469	1.548	7.900	7.5	5
Phenol	2.197	2.326	7.940	7.5	6
Aniline	2.757	2.959	8.050	7.5	7
a-methylstyrene	1.540	1.628	7.930	7.5	6
bis(2-Chloroethyl)ether	1.708	1.805	7.930	7.5	6
2-Chlorophenol	1.396	1.476	7.920	7.5	6
1,3-Dichlorobenzene	1.557	1.570	7.560	7.5	1
1,4-Dichlorobenzene	1.588	1.598	7.550	7.5	1
Benzyl alcohol	1.053	1.032	7.360	7.5	-2
1,2-Dichlorobenzene	1.495	1.504	7.550	7.5	1
Indene	2.658	2.577	7.270	7.5	-3
2-Methylphenol	1.475	1.487	7.560	7.5	1
2,2'-oxybis(1-Chloropropane)	2.404	2.430	7.580	7.5	1
bis(2-Chloroisopropyl)ether	2.404	2.430	7.580	7.5	1
N-Nitrosopyrrolidine	0.792	0.805	7.620	7.5	2
Acetophenone	2.304	2.278	7.420	7.5	-1
4-Methylphenol	1.540	1.587	7.730	7.5	3
Total Cresols	1.507	1.537	15.290	15.0	2
N-Nitroso-di-n-propylamine	1.333	1.354	7.620	7.5	2
N-Nitrosomorpholine	1.028	1.069	7.800	7.5	4
o-Toluidine	2.585	2.670	7.750	7.5	3
Hexachloroethane	0.659	0.673	7.660	7.5	2
Nitrobenzene	0.501	0.491	7.350	7.5	-2
N-Nitrosopiperidine	0.191	0.188	7.350	7.5	-2
Isophorone	0.881	0.869	7.400	7.5	-1
2-Nitrophenol	0.183	0.180	7.380	7.5	-2
2,4-Dimethylphenol	0.417	0.411	7.400	7.5	-1
O,O,O-Triethylphosphorothioate	0.183	0.179	7.340	7.5	-2

FORM VII SV-1

7C
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/16/15 Time: 10:17

Lab File ID: lj0581.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
bis(2-Chloroethoxy)methane	0.535	0.525	7.350	7.5	-2
Benzoic acid	0.314	0.242	7.960	10.0	-20
1,2,3,4-Tetrahydronaphthalene	0.615	0.579	7.050	7.5	-6
2,4-Dichlorophenol	0.296	0.299	7.570	7.5	1
1,2,4-Trichlorobenzene	0.339	0.320	7.070	7.5	-6
Naphthalene	1.074	1.049	7.320	7.5	-2
4-Chloroaniline	0.441	0.435	7.400	7.5	-1
2,6-Dichlorophenol	0.297	0.289	7.290	7.5	-3
Hexachloropropene	0.224	0.216	7.240	7.5	-3
Hexachlorobutadiene	0.193	0.185	7.170	7.5	-4
Quinoline	0.672	0.669	7.470	7.5	0
Caprolactam	0.099	0.104	7.870	7.5	5
N-Nitrosodi-n-butylamine	0.368	0.401	8.160	7.5	9
4-Chloro-3-methylphenol	0.354	0.352	7.470	7.5	0
Safrole	0.271	0.267	7.390	7.5	-2
2-Methylnaphthalene	0.712	0.690	7.270	7.5	-3
1-Methylnaphthalene	0.650	0.630	7.260	7.5	-3
Hexachlorocyclopentadiene	0.370	0.356	7.230	7.5	-4
1,2,4,5-Tetrachlorobenzene	0.597	0.578	7.260	7.5	-3
cis-Isosafrole	0.526	0.513	1.240	1.3	-2
2,4,6-Trichlorophenol	0.376	0.381	7.600	7.5	1
2,4,5-Trichlorophenol	0.409	0.415	7.600	7.5	1
trans-Isosafrole	0.568	0.567	6.210	6.2	0
Isosafrole	0.561	0.558	7.450	7.5	-1
1,1'-Biphenyl	1.497	1.482	7.430	7.5	-1
2-Chloronaphthalene	1.178	1.133	7.210	7.5	-4
1-Chloronaphthalene	1.122	1.161	7.760	7.5	3
Diphenyl ether	0.799	0.795	7.460	7.5	0
2-Nitroaniline	0.357	0.367	7.710	7.5	3
1,4-Naphthoquinone	0.471	0.476	7.580	7.5	1
1,4-Dinitrobenzene	0.183	0.185	7.570	7.5	1
Dimethylphthalate	1.273	1.288	7.590	7.5	1
1,3-Dinitrobenzene	0.200	0.203	7.600	7.5	1
2,6-Dinitrotoluene	0.276	0.289	7.860	7.5	5
Acenaphthylene	1.794	1.840	7.690	7.5	3
3-Nitroaniline	0.303	0.312	7.730	7.5	3

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/16/15 Time: 10:17

Lab File ID: lj0581.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Acenaphthene	1.196	1.204	7.560	7.5	1
2,4-Dinitrophenol	0.183	0.169	9.250	10.0	-7
4-Nitrophenol	0.234	0.238	7.640	7.5	2
Pentachlorobenzene	0.467	0.465	7.480	7.5	0
2,4-Dinitrotoluene	0.384	0.391	7.640	7.5	2
2,4_2,6-Dinitrotoluenes	0.326	0.340	15.510	15.0	3
Dibenzofuran	1.634	1.669	7.660	7.5	2
1-Naphthylamine	1.191	1.187	7.480	7.5	0
2,3,4,6-Tetrachlorophenol	0.307	0.320	7.810	7.5	4
2-Naphthylamine	1.158	1.168	7.570	7.5	1
Diethylphthalate	1.252	1.304	7.810	7.5	4
Thionazin	0.243	0.242	7.460	7.5	-1
Fluorene	1.278	1.323	7.770	7.5	4
4-Chlorophenyl-phenylether	0.613	0.637	7.790	7.5	4
5-Nitro-o-toluidine	0.353	0.371	7.880	7.5	5
4-Nitroaniline	0.309	0.331	8.040	7.5	7
4,6-Dinitro-2-methylphenol	0.129	0.124	7.190	7.5	-4
N-Nitrosodiphenylamine (1)	0.585	0.581	7.440	7.5	-1
NDPA as diphenylamine	0.585	0.581	7.440	7.5	-1
1,2-Diphenylhydrazine	0.882	0.909	7.730	7.5	3
Tetraethyldithiopyrophosphate	0.140	0.148	7.930	7.5	6
1,3,5-Trinitrobenzene	0.076	0.075	7.440	7.5	-1
Diallate (peak 1)	0.384	0.394	6.390	6.2	3
Phorate	0.551	0.585	7.960	7.5	6
Phenacetin	0.403	0.426	7.930	7.5	6
4-Bromophenyl-phenylether	0.177	0.175	7.450	7.5	-1
Diallate (peak 2)	0.377	0.389	1.320	1.3	3
Diallate trans/cis	0.383	0.393	7.710	7.5	3
Hexachlorobenzene	0.184	0.175	7.160	7.5	-5
Dimethoate	0.359	0.381	7.960	7.5	6
Atrazine	0.191	0.191	7.500	7.5	0
Pentachlorophenol	0.122	0.123	7.610	7.5	1
4-Aminobiphenyl	0.666	0.694	7.810	7.5	4
Pentachloronitrobenzene	0.089	0.088	7.450	7.5	-1
Pronamide	0.307	0.333	8.140	7.5	9
Dinoseb	0.184	0.190	7.410	7.5	-1

(1) Cannot be Separated from Diphenylamine

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/16/15 Time: 10:17

Lab File ID: lj0581.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenanthrene	1.041	1.049	7.560	7.5	1
Anthracene	1.034	1.069	7.760	7.5	3
Carbazole	0.951	0.991	7.820	7.5	4
Methyl parathion	0.265	0.285	8.080	7.5	8
Di-n-butylphthalate	1.164	1.231	7.930	7.5	6
Parathion	0.156	0.172	8.260	7.5	10
4-Nitroquinoline-1-oxide	0.112	0.099	6.600	7.5	-12
Octachlorostyrene	0.065	0.065	7.490	7.5	0
Isodrin	0.122	0.122	7.520	7.5	0
Fluoranthene	1.134	1.181	7.810	7.5	4
Benzidine	0.653	0.654	22.520	22.5	0
Pyrene	1.076	1.069	7.450	7.5	-1
p-Dimethylaminoazobenzene	0.174	0.193	8.290	7.5	10
Chlorobenzilate	0.310	0.339	8.190	7.5	9
3,3'-Dimethylbenzidine	0.656	0.684	7.820	7.5	4
Butylbenzylphthalate	0.454	0.486	8.020	7.5	7
2-Acetylaminofluorene	0.397	0.397	7.500	7.5	0
3,3'-Dichlorobenzidine	0.350	0.353	7.570	7.5	1
4,4'-Methylenebis(2-chloroanil	0.203	0.203	7.520	7.5	0
Benzo(a)anthracene	0.926	0.986	7.980	7.5	6
Chrysene	0.885	0.911	7.720	7.5	3
bis(2-Ethylhexyl)phthalate	0.651	0.693	7.980	7.5	6
6-Methylchrysene	0.625	0.638	7.660	7.5	2
Di-n-octylphthalate	1.533	1.684	8.230	7.5	10
Benzo(b)fluoranthene	1.230	1.296	7.900	7.5	5
7,12-Dimethylbenz[a]anthracene	0.532	0.557	7.860	7.5	5
Benzo(k)fluoranthene	1.197	1.239	7.760	7.5	3
Benzo(a)pyrene	1.146	1.178	7.710	7.5	3
3-Methylcholanthrene	0.535	0.540	7.560	7.5	1
Dibenz(a,h)acridine	0.981	0.914	6.980	7.5	-7
Dibenz(a,j)acridine	0.989	0.914	6.930	7.5	-8
Indeno(1,2,3-cd)pyrene	1.340	1.264	7.070	7.5	-6
Dibenz(a,h)anthracene	1.117	1.054	7.070	7.5	-6
Benzo(g,h,i)perylene	1.146	1.058	6.930	7.5	-8
Total PAHs	1.136	1.156	135.580	135.0	0
2-Fluorophenol	1.487	1.728	17.430	15.0	16

FORM VII SV-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/16/15 Time: 10:17

Lab File ID: lj0581.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenol-d6	2.048	2.200	16.120	15.0	7
Nitrobenzene-d5	0.505	0.488	14.510	15.0	-3
2-Fluorobiphenyl	1.378	1.387	15.090	15.0	1
2,4,6-Tribromophenol	0.145	0.144	14.960	15.0	0
Terphenyl-d14	0.664	0.677	15.310	15.0	2
			Average %Drift:		4

Continuing Calibration
Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP20296.i/15oct15.b/lj0531.d **
/chem/HP20296.i/15oct15.b/lj0532.d
/chem/HP20296.i/15oct15.b/lj0533.d
/chem/HP20296.i/15oct15.b/lj0534.d
/chem/HP20296.i/15oct15.b/lj0535.d
/chem/HP20296.i/15oct15.b/lj0536.d
/chem/HP20296.i/15oct15.b/lj0537.d
/chem/HP20296.i/15oct15.b/lj0538.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP20296.i/15oct16.b/lj0581.d

Area Summary

Internal Standard Name	File ID: lj0581.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	216922	185789	92894	371578	Yes
Naphthalene-d8	873268	704214	352107	1408428	Yes
Acenaphthene-d10	491089	414115	207058	828230	Yes
Phenanthrene-d10	923670	752998	376499	1505996	Yes
Pyrene-d10	1075120	869908	434954	1739816	Yes
Perylene-d12	761186	649934	324967	1299868	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

Internal Standard Name	File ID: lj0581.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	7.028	7.049	Yes
Naphthalene-d8	9.017	9.039	Yes
Acenaphthene-d10	11.841	11.868	Yes
Phenanthrene-d10	13.772	13.799	Yes
Pyrene-d10	15.848	15.874	Yes
Perylene-d12	20.463	20.495	Yes

A "No" indicates the retention time is greater than 30 seconds from the RT of the referenced standard.

Comments: _____

Report generated on 10/16/2015 at 10:59

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/17/15 Time: 12:42

Lab File ID: lj0611.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.705	0.731	7.770	7.5	4
N-Nitrosodimethylamine	1.114	1.147	7.720	7.5	3
Pyridine	1.883	1.895	7.550	7.5	1
2-Picoline	1.964	1.975	7.540	7.5	1
N-Nitrosomethylethylamine	0.804	0.795	7.420	7.5	-1
Methyl methanesulfonate	0.948	1.036	8.190	7.5	9
N-Nitrosodiethylamine	0.754	0.769	7.640	7.5	2
Ethyl methanesulfonate	0.774	0.804	7.780	7.5	4
Benzaldehyde	1.469	1.482	7.570	7.5	1
Phenol	2.197	2.415	8.240	7.5	10
Aniline	2.757	2.874	7.820	7.5	4
a-methylstyrene	1.540	1.569	7.640	7.5	2
bis(2-Chloroethyl)ether	1.708	1.751	7.690	7.5	2
2-Chlorophenol	1.396	1.468	7.890	7.5	5
1,3-Dichlorobenzene	1.557	1.583	7.630	7.5	2
1,4-Dichlorobenzene	1.588	1.624	7.670	7.5	2
Benzyl alcohol	1.053	1.024	7.290	7.5	-3
1,2-Dichlorobenzene	1.495	1.521	7.630	7.5	2
Indene	2.658	2.630	7.420	7.5	-1
2-Methylphenol	1.475	1.518	7.720	7.5	3
2,2'-oxybis(1-Chloropropane)	2.404	2.556	7.970	7.5	6
bis(2-Chloroisopropyl)ether	2.404	2.556	7.970	7.5	6
N-Nitrosopyrrolidine	0.792	0.806	7.640	7.5	2
Acetophenone	2.304	2.275	7.410	7.5	-1
4-Methylphenol	1.540	1.617	7.880	7.5	5
Total Cresols	1.507	1.568	15.600	15.0	4
N-Nitroso-di-n-propylamine	1.333	1.411	7.940	7.5	6
N-Nitrosomorpholine	1.028	1.156	8.440	7.5	13
o-Toluidine	2.585	2.668	7.740	7.5	3
Hexachloroethane	0.659	0.716	8.150	7.5	9
Nitrobenzene	0.501	0.524	7.840	7.5	5
N-Nitrosopiperidine	0.191	0.200	7.840	7.5	5
Isophorone	0.881	0.923	7.860	7.5	5
2-Nitrophenol	0.183	0.186	7.620	7.5	2
2,4-Dimethylphenol	0.417	0.430	7.740	7.5	3
O,O,O-Triethylphosphorothioate	0.183	0.170	6.970	7.5	-7

FORM VII SV-1

7C
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/17/15 Time: 12:42

Lab File ID: lj0611.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
bis(2-Chloroethoxy)methane	0.535	0.541	7.580	7.5	1
Benzoic acid	0.314	0.277	8.840	10.0	-12
1,2,3,4-Tetrahydronaphthalene	0.615	0.626	7.620	7.5	2
2,4-Dichlorophenol	0.296	0.298	7.550	7.5	1
1,2,4-Trichlorobenzene	0.339	0.320	7.080	7.5	-6
Naphthalene	1.074	1.081	7.550	7.5	1
4-Chloroaniline	0.441	0.458	7.800	7.5	4
2,6-Dichlorophenol	0.297	0.293	7.420	7.5	-1
Hexachloropropene	0.224	0.209	7.020	7.5	-6
Hexachlorobutadiene	0.193	0.179	6.940	7.5	-8
Quinoline	0.672	0.685	7.660	7.5	2
Caprolactam	0.099	0.100	7.560	7.5	1
N-Nitrosodi-n-butylamine	0.368	0.404	8.220	7.5	10
4-Chloro-3-methylphenol	0.354	0.367	7.790	7.5	4
Safrole	0.271	0.269	7.440	7.5	-1
2-Methylnaphthalene	0.712	0.718	7.560	7.5	1
1-Methylnaphthalene	0.650	0.646	7.450	7.5	-1
Hexachlorocyclopentadiene	0.370	0.340	6.910	7.5	-8
1,2,4,5-Tetrachlorobenzene	0.597	0.566	7.110	7.5	-5
cis-Isosafrole	0.526	0.524	1.270	1.3	0
2,4,6-Trichlorophenol	0.376	0.370	7.390	7.5	-1
2,4,5-Trichlorophenol	0.409	0.396	7.260	7.5	-3
trans-Isosafrole	0.568	0.574	6.280	6.2	1
Isosafrole	0.561	0.565	7.550	7.5	1
1,1'-Biphenyl	1.497	1.516	7.600	7.5	1
2-Chloronaphthalene	1.178	1.206	7.670	7.5	2
1-Chloronaphthalene	1.122	1.084	7.250	7.5	-3
Diphenyl ether	0.799	0.801	7.520	7.5	0
2-Nitroaniline	0.357	0.380	7.990	7.5	6
1,4-Naphthoquinone	0.471	0.462	7.360	7.5	-2
1,4-Dinitrobenzene	0.183	0.186	7.610	7.5	1
Dimethylphthalate	1.273	1.293	7.620	7.5	2
1,3-Dinitrobenzene	0.200	0.202	7.570	7.5	1
2,6-Dinitrotoluene	0.276	0.285	7.750	7.5	3
Acenaphthylene	1.794	1.874	7.830	7.5	4
3-Nitroaniline	0.303	0.325	8.040	7.5	7

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/17/15 Time: 12:42

Lab File ID: lj0611.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Acenaphthene	1.196	1.251	7.850	7.5	5
2,4-Dinitrophenol	0.183	0.173	9.480	10.0	-5
4-Nitrophenol	0.234	0.263	8.420	7.5	12
Pentachlorobenzene	0.467	0.436	7.010	7.5	-7
2,4-Dinitrotoluene	0.384	0.378	7.380	7.5	-2
2,4_2,6-Dinitrotoluenes	0.326	0.332	15.140	15.0	1
Dibenzofuran	1.634	1.660	7.620	7.5	2
1-Naphthylamine	1.191	1.232	7.760	7.5	3
2,3,4,6-Tetrachlorophenol	0.307	0.296	7.220	7.5	-4
2-Naphthylamine	1.158	1.196	7.750	7.5	3
Diethylphthalate	1.252	1.291	7.730	7.5	3
Thionazin	0.243	0.243	7.500	7.5	0
Fluorene	1.278	1.295	7.600	7.5	1
4-Chlorophenyl-phenylether	0.613	0.606	7.410	7.5	-1
5-Nitro-o-toluidine	0.353	0.367	7.810	7.5	4
4-Nitroaniline	0.309	0.341	8.290	7.5	11
4,6-Dinitro-2-methylphenol	0.129	0.124	7.190	7.5	-4
N-Nitrosodiphenylamine (1)	0.585	0.611	7.830	7.5	4
NDPA as diphenylamine	0.585	0.611	7.830	7.5	4
1,2-Diphenylhydrazine	0.882	1.015	8.630	7.5	15
Tetraethyldithiopyrophosphate	0.140	0.162	8.650	7.5	15
1,3,5-Trinitrobenzene	0.076	0.070	6.980	7.5	-7
Diallate (peak 1)	0.384	0.429	6.960	6.2	12
Phorate	0.551	0.631	8.590	7.5	15
Phenacetin	0.403	0.456	8.480	7.5	13
4-Bromophenyl-phenylether	0.177	0.174	7.390	7.5	-1
Diallate (peak 2)	0.377	0.417	1.410	1.3	11
Diallate trans/cis	0.383	0.427	8.370	7.5	12
Hexachlorobenzene	0.184	0.166	6.780	7.5	-10
Dimethoate	0.359	0.398	8.290	7.5	11
Atrazine	0.191	0.191	7.490	7.5	0
Pentachlorophenol	0.122	0.119	7.330	7.5	-2
4-Aminobiphenyl	0.666	0.711	8.000	7.5	7
Pentachloronitrobenzene	0.089	0.090	7.560	7.5	1
Pronamide	0.307	0.340	8.310	7.5	11
Dinoseb	0.184	0.186	7.280	7.5	-3

(1) Cannot be Separated from Diphenylamine

FORM VII SV-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/17/15 Time: 12:42

Lab File ID: lj0611.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenanthrene	1.041	1.079	7.770	7.5	4
Anthracene	1.034	1.083	7.860	7.5	5
Carbazole	0.951	1.019	8.040	7.5	7
Methyl parathion	0.265	0.304	8.610	7.5	15
Di-n-butylphthalate	1.164	1.245	8.020	7.5	7
Parathion	0.156	0.177	8.510	7.5	13
4-Nitroquinoline-1-oxide	0.112	0.094	6.260	7.5	-17
Octachlorostyrene	0.065	0.062	7.120	7.5	-5
Isodrin	0.122	0.123	7.590	7.5	1
Fluoranthene	1.134	1.149	7.600	7.5	1
Benzidine	0.653	0.688	23.700	22.5	5
Pyrene	1.076	1.085	7.560	7.5	1
p-Dimethylaminoazobenzene	0.174	0.176	7.570	7.5	1
Chlorobenzilate	0.310	0.361	8.710	7.5	16
3,3'-Dimethylbenzidine	0.656	0.656	7.500	7.5	0
Butylbenzylphthalate	0.454	0.508	8.390	7.5	12
2-Acetylaminofluorene	0.397	0.405	7.650	7.5	2
3,3'-Dichlorobenzidine	0.350	0.343	7.350	7.5	-2
4,4'-Methylenebis(2-chloroanil	0.203	0.202	7.480	7.5	0
Benzo(a)anthracene	0.926	0.961	7.790	7.5	4
Chrysene	0.885	0.902	7.650	7.5	2
bis(2-Ethylhexyl)phthalate	0.651	0.725	8.350	7.5	11
6-Methylchrysene	0.625	0.620	7.440	7.5	-1
Di-n-octylphthalate	1.533	1.719	8.410	7.5	12
Benzo(b)fluoranthene	1.230	1.234	7.520	7.5	0
7,12-Dimethylbenz[a]anthracene	0.532	0.521	7.340	7.5	-2
Benzo(k)fluoranthene	1.197	1.232	7.720	7.5	3
Benzo(a)pyrene	1.146	1.175	7.680	7.5	2
3-Methylcholanthrene	0.535	0.540	7.560	7.5	1
Dibenz(a,h)acridine	0.981	0.944	7.210	7.5	-4
Dibenz(a,j)acridine	0.989	0.970	7.360	7.5	-2
Indeno(1,2,3-cd)pyrene	1.340	1.376	7.700	7.5	3
Dibenz(a,h)anthracene	1.117	1.159	7.780	7.5	4
Benzo(g,h,i)perylene	1.146	1.149	7.520	7.5	0
Total PAHs	1.136	1.195	137.980	135.0	2
2-Fluorophenol	1.487	1.562	15.760	15.0	5

FORM VII SV-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/17/15 Time: 12:42

Lab File ID: lj0611.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenol-d6	2.048	2.147	15.730	15.0	5
Nitrobenzene-d5	0.505	0.520	15.460	15.0	3
2-Fluorobiphenyl	1.378	1.377	14.980	15.0	0
2,4,6-Tribromophenol	0.145	0.125	12.960	15.0	-14
Terphenyl-d14	0.664	0.649	14.670	15.0	-2
			Average	%Drift:	5

FORM VII SV-1

Continuing Calibration
Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP20296.i/15oct15.b/lj0531.d **
/chem/HP20296.i/15oct15.b/lj0532.d
/chem/HP20296.i/15oct15.b/lj0533.d
/chem/HP20296.i/15oct15.b/lj0534.d
/chem/HP20296.i/15oct15.b/lj0535.d
/chem/HP20296.i/15oct15.b/lj0536.d
/chem/HP20296.i/15oct15.b/lj0537.d
/chem/HP20296.i/15oct15.b/lj0538.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP20296.i/15oct17.b/lj0611.d

Area Summary

Internal Standard Name	File ID: lj0611.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	243160	185789	92894	371578	Yes
Naphthalene-d8	940552	704214	352107	1408428	Yes
Acenaphthene-d10	519166	414115	207058	828230	Yes
Phenanthrene-d10	920375	752998	376499	1505996	Yes
Pyrene-d10	1054405	869908	434954	1739816	Yes
Perylene-d12	757304	649934	324967	1299868	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

Internal Standard Name	File ID: lj0611.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	7.006	7.049	Yes
Naphthalene-d8	8.996	9.039	Yes
Acenaphthene-d10	11.825	11.868	Yes
Phenanthrene-d10	13.756	13.799	Yes
Pyrene-d10	15.826	15.874	Yes
Perylene-d12	20.437	20.495	Yes

A "No" indicates the retention time is greater than 30 seconds from the RT of the referenced standard.

Comments: _____

Report generated on 10/17/2015 at 13:11

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0581.d Date Analyzed: 10/16/15

Instrument ID: HP20296 Time Analyzed: 10:17

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	216922	7.028	873268	9.017	491089	11.841
UPPER LIMIT	433844	7.528	1746536	9.517	982178	12.341
LOWER LIMIT	108461	6.528	436634	8.517	245545	11.341
LLI SAMPLE NO.						
01 283WBLCS	182086	7.027	710664	9.012	416451	11.841
02 SBLKWB283	182164	7.022	711234	9.012	405855	11.841
03 8081061	178805	7.022	712221	9.012	402544	11.841
04 8081062	213763	7.022	828924	9.012	458771	11.841
05 8081063	206085	7.022	743337	9.012	422563	11.842
06 8081064	244362	7.022	848314	9.012	483912	11.841
07 8082098	191230	7.022	712473	9.017	414516	11.842
08 8082099	197309	7.022	681899	9.017	390912	11.841
09 8082100	197119	7.027	713241	9.017	417500	11.841
10 8082101	186931	7.027	708588	9.017	423163	11.841
11 8082114	205528	7.022	760963	9.012	405012	11.841
12 8082115	192000	7.022	721870	9.012	403592	11.841
13 8082117	196526	7.022	795883	9.012	399502	11.841
14 8082118	188213	7.022	754558	9.012	421527	11.841
15 8082119	190261	7.022	733994	9.012	416438	11.841
16 8082120	188169	7.022	761701	9.012	410835	11.836
17 8082121MS	188313	7.027	721639	9.012	414181	11.841

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0581.d Date Analyzed: 10/16/15

Instrument ID: HP20296 Time Analyzed: 10:17

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	923670	13.772	1075120	15.848	761186	20.463
UPPER LIMIT	1847340	14.272	2150240	16.348	1522372	20.963
LOWER LIMIT	461835	13.272	537560	15.348	380593	19.963
LLI SAMPLE NO.						
01 283WBLCS	757596	13.772	864021	15.842	618233	20.458
02 SBLKWB283	747662	13.767	840144	15.842	586779	20.458
03 8081061	745129	13.767	843418	15.842	596513	20.458
04 8081062	882083	13.767	997268	15.842	704065	20.458
05 8081063	786031	13.767	886885	15.842	630835	20.458
06 8081064	892899	13.767	998678	15.842	701707	20.458
07 8082098	770158	13.767	898270	15.842	648689	20.458
08 8082099	722243	13.767	834287	15.842	596756	20.458
09 8082100	757199	13.767	875939	15.842	633001	20.458
10 8082101	768701	13.767	900737	15.842	634686	20.458
11 8082114	737834	13.767	841504	15.842	594347	20.458
12 8082115	745497	13.767	841945	15.842	586110	20.458
13 8082117	753881	13.767	868169	15.842	608876	20.458
14 8082118	783485	13.767	904470	15.842	635237	20.458
15 8082119	768077	13.767	871487	15.842	624865	20.458
16 8082120	741208	13.767	854336	15.837	593052	20.458
17 8082121MS	749411	13.767	869501	15.842	629652	20.458

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0581.d Date Analyzed: 10/16/15

Instrument ID: HP20296 Time Analyzed: 10:17

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	216922	7.028	873268	9.017	491089	11.841
UPPER LIMIT	433844	7.528	1746536	9.517	982178	12.341
LOWER LIMIT	108461	6.528	436634	8.517	245545	11.341
LLI SAMPLE NO.						
18 8082122MSD	179068	7.027	697994	9.012	407293	11.841
19 8082124	189045	7.022	706748	9.028	418193	11.841
20 8082126	188601	7.022	718971	9.012	408121	11.836
21 8082127	191487	7.022	742424	9.012	428335	11.836
22 8082128	192025	7.022	720150	9.006	426937	11.836

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0581.d Date Analyzed: 10/16/15

Instrument ID: HP20296 Time Analyzed: 10:17

		IS4(PHN)		IS5(PYR)		IS6(PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	923670	13.772	1075120	15.848	761186	20.463
	UPPER LIMIT	1847340	14.272	2150240	16.348	1522372	20.963
	LOWER LIMIT	461835	13.272	537560	15.348	380593	19.963
	LLI SAMPLE NO.						
18	8082122MSD	743171	13.767	852691	15.842	620189	20.452
19	8082124	754829	13.767	886811	15.842	659042	20.458
20	8082126	763923	13.767	888485	15.837	642466	20.453
21	8082127	806820	13.767	934306	15.837	682555	20.458
22	8082128	778858	13.767	898160	15.837	653225	20.452

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0611.d Date Analyzed: 10/17/15

Instrument ID: HP20296 Time Analyzed: 12:42

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	243160	7.006	940552	8.996	519166	11.825
UPPER LIMIT	486320	7.506	1881104	9.496	1038332	12.325
LOWER LIMIT	121580	6.506	470276	8.496	259583	11.325
LLI SAMPLE NO.						
01 SBLKWD288	182957	7.006	725171	8.996	368663	11.825
02 288WDLCS	198064	7.006	767279	8.995	392350	11.825
03 288WDLCSD	192607	7.006	759504	8.996	389673	11.825
04 8082098DL	191124	7.001	710707	8.990	395830	11.825
05 8082099DL	195173	7.001	748746	8.990	391000	11.825
06 8082100DL	201823	7.001	733315	8.990	411061	11.825
07 8082101DL	191456	7.001	723497	8.990	396534	11.825
08 8082124DL	192046	7.001	752990	8.996	421899	11.825
09 8082124DL2	191348	7.001	746830	8.990	398758	11.820
10 8082129	207064	7.001	765175	8.990	426485	11.820
11 8082130	196159	7.001	765205	8.990	420552	11.820
12 8083925	190120	7.001	696132	8.990	386429	11.820
13 8083928	199204	7.001	722776	8.990	399913	11.820
14 8083929	195064	7.001	727950	8.990	404183	11.820
15 8083930	177251	7.001	732108	8.990	376831	11.820
16 8083931	180703	7.001	713122	8.990	385664	11.820
17 8083932	195411	7.001	743650	8.990	417775	11.820

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0611.d Date Analyzed: 10/17/15

Instrument ID: HP20296 Time Analyzed: 12:42

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	920375	13.756	1054405	15.826	757304	20.437
UPPER LIMIT	1840750	14.256	2108810	16.326	1514608	20.937
LOWER LIMIT	460188	13.256	527203	15.326	378652	19.937
LLI SAMPLE NO.						
01 SBLKWD288	672423	13.756	746234	15.826	515531	20.436
02 288WDLCS	710647	13.756	831793	15.826	596934	20.436
03 288WDLCSD	711486	13.756	817309	15.826	596306	20.436
04 8082098DL	714705	13.751	792729	15.820	573325	20.436
05 8082099DL	717640	13.750	791360	15.820	573574	20.436
06 8082100DL	745159	13.751	831823	15.820	575270	20.436
07 8082101DL	738458	13.750	824674	15.820	572292	20.436
08 8082124DL	752007	13.751	832230	15.820	605690	20.436
09 8082124DL2	722314	13.751	795188	15.821	561743	20.431
10 8082129	774655	13.751	907555	15.820	651151	20.436
11 8082130	758951	13.751	853400	15.821	617858	20.431
12 8083925	709051	13.751	781447	15.821	575457	20.431
13 8083928	734753	13.751	821990	15.820	593187	20.431
14 8083929	738408	13.751	815087	15.821	581742	20.431
15 8083930	689133	13.751	802662	15.815	594761	20.431
16 8083931	700386	13.745	799653	15.821	586268	20.431
17 8083932	748364	13.750	843403	15.820	636705	20.431

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0611.d Date Analyzed: 10/17/15

Instrument ID: HP20296 Time Analyzed: 12:42

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	243160	7.006	940552	8.996	519166	11.825
UPPER LIMIT	486320	7.506	1881104	9.496	1038332	12.325
LOWER LIMIT	121580	6.506	470276	8.496	259583	11.325
LLI SAMPLE NO.						
18 8083933	187718	7.001	729050	8.990	374257	11.820
19 8083934	187228	6.995	714197	8.985	395044	11.820
20 8083935	187386	6.995	699337	8.990	409175	11.820
21 8083937	189417	6.995	758204	8.985	409437	11.820
22 8083938	195371	7.001	753048	8.991	432488	11.820
23 8083939	180563	7.001	709456	8.985	378246	11.820
24 8083940	178127	6.995	679440	8.985	382929	11.820
25 8083941	187445	7.001	712877	8.990	394819	11.820

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0611.d Date Analyzed: 10/17/15

Instrument ID: HP20296 Time Analyzed: 12:42

		IS4(PHN)		IS5(PYR)		IS6(PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	920375	13.756	1054405	15.826	757304	20.437
	UPPER LIMIT	1840750	14.256	2108810	16.326	1514608	20.937
	LOWER LIMIT	460188	13.256	527203	15.326	378652	19.937
	LLI SAMPLE NO.						
18	8083933	645353	13.745	746395	15.815	604114	20.431
19	8083934	722950	13.745	812411	15.815	621735	20.431
20	8083935	727776	13.745	823893	15.820	618613	20.431
21	8083937	713886	13.745	789672	15.815	600229	20.431
22	8083938	738272	13.751	853700	15.815	636459	20.431
23	8083939	710642	13.746	803311	15.816	634490	20.431
24	8083940	691676	13.745	792753	15.815	595389	20.431
25	8083941	718225	13.751	810715	15.815	638612	20.431

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

Sample Data

Semivolatiles by GC/MS

Fraction: Semivolatiles by GC/MS

07805: PAHs 8270C (17) Analyte Name	Default MDL	Default LOQ	Units
Naphthalene	0.1	0.5	ug/l
2-Methylnaphthalene	0.1	0.5	ug/l
Acenaphthylene	0.1	0.5	ug/l
Acenaphthene	0.1	0.5	ug/l
Fluorene	0.1	0.5	ug/l
Phenanthrene	0.1	0.5	ug/l
Anthracene	0.1	0.5	ug/l
Fluoranthene	0.1	0.5	ug/l
Pyrene	0.1	0.5	ug/l
Benzo(a)anthracene	0.1	0.5	ug/l
Chrysene	0.1	0.5	ug/l
Benzo(b)fluoranthene	0.1	0.5	ug/l
Benzo(k)fluoranthene	0.1	0.5	ug/l
Benzo(a)pyrene	0.1	0.5	ug/l
Indeno(1,2,3-cd)pyrene	0.1	0.5	ug/l
Dibenz(a,h)anthracene	0.1	0.5	ug/l
Benzo(g,h,i)perylene	0.1	0.5	ug/l

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0588.d
Injection date and time: **16-OCT-2015 14:36**
Data file Sample Info. Line: P2802;8082098;1;0;SAMPLE;;;
Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 15:00 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 240 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.022(0.005)	904	152	191230 (-12)	5.00	
65) Naphthalene-d8	9.017(0.000)	1277	136	712473 (-18)	5.00	
113) Acenaphthene-d10	11.842(0.000)	1805	164	414516 (-16)	5.00	
153) Phenanthrene-d10	13.767(0.005)	2165	188	770158 (-17)	5.00	
175) Pyrene-d10	15.842(0.005)	2553	212	898270 (-16)	5.00	
213) Perylene-d12	20.458(0.005)	3416	264	648689 (-15)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.884(0.001)	82	1613209	22.427	90%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.799(0.000)	172	2408350	21.076	84%		61 - 112
179) Terphenyl-d14	(5)	16.158(0.000)	244	2283815	19.147	77%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	9.066(-0.001)	128	16042927	104.839	436.83		E	0.03
83) 2-Methylnaphthalene	(2)	10.173(0.000)	142	2802	0.028	0.12			0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)	11.884(0.000)	153	10290	0.104	0.43			0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

E = Compound concentration above calibration range.

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0588.d Injection date and time: **16-OCT-2015 14:36**
Data file Sample Info. Line: P2802;8082098;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 15:00 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 240 ml Volume Injected (Vi): 1 ul

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WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

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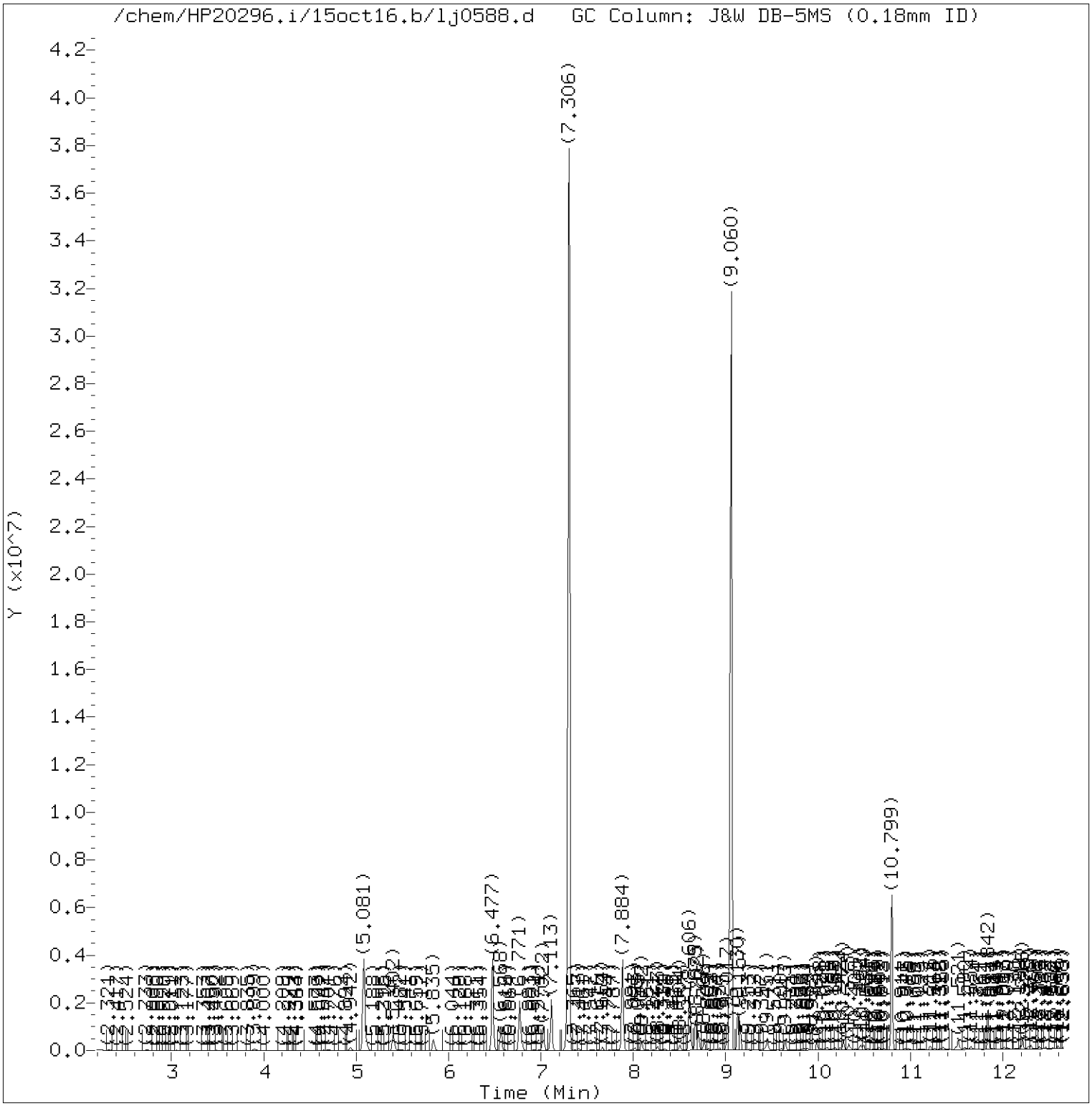
Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:42. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

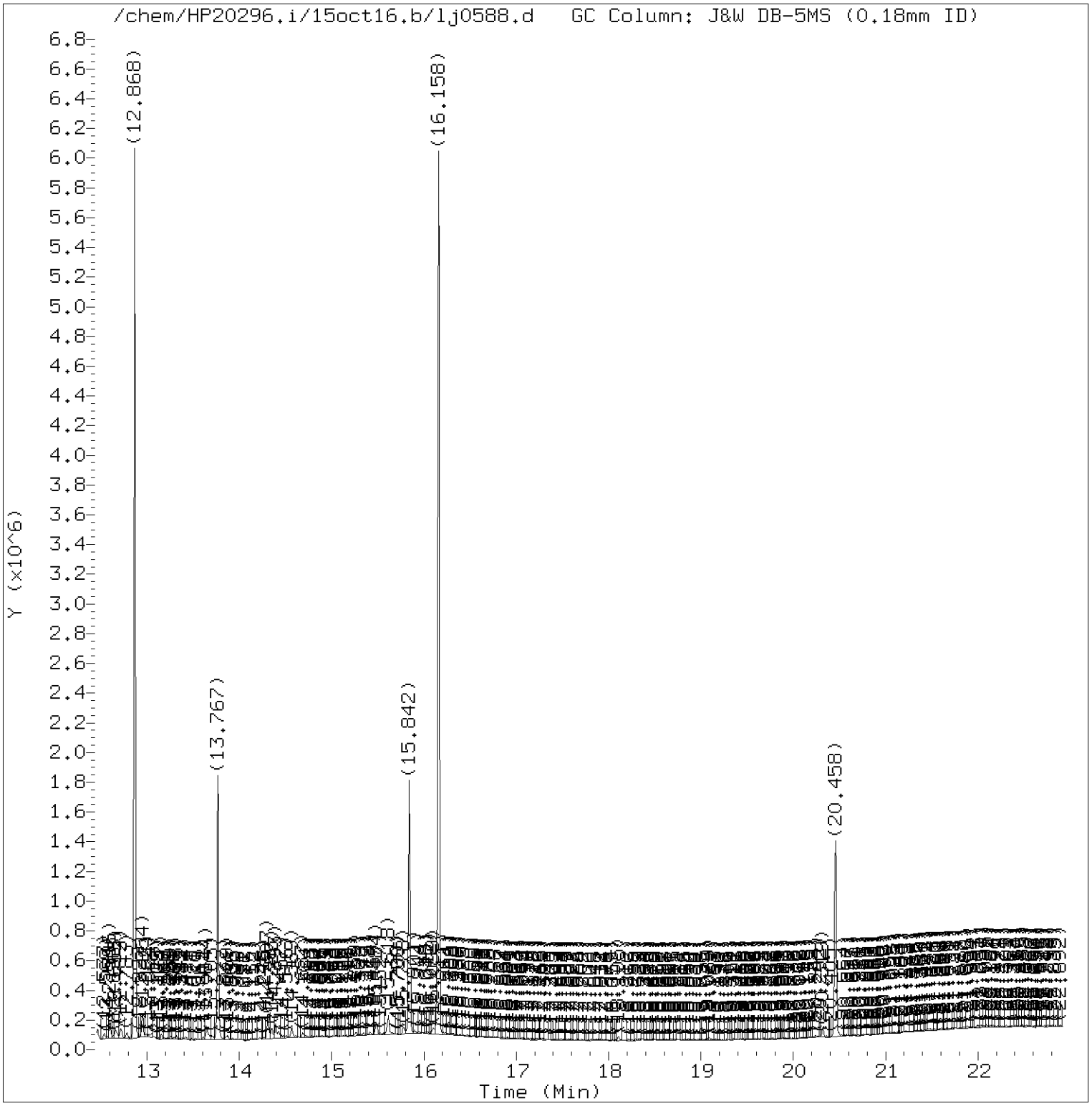
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0588.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 14:36 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:00 Unknown

Sample Name: P2802 Lab Sample ID: 8082098

Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0588.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 14:36 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:00 Unknown

Sample Name: P2802 Lab Sample ID: 8082098

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on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0588.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 14:36 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:00 Unknown

Sample Name: P2802 Lab Sample ID: 8082098

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.022	152	191230	5.000
44)$Nitrobenzene-d5	(2)	7.884	82	1613209	22.427
65)*Naphthalene-d8	(2)	9.017	136	712473	5.000
66) Naphthalene	(2)	9.066	128	16042927	104.839
83) 2-Methylnaphthalene	(2)	10.173	142	2802	0.028
93)$2-Fluorobiphenyl	(3)	10.799	172	2408350	21.076
113)*Acenaphthene-d10	(3)	11.842	164	414516	5.000
114) Acenaphthene	(3)	11.884	153	10290	0.104
153)*Phenanthrene-d10	(4)	13.767	188	770158	5.000
175)*Pyrene-d10	(5)	15.842	212	898270	5.000
179)$Terphenyl-d14	(5)	16.158	244	2283815	19.147
213)*Perylene-d12	(6)	20.458	264	648689	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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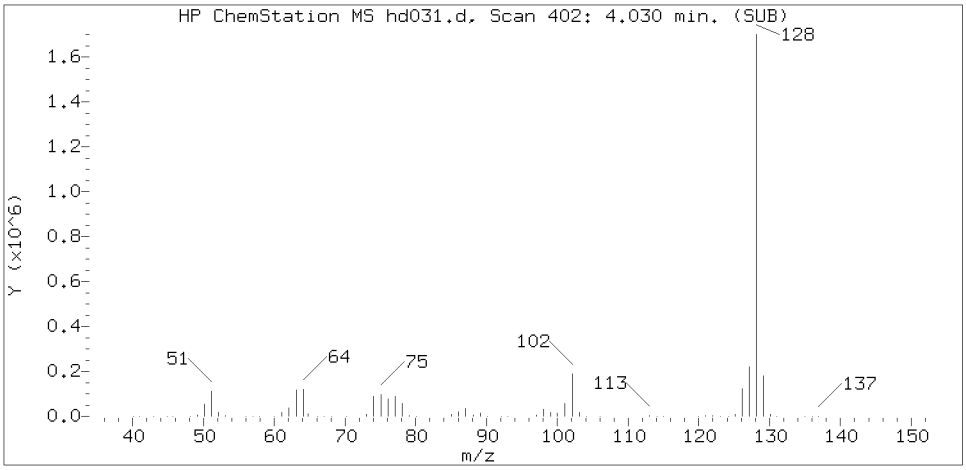
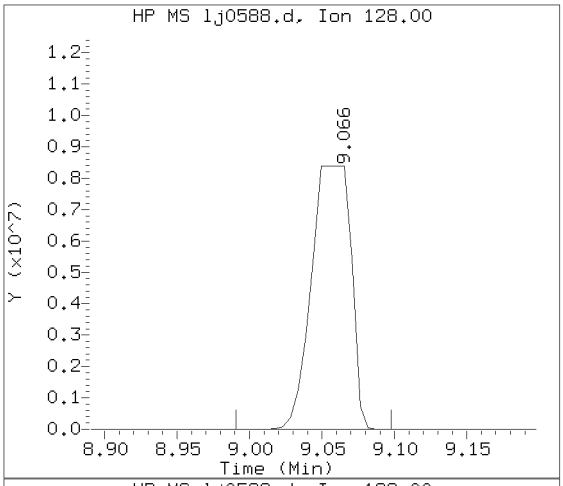
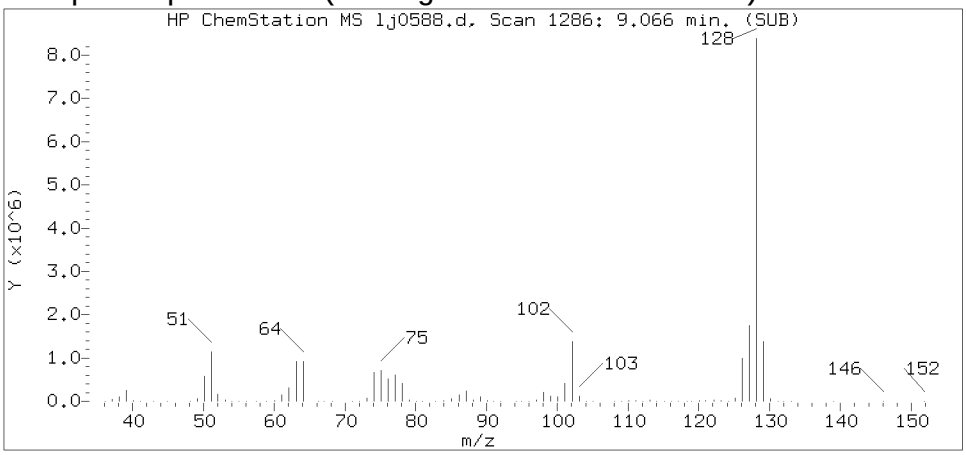
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

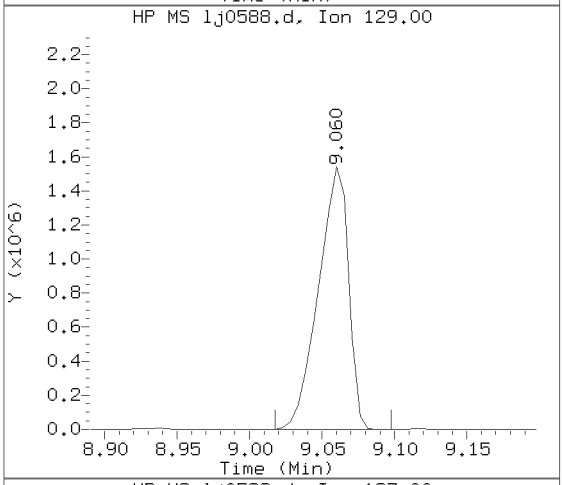
Reference Standard Spectrum for Naphthalene



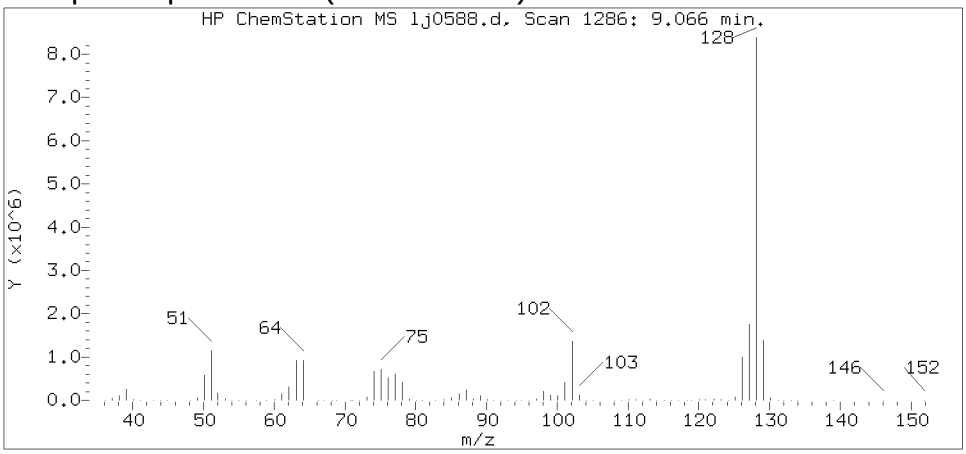


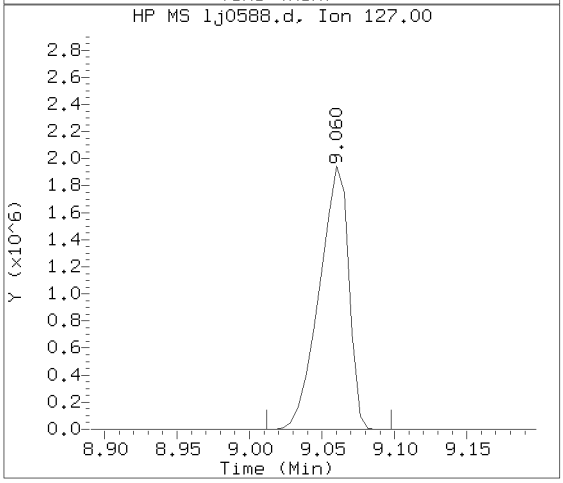
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0588.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 14:36 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:00 Unknown

Sample Name: P2802 Lab Sample ID: 8082098

Compound Number	: 66
Compound Name	: Naphthalene
Scan Number	: 1286
Retention Time (minutes)	: 9.066
Relative Retention Time	:-0.00178
Quant Ion	: 128.00
Area (flag)	: 16042927
On-column Amount (ng/ul)	: 104.8389

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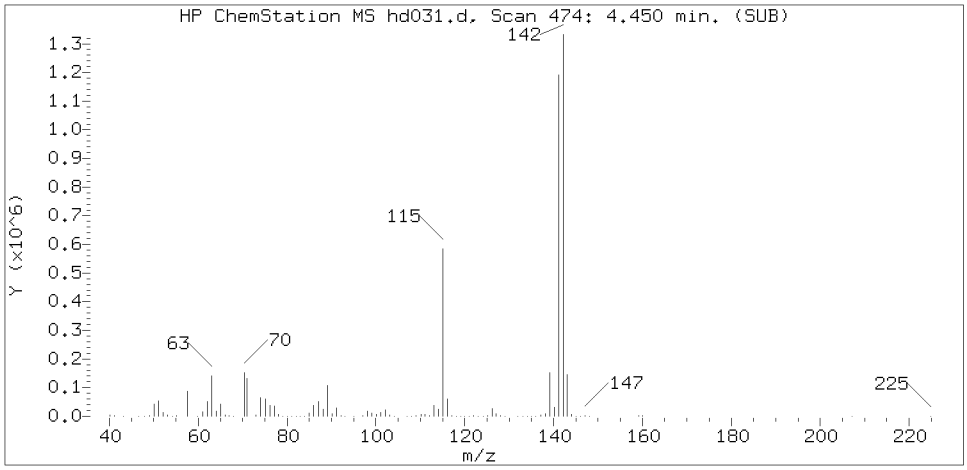
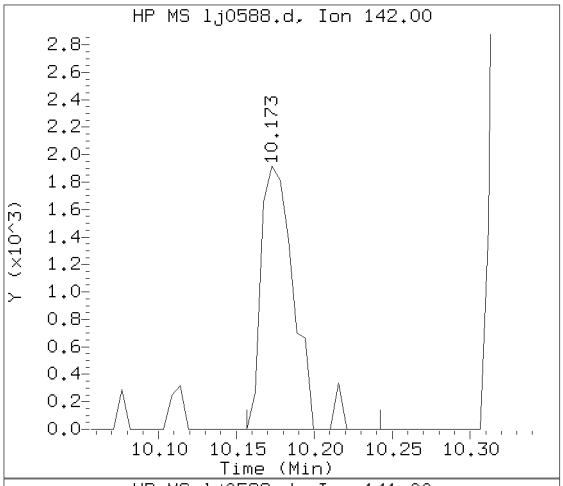
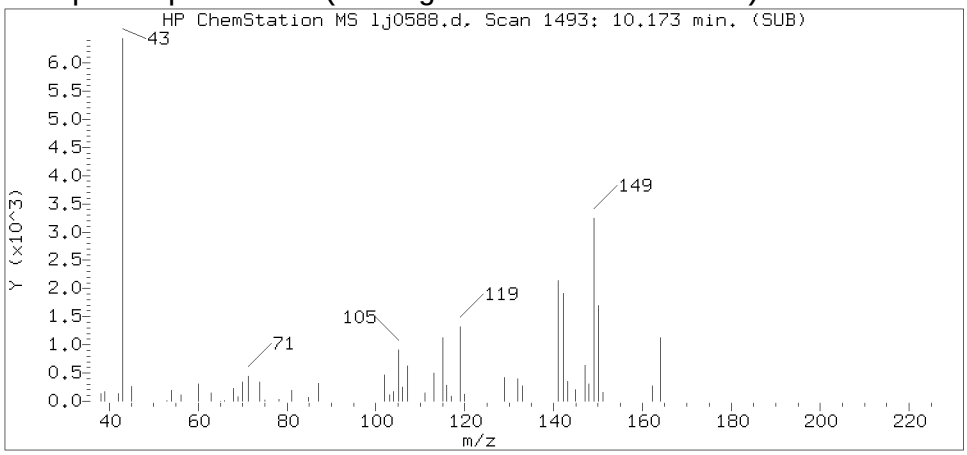
Target 3.5 esignature user ID: ceb05247

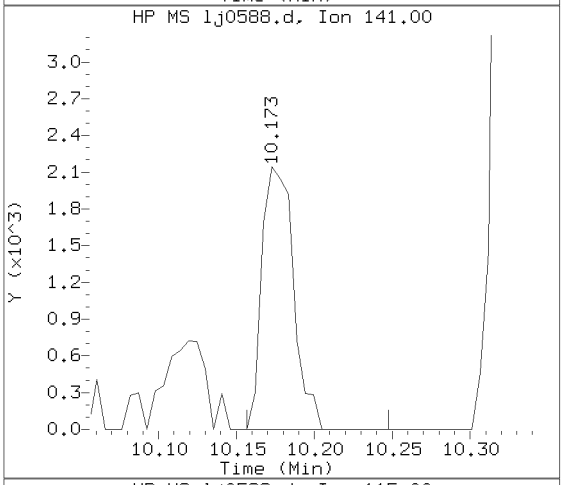
Reference Standard Spectrum for 2-Methylnaphthalene



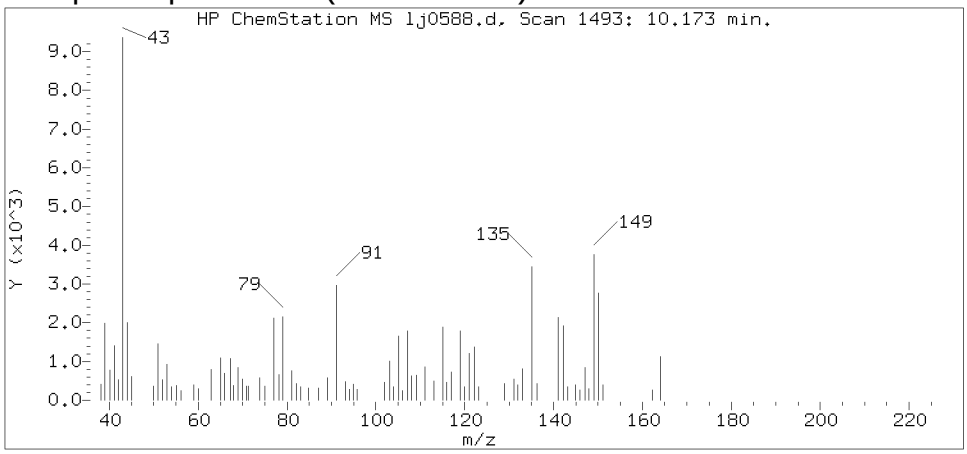


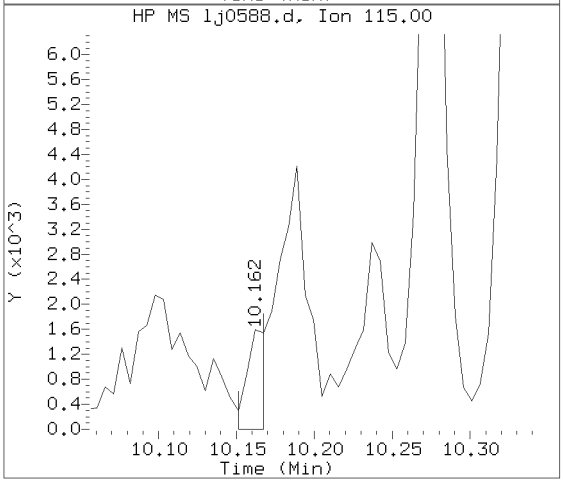
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0588.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 14:36 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:00 Unknown

Sample Name: P2802 Lab Sample ID: 8082098

Compound Number	: 83
Compound Name	: 2-Methylnaphthalene
Scan Number	: 1493
Retention Time (minutes)	: 10.173
Relative Retention Time	: 0.00059
Quant Ion	: 142.00
Area (flag)	: 2802
On-column Amount (ng/ul)	: 0.0276

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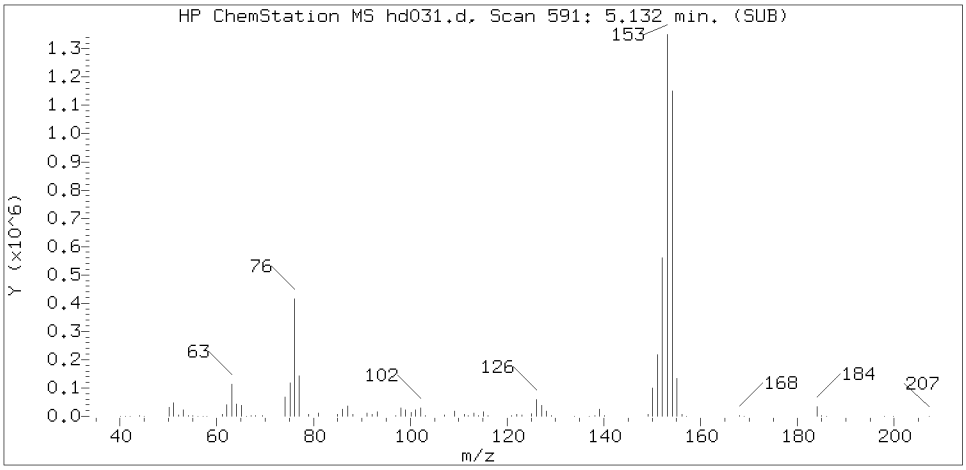
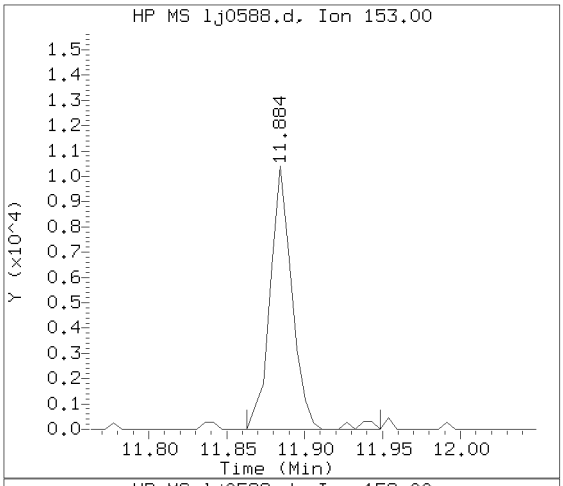
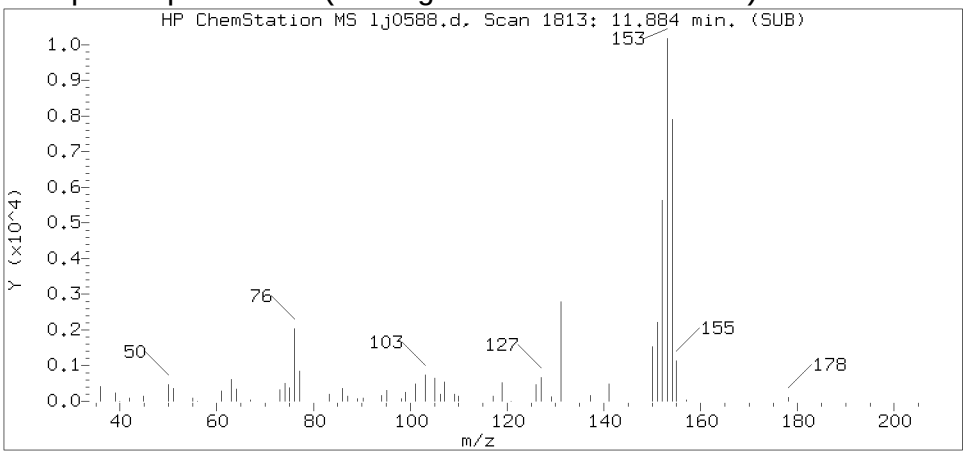
Target 3.5 esignature user ID: ceb05247

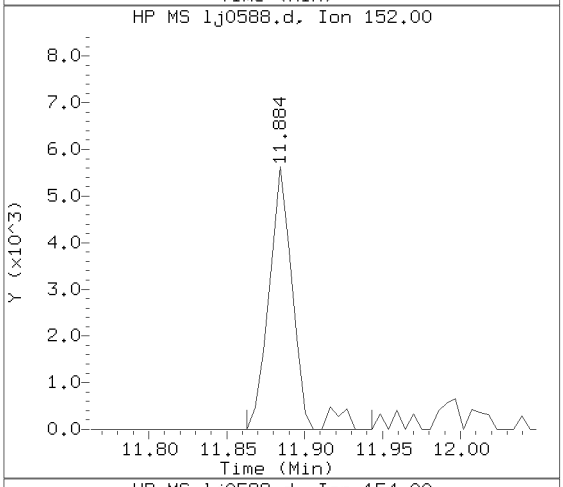
Reference Standard Spectrum for Acenaphthene



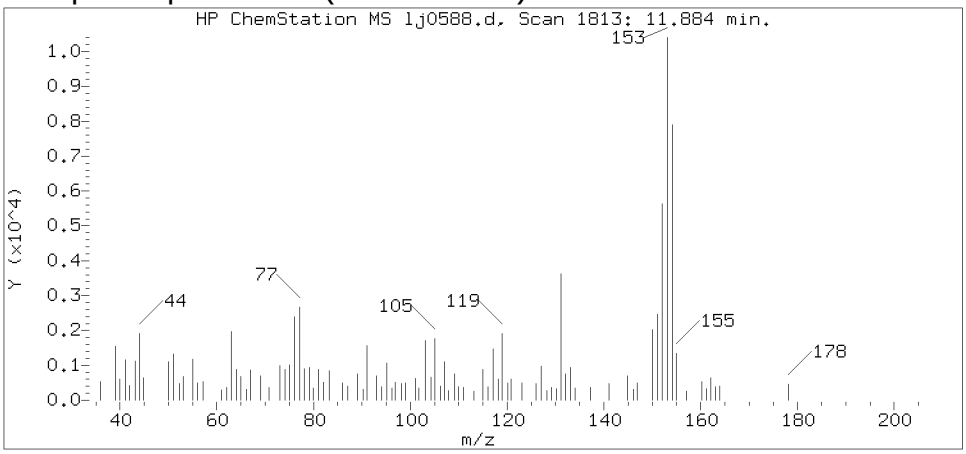


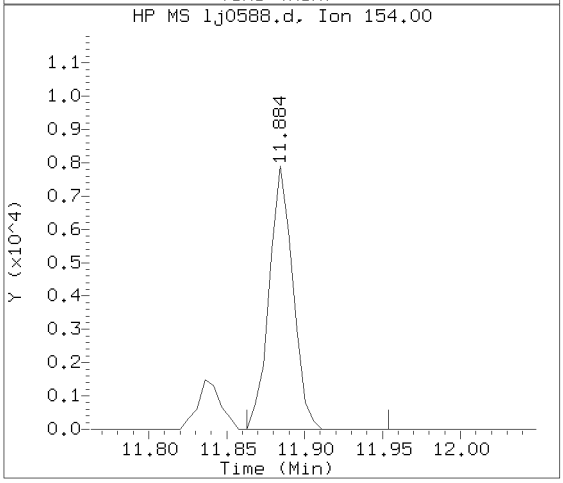
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0588.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 14:36 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:00 Unknown

Sample Name: P2802 Lab Sample ID: 8082098

Compound Number	: 114
Compound Name	: Acenaphthene
Scan Number	: 1813
Retention Time (minutes)	: 11.884
Relative Retention Time	: 0.00045
Quant Ion	: 153.00
Area (flag)	: 10290
On-column Amount (ng/ul)	: 0.1038

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Target 3.5 esignature user ID: ceb05247

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct17.b/lj0615.d Injection date and time: **17-OCT-2015 14:44**
Data file Sample Info. Line: P2802DL;8082098DL;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 19-Oct-2015 09:22 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 17-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct17.b/lj0611.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 10 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 240 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.001	(0.006)	900	152	191124	(-21)	5.00	
65) Naphthalene-d8	8.990	(0.006)	1272	136	710707	(-24)	5.00	
113) Acenaphthene-d10	11.825	(0.000)	1802	164	395830	(-24)	5.00	
153) Phenanthrene-d10	13.751	(0.006)	2162	188	714705	(-22)	5.00	
175) Pyrene-d10	15.820	(0.006)	2549	212	792729	(-25)	5.00	
213) Perylene-d12	20.436	(0.000)	3412	264	573325	(-24)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.856	(0.001)	82	143264	1.997	80%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.777	(0.000)	172	233702	2.142	86%		61 - 112
179) Terphenyl-d14	(5)	16.136	(0.000)	244	201486	1.914	77%		43 - 131

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	9.028	(-0.000)	128	2147747	14.070	586.26			0.03
83) 2-Methylnaphthalene	(2)				Not Detected					0.03
109) Acenaphthylene	(3)				Not Detected					0.03
114) Acenaphthene	(3)				Not Detected					0.03
126) Fluorene	(3)				Not Detected					0.03
155) Phenanthrene	(4)				Not Detected					0.03
157) Anthracene	(4)				Not Detected					0.03
173) Fluoranthene	(4)				Not Detected					0.03
177) Pyrene	(5)				Not Detected					0.03
195) Benzo(a)anthracene	(5)				Not Detected					0.03
196) Chrysene	(5)				Not Detected					0.03
206) Benzo(b)fluoranthene	(6)				Not Detected					0.03
208) Benzo(k)fluoranthene	(6)				Not Detected					0.03
211) Benzo(a)pyrene	(6)				Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)				Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)				Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)				Not Detected					0.03

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:28. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP20296.i/15oct17.b/lj0615.d Injection date and time: **17-OCT-2015 14:44**
Data file Sample Info. Line: P2802DL;8082098DL;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 19-Oct-2015 09:22 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 17-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct17.b/lj0611.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 10 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 240 ml Volume Injected (Vi): 1 ul

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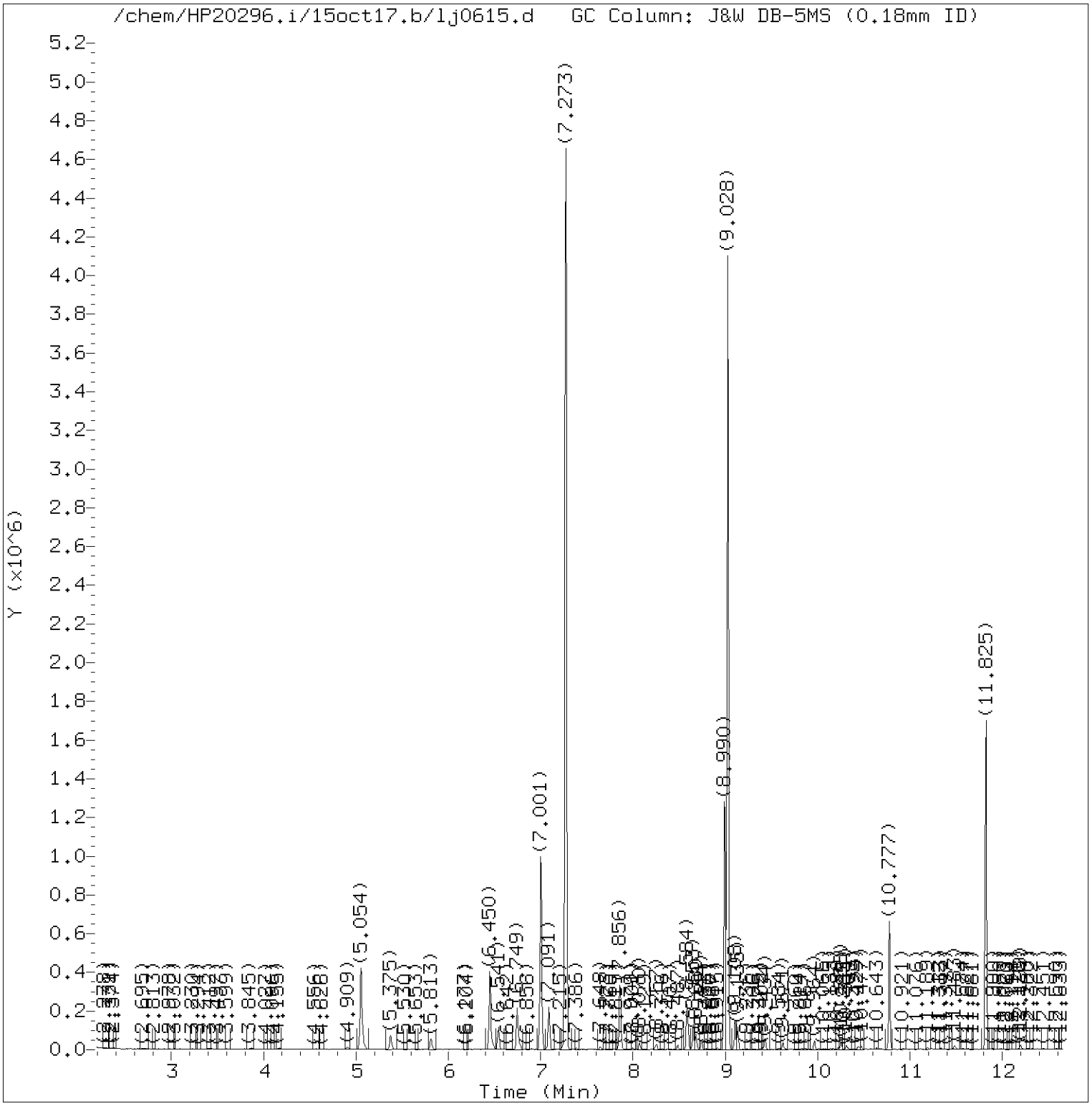
Total number of targets = 17

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:28. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 14:16. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

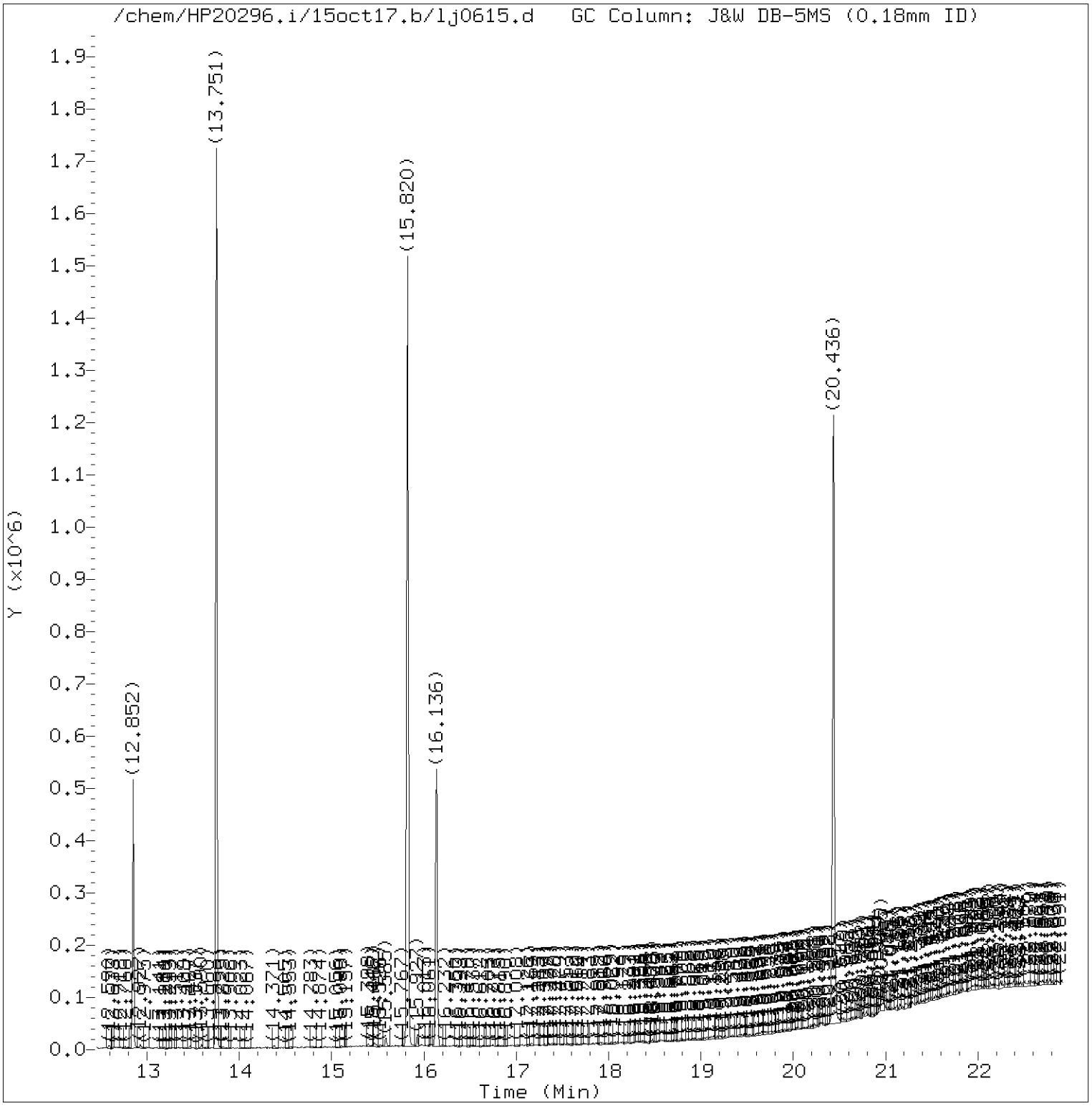
Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0615.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 14:44 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:22 hbz01996

Sample Name: P2802DL Lab Sample ID: 8082098DL

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:28.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0615.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 14:44 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:22 hbz01996

Sample Name: P2802DL Lab Sample ID: 8082098DL

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:28.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0615.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 14:44 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:22 hbz01996

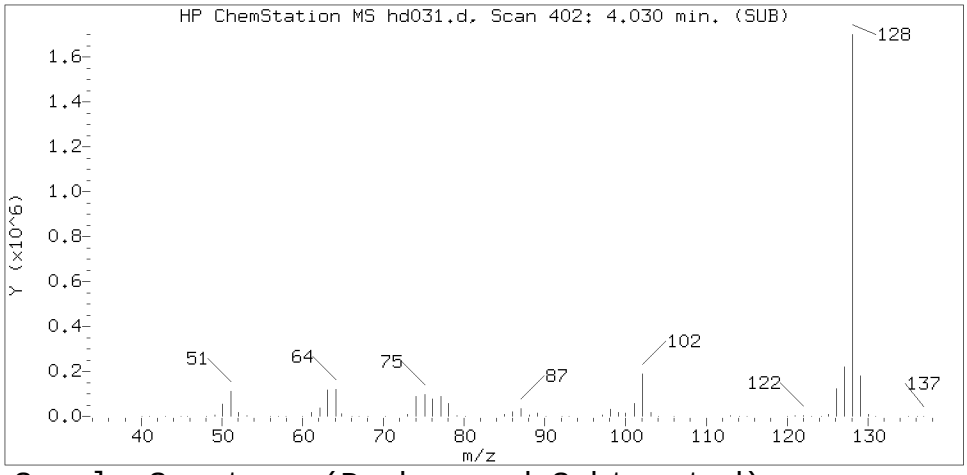
Sample Name: P2802DL Lab Sample ID: 8082098DL

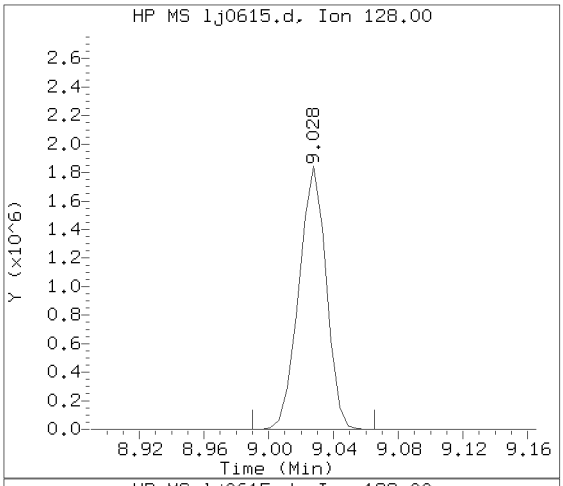
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.001	152	191124	5.000
44)$Nitrobenzene-d5	(2)	7.856	82	143264	1.997
65)*Naphthalene-d8	(2)	8.990	136	710707	5.000
66) Naphthalene	(2)	9.028	128	2147747	14.070
93)$2-Fluorobiphenyl	(3)	10.777	172	233702	2.142
113)*Acenaphthene-d10	(3)	11.825	164	395830	5.000
153)*Phenanthrene-d10	(4)	13.751	188	714705	5.000
175)*Pyrene-d10	(5)	15.820	212	792729	5.000
179)$Terphenyl-d14	(5)	16.136	244	201486	1.914
213)*Perylene-d12	(6)	20.436	264	573325	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

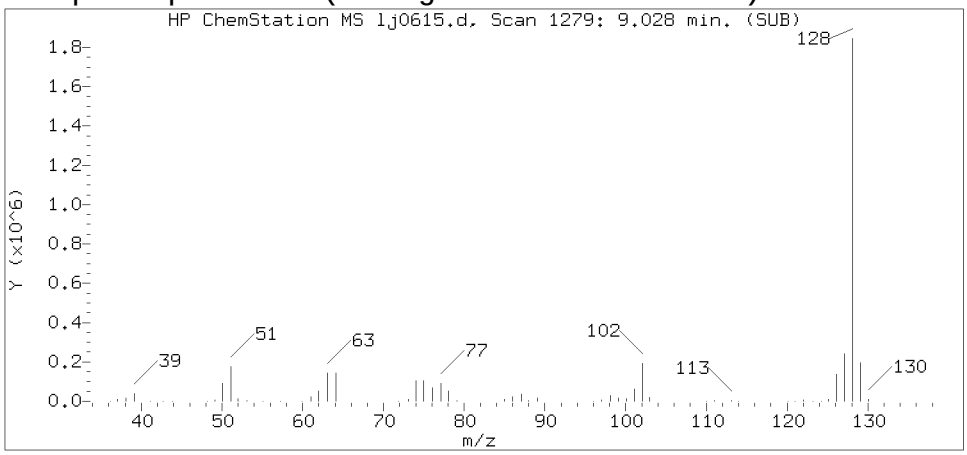
Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:28.
Target 3.5 esignature user ID: hbz01996

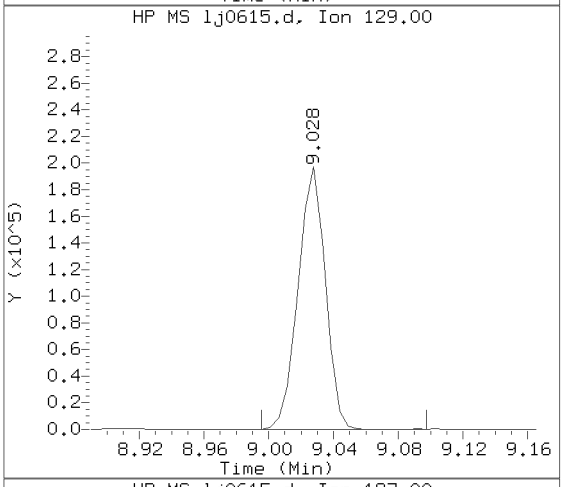
Reference Standard Spectrum for Naphthalene



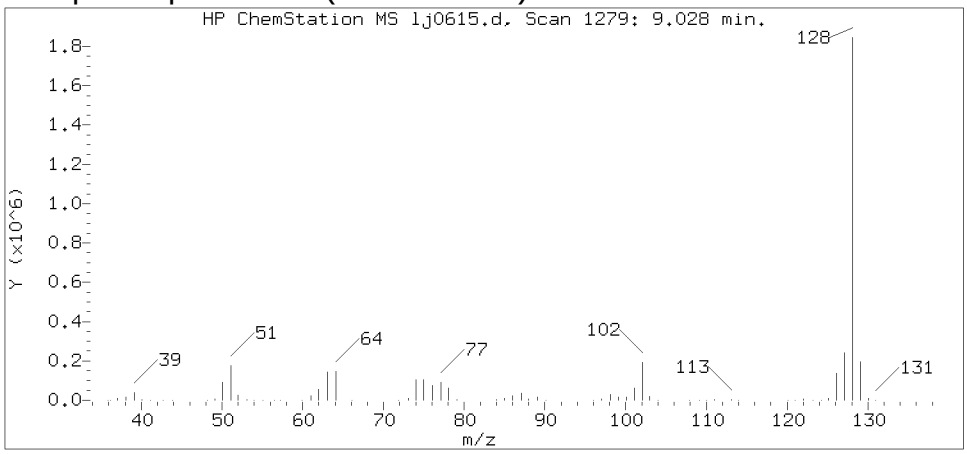


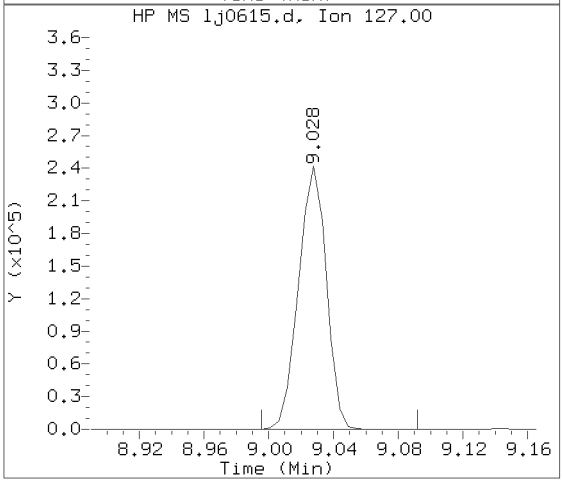
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0615.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 14:44 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:22 hbz01996

Sample Name: P2802DL Lab Sample ID: 8082098DL

Compound Number	: 66
Compound Name	: Naphthalene
Scan Number	: 1279
Retention Time (minutes)	: 9.028
Relative Retention Time	:-0.00060
Quant Ion	: 128.00
Area (flag)	: 2147747
On-column Amount (ng/ul)	: 14.0702

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:28.
Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0589.d
Injection date and time: **16-OCT-2015 15:03**
Data file Sample Info. Line: P2803;8082099;1;0;SAMPLE;;;
Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 15:28 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 242 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.022(0.006)	904	152	197309 (-9)	5.00	
65) Naphthalene-d8	9.017(0.000)	1277	136	681899 (-22)	5.00	
113) Acenaphthene-d10	11.841(0.000)	1805	164	390912 (-20)	5.00	
153) Phenanthrene-d10	13.767(0.006)	2165	188	722243 (-22)	5.00	
175) Pyrene-d10	15.842(0.006)	2553	212	834287 (-22)	5.00	
213) Perylene-d12	20.458(0.006)	3416	264	596756 (-22)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.883(0.001)	82	1659128	24.100	96%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.798(0.000)	172	2208032	20.490	82%		61 - 112
179) Terphenyl-d14	(5)	16.158(0.000)	244	1899656	17.148	69%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	9.070(-0.002)	128	17251195	117.789	486.73		E	0.03
83) 2-Methylnaphthalene	(2)	10.178(-0.000)	142	4896	0.050	0.21			0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)	11.884(0.000)	153	63691	0.681	2.82			0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

E = Compound concentration above calibration range.

Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0589.d Injection date and time: **16-OCT-2015 15:03**
Data file Sample Info. Line: P2803;8082099;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 15:28 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 242 ml Volume Injected (Vi): 1 ul

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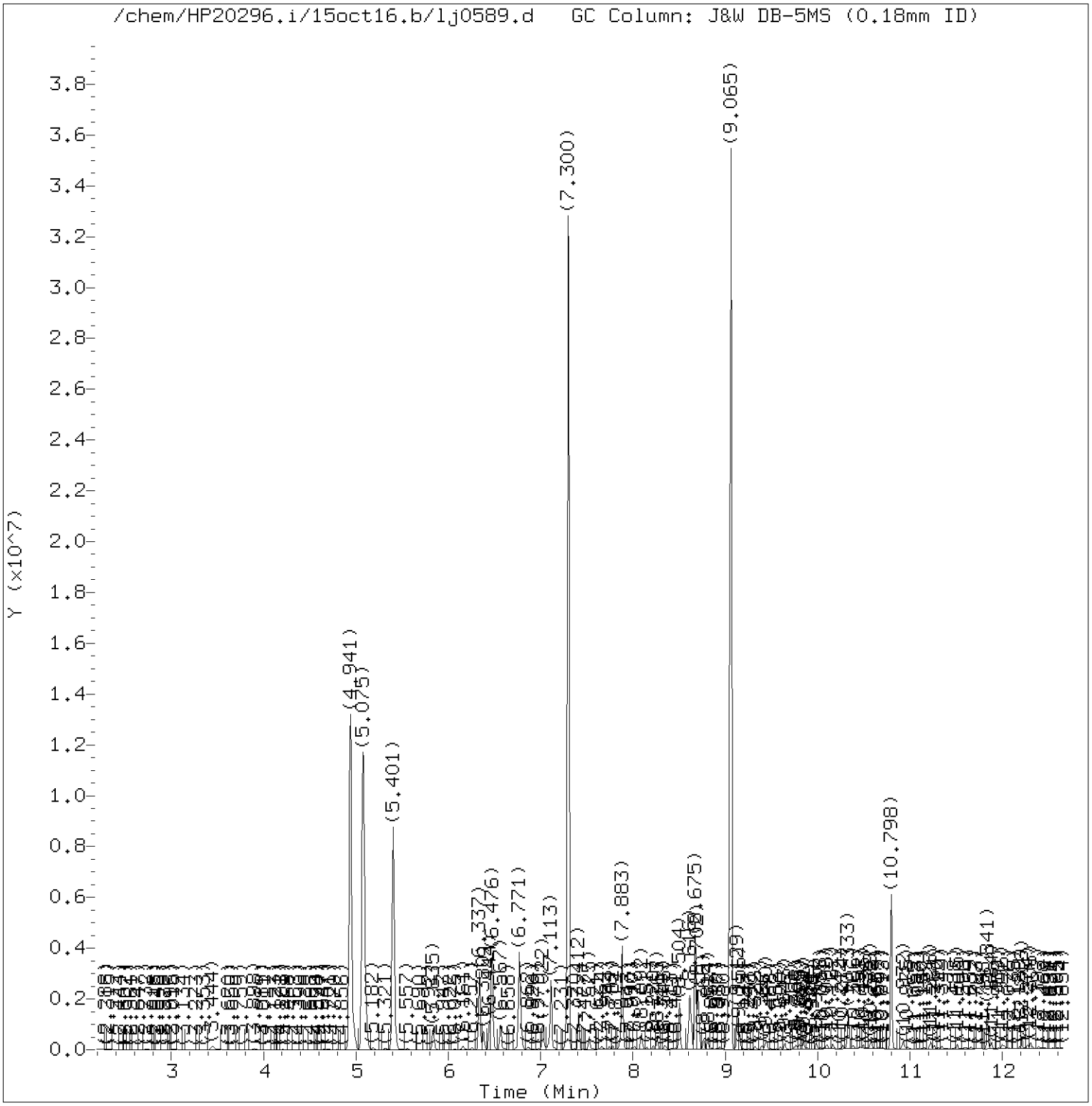
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:43. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

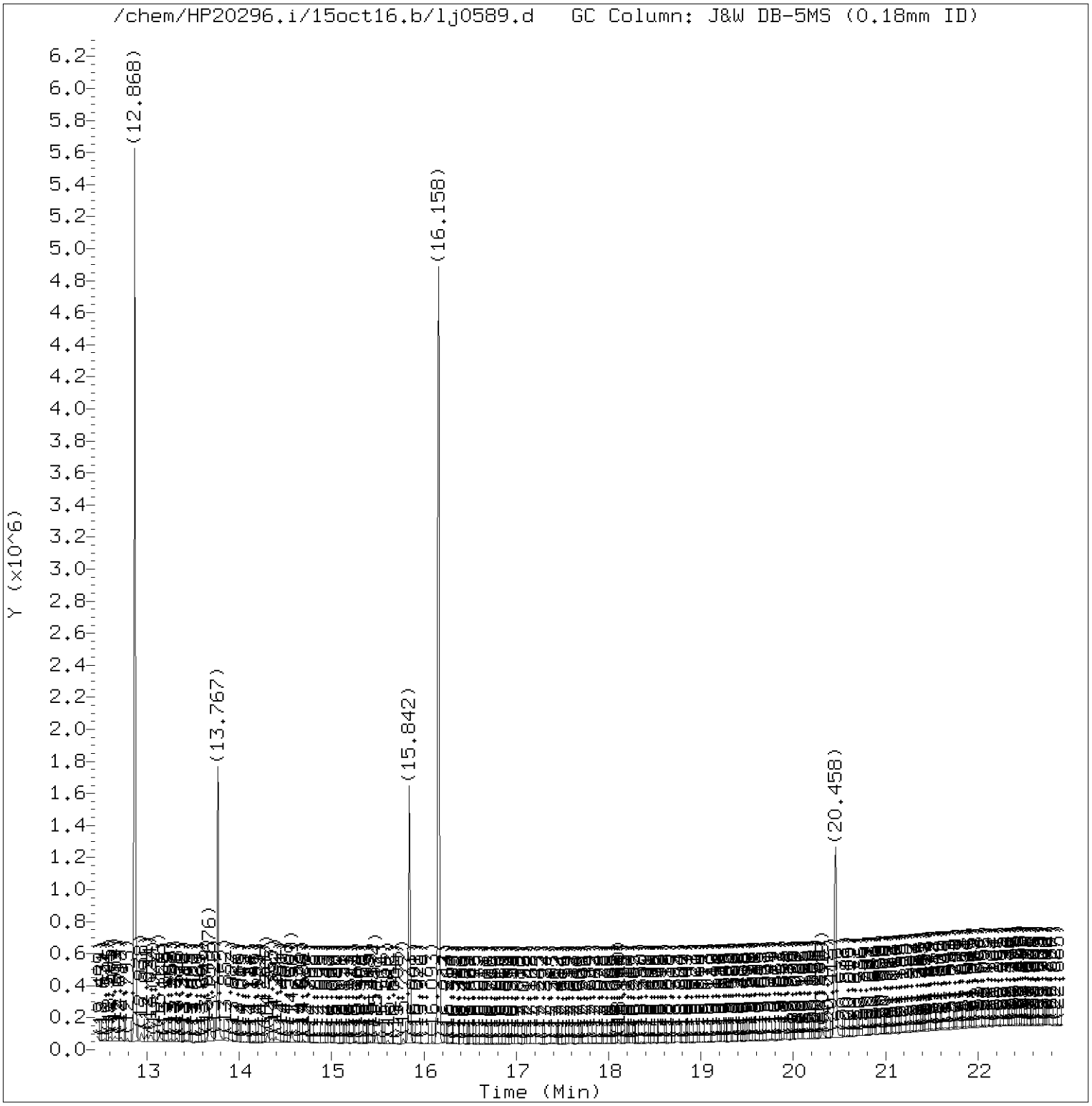
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0589.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:03 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:28 Unknown

Sample Name: P2803 Lab Sample ID: 8082099

Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0589.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:03 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:28 Unknown

Sample Name: P2803 Lab Sample ID: 8082099

Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0589.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:03 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:28 Unknown

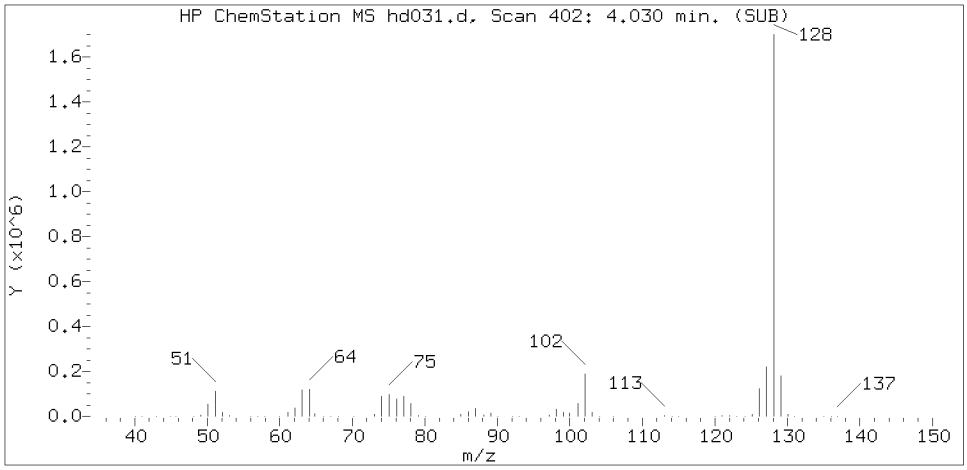
Sample Name: P2803 Lab Sample ID: 8082099

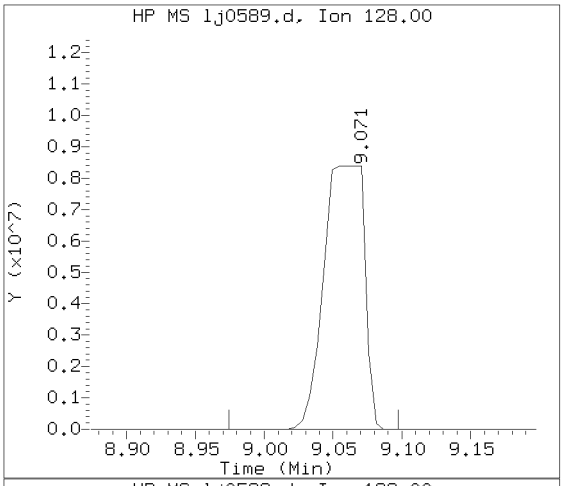
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.022	152	197309	5.000
44)$Nitrobenzene-d5	(2)	7.883	82	1659128	24.100
65)*Naphthalene-d8	(2)	9.017	136	681899	5.000
66) Naphthalene	(2)	9.071	128	17251195	117.789
83) 2-Methylnaphthalene	(2)	10.178	142	4896	0.050
93)$2-Fluorobiphenyl	(3)	10.798	172	2208032	20.490
113)*Acenaphthene-d10	(3)	11.841	164	390912	5.000
114) Acenaphthene	(3)	11.884	153	63691	0.681
153)*Phenanthrene-d10	(4)	13.767	188	722243	5.000
175)*Pyrene-d10	(5)	15.842	212	834287	5.000
179)$Terphenyl-d14	(5)	16.158	244	1899656	17.148
213)*Perylene-d12	(6)	20.458	264	596756	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

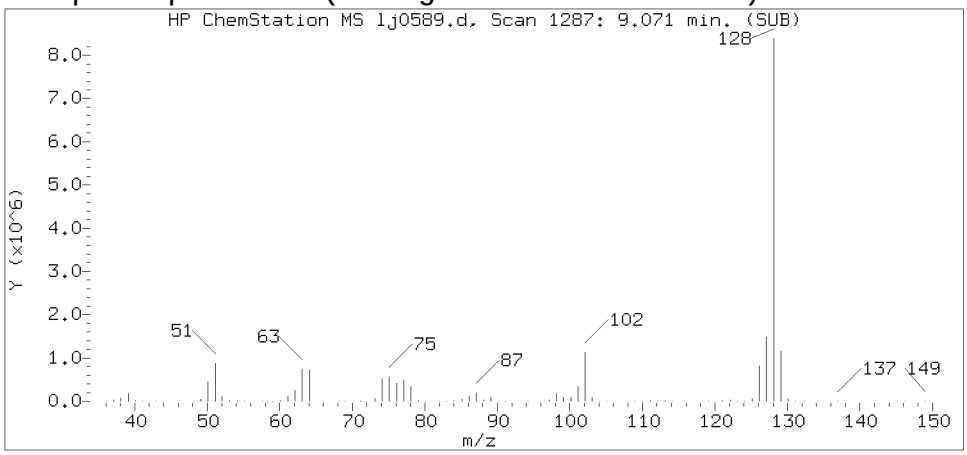
Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

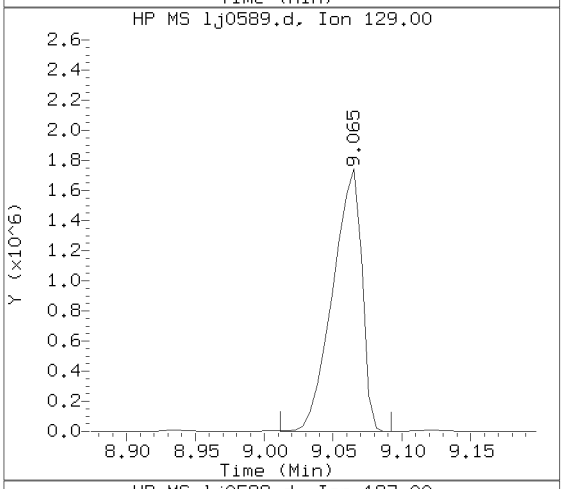
Reference Standard Spectrum for Naphthalene



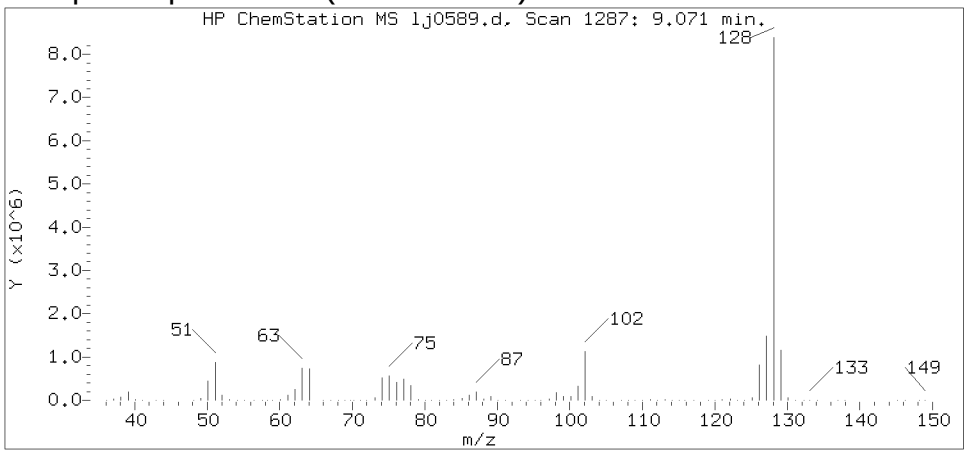


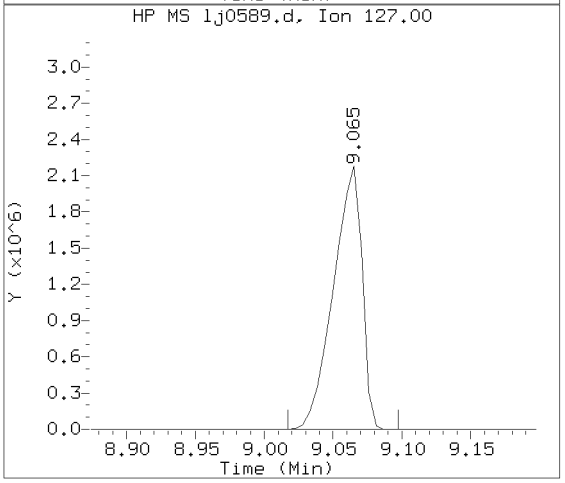
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0589.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:03 Analyst ID: hbz01996

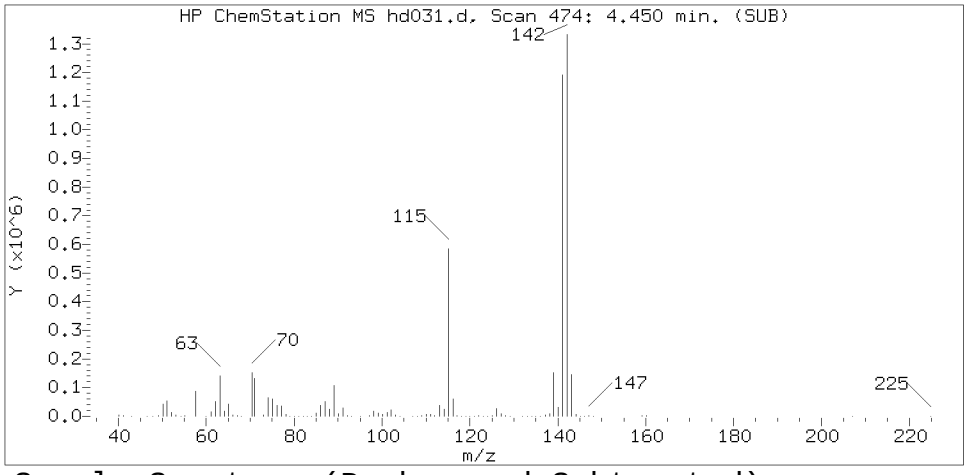
Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:28 Unknown

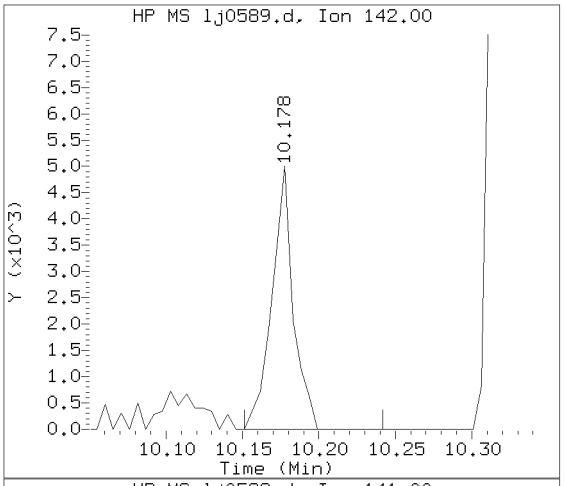
Sample Name: P2803 Lab Sample ID: 8082099

Compound Number : 66
Compound Name : Naphthalene
Scan Number : 1287
Retention Time (minutes) : 9.071
Relative Retention Time :-0.00237
Quant Ion : 128.00
Area (flag) : 17251195
On-column Amount (ng/ul) : 117.7894

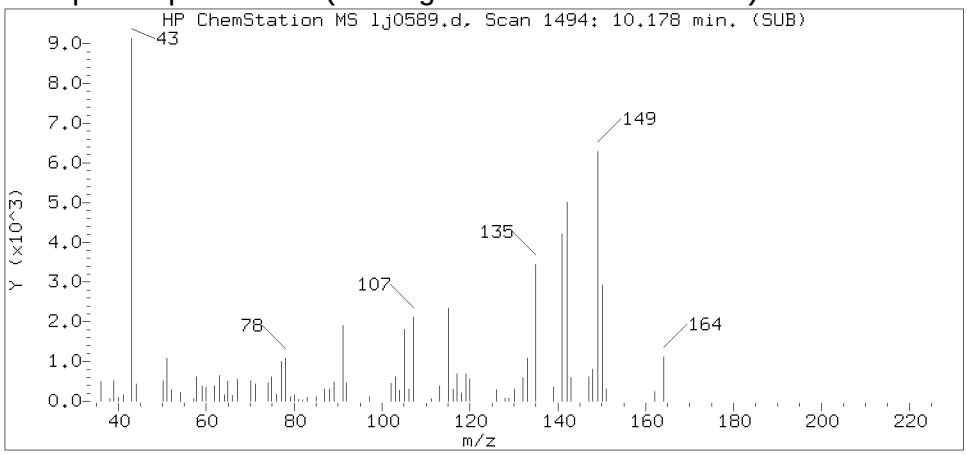
Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

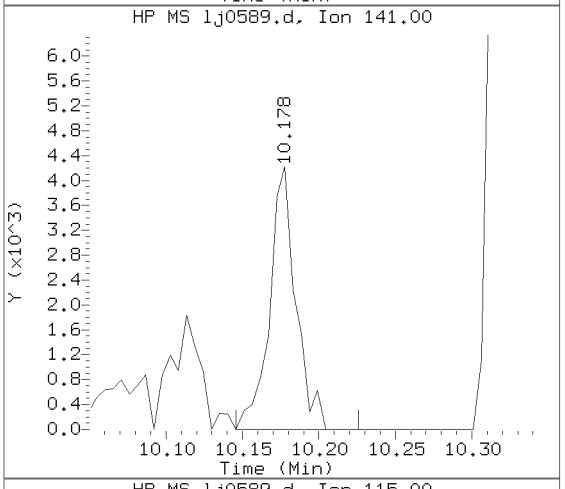
Reference Standard Spectrum for 2-Methylnaphthalene



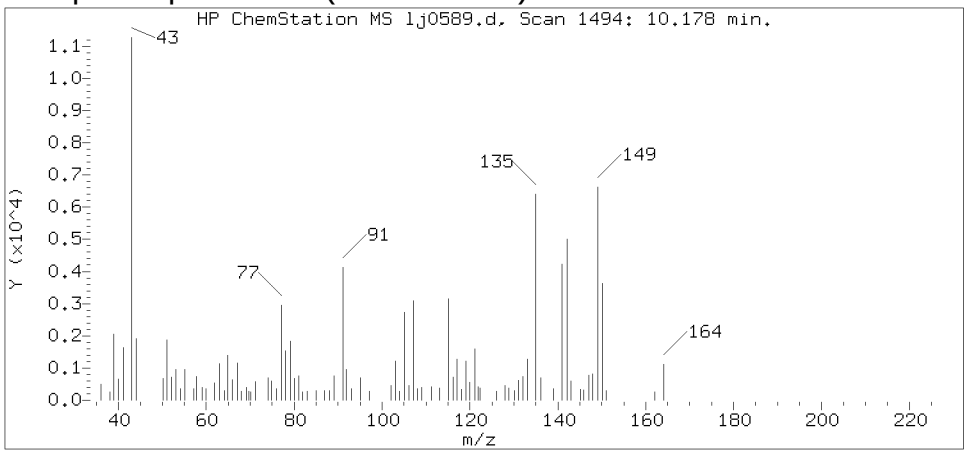


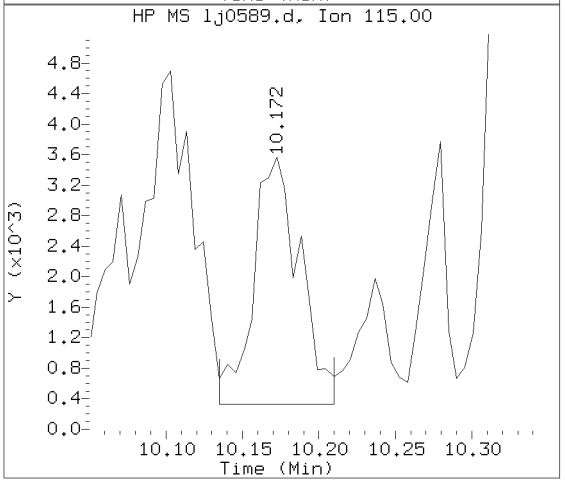
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0589.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:03 Analyst ID: hbz01996

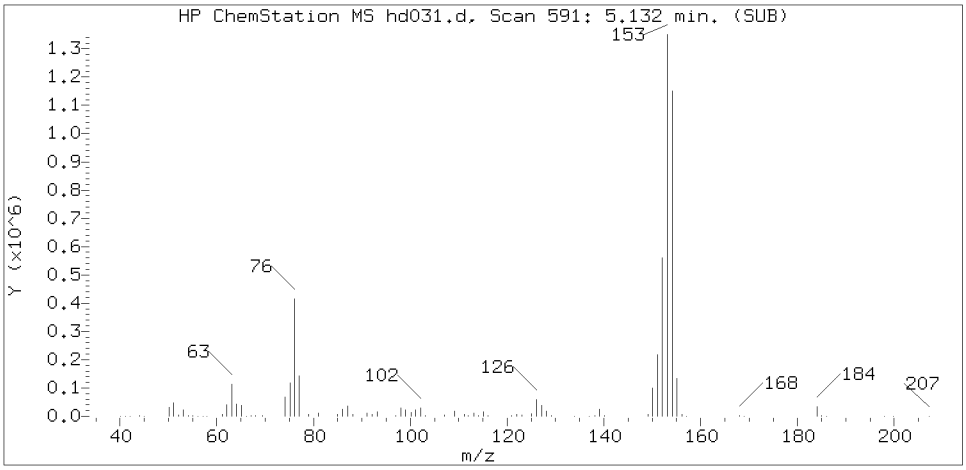
Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:28 Unknown

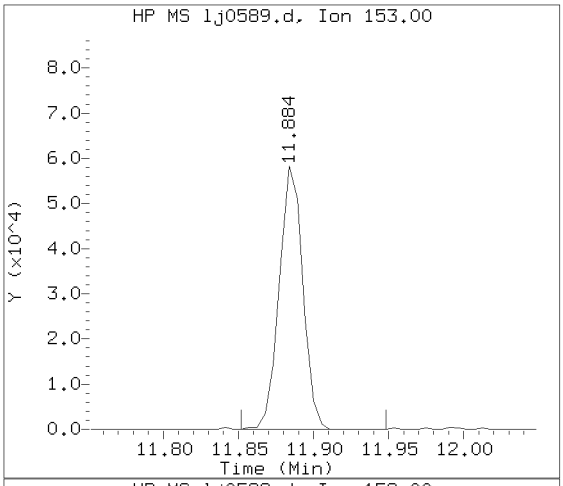
Sample Name: P2803 Lab Sample ID: 8082099

Compound Number : 83
Compound Name : 2-Methylnaphthalene
Scan Number : 1494
Retention Time (minutes) : 10.178
Relative Retention Time :-0.00000
Quant Ion : 142.00
Area (flag) : 4896
On-column Amount (ng/ul) : 0.0504

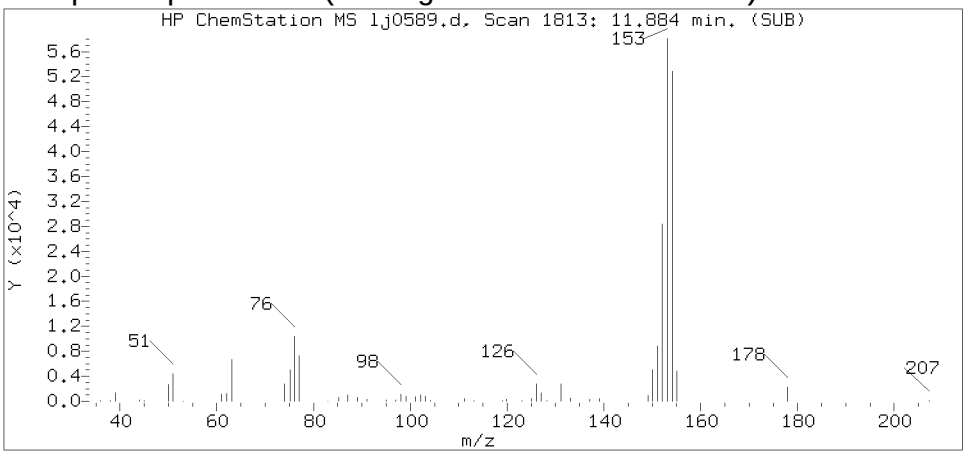
Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

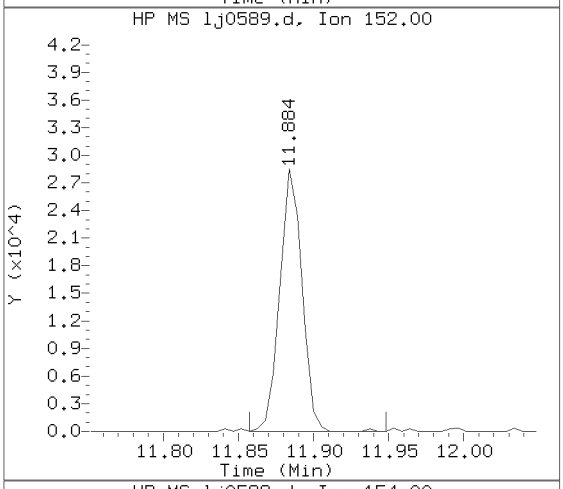
Reference Standard Spectrum for Acenaphthene



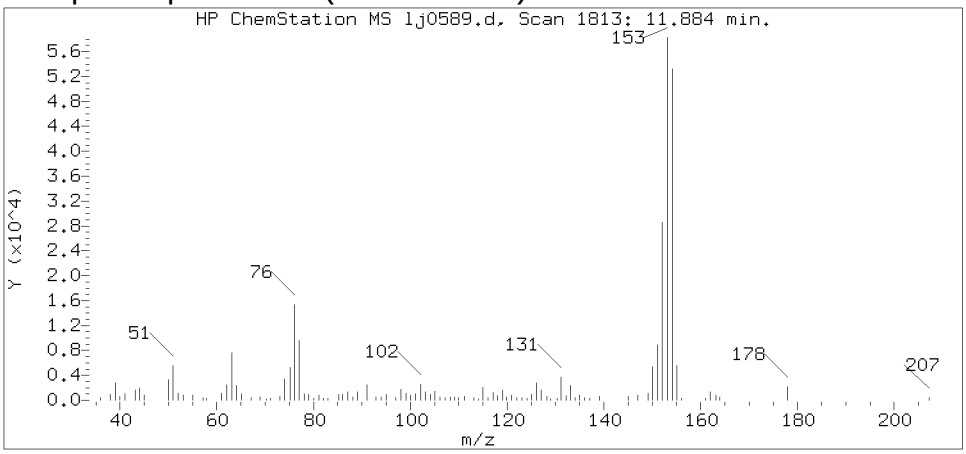


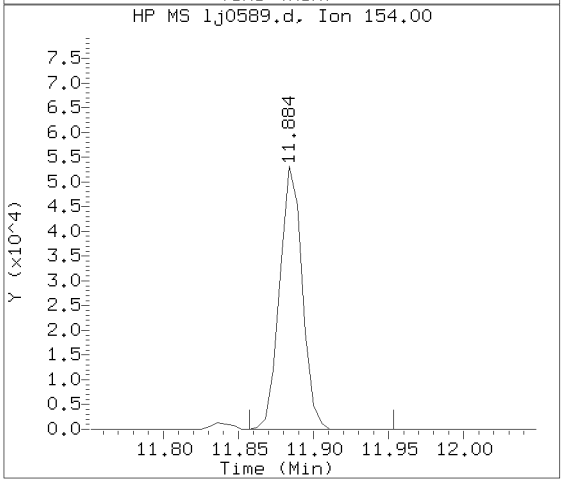
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0589.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:03 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:28 Unknown

Sample Name: P2803 Lab Sample ID: 8082099

Compound Number	: 114
Compound Name	: Acenaphthene
Scan Number	: 1813
Retention Time (minutes)	: 11.884
Relative Retention Time	: 0.00045
Quant Ion	: 153.00
Area (flag)	: 63691
On-column Amount (ng/ul)	: 0.6815

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Target 3.5 esignature user ID: ceb05247

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct17.b/lj0616.d Injection date and time: **17-OCT-2015 15:12**
Data file Sample Info. Line: P2803DL;8082099DL;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 17-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct17.b/lj0611.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 20 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 242 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.001(0.006)	900	152	195173 (-20)	5.00	
65) Naphthalene-d8	8.990(0.006)	1272	136	748746 (-20)	5.00	
113) Acenaphthene-d10	11.825(0.000)	1802	164	391000 (-25)	5.00	
153) Phenanthrene-d10	13.750(0.006)	2162	188	717640 (-22)	5.00	
175) Pyrene-d10	15.820(0.006)	2549	212	791360 (-25)	5.00	
213) Perylene-d12	20.436(0.000)	3412	264	573574 (-24)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.856(0.001)	82	69529	0.920	74%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.777(0.000)	172	110839	1.028	82%		61 - 112
179) Terphenyl-d14	(5)	16.136(0.000)	244	81010	0.771	62%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	9.028(-0.000)	128	1315487	8.180	676.04			0.03
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)	11.868(0.000)	153	3093	0.033	2.73			0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:29. Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct17.b/lj0616.d Injection date and time: **17-OCT-2015 15:12**
Data file Sample Info. Line: P2803DL;8082099DL;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 17-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct17.b/lj0611.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 20 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 242 ml Volume Injected (Vi): 1 ul

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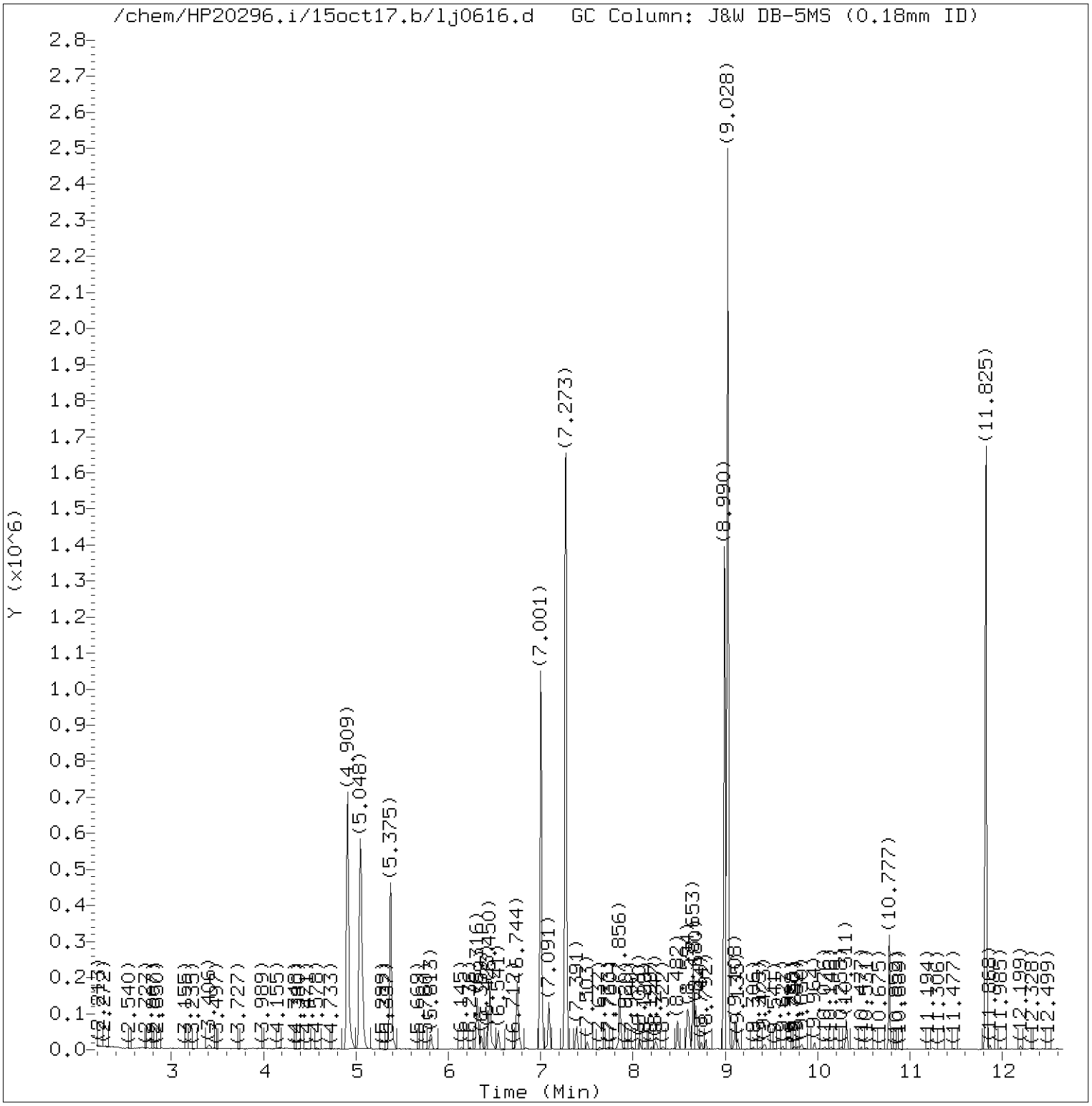
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:29. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 14:18. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

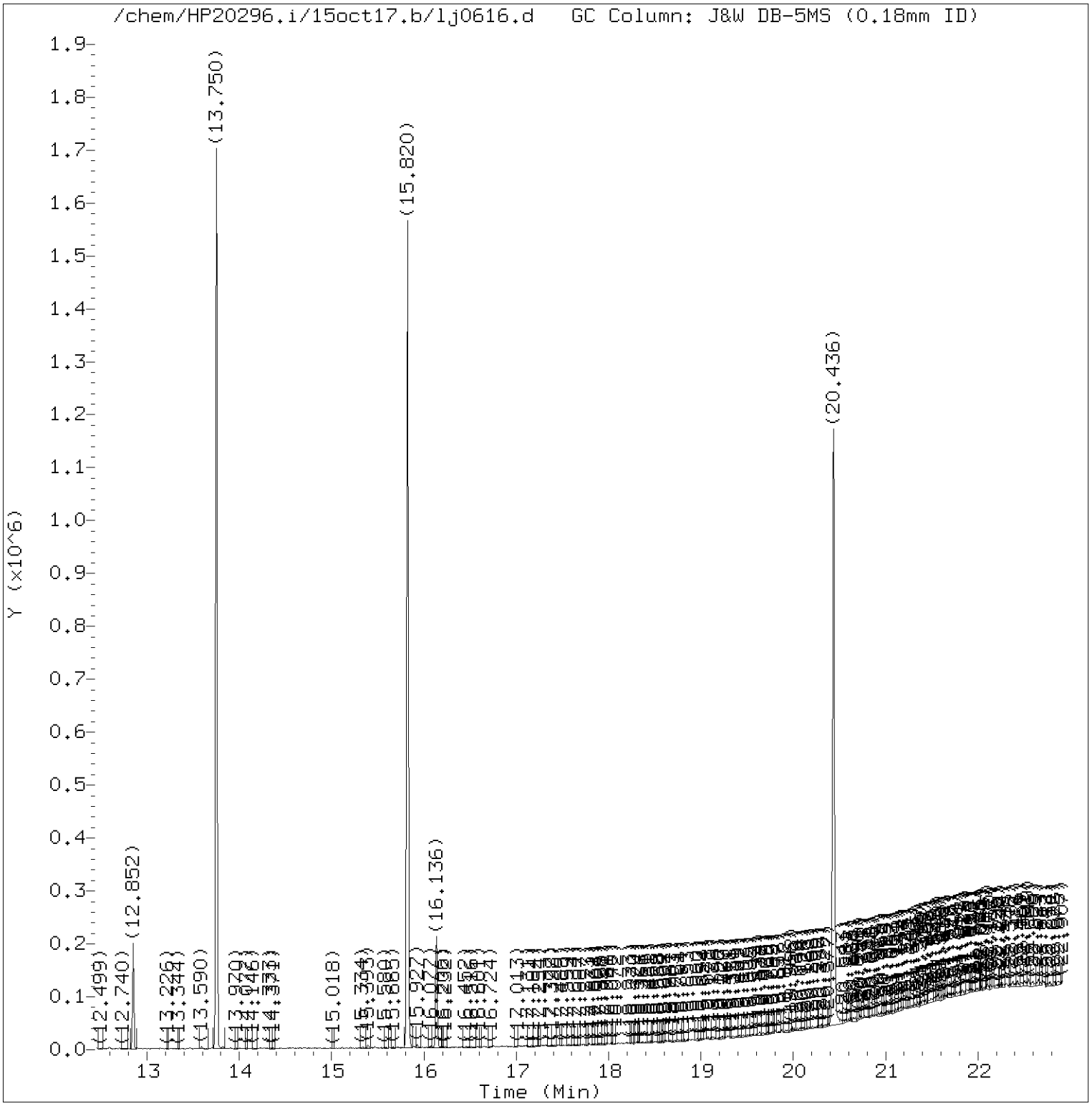
Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0616.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 15:12 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2803DL Lab Sample ID: 8082099DL

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0616.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 15:12 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2803DL Lab Sample ID: 8082099DL

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0616.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 15:12 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

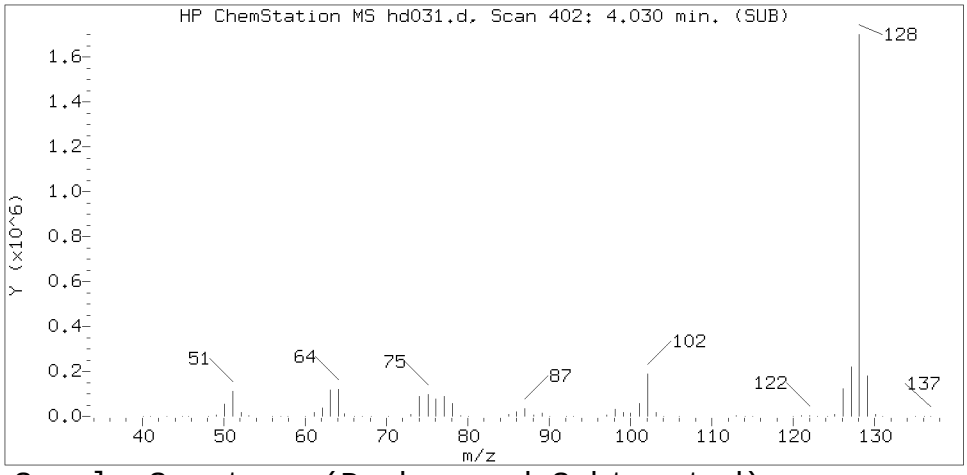
Sample Name: P2803DL Lab Sample ID: 8082099DL

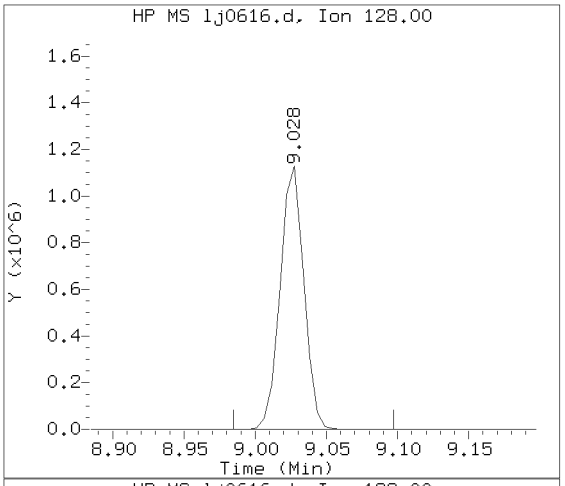
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.001	152	195173	5.000
44)$Nitrobenzene-d5	(2)	7.856	82	69529	0.920
65)*Naphthalene-d8	(2)	8.990	136	748746	5.000
66) Naphthalene	(2)	9.028	128	1315487	8.180
93)$2-Fluorobiphenyl	(3)	10.777	172	110839	1.028
113)*Acenaphthene-d10	(3)	11.825	164	391000	5.000
114) Acenaphthene	(3)	11.868	153	3093	0.033
153)*Phenanthrene-d10	(4)	13.750	188	717640	5.000
175)*Pyrene-d10	(5)	15.820	212	791360	5.000
179)$Terphenyl-d14	(5)	16.136	244	81010	0.771
213)*Perylene-d12	(6)	20.436	264	573574	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

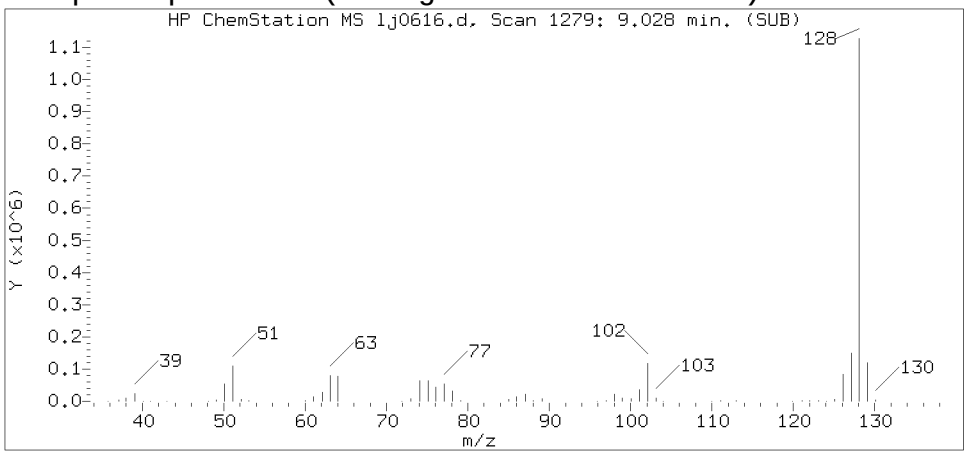
Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996

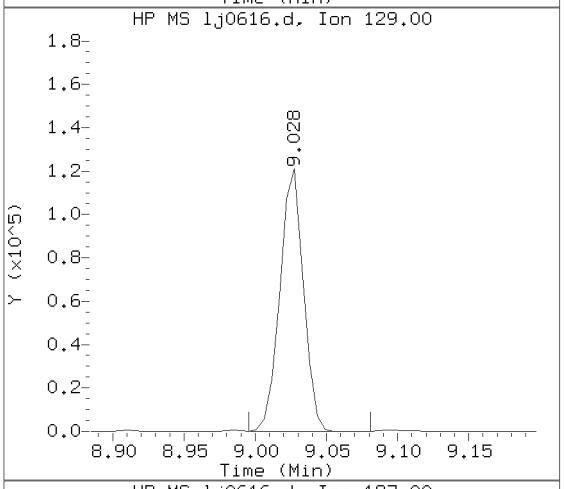
Reference Standard Spectrum for Naphthalene



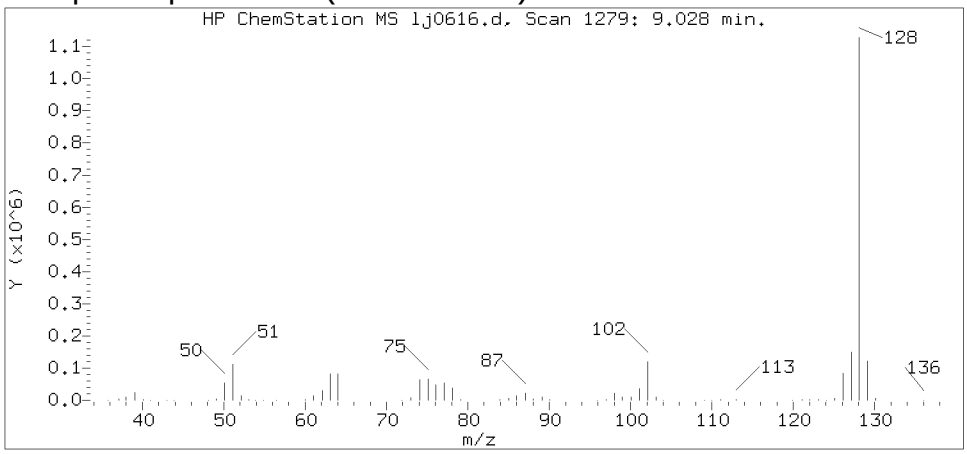


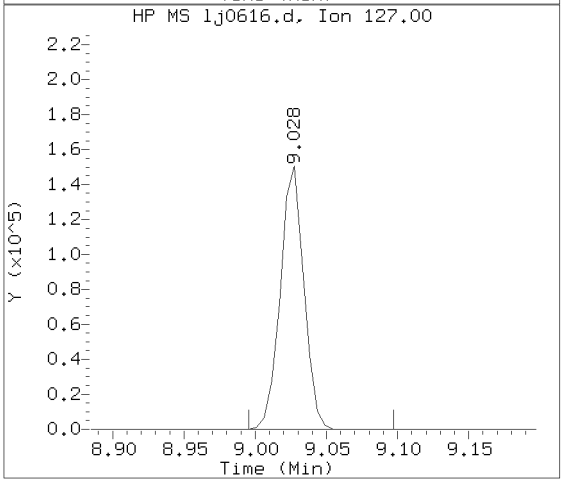
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0616.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 15:12 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2803DL Lab Sample ID: 8082099DL

Compound Number : 66
Compound Name : Naphthalene
Scan Number : 1279
Retention Time (minutes) : 9.028
Relative Retention Time :-0.00060
Quant Ion : 128.00
Area (flag) : 1315487
On-column Amount (ng/ul) : 8.1801

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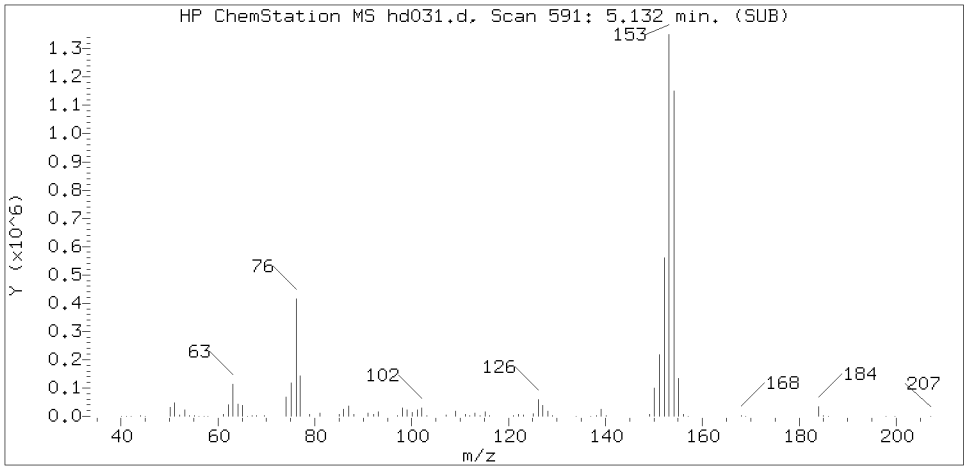
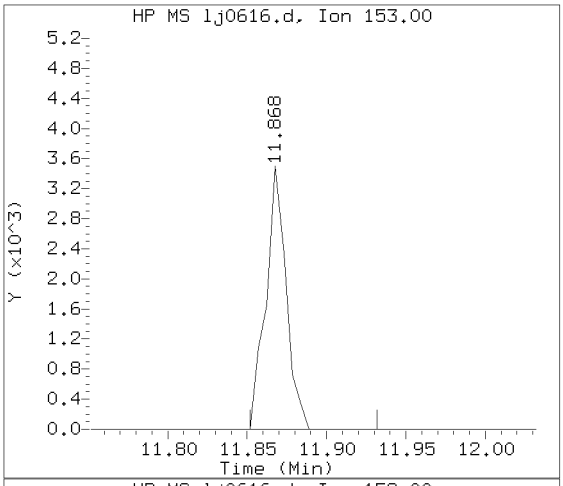
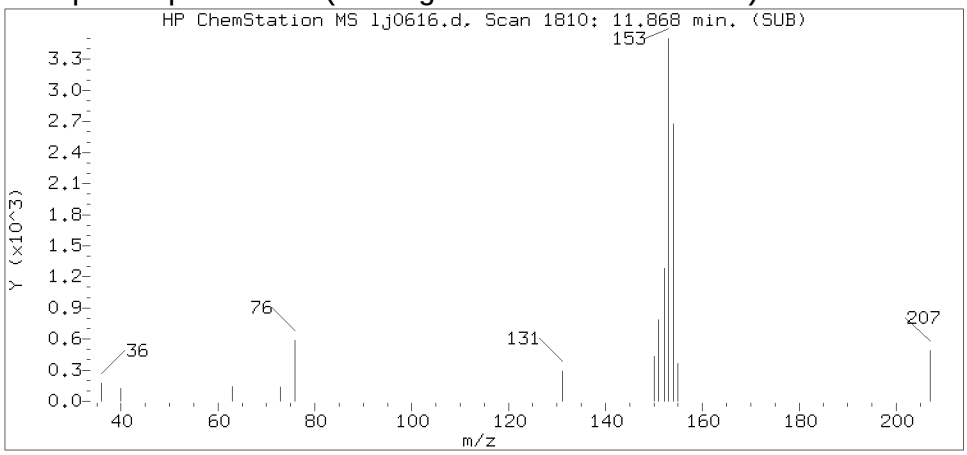
Target 3.5 esignature user ID: hbz01996

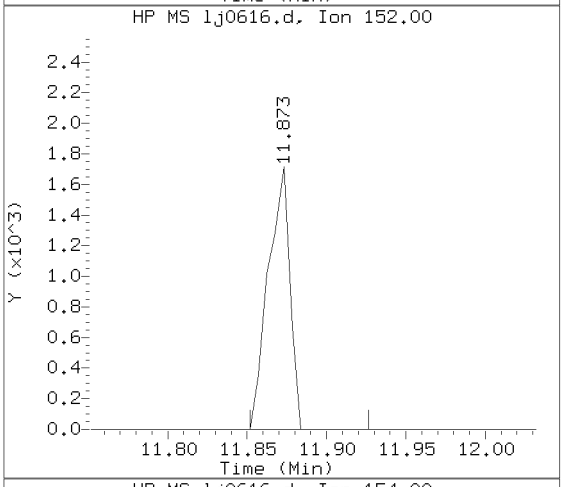
Reference Standard Spectrum for Acenaphthene



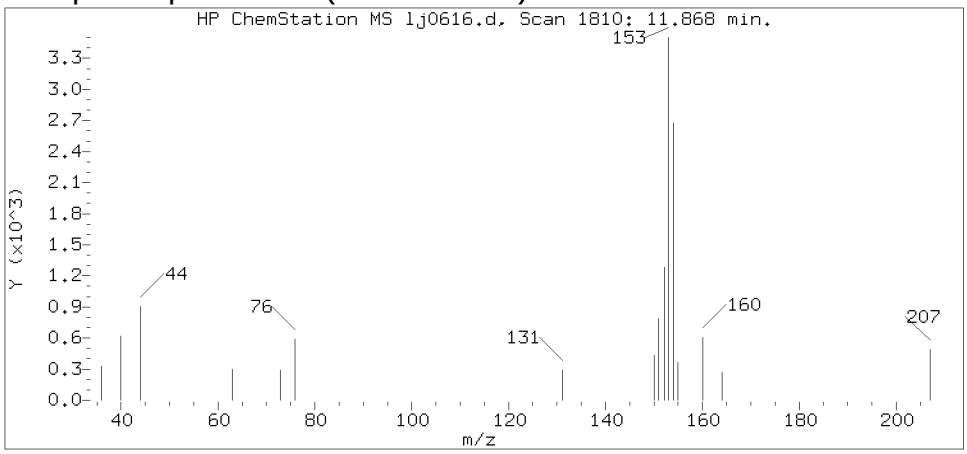


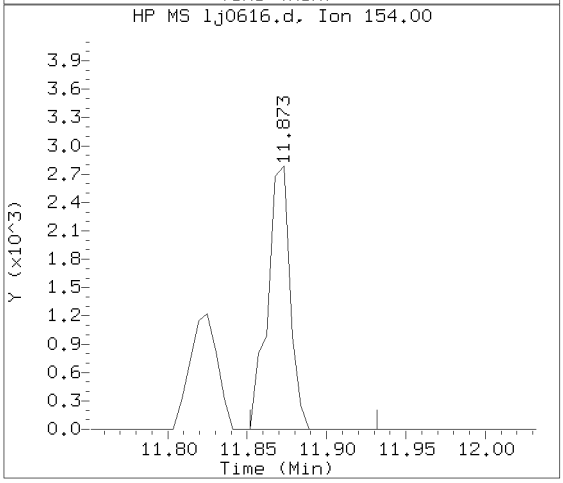
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0616.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 15:12 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2803DL Lab Sample ID: 8082099DL

Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1810
Retention Time (minutes) : 11.868
Relative Retention Time : 0.00045
Quant Ion : 153.00
Area (flag) : 3093
On-column Amount (ng/ul) : 0.0331

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0590.d
Data file Sample Info. Line: P2804;8082100;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 16-Oct-2015 15:56 Unknown

Injection date and time: **16-OCT-2015 15:31**
Instrument ID: **HP20296.i** Batch: **15283WAB**

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.027(0.000)	905	152	197119 (-9)	5.00	
65) Naphthalene-d8	9.017(0.000)	1277	136	713241 (-18)	5.00	
113) Acenaphthene-d10	11.841(0.000)	1805	164	417500 (-15)	5.00	
153) Phenanthrene-d10	13.767(0.006)	2165	188	757199 (-18)	5.00	
175) Pyrene-d10	15.842(0.006)	2553	212	875939 (-19)	5.00	
213) Perylene-d12	20.458(0.006)	3416	264	633001 (-17)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.883(0.001)	82	1440275	20.001	80%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.798(0.000)	172	2245707	19.512	78%		61 - 112
179) Terphenyl-d14	(5)	16.157(0.000)	244	2056062	17.677	71%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	9.065(-0.001)	128	16338523	106.656	433.56		E	0.03
83) 2-Methylnaphthalene	(2)	10.178(-0.000)	142	10461	0.103	0.42			0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)	11.884(0.000)	153	44495	0.446	1.81			0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)	13.799(-0.000)	178	5092	0.032	0.13			0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

E = Compound concentration above calibration range.

Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0590.d Injection date and time: **16-OCT-2015 15:31**
Data file Sample Info. Line: P2804;8082100;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 15:56 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 1 ul

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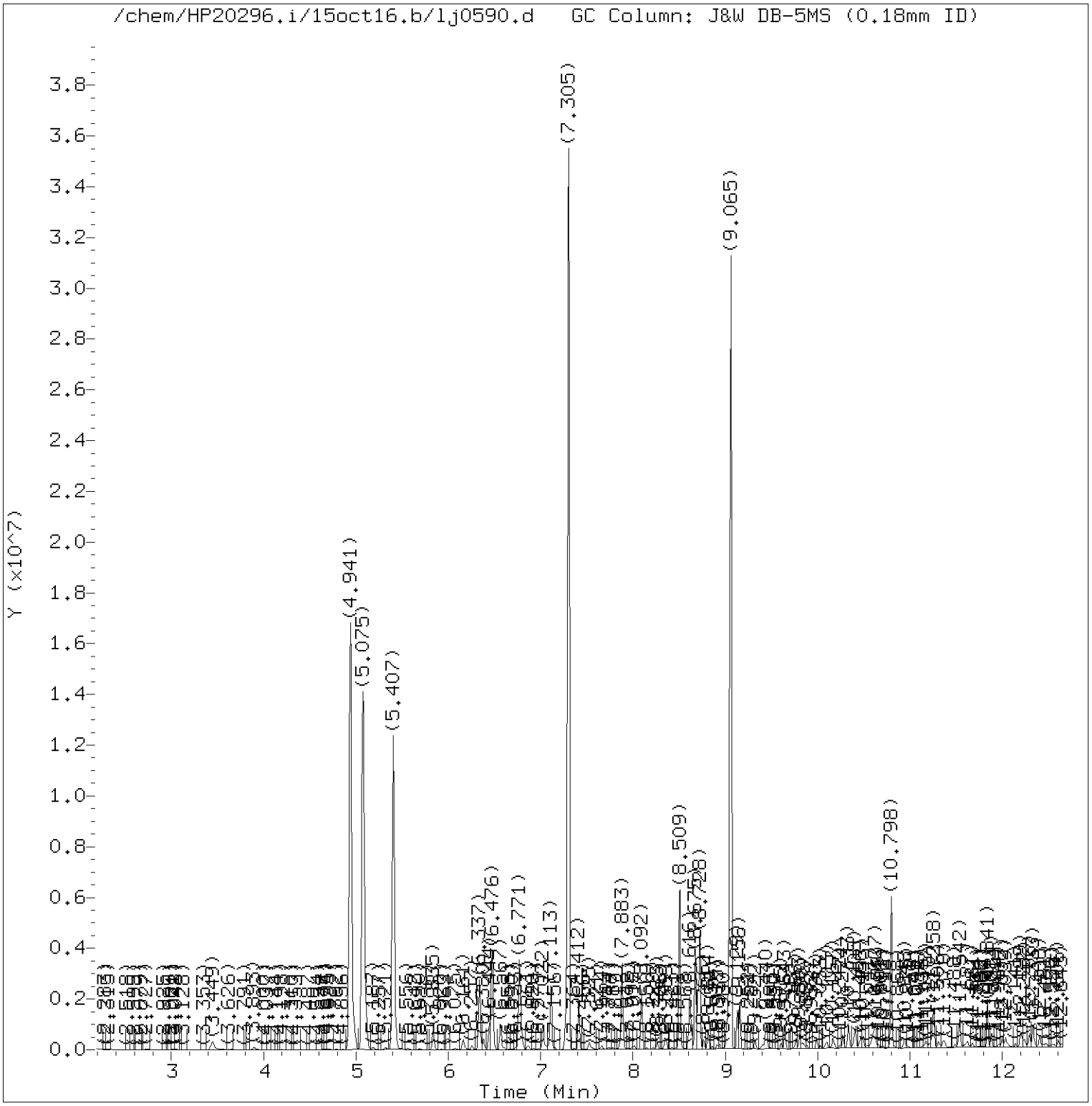
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:46. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

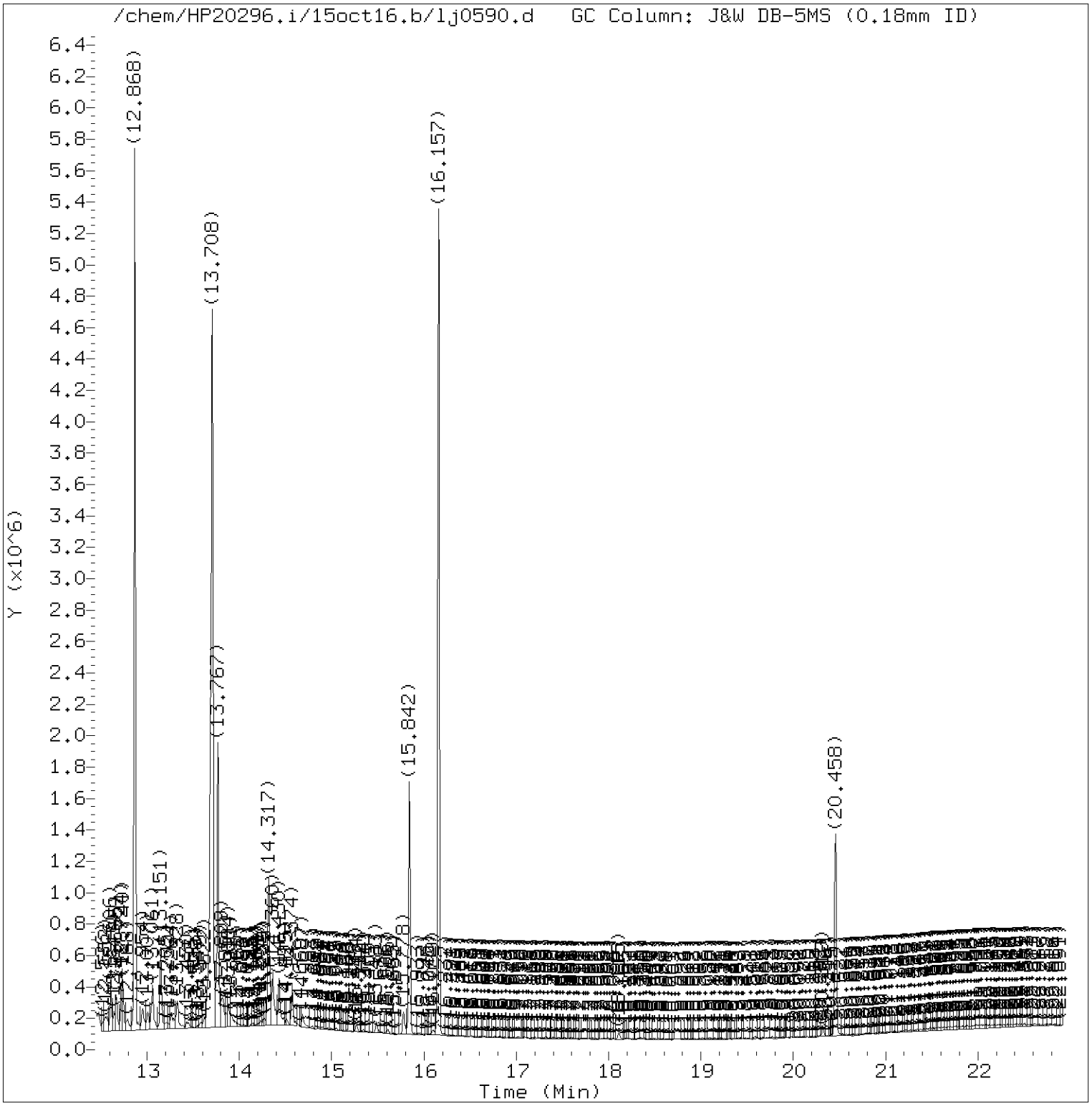
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0590.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:31 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:56 Unknown

Sample Name: P2804 Lab Sample ID: 8082100

Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0590.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:31 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:56 Unknown

Sample Name: P2804 Lab Sample ID: 8082100

Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0590.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:31 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:56 Unknown

Sample Name: P2804 Lab Sample ID: 8082100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.027	152	197119	5.000
44)$Nitrobenzene-d5	(2)	7.883	82	1440275	20.001
65)*Naphthalene-d8	(2)	9.017	136	713241	5.000
66) Naphthalene	(2)	9.065	128	16338523	106.656
83) 2-Methylnaphthalene	(2)	10.178	142	10461	0.103
93)$2-Fluorobiphenyl	(3)	10.798	172	2245707	19.512
113)*Acenaphthene-d10	(3)	11.841	164	417500	5.000
114) Acenaphthene	(3)	11.884	153	44495	0.446
153)*Phenanthrene-d10	(4)	13.767	188	757199	5.000
155) Phenanthrene	(4)	13.799	178	5092	0.032
175)*Pyrene-d10	(5)	15.842	212	875939	5.000
179)$Terphenyl-d14	(5)	16.157	244	2056062	17.677
213)*Perylene-d12	(6)	20.458	264	633001	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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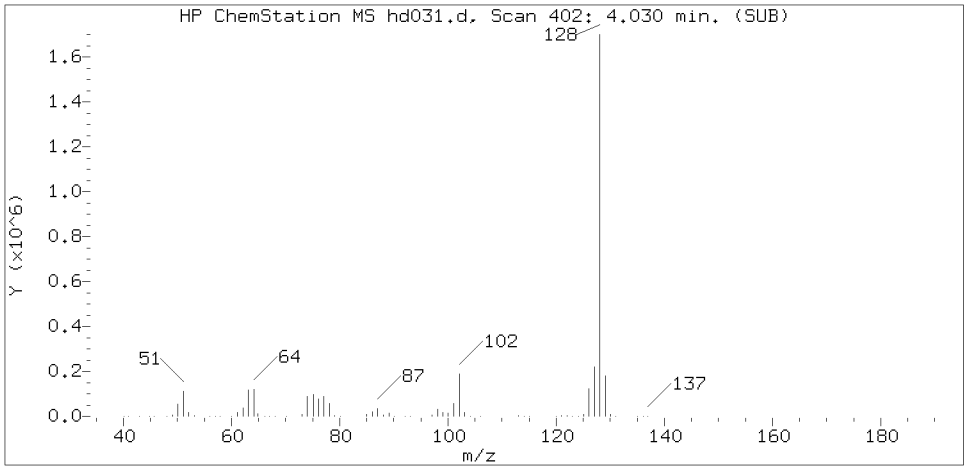
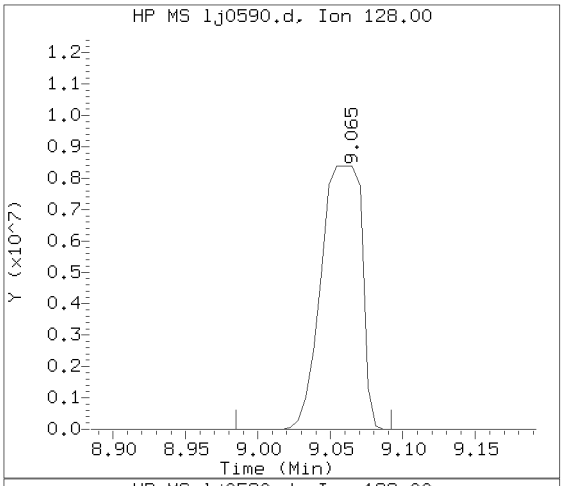
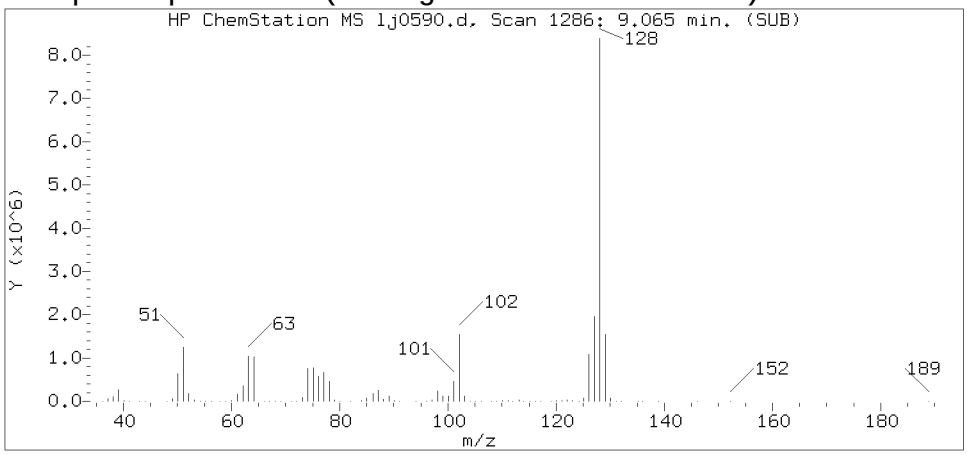
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

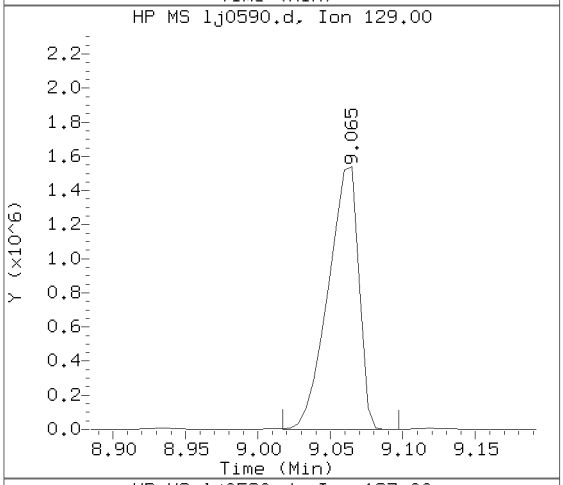
Reference Standard Spectrum for Naphthalene



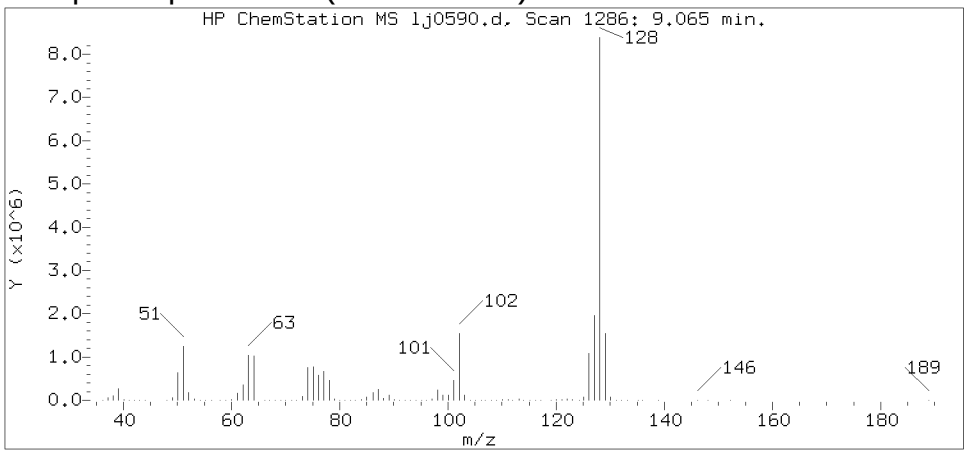


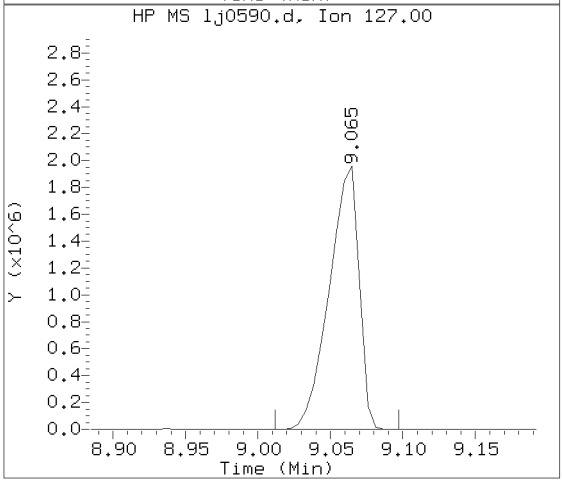
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0590.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:31 Analyst ID: hbz01996

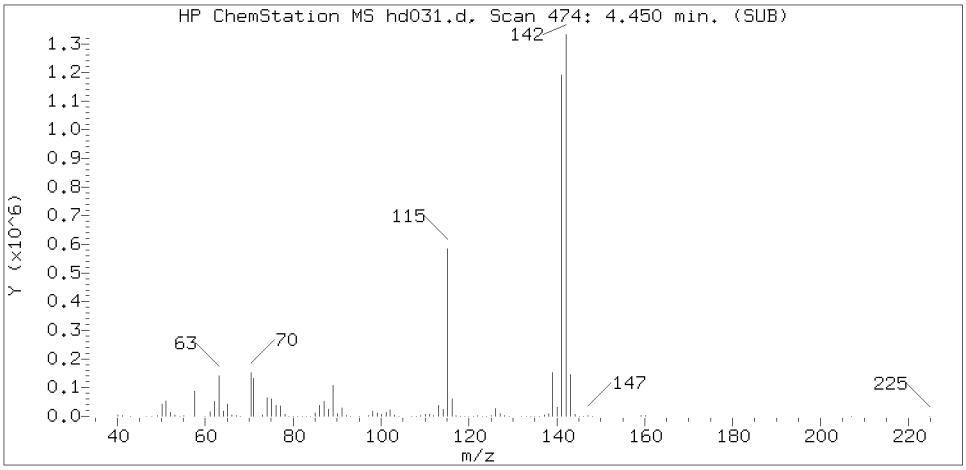
Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:56 Unknown

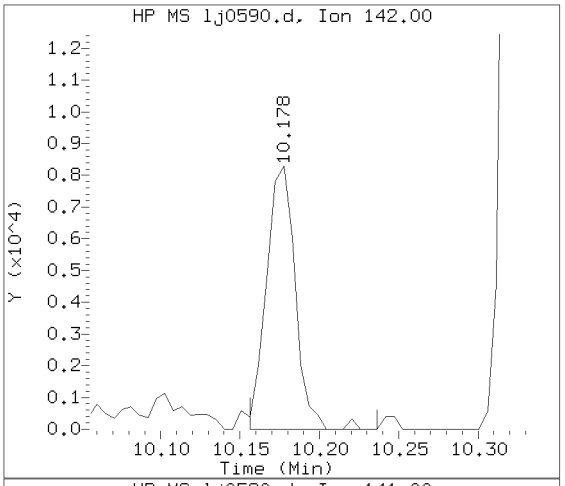
Sample Name: P2804 Lab Sample ID: 8082100

Compound Number : 66
Compound Name : Naphthalene
Scan Number : 1286
Retention Time (minutes) : 9.065
Relative Retention Time :-0.00178
Quant Ion : 128.00
Area (flag) : 16338523
On-column Amount (ng/ul) : 106.6557

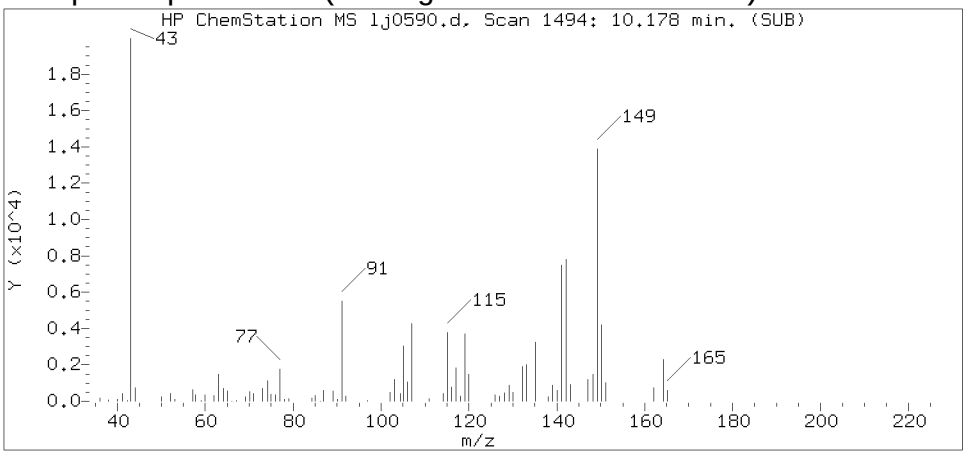
Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

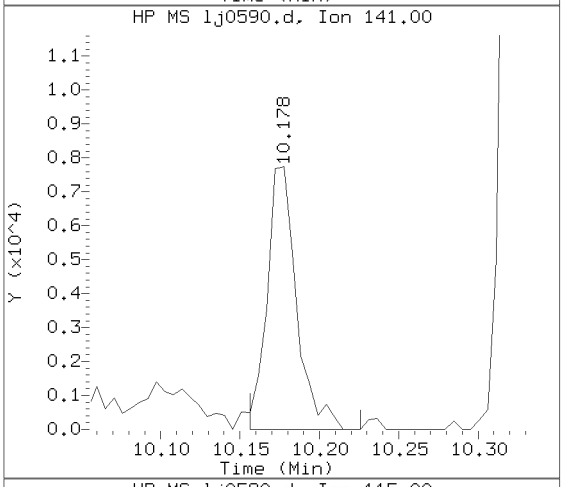
Reference Standard Spectrum for 2-Methylnaphthalene



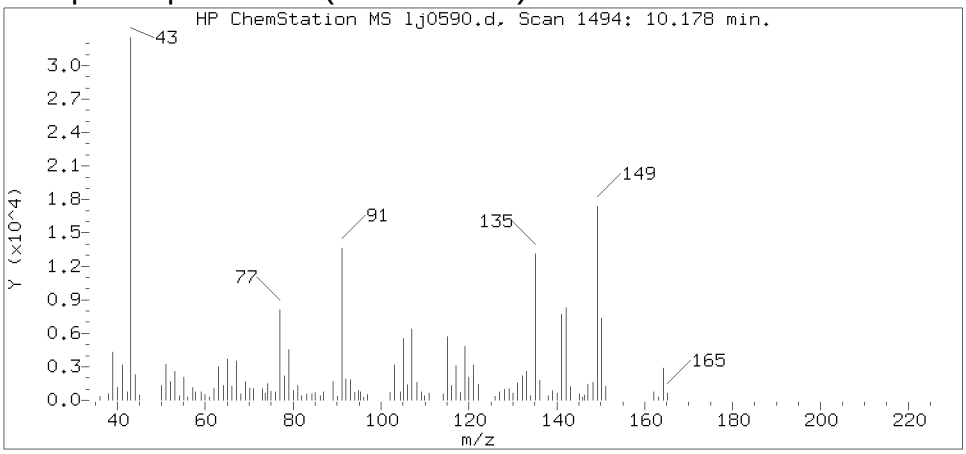


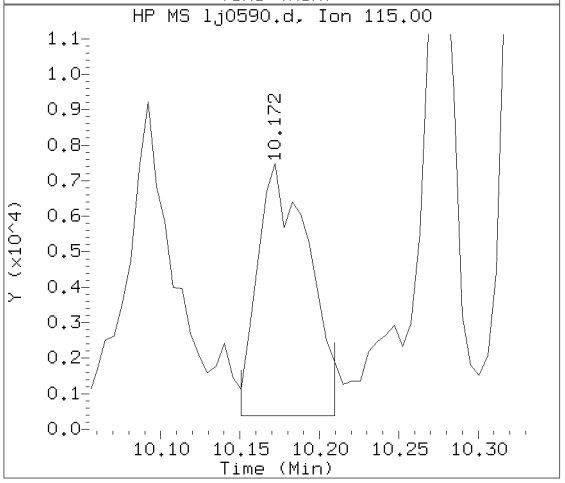
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0590.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:31 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:56 Unknown

Sample Name: P2804 Lab Sample ID: 8082100

Compound Number : 83
Compound Name : 2-Methylnaphthalene
Scan Number : 1494
Retention Time (minutes) : 10.178
Relative Retention Time :-0.00001
Quant Ion : 142.00
Area (flag) : 10461
On-column Amount (ng/ul) : 0.1030

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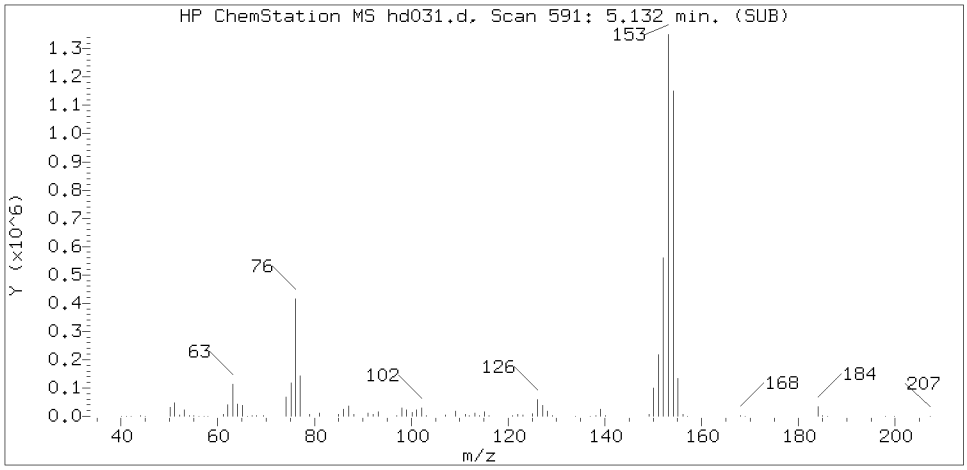
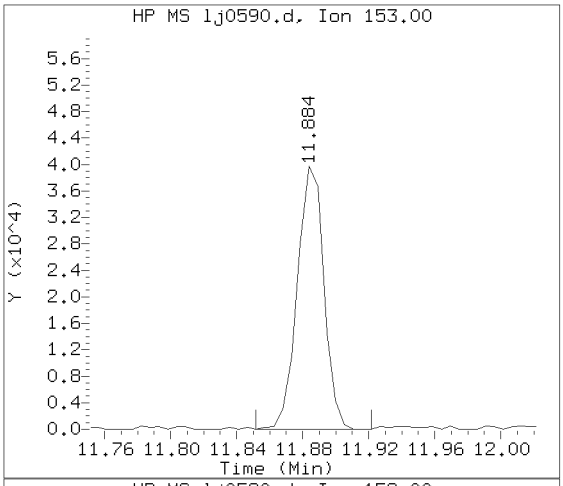
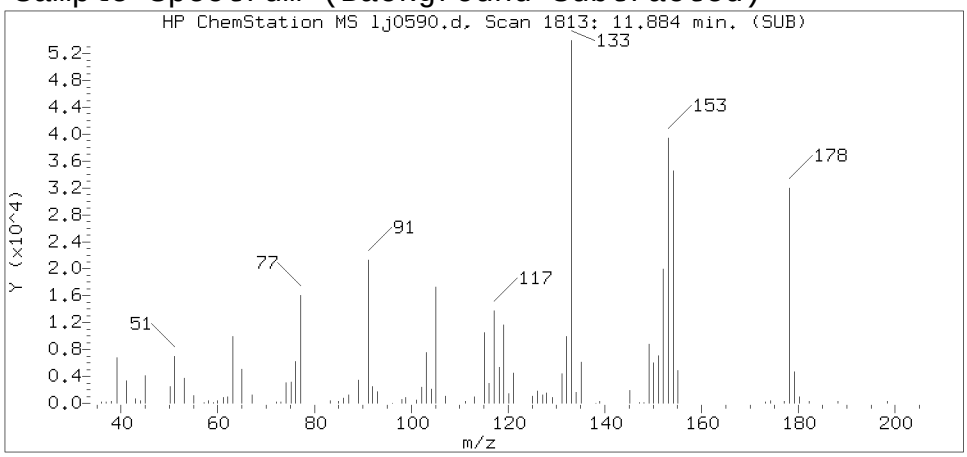
Target 3.5 esignature user ID: ceb05247

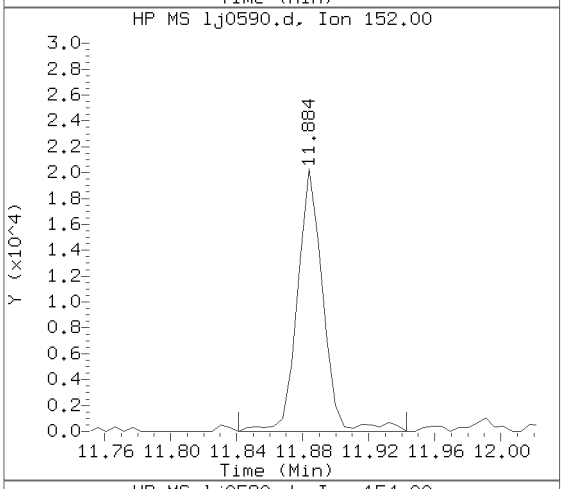
Reference Standard Spectrum for Acenaphthene



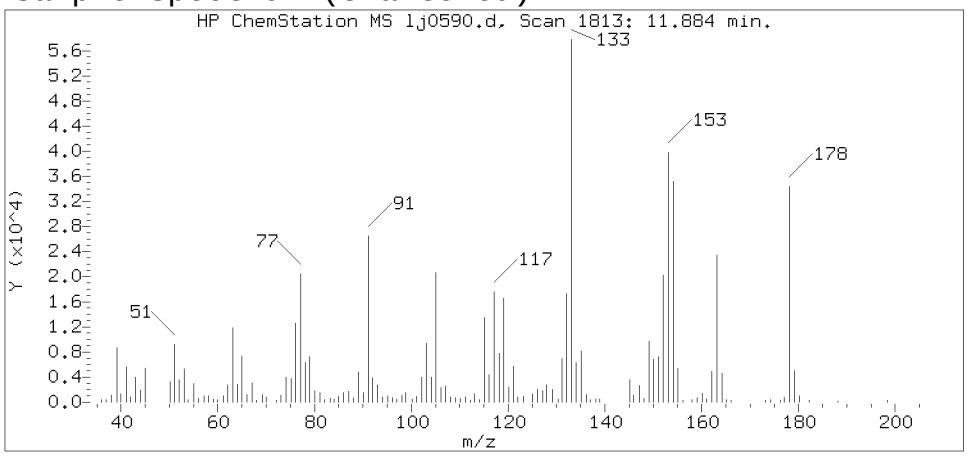


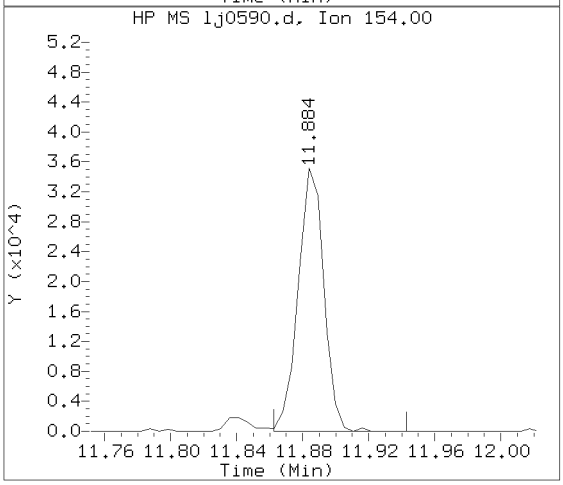
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0590.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:31 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:56 Unknown

Sample Name: P2804 Lab Sample ID: 8082100

Compound Number	: 114
Compound Name	: Acenaphthene
Scan Number	: 1813
Retention Time (minutes)	: 11.884
Relative Retention Time	: 0.00045
Quant Ion	: 153.00
Area (flag)	: 44495
On-column Amount (ng/ul)	: 0.4458

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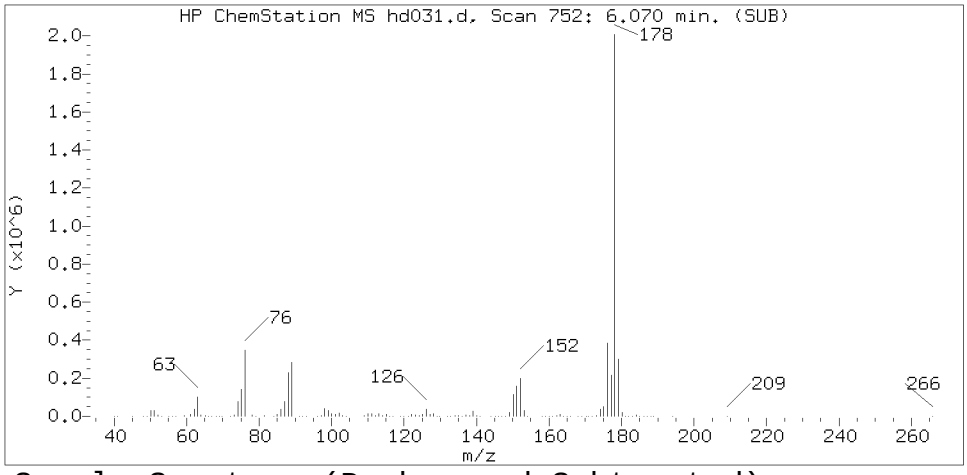
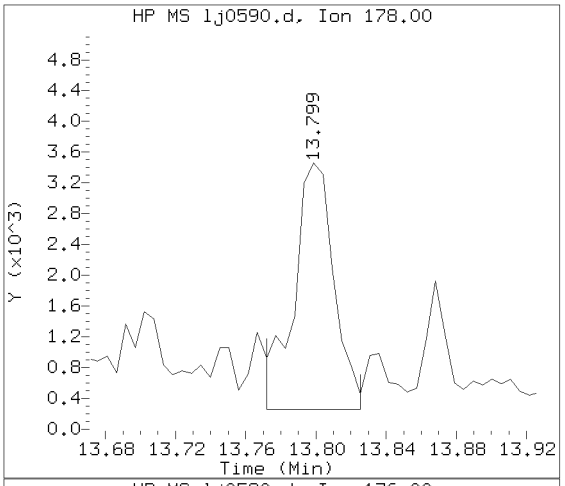
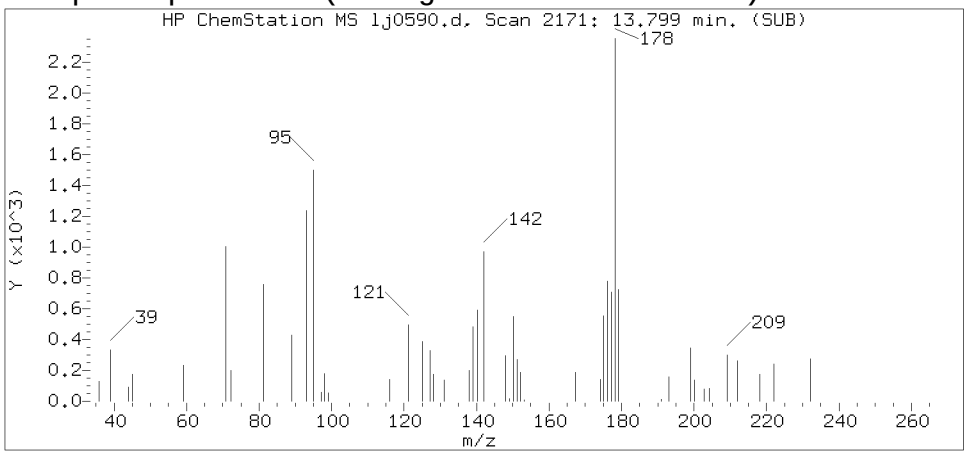
Target 3.5 esignature user ID: ceb05247

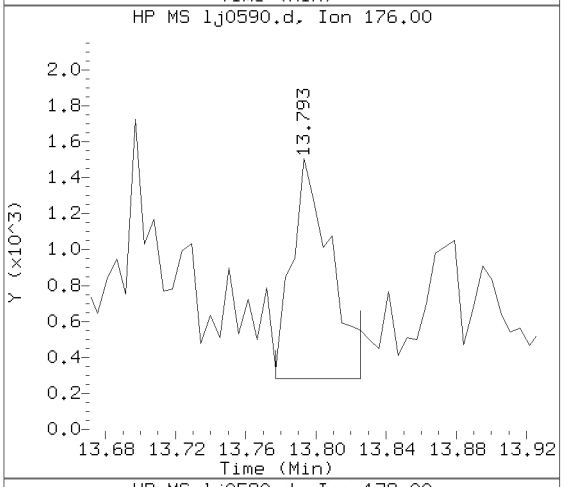
Reference Standard Spectrum for Phenanthrene



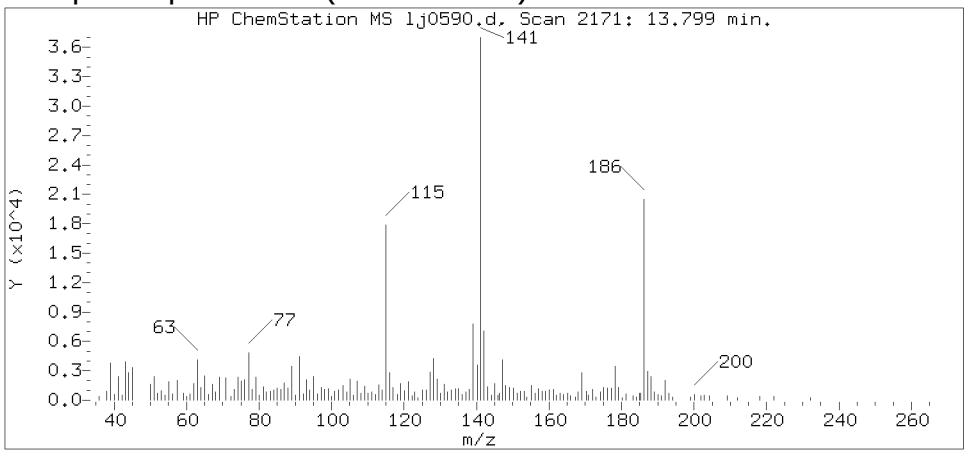


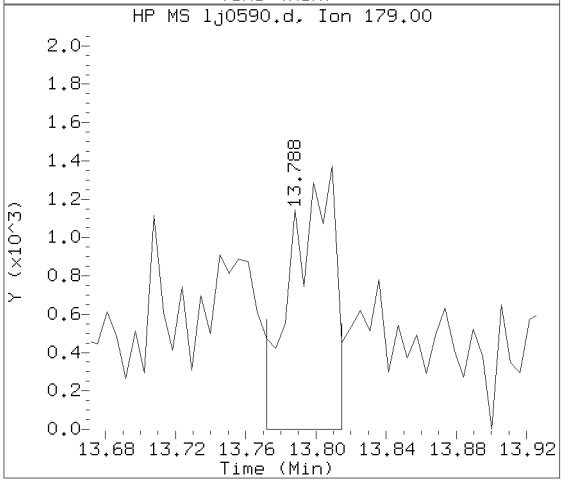
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0590.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:31 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 15:56 Unknown

Sample Name: P2804 Lab Sample ID: 8082100

Compound Number : 155
Compound Name : Phenanthrene
Scan Number : 2171
Retention Time (minutes) : 13.799
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 5092
On-column Amount (ng/ul) : 0.0323

Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct17.b/lj0617.d Injection date and time: **17-OCT-2015 15:39**
Data file Sample Info. Line: P2804DL;8082100DL;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 17-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct17.b/lj0611.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 20 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.001	(0.006)	900	152	201823	(-17)	5.00	
65) Naphthalene-d8	8.990	(0.005)	1272	136	733315	(-22)	5.00	
113) Acenaphthene-d10	11.825	(0.000)	1802	164	411061	(-21)	5.00	
153) Phenanthrene-d10	13.751	(0.006)	2162	188	745159	(-19)	5.00	
175) Pyrene-d10	15.820	(0.005)	2549	212	831823	(-21)	5.00	
213) Perylene-d12	20.436	(0.000)	3412	264	575270	(-24)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.856	(0.001)	82	69155	0.934	75%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.777	(0.000)	172	108749	0.960	77%		61 - 112
179) Terphenyl-d14	(5)	16.136	(0.000)	244	94499	0.856	68%		43 - 131

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	9.028	(-0.000)	128	1154753	7.332	596.08			0.03
83) 2-Methylnaphthalene	(2)				Not Detected					0.03
109) Acenaphthylene	(3)				Not Detected					0.03
114) Acenaphthene	(3)				Not Detected					0.03
126) Fluorene	(3)				Not Detected					0.03
155) Phenanthrene	(4)				Not Detected					0.03
157) Anthracene	(4)				Not Detected					0.03
173) Fluoranthene	(4)				Not Detected					0.03
177) Pyrene	(5)				Not Detected					0.03
195) Benzo(a)anthracene	(5)				Not Detected					0.03
196) Chrysene	(5)				Not Detected					0.03
206) Benzo(b)fluoranthene	(6)				Not Detected					0.03
208) Benzo(k)fluoranthene	(6)				Not Detected					0.03
211) Benzo(a)pyrene	(6)				Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)				Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)				Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)				Not Detected					0.03

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:29. Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct17.b/lj0617.d Injection date and time: **17-OCT-2015 15:39**
Data file Sample Info. Line: P2804DL;8082100DL;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 17-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct17.b/lj0611.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 20 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 1 ul

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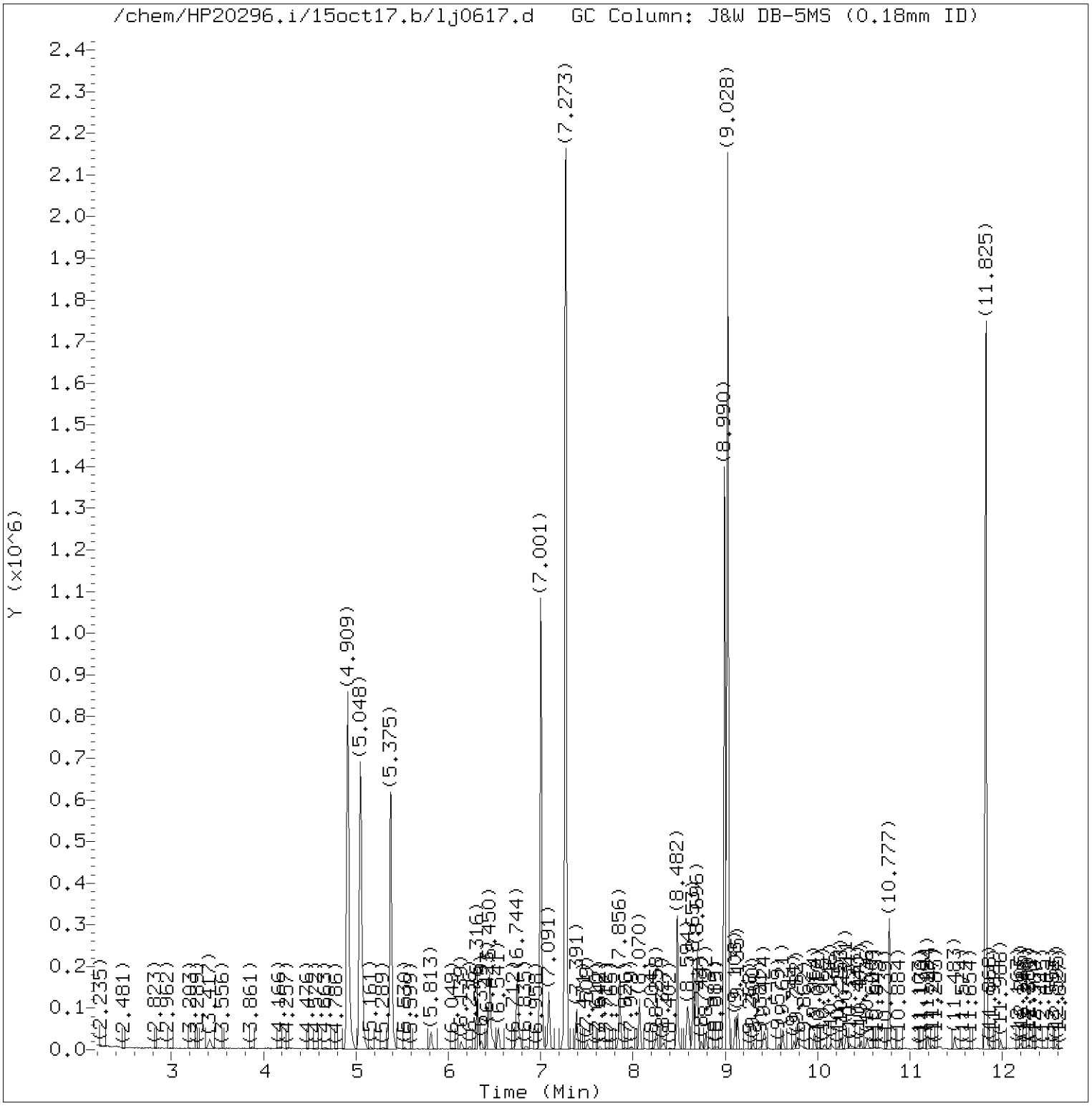
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:29. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 14:19. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

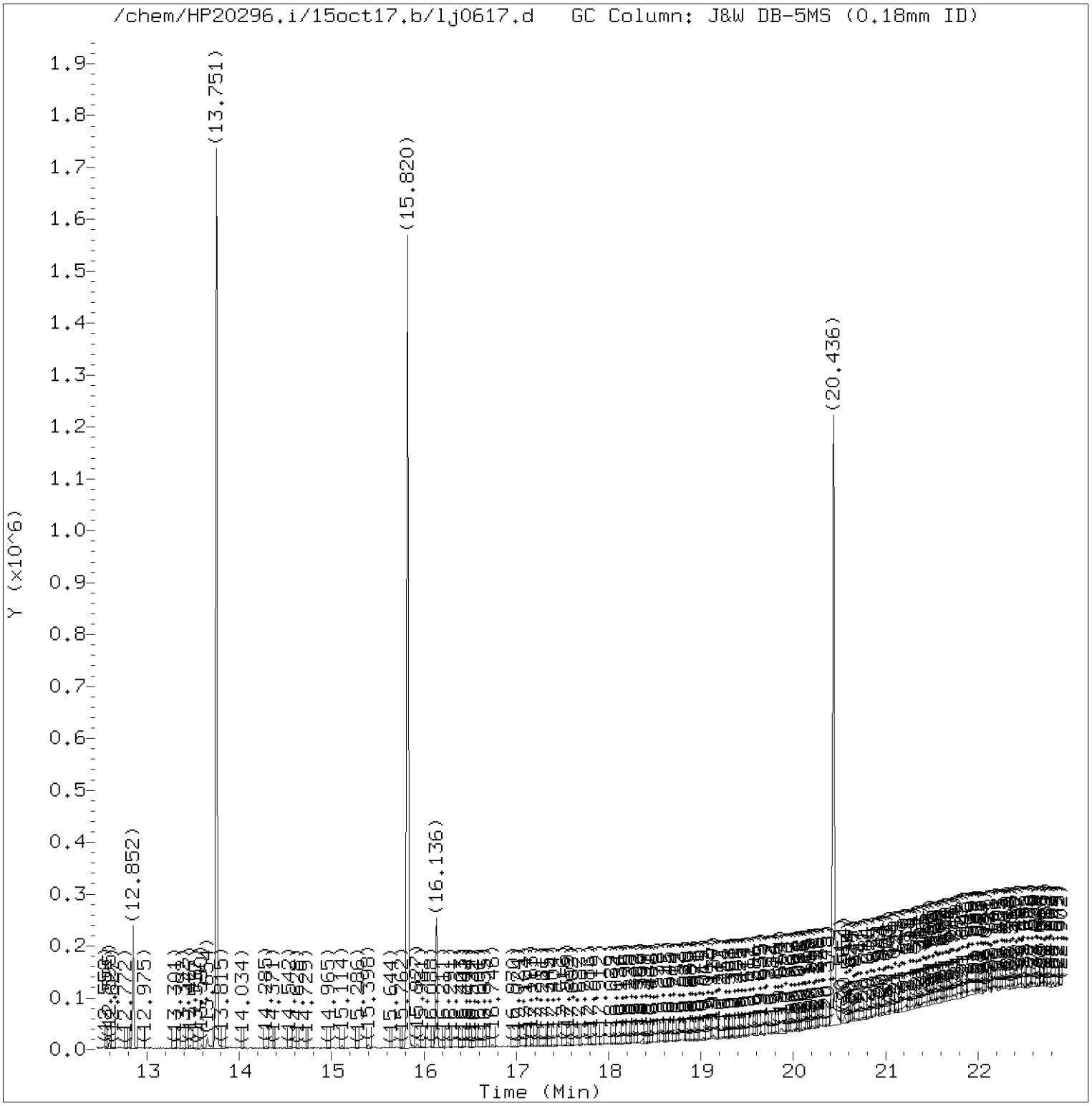
Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0617.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 15:39 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2804DL Lab Sample ID: 8082100DL

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0617.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 15:39 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2804DL Lab Sample ID: 8082100DL

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0617.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 15:39 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

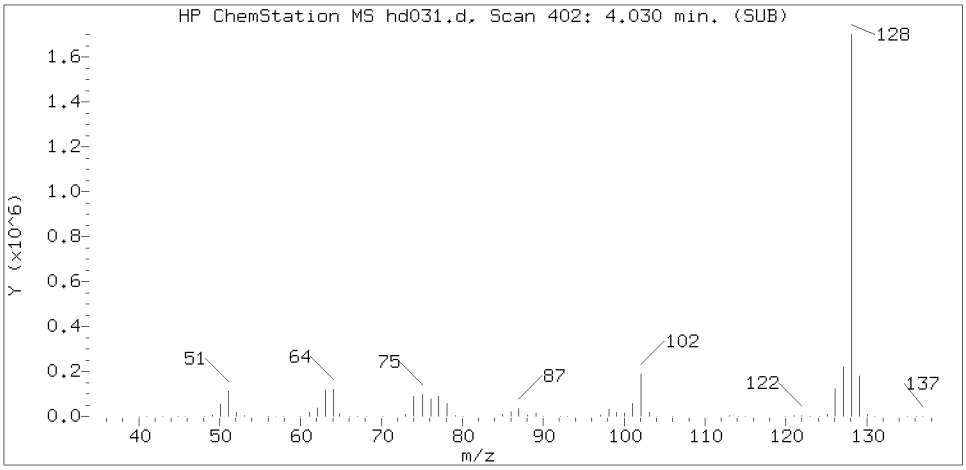
Sample Name: P2804DL Lab Sample ID: 8082100DL

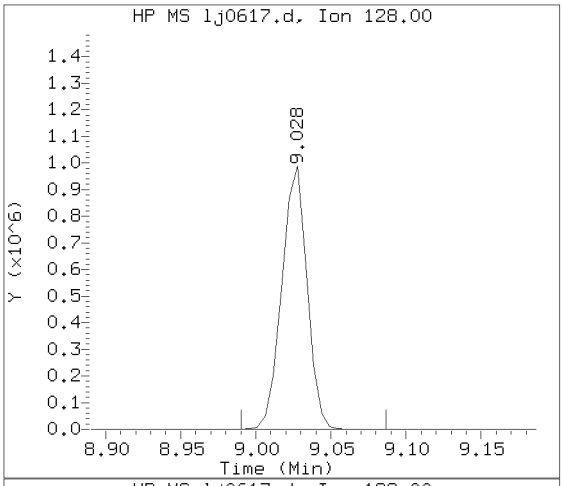
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.001	152	201823	5.000
44)$Nitrobenzene-d5	(2)	7.856	82	69155	0.934
65)*Naphthalene-d8	(2)	8.990	136	733315	5.000
66) Naphthalene	(2)	9.028	128	1154753	7.332
93)$2-Fluorobiphenyl	(3)	10.777	172	108749	0.960
113)*Acenaphthene-d10	(3)	11.825	164	411061	5.000
153)*Phenanthrene-d10	(4)	13.751	188	745159	5.000
175)*Pyrene-d10	(5)	15.820	212	831823	5.000
179)$Terphenyl-d14	(5)	16.136	244	94499	0.856
213)*Perylene-d12	(6)	20.436	264	575270	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

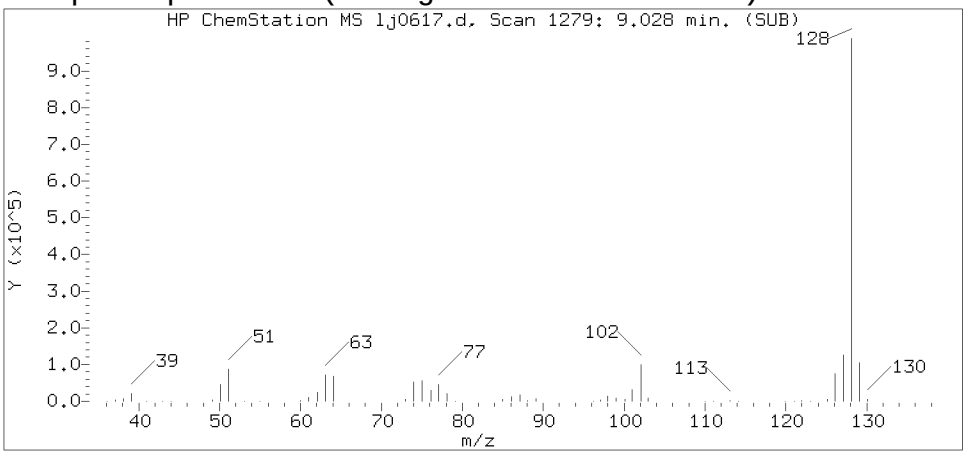
Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996

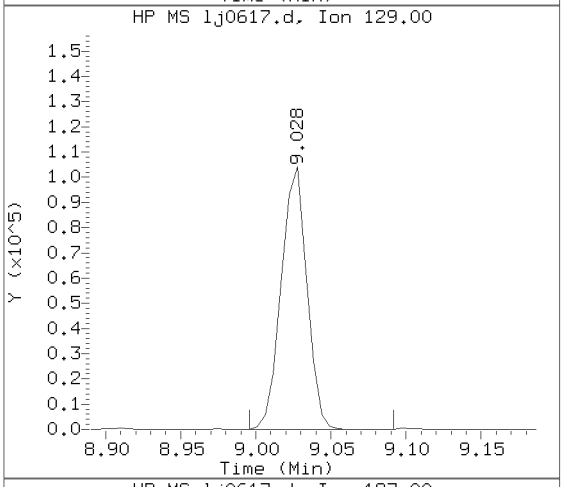
Reference Standard Spectrum for Naphthalene



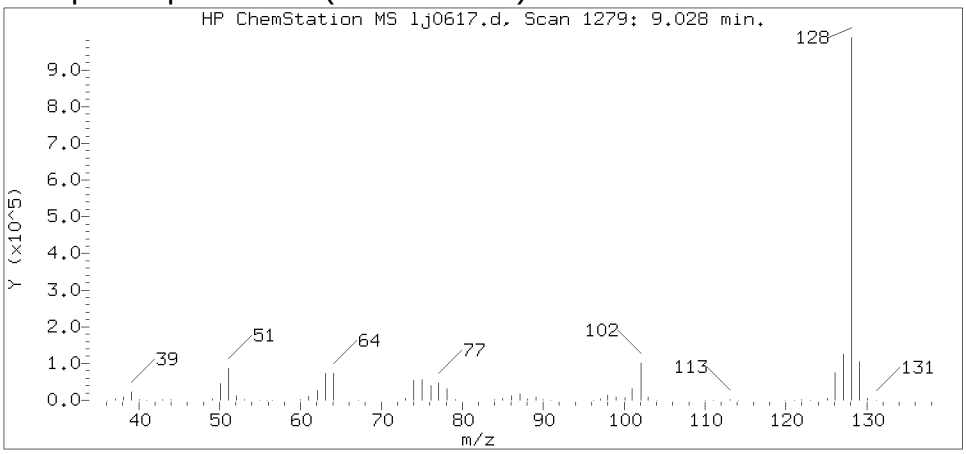


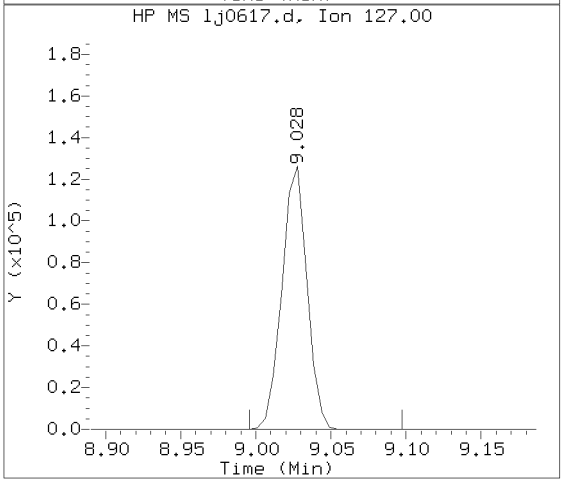
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0617.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 15:39 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2804DL Lab Sample ID: 8082100DL

Compound Number	: 66
Compound Name	: Naphthalene
Scan Number	: 1279
Retention Time (minutes)	: 9.028
Relative Retention Time	:-0.00060
Quant Ion	: 128.00
Area (flag)	: 1154753
On-column Amount (ng/ul)	: 7.3317

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0591.d
Injection date and time: **16-OCT-2015 15:59**
Data file Sample Info. Line: P2805;8082101;1;0;SAMPLE;;;
Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 16:25 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.027(0.000)	905	152	186931 (-14)	5.00	
65) Naphthalene-d8	9.017(0.000)	1277	136	708588 (-19)	5.00	
113) Acenaphthene-d10	11.841(0.000)	1805	164	423163 (-14)	5.00	
153) Phenanthrene-d10	13.767(0.006)	2165	188	768701 (-17)	5.00	
175) Pyrene-d10	15.842(0.006)	2553	212	900737 (-16)	5.00	
213) Perylene-d12	20.458(0.006)	3416	264	634686 (-17)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.883(0.001)	82	1464837	20.476	82%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.798(0.000)	172	2237746	19.183	77%		61 - 112
179) Terphenyl-d14	(5)	16.157(0.000)	244	1972331	16.490	66%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	9.065(-0.001)	128	16468958	108.213	438.11		E	0.03
83) 2-Methylnaphthalene	(2)	10.178(-0.000)	142	10630	0.105	0.43			0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)	11.884(0.000)	153	44837	0.443	1.79			0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)	13.799(-0.000)	178	5913	0.037	0.15			0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

E = Compound concentration above calibration range.

Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0591.d Injection date and time: **16-OCT-2015 15:59**
Data file Sample Info. Line: P2805;8082101;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 16:25 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 1 ul

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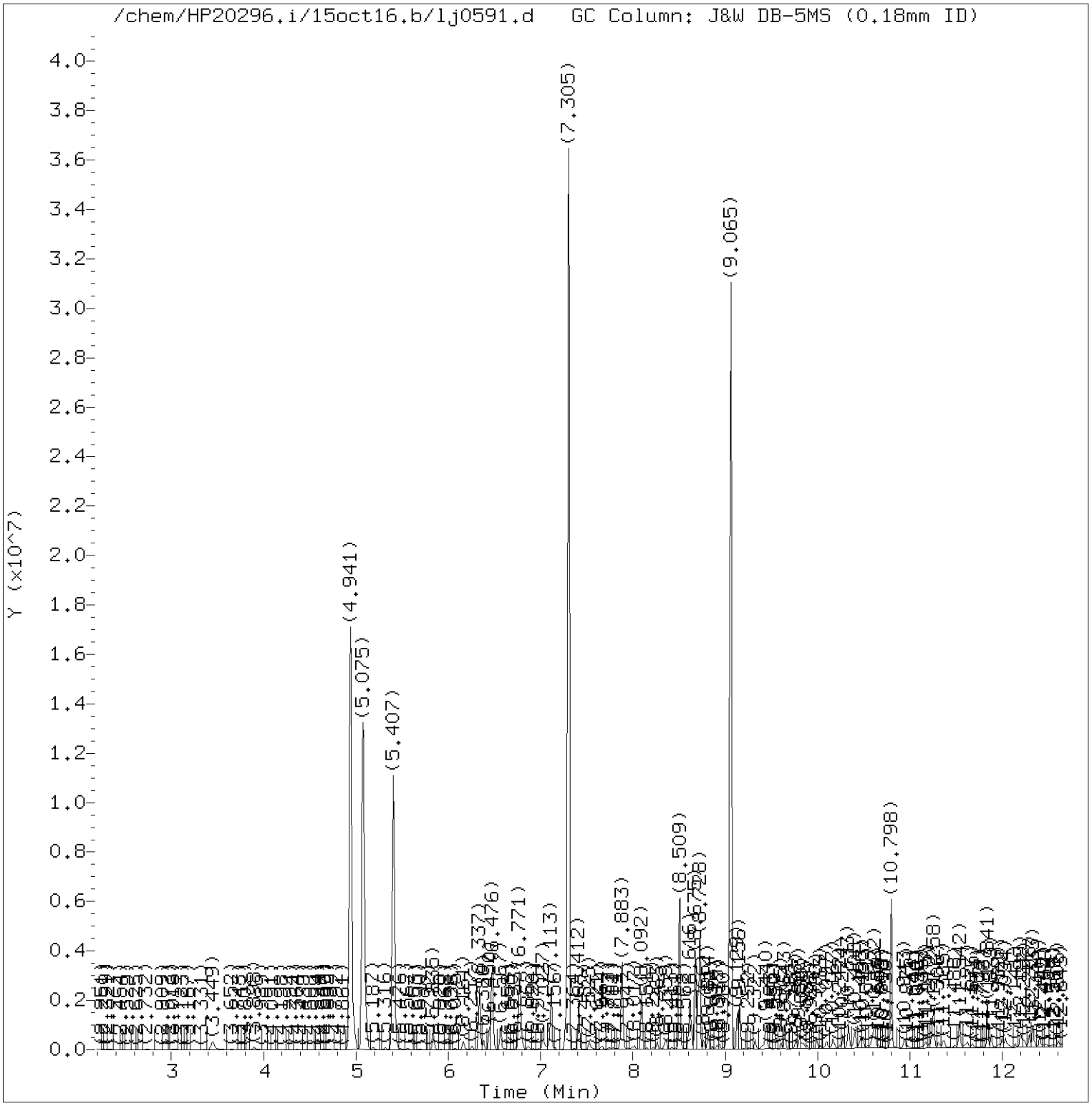
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:49. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

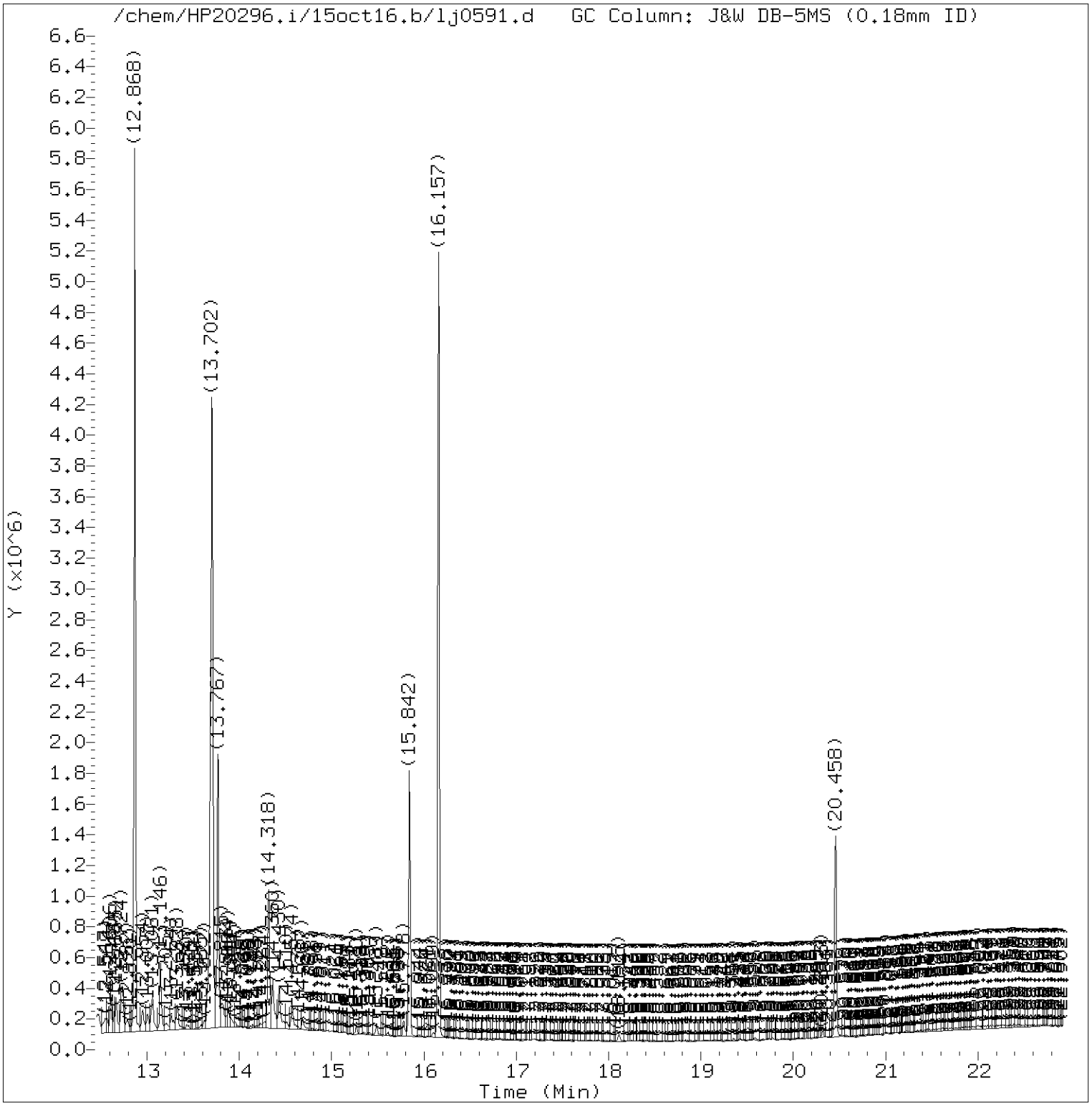
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0591.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:59 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 16:25 Unknown

Sample Name: P2805 Lab Sample ID: 8082101

Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0591.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:59 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 16:25 Unknown

Sample Name: P2805 Lab Sample ID: 8082101

Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0591.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:59 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 16:25 Unknown

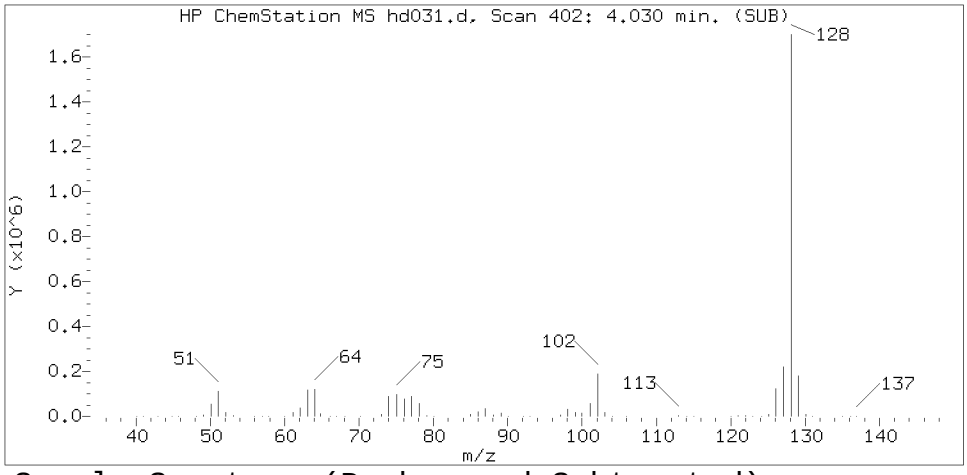
Sample Name: P2805 Lab Sample ID: 8082101

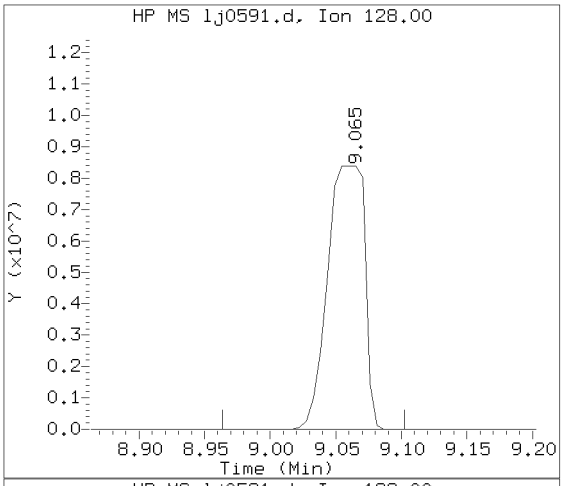
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.027	152	186931	5.000
44)$Nitrobenzene-d5	(2)	7.883	82	1464837	20.476
65)*Naphthalene-d8	(2)	9.017	136	708588	5.000
66) Naphthalene	(2)	9.065	128	16468958	108.213
83) 2-Methylnaphthalene	(2)	10.178	142	10630	0.105
93)$2-Fluorobiphenyl	(3)	10.798	172	2237746	19.183
113)*Acenaphthene-d10	(3)	11.841	164	423163	5.000
114) Acenaphthene	(3)	11.884	153	44837	0.443
153)*Phenanthrene-d10	(4)	13.767	188	768701	5.000
155) Phenanthrene	(4)	13.799	178	5913	0.037
175)*Pyrene-d10	(5)	15.842	212	900737	5.000
179)$Terphenyl-d14	(5)	16.157	244	1972331	16.490
213)*Perylene-d12	(6)	20.458	264	634686	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

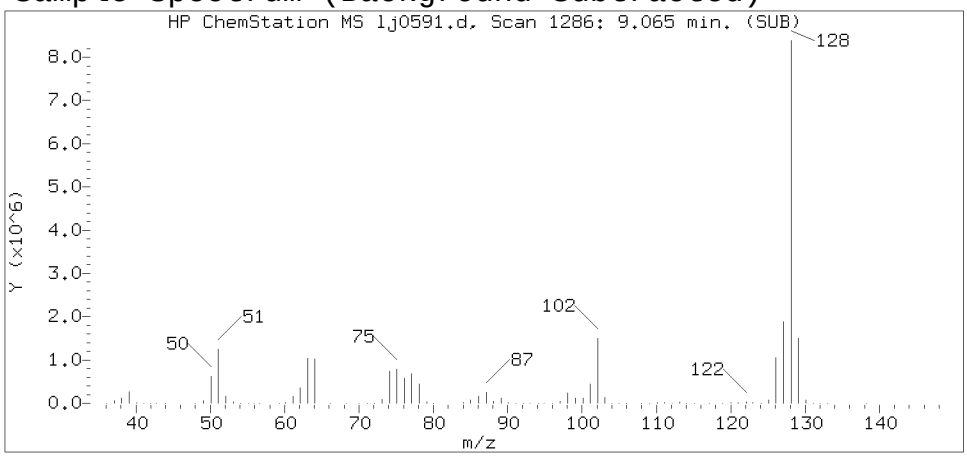
Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

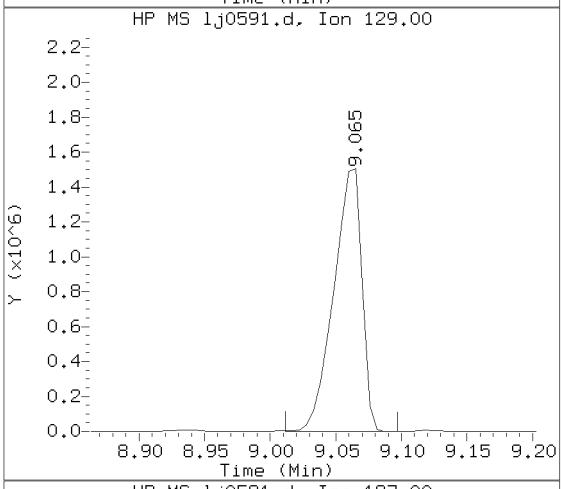
Reference Standard Spectrum for Naphthalene



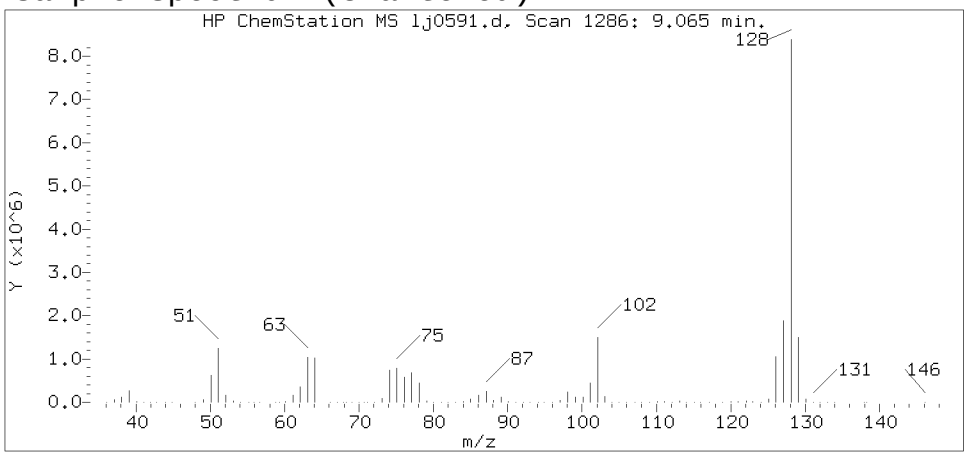


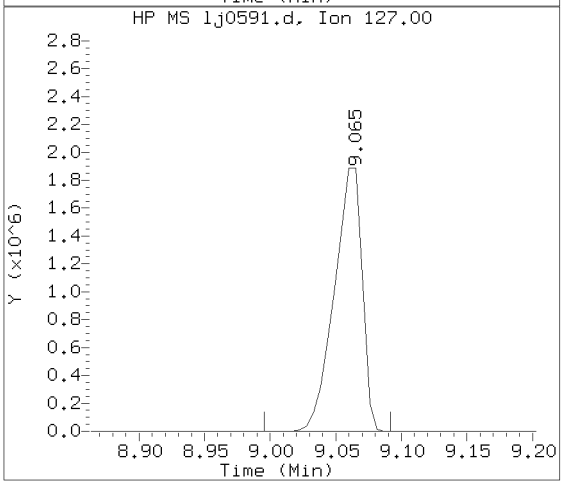
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0591.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:59 Analyst ID: hbz01996

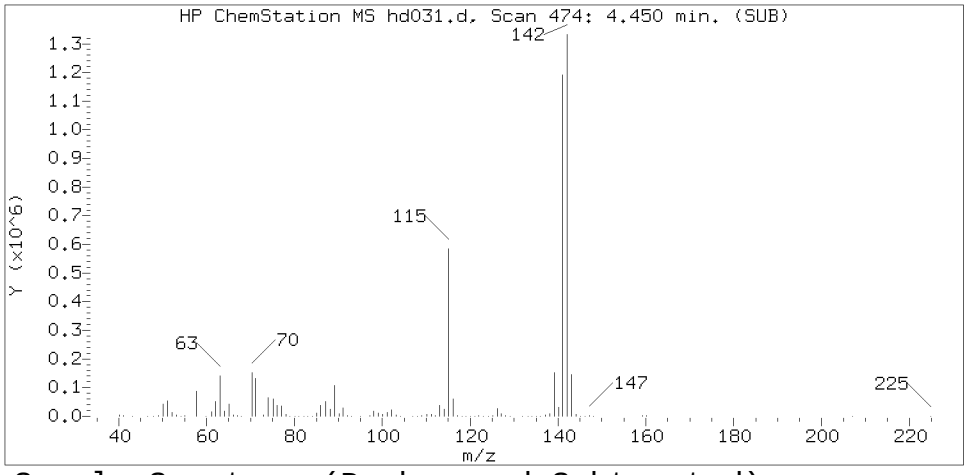
Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 16:25 Unknown

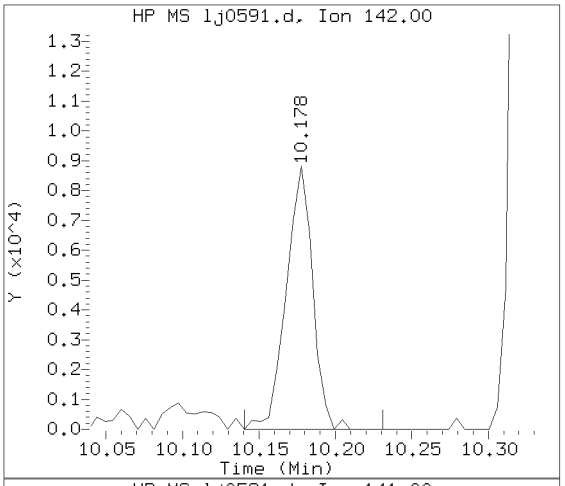
Sample Name: P2805 Lab Sample ID: 8082101

Compound Number : 66
Compound Name : Naphthalene
Scan Number : 1286
Retention Time (minutes) : 9.065
Relative Retention Time :-0.00178
Quant Ion : 128.00
Area (flag) : 16468958
On-column Amount (ng/ul) : 108.2130

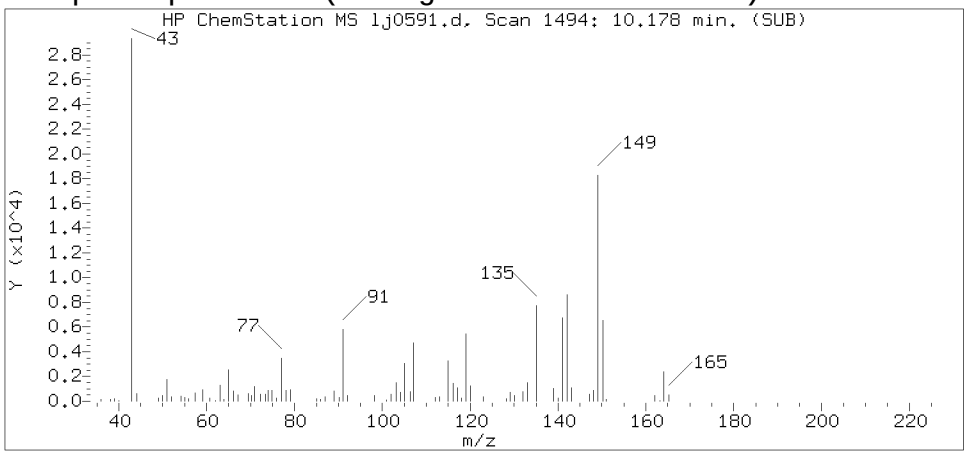
Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

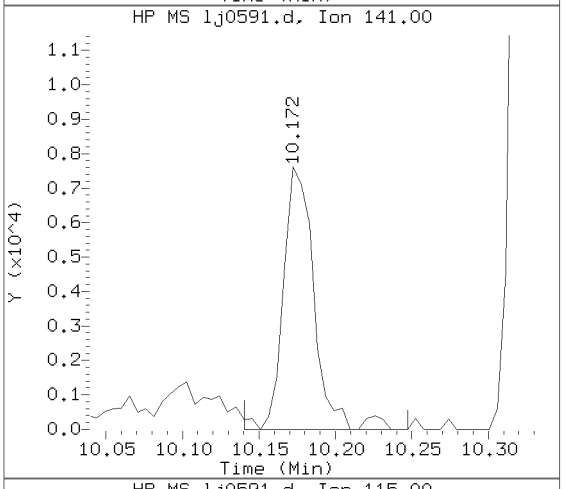
Reference Standard Spectrum for 2-Methylnaphthalene



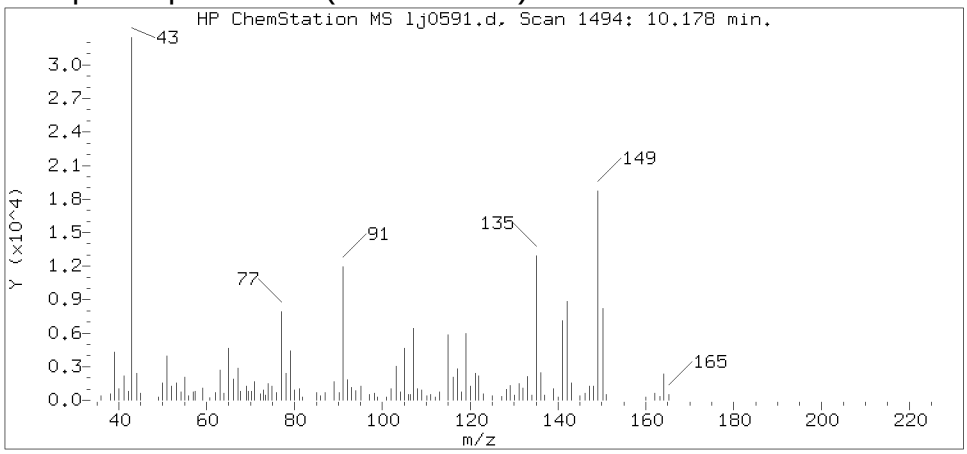


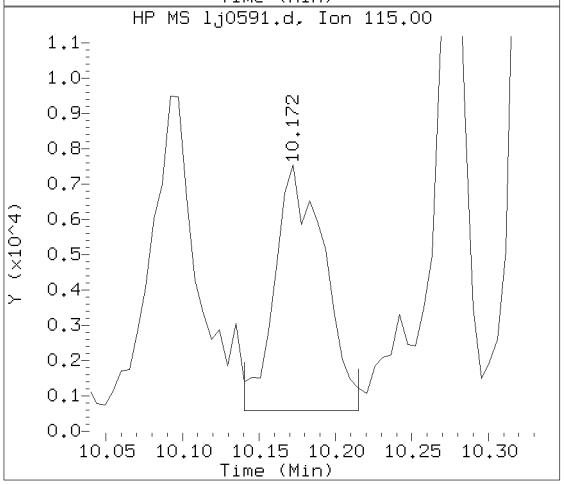
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0591.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:59 Analyst ID: hbz01996

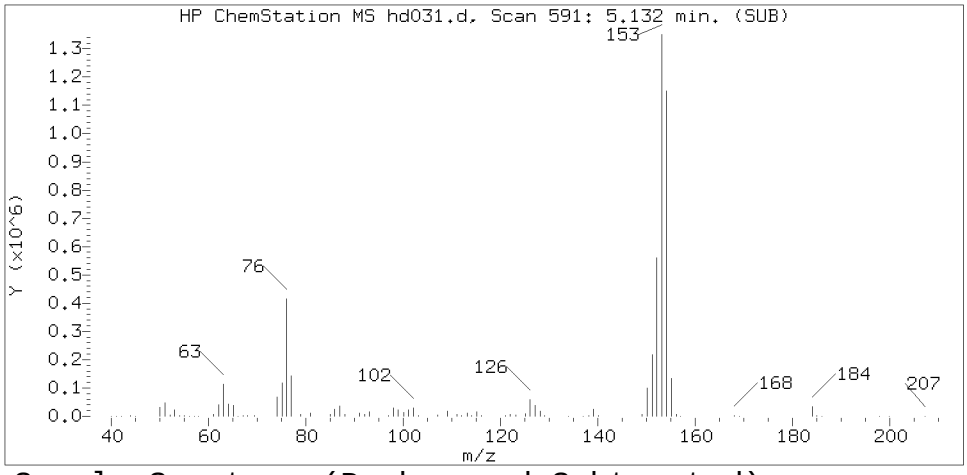
Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 16:25 Unknown

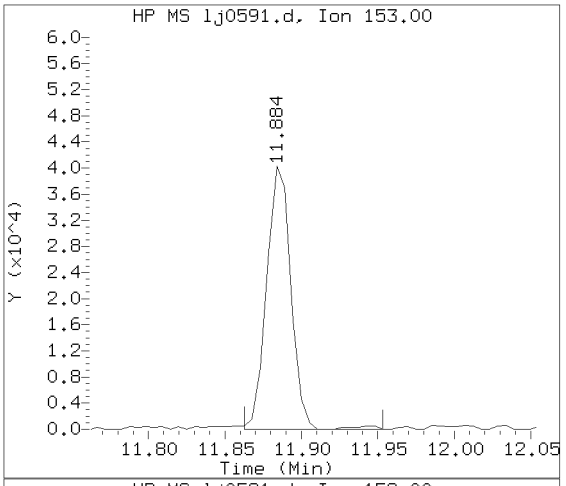
Sample Name: P2805 Lab Sample ID: 8082101

Compound Number : 83
Compound Name : 2-Methylnaphthalene
Scan Number : 1494
Retention Time (minutes) : 10.178
Relative Retention Time :-0.00001
Quant Ion : 142.00
Area (flag) : 10630
On-column Amount (ng/ul) : 0.1053

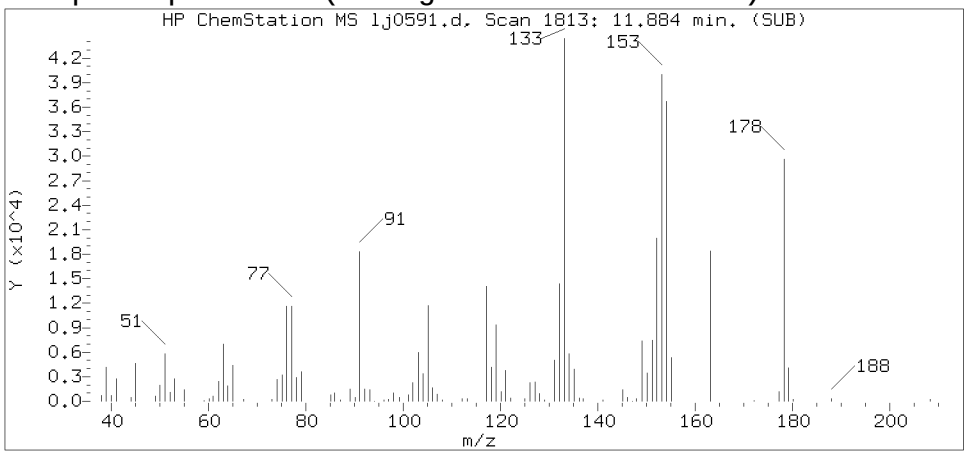
Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

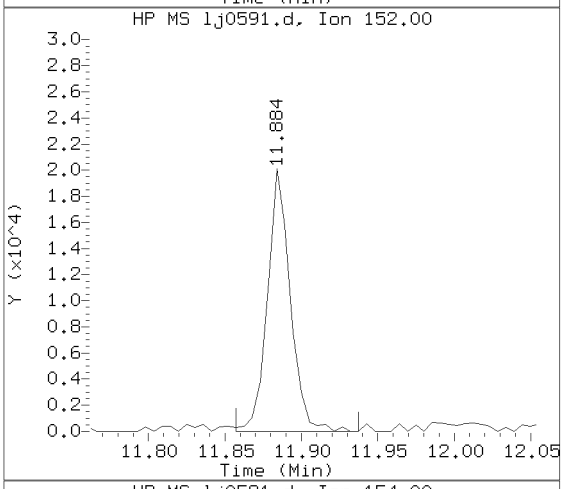
Reference Standard Spectrum for Acenaphthene



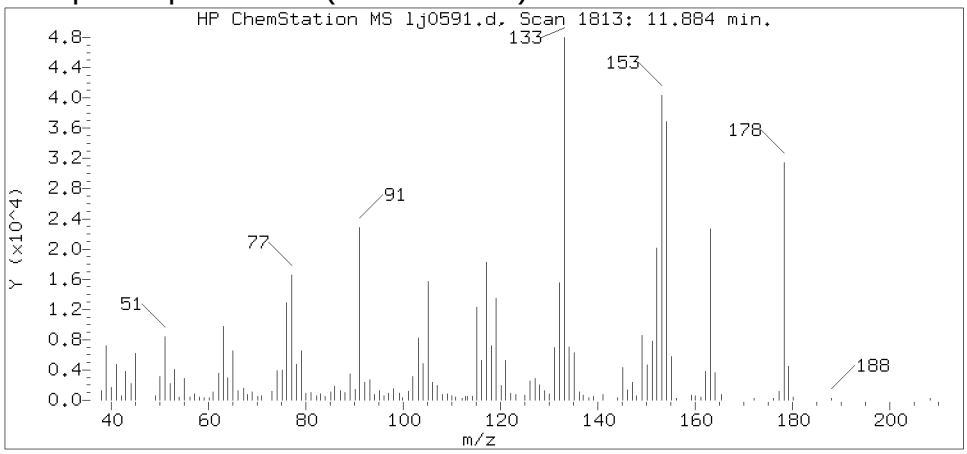


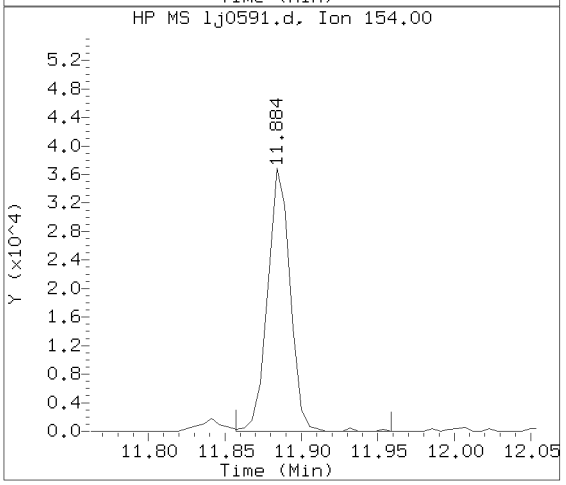
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0591.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:59 Analyst ID: hbz01996

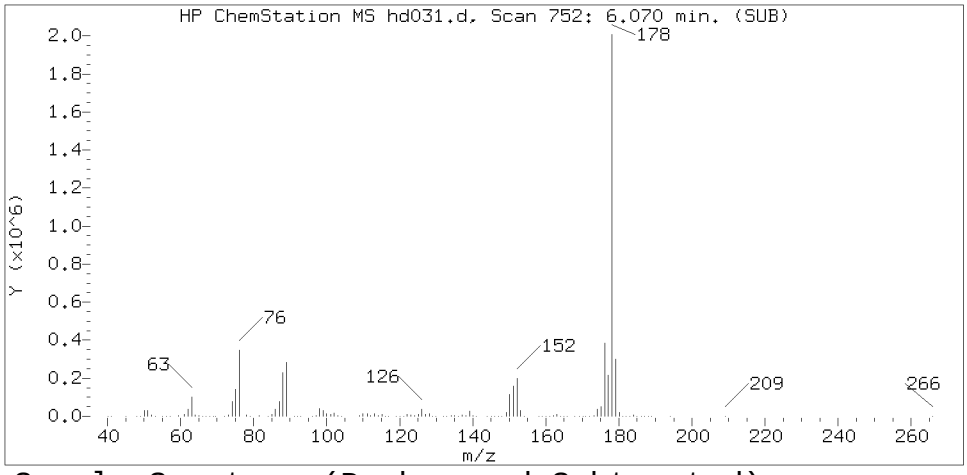
Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 16:25 Unknown

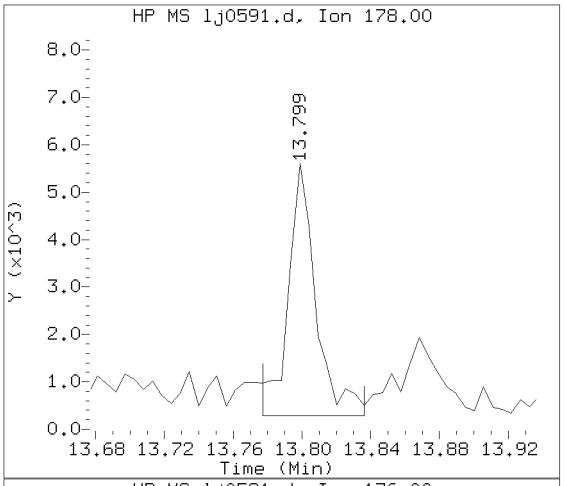
Sample Name: P2805 Lab Sample ID: 8082101

Compound Number	: 114
Compound Name	: Acenaphthene
Scan Number	: 1813
Retention Time (minutes)	: 11.884
Relative Retention Time	: 0.00045
Quant Ion	: 153.00
Area (flag)	: 44837
On-column Amount (ng/ul)	: 0.4432

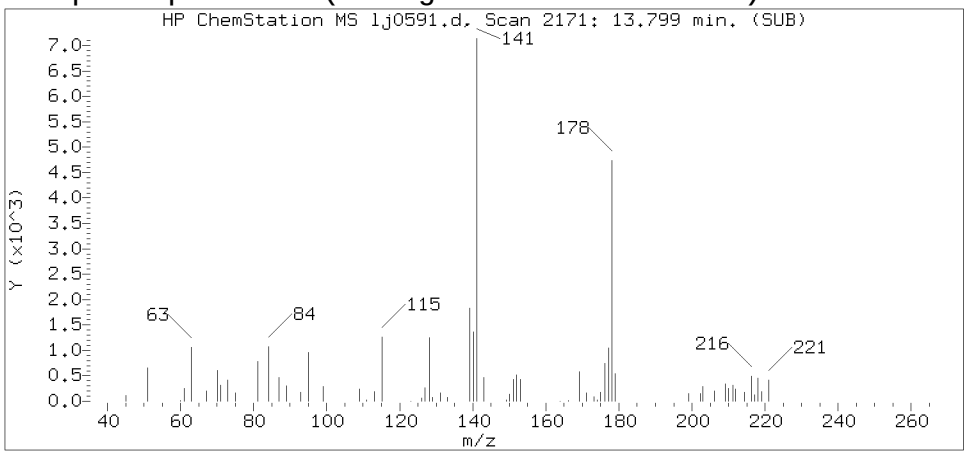
Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

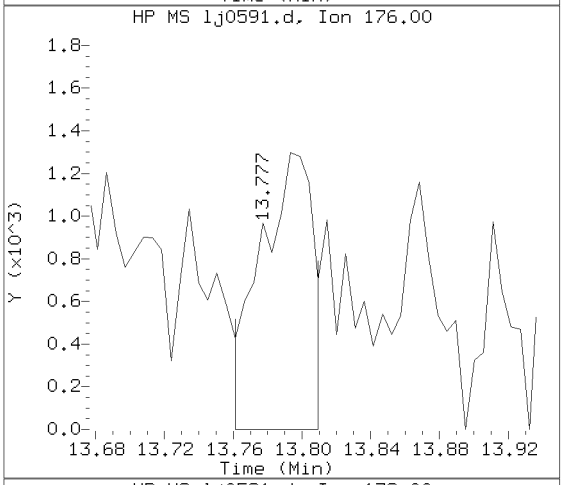
Reference Standard Spectrum for Phenanthrene



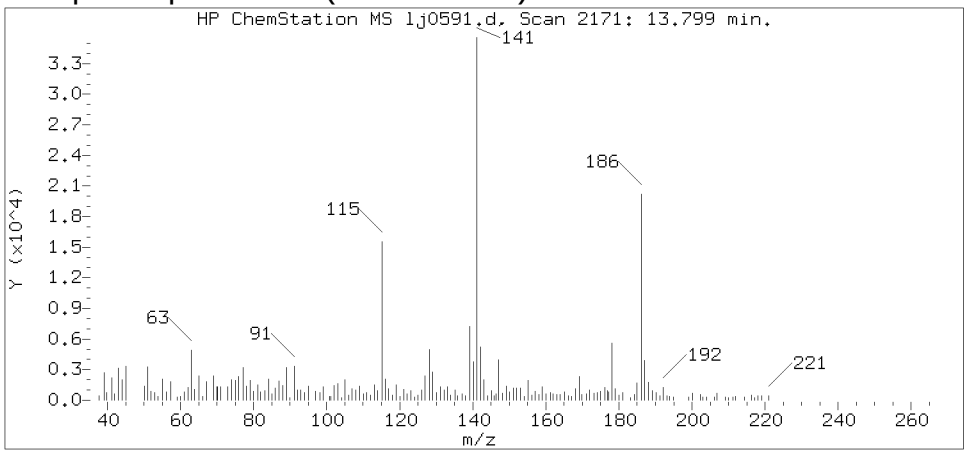


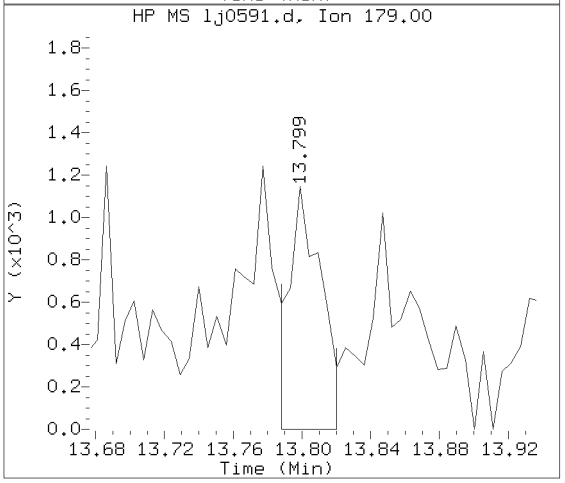
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0591.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 15:59 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 16:25 Unknown

Sample Name: P2805 Lab Sample ID: 8082101

Compound Number : 155
Compound Name : Phenanthrene
Scan Number : 2171
Retention Time (minutes) : 13.799
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 5913
On-column Amount (ng/ul) : 0.0369

Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct17.b/lj0618.d Injection date and time: **17-OCT-2015 16:07**
Data file Sample Info. Line: P2805DL;8082101DL;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 17-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct17.b/lj0611.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 20 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.000(0.006)	900	152	191456 (-21)	5.00	
65) Naphthalene-d8	8.990(0.006)	1272	136	723497 (-23)	5.00	
113) Acenaphthene-d10	11.825(0.000)	1802	164	396534 (-24)	5.00	
153) Phenanthrene-d10	13.750(0.006)	2162	188	738458 (-20)	5.00	
175) Pyrene-d10	15.820(0.006)	2549	212	824674 (-22)	5.00	
213) Perylene-d12	20.436(0.000)	3412	264	572292 (-24)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.856(0.001)	82	69115	0.946	76%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.777(0.000)	172	112696	1.031	82%		61 - 112
179) Terphenyl-d14	(5)	16.136(0.000)	244	89750	0.820	66%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	9.028(-0.000)	128	1131495	7.282	589.60			0.03
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)			Not Detected					0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:29. Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct17.b/lj0618.d Injection date and time: **17-OCT-2015 16:07**
Data file Sample Info. Line: P2805DL;8082101DL;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 17-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct17.b/lj0611.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 20 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 1 ul

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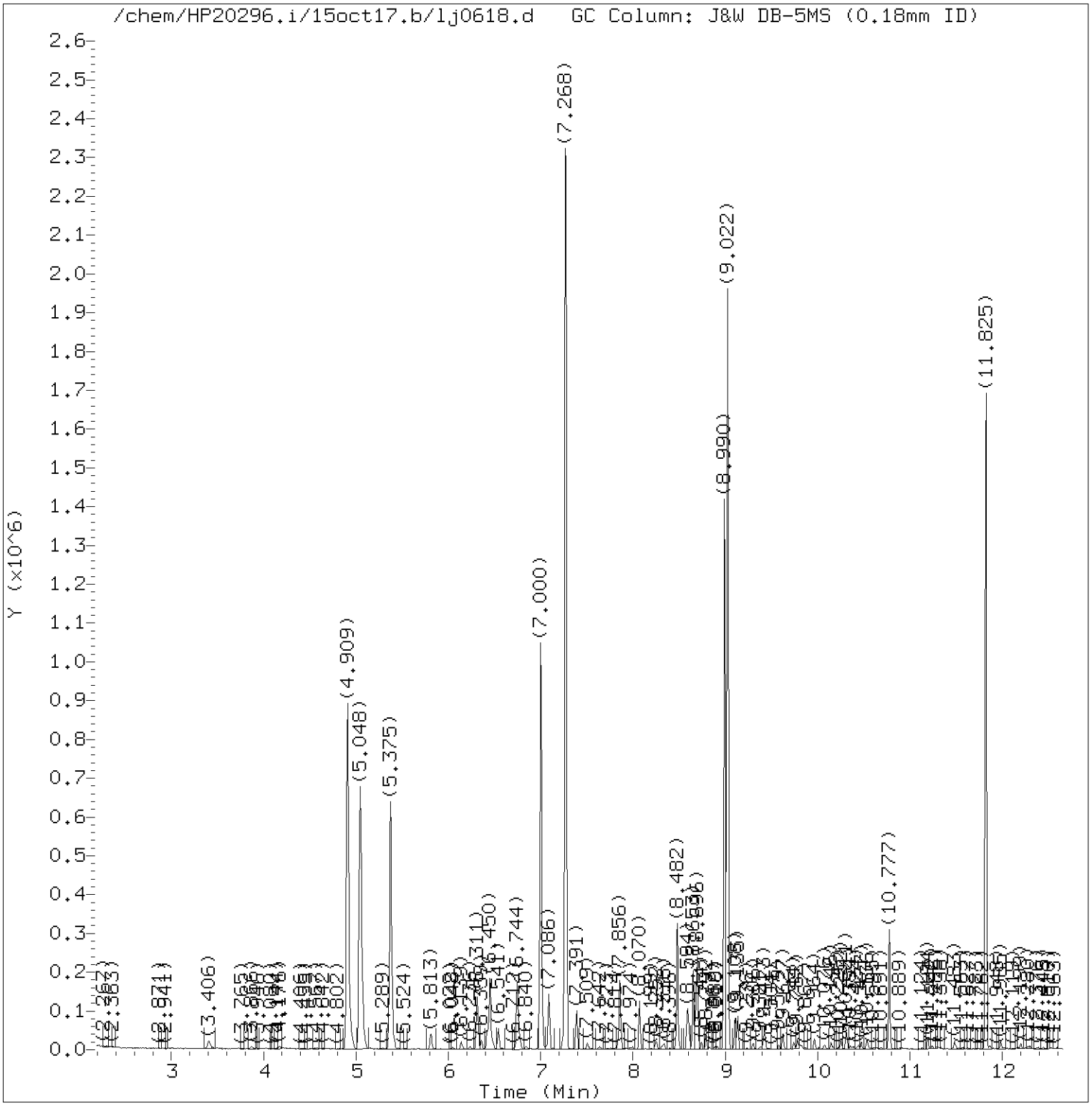
Total number of targets = 17

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:29. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 14:20. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

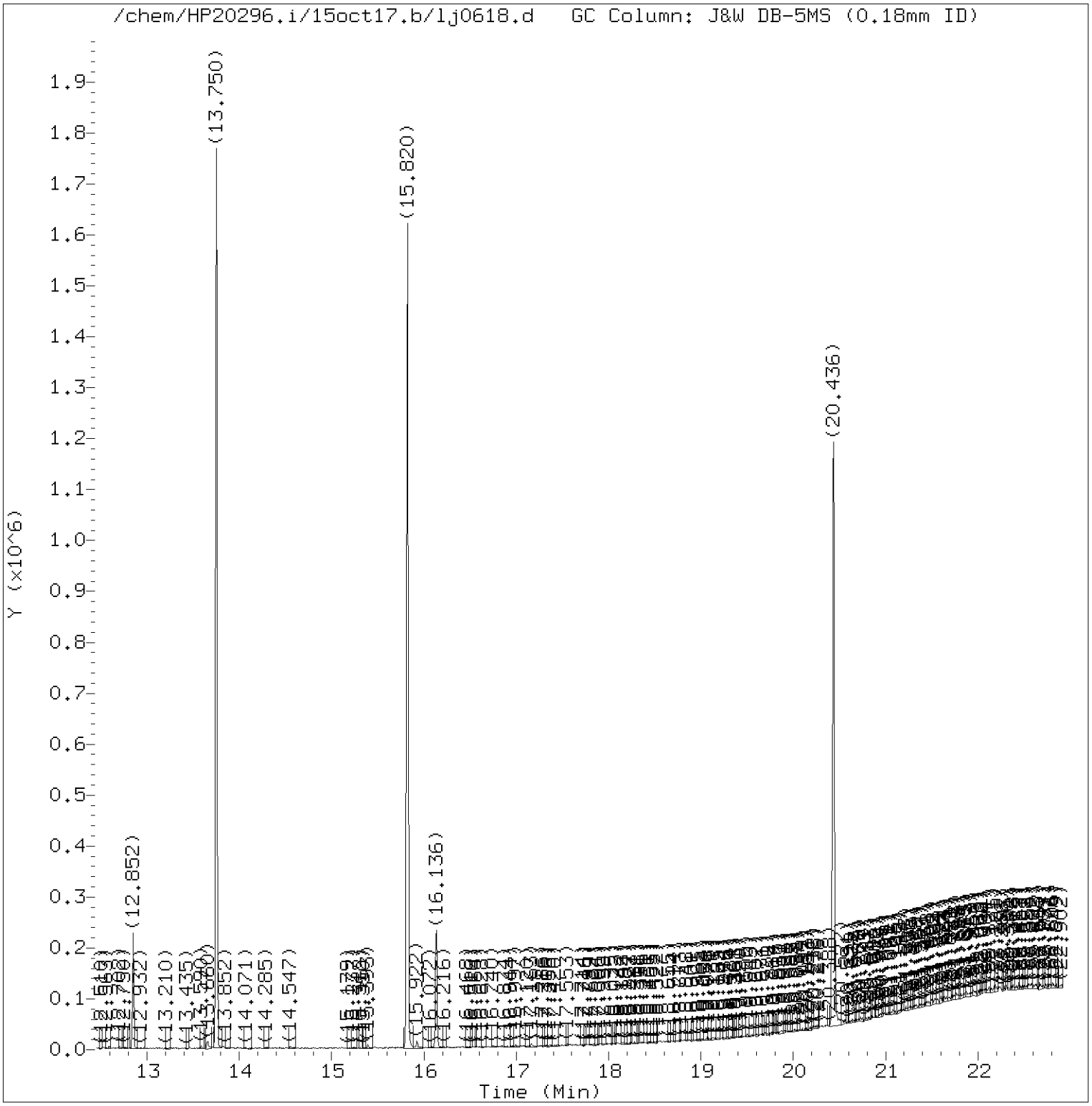
Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0618.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2805DL Lab Sample ID: 8082101DL

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0618.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2805DL Lab Sample ID: 8082101DL

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0618.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

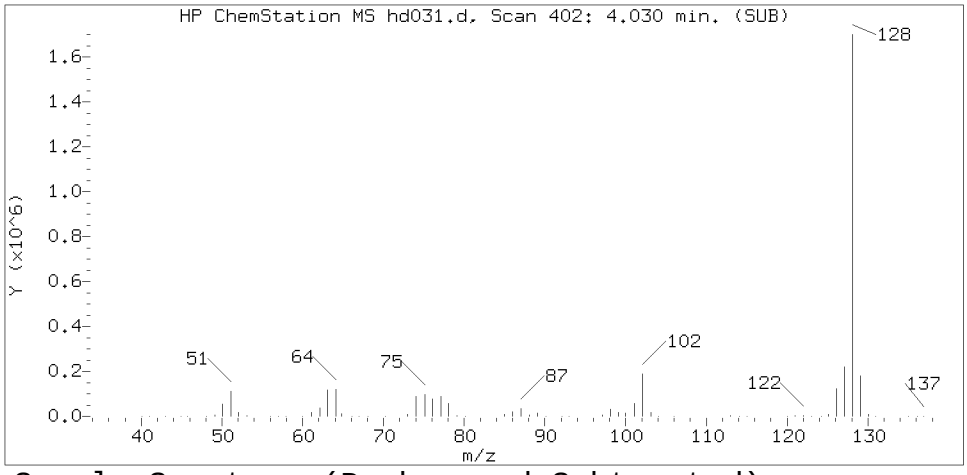
Sample Name: P2805DL Lab Sample ID: 8082101DL

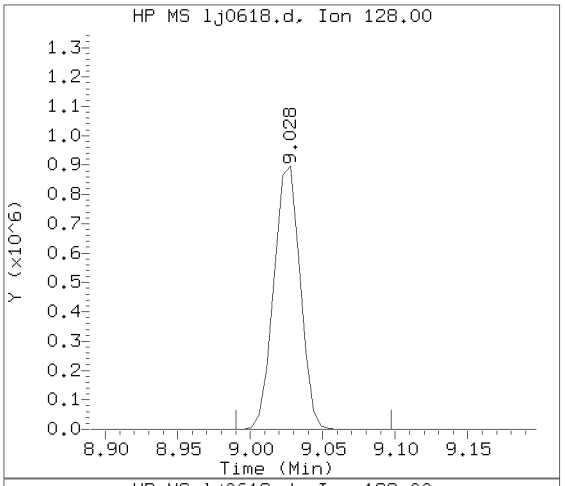
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.000	152	191456	5.000
44)$Nitrobenzene-d5	(2)	7.856	82	69115	0.946
65)*Naphthalene-d8	(2)	8.990	136	723497	5.000
66) Naphthalene	(2)	9.028	128	1131495	7.282
93)$2-Fluorobiphenyl	(3)	10.777	172	112696	1.031
113)*Acenaphthene-d10	(3)	11.825	164	396534	5.000
153)*Phenanthrene-d10	(4)	13.750	188	738458	5.000
175)*Pyrene-d10	(5)	15.820	212	824674	5.000
179)$Terphenyl-d14	(5)	16.136	244	89750	0.820
213)*Perylene-d12	(6)	20.436	264	572292	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

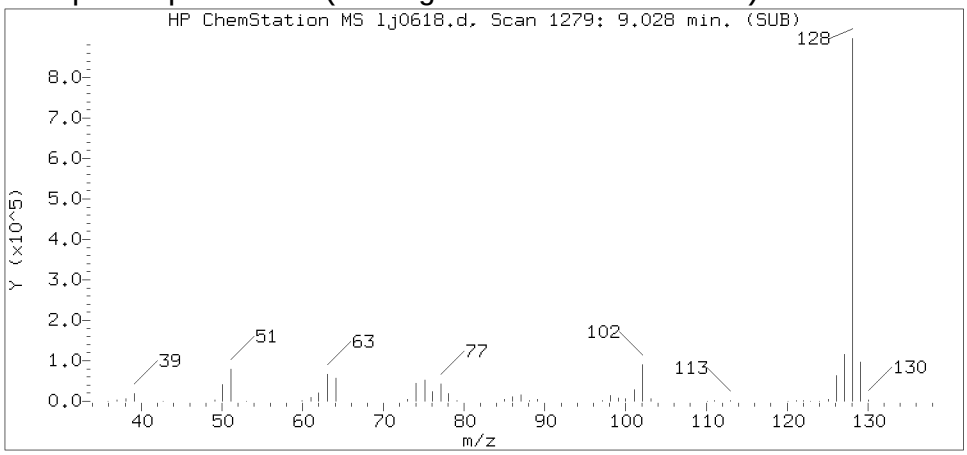
Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996

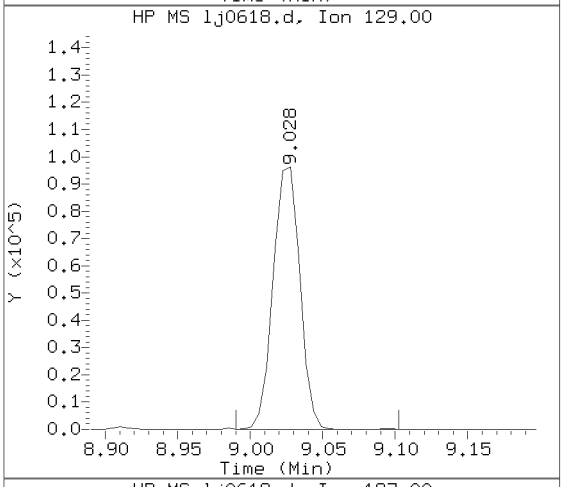
Reference Standard Spectrum for Naphthalene



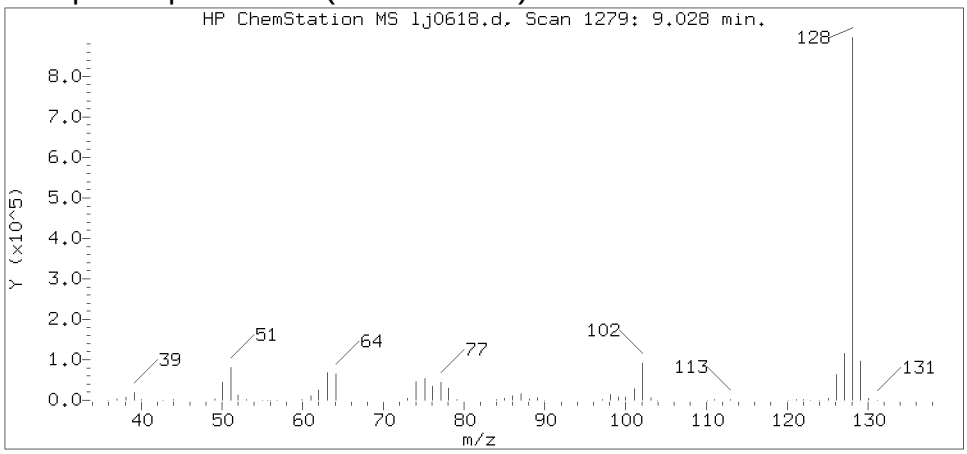


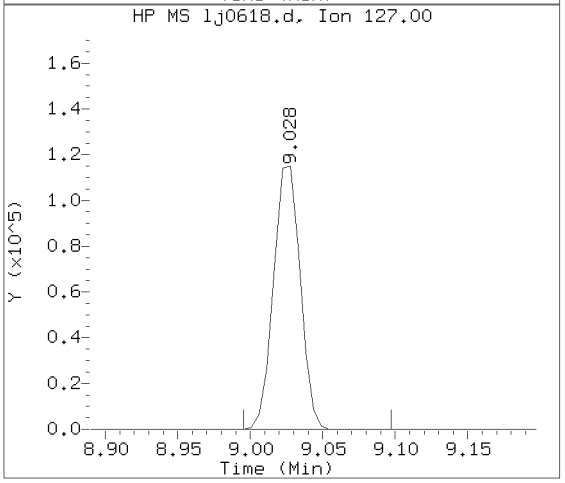
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0618.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:07 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2805DL Lab Sample ID: 8082101DL

Compound Number : 66
Compound Name : Naphthalene
Scan Number : 1279
Retention Time (minutes) : 9.028
Relative Retention Time :-0.00060
Quant Ion : 128.00
Area (flag) : 1131495
On-column Amount (ng/ul) : 7.2815

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0592.d
Injection date and time: **16-OCT-2015 16:27**
Data file Sample Info. Line: P2816;8082114;1;0;SAMPLE;;;
Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 16:52 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 241 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.022(0.006)	904	152	205528 (-5)	5.00	
65) Naphthalene-d8	9.012(0.006)	1276	136	760963 (-13)	5.00	
113) Acenaphthene-d10	11.841(0.000)	1805	164	405012 (-18)	5.00	
153) Phenanthrene-d10	13.767(0.006)	2165	188	737834 (-20)	5.00	
175) Pyrene-d10	15.842(0.006)	2553	212	841504 (-22)	5.00	
213) Perylene-d12	20.458(0.006)	3416	264	594347 (-22)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.883(0.000)	82	1668729	21.721	87%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.798(0.000)	172	2198268	19.689	79%		61 - 112
179) Terphenyl-d14	(5)	16.157(0.000)	244	2210325	19.781	79%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.03
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)			Not Detected					0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0592.d Injection date and time: **16-OCT-2015 16:27**
Data file Sample Info. Line: P2816;8082114;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 16:52 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 241 ml Volume Injected (Vi): 1 ul

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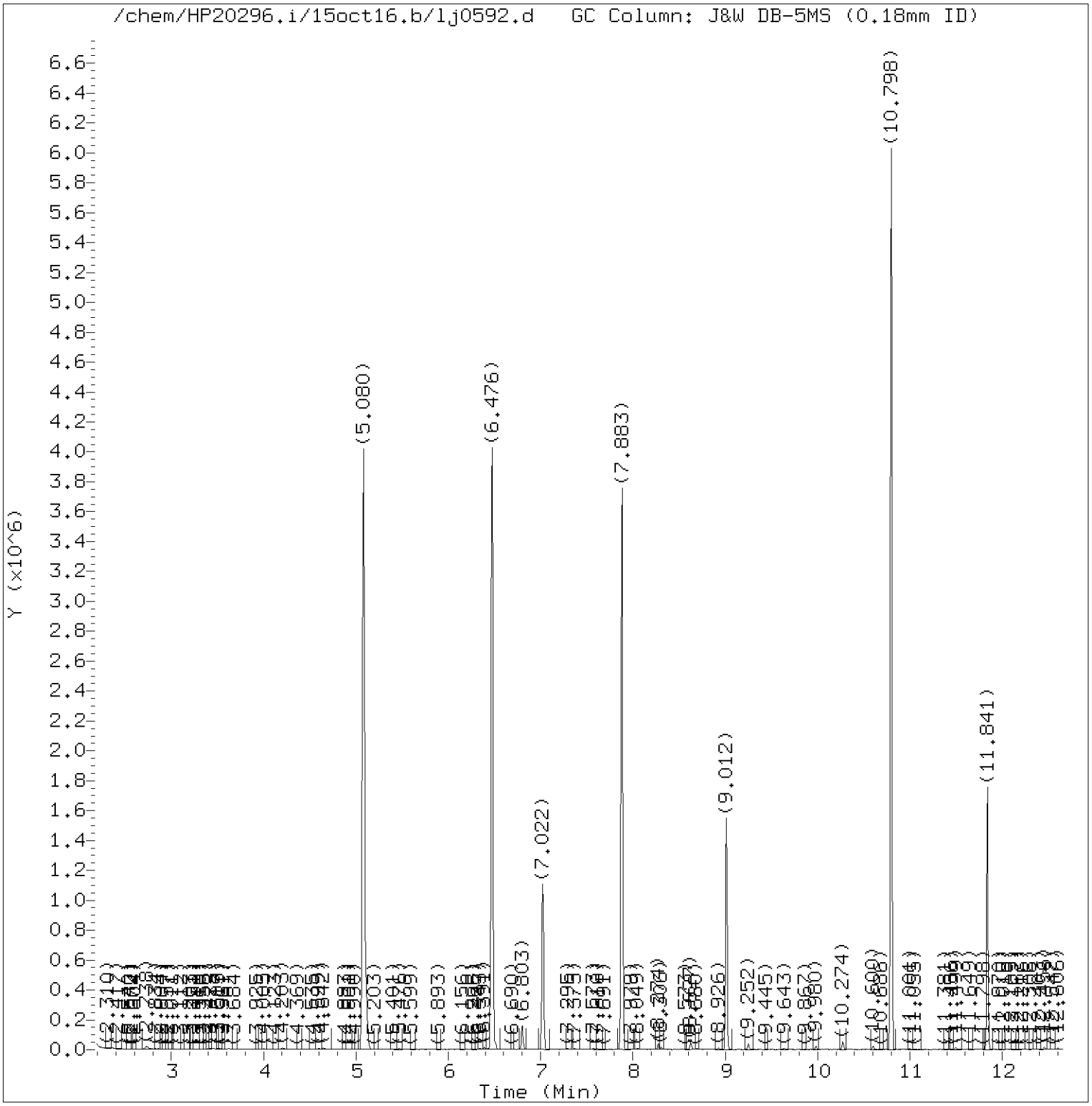
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:50. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

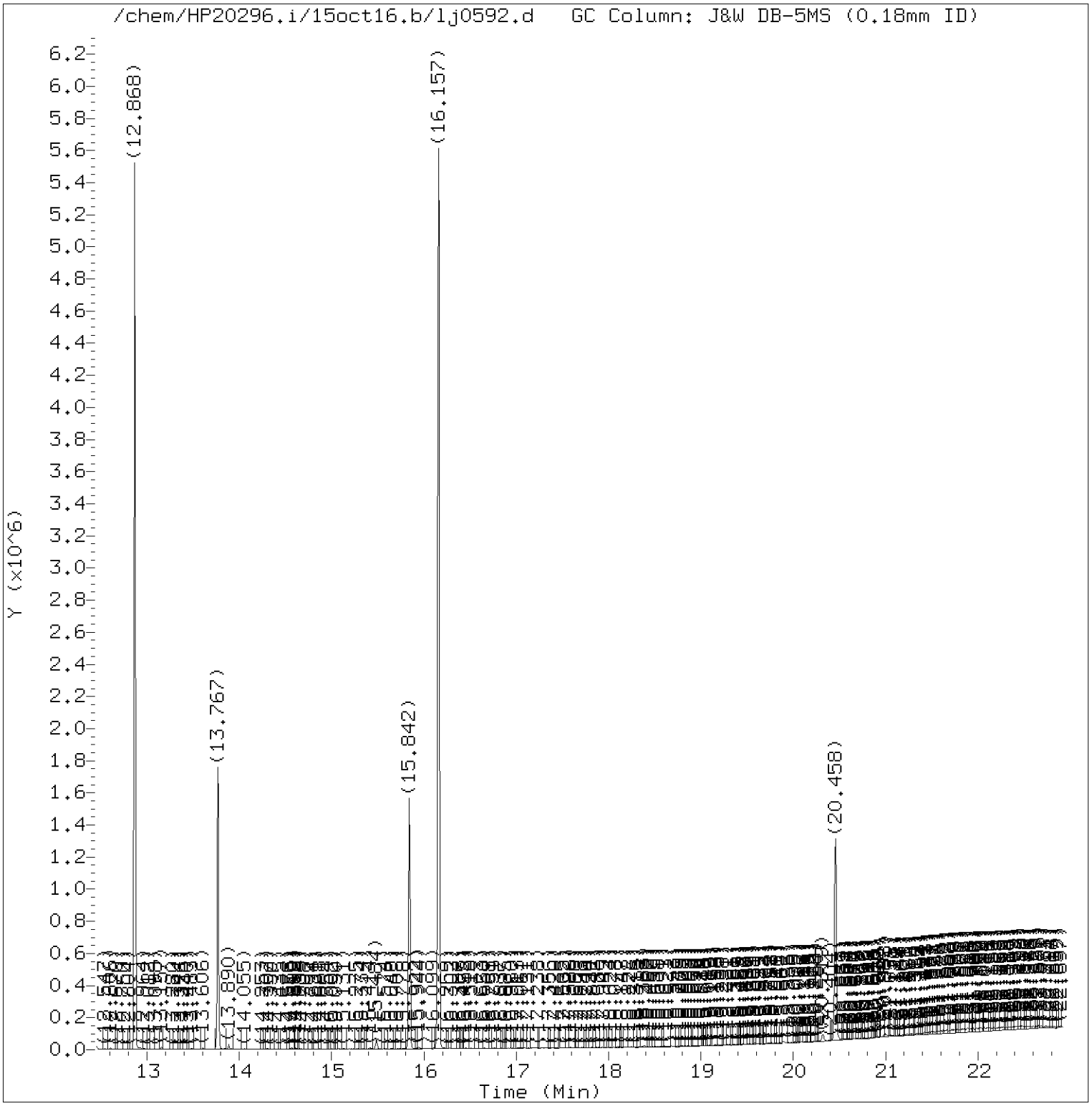
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0592.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 16:27 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 16:52 Unknown

Sample Name: P2816 Lab Sample ID: 8082114

Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0592.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 16:27 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 16:52 Unknown

Sample Name: P2816 Lab Sample ID: 8082114

Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0592.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 16:27 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 16:52 Unknown

Sample Name: P2816 Lab Sample ID: 8082114

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.022	152	205528	5.000
44)$Nitrobenzene-d5	(2)	7.883	82	1668729	21.721
65)*Naphthalene-d8	(2)	9.012	136	760963	5.000
93)$2-Fluorobiphenyl	(3)	10.798	172	2198268	19.689
113)*Acenaphthene-d10	(3)	11.841	164	405012	5.000
153)*Phenanthrene-d10	(4)	13.767	188	737834	5.000
175)*Pyrene-d10	(5)	15.842	212	841504	5.000
179)$Terphenyl-d14	(5)	16.157	244	2210325	19.781
213)*Perylene-d12	(6)	20.458	264	594347	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

P2817 Lancaster Laboratories, Inc. 8082115
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0593.d Injection date and time: **16-OCT-2015 16:55**
Data file Sample Info. Line: P2817;8082115;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 17:20 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.022(0.006)	904	152	192000 (-11)	5.00	
65) Naphthalene-d8	9.012(0.006)	1276	136	721870 (-17)	5.00	
113) Acenaphthene-d10	11.841(0.000)	1805	164	403592 (-18)	5.00	
153) Phenanthrene-d10	13.767(0.006)	2165	188	745497 (-19)	5.00	
175) Pyrene-d10	15.842(0.006)	2553	212	841945 (-22)	5.00	
213) Perylene-d12	20.458(0.006)	3416	264	586110 (-23)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.883(0.000)	82	1555297	21.341	85%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.798(0.000)	172	2304710	20.715	83%		61 - 112
179) Terphenyl-d14	(5)	16.157(0.000)	244	2486409	22.240	89%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.03
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)			Not Detected					0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0593.d Injection date and time: **16-OCT-2015 16:55**
Data file Sample Info. Line: P2817;8082115;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 17:20 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 1 ul

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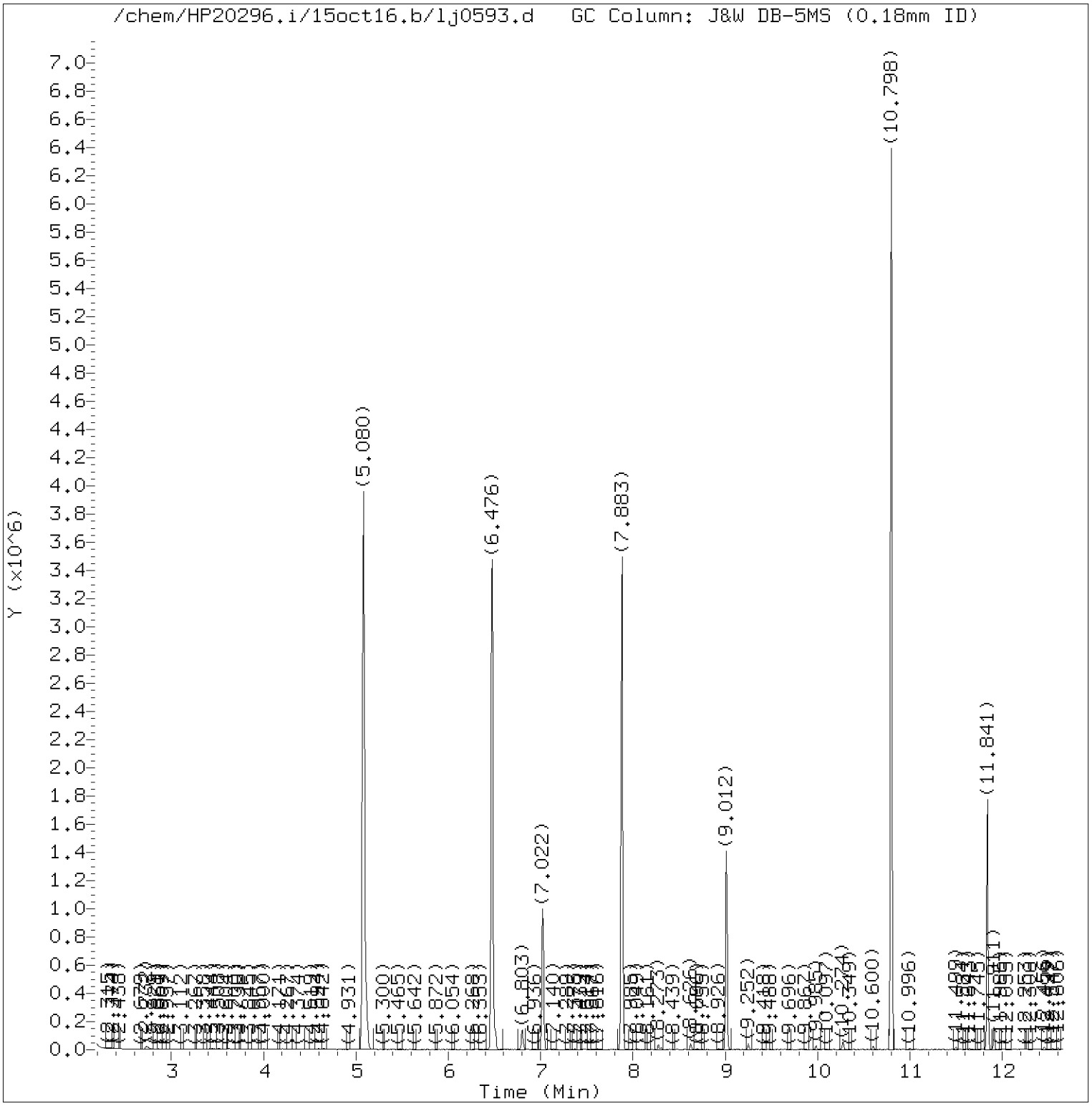
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:52. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

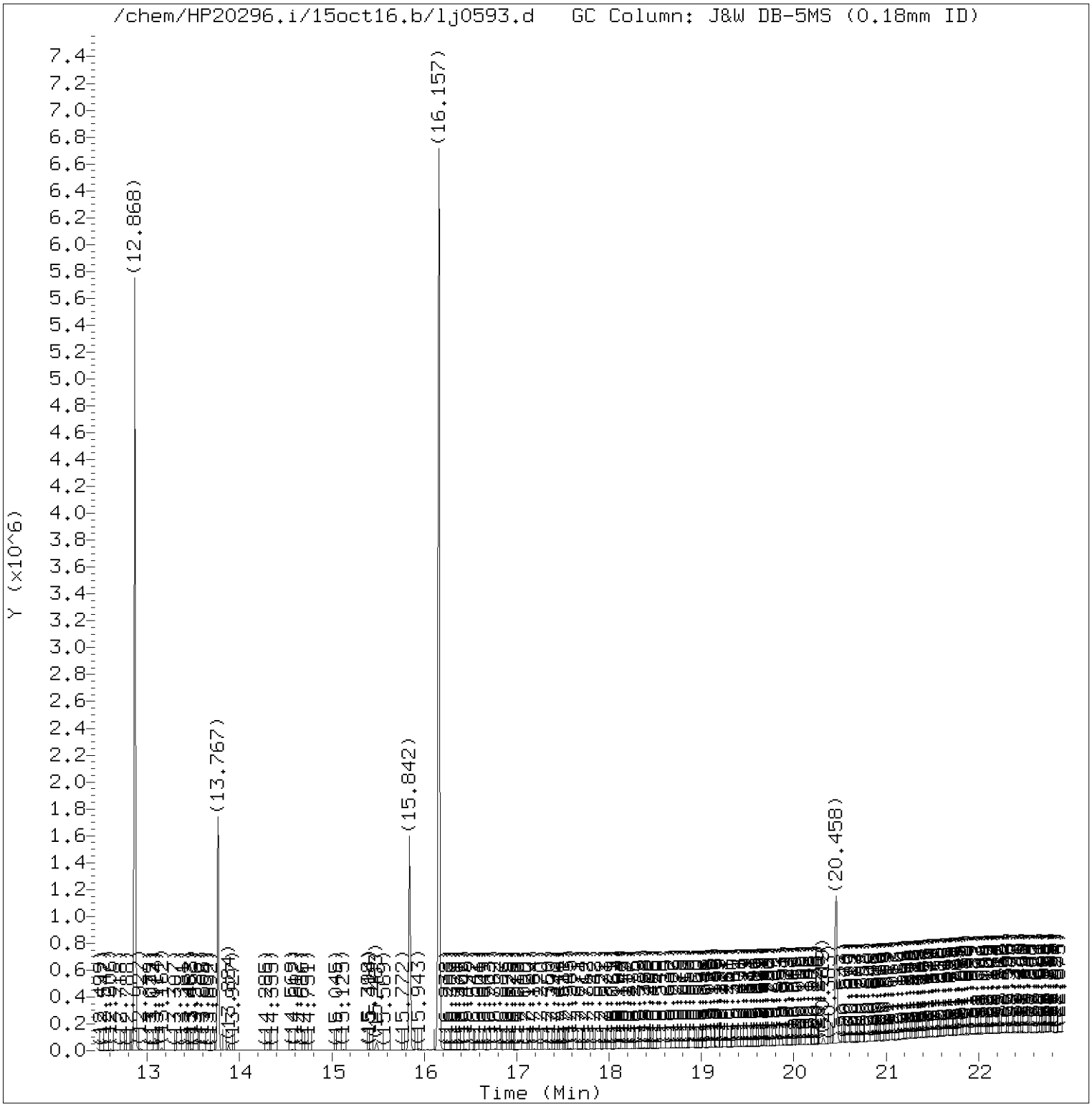
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0593.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 16:55 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 17:20 Unknown

Sample Name: P2817 Lab Sample ID: 8082115

Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0593.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 16:55 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 17:20 Unknown

Sample Name: P2817 Lab Sample ID: 8082115

Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0593.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 16:55 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 17:20 Unknown

Sample Name: P2817 Lab Sample ID: 8082115

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.022	152	192000	5.000
44)$Nitrobenzene-d5	(2)	7.883	82	1555297	21.341
65)*Naphthalene-d8	(2)	9.012	136	721870	5.000
93)$2-Fluorobiphenyl	(3)	10.798	172	2304710	20.715
113)*Acenaphthene-d10	(3)	11.841	164	403592	5.000
153)*Phenanthrene-d10	(4)	13.767	188	745497	5.000
175)*Pyrene-d10	(5)	15.842	212	841945	5.000
179)$Terphenyl-d14	(5)	16.157	244	2486409	22.240
213)*Perylene-d12	(6)	20.458	264	586110	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

P2819 Lancaster Laboratories, Inc. 8082117
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0594.d Injection date and time: **16-OCT-2015 17:23**
Data file Sample Info. Line: P2819;8082117;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 17:48 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.022(0.006)	904	152	196526 (-9)	5.00	
65) Naphthalene-d8	9.012(0.006)	1276	136	795883 (-9)	5.00	
113) Acenaphthene-d10	11.841(0.000)	1805	164	399502 (-19)	5.00	
153) Phenanthrene-d10	13.767(0.006)	2165	188	753881 (-18)	5.00	
175) Pyrene-d10	15.842(0.006)	2553	212	868169 (-19)	5.00	
213) Perylene-d12	20.458(0.006)	3416	264	608876 (-20)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.883(0.000)	82	1690976	21.045	84%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.798(0.000)	172	2250101	20.431	82%		61 - 112
179) Terphenyl-d14	(5)	16.157(0.000)	244	2346189	20.352	81%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.03
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)			Not Detected					0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0594.d Injection date and time: **16-OCT-2015 17:23**
Data file Sample Info. Line: P2819;8082117;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 17:48 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 1 ul

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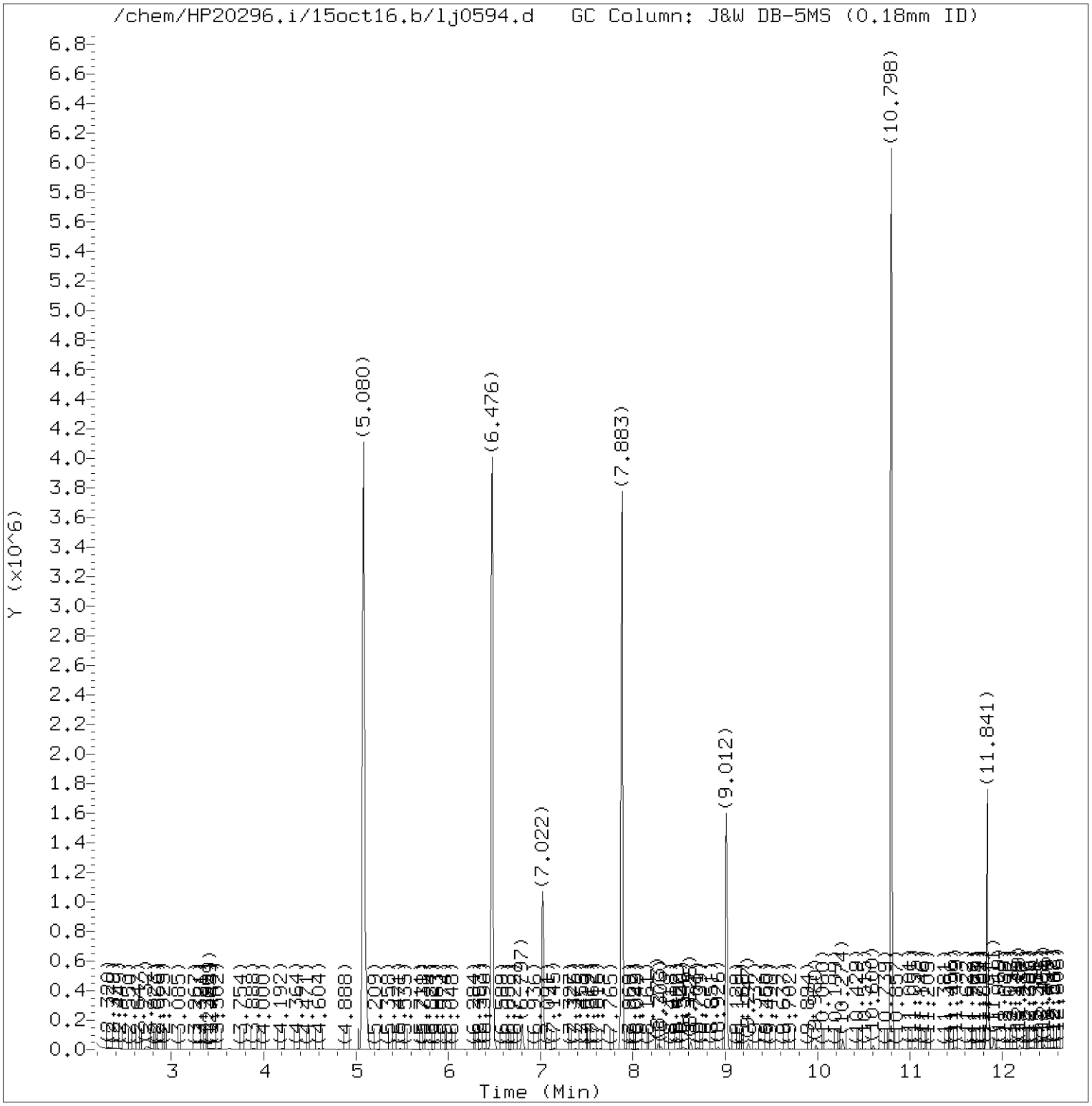
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/16/2015 at 18:09. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:52. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

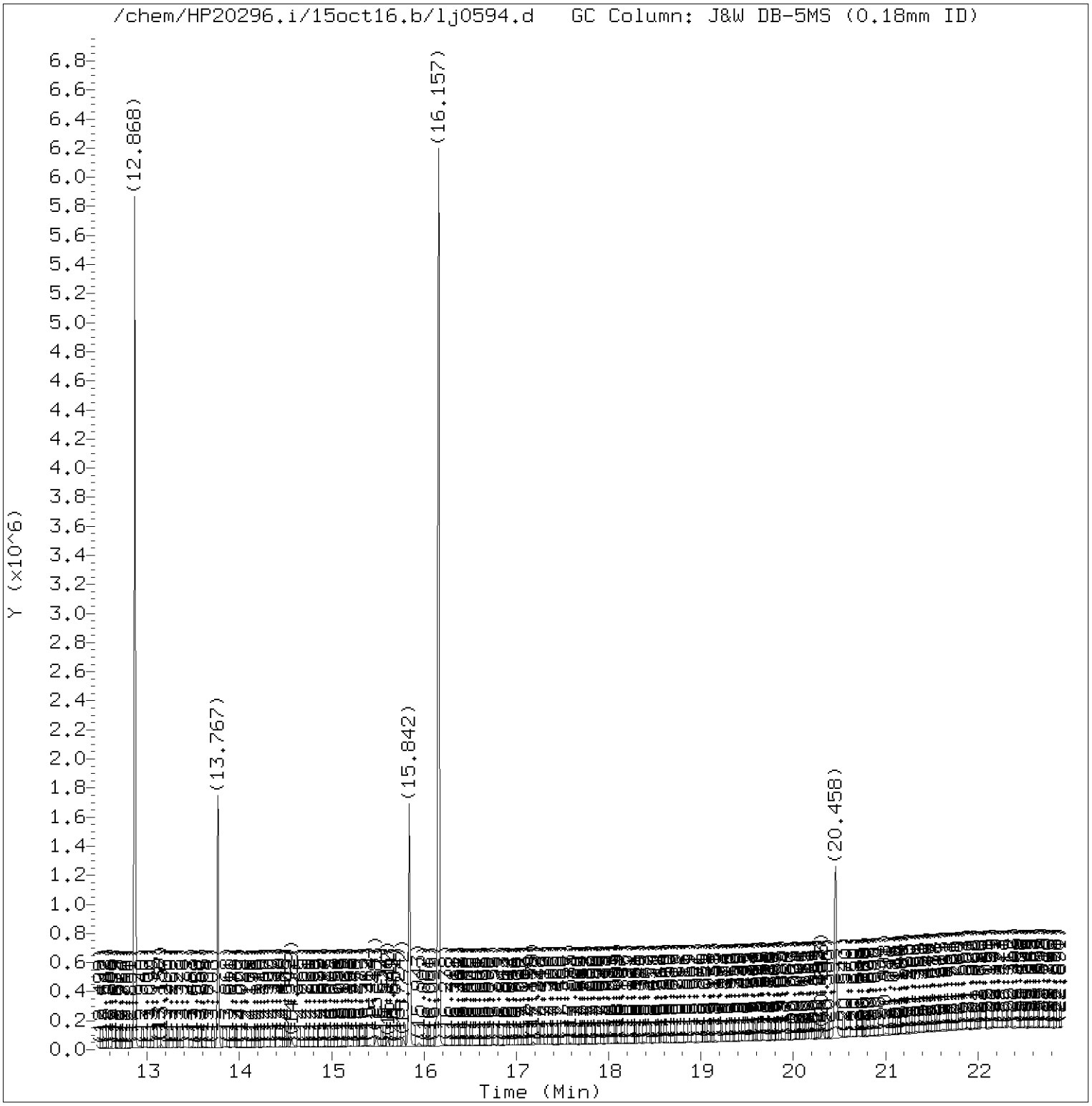
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0594.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 17:23 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 17:48 Unknown

Sample Name: P2819 Lab Sample ID: 8082117

Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0594.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 17:23 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 17:48 Unknown

Sample Name: P2819 Lab Sample ID: 8082117

Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0594.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 17:23 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 17:48 Unknown

Sample Name: P2819 Lab Sample ID: 8082117

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.022	152	196526	5.000
44)$Nitrobenzene-d5	(2)	7.883	82	1690976	21.045
65)*Naphthalene-d8	(2)	9.012	136	795883	5.000
93)$2-Fluorobiphenyl	(3)	10.798	172	2250101	20.431
113)*Acenaphthene-d10	(3)	11.841	164	399502	5.000
153)*Phenanthrene-d10	(4)	13.767	188	753881	5.000
175)*Pyrene-d10	(5)	15.842	212	868169	5.000
179)$Terphenyl-d14	(5)	16.157	244	2346189	20.352
213)*Perylene-d12	(6)	20.458	264	608876	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/16/2015 at 18:09.
Target 3.5 esignature user ID: ceb05247

P2820 Lancaster Laboratories, Inc. 8082118
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0595.d Injection date and time: **16-OCT-2015 17:51**
Data file Sample Info. Line: P2820;8082118;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 18:16 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.022(0.006)	904	152	188213 (-13)	5.00	
65) Naphthalene-d8	9.012(0.006)	1276	136	754558 (-14)	5.00	
113) Acenaphthene-d10	11.841(0.000)	1805	164	421527 (-14)	5.00	
153) Phenanthrene-d10	13.767(0.006)	2165	188	783485 (-15)	5.00	
175) Pyrene-d10	15.842(0.006)	2553	212	904470 (-16)	5.00	
213) Perylene-d12	20.458(0.006)	3416	264	635237 (-17)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.883(0.000)	82	1594014	20.924	84%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.798(0.000)	172	2376025	20.447	82%		61 - 112
179) Terphenyl-d14	(5)	16.158(0.000)	244	2398676	19.972	80%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.03
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)	11.884(0.000)	153	15528	0.154	0.62			0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:16. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0595.d Injection date and time: **16-OCT-2015 17:51**
Data file Sample Info. Line: P2820;8082118;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 18:16 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 1 ul

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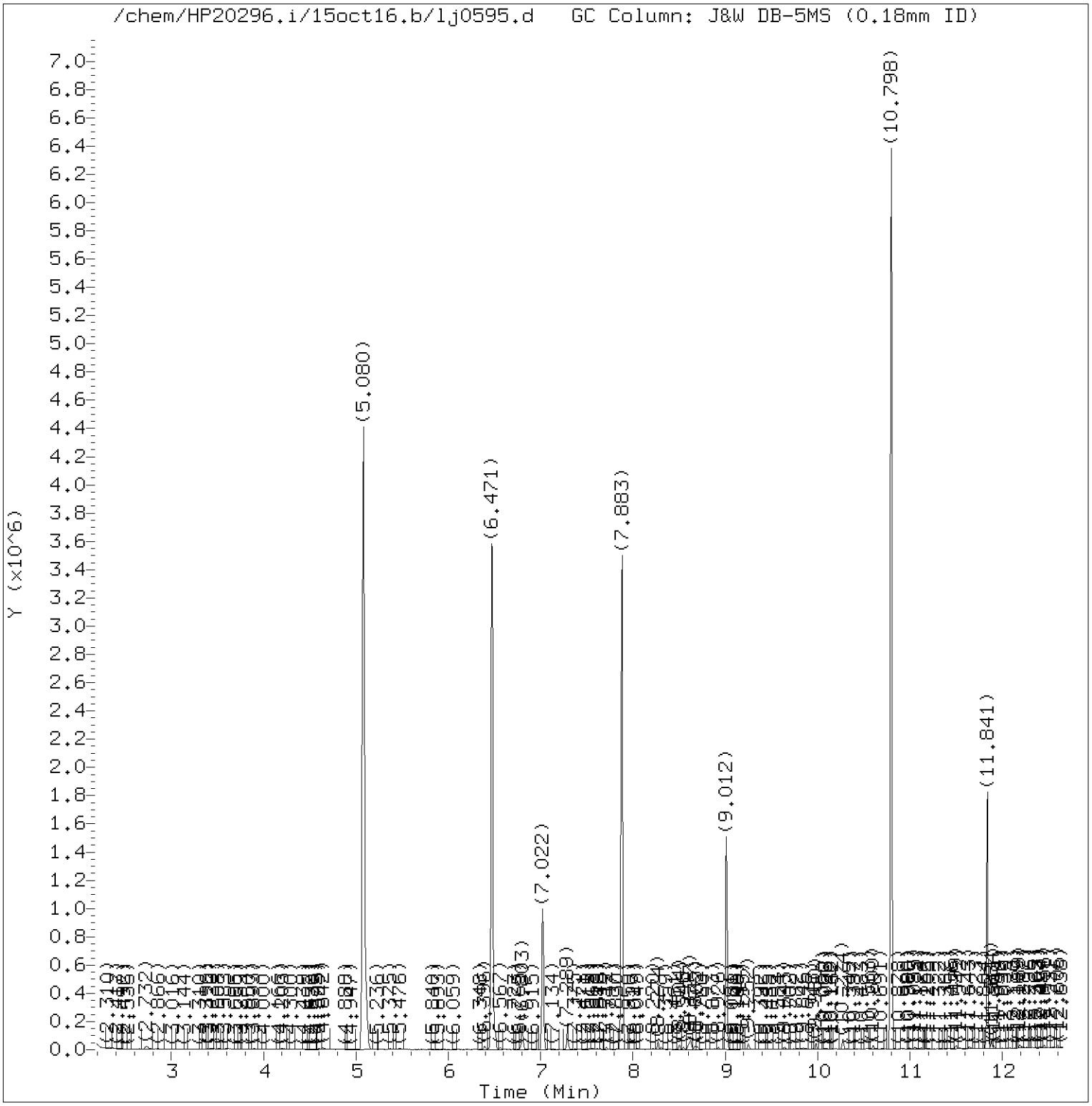
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:16. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:53. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

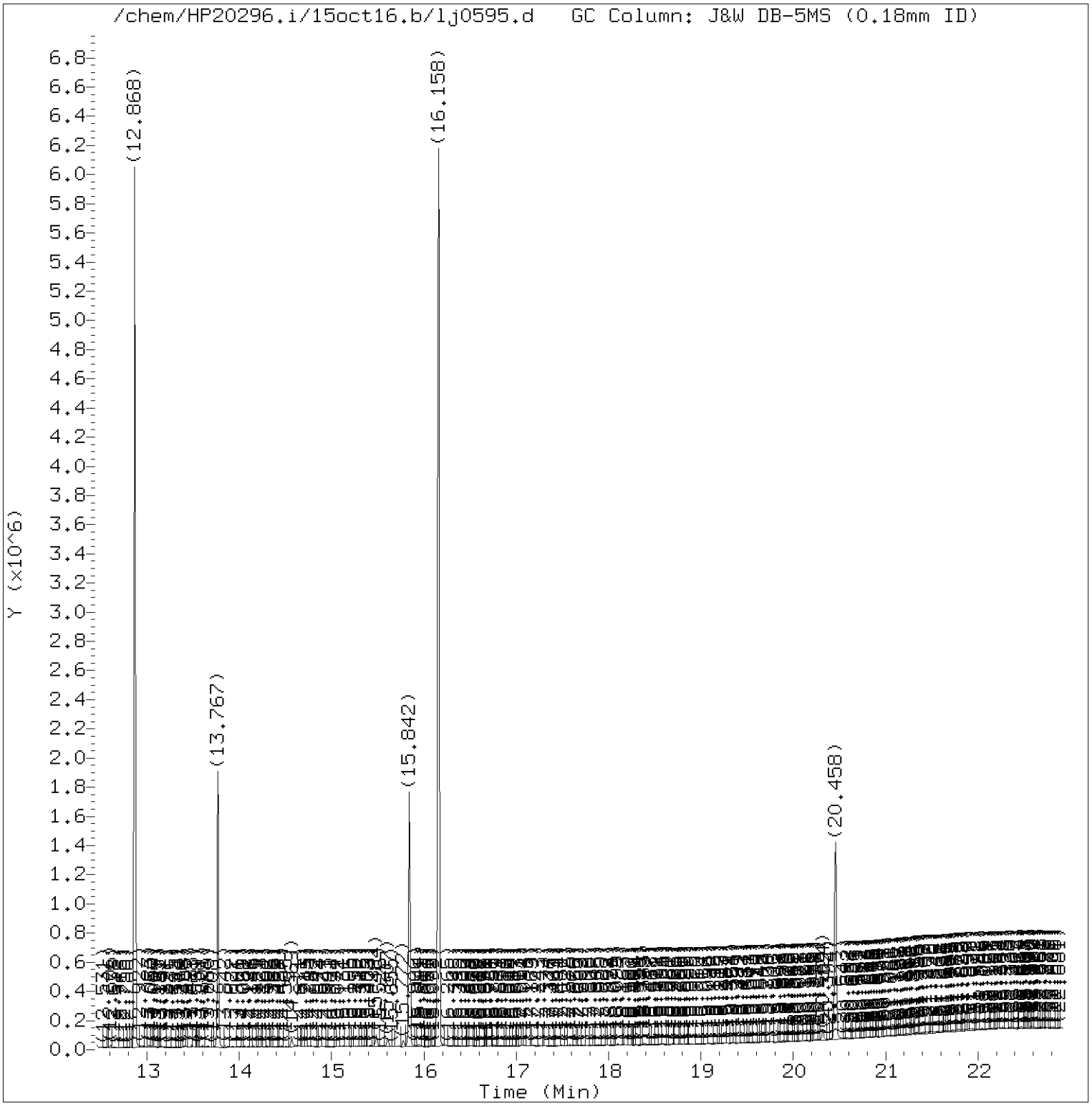
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0595.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 17:51 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 18:16 Unknown

Sample Name: P2820 Lab Sample ID: 8082118

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:16.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0595.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 17:51 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 18:16 Unknown

Sample Name: P2820 Lab Sample ID: 8082118

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:16.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0595.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 17:51 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 18:16 Unknown

Sample Name: P2820 Lab Sample ID: 8082118

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.022	152	188213	5.000
44)$Nitrobenzene-d5	(2)	7.883	82	1594014	20.924
65)*Naphthalene-d8	(2)	9.012	136	754558	5.000
93)$2-Fluorobiphenyl	(3)	10.798	172	2376025	20.447
113)*Acenaphthene-d10	(3)	11.841	164	421527	5.000
114) Acenaphthene	(3)	11.884	153	15528	0.154
153)*Phenanthrene-d10	(4)	13.767	188	783485	5.000
175)*Pyrene-d10	(5)	15.842	212	904470	5.000
179)$Terphenyl-d14	(5)	16.158	244	2398676	19.972
213)*Perylene-d12	(6)	20.458	264	635237	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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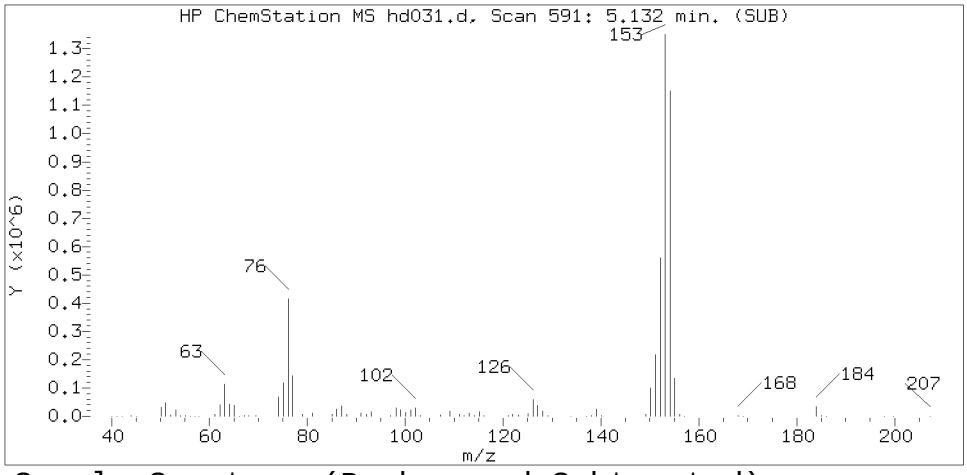
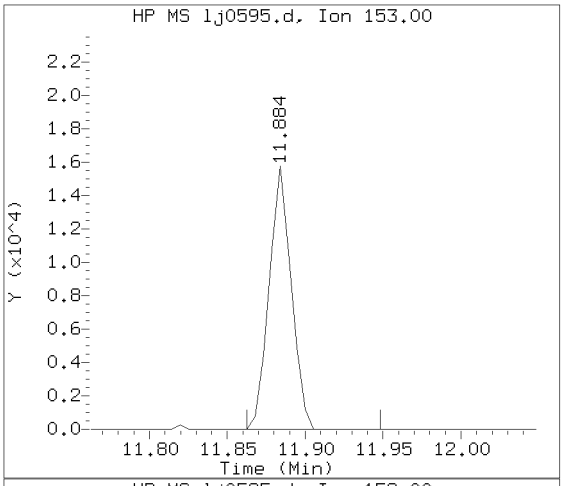
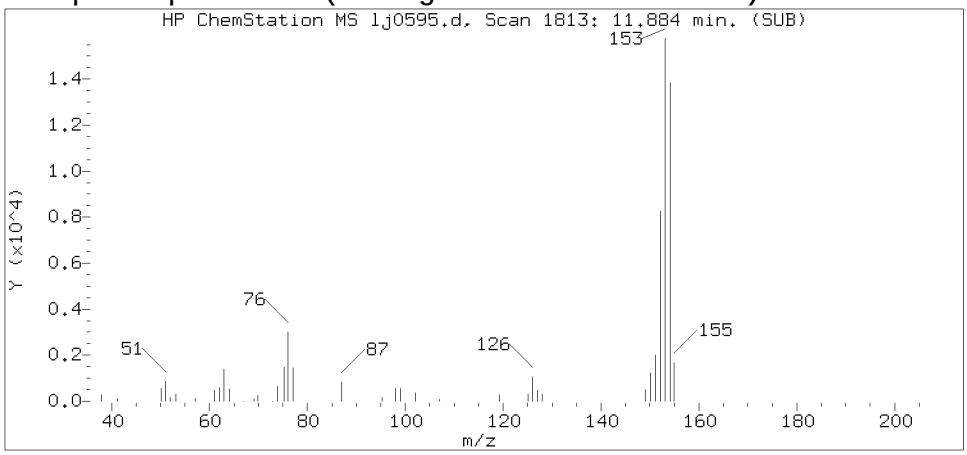
on 10/17/2015 at 12:16.
Target 3.5 esignature user ID: ceb05247

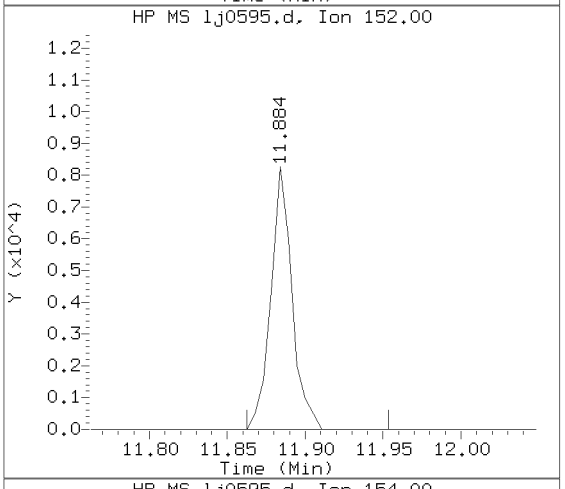
Reference Standard Spectrum for Acenaphthene



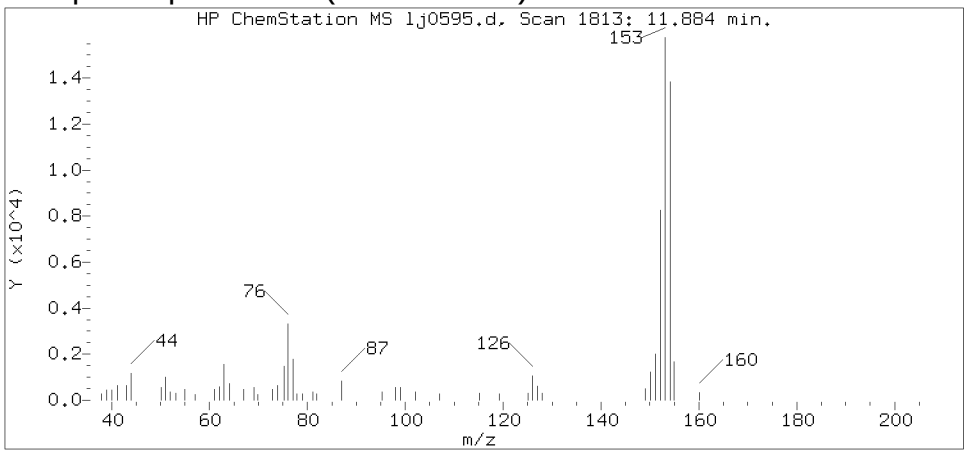


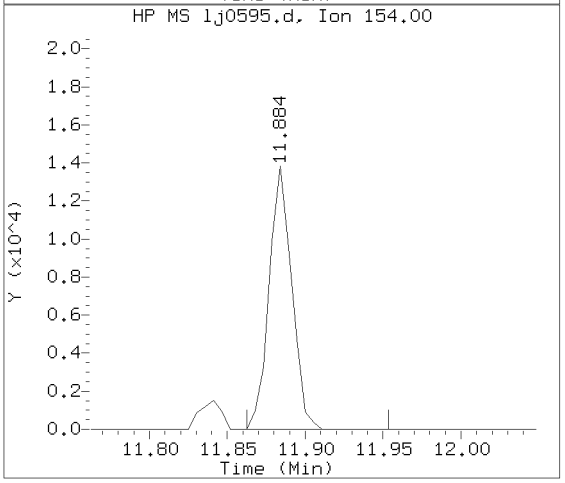
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0595.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 17:51 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 18:16 Unknown

Sample Name: P2820 Lab Sample ID: 8082118

Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1813
Retention Time (minutes) : 11.884
Relative Retention Time : 0.00045
Quant Ion : 153.00
Area (flag) : 15528
On-column Amount (ng/ul) : 0.1541

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:16.
Target 3.5 esignature user ID: ceb05247

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0596.d Injection date and time: **16-OCT-2015 18:19**
Data file Sample Info. Line: P2821;8082119;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 18:43 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.022(0.006)	904	152	190261 (-12)	5.00	
65) Naphthalene-d8	9.012(0.006)	1276	136	733994 (-16)	5.00	
113) Acenaphthene-d10	11.841(0.000)	1805	164	416438 (-15)	5.00	
153) Phenanthrene-d10	13.767(0.006)	2165	188	768077 (-17)	5.00	
175) Pyrene-d10	15.842(0.006)	2553	212	871487 (-19)	5.00	
213) Perylene-d12	20.458(0.006)	3416	264	624865 (-18)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.883(0.000)	82	1525959	20.592	82%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.798(0.000)	172	2299777	20.033	80%		61 - 112
179) Terphenyl-d14	(5)	16.157(0.000)	244	2321187	20.058	80%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.03
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)			Not Detected					0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:16. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0596.d Injection date and time: **16-OCT-2015 18:19**
Data file Sample Info. Line: P2821;8082119;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 18:43 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 1 ul

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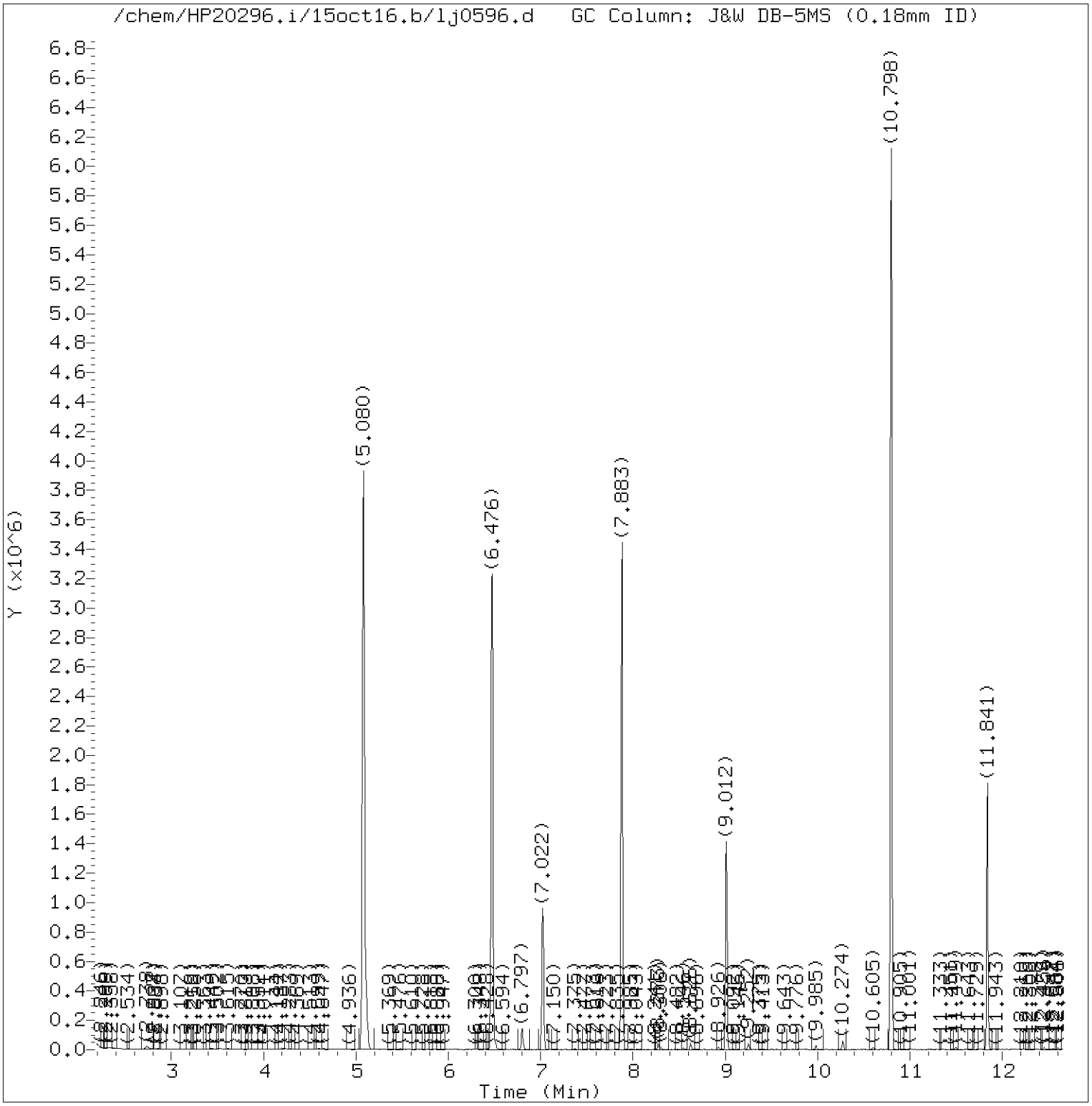
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:16. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:53. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

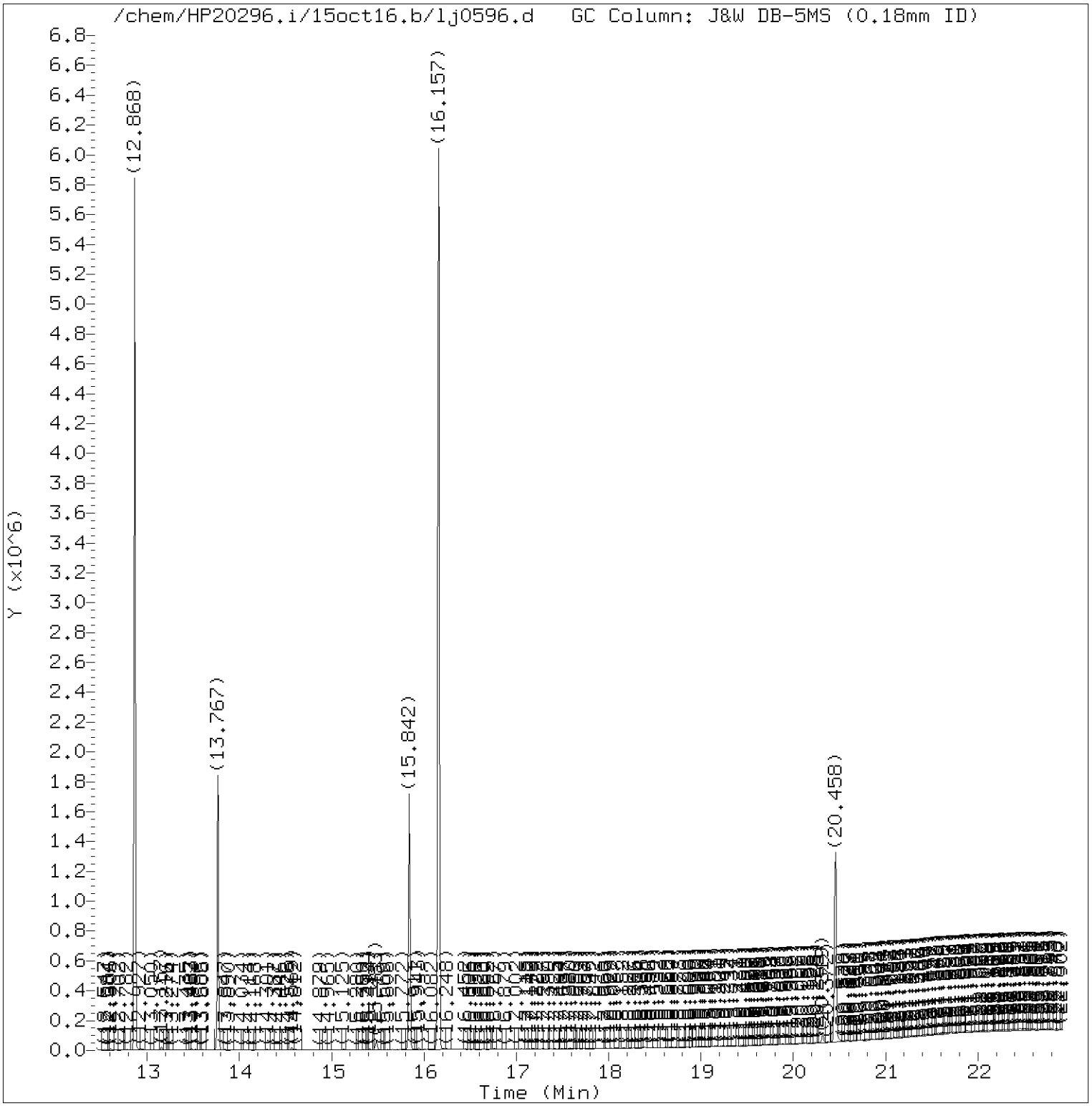
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0596.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 18:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 18:43 Unknown

Sample Name: P2821 Lab Sample ID: 8082119

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:16.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0596.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 18:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 18:43 Unknown

Sample Name: P2821 Lab Sample ID: 8082119

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:16.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0596.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 18:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 18:43 Unknown

Sample Name: P2821 Lab Sample ID: 8082119

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.022	152	190261	5.000
44)$Nitrobenzene-d5	(2)	7.883	82	1525959	20.592
65)*Naphthalene-d8	(2)	9.012	136	733994	5.000
93)$2-Fluorobiphenyl	(3)	10.798	172	2299777	20.033
113)*Acenaphthene-d10	(3)	11.841	164	416438	5.000
153)*Phenanthrene-d10	(4)	13.767	188	768077	5.000
175)*Pyrene-d10	(5)	15.842	212	871487	5.000
179)$Terphenyl-d14	(5)	16.157	244	2321187	20.058
213)*Perylene-d12	(6)	20.458	264	624865	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:16.
Target 3.5 esignature user ID: ceb05247

Standards Data

Semivolatiles by GC/MS

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP20296 **HP #12**

Data Directory Path is - D:\DATA\15oct15\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
hbz01996	LJ0530.D	RVDFTPP2435	10/15/2015	11:57		
hbz01996	LJ0531.D	RVSTD2745	10/15/2015	13:06		
hbz01996	LJ0532.D	RVSTD2745	10/15/2015	14:04		
hbz01996	LJ0533.D	RVSTD2745	10/15/2015	14:32		
hbz01996	LJ0534.D	RVSTD2745	10/15/2015	15:00		
hbz01996	LJ0535.D	RVSTD2745	10/15/2015	15:28		
hbz01996	LJ0536.D	RVSTD2745	10/15/2015	15:56		
hbz01996	LJ0537.D	RVSTD2745	10/15/2015	16:23		
hbz01996	LJ0538.D	RVMDL2745	10/15/2015	16:51		
hbz01996	LJ0539.D	PAHMDL2745	10/15/2015	17:19		
hbz01996	LJ0540.D	RVICV2465	10/15/2015	17:47		
hbz01996	LJ0541.D	RVBASICV2475	10/15/2015	18:15		
hbz01996	LJ0542.D			18:43		

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP20296 **HP #12**

Data Directory Path is - D:\DATA\15oct16\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
hbz01996	LJ0580.D	RVDFTPP2435	10/16/2015	08:06		
hbz01996	LJ0580z.D	RVDFTPP2435	10/16/2015	09:57		
hbz01996	LJ0581.D	RVSTD2745	10/16/2015	10:17		
hbz01996	LJ0582.D	SBLKWB283	10/16/2015	11:20	15283WAB	
hbz01996	LJ0583.D	283WBLCS	10/16/2015	11:48	15283WAB	
hbz01996	LJ0582a.D	SBLKWB283	10/16/2015	12:16	15283WAB	
hbz01996	LJ0584.D	8081061	10/16/2015	12:44	15285WAJ	
hbz01996	LJ0585.D	8081062	10/16/2015	13:12	15285WAJ	
hbz01996	LJ0586.D	8081063	10/16/2015	13:40	15285WAJ	
hbz01996	LJ0587.D	8081064	10/16/2015	14:08	15285WAJ	
hbz01996	LJ0588.D	8082098	10/16/2015	14:36	15283WAB	
hbz01996	LJ0589.D	8082099	10/16/2015	15:03	15283WAB	
hbz01996	LJ0590.D	8082100	10/16/2015	15:31	15283WAB	
hbz01996	LJ0591.D	8082101	10/16/2015	15:59	15283WAB	
hbz01996	LJ0592.D	8082114	10/16/2015	16:27	15283WAB	
hbz01996	LJ0593.D	8082115	10/16/2015	16:55	15283WAB	
hbz01996	LJ0594.D	8082117	10/16/2015	17:23	15283WAB	
hbz01996	LJ0595.D	8082118	10/16/2015	17:51	15283WAB	
hbz01996	LJ0596.D	8082119	10/16/2015	18:19	15283WAB	
hbz01996	LJ0597.D	8082120	10/16/2015	18:47	15283WAB	
hbz01996	LJ0598.D	8082121	10/16/2015	19:15	15283WAB	
hbz01996	LJ0599.D	8082122	10/16/2015	19:42	15283WAB	
hbz01996	LJ0600.D	8082124	10/16/2015	20:10	15283WAB	
hbz01996	LJ0601.D	8082126	10/16/2015	20:38	15283WAB	
hbz01996	LJ0602.D	8082127	10/16/2015	21:06	15283WAB	
hbz01996	LJ0603.D	8082128	10/16/2015	21:34	15283WAB	
hbz01996	LJ0604.D	8082129	10/16/2015	22:02	15283WAB	
hbz01996	LJ0605.D	8082130	10/16/2015	22:29	15283WAB	

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP20296 **HP #12**

Data Directory Path is - D:\DATA\15oct17\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
ceb05247	LJ0610.D	RVDFTPP2435	10/17/2015	12:08		
ceb05247	LJ0610a.D	RVDFTPP2435	10/17/2015	12:29		
ceb05247	LJ0611.D	RVSTD2745	10/17/2015	12:42		
ceb05247	LJ0612.D	SBLKWD288	10/17/2015	13:20	15288WAD	
ceb05247	LJ0613.D	288WDLCS	10/17/2015	13:48	15288WAD	
ceb05247	LJ0614.D	288WDLCSD	10/17/2015	14:16	15288WAD	
ceb05247	LJ0615.D	8082098DL	10/17/2015	14:44	15283WAB	10
ceb05247	LJ0616.D	8082099DL	10/17/2015	15:12	15283WAB	20
ceb05247	LJ0617.D	8082100DL	10/17/2015	15:39	15283WAB	20
ceb05247	LJ0618.D	8082101DL	10/17/2015	16:07	15283WAB	20
ceb05247	LJ0619.D	8082124DL	10/17/2015	16:35	15283WAB	10
ceb05247	LJ0620.D	8082124DL2	10/17/2015	17:03	15283WAB	100
ceb05247	LJ0621.D	8082129	10/17/2015	17:31	15283WAB	
ceb05247	LJ0622.D	8082130	10/17/2015	17:59	15283WAB	
ceb05247	LJ0623.D	8083925	10/17/2015	18:27	15288WAD	
ceb05247	LJ0624.D	8083928	10/17/2015	18:55	15288WAD	
ceb05247	LJ0625.D	8083929	10/17/2015	19:22	15288WAD	
ceb05247	LJ0626.D	8083930	10/17/2015	19:50	15288WAD	
ceb05247	LJ0627.D	8083931	10/17/2015	20:18	15288WAD	
ceb05247	LJ0628.D	8083932	10/17/2015	20:46	15288WAD	
ceb05247	LJ0629.D	8083933	10/17/2015	21:14	15288WAD	
ceb05247	LJ0630.D	8083934	10/17/2015	21:42	15288WAD	
ceb05247	LJ0631.D	8083935	10/17/2015	22:09	15288WAD	
ceb05247	LJ0632.D	8083937	10/17/2015	22:37	15288WAD	
ceb05247	LJ0633.D	8083938	10/17/2015	23:05	15288WAD	
ceb05247	LJ0634.D	8083939	10/17/2015	23:33	15288WAD	
ceb05247	LJ0635.D	8083940	10/18/2015	00:01	15288WAD	
ceb05247	LJ0636.D	8083941	10/18/2015	00:29	15288WAD	
ceb05247	LJ0637.D	8083942	10/18/2015	00:57	15288WAD	
ceb05247	LJ0638.D	8083943	10/18/2015	01:25	15288WAD	
ceb05247	LJ0639.D	8083944	10/18/2015	01:53	15288WAD	
ceb05247	LJ0640.D	8083945	10/18/2015	02:21	15288WAD	

Data File: /chem/HP20296.i/15oct15.b/lj0530.d

Date : 15-OCT-2015 11:57

Client ID: DFTPP12.5

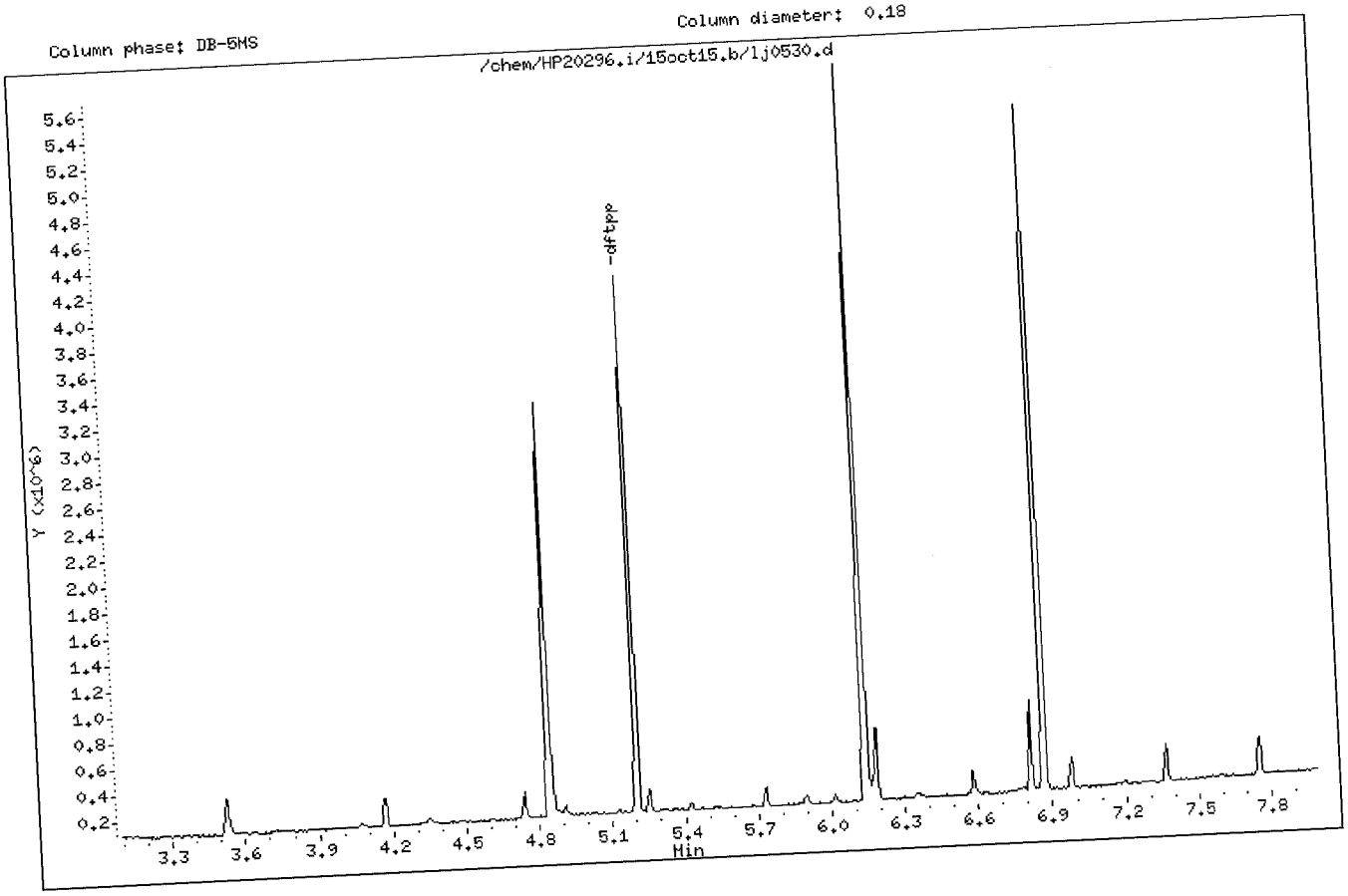
Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Instrument: HP20296.i

Operator: hbz01996

Column diameter: 0.18

Column phase: DB-5MS



Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15oct15.b/lj0530.d

Date : 15-OCT-2015 11:57

Client ID: DFTPP12.5

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

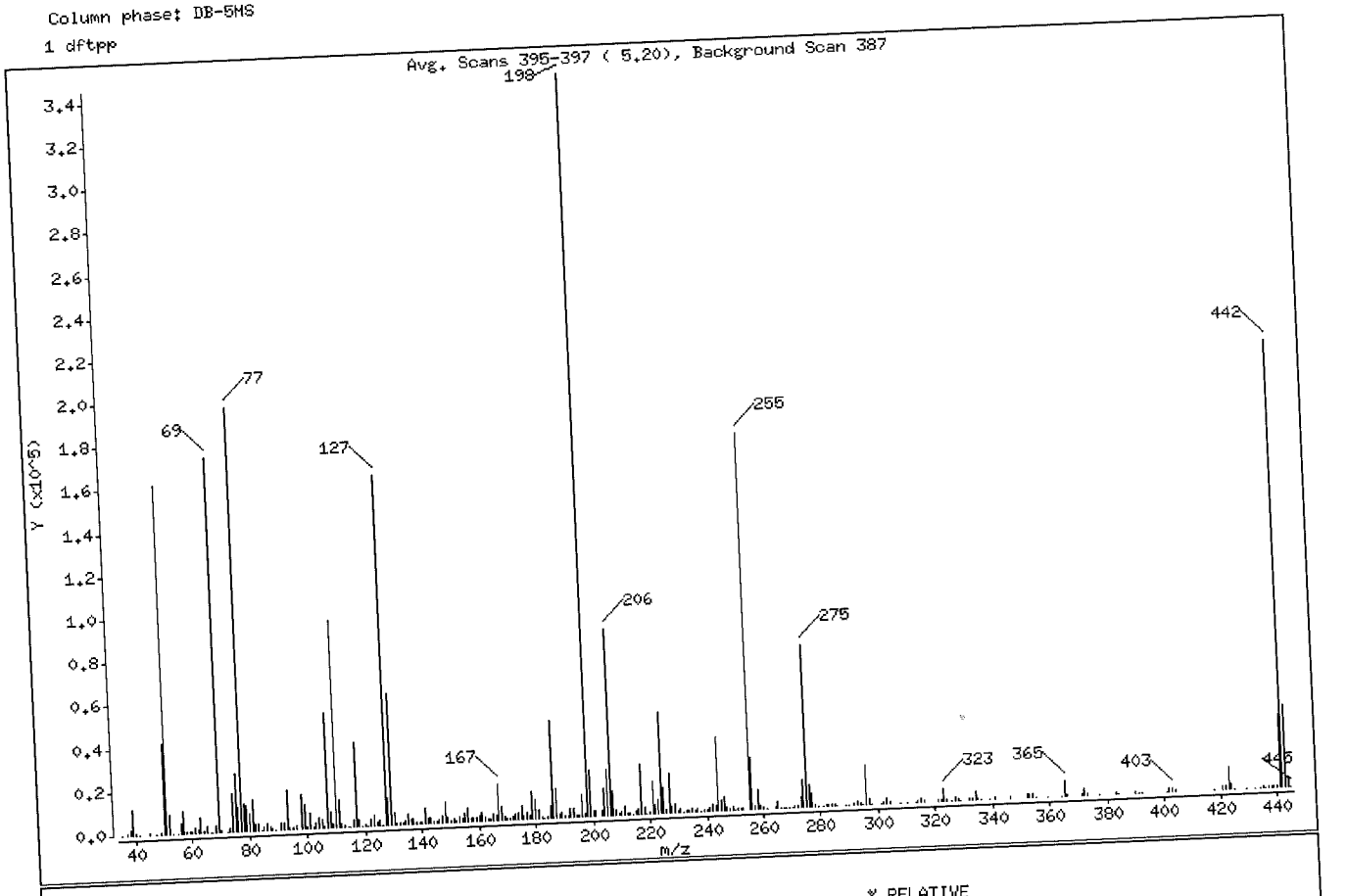
Instrument: HP20296.i

Operator: hbz01996

Column diameter: 0.18

Column phase: DB-5MS

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	46.79
68	Less than 2.00% of mass 69	0.97 (1.92)
69	Mass 69 relative abundance	50.33
70	Less than 2.00% of mass 69	0.15 (0.30)
127	40.00 - 60.00% of mass 198	47.17
197	Less than 1.00% of mass 198	0.39
199	5.00 - 9.00% of mass 198	6.30
275	10.00 - 30.00% of mass 198	21.83
365	Greater than 1.00% of mass 198	2.05
441	Present, but less than mass 443	9.92
442	40.00 - 99.99% of mass 198	60.29
443	17.00 - 23.00% of mass 442	11.04 (18.32)

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Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15oct15.b/lj0530.d

Date : 15-OCT-2015 11:57

Client ID: DFTPP12.5

Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18

Data File: lj0530.d

Spectrum: Avg. Scans 395-397 (5.20), Background Scan 387

Location of Maximum: 198.00

Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	122	124.00	1964	204.00	12503	289.00	130
37.00	404	125.00	2431	205.00	21672	290.00	168
38.00	2240	126.00	93	206.00	86584	292.00	419
39.00	11597	127.00	162944	207.00	11365	293.00	1630
40.00	905	128.00	12794	208.00	2754	294.00	534
41.00	104	129.00	61408	209.00	734	295.00	337
45.00	511	130.00	5226	210.00	1518	296.00	18280
47.00	114	131.00	786	211.00	3836	297.00	2461
49.00	863	132.00	727	212.00	639	298.00	257
50.00	41840	133.00	606	213.00	472	301.00	129
51.00	161600	134.00	1436	214.00	183	302.00	544
52.00	8370	135.00	4557	215.00	1270	303.00	2352
53.00	122	136.00	2077	216.00	2274	304.00	622
55.00	333	137.00	2136	217.00	22728	308.00	333
56.00	4528	138.00	557	218.00	2864	310.00	307
57.00	10577	139.00	547	219.00	329	313.00	272
58.00	625	140.00	951	220.00	604	314.00	646
59.00	463	141.00	7164	221.00	15018	315.00	1807
60.00	557	142.00	2634	222.00	3679	316.00	943
61.00	2134	143.00	2081	223.00	6311	321.00	432
62.00	1889	144.00	610	224.00	47000	322.00	425
63.00	7058	145.00	605	225.00	12284	323.00	5407
64.00	940	146.00	1536	226.00	1597	324.00	1026
65.00	2899	147.00	3565	227.00	18368	326.00	88
66.00	299	148.00	9336	228.00	3246	327.00	1195
67.00	141	149.00	2373	229.00	3817	328.00	588
68.00	3336	150.00	513	230.00	714	329.00	97
69.00	173824	151.00	1370	231.00	1836	332.00	588
70.00	530	152.00	956	232.00	125	333.00	550
72.00	108	153.00	2467	233.00	429	334.00	3582
73.00	1275	154.00	1748	234.00	1005	335.00	1144
74.00	17608	155.00	4113	235.00	1462	336.00	87
75.00	26760	156.00	6594	236.00	810	339.00	105
76.00	10741	157.00	1286	237.00	1470	341.00	902
77.00	196544	158.00	1248	238.00	174	346.00	1121

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Target 3.5 esignature user ID: ebb05247

Data File: /chem/HP20296.i/15oct15.b/lj0530.d

Date : 15-OCT-2015 11:57

Client ID: DFTPP12.5

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Instrument: HP20296.i

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18

Data File: lj0530.d

Spectrum: Avg. Scans 395-397 (5.20), Background Scan 387

Location of Maximum: 198.00

Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
78.00	12371	159.00	1318	239.00	663	352.00	1921
79.00	11730	160.00	2409	240.00	645	353.00	1218
80.00	8235	161.00	3588	241.00	1350	354.00	1688
81.00	14045	162.00	1227	242.00	2859	355.00	260
82.00	3214	163.00	547	243.00	2666	359.00	177
83.00	3107	164.00	643	244.00	34456	364.00	241
84.00	222	165.00	3053	245.00	4598	365.00	7092
85.00	1412	166.00	2554	246.00	6590	366.00	1165
86.00	3323	167.00	16848	247.00	1382	371.00	521
87.00	1819	168.00	6641	248.00	418	372.00	2857
88.00	595	169.00	1222	249.00	1413	373.00	643
89.00	115	170.00	554	250.00	352	377.00	89
91.00	2905	171.00	862	251.00	578	383.00	676
92.00	3284	172.00	1608	252.00	553	384.00	329
93.00	18520	173.00	2011	253.00	1190	390.00	599
94.00	960	174.00	3532	255.00	175040	391.00	244
95.00	707	175.00	6468	256.00	23768	392.00	93
96.00	1541	176.00	1890	257.00	1755	401.00	230
98.00	15739	177.00	2976	258.00	8494	402.00	1254
99.00	10962	178.00	1442	259.00	1714	403.00	1770
100.00	754	179.00	12429	260.00	459	404.00	613
101.00	6989	180.00	8467	261.00	127	418.00	87
102.00	455	181.00	3899	264.00	404	421.00	1374
103.00	2326	182.00	676	265.00	3566	422.00	1272
104.00	4422	183.00	216	266.00	357	423.00	10259
105.00	4364	184.00	1150	267.00	350	424.00	2266
106.00	1145	185.00	5773	268.00	90	425.00	177
107.00	53024	186.00	45248	269.00	199	429.00	101
108.00	7483	187.00	13864	270.00	215	432.00	115
109.00	1533	188.00	1342	271.00	693	434.00	358
110.00	95992	189.00	2602	272.00	1015	435.00	426
111.00	12906	190.00	705	273.00	5112	436.00	184
112.00	1623	191.00	1039	274.00	13008	437.00	681
113.00	1074	192.00	3929	275.00	75424	438.00	663
114.00	201	193.00	4147	276.00	10055	439.00	712

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15oct15.b/lj0530.d

Date : 15-OCT-2015 11:57

Client ID: DFTPP12.5

Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18

Data File: lj0530.d

Spectrum: Avg. Scans 395-397 (5.20), Background Scan 387

Location of Maximum: 198.00

Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
115.00	95	194.00	557	277.00	6385	440.00	662
116.00	2937	195.00	1015	278.00	1042	441.00	34256
117.00	38560	196.00	10304	279.00	368	442.00	208256
118.00	3010	197.00	1332	281.00	338	443.00	38152
119.00	235	198.00	345408	282.00	415	444.00	3837
120.00	597	199.00	21744	283.00	1095	445.00	227
121.00	271	200.00	2066	284.00	431		
122.00	3190	201.00	2264	285.00	924		
123.00	4694	203.00	2593	286.00	93		

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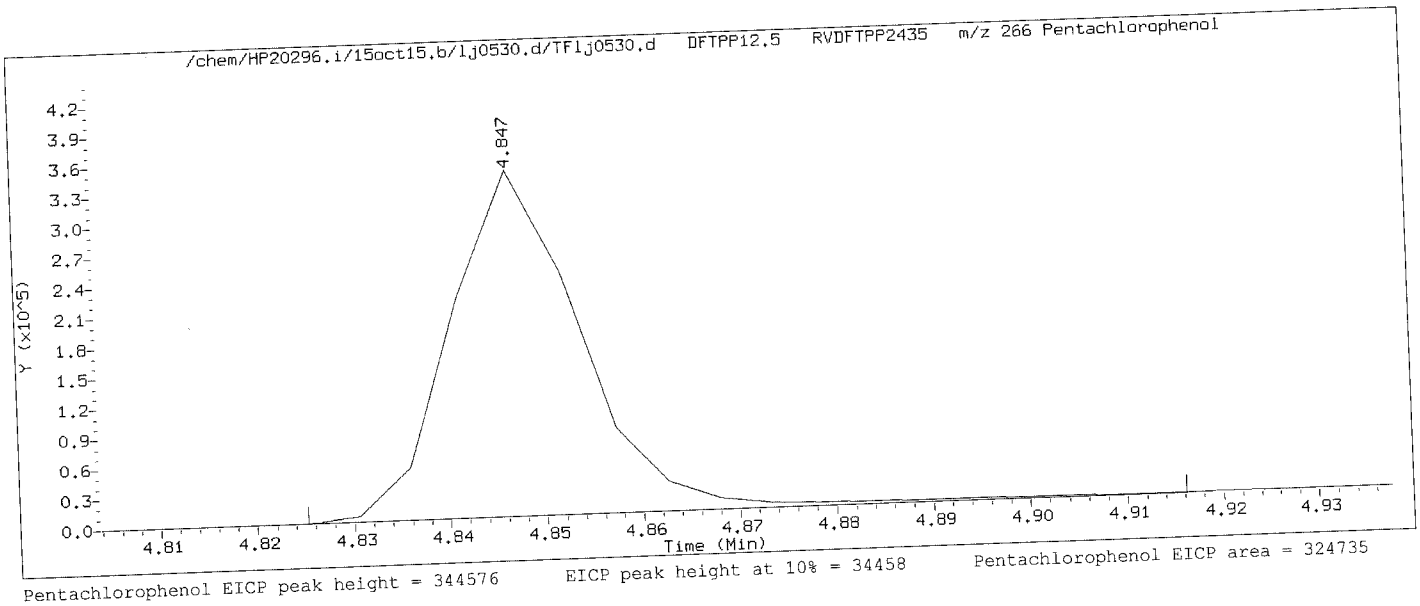
Target 3.5 esignature user ID: ceb05247

Assessment of GC Column Performance and Injection Port Inertness for

Instrument ID: HP20296.i Injection Date: 15-OCT-2015 11:57 Operator: hbz01996

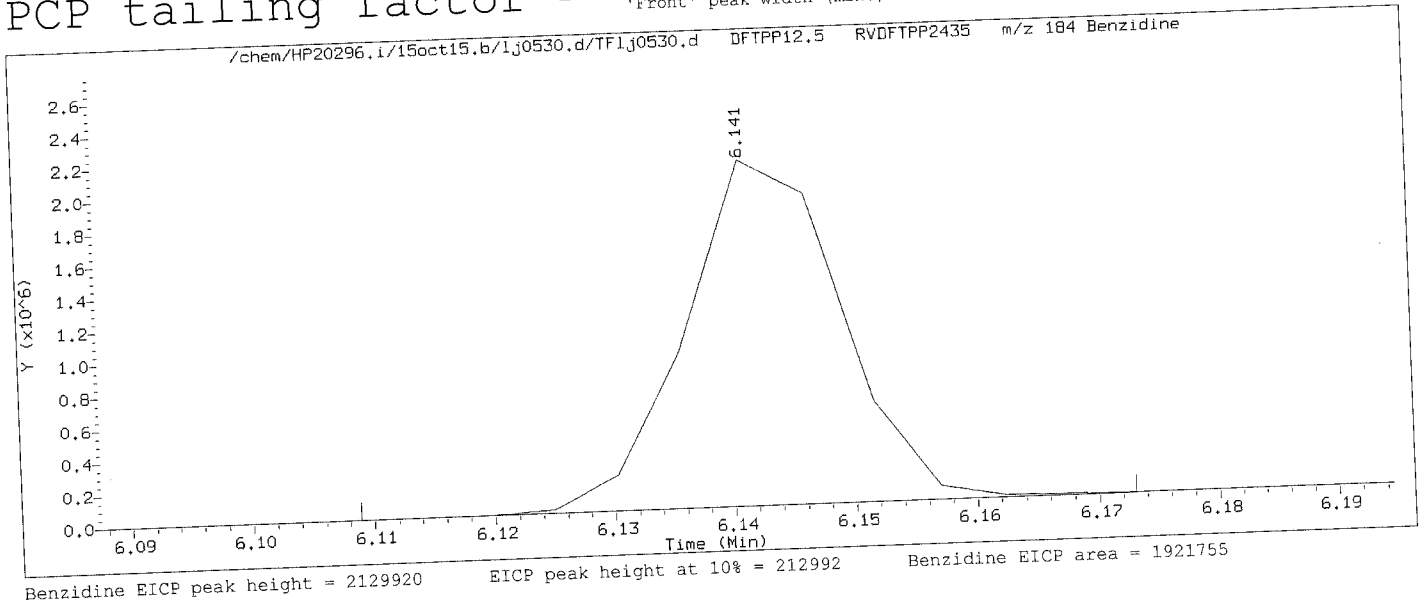


Pentachlorophenol EICP peak height = 344576 EICP peak height at 10% = 34458 Pentachlorophenol EICP area = 324735

Pentachlorophenol EICP peak apex (min.) = 4.847
RT at 10% of front half of EICP (min.) = 4.834
RT at 10% of back half of EICP (min.) = 4.862

'Front' peak width (min.) = 0.0127333333
'Tailing' peak width (min.) = 0.0155833333

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0155833333}{0.0127333333} = 1.224$$



Benzidine EICP peak height = 2129920 EICP peak height at 10% = 212992 Benzidine EICP area = 1921755

Benzidine EICP peak apex (min.) = 6.141
RT at 10% of front half of EICP (min.) = 6.130
RT at 10% of back half of EICP (min.) = 6.156

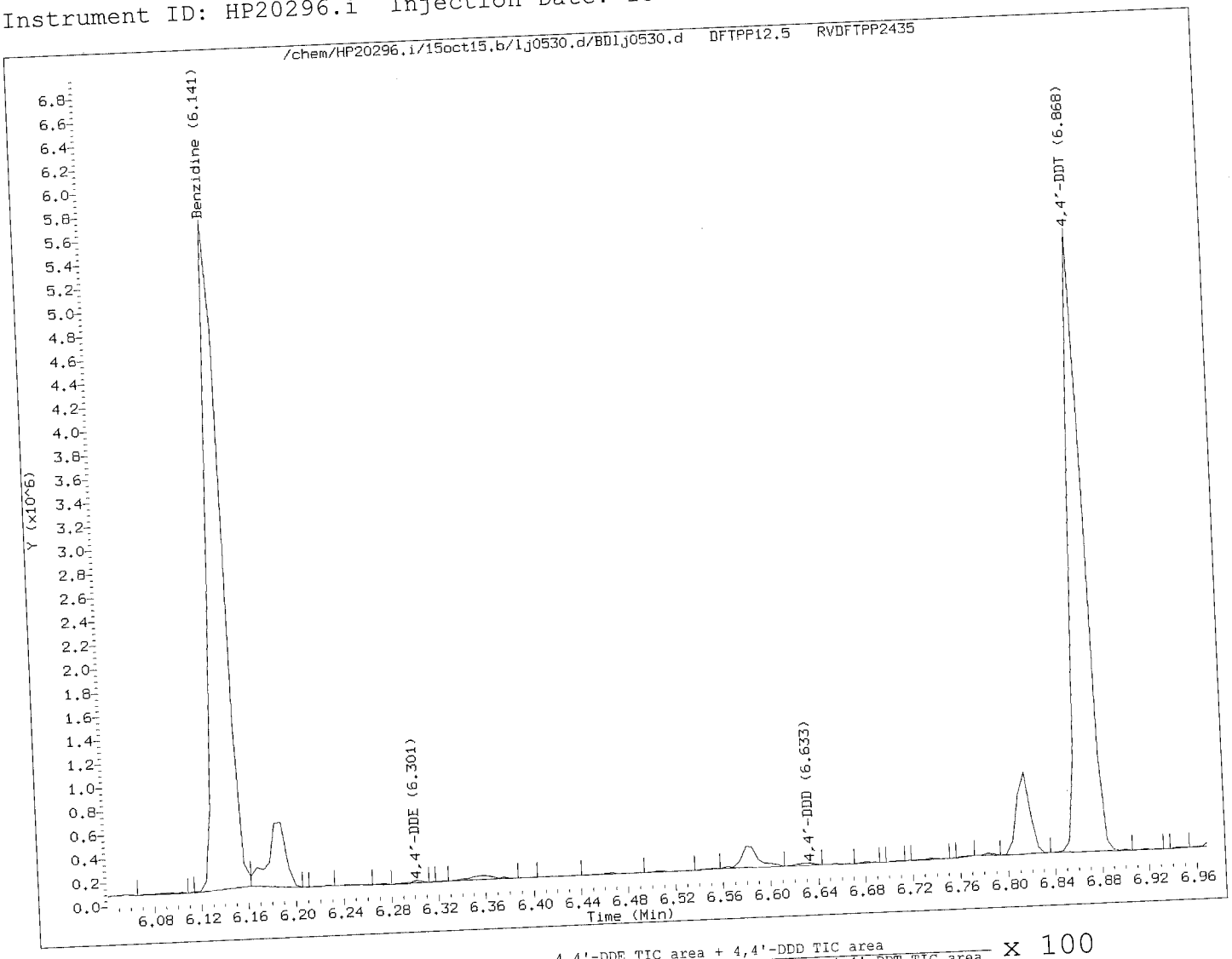
'Front' peak width (min.) = 0.0109500000
'Tailing' peak width (min.) = 0.0147333333

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0147333333}{0.0109500000} = 1.346$$

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44.
Target 3.5 esignature user: CEB cebb05247

Assessment of GC Column Performance and Injection Port Inertness for

Instrument ID: HP20296.i Injection Date: 15-OCT-2015 11:57 Operator: hbz01996



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{18339 + 19193}{18339 + 19193 + 4408192} \times 100 = 0.8$$

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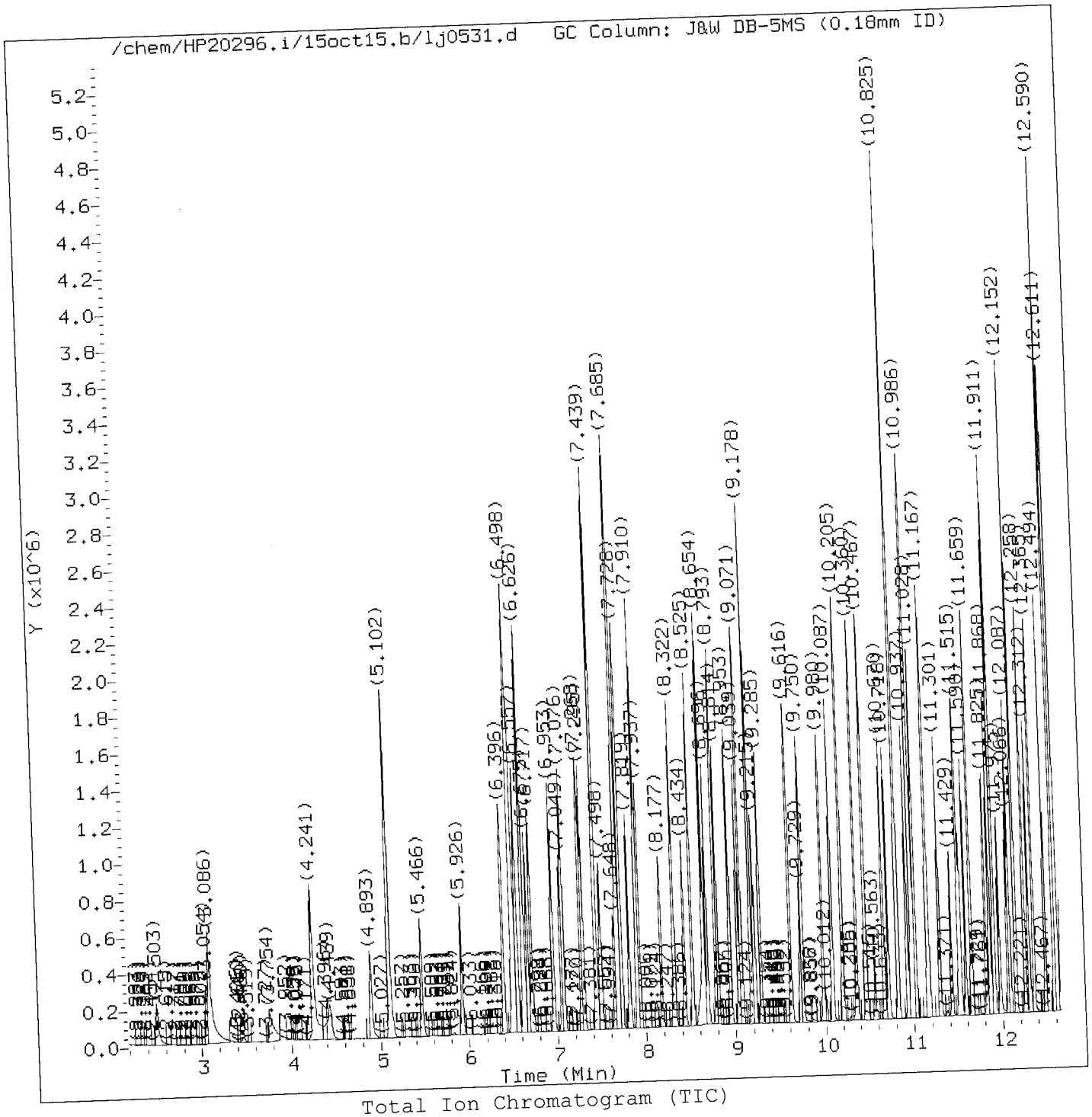
Target 3.5 esignature used: TC_cb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0531.d
Injection date and time: 15-OCT-2015 13:06

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

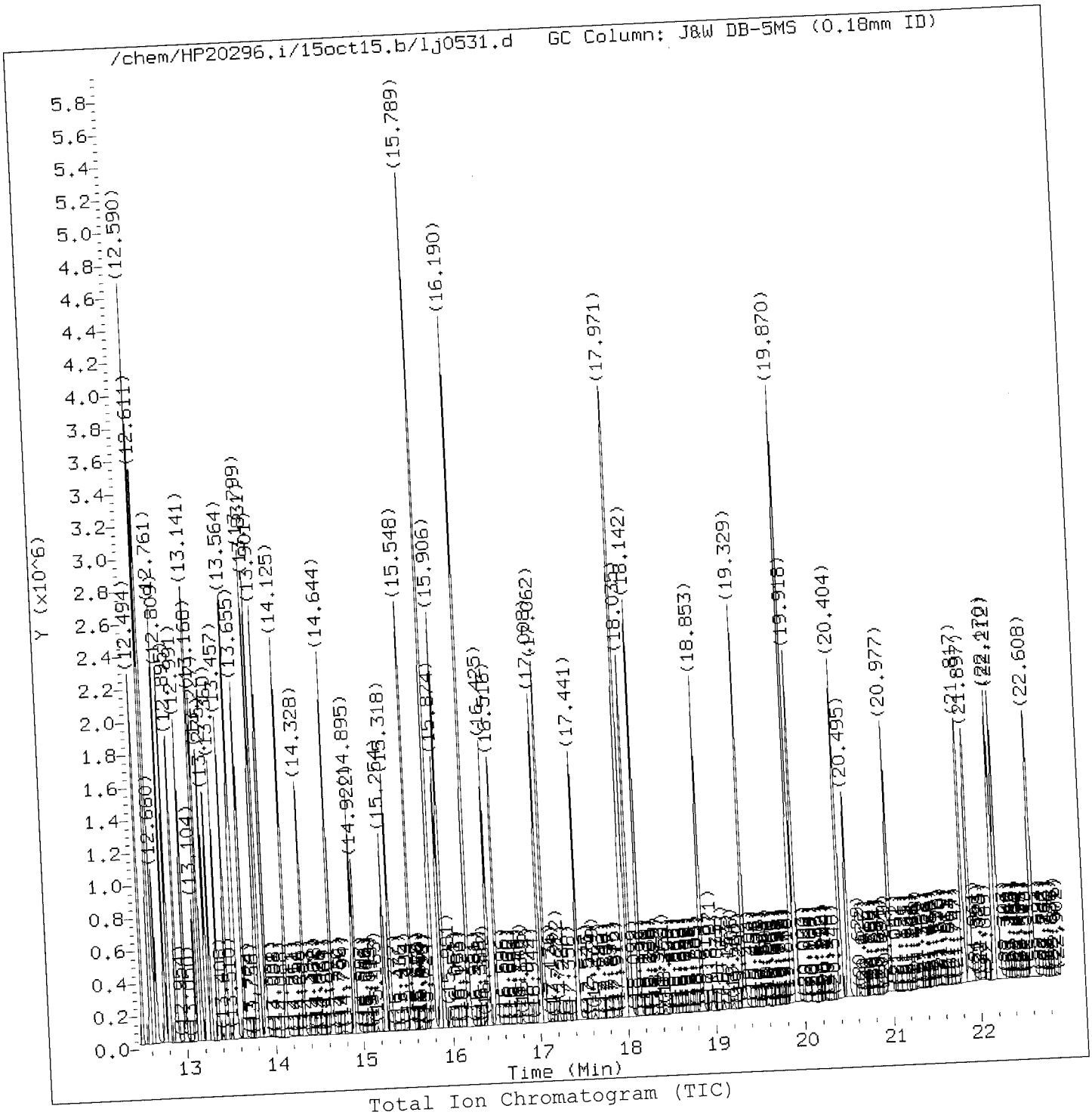
Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0531.d
Injection date and time: 15-OCT-2015 13:06

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/1j0531.d
Injection date and time: 15-OCT-2015 13:06

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.503	88	204990	7.500
4) N-Nitrosodimethylamine	(1)	3.054	74	315090	7.500
5) Pyridine	(1)	3.086	79	533094	7.500
7) 2-Picoline	(1)	4.241	93	550717	7.500
8) N-Nitrosomethylethylamine	(1)	4.439	88	227385	7.500
9) Methyl methanesulfonate	(1)	4.893	80	267470	7.500
11)$2-Fluorophenol	(1)	5.102	112	854537	15.000
13) N-Nitrosodiethylamine	(1)	5.466	102	216640	7.500
15) Ethyl methanesulfonate	(1)	5.926	109	218939	7.500
16) Benzaldehyde	(1)	6.396	77	414298	7.500
17)$Phenol-d6	(1)	6.498	99	1158851	15.000
18) Phenol	(1)	6.519	94	613825	7.500
19) Aniline	(1)	6.557	93	769227	7.500
20) a-methylstyrene	(1)	6.632	118	424336	7.500
22) bis(2-Chloroethyl)ether	(1)	6.675	93	476895	7.500
23) 2-Chlorophenol	(1)	6.717	128	399294	7.500
24) 1,3-Dichlorobenzene	(1)	6.953	146	437815	7.500
25)*1,4-Dichlorobenzene-d4	(1)	7.049	152	185789	5.000
26) 1,4-Dichlorobenzene	(1)	7.076	146	447103	7.500
27) Benzyl alcohol	(1)	7.268	108	294367	7.500
28) 1,2-Dichlorobenzene	(1)	7.295	146	422365	7.500
31) 2-Methylphenol	(1)	7.439	108	416563	7.500
30) Indene	(1)	7.439	115	721932	7.500
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.498	45	670805	7.500
34) bis(2-Chloroisopropyl)ether	(1)	7.498	45	670805	7.500
35) N-Nitrosopyrrolidine	(1)	7.648	100	224375	7.500
42) Total Cresols	(1)			855042	15.000
36) Acetophenone	(1)	7.680	105	625338	7.500
37) 4-Methylphenol	(1)	7.685	108	438479	7.500
38) N-Nitroso-di-n-propylamine	(1)	7.696	70	377274	7.500
39) N-Nitrosomorpholine	(1)	7.723	56	294317	7.500
40) o-Toluidine	(1)	7.728	106	742057	7.500
43) Hexachloroethane	(1)	7.819	117	184167	7.500
44)$Nitrobenzene-d5	(2)	7.910	82	1087985	15.000
45) Nitrobenzene	(2)	7.937	77	554616	7.500
48) N-Nitrosopiperidine	(2)	8.177	114	209381	7.500
50) Isophorone	(2)	8.322	82	966413	7.500
51) 2-Nitrophenol	(2)	8.440	139	202521	7.500
53) 2,4-Dimethylphenol	(2)	8.525	107	464822	7.500
57) O,O,O-Triethylphosphorothioate	(2)	8.654	198	201691	7.500

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0531.d
Injection date and time: 15-OCT-2015 13:06

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	8.659	105	446471M	10.000
55) bis(2-Chloroethoxy)methane	(2)	8.696	93	578200	7.500
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.793	104	646440	7.500
60) 2,4-Dichlorophenol	(2)	8.814	162	326008	7.500
62) 1,2,4-Trichlorobenzene	(2)	8.953	180	364822	7.500
65)*Naphthalene-d8	(2)	9.039	136	704214	5.000
66) Naphthalene	(2)	9.071	128	1150625	5.022
67) 4-Chloroaniline	(2)	9.178	127	479563	7.500
68) 2,6-Dichlorophenol	(2)	9.183	162	327051	7.500
69) Hexachloropropene	(2)	9.215	213	243570	7.500
71) Hexachlorobutadiene	(2)	9.285	225	212262	7.500
75) Quinoline	(2)	9.616	129	733650	7.500
76) Caprolactam	(2)	9.729	113	107923	7.500
77) N-Nitrosodi-n-butylamine	(2)	9.750	84	431575	7.500
80) 4-Chloro-3-methylphenol	(2)	9.980	107	399031	7.500
82) Safrole	(2)	10.087	162	293709	5.082
83) 2-Methylnaphthalene	(2)	10.205	142	763340	5.252
84) 1-Methylnaphthalene	(2)	10.360	142	691929	7.500
85) Hexachlorocyclopentadiene	(3)	10.461	237	230597	7.500
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.472	216	366001	1.275
88) cis-Isosafrole	(3)	10.568	162	55762	7.500
90) 2,4,6-Trichlorophenol	(3)	10.670	196	240055	7.500
92) 2,4,5-Trichlorophenol	(3)	10.718	196	255767	7.500
97) Isosafrole	(3)			350179	15.000
93)$2-Fluorobiphenyl	(3)	10.825	172	1702064	6.225
94) trans-Isosafrole	(3)	10.937	162	294417	7.500
95) 1,1'-Biphenyl	(3)	10.980	154	902082	7.500
96) 2-Chloronaphthalene	(3)	10.996	162	715505	7.500
98) 1-Chloronaphthalene	(3)	11.028	162	692098	7.500
99) Diphenyl ether	(3)	11.167	170	496638	7.500
100) 2-Nitroaniline	(3)	11.183	138	230893	7.500
104) 1,4-Naphthoquinone	(3)	11.301	158	301099	7.500
105) 1,4-Dinitrobenzene	(3)	11.429	168	112363	7.500
106) Dimethylphthalate	(3)	11.515	163	786753	7.500
107) 1,3-Dinitrobenzene	(3)	11.536	168	125147	7.500
108) 2,6-Dinitrotoluene	(3)	11.590	165	179365	7.500
109) Acenaphthylene	(3)	11.659	152	1127438	5.202
112) 3-Nitroaniline	(3)	11.825	138	196374	7.500
113)*Acenaphthene-d10	(3)	11.868	164	414115	5.000
114) Acenaphthene	(3)	11.911	153	753456	4.905

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0531.d
Injection date and time: 15-OCT-2015 13:06

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			415484	15.000
115) 2,4-Dinitrophenol	(3)	11.975	184	142010	10.000
116) 4-Nitrophenol	(3)	12.066	109	143757	7.500
117) Pentachlorobenzene	(3)	12.093	250	295797	7.500
119) Dibenzofuran	(3)	12.152	168	999711	7.500
118) 2,4-Dinitrotoluene	(3)	12.157	165	236119	7.500
121) 1-Naphthylamine	(3)	12.258	143	713117	7.500
122) 2,3,4,6-Tetrachlorophenol	(3)	12.312	232	195326	7.500
123) 2-Naphthylamine	(3)	12.365	143	696210	7.500
124) Diethylphthalate	(3)	12.494	149	778554	7.500
125) Thionazin	(3)	12.590	107	144369	4.949
126) Fluorene	(3)	12.590	166	793544	7.500
127) 4-Chlorophenyl-phenylether	(3)	12.611	204	386265	7.500
128) 5-Nitro-o-toluidine	(3)	12.617	152	220560	7.500
129) 4-Nitroaniline	(3)	12.628	138	202347	7.500
130) 4,6-Dinitro-2-methylphenol	(4)	12.660	198	144856	7.500
132) NDPA as diphenylamine	(4)	12.761	169	663376	7.500
131) N-Nitrosodiphenylamine	(4)	12.761	169	663376	7.500
134) 1,2-Diphenylhydrazine	(4)	12.809	77	1012252	15.000
135)$2,4,6-Tribromophenol	(3)	12.895	330	181676	7.500
137) Tetraethyldithiopyrophosphate	(4)	12.991	97	161938	7.500
146) Diallate trans/cis	(4)			438505	7.500
139) 1,3,5-Trinitrobenzene	(4)	13.104	213	85422	7.500
140) Diallate (peak 1)	(4)	13.136	86	366249	6.225
141) Phorate	(4)	13.146	75	655051	7.500
142) Phenacetin	(4)	13.168	108	482031	7.500
143) 4-Bromophenyl-phenylether	(4)	13.232	248	202428	7.500
144) Diallate (peak 2)	(4)	13.248	86	72256	1.275
145) Hexachlorobenzene	(4)	13.280	284	208206	5.023
147) Dimethoate	(4)	13.360	87	420314	7.500
148) Atrazine	(4)	13.457	200	219713	7.500
149) Pentachlorophenol	(4)	13.542	266	141207	7.500
151) Pentachloronitrobenzene	(4)	13.553	237	99879	7.500
150) 4-Aminobiphenyl	(4)	13.564	169	779618	7.500
152) Pronamide	(4)	13.655	173	376026	5.000
153)*Phenanthrene-d10	(4)	13.799	188	752998	7.500
154) Dinoseb	(4)	13.799	211	213162	5.051
155) Phenanthrene	(4)	13.831	178	1178006	5.173
157) Anthracene	(4)	13.901	178	1184044	7.500
163) Carbazole	(4)	14.125	167	1113667	

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0531.d
Injection date and time: 15-OCT-2015 13:06

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.328	109	313028	7.500
165) Di-n-butylphthalate	(4)	14.644	149	1346100	7.500
167) Parathion	(4)	14.895	109	181898	7.500
168) 4-Nitroquinoline-1-oxide	(4)	14.927	190	115676	7.500
169) Octachlorostyrene	(4)	15.254	308	74826	7.500
171) Isodrin	(4)	15.318	193	139049	7.500
173) Fluoranthene	(4)	15.548	202	1328382	5.453
174) Benzidine	(5)	15.789	184	2589526	22.500
175)*Pyrene-d10	(5)	15.874	212	869908	5.000
177) Pyrene	(5)	15.906	202	1380318	4.888
179)$Terphenyl-d14	(5)	16.190	244	1755177	15.000
182) p-Dimethylaminoazobenzene	(5)	16.430	225	247493	7.500
185) Chlorobenzilate	(5)	16.516	139	417198	7.500
187) 3,3'-Dimethylbenzidine	(5)	17.008	212	895284	7.500
188) Butylbenzylphthalate	(5)	17.062	149	610311	7.500
191) 2-Acetylaminofluorene	(5)	17.441	181	538811	7.500
193) 3,3'-Dichlorobenzidine	(5)	17.965	252	465317	7.500
195) Benzo(a)anthracene	(5)	17.976	228	1245672	5.479
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.982	231	262727	7.500
196) Chrysene	(5)	18.035	228	1161247	5.249
199) bis(2-Ethylhexyl)phthalate	(5)	18.142	149	875065	7.500
203) 6-Methylchrysene	(5)	18.853	242	834349	7.500
205) Di-n-octylphthalate	(6)	19.329	149	1561575	7.500
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.870	256	539456	7.500
206) Benzo(b)fluoranthene	(6)	19.870	252	1202558	5.125
208) Benzo(k)fluoranthene	(6)	19.918	252	1182482	5.245
211) Benzo(a)pyrene	(6)	20.404	252	1144703	5.191
213)*Perylene-d12	(6)	20.495	264	649934	5.000
215) 3-Methylcholanthrene	(6)	20.977	268	544619	7.500
217) Dibenz(a,h)acridine	(6)	21.822	279	973553	7.500
218) Dibenz(a,j)acridine	(6)	21.897	279	981452	7.500
222) Total PAHs	(6)			19911818	93.160
219) Indeno(1,2,3-cd)pyrene	(6)	22.170	276	1342930	5.210
220) Dibenz(a,h)anthracene	(6)	22.218	278	1137692	5.494
221) Benzo(g,h,i)perylene	(6)	22.608	276	1143452	5.190

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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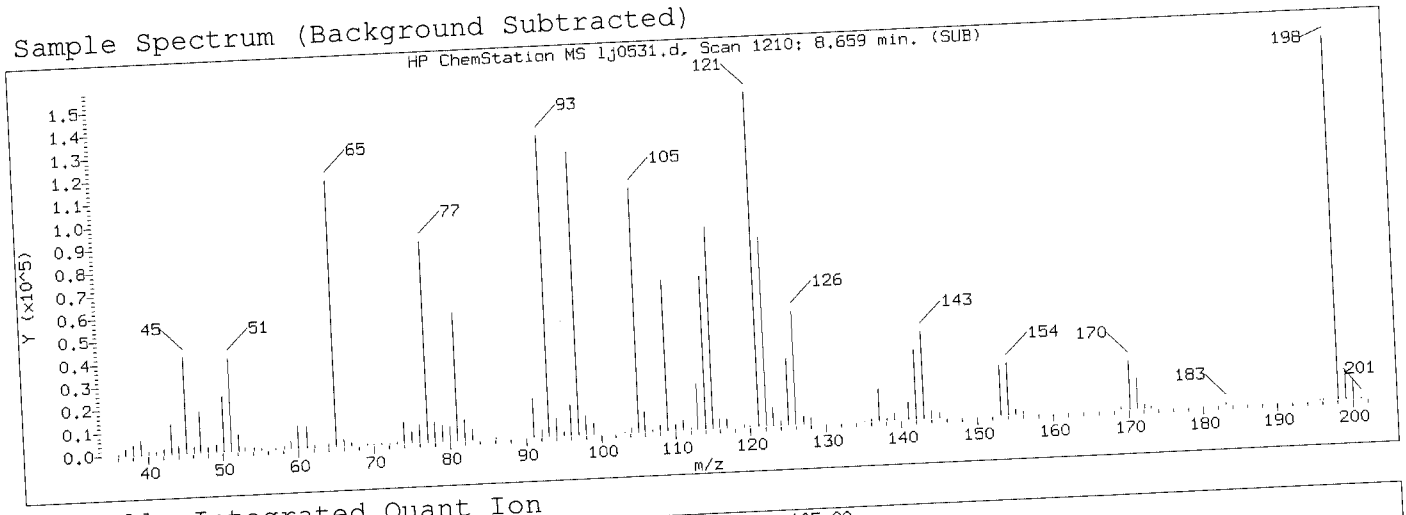
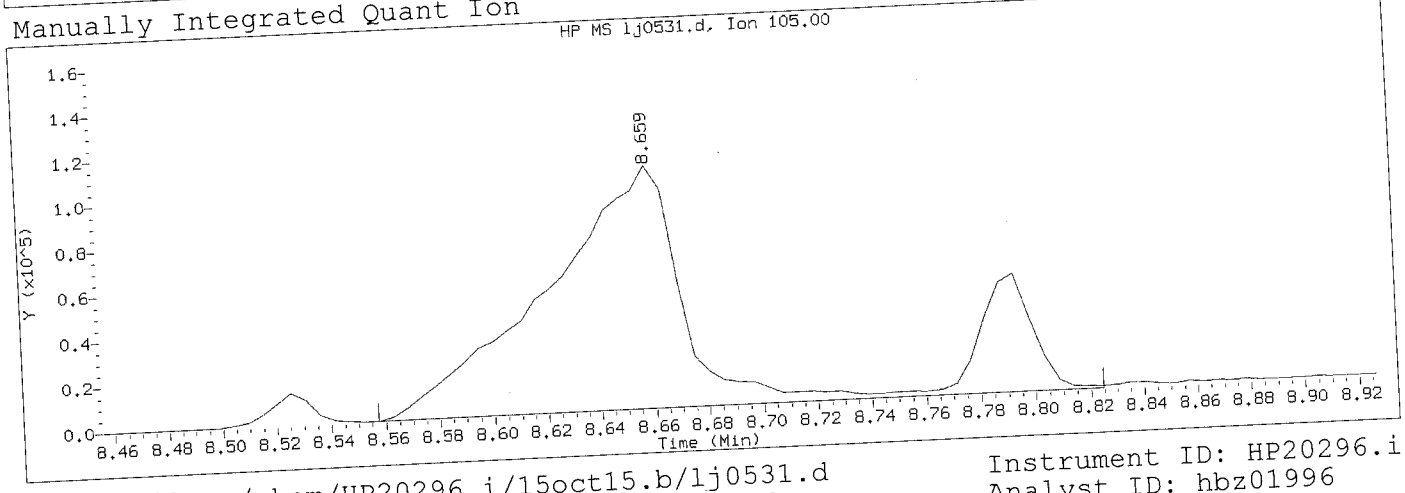
on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0531.d
Injection date and time: 15-OCT-2015 13:06

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1210		
Retention Time (minutes)	: 8.659		
Quant Ion	: 105.00		
Area (flag)	: 446471M		
On-Column Amount (ng/ul)	: 10.0000		
Integration start scan	: 1190	Integration stop scan:	1240
Y at integration start	: -6	Y at integration end:	-6

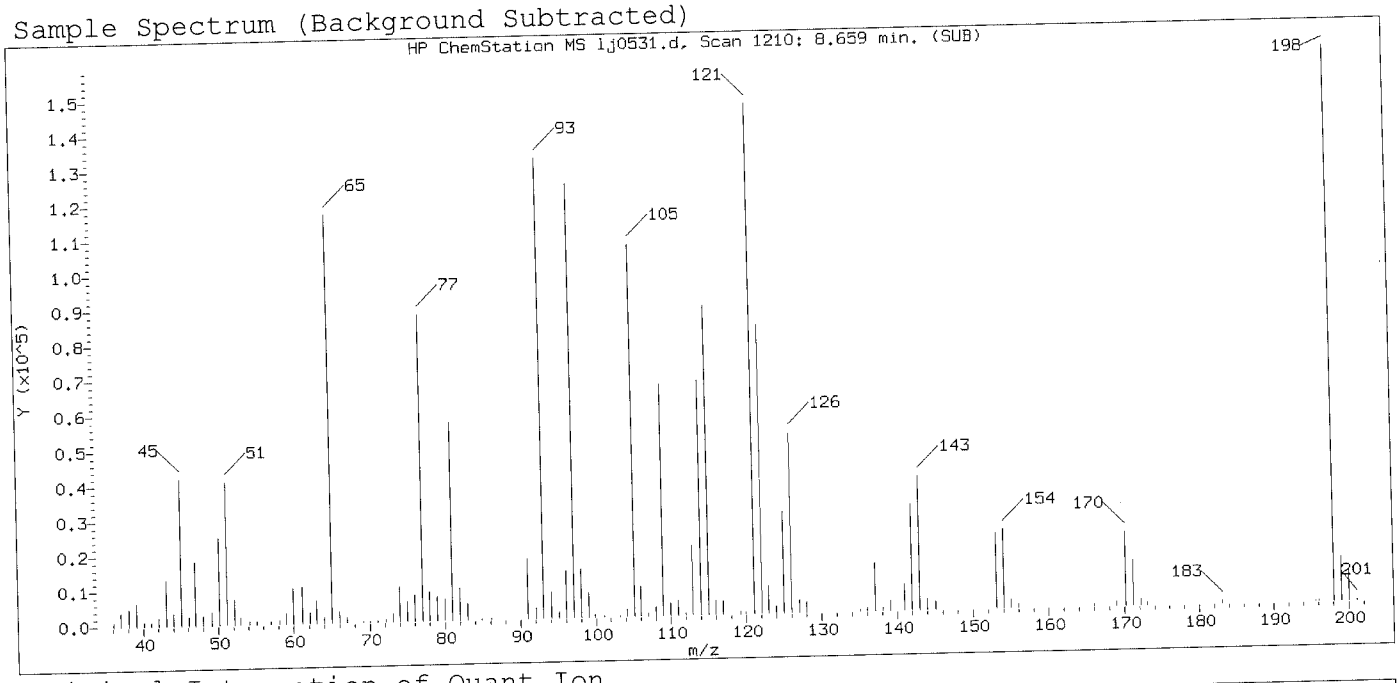
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 signature user ID: ceb05247

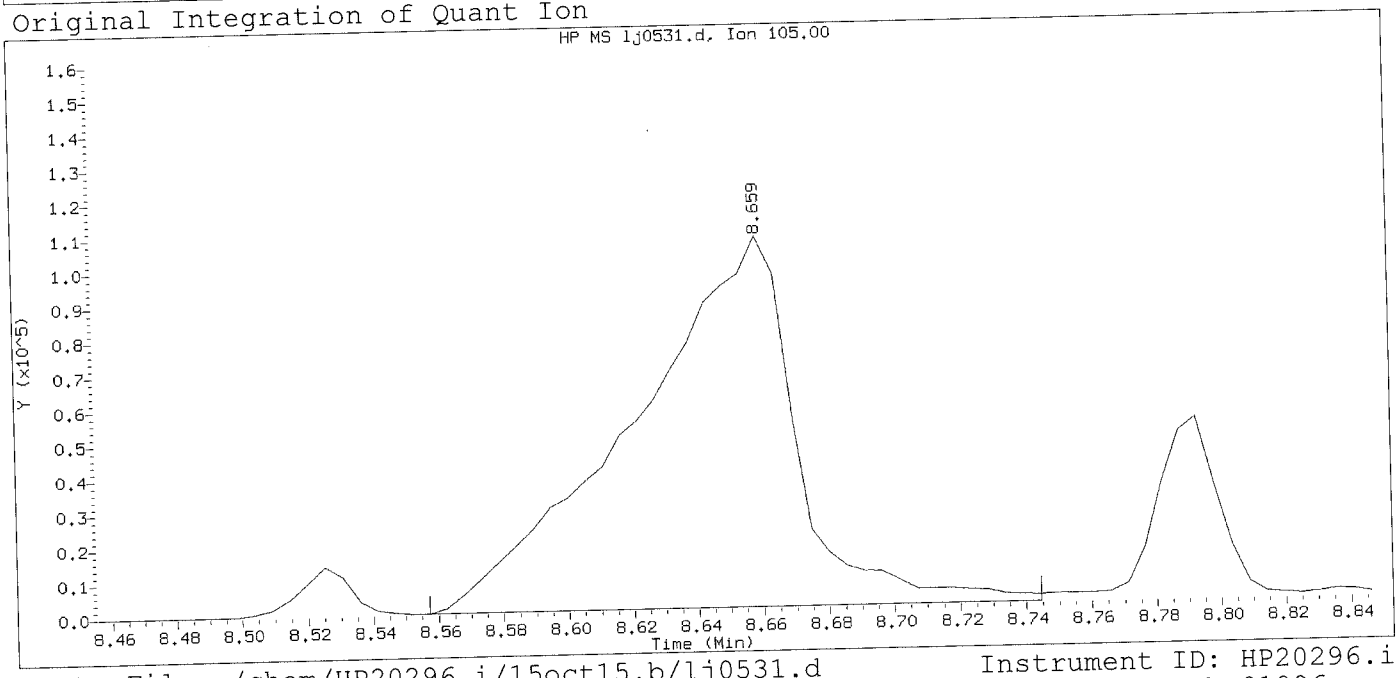
OCT 16 2015

GC/MS audit/management approval: _____ Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0531.d
Injection date and time: 15-OCT-2015 13:06

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 13:54

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 13:54 hbz01996

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1210		
Retention Time (minutes)	: 8.659		
Quant Ion	: 105.00		
Area	: 374754		
On-column Amount (ng/ul)	: 9.1046		
Integration start scan	: 1190	Integration stop scan:	1225
Y at integration start	: 0	Y at integration end:	0

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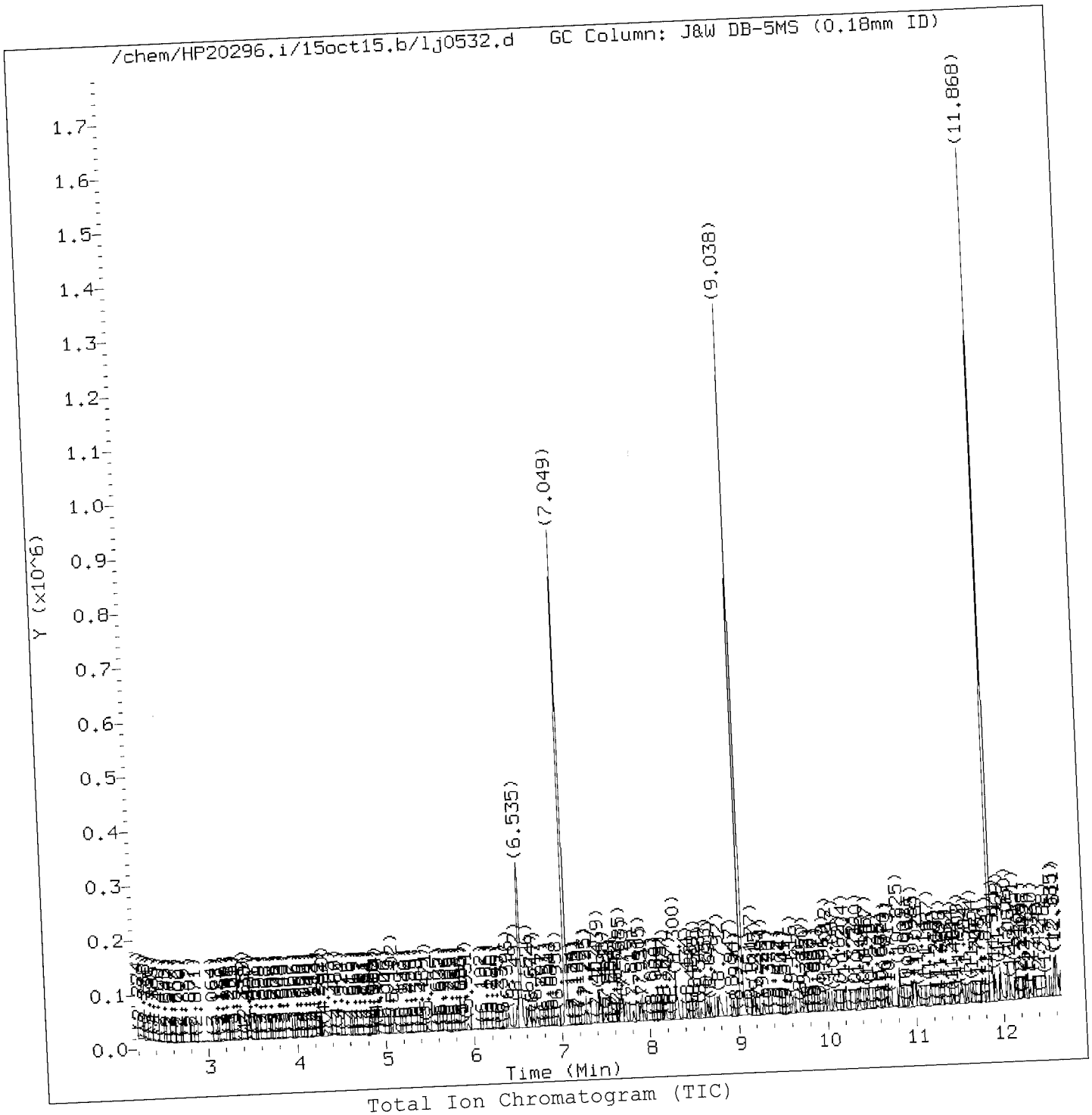
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0532.d
Injection date and time: 15-OCT-2015 14:04

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2745

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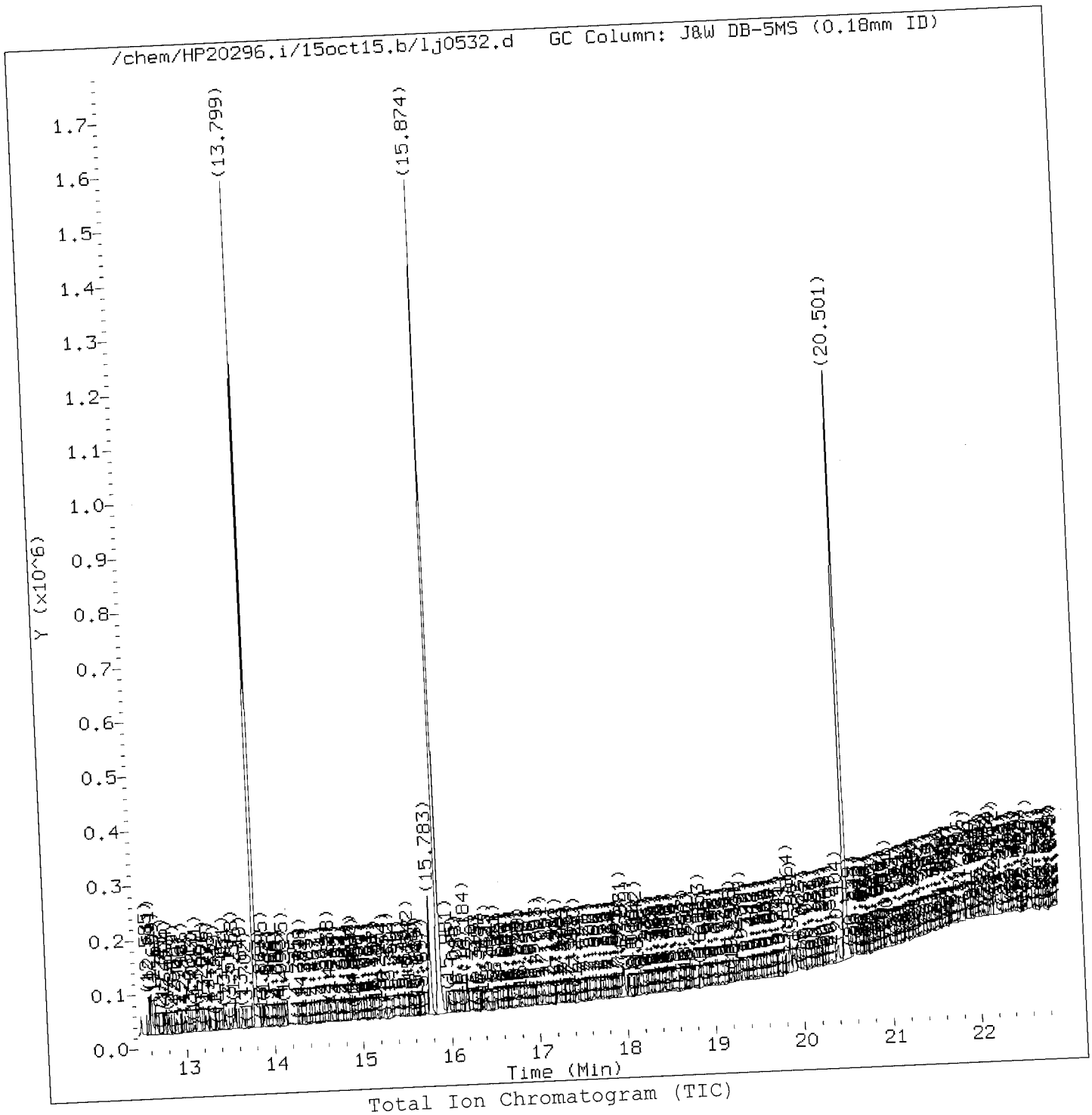
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0532.d
Injection date and time: 15-OCT-2015 14:04

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0532.d
Injection date and time: 15-OCT-2015 14:04

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
4) N-Nitrosodimethylamine	(1)	3.144	74	2903	0.075
5) Pyridine	(1)	3.283	79	2207	0.034
7) 2-Picoline	(1)	4.305	93	8007	0.118
9) Methyl methanesulfonate	(1)	4.915	80	4060	0.123
11) $2-Fluorophenol	(1)	5.102	112	13221	0.250
13) N-Nitrosodiethylamine	(1)	5.471	102	3333	0.125
15) Ethyl methanesulfonate	(1)	5.931	109	3487	0.129
16) Benzaldehyde	(1)	6.396	77	7914	0.155
17) $Phenol-d6	(1)	6.492	99	17087	0.239
18) Phenol	(1)	6.514	94	9552	0.126
19) Aniline	(1)	6.557	93	12228	0.129
20) a-methylstyrene	(1)	6.632	118	6517	0.124
22) bis(2-Chloroethyl)ether	(1)	6.674	93	7588	0.129
23) 2-Chlorophenol	(1)	6.717	128	5851	0.119
24) 1,3-Dichlorobenzene	(1)	6.952	146	7303	0.135
25) *1,4-Dichlorobenzene-d4	(1)	7.049	152	172168	5.000
26) 1,4-Dichlorobenzene	(1)	7.075	146	6576	0.119
27) Benzyl alcohol	(1)	7.268	108	4233	0.116
28) 1,2-Dichlorobenzene	(1)	7.295	146	7047	0.135
31) 2-Methylphenol	(1)	7.434	108	6220	0.121
30) Indene	(1)	7.434	115	12502	0.140
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.498	45	11984	0.145
34) bis(2-Chloroisopropyl)ether	(1)	7.498	45	11984	0.145
35) N-Nitrosopyrrolidine	(1)	7.653	100	3054	0.110
42) Total Cresols	(1)			13762	0.260
36) Acetophenone	(1)	7.675	105	10868	0.141
37) 4-Methylphenol	(1)	7.680	108	7542	0.139
38) N-Nitroso-di-n-propylamine	(1)	7.691	70	5997	0.129
39) N-Nitrosomorpholine	(1)	7.717	56	4304	0.118
40) o-Toluidine	(1)	7.728	106	11498	0.125
43) Hexachloroethane	(1)	7.819	117	2989	0.131
44) $Nitrobenzene-d5	(2)	7.905	82	16523	0.241
45) Nitrobenzene	(2)	7.931	77	9001	0.129
48) N-Nitrosopiperidine	(2)	8.177	114	3197	0.121
50) Isophorone	(2)	8.322	82	14321	0.117
51) 2-Nitrophenol	(2)	8.434	139	2909	0.114
53) 2,4-Dimethylphenol	(2)	8.525	107	7092	0.121
56) Benzoic acid	(2)	8.578	105	7417	0.175
57) O,O,O-Triethylphosphorothioate	(2)	8.643	198	3446	0.135
55) bis(2-Chloroethoxy)methane	(2)	8.696	93	10008	0.137

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$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0532.d
Injection date and time: 15-OCT-2015 14:04

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.792	104	11193	0.137
60) 2,4-Dichlorophenol	(2)	8.814	162	5054	0.123
62) 1,2,4-Trichlorobenzene	(2)	8.947	180	5753	0.125
65)*Naphthalene-d8	(2)	9.038	136	666639	5.000
66) Naphthalene	(2)	9.071	128	18548	0.126
68) 2,6-Dichlorophenol	(2)	9.177	162	4664	0.113
67) 4-Chloroaniline	(2)	9.177	127	7907	0.131
69) Hexachloropropene	(2)	9.215	213	2950	0.096
71) Hexachlorobutadiene	(2)	9.290	225	3257	0.122
75) Quinoline	(2)	9.616	129	11780	0.127
76) Caprolactam	(2)	9.707	113	1274	0.094
77) N-Nitrosodi-n-butylamine	(2)	9.750	84	5874	0.108
80) 4-Chloro-3-methylphenol	(2)	9.974	107	6089	0.121
82) Safrole	(2)	10.081	162	4745	0.128
83) 2-Methylnaphthalene	(2)	10.204	142	12561	0.128
84) 1-Methylnaphthalene	(2)	10.360	142	12223	0.132
85) Hexachlorocyclopentadiene	(3)	10.461	237	3411	0.119
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.472	216	5449	0.120
88) cis-Isosafrole	(3)	10.563	162	774	0.019
90) 2,4,6-Trichlorophenol	(3)	10.664	196	3484	0.117
92) 2,4,5-Trichlorophenol	(3)	10.718	196	4206	0.133
97) Isosafrole	(3)			5020	0.116
93)$2-Fluorobiphenyl	(3)	10.825	172	27376	0.260
94) trans-Isosafrole	(3)	10.937	162	4246	0.097
95) 1,1'-Biphenyl	(3)	10.980	154	15368	0.137
96) 2-Chloronaphthalene	(3)	10.996	162	11567	0.130
98) 1-Chloronaphthalene	(3)	11.023	162	10762	0.125
99) Diphenyl ether	(3)	11.162	170	8309	0.135
100) 2-Nitroaniline	(3)	11.178	138	2814	0.098
104) 1,4-Naphthoquinone	(3)	11.296	158	3971	0.106
105) 1,4-Dinitrobenzene	(3)	11.424	168	1449	0.104
107) 1,3-Dinitrobenzene	(3)	11.424	168	1449	0.093
106) Dimethylphthalate	(3)	11.509	163	12560	0.129
108) 2,6-Dinitrotoluene	(3)	11.590	165	2028	0.091
109) Acenaphthylene	(3)	11.654	152	16826	0.123
112) 3-Nitroaniline	(3)	11.820	138	3148	0.129
113)*Acenaphthene-d10	(3)	11.868	164	384995	5.000
114) Acenaphthene	(3)	11.911	153	10593	0.119
120) 2,4_2,6-Dinitrotoluenes	(3)			4875	0.188
115) 2,4-Dinitrophenol	(3)	11.969	184	7392	0.560

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$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0532.d
Injection date and time: 15-OCT-2015 14:04

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
116) 4-Nitrophenol	(3)	12.060	109	8394	0.471
117) Pentachlorobenzene	(3)	12.087	250	4695	0.128
119) Dibenzofuran	(3)	12.151	168	16176	0.131
118) 2,4-Dinitrotoluene	(3)	12.151	165	2847	0.097
121) 1-Naphthylamine	(3)	12.258	143	11094	0.126
122) 2,3,4,6-Tetrachlorophenol	(3)	12.312	232	2695	0.111
123) 2-Naphthylamine	(3)	12.360	143	11908	0.138
124) Diethylphthalate	(3)	12.488	149	11425	0.118
125) Thionazin	(3)	12.585	107	2175	0.122
126) Fluorene	(3)	12.590	166	11738	0.122
128) 5-Nitro-o-toluidine	(3)	12.611	152	3216	0.118
127) 4-Chlorophenyl-phenylether	(3)	12.611	204	5941	0.124
129) 4-Nitroaniline	(3)	12.611	138	3161	0.126
130) 4,6-Dinitro-2-methylphenol	(4)	12.659	198	6270	0.352
132) NDPA as diphenylamine	(4)	12.756	169	9983	0.123
131) N-Nitrosodiphenylamine	(4)	12.756	169	9983	0.123
134) 1,2-Diphenylhydrazine	(4)	12.804	77	15221	0.122
135)$2,4,6-Tribromophenol	(3)	12.889	330	2469	0.219
137) Tetraethyldithiopyrophosphate	(4)	12.986	97	2996	0.151
146) Diallate trans/cis	(4)			6401	0.119
139) 1,3,5-Trinitrobenzene	(4)	13.093	213	956	0.091
140) Diallate (peak 1)	(4)	13.135	86	5462	0.101
141) Phorate	(4)	13.146	75	8168	0.102
142) Phenacetin	(4)	13.157	108	5600	0.095
143) 4-Bromophenyl-phenylether	(4)	13.226	248	3389	0.136
144) Diallate (peak 2)	(4)	13.248	86	939	0.018
145) Hexachlorobenzene	(4)	13.275	284	3262	0.126
147) Dimethoate	(4)	13.349	87	5293	0.103
148) Atrazine	(4)	13.451	200	3836	0.142
149) Pentachlorophenol	(4)	13.537	266	1487	0.086
150) 4-Aminobiphenyl	(4)	13.563	169	11100	0.116
152) Pronamide	(4)	13.649	173	4827	0.105
153)*Phenanthrene-d10	(4)	13.799	188	693584	5.000
155) Phenanthrene	(4)	13.825	178	18580	0.127
157) Anthracene	(4)	13.895	178	17913	0.124
163) Carbazole	(4)	14.120	167	16554	0.121
164) Methyl parathion	(4)	14.328	109	3225	0.084
165) Di-n-butylphthalate	(4)	14.638	149	17470	0.106
167) Parathion	(4)	14.890	109	2181	0.098
168) 4-Nitroquinoline-1-oxide	(4)	14.917	190	744	0.052

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0532.d
Injection date and time: 15-OCT-2015 14:04

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
173) Fluoranthene	(4)	15.542	202	20169	0.124
174) Benzidine	(5)	15.783	184	102790	0.975
175)*Pyrene-d10	(5)	15.874	212	797125	5.000
177) Pyrene	(5)	15.901	202	23890	0.133
179)$Terphenyl-d14	(5)	16.190	244	27320	0.255
182) p-Dimethylaminoazobenzene	(5)	16.425	225	2934	0.097
185) Chlorobenzilate	(5)	16.521	139	5717	0.112
187) 3,3'-Dimethylbenzidine	(5)	17.008	212	11340	0.104
188) Butylbenzylphthalate	(5)	17.061	149	7476	0.100
191) 2-Acetylaminofluorene	(5)	17.436	181	5702	0.087
193) 3,3'-Dichlorobenzidine	(5)	17.960	252	6443	0.113
195) Benzo(a)anthracene	(5)	17.971	228	18016	0.122
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.981	231	2970	0.093
196) Chrysene	(5)	18.029	228	17950	0.126
199) bis(2-Ethylhexyl)phthalate	(5)	18.142	149	10791	0.101
203) 6-Methylchrysene	(5)	18.848	242	11805	0.116
205) Di-n-octylphthalate	(6)	19.329	149	17053	0.094
206) Benzo(b)fluoranthene	(6)	19.859	252	17440	0.125
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.864	256	7072	0.113
208) Benzo(k)fluoranthene	(6)	19.901	252	17012	0.124
211) Benzo(a)pyrene	(6)	20.404	252	14468	0.116
213)*Perylene-d12	(6)	20.495	264	566613	5.000
215) 3-Methylcholanthrene	(6)	20.971	268	7541	0.119
217) Dibenz(a,h)acridine	(6)	21.811	279	12298	0.109
218) Dibenz(a,j)acridine	(6)	21.886	279	12928	0.113
222) Total PAHs	(6)			296810	2.232
219) Indeno(1,2,3-cd)pyrene	(6)	22.159	276	17617	0.119
220) Dibenz(a,h)anthracene	(6)	22.201	278	15109	0.119
221) Benzo(g,h,i)perylene	(6)	22.597	276	16157	0.123

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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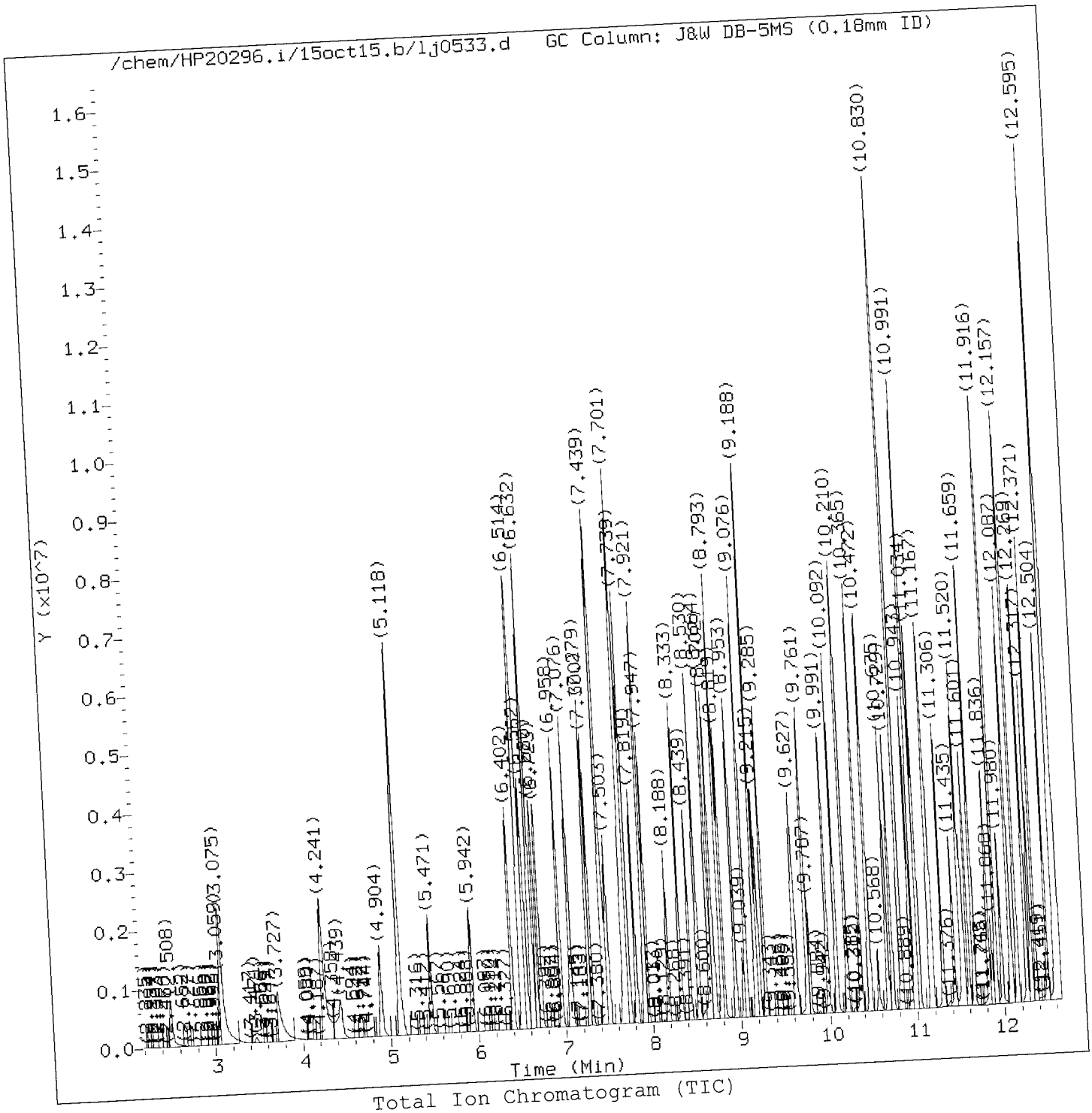
on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: cebo5247



Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

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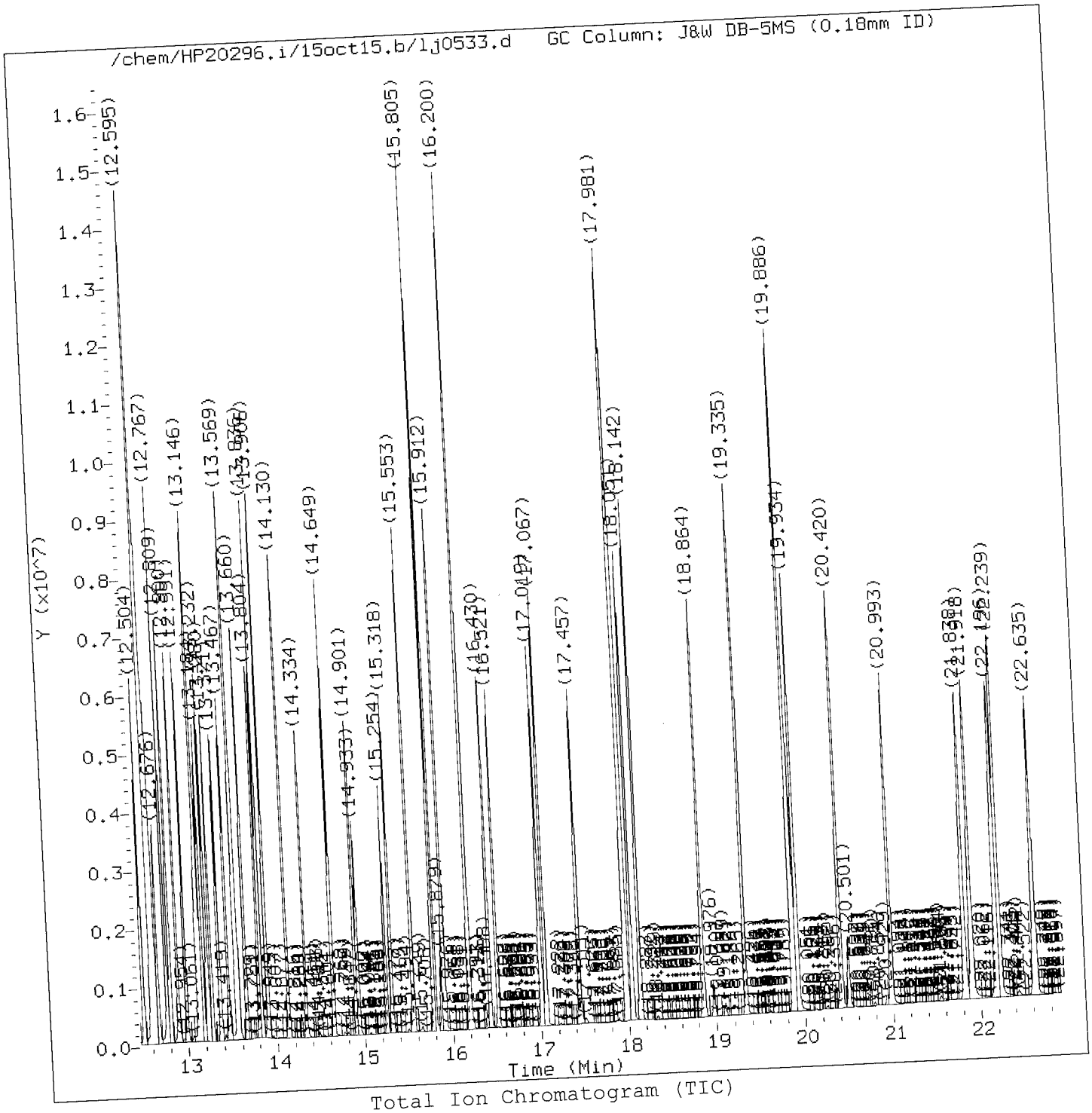
on 10/15/2015 at 18:41:
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.508	88	724396	29.497
4) N-Nitrosodimethylamine	(1)	3.059	74	1174824	30.302
5) Pyridine	(1)	3.080	79	1976522	30.217
7) 2-Picoline	(1)	4.241	93	1992885	29.853
8) N-Nitrosomethylethylamine	(1)	4.439	88	819949	29.800
9) Methyl methanesulfonate	(1)	4.904	80	955283	29.656
11) $2-Fluorophenol	(1)	5.118	112	3088803	59.672
13) N-Nitrosodiethylamine	(1)	5.471	102	784478	29.863
15) Ethyl methanesulfonate	(1)	5.942	109	787457	29.762
16) Benzaldehyde	(1)	6.402	77	1356365	28.353
17) $Phenol-d6	(1)	6.514	99	4132011	59.263
18) Phenol	(1)	6.535	94	2375403	30.859
19) Aniline	(1)	6.562	93	2817746	30.036
20) a-methylstyrene	(1)	6.632	118	1589876	30.375
22) bis(2-Chloroethyl)ether	(1)	6.680	93	1693497	29.570
23) 2-Chlorophenol	(1)	6.723	128	1420479	29.597
24) 1,3-Dichlorobenzene	(1)	6.958	146	1573993	29.755
25) *1,4-Dichlorobenzene-d4	(1)	7.049	152	169733	5.000
26) 1,4-Dichlorobenzene	(1)	7.076	146	1594716	29.636
27) Benzyl alcohol	(1)	7.279	108	1084003	30.115
28) 1,2-Dichlorobenzene	(1)	7.300	146	1508877	29.660
30) Indene	(1)	7.439	115	2726555	30.494
31) 2-Methylphenol	(1)	7.450	108	1489774	29.677
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.503	45	2368947	29.487
34) bis(2-Chloroisopropyl)ether	(1)	7.503	45	2368947	29.487
42) Total Cresols	(1)			3046229	59.241
35) N-Nitrosopyrrolidine	(1)	7.675	100	812471	29.863
36) Acetophenone	(1)	7.691	105	2270332	29.902
37) 4-Methylphenol	(1)	7.701	108	1556455	29.564
38) N-Nitroso-di-n-propylamine	(1)	7.717	70	1341205	29.587
39) N-Nitrosomorpholine	(1)	7.739	56	1031829	29.378
40) o-Toluidine	(1)	7.739	106	2597259	29.353
43) Hexachloroethane	(1)	7.819	117	665171	29.824
44) $Nitrobenzene-d5	(2)	7.921	82	3921822	59.285
45) Nitrobenzene	(2)	7.947	77	1963450	29.372
48) N-Nitrosopiperidine	(2)	8.193	114	754991	29.647
50) Isophorone	(2)	8.333	82	3461735	29.548
51) 2-Nitrophenol	(2)	8.439	139	735186	29.748
53) 2,4-Dimethylphenol	(2)	8.530	107	1639657	29.318
57) O,O,O-Triethylphosphorothioate	(2)	8.664	198	712217	29.334

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	8.702	93	2065351	29.506
56) Benzoic acid	(2)	8.723	105	1414742M	32.021
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.793	104	2433219	30.291
60) 2,4-Dichlorophenol	(2)	8.819	162	1172752	29.612
62) 1,2,4-Trichlorobenzene	(2)	8.953	180	1311588	29.603
65)*Naphthalene-d8	(2)	9.039	136	649919	5.000
66) Naphthalene	(2)	9.076	128	4095017	29.060
67) 4-Chloroaniline	(2)	9.188	127	1721672	29.582
68) 2,6-Dichlorophenol	(2)	9.188	162	1161624	29.421
69) Hexachloropropene	(2)	9.220	213	902384	30.054
71) Hexachlorobutadiene	(2)	9.285	225	758253	29.507
75) Quinoline	(2)	9.627	129	2602984	29.405
77) N-Nitrosodi-n-butylamine	(2)	9.761	84	1551851	29.606
76) Caprolactam	(2)	9.787	113	387485A	29.583
80) 4-Chloro-3-methylphenol	(2)	9.991	107	1398100	29.217
82) Safrole	(2)	10.092	162	1063278	29.707
83) 2-Methylnaphthalene	(2)	10.210	142	2704807	28.768
84) 1-Methylnaphthalene	(2)	10.365	142	2469527	28.192
85) Hexachlorocyclopentadiene	(3)	10.461	237	848639	30.487
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.477	216	1306906	30.034
88) cis-Isosafrole	(3)	10.568	162	195872	5.064
90) 2,4,6-Trichlorophenol	(3)	10.675	196	862708	30.131
97) Isosafrole	(3)			1248200	30.005
92) 2,4,5-Trichlorophenol	(3)	10.729	196	887299	29.601
93)$2-Fluorobiphenyl	(3)	10.830	172	6085052	60.105
94) trans-Isosafrole	(3)	10.943	162	1052328	24.941
95) 1,1'-Biphenyl	(3)	10.985	154	3247272	30.155
96) 2-Chloronaphthalene	(3)	11.001	162	2573507	30.143
98) 1-Chloronaphthalene	(3)	11.034	162	2456859	29.946
99) Diphenyl ether	(3)	11.167	170	1739137	29.742
100) 2-Nitroaniline	(3)	11.189	138	820629	29.964
104) 1,4-Naphthoquinone	(3)	11.306	158	1061763	29.846
105) 1,4-Dinitrobenzene	(3)	11.435	168	434600	31.232
106) Dimethylphthalate	(3)	11.520	163	2777137	29.861
107) 1,3-Dinitrobenzene	(3)	11.547	168	459161	30.441
108) 2,6-Dinitrotoluene	(3)	11.601	165	639279	30.006
109) Acenaphthylene	(3)	11.659	152	4032082	30.450
112) 3-Nitroaniline	(3)	11.836	138	714981	30.326
113)*Acenaphthene-d10	(3)	11.868	164	368836	5.000
114) Acenaphthene	(3)	11.916	153	2632539	30.562

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:44:47
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			1503432	60.410
115) 2,4-Dinitrophenol	(3)	11.986	184	439328	32.194
116) 4-Nitrophenol	(3)	12.082	109	513461	30.038
117) Pentachlorobenzene	(3)	12.093	250	1022435	29.547
119) Dibenzofuran	(3)	12.157	168	3540783	29.912
118) 2,4-Dinitrotoluene	(3)	12.167	165	864153	30.404
121) 1-Naphthylamine	(3)	12.269	143	2664631	30.715
122) 2,3,4,6-Tetrachlorophenol	(3)	12.317	232	713625	30.378
123) 2-Naphthylamine	(3)	12.371	143	2608121	30.753
124) Diethylphthalate	(3)	12.504	149	2754159	29.894
126) Fluorene	(3)	12.590	166	2802824	30.287
125) Thionazin	(3)	12.601	107	517645	30.096
127) 4-Chlorophenyl-phenylether	(3)	12.611	204	1352672	29.742
128) 5-Nitro-o-toluidine	(3)	12.627	152	813380	30.518
129) 4-Nitroaniline	(3)	12.644	138	711956	29.813
130) 4,6-Dinitro-2-methylphenol	(4)	12.676	198	546457	30.733
132) NDPA as diphenylamine	(4)	12.767	169	2368655	29.908
131) N-Nitrosodiphenylamine	(4)	12.767	169	2368655	29.908
134) 1,2-Diphenylhydrazine	(4)	12.809	77	3640341	30.016
135)$2,4,6-Tribromophenol	(3)	12.900	330	665151	60.819
137) Tetraethyldithiopyrophosphate	(4)	12.991	97	551888	29.209
146) Diallate trans/cis	(4)			1549509	29.754
139) 1,3,5-Trinitrobenzene	(4)	13.125	213	326748	30.941
140) Diallate (peak 1)	(4)	13.141	86	1287515	24.630
141) Phorate	(4)	13.152	75	2288614	29.582
142) Phenacetin	(4)	13.184	108	1697928	29.705
143) 4-Bromophenyl-phenylether	(4)	13.232	248	723181	29.916
144) Diallate (peak 2)	(4)	13.248	86	261994	5.124
145) Hexachlorobenzene	(4)	13.280	284	752719	29.922
147) Dimethoate	(4)	13.371	87	1454683	29.441
148) Atrazine	(4)	13.467	200	743562	29.105
149) Pentachlorophenol	(4)	13.547	266	530598	30.674
151) Pentachloronitrobenzene	(4)	13.563	237	366620	30.323
150) 4-Aminobiphenyl	(4)	13.569	169	2798026	29.985
152) Pronamide	(4)	13.660	173	1331336	29.782
153)*Phenanthrene-d10	(4)	13.804	188	676284	5.000
154) Dinoseb	(4)	13.804	211	851515	31.590
155) Phenanthrene	(4)	13.836	178	4262147	29.870
157) Anthracene	(4)	13.906	178	4249865	30.128
163) Carbazole	(4)	14.130	167	3925166	29.714

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.334	109	1119354	29.931
165) Di-n-butylphthalate	(4)	14.649	149	4857453	30.067
167) Parathion	(4)	14.901	109	682256	30.647
168) 4-Nitroquinoline-1-oxide	(4)	14.933	190	520255	33.356
169) Octachlorostyrene	(4)	15.254	308	272121	30.184
171) Isodrin	(4)	15.318	193	489900	29.708
173) Fluoranthene	(4)	15.553	202	4686959	29.750
174) Benzidine	(5)	15.805	184	8813617	87.992
175)*Pyrene-d10	(5)	15.879	212	773974	5.000
177) Pyrene	(5)	15.912	202	4866505	28.541
179)$Terphenyl-d14	(5)	16.200	244	6201975	59.786
182) p-Dimethylaminoazobenzene	(5)	16.436	225	903047	30.374
185) Chlorobenzilate	(5)	16.521	139	1461064	29.759
187) 3,3'-Dimethylbenzidine	(5)	17.019	212	3171821	29.932
188) Butylbenzylphthalate	(5)	17.067	149	2147917	29.833
191) 2-Acetylaminofluorene	(5)	17.457	181	2030850	30.861
193) 3,3'-Dichlorobenzidine	(5)	17.971	252	1694992	30.349
195) Benzo(a)anthracene	(5)	17.981	228	4474074	30.725
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.992	231	954245	30.305
196) Chrysene	(5)	18.051	228	4134253	29.886
199) bis(2-Ethylhexyl)phthalate	(5)	18.142	149	3202226	30.418
203) 6-Methylchrysene	(5)	18.864	242	3050250	30.403
205) Di-n-octylphthalate	(6)	19.335	149	5897892	30.261
206) Benzo(b)fluoranthene	(6)	19.880	252	4520293	30.272
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.886	256	2032685	30.226
208) Benzo(k)fluoranthene	(6)	19.934	252	4377859	30.048
211) Benzo(a)pyrene	(6)	20.420	252	4366443	31.921
213)*Perylene-d12	(6)	20.501	264	603092	5.000
215) 3-Methylcholanthrene	(6)	20.993	268	2085054	30.465
217) Dibenz(a,h)acridine	(6)	21.838	279	3756844	30.583
218) Dibenz(a,j)acridine	(6)	21.918	279	3692327	30.202
222) Total PAHs	(6)			72189059	540.889
219) Indeno(1,2,3-cd)pyrene	(6)	22.196	276	5036359	31.214
220) Dibenz(a,h)anthracene	(6)	22.239	278	4252683	31.029
221) Benzo(g,h,i)perylene	(6)	22.635	276	4224823	30.186

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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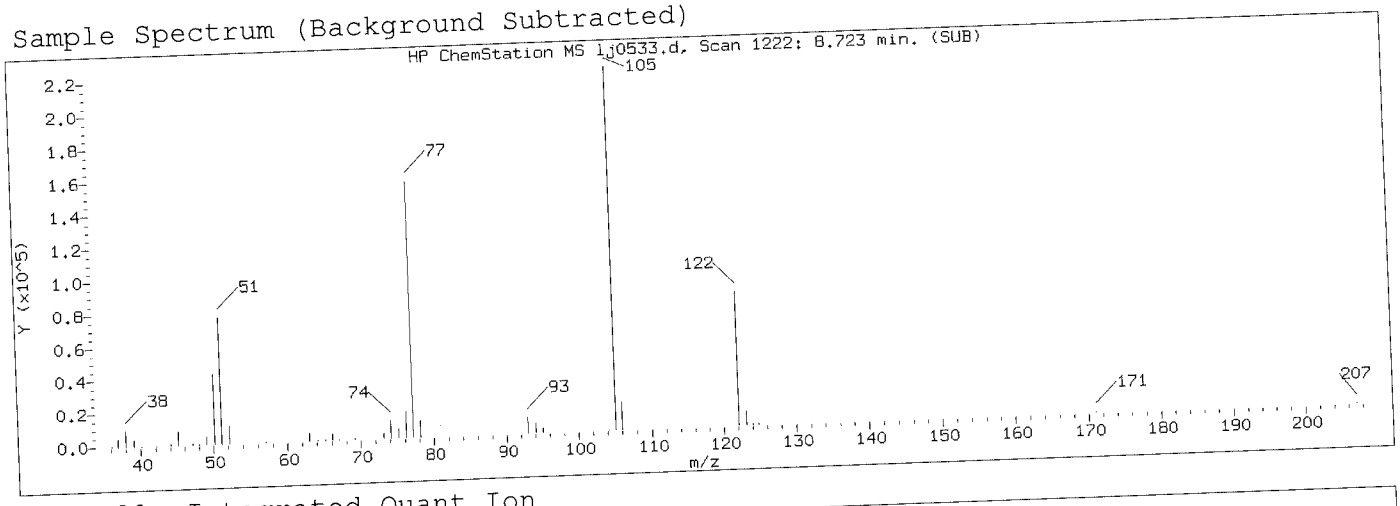
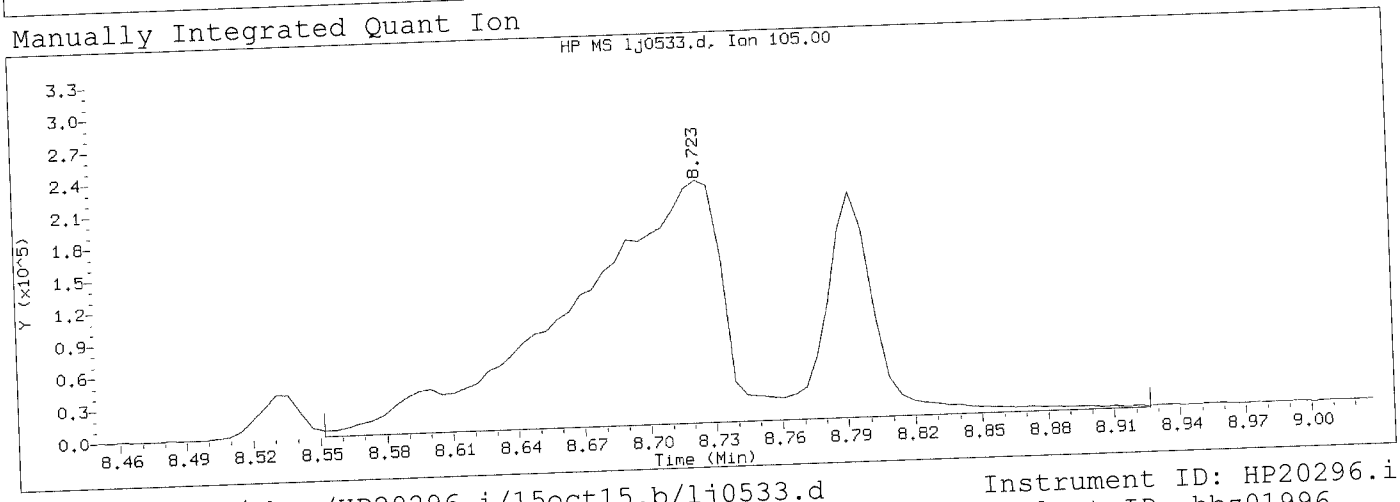
on 10/15/2015 at 18:44.
Target 3.5 esignature used: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1222		
Retention Time (minutes)	: 8.723		
Quant Ion	: 105.00		
Area (flag)	: 1414742M		
On-Column Amount (ng/ul)	: 32.0212		
Integration start scan	: 1189	Integration stop scan:	1259
Y at integration start	: 254	Y at integration end:	254

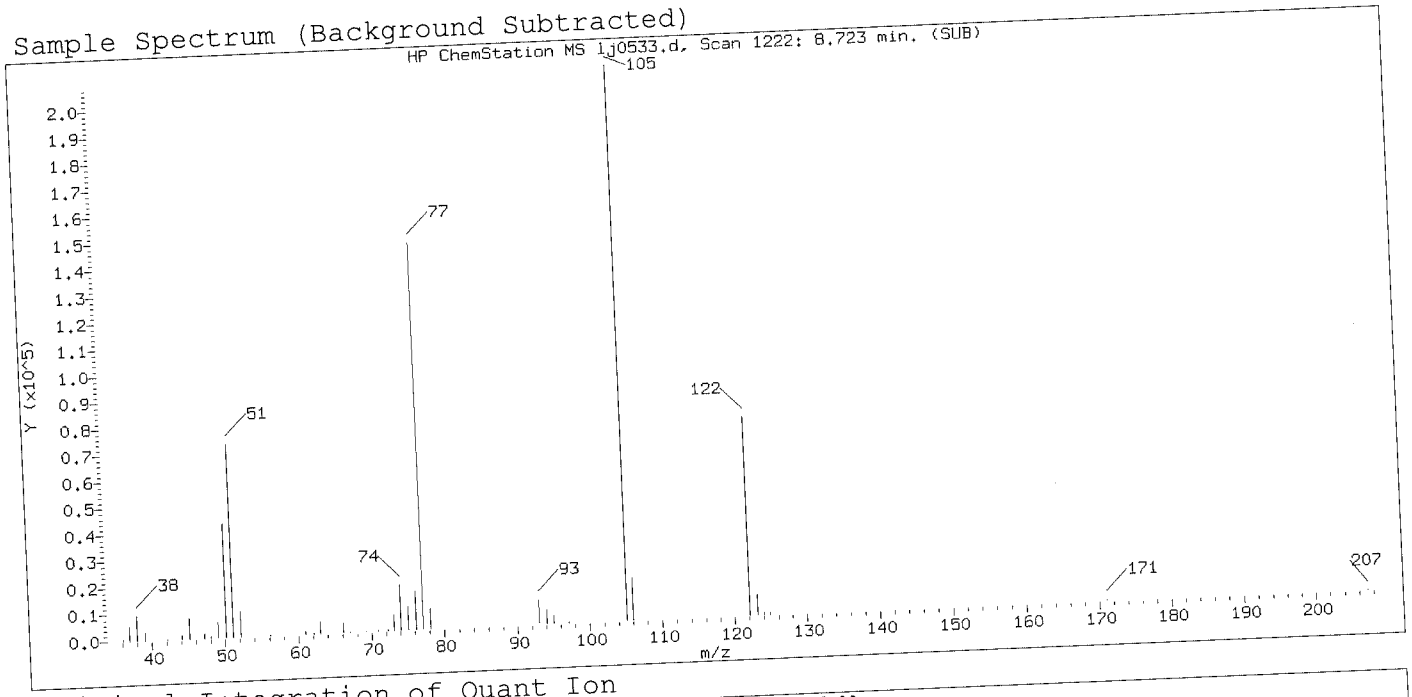
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 designated user ID: ceb05247

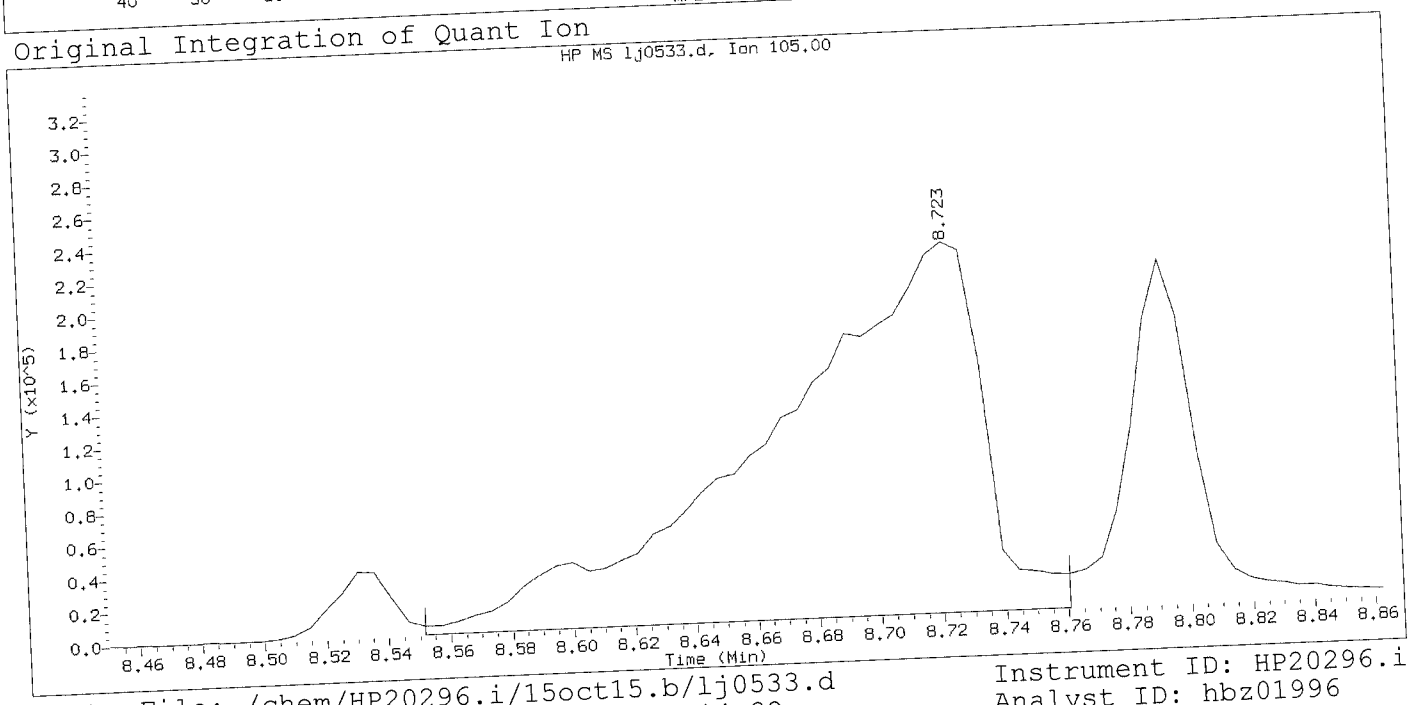
OCT 16 2015

GC/MS audit/management approval: _____ Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 14:57

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 14:57 Unknown

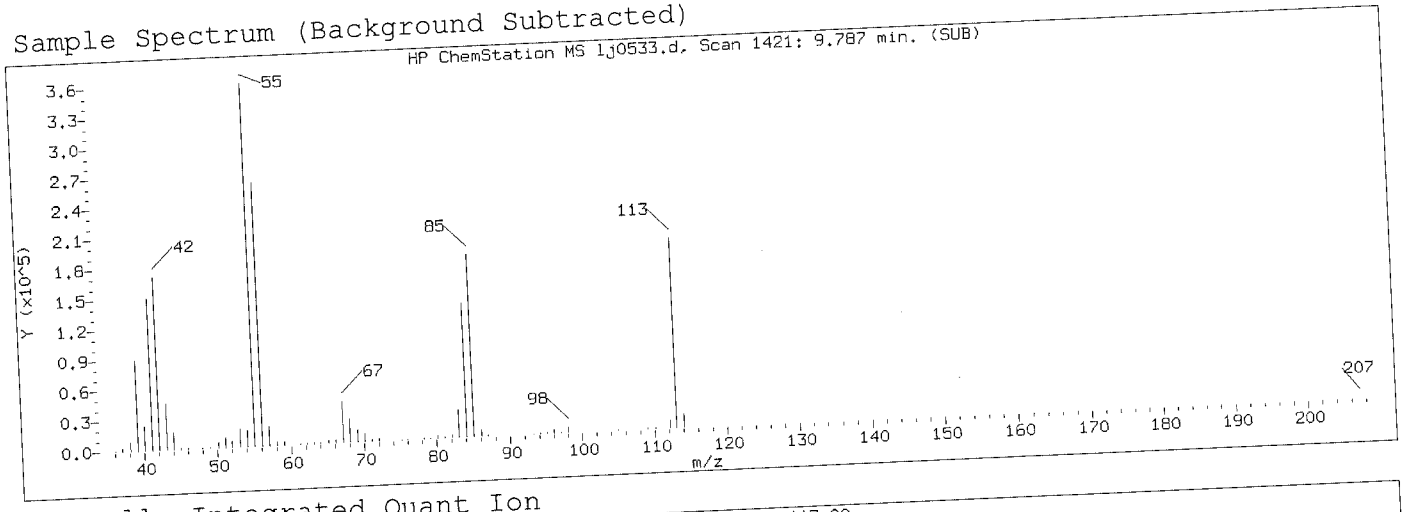
Sample Name: SSTD030

Lab Sample ID: RVSTD2745

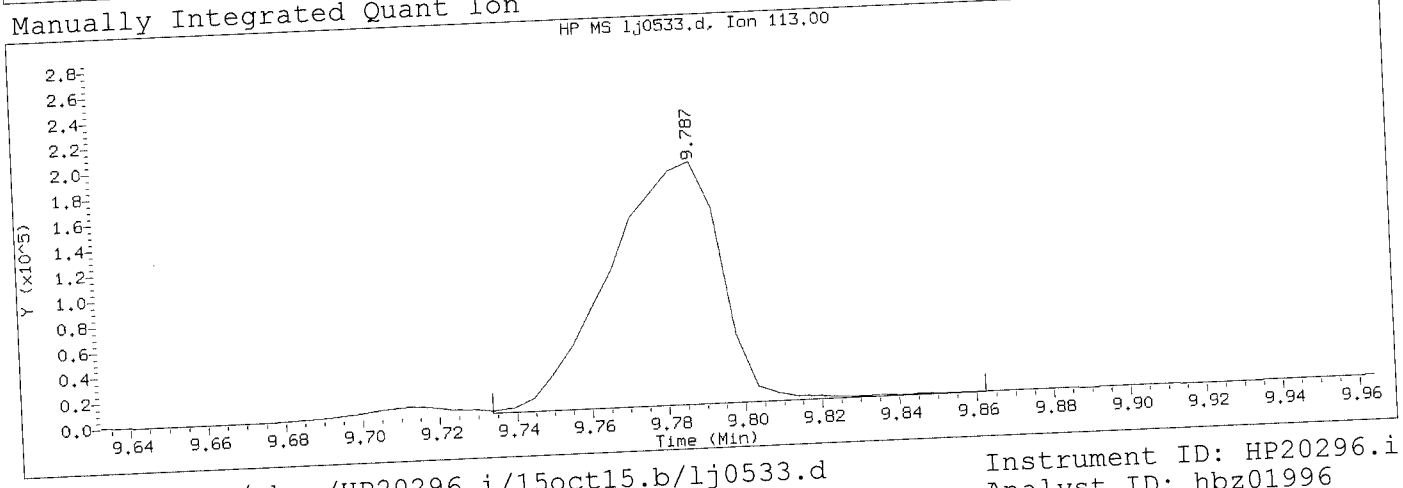
Compound Number	: 56
Compound Name	: Benzoic acid
Scan Number	: 1222
Retention Time (minutes)	: 8.723
Quant Ion	: 105.00
Area	: 1082970
On-column Amount (ng/ul)	: 24.3978
Integration start scan	: 1189
Integration stop scan:	1228
Y at integration start	: 0
Y at integration end:	0

Digitally signed by Catherine Bu[illegible] on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

Compound Number	: 76		
Compound Name	: Caprolactam		
Scan Number	: 1421		
Retention Time (minutes)	: 9.787		
Quant Ion	: 113.00		
Area (flag)	: 387485A		
On-Column Amount (ng/ul)	: 29.5830		
Integration start scan	: 1410	Integration stop scan:	1434
Y at integration start	: 0	Y at integration end:	0

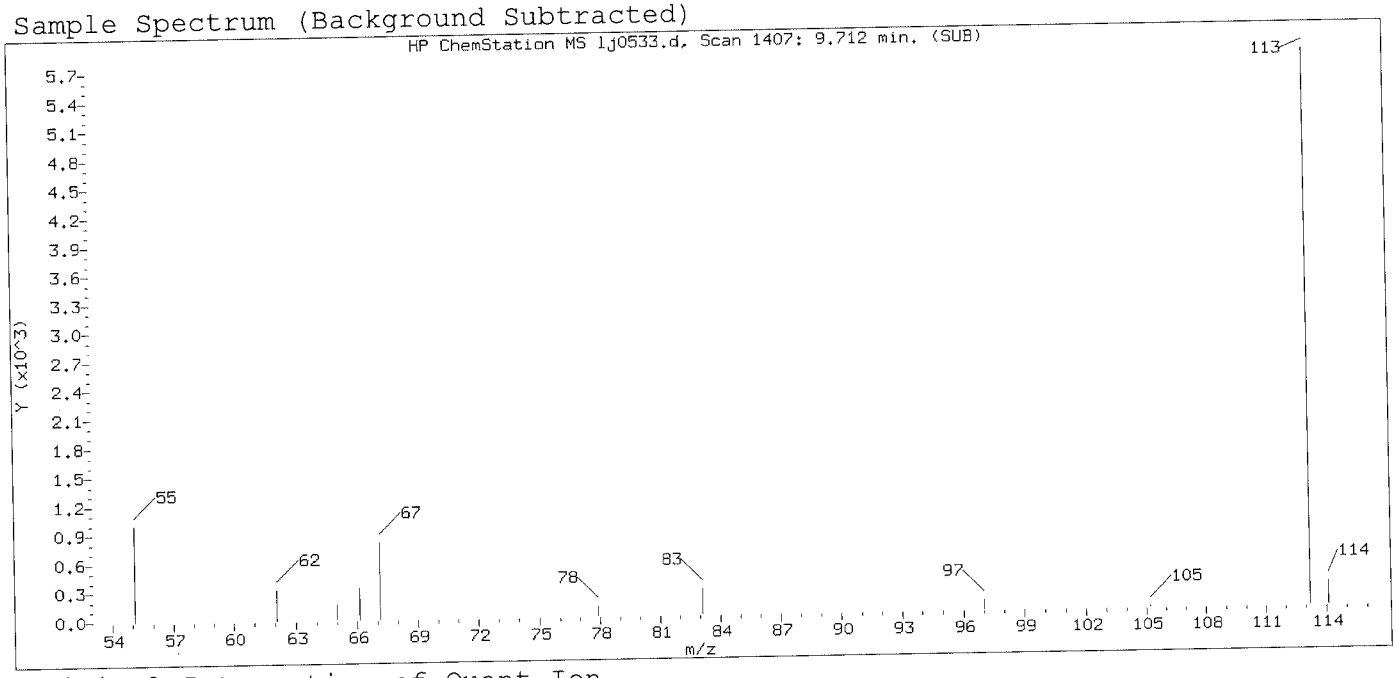
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 esignature user ID: ceb05247

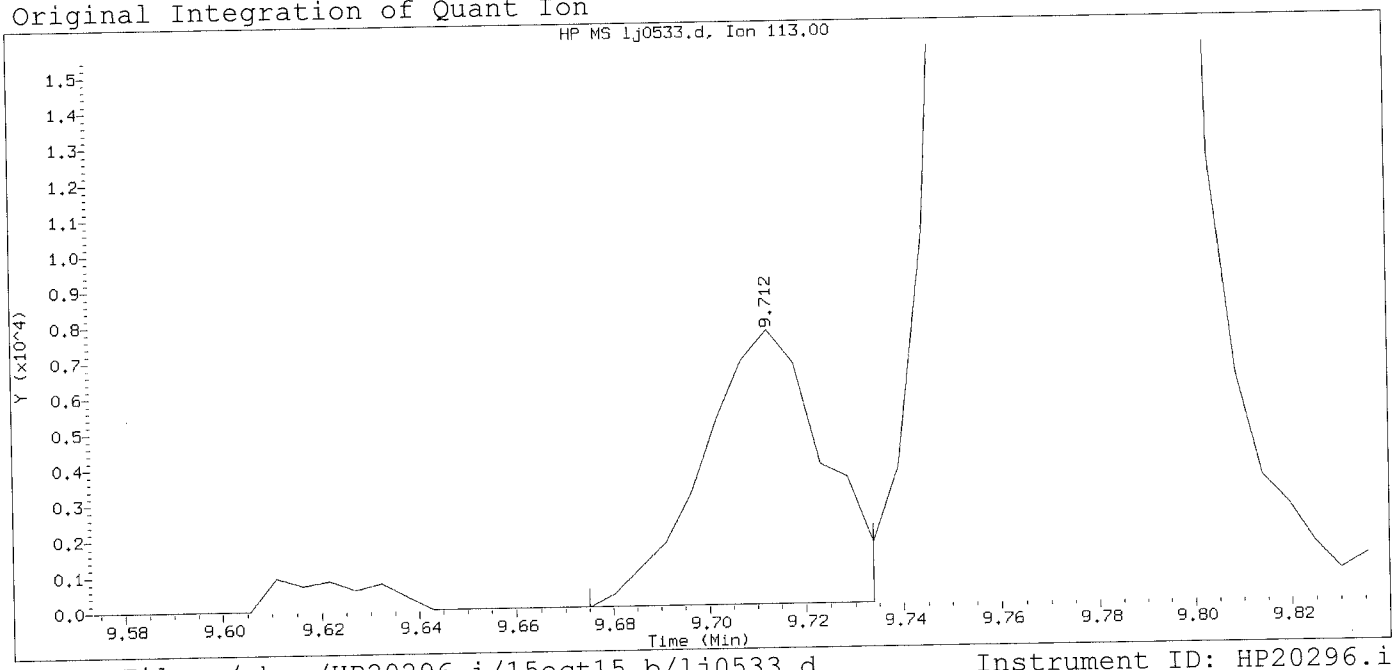
OCT 16 2015

GC/MS audit/management approval: _____ Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 14:57
Date, time and analyst ID of latest file update: 15-Oct-2015 14:57 Unknown

Sublist used: all1

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

Compound Number	: 76		
Compound Name	: Caprolactam		
Scan Number	: 1407		
Retention Time (minutes)	: 9.712		
Quant Ion	: 113.00		
Area	: 13195		
On-column Amount (ng/ul)	: 1.1822		
Integration start scan	: 1399	Integration stop scan:	1410
Y at integration start	: 0	Y at integration end:	0

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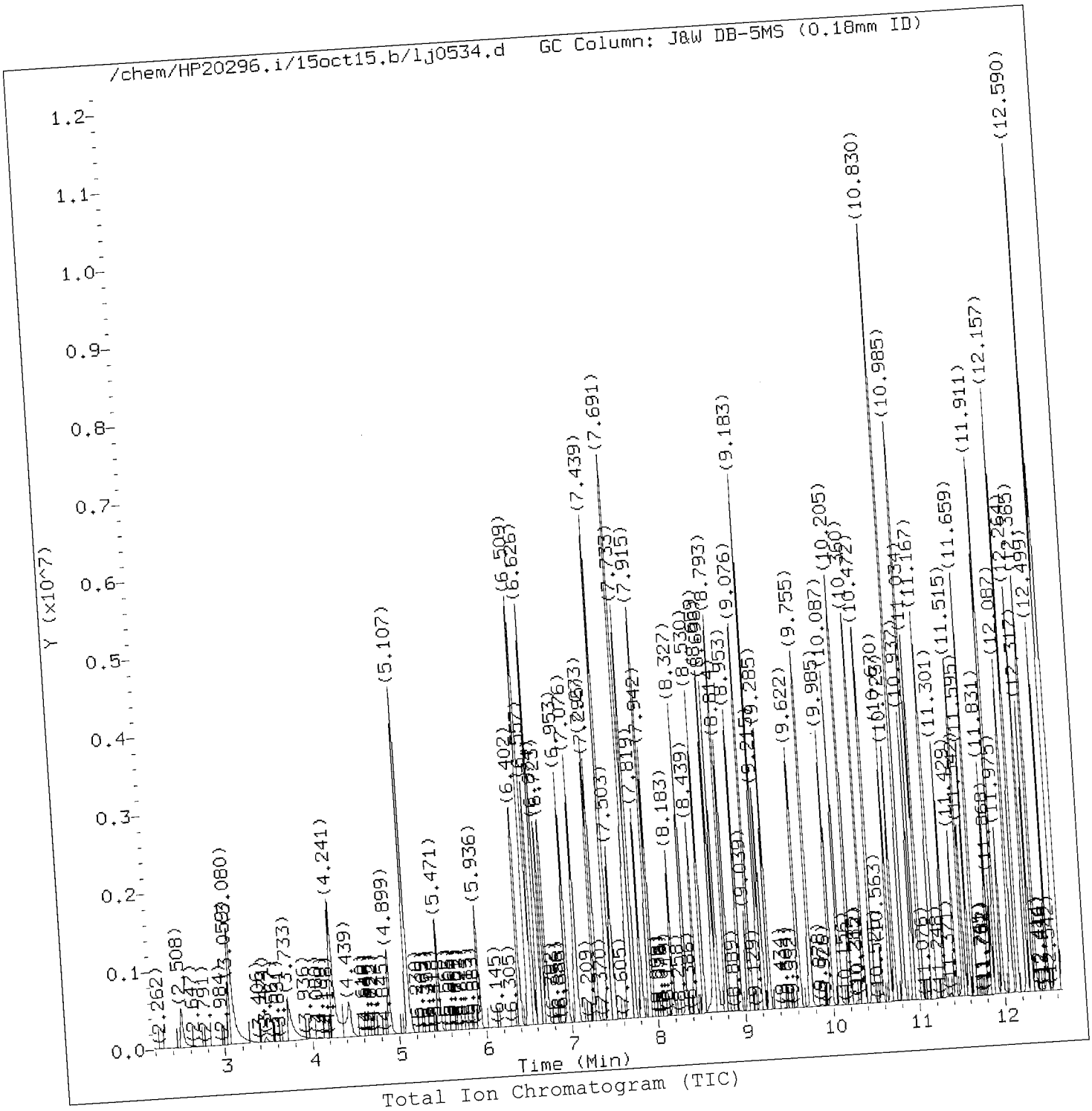
Target 3.5 esignature user ID: ceb05247



Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0534.d
Injection date and time: 15-OCT-2015 15:00

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

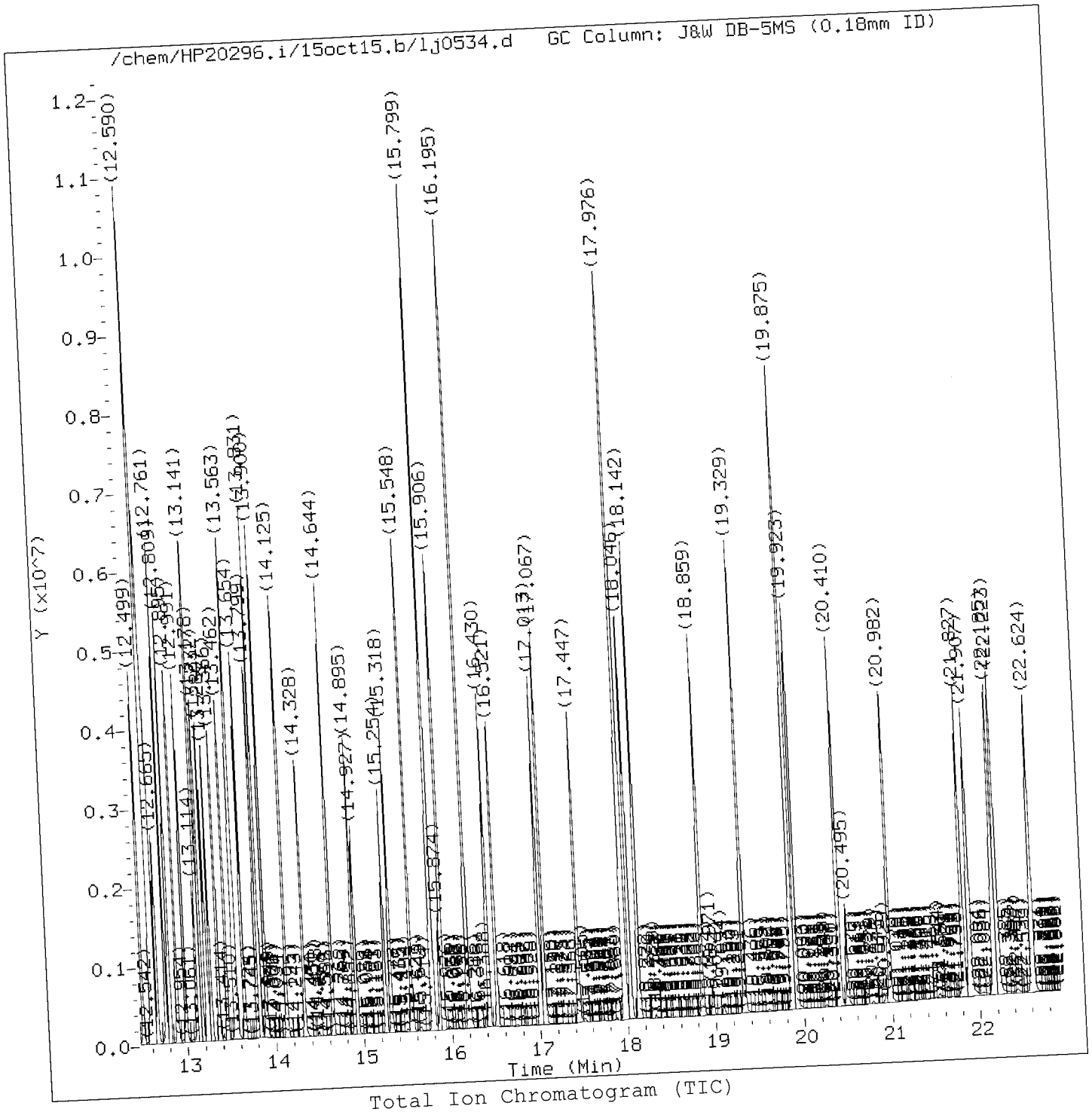
Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD020

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0534.d
Injection date and time: 15-OCT-2015 15:00

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD020

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0534.d
Injection date and time: 15-OCT-2015 15:00

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD020

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.513	88	474328	19.337
4) N-Nitrosodimethylamine	(1)	3.059	74	761528	19.557
5) Pyridine	(1)	3.086	79	1308688	19.801
7) 2-Picoline	(1)	4.241	93	1316739	19.613
8) N-Nitrosomethylethylamine	(1)	4.439	88	543262	19.626
9) Methyl methanesulfonate	(1)	4.899	80	635645	19.619
11)$2-Fluorophenol	(1)	5.107	112	2027353	39.036
13) N-Nitrosodiethylamine	(1)	5.471	102	522286	19.718
15) Ethyl methanesulfonate	(1)	5.936	109	515882	19.460
16) Benzaldehyde	(1)	6.402	77	990624	20.260
17)$Phenol-d6	(1)	6.503	99	2780507	39.513
18) Phenol	(1)	6.525	94	1482224	19.297
19) Aniline	(1)	6.557	93	1901818	19.976
20) a-methylstyrene	(1)	6.632	118	1070870	20.099
22) bis(2-Chloroethyl)ether	(1)	6.674	93	1143141	19.770
23) 2-Chlorophenol	(1)	6.723	128	945603	19.598
24) 1,3-Dichlorobenzene	(1)	6.958	146	1045028	19.634
25)*1,4-Dichlorobenzene-d4	(1)	7.049	152	172350	5.000
26) 1,4-Dichlorobenzene	(1)	7.076	146	1067446	19.688
27) Benzyl alcohol	(1)	7.273	108	724685	19.884
28) 1,2-Dichlorobenzene	(1)	7.295	146	1009554	19.693
30) Indene	(1)	7.434	115	1851882	20.263
31) 2-Methylphenol	(1)	7.445	108	994940	19.676
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.503	45	1612162	19.841
34) bis(2-Chloroisopropyl)ether	(1)	7.503	45	1612162	19.841
42) Total Cresols	(1)			2044601	39.432
35) N-Nitrosopyrrolidine	(1)	7.664	100	557732	20.125
36) Acetophenone	(1)	7.685	105	1586024	20.378
37) 4-Methylphenol	(1)	7.696	108	1049661	19.755
38) N-Nitroso-di-n-propylamine	(1)	7.707	70	899142	19.687
39) N-Nitrosomorpholine	(1)	7.733	56	697799	19.708
40) o-Toluidine	(1)	7.733	106	1773076	19.822
43) Hexachloroethane	(1)	7.819	117	445214	19.771
44)$Nitrobenzene-d5	(2)	7.915	82	2669665	39.406
45) Nitrobenzene	(2)	7.942	77	1322303	19.441
48) N-Nitrosopiperidine	(2)	8.188	114	508712	19.570
50) Isophorone	(2)	8.327	82	2339621	19.566
51) 2-Nitrophenol	(2)	8.439	139	490836	19.494
53) 2,4-Dimethylphenol	(2)	8.530	107	1110399	19.490
57) O,O,O-Triethylphosphorothioate	(2)	8.659	198	476440	19.336

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0534.d
Injection date and time: 15-OCT-2015 15:00

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD020

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	8.696	105	946810M	20.508
55) bis(2-Chloroethoxy)methane	(2)	8.696	93	1394478	19.534
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.793	104	1653773	19.970
60) 2,4-Dichlorophenol	(2)	8.814	162	793063	19.602
62) 1,2,4-Trichlorobenzene	(2)	8.953	180	879510	19.487
65)*Naphthalene-d8	(2)	9.039	136	670534	5.000
66) Naphthalene	(2)	9.076	128	2770554	19.284
67) 4-Chloroaniline	(2)	9.183	127	1170289	19.657
68) 2,6-Dichlorophenol	(2)	9.183	162	774761	19.335
69) Hexachloropropene	(2)	9.215	213	605950	19.705
71) Hexachlorobutadiene	(2)	9.285	225	508002	19.433
75) Quinoline	(2)	9.622	129	1773421	19.608
77) N-Nitrosodi-n-butylamine	(2)	9.755	84	1045299	19.547
76) Caprolactam	(2)	9.766	113	265440	19.760
80) 4-Chloro-3-methylphenol	(2)	9.985	107	946011	19.433
82) Safrole	(2)	10.087	162	723026	19.718
83) 2-Methylnaphthalene	(2)	10.205	142	1835850	19.183
84) 1-Methylnaphthalene	(2)	10.360	142	1676629	18.894
85) Hexachlorocyclopentadiene	(3)	10.461	237	569232	20.051
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.472	216	892724	20.095
88) cis-Isosafrole	(3)	10.568	162	133384	3.390
90) 2,4,6-Trichlorophenol	(3)	10.670	196	584735	20.034
92) 2,4,5-Trichlorophenol	(3)	10.723	196	610969	20.008
97) Isosafrole	(3)			844308	19.952
93)$2-Fluorobiphenyl	(3)	10.830	172	4079471	39.707
94) trans-Isosafrole	(3)	10.937	162	710924	16.562
95) 1,1'-Biphenyl	(3)	10.985	154	2244055	20.304
96) 2-Chloronaphthalene	(3)	11.001	162	1810326	20.538
98) 1-Chloronaphthalene	(3)	11.034	162	1585197	19.301
99) Diphenyl ether	(3)	11.167	170	1201023	20.110
100) 2-Nitroaniline	(3)	11.183	138	558249	20.009
104) 1,4-Naphthoquinone	(3)	11.306	158	721526	19.942
105) 1,4-Dinitrobenzene	(3)	11.429	168	288993	20.258
106) Dimethylphthalate	(3)	11.515	163	1894217	19.998
107) 1,3-Dinitrobenzene	(3)	11.542	168	312193	20.213
108) 2,6-Dinitrotoluene	(3)	11.595	165	435230	20.038
109) Acenaphthylene	(3)	11.659	152	2746333	20.271
112) 3-Nitroaniline	(3)	11.831	138	482296	20.056
113)*Acenaphthene-d10	(3)	11.868	164	375673	5.000
114) Acenaphthene	(3)	11.916	153	1764555	20.084

M = Compound was manually integrated.
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on 10/15/2015 at 18:44:
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/1j0534.d
Injection date and time: 15-OCT-2015 15:00

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD020

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			1030243	40.403
115) 2,4-Dinitrophenol	(3)	11.980	184	291163	20.622
116) 4-Nitrophenol	(3)	12.077	109	352666	20.170
117) Pentachlorobenzene	(3)	12.093	250	694185	19.796
119) Dibenzofuran	(3)	12.151	168	2388618	19.874
118) 2,4-Dinitrotoluene	(3)	12.162	165	595013	20.366
121) 1-Naphthylamine	(3)	12.264	143	1779057	20.089
122) 2,3,4,6-Tetrachlorophenol	(3)	12.317	232	481058	20.070
123) 2-Naphthylamine	(3)	12.365	143	1746932	20.149
124) Diethylphthalate	(3)	12.499	149	1896111	20.137
126) Fluorene	(3)	12.590	166	1910221	20.199
125) Thionazin	(3)	12.595	107	355933	20.211
127) 4-Chlorophenyl-phenylether	(3)	12.611	204	929865	20.049
128) 5-Nitro-o-toluidine	(3)	12.622	152	556202	20.323
129) 4-Nitroaniline	(3)	12.633	138	484551	19.947
130) 4,6-Dinitro-2-methylphenol	(4)	12.670	198	375891	20.231
132) NDPA as diphenylamine	(4)	12.767	169	1611078	19.718
131) N-Nitrosodiphenylamine	(4)	12.767	169	1611078	19.718
134) 1,2-Diphenylhydrazine	(4)	12.809	77	2479247	19.783
135)$2,4,6-Tribromophenol	(3)	12.895	330	453370	40.464
137) Tetraethyldithiopyrophosphate	(4)	12.991	97	388883	19.874
146) Diallate trans/cis	(4)			1051454	19.619
139) 1,3,5-Trinitrobenzene	(4)	13.114	213	218531	19.945
140) Diallate (peak 1)	(4)	13.136	86	873628	16.254
141) Phorate	(4)	13.152	75	1571290	19.697
142) Phenacetin	(4)	13.178	108	1167588	19.773
143) 4-Bromophenyl-phenylether	(4)	13.232	248	490244	19.678
144) Diallate (peak 2)	(4)	13.248	86	177826	3.365
145) Hexachlorobenzene	(4)	13.280	284	504964	19.486
147) Dimethoate	(4)	13.366	87	1001657	19.672
148) Atrazine	(4)	13.462	200	531681	20.021
149) Pentachlorophenol	(4)	13.542	266	354631	19.821
151) Pentachloronitrobenzene	(4)	13.558	237	249476	19.907
150) 4-Aminobiphenyl	(4)	13.569	169	1894565	19.693
152) Pronamide	(4)	13.654	173	902401	19.616
153)*Phenanthrene-d10	(4)	13.799	188	702612	5.000
154) Dinoseb	(4)	13.804	211	571925	20.280
155) Phenanthrene	(4)	13.831	178	2878491	19.560
157) Anthracene	(4)	13.900	178	2902980	19.856
163) Carbazole	(4)	14.125	167	2693340	19.748

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on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0534.d
Injection date and time: 15-OCT-2015 15:00

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD020

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.328	109	771682	19.907
165) Di-n-butylphthalate	(4)	14.644	149	3300209	19.774
167) Parathion	(4)	14.895	109	464128	20.045
168) 4-Nitroquinoline-1-oxide	(4)	14.927	190	346716	20.910
169) Octachlorostyrene	(4)	15.254	308	185359	19.859
171) Isodrin	(4)	15.318	193	339378	19.872
173) Fluoranthene	(5)	15.548	202	3194318	19.635
174) Benzidine	(5)	15.799	184	6160593	59.541
175)*Pyrene-d10	(5)	15.874	212	802565	5.000
177) Pyrene	(5)	15.906	202	3302564	18.992
179)$Terphenyl-d14	(5)	16.195	244	4212886	39.439
182) p-Dimethylaminoazobenzene	(5)	16.430	225	603692	19.719
185) Chlorobenzilate	(5)	16.521	139	1002765	19.797
187) 3,3'-Dimethylbenzidine	(5)	17.013	212	2132619	19.602
188) Butylbenzylphthalate	(5)	17.067	149	1459641	19.698
191) 2-Acetylaminofluorene	(5)	17.447	181	1333269	19.690
193) 3,3'-Dichlorobenzidine	(5)	17.965	252	1126165	19.627
195) Benzo(a)anthracene	(5)	17.976	228	3034503	20.072
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.987	231	640878	19.751
196) Chrysene	(5)	18.046	228	2808486	19.683
199) bis(2-Ethylhexyl)phthalate	(5)	18.142	149	2134688	19.701
203) 6-Methylchrysene	(6)	18.859	242	1999312	19.472
205) Di-n-octylphthalate	(6)	19.329	149	3842236	19.894
206) Benzo(b)fluoranthene	(6)	19.875	252	2988486	20.107
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.880	256	1334621	19.983
208) Benzo(k)fluoranthene	(6)	19.923	252	2828473	19.653
211) Benzo(a)pyrene	(6)	20.410	252	2834501	20.635
213)*Perylene-d12	(6)	20.495	264	599209	5.000
215) 3-Methylcholanthrene	(6)	20.987	268	1330292	19.706
217) Dibenz(a,h)acridine	(6)	21.827	279	2392023	19.731
218) Dibenz(a,j)acridine	(6)	21.907	279	2410176	19.895
222) Total PAHs	(6)			48232319	356.308
219) Indeno(1,2,3-cd)pyrene	(6)	22.185	276	3262182	20.261
220) Dibenz(a,h)anthracene	(6)	22.228	278	2742951	20.107
221) Benzo(g,h,i)perylene	(6)	22.624	276	2750242	19.833

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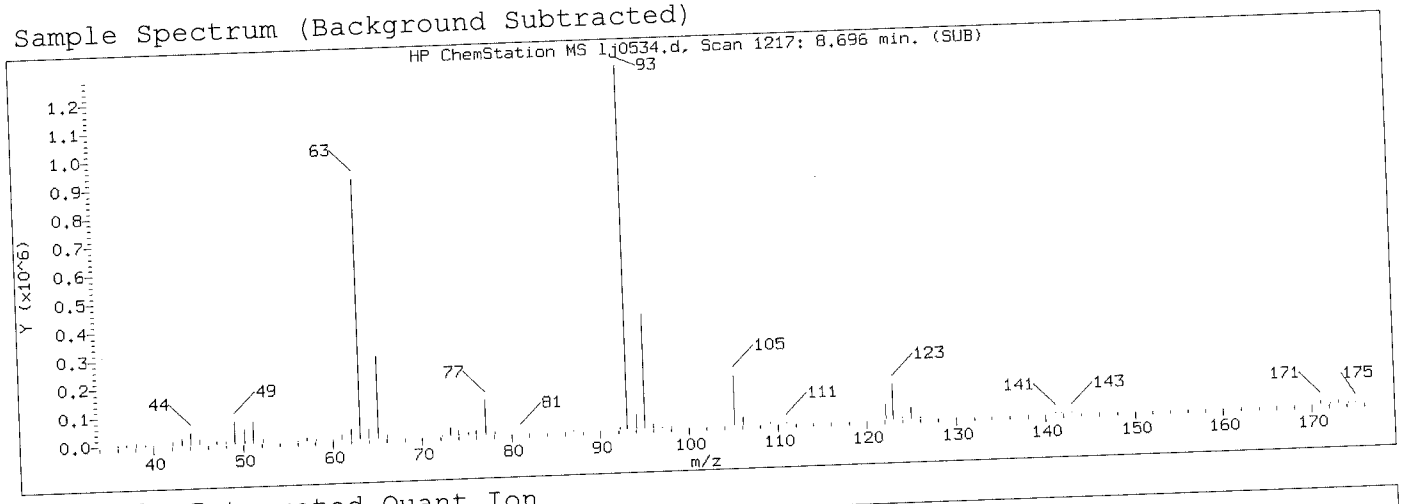
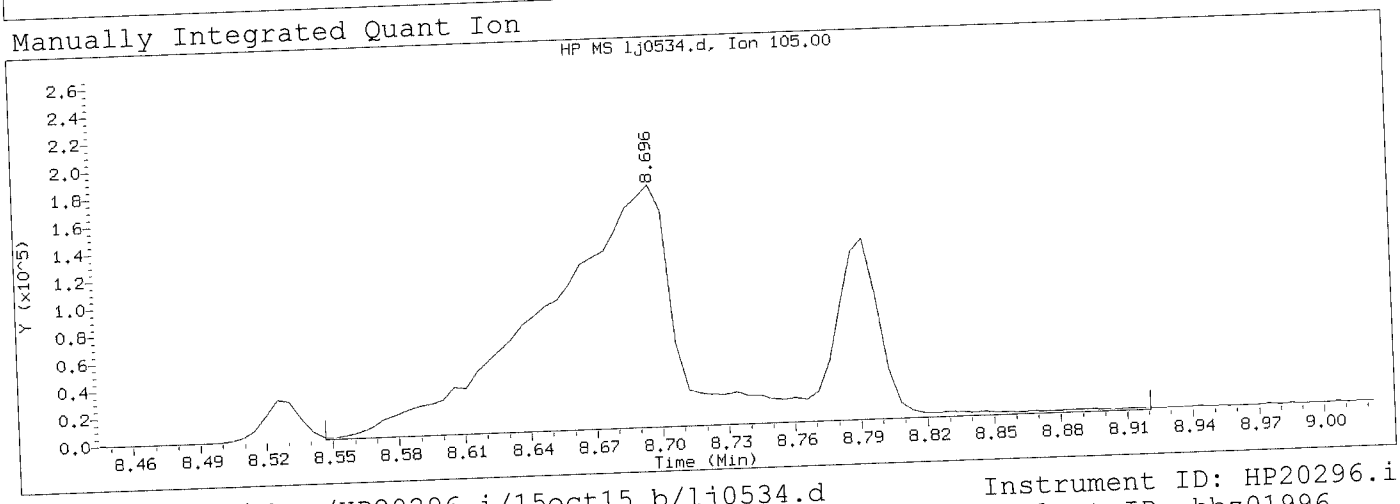
Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44:
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0534.d
Injection date and time: 15-OCT-2015 15:00

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15
Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sublist used: all1

Sample Name: SSTD020

Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1217		
Retention Time (minutes)	: 8.696		
Quant Ion	: 105.00		
Area (flag)	: 946810M		
On-Column Amount (ng/ul)	: 20.5076		
Integration start scan	: 1188	Integration stop scan:	1258
Y at integration start	: 88	Y at integration end:	88

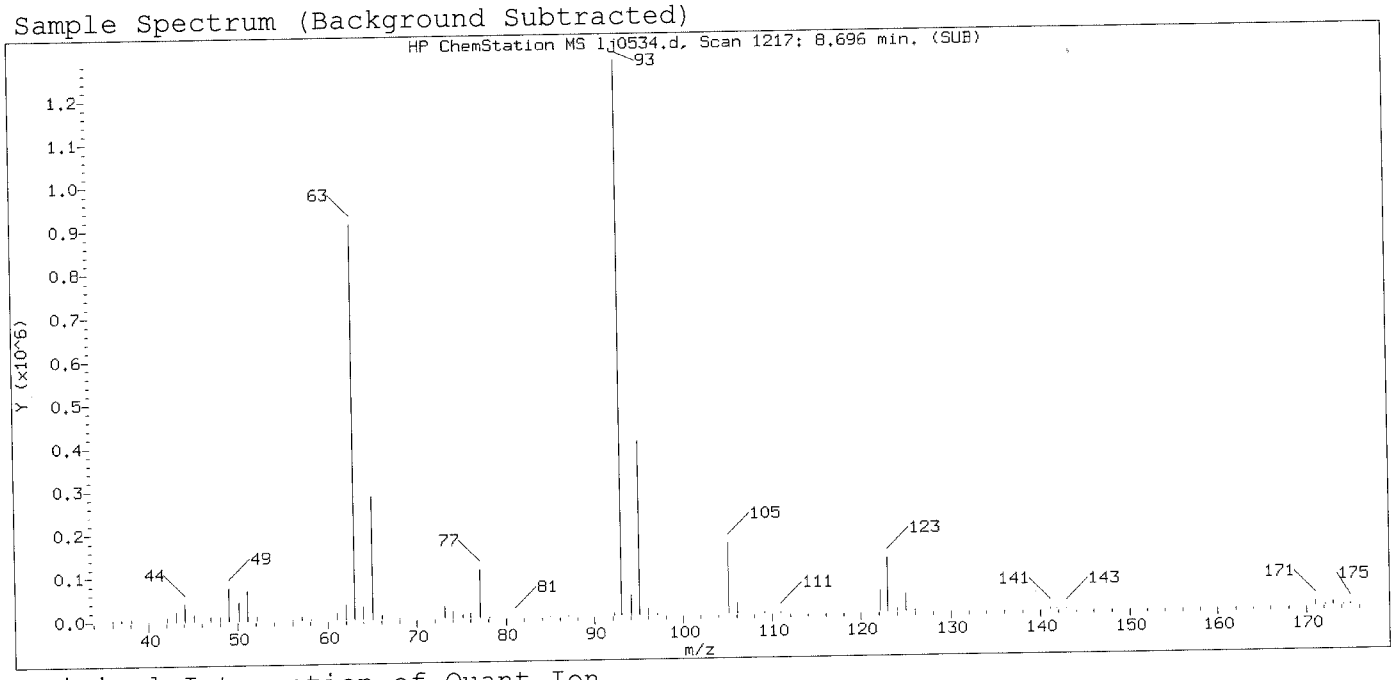
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44 Target 3.5 signature user ID: ceb05247

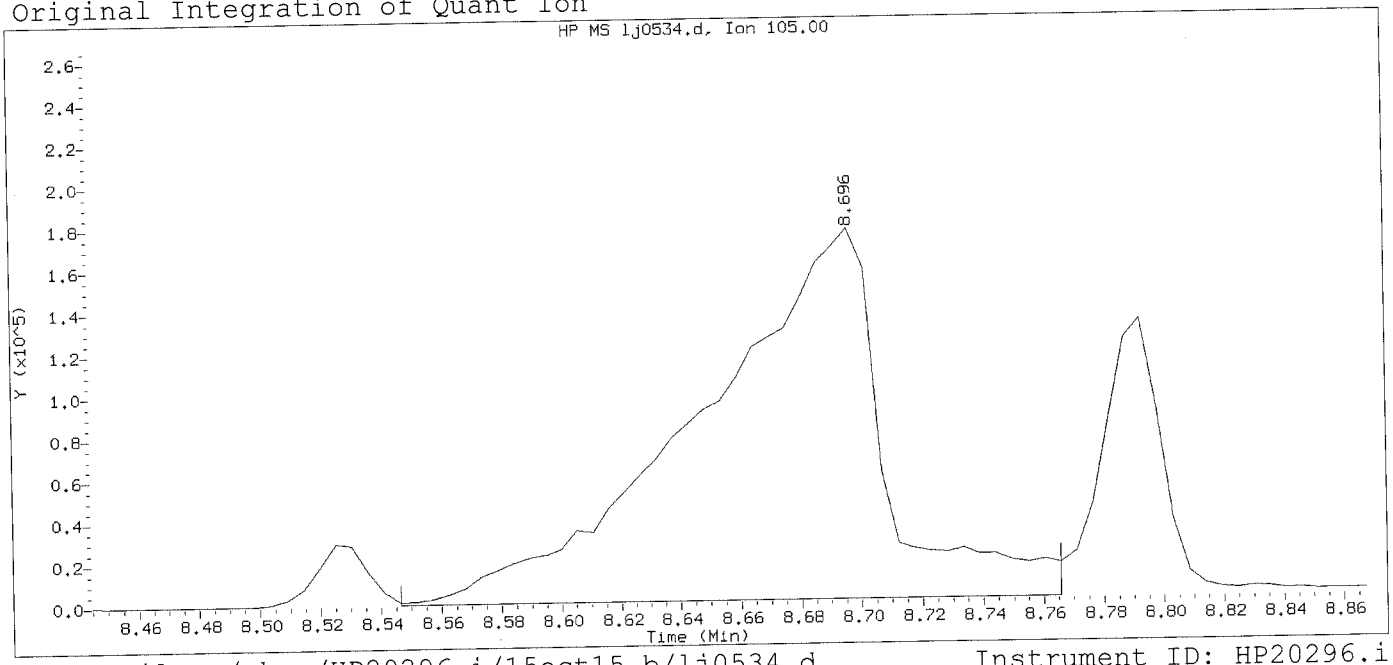
OCT 16 2015

GC/MS audit/management approval: Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0534.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 15:00 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-OCT-2015 15:25
Date, time and analyst ID of latest file update: 15-Oct-2015 15:25 Unknown

Sample Name: SSTD020 Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1217		
Retention Time (minutes)	: 8.696		
Quant Ion	: 105.00		
Area	: 754738		
On-column Amount (ng/ul)	: 17.1064		
Integration start scan	: 1188	Integration stop scan:	1229
Y at integration start	: 0	Y at integration end:	0

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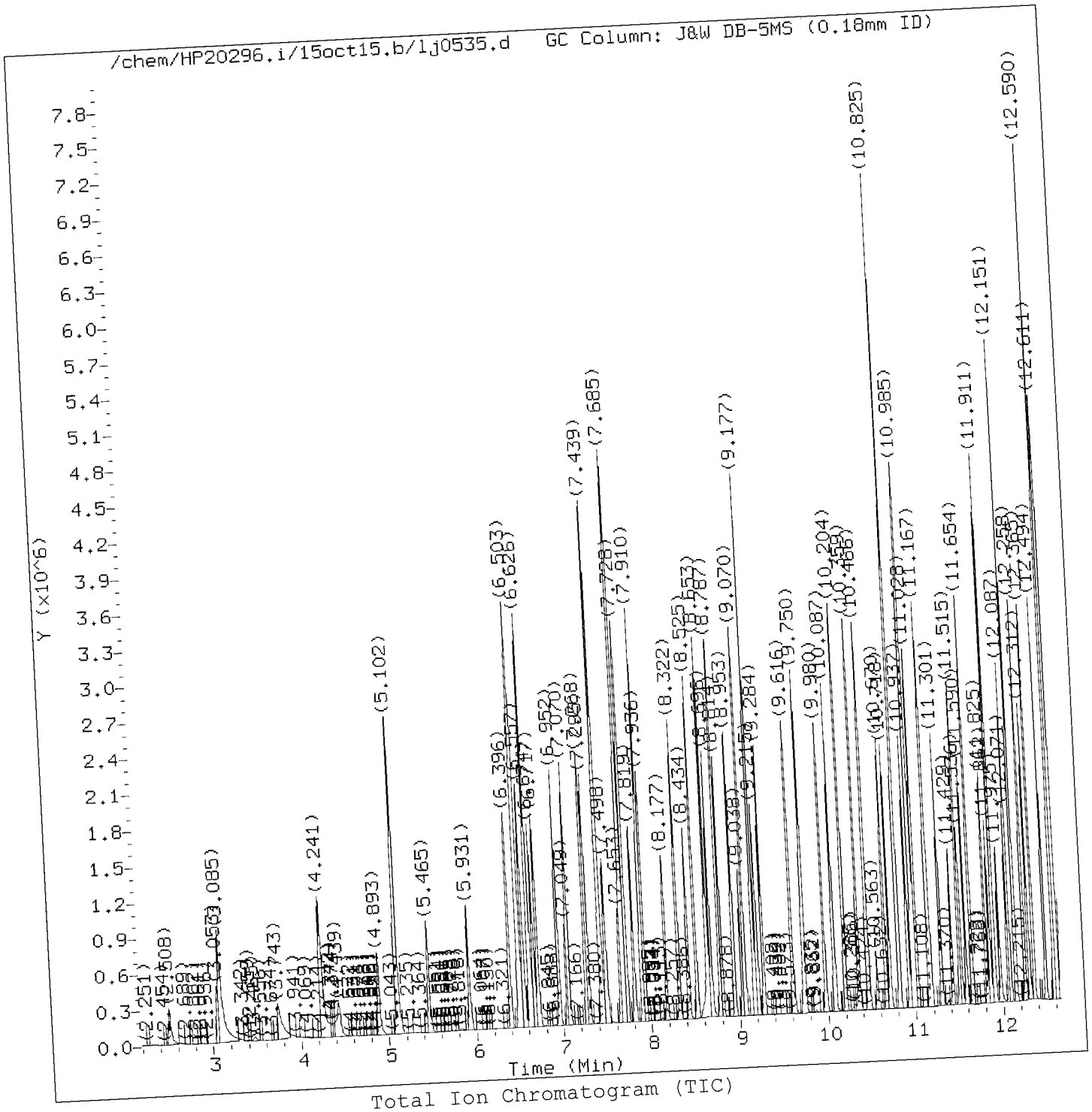
Target 3.5 esignature user ID: cebach47



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0535.d
Injection date and time: 15-OCT-2015 15:28

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD12.5

Lab Sample ID: RVSTD2745

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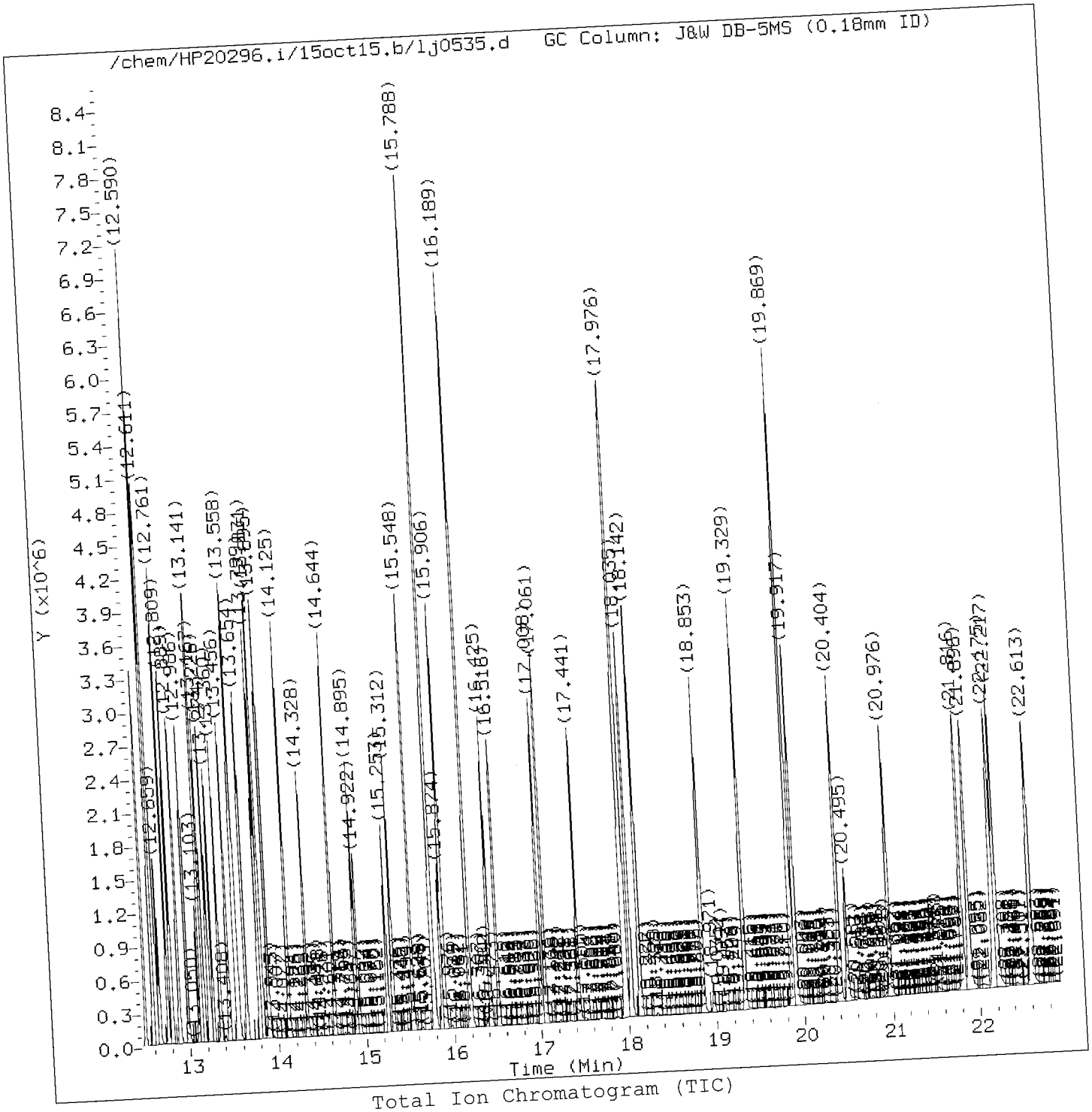
on 10/15/2015 at 18:47
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0535.d
Injection date and time: 15-OCT-2015 15:28

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD12.5

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0535.d
Injection date and time: 15-OCT-2015 15:28

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD12.5

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.508	88	295981	12.588
4) N-Nitrosodimethylamine	(1)	3.059	74	476651	12.724
5) Pyridine	(1)	3.085	79	788411	12.481
7) 2-Picoline	(1)	4.241	93	825389	12.765
8) N-Nitrosomethylethylamine	(1)	4.439	88	340168	12.761
9) Methyl methanesulfonate	(1)	4.893	80	403441	12.887
11)$2-Fluorophenol	(1)	5.107	112	1264952	25.350
13) N-Nitrosodiethylamine	(1)	5.465	102	327052	12.806
15) Ethyl methanesulfonate	(1)	5.931	109	329307	12.864
16) Benzaldehyde	(1)	6.396	77	598090	12.717
17)$Phenol-d6	(1)	6.498	99	1737814	25.613
18) Phenol	(1)	6.519	94	922562	12.545
19) Aniline	(1)	6.557	93	1158289	12.666
20) a-methylstyrene	(1)	6.631	118	656475	12.786
22) bis(2-Chloroethyl)ether	(1)	6.674	93	708355	12.731
23) 2-Chlorophenol	(1)	6.717	128	598502	12.850
24) 1,3-Dichlorobenzene	(1)	6.952	146	654968	12.774
25)*1,4-Dichlorobenzene-d4	(1)	7.049	152	164820	5.000
26) 1,4-Dichlorobenzene	(1)	7.070	146	674368	12.876
27) Benzyl alcohol	(1)	7.268	108	450768	12.822
28) 1,2-Dichlorobenzene	(1)	7.295	146	637081	12.868
30) Indene	(1)	7.434	115	1137521	12.883
31) 2-Methylphenol	(1)	7.439	108	623108	12.787
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.498	45	1008311	12.854
34) bis(2-Chloroisopropyl)ether	(1)	7.498	45	1008311	12.854
35) N-Nitrosopyrrolidine	(1)	7.653	100	343794	12.851
42) Total Cresols	(1)			1287341	25.712
36) Acetophenone	(1)	7.680	105	937431	12.571
37) 4-Methylphenol	(1)	7.690	108	664233	12.924
38) N-Nitroso-di-n-propylamine	(1)	7.696	70	570208	12.912
39) N-Nitrosomorpholine	(1)	7.723	56	440861	12.886
40) o-Toluidine	(1)	7.728	106	1107048	12.828
43) Hexachloroethane	(2)	7.819	117	282164	12.947
44)$Nitrobenzene-d5	(2)	7.910	82	1652962	25.271
45) Nitrobenzene	(2)	7.936	77	830588	12.645
48) N-Nitrosopiperidine	(2)	8.183	114	322393	12.792
50) Isophorone	(2)	8.322	82	1464103	12.670
51) 2-Nitrophenol	(2)	8.434	139	311603	12.771
53) 2,4-Dimethylphenol	(2)	8.525	107	692593	12.602
57) O,O,O-Triethylphosphorothioate	(2)	8.653	198	298957	12.584

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44:
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0535.d
Injection date and time: 15-OCT-2015 15:28
Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15
Sublist used: all1
Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD12.5
Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	8.664	105	559548M	12.573
55) bis(2-Chloroethoxy)methane	(2)	8.696	93	877077	12.702
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.787	104	1016030	12.689
60) 2,4-Dichlorophenol	(2)	8.814	162	492746	12.620
62) 1,2,4-Trichlorobenzene	(2)	8.953	180	555646	12.722
65)*Naphthalene-d8	(2)	9.038	136	645068	5.000
66) Naphthalene	(2)	9.070	128	1743830	12.593
67) 4-Chloroaniline	(2)	9.177	127	733451	12.728
68) 2,6-Dichlorophenol	(2)	9.183	162	495674	12.767
69) Hexachloropropene	(2)	9.215	213	374819	12.627
71) Hexachlorobutadiene	(2)	9.284	225	319660	12.657
75) Quinoline	(2)	9.616	129	1107390	12.670
76) Caprolactam	(2)	9.744	113	167510	12.843
77) N-Nitrosodi-n-butylamine	(2)	9.750	84	650492	12.608
80) 4-Chloro-3-methylphenol	(2)	9.980	107	611191	12.909
82) Safrole	(2)	10.087	162	448889	12.668
83) 2-Methylnaphthalene	(2)	10.204	142	1155044	12.537
84) 1-Methylnaphthalene	(2)	10.359	142	1046642	12.307
85) Hexachlorocyclopentadiene	(3)	10.461	237	353801	12.613
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.472	216	549203	12.537
88) cis-Isosafrole	(3)	10.563	162	83070	2.139
90) 2,4,6-Trichlorophenol	(3)	10.670	196	358874	12.486
92) 2,4,5-Trichlorophenol	(3)	10.718	196	389971	12.844
97) Isosafrole	(3)			528584	12.633
93)$2-Fluorobiphenyl	(3)	10.825	172	2574771	25.328
94) trans-Isosafrole	(3)	10.937	162	445514	10.495
95) 1,1'-Biphenyl	(3)	10.980	154	1369828	12.561
96) 2-Chloronaphthalene	(3)	10.996	162	1090097	12.540
98) 1-Chloronaphthalene	(3)	11.028	162	1035640	12.724
99) Diphenyl ether	(3)	11.167	170	745306	12.625
100) 2-Nitroaniline	(3)	11.183	138	347878	12.617
104) 1,4-Naphthoquinone	(3)	11.301	158	454808	12.694
105) 1,4-Dinitrobenzene	(3)	11.429	168	179787	12.719
106) Dimethylphthalate	(3)	11.515	163	1184009	12.641
107) 1,3-Dinitrobenzene	(3)	11.536	168	191384	12.558
108) 2,6-Dinitrotoluene	(3)	11.590	165	266869	12.479
109) Acenaphthylene	(3)	11.654	152	1706099	12.725
112) 3-Nitroaniline	(3)	11.825	138	294788	12.458
113)*Acenaphthene-d10	(3)	11.862	164	370090	5.000
114) Acenaphthene	(3)	11.911	153	1120448	12.854

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:44:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0535.d
Injection date and time: 15-OCT-2015 15:28

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD12.5

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			635038	25.196
115) 2,4-Dinitrophenol	(3)	11.975	184	171822	12.390
116) 4-Nitrophenol	(3)	12.071	109	219091	12.664
117) Pentachlorobenzene	(3)	12.087	250	434620	12.561
119) Dibenzofuran	(3)	12.151	168	1512231	12.703
118) 2,4-Dinitrotoluene	(3)	12.157	165	368169	12.717
121) 1-Naphthylamine	(3)	12.258	143	1117392	12.729
122) 2,3,4,6-Tetrachlorophenol	(3)	12.312	232	294403	12.476
123) 2-Naphthylamine	(3)	12.365	143	1075917	12.572
124) Diethylphthalate	(3)	12.494	149	1191148	12.754
125) Thionazin	(3)	12.590	107	221773	12.711
126) Fluorene	(3)	12.590	166	1189002	12.709
127) 4-Chlorophenyl-phenylether	(3)	12.611	204	583180	12.697
128) 5-Nitro-o-toluidine	(3)	12.617	152	342317	12.647
129) 4-Nitroaniline	(3)	12.627	138	306151	12.719
130) 4,6-Dinitro-2-methylphenol	(4)	12.665	198	224090	12.355
132) NDPA as diphenylamine	(4)	12.761	169	1008202	12.569
131) N-Nitrosodiphenylamine	(4)	12.761	169	1008202	12.569
134) 1,2-Diphenylhydrazine	(4)	12.809	77	1542813	12.547
135)$2,4,6-Tribromophenol	(3)	12.895	330	275963	25.001
137) Tetraethyldithiopyrophosphate	(4)	12.986	97	241145	12.557
146) Diallate trans/cis	(4)			665170	12.623
139) 1,3,5-Trinitrobenzene	(4)	13.109	213	131971	12.343
140) Diallate (peak 1)	(4)	13.135	86	554385	10.488
141) Phorate	(4)	13.146	75	996989	12.689
142) Phenacetin	(4)	13.167	108	736624	12.672
143) 4-Bromophenyl-phenylether	(4)	13.226	248	304863	12.491
144) Diallate (peak 2)	(4)	13.248	86	110785	2.136
145) Hexachlorobenzene	(4)	13.274	284	314384	12.404
147) Dimethoate	(4)	13.360	87	639816	12.741
148) Atrazine	(4)	13.456	200	336743	12.827
149) Pentachlorophenol	(4)	13.542	266	220163	12.543
151) Pentachloronitrobenzene	(4)	13.553	237	155187	12.602
150) 4-Aminobiphenyl	(4)	13.563	169	1177444	12.492
152) Pronamide	(4)	13.654	173	569991	12.608
153)*Phenanthrene-d10	(4)	13.799	188	688510	5.000
154) Dinoseb	(4)	13.799	211	341377	12.389
155) Phenanthrene	(4)	13.831	178	1790934	12.435
157) Anthracene	(4)	13.900	178	1819945	12.662
163) Carbazole	(4)	14.125	167	1689873	12.608

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0535.d
Injection date and time: 15-OCT-2015 15:28

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD12.5

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.328	109	489082	12.779
165) Di-n-butylphthalate	(4)	14.644	149	2049327	12.523
167) Parathion	(4)	14.895	109	286642	12.600
168) 4-Nitroquinoline-1-oxide	(4)	14.927	190	202327	12.464
169) Octachlorostyrene	(4)	15.253	308	112915	12.384
171) Isodrin	(4)	15.318	193	209987	12.536
173) Fluoranthene	(4)	15.548	202	2004271	12.558
174) Benzidine	(5)	15.788	184	3932844	38.456
175)*Pyrene-d10	(5)	15.874	212	786512	5.000
177) Pyrene	(5)	15.906	202	2077969	12.254
179)$Terphenyl-d14	(5)	16.189	244	2659213	25.301
182) p-Dimethylaminoazobenzene	(5)	16.425	225	379532	12.612
185) Chlorobenzilate	(5)	16.516	139	625271	12.572
187) 3,3'-Dimethylbenzidine	(5)	17.008	212	1351150	12.629
188) Butylbenzylphthalate	(5)	17.061	149	920992	12.637
191) 2-Acetylaminofluorene	(5)	17.441	181	824014	12.438
193) 3,3'-Dichlorobenzidine	(5)	17.965	252	705238	12.531
195) Benzo(a)anthracene	(5)	17.976	228	1903973	12.779
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.987	231	403462	12.640
196) Chrysene	(5)	18.040	228	1783962	12.705
199) bis(2-Ethylhexyl)phthalate	(5)	18.142	149	1337969	12.575
203) 6-Methylchrysene	(5)	18.853	242	1248015	12.427
205) Di-n-octylphthalate	(6)	19.329	149	2369304	12.616
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.869	256	826879	12.703
206) Benzo(b)fluoranthene	(6)	19.869	252	1824288	12.630
208) Benzo(k)fluoranthene	(6)	19.917	252	1799129	12.815
211) Benzo(a)pyrene	(6)	20.410	252	1719353	12.828
213)*Perylene-d12	(6)	20.495	264	580842	5.000
215) 3-Methylcholanthrene	(6)	20.982	268	823686	12.566
217) Dibenz(a,h)acridine	(6)	21.816	279	1473451	12.529
218) Dibenz(a,j)acridine	(6)	21.896	279	1488900	12.634
222) Total PAHs	(6)			30147047	227.882
219) Indeno(1,2,3-cd)pyrene	(6)	22.175	276	2031936	12.912
220) Dibenz(a,h)anthracene	(6)	22.217	278	1705963	12.819
221) Benzo(g,h,i)perylene	(6)	22.613	276	1724259	12.760

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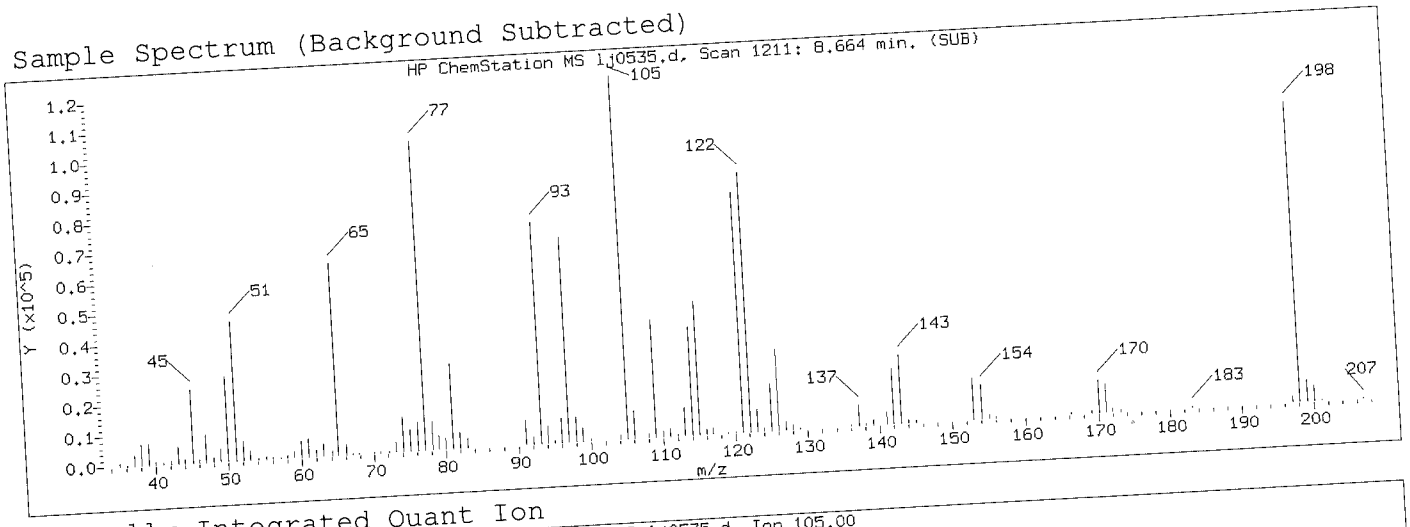
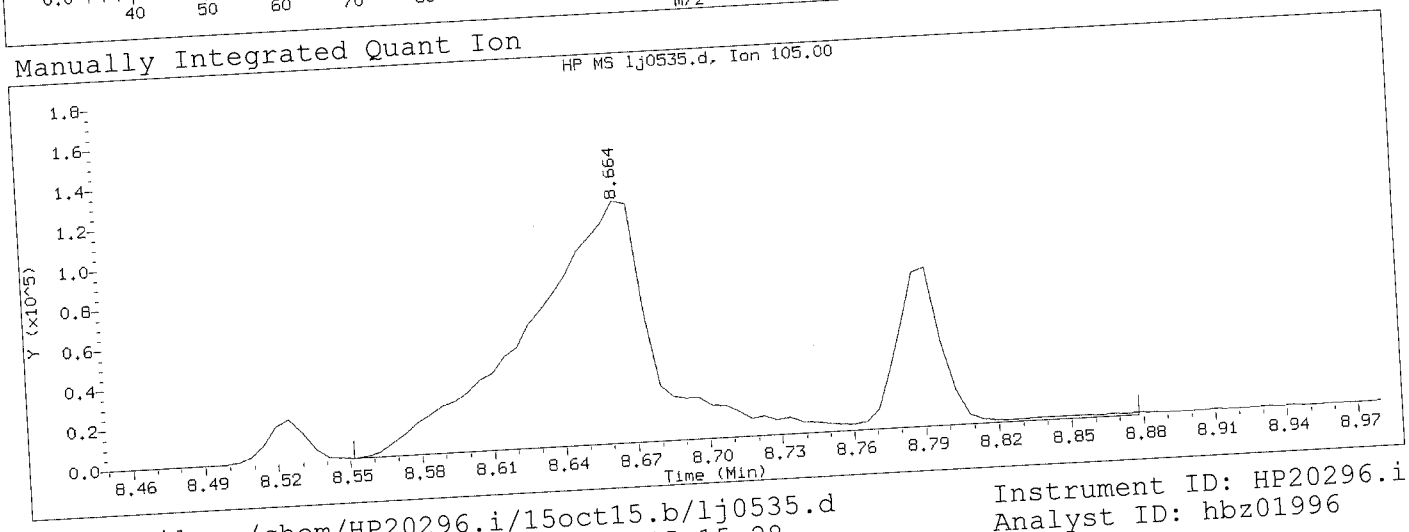
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0535.d
Injection date and time: 15-OCT-2015 15:28
Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15
Sublist used: all1
Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD12.5
Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1211		
Retention Time (minutes)	: 8.664		
Quant Ion	: 105.00		
Area (flag)	: 559548M		
On-Column Amount (ng/ul)	: 12.5734		
Integration start scan	: 1189	Integration stop scan:	1250
Y at integration start	: 18	Y at integration end:	18

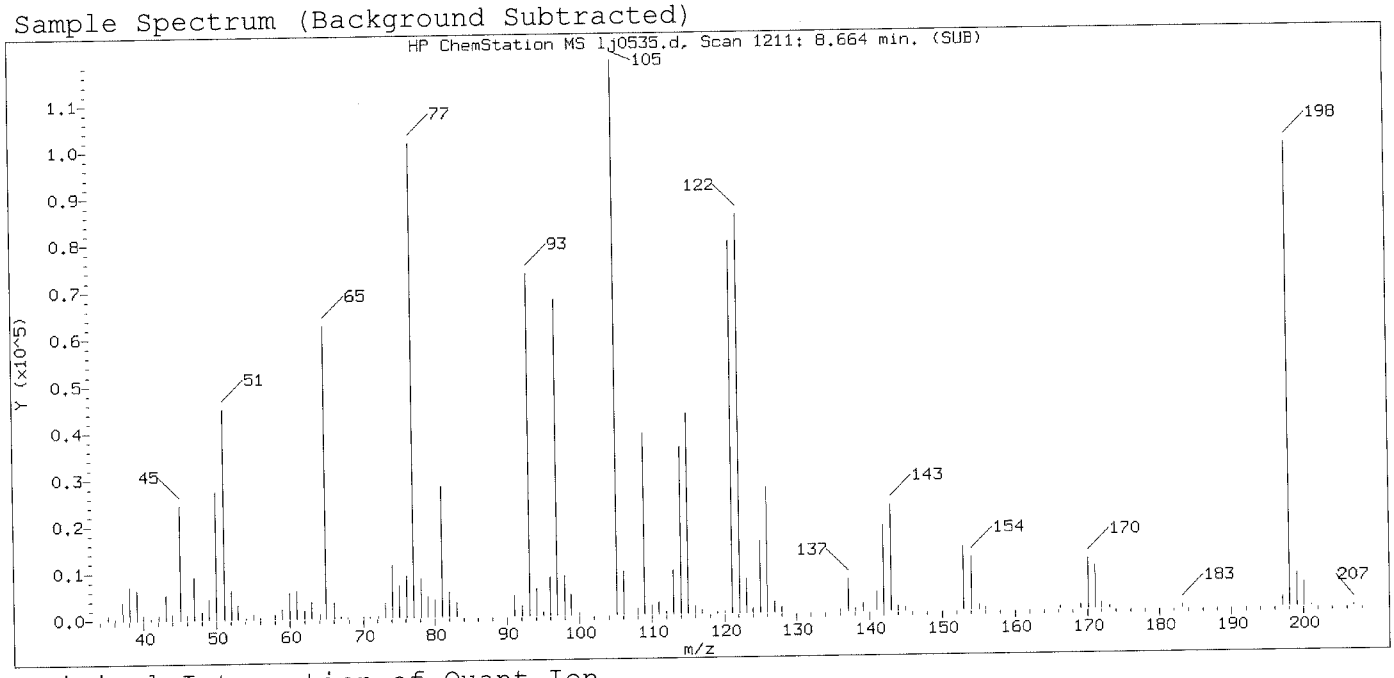
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 esignature user ID: ceb05247

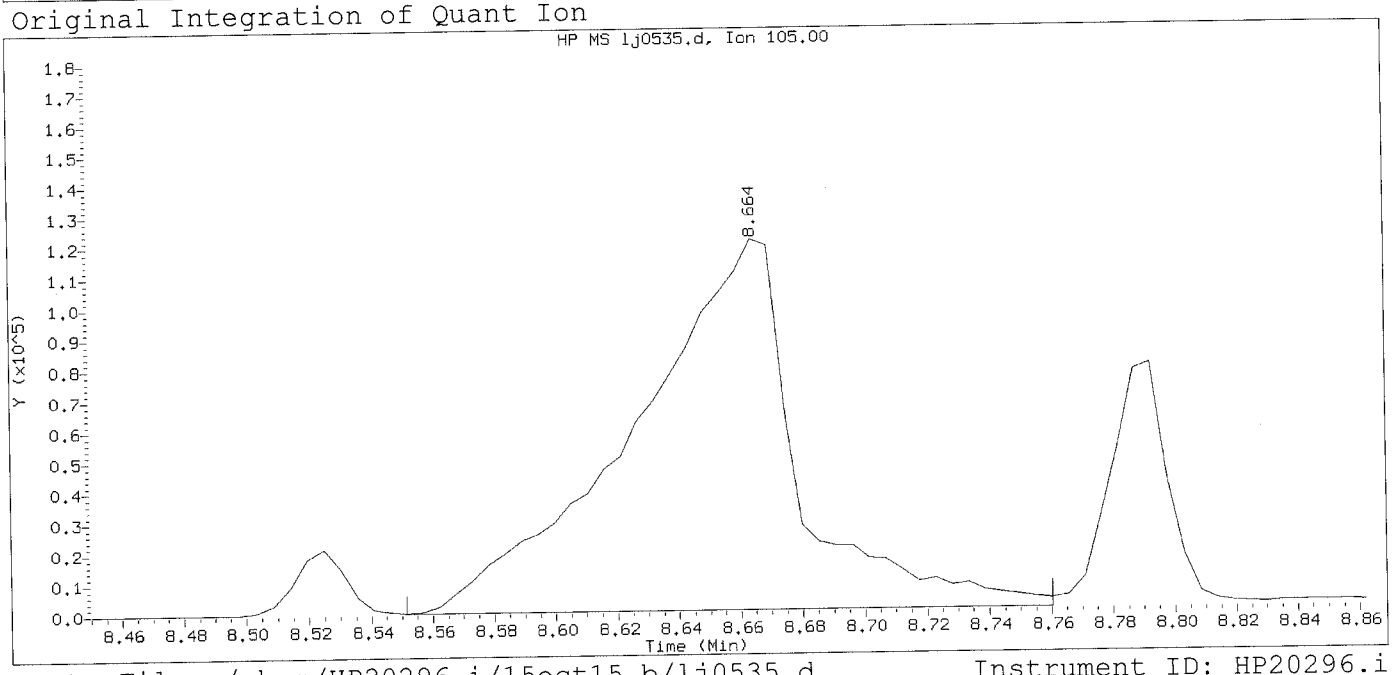
OCT 16 2015

GC/MS audit/management approval: _____ Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



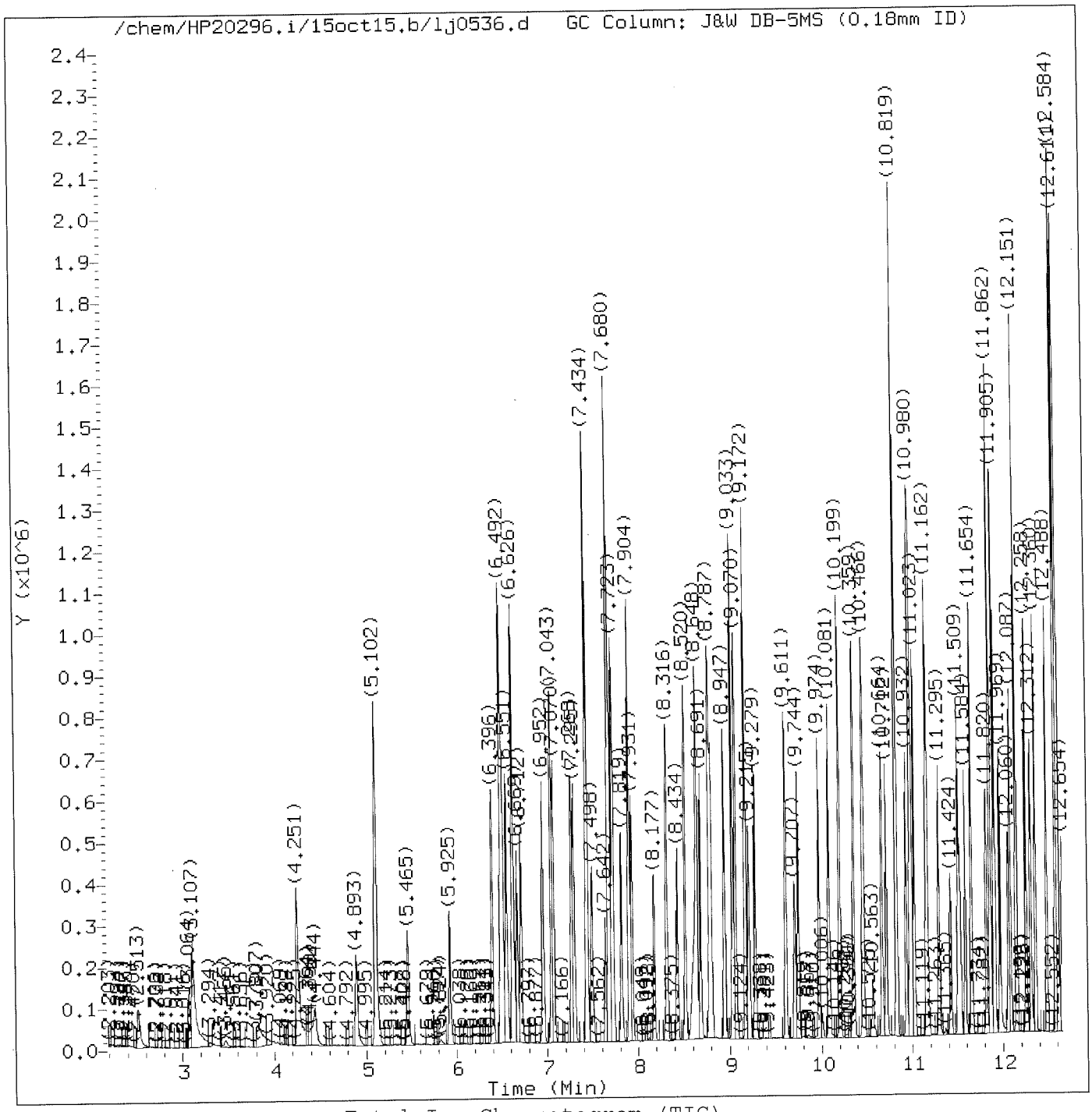
Data File: /chem/HP20296.i/15oct15.b/lj0535.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 15:28 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-OCT-2015 15:53
Date, time and analyst ID of latest file update: 15-Oct-2015 15:53 Unknown

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1211		
Retention Time (minutes)	: 8.664		
Quant Ion	: 105.00		
Area	: 451750		
On-column Amount (ng/ul)	: 11.3721		
Integration start scan	: 1189	Integration stop scan:	1228
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: cebx5247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0536.d
Injection date and time: 15-OCT-2015 15:56

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

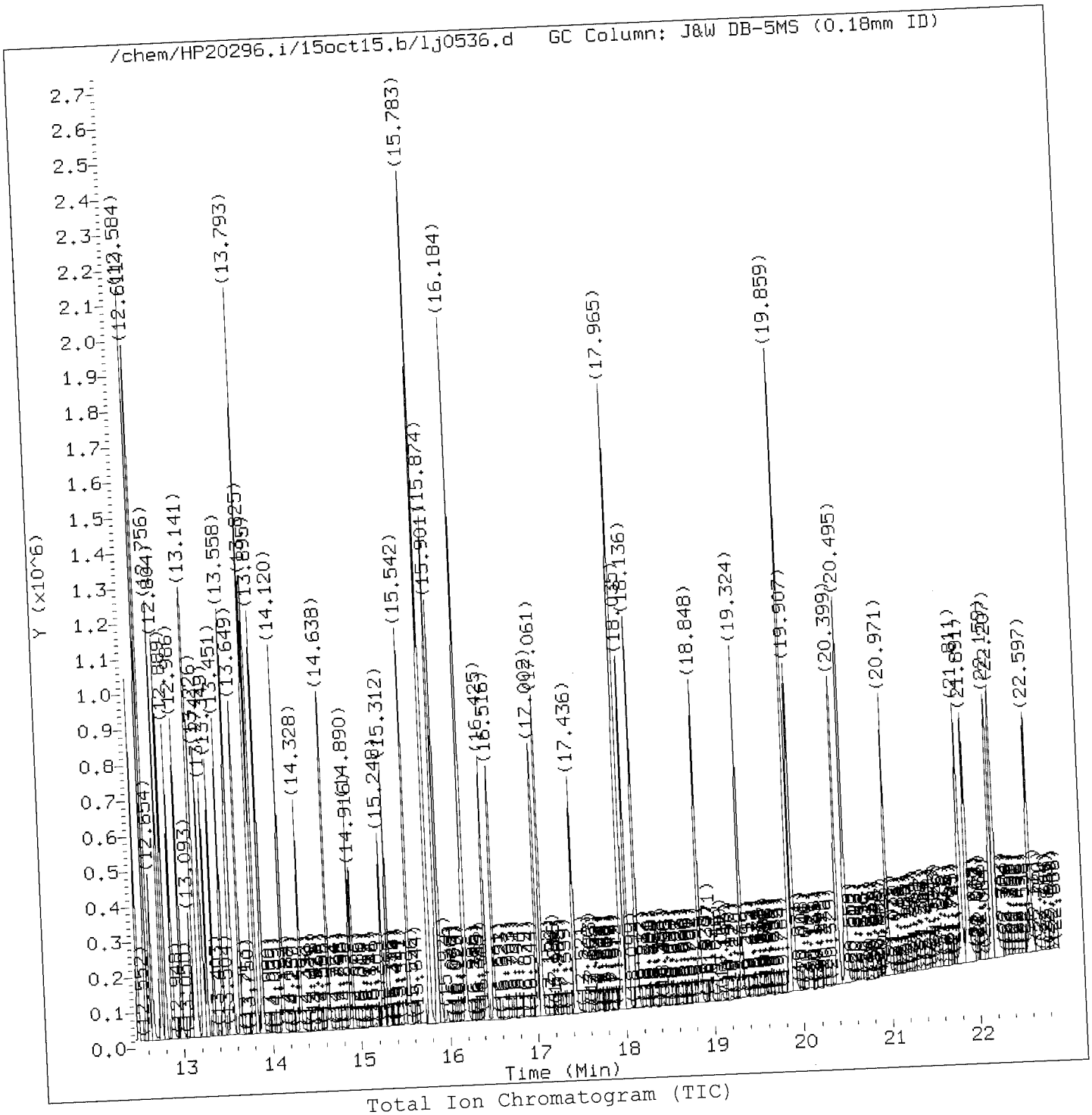
Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44.
Target 3.5 esignature user id: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0536.d
Injection date and time: 15-OCT-2015 15:56

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0536.d
Injection date and time: 15-OCT-2015 15:56

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.518	88	88297	3.726
4) N-Nitrosodimethylamine	(1)	3.064	74	137222	3.652
5) Pyridine	(1)	3.107	79	234662	3.693
7) 2-Picoline	(1)	4.246	93	251088	3.827
8) N-Nitrosomethylethylamine	(1)	4.444	88	100636	3.742
9) Methyl methanesulfonate	(1)	4.893	80	122101	3.840
11)$2-Fluorophenol	(1)	5.102	112	378114	7.505
13) N-Nitrosodiethylamine	(1)	5.465	102	95873	3.725
15) Ethyl methanesulfonate	(1)	5.925	109	97564	3.770
16) Benzaldehyde	(1)	6.396	77	193735	4.010
17)$Phenol-d6	(1)	6.492	99	522319	7.600
18) Phenol	(1)	6.514	94	268559	3.643
19) Aniline	(1)	6.551	93	347296	3.759
20) a-methylstyrene	(1)	6.626	118	194693	3.755
22) bis(2-Chloroethyl)ether	(1)	6.669	93	211432	3.761
23) 2-Chlorophenol	(1)	6.717	128	175109	3.729
24) 1,3-Dichlorobenzene	(1)	6.952	146	198273	3.814
25)*1,4-Dichlorobenzene-d4	(1)	7.043	152	166396	5.000
26) 1,4-Dichlorobenzene	(1)	7.075	146	200418	3.782
27) Benzyl alcohol	(1)	7.263	108	130518	3.692
28) 1,2-Dichlorobenzene	(1)	7.295	146	185975	3.727
30) Indene	(1)	7.434	115	331187	3.722
31) 2-Methylphenol	(1)	7.439	108	183125	3.728
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.498	45	300028	3.781
34) bis(2-Chloroisopropyl)ether	(1)	7.498	45	300028	3.781
35) N-Nitrosopyrrolidine	(1)	7.642	100	98265	3.660
42) Total Cresols	(1)			378187	7.486
36) Acetophenone	(1)	7.674	105	289039	3.821
37) 4-Methylphenol	(1)	7.680	108	195062	3.758
38) N-Nitroso-di-n-propylamine	(1)	7.690	70	166697	3.741
39) N-Nitrosomorpholine	(1)	7.717	56	128719	3.731
40) o-Toluidine	(1)	7.723	106	327372	3.756
43) Hexachloroethane	(2)	7.819	117	83328	3.780
44)$Nitrobenzene-d5	(2)	7.904	82	490281	7.502
45) Nitrobenzene	(2)	7.931	77	246427	3.754
48) N-Nitrosopiperidine	(2)	8.172	114	95261	3.777
50) Isophorone	(2)	8.322	82	436092	3.772
51) 2-Nitrophenol	(2)	8.434	139	85325	3.548
53) 2,4-Dimethylphenol	(2)	8.520	107	202402	3.699
56) Benzoic acid	(2)	8.637	105	277592M	6.460

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0536.d
Injection date and time: 15-OCT-2015 15:56

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.653	198	91316	3.827
55) bis(2-Chloroethoxy)methane	(2)	8.691	93	260135	3.767
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.787	104	294400	3.694
60) 2,4-Dichlorophenol	(2)	8.808	162	146976	3.764
62) 1,2,4-Trichlorobenzene	(2)	8.947	180	166995	3.811
65)*Naphthalene-d8	(2)	9.033	136	644442	5.000
66) Naphthalene	(2)	9.070	128	530640	3.821
67) 4-Chloroaniline	(2)	9.172	127	217810	3.777
68) 2,6-Dichlorophenol	(2)	9.177	162	141994	3.678
69) Hexachloropropene	(2)	9.215	213	105743	3.601
71) Hexachlorobutadiene	(2)	9.279	225	93356	3.710
75) Quinoline	(2)	9.611	129	325243	3.730
76) Caprolactam	(2)	9.707	113	49121	3.766
77) N-Nitrosodi-n-butylamine	(2)	9.750	84	155413	3.138
80) 4-Chloro-3-methylphenol	(2)	9.974	107	176515	3.735
82) Safrole	(2)	10.081	162	133380	3.764
83) 2-Methylnaphthalene	(2)	10.199	142	348757	3.782
84) 1-Methylnaphthalene	(2)	10.359	142	314413	3.709
85) Hexachlorocyclopentadiene	(3)	10.461	237	96514	3.546
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.466	216	165143	3.817
88) cis-Isosafrole	(3)	10.563	162	24467	0.640
90) 2,4,6-Trichlorophenol	(3)	10.664	196	105198	3.728
92) 2,4,5-Trichlorophenol	(3)	10.712	196	114978	3.831
97) Isosafrole	(3)			152305	3.712
93)$2-Fluorobiphenyl	(3)	10.819	172	771522	7.673
94) trans-Isosafrole	(3)	10.932	162	127838	3.072
95) 1,1'-Biphenyl	(3)	10.980	154	414146	3.839
96) 2-Chloronaphthalene	(3)	10.991	162	315847	3.706
98) 1-Chloronaphthalene	(3)	11.023	162	315707	3.904
99) Diphenyl ether	(3)	11.162	170	223505	3.830
100) 2-Nitroaniline	(3)	11.178	138	98317	3.650
104) 1,4-Naphthoquinone	(3)	11.295	158	127326	3.640
105) 1,4-Dinitrobenzene	(3)	11.424	168	49202	3.580
106) Dimethylphthalate	(3)	11.509	163	355956	3.841
107) 1,3-Dinitrobenzene	(3)	11.531	168	56022	3.741
108) 2,6-Dinitrotoluene	(3)	11.584	165	77658	3.704
109) Acenaphthylene	(3)	11.654	152	504088	3.811
112) 3-Nitroaniline	(3)	11.820	138	85948	3.705
113)*Acenaphthene-d10	(3)	11.862	164	363918	5.000
114) Acenaphthene	(3)	11.911	153	339567	3.925

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0536.d
Injection date and time: 15-OCT-2015 15:56

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			183619	7.432
115) 2,4-Dinitrophenol	(3)	11.969	184	90310	6.781
116) 4-Nitrophenol	(3)	12.060	109	64110	3.765
117) Pentachlorobenzene	(3)	12.087	250	130228	3.812
118) 2,4-Dinitrotoluene	(3)	12.151	165	105961	3.728
119) Dibenzofuran	(3)	12.151	168	456045	3.866
121) 1-Naphthylamine	(3)	12.258	143	330090	3.809
122) 2,3,4,6-Tetrachlorophenol	(3)	12.312	232	86010	3.715
123) 2-Naphthylamine	(3)	12.360	143	317839	3.772
124) Diethylphthalate	(3)	12.488	149	340214	3.714
125) Thionazin	(3)	12.584	107	74290	4.200
126) Fluorene	(3)	12.584	166	362143	3.904
127) 4-Chlorophenyl-phenylether	(3)	12.606	204	171718	3.791
128) 5-Nitro-o-toluidine	(3)	12.611	152	99548	3.742
129) 4-Nitroaniline	(3)	12.617	138	88957	3.757
130) 4,6-Dinitro-2-methylphenol	(4)	12.654	198	59485	3.451
132) NDPA as diphenylamine	(4)	12.756	169	298787	3.824
131) N-Nitrosodiphenylamine	(4)	12.756	169	298787	3.824
134) 1,2-Diphenylhydrazine	(4)	12.804	77	455759	3.809
135)$2,4,6-Tribromophenol	(3)	12.889	330	81015	7.471
137) Tetraethyldithiopyrophosphate	(4)	12.986	97	71772	3.834
146) Diallate trans/cis	(4)			194861	3.802
139) 1,3,5-Trinitrobenzene	(4)	13.098	213	33945	3.361
140) Diallate (peak 1)	(4)	13.135	86	162003	3.152
141) Phorate	(4)	13.146	75	282251	3.715
142) Phenacetin	(4)	13.157	108	205128	3.662
143) 4-Bromophenyl-phenylether	(4)	13.226	248	88064	3.728
144) Diallate (peak 2)	(4)	13.242	86	32858	0.650
145) Hexachlorobenzene	(4)	13.274	284	92553	3.765
147) Dimethoate	(4)	13.349	87	181072	3.726
148) Atrazine	(4)	13.451	200	99569	3.879
149) Pentachlorophenol	(4)	13.537	266	57525	3.449
151) Pentachloronitrobenzene	(4)	13.553	237	45091	3.772
150) 4-Aminobiphenyl	(4)	13.563	169	342675	3.751
152) Pronamide	(4)	13.649	173	158698	3.647
153)*Phenanthrene-d10	(4)	13.793	188	667346	5.000
154) Dinoseb	(4)	13.799	211	84254	3.258
155) Phenanthrene	(4)	13.825	178	526070	3.765
157) Anthracene	(4)	13.895	178	524298	3.761
163) Carbazole	(4)	14.120	167	484184	3.732

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0536.d
Injection date and time: 15-OCT-2015 15:56

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD3.75

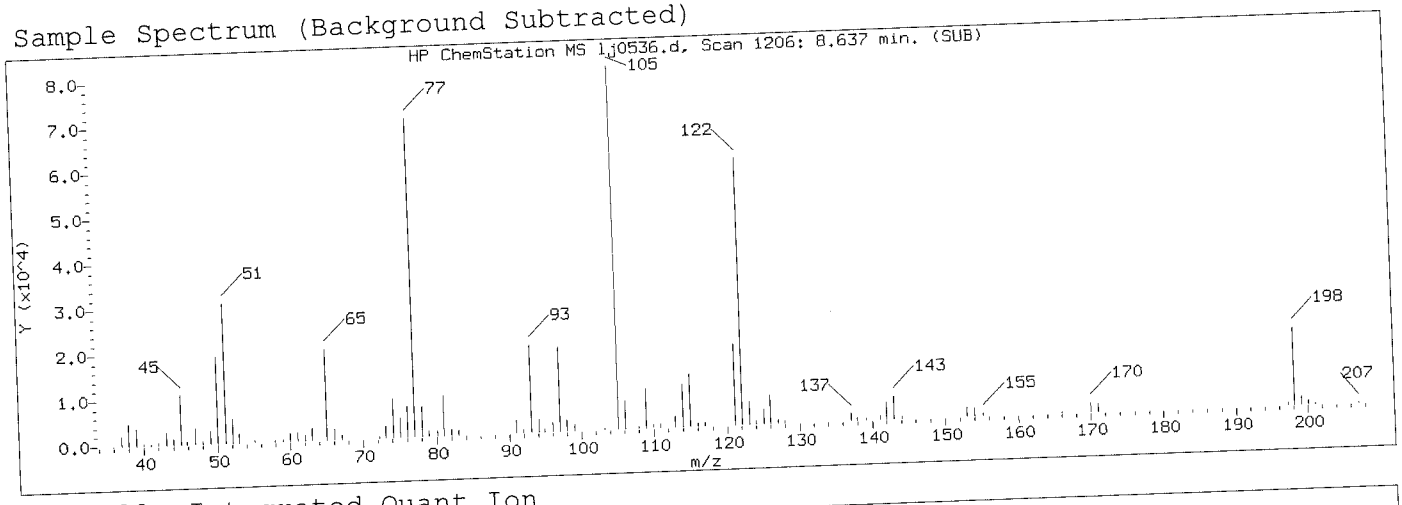
Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.328	109	130448	3.561
165) Di-n-butylphthalate	(4)	14.638	149	582837	3.689
167) Parathion	(4)	14.890	109	77403	3.556
168) 4-Nitroquinoline-1-oxide	(4)	14.922	190	45055	3.006
169) Octachlorostyrene	(4)	15.248	308	32872	3.726
171) Isodrin	(4)	15.312	193	59739	3.693
173) Fluoranthene	(4)	15.542	202	578289	3.740
174) Benzidine	(5)	15.783	184	1136655	11.440
175)*Pyrene-d10	(5)	15.874	212	760948	5.000
177) Pyrene	(5)	15.901	202	614362	3.746
179)$Terphenyl-d14	(5)	16.184	244	770233	7.559
182) p-Dimethylaminoazobenzene	(5)	16.425	225	101251	3.529
185) Chlorobenzilate	(5)	16.516	139	180134	3.745
187) 3,3'-Dimethylbenzidine	(5)	17.002	212	366737	3.583
188) Butylbenzylphthalate	(5)	17.061	149	263899	3.744
191) 2-Acetylaminofluorene	(5)	17.436	181	219540	3.486
193) 3,3'-Dichlorobenzidine	(5)	17.960	252	200693	3.699
195) Benzo(a)anthracene	(5)	17.971	228	552210	3.817
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.981	231	114730	3.722
196) Chrysene	(5)	18.035	228	520486	3.818
199) bis(2-Ethylhexyl)phthalate	(5)	18.136	149	372582	3.645
203) 6-Methylchrysene	(5)	18.848	242	358220	3.699
205) Di-n-octylphthalate	(6)	19.324	149	625491	3.490
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.859	256	231170	3.676
206) Benzo(b)fluoranthene	(6)	19.859	252	535630	3.808
208) Benzo(k)fluoranthene	(6)	19.907	252	509948	3.743
211) Benzo(a)pyrene	(6)	20.399	252	493154	3.783
213)*Perylene-d12	(6)	20.495	264	563925	5.000
215) 3-Methylcholanthrene	(6)	20.971	268	226685	3.598
217) Dibenz(a,h)acridine	(6)	21.811	279	404328	3.581
218) Dibenz(a,j)acridine	(6)	21.891	279	410470	3.619
222) Total PAHs	(6)			8790706	68.101
219) Indeno(1,2,3-cd)pyrene	(6)	22.164	276	573693	3.754
220) Dibenz(a,h)anthracene	(6)	22.207	278	482875	3.739
221) Benzo(g,h,i)perylene	(6)	22.597	276	480083	3.674

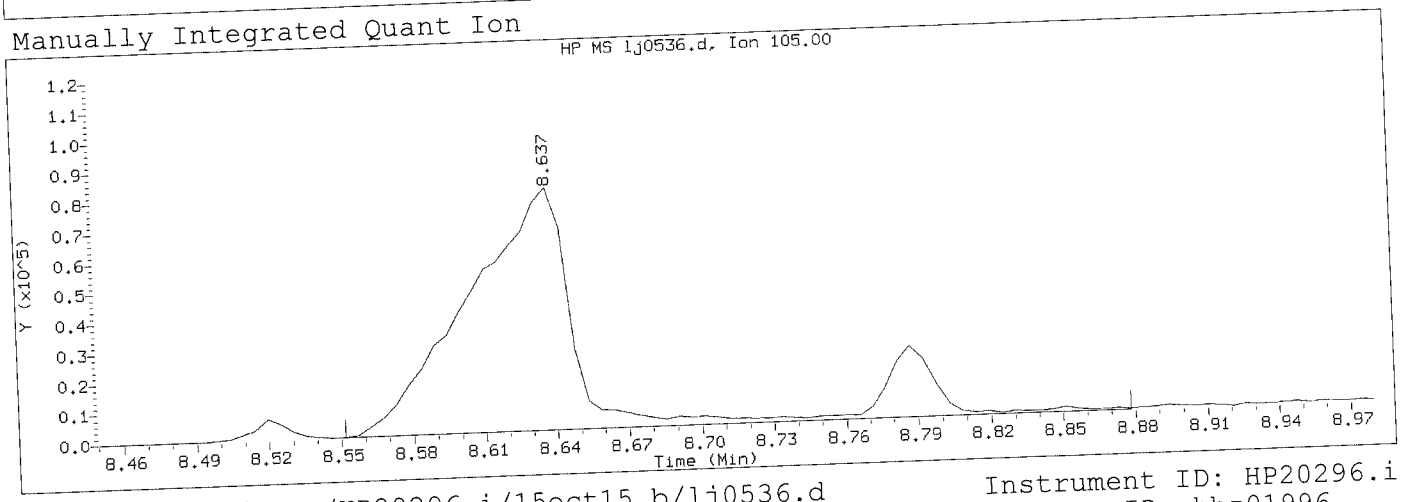
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0536.d
Injection date and time: 15-OCT-2015 15:56

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15
Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sublist used: all1

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1206		
Retention Time (minutes)	: 8.637		
Quant Ion	: 105.00		
Area (flag)	: 277592M		
On-Column Amount (ng/ul)	: 6.4602		
Integration start scan	: 1189	Integration stop scan:	1250
Y at integration start	: 0	Y at integration end:	0

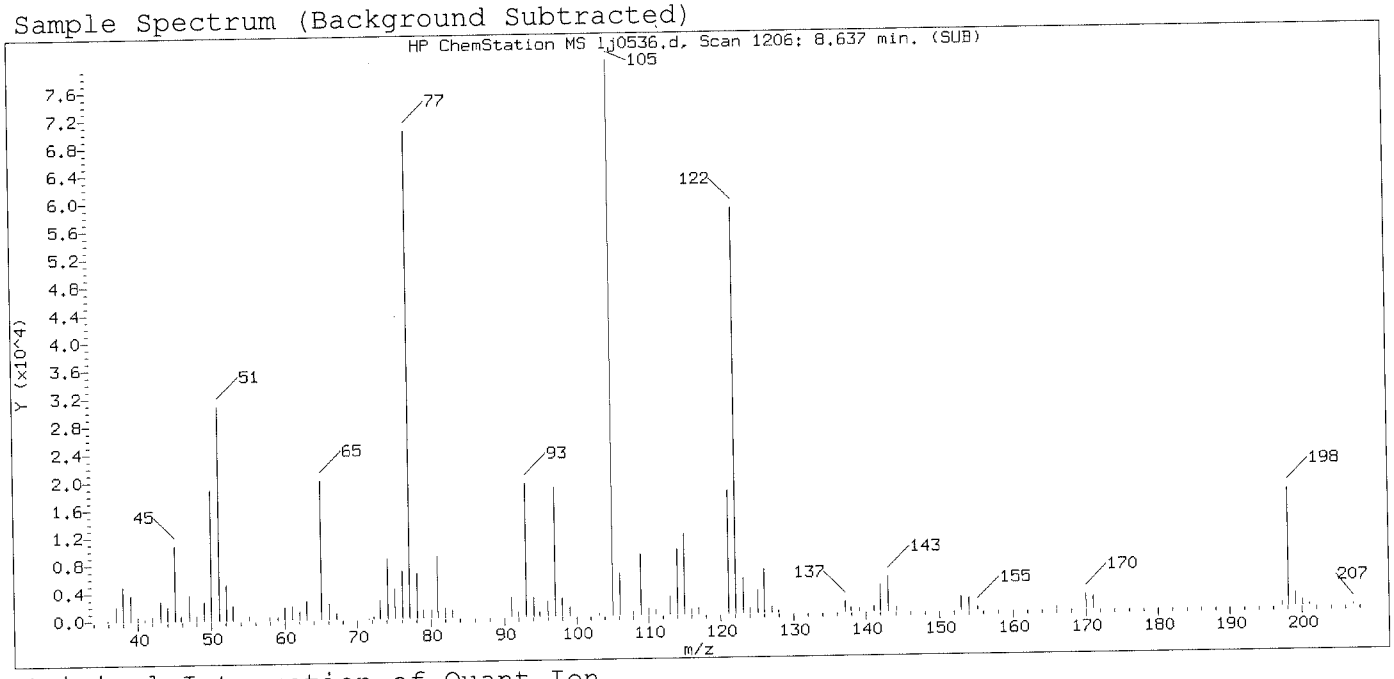
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44 Target 3.5 Designature User ID: ceb05247

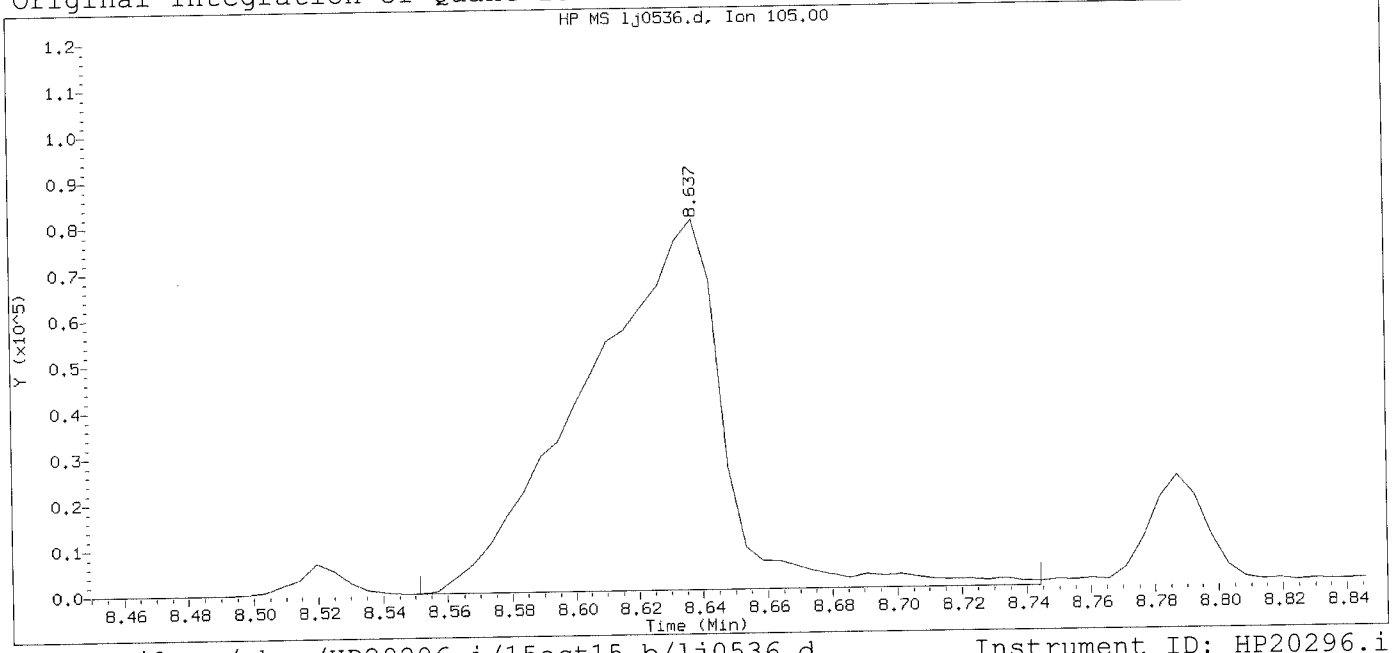
OCT 16 2015

GC/MS audit/management approval: Matthew E. Barton Chemist Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



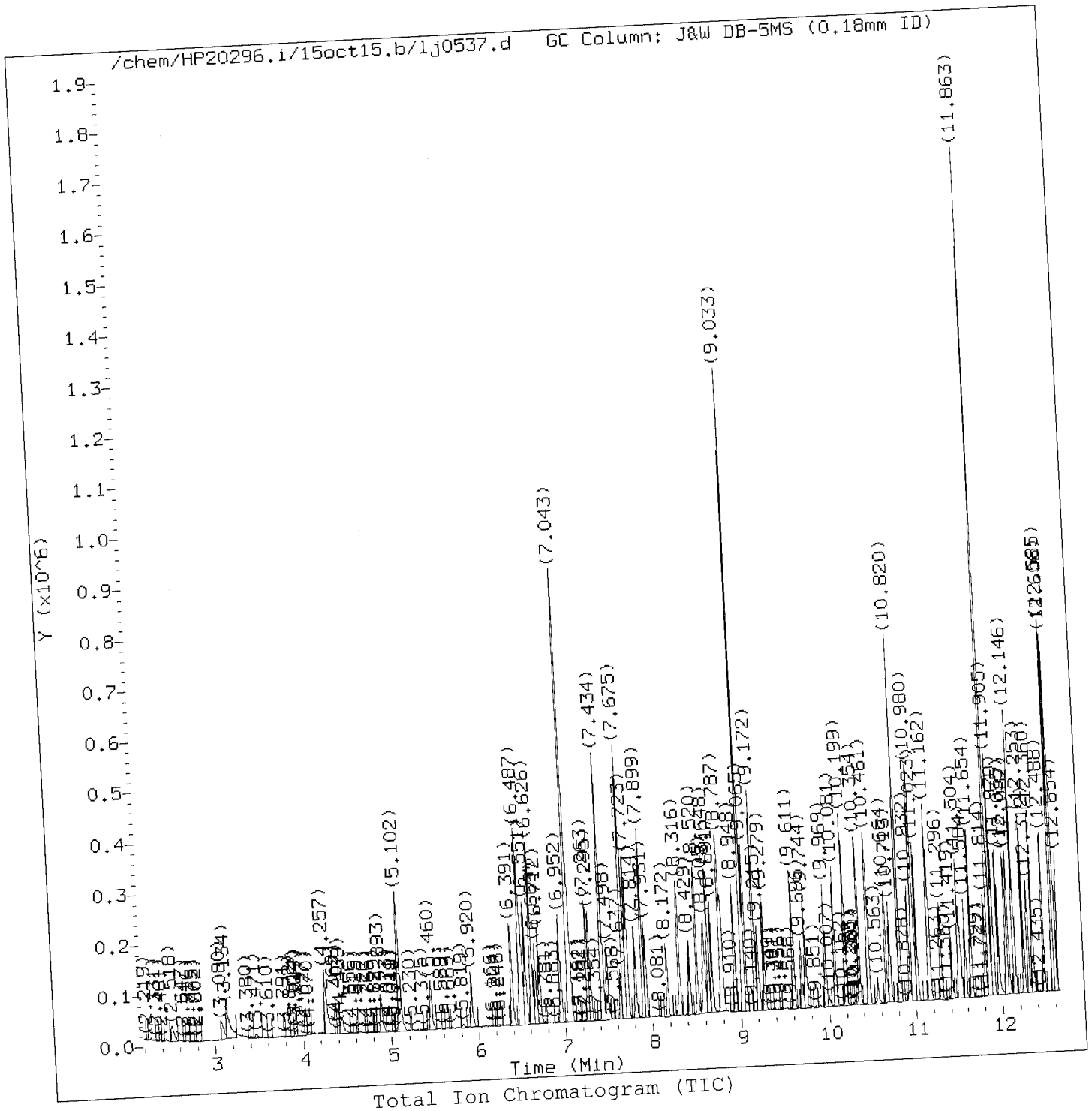
Data File: /chem/HP20296.i/15oct15.b/lj0536.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 15:56 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: all
Calibration date and time: 15-OCT-2015 16:21
Date, time and analyst ID of latest file update: 15-Oct-2015 16:21 Unknown

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2745

Compound Number	: 56	
Compound Name	: Benzoic acid	
Scan Number	: 1206	
Retention Time (minutes)	: 8.637	
Quant Ion	: 105.00	
Area	: 242347	
On-column Amount (ng/ul)	: 6.9997	
Integration start scan	: 1189	Integration stop scan: 1225
Y at integration start	: 0	Y at integration end: 0

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: 130



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0537.d
Injection date and time: 15-OCT-2015 16:23

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

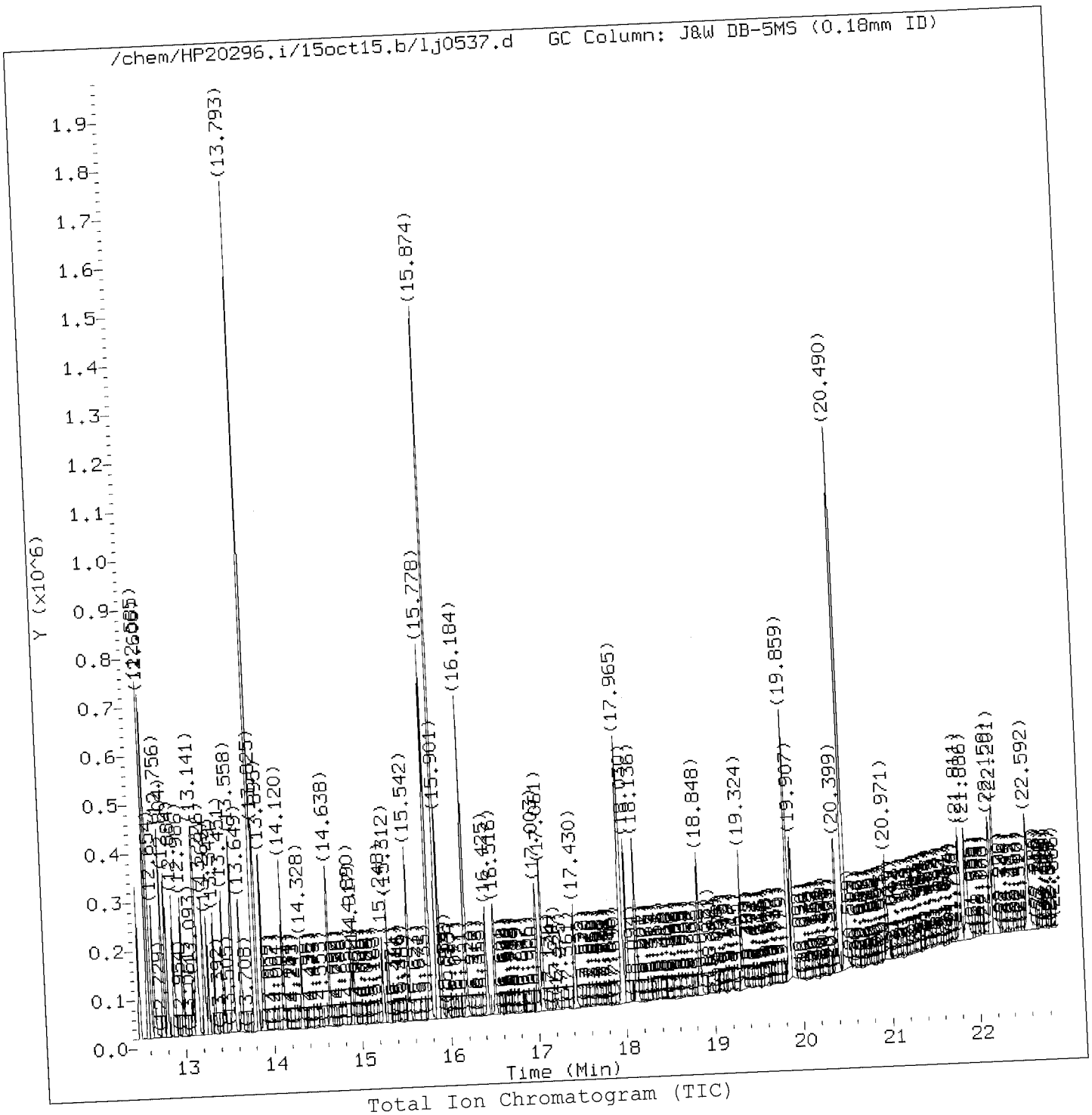
Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44:
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0537.d
Injection date and time: 15-OCT-2015 16:23

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0537.d
Injection date and time: 15-OCT-2015 16:23
Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15
Sublist used: all1
Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD1.25
Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.518	88	29354	1.189
4) N-Nitrosodimethylamine	(1)	3.080	74	45397	1.164
5) Pyridine	(1)	3.139	79	76655M	1.163
7) 2-Picoline	(1)	4.262	93	84162	1.224
8) N-Nitrosomethylethylamine	(1)	4.449	88	34159	1.214
9) Methyl methanesulfonate	(1)	4.893	80	39982	1.204
11)$2-Fluorophenol	(1)	5.102	112	126671	2.407
13) N-Nitrosodiethylamine	(1)	5.460	102	32233	1.200
15) Ethyl methanesulfonate	(1)	5.920	109	32408	1.200
16) Benzaldehyde	(1)	6.391	77	67992	1.322
17)$Phenol-d6	(1)	6.487	99	171105	2.388
18) Phenol	(1)	6.509	94	91045	1.186
19) Aniline	(1)	6.551	93	118763	1.227
20) a-methylstyrene	(1)	6.626	118	63472	1.177
22) bis(2-Chloroethyl)ether	(1)	6.669	93	74616	1.260
23) 2-Chlorophenol	(1)	6.712	128	60795	1.234
24) 1,3-Dichlorobenzene	(1)	6.952	146	65607	1.208
25)*1,4-Dichlorobenzene-d4	(1)	7.043	152	175058	5.000
26) 1,4-Dichlorobenzene	(1)	7.070	146	68229	1.228
27) Benzyl alcohol	(1)	7.263	108	43907	1.192
28) 1,2-Dichlorobenzene	(1)	7.295	146	64569	1.233
31) 2-Methylphenol	(1)	7.434	108	63235	1.228
30) Indene	(1)	7.434	115	112869	1.213
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.498	45	103728	1.244
34) bis(2-Chloroisopropyl)ether	(1)	7.498	45	103728	1.244
35) N-Nitrosopyrrolidine	(1)	7.637	100	32791	1.175
42) Total Cresols	(1)			127610	2.418
37) 4-Methylphenol	(1)	7.675	108	64375	1.190
36) Acetophenone	(1)	7.675	105	97471	1.229
38) N-Nitroso-di-n-propylamine	(1)	7.685	70	57606	1.232
39) N-Nitrosomorpholine	(1)	7.712	56	42997	1.195
40) o-Toluidine	(1)	7.723	106	108808	1.197
43) Hexachloroethane	(1)	7.814	117	27991	1.214
44)$Nitrobenzene-d5	(2)	7.899	82	164571	2.412
45) Nitrobenzene	(2)	7.931	77	81594	1.193
48) N-Nitrosopiperidine	(2)	8.172	114	31298	1.191
50) Isophorone	(2)	8.316	82	142509	1.185
51) 2-Nitrophenol	(2)	8.429	139	30100	1.200
53) 2,4-Dimethylphenol	(2)	8.520	107	69868	1.220
56) Benzoic acid	(2)	8.605	105	109985	2.586

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44.
Target 3.5 esignature used: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0537.d
Injection date and time: 15-OCT-2015 16:23
Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15
Sublist used: all1
Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD1.25
Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.648	198	29291	1.181
55) bis(2-Chloroethoxy)methane	(2)	8.691	93	88402	1.223
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.787	104	101875	1.222
60) 2,4-Dichlorophenol	(2)	8.808	162	47885	1.180
62) 1,2,4-Trichlorobenzene	(2)	8.948	180	55307	1.209
65)*Naphthalene-d8	(2)	9.033	136	677442	5.000
66) Naphthalene	(2)	9.071	128	176881	1.217
67) 4-Chloroaniline	(2)	9.172	127	71462	1.190
68) 2,6-Dichlorophenol	(2)	9.178	162	50226	1.240
69) Hexachloropropene	(2)	9.215	213	34315	1.133
71) Hexachlorobutadiene	(2)	9.279	225	32505	1.232
75) Quinoline	(2)	9.611	129	109448	1.203
76) Caprolactam	(2)	9.696	113	15200	1.130
77) N-Nitrosodi-n-butylamine	(2)	9.744	84	49094	0.983
80) 4-Chloro-3-methylphenol	(2)	9.969	107	57670	1.175
82) Safrole	(2)	10.081	162	42959	1.168
83) 2-Methylnaphthalene	(2)	10.199	142	118753	1.229
84) 1-Methylnaphthalene	(2)	10.354	142	109638	1.233
85) Hexachlorocyclopentadiene	(3)	10.456	237	32894	1.175
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.467	216	56012	1.245
88) cis-Isosafrole	(3)	10.563	162	8493	0.213
90) 2,4,6-Trichlorophenol	(3)	10.664	196	32630	1.132
92) 2,4,5-Trichlorophenol	(3)	10.713	196	37484	1.208
97) Isosafrole	(3)			51880	1.221
93)$2-Fluorobiphenyl	(3)	10.820	172	258538	2.475
94) trans-Isosafrole	(3)	10.932	162	43387	1.007
95) 1,1'-Biphenyl	(3)	10.980	154	138746	1.238
96) 2-Chloronaphthalene	(3)	10.991	162	109352	1.235
98) 1-Chloronaphthalene	(3)	11.023	162	106850	1.266
99) Diphenyl ether	(3)	11.162	170	74781	1.234
100) 2-Nitroaniline	(3)	11.173	138	29579	1.083
104) 1,4-Naphthoquinone	(3)	11.296	158	39895	1.119
105) 1,4-Dinitrobenzene	(3)	11.419	168	14756	1.062
106) Dimethylphthalate	(3)	11.504	163	120396	1.248
107) 1,3-Dinitrobenzene	(3)	11.526	168	16251	1.072
108) 2,6-Dinitrotoluene	(3)	11.584	165	25092	1.165
109) Acenaphthylene	(3)	11.654	152	164786	1.204
112) 3-Nitroaniline	(3)	11.814	138	27799	1.166
113)*Acenaphthene-d10	(3)	11.863	164	378866	5.000
114) Acenaphthene	(3)	11.905	153	112028	1.245

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0537.d
Injection date and time: 15-OCT-2015 16:23

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			58319	2.307
115) 2,4-Dinitrophenol	(3)	11.970	184	36415	2.626
116) 4-Nitrophenol	(3)	12.055	109	36916	2.082
117) Pentachlorobenzene	(3)	12.087	250	44439	1.249
118) 2,4-Dinitrotoluene	(3)	12.146	165	33227	1.142
119) Dibenzofuran	(3)	12.146	168	153097	1.247
121) 1-Naphthylamine	(3)	12.253	143	108905	1.207
122) 2,3,4,6-Tetrachlorophenol	(3)	12.312	232	27293	1.150
123) 2-Naphthylamine	(3)	12.360	143	114371	1.304
124) Diethylphthalate	(3)	12.488	149	115511	1.217
125) Thionazin	(3)	12.579	107	22958	1.247
126) Fluorene	(3)	12.585	166	121168	1.254
127) 4-Chlorophenyl-phenylether	(3)	12.606	204	58282	1.238
129) 4-Nitroaniline	(3)	12.611	138	28291	1.163
128) 5-Nitro-o-toluidine	(3)	12.611	152	29815	1.102
130) 4,6-Dinitro-2-methylphenol	(4)	12.654	198	35853	2.018
132) NDPA as diphenylamine	(4)	12.756	169	100126	1.244
131) N-Nitrosodiphenylamine	(4)	12.756	169	100126	1.244
134) 1,2-Diphenylhydrazine	(4)	12.804	77	149620	1.219
135)$2,4,6-Tribromophenol	(3)	12.889	330	26729	2.389
137) Tetraethyldithiopyrophosphate	(4)	12.986	97	24073	1.248
146) Diallate trans/cis	(4)			64572	1.227
139) 1,3,5-Trinitrobenzene	(4)	13.093	213	10334	0.992
140) Diallate (peak 1)	(4)	13.130	86	53840	1.020
141) Phorate	(4)	13.141	75	93459	1.202
142) Phenacetin	(4)	13.152	108	62098	1.101
143) 4-Bromophenyl-phenylether	(4)	13.226	248	29085	1.203
144) Diallate (peak 2)	(4)	13.242	86	10732	0.207
145) Hexachlorobenzene	(4)	13.275	284	31259	1.236
147) Dimethoate	(4)	13.349	87	57863	1.170
148) Atrazine	(4)	13.451	200	32266	1.224
149) Pentachlorophenol	(4)	13.537	266	18165	1.084
151) Pentachloronitrobenzene	(4)	13.553	237	14757	1.206
150) 4-Aminobiphenyl	(4)	13.558	169	108214	1.165
152) Pronamide	(4)	13.649	173	47319	1.083
153)*Phenanthrene-d10	(4)	13.793	188	687996	5.000
154) Dinoseb	(4)	13.799	211	22760	0.901
155) Phenanthrene	(4)	13.825	178	176200	1.227
157) Anthracene	(4)	13.895	178	173099	1.211
163) Carbazole	(4)	14.120	167	159762	1.203

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on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0537.d
Injection date and time: 15-OCT-2015 16:23

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD1.25

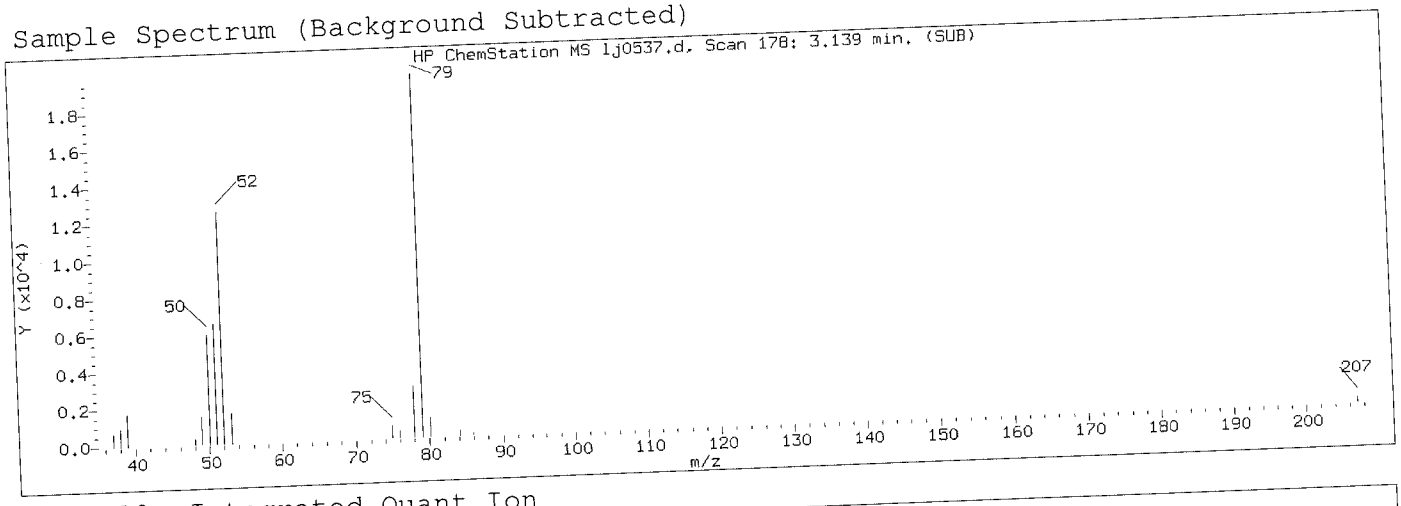
Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.323	109	37176	1.021
165) Di-n-butylphthalate	(4)	14.638	149	183692	1.147
167) Parathion	(4)	14.890	109	21120	0.981
168) 4-Nitroquinoline-1-oxide	(4)	14.917	190	10181	0.659
169) Octachlorostyrene	(4)	15.254	308	10504	1.170
171) Isodrin	(4)	15.312	193	19527	1.183
173) Fluoranthene	(4)	15.542	202	187332	1.185
174) Benzidine	(5)	15.778	184	358630	3.469
175)*Pyrene-d10	(5)	15.874	212	791702	5.000
177) Pyrene	(5)	15.901	202	207286	1.220
179)$Terphenyl-d14	(5)	16.184	244	254371	2.416
182) p-Dimethylaminoazobenzene	(5)	16.425	225	29828	1.034
185) Chlorobenzilate	(5)	16.511	139	55875	1.137
187) 3,3'-Dimethylbenzidine	(5)	17.003	212	113228	1.090
188) Butylbenzylphthalate	(5)	17.061	149	80595	1.122
191) 2-Acetylaminofluorene	(5)	17.430	181	61444	0.978
193) 3,3'-Dichlorobenzidine	(5)	17.955	252	62189	1.124
195) Benzo(a)anthracene	(5)	17.965	228	173559	1.166
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.976	231	34630	1.080
196) Chrysene	(5)	18.030	228	173578	1.227
199) bis(2-Ethylhexyl)phthalate	(5)	18.136	149	108039	1.049
203) 6-Methylchrysene	(5)	18.848	242	112890	1.140
205) Di-n-octylphthalate	(6)	19.324	149	177424	1.023
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.859	256	70076	1.133
206) Benzo(b)fluoranthene	(6)	19.859	252	165646	1.185
208) Benzo(k)fluoranthene	(6)	19.907	252	169264	1.241
211) Benzo(a)pyrene	(6)	20.399	252	159183	1.223
213)*Perylene-d12	(6)	20.495	264	565243	5.000
215) 3-Methylcholanthrene	(6)	20.971	268	69856	1.128
217) Dibenz(a,h)acridine	(6)	21.811	279	124641	1.124
218) Dibenz(a,j)acridine	(6)	21.886	279	127948	1.144
222) Total PAHs	(6)			2878148	21.843
219) Indeno(1,2,3-cd)pyrene	(6)	22.159	276	183747	1.207
220) Dibenz(a,h)anthracene	(6)	22.207	278	149776	1.170
221) Benzo(g,h,i)perylene	(6)	22.592	276	156224	1.201

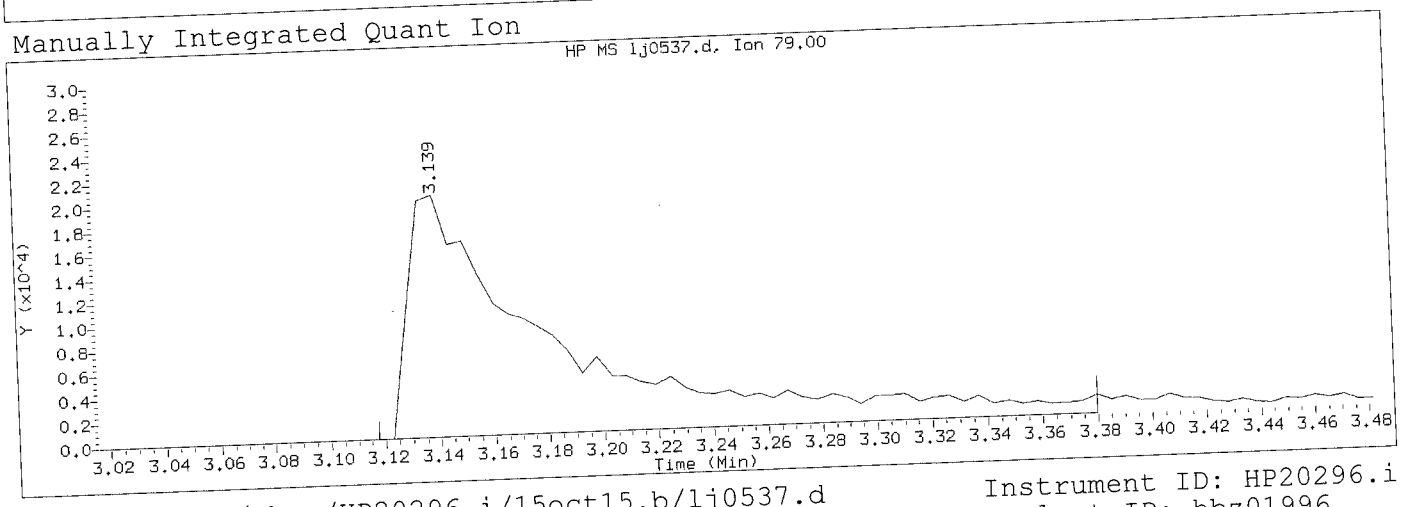
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/1j0537.d
Injection date and time: 15-OCT-2015 16:23

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2745

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 178		
Retention Time (minutes)	: 3.139		
Quant Ion	: 79.00		
Area (flag)	: 76655M		
On-Column Amount (ng/ul)	: 1.1628		
Integration start scan	: 173	Integration stop scan:	222
Y at integration start	: 3	Y at integration end:	3

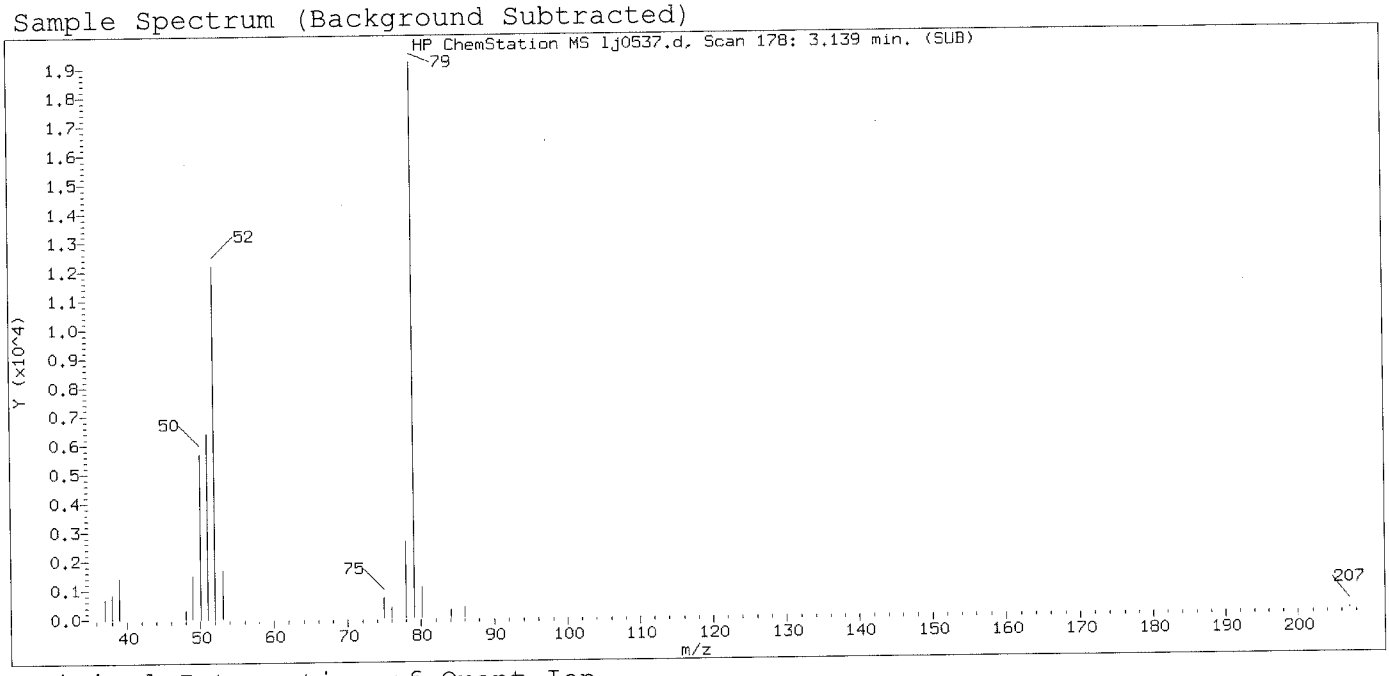
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 signature user ID: ceb05247

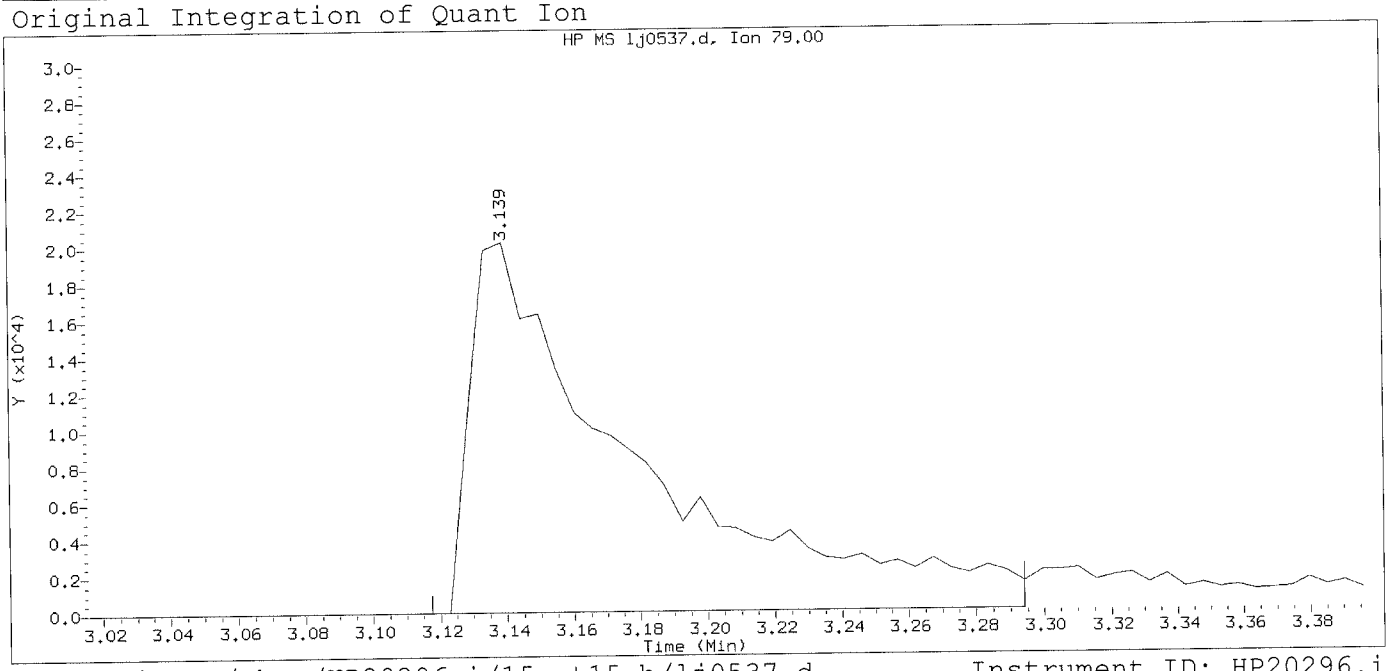
OCT 16 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



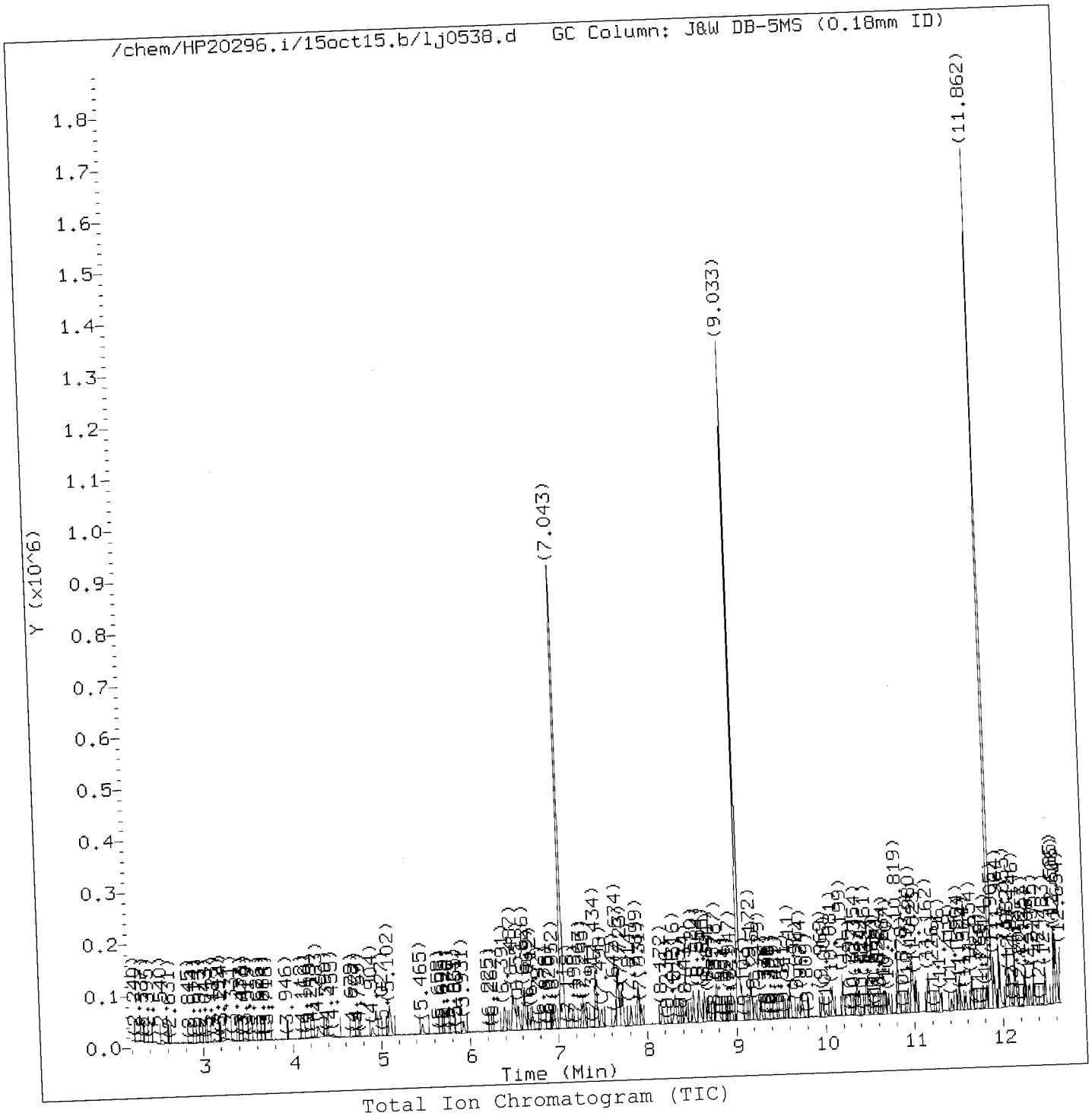
Data File: /chem/HP20296.i/15oct15.b/lj0537.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 16:23 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-OCT-2015 16:48
Date, time and analyst ID of latest file update: 15-Oct-2015 16:48 Unknown

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2745

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 178		
Retention Time (minutes)	: 3.139		
Quant Ion	: 79.00		
Area	: 68801		
On-column Amount (ng/ul)	: 1.1201		
Integration start scan	: 173	Integration stop scan:	206
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: cebach40



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

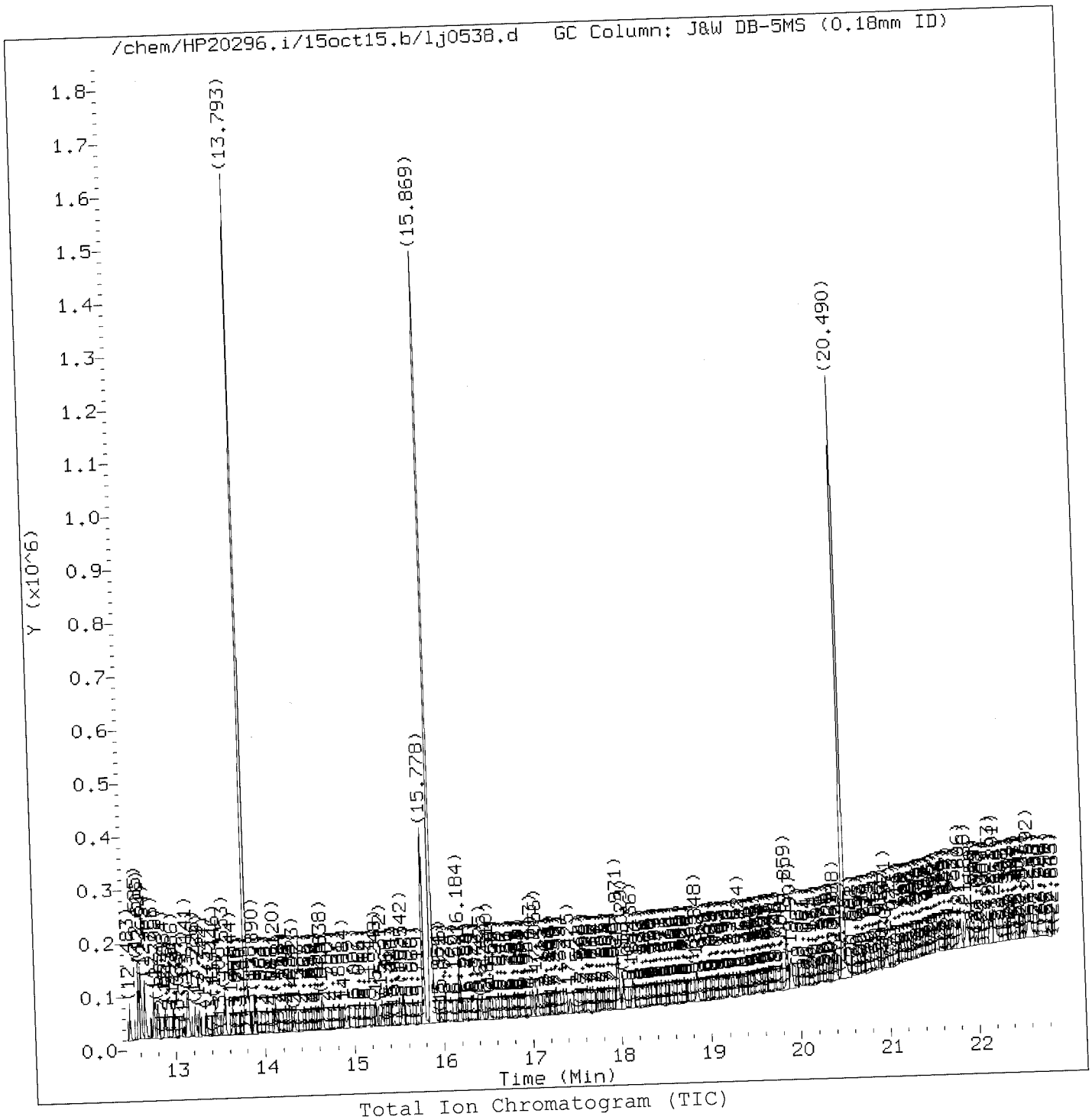
Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.550	88	6313	0.252
4) N-Nitrosodimethylamine	(1)	3.123	74	8582	0.217
5) Pyridine	(1)	3.214	79	14083M	0.211
7) 2-Picoline	(1)	4.283	93	16204M	0.232
8) N-Nitrosomethylethylamine	(1)	4.449	88	7219M	0.253
9) Methyl methanesulfonate	(1)	4.899	80	8884M	0.264
11)$2-Fluorophenol	(1)	5.102	112	24684	0.468
13) N-Nitrosodiethylamine	(1)	5.465	102	5994	0.224
15) Ethyl methanesulfonate	(1)	5.925	109	7034	0.256
16) Benzaldehyde	(1)	6.396	77	14590	0.280
17)$Phenol-d6	(1)	6.487	99	36438	0.501
18) Phenol	(1)	6.508	94	19756	0.253
19) Aniline	(1)	6.551	93	23995	0.245
20) a-methylstyrene	(1)	6.626	118	14157	0.259
22) bis(2-Chloroethyl)ether	(1)	6.669	93	16026	0.264
23) 2-Chlorophenol	(1)	6.712	128	11820	0.238
24) 1,3-Dichlorobenzene	(1)	6.952	146	14132	0.256
25)*1,4-Dichlorobenzene-d4	(1)	7.043	152	177531	5.000
26) 1,4-Dichlorobenzene	(1)	7.070	146	14154	0.251
27) Benzyl alcohol	(1)	7.263	108	8904	0.238
28) 1,2-Dichlorobenzene	(1)	7.289	146	13241	0.249
31) 2-Methylphenol	(1)	7.434	108	13313	0.254
30) Indene	(1)	7.434	115	24814	0.263
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.487	45	22521	0.264
34) bis(2-Chloroisopropyl)ether	(1)	7.487	45	22521	0.264
35) N-Nitrosopyrrolidine	(1)	7.642	100	6731	0.239
42) Total Cresols	(1)			26693	0.499
36) Acetophenone	(1)	7.669	105	22491	0.275
37) 4-Methylphenol	(1)	7.674	108	13380	0.245
38) N-Nitroso-di-n-propylamine	(1)	7.685	70	11702	0.247
39) N-Nitrosomorpholine	(1)	7.712	56	8902	0.244
40) o-Toluidine	(1)	7.723	106	22339	0.243
43) Hexachloroethane	(1)	7.819	117	6124	0.262
44)$Nitrobenzene-d5	(2)	7.899	82	35013	0.508
45) Nitrobenzene	(2)	7.931	77	16331	0.239
48) N-Nitrosopiperidine	(2)	8.177	114	6057	0.231
50) Isophorone	(2)	8.316	82	28692	0.238
51) 2-Nitrophenol	(2)	8.434	139	5726	0.229
53) 2,4-Dimethylphenol	(2)	8.520	107	13019	0.229
56) Benzoic acid	(2)	8.584	105	30692M	0.716

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on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.648	198	6275	0.251
55) bis(2-Chloroethoxy)methane	(2)	8.691	93	18602	0.254
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.787	104	21288	0.253
60) 2,4-Dichlorophenol	(2)	8.808	162	9328	0.231
62) 1,2,4-Trichlorobenzene	(2)	8.947	180	11915	0.257
65)*Naphthalene-d8	(2)	9.033	136	683133	5.000
66) Naphthalene	(2)	9.065	128	36966	0.252
68) 2,6-Dichlorophenol	(2)	9.172	162	9682	0.239
67) 4-Chloroaniline	(2)	9.172	127	14532	0.241
69) Hexachloropropene	(2)	9.215	213	6779	0.222
71) Hexachlorobutadiene	(2)	9.284	225	6303	0.239
75) Quinoline	(2)	9.605	129	21665	0.236
76) Caprolactam	(2)	9.702	113	3445	0.254
77) N-Nitrosodi-n-butylamine	(2)	9.744	84	10615	0.211
80) 4-Chloro-3-methylphenol	(2)	9.969	107	10293	0.213
82) Safrole	(2)	10.081	162	8695	0.235
83) 2-Methylnaphthalene	(2)	10.199	142	24085	0.247
84) 1-Methylnaphthalene	(2)	10.354	142	20763	0.234
85) Hexachlorocyclopentadiene	(3)	10.456	237	6302	0.226
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.472	216	11611	0.258
88) cis-Isosafrole	(3)	10.563	162	1420	0.036
90) 2,4,6-Trichlorophenol	(3)	10.664	196	6533	0.230
92) 2,4,5-Trichlorophenol	(3)	10.707	196	7650	0.248
97) Isosafrole	(3)			9859	0.233
93)$2-Fluorobiphenyl	(3)	10.819	172	51946	0.499
94) trans-Isosafrole	(3)	10.932	162	8439	0.197
95) 1,1'-Biphenyl	(3)	10.975	154	30212	0.267
96) 2-Chloronaphthalene	(3)	10.991	162	23372	0.263
98) 1-Chloronaphthalene	(3)	11.023	162	22073	0.261
99) Diphenyl ether	(3)	11.162	170	14998	0.249
100) 2-Nitroaniline	(3)	11.167	138	6345	0.236
104) 1,4-Naphthoquinone	(3)	11.296	158	7407	0.209
105) 1,4-Dinitrobenzene	(3)	11.419	168	2364	0.171
106) Dimethylphthalate	(3)	11.504	163	23046	0.240
107) 1,3-Dinitrobenzene	(3)	11.525	168	2874	0.190
108) 2,6-Dinitrotoluene	(3)	11.579	165	4251	0.204
109) Acenaphthylene	(3)	11.654	152	32253	0.238
112) 3-Nitroaniline	(3)	11.814	138	4405	0.193
113)*Acenaphthene-d10	(3)	11.862	164	377362	5.000
114) Acenaphthene	(3)	11.905	153	23554	0.261

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on 10/15/2015 at 18:44:
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

	Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120)	2,4_2,6-Dinitrotoluenes	(3)			10578	0.423
115)	2,4-Dinitrophenol	(3)	11.969	184	15781	1.143
116)	4-Nitrophenol	(3)	12.055	109	14393	0.815
117)	Pentachlorobenzene	(3)	12.087	250	8506	0.241
118)	2,4-Dinitrotoluene	(3)	12.146	165	6327	0.218
119)	Dibenzofuran	(3)	12.151	168	32351	0.262
121)	1-Naphthylamine	(3)	12.253	143	21179	0.236
122)	2,3,4,6-Tetrachlorophenol	(3)	12.312	232	5090	0.220
123)	2-Naphthylamine	(3)	12.355	143	21924	0.251
124)	Diethylphthalate	(3)	12.488	149	22389	0.237
125)	Thionazin	(3)	12.585	107	4580	0.250
126)	Fluorene	(3)	12.585	166	24475	0.254
127)	4-Chlorophenyl-phenylether	(3)	12.606	204	10683	0.231
128)	5-Nitro-o-toluidine	(3)	12.606	152	6165	0.232
129)	4-Nitroaniline	(3)	12.611	138	4456	0.191
130)	4,6-Dinitro-2-methylphenol	(4)	12.654	198	14493	0.819
132)	NDPA as diphenylamine	(4)	12.756	169	20143	0.251
131)	N-Nitrosodiphenylamine	(4)	12.756	169	20143	0.251
134)	1,2-Diphenylhydrazine	(4)	12.804	77	28038	0.232
135)	$2,4,6-Tribromophenol	(3)	12.889	330	4822	0.441
137)	Tetraethyldithiopyrophosphate	(4)	12.980	97	4689	0.244
146)	Diallate trans/cis	(4)			10633	0.203
139)	1,3,5-Trinitrobenzene	(4)	13.093	213	1683	0.162
140)	Diallate (peak 1)	(4)	13.130	86	8907	0.169
141)	Phorate	(4)	13.141	75	15977	0.212
142)	Phenacetin	(4)	13.151	108	12348	0.224
143)	4-Bromophenyl-phenylether	(4)	13.226	248	6245	0.258
144)	Diallate (peak 2)	(4)	13.242	86	1726M	0.033
145)	Hexachlorobenzene	(4)	13.275	284	6269	0.249
147)	Dimethoate	(4)	13.344	87	9959	0.202
148)	Atrazine	(4)	13.446	200	6606	0.252
149)	Pentachlorophenol	(4)	13.542	266	2770	0.166
151)	Pentachloronitrobenzene	(4)	13.547	237	2355	0.193
150)	4-Aminobiphenyl	(4)	13.558	169	20860	0.229
152)	Pronamide	(4)	13.644	173	8351	0.199
153)	*Phenanthrene-d10	(4)	13.793	188	684811	5.000
154)	Dinoseb	(4)	13.799	211	3491	0.139
155)	Phenanthrene	(4)	13.820	178	35166	0.247
157)	Anthracene	(4)	13.890	178	34098	0.241
163)	Carbazole	(4)	14.120	167	29707	0.228

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Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51
Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16
Sublist used: all1
Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25
Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.323	109	5781	0.159
165) Di-n-butylphthalate	(4)	14.638	149	33779	0.212
167) Parathion	(4)	14.890	109	4064	0.190
168) 4-Nitroquinoline-1-oxide	(4)	14.917	190	1438	0.093
169) Octachlorostyrene	(4)	15.254	308	2076	0.232
171) Isodrin	(4)	15.312	193	4504	0.270
173) Fluoranthene	(4)	15.542	202	35256	0.227
174) Benzidine	(5)	15.778	184	177580	1.760
175)*Pyrene-d10	(5)	15.869	212	772801	5.000
177) Pyrene	(5)	15.901	202	42275	0.254
179)$Terphenyl-d14	(5)	16.184	244	50807	0.495
182) p-Dimethylaminoazobenzene	(5)	16.419	225	4939	0.183
185) Chlorobenzilate	(5)	16.516	139	10262	0.214
187) 3,3'-Dimethylbenzidine	(5)	17.003	212	20379	0.201
188) Butylbenzylphthalate	(5)	17.056	149	14472	0.206
191) 2-Acetylaminofluorene	(5)	17.425	181	10069	0.164
193) 3,3'-Dichlorobenzidine	(5)	17.960	252	11219	0.208
195) Benzo(a)anthracene	(5)	17.965	228	32052	0.224
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.971	231	6046	0.193
196) Chrysene	(5)	18.029	228	31941	0.234
199) bis(2-Ethylhexyl)phthalate	(5)	18.136	149	17972	0.179
203) 6-Methylchrysene	(5)	18.848	242	19459	0.201
205) Di-n-octylphthalate	(6)	19.324	149	28249	0.165
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.859	256	12299	0.207
206) Benzo(b)fluoranthene	(6)	19.859	252	33224	0.241
208) Benzo(k)fluoranthene	(6)	19.901	252	31531	0.236
211) Benzo(a)pyrene	(6)	20.399	252	31010	0.242
213)*Perylene-d12	(6)	20.490	264	559095	5.000
215) 3-Methylcholanthrene	(6)	20.966	268	12875	0.215
217) Dibenz(a,h)acridine	(6)	21.806	279	24312	0.222
218) Dibenz(a,j)acridine	(6)	21.886	279	23364	0.211
222) Total PAHs	(6)			564029	4.340
219) Indeno(1,2,3-cd)pyrene	(6)	22.153	276	36177	0.241
220) Dibenz(a,h)anthracene	(6)	22.207	278	28220	0.226
221) Benzo(g,h,i)perylene	(6)	22.592	276	30983	0.242

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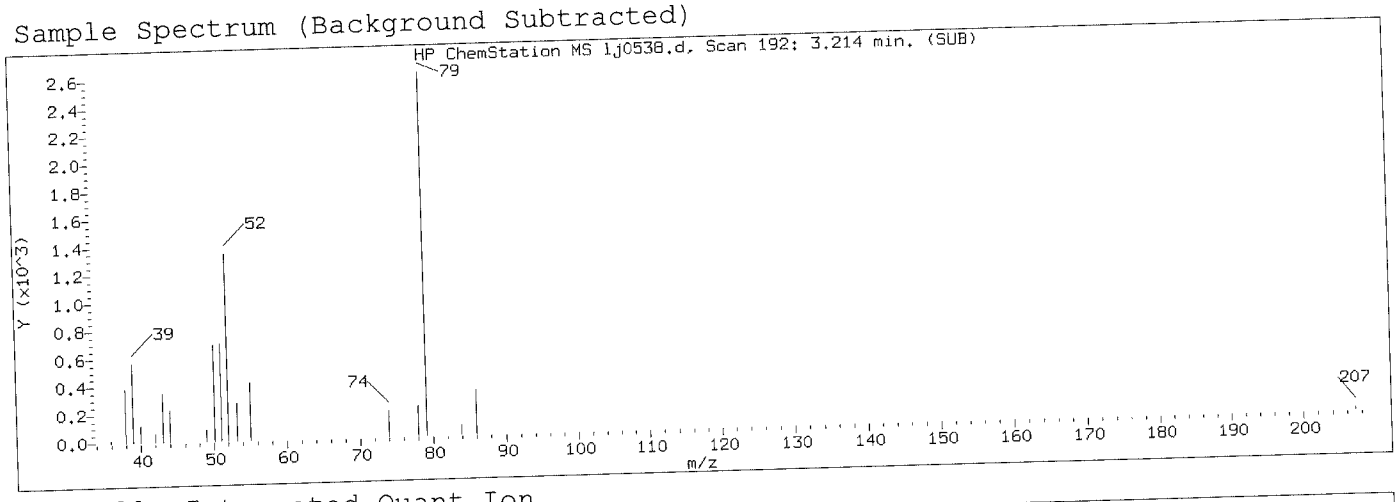
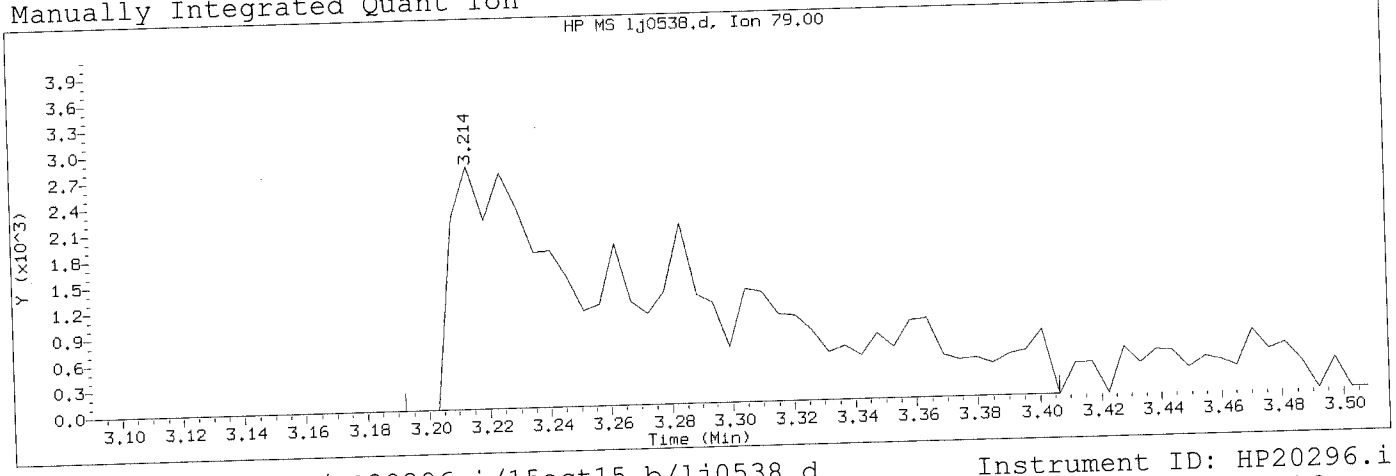
on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 192		
Retention Time (minutes)	: 3.214		
Quant Ion	: 79.00		
Area (flag)	: 14083M		
On-Column Amount (ng/ul)	: 0.2107		
Integration start scan	: 187	Integration stop scan:	227
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: compound not in processing sublist

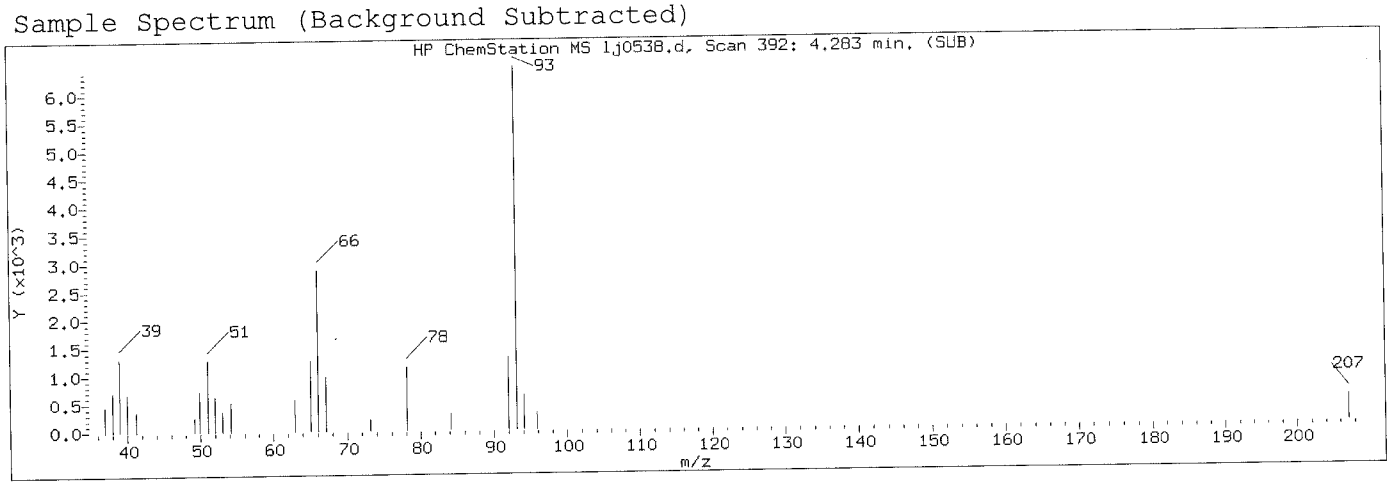
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 designature user ID: ceb05247

OCT 16 2015

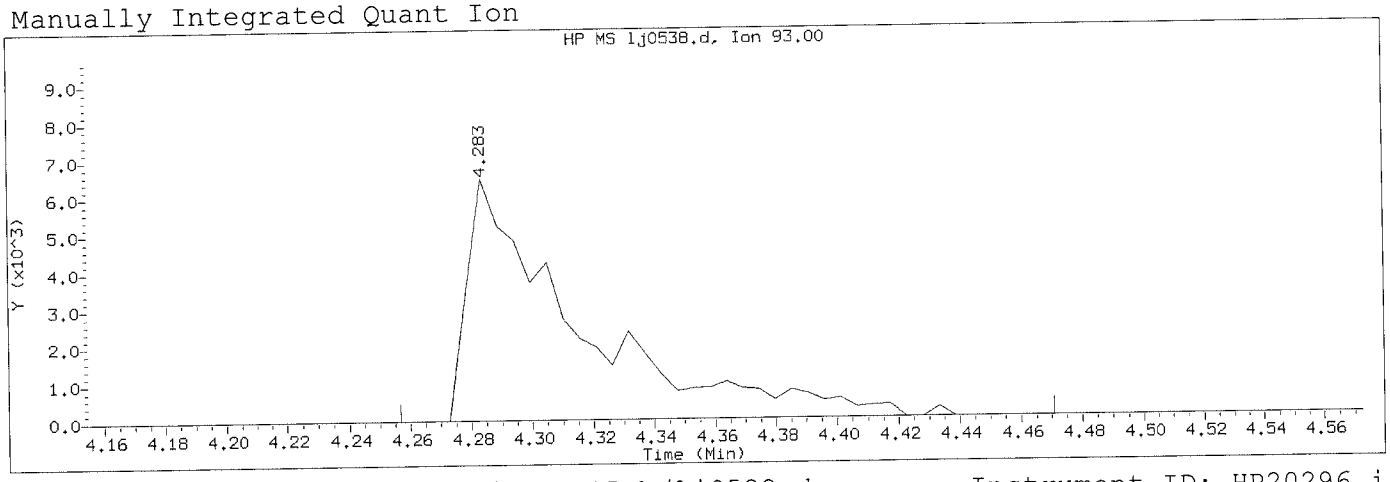
GC/MS audit/management approval: _____

Matthew E. Barton
Chemist Specialist

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0538.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 16:51 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-OCT-2015 18:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 392		
Retention Time (minutes)	: 4.283		
Quant Ion	: 93.00		
Area (flag)	: 16204M		
On-Column Amount (ng/ul)	: 0.2324		
Integration start scan	: 386	Integration stop scan:	426
Y at integration start	: 0	Y at integration end:	0

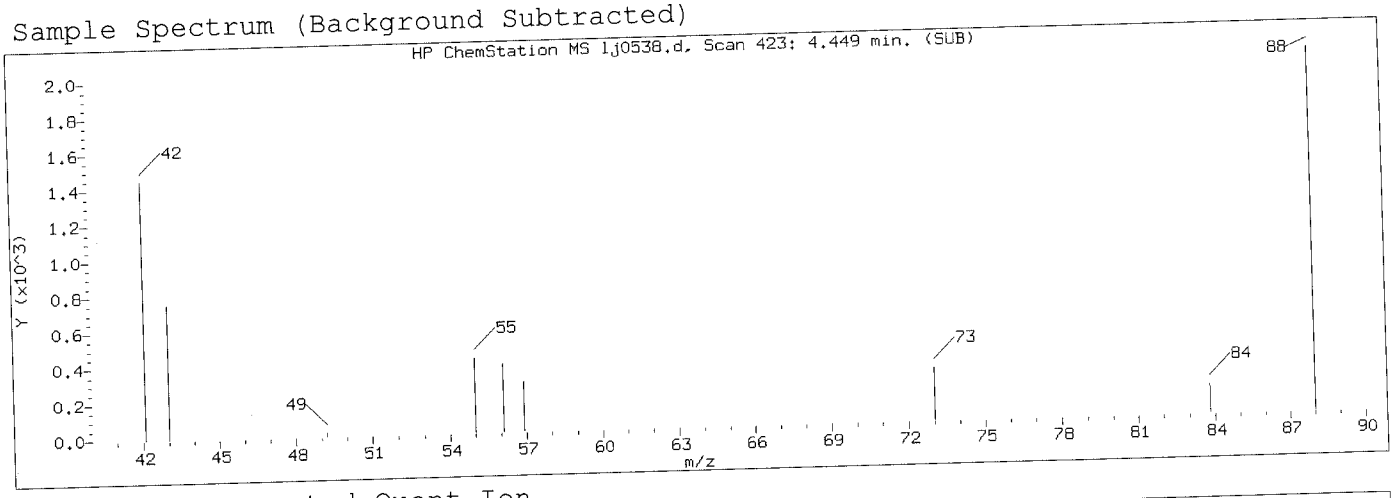
Reason for manual integration: compound not in processing sublist

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 signature user ID: ceb05247

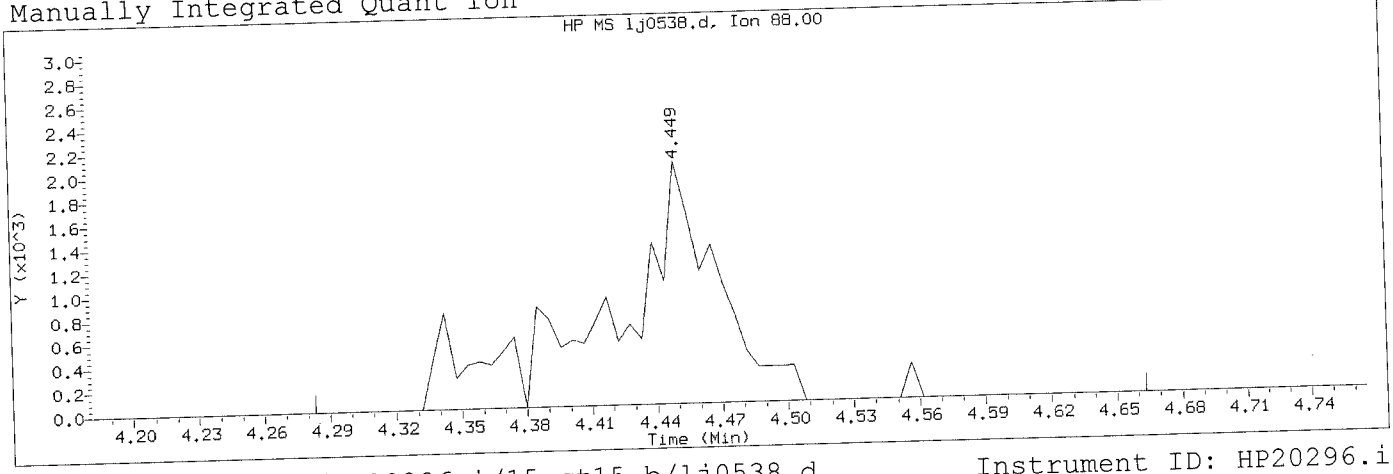
OCT 16 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 423		
Retention Time (minutes)	: 4.449		
Quant Ion	: 88.00		
Area (flag)	: 7219M		
On-Column Amount (ng/ul)	: 0.2530		
Integration start scan	: 391	Integration stop scan:	462
Y at integration start	: 0	Y at integration end:	0

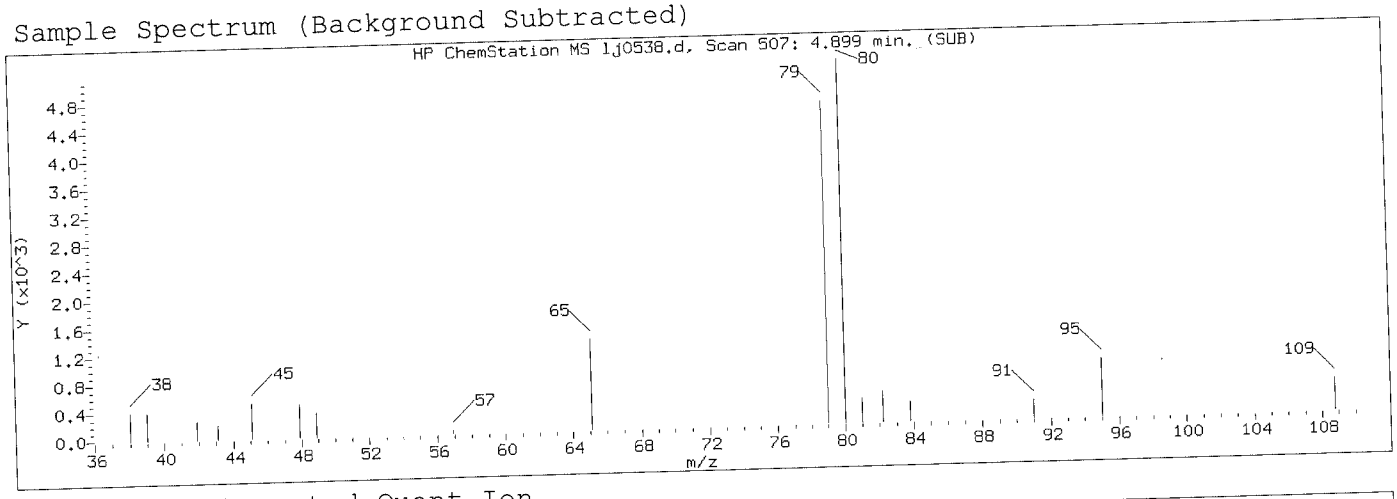
Reason for manual integration: compound not in processing sublist

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 signature user ID: ceb05247

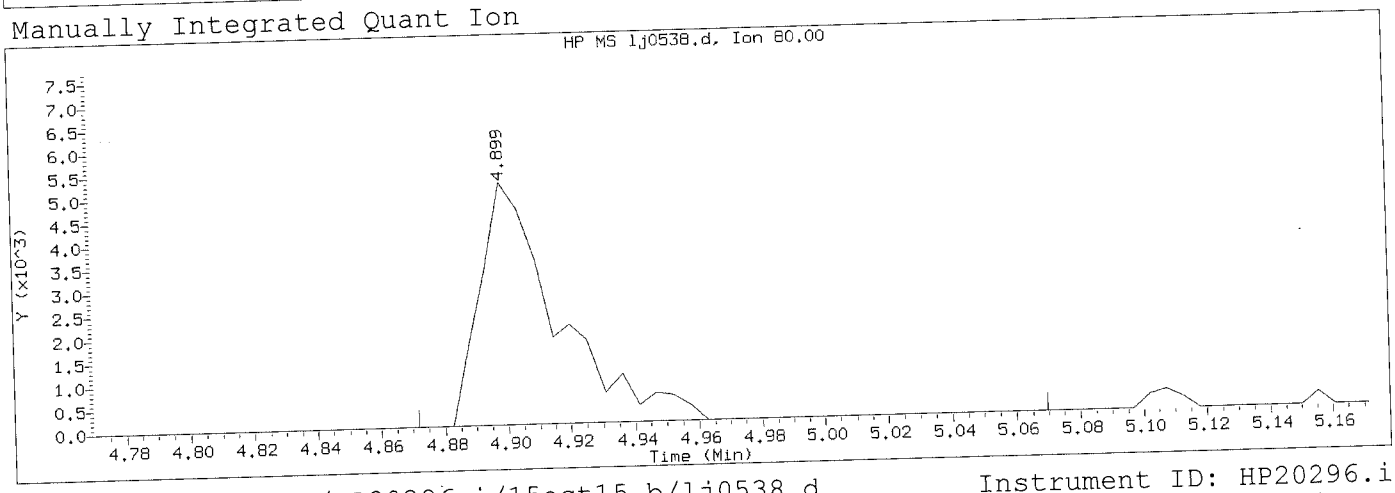
OCT 16 2015

GC/MS audit/management approval: _____ Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 507		
Retention Time (minutes)	: 4.899		
Quant Ion	: 80.00		
Area (flag)	: 8884M		
On-Column Amount (ng/ul)	: 0.2638		
Integration start scan	: 501	Integration stop scan:	538
Y at integration start	: 0	Y at integration end:	0

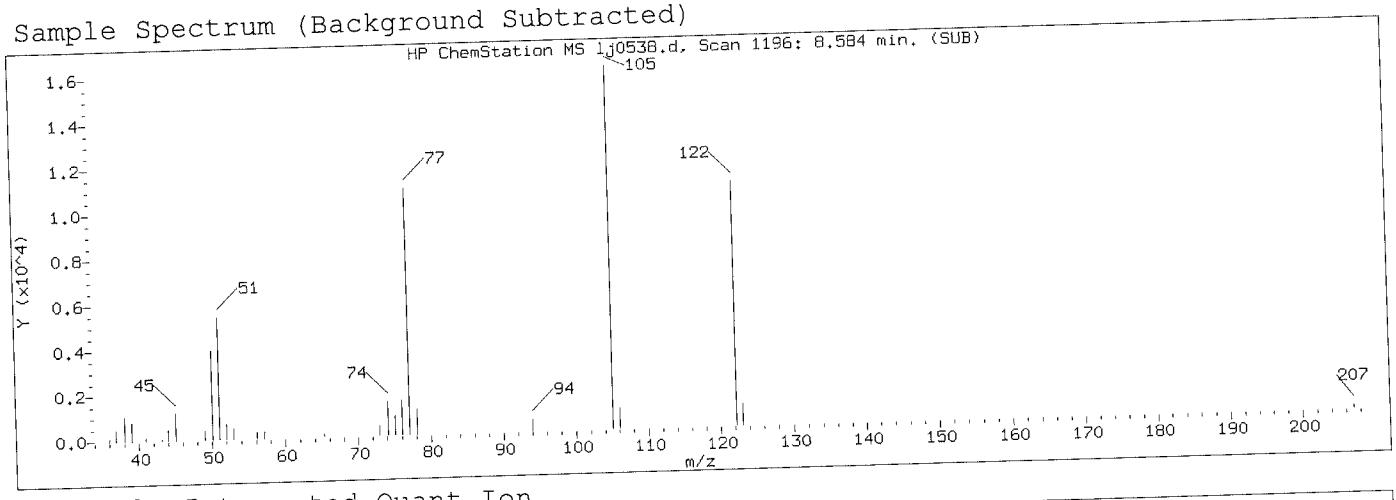
Reason for manual integration: compound not in processing sublist

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 signature user ID: ceb05247

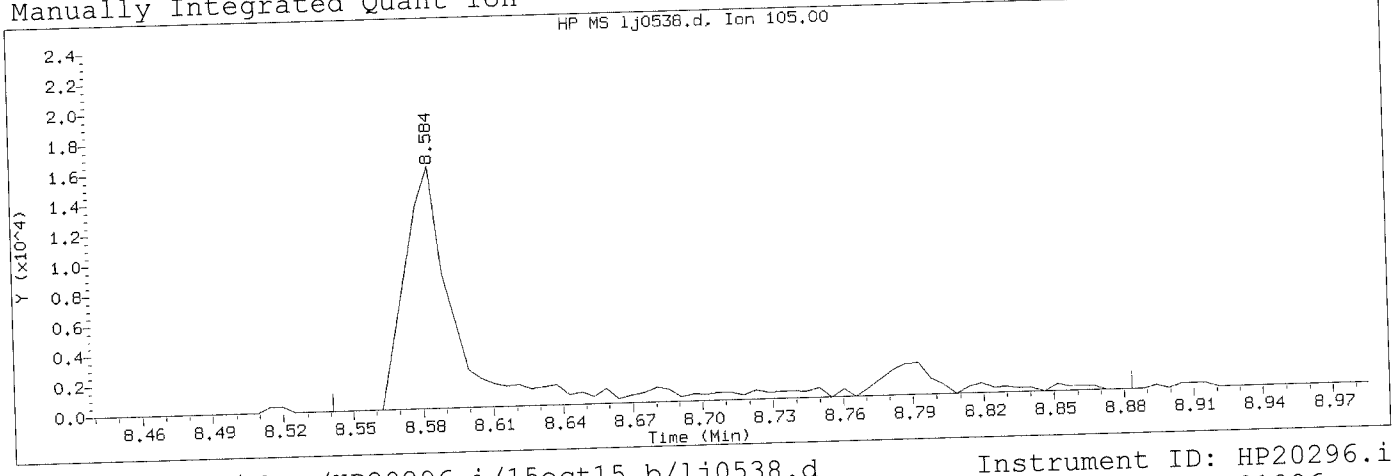
OCT 16 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1196		
Retention Time (minutes)	: 8.584		
Quant Ion	: 105.00		
Area (flag)	: 30692M		
On-Column Amount (ng/ul)	: 0.7156		
Integration start scan	: 1187	Integration stop scan:	1251
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

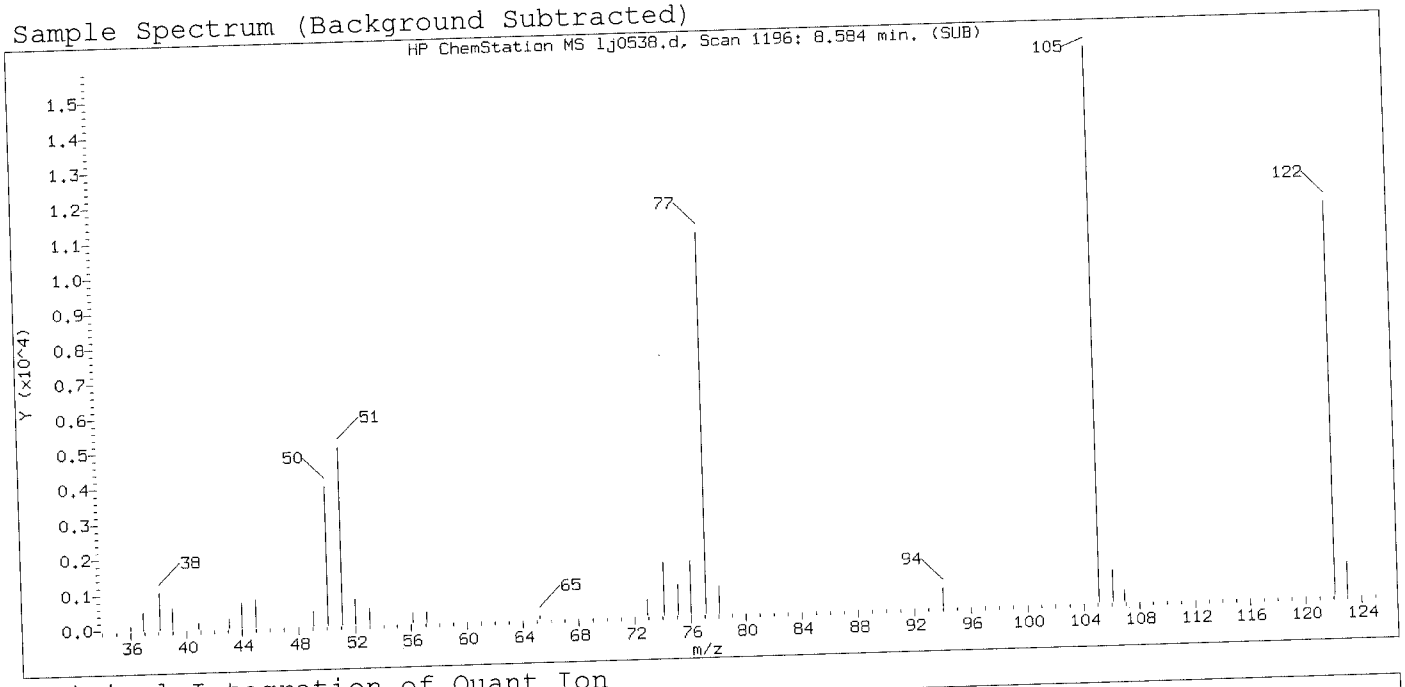
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 asignature user ID: ceb05247

OCT 16 2015

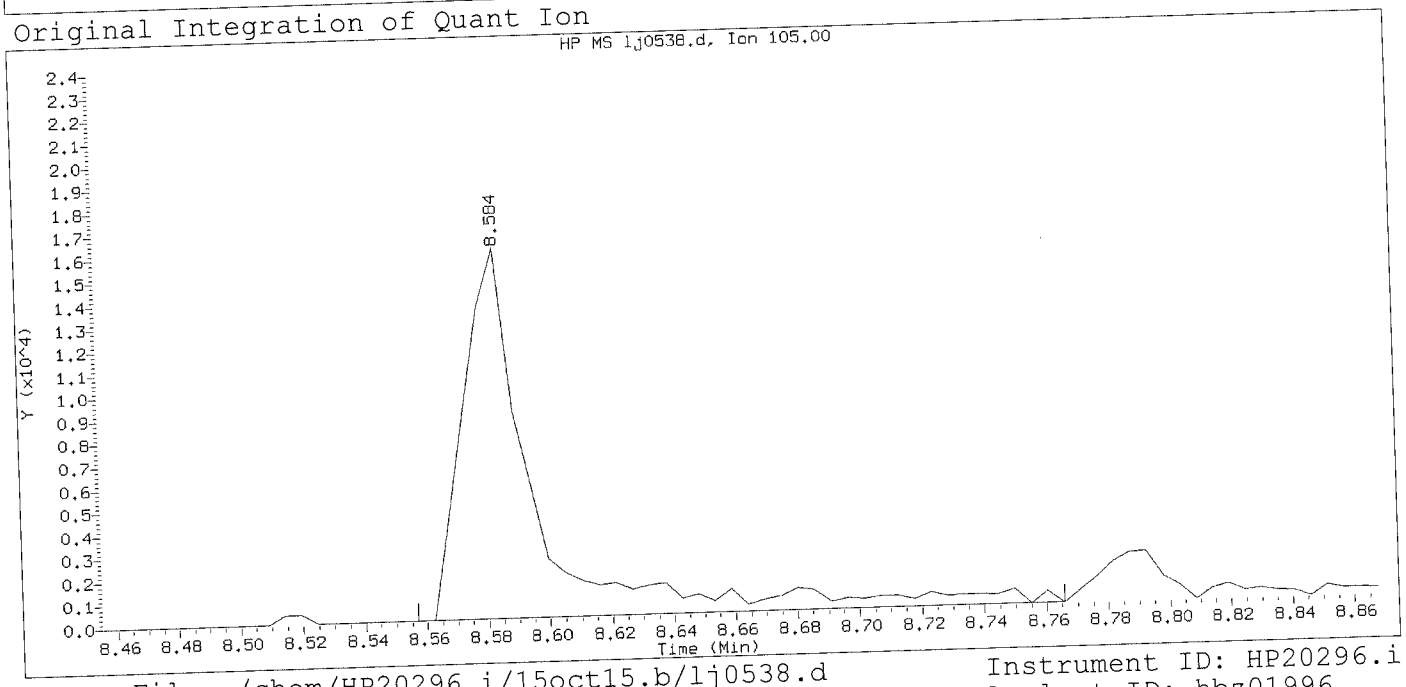
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 17:16 Unknown

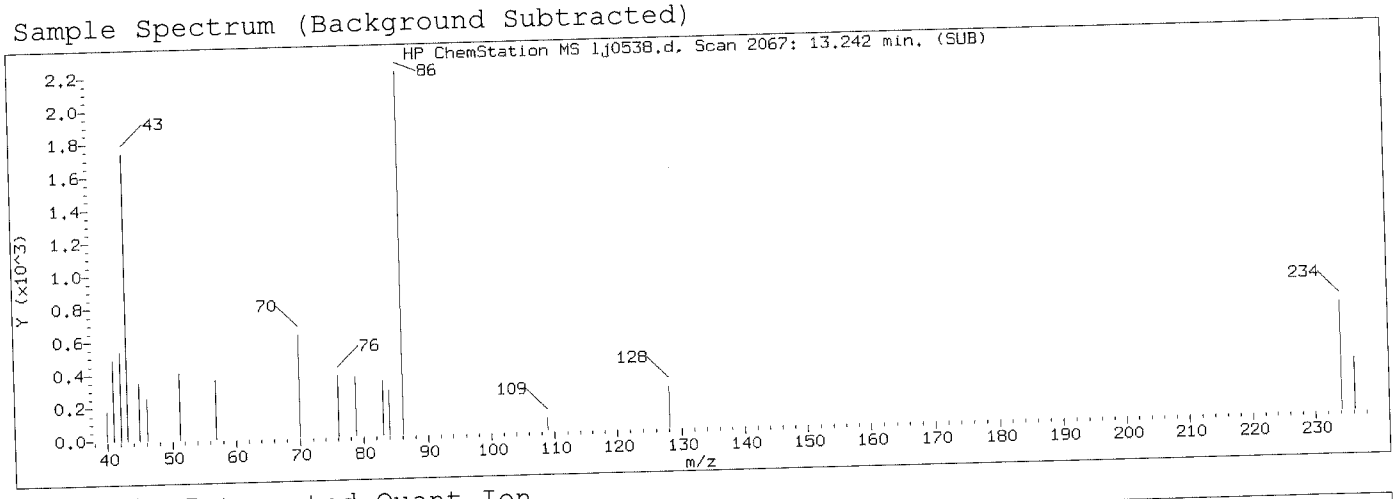
Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

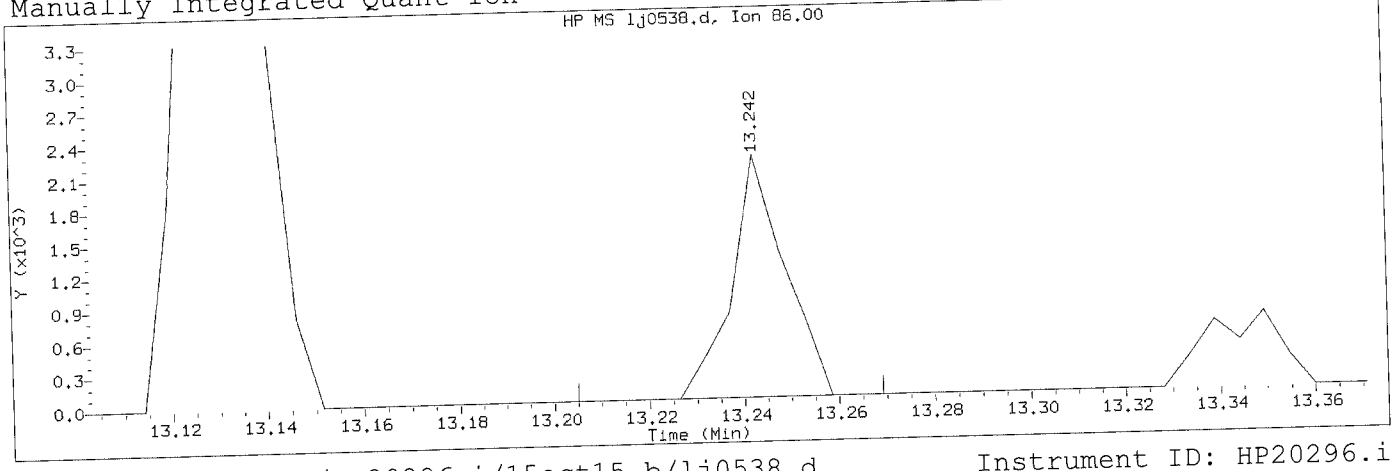
Compound Number	: 56	
Compound Name	: Benzoic acid	
Scan Number	: 1196	
Retention Time (minutes)	: 8.584	
Quant Ion	: 105.00	
Area	: 26517	
On-column Amount (ng/ul)	: 2.4523	
Integration start scan	: 1190	Integration stop scan: 1229
Y at integration start	: 0	Y at integration end: 0

Digitally signed by Catherine E. Barbour on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Compound Number	: 144		
Compound Name	: Diallate (peak 2)		
Scan Number	: 2067		
Retention Time (minutes)	: 13.242		
Quant Ion	: 86.00		
Area (flag)	: 1726M		
On-Column Amount (ng/ul)	: 0.0335		
Integration start scan	: 2059	Integration stop scan:	2071
Y at integration start	: 0	Y at integration end:	0

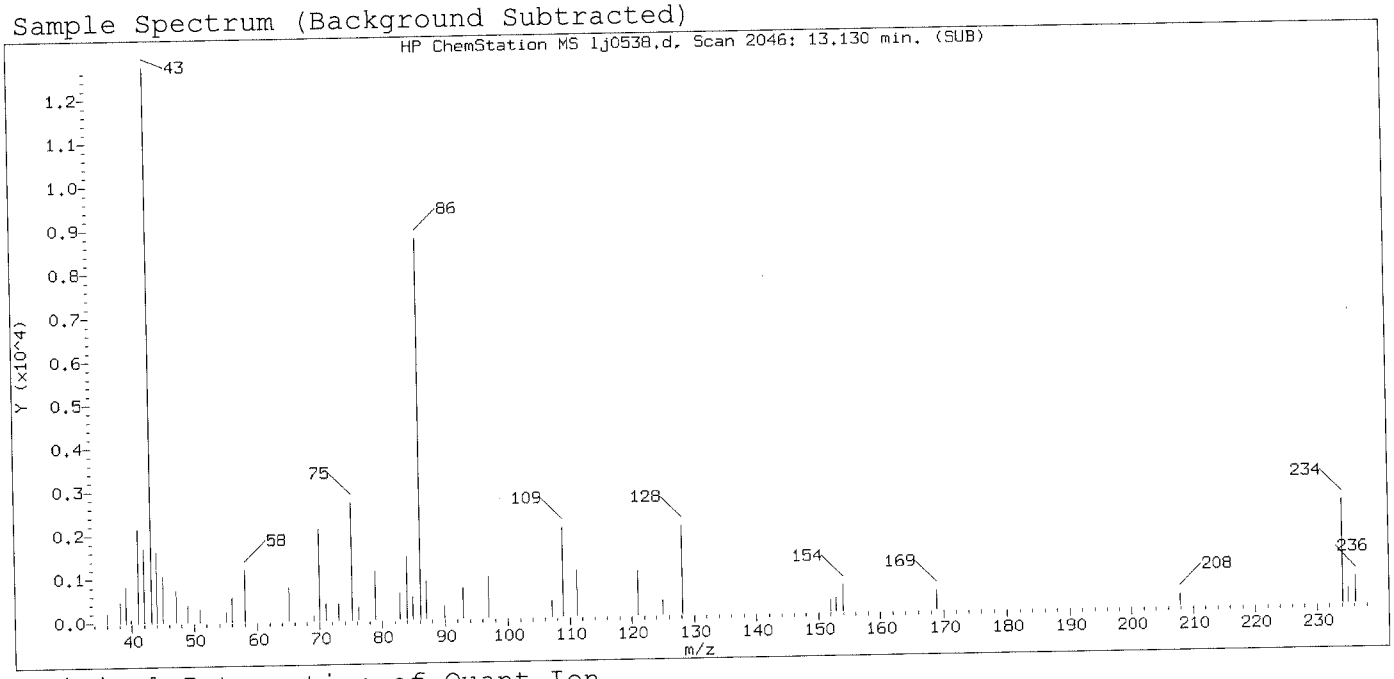
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 signature user ID: ceb05247

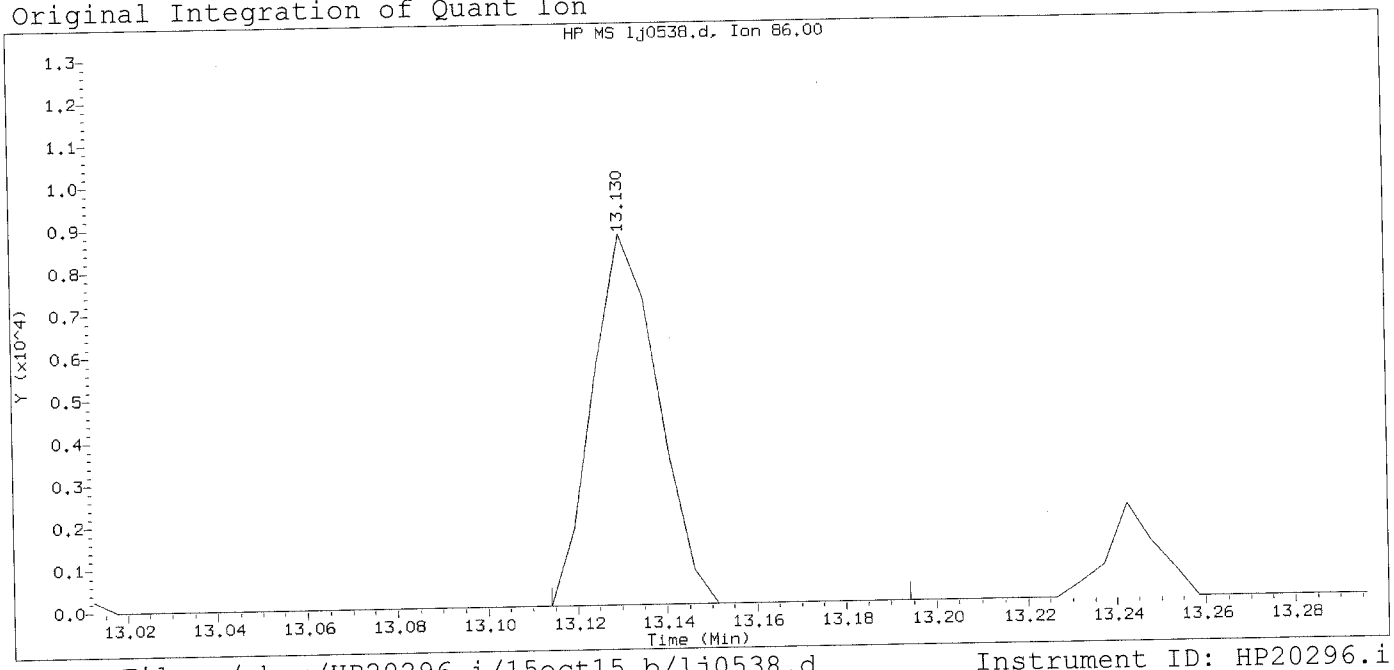
OCT 16 2015

GC/MS audit/management approval: _____ Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



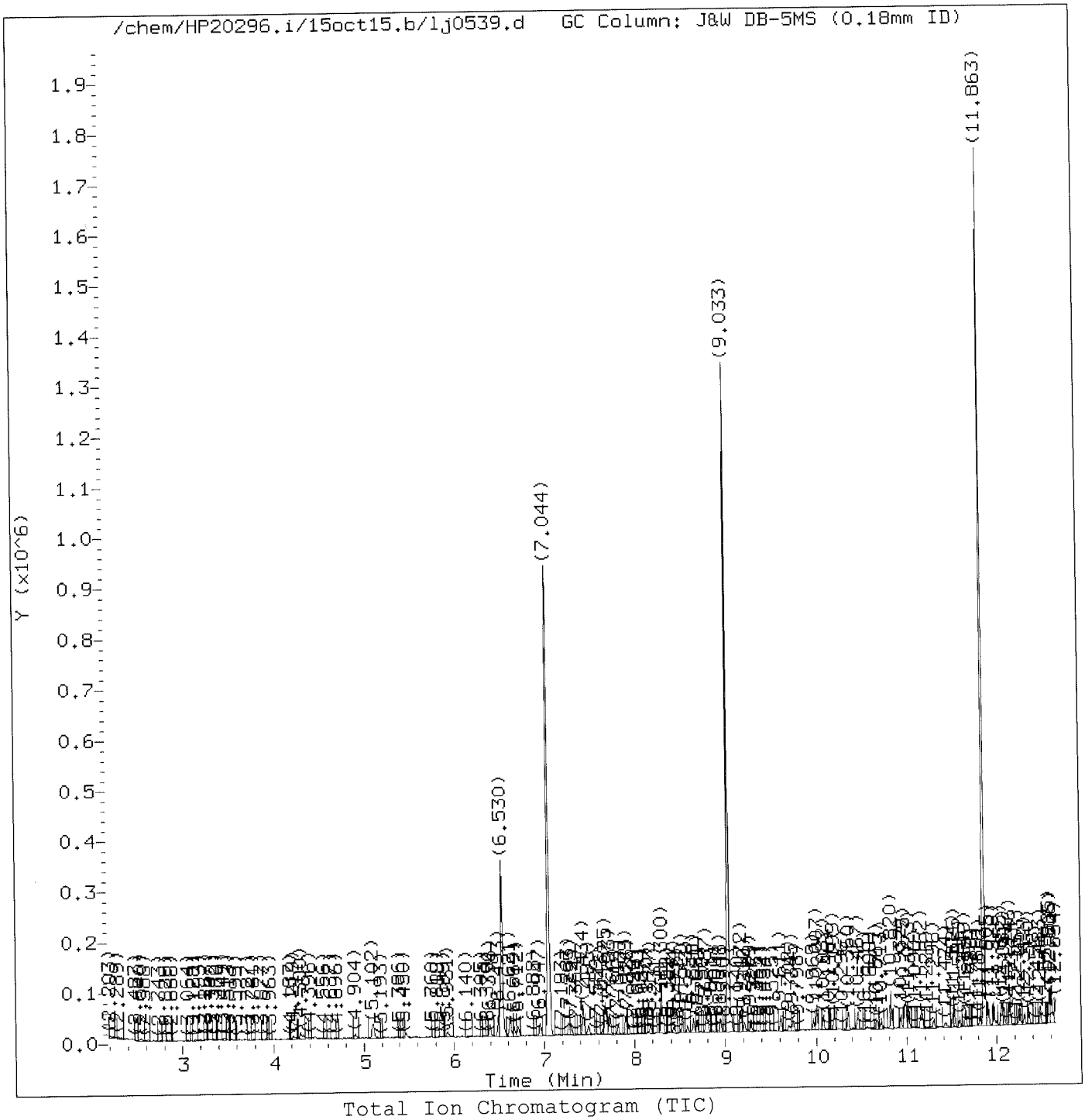
Data File: /chem/HP20296.i/15oct15.b/lj0538.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 16:51 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:16 Unknown

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compound Number	: 144		
Compound Name	: Diallate (peak 2)		
Scan Number	: 2046		
Retention Time (minutes)	: 13.130		
Quant Ion	: 86.00		
Area	: 8907		
On-column Amount (ng/ul)	: 0.1950		
Integration start scan	: 2042	Integration stop scan:	2057
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

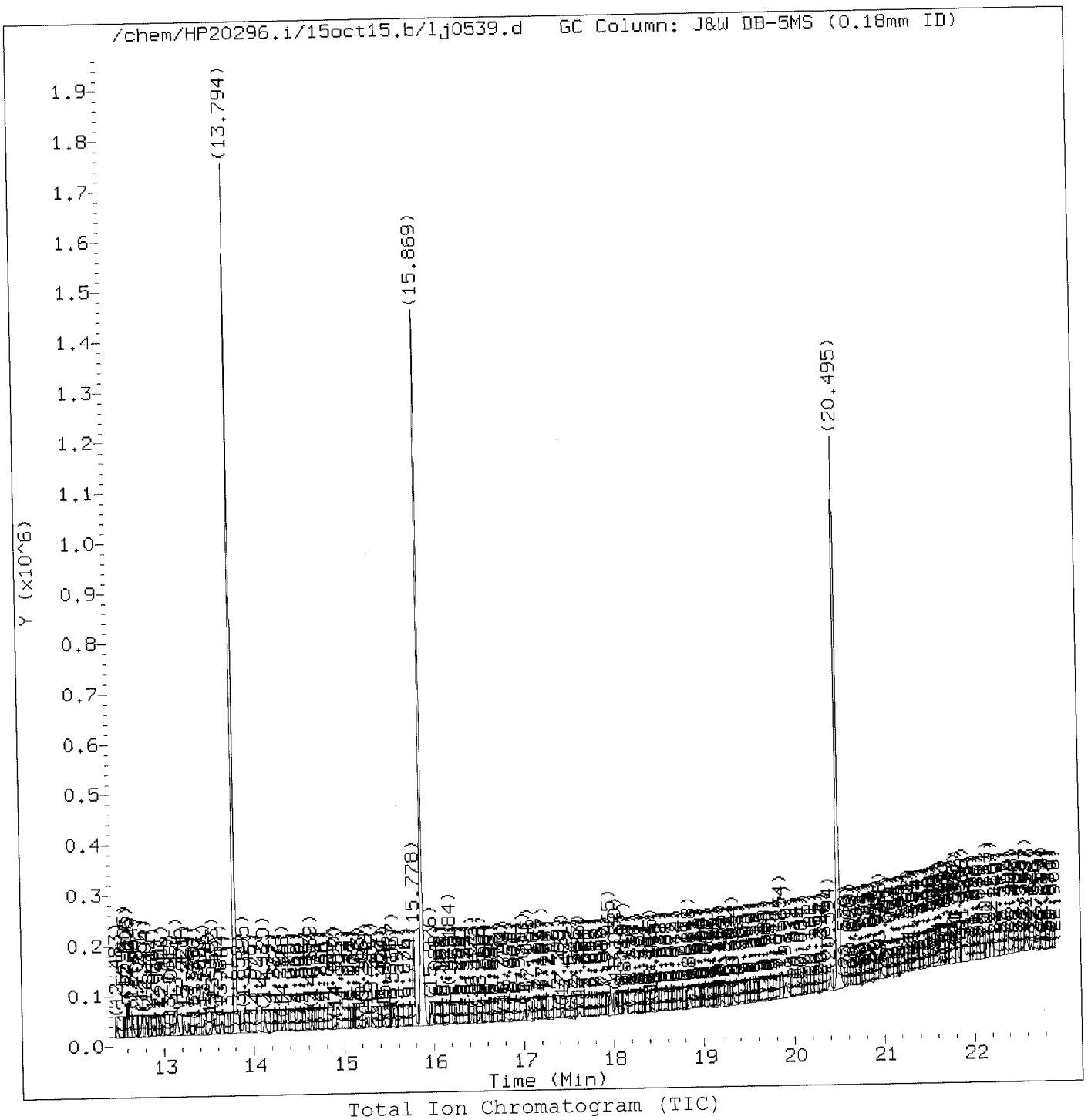
Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:49.
Target 3.5 esignature user: CEB [illegible]



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:49.
Target 3.5 esignature used [illegible]

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sublist used: mdlall1

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.545	88	2748M	0.109
4) N-Nitrosodimethylamine	(1)	3.150	74	3191	0.080
5) Pyridine	(1)	3.267	79	5525M	0.082
7) 2-Picoline	(1)	4.305	93	8756	0.124
8) N-Nitrosomethylethylamine	(1)	4.460	88	3360M	0.117
9) Methyl methanesulfonate	(1)	4.909	80	4252M	0.125
11) $2-Fluorophenol	(1)	5.097	112	13190	0.247
13) N-Nitrosodiethylamine	(1)	5.466	102	3193	0.118
15) Ethyl methanesulfonate	(1)	5.926	109	3485	0.125
16) Benzaldehyde	(1)	6.396	77	7019	0.133
17) $Phenol-d6	(1)	6.493	99	18233	0.248
18) Phenol	(1)	6.509	94	10881	0.138
19) Aniline	(1)	6.551	93	10931	0.110
20) a-methylstyrene	(1)	6.626	118	7405	0.134
22) bis(2-Chloroethyl)ether	(1)	6.675	93	8250	0.135
23) 2-Chlorophenol	(1)	6.712	128	6325	0.126
24) 1,3-Dichlorobenzene	(1)	6.953	146	7428	0.133
25) *1,4-Dichlorobenzene-d4	(1)	7.044	152	179452	5.000
26) 1,4-Dichlorobenzene	(1)	7.076	146	7815	0.137
27) Benzyl alcohol	(1)	7.263	108	5005	0.132
28) 1,2-Dichlorobenzene	(1)	7.290	146	5927	0.110
30) Indene	(1)	7.429	115	12364	0.130
31) 2-Methylphenol	(1)	7.434	108	6548	0.124
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.482	45	11798	0.137
34) bis(2-Chloroisopropyl)ether	(1)	7.482	45	11798	0.137
35) N-Nitrosopyrrolidine	(1)	7.648	100	3168	0.112
42) Total Cresols	(1)			13485	0.249
37) 4-Methylphenol	(1)	7.675	108	6937	0.126
36) Acetophenone	(1)	7.675	105	12054	0.146
38) N-Nitroso-di-n-propylamine	(1)	7.685	70	5469	0.114
39) N-Nitrosomorpholine	(1)	7.712	56	4595	0.125
40) o-Toluidine	(1)	7.723	106	11157	0.120
43) Hexachloroethane	(1)	7.814	117	3187	0.135
44) $Nitrobenzene-d5	(2)	7.899	82	16747	0.239
45) Nitrobenzene	(2)	7.931	77	7953	0.115
48) N-Nitrosopiperidine	(2)	8.177	114	2949	0.111
50) Isophorone	(2)	8.317	82	14581	0.119
51) 2-Nitrophenol	(2)	8.424	139	2913	0.115
53) 2,4-Dimethylphenol	(2)	8.520	107	6321	0.109
56) Benzoic acid	(2)	8.573	105	8560M	1.826

M = Compound was manually integrated.
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Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.648	198	3112	0.123
55) bis(2-Chloroethoxy)methane	(2)	8.691	93	9553	0.129
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.787	104	11133	0.130
60) 2,4-Dichlorophenol	(2)	8.809	162	4882	0.119
62) 1,2,4-Trichlorobenzene	(2)	8.953	180	5882	0.125
65)*Naphthalene-d8	(2)	9.033	136	693100	5.000
67) 4-Chloroaniline	(2)	9.172	127	7665	0.125
68) 2,6-Dichlorophenol	(2)	9.172	162	5332	0.130
69) Hexachloropropene	(2)	9.215	213	3560	0.115
71) Hexachlorobutadiene	(2)	9.285	225	3428	0.128
75) Quinoline	(2)	9.611	129	11370	0.122
76) Caprolactam	(2)	9.702	113	1520	0.110
77) N-Nitrosodi-n-butylamine	(2)	9.750	84	5343	0.105
80) 4-Chloro-3-methylphenol	(2)	9.969	107	5679	0.116
82) Safrole	(2)	10.082	162	4218	0.112
85) Hexachlorocyclopentadiene	(3)	10.456	237	3390	0.117
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.467	216	6555	0.140
88) cis-Isosafrole	(3)	10.563	162	797	0.019
90) 2,4,6-Trichlorophenol	(3)	10.665	196	2753	0.093
92) 2,4,5-Trichlorophenol	(3)	10.713	196	3131	0.097
97) Isosafrole	(3)			5266	0.119
93)$2-Fluorobiphenyl	(3)	10.820	172	26590	0.245
94) trans-Isosafrole	(3)	10.932	162	4469	0.100
95) 1,1'-Biphenyl	(3)	10.975	154	15638	0.133
96) 2-Chloronaphthalene	(3)	10.991	162	11516	0.124
98) 1-Chloronaphthalene	(3)	11.023	162	13013	0.148
99) Diphenyl ether	(3)	11.162	170	7636	0.122
100) 2-Nitroaniline	(3)	11.167	138	2734	0.097
104) 1,4-Naphthoquinone	(3)	11.290	158	3659	0.099
105) 1,4-Dinitrobenzene	(3)	11.419	168	1487M	0.103
106) Dimethylphthalate	(3)	11.504	163	12349	0.123
107) 1,3-Dinitrobenzene	(3)	11.526	168	993	0.063
108) 2,6-Dinitrotoluene	(3)	11.585	165	2020	0.093
112) 3-Nitroaniline	(3)	11.815	138	2415	0.101
113)*Acenaphthene-d10	(3)	11.863	164	393118	5.000
120) 2,4_2,6-Dinitrotoluenes	(3)			4554	0.177
115) 2,4-Dinitrophenol	(3)	11.970	184	5647	0.393
116) 4-Nitrophenol	(3)	12.055	109	6423	0.349
117) Pentachlorobenzene	(3)	12.087	250	5025	0.137
118) 2,4-Dinitrotoluene	(3)	12.152	165	2534	0.084

M = Compound was manually integrated.
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Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:49.
Target 3.5 esignature used: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sublist used: mdlall1

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
119) Dibenzofuran	(3)	12.152	168	15921	0.124
121) 1-Naphthylamine	(3)	12.253	143	10551	0.113
122) 2,3,4,6-Tetrachlorophenol	(3)	12.312	232	2257	0.094
123) 2-Naphthylamine	(3)	12.360	143	10924	0.120
124) Diethylphthalate	(3)	12.488	149	11394	0.116
125) Thionazin	(3)	12.579	107	2116	0.111
129) 4-Nitroaniline	(3)	12.606	138	2382	0.098
127) 4-Chlorophenyl-phenylether	(3)	12.606	204	5629	0.117
128) 5-Nitro-o-toluidine	(3)	12.611	152	2659	0.096
130) 4,6-Dinitro-2-methylphenol	(4)	12.654	198	5871	0.324
132) NDPA as diphenylamine	(4)	12.756	169	10095	0.123
131) N-Nitrosodiphenylamine	(4)	12.756	169	10095	0.123
134) 1,2-Diphenylhydrazine	(4)	12.804	77	14466	0.117
135)$2,4,6-Tribromophenol	(3)	12.884	330	2090	0.184
137) Tetraethyldithiopyrophosphate	(4)	12.986	97	2617	0.133
146) Diallate trans/cis	(4)			5907	0.110
139) 1,3,5-Trinitrobenzene	(4)	13.088	213	733M	0.069
140) Diallate (peak 1)	(4)	13.130	86	4814	0.089
141) Phorate	(4)	13.141	75	7827	0.101
142) Phenacetin	(4)	13.152	108	5343	0.094
143) 4-Bromophenyl-phenylether	(4)	13.227	248	3013	0.121
144) Diallate (peak 2)	(4)	13.243	86	1093M	0.021
147) Dimethoate	(4)	13.350	87	4619	0.091
148) Atrazine	(4)	13.451	200	3101	0.115
149) Pentachlorophenol	(4)	13.537	266	1650	0.097
151) Pentachloronitrobenzene	(4)	13.548	237	1199	0.096
150) 4-Aminobiphenyl	(4)	13.558	169	10592	0.113
152) Pronamide	(4)	13.649	173	4061	0.094
153)*Phenanthrene-d10	(4)	13.794	188	702223	5.000
154) Dinoseb	(4)	13.799	211	1507	0.813
163) Carbazole	(4)	14.120	167	15537	0.116
164) Methyl parathion	(4)	14.328	109	2960	0.080
165) Di-n-butylphthalate	(4)	14.639	149	18274	0.112
167) Parathion	(4)	14.890	109	1839M	0.084
168) 4-Nitroquinoline-1-oxide	(4)	14.917	190	757	0.048
169) Octachlorostyrene	(4)	15.248	308	1120	0.122
171) Isodrin	(4)	15.313	193	2528M	0.148
174) Benzidine	(5)	15.778	184	87587	0.847
175)*Pyrene-d10	(5)	15.874	212	791744	5.000
179)$Terphenyl-d14	(5)	16.184	244	25287	0.241

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* = Compound is an internal standard.
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Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:49.
Target 3.5 esignature used: 0547

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125

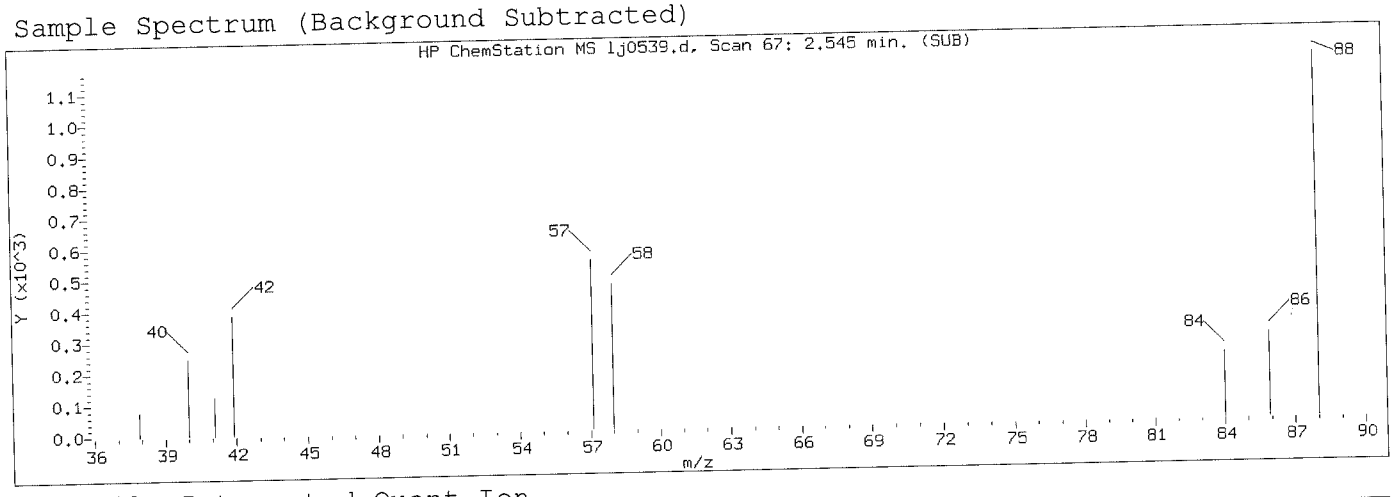
Lab Sample ID: RVMDL2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) p-Dimethylaminoazobenzene	(5)	16.430	225	2686	0.097
185) Chlorobenzilate	(5)	16.505	139	5267	0.107
187) 3,3'-Dimethylbenzidine	(5)	17.008	212	9649	0.093
188) Butylbenzylphthalate	(5)	17.056	149	6663	0.093
191) 2-Acetylaminofluorene	(5)	17.431	181	4749	0.076
193) 3,3'-Dichlorobenzidine	(5)	17.955	252	5753	0.104
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.976	231	3207	0.100
199) bis(2-Ethylhexyl)phthalate	(5)	18.137	149	8939	0.087
203) 6-Methylchrysene	(5)	18.843	242	11168	0.113
205) Di-n-octylphthalate	(6)	19.319	149	13584	0.078
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.859	256	5984	0.099
213)*Perylene-d12	(6)	20.495	264	568489	5.000
215) 3-Methylcholanthrene	(6)	20.971	268	6893	0.113
217) Dibenz(a,h)acridine	(6)	21.811	279	11656	0.104
218) Dibenz(a,j)acridine	(6)	21.886	279	11724	0.104

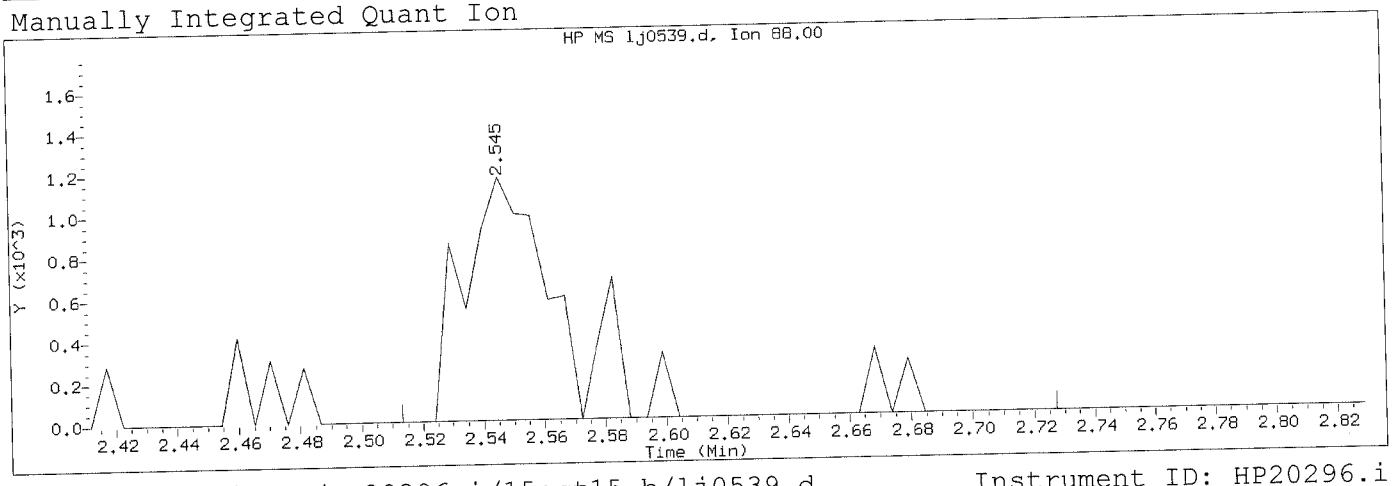
* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:49.
Target 3.5 esignature used: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 67		
Retention Time (minutes)	: 2.545		
Quant Ion	: 88.00		
Area (flag)	: 2748M		
On-Column Amount (ng/ul)	: 0.1086		
Integration start scan	: 60	Integration stop scan:	100
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

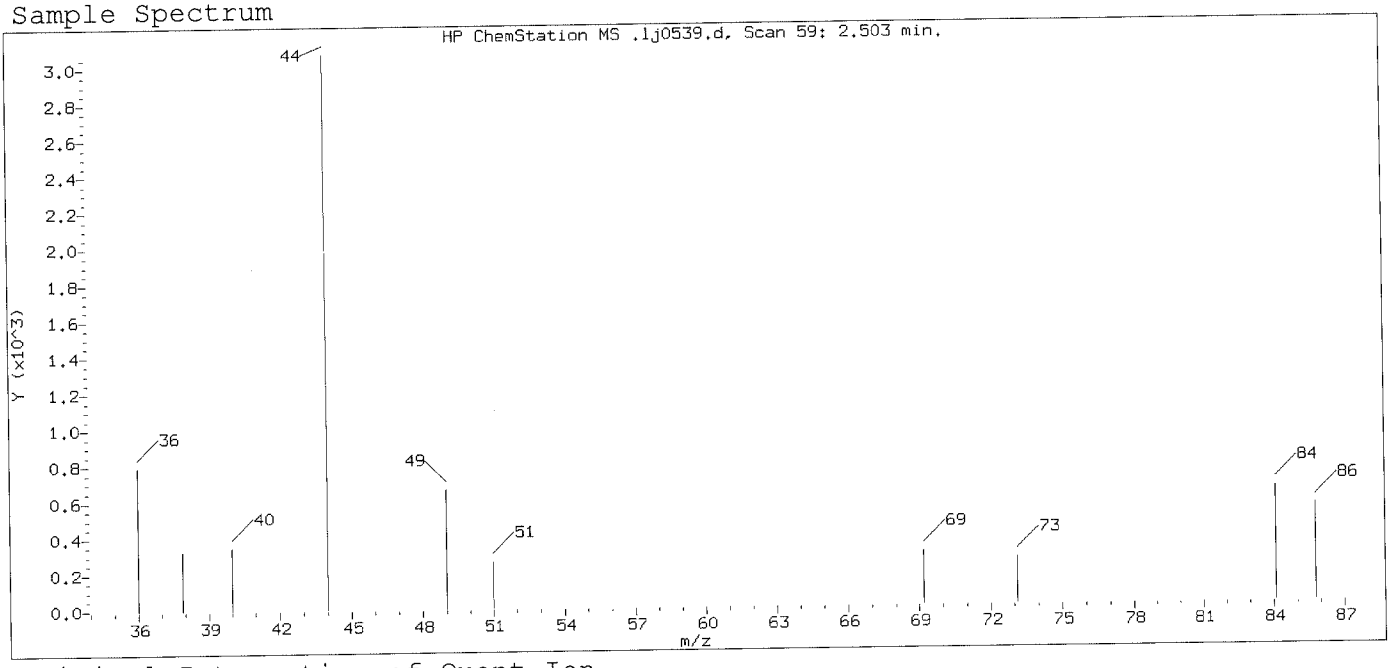
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 signature user ID: ceb05247

OCT 16 2015

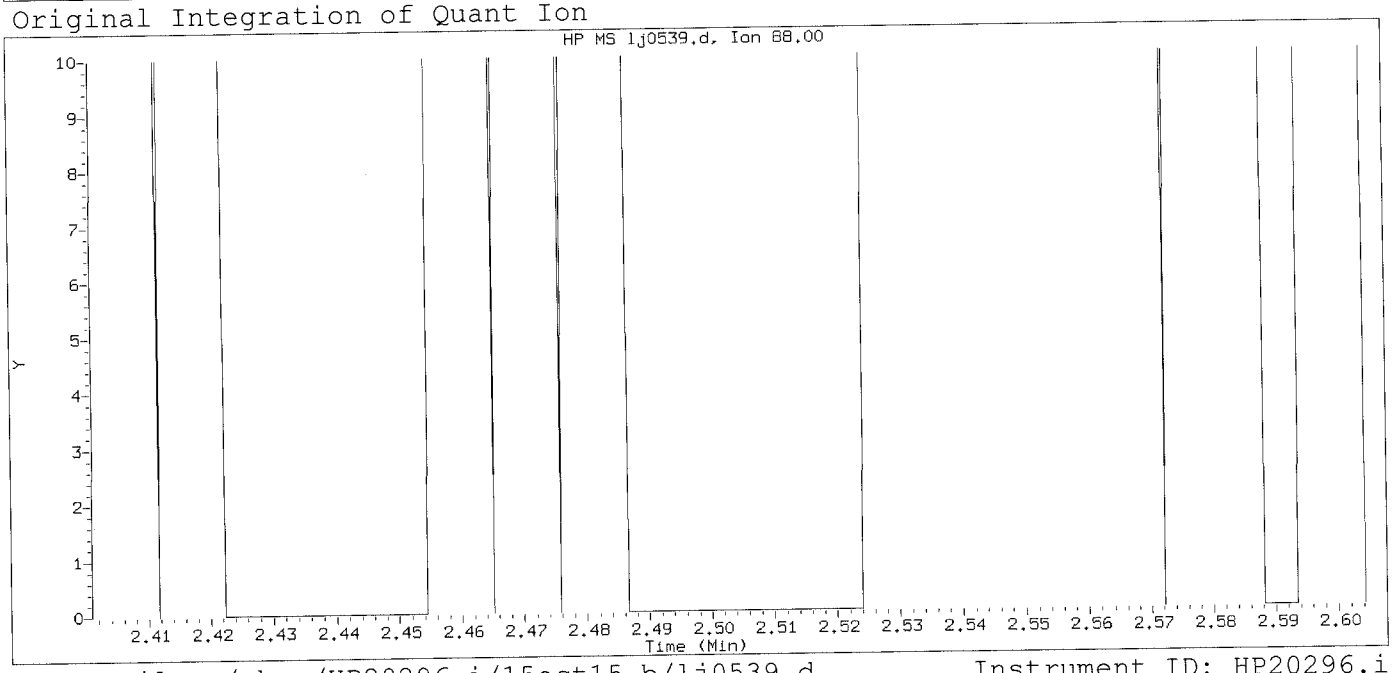
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

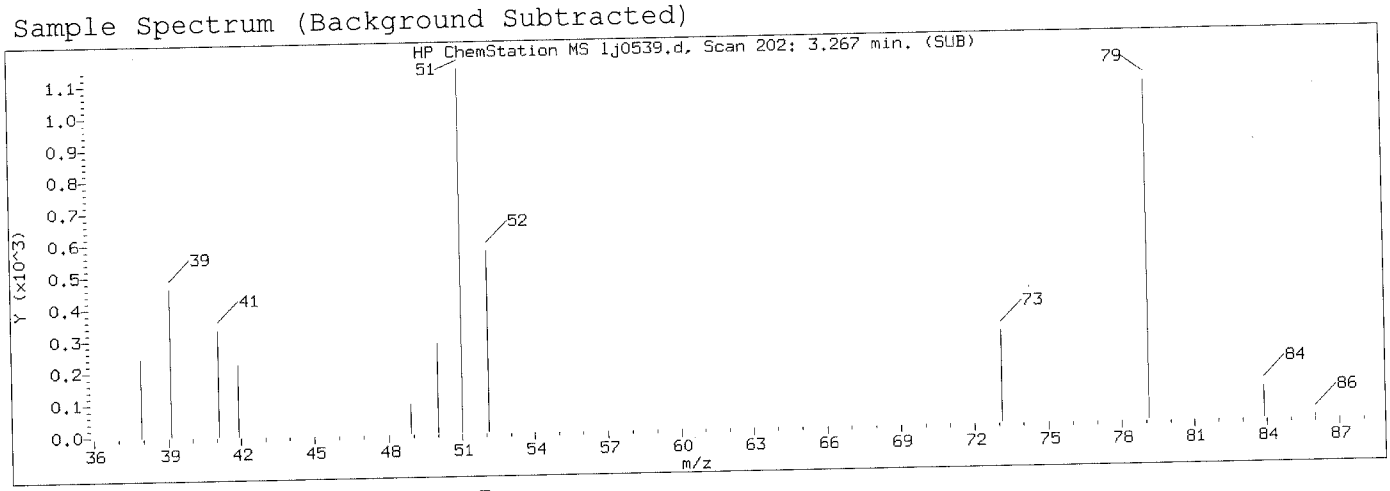
Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

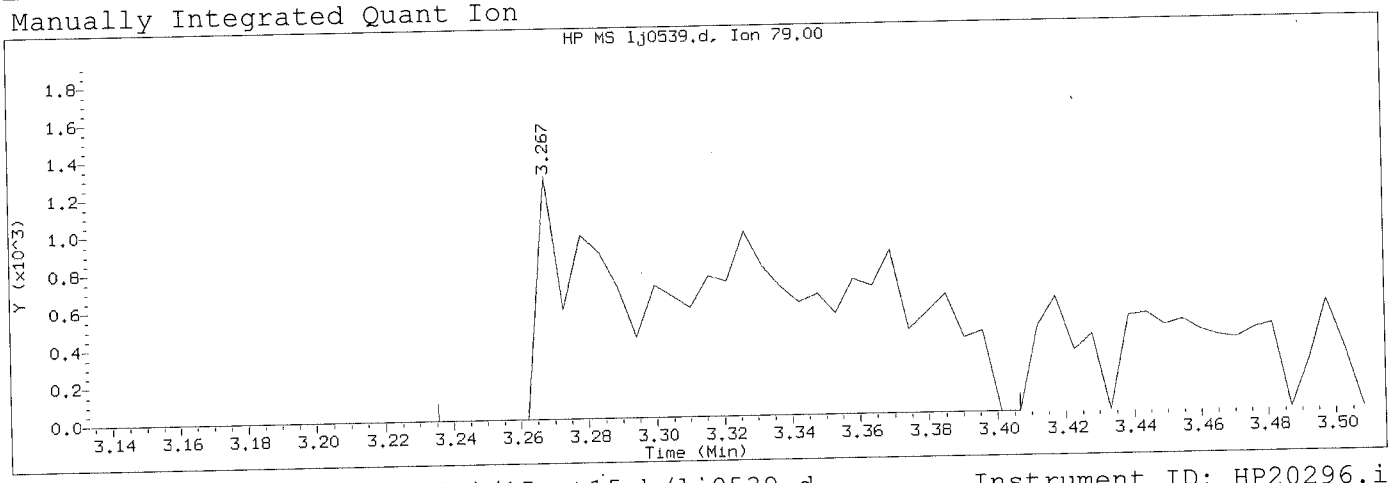
Compound Number : 1
Compound Name : 1,4-Dioxane
Expected RT (minutes) : 2.503
Quant Ion : 88.00

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: CEBACHMAN

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 202		
Retention Time (minutes)	: 3.267		
Quant Ion	: 79.00		
Area (flag)	: 5525M		
On-Column Amount (ng/ul)	: 0.0818		
Integration start scan	: 195	Integration stop scan:	227
Y at integration start	: 0	Y at integration end:	0

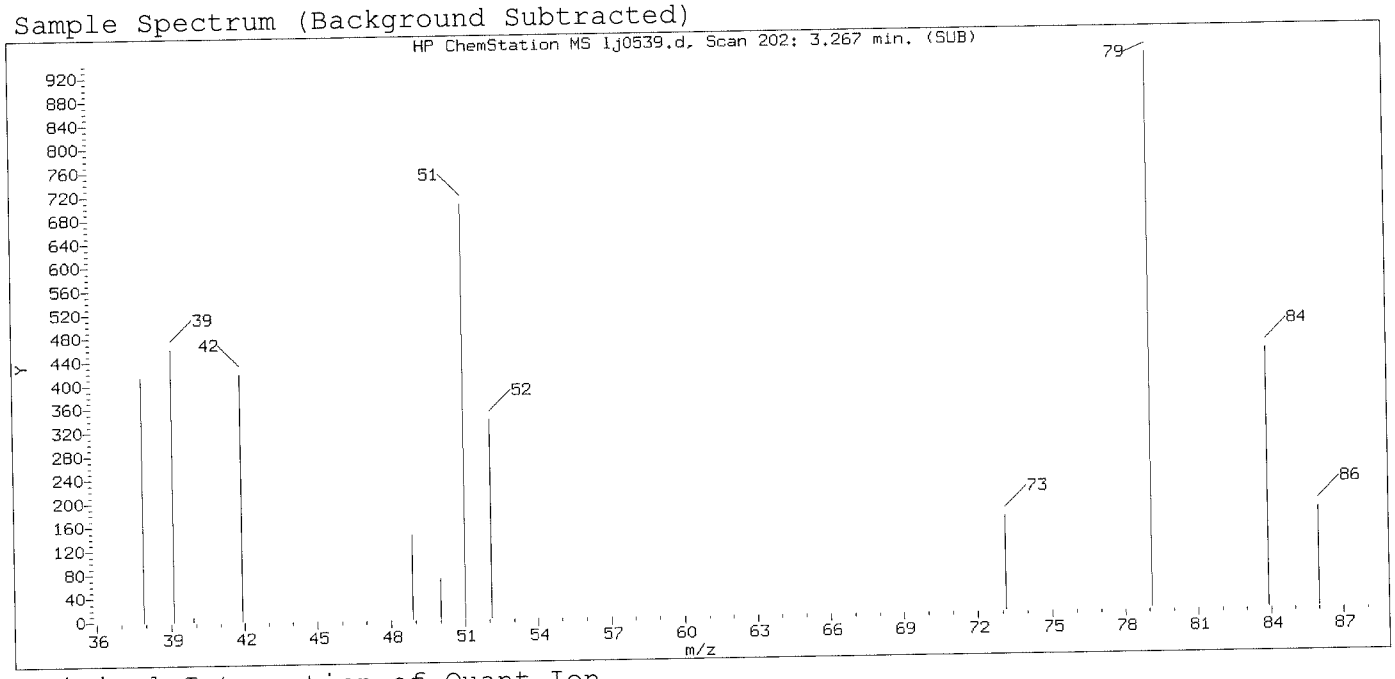
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 signature user ID: ceb05247

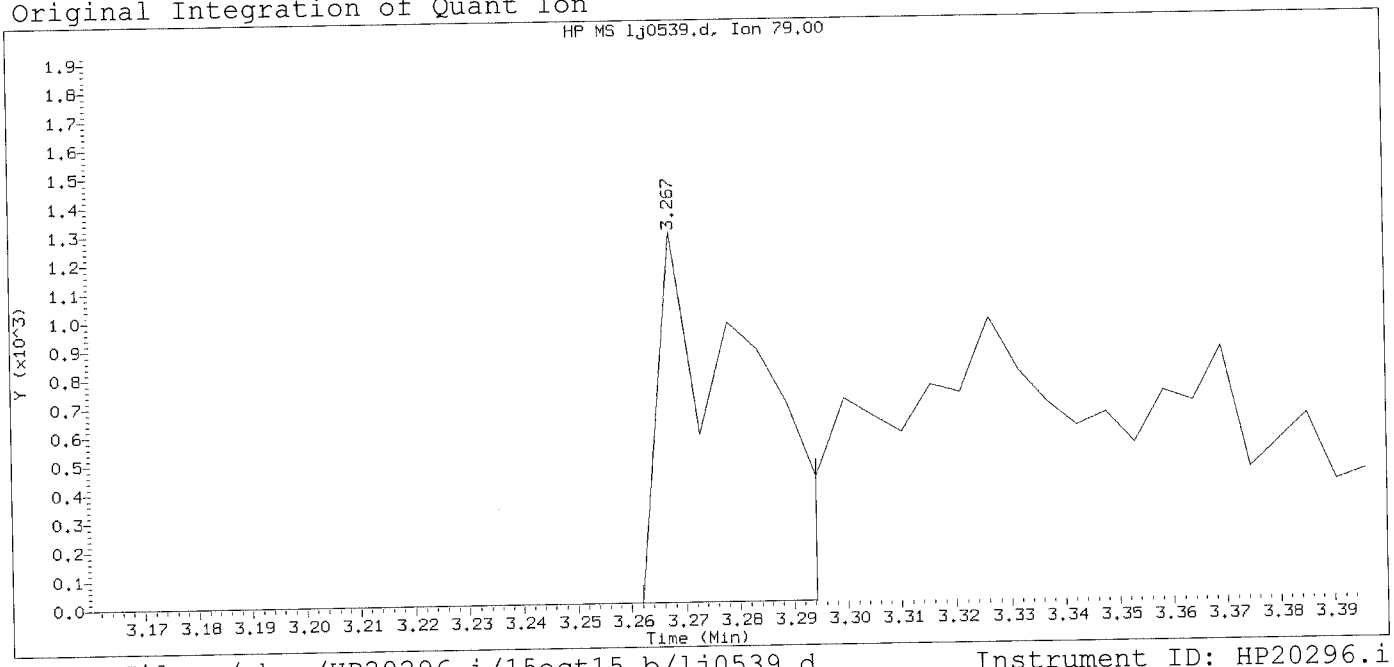
OCT 16 2015

GC/MS audit/management approval: Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

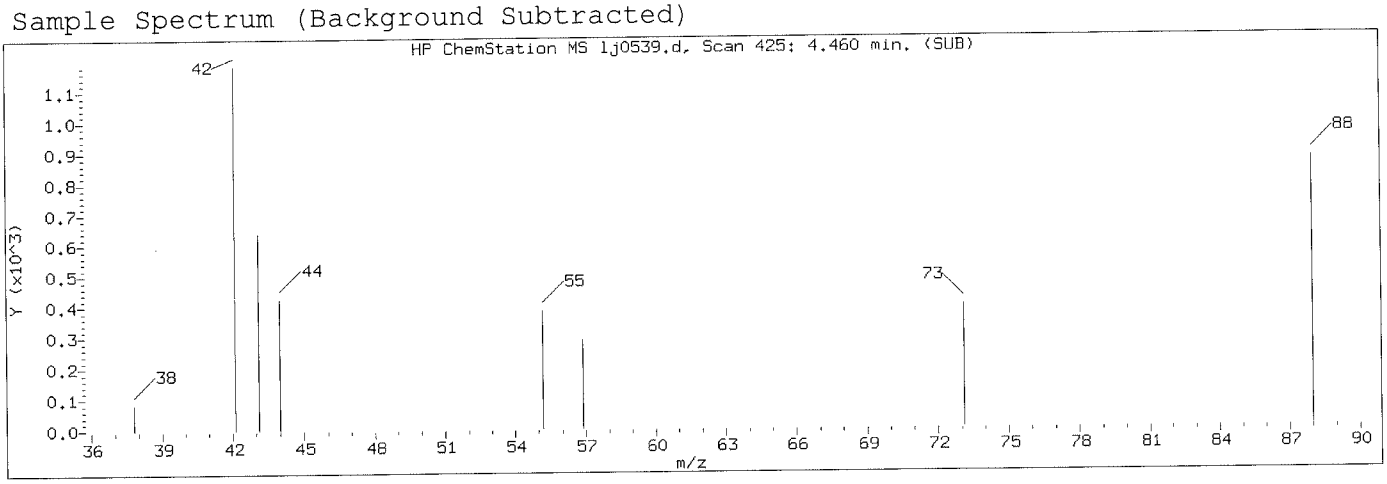
Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

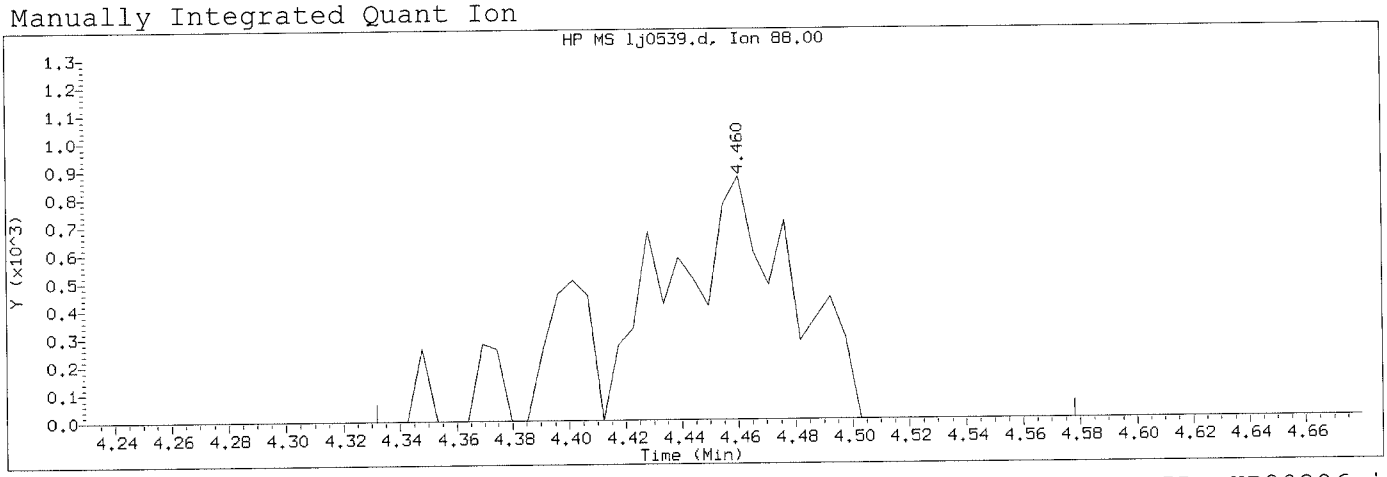
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 202		
Retention Time (minutes)	: 3.267		
Quant Ion	: 79.00		
Area	: 1489		
On-column Amount (ng/ul)	: 0.0237		
Integration start scan	: 200	Integration stop scan:	206
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: CEB0547

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 425		
Retention Time (minutes)	: 4.460		
Quant Ion	: 88.00		
Area (flag)	: 3360M		
On-Column Amount (ng/ul)	: 0.1165		
Integration start scan	: 400	Integration stop scan:	446
Y at integration start	: 0	Y at integration end:	0

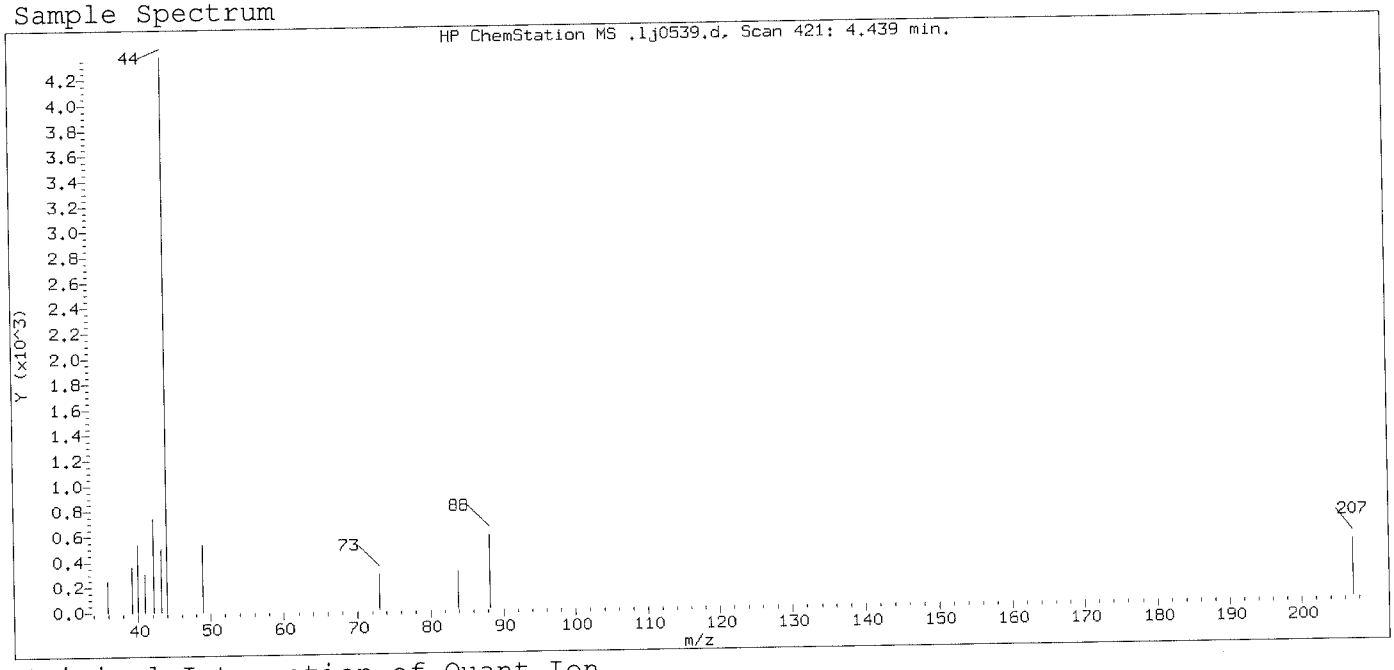
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 signature user ID: ceb05247

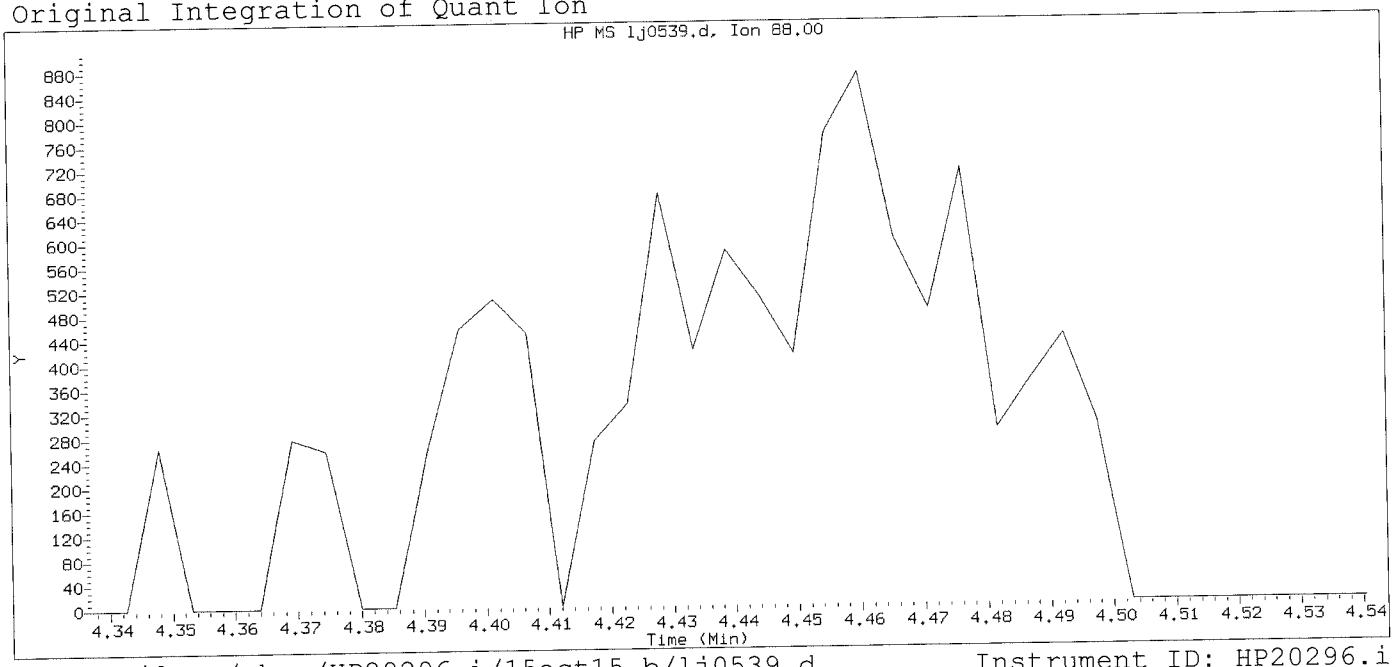
OCT 16 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Quality Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sublist used: mdlall1

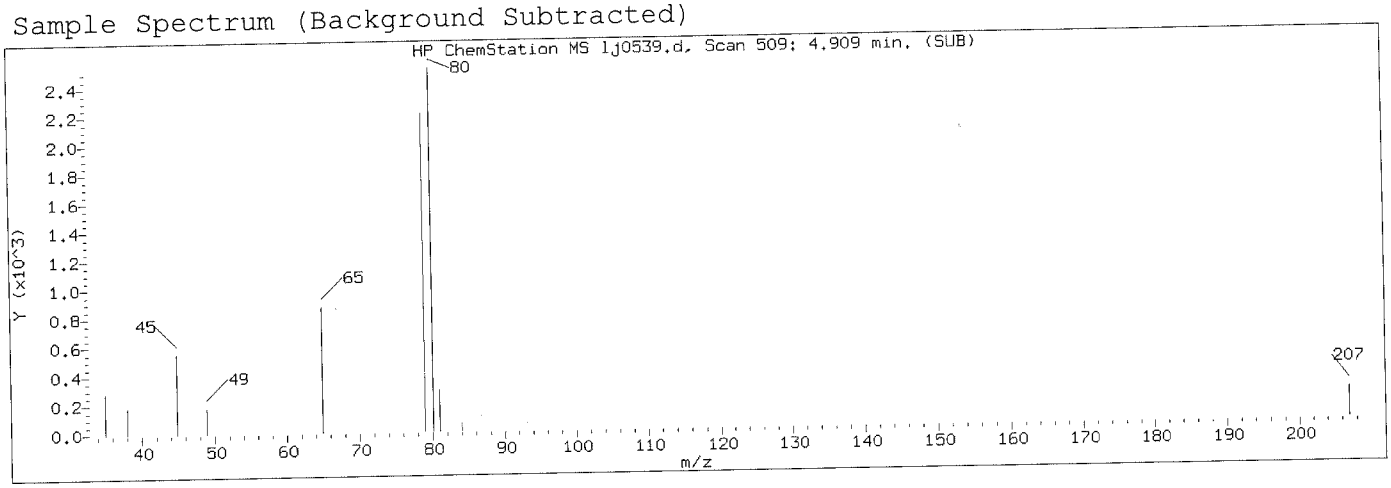
Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

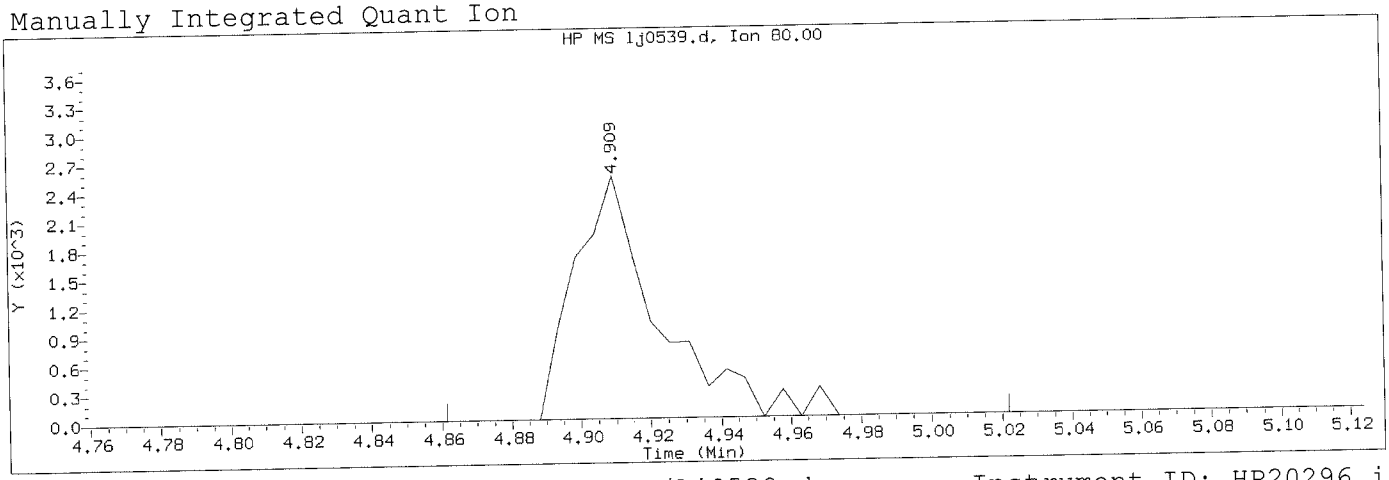
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.439
Quant Ion : 88.00

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: ce905247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 509		
Retention Time (minutes)	: 4.909		
Quant Ion	: 80.00		
Area (flag)	: 4252M		
On-Column Amount (ng/ul)	: 0.1249		
Integration start scan	: 499	Integration stop scan:	529
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

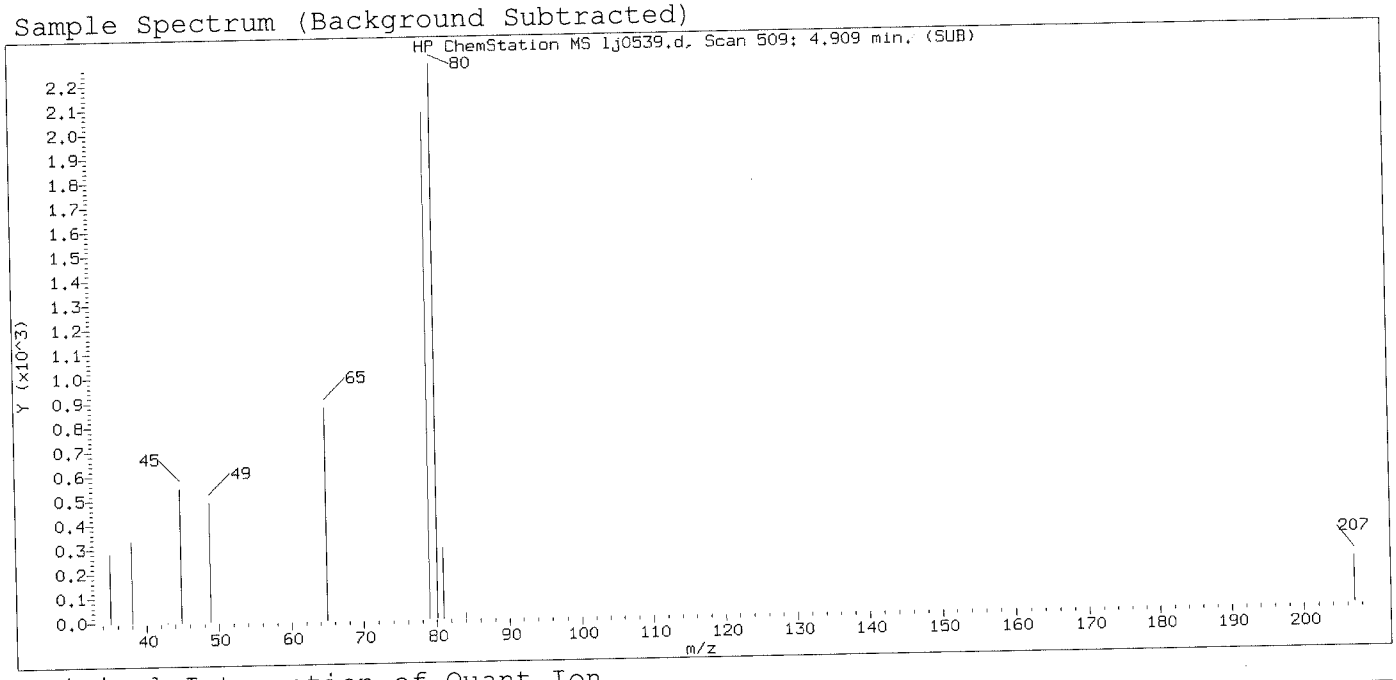
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 esignature user ID: ceb05247

OCT 16 2015

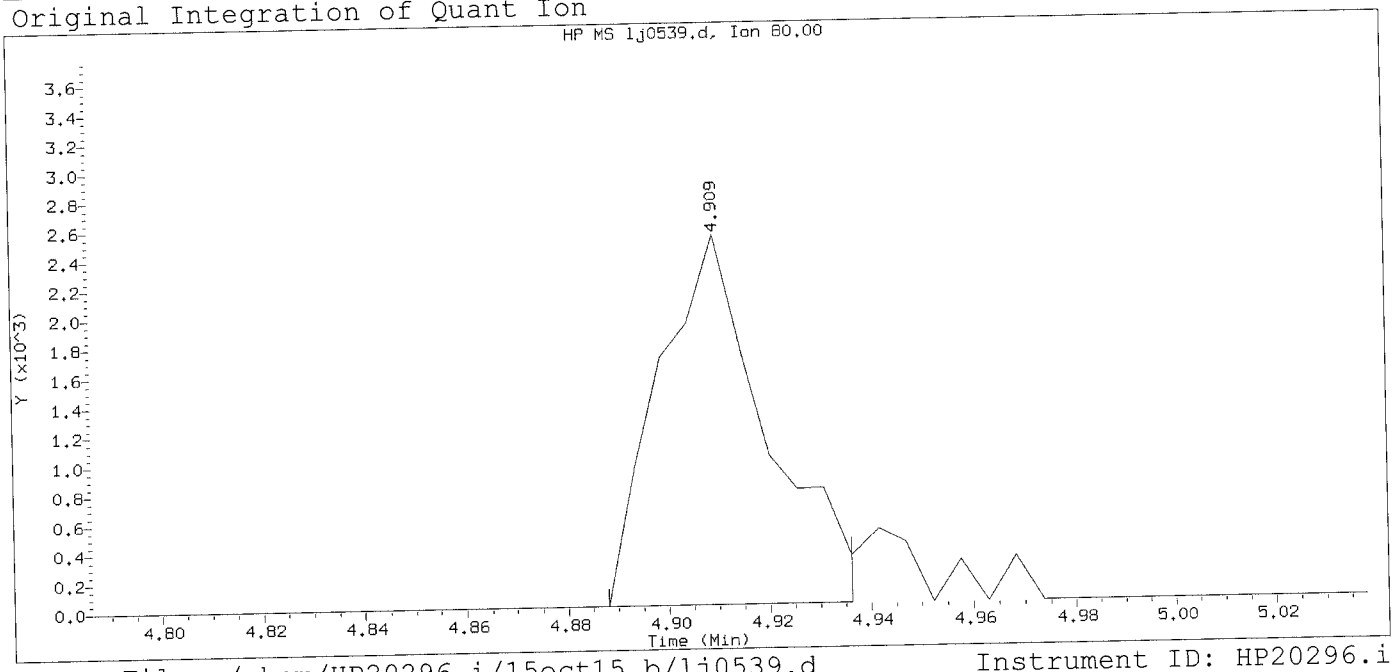
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sublist used: mdlall1

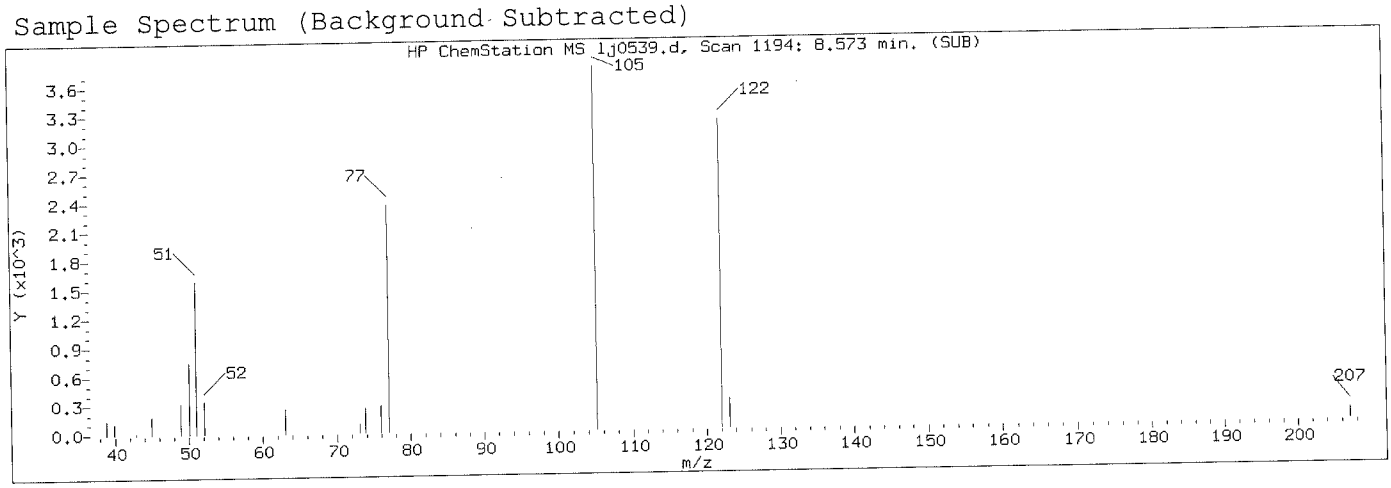
Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

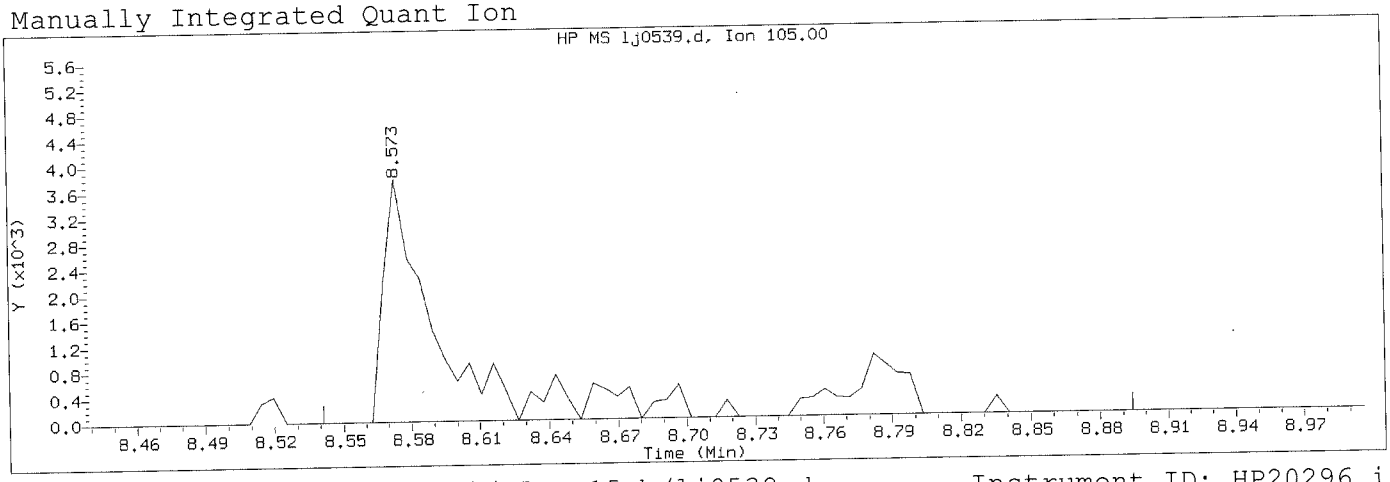
Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 509		
Retention Time (minutes)	: 4.909		
Quant Ion	: 80.00		
Area	: 3715		
On-column Amount (ng/ul)	: 0.1188		
Integration start scan	: 504	Integration stop scan:	513
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1194		
Retention Time (minutes)	: 8.573		
Quant Ion	: 105.00		
Area (flag)	: 8560M		
On-Column Amount (ng/ul)	: 1.8257		
Integration start scan	: 1187	Integration stop scan:	1253
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

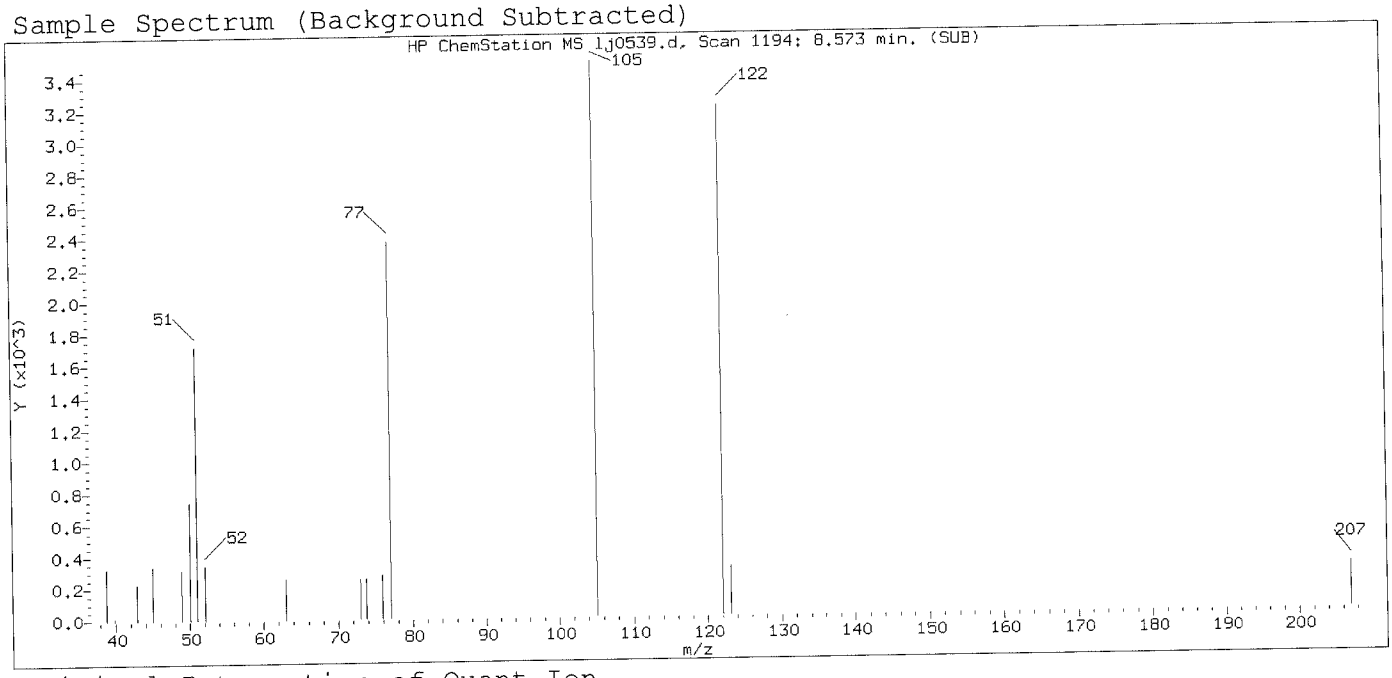
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 signature user ID: ceb05247

OCT 16 2015

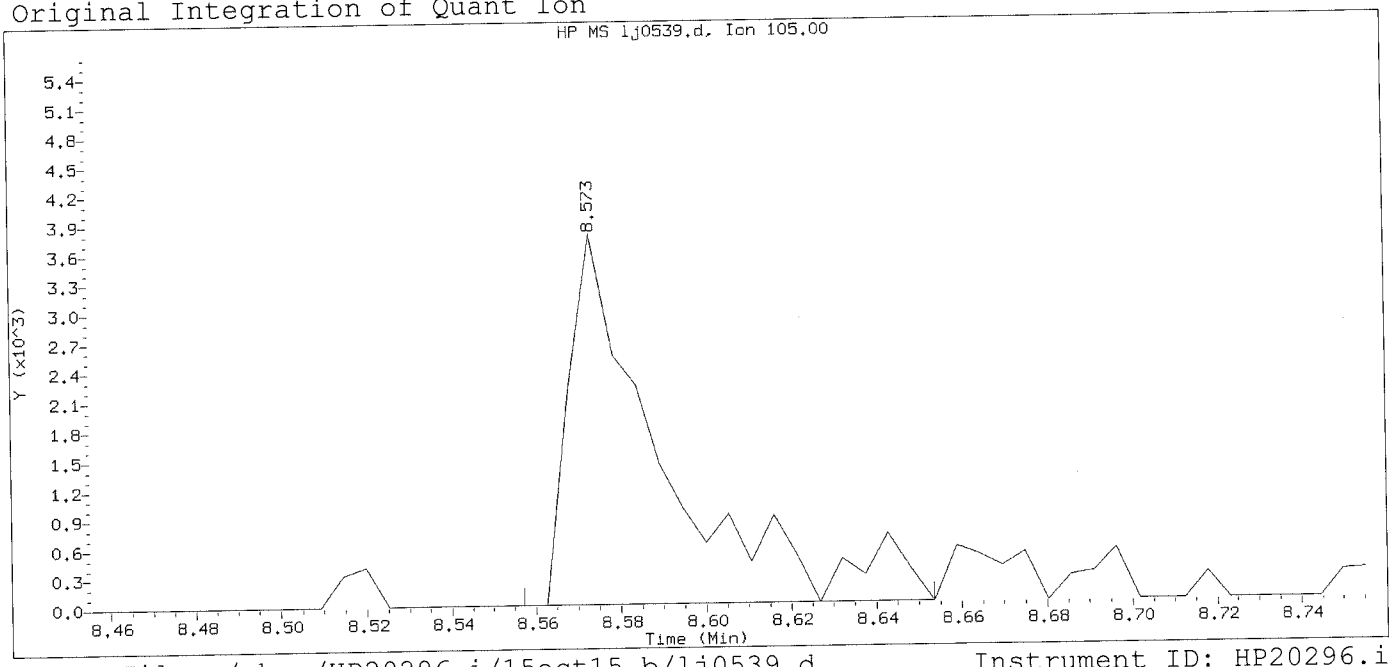
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sublist used: mdlall1

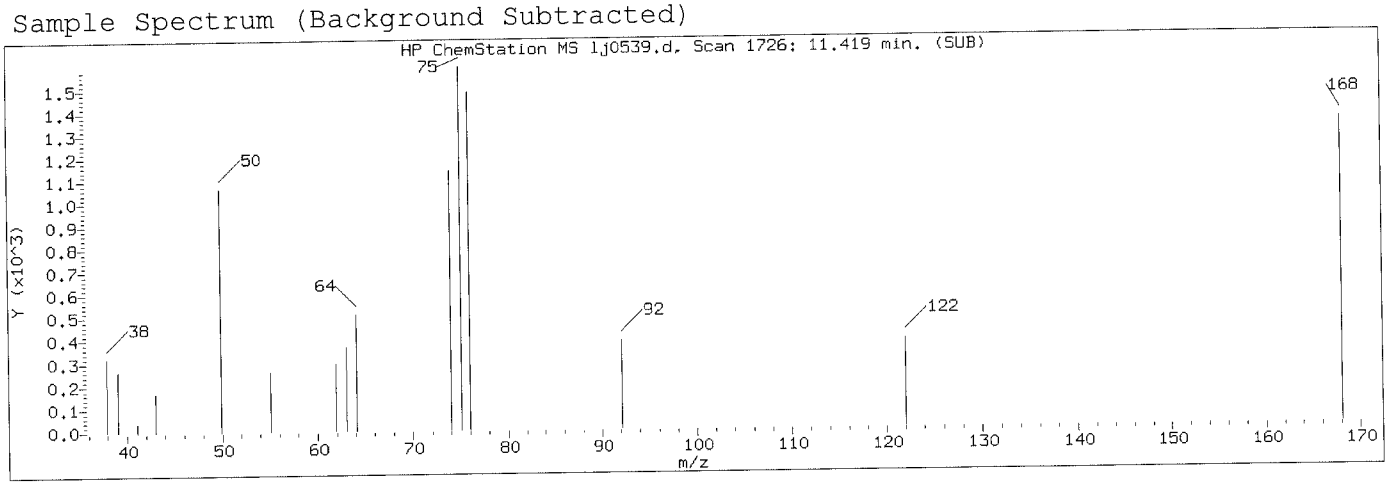
Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

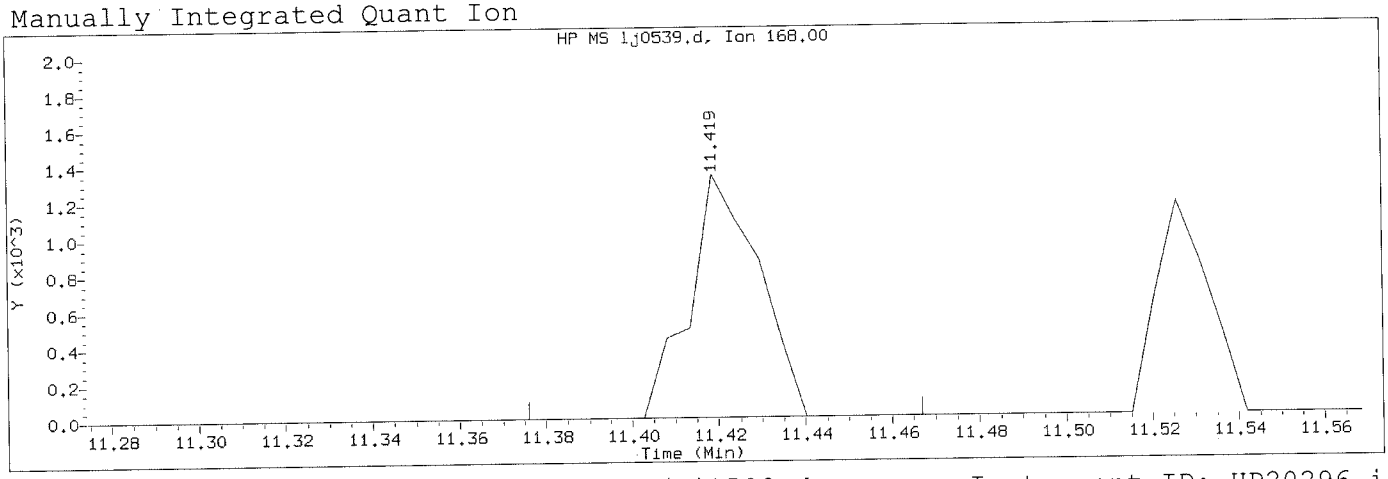
Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1194		
Retention Time (minutes)	: 8.573		
Quant Ion	: 105.00		
Area	: 5835		
On-column Amount (ng/ul)	: 2.0424		
Integration start scan	: 1190	Integration stop scan:	1208
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: cebach47

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 105		
Compound Name	: 1,4-Dinitrobenzene		
Scan Number	: 1726		
Retention Time (minutes)	: 11.419		
Quant Ion	: 168.00		
Area (flag)	: 1487M		
On-Column Amount (ng/ul)	: 0.1032		
Integration start scan	: 1717	Integration stop scan:	1734
Y at integration start	: 0	Y at integration end:	0

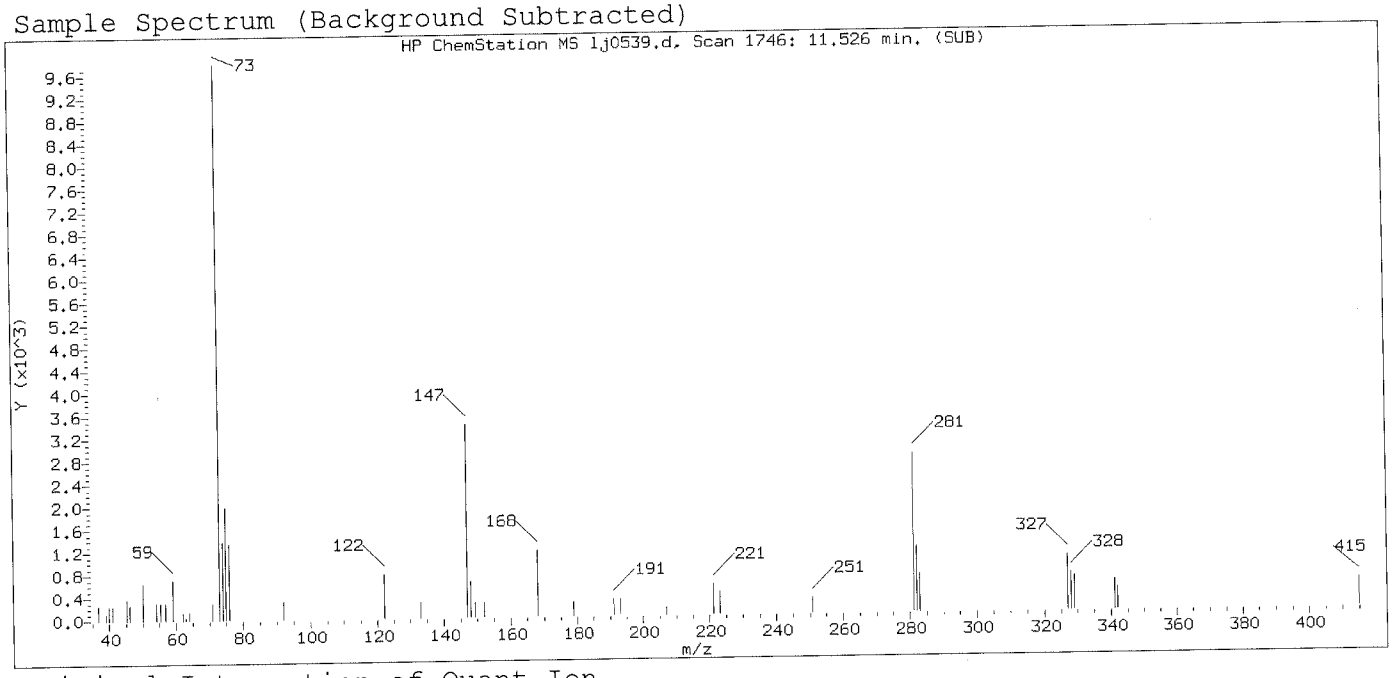
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 signature user ID: ceb05247

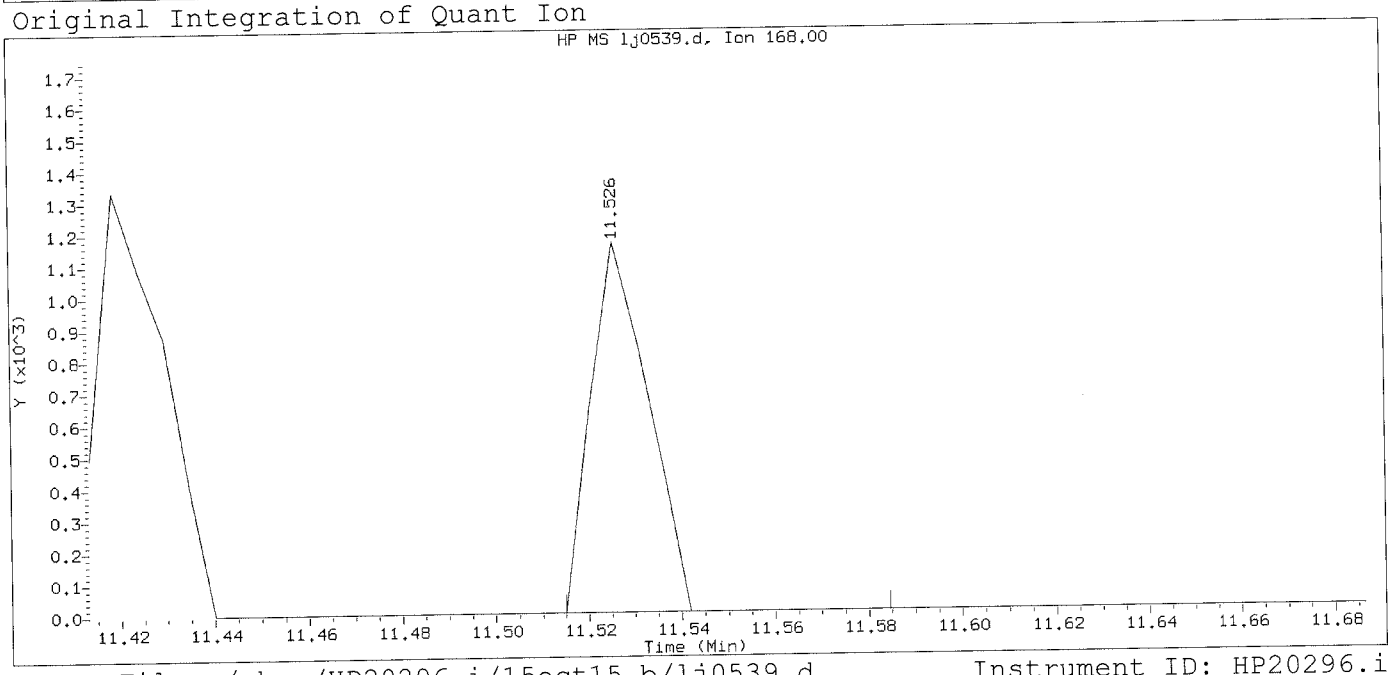
OCT 16 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

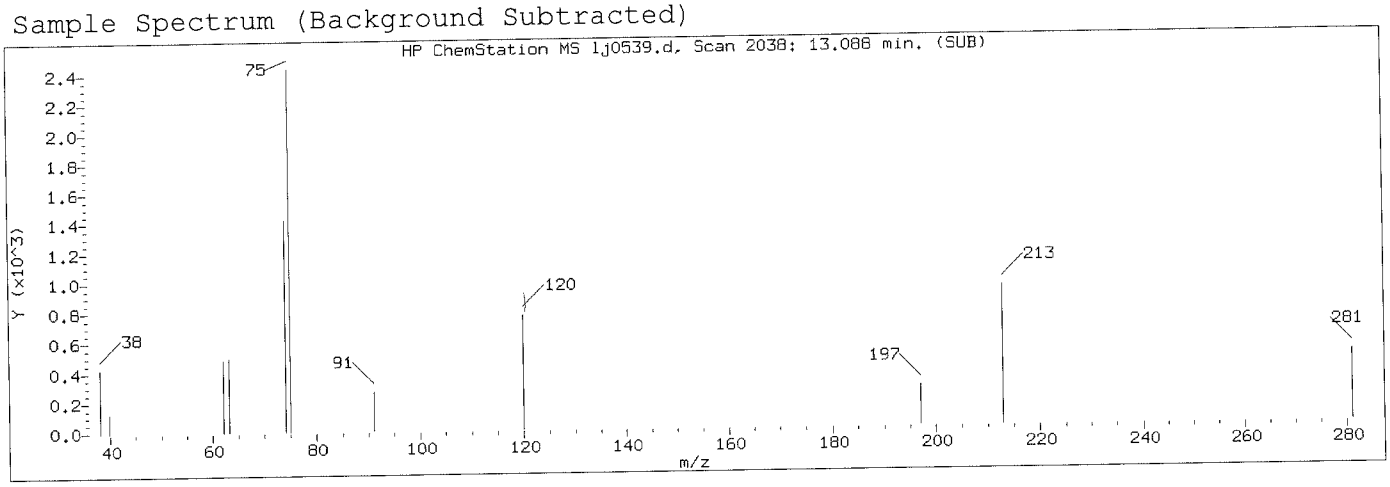
Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

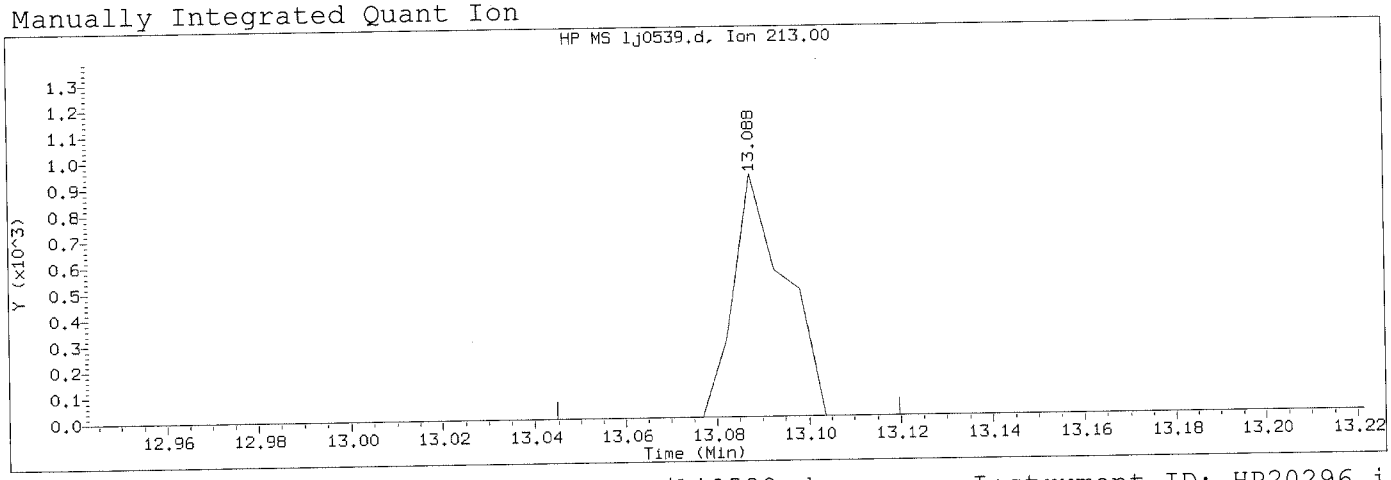
Compound Number	: 105		
Compound Name	: 1,4-Dinitrobenzene		
Scan Number	: 1746		
Retention Time (minutes)	: 11.526		
Quant Ion	: 168.00		
Area	: 993		
On-column Amount (ng/ul)	: 0.0681		
Integration start scan	: 1743	Integration stop scan:	1756
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: cebach47

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 139		
Compound Name	: 1,3,5-Trinitrobenzene		
Scan Number	: 2038		
Retention Time (minutes)	: 13.088		
Quant Ion	: 213.00		
Area (flag)	: 733M		
On-Column Amount (ng/ul)	: 0.0690		
Integration start scan	: 2029	Integration stop scan:	2043
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

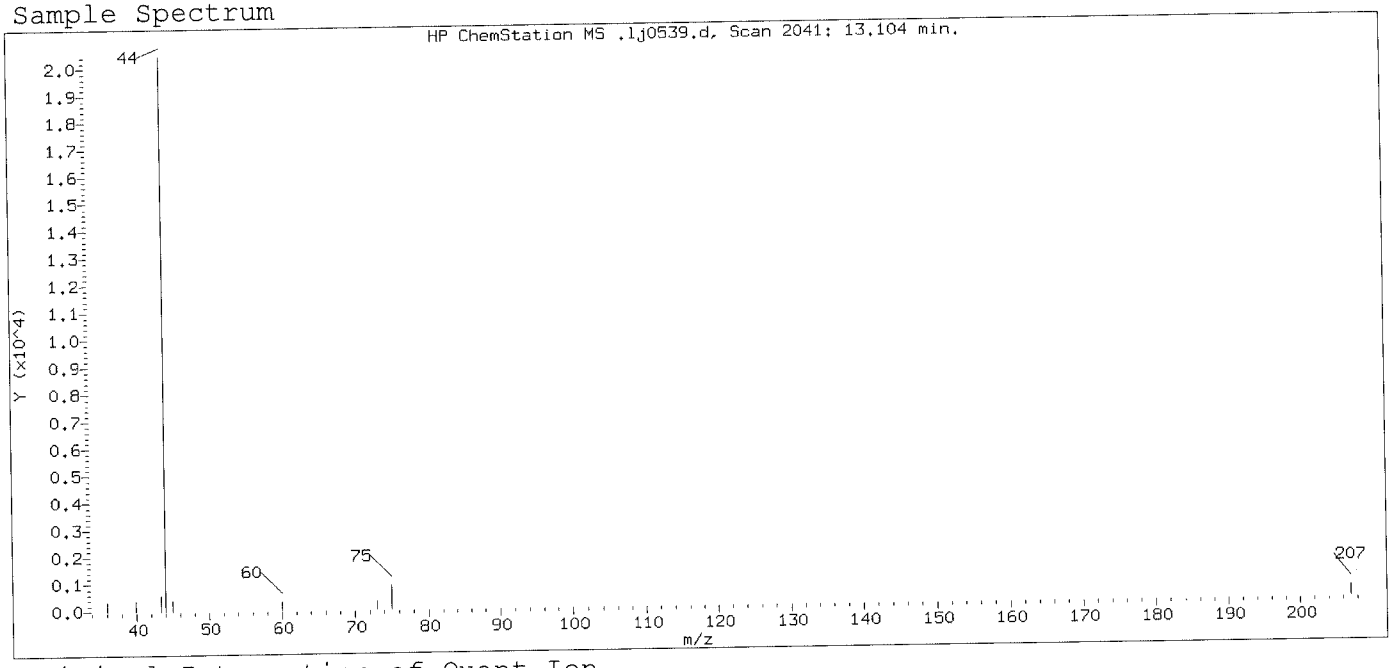
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 esignature user ID: ceb05247

OCT 16 2015

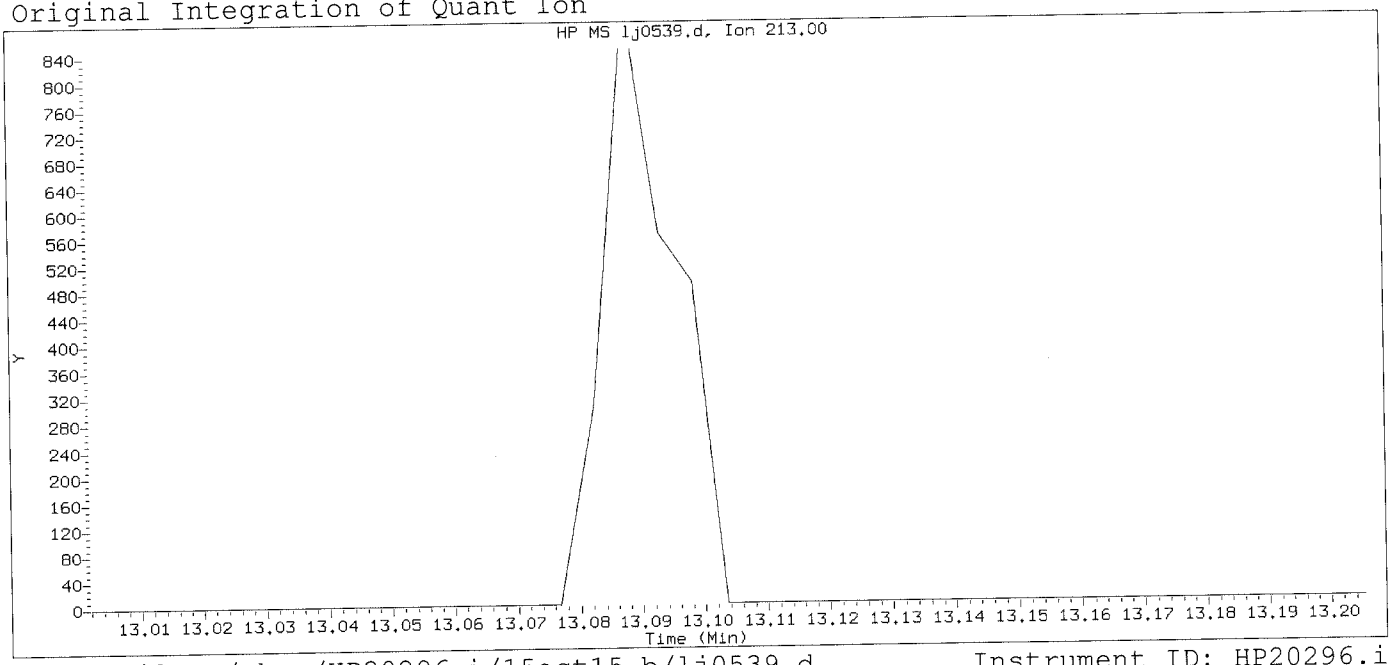
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

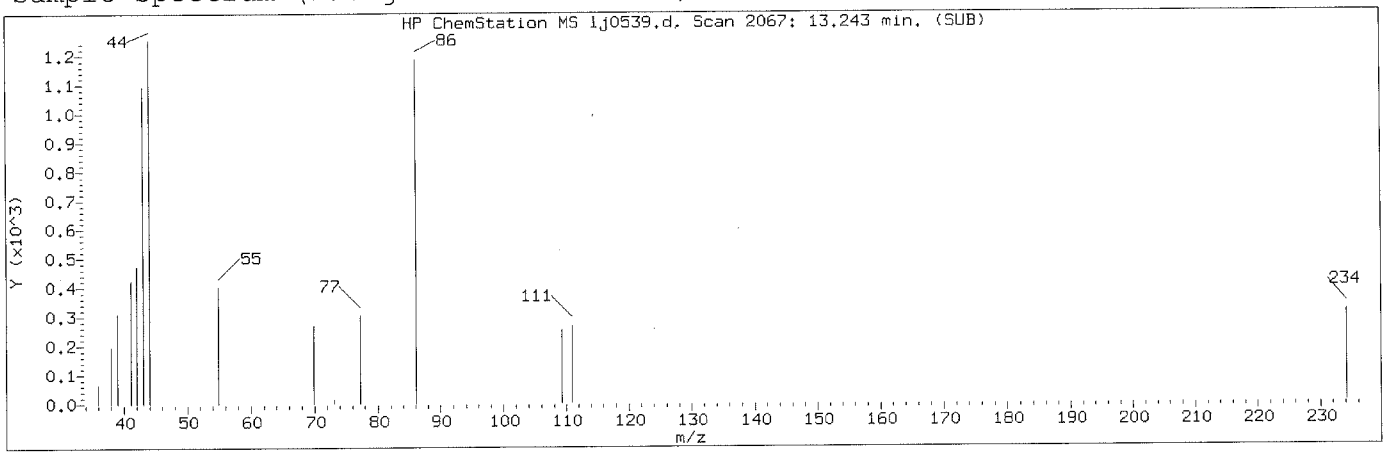
Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

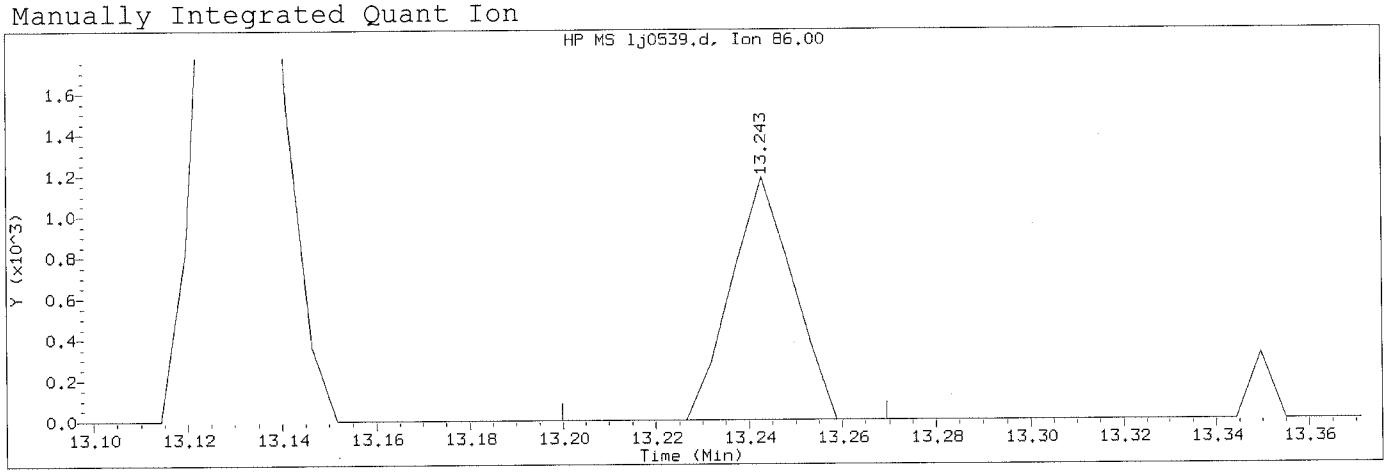
Compound Number : 139
Compound Name : 1,3,5-Trinitrobenzene
Expected RT (minutes) : 13.104
Quant Ion : 213.00

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: CEB05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 144		
Compound Name	: Diallate (peak 2)		
Scan Number	: 2067		
Retention Time (minutes)	: 13.243		
Quant Ion	: 86.00		
Area (flag)	: 1093M		
On-Column Amount (ng/ul)	: 0.0207		
Integration start scan	: 2058	Integration stop scan:	2071
Y at integration start	: 0	Y at integration end:	0

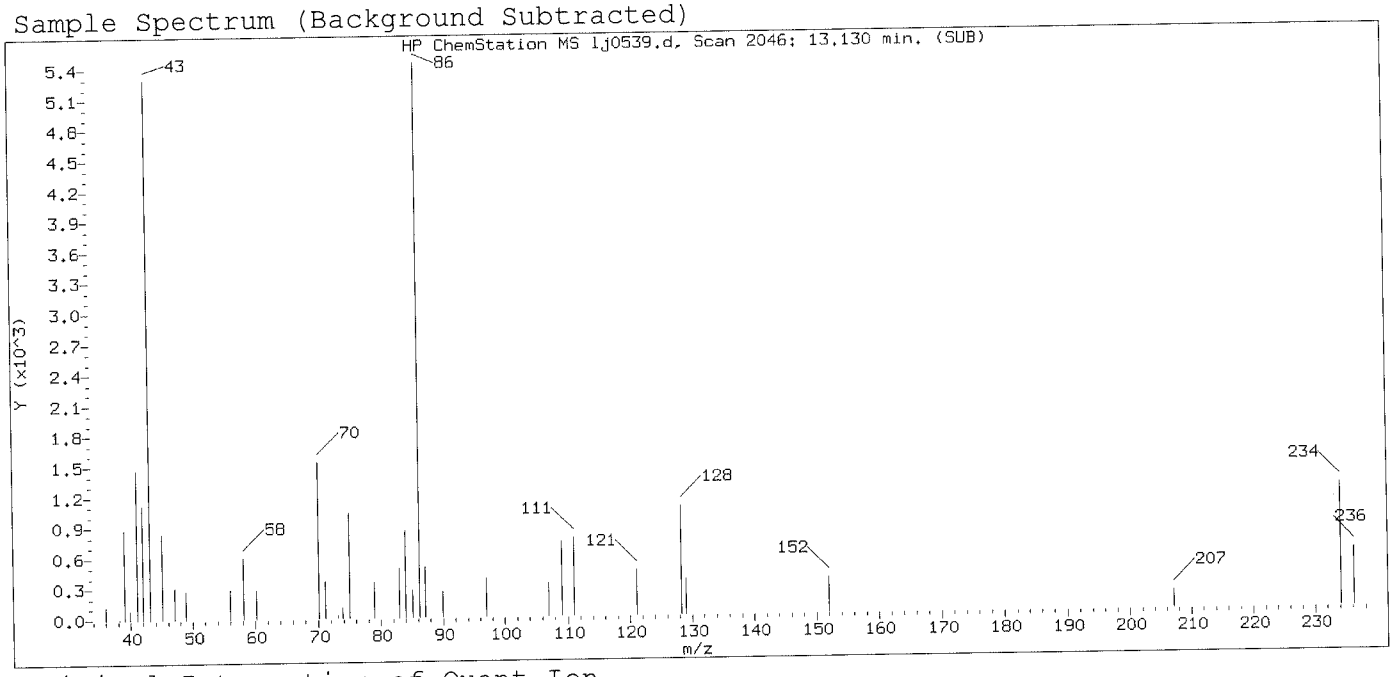
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 esignature user ID: ceb05247

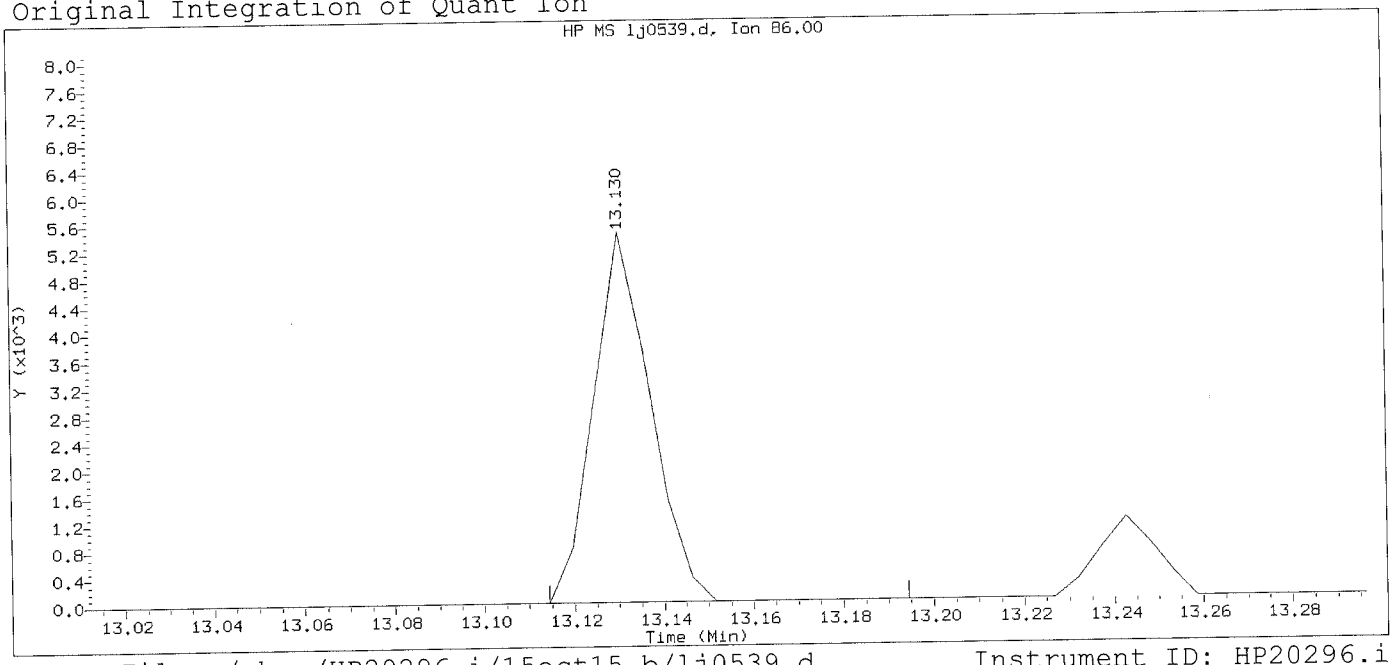
GC/MS audit/management approval: OCT 16 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

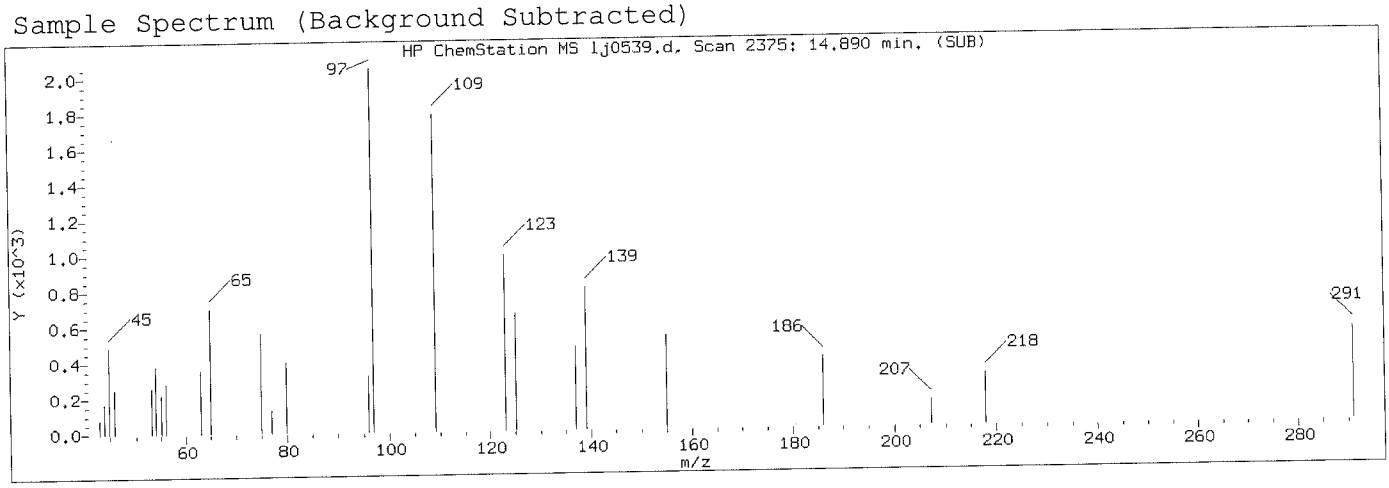
Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

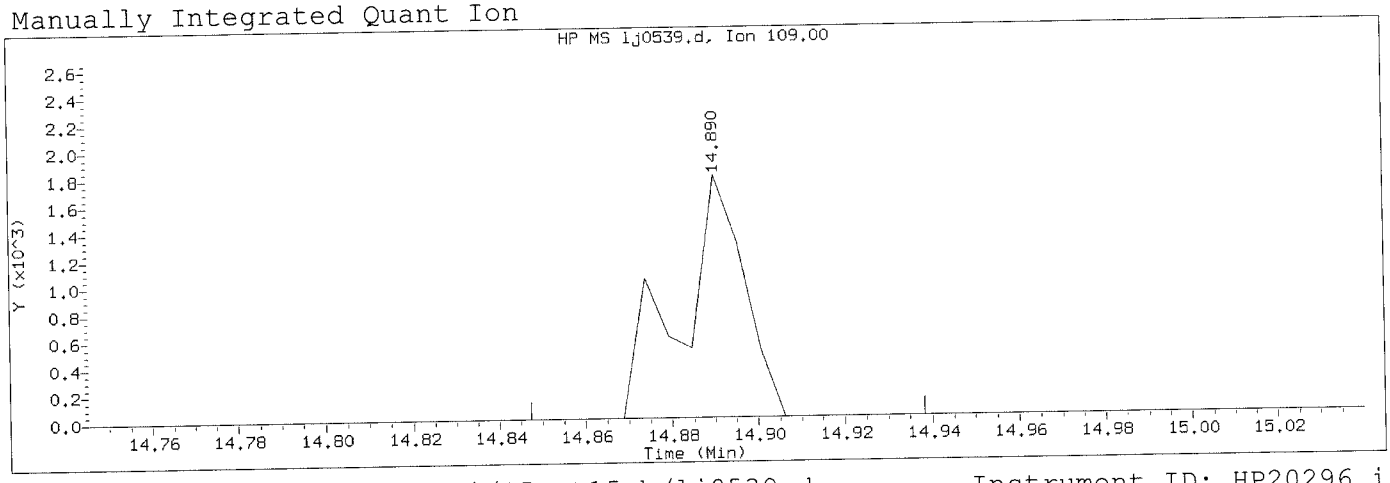
Compound Number	: 144		
Compound Name	: Diallate (peak 2)		
Scan Number	: 2046		
Retention Time (minutes)	: 13.130		
Quant Ion	: 86.00		
Area	: 4814		
On-column Amount (ng/ul)	: 0.1028		
Integration start scan	: 2042	Integration stop scan:	2057
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: CEB0547

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 167		
Compound Name	: Parathion		
Scan Number	: 2375		
Retention Time (minutes)	: 14.890		
Quant Ion	: 109.00		
Area (flag)	: 1839M		
On-Column Amount (ng/ul)	: 0.0837		
Integration start scan	: 2366	Integration stop scan:	2383
Y at integration start	: 0	Y at integration end:	0

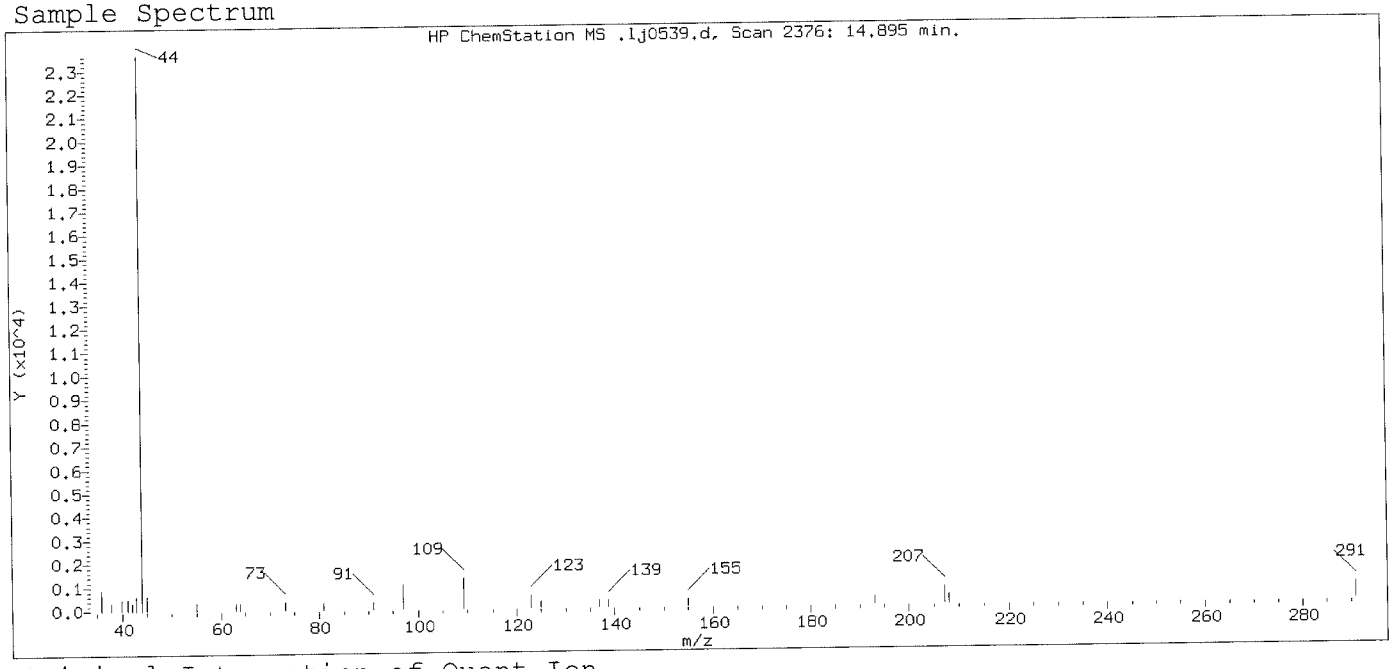
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 esignature user ID: ceb05247

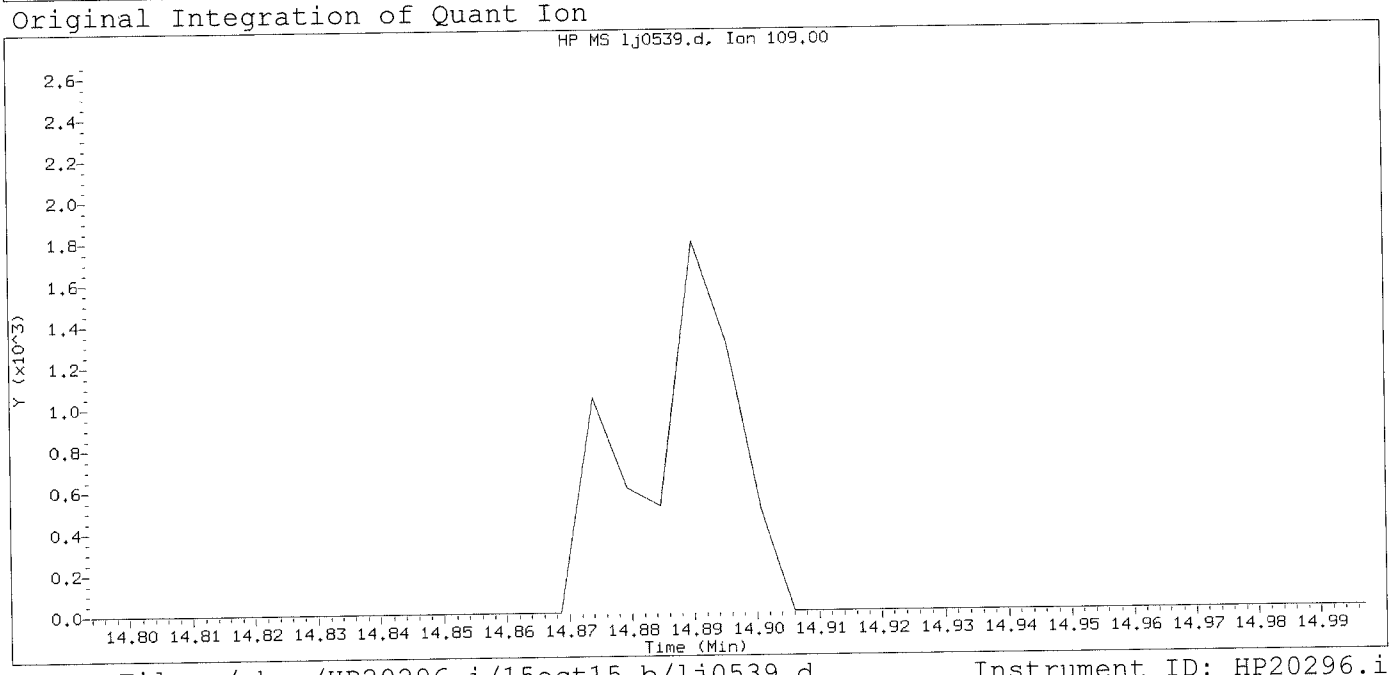
GC/MS audit/management approval: OCT 16 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

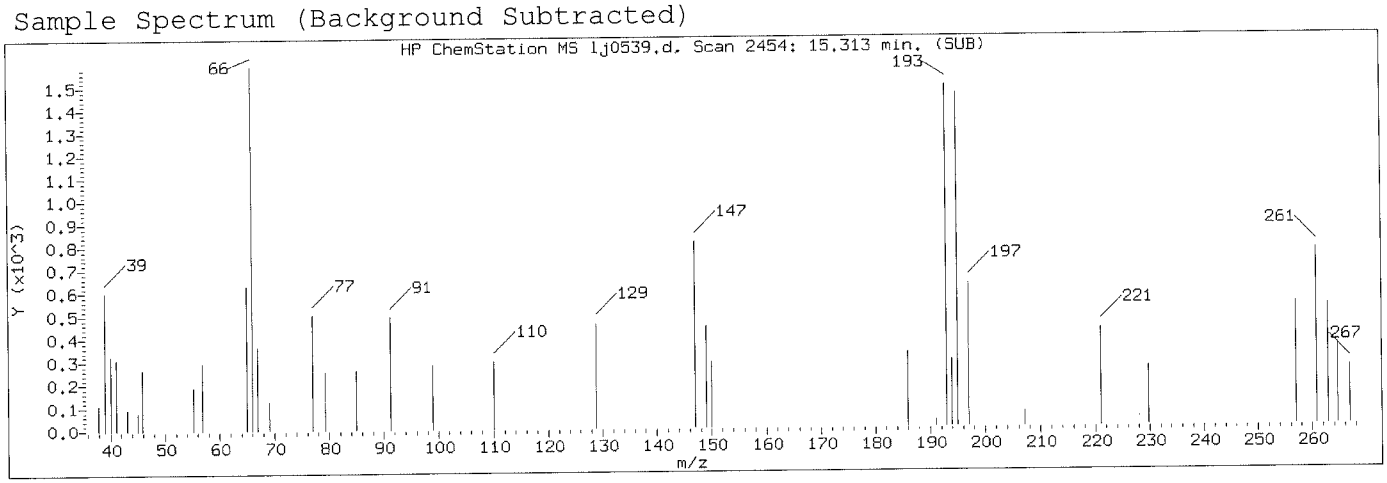
Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

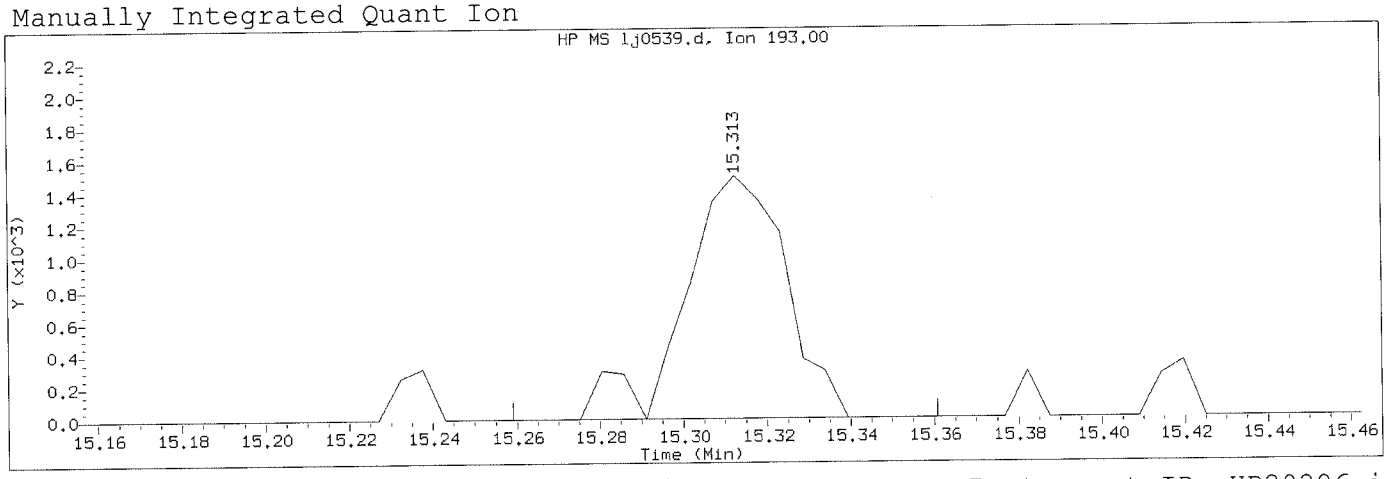
Compound Number : 167
Compound Name : Parathion
Expected RT (minutes) : 14.895
Quant Ion : 109.00

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 171		
Compound Name	: Isodrin		
Scan Number	: 2454		
Retention Time (minutes)	: 15.313		
Quant Ion	: 193.00		
Area (flag)	: 2528M		
On-Column Amount (ng/ul)	: 0.1481		
Integration start scan	: 2443	Integration stop scan:	2462
Y at integration start	: 0	Y at integration end:	0

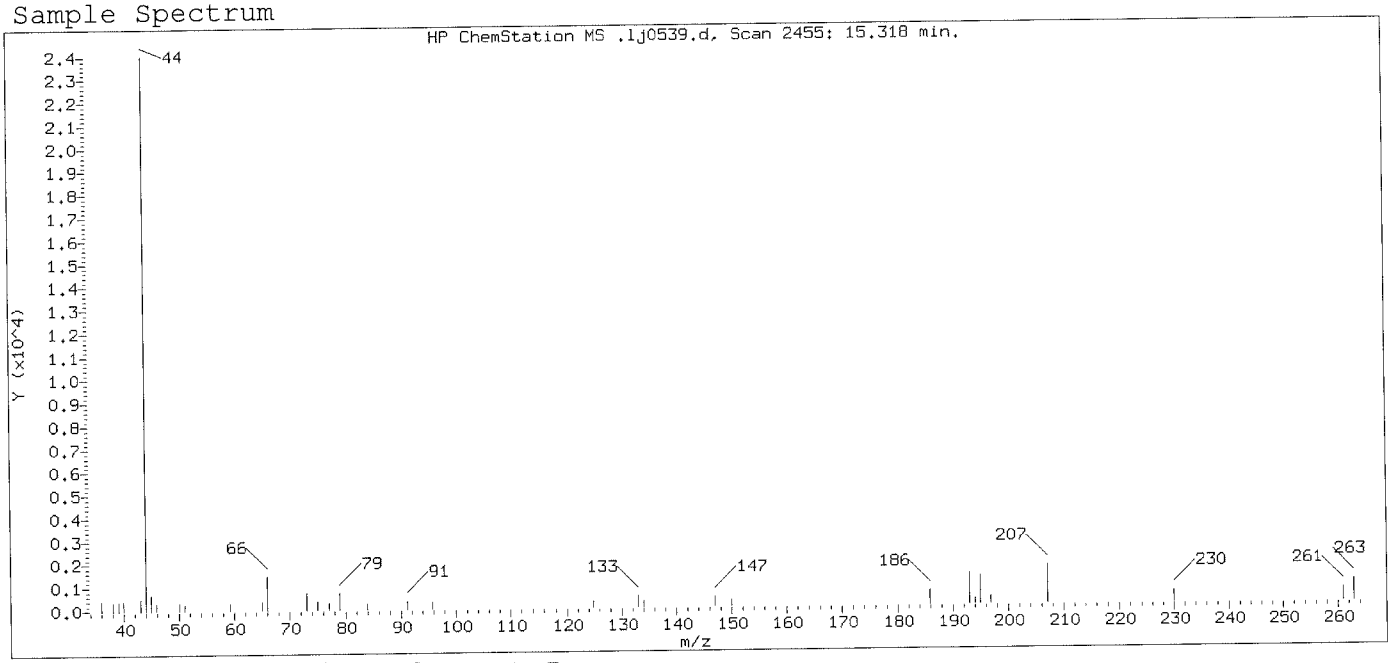
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: ceb05247

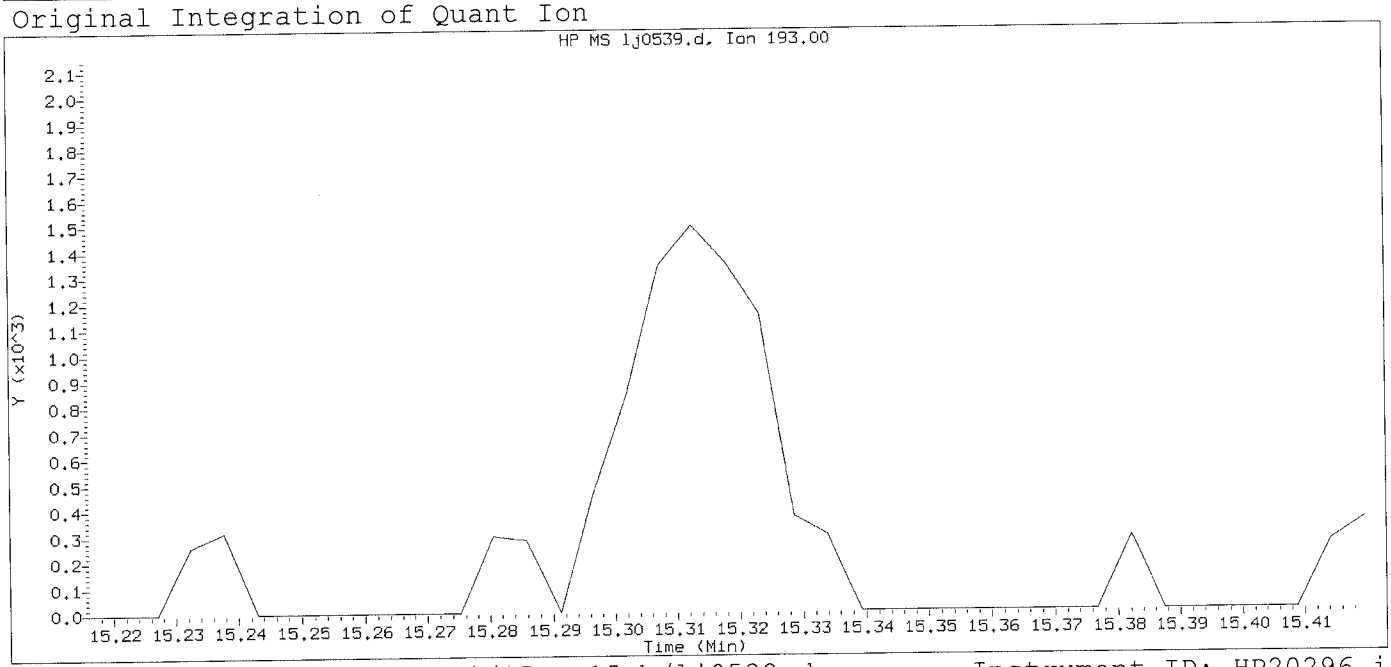
OCT 16 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number : 171
Compound Name : Isodrin
Expected RT (minutes) : 15.318
Quant Ion : 193.00

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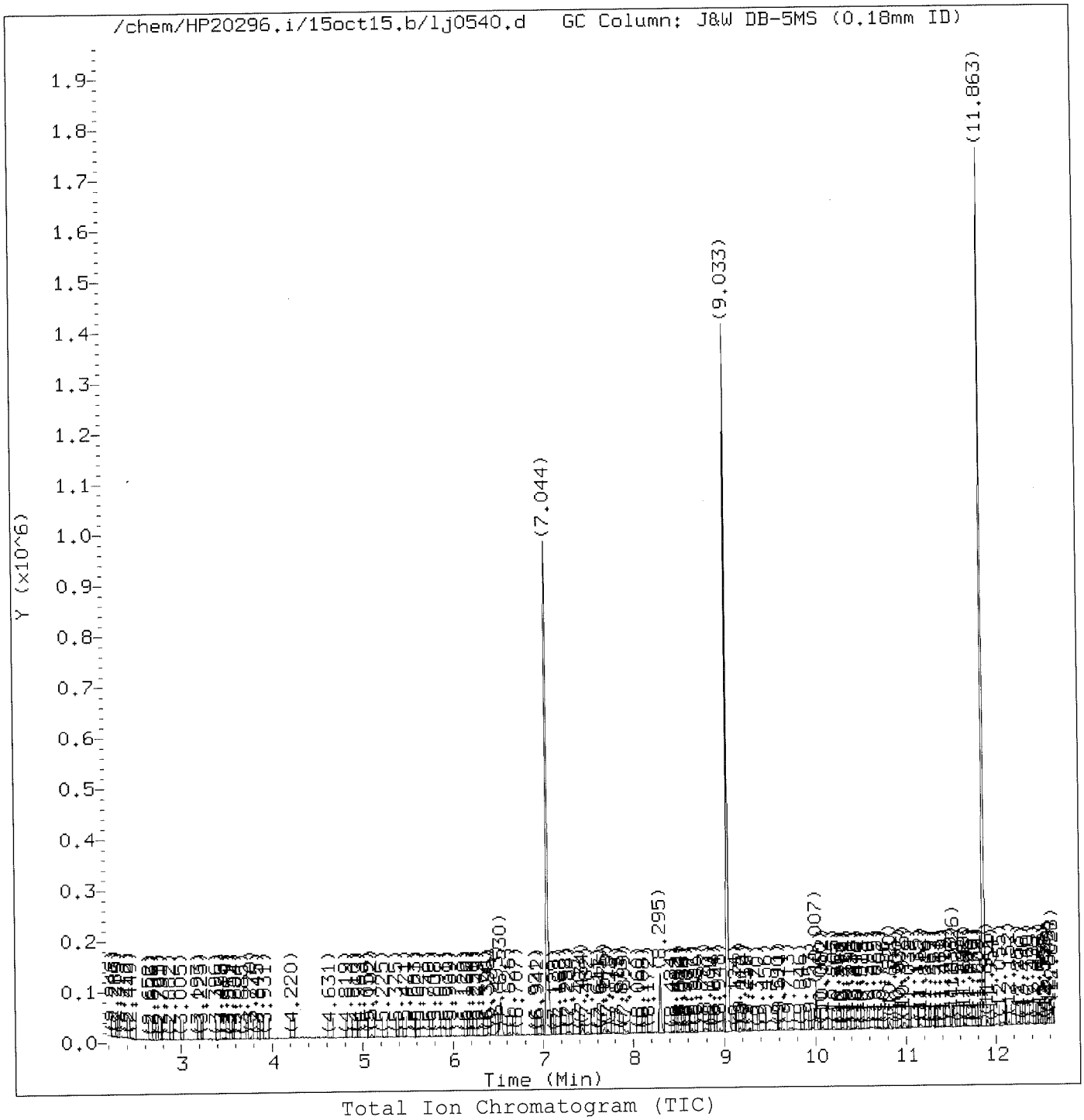
Target 3.5 esignature used. Page 578



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0540.d
Injection date and time: 15-OCT-2015 17:47

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:06

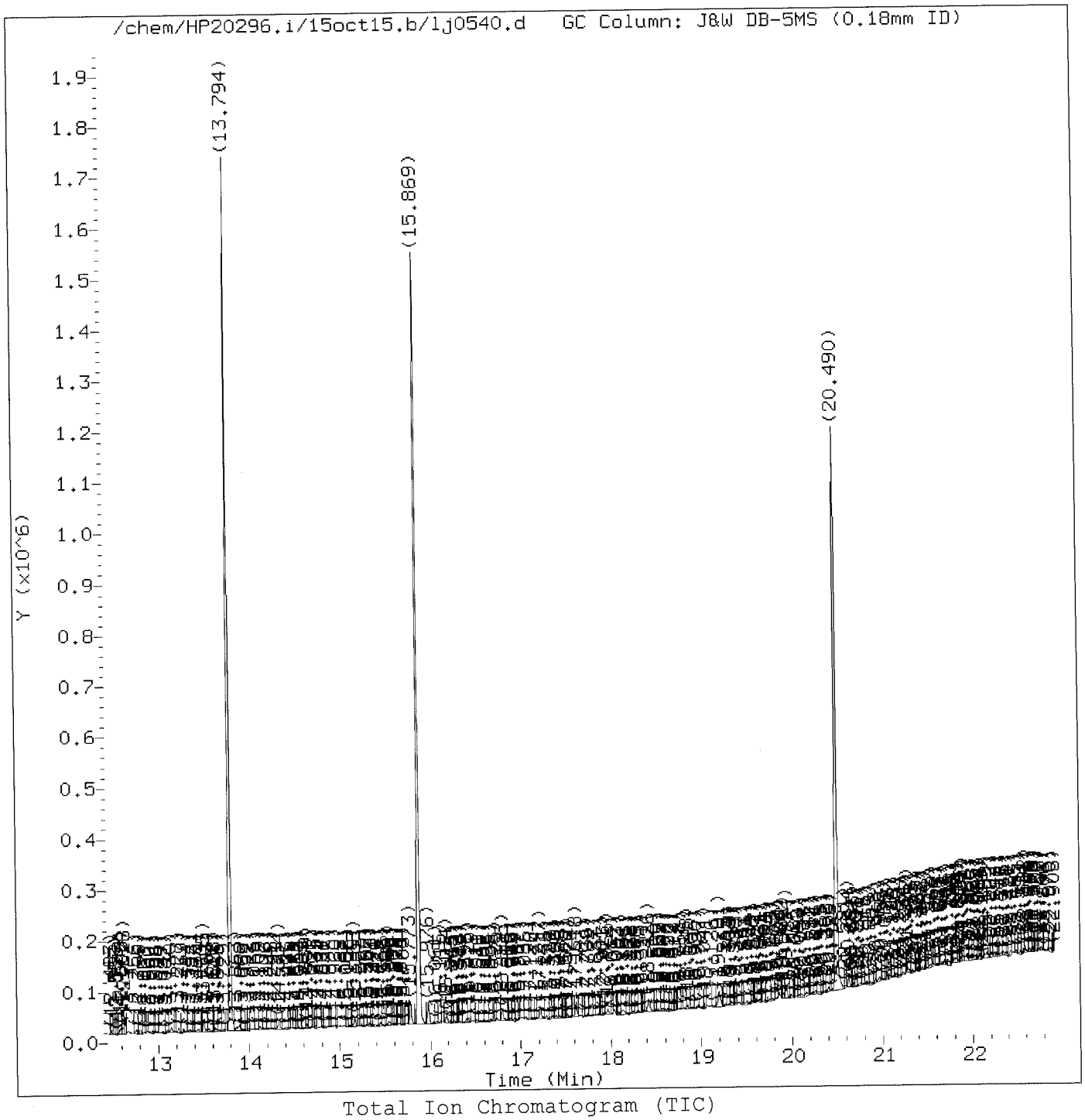
Sublist used: pahmdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:12 Unknown

Sample Name: SSTD0.025

Lab Sample ID: PAHMDL2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0540.d
Injection date and time: 15-OCT-2015 17:47

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:06

Sublist used: pahmdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:12 Unknown

Sample Name: SSTD0.025

Lab Sample ID: PAHMDL2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0540.d
Injection date and time: 15-OCT-2015 17:47
Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:06
Sublist used: pahmdlall1
Date, time and analyst ID of latest file update: 15-Oct-2015 18:12 Unknown

Sample Name: SSTD0.025
Lab Sample ID: PAHMDL2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.044	152	185713	5.000
44)$Nitrobenzene-d5	(2)	7.899	82	3405	0.000
65)*Naphthalene-d8	(2)	9.033	136	724230	5.000
66) Naphthalene	(2)	9.071	128	4347	0.001
83) 2-Methylnaphthalene	(2)	10.199	142	2128	0.001
84) 1-Methylnaphthalene	(2)	10.360	142	1783	0.001
93)$2-Fluorobiphenyl	(3)	10.820	172	5933	0.000
109) Acenaphthylene	(3)	11.654	152	3204	0.001
113)*Acenaphthene-d10	(3)	11.863	164	394100	5.000
114) Acenaphthene	(3)	11.906	153	2399	0.001
126) Fluorene	(3)	12.585	166	2718	0.001
145) Hexachlorobenzene	(4)	13.269	284	648	0.001
153)*Phenanthrene-d10	(4)	13.794	188	720720	5.000
155) Phenanthrene	(4)	13.820	178	4142	0.001
157) Anthracene	(4)	13.895	178	3392	0.001
173) Fluoranthene	(4)	15.537	202	4129	0.001
175)*Pyrene-d10	(5)	15.869	212	808785	5.000
177) Pyrene	(5)	15.901	202	5330	0.001
179)$Terphenyl-d14	(5)	16.184	244	5689	0.000
195) Benzo(a)anthracene	(5)	17.960	228	3685	0.001
196) Chrysene	(5)	18.024	228	3623	0.001
206) Benzo(b)fluoranthene	(6)	19.854	252	3321	0.001
208) Benzo(k)fluoranthene	(6)	19.902	252	3495	0.001
211) Benzo(a)pyrene	(6)	20.394	252	2915	0.001
213)*Perylene-d12	(6)	20.495	264	576327	5.000
222) Total PAHs	(6)			60054	0.014
219) Indeno(1,2,3-cd)pyrene	(6)	22.154	276	3321	0.001
220) Dibenz(a,h)anthracene	(6)	22.202	278	2858	0.001
221) Benzo(g,h,i)perylene	(6)	22.587	276	3264	0.001

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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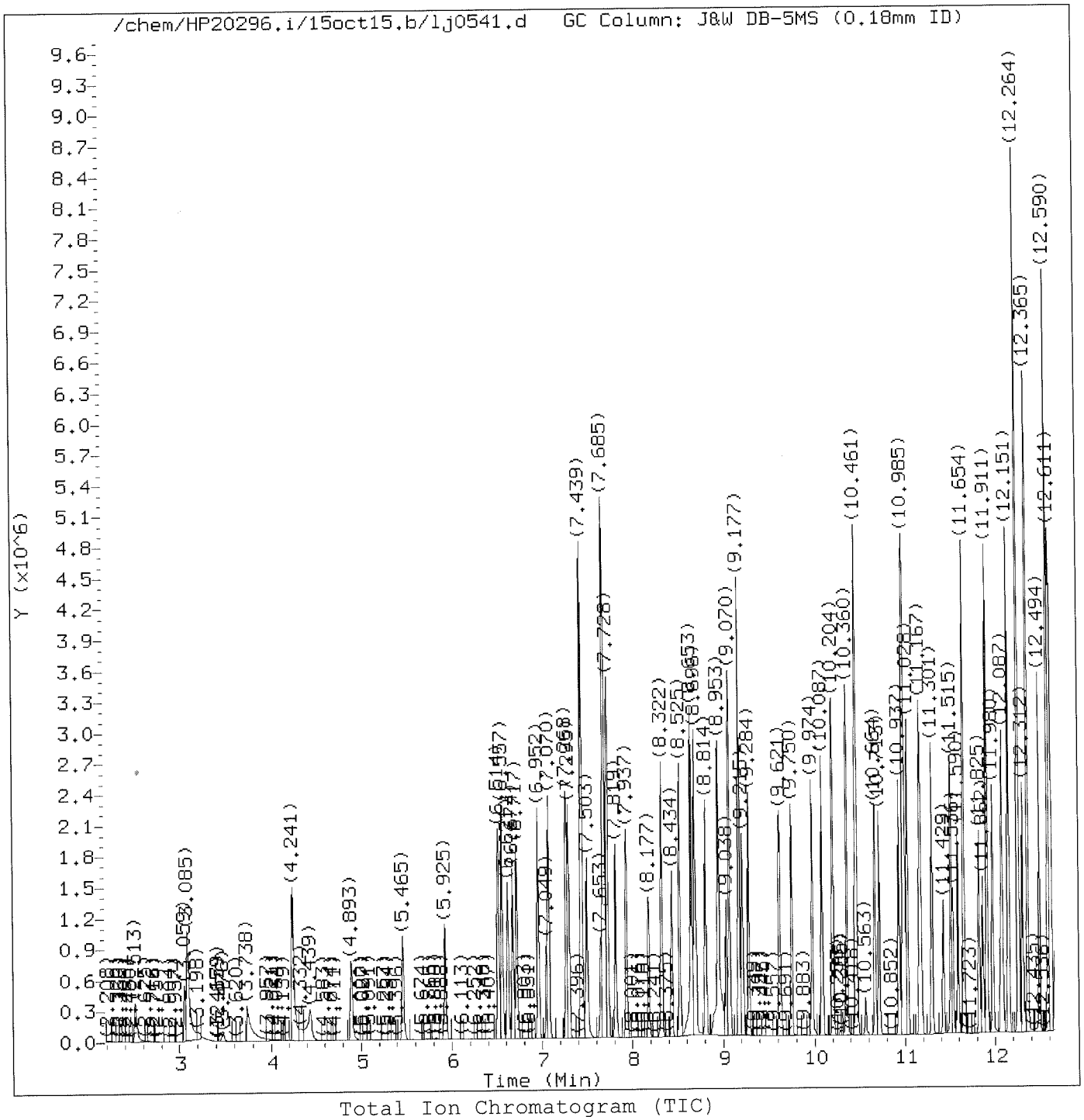
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

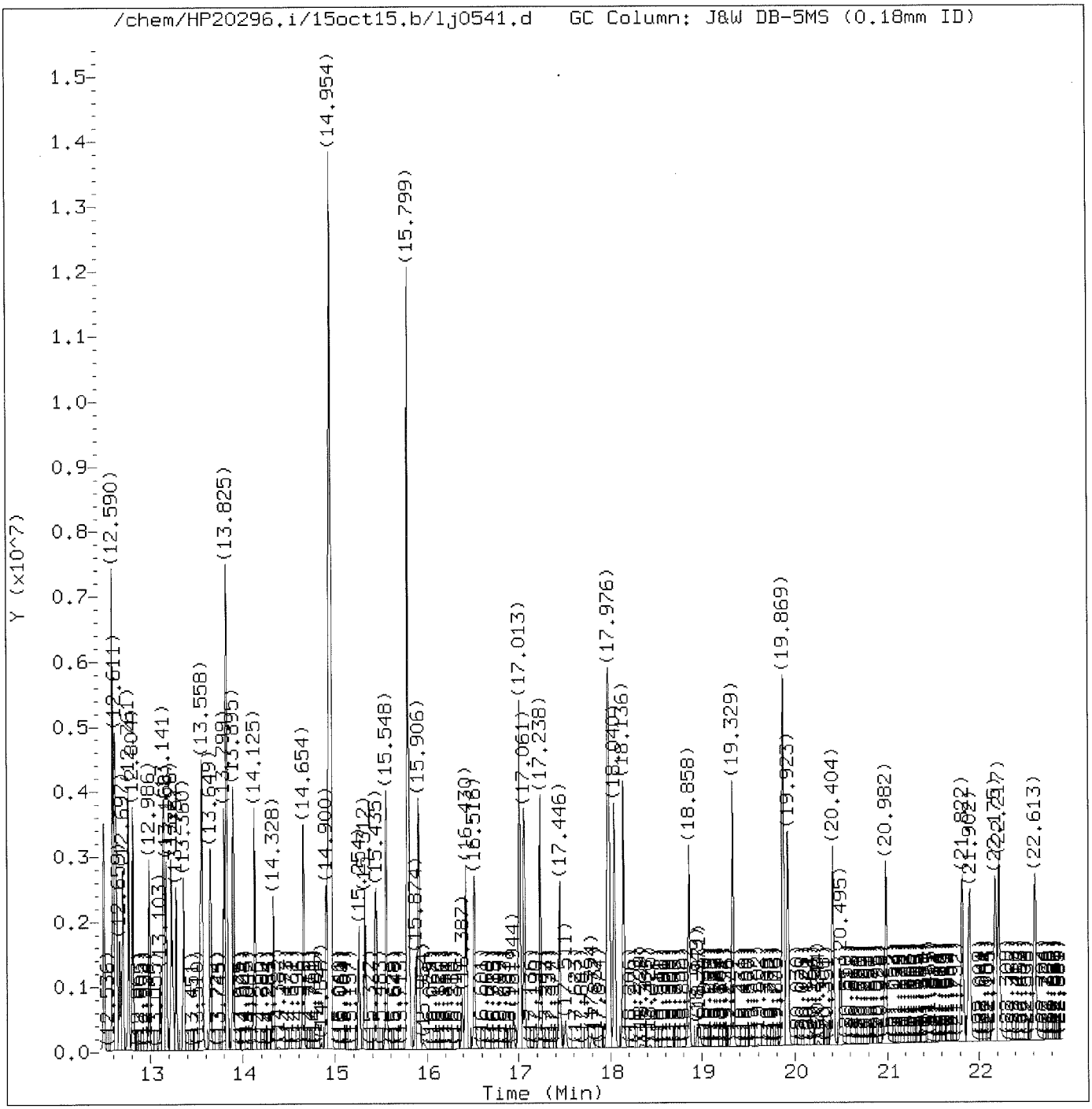
Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0541.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 18:15 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: icval11
Calibration date and time: 15-OCT-2015 18:18
Date, time and analyst ID of latest file update: 15-Oct-2015 18:44 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVICV2465

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0541.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 18:15 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-OCT-2015 18:18
Date, time and analyst ID of latest file update: 15-Oct-2015 18:44 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVICV2465

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0541.d
Injection date and time: 15-OCT-2015 18:15
Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:18
Sublist used: icval11
Date, time and analyst ID of latest file update: 15-Oct-2015 18:44 ceb05247

Sample Name: SSTD12.5
Lab Sample ID: RVICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.513	88	318323	12.641
4) N-Nitrosodimethylamine	(1)	3.059	74	493288	12.404
5) Pyridine	(1)	3.091	79	884552	13.157
7) 2-Picoline	(1)	4.241	93	873761	12.463
8) N-Nitrosomethylethylamine	(1)	4.439	88	350551	12.217
9) Methyl methanesulfonate	(1)	4.893	80	427702	12.629
13) N-Nitrosodiethylamine	(1)	5.465	102	329969	12.254
15) Ethyl methanesulfonate	(1)	5.925	109	342376	12.382
18) Phenol	(1)	6.514	94	959528	12.229
19) Aniline	(1)	6.557	93	1218428	12.379
22) bis(2-Chloroethyl)ether	(1)	6.674	93	745536	12.225
23) 2-Chlorophenol	(1)	6.717	128	620871	12.451
24) 1,3-Dichlorobenzene	(1)	6.952	146	699620	12.581
25)*1,4-Dichlorobenzene-d4	(1)	7.049	152	178528	5.000
26) 1,4-Dichlorobenzene	(1)	7.075	146	710981	12.541
27) Benzyl alcohol	(1)	7.268	108	479345	12.755
28) 1,2-Dichlorobenzene	(1)	7.295	146	688200	12.893
30) Indene	(1)	7.434	115	1229003	12.950
31) 2-Methylphenol	(1)	7.444	108	668479	12.693
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.498	45	1119905	13.045
34) bis(2-Chloroisopropyl)ether	(1)	7.498	45	1119905	13.045
35) N-Nitrosopyrrolidine	(1)	7.653	100	345734	12.232
42) Total Cresols	(1)	7.660	100	1349239	25.076
36) Acetophenone	(1)	7.680	105	1013926	12.327
37) 4-Methylphenol	(1)	7.685	108	680760	12.383
38) N-Nitroso-di-n-propylamine	(1)	7.696	70	580283	12.194
39) N-Nitrosomorpholine	(1)	7.723	56	449142	12.242
40) o-Toluidine	(1)	7.728	106	1143622	12.389
43) Hexachloroethane	(1)	7.819	117	299387	12.730
45) Nitrobenzene	(2)	7.937	77	847795	12.646
48) N-Nitrosopiperidine	(2)	8.183	114	317283	12.378
50) Isophorone	(2)	8.322	82	1526396	12.946
51) 2-Nitrophenol	(2)	8.434	139	310813	12.716
53) 2,4-Dimethylphenol	(2)	8.525	107	677376	12.148
57) O,O,O-Triethylphosphorothioate	(2)	8.653	198	300105	12.248
55) bis(2-Chloroethoxy)methane	(2)	8.696	93	913318	12.753
56) Benzoic acid	(2)	8.707	105	986459	20.796
60) 2,4-Dichlorophenol	(2)	8.814	162	503641	12.722
62) 1,2,4-Trichlorobenzene	(2)	8.953	180	578748	12.745
65)*Naphthalene-d8	(2)	9.038	136	669181	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0541.d
Injection date and time: 15-OCT-2015 18:15
Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:18
Sublist used: icvall1
Date, time and analyst ID of latest file update: 15-Oct-2015 18:44 ceb05247

Sample Name: SSTD12.5
Lab Sample ID: RVICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
66) Naphthalene	(2)	9.070	128	1827003	12.712
67) 4-Chloroaniline	(2)	9.177	127	741033	12.565
68) 2,6-Dichlorophenol	(2)	9.183	162	498697	12.555
69) Hexachloropropene	(2)	9.215	213	408306	13.643
71) Hexachlorobutadiene	(2)	9.284	225	338312	13.082
75) Quinoline	(2)	9.621	129	1121389	12.477
77) N-Nitrosodi-n-butylamine	(2)	9.750	84	521619	10.576
80) 4-Chloro-3-methylphenol	(2)	9.974	107	613174	12.958
82) Safrole	(2)	10.087	162	450627	12.407
83) 2-Methylnaphthalene	(2)	10.204	142	1142338	11.982
84) 1-Methylnaphthalene	(2)	10.360	142	1078802	12.397
85) Hexachlorocyclopentadiene	(3)	10.461	237	746214	27.000
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.472	216	561824	12.580
88) cis-Isosafrole	(3)	10.563	162	61394	1.561
90) 2,4,6-Trichlorophenol	(3)	10.670	196	373834	13.304
92) 2,4,5-Trichlorophenol	(3)	10.713	196	385379	12.595
97) Isosafrole	(3)	10.725	162	559195	13.270
94) trans-Isosafrole	(3)	10.937	162	497801	11.708
95) 1,1'-Biphenyl	(3)	10.980	154	1429395	12.767
96) 2-Chloronaphthalene	(3)	10.996	162	1149286	13.039
98) 1-Chloronaphthalene	(3)	11.028	162	1037760	12.366
99) Diphenyl ether	(3)	11.162	170	761009	12.732
100) 2-Nitroaniline	(3)	11.178	138	348285	13.043
104) 1,4-Naphthoquinone	(3)	11.301	158	567942	16.132
105) 1,4-Dinitrobenzene	(3)	11.429	168	175775	12.818
106) Dimethylphthalate	(3)	11.515	163	1209889	12.707
107) 1,3-Dinitrobenzene	(3)	11.536	168	194972	13.028
108) 2,6-Dinitrotoluene	(3)	11.590	165	276982	13.427
109) Acenaphthylene	(3)	11.654	152	1760951	13.121
112) 3-Nitroaniline	(3)	11.825	138	302760	13.360
113)*Acenaphthene-d10	(3)	11.862	164	374021	5.000
114) Acenaphthene	(3)	11.911	153	1186594	13.269
120) 2,4_2,6-Dinitrotoluenes	(3)	11.950	165	655903	26.621
115) 2,4-Dinitrophenol	(3)	11.980	184	351544	25.683
116) 4-Nitrophenol	(3)	12.071	109	230056	13.145
117) Pentachlorobenzene	(3)	12.087	250	442143	12.664
119) Dibenzofuran	(3)	12.151	168	1552528	12.705
118) 2,4-Dinitrotoluene	(3)	12.162	165	378921	13.194
121) 1-Naphthylamine	(3)	12.264	143	2245876	25.217
122) 2,3,4,6-Tetrachlorophenol	(3)	12.317	232	305787	13.320

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0541.d
Injection date and time: 15-OCT-2015 18:15

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:18
Date, time and analyst ID of latest file update: 15-Oct-2015 18:44 ceb05247

Sublist used: icvall1

Sample Name: SSTD12.5

Lab Sample ID: RVICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
123) 2-Naphthylamine	(3)	12.365	143	2199481	25.395
124) Diethylphthalate	(3)	12.494	149	1217797	13.001
125) Thionazin	(3)	12.590	107	226889	12.487
126) Fluorene	(3)	12.590	166	1250815	13.085
127) 4-Chlorophenyl-phenylether	(3)	12.611	204	601437	13.110
128) 5-Nitro-o-toluidine	(3)	12.617	152	358670	13.594
129) 4-Nitroaniline	(3)	12.627	138	305358	13.219
130) 4,6-Dinitro-2-methylphenol	(4)	12.665	198	228855	12.673
131) N-Nitrosodiphenylamine	(4)	12.761	169	1028147	12.561
132) NDPA as diphenylamine	(4)	12.761	169	1028147	12.561
134) 1,2-Diphenylhydrazine	(4)	12.804	77	1635464	13.266
137) Tetraethyldithiopyrophosphate	(4)	12.986	97	244039	12.448
146) Diallate trans/cis	(4)	13.000	86	630774	11.808
139) 1,3,5-Trinitrobenzene	(4)	13.109	213	129046	12.194
140) Diallate (peak 1)	(4)	13.135	86	475179	8.854
141) Phorate	(4)	13.146	75	988795	12.836
142) Phenacetin	(4)	13.168	108	719068	12.764
143) 4-Bromophenyl-phenylether	(4)	13.226	248	314216	12.721
144) Diallate (peak 2)	(4)	13.248	86	155595	2.954
145) Hexachlorobenzene	(4)	13.275	284	314330	12.233
147) Dimethoate	(4)	13.360	87	631438	12.561
149) Pentachlorophenol	(4)	13.542	266	234902	13.799
151) Pentachloronitrobenzene	(4)	13.553	237	156492	12.584
150) 4-Aminobiphenyl	(4)	13.563	169	1358285	14.588
152) Pronamide	(4)	13.654	173	557623	12.987
153)*Phenanthrene-d10	(4)	13.799	188	699184	5.000
154) Dinoseb	(4)	13.799	211	342639	12.223
155) Phenanthrene	(4)	13.831	178	1817787	12.481
157) Anthracene	(4)	13.900	178	1869824	12.937
163) Carbazole	(4)	14.125	167	1694144	12.739
164) Methyl parathion	(4)	14.328	109	479938	12.964
165) Di-n-butylphthalate	(4)	14.654	149	2118884	13.014
167) Parathion	(4)	14.900	109	292091	13.357
168) 4-Nitroquinoline-1-oxide	(4)	14.954	190	2962946	188.659
171) Isodrin	(4)	15.318	193	208821	12.283
173) Fluoranthene	(4)	15.548	202	2047507	12.915
174) Benzidine	(5)	15.799	184	6538153	63.361
175)*Pyrene-d10	(5)	15.874	212	790256	5.000
177) Pyrene	(5)	15.906	202	2092599	12.305
182) p-Dimethylaminoazobenzene	(5)	16.430	225	406675	14.750

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0541.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 18:15 Analyst ID: hbz01996

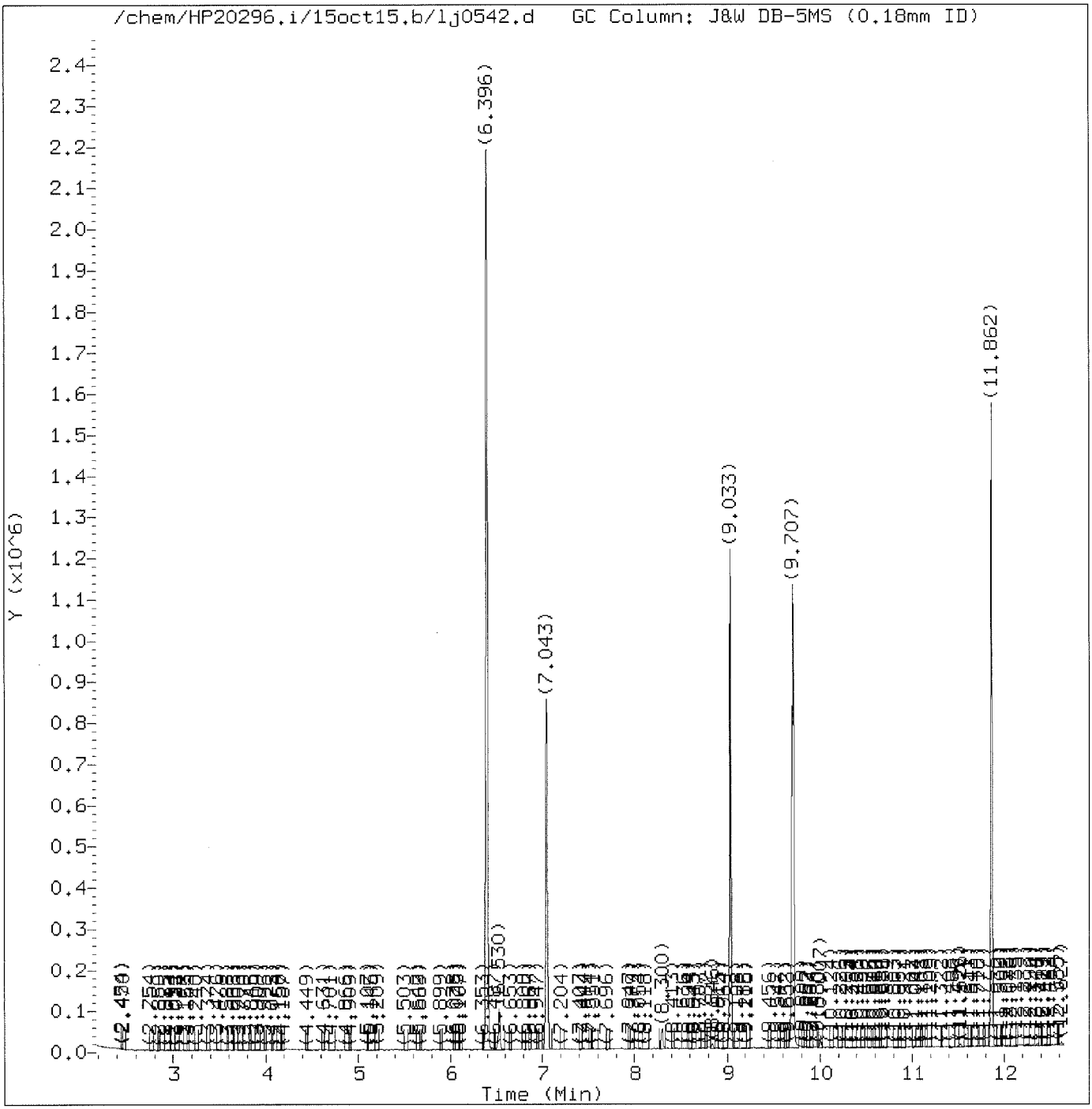
Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-OCT-2015 18:18
Date, time and analyst ID of latest file update: 15-Oct-2015 18:44 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
185) Chlorobenzilate	(5)	16.516	139	632739	12.896
187) 3,3'-Dimethylbenzidine	(5)	17.013	212	2506893	24.183
188) Butylbenzylphthalate	(5)	17.061	149	969743	13.520
191) 2-Acetylaminofluorene	(5)	17.446	181	816893	13.031
193) 3,3'-Dichlorobenzidine	(5)	17.965	252	679070	12.294
195) Benzo(a)anthracene	(5)	17.976	228	1932931	13.204
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.987	231	393884	12.305
196) Chrysene	(5)	18.040	228	1855319	13.267
199) bis(2-Ethylhexyl)phthalate	(5)	18.136	149	1395098	13.565
203) 6-Methylchrysene	(5)	18.858	242	1268565	12.836
205) Di-n-octylphthalate	(6)	19.329	149	2551828	13.895
206) Benzo(b)fluoranthene	(6)	19.869	252	1958674	13.291
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.869	256	817574	12.833
208) Benzo(k)fluoranthene	(6)	19.923	252	1861250	12.986
211) Benzo(a)pyrene	(6)	20.404	252	1765845	12.863
213)*Perylene-d12	(6)	20.495	264	598793	5.000
215) 3-Methylcholanthrene	(6)	20.982	268	921972	14.378
217) Dibenz(a,h)acridine	(6)	21.822	279	1528379	13.006
218) Dibenz(a,j)acridine	(6)	21.902	279	1454807	12.283
222) Total PAHs	(6)	22.000	100	31156290	232.532
219) Indeno(1,2,3-cd)pyrene	(6)	22.175	276	2094450	13.046
220) Dibenz(a,h)anthracene	(6)	22.217	278	1796832	13.427
221) Benzo(g,h,i)perylene	(6)	22.619	276	1816769	13.242

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0542.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 18:43 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: basicval11
Calibration date and time: 15-OCT-2015 18:18
Date, time and analyst ID of latest file update: 15-Oct-2015 19:15 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV2475

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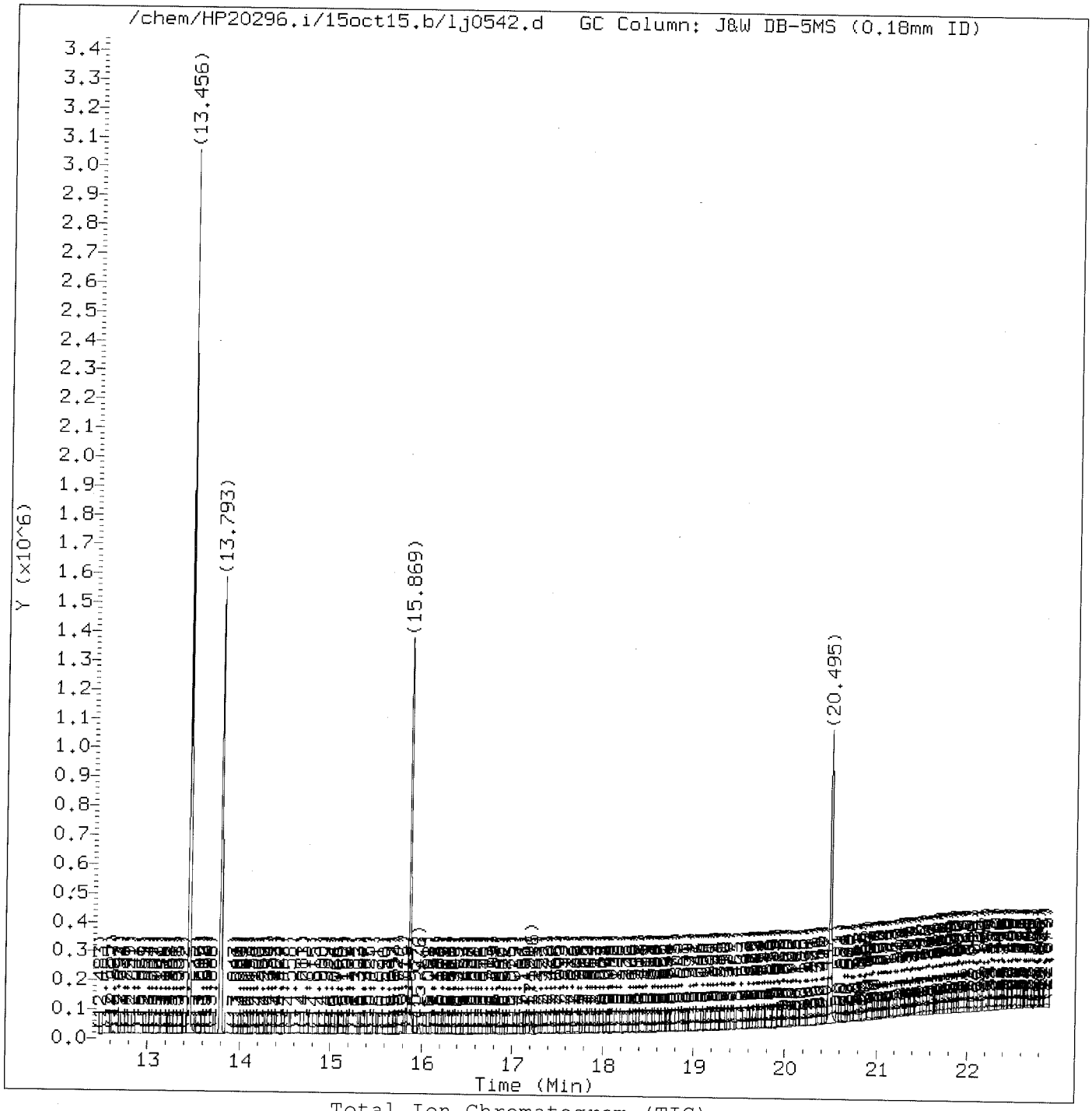
on 10/15/2015 at 19:15.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0542.d
Injection date and time: 15-OCT-2015 18:43

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:18

Sublist used: basicval11

Date, time and analyst ID of latest file update: 15-Oct-2015 19:15 ceb05247

Sample Name: SSTD12.5

Lab Sample ID: RVBASICV2475

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on 10/15/2015 at 19:15.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0542.d
Injection date and time: 15-OCT-2015 18:43

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:18

Sublist used: basicvall1

Date, time and analyst ID of latest file update: 15-Oct-2015 19:15 ceb05247

Sample Name: SSTD12.5

Lab Sample ID: RVBASICV2475

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
16) Benzaldehyde	(1)	6.396	77	697511	14.300
25)*1,4-Dichlorobenzene-d4	(1)	7.043	152	166039	5.000
65)*Naphthalene-d8	(2)	9.033	136	638179	5.000
76) Caprolactam	(2)	9.707	113	167829	13.243
113)*Acenaphthene-d10	(3)	11.862	164	353805	5.000
148) Atrazine	(4)	13.456	200	337396	13.692
153)*Phenanthrene-d10	(4)	13.793	188	643327	5.000
175)*Pyrene-d10	(5)	15.869	212	723639	5.000
213)*Perylene-d12	(6)	20.495	264	508806	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 19:15.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15oct16.b/lj0580z.d

Date : 16-OCT-2015 09:57

Client ID: DFTPP12.5

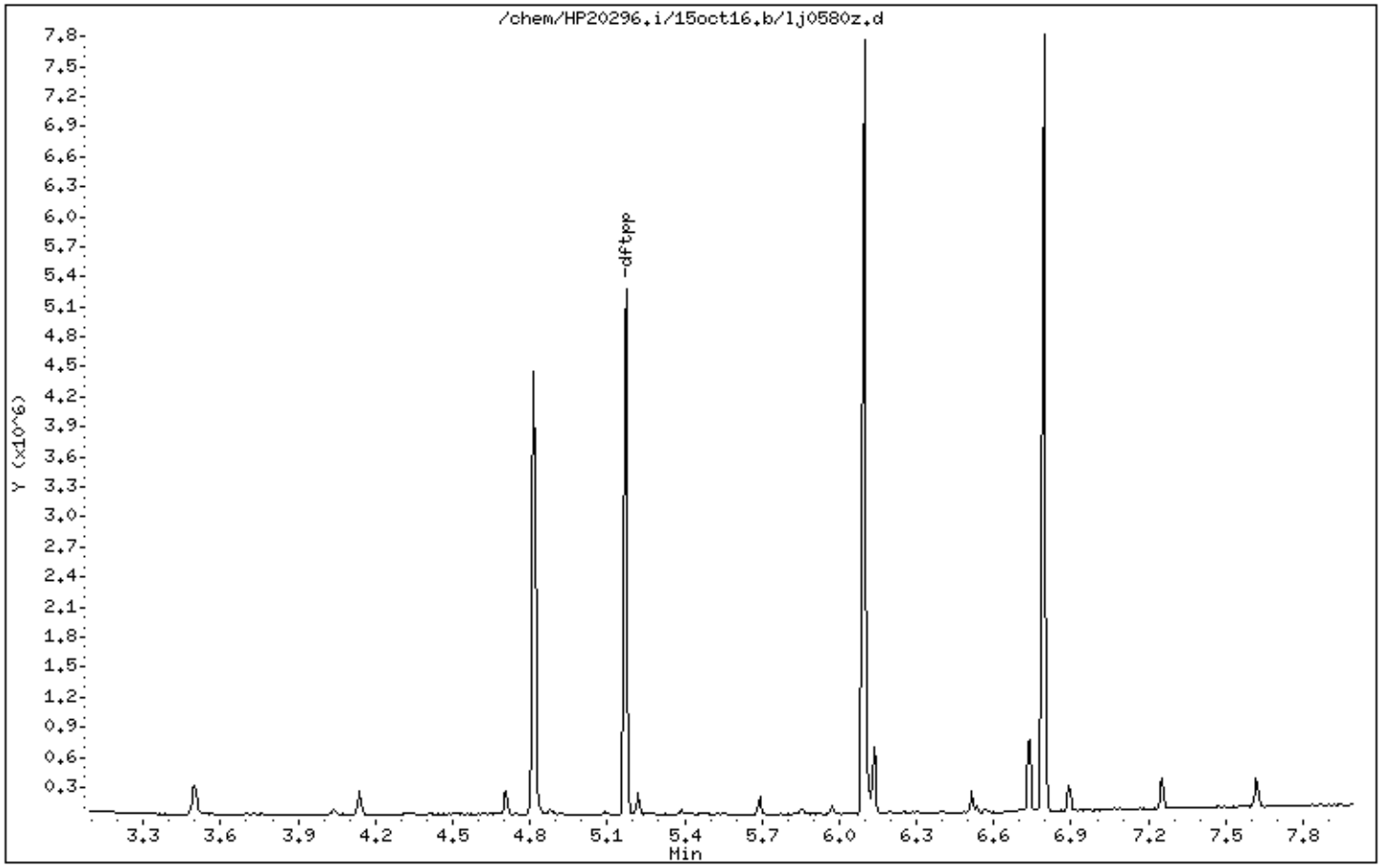
Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Data File: /chem/HP20296.i/15oct16.b/lj0580z.d

Date : 16-OCT-2015 09:57

Client ID: DFTPP12.5

Instrument: HP20296.i

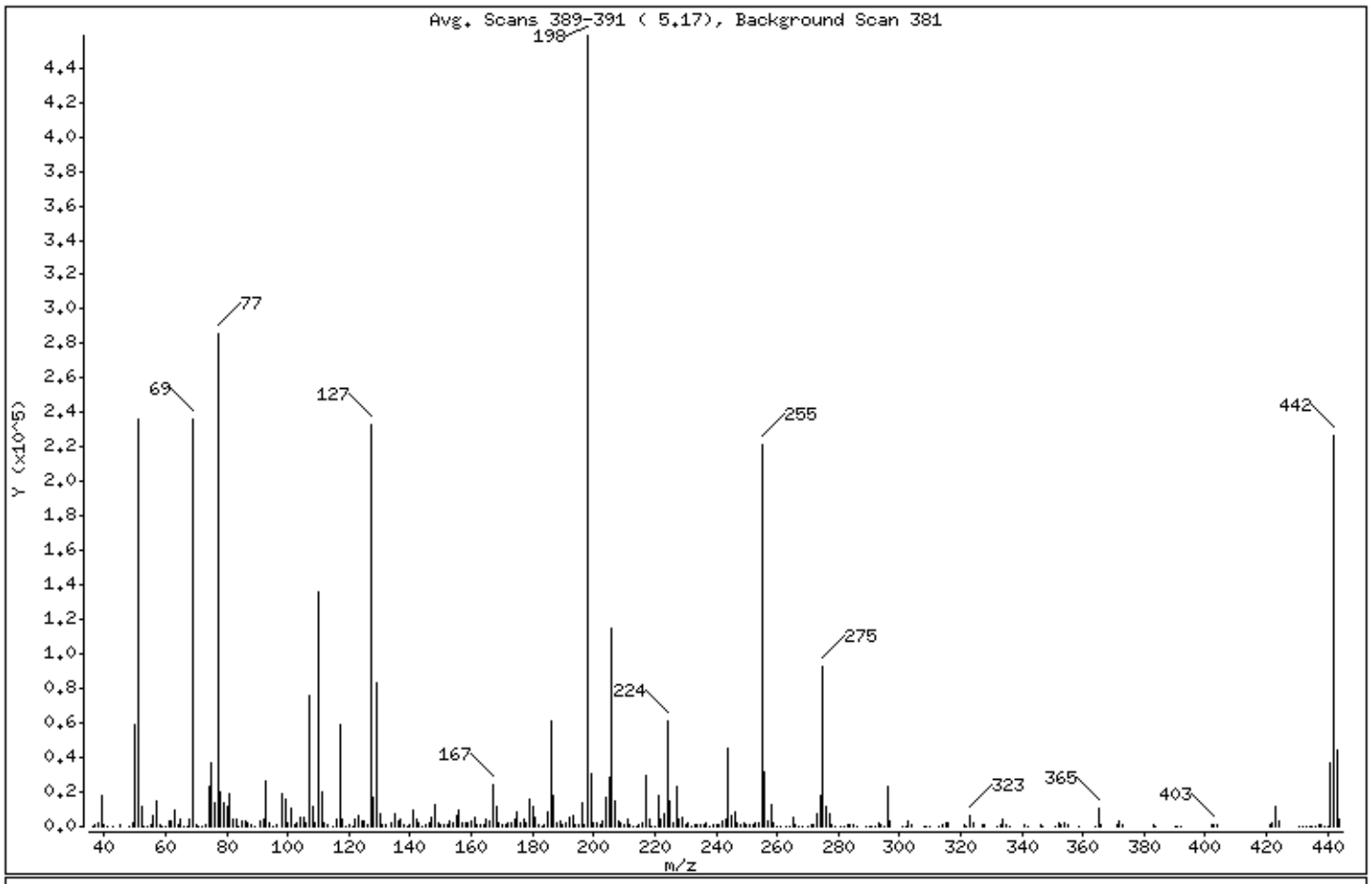
Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	51.38
68	Less than 2.00% of mass 69	0.89 (1.73)
69	Mass 69 relative abundance	51.51
70	Less than 2.00% of mass 69	0.29 (0.56)
127	40.00 - 60.00% of mass 198	50.76
197	Less than 1.00% of mass 198	0.17
199	5.00 - 9.00% of mass 198	6.75
275	10.00 - 30.00% of mass 198	20.20
365	Greater than 1.00% of mass 198	2.19
441	Present, but less than mass 443	8.02
442	40.00 - 99.99% of mass 198	49.48
443	17.00 - 23.00% of mass 442	9.58 (19.37)

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Date : 16-OCT-2015 09:57

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS Column diameter: 0.18

Data File: lj0580z.d
Spectrum: Avg. Scans 389-391 (5,17), Background Scan 381
Location of Maximum: 198.00
Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	266	122.00	4205	202.00	1106	284.00	673
37.00	834	123.00	6227	203.00	3468	285.00	1518
38.00	2422	124.00	3242	204.00	16656	286.00	124
39.00	17488	125.00	2992	205.00	28584	289.00	500
40.00	701	126.00	1561	206.00	114416	290.00	228
41.00	233	127.00	232768	207.00	14877	291.00	122
43.00	156	128.00	17336	208.00	3650	292.00	227
45.00	727	129.00	82984	209.00	1619	293.00	1769
48.00	228	130.00	7027	210.00	1460	294.00	593
49.00	1719	131.00	1035	211.00	4254	295.00	340
50.00	59280	132.00	664	212.00	782	296.00	23024
51.00	235648	134.00	2444	213.00	266	297.00	3172
52.00	11907	135.00	7072	214.00	314	301.00	252
53.00	280	136.00	2731	215.00	1316	302.00	425
54.00	232	137.00	3845	216.00	2608	303.00	2938
55.00	607	138.00	800	217.00	29248	304.00	780
56.00	6500	139.00	458	218.00	3772	308.00	299
57.00	14529	140.00	1342	219.00	519	309.00	201
58.00	1270	141.00	9490	220.00	241	310.00	127
59.00	356	142.00	3705	221.00	17616	313.00	287
60.00	119	143.00	2470	222.00	4663	314.00	986
61.00	2691	144.00	404	223.00	7024	315.00	2139
62.00	3080	145.00	921	224.00	61184	316.00	1602
63.00	9225	146.00	1690	225.00	15079	321.00	956
64.00	1298	147.00	5701	226.00	2064	322.00	370
65.00	4335	148.00	12585	227.00	22928	323.00	6739
66.00	431	149.00	2405	228.00	3912	324.00	1588
67.00	177	150.00	949	229.00	5207	327.00	1065
68.00	4076	151.00	1530	230.00	654	328.00	602
69.00	236224	152.00	1018	231.00	2089	332.00	180
70.00	1326	153.00	3559	232.00	309	333.00	1063
71.00	60	154.00	2584	233.00	586	334.00	4557
72.00	275	155.00	6365	234.00	1540	335.00	1226
73.00	1474	156.00	9416	235.00	1531	336.00	159
74.00	23176	157.00	1765	236.00	1275	341.00	1044

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Date : 16-OCT-2015 09:57

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS Column diameter: 0.18

Data File: lj0580z.d
Spectrum: Avg. Scans 389-391 (5,17), Background Scan 381
Location of Maximum: 198.00
Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
75.00	36928	158.00	1686	237.00	2194	342.00	312
76.00	13486	159.00	1624	238.00	246	346.00	1184
77.00	285696	160.00	3522	239.00	952	347.00	312
78.00	19912	161.00	5088	240.00	849	351.00	111
79.00	14032	162.00	1251	241.00	1373	352.00	1720
80.00	11886	163.00	546	242.00	3398	353.00	1230
81.00	18576	164.00	806	243.00	4014	354.00	2213
82.00	3845	165.00	3745	244.00	45816	355.00	529
83.00	4349	166.00	3547	245.00	6328	359.00	189
84.00	408	167.00	24592	246.00	8548	364.00	206
85.00	3609	168.00	11437	247.00	1729	365.00	10028
86.00	3653	169.00	2266	248.00	664	366.00	1317
87.00	2332	170.00	634	249.00	1771	371.00	581
88.00	796	171.00	963	250.00	554	372.00	3148
89.00	449	172.00	1928	251.00	708	373.00	721
91.00	3542	173.00	2445	252.00	1149	383.00	802
92.00	4230	174.00	4504	253.00	1682	384.00	159
93.00	26184	175.00	8835	254.00	2421	390.00	509
94.00	2281	176.00	2255	255.00	221440	391.00	229
95.00	162	177.00	3950	256.00	31832	392.00	106
96.00	1209	178.00	1763	257.00	2975	402.00	1188
98.00	19232	179.00	15549	258.00	12734	403.00	1576
99.00	15868	180.00	11799	259.00	1841	404.00	657
100.00	1737	181.00	4871	260.00	297	421.00	1351
101.00	10470	182.00	1104	261.00	476	422.00	1653
102.00	565	183.00	454	263.00	358	423.00	11728
103.00	2574	184.00	1244	264.00	230	424.00	3127
104.00	5163	185.00	8552	265.00	5176	431.00	84
105.00	5145	186.00	61240	266.00	1006	432.00	253
106.00	2131	187.00	18264	267.00	207	433.00	295
107.00	76216	188.00	2028	268.00	98	434.00	120
108.00	11216	189.00	3443	270.00	154	435.00	469
109.00	2102	190.00	755	271.00	796	436.00	500
110.00	135808	191.00	1639	272.00	1056	437.00	660
111.00	20272	192.00	5150	273.00	7088	438.00	628

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Date : 16-OCT-2015 09:57

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS Column diameter: 0.18

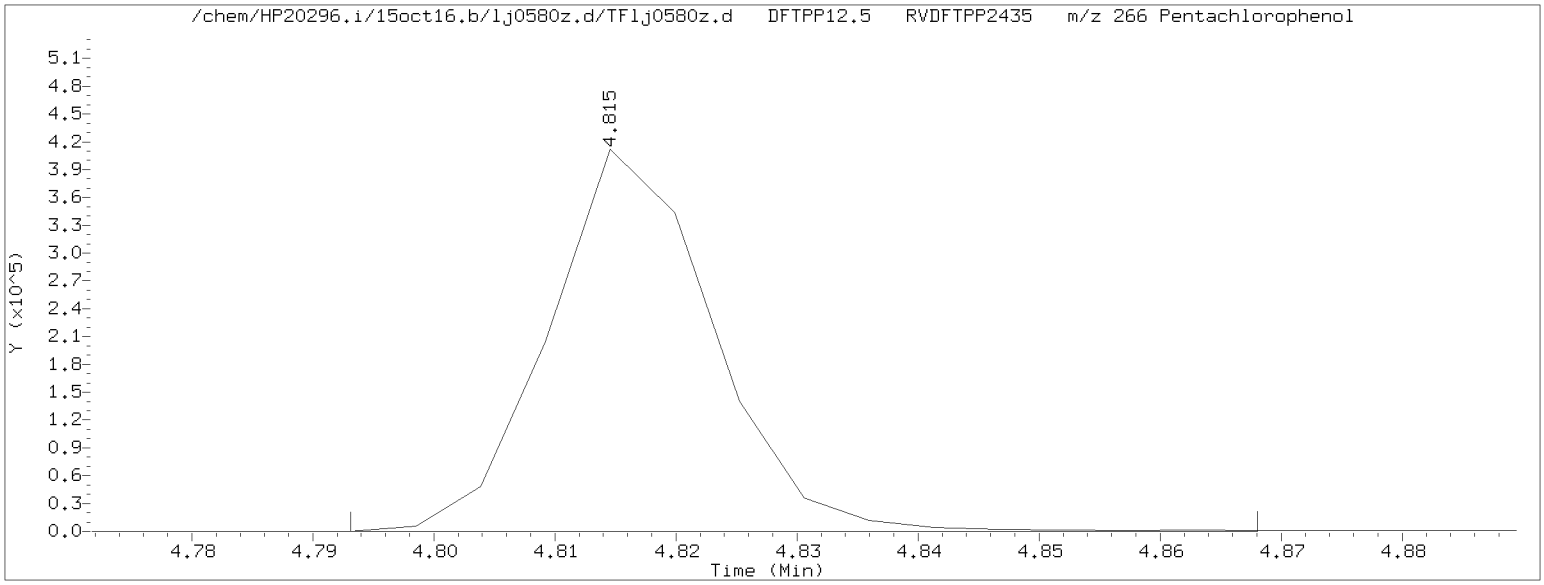
Data File: lj0580z.d
Spectrum: Avg. Scans 389-391 (5.17), Background Scan 381
Location of Maximum: 198.00
Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
112.00	2099	193.00	5957	274.00	17696	439.00	500
113.00	1001	194.00	1139	275.00	92624	440.00	413
115.00	359	195.00	1107	276.00	11762	441.00	36784
116.00	3973	196.00	13301	277.00	7890	442.00	226880
117.00	59112	197.00	764	278.00	1322	443.00	43960
118.00	4282	198.00	458624	279.00	174	444.00	4023
119.00	157	199.00	30944	281.00	321		
120.00	1100	200.00	2585	282.00	199		
121.00	274	201.00	2142	283.00	900		

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Assessment of GC Column Performance and Injection Port Inertness for

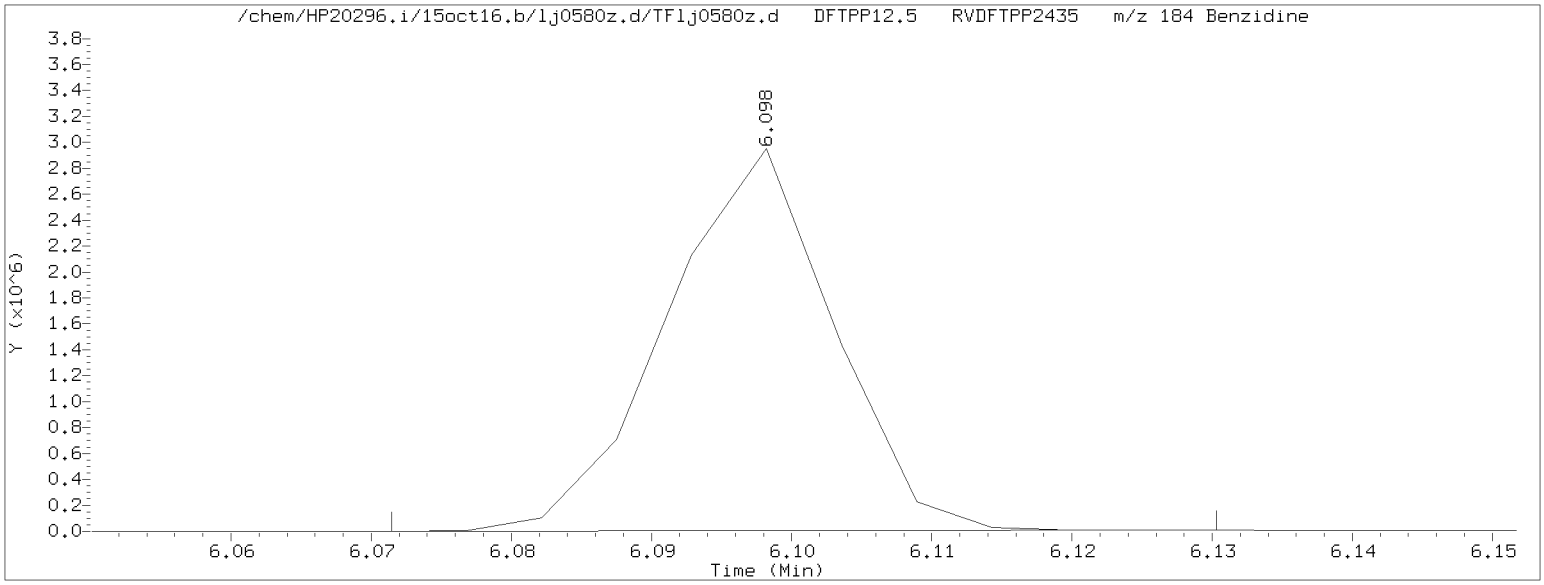
Instrument ID: HP20296.i Injection Date: 16-OCT-2015 09:57 Operator: hbz01996



Pentachlorophenol EICP peak height = 412160 EICP peak height at 10% = 41216 Pentachlorophenol EICP area = 389145

Pentachlorophenol EICP peak apex (min.) = 4.815
RT at 10% of front half of EICP (min.) = 4.803 'Front' peak width (min.) = 0.0115666667
RT at 10% of back half of EICP (min.) = 4.830 'Tailing' peak width (min.) = 0.0157833333

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0157833333}{0.0115666667} = 1.365$$



Benzidine EICP peak height = 2948224 EICP peak height at 10% = 294822 Benzidine EICP area = 2430895

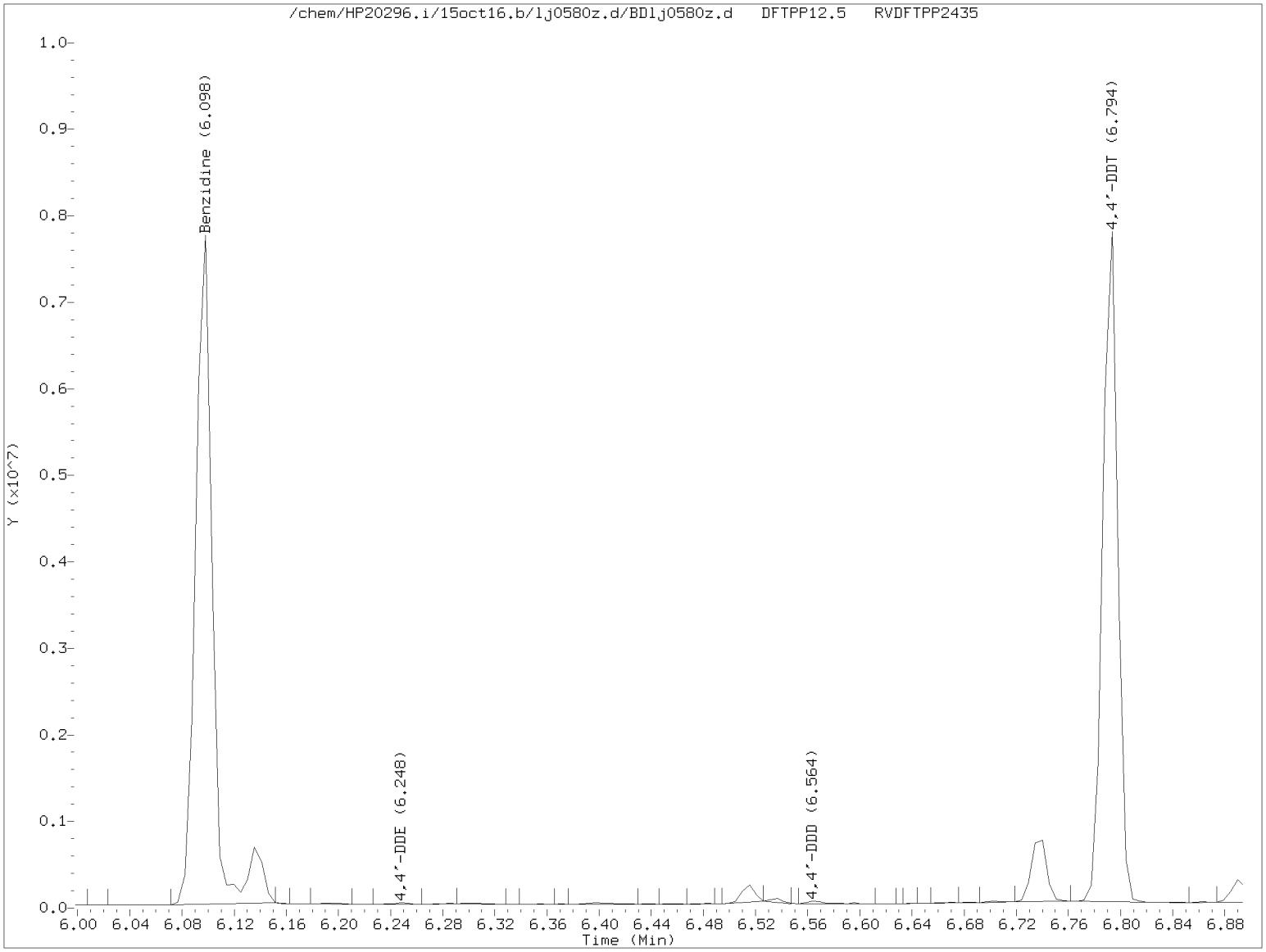
Benzidine EICP peak apex (min.) = 6.098
RT at 10% of front half of EICP (min.) = 6.084 'Front' peak width (min.) = 0.0143166667
RT at 10% of back half of EICP (min.) = 6.109 'Tailing' peak width (min.) = 0.0103833333

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0103833333}{0.0143166667} = 0.725$$

Secondary review performed and digitally signed by Matthew E. Barton on 10/19/2015 at 11:14. Parallax ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

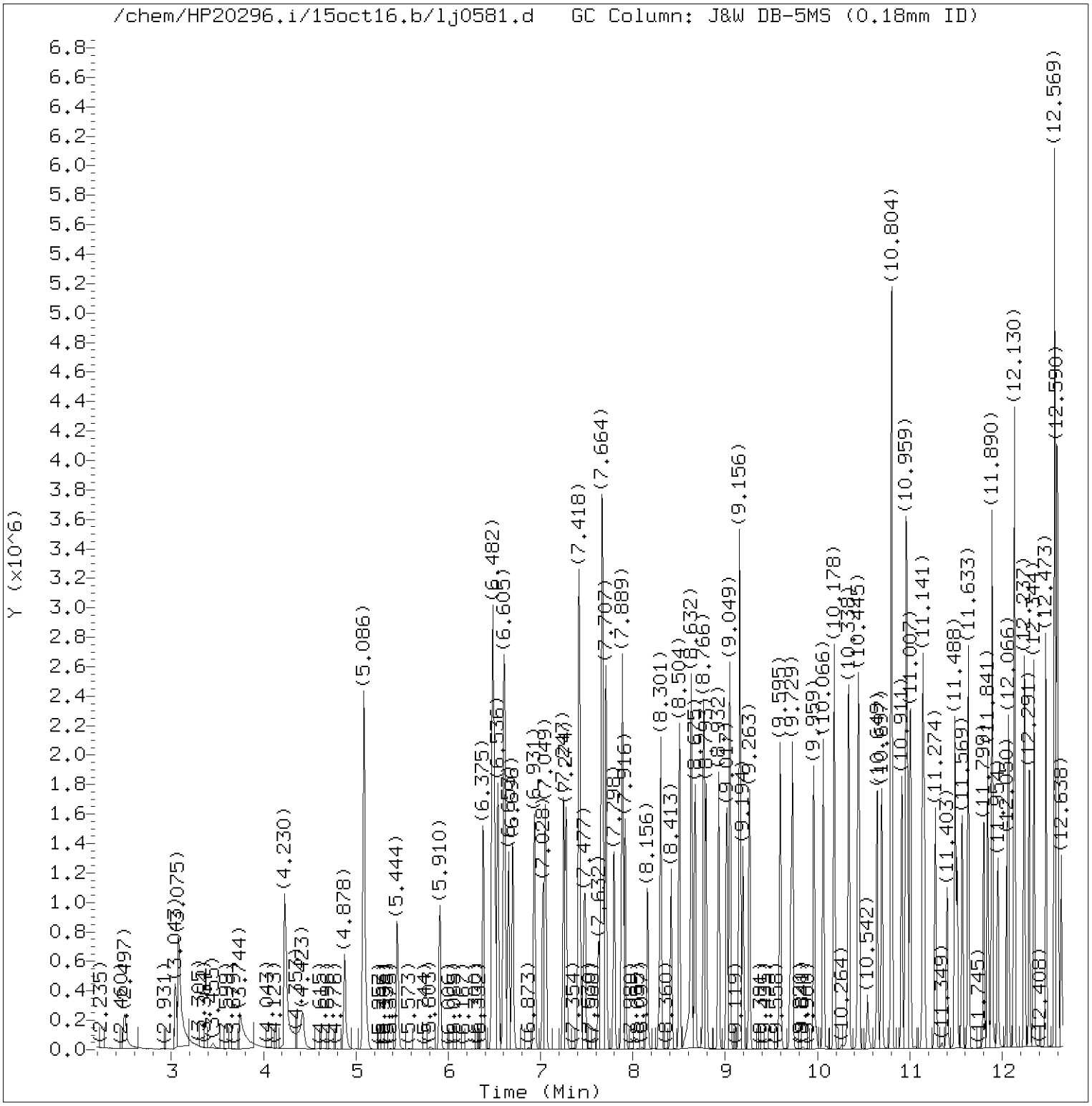
Instrument ID: HP20296.i Injection Date: 16-OCT-2015 09:57 Operator: hbz01996



$$\%\ 4,4'\text{-DDT breakdown} = \frac{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area}}{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area} + 4,4'\text{-DDT TIC area}} \times 100$$

$$\%\ 4,4'\text{-DDT breakdown} = \frac{17592 + 36205}{17592 + 36205 + 6215047} \times 100 = 0.9$$

Secondary review performed and digitally signed by Matthew E. Barton on 10/19/2015 at 11:14. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

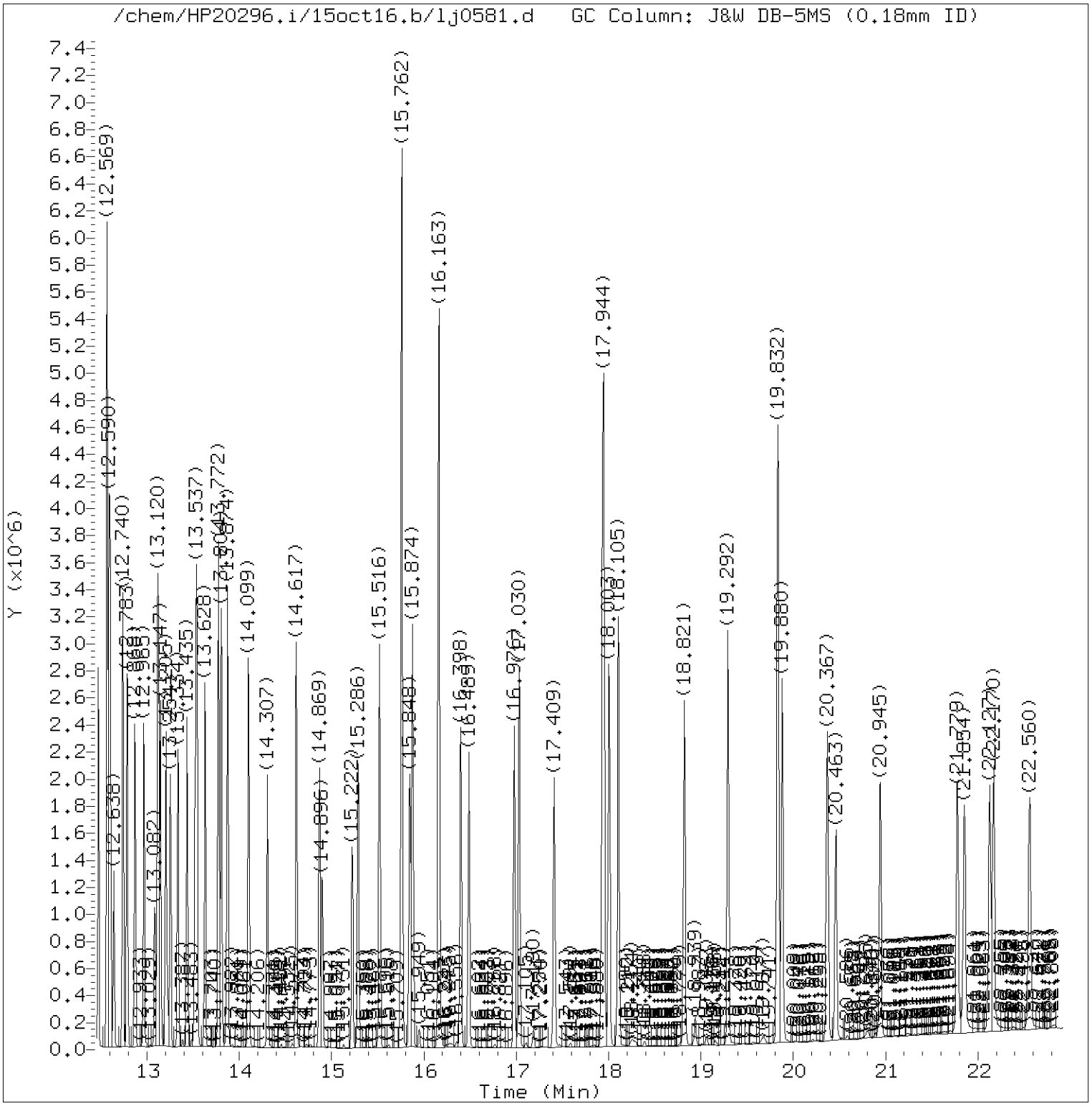
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0581.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 10:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: all1
Calibration date and time: 16-OCT-2015 10:59
Date, time and analyst ID of latest file update: 16-Oct-2015 10:59 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0581.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 10:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: all1
Calibration date and time: 16-OCT-2015 10:59
Date, time and analyst ID of latest file update: 16-Oct-2015 10:59 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0581.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 10:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: all1
Calibration date and time: 16-OCT-2015 10:59
Date, time and analyst ID of latest file update: 16-Oct-2015 10:59 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.497	88	247734	8.097
4) N-Nitrosodimethylamine	(1)	3.043	74	419394	8.680
5) Pyridine	(1)	3.075	79	698864	8.555
7) 2-Picoline	(1)	4.230	93	727387	8.539
8) N-Nitrosomethylethylamine	(1)	4.423	88	286398	8.215
9) Methyl methanesulfonate	(1)	4.878	80	368277	8.950
11)$2-Fluorophenol	(1)	5.086	112	1124495	17.433
13) N-Nitrosodiethylamine	(1)	5.444	102	283485	8.664
15) Ethyl methanesulfonate	(1)	5.910	109	288713	8.593
16) Benzaldehyde	(1)	6.375	77	503569	7.902
17)$Phenol-d6	(1)	6.482	99	1431642	16.116
18) Phenol	(1)	6.498	94	756868	7.939
19) Aniline	(1)	6.536	93	962731	8.050
20) a-methylstyrene	(1)	6.610	118	529839	7.930
22) bis(2-Chloroethyl)ether	(1)	6.653	93	587475	7.928
23) 2-Chlorophenol	(1)	6.696	128	480145	7.925
24) 1,3-Dichlorobenzene	(1)	6.931	146	511002	7.563
25)*1,4-Dichlorobenzene-d4	(1)	7.028	152	216922	5.000
26) 1,4-Dichlorobenzene	(1)	7.054	146	519934	7.548
27) Benzyl alcohol	(1)	7.247	108	335929	7.357
28) 1,2-Dichlorobenzene	(1)	7.274	146	489510	7.547
30) Indene	(1)	7.413	115	838411	7.271
31) 2-Methylphenol	(1)	7.423	108	483967	7.563
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.477	45	790581	7.579
34) bis(2-Chloroisopropyl)ether	(1)	7.477	45	790581	7.579
35) N-Nitrosopyrrolidine	(1)	7.627	100	261847	7.624
36) Acetophenone	(1)	7.659	105	741143	7.416
42) Total Cresols	(1)			1000271	15.292
37) 4-Methylphenol	(1)	7.670	108	516304	7.729
38) N-Nitroso-di-n-propylamine	(1)	7.675	70	440452	7.618
39) N-Nitrosomorpholine	(1)	7.702	56	347811	7.802
40) o-Toluidine	(1)	7.707	106	868870	7.746
43) Hexachloroethane	(1)	7.793	117	218845	7.659
44)$Nitrobenzene-d5	(2)	7.889	82	1279513	14.513
45) Nitrobenzene	(2)	7.916	77	643329	7.354
48) N-Nitrosopiperidine	(2)	8.162	114	245800	7.348
50) Isophorone	(2)	8.301	82	1138170	7.398
51) 2-Nitrophenol	(2)	8.413	139	235508	7.384
53) 2,4-Dimethylphenol	(2)	8.504	107	538636	7.402
57) O,O,O-Triethylphosphorothioate	(2)	8.632	198	234636	7.338

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0581.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 10:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: all1
Calibration date and time: 16-OCT-2015 10:59
Date, time and analyst ID of latest file update: 16-Oct-2015 10:59 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	8.638	105	423476M	7.959
55) bis(2-Chloroethoxy)methane	(2)	8.675	93	687257	7.354
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.766	104	758046	7.051
60) 2,4-Dichlorophenol	(2)	8.793	162	391055	7.570
62) 1,2,4-Trichlorobenzene	(2)	8.932	180	418963	7.070
65)*Naphthalene-d8	(2)	9.017	136	873268	5.000
66) Naphthalene	(2)	9.049	128	1373523	7.323
67) 4-Chloroaniline	(2)	9.156	127	569765	7.403
68) 2,6-Dichlorophenol	(2)	9.162	162	377948	7.291
69) Hexachloropropene	(2)	9.194	213	282709	7.238
71) Hexachlorobutadiene	(2)	9.263	225	242012	7.171
75) Quinoline	(2)	9.595	129	876021	7.469
76) Caprolactam	(2)	9.713	113	136488	7.870
77) N-Nitrosodi-n-butylamine	(2)	9.729	84	524965	8.157
80) 4-Chloro-3-methylphenol	(2)	9.959	107	461350	7.471
82) Safrole	(2)	10.066	162	350077	7.386
83) 2-Methylnaphthalene	(2)	10.178	142	904001	7.266
84) 1-Methylnaphthalene	(2)	10.338	142	824690	7.262
85) Hexachlorocyclopentadiene	(3)	10.435	237	262382	7.230
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.451	216	425705	7.260
88) cis-Isosafrole	(3)	10.542	162	64202	1.244
90) 2,4,6-Trichlorophenol	(3)	10.649	196	280510	7.603
92) 2,4,5-Trichlorophenol	(3)	10.697	196	305422	7.602
97) Isosafrole	(3)			410700	7.450
93)$2-Fluorobiphenyl	(3)	10.804	172	2042748	15.089
94) trans-Isosafrole	(3)	10.911	162	346498	6.207
95) 1,1'-Biphenyl	(3)	10.959	154	1091514	7.425
96) 2-Chloronaphthalene	(3)	10.975	162	834614	7.212
98) 1-Chloronaphthalene	(3)	11.007	162	855106	7.760
99) Diphenyl ether	(3)	11.141	170	585712	7.463
100) 2-Nitroaniline	(3)	11.157	138	270196	7.706
104) 1,4-Naphthoquinone	(3)	11.280	158	350620	7.585
105) 1,4-Dinitrobenzene	(3)	11.403	168	136339	7.572
106) Dimethylphthalate	(3)	11.488	163	949093	7.592
107) 1,3-Dinitrobenzene	(3)	11.510	168	149408	7.603
108) 2,6-Dinitrotoluene	(3)	11.569	165	212927	7.861
109) Acenaphthylene	(3)	11.633	152	1355121	7.690
112) 3-Nitroaniline	(3)	11.804	138	230050	7.731
113)*Acenaphthene-d10	(3)	11.841	164	491089	5.000
114) Acenaphthene	(3)	11.890	153	887091	7.555

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0581.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 10:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: all1
Calibration date and time: 16-OCT-2015 10:59
Date, time and analyst ID of latest file update: 16-Oct-2015 10:59 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			501175	15.505
115) 2,4-Dinitrophenol	(3)	11.954	184	166277	9.252
116) 4-Nitrophenol	(3)	12.050	109	175525	7.638
117) Pentachlorobenzene	(3)	12.066	250	342682	7.476
119) Dibenzofuran	(3)	12.130	168	1229374	7.662
118) 2,4-Dinitrotoluene	(3)	12.136	165	288248	7.644
121) 1-Naphthylamine	(3)	12.237	143	874467	7.478
122) 2,3,4,6-Tetrachlorophenol	(3)	12.296	232	235551	7.814
123) 2-Naphthylamine	(3)	12.344	143	860473	7.566
124) Diethylphthalate	(3)	12.473	149	960720	7.812
125) Thionazin	(3)	12.569	107	177961	7.459
126) Fluorene	(3)	12.569	166	974604	7.765
127) 4-Chlorophenyl-phenylether	(3)	12.590	204	469478	7.794
128) 5-Nitro-o-toluidine	(3)	12.596	152	272954	7.879
129) 4-Nitroaniline	(3)	12.606	138	243909	8.042
130) 4,6-Dinitro-2-methylphenol	(4)	12.644	198	171461	7.187
132) NDPA as diphenylamine	(4)	12.740	169	804868	7.443
131) N-Nitrosodiphenylamine	(4)	12.740	169	804868	7.443
134) 1,2-Diphenylhydrazine	(4)	12.783	77	1259461	7.733
135)$2,4,6-Tribromophenol	(3)	12.874	330	212739	14.956
137) Tetraethyldithiopyrophosphate	(4)	12.965	97	205509	7.935
146) Diallate trans/cis	(4)			544546	7.705
139) 1,3,5-Trinitrobenzene	(4)	13.088	213	104065	7.443
140) Diallate (peak 1)	(4)	13.114	86	452904	6.388
141) Phorate	(4)	13.125	75	810505	7.964
142) Phenacetin	(4)	13.147	108	589895	7.926
143) 4-Bromophenyl-phenylether	(4)	13.205	248	242948	7.446
144) Diallate (peak 2)	(4)	13.227	86	91642	1.317
145) Hexachlorobenzene	(4)	13.254	284	242985	7.158
147) Dimethoate	(4)	13.334	87	528412	7.957
148) Atrazine	(4)	13.435	200	265230	7.497
149) Pentachlorophenol	(4)	13.521	266	171099	7.608
151) Pentachloronitrobenzene	(4)	13.532	237	122457	7.454
150) 4-Aminobiphenyl	(4)	13.542	169	961134	7.814
152) Pronamide	(4)	13.628	173	461899	8.143
153)*Phenanthrene-d10	(4)	13.772	188	923670	5.000
154) Dinoseb	(4)	13.778	211	262652	7.413
155) Phenanthrene	(4)	13.804	178	1453648	7.555
157) Anthracene	(4)	13.874	178	1480863	7.756
163) Carbazole	(4)	14.099	167	1373478	7.818

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0581.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 10:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: all1
Calibration date and time: 16-OCT-2015 10:59
Date, time and analyst ID of latest file update: 16-Oct-2015 10:59 hbz01996

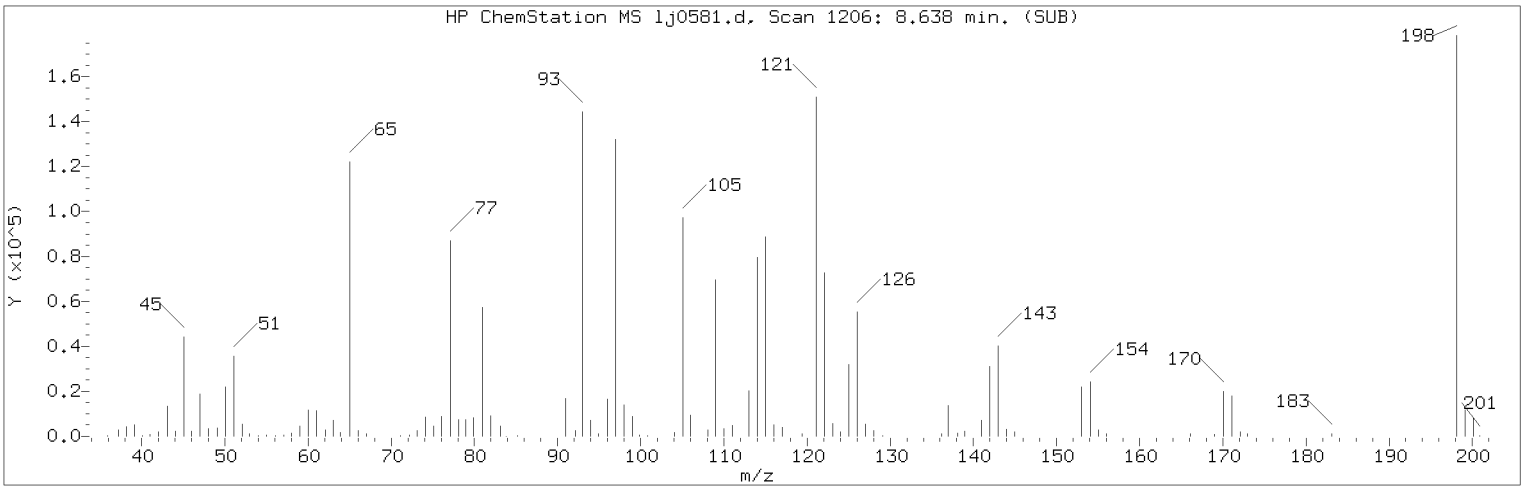
Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.307	109	395302	8.083
165) Di-n-butylphthalate	(4)	14.617	149	1705746	7.930
167) Parathion	(4)	14.869	109	238634	8.260
168) 4-Nitroquinoline-1-oxide	(4)	14.901	190	136844	6.596
169) Octachlorostyrene	(4)	15.227	308	90278	7.487
171) Isodrin	(4)	15.286	193	168917	7.521
173) Fluoranthene	(4)	15.521	202	1636475	7.814
174) Benzidine	(5)	15.762	184	3161989	22.524
175)*Pyrene-d10	(5)	15.848	212	1075120	5.000
177) Pyrene	(5)	15.874	202	1724274	7.453
179)$Terphenyl-d14	(5)	16.163	244	2185100	15.306
182) p-Dimethylaminoazobenzene	(5)	16.398	225	310827	8.286
185) Chlorobenzilate	(5)	16.489	139	546612	8.189
187) 3,3'-Dimethylbenzidine	(5)	16.976	212	1102588	7.818
188) Butylbenzylphthalate	(5)	17.030	149	783099	8.025
191) 2-Acetylaminofluorene	(5)	17.409	181	639578	7.499
193) 3,3'-Dichlorobenzidine	(5)	17.934	252	568737	7.568
195) Benzo(a)anthracene	(5)	17.944	228	1589499	7.981
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.950	231	327563	7.521
196) Chrysene	(5)	18.003	228	1469413	7.723
199) bis(2-Ethylhexyl)phthalate	(5)	18.105	149	1117020	7.983
203) 6-Methylchrysene	(5)	18.821	242	1029359	7.656
205) Di-n-octylphthalate	(6)	19.292	149	1922194	8.234
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.832	256	636455	7.859
206) Benzo(b)fluoranthene	(6)	19.832	252	1479494	7.898
208) Benzo(k)fluoranthene	(6)	19.880	252	1414164	7.762
211) Benzo(a)pyrene	(6)	20.373	252	1345244	7.709
213)*Perylene-d12	(6)	20.463	264	761186	5.000
215) 3-Methylcholanthrene	(6)	20.945	268	616083	7.558
217) Dibenz(a,h)acridine	(6)	21.779	279	1043092	6.983
218) Dibenz(a,j)acridine	(6)	21.854	279	1043062	6.928
222) Total PAHs	(6)			23765835	135.580
219) Indeno(1,2,3-cd)pyrene	(6)	22.127	276	1442754	7.070
220) Dibenz(a,h)anthracene	(6)	22.170	278	1202951	7.072
221) Benzo(g,h,i)perylene	(6)	22.560	276	1208026	6.927

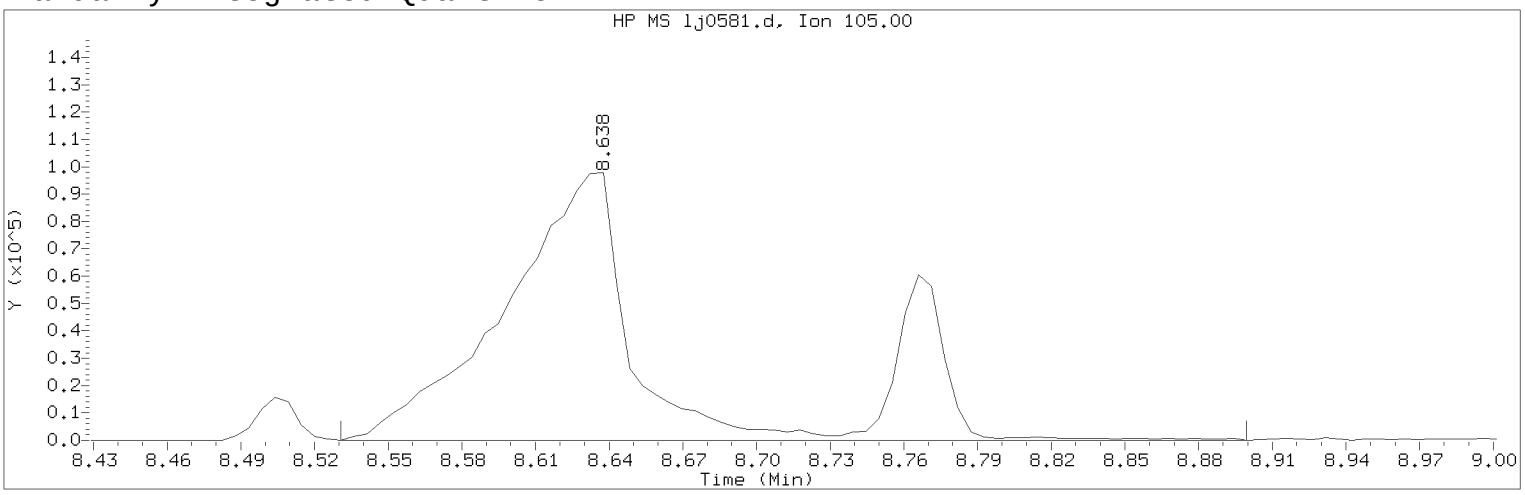
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct16.b/lj0581.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 10:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: all1
Calibration date and time: 16-OCT-2015 10:59
Date, time and analyst ID of latest file update: 16-Oct-2015 10:59 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

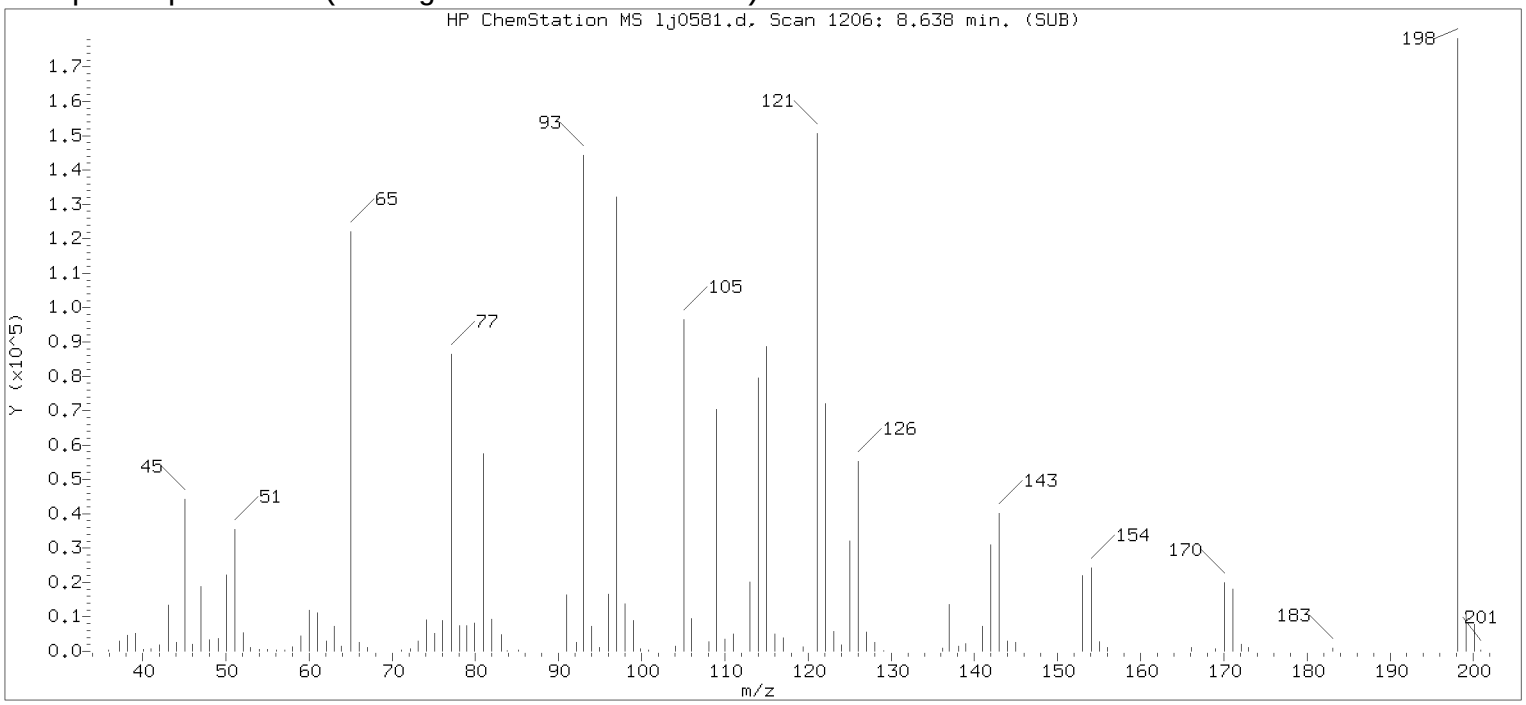
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1206
Retention Time (minutes) : 8.638
Quant Ion : 105.00
Area (flag) : 423476M
On-Column Amount (ng/ul) : 7.9588
Integration start scan : 1185 Integration stop scan: 1254
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

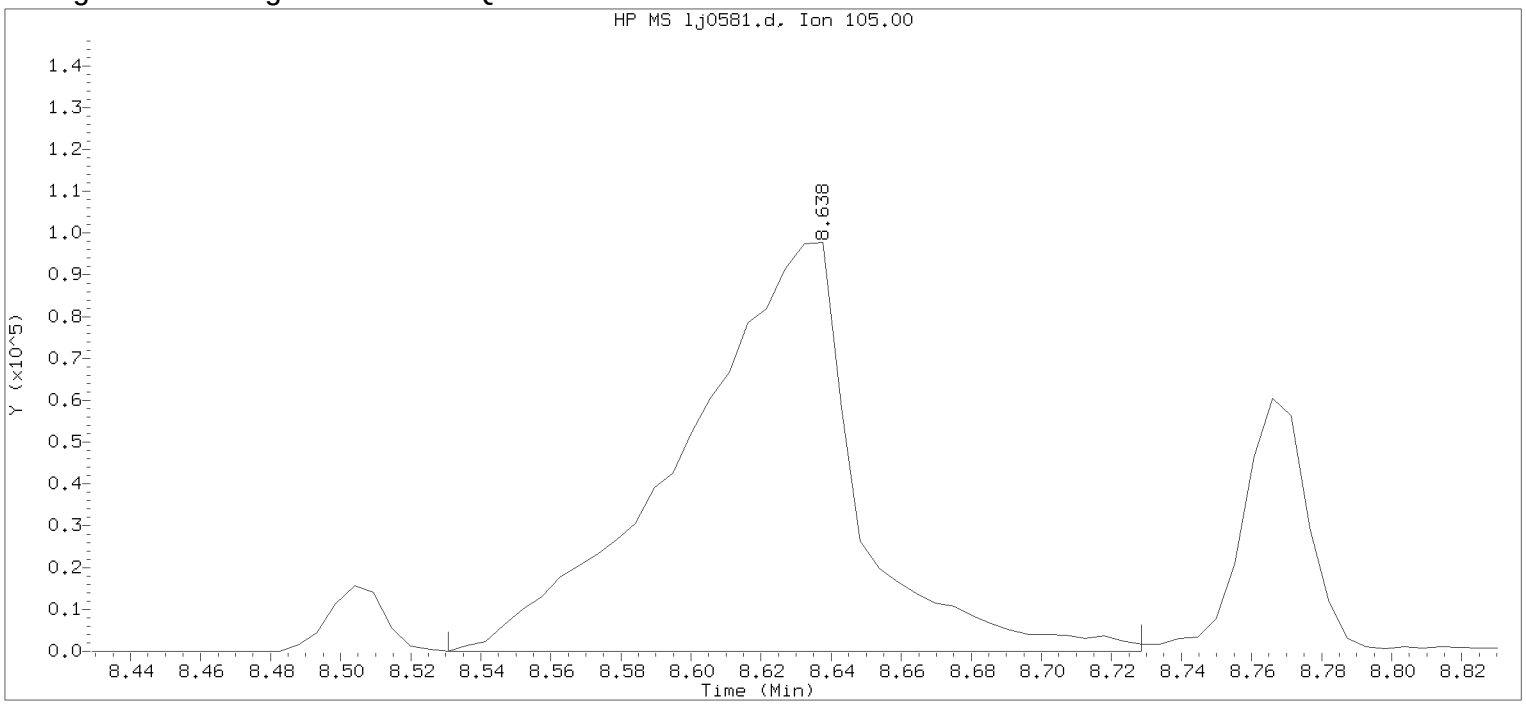
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 10/19/2015 at 11:14.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct16.b/lj0581.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 10:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: all1
Calibration date and time: 16-OCT-2015 10:43
Date, time and analyst ID of latest file update: 16-Oct-2015 10:43 Unknown

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1206		
Retention Time (minutes)	: 8.638		
Quant Ion	: 105.00		
Area	: 340029		
On-column Amount (ng/ul)	: 6.7187		
Integration start scan	: 1185	Integration stop scan:	1222
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:14.
Target 3.5 esignature user PSC28hbz01996

Data File: /chem/HP20296.i/15oct17.b/lj0610a.d

Date : 17-OCT-2015 12:29

Client ID: DFTPP12.5

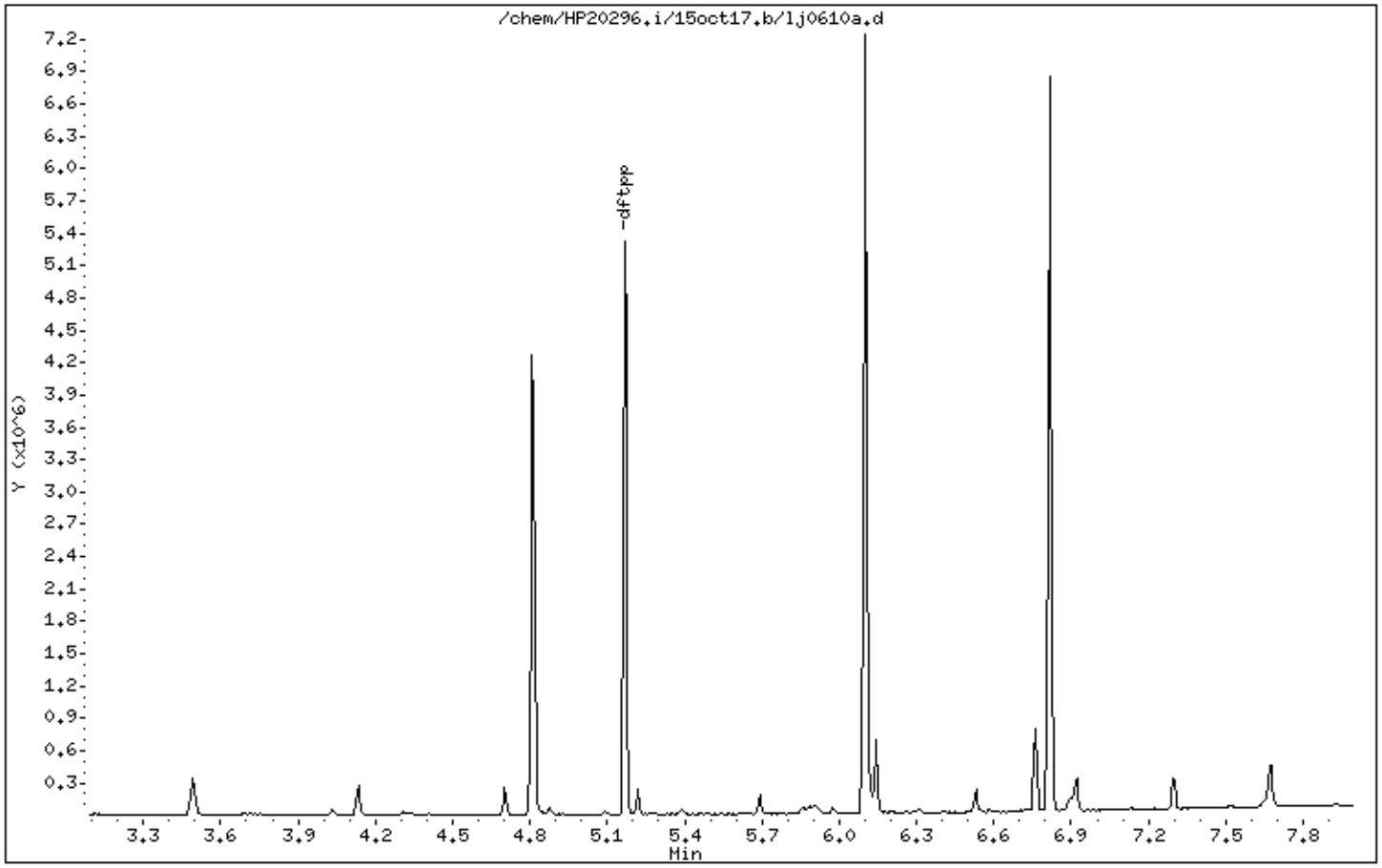
Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Catherine E. Bachman on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15oct17.b/lj0610a.d

Date : 17-OCT-2015 12:29

Client ID: DFTPP12.5

Instrument: HP20296.i

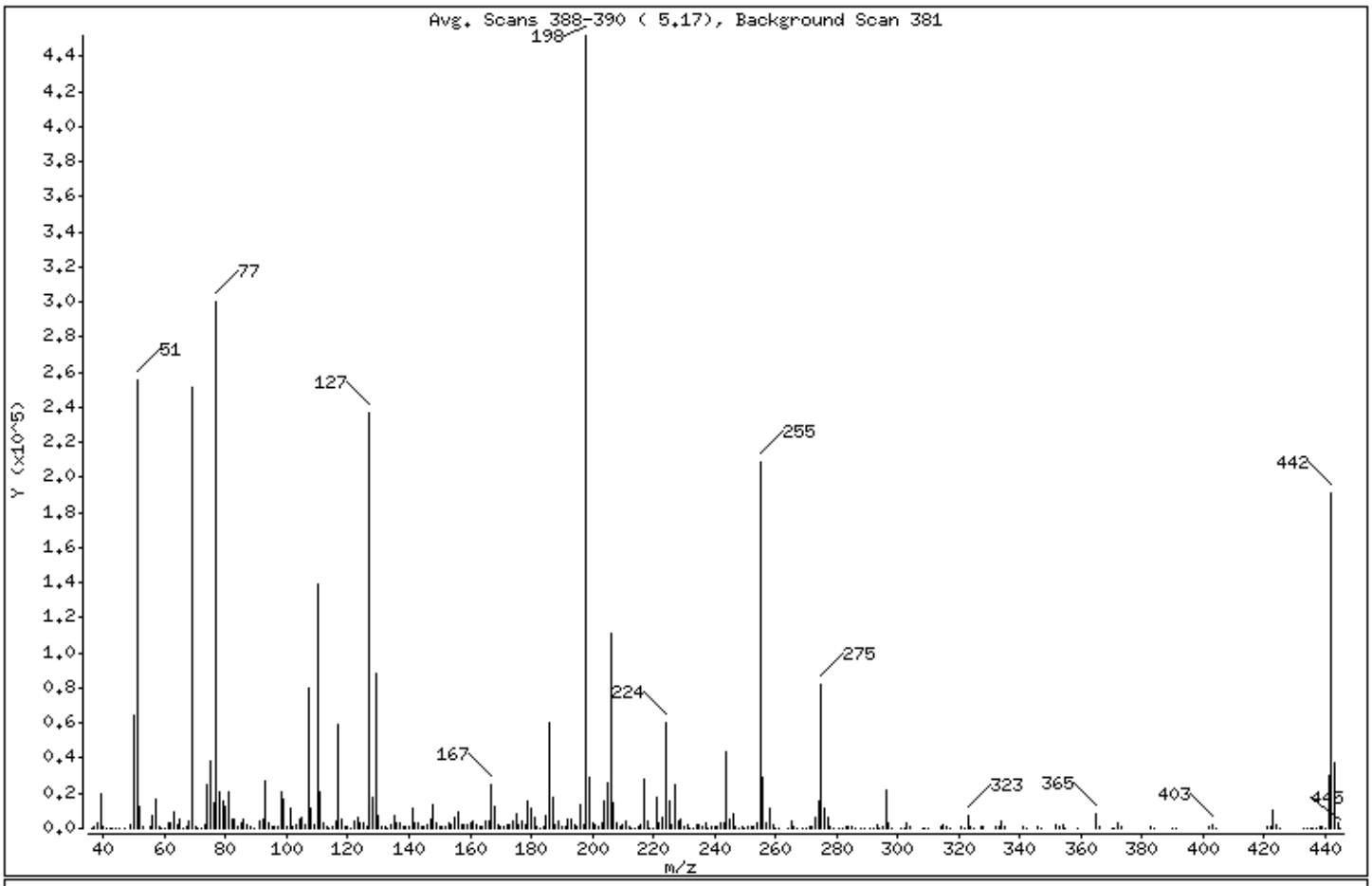
Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	56.55
68	Less than 2.00% of mass 69	0.94 (1.68)
69	Mass 69 relative abundance	55.69
70	Less than 2.00% of mass 69	0.34 (0.62)
127	40.00 - 60.00% of mass 198	52.35
197	Less than 1.00% of mass 198	0.43
199	5.00 - 9.00% of mass 198	6.52
275	10.00 - 30.00% of mass 198	18.15
365	Greater than 1.00% of mass 198	1.84
441	Present, but less than mass 443	6.58
442	40.00 - 99.99% of mass 198	42.29
443	17.00 - 23.00% of mass 442	8.33 (19.71)

Digitally signed by Catherine E. Bachman on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Date : 17-OCT-2015 12:29

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS Column diameter: 0.18

Data File: lj0610a.d
Spectrum: Avg. Scans 388-390 (5,17), Background Scan 381
Location of Maximum: 198.00
Number of points: 315

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	196	119.00	868	198.00	451840	281.00	480
37.00	906	120.00	928	199.00	29456	282.00	89
38.00	2785	121.00	353	200.00	2761	283.00	948
39.00	19528	122.00	3989	201.00	1734	284.00	578
40.00	530	123.00	6343	202.00	553	285.00	1509
41.00	479	124.00	2709	203.00	2738	286.00	336
42.00	88	125.00	3126	204.00	15353	288.00	91
43.00	134	126.00	1340	205.00	26192	289.00	119
44.00	445	127.00	236544	206.00	111280	291.00	201
45.00	150	128.00	17672	207.00	14485	292.00	305
47.00	137	129.00	88024	208.00	3575	293.00	1779
49.00	1784	130.00	7471	209.00	1296	294.00	492
50.00	64024	131.00	1284	210.00	2078	295.00	913
51.00	255488	132.00	581	211.00	3972	296.00	21592
52.00	12284	133.00	429	212.00	1006	297.00	3241
53.00	703	134.00	2410	213.00	199	298.00	435
55.00	1038	135.00	6799	214.00	171	301.00	273
56.00	7066	136.00	3275	215.00	901	302.00	443
57.00	16344	137.00	3617	216.00	2594	303.00	2602
58.00	749	138.00	669	217.00	28560	304.00	688
59.00	103	139.00	595	218.00	4085	308.00	438
60.00	105	140.00	1380	219.00	516	309.00	197
61.00	3074	141.00	11416	220.00	482	310.00	510
62.00	3618	142.00	3431	221.00	17552	314.00	1076
63.00	9768	143.00	2618	222.00	3427	315.00	2327
64.00	1573	144.00	1093	223.00	6414	316.00	1232
65.00	4723	145.00	686	224.00	60120	317.00	284
66.00	416	146.00	1892	225.00	15091	321.00	868
67.00	604	147.00	5071	226.00	1974	322.00	304
68.00	4235	148.00	13235	227.00	24544	323.00	7135
69.00	251584	149.00	2919	228.00	3689	324.00	1217
70.00	1558	150.00	661	229.00	5117	325.00	93
71.00	162	151.00	1178	230.00	826	327.00	1171
72.00	145	152.00	1208	231.00	1931	328.00	578
73.00	2130	153.00	2882	232.00	407	332.00	694

Digitally signed by Catherine E. Bachman on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Date : 17-OCT-2015 12:29

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS Column diameter: 0.18

Data File: lj0610a.d
Spectrum: Avg. Scans 388-390 (5,17), Background Scan 381
Location of Maximum: 198.00
Number of points: 315

m/z	Y	m/z	Y	m/z	Y	m/z	Y
74.00	25272	154.00	2342	233.00	426	333.00	605
75.00	38592	155.00	6034	234.00	1820	334.00	4058
76.00	14516	156.00	9012	235.00	1599	335.00	898
77.00	300288	157.00	1910	236.00	1337	341.00	886
78.00	21064	158.00	1811	237.00	2609	342.00	129
79.00	15783	159.00	1805	238.00	138	346.00	1394
80.00	12151	160.00	3404	239.00	711	347.00	270
81.00	20704	161.00	4649	240.00	797	352.00	1807
82.00	5016	162.00	1700	241.00	1301	353.00	1080
83.00	4744	163.00	564	242.00	3252	354.00	1832
84.00	830	164.00	923	243.00	3457	355.00	316
85.00	3470	165.00	4086	244.00	43784	359.00	86
86.00	5333	166.00	3894	245.00	5229	365.00	8301
87.00	2270	167.00	24904	246.00	8006	366.00	1087
88.00	845	168.00	12588	247.00	1512	370.00	85
89.00	316	169.00	2096	248.00	344	371.00	496
91.00	4050	170.00	740	249.00	1371	372.00	3022
92.00	4979	171.00	709	250.00	448	373.00	771
93.00	27048	172.00	1960	251.00	825	383.00	952
94.00	2623	173.00	2408	252.00	534	384.00	365
95.00	802	174.00	4559	253.00	1505	390.00	320
96.00	1466	175.00	8719	254.00	3456	391.00	240
97.00	712	176.00	2262	255.00	208384	402.00	935
98.00	20336	177.00	4319	256.00	29560	403.00	1887
99.00	16952	178.00	1593	257.00	2705	404.00	493
100.00	1415	179.00	15683	258.00	11384	421.00	1494
101.00	11013	180.00	11033	259.00	2040	422.00	1332
102.00	615	181.00	5860	260.00	208	423.00	9936
103.00	2551	182.00	895	261.00	362	424.00	2414
104.00	5558	183.00	453	264.00	269	425.00	408
105.00	6069	184.00	1324	265.00	4413	433.00	209
106.00	1813	185.00	7542	266.00	945	434.00	177
107.00	79592	186.00	60272	267.00	168	435.00	382
108.00	11124	187.00	17384	269.00	188	436.00	235
109.00	2106	188.00	1739	270.00	271	437.00	392

Digitally signed by Catherine E. Bachman on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Date : 17-OCT-2015 12:29

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS Column diameter: 0.18

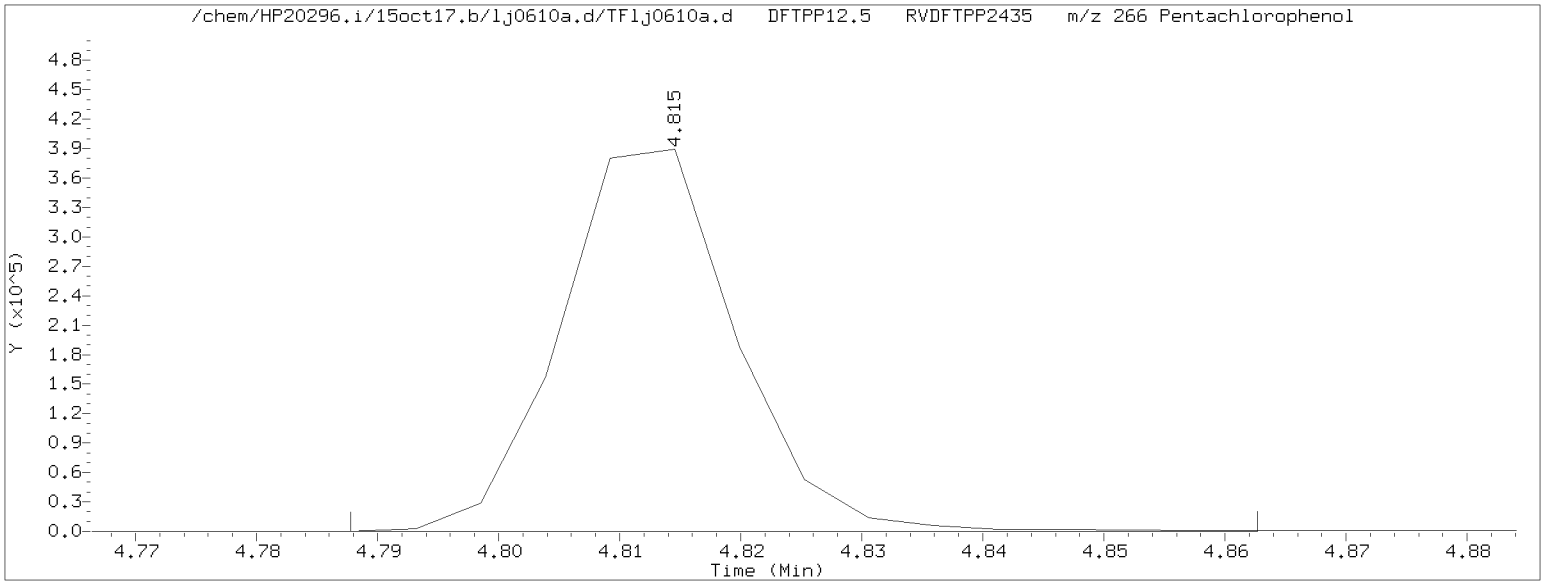
Data File: lj0610a.d
Spectrum: Avg. Scans 388-390 (5.17), Background Scan 381
Location of Maximum: 198.00
Number of points: 315

m/z	Y	m/z	Y	m/z	Y	m/z	Y
110.00	138944	189.00	3821	271.00	553	438.00	826
111.00	20856	190.00	619	272.00	1149	439.00	985
112.00	2656	191.00	1360	273.00	6182	440.00	425
113.00	1091	192.00	5130	274.00	16003	441.00	29704
114.00	257	193.00	5257	275.00	82008	442.00	191040
115.00	542	194.00	1781	276.00	11381	443.00	37656
116.00	4074	195.00	1156	277.00	6081	444.00	3304
117.00	59424	196.00	13053	278.00	1201	445.00	149
118.00	4775	197.00	1933	279.00	191		

Digitally signed by Catherine E. Bachman on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Assessment of GC Column Performance and Injection Port Inertness for

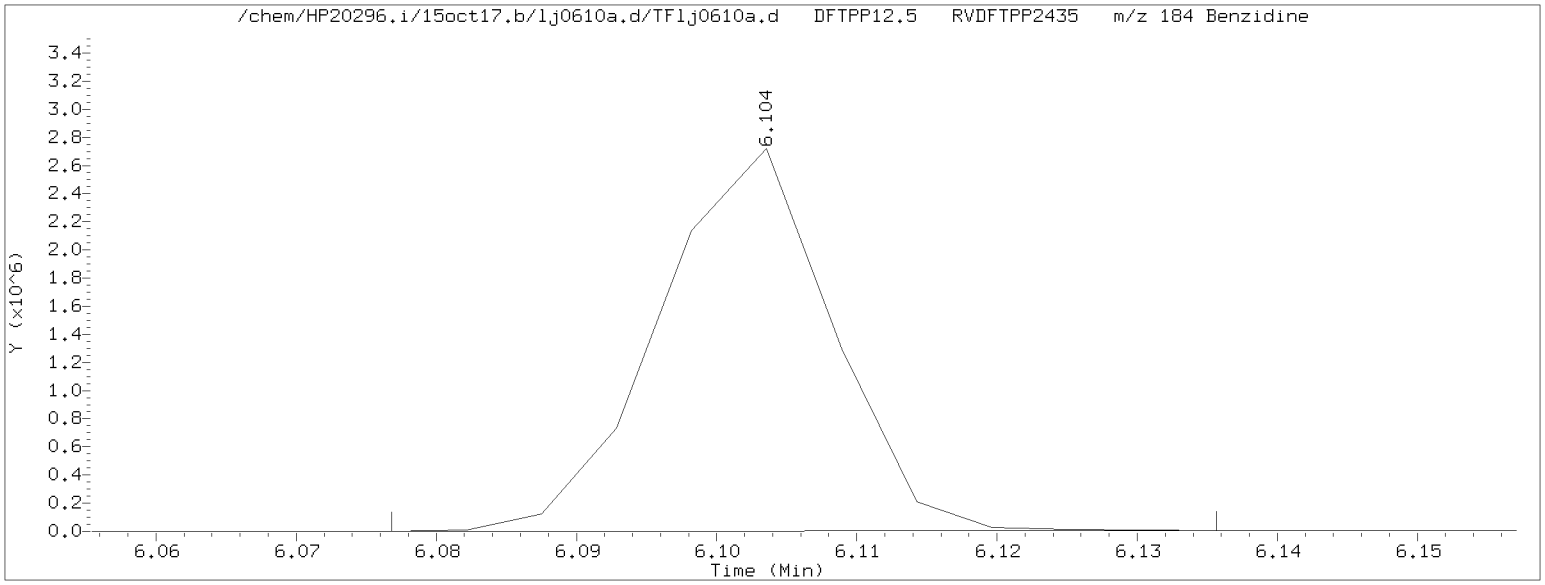
Instrument ID: HP20296.i Injection Date: 17-OCT-2015 12:29 Operator: ceb05247



Pentachlorophenol EICP peak height = 389504 EICP peak height at 10% = 38950 Pentachlorophenol EICP area = 392976

Pentachlorophenol EICP peak apex (min.) = 4.815
RT at 10% of front half of EICP (min.) = 4.799 'Front' peak width (min.) = 0.0155833333
RT at 10% of back half of EICP (min.) = 4.827 'Tailing' peak width (min.) = 0.0125666667

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0125666667}{0.0155833333} = 0.806$$



Benzidine EICP peak height = 2716928 EICP peak height at 10% = 271693 Benzidine EICP area = 2323171

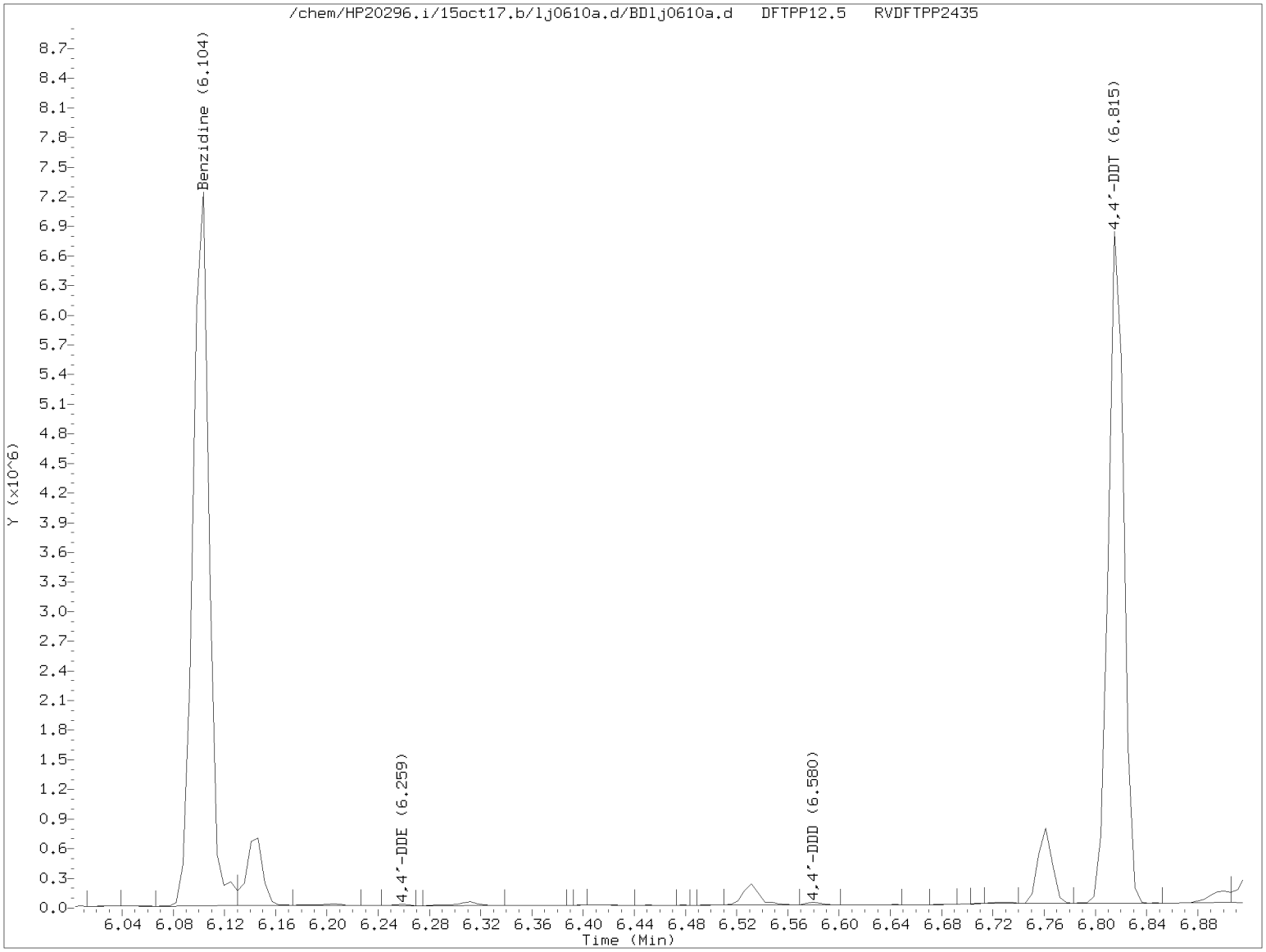
Benzidine EICP peak apex (min.) = 6.104
RT at 10% of front half of EICP (min.) = 6.089 'Front' peak width (min.) = 0.0147000000
RT at 10% of back half of EICP (min.) = 6.114 'Tailing' peak width (min.) = 0.0103666667

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0103666667}{0.0147000000} = 0.705$$

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:19. Parallax ID: mar00486

Assessment of GC Column Performance and Injection Port Inertness for

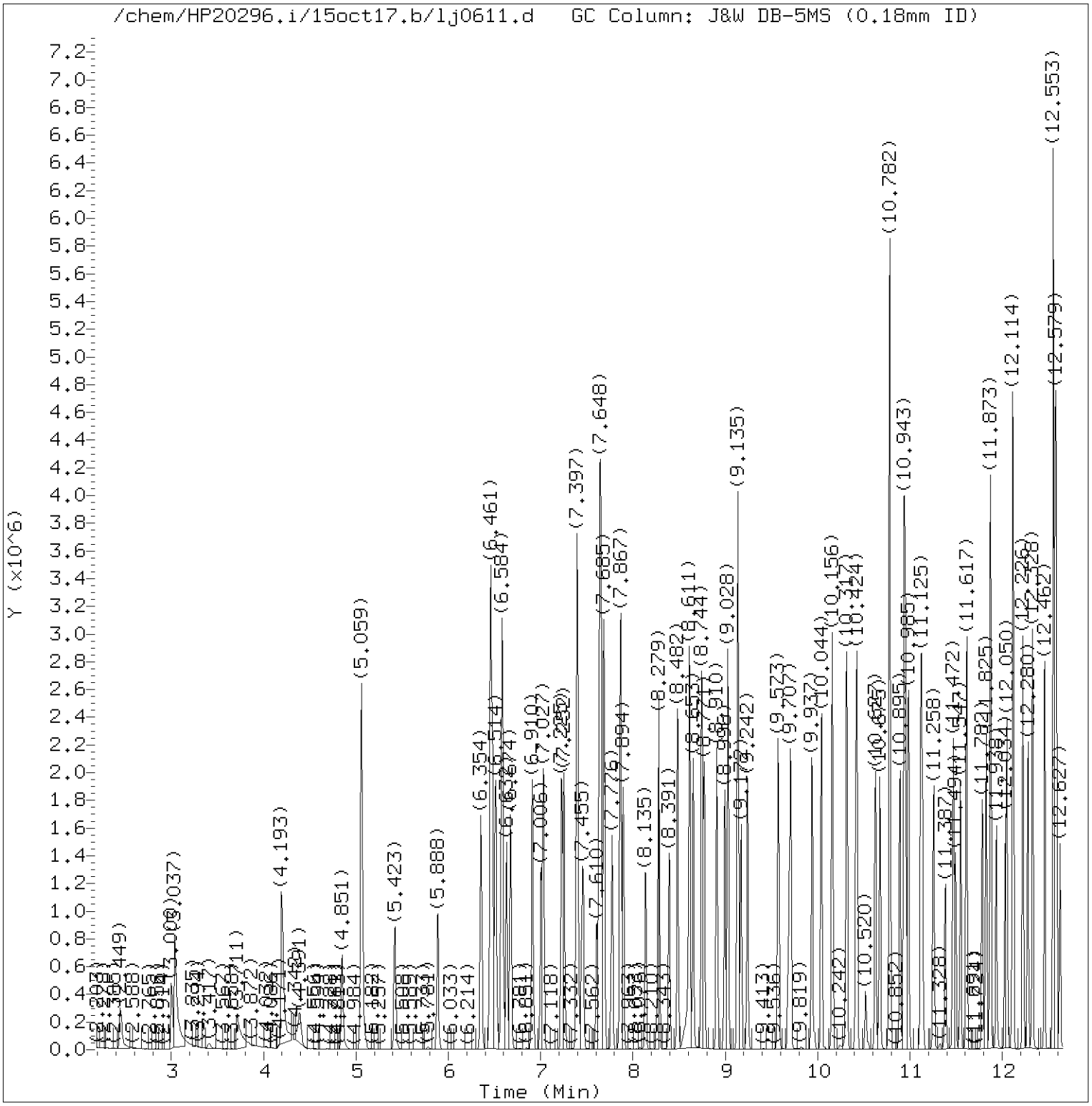
Instrument ID: HP20296.i Injection Date: 17-OCT-2015 12:29 Operator: ceb05247



$$\%\ 4,4'\text{-DDT breakdown} = \frac{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area}}{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area} + 4,4'\text{-DDT TIC area}} \times 100$$

$$\%\ 4,4'\text{-DDT breakdown} = \frac{10377 + 23872}{10377 + 23872 + 5790613} \times 100 = 0.6$$

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:19. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

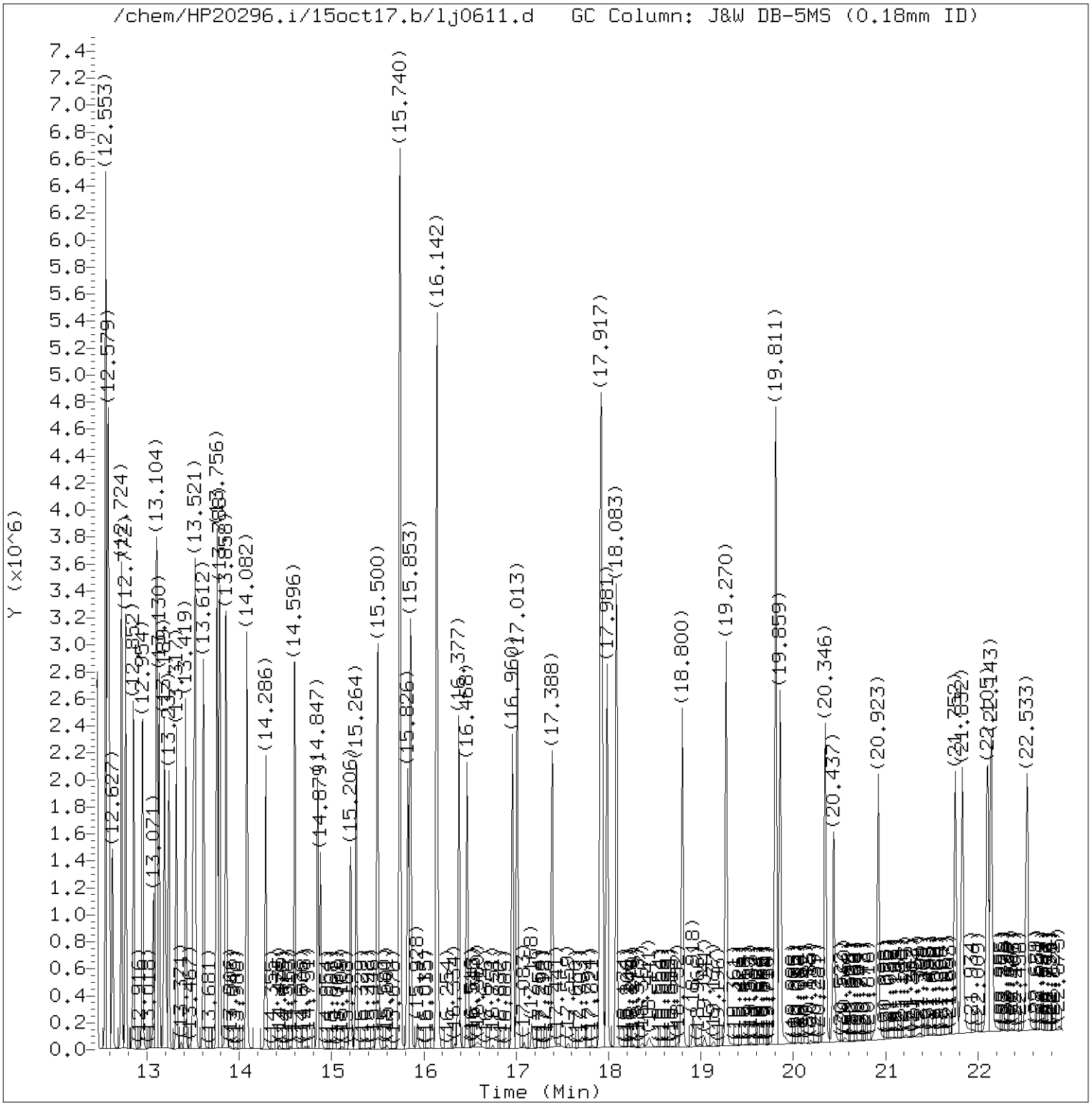
Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0611.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 12:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 13:10 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0611.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 12:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 13:10 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0611.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 12:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 13:10 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.449	88	266628	7.774
4) N-Nitrosodimethylamine	(1)	3.000	74	418239	7.722
5) Pyridine	(1)	3.037	79	691120	7.548
7) 2-Picoline	(1)	4.193	93	720204	7.542
8) N-Nitrosomethylethylamine	(1)	4.391	88	289978	7.420
9) Methyl methanesulfonate	(1)	4.851	80	377999	8.195
11)$2-Fluorophenol	(1)	5.059	112	1139440	15.759
13) N-Nitrosodiethylamine	(1)	5.423	102	280382	7.645
15) Ethyl methanesulfonate	(1)	5.888	109	293144	7.783
16) Benzaldehyde	(1)	6.354	77	540479	7.566
17)$Phenol-d6	(1)	6.461	99	1566369	15.730
18) Phenol	(1)	6.477	94	880991	8.244
19) Aniline	(1)	6.514	93	1048162	7.819
20) a-methylstyrene	(1)	6.589	118	572144	7.639
22) bis(2-Chloroethyl)ether	(1)	6.632	93	638518	7.687
23) 2-Chlorophenol	(1)	6.674	128	535545	7.885
24) 1,3-Dichlorobenzene	(1)	6.910	146	577537	7.625
25)*1,4-Dichlorobenzene-d4	(1)	7.006	152	243160	5.000
26) 1,4-Dichlorobenzene	(1)	7.033	146	592266	7.670
27) Benzyl alcohol	(1)	7.225	108	373344	7.294
28) 1,2-Dichlorobenzene	(1)	7.252	146	554614	7.628
30) Indene	(1)	7.391	115	959137	7.420
31) 2-Methylphenol	(1)	7.402	108	553710	7.719
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.455	45	932169	7.972
34) bis(2-Chloroisopropyl)ether	(1)	7.455	45	932169	7.972
35) N-Nitrosopyrrolidine	(1)	7.610	100	294143	7.641
36) Acetophenone	(1)	7.637	105	829735	7.406
37) 4-Methylphenol	(1)	7.648	108	589936	7.879
38) N-Nitroso-di-n-propylamine	(1)	7.653	70	514671	7.941
42) Total Cresols	(1)			1143646	15.598
39) N-Nitrosomorpholine	(1)	7.680	56	421795	8.441
40) o-Toluidine	(1)	7.685	106	972996	7.739
43) Hexachloroethane	(1)	7.776	117	261201	8.155
44)$Nitrobenzene-d5	(2)	7.867	82	1467621	15.455
45) Nitrobenzene	(2)	7.894	77	739061	7.844
48) N-Nitrosopiperidine	(2)	8.140	114	282557	7.843
50) Isophorone	(2)	8.279	82	1302716	7.861
51) 2-Nitrophenol	(2)	8.391	139	261893	7.623
53) 2,4-Dimethylphenol	(2)	8.482	107	606308	7.736
57) O,O,O-Triethylphosphorothioate	(2)	8.611	198	239888	6.966

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0611.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 12:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 13:10 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	8.616	105	520213M	8.843
55) bis(2-Chloroethoxy)methane	(2)	8.653	93	762866	7.579
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.744	104	882496	7.622
60) 2,4-Dichlorophenol	(2)	8.771	162	419823	7.545
62) 1,2,4-Trichlorobenzene	(2)	8.910	180	451932	7.081
65)*Naphthalene-d8	(2)	8.996	136	940552	5.000
66) Naphthalene	(2)	9.028	128	1524874	7.548
67) 4-Chloroaniline	(2)	9.135	127	646856	7.803
68) 2,6-Dichlorophenol	(2)	9.140	162	414042	7.416
69) Hexachloropropene	(2)	9.172	213	295396	7.022
71) Hexachlorobutadiene	(2)	9.242	225	252089	6.935
75) Quinoline	(2)	9.573	129	966986	7.655
76) Caprolactam	(2)	9.691	113	141150	7.557
77) N-Nitrosodi-n-butylamine	(2)	9.707	84	570114	8.224
80) 4-Chloro-3-methylphenol	(2)	9.937	107	517961	7.787
82) Safrole	(2)	10.044	162	379887	7.442
83) 2-Methylnaphthalene	(2)	10.156	142	1012608	7.557
84) 1-Methylnaphthalene	(2)	10.317	142	911225	7.450
85) Hexachlorocyclopentadiene	(3)	10.419	237	265097	6.910
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.429	216	440793	7.110
88) cis-Isosafrole	(3)	10.525	162	69421	1.272
90) 2,4,6-Trichlorophenol	(3)	10.627	196	288318	7.392
92) 2,4,5-Trichlorophenol	(3)	10.675	196	308527	7.264
97) Isosafrole	(3)			440168	7.554
93)$2-Fluorobiphenyl	(3)	10.782	172	2144500	14.984
94) trans-Isosafrole	(3)	10.895	162	370747	6.282
95) 1,1'-Biphenyl	(3)	10.937	154	1180334	7.595
96) 2-Chloronaphthalene	(3)	10.953	162	938789	7.673
98) 1-Chloronaphthalene	(3)	10.985	162	844114	7.246
99) Diphenyl ether	(3)	11.119	170	624127	7.522
100) 2-Nitroaniline	(3)	11.135	138	296042	7.987
104) 1,4-Naphthoquinone	(3)	11.258	158	359858	7.364
105) 1,4-Dinitrobenzene	(3)	11.387	168	144765	7.605
106) Dimethylphthalate	(3)	11.472	163	1007291	7.622
107) 1,3-Dinitrobenzene	(3)	11.494	168	157198	7.567
108) 2,6-Dinitrotoluene	(3)	11.547	165	221933	7.750
109) Acenaphthylene	(3)	11.617	152	1459146	7.833
112) 3-Nitroaniline	(3)	11.782	138	253030	8.044
113)*Acenaphthene-d10	(3)	11.825	164	519166	5.000
114) Acenaphthene	(3)	11.873	153	973849	7.846

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0611.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 12:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 13:10 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	11.938	184	180081	9.478
120) 2,4_2,6-Dinitrotoluenes	(3)			516316	15.135
116) 4-Nitrophenol	(3)	12.034	109	204435	8.415
117) Pentachlorobenzene	(3)	12.050	250	339675	7.009
119) Dibenzofuran	(3)	12.114	168	1292649	7.621
118) 2,4-Dinitrotoluene	(3)	12.119	165	294383	7.385
121) 1-Naphthylamine	(3)	12.226	143	959219	7.759
122) 2,3,4,6-Tetrachlorophenol	(3)	12.280	232	230163	7.223
123) 2-Naphthylamine	(3)	12.328	143	931203	7.746
124) Diethylphthalate	(3)	12.462	149	1005441	7.733
125) Thionazin	(3)	12.553	107	189237	7.503
126) Fluorene	(3)	12.553	166	1008381	7.600
127) 4-Chlorophenyl-phenylether	(3)	12.574	204	472066	7.413
128) 5-Nitro-o-toluidine	(3)	12.579	152	286008	7.809
129) 4-Nitroaniline	(3)	12.590	138	265915	8.293
130) 4,6-Dinitro-2-methylphenol	(4)	12.627	198	170804	7.185
132) NDPA as diphenylamine	(4)	12.724	169	843304	7.827
131) N-Nitrosodiphenylamine	(4)	12.724	169	843304	7.827
134) 1,2-Diphenylhydrazine	(4)	12.772	77	1401080	8.634
135)$2,4,6-Tribromophenol	(3)	12.857	330	194931	12.963
137) Tetraethyldithiopyrophosphate	(4)	12.948	97	223305	8.653
146) Diallate trans/cis	(4)			589466	8.370
139) 1,3,5-Trinitrobenzene	(4)	13.071	213	97265	6.982
140) Diallate (peak 1)	(4)	13.098	86	491508	6.958
141) Phorate	(4)	13.109	75	871405	8.593
142) Phenacetin	(4)	13.130	108	628942	8.481
143) 4-Bromophenyl-phenylether	(4)	13.189	248	240409	7.394
144) Diallate (peak 2)	(4)	13.205	86	97958	1.413
145) Hexachlorobenzene	(4)	13.237	284	229223	6.777
147) Dimethoate	(4)	13.317	87	548866	8.294
148) Atrazine	(4)	13.419	200	264022	7.489
149) Pentachlorophenol	(4)	13.505	266	164324	7.333
151) Pentachloronitrobenzene	(4)	13.515	237	123742	7.559
150) 4-Aminobiphenyl	(4)	13.526	169	981003	8.004
152) Pronamide	(4)	13.612	173	469849	8.313
153)*Phenanthrene-d10	(4)	13.756	188	920375	5.000
154) Dinoseb	(4)	13.761	211	256432	7.279
155) Phenanthrene	(4)	13.788	178	1489520	7.769
157) Anthracene	(4)	13.858	178	1495254	7.859
163) Carbazole	(4)	14.082	167	1407069	8.038

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0611.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 12:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 13:10 ceb05247

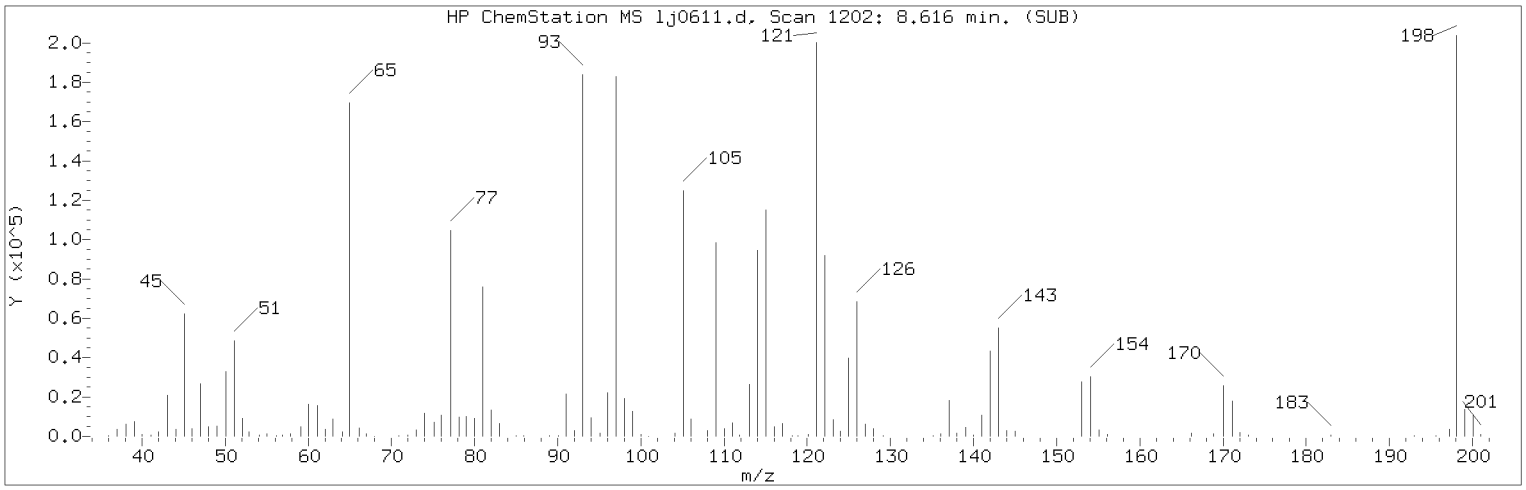
Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.286	109	419768	8.614
165) Di-n-butylphthalate	(4)	14.601	149	1719285	8.022
167) Parathion	(4)	14.847	109	245021	8.512
168) 4-Nitroquinoline-1-oxide	(4)	14.879	190	129421	6.260
169) Octachlorostyrene	(4)	15.206	308	85570	7.122
171) Isodrin	(4)	15.270	193	169748	7.585
173) Fluoranthene	(4)	15.500	202	1586548	7.603
174) Benzidine	(5)	15.740	184	3262467	23.696
175)*Pyrene-d10	(5)	15.826	212	1054405	5.000
177) Pyrene	(5)	15.853	202	1715606	7.561
179)$Terphenyl-d14	(5)	16.142	244	2054281	14.672
182) p-Dimethylaminoazobenzene	(5)	16.377	225	278598	7.573
185) Chlorobenzilate	(5)	16.468	139	570356	8.712
187) 3,3'-Dimethylbenzidine	(5)	16.960	212	1037382	7.500
188) Butylbenzylphthalate	(5)	17.013	149	802678	8.387
191) 2-Acetylaminofluorene	(5)	17.388	181	640221	7.654
193) 3,3'-Dichlorobenzidine	(5)	17.912	252	541838	7.352
195) Benzo(a)anthracene	(5)	17.917	228	1520673	7.786
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.933	231	319577	7.482
196) Chrysene	(5)	17.981	228	1427129	7.648
199) bis(2-Ethylhexyl)phthalate	(5)	18.083	149	1146297	8.354
203) 6-Methylchrysene	(5)	18.800	242	981147	7.441
205) Di-n-octylphthalate	(6)	19.270	149	1952836	8.408
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.811	256	591790	7.345
206) Benzo(b)fluoranthene	(6)	19.811	252	1401224	7.518
208) Benzo(k)fluoranthene	(6)	19.859	252	1400063	7.724
211) Benzo(a)pyrene	(6)	20.346	252	1334249	7.685
213)*Perylene-d12	(6)	20.437	264	757304	5.000
215) 3-Methylcholanthrene	(6)	20.923	268	613108	7.560
217) Dibenz(a,h)acridine	(6)	21.752	279	1071942	7.213
218) Dibenz(a,j)acridine	(6)	21.832	279	1102123	7.358
222) Total PAHs	(6)			24444537	137.982
219) Indeno(1,2,3-cd)pyrene	(6)	22.105	276	1562860	7.697
220) Dibenz(a,h)anthracene	(6)	22.143	278	1316336	7.778
221) Benzo(g,h,i)perylene	(6)	22.533	276	1304992	7.521

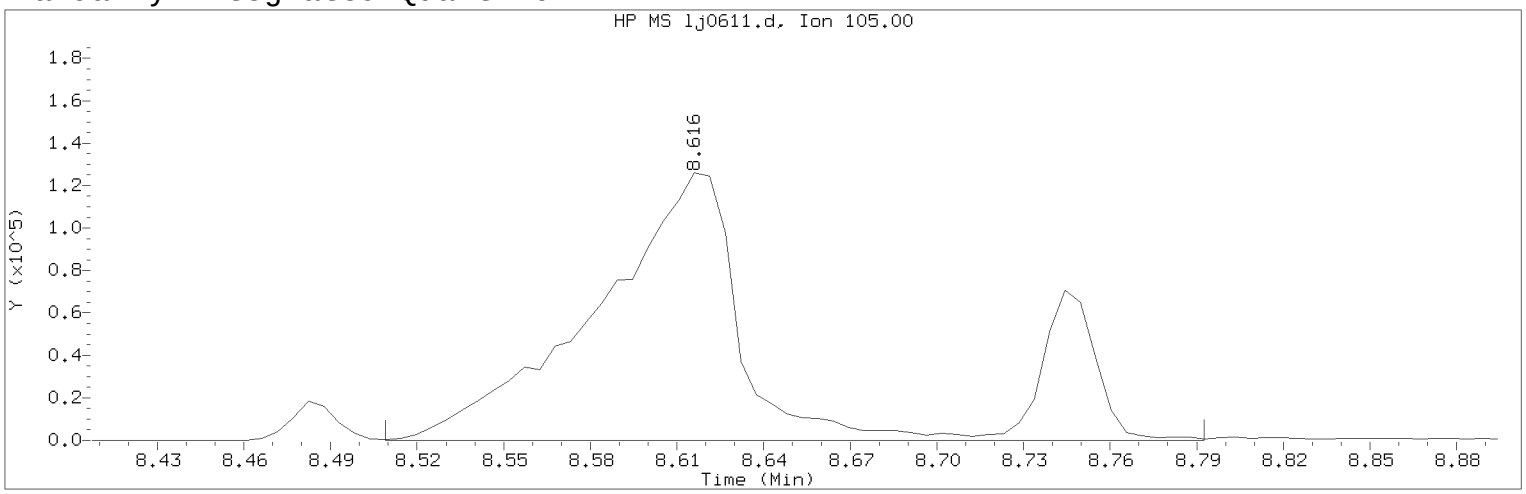
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct17.b/lj0611.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 12:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 13:10 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

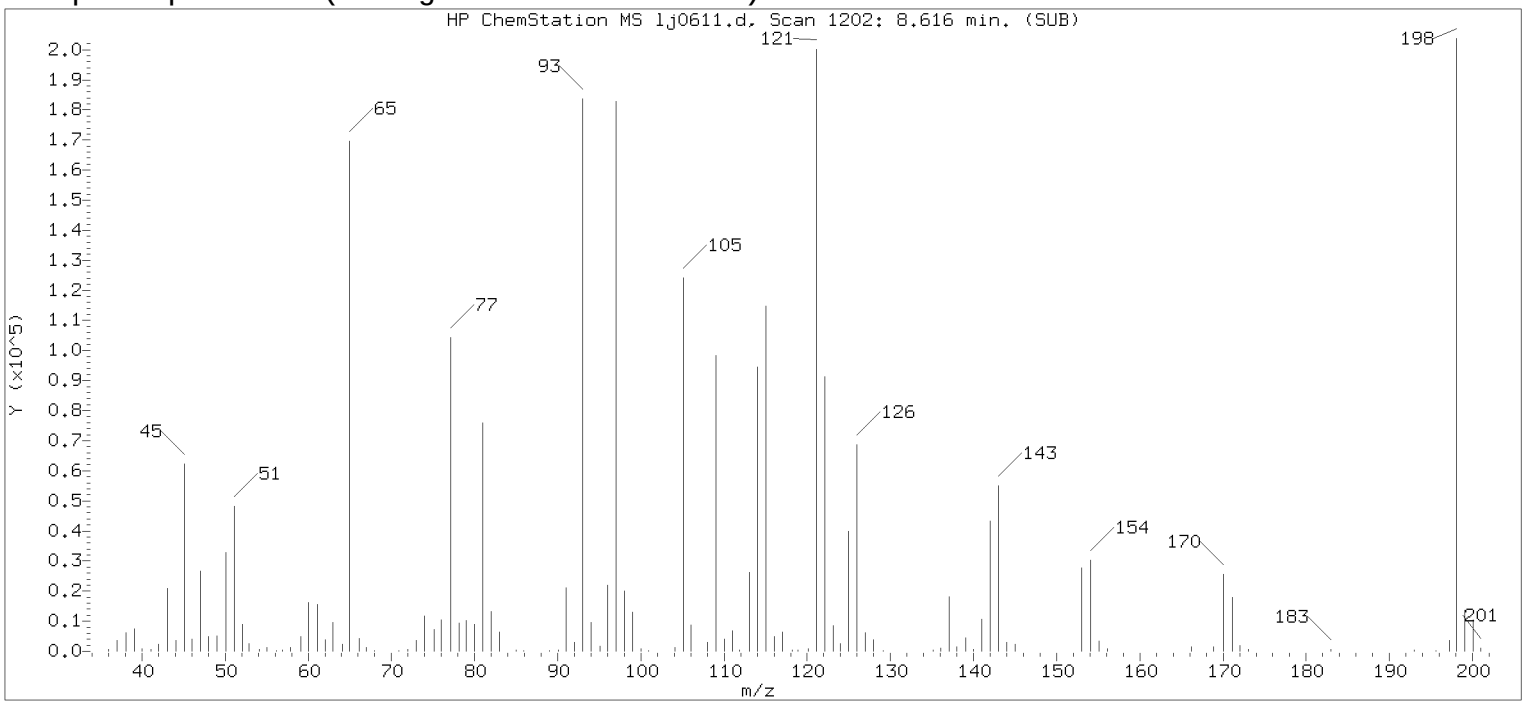
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1202
Retention Time (minutes) : 8.616
Quant Ion : 105.00
Area (flag) : 520213M
On-Column Amount (ng/ul) : 8.8434
Integration start scan : 1181 Integration stop scan: 1234
Y at integration start : 95 Y at integration end: 95

Reason for manual integration: improper integration

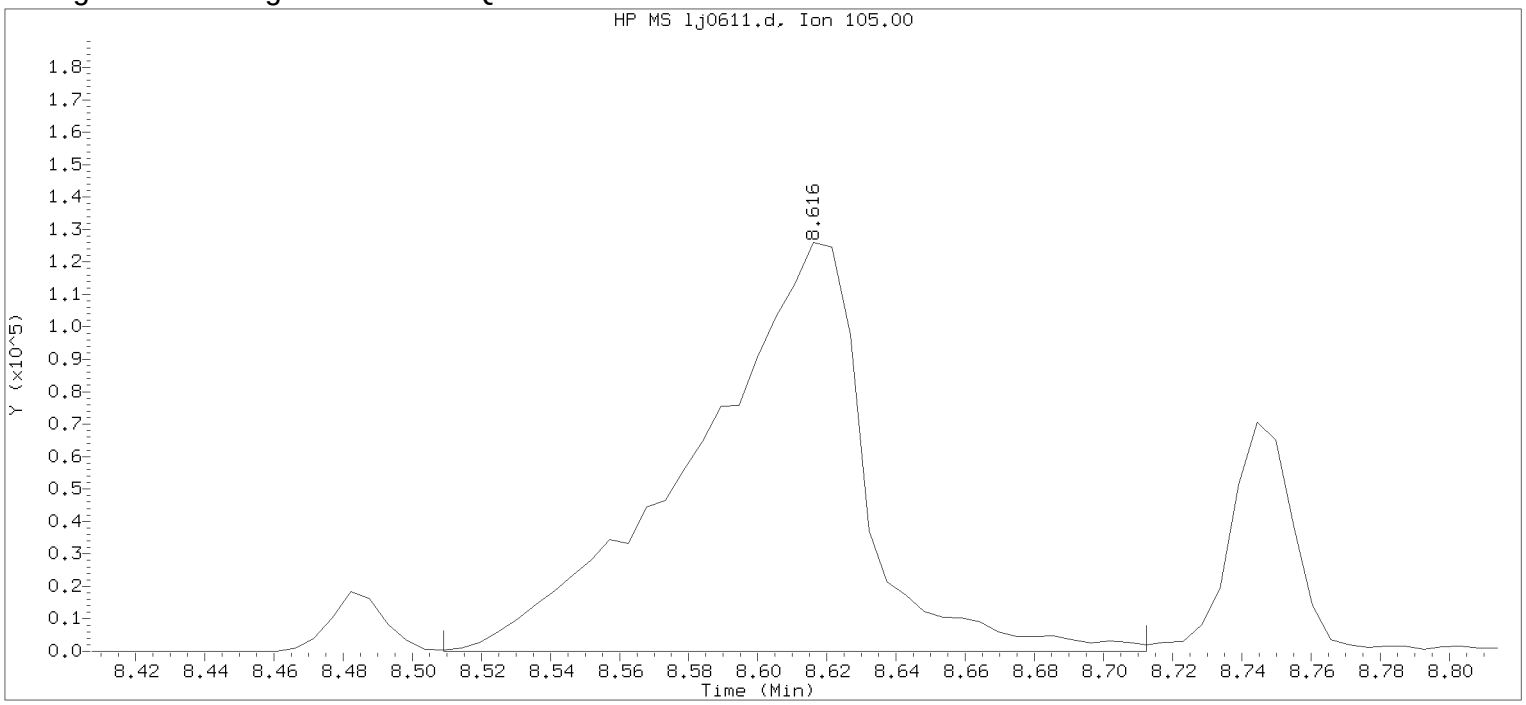
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:19.
Parallax ID: mar00486

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct17.b/lj0611.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 12:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-OCT-2015 13:09
Date, time and analyst ID of latest file update: 17-Oct-2015 13:09 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1202		
Retention Time (minutes)	: 8.616		
Quant Ion	: 105.00		
Area	: 430472		
On-column Amount (ng/ul)	: 7.6051		
Integration start scan	: 1181	Integration stop scan:	1219
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/17/2015 at 13:11.
Target 3.5 esignature user PSC28cpa05247

Raw QC Data

Semivolatiles by GC/MS

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0582a.d Injection date and time: **16-OCT-2015 12:16**
Data file Sample Info. Line: SBLKWB283L;SBLKWB283;1;3;BLANK;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.022(0.005)	904	152	182164 (-16)	5.00	
65) Naphthalene-d8	9.012(0.005)	1276	136	711234 (-19)	5.00	
113) Acenaphthene-d10	11.841(0.000)	1805	164	405855 (-17)	5.00	
153) Phenanthrene-d10	13.767(0.005)	2165	188	747662 (-19)	5.00	
175) Pyrene-d10	15.842(0.005)	2553	212	840144 (-22)	5.00	
213) Perylene-d12	20.458(0.005)	3416	264	586779 (-23)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.883(0.000)	82	1600679	22.292	89%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.798(0.000)	172	2425967	21.683	87%		61 - 112
179) Terphenyl-d14	(5)	16.158(0.000)	244	2314284	20.745	83%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.03
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)			Not Detected					0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)	19.827(0.000)	252	5153	0.036	0.14			0.03
208) Benzo(k)fluoranthene	(6)	19.875(0.000)	252	4668	0.033	0.13			0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)	22.164(-0.000)	278	3565	0.027	0.11			0.03
221) Benzo(g,h,i)perylene	(6)	22.549(0.000)	276	3841	0.029	0.11			0.03

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:22. Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0582a.d Injection date and time: **16-OCT-2015 12:16**
Data file Sample Info. Line: SBLKWB283L;SBLKWB283;1;3;BLANK;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 1 ul

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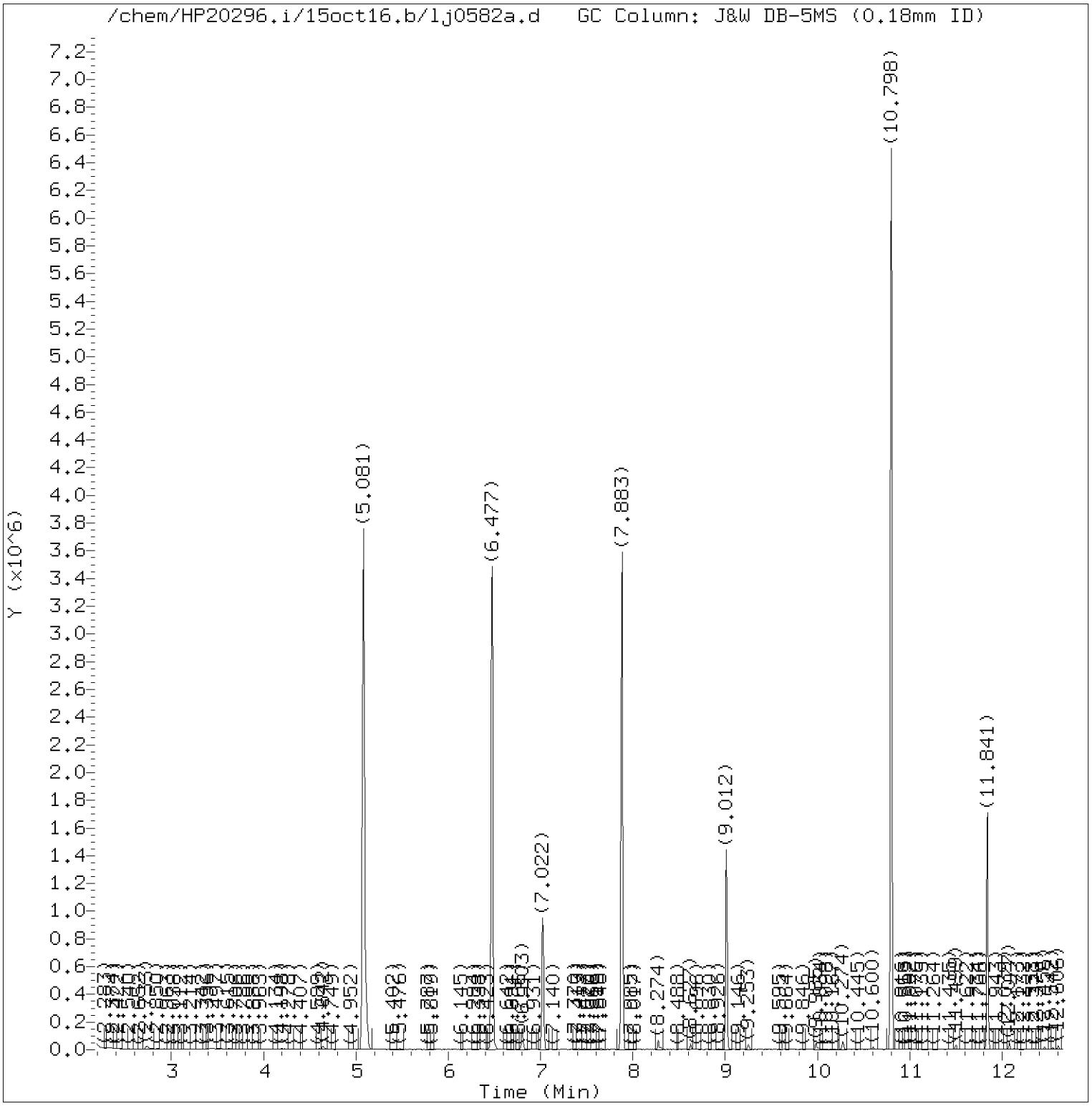
Total number of targets = 17

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:22. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:35. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

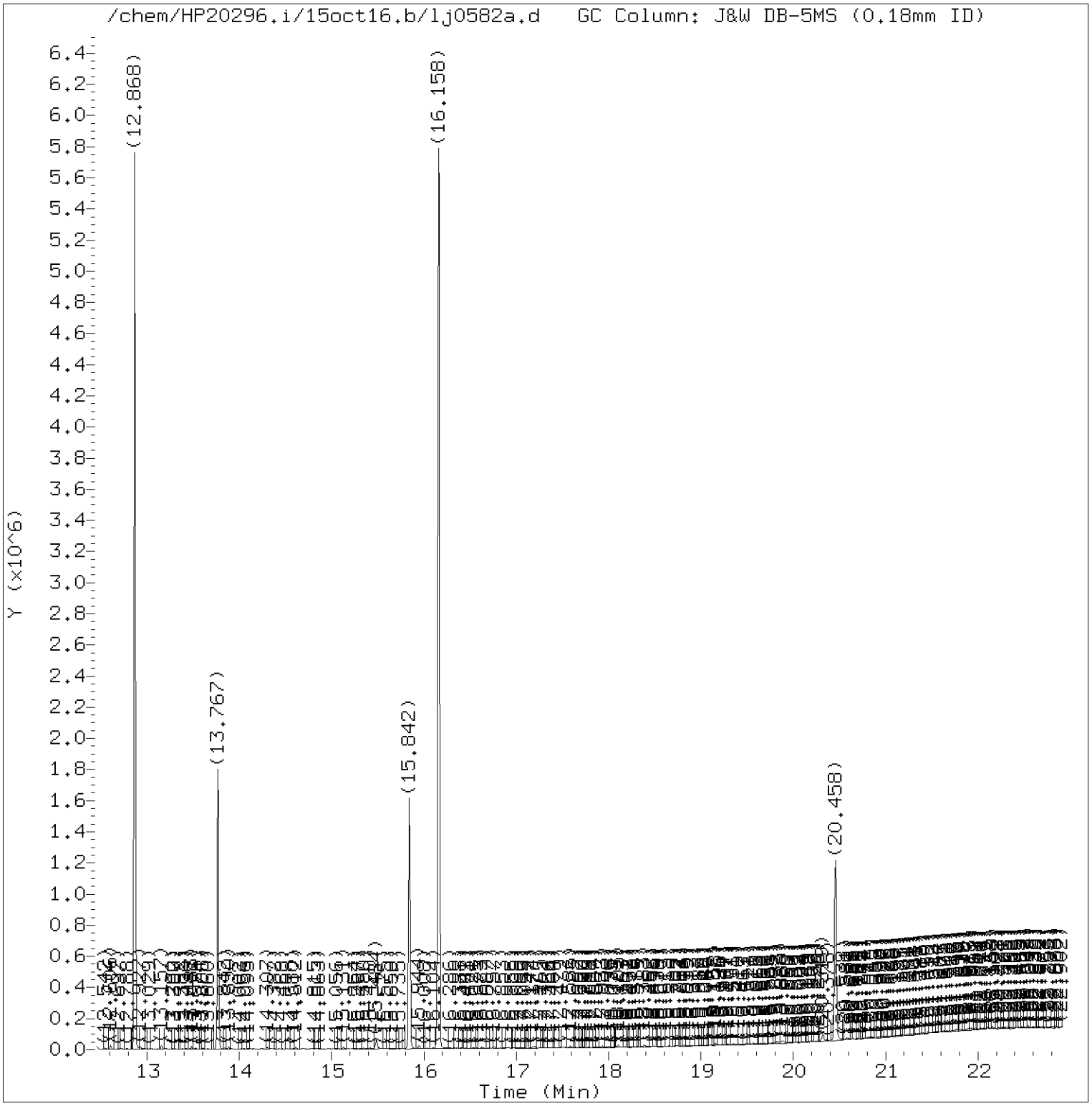
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0582a.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 12:16 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Sample Name: SBLKWB283L Lab Sample ID: SBLKWB283

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:22.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0582a.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 12:16 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Sample Name: SBLKWB283L Lab Sample ID: SBLKWB283

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:22.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0582a.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 12:16 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

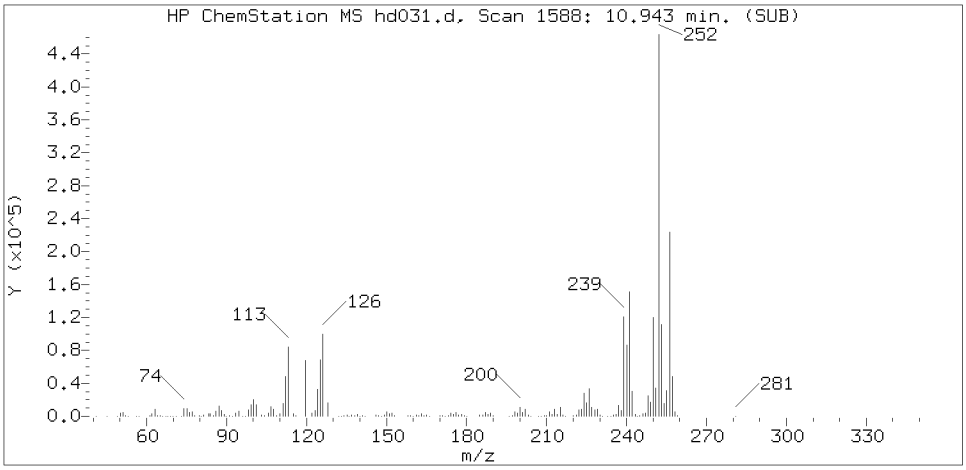
Sample Name: SBLKWB283L Lab Sample ID: SBLKWB283

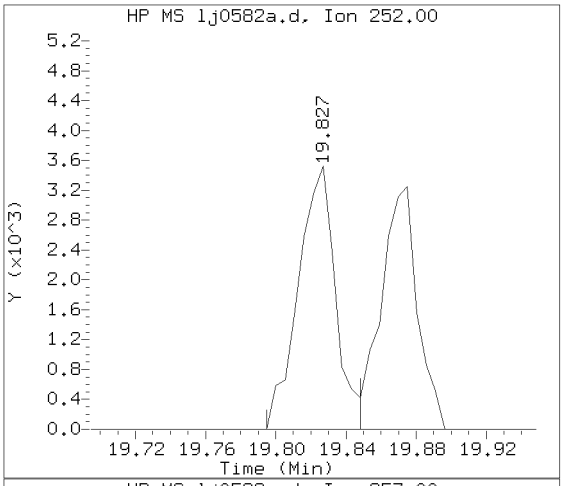
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.022	152	182164	5.000
44)$Nitrobenzene-d5	(2)	7.883	82	1600679	22.292
65)*Naphthalene-d8	(2)	9.012	136	711234	5.000
93)$2-Fluorobiphenyl	(3)	10.798	172	2425967	21.683
113)*Acenaphthene-d10	(3)	11.841	164	405855	5.000
153)*Phenanthrene-d10	(4)	13.767	188	747662	5.000
175)*Pyrene-d10	(5)	15.842	212	840144	5.000
179)$Terphenyl-d14	(5)	16.158	244	2314284	20.745
206) Benzo(b)fluoranthene	(6)	19.827	252	5153	0.036
208) Benzo(k)fluoranthene	(6)	19.875	252	4668	0.033
213)*Perylene-d12	(6)	20.458	264	586779	5.000
220) Dibenz(a,h)anthracene	(6)	22.164	278	3565	0.027
221) Benzo(g,h,i)perylene	(6)	22.549	276	3841	0.029

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

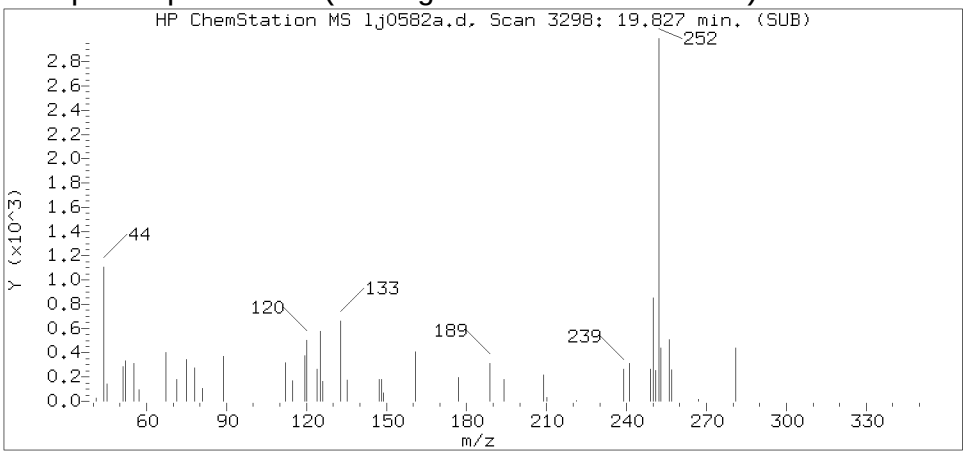
Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:22.
Target 3.5 esignature user ID: hbz01996

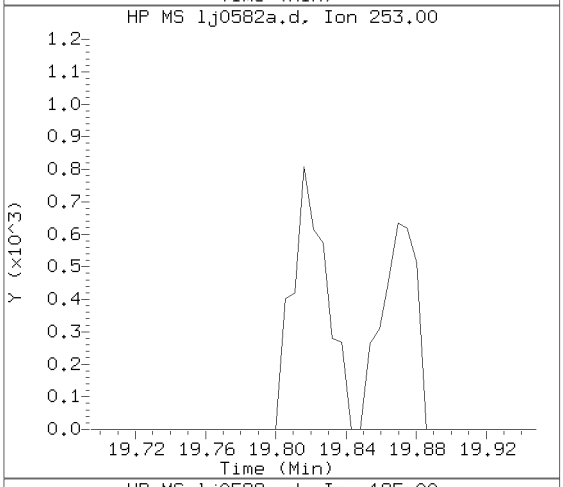
Reference Standard Spectrum for Benzo(b)fluoranthene



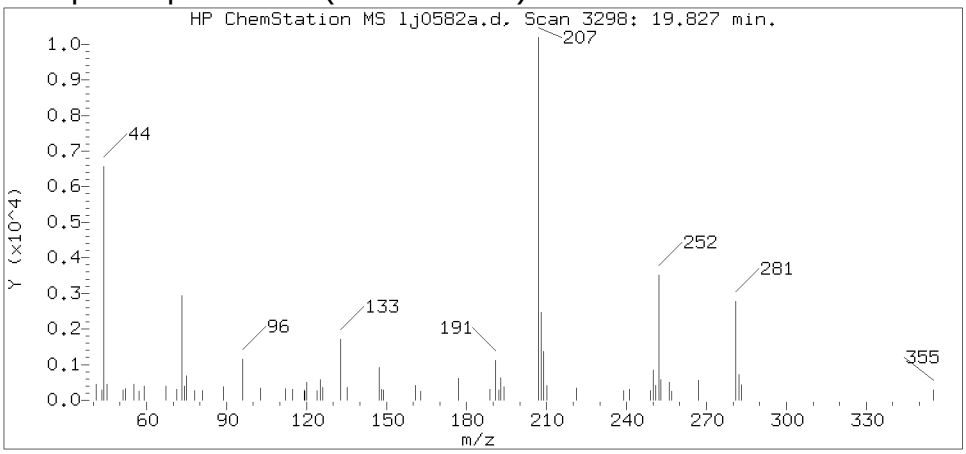


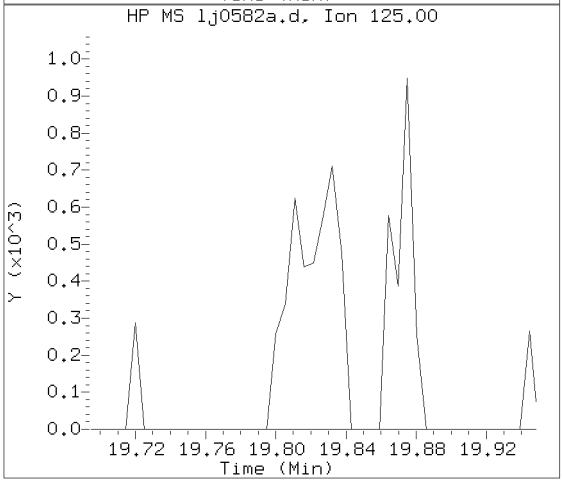
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0582a.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 12:16 Analyst ID: hbz01996

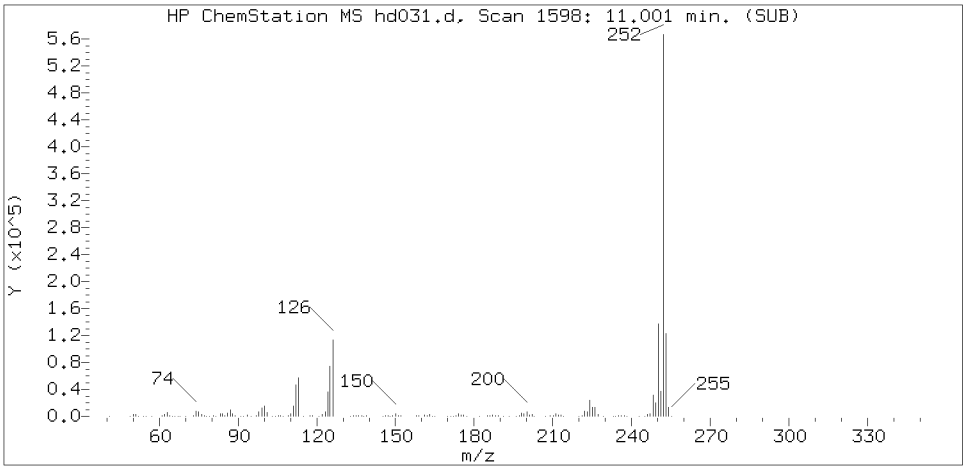
Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

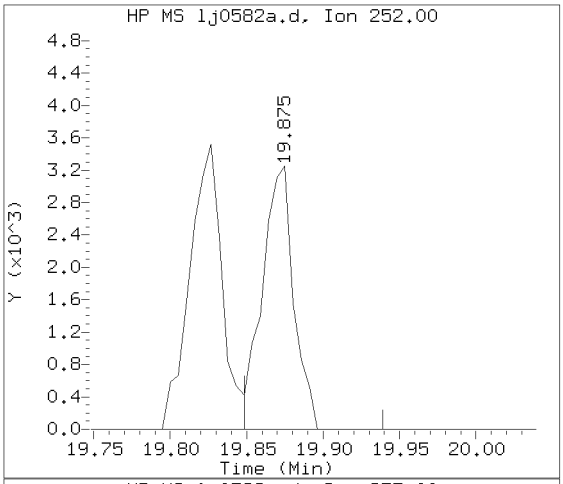
Sample Name: SBLKWB283L Lab Sample ID: SBLKWB283

Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 3298
Retention Time (minutes)	: 19.827
Relative Retention Time	: 0.00001
Quant Ion	: 252.00
Area (flag)	: 5153
On-column Amount (ng/ul)	: 0.0357

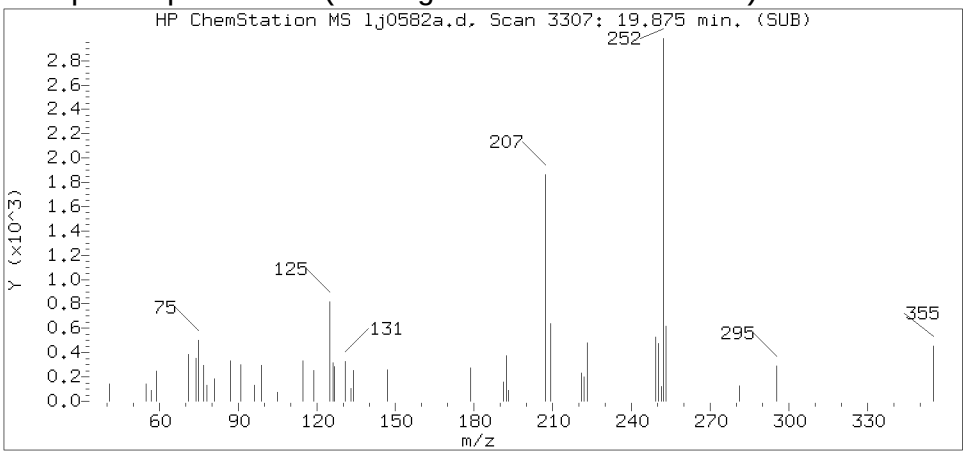
Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:22.
Target 3.5 esignature user ID: hbz01996

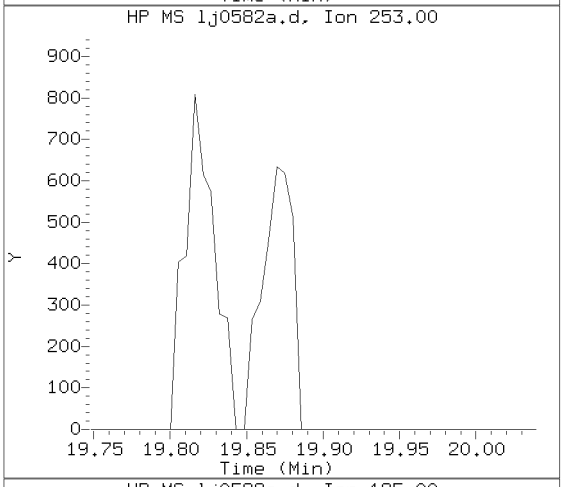
Reference Standard Spectrum for Benzo(k)fluoranthene



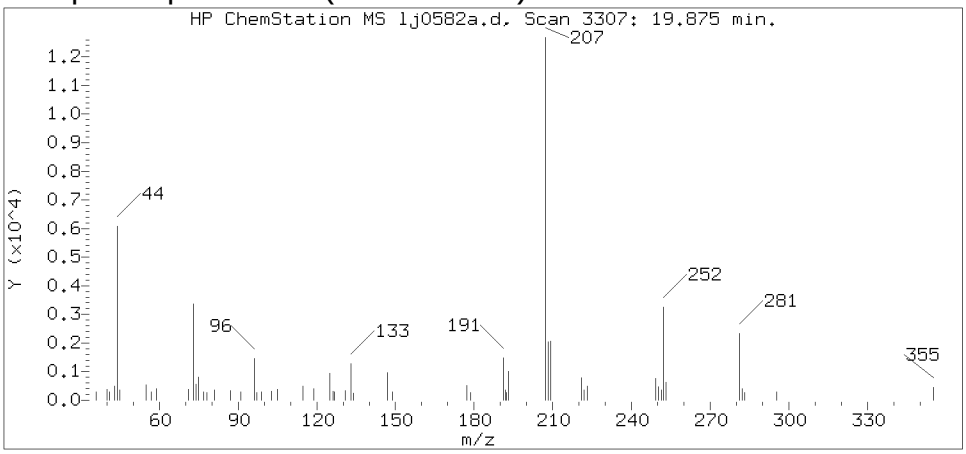


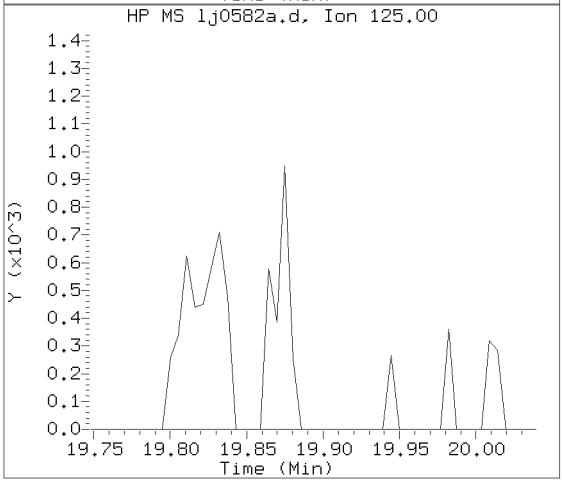
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0582a.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 12:16 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Sample Name: SBLKWB283L Lab Sample ID: SBLKWB283

Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 3307
Retention Time (minutes) : 19.875
Relative Retention Time : 0.00001
Quant Ion : 252.00
Area (flag) : 4668
On-column Amount (ng/ul) : 0.0332

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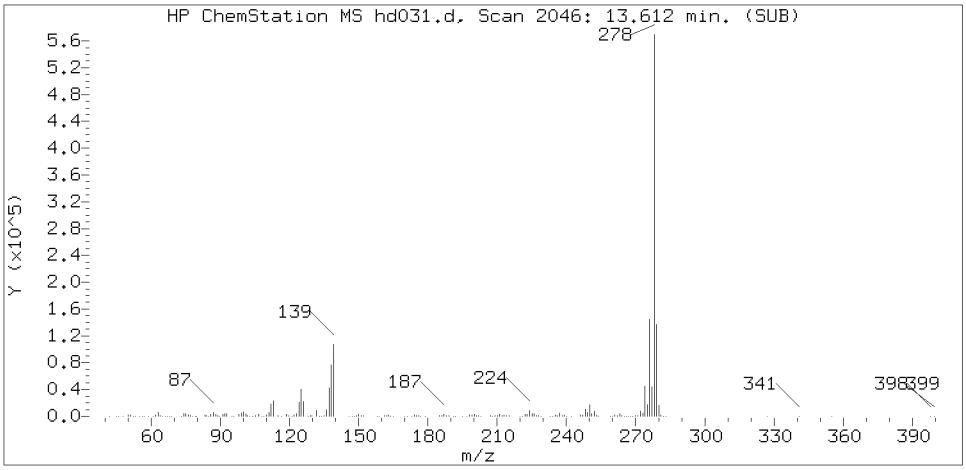
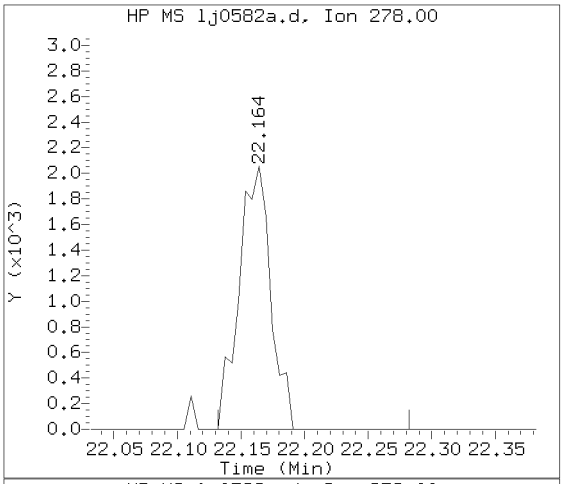
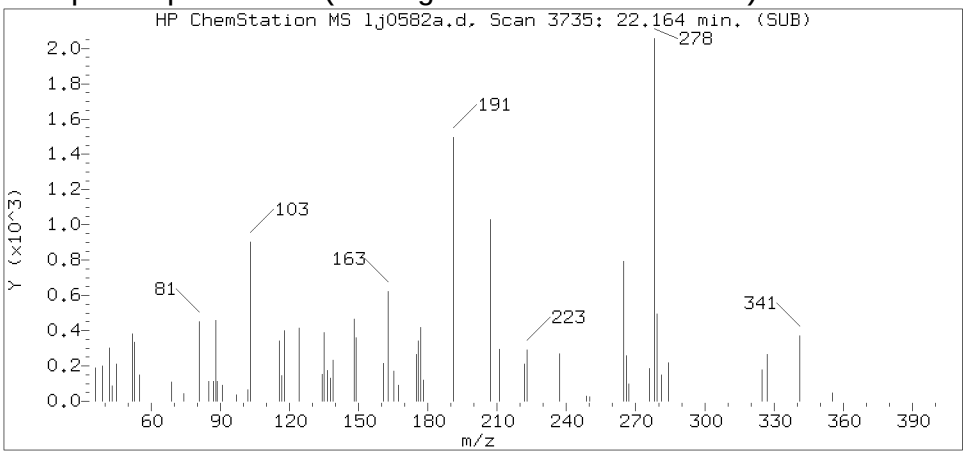
Target 3.5 esignature user ID: hbz01996

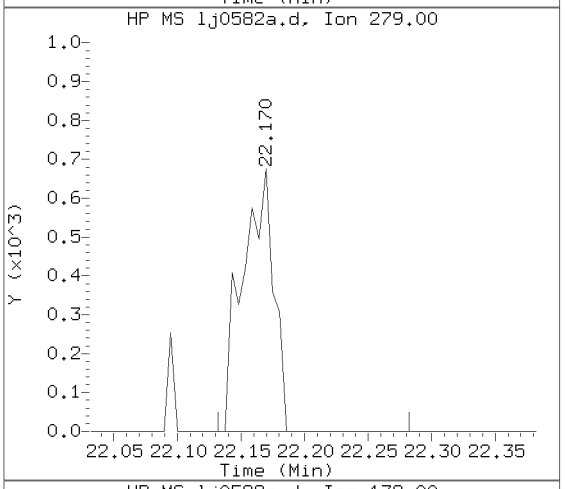
Reference Standard Spectrum for Dibenz(a,h)anthracene



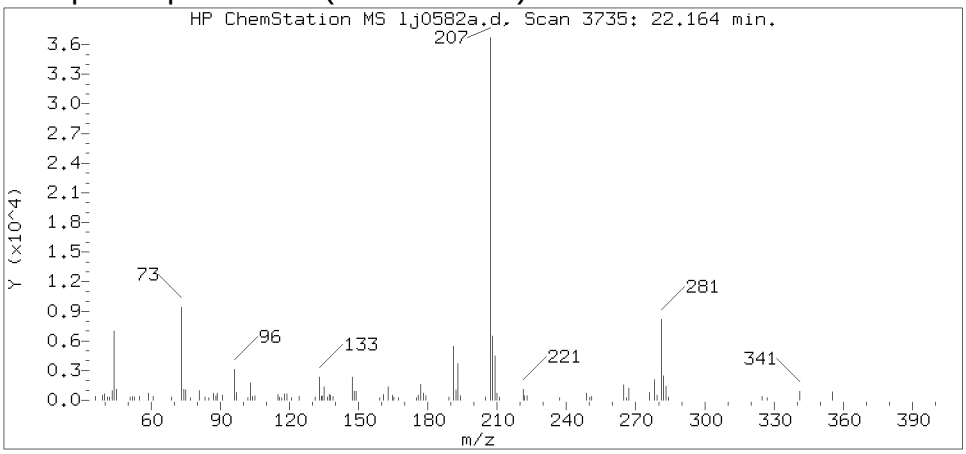


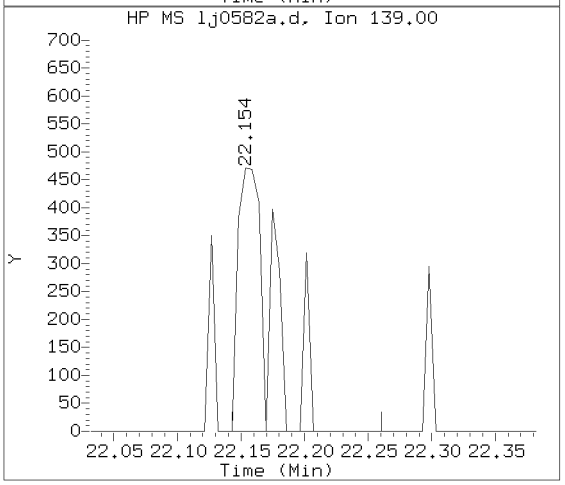
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0582a.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 12:16 Analyst ID: hbz01996

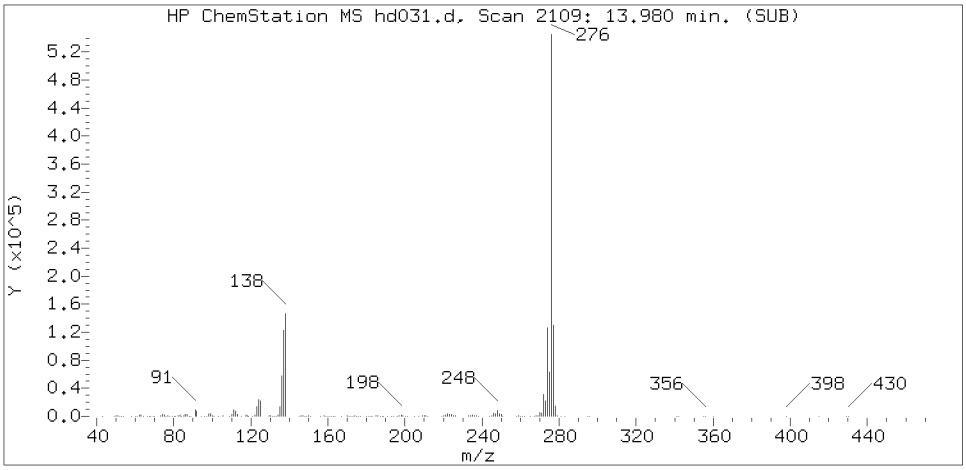
Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

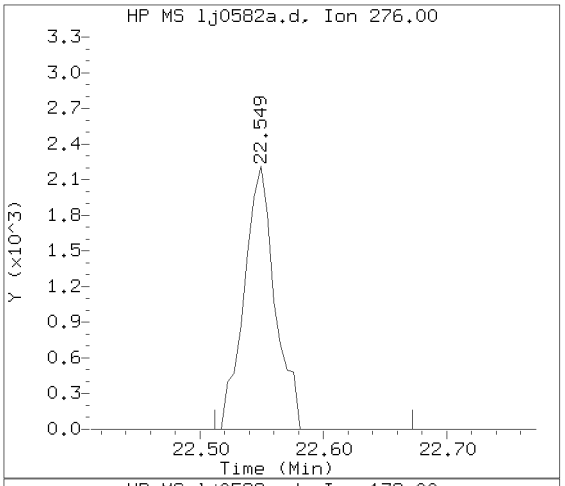
Sample Name: SBLKWB283L Lab Sample ID: SBLKWB283

Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 3735
Retention Time (minutes) : 22.164
Relative Retention Time :-0.00002
Quant Ion : 278.00
Area (flag) : 3565
On-column Amount (ng/ul) : 0.0272

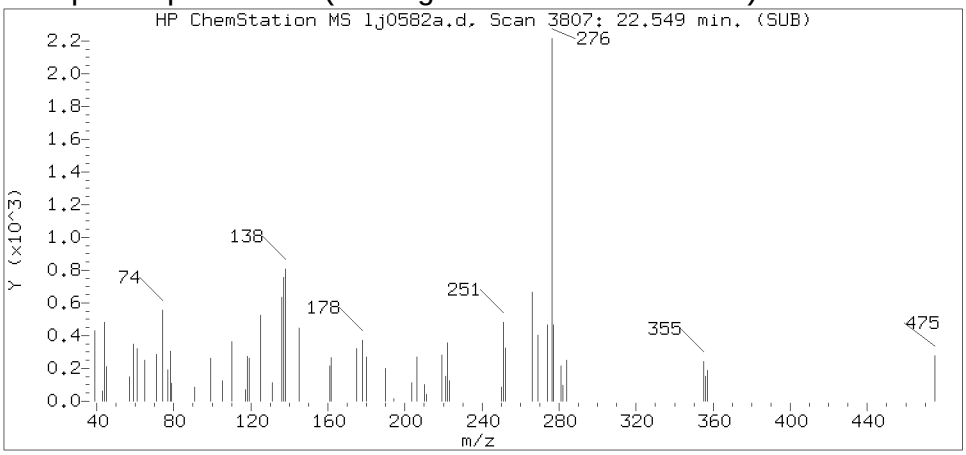
Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:22.
Target 3.5 esignature user ID: hbz01996

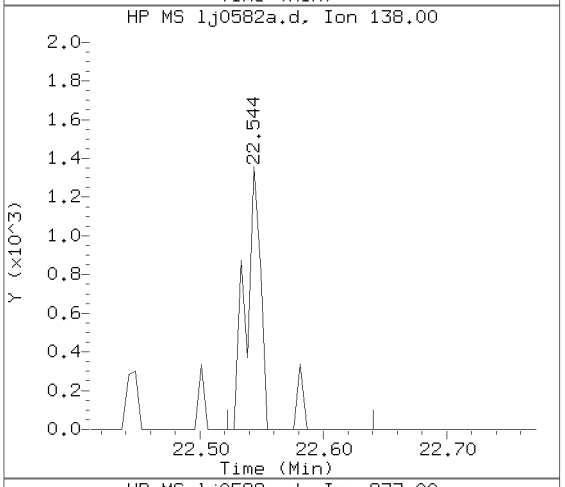
Reference Standard Spectrum for Benzo(g,h,i)perylene



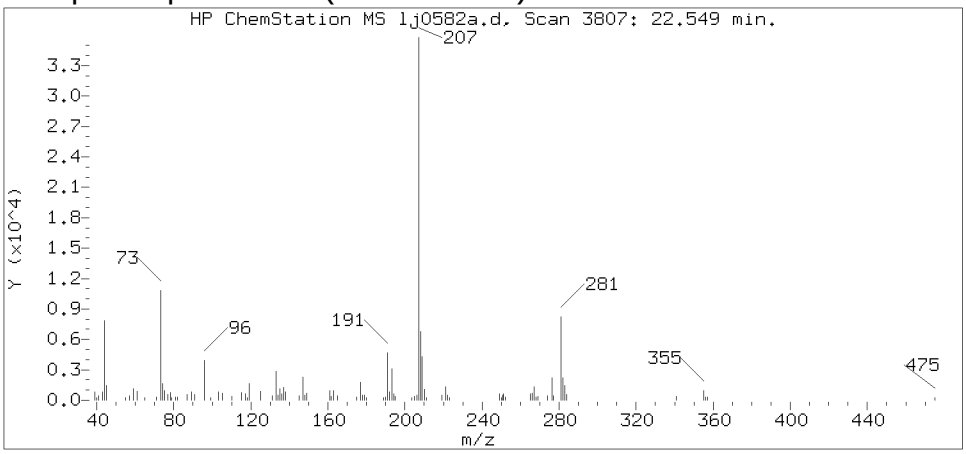


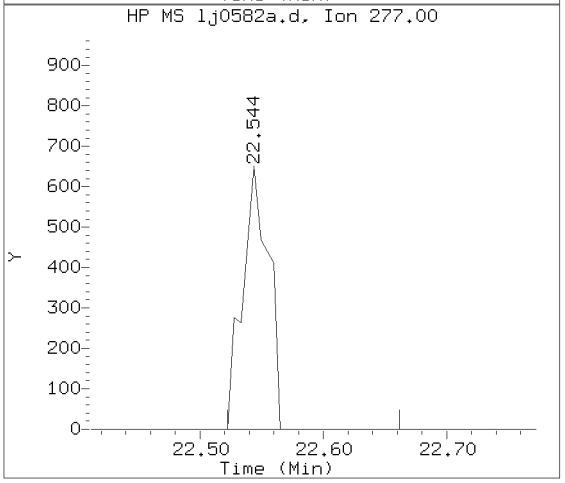
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0582a.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 12:16 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Sample Name: SBLKWB283L Lab Sample ID: SBLKWB283

Compound Number	: 221
Compound Name	: Benzo(g,h,i)perylene
Scan Number	: 3807
Retention Time (minutes)	: 22.549
Relative Retention Time	: 0.00023
Quant Ion	: 276.00
Area (flag)	: 3841
On-column Amount (ng/ul)	: 0.0286

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:22.
Target 3.5 esignature user ID: hbz01996

283WBLCSL Lancaster Laboratories, Inc. Analysis Summary for GC/MS Semivolatiles 283WBLCS

Data file: /chem/HP20296.i/15oct16.b/lj0583.d
Injection date and time: **16-OCT-2015 11:48**
Data file Sample Info. Line: 283WBLCSL;283WBLCS;1;3;LCS;;;
Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.027(0.000)	905	152	182086 (-16)	5.00	
65) Naphthalene-d8	9.012(0.006)	1276	136	710664 (-19)	5.00	
113) Acenaphthene-d10	11.841(0.000)	1805	164	416451 (-15)	5.00	
153) Phenanthrene-d10	13.772(0.000)	2166	188	757596 (-18)	5.00	
175) Pyrene-d10	15.842(0.006)	2553	212	864021 (-20)	5.00	
213) Perylene-d12	20.458(0.006)	3416	264	618233 (-19)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.883(0.000)	82	1520398	21.191	85%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.798(0.000)	172	2325649	20.258	81%		61 - 112
179) Terphenyl-d14	(5)	16.157(0.000)	244	2245507	19.572	78%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	9.049(-0.000)	128	1655641	10.847	43.39			0.03
83) 2-Methylnaphthalene	(2)	10.178(-0.000)	142	1039135	10.264	41.05			0.03
109) Acenaphthylene	(3)	11.632(0.000)	152	1659636	11.106	44.43			0.03
114) Acenaphthene	(3)	11.889(-0.000)	153	1106304	11.111	44.44			0.03
126) Fluorene	(3)	12.568(-0.000)	166	1188232	11.164	44.66			0.03
155) Phenanthrene	(4)	13.804(0.000)	178	1711530	10.846	43.38			0.03
157) Anthracene	(4)	13.873(0.000)	178	1737444	11.094	44.38			0.03
173) Fluoranthene	(4)	15.516(0.000)	202	1938881	11.287	45.15			0.03
177) Pyrene	(5)	15.874(-0.000)	202	2027979	10.907	43.63			0.03
195) Benzo(a)anthracene	(5)	17.938(-0.000)	228	1835782	11.470	45.88			0.03
196) Chrysene	(5)	18.003(-0.000)	228	1798891	11.765	47.06			0.03
206) Benzo(b)fluoranthene	(6)	19.832(-0.000)	252	1740827	11.442	45.77	0.143	B	0.03
208) Benzo(k)fluoranthene	(6)	19.880(-0.000)	252	1663677	11.243	44.97	0.133	B	0.03
211) Benzo(a)pyrene	(6)	20.367(0.000)	252	1442741	10.179	40.72			0.03
219) Indeno(1,2,3-cd)pyrene	(6)	22.126(-0.000)	276	1581554	9.542	38.17			0.03
220) Dibenz(a,h)anthracene	(6)	22.169(-0.000)	278	1365848	9.886	39.54	0.109	B	0.03
221) Benzo(g,h,i)perylene	(6)	22.560(-0.000)	276	1379926	9.742	38.97	0.114	B	0.03

B = Compound detected in referenced method blank.

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:23. Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0583.d Injection date and time: **16-OCT-2015 11:48**
Data file Sample Info. Line: 283WBLCSL;283WBLCS;1;3;LCS;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 1 ul

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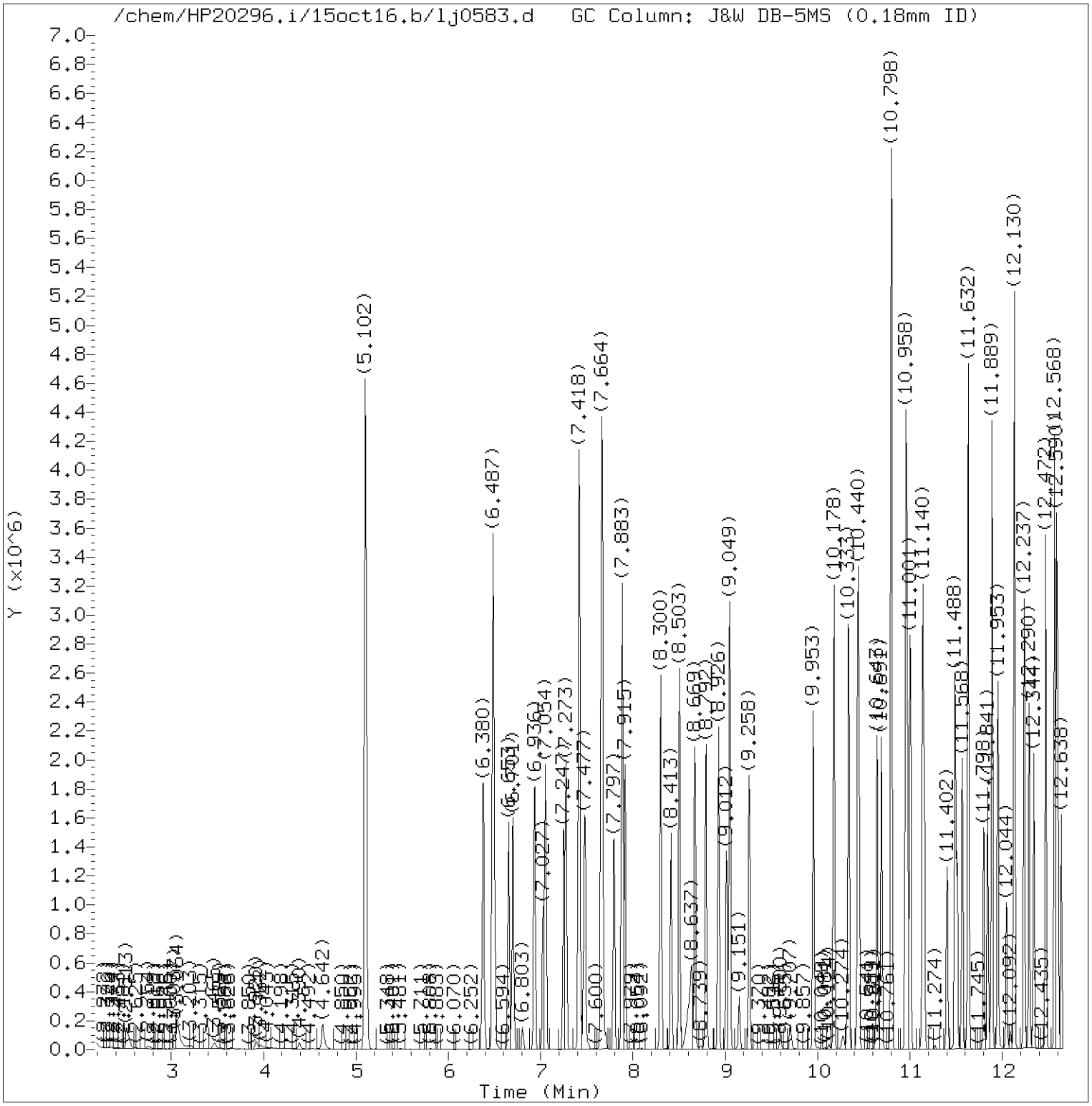
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:23. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:36. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

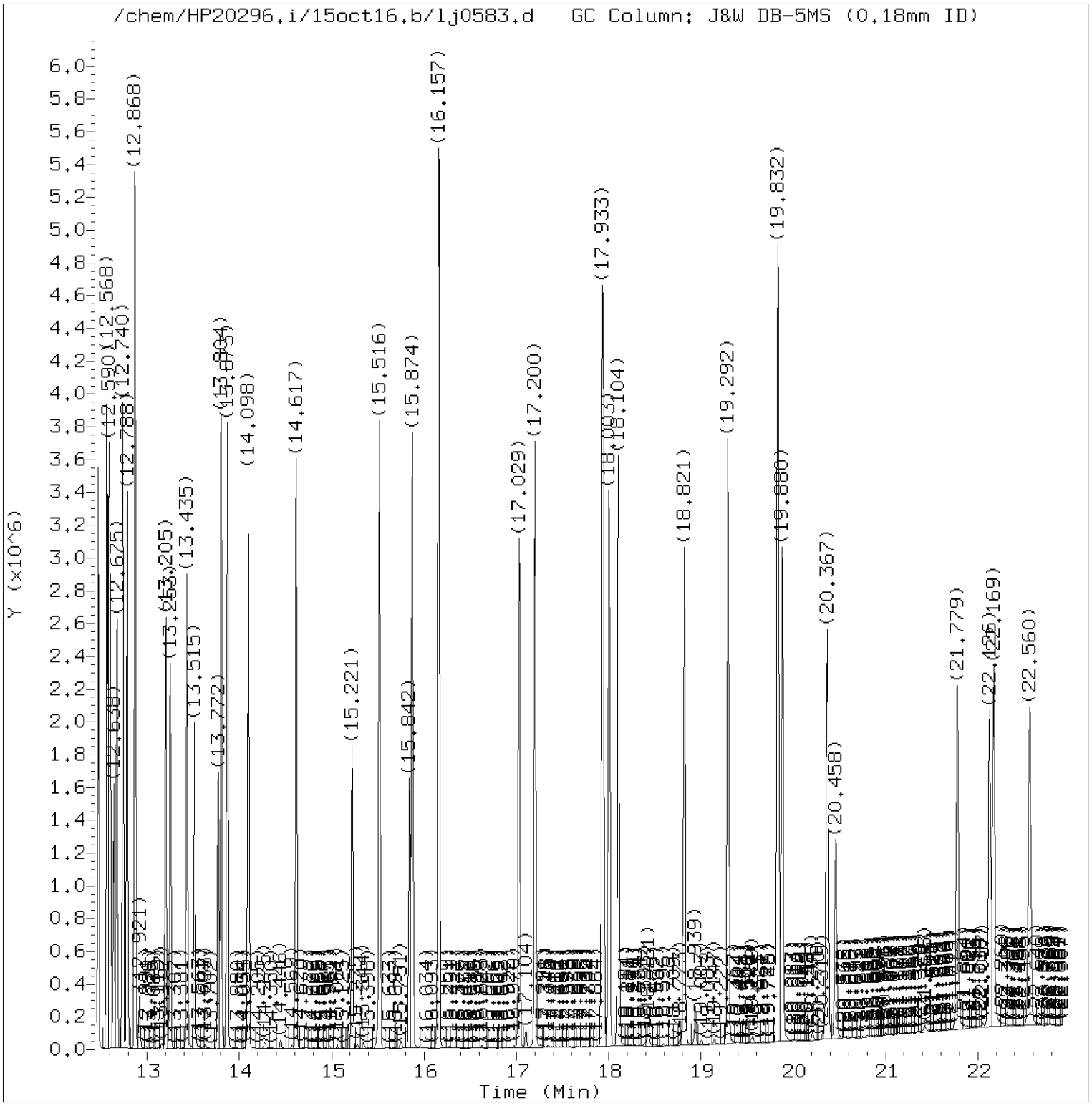
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0583.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 11:48 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Sample Name: 283WBLCSL Lab Sample ID: 283WBLCS

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:23.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0583.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 11:48 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Sample Name: 283WBLCSL Lab Sample ID: 283WBLCS

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:23.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0583.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 11:48 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Sample Name: 283WBLCSL Lab Sample ID: 283WBLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.027	152	182086	5.000
44)$Nitrobenzene-d5	(2)	7.883	82	1520398	21.191
65)*Naphthalene-d8	(2)	9.012	136	710664	5.000
66) Naphthalene	(2)	9.049	128	1655641	10.847
83) 2-Methylnaphthalene	(2)	10.178	142	1039135	10.264
93)$2-Fluorobiphenyl	(3)	10.798	172	2325649	20.258
109) Acenaphthylene	(3)	11.632	152	1659636	11.106
113)*Acenaphthene-d10	(3)	11.841	164	416451	5.000
114) Acenaphthene	(3)	11.889	153	1106304	11.111
126) Fluorene	(3)	12.568	166	1188232	11.164
153)*Phenanthrene-d10	(4)	13.772	188	757596	5.000
155) Phenanthrene	(4)	13.804	178	1711530	10.846
157) Anthracene	(4)	13.873	178	1737444	11.094
173) Fluoranthene	(4)	15.516	202	1938881	11.287
175)*Pyrene-d10	(5)	15.842	212	864021	5.000
177) Pyrene	(5)	15.874	202	2027979	10.907
179)$Terphenyl-d14	(5)	16.157	244	2245507	19.572
195) Benzo(a)anthracene	(5)	17.938	228	1835782	11.470
196) Chrysene	(5)	18.003	228	1798891	11.765
206) Benzo(b)fluoranthene	(6)	19.832	252	1740827	11.442
208) Benzo(k)fluoranthene	(6)	19.880	252	1663677	11.243
211) Benzo(a)pyrene	(6)	20.367	252	1442741	10.179
213)*Perylene-d12	(6)	20.458	264	618233	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	22.126	276	1581554	9.542
220) Dibenz(a,h)anthracene	(6)	22.169	278	1365848	9.886
221) Benzo(g,h,i)perylene	(6)	22.560	276	1379926	9.742

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:23.
Target 3.5 esignature user ID: hbz01996

Extraction/Distillation/Digestion Logs

Semivolatiles by GC/MS

Organic Extraction Batchlog Assigned to: 7673 Ryan Schafran Reviewed by: HBZ 10/16/15 Start Date: 10/11/15 Start time: 13:00

15283WAB026

Tech 1: RS 7673 Tech 2: _____

Dept: 26 Prep Analysis: 07807 BNA Water Extraction PAHs in Water by GC/MS

QC	Sample Code	Amt (M1)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH 2	BC	Comments
8082121MS	P2901	247	SS1528026A	1	MS1527626B	1	1		✓	153A	Orange
8082122MSD	P2901	247	SS1528026A	1	MS1527626B	1	1		✓	153A	↓
BLANKA	SBLKWB283	250	SS1528026A	1		—	1		✓	—	Tap H2O
LCSA	283WBLCS	250	SS1528026A	1	MS1527626B	1	1		✓		↓

Solvent Used	Lot No.
Methylene Chloride	121879
Sodium Sulfate	152841
Sulfuric Acid	155108

Spike Solutions: Witness: _____
MS1527626B MINI SEP. LCS SPIKE
SS1528026A MINI SEP. BNA SURROGATE

③ RS 7673 10/11/15

Sample #	Sample Code	Amt (M1)	SS/IS Sol.	Amt (mL)	FV (mL)	pH ③	pH 2	BC	Comments	Analyses	List	Due Date	Prio
1 8082098	P2802	240	SS1528026A	1	1		✓	153A	Yellow	07805	4656	10/20/2015	N
2 8082099	P2803	242	SS1528026A	↓	1		✓	153A	↓	07805	4656	10/20/2015	N
3 8082100	P2804	246	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
4 8082101	P2805	247	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
5 8082114	P2816	241	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
6 8082115	P2817	247	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
7 8082117	P2819	246	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
8 8082118	P2820	249	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
9 8082119	P2821	249	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
10 8082120BKG	P2901	243	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
11 8082124	P2902	240	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
12 8082126	P2904	247	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
13 8082127	P2905	246	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
14 8082128	P2906	247	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
15 8082129	P2907	245	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
16 8082130	P2908	242	SS1528026A	↓	1		✓	153A	Clear	07805	4656	10/20/2015	N

MA RS 7673 10/11/15

Rack ID:	—	Work Station	5	Micro Temp 100?	
Internal Standard	MSTD2795	Balance #	7		

S-bath ID W 80 C | S-bath ID | C | N-Evap | C | M-vap | C | 15283WAB026

Documented temps are NIST corrected.

DF = Dilution Factor FV = Final Volume

Metals in Liquid Data

Case Narrative/Conformance Summary

Metals in Liquid

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC28

ICP Metals

Fraction: Metals in Liquid

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8082098	0084-33	X		1	
8082099	0080-33	X		1	
8082100	0081-33	X		1	
8082101	0085-33	X		1	
8082114	0098-16	X		1	
8082115	0099-16	X		1	
8082117	0074-33	X		1	
8082118	0071-33	X		1	
8082119	0097-16	X		1	

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC28

ICP Metals

Fraction: Metals in Liquid

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

The instrument detection limits (IDLs) are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The method detection limits (MDLs) are used for determining all other U flags.

Abbreviation Key

BKG – Background	AF - Cold Vapor Atomic Fluorescence
DUP – Duplicate	U - Below MDL
MS - Matrix Spike	B - Below LOQ
MSD - Matrix Spike Dup	N - Matrix Spike out of specifications
B – Blank	* - Duplicate out of specifications
Q - Laboratory Control Sample	E - Matrix Effects exist as proven by Serial Dilution or Spiked Dilution
Y - Laboratory Control Sample Duplicate	A - Post Digestion Spike
P - ICP Atomic Emission Spectrometer	L - Serial Dilution
MS - ICP Mass Spectrometry	R - Internal Standard Relative Intensity OOS
CV - Cold Vapor	NR - Not Required

Sample Data

Metals in Liquid

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC28
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082098 % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.85	B		MS
7440-39-3	Barium	60.2			P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	2.5			MS
7439-92-1	Lead	1.1			MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

_____
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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC28
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082099 % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	4.6			MS
7440-39-3	Barium	48.3			P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	1.6	B		MS
7439-92-1	Lead	0.97	B		MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC28
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082100 % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	2.2			MS
7440-39-3	Barium	57.5			P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	1.5	B		MS
7439-92-1	Lead	0.76	B		MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC28
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082101 % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	2.1			MS
7440-39-3	Barium	58.1			P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	1.6	B		MS
7439-92-1	Lead	0.76	B		MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC28
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082114 % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	2.9			MS
7440-39-3	Barium	28.5			P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	2.7			MS
7439-92-1	Lead	0.13	U		MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC28
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082115 % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	5.8			MS
7440-39-3	Barium	13.9			P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	0.70	U		MS
7439-92-1	Lead	0.13	U		MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC28
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082117 % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	16.1			MS
7440-39-3	Barium	74.6			P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	3.5			MS
7439-92-1	Lead	6.2			MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC28
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082118 % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.88	B		MS
7440-39-3	Barium	123			P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	0.70	U		MS
7439-92-1	Lead	0.13	B		MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC28
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082119 % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	1.1	B		MS
7440-39-3	Barium	90.5			P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	0.70	U		MS
7439-92-1	Lead	0.13	U		MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

Quality Control and Calibration Summary Forms

Metals in Liquid

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QUALITY CONTROL REFERENCE LIST

SDG No.: PSC28
Matrix: WATER

Analyte	Batch ID	Lab Sample ID
Barium	P28848C	8082098
Cadmium		8082099
Silver		8082100
		8082101
		8082114
		8082115
		8082117
		8082118
		8082119
		*82120BKG
		P28848CB
		P28848CQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

QUALITY CONTROL REFERENCE LIST

SDG No.: PSC28
Matrix: WATER

Analyte	Batch ID	Lab Sample ID
Arsenic	P28850D	8082098
Chromium		8082099
Lead		8082100
Selenium		8082101
		8082114
		8082115
		8082117
		8082118
		8082119
		*82120BKG
		P28850DB
		P28850DQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

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QUALITY CONTROL REFERENCE LIST

SDG No.: PSC28
Matrix: WATER

Analyte	Batch ID	Lab Sample ID
Mercury	P28913E	8082098
		8082099
		8082100
		8082101
		8082114
		8082115
		8082117
		8082118
		8082119
		*82120BKG
		P28913EB
		P28913EQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC28

Method: P
Run Name: 1528909T73
Calibration Date(s): 10/16/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Barium		600.0	617.04	102.8	500.0	504.47	100.9	500.0	504.51	100.9
Cadmium		600.0	605.53	100.9	500.0	498.87	99.8	500.0	504.46	100.9
Silver		600.0	605.95	101.0	500.0	502.46	100.5	500.0	505.62	101.1

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: P
Run Name: 1528909T73
Calibration Date(s): 10/16/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Barium					500.0	505.28	101.1	500.0	508.28	101.7
Cadmium					500.0	502.96	100.6	500.0	505.67	101.1
Silver					500.0	507.50	101.5	500.0	508.81	101.8

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC28

Method: P
Run Name: 1529204T71
Calibration Date(s): 10/19/2015 - 10/20/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Barium		600.0	614.35	102.4	500.0	510.51	102.1	500.0	513.91	102.8
Cadmium										
Silver										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC28

Method: MS
Run Name: 1529305E03
Calibration Date(s): 10/20/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Arsenic	75	500.0	535.70	107.1	250.0	256.00	102.4	250.0	263.50	105.4
Chromium	52	500.0	521.30	104.3	250.0	256.10	102.4	250.0	256.10	102.4
Lead	208	50.0	51.84	103.7	25.0	24.93	99.7	25.0	24.91	99.6
Selenium	78	50.0	52.25	104.5	25.0	25.67	102.7	25.0	25.85	103.4

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC28

Method: MS
Run Name: 1529305E03
Calibration Date(s): 10/20/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Arsenic	75				250.0	261.90	104.8	250.0	260.60	104.2
Chromium	52				250.0	257.20	102.9	250.0	261.60	104.6
Lead	208				25.0	25.61	102.4	25.0	25.20	100.8
Selenium	78				25.0	25.58	102.3	25.0	25.15	100.6

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC28

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015
Concentration Units: UG/L

		Initial Calibration			Continuing Calibration					
Analyte	Mass	True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury		2.5	2.47	98.8	1.0	0.96	96.0	1.0	0.97	97.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.97	97.0	1.0	0.95	95.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.97	97.0	1.0	0.96	96.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.95	95.0	1.0	0.96	96.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.94	94.0	1.0	0.95	95.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: PSC28

Method: P
Run Name: 1528909T73
Calibration Date(s): 10/16/2015
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Barium		5.0	4.91	98.2	4.83	96.6
Cadmium		5.0	5.27	105.4	5.09	101.8
Silver		5.0	4.86	97.2	4.65	93.0

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: P
Run Name: 1529204T71
Calibration Date(s): 10/19/2015 - 10/20/2015
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Barium		5.0	5.22	104.4	5.21	104.2
Cadmium						
Silver						

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: MS
Run Name: 1529305E03
Calibration Date(s): 10/20/2015
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Arsenic	75	2.0	2.06	103.0	2.09	104.5
Chromium	52	2.0	1.99	99.5	2.03	101.5
Lead	208	1.0	0.98	98.0	0.97	97.0
Selenium	78	2.0	2.13	106.5	1.94	97.0

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: PSC28

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Mercury		0.2	0.18	90.0		

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC28

Method: P
Run Name: 1528909T73
Calibration Date(s): 10/16/2015
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Barium		0.33	U	0.33	U	0.33	U	2.2	B		0.300	U	P28848CB
Cadmium		0.45	B	0.52	B	0.33	U	0.33	U		0.300	U	P28848CB
Silver		0.83	U	0.83	U	0.83	U	0.83	U		1.400	U	P28848CB

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC28

Method: P
Run Name: 1528909T73
Calibration Date(s): 10/16/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Barium				0.33	U								
Cadmium				0.33	U								
Silver				0.83	U								

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC28

Method: P
Run Name: 1529204T71
Calibration Date(s): 10/19/2015 - 10/20/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Barium		0.33	U	0.33	U	0.33	U						
Cadmium													
Silver													

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC28

Method: MS
Run Name: 1529305E03
Calibration Date(s): 10/20/2015
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Arsenic	75	0.40	U	0.40	U	0.40	U	0.40	U	75	0.540	U	P28850DB
Chromium	52	0.50	U	0.50	U	0.50	U	0.50	U	52	0.700	U	P28850DB
Lead	208	0.019	U	0.019	U	0.019	U	0.019	U	208	0.130	U	P28850DB
Selenium	78	0.50	U	0.50	U	0.50	U	0.50	U	78	0.500	U	P28850DB

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC28

Method: MS
Run Name: 1529305E03
Calibration Date(s): 10/20/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Arsenic	75			0.40	U								
Chromium	52			0.50	U								
Lead	208			0.019	U								
Selenium	78			0.50	U								

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC28

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury		0.050	U	0.050	U	0.050	U	0.050	U		0.050	U	P28913EB

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC28

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury				0.050	U	0.050	U	0.050	U				

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC28

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury				0.050	U	0.050	U	0.050	U				

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC28

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury				0.050	U								

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: PSC28

Instrument ID: 18255
Run Name: 1528909T73
Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	500000	500000	491127	98.2	495145.4	99.0	484923	97.0	487501.0	97.5
Barium	0	500	0		509.1	101.8	0		510.4	102.1
Cadmium	0	1000	-1		941.3	94.1	0		945.1	94.5
Calcium	500000	500000	497449	99.5	502229.2	100.4	490295	98.1	493402.1	98.7
Iron	200000	200000	196711	98.4	198501.6	99.3	188889	94.4	190045.9	95.0
Magnesium	500000	500000	495706	99.1	501517.6	100.3	461959	92.4	463510.5	92.7
Silver	0	200	4		213.1	106.6	1		210.0	105.0

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: PSC28

Instrument ID: 16315
Run Name: 1529204T71
Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	500000	500000	485987	97.2	490353.8	98.1	492409	98.5	496464.7	99.3
Barium	0	500	1		519.6	103.9	1		524.7	104.9
Cadmium										
Calcium	500000	500000	496913	99.4	502201.8	100.4	499397	99.9	509972.7	102.0
Iron	200000	200000	197091	98.5	198363.2	99.2	199290	99.6	201099.7	100.5
Magnesium	500000	500000	487841	97.6	487461.8	97.5	484091	96.8	490894.3	98.2
Silver										

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: PSC28

Instrument ID: 11332
Run Name: 1529305E03
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	10000	10000	10290	102.9	10050.0	100.5
Arsenic	75	0	20	0		20.9	104.5
Calcium	44	10000	10000	10140	101.4	9938.0	99.4
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium	52	0	20	0		20.5	102.5
Iron	57	10000	10000	10290	102.9	10150.0	101.5
Lead	208	0	0	0		0.0	
Magnesium	24	10000	10000	10120	101.2	9841.0	98.4
Molybdenum	98	200	200	199	99.5	200.2	100.1
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	10000	10000	10230	102.3	10080.0	100.8
Selenium	78	0	0	0		0.0	
Sodium	23	10000	10000	10130	101.3	9964.0	99.6
Sulfur	34	10000	10000	NA		NA	
Titanium	47	200	200	208	104.0	207.5	103.8

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: PSC28

Instrument ID: 11332
Run Name: 1529305E03
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	10000	10000	9954	99.5	10040.0	100.4
Arsenic	75	0	20	0		19.9	99.5
Calcium	44	10000	10000	10140	101.4	9844.0	98.4
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium	52	0	20	0		20.3	101.5
Iron	57	10000	10000	10050	100.5	10080.0	100.8
Lead	208	0	0	0		0.0	
Magnesium	24	10000	10000	9831	98.3	9842.0	98.4
Molybdenum	98	200	200	203	101.5	202.8	101.4
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	10000	10000	9900	99.0	9956.0	99.6
Selenium	78	0	0	0		0.0	
Sodium	23	10000	10000	10030	100.3	9938.0	99.4
Sulfur	34	10000	10000	NA		NA	
Titanium	47	200	200	202	101.0	197.2	98.6

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: PSC28
Matrix: WATER

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Arsenic	75	P28850DQ	UG/L	10.000	10.650		80 - 120	107	MS	Yes
Barium		P28848CQ	UG/L	2000.000	2069.950		80 - 120	103	P	Yes
Cadmium		P28848CQ	UG/L	50.000	54.070		80 - 120	108	P	Yes
Chromium	52	P28850DQ	UG/L	50.000	51.810		80 - 120	104	MS	Yes
Lead	208	P28850DQ	UG/L	15.000	15.610		80 - 120	104	MS	Yes
Mercury		P28913EQ	UG/L	1.000	1.024		80 - 120	102	CV	Yes
Selenium	78	P28850DQ	UG/L	10.000	10.540		80 - 120	105	MS	Yes
Silver		P28848CQ	UG/L	50.000	48.770		80 - 120	98	P	Yes

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 9
SERIAL DILUTIONS
SDG No.: PSC28
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: *82120BKG Serial Dilution Lab Sample ID: *82120L
Batch ID(s): P28850D, P28848C
Concentration Units: UG/L

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Arsenic	75	72.8100		68.3500		6		MS
Barium		27.1100		28.3500		5		P
Cadmium		0.3000	U	1.5000	U			P
Chromium	52	0.9218	B	3.5000	U	100		MS
Lead	208	0.6326	B	0.6500	U	100		MS
Selenium	78	0.5000	U	2.5000	U			MS
Silver		1.4000	U	7.0000	U			P

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
E = Matrix Effects exist as proven by Serial Dilution or Spiked Dilution

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QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: PSC28

Method: P
Instrument ID: 16315
Date: 10/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Barium	455.40		0.33
Cadmium			
Silver			

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: PSC28

Method: P
Instrument ID: 18255
Date: 10/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Barium	455.40		0.33
Cadmium	226.50		0.33
Silver	328.06		0.83

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: PSC28

Method: MS
Instrument ID: 11332
Date: 10/2015

Analyte	MASS (amu)	Background	IDL (UG/L)
Arsenic	75		0.40
Chromium	52		0.50
Lead	208		0.019
Selenium	78		0.50

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Instrument ID: 17384
Date: 10/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Mercury	254.00		0.050

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC28
Matrix: WATER

Method: P
Date: 07/2015

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Barium	455.40		5.0	0.30
Cadmium	226.50		5.0	0.30
Silver	328.06		5.0	1.4

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC28
Matrix: WATER

Method: MS
Date: 07/2015

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Arsenic	75		2.0	0.54
Chromium	52		2.0	0.70
Lead	208		1.0	0.13
Selenium	78		2.0	0.50

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC28
Matrix: WATER

Method: CV
Date: 07/2015

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Mercury	254.00		0.20	0.050

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC28

Instrument ID: 16315
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: AL	CA	FE	MG	ZR
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0003190

Comments:
_____
_____
_____
_____

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC28

Instrument ID: 18255
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: AL	CA	FE	MG	CO
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	-0.0000050	0.0000000	0.0000750	0.0000000	-0.0002110
Silver	328.06	0.0000000	0.0000000	-0.0003990	0.0000000	0.0000000

Comments:
_____
_____
_____
_____

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC28

Instrument ID: 18255
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: NI	TH	TI	W	ZR
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0005420
Cadmium	226.50	-0.0000810	0.0000000	0.0000000	0.0002760	0.0000000
Silver	328.06	0.0000000	-0.0025090	-0.0005360	0.0000000	0.0070800

Comments:
_____
_____
_____
_____

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QUALITY ASSURANCE SUMMARY
FORM 12
LINEAR RANGES
SDG No.: PSC28

Method: P
Instrument ID: 16315
Date: 10/2015

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Barium	455.4	10.00	5000.0
Cadmium			
Silver			

Comments:
_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 12
LINEAR RANGES
SDG No.: PSC28

Method: P
Instrument ID: 18255
Date: 10/2015

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Barium	455.4	10.00	10000.0
Cadmium	226.5	10.00	20000.0
Silver	328.06	10.00	10000.0

Comments:
_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: P
Batch ID: P28848C

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
8082098	10/16/2015	50.00	50
8082099	10/16/2015	50.00	50
8082100	10/16/2015	50.00	50
8082101	10/16/2015	50.00	50
8082114	10/16/2015	50.00	50
8082115	10/16/2015	50.00	50
8082117	10/16/2015	50.00	50
8082118	10/16/2015	50.00	50
8082119	10/16/2015	50.00	50
*82120BKG	10/16/2015	50.00	50
P28848CB	10/16/2015	50.00	50
P28848CQ	10/16/2015	1.00	1

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

Method: MS
Batch ID: P28850D

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
8082098	10/16/2015	50.00	50
8082099	10/16/2015	50.00	50
8082100	10/16/2015	50.00	50
8082101	10/16/2015	50.00	50
8082114	10/16/2015	50.00	50
8082115	10/16/2015	50.00	50
8082117	10/16/2015	50.00	50
8082118	10/16/2015	50.00	50
8082119	10/16/2015	50.00	50
*82120BKG	10/16/2015	50.00	50
P28850DB	10/16/2015	50.00	50
P28850DQ	10/16/2015	1.00	1

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

Method: CV
Batch ID: P28913E

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
8082098	10/18/2015	40.00	40
8082099	10/18/2015	40.00	40
8082100	10/18/2015	40.00	40
8082101	10/18/2015	40.00	40
8082114	10/18/2015	40.00	40
8082115	10/18/2015	40.00	40
8082117	10/18/2015	40.00	40
8082118	10/18/2015	40.00	40
8082119	10/18/2015	40.00	40
*82120BKG	10/18/2015	40.00	40
P28913EB	10/18/2015	40.00	40
P28913EQ	10/18/2015	1.00	1

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC28

Method: P
Instrument ID: 18255
Run Name: 1528909T73

Run Start Date: 10/16/2015
Run End Date: 10/16/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	PB	HG	SE	AG																						
S0	1.00	16:48		X	X					X																						
S	1.00	16:51																														
S	1.00	16:54		X	X					X																						
S	1.00	16:56																														
ICV	1.00	16:59		X	X					X																						
ICB	1.00	17:02		X	X					X																						
LLC	1.00	17:04		X	X					X																						
ICSA	1.00	17:07		X	X					X																						
ICSAB	1.00	17:10		X	X					X																						
CCV	1.00	17:12		X	X					X																						
CCB	1.00	17:15		X	X					X																						
P28848CB	1.00	17:17		X	X					X																						
P28848CQ	1.00	17:20		X	X					X																						
*82120BKG	1.00	17:23		X	X					X																						
ZZZZZZ	1.00	17:26																														
ZZZZZZ	1.00	17:28																														
ZZZZZZ	1.00	17:31																														
ZZZZZZ	1.00	17:34																														
*82120L	5.00	17:36		X	X					X																						
8082098	1.00	17:39		X	X					X																						
8082099	1.00	17:42		X	X					X																						
CCV	1.00	17:44		X	X					X																						
CCB	1.00	17:47		X	X					X																						
8082100	1.00	17:49		X	X					X																						
8082101	1.00	17:52		X	X					X																						
8082114	1.00	17:55		X	X					X																						
8082115	1.00	17:57			X					X																						
8082117	1.00	18:00		X	X					X																						
8082118	1.00	18:03		X	X					X																						
8082119	1.00	18:06		X	X					X																						
ZZZZZZ	1.00	18:08																														
ZZZZZZ	1.00	18:11																														
ZZZZZZ	1.00	18:14																														
CCV	1.00	18:16		X	X					X																						
CCB	1.00	18:19		X	X					X																						
ZZZZZZ	1.00	18:21																														
ZZZZZZ	1.00	18:24																														
ZZZZZZ	1.00	18:26																														

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC28

Method: P
Instrument ID: 18255
Run Name: 1528909T73

Run Start Date: 10/16/2015
Run End Date: 10/16/2015

Lab Sample ID	D/F	Time	Analytes																												
			AS	BA	CD	CR	PB	HG	SE	AG																					
ZZZZZZ	1.00	18:29																													
ZZZZZZ	1.00	18:32																													
ZZZZZZ	1.00	18:35																													
ZZZZZZ	1.00	18:38																													
LLC	1.00	18:41		X	X					X																					
ICSA	1.00	18:44		X	X					X																					
ICSAB	1.00	18:47		X	X					X																					
CCV	1.00	18:49		X	X					X																					
CCB	1.00	18:52		X	X					X																					

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC28

Method: P
Instrument ID: 16315
Run Name: 1529204T71

Run Start Date: 10/19/2015
Run End Date: 10/20/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	PB	HG	SE	AG																						
S0	1.00	23:21		X																												
S	1.00	23:24																														
S	1.00	23:26		X																												
S	1.00	23:29																														
ICV	1.00	23:32		X																												
ICB	1.00	23:35		X																												
LLC	1.00	23:38		X																												
ICSA	1.00	23:41		X																												
ICSAB	1.00	23:44		X																												
CCV	1.00	23:46		X																												
CCB	1.00	23:49		X																												
ZZZZZZ	20.00	23:52																														
ZZZZZZ	50.00	23:55																														
8082115	1.00	23:57		X																												
LLC	1.00	00:00		X																												
ICSA	1.00	00:03		X																												
ICSAB	1.00	00:06		X																												
CCV	1.00	00:09		X																												
CCB	1.00	00:11		X																												

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC28

Method: MS
Instrument ID: 11332
Run Name: 1529305E03

Run Start Date: 10/20/2015
Run End Date: 10/20/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	PB	HG	SE	AG																						
S0	1.00	09:01	X			X	X		X																							
S	1.00	09:03	X			X	X		X																							
CCS	1.00	09:05	X			X	X		X																							
CCS	1.00	09:08	X			X	X		X																							
ICV	1.00	09:10	X			X	X		X																							
ICB	1.00	09:12	X			X	X		X																							
LLC	1.00	09:15	X			X	X		X																							
ICSA	1.00	09:17	X			X	X		X																							
ICSAB	1.00	09:19	X			X	X		X																							
CCV	1.00	09:22	X			X	X		X																							
CCB	1.00	09:24	X			X	X		X																							
P28850DB	1.00	09:26	X			X	X		X																							
P28850DQ	1.00	09:29	X			X	X		X																							
*82120BKG	1.00	09:31	X			X	X		X																							
ZZZZZZ	1.00	09:33																														
ZZZZZZ	1.00	09:36																														
ZZZZZZ	1.00	09:38																														
ZZZZZZ	1.00	09:40																														
*82120L	5.00	09:43	X			X	X		X																							
8082098	1.00	09:45	X			X	X		X																							
8082099	1.00	09:47	X			X	X		X																							
CCV	1.00	09:49	X			X	X		X																							
CCB	1.00	09:52	X			X	X		X																							
8082100	1.00	09:54	X			X	X		X																							
8082101	1.00	09:56	X			X	X		X																							
8082114	1.00	09:59	X			X	X		X																							
8082115	1.00	10:01	X			X	X		X																							
8082117	1.00	10:03	X			X	X		X																							
8082118	1.00	10:06	X			X	X		X																							
8082119	1.00	10:08	X			X	X		X																							
ZZZZZZ	1.00	10:10																														
ZZZZZZ	1.00	10:13																														
ZZZZZZ	1.00	10:15																														
CCV	1.00	10:17	X			X	X		X																							
CCB	1.00	10:20	X			X	X		X																							
ZZZZZZ	1.00	10:22																														
ZZZZZZ	1.00	10:24																														
ZZZZZZ	1.00	10:27																														

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC28

Method: MS
Instrument ID: 11332
Run Name: 1529305E03

Run Start Date: 10/20/2015
Run End Date: 10/20/2015

Lab Sample ID	D/F	Time	Analytes																												
			AS	BA	CD	CR	PB	HG	SE	AG																						
LLC	1.00	10:29	X			X	X		X																						
ICSA	1.00	10:31	X			X	X		X																						
ICSAB	1.00	10:34	X			X	X		X																						
CCV	1.00	10:36	X			X	X		X																						
CCB	1.00	10:38	X			X	X		X																						

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC28

Method: CV
Instrument ID: 17384
Run Name: 1529201M07

Run Start Date: 10/19/2015
Run End Date: 10/19/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	PB	HG	SE	AG																						
S0	1.00	03:23						X																								
S0.2	1.00	03:25						X																								
S0.5	1.00	03:27						X																								
S1.0	1.00	03:29						X																								
S2.5	1.00	03:31						X																								
S5.0	1.00	03:33						X																								
ICV	1.00	03:35						X																								
ICB	1.00	03:37						X																								
CRA	1.00	03:39						X																								
CCV	1.00	03:41						X																								
CCB	1.00	03:43						X																								
ZZZZZZ	1.00	03:46																														
ZZZZZZ	1.00	03:48																														
ZZZZZZ	1.00	03:50																														
ZZZZZZ	1.00	03:52																														
ZZZZZZ	1.00	03:54																														
ZZZZZZ	1.00	03:56																														
ZZZZZZ	1.00	03:58																														
ZZZZZZ	1.00	04:00																														
ZZZZZZ	1.00	04:02																														
ZZZZZZ	1.00	04:04																														
CCV	1.00	04:06						X																								
CCB	1.00	04:08						X																								
ZZZZZZ	1.00	04:10																														
ZZZZZZ	1.00	04:12																														
ZZZZZZ	1.00	04:14																														
ZZZZZZ	1.00	04:16																														
ZZZZZZ	1.00	04:18																														
ZZZZZZ	1.00	04:20																														
ZZZZZZ	1.00	04:22																														
ZZZZZZ	1.00	04:24																														
ZZZZZZ	1.00	04:26																														
ZZZZZZ	1.00	04:28																														
CCV	1.00	04:30						X																								
CCB	1.00	04:32						X																								
ZZZZZZ	1.00	04:34																														
ZZZZZZ	1.00	04:36																														
ZZZZZZ	1.00	04:39																														

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC28

Method: CV
Instrument ID: 17384
Run Name: 1529201M07

Run Start Date: 10/19/2015
Run End Date: 10/19/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	PB	HG	SE	AG																						
ZZZZZZ	1.00	04:41																														
ZZZZZZ	1.00	04:43																														
ZZZZZZ	1.00	04:45																														
ZZZZZZ	1.00	04:47																														
ZZZZZZ	1.00	04:49																														
ZZZZZZ	1.00	04:51																														
ZZZZZZ	1.00	04:53																														
CCV	1.00	04:55						X																								
CCB	1.00	04:57						X																								
ZZZZZZ	1.00	04:59																														
ZZZZZZ	1.00	05:01																														
ZZZZZZ	1.00	05:03																														
ZZZZZZ	1.00	05:05																														
ZZZZZZ	1.00	05:07																														
ZZZZZZ	1.00	05:09																														
ZZZZZZ	1.00	05:11																														
ZZZZZZ	1.00	05:13																														
ZZZZZZ	1.00	05:15																														
ZZZZZZ	1.00	05:17																														
CCV	1.00	05:19						X																								
CCB	1.00	05:21						X																								
ZZZZZZ	1.00	05:24																														
ZZZZZZ	1.00	05:26																														
ZZZZZZ	1.00	05:28																														
ZZZZZZ	1.00	05:30																														
ZZZZZZ	1.00	05:32																														
ZZZZZZ	1.00	05:34																														
ZZZZZZ	1.00	05:36																														
ZZZZZZ	1.00	05:38																														
ZZZZZZ	1.00	05:40																														
ZZZZZZ	1.00	05:42																														
CCV	1.00	05:44						X																								
CCB	1.00	05:46						X																								
ZZZZZZ	1.00	05:48																														
ZZZZZZ	1.00	05:50																														
ZZZZZZ	1.00	05:52																														
ZZZZZZ	1.00	05:54																														
ZZZZZZ	1.00	05:56																														

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC28

Method: CV
Instrument ID: 17384
Run Name: 1529201M07

Run Start Date: 10/19/2015
Run End Date: 10/19/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	PB	HG	SE	AG																						
ZZZZZZ	1.00	05:58																														
ZZZZZZ	1.00	06:01																														
ZZZZZZ	1.00	06:03																														
ZZZZZZ	1.00	06:05																														
ZZZZZZ	1.00	06:07																														
CCV	1.00	06:09						X																								
CCB	1.00	06:11						X																								
ZZZZZZ	1.00	06:15																														
ZZZZZZ	1.00	06:17																														
ZZZZZZ	1.00	06:19																														
ZZZZZZ	1.00	06:21																														
ZZZZZZ	1.00	06:23																														
ZZZZZZ	1.00	06:25																														
ZZZZZZ	1.00	06:27																														
ZZZZZZ	1.00	06:29																														
ZZZZZZ	1.00	06:31																														
ZZZZZZ	1.00	06:33																														
CCV	1.00	06:35						X																								
CCB	1.00	06:37						X																								
ZZZZZZ	1.00	06:39																														
ZZZZZZ	1.00	06:41																														
ZZZZZZ	1.00	06:43																														
ZZZZZZ	1.00	06:45																														
P28913EB	1.00	06:47						X																								
P28913EQ	1.00	06:49						X																								
*82120BKG	1.00	06:51						X																								
ZZZZZZ	1.00	06:53																														
ZZZZZZ	1.00	06:55																														
ZZZZZZ	1.00	06:57																														
CCV	1.00	06:59						X																								
CCB	1.00	07:01						X																								
8082098	1.00	07:03						X																								
8082099	1.00	07:05						X																								
8082100	1.00	07:08						X																								
8082101	1.00	07:10						X																								
8082114	1.00	07:12						X																								
8082115	1.00	07:14						X																								
8082117	1.00	07:16						X																								

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC28

Method: CV
Instrument ID: 17384
Run Name: 1529201M07

Run Start Date: 10/19/2015
Run End Date: 10/19/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	PB	HG	SE	AG																						
8082118	1.00	07:18						X																								
8082119	1.00	07:20						X																								
ZZZZZZ	1.00	07:22																														
CCV	1.00	07:24						X																								
CCB	1.00	07:26						X																								

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 15
ICP-MS TUNE
SDG No.: PSC28
Matrix: WATER

Instrument ID: 11332
Date: 10/20/2015

Analyte	Mass	Avg. Measured Mass (amu)	Avg. Peak Width at 5% Peak Height (amu)	%RSD
Lithium	6.000	6.05	0.70	1.9
Magnesium	24.000	23.95	0.70	1.1
Rhodium	103.000	103.00	0.65	1.2
Indium	115.000	115.00	0.65	0.7
Cerium	140.000	140.05	0.60	1.6
Lead	208.000	208.00	0.60	1.1
Uranium	238.000	238.00	0.65	0.4

Comments:

_____
_____
_____
_____

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: PSC28

Instrument ID: 11332
Run Name: 1529305E03

Start Date: 10/20/2015
End Date: 10/20/2015

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	PB	IN-1-115	SE
IN-2-115	AS	SC-2-45	CR

Lab Sample ID	Time	Internal Standards %RI For: Element SC-2-45	Q	Element IN-1-115	Q	Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q	Element	Q
S0	09:01	100		100		100		100							
S	09:03	98		98		97		97							
CCS	09:05	99		97		101		100							
CCS	09:08	98		99		99		101							
ICV	09:10	100		100		97		99							
ICB	09:12	99		98		101		102							
LLC	09:15	101		99		101		103							
ICSA	09:17	98		98		99		100							
ICSAB	09:19	99		99		97		99							
CCV	09:22	98		99		97		99							
CCB	09:24	100		100		100		102							
P28850DB	09:26	98		100		100		102							
P28850DQ	09:29	101		100		100		101							
*82120BKG	09:31	100		96		95		96							
ZZZZZZ	09:33														
ZZZZZZ	09:36														
ZZZZZZ	09:38														
ZZZZZZ	09:40														
*82120L	09:43	100		100		96		99							
8082098	09:45	100		97		97		96							
8082099	09:47	99		97		97		97							
CCV	09:49	100		100		97		102							
CCB	09:52	100		98		100		102							
8082100	09:54	100		97		95		97							
8082101	09:56	99		96		96		96							
8082114	09:59	98		98		97		98							
8082115	10:01	100		99		100		99							
8082117	10:03	99		97		95		96							
8082118	10:06	98		91		90		88							
8082119	10:08	100		99		97		100							
ZZZZZZ	10:10														
ZZZZZZ	10:13														

LEGEND:
BKG = Background
DUP = Duplicate
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike

FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
BI = Bismuth
GE = Germanium
HO = Holmium
IN = Indium
LI = Lithium
SC = Scandium
TB = Terbium
Y = Yttrium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: PSC28

Instrument ID: 11332
Run Name: 1529305E03

Start Date: 10/20/2015
End Date: 10/20/2015

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	PB	IN-1-115	SE
IN-2-115	AS	SC-2-45	CR

Lab Sample ID	Time	Internal Standards %RI For: Element SC-2-45	Q	Element IN-1-115	Q	Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	10:15														
CCV	10:17	99		101		96		99							
CCB	10:20	101		100		98		100							
ZZZZZZ	10:22														
ZZZZZZ	10:24														
ZZZZZZ	10:27														
LLC	10:29	99		99		98		100							
ICSA	10:31	100		100		98		99							
ICSAB	10:34	99		98		97		99							
CCV	10:36	99		99		97		100							
CCB	10:38	99		98		100		101							

LEGEND:
BKG = Background
DUP = Duplicate
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike

FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
BI = Bismuth
GE = Germanium
HO = Holmium
IN = Indium
LI = Lithium
SC = Scandium
TB = Terbium
Y = Yttrium

Raw Data

Metals in Liquid

ICP Data

Metals in Liquid

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ICP-AES Run Data Report

Reviewed By
Elaine F Stoltzfus

Reviewed Date
10/16/2015 7:42PM

Data File Name 1528909T73.TXT
Run Name: 1528909T73

Method Reference Name(s):

Verified By:
Deborah A Krady

Verified Date
10/20/2015 8:41AM

Analyst Employee: 0463

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 1 Date/Time: 10/16/2015 16:48

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-0.00377	55.690	-0.00493	-0.00135	-0.00504
AL	0.000	0.00829	124.361	-0.00324	0.01660	0.01151
AS	0.000	0.00711	57.967	0.01019	0.00243	0.00871
B	0.000	0.00001	26.818	0.00001	0.00001	0.00001
BA	0.000	0.00128	1.408	0.00128	0.00126	0.00129
BE	0.000	-0.02899	0.992	-0.02907	-0.02922	-0.02867
CA	0.000	0.00708	3.315	0.00697	0.00734	0.00691
CD	0.000	0.00643	136.505	0.00428	-0.00107	0.01607
CO	0.000	-0.03564	17.442	-0.03022	-0.04242	-0.03428
CR	0.000	-0.00001	88.203	-0.00001	0.00000	-0.00002
CU	0.000	0.00077	174.763	0.00201	-0.00067	0.00097
FE	0.000	0.00002	564.359	-0.00013	0.00007	0.00013
K	0.000	0.37365	7.706	0.35098	0.36393	0.40605
LI	0.000	0.00116	30.982	0.00143	0.00075	0.00130
MG	0.000	0.00031	37.258	0.00044	0.00024	0.00024
MN	0.000	0.00057	58.948	0.00056	0.00024	0.00092
MO	0.000	-0.00155	437.309	-0.00200	0.00543	-0.00807
NA	0.000	-0.00118	43.705	-0.00122	-0.00167	-0.00064
NI	0.000	0.02291	21.224	0.01767	0.02728	0.02378
P	0.000	0.00025	25.735	0.00021	0.00021	0.00032
PB	0.000	0.01748	69.786	0.01889	0.00464	0.02892
S	0.000	0.00088	11.151	0.00093	0.00076	0.00094
SB	0.000	0.00032	43.029	0.00029	0.00048	0.00020
SI	0.000	0.00011	43.073	0.00007	0.00010	0.00016
SN	0.000	0.02267	8.714	0.02459	0.02064	0.02278
SR	0.000	0.00018	5.558	0.00017	0.00019	0.00019
TI	0.000	0.00527	9.341	0.00470	0.00547	0.00562
TL	0.000	0.00012	1804.116	0.00021	-0.00207	0.00221
V	0.000	-0.00351	32.658	-0.00426	-0.00219	-0.00409
Y1	0.000	7005.91500	0.124	7015.97500	7000.73500	7001.03500
Y2A	0.000	184148.13439	0.362	184438.54000	183385.52316	184620.34000
Y2R	0.000	16591.51777	1.175	16380.49024	16628.92636	16765.13670
ZN	0.000	0.03402	17.930	0.03848	0.03650	0.02707
ZR	0.000	-0.00046	21.526	-0.00043	-0.00038	-0.00057

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 2 Date/Time: 10/16/2015 16:51

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	16.02089	0.080	16.03284	16.02260	16.00723
CA	50.000	1.98406	0.073	1.98559	1.98270	1.98390
FE	50.000	0.71509	0.180	0.71361	0.71599	0.71566
K	50.000	55.16999	0.115	55.16085	55.11142	55.23771
MG	50.000	4.62617	0.096	4.62340	4.62382	4.63129
NA	50.000	3.64425	0.280	3.63251	3.65119	3.64905
S	50.000	0.31950	2.260	0.32764	0.31698	0.31387
SI	50.000	0.51348	0.088	0.51298	0.51386	0.51359
Y1	50.000	6967.30333	0.285	6948.36000	6987.96000	6965.59000
Y2R	50.000	16545.21266	0.440	16537.72982	16621.49570	16476.41246

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 3 Date/Time: 10/16/2015 16:54

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	1.87670	0.064	1.87535	1.87767	1.87708
AS	1.000	1.01659	0.401	1.01585	1.01294	1.02098
B	1.000	0.02478	0.142	0.02476	0.02482	0.02476
BA	1.000	2.22860	0.762	2.21040	2.23135	2.24404
BE	1.000	49.84891	0.201	49.88655	49.92501	49.73517
CD	1.000	32.44184	0.147	32.44697	32.48691	32.39165
CO	1.000	18.20101	0.022	18.20203	18.19652	18.20449
CU	1.000	1.74038	0.277	1.74312	1.74321	1.73482
LI	1.000	0.43316	0.380	0.43128	0.43434	0.43387
MN	1.000	2.76789	0.136	2.76794	2.77163	2.76408
NI	1.000	11.25337	0.225	11.27968	11.25116	11.22928
P	1.000	0.00535	3.350	0.00529	0.00555	0.00521
PB	1.000	3.13183	0.715	3.11743	3.12042	3.15764
SR	1.000	2.63085	0.615	2.61633	2.64831	2.62791
TL	1.000	0.05552	4.889	0.05736	0.05240	0.05679
Y1	1.000	6997.93500	0.255	7017.26500	6994.52500	6982.01500
Y2A	1.000	182250.38414	0.321	182918.72379	181832.75862	181999.67000
Y2R	1.000	16693.81042	0.774	16797.01000	16548.78244	16735.63883
ZN	1.000	25.68186	0.162	25.63919	25.72255	25.68385

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 4 Date/Time: 10/16/2015 16:56

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	0.02674	0.216	0.02675	0.02668	0.02679
MO	1.000	1.50184	1.270	1.47982	1.51314	1.51255
SB	1.000	0.03051	0.412	0.03049	0.03040	0.03065
SN	1.000	1.96907	0.700	1.98346	1.95601	1.96774
TI	1.000	6.42707	0.271	6.42082	6.41363	6.44676
V	1.000	0.83849	0.242	0.83962	0.83614	0.83970
Y1	1.000	7025.35595	0.179	7019.79000	7039.72117	7016.55669
Y2A	1.000	185750.66197	0.209	185599.59139	186192.24310	185460.15142
Y2R	1.000	16929.32184	0.189	16911.54307	16910.18167	16966.24077
ZR	1.000	0.10611	0.797	0.10521	0.10689	0.10623

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 5

Date/Time: 10/16/2015 16:59

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.60595	4,072.39	0.130	0.60665	0.60611	0.60509
____ AL	29.86650	3,214.72	0.278	29.78091	29.87213	29.94646
____ AS	0.61061	86.93	0.359	0.60820	0.61250	0.61114
____ B	0.58393	2,855.72	0.147	0.58409	0.58300	0.58470
____ BA	0.61704	251,218.96	0.301	0.61915	0.61562	0.61636
____ BE	0.58750	106,926.02	0.351	0.58581	0.58688	0.58980
____ CA	29.98616	20,084.30	0.303	29.99802	29.89006	30.07039
____ CD	0.60553	2,754.83	0.168	0.60466	0.60665	0.60529
____ CO	0.59859	1,521.96	0.283	0.59988	0.59666	0.59921
____ CR	0.58736	2,867.17	0.537	0.58795	0.58396	0.59018
____ CU	0.60040	3,805.19	0.234	0.59916	0.60192	0.60012
____ FE	29.45216	7,143.75	0.355	29.53309	29.33424	29.48915
____ K	29.54945	11,003.99	0.373	29.51418	29.46131	29.67285
____ LI	0.60371	4,401.09	0.275	0.60183	0.60499	0.60430
____ MG	29.65983	46,407.53	0.321	29.66273	29.56306	29.75369
____ MN	0.60800	6,147.37	0.267	0.60622	0.60841	0.60939
____ MO	0.59369	124.73	1.526	0.60123	0.58364	0.59619
____ NA	29.36068	35,934.56	0.216	29.35209	29.30205	29.42789
____ NI	0.60035	943.69	0.151	0.59980	0.59985	0.60140
____ P	0.60377	23.26	10.832	0.53256	0.61764	0.66113
____ PB	0.60423	267.15	0.430	0.60314	0.60720	0.60236
____ S	29.70629	1,328.29	2.669	28.79705	30.06918	30.25263
____ SB	0.60275	129.58	1.412	0.59494	0.60149	0.61182
____ SI	29.63745	5,113.98	0.195	29.61204	29.59661	29.70371
____ SN	0.60946	168.85	0.365	0.60746	0.60906	0.61186
____ SR	0.61085	293,606.93	0.993	0.60394	0.61533	0.61326
____ TI	0.61885	14,572.93	0.064	0.61846	0.61883	0.61925
____ TL	0.66840	4.89	21.649	0.52054	0.67494	0.80972
____ V	0.60779	1,857.64	0.602	0.60727	0.60442	0.61168
____ Y1	6983.62833	6,983.63	0.189	6993.18500	6989.15500	6968.54500
____ Y2A	182620.65524	182,620.66	0.437	183277.01218	182852.48354	181732.47000
____ Y2R	16796.01347	16,796.01	0.104	16801.46794	16776.45650	16810.11595
____ ZN	0.60721	2,188.65	0.090	0.60659	0.60763	0.60740
____ ZR	0.60826	1,076.40	0.660	0.60742	0.60472	0.61262

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 6

Date/Time: 10/16/2015 17:02

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00024	-16.16	379.401	-0.00121	-0.00011	0.00060
____ AL	0.03013	6.06	82.039	0.02538	0.05687	0.00813
____ AS	-0.00181	0.73	59.553	-0.00180	-0.00288	-0.00073
____ B	-0.00041	0.27	35.340	-0.00058	-0.00034	-0.00031
____ BA	-0.00007	202.32	51.393	-0.00011	-0.00004	-0.00006
____ BE	0.00004	-81.49	70.253	0.00008	0.00004	0.00002
____ CA	-0.00264	117.84	141.765	0.00103	-0.00251	-0.00644
____ CD	0.00045	2.89	11.316	0.00050	0.00042	0.00041
____ CO	0.00155	-2.65	29.546	0.00204	0.00113	0.00148
____ CR	0.00061	0.70	132.750	-0.00030	0.00088	0.00125
____ CU	0.00043	5.50	76.966	0.00059	0.00065	0.00005
____ FE	0.01808	4.88	42.927	0.01715	0.02626	0.01082
____ K	0.03921	140.88	108.177	-0.00559	0.07875	0.04447
____ LI	-0.00129	10.25	144.451	-0.00289	-0.00173	0.00075
____ MG	0.00293	9.87	58.102	0.00455	0.00116	0.00307
____ MN	0.00053	7.30	78.338	0.00030	0.00027	0.00100
____ MO	0.00103	0.00	178.503	0.00281	-0.00085	0.00112
____ NA	0.01018	-7.37	43.184	0.01020	0.01456	0.00577
____ NI	-0.00081	1.91	95.066	-0.00078	-0.00006	-0.00159
____ P	-0.00582	1.51	62.713	-0.00734	-0.00847	-0.00166
____ PB	-0.00606	-0.19	89.847	-0.00003	-0.00753	-0.01062
____ S	0.00565	6.30	45.320	0.00271	0.00683	0.00740
____ SB	0.00492	3.26	81.027	0.00788	0.00648	0.00039
____ SI	0.01961	5.19	44.958	0.02888	0.01862	0.01133
____ SN	0.00420	4.26	84.840	0.00209	0.00831	0.00219
____ SR	0.00013	38.48	18.146	0.00012	0.00016	0.00011
____ TI	0.00037	27.47	70.080	0.00008	0.00045	0.00057
____ TL	0.01626	0.14	522.528	-0.06521	0.10431	0.00967
____ V	-0.00014	-13.10	1276.974	0.00104	-0.00211	0.00067
____ Y1	6901.32833	6,901.33	0.038	6900.31500	6899.36000	6904.31000
____ Y2A	180667.78806	180,667.79	1.846	184518.49342	178820.12961	178664.74116
____ Y2R	16905.13369	16,905.13	0.423	16842.89558	16889.31214	16983.19336
____ ZN	-0.00009	4.37	336.197	-0.00016	-0.00036	0.00024
____ ZR	0.00037	-8.27	256.668	0.00104	-0.00071	0.00076

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 7

Date/Time: 10/16/2015 17:04

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00486	19.47	18.712	0.00575	0.00393	0.00492
____ AL	0.21006	23.33	9.899	0.18740	0.21450	0.22827
____ AS	0.01992	3.75	34.080	0.02515	0.02236	0.01225
____ B	0.04760	215.42	0.863	0.04766	0.04716	0.04798
____ BA	0.00491	2,194.17	0.171	0.00492	0.00491	0.00490
____ BE	0.00495	798.30	0.788	0.00499	0.00493	0.00493
____ CA	0.19193	227.11	7.084	0.20711	0.18784	0.18086
____ CD	0.00527	24.49	1.364	0.00536	0.00523	0.00523
____ CO	0.00605	8.72	7.734	0.00581	0.00659	0.00576
____ CR	0.01555	72.57	7.347	0.01612	0.01423	0.01629
____ CU	0.00971	63.20	14.224	0.01114	0.00839	0.00959
____ FE	0.19749	45.00	5.006	0.20739	0.19744	0.18762
____ K	0.50487	286.16	11.879	0.57026	0.49189	0.45244
____ LI	0.02281	170.06	6.257	0.02129	0.02412	0.02302
____ MG	0.09751	146.36	2.231	0.09878	0.09500	0.09875
____ MN	0.00578	59.54	5.767	0.00598	0.00596	0.00539
____ MO	0.01283	2.44	33.199	0.01733	0.00887	0.01229
____ NA	1.00378	1,111.71	0.346	1.00004	1.00689	1.00442
____ NI	0.00973	18.20	9.227	0.00931	0.01076	0.00912
____ P	0.12124	5.95	10.392	0.12256	0.13312	0.10803
____ PB	0.01414	8.47	36.597	0.00907	0.01941	0.01394
____ S	0.51532	28.63	1.218	0.52211	0.51412	0.50973
____ SB	0.02359	7.14	2.783	0.02284	0.02388	0.02406
____ SI	0.07018	12.78	4.379	0.07006	0.06717	0.07331
____ SN	0.02094	8.73	16.583	0.01694	0.02282	0.02308
____ SR	0.00509	2,387.13	0.743	0.00512	0.00505	0.00511
____ TI	0.01044	260.23	1.656	0.01062	0.01041	0.01028
____ TL	0.04154	0.33	55.328	0.05201	0.05743	0.01519
____ V	0.00554	3.79	24.872	0.00477	0.00713	0.00473
____ Y1	6881.53667	6,881.54	0.156	6893.11000	6871.87000	6879.63000
____ Y2A	179780.58039	179,780.58	0.188	179661.11776	180162.18077	179518.44262
____ Y2R	15438.85254	15,438.85	0.412	15370.10196	15450.77875	15495.67692
____ ZN	0.02051	76.89	1.507	0.02016	0.02070	0.02068
____ ZR	0.04855	71.73	0.500	0.04883	0.04840	0.04842

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 8 Date/Time: 10/16/2015 17:07

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00446	-552.30	12.152	0.00454	0.00495	0.00388
____ AL	491.12726	46,207.26	0.056	491.06625	491.42872	490.88681
____ AS	-0.00933	1.29	24.136	-0.00993	-0.00684	-0.01122
____ B	-0.02278	1,200.96	9.708	-0.02530	-0.02120	-0.02182
____ BA	0.00025	300.14	14.764	0.00021	0.00028	0.00024
____ BE	-0.00094	-235.25	8.624	-0.00090	-0.00088	-0.00103
____ CA	497.44868	271,524.12	0.098	497.95631	497.40963	496.98012
____ CD	-0.00081	56.25	45.140	-0.00124	-0.00059	-0.00062
____ CO	0.00257	-0.08	32.774	0.00199	0.00218	0.00353
____ CR	0.00373	14.44	20.392	0.00409	0.00286	0.00425
____ CU	-0.00348	48.48	27.631	-0.00337	-0.00257	-0.00448
____ FE	196.71096	38,162.35	0.276	197.31612	196.55246	196.26431
____ K	0.07249	132.13	33.030	0.05436	0.06348	0.09963
____ LI	0.00859	87.31	8.315	0.00785	0.00863	0.00928
____ MG	495.70591	568,960.85	1.357	502.77069	494.97106	489.37600
____ MN	0.00274	26.84	9.591	0.00260	0.00304	0.00257
____ MO	-0.03996	-8.76	9.028	-0.04051	-0.04326	-0.03610
____ NA	0.24891	247.38	6.150	0.23774	0.26636	0.24263
____ NI	0.00777	3.08	10.705	0.00844	0.00684	0.00804
____ P	-0.01366	1.14	100.385	0.00087	-0.01549	-0.02638
____ PB	-0.00649	34.62	35.004	-0.00518	-0.00911	-0.00518
____ S	0.02997	7.93	68.298	0.05062	0.00969	0.02960
____ SB	0.00044	6.28	2768.653	-0.01040	0.01354	-0.00182
____ SI	0.00686	2.52	111.378	0.00004	0.00542	0.01511
____ SN	0.01989	7.80	26.795	0.02141	0.02430	0.01397
____ SR	0.00026	2,203.38	12.194	0.00026	0.00022	0.00029
____ TI	-0.00079	0.93	55.766	-0.00123	-0.00035	-0.00078
____ TL	-0.00018	-1.80	7821.907	0.21238	-0.16442	-0.04850
____ V	-0.00470	-22.76	28.711	-0.00410	-0.00376	-0.00625
____ Y1	6353.36833	6,353.37	0.102	6355.82000	6346.02500	6358.26000
____ Y2A	164714.79620	164,714.80	0.475	165147.02000	165186.22306	163811.14554
____ Y2R	14577.72341	14,577.72	0.582	14512.82409	14546.55276	14673.79338
____ ZN	0.00826	85.08	6.017	0.00838	0.00869	0.00772
____ ZR	0.00143	-29.64	161.434	0.00302	-0.00122	0.00249

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 9 Date/Time: 10/16/2015 17:10

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21313	740.82	0.882	0.21401	0.21097	0.21440
____ AL	495.14536	46,600.61	0.164	494.30820	495.19748	495.93040
____ AS	0.08858	13.95	10.956	0.09583	0.07755	0.09235
____ B	-0.02570	1,208.89	6.694	-0.02498	-0.02766	-0.02445
____ BA	0.50905	188,387.13	0.632	0.51089	0.50534	0.51093
____ BE	0.47352	78,306.95	0.423	0.47513	0.47128	0.47415
____ CA	502.22920	274,044.45	0.109	501.60338	502.48155	502.60265
____ CD	0.94133	3,958.46	0.142	0.94264	0.93997	0.94138
____ CO	0.47776	1,107.04	0.173	0.47815	0.47682	0.47832
____ CR	0.47125	2,090.19	0.426	0.47338	0.46940	0.47095
____ CU	0.52222	3,084.87	0.200	0.52247	0.52312	0.52107
____ FE	198.50156	38,485.60	0.060	198.37474	198.61072	198.51921
____ K	0.04241	122.51	44.136	0.02741	0.03642	0.06339
____ LI	0.00851	87.03	21.539	0.00939	0.00974	0.00641
____ MG	501.51763	574,507.12	0.343	499.69037	503.10792	501.75460
____ MN	0.45388	4,171.08	0.415	0.45192	0.45568	0.45405
____ MO	-0.03610	-8.07	5.804	-0.03438	-0.03843	-0.03547
____ NA	0.27514	275.34	0.236	0.27444	0.27524	0.27573
____ NI	0.94243	1,343.32	0.206	0.94397	0.94307	0.94025
____ P	-0.03323	0.61	14.928	-0.02848	-0.03838	-0.03284
____ PB	0.04672	56.27	5.049	0.04507	0.04942	0.04568
____ S	0.03769	8.39	37.965	0.05235	0.03697	0.02376
____ SB	0.56608	117.96	1.536	0.57610	0.56056	0.56158
____ SI	0.01257	3.37	80.634	0.02198	0.01390	0.00184
____ SN	0.02036	7.94	29.663	0.01353	0.02500	0.02256
____ SR	0.00021	2,219.74	30.235	0.00028	0.00015	0.00020
____ TI	-0.00082	10.75	39.848	-0.00113	-0.00048	-0.00086
____ TL	0.13442	-0.86	45.334	0.07016	0.14174	0.19138
____ V	0.50297	1,420.86	0.753	0.50020	0.50728	0.50141
____ Y1	6383.38833	6,383.39	0.121	6375.25500	6384.35000	6390.56000
____ Y2A	165965.47209	165,965.47	0.074	166032.41627	166040.80000	165823.20000
____ Y2R	14581.77776	14,581.78	0.617	14685.22138	14538.42926	14521.68265
____ ZN	0.96949	3,231.65	0.073	0.96908	0.96909	0.97031
____ ZR	-0.00184	-34.96	135.610	-0.00354	0.00102	-0.00301

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 10

Date/Time: 10/16/2015 17:12

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50246	3,290.59	0.717	0.50658	0.49993	0.50086
____ AL	25.15276	2,471.67	0.294	25.06739	25.19861	25.19227
____ AS	0.51008	72.10	1.604	0.50253	0.50894	0.51878
____ B	0.48533	2,317.30	0.276	0.48600	0.48619	0.48379
____ BA	0.50447	200,393.16	0.417	0.50662	0.50242	0.50437
____ BE	0.48974	86,934.83	0.512	0.49260	0.48871	0.48792
____ CA	25.06533	15,352.26	0.141	25.08745	25.08391	25.02462
____ CD	0.49887	2,248.64	1.297	0.49152	0.50141	0.50368
____ CO	0.49826	1,253.85	1.360	0.49044	0.50241	0.50193
____ CR	0.49609	2,361.94	0.327	0.49792	0.49485	0.49549
____ CU	0.50273	3,108.84	0.544	0.50586	0.50078	0.50155
____ FE	24.70929	5,483.28	0.517	24.81921	24.73962	24.56905
____ K	25.09555	8,548.19	0.760	25.27562	25.11517	24.89584
____ LI	0.51441	3,425.92	0.704	0.51292	0.51854	0.51176
____ MG	24.92868	35,662.48	0.500	25.01749	24.98222	24.78634
____ MN	0.51316	5,061.65	0.120	0.51278	0.51387	0.51284
____ MO	0.48668	101.27	1.455	0.48195	0.48328	0.49482
____ NA	25.06857	28,004.73	0.899	25.26989	25.11087	24.82493
____ NI	0.49746	775.16	1.425	0.48929	0.50196	0.50113
____ P	0.55172	21.19	3.233	0.53155	0.55822	0.56539
____ PB	0.50006	219.48	1.742	0.49146	0.49984	0.50888
____ S	25.37448	1,124.77	2.698	24.58746	25.70473	25.83127
____ SB	0.49368	105.59	0.574	0.49182	0.49228	0.49694
____ SI	25.13289	3,959.01	0.509	25.24044	25.16668	24.99153
____ SN	0.49776	137.19	1.175	0.49335	0.49553	0.50439
____ SR	0.50556	237,042.09	0.514	0.50840	0.50329	0.50498
____ TI	0.50399	11,581.78	0.349	0.50586	0.50237	0.50374
____ TL	0.55731	4.04	3.339	0.53601	0.56547	0.57043
____ V	0.50386	1,500.41	0.522	0.50407	0.50638	0.50113
____ Y1	6918.94167	6,918.94	1.129	7007.19000	6890.94000	6858.69500
____ Y2A	178144.46954	178,144.47	0.488	177398.75100	177934.74745	179099.91016
____ Y2R	15332.60643	15,332.61	0.485	15271.01580	15311.63810	15415.16540
____ ZN	0.50257	1,795.51	1.125	0.49608	0.50517	0.50646
____ ZR	0.50033	806.76	0.324	0.50198	0.49874	0.50027

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 11

Date/Time: 10/16/2015 17:15

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00042	-17.14	111.035	-0.00039	-0.00089	0.00003
____ AL	0.02123	4.63	69.817	0.00594	0.03553	0.02223
____ AS	0.00110	1.13	714.850	0.00996	-0.00172	-0.00495
____ B	-0.00055	-0.33	145.645	-0.00070	-0.00126	0.00031
____ BA	-0.00016	163.95	30.366	-0.00011	-0.00016	-0.00021
____ BE	-0.00001	-91.42	327.802	0.00002	0.00000	-0.00007
____ CA	0.02721	125.27	33.087	0.03297	0.03181	0.01683
____ CD	0.00052	3.19	54.145	0.00084	0.00035	0.00037
____ CO	0.00152	-2.72	35.376	0.00209	0.00144	0.00103
____ CR	0.00034	-0.55	211.157	0.00096	-0.00045	0.00052
____ CU	0.00050	5.89	174.926	0.00107	0.00094	-0.00051
____ FE	0.01650	4.08	37.652	0.02277	0.01035	0.01638
____ K	0.00858	117.63	752.359	0.06266	-0.06287	0.02595
____ LI	0.00183	30.02	103.611	-0.00018	0.00207	0.00358
____ MG	0.03259	51.80	5.868	0.03423	0.03304	0.03049
____ MN	0.00017	3.78	100.611	0.00032	-0.00002	0.00022
____ MO	-0.00199	-0.62	98.143	-0.00334	-0.00289	0.00025
____ NA	0.02243	7.04	0.590	0.02251	0.02228	0.02250
____ NI	-0.00045	2.44	181.227	0.00049	-0.00082	-0.00102
____ P	0.00870	2.01	33.259	0.01137	0.00563	0.00909
____ PB	0.00211	3.31	129.659	0.00243	0.00467	-0.00077
____ S	0.02208	6.98	45.134	0.02374	0.03110	0.01139
____ SB	0.00255	2.76	110.611	0.00098	0.00086	0.00581
____ SI	0.02251	5.18	44.381	0.01557	0.03396	0.01800
____ SN	-0.00016	3.07	1855.457	-0.00253	-0.00112	0.00317
____ SR	0.00008	15.81	46.809	0.00012	0.00007	0.00005
____ TI	0.00034	26.79	32.149	0.00047	0.00026	0.00030
____ TL	-0.01616	-0.11	419.585	0.06141	-0.06405	-0.04583
____ V	-0.00040	-13.69	579.357	0.00213	-0.00088	-0.00246
____ Y1	6859.20667	6,859.21	0.308	6847.62500	6883.62500	6846.37000
____ Y2A	179266.48562	179,266.49	0.168	179229.38299	178985.17668	179584.89719
____ Y2R	15358.54943	15,358.55	0.910	15224.54073	15347.62522	15503.48234
____ ZN	0.00000	4.65	4557.756	0.00019	-0.00006	-0.00014
____ ZR	0.00040	-7.47	332.744	0.00161	0.00066	-0.00105

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 12 Date/Time: 10/16/2015 17:17

Sample Number: **PBW** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00019	-15.48	290.421	-0.00079	-0.00005	0.00028
____ AL	0.02798	5.29	60.527	0.01875	0.04753	0.01767
____ AS	0.00272	1.34	23.575	0.00216	0.00258	0.00342
____ B	-0.00101	-2.40	57.317	-0.00039	-0.00110	-0.00154
____ BA	-0.00022	141.79	7.828	-0.00023	-0.00020	-0.00022
____ BE	-0.00007	-101.01	26.447	-0.00007	-0.00006	-0.00009
____ CA	0.03455	129.60	27.623	0.02677	0.04520	0.03169
____ CD	0.00000	0.89	3658.678	0.00024	0.00006	-0.00030
____ CO	0.00105	-3.86	40.781	0.00060	0.00111	0.00145
____ CR	0.00111	3.11	11.868	0.00100	0.00125	0.00108
____ CU	0.00025	4.31	332.688	0.00102	-0.00064	0.00038
____ FE	0.01434	3.58	88.206	0.01639	0.02583	0.00079
____ K	0.02453	122.85	87.681	0.04904	0.01574	0.00881
____ LI	0.00000	17.84	9520.718	-0.00056	-0.00087	0.00144
____ MG	0.02758	44.50	30.522	0.02094	0.03705	0.02475
____ MN	0.00047	6.70	61.953	0.00024	0.00080	0.00038
____ MO	0.00357	0.52	117.690	0.00312	0.00798	-0.00039
____ NA	0.01620	0.05	40.248	0.01192	0.02370	0.01297
____ NI	-0.00058	2.24	70.110	-0.00012	-0.00073	-0.00089
____ P	0.01035	2.05	115.462	-0.00262	0.01276	0.02090
____ PB	-0.00295	1.13	126.505	0.00124	-0.00592	-0.00417
____ S	0.01235	6.51	88.646	0.00451	0.02486	0.00768
____ SB	0.00398	3.04	94.859	0.00298	0.00080	0.00814
____ SI	0.01688	4.29	14.380	0.01865	0.01411	0.01787
____ SN	0.00112	3.39	257.934	0.00113	-0.00177	0.00399
____ SR	0.00005	-1.39	19.357	0.00004	0.00004	0.00005
____ TI	0.00010	21.06	335.886	-0.00028	0.00020	0.00038
____ TL	0.04086	0.32	179.651	0.00184	-0.00480	0.12554
____ V	-0.00025	-13.44	547.227	-0.00101	0.00130	-0.00103
____ Y1	6813.48167	6,813.48	0.333	6835.12000	6789.83500	6815.49000
____ Y2A	178106.06625	178,106.07	0.586	179307.36349	177590.93719	177419.89806
____ Y2R	15336.88820	15,336.89	0.391	15318.18091	15288.57229	15403.91139
____ ZN	0.00116	8.65	15.796	0.00127	0.00125	0.00095
____ ZR	0.00132	-5.94	154.940	-0.00097	0.00296	0.00198

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 13 Date/Time: 10/16/2015 17:20

Sample Number: **LCSW** Class: **** Batch: 152881848003

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04877	340.44	1.289	0.04854	0.04828	0.04948
____ AL	2.13792	214.40	1.699	2.16720	2.14928	2.09727
____ AS	0.15989	23.18	3.307	0.16368	0.16214	0.15385
____ B	2.00891	8,873.02	0.158	2.00823	2.01237	2.00613
____ BA	2.06995	821,831.95	0.718	2.05491	2.08462	2.07033
____ BE	0.05277	9,291.76	0.122	0.05274	0.05272	0.05284
____ CA	4.28137	2,718.15	0.692	4.24900	4.28794	4.30716
____ CD	0.05407	241.73	0.757	0.05375	0.05453	0.05394
____ CO	0.53216	1,331.02	0.044	0.53229	0.53189	0.53230
____ CR	0.21220	1,009.41	0.055	0.21207	0.21223	0.21229
____ CU	0.26403	1,604.88	0.249	0.26409	0.26335	0.26466
____ FE	1.06600	239.50	0.268	1.06772	1.06270	1.06759
____ K	10.49418	3,640.87	0.832	10.43826	10.44947	10.59482
____ LI	1.07000	7,104.37	0.353	1.07435	1.06765	1.06799
____ MG	2.12244	3,063.23	0.164	2.11929	2.12185	2.12618
____ MN	0.55161	5,442.57	0.387	0.55102	0.55398	0.54983
____ MO	2.12269	437.69	0.608	2.11440	2.11611	2.13755
____ NA	10.61286	11,844.26	0.536	10.59524	10.56687	10.67647
____ NI	0.53835	834.76	0.141	0.53920	0.53773	0.53813
____ P	1.17640	42.78	0.405	1.17536	1.17224	1.18160
____ PB	0.15453	66.94	1.710	0.15593	0.15148	0.15617
____ S	1.02088	50.96	1.247	1.02737	1.02906	1.00621
____ SB	0.55573	96.89	0.525	0.55580	0.55277	0.55861
____ SI	1.11772	181.08	1.206	1.11126	1.10868	1.13321
____ SN	4.15374	1,112.69	0.177	4.14524	4.15794	4.15804
____ SR	1.04628	490,547.80	0.732	1.03933	1.05449	1.04501
____ TI	1.05654	24,196.84	0.277	1.05625	1.05376	1.05960
____ TL	0.15852	1.23	43.286	0.16646	0.22283	0.08628
____ V	0.49873	1,396.34	0.855	0.50282	0.49905	0.49431
____ Y1	6861.02667	6,861.03	0.294	6865.70500	6878.42000	6838.95500
____ Y2A	178205.61708	178,205.62	0.117	178273.59225	177972.36422	178370.89478
____ Y2R	15330.56115	15,330.56	0.110	15311.22632	15342.10684	15338.35029
____ ZN	0.53116	1,873.65	0.266	0.53024	0.53046	0.53279
____ ZR	1.03429	1,683.03	0.545	1.03877	1.03613	1.02796

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 14 Date/Time: 10/16/2015 17:23

Sample Number: **8082120** Class: U*** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00036	-53.61	194.722	-0.00064	0.00043	-0.00086
____ AL	0.09754	11.92	40.203	0.08877	0.14039	0.06344
____ AS	0.07038	10.36	0.300	0.07060	0.07034	0.07019
____ B	0.36217	1,662.78	0.377	0.36344	0.36073	0.36234
____ BA	0.02711	10,823.07	0.299	0.02711	0.02702	0.02719
____ BE	-0.00020	-121.13	13.224	-0.00017	-0.00022	-0.00019
____ CA	69.51647	41,684.64	3.289	67.34361	71.90187	69.30393
____ CD	-0.00286	-7.14	9.408	-0.00255	-0.00302	-0.00300
____ CO	0.00186	-1.80	33.983	0.00258	0.00139	0.00161
____ CR	0.00381	15.74	34.138	0.00495	0.00407	0.00240
____ CU	0.00258	28.15	36.142	0.00166	0.00257	0.00352
____ FE	12.15600	2,683.23	3.605	11.72103	12.59748	12.14949
____ K	8.07567	2,797.27	3.044	7.89829	8.35631	7.97239
____ LI	0.00741	68.62	35.254	0.00961	0.00810	0.00452
____ MG	22.42194	31,744.95	3.484	21.68424	23.24034	22.34124
____ MN	0.21669	2,107.55	0.317	0.21745	0.21611	0.21653
____ MO	-0.00488	-1.24	41.391	-0.00349	-0.00719	-0.00395
____ NA	111.75480	123,509.34	3.655	107.83758	115.98834	111.43848
____ NI	0.00321	7.26	4.829	0.00333	0.00304	0.00328
____ P	0.21276	8.99	10.662	0.22846	0.22307	0.18675
____ PB	0.00464	3.95	47.493	0.00588	0.00210	0.00594
____ S	0.43027	24.68	5.927	0.45674	0.40587	0.42819
____ SB	-0.00112	1.77	318.304	-0.00483	0.00227	-0.00080
____ SI	8.64841	1,347.94	3.224	8.40647	8.95330	8.58545
____ SN	0.00146	3.45	173.055	0.00400	-0.00106	0.00145
____ SR	0.63084	291,674.16	0.110	0.63060	0.63162	0.63029
____ TI	0.00679	176.00	0.247	0.00678	0.00678	0.00681
____ TL	-0.05762	-0.53	55.350	-0.02939	-0.05126	-0.09221
____ V	0.00031	-10.92	654.937	0.00250	-0.00149	-0.00008
____ Y1	6758.22333	6,758.22	0.292	6780.93500	6748.78000	6744.95500
____ Y2A	175560.57439	175,560.57	0.113	175332.06000	175651.95492	175697.70825
____ Y2R	15171.06126	15,171.06	2.818	15565.84247	14716.92646	15230.41484
____ ZN	0.04258	154.83	0.844	0.04297	0.04226	0.04251
____ ZR	0.00276	-5.11	50.988	0.00390	0.00318	0.00119

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 15 Date/Time: 10/16/2015 17:26

Sample Number: **8082120** Class: UP** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01686	91.39	2.200	0.01646	0.01720	0.01692
____ AL	1.13548	114.59	1.056	1.12559	1.13203	1.14881
____ AS	0.57770	79.58	1.629	0.57128	0.58850	0.57331
____ B	0.55039	2,491.18	0.468	0.54998	0.54804	0.55314
____ BA	0.07696	30,425.88	0.066	0.07697	0.07700	0.07690
____ BE	0.02008	3,441.74	0.416	0.02016	0.02009	0.01999
____ CA	68.46795	41,705.81	0.178	68.39521	68.60845	68.40018
____ CD	0.04689	210.94	0.316	0.04681	0.04706	0.04680
____ CO	0.10102	243.19	0.582	0.10169	0.10074	0.10062
____ CR	0.19954	938.36	0.042	0.19952	0.19963	0.19947
____ CU	0.51331	3,154.70	0.581	0.51673	0.51191	0.51128
____ FE	12.36792	2,772.64	0.046	12.37300	12.36907	12.36170
____ K	9.88491	3,451.50	0.327	9.88645	9.91640	9.85189
____ LI	1.03295	6,891.90	0.299	1.03316	1.03593	1.02976
____ MG	22.77941	32,753.39	0.193	22.72877	22.80532	22.80415
____ MN	0.27201	2,654.53	0.534	0.27123	0.27110	0.27368
____ MO	0.20211	40.82	2.761	0.20437	0.19575	0.20620
____ NA	110.64265	124,202.96	0.472	110.03960	110.95903	110.92930
____ NI	0.15131	232.21	0.724	0.15228	0.15012	0.15152
____ P	1.34330	47.86	6.646	1.24432	1.41776	1.36782
____ PB	0.51167	217.28	0.384	0.51390	0.51097	0.51016
____ S	1.43146	67.80	2.039	1.40575	1.46319	1.42544
____ SB	0.40449	83.22	0.449	0.40404	0.40649	0.40294
____ SI	9.38650	1,486.06	0.784	9.32062	9.37295	9.46592
____ SN	0.60654	162.61	0.299	0.60687	0.60816	0.60459
____ SR	0.62977	292,220.53	1.353	0.63960	0.62480	0.62490
____ TI	0.11020	2,518.48	1.378	0.10965	0.10904	0.11192
____ TL	1.12184	8.26	9.106	1.00480	1.19313	1.16759
____ V	0.10219	285.63	0.837	0.10120	0.10277	0.10259
____ Y1	6756.58667	6,756.59	0.101	6749.96000	6763.61500	6756.18500
____ Y2A	176194.95680	176,194.96	0.431	175660.53157	177064.61661	175859.72222
____ Y2R	15399.16261	15,399.16	0.215	15433.61931	15367.61477	15396.25375
____ ZN	0.16287	573.54	0.132	0.16310	0.16285	0.16267
____ ZR	1.01545	1,657.45	1.008	1.01114	1.02713	1.00808

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 16 Date/Time: 10/16/2015 17:28

Sample Number: **8082123** Class: D*** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00067	-51.16	168.030	-0.00042	-0.00189	0.00031
____ AL	0.14847	17.19	11.711	0.13226	0.14631	0.16683
____ AS	0.07669	11.30	12.090	0.07630	0.06762	0.08615
____ B	0.40793	1,862.48	0.081	0.40762	0.40789	0.40828
____ BA	0.02481	9,986.98	0.539	0.02465	0.02485	0.02491
____ BE	-0.00020	-122.01	3.738	-0.00020	-0.00019	-0.00019
____ CA	62.52960	38,162.30	0.133	62.46154	62.50510	62.62214
____ CD	-0.00302	-8.50	13.112	-0.00262	-0.00341	-0.00305
____ CO	0.00185	-1.82	17.492	0.00222	0.00160	0.00174
____ CR	0.00152	5.04	59.875	0.00100	0.00257	0.00100
____ CU	0.00352	33.08	3.285	0.00365	0.00342	0.00351
____ FE	10.55892	2,371.48	0.126	10.55342	10.57406	10.54928
____ K	7.81335	2,754.95	0.442	7.79947	7.78790	7.85267
____ LI	0.00894	79.56	7.920	0.00958	0.00818	0.00906
____ MG	20.71673	29,837.57	0.164	20.68866	20.70691	20.75463
____ MN	0.18223	1,783.97	0.717	0.18353	0.18091	0.18224
____ MO	-0.00127	-0.50	370.884	0.00266	-0.00648	0.00001
____ NA	110.26600	123,901.27	0.357	109.91865	110.18568	110.69366
____ NI	0.00127	4.42	68.032	0.00029	0.00190	0.00161
____ P	0.21503	9.11	6.216	0.19975	0.22452	0.22083
____ PB	0.00493	4.16	30.457	0.00642	0.00493	0.00342
____ S	0.44419	25.37	3.336	0.42731	0.45021	0.45505
____ SB	0.00178	2.41	21.844	0.00223	0.00152	0.00159
____ SI	8.15125	1,291.70	0.451	8.10938	8.16634	8.17803
____ SN	-0.00127	2.74	249.415	-0.00104	0.00177	-0.00454
____ SR	0.57910	269,454.49	0.240	0.57776	0.57902	0.58053
____ TI	0.00798	203.72	5.329	0.00838	0.00753	0.00802
____ TL	-0.06299	-0.56	115.879	-0.10892	-0.10122	0.02118
____ V	0.00142	-7.85	28.886	0.00169	0.00162	0.00095
____ Y1	6789.28667	6,789.29	0.433	6756.65000	6813.67500	6797.53500
____ Y2A	176681.05828	176,681.06	0.240	176771.84000	177051.52634	176219.80850
____ Y2R	15414.30266	15,414.30	0.648	15418.43157	15512.00638	15312.47002
____ ZN	0.04921	177.97	0.517	0.04950	0.04905	0.04907
____ ZR	0.00062	-8.49	376.842	0.00223	0.00166	-0.00205

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 17 Date/Time: 10/16/2015 17:31

Sample Number: **8082121** Class: R*** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04949	304.55	0.963	0.04894	0.04974	0.04979
____ AL	2.27136	227.88	0.919	2.26513	2.29463	2.25431
____ AS	0.23160	32.41	4.524	0.24281	0.22206	0.22993
____ B	2.42639	10,610.48	0.361	2.41629	2.43189	2.43098
____ BA	2.09593	817,739.45	0.764	2.08147	2.09317	2.11314
____ BE	0.05262	9,105.21	0.721	0.05219	0.05281	0.05287
____ CA	69.86107	42,430.92	0.079	69.86961	69.80222	69.91139
____ CD	0.05000	224.38	0.345	0.05017	0.05001	0.04983
____ CO	0.52292	1,287.77	0.178	0.52225	0.52252	0.52398
____ CR	0.20906	977.24	0.624	0.20915	0.20771	0.21032
____ CU	0.27129	1,630.35	0.562	0.26954	0.27199	0.27233
____ FE	12.37539	2,766.84	0.198	12.37574	12.35067	12.39976
____ K	18.47742	6,334.62	0.148	18.48483	18.44707	18.50037
____ LI	1.08951	7,248.72	0.168	1.09161	1.08825	1.08868
____ MG	23.50507	33,697.69	0.076	23.51769	23.48474	23.51280
____ MN	0.72853	7,063.40	0.290	0.72947	0.73001	0.72611
____ MO	2.10603	427.52	1.143	2.07982	2.11115	2.12712
____ NA	119.44215	133,722.58	0.247	119.76415	119.37788	119.18442
____ NI	0.52936	807.57	0.190	0.53014	0.52972	0.52823
____ P	1.45202	51.58	3.510	1.39316	1.48122	1.48167
____ PB	0.16269	69.03	2.617	0.16231	0.16712	0.15863
____ S	1.44769	68.75	1.583	1.43293	1.47408	1.43605
____ SB	0.54125	92.08	0.365	0.53898	0.54220	0.54258
____ SI	9.42671	1,491.58	0.369	9.39963	9.41457	9.46591
____ SN	4.17589	1,101.36	0.096	4.17361	4.18050	4.17356
____ SR	1.64095	756,342.43	0.782	1.62852	1.64017	1.65416
____ TI	1.06847	24,050.53	0.678	1.06029	1.07102	1.07409
____ TL	0.05989	0.36	225.563	0.05405	-0.07219	0.19782
____ V	0.49880	1,373.54	0.693	0.49935	0.50195	0.49510
____ Y1	6755.20500	6,755.21	0.172	6767.73500	6744.79000	6753.09000
____ Y2A	175125.74033	175,125.74	0.594	176039.87822	175343.68137	173993.66141
____ Y2R	15357.72967	15,357.73	0.076	15370.86905	15348.39546	15353.92451
____ ZN	0.56860	1,976.75	0.143	0.56772	0.56933	0.56874
____ ZR	1.03268	1,681.92	0.433	1.03516	1.02752	1.03536

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 18 Date/Time: 10/16/2015 17:34

Sample Number: **8082122** Class: M*** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04813	298.79	1.333	0.04791	0.04762	0.04885
____ AL	2.23986	224.56	1.473	2.25717	2.26058	2.20182
____ AS	0.24071	33.71	2.729	0.23388	0.24698	0.24127
____ B	2.44335	10,741.71	0.222	2.43785	2.44869	2.44353
____ BA	2.08247	817,127.71	0.901	2.06291	2.10029	2.08422
____ BE	0.05261	9,154.80	0.349	0.05240	0.05272	0.05271
____ CA	67.66925	41,068.84	0.383	67.88824	67.73666	67.38285
____ CD	0.04970	223.23	1.322	0.04954	0.05043	0.04914
____ CO	0.52535	1,295.66	0.096	0.52515	0.52498	0.52593
____ CR	0.20846	979.99	0.324	0.20771	0.20866	0.20901
____ CU	0.27032	1,633.32	0.337	0.26928	0.27095	0.27074
____ FE	11.93150	2,665.22	0.549	11.99758	11.93025	11.86667
____ K	18.51171	6,339.21	0.414	18.59010	18.50807	18.43695
____ LI	1.08682	7,222.89	0.301	1.08967	1.08754	1.08325
____ MG	23.00651	32,952.15	0.515	23.12044	23.01514	22.88397
____ MN	0.72746	7,093.04	0.254	0.72554	0.72922	0.72762
____ MO	2.13896	434.85	0.421	2.13488	2.14927	2.13272
____ NA	118.83739	132,896.68	0.871	119.96036	118.62980	117.92200
____ NI	0.52767	806.25	0.219	0.52651	0.52882	0.52768
____ P	1.35281	48.24	3.628	1.36219	1.39653	1.29972
____ PB	0.15896	67.55	1.828	0.15947	0.16158	0.15584
____ S	1.41776	67.56	0.412	1.41300	1.41601	1.42428
____ SB	0.54496	93.07	0.239	0.54460	0.54641	0.54388
____ SI	9.20154	1,454.50	0.808	9.28002	9.19244	9.13217
____ SN	4.16157	1,099.22	0.091	4.15742	4.16238	4.16490
____ SR	1.61597	749,075.86	0.416	1.60868	1.62192	1.61730
____ TI	1.06253	24,053.44	0.165	1.06059	1.06400	1.06301
____ TL	0.08478	0.55	75.959	0.01066	0.11667	0.12701
____ V	0.50831	1,408.20	0.297	0.50706	0.50789	0.50999
____ Y1	6765.23500	6,765.24	0.198	6776.82500	6750.62000	6768.26000
____ Y2A	176121.20572	176,121.21	0.165	176453.61626	175988.28000	175921.72090
____ Y2R	15341.21230	15,341.21	0.756	15237.34771	15319.97204	15466.31716
____ ZN	0.57227	1,992.19	0.137	0.57178	0.57186	0.57318
____ ZR	1.03603	1,685.59	0.863	1.04213	1.04020	1.02577

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 19 Date/Time: 10/16/2015 17:36

Sample Number: **8082120** Class: UL** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00026	-23.81	291.709	-0.00110	0.00039	-0.00007
____ AL	0.03136	5.66	21.449	0.03829	0.03092	0.02486
____ AS	0.01699	3.30	35.126	0.01402	0.01309	0.02386
____ B	0.07739	364.21	1.411	0.07850	0.07738	0.07631
____ BA	0.00567	2,498.80	4.323	0.00553	0.00596	0.00553
____ BE	-0.00009	-104.28	10.411	-0.00008	-0.00010	-0.00008
____ CA	14.07051	8,744.67	0.114	14.08892	14.06249	14.06012
____ CD	-0.00124	-3.73	12.103	-0.00113	-0.00118	-0.00141
____ CO	0.00124	-3.40	47.764	0.00184	0.00066	0.00123
____ CR	0.00023	-1.08	133.374	-0.00012	0.00047	0.00034
____ CU	0.00025	6.28	305.209	0.00110	-0.00032	-0.00003
____ FE	2.47015	558.62	0.746	2.48041	2.44888	2.48117
____ K	1.62724	666.76	2.015	1.61910	1.66333	1.59930
____ LI	0.00119	26.40	113.100	0.00001	0.00266	0.00090
____ MG	4.56605	6,632.72	0.448	4.58170	4.54290	4.57356
____ MN	0.04502	449.66	0.325	0.04491	0.04497	0.04518
____ MO	0.00149	0.09	132.438	-0.00076	0.00233	0.00291
____ NA	22.44555	25,273.52	0.695	22.59163	22.28124	22.46379
____ NI	0.00065	4.02	51.183	0.00037	0.00056	0.00102
____ P	0.04265	3.20	38.373	0.02892	0.06076	0.03827
____ PB	0.00061	2.59	246.368	-0.00106	0.00185	0.00103
____ S	0.08799	9.94	24.005	0.11233	0.07451	0.07712
____ SB	0.00582	3.42	45.935	0.00566	0.00856	0.00323
____ SI	1.73922	277.63	0.698	1.75208	1.72794	1.73764
____ SN	0.00032	3.21	540.865	0.00158	-0.00166	0.00105
____ SR	0.12672	59,933.06	0.529	0.12691	0.12728	0.12598
____ TI	0.00210	68.14	21.574	0.00217	0.00251	0.00161
____ TL	0.03405	0.25	42.588	0.03399	0.01957	0.04857
____ V	0.00021	-11.99	395.304	-0.00073	0.00057	0.00079
____ Y1	6881.57167	6,881.57	0.206	6896.55000	6868.40000	6879.76500
____ Y2A	179637.21445	179,637.21	0.369	179312.07276	179199.21110	180400.35950
____ Y2R	15455.31509	15,455.32	0.415	15390.59000	15518.79496	15456.56032
____ ZN	0.00893	36.72	4.368	0.00927	0.00850	0.00900
____ ZR	0.00152	-5.99	215.874	0.00384	0.00294	-0.00223

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 20 Date/Time: 10/16/2015 17:39

Sample Number: **8082098** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00007	-79.57	1744.068	-0.00130	-0.00005	0.00114
____ AL	0.55621	57.29	1.714	0.54532	0.56306	0.56025
____ AS	-0.00286	0.21	207.615	-0.00474	0.00379	-0.00764
____ B	0.09168	550.01	1.695	0.09229	0.09284	0.08992
____ BA	0.06022	23,815.73	0.466	0.06001	0.06054	0.06012
____ BE	-0.00014	-112.05	28.000	-0.00011	-0.00019	-0.00013
____ CA	88.37182	53,625.54	0.535	87.89733	88.37583	88.84231
____ CD	-0.00354	-6.77	2.825	-0.00357	-0.00343	-0.00362
____ CO	0.00156	-2.44	2.576	0.00158	0.00152	0.00159
____ CR	0.00364	15.00	9.877	0.00387	0.00383	0.00323
____ CU	0.00289	32.38	18.454	0.00228	0.00326	0.00312
____ FE	21.15874	4,719.72	0.865	20.99307	21.12800	21.35515
____ K	5.99120	2,135.50	1.572	5.89649	6.08485	5.99228
____ LI	0.00733	69.63	25.655	0.00925	0.00550	0.00723
____ MG	22.35765	32,124.59	0.728	22.19112	22.36565	22.51617
____ MN	0.95278	9,276.91	0.406	0.95488	0.94831	0.95515
____ MO	-0.01470	-3.26	21.669	-0.01211	-0.01826	-0.01374
____ NA	137.22461	153,918.84	0.806	135.96349	137.68062	138.02973
____ NI	0.00248	5.59	52.403	0.00338	0.00099	0.00305
____ P	0.28317	11.39	9.397	0.30197	0.25272	0.29481
____ PB	0.00594	4.08	98.367	0.00763	0.01075	-0.00056
____ S	2.38300	108.83	1.300	2.38828	2.34972	2.41100
____ SB	0.00373	2.78	233.628	0.01228	-0.00515	0.00406
____ SI	9.41359	1,488.76	0.523	9.36999	9.40376	9.46701
____ SN	-0.00108	2.78	343.227	-0.00055	0.00233	-0.00501
____ SR	0.46441	215,284.53	0.415	0.46221	0.46579	0.46524
____ TI	0.02745	643.33	6.892	0.02673	0.02960	0.02603
____ TL	0.01954	-0.05	258.846	0.00322	-0.02086	0.07628
____ V	0.00536	5.47	7.746	0.00577	0.00537	0.00494
____ Y1	6747.96333	6,747.96	0.193	6762.39000	6744.33500	6737.16500
____ Y2A	175884.58506	175,884.59	0.218	176264.54763	175889.74615	175499.46140
____ Y2R	15386.58202	15,386.58	0.503	15451.04811	15407.93841	15300.75954
____ ZN	0.00988	44.78	2.306	0.00968	0.00984	0.01013
____ ZR	0.00279	-6.29	33.098	0.00222	0.00386	0.00230

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 21 Date/Time: 10/16/2015 17:42

Sample Number: **8082099** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00119	-85.15	35.783	-0.00166	-0.00109	-0.00083
____ AL	0.62783	64.30	0.552	0.62790	0.63126	0.62433
____ AS	0.00034	0.66	849.335	0.00216	-0.00296	0.00181
____ B	0.14557	781.02	0.375	0.14614	0.14554	0.14504
____ BA	0.04834	19,174.85	0.051	0.04833	0.04837	0.04833
____ BE	-0.00014	-112.50	15.505	-0.00015	-0.00012	-0.00016
____ CA	63.27002	38,505.21	0.284	63.06904	63.41427	63.32674
____ CD	-0.00313	-5.21	5.826	-0.00321	-0.00326	-0.00292
____ CO	0.00194	-1.49	11.473	0.00199	0.00170	0.00214
____ CR	0.00216	8.03	32.623	0.00137	0.00238	0.00274
____ CU	0.00259	26.98	17.097	0.00212	0.00300	0.00266
____ FE	20.53438	4,577.69	0.599	20.39786	20.63624	20.56906
____ K	2.83525	1,070.19	1.354	2.81316	2.87958	2.81300
____ LI	0.00954	83.34	15.669	0.00819	0.01115	0.00929
____ MG	22.64979	32,512.03	0.529	22.52688	22.76638	22.65611
____ MN	0.36427	3,550.46	0.555	0.36642	0.36241	0.36398
____ MO	-0.00671	-1.54	42.457	-0.00501	-0.00512	-0.01000
____ NA	87.35215	97,883.24	0.804	86.60257	87.99502	87.45886
____ NI	0.00290	6.26	19.431	0.00292	0.00345	0.00232
____ P	0.23263	9.65	6.576	0.24651	0.23514	0.21623
____ PB	0.00655	4.49	80.063	0.00685	0.01163	0.00116
____ S	0.43043	24.64	2.233	0.41977	0.43844	0.43307
____ SB	-0.00508	1.03	128.554	0.00195	-0.00624	-0.01096
____ SI	13.29772	2,100.47	0.693	13.20021	13.30969	13.38327
____ SN	0.00041	3.16	697.411	0.00356	-0.00196	-0.00037
____ SR	0.31900	147,980.11	0.276	0.31831	0.32000	0.31870
____ TI	0.02924	686.03	7.702	0.02792	0.03184	0.02796
____ TL	-0.02285	-0.36	422.026	-0.07596	0.08846	-0.08104
____ V	0.00189	-5.91	76.937	0.00023	0.00249	0.00294
____ Y1	6741.16333	6,741.16	0.047	6739.57500	6739.07500	6744.84000
____ Y2A	176001.67891	176,001.68	0.355	176684.76133	175461.41489	175858.86051
____ Y2R	15372.84747	15,372.85	0.826	15519.53484	15301.72758	15297.28000
____ ZN	0.01990	78.98	1.848	0.02025	0.01993	0.01952
____ ZR	0.00162	-8.14	180.796	-0.00025	0.00500	0.00011

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 22

Date/Time: 10/16/2015 17:44

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50562	3,306.14	0.489	0.50728	0.50680	0.50278
____ AL	24.98982	2,468.35	0.172	25.02775	24.94295	24.99876
____ AS	0.52021	72.98	0.664	0.51758	0.52412	0.51892
____ B	0.49015	2,334.37	0.203	0.48954	0.48962	0.49130
____ BA	0.50451	200,051.62	0.139	0.50519	0.50379	0.50455
____ BE	0.49161	87,111.94	0.479	0.49337	0.49252	0.48893
____ CA	25.11028	15,459.11	0.072	25.09321	25.10844	25.12919
____ CD	0.50446	2,257.17	0.158	0.50485	0.50500	0.50354
____ CO	0.50182	1,253.65	0.187	0.50252	0.50075	0.50218
____ CR	0.49610	2,357.79	0.696	0.49805	0.49813	0.49211
____ CU	0.50489	3,116.63	0.355	0.50685	0.50333	0.50448
____ FE	24.70096	5,509.84	0.542	24.68237	24.57738	24.84312
____ K	25.22514	8,636.33	0.438	25.24884	25.10466	25.32193
____ LI	0.51748	3,464.16	0.707	0.51696	0.52137	0.51411
____ MG	25.06021	36,034.88	0.275	25.11276	24.98233	25.08553
____ MN	0.51976	5,117.58	0.121	0.51960	0.51923	0.52046
____ MO	0.49313	101.86	0.657	0.49154	0.49685	0.49099
____ NA	25.24805	28,351.94	0.344	25.33286	25.15942	25.25186
____ NI	0.50178	776.18	0.076	0.50155	0.50222	0.50157
____ P	0.53207	20.36	6.112	0.52611	0.50295	0.56716
____ PB	0.51000	222.12	1.088	0.51586	0.50929	0.50483
____ S	25.70829	1,131.30	1.494	25.65309	25.35479	26.11699
____ SB	0.49596	105.25	1.569	0.50146	0.48705	0.49935
____ SI	25.10525	3,975.16	0.465	25.17522	24.97058	25.16996
____ SN	0.50465	138.03	0.880	0.50172	0.50247	0.50976
____ SR	0.50657	237,093.96	0.289	0.50794	0.50674	0.50502
____ TI	0.50555	11,596.90	0.248	0.50690	0.50532	0.50442
____ TL	0.63982	4.64	9.953	0.71333	0.60463	0.60149
____ V	0.51096	1,519.04	0.766	0.51145	0.50682	0.51460
____ Y1	6867.81500	6,867.82	0.089	6871.87000	6860.80000	6870.77500
____ Y2A	177827.44114	177,827.44	0.151	177711.59073	177636.18487	178134.54781
____ Y2R	15411.88656	15,411.89	0.205	15405.74736	15446.08000	15383.83234
____ ZN	0.50757	1,799.96	0.213	0.50640	0.50777	0.50853
____ ZR	0.50660	821.24	0.581	0.50856	0.50801	0.50322

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 23 Date/Time: 10/16/2015 17:47

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00020	-15.58	380.562	0.00028	0.00020	-0.00108
____ AL	0.01875	4.41	138.441	0.04694	0.01347	-0.00416
____ AS	0.00412	1.55	69.595	0.00574	0.00081	0.00580
____ B	0.00152	8.72	55.744	0.00249	0.00110	0.00096
____ BA	0.00018	300.03	288.056	0.00078	-0.00011	-0.00013
____ BE	0.00004	-81.82	477.207	0.00024	-0.00005	-0.00008
____ CA	0.01530	118.18	134.458	0.03839	-0.00104	0.00854
____ CD	0.00026	2.04	34.460	0.00029	0.00032	0.00016
____ CO	0.00119	-3.54	20.174	0.00141	0.00094	0.00123
____ CR	0.00001	-2.13	3167.867	0.00041	0.00018	-0.00057
____ CU	-0.00023	1.30	198.616	0.00028	-0.00039	-0.00058
____ FE	0.00843	2.28	182.332	0.02613	0.00057	-0.00142
____ K	0.05394	133.02	73.919	0.03507	0.02700	0.09974
____ LI	0.00035	20.16	470.573	-0.00069	0.00222	-0.00050
____ MG	0.01156	21.51	77.482	0.02190	0.00664	0.00615
____ MN	0.00029	4.95	190.676	0.00093	0.00004	-0.00009
____ MO	0.00492	0.81	96.538	0.01033	0.00296	0.00146
____ NA	0.05237	40.72	59.290	0.08818	0.03310	0.03582
____ NI	-0.00014	2.95	214.623	0.00020	-0.00029	-0.00032
____ P	0.00204	1.79	496.816	-0.00418	-0.00345	0.01376
____ PB	-0.00384	0.76	44.614	-0.00297	-0.00273	-0.00581
____ S	-0.00059	6.02	559.561	0.00322	-0.00268	-0.00230
____ SB	0.00125	2.50	50.723	0.00054	0.00147	0.00175
____ SI	0.01787	4.46	30.230	0.02313	0.01816	0.01234
____ SN	-0.00075	2.92	362.450	0.00176	-0.00365	-0.00037
____ SR	0.00052	220.82	126.109	0.00127	0.00016	0.00012
____ TI	0.00031	25.78	103.095	0.00066	0.00017	0.00008
____ TL	0.00396	0.05	1256.151	-0.03631	-0.01139	0.05958
____ V	0.00076	-10.46	218.084	0.00248	-0.00080	0.00058
____ Y1	6890.62167	6,890.62	0.212	6896.84500	6873.91500	6901.10500
____ Y2A	178438.56950	178,438.57	0.221	178886.91000	178278.75850	178150.04000
____ Y2R	15375.11529	15,375.12	0.723	15469.37899	15403.48234	15252.48453
____ ZN	-0.00015	4.16	101.309	-0.00029	-0.00017	0.00001
____ ZR	0.00044	-7.40	134.041	0.00081	-0.00024	0.00075

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 24 Date/Time: 10/16/2015 17:49

Sample Number: **8082100** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00059	-83.69	130.591	0.00002	-0.00033	-0.00145
____ AL	0.21021	22.99	1.686	0.20694	0.20972	0.21398
____ AS	0.00016	0.62	2710.979	0.00186	-0.00466	0.00327
____ B	0.09202	551.77	1.992	0.09289	0.09326	0.08992
____ BA	0.05754	22,684.63	0.479	0.05769	0.05722	0.05771
____ BE	-0.00018	-117.70	4.180	-0.00018	-0.00018	-0.00017
____ CA	70.84844	42,665.60	0.029	70.83152	70.87109	70.84273
____ CD	-0.00310	-4.75	2.344	-0.00312	-0.00302	-0.00317
____ CO	0.00129	-3.18	21.015	0.00146	0.00098	0.00142
____ CR	0.00279	10.94	44.543	0.00293	0.00396	0.00149
____ CU	0.00205	24.93	84.011	0.00390	0.00051	0.00174
____ FE	21.47912	4,741.85	0.249	21.51773	21.41816	21.50146
____ K	3.42303	1,256.43	2.351	3.34667	3.50709	3.41532
____ LI	0.01101	92.56	15.368	0.01123	0.00922	0.01258
____ MG	25.54937	36,298.67	0.152	25.59393	25.53177	25.52241
____ MN	0.54864	5,323.89	0.254	0.54811	0.55023	0.54759
____ MO	-0.01509	-3.29	20.652	-0.01372	-0.01290	-0.01866
____ NA	100.37805	111,441.18	0.333	100.76217	100.22258	100.14941
____ NI	0.00198	4.83	72.649	0.00051	0.00339	0.00203
____ P	0.21980	9.24	10.802	0.24529	0.19832	0.21577
____ PB	0.00937	5.56	18.248	0.01040	0.01033	0.00740
____ S	0.46502	26.30	2.581	0.47350	0.47027	0.45129
____ SB	-0.00350	1.34	75.150	-0.00502	-0.00501	-0.00046
____ SI	11.55002	1,807.72	0.309	11.58472	11.51347	11.55189
____ SN	-0.00136	2.71	163.823	-0.00352	0.00093	-0.00150
____ SR	0.34870	161,085.77	0.179	0.34942	0.34829	0.34838
____ TI	0.01595	383.36	43.017	0.01189	0.01208	0.02386
____ TL	-0.02271	-0.37	135.962	-0.02441	0.00898	-0.05270
____ V	0.00291	-2.22	72.988	0.00190	0.00148	0.00536
____ Y1	6767.90667	6,767.91	0.172	6767.45000	6779.78500	6756.48500
____ Y2A	175262.45503	175,262.46	0.232	175236.90833	174868.88622	175681.57054
____ Y2R	15229.92229	15,229.92	0.318	15249.57077	15174.73011	15265.46597
____ ZN	0.00623	32.39	1.279	0.00618	0.00632	0.00618
____ ZR	0.00201	-7.54	74.362	0.00279	0.00029	0.00295

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 25 Date/Time: 10/16/2015 17:52

Sample Number: **8082101** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00050	-83.04	327.437	-0.00237	0.00031	0.00057
____ AL	0.24488	26.32	2.151	0.23908	0.24937	0.24619
____ AS	-0.00576	-0.19	56.274	-0.00948	-0.00349	-0.00433
____ B	0.09167	548.12	1.308	0.09101	0.09096	0.09306
____ BA	0.05806	22,766.48	0.353	0.05796	0.05792	0.05830
____ BE	-0.00018	-116.84	24.092	-0.00014	-0.00016	-0.00022
____ CA	71.20924	42,789.40	0.196	71.14541	71.11295	71.36935
____ CD	-0.00338	-5.94	13.998	-0.00319	-0.00303	-0.00392
____ CO	0.00133	-3.09	16.088	0.00155	0.00131	0.00113
____ CR	0.00339	13.71	22.395	0.00338	0.00416	0.00264
____ CU	0.00153	21.71	79.819	0.00195	0.00249	0.00015
____ FE	21.59936	4,757.92	0.666	21.52454	21.50831	21.76524
____ K	3.46094	1,266.39	1.934	3.39068	3.46817	3.52396
____ LI	0.00929	81.07	7.104	0.00991	0.00860	0.00936
____ MG	25.77177	36,533.87	0.435	25.68621	25.73028	25.89883
____ MN	0.55417	5,348.75	0.660	0.55530	0.55713	0.55008
____ MO	-0.00699	-1.64	63.338	-0.01125	-0.00241	-0.00731
____ NA	101.73304	112,704.05	0.749	101.05230	101.59072	102.55611
____ NI	0.00197	4.82	12.772	0.00171	0.00199	0.00221
____ P	0.20873	8.87	3.511	0.20554	0.20353	0.21711
____ PB	0.00575	4.03	57.240	0.00469	0.00312	0.00944
____ S	0.45322	25.82	0.488	0.45069	0.45420	0.45478
____ SB	-0.00601	0.82	43.861	-0.00835	-0.00316	-0.00652
____ SI	11.65290	1,819.92	0.460	11.62583	11.61822	11.71465
____ SN	-0.00103	2.80	107.415	-0.00103	0.00007	-0.00214
____ SR	0.35218	161,820.76	0.440	0.35111	0.35147	0.35396
____ TI	0.01399	337.50	21.610	0.01748	0.01217	0.01233
____ TL	-0.07953	-0.79	52.248	-0.08995	-0.03376	-0.11488
____ V	0.00282	-2.93	54.152	0.00270	0.00440	0.00136
____ Y1	6775.66667	6,775.67	0.079	6772.89500	6772.29000	6781.81500
____ Y2A	174323.63114	174,323.63	0.188	174449.23108	174569.30752	173952.35482
____ Y2R	15197.62287	15,197.62	0.357	15252.79497	15195.76000	15144.31365
____ ZN	0.00587	31.23	3.103	0.00604	0.00568	0.00589
____ ZR	0.00067	-9.70	47.304	0.00080	0.00091	0.00031

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 26 Date/Time: 10/16/2015 17:55

Sample Number: **8082114** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00033	-16.16	391.109	-0.00038	-0.00157	0.00097
____ AL	-0.00257	2.29	1697.020	-0.04301	0.04373	-0.00844
____ AS	0.00008	0.98	3005.290	-0.00169	-0.00080	0.00271
____ B	0.04272	188.14	1.396	0.04326	0.04208	0.04281
____ BA	0.02850	11,382.69	0.279	0.02841	0.02852	0.02857
____ BE	-0.00013	-109.52	42.721	-0.00018	-0.00007	-0.00013
____ CA	12.70066	7,792.14	0.401	12.71222	12.64495	12.74480
____ CD	-0.00109	-3.93	14.804	-0.00090	-0.00115	-0.00121
____ CO	0.00090	-4.23	0.277	0.00090	0.00090	0.00091
____ CR	0.00116	3.31	73.568	0.00206	0.00106	0.00036
____ CU	0.00010	5.01	907.637	0.00064	-0.00093	0.00059
____ FE	0.02387	5.69	7.361	0.02245	0.02334	0.02584
____ K	0.81342	385.44	3.025	0.79995	0.79850	0.84182
____ LI	0.00472	49.21	65.905	0.00828	0.00332	0.00255
____ MG	7.38721	10,564.61	0.456	7.39348	7.35080	7.41734
____ MN	0.05417	529.00	1.087	0.05454	0.05349	0.05448
____ MO	0.01107	2.08	41.367	0.00966	0.01620	0.00737
____ NA	39.11747	43,429.64	0.701	39.24910	38.80217	39.30113
____ NI	-0.00003	3.08	2605.991	0.00101	-0.00039	-0.00073
____ P	0.00574	1.90	111.196	0.01110	-0.00132	0.00742
____ PB	0.00061	2.77	146.067	0.00018	0.00001	0.00162
____ S	5.92086	263.36	1.553	5.81474	5.97066	5.97717
____ SB	0.00284	2.76	68.494	0.00064	0.00434	0.00353
____ SI	4.23637	664.26	0.957	4.24829	4.19121	4.26963
____ SN	0.00078	3.30	422.105	-0.00005	0.00441	-0.00202
____ SR	0.38775	179,354.25	0.274	0.38776	0.38881	0.38669
____ TI	0.00099	42.99	24.115	0.00088	0.00082	0.00126
____ TL	-0.01935	-0.13	92.578	-0.03786	-0.00210	-0.01808
____ V	-0.00129	-16.77	77.428	-0.00231	-0.00031	-0.00126
____ Y1	6821.10333	6,821.10	0.320	6845.63000	6813.74500	6803.93500
____ Y2A	175774.07672	175,774.08	0.352	175563.69357	175288.17473	176470.36186
____ Y2R	15234.29366	15,234.29	0.425	15263.00837	15279.70465	15160.16797
____ ZN	0.00156	10.07	1.420	0.00157	0.00153	0.00157
____ ZR	0.00222	-4.44	50.824	0.00146	0.00351	0.00168

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 27 Date/Time: 10/16/2015 17:57

Sample Number: **8082115** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00092	-20.33	141.373	-0.00197	-0.00133	0.00054
____ AL	0.01500	4.04	40.748	0.02097	0.00876	0.01527
____ AS	0.00805	2.08	49.143	0.00348	0.01032	0.01035
____ B	0.07377	325.96	1.361	0.07340	0.07491	0.07301
____ BA	0.01369	5,630.84	0.180	0.01367	0.01372	0.01369
____ BE	-0.00006	-98.29	66.023	-0.00007	-0.00009	-0.00002
____ CA	7.49383	4,656.59	0.147	7.50605	7.49093	7.48452
____ CD	-0.00056	-1.60	31.381	-0.00042	-0.00051	-0.00076
____ CO	0.00115	-3.63	54.396	0.00154	0.00043	0.00147
____ CR	0.00007	-1.80	476.842	-0.00028	0.00008	0.00043
____ CU	-0.00011	2.86	286.073	-0.00008	-0.00045	0.00019
____ FE	0.02162	5.20	27.972	0.01472	0.02411	0.02602
____ K	0.51809	287.60	5.927	0.53844	0.48277	0.53306
____ LI	0.00411	45.13	16.728	0.00348	0.00485	0.00402
____ MG	2.01844	2,902.59	0.221	2.02263	2.01894	2.01377
____ MN	0.01934	191.70	3.381	0.02010	0.01897	0.01895
____ MO	0.03318	6.63	9.671	0.03620	0.03351	0.02981
____ NA	62.77542	69,884.42	0.797	63.27749	62.77250	62.27626
____ NI	-0.00006	3.08	715.254	0.00016	0.00018	-0.00051
____ P	0.06828	4.07	17.747	0.07974	0.06950	0.05559
____ PB	-0.00128	1.94	370.143	-0.00635	0.00300	-0.00048
____ S	9.08193	401.35	2.444	9.21445	9.20567	8.82567
____ SB	0.00044	2.29	816.964	0.00155	0.00334	-0.00358
____ SI	3.68766	579.97	0.763	3.71613	3.65991	3.68695
____ SN	-0.00095	2.85	259.385	-0.00366	-0.00027	0.00110
____ SR	0.18586	86,660.06	0.121	0.18603	0.18594	0.18560
____ TI	0.00073	37.06	17.415	0.00082	0.00058	0.00077
____ TL	-0.01760	-0.12	241.292	-0.03670	-0.04715	0.03106
____ V	-0.00082	-16.71	78.547	-0.00045	-0.00156	-0.00045
____ Y1	6831.45500	6,831.46	0.180	6819.16000	6843.71500	6831.49000
____ Y2A	177199.54300	177,199.54	0.350	176649.13000	177077.90651	177871.59250
____ Y2R	15273.45239	15,273.45	0.613	15207.39669	15232.27482	15380.68567
____ ZN	0.00158	10.17	2.094	0.00155	0.00158	0.00162
____ ZR	-0.00015	-8.30	1077.619	-0.00173	-0.00031	0.00158

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 28 Date/Time: 10/16/2015 18:00

Sample Number: **8082117** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00011	-108.28	697.442	0.00052	0.00011	-0.00097
____ AL	1.99861	197.85	1.761	2.03275	1.96245	2.00063
____ AS	0.00413	1.01	165.374	0.00379	-0.00252	0.01112
____ B	0.07024	519.90	1.414	0.07025	0.06925	0.07123
____ BA	0.07457	29,307.75	0.607	0.07411	0.07460	0.07501
____ BE	-0.00035	-148.22	17.594	-0.00034	-0.00042	-0.00030
____ CA	186.74159	111,032.80	0.096	186.53464	186.82871	186.86141
____ CD	-0.00442	-7.10	9.504	-0.00470	-0.00462	-0.00394
____ CO	0.00217	-0.66	28.506	0.00271	0.00150	0.00230
____ CR	0.00581	25.10	4.828	0.00602	0.00593	0.00549
____ CU	0.00297	45.43	16.230	0.00347	0.00251	0.00294
____ FE	30.51760	6,727.14	0.474	30.40693	30.68131	30.46456
____ K	10.18456	3,523.31	0.518	10.13997	10.24281	10.17091
____ LI	0.01117	97.86	22.531	0.01393	0.01059	0.00900
____ MG	29.28857	41,673.62	0.371	29.18363	29.40066	29.28141
____ MN	2.54532	24,670.68	0.613	2.55702	2.55133	2.52760
____ MO	-0.01607	-3.60	4.934	-0.01662	-0.01516	-0.01642
____ NA	13.66480	15,197.20	0.628	13.57322	13.74352	13.67764
____ NI	0.00539	9.36	12.791	0.00616	0.00518	0.00483
____ P	0.84181	30.26	7.049	0.91027	0.80512	0.81003
____ PB	0.01432	7.44	24.378	0.01059	0.01485	0.01751
____ S	0.43024	25.25	6.378	0.45371	0.40006	0.43693
____ SB	-0.00136	1.41	344.314	-0.00239	-0.00543	0.00375
____ SI	18.10662	2,840.84	0.348	18.14399	18.03396	18.14192
____ SN	-0.00272	2.32	42.397	-0.00333	-0.00139	-0.00344
____ SR	0.81149	374,680.17	0.442	0.80781	0.81498	0.81168
____ TI	0.08647	1,971.93	1.586	0.08780	0.08506	0.08655
____ TL	0.00670	-0.24	1879.913	0.01084	0.13046	-0.12121
____ V	0.00424	3.59	39.147	0.00289	0.00373	0.00609
____ Y1	6683.55333	6,683.55	0.272	6700.14000	6686.39000	6664.13000
____ Y2A	175109.23818	175,109.24	0.359	175726.37670	175130.20168	174471.13618
____ Y2R	15272.06265	15,272.06	0.130	15288.10903	15249.83061	15278.24831
____ ZN	0.01661	70.03	1.595	0.01691	0.01640	0.01652
____ ZR	0.00128	-9.92	116.964	0.00280	0.00122	-0.00019

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 29 Date/Time: 10/16/2015 18:03

Sample Number: **8082118** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00019	-101.90	354.326	0.00046	-0.00088	-0.00015
____ AL	0.00330	2.80	748.634	-0.00886	0.03174	-0.01298
____ AS	-0.00900	-0.76	63.479	-0.00876	-0.00341	-0.01483
____ B	0.03264	337.49	6.190	0.03333	0.03037	0.03423
____ BA	0.12288	46,513.33	0.276	0.12322	0.12254	0.12287
____ BE	-0.00032	-137.60	1.969	-0.00031	-0.00033	-0.00032
____ CA	105.91541	62,932.65	0.193	105.73727	106.13837	105.87060
____ CD	-0.00400	-5.64	7.847	-0.00424	-0.00412	-0.00365
____ CO	0.00134	-3.07	57.113	0.00058	0.00211	0.00133
____ CR	0.00143	4.42	72.847	0.00155	0.00033	0.00241
____ CU	0.00048	19.77	258.904	0.00120	-0.00095	0.00118
____ FE	29.46415	6,426.08	0.150	29.42704	29.51283	29.45257
____ K	5.25821	1,853.41	1.385	5.19492	5.33779	5.24191
____ LI	0.00673	65.04	16.169	0.00685	0.00776	0.00559
____ MG	24.68876	34,792.67	0.354	24.62699	24.78861	24.65069
____ MN	2.37688	22,255.42	0.400	2.37047	2.38780	2.37238
____ MO	-0.01098	-2.56	35.681	-0.00810	-0.01544	-0.00939
____ NA	584.74781	643,834.39	1.240	580.66726	593.11736	580.45881
____ NI	0.00154	3.65	35.502	0.00107	0.00140	0.00214
____ P	0.37839	14.52	4.031	0.36510	0.37502	0.39504
____ PB	0.00767	4.13	31.585	0.00869	0.00490	0.00941
____ S	0.27143	18.26	3.471	0.28207	0.26413	0.26810
____ SB	-0.00473	1.00	27.011	-0.00539	-0.00554	-0.00326
____ SI	5.54145	860.87	0.166	5.53804	5.55185	5.53445
____ SN	-0.00265	2.34	104.886	-0.00423	0.00056	-0.00427
____ SR	0.54561	243,265.94	0.446	0.54725	0.54281	0.54676
____ TI	0.00262	77.36	8.360	0.00239	0.00263	0.00283
____ TL	-0.06514	-0.76	78.019	-0.12357	-0.04057	-0.03127
____ V	0.00045	-8.12	377.038	-0.00128	0.00209	0.00053
____ Y1	6686.08000	6,686.08	0.088	6681.96000	6692.86000	6683.42000
____ Y2A	169160.40328	169,160.40	0.396	168390.99441	169619.91821	169470.29723
____ Y2R	15102.70613	15,102.71	0.445	15154.19916	15026.77465	15127.14457
____ ZN	0.00562	32.21	7.868	0.00511	0.00580	0.00594
____ ZR	0.00003	-11.68	4581.180	-0.00095	-0.00057	0.00161

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 30 Date/Time: 10/16/2015 18:06

Sample Number: **8082119** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00026	-16.03	3.137	-0.00027	-0.00027	-0.00025
____ AL	0.02618	5.09	41.920	0.01658	0.03814	0.02382
____ AS	-0.01011	-0.42	33.944	-0.01299	-0.01102	-0.00631
____ B	0.02405	107.71	0.581	0.02392	0.02404	0.02420
____ BA	0.09052	35,892.00	0.632	0.09015	0.09118	0.09023
____ BE	-0.00018	-119.27	9.783	-0.00017	-0.00017	-0.00020
____ CA	40.27639	24,456.92	0.260	40.24062	40.19405	40.39451
____ CD	-0.00287	-11.80	1.188	-0.00290	-0.00286	-0.00283
____ CO	0.00097	-4.07	42.668	0.00053	0.00102	0.00135
____ CR	0.00082	1.70	27.660	0.00061	0.00106	0.00077
____ CU	-0.00008	7.92	850.100	-0.00089	0.00029	0.00036
____ FE	0.04307	9.99	19.965	0.03698	0.03932	0.05290
____ K	1.94603	765.51	2.243	1.91176	1.93115	1.99517
____ LI	0.00502	52.27	34.670	0.00386	0.00702	0.00418
____ MG	17.38149	24,830.65	0.436	17.36725	17.31379	17.46344
____ MN	0.13148	1,289.35	0.310	0.13180	0.13102	0.13163
____ MO	-0.00547	-1.35	132.623	0.00041	-0.01359	-0.00325
____ NA	19.72862	21,948.69	0.362	19.75198	19.64841	19.78548
____ NI	-0.00002	3.09	4272.925	0.00105	-0.00073	-0.00039
____ P	0.01181	2.11	119.970	0.01213	0.02582	-0.00252
____ PB	0.00025	2.69	315.686	-0.00066	0.00071	0.00071
____ S	5.17853	231.47	0.126	5.18031	5.17128	5.18401
____ SB	0.00404	2.92	93.346	0.00828	0.00105	0.00280
____ SI	5.88108	923.77	0.907	5.87768	5.82954	5.93601
____ SN	-0.00200	2.56	87.837	0.00002	-0.00320	-0.00283
____ SR	0.55817	259,938.00	0.552	0.55608	0.56170	0.55671
____ TI	0.00211	69.56	6.199	0.00196	0.00215	0.00221
____ TL	-0.09847	-0.73	31.819	-0.07242	-0.13324	-0.08976
____ V	-0.00113	-15.40	10.045	-0.00102	-0.00124	-0.00112
____ Y1	6829.17333	6,829.17	0.155	6826.97500	6840.68000	6819.86500
____ Y2A	176898.37358	176,898.37	0.220	177234.75354	176471.21333	176989.15386
____ Y2R	15271.90919	15,271.91	0.414	15263.30806	15338.99220	15213.42731
____ ZN	0.00133	9.27	21.168	0.00162	0.00107	0.00129
____ ZR	-0.00103	-9.76	120.214	-0.00179	-0.00170	0.00040

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 31 Date/Time: 10/16/2015 18:08

Sample Number: **8082124** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00053	-73.26	171.318	0.00052	-0.00100	-0.00112
____ AL	0.03642	6.06	22.055	0.04568	0.03226	0.03131
____ AS	-0.00231	0.34	281.182	-0.00973	0.00063	0.00219
____ B	0.08524	498.98	0.422	0.08493	0.08563	0.08516
____ BA	0.05207	20,526.61	0.489	0.05215	0.05227	0.05178
____ BE	-0.00017	-116.64	9.871	-0.00015	-0.00019	-0.00017
____ CA	75.21513	45,277.63	0.251	75.07338	75.14302	75.42900
____ CD	-0.00333	-6.96	12.997	-0.00284	-0.00346	-0.00367
____ CO	0.00170	-2.22	8.336	0.00172	0.00182	0.00154
____ CR	0.00172	5.94	37.404	0.00101	0.00188	0.00227
____ CU	0.00000	13.19	3155.894	-0.00010	-0.00007	0.00017
____ FE	18.22305	4,030.27	0.504	18.17050	18.16951	18.32913
____ K	1.47104	605.03	3.790	1.40864	1.51594	1.48855
____ LI	0.00366	44.34	47.478	0.00251	0.00281	0.00566
____ MG	19.18954	27,329.12	0.495	19.12817	19.14154	19.29890
____ MN	1.04964	10,172.06	0.125	1.04875	1.04904	1.05114
____ MO	-0.00787	-1.88	40.117	-0.01037	-0.00432	-0.00893
____ NA	190.58346	211,661.00	0.661	189.69501	190.03059	192.02479
____ NI	0.00109	3.69	32.084	0.00110	0.00074	0.00144
____ P	0.31386	12.51	8.910	0.32432	0.33508	0.28217
____ PB	0.00564	4.01	39.365	0.00558	0.00344	0.00788
____ S	0.31059	19.83	11.205	0.27763	0.30717	0.34698
____ SB	-0.00080	1.87	643.022	0.00515	-0.00379	-0.00377
____ SI	7.29728	1,143.02	0.417	7.26478	7.30190	7.32516
____ SN	-0.00212	2.52	106.423	-0.00467	-0.00038	-0.00131
____ SR	0.39479	182,151.95	0.462	0.39608	0.39560	0.39270
____ TI	0.00537	142.74	4.331	0.00557	0.00541	0.00511
____ TL	-0.00120	-0.18	7436.605	-0.06859	-0.03504	0.10003
____ V	0.00249	-3.51	39.021	0.00171	0.00358	0.00218
____ Y1	6786.82500	6,786.83	0.110	6779.47000	6794.40500	6786.60000
____ Y2A	175062.30882	175,062.31	0.378	174303.18000	175360.53682	175523.20965
____ Y2R	15234.24683	15,234.25	0.362	15275.58395	15255.61102	15171.54553
____ ZN	0.03432	128.65	0.403	0.03436	0.03416	0.03443
____ ZR	0.00142	-8.07	162.929	0.00376	0.00139	-0.00088

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 32 Date/Time: 10/16/2015 18:11

Sample Number: **8082126** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00040	-80.26	50.828	0.00018	0.00044	0.00058
____ AL	0.08228	10.63	9.928	0.08246	0.07402	0.09035
____ AS	-0.00342	0.11	137.246	-0.00853	0.00071	-0.00245
____ B	0.04172	339.26	2.699	0.04056	0.04281	0.04178
____ BA	0.09303	36,295.93	0.031	0.09306	0.09302	0.09300
____ BE	-0.00023	-125.33	9.087	-0.00022	-0.00020	-0.00025
____ CA	78.05872	47,431.40	0.246	77.89625	78.00928	78.27065
____ CD	-0.00363	-6.60	7.277	-0.00360	-0.00338	-0.00390
____ CO	0.00101	-3.91	36.242	0.00143	0.00076	0.00084
____ CR	0.00103	2.68	23.701	0.00123	0.00111	0.00076
____ CU	0.00199	25.63	17.629	0.00208	0.00229	0.00160
____ FE	22.65667	5,049.60	0.168	22.63420	22.70062	22.63519
____ K	3.70544	1,364.43	0.789	3.70950	3.67440	3.73242
____ LI	0.00263	38.03	63.975	0.00450	0.00126	0.00211
____ MG	19.37356	27,861.02	0.198	19.32972	19.39034	19.40062
____ MN	0.92337	8,899.31	0.073	0.92303	0.92415	0.92294
____ MO	-0.01548	-3.45	23.399	-0.01414	-0.01959	-0.01273
____ NA	332.93981	373,409.73	0.930	329.37615	334.96109	334.48219
____ NI	0.00137	3.82	38.699	0.00188	0.00082	0.00140
____ P	0.09829	5.06	9.903	0.10918	0.09046	0.09521
____ PB	0.00791	4.67	24.874	0.00879	0.00565	0.00928
____ S	0.22739	16.14	6.013	0.24273	0.21650	0.22293
____ SB	-0.00193	1.65	168.654	-0.00395	-0.00368	0.00183
____ SI	5.79151	916.40	0.523	5.76041	5.79326	5.82086
____ SN	-0.00193	2.56	124.544	-0.00035	-0.00074	-0.00470
____ SR	0.37641	172,739.70	0.269	0.37636	0.37542	0.37744
____ TI	0.00465	125.17	4.212	0.00487	0.00450	0.00458
____ TL	-0.03664	-0.48	180.445	-0.11273	-0.00393	0.00674
____ V	-0.00122	-14.26	60.625	-0.00188	-0.00136	-0.00042
____ Y1	6761.80833	6,761.81	0.101	6756.02500	6760.01000	6769.39000
____ Y2A	174097.22401	174,097.22	0.450	174307.00879	174754.43000	173230.23325
____ Y2R	15384.07314	15,384.07	0.326	15442.02032	15356.27615	15353.92294
____ ZN	0.00608	32.18	0.959	0.00611	0.00601	0.00612
____ ZR	0.00071	-9.90	138.077	-0.00033	0.00085	0.00162

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 33 Date/Time: 10/16/2015 18:14

Sample Number: **8082127** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00025	-186.13	45.204	-0.00019	-0.00038	-0.00017
____ AL	2.18246	218.25	2.553	2.15560	2.14526	2.24652
____ AS	0.00083	0.15	140.932	-0.00007	0.00040	0.00215
____ B	0.06290	665.75	2.172	0.06415	0.06312	0.06144
____ BA	0.11178	44,236.40	0.095	0.11190	0.11170	0.11175
____ BE	-0.00015	-113.67	15.217	-0.00013	-0.00014	-0.00017
____ CA	72.37309	44,188.75	0.326	72.37446	72.13654	72.60828
____ CD	-0.00281	9.07	6.032	-0.00295	-0.00285	-0.00262
____ CO	0.00322	2.03	9.642	0.00304	0.00304	0.00357
____ CR	0.00711	31.44	16.379	0.00791	0.00577	0.00764
____ CU	0.01670	113.66	6.092	0.01646	0.01583	0.01782
____ FE	55.07896	12,137.08	0.489	55.10599	54.79736	55.33352
____ K	2.88879	1,093.40	2.719	2.83282	2.97857	2.85497
____ LI	0.01162	97.94	5.160	0.01119	0.01135	0.01230
____ MG	21.12690	30,484.81	0.377	21.18757	21.03675	21.15637
____ MN	1.26494	12,377.58	0.494	1.25774	1.26826	1.26883
____ MO	-0.01664	-3.57	19.570	-0.02039	-0.01497	-0.01455
____ NA	77.73397	87,515.89	0.327	77.95466	77.45643	77.79082
____ NI	0.00733	11.01	14.166	0.00829	0.00746	0.00623
____ P	0.45508	17.39	7.394	0.46570	0.41741	0.48214
____ PB	0.01816	7.77	26.608	0.02296	0.01330	0.01822
____ S	0.29100	19.03	8.154	0.31316	0.26597	0.29388
____ SB	-0.00253	1.77	226.770	-0.00175	-0.00863	0.00278
____ SI	15.48781	2,457.71	0.252	15.49703	15.44496	15.52144
____ SN	0.00170	3.53	36.147	0.00171	0.00108	0.00231
____ SR	0.36514	170,118.67	0.541	0.36741	0.36380	0.36422
____ TI	0.10908	2,502.32	2.792	0.10804	0.11251	0.10669
____ TL	0.01060	-0.45	403.302	0.03909	-0.03857	0.03128
____ V	0.00631	8.95	21.508	0.00747	0.00663	0.00482
____ Y1	6787.87833	6,787.88	0.213	6790.00500	6801.14000	6772.49000
____ Y2A	176765.03368	176,765.03	0.662	175413.93164	177471.84126	177409.32813
____ Y2R	15445.04245	15,445.04	0.167	15441.74156	15472.31322	15421.07257
____ ZN	0.08036	298.87	0.294	0.08009	0.08045	0.08054
____ ZR	0.00445	-8.00	23.379	0.00364	0.00562	0.00409

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 34

Date/Time: 10/16/2015 18:16

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50750	3,325.45	0.708	0.50676	0.51141	0.50433
____ AL	25.17460	2,486.59	0.342	25.27081	25.14828	25.10471
____ AS	0.52105	73.41	1.330	0.51929	0.52869	0.51517
____ B	0.49046	2,341.97	0.241	0.49178	0.49010	0.48950
____ BA	0.50528	200,796.06	0.263	0.50475	0.50679	0.50430
____ BE	0.49529	87,956.73	0.700	0.49502	0.49889	0.49197
____ CA	25.17315	15,497.37	0.458	25.27725	25.19304	25.04916
____ CD	0.50296	2,260.08	0.167	0.50229	0.50268	0.50389
____ CO	0.50157	1,258.35	0.331	0.49981	0.50310	0.50179
____ CR	0.50016	2,382.27	0.997	0.49779	0.50589	0.49680
____ CU	0.51108	3,161.78	0.362	0.51189	0.51239	0.50897
____ FE	24.86146	5,545.23	0.534	24.96178	24.91173	24.71085
____ K	25.61365	8,767.67	0.440	25.56025	25.74309	25.53761
____ LI	0.51673	3,459.10	0.735	0.52076	0.51622	0.51321
____ MG	25.29980	36,376.46	0.407	25.38674	25.32666	25.18600
____ MN	0.51583	5,089.98	0.062	0.51568	0.51560	0.51619
____ MO	0.49844	103.39	1.016	0.49264	0.50204	0.50063
____ NA	25.69447	28,853.48	0.508	25.79354	25.74341	25.54646
____ NI	0.50099	778.24	0.186	0.50111	0.50185	0.50000
____ P	0.55639	21.30	4.648	0.56253	0.52801	0.57863
____ PB	0.50599	221.36	0.763	0.50488	0.50281	0.51028
____ S	26.07266	1,152.13	1.392	25.86632	25.86009	26.49157
____ SB	0.50743	108.16	1.493	0.50660	0.51539	0.50031
____ SI	25.34423	4,012.99	0.482	25.41748	25.41187	25.20334
____ SN	0.50291	138.15	0.996	0.49819	0.50238	0.50816
____ SR	0.50964	239,051.83	0.583	0.50885	0.51292	0.50714
____ TI	0.50710	11,657.96	0.467	0.50666	0.50966	0.50499
____ TL	0.62195	4.52	21.962	0.55611	0.53074	0.77899
____ V	0.51245	1,526.60	0.597	0.51351	0.51483	0.50900
____ Y1	6897.00667	6,897.01	0.204	6896.81000	6883.01000	6911.20000
____ Y2A	178217.18053	178,217.18	0.382	178636.90048	177431.27117	178583.36993
____ Y2R	15412.01748	15,412.02	0.439	15347.39104	15406.42586	15482.23553
____ ZN	0.50786	1,808.69	0.151	0.50699	0.50844	0.50815
____ ZR	0.50709	822.04	0.136	0.50630	0.50749	0.50748

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 35

Date/Time: 10/16/2015 18:19

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00039	-16.98	90.239	-0.00049	-0.00068	0.00000
____ AL	0.00376	2.94	672.324	-0.00450	-0.01635	0.03213
____ AS	-0.00056	0.90	990.186	0.00291	-0.00697	0.00238
____ B	0.00078	5.53	86.977	0.00033	0.00156	0.00045
____ BA	0.00220	1,108.92	8.622	0.00230	0.00198	0.00231
____ BE	-0.00003	-93.64	126.706	-0.00003	0.00001	-0.00005
____ CA	0.00911	114.89	78.483	0.01222	0.01419	0.00093
____ CD	0.00007	1.19	174.218	0.00012	0.00015	-0.00007
____ CO	0.00104	-3.90	24.924	0.00115	0.00075	0.00123
____ CR	0.00063	0.83	148.520	0.00164	-0.00021	0.00046
____ CU	-0.00058	-0.87	129.208	-0.00081	0.00026	-0.00118
____ FE	0.01232	3.16	58.419	0.00743	0.02059	0.00895
____ K	0.08119	142.87	55.484	0.13132	0.04408	0.06818
____ LI	0.00130	26.63	12.489	0.00114	0.00131	0.00146
____ MG	0.00589	13.32	44.975	0.00781	0.00700	0.00287
____ MN	0.00036	5.59	23.243	0.00027	0.00037	0.00043
____ MO	0.00568	0.96	44.048	0.00296	0.00617	0.00789
____ NA	0.11444	110.69	1.955	0.11398	0.11687	0.11247
____ NI	-0.00037	2.58	138.590	0.00021	-0.00058	-0.00074
____ P	-0.00437	1.55	354.211	-0.00542	0.01161	-0.01930
____ PB	-0.00222	1.44	88.358	-0.00354	-0.00314	0.00003
____ S	0.01317	6.58	76.458	0.00520	0.02449	0.00983
____ SB	0.00382	3.02	42.953	0.00456	0.00194	0.00496
____ SI	0.01293	3.70	28.666	0.00908	0.01647	0.01325
____ SN	0.00204	3.65	16.217	0.00242	0.00188	0.00181
____ SR	0.00109	493.57	7.624	0.00114	0.00100	0.00114
____ TI	0.00027	25.24	82.473	0.00002	0.00045	0.00035
____ TL	-0.03476	-0.25	70.003	-0.06155	-0.01404	-0.02869
____ V	0.00112	-9.46	76.277	0.00044	0.00084	0.00209
____ Y1	6851.54167	6,851.54	0.258	6867.99500	6853.81000	6832.82000
____ Y2A	179687.11265	179,687.11	0.389	179451.75754	180472.54745	179137.03297
____ Y2R	15445.01721	15,445.02	0.441	15377.37146	15513.53729	15444.14289
____ ZN	-0.00022	3.88	92.939	-0.00008	-0.00012	-0.00046
____ ZR	0.00075	-6.91	429.702	-0.00140	0.00444	-0.00080

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 36 Date/Time: 10/16/2015 18:21

Sample Number: **8082128** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00015	-37.98	233.441	-0.00054	-0.00008	0.00016
____ AL	0.08196	10.73	16.127	0.07522	0.09719	0.07348
____ AS	-0.00379	0.32	127.769	0.00119	-0.00846	-0.00408
____ B	0.04663	259.60	2.618	0.04737	0.04730	0.04522
____ BA	0.06685	26,705.19	0.325	0.06667	0.06679	0.06709
____ BE	-0.00025	-131.90	11.731	-0.00023	-0.00028	-0.00023
____ CA	100.29423	61,480.21	0.293	100.61356	100.23455	100.03458
____ CD	-0.00385	-13.34	8.400	-0.00353	-0.00386	-0.00417
____ CO	0.00148	-2.76	16.768	0.00162	0.00119	0.00162
____ CR	0.00299	12.07	18.910	0.00246	0.00292	0.00359
____ CU	0.00360	39.26	9.406	0.00357	0.00327	0.00395
____ FE	7.34776	1,669.44	0.234	7.33142	7.34618	7.36569
____ K	5.81057	2,099.19	0.640	5.85283	5.79599	5.78291
____ LI	0.00856	79.16	4.067	0.00888	0.00861	0.00819
____ MG	13.33941	19,454.29	0.167	13.36366	13.33471	13.31985
____ MN	0.71057	6,995.67	0.378	0.71140	0.71274	0.70757
____ MO	-0.01205	-2.73	29.057	-0.01580	-0.01148	-0.00886
____ NA	16.98402	19,260.40	0.411	17.06012	16.96907	16.92286
____ NI	0.00502	10.32	14.701	0.00463	0.00456	0.00587
____ P	0.20300	8.69	6.471	0.18898	0.20500	0.21502
____ PB	0.00737	5.48	50.288	0.00629	0.01149	0.00432
____ S	0.51796	28.76	2.142	0.51685	0.50745	0.52956
____ SB	0.00246	2.38	155.546	0.00306	0.00594	-0.00163
____ SI	11.64103	1,862.51	0.495	11.65334	11.69150	11.57825
____ SN	-0.00036	2.98	331.657	-0.00139	0.00096	-0.00065
____ SR	0.54532	255,575.08	0.053	0.54564	0.54523	0.54507
____ TI	0.00534	146.76	1.041	0.00537	0.00538	0.00528
____ TL	-0.01131	-0.14	246.615	-0.04305	-0.00012	0.00925
____ V	0.00183	-5.62	22.673	0.00149	0.00171	0.00230
____ Y1	6783.21333	6,783.21	0.251	6764.51000	6787.31500	6797.81500
____ Y2A	177832.12516	177,832.13	0.296	177776.10000	177336.30548	178383.97000
____ Y2R	15569.08002	15,569.08	0.348	15509.17715	15614.52000	15583.54291
____ ZN	0.01935	73.77	1.153	0.01910	0.01953	0.01943
____ ZR	0.00274	-4.65	14.857	0.00261	0.00241	0.00320

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 37 Date/Time: 10/16/2015 18:24

Sample Number: **8082129** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00097	-257.50	60.698	0.00029	0.00127	0.00135
____ AL	0.89245	89.65	3.924	0.93256	0.86794	0.87686
____ AS	0.00031	-0.38	580.308	-0.00095	-0.00051	0.00239
____ B	0.16067	1,270.70	1.239	0.16292	0.15996	0.15914
____ BA	0.16414	64,419.46	0.500	0.16507	0.16352	0.16382
____ BE	-0.00028	-136.45	17.526	-0.00034	-0.00024	-0.00026
____ CA	104.94447	63,009.53	0.195	105.11105	104.71589	105.00648
____ CD	-0.00270	19.27	8.117	-0.00284	-0.00282	-0.00245
____ CO	0.00440	4.58	7.764	0.00453	0.00466	0.00401
____ CR	0.00459	19.44	3.193	0.00454	0.00449	0.00476
____ CU	0.02755	185.20	2.143	0.02791	0.02687	0.02788
____ FE	81.33513	17,486.24	0.182	81.24546	81.25372	81.50621
____ K	6.81453	2,393.17	0.852	6.75646	6.81460	6.87253
____ LI	0.01612	127.59	19.402	0.01268	0.01691	0.01878
____ MG	26.12666	37,182.37	0.125	26.11036	26.10523	26.16438
____ MN	1.74066	16,918.98	0.357	1.73806	1.74776	1.73616
____ MO	-0.01943	-4.16	14.143	-0.02146	-0.02052	-0.01630
____ NA	103.90464	115,576.83	0.172	103.70349	104.04538	103.96505
____ NI	0.00912	12.11	2.788	0.00910	0.00938	0.00888
____ P	0.78352	28.54	6.921	0.73692	0.77061	0.84304
____ PB	0.02901	10.79	15.739	0.03422	0.02573	0.02706
____ S	0.42768	24.98	5.544	0.42984	0.40296	0.45023
____ SB	0.00347	3.06	212.796	-0.00077	0.01198	-0.00082
____ SI	17.66042	2,768.48	0.330	17.72112	17.60480	17.65534
____ SN	-0.00088	2.83	337.154	0.00225	-0.00123	-0.00366
____ SR	0.61230	283,330.02	0.553	0.61587	0.60914	0.61188
____ TI	0.03499	816.37	5.769	0.03731	0.03372	0.03393
____ TL	0.03164	-0.55	77.980	0.01046	0.05874	0.02573
____ V	0.00160	-4.94	83.623	0.00249	0.00224	0.00006
____ Y1	6746.23833	6,746.24	0.201	6747.68500	6732.02500	6759.00500
____ Y2A	175598.01649	175,598.02	0.152	175292.76604	175782.89447	175718.38897
____ Y2R	15258.97732	15,258.98	0.107	15276.74256	15255.72169	15244.46770
____ ZN	0.03411	145.74	0.427	0.03420	0.03394	0.03418
____ ZR	0.00036	-17.94	380.502	0.00188	-0.00079	-0.00001

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 38 Date/Time: 10/16/2015 18:26

Sample Number: **8082130** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00014	-15.22	742.895	-0.00061	-0.00081	0.00102
____ AL	-0.02607	-0.02	96.275	-0.01750	-0.00638	-0.05432
____ AS	-0.00057	0.90	183.575	0.00062	-0.00098	-0.00133
____ B	0.00135	8.07	62.198	0.00218	0.00136	0.00050
____ BA	0.00010	266.22	19.521	0.00008	0.00009	0.00012
____ BE	-0.00011	-108.31	10.964	-0.00010	-0.00012	-0.00012
____ CA	0.06259	149.60	7.546	0.06766	0.06179	0.05831
____ CD	0.00007	1.20	62.443	0.00004	0.00012	0.00005
____ CO	0.00059	-5.04	28.315	0.00065	0.00072	0.00040
____ CR	0.00130	4.01	41.441	0.00140	0.00072	0.00178
____ CU	0.00181	13.93	14.394	0.00206	0.00182	0.00154
____ FE	0.02281	5.59	38.474	0.03288	0.01681	0.01874
____ K	0.06335	138.57	44.114	0.08321	0.07544	0.03139
____ LI	0.00189	30.99	69.531	0.00045	0.00303	0.00221
____ MG	0.01704	29.89	5.150	0.01681	0.01801	0.01630
____ MN	0.00105	12.40	20.126	0.00115	0.00081	0.00119
____ MO	0.00582	0.99	29.760	0.00431	0.00542	0.00771
____ NA	0.28367	305.02	4.402	0.29489	0.28590	0.27022
____ NI	0.00008	3.27	372.322	0.00000	-0.00016	0.00040
____ P	-0.00050	1.69	1769.482	-0.00938	-0.00053	0.00840
____ PB	-0.00418	0.61	61.462	-0.00125	-0.00527	-0.00603
____ S	0.03081	7.36	18.628	0.02510	0.03658	0.03076
____ SB	0.00400	3.05	98.328	0.00602	-0.00053	0.00651
____ SI	0.23043	38.66	6.404	0.24591	0.22886	0.21652
____ SN	0.00299	3.91	51.550	0.00476	0.00231	0.00191
____ SR	0.00020	70.78	1.536	0.00020	0.00020	0.00020
____ TI	0.00023	24.21	85.644	0.00024	0.00003	0.00043
____ TL	-0.01445	-0.09	283.606	0.03226	-0.03119	-0.04443
____ V	0.00107	-9.57	45.472	0.00162	0.00074	0.00084
____ Y1	6860.33167	6,860.33	0.057	6857.07000	6864.68000	6859.24500
____ Y2A	178335.24668	178,335.25	0.276	178401.93690	178790.50709	177813.29607
____ Y2R	15641.11315	15,641.11	0.620	15531.90000	15674.61646	15716.82299
____ ZN	0.00073	7.25	30.707	0.00092	0.00048	0.00080
____ ZR	-0.00034	-8.83	68.893	-0.00060	-0.00029	-0.00014

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 39 Date/Time: 10/16/2015 18:29

Sample Number: **8083008** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00273	-55.63	19.783	-0.00299	-0.00308	-0.00211
____ AL	0.04639	6.55	61.210	0.02649	0.07891	0.03377
____ AS	0.00114	0.72	556.047	0.00005	0.00794	-0.00458
____ B	17.81708	59,636.06	0.102	17.83217	17.79703	17.82204
____ BA	0.01016	3,224.80	0.574	0.01020	0.01018	0.01009
____ BE	-0.00054	-139.10	2.290	-0.00054	-0.00052	-0.00054
____ CA	197.88458	104,630.83	0.345	198.31544	198.24202	197.09629
____ CD	-0.00472	-11.96	6.138	-0.00473	-0.00442	-0.00500
____ CO	0.00188	-1.42	65.521	0.00157	0.00324	0.00083
____ CR	0.00231	6.68	50.361	0.00209	0.00356	0.00127
____ CU	0.00131	28.28	35.030	0.00143	0.00169	0.00080
____ FE	13.43416	2,658.49	0.520	13.46075	13.48687	13.35486
____ K	22.34327	6,762.17	9.424	20.09141	22.67497	24.26344
____ LI	0.54839	3,243.82	1.477	0.53904	0.55284	0.55329
____ MG	727.19352	707,958.01	0.751	732.77308	726.95093	721.85655
____ MN	0.68896	5,145.28	0.225	0.68788	0.68826	0.69073
____ MO	0.22433	36.40	2.922	0.22490	0.23058	0.21751
____ NA	4004.46671	3,970,684.52	3.876	4166.87968	3988.87144	3857.64901
____ NI	0.00413	7.10	36.835	0.00539	0.00455	0.00244
____ P	0.22265	7.53	12.193	0.25383	0.20424	0.20989
____ PB	0.00149	1.92	148.587	-0.00056	0.00120	0.00384
____ S	2820.13405	98,063.49	3.130	2921.62292	2777.51388	2761.26535
____ SB	-0.00417	0.54	7.194	-0.00393	-0.00450	-0.00408
____ SI	8.75447	1,224.22	0.462	8.75651	8.79389	8.71300
____ SN	0.00261	3.03	65.753	0.00386	0.00331	0.00065
____ SR	7.19416	2,553,921.23	0.177	7.20155	7.20150	7.17943
____ TI	0.00382	83.66	5.241	0.00367	0.00404	0.00373
____ TL	-0.11970	-0.82	12.298	-0.10348	-0.12340	-0.13221
____ V	-0.00767	-36.15	20.436	-0.00629	-0.00938	-0.00735
____ Y1	5456.76602	5,456.77	0.119	5457.62433	5462.79872	5449.87501
____ Y2A	134895.42352	134,895.42	0.262	134677.18912	134705.51000	135303.57143
____ Y2R	13600.24847	13,600.25	0.226	13611.66966	13565.39996	13623.67579
____ ZN	0.00305	15.41	8.615	0.00302	0.00280	0.00332
____ ZR	0.02726	30.87	2.682	0.02810	0.02690	0.02678

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 40 Date/Time: 10/16/2015 18:32

Sample Number: **8083009** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00134	-16.93	74.503	-0.00248	-0.00074	-0.00078
____ AL	-0.02345	0.44	94.633	-0.04864	-0.00678	-0.01492
____ AS	-0.00073	0.69	1039.476	0.00744	-0.00203	-0.00761
____ B	18.14495	60,282.08	0.223	18.17898	18.10014	18.15573
____ BA	0.00776	2,489.08	0.287	0.00777	0.00778	0.00774
____ BE	-0.00057	-142.51	7.166	-0.00052	-0.00059	-0.00059
____ CA	198.81310	105,462.73	0.233	198.32763	199.25082	198.86084
____ CD	-0.00589	-19.98	2.391	-0.00580	-0.00605	-0.00581
____ CO	0.00147	-2.23	20.080	0.00167	0.00113	0.00162
____ CR	0.00130	3.01	104.995	0.00167	-0.00021	0.00244
____ CU	-0.00035	20.63	219.828	-0.00025	0.00037	-0.00118
____ FE	0.08101	16.51	6.086	0.07546	0.08269	0.08488
____ K	30.14998	9,119.40	2.738	29.22295	30.42090	30.80607
____ LI	0.57060	3,385.73	0.301	0.57145	0.56862	0.57173
____ MG	699.99424	691,785.25	1.148	703.54387	705.64327	690.79556
____ MN	0.69921	5,189.30	0.378	0.69707	0.69840	0.70217
____ MO	0.20001	32.19	4.428	0.20428	0.18983	0.20593
____ NA	3371.57167	3,354,369.45	2.180	3426.97631	3399.54609	3288.19262
____ NI	0.00320	6.53	19.746	0.00392	0.00289	0.00278
____ P	-0.03497	0.39	33.350	-0.03775	-0.04498	-0.02216
____ PB	0.00574	3.92	54.438	0.00854	0.00237	0.00632
____ S	2823.00097	97,507.13	1.122	2828.62923	2851.49289	2788.88079
____ SB	0.00055	1.26	1190.112	-0.00449	0.00798	-0.00184
____ SI	8.11486	1,138.68	0.475	8.07043	8.13890	8.13526
____ SN	-0.00178	2.08	263.707	-0.00073	0.00230	-0.00692
____ SR	7.21127	2,544,038.51	0.332	7.21887	7.18445	7.23049
____ TI	0.00146	42.37	24.362	0.00112	0.00183	0.00142
____ TL	-0.06183	-0.36	105.378	0.00499	-0.06529	-0.12519
____ V	-0.00756	-34.65	4.324	-0.00765	-0.00784	-0.00720
____ Y1	5420.37835	5,420.38	0.170	5425.67905	5409.74428	5425.71172
____ Y2A	134054.62130	134,054.62	0.205	133841.66833	134365.08698	133957.10858
____ Y2R	13646.01120	13,646.01	0.546	13705.12974	13562.29508	13670.60878
____ ZN	0.00262	10.98	15.218	0.00223	0.00259	0.00303
____ ZR	0.02844	34.22	6.586	0.02964	0.02939	0.02628

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 41 Date/Time: 10/16/2015 18:35

Sample Number: **8083000** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00280	-59.80	33.904	-0.00340	-0.00330	-0.00171
____ AL	0.07511	8.57	9.528	0.07425	0.08266	0.06842
____ AS	0.00425	0.95	47.215	0.00615	0.00215	0.00445
____ B	14.32595	45,487.64	0.134	14.32297	14.30838	14.34649
____ BA	0.02371	6,917.38	0.368	0.02362	0.02373	0.02379
____ BE	-0.00064	-145.08	5.826	-0.00062	-0.00062	-0.00068
____ CA	370.79816	187,388.29	0.286	371.17510	369.60035	371.61902
____ CD	-0.00567	-13.38	2.168	-0.00569	-0.00554	-0.00578
____ CO	0.00313	0.99	42.093	0.00227	0.00464	0.00247
____ CR	0.00235	6.48	24.829	0.00269	0.00168	0.00268
____ CU	-0.00207	30.73	63.272	-0.00352	-0.00098	-0.00171
____ FE	16.77824	3,237.74	0.266	16.79763	16.72713	16.80996
____ K	63.39309	18,555.65	1.700	62.43845	63.17912	64.56170
____ LI	0.67240	3,884.96	0.298	0.67259	0.67031	0.67430
____ MG	942.87389	812,925.38	1.918	957.74018	922.74608	948.13542
____ MN	4.80476	34,007.75	0.194	4.81187	4.80818	4.79421
____ MO	-0.01499	-2.93	25.530	-0.01255	-0.01302	-0.01940
____ NA	3268.87044	3,165,588.71	2.673	3367.44274	3200.88362	3238.28497
____ NI	0.00794	10.67	3.978	0.00797	0.00824	0.00761
____ P	0.43235	12.46	1.997	0.43884	0.43567	0.42255
____ PB	0.01329	5.57	34.089	0.01614	0.01566	0.00807
____ S	3083.95360	100,124.29	0.763	3102.11349	3092.36388	3057.38345
____ SB	0.00339	1.18	244.185	0.00678	-0.00604	0.00942
____ SI	10.01287	1,366.99	0.379	9.99951	9.98343	10.05568
____ SN	0.00377	3.06	60.361	0.00521	0.00495	0.00115
____ SR	9.31148	3,134,005.13	0.271	9.28992	9.30525	9.33928
____ TI	0.00460	92.63	12.672	0.00524	0.00410	0.00446
____ TL	0.01516	-0.04	1283.101	0.06879	0.17729	-0.20059
____ V	0.00465	4.66	53.699	0.00177	0.00603	0.00616
____ Y1	5094.90889	5,094.91	0.341	5083.72279	5086.06033	5114.94356
____ Y2A	127878.64350	127,878.64	0.328	127932.10000	128268.60164	127435.22886
____ Y2R	13283.35300	13,283.35	0.737	13252.05000	13393.05000	13204.95901
____ ZN	0.08435	226.25	0.538	0.08450	0.08471	0.08384
____ ZR	0.06197	78.86	1.516	0.06305	0.06133	0.06154

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 42 Date/Time: 10/16/2015 18:38

Sample Number: **8083004** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00022	-10.64	537.040	0.00091	-0.00013	-0.00143
____ AL	-0.00590	1.68	242.196	0.00618	-0.02169	-0.00219
____ AS	-0.00458	0.25	114.396	-0.00419	-0.01000	0.00046
____ B	14.22764	44,963.47	0.154	14.24831	14.23002	14.20458
____ BA	0.01206	3,586.53	0.406	0.01211	0.01204	0.01201
____ BE	-0.00073	-156.55	5.321	-0.00074	-0.00077	-0.00069
____ CA	363.96031	183,862.94	0.324	365.11449	362.75468	364.01176
____ CD	-0.00601	-19.19	4.785	-0.00573	-0.00600	-0.00631
____ CO	0.00289	0.53	14.558	0.00240	0.00317	0.00308
____ CR	0.00291	8.35	28.139	0.00277	0.00378	0.00217
____ CU	-0.00288	26.40	36.906	-0.00410	-0.00219	-0.00234
____ FE	0.36739	71.66	4.289	0.38551	0.35982	0.35684
____ K	63.59374	18,591.57	0.813	63.05292	63.64533	64.08296
____ LI	0.65956	3,806.37	0.091	0.66013	0.65894	0.65961
____ MG	898.48197	790,117.59	1.527	909.86770	902.32457	883.25365
____ MN	4.71122	33,250.37	0.276	4.71303	4.69740	4.72323
____ MO	-0.01397	-2.78	48.604	-0.01608	-0.01946	-0.00638
____ NA	3067.27681	2,966,893.71	1.835	3105.15408	3094.07791	3002.59842
____ NI	0.00844	12.01	10.174	0.00936	0.00766	0.00829
____ P	-0.03398	0.39	44.603	-0.04629	-0.03859	-0.01705
____ PB	0.00731	4.34	70.317	0.00304	0.00589	0.01302
____ S	3053.11731	99,506.69	0.140	3048.35055	3054.34768	3056.65369
____ SB	-0.00534	-0.25	114.412	-0.00428	-0.01192	0.00017
____ SI	9.08327	1,238.67	0.700	9.15658	9.04372	9.04952
____ SN	0.00281	2.88	180.497	0.00068	0.00859	-0.00085
____ SR	9.14735	3,069,922.52	0.759	9.13104	9.22350	9.08751
____ TI	0.00074	28.90	20.668	0.00064	0.00066	0.00091
____ TL	-0.06360	-0.36	59.606	-0.02042	-0.09140	-0.07898
____ V	-0.00188	-9.74	48.302	-0.00288	-0.00110	-0.00168
____ Y1	5114.53702	5,114.54	0.085	5118.78870	5114.67853	5110.14384
____ Y2A	127512.64572	127,512.65	0.264	127683.76974	127125.04488	127729.12253
____ Y2R	13266.83057	13,266.83	0.277	13244.79354	13309.20606	13246.49210
____ ZN	0.00755	23.35	2.466	0.00740	0.00775	0.00749
____ ZR	0.06152	79.96	2.008	0.06079	0.06294	0.06082

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 43

Date/Time: 10/16/2015 18:41

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00465	18.07	8.686	0.00479	0.00496	0.00419
____ AL	0.19630	22.05	9.858	0.17573	0.19902	0.21415
____ AS	0.02031	3.82	12.127	0.01810	0.01987	0.02297
____ B	0.07198	325.42	2.006	0.07360	0.07152	0.07083
____ BA	0.00483	2,170.75	2.478	0.00496	0.00476	0.00475
____ BE	0.00498	807.48	0.555	0.00496	0.00501	0.00498
____ CA	0.29015	288.66	1.636	0.28985	0.29504	0.28556
____ CD	0.00509	23.80	0.775	0.00513	0.00506	0.00507
____ CO	0.00636	9.53	4.397	0.00603	0.00655	0.00648
____ CR	0.01621	76.09	2.181	0.01598	0.01662	0.01604
____ CU	0.01008	65.84	11.881	0.01141	0.00909	0.00974
____ FE	0.19948	45.66	7.820	0.21406	0.20135	0.18303
____ K	2.64024	1,013.25	4.627	2.77931	2.59109	2.55031
____ LI	0.02778	204.12	8.877	0.02861	0.02973	0.02501
____ MG	0.47284	694.43	7.304	0.50876	0.46990	0.43987
____ MN	0.00693	71.30	3.477	0.00714	0.00697	0.00667
____ MO	0.01118	2.11	16.534	0.00930	0.01300	0.01125
____ NA	9.60351	10,839.83	6.598	10.23497	9.60792	8.96765
____ NI	0.00988	18.53	3.418	0.01012	0.00949	0.01002
____ P	0.10906	5.56	7.781	0.10665	0.11849	0.10204
____ PB	0.01232	7.73	15.019	0.01191	0.01070	0.01434
____ S	2.91168	134.49	6.895	3.10751	2.92123	2.70630
____ SB	0.02250	6.95	12.141	0.02499	0.01958	0.02293
____ SI	0.06427	11.90	8.890	0.07062	0.05954	0.06265
____ SN	0.02102	8.80	8.543	0.02034	0.02306	0.01967
____ SR	0.00712	3,361.90	2.684	0.00734	0.00707	0.00696
____ TI	0.01026	257.05	1.727	0.01031	0.01006	0.01040
____ TL	0.04789	0.38	134.158	0.11215	0.04786	-0.01634
____ V	0.00383	-1.39	68.352	0.00460	0.00092	0.00598
____ Y1	6921.91500	6,921.92	0.117	6914.95000	6919.95000	6930.84500
____ Y2A	180521.99028	180,521.99	0.236	180869.27000	180650.23943	180046.46142
____ Y2R	15503.94181	15,503.94	0.651	15620.21765	15438.66308	15452.94470
____ ZN	0.02066	77.87	2.477	0.02011	0.02074	0.02113
____ ZR	0.04815	71.38	1.805	0.04847	0.04882	0.04717

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 44

Date/Time: 10/16/2015 18:44

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00057	-562.55	98.493	0.00117	0.00049	0.00005
____ AL	484.92314	46,096.08	0.520	487.70647	482.79076	484.27220
____ AS	-0.00787	1.56	32.061	-0.00526	-0.01030	-0.00804
____ B	-0.00366	1,246.82	56.164	-0.00317	-0.00592	-0.00189
____ BA	0.00014	266.44	27.208	0.00010	0.00016	0.00016
____ BE	-0.00094	-240.25	2.810	-0.00091	-0.00095	-0.00097
____ CA	490.29519	270,667.03	0.331	492.14831	489.11748	489.61977
____ CD	-0.00041	55.85	125.714	-0.00095	-0.00035	0.00007
____ CO	0.00274	0.33	11.643	0.00289	0.00296	0.00238
____ CR	0.00187	6.34	32.572	0.00167	0.00256	0.00139
____ CU	-0.00445	42.66	17.424	-0.00499	-0.00478	-0.00356
____ FE	188.88874	37,175.87	0.525	189.93719	187.96365	188.76536
____ K	1.37170	552.95	2.416	1.38093	1.33493	1.39924
____ LI	0.01541	131.37	9.077	0.01529	0.01686	0.01407
____ MG	461.95925	542,903.77	0.857	465.32001	462.96025	457.59748
____ MN	0.00341	33.48	19.294	0.00317	0.00415	0.00291
____ MO	-0.04480	-9.77	13.483	-0.04921	-0.04727	-0.03791
____ NA	5.08216	5,440.34	2.937	5.25112	5.02711	4.96825
____ NI	0.00773	3.48	4.865	0.00805	0.00732	0.00783
____ P	-0.02372	0.82	6.718	-0.02544	-0.02341	-0.02230
____ PB	-0.00353	35.98	48.425	-0.00374	-0.00513	-0.00173
____ S	1.60045	72.19	2.519	1.60315	1.63936	1.55885
____ SB	0.00032	6.22	2282.690	-0.00793	0.00361	0.00527
____ SI	0.01437	3.67	16.441	0.01425	0.01679	0.01207
____ SN	0.02002	7.91	18.341	0.01767	0.01814	0.02426
____ SR	0.00118	2,612.98	2.007	0.00116	0.00120	0.00118
____ TI	-0.00091	-1.97	17.751	-0.00090	-0.00108	-0.00076
____ TL	0.10619	-1.00	52.489	0.07652	0.17049	0.07157
____ V	-0.00416	-21.34	73.382	-0.00310	-0.00760	-0.00178
____ Y1	6415.31167	6,415.31	0.387	6438.99500	6389.53000	6417.41000
____ Y2A	167294.34295	167,294.34	0.435	166551.06786	168003.83846	167328.12251
____ Y2R	14730.46091	14,730.46	0.434	14657.76051	14778.04343	14755.57880
____ ZN	0.00885	85.67	5.509	0.00860	0.00942	0.00855
____ ZR	0.00036	-30.68	577.638	0.00273	-0.00086	-0.00080

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 45

Date/Time: 10/16/2015 18:47

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21001	750.49	0.586	0.21135	0.20893	0.20976
____ AL	487.50098	46,478.18	0.186	488.54803	486.97428	486.98063
____ AS	0.09122	14.37	10.345	0.10198	0.08736	0.08433
____ B	-0.00417	1,248.90	55.372	-0.00659	-0.00199	-0.00394
____ BA	0.51042	190,021.88	0.234	0.51076	0.51141	0.50909
____ BE	0.47566	79,130.40	0.482	0.47318	0.47609	0.47770
____ CA	493.40211	273,070.82	0.301	495.07470	492.90041	492.23122
____ CD	0.94508	3,976.70	0.106	0.94617	0.94420	0.94485
____ CO	0.48099	1,116.13	0.238	0.48091	0.47989	0.48217
____ CR	0.47332	2,111.90	0.507	0.47073	0.47376	0.47547
____ CU	0.53056	3,150.60	0.483	0.52763	0.53237	0.53169
____ FE	190.04592	37,490.95	0.555	191.14737	189.04318	189.94720
____ K	0.99861	433.76	3.589	0.97745	1.04000	0.97839
____ LI	0.01437	125.28	22.561	0.01079	0.01711	0.01522
____ MG	463.51052	545,975.99	1.305	469.85474	462.86667	457.81014
____ MN	0.45377	4,194.94	0.435	0.45266	0.45261	0.45605
____ MO	-0.04262	-9.32	23.679	-0.03880	-0.05406	-0.03499
____ NA	3.79891	4,074.39	0.844	3.83572	3.77704	3.78397
____ NI	0.95176	1,359.07	0.321	0.95514	0.95098	0.94918
____ P	-0.03031	0.70	36.563	-0.01838	-0.03227	-0.04029
____ PB	0.04880	56.91	11.674	0.05066	0.04241	0.05334
____ S	1.16361	54.24	6.452	1.24733	1.14127	1.10224
____ SB	0.57957	120.68	0.844	0.58516	0.57604	0.57752
____ SI	0.01570	3.87	35.049	0.02167	0.01458	0.01084
____ SN	0.02148	8.22	9.177	0.02278	0.02244	0.01921
____ SR	0.00097	2,528.57	2.660	0.00100	0.00096	0.00095
____ TI	-0.00063	14.86	58.584	-0.00021	-0.00075	-0.00092
____ TL	0.28659	0.29	15.598	0.26677	0.33777	0.25522
____ V	0.50534	1,436.47	0.156	0.50454	0.50612	0.50535
____ Y1	6392.33333	6,392.33	0.123	6386.51000	6389.18500	6401.30500
____ Y2A	166956.69900	166,956.70	0.310	167382.18700	167108.36000	166379.55000
____ Y2R	14773.38774	14,773.39	0.270	14736.61677	14767.77800	14815.76846
____ ZN	0.97581	3,254.61	0.095	0.97685	0.97507	0.97551
____ ZR	0.00064	-30.46	101.128	0.00025	0.00139	0.00029

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 46

Date/Time: 10/16/2015 18:49

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50881	3,351.85	0.800	0.50672	0.51350	0.50621
____ AL	24.95609	2,455.35	0.115	24.96446	24.97963	24.92418
____ AS	0.51997	73.06	2.541	0.50823	0.53427	0.51740
____ B	0.50116	2,392.36	0.096	0.50084	0.50091	0.50171
____ BA	0.50828	202,862.82	0.296	0.50691	0.50989	0.50804
____ BE	0.49364	88,044.22	0.539	0.49468	0.49563	0.49062
____ CA	24.96075	15,307.73	0.064	24.94287	24.97379	24.96559
____ CD	0.50567	2,265.39	0.344	0.50606	0.50377	0.50719
____ CO	0.50381	1,260.39	0.242	0.50259	0.50381	0.50502
____ CR	0.49634	2,374.32	0.638	0.49668	0.49931	0.49301
____ CU	0.51219	3,182.36	0.413	0.51427	0.51225	0.51004
____ FE	23.85205	5,301.76	0.120	23.83347	23.88504	23.83764
____ K	26.06499	8,885.05	0.308	26.06072	26.14729	25.98694
____ LI	0.52667	3,511.39	0.542	0.52396	0.52965	0.52639
____ MG	24.24584	34,736.69	0.141	24.23703	24.28363	24.21688
____ MN	0.51813	5,134.90	0.073	0.51791	0.51792	0.51857
____ MO	0.49286	101.93	0.873	0.49762	0.48925	0.49172
____ NA	24.26478	27,139.73	0.538	24.16140	24.41133	24.22162
____ NI	0.50384	780.49	0.238	0.50520	0.50291	0.50342
____ P	0.53772	20.58	6.446	0.52019	0.51533	0.57764
____ PB	0.50556	220.53	1.240	0.49931	0.51184	0.50553
____ S	26.28085	1,157.97	1.927	26.11160	25.88076	26.85018
____ SB	0.50175	106.63	0.717	0.49791	0.50229	0.50504
____ SI	24.12578	3,805.23	0.118	24.12938	24.09569	24.15228
____ SN	0.50203	137.52	0.501	0.50148	0.49984	0.50478
____ SR	0.51128	240,862.26	0.430	0.51101	0.51360	0.50923
____ TI	0.50803	11,729.27	0.517	0.50895	0.51007	0.50507
____ TL	0.62327	4.53	10.657	0.69352	0.56148	0.61482
____ V	0.51327	1,536.07	0.884	0.51756	0.50853	0.51371
____ Y1	6877.33167	6,877.33	0.219	6887.61000	6860.00000	6884.38500
____ Y2A	178989.15268	178,989.15	0.222	179010.54049	178582.35177	179374.56578
____ Y2R	15351.47108	15,351.47	0.683	15458.05839	15248.42032	15347.93454
____ ZN	0.51115	1,814.84	0.233	0.51009	0.51092	0.51244
____ ZR	0.50671	818.31	0.083	0.50655	0.50719	0.50639

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 47

Date/Time: 10/16/2015 18:52

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00051	-17.81	130.935	-0.00014	-0.00011	-0.00127
____ AL	0.04582	7.06	68.792	0.06551	0.00947	0.06249
____ AS	0.00263	1.34	144.134	-0.00099	0.00659	0.00231
____ B	0.00725	34.36	8.046	0.00675	0.00710	0.00789
____ BA	-0.00024	132.45	13.986	-0.00026	-0.00020	-0.00026
____ BE	-0.00004	-96.84	46.367	-0.00002	-0.00005	-0.00006
____ CA	0.03451	129.71	10.956	0.03327	0.03150	0.03875
____ CD	0.00009	1.31	251.202	0.00015	0.00030	-0.00017
____ CO	0.00138	-3.08	42.264	0.00126	0.00200	0.00086
____ CR	0.00041	-0.25	158.372	0.00113	0.00015	-0.00007
____ CU	0.00043	5.43	199.129	0.00143	-0.00004	-0.00009
____ FE	0.02182	5.27	15.604	0.02485	0.01814	0.02248
____ K	0.39437	247.44	1.206	0.38889	0.39738	0.39685
____ LI	0.00400	44.34	40.076	0.00573	0.00370	0.00257
____ MG	0.08788	131.63	3.160	0.09025	0.08856	0.08482
____ MN	0.00051	7.07	41.417	0.00033	0.00074	0.00044
____ MO	0.00554	0.93	52.577	0.00791	0.00229	0.00644
____ NA	1.73834	1,927.64	1.341	1.76237	1.73684	1.71581
____ NI	-0.00131	1.13	93.161	-0.00268	-0.00090	-0.00035
____ P	-0.00040	1.70	2867.229	-0.01343	0.00832	0.00391
____ PB	-0.00189	1.59	211.705	-0.00542	0.00245	-0.00270
____ S	0.62515	33.41	1.316	0.63403	0.62363	0.61779
____ SB	0.00762	3.83	35.070	0.00455	0.00939	0.00893
____ SI	0.01318	3.71	122.670	0.02445	0.02045	-0.00535
____ SN	0.00261	3.81	69.274	0.00190	0.00466	0.00126
____ SR	0.00043	180.15	7.980	0.00042	0.00047	0.00040
____ TI	-0.00012	16.13	125.935	-0.00021	0.00005	-0.00020
____ TL	-0.01356	-0.09	155.865	0.00711	-0.03513	-0.01266
____ V	-0.00018	-13.43	785.135	0.00078	-0.00176	0.00045
____ Y1	6873.30500	6,873.31	0.147	6865.97000	6869.13500	6884.81000
____ Y2A	179481.20999	179,481.21	0.230	179039.78613	179547.53395	179856.30990
____ Y2R	15352.26393	15,352.26	0.155	15334.22631	15343.36062	15379.20486
____ ZN	0.00002	4.73	1150.464	-0.00011	-0.00013	0.00031
____ ZR	0.00009	-7.97	1227.581	-0.00113	0.00078	0.00061

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ICP-AES Run Data Report

Reviewed By
Tara L Snyder

Reviewed Date
10/20/2015 2:34AM

Data File Name 1529204T71.TXT
Run Name: 1529204T71

Method Reference Name(s):

Verified By:
Deborah A Krady

Verified Date
10/20/2015 8:41AM

Analyst Employee: 2106

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1529204T71 Instrument ID: 16315

Tube: 1 Date/Time: 10/19/2015 23:21

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	0.00616	44.378	0.00480	0.00437	0.00931
AL	0.000	0.16037	10.522	0.17359	0.16616	0.14136
AS	0.000	0.00753	33.680	0.00558	0.01039	0.00662
B	0.000	0.00012	9.053	0.00012	0.00013	0.00011
BA	0.000	0.00098	8.407	0.00089	0.00105	0.00099
BE	0.000	-0.04136	4.754	-0.04086	-0.03969	-0.04353
CA	0.000	0.00957	3.793	0.00967	0.00917	0.00987
CD	0.000	-0.05069	2.149	-0.05195	-0.05008	-0.05005
CO	0.000	0.01711	16.282	0.01816	0.01395	0.01922
CR	0.000	-0.00003	131.125	-0.00004	0.00001	-0.00008
CU	0.000	-0.01733	3.798	-0.01758	-0.01782	-0.01658
FE	0.000	0.00167	15.692	0.00192	0.00168	0.00140
K	0.000	0.50062	15.290	0.47401	0.44093	0.58692
LI	0.000	0.00473	22.025	0.00492	0.00360	0.00565
MG	0.000	0.00200	16.347	0.00223	0.00215	0.00163
MN	0.000	0.06043	0.053	0.06045	0.06044	0.06039
MO	0.000	0.00569	110.392	0.00744	-0.00128	0.01092
NA	0.000	-0.00231	20.697	-0.00220	-0.00190	-0.00284
NI	0.000	0.04228	17.043	0.04966	0.03527	0.04190
P	0.000	-0.00004	144.915	0.00000	-0.00010	-0.00001
PB	0.000	0.02092	78.651	0.00580	0.01851	0.03843
S	0.000	0.00068	5.281	0.00066	0.00065	0.00072
SB	0.000	-0.00022	23.752	-0.00017	-0.00028	-0.00022
SE	0.000	-0.00362	22.139	-0.00443	-0.00361	-0.00283
SI	0.000	0.00021	84.365	0.00001	0.00036	0.00027
SN	0.000	0.01813	17.238	0.02007	0.01452	0.01980
SR	0.000	-0.00075	7.405	-0.00070	-0.00074	-0.00081
TI	0.000	0.00196	56.301	0.00172	0.00100	0.00317
TL	0.000	-0.00563	26.220	-0.00434	-0.00532	-0.00724
V	0.000	-0.00355	44.198	-0.00180	-0.00402	-0.00483
Y1	0.000	10475.62050	0.510	10488.72725	10521.32441	10416.80983
Y2A	0.000	168770.49454	0.366	169311.41717	168096.91030	168903.15615
Y2R	0.000	8400.97440	0.493	8376.34677	8448.81309	8377.76334
ZN	0.000	0.13972	5.045	0.13192	0.14159	0.14565
ZR	0.000	0.00092	65.386	0.00161	0.00058	0.00056

LANCASTER LABORATORIES

Run Name: 1529204T71 Instrument ID: 16315

Tube: 2 Date/Time: 10/19/2015 23:24

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	29.07034	0.633	28.93443	29.27960	28.99698
CA	50.000	3.96901	0.394	3.95554	3.98617	3.96531
FE	50.000	1.26598	0.423	1.26055	1.27126	1.26613
K	50.000	36.36828	0.681	36.33073	36.63262	36.14149
MG	50.000	7.19604	0.274	7.18978	7.21816	7.18019
NA	50.000	4.94473	0.263	4.93206	4.95805	4.94407
S	50.000	0.56349	0.768	0.56810	0.56288	0.55951
SI	50.000	0.91244	0.502	0.90746	0.91649	0.91336
Y1	50.000	10303.12535	0.509	10272.49900	10273.24978	10363.62728
Y2R	50.000	8534.52594	0.408	8574.50020	8518.24446	8510.83317

LANCASTER LABORATORIES

Run Name: 1529204T71 Instrument ID: 16315

Tube: 3 Date/Time: 10/19/2015 23:26

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	3.77481	0.243	3.76495	3.77642	3.78306
AS	1.000	1.01446	0.376	1.01796	1.01502	1.01039
B	1.000	0.04234	0.407	0.04228	0.04221	0.04254
BA	1.000	3.27095	0.987	3.26100	3.24483	3.30703
BE	1.000	136.64315	1.246	135.33977	136.02049	138.56918
CD	1.000	36.37436	0.320	36.25165	36.48297	36.38845
CO	1.000	15.04100	0.401	15.03485	15.10409	14.98407
CU	1.000	3.14066	0.187	3.14739	3.13665	3.13795
LI	1.000	0.53408	0.742	0.53462	0.52988	0.53775
MN	1.000	15.71966	0.326	15.72022	15.66811	15.77064
NI	1.000	9.94658	0.424	9.93589	9.99308	9.91077
P	1.000	0.02048	0.344	0.02040	0.02049	0.02054
PB	1.000	3.30988	0.710	3.29757	3.33696	3.29510
SE	1.000	0.65880	1.169	0.65642	0.66741	0.65257
SR	1.000	3.24971	0.795	3.27265	3.22171	3.25478
TL	1.000	1.01450	0.707	1.00748	1.02181	1.01421
Y1	1.000	10330.22549	0.419	10375.60890	10289.43268	10325.63487
Y2A	1.000	165446.82561	0.664	165871.82888	166270.08393	164198.56402
Y2R	1.000	8437.39148	0.490	8436.08227	8479.39358	8396.69858
ZN	1.000	28.89662	0.395	28.82060	29.02770	28.84156

LANCASTER LABORATORIES

Run Name: 1529204T71 Instrument ID: 16315

Tube: 4 Date/Time: 10/19/2015 23:29

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	0.05476	0.413	0.05495	0.05482	0.05451
MO	1.000	6.65088	1.335	6.56339	6.74088	6.64837
SB	1.000	0.02792	1.541	0.02746	0.02831	0.02799
SN	1.000	2.15361	1.413	2.12439	2.18512	2.15132
TI	1.000	14.69481	0.409	14.75984	14.68318	14.64141
V	1.000	4.09866	0.424	4.11835	4.08550	4.09214
Y1	1.000	10265.90660	1.258	10401.27373	10143.97681	10252.46926
Y2A	1.000	165513.34328	0.305	164944.10786	165690.92000	165905.00199
Y2R	1.000	8487.53540	0.645	8505.58102	8531.00559	8426.01959
ZR	1.000	0.19561	1.288	0.19271	0.19694	0.19719

LANCASTER LABORATORIES

Run Name: 1529204T71

Instrument ID: 16315

Tube: 5

Date/Time: 10/19/2015 23:32

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.61947	7,590.53	0.394	0.61682	0.62162	0.61997
____ AL	30.90925	2,973.08	2.682	30.36194	31.86307	30.50274
____ AS	0.61685	127.19	1.800	0.60408	0.62227	0.62420
____ B	0.59588	4,269.17	0.392	0.59416	0.59854	0.59494
____ BA	0.61435	324,518.72	0.380	0.61501	0.61628	0.61176
____ BE	0.59935	263,541.41	0.090	0.59873	0.59970	0.59962
____ CA	31.16700	20,427.59	2.392	30.77363	32.02671	30.70064
____ CD	0.61192	4,495.36	0.189	0.61063	0.61224	0.61288
____ CO	0.59146	1,800.18	0.439	0.58928	0.59076	0.59433
____ CR	0.58838	5,191.83	0.203	0.58970	0.58804	0.58739
____ CU	0.62246	6,207.98	0.271	0.62346	0.62051	0.62340
____ FE	30.96006	6,482.59	2.138	30.55953	31.72422	30.59642
____ K	30.47956	3,685.26	2.631	30.03080	31.40556	30.00233
____ LI	0.61421	2,721.75	1.956	0.60474	0.62772	0.61015
____ MG	31.30119	37,485.66	2.075	30.84079	32.04398	31.01880
____ MN	0.60988	31,034.64	0.216	0.60847	0.61009	0.61108
____ MO	0.60591	813.12	0.593	0.60365	0.60402	0.61006
____ NA	31.12625	25,336.31	2.329	30.70872	31.96323	30.70678
____ NI	0.59785	1,199.53	0.203	0.59860	0.59645	0.59851
____ P	0.62924	129.39	0.372	0.62806	0.63194	0.62772
____ PB	0.59868	412.16	0.855	0.59530	0.59617	0.60457
____ S	30.75277	3,496.89	0.369	30.63634	30.75875	30.86321
____ SB	0.61250	171.95	0.818	0.61295	0.60728	0.61727
____ SE	0.62634	82.77	0.427	0.62881	0.62670	0.62350
____ SI	30.62746	4,606.99	2.253	30.20681	31.42385	30.25172
____ SN	0.59267	258.89	0.634	0.59239	0.58906	0.59656
____ SR	0.61086	320,686.19	0.767	0.60695	0.61606	0.60959
____ TI	0.62392	29,613.62	0.078	0.62348	0.62445	0.62382
____ TL	0.59103	118.07	1.019	0.59502	0.59398	0.58410
____ V	0.61622	8,153.36	0.149	0.61600	0.61723	0.61544
____ Y1	10083.09424	10,083.09	0.158	10095.24166	10065.04995	10088.99110
____ Y2A	161460.26408	161,460.26	0.459	162304.00760	161158.92465	160917.86000
____ Y2R	8241.27496	8,241.27	1.747	8338.43082	8075.88787	8309.50620
____ ZN	0.61539	3,612.45	0.157	0.61432	0.61565	0.61620
____ ZR	0.62656	1,012.71	1.634	0.62233	0.63823	0.61912

LANCASTER LABORATORIES

Run Name: 1529204T71

Instrument ID: 16315

Tube: 6

Date/Time: 10/19/2015 23:35

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00064	12.58	112.565	0.00000	-0.00142	-0.00050
____ AL	0.02986	30.10	109.584	0.00774	0.01439	0.06745
____ AS	-0.00536	0.45	57.137	-0.00804	-0.00603	-0.00202
____ B	0.00117	28.34	24.684	0.00129	0.00084	0.00138
____ BA	0.00018	257.49	15.728	0.00021	0.00016	0.00017
____ BE	-0.00053	-85.99	3.002	-0.00052	-0.00055	-0.00053
____ CA	0.00851	86.90	108.536	0.01649	0.01063	-0.00160
____ CD	0.00187	-9.70	4.365	0.00190	0.00194	0.00178
____ CO	0.00003	3.71	711.284	0.00018	0.00008	-0.00018
____ CR	0.00064	0.11	70.523	0.00099	0.00080	0.00013
____ CU	-0.00027	-60.16	105.805	-0.00060	-0.00015	-0.00007
____ FE	-0.01984	9.83	51.155	-0.00930	-0.02069	-0.02954
____ K	0.03326	89.00	149.690	0.07000	0.05317	-0.02340
____ LI	0.00222	50.07	47.958	0.00101	0.00262	0.00303
____ MG	0.01309	33.32	44.068	0.01966	0.01078	0.00883
____ MN	-0.00175	108.82	5.097	-0.00171	-0.00186	-0.00170
____ MO	0.00073	2.23	48.424	0.00048	0.00114	0.00058
____ NA	0.08929	5.88	27.422	0.11756	0.07454	0.07579
____ NI	0.00003	9.00	3488.196	0.00094	-0.00111	0.00026
____ P	0.00602	-0.14	62.465	0.00197	0.00668	0.00940
____ PB	0.00273	6.32	80.407	0.00527	0.00134	0.00159
____ S	0.00046	7.19	1389.915	0.00712	-0.00023	-0.00551
____ SB	-0.00211	-2.60	100.892	-0.00431	-0.00006	-0.00196
____ SE	-0.00515	-1.65	137.113	0.00130	-0.00406	-0.01269
____ SI	0.01997	4.91	44.737	0.02787	0.02175	0.01028
____ SN	-0.00106	3.36	130.508	-0.00241	-0.00113	0.00036
____ SR	-0.00013	-63.95	22.021	-0.00011	-0.00011	-0.00016
____ TI	0.00091	27.57	11.888	0.00089	0.00081	0.00102
____ TL	0.01498	-1.05	32.610	0.02055	0.01144	0.01295
____ V	0.00088	-14.82	90.142	-0.00003	0.00125	0.00142
____ Y1	10570.95321	10,570.95	0.433	10532.80064	10621.68566	10558.37333
____ Y2A	165096.99141	165,096.99	0.699	165467.21000	166020.70586	163803.05838
____ Y2R	8480.91766	8,480.92	3.520	8293.22271	8825.20488	8324.32540
____ ZN	-0.00010	28.93	295.638	-0.00023	-0.00030	0.00024
____ ZR	0.00203	11.16	100.150	0.00391	0.00231	-0.00013

LANCASTER LABORATORIES

Run Name: 1529204T71

Instrument ID: 16315

Tube: 7

Date/Time: 10/19/2015 23:38

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00441	81.80	8.276	0.00413	0.00482	0.00429
____ AL	0.20936	47.56	24.588	0.20572	0.26257	0.15980
____ AS	0.01628	5.08	13.299	0.01761	0.01744	0.01378
____ B	0.04842	367.27	0.971	0.04895	0.04806	0.04825
____ BA	0.00522	3,048.88	0.701	0.00527	0.00520	0.00520
____ BE	0.00442	2,189.03	1.317	0.00449	0.00437	0.00441
____ CA	0.19908	214.37	4.505	0.20878	0.19739	0.19109
____ CD	0.00670	27.71	1.402	0.00668	0.00680	0.00661
____ CO	0.00474	18.83	13.063	0.00518	0.00403	0.00501
____ CR	0.01506	133.48	0.849	0.01493	0.01518	0.01508
____ CU	0.00971	43.43	4.452	0.00972	0.00927	0.01014
____ FE	0.16434	49.46	9.766	0.17932	0.14740	0.16630
____ K	0.59458	156.67	22.255	0.73441	0.47132	0.57800
____ LI	0.02100	133.86	14.087	0.02426	0.01848	0.02026
____ MG	0.09707	138.07	1.691	0.09692	0.09878	0.09550
____ MN	0.00281	352.83	3.259	0.00275	0.00277	0.00292
____ MO	0.01034	15.79	3.818	0.01055	0.00989	0.01059
____ NA	1.13709	883.59	1.376	1.12028	1.13977	1.15123
____ NI	0.00965	29.23	8.414	0.00875	0.01033	0.00986
____ P	0.10203	20.78	1.064	0.10308	0.10210	0.10091
____ PB	0.01421	14.39	30.599	0.01922	0.01137	0.01205
____ S	0.46325	62.46	1.936	0.47100	0.45343	0.46531
____ SB	0.01787	3.35	16.739	0.02059	0.01834	0.01466
____ SE	0.01887	1.73	12.567	0.02156	0.01710	0.01794
____ SI	0.05089	9.68	23.846	0.05457	0.06076	0.03734
____ SN	0.01744	11.75	11.954	0.01633	0.01984	0.01613
____ SR	0.00494	2,716.33	0.316	0.00494	0.00493	0.00496
____ TI	0.01097	527.57	0.748	0.01103	0.01100	0.01087
____ TL	0.03861	4.12	4.724	0.03657	0.03921	0.04006
____ V	0.00608	56.58	6.251	0.00565	0.00621	0.00637
____ Y1	10607.02219	10,607.02	0.384	10636.85763	10623.52177	10560.68718
____ Y2A	168832.59048	168,832.59	1.001	167021.96013	170366.61130	169109.20000
____ Y2R	8453.22296	8,453.22	0.872	8369.62291	8481.04138	8509.00460
____ ZN	0.02023	152.74	1.206	0.01999	0.02048	0.02023
____ ZR	0.05002	90.09	5.488	0.04973	0.05290	0.04743

LANCASTER LABORATORIES

Run Name: 1529204T71

Instrument ID: 16315

Tube: 8

Date/Time: 10/19/2015 23:41

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00331	-162.13	26.249	-0.00231	-0.00369	-0.00392
____ AL	485.98712	45,883.99	0.847	489.41217	481.42344	487.12574
____ AS	-0.01522	0.51	6.232	-0.01510	-0.01622	-0.01434
____ B	-0.05072	900.29	2.014	-0.05187	-0.05035	-0.04993
____ BA	0.00060	431.81	2.281	0.00061	0.00058	0.00061
____ BE	-0.00100	-259.27	2.916	-0.00103	-0.00097	-0.00100
____ CA	496.91348	304,953.92	0.561	495.96122	494.72645	500.05278
____ CD	0.00333	80.97	3.349	0.00343	0.00321	0.00335
____ CO	0.00217	9.24	48.144	0.00328	0.00120	0.00204
____ CR	0.00608	-2.95	7.195	0.00577	0.00658	0.00588
____ CU	0.00291	117.34	57.460	0.00382	0.00391	0.00098
____ FE	197.09081	38,401.65	0.858	198.29725	195.15798	197.81720
____ K	0.04327	83.81	144.523	0.09992	0.05371	-0.02383
____ LI	-0.00679	68.18	38.965	-0.00377	-0.00867	-0.00794
____ MG	487.84120	426,469.52	2.574	484.15453	477.53879	501.83027
____ MN	0.00004	179.25	491.206	-0.00006	0.00024	-0.00007
____ MO	0.00244	4.07	32.688	0.00243	0.00324	0.00165
____ NA	0.35488	212.97	3.302	0.34238	0.35665	0.36562
____ NI	0.00022	-14.53	194.350	0.00060	0.00030	-0.00024
____ P	0.01898	2.35	10.068	0.01886	0.02095	0.01713
____ PB	0.00777	81.16	66.260	0.00483	0.01372	0.00477
____ S	0.04708	10.63	57.276	0.01673	0.05623	0.06828
____ SB	-0.00484	-3.70	82.203	-0.00132	-0.00915	-0.00403
____ SE	0.00168	-2.36	435.707	0.00966	-0.00471	0.00009
____ SI	0.00557	1.56	112.344	0.00220	0.00172	0.01279
____ SN	0.01044	7.51	30.577	0.01409	0.00816	0.00908
____ SR	-0.00037	2,296.09	3.655	-0.00035	-0.00036	-0.00038
____ TI	0.00127	40.16	24.537	0.00131	0.00094	0.00156
____ TL	0.01468	-2.50	39.387	0.01152	0.02135	0.01116
____ V	-0.00206	-11.88	11.905	-0.00182	-0.00205	-0.00231
____ Y1	9289.87826	9,289.88	0.303	9257.45605	9307.91842	9304.26031
____ Y2A	146962.84449	146,962.84	0.111	146781.50589	147099.70078	147007.32681
____ Y2R	7878.89763	7,878.90	0.758	7907.21845	7919.20088	7810.27356
____ ZN	0.00367	139.53	13.407	0.00341	0.00424	0.00337
____ ZR	0.00803	19.55	20.627	0.00614	0.00872	0.00923

LANCASTER LABORATORIES

Run Name: 1529204T71

Instrument ID: 16315

Tube: 9

Date/Time: 10/19/2015 23:44

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21362	2,275.32	0.512	0.21468	0.21249	0.21370
____ AL	490.35379	47,187.08	0.149	489.59410	490.41823	491.04904
____ AS	0.08678	19.53	9.259	0.07945	0.09537	0.08552
____ B	-0.05196	912.28	0.783	-0.05207	-0.05151	-0.05230
____ BA	0.51961	253,788.97	0.454	0.52035	0.51697	0.52150
____ BE	0.49652	201,873.79	0.541	0.49768	0.49345	0.49842
____ CA	502.20181	313,934.47	0.141	502.19940	502.91108	501.49494
____ CD	0.95788	6,519.50	0.276	0.95684	0.95592	0.96088
____ CO	0.48212	1,342.31	0.085	0.48167	0.48218	0.48249
____ CR	0.48390	3,905.21	0.651	0.48395	0.48073	0.48703
____ CU	0.54723	5,252.90	0.331	0.54614	0.54622	0.54932
____ FE	198.36322	39,368.23	0.216	197.88006	198.69364	198.51597
____ K	0.09750	91.63	140.755	0.21800	-0.05188	0.12639
____ LI	-0.00638	71.89	17.461	-0.00509	-0.00692	-0.00711
____ MG	487.46175	434,333.74	1.181	482.12457	493.56022	486.70048
____ MN	0.45665	21,529.86	0.282	0.45714	0.45519	0.45762
____ MO	0.00227	3.84	25.185	0.00286	0.00172	0.00223
____ NA	0.42268	270.93	3.928	0.42211	0.43956	0.40638
____ NI	0.95299	1,730.28	0.235	0.95216	0.95128	0.95552
____ P	0.02090	3.21	11.347	0.01923	0.01986	0.02362
____ PB	0.05590	110.92	8.505	0.05063	0.05721	0.05986
____ S	0.02253	8.02	27.392	0.02319	0.01606	0.02835
____ SB	0.61591	157.76	0.968	0.61093	0.61428	0.62252
____ SE	0.05075	3.68	14.768	0.04292	0.05149	0.05785
____ SI	0.01765	3.34	79.051	0.00236	0.02088	0.02969
____ SN	0.01124	7.76	18.740	0.01328	0.01137	0.00907
____ SR	-0.00036	2,363.77	11.808	-0.00038	-0.00038	-0.00031
____ TI	0.00111	42.27	25.689	0.00078	0.00129	0.00126
____ TL	0.10546	14.48	9.248	0.10601	0.11493	0.09544
____ V	0.51440	6,362.96	0.767	0.51547	0.51004	0.51770
____ Y1	9242.68424	9,242.68	0.203	9263.87557	9235.76136	9228.41579
____ Y2A	149281.34760	149,281.35	0.184	149391.71816	149483.13000	148969.19464
____ Y2R	8026.89307	8,026.89	0.633	8080.70088	8020.18770	7979.79063
____ ZN	1.00005	5,432.17	0.149	0.99889	0.99954	1.00173
____ ZR	0.00905	21.52	25.281	0.00952	0.00656	0.01106

LANCASTER LABORATORIES

Run Name: 1529204T71

Instrument ID: 16315

Tube: 10

Date/Time: 10/19/2015 23:46

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.51877	6,327.37	0.548	0.51687	0.52203	0.51739
____ AL	26.06549	2,529.74	0.431	26.04997	25.96171	26.18479
____ AS	0.51410	107.37	0.696	0.51101	0.51327	0.51803
____ B	0.49604	3,540.97	0.260	0.49546	0.49752	0.49515
____ BA	0.51051	268,347.61	0.205	0.50932	0.51127	0.51096
____ BE	0.50187	219,605.91	0.113	0.50170	0.50142	0.50250
____ CA	26.11101	17,262.10	0.377	26.15991	25.99778	26.17534
____ CD	0.50759	3,764.16	0.150	0.50797	0.50671	0.50808
____ CO	0.49724	1,529.73	0.078	0.49759	0.49730	0.49683
____ CR	0.49691	4,361.97	0.182	0.49637	0.49640	0.49795
____ CU	0.52650	5,217.75	0.373	0.52643	0.52850	0.52457
____ FE	26.02770	5,498.09	0.327	26.02735	25.94271	26.11305
____ K	25.64945	3,138.47	0.416	25.65833	25.53854	25.75149
____ LI	0.51626	2,311.53	0.072	0.51669	0.51608	0.51602
____ MG	26.31871	31,845.60	0.269	26.38471	26.32764	26.24377
____ MN	0.50988	25,848.57	0.150	0.50901	0.51040	0.51024
____ MO	0.50147	680.21	0.109	0.50128	0.50105	0.50209
____ NA	26.14755	21,437.28	0.191	26.15173	26.09572	26.19520
____ NI	0.50204	1,019.19	0.168	0.50241	0.50263	0.50107
____ P	0.51894	107.59	0.468	0.52150	0.51667	0.51864
____ PB	0.49540	345.53	0.238	0.49547	0.49418	0.49654
____ S	25.60239	2,942.86	0.105	25.61170	25.57206	25.62340
____ SB	0.49607	140.39	1.069	0.49440	0.50201	0.49181
____ SE	0.50332	67.03	1.043	0.50787	0.50451	0.49757
____ SI	25.76524	3,905.77	0.335	25.76253	25.68042	25.85276
____ SN	0.49654	219.76	0.630	0.49965	0.49340	0.49657
____ SR	0.51089	266,866.57	0.346	0.50948	0.51031	0.51287
____ TI	0.51622	24,376.90	0.170	0.51521	0.51672	0.51673
____ TL	0.49617	99.49	1.106	0.49031	0.50119	0.49700
____ V	0.51325	6,752.93	0.273	0.51166	0.51432	0.51377
____ Y1	10188.60727	10,188.61	0.167	10177.96441	10179.57817	10208.27924
____ Y2A	160654.21380	160,654.21	0.195	160991.08566	160600.98802	160370.56773
____ Y2R	8302.65865	8,302.66	0.110	8293.90853	8301.86404	8312.20339
____ ZN	0.50962	3,028.25	0.221	0.51033	0.50832	0.51021
____ ZR	0.51750	844.15	1.324	0.50993	0.51927	0.52329

LANCASTER LABORATORIES

Run Name: 1529204T71

Instrument ID: 16315

Tube: 11

Date/Time: 10/19/2015 23:49

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00031	16.60	167.130	-0.00002	-0.00091	0.00000
____ AL	0.08924	34.80	38.601	0.12802	0.07749	0.06220
____ AS	-0.00416	0.70	111.659	-0.00236	-0.00944	-0.00068
____ B	0.00109	27.61	68.655	0.00136	0.00166	0.00024
____ BA	0.00010	214.90	32.591	0.00013	0.00011	0.00006
____ BE	-0.00057	-102.24	1.702	-0.00058	-0.00057	-0.00056
____ CA	0.03507	101.46	57.010	0.04967	0.04326	0.01228
____ CD	0.00205	-8.23	18.598	0.00247	0.00175	0.00192
____ CO	0.00051	5.15	97.579	0.00032	0.00107	0.00014
____ CR	0.00056	-0.60	51.633	0.00044	0.00089	0.00035
____ CU	-0.00023	-59.47	489.085	-0.00029	0.00092	-0.00131
____ FE	-0.03197	6.99	20.092	-0.02482	-0.03383	-0.03726
____ K	0.09999	94.03	83.656	0.11129	0.17742	0.01127
____ LI	0.00069	41.82	941.309	0.00782	-0.00498	-0.00075
____ MG	0.03566	59.71	20.977	0.04297	0.03601	0.02802
____ MN	-0.00246	72.22	2.245	-0.00247	-0.00251	-0.00240
____ MO	-0.00011	1.03	897.940	-0.00020	0.00092	-0.00104
____ NA	0.11881	29.97	20.732	0.13569	0.13018	0.09054
____ NI	-0.00015	8.49	45.244	-0.00007	-0.00019	-0.00019
____ P	0.00859	0.41	16.880	0.00729	0.01015	0.00831
____ PB	0.00162	5.46	111.625	0.00139	0.00352	-0.00007
____ S	-0.00426	6.51	333.366	0.00649	0.00109	-0.02035
____ SB	-0.00552	-3.55	46.632	-0.00317	-0.00826	-0.00512
____ SE	-0.00527	-1.64	121.839	-0.00059	-0.00263	-0.01260
____ SI	-0.00083	1.64	444.294	0.00339	-0.00327	-0.00261
____ SN	-0.00069	3.46	224.839	0.00100	-0.00206	-0.00101
____ SR	-0.00023	-120.78	2.558	-0.00022	-0.00023	-0.00024
____ TI	0.00071	17.71	39.462	0.00051	0.00102	0.00058
____ TL	0.01077	-1.93	28.582	0.00808	0.01413	0.01010
____ V	0.00127	-9.29	36.454	0.00168	0.00077	0.00138
____ Y1	10399.04187	10,399.04	0.359	10377.84658	10377.16957	10442.10947
____ Y2A	164580.90460	164,580.90	0.098	164449.30140	164533.72209	164759.69031
____ Y2R	8214.73778	8,214.74	0.059	8210.99362	8213.04217	8220.17754
____ ZN	-0.00001	28.96	3729.968	0.00050	-0.00040	-0.00013
____ ZR	0.00153	10.00	168.685	0.00058	-0.00044	0.00444

LANCASTER LABORATORIES

Run Name: 1529204T71 Instrument ID: 16315

Tube: 12 Date/Time: 10/19/2015 23:52

Sample Number: **8078351** Class: **** Batch: 152861848002

Initial Vol: 50.00 Final Vol: 50.00 DF: 20.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00017	17.78	436.687	0.00041	-0.00100	0.00008
____ AL	0.08747	34.14	45.346	0.07516	0.05542	0.13183
____ AS	-0.00109	1.33	444.024	0.00218	0.00121	-0.00666
____ B	0.08762	609.59	1.017	0.08724	0.08864	0.08699
____ BA	0.02080	11,005.48	0.881	0.02097	0.02060	0.02083
____ BE	-0.00062	-117.92	7.134	-0.00061	-0.00058	-0.00066
____ CA	8.11866	5,290.18	0.542	8.11146	8.16581	8.07870
____ CD	0.00170	-10.80	9.758	0.00187	0.00154	0.00169
____ CO	-0.00026	2.75	155.994	0.00018	-0.00062	-0.00033
____ CR	0.00061	-0.15	125.227	-0.00025	0.00122	0.00086
____ CU	-0.00025	-54.70	46.696	-0.00011	-0.00030	-0.00032
____ FE	-0.03009	7.28	36.557	-0.02864	-0.04174	-0.01988
____ K	7.17009	913.83	0.916	7.10449	7.23583	7.16994
____ LI	0.00317	52.81	27.061	0.00285	0.00414	0.00252
____ MG	20.04872	23,733.92	0.625	20.15143	20.08564	19.90908
____ MN	0.07674	4,026.26	0.819	0.07735	0.07609	0.07676
____ MO	0.00066	2.09	41.805	0.00093	0.00068	0.00037
____ NA	205.85019	165,008.06	0.431	205.89630	206.71362	204.94066
____ NI	-0.00020	8.32	387.840	-0.00098	0.00059	-0.00022
____ P	0.16890	34.41	2.403	0.16461	0.17267	0.16943
____ PB	0.00144	5.44	110.674	0.00126	-0.00006	0.00310
____ S	0.46559	61.14	1.806	0.45778	0.47449	0.46451
____ SB	-0.00186	-2.47	85.070	-0.00003	-0.00274	-0.00281
____ SE	0.00109	-0.75	629.617	0.00386	-0.00671	0.00611
____ SI	0.71297	107.04	3.239	0.73302	0.71817	0.68772
____ SN	-0.00019	3.66	1162.670	-0.00236	-0.00019	0.00199
____ SR	0.11973	62,108.81	0.862	0.12057	0.11858	0.12003
____ TI	0.00186	71.13	3.003	0.00186	0.00191	0.00180
____ TL	0.01077	-1.91	35.538	0.00638	0.01340	0.01253
____ V	0.00047	-19.76	88.744	0.00093	0.00014	0.00032
____ Y1	10330.89512	10,330.90	0.525	10388.64227	10281.11266	10322.93041
____ Y2A	159518.23841	159,518.24	0.674	159052.75834	160746.90495	158755.05192
____ Y2R	8095.60688	8,095.61	0.594	8095.22718	8047.72364	8143.86981
____ ZN	-0.00013	28.08	169.583	-0.00038	-0.00001	0.00000
____ ZR	0.00194	10.49	55.814	0.00071	0.00276	0.00233

LANCASTER LABORATORIES

Run Name: 1529204T71 Instrument ID: 16315

Tube: 13 Date/Time: 10/19/2015 23:55

Sample Number: **8079787** Class: **** Batch: 152861848002

Initial Vol: 50.00 Final Vol: 50.00 DF: 50.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00065	11.77	53.536	-0.00059	-0.00034	-0.00103
____ AL	0.04735	30.09	141.643	-0.01721	0.11667	0.04259
____ AS	-0.00357	0.79	145.696	-0.00946	-0.00167	0.00042
____ B	0.08264	574.51	0.506	0.08307	0.08224	0.08260
____ BA	0.00027	296.47	10.573	0.00027	0.00030	0.00024
____ BE	-0.00066	-136.60	0.508	-0.00066	-0.00065	-0.00066
____ CA	7.77427	5,020.30	0.584	7.75301	7.74339	7.82641
____ CD	0.00153	-11.70	11.124	0.00173	0.00146	0.00141
____ CO	0.00071	5.58	42.125	0.00037	0.00094	0.00081
____ CR	0.00115	4.54	70.522	0.00115	0.00195	0.00034
____ CU	-0.00135	-65.72	25.924	-0.00126	-0.00173	-0.00104
____ FE	-0.03666	5.86	10.534	-0.03436	-0.04112	-0.03451
____ K	7.43898	935.96	0.914	7.43248	7.37444	7.51003
____ LI	0.00395	55.61	71.005	0.00696	0.00140	0.00351
____ MG	24.05237	28,138.01	0.262	24.07016	23.98244	24.10452
____ MN	-0.00237	74.30	2.251	-0.00238	-0.00231	-0.00241
____ MO	-0.00005	1.08	1457.517	0.00027	-0.00089	0.00047
____ NA	199.02039	157,994.34	0.293	198.97607	198.46145	199.62364
____ NI	0.00029	9.07	208.018	0.00100	-0.00013	0.00001
____ P	0.00817	0.31	37.041	0.01144	0.00547	0.00760
____ PB	0.00009	4.27	1224.543	-0.00080	-0.00027	0.00133
____ S	16.83184	1,907.75	0.393	16.83398	16.89695	16.76458
____ SB	-0.00634	-3.65	14.446	-0.00592	-0.00739	-0.00571
____ SE	-0.00093	-1.00	768.201	-0.00913	0.00291	0.00345
____ SI	0.02426	5.27	28.508	0.02214	0.03199	0.01865
____ SN	-0.00013	3.58	291.608	-0.00038	0.00030	-0.00030
____ SR	0.14097	72,889.23	0.195	0.14070	0.14098	0.14125
____ TI	0.00195	75.20	7.137	0.00179	0.00203	0.00203
____ TL	0.01273	-1.46	12.163	0.01113	0.01422	0.01285
____ V	0.00076	-15.80	61.409	0.00036	0.00126	0.00064
____ Y1	10032.88297	10,032.88	0.240	10024.19500	10014.31500	10060.13892
____ Y2A	159009.39335	159,009.39	0.798	159699.47190	159783.34333	157545.36483
____ Y2R	8017.48517	8,017.49	0.150	8031.31243	8011.19105	8009.95204
____ ZN	-0.00015	27.16	55.780	-0.00024	-0.00007	-0.00014
____ ZR	-0.00063	6.39	445.643	0.00004	0.00178	-0.00370

LANCASTER LABORATORIES

Run Name: 1529204T71 Instrument ID: 16315

Tube: 14 Date/Time: 10/19/2015 23:57

Sample Number: **8082115** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00102	7.67	28.416	-0.00109	-0.00126	-0.00070
____ AL	0.01577	27.59	446.974	0.09657	-0.03314	-0.01611
____ AS	0.00482	2.56	46.150	0.00228	0.00644	0.00573
____ B	0.07473	520.41	2.028	0.07312	0.07613	0.07494
____ BA	0.01390	7,402.37	0.114	0.01388	0.01392	0.01390
____ BE	-0.00068	-143.97	4.546	-0.00066	-0.00071	-0.00065
____ CA	7.73342	5,069.06	0.725	7.74889	7.67127	7.78008
____ CD	0.00196	-8.84	9.723	0.00186	0.00183	0.00217
____ CO	-0.00027	2.72	142.705	-0.00071	-0.00013	0.00002
____ CR	0.00109	3.99	38.870	0.00082	0.00157	0.00087
____ CU	-0.00001	-52.72	4787.740	-0.00014	0.00046	-0.00035
____ FE	-0.03494	6.31	13.634	-0.03639	-0.02962	-0.03880
____ K	0.62991	154.96	21.409	0.61600	0.50255	0.77118
____ LI	0.00088	43.17	294.724	0.00384	-0.00106	-0.00013
____ MG	2.09621	2,532.02	0.656	2.09299	2.08436	2.11128
____ MN	0.01598	990.56	0.729	0.01599	0.01586	0.01609
____ MO	0.03651	51.30	0.869	0.03615	0.03675	0.03664
____ NA	63.96808	51,496.92	0.595	64.08094	63.54385	64.27945
____ NI	0.00040	9.61	219.123	-0.00061	0.00081	0.00099
____ P	0.06423	12.21	3.692	0.06312	0.06695	0.06261
____ PB	0.00167	6.11	212.517	-0.00205	0.00205	0.00500
____ S	9.06375	1,060.87	0.504	9.03093	9.04440	9.11592
____ SB	-0.00066	-2.15	307.236	0.00168	-0.00161	-0.00207
____ SE	-0.00610	-1.74	112.473	0.00041	-0.01326	-0.00545
____ SI	3.73302	556.02	1.082	3.75298	3.68651	3.75955
____ SN	-0.00130	3.17	39.557	-0.00190	-0.00097	-0.00104
____ SR	0.18507	95,916.05	0.182	0.18471	0.18537	0.18512
____ TI	0.00175	66.28	6.274	0.00176	0.00186	0.00164
____ TL	0.01312	-1.41	28.110	0.00901	0.01423	0.01613
____ V	0.00021	-26.45	203.671	0.00046	-0.00028	0.00043
____ Y1	10329.10629	10,329.11	0.720	10253.78046	10331.10889	10402.42951
____ Y2A	159410.18878	159,410.19	0.277	159503.02000	158929.84852	159797.69783
____ Y2R	8137.71023	8,137.71	0.720	8108.82705	8205.18031	8099.12333
____ ZN	0.00135	36.82	15.446	0.00125	0.00120	0.00159
____ ZR	0.00218	10.91	139.266	0.00447	-0.00126	0.00333

LANCASTER LABORATORIES

Run Name: 1529204T71

Instrument ID: 16315

Tube: 15

Date/Time: 10/20/2015 00:00

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00426	78.36	9.675	0.00472	0.00391	0.00416
____ AL	0.22702	48.72	13.978	0.26365	0.20815	0.20926
____ AS	0.01459	4.64	25.258	0.01815	0.01484	0.01079
____ B	0.04896	363.32	0.600	0.04893	0.04868	0.04926
____ BA	0.00521	2,976.73	0.245	0.00521	0.00522	0.00519
____ BE	0.00445	2,154.46	0.151	0.00445	0.00444	0.00445
____ CA	0.21176	220.37	0.754	0.21285	0.20993	0.21251
____ CD	0.00678	27.90	3.801	0.00707	0.00670	0.00658
____ CO	0.00522	20.02	2.308	0.00533	0.00509	0.00524
____ CR	0.01536	133.34	1.398	0.01519	0.01560	0.01529
____ CU	0.00971	42.50	10.433	0.01073	0.00870	0.00968
____ FE	0.16861	49.81	11.529	0.14799	0.17123	0.18661
____ K	0.55910	150.79	35.652	0.50944	0.77857	0.38930
____ LI	0.02249	138.96	8.119	0.02234	0.02074	0.02438
____ MG	0.11478	158.35	1.562	0.11362	0.11684	0.11387
____ MN	0.00268	338.21	0.910	0.00266	0.00270	0.00266
____ MO	0.01047	15.70	4.207	0.01044	0.01005	0.01093
____ NA	1.23244	952.34	1.556	1.24360	1.21029	1.24342
____ NI	0.00969	28.83	5.872	0.00975	0.01022	0.00909
____ P	0.10574	21.23	1.147	0.10523	0.10487	0.10713
____ PB	0.01622	15.53	7.922	0.01531	0.01769	0.01565
____ S	0.48086	63.49	0.915	0.47980	0.48570	0.47709
____ SB	0.02054	4.07	7.043	0.01957	0.02220	0.01984
____ SE	0.01953	1.79	32.891	0.01266	0.02053	0.02539
____ SI	0.06874	12.29	8.210	0.06495	0.06605	0.07523
____ SN	0.01815	11.87	5.469	0.01717	0.01813	0.01916
____ SR	0.00492	2,649.53	0.314	0.00491	0.00492	0.00494
____ TI	0.01083	509.89	1.005	0.01077	0.01076	0.01095
____ TL	0.04460	5.34	12.892	0.04983	0.04553	0.03845
____ V	0.00628	58.14	12.955	0.00699	0.00539	0.00646
____ Y1	10429.46659	10,429.47	0.278	10453.60428	10437.53995	10397.25555
____ Y2A	165287.46983	165,287.47	0.523	165713.09429	165855.99520	164293.32000
____ Y2R	8357.04802	8,357.05	0.505	8359.79649	8397.80571	8313.54187
____ ZN	0.02046	151.55	0.211	0.02041	0.02049	0.02049
____ ZR	0.05161	91.66	4.499	0.05314	0.05274	0.04893

LANCASTER LABORATORIES

Run Name: 1529204T71 Instrument ID: 16315

Tube: 16 Date/Time: 10/20/2015 00:03

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00241	-153.03	41.479	-0.00142	-0.00239	-0.00342
____ AL	492.40948	46,546.20	0.566	490.46926	495.60347	491.15572
____ AS	-0.01538	0.49	40.142	-0.02250	-0.01169	-0.01194
____ B	-0.05333	893.52	1.931	-0.05410	-0.05373	-0.05216
____ BA	0.00060	430.25	2.547	0.00060	0.00059	0.00062
____ BE	-0.00101	-262.68	1.441	-0.00101	-0.00099	-0.00102
____ CA	499.39664	306,657.33	1.198	492.97437	504.81135	500.40421
____ CD	0.00321	80.22	11.218	0.00351	0.00281	0.00331
____ CO	0.00201	8.70	28.866	0.00158	0.00178	0.00267
____ CR	0.00646	-0.42	9.424	0.00637	0.00590	0.00710
____ CU	0.00341	122.01	44.753	0.00505	0.00316	0.00203
____ FE	199.29027	38,843.91	0.752	198.10282	200.97346	198.79454
____ K	0.12770	93.36	187.834	0.22387	0.30456	-0.14533
____ LI	-0.00716	66.95	19.747	-0.00878	-0.00619	-0.00651
____ MG	484.09113	424,605.98	1.906	474.12914	492.34390	485.80036
____ MN	-0.00029	163.42	49.398	-0.00043	-0.00031	-0.00014
____ MO	0.00281	4.48	23.573	0.00277	0.00348	0.00216
____ NA	0.43745	277.56	7.646	0.40104	0.44452	0.46680
____ NI	0.00054	-14.07	153.106	0.00111	-0.00040	0.00089
____ P	0.02072	2.66	16.838	0.02472	0.01910	0.01833
____ PB	0.00572	80.08	55.145	0.00863	0.00237	0.00616
____ S	0.01912	7.61	51.511	0.02920	0.00951	0.01867
____ SB	-0.00270	-3.13	141.876	-0.00021	-0.00711	-0.00078
____ SE	-0.00077	-2.67	786.291	-0.00696	-0.00055	0.00519
____ SI	0.00525	1.50	193.632	-0.00146	0.00026	0.01694
____ SN	0.00959	7.10	9.948	0.00892	0.00916	0.01068
____ SR	-0.00034	2,309.72	20.776	-0.00026	-0.00038	-0.00039
____ TI	0.00102	29.10	35.091	0.00064	0.00135	0.00106
____ TL	0.01508	-2.42	34.634	0.01443	0.02060	0.01021
____ V	-0.00188	-9.30	10.977	-0.00168	-0.00209	-0.00188
____ Y1	9202.37888	9,202.38	0.519	9222.56549	9236.73092	9147.84022
____ Y2A	146323.60720	146,323.61	0.342	146877.83762	145906.41102	146186.57297
____ Y2R	7884.53990	7,884.54	0.799	7946.11621	7820.24760	7887.25588
____ ZN	0.00387	140.28	15.623	0.00396	0.00322	0.00442
____ ZR	0.00905	21.14	16.013	0.00999	0.00977	0.00738

LANCASTER LABORATORIES

Run Name: 1529204T71

Instrument ID: 16315

Tube: 17

Date/Time: 10/20/2015 00:06

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21578	2,246.16	0.163	0.21589	0.21605	0.21538
____ AL	496.46467	46,628.67	0.738	500.23061	496.24757	492.91582
____ AS	0.08427	19.07	5.928	0.07868	0.08829	0.08585
____ B	-0.05302	901.83	1.216	-0.05345	-0.05333	-0.05228
____ BA	0.52474	250,552.25	0.273	0.52458	0.52624	0.52340
____ BE	0.50470	200,599.57	0.200	0.50417	0.50586	0.50406
____ CA	509.97270	310,893.24	0.903	507.29965	507.33027	515.28818
____ CD	0.95807	6,509.55	1.002	0.96864	0.94988	0.95569
____ CO	0.47963	1,332.84	1.325	0.48697	0.47583	0.47610
____ CR	0.49290	3,889.02	0.063	0.49313	0.49302	0.49255
____ CU	0.55270	5,187.92	0.214	0.55134	0.55346	0.55331
____ FE	201.09969	38,918.17	0.483	202.15418	200.90391	200.24099
____ K	0.07242	86.54	86.419	0.13722	0.06775	0.01230
____ LI	-0.00423	79.91	64.566	-0.00139	-0.00684	-0.00446
____ MG	490.89434	425,706.54	1.047	496.69137	489.10701	486.88465
____ MN	0.46175	21,280.57	0.207	0.46081	0.46272	0.46172
____ MO	0.00228	3.85	14.862	0.00205	0.00267	0.00212
____ NA	0.42405	265.36	3.386	0.43050	0.43406	0.40760
____ NI	0.95270	1,726.13	1.327	0.96688	0.94859	0.94263
____ P	0.01857	2.77	30.920	0.01503	0.01548	0.02519
____ PB	0.05275	109.71	9.342	0.05843	0.05019	0.04963
____ S	0.00539	6.22	280.688	-0.00303	0.02283	-0.00365
____ SB	0.61921	158.32	1.388	0.62784	0.61915	0.61065
____ SE	0.04944	3.48	15.947	0.05853	0.04438	0.04542
____ SI	0.00801	1.88	99.487	0.00099	0.01667	0.00636
____ SN	0.01069	7.53	8.342	0.01159	0.01068	0.00981
____ SR	-0.00041	2,322.71	18.799	-0.00034	-0.00041	-0.00049
____ TI	0.00122	46.34	4.062	0.00127	0.00117	0.00123
____ TL	0.10896	15.09	3.668	0.11103	0.11148	0.10435
____ V	0.52239	6,317.28	0.021	0.52249	0.52227	0.52239
____ Y1	9225.82183	9,225.82	1.088	9109.89604	9285.19240	9282.37705
____ Y2A	145936.53964	145,936.54	0.351	146427.98485	145404.52913	145977.10495
____ Y2R	7830.44410	7,830.44	0.216	7830.06178	7847.53000	7813.74053
____ ZN	0.99874	5,416.20	1.159	1.01200	0.99353	0.99068
____ ZR	0.01084	23.73	28.456	0.01191	0.01324	0.00736

LANCASTER LABORATORIES

Run Name: 1529204T71

Instrument ID: 16315

Tube: 18

Date/Time: 10/20/2015 00:09

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.51991	6,355.29	0.075	0.52021	0.51947	0.52005
____ AL	26.07225	2,528.89	0.555	26.05090	25.93948	26.22636
____ AS	0.51253	106.90	0.286	0.51092	0.51290	0.51378
____ B	0.49627	3,550.79	0.397	0.49425	0.49636	0.49819
____ BA	0.51391	270,719.82	0.187	0.51305	0.51372	0.51495
____ BE	0.50157	219,945.87	0.184	0.50053	0.50230	0.50187
____ CA	26.17263	17,292.12	0.542	26.06211	26.12314	26.33265
____ CD	0.50674	3,752.45	0.285	0.50841	0.50593	0.50589
____ CO	0.49610	1,524.03	0.278	0.49718	0.49658	0.49455
____ CR	0.49761	4,377.62	0.266	0.49611	0.49808	0.49863
____ CU	0.52800	5,244.34	0.436	0.52719	0.52622	0.53060
____ FE	26.11667	5,513.42	0.523	26.05646	26.02047	26.27307
____ K	25.56304	3,126.34	0.465	25.62229	25.42611	25.64072
____ LI	0.51858	2,320.25	0.768	0.51548	0.51717	0.52307
____ MG	26.33385	31,844.81	0.368	26.28431	26.27185	26.44539
____ MN	0.51069	25,945.62	0.171	0.51013	0.51024	0.51170
____ MO	0.50080	678.30	0.560	0.49954	0.50401	0.49884
____ NA	26.22966	21,491.58	0.674	26.12969	26.12549	26.43381
____ NI	0.50181	1,017.25	0.249	0.50287	0.50213	0.50043
____ P	0.51518	106.64	0.311	0.51461	0.51699	0.51394
____ PB	0.49449	344.43	0.842	0.49037	0.49869	0.49439
____ S	25.69868	2,949.60	0.251	25.74360	25.72752	25.62490
____ SB	0.50175	141.81	0.870	0.50334	0.49681	0.50510
____ SE	0.50844	67.62	1.159	0.51233	0.51132	0.50165
____ SI	25.80404	3,909.26	0.614	25.66019	25.77788	25.97405
____ SN	0.49246	217.67	0.266	0.49107	0.49367	0.49264
____ SR	0.51610	270,179.75	0.471	0.51857	0.51603	0.51371
____ TI	0.51653	24,444.80	0.254	0.51509	0.51767	0.51683
____ TL	0.49841	99.82	1.634	0.50628	0.49002	0.49894
____ V	0.51660	6,812.37	0.275	0.51501	0.51775	0.51703
____ Y1	10173.77438	10,173.77	0.141	10176.62902	10158.17255	10186.52157
____ Y2A	161004.47446	161,004.47	0.165	161289.41118	160959.13174	160764.88048
____ Y2R	8297.92702	8,297.93	1.006	8356.20380	8335.26421	8202.31306
____ ZN	0.51145	3,034.54	0.284	0.51300	0.51121	0.51013
____ ZR	0.52057	848.58	1.399	0.51216	0.52484	0.52471

LANCASTER LABORATORIES

Run Name: 1529204T71

Instrument ID: 16315

Tube: 19

Date/Time: 10/20/2015 00:11

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00017	18.52	267.462	0.00036	-0.00045	-0.00042
____ AL	0.07818	33.61	71.294	0.07104	0.02636	0.13714
____ AS	-0.00238	1.06	101.177	-0.00082	-0.00516	-0.00117
____ B	0.00052	23.21	62.823	0.00088	0.00026	0.00041
____ BA	0.00012	224.11	30.049	0.00013	0.00015	0.00008
____ BE	-0.00056	-98.67	2.986	-0.00058	-0.00055	-0.00056
____ CA	0.02207	92.68	20.398	0.02019	0.02721	0.01882
____ CD	0.00170	-10.74	4.681	0.00179	0.00163	0.00170
____ CO	-0.00018	2.97	322.111	-0.00075	0.00043	-0.00022
____ CR	0.00081	1.60	34.953	0.00111	0.00077	0.00054
____ CU	-0.00133	-69.90	53.012	-0.00190	-0.00054	-0.00155
____ FE	-0.04501	4.28	26.538	-0.05778	-0.03412	-0.04312
____ K	0.04800	87.42	365.736	0.09293	-0.14566	0.19674
____ LI	0.00194	47.07	67.089	0.00103	0.00135	0.00342
____ MG	0.02605	47.90	9.911	0.02340	0.02619	0.02856
____ MN	-0.00302	42.66	4.394	-0.00316	-0.00290	-0.00299
____ MO	0.00006	1.26	324.242	-0.00002	-0.00008	0.00027
____ NA	0.11128	23.68	12.256	0.12438	0.11229	0.09716
____ NI	-0.00037	7.98	297.588	-0.00044	-0.00145	0.00077
____ P	0.00499	-0.36	6.621	0.00461	0.00517	0.00518
____ PB	-0.00036	4.08	920.386	0.00327	-0.00321	-0.00114
____ S	-0.01449	5.29	44.786	-0.01629	-0.01988	-0.00729
____ SB	-0.00114	-2.26	362.140	0.00354	-0.00424	-0.00271
____ SE	-0.00331	-1.35	177.583	-0.00783	-0.00543	0.00333
____ SI	0.00566	2.58	216.820	0.01979	-0.00208	-0.00074
____ SN	-0.00086	3.37	331.404	-0.00369	0.00198	-0.00085
____ SR	-0.00023	-116.36	5.192	-0.00022	-0.00022	-0.00024
____ TI	0.00064	14.39	7.662	0.00059	0.00065	0.00069
____ TL	0.01264	-1.52	19.298	0.01545	0.01112	0.01135
____ V	0.00111	-11.35	17.293	0.00102	0.00133	0.00098
____ Y1	10324.60841	10,324.61	0.558	10296.07079	10286.81264	10390.94181
____ Y2A	162109.45164	162,109.45	1.248	164377.25549	160489.27218	161461.82724
____ Y2R	8183.99796	8,184.00	1.962	8014.71468	8334.21105	8203.06816
____ ZN	-0.00037	26.65	55.212	-0.00060	-0.00023	-0.00027
____ ZR	0.00568	16.65	72.839	0.00090	0.00809	0.00804

ICP-MS Data

Metals in Liquid

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ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 15J20F00.E03

Run Name: 1529305E03

Analyst: 1242

Reviewed By: Choon Y Tian

Reviewed Date: 10/20/2015 11:22

Verified By: Deborah A Krady

Verified Date: 10/20/2015 11:33

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-2		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
IN-1		115
	SE	78
IN-2		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
BI-2		209
	TL	203
	PB	208

Run Name: 1529305E03 Date/Time: 10/20/2015 9:01:00
Tube Number: 1
Sample Number: **S0**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
NA	23	-0.00001	123163.00000	-156334000	-0.43370	-17.18315	17.61146
MG	24	0.00000	246.67900	-790273000	-0.62744	0.55137	0.07607
AL	27	0.00000	53.33530	-1360320000	-0.38268	-0.41268	0.79537
K	39	0.00000	13657.50000	-213223000	2.07915	-8.71756	6.63583
CA	44	0.00000	243.34800	578110000	-16.90065	19.83682	-2.93635
SC-1	45	311926.00000	0.00000	0.831	313553.00000	313288.00000	308938.00000
SC-2	45	39607.50000	0.00000	1.928	39400.50000	40453.30000	38968.80000
TI	47	0.00000	10.00060	-2833280000	0.95566	-0.47783	-0.47783
V	51	0.00000	16.66730	1980090000	-0.00894	0.00396	0.00497
CR	52	0.00000	343.35300	-13309800000	-0.08442	0.05026	0.03416
MN	55	0.00000	1073.43000	-406029000	0.28948	-0.29509	0.00561
FE	57	0.00000	90.00420	-1478780000	-1.00113	-0.59976	1.60092
CO	59	0.00000	163.34100	-2238200000	-0.02463	-0.00993	0.03456
NI	60	0.00000	80.00350	-7574430000	-0.06268	0.06146	0.00122
CU	63	0.00000	383.35600	2911600000	0.04309	0.00611	-0.04919
ZN	66	0.00000	83.33730	994003000	-0.14589	0.03261	0.11328
GE-1	72	358904.00000	0.00000	2.169	362669.00000	364090.00000	349953.00000
GE-2	72	99722.40000	0.00000	1.332	101247.00000	98818.90000	99101.10000
AS	75	0.00000	38.66700	-1385120000	0.19349	-0.10185	-0.09165
SE	78	0.00000	2.22223	-843487000	0.01733	-0.01438	-0.00295
SR	88	0.00000	23.33450	5214470000	-0.00547	0.01164	-0.00617
MO	98	0.00000	50.00190	-757080000	-0.01916	0.01879	0.00037
AG	107	0.00000	3.33346	-48362100000	0.00310	-0.00155	-0.00155
CD	111	0.00000	18.00020	725766000	-0.02190	0.02914	-0.00725
IN-1	115	270971.00000	0.00000	1.591	272593.00000	274237.00000	266084.00000
IN-2	115	50905.90000	0.00000	2.100	49891.40000	52022.70000	50803.70000
SN	120	0.00000	6451.50000	3436770000	-2.37229	2.34524	0.02707
SB	121	0.00000	16.66730	-565824000	0.00624	0.00484	-0.01108
BA	137	0.00000	23.33450	497448000	-0.01216	0.02587	-0.01372
TB-2	159	213177.00000	0.00000	2.221	214518.00000	217096.00000	207917.00000
TL	203	0.00000	20.00080	22967100000	-0.00802	-0.00403	0.01204
PB	208	0.00000	163.34100	1870300000	-0.00315	-0.00034	0.00349
BI-2	209	182609.00000	0.00000	1.430	185555.00000	181696.00000	180578.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:03:00
Tube Number: 2
Sample Number: **S1**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	38952.70000	0.00000	2.665	39400.40000	37766.20000	39691.40000
AL	27	10000.00000	343086.00000	1.750	9868.01830	10198.60036	9933.39996
CA	44	10000.00000	30356.20000	1.151	9962.50913	10129.21022	9908.27160
CR	52	1000.00000	951494.00000	2.054	976.94361	1016.34783	1006.71374
FE	57	10000.00000	195051.00000	2.245	9877.63153	10259.13482	9863.19565
K	39	10000.00000	562899.00000	2.562	9847.95533	10295.83256	9856.24630
MG	24	10000.00000	1022570.00000	2.109	9851.31559	10241.39206	9907.27711
MN	55	1000.00000	482459.00000	2.701	977.83111	1030.08742	992.07652
NA	23	10000.00000	2071090.00000	1.398	9893.14069	10158.26432	9948.59133
TI	47	1000.00000	20693.80000	2.363	978.37868	1025.23152	996.39210
V	51	1000.00000	725981.00000	3.085	979.93916	1035.51966	984.53623
IN-1	115	266292.00000	0.00000	1.748	270400.00000	267240.00000	261235.00000
IN-2	115	49307.60000	0.00000	0.895	48799.50000	49596.40000	49526.90000
AG	107	100.00000	212333.00000	2.241	102.17374	97.69819	100.12785
AS	75	1000.00000	71346.60000	1.501	1009.01634	982.67545	1008.31323
BA	137	1000.00000	227937.00000	1.842	1013.25758	978.96569	1007.77406
CD	111	100.00000	25060.30000	1.788	102.03620	98.68556	99.27809
CO	59	1000.00000	1604170.00000	1.670	986.28513	995.10605	1018.60004
CU	63	1000.00000	1240010.00000	0.941	1006.46732	1004.31731	989.20744
MO	98	100.00000	96742.10000	1.334	101.27351	100.11295	98.61303
NI	60	1000.00000	441872.00000	0.409	1004.58180	996.71637	998.70117
SB	121	100.00000	58122.60000	1.443	100.88544	98.33448	100.77995
SE	78	100.00000	6187.27000	1.431	98.37382	100.55809	101.06801
SN	120	100.00000	94980.60000	15.630	114.88242	83.70885	101.40972
SR	88	100.00000	50675.20000	0.346	99.63379	100.04383	100.32266
ZN	66	1000.00000	145778.00000	2.162	996.56765	980.30739	1023.12710
BI-2	209	177261.00000	0.00000	0.214	176860.00000	177306.00000	177616.00000
PB	208	100.00000	795248.00000	0.707	100.81386	99.64949	99.53641
TL	203	100.00000	244685.00000	1.239	101.36620	99.68474	98.94907
SC-1	45	314621.00000	0.00000	1.213	318022.00000	310492.00000	315349.00000
GE-1	72	356306.00000	0.00000	0.810	359328.00000	356010.00000	353579.00000
GE-2	72	97592.90000	0.00000	1.312	98153.10000	96128.00000	98497.40000
TB-2	159	208904.00000	0.00000	0.423	208734.00000	209861.00000	208117.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:05:00
Tube Number: 3
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39162.90000	0.00000	2.952	40493.20000	38407.50000	38588.10000
AL	27	0.84880	83.34240	198.280	2.67060	-0.64847	0.52417
CA	44	-5.45300	223.34500	-65.872	-9.00430	-1.82091	-5.53437
CR	52	0.12100	453.35900	90.496	0.02963	0.24240	0.09105
FE	57	-2.03300	50.00240	-85.735	-0.11035	-3.50946	-2.47917
K	39	-5.84400	13170.40000	-258.898	-23.31159	2.73160	3.04567
MG	24	0.00839	243.34800	8316.240	-0.48625	0.80606	-0.29465
MN	55	-2.02200	83.33650	-3.398	-2.05478	-2.06824	-1.94307
NA	23	4.33900	122605.00000	410.463	-15.83510	17.87931	10.97004
TI	47	-0.15940	6.66692	-173.149	-0.01291	0.01234	-0.47783
V	51	0.08178	76.67030	55.637	0.12314	0.08916	0.03304
IN-1	115	262032.00000	0.00000	0.890	264706.00000	260962.00000	260426.00000
IN-2	115	51197.90000	0.00000	1.758	52236.90000	50676.50000	50680.20000
AG	107	0.01817	43.33500	81.563	0.01178	0.03511	0.00761
AS	75	0.25600	58.00050	26.918	0.26703	0.31877	0.18228
BA	137	0.05764	36.66810	260.062	-0.09888	0.19994	0.07186
CD	111	0.02580	24.66690	150.775	0.00613	0.07061	0.00067
CO	59	0.06205	266.68100	86.785	0.01325	0.11983	0.05308
CU	63	0.00871	396.68900	939.157	-0.01799	-0.05641	0.10054
MO	98	0.27210	323.35100	27.913	0.28208	0.19168	0.34259
NI	60	0.08800	120.00700	103.114	-0.00360	0.17786	0.08974
SB	121	0.67540	423.36100	19.381	0.52454	0.74249	0.75919
SE	78	0.10330	8.44448	42.285	0.12732	0.12965	0.05285
SN	120	7.05000	12908.80000	111.348	1.50140	3.61593	16.03152
SR	88	0.01877	33.33490	52.035	0.03005	0.01313	0.01313
ZN	66	-0.20000	53.33560	-20.860	-0.22895	-0.21897	-0.15222
BI-2	209	182874.00000	0.00000	1.667	184574.00000	179353.00000	184693.00000
PB	208	0.00236	183.34200	93.297	0.00419	-0.00008	0.00296
TL	203	0.01703	63.33650	52.314	0.02731	0.01218	0.01160
SC-1	45	308550.00000	0.00000	0.883	310484.00000	309733.00000	305432.00000
GE-1	72	349230.00000	0.00000	1.110	344800.00000	350893.00000	351997.00000
GE-2	72	98153.30000	0.00000	3.085	101539.00000	97216.00000	95705.30000
TB-2	159	212985.00000	0.00000	0.901	212467.00000	211378.00000	215109.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:08:00
Tube Number: 4
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	38811.80000	0.00000	1.208	38317.10000	39249.80000	38868.60000
AL	27	-0.65850	30.00110	-43.523	-0.64637	-0.37826	-0.95106
CA	44	-21.45000	173.34200	-35.282	-15.13811	-29.84098	-19.37511
CR	52	-0.03164	306.68200	-221.997	-0.09815	0.04180	-0.03858
FE	57	-1.97600	50.00190	-1.577	-1.94328	-2.00522	-1.98026
K	39	1.68900	13480.70000	85.850	3.31476	1.22211	0.53040
MG	24	-0.73460	166.67400	-59.202	-0.97586	-0.23257	-0.99562
MN	55	-2.00000	93.33760	-2.063	-2.04683	-1.96792	-1.98650
NA	23	5.84800	121854.00000	142.681	15.27993	-0.56371	2.82608
TI	47	-0.31790	3.33346	-87.103	-0.47783	0.00182	-0.47783
V	51	-0.00402	13.33380	-399.254	0.00544	-0.02255	0.00505
IN-1	115	267604.00000	0.00000	3.245	276316.00000	267548.00000	258947.00000
IN-2	115	50551.90000	0.00000	2.212	50521.70000	51684.60000	49449.40000
AG	107	-0.00002	3.33346	-13715.800	0.00304	-0.00155	-0.00155
AS	75	-0.06115	34.00030	-130.188	-0.00710	-0.15258	-0.02379
BA	137	-0.05576	10.00040	-78.479	-0.09888	-0.05702	-0.01138
CD	111	0.00041	18.00020	7144.230	0.00089	0.02979	-0.02944
CO	59	0.05351	250.01100	59.428	0.01705	0.06798	0.07551
CU	63	-0.07854	280.01400	-93.430	-0.12653	-0.11503	0.00593
MO	98	0.02754	76.66970	105.955	0.06120	0.00938	0.01205
NI	60	0.06907	110.00500	89.605	0.11265	-0.00178	0.09632
SB	121	0.12840	93.33780	43.886	0.07300	0.18566	0.12666
SE	78	-0.00681	1.77778	-327.363	-0.01454	0.01832	-0.02423
SN	120	6.47700	12259.20000	171.684	19.26979	-0.88382	1.04527
SR	88	-0.02537	10.00040	-74.261	-0.04450	-0.00683	-0.02481
ZN	66	-0.10790	66.67000	-121.038	-0.21796	0.03644	-0.14225
BI-2	209	184889.00000	0.00000	2.421	189914.00000	183429.00000	181325.00000
PB	208	-0.00269	143.34000	-276.955	-0.00471	0.00555	-0.00891
TL	203	0.00511	33.33470	120.231	-0.00039	0.01173	0.00397
SC-1	45	310101.00000	0.00000	2.387	317877.00000	309283.00000	303144.00000
GE-1	72	355260.00000	0.00000	1.742	359023.00000	358641.00000	348115.00000
GE-2	72	98883.40000	0.00000	1.122	99967.70000	98930.20000	97752.10000
TB-2	159	211929.00000	0.00000	1.314	214389.00000	212491.00000	208907.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:10:00
Tube Number: 5
Sample Number: **ICV**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39477.10000	0.00000	1.382	39099.10000	40102.30000	39229.70000
AL	27	5165.00000	179631.00000	1.994	5205.82001	5047.61306	5241.09215
CA	44	5227.00000	16197.20000	4.898	5493.87781	5202.71543	4983.52879
CR	52	521.30000	502873.00000	1.878	532.54038	514.86717	516.40176
FE	57	5154.00000	101964.00000	1.148	5183.50755	5086.34320	5193.42166
K	39	5086.00000	296973.00000	1.245	5156.58611	5068.98838	5033.56904
MG	24	5110.00000	529868.00000	0.862	5160.73868	5080.04564	5089.83951
MN	55	522.00000	255819.00000	2.329	535.36532	511.56333	519.10475
NA	23	5208.00000	1151960.00000	3.161	5282.69937	5019.41440	5322.30392
TI	47	512.80000	10761.50000	6.835	548.66790	510.97503	478.64350
V	51	523.40000	385270.00000	1.501	527.46614	514.36274	528.42770
IN-1	115	270456.00000	0.00000	2.632	272404.00000	276397.00000	262567.00000
IN-2	115	49344.70000	0.00000	2.728	50854.60000	48907.80000	48271.80000
AG	107	52.72000	111997.00000	2.020	51.60448	52.82548	53.72545
AS	75	535.70000	38252.60000	2.165	522.34578	543.52375	541.15657
BA	137	525.10000	119794.00000	0.368	523.16308	525.13593	527.02348
CD	111	51.77000	12989.40000	1.780	50.89549	51.68315	52.73247
CO	59	535.60000	859570.00000	2.005	523.21432	542.29952	541.30619
CU	63	529.30000	656823.00000	2.265	515.53675	537.17836	535.32055
MO	98	51.29000	49675.00000	1.036	50.69686	51.72297	51.45061
NI	60	532.50000	235394.00000	2.913	515.55911	546.04425	535.78064
SB	121	52.93000	30805.70000	2.133	54.12200	51.87657	52.78894
SE	78	52.25000	3285.09000	1.801	53.30121	51.48158	51.97571
SN	120	78.31000	75599.10000	46.788	52.20709	120.19290	62.53864
SR	88	52.75000	26752.30000	2.984	51.92532	51.76097	54.56523
ZN	66	529.80000	77308.40000	1.887	518.29175	535.74704	535.46913
BI-2	209	179962.00000	0.00000	1.404	181774.00000	181035.00000	177077.00000
PB	208	51.84000	418679.00000	0.780	52.30606	51.55048	51.67922
TL	203	51.01000	126733.00000	0.624	50.83595	50.82659	51.38268
SC-1	45	314851.00000	0.00000	2.354	316077.00000	321573.00000	306902.00000
GE-1	72	359638.00000	0.00000	2.252	365311.00000	363238.00000	350364.00000
GE-2	72	98977.60000	0.00000	1.018	99797.00000	99283.30000	97852.50000
TB-2	159	211588.00000	0.00000	1.607	214069.00000	212983.00000	207713.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:12:00
Tube Number: 6
Sample Number: **ICB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39019.30000	0.00000	2.260	38758.40000	40002.10000	38297.30000
AL	27	0.50210	70.00290	9.088	0.51514	0.45137	0.53980
CA	44	-17.66000	186.67600	-112.061	-32.55103	4.79013	-25.23503
CR	52	-0.01185	326.68300	-209.958	0.01514	-0.01683	-0.03387
FE	57	-2.00600	50.00190	-65.553	-1.45765	-1.05449	-3.50647
K	39	-5.53200	13153.70000	-114.895	-11.40274	-6.41299	1.21881
MG	24	-0.31770	210.01100	-133.774	-0.79516	-0.17745	0.01944
MN	55	-1.93100	126.67300	-1.483	-1.94417	-1.95196	-1.89892
NA	23	-0.41800	121239.00000	-4521.530	8.34669	-22.11241	12.51134
TI	47	-0.31390	3.33346	-90.411	-0.47783	-0.47783	0.01375
V	51	0.08274	76.67010	37.938	0.04663	0.09811	0.10348
IN-1	115	265586.00000	0.00000	2.754	273682.00000	263618.00000	259457.00000
IN-2	115	51193.70000	0.00000	1.193	51882.40000	50982.00000	50716.80000
AG	107	0.01658	40.00160	47.123	0.02083	0.00756	0.02134
AS	75	0.05618	43.33470	459.416	0.35245	-0.12029	-0.06363
BA	137	0.00026	23.33450	38688.800	-0.05718	-0.05645	0.11440
CD	111	0.00001	18.00020	286471.000	-0.00095	-0.01519	0.01615
CO	59	0.05968	263.34600	87.031	0.05549	0.00997	0.11359
CU	63	-0.05088	320.01800	-59.847	-0.08507	-0.02666	-0.04092
MO	98	0.16270	213.34500	10.135	0.15658	0.15022	0.18143
NI	60	0.15240	150.00800	62.179	0.19118	0.04439	0.22159
SB	121	0.34780	226.67900	6.593	0.36476	0.32175	0.35705
SE	78	0.04407	4.88890	58.067	0.02761	0.07356	0.03106
SN	120	2.16900	8449.69000	88.520	0.46353	4.24836	1.79584
SR	88	-0.01300	16.66730	-221.077	0.01179	-0.00631	-0.04450
ZN	66	-0.13450	63.33680	-54.602	-0.09627	-0.08820	-0.21924
BI-2	209	185895.00000	0.00000	2.068	189070.00000	186993.00000	181622.00000
PB	208	-0.00517	123.33900	-58.959	-0.00818	-0.00209	-0.00524
TL	203	-0.00026	20.00080	-1484.450	-0.00035	0.00361	-0.00403
SC-1	45	306247.00000	0.00000	3.549	318562.00000	302206.00000	297974.00000
GE-1	72	353644.00000	0.00000	3.062	366129.00000	346859.00000	347943.00000
GE-2	72	100038.00000	0.00000	0.534	100189.00000	100480.00000	99443.80000
TB-2	159	214804.00000	0.00000	0.211	215271.00000	214366.00000	214775.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:15:00
Tube Number: 7
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39915.40000	0.00000	2.360	40503.60000	40413.50000	38829.00000
AL	27	103.10000	3677.34000	3.254	99.66139	103.25804	106.36550
CA	44	197.40000	853.39900	13.794	166.58264	218.33110	207.16170
CR	52	1.99300	2286.96000	9.313	1.77859	2.09749	2.10265
FE	57	94.85000	1983.57000	10.553	85.69525	93.31118	105.53470
K	39	188.20000	24376.70000	4.543	198.09791	183.61612	182.98245
MG	24	98.67000	10588.00000	4.659	94.25087	103.42631	98.31871
MN	55	0.06511	1113.43000	356.167	-0.11772	-0.01298	0.32600
NA	23	186.80000	161421.00000	12.516	167.85311	179.57526	212.92365
TI	47	16.70000	363.35300	14.323	14.86103	15.82701	19.40121
V	51	0.62120	480.03000	18.142	0.58654	0.74714	0.52993
IN-1	115	267836.00000	0.00000	2.344	274565.00000	266811.00000	262133.00000
IN-2	115	51476.00000	0.00000	0.665	51861.20000	51207.30000	51359.50000
AG	107	0.52340	1163.44000	13.433	0.47755	0.48820	0.60432
AS	75	2.06100	192.67000	1.496	2.05934	2.09237	2.03076
BA	137	1.87500	470.02400	13.435	2.07029	1.59100	1.96511
CD	111	0.45090	136.00200	15.647	0.46221	0.51514	0.37541
CO	59	0.55620	1096.76000	11.057	0.61875	0.49581	0.55392
CU	63	2.02600	3010.48000	4.615	2.11657	1.92984	2.03165
MO	98	0.50150	556.70000	8.407	0.54014	0.50784	0.45654
NI	60	2.36100	1170.10000	11.398	2.62331	2.37569	2.08557
SB	121	1.04400	650.04000	3.485	1.08487	1.01623	1.02965
SE	78	2.12600	134.44500	3.107	2.08652	2.20198	2.08862
SN	120	1.53800	7924.22000	79.324	2.94602	0.86096	0.80637
SR	88	0.96980	536.70000	15.178	1.13813	0.90608	0.86533
ZN	66	14.24000	2250.29000	4.687	13.74017	13.98851	15.00005
BI-2	209	187591.00000	0.00000	1.337	190487.00000	186157.00000	186129.00000
PB	208	0.98380	8444.86000	2.639	0.96918	1.01374	0.96838
TL	203	0.52270	1373.48000	6.334	0.49027	0.52133	0.55645
SC-1	45	309426.00000	0.00000	2.402	317154.00000	308796.00000	302328.00000
GE-1	72	353941.00000	0.00000	3.577	367473.00000	351972.00000	342377.00000
GE-2	72	100103.00000	0.00000	2.529	99537.30000	102871.00000	97902.30000
TB-2	159	215137.00000	0.00000	1.171	217992.00000	214195.00000	213223.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:17:00
Tube Number: 8
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	38969.30000	0.00000	3.657	39310.00000	40193.10000	37404.80000
AL	27	10290.00000	352786.00000	4.303	10291.11101	9840.57073	10726.01554
CA	44	10140.00000	30774.00000	3.164	10011.91774	9903.05973	10505.16611
CR	52	0.02318	360.01900	226.057	0.08287	0.00194	-0.01527
FE	57	10290.00000	200644.00000	3.903	10140.82016	9980.96761	10742.57314
K	39	10230.00000	575678.00000	3.293	10094.74247	9984.78035	10615.39778
MG	24	10120.00000	1034430.00000	2.973	10157.96755	9794.95415	10392.19611
MN	55	-1.16300	496.70200	-9.768	-1.28926	-1.06763	-1.13501
NA	23	10130.00000	2096090.00000	3.240	10130.96043	9799.96009	10456.34159
TI	47	208.20000	4317.55000	2.227	211.23992	202.83975	210.44343
V	51	0.03265	40.00150	43.553	0.04566	0.01748	0.03480
IN-1	115	266870.00000	0.00000	1.764	272285.00000	264562.00000	263763.00000
IN-2	115	50397.80000	0.00000	1.397	50888.00000	50714.40000	49590.90000
AG	107	0.00458	13.33380	57.146	0.00301	0.00761	0.00313
AS	75	-0.09838	31.33360	-153.588	0.07068	-0.14541	-0.22042
BA	137	-0.05590	10.00040	-76.315	-0.09888	-0.01357	-0.05526
CD	111	0.07389	36.66700	41.589	0.05455	0.10932	0.05779
CO	59	-0.02119	126.67300	-76.546	-0.02004	-0.03795	-0.00558
CU	63	0.01869	403.35400	65.864	0.00511	0.02183	0.02912
MO	98	198.70000	196410.00000	1.061	199.87501	196.24202	199.91483
NI	60	0.02459	90.00420	148.597	0.06672	0.00153	0.00552
SB	121	0.02278	30.00140	147.059	-0.01111	0.05588	0.02355
SE	78	0.01133	2.88890	58.385	0.00685	0.01893	0.00821
SN	120	0.68400	6968.49000	211.257	0.66986	-0.75415	2.13637
SR	88	0.03273	40.00180	116.743	0.07029	-0.00610	0.03403
ZN	66	-0.28240	40.00180	-86.756	-0.55290	-0.21923	-0.07517
BI-2	209	182993.00000	0.00000	2.783	188307.00000	182519.00000	178154.00000
PB	208	0.01165	260.01300	30.910	0.01436	0.01301	0.00756
TL	203	-0.00402	10.00040	-101.169	-0.00417	-0.00802	0.00012
SC-1	45	311946.00000	0.00000	1.377	316198.00000	312031.00000	307610.00000
GE-1	72	359528.00000	0.00000	1.742	366724.00000	356550.00000	355309.00000
GE-2	72	98033.20000	0.00000	1.494	98364.50000	99304.10000	96431.00000
TB-2	159	212888.00000	0.00000	2.258	216428.00000	214818.00000	207417.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:19:00
Tube Number: 9
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39133.40000	0.00000	0.874	39461.10000	39160.30000	38778.70000
AL	27	10050.00000	346545.00000	0.949	9953.78225	10057.18191	10144.36689
CA	44	9938.00000	30316.10000	0.868	10015.87726	9845.27091	9952.93646
CR	52	20.51000	19939.30000	2.467	20.77740	19.92407	20.82164
FE	57	10150.00000	198991.00000	0.901	10196.26106	10209.94826	10045.22992
K	39	10080.00000	569912.00000	1.599	10109.95787	9899.99025	10216.84560
MG	24	9841.00000	1011340.00000	0.422	9793.39943	9868.64315	9861.46879
MN	55	19.50000	10494.60000	3.492	19.41778	18.86030	20.21544
NA	23	9964.00000	2074090.00000	0.249	9982.18884	9935.67649	9974.05060
TI	47	207.50000	4324.22000	5.590	210.42971	217.34066	194.71296
V	51	0.01864	30.00110	75.483	0.00463	0.01853	0.03277
IN-1	115	267709.00000	0.00000	0.741	267243.00000	269883.00000	266000.00000
IN-2	115	49626.10000	0.00000	1.813	50625.40000	48881.00000	49372.10000
AG	107	20.55000	43911.10000	3.097	20.17371	21.28440	20.19039
AS	75	20.90000	1537.44000	5.215	20.07009	20.49394	22.13358
BA	137	-0.07003	6.66693	-35.685	-0.05615	-0.09888	-0.05506
CD	111	20.66000	5225.12000	1.416	20.48353	20.99942	20.50263
CO	59	20.74000	33647.90000	2.366	21.30619	20.44921	20.46350
CU	63	21.15000	26765.30000	2.948	21.45601	21.56346	20.43363
MO	98	200.20000	194875.00000	1.910	197.15113	204.50361	199.01017
NI	60	20.10000	9010.14000	3.701	19.29882	20.77057	20.22278
SB	121	0.03504	36.66840	31.022	0.02250	0.04166	0.04097
SE	78	-0.00671	1.77778	-185.301	0.00765	-0.01404	-0.01373
SN	120	2.41800	8394.73000	107.155	-0.56000	4.15634	3.65945
SR	88	0.07987	63.33580	16.414	0.07088	0.09491	0.07381
ZN	66	21.22000	3190.52000	4.012	20.24047	21.81361	21.59127
BI-2	209	180731.00000	0.00000	1.724	181992.00000	183018.00000	177183.00000
PB	208	0.01910	316.68100	6.005	0.01801	0.01901	0.02029
TL	203	0.00523	33.33550	304.913	-0.00404	0.02365	-0.00393
SC-1	45	315332.00000	0.00000	1.358	310841.00000	319365.00000	315790.00000
GE-1	72	356191.00000	0.00000	0.896	353480.00000	355386.00000	359708.00000
GE-2	72	97136.00000	0.00000	0.945	98033.00000	97176.30000	96198.60000
TB-2	159	214264.00000	0.00000	1.604	216863.00000	215561.00000	210368.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:22:00
Tube Number: 10
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	38868.80000	0.00000	2.072	39230.00000	37946.10000	39430.40000
AL	27	2506.00000	85845.70000	2.506	2504.82038	2570.07828	2444.53257
CA	44	2492.00000	7725.93000	4.342	2423.40461	2617.17314	2436.87801
CR	52	256.10000	243412.00000	1.061	254.63166	259.22681	254.41981
FE	57	2503.00000	48793.10000	1.037	2479.46323	2530.78299	2498.35327
K	39	2477.00000	149240.00000	1.742	2461.30248	2525.68026	2443.74099
MG	24	2515.00000	256821.00000	1.254	2487.70041	2549.37709	2506.94114
MN	55	256.30000	124201.00000	2.111	254.07307	262.49233	252.39730
NA	23	2508.00000	608926.00000	1.369	2485.98626	2547.60296	2490.53556
TI	47	267.40000	5534.76000	5.868	279.36446	249.62111	273.16830
V	51	253.40000	183670.00000	1.557	253.84548	257.16079	249.30197
IN-1	115	266981.00000	0.00000	0.627	268464.00000	265166.00000	267312.00000
IN-2	115	49399.70000	0.00000	3.101	51154.00000	48328.00000	48717.10000
AG	107	25.94000	55175.20000	2.346	25.54314	25.63264	26.63914
AS	75	256.00000	18318.40000	3.392	246.48902	263.45572	258.19226
BA	137	258.40000	58998.20000	3.967	247.50053	260.00053	267.83068
CD	111	26.29000	6611.77000	2.615	25.52310	26.51429	26.84372
CO	59	261.40000	420031.00000	2.923	253.06177	263.21035	268.03038
CU	63	262.00000	325601.00000	2.176	255.41186	264.85543	265.66460
MO	98	25.65000	24895.30000	1.837	25.23537	25.56135	26.16419
NI	60	261.50000	115759.00000	2.018	255.38995	264.97427	264.01115
SB	121	25.41000	14802.70000	2.953	24.57084	25.65757	26.01048
SE	78	25.67000	1593.88000	1.041	25.50440	25.97351	25.51784
SN	120	25.39000	28852.70000	5.589	26.97997	24.25624	24.92947
SR	88	25.43000	12920.40000	3.004	24.61293	25.55041	26.12668
ZN	66	260.60000	38117.10000	1.356	257.66199	264.54284	259.71074
BI-2	209	181291.00000	0.00000	1.640	184414.00000	178495.00000	180965.00000
PB	208	24.93000	202868.00000	1.304	24.55668	25.14084	25.09543
TL	203	25.23000	63152.20000	2.383	24.54383	25.52562	25.63579
SC-1	45	310210.00000	0.00000	0.906	313375.00000	309247.00000	308008.00000
GE-1	72	356045.00000	0.00000	2.067	362999.00000	356796.00000	348341.00000
GE-2	72	96897.40000	0.00000	0.992	97751.40000	95856.30000	97084.60000
TB-2	159	208381.00000	0.00000	1.642	207245.00000	205671.00000	212227.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:24:00
Tube Number: 11
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39527.30000	0.00000	2.125	40002.20000	38557.70000	40022.10000
AL	27	-0.66980	30.00110	-75.261	-1.25140	-0.35749	-0.40058
CA	44	-11.94000	206.67700	-227.387	-17.83963	-35.66156	17.67259
CR	52	-0.02985	313.35000	-55.712	-0.02707	-0.01479	-0.04769
FE	57	-3.38400	23.33420	-30.703	-3.05164	-4.54949	-2.55335
K	39	-10.91000	13020.30000	-81.448	-12.97492	-1.17355	-18.58399
MG	24	-0.63840	180.00900	-60.824	-0.36793	-1.08334	-0.46412
MN	55	-1.99000	100.00500	-3.617	-2.05306	-2.00580	-1.91166
NA	23	-6.26900	121669.00000	-262.562	-13.09209	12.50446	-18.23001
TI	47	-0.47780	0.00000	0.000	-0.47783	-0.47783	-0.47783
V	51	0.04067	46.66890	16.157	0.04448	0.03309	0.04445
IN-1	115	270219.00000	0.00000	1.219	269193.00000	267560.00000	273905.00000
IN-2	115	50932.50000	0.00000	1.971	50407.30000	52090.10000	50300.10000
AG	107	0.01356	33.33460	68.518	0.01687	0.02074	0.00306
AS	75	0.00640	39.33380	3718.750	-0.25282	0.05689	0.21513
BA	137	-0.07027	6.66693	-70.528	-0.01305	-0.09888	-0.09888
CD	111	0.02355	24.00030	34.497	0.01667	0.02146	0.03251
CO	59	0.01993	196.67700	118.113	0.02951	0.03717	-0.00689
CU	63	-0.08121	280.01300	-49.649	-0.04723	-0.07066	-0.12577
MO	98	0.22270	273.34800	42.779	0.13227	0.32217	0.21376
NI	60	0.03653	96.67060	159.978	0.00260	0.10401	0.00298
SB	121	0.15040	106.67100	52.500	0.24156	0.10254	0.10718
SE	78	0.00379	2.44445	595.408	-0.00333	0.02905	-0.01435
SN	120	1.22800	7539.12000	172.313	-0.15213	0.17131	3.66441
SR	88	-0.01873	13.33410	-157.501	0.01344	-0.04450	-0.02514
ZN	66	-0.06439	73.33660	-248.175	-0.15006	-0.16307	0.11995
BI-2	209	185825.00000	0.00000	1.821	186548.00000	188787.00000	182138.00000
PB	208	-0.00276	143.34000	-96.373	-0.00563	-0.00226	-0.00039
TL	203	0.00888	43.33540	24.837	0.01140	0.00733	0.00790
SC-1	45	308818.00000	0.00000	0.868	311773.00000	306546.00000	308135.00000
GE-1	72	353974.00000	0.00000	0.761	357075.00000	352200.00000	352648.00000
GE-2	72	98990.50000	0.00000	0.953	100080.00000	98415.70000	98476.20000
TB-2	159	213922.00000	0.00000	0.787	215786.00000	212509.00000	213471.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:26:00
Tube Number: 12 Batch: 152886050004A
Sample Number: **PBW** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	38641.50000	0.00000	0.533	38838.80000	38427.60000	38658.00000
AL	27	1.10300	90.00390	158.568	2.84928	-0.64893	1.10777
CA	44	3.21600	246.68100	681.903	17.29647	-22.05321	14.40411
CR	52	0.01640	350.02000	520.854	-0.06997	0.01832	0.10084
FE	57	-1.10500	66.66970	-142.534	-1.46405	-2.47048	0.61702
K	39	-3.93900	13113.70000	-248.109	-15.17470	0.75831	2.59634
MG	24	3.74600	620.03900	17.165	3.51688	4.47201	3.24874
MN	55	-1.86700	156.67500	-7.204	-1.73643	-2.00516	-1.85983
NA	23	4.81600	121132.00000	25.332	3.58260	4.84284	6.01930
TI	47	-0.47780	0.00000	0.000	-0.47783	-0.47783	-0.47783
V	51	0.02367	33.33460	88.678	0.04649	0.01932	0.00520
IN-1	115	271026.00000	0.00000	1.244	274709.00000	270279.00000	268091.00000
IN-2	115	50678.60000	0.00000	1.083	51099.40000	50057.60000	50878.80000
AG	107	0.01067	26.66880	25.183	0.01208	0.01237	0.00758
AS	75	0.00043	38.66710	9696.760	-0.04004	-0.00228	0.04361
BA	137	-0.07036	6.66693	-35.105	-0.05655	-0.05566	-0.09888
CD	111	-0.00719	16.00010	-489.006	0.03092	-0.01419	-0.03829
CO	59	-0.02984	113.33800	-29.997	-0.02036	-0.03102	-0.03815
CU	63	-0.01236	366.68900	-470.307	0.03498	-0.07724	0.00517
MO	98	0.11430	163.34200	84.375	0.21962	0.09279	0.03036
NI	60	0.12580	136.67400	144.515	0.06573	-0.01846	0.33001
SB	121	0.07272	60.00340	23.226	0.05525	0.07393	0.08897
SE	78	0.01091	2.88890	409.808	-0.02486	-0.00345	0.06103
SN	120	2.83500	8997.70000	242.575	-0.70381	-1.55251	10.76025
SR	88	-0.00623	20.00080	-527.109	0.03171	-0.02505	-0.02536
ZN	66	0.53730	163.34200	17.085	0.63929	0.46125	0.51143
BI-2	209	186035.00000	0.00000	1.582	187999.00000	187454.00000	182650.00000
PB	208	0.00241	186.67500	78.429	0.00375	0.00025	0.00322
TL	203	-0.00541	6.66694	-41.832	-0.00802	-0.00415	-0.00405
SC-1	45	313117.00000	0.00000	1.361	316973.00000	313833.00000	308545.00000
GE-1	72	359316.00000	0.00000	1.471	364200.00000	353704.00000	360044.00000
GE-2	72	99067.80000	0.00000	1.829	99413.10000	97107.60000	100683.00000
TB-2	159	212918.00000	0.00000	0.928	213624.00000	210687.00000	214443.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:29:00
Tube Number: 13 Batch: 152886050004A
Sample Number: **LCSW** Class: **********

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	40119.40000	0.00000	2.787	39851.60000	39160.10000	41346.60000
AL	27	2072.00000	73250.50000	2.011	2097.46039	2094.32638	2023.77013
CA	44	4294.00000	13560.90000	3.300	4284.12054	4440.55222	4157.62501
CR	52	51.81000	51101.40000	2.687	50.75563	53.39013	51.29326
FE	57	1064.00000	21461.90000	3.565	1051.27101	1107.20623	1034.86511
K	39	10330.00000	598277.00000	2.302	10311.64719	10571.85961	10097.02595
MG	24	2089.00000	220227.00000	1.460	2068.32628	2123.84779	2074.19768
MN	55	49.96000	25869.90000	1.949	48.93917	50.87726	50.07026
NA	23	10240.00000	2181870.00000	2.284	10430.86323	10319.51057	9981.73213
TI	47	274.50000	5858.21000	5.832	257.98351	289.96225	275.51649
V	51	51.77000	38738.50000	1.616	52.56636	51.84645	50.89846
IN-1	115	269905.00000	0.00000	3.089	279315.00000	263438.00000	266963.00000
IN-2	115	50778.10000	0.00000	0.484	50922.80000	50917.00000	50494.40000
AG	107	50.81000	111111.00000	1.803	50.38905	50.17909	51.86041
AS	75	10.65000	820.69800	2.485	10.55289	10.44552	10.94818
BA	137	50.53000	11882.80000	1.977	50.99028	49.37993	51.20994
CD	111	5.33300	1393.42000	6.533	5.01881	5.70771	5.27256
CO	59	264.20000	436507.00000	1.607	259.71872	264.65937	268.17137
CU	63	52.67000	67617.60000	1.399	52.02019	52.51313	53.46983
MO	98	51.04000	50879.90000	1.229	51.52428	50.33374	51.27183
NI	60	53.24000	24300.20000	2.030	52.45364	52.78863	54.47184
SB	121	6.02300	3620.67000	3.651	5.78864	6.05606	6.22466
SE	78	10.54000	662.90800	1.228	10.49642	10.43391	10.68271
SN	120	50.95000	53021.30000	3.996	50.01830	53.28843	49.55176
SR	88	41.49000	21662.50000	2.564	40.47914	41.38443	42.59966
ZN	66	531.00000	79753.50000	3.137	528.63102	515.71840	548.76777
BI-2	209	183638.00000	0.00000	0.995	184772.00000	181531.00000	184611.00000
PB	208	15.61000	128712.00000	1.050	15.44307	15.77084	15.60726
TL	203	2.00300	5094.62000	6.860	1.94514	2.15968	1.90362
SC-1	45	313248.00000	0.00000	2.672	322260.00000	305715.00000	311768.00000
GE-1	72	359489.00000	0.00000	1.950	367576.00000	355120.00000	355772.00000
GE-2	72	99385.60000	0.00000	1.658	99423.30000	97719.60000	101014.00000
TB-2	159	215168.00000	0.00000	0.301	215912.00000	214852.00000	214739.00000

Run Name: 1529305E03
Tube Number: 14
Sample Number: **8082120**

Date/Time: 10/20/2015 9:31:00
Batch: 152886050004A
Class: U*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39657.80000	0.00000	1.163	39581.00000	40152.60000	39239.70000
AL	27	73.29000	2613.72000	3.986	70.46222	73.11635	76.29699
CA	44	66390.00000	203836.00000	1.288	66641.87358	65438.60248	67092.03491
CR	52	0.92180	1236.79000	14.851	0.77304	1.04253	0.94980
FE	57	11780.00000	233899.00000	0.831	11694.33104	11747.04087	11883.88251
K	39	7439.00000	429936.00000	1.731	7481.84128	7293.81350	7540.33900
MG	24	20760.00000	2162030.00000	2.127	20326.11449	20755.85179	21209.08341
MN	55	198.60000	98445.90000	2.016	199.12750	194.37334	202.32983
NA	23	101400.00000	20261000.00000	2.205	99576.40984	100787.24376	103909.43197
TI	47	3.02000	73.33710	72.185	2.85164	0.92877	5.27965
V	51	1.31700	990.07500	9.051	1.26469	1.23300	1.45356
IN-1	115	258781.00000	0.00000	1.243	262135.00000	255722.00000	258485.00000
IN-2	115	48442.10000	0.00000	2.001	49471.90000	47547.70000	48306.50000
AG	107	0.01430	33.33490	74.546	0.02661	0.00822	0.00806
AS	75	72.81000	5135.72000	4.241	71.52097	76.32784	70.56723
BA	137	26.37000	5928.33000	2.212	26.66969	26.75165	25.70267
CD	111	0.03377	25.33360	38.910	0.03422	0.04669	0.02041
CO	59	0.56180	1040.08000	7.001	0.52288	0.56097	0.60152
CU	63	2.61700	3550.64000	6.477	2.59516	2.79594	2.45906
MO	98	6.17900	5918.28000	6.372	6.38348	6.42928	5.72558
NI	60	0.98620	503.36700	14.226	0.95349	1.14000	0.86520
SB	121	0.14730	100.00400	42.838	0.12659	0.09715	0.21815
SE	78	0.06801	6.22224	55.742	0.10702	0.06569	0.03131
SN	120	3.49900	9234.14000	179.737	10.73053	-0.68926	0.45656
SR	88	625.60000	311247.00000	2.673	606.92312	639.11683	630.87843
ZN	66	40.28000	5841.54000	4.461	38.58638	42.16459	40.09158
BI-2	209	174742.00000	0.00000	0.536	174620.00000	173871.00000	175734.00000
PB	208	0.63260	5114.00000	5.005	0.60954	0.66867	0.61951
TL	203	0.00303	26.66810	77.554	0.00443	0.00032	0.00435
SC-1	45	308671.00000	0.00000	0.603	310386.00000	306691.00000	308935.00000
GE-1	72	347681.00000	0.00000	1.021	350853.00000	343848.00000	348342.00000
GE-2	72	97475.30000	0.00000	0.811	98354.30000	97247.70000	96823.80000
TB-2	159	209148.00000	0.00000	0.858	209883.00000	210458.00000	207103.00000

Run Name: 1529305E03
Tube Number: 15
Sample Number: **8082120**

Date/Time: 10/20/2015 9:33:00
Batch: 152886050004A
Class: UP********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	40280.10000	0.00000	1.063	40122.60000	39952.80000	40764.70000
AL	27	267.30000	9540.53000	2.208	261.12805	267.93333	272.88117
CA	44	63730.00000	198757.00000	0.944	63921.28026	64214.96846	63057.19704
CR	52	4.78800	5061.18000	6.846	4.94294	4.41180	5.01021
FE	57	11290.00000	227803.00000	2.132	11430.83598	11431.24793	11014.12776
K	39	7422.00000	435697.00000	2.265	7475.44216	7556.10378	7233.06729
MG	24	19780.00000	2092350.00000	1.082	19981.17485	19555.68943	19809.92248
MN	55	190.50000	95970.60000	2.152	192.48637	193.29575	185.82636
NA	23	95820.00000	19450500.00000	1.524	97482.19817	95262.73079	94728.27247
TI	47	33.30000	723.38800	23.006	38.46883	24.49723	36.93165
V	51	2.24600	1703.52000	2.606	2.20980	2.31326	2.21411
IN-1	115	258741.00000	0.00000	2.257	265384.00000	254416.00000	256423.00000
IN-2	115	48451.80000	0.00000	0.776	48622.50000	48712.20000	48020.60000
AG	107	1.12400	2350.32000	7.616	1.12561	1.20936	1.03817
AS	75	75.77000	5347.14000	1.320	76.39328	76.30813	74.62039
BA	137	29.90000	6718.77000	1.045	30.25356	29.66440	29.77776
CD	111	1.14100	298.00600	6.791	1.12927	1.22406	1.07049
CO	59	1.49200	2507.01000	3.964	1.55818	1.47307	1.44449
CU	63	6.85700	8716.60000	2.995	6.77068	6.70866	7.09136
MO	98	6.76000	6471.92000	10.842	7.58719	6.19062	6.50358
NI	60	4.91100	2206.94000	7.088	4.89879	4.56860	5.26453
SB	121	2.38400	1376.80000	10.579	2.57273	2.09756	2.48160
SE	78	4.28800	260.00300	4.513	4.50660	4.21734	4.13930
SN	120	5.09900	10566.80000	25.103	4.43959	6.57475	4.28380
SR	88	598.60000	297948.00000	1.555	603.28758	587.88605	604.64265
ZN	66	69.49000	10027.70000	1.841	70.96059	68.67387	68.82433
BI-2	209	175679.00000	0.00000	2.152	178902.00000	176618.00000	171516.00000
PB	208	2.67400	21231.70000	2.117	2.72023	2.68995	2.61059
TL	203	0.97100	2373.67000	10.126	0.88708	1.07918	0.94675
SC-1	45	307468.00000	0.00000	0.881	310437.00000	305125.00000	306843.00000
GE-1	72	340174.00000	0.00000	1.521	346118.00000	337731.00000	336674.00000
GE-2	72	95950.20000	0.00000	1.406	96551.30000	96893.90000	94405.40000
TB-2	159	214869.00000	0.00000	1.332	216027.00000	216969.00000	211610.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:36:00
Tube Number: 16 Batch: 152886050004A
Sample Number: **8082123** Class: D*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39825.00000	0.00000	0.718	39501.00000	39931.80000	40042.30000
AL	27	83.99000	3000.52000	4.514	81.24963	88.31280	82.39400
CA	44	61120.00000	188456.00000	2.331	62343.59626	61453.19043	59554.40647
CR	52	0.78300	1106.76000	13.895	0.75457	0.69134	0.90320
FE	57	10290.00000	205268.00000	2.386	10567.38136	10204.90531	10099.22347
K	39	7285.00000	423133.00000	1.386	7400.99541	7217.75487	7235.72289
MG	24	19670.00000	2057440.00000	0.664	19524.44345	19764.18223	19734.27102
MN	55	168.30000	83948.30000	2.516	173.01588	164.80668	167.11120
NA	23	102300.00000	20516600.00000	1.245	103712.94681	101290.95755	101815.73565
TI	47	2.83300	70.00320	50.018	2.85842	4.23683	1.40281
V	51	1.02300	776.71800	0.147	1.02289	1.02504	1.02215
IN-1	115	257500.00000	0.00000	0.464	258624.00000	256247.00000	257627.00000
IN-2	115	48751.90000	0.00000	2.872	49832.80000	49253.10000	47169.80000
AG	107	0.00166	6.66693	167.610	-0.00155	0.00316	0.00337
AS	75	79.68000	5649.94000	5.781	74.66371	80.66101	83.71863
BA	137	25.18000	5694.85000	5.500	23.69596	26.43724	25.40652
CD	111	0.07621	36.00030	5.558	0.07297	0.07465	0.08100
CO	59	0.57810	1073.43000	13.859	0.65412	0.49444	0.58581
CU	63	2.91000	3937.43000	5.278	3.02930	2.96342	2.73642
MO	98	7.54100	7252.39000	3.916	7.31981	7.42730	7.87649
NI	60	1.32900	656.71100	2.457	1.32611	1.29842	1.36348
SB	121	0.06504	53.33600	14.526	0.05736	0.07559	0.06217
SE	78	0.07264	6.44447	99.504	0.02017	0.15508	0.04267
SN	120	8.12900	13030.50000	194.981	-0.60792	-1.42860	26.42476
SR	88	571.90000	286270.00000	2.812	557.59581	568.73857	589.29237
ZN	66	46.84000	6825.42000	4.105	44.69029	48.38574	47.45962
BI-2	209	174320.00000	0.00000	1.066	176376.00000	173829.00000	172755.00000
PB	208	0.77990	6254.22000	2.630	0.77900	0.75992	0.80091
TL	203	-0.00388	10.00040	-105.904	0.00020	-0.00802	-0.00382
SC-1	45	304214.00000	0.00000	1.384	306021.00000	299403.00000	307219.00000
GE-1	72	342109.00000	0.00000	1.881	344659.00000	334789.00000	346879.00000
GE-2	72	94950.00000	0.00000	1.286	94234.20000	94256.10000	96359.60000
TB-2	159	209466.00000	0.00000	0.461	210416.00000	209497.00000	208485.00000

Run Name: 1529305E03
Tube Number: 17
Sample Number: **8082121**

Date/Time: 10/20/2015 9:38:00
Batch: 152886050004A
Class: R*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	38795.20000	0.00000	1.897	38437.20000	38306.80000	39641.50000
AL	27	2118.00000	72435.90000	0.940	2129.89561	2129.66258	2095.31769
CA	44	69700.00000	209298.00000	2.257	71169.30901	69890.44972	68039.90113
CR	52	52.47000	50050.60000	0.419	52.71126	52.41957	52.28103
FE	57	12450.00000	241877.00000	2.116	12480.21867	12697.68684	12173.23054
K	39	18100.00000	1004470.00000	2.141	18551.96253	17894.09215	17868.13822
MG	24	22700.00000	2311650.00000	2.337	23152.69791	22829.22652	22115.65480
MN	55	241.30000	116766.00000	2.665	242.64730	246.97506	234.32154
NA	23	112700.00000	22008700.00000	2.668	114133.15548	114756.84170	109265.48538
TI	47	258.10000	5327.99000	2.481	252.30639	264.96837	256.97936
V	51	52.06000	37661.90000	3.740	52.77983	53.54993	49.85928
IN-1	115	261707.00000	0.00000	1.086	264122.00000	258577.00000	262424.00000
IN-2	115	47605.50000	0.00000	2.233	48746.00000	46641.10000	47429.40000
AG	107	49.18000	100840.00000	1.455	49.31018	49.83003	48.41511
AS	75	87.17000	6036.79000	1.682	85.47906	88.02555	88.01230
BA	137	78.62000	17316.00000	4.041	76.90933	82.28956	76.67164
CD	111	5.06400	1240.74000	6.317	4.97943	5.41837	4.79577
CO	59	264.00000	408923.00000	1.389	259.99575	267.16273	264.91670
CU	63	55.19000	66401.40000	1.381	54.55340	56.03431	54.98111
MO	98	58.79000	54903.20000	3.916	56.48452	61.08913	58.79911
NI	60	53.38000	22840.80000	2.124	52.18871	53.52054	54.44444
SB	121	6.36100	3577.34000	13.586	5.45640	7.17798	6.44982
SE	78	9.91400	604.90500	1.659	9.84177	9.79830	10.10254
SN	120	56.84000	54730.30000	20.672	49.94208	50.17285	70.40099
SR	88	655.50000	320520.00000	1.698	643.81209	665.95239	656.85149
ZN	66	575.20000	80997.10000	0.697	579.29902	571.29049	574.99446
BI-2	209	171861.00000	0.00000	0.233	171417.00000	172197.00000	171968.00000
PB	208	16.15000	124639.00000	1.376	16.38962	16.10542	15.95136
TL	203	2.07500	4941.24000	4.111	2.17342	2.02042	2.03153
SC-1	45	309850.00000	0.00000	0.911	312106.00000	306686.00000	310758.00000
GE-1	72	343945.00000	0.00000	1.653	350249.00000	339201.00000	342386.00000
GE-2	72	94493.20000	0.00000	0.390	94799.60000	94595.90000	94084.20000
TB-2	159	210248.00000	0.00000	1.522	213925.00000	208102.00000	208718.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:40:00
Tube Number: 18 Batch: 152886050004A
Sample Number: **8082122** Class: M*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39380.50000	0.00000	1.389	38938.90000	39992.60000	39209.90000
AL	27	2068.00000	71792.90000	1.916	2096.54174	2023.04524	2085.52086
CA	44	67680.00000	206346.00000	0.832	68109.38495	67043.85073	67891.04521
CR	52	50.07000	48491.50000	2.359	50.63440	48.71591	50.86833
FE	57	11900.00000	234611.00000	1.564	12063.32269	11695.22776	11927.60480
K	39	18060.00000	1017010.00000	0.597	18140.72560	17934.85861	18093.71570
MG	24	22190.00000	2293820.00000	1.766	22154.39111	21810.42965	22592.15564
MN	55	227.70000	111935.00000	1.465	230.71493	224.12941	228.33578
NA	23	113100.00000	22428200.00000	0.632	113642.47976	112314.37645	113434.94113
TI	47	252.40000	5287.95000	3.532	252.43466	243.41934	261.25127
V	51	52.23000	38360.90000	2.562	53.70219	51.08962	51.89108
IN-1	115	257515.00000	0.00000	0.314	258362.00000	257427.00000	256754.00000
IN-2	115	48555.10000	0.00000	2.160	47801.00000	48111.80000	49752.60000
AG	107	48.25000	100882.00000	2.151	48.93368	48.77344	47.06081
AS	75	87.39000	6172.17000	2.804	87.46851	89.80464	84.90677
BA	137	77.47000	17409.40000	0.621	77.70675	77.78955	76.91833
CD	111	5.24400	1310.75000	2.054	5.18636	5.17696	5.36799
CO	59	260.00000	410759.00000	2.159	263.99419	262.52906	253.62312
CU	63	54.31000	66645.90000	2.650	55.96425	53.59807	53.36318
MO	98	59.76000	56942.40000	1.631	60.88095	59.14623	59.24242
NI	60	52.55000	22931.00000	3.265	54.34647	52.39136	50.92718
SB	121	6.33800	3647.37000	9.068	6.04429	5.96971	7.00035
SE	78	9.96900	598.46000	1.735	9.83980	10.16553	9.90165
SN	120	47.73000	47859.40000	5.954	50.98945	45.76297	46.43977
SR	88	638.70000	318562.00000	1.280	645.41951	641.18509	629.62916
ZN	66	566.00000	81269.10000	1.920	577.78491	563.94288	556.33902
BI-2	209	172010.00000	0.00000	1.041	171499.00000	173999.00000	170530.00000
PB	208	16.23000	125341.00000	1.875	16.50384	15.90126	16.27638
TL	203	2.01200	4794.49000	5.989	1.95260	1.93275	2.15075
SC-1	45	309833.00000	0.00000	0.600	308578.00000	308951.00000	311970.00000
GE-1	72	347308.00000	0.00000	0.714	345695.00000	350165.00000	346063.00000
GE-2	72	96192.50000	0.00000	0.676	96943.40000	95796.80000	95837.30000
TB-2	159	211339.00000	0.00000	1.156	213267.00000	212157.00000	208591.00000

Run Name: 1529305E03
Tube Number: 19
Sample Number: **8082120**

Date/Time: 10/20/2015 9:43:00
Batch: 152886050004A
Class: UL********

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39614.40000	0.00000	2.082	40403.10000	39681.90000	38758.10000
AL	27	17.75000	673.37700	4.765	18.69602	17.06081	17.50411
CA	44	13320.00000	41015.40000	4.766	12697.75186	13289.36501	13966.32761
CR	52	0.11910	456.69400	106.129	-0.02018	0.15100	0.22644
FE	57	2338.00000	46450.80000	3.058	2296.70852	2297.08651	2420.72186
K	39	1473.00000	96004.40000	2.963	1440.30886	1457.10879	1522.87550
MG	24	4251.00000	442164.00000	3.333	4139.53382	4202.66892	4410.39595
MN	55	39.22000	20273.20000	4.985	38.01396	38.17322	41.47674
NA	23	20070.00000	4102320.00000	3.921	19478.63952	19771.57117	20964.15787
TI	47	1.11800	33.33480	110.197	0.92009	-0.00340	2.43660
V	51	0.25720	206.67600	19.592	0.22965	0.31533	0.22652
IN-1	115	271122.00000	0.00000	1.219	274278.00000	267687.00000	271400.00000
IN-2	115	49029.00000	0.00000	1.409	49449.90000	48231.90000	49405.10000
AG	107	0.01575	36.66810	44.781	0.01723	0.00808	0.02195
AS	75	13.67000	1006.72000	5.170	12.89657	13.83774	14.28035
BA	137	5.14200	1186.77000	12.524	5.23863	5.73236	4.45528
CD	111	0.02429	23.33350	97.200	0.01834	0.00422	0.05030
CO	59	0.06454	260.01400	45.119	0.03198	0.07353	0.08811
CU	63	0.55080	1046.75000	27.415	0.44031	0.72292	0.48930
MO	98	1.31300	1310.11000	10.685	1.16704	1.32464	1.44684
NI	60	0.25140	186.67500	57.200	0.27687	0.38083	0.09656
SB	121	0.01842	26.66800	143.105	0.04086	0.02500	-0.01061
SE	78	0.01393	3.11112	153.625	0.03793	-0.00315	0.00699
SN	120	0.12580	6298.16000	1834.660	-1.93752	-0.30267	2.61762
SR	88	124.00000	62467.50000	1.356	124.80101	122.03184	125.07165
ZN	66	7.38800	1150.10000	6.354	7.66038	7.65729	6.84589
BI-2	209	180272.00000	0.00000	1.577	180443.00000	177348.00000	183025.00000
PB	208	0.11610	1100.07000	11.947	0.12954	0.11706	0.10185
TL	203	-0.00532	6.66694	-43.999	-0.00400	-0.00393	-0.00802
SC-1	45	315934.00000	0.00000	2.235	321884.00000	308132.00000	317785.00000
GE-1	72	358843.00000	0.00000	1.783	362361.00000	351458.00000	362711.00000
GE-2	72	99614.70000	0.00000	0.990	98688.80000	100652.00000	99503.50000
TB-2	159	215059.00000	0.00000	1.385	212814.00000	218438.00000	213925.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:45:00
Tube Number: 20 Batch: 152886050004A
Sample Number: **8082098** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39754.70000	0.00000	1.435	39119.20000	39921.80000	40223.00000
AL	27	370.00000	13013.60000	2.137	366.32747	379.14105	364.71067
CA	44	85220.00000	262216.00000	1.029	86171.84993	84445.60515	85038.14963
CR	52	2.53200	2800.42000	9.333	2.76491	2.53803	2.29239
FE	57	20750.00000	413100.00000	1.343	21049.36056	20497.56698	20704.91551
K	39	5486.00000	321459.00000	1.233	5559.67416	5471.72343	5426.71720
MG	24	21120.00000	2203770.00000	2.528	21733.10828	20815.56375	20801.05066
MN	55	904.20000	445464.00000	1.685	921.23581	891.85842	899.53854
NA	23	126900.00000	25390700.00000	0.173	126701.31086	127137.73235	126964.56478
TI	47	12.96000	283.34800	15.000	14.44119	13.66979	10.75539
V	51	4.28500	3193.85000	5.580	4.31014	4.03491	4.51125
IN-1	115	262206.00000	0.00000	1.219	265852.00000	259892.00000	260875.00000
IN-2	115	49418.40000	0.00000	1.376	50075.30000	48717.10000	49462.80000
AG	107	0.00471	13.33380	57.437	0.00309	0.00321	0.00784
AS	75	0.85270	98.66790	8.515	0.93648	0.80697	0.81481
BA	137	60.68000	13888.30000	2.815	62.06141	58.77091	61.21075
CD	111	0.13010	50.00050	18.055	0.11946	0.15706	0.11384
CO	59	0.86560	1550.16000	4.031	0.89608	0.87332	0.82758
CU	63	3.25000	4410.93000	3.474	3.29126	3.12183	3.33574
MO	98	0.12200	166.67400	54.082	0.09274	0.07578	0.19760
NI	60	1.53400	756.72100	11.023	1.54172	1.36045	1.69837
SB	121	0.08649	66.66980	39.797	0.12473	0.07673	0.05800
SE	78	0.11410	9.11114	18.273	0.13741	0.09720	0.10770
SN	120	-2.10400	4355.32000	-33.184	-2.91066	-1.69966	-1.70286
SR	88	461.20000	234135.00000	0.644	457.76535	462.69385	463.09592
ZN	66	7.98200	1246.77000	4.940	8.43652	7.78392	7.72672
BI-2	209	176115.00000	0.00000	0.751	176272.00000	177352.00000	174721.00000
PB	208	1.06200	8544.89000	4.872	1.01985	1.04621	1.11969
TL	203	-0.00253	13.33390	-93.602	0.00020	-0.00393	-0.00387
SC-1	45	318916.00000	0.00000	1.762	324030.00000	312902.00000	319817.00000
GE-1	72	357604.00000	0.00000	0.173	357476.00000	357058.00000	358278.00000
GE-2	72	96018.30000	0.00000	1.819	94717.80000	95333.20000	98003.80000
TB-2	159	214501.00000	0.00000	1.029	213896.00000	212658.00000	216949.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:47:00
Tube Number: 21 Batch: 152886050004A
Sample Number: **8082099** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39109.80000	0.00000	1.637	38377.20000	39561.20000	39390.90000
AL	27	382.60000	13237.10000	4.645	370.76879	373.99385	403.02414
CA	44	63450.00000	192124.00000	1.355	63830.53849	62463.35457	64049.79235
CR	52	1.57500	1843.53000	0.785	1.56600	1.57061	1.58933
FE	57	20840.00000	408158.00000	2.871	21442.37427	20245.49392	20845.27638
K	39	2642.00000	159298.00000	1.501	2649.45951	2599.01349	2677.25473
MG	24	22130.00000	2272530.00000	1.451	22201.88263	21779.67659	22410.20618
MN	55	352.70000	171569.00000	2.566	362.27362	344.28591	351.55759
NA	23	83910.00000	16552000.00000	2.156	84252.06149	81953.76261	85522.72489
TI	47	12.66000	273.34700	20.979	10.80518	15.70218	11.47065
V	51	1.93400	1426.81000	18.863	1.85014	1.61783	2.33296
IN-1	115	263257.00000	0.00000	1.546	265589.00000	265625.00000	258556.00000
IN-2	115	49177.10000	0.00000	1.560	49197.40000	48400.10000	49933.70000
AG	107	0.00949	23.33420	30.559	0.00789	0.01284	0.00775
AS	75	4.58300	363.34100	5.564	4.39191	4.87296	4.48554
BA	137	48.98000	11155.50000	2.993	47.76449	50.61117	48.57587
CD	111	0.02672	24.00020	46.819	0.01879	0.02024	0.04115
CO	59	0.69160	1263.44000	9.826	0.75758	0.69545	0.62181
CU	63	2.26000	3163.85000	8.504	2.06945	2.45373	2.25760
MO	98	0.40970	443.35900	4.630	0.40624	0.39268	0.43015
NI	60	1.56500	766.72000	0.927	1.54966	1.57807	1.56891
SB	121	0.05277	46.66900	75.649	0.00672	0.07742	0.07418
SE	78	0.09563	8.00002	41.357	0.12677	0.05112	0.10899
SN	120	-1.91800	4502.46000	-29.849	-1.27643	-2.10286	-2.37588
SR	88	319.30000	161323.00000	1.895	312.91084	324.93070	320.12578
ZN	66	17.79000	2663.72000	7.634	18.84871	18.25904	16.25765
BI-2	209	176493.00000	0.00000	0.203	176080.00000	176668.00000	176730.00000
PB	208	0.96550	7801.33000	5.068	0.98299	0.91022	1.00327
TL	203	-0.00254	13.33390	-186.693	0.00021	-0.00802	0.00018
SC-1	45	315035.00000	0.00000	1.438	312632.00000	320259.00000	312215.00000
GE-1	72	352075.00000	0.00000	1.220	356074.00000	352619.00000	347531.00000
GE-2	72	96726.60000	0.00000	1.251	96179.10000	98113.50000	95887.20000
TB-2	159	212267.00000	0.00000	0.726	210858.00000	212030.00000	213912.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:49:00
Tube Number: 22
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39781.70000	0.00000	0.491	39591.10000	39772.40000	39981.70000
AL	27	2506.00000	87878.40000	1.593	2551.49581	2476.06277	2491.14795
CA	44	2641.00000	8369.67000	5.013	2508.39331	2773.13501	2641.70322
CR	52	256.10000	249168.00000	0.656	254.48812	257.83858	255.95138
FE	57	2488.00000	49652.70000	0.943	2509.93070	2491.47366	2463.33671
K	39	2470.00000	152411.00000	0.848	2488.26018	2447.33248	2475.54677
MG	24	2530.00000	264480.00000	1.734	2571.42019	2534.53002	2484.03926
MN	55	258.30000	128113.00000	1.229	261.00011	259.04184	254.79165
NA	23	2487.00000	619166.00000	0.902	2506.17445	2462.45680	2492.98963
TI	47	246.60000	5221.23000	0.985	246.36539	244.29066	249.13420
V	51	255.10000	189273.00000	1.345	258.91361	254.28415	252.21382
IN-1	115	271204.00000	0.00000	0.944	273881.00000	270952.00000	268778.00000
IN-2	115	49375.90000	0.00000	1.738	48395.10000	49988.60000	49744.10000
AG	107	26.56000	56473.90000	1.861	27.05250	26.06379	26.56706
AS	75	263.50000	18851.20000	2.411	270.75763	258.84137	260.97938
BA	137	261.10000	59598.10000	1.607	264.66865	256.45059	262.04078
CD	111	26.28000	6608.44000	1.383	26.63205	25.90699	26.31191
CO	59	267.80000	430272.00000	1.791	273.31007	264.32395	265.91471
CU	63	268.60000	333743.00000	1.983	274.67082	266.44259	264.70245
MO	98	25.82000	25042.30000	2.064	26.33893	25.83505	25.27386
NI	60	267.90000	118574.00000	2.424	275.31393	263.16981	265.25842
SB	121	25.05000	14592.40000	1.553	24.76177	24.88902	25.49013
SE	78	25.85000	1630.55000	2.587	25.30308	26.59395	25.64545
SN	120	24.14000	27697.80000	10.510	24.34102	21.51033	26.57197
SR	88	26.15000	13287.30000	2.254	26.42110	25.48008	26.56542
ZN	66	265.40000	38795.80000	1.587	269.71793	261.30486	265.18469
BI-2	209	185444.00000	0.00000	3.542	186303.00000	191542.00000	178488.00000
PB	208	24.91000	207214.00000	3.090	24.95500	24.11791	25.65507
TL	203	25.11000	64226.90000	3.990	25.34642	24.00640	25.96662
SC-1	45	313083.00000	0.00000	1.170	317302.00000	311218.00000	310730.00000
GE-1	72	362495.00000	0.00000	1.865	369280.00000	362446.00000	355760.00000
GE-2	72	99753.60000	0.00000	1.733	98315.90000	101672.00000	99273.20000
TB-2	159	215774.00000	0.00000	1.221	215287.00000	218617.00000	213418.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:52:00
Tube Number: 23
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39423.80000	0.00000	3.105	38066.60000	39761.30000	40443.60000
AL	27	-0.47670	36.66800	-193.350	-0.04407	-1.53520	0.14899
CA	44	-11.27000	206.67900	-221.118	-7.92160	11.80475	-37.69463
CR	52	-0.05341	290.01400	-124.602	-0.03193	-0.12807	-0.00027
FE	57	-1.88500	53.33590	-98.939	-4.02482	-1.03329	-0.59878
K	39	-7.86900	13160.40000	-91.244	-8.65677	-0.32893	-14.62338
MG	24	-0.11710	233.34400	-471.563	-0.16622	-0.64322	0.45788
MN	55	-2.05800	66.66970	-0.997	-2.06711	-2.07254	-2.03461
NA	23	-1.70800	122224.00000	-1049.180	18.83389	-9.81930	-14.14447
TI	47	-0.47780	0.00000	0.000	-0.47783	-0.47783	-0.47783
V	51	0.04946	53.33610	53.437	0.01972	0.05838	0.07027
IN-1	115	265975.00000	0.00000	0.922	267950.00000	263230.00000	266747.00000
IN-2	115	50938.10000	0.00000	1.722	49957.40000	51209.90000	51647.00000
AG	107	0.00756	20.00080	59.299	0.00774	0.00298	0.01194
AS	75	-0.03666	36.00040	-487.725	0.16486	-0.17611	-0.09875
BA	137	-0.07095	6.66693	-68.175	-0.09888	-0.09888	-0.01511
CD	111	-0.00223	17.33350	-220.278	0.00168	-0.00774	-0.00064
CO	59	-0.03213	110.00500	-38.220	-0.03088	-0.02053	-0.04500
CU	63	-0.07587	286.68300	-62.344	-0.06088	-0.12885	-0.03788
MO	98	0.09348	143.34000	20.197	0.07267	0.10950	0.09828
NI	60	-0.02088	70.00290	-117.577	0.00419	-0.02197	-0.04487
SB	121	0.26100	173.34200	13.418	0.27797	0.22078	0.28439
SE	78	-0.00286	2.00001	-1004.550	0.00753	0.01920	-0.03531
SN	120	-2.17400	4431.53000	-7.893	-2.34516	-2.17655	-2.00196
SR	88	-0.02538	10.00040	-1.306	-0.02501	-0.02549	-0.02565
ZN	66	-0.17890	56.66910	-127.445	-0.41741	-0.15637	0.03687
BI-2	209	186578.00000	0.00000	0.794	185623.00000	188284.00000	185827.00000
PB	208	-0.00602	116.67200	-31.894	-0.00556	-0.00813	-0.00437
TL	203	0.00618	36.66820	128.486	0.00369	0.01507	-0.00022
SC-1	45	311075.00000	0.00000	0.736	313717.00000	309677.00000	309831.00000
GE-1	72	355546.00000	0.00000	1.759	361284.00000	348877.00000	356477.00000
GE-2	72	101278.00000	0.00000	1.306	101590.00000	99826.20000	102416.00000
TB-2	159	215505.00000	0.00000	0.519	214518.00000	216721.00000	215276.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:54:00
Tube Number: 24 Batch: 152886050004A
Sample Number: **8082100** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39491.00000	0.00000	1.143	39150.00000	39320.40000	40002.70000
AL	27	169.40000	5944.89000	5.313	176.83958	172.02210	159.40959
CA	44	69490.00000	212485.00000	1.110	69390.19672	68776.72370	70308.55853
CR	52	1.51100	1800.20000	6.982	1.43394	1.46786	1.63127
FE	57	21340.00000	422066.00000	1.068	21584.81125	21133.01389	21305.29270
K	39	3164.00000	189988.00000	1.189	3133.57339	3153.10280	3206.27280
MG	24	24070.00000	2496440.00000	1.694	23605.34981	24350.23989	24265.07763
MN	55	533.10000	261358.00000	0.528	533.41037	535.73997	530.13535
NA	23	94970.00000	18901100.00000	1.434	94245.10396	96542.76671	94127.12076
TI	47	8.58300	190.00900	34.976	6.25446	11.97094	7.52282
V	51	1.80900	1350.13000	14.019	1.71726	1.61422	2.09581
IN-1	115	262756.00000	0.00000	0.302	263174.00000	261841.00000	263254.00000
IN-2	115	48594.30000	0.00000	1.231	48047.90000	48501.40000	49233.40000
AG	107	0.00319	10.00040	147.883	-0.00155	0.00324	0.00788
AS	75	2.18600	190.67000	6.619	2.09194	2.35256	2.11313
BA	137	58.75000	13217.60000	2.221	60.22250	57.73747	58.28625
CD	111	0.02310	22.66690	271.905	0.07826	0.03629	-0.04526
CO	59	0.59700	1100.09000	10.002	0.52851	0.62407	0.63829
CU	63	1.90200	2690.38000	6.246	1.91912	1.77533	2.01112
MO	98	0.17090	210.01000	37.613	0.17305	0.23405	0.10554
NI	60	0.90560	470.02900	12.577	1.03338	0.81499	0.86828
SB	121	0.09432	70.00300	16.921	0.07818	0.09469	0.11010
SE	78	0.14300	10.88890	30.671	0.19369	0.11814	0.11731
SN	120	3.54200	9223.20000	29.362	4.41054	3.82585	2.38951
SR	88	354.10000	176768.00000	1.323	359.11537	349.84829	353.29060
ZN	66	4.27600	693.38100	13.894	3.88480	4.95988	3.98417
BI-2	209	176350.00000	0.00000	1.791	179887.00000	173807.00000	175356.00000
PB	208	0.75570	6134.24000	1.837	0.73986	0.76130	0.76586
TL	203	-0.00255	13.33390	-185.502	0.00004	0.00032	-0.00802
SC-1	45	313240.00000	0.00000	0.271	312484.00000	313078.00000	314158.00000
GE-1	72	348445.00000	0.00000	1.241	351950.00000	343613.00000	349771.00000
GE-2	72	96951.40000	0.00000	1.436	98204.60000	97195.70000	95453.90000
TB-2	159	212552.00000	0.00000	0.940	210248.00000	213784.00000	213624.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:56:00
Tube Number: 25 Batch: 152886050004A
Sample Number: **8082101** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39250.00000	0.00000	0.487	39069.50000	39230.20000	39450.40000
AL	27	179.10000	6245.08000	3.104	183.60552	180.81806	172.89096
CA	44	68840.00000	209204.00000	0.255	68853.18385	69014.47855	68663.23519
CR	52	1.61000	1883.55000	3.546	1.63679	1.64952	1.54489
FE	57	21150.00000	415763.00000	0.569	21286.64840	21056.88750	21109.63082
K	39	3129.00000	186850.00000	0.566	3134.29440	3143.32145	3109.12635
MG	24	24000.00000	2473820.00000	0.658	24093.17929	23821.26816	24096.39870
MN	55	520.60000	253719.00000	0.164	521.61283	520.15780	520.10420
NA	23	93540.00000	18504800.00000	0.077	93567.96899	93590.94218	93456.41292
TI	47	7.83800	173.34400	7.519	8.19591	8.16028	7.15792
V	51	1.91400	1416.80000	12.868	2.10523	2.00080	1.63603
IN-1	115	261072.00000	0.00000	2.015	265224.00000	262834.00000	255157.00000
IN-2	115	48668.50000	0.00000	1.604	48202.70000	49569.80000	48232.90000
AG	107	0.00322	10.00040	149.581	0.00808	0.00313	-0.00155
AS	75	2.08000	183.33600	13.370	2.37041	1.81623	2.05322
BA	137	59.19000	13337.70000	1.700	58.54510	58.67556	60.34994
CD	111	0.02020	22.00020	216.980	0.03694	-0.02953	0.05320
CO	59	0.60440	1113.43000	17.141	0.68595	0.63951	0.48786
CU	63	2.05900	2883.77000	9.767	2.02755	1.87506	2.27355
MO	98	0.19120	230.01200	2.004	0.19349	0.18678	0.19334
NI	60	0.94700	490.03000	21.014	0.82111	1.17642	0.84365
SB	121	0.03008	33.33460	85.007	0.00743	0.05781	0.02500
SE	78	0.15150	11.33340	5.713	0.14864	0.16123	0.14465
SN	120	1.12900	7151.27000	213.463	-0.32870	3.91030	-0.19575
SR	88	344.90000	172424.00000	2.148	344.33019	337.79206	352.58115
ZN	66	4.01100	656.70700	9.277	3.58969	4.29478	4.14843
BI-2	209	175119.00000	0.00000	0.841	176588.00000	175123.00000	173645.00000
PB	208	0.75600	6094.23000	2.315	0.74522	0.74652	0.77617
TL	203	-0.00116	16.66740	-543.290	0.00429	0.00026	-0.00802
SC-1	45	314059.00000	0.00000	0.803	316294.00000	314556.00000	311326.00000
GE-1	72	349722.00000	0.00000	1.432	354828.00000	349521.00000	344818.00000
GE-2	72	96689.30000	0.00000	1.285	95323.40000	96995.30000	97749.20000
TB-2	159	210114.00000	0.00000	0.535	210582.00000	208832.00000	210929.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:59:00
Tube Number: 26 Batch: 152886050004A
Sample Number: **8082114** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	38945.60000	0.00000	1.656	38678.00000	38477.50000	39681.40000
AL	27	6.44700	273.34600	24.926	6.09619	8.20123	5.04490
CA	44	14280.00000	43229.30000	1.428	14173.14151	14510.34603	14143.01816
CR	52	2.70400	2910.46000	3.391	2.60989	2.71050	2.79296
FE	57	30.95000	690.05200	33.990	31.59844	41.13050	20.11371
K	39	761.40000	55263.70000	4.320	764.58817	792.59736	727.05532
MG	24	7469.00000	764000.00000	3.602	7174.82461	7702.10951	7531.07918
MN	55	52.46000	26307.40000	3.574	54.15745	52.76656	50.44543
NA	23	38620.00000	7652300.00000	0.194	38702.47915	38607.32335	38554.58457
TI	47	-0.47780	0.00000	0.000	-0.47783	-0.47783	-0.47783
V	51	0.07860	73.33690	28.079	0.10224	0.07502	0.05854
IN-1	115	266522.00000	0.00000	2.584	272405.00000	258944.00000	268216.00000
IN-2	115	49513.40000	0.00000	1.689	50476.10000	49096.10000	48967.80000
AG	107	0.00161	6.66693	170.237	-0.00155	0.00318	0.00319
AS	75	2.93100	247.33800	18.383	2.51388	2.74019	3.53950
BA	137	30.23000	6945.57000	4.674	31.84075	29.65203	29.19958
CD	111	-0.01907	12.66680	-90.981	0.00096	-0.02915	-0.02905
CO	59	-0.04458	86.67020	-36.765	-0.06203	-0.04222	-0.02951
CU	63	0.56990	1083.42000	11.727	0.63804	0.56718	0.50446
MO	98	8.26400	8076.27000	4.753	8.53993	8.43861	7.81466
NI	60	1.29200	650.04400	16.006	1.17431	1.53047	1.17024
SB	121	0.01804	26.66770	58.537	0.00584	0.02407	0.02421
SE	78	-0.00263	2.00001	-854.857	-0.02477	0.02011	-0.00321
SN	120	9.57900	14681.20000	182.691	-1.72091	0.71451	29.74307
SR	88	399.60000	203207.00000	2.255	389.19737	404.09387	405.43305
ZN	66	0.60930	170.01000	3.191	0.58696	0.61900	0.62206
BI-2	209	179097.00000	0.00000	0.826	178738.00000	177829.00000	180722.00000
PB	208	0.04272	503.36000	24.181	0.05362	0.04146	0.03308
TL	203	-0.00394	10.00070	-179.066	-0.00802	0.00421	-0.00802
SC-1	45	315548.00000	0.00000	1.945	321343.00000	309118.00000	316182.00000
GE-1	72	358161.00000	0.00000	1.019	361884.00000	358012.00000	354587.00000
GE-2	72	97457.70000	0.00000	0.542	97941.50000	96893.30000	97538.20000
TB-2	159	208733.00000	0.00000	1.510	209649.00000	211325.00000	205224.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:01:00
Tube Number: 27 Batch: 152886050004A
Sample Number: **8082115** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39707.90000	0.00000	1.240	40112.30000	39851.70000	39159.70000
AL	27	4.94500	226.67900	21.658	4.12531	6.15629	4.55281
CA	44	7989.00000	24771.20000	2.342	7807.13837	7979.02550	8180.89629
CR	52	-0.01068	333.35100	-825.655	-0.09942	0.07692	-0.00956
FE	57	11.39000	316.68300	19.385	10.88598	9.48341	13.81175
K	39	446.30000	38701.20000	4.448	433.68204	436.15699	469.23252
MG	24	1992.00000	207913.00000	2.483	1951.76676	1977.88765	2047.47811
MN	55	16.20000	9030.12000	1.027	16.26189	16.32159	16.00818
NA	23	59620.00000	11973700.00000	3.611	57944.24456	58869.46951	62049.02410
TI	47	-0.16490	6.66692	-328.623	0.46085	-0.47783	-0.47783
V	51	0.08122	76.67060	54.075	0.03093	0.11202	0.10071
IN-1	115	267594.00000	0.00000	1.703	272651.00000	266320.00000	263811.00000
IN-2	115	50912.50000	0.00000	2.901	50268.50000	49867.00000	52602.10000
AG	107	0.00146	6.66693	178.767	0.00307	-0.00155	0.00286
AS	75	5.83800	469.34600	10.105	5.99275	5.18556	6.33446
BA	137	13.57000	3217.22000	1.355	13.45907	13.78526	13.47488
CD	111	-0.01798	13.33350	-101.001	-0.01442	-0.03767	-0.00188
CO	59	-0.03628	103.33800	-32.056	-0.04965	-0.03076	-0.02844
CU	63	0.13940	563.37400	55.079	0.17504	0.05123	0.19179
MO	98	35.32000	35310.40000	0.700	35.45178	35.47176	35.03403
NI	60	0.22950	183.34300	67.582	0.15852	0.40739	0.12251
SB	121	-0.00010	16.66730	-9246.510	0.00598	-0.01076	0.00448
SE	78	0.00780	2.66668	244.903	-0.01426	0.01857	0.01908
SN	120	0.64140	7057.40000	438.104	-1.52149	-0.37216	3.81777
SR	88	181.70000	94997.70000	1.918	182.80167	184.43313	177.74853
ZN	66	0.93580	223.34400	28.211	1.19760	0.94022	0.66957
BI-2	209	181034.00000	0.00000	1.565	181866.00000	177877.00000	183360.00000
PB	208	0.02968	403.35400	15.923	0.02539	0.02891	0.03475
TL	203	-0.00405	10.00040	-97.459	-0.00403	-0.00802	-0.00011
SC-1	45	314411.00000	0.00000	1.167	317731.00000	315027.00000	310473.00000
GE-1	72	358820.00000	0.00000	2.454	368228.00000	357455.00000	350778.00000
GE-2	72	98016.30000	0.00000	0.299	97790.80000	98347.00000	97911.10000
TB-2	159	212817.00000	0.00000	0.845	213906.00000	210740.00000	213805.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:03:00
Tube Number: 28 Batch: 152886050004A
Sample Number: **8082117** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39022.80000	0.00000	2.911	38317.10000	38418.00000	40333.30000
AL	27	1394.00000	47954.50000	2.918	1432.67746	1398.34848	1351.64750
CA	44	178700.00000	539501.00000	1.711	178624.08598	181859.88172	175747.15994
CR	52	3.45400	3630.64000	2.247	3.36467	3.50411	3.49347
FE	57	29970.00000	585395.00000	2.631	30108.58130	30679.62009	29120.91850
K	39	9375.00000	529535.00000	2.187	9483.60191	9503.37095	9138.72282
MG	24	27420.00000	2809360.00000	1.333	27410.04923	27797.08199	27066.14945
MN	55	2439.00000	1177430.00000	1.486	2424.95966	2479.70033	2411.15273
NA	23	12940.00000	2649450.00000	2.581	13043.96672	13218.15152	12572.44999
TI	47	51.53000	1076.76000	6.771	55.04504	51.46810	48.06786
V	51	3.62900	2657.04000	2.122	3.71483	3.56540	3.60784
IN-1	115	261846.00000	0.00000	2.141	268186.00000	259807.00000	257545.00000
IN-2	115	48254.40000	0.00000	2.321	47540.10000	47678.20000	49545.10000
AG	107	0.01589	36.66810	83.763	0.00822	0.00819	0.03126
AS	75	16.12000	1161.40000	3.370	16.66486	16.12200	15.57838
BA	137	69.64000	15550.30000	3.225	71.93657	69.54779	67.44739
CD	111	0.07467	35.33370	52.551	0.03014	0.10418	0.08970
CO	59	1.34700	2266.96000	11.559	1.52477	1.23628	1.27908
CU	63	3.84600	5024.50000	6.758	3.97657	4.01430	3.54651
MO	98	0.21130	246.68100	20.672	0.19689	0.26034	0.17661
NI	60	3.78800	1713.52000	4.527	3.60549	3.94575	3.81298
SB	121	0.20210	130.00600	45.596	0.29351	0.20359	0.10924
SE	78	0.35390	23.55560	38.231	0.20011	0.40654	0.45499
SN	120	1.55800	7459.94000	88.768	0.54315	0.99827	3.13300
SR	88	803.40000	398147.00000	2.343	813.95061	814.66977	781.72490
ZN	66	15.04000	2220.30000	8.677	16.24973	15.20710	13.65669
BI-2	209	175537.00000	0.00000	0.429	176296.00000	174791.00000	175525.00000
PB	208	6.24000	49291.90000	0.896	6.24505	6.29387	6.18238
TL	203	0.00438	30.00120	163.777	-0.00391	0.00856	0.00849
SC-1	45	315414.00000	0.00000	1.233	319817.00000	313979.00000	312444.00000
GE-1	72	346476.00000	0.00000	1.245	351447.00000	344245.00000	343735.00000
GE-2	72	94916.50000	0.00000	1.424	93408.20000	95323.30000	96018.00000
TB-2	159	211548.00000	0.00000	1.689	210314.00000	208755.00000	215575.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:06:00
Tube Number: 29 Batch: 152886050004A
Sample Number: **8082118** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	38641.40000	0.00000	0.547	38818.60000	38698.20000	38407.30000
AL	27	13.44000	510.03200	18.958	14.25753	15.47997	10.58381
CA	44	103600.00000	309867.00000	1.677	101989.03864	103426.66595	105447.25259
CR	52	0.48640	793.39700	17.311	0.43652	0.43897	0.58358
FE	57	28700.00000	555376.00000	0.059	28695.46067	28685.66483	28718.67991
K	39	4584.00000	263289.00000	1.246	4520.95249	4598.53101	4632.37083
MG	24	23580.00000	2392160.00000	2.370	23089.93685	23458.82734	24188.10641
MN	55	2241.00000	1071910.00000	0.849	2227.81743	2233.35527	2263.19626
NA	23	567500.00000	109914000.00000	2.252	552783.44314	574065.19977	575682.70463
TI	47	1.14600	33.33480	88.307	1.94711	0.00866	1.48287
V	51	0.26890	210.01000	17.735	0.23994	0.32392	0.24276
IN-1	115	245347.00000	0.00000	0.921	247827.00000	244814.00000	243401.00000
IN-2	115	46018.20000	0.00000	0.942	46188.40000	46341.00000	45525.30000
AG	107	0.00355	10.00040	248.915	-0.00155	-0.00155	0.01375
AS	75	0.88450	94.00120	13.454	0.96983	0.93506	0.74863
BA	137	128.00000	27250.80000	1.589	128.09624	125.94268	130.00813
CD	111	0.05331	28.66690	50.272	0.03305	0.08369	0.04319
CO	59	0.19760	443.36100	5.309	0.20761	0.18670	0.19856
CU	63	0.57970	1016.75000	18.734	0.56148	0.48138	0.69634
MO	98	0.03540	76.67100	121.384	0.01642	0.00520	0.08459
NI	60	0.79690	400.02400	26.151	0.74371	0.62026	1.02677
SB	121	0.07110	53.33650	134.937	-0.00941	0.04546	0.17726
SE	78	0.06583	5.77779	61.036	0.10365	0.07019	0.02364
SN	120	0.89350	6548.88000	195.859	2.91315	-0.07583	-0.15669
SR	88	554.90000	262305.00000	1.763	546.45431	552.59727	565.60831
ZN	66	4.84600	733.38800	19.238	4.86955	3.90220	5.76635
BI-2	209	161260.00000	0.00000	0.362	160911.00000	161934.00000	160937.00000
PB	208	0.13120	1093.40000	11.120	0.12274	0.14800	0.12272
TL	203	-0.00502	6.66694	-51.573	-0.00802	-0.00354	-0.00351
SC-1	45	304821.00000	0.00000	0.648	306826.00000	302876.00000	304761.00000
GE-1	72	329793.00000	0.00000	0.512	331071.00000	330429.00000	327879.00000
GE-2	72	91287.50000	0.00000	0.127	91172.90000	91285.20000	91404.40000
TB-2	159	206796.00000	0.00000	1.102	206238.00000	209302.00000	204848.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:08:00
Tube Number: 30 Batch: 152886050004A
Sample Number: **8082119** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39460.70000	0.00000	1.677	38698.90000	39791.30000	39891.90000
AL	27	9.38800	380.01900	9.319	8.43896	10.16227	9.56349
CA	44	40710.00000	124466.00000	1.704	41403.22330	40723.57663	40015.49150
CR	52	0.09875	436.69300	82.835	0.13210	0.00554	0.15860
FE	57	39.33000	866.73300	2.387	40.35261	39.12011	38.50939
K	39	1750.00000	111031.00000	2.101	1789.29631	1716.59929	1743.34340
MG	24	16580.00000	1717680.00000	1.022	16637.72486	16709.08600	16386.61623
MN	55	123.00000	61077.70000	1.785	125.49073	122.25000	121.30604
NA	23	18060.00000	3690970.00000	1.425	18300.99581	17789.39877	18094.82801
TI	47	0.32410	16.66750	228.448	0.98165	0.46842	-0.47783
V	51	0.06850	66.66920	63.183	0.11603	0.03136	0.05811
IN-1	115	269228.00000	0.00000	1.888	275036.00000	265595.00000	267054.00000
IN-2	115	49625.50000	0.00000	2.004	50284.60000	48481.30000	50110.40000
AG	107	0.00308	10.00040	150.601	0.00307	-0.00155	0.00772
AS	75	1.14300	120.00200	21.470	1.42541	0.98460	1.01825
BA	137	89.41000	20527.60000	2.059	87.78052	91.40667	89.03748
CD	111	0.02574	24.00020	217.599	0.08736	0.01197	-0.02210
CO	59	-0.00987	143.33900	-192.584	0.01148	-0.01614	-0.02495
CU	63	0.08991	486.69900	37.615	0.11951	0.05306	0.09716
MO	98	3.55200	3503.97000	8.407	3.21595	3.65298	3.78711
NI	60	0.31880	220.02700	39.743	0.44706	0.19381	0.31547
SB	121	0.00076	16.66730	3396.670	0.02284	0.00723	-0.02778
SE	78	-0.02452	0.66667	-44.086	-0.03531	-0.01370	-0.02456
SN	120	7.22100	12666.50000	80.668	0.59505	11.53775	9.52994
SR	88	542.30000	276455.00000	1.329	535.66179	549.97769	541.40158
ZN	66	0.10690	96.67110	100.561	-0.01445	0.14518	0.19003
BI-2	209	182406.00000	0.00000	0.332	182845.00000	182658.00000	181715.00000
PB	208	0.01386	276.68000	62.706	0.01295	0.00566	0.02297
TL	203	0.00920	43.33510	25.584	0.00783	0.00785	0.01192
SC-1	45	314288.00000	0.00000	1.293	315373.00000	317700.00000	309790.00000
GE-1	72	359695.00000	0.00000	0.380	360460.00000	358115.00000	360509.00000
GE-2	72	99154.30000	0.00000	0.900	98212.50000	99262.30000	99988.20000
TB-2	159	215177.00000	0.00000	0.698	214245.00000	216910.00000	214377.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:10:00
Tube Number: 31 Batch: 152886050004A
Sample Number: **8082124** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	37798.90000	0.00000	2.087	37986.20000	36933.10000	38477.40000
AL	27	42.45000	1466.81000	11.769	41.80161	37.81176	47.73994
CA	44	78050.00000	228319.00000	2.234	78624.32227	79434.36925	76090.15980
CR	52	1.44700	1660.17000	18.991	1.26235	1.76305	1.31621
FE	57	19270.00000	364719.00000	1.326	19001.30686	19510.89746	19292.26234
K	39	1358.00000	85471.20000	1.852	1337.32058	1386.09866	1351.04126
MG	24	19710.00000	1955910.00000	1.915	19282.38721	20000.88178	19842.76218
MN	55	1064.00000	498299.00000	1.341	1053.96845	1080.50750	1058.14650
NA	23	190300.00000	36129900.00000	0.489	189211.39925	190888.66847	190748.92299
TI	47	3.32400	76.67060	35.529	3.48715	2.07087	4.41504
V	51	2.53300	1800.21000	3.786	2.51893	2.63497	2.44466
IN-1	115	260595.00000	0.00000	1.109	262000.00000	257270.00000	262515.00000
IN-2	115	46473.50000	0.00000	0.433	46658.20000	46259.10000	46503.30000
AG	107	0.00178	6.66693	162.044	0.00343	0.00347	-0.00155
AS	75	2.74600	220.00400	7.924	2.97019	2.73132	2.53577
BA	137	56.16000	12086.40000	2.977	56.81990	57.40543	54.26211
CD	111	0.01842	20.66690	339.577	-0.05237	0.04140	0.06622
CO	59	0.25210	530.03400	7.477	0.23089	0.26696	0.25843
CU	63	0.29390	693.38300	31.878	0.27146	0.39677	0.21348
MO	98	0.08543	123.33900	31.652	0.11411	0.06041	0.08176
NI	60	0.57770	313.34900	22.624	0.56701	0.45278	0.71348
SB	121	0.00273	16.66730	1026.390	-0.02778	0.02725	0.00871
SE	78	0.09337	7.77780	38.931	0.10709	0.12086	0.05215
SN	120	1.68300	7273.28000	356.269	-1.71774	-1.83965	8.60611
SR	88	418.00000	199584.00000	0.910	420.30929	413.61605	420.08923
ZN	66	34.23000	4777.75000	7.400	37.10080	32.30263	33.29479
BI-2	209	166690.00000	0.00000	0.289	166291.00000	166554.00000	167225.00000
PB	208	0.04601	493.36000	10.861	0.04841	0.04027	0.04936
TL	203	-0.00077	16.66740	-324.150	0.00070	-0.00367	0.00065
SC-1	45	313137.00000	0.00000	0.876	314589.00000	309973.00000	314849.00000
GE-1	72	346961.00000	0.00000	1.291	351043.00000	342168.00000	347673.00000
GE-2	72	94459.40000	0.00000	1.170	95171.70000	93186.00000	95020.50000
TB-2	159	205928.00000	0.00000	0.751	207308.00000	206220.00000	204256.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:13:00
Tube Number: 32 Batch: 152886050004A
Sample Number: **8082126** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	38748.50000	0.00000	0.782	38708.70000	39069.50000	38467.20000
AL	27	45.65000	1610.17000	9.036	43.04590	43.50617	50.40987
CA	44	75090.00000	225230.00000	3.078	73545.48329	73982.93709	77749.11446
CR	52	0.65950	960.07800	11.892	0.63975	0.74586	0.59276
FE	57	22100.00000	428884.00000	0.705	22050.83866	21977.46166	22276.68327
K	39	3225.00000	189726.00000	2.207	3171.29745	3198.82614	3306.01285
MG	24	18640.00000	1896360.00000	3.065	19060.29120	17989.98537	18871.73335
MN	55	881.20000	423218.00000	1.259	882.50361	869.57639	891.64687
NA	23	315900.00000	61395200.00000	1.954	318743.60646	308768.02764	320054.96082
TI	47	2.42800	60.00330	71.046	1.95399	4.34089	0.99044
V	51	0.43010	326.68500	23.413	0.42081	0.33435	0.53513
IN-1	115	257954.00000	0.00000	2.179	263681.00000	257734.00000	252447.00000
IN-2	115	46941.90000	0.00000	2.050	48051.60000	46434.60000	46339.40000
AG	107	0.01179	26.66800	106.785	-0.00155	0.02345	0.01348
AS	75	0.70020	83.33430	4.267	0.71033	0.72364	0.66653
BA	137	95.18000	20671.20000	2.528	93.21719	97.86670	94.46823
CD	111	0.05943	30.66700	10.883	0.05366	0.06642	0.05821
CO	59	0.12860	346.68600	31.781	0.11896	0.09343	0.17344
CU	63	1.63400	2280.30000	7.907	1.48844	1.67921	1.73478
MO	98	0.08059	120.00600	41.221	0.07752	0.04901	0.11524
NI	60	0.65960	350.01800	48.272	0.47583	1.02728	0.47577
SB	121	0.03888	36.66810	73.740	0.00754	0.04532	0.06378
SE	78	0.09099	7.55558	31.861	0.06265	0.12058	0.08974
SN	120	4.89300	10003.70000	211.527	-1.14812	16.84505	-1.01934
SR	88	374.50000	180553.00000	2.283	364.66697	378.60846	380.21195
ZN	66	4.83200	746.71900	2.821	4.72972	4.98654	4.77882
BI-2	209	164569.00000	0.00000	1.243	165208.00000	162280.00000	166220.00000
PB	208	0.40410	3130.29000	10.240	0.44834	0.39770	0.36634
TL	203	-0.00219	13.33390	-230.924	0.00075	-0.00802	0.00070
SC-1	45	310627.00000	0.00000	0.908	312827.00000	311607.00000	307448.00000
GE-1	72	345022.00000	0.00000	0.944	347830.00000	345783.00000	341453.00000
GE-2	72	91451.90000	0.00000	1.028	92432.60000	90558.10000	91364.80000
TB-2	159	203277.00000	0.00000	0.380	202388.00000	203778.00000	203665.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:15:00
Tube Number: 33 Batch: 152886050004A
Sample Number: **8082127** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39491.00000	0.00000	0.577	39651.20000	39230.10000	39591.60000
AL	27	1289.00000	44885.20000	1.385	1293.05905	1304.09060	1269.16798
CA	44	68770.00000	210264.00000	0.861	69439.89203	68324.10447	68540.22267
CR	52	4.23600	4427.63000	1.935	4.15886	4.32215	4.22775
FE	57	51250.00000	1013510.00000	2.416	49985.54632	52459.28637	51322.46069
K	39	2393.00000	146990.00000	1.252	2407.12989	2358.53612	2413.19765
MG	24	19540.00000	2026720.00000	0.687	19515.21882	19692.29465	19429.05986
MN	55	1183.00000	578572.00000	0.847	1172.23142	1183.85442	1192.18677
NA	23	69970.00000	13957300.00000	0.262	69757.35352	70098.90919	70041.87410
TI	47	66.25000	1400.19000	10.044	65.52260	59.99171	73.23888
V	51	6.10800	4514.32000	0.542	6.10554	6.07565	6.14182
IN-1	115	260674.00000	0.00000	0.708	260468.00000	258941.00000	262613.00000
IN-2	115	48284.00000	0.00000	0.832	48746.40000	48020.30000	48085.30000
AG	107	0.00809	20.00080	158.194	0.00321	-0.00155	0.02259
AS	75	3.51100	282.00500	10.587	3.52959	3.13017	3.87296
BA	137	106.00000	23690.30000	1.544	105.62651	104.65241	107.84622
CD	111	0.18100	61.33390	33.807	0.15692	0.25053	0.13546
CO	59	2.15400	3537.29000	1.306	2.12173	2.17450	2.16501
CU	63	14.66000	18153.30000	1.561	14.39808	14.83593	14.73275
MO	98	0.24560	280.01600	21.665	0.30585	0.20504	0.22590
NI	60	4.78800	2146.93000	1.580	4.70271	4.84611	4.81623
SB	121	0.08358	63.33580	53.398	0.07667	0.13126	0.04281
SE	78	0.04176	4.66668	1.305	0.04182	0.04227	0.04119
SN	120	12.96000	17333.00000	108.488	6.63685	29.06634	3.17728
SR	88	355.50000	176350.00000	1.896	359.76416	347.70802	358.95547
ZN	66	72.35000	10404.60000	6.564	77.10214	72.35074	67.60342
BI-2	209	175828.00000	0.00000	1.170	174446.00000	178193.00000	174846.00000
PB	208	6.68100	52831.60000	4.133	6.80064	6.36511	6.87702
TL	203	0.00293	26.66780	211.047	-0.00386	0.00825	0.00442
SC-1	45	315116.00000	0.00000	0.397	314234.00000	316546.00000	314568.00000
GE-1	72	348272.00000	0.00000	0.629	350047.00000	345826.00000	348944.00000
GE-2	72	96313.20000	0.00000	1.581	96572.60000	94677.40000	97689.50000
TB-2	159	211012.00000	0.00000	0.621	210158.00000	210358.00000	212521.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:17:00
Tube Number: 34
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39320.50000	0.00000	1.547	39370.20000	38688.90000	39902.50000
AL	27	2504.00000	86785.30000	1.308	2529.25604	2516.28621	2467.15113
CA	44	2520.00000	7906.02000	2.134	2516.34004	2468.40684	2575.74828
CR	52	257.20000	247271.00000	1.961	261.35607	258.56193	251.56659
FE	57	2563.00000	50555.90000	0.822	2539.82558	2580.52222	2569.71387
K	39	2454.00000	149704.00000	2.557	2494.28771	2485.84779	2381.62248
MG	24	2494.00000	257670.00000	0.728	2501.99368	2506.34147	2472.93815
MN	55	257.80000	126372.00000	1.983	260.73273	260.74488	251.88231
NA	23	2513.00000	617002.00000	1.288	2501.40144	2549.54549	2487.98933
TI	47	252.80000	5287.96000	4.589	263.06035	255.04065	240.19245
V	51	258.20000	189280.00000	1.682	261.74085	259.40594	253.32597
IN-1	115	274530.00000	0.00000	2.007	280786.00000	270394.00000	272408.00000
IN-2	115	49048.80000	0.00000	4.241	51364.40000	47339.70000	48442.40000
AG	107	26.41000	55734.40000	3.373	25.48416	27.26139	26.47716
AS	75	261.90000	18590.10000	5.437	245.85545	272.94396	267.00580
BA	137	258.90000	58666.60000	3.621	250.20978	268.83496	257.63308
CD	111	25.87000	6456.36000	4.171	24.62836	26.47844	26.51653
CO	59	268.40000	427903.00000	3.541	257.87759	276.40789	270.80864
CU	63	267.80000	330413.00000	2.983	258.81700	270.68761	274.01315
MO	98	25.66000	24701.80000	4.486	24.44553	26.73304	25.80697
NI	60	266.70000	117185.00000	3.617	256.60499	275.81180	267.78777
SB	121	25.93000	14972.80000	7.952	23.59321	27.48578	26.71918
SE	78	25.58000	1633.66000	1.878	25.50800	26.09695	25.14506
SN	120	25.58000	28665.00000	21.052	20.65057	31.32724	24.75648
SR	88	25.31000	12770.20000	1.966	24.94821	25.87912	25.10816
ZN	66	265.30000	38511.90000	2.941	257.00488	266.56565	272.46857
BI-2	209	180019.00000	0.00000	1.779	183681.00000	178630.00000	177745.00000
PB	208	25.61000	206927.00000	1.199	25.48811	25.37955	25.95731
TL	203	25.22000	62689.20000	1.099	25.15756	24.98365	25.52636
SC-1	45	323874.00000	0.00000	1.202	328024.00000	320301.00000	323295.00000
GE-1	72	364834.00000	0.00000	1.471	368540.00000	358679.00000	367282.00000
GE-2	72	98523.50000	0.00000	0.893	99535.40000	98093.30000	97941.90000
TB-2	159	210971.00000	0.00000	0.933	212762.00000	208864.00000	211287.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:20:00
Tube Number: 35
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39852.00000	0.00000	2.117	40113.20000	40533.90000	38908.80000
AL	27	-0.67930	30.00140	-42.176	-0.40314	-0.97506	-0.65989
CA	44	-1.21500	240.01400	-1095.470	-11.56139	-5.88373	13.80035
CR	52	-0.05074	296.68300	-131.967	-0.03818	0.00905	-0.12310
FE	57	0.28400	96.67160	335.669	-0.06826	1.36339	-0.44298
K	39	-6.48300	13377.30000	-116.798	-5.65727	-14.43434	0.64153
MG	24	1.19700	373.35700	24.252	1.33580	1.39134	0.86305
MN	55	-2.01800	86.67050	-1.606	-1.99296	-2.05492	-2.00750
NA	23	-0.46740	123836.00000	-2768.510	-6.33079	-9.43651	14.36191
TI	47	-0.47780	0.00000	0.000	-0.47783	-0.47783	-0.47783
V	51	0.02252	33.33510	125.178	0.04430	-0.00932	0.03258
IN-1	115	271276.00000	0.00000	1.649	274593.00000	266188.00000	273047.00000
IN-2	115	49820.40000	0.00000	1.386	49175.90000	49735.90000	50549.60000
AG	107	0.00769	20.00100	119.542	-0.00155	0.00779	0.01682
AS	75	-0.04632	34.66700	-116.947	-0.10535	0.00112	-0.03474
BA	137	0.00271	23.33430	2461.230	-0.01090	0.07511	-0.05609
CD	111	0.01249	20.66680	102.962	0.02683	0.00200	0.00864
CO	59	-0.03917	96.67110	-72.019	-0.06106	-0.04912	-0.00735
CU	63	-0.07883	276.68200	-23.379	-0.06517	-0.09980	-0.07154
MO	98	0.04922	96.67070	26.473	0.06424	0.04245	0.04097
NI	60	-0.00310	76.67060	-1435.540	-0.01566	-0.03989	0.04627
SB	121	0.21610	143.34000	31.023	0.23106	0.14283	0.27438
SE	78	0.01063	2.88890	119.003	-0.00395	0.01860	0.01724
SN	120	12.34000	17232.10000	131.523	30.12113	8.57288	-1.67399
SR	88	0.00144	23.33420	3188.060	0.05449	-0.02492	-0.02524
ZN	66	-0.03095	76.67010	-564.136	-0.00232	0.12758	-0.21814
BI-2	209	183075.00000	0.00000	1.308	184548.00000	180313.00000	184364.00000
PB	208	-0.00816	96.67100	-58.821	-0.01031	-0.00266	-0.01151
TL	203	-0.00406	10.00040	-1.285	-0.00409	-0.00400	-0.00409
SC-1	45	313840.00000	0.00000	1.193	316399.00000	309543.00000	315576.00000
GE-1	72	357341.00000	0.00000	1.043	360774.00000	357874.00000	353376.00000
GE-2	72	97894.80000	0.00000	0.705	98033.50000	97145.60000	98505.20000
TB-2	159	209987.00000	0.00000	0.168	209603.00000	210296.00000	210064.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:22:00
Tube Number: 36 Batch: 152886050004A
Sample Number: **8082128** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39036.30000	0.00000	1.469	38627.90000	38789.40000	39691.70000
AL	27	91.03000	3180.50000	12.644	104.27996	85.39816	83.42021
CA	44	100500.00000	303558.00000	1.802	102411.25345	100248.71140	98814.04784
CR	52	1.02000	1310.13000	8.349	1.00227	1.11276	0.94526
FE	57	7551.00000	147661.00000	1.918	7649.98849	7619.14850	7385.20916
K	39	5688.00000	326755.00000	1.590	5791.97301	5635.45652	5635.15060
MG	24	13190.00000	1352310.00000	1.836	13458.96708	13139.96024	12983.89298
MN	55	690.20000	334142.00000	1.943	702.44224	692.40458	675.87681
NA	23	15930.00000	3234370.00000	2.471	16277.10345	16011.29820	15502.52021
TI	47	1.46000	40.00150	58.651	1.95904	1.94890	0.47080
V	51	1.15300	856.72900	11.683	1.01875	1.15268	1.28813
IN-1	115	268216.00000	0.00000	0.411	269383.00000	267192.00000	268073.00000
IN-2	115	48637.90000	0.00000	0.669	48855.60000	48263.90000	48794.30000
AG	107	0.00639	16.66730	42.453	0.00795	0.00326	0.00797
AS	75	1.16000	118.66800	24.879	0.83150	1.27794	1.37168
BA	137	69.26000	15593.70000	1.997	67.91361	70.67654	69.19830
CD	111	0.13600	50.66720	28.868	0.09194	0.16734	0.14863
CO	59	0.57990	1073.42000	9.459	0.62512	0.59577	0.51891
CU	63	4.12000	5404.67000	1.563	4.16279	4.15155	4.04607
MO	98	0.17380	213.34400	26.973	0.22155	0.17205	0.12784
NI	60	4.44400	2013.56000	7.174	4.78312	4.15011	4.40051
SB	121	0.08850	66.66960	40.757	0.05906	0.07771	0.12874
SE	78	0.07894	7.11113	56.929	0.02861	0.11506	0.09316
SN	120	0.95950	6968.90000	196.248	-0.67633	3.01764	0.53737
SR	88	542.80000	271227.00000	0.090	543.15356	543.01382	542.24194
ZN	66	19.70000	2910.45000	4.145	18.77656	19.99564	20.32699
BI-2	209	177028.00000	0.00000	0.321	176659.00000	177683.00000	176743.00000
PB	208	1.83700	14744.20000	1.309	1.81045	1.84257	1.85751
TL	203	0.00290	26.66830	163.508	0.00019	0.00014	0.00838
SC-1	45	317586.00000	0.00000	0.289	317230.00000	316899.00000	318628.00000
GE-1	72	354714.00000	0.00000	1.128	350557.00000	358537.00000	355048.00000
GE-2	72	95726.30000	0.00000	0.977	95132.10000	96804.80000	95241.90000
TB-2	159	210905.00000	0.00000	1.205	213224.00000	208189.00000	211301.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:24:00
Tube Number: 37 Batch: 152886050004A
Sample Number: **8082129** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	38597.90000	0.00000	1.217	38698.10000	39009.30000	38086.20000
AL	27	702.10000	23922.40000	1.578	709.62856	689.38442	707.31661
CA	44	107800.00000	321981.00000	2.544	106637.44323	105852.39846	110945.55294
CR	52	2.95300	3120.50000	11.622	2.96815	3.28814	2.60220
FE	57	81140.00000	1567910.00000	2.736	79108.86275	80792.86743	83509.41949
K	39	6464.00000	365397.00000	1.308	6480.60021	6372.94583	6539.71398
MG	24	25680.00000	2601630.00000	3.137	25545.29090	24945.65245	26540.37841
MN	55	1774.00000	847576.00000	0.704	1759.44557	1780.76509	1781.39040
NA	23	100200.00000	19484900.00000	2.496	100723.40401	97505.03598	102430.28437
TI	47	29.13000	606.70700	8.081	29.68534	26.54883	31.15907
V	51	2.86300	2076.92000	8.509	3.13749	2.67226	2.77978
IN-1	115	253648.00000	0.00000	0.265	253952.00000	254114.00000	252876.00000
IN-2	115	47498.90000	0.00000	1.011	47974.30000	47014.00000	47508.30000
AG	107	0.00828	20.00080	103.878	0.00329	0.01820	0.00334
AS	75	7.15200	527.34900	5.768	6.73695	7.56185	7.15751
BA	137	173.30000	38079.50000	0.668	172.60381	172.71816	174.66301
CD	111	0.56910	154.00200	13.959	0.51348	0.53376	0.66010
CO	59	4.05700	6421.84000	2.854	4.18967	3.97630	4.00513
CU	63	27.01000	32615.50000	0.883	26.76346	27.03622	27.23873
MO	98	0.40790	426.69000	12.108	0.46039	0.36234	0.40098
NI	60	7.94700	3457.25000	3.659	8.08543	7.61299	8.14296
SB	121	0.11530	80.00370	16.748	0.09604	0.13466	0.11511
SE	78	0.05529	5.33335	102.767	-0.00141	0.05504	0.11223
SN	120	3.28500	8771.97000	167.884	-1.42287	9.35380	1.92590
SR	88	633.60000	309154.00000	0.447	632.59318	636.75676	631.34215
ZN	66	32.62000	4657.70000	4.007	33.88014	31.27111	32.72124
BI-2	209	169217.00000	0.00000	1.240	170187.00000	166809.00000	170655.00000
PB	208	10.11000	76847.00000	1.822	10.21012	10.21355	9.89274
TL	203	0.01478	53.33550	42.686	0.01327	0.00936	0.02170
SC-1	45	307559.00000	0.00000	2.582	298814.00000	309539.00000	314322.00000
GE-1	72	338108.00000	0.00000	1.749	331392.00000	342545.00000	340387.00000
GE-2	72	94113.90000	0.00000	1.561	95634.90000	94003.20000	92703.60000
TB-2	159	208290.00000	0.00000	1.605	204752.00000	208721.00000	211398.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:27:00
Tube Number: 38 Batch: 152886050004A
Sample Number: **8082130** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39303.40000	0.00000	0.551	39470.70000	39059.00000	39380.60000
AL	27	2.12600	126.67300	29.229	1.91627	2.82457	1.63588
CA	44	61.17000	426.69800	21.694	51.78960	76.35059	55.37664
CR	52	-0.04881	293.34900	-186.437	-0.03303	0.03326	-0.14667
FE	57	9.69600	280.01600	46.628	6.58284	14.88188	7.62255
K	39	0.72600	13597.60000	941.460	-7.15973	4.96749	4.36838
MG	24	18.79000	2183.61000	4.140	17.89951	19.18619	19.30023
MN	55	-1.25400	456.69400	-2.528	-1.23145	-1.24203	-1.29088
NA	23	181.20000	157929.00000	2.778	186.86378	179.70960	177.15473
TI	47	-0.47780	0.00000	0.000	-0.47783	-0.47783	-0.47783
V	51	0.05010	53.33610	86.826	0.09974	0.01864	0.03192
IN-1	115	263366.00000	0.00000	1.408	267528.00000	260413.00000	262156.00000
IN-2	115	49965.90000	0.00000	2.768	51080.70000	48418.10000	50398.90000
AG	107	0.00165	6.66693	336.452	-0.00155	0.00804	-0.00155
AS	75	-0.02612	36.00030	-611.409	-0.12108	0.15830	-0.11558
BA	137	0.30410	93.33730	33.838	0.28228	0.21388	0.41622
CD	111	-0.00899	15.33350	-120.440	-0.00758	-0.02046	0.00106
CO	59	-0.07787	33.33460	-12.932	-0.08654	-0.06683	-0.08027
CU	63	3.17800	4367.60000	4.446	3.04142	3.16766	3.32349
MO	98	0.00442	53.33590	237.395	0.01008	-0.00769	0.01089
NI	60	0.10730	126.67200	72.572	0.19691	0.05598	0.06906
SB	121	-0.00495	13.33390	-213.867	-0.01117	0.00727	-0.01094
SE	78	-0.00602	1.77778	-421.569	-0.03531	0.00877	0.00848
SN	120	3.05200	9029.04000	66.514	3.36430	4.90747	0.88326
SR	88	0.09735	73.33620	57.689	0.14608	0.03593	0.11003
ZN	66	0.48850	153.34000	33.982	0.30843	0.63539	0.52155
BI-2	209	184348.00000	0.00000	1.210	186850.00000	182568.00000	183626.00000
PB	208	-0.00266	143.34000	-178.668	0.00151	-0.00165	-0.00783
TL	203	-0.00539	6.66694	-84.605	-0.00802	-0.00802	-0.00013
SC-1	45	306449.00000	0.00000	0.696	305248.00000	305187.00000	308911.00000
GE-1	72	353209.00000	0.00000	0.974	350226.00000	352425.00000	356975.00000
GE-2	72	99226.20000	0.00000	1.755	100140.00000	97218.10000	100320.00000
TB-2	159	211887.00000	0.00000	1.025	212384.00000	213768.00000	209510.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:29:00
Tube Number: 39
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39226.50000	0.00000	2.667	38136.90000	39320.10000	40222.60000
AL	27	103.20000	3617.31000	3.859	104.74989	106.17209	98.67385
CA	44	221.20000	913.40500	19.946	171.66450	256.20616	235.82224
CR	52	2.03100	2283.63000	11.689	2.26537	1.79073	2.03784
FE	57	109.40000	2236.95000	5.216	114.34142	103.14544	110.65910
K	39	184.70000	23748.80000	6.427	189.62260	193.35511	171.17879
MG	24	99.45000	10484.50000	1.163	100.34469	99.87225	98.14640
MN	55	-0.14870	990.08200	-180.161	0.15964	-0.28147	-0.32441
NA	23	197.60000	160729.00000	13.902	228.16694	189.50184	175.01941
TI	47	14.70000	316.68300	7.306	13.83820	14.36487	15.90430
V	51	0.46650	356.68600	19.083	0.52589	0.50939	0.36412
IN-1	115	267715.00000	0.00000	0.611	269148.00000	268065.00000	265934.00000
IN-2	115	49888.50000	0.00000	0.861	50145.70000	50127.20000	49392.60000
AG	107	0.53670	1156.77000	11.511	0.60509	0.48487	0.52031
AS	75	2.08800	188.67000	21.240	1.62386	2.50746	2.13262
BA	137	1.86800	453.36200	19.459	1.45423	2.01588	2.13493
CD	111	0.54100	154.66900	12.477	0.61388	0.48060	0.52864
CO	59	0.51960	1003.41000	6.311	0.55744	0.50249	0.49898
CU	63	2.06100	2960.43000	8.011	2.11984	1.87468	2.18894
MO	98	0.44460	483.36600	22.053	0.46880	0.33675	0.52833
NI	60	2.06100	1000.08000	12.814	2.07351	2.31927	1.79141
SB	121	0.96470	583.37000	6.104	0.90295	0.97101	1.02022
SE	78	1.93700	122.66800	7.641	1.93730	2.08445	1.78847
SN	120	2.50300	8553.78000	85.058	4.16811	3.23828	0.10377
SR	88	1.02100	546.70100	17.414	1.19800	1.02366	0.84245
ZN	66	14.64000	2240.29000	3.552	15.24161	14.30191	14.38587
BI-2	209	183486.00000	0.00000	1.486	185968.00000	183922.00000	180566.00000
PB	208	0.97390	8181.46000	4.108	0.96444	1.01783	0.93953
TL	203	0.55140	1416.82000	6.812	0.52966	0.59474	0.52969
SC-1	45	312834.00000	0.00000	0.644	310902.00000	312676.00000	314924.00000
GE-1	72	358720.00000	0.00000	1.177	353894.00000	361735.00000	360532.00000
GE-2	72	98143.60000	0.00000	1.093	97974.00000	99291.50000	97165.40000
TB-2	159	211555.00000	0.00000	0.453	211434.00000	212568.00000	210663.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:31:00
Tube Number: 40
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39708.20000	0.00000	1.854	40102.50000	40163.00000	38859.00000
AL	27	9954.00000	348187.00000	1.345	9927.09244	9835.96256	10099.65049
CA	44	10140.00000	31368.70000	1.370	10197.08057	9978.28173	10235.82123
CR	52	0.09638	436.69300	62.523	0.08443	0.04299	0.16171
FE	57	10050.00000	199942.00000	2.513	9928.22700	9890.58934	10345.78570
K	39	9900.00000	568440.00000	1.791	10035.91477	9699.74472	9965.37157
MG	24	9831.00000	1025030.00000	1.502	9842.44741	9678.44274	9973.21260
MN	55	-1.35900	410.02200	-3.224	-1.32732	-1.40918	-1.34120
NA	23	10030.00000	2117940.00000	1.870	9895.96599	9957.39926	10247.32243
TI	47	201.60000	4264.18000	2.517	204.70693	204.39691	195.76589
V	51	0.03151	40.00150	127.388	0.07106	-0.00920	0.03265
IN-1	115	269645.00000	0.00000	0.538	271151.00000	268260.00000	269524.00000
IN-2	115	49763.60000	0.00000	0.117	49828.50000	49716.80000	49745.50000
AG	107	0.00312	10.00070	149.808	-0.00155	0.00779	0.00312
AS	75	0.00095	38.00040	28382.700	-0.11087	0.30729	-0.19358
BA	137	-0.05536	10.00070	-136.145	-0.09888	0.03166	-0.09888
CD	111	0.05472	31.33360	44.316	0.04928	0.08123	0.03365
CO	59	-0.05739	66.67000	-24.848	-0.04921	-0.04910	-0.07385
CU	63	-0.04662	316.68300	-100.450	-0.02833	-0.01171	-0.09984
MO	98	202.90000	198052.00000	1.282	205.85028	201.79608	200.99901
NI	60	-0.01754	70.00320	-127.081	0.00466	-0.01739	-0.03991
SB	121	0.02337	30.00140	126.316	0.04034	0.04049	-0.01072
SE	78	0.00017	2.22223	3616.200	-0.00356	-0.00321	0.00728
SN	120	1.20200	7353.02000	191.015	-0.85752	3.67759	0.78458
SR	88	0.01418	30.00120	137.447	0.03365	-0.00533	0.01421
ZN	66	-0.19020	53.33590	-89.748	-0.00953	-0.21253	-0.34879
BI-2	209	179956.00000	0.00000	2.279	184650.00000	178151.00000	177065.00000
PB	208	0.01185	256.67900	15.409	0.01021	0.01382	0.01151
TL	203	-0.00404	10.00040	-97.250	-0.00017	-0.00802	-0.00392
SC-1	45	317585.00000	0.00000	1.085	317229.00000	321196.00000	314331.00000
GE-1	72	358850.00000	0.00000	1.402	361243.00000	362238.00000	353068.00000
GE-2	72	97951.80000	0.00000	2.445	100692.00000	96260.10000	96903.30000
TB-2	159	214795.00000	0.00000	1.288	216383.00000	216402.00000	211601.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:34:00
Tube Number: 41
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39203.10000	0.00000	3.354	39991.90000	39932.00000	37685.30000
AL	27	10040.00000	346651.00000	2.305	9878.61869	9939.57865	10306.46883
CA	44	9844.00000	30068.60000	2.554	9680.93221	9718.27308	10133.86557
CR	52	20.32000	19789.10000	2.582	19.71780	20.56952	20.67432
FE	57	10080.00000	197825.00000	4.268	9828.85084	9840.60058	10579.85327
K	39	9956.00000	563963.00000	2.800	9808.68178	9780.94248	10277.05485
MG	24	9842.00000	1012560.00000	3.319	9761.86178	9563.23178	10201.73009
MN	55	19.15000	10341.20000	2.917	18.52360	19.32495	19.59854
NA	23	9938.00000	2071810.00000	2.429	9721.54687	9895.75863	10198.46990
TI	47	197.20000	4117.49000	3.210	204.33479	194.73706	192.38348
V	51	0.02326	33.33490	41.359	0.01768	0.01774	0.03437
IN-1	115	266260.00000	0.00000	0.938	263423.00000	268127.00000	267229.00000
IN-2	115	49536.80000	0.00000	1.554	50357.40000	49422.80000	48830.30000
AG	107	20.83000	44446.00000	1.177	21.04908	20.56550	20.87692
AS	75	19.92000	1464.09000	4.341	19.46559	19.36799	20.91225
BA	137	-0.05565	10.00040	-77.197	-0.01296	-0.05511	-0.09888
CD	111	20.61000	5203.11000	2.449	20.60855	21.11118	20.10165
CO	59	21.01000	34008.80000	0.196	20.99136	21.05361	20.97577
CU	63	21.34000	26955.70000	1.505	21.67448	21.03350	21.31695
MO	98	202.80000	197072.00000	0.607	202.91413	201.52867	203.98086
NI	60	20.42000	9143.60000	3.792	20.75546	20.97019	19.53441
SB	121	0.01803	26.66820	242.041	0.02277	-0.02778	0.05911
SE	78	0.01149	2.88890	147.346	0.03006	0.00750	-0.00309
SN	120	4.94900	10742.90000	194.383	15.98473	-1.66429	0.52605
SR	88	0.02796	36.66830	150.572	-0.00583	0.01460	0.07512
ZN	66	20.67000	3103.85000	10.160	18.80495	20.26738	22.94636
BI-2	209	181488.00000	0.00000	1.408	184013.00000	181549.00000	178903.00000
PB	208	0.01321	270.01200	11.628	0.01274	0.01196	0.01492
TL	203	-0.00402	10.00040	-1.398	-0.00408	-0.00403	-0.00397
SC-1	45	309381.00000	0.00000	0.718	311578.00000	309430.00000	307135.00000
GE-1	72	354043.00000	0.00000	0.649	356676.00000	352439.00000	353015.00000
GE-2	72	97744.10000	0.00000	2.249	100180.00000	95906.90000	97145.70000
TB-2	159	212614.00000	0.00000	2.193	217976.00000	209522.00000	210345.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:36:00
Tube Number: 42
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39142.80000	0.00000	1.652	39861.50000	38958.80000	38607.90000
AL	27	2494.00000	86020.10000	2.611	2418.71355	2533.98713	2528.89596
CA	44	2523.00000	7875.99000	1.489	2481.09510	2553.72327	2534.05609
CR	52	261.60000	250389.00000	1.472	257.47819	262.22166	265.10449
FE	57	2491.00000	48893.30000	2.731	2415.44006	2547.71095	2509.10154
K	39	2416.00000	146946.00000	0.874	2392.39418	2422.38886	2433.13707
MG	24	2494.00000	256471.00000	2.237	2452.08350	2472.06761	2557.15355
MN	55	259.30000	126553.00000	2.021	253.41583	263.34105	261.28815
NA	23	2488.00000	609254.00000	1.951	2431.84506	2516.98751	2514.77240
TI	47	255.30000	5314.63000	5.080	244.69046	251.33856	269.72616
V	51	258.00000	188258.00000	2.457	251.84433	257.55911	264.49931
IN-1	115	268657.00000	0.00000	1.893	274348.00000	267073.00000	264552.00000
IN-2	115	49390.10000	0.00000	1.055	49359.40000	49925.90000	48885.10000
AG	107	26.07000	55456.80000	2.205	26.73193	25.69079	25.78890
AS	75	260.60000	18648.90000	1.756	264.78534	255.70067	261.21253
BA	137	255.10000	58261.10000	1.842	255.79622	250.11131	259.43575
CD	111	25.48000	6410.34000	1.393	25.07295	25.67920	25.69561
CO	59	264.40000	424907.00000	1.261	264.38745	261.07234	267.74281
CU	63	266.40000	331098.00000	2.106	269.44638	259.90069	269.77804
MO	98	26.36000	25590.20000	4.177	26.97264	27.02400	25.09196
NI	60	262.40000	116183.00000	1.002	264.95305	259.69364	262.46400
SB	121	25.11000	14625.80000	4.767	25.89530	23.72942	25.69535
SE	78	25.15000	1570.77000	3.988	23.99417	25.83084	25.61081
SN	120	28.80000	31830.60000	25.330	22.30943	27.39839	36.69578
SR	88	24.99000	12706.80000	4.022	24.68031	26.11717	24.18242
ZN	66	259.80000	37997.20000	1.533	263.67953	255.72483	260.06867
BI-2	209	182149.00000	0.00000	0.567	182741.00000	182750.00000	180956.00000
PB	208	25.20000	206056.00000	0.734	25.08436	25.10447	25.41430
TL	203	25.10000	63134.50000	0.850	24.97968	24.98249	25.35076
SC-1	45	312571.00000	0.00000	1.579	317224.00000	307397.00000	313092.00000
GE-1	72	356484.00000	0.00000	0.866	356052.00000	359765.00000	353637.00000
GE-2	72	97089.60000	0.00000	0.397	97136.40000	97449.20000	96683.20000
TB-2	159	213022.00000	0.00000	0.706	212865.00000	214599.00000	211604.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:38:00
Tube Number: 43
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39079.30000	0.00000	3.355	40303.10000	37695.20000	39239.70000
AL	27	0.02021	53.33660	3122.220	0.15492	0.57297	-0.66725
CA	44	-8.58700	213.34400	-118.318	-5.46353	-0.35826	-19.94114
CR	52	-0.04017	300.01600	-205.676	0.01113	0.00384	-0.13549
FE	57	0.41180	96.67060	537.154	0.90167	2.33844	-2.00456
K	39	-8.44600	13010.20000	-115.498	-18.22296	-8.40520	1.28715
MG	24	-0.18830	223.34300	-159.586	-0.09936	0.05757	-0.52324
MN	55	-2.04800	70.00320	-2.792	-2.11432	-2.02294	-2.00908
NA	23	-9.98500	119500.00000	-249.975	-31.58711	17.33619	-15.70874
TI	47	-0.31130	3.33346	-92.612	-0.47783	0.02160	-0.47783
V	51	0.06890	66.66940	56.938	0.04398	0.04859	0.11412
IN-1	115	264437.00000	0.00000	1.435	268394.00000	260827.00000	264092.00000
IN-2	115	50829.10000	0.00000	0.829	51313.50000	50547.70000	50625.90000
AG	107	0.00601	16.66730	156.478	0.01655	0.00304	-0.00155
AS	75	-0.12810	29.33360	-128.650	-0.14987	-0.28094	0.04646
BA	137	-0.05634	10.00040	-75.843	-0.05672	-0.09888	-0.01342
CD	111	0.00315	18.66680	635.410	-0.01554	0.02423	0.00075
CO	59	-0.04617	86.67150	-46.069	-0.04465	-0.06816	-0.02570
CU	63	-0.10910	243.34600	-34.409	-0.15246	-0.08727	-0.08760
MO	98	0.18780	236.68000	23.184	0.13899	0.22256	0.20199
NI	60	-0.02105	70.00370	-272.019	0.02122	-0.08621	0.00184
SB	121	0.14500	103.33800	52.566	0.07144	0.14009	0.22364
SE	78	0.01911	3.33334	102.459	0.00746	0.04171	0.00816
SN	120	0.44320	6829.14000	523.466	3.07642	-1.29789	-0.44903
SR	88	0.00012	23.33420	17689.200	0.01242	-0.02524	0.01319
ZN	66	-0.17470	56.66880	-97.138	-0.35504	-0.15117	-0.01809
BI-2	209	185055.00000	0.00000	1.346	187599.00000	182623.00000	184942.00000
PB	208	-0.01073	76.67010	-23.243	-0.01165	-0.01265	-0.00792
TL	203	0.00108	23.33430	539.945	0.00743	-0.00008	-0.00410
SC-1	45	307090.00000	0.00000	0.916	306468.00000	304640.00000	310162.00000
GE-1	72	355242.00000	0.00000	0.838	358632.00000	353058.00000	354038.00000
GE-2	72	99615.30000	0.00000	0.465	100139.00000	99443.30000	99263.20000
TB-2	159	213712.00000	0.00000	1.445	216694.00000	213914.00000	210527.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:41:00
Tube Number: 44 Batch: 152886050001A
Sample Number: **8085872** Class: **********

Initial Vol: 25.00 Final Vol: 25.00 DF: 10.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	40046.20000	0.00000	2.395	41136.10000	39671.60000	39330.90000
AL	27	15.27000	593.37100	11.873	16.12738	16.49351	13.18574
CA	44	510.20000	1823.54000	8.342	461.47628	540.11543	529.03547
CR	52	25.17000	24954.80000	2.846	24.34420	25.56612	25.60306
FE	57	66.27000	1420.13000	1.112	66.82618	65.43264	66.54664
K	39	224500.00000	12696100.00000	2.217	218891.51851	226150.47465	228425.08587
MG	24	33.06000	3724.02000	1.589	32.73089	32.77835	33.66385
MN	55	-0.80690	686.71400	-5.478	-0.85751	-0.78780	-0.77559
NA	23	185400.00000	37284100.00000	2.561	180065.03849	186963.23170	189166.53882
TI	47	-0.32520	3.33346	-81.242	-0.02017	-0.47783	-0.47783
V	51	0.08885	83.33670	29.837	0.10782	0.05856	0.10017
IN-1	115	265703.00000	0.00000	0.580	266184.00000	266945.00000	263980.00000
IN-2	115	49273.70000	0.00000	0.514	48993.50000	49341.30000	49486.20000
AG	107	0.01101	26.66800	65.177	0.01267	0.00315	0.01722
AS	75	3.03600	254.00500	14.460	2.57768	3.45267	3.07772
BA	137	8.58100	1976.91000	7.295	8.60057	9.19702	7.94549
CD	111	0.42090	122.66800	4.481	0.43707	0.42552	0.40020
CO	59	75.93000	121868.00000	0.737	76.30940	75.29231	76.20592
CU	63	11.68000	14842.40000	2.566	11.69019	11.97706	11.37776
MO	98	4.46300	4360.93000	3.881	4.48883	4.62226	4.27873
NI	60	2.56600	1210.11000	6.539	2.44534	2.49473	2.75759
SB	121	0.03547	36.66840	112.546	0.05882	0.05821	-0.01063
SE	78	0.64160	41.77800	23.878	0.80565	0.50223	0.61698
SN	120	132.90000	124164.00000	5.494	131.30198	140.82733	126.48152
SR	88	1.06100	560.03800	14.279	0.88942	1.11961	1.17522
ZN	66	112.20000	16414.30000	1.701	114.32849	111.59547	110.65160
BI-2	209	176973.00000	0.00000	0.460	177646.00000	176068.00000	177206.00000
PB	208	0.14420	1303.42000	13.488	0.12938	0.13705	0.16624
TL	203	-0.00392	10.00040	-104.364	-0.00802	-0.00390	0.00016
SC-1	45	313864.00000	0.00000	0.065	313683.00000	314087.00000	313821.00000
GE-1	72	352363.00000	0.00000	1.392	355773.00000	354573.00000	346743.00000
GE-2	72	97488.10000	0.00000	1.387	95936.60000	98414.50000	98113.00000
TB-2	159	213790.00000	0.00000	1.324	216393.00000	210776.00000	214201.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:43:00
Tube Number: 45 Batch: 152886050001A
Sample Number: **8085872** Class: **********

Initial Vol: 25.00 Final Vol: 25.00 DF: 20.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	40025.70000	0.00000	1.783	40634.10000	40202.80000	39240.20000
AL	27	9.26300	380.01900	19.000	7.40511	9.47774	10.90514
CA	44	235.10000	973.41400	5.300	248.54031	232.75809	223.93720
CR	52	12.34000	12409.70000	1.754	12.15648	12.29070	12.58014
FE	57	29.23000	676.71100	2.872	28.38306	29.23339	30.06211
K	39	110900.00000	6274410.00000	3.089	108690.71218	109111.86994	114825.19090
MG	24	18.07000	2146.93000	4.892	17.22532	18.00424	18.98940
MN	55	-1.32300	430.02900	-21.580	-1.31876	-1.61115	-1.04027
NA	23	91810.00000	18518800.00000	2.892	89426.15124	91345.01235	94673.42470
TI	47	-0.47780	0.00000	0.000	-0.47783	-0.47783	-0.47783
V	51	0.04944	53.33560	90.433	0.01704	0.03081	0.10045
IN-1	115	266661.00000	0.00000	1.682	268007.00000	261655.00000	270320.00000
IN-2	115	51210.70000	0.00000	2.744	51961.00000	49589.60000	52081.50000
AG	107	0.00448	13.33380	56.402	0.00739	0.00313	0.00291
AS	75	1.28100	134.00200	4.147	1.33580	1.22969	1.27839
BA	137	4.26100	1033.42000	12.697	3.93980	3.95839	4.88590
CD	111	0.15960	59.33400	28.202	0.12019	0.20865	0.15000
CO	59	36.40000	60750.00000	4.025	36.20798	37.94424	35.03281
CU	63	5.61200	7612.57000	2.414	5.76491	5.56537	5.50635
MO	98	2.05600	2116.94000	8.502	2.25659	1.93494	1.97706
NI	60	1.07700	573.36800	9.898	0.96389	1.17589	1.08985
SB	121	0.02791	33.33460	127.481	-0.01145	0.05778	0.03739
SE	78	0.38480	26.00010	10.210	0.38231	0.42535	0.34689
SN	120	78.06000	78608.70000	25.634	101.08067	68.32135	64.78063
SR	88	0.44650	256.68000	38.029	0.34895	0.64260	0.34804
ZN	66	53.88000	8229.62000	4.942	53.46035	56.72608	51.44913
BI-2	209	182797.00000	0.00000	1.392	184774.00000	183693.00000	179926.00000
PB	208	0.06183	670.03500	18.567	0.04881	0.06620	0.07049
TL	203	-0.00536	6.66694	-42.937	-0.00802	-0.00407	-0.00399
SC-1	45	313449.00000	0.00000	0.941	313403.00000	310521.00000	316423.00000
GE-1	72	359640.00000	0.00000	0.597	362099.00000	358689.00000	358130.00000
GE-2	72	99557.70000	0.00000	1.291	98274.10000	100844.00000	99554.60000
TB-2	159	217104.00000	0.00000	0.192	217155.00000	216665.00000	217492.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:45:00
Tube Number: 46
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39661.40000	0.00000	1.334	40243.30000	39210.00000	39530.90000
AL	27	105.40000	3734.00000	4.012	101.16220	105.31559	109.61924
CA	44	206.50000	876.73200	6.508	216.37329	191.18311	211.89099
CR	52	2.12900	2406.98000	8.652	2.28086	2.18318	1.92432
FE	57	98.67000	2050.25000	6.789	99.18406	91.72868	105.09673
K	39	195.00000	24593.80000	4.745	185.25043	203.64035	196.22606
MG	24	102.80000	10948.30000	1.770	100.74761	104.24211	103.37862
MN	55	-0.14780	1003.41000	-75.643	-0.24498	-0.17298	-0.02570
NA	23	219.10000	166878.00000	1.918	217.88042	215.59089	223.73704
TI	47	12.81000	280.01500	48.080	15.89587	16.80749	5.71336
V	51	0.59970	460.02600	10.338	0.55050	0.57928	0.66935
IN-1	115	274081.00000	0.00000	1.011	276814.00000	271272.00000	274158.00000
IN-2	115	50818.40000	0.00000	0.516	50739.80000	51110.70000	50604.70000
AG	107	0.54660	1200.11000	11.078	0.51560	0.61636	0.50781
AS	75	1.92300	180.00300	12.720	1.95298	1.66441	2.15089
BA	137	2.10000	516.70000	14.419	1.86242	2.44078	1.99592
CD	111	0.46790	138.66900	16.595	0.38084	0.49313	0.52988
CO	59	0.56290	1093.43000	8.780	0.51341	0.56311	0.61226
CU	63	2.00200	2940.43000	10.609	2.22481	1.80171	1.97997
MO	98	0.51890	566.70100	7.695	0.49288	0.49891	0.56487
NI	60	1.94900	966.74300	5.844	1.82721	1.96555	2.05312
SB	121	1.08000	663.37800	2.690	1.10948	1.05140	1.07897
SE	78	1.79300	116.44500	1.025	1.81011	1.77375	1.79657
SN	120	3.84100	9915.41000	136.267	0.93550	0.70467	9.88420
SR	88	0.87490	480.02800	3.262	0.85728	0.90786	0.85968
ZN	66	15.85000	2463.67000	4.390	16.65764	15.47344	15.43266
BI-2	209	186525.00000	0.00000	1.799	188567.00000	188356.00000	182651.00000
PB	208	1.00300	8561.59000	4.380	0.97571	1.05378	0.97987
TL	203	0.49930	1303.46000	16.643	0.44539	0.45744	0.59496
SC-1	45	314107.00000	0.00000	1.084	317490.00000	310679.00000	314151.00000
GE-1	72	361802.00000	0.00000	0.593	363281.00000	359340.00000	362786.00000
GE-2	72	100299.00000	0.00000	0.433	100127.00000	99977.60000	100793.00000
TB-2	159	216676.00000	0.00000	1.734	220351.00000	216838.00000	212840.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:48:00
Tube Number: 47
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39688.30000	0.00000	0.290	39801.70000	39571.50000	39691.70000
AL	27	10090.00000	352707.00000	1.574	9917.47611	10232.07335	10112.10642
CA	44	9782.00000	30266.10000	2.031	9555.09196	9866.47964	9924.71341
CR	52	0.11990	460.02400	53.461	0.17005	0.14206	0.04771
FE	57	10030.00000	199449.00000	0.367	10035.65841	9993.37812	10066.80436
K	39	10050.00000	576749.00000	1.065	10044.51313	9950.31337	10163.88027
MG	24	9978.00000	1039990.00000	2.606	10085.27326	10167.82681	9681.98253
MN	55	-1.44000	370.02200	-3.604	-1.40205	-1.49963	-1.42023
NA	23	10020.00000	2115560.00000	0.567	9972.08760	10017.00674	10085.02314
TI	47	201.80000	4264.22000	7.611	217.14332	201.75048	186.43114
V	51	0.03146	40.00180	74.062	0.04482	0.00456	0.04501
IN-1	115	270901.00000	0.00000	1.690	269172.00000	276092.00000	267439.00000
IN-2	115	50048.80000	0.00000	1.740	50937.50000	50011.90000	49197.10000
AG	107	0.00626	16.66730	114.831	-0.00155	0.00773	0.01261
AS	75	0.03412	40.66710	160.727	0.09725	-0.00180	0.00690
BA	137	-0.05614	10.00040	-75.650	-0.01394	-0.05562	-0.09888
CD	111	0.04123	28.00030	73.587	0.01578	0.03310	0.07481
CO	59	-0.06170	60.00250	-34.538	-0.07443	-0.03710	-0.07358
CU	63	-0.11690	230.01200	-17.571	-0.10452	-0.14067	-0.10569
MO	98	201.70000	197998.00000	1.686	197.78076	203.64540	203.69614
NI	60	0.09322	120.00700	105.171	0.13223	-0.01831	0.16576
SB	121	0.01745	26.66770	112.436	0.00554	0.04009	0.00672
SE	78	-0.02457	0.66667	-75.661	-0.03531	-0.03531	-0.00312
SN	120	-0.62320	5749.40000	-41.175	-0.90495	-0.40299	-0.56172
SR	88	0.05255	50.00190	33.796	0.07017	0.05283	0.03465
ZN	66	-0.25930	43.33580	-40.339	-0.35358	-0.14687	-0.27772
BI-2	209	183590.00000	0.00000	0.693	184173.00000	182129.00000	184466.00000
PB	208	0.00998	246.67800	4.982	0.01029	0.00941	0.01024
TL	203	-0.00014	20.00080	-5013.260	0.00772	-0.00404	-0.00409
SC-1	45	316269.00000	0.00000	0.830	317151.00000	313316.00000	318341.00000
GE-1	72	362884.00000	0.00000	0.981	360520.00000	361154.00000	366977.00000
GE-2	72	97844.90000	0.00000	1.392	99383.60000	97357.10000	96794.10000
TB-2	159	214149.00000	0.00000	0.745	215491.00000	212385.00000	214571.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:50:00
Tube Number: 48
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	38865.50000	0.00000	3.057	37494.90000	39590.90000	39510.80000
AL	27	10240.00000	350428.00000	2.785	10563.69185	10128.27928	10026.82178
CA	44	10050.00000	30426.40000	3.126	10337.98924	10094.18819	9714.45542
CR	52	20.75000	20022.60000	3.099	21.49177	20.43892	20.32532
FE	57	10230.00000	198991.00000	2.607	10532.13119	10104.65415	10042.09911
K	39	10210.00000	573337.00000	2.920	10552.54358	9988.34515	10103.44346
MG	24	10140.00000	1034510.00000	3.907	10600.14770	9945.61245	9885.96071
MN	55	18.79000	10081.00000	2.472	19.29904	18.69280	18.38653
NA	23	10340.00000	2132710.00000	0.884	10439.36328	10259.63375	10320.66502
TI	47	207.90000	4304.23000	5.998	202.90743	222.10700	198.72351
V	51	0.00983	23.33420	92.718	0.02036	0.00454	0.00460
IN-1	115	266912.00000	0.00000	0.672	268827.00000	266637.00000	265273.00000
IN-2	115	50018.50000	0.00000	1.089	50076.40000	50532.00000	49447.10000
AG	107	20.37000	43877.60000	2.344	20.01815	20.17842	20.91359
AS	75	20.06000	1489.43000	2.457	19.55016	20.10816	20.53295
BA	137	-0.04148	13.33390	-157.401	-0.09888	0.02955	-0.05513
CD	111	20.29000	5171.77000	1.458	20.60660	20.02264	20.23246
CO	59	21.23000	34700.90000	1.725	20.88840	21.18715	21.61693
CU	63	21.08000	26892.00000	4.510	19.99080	21.56675	21.70007
MO	98	199.40000	195587.00000	1.366	197.20838	198.43085	202.41647
NI	60	20.89000	9437.05000	7.870	19.86890	20.01972	22.78939
SB	121	0.02857	33.33490	122.716	0.05695	0.03939	-0.01062
SE	78	0.00057	2.22223	2901.030	-0.00328	-0.01378	0.01878
SN	120	4.27100	10216.50000	245.610	-1.12117	16.35500	-2.42076
SR	88	0.05302	50.00300	133.516	-0.02506	0.07109	0.11301
ZN	66	20.25000	3073.81000	4.793	19.52208	19.87687	21.35215
BI-2	209	181912.00000	0.00000	1.385	180172.00000	180762.00000	184802.00000
PB	208	0.02369	356.68400	25.796	0.02086	0.01950	0.03070
TL	203	-0.00668	3.33347	-34.641	-0.00802	-0.00401	-0.00802
SC-1	45	319532.00000	0.00000	1.436	314542.00000	323570.00000	320484.00000
GE-1	72	355663.00000	0.00000	1.178	359171.00000	356795.00000	351024.00000
GE-2	72	98328.00000	0.00000	0.934	97326.50000	99131.10000	98526.60000
TB-2	159	214555.00000	0.00000	0.829	214940.00000	212616.00000	216109.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:53:00
Tube Number: 49
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39517.30000	0.00000	2.910	40844.70000	38848.80000	38858.50000
AL	27	2450.00000	85225.90000	6.469	2268.12541	2559.70425	2521.49313
CA	44	2522.00000	7946.12000	3.403	2444.83445	2614.50166	2507.23291
CR	52	259.60000	250698.00000	3.657	249.05633	267.51395	262.14709
FE	57	2495.00000	49442.40000	2.515	2424.46864	2543.58660	2518.18798
K	39	2434.00000	149281.00000	4.064	2320.19463	2495.44024	2487.29795
MG	24	2477.00000	257143.00000	2.715	2402.59638	2532.99744	2496.43107
MN	55	257.10000	126614.00000	3.758	245.98367	262.30873	263.10231
NA	23	2463.00000	609917.00000	4.726	2332.70518	2556.03530	2501.56878
TI	47	240.90000	5064.55000	3.702	234.17887	237.50966	251.02106
V	51	253.90000	187031.00000	2.524	246.56138	258.30778	256.87564
IN-1	115	271820.00000	0.00000	1.406	271831.00000	275635.00000	267994.00000
IN-2	115	50170.90000	0.00000	2.262	49668.30000	51470.30000	49374.10000
AG	107	25.85000	55838.30000	3.422	26.23702	24.84255	26.48291
AS	75	256.40000	18636.20000	3.503	261.37847	246.07393	261.87337
BA	137	253.70000	58847.50000	1.802	254.95082	248.64278	257.52822
CD	111	25.88000	6610.43000	2.974	25.76514	25.17450	26.70103
CO	59	259.90000	424151.00000	2.272	260.38683	253.74343	265.52036
CU	63	261.00000	329543.00000	1.250	260.58072	257.96858	264.45124
MO	98	25.44000	25079.10000	1.170	25.62162	25.09970	25.60862
NI	60	259.90000	116881.00000	2.825	264.65909	251.47547	263.66706
SB	121	24.52000	14515.60000	0.246	24.58809	24.46929	24.51101
SE	78	24.98000	1579.88000	1.299	24.61779	25.23555	25.09927
SN	120	25.11000	29071.20000	14.205	23.79383	29.14559	22.38310
SR	88	25.03000	12923.70000	5.921	23.56500	25.01027	26.52824
ZN	66	257.10000	38187.30000	1.898	257.79942	251.92033	261.60762
BI-2	209	181219.00000	0.00000	0.789	179804.00000	181191.00000	182662.00000
PB	208	25.42000	206752.00000	1.699	25.79535	25.51063	24.94680
TL	203	25.41000	63567.50000	0.874	25.37974	25.63987	25.19824
SC-1	45	313877.00000	0.00000	2.262	313843.00000	320995.00000	306793.00000
GE-1	72	359683.00000	0.00000	0.020	359628.00000	359764.00000	359657.00000
GE-2	72	99130.90000	0.00000	1.040	98597.70000	100319.00000	98475.70000
TB-2	159	213664.00000	0.00000	0.930	214924.00000	214694.00000	211372.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:55:00
Tube Number: 50
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39370.20000	0.00000	2.550	38688.30000	38898.60000	40523.60000
AL	27	-0.18070	46.66920	-475.982	0.81231	-0.65964	-0.69477
CA	44	0.51610	243.34700	1856.040	-9.06766	0.52534	10.09072
CR	52	0.00937	350.01800	158.501	-0.00536	0.02433	0.00914
FE	57	-2.02600	50.00220	-39.630	-2.48453	-2.49569	-1.09944
K	39	-10.43000	12993.60000	-85.561	-7.31184	-3.49134	-20.50132
MG	24	0.36990	283.34700	188.456	-0.39850	0.96180	0.54628
MN	55	-1.99600	96.67060	-5.281	-2.11097	-1.90349	-1.97504
NA	23	-6.23300	121176.00000	-334.831	-2.07599	12.24893	-28.87165
TI	47	-0.47780	0.00000	0.000	-0.47783	-0.47783	-0.47783
V	51	0.02757	36.66830	60.356	0.04676	0.01881	0.01715
IN-1	115	269295.00000	0.00000	1.016	270993.00000	266138.00000	270754.00000
IN-2	115	51190.70000	0.00000	0.861	51062.90000	50827.90000	51681.40000
AG	107	0.00147	6.66693	178.080	-0.00155	0.00302	0.00294
AS	75	0.06645	44.00040	242.137	0.14988	-0.11906	0.16854
BA	137	-0.02813	16.66760	-230.217	0.02822	-0.01375	-0.09888
CD	111	-0.00011	18.00020	-20044.400	-0.02298	0.00047	0.02218
CO	59	-0.03253	110.00500	-17.227	-0.03837	-0.03204	-0.02719
CU	63	-0.12070	230.01200	-41.334	-0.10500	-0.08062	-0.17659
MO	98	0.22240	273.34700	28.799	0.14990	0.27122	0.24618
NI	60	-0.03653	63.33570	-171.749	-0.10896	0.00113	-0.00177
SB	121	0.17660	123.33900	19.071	0.13840	0.18925	0.20209
SE	78	-0.00334	2.00001	-317.256	0.00705	-0.00296	-0.01411
SN	120	0.47010	6890.90000	522.867	-2.28282	2.44292	1.25015
SR	88	-0.01263	16.66760	-231.512	-0.00637	0.01296	-0.04450
ZN	66	-0.24410	46.66840	-16.612	-0.22151	-0.21997	-0.29096
BI-2	209	184571.00000	0.00000	0.667	183483.00000	184323.00000	185907.00000
PB	208	-0.00707	106.67200	-44.132	-0.00417	-0.00667	-0.01038
TL	203	0.00636	36.66820	93.825	-0.00012	0.01164	0.00757
SC-1	45	313388.00000	0.00000	1.568	318473.00000	313026.00000	308666.00000
GE-1	72	358217.00000	0.00000	1.928	366138.00000	355068.00000	353446.00000
GE-2	72	100697.00000	0.00000	1.270	100916.00000	99322.20000	101852.00000
TB-2	159	214873.00000	0.00000	0.585	214029.00000	214274.00000	216318.00000

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Instrument Tuning Report (ICPMS #11332)

File Name: default.tun

File Path: C:\elandata\Tuning

Sample Date/Time: 10/20/2015 3:11:00AM

Number of Replicates: 6

Method File: c:\elandata\Method\dailytune.mth

Measured Mass must be within +/- 0.1 amu of the Exact Mass.

Measured Peak Width must be > or = to 0.640 AND < or = to 0.660.

Analyte	EXACT MASS	MEAS. MASS	Mass DAC	RES. DAC	MEAS. PK. WIDTH
Ce	140.000	140.050	0	0	0.600
In	115.000	115.000	0	0	0.650
Li	6.000	6.050	0	0	0.700
Mg	24.000	23.950	0	0	0.700
Pb	208.000	208.000	0	0	0.600
Rh	103.000	103.000	0	0	0.650
U	238.000	238.000	0	0	0.650

Summary: Verify that the RSD is less than 5 for the following masses.

Mass	Meas. Intens. Mean	Meas. Intens. RSD
140.000	77105.000	1.550
115.000	76932.000	0.720
6.000	34860.000	1.870
24.000	43389.000	1.050
208.000	49514.000	1.080
103.000	70007.000	1.210
238.000	106771.000	0.380

Mercury Data

Metals in Liquid

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Mercury Run Data Report

Data File Name: 1529201.M07

Run Name: 1529201M07

Instrument No.: 17384

Element: Hg

Analyst Employee ID: 0354

Reviewed By
Damary Valentin

Reviewed Date
10/19/2015 8:42AM

Method Reference Name(s):
SW-846 7470A

Verified By:
Jennifer L Moyer

Verified Date
10/19/2015 11:19AM

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

1 Burn Date/Time: 10/19/2015 03:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0		1	1	1.00

AVG (ppb)	Intensity
0.0000	144.0

2 Burn Date/Time: 10/19/2015 03:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.2		1	1	1.00

AVG (ppb)	Intensity
0.0000	1678.0

3 Burn Date/Time: 10/19/2015 03:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	4310.0

4 Burn Date/Time: 10/19/2015 03:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S1.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	8448.0

5 Burn Date/Time: 10/19/2015 03:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S2.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	21239.0

6 Burn Date/Time: 10/19/2015 03:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S5.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	41109.0

CorrelationCoefficient = 1.00000
Slope = 8225.5786600000
Y-Intercept = 208.7793900000

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

7 Burn Date/Time: 10/19/2015 03:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICV		1	1	1.00

AVG (ppb)	Intensity
2.4681	20512.0

8 Burn Date/Time: 10/19/2015 03:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICB		1	1	1.00

AVG (ppb)	Intensity
-0.0382	-109.0

9 Burn Date/Time: 10/19/2015 03:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.1843	1722.0

10 Burn Date/Time: 10/19/2015 03:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 1		1	1	1.00

AVG (ppb)	Intensity
0.9617	8118.0

11 Burn Date/Time: 10/19/2015 03:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 1		1	1	1.00

AVG (ppb)	Intensity
-0.0296	-38.0

12 Burn Date/Time: 10/19/2015 03:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0079	141.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

13 Burn Date/Time: 10/19/2015 03:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0039	8465.0		

14 Burn Date/Time: 10/19/2015 03:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089282	U*********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0121	106.0		

15 Burn Date/Time: 10/19/2015 03:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089285	D*********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0065	259.0		

16 Burn Date/Time: 10/19/2015 03:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089283	R*********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0146	8553.0		

17 Burn Date/Time: 10/19/2015 03:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089284	M*********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0633	8954.0		

18 Burn Date/Time: 10/19/2015 03:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087536	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0039	174.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

19 Burn Date/Time: 10/19/2015 04:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087537	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0028	229.0		

20 Burn Date/Time: 10/19/2015 04:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087538	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0057	159.0		

21 Burn Date/Time: 10/19/2015 04:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087539	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0040	173.0		

22 Burn Date/Time: 10/19/2015 04:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 2		1	1	1.00

AVG (ppb)	Intensity
0.9651	8146.0

23 Burn Date/Time: 10/19/2015 04:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 2		1	1	1.00

AVG (ppb)	Intensity
-0.0293	-35.0

24 Burn Date/Time: 10/19/2015 04:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087540	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0059	157.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

25 Burn Date/Time: 10/19/2015 04:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087541	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0008	212.0		

26 Burn Date/Time: 10/19/2015 04:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087542	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0095	284.0		

27 Burn Date/Time: 10/19/2015 04:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087544	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0104	291.0		

28 Burn Date/Time: 10/19/2015 04:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087545	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0038	237.0		

29 Burn Date/Time: 10/19/2015 04:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087546	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0134	316.0		

30 Burn Date/Time: 10/19/2015 04:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087547	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0002	204.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

31 Burn Date/Time: 10/19/2015 04:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087548	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0002	207.0		

32 Burn Date/Time: 10/19/2015 04:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087549	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0008	212.0		

33 Burn Date/Time: 10/19/2015 04:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089281	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0050	247.0		

34 Burn Date/Time: 10/19/2015 04:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 3		1	1	1.00

AVG (ppb)	Intensity
0.9676	8167.0

35 Burn Date/Time: 10/19/2015 04:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 3		1	1	1.00

AVG (ppb)	Intensity
-0.0301	-42.0

36 Burn Date/Time: 10/19/2015 04:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089286	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0061	256.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

37 Burn Date/Time: 10/19/2015 04:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089287	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0014	217.0		

38 Burn Date/Time: 10/19/2015 04:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089288	**********	4	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0483	603.0		

39 Burn Date/Time: 10/19/2015 04:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089290	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0011	197.0		

40 Burn Date/Time: 10/19/2015 04:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0177	60.0		

41 Burn Date/Time: 10/19/2015 04:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9750	8228.0		

42 Burn Date/Time: 10/19/2015 04:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081053	U**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0229	17.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

43 Burn Date/Time: 10/19/2015 04:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081056	D*********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0099	124.0		

44 Burn Date/Time: 10/19/2015 04:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081054	R*********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9579	8087.0		

45 Burn Date/Time: 10/19/2015 04:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081055	M*********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9606	8109.0		

46 Burn Date/Time: 10/19/2015 04:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 4		1	1	1.00

AVG (ppb)	Intensity
0.9477	8003.0

47 Burn Date/Time: 10/19/2015 04:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 4		1	1	1.00

AVG (ppb)	Intensity
-0.0302	-43.0

48 Burn Date/Time: 10/19/2015 04:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8090814	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0133	96.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

49 Burn Date/Time: 10/19/2015 05:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8090817	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0108	117.0		

50 Burn Date/Time: 10/19/2015 05:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089792	**********	4	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.6485	5541.0		

51 Burn Date/Time: 10/19/2015 05:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081057	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0124	104.0		

52 Burn Date/Time: 10/19/2015 05:07

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081058	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0078	270.0		

53 Burn Date/Time: 10/19/2015 05:09

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081059	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0672	759.0		

54 Burn Date/Time: 10/19/2015 05:11

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081060	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0096	127.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

55 Burn Date/Time: 10/19/2015 05:13

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081061	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0097	126.0		

56 Burn Date/Time: 10/19/2015 05:15

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081062	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0127	101.0		

57 Burn Date/Time: 10/19/2015 05:17

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081063	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0099	124.0		

58 Burn Date/Time: 10/19/2015 05:19

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 5		1	1	1.00

AVG (ppb)	Intensity
0.9697	8184.0

59 Burn Date/Time: 10/19/2015 05:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 5		1	1	1.00

AVG (ppb)	Intensity
-0.0284	-28.0

60 Burn Date/Time: 10/19/2015 05:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081064	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0137	93.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

61 Burn Date/Time: 10/19/2015 05:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081832	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0103	121.0		

62 Burn Date/Time: 10/19/2015 05:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081833	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0014	217.0		

63 Burn Date/Time: 10/19/2015 05:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081834	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0036	176.0		

64 Burn Date/Time: 10/19/2015 05:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081835	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0059	157.0		

65 Burn Date/Time: 10/19/2015 05:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081836	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0064	153.0		

66 Burn Date/Time: 10/19/2015 05:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081841	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0082	138.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

67 Burn Date/Time: 10/19/2015 05:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081842	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0093	129.0		

68 Burn Date/Time: 10/19/2015 05:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8084141	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0074	145.0		

69 Burn Date/Time: 10/19/2015 05:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0094	283.0		

70 Burn Date/Time: 10/19/2015 05:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 6		1	1	1.00

AVG (ppb)	Intensity
0.9606	8109.0

71 Burn Date/Time: 10/19/2015 05:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 6		1	1	1.00

AVG (ppb)	Intensity
-0.0302	-43.0

72 Burn Date/Time: 10/19/2015 05:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9616	8117.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

73 Burn Date/Time: 10/19/2015 05:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081595	U*********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0085	136.0		

74 Burn Date/Time: 10/19/2015 05:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081598	D*********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0076	268.0		

75 Burn Date/Time: 10/19/2015 05:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081596	R*********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9375	7919.0		

76 Burn Date/Time: 10/19/2015 05:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081597	M*********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9280	7841.0		

77 Burn Date/Time: 10/19/2015 05:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081594	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0240	8.0		

78 Burn Date/Time: 10/19/2015 06:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081599	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0136	94.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

79 Burn Date/Time: 10/19/2015 06:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081601	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0135	95.0		

80 Burn Date/Time: 10/19/2015 06:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081602	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0109	116.0		

81 Burn Date/Time: 10/19/2015 06:07

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081603	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0105	292.0		

82 Burn Date/Time: 10/19/2015 06:09

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 7		1	1	1.00

AVG (ppb)	Intensity
0.9486	8010.0

83 Burn Date/Time: 10/19/2015 06:11

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 7		1	1	1.00

AVG (ppb)	Intensity
-0.0266	-13.0

84 Burn Date/Time: 10/19/2015 06:15

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082084	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0036	176.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

85 Burn Date/Time: 10/19/2015 06:17

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8084142	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0099	124.0		

86 Burn Date/Time: 10/19/2015 06:19

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8084143	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0052	163.0		

87 Burn Date/Time: 10/19/2015 06:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8084144	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0043	170.0		

88 Burn Date/Time: 10/19/2015 06:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8084145	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0032	179.0		

89 Burn Date/Time: 10/19/2015 06:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8084146	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0009	198.0		

90 Burn Date/Time: 10/19/2015 06:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8084147	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0034	178.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

91 Burn Date/Time: 10/19/2015 06:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8086798	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0006	211.0		

92 Burn Date/Time: 10/19/2015 06:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8086799	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0035	177.0		

93 Burn Date/Time: 10/19/2015 06:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8086801	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0109	295.0		

94 Burn Date/Time: 10/19/2015 06:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 8		1	1	1.00

AVG (ppb)	Intensity
0.9635	8133.0

95 Burn Date/Time: 10/19/2015 06:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 8		1	1	1.00

AVG (ppb)	Intensity
-0.0284	-28.0

96 Burn Date/Time: 10/19/2015 06:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8086802	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0001	205.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

97 Burn Date/Time: 10/19/2015 06:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8086804	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0040	173.0		

98 Burn Date/Time: 10/19/2015 06:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8086805	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0036	176.0		

99 Burn Date/Time: 10/19/2015 06:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8085591	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0031	180.0		

100 Burn Date/Time: 10/19/2015 06:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0262	421.0		

101 Burn Date/Time: 10/19/2015 06:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0235	8627.0		

102 Burn Date/Time: 10/19/2015 06:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082120	U**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0206	375.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

103 Burn Date/Time: 10/19/2015 06:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082123	D*********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0181	355.0		

104 Burn Date/Time: 10/19/2015 06:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082121	R*********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9653	8148.0		

105 Burn Date/Time: 10/19/2015 06:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082122	M*********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9343	7893.0		

106 Burn Date/Time: 10/19/2015 06:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 9		1	1	1.00

AVG (ppb)	Intensity
0.9443	7975.0

107 Burn Date/Time: 10/19/2015 07:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 9		1	1	1.00

AVG (ppb)	Intensity
-0.0280	-25.0

108 Burn Date/Time: 10/19/2015 07:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082098	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0117	302.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

109 Burn Date/Time: 10/19/2015 07:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082099	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0062	257.0		

110 Burn Date/Time: 10/19/2015 07:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082100	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0032	232.0		

111 Burn Date/Time: 10/19/2015 07:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082101	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0053	249.0		

112 Burn Date/Time: 10/19/2015 07:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082114	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0133	315.0		

113 Burn Date/Time: 10/19/2015 07:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082115	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0201	371.0		

114 Burn Date/Time: 10/19/2015 07:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082117	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0310	461.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

115 Burn Date/Time: 10/19/2015 07:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082118	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0084	275.0		

116 Burn Date/Time: 10/19/2015 07:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082119	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0117	302.0		

117 Burn Date/Time: 10/19/2015 07:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082124	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0059	254.0		

118 Burn Date/Time: 10/19/2015 07:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 10		1	1	1.00

AVG (ppb)	Intensity
0.9488	8012.0

119 Burn Date/Time: 10/19/2015 07:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 10		1	1	1.00

AVG (ppb)	Intensity
-0.0289	-32.0

120 Burn Date/Time: 10/19/2015 07:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082126	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0040	239.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

121 Burn Date/Time: 10/19/2015 07:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082127	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0127	310.0		

122 Burn Date/Time: 10/19/2015 07:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082128	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0037	236.0		

123 Burn Date/Time: 10/19/2015 07:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082129	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0028	229.0		

124 Burn Date/Time: 10/19/2015 07:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082130	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0015	193.0		

125 Burn Date/Time: 10/19/2015 07:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082297	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0076	143.0		

126 Burn Date/Time: 10/19/2015 07:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8086745	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0102	122.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

127 Burn Date/Time: 10/19/2015 07:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8088199	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0137	93.0		

128 Burn Date/Time: 10/19/2015 07:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8088820	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0075	267.0		

129 Burn Date/Time: 10/19/2015 07:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152895713002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0144	87.0		

130 Burn Date/Time: 10/19/2015 07:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 11		1	1	1.00

AVG (ppb)	Intensity
0.9461	7990.0

131 Burn Date/Time: 10/19/2015 07:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 11		1	1	1.00

AVG (ppb)	Intensity
-0.0271	-17.0

132 Burn Date/Time: 10/19/2015 07:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152895713002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8840	7479.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

133 Burn Date/Time: 10/19/2015 07:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSWD	**********	1	1	1.00	152895713002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9052	7653.0		

134 Burn Date/Time: 10/19/2015 07:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082727	**********	40	40	1.00	152895713002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0359	-90.0		

135 Burn Date/Time: 10/19/2015 07:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082729	**********	40	40	1.00	152895713002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0195	45.0		

136 Burn Date/Time: 10/19/2015 08:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 12		1	1	1.00

AVG (ppb)	Intensity
0.9442	7974.0

137 Burn Date/Time: 10/19/2015 08:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 12		1	1	1.00

AVG (ppb)	Intensity
-0.0283	-27.0

Extraction/Distillation/Digestion Logs

Metals in Liquid

LLENS Worksheet for 1848 SW846 Water

Batch# 15 288 1848 003

Balance ID#: CLEAR **Start Time:** 10/16/15 11:15 **End Time:** 10/16/15 15:05 **Hot Block:** DEENA2

Pipette ID: W/1000

Spike/Reagent	Lot#	Volume Added(mL)
1:1 HCL	P15-278D	5.00
1:1 HNO3	P15-258E	2.00
ICP Spike 1A	1517023-27	1.00
ICP Spike 1B	1517025-27	1.00
LCS A1	1517023-27	1.00
LCS B1	1517025-27	1.00

Method Ref: SW-846 3005A

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1501179	Filtered reagent Lot# P15-286B
2)	LCSW	.							1501179	Filtered reagent Lot# P15-286B
3)	8082098	10/20/15 10:00		WW	N8			008a	1501179	
4)	8082099	10/20/15 10:00		WW	N8			008a	1501179	
5)	8082100	10/20/15 10:00		WW	N8			008a	1501179	
6)	8082101	10/20/15 10:00		WW	N8			008a	1501179	
7)	8082114	10/20/15 10:00		WW	N8			008a	1501179	
8)	8082115	10/20/15 10:00		WW	N8			008a	1501179	
9)	8082117	10/20/15 10:00		WW	N8		Y	008a	1501179	
10)	8082118	10/20/15 10:00		WW	N8			008a	1501179	
11)	8082119	10/20/15 10:00		WW	N8			008a	1501179	
12)	**8082120U**	10/20/15 10:00		WW	N8			008a	1501179	
13)	**8082121R**	10/20/15 10:00		WW	N8			008a	1501179	
14)	**8082122M**	10/20/15 10:00		WW	N8			008a	1501179	
15)	**8082123D**	10/20/15 10:00		WW	N8			008a	1501179	
16)	8082124	10/20/15 10:00		WW	N8			008a	1501179	
17)	8082126	10/20/15 10:00		WW	N8			008a	1501179	
18)	8082127	10/20/15 10:00		WW	N8			008a	1501179	
19)	8082128	10/20/15 10:00		WW	N8			008a	1501179	
20)	8082129	10/20/15 10:00		WW	N8			008a	1501179	
21)	8082130FB	10/20/15 10:00		WW	N8			008a	1501179	
22)	8083008	10/21/15 09:20		WW	N8			008a	1501179	
23)	8083009	10/21/15 09:20		WW	N8			089a	1501179	
24)	8083000	10/21/15 09:20		WW	N8			008a	1501179	

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	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
25)	8083004	10/21/15 09:20		WW	N8			089a	1501179	

Batch# 15 288 1848 003

LLENS Batch Chronology and Change Log - SW846 Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		10/15/15 18:47	3282
2)	Sample Vol		10/16/15 10:18	354
3)	Final Vol	CLEAR	10/16/15 10:18	354
4)	Trial		10/16/15 10:18	354
5)	Upload Prep	US19VDIELD03	10/16/15 15:08	3282

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 1848 SW846 Water

Batch# 15 288 1848 003

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
8082098	10/20/15	N8	P2802	PSC28-02	50.0000	50.0000	1
8082099	10/20/15	N8	P2803	PSC28-03	50.0000	50.0000	1
8082100	10/20/15	N8	P2804	PSC28-04	50.0000	50.0000	1
8082101	10/20/15	N8	P2805	PSC28-05	50.0000	50.0000	1
8082114	10/20/15	N8	P2816	PSC28-16	50.0000	50.0000	1
8082115	10/20/15	N8	P2817	PSC28-17	50.0000	50.0000	1
8082117	10/20/15	N8	P2819	PSC28-19	50.0000	50.0000	1
8082118	10/20/15	N8	P2820	PSC28-20	50.0000	50.0000	1
8082119	10/20/15	N8	P2821	PSC28-21	50.0000	50.0000	1
8082120U	10/20/15	N8	P2901	PSC29-01BKG	50.0000	50.0000	1
8082121R	10/20/15	N8	P2901	PSC29-01MS	50.0000	50.0000	1
8082122M	10/20/15	N8	P2901	PSC29-01MSD	50.0000	50.0000	1
8082123D	10/20/15	N8	P2901	PSC29-01DUP	50.0000	50.0000	1
8082124	10/20/15	N8	P2902	PSC29-02	50.0000	50.0000	1
8082126	10/20/15	N8	P2904	PSC29-04	50.0000	50.0000	1
8082127	10/20/15	N8	P2905	PSC29-05	50.0000	50.0000	1
8082128	10/20/15	N8	P2906	PSC29-06	50.0000	50.0000	1
8082129	10/20/15	N8	P2907	PSC29-07	50.0000	50.0000	1
8082130FB	10/20/15	N8	P2908	PSC29-08FB	50.0000	50.0000	1
8083008	10/21/15	N8	RS-9-		50.0000	50.0000	1
8083009	10/21/15	N8			50.0000	50.0000	1
8083000	10/21/15	N8	RS-21	XXX01-01BKG	50.0000	50.0000	1
8083004	10/21/15	N8	RS21F	XXX01-01BKG	50.0000	50.0000	1

LLENS Worksheet for 6050 ICP/MS SW846 Water

Batch# 15 288 6050 004

Balance ID#: CLEAR **Start Time:** 10/16/15 9:05 **End Time:** 10/16/15 14:14 **Hot Block:** 15

Pipette ID: JU06758

Reflux Cap Lot#: 1504103-5252-NK

Spike/Reagent	Lot#	Volume Added(mL)
HNO3	54295	3.00
ICP/MS Spike	1523621-3	0.50
LCS	1523621-3	0.50

Method Ref: SW-846 3010A modified

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1504103	
2)	LCSW	.							1504103	
3)	8082098	10/20/15 10:00		WW	N8			008a	1504103	
4)	8082099	10/20/15 10:00		WW	N8			008a	1504103	
5)	8082100	10/20/15 10:00		WW	N8			008a	1504103	
6)	8082101	10/20/15 10:00		WW	N8			008a	1504103	
7)	8082114	10/20/15 10:00		WW	N8			008a	1504103	
8)	8082115	10/20/15 10:00		WW	N8			008a	1504103	
9)	8082117	10/20/15 10:00		WW	N8		Y	008a	1504103	
10)	8082118	10/20/15 10:00		WW	N8			008a	1504103	
11)	8082119	10/20/15 10:00		WW	N8			008a	1504103	
12)	**8082120U**	10/20/15 10:00		WW	N8			008a	1504103	
13)	**8082121R**	10/20/15 10:00		WW	N8			008a	1504103	
14)	**8082122M**	10/20/15 10:00		WW	N8			008a	1504103	
15)	**8082123D**	10/20/15 10:00		WW	N8			008a	1504103	
16)	8082124	10/20/15 10:00		WW	N8			008a	1504103	
17)	8082126	10/20/15 10:00		WW	N8			008a	1504103	
18)	8082127	10/20/15 10:00		WW	N8			008a	1504103	
19)	8082128	10/20/15 10:00		WW	N8			008a	1504103	
20)	8082129	10/20/15 10:00		WW	N8			008a	1504103	
21)	8082130FB	10/20/15 10:00		WW	N8			008a	1504103	

Prep Employee: 3282

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Batch# 15 288 6050 004

LLENS Batch Chronology and Change Log - ICP/MS SW846 Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		10/15/15 18:46	3282
2)	Sample Vol		10/16/15 14:51	3282
3)	Final Vol	CLEAR	10/16/15 14:51	3282
4)	Trial		10/16/15 14:51	3282
5)	Upload Prep	US19VDIELD03	10/16/15 14:51	3282

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 6050 ICP/MS SW846 Water

Batch# 15 288 6050 004

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
8082098	10/20/15	N8	P2802	PSC28-02	50.0000	50.0000	1
8082099	10/20/15	N8	P2803	PSC28-03	50.0000	50.0000	1
8082100	10/20/15	N8	P2804	PSC28-04	50.0000	50.0000	1
8082101	10/20/15	N8	P2805	PSC28-05	50.0000	50.0000	1
8082114	10/20/15	N8	P2816	PSC28-16	50.0000	50.0000	1
8082115	10/20/15	N8	P2817	PSC28-17	50.0000	50.0000	1
8082117	10/20/15	N8	P2819	PSC28-19	50.0000	50.0000	1
8082118	10/20/15	N8	P2820	PSC28-20	50.0000	50.0000	1
8082119	10/20/15	N8	P2821	PSC28-21	50.0000	50.0000	1
8082120U	10/20/15	N8	P2901	PSC29-01BKG	50.0000	50.0000	1
8082121R	10/20/15	N8	P2901	PSC29-01MS	50.0000	50.0000	1
8082122M	10/20/15	N8	P2901	PSC29-01MSD	50.0000	50.0000	1
8082123D	10/20/15	N8	P2901	PSC29-01DUP	50.0000	50.0000	1
8082124	10/20/15	N8	P2902	PSC29-02	50.0000	50.0000	1
8082126	10/20/15	N8	P2904	PSC29-04	50.0000	50.0000	1
8082127	10/20/15	N8	P2905	PSC29-05	50.0000	50.0000	1
8082128	10/20/15	N8	P2906	PSC29-06	50.0000	50.0000	1
8082129	10/20/15	N8	P2907	PSC29-07	50.0000	50.0000	1
8082130FB	10/20/15	N8	P2908	PSC29-08FB	50.0000	50.0000	1

LLENS Worksheet for 5713 Hg SW846 Digest Water

Batch# 15 289 5713 005

Balance ID#: CLEAR **Start Time:** 10/18/15 11:20 **End Time:** 10/18/15 13:20 **Hot Block:** 11

Pipette ID: W/1000

Reflux Cap Lot#: 1504103-5252-NK

Spike/Reagent	Lot#	Volume Added(mL)
5%K2S2O8	P15-269C	3.20
5%KMnO4	P15-285C	6.00
H2SO4	153388	2.00
HNO3	54295	1.00
LCS 40ppb Hg	P15-291A	1.00
NaCl/NH2OH.HCl	P15-271C	2.40
Spike 40ppb Hg	P15-291A	1.00

Method Ref: SW-846 7470A

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1504103	
2)	LCSW	.							1504103	
3)	8082098	10/20/15 10:00		WW	N8			008a	1504103	
4)	8082099	10/20/15 10:00		WW	N8			008a	1504103	
5)	8082100	10/20/15 10:00		WW	N8			008a	1504103	
6)	8082101	10/20/15 10:00		WW	N8			008a	1504103	
7)	8082114	10/20/15 10:00		WW	N8			008a	1504103	
8)	8082115	10/20/15 10:00		WW	N8			008a	1504103	
9)	8082117	10/20/15 10:00		WW	N8		Y	008a	1504103	
10)	8082118	10/20/15 10:00		WW	N8			008a	1504103	
11)	8082119	10/20/15 10:00		WW	N8			008a	1504103	
12)	**8082120U**	10/20/15 10:00		WW	N8			008a	1504103	
13)	**8082121R**	10/20/15 10:00		WW	N8			008a	1504103	
14)	**8082122M**	10/20/15 10:00		WW	N8			008a	1504103	
15)	**8082123D**	10/20/15 10:00		WW	N8			008a	1504103	
16)	8082124	10/20/15 10:00		WW	N8			008a	1504103	
17)	8082126	10/20/15 10:00		WW	N8			008a	1504103	
18)	8082127	10/20/15 10:00		WW	N8			008a	1504103	
19)	8082128	10/20/15 10:00		WW	N8			008a	1504103	
20)	8082129	10/20/15 10:00		WW	N8			008a	1504103	
21)	8082130FB	10/20/15 10:00		WW	N8			008a	1504103	
22)	8082297FB	10/20/15 20:24		WW	N8			008a	1504103	
23)	8086745FB	10/23/15 18:00		WW	N8			008a	1504103	

Prep Employee: 3282

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	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
24)	8088199FB	10/26/15 09:20		WW	N8			008a	1504103	
25)	8088820FB	10/26/15 18:00		WW	N8			008a	1504103	

Batch# 15 289 5713 005

LLENS Batch Chronology and Change Log - Hg SW846 Digest Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		10/16/15 16:48	3282
2)	Sample Vol		10/18/15 8:36	354
3)	Final Vol	CLEAR	10/18/15 8:36	354
4)	Trial		10/18/15 8:36	354
5)	Upload Prep	US19VDIELD001	0/18/15 14:04	3282

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 5713 Hg SW846 Digest Water

Batch# 15 289 5713 005

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Dilution	Final Volume	Trial
PBW					40.0000		40.0000	1
LCSW					1.0000		1.0000	1
8082098	10/20/15	N8	P2802	PSC28-02	40.0000		40.0000	1
8082099	10/20/15	N8	P2803	PSC28-03	40.0000		40.0000	1
8082100	10/20/15	N8	P2804	PSC28-04	40.0000		40.0000	1
8082101	10/20/15	N8	P2805	PSC28-05	40.0000		40.0000	1
8082114	10/20/15	N8	P2816	PSC28-16	40.0000		40.0000	1
8082115	10/20/15	N8	P2817	PSC28-17	40.0000		40.0000	1
8082117	10/20/15	N8	P2819	PSC28-19	40.0000		40.0000	1
8082118	10/20/15	N8	P2820	PSC28-20	40.0000		40.0000	1
8082119	10/20/15	N8	P2821	PSC28-21	40.0000		40.0000	1
8082120U	10/20/15	N8	P2901	PSC29-01BKG	40.0000		40.0000	1
8082121R	10/20/15	N8	P2901	PSC29-01MS	40.0000		40.0000	1
8082122M	10/20/15	N8	P2901	PSC29-01MSD	40.0000		40.0000	1
8082123D	10/20/15	N8	P2901	PSC29-01DUP	40.0000		40.0000	1
8082124	10/20/15	N8	P2902	PSC29-02	40.0000		40.0000	1
8082126	10/20/15	N8	P2904	PSC29-04	40.0000		40.0000	1
8082127	10/20/15	N8	P2905	PSC29-05	40.0000		40.0000	1
8082128	10/20/15	N8	P2906	PSC29-06	40.0000		40.0000	1
8082129	10/20/15	N8	P2907	PSC29-07	40.0000		40.0000	1
8082130FB	10/20/15	N8	P2908	PSC29-08FB	40.0000		40.0000	1
8082297FB	10/20/15	N8		FB	40.0000		40.0000	1
8086745FB	10/23/15	N8	F1013	CP879-04FB	40.0000		40.0000	1
8088199FB	10/26/15	N8		FB	40.0000		40.0000	1
8088820FB	10/26/15	N8	646FB	CP882-05FB	40.0000		40.0000	1

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 4793 Std Cal	H15-288L	Hg 1.0mg/L Cal	7	10-14-15	H15-280A	0.25ml			
2	↓	M	↓		↓	↓	0.50ml			
3	↓	N								
4	↓ CRA	↓ O	Hg 0.1mg/L Cont		10-14-15	H15-280D	0.40ml			
5	Hg 1.0mg/L Inter Cal	H15-281A	Hg 10mg/L Cal		12-22-15	H15-1730	1.0ml			
6	Hg 0.1mg/L Inter Cal	B	Hg 1.0mg/L Cal		10-15-15	H15-281A	1.0ml			
7	Hg 5701 CCV	C					0.1ml			
8	↓ CCV	D								
9	CCV	E	↓		↓	↓	↓			
10	↓ SD	F								
11	Aqua Regia	↓ G						5	14	54295
12	Hg 1.0mg/L Inter Cal	H15-282A	Hg 10mg/L Cal		12-22-15	H15-1730	1.0ml			
13	0.1mg/L Inter Cal	B	1.0mg/L Cal		10-16-15	H15-282A				
14	1.0mg/L Inter Cont	C	10mg/L Cont		12-22-15	H15-173P				
15	↓ 0.1mg/L Inter Cont	D	↓ 1.0mg/L Cont		10-16-15	H15-282C	↓			
16	Hg 5700 ICV	E	↓			↓	0.25ml	1	14	54295
17	↓ CCV	F	Hg 1.0mg/L Cal			H15-280A	0.20	↓	↓	↓
18	CRA	G	Hg 0.1mg/L Cont			H15-280D	0.20			
19	Std Cal	H	Hg 0.1mg/L Cal			H15-282B	0.20			
20	↓ ↓	↓ I	↓		↓	↓	0.50 ↓			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

a

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	5	6	93335				100	2.5ug/L	DN354	10-07-15	10-14-15	RT
2								5.0				
3								0.0				
4								0.4				
5				To vol w/ 0.5% HNO3		HI5-1880	10	1.0	DN354	10-08-15	10-15-15	RT
6							10	0.1				
7				5ml AquaRegia 15ml HNO3		HI5-2816 HI5-2360	100	1.0ug/L				
8								1.0				
9								1.0				
10								0.0				
11	15	6	93325				20	1.3			10-08-15	
12				To vol w/ 1.5% HNO3		HI5-1880	10	1.0	DN354	10-09-15	10-16-15	RT
13								0.1				
14								1.0				
15								0.1				
16	2ml H2SO4	4	153388	8.2ml NaCl 1ml KMnO4		HI5-2366 HI5-2360	100	2.5ug/L				
17							200	1.0				
18							100	0.2				
19								0.2				
20								0.5				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
* * units are mg/L unless otherwise specified

b

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 Std Cal	H15-282J	Hg 1.0 mg/L Cal		10-16-15	H15-282A	0.30 ml	1	14	5+295
2	↓	K	↓		↓	↓	0.25	↓	↓	↓
3		L					0.50			
4		M								
5	ICV	N	Hg 1.0 mg/L Cont		10-16-15	H15-282C	0.25 ml			
6	CCV	O	Hg 1.0 mg/L Cal			H15-282A	0.20			
7	Hg 5701 ICV	P	Hg 1.0 mg/L Cont			H15-282C	0.25			
8	CCV	Q	Hg 1.0 mg/L Cal			H15-282A	0.10			
9	CCV	R					0.10			
10	CCV	S					0.10			
11	CCV	T					0.10			
12	CRA	U	Hg 0.1 mg/L Cont			H15-282D	0.20			
13	Std Cal	V	Hg 0.1 mg/L Cal			H15-282B	0.20			
14		W					0.50			
15		X	Hg 1.0 mg/L Cal			H15-282A	0.10			
16		Y					0.25			
17		Z					0.50			
18		AA								
19	SI	BB	Hg 0.1 mg/L Cal		10-16-15	H15-282B	0.10 ml			
20	CRA	CC	Hg 0.1 mg/L Cont			H15-282D	0.10 ml			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

a

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #						
1	3ml H_2SO_4	4	153388	3.2ml $K_2S_2O_8$ 1ml NH_2OH		H15-236E H15-236D	200	1.0 µg/L	DL	10-09-15	10-16-15	RT
2							100	2.5				
3								5.0				
4								6.0				
5								2.5				
6							200	1.0				
7				5ml Aqua Regia 15ml NH_2OH		H15-222FF H15-236D	100	2.5				
8								1.0				
9								1.0				
10								1.0				
11								1.0				
12								0.2				
13								0.2				
14								0.5				
15								1.0				
16								2.5				
17								5.0				
18								0.0				
19								0.1				
20								0.1				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

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** units are mg/L unless otherwise specified

b

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5701 CRA	HI5-282DD	Hg 0.1 mg/L Cont	T	10-16-15	HI5-282D	0.40 ml			
2	↓ ICV	EE	Hg 1.0 mg/L Cont		↓	HI5-282C	0.25 ml			
3	Aqua Regia	↓ FF						21.5	14	54295
4	Hg 1.0 mg/L Inter Cal	HI5-286A	Hg 10 mg/L Cal		12-22-15	HI5-1730	1.0 ml			
5	0.1 mg/L Inter Cal	B	1.0 mg/L Cal		10-20-15	HI5-286A				
6	1.0 mg/L Inter Cont	C	10 mg/L Cont		12-22-15	HI5-1738				
7	↓ 0.1 mg/L Inter Cont	D	↓ 1.0 mg/L Cont		10-20-15	HI5-286C	↓			
8	Hg 5700 ICV	E	↓			↓	0.25 ml	1	14	54295
9	CCV	F	Hg 1.0 mg/L Cal			HI5-286A	0.20			
10	CRA	G	Hg 0.1 mg/L Cont			HI5-286D	0.20			
11	Std Cal	H	Hg 0.1 mg/L Cal			HI5-286D	0.20			
12		I	↓			↓	0.50			
13		J	Hg 1.0 mg/L Cal			HI5-286A	0.20			
14		K	↓			↓	0.25			
15		L	↓		↓	↓	0.50 ↓			
16	↓	M								
17	ICV	N	Hg 1.0 mg/L Cont	T	10-20-15	HI5-286C	0.25 ml			
18	↓ CCV	↓ O	Hg 1.0 mg/L Cal		↓	HI5-286A	0.20 ml	↓	↓	↓
19	Hg 1.0 mg/L Inter Cal	HI5-287A	Hg 10 mg/L Cal		12-22-15	HI5-1730	1.0 ml			
20	Hg 0.1 mg/L Inter Cal	↓ 287B	Hg 1.0 mg/L Cal		10-21-15	HI5-287A	1.0 ml			

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a

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Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #						
1				5ml Aqua Regia 15ml $KMnO_4$		HIS-282 HIS-236D	100	0.40µg/L	DL354	10-09-15	10-16-15	RT
2				↓	↓	↓	100	2.5µg/L			↓	
3	64.5	6	93325				86	1:3	↓	↓	10-09-15	↓
4				To vol w/ 0.15% HNO_3		HIS-1880	10	1.0	DL354	10-13-15	10-20-15	RT
5								0.1				
6								1.0				
7				↓	↓	↓	↓	0.1				
8	2ml H_2SO_4	4	153388	3.2ml $K_2S_2O_8$ 4ml $KMnO_4$		HIS 236E HIS-236D	100	2.5µg/L				
9							200	1.0				
10							100	0.2				
11								0.2				
12							↓	0.5				
13							200	1.0				
14							100	2.5				
15								5.0				
16								6.0				
17							↓	2.5				
18	↓	↓	↓	↓	↓	↓	200	1.0	↓	↓	↓	↓
19				To vol w/ 0.15% HNO_3		HIS-1880	10	1.0	DL354	10-14-15	10-21-15	RT
20				↓	↓	↓	10	0.1	↓	↓	↓	↓

Footnotes

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A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 1.0mg/L InterCont	H15-287C	Hg 10mg/L Cont	7	12-22-15	H15-173F	1.0ml			
2	Hg 1mg/L InterCont	D	Hg 10mg/L Cont		10-21-15	H15-287C	1.0ml			
3	Hg 5701 ICV	E	↓			↓	0.25			
4	CCV	F	Hg 1.0mg/L Cal			H15-287A	0.10			
5	CCV	G					0.10			
6	CCV	H					0.10			
7	CCV	I	↓			↓	0.10			
8	CRA	J	Hg 0.1mg/L Cont			H15-287D	0.20			
9	Std Cal	K	Hg 0.1mg/L Cal			H15-287B	0.20			
10	↓	L	↓			↓	0.50			
11		M	Hg 1.0mg/L Cal			H15-287A	0.10			
12		N					0.25			
13		O	↓	L	↓	↓	0.50			
14	↓	P								
15	SI	Q	Hg 0.1mg/L Cal	7	10-21-15	H15-287B	0.10ml			
16	CRA	R	Hg 0.1mg/L Cont			H15-287D	0.10			
17	CRA	S	↓			↓	0.40			
18	ICV	T	Hg 1.0mg/L Cont	L	↓	H15-287C	0.25 (3)	~~21.5~~	~~14~~	~~54295~~
19	Aqua Regia	U						21.5	14	54295
20	Stannous Chloride	H15-288A	$SnCl_2$	6	6-28-16	116747 [15]	200.01g			

10-14-15 SD 55-1

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	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #						
1				Tellurium 0.15	HNO3	HIS-1880	10	1.0	DU35Y	10-14-15	10-21-15	RT
2				↓	↓	↓	10	0.1				
3				5ml Aqua Regia 15ml HNO3		HIS-237 4 HIS-231.0	100	2.5 ug/L				
4								1.0				
5								1.0				
6								1.0				
7								1.0				
8								0.2				
9								0.2				
10								0.5				
11								1.0				
12								2.5				
13								5.0				
14								0.0				
15								0.1				
16								0.1				
17								0.4				
18				↓	↓	↓	↓	2.5			↓	
19	64.5	6	93325				86	1.3	↓	↓	10-14-15	↓
20	200	6	93325				2000	10	DU35Y	10-15-15	4-15-16	RT

Footnotes

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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Stannous Chloride	HIS288B	$SnCl_2$	6	6-28-16	116747 #5	200.01g			
2	Stannous Chloride	288C	↓	↓	↓	↓ #5 6	200.02g			
3	Hg-1.0mg/L Inter Cal	HIS289A	Hg-10mg/L Cal	7	12-22-15	HIS-1730	1.0ml			
4	Hg-0.1mg/L Inter Cal	289B	Hg-1.0mg/L Cal	7	10-23-15	HIS289A	1.0ml			
5	Potassium Persulfate	289C	$K_2S_2O_8$	6	5-24-20	100375 #3	100.01g			
6	Hydroxylamine	HIS289D	NaCl	↓	10-5-20	121677 #3	240.03g			
7	↓	↓	$NH_2OH \cdot HCl$	↓	9-24-19	110992 #1	240.03g			
8	Hg-1.0mg/L Inter Cal	HIS-291A	Hg-10mg/L Cal	7	12-22-15	HIS-1730	1.0ml			
9	0.1mg/L Inter Cal	B	Hg-1.0mg/L Cal	7	10-25-15	HIS-289A	↓			
10	1.0mg/L Inter Cont	C	Hg-10mg/L Cont	7	12-22-15	HIS-1730				
11	↓ 0.1mg/L Inter Cont	D	Hg-1.0mg/L Cont	7	10-25-15	HIS-291C	↓			
12	Hg-5700 ICV	E	↓	7		↓	0.25ml	1	14	54295
13	CCV	F	Hg-1.0mg/L Cal			HIS-291A	0.20			
14	CRA	G	Hg-0.1mg/L Cont			HIS-291D	0.20			
15	Std Cal	H	Hg-0.1mg/L Cal			HIS-291B	0.20			
16		I	↓			↓	0.50			
17		J	Hg-1.0mg/L Cal			HIS-291A	0.20			
18		K	↓			↓	0.25			
19		L	↓	L	↓	↓	0.50			
20	↓	↓	m					↓	↓	↓

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XX – Other (footnote Manuf.)

a

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Document Title: Standard/Reagent Preparation Log

Eurofins Document Reference: 1-P-QM-FOR-9009818 | Revision: 2 | Historical Reference: Form 1105

Effective date: Feb 20, 2015 | Status: Effective

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	360	6	93385				2000	10%	DW354	10-15-15	4-15-16	RT
2	↓	↓	↓				↓	↓	↓	↓	↓	↓
3				To vol w/ 10	15% HNO3	HIS-1886	10	10	DW354	10-16-15	10-23-15	RT
4				↓	↓	↓	10	0.1			↓	
5							2000	5%			4-16-16	
6							↓	12%			↓	
7							↓	↓	↓	↓		↓
8				To vol w/ 0.15% HNO3		HIS-1889	10	10	DW354	10-18-15	10-25-15	RT
9				↓	↓	↓	↓	0.1				
10								1.0				
11							↓	0.1				
12	2mL H2SO4	4	153388	0.2mL K2Cr2O8		HIS-2366	100	2.5ug/L				
13				6mL KMnO4		HIS-2360	200	1.0				
14							100	0.2				
15							↓	0.2				
16								0.5				
17							200	1.0				
18							100	2.5				
19							↓	5.0				
20							↓	0.0	↓	↓	↓	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
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C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 ICV	HI5-291N	Hg 1.0 mg/L Cont	7	10-25-15	HI5-291C	0.25 ml	1	14	54295
2	↓ CCV	↓ 2910	Hg 1.0 mg/L Cal	L	↓	HI5-291A	0.20 ml	↓	↓	↓
3	Hg 1.0 mg/L Inter Cal	HI5-293A	Hg 10 mg/L Cal	7	12-22-15	HI5-1730	1.0 ml			
4	0.1 mg/L Inter Cal	B	1.0 mg/L Cal		10-27-15	HI5-293A	↓			
5	1.0 mg/L Inter Cont	C	10 mg/L Cont		12-22-15	HI5-173P				
6	↓ 0.1 mg/L Inter Cont	D	↓ 1.0 mg/L Cont	L	10-27-15	HI5-293C	↓			
7	Hg 5700 ICV	E	↓	7		↓	0.25 ml	1	14	54295
8	CCV	F	Hg 1.0 mg/L Cal			HI5-293A	0.20 ml			
9	CRA	G	Hg 0.1 mg/L Cont			HI5-293D	0.20 ml			
10	Std Cal	H	Hg 0.1 mg/L Cal			HI5-293B	0.20			
11		I	↓			↓	0.50			
12		J	Hg 1.0 mg/L Cal			HI5-293A	0.20			
13		K	↓			↓	0.25			
14		L	↓	L	↓	↓	0.50 ↓			
15	↓	M								
16	ICV	N	Hg 1.0 mg/L Cont	7	10-27-15	HI5-293C	0.25 ml			
17	↓ CCV	↓ O	Hg 1.0 mg/L Cal	L	↓	HI5-293A	0.20 ml	↓	↓	↓
18	Hg 1.0 mg/L Inter Cal	HI5-294A	Hg 10 mg/L Cal	7	12-22-15	HI5-1730	1.0 ml			
19	0.1 mg/L Inter Cal	B	1.0 mg/L Cal		10-28-15	HI5-294A	↓			
20	↓ 1.0 mg/L Inter Cont	↓ C	↓ 10 mg/L Cont	L	12-22-15	HI5-173P	↓			

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a

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Document Title: Standard/Reagent Preparation Log

Eurofins Document Reference: 1-P-QM-FOR-9009818 | Revision: 2 | Historical Reference: Form 1105

Effective date: Feb 20, 2015 | Status: Effective

	HCl Used			Other Used								
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	153388	3.2ml $K_2S_2O_8$ 6ml $KMnO_4$	4	H15-236E H15-236D	100	2.5ug/L	DL 354	10-18-15	10-25-15	RT
2	↓	↓	↓	↓	↓	↓	200	1.0ug/L	↓	↓	↓	↓
3				To vol w/ 0.15% HNO_3		H15-1886	10	1.0	DL 354	10-20-15	10-27-15	RT
4								0.1				
5								1.0				
6							↓	0.1				
7	2ml H_2SO_4	4	153388	3.2ml $K_2S_2O_8$ 6ml $KMnO_4$		H15-236E H15-236D	100	2.5ug/L				
8							200	1.0				
9							100	0.2				
10							↓	0.2				
11							↓	0.5				
12							200	1.0				
13							100	2.5				
14							↓	5.0				
15							↓	0.0				
16							↓	2.5				
17	↓	↓	↓	↓	↓	↓	200	1.0	↓	↓	↓	↓
18				To vol w/ 0.15% HNO_3		H15-1886	10	1.0	DL 354	10-21-15	10-28-15	RT
19								0.1				
20								1.0				

Footnotes

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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg-0.1mg/L Inter Cont	H15-294D	Hg 1.0 mg/L Cont	7	10-28-15	H15-294C	1.0ml	—		
2	Hg-5701 ICV	E	↓			↓	0.25ml			
3	CCV	F	Hg 1.0 mg/L Cal			H15-294A	0.10			
4	CCV	G	↓			↓	0.10			
5	CCV	H					0.10			
6	CCV	I	↓			↓	0.10			
7	CRA	J	Hg 0.1 mg/L Cont			H15-294D	0.20			
8	Std Cal	K	Hg 0.1 mg/L Cal			H15-294D	0.20			
9		L	↓			↓	0.50			
10		M	Hg 1.0 mg/L Cal			H15-294A	0.10			
11		N	↓			↓	0.25			
12	↓	O	↓	↓	↓	↓	0.50			
13	↓	P	—	—	—	—	—			
14	SI	Q	Hg 0.1 mg/L Cal	7	10-28-15	H15-294B	0.10ml			
15	CRA	R	Hg 0.1 mg/L Cont		↓	H15-294D	0.10			
16	CRA	S	↓			↓	0.10			
17	↓ ICV	T	Hg 1.0 mg/L Cont	↓	↓	H15-294C	0.25	—	—	—
18	Aqua Regia	↓ U	—	—	—	—	—	21.5	14	54295
19	Stannous Chloride	H15-295A	$SnCl_2$	6	1-28-16	111747	200.00g	—	—	—
20	↓	↓ 295B	↓	↓	↓	↓	200.61g	—	—	—

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	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				Tox Lw/0.15% HNO3		HI5-1880	10	0.1	DJ35	10-21-15	10-28-15	RT
2				5ml Aqua Regia		HI5-2976						
3				15ml Kmno4		HI5-2360	100	2.5ug/L				
4								1.0				
5								1.0				
6								1.0				
7								1.0				
8								0.7				
9								0.2				
10								0.5				
11								1.0				
12								2.5				
13								5.0				
14								0.0				
15								0.1				
16								0.1				
17								0.4				
18	6.45	6	93325					2.5				
19	200	6	93325				86	1:3			10-21-15	
20							1000	10%	DJ35	10-22-15	4-22-16	RT

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

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Type I Data Package

Prepared for:

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

Project: Pine Street Canal- Groundwaters
Groundwater and Water Samples
Collected on 10/05/15-10/06/15

SDG# PSC29

GROUP	SAMPLE NUMBERS
1599399	8082120-8082130

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman **Date:** **11/23/2015**

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Wendy Kozma at (717) 556-7257.

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Sample Reference List for SDG Number PSC29
with a Data Package Type of I

06556 - The Johnson Company, Inc.

Project: Pine Street Canal- Groundwaters

Lab Sample Number	Lab Sample Code	Client Sample Description
8082120	P2901	0082-33 Grab Groundwater
8082121	P2901	0082-33MS Grab Groundwater
8082122	P2901	0082-33MSD Grab Groundwater
8082123	P2901	0082-33DUP Grab Groundwater
8082124	P2902	0087-33 Grab Groundwater
8082125	P2903	0070-33TB Water
8082126	P2904	0089-33 Grab Groundwater
8082127	P2905	0090-33 Grab Groundwater
8082128	P2906	0076-33 Grab Groundwater
8082129	P2907	0079-33 Grab Groundwater
8082130	P2908	0073-33FB Grab Water

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Sample pH Log

SDG: PSC29

LLI Sample Number	Bottle Code	Actual pH	Exp. pH	pH Check Code	Adj. pH	Adjusted Date	Adjusted Time	Preservative Added	Preservative Lot #	LLI Supplied Bottle?	Sulfide Present?	Corrective Substance	CS Lot #	Res. Cl. Present?	Corrective Substance	CS Lot #
8082120	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082120	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082121	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082121	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082122	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082122	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082123	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082124	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082124	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082124	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082125	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082126	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082126	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082127	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082127	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082128	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082128	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082129	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082129	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082130	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
8082130	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA

Check Code Key
PK = Original container checked - pH is within the correct range. (No preservative was added)
PA = Original container checked - pH adjusted to correct range. (Preservative was added)
PV = Volatile container checked
PC = pH checked (unpreserved container)
SPK = Subsampled from an original container. Original container checked - pH is within correct range
SPA = Subsampled from an original container. Subsample container checked - pH adjusted to correct range.
SPC = Subsampled from an original container. pH checked (unpreserved container).
SUP = Subsampled from original container. Unable to be preserved due to the matrix of the sample.
UP = Unable to preserve due to matrix of the sample.
NA = Not applicable

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01163 GC/MS VOA Water Prep

An undiluted aliquot of the water sample or a dilution of the sample is purged with an inert gas and the volatiles are collected on an adsorbent trap that is subsequently desorbed onto a gas chromatographic column.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5030B, December 1996.

10945 VOCs- 5ml Water by 8260B UST

The water sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8260B, December 1996

00259 Mercury

The solution resulting from the mercury digestion is analyzed by Cold Vapor AA.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7470A, September 1994

01848 ICP-WW, 3005A (tot rec) - U3

The sample is digested with nitric acid and hydrochloric acid.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3005A, July 1992

05713 WW SW846 Hg Digest

The sample is heated at 95 c with nitric acid, sulfuric acid, potassium persulfate, and potassium permanganate. Excess potassium permanganate is reduced with sodium chloride/hydroxylamine hydrochloride. Mercuric ions are reduced to mercury metal using stannous chloride.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7470A, September 1994

07046 Barium
07049 Cadmium
07066 Silver

The solution resulting from the metals digestion is analyzed by Trace ICP.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6010B, December 1996.

06025 Arsenic
06031 Chromium
06035 Lead
06041 Selenium

The solution resulting from the metals digestion is analyzed by ICP/MS.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6020, September 1994.

06050 ICPMS-Water, 3020A - U3

The sample is digested with nitric acid.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3020A, July 1992

07807 BNA Water Extraction

The sample aliquot is extracted with methylene chloride by either separatory funnel or liquid/liquid apparatus. Extraction is performed at a pH of 2. The extract is concentrated prior to analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3510C, December 1996

07805 PAHs in Water by GC/MS

The sample extract is analyzed by capillary column Gas Chromatography/Mass Spectrometry.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8270C, December 1996

Analysis Reports / Field Chain of Custody

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ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

October 22, 2015

Project: Pine Street Canal- Groundwaters

Submittal Date: 10/08/2015
Group Number: 1599399
SDG: PSC29
PO Number: 1-0870-2
State of Sample Origin: VT

Client Sample Description	Lancaster Labs (LL) #
0082-33 Grab Groundwater	8082120
0082-33MS Grab Groundwater	8082121
0082-33MSD Grab Groundwater	8082122
0082-33DUP Grab Groundwater	8082123
0087-33 Grab Groundwater	8082124
0070-33TB Water	8082125
0089-33 Grab Groundwater	8082126
0090-33 Grab Groundwater	8082127
0076-33 Grab Groundwater	8082128
0079-33 Grab Groundwater	8082129
0073-33FB Grab Water	8082130

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	The Johnson Company, Inc.	Attn: Jim Bowes
ELECTRONIC COPY TO	Phoenix Chemistry Services	Attn: Deborah H. Gaynor

Respectfully Submitted,

Wendy A. Kozma
Principal Specialist Group Leader

(717) 556-7257

Sample Description: 0082-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082120
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/05/2015 15:15 by JP

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2901 SDG#: PSC29-01BKG

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	0.8	J	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	4	U	4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
07805	Acenaphthene	83-32-9	0.5	U	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5	U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.5	U	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		**mg/l**		**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.0271		0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
	SW-846 6020		**mg/l**		**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.0728		0.0020	0.00054	1
06031	Chromium	7440-47-3	0.00092	J	0.0020	0.00070	1
06035	Lead	7439-92-1	0.00063	J	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020	U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

Sample Description: 0082-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082120
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/05/2015 15:15 by JP

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2901 SDG#: PSC29-01BKG

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152882AA	10/15/2015 12:41	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152882AA	10/15/2015 12:41	Daniel H Heller	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/16/2015 18:47	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 17:23	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 17:23	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 17:23	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 09:31	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 09:31	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 09:31	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 09:31	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 06:51	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: 0082-33MS Grab Groundwater
Pine Street Canal

LL Sample # WW 8082121
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/05/2015 15:15 by JP

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2901 SDG#: PSC29-01MS

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	19	1	0.5	1
10945	Ethylbenzene	100-41-4	17	1	0.5	1
10945	Naphthalene	91-20-3	13	4	1	1
10945	Toluene	108-88-3	18	1	0.5	1
10945	Xylene (Total)	1330-20-7	53	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Acenaphthene	83-32-9	47	0.5	0.1	1
07805	Acenaphthylene	208-96-8	48	0.5	0.1	1
07805	Anthracene	120-12-7	48	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	48	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	45	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	48	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	44	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	47	0.5	0.1	1
07805	Chrysene	218-01-9	49	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	45	0.5	0.1	1
07805	Fluoranthene	206-44-0	48	0.5	0.1	1
07805	Fluorene	86-73-7	47	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	43	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	43	0.5	0.1	1
07805	Naphthalene	91-20-3	45	0.5	0.1	1
07805	Phenanthrene	85-01-8	46	0.5	0.1	1
07805	Pyrene	129-00-0	45	0.5	0.1	1
Metals	**SW-846 6010B**		mg/l	mg/l	mg/l	
07046	Barium	7440-39-3	2.10	0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0500	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0495	0.0050	0.0014	1
	SW-846 6020		mg/l	mg/l	mg/l	
06025	Arsenic	7440-38-2	0.0872	0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0525	0.0020	0.00070	1
06035	Lead	7439-92-1	0.0162	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0099	0.0020	0.00050	1
	SW-846 7470A		mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.00097	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

Sample Description: 0082-33MS Grab Groundwater
Pine Street Canal

LL Sample # WW 8082121
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/05/2015 15:15 by JP

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2901 SDG#: PSC29-01MS

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152882AA	10/15/2015 13:04	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152882AA	10/15/2015 13:04	Daniel H Heller	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/16/2015 19:15	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 17:31	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 17:31	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 17:31	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 09:38	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 09:38	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 09:38	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 09:38	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 06:55	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: 0082-33MSD Grab Groundwater
Pine Street Canal

LL Sample # WW 8082122
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/05/2015 15:15 by JP

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2901 SDG#: PSC29-01MSD

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	25	1	0.5	1
10945	Ethylbenzene	100-41-4	17	1	0.5	1
10945	Naphthalene	91-20-3	14	4	1	1
10945	Toluene	108-88-3	18	1	0.5	1
10945	Xylene (Total)	1330-20-7	54	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Acenaphthene	83-32-9	48	0.5	0.1	1
07805	Acenaphthylene	208-96-8	48	0.5	0.1	1
07805	Anthracene	120-12-7	48	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	49	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	46	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	49	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	46	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	48	0.5	0.1	1
07805	Chrysene	218-01-9	51	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	47	0.5	0.1	1
07805	Fluoranthene	206-44-0	48	0.5	0.1	1
07805	Fluorene	86-73-7	49	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	45	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	44	0.5	0.1	1
07805	Naphthalene	91-20-3	47	0.5	0.1	1
07805	Phenanthrene	85-01-8	47	0.5	0.1	1
07805	Pyrene	129-00-0	47	0.5	0.1	1
Metals	**SW-846 6010B**		mg/l	mg/l	mg/l	
07046	Barium	7440-39-3	2.08	0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0497	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0481	0.0050	0.0014	1
	SW-846 6020		mg/l	mg/l	mg/l	
06025	Arsenic	7440-38-2	0.0874	0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0501	0.0020	0.00070	1
06035	Lead	7439-92-1	0.0162	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.010	0.0020	0.00050	1
	SW-846 7470A		mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.00093	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

Sample Description: 0082-33MSD Grab Groundwater
Pine Street Canal

LL Sample # WW 8082122
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/05/2015 15:15 by JP

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2901 SDG#: PSC29-01MSD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152882AA	10/15/2015 13:27	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152882AA	10/15/2015 13:27	Daniel H Heller	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/16/2015 19:42	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 17:34	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 17:34	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 17:34	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 09:40	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 09:40	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 09:40	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 09:40	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 06:57	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: 0082-33DUP Grab Groundwater
Pine Street Canal

LL Sample # WW 8082123
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/05/2015 15:15 by JP

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2901 SDG#: PSC29-01DUP

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.0248	0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050 U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050 U	0.0050	0.0014	1
	SW-846 6020		**mg/l**	**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.0797	0.0020	0.00054	1
06031	Chromium	7440-47-3	0.00078 J	0.0020	0.00070	1
06035	Lead	7439-92-1	0.00078 J	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020 U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020 U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 17:28	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 17:28	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 17:28	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 09:36	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 09:36	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 09:36	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 09:36	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 06:53	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: 0087-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082124
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 11:00 by JP

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2902 SDG#: PSC29-02

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	380	5	3	5
10945	Ethylbenzene	100-41-4	530	5	3	5
10945	Naphthalene	91-20-3	3,100	200	50	50
10945	Toluene	108-88-3	350	5	3	5
10945	Xylene (Total)	1330-20-7	780	5	3	5
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
07805	Acenaphthene	83-32-9	160	5	1	10
07805	Acenaphthylene	208-96-8	23	0.5	0.1	1
07805	Anthracene	120-12-7	16	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	4	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	2	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	2	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	1	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.8	0.5	0.1	1
07805	Chrysene	218-01-9	3	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.3 J	0.5	0.1	1
07805	Fluoranthene	206-44-0	10	0.5	0.1	1
07805	Fluorene	86-73-7	55	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.8	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	690	5	1	10
07805	Naphthalene	91-20-3	3,100	52	10	100
07805	Phenanthrene	85-01-8	66	0.5	0.1	1
07805	Pyrene	129-00-0	12	0.5	0.1	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Metals	**SW-846 6010B**		**mg/l**	**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.0521	0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050 U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050 U	0.0050	0.0014	1
	SW-846 6020		**mg/l**	**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.0027	0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0014 J	0.0020	0.00070	1
06035	Lead	7439-92-1	0.0010 U	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020 U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020 U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

Sample Description: 0087-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082124
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 11:00 by JP

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2902 SDG#: PSC29-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152882AA	10/15/2015 13:50	Daniel H Heller	5
10945	BTEX and Naphthalene	SW-846 8260B	1	D152891AA	10/17/2015 02:21	Hu Yang	50
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152882AA	10/15/2015 13:50	Daniel H Heller	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	D152891AA	10/17/2015 02:21	Hu Yang	50
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/16/2015 20:10	Holly B Ziegler	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/17/2015 16:35	Catherine E Bachman	10
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/17/2015 17:03	Catherine E Bachman	100
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 18:08	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 18:08	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 18:08	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 10:10	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 10:10	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 10:10	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 10:10	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 07:22	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: 0070-33TB Water
Pine Street Canal

LL Sample # WW 8082125
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 09:00 by BO

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2903 SDG#: PSC29-03TB

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l		ug/l	ug/l	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	4	U	4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152891AA	10/16/2015 19:05	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152891AA	10/16/2015 19:05	Hu Yang	1

*=This limit was used in the evaluation of the final result

Sample Description: 0089-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082126
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 10:17 by BO

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2904 SDG#: PSC29-04

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	4	U	4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	2		1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
07805	Acenaphthene	83-32-9	0.1	J	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5	U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.3	J	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		**mg/l**		**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.0930		0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
	SW-846 6020		**mg/l**		**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.00070	J	0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0020	U	0.0020	0.00070	1
06035	Lead	7439-92-1	0.00040	J	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020	U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

Sample Description: 0089-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082126
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 10:17 by BO

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2904 SDG#: PSC29-04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152882AA	10/15/2015 14:36	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152882AA	10/15/2015 14:36	Daniel H Heller	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/16/2015 20:38	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 18:11	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 18:11	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 18:11	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 10:13	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 10:13	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 10:13	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 10:13	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 07:28	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: 0090-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082127
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 11:17 by BO

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2905 SDG#: PSC29-05

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	4	U	4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
07805	Acenaphthene	83-32-9	0.5	U	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5	U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.5	U	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		**mg/l**		**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.112		0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
	SW-846 6020		**mg/l**		**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.0035		0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0042		0.0020	0.00070	1
06035	Lead	7439-92-1	0.0067		0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020	U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

Sample Description: 0090-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082127
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 11:17 by BO

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2905 SDG#: PSC29-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152882AA	10/15/2015 14:59	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152882AA	10/15/2015 14:59	Daniel H Heller	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/16/2015 21:06	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 18:14	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 18:14	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 18:14	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 10:15	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 10:15	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 10:15	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 10:15	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 07:30	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: 0076-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082128
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 13:48 by BO

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2906 SDG#: PSC29-06

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	4	U	4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
07805	Acenaphthene	83-32-9	0.3	J	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.2	J	0.5	0.1	1
07805	Fluorene	86-73-7	0.2	J	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5	U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.5	U	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.2	J	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		**mg/l**		**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.0669		0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
	SW-846 6020		**mg/l**		**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.0012	J	0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0010	J	0.0020	0.00070	1
06035	Lead	7439-92-1	0.0018		0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020	U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

Sample Description: 0076-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082128
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 13:48 by BO

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2906 SDG#: PSC29-06

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152882AA	10/15/2015 15:22	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152882AA	10/15/2015 15:22	Daniel H Heller	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/16/2015 21:34	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 18:21	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 18:21	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 18:21	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 10:22	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 10:22	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 10:22	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 10:22	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 07:32	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: 0079-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082129
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 15:22 by BO

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2907 SDG#: PSC29-07

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	4	U	4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
07805	Acenaphthene	83-32-9	0.5	U	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5	U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.5	U	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		**mg/l**		**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.164		0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
	SW-846 6020		**mg/l**		**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.0072		0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0030		0.0020	0.00070	1
06035	Lead	7439-92-1	0.0101		0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020	U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

Sample Description: 0079-33 Grab Groundwater
Pine Street Canal

LL Sample # WW 8082129
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 15:22 by BO

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2907 SDG#: PSC29-07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152882AA	10/15/2015 15:45	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152882AA	10/15/2015 15:45	Daniel H Heller	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/17/2015 17:31	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 18:24	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 18:24	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 18:24	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 10:24	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 10:24	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 10:24	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 10:24	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 07:34	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: 0073-33FB Grab Water
Pine Street Canal

LL Sample # WW 8082130
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 16:00 by BO

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2908 SDG#: PSC29-08FB

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	1	U	1	0.5	1
10945	Ethylbenzene	100-41-4	1	U	1	0.5	1
10945	Naphthalene	91-20-3	4	U	4	1	1
10945	Toluene	108-88-3	1	U	1	0.5	1
10945	Xylene (Total)	1330-20-7	1	U	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
07805	Acenaphthene	83-32-9	0.5	U	0.5	0.1	1
07805	Acenaphthylene	208-96-8	0.5	U	0.5	0.1	1
07805	Anthracene	120-12-7	0.5	U	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.5	U	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	U	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	U	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	U	0.5	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.5	U	0.5	0.1	1
07805	Chrysene	218-01-9	0.5	U	0.5	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	0.5	U	0.5	0.1	1
07805	Fluoranthene	206-44-0	0.5	U	0.5	0.1	1
07805	Fluorene	86-73-7	0.5	U	0.5	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.5	U	0.5	0.1	1
07805	2-Methylnaphthalene	91-57-6	0.5	U	0.5	0.1	1
07805	Naphthalene	91-20-3	0.5	U	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.5	U	0.5	0.1	1
07805	Pyrene	129-00-0	0.5	U	0.5	0.1	1
Metals	**SW-846 6010B**		**mg/l**		**mg/l**	**mg/l**	
07046	Barium	7440-39-3	0.0050	U	0.0050	0.00030	1
07049	Cadmium	7440-43-9	0.0050	U	0.0050	0.00030	1
07066	Silver	7440-22-4	0.0050	U	0.0050	0.0014	1
	SW-846 6020		**mg/l**		**mg/l**	**mg/l**	
06025	Arsenic	7440-38-2	0.0020	U	0.0020	0.00054	1
06031	Chromium	7440-47-3	0.0020	U	0.0020	0.00070	1
06035	Lead	7439-92-1	0.0010	U	0.0010	0.00013	1
06041	Selenium	7782-49-2	0.0020	U	0.0020	0.00050	1
	SW-846 7470A		**mg/l**		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00020	U	0.00020	0.000050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

Sample Description: 0073-33FB Grab Water
Pine Street Canal

LL Sample # WW 8082130
LL Group # 1599399
Account # 06556

Project Name: Pine Street Canal- Groundwaters

Collected: 10/06/2015 16:00 by BO

Submitted: 10/08/2015 10:00
Reported: 10/22/2015 18:24

The Johnson Company, Inc.
100 State Street
Montpelier VT 05602

P2908 SDG#: PSC29-08FB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX and Naphthalene	SW-846 8260B	1	D152882AA	10/15/2015 16:08	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D152882AA	10/15/2015 16:08	Daniel H Heller	1
07805	PAHs 8270C (17)	SW-846 8270C	1	15283WAB026	10/17/2015 17:59	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	15283WAB026	10/11/2015 13:00	Ryan A Schafran	1
07046	Barium	SW-846 6010B	1	152881848003	10/16/2015 18:26	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	152881848003	10/16/2015 18:26	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	152881848003	10/16/2015 18:26	Elaine F Stoltzfus	1
06025	Arsenic	SW-846 6020	1	152886050004A	10/20/2015 10:27	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	152886050004A	10/20/2015 10:27	Choon Y Tian	1
06035	Lead	SW-846 6020	1	152886050004A	10/20/2015 10:27	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	152886050004B	10/20/2015 10:27	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	152895713005	10/19/2015 07:36	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152881848003	10/16/2015 11:15	Katlin N Cataldi	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	152886050004	10/16/2015 09:05	Katlin N Cataldi	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	152895713005	10/18/2015 11:20	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1599399
Reported: 10/22/2015 18:24

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result		Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: D152882AA	Sample number(s): 8082120-8082122,8082124,8082126-8082130									
Benzene	1	U	1.	0.5	ug/l	90		78-120		
Ethylbenzene	1	U	1.	0.5	ug/l	86		78-120		
Naphthalene	4	U	4.	1	ug/l	72		59-120		
Toluene	1	U	1.	0.5	ug/l	87		80-120		
Xylene (Total)	1	U	1.	0.5	ug/l	88		80-120		
Batch number: D152891AA	Sample number(s): 8082124-8082125									
Benzene	1	U	1.	0.5	ug/l	102		78-120		
Ethylbenzene	1	U	1.	0.5	ug/l	93		78-120		
Naphthalene	4	U	4.	1	ug/l	78		59-120		
Toluene	1	U	1.	0.5	ug/l	95		80-120		
Xylene (Total)	1	U	1.	0.5	ug/l	96		80-120		
Batch number: 15283WAB026	Sample number(s): 8082120-8082122,8082124,8082126-8082130									
Acenaphthene	0.5	U	0.5	0.1	ug/l	89		75-111		
Acenaphthylene	0.5	U	0.5	0.1	ug/l	89		78-117		
Anthracene	0.5	U	0.5	0.1	ug/l	89		82-116		
Benzo(a)anthracene	0.5	U	0.5	0.1	ug/l	92		76-122		
Benzo(a)pyrene	0.5	U	0.5	0.1	ug/l	81		73-115		
Benzo(b)fluoranthene	0.1	J	0.5	0.1	ug/l	92		75-123		
Benzo(g,h,i)perylene	0.1	J	0.5	0.1	ug/l	78		70-126		
Benzo(k)fluoranthene	0.1	J	0.5	0.1	ug/l	90		74-119		
Chrysene	0.5	U	0.5	0.1	ug/l	94		77-126		
Dibenz(a,h)anthracene	0.1	J	0.5	0.1	ug/l	79		72-127		
Fluoranthene	0.5	U	0.5	0.1	ug/l	90		76-117		
Fluorene	0.5	U	0.5	0.1	ug/l	89		80-117		
Indeno(1,2,3-cd)pyrene	0.5	U	0.5	0.1	ug/l	76		70-121		
2-Methylnaphthalene	0.5	U	0.5	0.1	ug/l	82		69-103		
Naphthalene	0.5	U	0.5	0.1	ug/l	87		69-109		
Phenanthrene	0.5	U	0.5	0.1	ug/l	87		75-110		
Pyrene	0.5	U	0.5	0.1	ug/l	87		76-111		
Batch number: 152881848003	Sample number(s): 8082120-8082124,8082126-8082130									
Barium	0.0050	U	0.0050	0.00030	mg/l	103		80-120		
Cadmium	0.0050	U	0.0050	0.00030	mg/l	108		80-120		
Silver	0.0050	U	0.0050	0.0014	mg/l	98		80-120		
Batch number: 152886050004A	Sample number(s): 8082120-8082124,8082126-8082130									
Arsenic	0.0020	U	0.0020	0.00054	mg/l	107		80-120		
Chromium	0.0020	U	0.0020	0.00070	mg/l	104		80-120		
Lead	0.0010	U	0.0010	0.00013	mg/l	104		80-120		
Batch number: 152886050004B	Sample number(s): 8082120-8082124,8082126-8082130									

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1599399
Reported: 10/22/2015 18:24

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Selenium	0.0020 U	0.0020	0.00050	mg/l	105		80-120		
Batch number: 152895713005	Sample number(s): 8082120-8082124,8082126-8082130								
Mercury	0.00020 U	0.00020	0.00005 0	mg/l	102		80-120		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: D152882AA	Sample number(s): 8082120-8082122,8082124,8082126-8082130 UNSPK: 8082120								
Benzene	92	122*	78-120	26	30				
Ethylbenzene	86	87	78-120	1	30				
Naphthalene	65	69	59-120	5	30				
Toluene	88	89	80-120	1	30				
Xylene (Total)	89	90	80-120	2	30				
Batch number: D152891AA	Sample number(s): 8082124-8082125 UNSPK: P082251								
Benzene	99	101	78-120	2	30				
Ethylbenzene	92	93	78-120	1	30				
Naphthalene	88	89	59-120	1	30				
Toluene	93	94	80-120	2	30				
Xylene (Total)	95	95	80-120	0	30				
Batch number: 15283WAB026	Sample number(s): 8082120-8082122,8082124,8082126-8082130 UNSPK: 8082120								
Acenaphthene	94	95	75-111	2	30				
Acenaphthylene	95	95	78-117	1	30				
Anthracene	95	95	82-116	0	30				
Benzo(a)anthracene	95	98	76-122	2	30				
Benzo(a)pyrene	89	91	73-115	2	30				
Benzo(b)fluoranthene	95	97	75-123	2	30				
Benzo(g,h,i)perylene	87	90	70-126	4	30				
Benzo(k)fluoranthene	93	96	74-119	3	30				
Chrysene	97	100	77-126	3	30				
Dibenz(a,h)anthracene	89	93	72-127	5	30				
Fluoranthene	96	96	76-117	0	30				
Fluorene	93	96	80-117	3	30				
Indeno(1,2,3-cd)pyrene	86	89	70-121	3	30				
2-Methylnaphthalene	85	87	69-103	2	30				
Naphthalene	89	92	69-109	3	30				
Phenanthrene	91	92	75-110	1	30				
Pyrene	90	92	76-111	2	30				
Batch number: 152881848003	Sample number(s): 8082120-8082124,8082126-8082130 UNSPK: 8082120 BKG: 8082120								
Barium	103	103	75-125	1	20	0.0271	0.0248	9 (1)	20
Cadmium	100	99	75-125	1	20	0.0050 U	0.0050 U	0 (1)	20
Silver	99	96	75-125	3	20	0.0050 U	0.0050 U	0 (1)	20
Batch number: 152886050004A	Sample number(s): 8082120-8082124,8082126-8082130 UNSPK: 8082120 BKG: 8082120								
Arsenic	144 (2)	146 (2)	75-125	0	20	0.0728	0.0797	9	20

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1599399
Reported: 10/22/2015 18:24

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Chromium	103	98	75-125	5	20	0.00092 J	0.00078 J	16 (1)	20
Lead	103	104	75-125	0	20	0.00063 J	0.00078 J	21* (1)	20
Batch number: 152886050004B	Sample number(s): 8082120-8082124,8082126-8082130 UNSPK: 8082120 BKG: 8082120								
Selenium	99	100	75-125	1	20	0.0020 U	0.0020 U	0 (1)	20
Batch number: 152895713005	Sample number(s): 8082120-8082124,8082126-8082130 UNSPK: 8082120 BKG: 8082120								
Mercury	97	93	80-120	3	20	0.00020 U	0.00020 U	0 (1)	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: BTEX and Naphthalene
Batch number: D152882AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8082120	107	101	97	96
8082121	103	102	96	102
8082122	102	104	96	102
8082124	103	100	95	102
8082126	106	101	96	99
8082127	104	101	96	98
8082128	106	103	94	95
8082129	105	103	95	98
8082130	105	104	96	96
Blank	106	103	96	98
LCS	104	101	98	102
MS	103	102	96	102
MSD	102	104	96	102
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX and Naphthalene
Batch number: D152891AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8082125	108	103	96	96
Blank	106	102	94	95
LCS	104	102	97	103
MS	105	103	96	103
MSD	104	102	95	103
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PAHs 8270C (17)
Batch number: 15283WAB026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8082120	85	82	77
8082121	87	85	82
8082122	90	87	88

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: The Johnson Company, Inc. Group Number: 1599399
Reported: 10/22/2015 18:24

Surrogate Quality Control

8082124	88	81	73
8082126	87	85	59
8082127	80	78	69
8082128	83	77	80
8082129	79	75	56
8082130	87	79	79
Blank	89	87	83
LCS	85	81	78
MS	87	85	82
MSD	90	87	88
Limits:	46-128	61-112	43-131

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

376956

eurofins | Lancaster Laboratories Environmental

Acct. # 6556 For Eurofins Lancaster Laboratories Environmental use only Group # 1599399 Sample # 8082120-30

Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: The Johnson Company	Acct. #: 06556
Project Name/#: Pine Street Canal Site	PWSID #:
Project Manager: Guy Vallieravant	P.O. #: 1-870-2
Sampler: Jo Palmer / D. MAYNARD	Quote #:

Name of state where samples were collected: VT

4 Matrix

Soil ☐ Sediment ☐ Water ☐ Ground ☐ Potable ☐ Surface ☐ NPDES ☐ Other: ____

5 Analysis Requested

Preservation Codes

For Lab Use Only

FSC: ____

SCR#: ____

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

2 Sample Identification SLID	SIN	Collected Date	Collected Time	3 Grab	3 Composite	Total # of Containers	8260B GRO + Naphthalene	8260B BTEX	8270C PAHs	6010B-RCRA 8 Cd, Pb, Zn + Hg by 7470A
JMW-21B	0082-33	10-5-15	15:15	✓		6	3		2	1
JMW-21B MS	0082-33 MS	↓	15:15	↓		6	3		2	1
JMW-21B MSD	0082-33 MSD		15:15			6	3		2	1
JMW-21B RP	0082-33 RP	↓	15:15			1				1
JMW-23B	0087-33	10-6-15	11:00	✓		6	3		2	1

From well with NAPL

7 Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: JEP@jcomail.com / JRB@jcomail.com

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP)
Type VI (Raw Data Only)
Type III (Reduced non-CLP)
TX TRRP-13
NYSDEC Category A or B
MA MCP
CT RCP

9

Relinquished by	Date	Time	Received by	Date	Time
S. Maynard / Jo Palmer	10.7.15	600			
				10/8/15	1020

EDD Required? Yes (circled) No

If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes (circled) No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ____ Other ____

Temperature upon receipt 0.4 °C

Environmental Analysis Request/Chain of Custody

376955

eurofins | Lancaster Laboratories Environmental

Acct. # 6556 For Eurofins Lancaster Laboratories Environmental use only Group # 1599399 Sample # 8082120-30
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: The Johnson Co	Acct. #: 06556
Project Name/#: Pine St. Canal Site	PWSID #:
Project Manager: Guy Vaillancourt	P.O. #: 1-0870-02
Sampler: Bob Osborne (TRO) / Jo Palmer	Quote #:

Name of state where samples were collected: VT

4 Matrix: Soil ☐ Sediment ☐ Water: Potable ☐ Ground ☒ NPDES ☐ Surface ☐ Other: Dilution

5 Analysis Requested — Preservation Codes: H | O

2 Sample Identification SLID / SIN	Collected Date	Collected Time	3 Grab	Composite	Total # of Containers	VOCs BTEX + MTBE H	8270C - 17 PAHs O	6010B - 2 CR248 No Cu, Zn / Hg by 7470A	
J_0070-35TB / 0070-35TB	10-6-15	0900	X		2	X			
J_MW-24A / 0089-33		1017	X		6	X	X	X	
J_MW-24B / 0090-33		1117	X		6	X	X	X	
J_MW-20A / 0076-33		1348	X		6	X	X	X	
J_MW-20B / 0079-33	↓	1522	X		6	X	X	X	
J_0073-33FB / 0073-33FB	10-6-15	1600	X		6	X	X	X	

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

7 Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:
E-mail address: SEP@jcomail.com + JRB@jcomail.com

8 Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP)
Type III (Reduced non-CLP)
NYSDEC Category A or B
Type VI (Raw Data Only)
TX TRRP-13
MA MCP
CT RCP

Relinquished by	Date	Time	Received by	Date	Time
[signature]	10.7.15	1600			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by [signature]	10/8/15	1000

9

EDD Required? Yes No
If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS FedEx Other

Temperature upon receipt 2.8 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 112318

Group Number(s): 1599399

Client: The Johnson Co.

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	10/08/2015 10:00
Number of Packages:	4	Number of Projects:	1
State/Province of Origin:	VT		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	10
Paperwork Enclosed:	Yes	Trip Blank Type:	HCl
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Jordan Woods (6698) at 16:35 on 10/08/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	0.8	DT	Wet	Y	Loose/Bag	N
2	DT146	0.4	DT	Wet	Y	Bagged	N
3	DT146	2.5	DT	Wet	Y	Bagged	N
4	DT146	2.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17601-5994
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Volatiles by GC/MS-GRO Data

Case Narrative/Conformance Summary

Volatiles by GC/MS-GRO

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC29

GC/MS Volatiles

Fraction: Volatiles by GC/MS-GRO

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8082120	0082-33	X		1	Unspiked
8082121	0082-33MS	X		1	Matrix Spike
8082122	0082-33MSD	X		1	Matrix Spike Duplicate
8082124	0087-33	X		5; 50	
8082125	0070-33TB	X		1	Trip Blank
8082126	0089-33	X		1	
8082127	0090-33	X		1	
8082128	0076-33	X		1	
8082129	0079-33	X		1	
8082130	0073-33FB	X		1	Field Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Please note that US EPA Methods for organic compounds do not require action by the laboratory based on out-of-specification MS/MSD results.

Batch#: D152882AA (Sample number(s): 8082120-8082122, 8082124, 8082126-8082130, UNSPK: 8082120)

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC29

GC/MS Volatiles

Fraction: Volatiles by GC/MS-GRO

The recovery(ies) for the following analyte(s) in the MSD is outside the acceptance window: Benzene

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Volatiles by GC/MS-GRO

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Quality Control Reference List
GC/MS Volatiles

CLIENT: The Johnson Company, Inc.
SDG: PSC29

Fraction: Volatiles by GC/MS-GRO

Analysis	Batch Number	Sample Number	Analysis Date
BTEX and Naphthalene	D152882AA	VBLKD33	10/15/2015 11:20:00
		LCSD33	10/15/2015 10:57:00
		8082120 UNSPK	10/15/2015 12:41:00
		8082121 MS	10/15/2015 13:04:00
		8082122 MSD	10/15/2015 13:27:00
		8082124	10/15/2015 13:50:00
		8082126	10/15/2015 14:36:00
		8082127	10/15/2015 14:59:00
		8082128	10/15/2015 15:22:00
		8082129	10/15/2015 15:45:00
		8082130	10/15/2015 16:08:00
BTEX and Naphthalene	D152891AA	VBLKD34	10/16/2015 18:24:00
		LCSD34	10/16/2015 18:01:00
		8082124	10/17/2015 02:21:00
		8082125	10/16/2015 19:05:00

Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: PSC29
Matrix: LIQUID

Fraction: Volatiles by GC/MS-GRO

D152882AA / VBLKD33 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Benzene	10/15/15	N.D.	ug/l	0.5	1
Toluene	10/15/15	N.D.	ug/l	0.5	1
Ethylbenzene	10/15/15	N.D.	ug/l	0.5	1
Xylene (Total)	10/15/15	N.D.	ug/l	0.5	1
Naphthalene	10/15/15	N.D.	ug/l	1	4

D152891AA / VBLKD34 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Benzene	10/16/15	N.D.	ug/l	0.5	1
Toluene	10/16/15	N.D.	ug/l	0.5	1
Ethylbenzene	10/16/15	N.D.	ug/l	0.5	1
Xylene (Total)	10/16/15	N.D.	ug/l	0.5	1
Naphthalene	10/16/15	N.D.	ug/l	1	4

Fraction: Volatiles by GC/MS-GRO

D152882AA	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKD33	106	80 - 116	103	77 - 113	96	80 - 113	98	78 - 113
LCSD33	104	80 - 116	101	77 - 113	98	80 - 113	102	78 - 113
8082120 UNSPK	107	80 - 116	101	77 - 113	97	80 - 113	96	78 - 113
8082121 MS	103	80 - 116	102	77 - 113	96	80 - 113	102	78 - 113
8082122 MSD	102	80 - 116	104	77 - 113	96	80 - 113	102	78 - 113
8082124	103	80 - 116	100	77 - 113	95	80 - 113	102	78 - 113
8082126	106	80 - 116	101	77 - 113	96	80 - 113	99	78 - 113
8082127	104	80 - 116	101	77 - 113	96	80 - 113	98	78 - 113
8082128	106	80 - 116	103	77 - 113	94	80 - 113	95	78 - 113
8082129	105	80 - 116	103	77 - 113	95	80 - 113	98	78 - 113
8082130	105	80 - 116	104	77 - 113	96	80 - 113	96	78 - 113

D152891AA	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKD34	106	80 - 116	102	77 - 113	94	80 - 113	95	78 - 113
LCSD34	104	80 - 116	102	77 - 113	97	80 - 113	103	78 - 113
8082125	108	80 - 116	103	77 - 113	96	80 - 113	96	78 - 113

GC/MS Volatiles

Fraction: Volatiles by GC/MS-GRO

UNSPK: 8082120 MS: 8082121 MSD: 8082122 **Analyte**	Batch: **D152882AA** (Sample number(s): 8082120-8082122, 8082124, 8082126-8082130)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Benzene	20	0.797	19.24	25.11	92	122 *	78-120	26	30
Toluene	20	N.D.	17.55	17.76	88	89	80-120	1	30
Ethylbenzene	20	N.D.	17.25	17.46	86	87	78-120	1	30
Xylene (Total)	60	N.D.	53.3	54.12	89	90	80-120	2	30
Naphthalene	20	N.D.	13.08	13.78	65	69	59-120	5	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: PSC29
Matrix: LIQUID

GC/MS Volatiles

Fraction: Volatiles by GC/MS-GRO

LCS: LCSD33	Batch: **D152882AA** (Sample number(s): 8082120-8082122, 8082124, 8082126-8082130)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Benzene	20	18.09	NA	90	NA	78-120	NA	NA
Toluene	20	17.4	NA	87	NA	80-120	NA	NA
Ethylbenzene	20	17.2	NA	86	NA	78-120	NA	NA
Xylene (Total)	60	53.08	NA	88	NA	80-120	NA	NA
Naphthalene	20	14.46	NA	72	NA	59-120	NA	NA

LCS: LCSD34	Batch: **D152891AA** (Sample number(s): 8082124-8082125)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Benzene	20	20.34	NA	102	NA	78-120	NA	NA
Toluene	20	19.03	NA	95	NA	80-120	NA	NA
Ethylbenzene	20	18.61	NA	93	NA	78-120	NA	NA
Xylene (Total)	60	57.73	NA	96	NA	80-120	NA	NA
Naphthalene	20	15.64	NA	78	NA	59-120	NA	NA

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC29___

Lab File ID: dl02t01.d BFB Injection Date: 07/02/15

Instrument ID: HP10534 BFB Injection Time: 11:15

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.28
75	30.0 - 60.0% of mass 95	48.84
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.09
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	83.48
175	5.0 - 9.0% of mass 174	5.85 (7.01)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.61 (97.76)1
177	5.0 - 9.0% of mass 176	5.40 (6.62)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD200	dl02i01.d	07/02/15	11:54
02	VSTD200	dl02i02.d	07/02/15	12:05
03	VSTD100	dl02i03.d	07/02/15	12:17
04	VSTD100	dl02i04.d	07/02/15	12:28
05	VSTD50	dl02i05.d	07/02/15	12:40
06	VSTD50	dl02i06.d	07/02/15	12:51
07	VSTD10	dl02i09.d	07/02/15	13:26
08	VSTD10	dl02i10.d	07/02/15	13:37
09	VSTD2	dl02i11.d	07/02/15	13:49
10	VSTD2	dl02i12.d	07/02/15	14:00
11	VSTD1	dl02i13.d	07/02/15	14:11
12	VSTD1	dl02i14.d	07/02/15	14:23
13	VSTD20	dl02i07a.d	07/02/15	14:34
14	VSTD20	dl02i08a.d	07/02/15	14:46
15	0.4PPBMDL - VSTD0.4	dl02m01.d	07/02/15	14:57
16	0.4PPBMDL - VSTD0.4	dl02m02.d	07/02/15	15:08
17	LCS-01	dl02v01.d	07/02/15	15:20
18	ICV-01	dl02v01a.d	07/02/15	16:01
19	LCSD92	dl02s01.d	07/02/15	16:01
20	ICV-02	dl02v02a.d	07/02/15	16:12
21	LCSD93	dl02s02.d	07/02/15	16:12
22	VBLKD92	dl02b01.d	07/02/15	16:28

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC29___

Lab File ID: dl02t01.d BFB Injection Date: 07/02/15

Instrument ID: HP10534 BFB Injection Time: 11:15

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.28
75	30.0 - 60.0% of mass 95	48.84
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.09
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	83.48
175	5.0 - 9.0% of mass 174	5.85 (7.01)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.61 (97.76)1
177	5.0 - 9.0% of mass 176	5.40 (6.62)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	VBLKD93	dl02b02.d	07/02/15	16:39
24	7940691	dl02s03.d	07/02/15	16:51
25	7940665	dl02s04.d	07/02/15	17:02
26	7940678	dl02s05.d	07/02/15	17:14
27	7940667	dl02s06.d	07/02/15	17:25
28	7940679	dl02s07.d	07/02/15	17:37
29	7940667MS	dl02s08.d	07/02/15	17:48
30	7940679MS	dl02s09.d	07/02/15	18:00
31	7940667MSD	dl02s10.d	07/02/15	18:11
32	7940679MSD	dl02s11.d	07/02/15	18:23
33	7940668	dl02s12.d	07/02/15	18:34
34	7940680	dl02s13.d	07/02/15	18:46
35	7940670	dl02s14.d	07/02/15	18:57
36	7940681	dl02s15.d	07/02/15	19:08
37	7940671	dl02s16.d	07/02/15	19:20
38	7940682	dl02s17.d	07/02/15	19:32
39	7940672	dl02s18.d	07/02/15	19:43
40	7940684	dl02s19.d	07/02/15	19:55
41	7940673	dl02s20.d	07/02/15	20:06
42	7940685	dl02s21.d	07/02/15	20:18
43	7940674	dl02s22.d	07/02/15	20:29
44	7940686	dl02s23.d	07/02/15	20:41

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC29___

Lab File ID: dl02t01.d BFB Injection Date: 07/02/15

Instrument ID: HP10534 BFB Injection Time: 11:15

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.28
75	30.0 - 60.0% of mass 95	48.84
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.09
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	83.48
175	5.0 - 9.0% of mass 174	5.85 (7.01)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.61 (97.76)1
177	5.0 - 9.0% of mass 176	5.40 (6.62)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
45	7940675	dl02s24.d	07/02/15	20:52
46	7940687	dl02s25.d	07/02/15	21:04
47	7940676	dl02s26.d	07/02/15	21:15
48	7940688	dl02s27.d	07/02/15	21:27
49	7940677	dl02s28.d	07/02/15	21:38
50	7940689	dl02s29.d	07/02/15	21:50
51	7940645DL	dl02s30.d	07/02/15	22:01

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC29___

Lab File ID: dc15t01.d BFB Injection Date: 10/15/15

Instrument ID: HP10534 BFB Injection Time: 09:29

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.27
75	30.0 - 60.0% of mass 95	48.68
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.96
173	Less than 2.0% of mass 174	0.29 (0.33)1
174	Greater than 50.0% of mass 95	89.08
175	5.0 - 9.0% of mass 174	6.54 (7.34)1
176	Greater than 95.0%, but less than 101.0% of mass 174	86.54 (97.15)1
177	5.0 - 9.0% of mass 176	5.74 (6.63)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	dc15c01.d	10/15/15	10:22
02	VSTD50	dc15c02.d	10/15/15	10:34
03	LCSD32	dc15s01.d	10/15/15	10:45
04	LCSD33	dc15s02.d	10/15/15	10:57
05	VBLKD32	dc15b01.d	10/15/15	11:08
06	VBLKD33	dc15b02.d	10/15/15	11:20
07	8082105	dc15s03.d	10/15/15	11:44
08	8080064	dc15s04.d	10/15/15	11:55
09	8082106	dc15s05.d	10/15/15	12:07
10	8082000	dc15s06.d	10/15/15	12:18
11	8082102	dc15s07.d	10/15/15	12:30
12	8082120	dc15s08.d	10/15/15	12:41
13	8082103MS	dc15s09.d	10/15/15	12:53
14	8082121MS	dc15s10.d	10/15/15	13:04
15	8082104MSD	dc15s11.d	10/15/15	13:16
16	8082122MSD	dc15s12.d	10/15/15	13:27
17	8082097	dc15s13.d	10/15/15	13:39
18	8082124	dc15s14.d	10/15/15	13:50
19	8082098	dc15s15.d	10/15/15	14:02
20	8082099	dc15s17.d	10/15/15	14:25
21	8082126	dc15s18.d	10/15/15	14:36
22	8082100	dc15s19.d	10/15/15	14:48

FORM V VOA

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC29___

Lab File ID: dc15t01.d BFB Injection Date: 10/15/15

Instrument ID: HP10534 BFB Injection Time: 09:29

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.27
75	30.0 - 60.0% of mass 95	48.68
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.96
173	Less than 2.0% of mass 174	0.29 (0.33)1
174	Greater than 50.0% of mass 95	89.08
175	5.0 - 9.0% of mass 174	6.54 (7.34)1
176	Greater than 95.0%, but less than 101.0% of mass 174	86.54 (97.15)1
177	5.0 - 9.0% of mass 176	5.74 (6.63)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	8082127	dc15s20.d	10/15/15	14:59
24	8082101	dc15s21.d	10/15/15	15:11
25	8082128	dc15s22.d	10/15/15	15:22
26	8082107	dc15s23.d	10/15/15	15:34
27	8082129	dc15s24.d	10/15/15	15:45
28	8082108	dc15s25.d	10/15/15	15:57
29	8082130	dc15s26.d	10/15/15	16:08
30	8082109	dc15s27.d	10/15/15	16:20
31	8082246	dc15s28.d	10/15/15	16:31
32	8082110	dc15s29.d	10/15/15	16:43
33	8082247	dc15s30.d	10/15/15	16:54
34	8082111	dc15s31.d	10/15/15	17:06
35	8082248	dc15s32.d	10/15/15	17:17
36	8082112	dc15s33.d	10/15/15	17:28
37	8081992	dc15s34.d	10/15/15	17:40
38	8082113	dc15s35.d	10/15/15	17:51
39	8081993	dc15s36.d	10/15/15	18:03
40	8080056	dc15s37.d	10/15/15	18:15
41	8081994	dc15s38.d	10/15/15	18:26
42	8080058	dc15s39.d	10/15/15	18:37
43	8081995	dc15s40.d	10/15/15	18:49
44	8080059	dc15s41.d	10/15/15	19:00

FORM V VOA

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC29___

Lab File ID: dc15t01.d BFB Injection Date: 10/15/15

Instrument ID: HP10534 BFB Injection Time: 09:29

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.27
75	30.0 - 60.0% of mass 95	48.68
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.96
173	Less than 2.0% of mass 174	0.29 (0.33)1
174	Greater than 50.0% of mass 95	89.08
175	5.0 - 9.0% of mass 174	6.54 (7.34)1
176	Greater than 95.0%, but less than 101.0% of mass 174	86.54 (97.15)1
177	5.0 - 9.0% of mass 176	5.74 (6.63)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
45	8081996	dc15s42.d	10/15/15	19:12
46	8080060	dc15s43.d	10/15/15	19:23

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC29___

Lab File ID: dc16t01.d BFB Injection Date: 10/16/15

Instrument ID: HP10534 BFB Injection Time: 16:53

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.55
75	30.0 - 60.0% of mass 95	48.77
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.77
173	Less than 2.0% of mass 174	0.49 (0.56)1
174	Greater than 50.0% of mass 95	87.51
175	5.0 - 9.0% of mass 174	6.29 (7.19)1
176	Greater than 95.0%, but less than 101.0% of mass 174	84.73 (96.82)1
177	5.0 - 9.0% of mass 176	5.73 (6.76)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	dc16c01.d	10/16/15	17:38
02	VSTD50	dc16c02.d	10/16/15	17:49
03	LCSD34	dc16s01.d	10/16/15	18:01
04	LCSD35	dc16s02.d	10/16/15	18:12
05	VBLKD34	dc16b01.d	10/16/15	18:24
06	VBLKD35	dc16b02.d	10/16/15	18:35
07	8082125	dc16s03.d	10/16/15	19:05
08	8084025	dc16s04.d	10/16/15	19:16
09	8082251	dc16s05.d	10/16/15	19:28
10	8084021	dc16s06.d	10/16/15	19:39
11	8082251MS	dc16s07.d	10/16/15	19:51
12	8084021MS	dc16s08.d	10/16/15	20:02
13	8082251MSD	dc16s09.d	10/16/15	20:13
14	8084021MSD	dc16s10.d	10/16/15	20:25
15	8080061	dc16s11.d	10/16/15	20:36
16	8090030	dc16s12.d	10/16/15	20:48
17	8081997	dc16s13.d	10/16/15	20:59
18	8090031	dc16s14.d	10/16/15	21:11
19	8082254	dc16s15.d	10/16/15	21:22
20	8090032	dc16s16.d	10/16/15	21:34
21	8082255	dc16s17.d	10/16/15	21:45
22	8090033	dc16s18.d	10/16/15	21:57

FORM V VOA

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC29___

Lab File ID: dc16t01.d BFB Injection Date: 10/16/15

Instrument ID: HP10534 BFB Injection Time: 16:53

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.55
75	30.0 - 60.0% of mass 95	48.77
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.77
173	Less than 2.0% of mass 174	0.49 (0.56)1
174	Greater than 50.0% of mass 95	87.51
175	5.0 - 9.0% of mass 174	6.29 (7.19)1
176	Greater than 95.0%, but less than 101.0% of mass 174	84.73 (96.82)1
177	5.0 - 9.0% of mass 176	5.73 (6.76)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	8082256	dc16s19.d	10/16/15	22:08
24	8090034	dc16s20.d	10/16/15	22:20
25	8082257	dc16s21.d	10/16/15	22:31
26	8090035	dc16s22.d	10/16/15	22:43
27	8082258	dc16s23.d	10/16/15	22:54
28	8090037	dc16s24.d	10/16/15	23:06
29	8082259	dc16s25.d	10/16/15	23:17
30	8090038	dc16s26.d	10/16/15	23:29
31	8082252	dc16s27.d	10/16/15	23:40
32	8090039	dc16s28.d	10/16/15	23:51
33	8080062	dc16s29.d	10/17/15	00:03
34	8090040	dc16s30.d	10/17/15	00:14
35	8080063	dc16s31.d	10/17/15	00:26
36	8090079	dc16s32.d	10/17/15	00:37
37	8082253	dc16s33.d	10/17/15	00:49
38	8090080	dc16s34.d	10/17/15	01:01
39	8081998	dc16s35.d	10/17/15	01:12
40	8084019	dc16s36.d	10/17/15	01:24
41	8081999	dc16s37.d	10/17/15	01:35
42	8084020	dc16s38.d	10/17/15	01:47
43	8082113DL	dc16s39.d	10/17/15	01:58
44	8084022	dc16s40.d	10/17/15	02:10

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC29___

Lab File ID: dc16t01.d BFB Injection Date: 10/16/15

Instrument ID: HP10534 BFB Injection Time: 16:53

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.55
75	30.0 - 60.0% of mass 95	48.77
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.77
173	Less than 2.0% of mass 174	0.49 (0.56)1
174	Greater than 50.0% of mass 95	87.51
175	5.0 - 9.0% of mass 174	6.29 (7.19)1
176	Greater than 95.0%, but less than 101.0% of mass 174	84.73 (96.82)1
177	5.0 - 9.0% of mass 176	5.73 (6.76)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
45	8082124DL	dc16s41.d	10/17/15	02:21
46	8084023	dc16s42.d	10/17/15	02:33
47	8084024	dc16s44.d	10/17/15	02:56
48	8090036	dc16s46.d	10/17/15	03:19

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP10534 Calibration Date(s): 07/02/15 07/02/15

Heated Purge: (Y/N) Y Calibration Times: 11:54 14:34

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-VRX ID: .18

LAB FILE ID: RRF 1 = dl02i13.d RRF 2 = dl02i11.d RRF 10= dl02i09.d
RRF 20= dl02i07a.d RRF 50= dl02i05.d RRF100= dl02i03.d RRF200= dl02i01.d

COMPOUND	RRF 1	RRF 2	RRF 10	RRF 20	RRF 50	RRF100	RRF200	RRF	% RSD	CAL. METHOD
Ethanol		0.1746	0.1873	0.1692	0.1539	0.1275	0.1391	0.1586	14	AVG
t-Butyl alcohol	1.6775	1.4469	1.4677	1.8163	1.4867	1.2711	1.3515	1.5025	12	AVG
Methyl Tertiary Butyl Ether	1.1619	1.0157	1.0729	1.0484	1.0054	0.8584	0.9277	1.0129	10	AVG
di-Isopropyl ether	1.3685	1.1625	1.2124	1.2506	1.2582	1.0992	1.1495	1.2144	7	AVG
Ethyl t-butyl ether	1.1663	1.0621	1.1296	1.1642	1.1801	1.0277	1.0794	1.1156	5	AVG
1,2-Dichloroethane	0.5251	0.4638	0.4666	0.4845	0.4898	0.4259	0.4442	0.4714	7	AVG
Benzene	1.6139	1.4102	1.4846	1.5380	1.5335	1.3522	1.4173	1.4785	6	AVG
t-Amyl methyl ether	0.2822	0.2363	0.2637	0.2711	0.2752	0.2409	0.2554	0.2607	7	AVG
t-Amyl ethyl ether	0.6307	0.5410	0.5670	0.5985	0.5662	0.5027	0.5478	0.5648	7	AVG
Toluene	1.4243	1.2231	1.2682	1.3133	1.3067	1.1585	1.1836	1.2682	7	AVG
1,2-Dibromoethane	0.4667	0.4022	0.4392	0.4521	0.4666	0.4121	0.4317	0.4387	6	AVG
Ethylbenzene	2.5623	2.2972	2.3919	2.4856	2.4622	2.1813	2.2358	2.3737	6	AVG
m+p-Xylene	1.0031	0.8613	0.9306	0.9735	0.9612	0.8431	0.8529	0.9180	7	AVG
o-Xylene	0.9682	0.8036	0.9135	0.9437	0.9387	0.8251	0.8427	0.8908	7	AVG
Isopropylbenzene	2.5087	2.2130	2.3194	2.3889	2.3777	2.1103	2.1612	2.2970	6	AVG
1,3,5-Trimethylbenzene	3.8022	3.2261	3.4455	3.5021	3.6288	3.1502	3.1975	3.4217	7	AVG
1,2,4-Trimethylbenzene	3.9400	3.2590	3.4876	3.5669	3.6577	3.1651	3.2360	3.4732	8	AVG
Naphthalene	4.3264	3.6859	3.8759	3.8834	4.0934	3.5051	3.5051	3.8393	8	AVG
Dibromofluoromethane	0.2336	0.2308	0.2334	0.2343	0.2319	0.2339	0.2338	0.2331	1	AVG
Dibromofluoromethane(2)	0.2374	0.2359	0.2357	0.2369	0.2382	0.2382	0.2399	0.2375	1	AVG
1,2-Dichloroethane-d4	0.0598	0.0599	0.0618	0.0621	0.0643	0.0625	0.0643	0.0621	3	AVG
1,2-Dichloroethane-d4(2)	0.2993	0.3000	0.3048	0.3059	0.3183	0.3073	0.3200	0.3079	3	AVG
1,2-Dichloroethane-d4(3)	0.0378	0.0390	0.0394	0.0388	0.0386	0.0393	0.0405	0.0391	2	AVG
Toluene-d8	1.3512	1.3433	1.3421	1.3527	1.3369	1.3477	1.3398	1.3448	0	AVG
Toluene-d8(2)	0.8836	0.8767	0.8808	0.8729	0.8684	0.8756	0.8721	0.8757	1	AVG
4-Bromofluorobenzene	0.5050	0.5005	0.5050	0.4990	0.4956	0.5023	0.5006	0.5011	1	AVG
4-Bromofluorobenzene(2)	0.4293	0.4337	0.4364	0.4372	0.4260	0.4332	0.4332	0.4327	1	AVG

Average %RSD 6

Minimum RRF for SPCC(#) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%

FORM VI VOA

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP10534.i/15jul02i.b/dl02i01.d	VSTD200
/chem2/HP10534.i/15jul02i.b/dl02i03.d	VSTD100
/chem2/HP10534.i/15jul02i.b/dl02i05.d	VSTD050
/chem2/HP10534.i/15jul02i.b/dl02i07a.d	VSTD020
/chem2/HP10534.i/15jul02i.b/dl02i09.d	VSTD010
/chem2/HP10534.i/15jul02i.b/dl02i11.d	VSTD002
/chem2/HP10534.i/15jul02i.b/dl02i13.d	VSTD001

Area Summary

File ID:

Internal Standard Name	dl02i01.d	dl02i03.d	dl02i05.d	dl02i07a.d	dl02i09.d	dl02i11.d	dl02i13.d	Avg. Area	%RSD	In Spec
t-Butyl alcohol-d10	126756	146706	126572	109916	111070	118670	113621	121902	11	Yes
Fluorobenzene	612224	696862	648888	597250	585836	638273	586821	623736	6	Yes
Chlorobenzene-d5	458037	513157	481942	439750	435270	473156	431744	461865	6	Yes
1,4-Dichlorobenzene-d4	253364	281292	259631	241725	237354	255683	231014	251438	7	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	dl02i01.d	dl02i03.d	dl02i05.d	dl02i07a.d	dl02i09.d	dl02i11.d	dl02i13.d	Avg. RT
t-Butyl alcohol-d10	1.946	1.946	1.940	1.946	1.952	1.934	1.934	1.943
Fluorobenzene	3.544	3.550	3.543	3.544	3.550	3.543	3.544	3.545
Chlorobenzene-d5	4.897	4.897	4.897	4.897	4.897	4.897	4.891	4.896
1,4-Dichlorobenzene-d4	5.854	5.854	5.854	5.854	5.854	5.854	5.854	5.854

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 07/02/2015 at 14:55.

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP10534 ICV Date: 07/02/15 Time: 16:01

Lab File ID: dl02v01a.d Init. Calib. Date(s): 07/02/15 07/02/15

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-VRX ID: .18

COMPOUND	$\overline{RRF}$	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Ethanol	0.1586	0.1758	554.20	500	11
t-Butyl alcohol	1.5025	1.5035	200.14	200	0
Methyl Tertiary Butyl Ether	1.0129	1.0291	20.32	20	2
di-Isopropyl ether	1.1156	1.1971	19.72	20	-1
Ethyl t-butyl ether	1.0029	1.1050	19.81	20	-1
1,2-Dichloroethane	0.4714	0.4623	19.61	20	-2
Benzene	1.4785	1.4648	19.81	20	-1
t-Amyl methyl ether	0.2607	0.2632	20.19	20	1
t-Amyl ethyl ether	0.5648	0.5213	18.46	20	-8
Toluene	1.2682	1.2725	20.07	20	0
1,2-Dibromoethane	0.4387	0.4361	19.88	20	-1
Ethylbenzene	2.3737	2.3654	19.93	20	0
m+p-Xylene	0.9180	0.9275	40.41	40	1
o-Xylene	0.8908	0.8887	19.95	20	0
Isopropylbenzene	2.2970	2.3363	20.34	20	2
1,3,5-Trimethylbenzene	3.4217	3.3789	19.75	20	-1
1,2,4-Trimethylbenzene	3.4732	3.4461	19.84	20	-1
Naphthalene	3.8393	3.7524	19.55	20	-2
			Average %Drift		2

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP10534 Calibration Date(s): 07/02/15 07/02/15

Heated Purge: (Y/N) Y Calibration Times: 12:05 14:46

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-VRX ID: .18

LAB FILE ID: RRF 1 = dl02i14.d RRF 2 = dl02i12.d RRF 10= dl02i10.d
RRF 20= dl02i08a.d RRF 50= dl02i06.d RRF100= dl02i04.d RRF200= dl02i02.d

COMPOUND	RRF 1	RRF 2	RRF 10	RRF 20	RRF 50	RRF100	RRF200	RRF	% RSD	CAL. METHOD
Ethanol		0.2420	0.1899	0.1989	0.2072	0.1801	0.1701	0.1980	13	AVG
t-Butyl alcohol	1.6197	1.4584	1.2797	1.8156	1.5643	1.4297	1.2752	1.4918	13	AVG
Methyl Tertiary Butyl Ether	0.9922	0.8927	0.7865	0.9267	0.9178	0.8240	0.8451	0.8836	8	AVG
di-Isopropyl ether	1.3695	1.2428	1.0239	1.2782	1.3283	1.1850	1.1571	1.2264	9	AVG
Ethyl t-butyl ether	1.0934	1.0126	0.8584	1.0520	1.0882	0.9711	0.9444	1.0029	8	AVG
1,2-Dichloroethane	0.5220	0.4867	0.3923	0.4967	0.5183	0.4612	0.4455	0.4747	10	AVG
Benzene	1.7085	1.4949	1.2650	1.5842	1.6332	1.4685	1.4241	1.5112	10	AVG
t-Amyl methyl ether	0.2348	0.2365	0.2005	0.2418	0.2557	0.2269	0.2195	0.2308	8	AVG
t-Amyl ethyl ether	0.6232	0.5198	0.4475	0.5690	0.5582	0.5000	0.5014	0.5313	11	AVG
Toluene	1.4172	1.2836	1.0836	1.3523	1.3951	1.2424	1.1999	1.2820	9	AVG
1,2-Dibromoethane	0.4667	0.4253	0.3770	0.4608	0.4961	0.4443	0.4320	0.4432	8	AVG
Ethylbenzene	2.6126	2.3779	2.0391	2.5350	2.6192	2.3493	2.2711	2.4006	9	AVG
m+p-Xylene	0.9609	0.8809	0.7973	0.9953	1.0227	0.9052	0.8685	0.9187	9	AVG
o-Xylene	0.9427	0.8863	0.7670	0.9688	1.0077	0.8944	0.8638	0.9044	9	AVG
Isopropylbenzene	2.5767	2.3518	2.0091	2.4453	2.5495	2.2850	2.2184	2.3480	8	AVG
1,3,5-Trimethylbenzene	3.9546	3.4446	2.8657	3.6035	3.7751	3.3972	3.3272	3.4811	10	AVG
1,2,4-Trimethylbenzene	3.8977	3.3925	2.9376	3.6532	3.7979	3.4086	3.3511	3.4912	9	AVG
Naphthalene	4.3641	3.9283	3.2897	4.0335	4.2289	3.7968	3.6097	3.8930	9	AVG
Dibromofluoromethane	0.2285	0.2329	0.2349	0.2321	0.2348	0.2349	0.2321	0.2329	1	AVG
Dibromofluoromethane(2)	0.2351	0.2370	0.2374	0.2358	0.2408	0.2393	0.2380	0.2376	1	AVG
1,2-Dichloroethane-d4	0.0596	0.0608	0.0607	0.0608	0.0654	0.0613	0.0634	0.0617	3	AVG
1,2-Dichloroethane-d4(2)	0.2942	0.2985	0.3021	0.3039	0.3257	0.3117	0.3136	0.3071	3	AVG
1,2-Dichloroethane-d4(3)	0.0395	0.0381	0.0389	0.0379	0.0388	0.0388	0.0403	0.0389	2	AVG
Toluene-d8	1.3397	1.3374	1.3606	1.3498	1.3648	1.3425	1.3429	1.3482	1	AVG
Toluene-d8(2)	0.8708	0.8732	0.8834	0.8775	0.8783	0.8750	0.8732	0.8759	0	AVG
4-Bromofluorobenzene	0.5014	0.5025	0.5052	0.5036	0.5004	0.5022	0.4985	0.5020	0	AVG
4-Bromofluorobenzene(2)	0.4333	0.4371	0.4344	0.4372	0.4363	0.4320	0.4321	0.4346	1	AVG

Average %RSD 7

Minimum RRF for SPCC(#) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%

FORM VI VOA

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP10534.i/15jul02i.b/dl02i02.d	VSTD200
/chem2/HP10534.i/15jul02i.b/dl02i04.d	VSTD100
/chem2/HP10534.i/15jul02i.b/dl02i06.d	VSTD050
/chem2/HP10534.i/15jul02i.b/dl02i08a.d	VSTD020
/chem2/HP10534.i/15jul02i.b/dl02i10.d	VSTD010
/chem2/HP10534.i/15jul02i.b/dl02i12.d	VSTD002
/chem2/HP10534.i/15jul02i.b/dl02i14.d	VSTD001

Area Summary

File ID:

Internal Standard Name	dl02i02.d	dl02i04.d	dl02i06.d	dl02i08a.d	dl02i10.d	dl02i12.d	dl02i14.d	Avg. Area	%RSD	In Spec
t-Butyl alcohol-d10	131015	126249	121673	112038	138442	120594	113326	123334	8	Yes
Fluorobenzene	593116	617863	592150	566192	661934	587430	555355	596291	6	Yes
Chlorobenzene-d5	443175	459057	439324	419065	486803	436206	412174	442258	6	Yes
1,4-Dichlorobenzene-d4	240392	252161	241769	228998	266498	237699	225144	241809	6	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	dl02i02.d	dl02i04.d	dl02i06.d	dl02i08a.d	dl02i10.d	dl02i12.d	dl02i14.d	Avg. RT
t-Butyl alcohol-d10	1.934	1.934	1.934	1.928	1.928	1.928	1.934	1.932
Fluorobenzene	3.543	3.544	3.544	3.544	3.544	3.544	3.543	3.544
Chlorobenzene-d5	4.891	4.897	4.891	4.891	4.891	4.891	4.891	4.892
1,4-Dichlorobenzene-d4	5.854	5.854	5.854	5.854	5.854	5.854	5.854	5.854

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 07/02/2015 at 15:00.

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP10534 ICV Date: 07/02/15 Time: 16:12

Lab File ID: dl02v02a.d Init. Calib. Date(s): 07/02/15 07/02/15

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-VRX ID: .18

COMPOUND	$\overline{RRF}$	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Ethanol	0.1980	0.2024	511.02	500	2
t-Butyl alcohol	1.4918	1.4180	190.10	200	-5
Methyl Tertiary Butyl Ether	0.8836	0.8754	19.81	20	-1
di-Isopropyl ether	1.2264	1.1633	18.97	20	-5
Ethyl t-butyl ether	1.0029	0.9619	19.18	20	-4
1,2-Dichloroethane	0.4747	0.4449	18.75	20	-6
Benzene	1.5112	1.4049	18.59	20	-7
t-Amyl methyl ether	0.2308	0.2285	19.80	20	-1
t-Amyl ethyl ether	0.5313	0.4814	18.12	20	-9
Toluene	1.2820	1.2218	19.06	20	-5
1,2-Dibromoethane	0.4432	0.4206	18.98	20	-5
Ethylbenzene	2.4006	2.3241	19.36	20	-3
m+p-Xylene	0.9187	0.9081	39.54	40	-1
o-Xylene	0.9044	0.8723	19.29	20	-4
Isopropylbenzene	2.3480	2.3050	19.63	20	-2
1,3,5-Trimethylbenzene	3.4811	3.3464	19.23	20	-4
1,2,4-Trimethylbenzene	3.4912	3.3592	19.24	20	-4
Naphthalene	3.8930	3.6362	18.68	20	-7

Average %Drift 4

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP10534.i/15jul02i.b/dl02i14.d
/chem2/HP10534.i/15jul02i.b/dl02i12.d
/chem2/HP10534.i/15jul02i.b/dl02i10.d
/chem2/HP10534.i/15jul02i.b/dl02i08a.d
/chem2/HP10534.i/15jul02i.b/dl02i06.d
/chem2/HP10534.i/15jul02i.b/dl02i04.d
/chem2/HP10534.i/15jul02i.b/dl02i02.d

File /chem2/HP10534.i/15jul02i.b/dl02i06.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP10534.i/15oct15a.b/dc15c02.d

RT Summary

Internal Standard Name	File ID: dc15c02.d	ICAL RT	In Spec
t-Butyl alcohol-d10	1.940	1.934	Yes
Fluorobenzene	3.544	3.544	Yes
Chlorobenzene-d5	4.891	4.891	Yes
1,4-Dichlorobenzene-d4	5.854	5.854	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

Internal Standard Name	File ID: dc15c02.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl alcohol-d10	88349	121673	60836	243346	Yes
Fluorobenzene	443469	592150	296075	1184300	Yes
Chlorobenzene-d5	341040	439324	219662	878648	Yes
1,4-Dichlorobenzene-d4	189649	241769	120884	483538	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments: _____

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP10534 Calibration Date: 10/15/15 Time: 10:34

Lab File ID: dc15c02.d Init. Calib. Date(s): 07/02/15 07/02/15

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-VRX ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Ethanol	0.1980	0.1737	1096.29	1250	-12
t-Butyl alcohol	1.4918	1.8909	316.88	250	27
Methyl Tertiary Butyl Ether	0.8836	0.9171	207.59	200	4
di-Isopropyl ether	1.2264	1.1329	46.19	50	-8
Ethyl t-butyl ether	1.0029	0.9778	48.75	50	-3
1,2-Dichloroethane	0.4747	0.5034	53.02	50	6
Benzene	1.5112	1.4348	47.47	50	-5
t-Amyl methyl ether	0.2308	0.2350	50.91	50	2
Toluene	1.2820	1.2353	48.18	50	-4
1,2-Dibromoethane	0.4432	0.4577	51.64	50	3
Ethylbenzene	2.4006	2.4055	50.10	50	0
m+p-Xylene	0.9187	0.9458	102.95	100	3
o-Xylene	0.9044	0.9043	50.00	50	0
Isopropylbenzene	2.3480	2.3914	50.92	50	2
1,3,5-Trimethylbenzene	3.4811	3.3656	48.34	50	-3
1,2,4-Trimethylbenzene	3.4912	3.4966	50.08	50	0
Naphthalene	3.8930	3.7398	48.03	50	-4
Dibromofluoromethane	0.2329	0.2376	51.02	50	2
Dibromofluoromethane(2)	0.2376	0.2435	51.24	50	2
1,2-Dichloroethane-d4	0.0617	0.0652	52.86	50	6
1,2-Dichloroethane-d4(2)	0.3071	0.3344	54.45	50	9
1,2-Dichloroethane-d4(3)	0.0389	0.0386	49.58	50	-1
Toluene-d8	1.3482	1.2937	47.98	50	-4
Toluene-d8(2)	0.8759	0.8403	47.97	50	-4
4-Bromofluorobenzene	0.5020	0.5040	50.20	50	0
4-Bromofluorobenzene(2)	0.4346	0.4393	50.54	50	1

Average %Drift 4

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP10534.i/15jul02i.b/dl02i13.d
/chem2/HP10534.i/15jul02i.b/dl02i11.d
/chem2/HP10534.i/15jul02i.b/dl02i09.d
/chem2/HP10534.i/15jul02i.b/dl02i07a.d
/chem2/HP10534.i/15jul02i.b/dl02i05.d
/chem2/HP10534.i/15jul02i.b/dl02i03.d
/chem2/HP10534.i/15jul02i.b/dl02i01.d

File /chem2/HP10534.i/15jul02i.b/dl02i05.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP10534.i/15oct16a.b/dc16c01.d

RT Summary

Internal Standard Name	File ID: dc16c01.d	ICAL RT	In Spec
t-Butyl alcohol-d10	1.940	1.940	Yes
Fluorobenzene	3.544	3.543	Yes
Chlorobenzene-d5	4.897	4.897	Yes
1,4-Dichlorobenzene-d4	5.848	5.854	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

Internal Standard Name	File ID: dc16c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl alcohol-d10	82598	126572	63286	253144	Yes
Fluorobenzene	413386	648888	324444	1297776	Yes
Chlorobenzene-d5	325602	481942	240971	963884	Yes
1,4-Dichlorobenzene-d4	180931	259631	129816	519262	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments: _____

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP10534 Calibration Date: 10/16/15 Time: 17:38

Lab File ID: dc16c01.d Init. Calib. Date(s): 07/02/15 07/02/15

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-VRX ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Ethanol	0.1586	0.1625	1281.20	1250	2
t-Butyl alcohol	1.5025	1.4427	240.04	250	-4
Methyl Tertiary Butyl Ether	1.0129	1.0775	212.76	200	6
di-Isopropyl ether	1.2144	1.1379	46.85	50	-6
Ethyl t-butyl ether	1.1156	1.0874	48.74	50	-3
1,2-Dichloroethane	0.4714	0.5278	55.98	50	12
Benzene	1.4785	1.5002	50.73	50	1
t-Amyl methyl ether	0.2607	0.2508	48.11	50	-4
t-Amyl ethyl ether	0.5648	0.4944	43.76	50	-12
Toluene	1.2682	1.2054	47.52	50	-5
1,2-Dibromoethane	0.4387	0.4197	47.84	50	-4
Ethylbenzene	2.3737	2.1648	45.60	50	-9
m+p-Xylene	0.9180	0.8591	93.59	100	-6
o-Xylene	0.8908	0.8155	45.77	50	-8
Isopropylbenzene	2.2970	2.0033	43.61	50	-13
1,3,5-Trimethylbenzene	3.4217	2.9366	42.91	50	-14
1,2,4-Trimethylbenzene	3.4732	3.0023	43.22	50	-14
Naphthalene	3.8393	3.1920	41.57	50	-17
Dibromofluoromethane	0.2331	0.2434	52.20	50	4
Dibromofluoromethane(2)	0.2375	0.2459	51.78	50	4
1,2-Dichloroethane-d4	0.0621	0.0641	51.65	50	3
1,2-Dichloroethane-d4(2)	0.3079	0.3454	56.07	50	12
1,2-Dichloroethane-d4(3)	0.0391	0.0383	49.08	50	-2
Toluene-d8	1.3448	1.2748	47.40	50	-5
Toluene-d8(2)	0.8757	0.8213	46.89	50	-6
4-Bromofluorobenzene	0.5011	0.5108	50.96	50	2
4-Bromofluorobenzene(2)	0.4327	0.4505	52.05	50	4

Average %Drift 7

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC29___

Lab File ID (Standard): dc15c02.d Date Analyzed: 10/15/15

Instrument ID: HP10534 Time Analyzed: 10:34

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	88349	1.940	443469	3.544	341040	4.891	189649	5.854
UPPER LIMIT	176698	2.440	886938	4.044	682080	5.391	379298	6.354
LOWER LIMIT	44174	1.440	221734	3.044	170520	4.391	94824	5.354
LAB SAMPLE ID								
01 LCSD32	93626	1.946	475840	3.544	368671	4.891	203592	5.854
02 LCSD33	97406	1.928	486699	3.537	374665	4.891	206964	5.848
03 VBLKD32	97030	1.946	466937	3.544	369858	4.897	204224	5.854
04 VBLKD33	98100	1.928	471905	3.543	367708	4.891	203062	5.848
05 8082105	102893	1.940	469642	3.544	370828	4.891	201197	5.854
06 8080064	100190	1.934	474482	3.544	375876	4.891	203703	5.854
07 8082106	96301	1.952	445613	3.544	349801	4.891	187648	5.854
08 8082000	84543	1.928	428348	3.544	337730	4.891	179683	5.848
09 8082102	90811	1.946	442145	3.544	350417	4.891	189195	5.854
10 8082120	96914	1.922	474147	3.538	370515	4.891	198185	5.848
11 8082103MS	96113	1.946	470035	3.544	362623	4.897	207332	5.854
12 8082121MS	99299	1.922	482415	3.538	370495	4.891	207437	5.854
13 8082104MSD	90941	1.952	456032	3.544	351868	4.897	200596	5.854
14 8082122MSD	90788	1.934	453405	3.544	350644	4.891	198576	5.854
15 8082097	101901	1.952	486747	3.544	388889	4.897	213717	5.854
16 8082124	102669	1.934	495539	3.544	386794	4.891	226287	5.848
17 8082098	93785	1.940	453242	3.544	356169	4.891	196835	5.854
18 8082099	94968	1.946	466857	3.544	362768	4.897	204736	5.848
19 8082126	91122	1.928	455839	3.544	359259	4.891	201605	5.848
20 8082100	85756	1.946	431176	3.544	334937	4.891	187169	5.848
21 8082127	106252	1.922	488807	3.538	384045	4.891	214108	5.848
22 8082101	85682	1.946	426691	3.544	331520	4.891	186476	5.854

IS1 (TBA)=t-Butyl alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC29___

Lab File ID (Standard): dc15c02.d Date Analyzed: 10/15/15

Instrument ID: HP10534 Time Analyzed: 10:34

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	88349	1.940	443469	3.544	341040	4.891	189649	5.854
UPPER LIMIT	176698	2.440	886938	4.044	682080	5.391	379298	6.354
LOWER LIMIT	44174	1.440	221734	3.044	170520	4.391	94824	5.354
LAB SAMPLE ID								
23 8082128	91219	1.928	431281	3.544	344099	4.891	184785	5.848
24 8082107	88779	1.934	440404	3.544	350545	4.891	189992	5.854
25 8082129	106379	1.934	475448	3.544	376687	4.891	207716	5.848
26 8082108	80444	1.946	410835	3.543	330912	4.897	179830	5.848
27 8082130	94735	1.928	466176	3.538	369118	4.891	203199	5.848
28 8082109	82672	1.940	412426	3.544	331589	4.891	181693	5.854
29 8082246	88730	1.922	444916	3.538	354656	4.891	193049	5.848
30 8082110	98883	1.946	480728	3.544	382953	4.891	211011	5.848
31 8082247	82647	1.934	410319	3.544	328916	4.891	175265	5.848
32 8082111	90669	1.940	431225	3.544	346326	4.891	186091	5.848
33 8082248	84078	1.934	399417	3.544	320368	4.891	171609	5.848
34 8082112	91686	1.946	456851	3.544	365231	4.897	196635	5.848
35 8081992	102843	1.928	468680	3.544	373554	4.891	207911	5.848
36 8082113	84916	1.946	430526	3.544	337164	4.897	186934	5.848
37 8081993	89768	1.928	405186	3.544	329472	4.891	181337	5.848
38 8080056	82923	1.946	399178	3.550	321273	4.897	175134	5.848
39 8081994	88708	1.940	435325	3.544	346067	4.891	197695	5.854
40 8080058	98329	1.959	503277	3.550	390733	4.897	219790	5.854
41 8081995	82103	1.934	430251	3.544	347588	4.891	196497	5.854
42 8080059	103644	1.940	489161	3.544	395113	4.891	222671	5.854
43 8081996	98108	1.946	466023	3.550	377241	4.891	211645	5.854
44 8080060	85492	1.959	415643	3.550	335452	4.891	187256	5.848

IS1 (TBA)=t-Butyl alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC29___

Lab File ID (Standard): dc16c01.d Date Analyzed: 10/16/15

Instrument ID: HP10534 Time Analyzed: 17:38

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	82598	1.940	413386	3.544	325602	4.897	180931	5.848
UPPER LIMIT	165196	2.440	826772	4.044	651204	5.397	361862	6.348
LOWER LIMIT	41299	1.440	206693	3.044	162801	4.397	90466	5.348
LAB SAMPLE ID								
01 LCSD34	83128	1.946	419383	3.550	327784	4.897	185835	5.848
02 LCSD35	82272	1.940	420185	3.544	323962	4.891	182129	5.848
03 VBLKD34	87607	1.952	430460	3.550	349093	4.897	185929	5.848
04 VBLKD35	92015	1.940	434439	3.544	347255	4.891	192403	5.854
05 8082125	94378	1.946	410095	3.544	329904	4.897	179388	5.854
06 8084025	101510	1.928	442814	3.544	355030	4.891	195347	5.854
07 8082251	94717	1.934	423306	3.544	342185	4.891	192427	5.854
08 8084021	81662	1.928	398745	3.544	323506	4.891	177936	5.848
09 8082251MS	93984	1.952	453582	3.544	355995	4.891	206462	5.854
10 8084021MS	89704	1.934	434668	3.544	345466	4.891	193785	5.848
11 8082251MSD	96349	1.946	463258	3.544	363849	4.897	206177	5.848
12 8084021MSD	90206	1.934	454292	3.544	356235	4.891	199597	5.848
13 8080061	99716	1.940	450375	3.544	361024	4.891	200654	5.848
14 8090030	86299	1.928	441460	3.537	354085	4.891	193906	5.848
15 8081997	93553	1.940	450844	3.544	363069	4.891	202696	5.848
16 8090031	77899	1.934	410275	3.544	332330	4.891	181359	5.854
17 8082254	97756	1.946	441128	3.544	361539	4.891	193132	5.854
18 8090032	82754	1.928	445569	3.544	358339	4.891	197099	5.854
19 8082255	89402	1.940	405168	3.544	330454	4.891	176984	5.854
20 8090033	77014	1.922	397450	3.544	319518	4.891	174272	5.854
21 8082256	85095	1.958	405993	3.544	334400	4.897	178717	5.848
22 8090034	81989	1.940	407710	3.544	327119	4.891	189487	5.848

IS1 (TBA)=t-Butyl alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC29___

Lab File ID (Standard): dc16c01.d Date Analyzed: 10/16/15

Instrument ID: HP10534 Time Analyzed: 17:38

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	82598	1.940	413386	3.544	325602	4.897	180931	5.848
UPPER LIMIT	165196	2.440	826772	4.044	651204	5.397	361862	6.348
LOWER LIMIT	41299	1.440	206693	3.044	162801	4.397	90466	5.348
LAB SAMPLE ID								
23 8082257	96027	1.940	430707	3.544	342312	4.897	199297	5.854
24 8090035	83869	1.934	457583	3.543	367170	4.891	206090	5.848
25 8082258	106863	1.946	488587	3.544	396965	4.891	218030	5.848
26 8090037	84023	1.934	443040	3.544	352564	4.891	196823	5.848
27 8082259	107862	1.946	472392	3.544	387046	4.891	216939	5.848
28 8090038	79426	1.934	398747	3.544	323723	4.891	178568	5.848
29 8082252	103212	1.946	449202	3.544	365667	4.897	199406	5.848
30 8090039	84615	1.928	429770	3.544	349378	4.891	190771	5.848
31 8080062	95390	1.946	475597	3.544	388266	4.897	221042	5.848
32 8090040	78695	1.928	394241	3.544	320822	4.891	174197	5.848
33 8080063	107755	1.952	438049	3.544	355666	4.891	197903	5.848
34 8090079	79518	1.928	401549	3.538	324681	4.891	184497	5.848
35 8082253	85619	1.946	399153	3.544	322902	4.897	175197	5.848
36 8090080	92050	1.934	452627	3.544	360516	4.891	198338	5.848
37 8081998	89987	1.934	426670	3.544	349882	4.891	192653	5.848
38 8084019	81590	1.928	408322	3.544	334457	4.891	183192	5.848
39 8081999	103912	1.952	449779	3.550	362146	4.897	203114	5.848
40 8084020	85050	1.928	409436	3.537	334128	4.891	182031	5.848
41 8082113DL	98644	1.940	442054	3.544	357104	4.891	197359	5.848
42 8084022	84220	1.934	414817	3.537	335505	4.891	182876	5.848
43 8082124DL	88311	1.946	418021	3.544	340907	4.891	195063	5.848
44 8084023	89116	1.934	426377	3.544	348208	4.891	191355	5.848

IS1 (TBA)=t-Butyl alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_PSC29___

Lab File ID (Standard): dc16c01.d Date Analyzed: 10/16/15

Instrument ID: HP10534 Time Analyzed: 17:38

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	82598	1.940	413386	3.544	325602	4.897	180931	5.848
UPPER LIMIT	165196	2.440	826772	4.044	651204	5.397	361862	6.348
LOWER LIMIT	41299	1.440	206693	3.044	162801	4.397	90466	5.348
LAB SAMPLE ID								
45 8084024	87847	1.928	419521	3.537	336702	4.891	183026	5.848
46 8090036	95313	1.934	458112	3.544	375968	4.891	217364	5.848

IS1 (TBA)=t-Butyl alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

Sample Data

Volatiles by GC/MS-GRO

LOQ/MDL Summary
GC/MS Volatiles

SDG: PSC29

Fraction: Volatiles by GC/MS-GRO

10945: BTEX and Naphthalene Analyte Name	Default MDL	Default LOQ	Units
Benzene	0.5	1	ug/l
Toluene	0.5	1	ug/l
Ethylbenzene	0.5	1	ug/l
Xylene (Total)	0.5	1	ug/l
Naphthalene	1	4	ug/l

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s08.d Injection date and time: **15-OCT-2015 12:41**
Data file Sample Info. Line: P2901;8082120;1;0;;PSC29;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 20-Oct-2015 15:01 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **10943B**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.922	(0.018)	137	65	96914	(10)	250.00	
14) Fluorobenzene	3.538	(0.006)	402	96	474147	(7)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	370515	(9)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	198185	(5)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.958	(-0.001)	113	118009	53.434	107%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.172	(0.000)	102	29443	50.328	101%		77 - 113
16) Toluene-d8	(3)	4.318	(0.001)	98	485426	48.587	97%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	179344	48.214	96%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
1) Ethanol	(1)				Not Detected					50	250
3) t-Butyl alcohol	(1)				Not Detected					2	5
4) Methyl Tertiary Butyl Ether	(2)				Not Detected					0.5	1
5) di-Isopropyl ether	(2)				Not Detected					0.5	1
6) Ethyl t-butyl ether	(2)				Not Detected					0.5	1
11) 1,2-Dichloroethane	(2)				Not Detected					0.5	1
12) Benzene	(2)	3.440	(0.000)	78	11421	0.797	0.80		J	0.5	1
13) t-Amyl methyl ether	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
19) 1,2-Dibromoethane	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
25) Isopropylbenzene	(3)				Not Detected					0.5	2
27) 1,3,5-Trimethylbenzene	(4)				Not Detected					0.5	2
28) 1,2,4-Trimethylbenzene	(4)				Not Detected					0.5	2
30) Naphthalene	(4)				Not Detected					1	4

Digitally signed by Daniel H. Heller on 10/20/2015 at 15:02. Target 3.5 esignature user ID: dhh02035

Data file: /chem2/HP10534.i/15oct15a.b/dc15s08.d Injection date and time: **15-OCT-2015 12:41**
Data file Sample Info. Line: P2901;8082120;1;0;;PSC29;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 20-Oct-2015 15:01 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **10943B**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

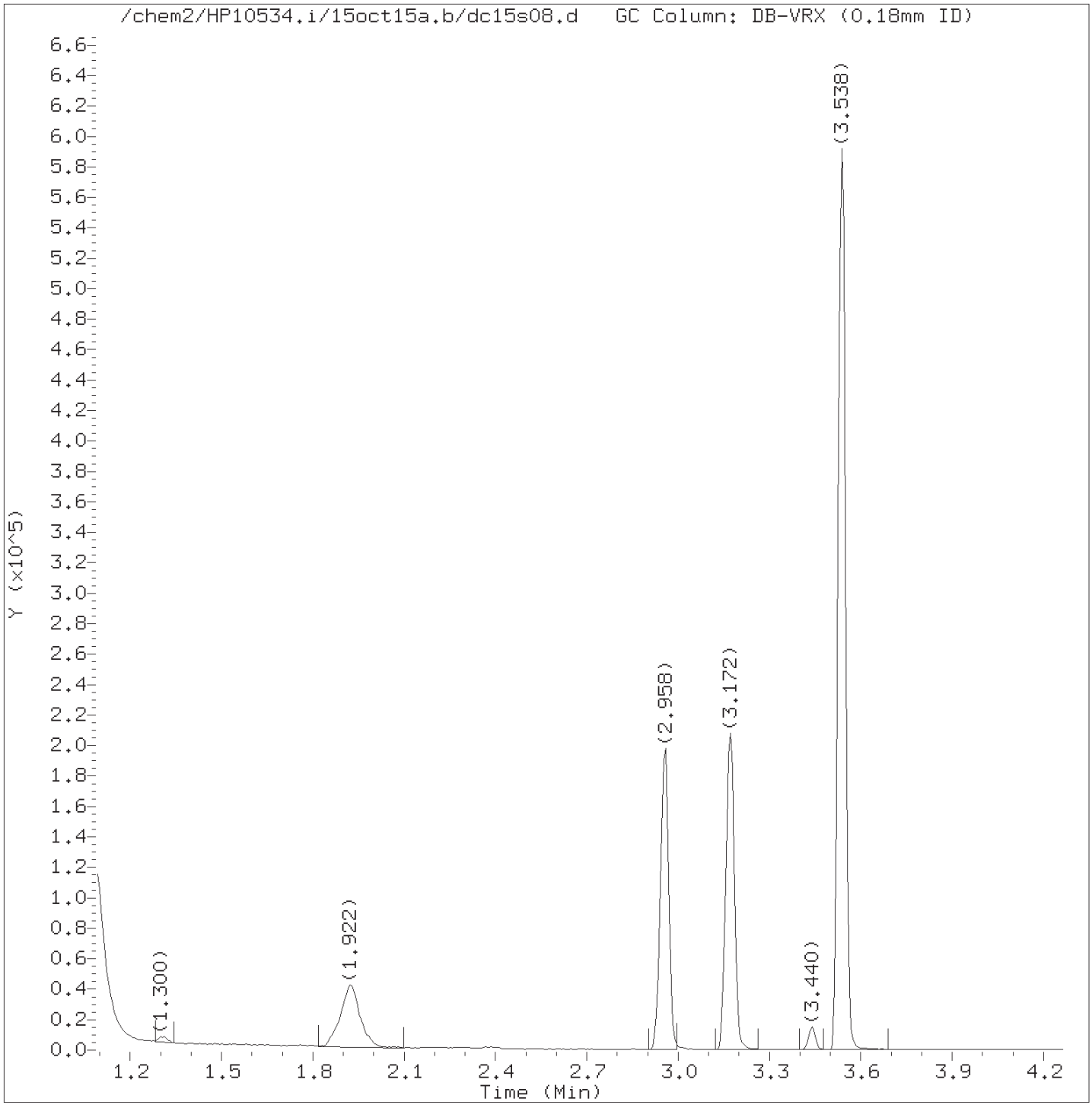
Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 18

Digitally signed by Daniel H. Heller on 10/20/2015 at 15:02. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/20/2015 at 16:11. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

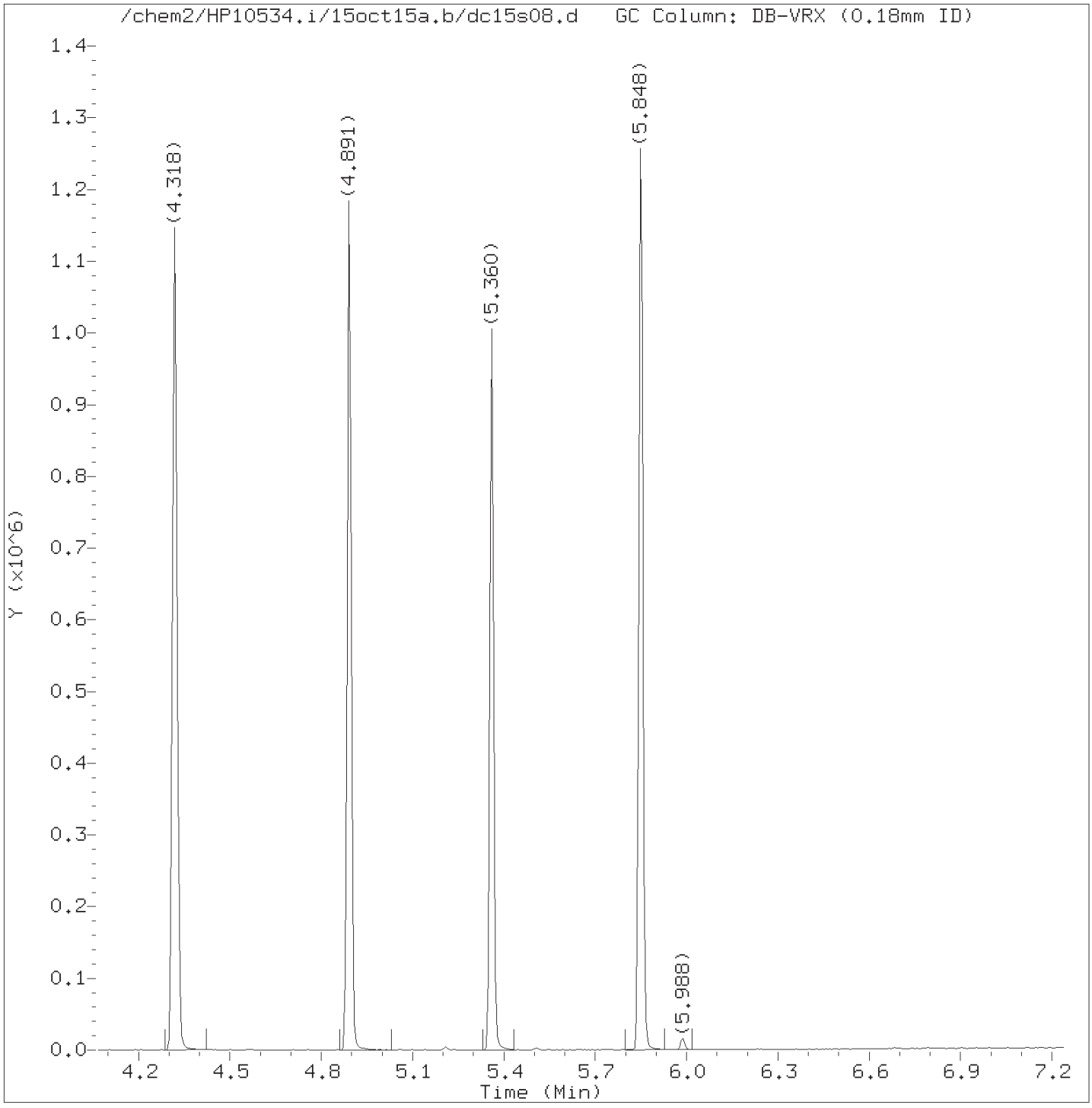
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s08.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:41 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 20-Oct-2015 15:01 dhh02035

Sample Name: P2901 Lab Sample ID: 8082120

Digitally signed by Daniel H. Heller
on 10/20/2015 at 15:02.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s08.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:41 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 20-Oct-2015 15:01 dhh02035

Sample Name: P2901 Lab Sample ID: 8082120

Digitally signed by Daniel H. Heller
on 10/20/2015 at 15:02.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s08.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:41 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 20-Oct-2015 15:01 dhh02035

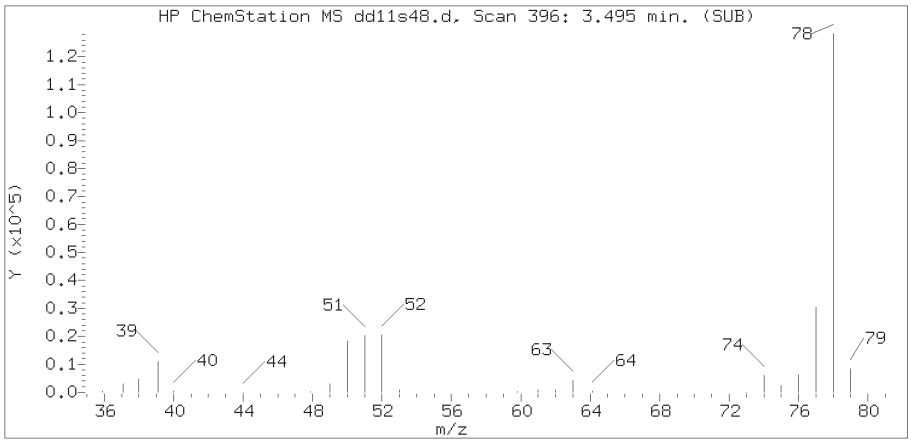
Sample Name: P2901 Lab Sample ID: 8082120

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.922	65	96914	250.000
7)$Dibromofluoromethane	(2)	2.958	113	118009	53.434
10)$1,2-Dichloroethane-d4	(2)	3.172	102	29443	50.328
12) Benzene	(2)	3.440	78	11421	0.797
14)*Fluorobenzene	(2)	3.538	96	474147	50.000
16)$Toluene-d8	(3)	4.318	98	485426	48.587
20)*Chlorobenzene-d5	(3)	4.891	117	370515	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	179344	48.214
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	198185	50.000

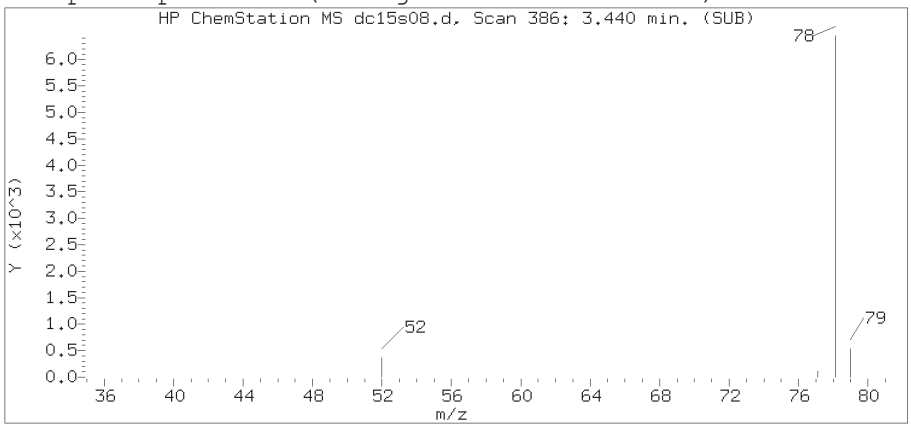
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/20/2015 at 15:02.
Target 3.5 esignature user ID: dhh02035

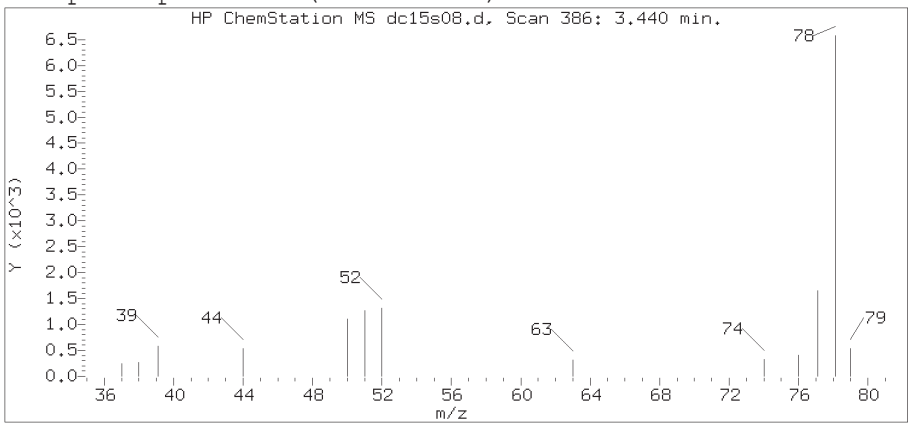
Reference Standard Spectrum for Benzene

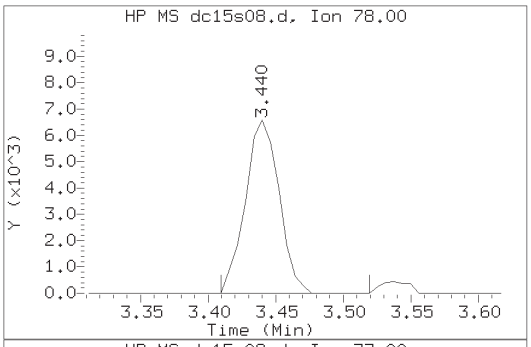


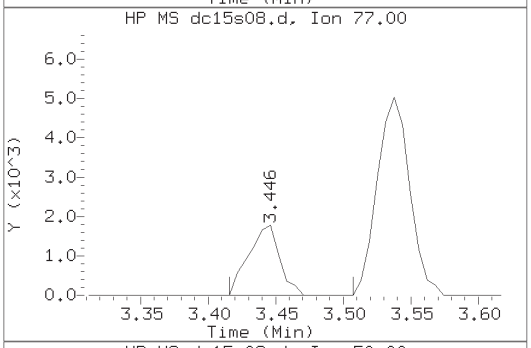
Sample Spectrum (Background Subtracted)

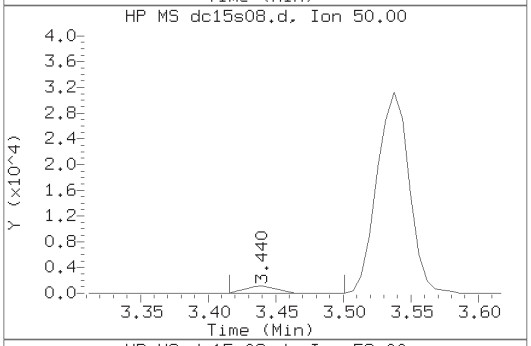


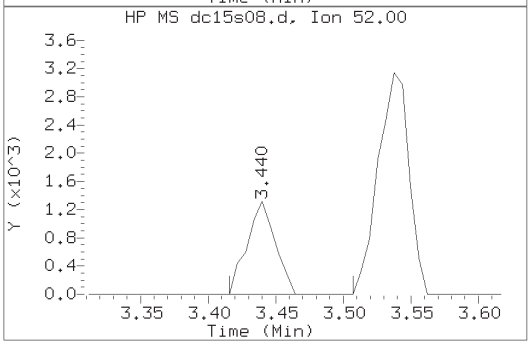
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s08.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:41 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 20-Oct-2015 15:01 dhh02035

Sample Name: P2901 Lab Sample ID: 8082120

Compound Number : 12
Compound Name : Benzene
Scan Number : 386
Retention Time (minutes): 3.440
Relative Retention Time : 0.00004
Quant Ion : 78.00
Area (flag) : 11421
On-Column Amount (ng) : 0.7970

Digitally signed by Daniel H. Heller on 10/20/2015 at 15:02.
Target 3.5 esignature [illegible] dhh02035

P2901 Lancaster Laboratories 8082120
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s08.d Injection date and time: **15-OCT-2015 12:41**
Data file Sample Info. Line: P2901;8082120;1;0;;PSC29;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 12:50 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.922	(0.018)	137	65	96914	(10)	250.00	
14) Fluorobenzene	3.538	(0.006)	402	96	474147	(7)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	370515	(9)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	198185	(5)	50.00	

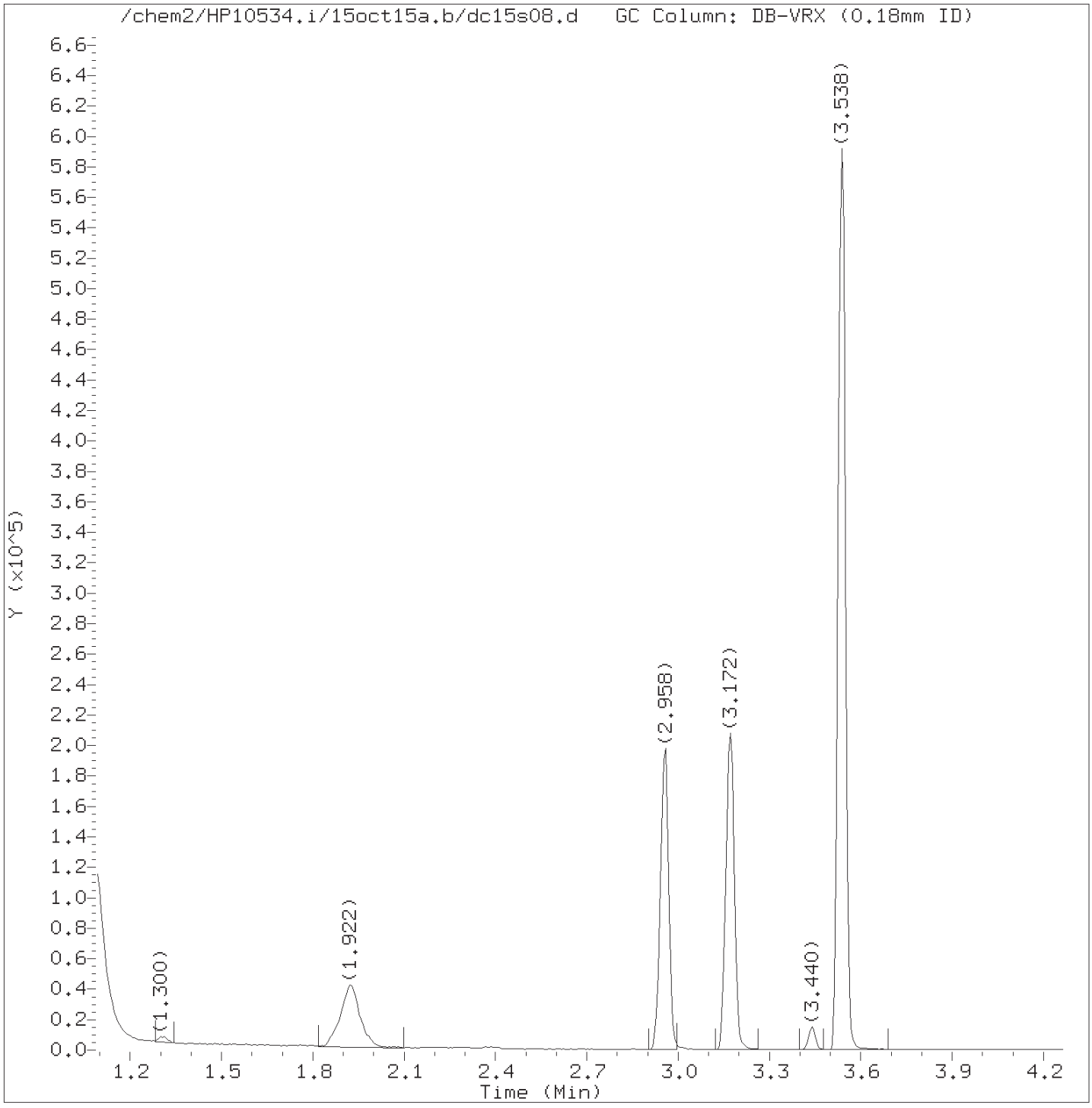
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.958	(-0.001)	113	118009	53.434	107%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.172	(0.000)	102	29443	50.328	101%		77 - 113
16) Toluene-d8	(3)	4.318	(0.001)	98	485426	48.587	97%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	179344	48.214	96%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)	3.440	(0.000)	78	11421	0.797	0.80		J	0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
30) Naphthalene	(4)				Not Detected					1	4

Total number of targets = 7

Digitally signed by Daniel H. Heller on 10/15/2015 at 14:25. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/20/2015 at 16:11. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

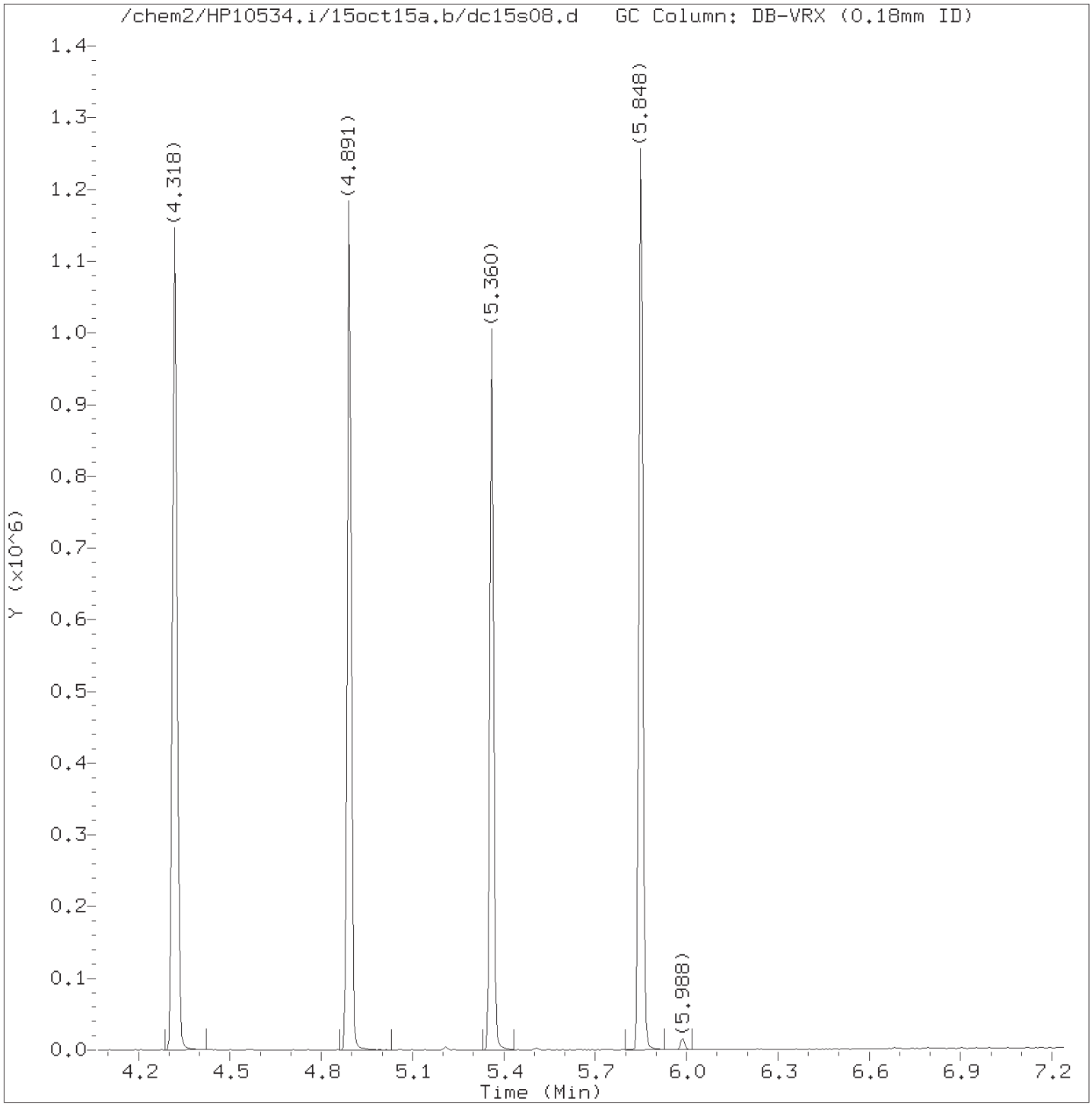
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s08.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:41 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 12:50 Unknown

Sample Name: P2901 Lab Sample ID: 8082120

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:25.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s08.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:41 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 12:50 Unknown

Sample Name: P2901 Lab Sample ID: 8082120

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:25.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s08.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:41 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 12:50 Unknown

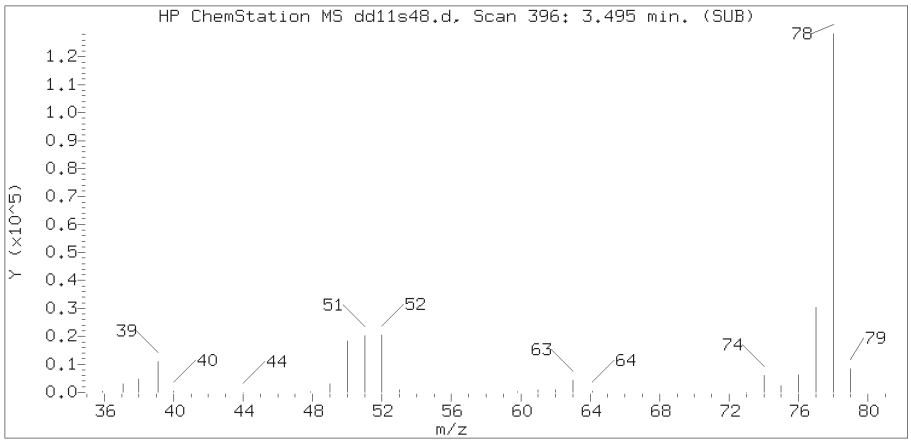
Sample Name: P2901 Lab Sample ID: 8082120

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.922	65	96914	250.000
7)$Dibromofluoromethane	(2)	2.958	113	118009	53.434
10)$1,2-Dichloroethane-d4	(2)	3.172	102	29443	50.328
12) Benzene	(2)	3.440	78	11421	0.797
14)*Fluorobenzene	(2)	3.538	96	474147	50.000
16)$Toluene-d8	(3)	4.318	98	485426	48.587
20)*Chlorobenzene-d5	(3)	4.891	117	370515	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	179344	48.214
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	198185	50.000

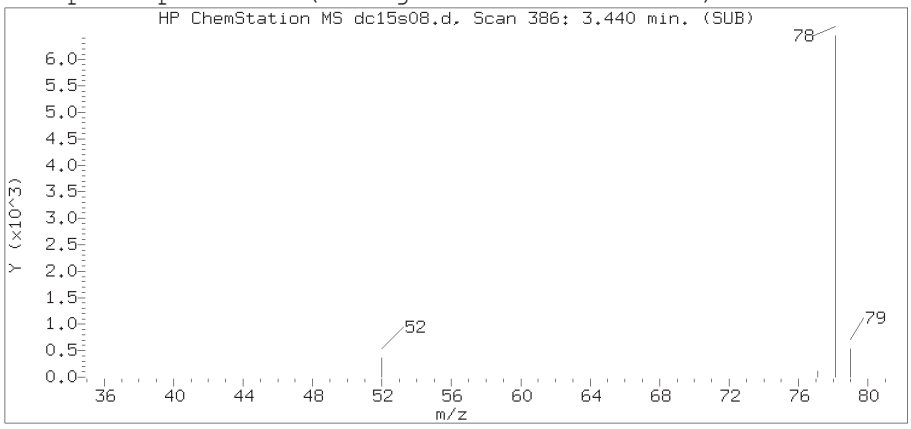
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:25.
Target 3.5 esignature user ID: dhh02035

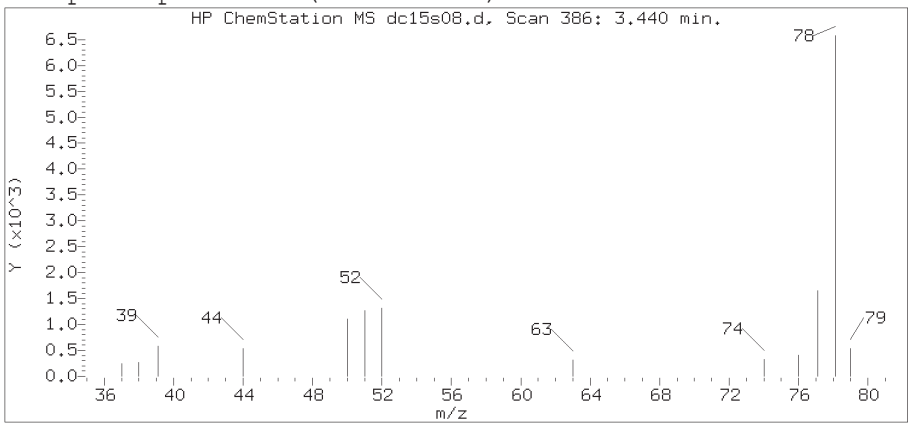
Reference Standard Spectrum for Benzene

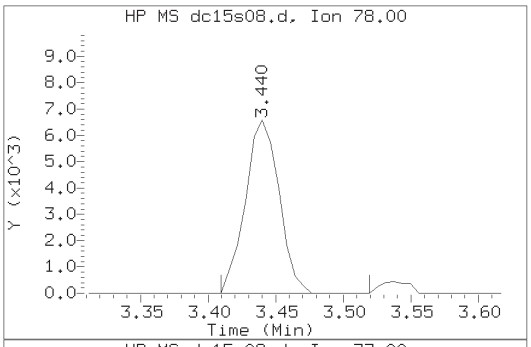


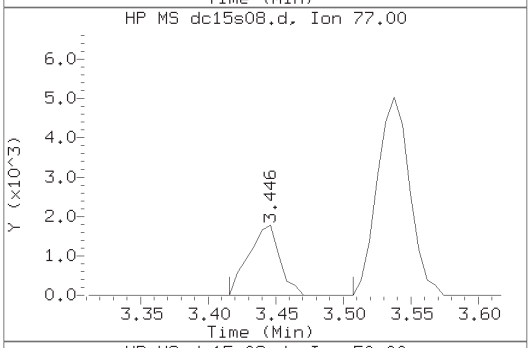
Sample Spectrum (Background Subtracted)

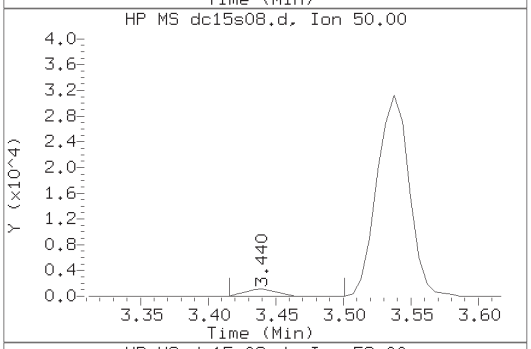


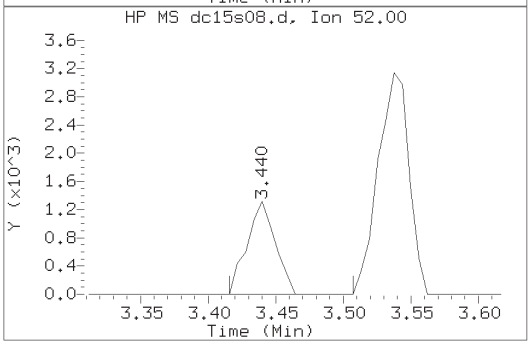
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s08.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 12:41 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 12:50 Unknown

Sample Name: P2901 Lab Sample ID: 8082120

Compound Number : 12
Compound Name : Benzene
Scan Number : 386
Retention Time (minutes): 3.440
Relative Retention Time : 0.00004
Quant Ion : 78.00
Area (flag) : 11421
On-Column Amount (ng) : 0.7970

Digitally signed by Daniel H. Heller on 10/15/2015 at 14:25.
Target 3.5 esignature [illegible] dhh02035

P2902 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8082124

Data file: /chem2/HP10534.i/15oct15a.b/dc15s14.d Injection date and time: **15-OCT-2015 13:50**
Data file Sample Info. Line: P2902;8082124;1;0;;PSC29;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 14:24 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **5.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 1 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.934	(0.006)	139	65	102669	(16)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	495539	(12)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	386794	(13)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	226287	(19)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.965	(-0.002)	113	119257	51.668	103%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	30571	50.000	100%		77 - 113
16) Toluene-d8	(3)	4.324	(0.000)	98	497079	47.659	95%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	197730	50.920	102%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)	3.446	(-0.000)	78	1146288	76.536	382.68			3	5
17) Toluene	(3)	4.348	(-0.000)	92	700433	70.625	353.13			3	5
21) Ethylbenzene	(3)	4.982	(0.000)	91	1971401	106.156	530.78			3	5
22) m+p-Xylene	(3)	5.056	(0.000)	106	693996	97.653	488.27			3	5
23) o-Xylene	(3)	5.208	(0.000)	106	410240	58.637	293.18			3	5
24) Xylene (Total)	(3)			106	1104236	156.290	781.45			3	5
30) Naphthalene	(4)	6.793	(-0.001)	128	8013994	454.857	2274.29		E	5	20

E = Compound concentration above calibration range.

Total number of targets = 7

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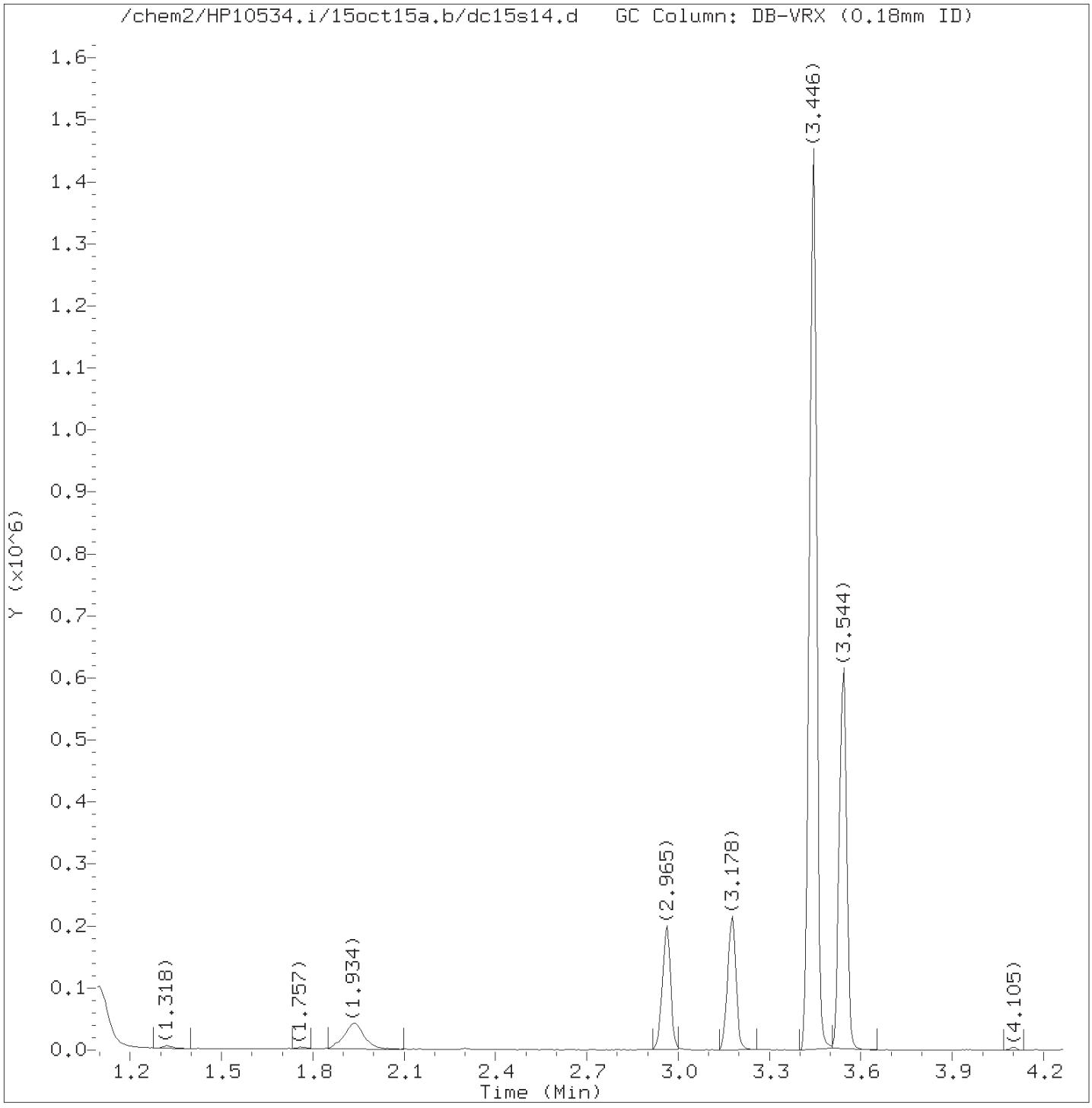
Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:22. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

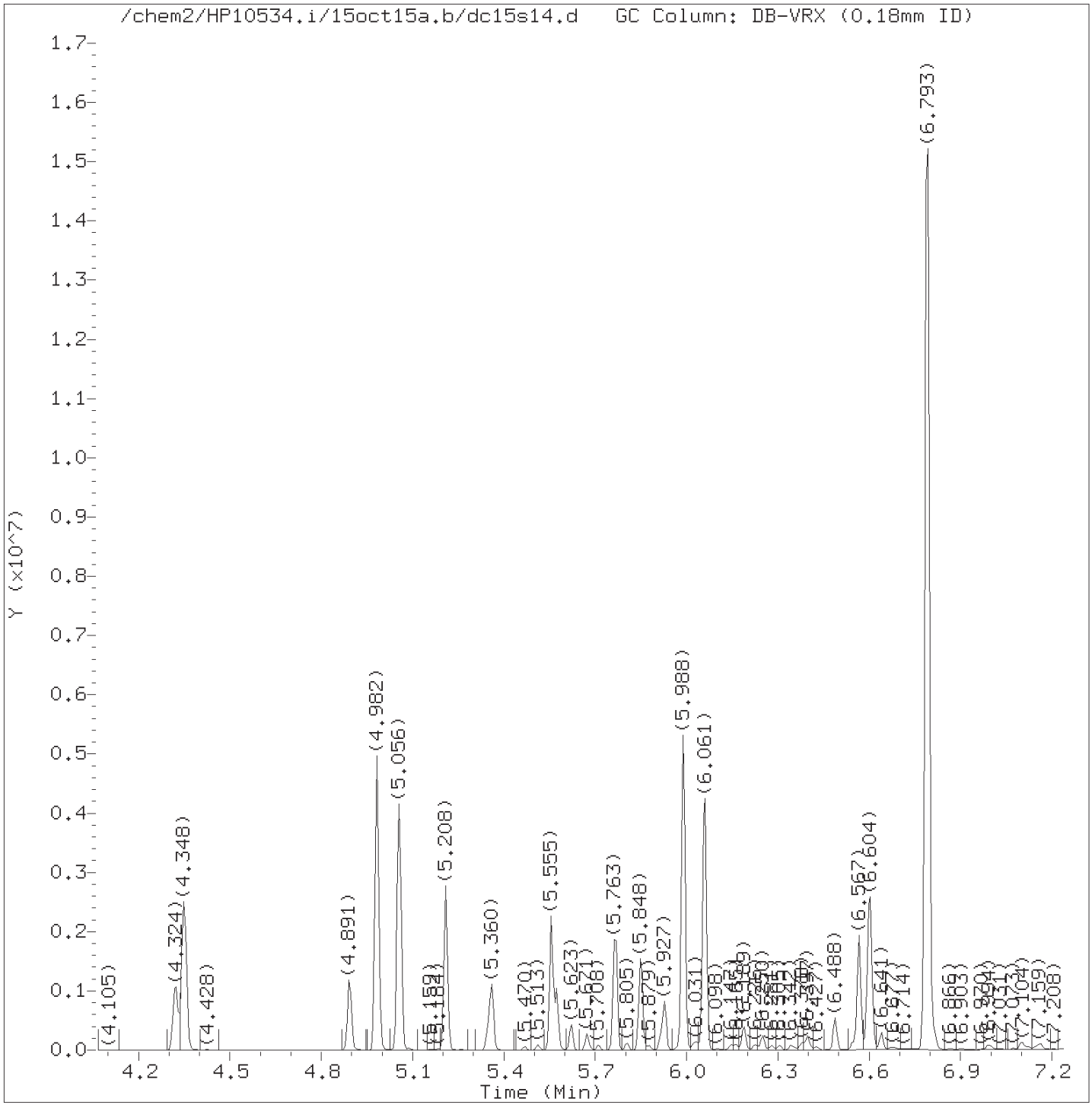
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s14.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:50 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 14:24 dhh02035

Sample Name: P2902 Lab Sample ID: 8082124

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:26.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s14.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:50 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 14:24 dhh02035

Sample Name: P2902 Lab Sample ID: 8082124

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:26.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s14.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:50 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 14:24 dhh02035

Sample Name: P2902 Lab Sample ID: 8082124

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.934	65	102669	250.000
7)$Dibromofluoromethane	(2)	2.965	113	119257	51.668
10)$1,2-Dichloroethane-d4	(2)	3.178	102	30571	50.000
12) Benzene	(2)	3.446	78	1146288	76.536
14)*Fluorobenzene	(2)	3.544	96	495539	50.000
16)$Toluene-d8	(3)	4.324	98	497079	47.659
17) Toluene	(3)	4.348	92	700433	70.625
20)*Chlorobenzene-d5	(3)	4.891	117	386794	50.000
21) Ethylbenzene	(3)	4.982	91	1971401	106.156
22) m+p-Xylene	(3)	5.056	106	693996	97.653
23) o-Xylene	(3)	5.208	106	410240	58.637
24) Xylene (Total)	(3)		106	1104236	156.290
26)$4-Bromofluorobenzene	(3)	5.360	95	197730	50.920
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	226287	50.000
30) Naphthalene	(4)	6.793	128	8013994	454.857

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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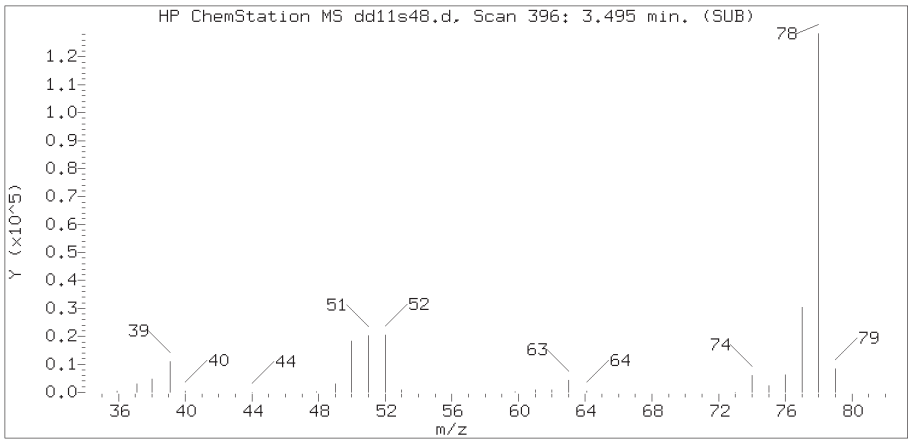
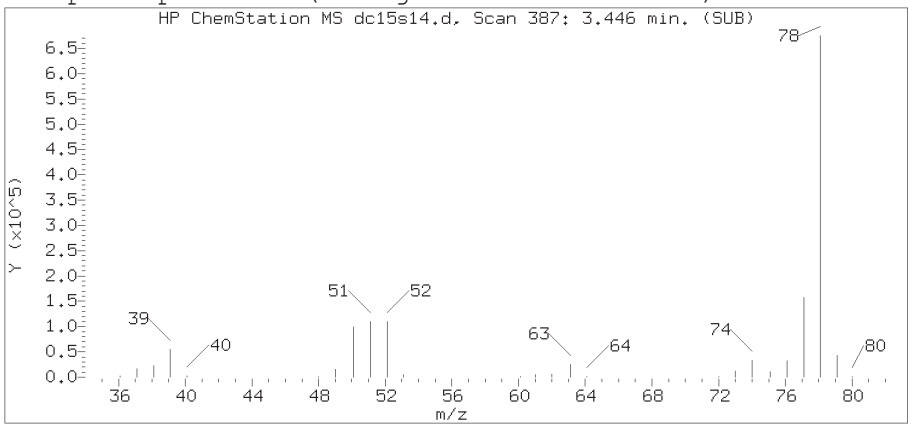
on 10/15/2015 at 14:26.
Target 3.5 esignature user ID: dhh02035

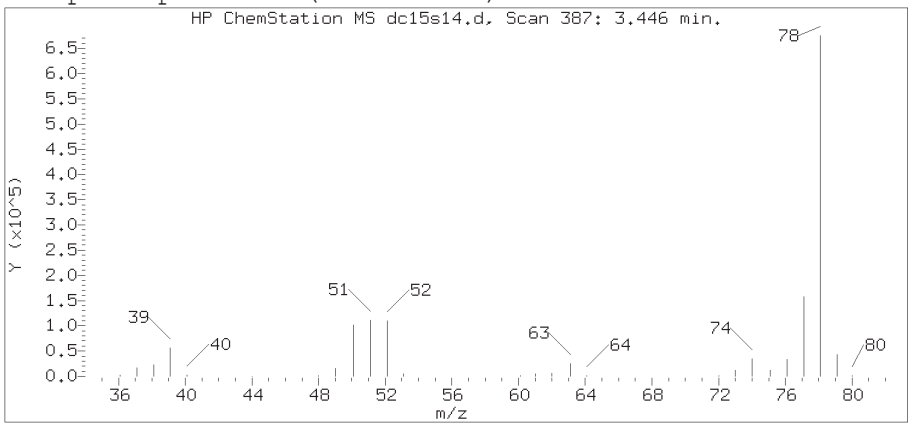
Reference Standard Spectrum for Benzene

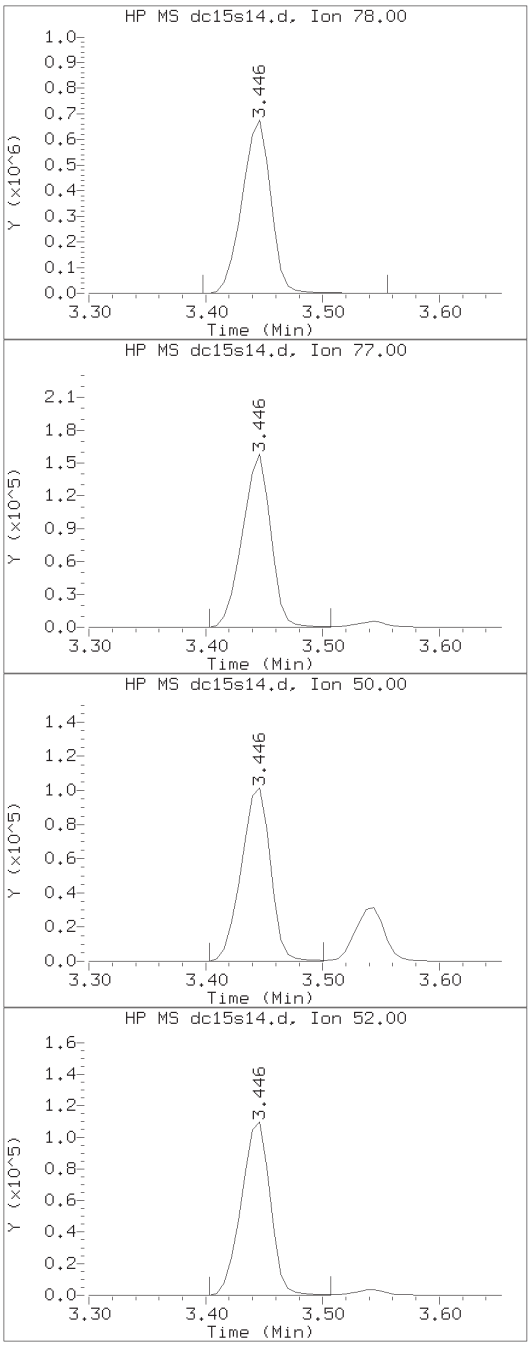


Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)





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Injection date and time: 15-OCT-2015 13:50 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 14:24 dhh02035

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number : 12
Compound Name : Benzene
Scan Number : 387
Retention Time (minutes): 3.446
Relative Retention Time :-0.00000
Quant Ion : 78.00
Area (flag) : 1146288
On-Column Amount (ng) : 76.5358

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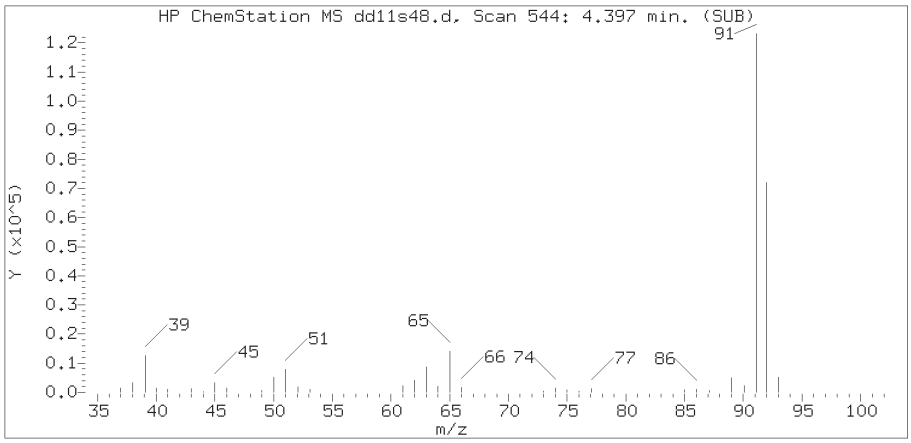
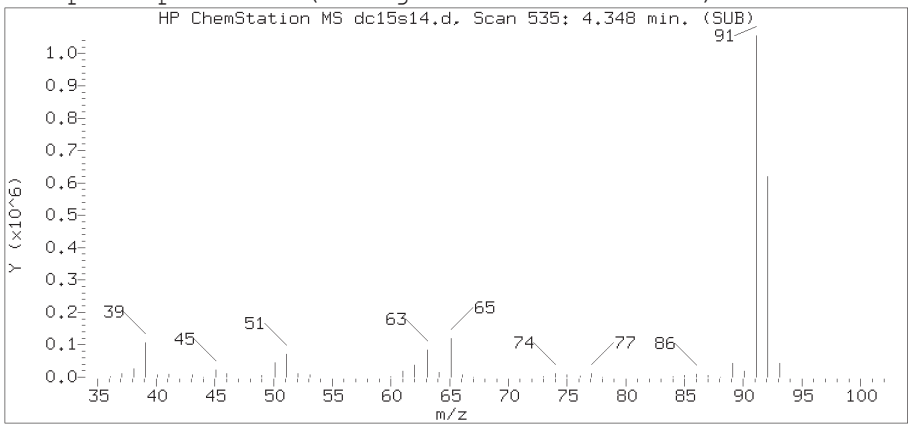
Target 3.5 esignature [illegible] dhh02035

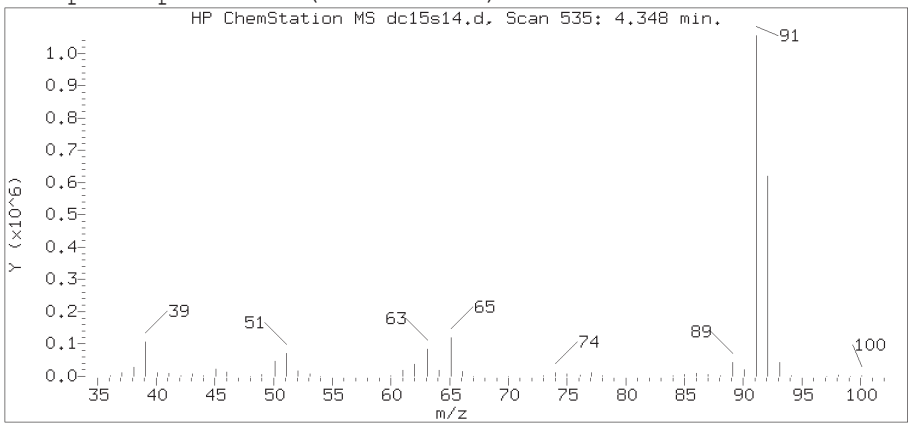
Reference Standard Spectrum for Toluene

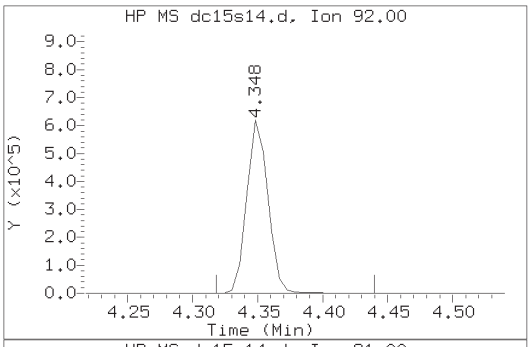


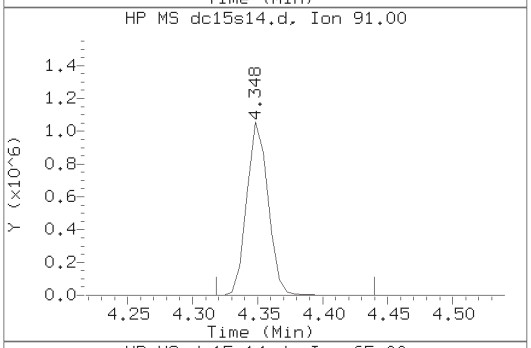
Sample Spectrum (Background Subtracted)

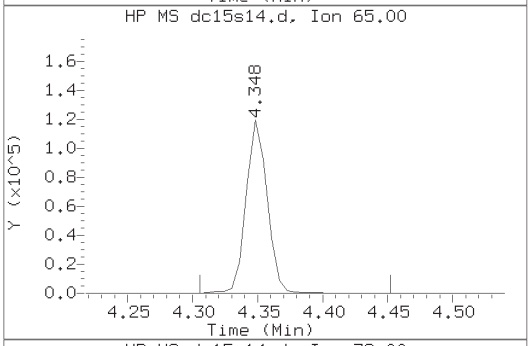


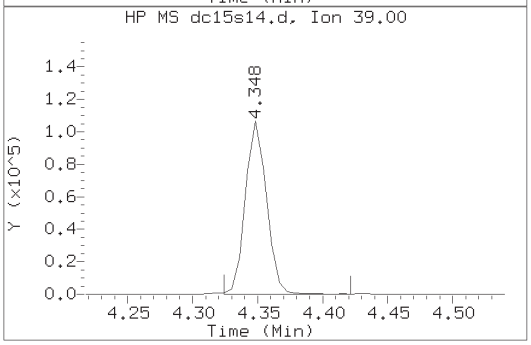
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s14.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:50 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 14:24 dhh02035

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number : 17
Compound Name : Toluene
Scan Number : 535
Retention Time (minutes): 4.348
Relative Retention Time :-0.00000
Quant Ion : 92.00
Area (flag) : 700433
On-Column Amount (ng) : 70.6253

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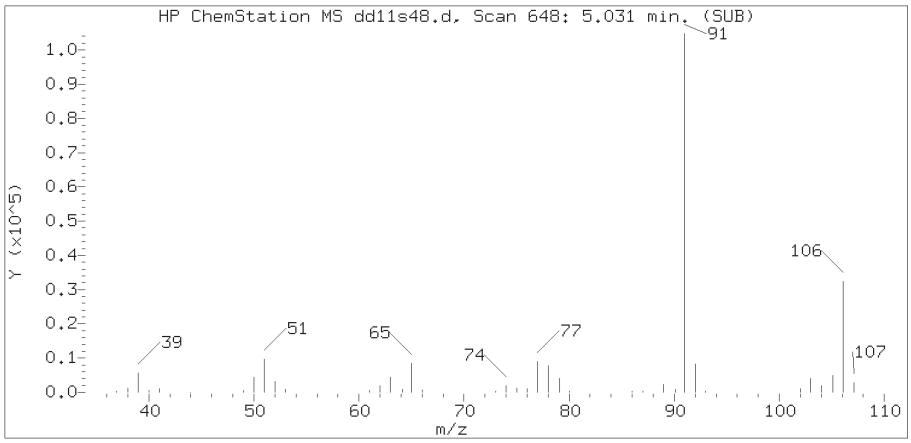
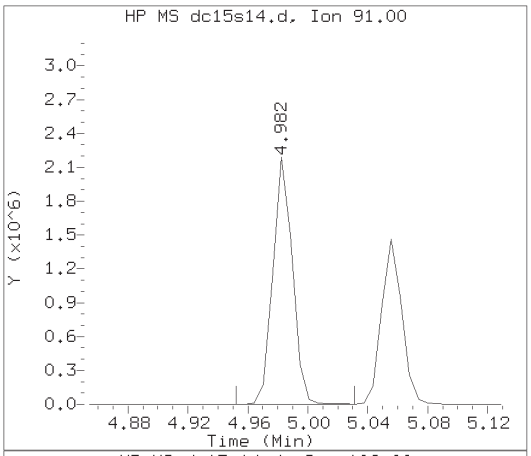
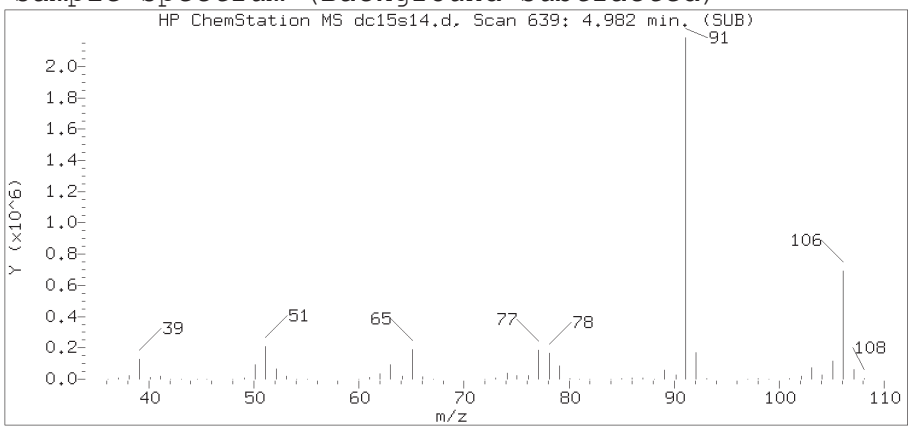
Target 3.5 esignature [illegible] dhh02035

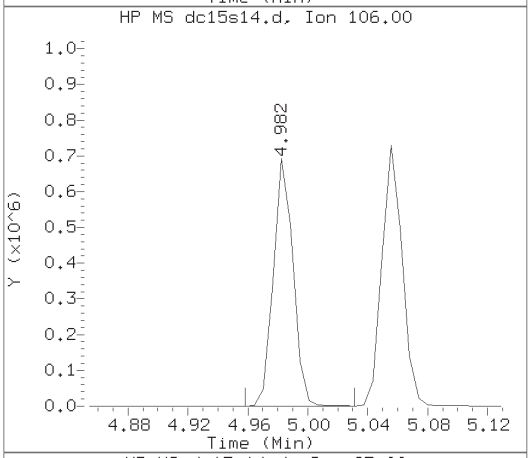
Reference Standard Spectrum for Ethylbenzene



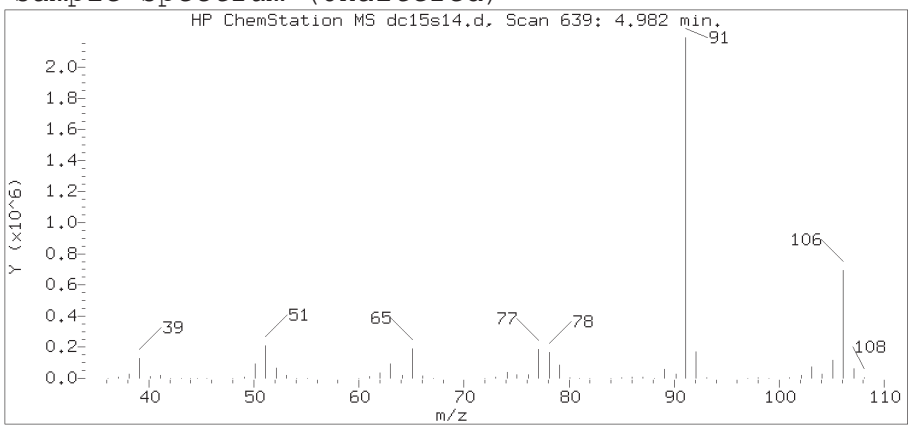


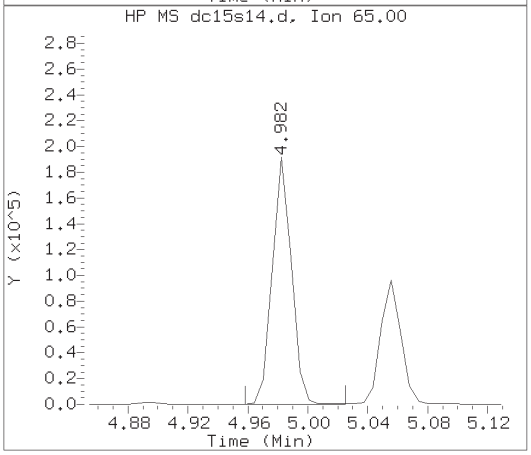
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP10534.i/15oct15a.b/dc15s14.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:50 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 14:24 dhh02035

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number : 21
Compound Name : Ethylbenzene
Scan Number : 639
Retention Time (minutes): 4.982
Relative Retention Time : 0.00000
Quant Ion : 91.00
Area (flag) : 1971401
On-Column Amount (ng) : 106.1558

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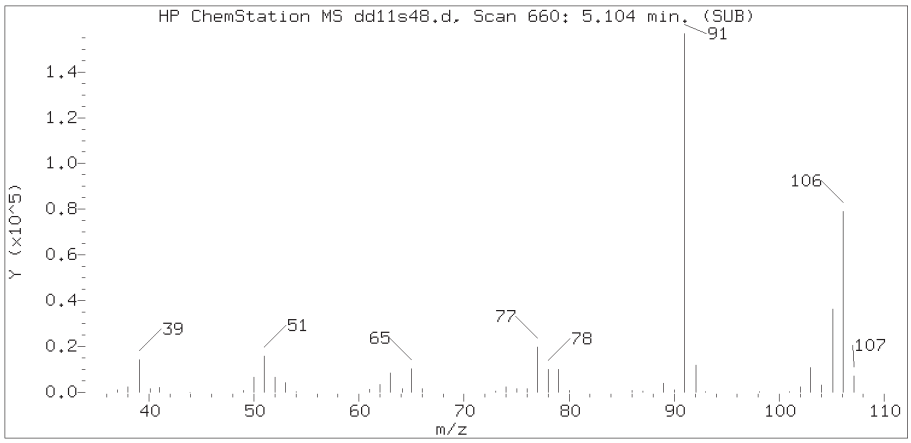
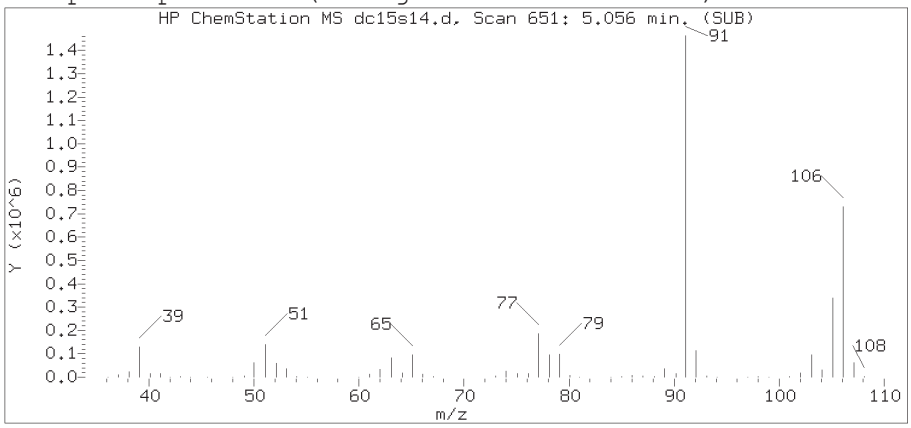
Target 3.5 esignature [illegible] dhh02035

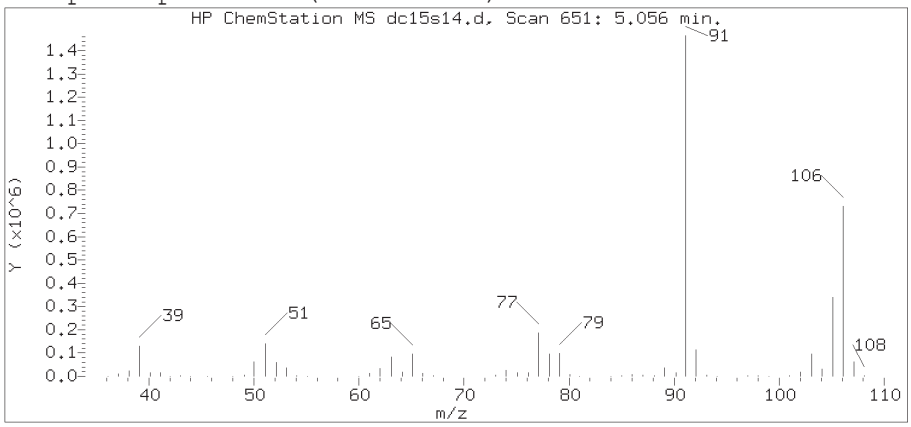
Reference Standard Spectrum for m+p-Xylene

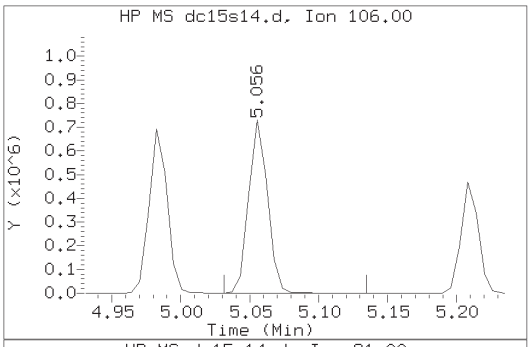


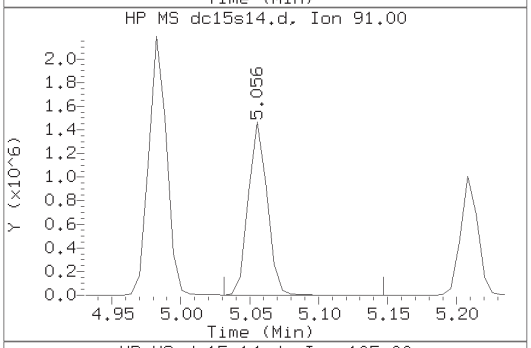
Sample Spectrum (Background Subtracted)

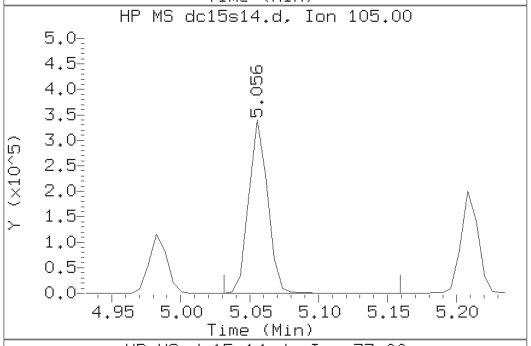


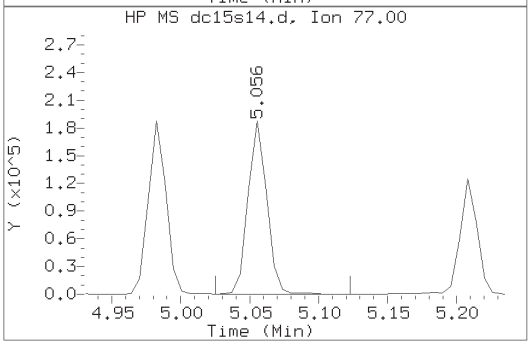
Sample Spectrum (Unaltered)











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Injection date and time: 15-OCT-2015 13:50 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 14:24 dhh02035

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number	: 22
Compound Name	: m+p-Xylene
Scan Number	: 651
Retention Time (minutes)	: 5.056
Relative Retention Time	: 0.00000
Quant Ion	: 106.00
Area (flag)	: 693996
On-Column Amount (ng)	: 97.6530

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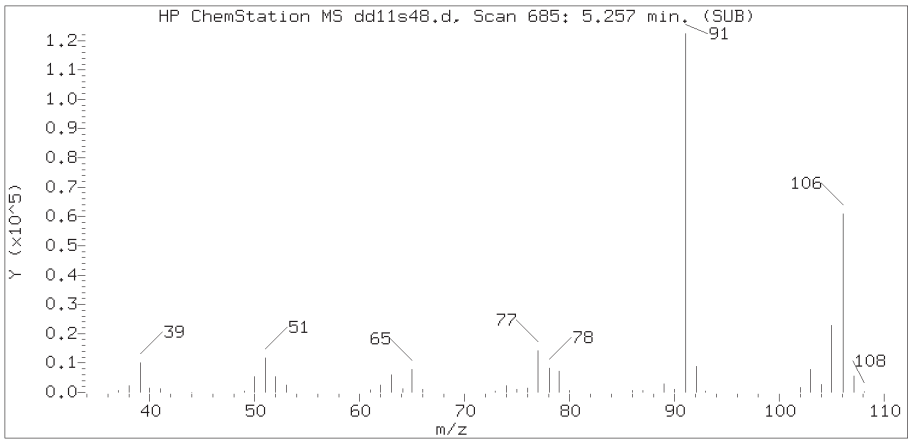
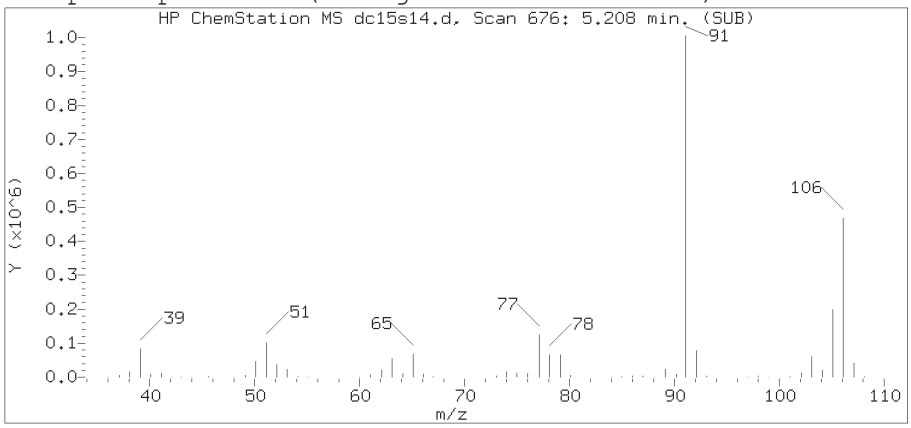
Target 3.5 esignature [illegible] dhh02035

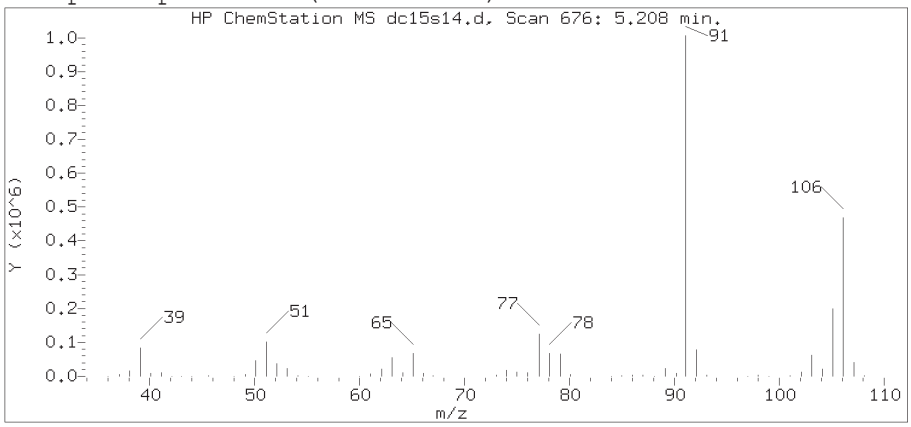
Reference Standard Spectrum for o-Xylene

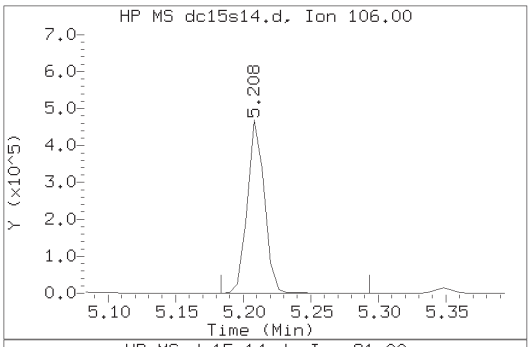


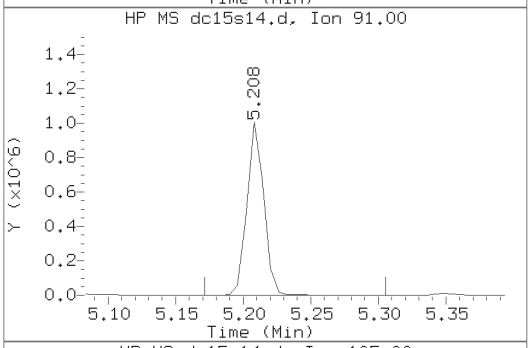
Sample Spectrum (Background Subtracted)

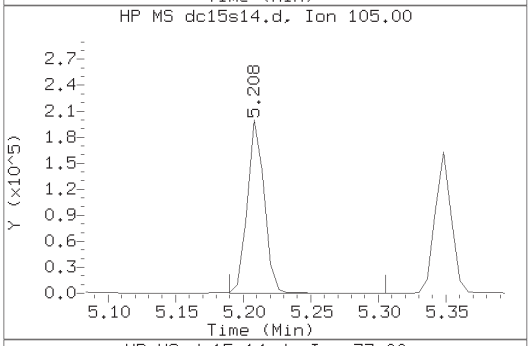


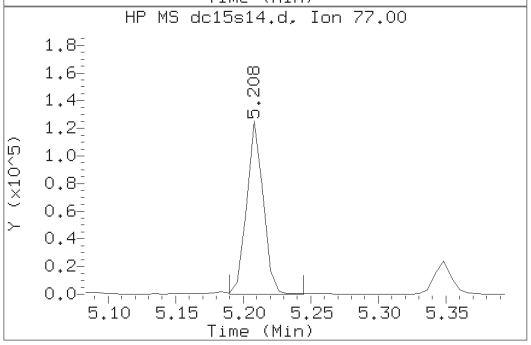
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s14.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:50 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 14:24 dhh02035

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number	: 23
Compound Name	: o-Xylene
Scan Number	: 676
Retention Time (minutes)	: 5.208
Relative Retention Time	: 0.00000
Quant Ion	: 106.00
Area (flag)	: 410240
On-Column Amount (ng)	: 58.6369

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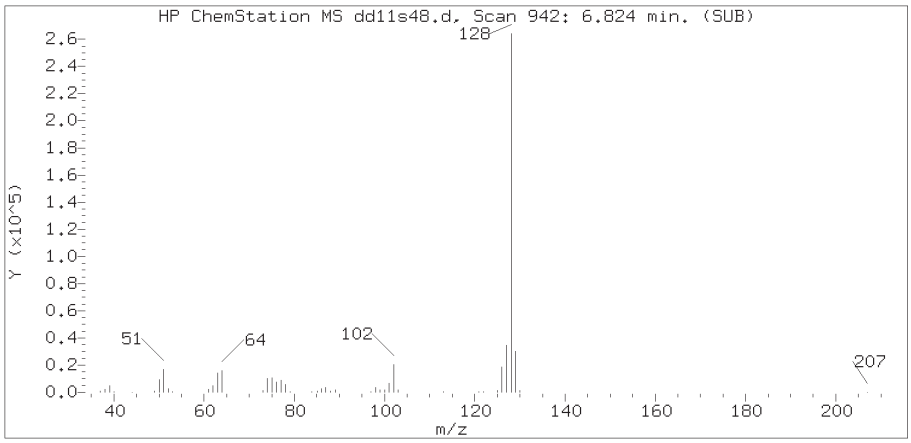
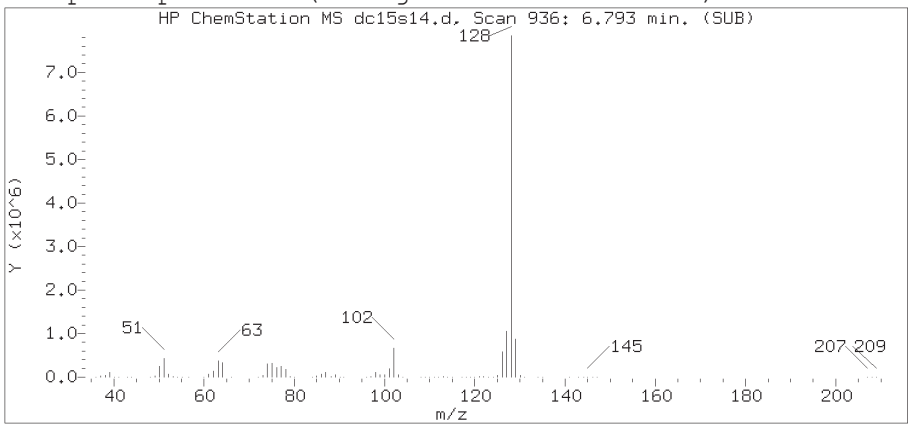
Target 3.5 esignature [illegible] dhh02035

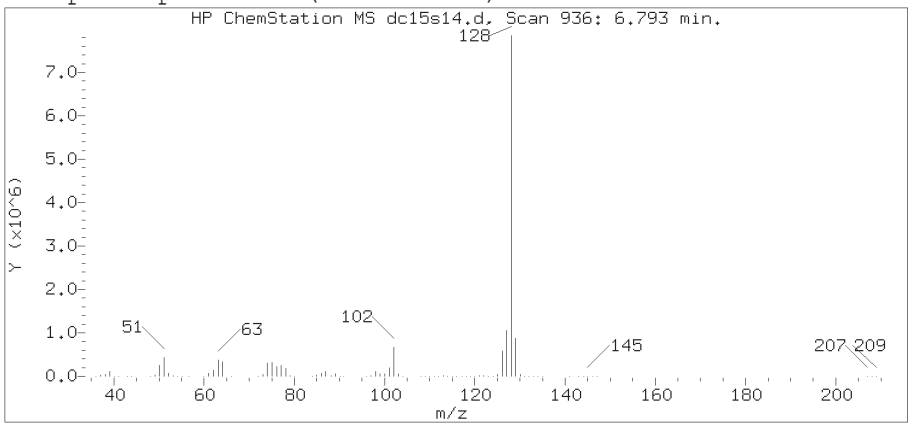
Reference Standard Spectrum for Naphthalene

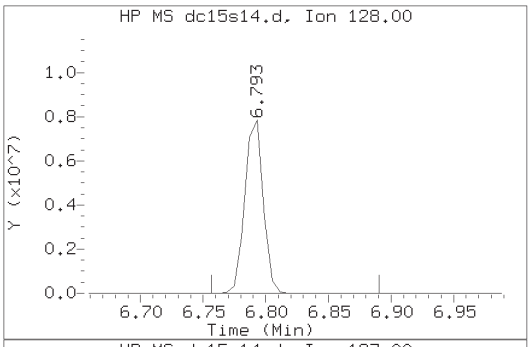


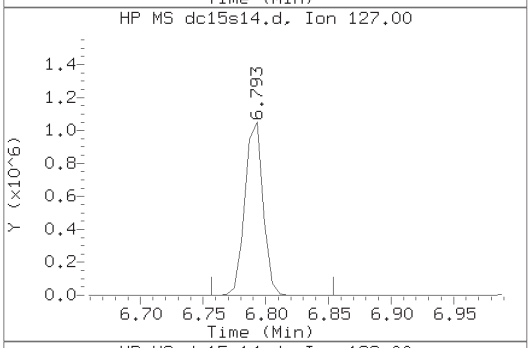
Sample Spectrum (Background Subtracted)

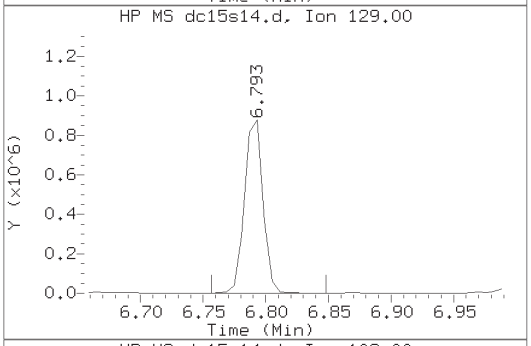


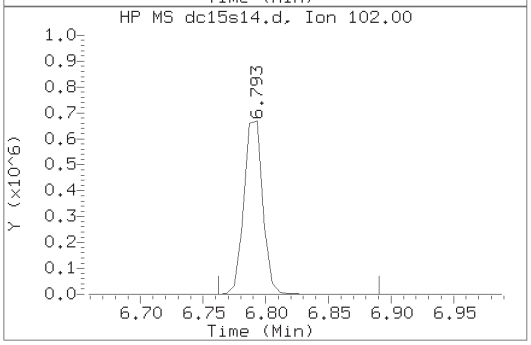
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s14.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:50 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 14:24 dhh02035

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number : 30
Compound Name : Naphthalene
Scan Number : 936
Retention Time (minutes): 6.793
Relative Retention Time :-0.00121
Quant Ion : 128.00
Area (flag) : 8013994
On-Column Amount (ng) : 454.8574

Digitally signed by Daniel H. Heller on 10/15/2015 at 14:26.
Target 3.5 esignature [illegible] dhh02035

P2902DL

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8082124DL

Data file: /chem2/HP10534.i/15oct16a.b/dc16s41.d Injection date and time: **17-OCT-2015 02:21**
Data file Sample Info. Line: P2902DL;8082124DL;1;0;;PSC29;;;dc16b01; Instrument ID: **HP10534.i** Batch: **D152891AA**
Date, time and analyst ID of latest file update: 17-Oct-2015 02:31 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct16a.b/dc16b01.d**

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 16-OCT-2015 17:48
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct16a.b/dc16c01.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **50.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.1 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946	(-0.006)	141	65	88311	(7)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	418021	(1)	50.00	
20) Chlorobenzene-d5	4.891	(0.006)	624	117	340907	(5)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.000)	781	152	195063	(8)	50.00	

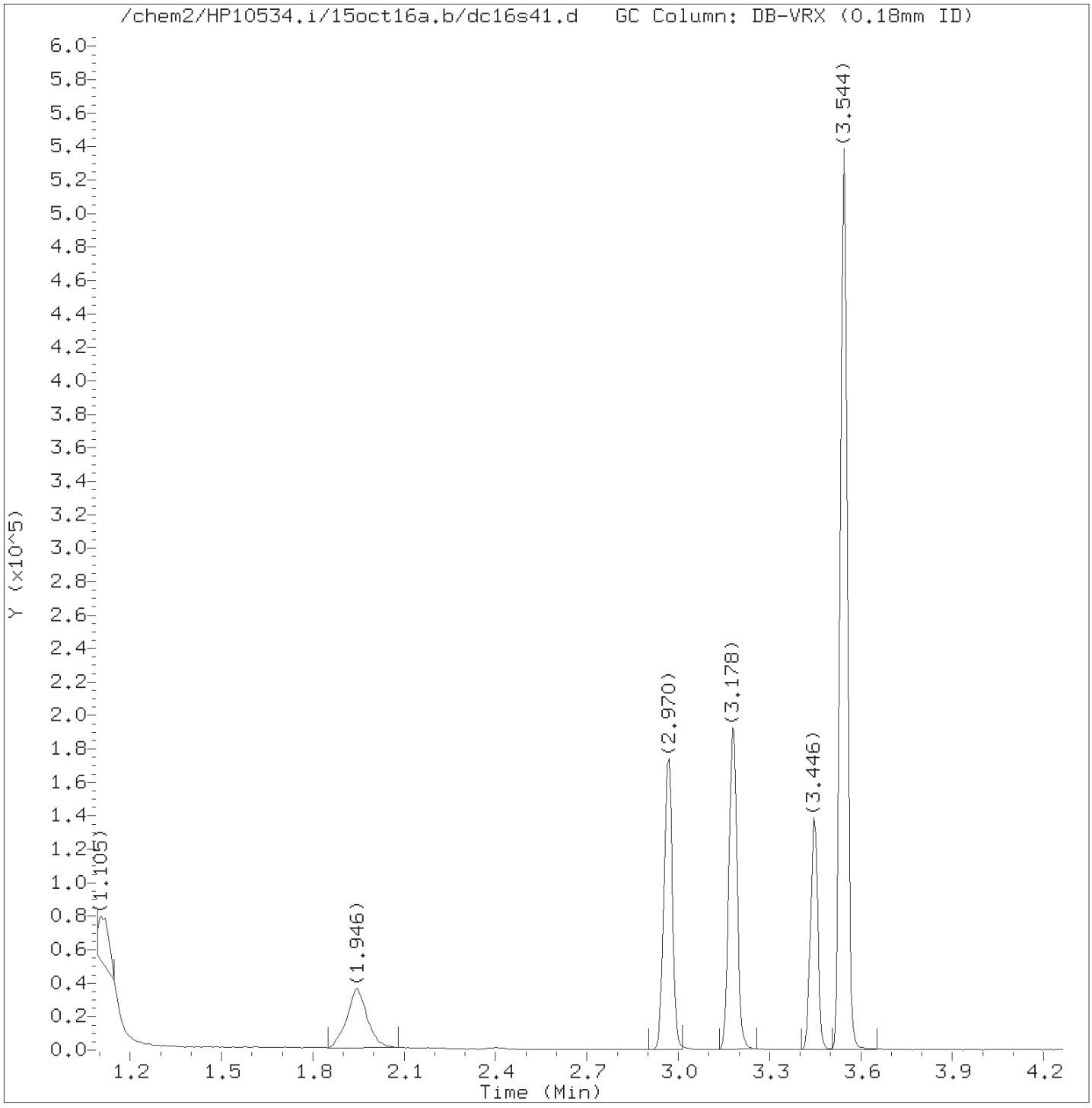
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.970	(-0.002)	113	105255	54.008	108%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	26850	51.725	103%		77 - 113
16) Toluene-d8	(3)	4.324	(-0.001)	98	429525	46.845	94%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(-0.001)	95	169990	49.751	100%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)	3.446	(-0.000)	78	109686	8.874	443.68			25	50
17) Toluene	(3)	4.348	(-0.001)	92	68037	7.868	393.41			25	50
21) Ethylbenzene	(3)	4.982	(-0.001)	91	183186	11.319	565.93			25	50
22) m+p-Xylene	(3)	5.055	(-0.001)	106	63845	10.201	510.03			25	50
23) o-Xylene	(3)	5.208	(-0.001)	106	36200	5.960	298.02			25	50
24) Xylene (Total)	(3)			106	100045	16.161	808.05			25	50
30) Naphthalene	(4)	6.787	(-0.001)	128	939131	62.700	3135.00			50	200

Total number of targets = 7

Digitally signed by Hu Yang on 10/18/2015 at 21:51. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/19/2015 at 15:05. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

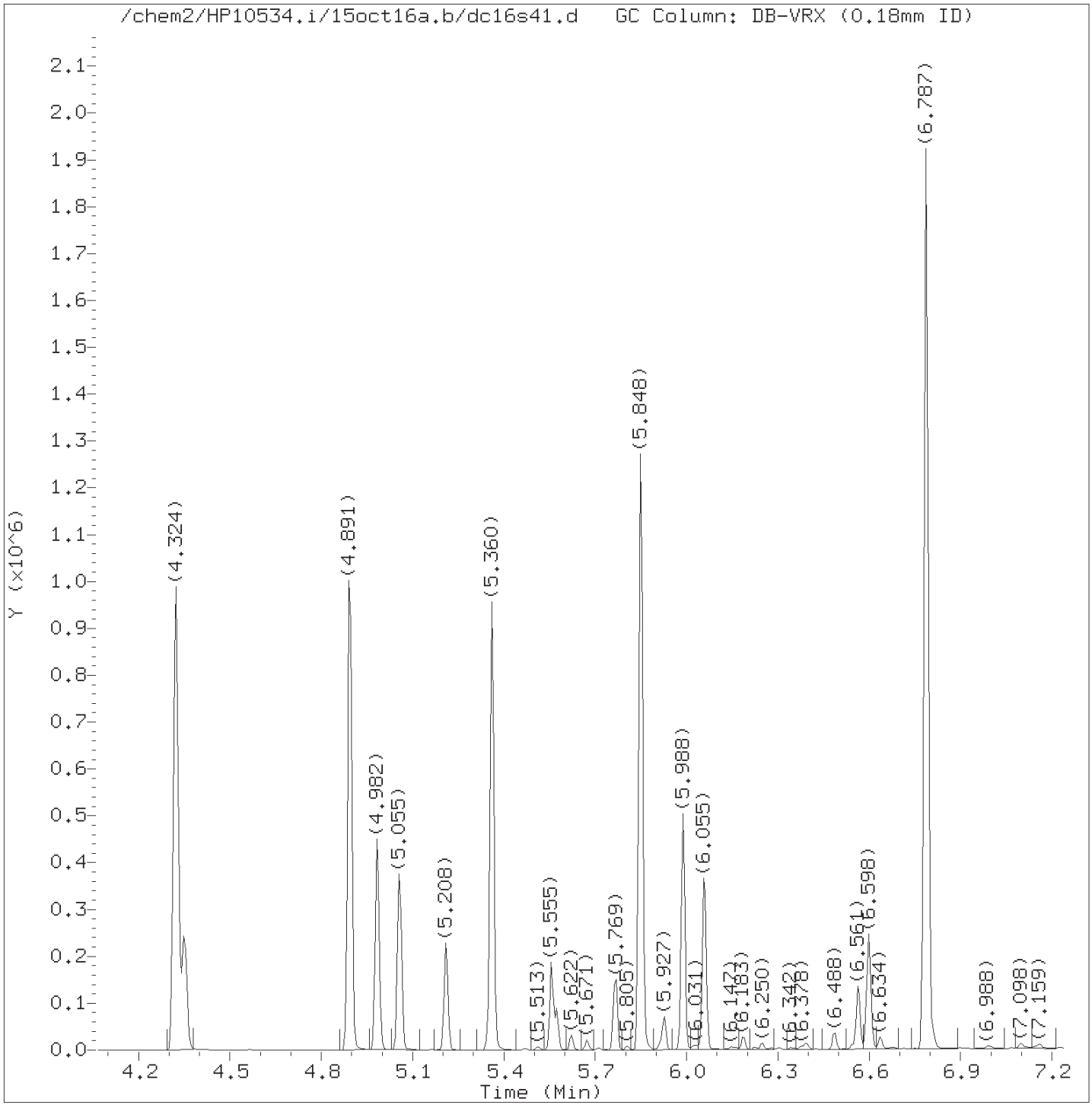
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16s41.d Instrument ID: HP10534.i
Injection date and time: 17-OCT-2015 02:21 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 17-Oct-2015 02:31 Unknown

Sample Name: P2902DL Lab Sample ID: 8082124DL

Digitally signed by Hu Yang
on 10/18/2015 at 21:51.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16s41.d Instrument ID: HP10534.i
Injection date and time: 17-OCT-2015 02:21 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 17-Oct-2015 02:31 Unknown

Sample Name: P2902DL Lab Sample ID: 8082124DL

Digitally signed by Hu Yang
on 10/18/2015 at 21:51.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16s41.d Instrument ID: HP10534.i
Injection date and time: 17-OCT-2015 02:21 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 17-Oct-2015 02:31 Unknown

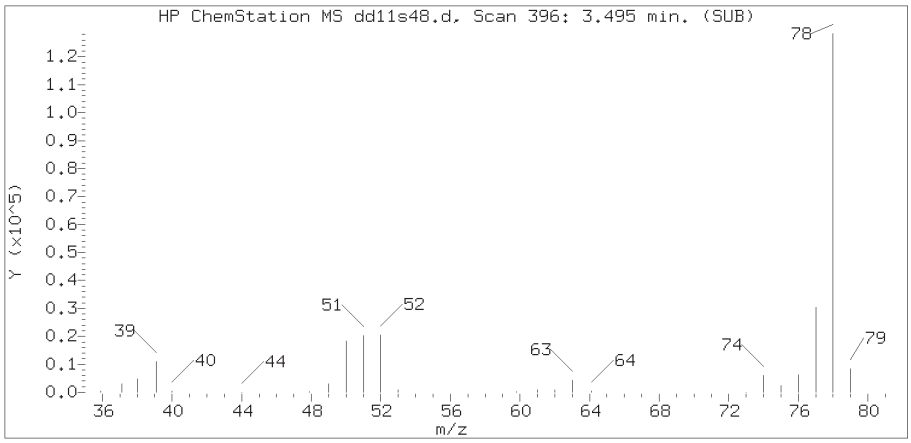
Sample Name: P2902DL Lab Sample ID: 8082124DL

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.946	65	88311	250.000
7)$Dibromofluoromethane	(2)	2.970	113	105255	54.008
10)$1,2-Dichloroethane-d4	(2)	3.178	102	26850	51.725
12) Benzene	(2)	3.446	78	109686	8.874
14)*Fluorobenzene	(2)	3.544	96	418021	50.000
16)$Toluene-d8	(3)	4.324	98	429525	46.845
17) Toluene	(3)	4.348	92	68037	7.868
20)*Chlorobenzene-d5	(3)	4.891	117	340907	50.000
21) Ethylbenzene	(3)	4.982	91	183186	11.319
22) m+p-Xylene	(3)	5.055	106	63845	10.201
23) o-Xylene	(3)	5.208	106	36200	5.960
24) Xylene (Total)	(3)		106	100045	16.161
26)$4-Bromofluorobenzene	(3)	5.360	95	169990	49.751
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	195063	50.000
30) Naphthalene	(4)	6.787	128	939131	62.700

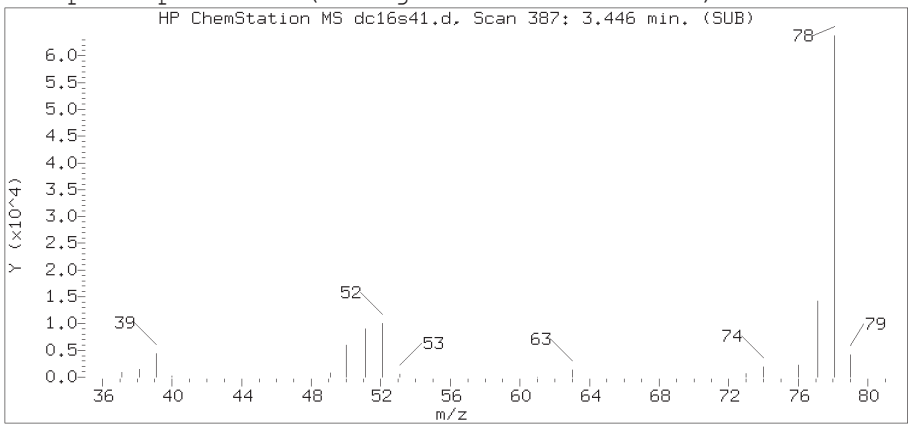
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/18/2015 at 21:51.
Target 3.5 esignature user ID: hy07820

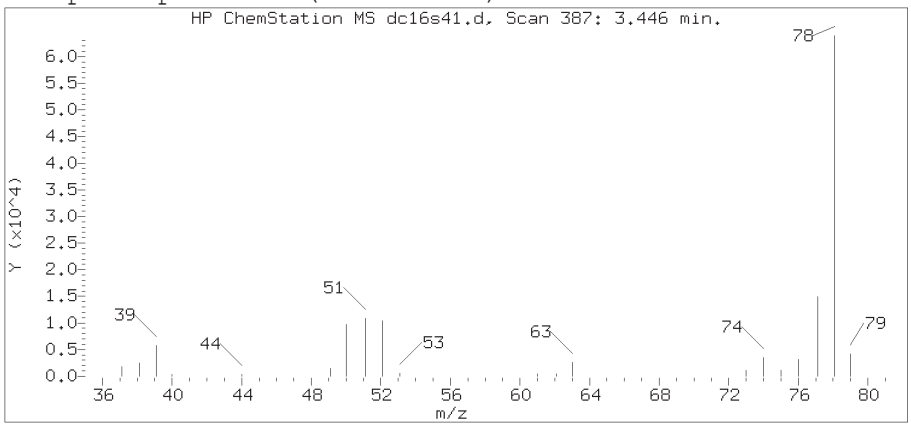
Reference Standard Spectrum for Benzene

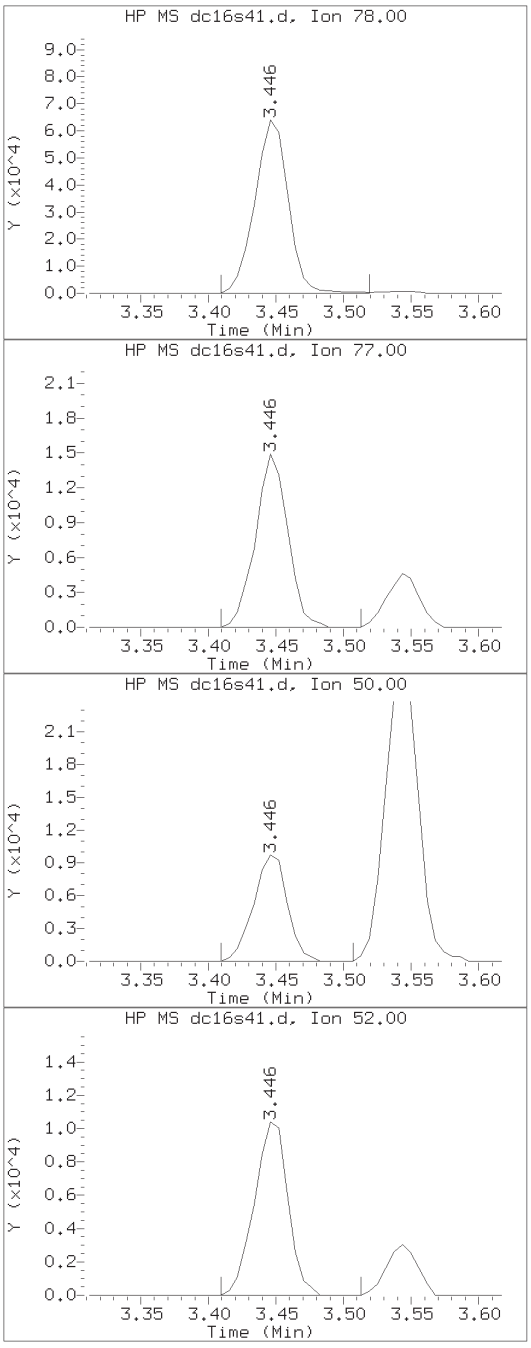


Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)





Data File: /chem2/HP10534.i/15oct16a.b/dc16s41.d Instrument ID: HP10534.i
Injection date and time: 17-OCT-2015 02:21 Analyst ID: HY07820

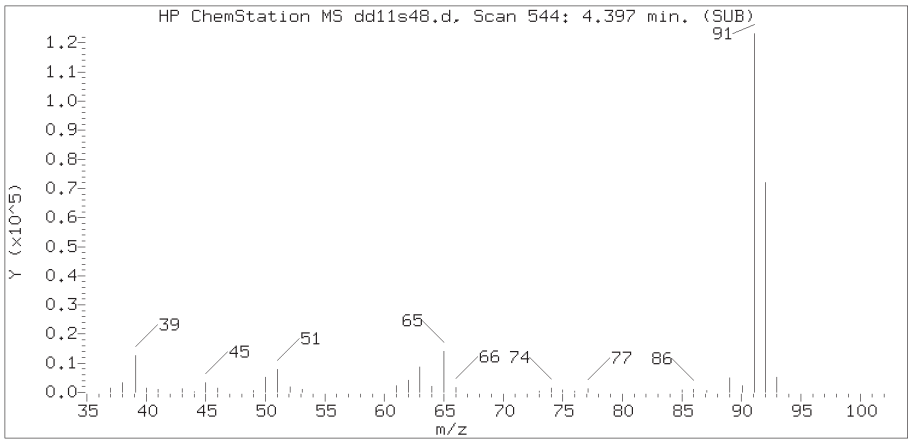
Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 17-Oct-2015 02:31 Unknown

Sample Name: P2902DL Lab Sample ID: 8082124DL

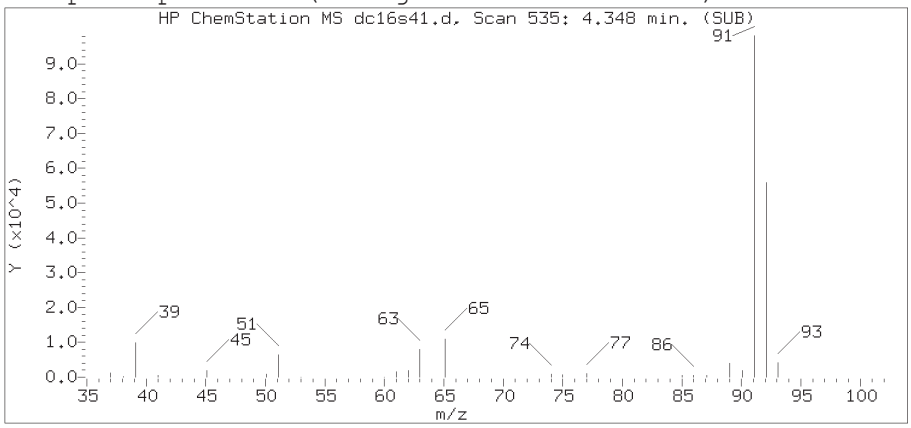
Compound Number	: 12
Compound Name	: Benzene
Scan Number	: 387
Retention Time (minutes)	: 3.446
Relative Retention Time	:-0.00000
Quant Ion	: 78.00
Area (flag)	: 109686
On-Column Amount (ng)	: 8.8736

Digitally signed by Hu Yang on 10/18/2015 at 21:51.
Target 3.5 esignature [illegible]

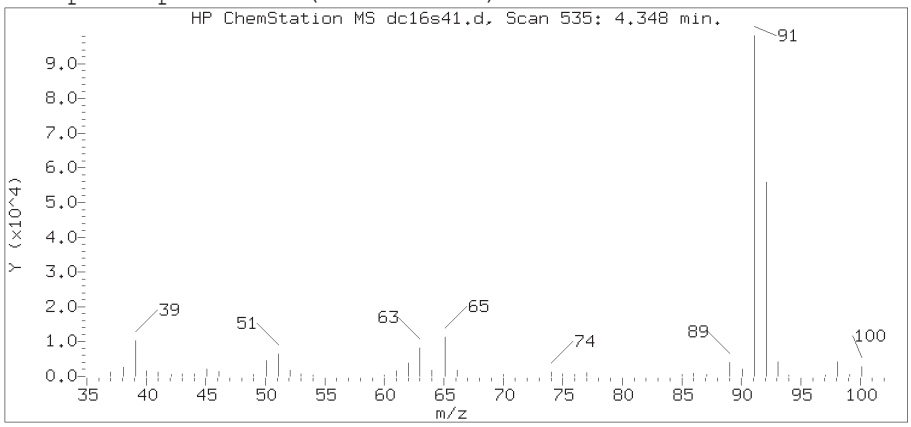
Reference Standard Spectrum for Toluene

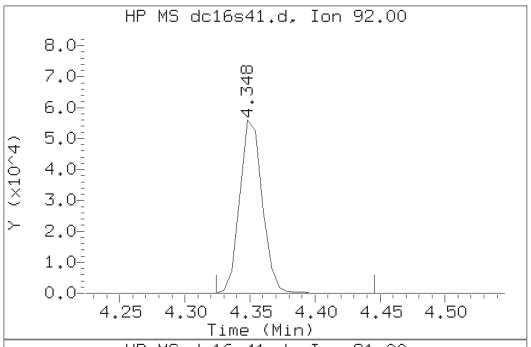


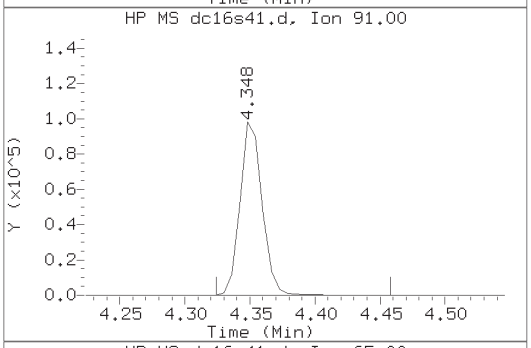
Sample Spectrum (Background Subtracted)

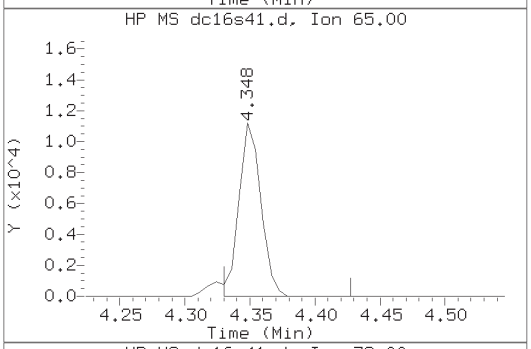


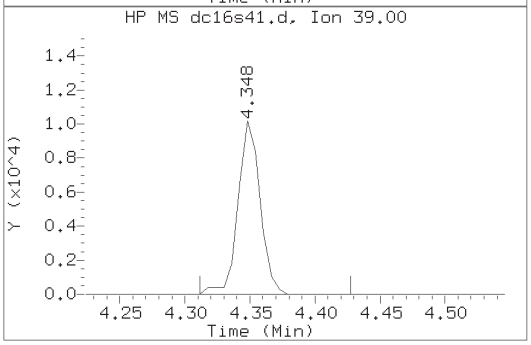
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct16a.b/dc16s41.d Instrument ID: HP10534.i
Injection date and time: 17-OCT-2015 02:21 Analyst ID: HY07820

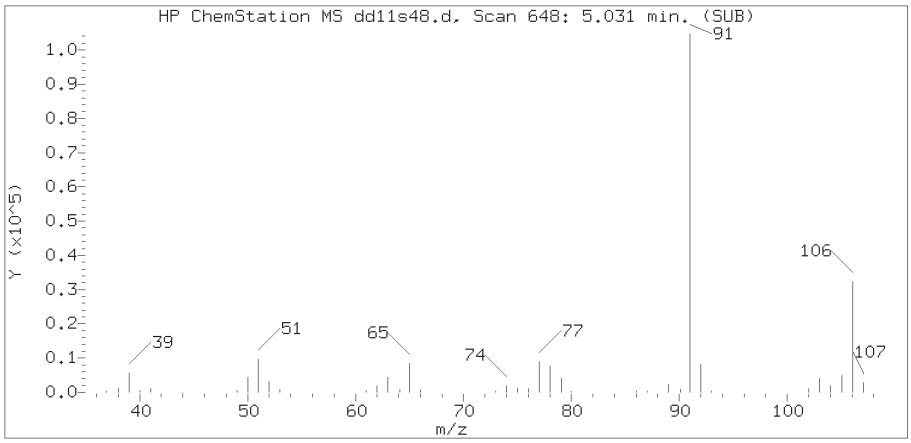
Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 17-Oct-2015 02:31 Unknown

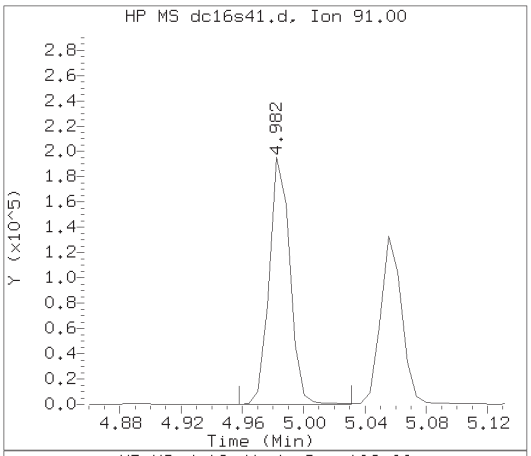
Sample Name: P2902DL Lab Sample ID: 8082124DL

Compound Number : 17
Compound Name : Toluene
Scan Number : 535
Retention Time (minutes): 4.348
Relative Retention Time :-0.00111
Quant Ion : 92.00
Area (flag) : 68037
On-Column Amount (ng) : 7.8683

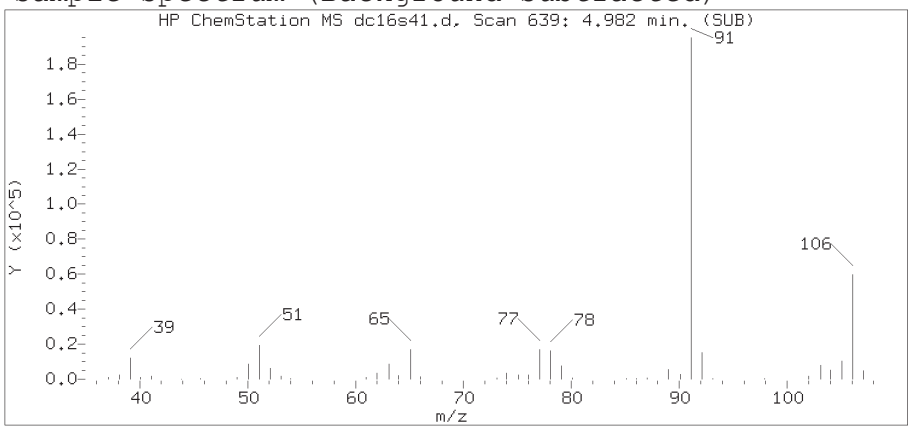
Digitally signed by Hu Yang on 10/18/2015 at 21:51.
Target 3.5 esignature [illegible]

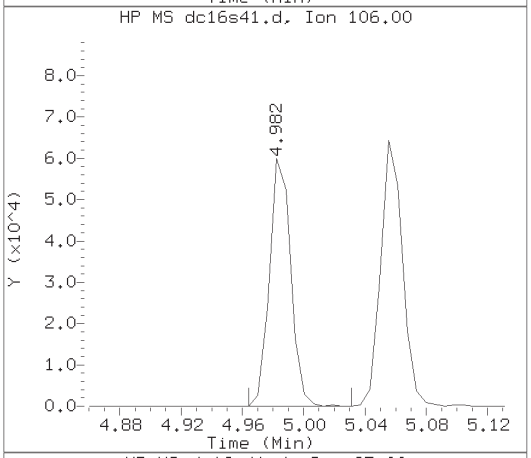
Reference Standard Spectrum for Ethylbenzene



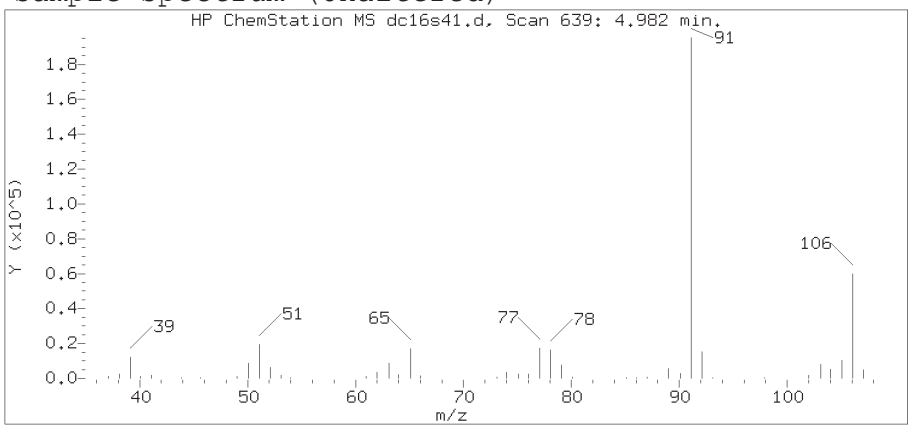


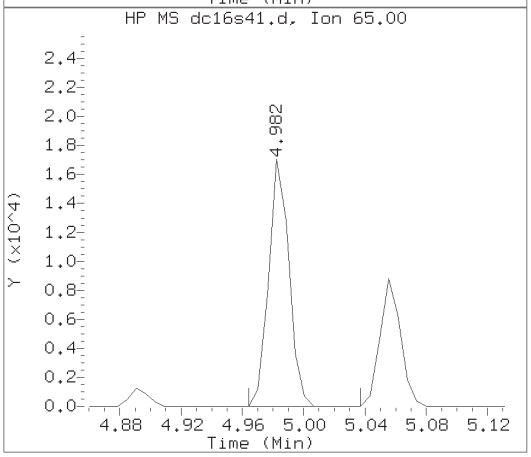
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP10534.i/15oct16a.b/dc16s41.d Instrument ID: HP10534.i
Injection date and time: 17-OCT-2015 02:21 Analyst ID: HY07820

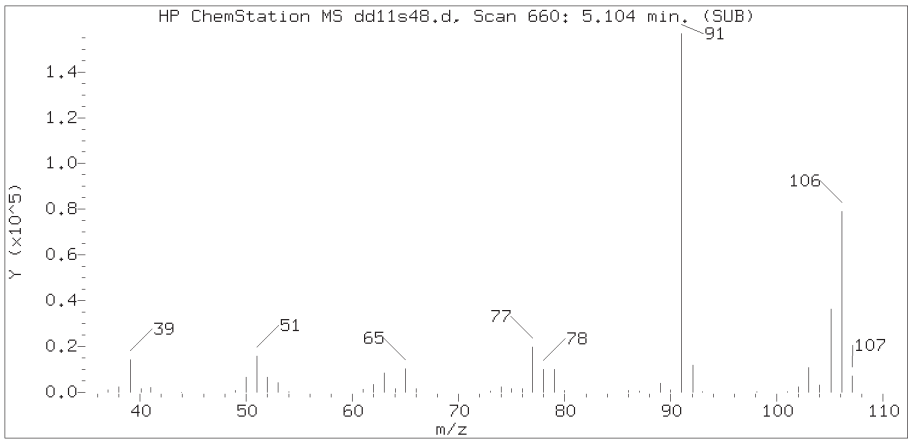
Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 17-Oct-2015 02:31 Unknown

Sample Name: P2902DL Lab Sample ID: 8082124DL

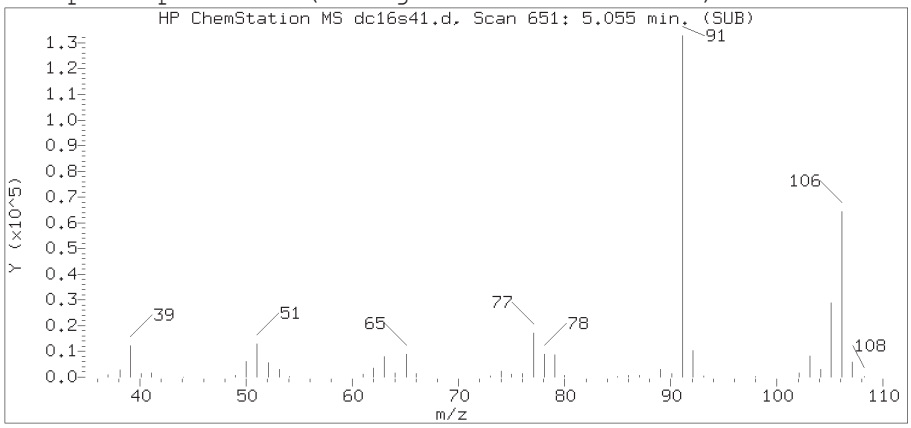
Compound Number : 21
Compound Name : Ethylbenzene
Scan Number : 639
Retention Time (minutes): 4.982
Relative Retention Time :-0.00127
Quant Ion : 91.00
Area (flag) : 183186
On-Column Amount (ng) : 11.3186

Digitally signed by Hu Yang on 10/18/2015 at 21:51.
Target 3.5 esignature [illegible]

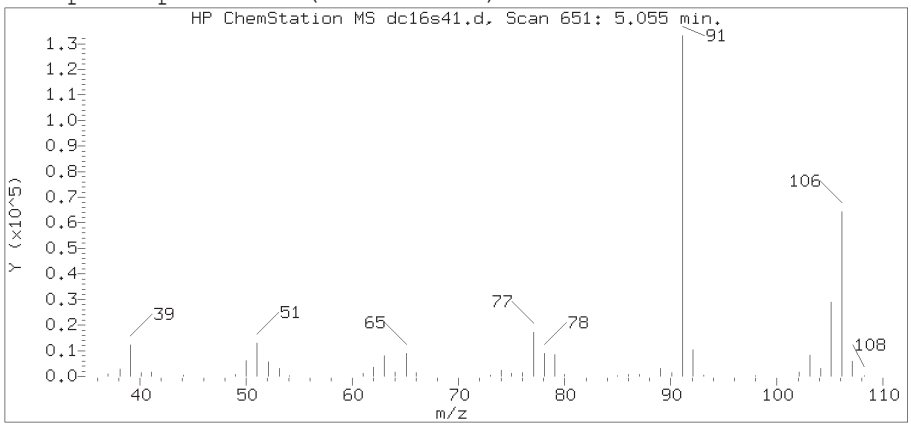
Reference Standard Spectrum for m+p-Xylene

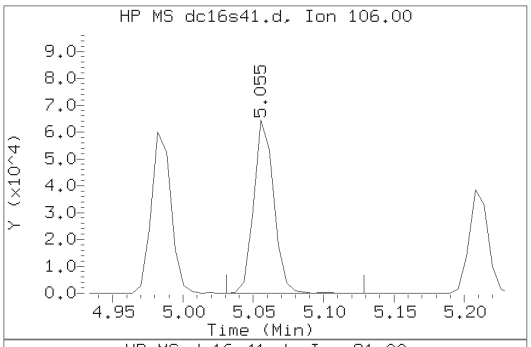


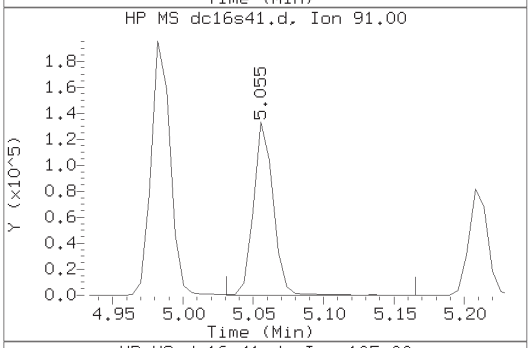
Sample Spectrum (Background Subtracted)

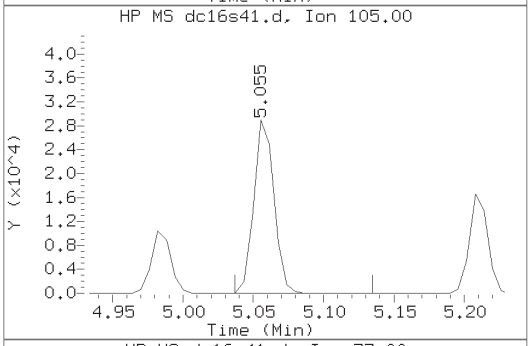


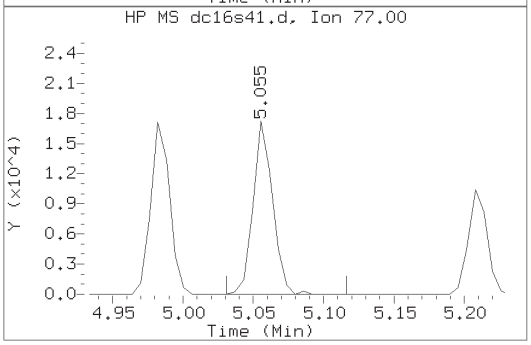
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct16a.b/dc16s41.d Instrument ID: HP10534.i
Injection date and time: 17-OCT-2015 02:21 Analyst ID: HY07820

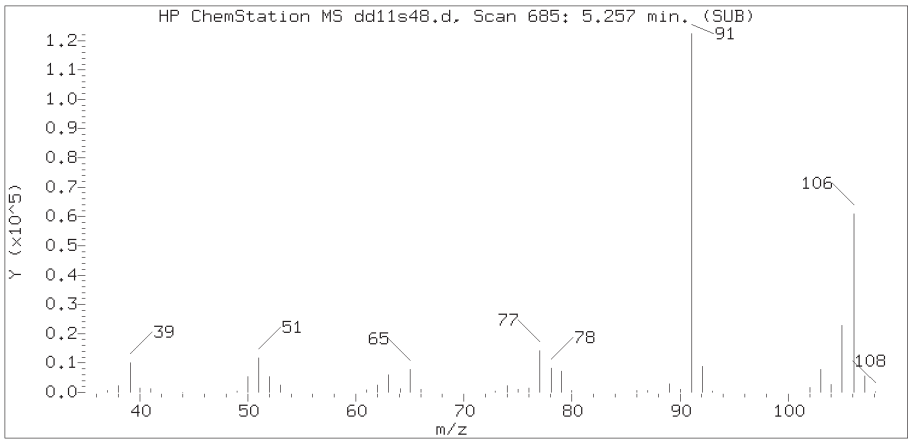
Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 17-Oct-2015 02:31 Unknown

Sample Name: P2902DL Lab Sample ID: 8082124DL

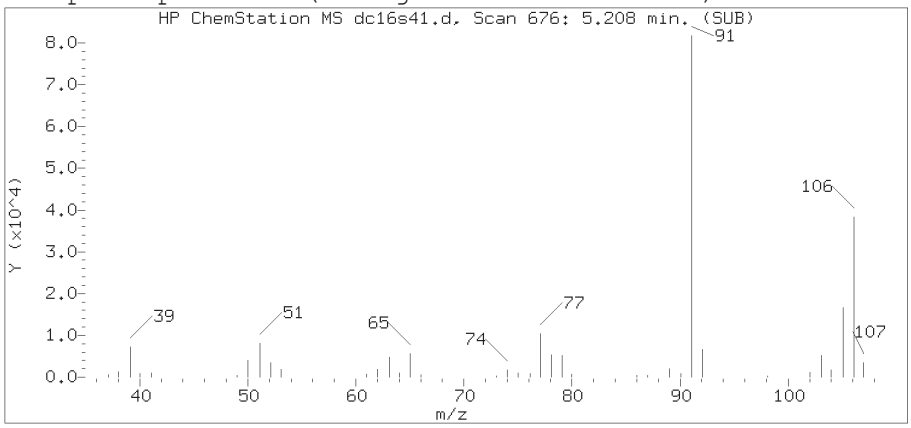
Compound Number : 22
Compound Name : m+p-Xylene
Scan Number : 651
Retention Time (minutes): 5.055
Relative Retention Time :-0.00129
Quant Ion : 106.00
Area (flag) : 63845
On-Column Amount (ng) : 10.2007

Digitally signed by Hu Yang on 10/18/2015 at 21:51.
Target 3.5 esignature [illegible]

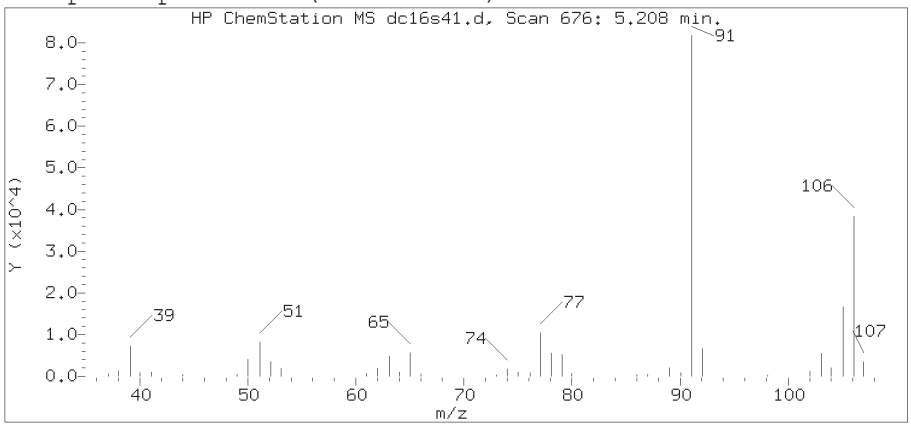
Reference Standard Spectrum for o-Xylene

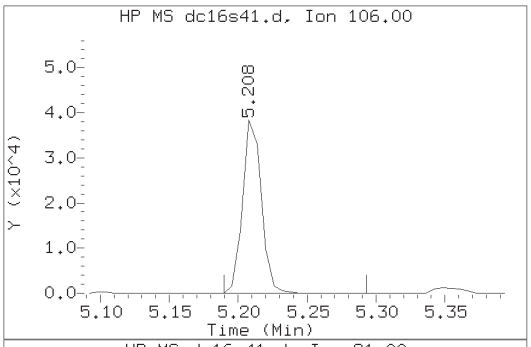


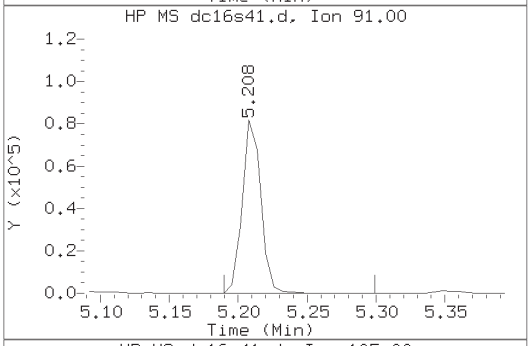
Sample Spectrum (Background Subtracted)

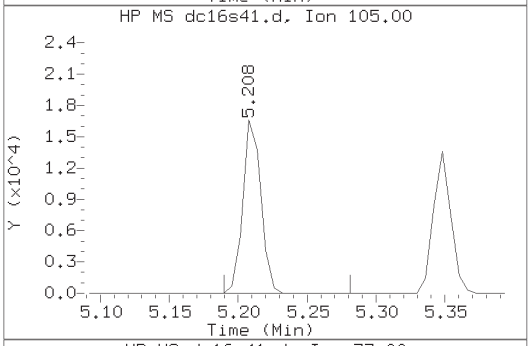


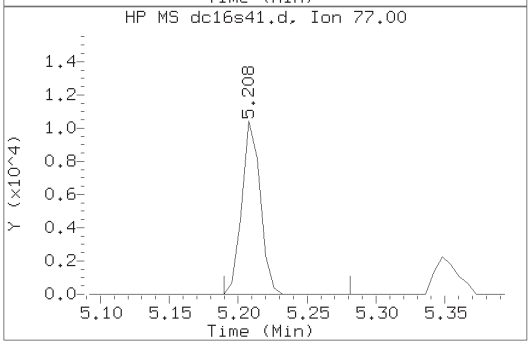
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct16a.b/dc16s41.d Instrument ID: HP10534.i
Injection date and time: 17-OCT-2015 02:21 Analyst ID: HY07820

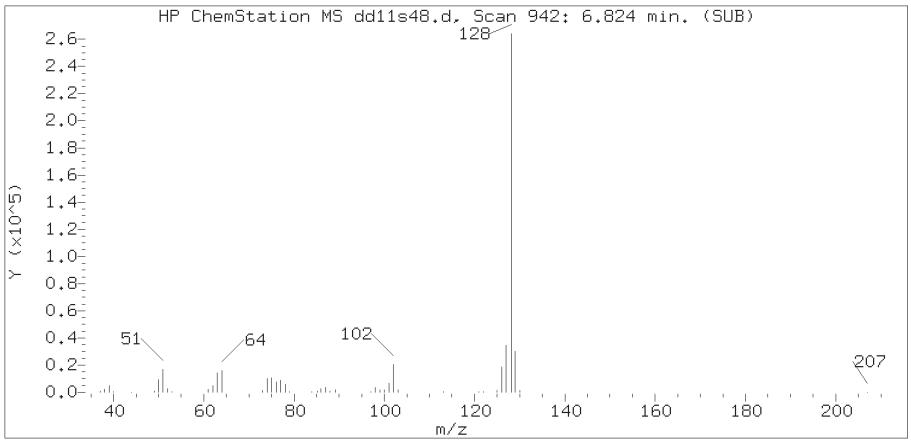
Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 17-Oct-2015 02:31 Unknown

Sample Name: P2902DL Lab Sample ID: 8082124DL

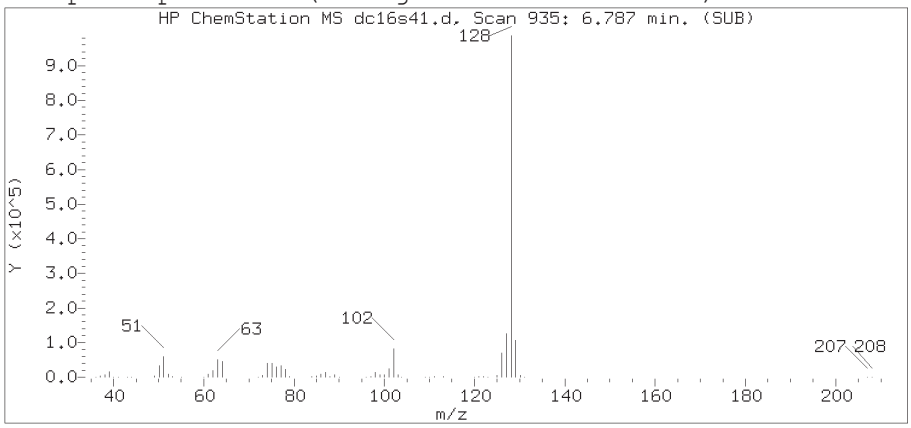
Compound Number : 23
Compound Name : o-Xylene
Scan Number : 676
Retention Time (minutes): 5.208
Relative Retention Time :-0.00133
Quant Ion : 106.00
Area (flag) : 36200
On-Column Amount (ng) : 5.9604

Digitally signed by Hu Yang on 10/18/2015 at 21:51.
Target 3.5 esignature [illegible]

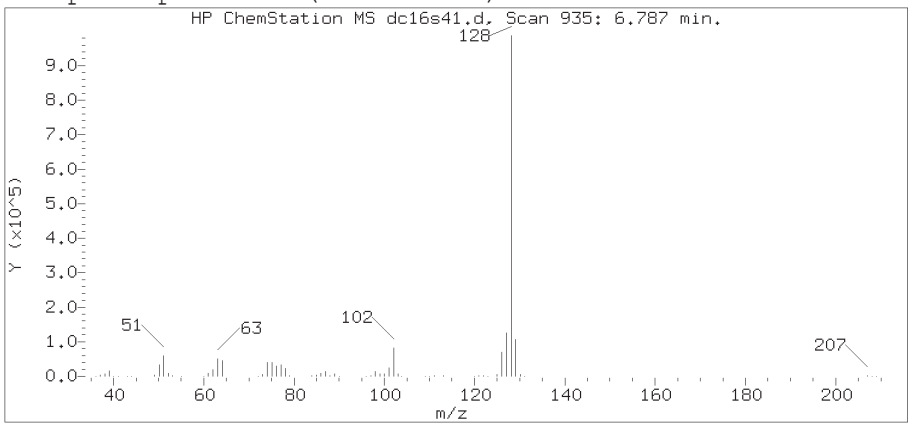
Reference Standard Spectrum for Naphthalene

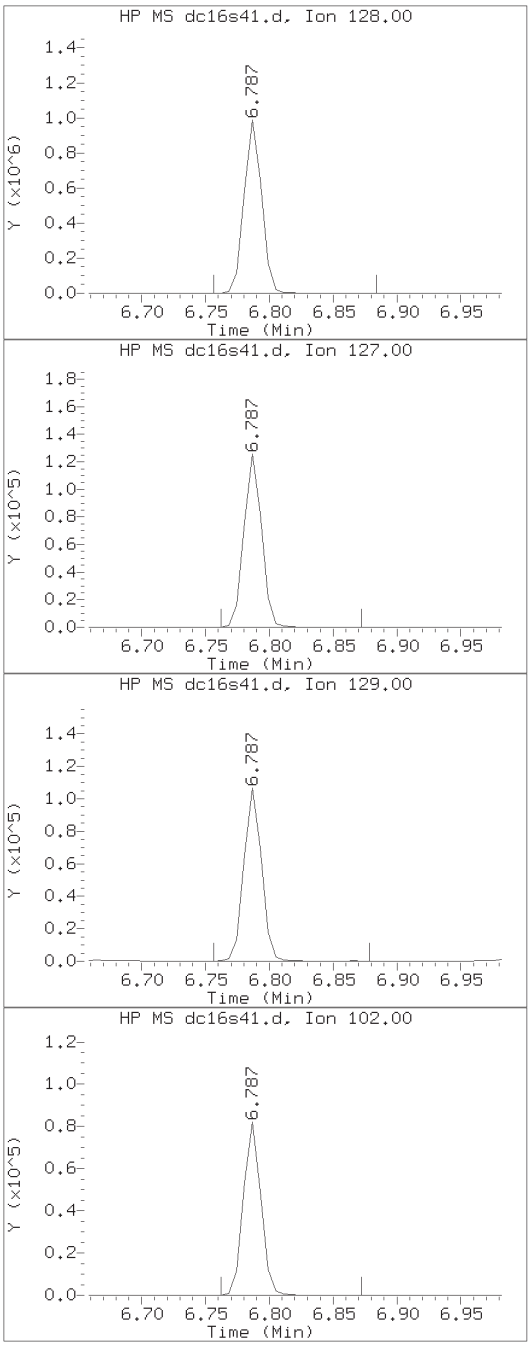


Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)





Data File: /chem2/HP10534.i/15oct16a.b/dc16s41.d Instrument ID: HP10534.i
Injection date and time: 17-OCT-2015 02:21 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 17-Oct-2015 02:31 Unknown

Sample Name: P2902DL Lab Sample ID: 8082124DL

Compound Number : 30
Compound Name : Naphthalene
Scan Number : 935
Retention Time (minutes): 6.787
Relative Retention Time :-0.00105
Quant Ion : 128.00
Area (flag) : 939131
On-Column Amount (ng) : 62.7000

Digitally signed by Hu Yang on 10/18/2015 at 21:51.
Target 3.5 esignature [illegible] HY07820

P2903 Lancaster Laboratories 8082125
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct16a.b/dc16s03.d Injection date and time: **16-OCT-2015 19:05**
Data file Sample Info. Line: P2903;8082125;1;0;;PSC29;;;dc16b01; Instrument ID: **HP10534.i** Batch: **D152891AA**
Date, time and analyst ID of latest file update: 16-Oct-2015 19:14 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct16a.b/dc16b01.d**

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 16-OCT-2015 17:48
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct16a.b/dc16c01.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946	(-0.006)	141	65	94378	(14)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	410095	(-1)	50.00	
20) Chlorobenzene-d5	4.897	(0.000)	625	117	329904	(1)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(-0.006)	782	152	179388	(-1)	50.00	

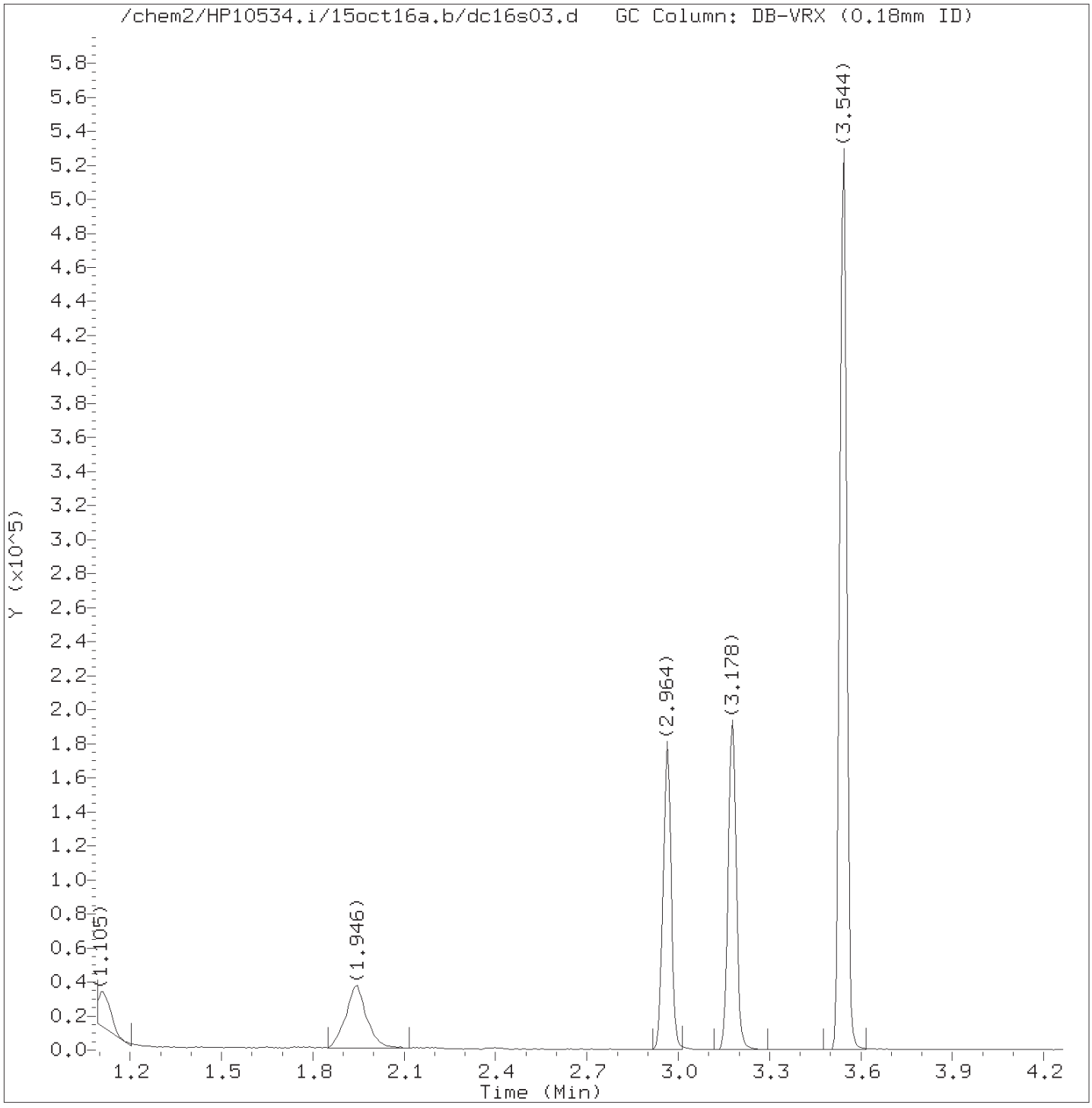
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.964	(0.000)	113	103419	54.091	108%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	26193	51.433	103%		77 - 113
16) Toluene-d8	(3)	4.324	(0.000)	98	424482	47.839	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	159132	48.127	96%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
30) Naphthalene	(4)				Not Detected					1	4

Total number of targets = 7

Digitally signed by Hu Yang on 10/16/2015 at 20:34. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/19/2015 at 15:05. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

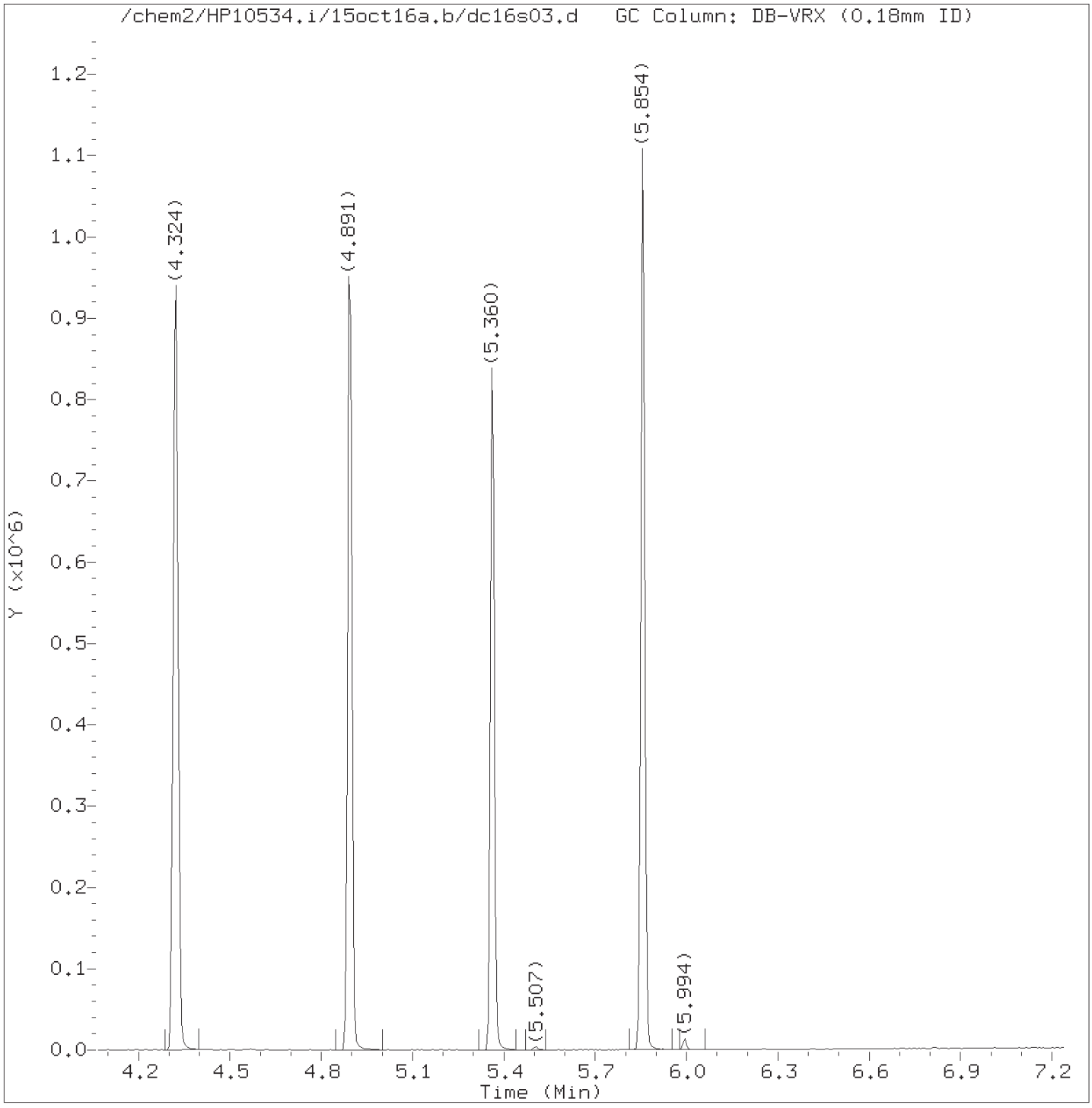
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16s03.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 19:05 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 19:14 Unknown

Sample Name: P2903 Lab Sample ID: 8082125

Digitally signed by Hu Yang
on 10/16/2015 at 20:34.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16s03.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 19:05 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 19:14 Unknown

Sample Name: P2903 Lab Sample ID: 8082125

Digitally signed by Hu Yang
on 10/16/2015 at 20:34.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16s03.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 19:05 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 9539
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 19:14 Unknown

Sample Name: P2903 Lab Sample ID: 8082125

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.946	65	94378	250.000
7)$Dibromofluoromethane	(2)	2.964	113	103419	54.091
10)$1,2-Dichloroethane-d4	(2)	3.178	102	26193	51.433
14)*Fluorobenzene	(2)	3.544	96	410095	50.000
16)$Toluene-d8	(3)	4.324	98	424482	47.839
20)*Chlorobenzene-d5	(3)	4.897	117	329904	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	159132	48.127
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	179388	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 20:34.
Target 3.5 esignature user ID: hy07820

P2904 Lancaster Laboratories 8082126
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s18.d Injection date and time: **15-OCT-2015 14:36**
Data file Sample Info. Line: P2904;8082126;1;0;;PSC29;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 14:45 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.928	(0.012)	138	65	91122	(3)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	455839	(3)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	359259	(5)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	201605	(6)	50.00	

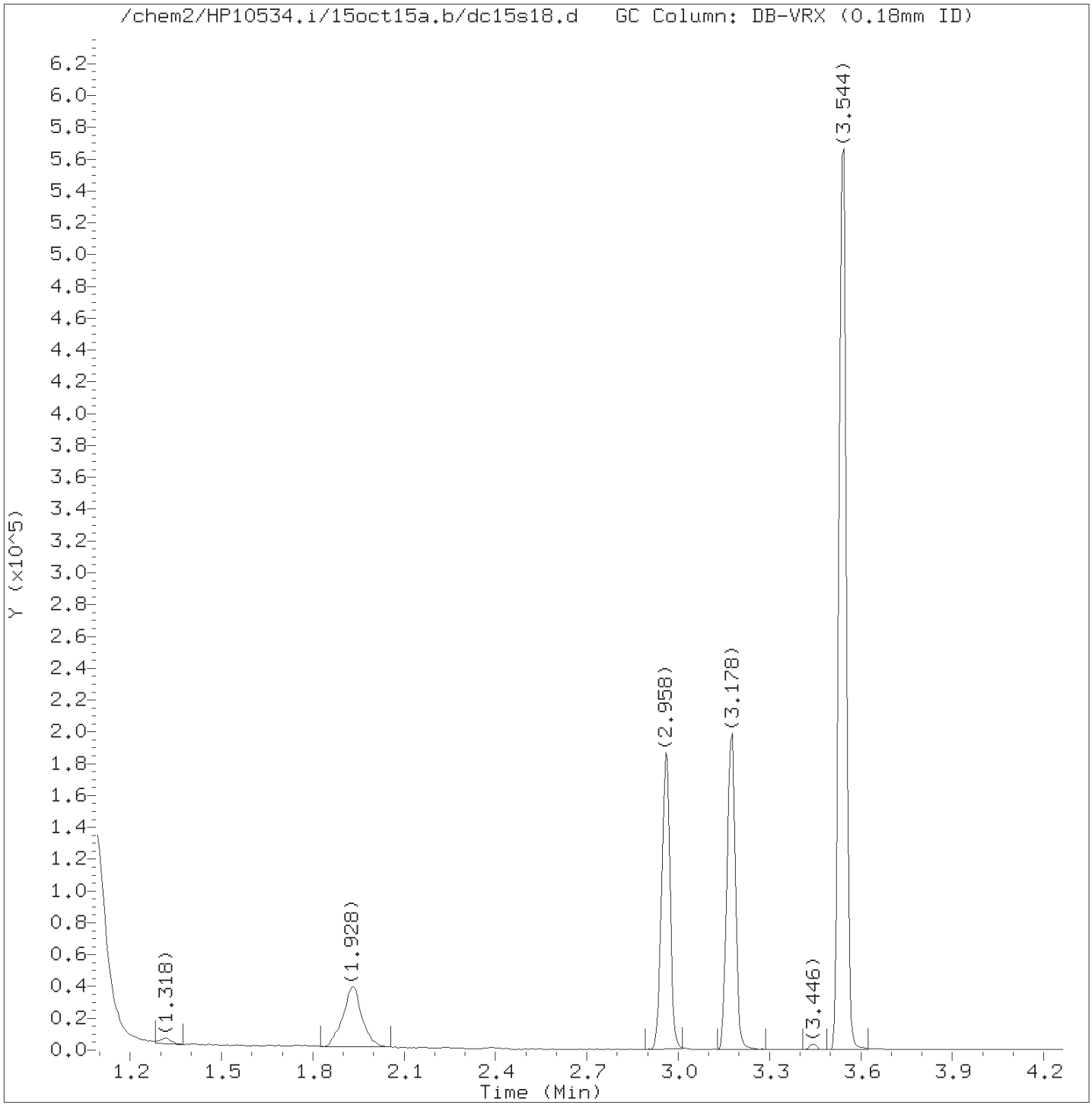
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.958	(0.000)	113	112611	53.038	106%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	28325	50.362	101%		77 - 113
16) Toluene-d8	(3)	4.318	(0.001)	98	463471	47.843	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	178203	49.409	99%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)	5.208	(0.000)	106	11921	1.835	1.83			0.5	1
24) Xylene (Total)	(3)			106	11921	1.835	1.83			0.5	1
30) Naphthalene	(4)				Not Detected					1	4

Total number of targets = 7

Digitally signed by Hu Yang on 10/16/2015 at 16:41. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:22. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

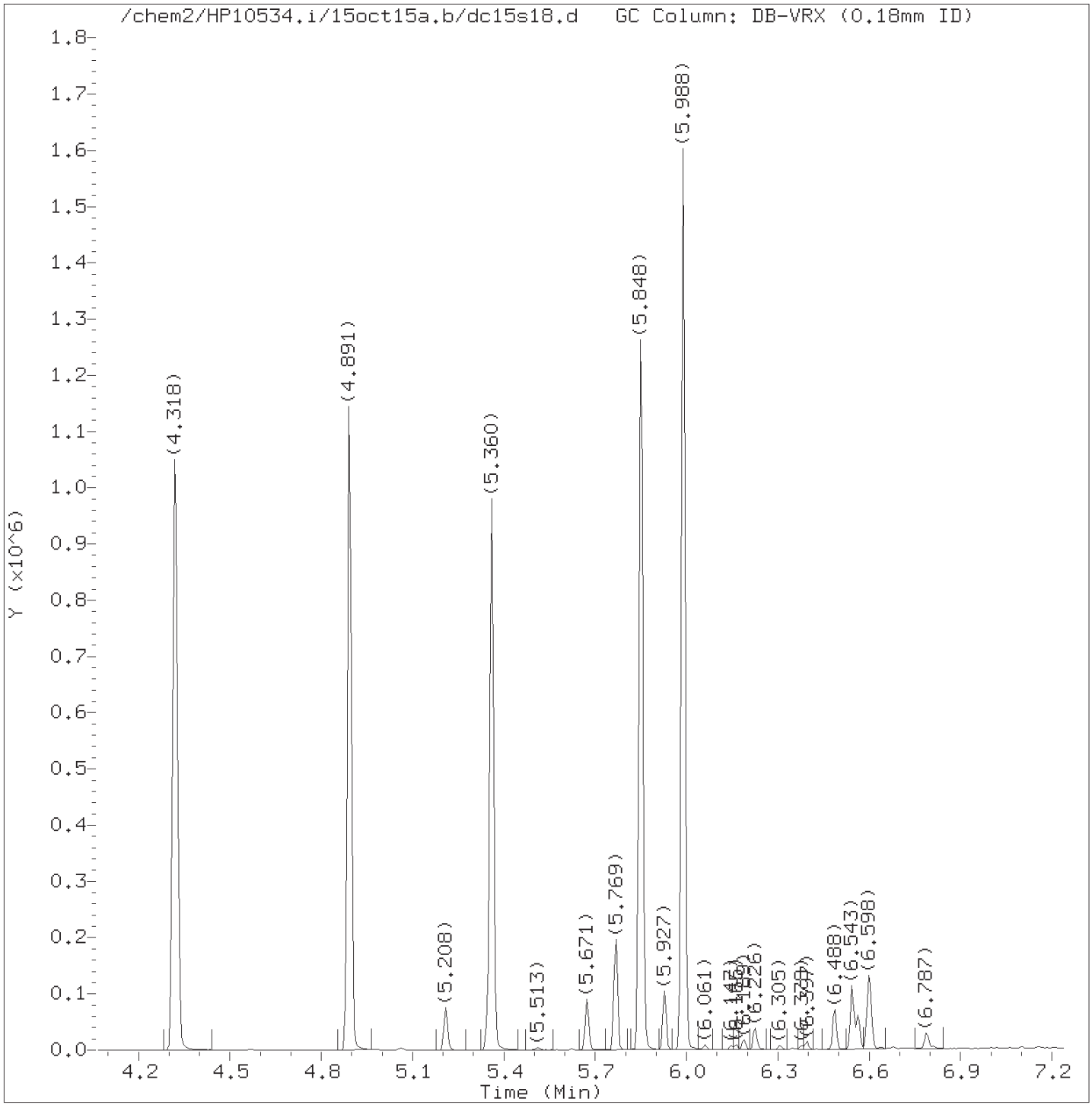
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s18.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:36 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 14:45 Unknown

Sample Name: P2904 Lab Sample ID: 8082126

Digitally signed by Hu Yang
on 10/16/2015 at 16:41.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s18.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:36 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 14:45 Unknown

Sample Name: P2904 Lab Sample ID: 8082126

Digitally signed by Hu Yang
on 10/16/2015 at 16:41.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s18.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:36 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 14:45 Unknown

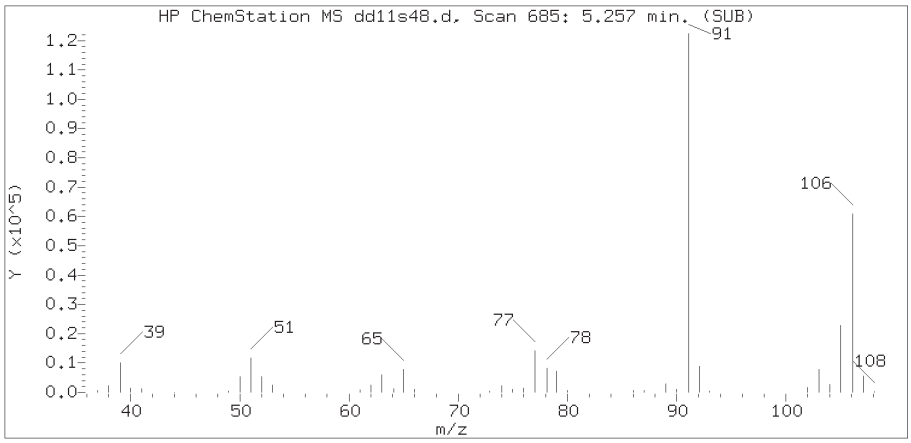
Sample Name: P2904 Lab Sample ID: 8082126

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.928	65	91122	250.000
7)$Dibromofluoromethane	(2)	2.958	113	112611	53.038
10)$1,2-Dichloroethane-d4	(2)	3.178	102	28325	50.362
14)*Fluorobenzene	(2)	3.544	96	455839	50.000
16)$Toluene-d8	(3)	4.318	98	463471	47.843
20)*Chlorobenzene-d5	(3)	4.891	117	359259	50.000
23) o-Xylene	(3)	5.208	106	11921	1.835
24) Xylene (Total)	(3)		106	11921	1.835
26)$4-Bromofluorobenzene	(3)	5.360	95	178203	49.409
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	201605	50.000

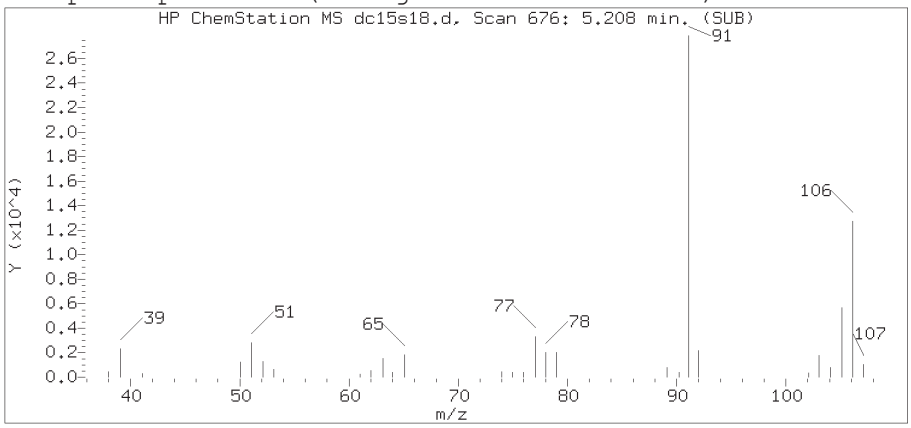
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 16:41.
Target 3.5 esignature user ID: hy07820

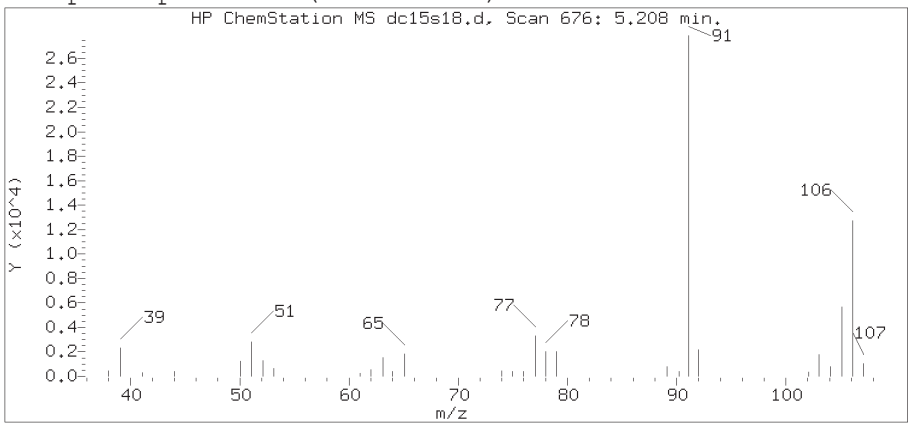
Reference Standard Spectrum for o-Xylene

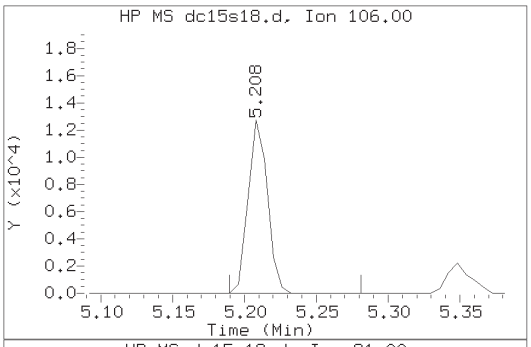


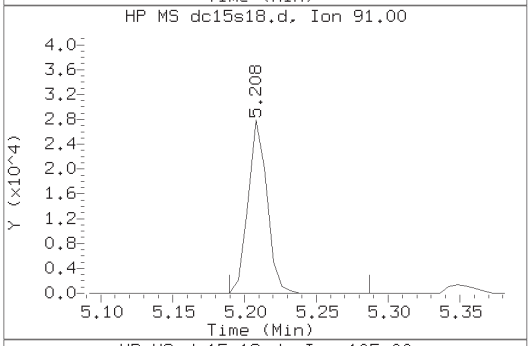
Sample Spectrum (Background Subtracted)

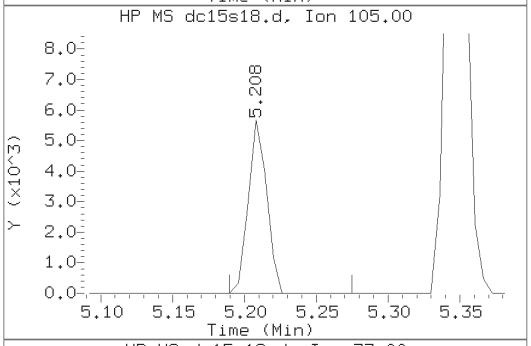


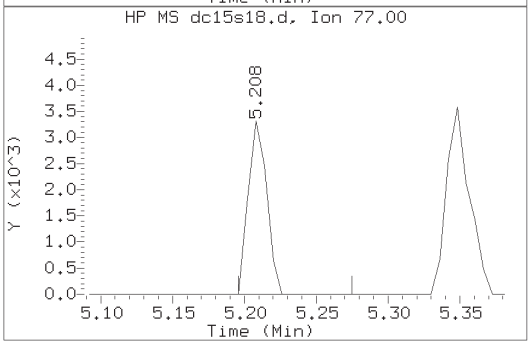
Sample Spectrum (Unaltered)











Data File: /chem2/HP10534.i/15oct15a.b/dc15s18.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:36 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 14:45 Unknown

Sample Name: P2904 Lab Sample ID: 8082126

Compound Number	: 23
Compound Name	: o-Xylene
Scan Number	: 676
Retention Time (minutes)	: 5.208
Relative Retention Time	: 0.00000
Quant Ion	: 106.00
Area (flag)	: 11921
On-Column Amount (ng)	: 1.8346

Digitally signed by Hu Yang on 10/16/2015 at 16:41.
Target 3.5 esignature [illegible]

P2905 Lancaster Laboratories 8082127
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s20.d Injection date and time: **15-OCT-2015 14:59**
Data file Sample Info. Line: P2905;8082127;1;0;;PSC29;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 15:09 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.922	(0.018)	137	65	106252	(20)	250.00	
14) Fluorobenzene	3.538	(0.006)	402	96	488807	(10)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	384045	(13)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	214108	(13)	50.00	

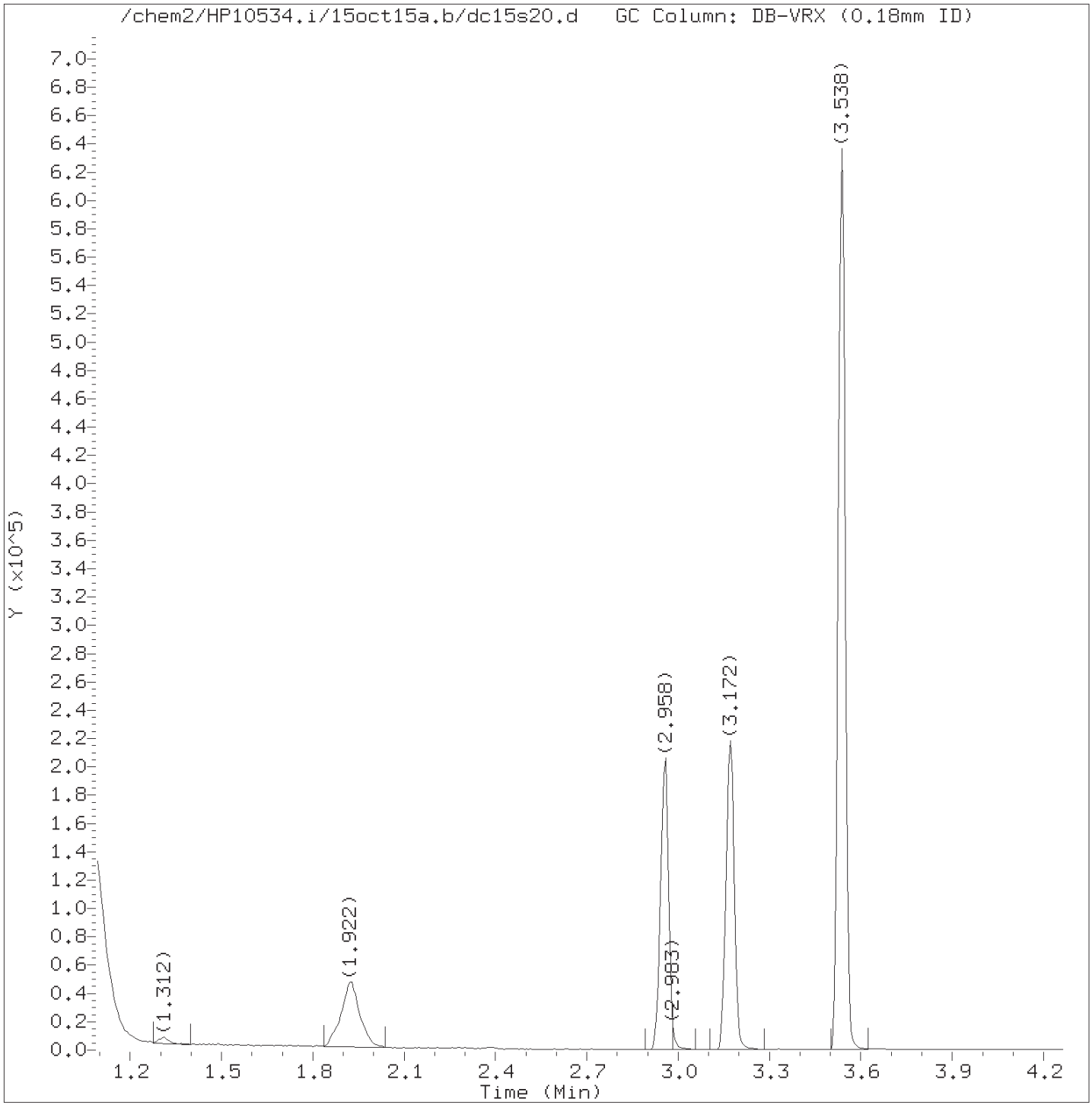
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.958	(-0.001)	113	118959	52.249	104%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.172	(0.000)	102	30311	50.258	101%		77 - 113
16) Toluene-d8	(3)	4.318	(0.001)	98	496375	47.932	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	189222	49.078	98%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
30) Naphthalene	(4)				Not Detected					1	4

Total number of targets = 7

Digitally signed by Hu Yang on 10/16/2015 at 16:41. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:23. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

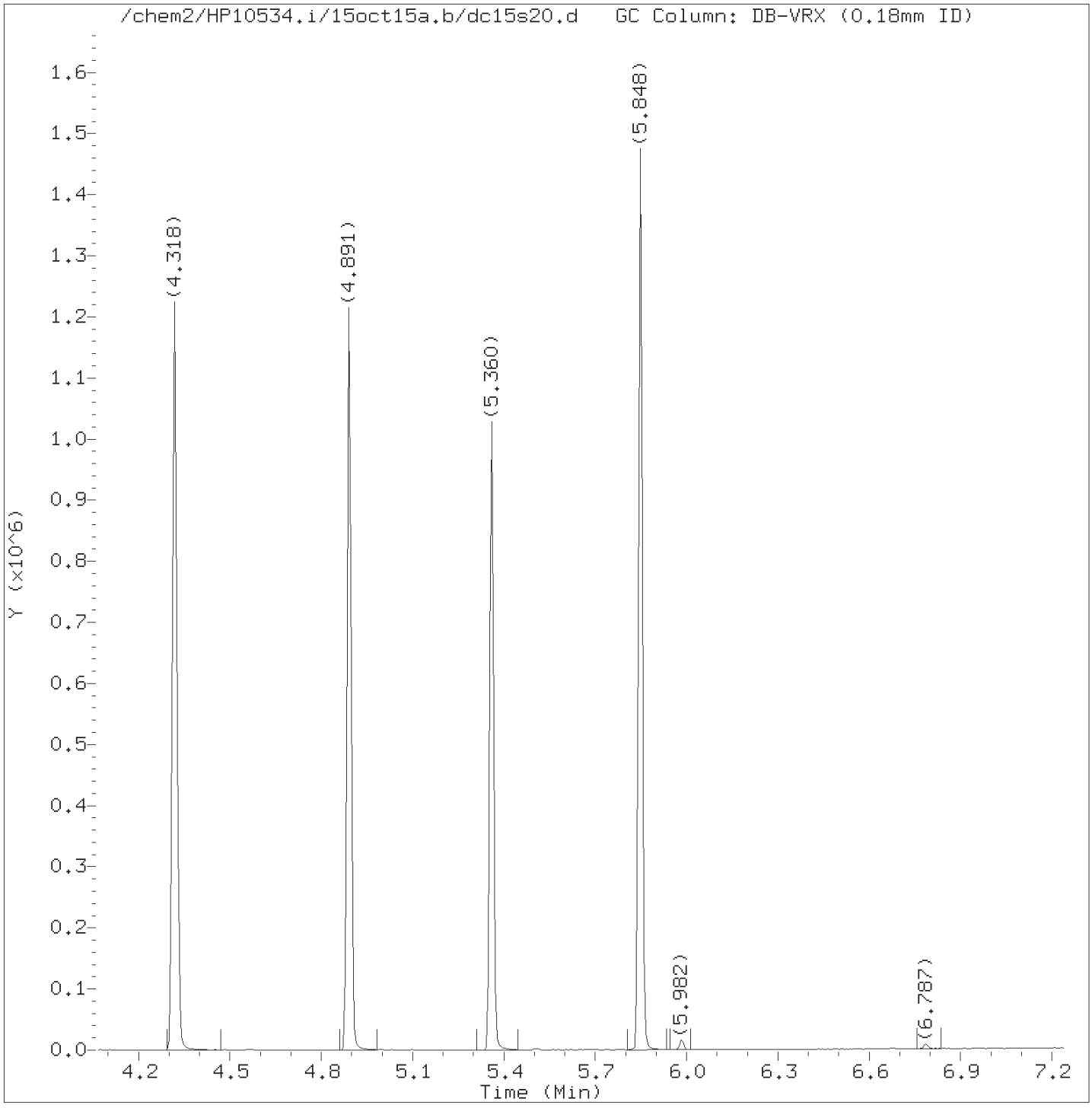
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s20.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:59 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 15:09 Unknown

Sample Name: P2905 Lab Sample ID: 8082127

Digitally signed by Hu Yang
on 10/16/2015 at 16:41.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s20.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:59 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 15:09 Unknown

Sample Name: P2905 Lab Sample ID: 8082127

Digitally signed by Hu Yang
on 10/16/2015 at 16:41.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s20.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 14:59 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 15:09 Unknown

Sample Name: P2905 Lab Sample ID: 8082127

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.922	65	106252	250.000
7)$Dibromofluoromethane	(2)	2.958	113	118959	52.249
10)$1,2-Dichloroethane-d4	(2)	3.172	102	30311	50.258
14)*Fluorobenzene	(2)	3.538	96	488807	50.000
16)$Toluene-d8	(3)	4.318	98	496375	47.932
20)*Chlorobenzene-d5	(3)	4.891	117	384045	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	189222	49.078
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	214108	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 16:41.
Target 3.5 esignature user ID: hy07820

P2906 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8082128

Data file: /chem2/HP10534.i/15oct15a.b/dc15s22.d Injection date and time: **15-OCT-2015 15:22**
Data file Sample Info. Line: P2906;8082128;1;0;;PSC29;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 15:31 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.928	(0.012)	138	65	91219	(3)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	431281	(-3)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	344099	(1)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	184785	(-3)	50.00	

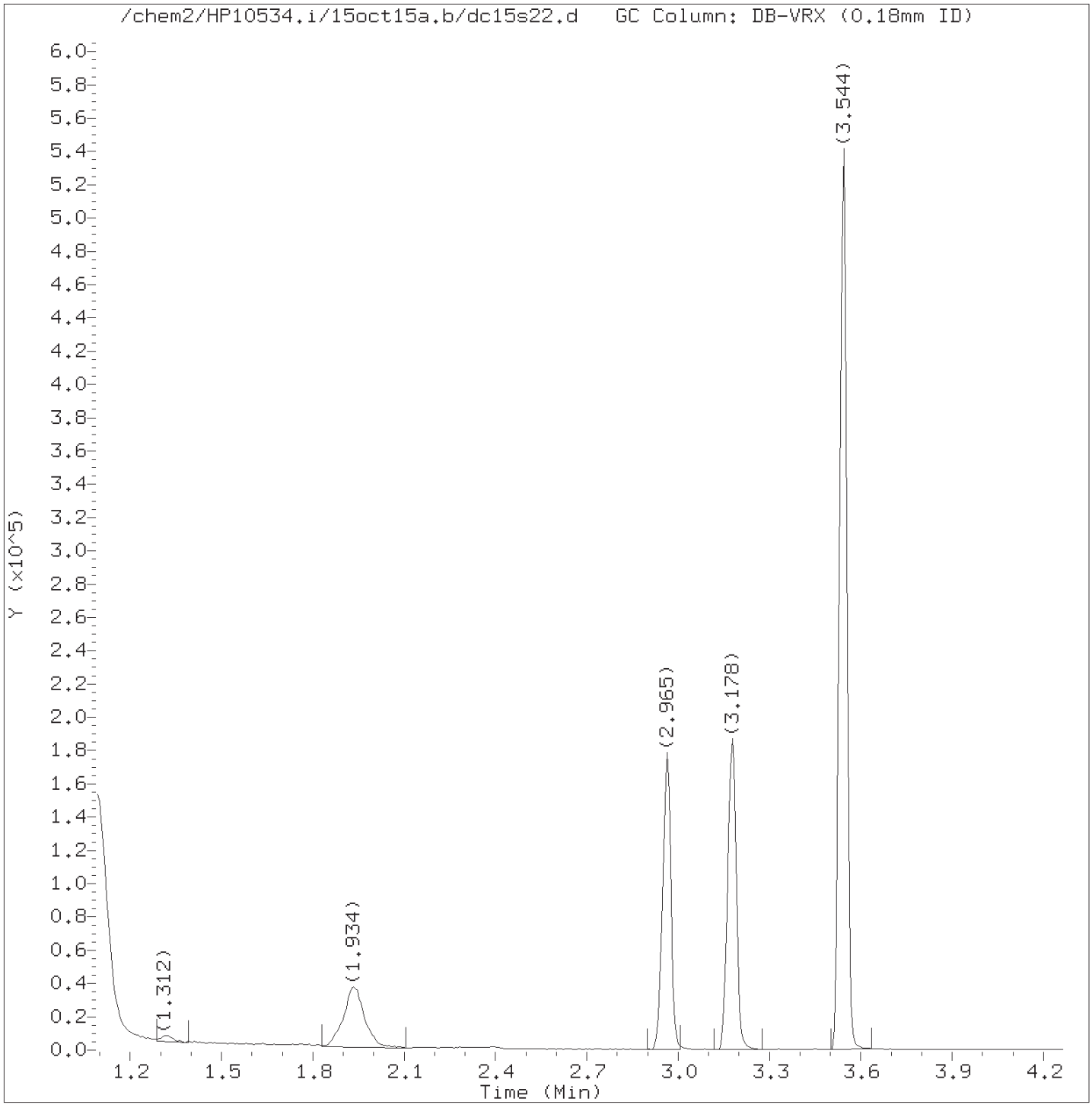
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.965	(-0.002)	113	106028	52.781	106%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	27357	51.410	103%		77 - 113
16) Toluene-d8	(3)	4.324	(0.000)	98	438389	47.247	94%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	164579	47.642	95%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
30) Naphthalene	(4)				Not Detected					1	4

Total number of targets = 7

Digitally signed by Hu Yang on 10/16/2015 at 16:42. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:23. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

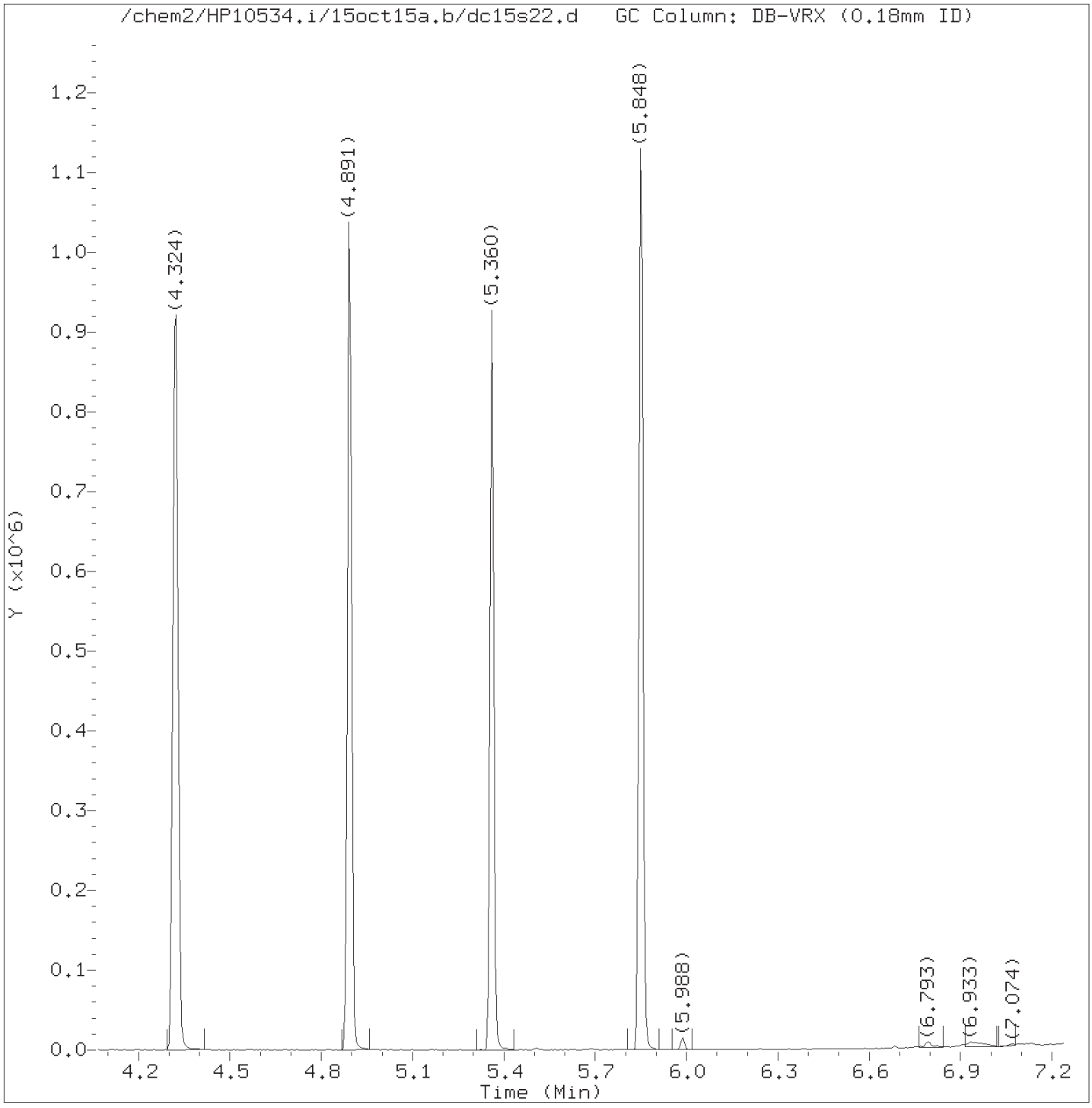
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s22.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:22 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 15:31 Unknown

Sample Name: P2906 Lab Sample ID: 8082128

Digitally signed by Hu Yang
on 10/16/2015 at 16:42.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s22.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:22 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 15:31 Unknown

Sample Name: P2906 Lab Sample ID: 8082128

Digitally signed by Hu Yang
on 10/16/2015 at 16:42.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s22.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:22 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 15:31 Unknown

Sample Name: P2906 Lab Sample ID: 8082128

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.928	65	91219	250.000
7)$Dibromofluoromethane	(2)	2.965	113	106028	52.781
10)$1,2-Dichloroethane-d4	(2)	3.178	102	27357	51.410
14)*Fluorobenzene	(2)	3.544	96	431281	50.000
16)$Toluene-d8	(3)	4.324	98	438389	47.247
20)*Chlorobenzene-d5	(3)	4.891	117	344099	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	164579	47.642
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	184785	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 16:42.
Target 3.5 esignature user ID: hy07820

P2907 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8082129

Data file: /chem2/HP10534.i/15oct15a.b/dc15s24.d Injection date and time: **15-OCT-2015 15:45**
Data file Sample Info. Line: P2907;8082129;1;0;;PSC29;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 15:54 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.934	(0.006)	139	65	106379	(20)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	475448	(7)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	376687	(10)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	207716	(10)	50.00	

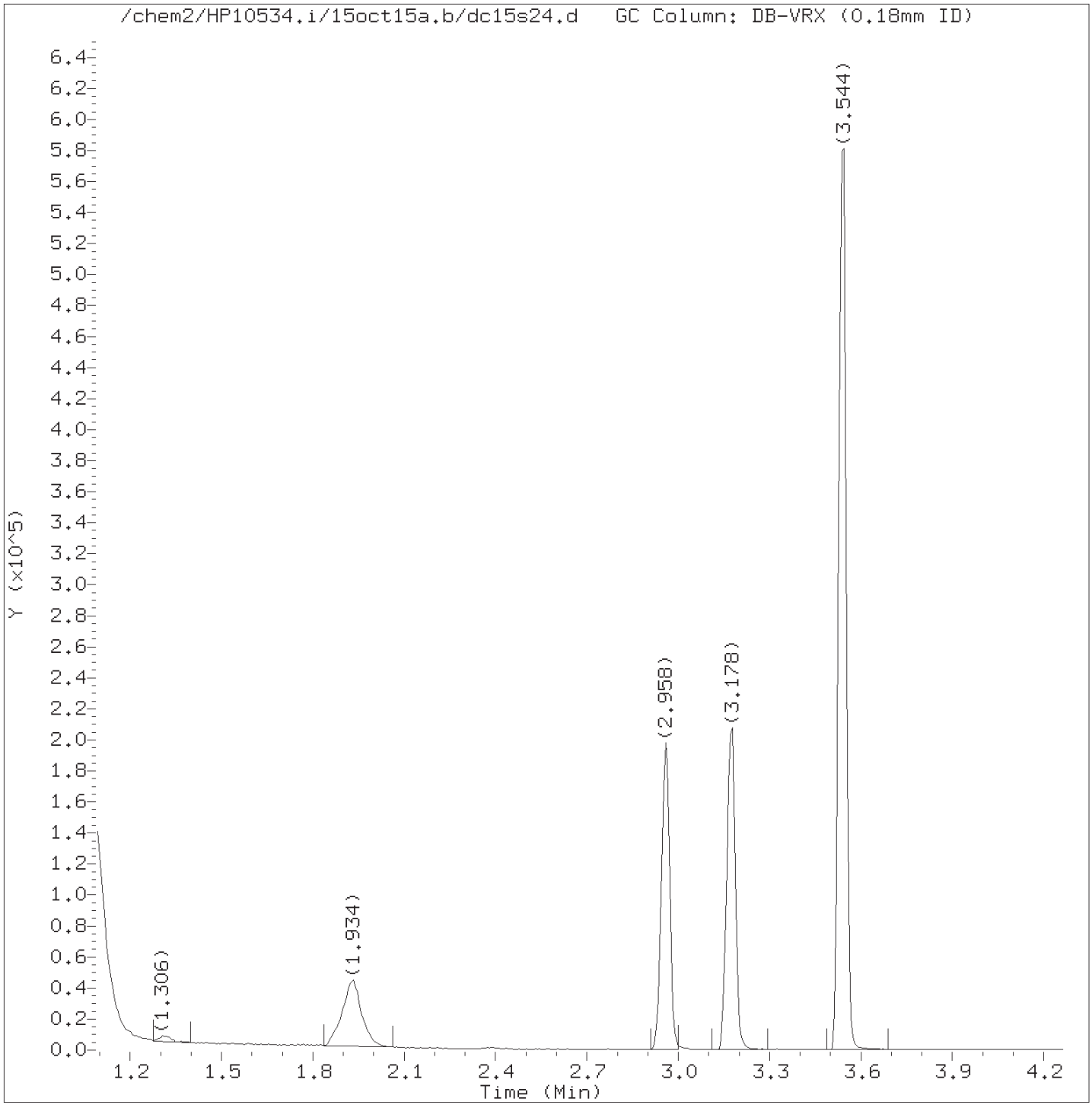
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.958	(0.000)	113	116471	52.594	105%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	30167	51.424	103%		77 - 113
16) Toluene-d8	(3)	4.318	(0.001)	98	482948	47.547	95%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	184391	48.759	98%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
30) Naphthalene	(4)				Not Detected					1	4

Total number of targets = 7

Digitally signed by Hu Yang on 10/16/2015 at 16:42. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:23. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

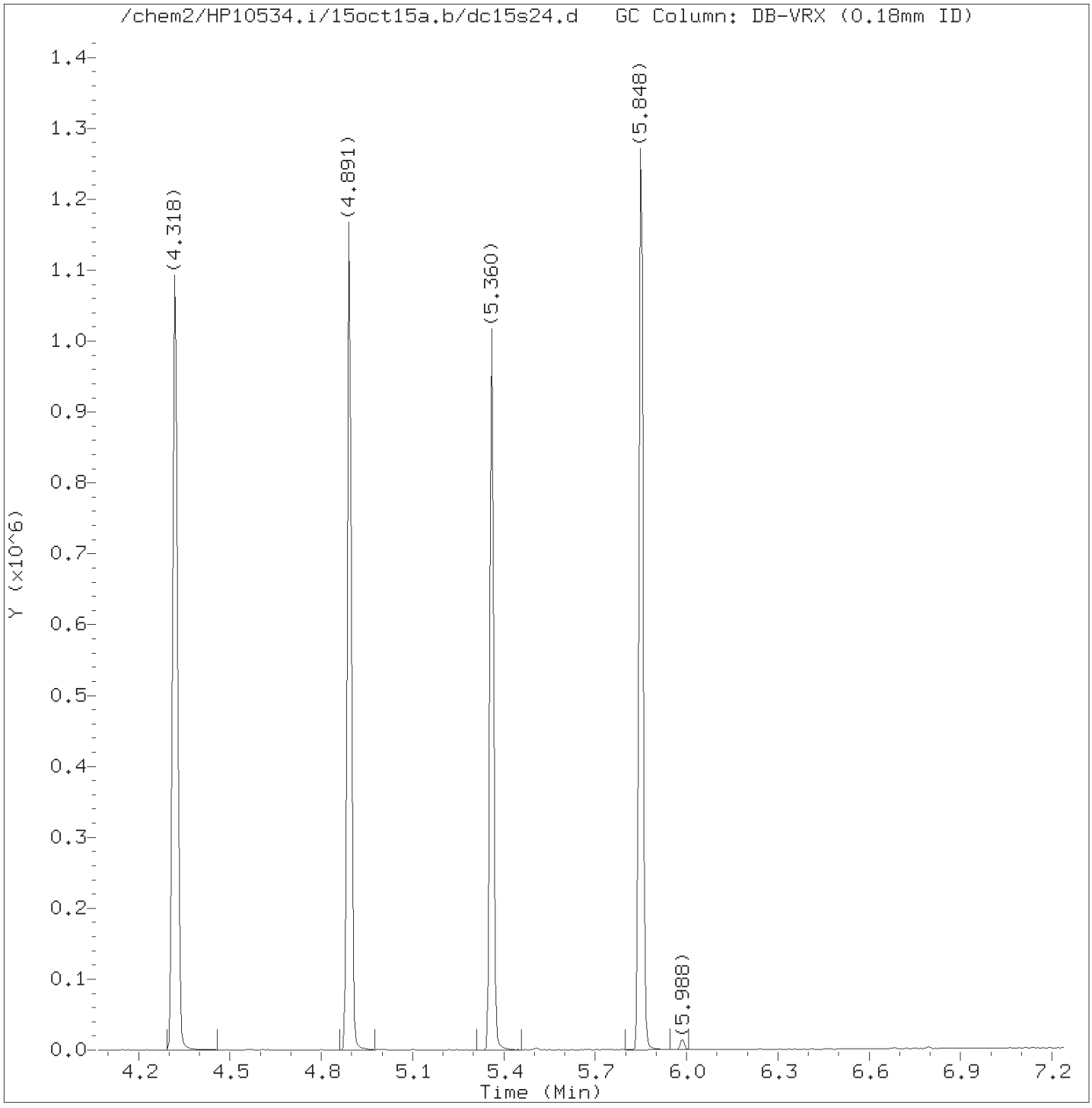
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s24.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:45 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 15:54 Unknown

Sample Name: P2907 Lab Sample ID: 8082129

Digitally signed by Hu Yang
on 10/16/2015 at 16:42.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s24.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:45 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 15:54 Unknown

Sample Name: P2907 Lab Sample ID: 8082129

Digitally signed by Hu Yang
on 10/16/2015 at 16:42.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s24.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 15:45 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 15:54 Unknown

Sample Name: P2907 Lab Sample ID: 8082129

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.934	65	106379	250.000
7)$Dibromofluoromethane	(2)	2.958	113	116471	52.594
10)$1,2-Dichloroethane-d4	(2)	3.178	102	30167	51.424
14)*Fluorobenzene	(2)	3.544	96	475448	50.000
16)$Toluene-d8	(3)	4.318	98	482948	47.547
20)*Chlorobenzene-d5	(3)	4.891	117	376687	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	184391	48.759
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	207716	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 16:42.
Target 3.5 esignature user ID: hy07820

P2908 Lancaster Laboratories
Analysis Summary for GC/MS Volatiles 8082130

Data file: /chem2/HP10534.i/15oct15a.b/dc15s26.d Injection date and time: **15-OCT-2015 16:08**
Data file Sample Info. Line: P2908;8082130;1;0;;PSC29;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 16:17 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.928	(0.012)	138	65	94735	(7)	250.00	
14) Fluorobenzene	3.538	(0.006)	402	96	466176	(5)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	369118	(8)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	203199	(7)	50.00	

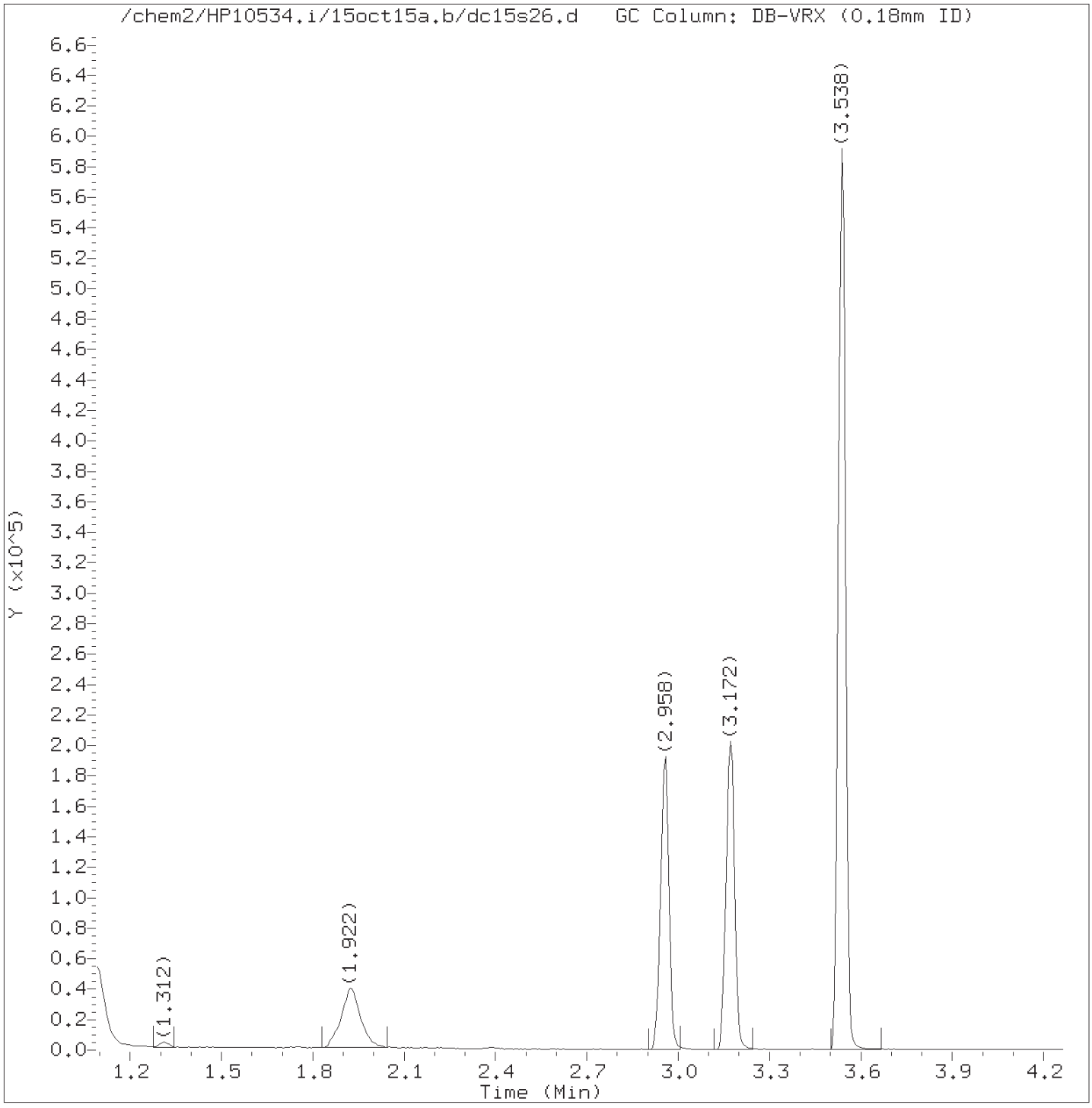
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.958	(-0.001)	113	113976	52.491	105%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.172	(0.000)	102	29895	51.974	104%		77 - 113
16) Toluene-d8	(3)	4.318	(0.001)	98	477286	47.953	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	178161	48.078	96%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
30) Naphthalene	(4)				Not Detected					1	4

Total number of targets = 7

Digitally signed by Hu Yang on 10/16/2015 at 16:42. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:23. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

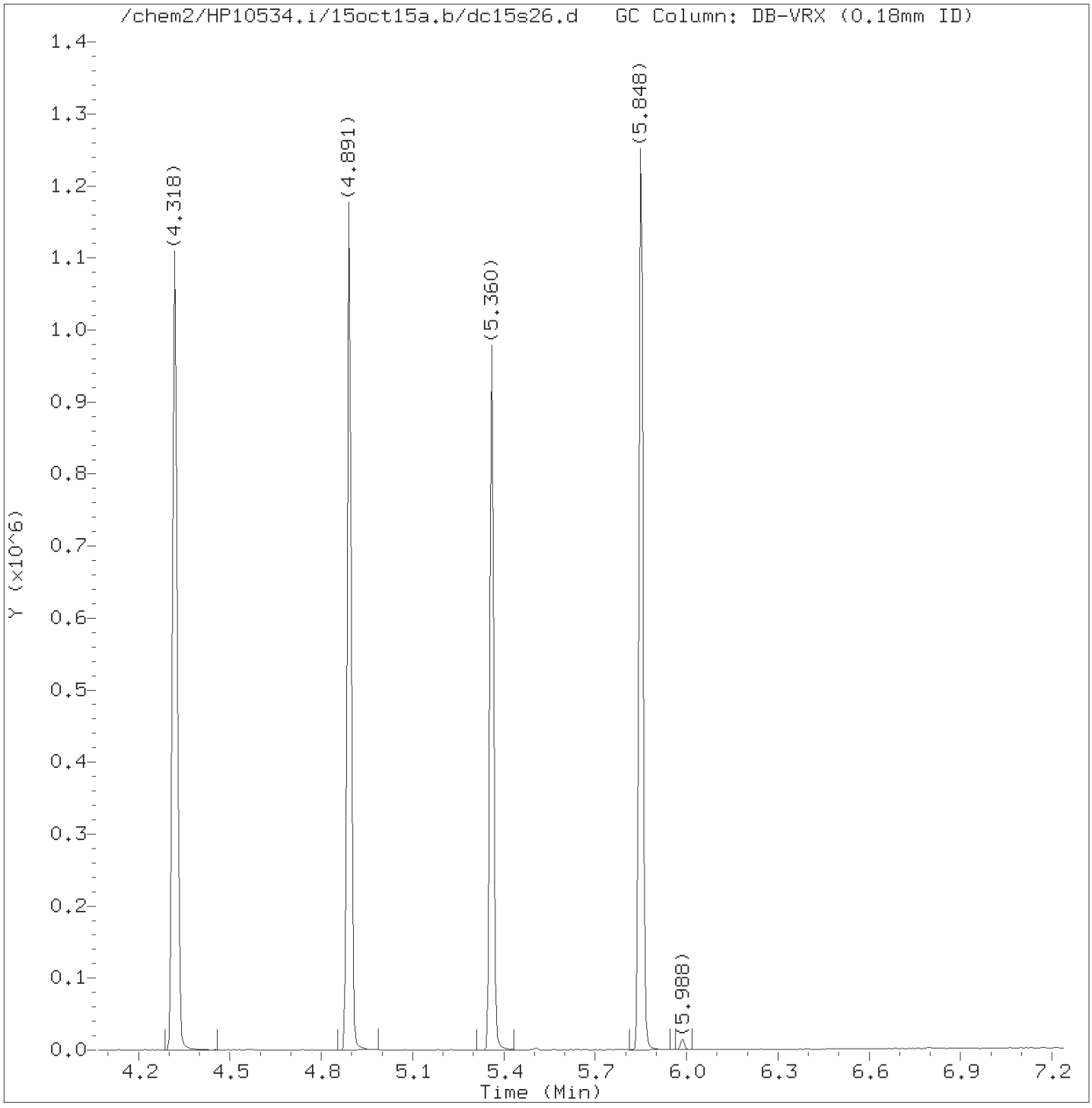
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s26.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 16:08 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 16:17 Unknown

Sample Name: P2908 Lab Sample ID: 8082130

Digitally signed by Hu Yang
on 10/16/2015 at 16:42.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s26.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 16:08 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 16:17 Unknown

Sample Name: P2908 Lab Sample ID: 8082130

Digitally signed by Hu Yang
on 10/16/2015 at 16:42.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s26.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 16:08 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 16:17 Unknown

Sample Name: P2908 Lab Sample ID: 8082130

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.928	65	94735	250.000
7)$Dibromofluoromethane	(2)	2.958	113	113976	52.491
10)$1,2-Dichloroethane-d4	(2)	3.172	102	29895	51.974
14)*Fluorobenzene	(2)	3.538	96	466176	50.000
16)$Toluene-d8	(3)	4.318	98	477286	47.953
20)*Chlorobenzene-d5	(3)	4.891	117	369118	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	178161	48.078
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	203199	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 16:42.
Target 3.5 esignature user ID: hy07820

Standards Data

Volatiles by GC/MS-GRO

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP10534 **HP #26**

Data Directory Path is - C:\msdchem\1\DATA\15jul02i\

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akr02850	dl02i03.D	VSTD100	07/02/2015	12:17		
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akr02850	dl02i06.D	VSTD050	07/02/2015	12:51		
akr02850	dl02i07.D	VSTD020	07/02/2015	13:03		
akr02850	dl02i08.D	VSTD020	07/02/2015	13:14		
akr02850	dl02i09.D	VSTD010	07/02/2015	13:26		
akr02850	dl02i10.D	VSTD010	07/02/2015	13:37		
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akr02850	dl02i12.D	VSTD002	07/02/2015	14:00		
akr02850	dl02i13.D	VSTD001	07/02/2015	14:11		
akr02850	dl02i14.D	VSTD001	07/02/2015	14:23		
akr02850	dl02i07a.D	VSTD020	07/02/2015	14:34		
akr02850	dl02i08a.D	VSTD020	07/02/2015	14:46		
akr02850	dl02m01.D	0.4PPB MDL	07/02/2015	14:57		
akr02850	dl02m02.D	0.4PPB MDL	07/02/2015	15:08		
akr02850	dl02v01.D	LCS-01	07/02/2015	15:20		
akr02850	dl02v02.D	LCS-02	07/02/2015	15:32		
akr02850	dl02v01a.D	LCS-01	07/02/2015	16:01		
akr02850	dl02v02a.D	LCS-02	07/02/2015	16:12		
akr02850	DL02B01.D	VBLKD92	07/02/2015	16:28	D151831AA	
akr02850	DL02B02.D	VBLKD93	07/02/2015	16:39	D151832AA	
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akr02850	DL02S21.D	7940685	07/02/2015	20:18	D151831AA	
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akr02850	DL02S25.D	7940687	07/02/2015	21:04	D151831AA	
akr02850	DL02S26.D	7940676	07/02/2015	21:15	D151832AA	
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akr02850	DL02S29.D	7940689	07/02/2015	21:50	D151831AA	
akr02850	DL02S30.D	7940645DL	07/02/2015	22:01	D151832AA	10

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP10534 **HP #26**

Data Directory Path is - C:\msdchem\1\DATA\15jul02i\

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akr02850	dl02i13.D	VSTD001	07/02/2015	14:11		
akr02850	dl02i14.D	VSTD001	07/02/2015	14:23		
akr02850	dl02i07a.D	VSTD020	07/02/2015	14:34		
akr02850	dl02i08a.D	VSTD020	07/02/2015	14:46		
akr02850	dl02m01.D	0.4PPB MDL	07/02/2015	14:57		
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akr02850	dl02v01.D	LCS-01	07/02/2015	15:20		
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akr02850	dl02v01a.D	LCS-01	07/02/2015	16:01		
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akr02850	DL02S07.D	7940679	07/02/2015	17:37	D151831AA	
akr02850	DL02S08.D	7940667MS	07/02/2015	17:48	D151832AA	
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akr02850	DL02S19.D	7940684	07/02/2015	19:55	D151831AA	
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Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP10534 **HP #26**

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DHH02035	DC15X03.D	VBLKD32	10/15/2015	08:46	D152881AA	
DHH02035	DC15X04.D	VBLKD33	10/15/2015	08:58	D152882AA	
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DHH02035	DC15C01.D	VSTD050	10/15/2015	10:22	D152881AA	
DHH02035	DC15C02.D	VSTD050	10/15/2015	10:34	D152882AA	
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DHH02035	DC15S02.D	LCSD33	10/15/2015	10:57	D152882AA	
DHH02035	DC15B01.D	VBLKD32	10/15/2015	11:08	D152881AA	
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DHH02035	DC15S05.D	8082106	10/15/2015	12:07	D152881AA	
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DHH02035	DC15S09.D	8082103MS	10/15/2015	12:53	D152881AA	
DHH02035	DC15S10.D	8082121MS	10/15/2015	13:04	D152882AA	
DHH02035	DC15S11.D	8082104MSD	10/15/2015	13:16	D152881AA	
DHH02035	DC15S12.D	8082122MSD	10/15/2015	13:27	D152882AA	
DHH02035	DC15S13.D	8082097	10/15/2015	13:39	D152881AA	
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DHH02035	DC15S15.D	8082098	10/15/2015	14:02	D152881AA	10
DHH02035	DC15S16.D	8082125	10/15/2015	14:13	D152882AA	
DHH02035	DC15S17.D	8082099	10/15/2015	14:25	D152881AA	10
DHH02035	DC15S18.D	8082126	10/15/2015	14:36	D152882AA	
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DHH02035	DC15S44.D	8081997	10/16/2015	07:33	D152882AA	

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP10534 **HP #26**

Data Directory Path is - C:\msdchem\1\data\15OCT16A\

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HY07820	DC16C01.D	VSTD050	10/16/2015	17:38	D152891AA	
HY07820	DC16C02.D	VSTD050	10/16/2015	17:49	D152892AA	
HY07820	DC16S01.D	LCSD34	10/16/2015	18:01	D152891AA	
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HY07820	DC16S03.D	8082125	10/16/2015	19:05	D152891AA	
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HY07820	DC16S07.D	8082251MS	10/16/2015	19:51	D152891AA	
HY07820	DC16S08.D	8084021MS	10/16/2015	20:02	D152892AA	
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HY07820	DC16S10.D	8084021MSD	10/16/2015	20:25	D152892AA	
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HY07820	DC16S13.D	8081997	10/16/2015	20:59	D152891AA	
HY07820	DC16S14.D	8090031	10/16/2015	21:11	D152892AA	
HY07820	DC16S15.D	8082254	10/16/2015	21:22	D152891AA	
HY07820	DC16S16.D	8090032	10/16/2015	21:34	D152892AA	
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HY07820	DC16S19.D	8082256	10/16/2015	22:08	D152891AA	
HY07820	DC16S20.D	8090034	10/16/2015	22:20	D152892AA	
HY07820	DC16S21.D	8082257	10/16/2015	22:31	D152891AA	
HY07820	DC16S22.D	8090035	10/16/2015	22:43	D152892AA	
HY07820	DC16S23.D	8082258	10/16/2015	22:54	D152891AA	
HY07820	DC16S24.D	8090037	10/16/2015	23:06	D152892AA	
HY07820	DC16S25.D	8082259	10/16/2015	23:17	D152891AA	
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HY07820	DC16S35.D	8081998	10/17/2015	01:12	D152891AA	
HY07820	DC16S36.D	8084019	10/17/2015	01:24	D152892AA	
HY07820	DC16S37.D	8081999	10/17/2015	01:35	D152891AA	
HY07820	DC16S38.D	8084020	10/17/2015	01:47	D152892AA	
HY07820	DC16S39.D	8082113DL	10/17/2015	01:58	D152891AA	10
HY07820	DC16S40.D	8084022	10/17/2015	02:10	D152892AA	
HY07820	DC16S41.D	8082124DL	10/17/2015	02:21	D152891AA	50
HY07820	DC16S42.D	8084023	10/17/2015	02:33	D152892AA	
HY07820	DC16S43.D	8082250	10/17/2015	02:44	D152891AA	50
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HY07820	DC16S45.D	8080059DL	10/17/2015	03:07	D152891AA	20
HY07820	DC16S46.D	8090036	10/17/2015	03:19	D152892AA	5

Data File: /chem2/HP10534.i/15jul02i.b/d102t01.d

Date : 02-JUL-2015 11:15

Client ID: BFBMAR06-15

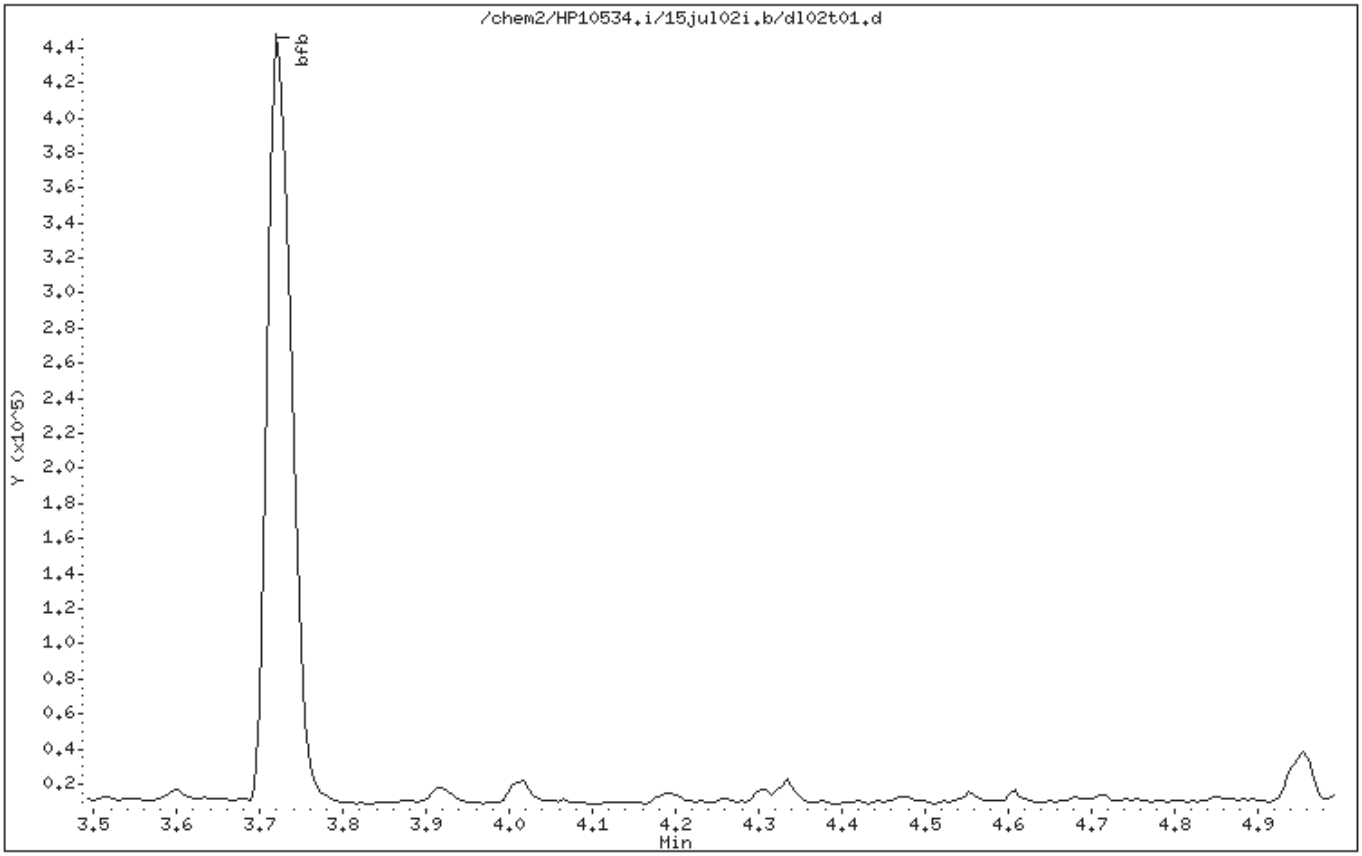
Instrument: HP10534.i

Sample Info: BFBMAR06-15;50NGBFB;1;3;;;

Operator: AKR02850

Column phase: DB-VRX

Column diameter: 0.18



Digitally signed by Amanda K. Richards on 07/02/2015 at 15:02.
Target 3.5 esignature user ID: akr02850

Data File: /chem2/HP10534.i/15jul02i.b/d102t01.d

Date : 02-JUL-2015 11:15

Client ID: BFBMAR06-15

Instrument: HP10534.i

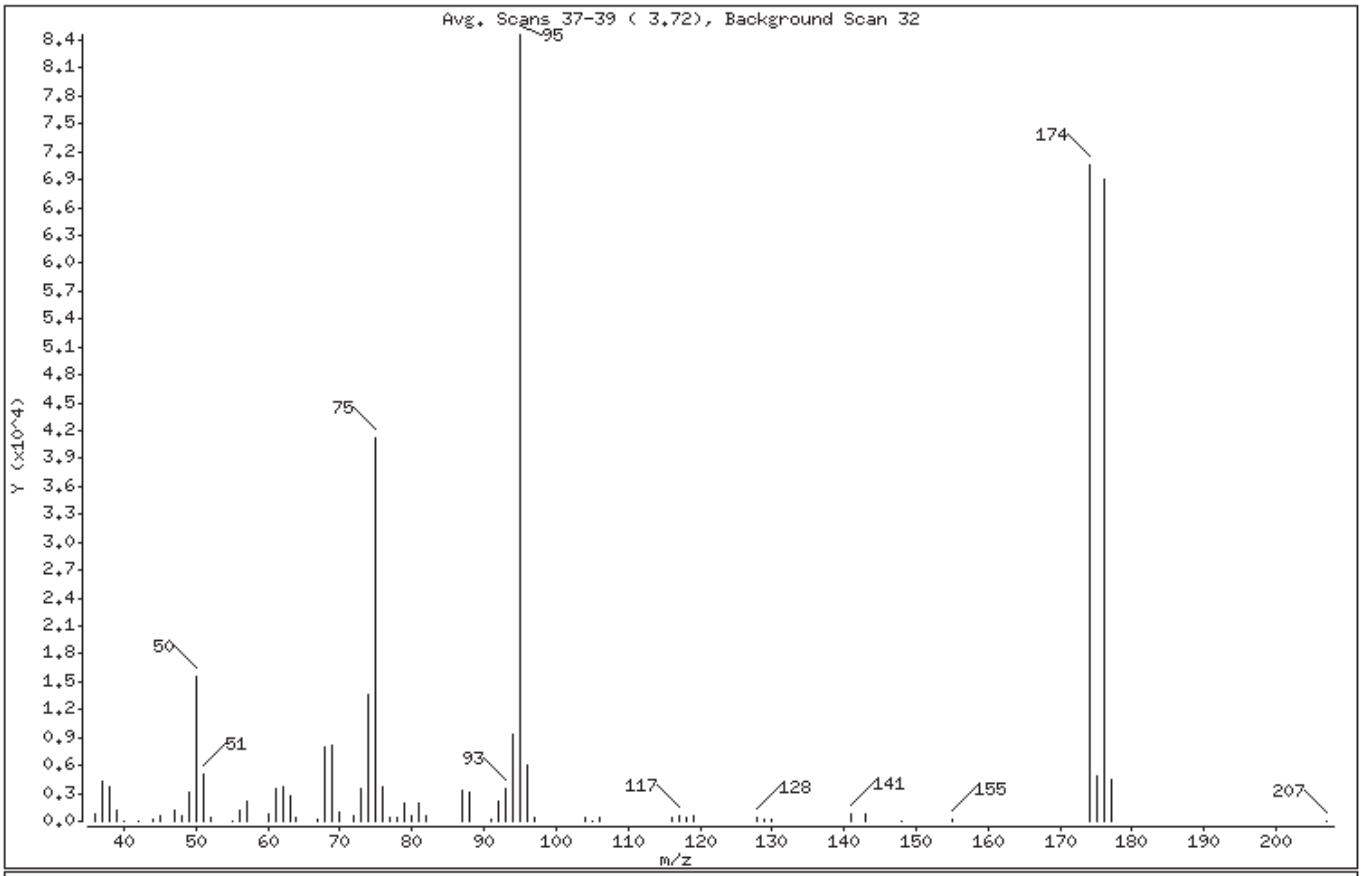
Sample Info: BFBMAR06-15;50NGBFB;1;3;;;

Operator: AKR02850

Column phase: DB-VRX

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.28
75	30.00 - 60.00% of mass 95	48.84
96	5.00 - 9.00% of mass 95	7.09
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 100.00% of mass 95	83.48
175	5.00 - 9.00% of mass 174	5.85 (7.01)
176	95.00 - 101.00% of mass 174	81.61 (97.76)
177	5.00 - 9.00% of mass 176	5.40 (6.62)

Digitally signed by Amanda K. Richards on 07/02/2015 at 15:02.
Target 3.5 esignature user ID: akr02850

Date : 02-JUL-2015 11:15

Client ID: BFBMAR06-15 Instrument: HP10534.i

Sample Info: BFBMAR06-15;50NGBFB;1;3;;;

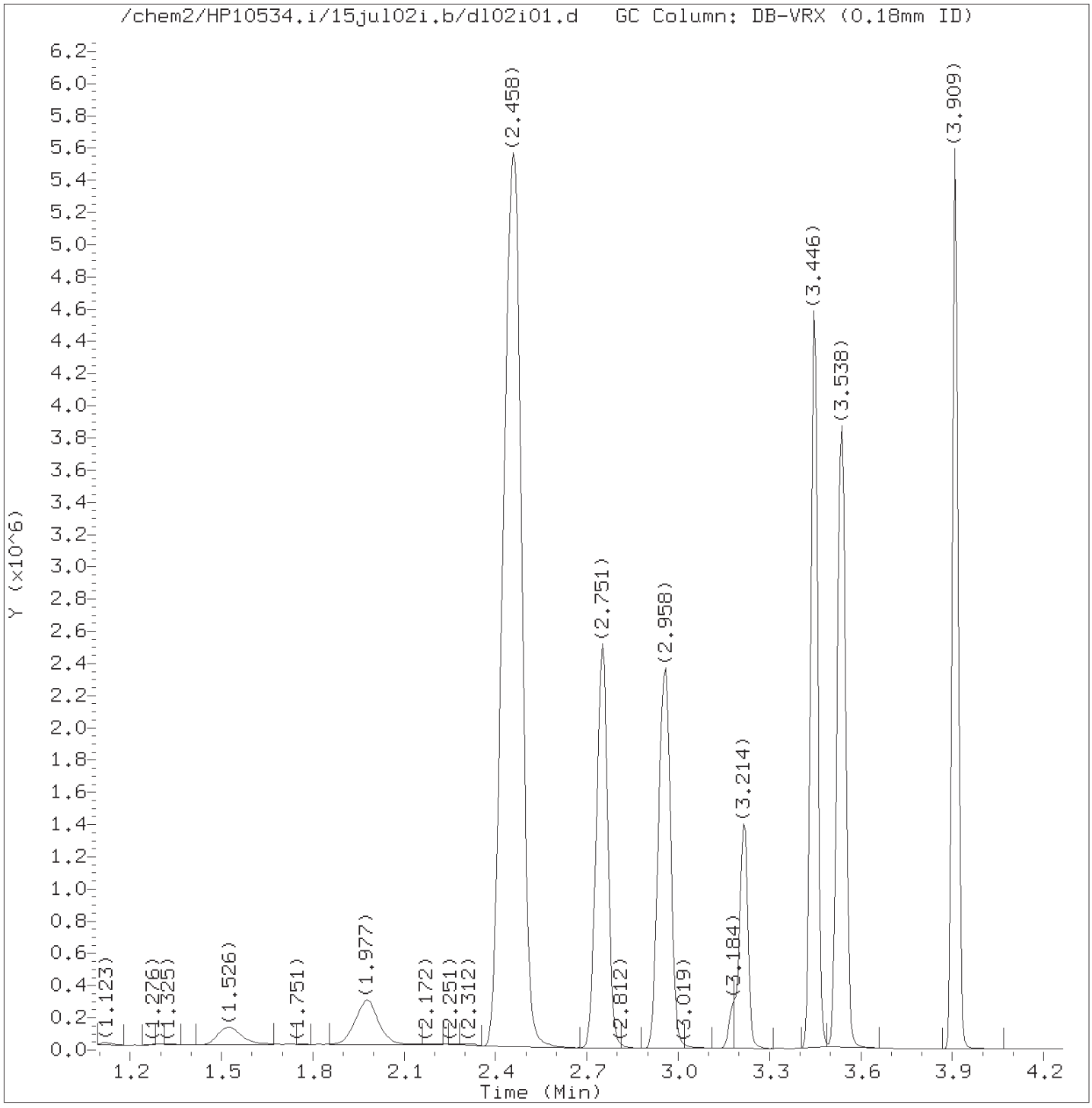
Operator: AKR02850

Column phase: DB-VRX Column diameter: 0.18

Data File: dl02t01.d
Spectrum: Avg. Scans 37-39 (3.72), Background Scan 32
Location of Maximum: 95.00
Number of points: 65

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	823	60.00	793	80.00	567	118.00	297
37.00	4224	61.00	3596	81.00	1938	119.00	517
38.00	3630	62.00	3637	82.00	530	128.00	395
39.00	1172	63.00	2677	87.00	3337	129.00	197
40.00	24	64.00	387	88.00	3117	130.00	286
42.00	23	67.00	170	91.00	149	141.00	797
44.00	266	68.00	7943	92.00	2156	143.00	772
45.00	585	69.00	8102	93.00	3421	148.00	89
47.00	1082	70.00	908	94.00	9345	155.00	280
48.00	588	72.00	543	95.00	84584	174.00	70608
49.00	3179	73.00	3528	96.00	5996	175.00	4950
50.00	15467	74.00	13540	97.00	342	176.00	69032
51.00	5075	75.00	41312	104.00	469	177.00	4568
52.00	345	76.00	3602	105.00	63	207.00	45
55.00	95	77.00	421	106.00	385		
56.00	1251	78.00	440	116.00	360		
57.00	2079	79.00	1899	117.00	638		

Digitally signed by Amanda K. Richards on 07/02/2015 at 15:02.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

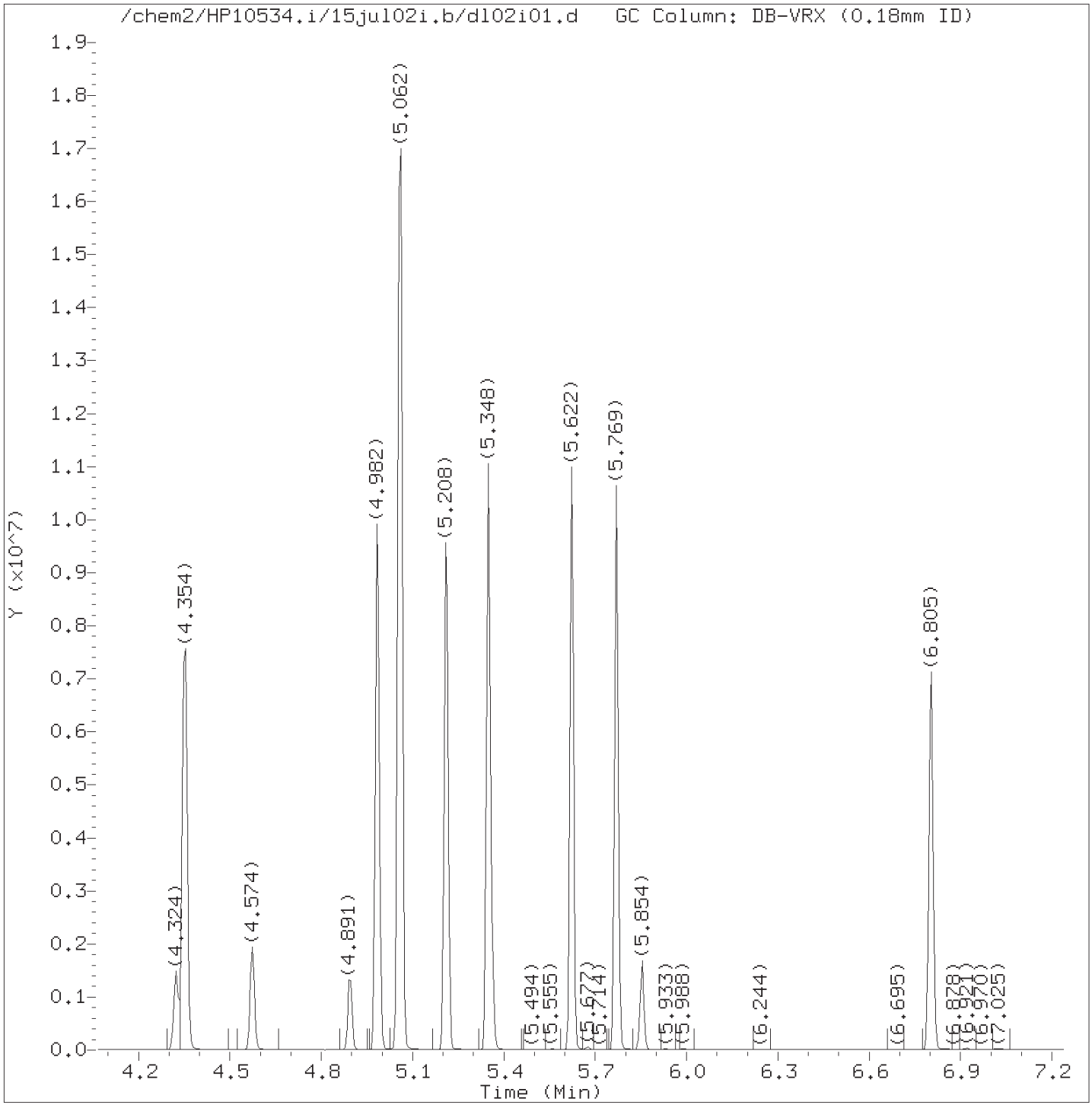
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 11:54 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD200 Lab Sample ID: VSTD200

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 11:54 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD200 Lab Sample ID: VSTD200

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 11:54 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

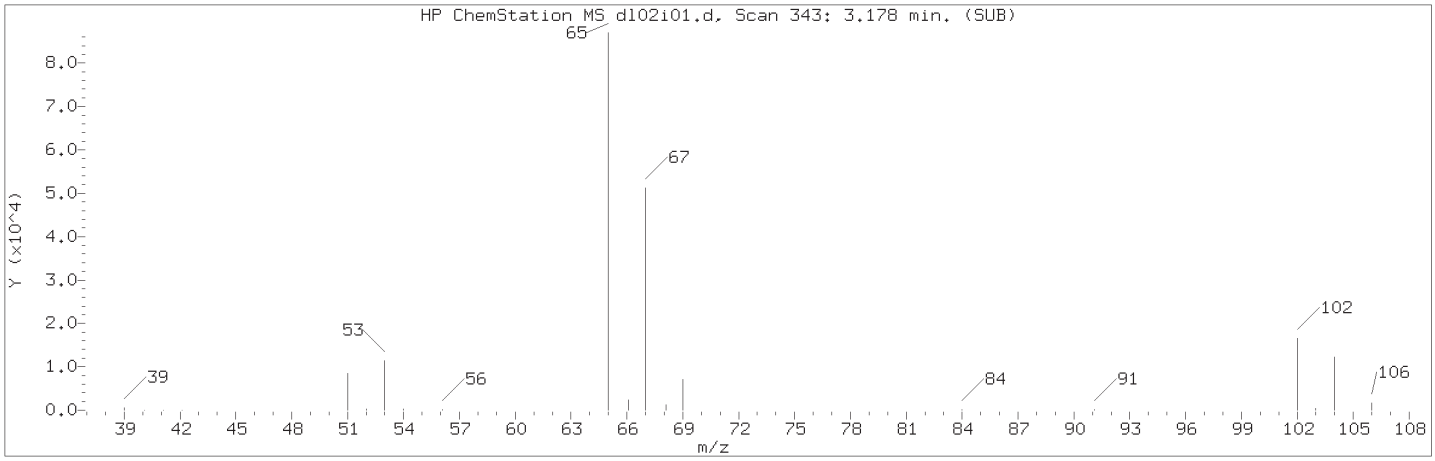
Sample Name: VSTD200 Lab Sample ID: VSTD200

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	352522	5000.000
2)*t-Butyl alcohol-d10	(1)	1.946	65	126756	250.000
3) t-Butyl alcohol	(1)	1.983	59	685221	1000.000
4) Methyl Tertiary Butyl Ether	(2)	2.458	73	11359404	1000.000
5) di-Isopropyl ether	(2)	2.751	45	2814939	200.000
6) Ethyl t-butyl ether	(2)	2.952	59	2643260	200.000
7)$Dibromofluoromethane	(2)	2.964	113	143121	50.000
7)$Dibromofluoromethane	(2)	2.964	111	146849	50.000
10)$1,2-Dichloroethane-d4	(2)	3.178	102	39353M	50.000
10)$1,2-Dichloroethane-d4	(2)	3.178	65	195921M	50.000
10)$1,2-Dichloroethane-d4	(2)	3.184	104	24820	50.000
11) 1,2-Dichloroethane	(2)	3.214	62	1087877	200.000
12) Benzene	(2)	3.446	78	3470832	200.000
13) t-Amyl methyl ether	(2)	3.531	87	625386	200.000
14)*Fluorobenzene	(2)	3.544	96	612224	50.000
15) t-Amyl ethyl ether	(2)	3.909	87	1341517	200.000
16)$Toluene-d8	(3)	4.324	98	613660	50.000
16)$Toluene-d8	(3)	4.324	100	399441	50.000
17) Toluene	(3)	4.354	92	2168607	200.000
19) 1,2-Dibromoethane	(3)	4.574	107	790881	200.000
20)*Chlorobenzene-d5	(3)	4.897	117	458037	50.000
21) Ethylbenzene	(3)	4.982	91	4096235	200.000
22) m+p-Xylene	(3)	5.062	106	3125402	400.000
23) o-Xylene	(3)	5.208	106	1544033	200.000
24) Xylene (Total)	(3)		106	4669435	600.000
25) Isopropylbenzene	(3)	5.348	105	3959680	200.000
26)$4-Bromofluorobenzene	(3)	5.360	95	229293	50.000
26)$4-Bromofluorobenzene	(3)	5.360	174	198415	50.000
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	3240535	200.000
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	3279543	200.000
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	253364	50.000
30) Naphthalene	(4)	6.805	128	3552309	200.000

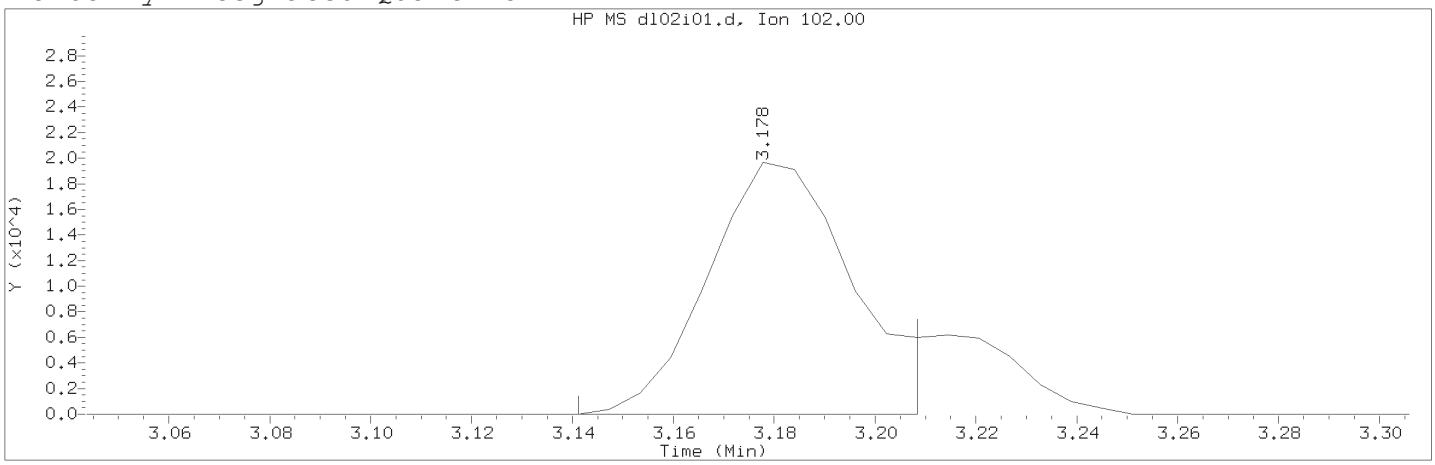
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 11:54 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD200 Lab Sample ID: VSTD200

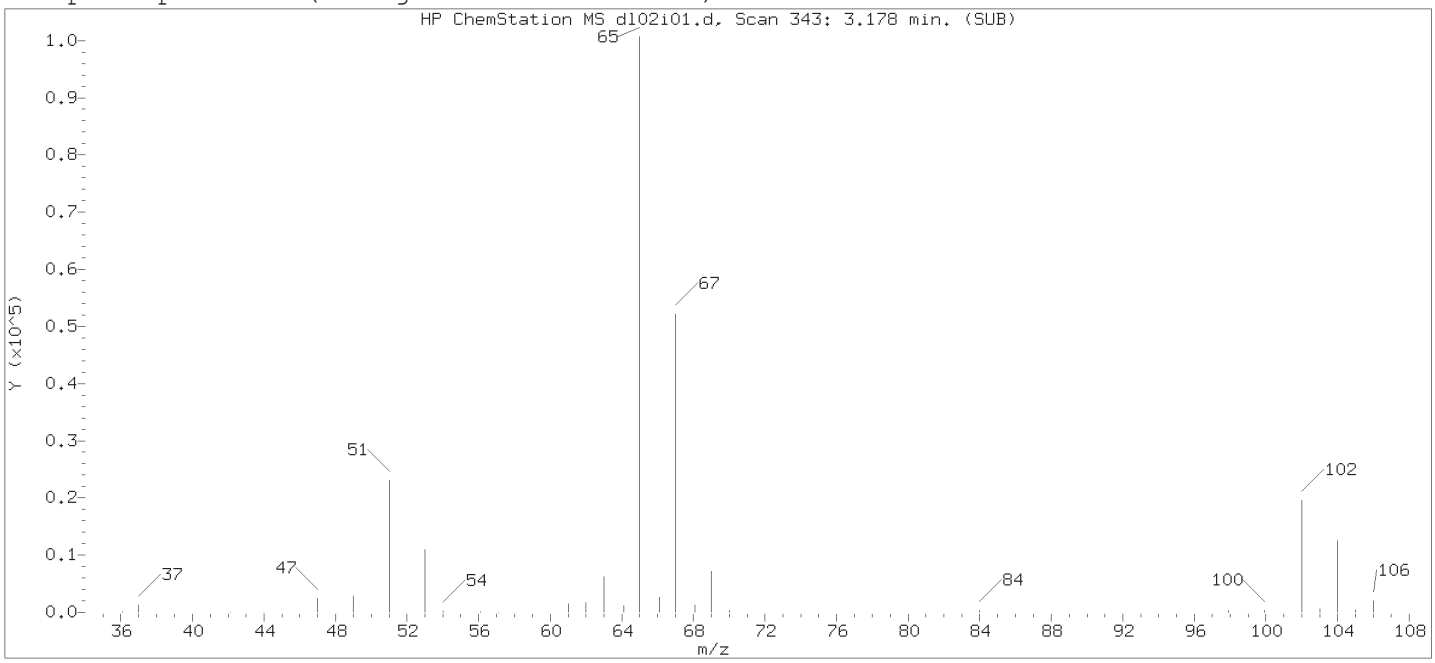
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 343
Retention Time (minutes): 3.178
Quant Ion : 102.00
Area (flag) : 39353M
On-Column Amount (ng) : 50.0000
Integration start scan : 336 Integration stop scan: 347
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

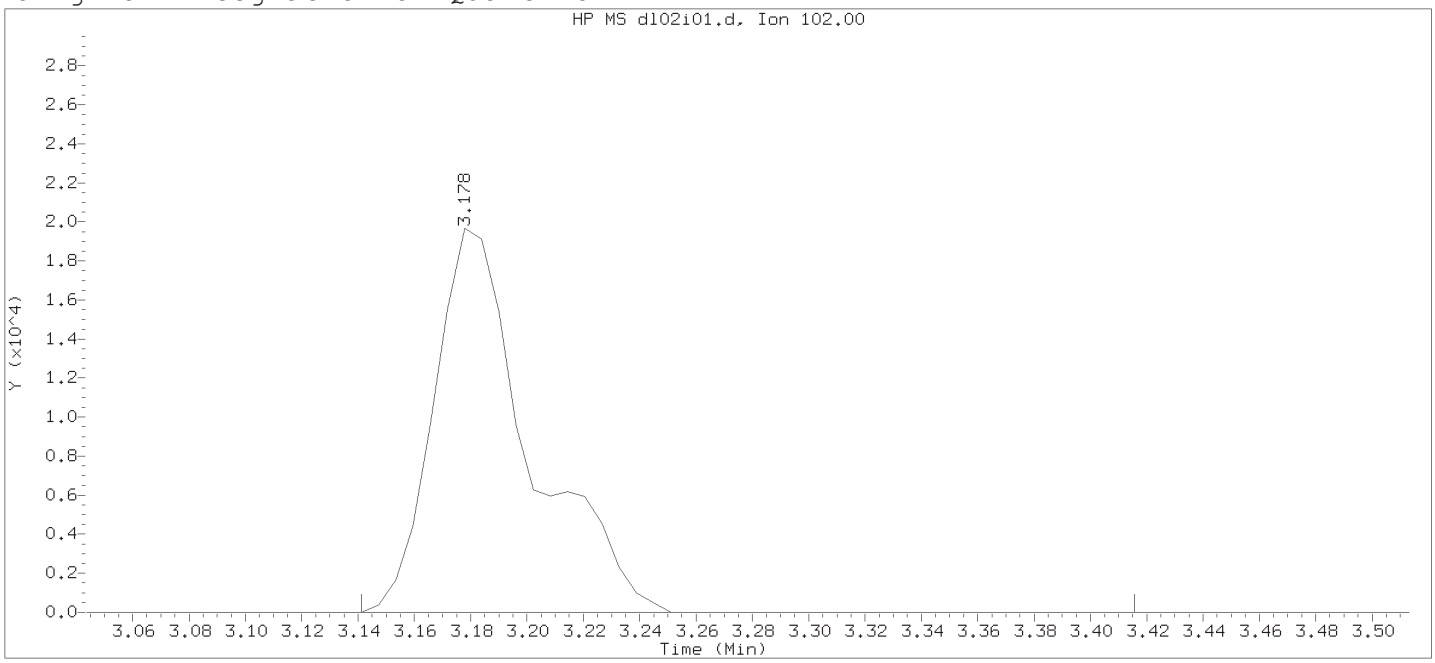
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 11:54 Analyst ID: akr02850

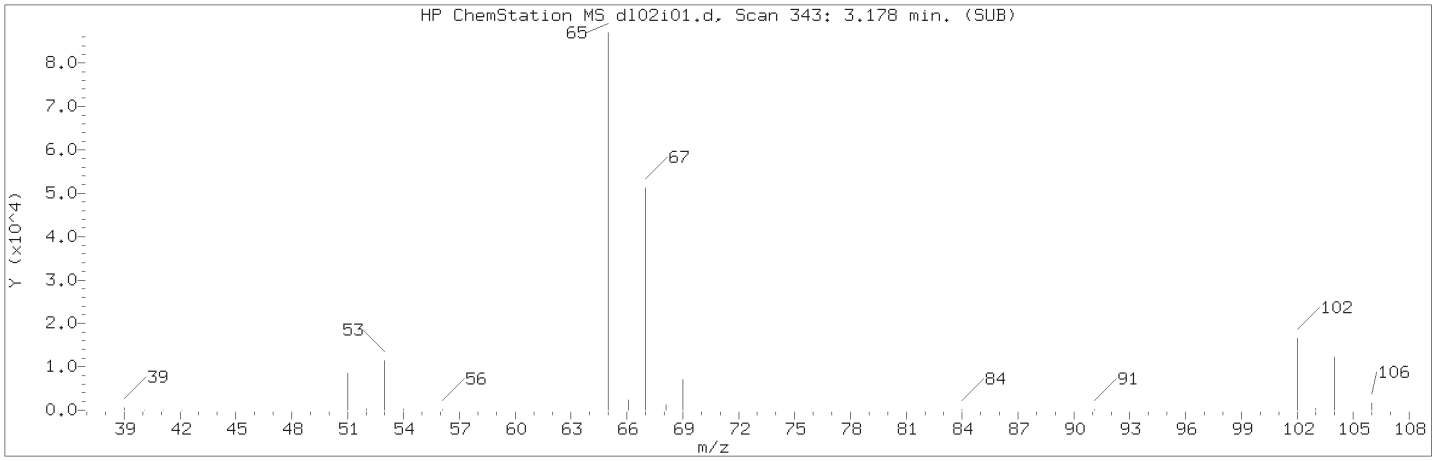
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 12:04
Date, time and analyst ID of latest file update: 02-Jul-2015 12:04 chemist

Sample Name: VSTD200 Lab Sample ID: VSTD200

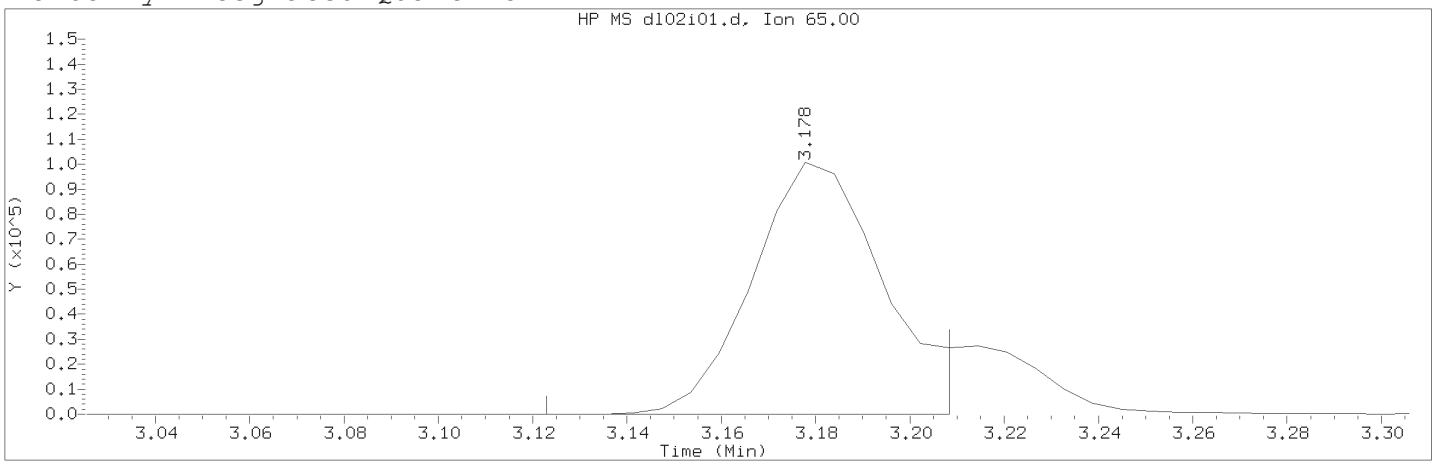
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 343
Retention Time (minutes): 3.178
Quant Ion : 102.00
Area : 46829
On-column Amount (ng) : 59.7084
Integration start scan : 336 Integration stop scan: 381
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 11:54 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD200 Lab Sample ID: VSTD200

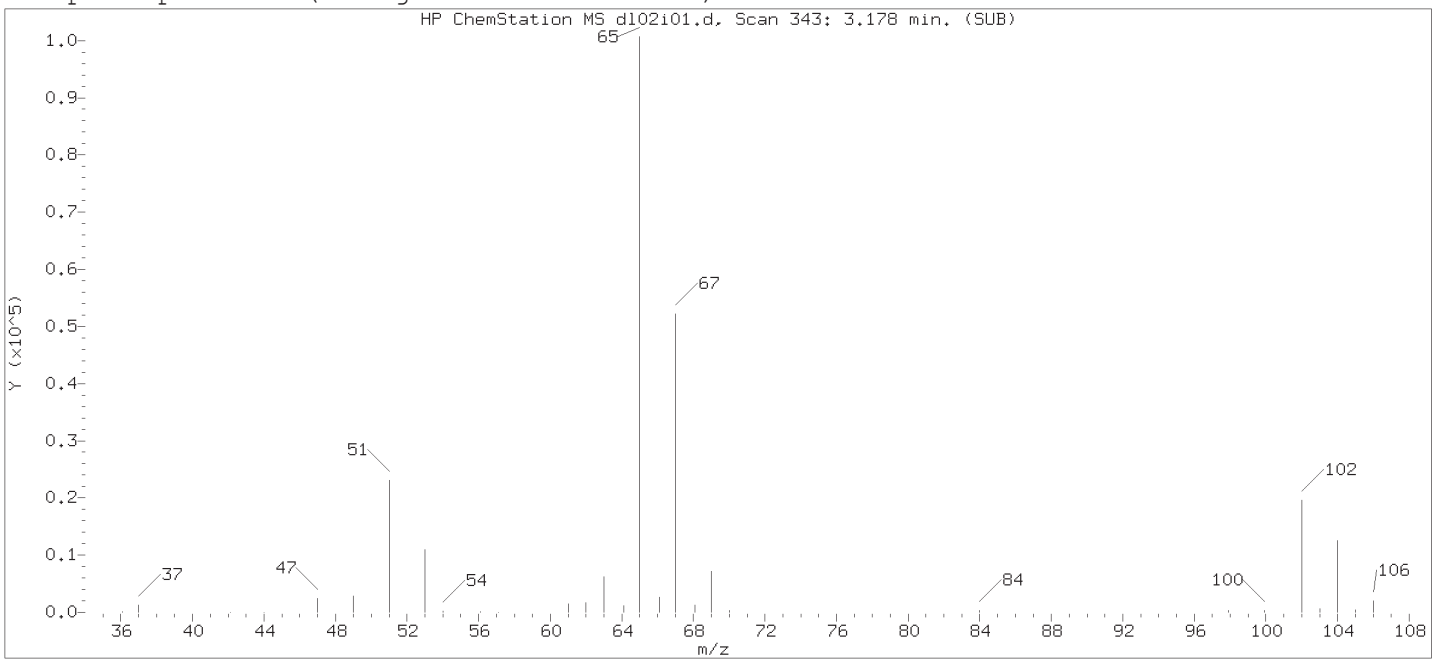
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 343
Retention Time (minutes): 3.178
Quant Ion : 65.00
Area (flag) : 195921M
On-Column Amount (ng) : 50.0000
Integration start scan : 333 Integration stop scan: 347
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

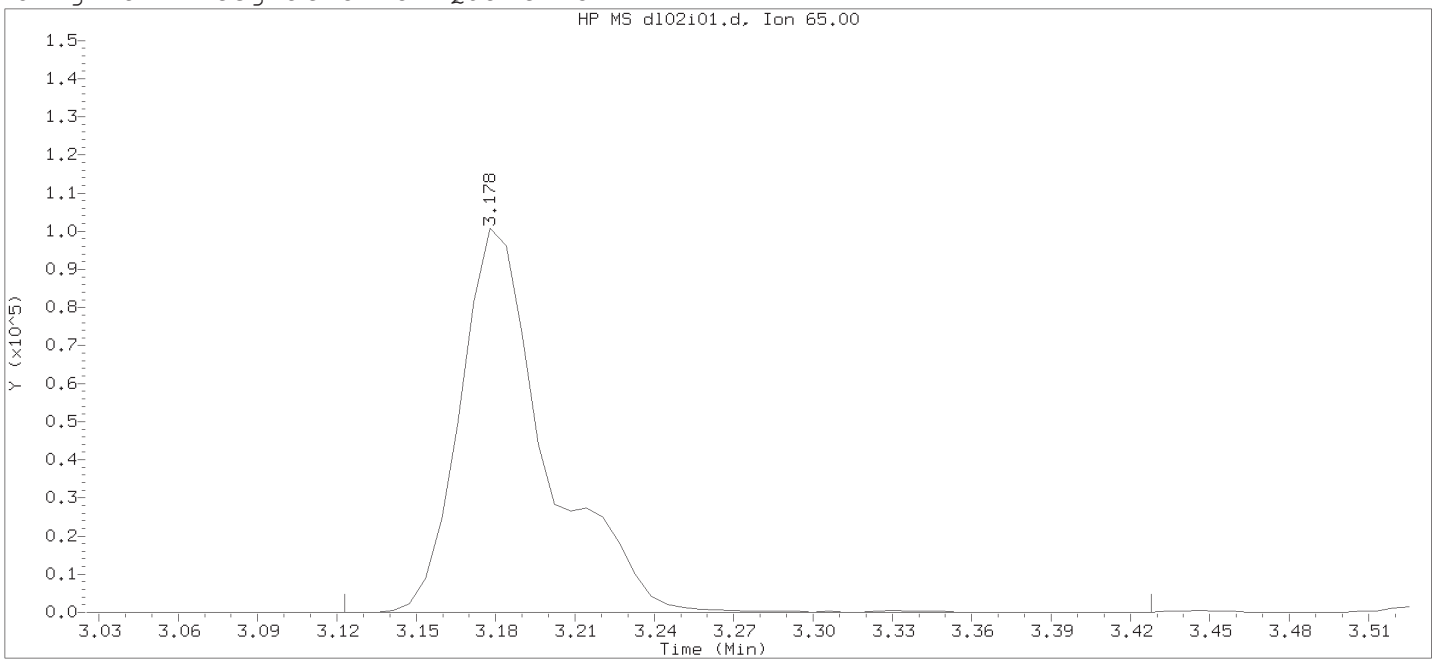
Analyst responsible for change: Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



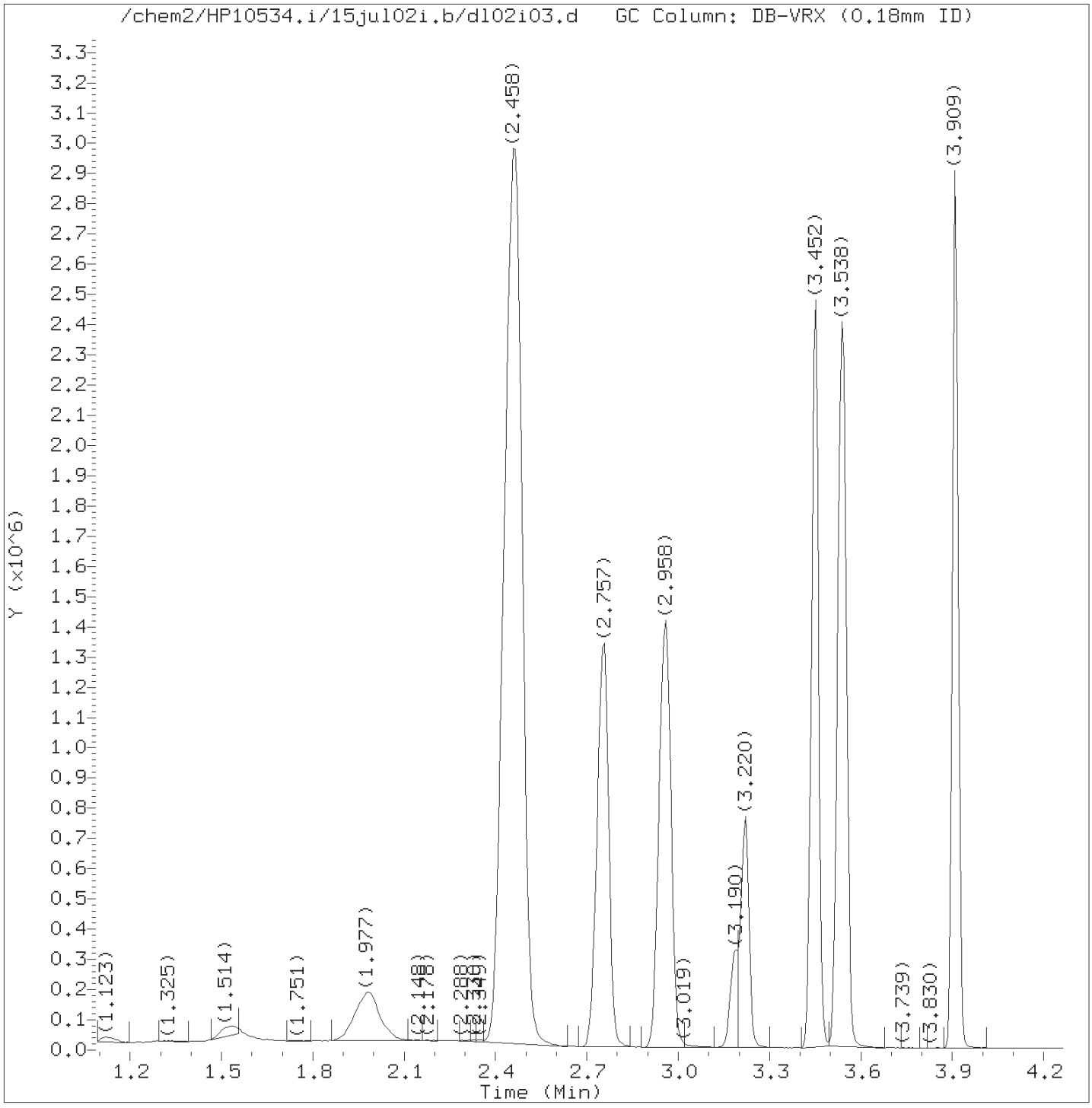
Data File: /chem2/HP10534.i/15jul02i.b/dl02i01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 11:54 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 12:04
Date, time and analyst ID of latest file update: 02-Jul-2015 12:04 chemist

Sample Name: VSTD200 Lab Sample ID: VSTD200

Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 343
Retention Time (minutes): 3.178
Quant Ion : 65.00
Area : 230110
On-column Amount (ng) : 61.6297
Integration start scan : 333 Integration stop scan: 383
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature used [illegible]



Total Ion Chromatogram (TIC)

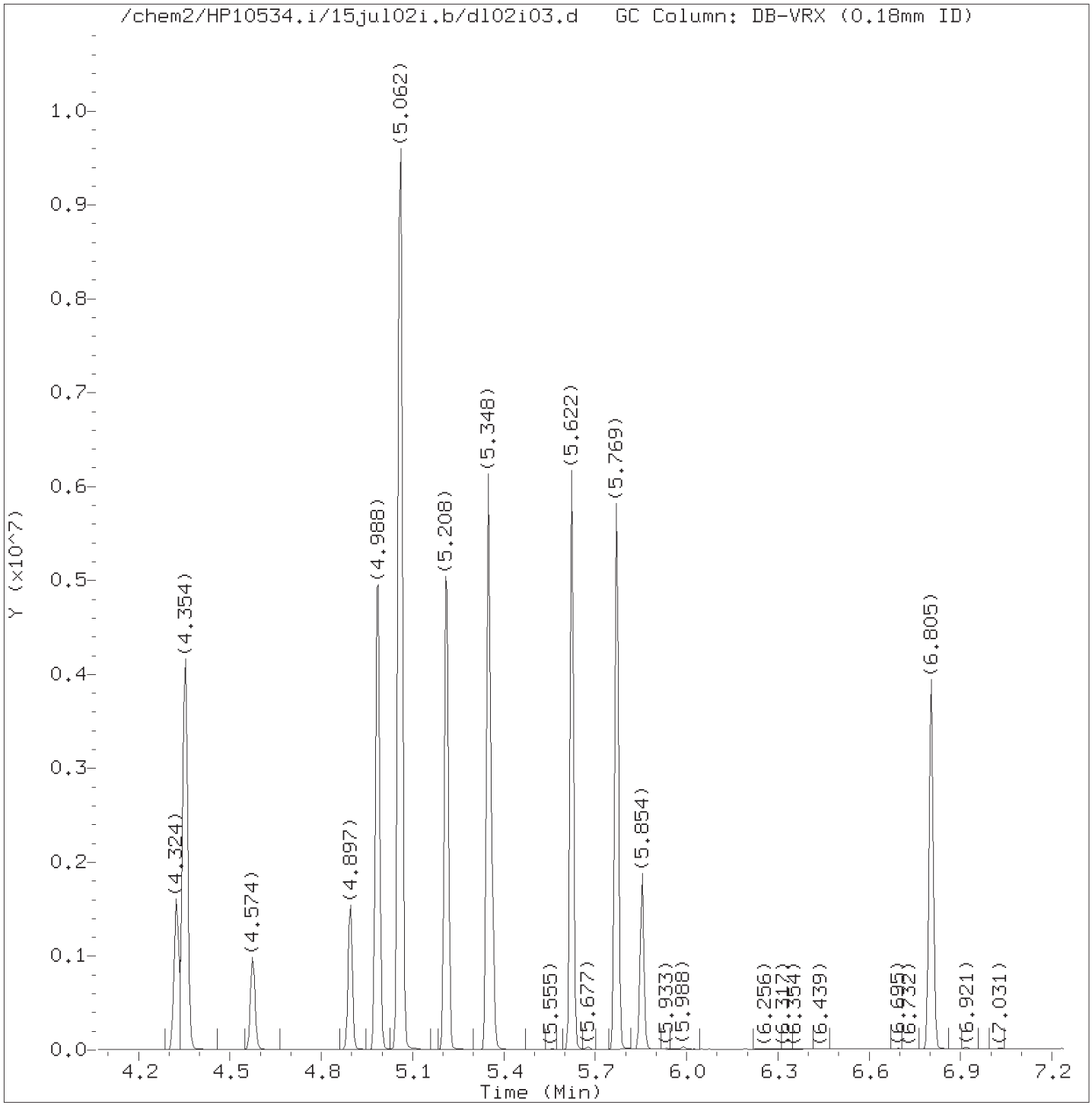
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i03.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:17 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD100 Lab Sample ID: VSTD100

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i03.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:17 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD100 Lab Sample ID: VSTD100

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i03.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:17 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

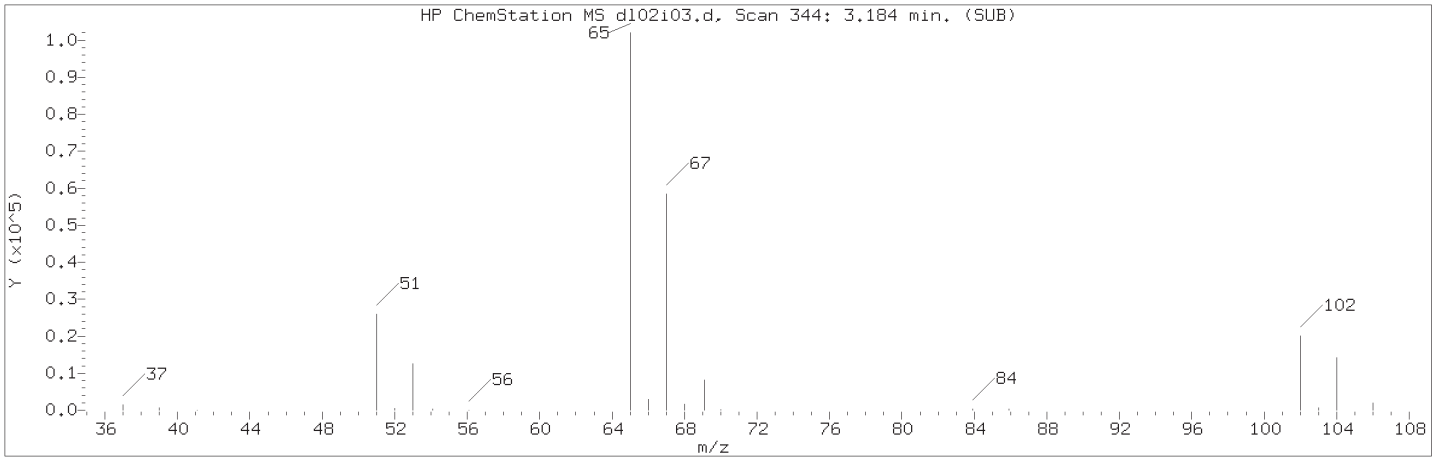
Sample Name: VSTD100 Lab Sample ID: VSTD100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	186977	2391.135
2)*t-Butyl alcohol-d10	(1)	1.946	65	146706	250.000
3) t-Butyl alcohol	(1)	1.989	59	372944	484.672
4) Methyl Tertiary Butyl Ether	(2)	2.465	73	5981977	480.601
5) di-Isopropyl ether	(2)	2.757	45	1532045	97.766
6) Ethyl t-butyl ether	(2)	2.952	59	1432377	97.550
7)$Dibromofluoromethane	(2)	2.971	113	163004	50.015
7)$Dibromofluoromethane	(2)	2.971	111	166005	49.828
10)$1,2-Dichloroethane-d4	(2)	3.184	102	43526M	49.282
10)$1,2-Dichloroethane-d4	(2)	3.184	65	214116M	48.983
10)$1,2-Dichloroethane-d4	(2)	3.184	104	27381	49.218
11) 1,2-Dichloroethane	(2)	3.220	62	593554	97.890
12) Benzene	(2)	3.452	78	1884601	97.649
13) t-Amyl methyl ether	(2)	3.538	87	335757	97.085
14)*Fluorobenzene	(2)	3.550	96	696862	50.000
15) t-Amyl ethyl ether	(2)	3.909	87	700666	95.709
16)$Toluene-d8	(3)	4.324	98	691602	50.148
16)$Toluene-d8	(3)	4.324	100	449309	50.100
17) Toluene	(3)	4.354	92	1188944	98.925
19) 1,2-Dibromoethane	(3)	4.574	107	422971	97.684
20)*Chlorobenzene-d5	(3)	4.897	117	513157	50.000
21) Ethylbenzene	(3)	4.988	91	2238669	98.766
22) m+p-Xylene	(3)	5.062	106	1730597	198.842
23) o-Xylene	(3)	5.214	106	846791	98.941
24) Xylene (Total)	(3)		106	2577388	297.783
25) Isopropylbenzene	(3)	5.348	105	2165871	98.809
26)$4-Bromofluorobenzene	(3)	5.360	95	257750	50.084
26)$4-Bromofluorobenzene	(3)	5.360	174	222288	50.000
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	1772234	99.254
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	1780638	98.892
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	281292	50.000
30) Naphthalene	(4)	6.805	128	1971928	100.000

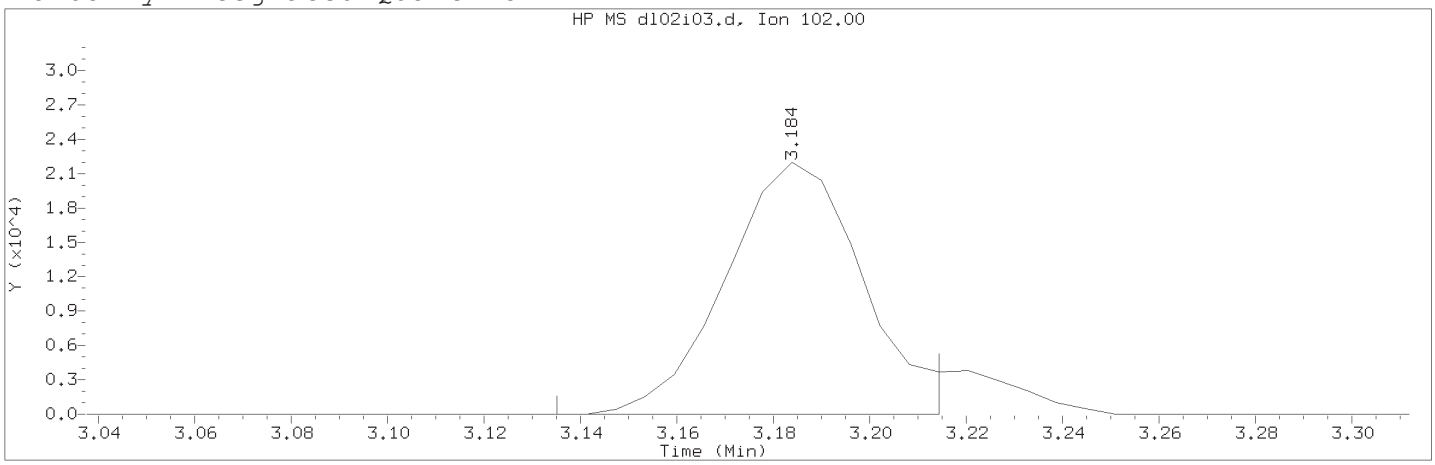
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i03.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:17 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD100 Lab Sample ID: VSTD100

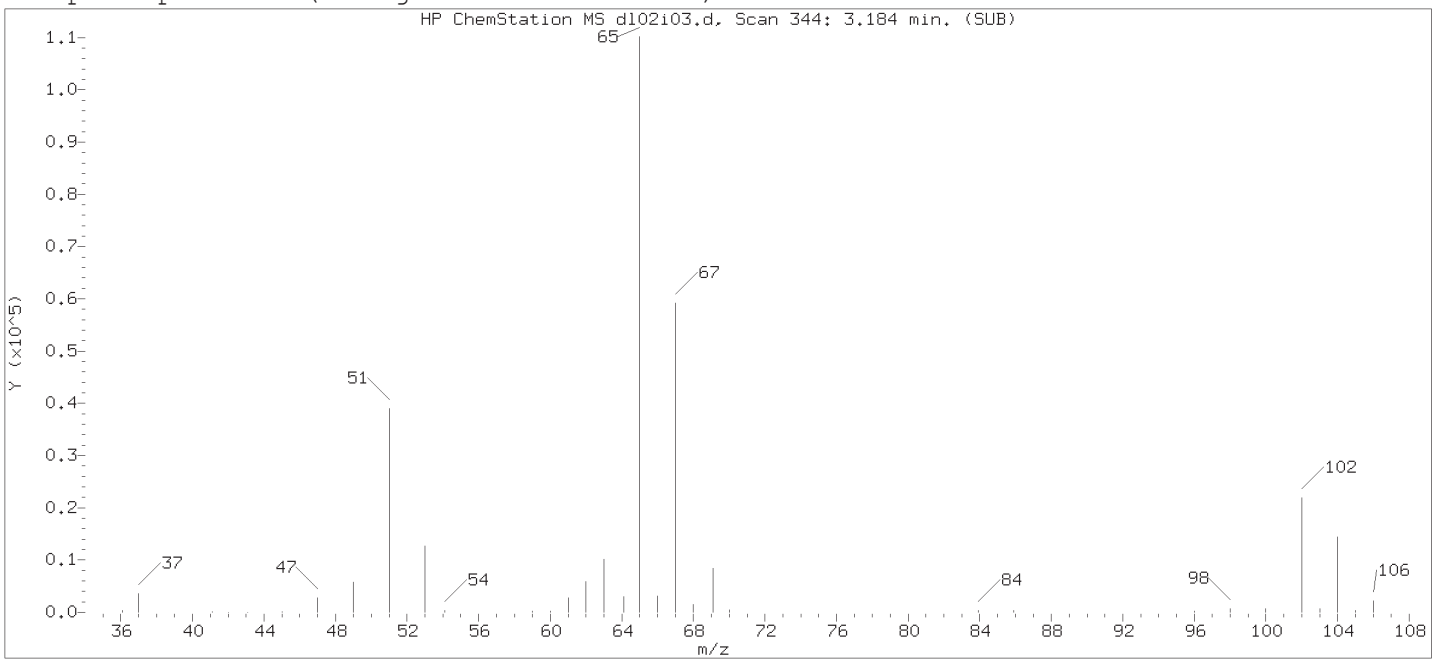
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 344
Retention Time (minutes): 3.184
Quant Ion : 102.00
Area (flag) : 43526M
On-Column Amount (ng) : 49.2825
Integration start scan : 335 Integration stop scan: 348
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

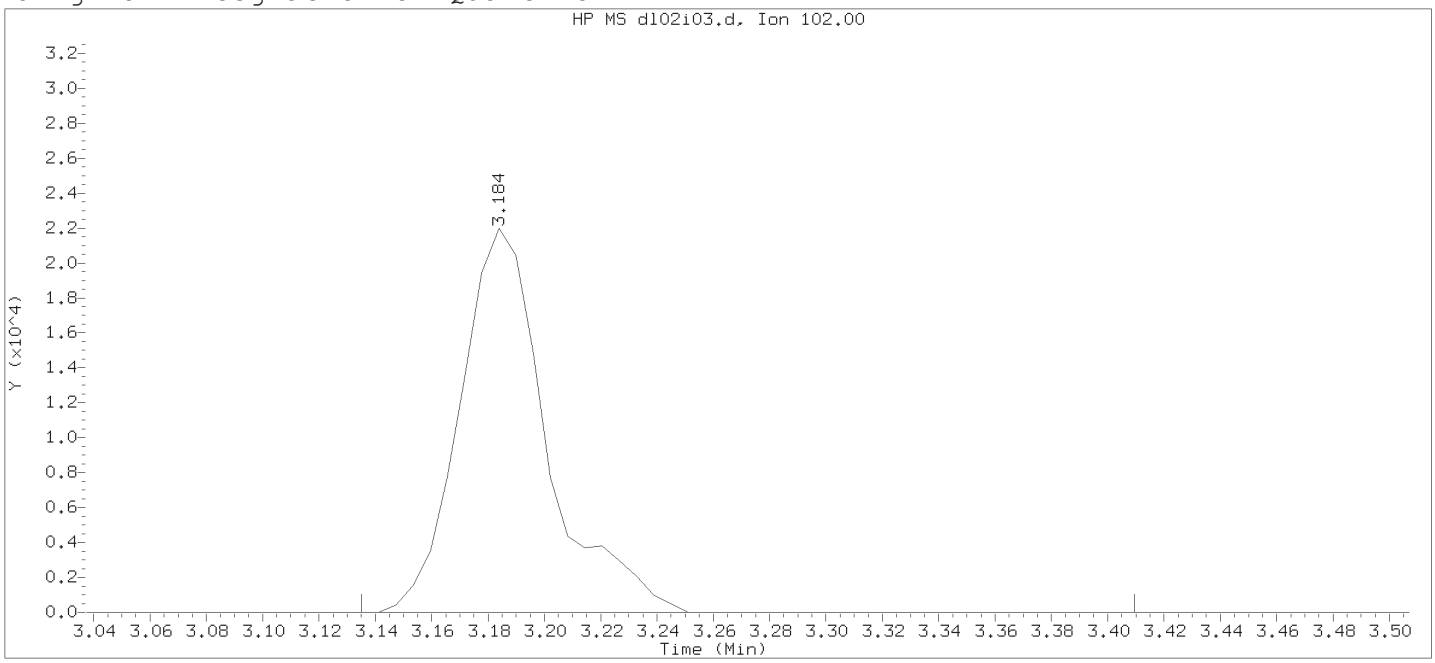
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i03.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:17 Analyst ID: akr02850

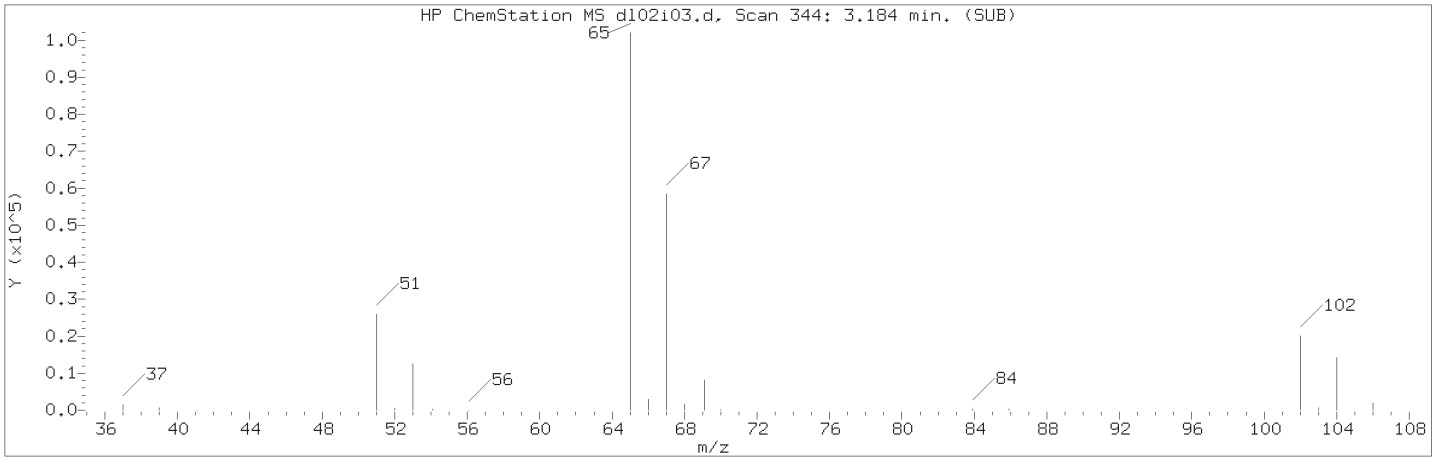
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 12:27
Date, time and analyst ID of latest file update: 02-Jul-2015 12:27 chemist

Sample Name: VSTD100 Lab Sample ID: VSTD100

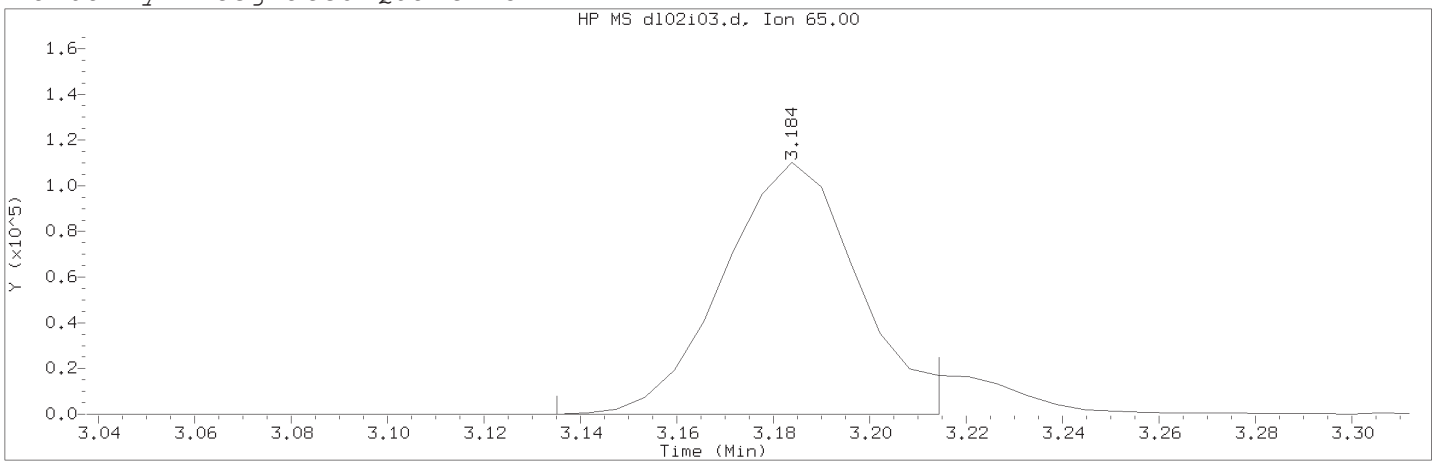
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 344
Retention Time (minutes): 3.184
Quant Ion : 102.00
Area : 47287
On-column Amount (ng) : 50.0000
Integration start scan : 335 Integration stop scan: 380
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature used: Amanda K. Richards

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i03.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:17 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD100 Lab Sample ID: VSTD100

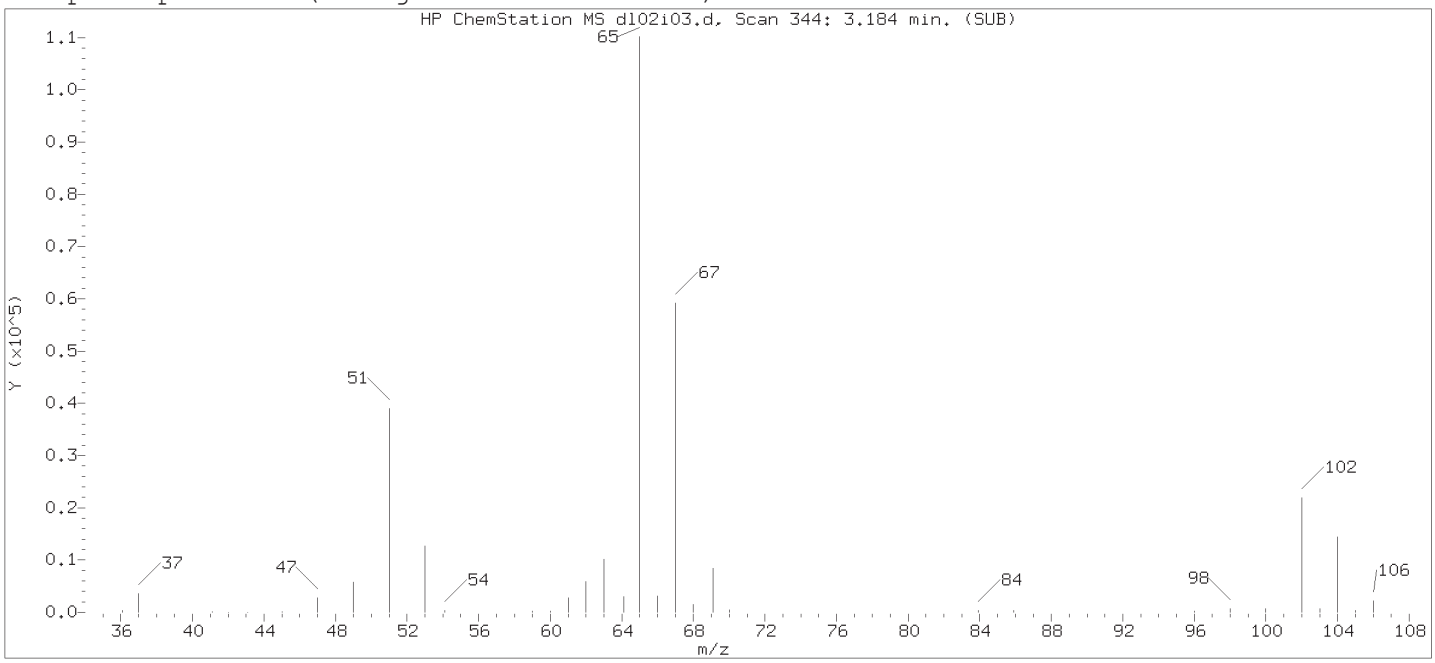
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 344
Retention Time (minutes): 3.184
Quant Ion : 65.00
Area (flag) : 214116M
On-Column Amount (ng) : 48.9831
Integration start scan : 335 Integration stop scan: 348
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

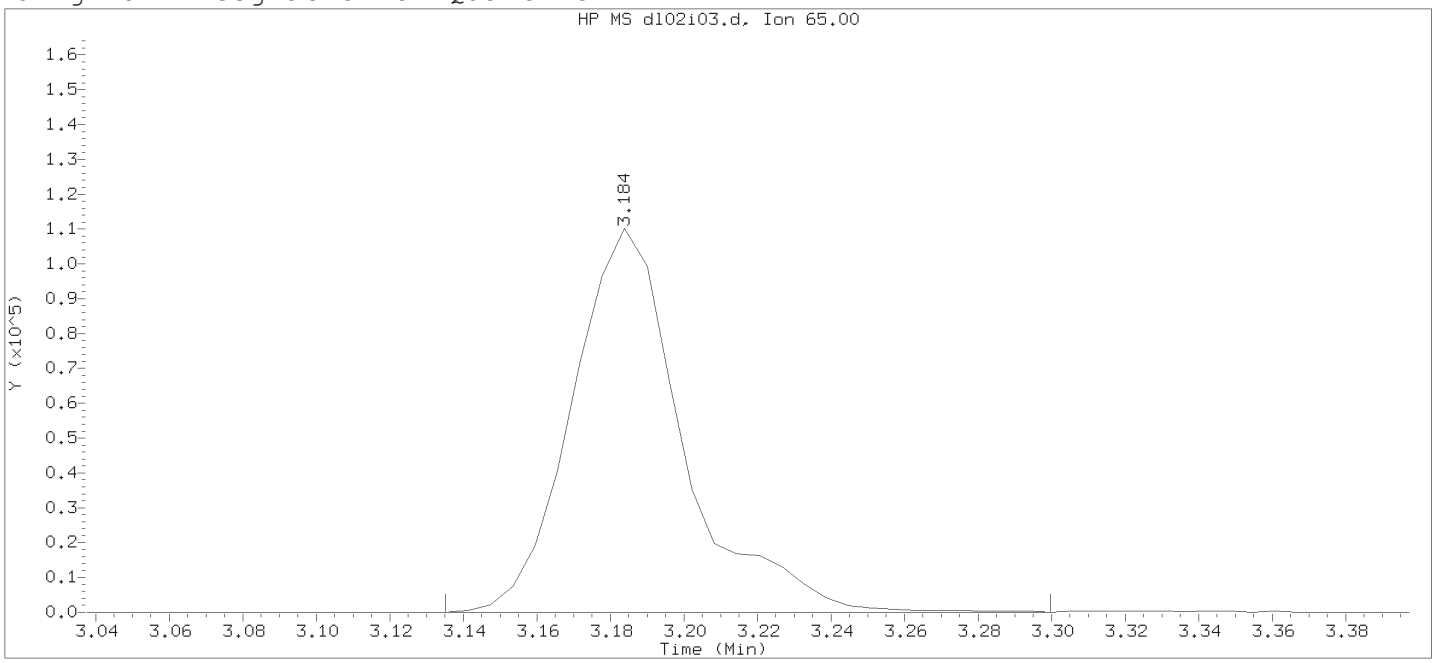
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



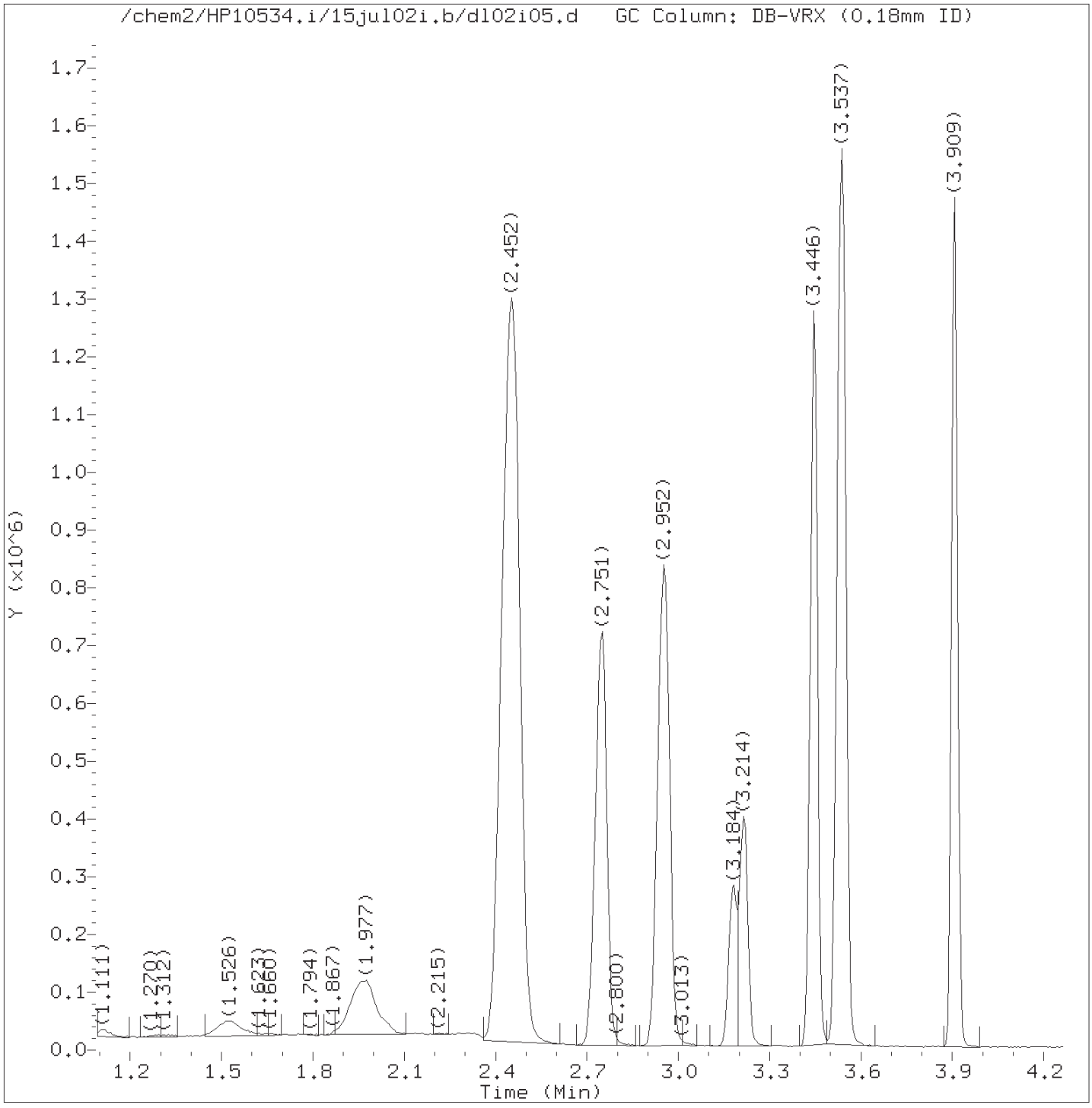
Data File: /chem2/HP10534.i/15jul02i.b/dl02i03.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:17 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 12:27
Date, time and analyst ID of latest file update: 02-Jul-2015 12:27 chemist

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 344
Retention Time (minutes): 3.184
Quant Ion : 65.00
Area : 231807
On-column Amount (ng) : 50.0000
Integration start scan : 335 Integration stop scan: 362
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature used in analysis.



Total Ion Chromatogram (TIC)

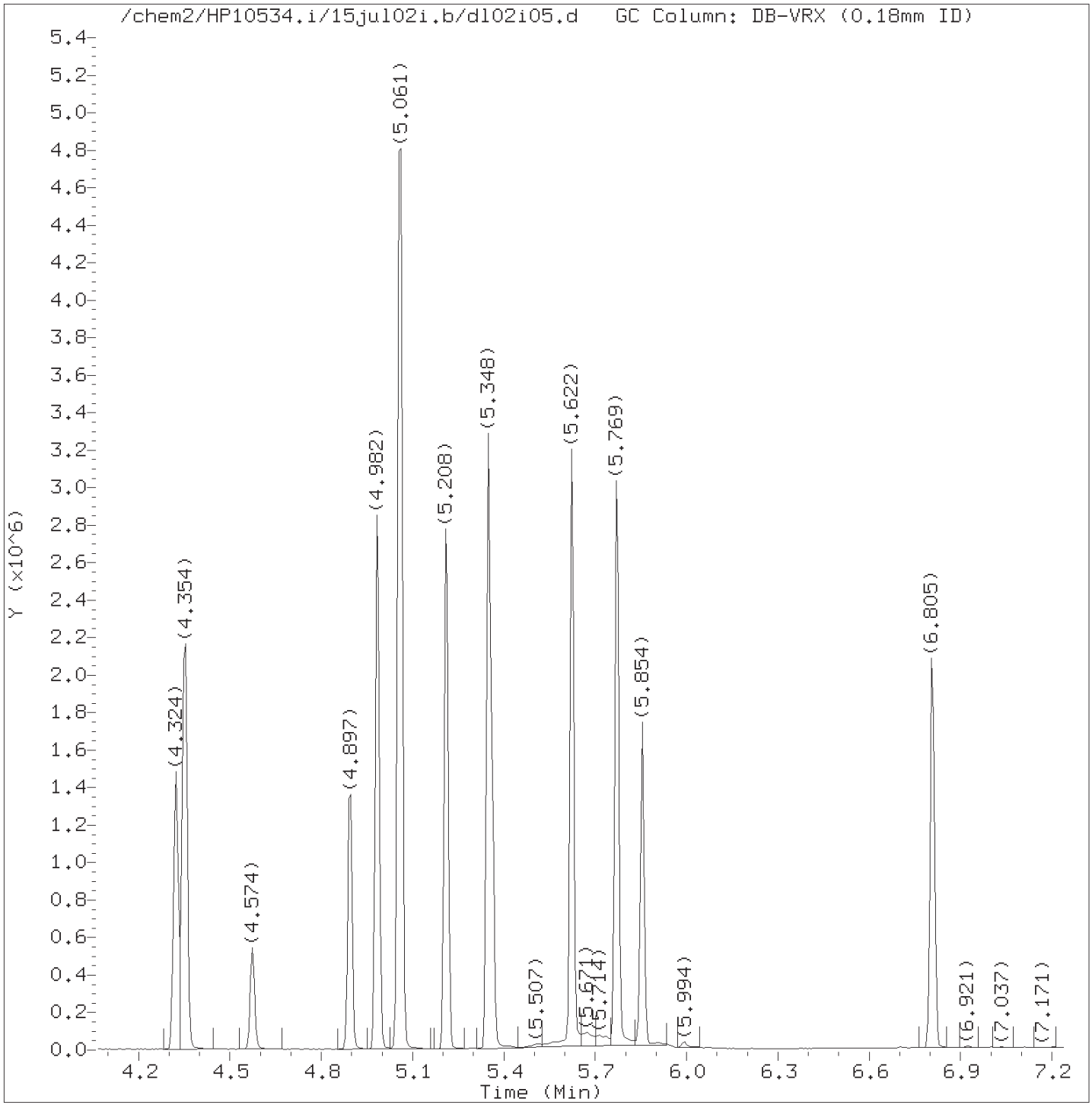
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i05.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:40 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i05.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:40 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i05.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:40 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

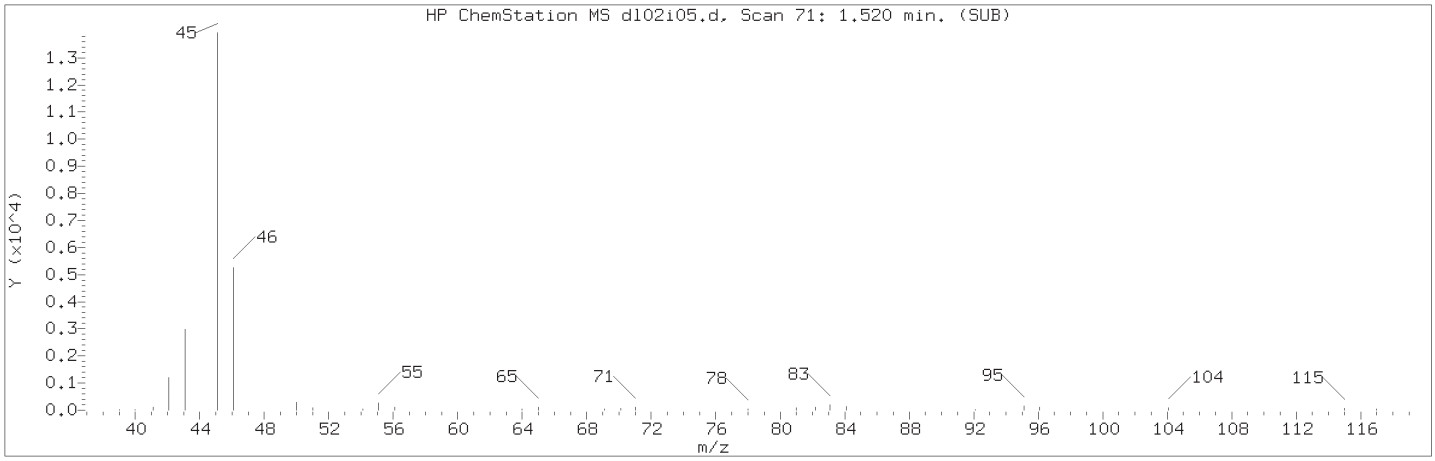
Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.520	45	97392M	1372.736
2)*t-Butyl alcohol-d10	(1)	1.940	65	126572M	250.000
3) t-Butyl alcohol	(1)	1.977	59	188169	271.342
4) Methyl Tertiary Butyl Ether	(2)	2.452	73	2609493	216.092
5) di-Isopropyl ether	(2)	2.751	45	816447	53.817
6) Ethyl t-butyl ether	(2)	2.952	59	765774	53.851
7)$Dibromofluoromethane	(2)	2.964	113	150477	49.722
7)$Dibromofluoromethane	(2)	2.964	111	154594	49.889
10)$1,2-Dichloroethane-d4	(2)	3.178	102	41735	50.496
10)$1,2-Dichloroethane-d4	(2)	3.178	65	206519	50.490
10)$1,2-Dichloroethane-d4	(2)	3.178	104	25030	48.866
11) 1,2-Dichloroethane	(2)	3.214	62	317811	54.024
12) Benzene	(2)	3.446	78	995041	53.456
13) t-Amyl methyl ether	(2)	3.531	87	178583	53.509
14)*Fluorobenzene	(2)	3.543	96	648888	50.000
15) t-Amyl ethyl ether	(2)	3.909	87	367388	52.531
16)$Toluene-d8	(3)	4.324	98	644289	49.829
16)$Toluene-d8	(3)	4.324	100	418522	49.793
17) Toluene	(3)	4.354	92	629750	53.717
19) 1,2-Dibromoethane	(3)	4.574	107	224862	53.410
20)*Chlorobenzene-d5	(3)	4.897	117	481942	50.000
21) Ethylbenzene	(3)	4.982	91	1186629	53.687
22) m+p-Xylene	(3)	5.061	106	926520	108.521
23) o-Xylene	(3)	5.208	106	452413	54.021
24) Xylene (Total)	(3)		106	1378933	162.542
25) Isopropylbenzene	(3)	5.348	105	1145911	53.638
26)$4-Bromofluorobenzene	(3)	5.360	95	238839	49.609
26)$4-Bromofluorobenzene	(3)	5.360	174	205322	49.447
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	942144	54.560
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	949653	54.545
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	259631	50.000
30) Naphthalene	(4)	6.805	128	1062772	55.298

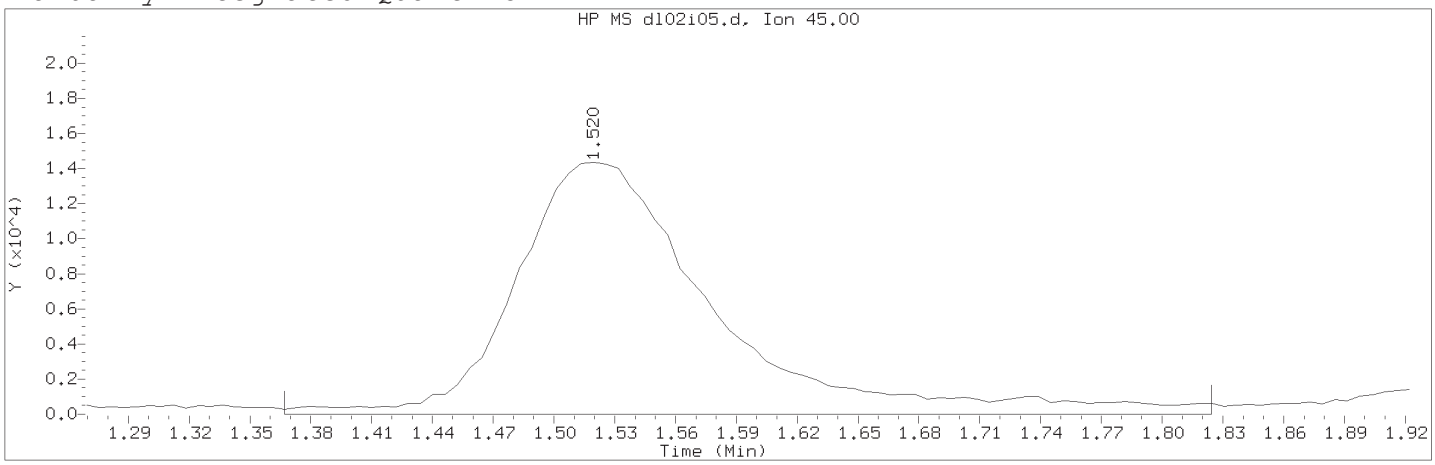
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i05.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:40 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD050 Lab Sample ID: VSTD050

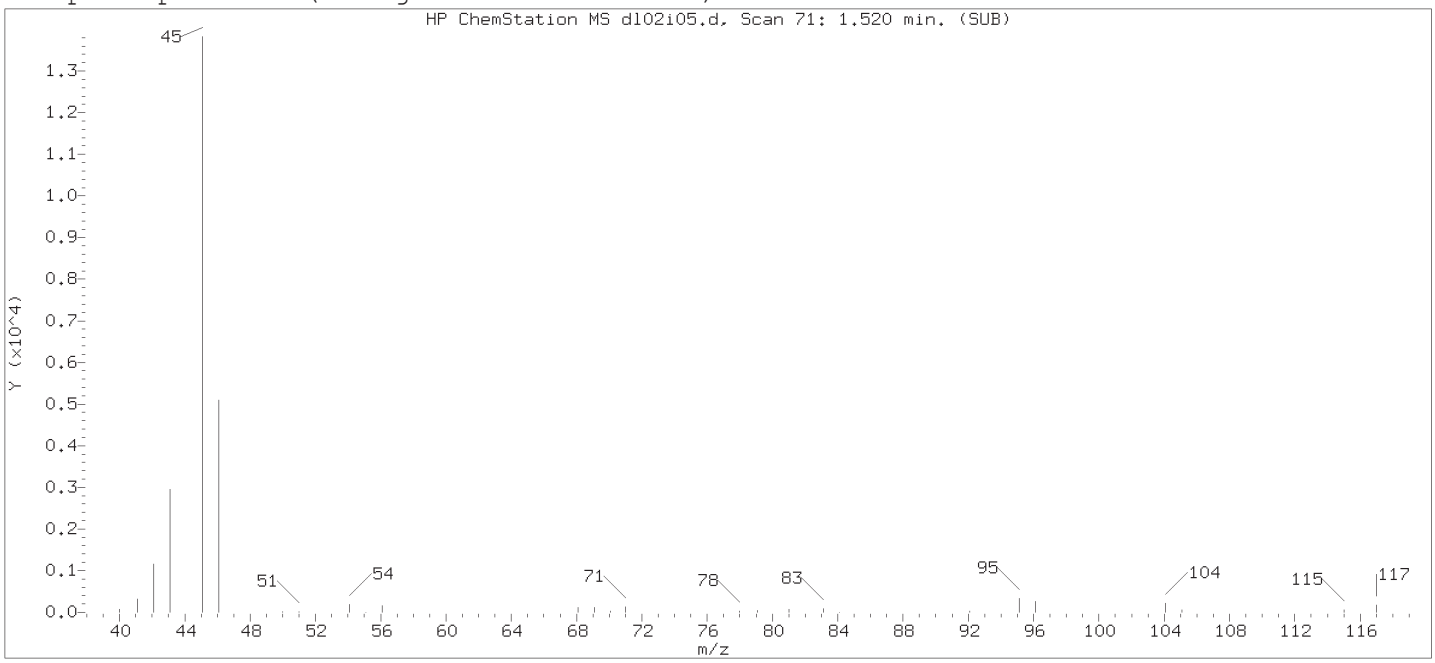
Compound Number : 1
Compound Name : Ethanol
Scan Number : 71
Retention Time (minutes): 1.520
Quant Ion : 45.00
Area (flag) : 97392M
On-Column Amount (ng) : 1372.7357
Integration start scan : 45 Integration stop scan: 120
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

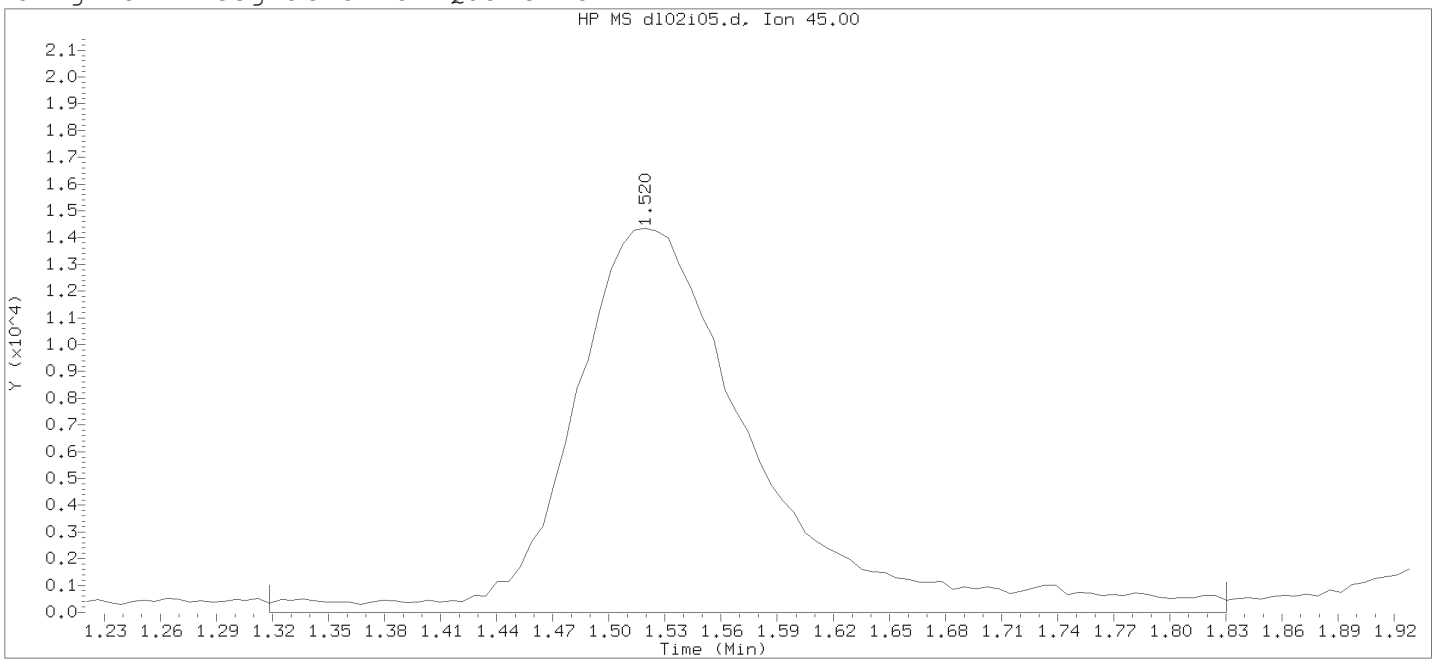
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i05.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:40 Analyst ID: akr02850

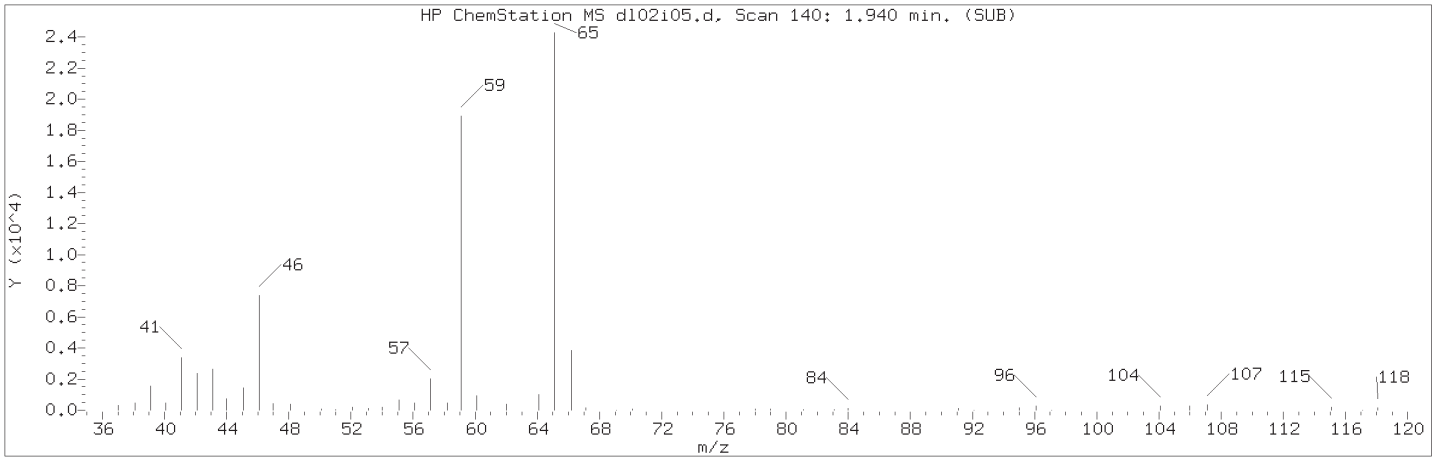
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 12:50
Date, time and analyst ID of latest file update: 02-Jul-2015 12:50 chemist

Sample Name: VSTD050 Lab Sample ID: VSTD050

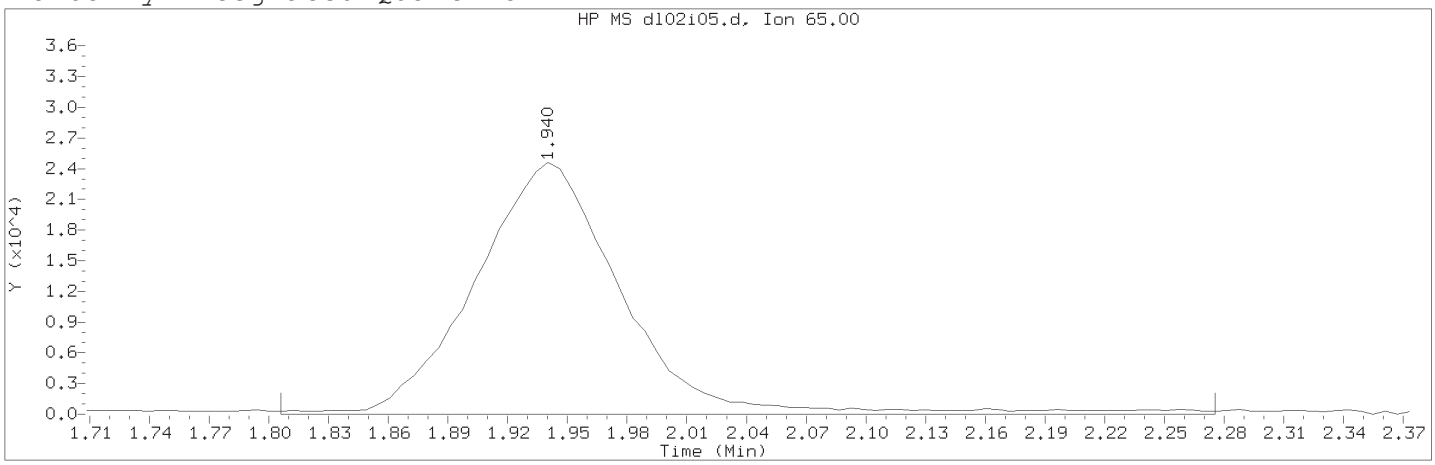
Compound Number : 1
Compound Name : Ethanol
Scan Number : 71
Retention Time (minutes): 1.520
Quant Ion : 45.00
Area : 98623
On-column Amount (ng) : 172.3073
Integration start scan : 37 Integration stop scan: 121
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature used: dl02i05.d

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i05.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:40 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD050 Lab Sample ID: VSTD050

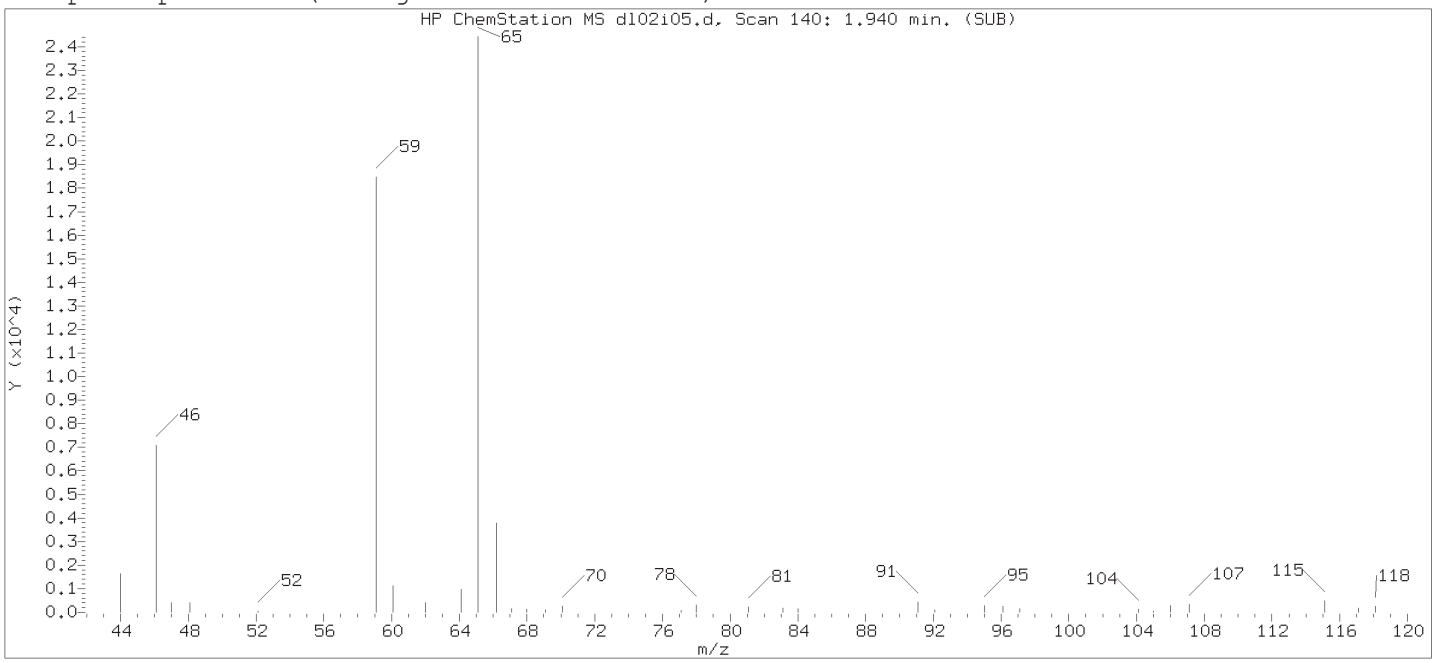
Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 140
Retention Time (minutes): 1.940
Quant Ion : 65.00
Area (flag) : 126572M
On-Column Amount (ng) : 250.0000
Integration start scan : 117 Integration stop scan: 194
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

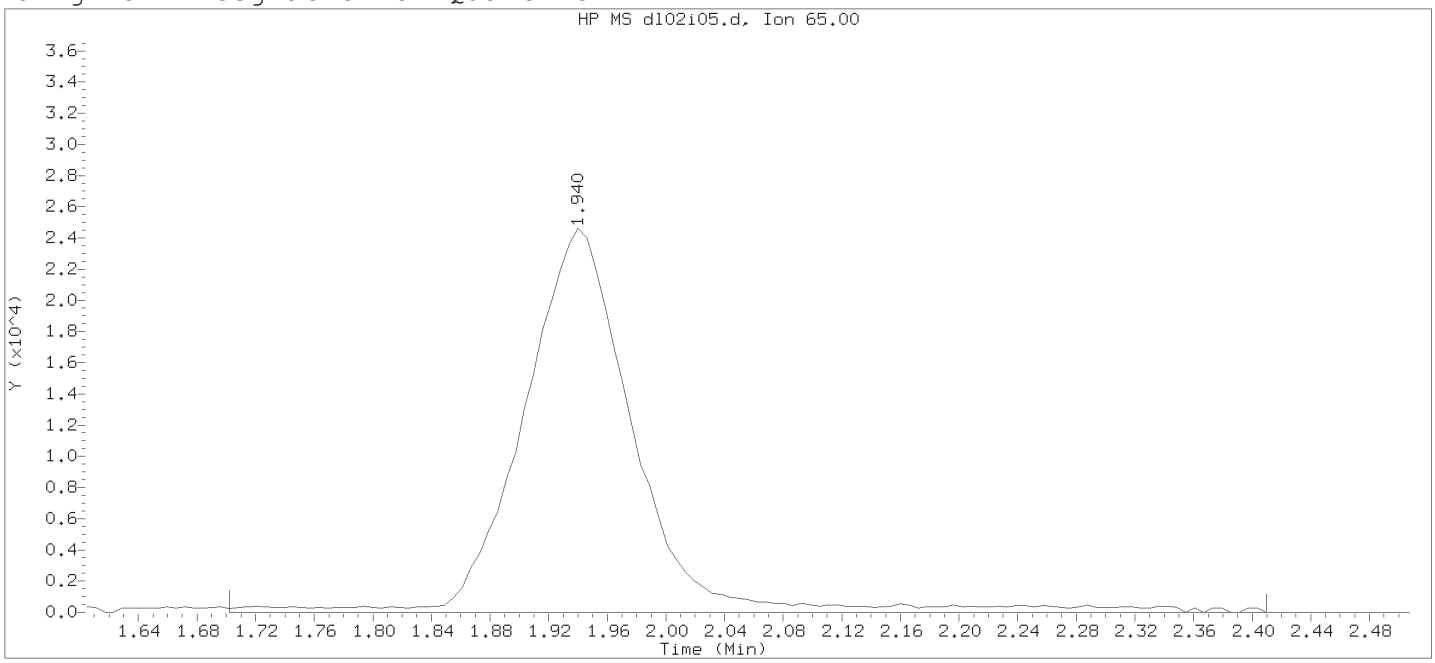
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



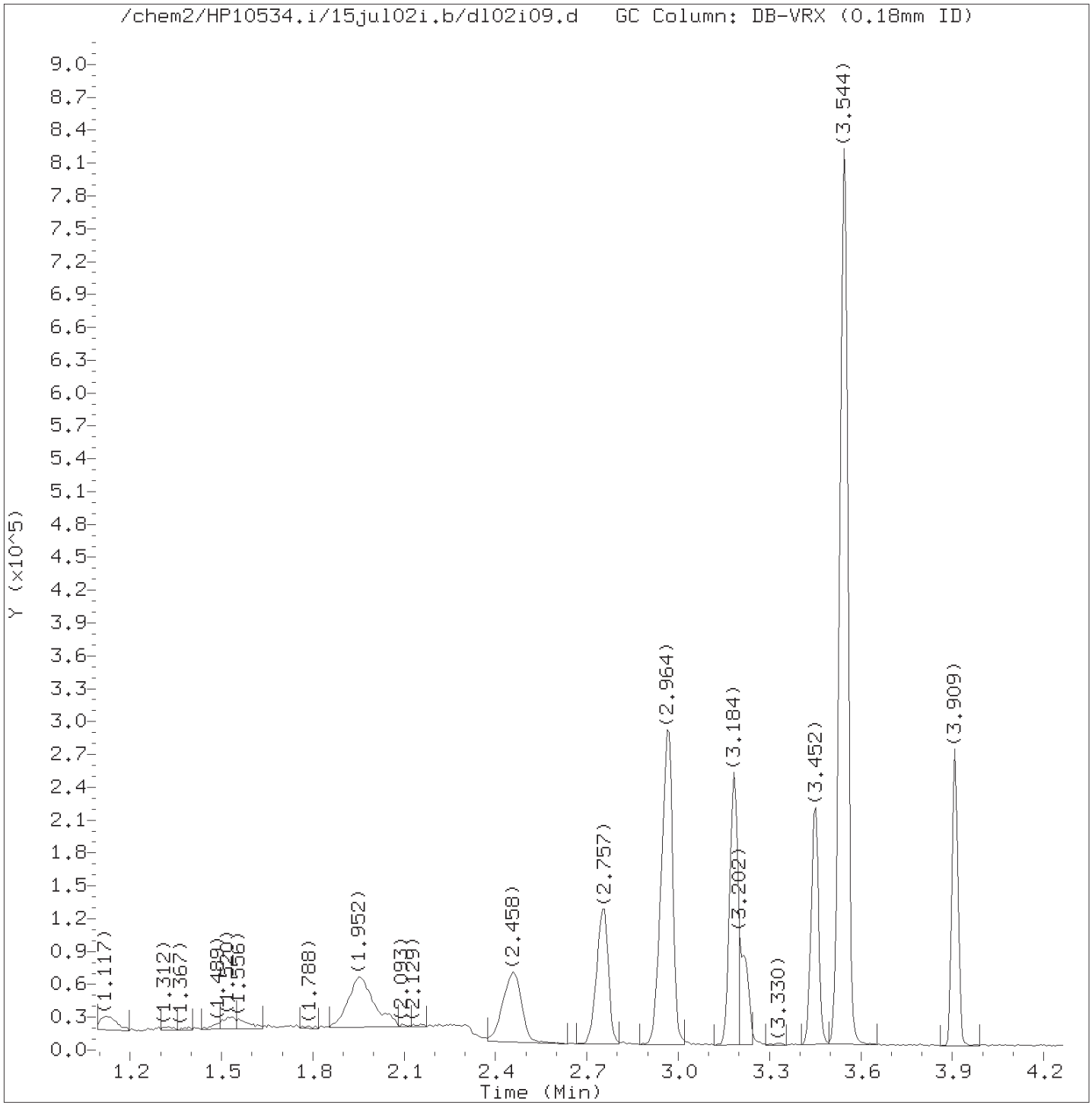
Data File: /chem2/HP10534.i/15jul02i.b/dl02i05.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:40 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 12:50
Date, time and analyst ID of latest file update: 02-Jul-2015 12:50 chemist

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 140
Retention Time (minutes): 1.940
Quant Ion : 65.00
Area : 130515
On-column Amount (ng) : 250.0000
Integration start scan : 100 Integration stop scan: 216
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature used in akr02850



Total Ion Chromatogram (TIC)

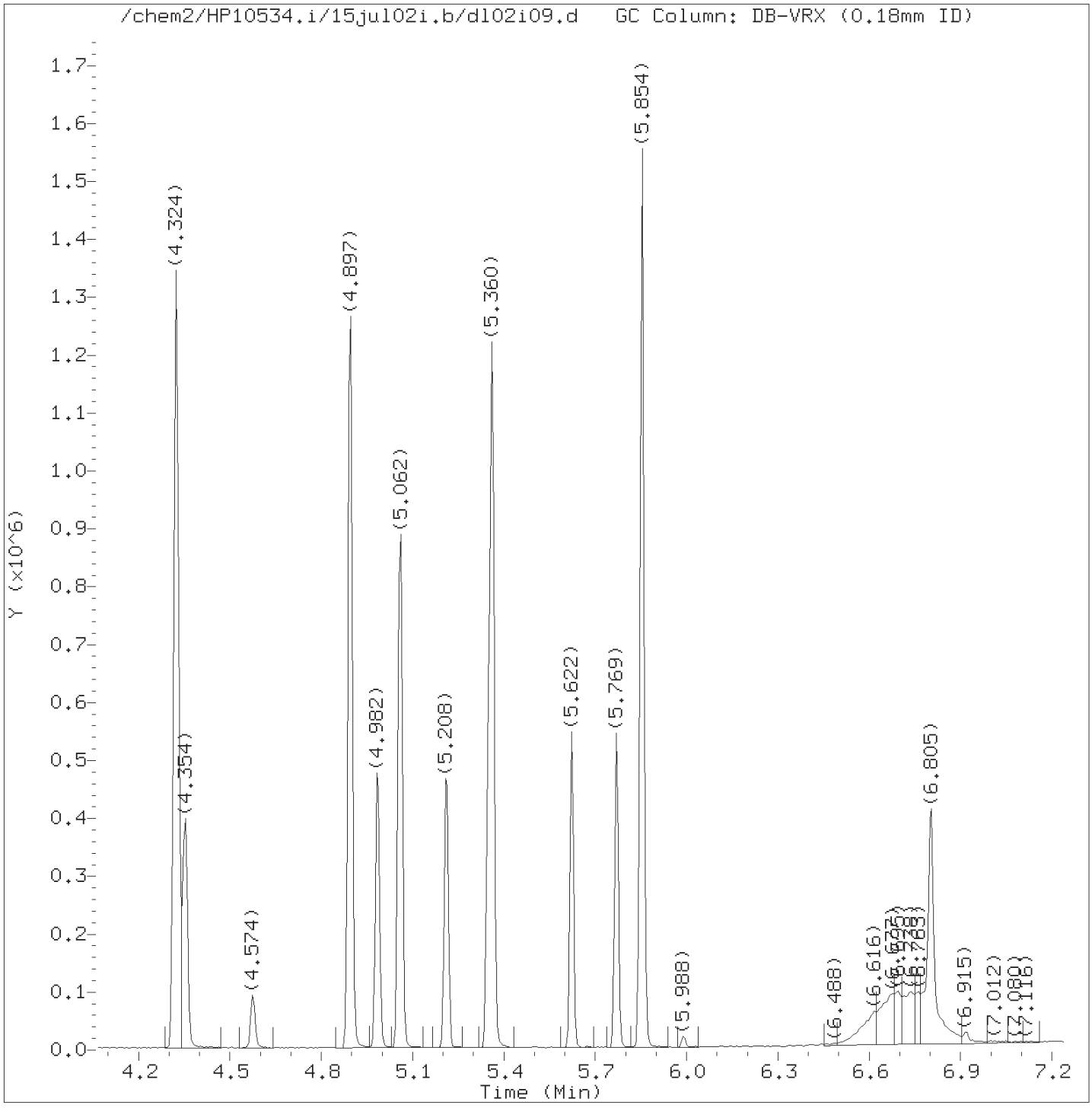
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

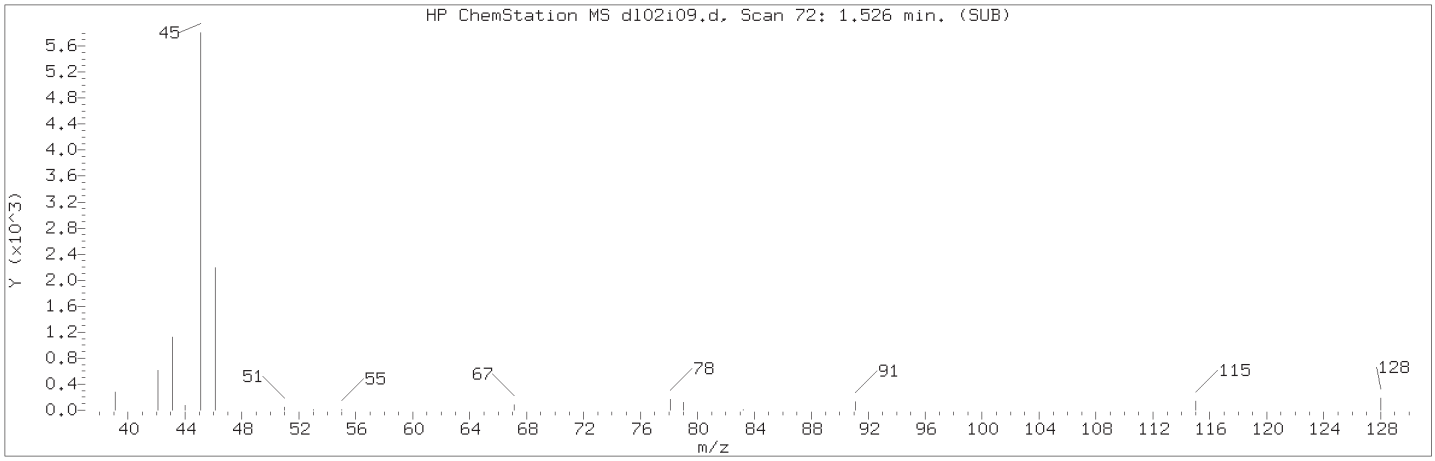
Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	41617M	602.839
2)*t-Butyl alcohol-d10	(1)	1.952	65	111070M	250.000
3) t-Butyl alcohol	(1)	1.989	59	32604	49.631
4) Methyl Tertiary Butyl Ether	(2)	2.458	73	125705	10.919
5) di-Isopropyl ether	(2)	2.757	45	142053	10.154
6) Ethyl t-butyl ether	(2)	2.946	59	132351	10.120
7)$Dibromofluoromethane	(2)	2.971	113	136761	49.996
7)$Dibromofluoromethane	(2)	2.971	111	138108	49.571
10)$1,2-Dichloroethane-d4	(2)	3.184	102	36229	49.084
10)$1,2-Dichloroethane-d4	(2)	3.184	65	178573	48.966
10)$1,2-Dichloroethane-d4	(2)	3.184	104	23078	50.097
11) 1,2-Dichloroethane	(2)	3.220	62	54672	10.096
12) Benzene	(2)	3.452	78	173949	10.133
13) t-Amyl methyl ether	(2)	3.531	87	30899	10.094
14)*Fluorobenzene	(2)	3.550	96	585836	50.000
15) t-Amyl ethyl ether	(2)	3.909	87	66429	10.189
16)$Toluene-d8	(3)	4.324	98	584162	49.935
16)$Toluene-d8	(3)	4.324	100	383403	50.394
17) Toluene	(3)	4.354	92	110400	10.178
19) 1,2-Dibromoethane	(3)	4.574	107	38237	9.975
20)*Chlorobenzene-d5	(3)	4.897	117	435270	50.000
21) Ethylbenzene	(3)	4.982	91	208227	10.173
22) m+p-Xylene	(3)	5.062	106	162033	20.402
23) o-Xylene	(3)	5.214	106	79525	10.233
24) Xylene (Total)	(3)		106	241558	30.635
25) Isopropylbenzene	(3)	5.348	105	201913	10.211
26)$4-Bromofluorobenzene	(3)	5.360	95	219816	50.451
26)$4-Bromofluorobenzene	(3)	5.360	174	189957	50.370
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	163559M	10.179
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	165559	10.190
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	237354	50.000
30) Naphthalene	(4)	6.805	128	183991	10.274

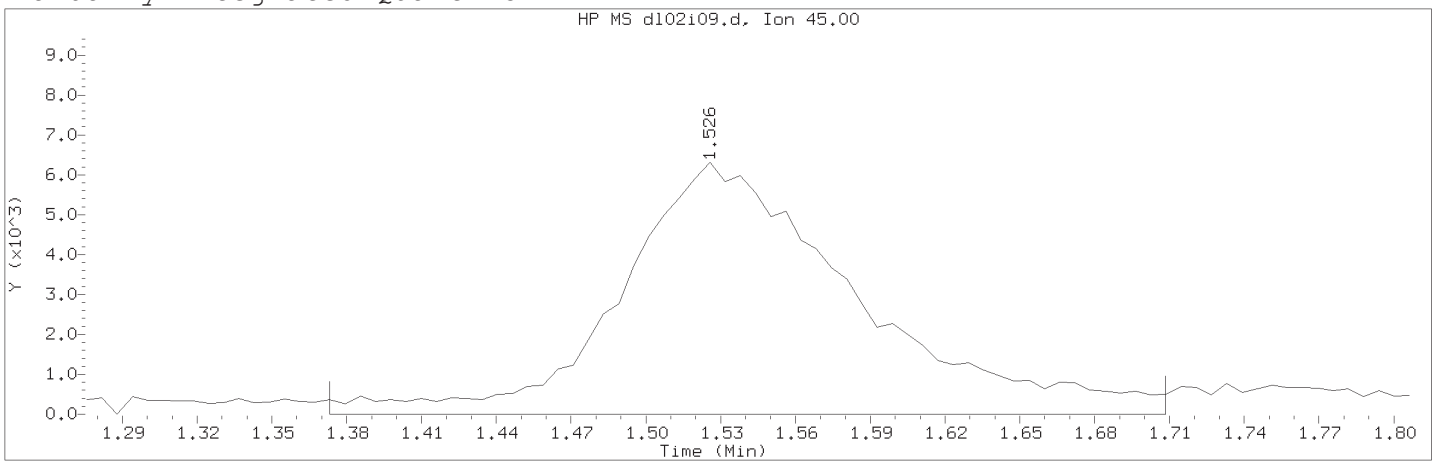
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD010 Lab Sample ID: VSTD010

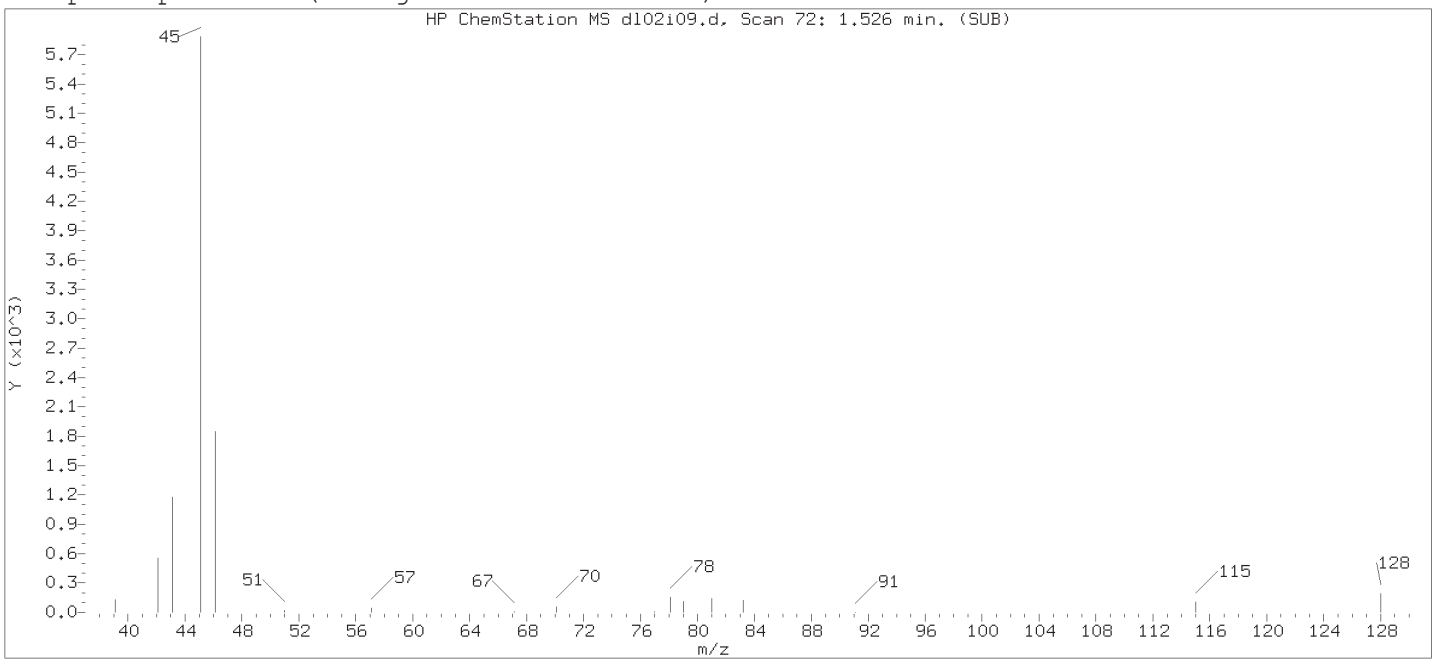
Compound Number : 1
Compound Name : Ethanol
Scan Number : 72
Retention Time (minutes): 1.526
Quant Ion : 45.00
Area (flag) : 41617M
On-Column Amount (ng) : 602.8390
Integration start scan : 46 Integration stop scan: 101
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

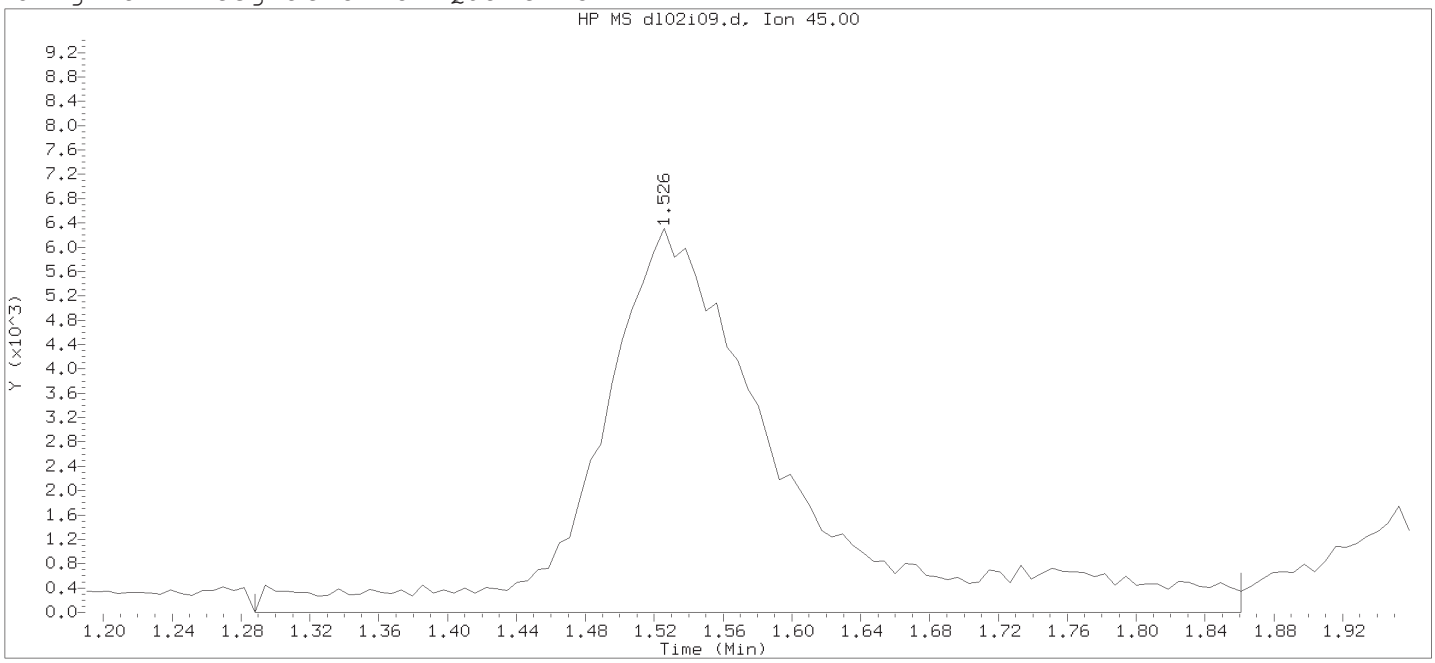
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

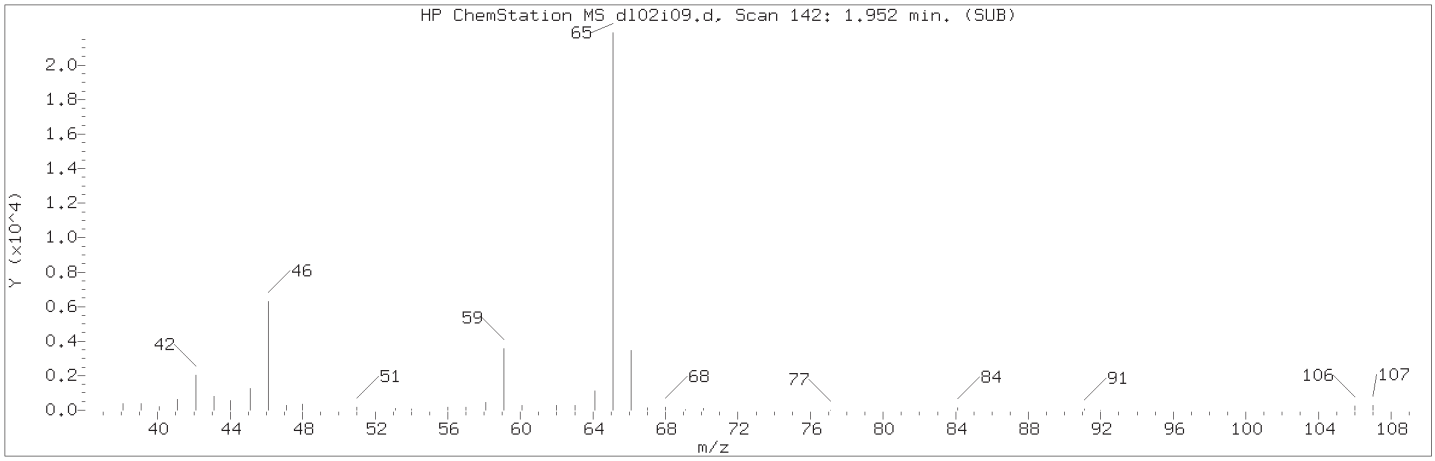
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 13:35
Date, time and analyst ID of latest file update: 02-Jul-2015 13:36 chemist

Sample Name: VSTD010 Lab Sample ID: VSTD010

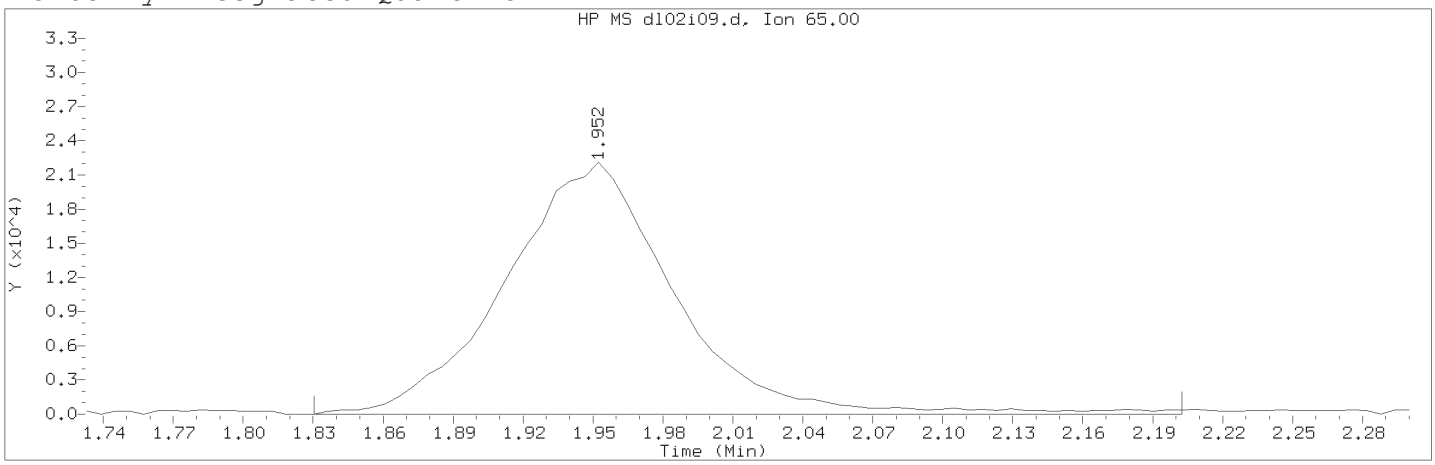
Compound Number : 1
Compound Name : Ethanol
Scan Number : 72
Retention Time (minutes): 1.526
Quant Ion : 45.00
Area : 48113
On-column Amount (ng) : 234.1114
Integration start scan : 32 Integration stop scan: 126
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature used: dl02i09.d

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD010 Lab Sample ID: VSTD010

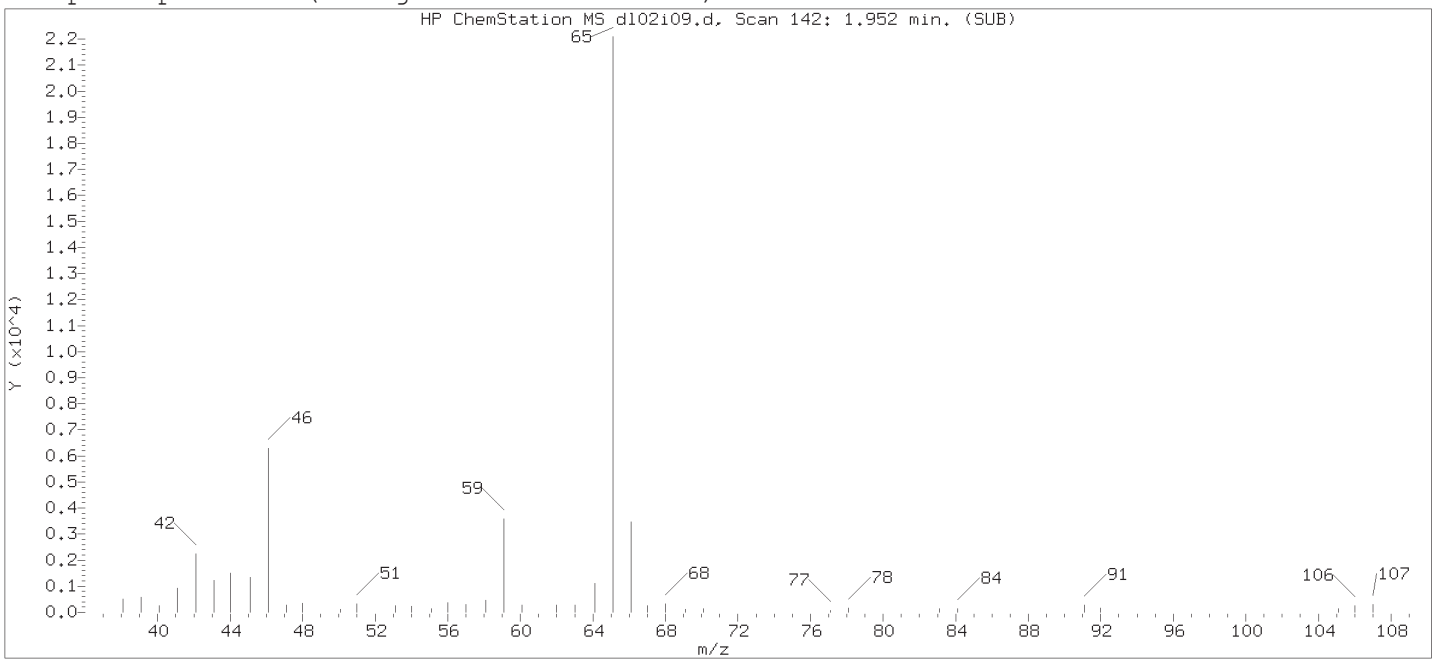
Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 142
Retention Time (minutes): 1.952
Quant Ion : 65.00
Area (flag) : 111070M
On-Column Amount (ng) : 250.0000
Integration start scan : 121 Integration stop scan: 182
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

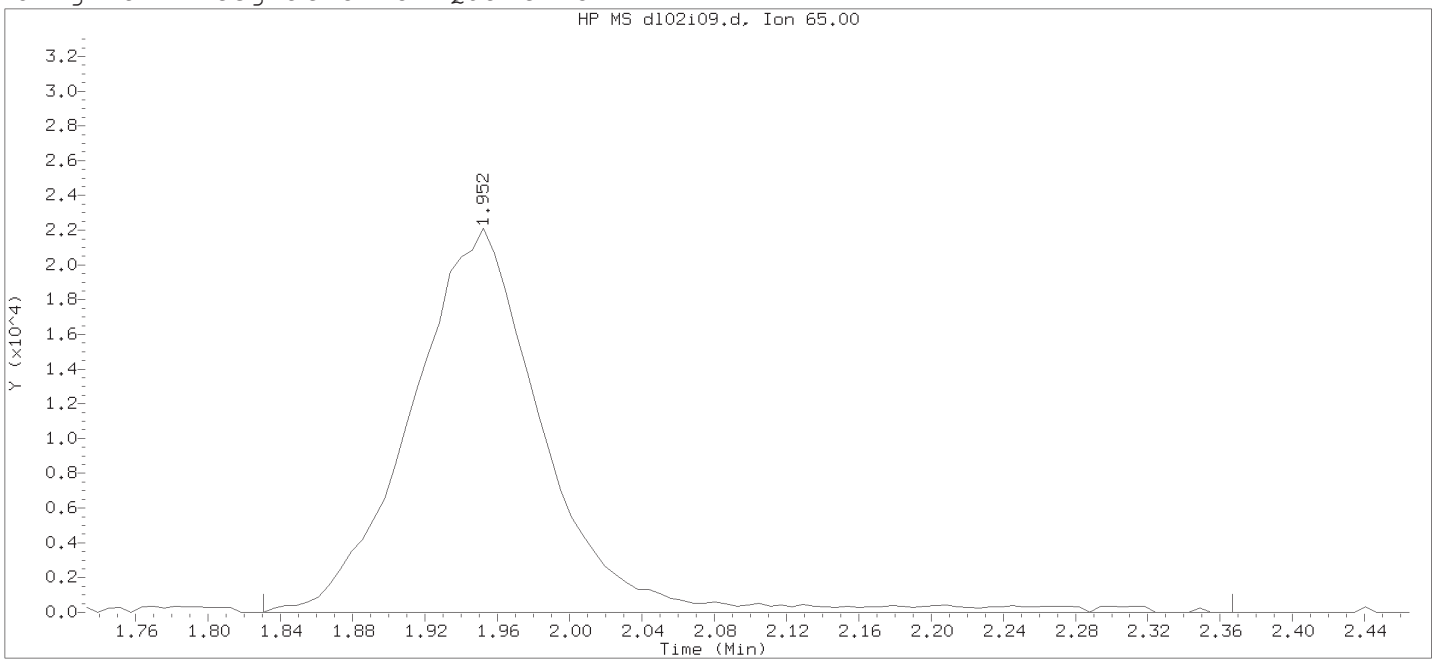
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

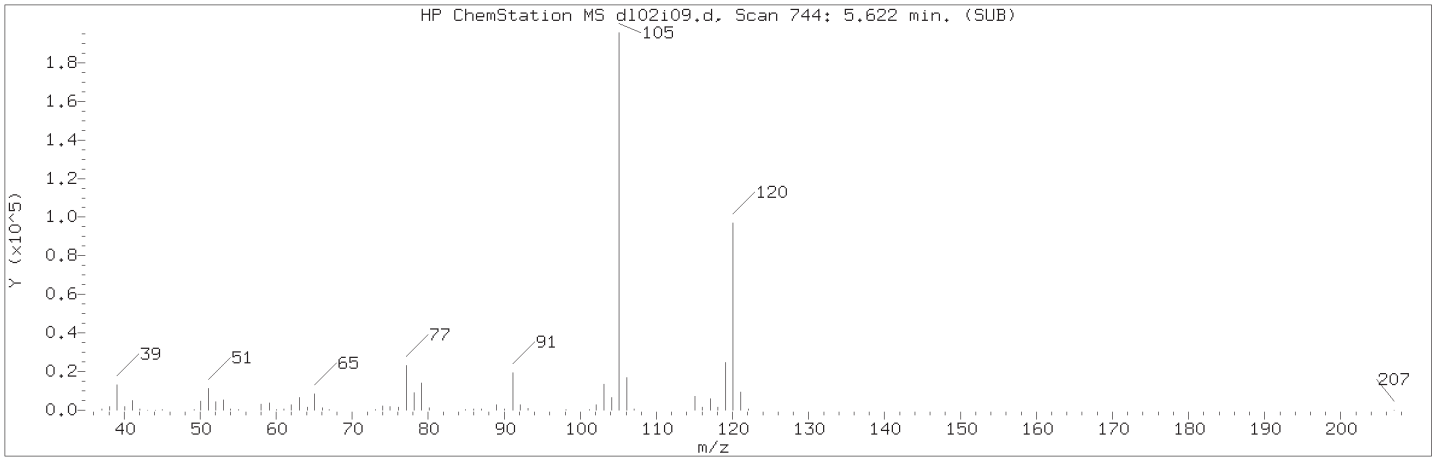
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 13:35
Date, time and analyst ID of latest file update: 02-Jul-2015 13:36 chemist

Sample Name: VSTD010 Lab Sample ID: VSTD010

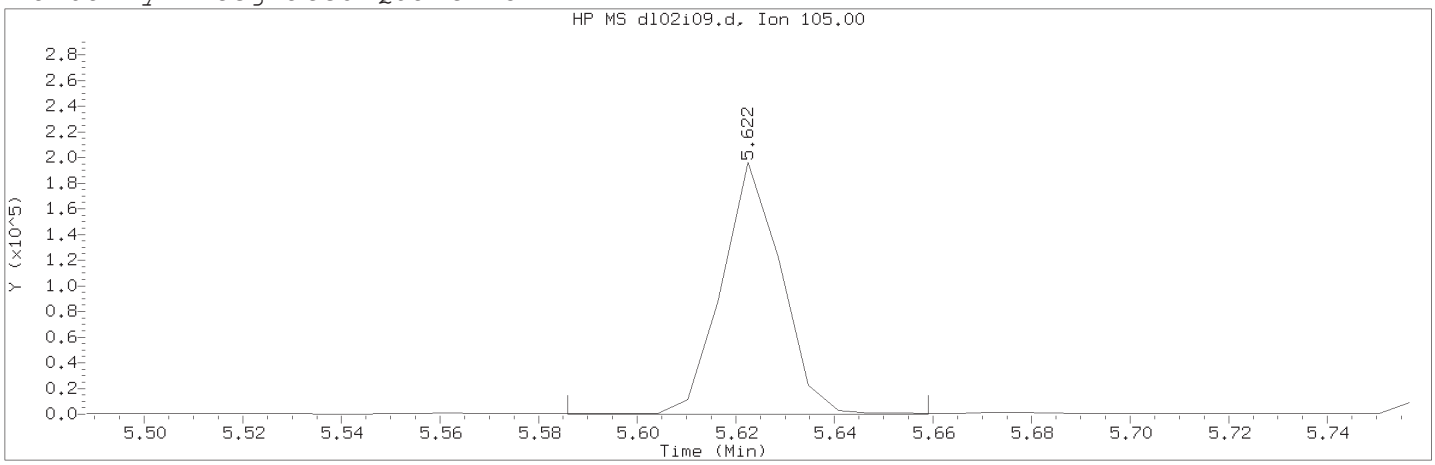
Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 142
Retention Time (minutes): 1.952
Quant Ion : 65.00
Area : 113356
On-column Amount (ng) : 250.0000
Integration start scan : 121 Integration stop scan: 209
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD010 Lab Sample ID: VSTD010

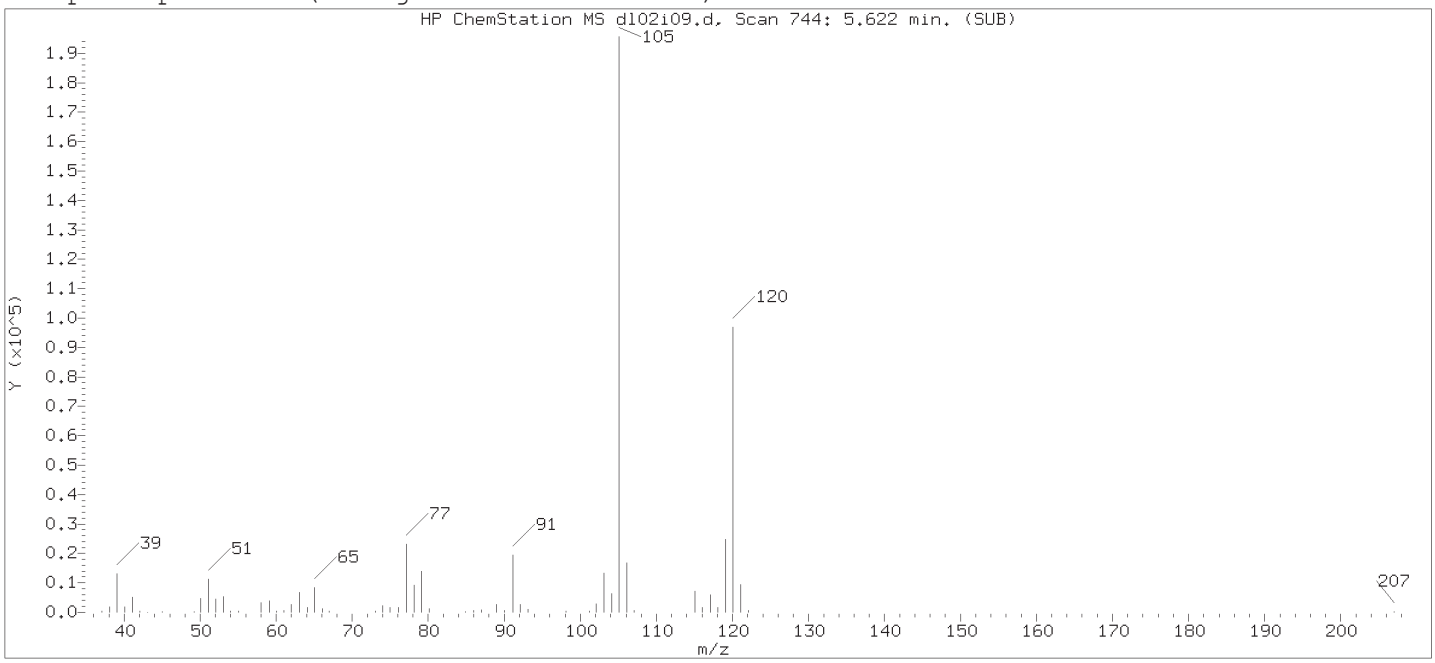
Compound Number : 27
Compound Name : 1,3,5-Trimethylbenzene
Scan Number : 744
Retention Time (minutes): 5.622
Quant Ion : 105.00
Area (flag) : 163559M
On-Column Amount (ng) : 10.1792
Integration start scan : 737 Integration stop scan: 749
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

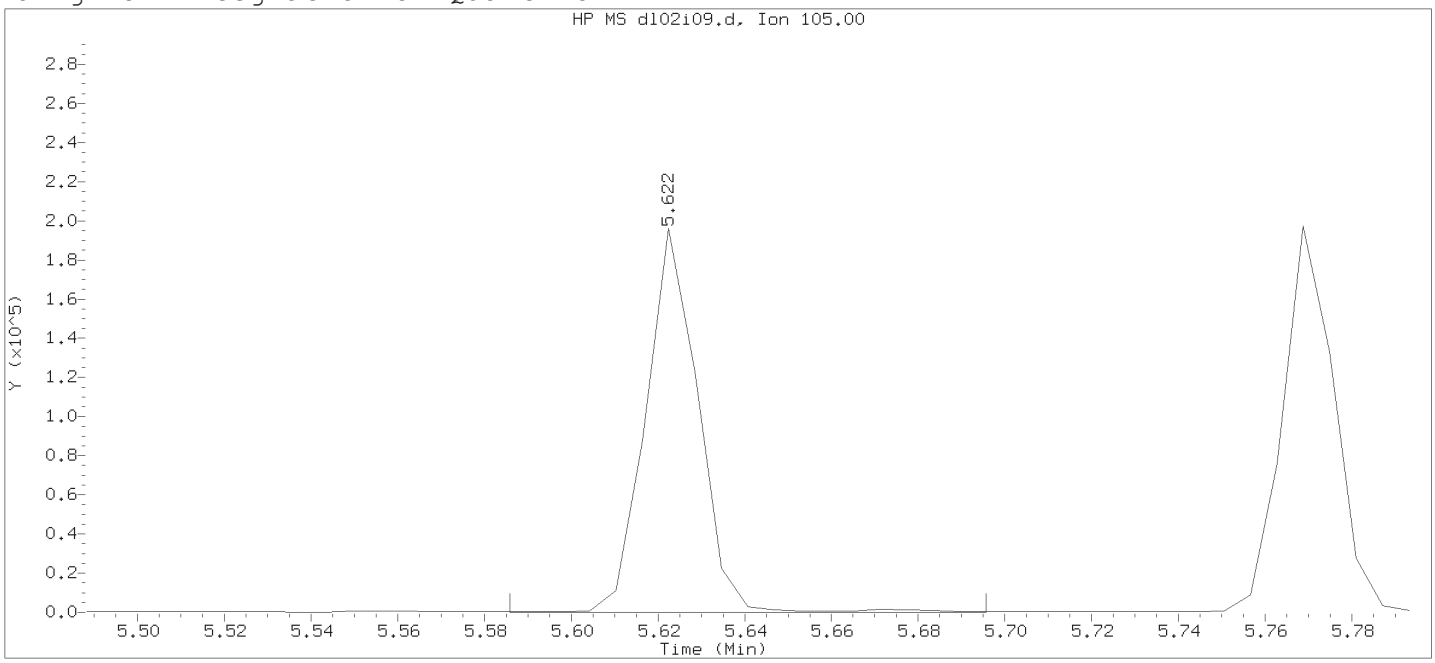
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



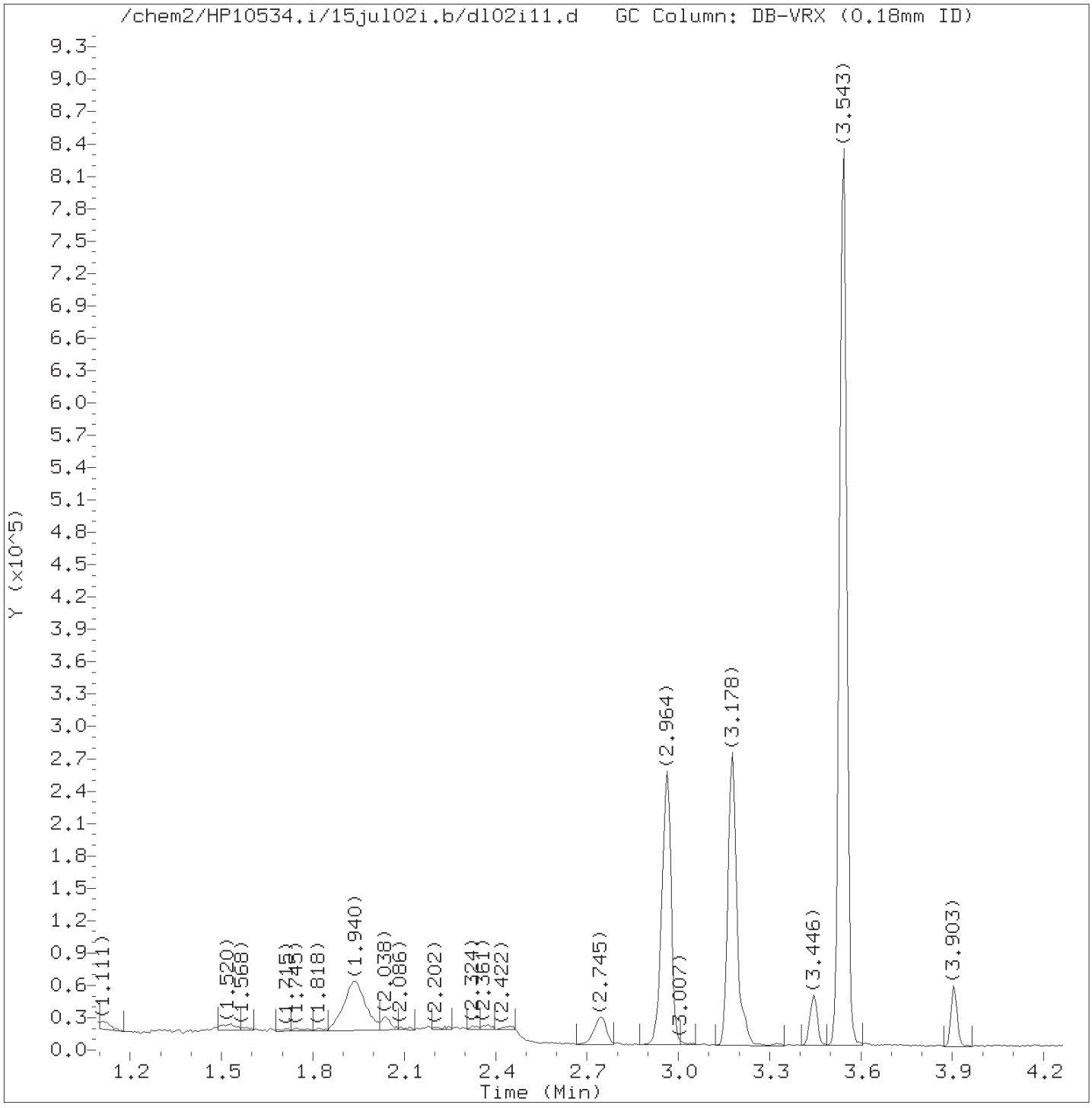
Data File: /chem2/HP10534.i/15jul02i.b/dl02i09.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:26 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 13:35
Date, time and analyst ID of latest file update: 02-Jul-2015 13:36 chemist

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number : 27
Compound Name : 1,3,5-Trimethylbenzene
Scan Number : 744
Retention Time (minutes): 5.622
Quant Ion : 105.00
Area : 165290
On-column Amount (ng) : 2.0907
Integration start scan : 737 Integration stop scan: 755
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature used: Amanda K. Richards



Total Ion Chromatogram (TIC)

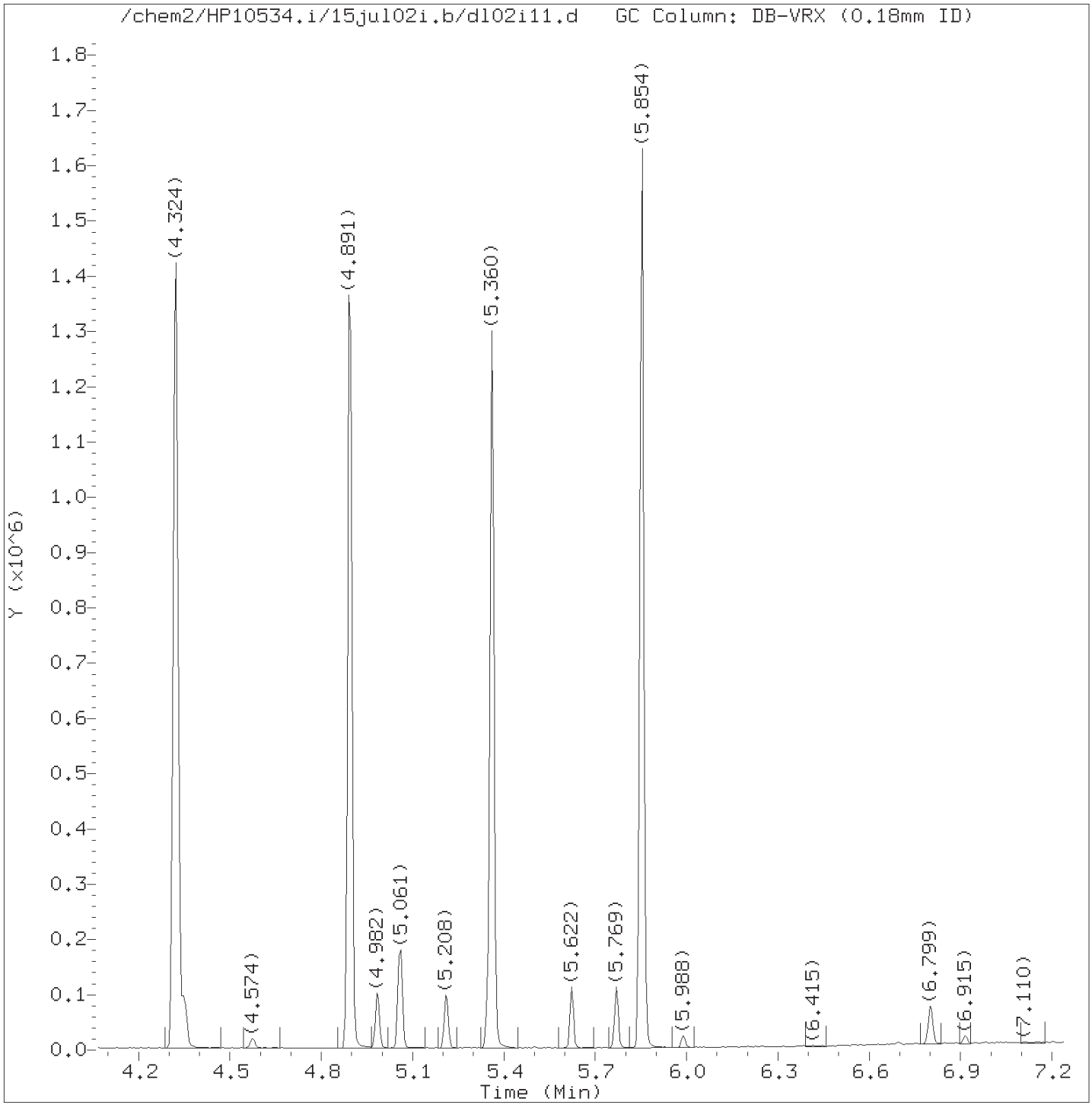
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i11.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:49 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

Sample Name: VSTD002 Lab Sample ID: VSTD002

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i11.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:49 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

Sample Name: VSTD002 Lab Sample ID: VSTD002

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i11.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:49 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

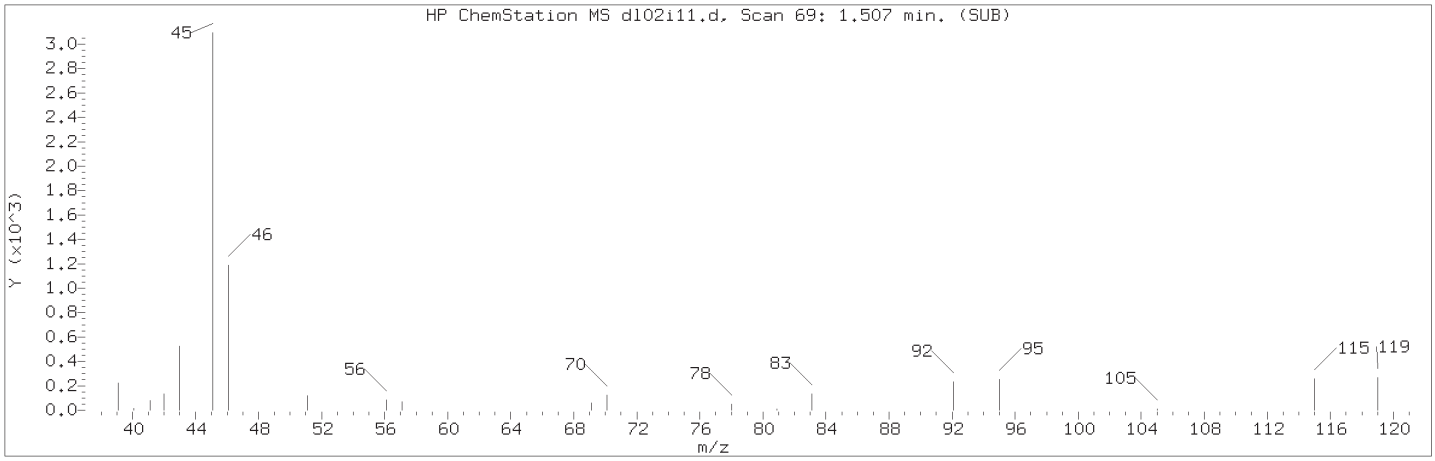
Sample Name: VSTD002 Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.507	45	20720M	275.250
2)*t-Butyl alcohol-d10	(1)	1.934	65	118670	250.000
3) t-Butyl alcohol	(1)	1.971	59	6868	9.630
4) Methyl Tertiary Butyl Ether	(2)	2.458	73	25932	2.006
5) di-Isopropyl ether	(2)	2.745	45	29680	1.915
6) Ethyl t-butyl ether	(2)	2.946	59	27116	1.904
7)$Dibromofluoromethane	(2)	2.964	113	147345	49.515
7)$Dibromofluoromethane	(2)	2.964	111	150559	49.668
10)$1,2-Dichloroethane-d4	(2)	3.178	102	38233	48.236
10)$1,2-Dichloroethane-d4	(2)	3.178	65	191497	48.713
10)$1,2-Dichloroethane-d4	(2)	3.178	104	24904	49.955
11) 1,2-Dichloroethane	(2)	3.214	62	11841	1.968
12) Benzene	(2)	3.446	78	36003	1.908
13) t-Amyl methyl ether	(2)	3.531	87	6034	1.813
14)*Fluorobenzene	(2)	3.543	96	638273	50.000
15) t-Amyl ethyl ether	(2)	3.903	87	13811	1.915
16)$Toluene-d8	(3)	4.324	98	635569	49.943
16)$Toluene-d8	(3)	4.324	100	414811	50.055
17) Toluene	(3)	4.348	92	23149	1.929
19) 1,2-Dibromoethane	(3)	4.574	107	7612	1.834
20)*Chlorobenzene-d5	(3)	4.897	117	473156	50.000
21) Ethylbenzene	(3)	4.982	91	43478M	1.936
22) m+p-Xylene	(3)	5.061	106	32604	3.753
23) o-Xylene	(3)	5.208	106	15210	1.804
24) Xylene (Total)	(3)		106	47814	5.558
25) Isopropylbenzene	(3)	5.348	105	41884	1.927
26)$4-Bromofluorobenzene	(3)	5.360	95	236812	49.936
26)$4-Bromofluorobenzene	(3)	5.360	174	205213	50.114
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	32994	1.886
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	33331	1.877
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	255683	50.000
30) Naphthalene	(4)	6.799	128	37697	1.920

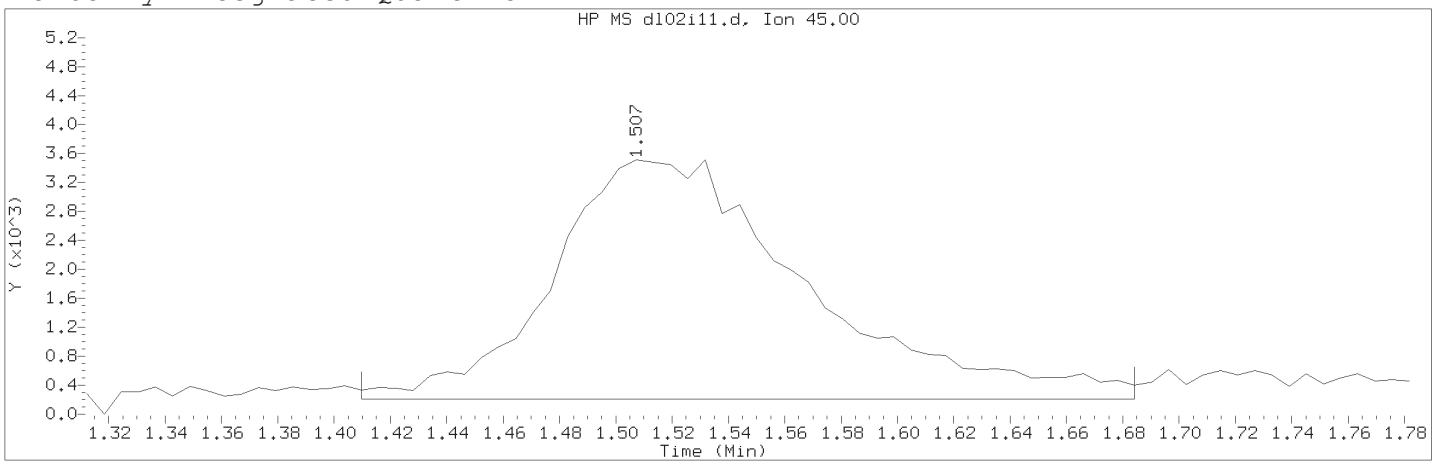
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i11.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:49 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

Sample Name: VSTD002 Lab Sample ID: VSTD002

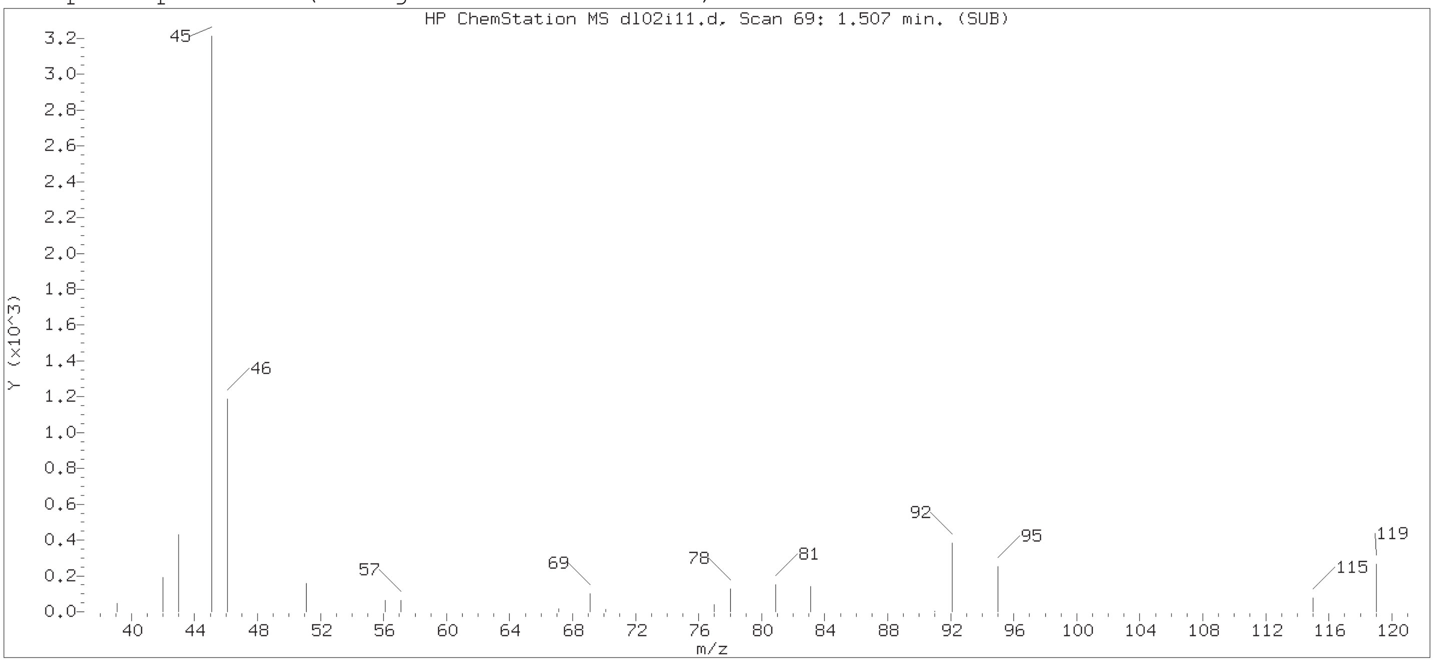
Compound Number : 1
Compound Name : Ethanol
Scan Number : 69
Retention Time (minutes): 1.507
Quant Ion : 45.00
Area (flag) : 20720M
On-Column Amount (ng) : 275.2498
Integration start scan : 52 Integration stop scan: 97
Y at integration start : 211 Y at integration end: 211

Reason for manual integration: improper integration

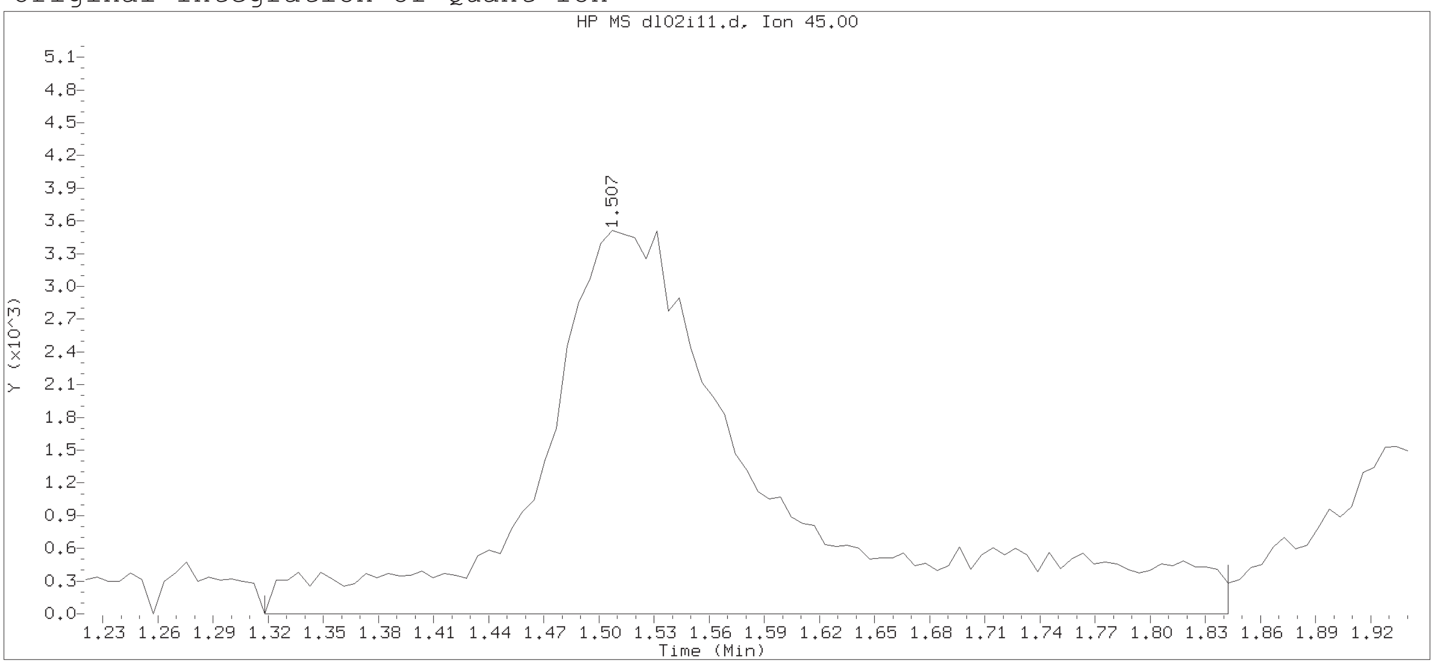
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion

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Data File: /chem2/HP10534.i/15jul02i.b/dl02i11.d      Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:49            Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m    Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 13:59
Date, time and analyst ID of latest file update: 02-Jul-2015 13:59 chemist

Sample Name: VSTD002                      Lab Sample ID: VSTD002

Compound Number          : 1
Compound Name            : Ethanol
Scan Number              : 69
Retention Time (minutes) : 1.507
Quant Ion                : 45.00
Area                     : 30385
On-column Amount (ng)    : 215.7713
Integration start scan   :   37     Integration stop scan:  123
Y at integration start   :    0     Y at integration end:     0
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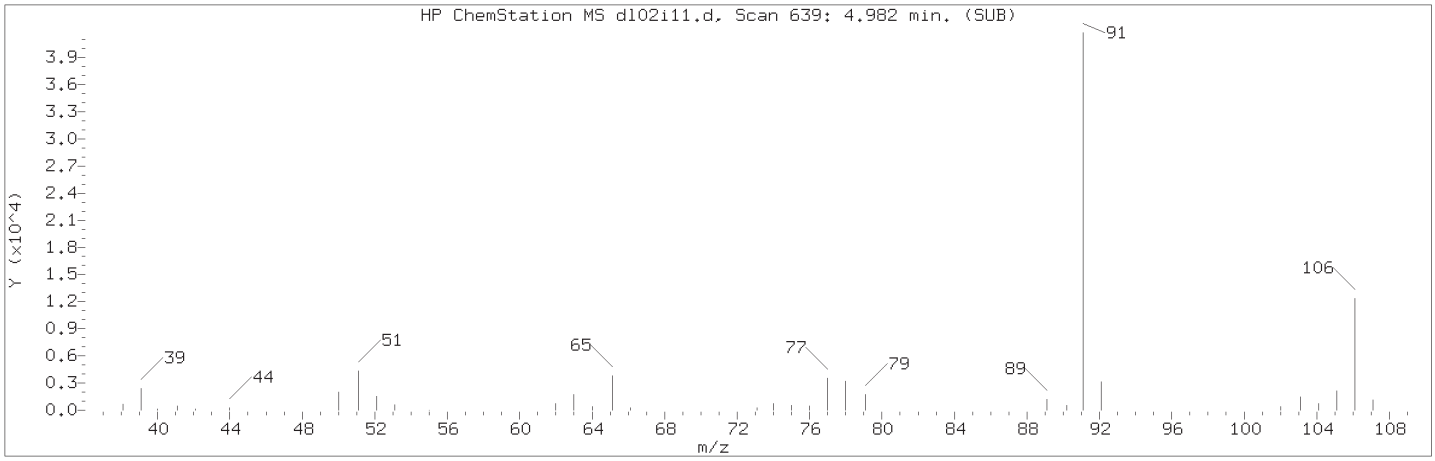
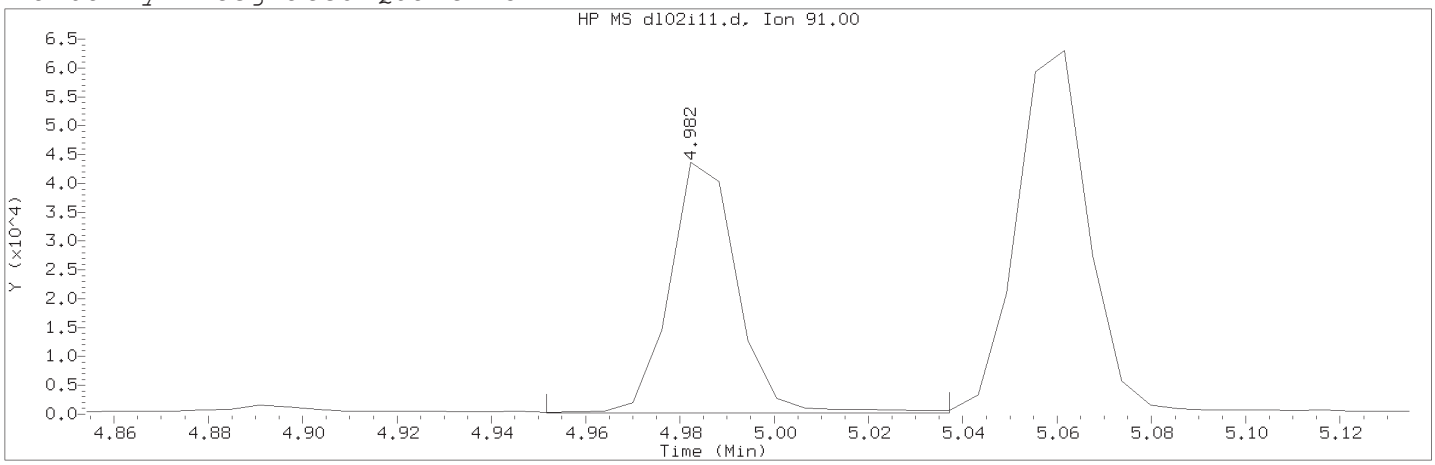
Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i11.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:49 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

Sample Name: VSTD002 Lab Sample ID: VSTD002

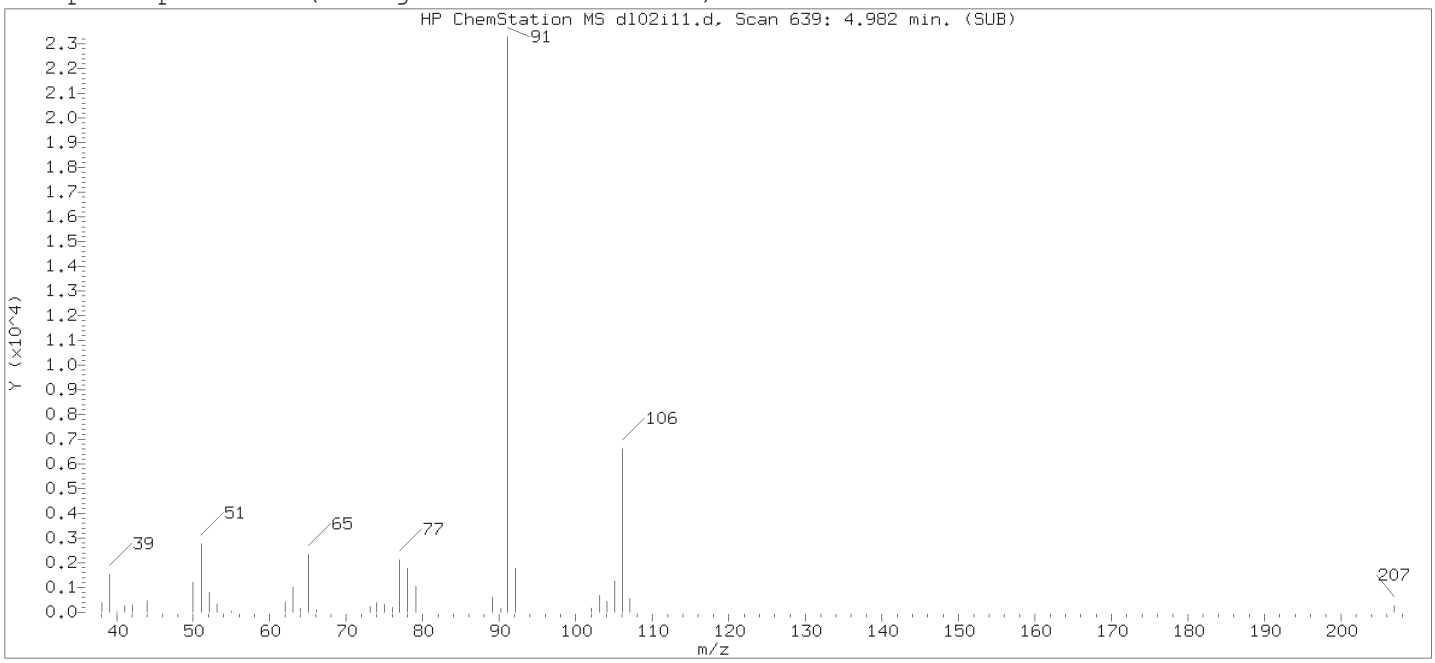
Compound Number : 21
Compound Name : Ethylbenzene
Scan Number : 639
Retention Time (minutes): 4.982
Quant Ion : 91.00
Area (flag) : 43478M
On-Column Amount (ng) : 1.9355
Integration start scan : 633 Integration stop scan: 647
Y at integration start : 206 Y at integration end: 206

Reason for manual integration: improper integration

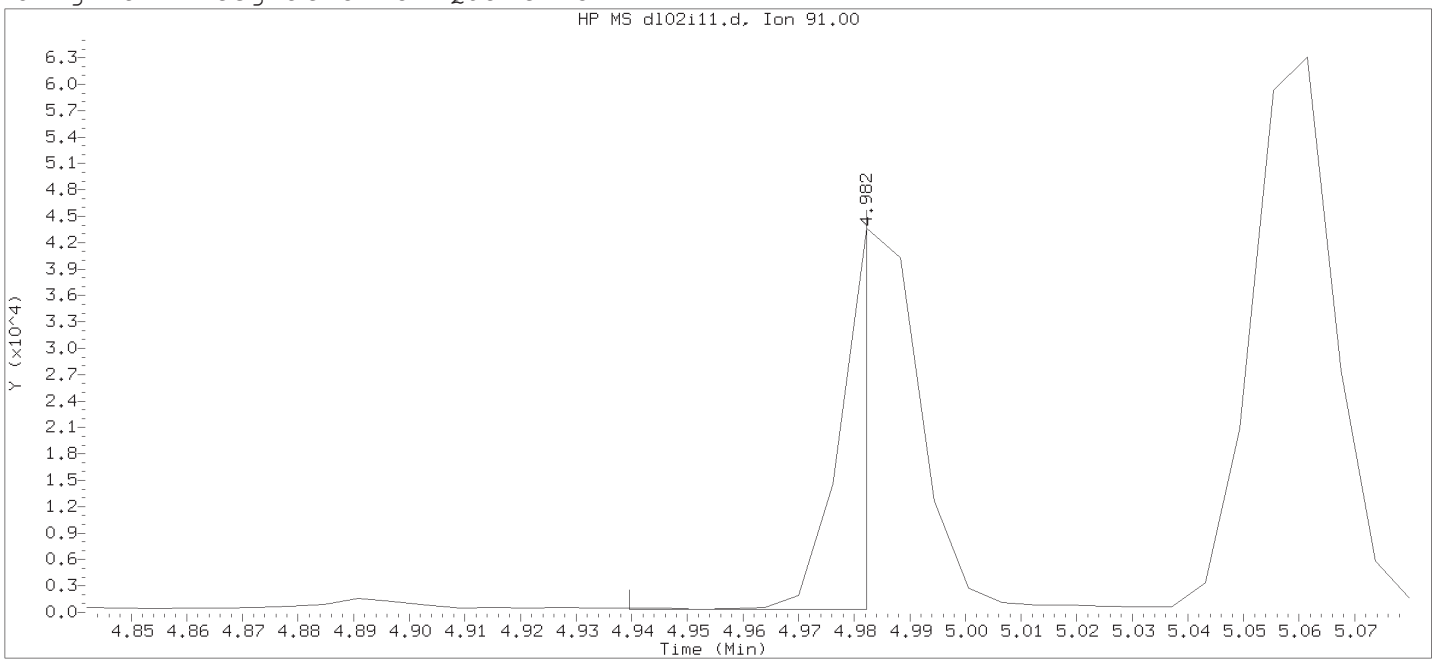
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



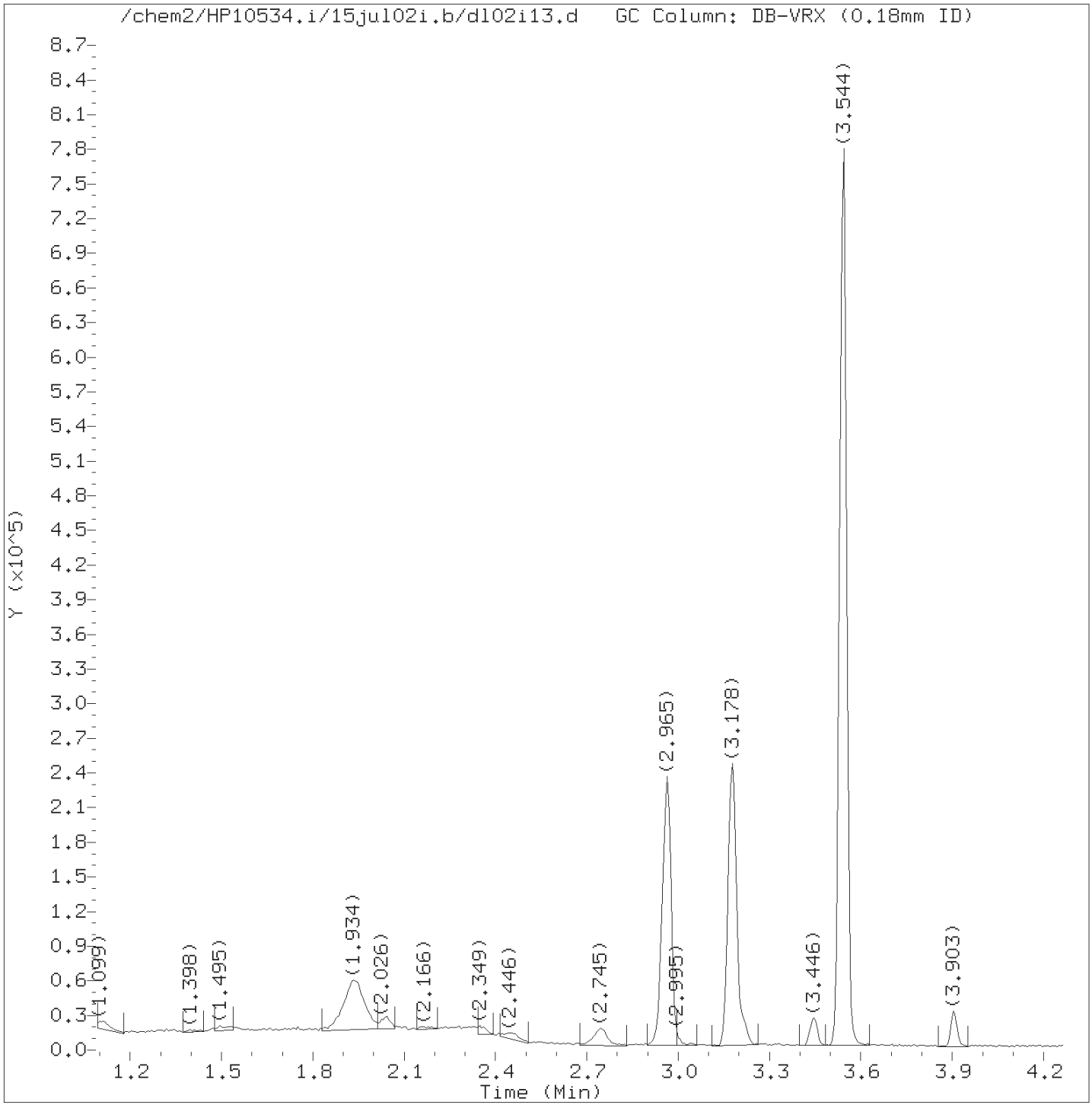
Data File: /chem2/HP10534.i/15jul02i.b/dl02i11.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:49 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 13:59
Date, time and analyst ID of latest file update: 02-Jul-2015 13:59 chemist

Sample Name: VSTD002 Lab Sample ID: VSTD002

Compound Number : 21
Compound Name : Ethylbenzene
Scan Number : 639
Retention Time (minutes): 4.982
Quant Ion : 91.00
Area : 13872
On-column Amount (ng) : 0.5972
Integration start scan : 631 Integration stop scan: 638
Y at integration start : 355 Y at integration end: 355

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature used: akr02850



Total Ion Chromatogram (TIC)

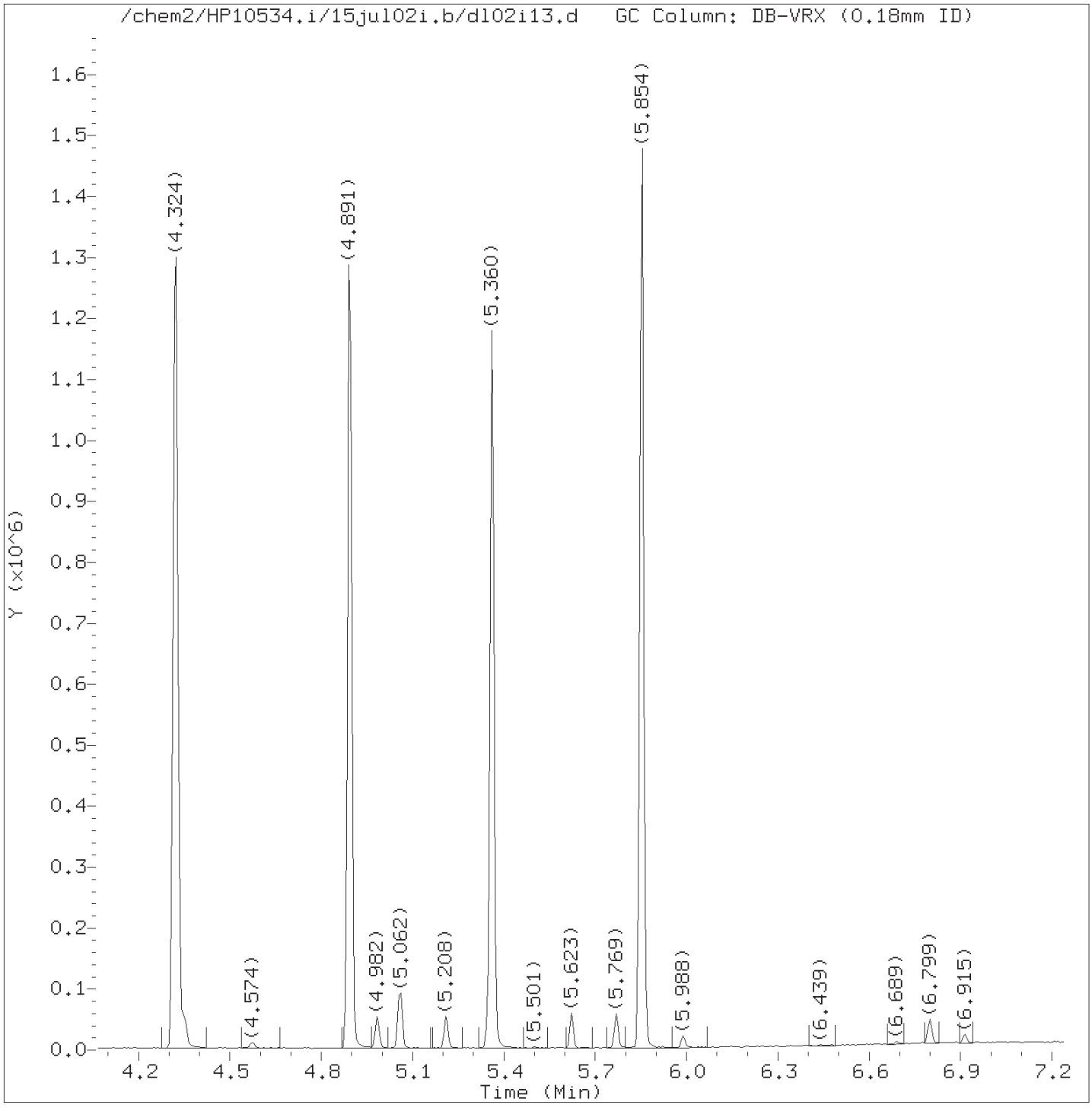
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i13.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:11 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i13.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:11 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i13.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:11 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

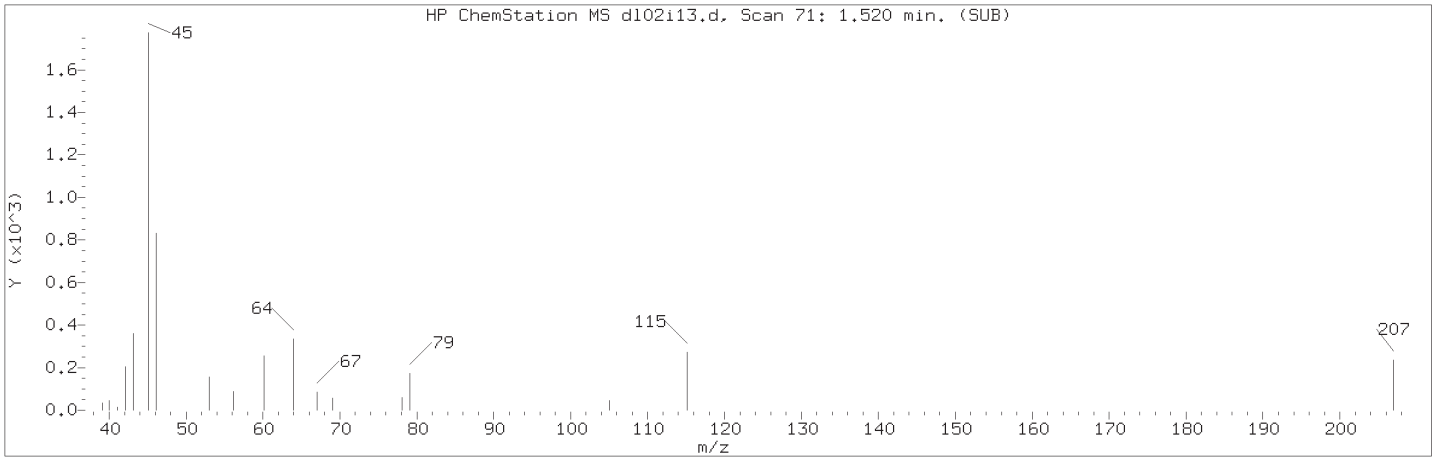
Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.520	45	11708M	162.442
2)*t-Butyl alcohol-d10	(1)	1.934	65	113621	250.000
3) t-Butyl alcohol	(1)	1.971	59	3812	5.582
4) Methyl Tertiary Butyl Ether	(2)	2.446	73	13637	1.147
5) di-Isopropyl ether	(2)	2.745	45	16061	1.127
6) Ethyl t-butyl ether	(2)	2.946	59	13688	1.045
7)$Dibromofluoromethane	(2)	2.965	113	137084	50.106
7)$Dibromofluoromethane	(2)	2.965	111	139334	49.995
10)$1,2-Dichloroethane-d4	(2)	3.178	102	35069	48.124
10)$1,2-Dichloroethane-d4	(2)	3.178	65	175663	48.604
10)$1,2-Dichloroethane-d4	(2)	3.178	104	22165	48.359
11) 1,2-Dichloroethane	(2)	3.214	62	6163	1.114
12) Benzene	(2)	3.446	78	18941	1.092
13) t-Amyl methyl ether	(2)	3.531	87	3312	1.082
14)*Fluorobenzene	(2)	3.544	96	586821	50.000
15) t-Amyl ethyl ether	(2)	3.903	87	7402	1.117
16)$Toluene-d8	(3)	4.324	98	583376	50.238
16)$Toluene-d8	(3)	4.324	100	381495	50.451
17) Toluene	(3)	4.348	92	12299	1.123
19) 1,2-Dibromoethane	(3)	4.574	107	4030	1.064
20)*Chlorobenzene-d5	(3)	4.891	117	431744	50.000
21) Ethylbenzene	(3)	4.982	91	22125	1.079
22) m+p-Xylene	(3)	5.062	106	17323	2.185
23) o-Xylene	(3)	5.208	106	8360	1.087
24) Xylene (Total)	(3)		106	25683	3.272
25) Isopropylbenzene	(3)	5.348	105	21662	1.092
26)$4-Bromofluorobenzene	(3)	5.360	95	218019	50.383
26)$4-Bromofluorobenzene	(3)	5.360	174	185368	49.609
27) 1,3,5-Trimethylbenzene	(4)	5.623	105	17567	1.111
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	18204	1.134
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	231014	50.000
30) Naphthalene	(4)	6.799	128	19989	1.127

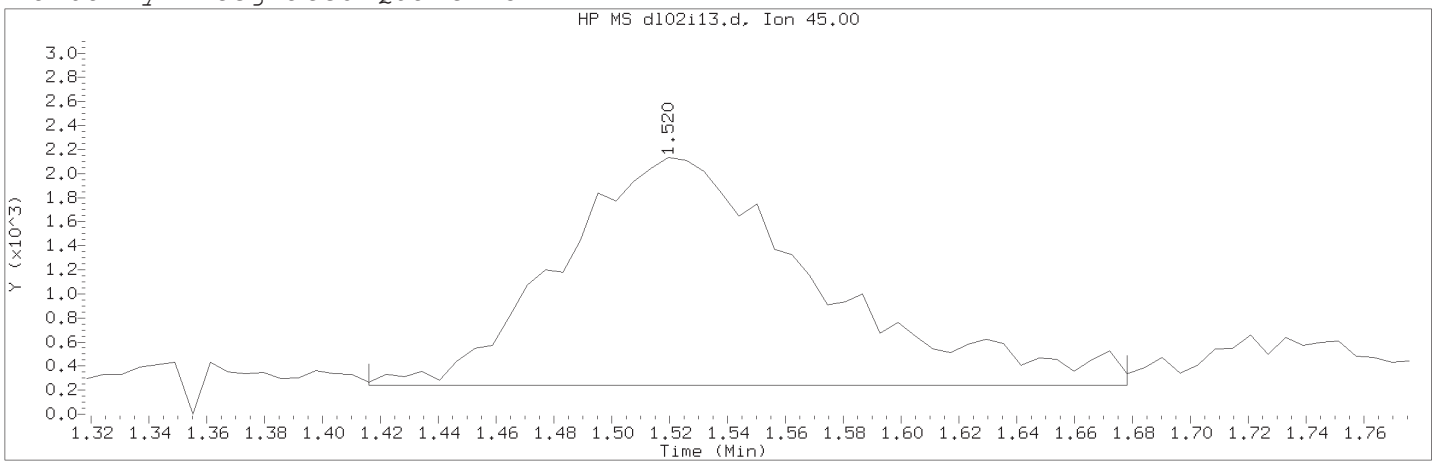
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i13.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:11 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:52 akr02850

Sample Name: VSTD001 Lab Sample ID: VSTD001

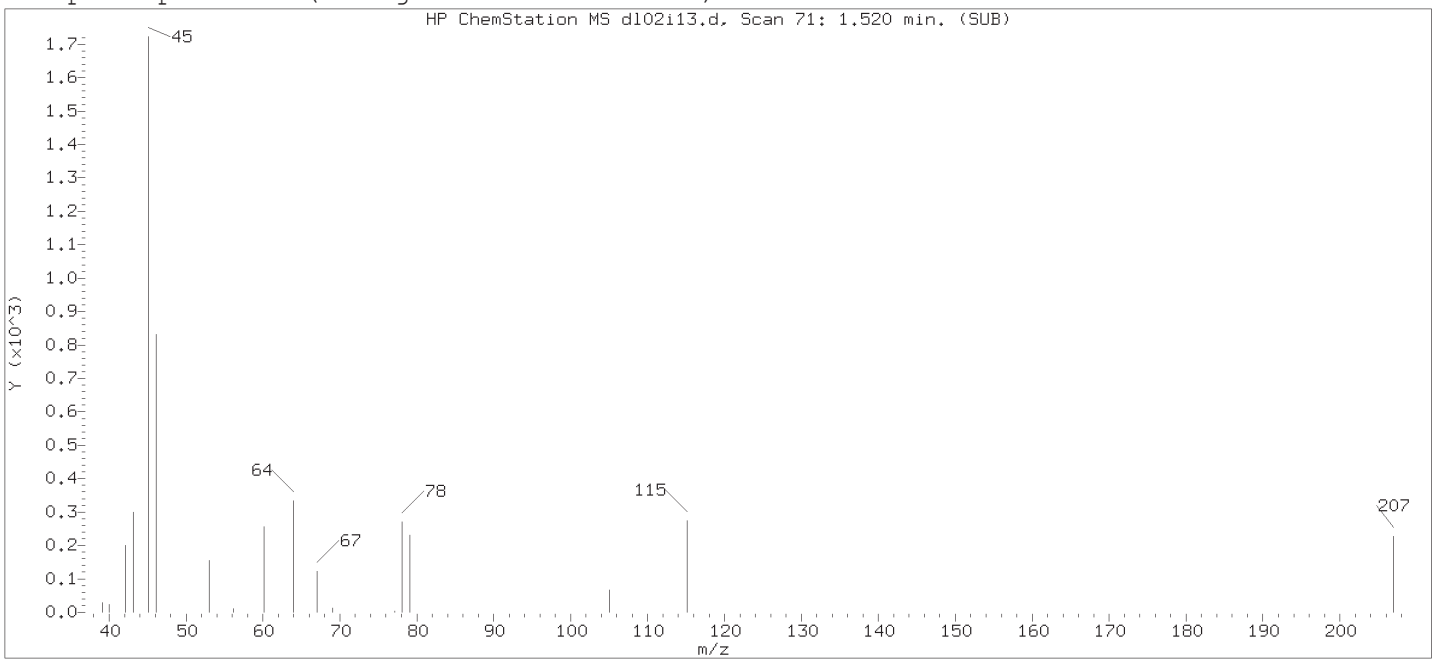
Compound Number : 1
Compound Name : Ethanol
Scan Number : 71
Retention Time (minutes): 1.520
Quant Ion : 45.00
Area (flag) : 11708M
On-Column Amount (ng) : 162.4423
Integration start scan : 53 Integration stop scan: 96
Y at integration start : 239 Y at integration end: 239

Reason for manual integration: improper integration

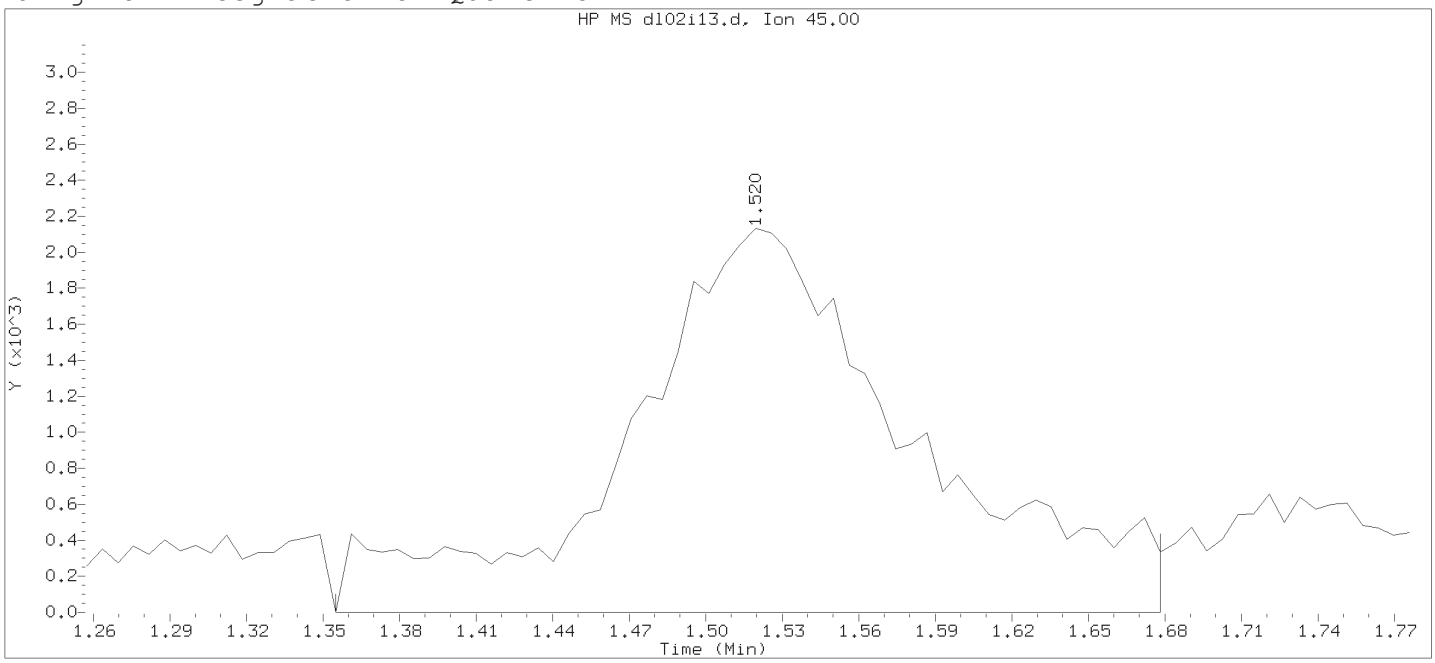
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



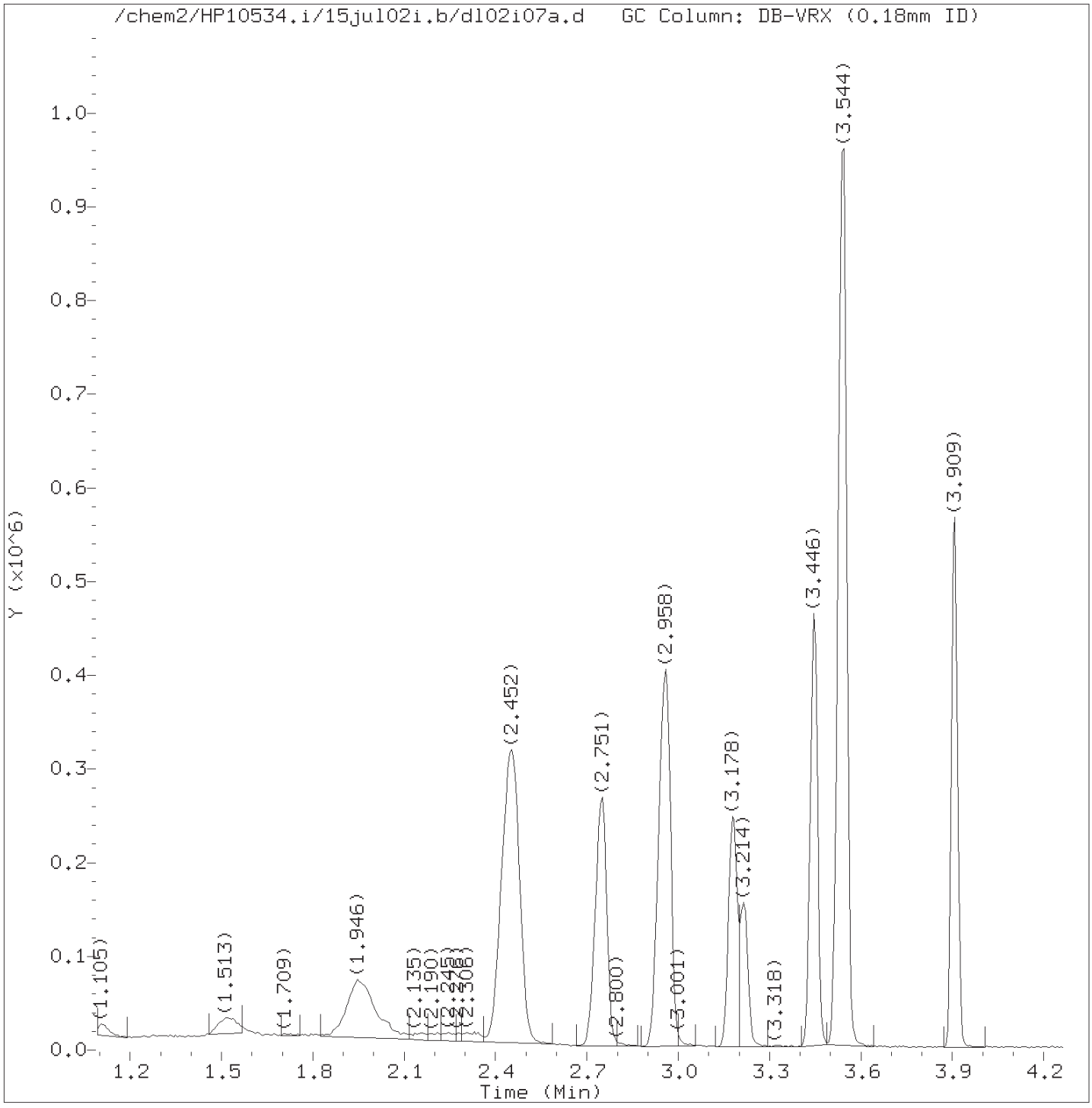
Data File: /chem2/HP10534.i/15jul02i.b/dl02i13.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:11 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:22
Date, time and analyst ID of latest file update: 02-Jul-2015 14:22 chemist

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compound Number	: 1		
Compound Name	: Ethanol		
Scan Number	: 71		
Retention Time (minutes)	: 1.520		
Quant Ion	: 45.00		
Area	: 16625		
On-column Amount (ng)	: 164.1436		
Integration start scan	: 43	Integration stop scan:	96
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature used: dl02i13.d



Total Ion Chromatogram (TIC)

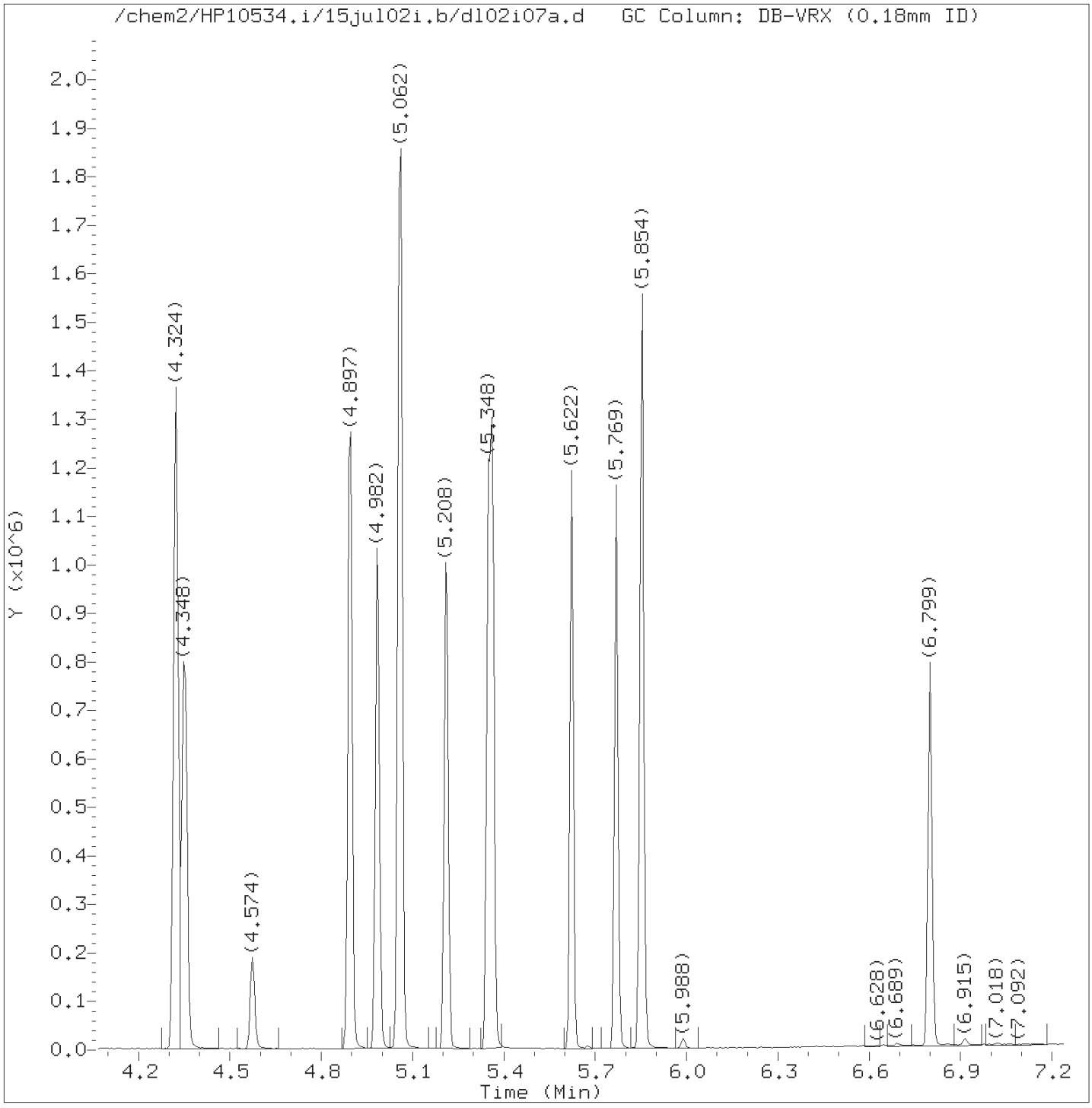
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i07a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:34 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD020 Lab Sample ID: VSTD020

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i07a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:34 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD020 Lab Sample ID: VSTD020

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i07a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:34 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

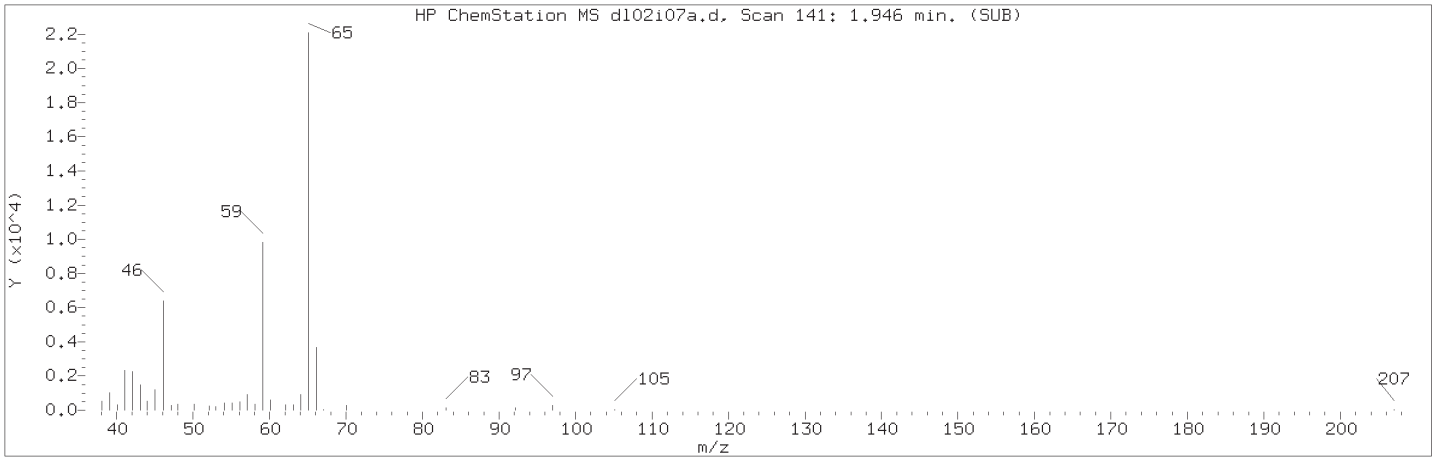
Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.520	45	74386	1147.845
2)*t-Butyl alcohol-d10	(1)	1.946	65	109916M	250.000
3) t-Butyl alcohol	(1)	1.977	59	79856	122.609
4) Methyl Tertiary Butyl Ether	(2)	2.452	73	626149	54.605
5) di-Isopropyl ether	(2)	2.751	45	298773	21.030
6) Ethyl t-butyl ether	(2)	2.946	59	278131	20.923
7)$Dibromofluoromethane	(2)	2.964	113	139925	50.175
7)$Dibromofluoromethane	(2)	2.964	111	141462	49.698
10)$1,2-Dichloroethane-d4	(2)	3.184	102	37076	49.047
10)$1,2-Dichloroethane-d4	(2)	3.178	65	182702	48.888
10)$1,2-Dichloroethane-d4	(2)	3.184	104	23164	49.347
11) 1,2-Dichloroethane	(2)	3.214	62	115736	21.014
12) Benzene	(2)	3.446	78	367426	21.065
13) t-Amyl methyl ether	(2)	3.531	87	64771	20.803
14)*Fluorobenzene	(2)	3.544	96	597250	50.000
15) t-Amyl ethyl ether	(2)	3.909	87	142993	21.615
16)$Toluene-d8	(3)	4.324	98	594839	50.313
16)$Toluene-d8	(3)	4.324	100	383837	50.036
17) Toluene	(3)	4.348	92	231006	21.173
19) 1,2-Dibromoethane	(3)	4.574	107	79521	20.521
20)*Chlorobenzene-d5	(3)	4.897	117	439750	50.000
21) Ethylbenzene	(3)	4.982	91	437212	21.233
22) m+p-Xylene	(3)	5.062	106	342494	42.901
23) o-Xylene	(3)	5.208	106	165999	21.265
24) Xylene (Total)	(3)		106	508493	64.167
25) Isopropylbenzene	(3)	5.348	105	420203	21.145
26)$4-Bromofluorobenzene	(3)	5.360	95	219440	49.964
26)$4-Bromofluorobenzene	(3)	5.366	174	192269	50.557
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	338618	20.786
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	344883	20.942
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	241725	50.000
30) Naphthalene	(4)	6.799	128	375486	20.729

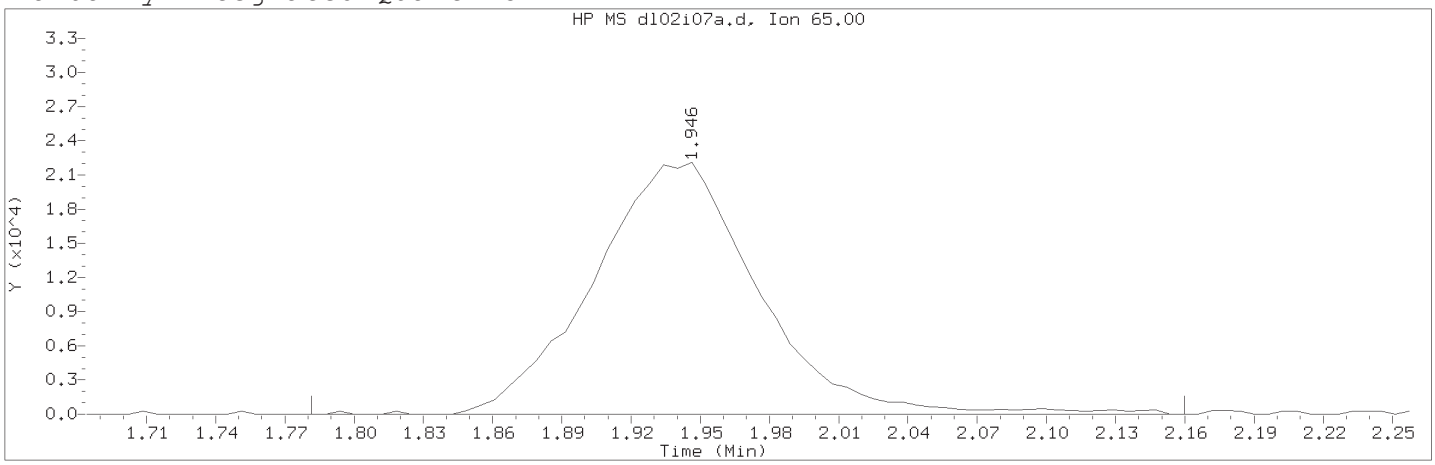
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i07a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:34 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:49
Date, time and analyst ID of latest file update: 02-Jul-2015 14:49 akr02850

Sample Name: VSTD020 Lab Sample ID: VSTD020

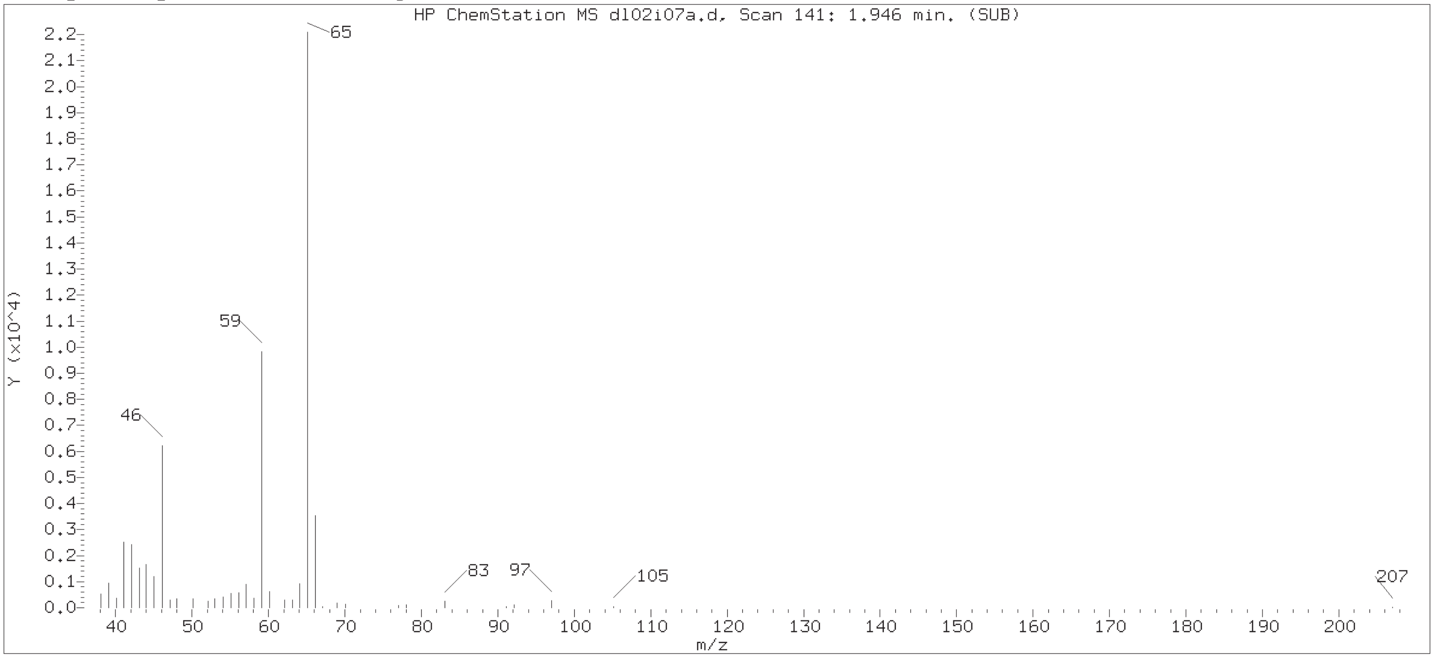
Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 141
Retention Time (minutes): 1.946
Quant Ion : 65.00
Area (flag) : 109916M
On-Column Amount (ng) : 250.0000
Integration start scan : 113 Integration stop scan: 175
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

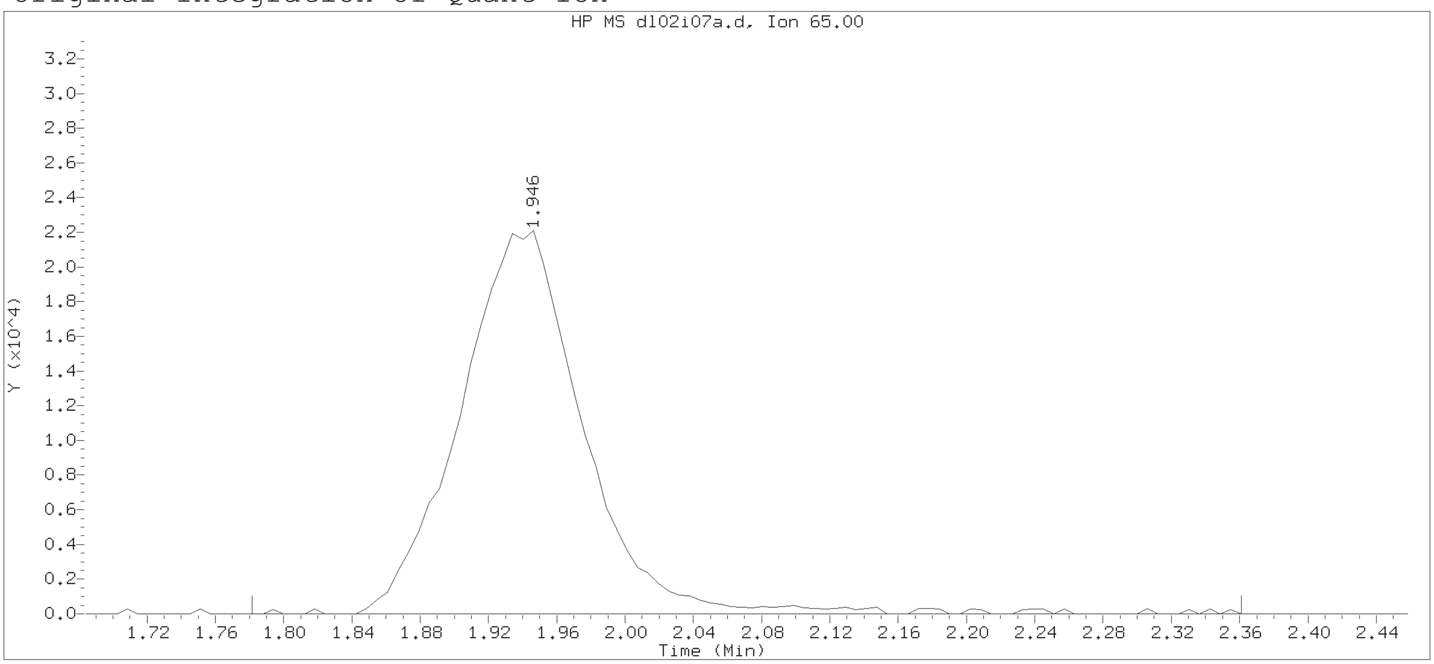
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:19.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



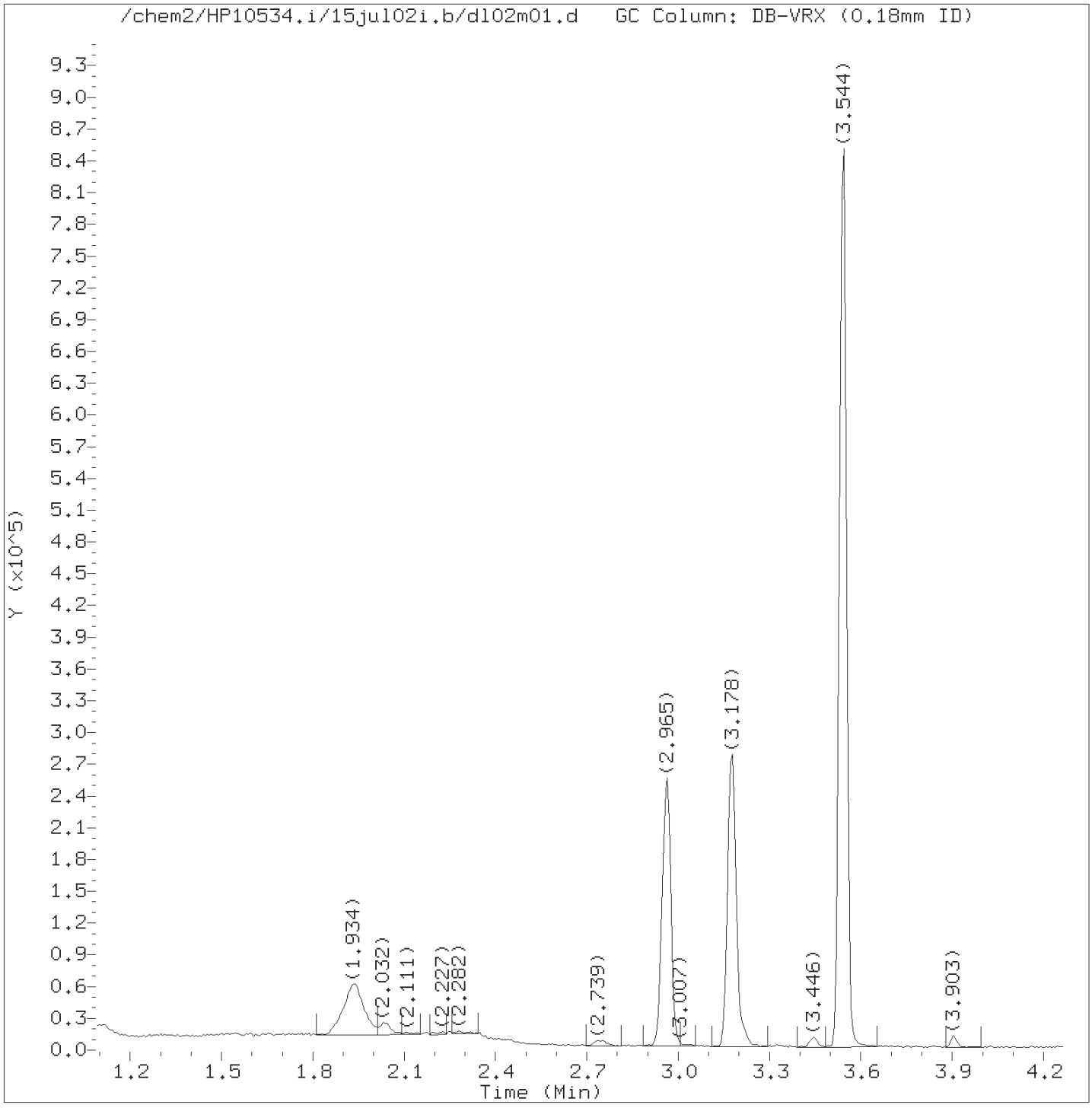
Data File: /chem2/HP10534.i/15jul02i.b/dl02i07a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:34 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:45
Date, time and analyst ID of latest file update: 02-Jul-2015 14:45 chemist

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 141
Retention Time (minutes): 1.946
Quant Ion : 65.00
Area : 111234
On-column Amount (ng) : 250.0000
Integration start scan : 113 Integration stop scan: 208
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 14:54.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

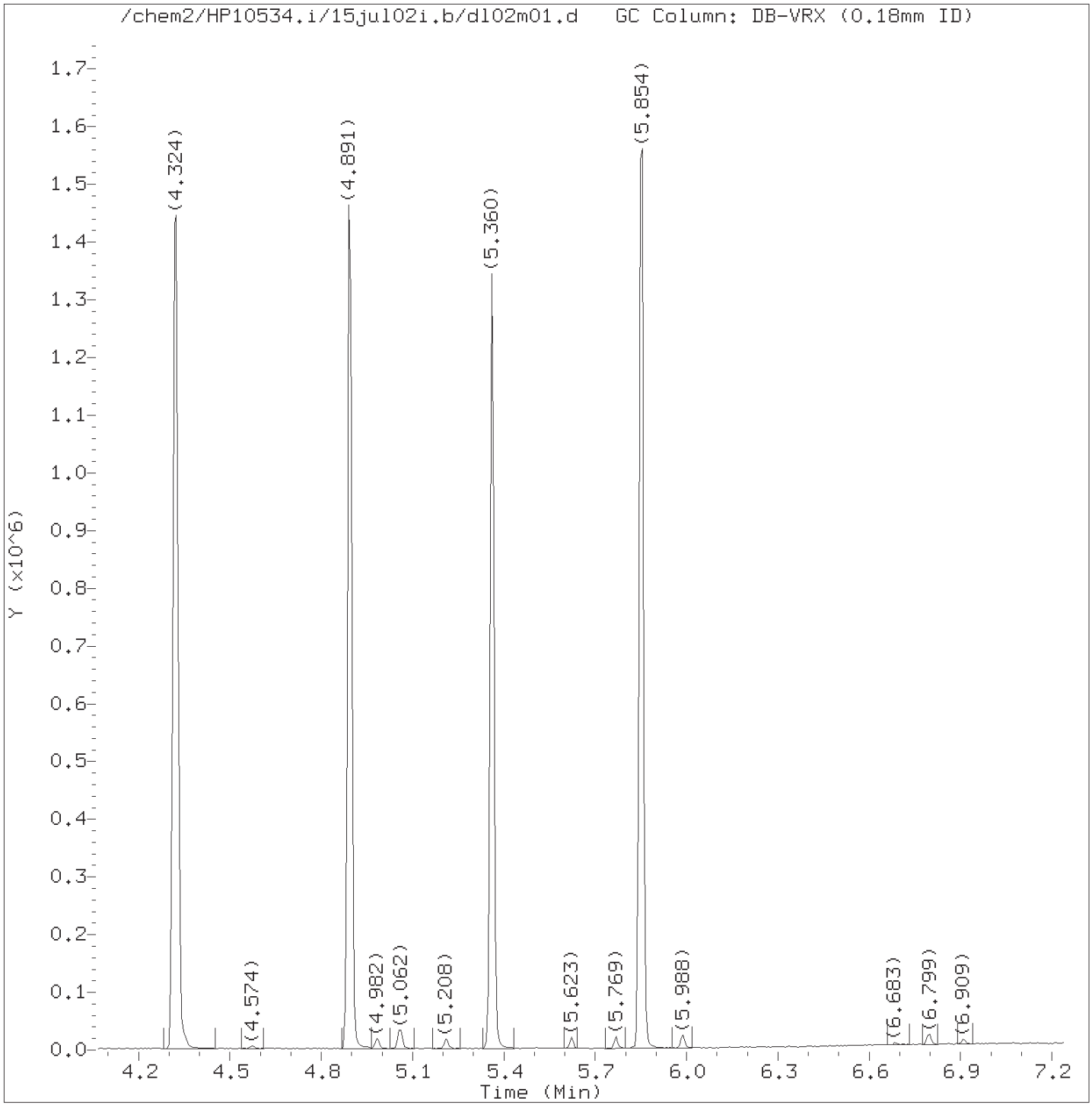
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02m01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:57 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:55
Date, time and analyst ID of latest file update: 02-Jul-2015 15:08 chemist

Sample Name: VSTD0.4 Lab Sample ID: 0.4PPB MDL

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:11.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02m01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:57 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:55
Date, time and analyst ID of latest file update: 02-Jul-2015 15:08 chemist

Sample Name: VSTD0.4 Lab Sample ID: 0.4PPB MDL

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:11.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02m01.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:57 Analyst ID: akr02850

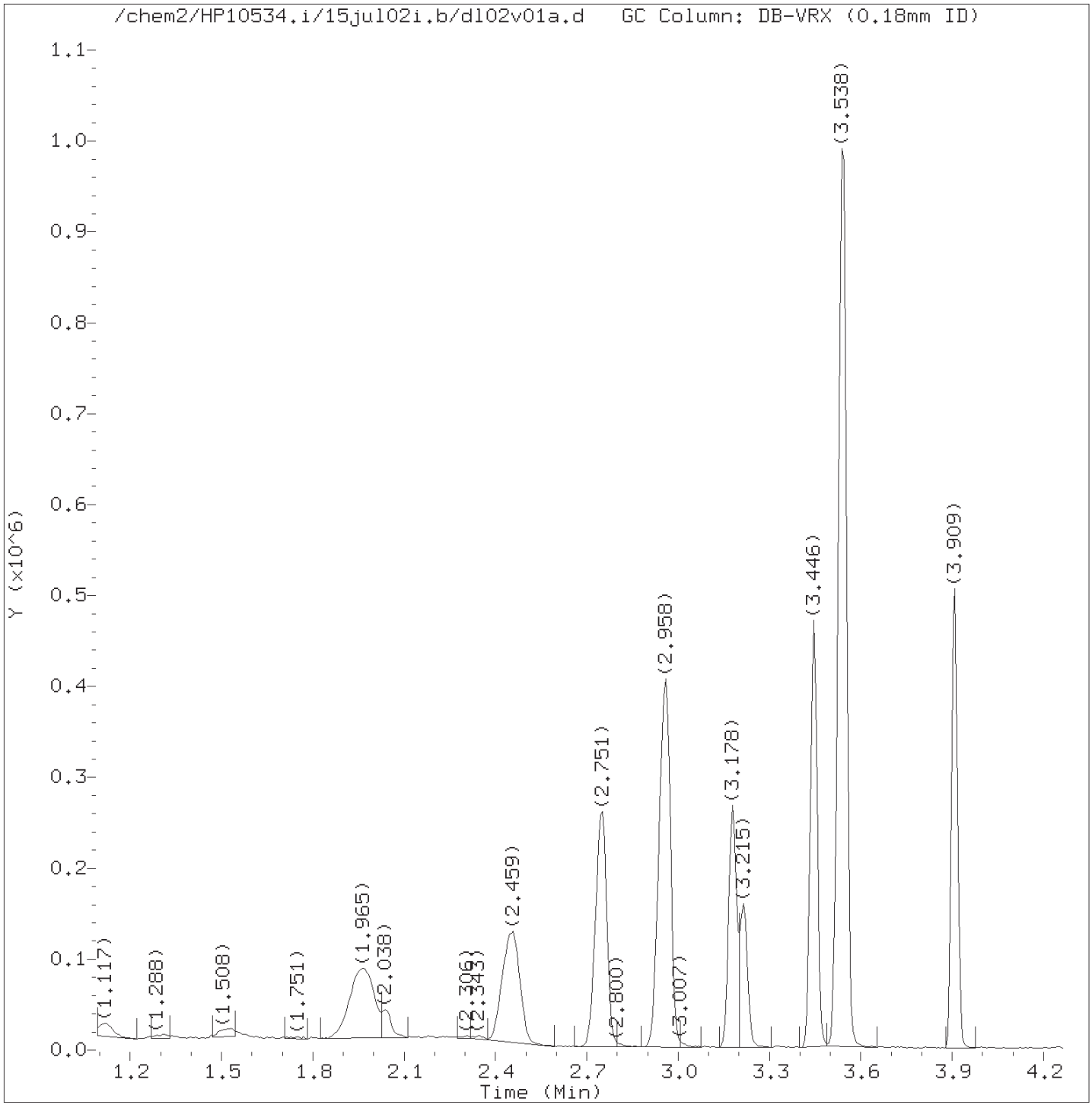
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:55
Date, time and analyst ID of latest file update: 02-Jul-2015 15:08 chemist

Sample Name: VSTD0.4 Lab Sample ID: 0.4PPB MDL

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.532	45	9651	120.578
2)*t-Butyl alcohol-d10	(1)	1.934	65	126185	250.000
3) t-Butyl alcohol	(1)	1.989	59	1689	2.227
4) Methyl Tertiary Butyl Ether	(2)	2.440	73	4890	0.364
5) di-Isopropyl ether	(2)	2.739	45	5891	0.365
6) Ethyl t-butyl ether	(2)	2.946	59	4875	0.329
7)$Dibromofluoromethane	(2)	2.965	113	153841	49.719
10)$1,2-Dichloroethane-d4	(2)	3.178	102	40384	49.000
11) 1,2-Dichloroethane	(2)	3.214	62	2269	0.363
12) Benzene	(2)	3.446	78	7334	0.374
13) t-Amyl methyl ether	(2)	3.525	87	1045	0.302
14)*Fluorobenzene	(2)	3.544	96	663679	50.000
15) t-Amyl ethyl ether	(2)	3.903	87	2448	0.327
16)$Toluene-d8	(3)	4.324	98	662923	49.918
17) Toluene	(3)	4.348	92	4471	0.357
19) 1,2-Dibromoethane	(3)	4.574	107	1518	0.351
20)*Chlorobenzene-d5	(3)	4.891	117	493765	50.000
21) Ethylbenzene	(3)	4.982	91	8739	0.373
22) m+p-Xylene	(3)	5.062	106	5963	0.658
23) o-Xylene	(3)	5.214	106	3084	0.351
24) Xylene (Total)	(3)		106	9047	1.009
25) Isopropylbenzene	(3)	5.348	105	7859	0.346
26)$4-Bromofluorobenzene	(3)	5.360	95	245774	49.663
27) 1,3,5-Trimethylbenzene	(4)	5.623	105	7071	0.386
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	6919	0.372
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	267868	50.000
30) Naphthalene	(4)	6.799	128	9060	0.441

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:11.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

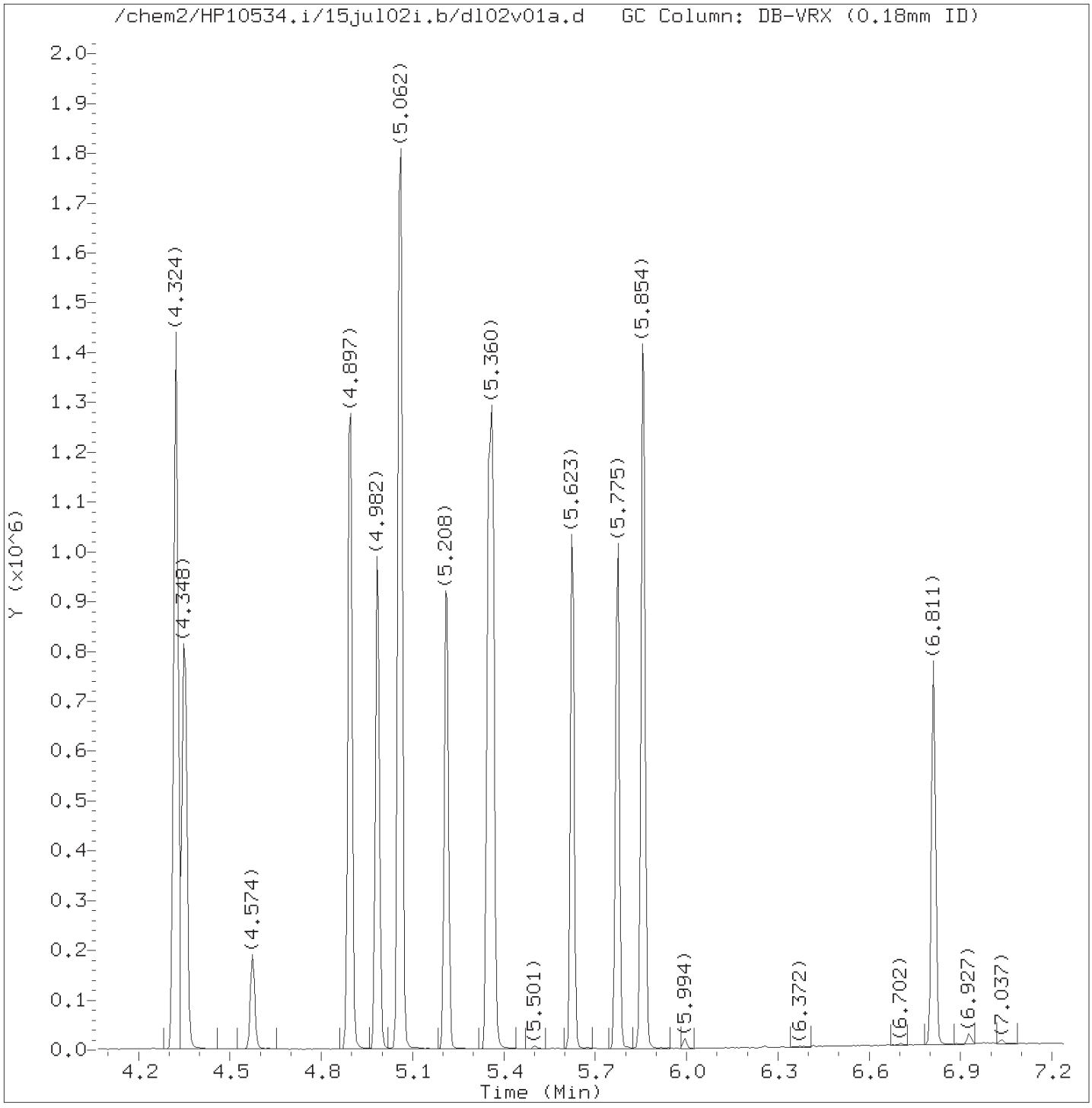
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02v01a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 16:01 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:55
Date, time and analyst ID of latest file update: 02-Jul-2015 16:31 akr02850

Sample Name: ICV-01 Lab Sample ID: ICV-01

Digitally signed by Amanda K. Richards
on 07/02/2015 at 16:31.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02v01a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 16:01 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:55
Date, time and analyst ID of latest file update: 02-Jul-2015 16:31 akr02850

Sample Name: ICV-01 Lab Sample ID: ICV-01

Digitally signed by Amanda K. Richards
on 07/02/2015 at 16:31.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02v01a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 16:01 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:55
Date, time and analyst ID of latest file update: 02-Jul-2015 16:31 akr02850

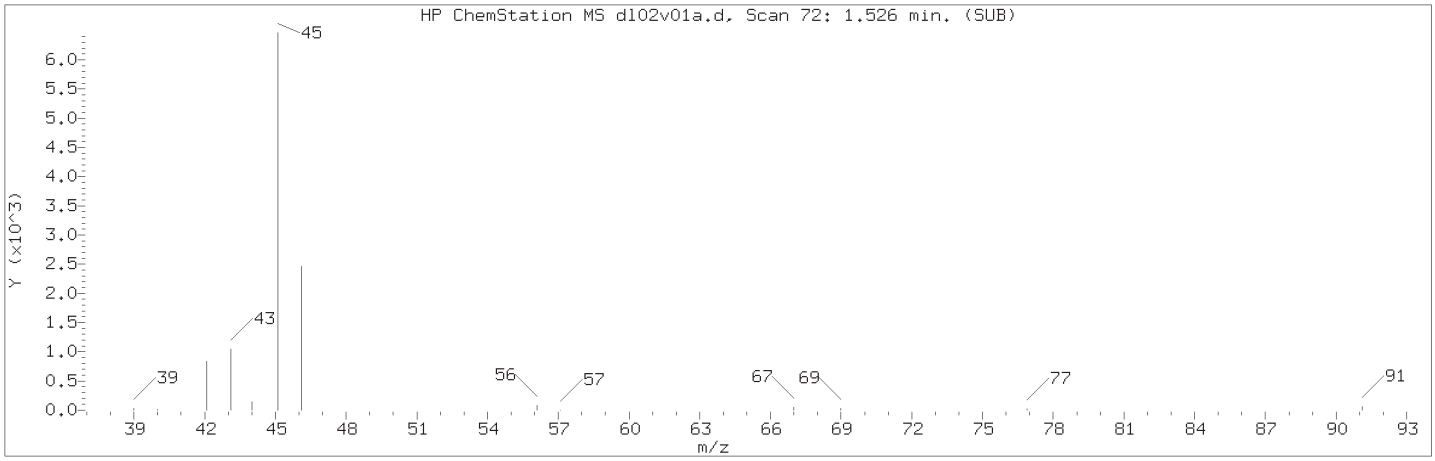
Sample Name: ICV-01 Lab Sample ID: ICV-01

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	39795M	554.200
2)*t-Butyl alcohol-d10	(1)	1.940	65	113196	250.000
3) t-Butyl alcohol	(1)	1.983	59	136155	200.136
4) Methyl Tertiary Butyl Ether	(2)	2.459	73	245008	20.320
5) di-Isopropyl ether	(2)	2.751	45	285009	19.715
6) Ethyl t-butyl ether	(2)	2.946	59	263081	19.810
7)$Dibromofluoromethane	(2)	2.965	113	137739	49.637
10)$1,2-Dichloroethane-d4	(2)	3.178	102	36471	49.343
11) 1,2-Dichloroethane	(2)	3.215	62	110065	19.614
12) Benzene	(2)	3.446	78	348745	19.815
13) t-Amyl methyl ether	(2)	3.532	87	62659	20.191
14)*Fluorobenzene	(2)	3.544	96	595199	50.000
15) t-Amyl ethyl ether	(2)	3.909	87	124101	18.457
16)$Toluene-d8	(3)	4.324	98	592906	49.603
17) Toluene	(3)	4.348	92	226202	20.067
19) 1,2-Dibromoethane	(3)	4.574	107	77527	19.884
20)*Chlorobenzene-d5	(3)	4.897	117	444418	50.000
21) Ethylbenzene	(3)	4.982	91	420486	19.929
22) m+p-Xylene	(3)	5.062	106	329757	40.414
23) o-Xylene	(3)	5.214	106	157986	19.953
24) Xylene (Total)	(3)		106	487743	60.368
25) Isopropylbenzene	(3)	5.348	105	415325	20.342
26)$4-Bromofluorobenzene	(3)	5.360	95	223180	50.105
27) 1,3,5-Trimethylbenzene	(4)	5.623	105	329114	19.750
28) 1,2,4-Trimethylbenzene	(4)	5.775	105	335657	19.844
29)*1,4-Dichlorobenzene-d4	(4)	5.860	152	243504	50.000
30) Naphthalene	(4)	6.811	128	365493	19.547

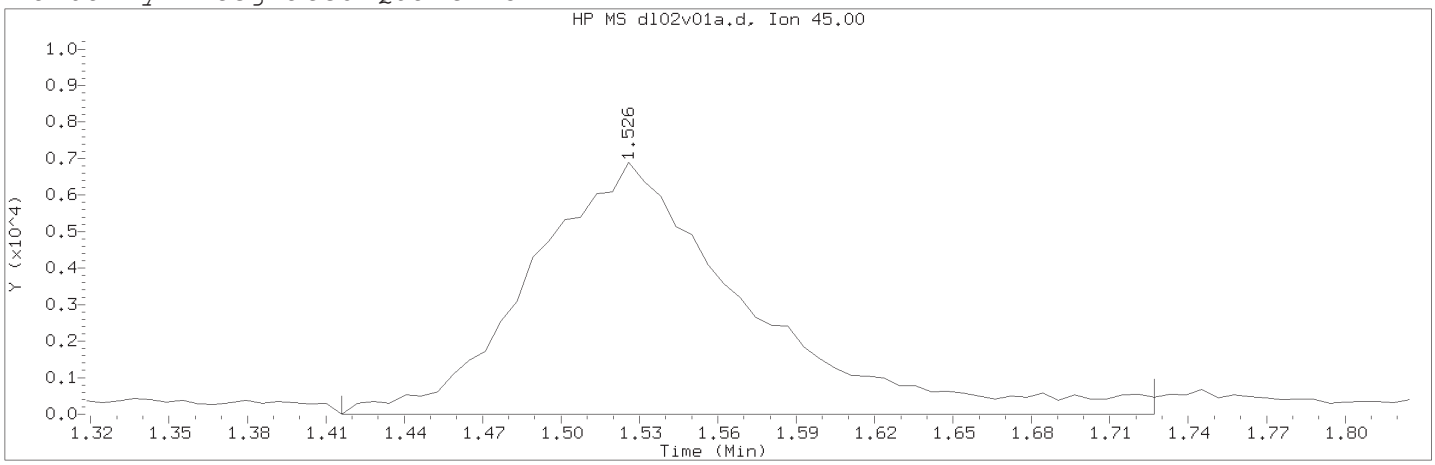
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 16:31.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02v01a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 16:01 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:55
Date, time and analyst ID of latest file update: 02-Jul-2015 16:31 akr02850

Sample Name: ICV-01 Lab Sample ID: ICV-01

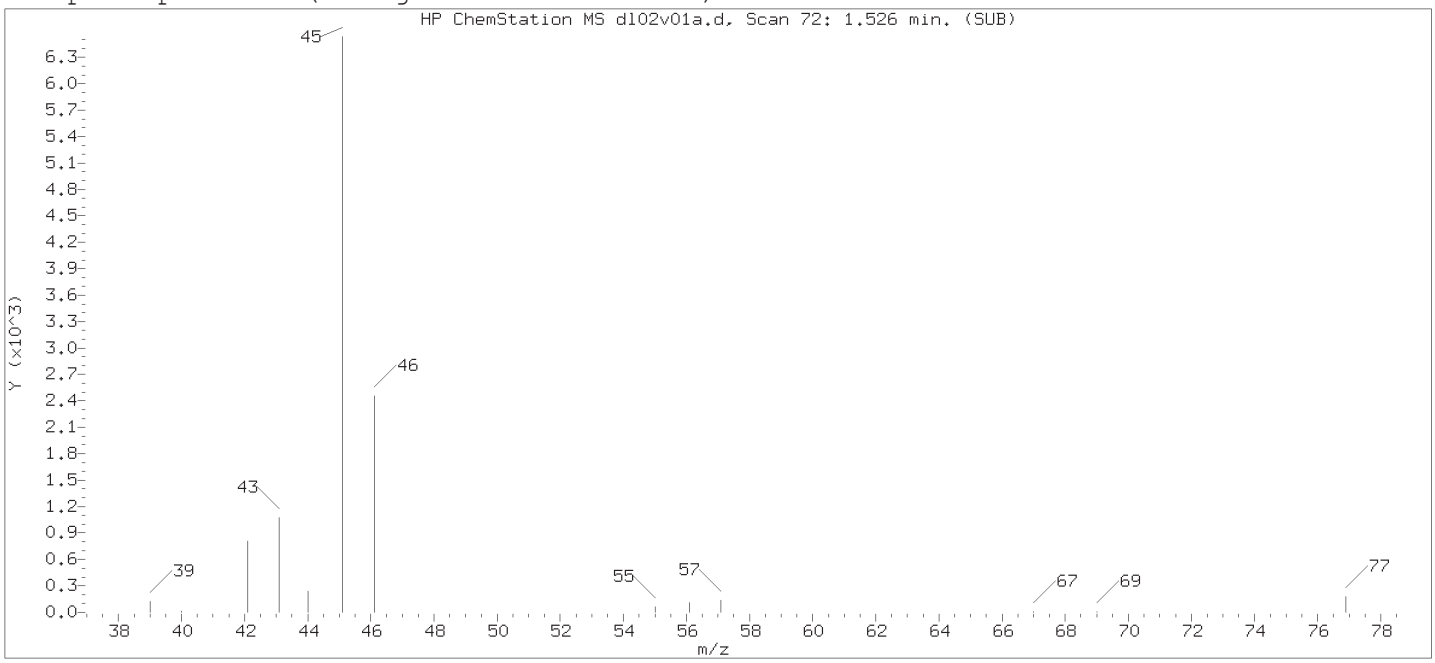
Compound Number : 1
Compound Name : Ethanol
Scan Number : 72
Retention Time (minutes): 1.526
Quant Ion : 45.00
Area (flag) : 39795M
On-Column Amount (ng) : 554.2001
Integration start scan : 53 Integration stop scan: 104
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

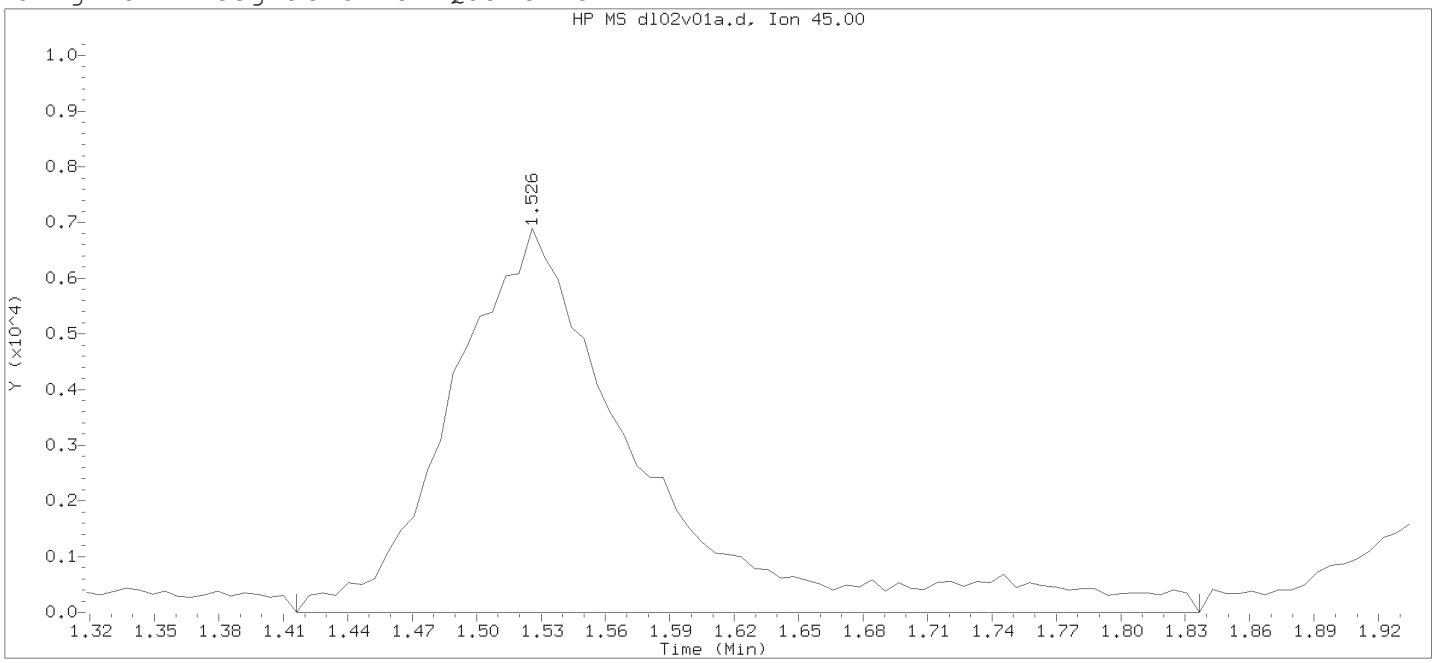
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 16:31.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 18:22.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02v01a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 16:01 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 02-JUL-2015 14:55
Date, time and analyst ID of latest file update: 02-Jul-2015 16:11 chemist

Sample Name: ICV-01 Lab Sample ID: ICV-01

Compound Number : 1
Compound Name : Ethanol
Scan Number : 72
Retention Time (minutes): 1.526
Quant Ion : 45.00
Area : 42472
On-column Amount (ng) : 591.4745
Integration start scan : 53 Integration stop scan: 122
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 16:31.
Target 3.5 esignature used [illegible]

Data File: /chem2/HP10534.i/15jul02i.b/d102t01.d

Date : 02-JUL-2015 11:15

Client ID: BFBMAR06-15

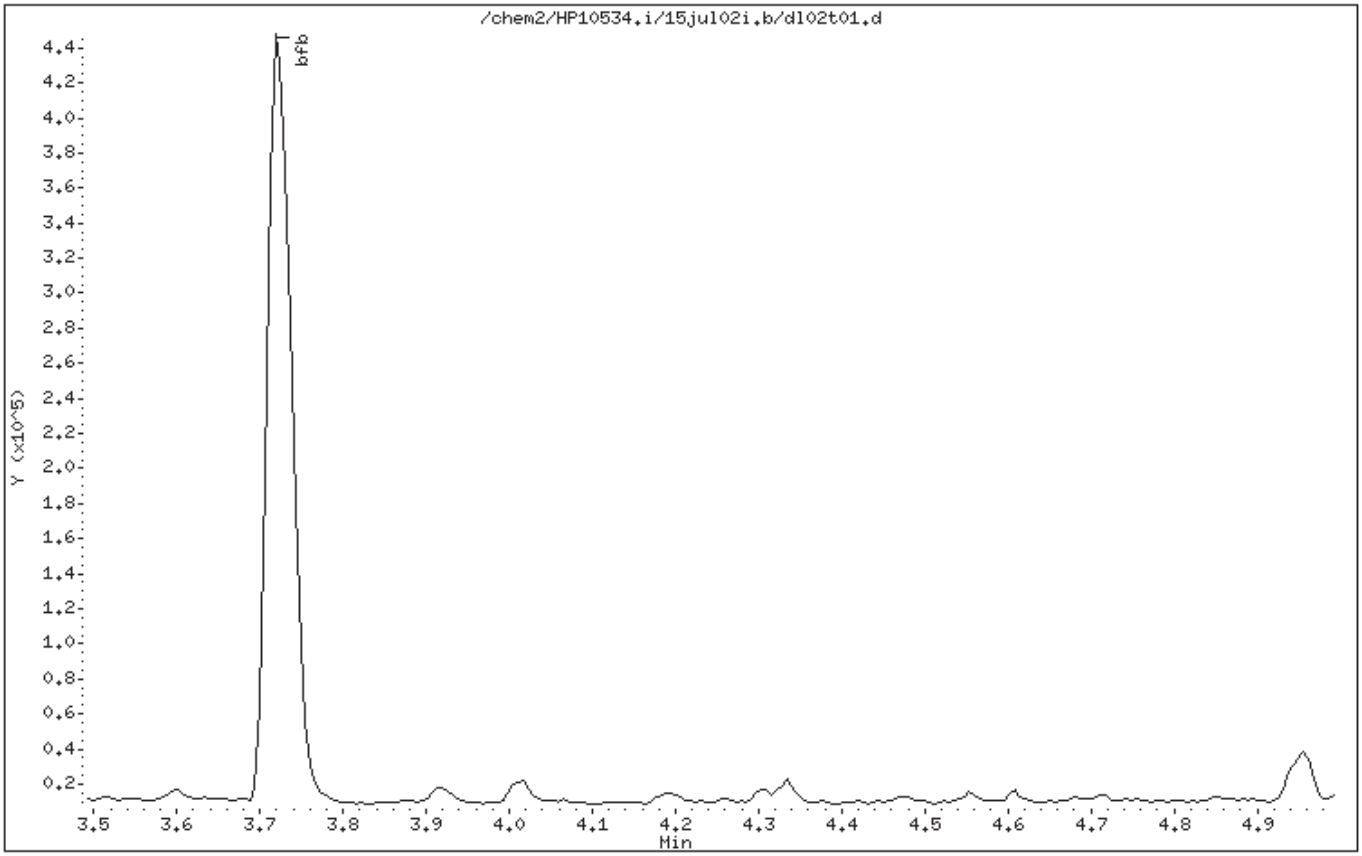
Instrument: HP10534.i

Sample Info: BFBMAR06-15;50NGBFB;1;3;;;

Operator: AKR02850

Column phase: DB-VRX

Column diameter: 0.18



Digitally signed by Amanda K. Richards on 07/02/2015 at 15:02.
Target 3.5 esignature user ID: akr02850

Data File: /chem2/HP10534.i/15jul02i.b/d102t01.d

Date : 02-JUL-2015 11:15

Client ID: BFBMAR06-15

Instrument: HP10534.i

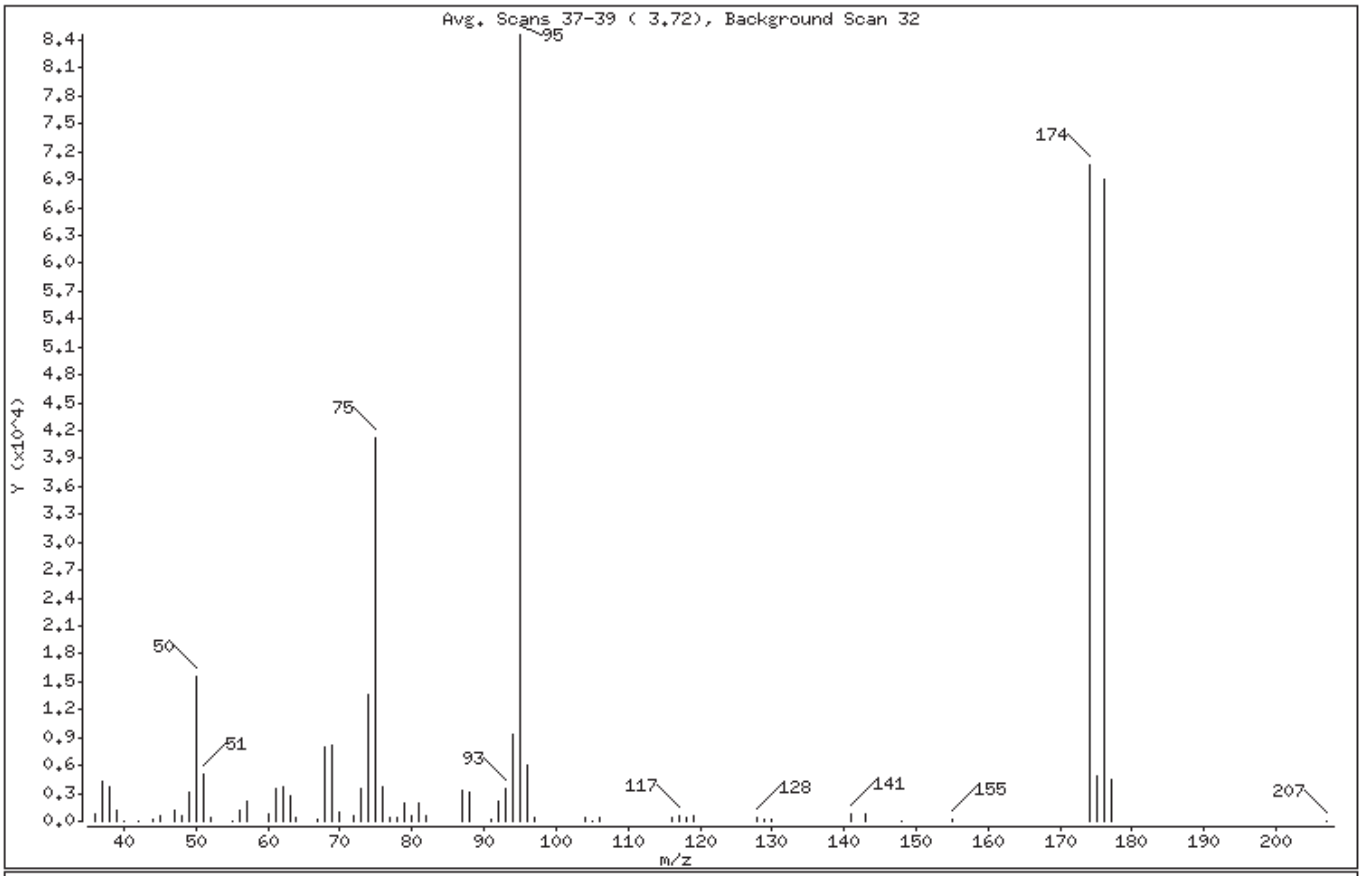
Sample Info: BFBMAR06-15;50NGBFB;1;3;;;

Operator: AKR02850

Column phase: DB-VRX

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.28
75	30.00 - 60.00% of mass 95	48.84
96	5.00 - 9.00% of mass 95	7.09
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 100.00% of mass 95	83.48
175	5.00 - 9.00% of mass 174	5.85 (7.01)
176	95.00 - 101.00% of mass 174	81.61 (97.76)
177	5.00 - 9.00% of mass 176	5.40 (6.62)

Digitally signed by Amanda K. Richards on 07/02/2015 at 15:02.
Target 3.5 esignature user ID: akr02850

Date : 02-JUL-2015 11:15

Client ID: BFBMAR06-15 Instrument: HP10534.i

Sample Info: BFBMAR06-15;50NGBFB;1;3;;;

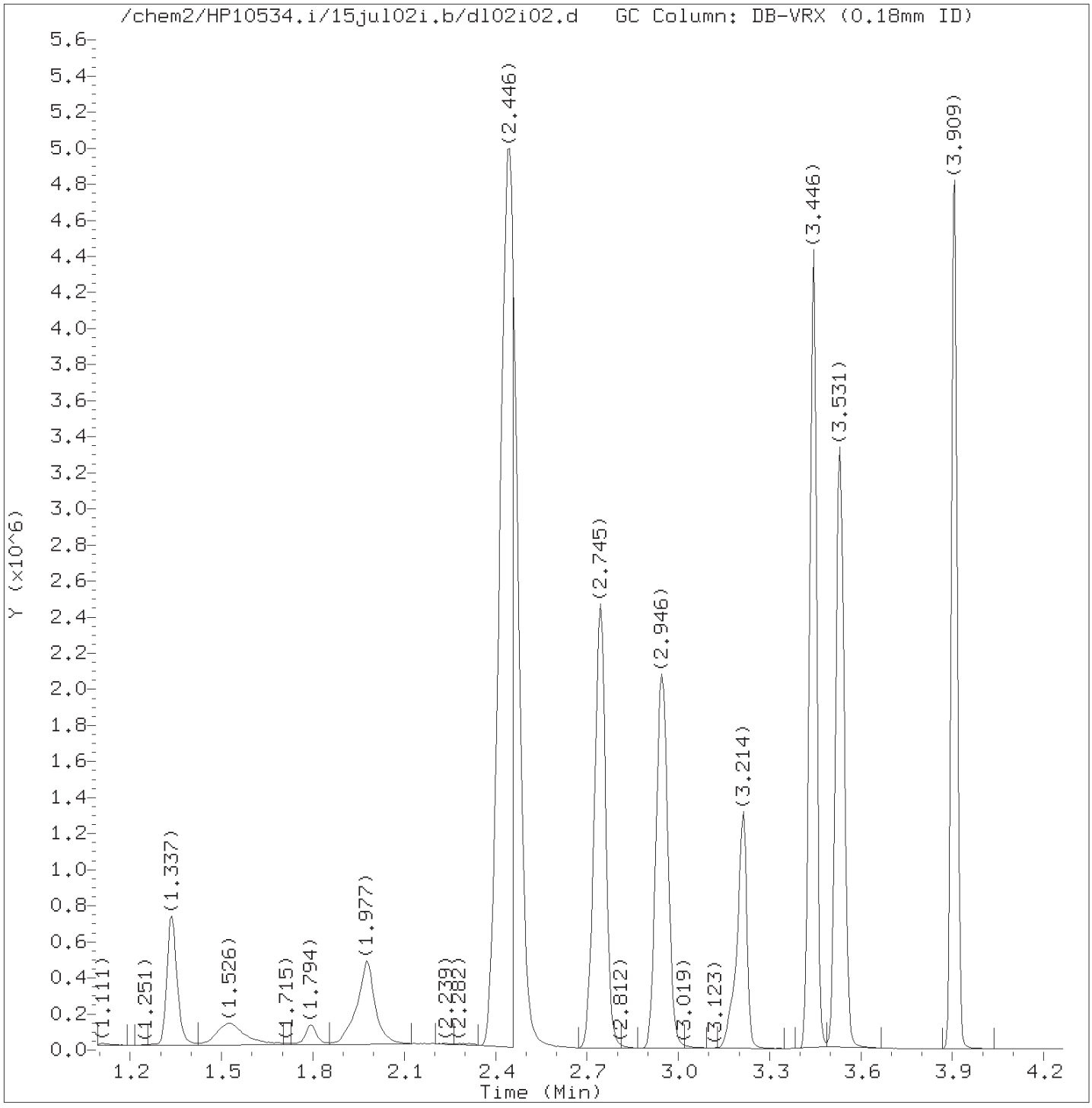
Operator: AKR02850

Column phase: DB-VRX Column diameter: 0.18

Data File: dl02t01.d
Spectrum: Avg. Scans 37-39 (3.72), Background Scan 32
Location of Maximum: 95.00
Number of points: 65

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	823	60.00	793	80.00	567	118.00	297
37.00	4224	61.00	3596	81.00	1938	119.00	517
38.00	3630	62.00	3637	82.00	530	128.00	395
39.00	1172	63.00	2677	87.00	3337	129.00	197
40.00	24	64.00	387	88.00	3117	130.00	286
42.00	23	67.00	170	91.00	149	141.00	797
44.00	266	68.00	7943	92.00	2156	143.00	772
45.00	585	69.00	8102	93.00	3421	148.00	89
47.00	1082	70.00	908	94.00	9345	155.00	280
48.00	588	72.00	543	95.00	84584	174.00	70608
49.00	3179	73.00	3528	96.00	5996	175.00	4950
50.00	15467	74.00	13540	97.00	342	176.00	69032
51.00	5075	75.00	41312	104.00	469	177.00	4568
52.00	345	76.00	3602	105.00	63	207.00	45
55.00	95	77.00	421	106.00	385		
56.00	1251	78.00	440	116.00	360		
57.00	2079	79.00	1899	117.00	638		

Digitally signed by Amanda K. Richards on 07/02/2015 at 15:02.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

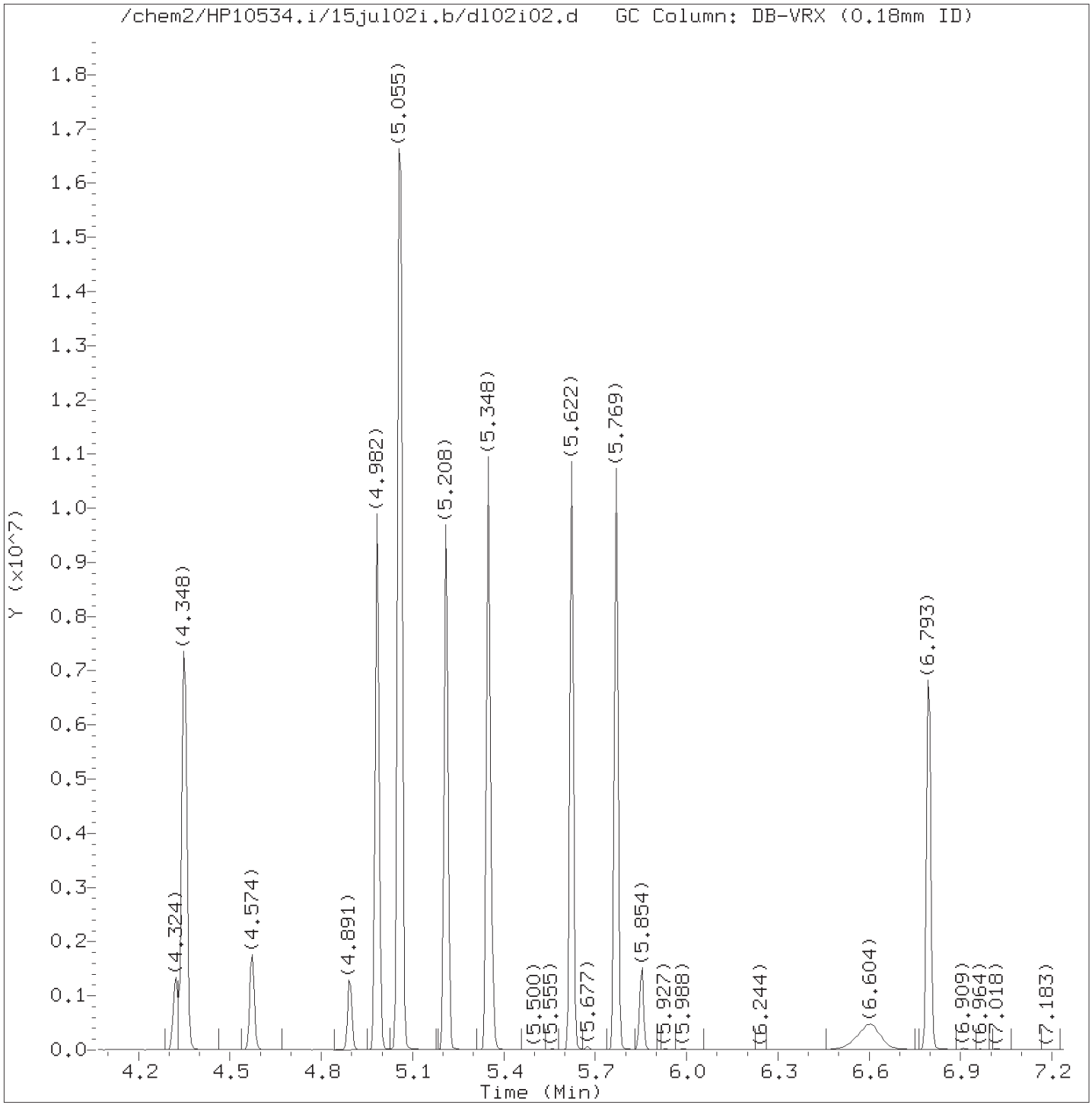
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i02.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:05 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD200 Lab Sample ID: VSTD200

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i02.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:05 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD200 Lab Sample ID: VSTD200

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i02.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:05 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

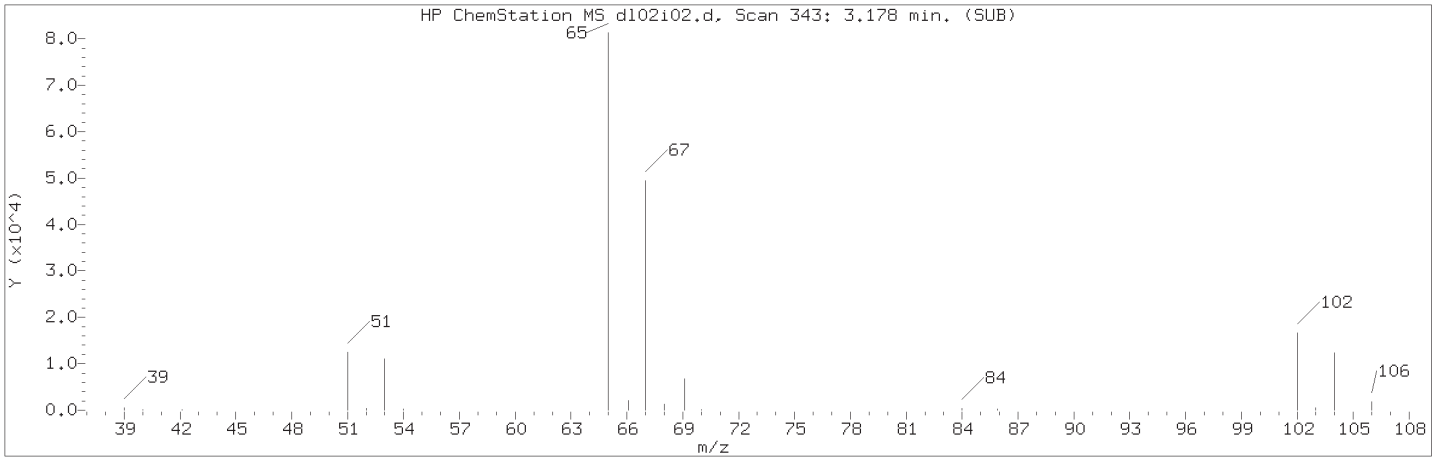
Sample Name: VSTD200 Lab Sample ID: VSTD200

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	445814	5000.000
2)*t-Butyl alcohol-d10	(1)	1.934	65	131015	250.000
3) t-Butyl alcohol	(1)	1.971	59	668295	1000.000
4) Methyl Tertiary Butyl Ether	(2)	2.440	73	10025354	1000.000
5) di-Isopropyl ether	(2)	2.745	45	2745164	200.000
6) Ethyl t-butyl ether	(2)	2.946	59	2240457	200.000
7)$Dibromofluoromethane	(2)	2.964	113	137678	50.000
7)$Dibromofluoromethane	(2)	2.964	111	141189	50.000
10)$1,2-Dichloroethane-d4	(2)	3.178	102	37609M	50.000
10)$1,2-Dichloroethane-d4	(2)	3.178	65	185982M	50.000
10)$1,2-Dichloroethane-d4	(2)	3.178	104	23923	50.000
11) 1,2-Dichloroethane	(2)	3.214	62	1056938	200.000
12) Benzene	(2)	3.446	78	3378542	200.000
13) t-Amyl methyl ether	(2)	3.531	87	520706	200.000
14)*Fluorobenzene	(2)	3.543	96	593116	50.000
15) t-Amyl ethyl ether	(2)	3.909	87	1189516	200.000
16)$Toluene-d8	(3)	4.324	98	595137	50.000
16)$Toluene-d8	(3)	4.324	100	386990	50.000
17) Toluene	(3)	4.348	92	2127076	200.000
19) 1,2-Dibromoethane	(3)	4.574	107	765826	200.000
20)*Chlorobenzene-d5	(3)	4.891	117	443175	50.000
21) Ethylbenzene	(3)	4.982	91	4025997	200.000
22) m+p-Xylene	(3)	5.061	106	3079172	400.000
23) o-Xylene	(3)	5.208	106	1531310	200.000
24) Xylene (Total)	(3)		106	4610482	600.000
25) Isopropylbenzene	(3)	5.348	105	3932579	200.000
26)$4-Bromofluorobenzene	(3)	5.360	95	220943	50.000
26)$4-Bromofluorobenzene	(3)	5.360	174	191476	50.000
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	3199371	200.000
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	3222293	200.000
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	240392	50.000
30) Naphthalene	(4)	6.793	128	3470955	200.000

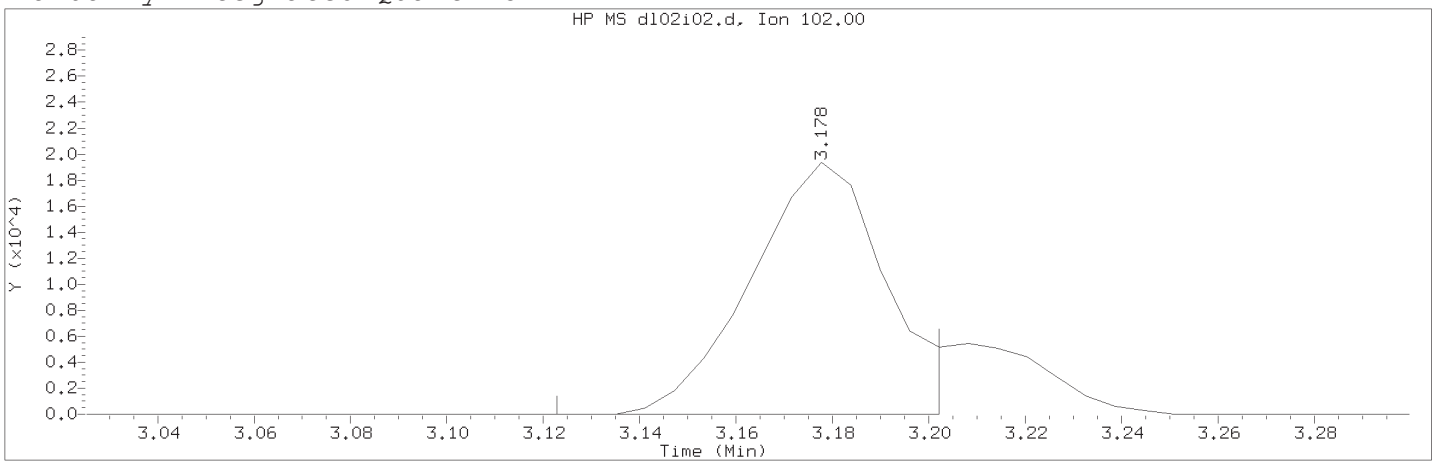
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i02.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:05 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD200 Lab Sample ID: VSTD200

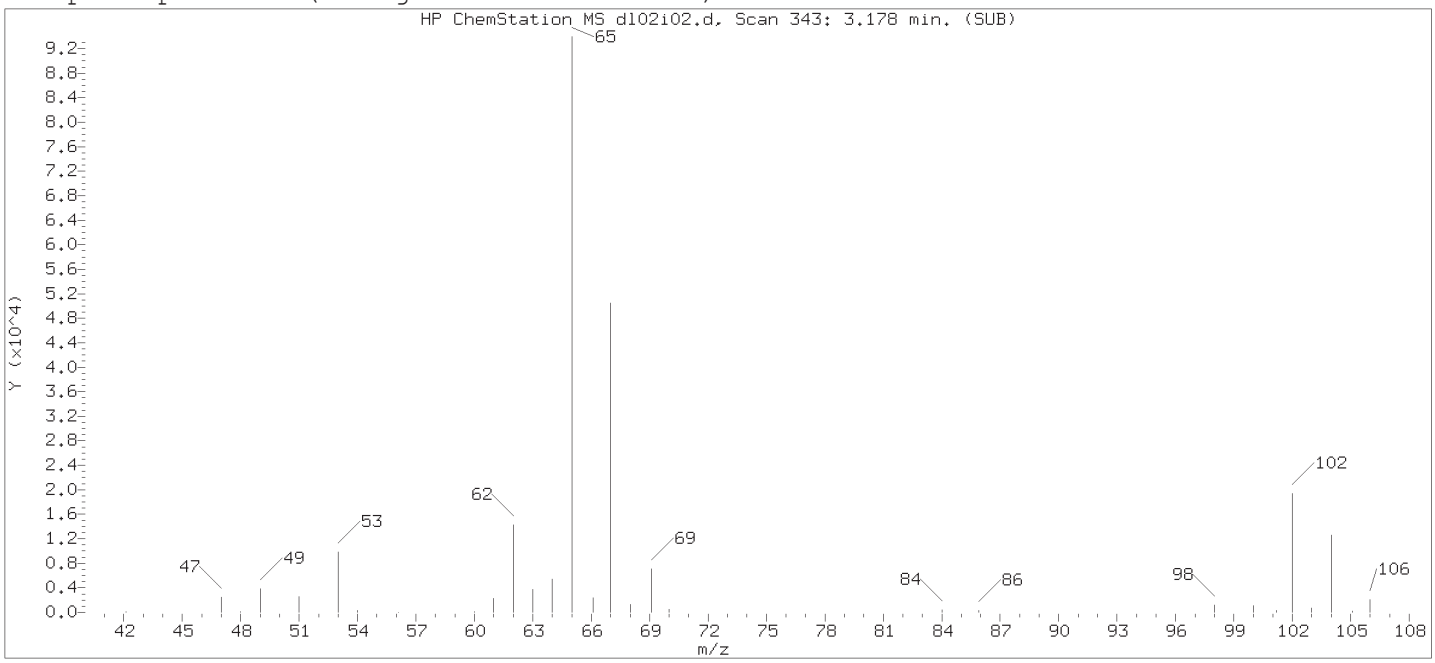
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 343
Retention Time (minutes): 3.178
Quant Ion : 102.00
Area (flag) : 37609M
On-Column Amount (ng) : 50.0000
Integration start scan : 333 Integration stop scan: 346
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

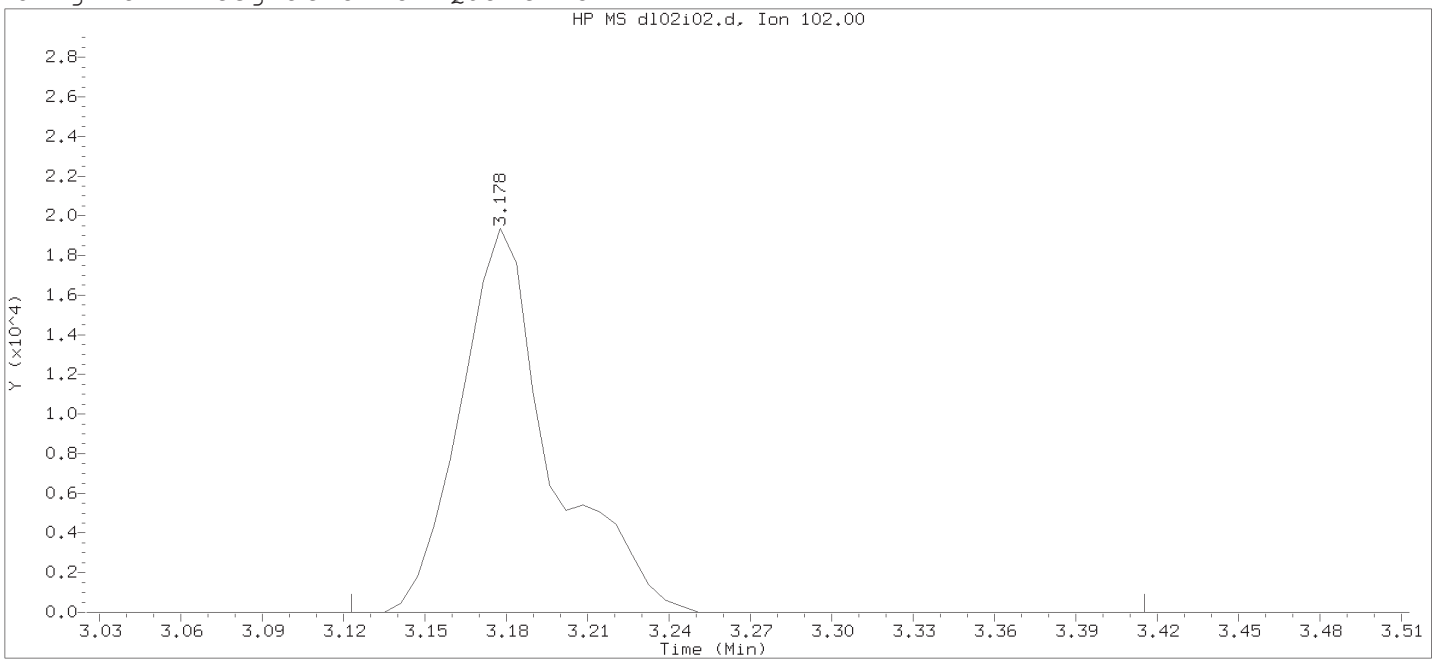
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 19:08.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i02.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:05 Analyst ID: akr02850

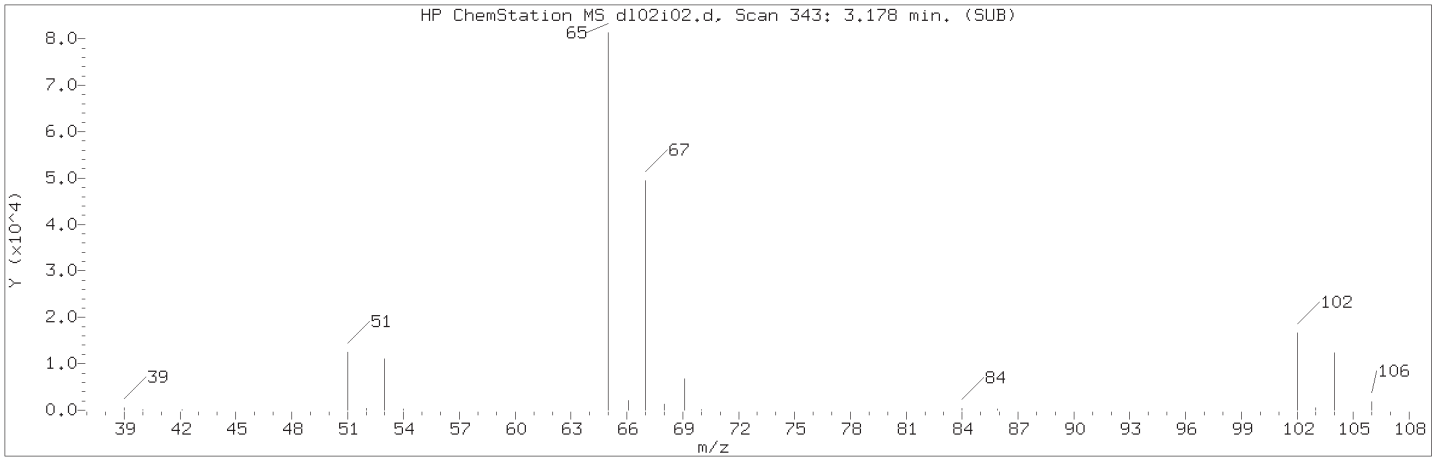
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 12:15
Date, time and analyst ID of latest file update: 02-Jul-2015 12:15 chemist

Sample Name: VSTD200 Lab Sample ID: VSTD200

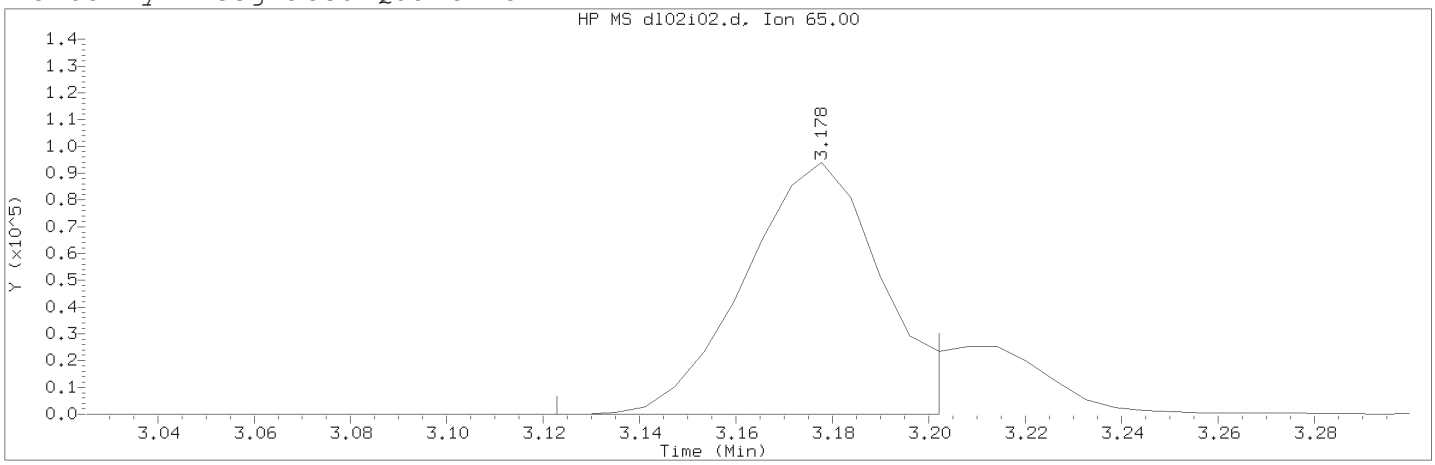
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 343
Retention Time (minutes): 3.178
Quant Ion : 102.00
Area : 44961
On-column Amount (ng) : 58.3415
Integration start scan : 333 Integration stop scan: 381
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 15:00.
Target 3.5 esignature used Amanda K. Richards

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i02.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:05 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD200 Lab Sample ID: VSTD200

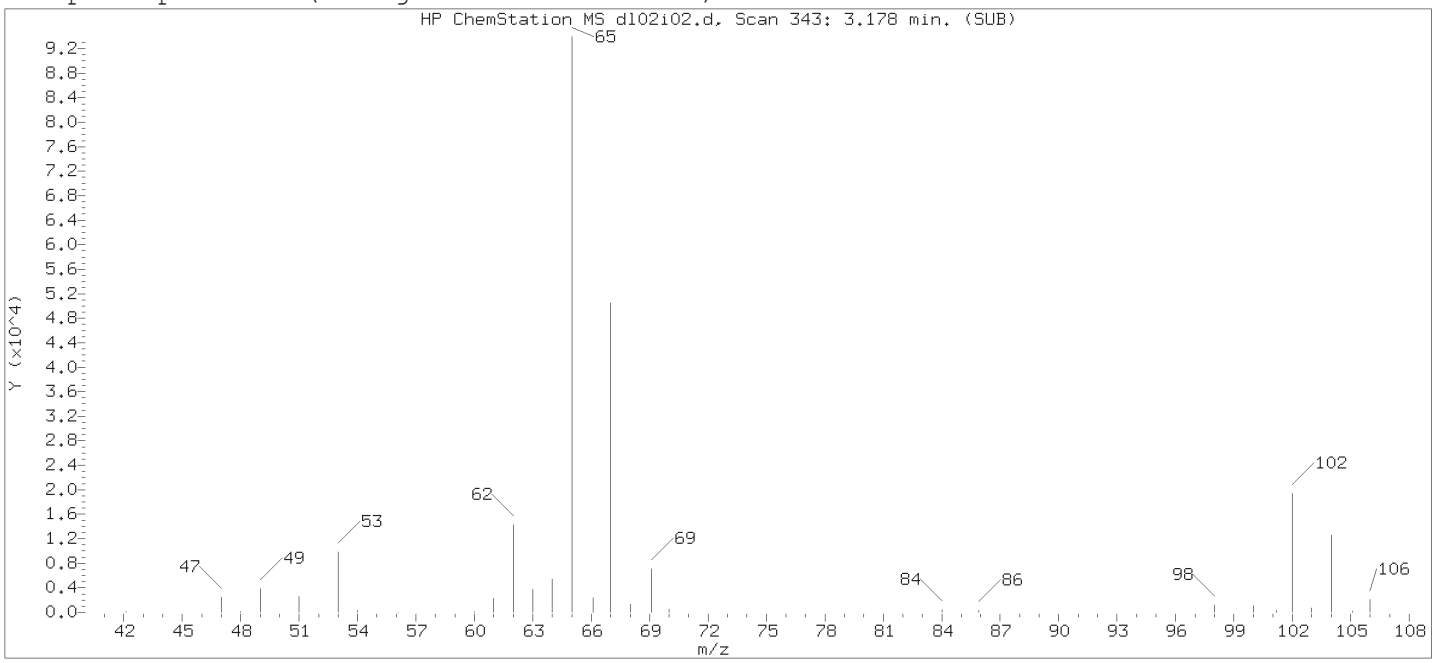
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 343
Retention Time (minutes): 3.178
Quant Ion : 65.00
Area (flag) : 185982M
On-Column Amount (ng) : 50.0000
Integration start scan : 333 Integration stop scan: 346
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

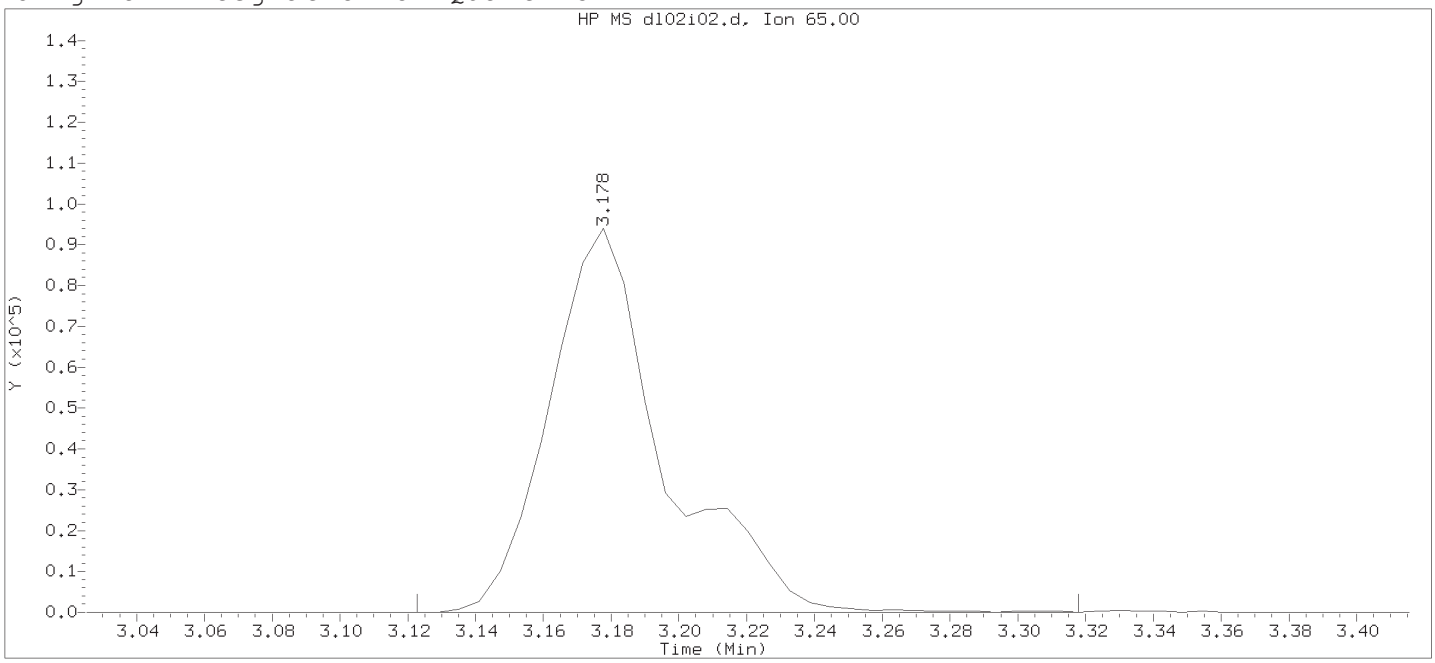
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 19:08.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



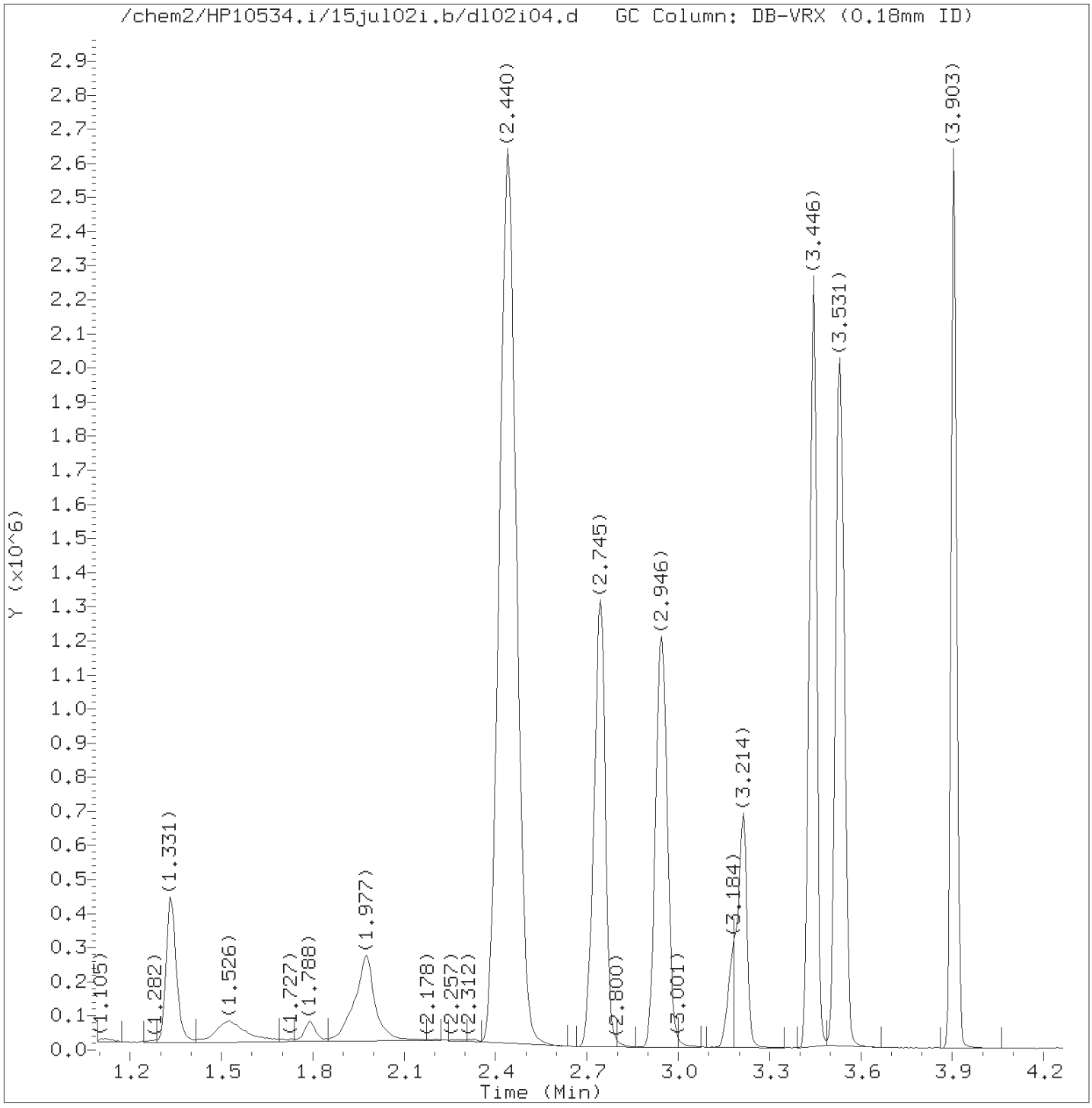
Data File: /chem2/HP10534.i/15jul02i.b/dl02i02.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:05 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 12:15
Date, time and analyst ID of latest file update: 02-Jul-2015 12:15 chemist

Sample Name: VSTD200 Lab Sample ID: VSTD200

Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 343
Retention Time (minutes): 3.178
Quant Ion : 65.00
Area : 221068
On-column Amount (ng) : 60.7605
Integration start scan : 333 Integration stop scan: 365
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 15:00.
Target 3.5 esignature used [illegible]



Total Ion Chromatogram (TIC)

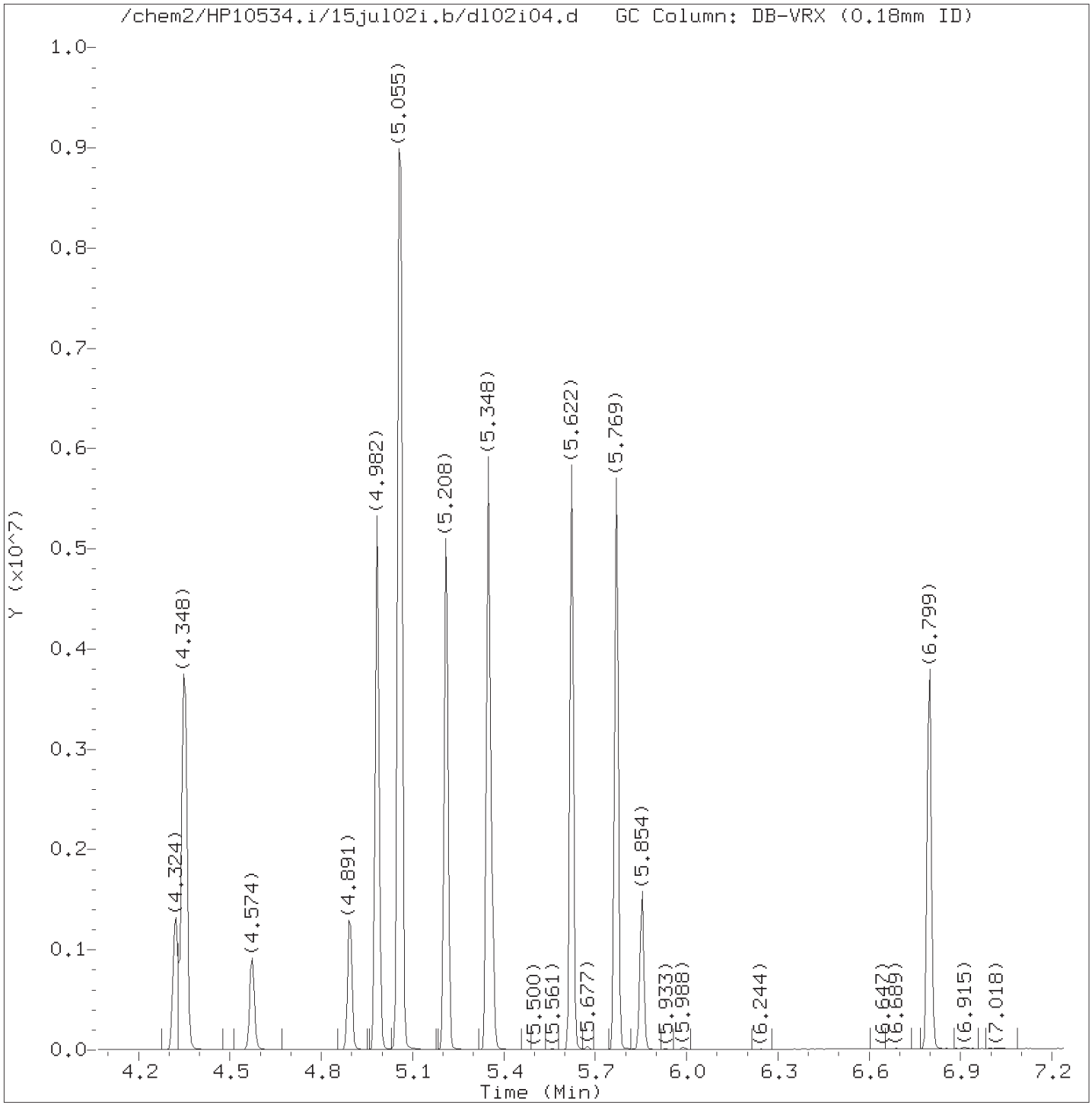
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i04.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:28 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD100 Lab Sample ID: VSTD100

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i04.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:28 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD100 Lab Sample ID: VSTD100

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i04.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:28 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

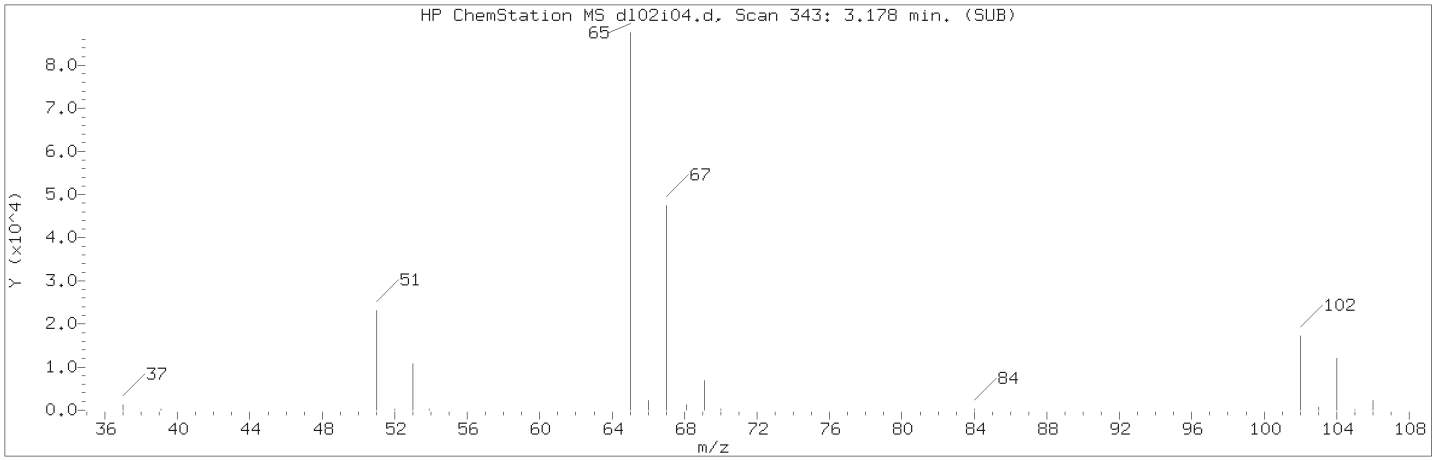
Sample Name: VSTD100 Lab Sample ID: VSTD100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.520	45	227347	2570.954
2)*t-Butyl alcohol-d10	(1)	1.934	65	126249	250.000
3) t-Butyl alcohol	(1)	1.971	59	361004	528.559
4) Methyl Tertiary Butyl Ether	(2)	2.440	73	5091194	493.667
5) di-Isopropyl ether	(2)	2.745	45	1464343	101.192
6) Ethyl t-butyl ether	(2)	2.940	59	1199962	101.394
7)$Dibromofluoromethane	(2)	2.964	113	145140	50.298
7)$Dibromofluoromethane	(2)	2.964	111	147872	50.134
10)$1,2-Dichloroethane-d4	(2)	3.178	102	37864M	49.147
10)$1,2-Dichloroethane-d4	(2)	3.178	65	192608M	49.853
10)$1,2-Dichloroethane-d4	(2)	3.178	104	23994	49.052
11) 1,2-Dichloroethane	(2)	3.214	62	569915	101.731
12) Benzene	(2)	3.446	78	1814701	101.537
13) t-Amyl methyl ether	(2)	3.525	87	280414	101.667
14)*Fluorobenzene	(2)	3.544	96	617863	50.000
15) t-Amyl ethyl ether	(2)	3.903	87	617885	99.864
16)$Toluene-d8	(3)	4.324	98	616285	49.993
16)$Toluene-d8	(3)	4.324	100	401653	50.050
17) Toluene	(3)	4.348	92	1140630	101.738
19) 1,2-Dibromoethane	(3)	4.574	107	407925	101.403
20)*Chlorobenzene-d5	(3)	4.897	117	459057	50.000
21) Ethylbenzene	(3)	4.982	91	2156934	101.692
22) m+p-Xylene	(3)	5.062	106	1662163	204.139
23) o-Xylene	(3)	5.208	106	821200	101.741
24) Xylene (Total)	(3)		106	2483363	305.880
25) Isopropylbenzene	(3)	5.348	105	2097894	101.479
26)$4-Bromofluorobenzene	(3)	5.360	95	230518	50.180
26)$4-Bromofluorobenzene	(3)	5.360	174	198292	49.994
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	1713267	101.040
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	1719012	100.850
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	252161	50.000
30) Naphthalene	(4)	6.799	128	1914800	102.526

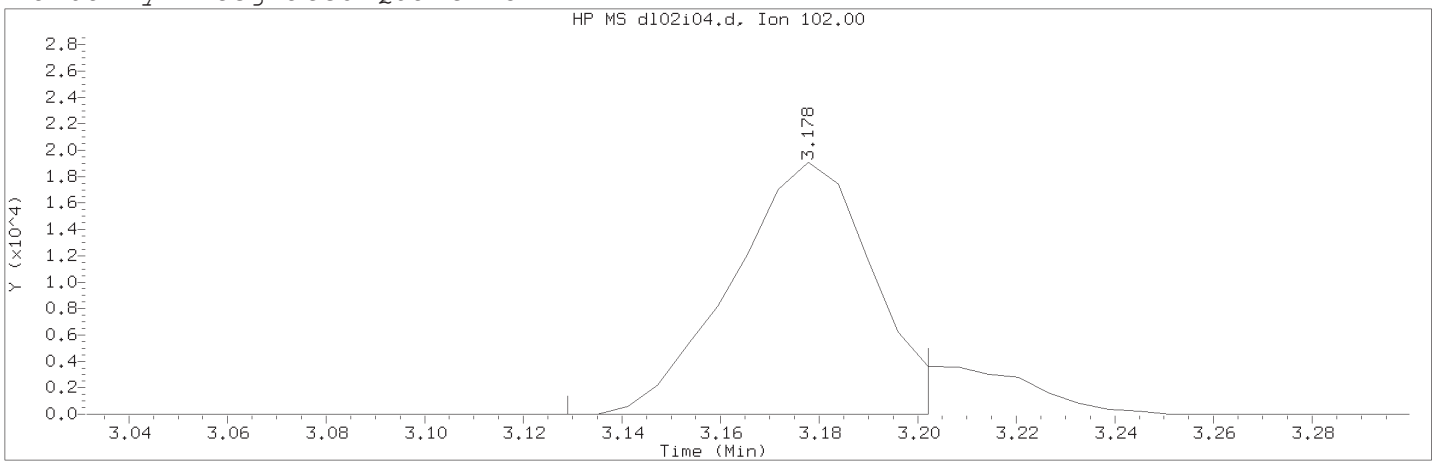
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i04.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:28 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD100 Lab Sample ID: VSTD100

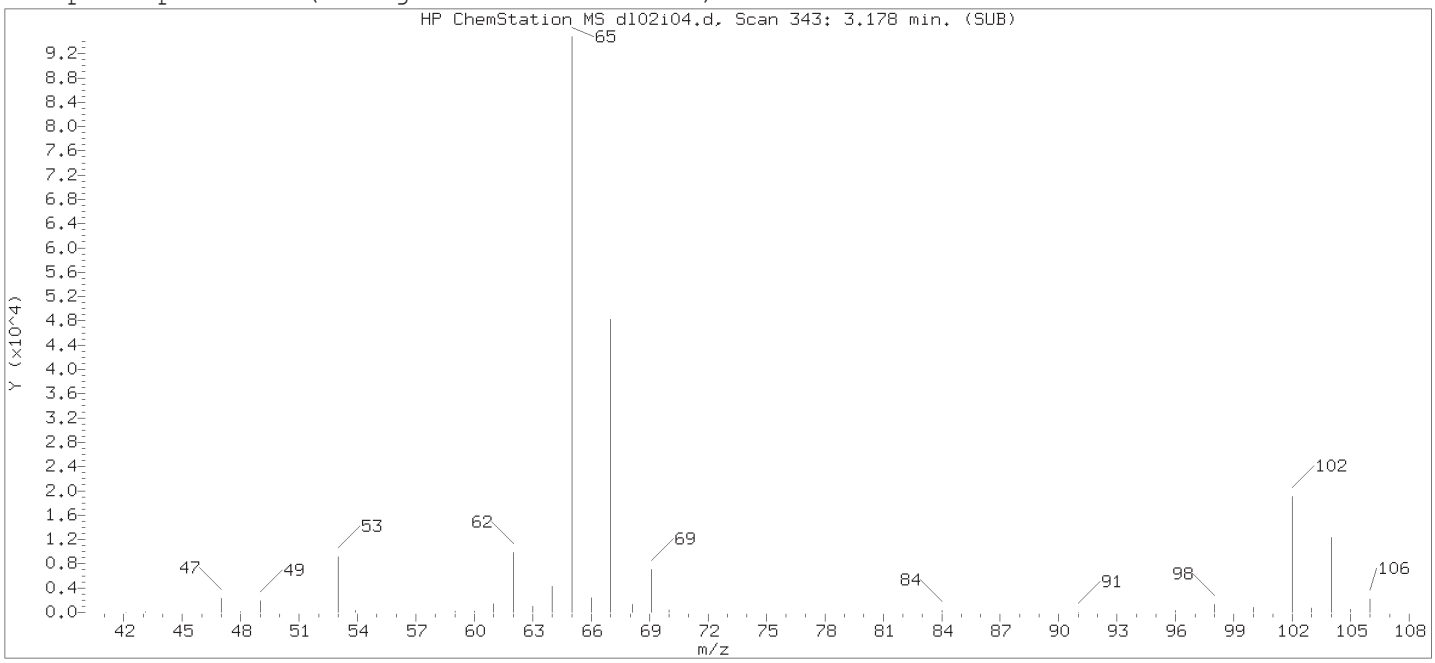
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 343
Retention Time (minutes): 3.178
Quant Ion : 102.00
Area (flag) : 37864M
On-Column Amount (ng) : 49.1471
Integration start scan : 334 Integration stop scan: 346
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

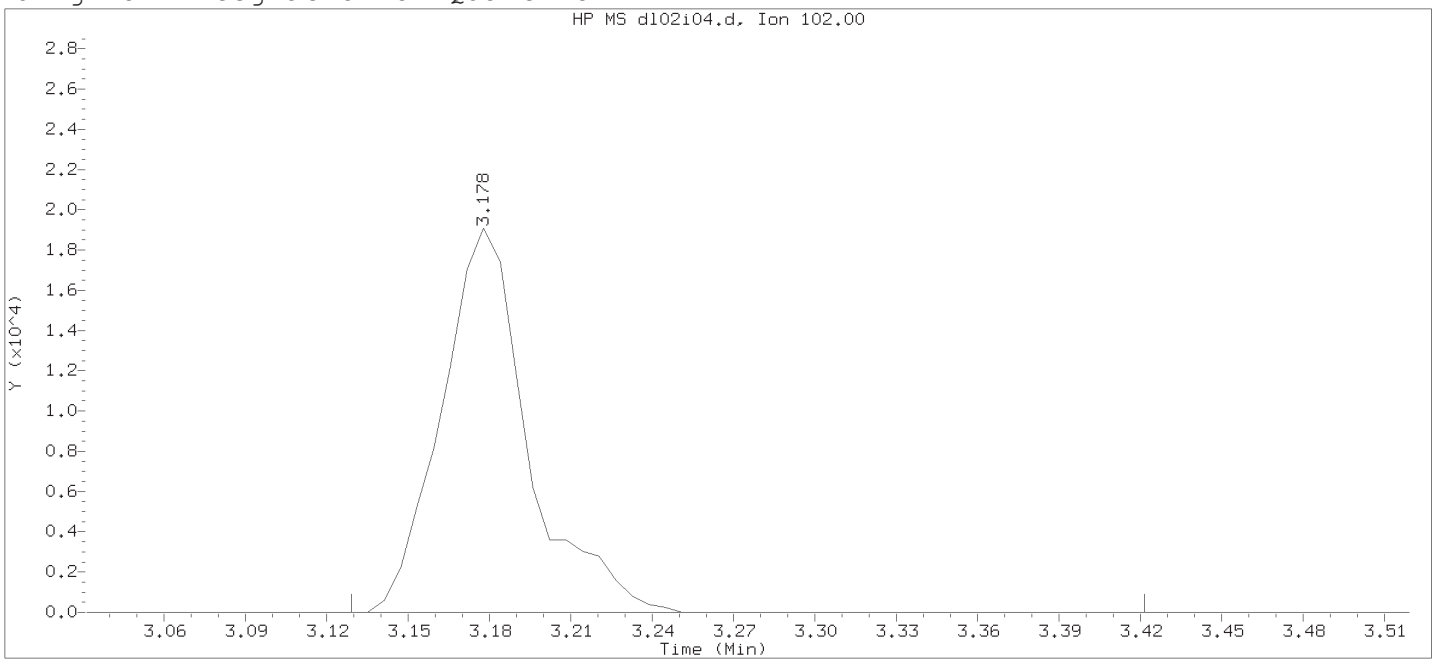
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 19:08.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i04.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:28 Analyst ID: akr02850

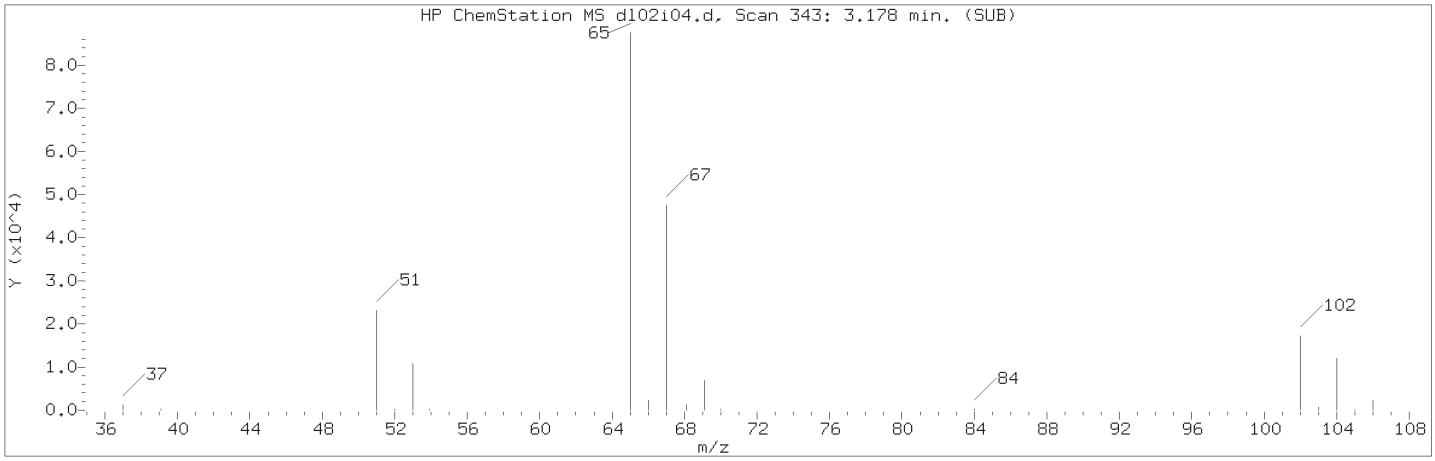
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 12:38
Date, time and analyst ID of latest file update: 02-Jul-2015 12:38 chemist

Sample Name: VSTD100 Lab Sample ID: VSTD100

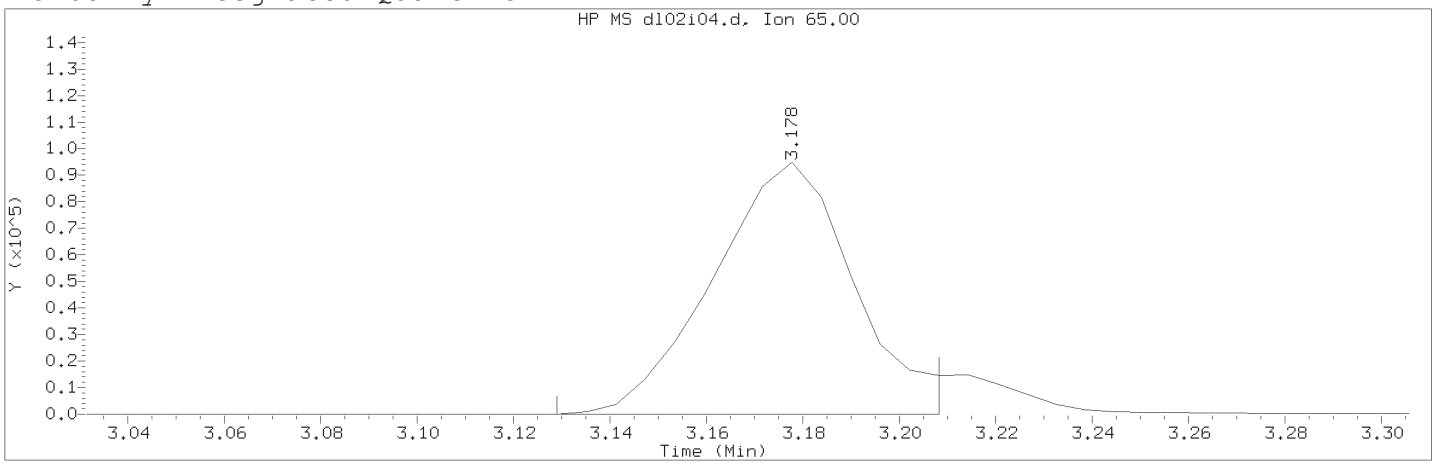
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 343
Retention Time (minutes): 3.178
Quant Ion : 102.00
Area : 42409
On-column Amount (ng) : 50.0000
Integration start scan : 334 Integration stop scan: 382
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 15:00.
Target 3.5 esignature used: Amanda K. Richards

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i04.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:28 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD100 Lab Sample ID: VSTD100

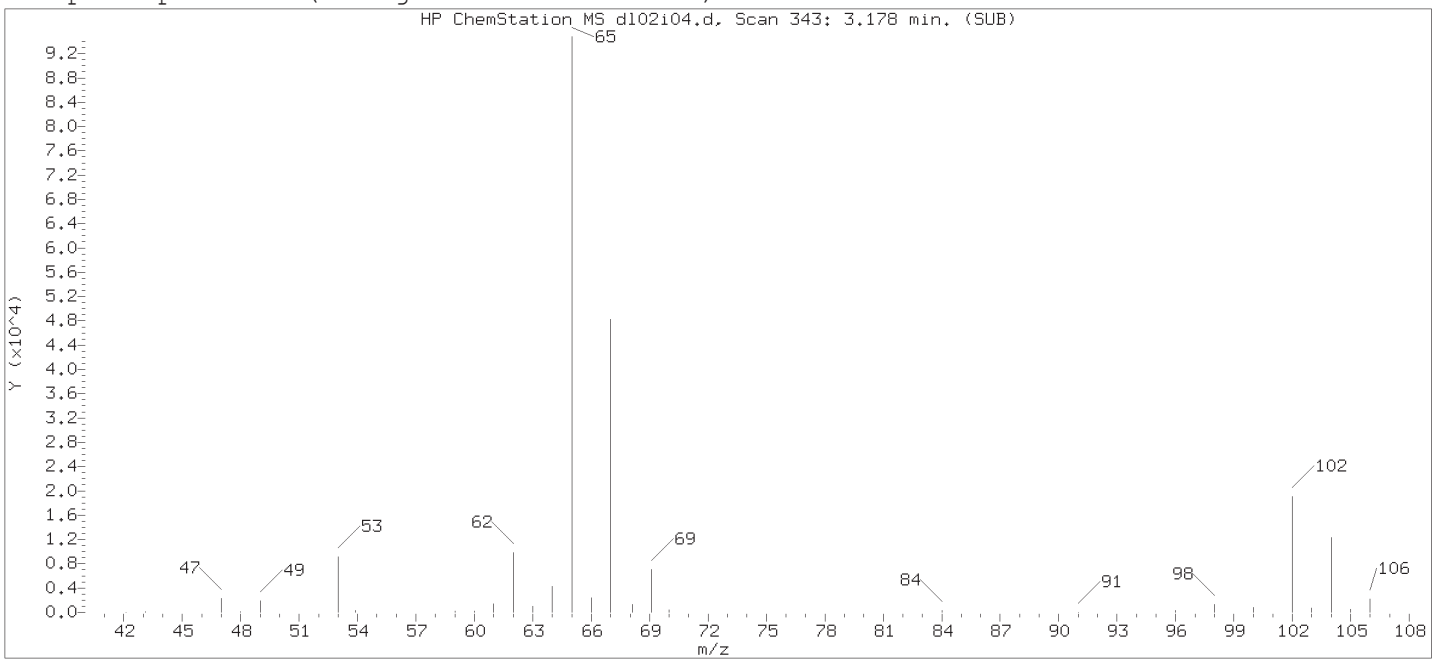
Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 343
Retention Time (minutes): 3.178
Quant Ion : 65.00
Area (flag) : 192608M
On-Column Amount (ng) : 49.8533
Integration start scan : 334 Integration stop scan: 347
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

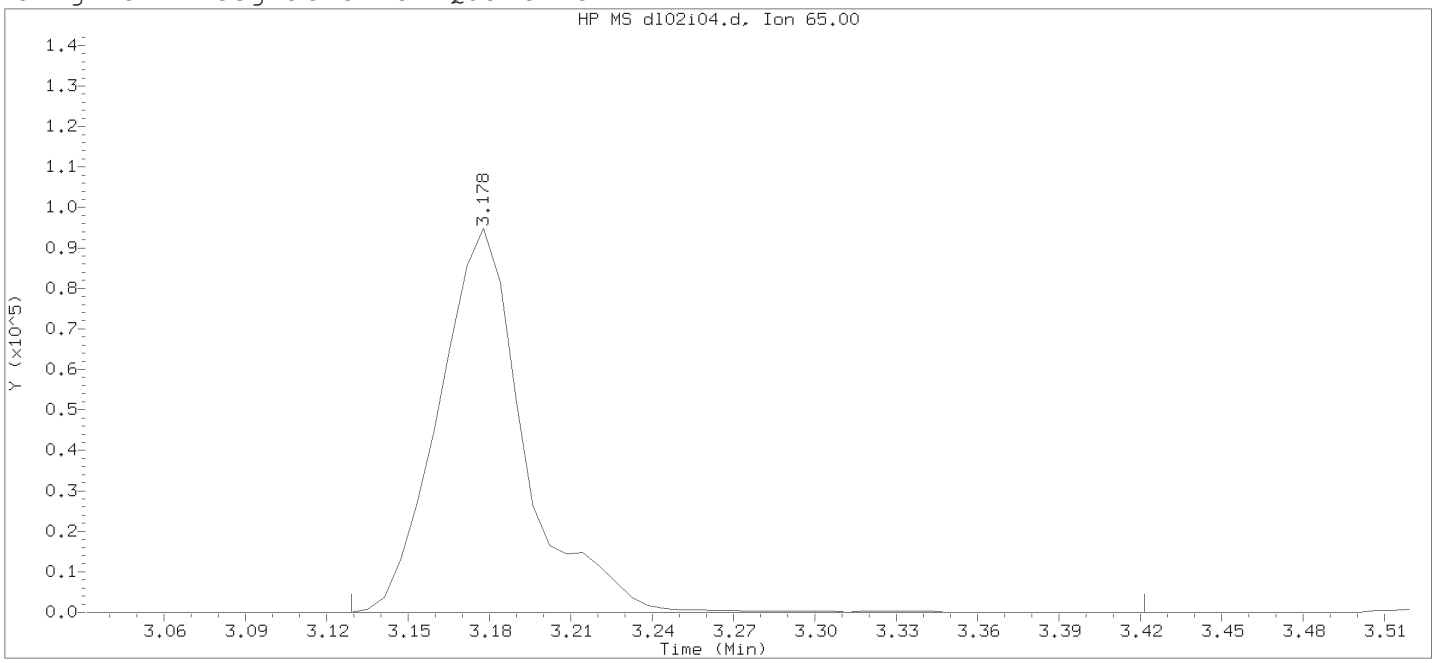
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 19:08.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



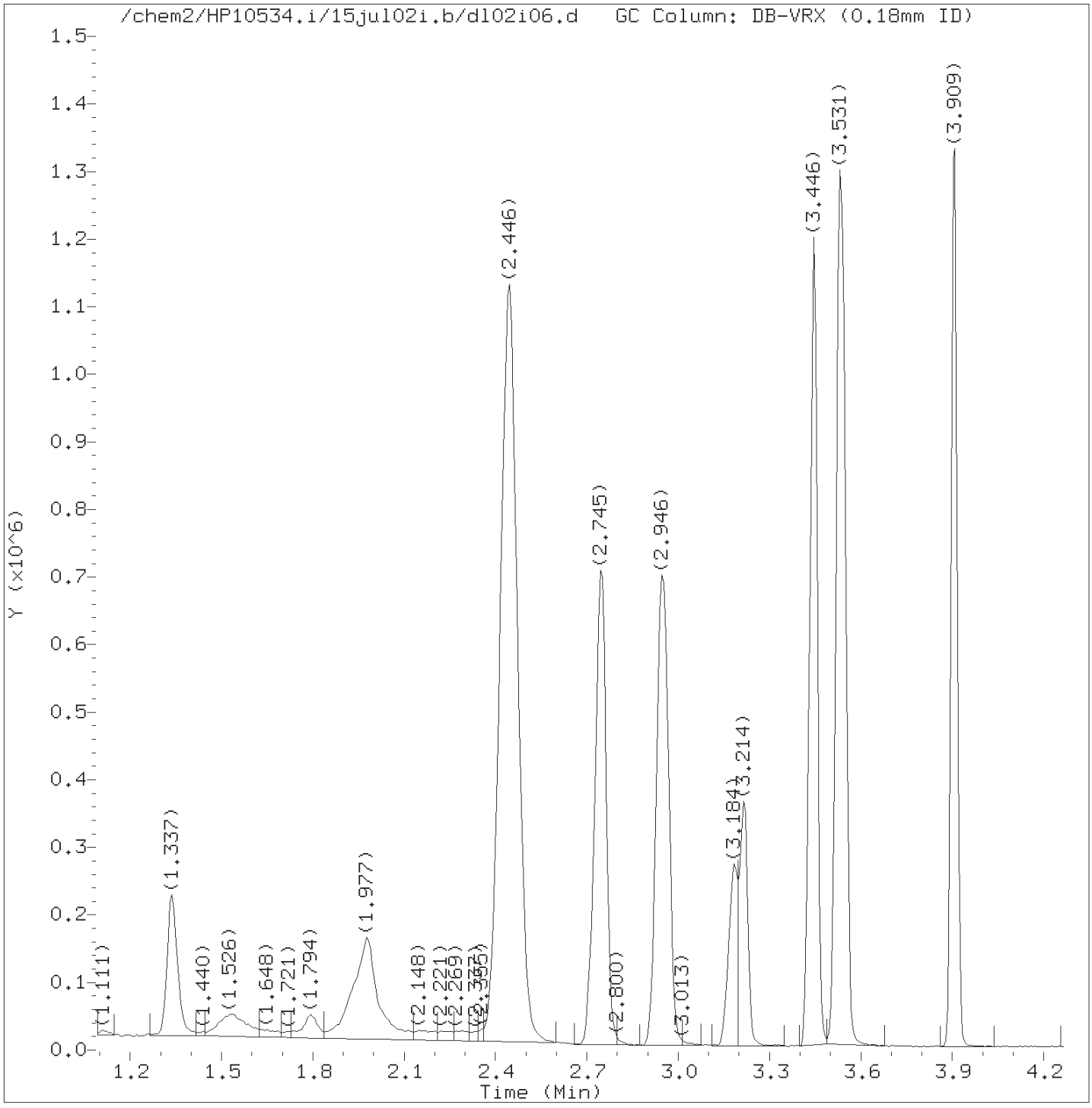
Data File: /chem2/HP10534.i/15jul02i.b/dl02i04.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:28 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 12:38
Date, time and analyst ID of latest file update: 02-Jul-2015 12:38 chemist

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compound Number : 10
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 343
Retention Time (minutes): 3.178
Quant Ion : 65.00
Area : 209110
On-column Amount (ng) : 50.0000
Integration start scan : 334 Integration stop scan: 382
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 15:00.
Target 3.5 esignature used: akr02850



Total Ion Chromatogram (TIC)

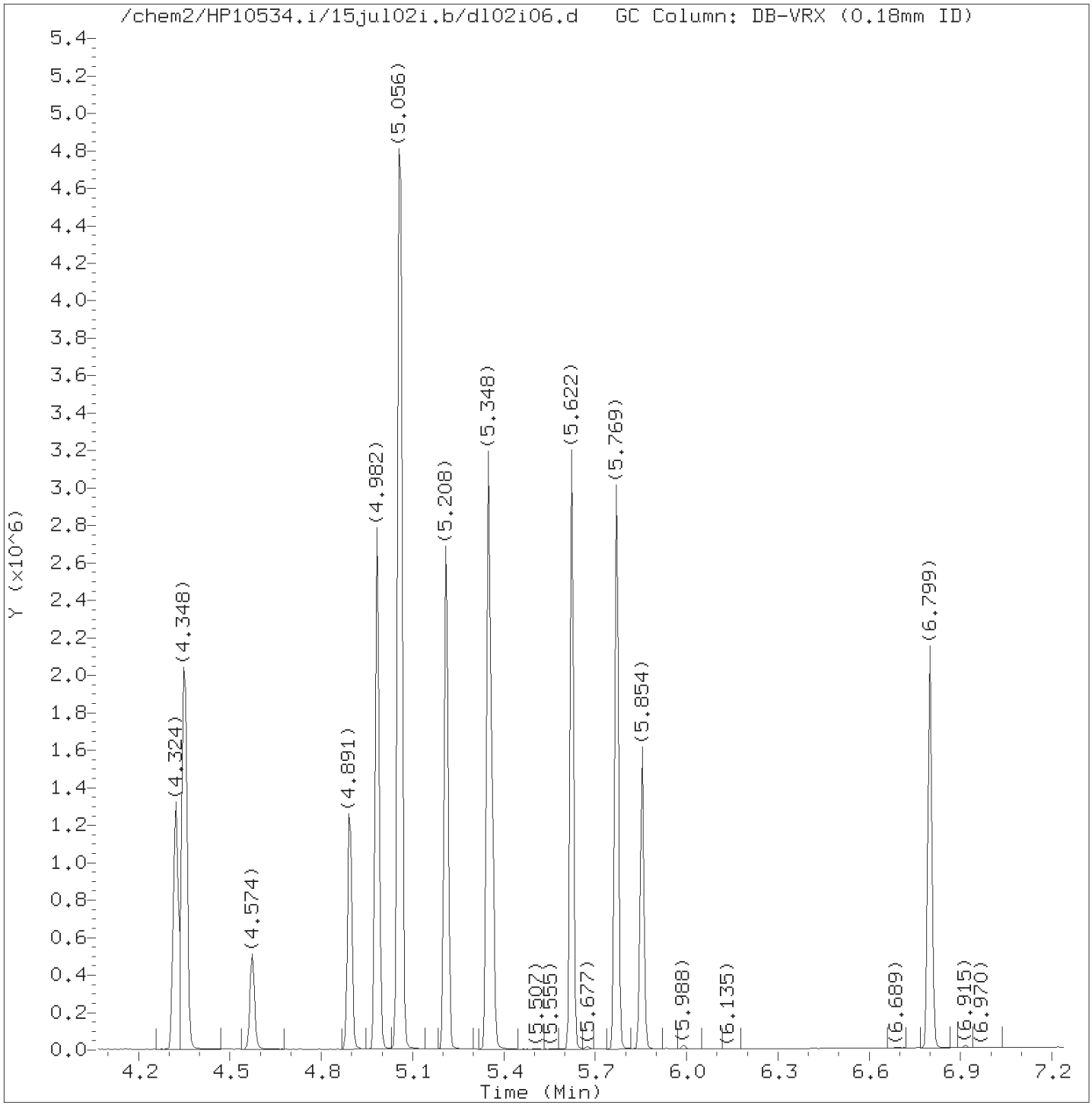
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i06.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:51 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i06.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:51 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i06.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:51 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

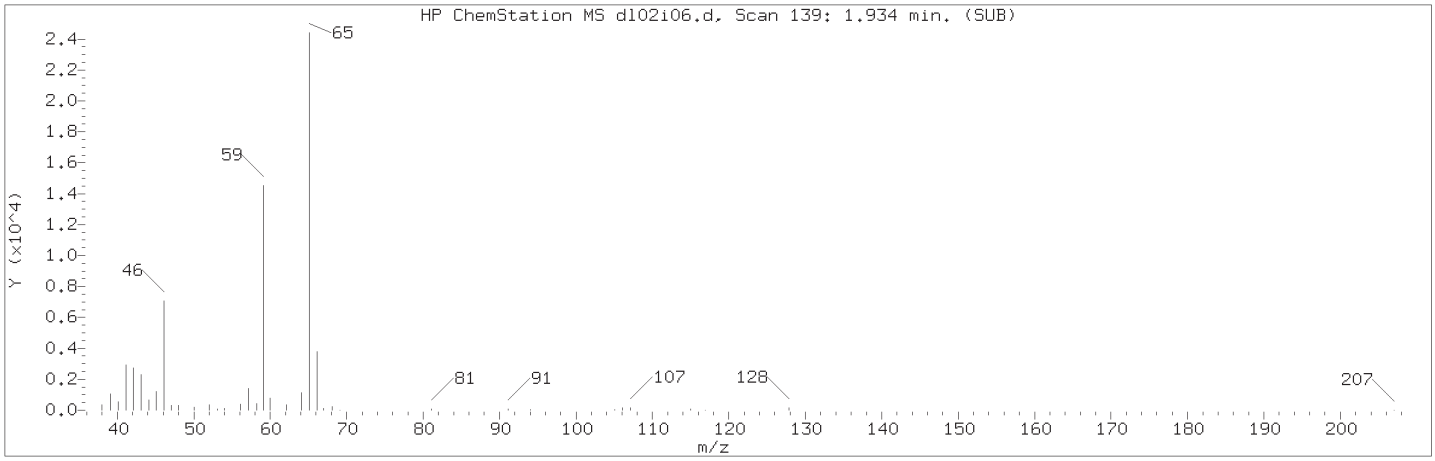
Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	126060	1393.977
2)*t-Butyl alcohol-d10	(1)	1.934	65	121673M	250.000
3) t-Butyl alcohol	(1)	1.977	59	190335	274.810
4) Methyl Tertiary Butyl Ether	(2)	2.446	73	2173854	212.866
5) di-Isopropyl ether	(2)	2.745	45	786546	54.284
6) Ethyl t-butyl ether	(2)	2.946	59	644385	54.345
7)$Dibromofluoromethane	(2)	2.964	113	139011	50.177
7)$Dibromofluoromethane	(2)	2.964	111	142602	50.297
10)$1,2-Dichloroethane-d4	(2)	3.184	102	38739	51.618
10)$1,2-Dichloroethane-d4	(2)	3.178	65	192883	51.376
10)$1,2-Dichloroethane-d4	(2)	3.184	104	22971	49.329
11) 1,2-Dichloroethane	(2)	3.214	62	306927	54.560
12) Benzene	(2)	3.446	78	967118	54.130
13) t-Amyl methyl ether	(2)	3.531	87	151417	54.630
14)*Fluorobenzene	(2)	3.544	96	592150	50.000
15) t-Amyl ethyl ether	(2)	3.909	87	330566	53.690
16)$Toluene-d8	(3)	4.324	98	599574	50.545
16)$Toluene-d8	(3)	4.324	100	385864	50.161
17) Toluene	(3)	4.348	92	612907	54.534
19) 1,2-Dibromoethane	(3)	4.574	107	217937	54.220
20)*Chlorobenzene-d5	(3)	4.891	117	439324	50.000
21) Ethylbenzene	(3)	4.982	91	1150692	54.268
22) m+p-Xylene	(3)	5.062	106	898562	109.714
23) o-Xylene	(3)	5.208	106	442693	54.647
24) Xylene (Total)	(3)		106	1341255	164.361
25) Isopropylbenzene	(3)	5.348	105	1120043	54.222
26)$4-Bromofluorobenzene	(3)	5.360	95	219845	50.004
26)$4-Bromofluorobenzene	(3)	5.360	174	191690	50.333
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	912692	53.932
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	918216	53.960
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	241769	50.000
30) Naphthalene	(4)	6.799	128	1022417	54.518

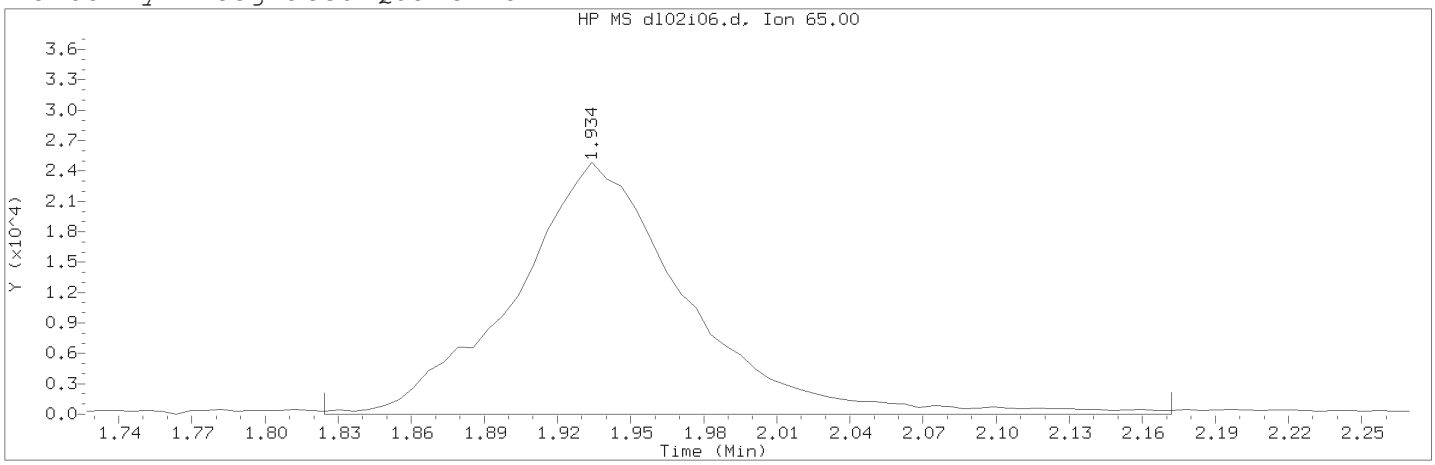
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i06.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:51 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD050 Lab Sample ID: VSTD050

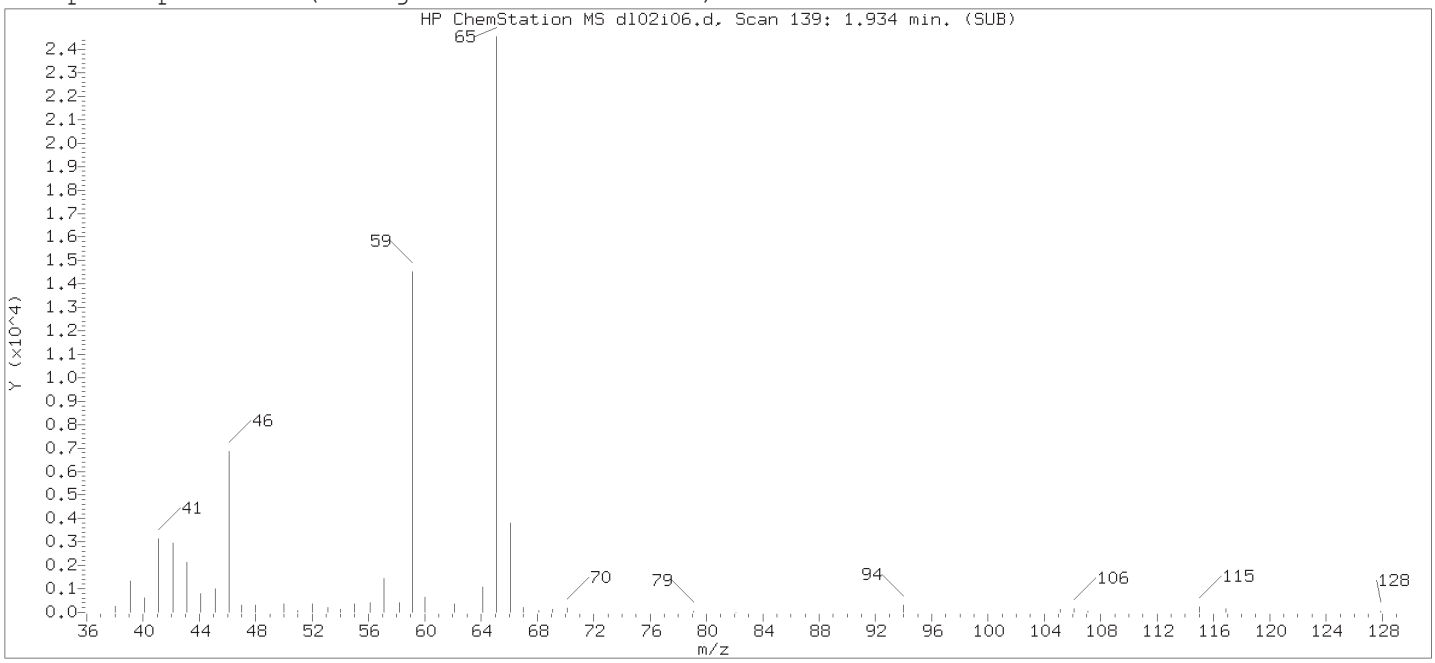
Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 139
Retention Time (minutes): 1.934
Quant Ion : 65.00
Area (flag) : 121673M
On-Column Amount (ng) : 250.0000
Integration start scan : 120 Integration stop scan: 177
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

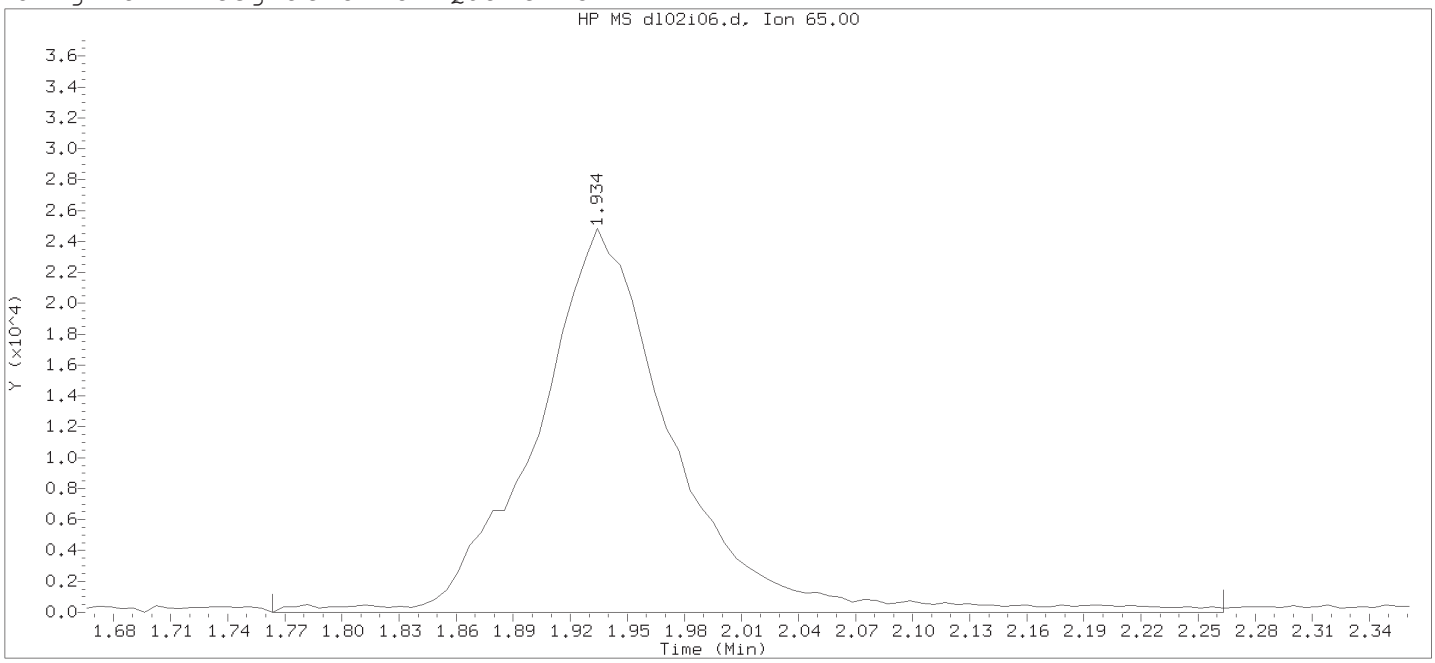
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 19:08.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



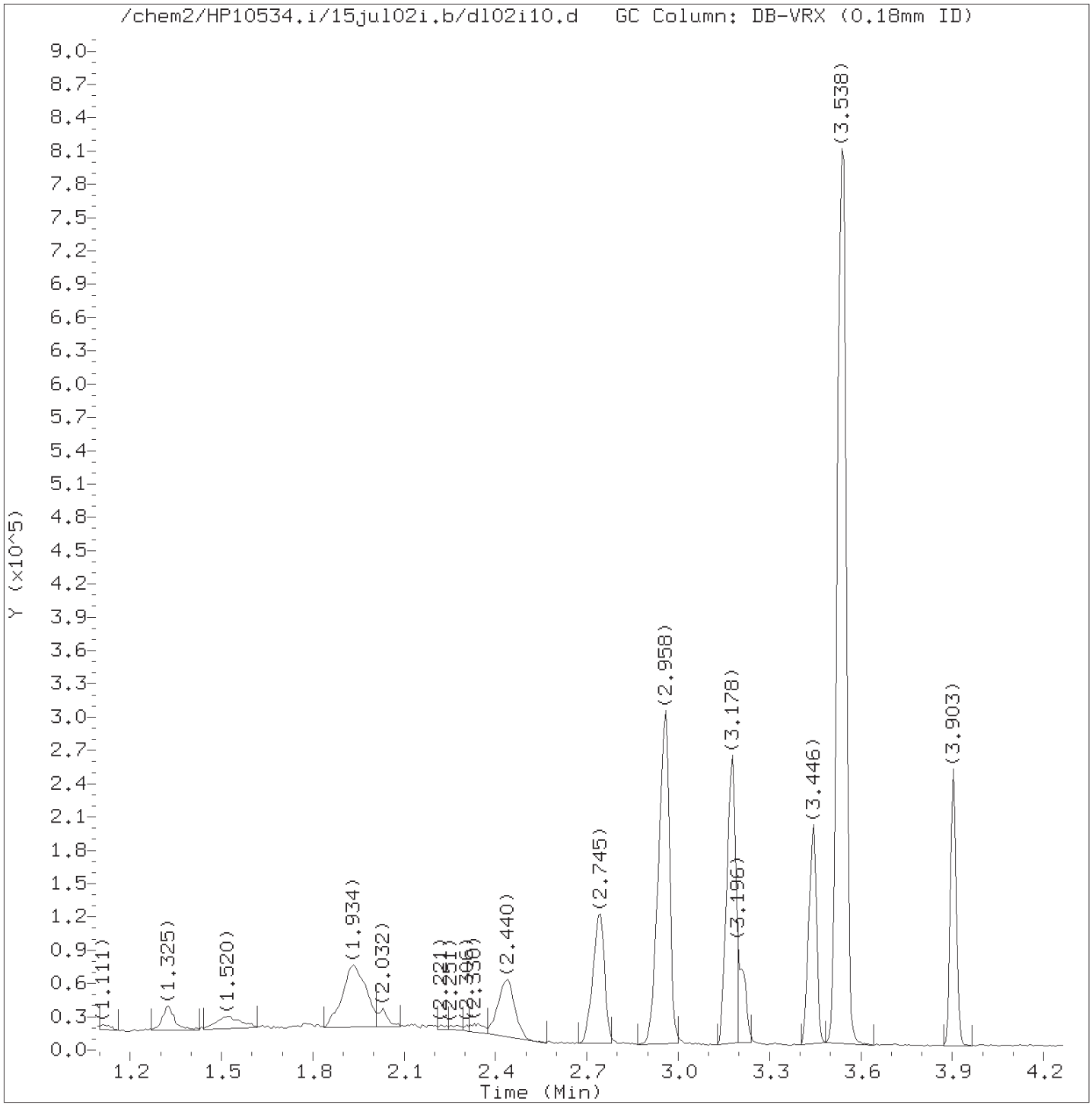
Data File: /chem2/HP10534.i/15jul02i.b/dl02i06.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 12:51 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 13:01
Date, time and analyst ID of latest file update: 02-Jul-2015 13:01 chemist

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 139
Retention Time (minutes): 1.934
Quant Ion : 65.00
Area : 124902
On-column Amount (ng) : 250.0000
Integration start scan : 110 Integration stop scan: 192
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 15:00.
Target 3.5 esignature used in analysis.



Total Ion Chromatogram (TIC)

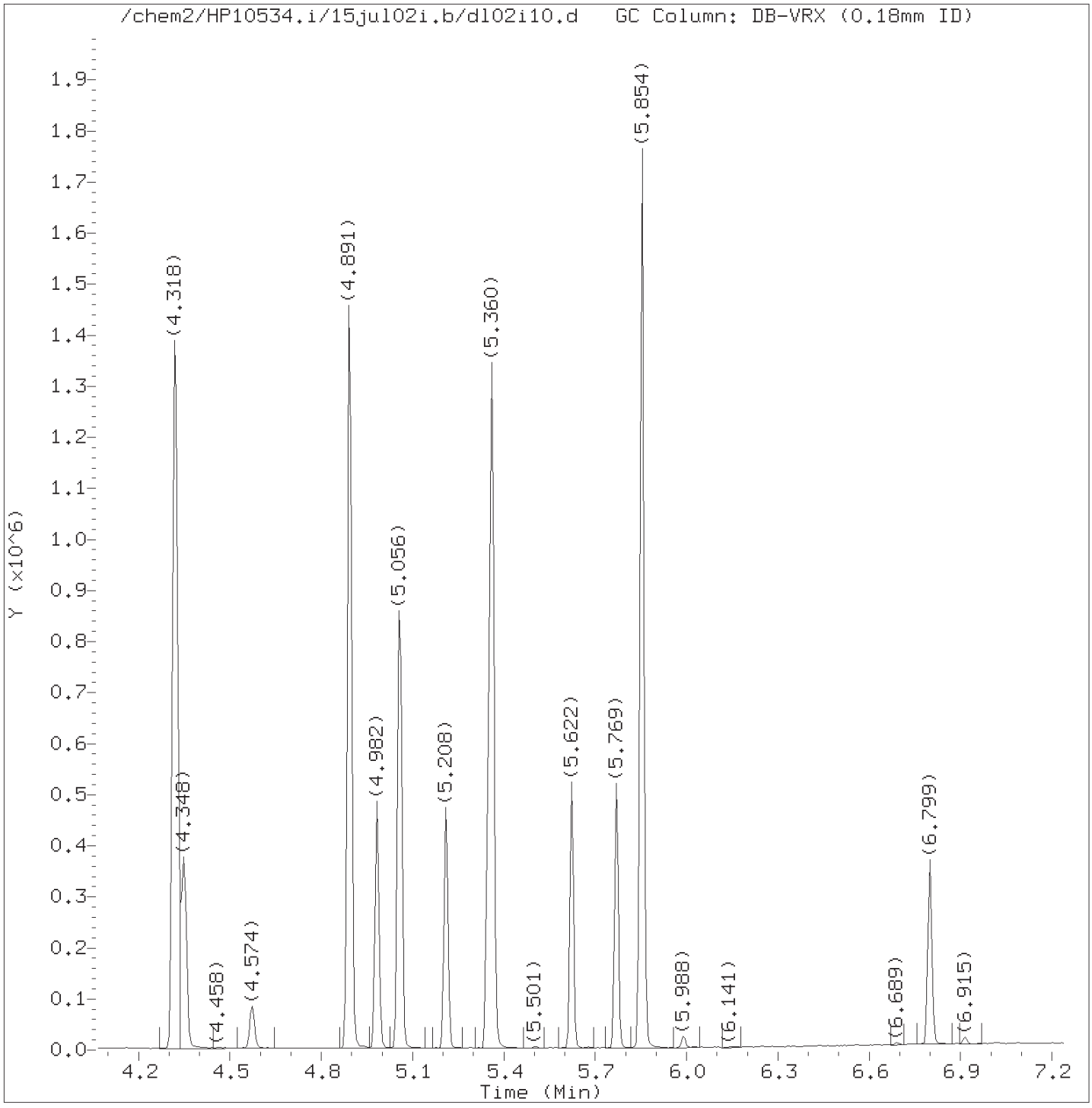
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i10.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:37 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i10.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:37 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i10.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:37 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

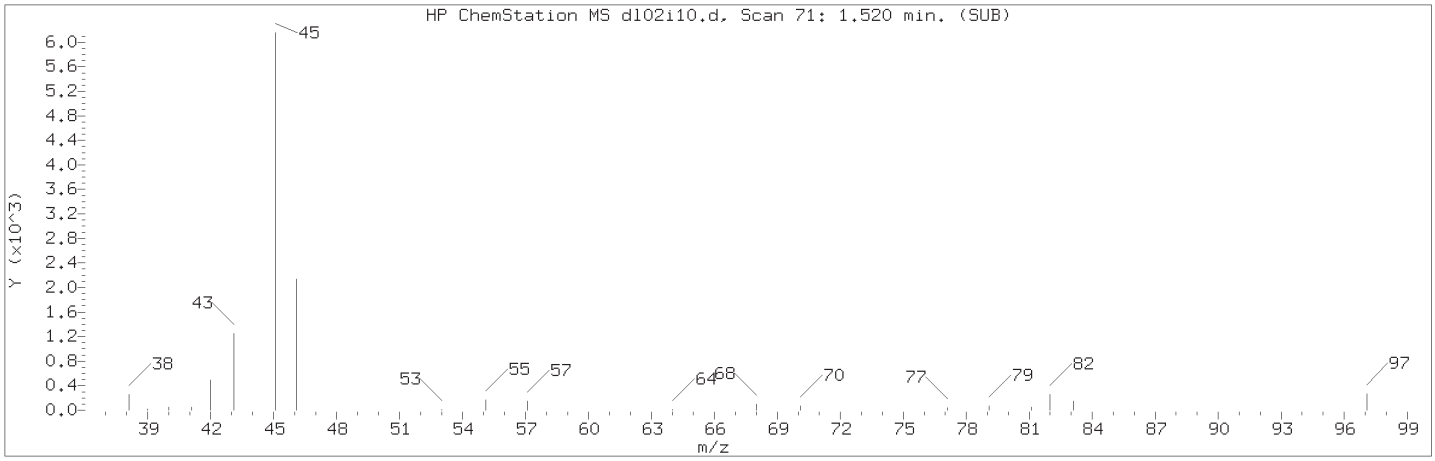
Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.520	45	52584M	501.783
2)*t-Butyl alcohol-d10	(1)	1.928	65	138442M	250.000
3) t-Butyl alcohol	(1)	1.971	59	35432	43.440
4) Methyl Tertiary Butyl Ether	(2)	2.440	73	104125	9.145
5) di-Isopropyl ether	(2)	2.745	45	135555	8.572
6) Ethyl t-butyl ether	(2)	2.940	59	113646	8.735
7)$Dibromofluoromethane	(2)	2.958	113	155509	50.249
7)$Dibromofluoromethane	(2)	2.958	111	157162	49.821
10)$1,2-Dichloroethane-d4	(2)	3.178	102	40153	48.680
10)$1,2-Dichloroethane-d4	(2)	3.178	65	199977	48.506
10)$1,2-Dichloroethane-d4	(2)	3.178	104	25758	49.958
11) 1,2-Dichloroethane	(2)	3.214	62	51938	8.477
12) Benzene	(2)	3.446	78	167465	8.576
13) t-Amyl methyl ether	(2)	3.525	87	26546	8.761
14)*Fluorobenzene	(2)	3.544	96	661934	50.000
15) t-Amyl ethyl ether	(2)	3.903	87	59239	8.685
16)$Toluene-d8	(3)	4.318	98	662360	50.315
16)$Toluene-d8	(3)	4.318	100	430038	50.338
17) Toluene	(3)	4.348	92	105500	8.637
19) 1,2-Dibromoethane	(3)	4.574	107	36704	8.529
20)*Chlorobenzene-d5	(3)	4.891	117	486803	50.000
21) Ethylbenzene	(3)	4.982	91	198524	8.630
22) m+p-Xylene	(3)	5.056	106	155250	17.374
23) o-Xylene	(3)	5.208	106	74678	8.519
24) Xylene (Total)	(3)		106	229928	25.893
25) Isopropylbenzene	(3)	5.348	105	195605	8.730
26)$4-Bromofluorobenzene	(3)	5.360	95	245936	50.320
26)$4-Bromofluorobenzene	(3)	5.360	174	211477	50.003
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	152740	8.444
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	156571	8.565
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	266498	50.000
30) Naphthalene	(4)	6.799	128	175342	8.676

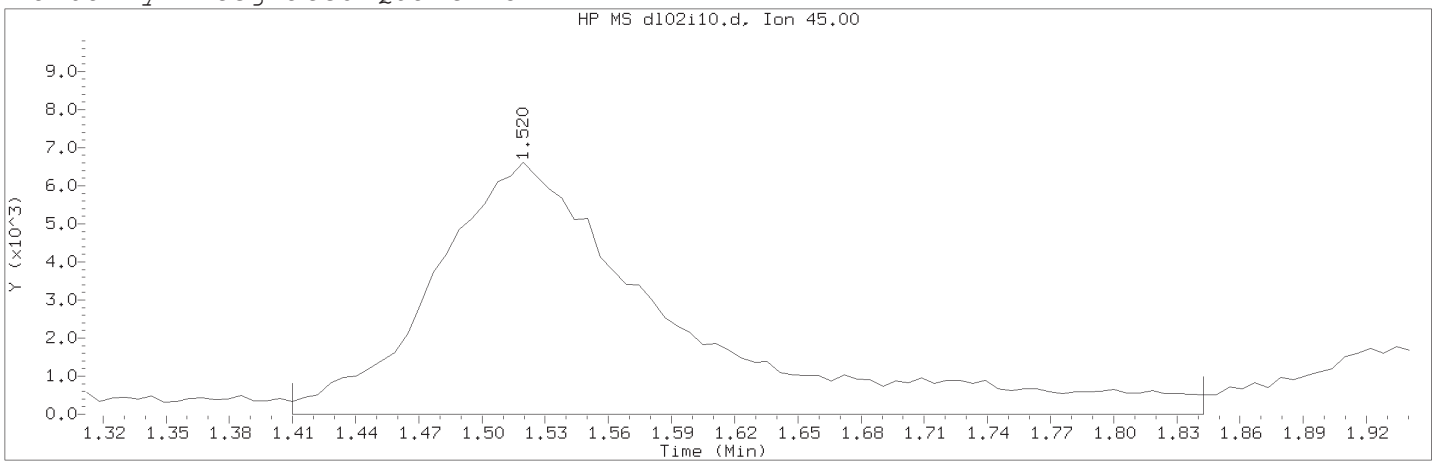
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i10.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:37 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD010 Lab Sample ID: VSTD010

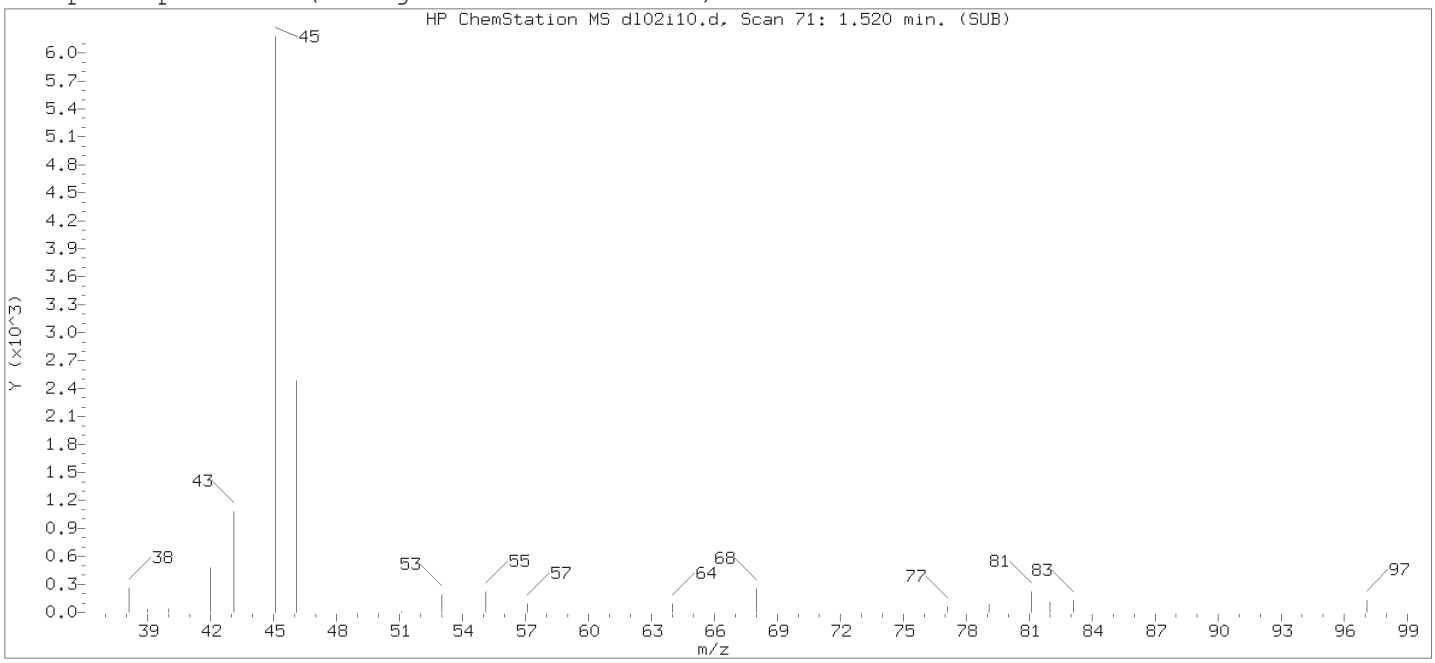
Compound Number : 1
Compound Name : Ethanol
Scan Number : 71
Retention Time (minutes): 1.520
Quant Ion : 45.00
Area (flag) : 52584M
On-Column Amount (ng) : 501.7828
Integration start scan : 52 Integration stop scan: 123
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

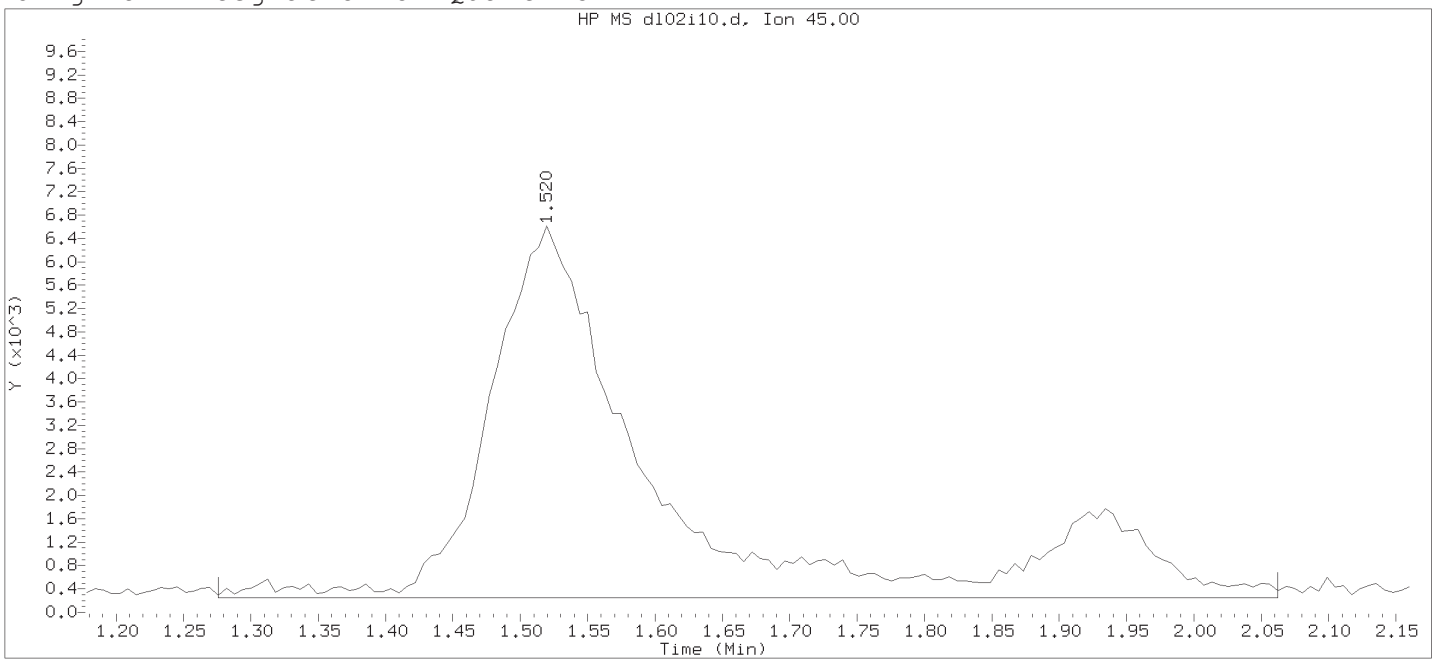
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 19:08.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i10.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:37 Analyst ID: akr02850

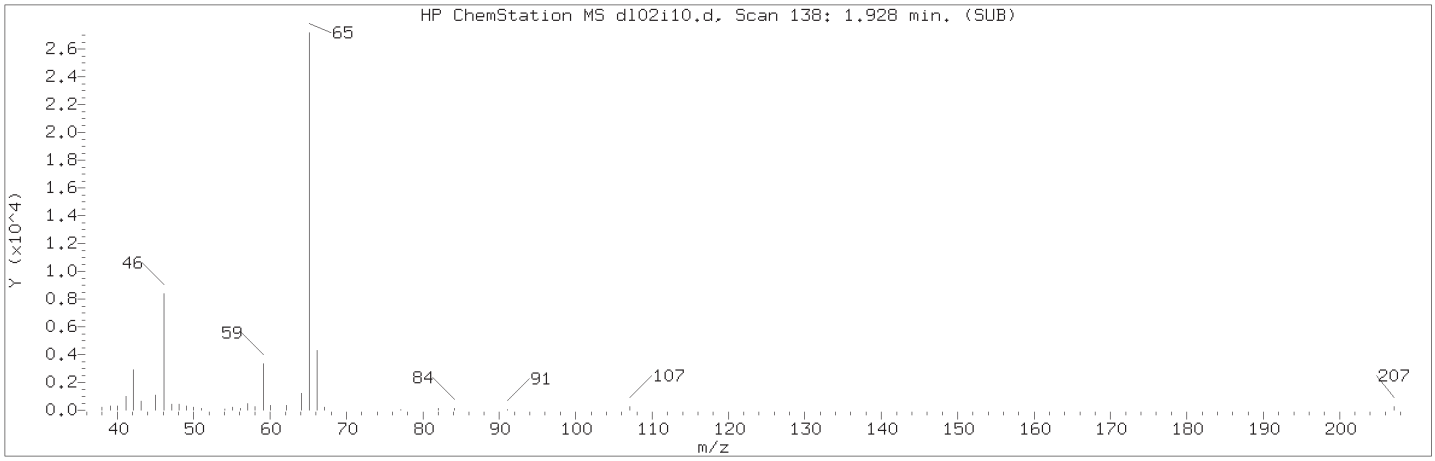
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 13:48
Date, time and analyst ID of latest file update: 02-Jul-2015 13:48 chemist

Sample Name: VSTD010 Lab Sample ID: VSTD010

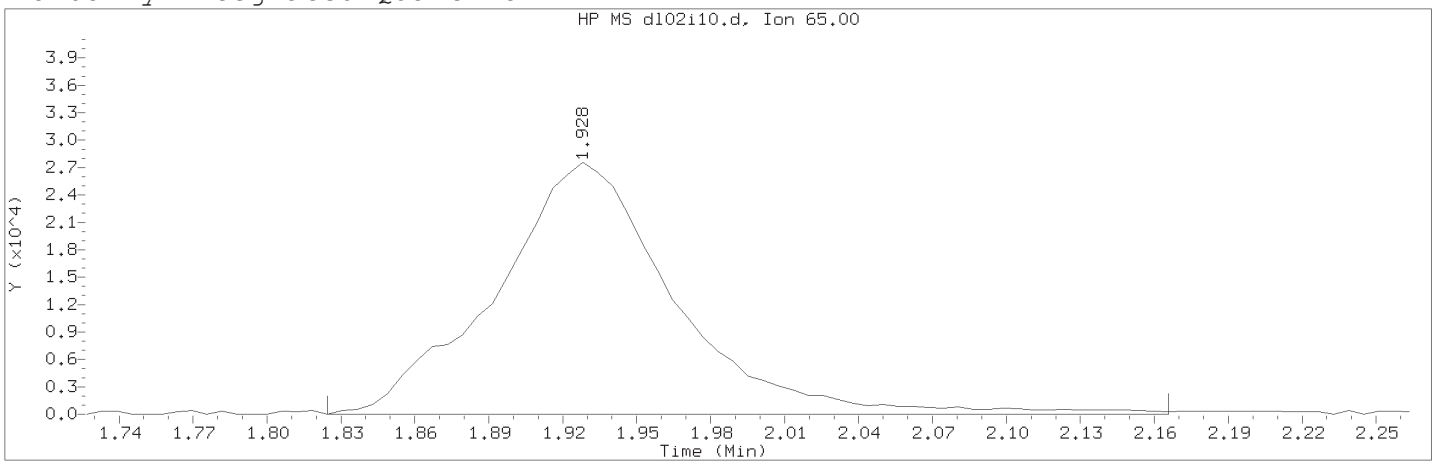
Compound Number : 1
Compound Name : Ethanol
Scan Number : 71
Retention Time (minutes): 1.520
Quant Ion : 45.00
Area : 55981
On-column Amount (ng) : 212.4616
Integration start scan : 30 Integration stop scan: 159
Y at integration start : 250 Y at integration end: 250

Digitally signed by Amanda K. Richards on 07/02/2015 at 15:00.
Target 3.5 esignature used: Amanda2850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i10.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:37 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD010 Lab Sample ID: VSTD010

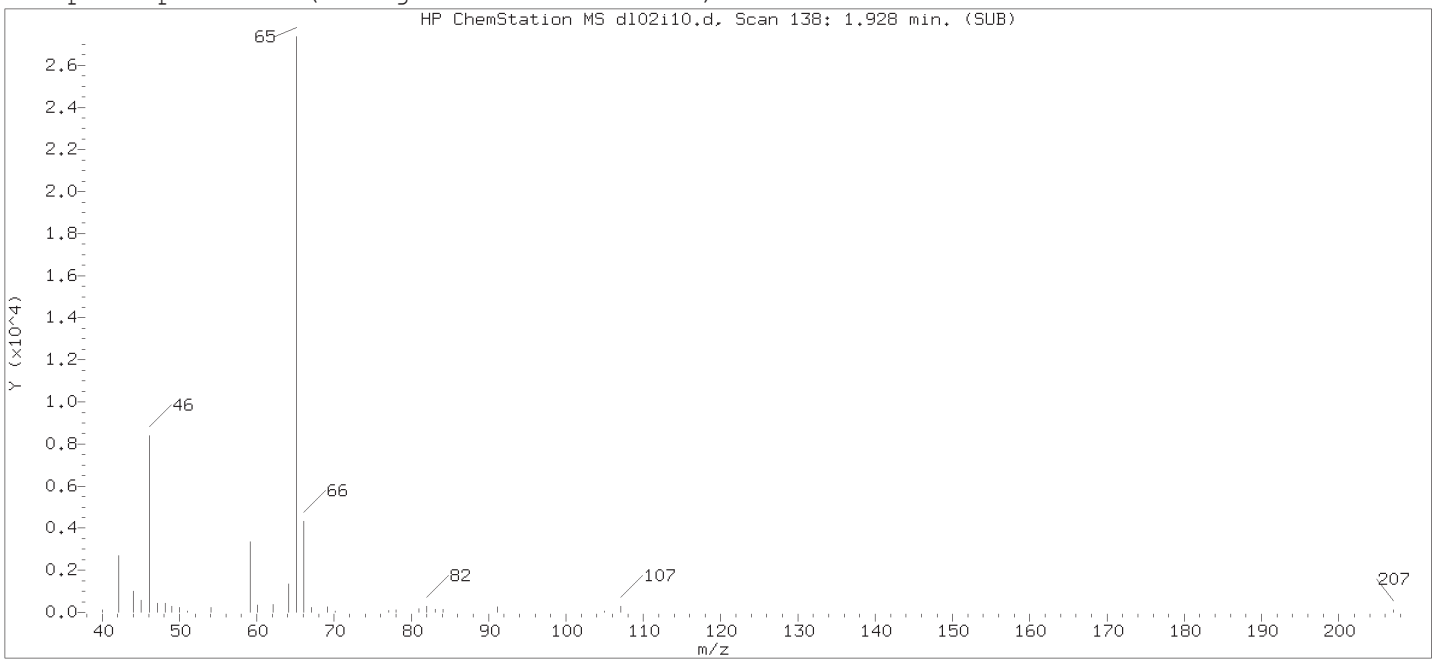
Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 138
Retention Time (minutes): 1.928
Quant Ion : 65.00
Area (flag) : 138442M
On-Column Amount (ng) : 250.0000
Integration start scan : 120 Integration stop scan: 176
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

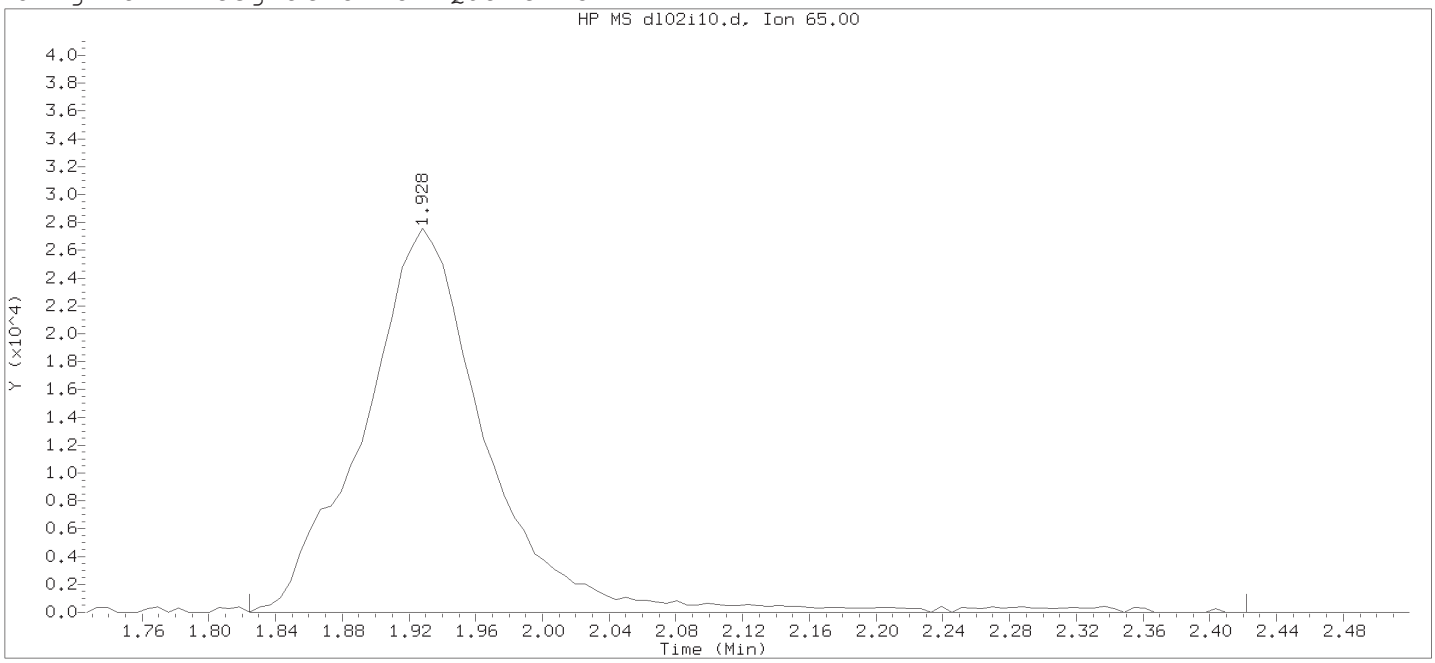
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 19:08.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



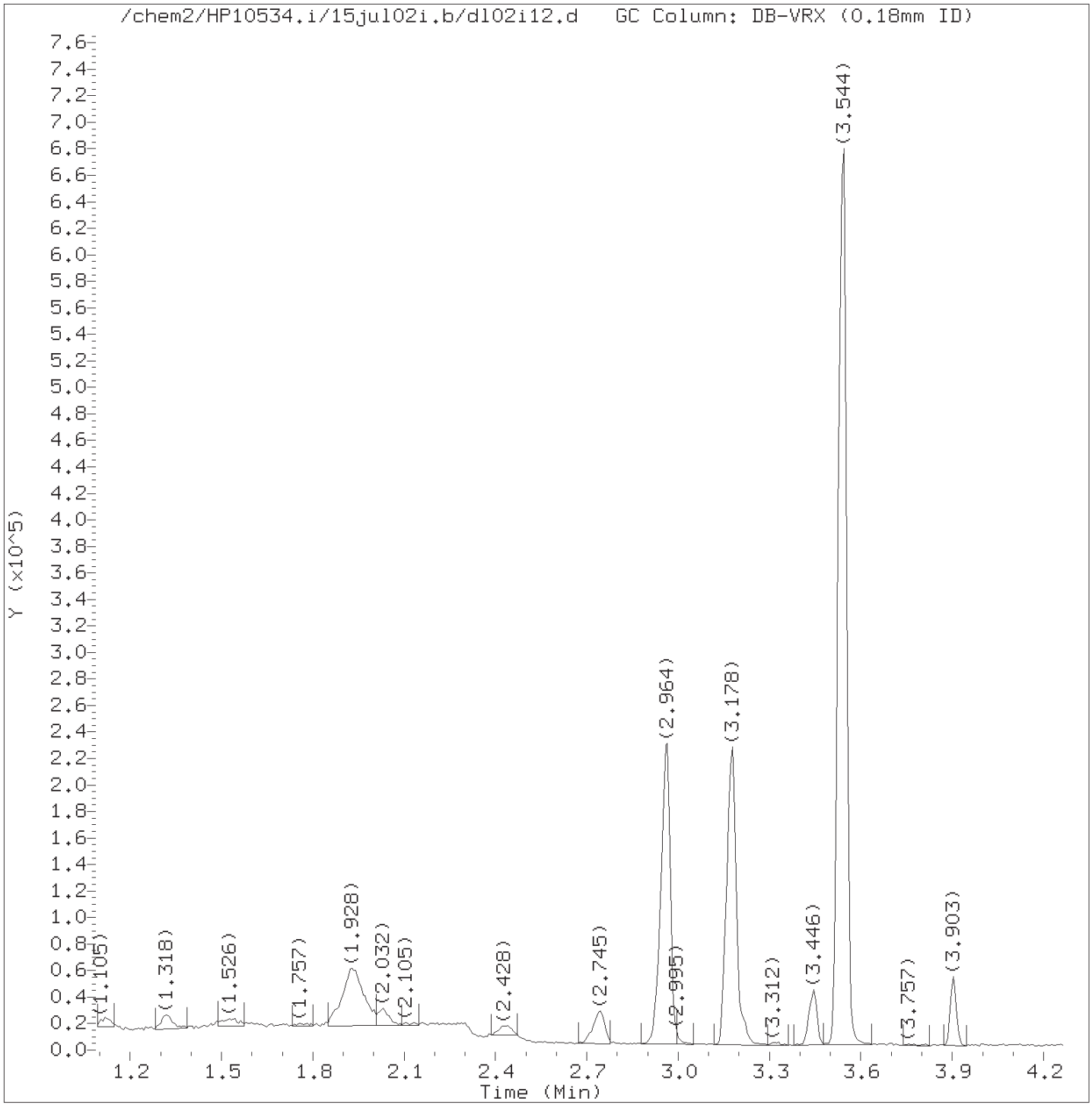
Data File: /chem2/HP10534.i/15jul02i.b/dl02i10.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 13:37 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 13:48
Date, time and analyst ID of latest file update: 02-Jul-2015 13:48 chemist

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 138
Retention Time (minutes): 1.928
Quant Ion : 65.00
Area : 141969
On-column Amount (ng) : 250.0000
Integration start scan : 120 Integration stop scan: 218
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 15:00.
Target 3.5 esignature used: Amanda2850



Total Ion Chromatogram (TIC)

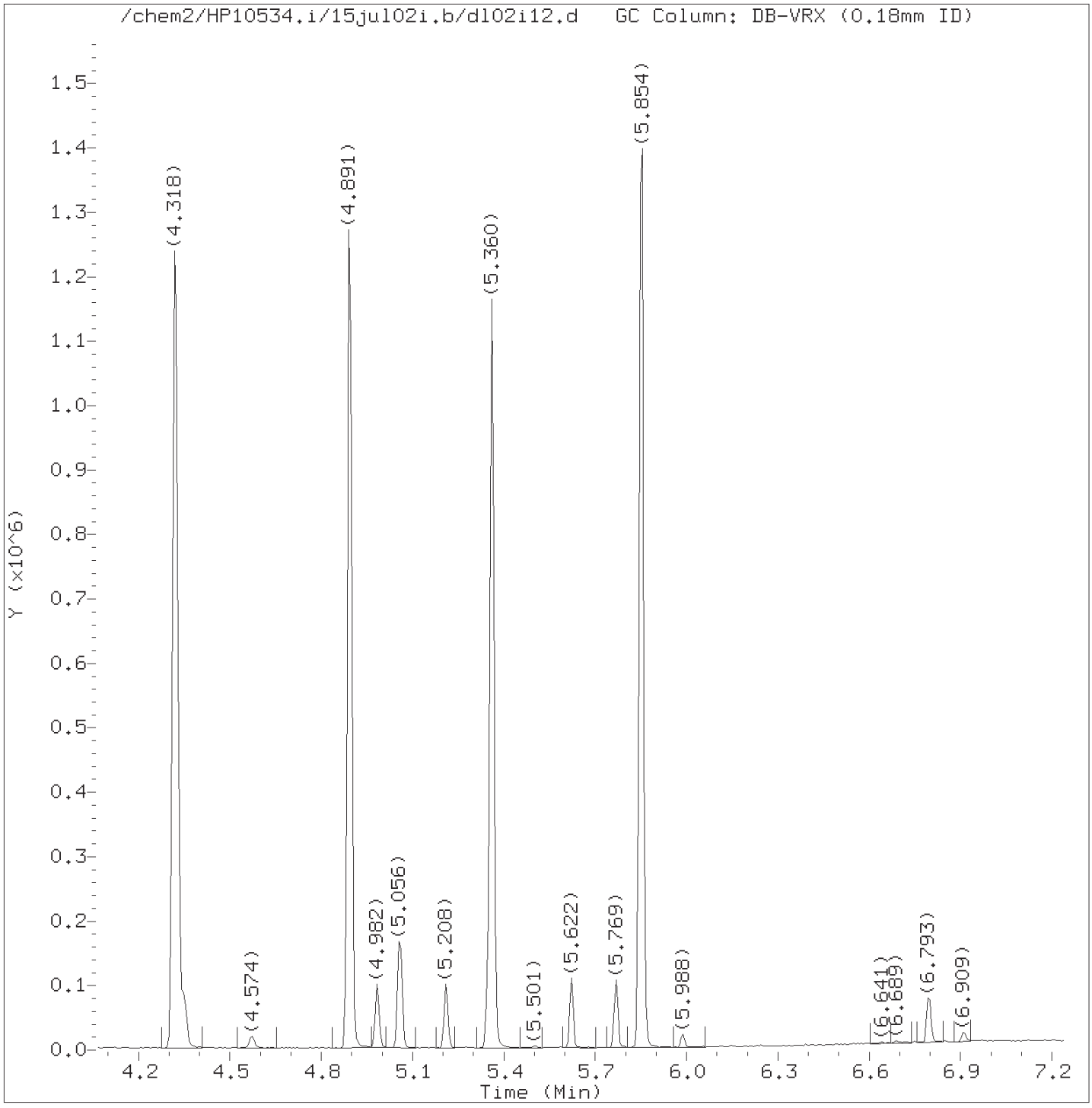
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i12.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:00 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 16:12
Date, time and analyst ID of latest file update: 02-Jul-2015 16:12 akr02850

Sample Name: VSTD002 Lab Sample ID: VSTD002

Digitally signed by Amanda K. Richards
on 07/02/2015 at 16:12.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i12.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:00 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 16:12
Date, time and analyst ID of latest file update: 02-Jul-2015 16:12 akr02850

Sample Name: VSTD002 Lab Sample ID: VSTD002

Digitally signed by Amanda K. Richards
on 07/02/2015 at 16:12.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i12.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:00 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 16:12
Date, time and analyst ID of latest file update: 02-Jul-2015 16:12 akr02850

Sample Name: VSTD002 Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	29185	305.516
2)*t-Butyl alcohol-d10	(1)	1.928	65	120594	250.000
3) t-Butyl alcohol	(1)	1.983	59	7035	9.776
4) Methyl Tertiary Butyl Ether	(2)	2.440	73	20975	2.021
5) di-Isopropyl ether	(2)	2.745	45	29202	2.027
6) Ethyl t-butyl ether	(2)	2.940	59	23793	2.019
7)$Dibromofluoromethane	(2)	2.964	113	136784	49.991
7)$Dibromofluoromethane	(2)	2.964	111	139216	49.862
10)$1,2-Dichloroethane-d4	(2)	3.178	102	35690	49.241
10)$1,2-Dichloroethane-d4	(2)	3.178	65	175354	48.600
10)$1,2-Dichloroethane-d4	(2)	3.172	104	22381	48.967
11) 1,2-Dichloroethane	(2)	3.214	62	11436	2.051
12) Benzene	(2)	3.446	78	35125	1.978
13) t-Amyl methyl ether	(2)	3.525	87	5557	2.049
14)*Fluorobenzene	(2)	3.544	96	587430	50.000
15) t-Amyl ethyl ether	(2)	3.903	87	12214	1.957
16)$Toluene-d8	(3)	4.318	98	583393	49.599
16)$Toluene-d8	(3)	4.318	100	380888	49.845
17) Toluene	(3)	4.348	92	22397	2.002
19) 1,2-Dibromoethane	(3)	4.574	107	7421	1.919
20)*Chlorobenzene-d5	(3)	4.891	117	436206	50.000
21) Ethylbenzene	(3)	4.982	91	41490	1.981
22) m+p-Xylene	(3)	5.062	106	30739	3.835
23) o-Xylene	(3)	5.208	106	15464	1.960
24) Xylene (Total)	(3)		106	46203	5.795
25) Isopropylbenzene	(3)	5.348	105	41034	2.003
26)$4-Bromofluorobenzene	(3)	5.360	95	219174	50.049
26)$4-Bromofluorobenzene	(3)	5.360	174	190679	50.288
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	32751	1.979
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	32256	1.943
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	237699	50.000
30) Naphthalene	(4)	6.799	128	37350	2.018

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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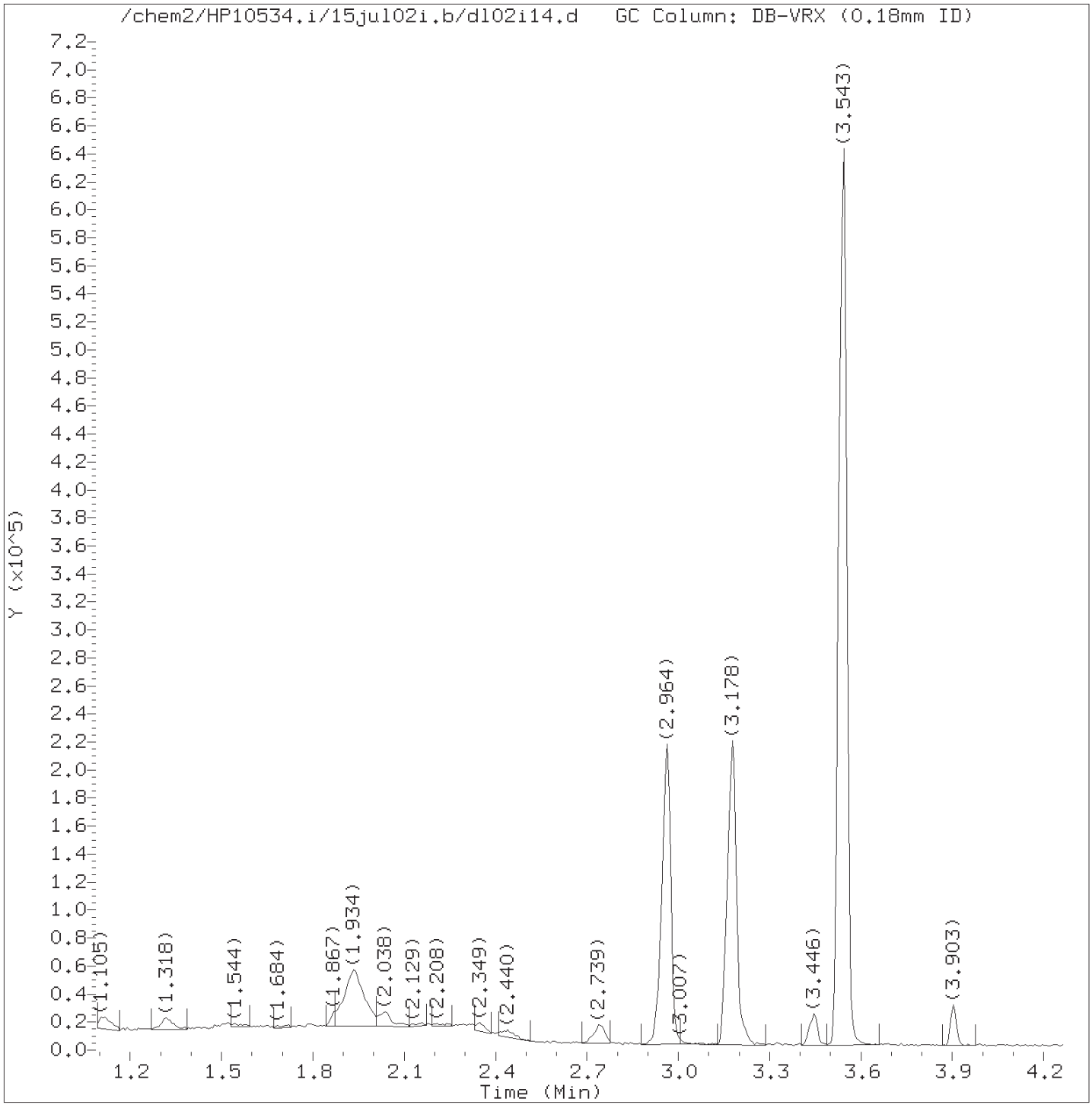
on 07/02/2015 at 16:12.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

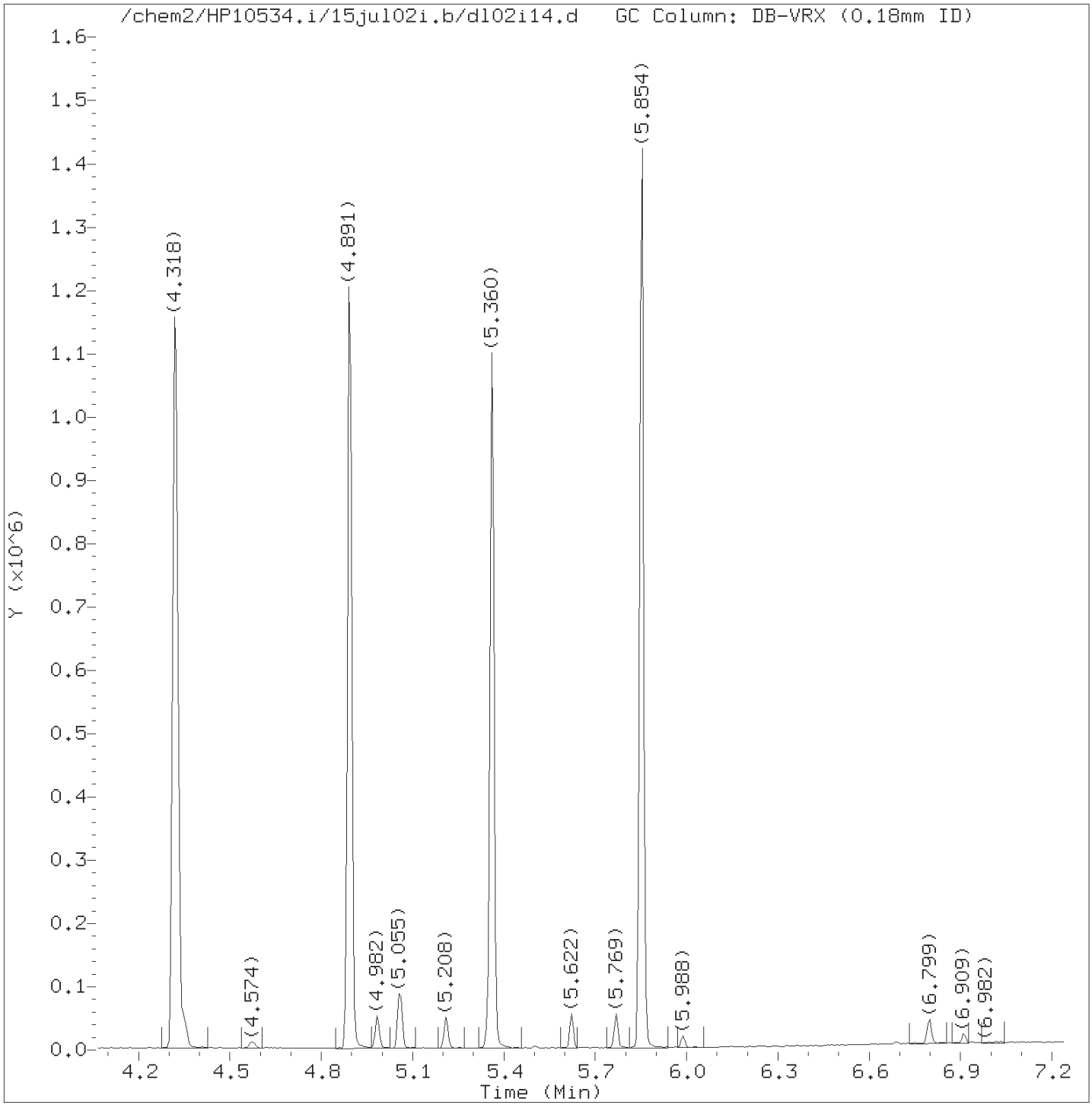
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i14.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:23 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 16:12
Date, time and analyst ID of latest file update: 02-Jul-2015 16:12 akr02850

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Amanda K. Richards
on 07/02/2015 at 16:12.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i14.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:23 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 16:12
Date, time and analyst ID of latest file update: 02-Jul-2015 16:12 akr02850

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Amanda K. Richards
on 07/02/2015 at 16:12.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i14.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:23 Analyst ID: akr02850

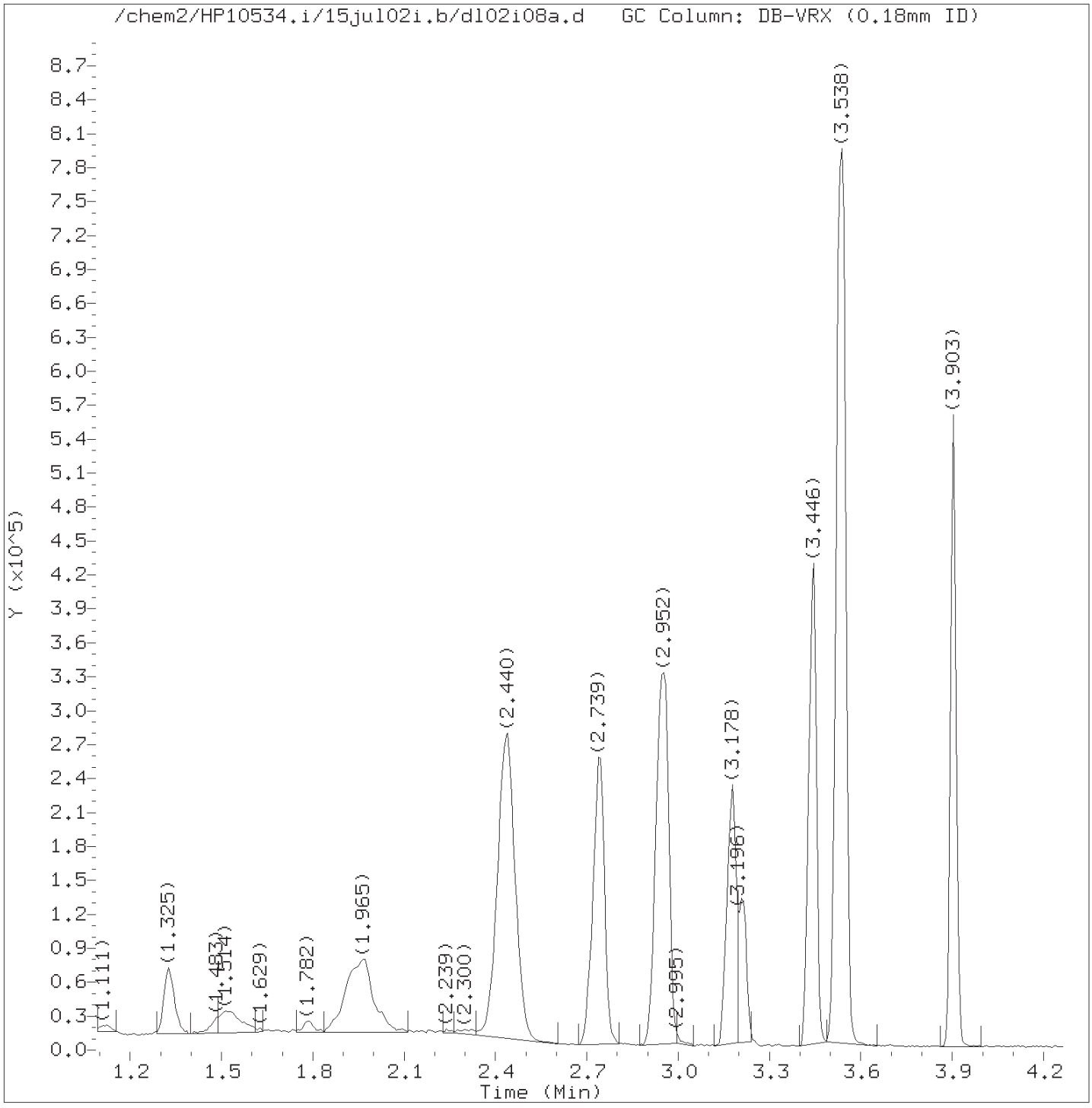
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 16:12
Date, time and analyst ID of latest file update: 02-Jul-2015 16:12 akr02850

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.520	45	20901	232.829
2)*t-Butyl alcohol-d10	(1)	1.934	65	113326	250.000
3) t-Butyl alcohol	(1)	1.965	59	3671	5.429
4) Methyl Tertiary Butyl Ether	(2)	2.440	73	11021	1.123
5) di-Isopropyl ether	(2)	2.739	45	15211	1.117
6) Ethyl t-butyl ether	(2)	2.940	59	12144	1.090
7)$Dibromofluoromethane	(2)	2.964	113	126924	49.067
7)$Dibromofluoromethane	(2)	2.964	111	130589	49.473
10)$1,2-Dichloroethane-d4	(2)	3.178	102	33079	48.275
10)$1,2-Dichloroethane-d4	(2)	3.178	65	163370	47.894
10)$1,2-Dichloroethane-d4	(2)	3.178	104	21935	50.763
11) 1,2-Dichloroethane	(2)	3.214	62	5798	1.100
12) Benzene	(2)	3.446	78	18977	1.131
13) t-Amyl methyl ether	(2)	3.531	87	2608	1.017
14)*Fluorobenzene	(2)	3.543	96	555355	50.000
15) t-Amyl ethyl ether	(2)	3.903	87	6922	1.173
16)$Toluene-d8	(3)	4.318	98	552190	49.683
16)$Toluene-d8	(3)	4.318	100	358906	49.707
17) Toluene	(3)	4.348	92	11683	1.105
19) 1,2-Dibromoethane	(3)	4.574	107	3847	1.053
20)*Chlorobenzene-d5	(3)	4.891	117	412174	50.000
21) Ethylbenzene	(3)	4.982	91	21537	1.088
22) m+p-Xylene	(3)	5.055	106	15842	2.092
23) o-Xylene	(3)	5.208	106	7771	1.042
24) Xylene (Total)	(3)		106	23613	3.134
25) Isopropylbenzene	(3)	5.348	105	21241	1.097
26)$4-Bromofluorobenzene	(3)	5.360	95	206648	49.940
26)$4-Bromofluorobenzene	(3)	5.360	174	178591	49.846
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	17807	1.136
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	17551	1.116
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	225144	50.000
30) Naphthalene	(4)	6.799	128	19651	1.121

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 16:12.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

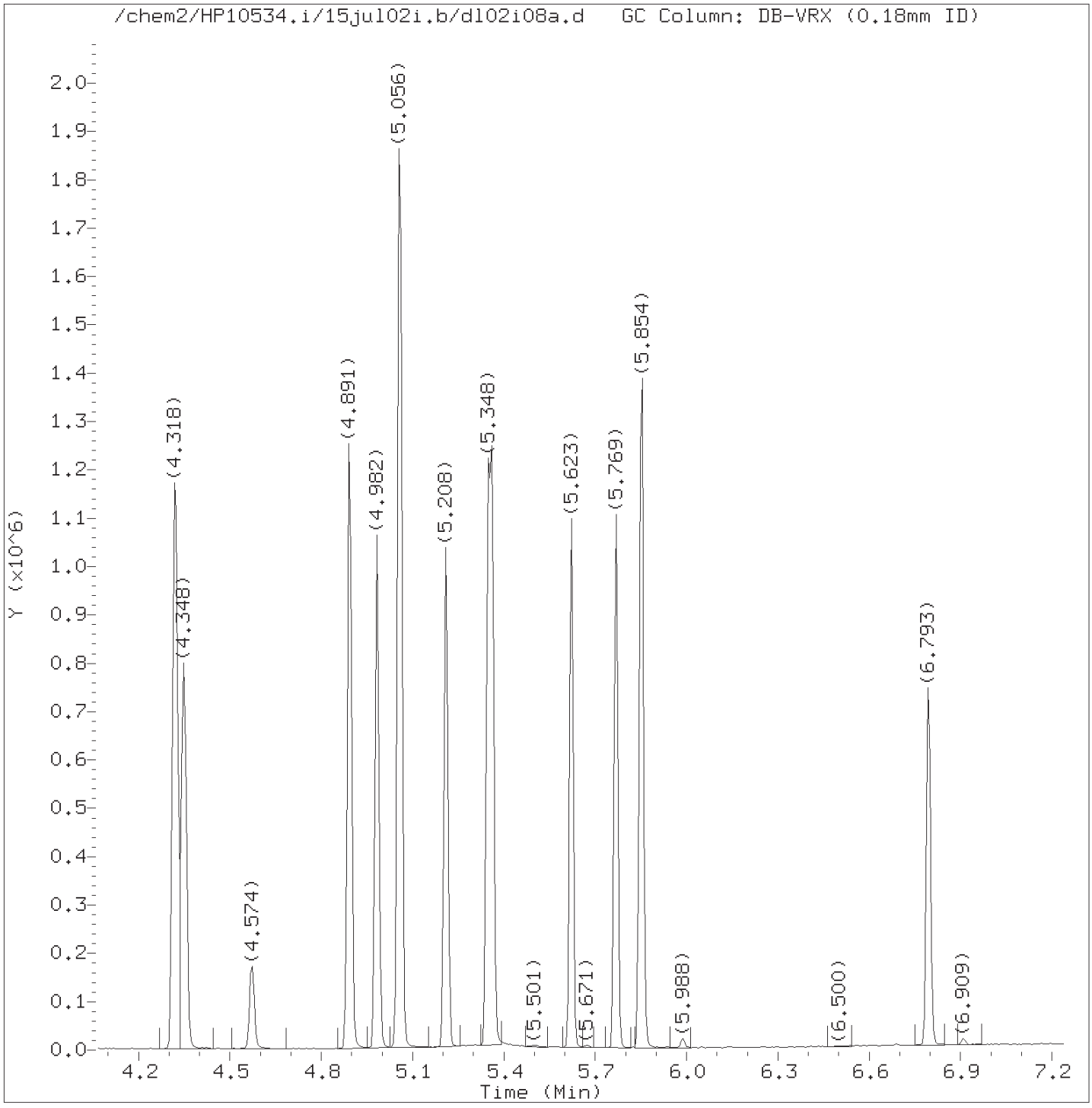
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i08a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:46 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD020 Lab Sample ID: VSTD020

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i08a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:46 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD020 Lab Sample ID: VSTD020

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02i08a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:46 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

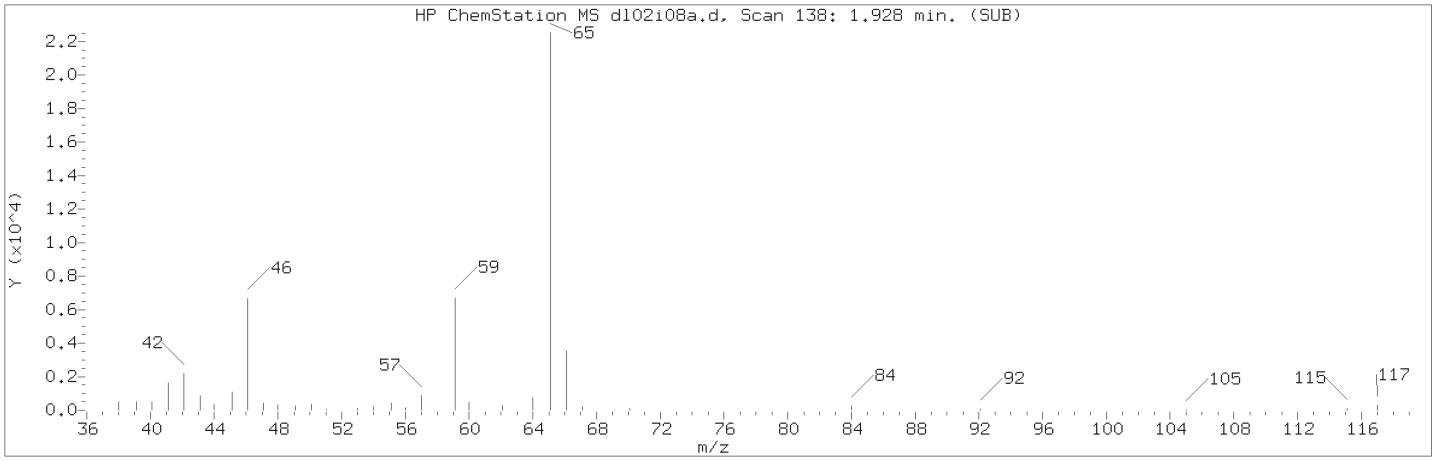
Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	89116	1051.738
2)*t-Butyl alcohol-d10	(1)	1.928	65	112038M	250.000
3) t-Butyl alcohol	(1)	1.971	59	81367	119.352
4) Methyl Tertiary Butyl Ether	(2)	2.440	73	524674	52.748
5) di-Isopropyl ether	(2)	2.739	45	289481	20.664
6) Ethyl t-butyl ether	(2)	2.940	59	238251	20.751
7)$Dibromofluoromethane	(2)	2.958	113	131426	49.710
7)$Dibromofluoromethane	(2)	2.958	111	133501	49.432
10)$1,2-Dichloroethane-d4	(2)	3.178	102	34399	48.436
10)$1,2-Dichloroethane-d4	(2)	3.178	65	172078	48.435
10)$1,2-Dichloroethane-d4	(2)	3.178	104	21433	48.589
11) 1,2-Dichloroethane	(2)	3.208	62	112502	20.679
12) Benzene	(2)	3.446	78	358781	20.742
13) t-Amyl methyl ether	(2)	3.525	87	54752	20.491
14)*Fluorobenzene	(2)	3.544	96	566192	50.000
15) t-Amyl ethyl ether	(2)	3.903	87	128872	21.385
16)$Toluene-d8	(3)	4.318	98	565649	49.993
16)$Toluene-d8	(3)	4.318	100	367715	50.084
17) Toluene	(3)	4.348	92	226685	20.846
19) 1,2-Dibromoethane	(3)	4.574	107	77238	20.108
20)*Chlorobenzene-d5	(3)	4.891	117	419065	50.000
21) Ethylbenzene	(3)	4.982	91	424940	20.748
22) m+p-Xylene	(3)	5.056	106	333681	42.000
23) o-Xylene	(3)	5.208	106	162401	20.753
24) Xylene (Total)	(3)		106	496082	62.753
25) Isopropylbenzene	(3)	5.348	105	409898	20.596
26)$4-Bromofluorobenzene	(3)	5.360	95	211050	50.243
26)$4-Bromofluorobenzene	(3)	5.360	174	183223	50.326
27) 1,3,5-Trimethylbenzene	(4)	5.623	105	330075	20.441
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	334633	20.566
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	228998	50.000
30) Naphthalene	(4)	6.793	128	369465	20.594

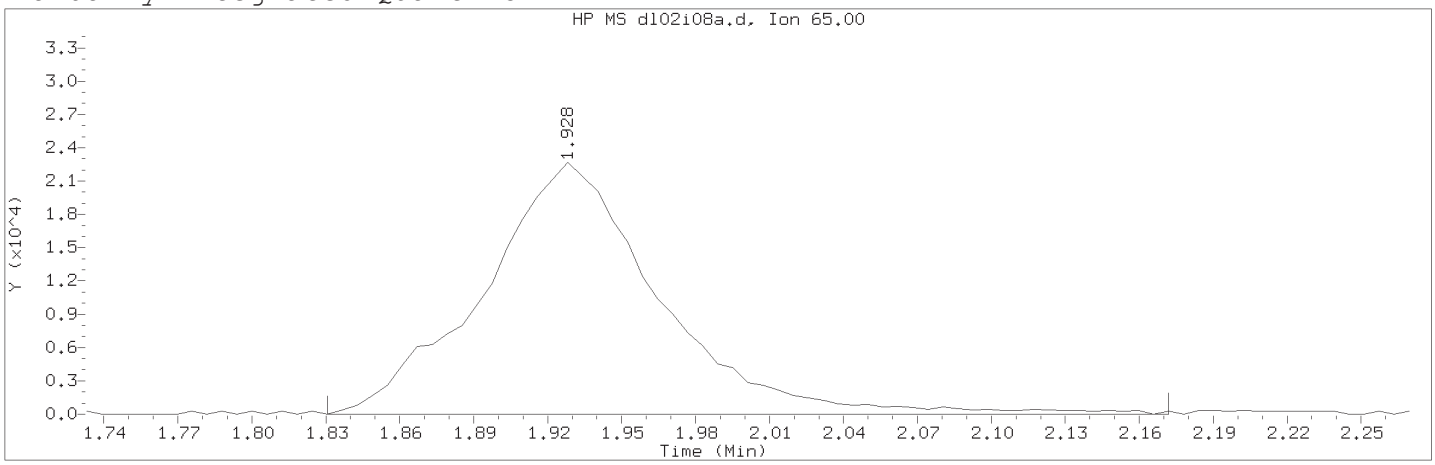
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Amanda K. Richards
on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP10534.i/15jul02i.b/dl02i08a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:46 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:59
Date, time and analyst ID of latest file update: 02-Jul-2015 14:59 akr02850

Sample Name: VSTD020 Lab Sample ID: VSTD020

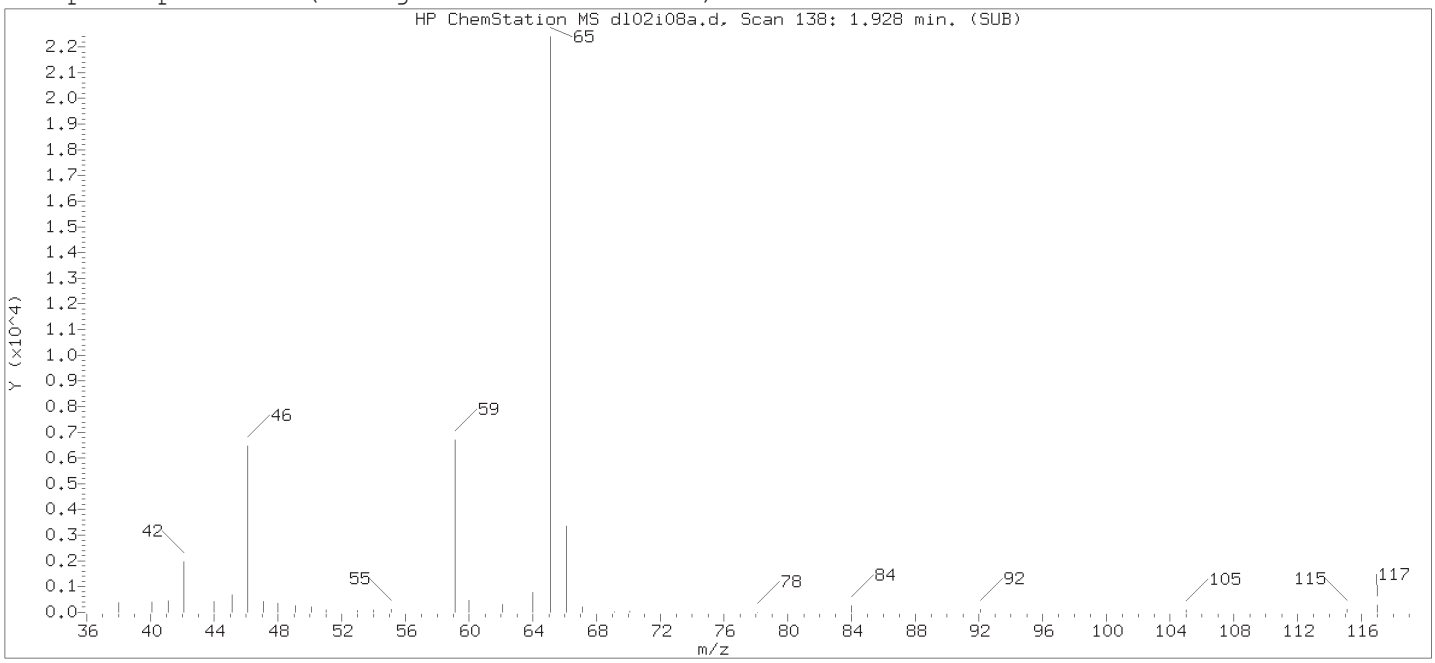
Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 138
Retention Time (minutes): 1.928
Quant Ion : 65.00
Area (flag) : 112038M
On-Column Amount (ng) : 250.0000
Integration start scan : 121 Integration stop scan: 177
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

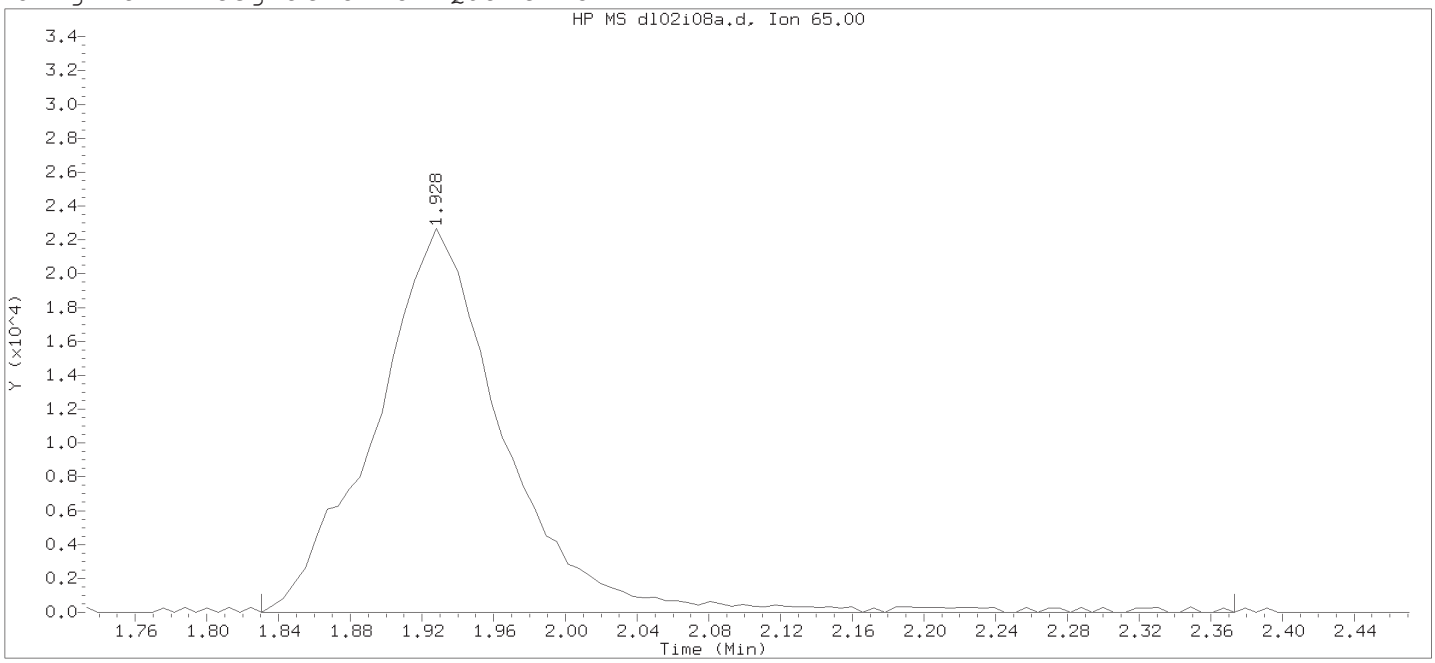
Analyst responsible for change: Digitally signed by Amanda K. Richards on 07/02/2015 at 15:00.
Target 3.5 esignature user ID: akr02850

Secondary review performed and digitally signed by Marla S. Brewer on 07/02/2015 at 19:08.
Parallax ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



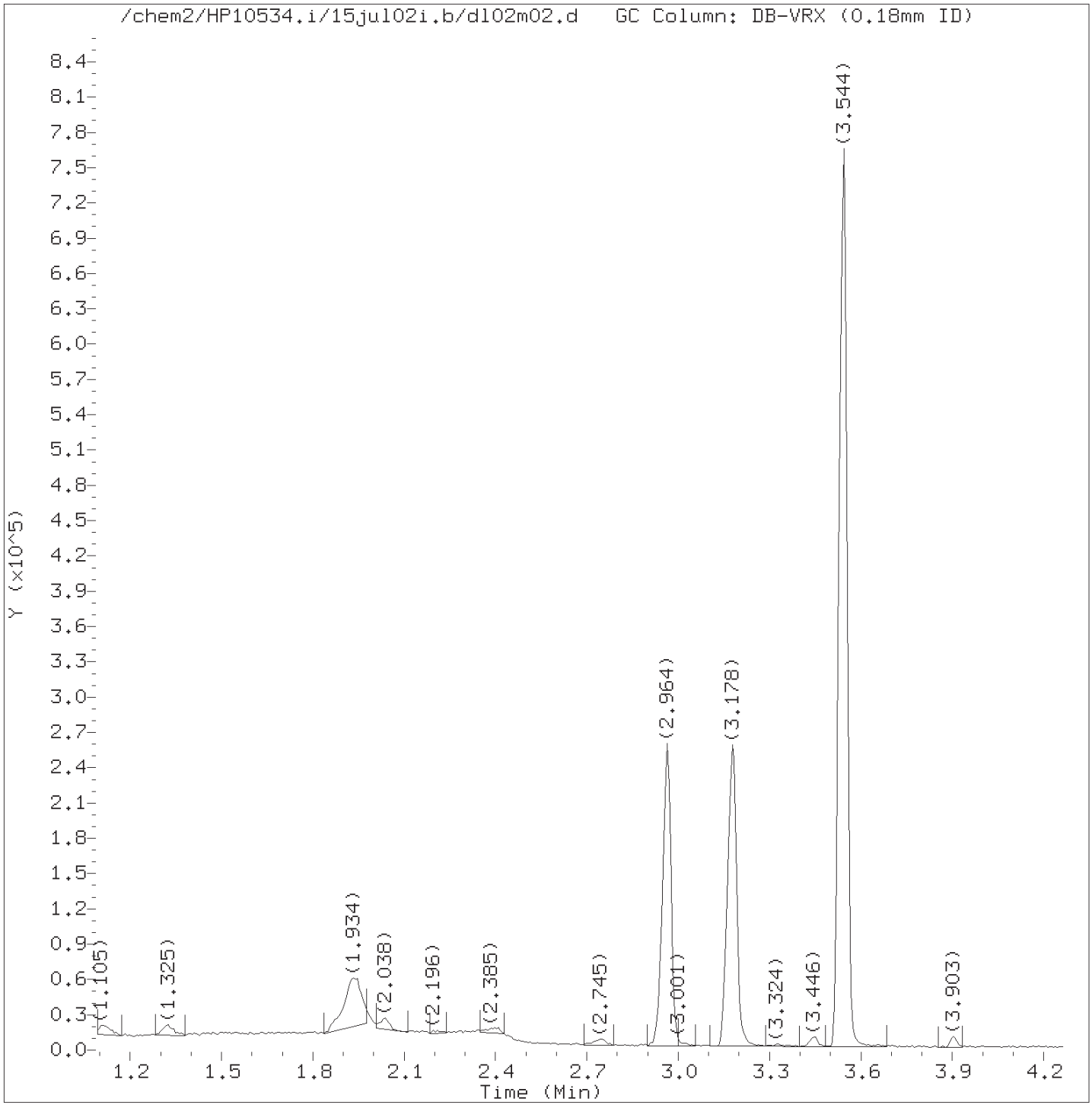
Data File: /chem2/HP10534.i/15jul02i.b/dl02i08a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 14:46 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 14:56
Date, time and analyst ID of latest file update: 02-Jul-2015 14:56 chemist

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compound Number : 2
Compound Name : t-Butyl alcohol-d10
Scan Number : 138
Retention Time (minutes): 1.928
Quant Ion : 65.00
Area : 114117
On-column Amount (ng) : 250.0000
Integration start scan : 121 Integration stop scan: 210
Y at integration start : 0 Y at integration end: 0

Digitally signed by Amanda K. Richards on 07/02/2015 at 15:00.
Target 3.5 esignature used: Amanda2850



Total Ion Chromatogram (TIC)

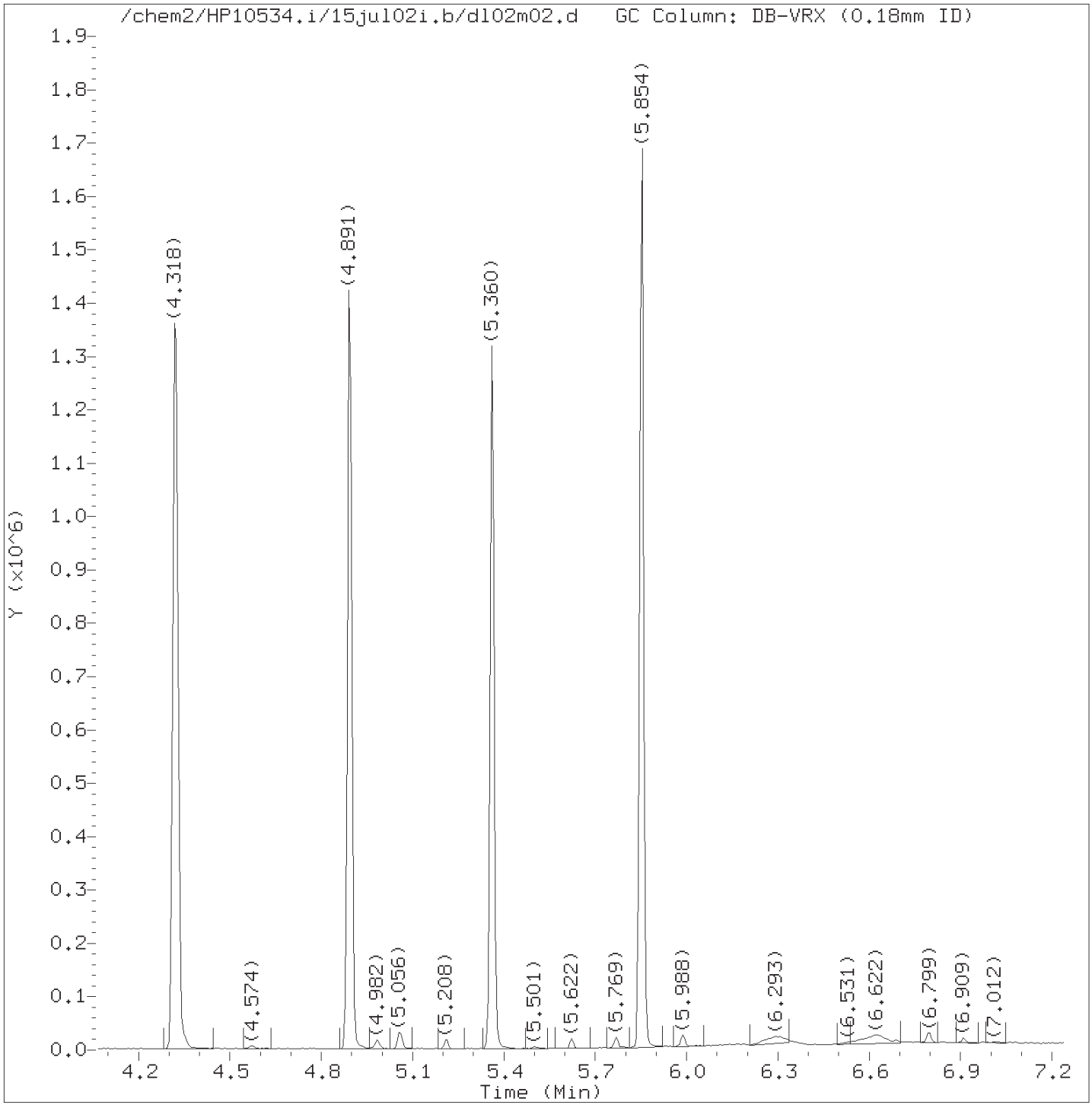
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02m02.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 15:08 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 16:12
Date, time and analyst ID of latest file update: 02-Jul-2015 19:38 msl01251

Sample Name: VSTD0.4 Lab Sample ID: 0.4PPB MDL

Digitally signed by Kevin A. Sposito
on 07/02/2015 at 19:57.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02m02.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 15:08 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 16:12
Date, time and analyst ID of latest file update: 02-Jul-2015 19:38 msl01251

Sample Name: VSTD0.4 Lab Sample ID: 0.4PPB MDL

Digitally signed by Kevin A. Sposito
on 07/02/2015 at 19:57.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02m02.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 15:08 Analyst ID: akr02850

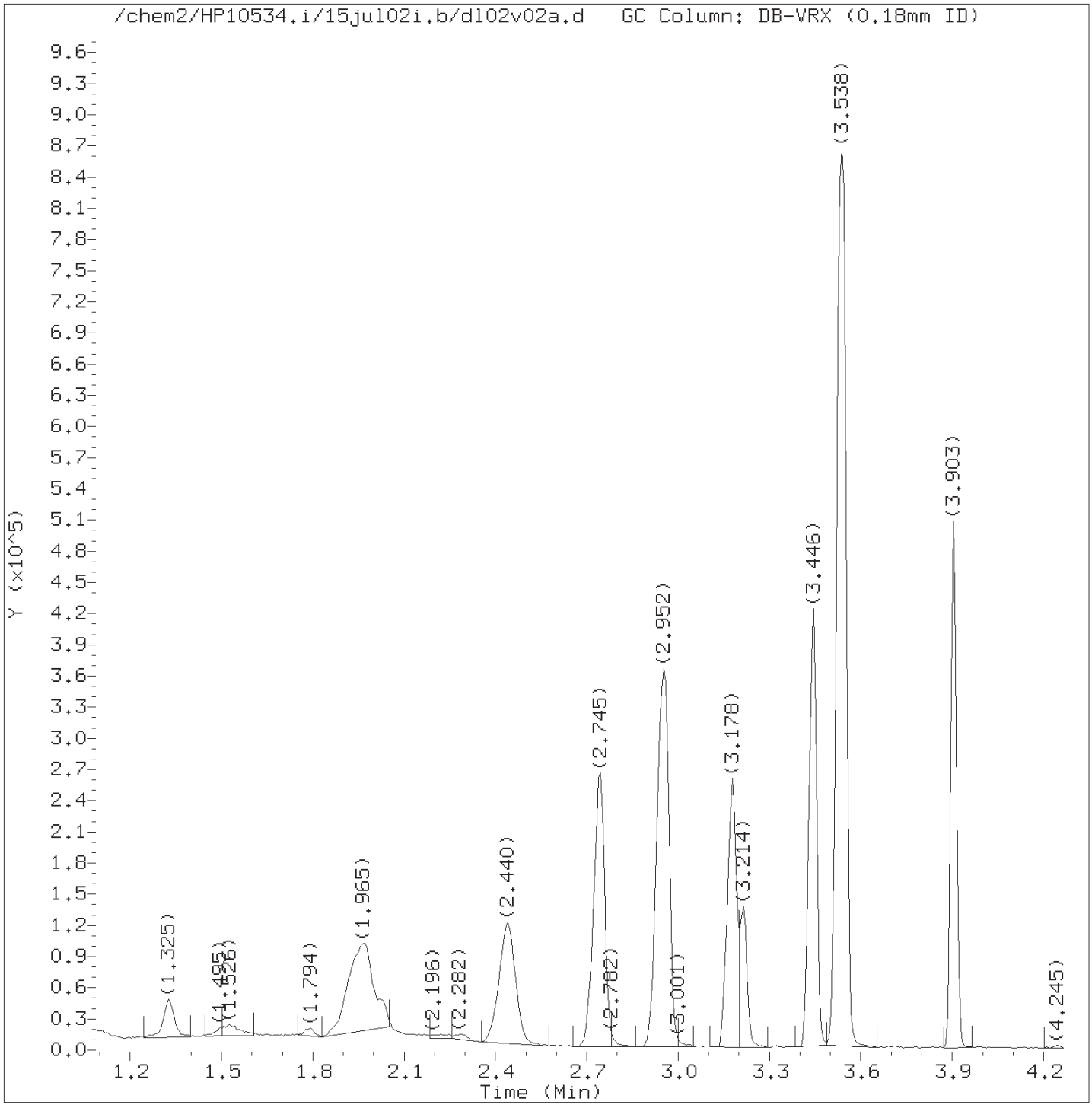
Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 16:12
Date, time and analyst ID of latest file update: 02-Jul-2015 19:38 msl01251

Sample Name: VSTD0.4 Lab Sample ID: 0.4PPB MDL

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	8228	78.386
2)*t-Butyl alcohol-d10	(1)	1.934	65	132513	250.000
3) t-Butyl alcohol	(1)	1.959	59	1162	1.470
4) Methyl Tertiary Butyl Ether	(2)	2.440	73	4164	0.358
5) di-Isopropyl ether	(2)	2.751	45	5691	0.353
6) Ethyl t-butyl ether	(2)	2.946	59	4379	0.332
7)$Dibromofluoromethane	(2)	2.964	113	153134	49.967
10)$1,2-Dichloroethane-d4	(2)	3.178	102	39435	48.575
11) 1,2-Dichloroethane	(2)	3.221	62	2364	0.378
12) Benzene	(2)	3.446	78	6932	0.349
13) t-Amyl methyl ether	(2)	3.525	87	1099	0.362
14)*Fluorobenzene	(2)	3.544	96	657974	50.000
15) t-Amyl ethyl ether	(2)	3.909	87	2266	0.324
16)$Toluene-d8	(3)	4.318	98	654089	49.819
17) Toluene	(3)	4.348	92	4351	0.349
19) 1,2-Dibromoethane	(3)	4.574	107	1299	0.301
20)*Chlorobenzene-d5	(3)	4.891	117	486901	50.000
21) Ethylbenzene	(3)	4.982	91	8842	0.378
22) m+p-Xylene	(3)	5.056	106	6077	0.679
23) o-Xylene	(3)	5.214	106	2875	0.326
24) Xylene (Total)	(3)		106	8952	1.006
25) Isopropylbenzene	(3)	5.348	105	7635	0.334
26)$4-Bromofluorobenzene	(3)	5.360	95	245117	50.145
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	6936	0.375
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	6881	0.371
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	265535	50.000
30) Naphthalene	(4)	6.799	128	10419	0.504

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 07/02/2015 at 19:57.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

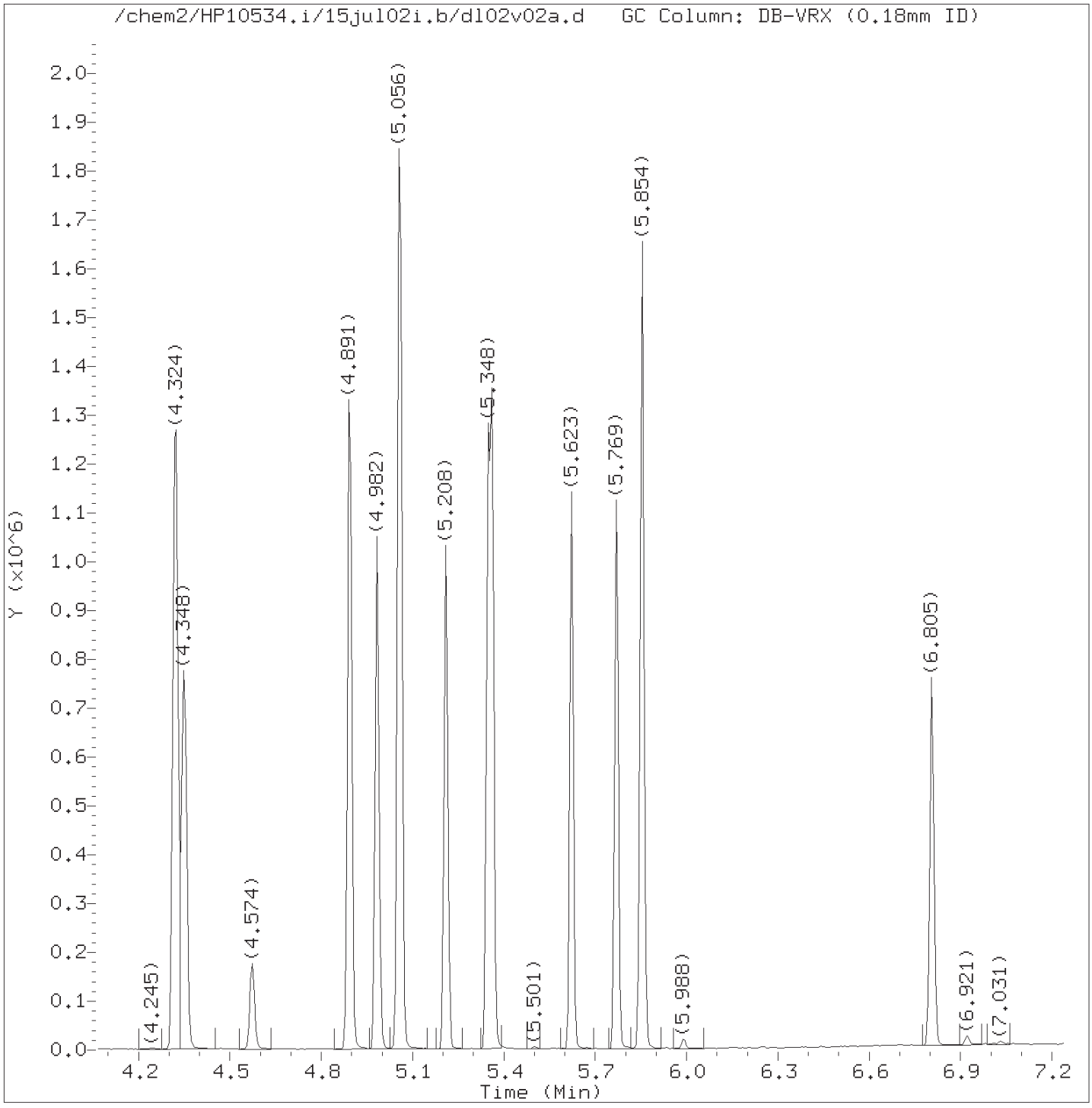
Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02v02a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 16:12 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 16:12
Date, time and analyst ID of latest file update: 02-Jul-2015 19:44 msl01251

Sample Name: ICV-02 Lab Sample ID: ICV-02

Digitally signed by Kevin A. Sposito
on 07/02/2015 at 19:57.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02v02a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 16:12 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 16:12
Date, time and analyst ID of latest file update: 02-Jul-2015 19:44 msl01251

Sample Name: ICV-02 Lab Sample ID: ICV-02

Digitally signed by Kevin A. Sposito
on 07/02/2015 at 19:57.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15jul02i.b/dl02v02a.d Instrument ID: HP10534.i
Injection date and time: 02-JUL-2015 16:12 Analyst ID: akr02850

Method used: /chem2/HP10534.i/15jul02i.b/UST-PT2.m Sublist used: 10945B-3G
Calibration date and time: 02-JUL-2015 16:12
Date, time and analyst ID of latest file update: 02-Jul-2015 19:44 msl01251

Sample Name: ICV-02 Lab Sample ID: ICV-02

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.532	45	52764	511.023
2)*t-Butyl alcohol-d10	(1)	1.934	65	130346	250.000
3) t-Butyl alcohol	(1)	1.971	59	147864	190.105
4) Methyl Tertiary Butyl Ether	(2)	2.440	73	214737	19.815
5) di-Isopropyl ether	(2)	2.745	45	285360	18.971
6) Ethyl t-butyl ether	(2)	2.940	59	235956	19.183
7)$Dibromofluoromethane	(2)	2.958	113	140929	49.336
10)$1,2-Dichloroethane-d4	(2)	3.178	102	38232	50.526
11) 1,2-Dichloroethane	(2)	3.214	62	109139	18.745
12) Benzene	(2)	3.446	78	344637	18.593
13) t-Amyl methyl ether	(2)	3.525	87	56043	19.796
14)*Fluorobenzene	(2)	3.544	96	613267	50.000
15) t-Amyl ethyl ether	(2)	3.903	87	118102	18.123
16)$Toluene-d8	(3)	4.324	98	612938	49.778
17) Toluene	(3)	4.348	92	223174	19.061
19) 1,2-Dibromoethane	(3)	4.574	107	76818	18.980
20)*Chlorobenzene-d5	(3)	4.891	117	456646	50.000
21) Ethylbenzene	(3)	4.982	91	424511	19.362
22) m+p-Xylene	(3)	5.056	106	331738	39.539
23) o-Xylene	(3)	5.208	106	159342	19.291
24) Xylene (Total)	(3)		106	491080	58.830
25) Isopropylbenzene	(3)	5.348	105	421032	19.634
26)$4-Bromofluorobenzene	(3)	5.360	95	229208	49.997
27) 1,3,5-Trimethylbenzene	(4)	5.623	105	336702	19.226
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	337994	19.244
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	251542	50.000
30) Naphthalene	(4)	6.805	128	365864	18.681

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 07/02/2015 at 19:57.
Target 3.5 esignature user ID: kas02648

Data File: /chem2/HP10534.i/15oct15a.b/dc15t01.d

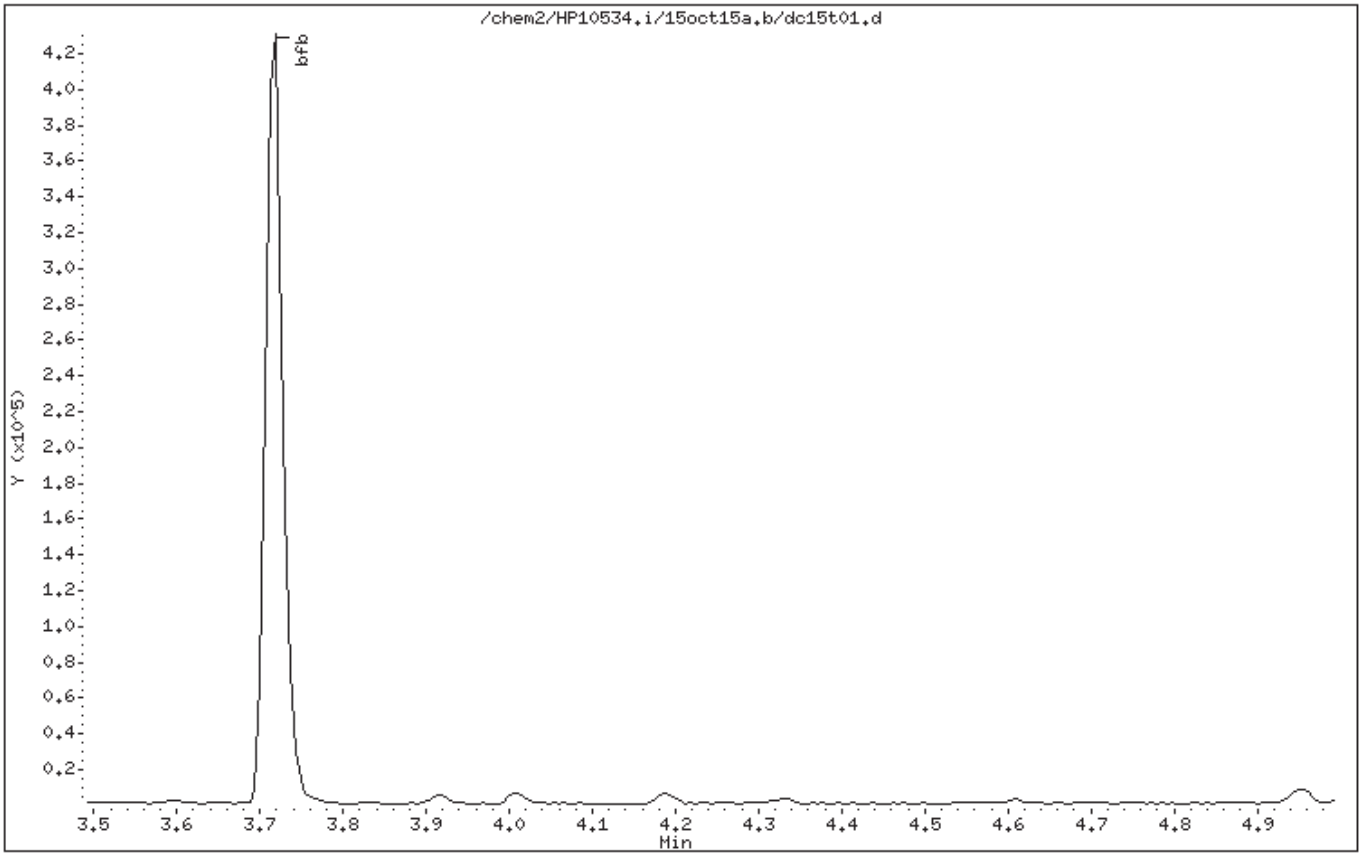
Date : 15-OCT-2015 09:29

Client ID: BFBAUG28-15 Instrument: HP10534.i

Sample Info: BFBAUG28-15;50NGBFB;1;3;;;;;;

Operator: DHH02035

Column phase: DB-VRX Column diameter: 0.18



Digitally signed by Daniel H. Heller on 10/15/2015 at 09:47.
Target 3.5 esignature user ID: dhh02035

Data File: /chem2/HP10534.i/15oct15a.b/dc15t01.d

Date : 15-OCT-2015 09:29

Client ID: BFBAUG28-15

Instrument: HP10534.i

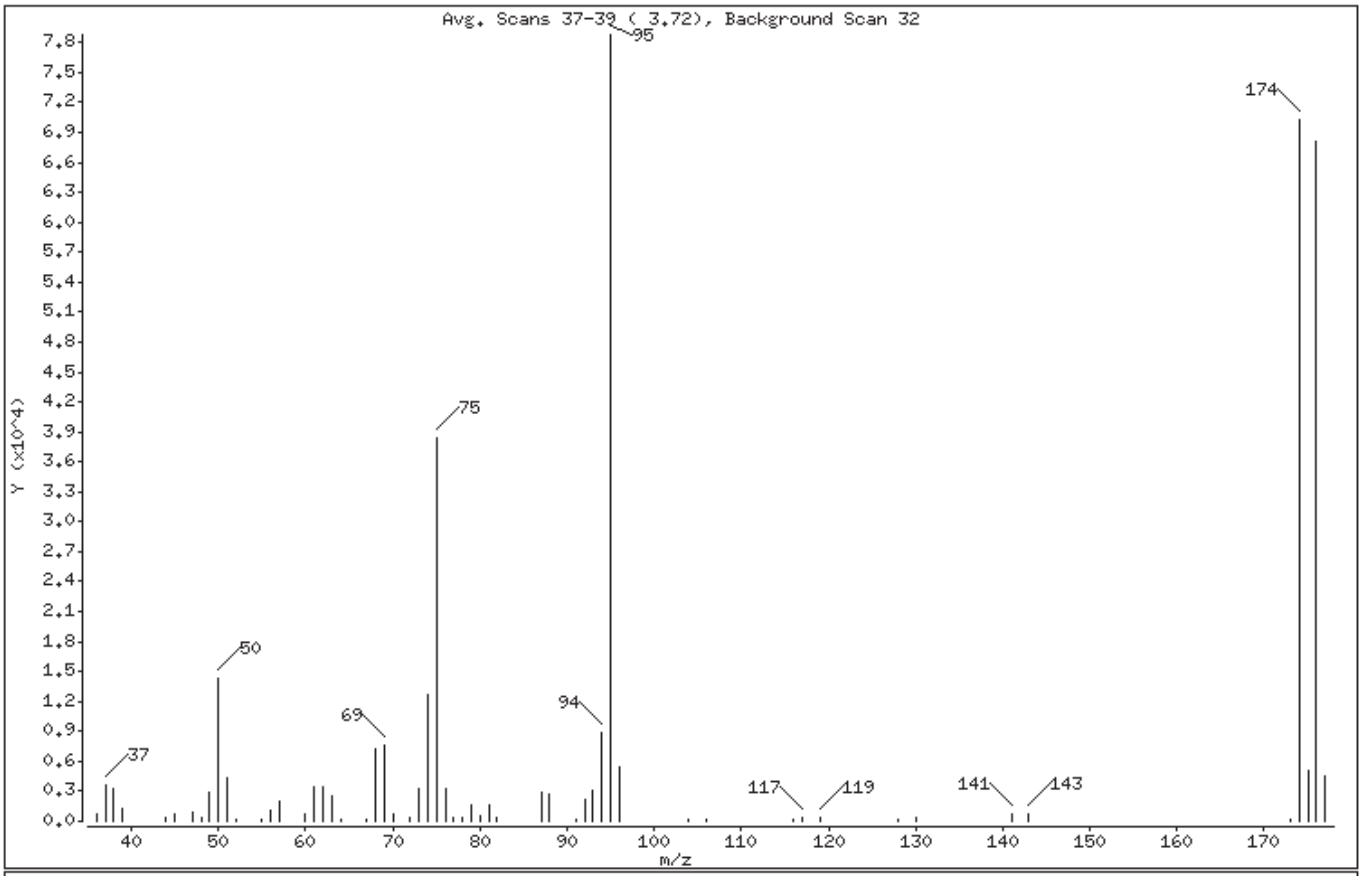
Sample Info: BFBAUG28-15;50NGBFB;1;3;;;;;;

Operator: DHH02035

Column phase: DB-VRX

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.27
75	30.00 - 60.00% of mass 95	48.68
96	5.00 - 9.00% of mass 95	6.96
173	Less than 2.00% of mass 174	0.29 (0.33)
174	50.00 - 100.00% of mass 95	89.08
175	5.00 - 9.00% of mass 174	6.54 (7.34)
176	95.00 - 101.00% of mass 174	86.54 (97.15)
177	5.00 - 9.00% of mass 176	5.74 (6.63)

Digitally signed by Daniel H. Heller on 10/15/2015 at 09:47.
Target 3.5 esignature user ID: dhh02035

Date : 15-OCT-2015 09:29

Client ID: BFBAUG28-15 Instrument: HP10534.i

Sample Info: BFBAUG28-15;50NGBFB;1;3;;;;;;

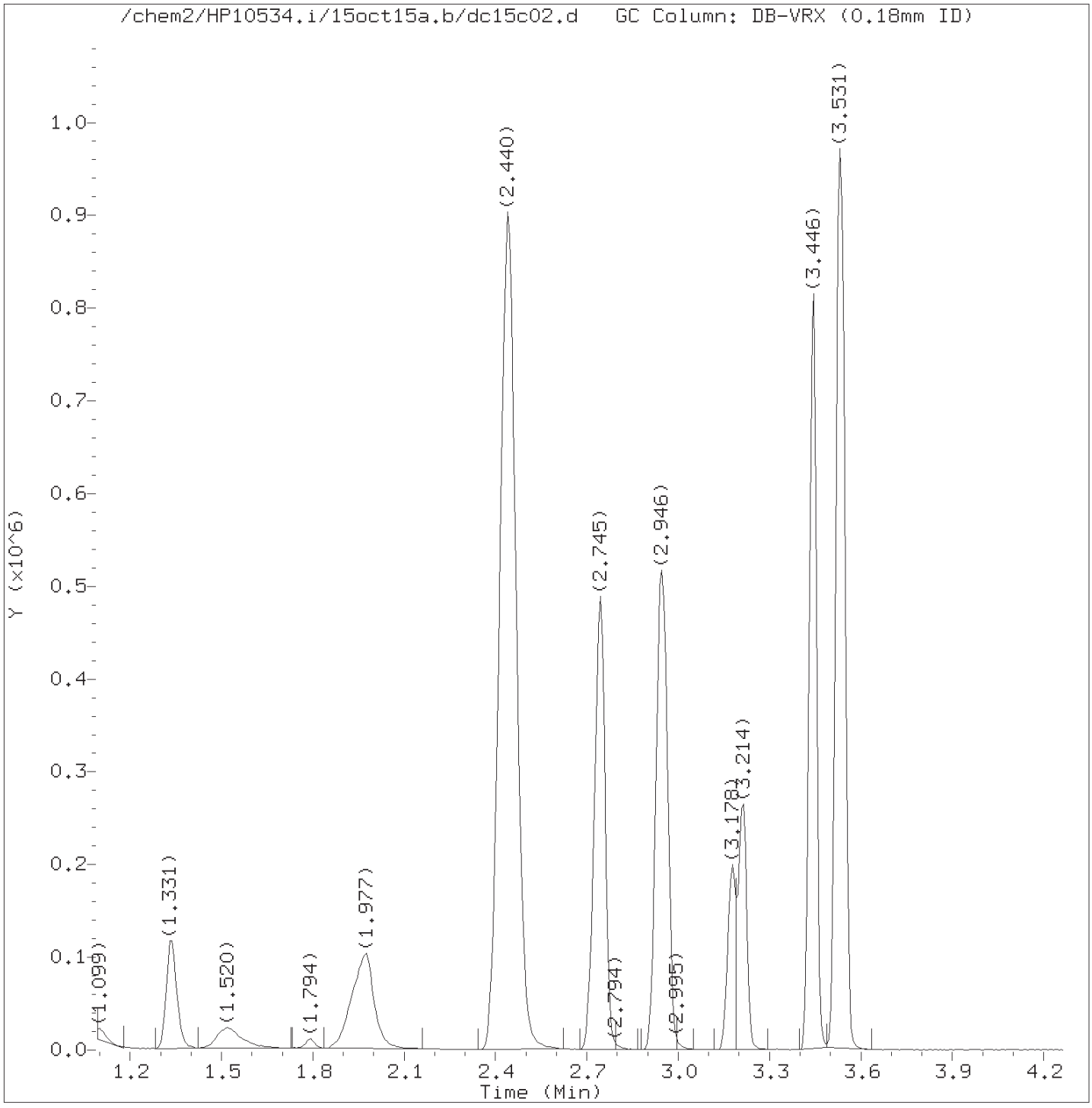
Operator: DHH02035

Column phase: DB-VRX Column diameter: 0.18

Data File: dc15t01.d
Spectrum: Avg. Scans 37-39 (3.72), Background Scan 32
Location of Maximum: 95.00
Number of points: 57

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	682	60.00	697	78.00	299	116.00	97
37.00	3617	61.00	3474	79.00	1574	117.00	444
38.00	3263	62.00	3477	80.00	508	119.00	332
39.00	1204	63.00	2456	81.00	1583	128.00	151
44.00	291	64.00	125	82.00	311	130.00	303
45.00	683	67.00	92	87.00	2814	141.00	693
47.00	897	68.00	7218	88.00	2807	143.00	721
48.00	445	69.00	7525	91.00	173	173.00	230
49.00	2926	70.00	641	92.00	2211	174.00	70184
50.00	14392	72.00	303	93.00	3121	175.00	5155
51.00	4431	73.00	3308	94.00	8883	176.00	68184
52.00	203	74.00	12613	95.00	78784	177.00	4523
55.00	93	75.00	38352	96.00	5487		
56.00	1061	76.00	3245	104.00	195		
57.00	1925	77.00	412	106.00	97		

Digitally signed by Daniel H. Heller on 10/15/2015 at 09:47.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

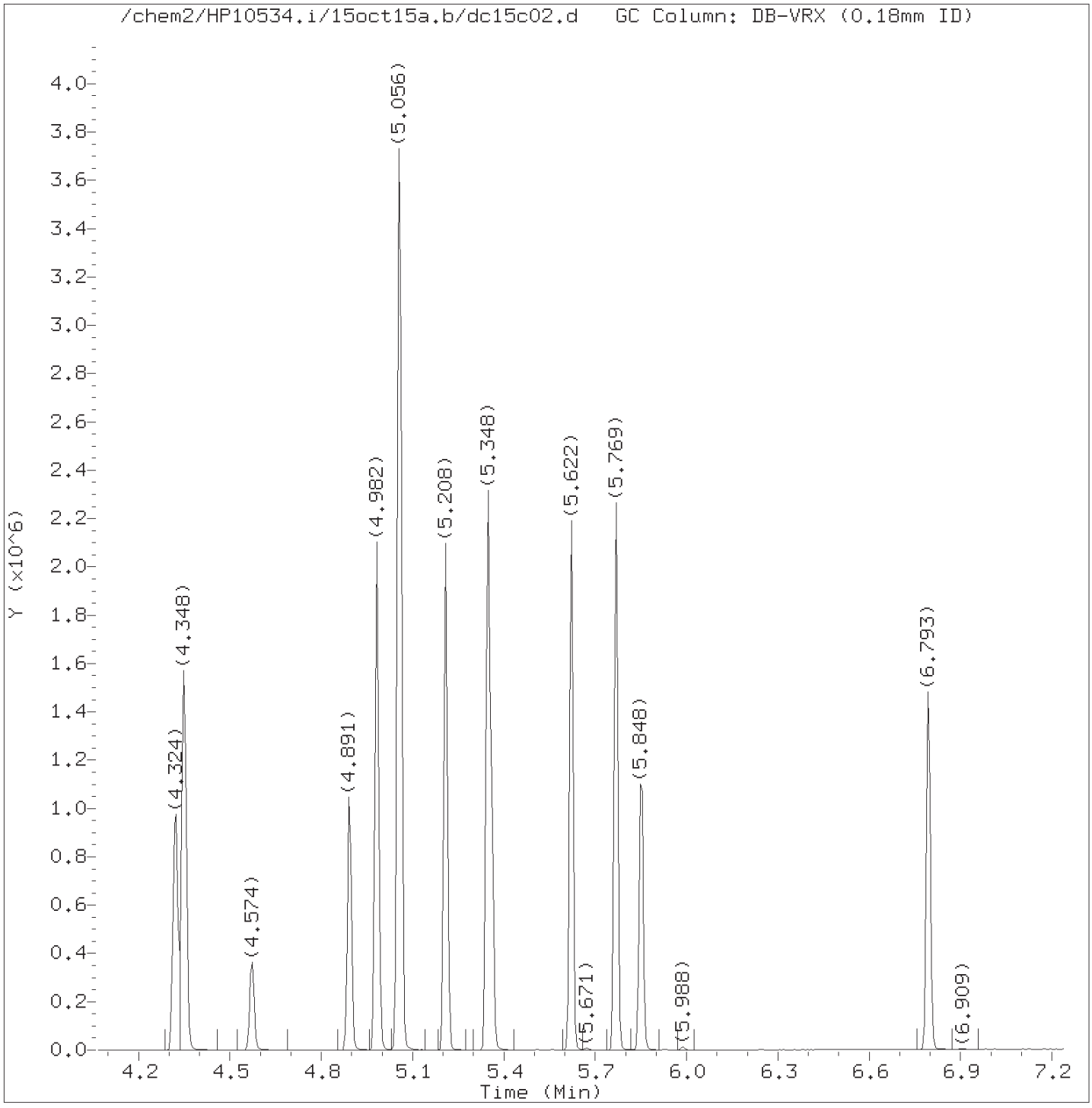
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15c02.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 10:34 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 10:46 dhh02035

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Daniel H. Heller
on 10/15/2015 at 10:46.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15c02.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 10:34 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 10:46 dhh02035

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Daniel H. Heller
on 10/15/2015 at 10:46.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15c02.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 10:34 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 10:46 dhh02035

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.520	45	76723	1096.287
2)*t-Butyl alcohol-d10	(1)	1.940	65	88349	250.000
3) t-Butyl alcohol	(1)	1.977	59	167059	316.881
4) Methyl Tertiary Butyl Ether	(2)	2.440	73	1626818	207.588
5) di-Isopropyl ether	(2)	2.745	45	502409	46.188
6) Ethyl t-butyl ether	(2)	2.940	59	433614	48.750
7)$Dibromofluoromethane	(2)	2.958	113	105386	51.019
7)$Dibromofluoromethane	(2)	2.958	111	107995	51.236
10)$1,2-Dichloroethane-d4	(2)	3.178	102	28921	52.855
10)$1,2-Dichloroethane-d4	(2)	3.178	65	148307	54.448
10)$1,2-Dichloroethane-d4	(2)	3.178	104	17106	49.575
11) 1,2-Dichloroethane	(2)	3.214	62	223230	53.022
12) Benzene	(2)	3.446	78	636273	47.471
13) t-Amyl methyl ether	(2)	3.525	87	104211	50.905
14)*Fluorobenzene	(2)	3.544	96	443469	50.000
16)$Toluene-d8	(3)	4.324	98	441193	47.976
16)$Toluene-d8	(3)	4.324	100	286587	47.970
17) Toluene	(3)	4.348	92	421272	48.176
19) 1,2-Dibromoethane	(3)	4.574	107	156108	51.645
20)*Chlorobenzene-d5	(3)	4.891	117	341040	50.000
21) Ethylbenzene	(3)	4.982	91	820382	50.103
22) m+p-Xylene	(3)	5.056	106	645119	102.954
23) o-Xylene	(3)	5.208	106	308407	49.996
24) Xylene (Total)	(3)		106	953526	152.950
25) Isopropylbenzene	(3)	5.348	105	815558	50.925
26)$4-Bromofluorobenzene	(3)	5.360	95	171891	50.205
26)$4-Bromofluorobenzene	(3)	5.360	174	149819	50.537
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	638282	48.341
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	663131	50.077
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	189649	50.000
30) Naphthalene	(4)	6.793	128	709258	48.033

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 10:46.
Target 3.5 esignature user ID: dhh02035

Data File: /chem2/HP10534.i/15oct16a.b/dc16t01.d

Date : 16-OCT-2015 16:53

Client ID: BFBAUG28-15

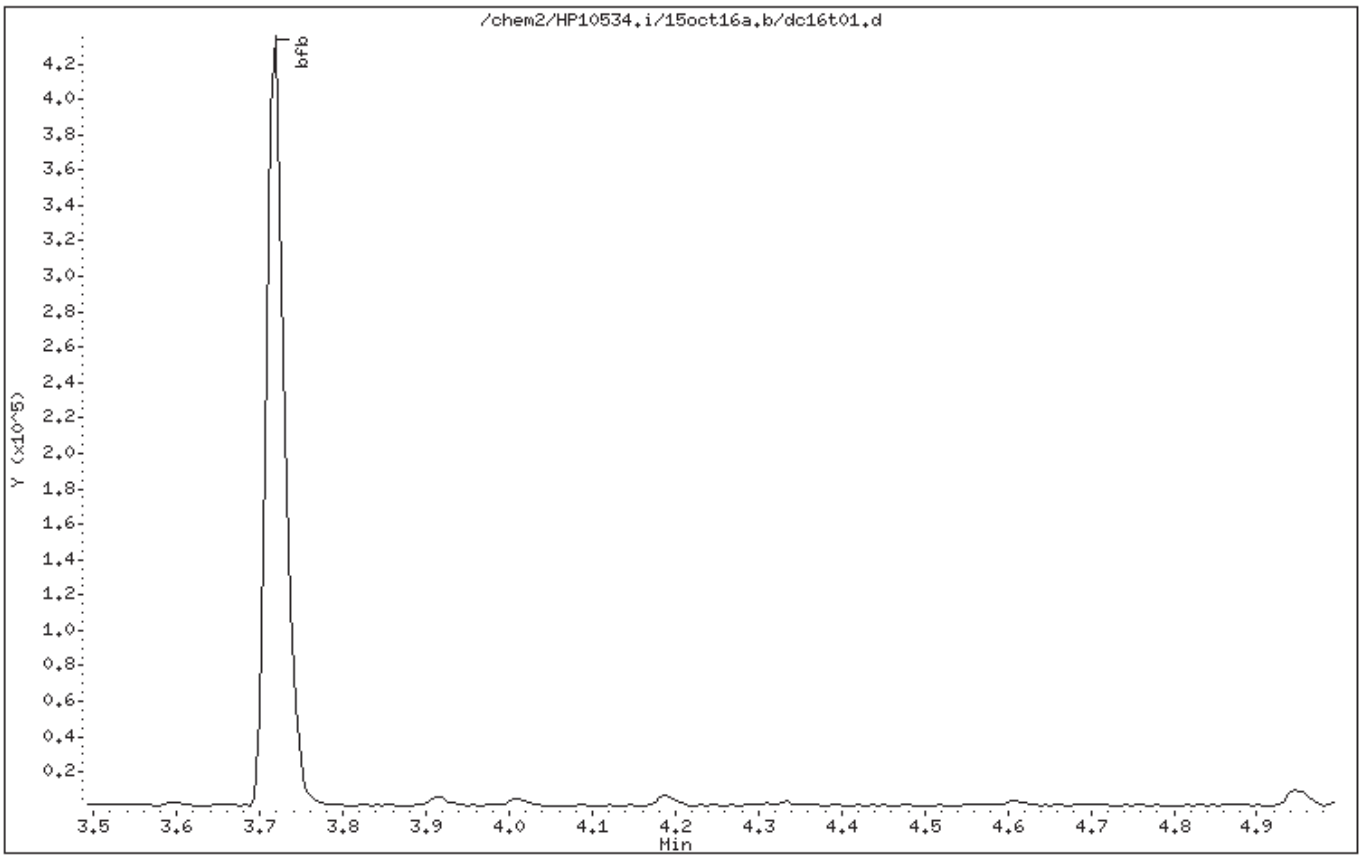
Instrument: HP10534.i

Sample Info: BFBAUG28-15;50NGBFB;1;3;;;

Operator: HY07820

Column phase: DB-VRX

Column diameter: 0.18



Digitally signed by Hu Yang on 10/16/2015 at 17:49.
Target 3.5 esignature user ID: hy07820

Data File: /chem2/HP10534.i/15oct16a.b/dc16t01.d

Date : 16-OCT-2015 16:53

Client ID: BFBAUG28-15

Instrument: HP10534.i

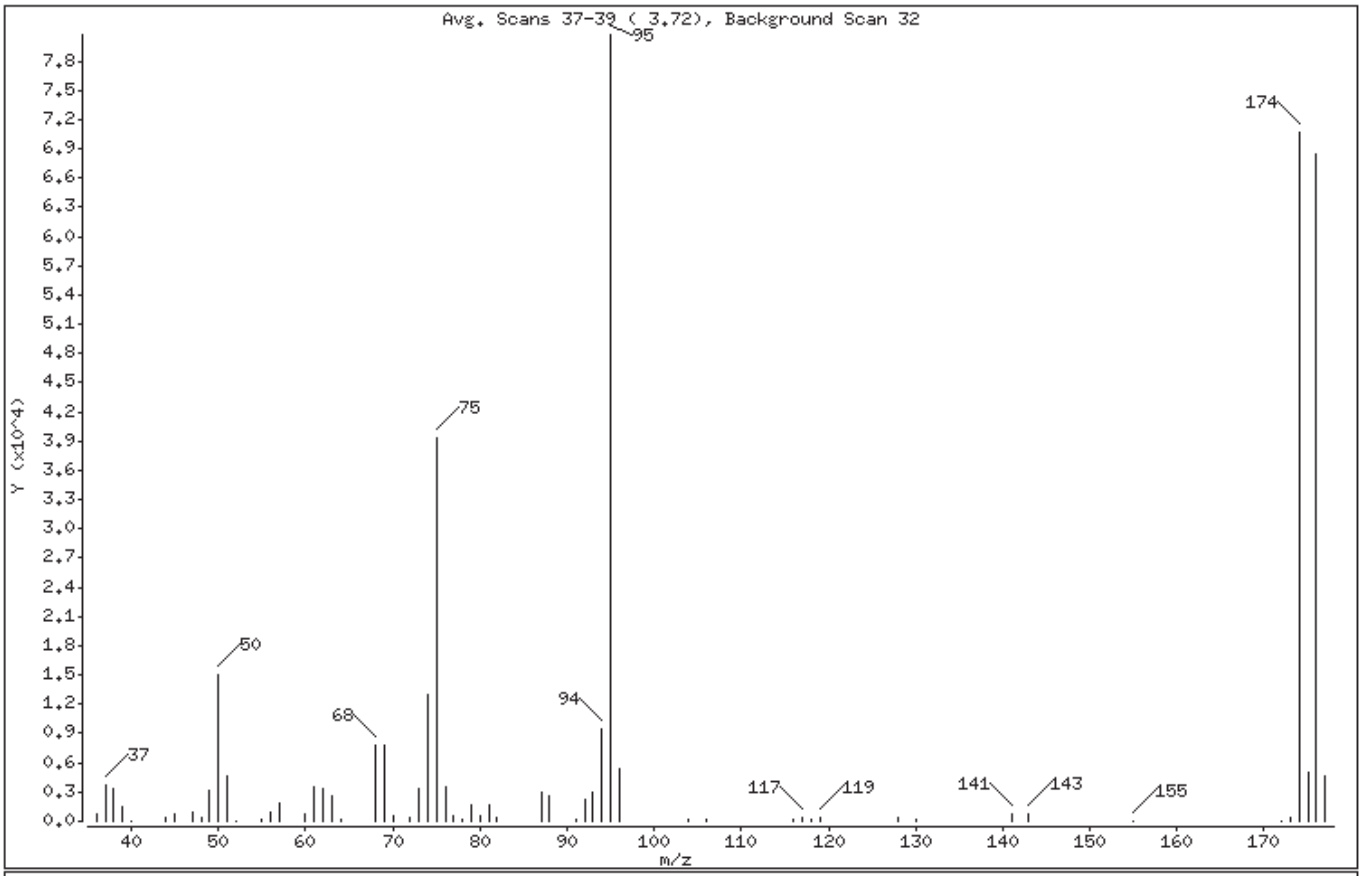
Sample Info: BFBAUG28-15;50NGBFB;1;3;;;

Operator: HY07820

Column phase: DB-VRX

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.55
75	30.00 - 60.00% of mass 95	48.77
96	5.00 - 9.00% of mass 95	6.77
173	Less than 2.00% of mass 174	0.49 (0.56)
174	50.00 - 100.00% of mass 95	87.51
175	5.00 - 9.00% of mass 174	6.29 (7.19)
176	95.00 - 101.00% of mass 174	84.73 (96.82)
177	5.00 - 9.00% of mass 176	5.73 (6.76)

Digitally signed by Hu Yang on 10/16/2015 at 17:49.
Target 3.5 esignature user ID: hy07820

Date : 16-OCT-2015 16:53

Client ID: BFBAUG28-15 Instrument: HP10534.i

Sample Info: BFBAUG28-15;50NGBFB;1;3;;;

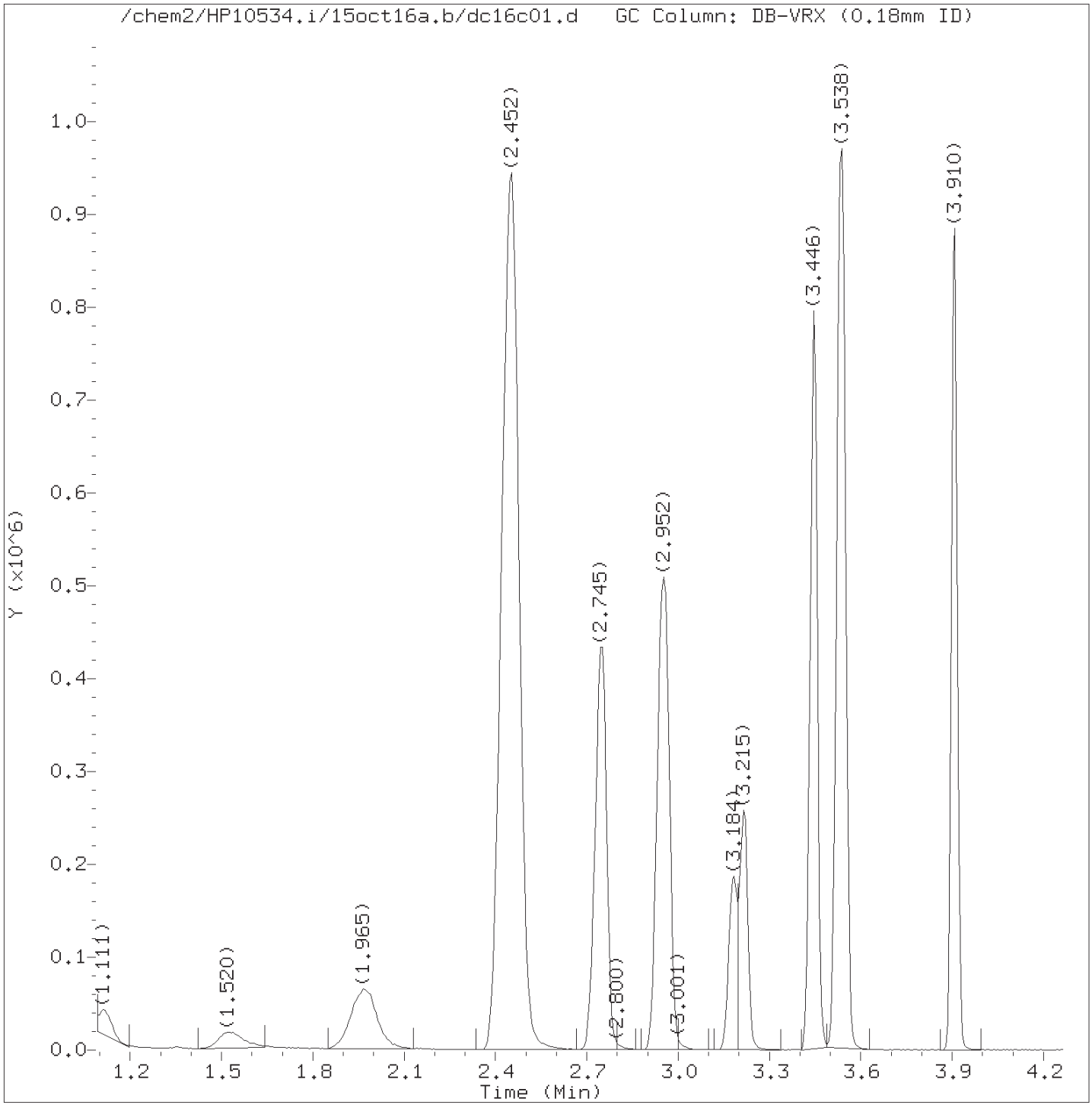
Operator: HY07820

Column phase: DB-VRX Column diameter: 0.18

Data File: dc16t01.d
Spectrum: Avg. Scans 37-39 (3.72), Background Scan 32
Location of Maximum: 95.00
Number of points: 60

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	767	60.00	715	80.00	473	119.00	351
37.00	3697	61.00	3571	81.00	1749	128.00	286
38.00	3403	62.00	3385	82.00	334	130.00	190
39.00	1397	63.00	2591	87.00	2986	141.00	740
40.00	36	64.00	214	88.00	2672	143.00	777
44.00	281	68.00	7841	91.00	108	155.00	86
45.00	713	69.00	7700	92.00	2165	172.00	84
47.00	924	70.00	605	93.00	3006	173.00	395
48.00	431	72.00	432	94.00	9489	174.00	70624
49.00	3240	73.00	3356	95.00	80696	175.00	5080
50.00	14971	74.00	12914	96.00	5466	176.00	68376
51.00	4714	75.00	39360	104.00	231	177.00	4624
52.00	88	76.00	3526	106.00	216		
55.00	182	77.00	506	116.00	101		
56.00	1000	78.00	273	117.00	438		
57.00	1907	79.00	1703	118.00	196		

Digitally signed by Hu Yang on 10/16/2015 at 17:49.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

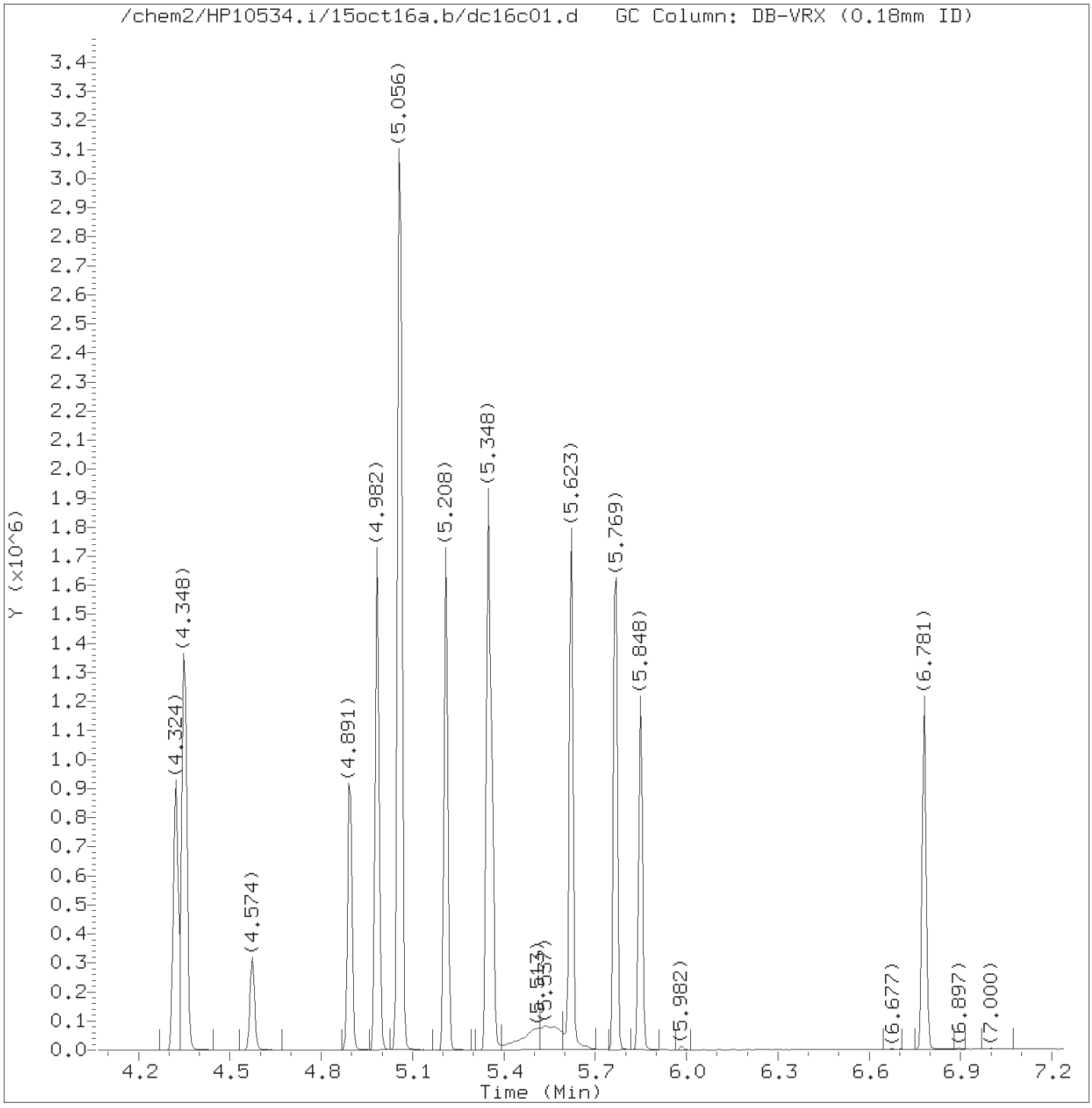
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16c01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 17:38 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 17:48 Unknown

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Hu Yang
on 10/16/2015 at 18:07.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16c01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 17:38 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 17:48 Unknown

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Hu Yang
on 10/16/2015 at 18:07.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16c01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 17:38 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: 10945A-3G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 17:48 Unknown

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.520	45	67130	1281.201
2)*t-Butyl alcohol-d10	(1)	1.940	65	82598	250.000
3) t-Butyl alcohol	(1)	1.989	59	119161	240.041
4) Methyl Tertiary Butyl Ether	(2)	2.452	73	1781753	212.759
5) di-Isopropyl ether	(2)	2.751	45	470382	46.848
6) Ethyl t-butyl ether	(2)	2.946	59	449533	48.737
7)$Dibromofluoromethane	(2)	2.965	113	100600	52.198
7)$Dibromofluoromethane	(2)	2.965	111	101659	51.780
10)$1,2-Dichloroethane-d4	(2)	3.178	102	26514	51.650
10)$1,2-Dichloroethane-d4	(2)	3.178	65	142765	56.074
10)$1,2-Dichloroethane-d4	(2)	3.178	104	15846	49.079
11) 1,2-Dichloroethane	(2)	3.215	62	218199	55.985
12) Benzene	(2)	3.446	78	620176	50.734
13) t-Amyl methyl ether	(2)	3.532	87	103684	48.105
14)*Fluorobenzene	(2)	3.544	96	413386	50.000
15) t-Amyl ethyl ether	(2)	3.910	87	204365	43.762
16)$Toluene-d8	(3)	4.324	98	415074	47.397
16)$Toluene-d8	(3)	4.324	100	267428	46.895
17) Toluene	(3)	4.348	92	392466	47.521
19) 1,2-Dibromoethane	(3)	4.574	107	136667	47.844
20)*Chlorobenzene-d5	(3)	4.897	117	325602	50.000
21) Ethylbenzene	(3)	4.982	91	704855	45.598
22) m+p-Xylene	(3)	5.056	106	559475	93.590
23) o-Xylene	(3)	5.208	106	265533	45.774
24) Xylene (Total)	(3)		106	825008	139.364
25) Isopropylbenzene	(3)	5.348	105	652263	43.605
26)$4-Bromofluorobenzene	(3)	5.360	95	166303	50.960
26)$4-Bromofluorobenzene	(3)	5.360	174	146673	52.050
27) 1,3,5-Trimethylbenzene	(4)	5.623	105	531318	42.910
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	543204	43.221
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	180931	50.000
30) Naphthalene	(4)	6.781	128	577530	41.570

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 18:07.
Target 3.5 esignature user ID: hy07820

Raw QC Data

Volatiles by GC/MS-GRO

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

VBLKD33

Data file: /chem2/HP10534.i/15oct15a.b/dc15b02.d Injection date and time: **15-OCT-2015 11:20**
Data file Sample Info. Line: VBLKD33;VBLKD33;1;3;;;;;; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 12:03 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **10943B**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.928	(0.012)	138	65	98100	(11)	250.00	
14) Fluorobenzene	3.543	(0.000)	403	96	471905	(6)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	367708	(8)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	203062	(7)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.958	(0.000)	113	116051	52.797	106%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	29957	51.450	103%		77 - 113
16) Toluene-d8	(3)	4.318	(0.001)	98	477983	48.207	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	180428	48.876	98%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
1) Ethanol	(1)				Not Detected					50	250
3) t-Butyl alcohol	(1)				Not Detected					2	5
4) Methyl Tertiary Butyl Ether	(2)				Not Detected					0.5	1
5) di-Isopropyl ether	(2)				Not Detected					0.5	1
6) Ethyl t-butyl ether	(2)				Not Detected					0.5	1
11) 1,2-Dichloroethane	(2)				Not Detected					0.5	1
12) Benzene	(2)				Not Detected					0.5	1
13) t-Amyl methyl ether	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
19) 1,2-Dibromoethane	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
25) Isopropylbenzene	(3)				Not Detected					0.5	2
27) 1,3,5-Trimethylbenzene	(4)				Not Detected					0.5	2
28) 1,2,4-Trimethylbenzene	(4)				Not Detected					0.5	2
30) Naphthalene	(4)				Not Detected					1	4

Digitally signed by Daniel H. Heller on 10/15/2015 at 12:03. Target 3.5 esignature user ID: dhh02035

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

VBLKD33

Data file: /chem2/HP10534.i/15oct15a.b/dc15b02.d Injection date and time: **15-OCT-2015 11:20**
Data file Sample Info. Line: VBLKD33;VBLKD33;1;3;;;;;; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 12:03 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **10943B**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

THIS SPACE

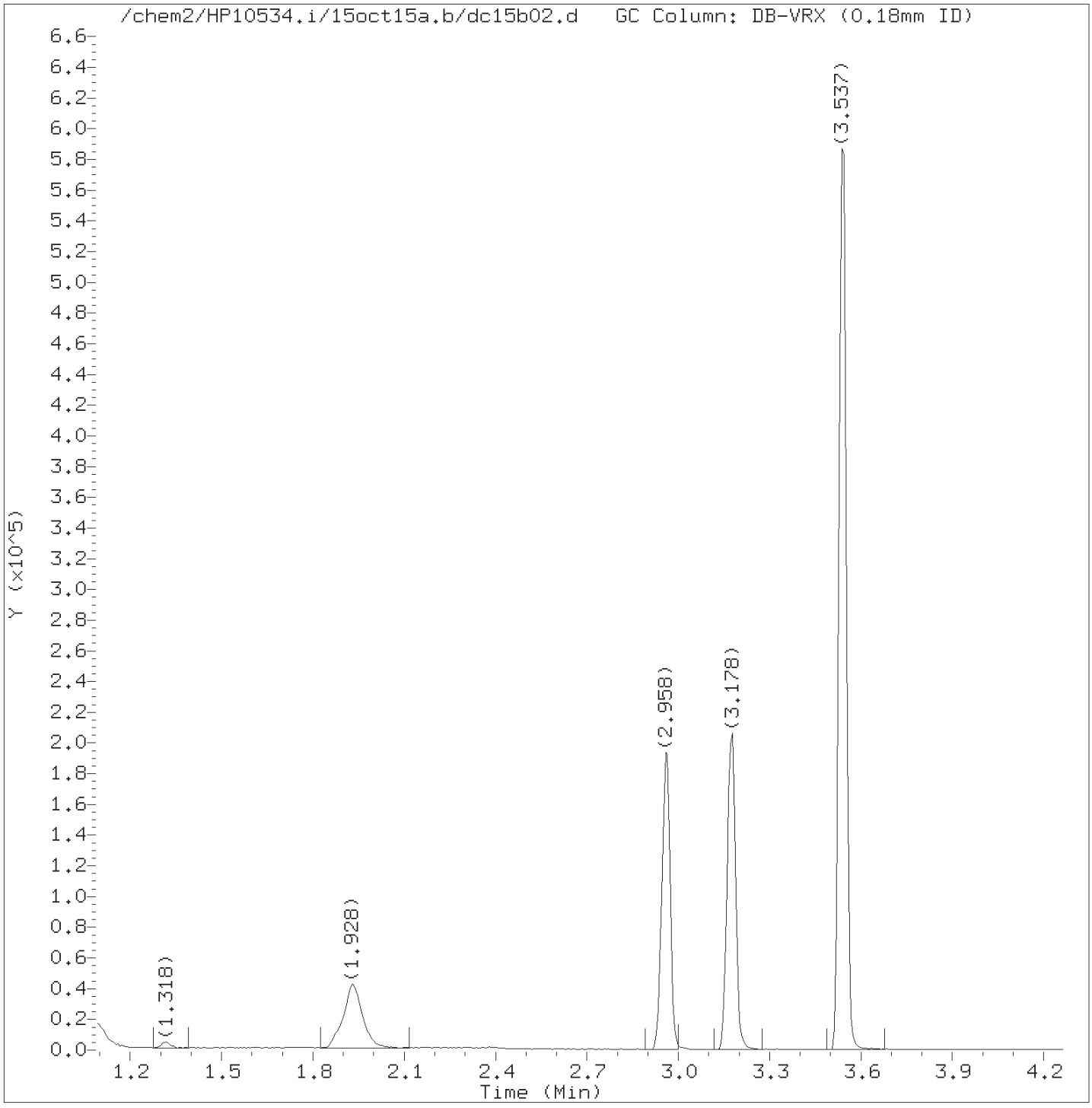
WAS LEFT

BLANK INTENTIONALLY

Total number of targets = 18

Digitally signed by Daniel H. Heller on 10/15/2015 at 12:03. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:22. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

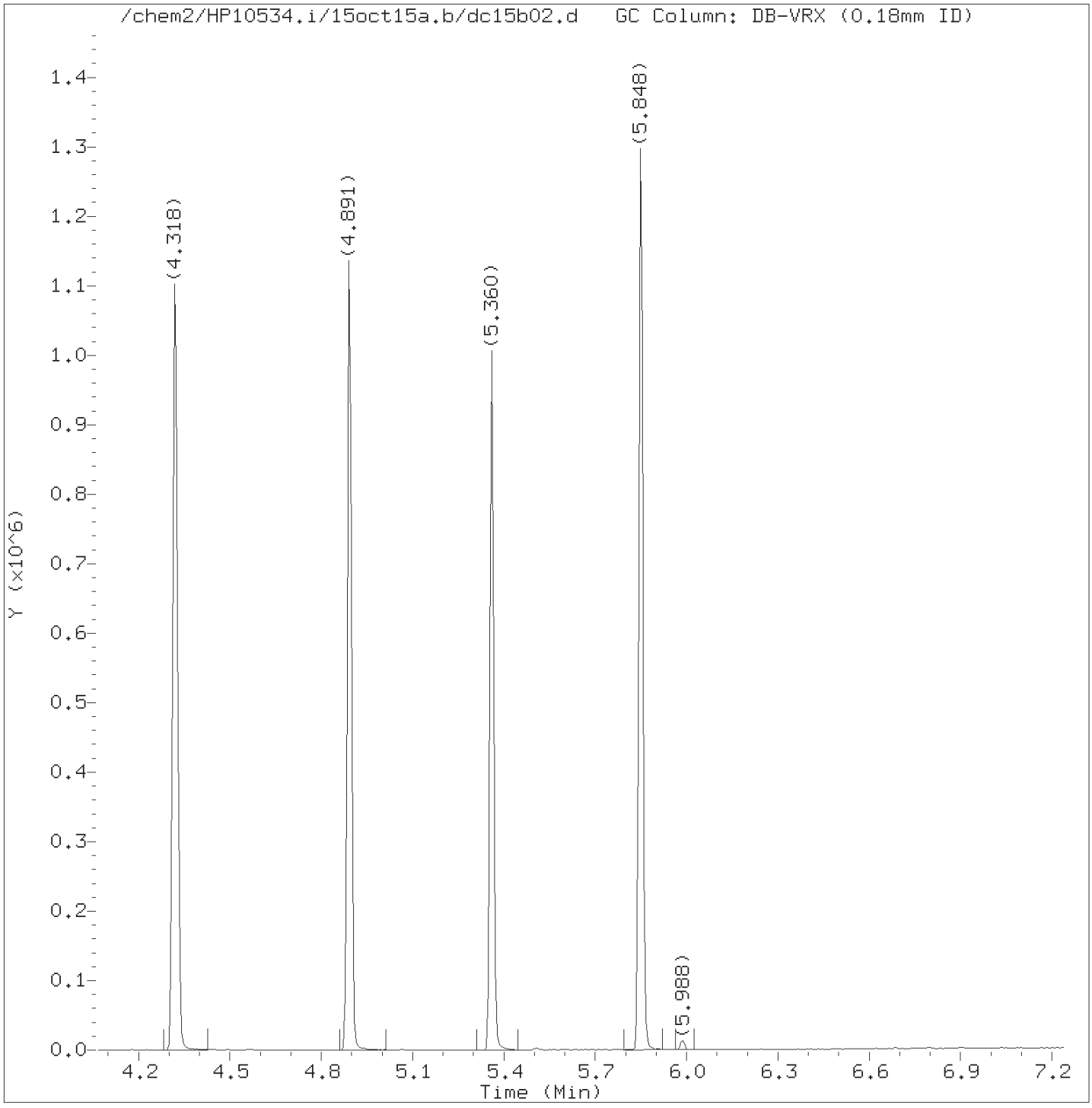
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15b02.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 11:20 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 12:03 dhh02035

Sample Name: VBLKD33 Lab Sample ID: VBLKD33

Digitally signed by Daniel H. Heller
on 10/15/2015 at 12:03.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15b02.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 11:20 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 12:03 dhh02035

Sample Name: VBLKD33 Lab Sample ID: VBLKD33

Digitally signed by Daniel H. Heller
on 10/15/2015 at 12:03.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15b02.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 11:20 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 12:03 dhh02035

Sample Name: VBLKD33 Lab Sample ID: VBLKD33

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.928	65	98100	250.000
7)$Dibromofluoromethane	(2)	2.958	113	116051	52.797
10)$1,2-Dichloroethane-d4	(2)	3.178	102	29957	51.450
14)*Fluorobenzene	(2)	3.543	96	471905	50.000
16)$Toluene-d8	(3)	4.318	98	477983	48.207
20)*Chlorobenzene-d5	(3)	4.891	117	367708	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	180428	48.876
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	203062	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 12:03.
Target 3.5 esignature user ID: dhh02035

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

VBLKD34

Data file: /chem2/HP10534.i/15oct16a.b/dc16b01.d Injection date and time: **16-OCT-2015 18:24**
Data file Sample Info. Line: VBLKD34;VBLKD34;1;3;;;;;; Instrument ID: **HP10534.i** Batch: **D152891AA**
Date, time and analyst ID of latest file update: 16-Oct-2015 18:37 hy07820

Blank Data file reference: **/chem2/HP10534.i/15oct16a.b/dc16b01.d**

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: **M10945A-4G**
Calibration date and time (Last Method Edit): 16-OCT-2015 17:48
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct16a.b/dc16c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.952	(-0.012)	142	65	87607	(6)	250.00	
14) Fluorobenzene	3.550	(-0.006)	404	96	430460	(4)	50.00	
20) Chlorobenzene-d5	4.897	(0.000)	625	117	349093	(7)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.000)	781	152	185929	(3)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.970	(0.000)	113	106569	53.102	106%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184	(0.000)	102	27317	51.102	102%		77 - 113
16) Toluene-d8	(3)	4.324	(0.000)	98	442347	47.112	94%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	165981	47.439	95%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
1) Ethanol	(1)				Not Detected					50	250
3) t-Butyl alcohol	(1)				Not Detected					2	5
4) Methyl Tertiary Butyl Ether	(2)				Not Detected					0.5	1
5) di-Isopropyl ether	(2)				Not Detected					0.5	1
6) Ethyl t-butyl ether	(2)				Not Detected					0.5	1
11) 1,2-Dichloroethane	(2)				Not Detected					0.5	1
12) Benzene	(2)				Not Detected					0.5	1
13) t-Amyl methyl ether	(2)				Not Detected					0.5	1
17) Toluene	(3)				Not Detected					0.5	1
19) 1,2-Dibromoethane	(3)				Not Detected					0.5	1
21) Ethylbenzene	(3)				Not Detected					0.5	1
22) m+p-Xylene	(3)				Not Detected					0.5	1
23) o-Xylene	(3)				Not Detected					0.5	1
24) Xylene (Total)	(3)				Not Detected					0.5	1
25) Isopropylbenzene	(3)				Not Detected					0.5	2
27) 1,3,5-Trimethylbenzene	(4)				Not Detected					0.5	2
28) 1,2,4-Trimethylbenzene	(4)				Not Detected					0.5	2
30) Naphthalene	(4)				Not Detected					1	4

Digitally signed by Hu Yang on 10/16/2015 at 18:38. Target 3.5 esignature user ID: hy07820

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct16a.b/dc16b01.d Injection date and time: **16-OCT-2015 18:24**
Data file Sample Info. Line: VBLKD34;VBLKD34;1;3;;;;;; Instrument ID: **HP10534.i** Batch: **D152891AA**
Date, time and analyst ID of latest file update: 16-Oct-2015 18:37 hy07820

Blank Data file reference: **/chem2/HP10534.i/15oct16a.b/dc16b01.d**

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: **M10945A-4G**
Calibration date and time (Last Method Edit): 16-OCT-2015 17:48
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct16a.b/dc16c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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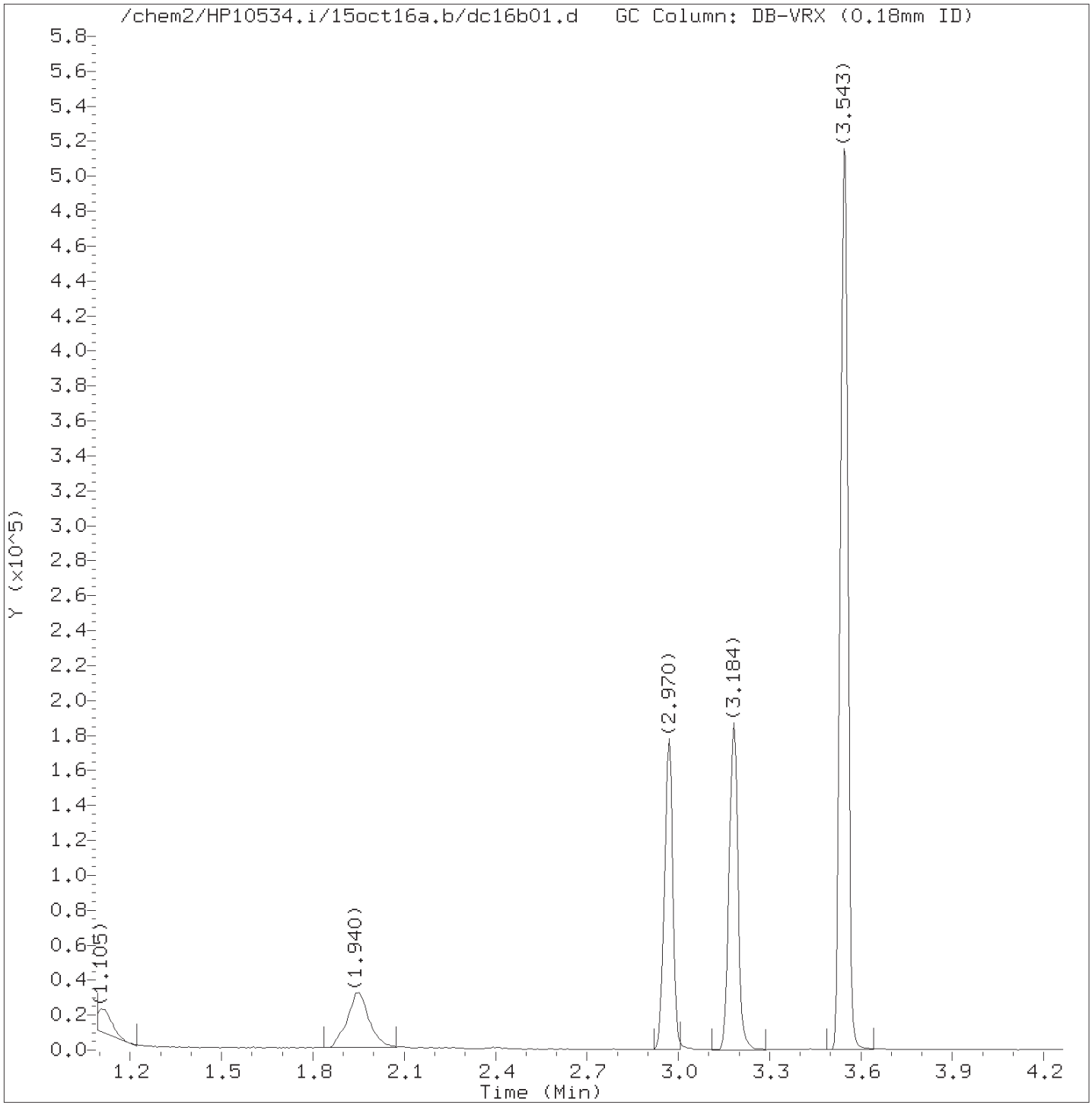
Total number of targets = 18

Digitally signed by Hu Yang on 10/16/2015 at 18:38. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/19/2015 at 15:05. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

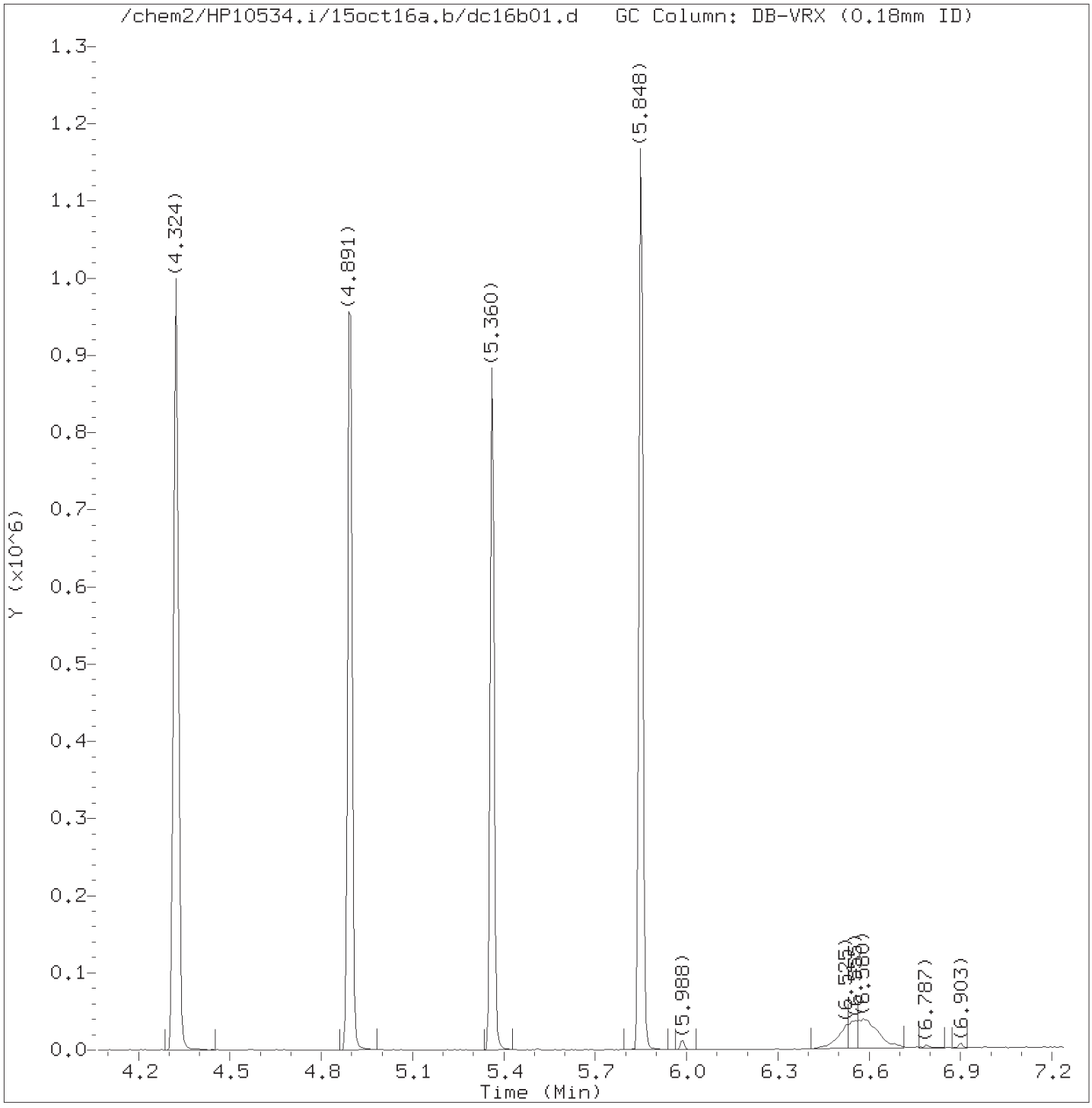
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16b01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 18:24 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: M10945A-4G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 18:37 hy07820

Sample Name: VBLKD34 Lab Sample ID: VBLKD34

Digitally signed by Hu Yang
on 10/16/2015 at 18:38.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16b01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 18:24 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: M10945A-4G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 18:37 hy07820

Sample Name: VBLKD34 Lab Sample ID: VBLKD34

Digitally signed by Hu Yang
on 10/16/2015 at 18:38.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16b01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 18:24 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: M10945A-4G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 18:37 hy07820

Sample Name: VBLKD34 Lab Sample ID: VBLKD34

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.952	65	87607	250.000
7)$Dibromofluoromethane	(2)	2.970	113	106569	53.102
10)$1,2-Dichloroethane-d4	(2)	3.184	102	27317	51.102
14)*Fluorobenzene	(2)	3.550	96	430460	50.000
16)$Toluene-d8	(3)	4.324	98	442347	47.112
20)*Chlorobenzene-d5	(3)	4.897	117	349093	50.000
26)$4-Bromofluorobenzene	(3)	5.360	95	165981	47.439
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	185929	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 18:38.
Target 3.5 esignature user ID: hy07820

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s10.d Injection date and time: **15-OCT-2015 13:04**
Data file Sample Info. Line: P2901MS;8082121MS;1;3;MS;PSC29;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 20-Oct-2015 15:01 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **10943B**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.922	(0.018)	137	65	99299	(12)	250.00	
14) Fluorobenzene	3.538	(0.006)	402	96	482415	(9)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	370495	(9)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	207437	(9)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.958	(-0.001)	113	116012	51.630	103%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.172	(0.000)	102	30386	51.050	102%		77 - 113
16) Toluene-d8	(3)	4.318	(0.001)	98	481167	48.163	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	190327	51.170	102%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Ethanol	(1)	1.507	(-0.001)	45	29511	375.188	375.19			50	250
3) t-Butyl alcohol	(1)	1.965	(-0.003)	59	99010	167.094	167.09			2	5
4) Methyl Tertiary Butyl Ether	(2)	2.434	(0.000)	73	152389	17.876	17.88			0.5	1
5) di-Isopropyl ether	(2)	2.739	(0.000)	45	194953	16.476	16.48			0.5	1
6) Ethyl t-butyl ether	(2)	2.934	(0.000)	59	164717	17.024	17.02			0.5	1
11) 1,2-Dichloroethane	(2)	3.208	(0.000)	62	87413	19.086	19.09			0.5	1
12) Benzene	(2)	3.440	(0.000)	78	280466	19.236	19.24			0.5	1
13) t-Amyl methyl ether	(2)	3.525	(-0.001)	87	38289	17.194	17.19			0.5	1
17) Toluene	(3)	4.348	(-0.000)	92	166736	17.552	17.55			0.5	1
19) 1,2-Dibromoethane	(3)	4.574	(-0.000)	107	55273	16.832	16.83			0.5	1
21) Ethylbenzene	(3)	4.982	(0.000)	91	306783	17.246	17.25			0.5	1
22) m+p-Xylene	(3)	5.056	(0.000)	106	245598	36.079	36.08			0.5	1
23) o-Xylene	(3)	5.208	(0.000)	106	115390	17.219	17.22			0.5	1
24) Xylene (Total)	(3)			106	360988	53.298	53.30			0.5	1
25) Isopropylbenzene	(3)	5.348	(0.000)	105	302019	17.359	17.36			0.5	2
27) 1,3,5-Trimethylbenzene	(4)	5.622	(0.000)	105	227831	15.775	15.78			0.5	2
28) 1,2,4-Trimethylbenzene	(4)	5.769	(-0.000)	105	231499	15.983	15.98			0.5	2
30) Naphthalene	(4)	6.799	(-0.001)	128	211218	13.078	13.08			1	4

Digitally signed by Daniel H. Heller on 10/20/2015 at 15:02. Target 3.5 esignature user ID: dhh02035

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct15a.b/dc15s10.d Injection date and time: **15-OCT-2015 13:04**
Data file Sample Info. Line: P2901MS;8082121MS;1;3;MS;PSC29;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 20-Oct-2015 15:01 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **10943B**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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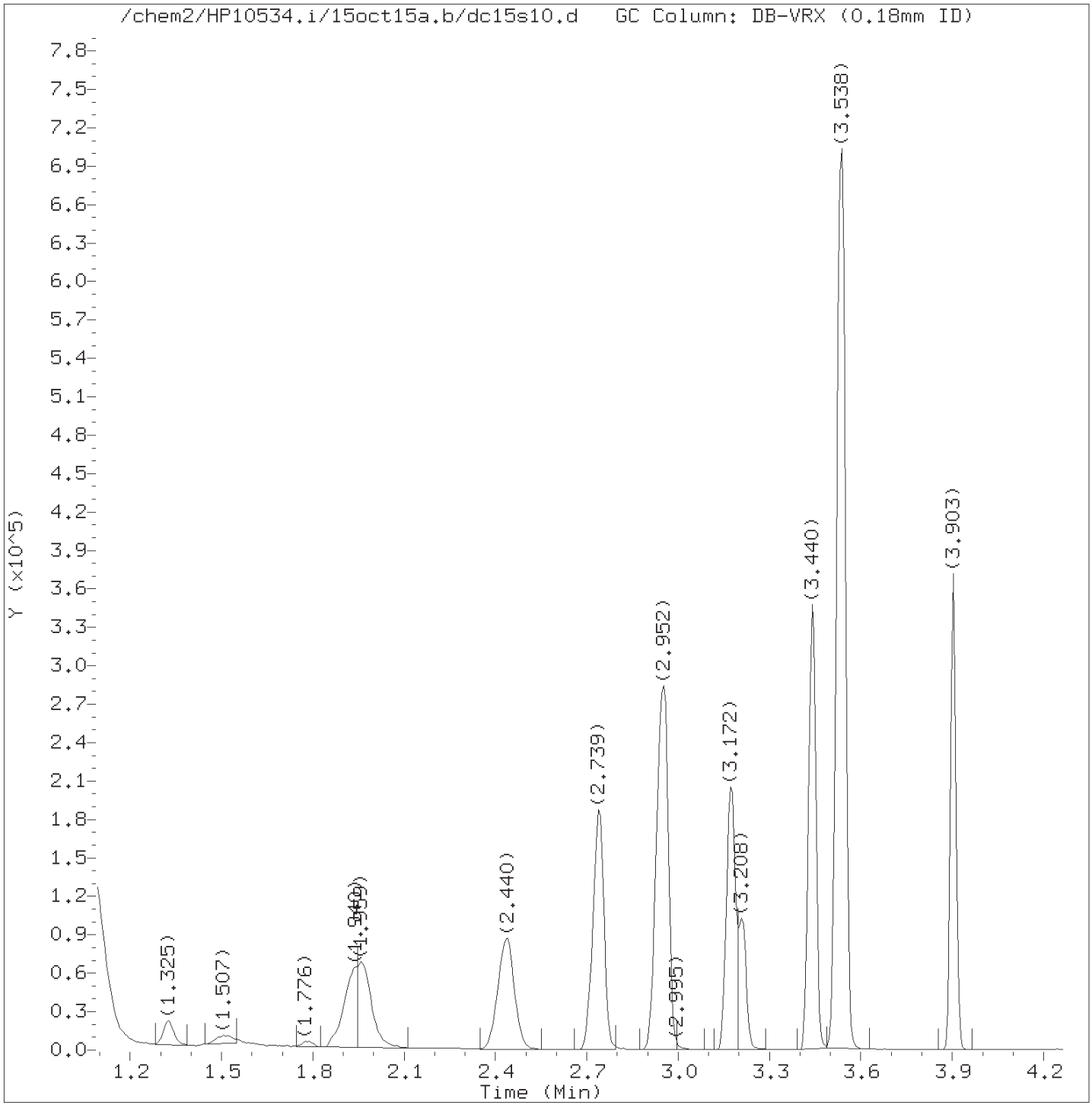
Total number of targets = 18

Digitally signed by Daniel H. Heller on 10/20/2015 at 15:02. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/20/2015 at 16:11. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

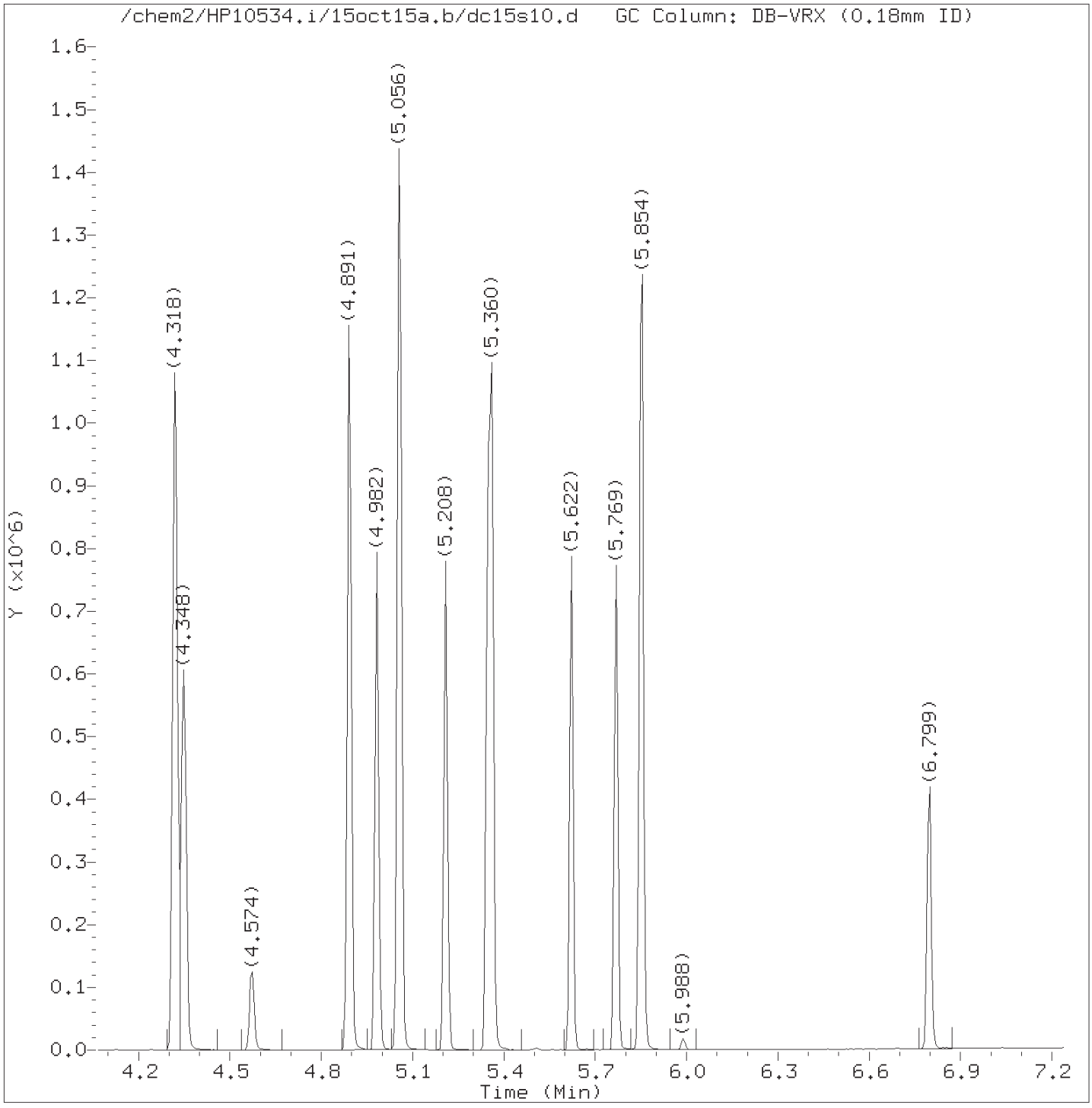
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s10.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:04 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 20-Oct-2015 15:01 dhh02035

Sample Name: P2901MS Lab Sample ID: 8082121MS

Digitally signed by Daniel H. Heller
on 10/20/2015 at 15:02.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s10.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:04 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 20-Oct-2015 15:01 dhh02035

Sample Name: P2901MS Lab Sample ID: 8082121MS

Digitally signed by Daniel H. Heller
on 10/20/2015 at 15:02.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s10.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:04 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 20-Oct-2015 15:01 dhh02035

Sample Name: P2901MS Lab Sample ID: 8082121MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.507	45	29511	375.188
2)*t-Butyl alcohol-d10	(1)	1.922	65	99299	250.000
3) t-Butyl alcohol	(1)	1.965	59	99010	167.094
4) Methyl Tertiary Butyl Ether	(2)	2.434	73	152389	17.876
5) di-Isopropyl ether	(2)	2.739	45	194953	16.476
6) Ethyl t-butyl ether	(2)	2.934	59	164717	17.024
7)$Dibromofluoromethane	(2)	2.958	113	116012	51.630
10)$1,2-Dichloroethane-d4	(2)	3.172	102	30386	51.050
11) 1,2-Dichloroethane	(2)	3.208	62	87413	19.086
12) Benzene	(2)	3.440	78	280466	19.236
13) t-Amyl methyl ether	(2)	3.525	87	38289	17.194
14)*Fluorobenzene	(2)	3.538	96	482415	50.000
16)$Toluene-d8	(3)	4.318	98	481167	48.163
17) Toluene	(3)	4.348	92	166736	17.552
19) 1,2-Dibromoethane	(3)	4.574	107	55273	16.832
20)*Chlorobenzene-d5	(3)	4.891	117	370495	50.000
21) Ethylbenzene	(3)	4.982	91	306783	17.246
22) m+p-Xylene	(3)	5.056	106	245598	36.079
23) o-Xylene	(3)	5.208	106	115390	17.219
24) Xylene (Total)	(3)		106	360988	53.298
25) Isopropylbenzene	(3)	5.348	105	302019	17.359
26)$4-Bromofluorobenzene	(3)	5.360	95	190327	51.170
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	227831	15.775
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	231499	15.983
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	207437	50.000
30) Naphthalene	(4)	6.799	128	211218	13.078

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/20/2015 at 15:02.
Target 3.5 esignature user ID: dhh02035

P2901MS

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8082121MS

Data file: /chem2/HP10534.i/15oct15a.b/dc15s10.d Injection date and time: **15-OCT-2015 13:04**
Data file Sample Info. Line: P2901MS;8082121MS;1;3;MS;PSC29;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 13:14 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.922	(0.018)	137	65	99299	(12)	250.00	
14) Fluorobenzene	3.538	(0.006)	402	96	482415	(9)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	370495	(9)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	207437	(9)	50.00	

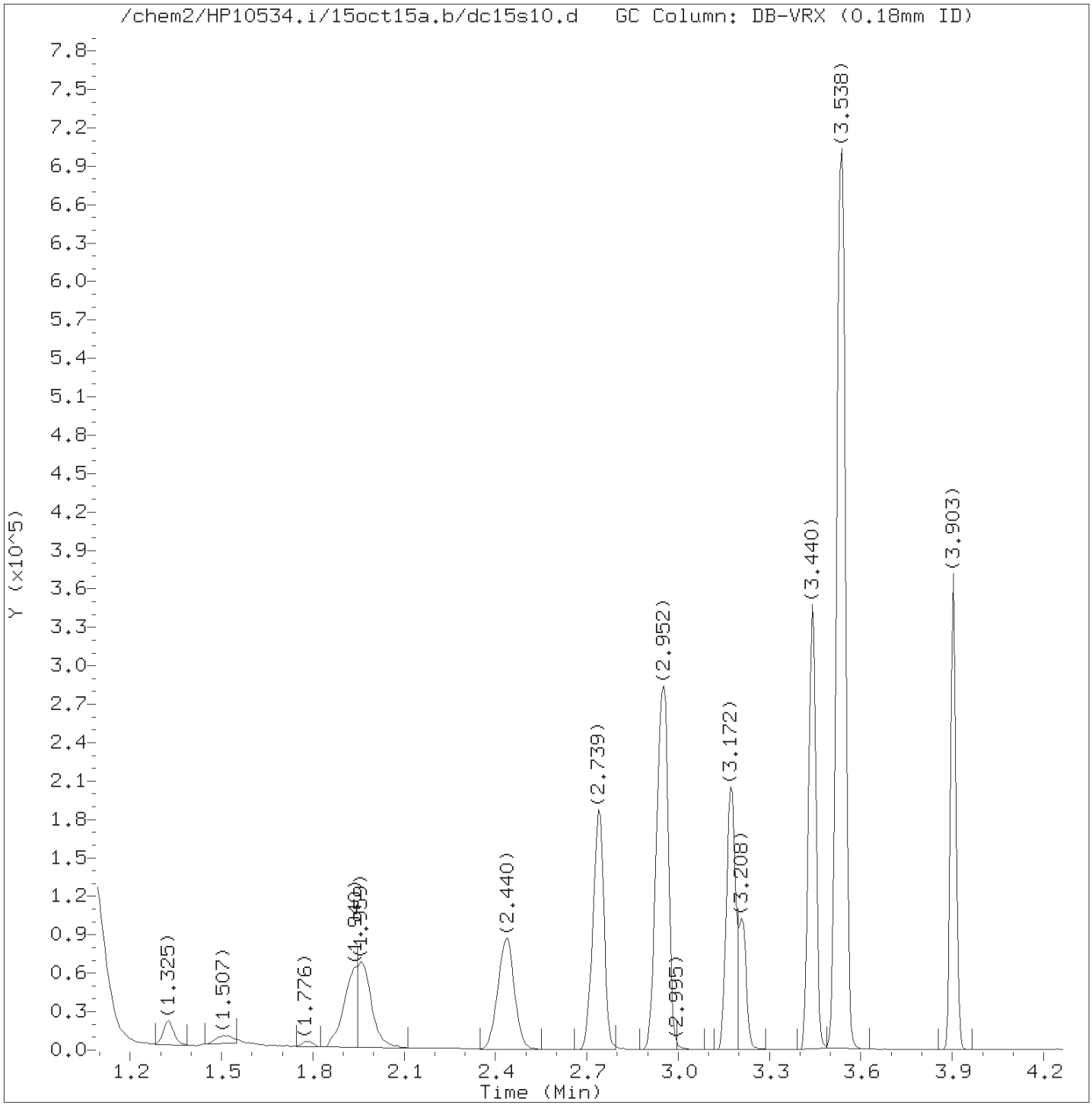
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.958	(-0.001)	113	116012	51.630	103%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.172	(0.000)	102	30386	51.050	102%		77 - 113
16) Toluene-d8	(3)	4.318	(0.001)	98	481167	48.163	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	190327	51.170	102%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)	3.440	(0.000)	78	280466	19.236	19.24			0.5	1
17) Toluene	(3)	4.348	(-0.000)	92	166736	17.552	17.55			0.5	1
21) Ethylbenzene	(3)	4.982	(0.000)	91	306783	17.246	17.25			0.5	1
22) m+p-Xylene	(3)	5.056	(0.000)	106	245598	36.079	36.08			0.5	1
23) o-Xylene	(3)	5.208	(0.000)	106	115390	17.219	17.22			0.5	1
24) Xylene (Total)	(3)			106	360988	53.298	53.30			0.5	1
30) Naphthalene	(4)	6.799	(-0.001)	128	211218	13.078	13.08			1	4

Total number of targets = 7

Digitally signed by Daniel H. Heller on 10/15/2015 at 14:25. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/20/2015 at 16:11. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

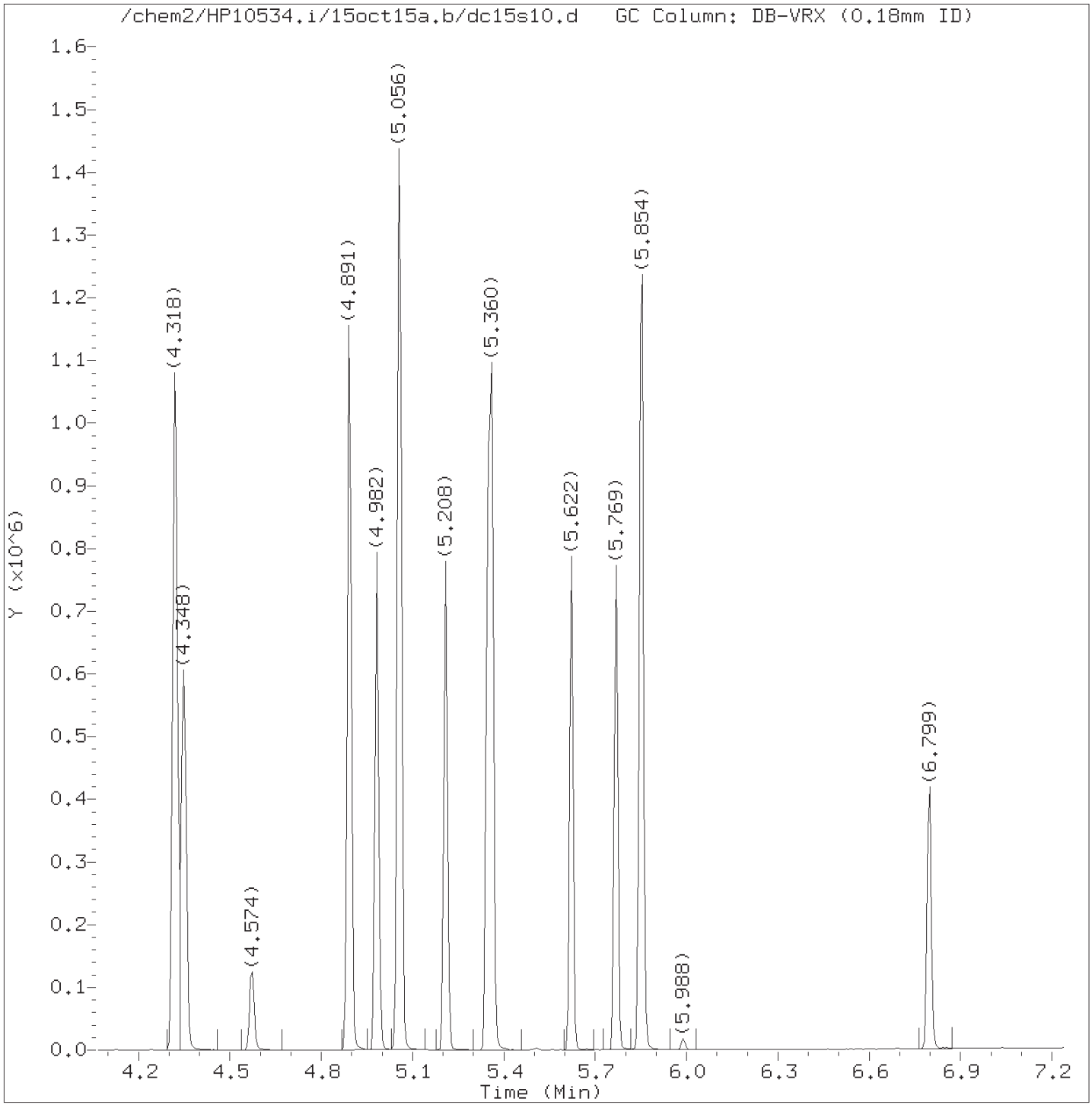
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s10.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:04 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 13:14 Unknown

Sample Name: P2901MS Lab Sample ID: 8082121MS

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:25.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s10.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:04 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 13:14 Unknown

Sample Name: P2901MS Lab Sample ID: 8082121MS

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:25.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s10.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:04 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 13:14 Unknown

Sample Name: P2901MS Lab Sample ID: 8082121MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.922	65	99299	250.000
7)$Dibromofluoromethane	(2)	2.958	113	116012	51.630
10)$1,2-Dichloroethane-d4	(2)	3.172	102	30386	51.050
12) Benzene	(2)	3.440	78	280466	19.236
14)*Fluorobenzene	(2)	3.538	96	482415	50.000
16)$Toluene-d8	(3)	4.318	98	481167	48.163
17) Toluene	(3)	4.348	92	166736	17.552
20)*Chlorobenzene-d5	(3)	4.891	117	370495	50.000
21) Ethylbenzene	(3)	4.982	91	306783	17.246
22) m+p-Xylene	(3)	5.056	106	245598	36.079
23) o-Xylene	(3)	5.208	106	115390	17.219
24) Xylene (Total)	(3)		106	360988	53.298
26)$4-Bromofluorobenzene	(3)	5.360	95	190327	51.170
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	207437	50.000
30) Naphthalene	(4)	6.799	128	211218	13.078

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:25.
Target 3.5 esignature user ID: dhh02035

P2901MSD

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8082122MSD

Data file: /chem2/HP10534.i/15oct15a.b/dc15s12.d Injection date and time: **15-OCT-2015 13:27**
Data file Sample Info. Line: P2901MSD;8082122MSD;1;3;MSD;PSC29;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 20-Oct-2015 15:01 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **10943B**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.934	(0.006)	139	65	90788	(3)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	453405	(2)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	350644	(3)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	198576	(5)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.964	(-0.002)	113	107912	51.098	102%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	29049	51.926	104%		77 - 113
16) Toluene-d8	(3)	4.318	(0.001)	98	453142	47.926	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	180353	51.233	102%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Ethanol	(1)	1.514	(0.000)	45	28468	395.847	395.85			50	250
3) t-Butyl alcohol	(1)	1.971	(-0.000)	59	93255	172.136	172.14			2	5
4) Methyl Tertiary Butyl Ether	(2)	2.446	(-0.001)	73	145368	18.143	18.14			0.5	1
5) di-Isopropyl ether	(2)	2.745	(0.000)	45	186935	16.809	16.81			0.5	1
6) Ethyl t-butyl ether	(2)	2.940	(0.000)	59	156479	17.207	17.21			0.5	1
11) 1,2-Dichloroethane	(2)	3.214	(0.000)	62	83014	19.285	19.29			0.5	1
12) Benzene	(2)	3.446	(0.000)	78	344049	25.106	25.11			0.5	1
13) t-Amyl methyl ether	(2)	3.525	(0.000)	87	36072	17.234	17.23			0.5	1
17) Toluene	(3)	4.348	(-0.000)	92	159669	17.759	17.76			0.5	1
19) 1,2-Dibromoethane	(3)	4.574	(-0.000)	107	53483	17.209	17.21			0.5	1
21) Ethylbenzene	(3)	4.982	(-0.000)	91	293899	17.457	17.46			0.5	1
22) m+p-Xylene	(3)	5.056	(-0.000)	106	236432	36.699	36.70			0.5	1
23) o-Xylene	(3)	5.208	(-0.000)	106	110476	17.419	17.42			0.5	1
24) Xylene (Total)	(3)			106	346908	54.117	54.12			0.5	1
25) Isopropylbenzene	(3)	5.348	(-0.000)	105	293222	17.808	17.81			0.5	2
27) 1,3,5-Trimethylbenzene	(4)	5.622	(0.000)	105	221259	16.004	16.00			0.5	2
28) 1,2,4-Trimethylbenzene	(4)	5.769	(0.000)	105	220260	15.886	15.89			0.5	2
30) Naphthalene	(4)	6.799	(-0.001)	128	212994	13.776	13.78			1	4

Digitally signed by Daniel H. Heller on 10/20/2015 at 15:02. Target 3.5 esignature user ID: dhh02035

Data file: /chem2/HP10534.i/15oct15a.b/dc15s12.d Injection date and time: **15-OCT-2015 13:27**
Data file Sample Info. Line: P2901MSD;8082122MSD;1;3;MSD;PSC29;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 20-Oct-2015 15:01 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **10943B**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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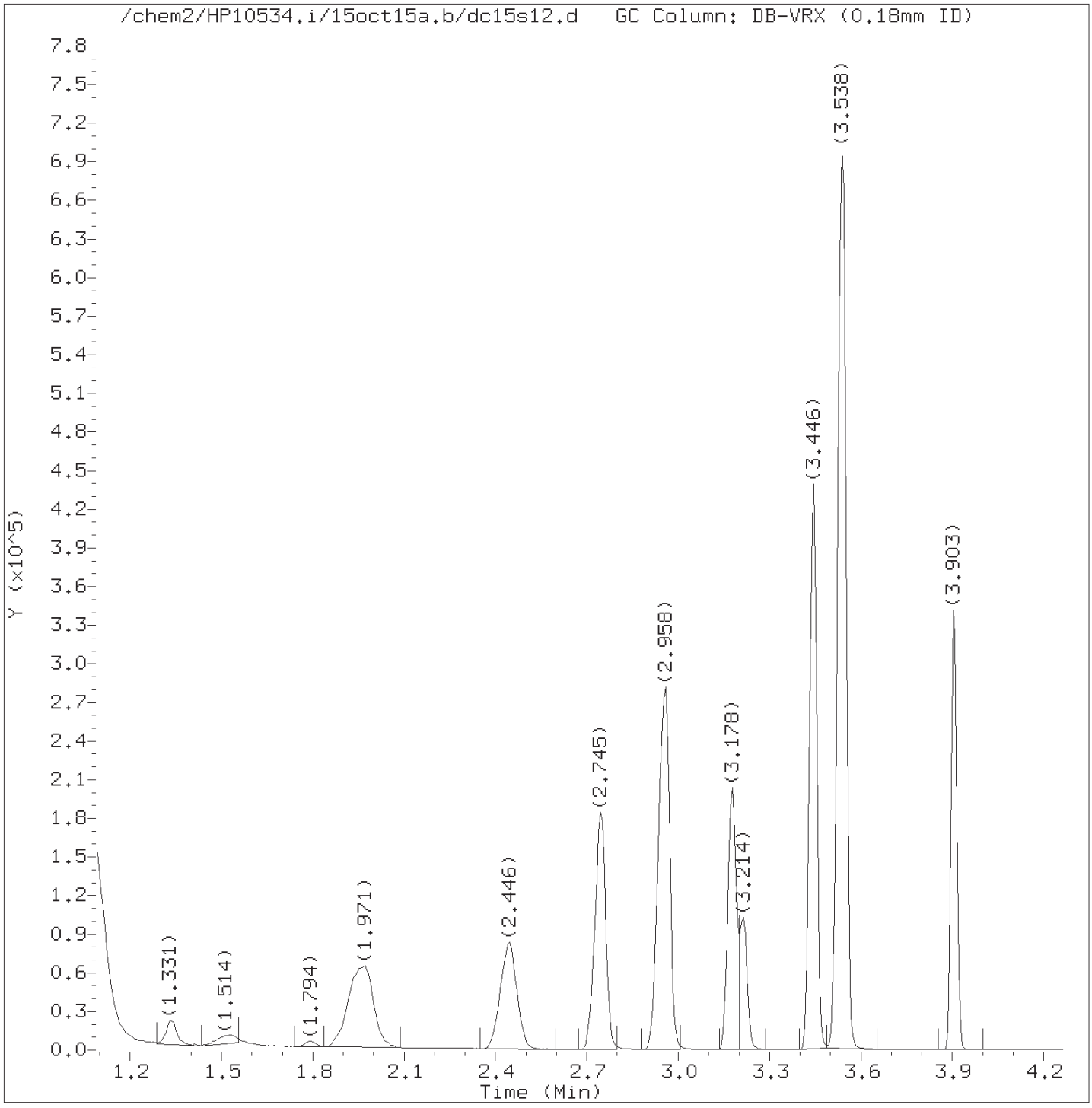
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 18

Digitally signed by Daniel H. Heller on 10/20/2015 at 15:02. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/20/2015 at 16:11. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

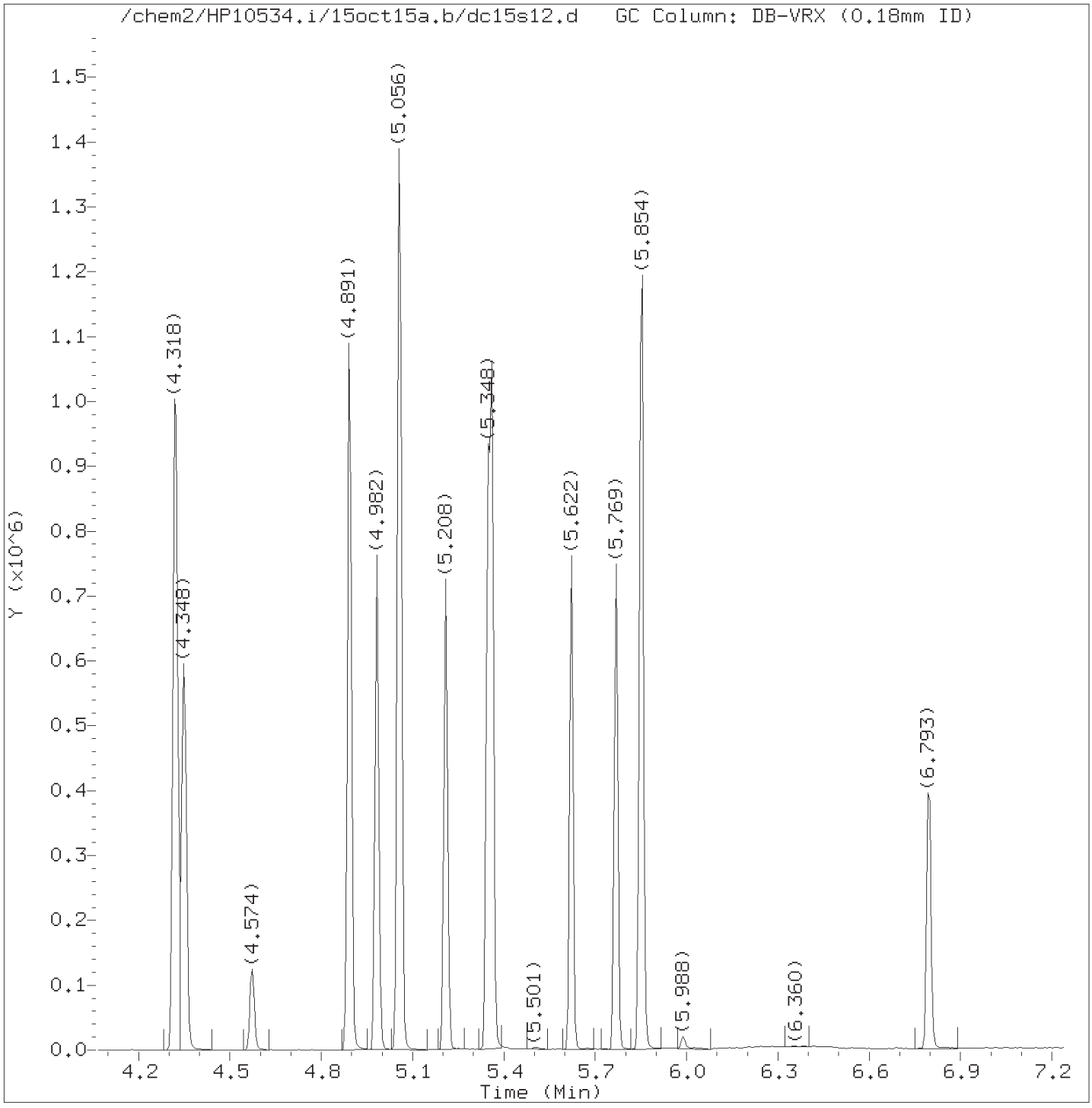
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s12.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:27 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 20-Oct-2015 15:01 dhh02035

Sample Name: P2901MSD Lab Sample ID: 8082122MSD

Digitally signed by Daniel H. Heller
on 10/20/2015 at 15:02.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s12.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:27 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 20-Oct-2015 15:01 dhh02035

Sample Name: P2901MSD Lab Sample ID: 8082122MSD

Digitally signed by Daniel H. Heller
on 10/20/2015 at 15:02.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s12.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:27 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 20-Oct-2015 15:01 dhh02035

Sample Name: P2901MSD Lab Sample ID: 8082122MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.514	45	28468	395.847
2)*t-Butyl alcohol-d10	(1)	1.934	65	90788	250.000
3) t-Butyl alcohol	(1)	1.971	59	93255	172.136
4) Methyl Tertiary Butyl Ether	(2)	2.446	73	145368	18.143
5) di-Isopropyl ether	(2)	2.745	45	186935	16.809
6) Ethyl t-butyl ether	(2)	2.940	59	156479	17.207
7)$Dibromofluoromethane	(2)	2.964	113	107912	51.098
10)$1,2-Dichloroethane-d4	(2)	3.178	102	29049	51.926
11) 1,2-Dichloroethane	(2)	3.214	62	83014	19.285
12) Benzene	(2)	3.446	78	344049	25.106
13) t-Amyl methyl ether	(2)	3.525	87	36072	17.234
14)*Fluorobenzene	(2)	3.544	96	453405	50.000
16)$Toluene-d8	(3)	4.318	98	453142	47.926
17) Toluene	(3)	4.348	92	159669	17.759
19) 1,2-Dibromoethane	(3)	4.574	107	53483	17.209
20)*Chlorobenzene-d5	(3)	4.891	117	350644	50.000
21) Ethylbenzene	(3)	4.982	91	293899	17.457
22) m+p-Xylene	(3)	5.056	106	236432	36.699
23) o-Xylene	(3)	5.208	106	110476	17.419
24) Xylene (Total)	(3)		106	346908	54.117
25) Isopropylbenzene	(3)	5.348	105	293222	17.808
26)$4-Bromofluorobenzene	(3)	5.360	95	180353	51.233
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	221259	16.004
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	220260	15.886
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	198576	50.000
30) Naphthalene	(4)	6.799	128	212994	13.776

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/20/2015 at 15:02.
Target 3.5 esignature user ID: dhh02035

P2901MSD

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8082122MSD

Data file: /chem2/HP10534.i/15oct15a.b/dc15s12.d Injection date and time: **15-OCT-2015 13:27**
Data file Sample Info. Line: P2901MSD;8082122MSD;1;3;MSD;PSC29;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 13:36 Unknown

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **9539**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.934	(0.006)	139	65	90788	(3)	250.00	
14) Fluorobenzene	3.544	(0.000)	403	96	453405	(2)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	350644	(3)	50.00	
29) 1,4-Dichlorobenzene-d4	5.854	(0.000)	782	152	198576	(5)	50.00	

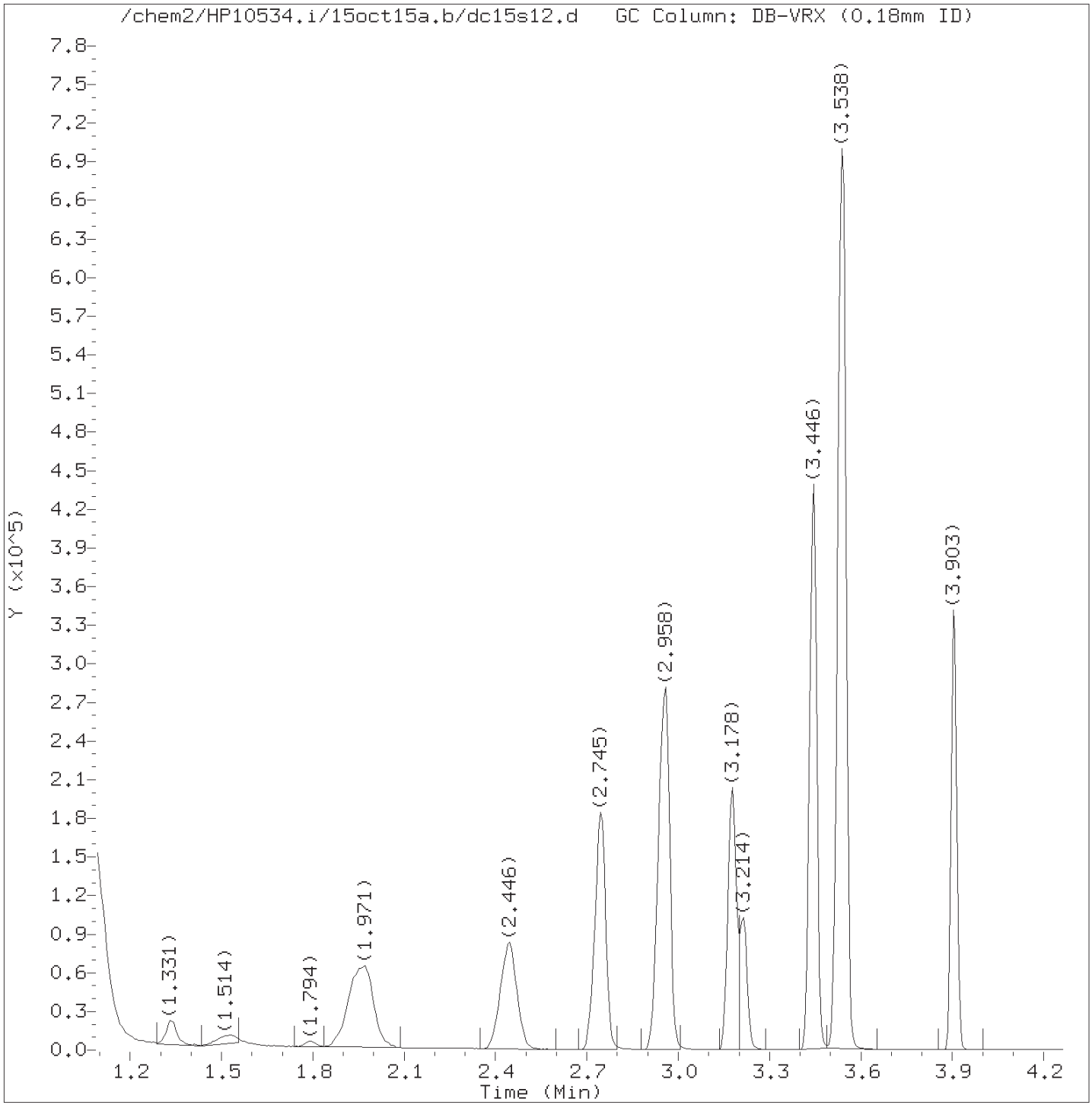
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.964	(-0.002)	113	107912	51.098	102%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(0.000)	102	29049	51.926	104%		77 - 113
16) Toluene-d8	(3)	4.318	(0.001)	98	453142	47.926	96%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	180353	51.233	102%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
12) Benzene	(2)	3.446	(0.000)	78	344049	25.106	25.11			0.5	1
17) Toluene	(3)	4.348	(-0.000)	92	159669	17.759	17.76			0.5	1
21) Ethylbenzene	(3)	4.982	(-0.000)	91	293899	17.457	17.46			0.5	1
22) m+p-Xylene	(3)	5.056	(-0.000)	106	236432	36.699	36.70			0.5	1
23) o-Xylene	(3)	5.208	(-0.000)	106	110476	17.419	17.42			0.5	1
24) Xylene (Total)	(3)			106	346908	54.117	54.12			0.5	1
30) Naphthalene	(4)	6.799	(-0.001)	128	212994	13.776	13.78			1	4

Total number of targets = 7

Digitally signed by Daniel H. Heller on 10/15/2015 at 14:25. Target 3.5 esignature user ID: dhh02035

Secondary review performed and digitally signed by Kelly E. Keller on 10/20/2015 at 16:11. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

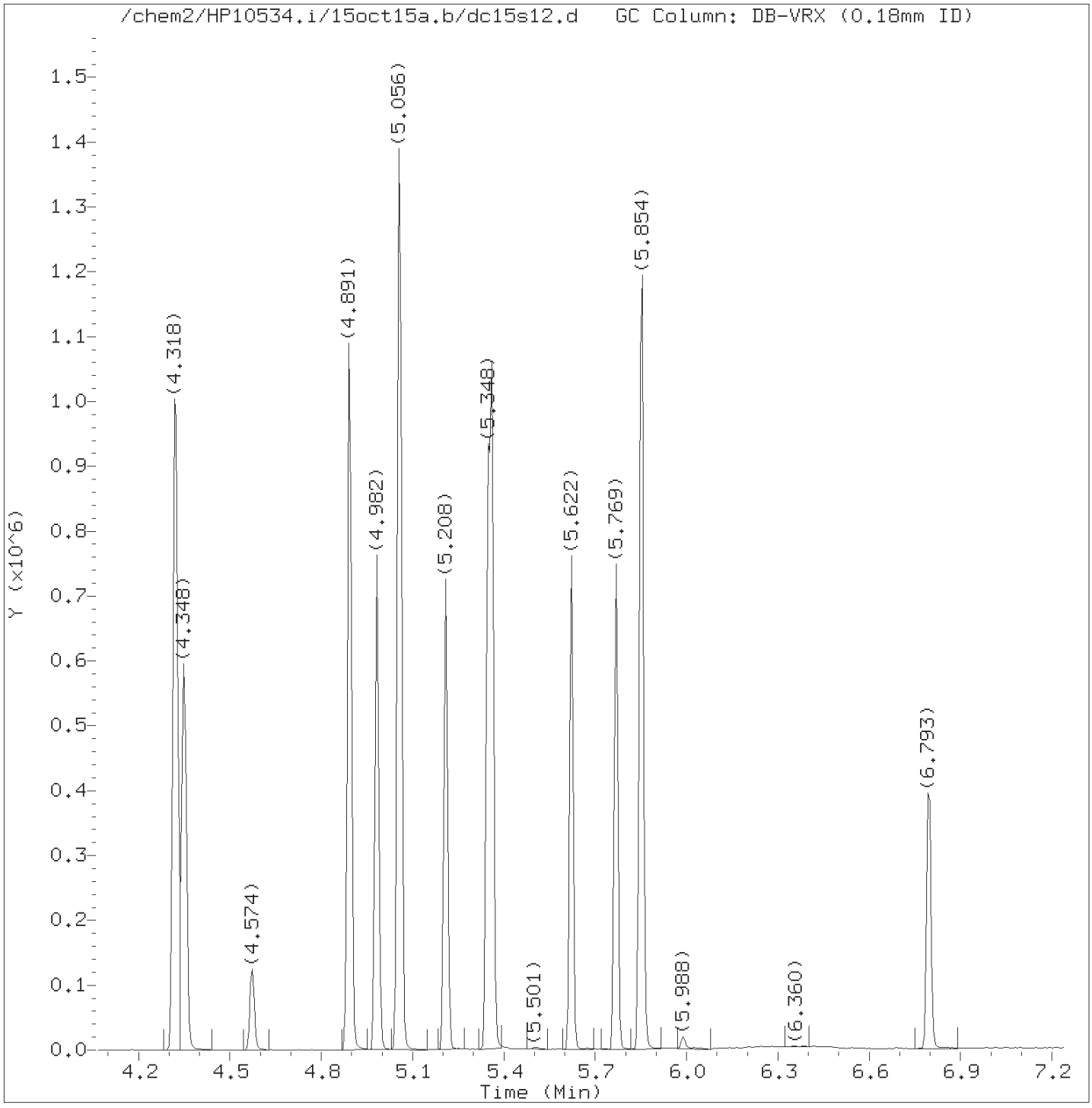
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s12.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:27 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 13:36 Unknown

Sample Name: P2901MSD Lab Sample ID: 8082122MSD

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:25.
Target 3.5 esignature user ID: dhh02035



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s12.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:27 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 13:36 Unknown

Sample Name: P2901MSD Lab Sample ID: 8082122MSD

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:25.
Target 3.5 esignature user ID: dhh02035

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s12.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 13:27 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 9539
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 13:36 Unknown

Sample Name: P2901MSD Lab Sample ID: 8082122MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2)*t-Butyl alcohol-d10	(1)	1.934	65	90788	250.000
7)$Dibromofluoromethane	(2)	2.964	113	107912	51.098
10)$1,2-Dichloroethane-d4	(2)	3.178	102	29049	51.926
12) Benzene	(2)	3.446	78	344049	25.106
14)*Fluorobenzene	(2)	3.544	96	453405	50.000
16)$Toluene-d8	(3)	4.318	98	453142	47.926
17) Toluene	(3)	4.348	92	159669	17.759
20)*Chlorobenzene-d5	(3)	4.891	117	350644	50.000
21) Ethylbenzene	(3)	4.982	91	293899	17.457
22) m+p-Xylene	(3)	5.056	106	236432	36.699
23) o-Xylene	(3)	5.208	106	110476	17.419
24) Xylene (Total)	(3)		106	346908	54.117
26)$4-Bromofluorobenzene	(3)	5.360	95	180353	51.233
29)*1,4-Dichlorobenzene-d4	(4)	5.854	152	198576	50.000
30) Naphthalene	(4)	6.799	128	212994	13.776

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Daniel H. Heller
on 10/15/2015 at 14:25.
Target 3.5 esignature user ID: dhh02035

Data file: /chem2/HP10534.i/15oct15a.b/dc15s02.d Injection date and time: **15-OCT-2015 10:57**
Data file Sample Info. Line: LCSD33;LCSD33;1;3;LCS;;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 11:50 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **10943B**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.928	(0.012)	138	65	97406	(10)	250.00	
14) Fluorobenzene	3.537	(0.006)	402	96	486699	(10)	50.00	
20) Chlorobenzene-d5	4.891	(0.000)	624	117	374665	(10)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.006)	781	152	206964	(9)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.958	(-0.001)	113	117372	51.775	104%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.178	(-0.002)	102	30295	50.449	101%		77 - 113
16) Toluene-d8	(3)	4.318	(0.001)	98	492585	48.757	98%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	192073	51.064	102%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
1) Ethanol	(1)	1.526	(-0.008)	45	30960	401.250	401.25			50	250
3) t-Butyl alcohol	(1)	1.964	(-0.000)	59	103055	177.301	177.30			2	5
4) Methyl Tertiary Butyl Ether	(2)	2.440	(-0.001)	73	160800	18.696	18.70			0.5	1
5) di-Isopropyl ether	(2)	2.739	(0.000)	45	205522	17.216	17.22			0.5	1
6) Ethyl t-butyl ether	(2)	2.940	(-0.001)	59	174715	17.898	17.90			0.5	1
11) 1,2-Dichloroethane	(2)	3.208	(0.000)	62	89002	19.262	19.26			0.5	1
12) Benzene	(2)	3.440	(0.000)	78	266075	18.088	18.09			0.5	1
13) t-Amyl methyl ether	(2)	3.525	(-0.001)	87	40166	17.878	17.88			0.5	1
17) Toluene	(3)	4.348	(0.000)	92	167156	17.400	17.40			0.5	1
19) 1,2-Dibromoethane	(3)	4.574	(0.000)	107	57219	17.231	17.23			0.5	1
21) Ethylbenzene	(3)	4.982	(-0.000)	91	309333	17.196	17.20			0.5	1
22) m+p-Xylene	(3)	5.055	(-0.000)	106	248270	36.065	36.07			0.5	1
23) o-Xylene	(3)	5.208	(-0.000)	106	115277	17.010	17.01			0.5	1
24) Xylene (Total)	(3)			106	363547	53.076	53.08			0.5	1
25) Isopropylbenzene	(3)	5.348	(-0.000)	105	306969	17.447	17.45			0.5	2
27) 1,3,5-Trimethylbenzene	(4)	5.622	(-0.000)	105	230821	16.019	16.02			0.5	2
28) 1,2,4-Trimethylbenzene	(4)	5.769	(-0.001)	105	235821	16.318	16.32			0.5	2
30) Naphthalene	(4)	6.793	(-0.001)	128	233005	14.460	14.46			1	4

Digitally signed by Hu Yang on 10/16/2015 at 17:00. Target 3.5 esignature user ID: hy07820

Data file: /chem2/HP10534.i/15oct15a.b/dc15s02.d Injection date and time: **15-OCT-2015 10:57**
Data file Sample Info. Line: LCSD33;LCSD33;1;3;LCS;;;;dc15b02; Instrument ID: **HP10534.i** Batch: **D152882AA**
Date, time and analyst ID of latest file update: 15-Oct-2015 11:50 dhh02035

Blank Data file reference: **/chem2/HP10534.i/15oct15a.b/dc15b02.d**

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: **10943B**
Calibration date and time (Last Method Edit): 15-OCT-2015 10:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct15a.b/dc15c02.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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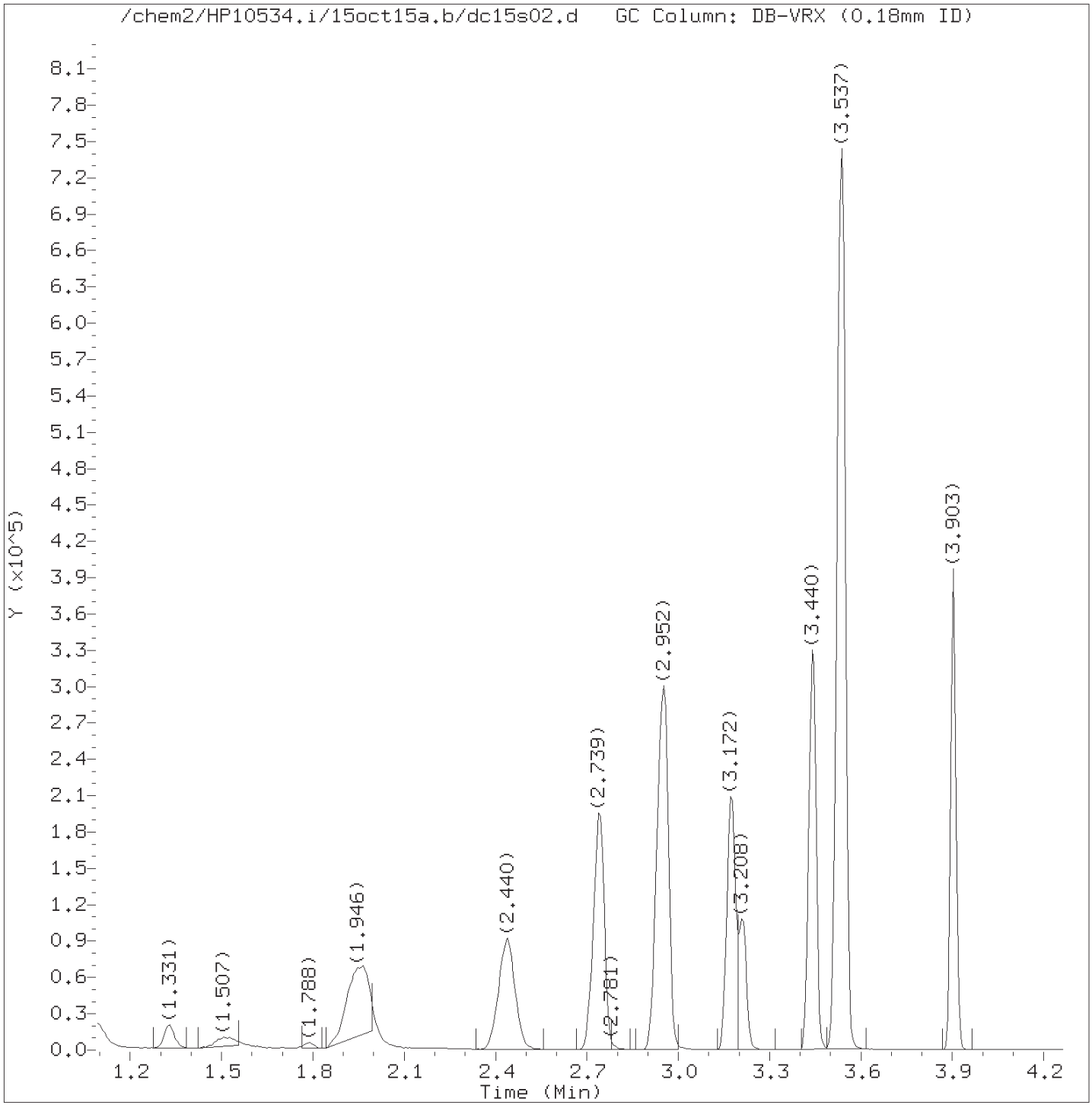
Total number of targets = 18

Digitally signed by Hu Yang on 10/16/2015 at 17:00. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/16/2015 at 21:22. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

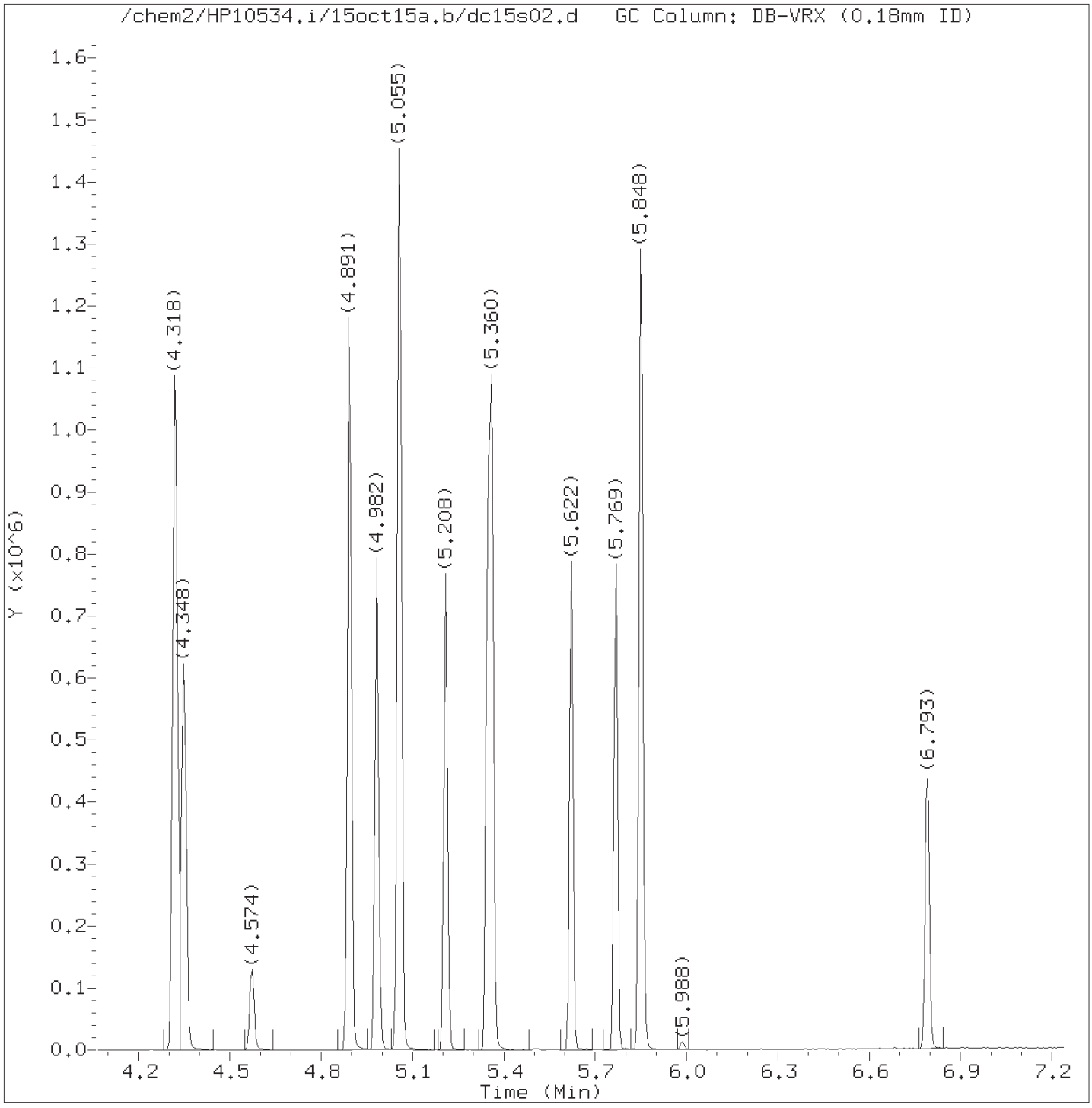
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s02.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 10:57 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 11:50 dhh02035

Sample Name: LCSD33 Lab Sample ID: LCSD33

Digitally signed by Hu Yang
on 10/16/2015 at 17:00.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s02.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 10:57 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 11:50 dhh02035

Sample Name: LCSD33 Lab Sample ID: LCSD33

Digitally signed by Hu Yang
on 10/16/2015 at 17:00.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct15a.b/dc15s02.d Instrument ID: HP10534.i
Injection date and time: 15-OCT-2015 10:57 Analyst ID: DHH02035

Method used: /chem2/HP10534.i/15oct15a.b/UST-PT2.m Sublist used: 10943B
Calibration date and time: 15-OCT-2015 10:43
Date, time and analyst ID of latest file update: 15-Oct-2015 11:50 dhh02035

Sample Name: LCSD33 Lab Sample ID: LCSD33

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	30960	401.250
2)*t-Butyl alcohol-d10	(1)	1.928	65	97406	250.000
3) t-Butyl alcohol	(1)	1.965	59	103055	177.301
4) Methyl Tertiary Butyl Ether	(2)	2.440	73	160800	18.696
5) di-Isopropyl ether	(2)	2.739	45	205522	17.216
6) Ethyl t-butyl ether	(2)	2.940	59	174715	17.898
7)$Dibromofluoromethane	(2)	2.958	113	117372	51.775
10)$1,2-Dichloroethane-d4	(2)	3.178	102	30295	50.449
11) 1,2-Dichloroethane	(2)	3.208	62	89002	19.262
12) Benzene	(2)	3.440	78	266075	18.088
13) t-Amyl methyl ether	(2)	3.525	87	40166	17.878
14)*Fluorobenzene	(2)	3.537	96	486699	50.000
16)$Toluene-d8	(3)	4.318	98	492585	48.757
17) Toluene	(3)	4.348	92	167156	17.400
19) 1,2-Dibromoethane	(3)	4.574	107	57219	17.231
20)*Chlorobenzene-d5	(3)	4.891	117	374665	50.000
21) Ethylbenzene	(3)	4.982	91	309333	17.196
22) m+p-Xylene	(3)	5.055	106	248270	36.065
23) o-Xylene	(3)	5.208	106	115277	17.010
24) Xylene (Total)	(3)		106	363547	53.076
25) Isopropylbenzene	(3)	5.348	105	306969	17.447
26)$4-Bromofluorobenzene	(3)	5.360	95	192073	51.064
27) 1,3,5-Trimethylbenzene	(4)	5.622	105	230821	16.019
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	235821	16.318
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	206964	50.000
30) Naphthalene	(4)	6.793	128	233005	14.460

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 17:00.
Target 3.5 esignature user ID: hy07820

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCSD34

Data file: /chem2/HP10534.i/15oct16a.b/dc16s01.d Injection date and time: **16-OCT-2015 18:01**
Data file Sample Info. Line: LCSD34;LCSD34;1;3;LCS;;;;dc16b01; Instrument ID: **HP10534.i** Batch: **D152891AA**
Date, time and analyst ID of latest file update: 16-Oct-2015 18:38 hy07820

Blank Data file reference: **/chem2/HP10534.i/15oct16a.b/dc16b01.d**

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: **M10945A-4G**
Calibration date and time (Last Method Edit): 16-OCT-2015 17:48
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct16a.b/dc16c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
2) t-Butyl alcohol-d10	1.946	(-0.006)	141	65	83128	(1)	250.00	
14) Fluorobenzene	3.550	(-0.006)	404	96	419383	(1)	50.00	
20) Chlorobenzene-d5	4.897	(0.000)	625	117	327784	(1)	50.00	
29) 1,4-Dichlorobenzene-d4	5.848	(0.000)	781	152	185835	(3)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) Dibromofluoromethane	(2)	2.971	(0.000)	113	102151	52.245	104%		80 - 116
10) 1,2-Dichloroethane-d4	(2)	3.184	(0.000)	102	26668	51.206	102%		77 - 113
16) Toluene-d8	(3)	4.324	(0.000)	98	426182	48.342	97%		80 - 113
26) 4-Bromofluorobenzene	(3)	5.360	(0.000)	95	169207	51.505	103%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
1) Ethanol	(1)	1.526	(-0.000)	45	31109	589.954	589.95			50	250
3) t-Butyl alcohol	(1)	1.983	(0.006)	59	98834	197.826	197.83			2	5
4) Methyl Tertiary Butyl Ether	(2)	2.452	(0.001)	73	170064	20.017	20.02			0.5	1
5) di-Isopropyl ether	(2)	2.751	(0.001)	45	191166	18.767	18.77			0.5	1
6) Ethyl t-butyl ether	(2)	2.952	(-0.000)	59	178735	19.101	19.10			0.5	1
11) 1,2-Dichloroethane	(2)	3.221	(-0.000)	62	88002	22.256	22.26			0.5	1
12) Benzene	(2)	3.452	(-0.000)	78	252303	20.345	20.34			0.5	1
13) t-Amyl methyl ether	(2)	3.532	(0.001)	87	41214	18.848	18.85			0.5	1
17) Toluene	(3)	4.354	(-0.001)	92	158183	19.026	19.03			0.5	1
19) 1,2-Dibromoethane	(3)	4.574	(-0.000)	107	56144	19.524	19.52			0.5	1
21) Ethylbenzene	(3)	4.982	(-0.000)	91	289568	18.608	18.61			0.5	1
22) m+p-Xylene	(3)	5.062	(-0.001)	106	235790	39.181	39.18			0.5	1
23) o-Xylene	(3)	5.208	(-0.000)	106	108326	18.550	18.55			0.5	1
24) Xylene (Total)	(3)			106	344116	57.730	57.73			0.5	1
25) Isopropylbenzene	(3)	5.348	(-0.000)	105	285398	18.953	18.95			0.5	2
27) 1,3,5-Trimethylbenzene	(4)	5.622	(-0.000)	105	217774	17.124	17.12			0.5	2
28) 1,2,4-Trimethylbenzene	(4)	5.769	(-0.000)	105	224827	17.417	17.42			0.5	2
30) Naphthalene	(4)	6.781	(-0.000)	128	223193	15.641	15.64			1	4

Digitally signed by Hu Yang on 10/16/2015 at 18:38. Target 3.5 esignature user ID: hy07820

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP10534.i/15oct16a.b/dc16s01.d Injection date and time: **16-OCT-2015 18:01**
Data file Sample Info. Line: LCSD34;LCSD34;1;3;LCS;;;;dc16b01; Instrument ID: **HP10534.i** Batch: **D152891AA**
Date, time and analyst ID of latest file update: 16-Oct-2015 18:38 hy07820

Blank Data file reference: **/chem2/HP10534.i/15oct16a.b/dc16b01.d**

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: **M10945A-4G**
Calibration date and time (Last Method Edit): 16-OCT-2015 17:48
Mid Level Daily Calibration Standard Reference: **/chem2/HP10534.i/15oct16a.b/dc16c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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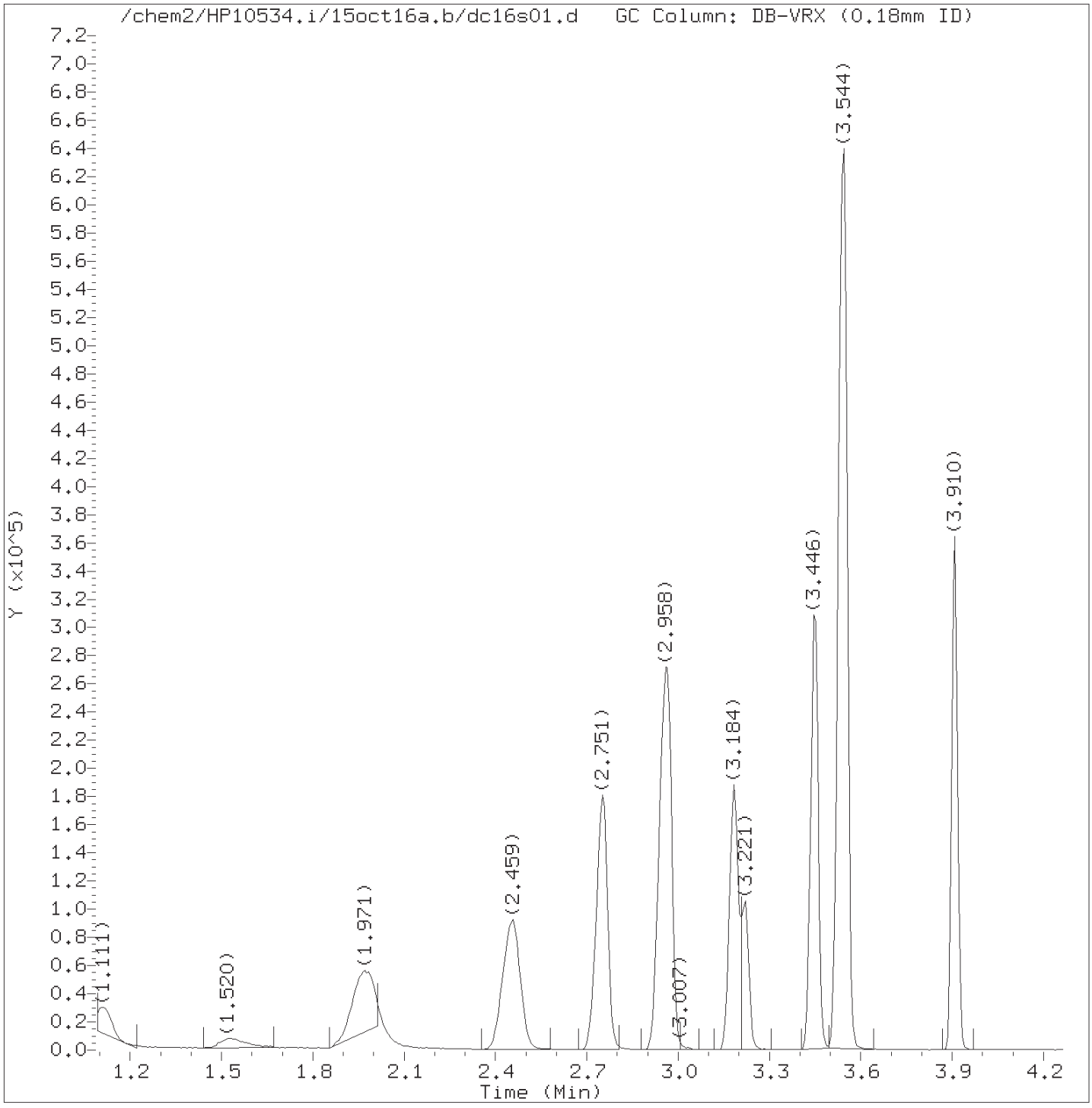
Total number of targets = 18

Digitally signed by Hu Yang on 10/16/2015 at 18:38. Target 3.5 esignature user ID: hy07820

Secondary review performed and digitally signed by Kelly E. Keller on 10/19/2015 at 15:05. Parallax ID: kek01027



Total Ion Chromatogram (TIC)

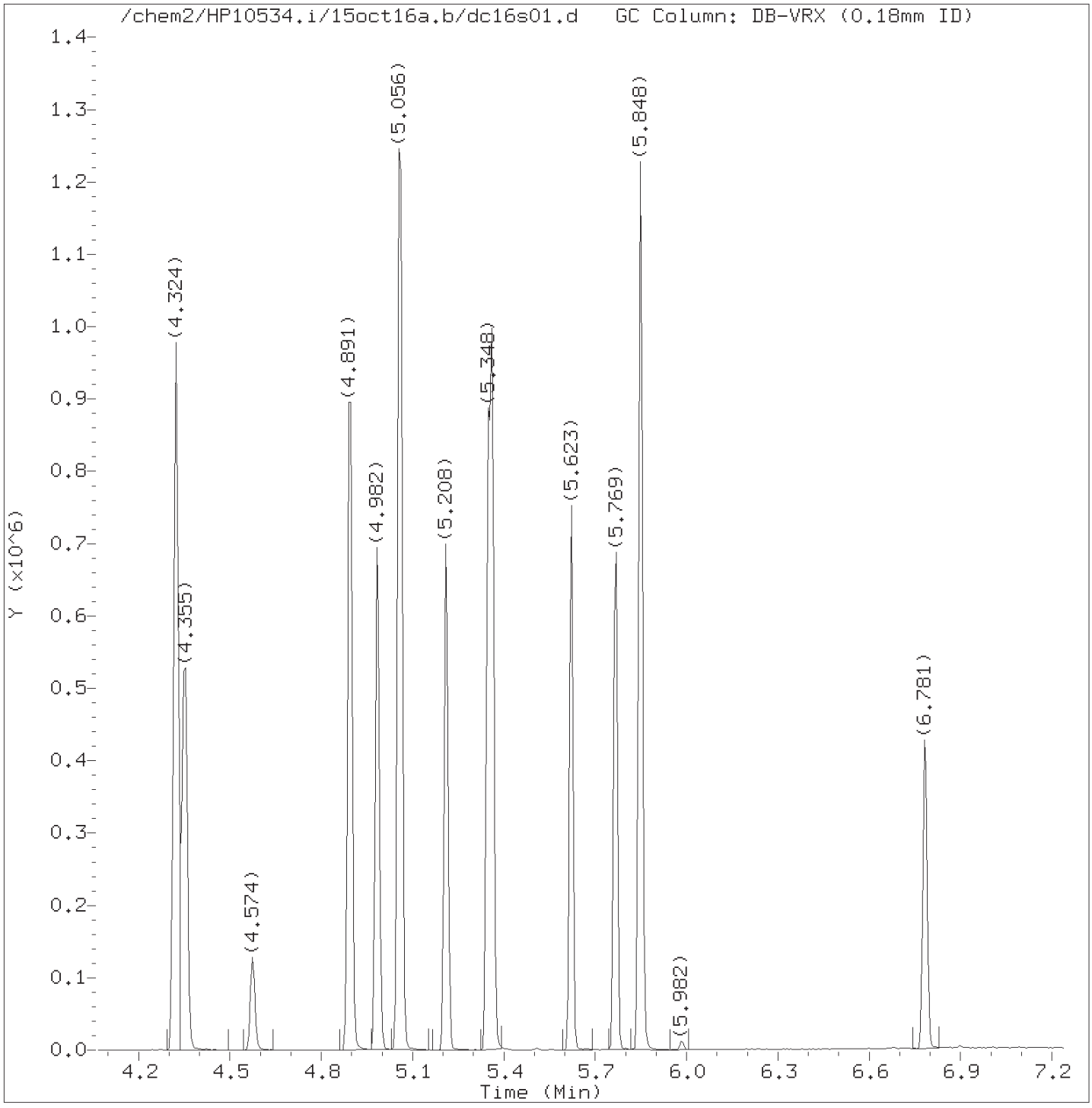
Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16s01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 18:01 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: M10945A-4G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 18:38 hy07820

Sample Name: LCSD34 Lab Sample ID: LCSD34

Digitally signed by Hu Yang
on 10/16/2015 at 18:38.
Target 3.5 esignature user ID: hy07820



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16s01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 18:01 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: M10945A-4G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 18:38 hy07820

Sample Name: LCSD34 Lab Sample ID: LCSD34

Digitally signed by Hu Yang
on 10/16/2015 at 18:38.
Target 3.5 esignature user ID: hy07820

Quant Report

Target Revision 3.5

Data File: /chem2/HP10534.i/15oct16a.b/dc16s01.d Instrument ID: HP10534.i
Injection date and time: 16-OCT-2015 18:01 Analyst ID: HY07820

Method used: /chem2/HP10534.i/15oct16a.b/UST-PT1.m Sublist used: M10945A-4G
Calibration date and time: 16-OCT-2015 17:48
Date, time and analyst ID of latest file update: 16-Oct-2015 18:38 hy07820

Sample Name: LCSD34 Lab Sample ID: LCSD34

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Ethanol	(1)	1.526	45	31109	589.954
2)*t-Butyl alcohol-d10	(1)	1.946	65	83128	250.000
3) t-Butyl alcohol	(1)	1.983	59	98834	197.826
4) Methyl Tertiary Butyl Ether	(2)	2.452	73	170064	20.017
5) di-Isopropyl ether	(2)	2.751	45	191166	18.767
6) Ethyl t-butyl ether	(2)	2.952	59	178735	19.101
7)$Dibromofluoromethane	(2)	2.971	113	102151	52.245
10)$1,2-Dichloroethane-d4	(2)	3.184	102	26668	51.206
11) 1,2-Dichloroethane	(2)	3.221	62	88002	22.256
12) Benzene	(2)	3.452	78	252303	20.345
13) t-Amyl methyl ether	(2)	3.532	87	41214	18.848
14)*Fluorobenzene	(2)	3.550	96	419383	50.000
16)$Toluene-d8	(3)	4.324	98	426182	48.342
17) Toluene	(3)	4.355	92	158183	19.026
19) 1,2-Dibromoethane	(3)	4.574	107	56144	19.524
20)*Chlorobenzene-d5	(3)	4.897	117	327784	50.000
21) Ethylbenzene	(3)	4.982	91	289568	18.608
22) m+p-Xylene	(3)	5.062	106	235790	39.181
23) o-Xylene	(3)	5.208	106	108326	18.550
24) Xylene (Total)	(3)		106	344116	57.730
25) Isopropylbenzene	(3)	5.348	105	285398	18.953
26)$4-Bromofluorobenzene	(3)	5.360	95	169207	51.505
27) 1,3,5-Trimethylbenzene	(4)	5.623	105	217774	17.124
28) 1,2,4-Trimethylbenzene	(4)	5.769	105	224827	17.417
29)*1,4-Dichlorobenzene-d4	(4)	5.848	152	185835	50.000
30) Naphthalene	(4)	6.781	128	223193	15.641

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Hu Yang
on 10/16/2015 at 18:38.
Target 3.5 esignature user ID: hy07820

Semivolatiles by GC/MS Data

Case Narrative/Conformance Summary

Semivolatiles by GC/MS

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC29

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8082120	0082-33	X		1	Unspiked
8082121	0082-33MS	X		1	Matrix Spike
8082122	0082-33MSD	X		1	Matrix Spike Duplicate
8082124	0087-33	X		1; 10; 100	
8082126	0089-33	X		1	
8082127	0090-33	X		1	
8082128	0076-33	X		1	
8082129	0079-33	X		1	
8082130	0073-33FB	X		1	Field Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Method Blank

(Sample number(s): 8082124: Analysis: 07805)
Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC29

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Semivolatiles by GC/MS

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Quality Control Reference List
GC/MS Semivolatiles

CLIENT: The Johnson Company, Inc.
SDG: PSC29

Fraction: Semivolatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
PAHs 8270C (17)	15283WAB026	SBLKWB283	10/16/2015 12:16:00
		283WBLCS	10/16/2015 11:48:00
		8082120 UNSPK	10/16/2015 18:47:00
		8082121 MS	10/16/2015 19:15:00
		8082122 MSD	10/16/2015 19:42:00
		8082124	10/16/2015 20:10:00
		8082124	10/17/2015 16:35:00
		8082124	10/17/2015 17:03:00
		8082126	10/16/2015 20:38:00
		8082127	10/16/2015 21:06:00
		8082128	10/16/2015 21:34:00
		8082129	10/17/2015 17:31:00
		8082130	10/17/2015 17:59:00
PAHs 8270C (17)	15293WAE026	SBLKWE293	10/22/2015 09:53:00
		293WELCS	10/22/2015 10:21:00
		293WELCSD	10/22/2015 10:49:00
		8082124RE	10/22/2015 13:08:00

Fraction: Semivolatiles by GC/MS

15283WAB026 / SBLKWB283 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Naphthalene	10/16/15	N.D.	ug/l	0.1	0.5
2-Methylnaphthalene	10/16/15	N.D.	ug/l	0.1	0.5
Acenaphthylene	10/16/15	N.D.	ug/l	0.1	0.5
Acenaphthene	10/16/15	N.D.	ug/l	0.1	0.5
Fluorene	10/16/15	N.D.	ug/l	0.1	0.5
Phenanthrene	10/16/15	N.D.	ug/l	0.1	0.5
Anthracene	10/16/15	N.D.	ug/l	0.1	0.5
Fluoranthene	10/16/15	N.D.	ug/l	0.1	0.5
Pyrene	10/16/15	N.D.	ug/l	0.1	0.5
Benzo(a)anthracene	10/16/15	N.D.	ug/l	0.1	0.5
Chrysene	10/16/15	N.D.	ug/l	0.1	0.5
Benzo(b)fluoranthene	10/16/15	0.1	ug/l	0.1	0.5
Benzo(k)fluoranthene	10/16/15	0.1	ug/l	0.1	0.5
Benzo(a)pyrene	10/16/15	N.D.	ug/l	0.1	0.5
Indeno(1,2,3-cd)pyrene	10/16/15	N.D.	ug/l	0.1	0.5
Dibenz(a,h)anthracene	10/16/15	0.1	ug/l	0.1	0.5
Benzo(g,h,i)perylene	10/16/15	0.1	ug/l	0.1	0.5

15293WAE026 / SBLKWE293 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Naphthalene	10/22/15	N.D.	ug/l	0.1	0.5
2-Methylnaphthalene	10/22/15	N.D.	ug/l	0.1	0.5
Acenaphthylene	10/22/15	N.D.	ug/l	0.1	0.5
Acenaphthene	10/22/15	N.D.	ug/l	0.1	0.5
Fluorene	10/22/15	N.D.	ug/l	0.1	0.5
Phenanthrene	10/22/15	N.D.	ug/l	0.1	0.5
Anthracene	10/22/15	N.D.	ug/l	0.1	0.5
Fluoranthene	10/22/15	N.D.	ug/l	0.1	0.5
Pyrene	10/22/15	N.D.	ug/l	0.1	0.5
Benzo(a)anthracene	10/22/15	N.D.	ug/l	0.1	0.5
Chrysene	10/22/15	N.D.	ug/l	0.1	0.5
Benzo(b)fluoranthene	10/22/15	N.D.	ug/l	0.1	0.5
Benzo(k)fluoranthene	10/22/15	N.D.	ug/l	0.1	0.5
Benzo(a)pyrene	10/22/15	N.D.	ug/l	0.1	0.5
Indeno(1,2,3-cd)pyrene	10/22/15	N.D.	ug/l	0.1	0.5
Dibenz(a,h)anthracene	10/22/15	N.D.	ug/l	0.1	0.5
Benzo(g,h,i)perylene	10/22/15	N.D.	ug/l	0.1	0.5

Quality Control Summary
Surrogates
GC/MS Semivolatiles
SDG: PSC29
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

15283WAB026	2-Fluorobiphenyl		Nitrobenzene-d5		Terphenyl-d14	
	Spike Added	100 ug/l	Spike Added	100 ug/l	Spike Added	100 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKWB283	87	61 - 112	89	46 - 128	83	43 - 131
283WBLCS	81	61 - 112	85	46 - 128	78	43 - 131
8082120 UNSPK	82	61 - 112	85	46 - 128	77	43 - 131
8082121 MS	85	61 - 112	87	46 - 128	82	43 - 131
8082122 MSD	87	61 - 112	90	46 - 128	88	43 - 131
8082124	81	61 - 112	88	46 - 128	73	43 - 131
8082126	85	61 - 112	87	46 - 128	59	43 - 131
8082127	78	61 - 112	80	46 - 128	69	43 - 131
8082128	77	61 - 112	83	46 - 128	80	43 - 131
8082129	75	61 - 112	79	46 - 128	56	43 - 131
8082130	79	61 - 112	87	46 - 128	79	43 - 131

15293WAE026	2-Fluorobiphenyl		Nitrobenzene-d5		Terphenyl-d14	
	Spike Added	100 ug/l	Spike Added	100 ug/l	Spike Added	100 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKWE293	88	61 - 112	90	46 - 128	81	43 - 131
293WELCS	86	61 - 112	86	46 - 128	81	43 - 131
293WELCSD	91	61 - 112	92	46 - 128	84	43 - 131
8082124RE	85	61 - 112	87	46 - 128	61	43 - 131

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

UNSPK: 8082120 MS: 8082121 MSD: 8082122 **Analyte**	Batch: **15283WAB026** (Sample number(s): 8082120-8082122, 8082124, 8082126-8082130)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Naphthalene	50.61	N.D.	45.25	46.52	89	92	69-109	3	30
2-Methylnaphthalene	50.61	N.D.	42.91	43.9	85	87	69-103	2	30
Acenaphthylene	50.61	N.D.	47.91	48.25	95	95	78-117	1	30
Acenaphthene	50.61	N.D.	47.5	48.31	94	95	75-111	2	30
Fluorene	50.61	N.D.	47.17	48.8	93	96	80-117	3	30
Phenanthrene	50.61	N.D.	46.03	46.68	91	92	75-110	1	30
Anthracene	50.61	N.D.	48.09	47.97	95	95	82-116	0	30
Fluoranthene	50.61	N.D.	48.36	48.49	96	96	76-117	0	30
Pyrene	50.61	N.D.	45.48	46.55	90	92	76-111	2	30
Benzo(a)anthracene	50.61	N.D.	48.25	49.38	95	98	76-122	2	30
Chrysene	50.61	N.D.	48.92	50.65	97	100	77-126	3	30
Benzo(b)fluoranthene	50.61	N.D.	48.08	49.16	95	97	75-123	2	30
Benzo(k)fluoranthene	50.61	N.D.	46.99	48.43	93	96	74-119	3	30
Benzo(a)pyrene	50.61	N.D.	45.23	46.24	89	91	73-115	2	30
Indeno(1,2,3-cd)pyrene	50.61	N.D.	43.46	44.9	86	89	70-121	3	30
Dibenz(a,h)anthracene	50.61	N.D.	44.82	47.04	89	93	72-127	5	30
Benzo(g,h,i)perylene	50.61	N.D.	44.13	45.71	87	90	70-126	4	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 283WBLCS	Batch: **15283WAB026** (Sample number(s): 8082120-8082122, 8082124, 8082126-8082130)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Naphthalene	50	43.39	NA	87	NA	69-109	NA	NA
2-Methylnaphthalene	50	41.05	NA	82	NA	69-103	NA	NA
Acenaphthylene	50	44.43	NA	89	NA	78-117	NA	NA
Acenaphthene	50	44.44	NA	89	NA	75-111	NA	NA
Fluorene	50	44.66	NA	89	NA	80-117	NA	NA
Phenanthrene	50	43.38	NA	87	NA	75-110	NA	NA
Anthracene	50	44.38	NA	89	NA	82-116	NA	NA
Fluoranthene	50	45.15	NA	90	NA	76-117	NA	NA
Pyrene	50	43.63	NA	87	NA	76-111	NA	NA
Benzo(a)anthracene	50	45.88	NA	92	NA	76-122	NA	NA
Chrysene	50	47.06	NA	94	NA	77-126	NA	NA
Benzo(b)fluoranthene	50	45.77	NA	92	NA	75-123	NA	NA
Benzo(k)fluoranthene	50	44.97	NA	90	NA	74-119	NA	NA
Benzo(a)pyrene	50	40.72	NA	81	NA	73-115	NA	NA
Indeno(1,2,3-cd)pyrene	50	38.17	NA	76	NA	70-121	NA	NA
Dibenz(a,h)anthracene	50	39.54	NA	79	NA	72-127	NA	NA
Benzo(g,h,i)perylene	50	38.97	NA	78	NA	70-126	NA	NA

LCS: 293WELCS LCSD: 293WELCSD	Batch: **15293WAE026** (Sample number(s): 8082124)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Naphthalene	50	43.74	46.37	87	93	69-109	6	30
2-Methylnaphthalene	50	41.18	43.8	82	88	69-103	6	30
Acenaphthylene	50	45.99	47.93	92	96	78-117	4	30
Acenaphthene	50	45.64	47.81	91	96	75-111	5	30
Fluorene	50	46.23	48.19	92	96	80-117	4	30
Phenanthrene	50	45.04	47.6	90	95	75-110	6	30
Anthracene	50	46.27	48.68	93	97	82-116	5	30
Fluoranthene	50	46.92	49.35	94	99	76-117	5	30
Pyrene	50	45.92	47.76	92	96	76-111	4	30
Benzo(a)anthracene	50	47.15	49.46	94	99	76-122	5	30
Chrysene	50	49.27	51.75	99	103	77-126	5	30
Benzo(b)fluoranthene	50	46.55	49.45	93	99	75-123	6	30
Benzo(k)fluoranthene	50	46.84	49.32	94	99	74-119	5	30
Benzo(a)pyrene	50	42.8	45.58	86	91	73-115	6	30
Indeno(1,2,3-cd)pyrene	50	45	47.87	90	96	70-121	6	30
Dibenz(a,h)anthracene	50	46.96	50.34	94	101	72-127	7	30
Benzo(g,h,i)perylene	50	45.73	48.84	91	98	70-126	7	30

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lj0530.d DFTPP Injection Date: 10/15/15

Instrument ID: HP20296 DFTPP Injection Time: 11:57

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	46.8
68	Less than 2.0% of mass 69	0.97 (1.92)1
69	Mass 69 relative abundance	50.3
70	Less than 2.0% of mass 69	0.15 (0.3)1
127	40.0 - 60.0% of mass 198	47.2
197	Less than 1.0% of mass 198	0.39
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.3
275	10.0 - 30.0% of mass 198	21.8
365	Greater than 1.00% of mass 198	2.05
441	Present, and less than mass 443	9.92
442	Greater than 40.0 % of mass 198	60.3
443	17.0 - 23.0% of mass 442	11.0 (18.3)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD2745 - SSTD7.5	lj0531.d	10/15/15	13:06
02	RVSTD2745 - SSTD.125	lj0532.d	10/15/15	14:04
03	RVSTD2745 - SSTD30	lj0533.d	10/15/15	14:32
04	RVSTD2745 - SSTD20	lj0534.d	10/15/15	15:00
05	RVSTD2745 - SSTD12.5	lj0535.d	10/15/15	15:28
06	RVSTD2745 - SSTD3.75	lj0536.d	10/15/15	15:56
07	RVSTD2745 - SSTD1.25	lj0537.d	10/15/15	16:23
08	RVSTD2745 - SSTD.25	lj0538.d	10/15/15	16:51
09	RVMDL2745 - SSTD0.125	lj0539.d	10/15/15	17:19
10	PAHMDL2745 - SSTD0.025	lj0540.d	10/15/15	17:47
11	RVICV2465 - SSTD12.5	lj0541.d	10/15/15	18:15
12	RVBASICV2475 - SSTD12.5	lj0542.d	10/15/15	18:43

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lj0580z.d DFTPP Injection Date: 10/16/15

Instrument ID: HP20296 DFTPP Injection Time: 09:57

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	51.4
68	Less than 2.0% of mass 69	0.89 (1.73)1
69	Mass 69 relative abundance	51.5
70	Less than 2.0% of mass 69	0.29 (0.56)1
127	40.0 - 60.0% of mass 198	50.8
197	Less than 1.0% of mass 198	0.17
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.75
275	10.0 - 30.0% of mass 198	20.2
365	Greater than 1.00% of mass 198	2.19
441	Present, and less than mass 443	8.02
442	Greater than 40.0 % of mass 198	49.5
443	17.0 - 23.0% of mass 442	9.58 (19.4)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD2745 - SSTD7.5	lj0581.d	10/16/15	10:17
02	283WBLCS	lj0583.d	10/16/15	11:48
03	SBLKWB283	lj0582a.d	10/16/15	12:16
04	8081061	lj0584.d	10/16/15	12:44
05	8081062	lj0585.d	10/16/15	13:12
06	8081063	lj0586.d	10/16/15	13:40
07	8081064	lj0587.d	10/16/15	14:08
08	8082098	lj0588.d	10/16/15	14:36
09	8082099	lj0589.d	10/16/15	15:03
10	8082100	lj0590.d	10/16/15	15:31
11	8082101	lj0591.d	10/16/15	15:59
12	8082114	lj0592.d	10/16/15	16:27
13	8082115	lj0593.d	10/16/15	16:55
14	8082117	lj0594.d	10/16/15	17:23
15	8082118	lj0595.d	10/16/15	17:51
16	8082119	lj0596.d	10/16/15	18:19
17	8082120	lj0597.d	10/16/15	18:47
18	8082121MS	lj0598.d	10/16/15	19:15

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lj0580z.d DFTPP Injection Date: 10/16/15

Instrument ID: HP20296 DFTPP Injection Time: 09:57

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	51.4
68	Less than 2.0% of mass 69	0.89 (1.73)1
69	Mass 69 relative abundance	51.5
70	Less than 2.0% of mass 69	0.29 (0.56)1
127	40.0 - 60.0% of mass 198	50.8
197	Less than 1.0% of mass 198	0.17
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.75
275	10.0 - 30.0% of mass 198	20.2
365	Greater than 1.00% of mass 198	2.19
441	Present, and less than mass 443	8.02
442	Greater than 40.0 % of mass 198	49.5
443	17.0 - 23.0% of mass 442	9.58 (19.4)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	8082122MSD	lj0599.d	10/16/15	19:42
20	8082124	lj0600.d	10/16/15	20:10
21	8082126	lj0601.d	10/16/15	20:38
22	8082127	lj0602.d	10/16/15	21:06
23	8082128	lj0603.d	10/16/15	21:34

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lj0610a.d DFTPP Injection Date: 10/17/15

Instrument ID: HP20296 DFTPP Injection Time: 12:29

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	56.5
68	Less than 2.0% of mass 69	0.94 (1.68)1
69	Mass 69 relative abundance	55.7
70	Less than 2.0% of mass 69	0.34 (0.62)1
127	40.0 - 60.0% of mass 198	52.3
197	Less than 1.0% of mass 198	0.43
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.52
275	10.0 - 30.0% of mass 198	18.1
365	Greater than 1.00% of mass 198	1.84
441	Present, and less than mass 443	6.58
442	Greater than 40.0 % of mass 198	42.3
443	17.0 - 23.0% of mass 442	8.33 (19.7)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD2745 - SSTD7.5	lj0611.d	10/17/15	12:42
02	SBLKWD288	lj0612.d	10/17/15	13:20
03	288WDLCS	lj0613.d	10/17/15	13:48
04	288WDLCSD	lj0614.d	10/17/15	14:16
05	8082098DL	lj0615.d	10/17/15	14:44
06	8082099DL	lj0616.d	10/17/15	15:12
07	8082100DL	lj0617.d	10/17/15	15:39
08	8082101DL	lj0618.d	10/17/15	16:07
09	8082124DL	lj0619.d	10/17/15	16:35
10	8082124DL2	lj0620.d	10/17/15	17:03
11	8082129	lj0621.d	10/17/15	17:31
12	8082130	lj0622.d	10/17/15	17:59
13	8083925	lj0623.d	10/17/15	18:27
14	8083928	lj0624.d	10/17/15	18:55
15	8083929	lj0625.d	10/17/15	19:22
16	8083930	lj0626.d	10/17/15	19:50
17	8083931	lj0627.d	10/17/15	20:18
18	8083932	lj0628.d	10/17/15	20:46

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lj0610a.d DFTPP Injection Date: 10/17/15

Instrument ID: HP20296 DFTPP Injection Time: 12:29

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	56.5
68	Less than 2.0% of mass 69	0.94 (1.68)1
69	Mass 69 relative abundance	55.7
70	Less than 2.0% of mass 69	0.34 (0.62)1
127	40.0 - 60.0% of mass 198	52.3
197	Less than 1.0% of mass 198	0.43
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.52
275	10.0 - 30.0% of mass 198	18.1
365	Greater than 1.00% of mass 198	1.84
441	Present, and less than mass 443	6.58
442	Greater than 40.0 % of mass 198	42.3
443	17.0 - 23.0% of mass 442	8.33 (19.7)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	8083933	lj0629.d	10/17/15	21:14
20	8083934	lj0630.d	10/17/15	21:42
21	8083935	lj0631.d	10/17/15	22:09
22	8083937	lj0632.d	10/17/15	22:37
23	8083938	lj0633.d	10/17/15	23:05
24	8083939	lj0634.d	10/17/15	23:33
25	8083940	lj0635.d	10/18/15	00:01
26	8083941	lj0636.d	10/18/15	00:29

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lj0710.d DFTPP Injection Date: 10/21/15

Instrument ID: HP20296 DFTPP Injection Time: 15:15

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	47.1
68	Less than 2.0% of mass 69	0.85 (1.81)1
69	Mass 69 relative abundance	47.1
70	Less than 2.0% of mass 69	0.29 (0.61)1
127	40.0 - 60.0% of mass 198	44.9
197	Less than 1.0% of mass 198	0.95
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.66
275	10.0 - 30.0% of mass 198	22.6
365	Greater than 1.00% of mass 198	2.38
441	Present, and less than mass 443	9.65
442	Greater than 40.0 % of mass 198	60.1
443	17.0 - 23.0% of mass 442	11.7 (19.5)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD2745 - SSTD7.5	lj0711.d	10/21/15	15:30
02	RVSTD2745 - SSTD.125	lj0712.d	10/21/15	15:58
03	RVSTD2745 - SSTD30	lj0713.d	10/21/15	16:26
04	RVSTD2745 - SSTD20	lj0714.d	10/21/15	16:54
05	RVSTD2745 - SSTD12.5	lj0715.d	10/21/15	17:22
06	RVSTD2745 - SSTD3.75	lj0716.d	10/21/15	17:50
07	RVSTD2745 - SSTD1.25	lj0717.d	10/21/15	18:18
08	RVSTD2745 - SSTD.25	lj0718.d	10/21/15	18:46
09	RVMDL2745 - SSTD0.125	lj0719.d	10/21/15	19:14
10	RVPAHMDL2745 - SSTD0.025	lj0720.d	10/21/15	19:42
11	RVICV2465 - SSTD12.5	lj0721.d	10/21/15	20:10
12	RVBASICV2475 - SSTD12.5	lj0722.d	10/21/15	20:38

FORM V SV

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lj0730z.d DFTPP Injection Date: 10/22/15

Instrument ID: HP20296 DFTPP Injection Time: 08:29

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	47.9
68	Less than 2.0% of mass 69	0.89 (1.84)1
69	Mass 69 relative abundance	48.0
70	Less than 2.0% of mass 69	0.23 (0.49)1
127	40.0 - 60.0% of mass 198	45.1
197	Less than 1.0% of mass 198	0.95
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.55
275	10.0 - 30.0% of mass 198	22.0
365	Greater than 1.00% of mass 198	2.34
441	Present, and less than mass 443	8.6
442	Greater than 40.0 % of mass 198	55.8
443	17.0 - 23.0% of mass 442	11.0 (19.6)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD2745 - SSTD7.5	lj0731.d	10/22/15	08:42
02	SBLKWE293	lj0732.d	10/22/15	09:53
03	293WELCS	lj0733.d	10/22/15	10:21
04	293WELCSD	lj0734.d	10/22/15	10:49
05	SBLKWP293	lj0735.d	10/22/15	11:17
06	293WPLCS	lj0736.d	10/22/15	11:45
07	293WPLCSD	lj0737.d	10/22/15	12:13
08	8080063RE	lj0738.d	10/22/15	12:41
09	8082124RE	lj0739.d	10/22/15	13:08
10	8084132RE	lj0741.d	10/22/15	13:36
11	8084138RE	lj0742.d	10/22/15	14:04
12	8084141RE	lj0743.d	10/22/15	14:32
13	8081610RE	lj0740.d	10/22/15	15:00
14	8090566	lj0747.d	10/22/15	15:28
15	8090568	lj0748.d	10/22/15	15:56
16	8090569	lj0749.d	10/22/15	16:24
17	8090570	lj0750.d	10/22/15	16:52
18	8090571	lj0751.d	10/22/15	17:20

FORM V SV

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: lj0730z.d DFTPP Injection Date: 10/22/15

Instrument ID: HP20296 DFTPP Injection Time: 08:29

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	47.9
68	Less than 2.0% of mass 69	0.89 (1.84)1
69	Mass 69 relative abundance	48.0
70	Less than 2.0% of mass 69	0.23 (0.49)1
127	40.0 - 60.0% of mass 198	45.1
197	Less than 1.0% of mass 198	0.95
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.55
275	10.0 - 30.0% of mass 198	22.0
365	Greater than 1.00% of mass 198	2.34
441	Present, and less than mass 443	8.6
442	Greater than 40.0 % of mass 198	55.8
443	17.0 - 23.0% of mass 442	11.0 (19.6)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	8090572	lj0752.d	10/22/15	17:48
20	8090573	lj0753.d	10/22/15	18:16
21	8090574	lj0754.d	10/22/15	18:44
22	8090575	lj0755.d	10/22/15	19:12
23	8090576	lj0756.d	10/22/15	19:40
24	8090577	lj0757.d	10/22/15	20:08

FORM V SV

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date(s): 10/15/15 10/15/15

Calibration Times: 13:06 16:51

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = lj0532.d RRF0.25 = lj0538.d RRF1.25 = lj0537.d RRF3.75 = lj0536.d
RRF7.5 = lj0531.d RRF12.5 = lj0535.d RRF20 = lj0534.d RRF30 = lj0533.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1,4-Dioxane			0.671	0.708	0.736	0.718	0.688	0.711	0.705	3	AVG
N-Nitrosodimethylamine			1.037	1.100	1.131	1.157	1.105	1.154	1.114	4	AVG
Pyridine			1.752	1.880	1.913	1.913	1.898	1.941	1.883	4	AVG
2-Picoline			1.923	2.012	1.976	2.003	1.910	1.957	1.964	2	AVG
N-Nitrosomethylethylamine			0.781	0.806	0.816	0.826	0.788	0.805	0.804	2	AVG
Methyl methanesulfonate			0.914	0.978	0.960	0.979	0.922	0.938	0.948	3	AVG
N-Nitrosodiethylamine		0.675	0.737	0.768	0.777	0.794	0.758	0.770	0.754	5	AVG
Ethyl methanesulfonate		0.792	0.741	0.782	0.786	0.799	0.748	0.773	0.774	3	AVG
Benzaldehyde			1.554	1.552	1.487	1.451	1.437	1.332	1.469	6	AVG
Phenol		2.226	2.080	2.152	2.203	2.239	2.150	2.332	2.197	4	AVG
Aniline		2.703	2.714	2.783	2.760	2.811	2.759	2.767	2.757	1	AVG
a-methylstyrene			1.450	1.560	1.523	1.593	1.553	1.561	1.540	3	AVG
bis(2-Chloroethyl)ether		1.805	1.705	1.694	1.711	1.719	1.658	1.663	1.708	3	AVG
2-Chlorophenol		1.332	1.389	1.403	1.433	1.452	1.372	1.395	1.397	3	AVG
1,3-Dichlorobenzene		1.592	1.499	1.589	1.571	1.590	1.516	1.546	1.557	2	AVG
1,4-Dichlorobenzene		1.595	1.559	1.606	1.604	1.637	1.548	1.566	1.588	2	AVG
Benzyl alcohol			1.003	1.046	1.056	1.094	1.051	1.064	1.052	3	AVG
1,2-Dichlorobenzene		1.492	1.475	1.490	1.516	1.546	1.464	1.482	1.495	2	AVG
Indene			2.579	2.654	2.591	2.761	2.686	2.677	2.658	3	AVG
2-Methylphenol		1.500	1.445	1.467	1.495	1.512	1.443	1.463	1.475	2	AVG
2,2'-oxybis(1-Chloropropane)		2.537	2.370	2.404	2.407	2.447	2.339	2.326	2.404	3	AVG
bis(2-Chloroisopropyl)ether		2.537	2.370	2.404	2.407	2.447	2.339	2.326	2.404	3	AVG
N-Nitrosopyrrolidine		0.758	0.749	0.787	0.805	0.834	0.809	0.798	0.792	4	AVG
Acetophenone		2.534	2.227	2.316	2.244	2.275	2.301	2.229	2.304	5	AVG
4-Methylphenol		1.507	1.471	1.563	1.573	1.612	1.523	1.528	1.540	3	AVG
Total Cresols		1.504	1.458	1.515	1.534	1.562	1.483	1.496	1.507	2	AVG
N-Nitroso-di-n-propylamine		1.318	1.316	1.336	1.354	1.384	1.304	1.317	1.333	2	AVG
N-Nitrosomorpholine			0.982	1.031	1.056	1.070	1.012	1.013	1.028	3	AVG
o-Toluidine		2.517	2.486	2.623	2.663	2.687	2.572	2.550	2.585	3	AVG
Hexachloroethane			0.640	0.668	0.661	0.685	0.646	0.653	0.659	2	AVG
Nitrobenzene		0.478	0.482	0.510	0.525	0.515	0.493	0.504	0.501	3	AVG
N-Nitrosopiperidine		0.177	0.185	0.197	0.198	0.200	0.190	0.194	0.191	4	AVG
Isophorone		0.840	0.841	0.902	0.915	0.908	0.872	0.888	0.881	3	AVG
2-Nitrophenol		0.168	0.178	0.177	0.192	0.193	0.183	0.189	0.183	5	AVG
2,4-Dimethylphenol		0.381	0.413	0.419	0.440	0.429	0.414	0.420	0.417	4	AVG
O,O,O-Triethylphosphorothioate			0.173	0.189	0.191	0.185	0.178	0.183	0.183	4	AVG
bis(2-Chloroethoxy)methane		0.545	0.522	0.538	0.547	0.544	0.520	0.530	0.535	2	AVG
Benzoic acid			0.216	0.287	0.317	0.347	0.353	0.363	0.314	18	1STDEG
1,2,3,4-Tetrahydronaphthalene			0.602	0.609	0.612	0.630	0.617	0.624	0.615	2	AVG
2,4-Dichlorophenol		0.273	0.283	0.304	0.309	0.306	0.296	0.301	0.296	4	AVG
1,2,4-Trichlorobenzene		0.349	0.327	0.346	0.345	0.345	0.328	0.336	0.339	3	AVG
Naphthalene	1.113	1.082	1.044	1.098	1.089	1.081	1.033	1.050	1.074	3	AVG
4-Chloroaniline		0.425	0.422	0.451	0.454	0.455	0.436	0.442	0.441	3	AVG
2,6-Dichlorophenol		0.283	0.297	0.294	0.310	0.307	0.289	0.298	0.297	3	AVG
Hexachloropropene			0.203	0.219	0.231	0.232	0.226	0.231	0.224	5	AVG
Hexachlorobutadiene		0.185	0.192	0.193	0.201	0.198	0.189	0.194	0.193	3	AVG
Quinoline			0.646	0.673	0.695	0.687	0.661	0.668	0.672	3	AVG
Caprolactam			0.090	0.102	0.102	0.104	0.099	0.099	0.099	5	AVG
N-Nitrosodi-n-butylamine			0.290	0.322	0.409	0.403	0.390	0.398	0.368	14	AVG
4-Chloro-3-methylphenol		0.301	0.341	0.365	0.378	0.379	0.353	0.359	0.354	8	AVG
Safrole			0.254	0.276	0.278	0.278	0.270	0.273	0.271	3	AVG
2-Methylnaphthalene	0.754	0.705	0.701	0.722	0.723	0.716	0.684	0.694	0.712	3	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date(s): 10/15/15 10/15/15

Calibration Times: 13:06 16:51

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.125 = lj0532.d RRF0.25 = lj0538.d RRF1.25 = lj0537.d RRF3.75 = lj0536.d
RRF7.5 = lj0531.d RRF12.5 = lj0535.d RRF20 = lj0534.d RRF30 = lj0533.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1-Methylnaphthalene	0.733	0.608	0.647	0.651	0.655	0.649	0.625	0.633	0.650	6	AVG
Hexachlorocyclopentadiene			0.347	0.354	0.371	0.382	0.379	0.383	0.370	4	AVG
1,2,4,5-Tetrachlorobenzene		0.615	0.591	0.605	0.589	0.594	0.594	0.591	0.597	2	AVG
cis-Isosafrole			0.527	0.527	0.528	0.528	0.522	0.521	0.526	1	AVG
2,4,6-Trichlorophenol		0.346	0.345	0.385	0.386	0.388	0.389	0.390	0.376	6	AVG
2,4,5-Trichlorophenol		0.405	0.396	0.421	0.412	0.421	0.407	0.401	0.409	2	AVG
trans-Isosafrole			0.552	0.564	0.571	0.580	0.570	0.573	0.568	2	AVG
Isosafrole			0.548	0.558	0.564	0.571	0.562	0.564	0.561	1	AVG
1,1'-Biphenyl		1.601	1.465	1.517	1.452	1.481	1.493	1.467	1.497	3	AVG
2-Chloronaphthalene		1.239	1.155	1.157	1.152	1.178	1.205	1.163	1.178	3	AVG
1-Chloronaphthalene		1.170	1.128	1.157	1.114	1.119	1.055	1.110	1.122	3	AVG
Diphenyl ether		0.795	0.790	0.819	0.800	0.806	0.799	0.786	0.799	1	AVG
2-Nitroaniline		0.336	0.312	0.360	0.372	0.376	0.371	0.371	0.357	7	AVG
1,4-Naphthoquinone			0.421	0.467	0.485	0.492	0.480	0.480	0.471	5	AVG
1,4-Dinitrobenzene			0.156	0.180	0.181	0.194	0.192	0.196	0.183	8	AVG
Dimethylphthalate			1.271	1.304	1.267	1.280	1.261	1.255	1.273	1	AVG
1,3-Dinitrobenzene			0.172	0.205	0.201	0.207	0.208	0.207	0.200	7	AVG
2,6-Dinitrotoluene		0.225	0.265	0.285	0.289	0.288	0.290	0.289	0.276	9	AVG
Acenaphthylene	1.748	1.709	1.740	1.847	1.815	1.844	1.828	1.822	1.794	3	AVG
3-Nitroaniline		0.233	0.293	0.315	0.316	0.319	0.321	0.323	0.303	11	AVG
Acenaphthene	1.101	1.248	1.183	1.244	1.213	1.211	1.174	1.190	1.195	4	AVG
2,4-Dinitrophenol				0.165	0.171	0.186	0.194	0.199	0.183	8	AVG
4-Nitrophenol				0.235	0.231	0.237	0.235	0.232	0.234	1	AVG
Pentachlorobenzene		0.451	0.469	0.477	0.476	0.470	0.462	0.462	0.467	2	AVG
2,4-Dinitrotoluene			0.351	0.388	0.380	0.398	0.396	0.390	0.384	5	AVG
2,4_2,6-Dinitrotoluenes		0.280	0.308	0.336	0.334	0.343	0.343	0.340	0.326	7	AVG
Dibenzofuran		1.715	1.616	1.671	1.609	1.634	1.590	1.600	1.634	3	AVG
1-Naphthylamine				1.209	1.148	1.208	1.184	1.204	1.191	2	AVG
2,3,4,6-Tetrachlorophenol		0.270	0.288	0.315	0.314	0.318	0.320	0.322	0.307	7	AVG
2-Naphthylamine				1.165	1.121	1.163	1.163	1.179	1.158	2	AVG
Diethylphthalate			1.220	1.246	1.253	1.287	1.262	1.245	1.252	2	AVG
Thionazin			0.242	0.272	0.232	0.240	0.237	0.234	0.243	6	AVG
Fluorene	1.220	1.297	1.279	1.327	1.277	1.285	1.271	1.267	1.278	2	AVG
4-Chlorophenyl-phenylether		0.566	0.615	0.629	0.622	0.630	0.619	0.611	0.613	4	AVG
5-Nitro-o-toluidine		0.327	0.315	0.365	0.355	0.370	0.370	0.368	0.353	6	AVG
4-Nitroaniline		0.236	0.299	0.326	0.326	0.331	0.322	0.322	0.309	11	AVG
4,6-Dinitro-2-methylphenol				0.119	0.128	0.130	0.134	0.135	0.129	5	AVG
N-Nitrosodiphenylamine (1)		0.588	0.582	0.597	0.587	0.586	0.573	0.584	0.585	1	AVG
NDPA as diphenylamine		0.588	0.582	0.597	0.587	0.586	0.573	0.584	0.585	1	AVG
1,2-Diphenylhydrazine		0.819	0.870	0.911	0.896	0.896	0.882	0.897	0.882	3	AVG
Tetraethyldithiopyrophosphate			0.140	0.143	0.143	0.140	0.138	0.136	0.140	2	AVG
1,3,5-Trinitrobenzene				0.068	0.076	0.077	0.078	0.081	0.076	6	AVG
Diallate (peak 1)			0.377	0.390	0.391	0.388	0.375	0.382	0.384	2	AVG
Phorate		0.467	0.543	0.564	0.580	0.579	0.559	0.564	0.551	7	AVG
Phenacetin		0.361	0.361	0.410	0.427	0.428	0.415	0.418	0.403	7	AVG
4-Bromophenyl-phenylether		0.182	0.169	0.176	0.179	0.177	0.174	0.178	0.177	2	AVG
Diallate (peak 2)			0.367	0.386	0.376	0.379	0.372	0.380	0.377	2	AVG
Diallate trans/cis			0.375	0.389	0.388	0.386	0.374	0.382	0.383	2	AVG
Hexachlorobenzene	0.188	0.183	0.182	0.185	0.184	0.183	0.180	0.186	0.184	1	AVG
Dimethoate			0.336	0.362	0.372	0.372	0.356	0.358	0.359	4	AVG
Atrazine			0.188	0.199	0.195	0.196	0.189	0.183	0.191	3	AVG
Pentachlorophenol			0.106	0.115	0.125	0.128	0.126	0.131	0.122	8	AVG

(1) Cannot be separated from Diphenylamine

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date(s): 10/15/15 10/15/15

Calibration Times: 13:06 16:51

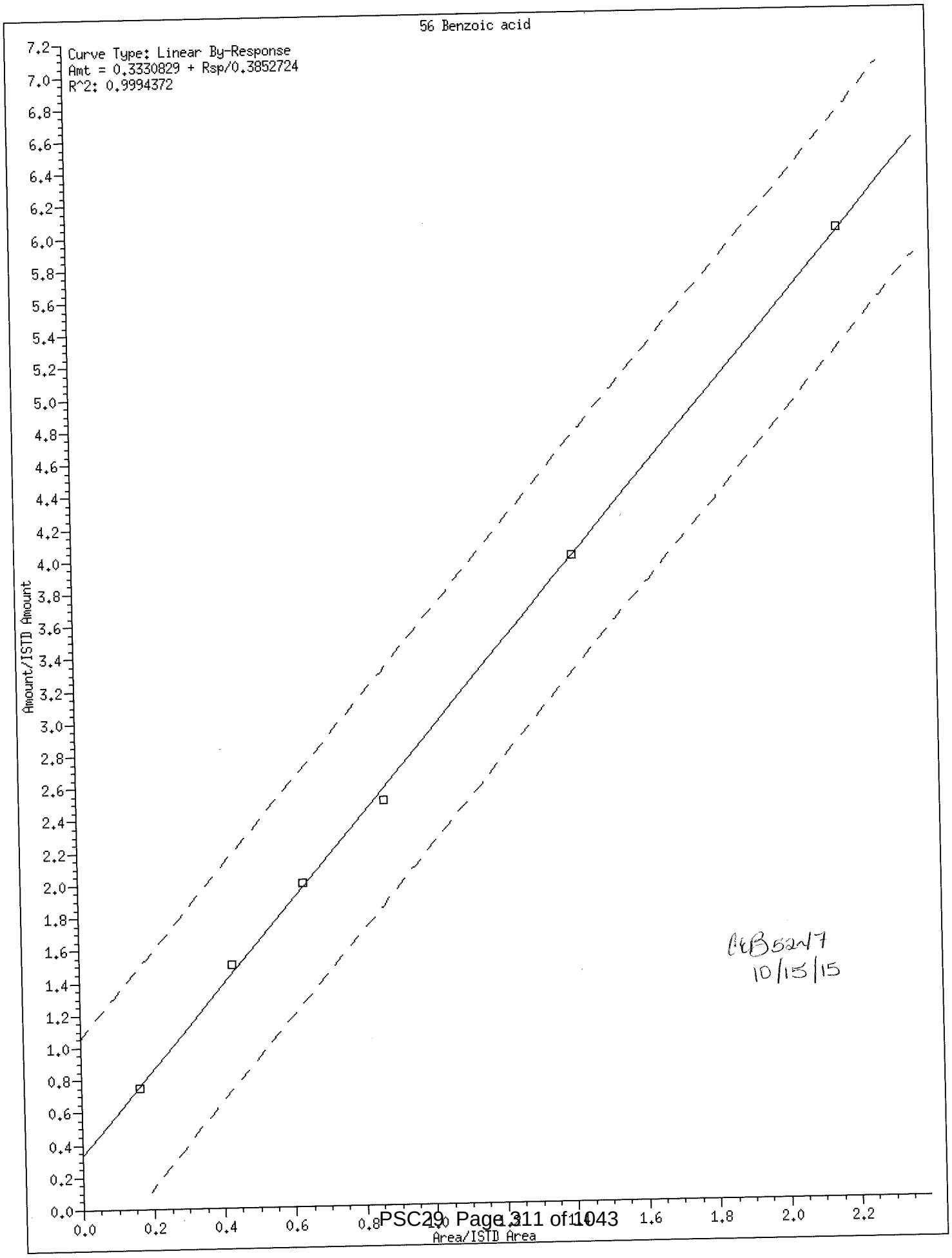
Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.125 = lj0532.d RRF0.25 = lj0538.d RRF1.25 = lj0537.d RRF3.75 = lj0536.d
RRF7.5 = lj0531.d RRF12.5 = lj0535.d RRF20 = lj0534.d RRF30 = lj0533.d

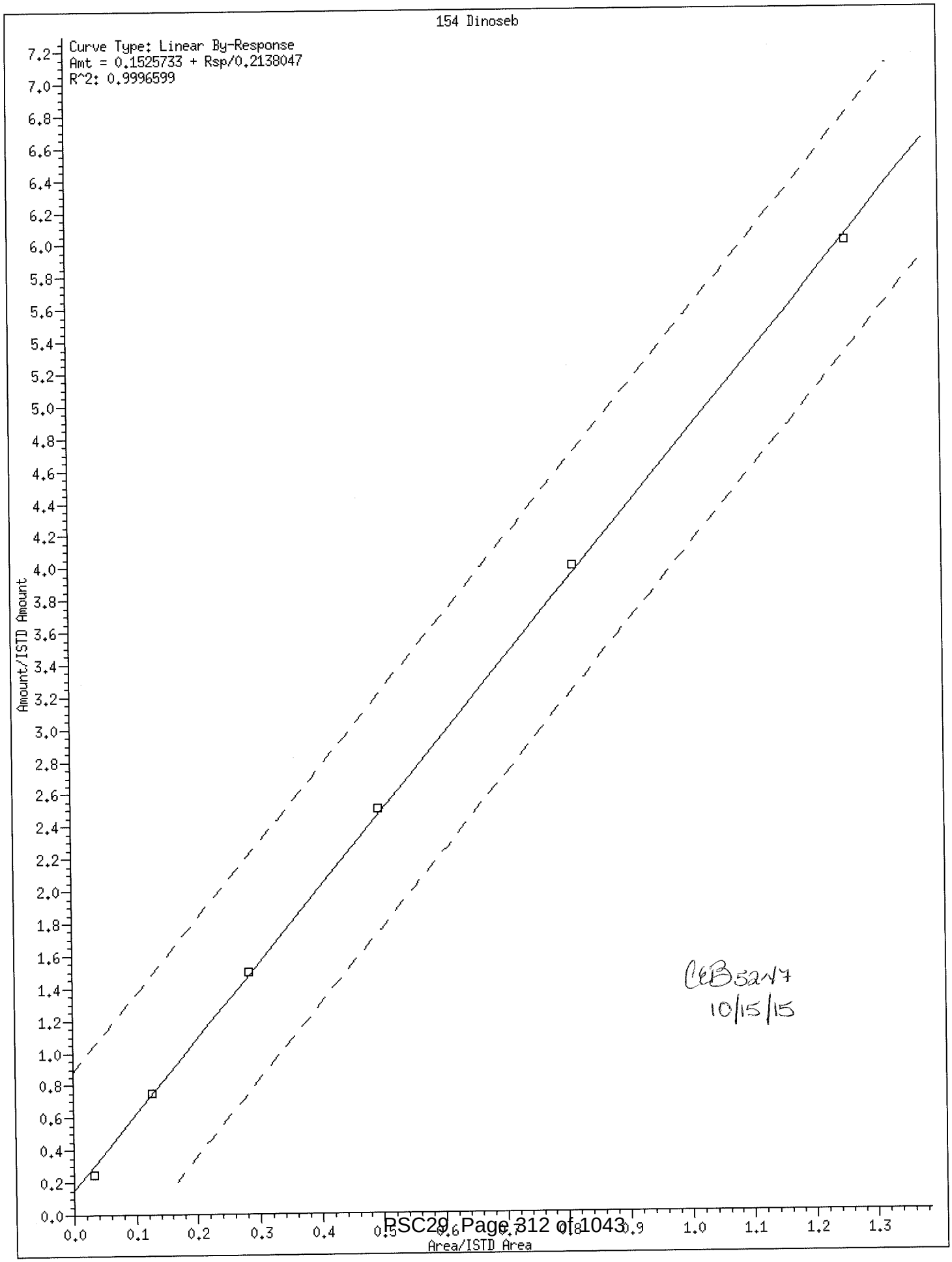
COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
4-Aminobiphenyl		0.609	0.629	0.685	0.690	0.684	0.674	0.690	0.666	5	AVG
Pentachloronitrobenzene			0.086	0.090	0.088	0.090	0.089	0.090	0.089	2	AVG
Pronamide		0.244	0.275	0.317	0.333	0.331	0.321	0.328	0.307	11	AVG
Dinoseb			0.132	0.168	0.189	0.198	0.204	0.210	0.184	16	1STDEG
Phenanthrene	1.072	1.027	1.024	1.051	1.043	1.040	1.024	1.050	1.042	2	AVG
Anthracene	1.033	0.996	1.006	1.048	1.048	1.057	1.033	1.047	1.034	2	AVG
Carbazole		0.868	0.929	0.967	0.986	0.982	0.958	0.967	0.951	4	AVG
Methyl parathion			0.216	0.261	0.277	0.284	0.275	0.276	0.265	9	AVG
Di-n-butylphthalate			1.068	1.164	1.192	1.191	1.174	1.197	1.164	4	AVG
Parathion			0.123	0.155	0.161	0.167	0.165	0.168	0.156	11	AVG
4-Nitroquinoline-1-oxide				0.090	0.102	0.118	0.123	0.128	0.112	14	AVG
Octachlorostyrene			0.061	0.066	0.066	0.066	0.066	0.067	0.065	3	AVG
Isodrin		0.132	0.114	0.119	0.123	0.122	0.121	0.121	0.122	4	AVG
Fluoranthene	1.163	1.030	1.089	1.155	1.176	1.164	1.137	1.155	1.134	4	AVG
Benzidine				0.664	0.662	0.667	0.640	0.633	0.653	2	AVG
Pyrene	1.199	1.094	1.047	1.076	1.058	1.057	1.029	1.048	1.076	5	AVG
p-Dimethylaminoazobenzene		0.128	0.151	0.177	0.190	0.193	0.188	0.194	0.174	15	AVG
Chlorobenzilate			0.282	0.316	0.320	0.318	0.312	0.315	0.310	5	AVG
3,3'-Dimethylbenzidine			0.572	0.643	0.686	0.687	0.664	0.683	0.656	7	AVG
Butylbenzylphthalate			0.407	0.462	0.468	0.468	0.455	0.463	0.454	5	AVG
2-Acetylaminofluorene			0.310	0.385	0.413	0.419	0.415	0.437	0.397	11	AVG
3,3'-Dichlorobenzidine			0.314	0.352	0.357	0.359	0.351	0.365	0.350	5	AVG
4,4'-Methylenebis(2-chloroanil				0.201	0.201	0.205	0.200	0.205	0.203	1	AVG
Benzo(a)anthracene	0.904	0.830	0.877	0.968	0.955	0.968	0.945	0.963	0.926	6	AVG
Chrysene	0.901	0.827	0.877	0.912	0.890	0.907	0.875	0.890	0.885	3	AVG
bis(2-Ethylhexyl)phthalate			0.546	0.653	0.671	0.680	0.665	0.690	0.651	8	AVG
6-Methylchrysene			0.570	0.628	0.639	0.635	0.623	0.657	0.625	5	AVG
Di-n-octylphthalate			1.256	1.479	1.602	1.632	1.603	1.630	1.533	10	AVG
Benzo(b)fluoranthene	1.231	1.188	1.172	1.266	1.234	1.256	1.247	1.249	1.231	3	AVG
7,12-Dimethylbenz[a]anthracene		0.440	0.496	0.547	0.553	0.569	0.557	0.562	0.532	9	AVG
Benzo(k)fluoranthene	1.201	1.128	1.198	1.206	1.213	1.239	1.180	1.210	1.197	3	AVG
Benzo(a)pyrene	1.021	1.109	1.126	1.166	1.174	1.184	1.183	1.207	1.146	5	AVG
3-Methylcholanthrene		0.461	0.494	0.536	0.559	0.567	0.555	0.576	0.535	8	AVG
Dibenz(a,h)acridine			0.882	0.956	0.999	1.015	0.998	1.038	0.981	6	AVG
Dibenz(a,j)acridine			0.905	0.971	1.007	1.025	1.006	1.020	0.989	5	AVG
Indeno(1,2,3-cd)pyrene	1.244	1.294	1.300	1.356	1.378	1.399	1.361	1.392	1.341	4	AVG
Dibenz(a,h)anthracene	1.067	1.009	1.060	1.142	1.167	1.175	1.144	1.175	1.117	6	AVG
Benzo(g,h,i)perylene	1.141	1.108	1.106	1.135	1.173	1.187	1.147	1.168	1.146	3	AVG
Total PAHs	1.164	1.121	1.132	1.155	1.135	1.153	1.118	1.108	1.136	2	AVG
2-Fluorophenol		1.390	1.447	1.515	1.533	1.535	1.470	1.517	1.487	4	AVG
Phenol-d6		2.052	1.955	2.093	2.079	2.109	2.017	2.029	2.048	3	AVG
Nitrobenzene-d5		0.513	0.486	0.507	0.515	0.512	0.498	0.503	0.505	2	AVG
2-Fluorobiphenyl		1.377	1.365	1.413	1.370	1.391	1.357	1.375	1.378	1	AVG
2,4,6-Tribromophenol		0.128	0.141	0.148	0.146	0.149	0.151	0.150	0.145	6	AVG
Terphenyl-d14		0.657	0.643	0.675	0.673	0.676	0.656	0.668	0.664	2	AVG
								Average %RSD		4	

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzidine Levels in the 5,15,30 standards are at 15 ng/ul, 30 ng/ul,40 ng/ul.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.

FORM VI SV-1



AB5247
10/15/15



CEB5247
10/15/15

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP20296.i/15oct15.b/lj0531.d SSTD7.5
/chem/HP20296.i/15oct15.b/lj0532.d SSTD0.125
/chem/HP20296.i/15oct15.b/lj0533.d SSTD030
/chem/HP20296.i/15oct15.b/lj0534.d SSTD020
/chem/HP20296.i/15oct15.b/lj0535.d SSTD12.5
/chem/HP20296.i/15oct15.b/lj0536.d SSTD3.75
/chem/HP20296.i/15oct15.b/lj0537.d SSTD1.25
/chem/HP20296.i/15oct15.b/lj0538.d SSTD0.25

Area Summary

Internal Standard Name	lj0531.d	lj0532.d	lj0533.d	lj0534.d	lj0535.d	lj0536.d	lj0537.d	lj0538.d	Avg. Area	%RSD
	File ID:									
1,4-Dichlorobenzene-d4	185789	172168	169733	172350	164820	166396	175058	177531	172981	4
Naphthalene-d8	704214	666639	649919	670534	645068	644442	677442	683133	667674	3
Acenaphthene-d10	414115	384995	368836	375673	370090	363918	378866	377362	379232	4
Phenanthrene-d10	752998	693584	676284	702612	688510	667346	687996	684811	694268	4
Pyrene-d10	869908	797125	773974	802565	786512	760948	791702	772801	794442	4
Perylene-d12	649934	566613	603092	599209	580842	563925	565243	559095	585994	5

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

Internal Standard Name	lj0531.d	lj0532.d	lj0533.d	lj0534.d	lj0535.d	lj0536.d	lj0537.d	lj0538.d
	File ID:							
1,4-Dichlorobenzene-d4	7.049	7.049	7.049	7.049	7.049	7.043	7.043	7.043
Naphthalene-d8	9.039	9.038	9.039	9.039	9.038	9.033	9.033	9.033
Acenaphthene-d10	11.868	11.868	11.868	11.868	11.862	11.862	11.863	11.862
Phenanthrene-d10	13.799	13.799	13.804	13.799	13.799	13.793	13.793	13.793
Pyrene-d10	15.874	15.874	15.879	15.874	15.874	15.874	15.874	15.869
Perylene-d12	20.495	20.495	20.501	20.495	20.495	20.495	20.495	20.490

Comments: _____

_____

Report generated on 10/15/2015 at 18:14

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: 1j0541.d

ICV SAMPLE ID: RVICV2465 BATCH: 15OCT15026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	12.50	12.64	1	20	YES
N-Nitrosodimethylamine	12.50	12.40	-1	20	YES
Pyridine	12.50	13.16	5	20	YES
2-Picoline	12.50	12.46	0	20	YES
N-Nitrosomethylethylamine	12.50	12.22	-2	20	YES
Methyl methanesulfonate	12.50	12.63	1	20	YES
N-Nitrosodiethylamine	12.50	12.25	-2	20	YES
Ethyl methanesulfonate	12.50	12.38	-1	20	YES
Phenol	12.50	12.23	-2	20	YES
Aniline	12.50	12.38	-1	20	YES
bis(2-Chloroethyl)ether	12.50	12.22	-2	20	YES
2-Chlorophenol	12.50	12.45	0	20	YES
1,3-Dichlorobenzene	12.50	12.58	1	20	YES
1,4-Dichlorobenzene	12.50	12.54	0	20	YES
Benzyl alcohol	12.50	12.76	2	20	YES
1,2-Dichlorobenzene	12.50	12.89	3	20	YES
Indene	12.50	12.95	4	20	YES
2-Methylphenol	12.50	12.69	2	20	YES
2,2'-oxybis(1-Chloropropane	12.50	13.05	4	20	YES
bis(2-Chloroisopropyl)ether	12.50	13.05	4	20	YES
N-Nitrosopyrrolidine	12.50	12.23	-2	20	YES
Acetophenone	12.50	12.33	-1	20	YES
4-Methylphenol	12.50	12.38	-1	20	YES
N-Nitroso-di-n-propylamine	12.50	12.19	-2	20	YES
N-Nitrosomorpholine	12.50	12.24	-2	20	YES
o-Toluidine	12.50	12.39	-1	20	YES
Total Cresols	25.00	25.08	0	20	YES
Hexachloroethane	12.50	12.73	2	20	YES
Nitrobenzene	12.50	12.65	1	20	YES
N-Nitrosopiperidine	12.50	12.38	-1	20	YES
Isophorone	12.50	12.95	4	20	YES
2-Nitrophenol	12.50	12.72	2	20	YES
2,4-Dimethylphenol	12.50	12.15	-3	20	YES
bis(2-Chloroethoxy)methane	12.50	12.75	2	20	YES
Benzoic acid	25.00	20.80	-17	20	YES
O,O,O-Triethylphosphorothio	12.50	12.25	-2	20	YES
2,4-Dichlorophenol	12.50	12.72	2	20	YES

NC = Could not calculate

Comments:

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: lj0541.d

ICV SAMPLE ID: RVICV2465 BATCH: 15OCT15026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,2,4-Trichlorobenzene	12.50	12.74	2	20	YES
Naphthalene	12.50	12.71	2	20	YES
4-Chloroaniline	12.50	12.56	1	20	YES
2,6-Dichlorophenol	12.50	12.55	0	20	YES
Hexachloropropene	12.50	13.64	9	20	YES
Hexachlorobutadiene	12.50	13.08	5	20	YES
Quinoline	12.50	12.48	0	20	YES
N-Nitrosodi-n-butylamine	12.50	10.58	-15	20	YES
4-Chloro-3-methylphenol	12.50	12.96	4	20	YES
Safrole	12.50	12.41	-1	20	YES
2-Methylnaphthalene	12.50	11.98	-4	20	YES
1-Methylnaphthalene	12.50	12.40	-1	20	YES
Hexachlorocyclopentadiene	25.00	27.00	8	20	YES
1,2,4,5-Tetrachlorobenzene	12.50	12.58	1	20	YES
cis-Isosafrole	2.13	1.56	-27	20	NO*
2,4,6-Trichlorophenol	12.50	13.30	6	20	YES
2,4,5-Trichlorophenol	12.50	12.60	1	20	YES
trans-Isosafrole	10.38	11.71	13	20	YES
1,1'-Biphenyl	12.50	12.77	2	20	YES
2-Chloronaphthalene	12.50	13.04	4	20	YES
Isosafrole	12.50	13.27	6	20	YES
1-Chloronaphthalene	12.50	12.37	-1	20	YES
Diphenyl ether	12.50	12.73	2	20	YES
2-Nitroaniline	12.50	13.04	4	20	YES
1,4-Naphthoquinone	15.63	16.13	3	20	YES
1,4-Dinitrobenzene	12.50	12.82	3	20	YES
Dimethylphthalate	12.50	12.71	2	20	YES
1,3-Dinitrobenzene	12.50	13.03	4	20	YES
2,6-Dinitrotoluene	12.50	13.43	7	20	YES
Acenaphthylene	12.50	13.12	5	20	YES
3-Nitroaniline	12.50	13.36	7	20	YES
Acenaphthene	12.50	13.27	6	20	YES
2,4-Dinitrophenol	25.00	25.68	3	20	YES
4-Nitrophenol	12.50	13.14	5	20	YES
Pentachlorobenzene	12.50	12.66	1	20	YES
2,4-Dinitrotoluene	12.50	13.19	6	20	YES
Dibenzofuran	12.50	12.70	2	20	YES

NC = Could not calculate

Comments: _*See Isosafrole summary compound.

CEB 52417
10/15/15

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: lj0541.d

ICV SAMPLE ID: RVICV2465 BATCH: 15OCT15026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
2,4_2,6-Dinitrotoluenes	25.00	26.62	6	20	YES
1-Naphthylamine	25.00	25.22	1	20	YES
2,3,4,6-Tetrachlorophenol	12.50	13.32	7	20	YES
2-Naphthylamine	25.00	25.39	2	20	YES
Diethylphthalate	12.50	13.00	4	20	YES
Thionazin	12.50	12.49	0	20	YES
Fluorene	12.50	13.09	5	20	YES
4-Chlorophenyl-phenylether	12.50	13.11	5	20	YES
5-Nitro-o-toluidine	12.50	13.59	9	20	YES
4-Nitroaniline	12.50	13.22	6	20	YES
4,6-Dinitro-2-methylphenol	12.50	12.67	1	20	YES
N-Nitrosodiphenylamine	12.50	12.56	0	20	YES
NDPA as diphenylamine	12.50	12.56	0	20	YES
1,2-Diphenylhydrazine	12.50	13.27	6	20	YES
Tetraethyldithiopyrophospha	12.50	12.45	0	20	YES
1,3,5-Trinitrobenzene	12.50	12.19	-2	20	YES
Diallate (peak 1)	9.38	8.85	-6	20	YES
Phorate	12.50	12.84	3	20	YES
Phenacetin	12.50	12.76	2	20	YES
4-Bromophenyl-phenylether	12.50	12.72	2	20	YES
Diallate (peak 2)	3.13	2.95	-5	20	YES
Hexachlorobenzene	12.50	12.23	-2	20	YES
Diallate trans/cis	12.50	11.81	-6	20	YES
Dimethoate	12.50	12.56	0	20	YES
Pentachlorophenol	12.50	13.80	10	20	YES
4-Aminobiphenyl	12.50	14.59	17	20	YES
Pentachloronitrobenzene	12.50	12.58	1	20	YES
Pronamide	12.50	12.99	4	20	YES
Dinoseb	12.50	12.22	-2	20	YES
Phenanthrene	12.50	12.48	0	20	YES
Anthracene	12.50	12.94	4	20	YES
Carbazole	12.50	12.74	2	20	YES
Methyl parathion	12.50	12.96	4	20	YES
Di-n-butylphthalate	12.50	13.01	4	20	YES
Parathion	12.50	13.36	7	20	NO*
4-Nitroquinoline-1-oxide	150.00	188.66	26	20	YES
Isodrin	12.50	12.28	-2	20	YES

NC = Could not calculate

Comments: _*Non-CCC < 50% D OK.

CCB5247
10/15/15

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: lj0541.d

ICV SAMPLE ID: RVICV2465 BATCH: 15OCT15026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Fluoranthene	12.50	12.92	3	20	YES
Benzidine	62.50	63.36	1	20	YES
Pyrene	12.50	12.30	-2	20	YES
p-Dimethylaminoazobenzene	12.50	14.75	18	20	YES
Chlorobenzilate	12.50	12.90	3	20	YES
3,3'-Dimethylbenzidine	25.00	24.18	-3	20	YES
Butylbenzylphthalate	12.50	13.52	8	20	YES
2-Acetylaminofluorene	12.50	13.03	4	20	YES
3,3'-Dichlorobenzidine	12.50	12.29	-2	20	YES
Benzo(a)anthracene	12.50	13.20	6	20	YES
Chrysene	12.50	13.27	6	20	YES
4,4'-Methylenebis(2-chloroa	12.50	12.30	-2	20	YES
bis(2-Ethylhexyl)phthalate	12.50	13.56	9	20	YES
6-Methylchrysene	12.50	12.84	3	20	YES
Di-n-octylphthalate	12.50	13.90	11	20	YES
Benzo(b)fluoranthene	12.50	13.29	6	20	YES
7,12-Dimethylbenz[a]anthrac	12.50	12.83	3	20	YES
Benzo(k)fluoranthene	12.50	12.99	4	20	YES
Benzo(a)pyrene	12.50	12.86	3	20	YES
3-Methylcholanthrene	12.50	14.38	15	20	YES
Dibenz(a,h)acridine	12.50	13.01	4	20	YES
Dibenz(a,j)acridine	12.50	12.28	-2	20	YES
Indeno(1,2,3-cd)pyrene	12.50	13.05	4	20	YES
Dibenz(a,h)anthracene	12.50	13.43	7	20	YES
Benzo(g,h,i)perylene	12.50	13.24	6	20	YES
Total PAHs	225.00	232.53	3	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: lj0542.d

ICV SAMPLE ID: RVBASICV2475 BATCH: 15OCT15026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzaldehyde	12.50	14.30	14	20	YES
Caprolactam	12.50	13.24	6	20	YES
Atrazine	12.50	13.69	10	20	YES

NC = Could not calculate

Comments:

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date(s): 10/21/15 10/21/15

Calibration Times: 15:30 18:46

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.125 = lj0712.d RRF0.25 = lj0718.d RRF1.25 = lj0717.d RRF3.75 = lj0716.d
RRF7.5 = lj0711.d RRF12.5 = lj0715.d RRF20 = lj0714.d RRF30 = lj0713.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1,4-Dioxane			0.631	0.639	0.657	0.661	0.644	0.640	0.645	2	AVG
N-Nitrosodimethylamine			0.965	1.015	1.063	1.063	1.038	1.051	1.032	4	AVG
Pyridine			1.765	1.738	1.774	1.806	1.760	1.766	1.768	1	AVG
2-Picoline			1.784	1.809	1.883	1.869	1.796	1.816	1.826	2	AVG
N-Nitrosomethylethylamine			0.694	0.720	0.749	0.751	0.732	0.734	0.730	3	AVG
Methyl methanesulfonate			0.885	0.947	0.943	0.960	0.923	0.924	0.930	3	AVG
N-Nitrosodiethylamine		0.659	0.693	0.721	0.739	0.737	0.709	0.715	0.710	4	AVG
Ethyl methanesulfonate		0.783	0.718	0.741	0.750	0.763	0.735	0.743	0.748	3	AVG
Benzaldehyde			1.478	1.477	1.411	1.386	1.330	1.174	1.376	8	AVG
Phenol		2.186	2.114	2.204	2.230	2.255	2.151	2.157	2.185	2	AVG
Aniline		2.671	2.566	2.616	2.664	2.667	2.568	2.577	2.618	2	AVG
a-methylstyrene			1.453	1.513	1.476	1.535	1.505	1.483	1.494	2	AVG
bis(2-Chloroethyl)ether		1.659	1.597	1.653	1.628	1.642	1.586	1.599	1.623	2	AVG
2-Chlorophenol		1.390	1.263	1.345	1.379	1.373	1.321	1.335	1.344	3	AVG
1,3-Dichlorobenzene		1.599	1.486	1.545	1.577	1.580	1.504	1.510	1.543	3	AVG
1,4-Dichlorobenzene		1.648	1.530	1.581	1.595	1.594	1.541	1.534	1.575	3	AVG
Benzyl alcohol			0.909	0.964	0.991	1.037	1.019	1.007	0.988	5	AVG
1,2-Dichlorobenzene		1.528	1.484	1.455	1.515	1.504	1.437	1.424	1.478	3	AVG
Indene			2.509	2.591	2.588	2.690	2.628	2.622	2.605	2	AVG
2-Methylphenol		1.361	1.347	1.409	1.434	1.459	1.402	1.402	1.402	3	AVG
2,2'-oxybis(1-Chloropropane)		2.124	1.957	1.979	2.004	2.017	1.936	1.940	1.994	3	AVG
bis(2-Chloroisopropyl)ether		2.124	1.957	1.979	2.004	2.017	1.936	1.940	1.994	3	AVG
N-Nitrosopyrrolidine		0.688	0.691	0.749	0.779	0.799	0.781	0.774	0.752	6	AVG
Acetophenone		2.628	2.191	2.235	2.189	2.216	2.233	2.195	2.270	7	AVG
4-Methylphenol		1.560	1.537	1.612	1.627	1.511	1.579	1.574	1.572	3	AVG
Total Cresols		1.461	1.442	1.511	1.531	1.485	1.490	1.488	1.487	2	AVG
N-Nitroso-di-n-propylamine		1.498	1.258	1.311	1.293	1.307	1.272	1.279	1.317	6	AVG
N-Nitrosomorpholine			0.858	0.924	0.942	0.953	0.914	0.923	0.919	4	AVG
o-Toluidine		2.646	2.470	2.532	2.554	2.587	2.451	2.473	2.530	3	AVG
Hexachloroethane			0.658	0.671	0.680	0.686	0.661	0.660	0.669	2	AVG
Nitrobenzene		0.509	0.459	0.493	0.483	0.497	0.485	0.486	0.487	3	AVG
N-Nitrosopiperidine		0.186	0.182	0.197	0.190	0.195	0.188	0.188	0.190	3	AVG
Isophorone		0.888	0.854	0.886	0.883	0.893	0.871	0.869	0.878	2	AVG
2-Nitrophenol		0.108	0.114	0.133	0.139	0.153	0.153	0.148	0.135	14	AVG
2,4-Dimethylphenol		0.397	0.399	0.425	0.417	0.414	0.405	0.405	0.409	2	AVG
O,O,O-Triethylphosphorothioate			0.189	0.203	0.196	0.204	0.198	0.196	0.198	3	AVG
bis(2-Chloroethoxy)methane		0.522	0.516	0.534	0.520	0.518	0.511	0.507	0.518	2	AVG
Benzoic acid			0.048	0.060	0.051	0.045	0.052	0.054	0.052	10	AVG
1,2,3,4-Tetrahydronaphthalene			0.606	0.611	0.585	0.612	0.605	0.606	0.604	2	AVG
2,4-Dichlorophenol		0.284	0.284	0.297	0.302	0.310	0.301	0.301	0.297	3	AVG
1,2,4-Trichlorobenzene		0.361	0.355	0.359	0.348	0.353	0.346	0.344	0.352	2	AVG
Naphthalene	1.182	1.072	1.049	1.087	1.066	1.055	1.025	1.023	1.070	5	AVG
4-Chloroaniline		0.445	0.443	0.453	0.446	0.447	0.434	0.428	0.442	2	AVG
2,6-Dichlorophenol		0.278	0.275	0.298	0.298	0.301	0.293	0.291	0.291	3	AVG
Hexachloropropene			0.226	0.240	0.234	0.247	0.247	0.247	0.240	4	AVG
Hexachlorobutadiene		0.218	0.219	0.226	0.216	0.222	0.218	0.216	0.219	2	AVG
Quinoline			0.672	0.693	0.690	0.685	0.664	0.664	0.678	2	AVG
Caprolactam			0.091	0.099	0.098	0.099	0.099	0.098	0.097	3	AVG
N-Nitrosodi-n-butylamine			0.293	0.337	0.383	0.386	0.351	0.317	0.344	11	AVG
4-Chloro-3-methylphenol		0.323	0.315	0.345	0.345	0.348	0.338	0.338	0.336	4	AVG
Safrole			0.272	0.285	0.285	0.284	0.278	0.278	0.280	2	AVG
2-Methylnaphthalene	0.770	0.732	0.706	0.728	0.715	0.712	0.695	0.693	0.719	3	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

FORM VI SV-1

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date(s): 10/21/15 10/21/15

Calibration Times: 15:30 18:46

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = 1j0712.d RRF0.25 = 1j0718.d RRF1.25 = 1j0717.d RRF3.75 = 1j0716.d
RRF7.5 = 1j0711.d RRF12.5 = 1j0715.d RRF20 = 1j0714.d RRF30 = 1j0713.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1-Methylnaphthalene	0.686	0.636	0.639	0.662	0.654	0.648	0.634	0.631	0.649	3	AVG
Hexachlorocyclopentadiene			0.346	0.365	0.379	0.406	0.395	0.406	0.383	6	AVG
1,2,4,5-Tetrachlorobenzene		0.650	0.645	0.665	0.654	0.665	0.643	0.655	0.654	1	AVG
cis-Isosafrole			0.516	0.535	0.531	0.541	0.517	0.532	0.529	2	AVG
2,4,6-Trichlorophenol		0.317	0.331	0.355	0.358	0.374	0.370	0.379	0.355	6	AVG
2,4,5-Trichlorophenol		0.321	0.350	0.391	0.393	0.413	0.400	0.404	0.382	9	AVG
trans-Isosafrole			0.563	0.571	0.589	0.588	0.569	0.587	0.578	2	AVG
Isosafrole			0.555	0.565	0.579	0.580	0.560	0.577	0.569	2	AVG
1,1'-Biphenyl		1.577	1.464	1.489	1.471	1.477	1.443	1.430	1.479	3	AVG
2-Chloronaphthalene		1.166	1.119	1.135	1.173	1.166	1.183	1.145	1.155	2	AVG
1-Chloronaphthalene		1.117	1.087	1.158	1.113	1.138	1.028	1.127	1.110	4	AVG
Diphenyl ether		0.841	0.811	0.812	0.807	0.816	0.793	0.803	0.812	2	AVG
2-Nitroaniline		0.252	0.247	0.292	0.306	0.330	0.325	0.331	0.297	12	AVG
1,4-Naphthoquinone			0.429	0.473	0.484	0.492	0.472	0.487	0.473	5	AVG
1,4-Dinitrobenzene			0.091	0.117	0.126	0.141	0.143	0.146	0.127	17	1STDEG
Dimethylphthalate			1.294	1.326	1.305	1.310	1.262	1.279	1.296	2	AVG
1,3-Dinitrobenzene			0.118	0.148	0.158	0.174	0.176	0.180	0.159	15	AVG
2,6-Dinitrotoluene		0.178	0.203	0.250	0.257	0.272	0.265	0.274	0.243	15	AVG
Acenaphthylene	1.848	1.791	1.775	1.848	1.850	1.862	1.778	1.814	1.821	2	AVG
3-Nitroaniline		0.174	0.226	0.273	0.280	0.297	0.297	0.303	0.264	18	1STDEG
Acenaphthene	1.316	1.291	1.226	1.227	1.236	1.232	1.186	1.200	1.239	4	AVG
2,4-Dinitrophenol				0.061	0.065	0.077	0.082	0.088	0.075	15	AVG
4-Nitrophenol				0.191	0.194	0.205	0.204	0.212	0.201	4	AVG
Pentachlorobenzene		0.555	0.549	0.550	0.539	0.558	0.530	0.534	0.545	2	AVG
2,4-Dinitrotoluene			0.248	0.312	0.319	0.350	0.355	0.363	0.324	13	AVG
2,4_2,6-Dinitrotoluenes		0.203	0.226	0.281	0.288	0.311	0.310	0.318	0.277	16	1STDEG
Dibenzofuran		1.707	1.637	1.685	1.667	1.662	1.588	1.603	1.650	3	AVG
1-Naphthylamine				1.226	1.173	1.195	1.169	1.202	1.193	2	AVG
2,3,4,6-Tetrachlorophenol		0.209	0.249	0.279	0.287	0.306	0.310	0.319	0.280	14	AVG
2-Naphthylamine				1.181	1.155	1.169	1.146	1.182	1.167	1	AVG
Diethylphthalate			1.223	1.284	1.291	1.310	1.260	1.301	1.278	2	AVG
Thionazin			0.225	0.230	0.231	0.234	0.225	0.224	0.228	2	AVG
Fluorene	1.401	1.330	1.310	1.337	1.314	1.307	1.259	1.289	1.318	3	AVG
4-Chlorophenyl-phenylether		0.700	0.652	0.668	0.662	0.664	0.646	0.666	0.665	3	AVG
5-Nitro-o-toluidine		0.211	0.277	0.313	0.335	0.342	0.339	0.352	0.310	16	1STDEG
4-Nitroaniline		0.182	0.250	0.285	0.302	0.315	0.305	0.312	0.279	17	1STDEG
4,6-Dinitro-2-methylphenol				0.050	0.058	0.064	0.070	0.075	0.063	16	1STDEG
N-Nitrosodiphenylamine (1)		0.548	0.558	0.591	0.578	0.576	0.555	0.564	0.567	3	AVG
NDPA as diphenylamine		0.548	0.558	0.591	0.578	0.576	0.555	0.564	0.567	3	AVG
1,2-Diphenylhydrazine		0.925	0.848	0.902	0.899	0.880	0.860	0.874	0.884	3	AVG
Tetraethyldithiopyrophosphate			0.134	0.142	0.144	0.142	0.136	0.139	0.139	3	AVG
1,3,5-Trinitrobenzene				0.038	0.044	0.053	0.055	0.059	0.050	17	1STDEG
Diallate (peak 1)			0.336	0.360	0.361	0.357	0.353	0.351	0.353	3	AVG
Phorate		0.465	0.487	0.536	0.535	0.544	0.526	0.713	0.544	15	AVG
Phenacetin		0.300	0.339	0.398	0.394	0.404	0.390	0.393	0.374	10	AVG
4-Bromophenyl-phenylether		0.212	0.198	0.205	0.196	0.201	0.195	0.200	0.201	3	AVG
Diallate (peak 2)			0.334	0.366	0.357	0.353	0.347	0.361	0.353	3	AVG
Diallate trans/cis			0.336	0.361	0.360	0.356	0.352	0.353	0.353	3	AVG
Hexachlorobenzene	0.220	0.221	0.215	0.217	0.216	0.213	0.209	0.210	0.215	2	AVG
Dimethoate			0.271	0.317	0.322	0.336	0.324	0.329	0.317	7	AVG
Atrazine			0.196	0.203	0.198	0.199	0.191	0.189	0.196	3	AVG
Pentachlorophenol			0.069	0.081	0.087	0.096	0.099	0.104	0.089	15	AVG

(1) Cannot be separated from Diphenylamine
4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date(s): 10/21/15 10/21/15

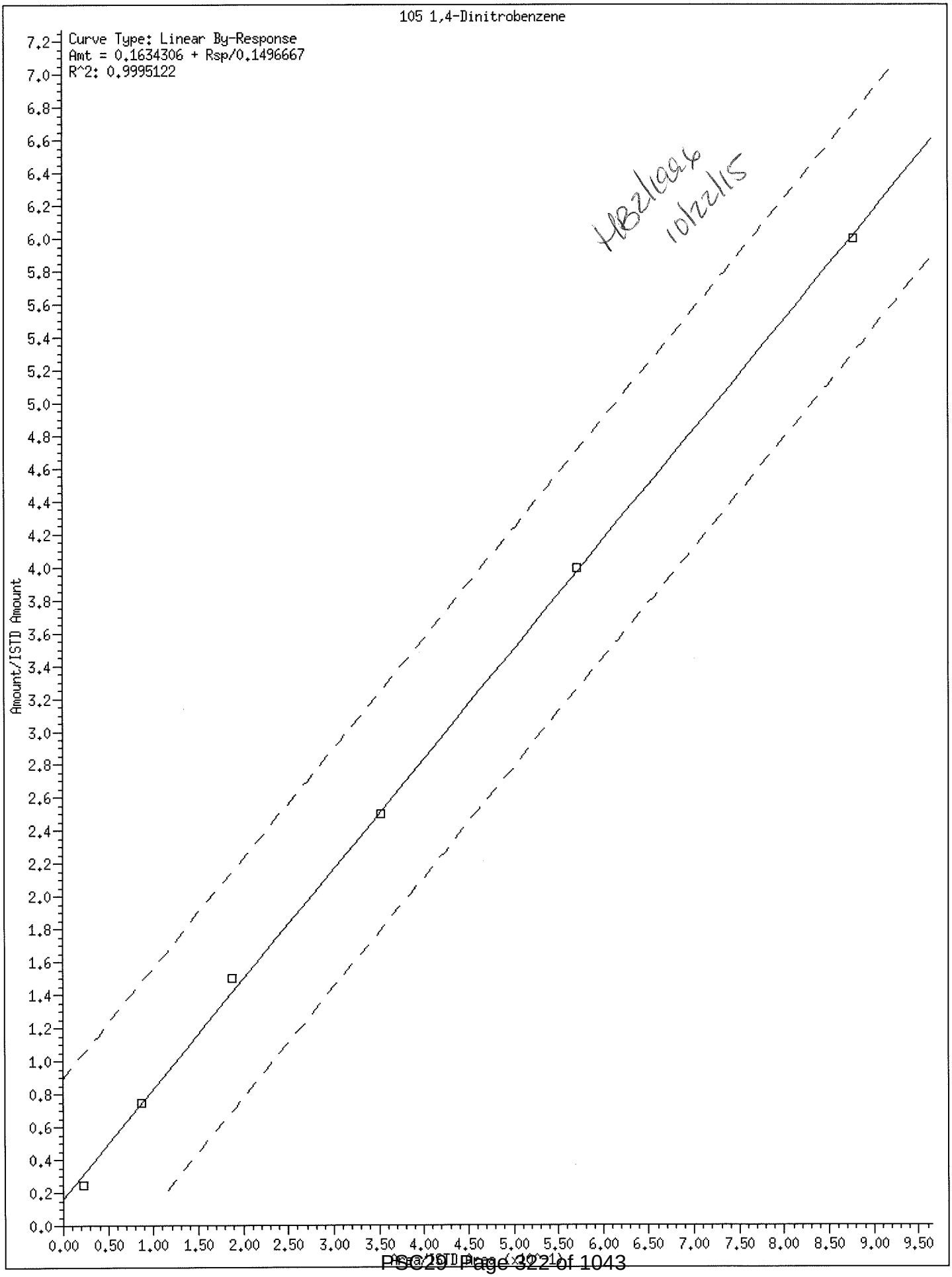
Calibration Times: 15:30 18:46

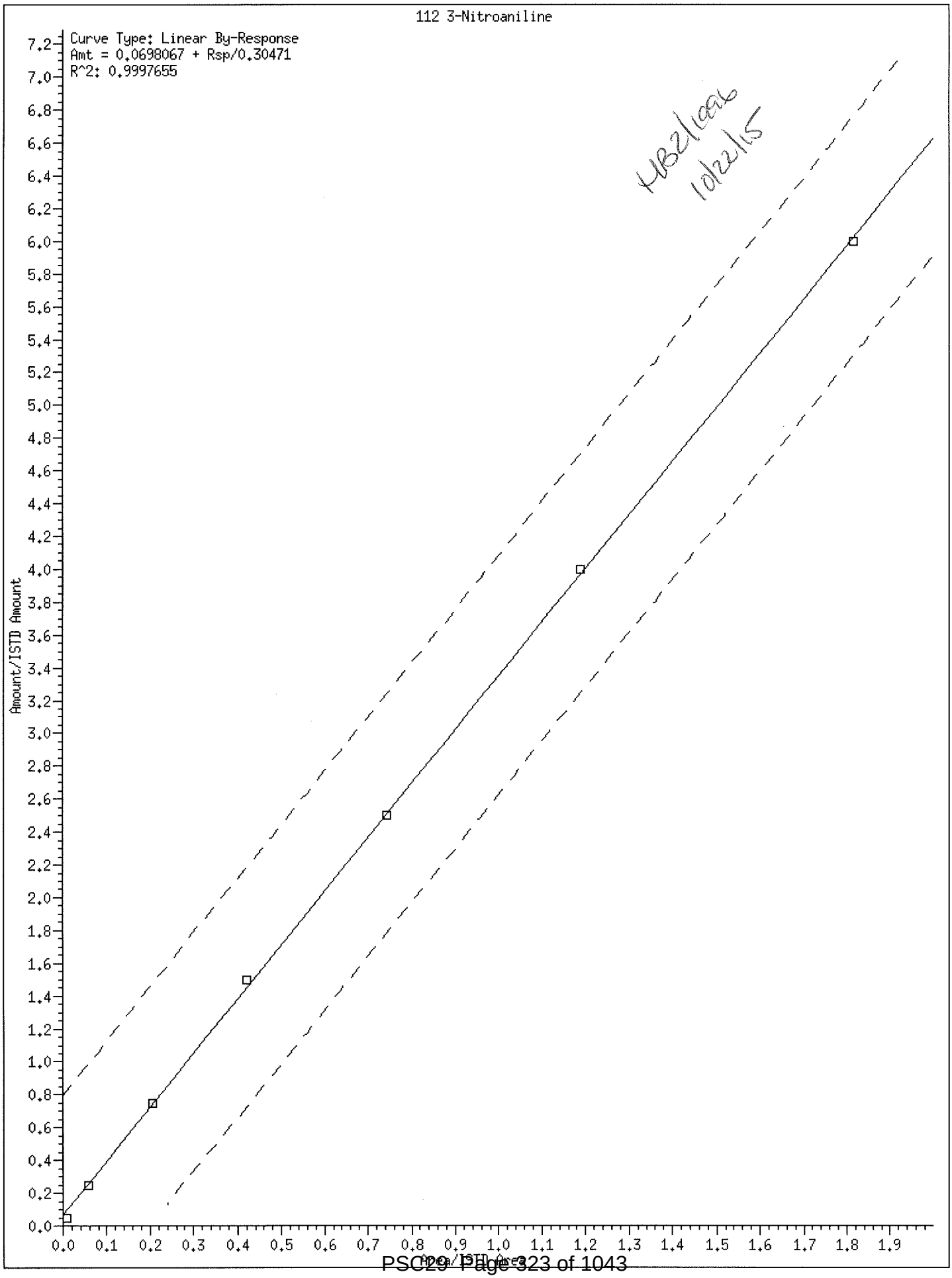
Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

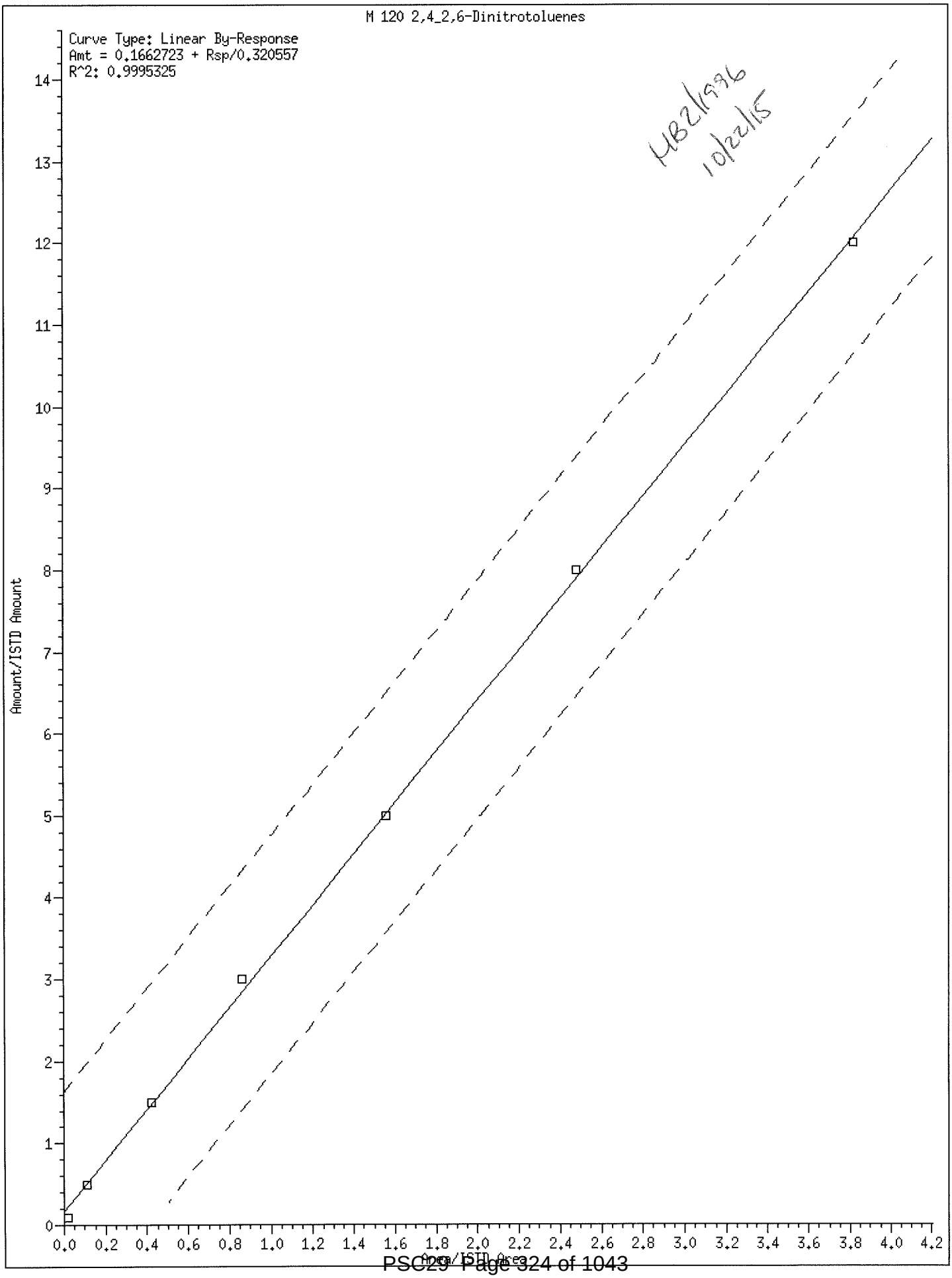
LAB FILE ID:RRF0.125 = lj0712.d RRF0.25 = lj0718.d RRF1.25 = lj0717.d RRF3.75 = lj0716.d
RRF7.5 = lj0711.d RRF12.5 = lj0715.d RRF20 = lj0714.d RRF30 = lj0713.d

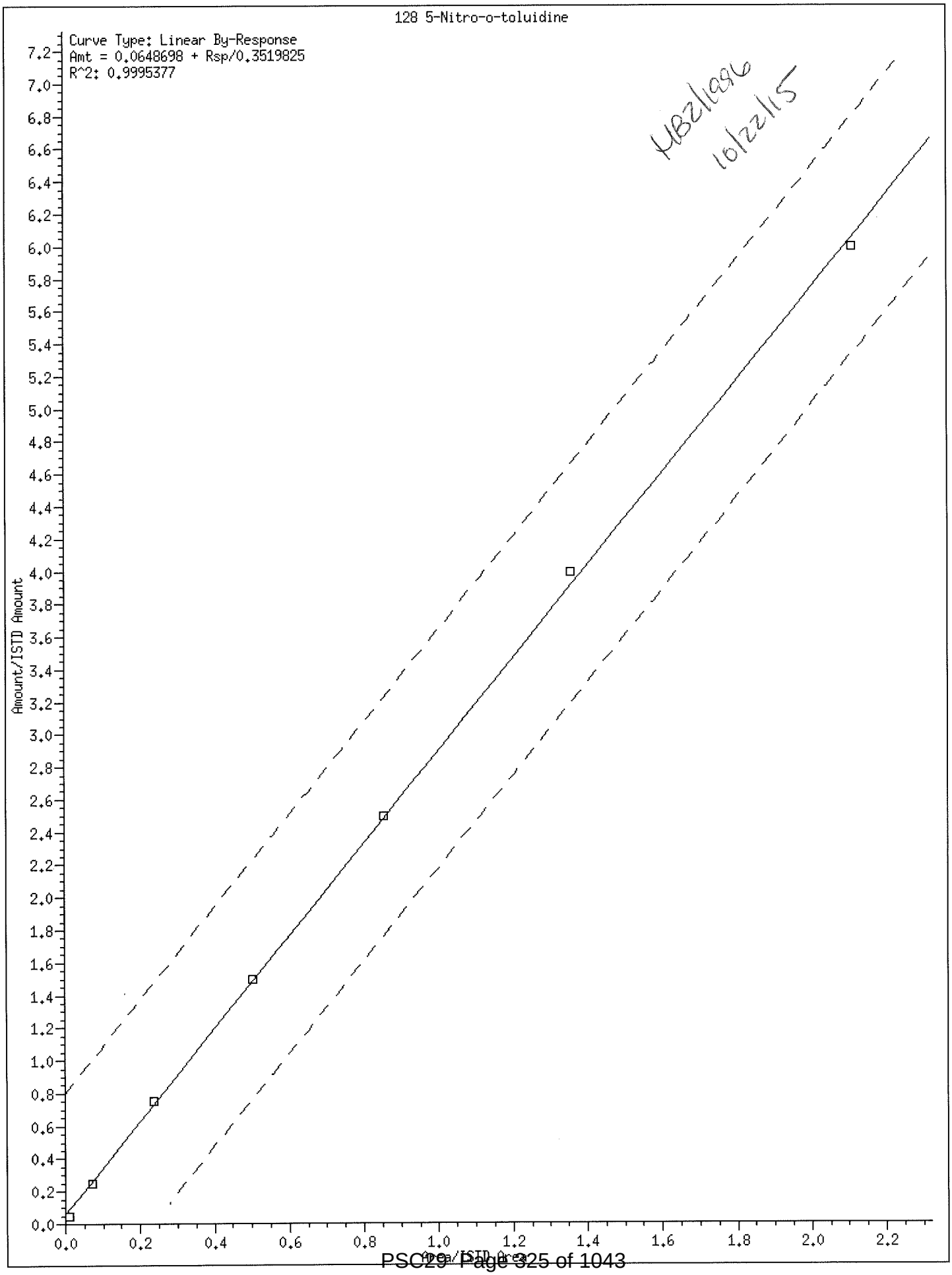
COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
4-Aminobiphenyl		0.625	0.646	0.684	0.679	0.684	0.658	0.655	0.661	3	AVG
Pentachloronitrobenzene			0.075	0.090	0.089	0.094	0.094	0.096	0.090	9	AVG
Pronamide		0.293	0.302	0.333	0.339	0.342	0.329	0.335	0.325	6	AVG
Dinoseb			0.051	0.071	0.087	0.103	0.113	0.124	0.091	30	1STDEG
Phenanthrene	1.127	1.041	1.033	1.065	1.042	1.052	1.018	1.031	1.051	3	AVG
Anthracene	1.085	1.042	1.019	1.067	1.057	1.059	1.025	1.035	1.049	2	AVG
Carbazole		0.907	0.922	0.986	0.982	0.976	0.946	0.953	0.953	3	AVG
Methyl parathion			0.149	0.197	0.217	0.237	0.236	0.241	0.213	16	1STDEG
Di-n-butylphthalate			1.082	1.187	1.194	1.198	1.167	1.176	1.167	4	AVG
Parathion			0.089	0.121	0.130	0.143	0.147	0.149	0.130	18	1STDEG
4-Nitroquinoline-1-oxide				0.051	0.059	0.077	0.085	0.091	0.073	23	1STDEG
Octachlorostyrene			0.081	0.081	0.078	0.083	0.079	0.081	0.081	2	AVG
Isodrin		0.145	0.128	0.127	0.127	0.125	0.121	0.125	0.128	6	AVG
Fluoranthene	1.212	1.184	1.177	1.249	1.230	1.232	1.196	1.226	1.213	2	AVG
Benzidine				0.636	0.614	0.642	0.611	0.590	0.619	3	AVG
Pyrene	1.099	1.075	1.045	1.059	1.055	1.065	1.043	1.043	1.061	2	AVG
p-Dimethylaminoazobenzene		0.161	0.165	0.188	0.196	0.194	0.194	0.197	0.185	8	AVG
Chlorobenzilate			0.274	0.293	0.295	0.301	0.300	0.300	0.294	3	AVG
3,3'-Dimethylbenzidine			0.578	0.649	0.672	0.680	0.671	0.668	0.653	6	AVG
Butylbenzylphthalate			0.372	0.422	0.427	0.442	0.431	0.434	0.421	6	AVG
2-Acetylaminofluorene			0.263	0.338	0.346	0.380	0.392	0.397	0.352	14	AVG
3,3'-Dichlorobenzidine			0.353	0.374	0.376	0.383	0.379	0.384	0.375	3	AVG
4,4'-Methylenebis(2-chloroanil				0.202	0.204	0.211	0.211	0.213	0.208	2	AVG
Benzo(a)anthracene	0.992	0.943	0.975	1.030	1.023	1.041	1.021	1.028	1.007	3	AVG
Chrysene	0.967	0.892	0.904	0.955	0.937	0.948	0.941	0.941	0.935	3	AVG
bis(2-Ethylhexyl)phthalate			0.557	0.624	0.624	0.644	0.638	0.649	0.623	5	AVG
6-Methylchrysene			0.634	0.678	0.676	0.682	0.676	0.682	0.671	3	AVG
Di-n-octylphthalate			1.207	1.331	1.393	1.378	1.353	1.380	1.340	5	AVG
Benzo(b)fluoranthene	1.187	1.205	1.186	1.269	1.266	1.254	1.233	1.230	1.229	3	AVG
7,12-Dimethylbenz[a]anthracene		0.454	0.497	0.532	0.513	0.529	0.527	0.538	0.513	6	AVG
Benzo(k)fluoranthene	1.193	1.120	1.128	1.185	1.205	1.174	1.145	1.193	1.168	3	AVG
Benzo(a)pyrene	1.146	1.060	1.087	1.157	1.170	1.166	1.144	1.159	1.136	4	AVG
3-Methylcholanthrene		0.591	0.502	0.538	0.548	0.541	0.536	0.540	0.542	5	AVG
Dibenz(a,h)acridine			0.904	0.960	0.990	0.984	0.970	0.979	0.965	3	AVG
Dibenz(a,j)acridine			0.901	0.946	0.976	0.966	0.957	0.965	0.952	3	AVG
Indeno(1,2,3-cd)pyrene	1.284	1.247	1.265	1.333	1.369	1.364	1.331	1.351	1.318	4	AVG
Dibenz(a,h)anthracene	1.025	0.970	1.013	1.097	1.137	1.126	1.107	1.116	1.074	6	AVG
Benzo(g,h,i)perylene	1.160	1.091	1.098	1.145	1.163	1.153	1.129	1.122	1.133	2	AVG
Total PAHs	1.067	1.020	1.012	1.036	1.061	1.029	0.993	1.003	1.027	3	AVG
2-Fluorophenol		1.447	1.343	1.404	1.459	1.450	1.400	1.396	1.414	3	AVG
Phenol-d6		1.839	1.847	1.888	1.934	1.942	1.855	1.854	1.880	2	AVG
Nitrobenzene-d5		0.442	0.437	0.472	0.465	0.483	0.472	0.468	0.463	4	AVG
2-Fluorobiphenyl		1.408	1.379	1.413	1.395	1.401	1.346	1.361	1.386	2	AVG
2,4,6-Tribromophenol			0.132	0.151	0.152	0.164	0.162	0.172	0.156	9	AVG
Terphenyl-d14		0.698	0.694	0.726	0.713	0.720	0.707	0.716	0.711	2	AVG
								Average %RSD		5	

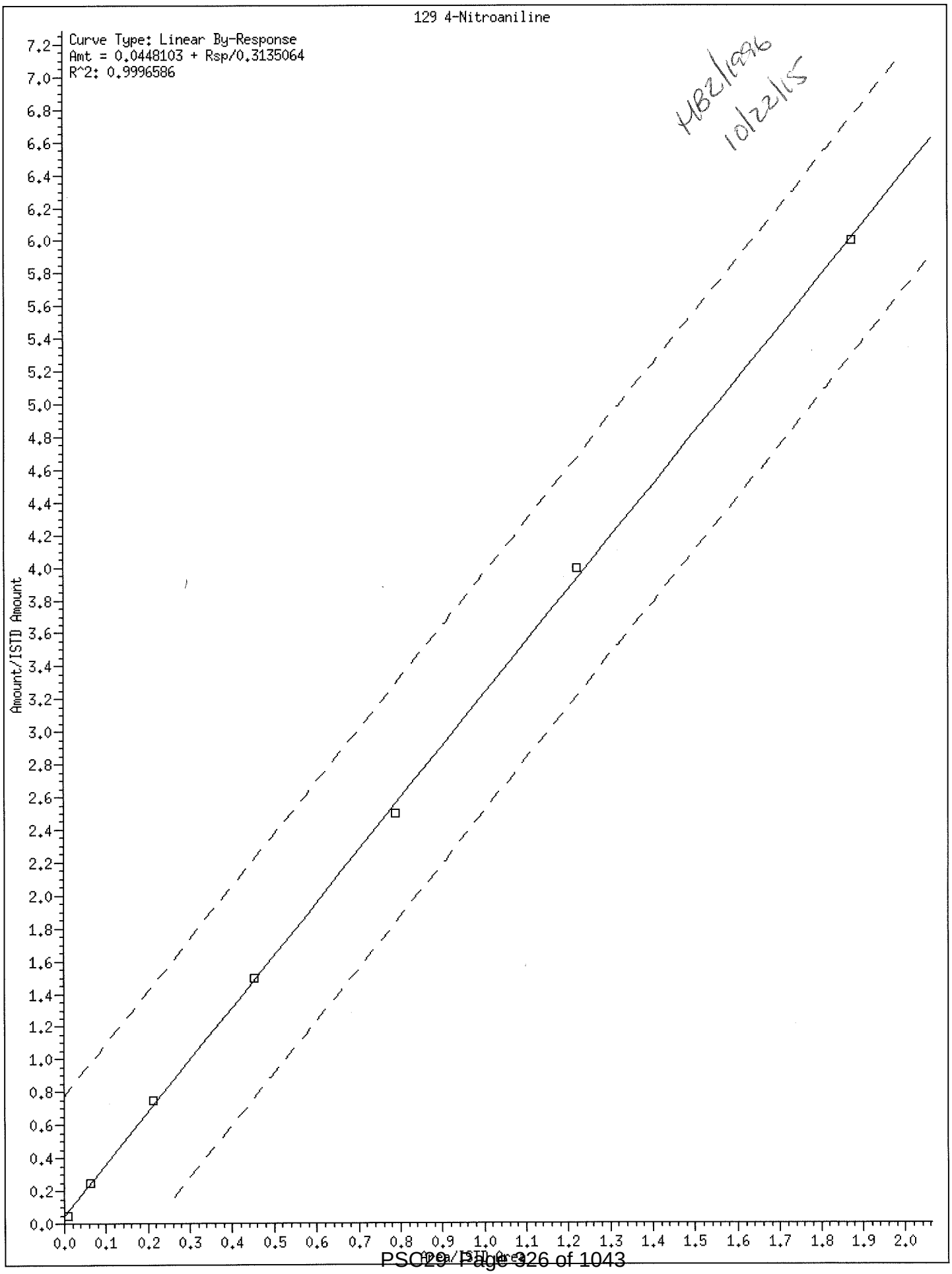
4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.

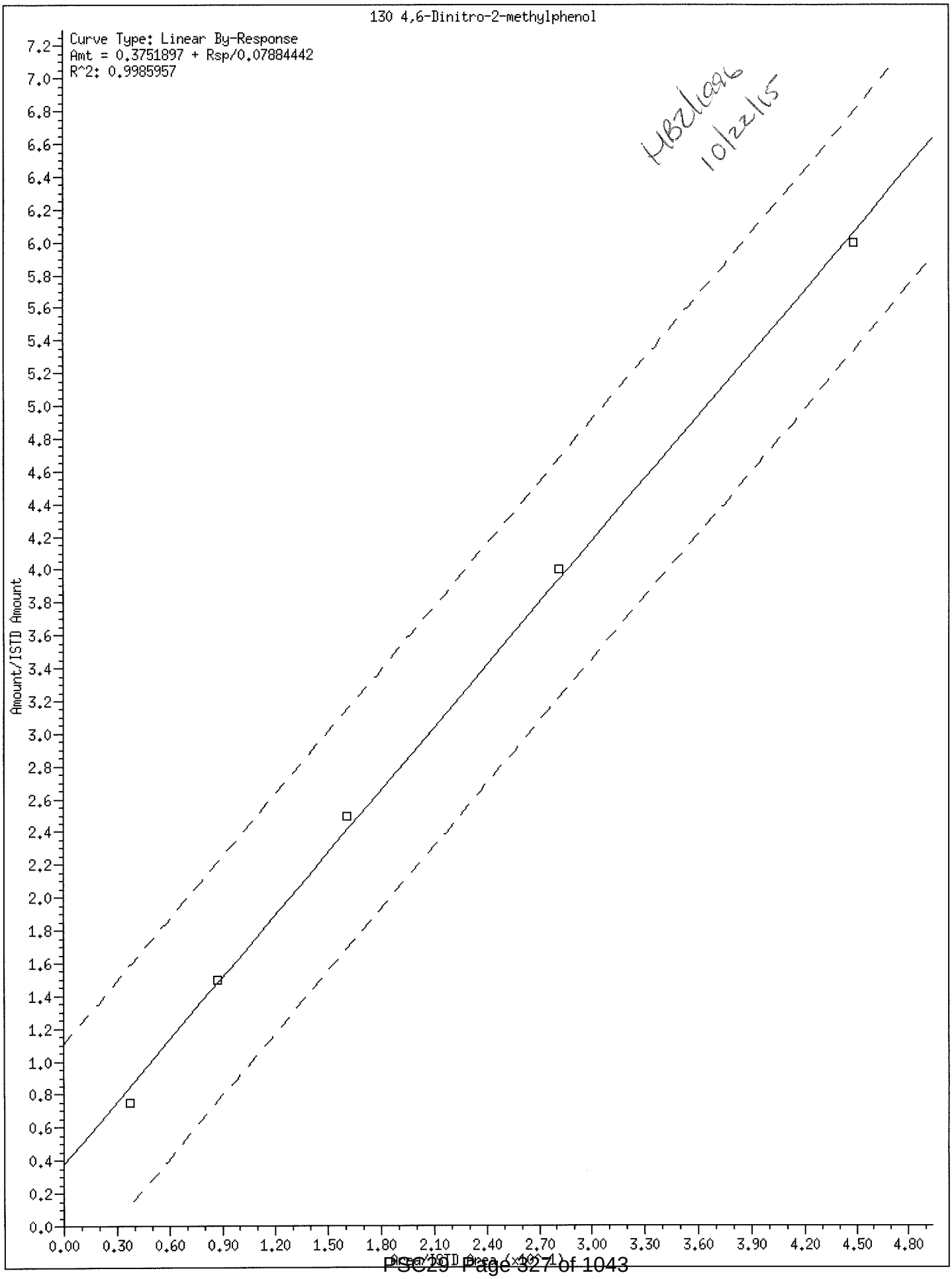

105 1,4-Dinitrobenzene
Curve Type: Linear By-Response
Amt = 0.1634306 + Rsp/0.1496667
R^2: 0.9995122
Amount/ISTD Amount
Response/ISTD Area (x10^1)
HB21996
10/22/15

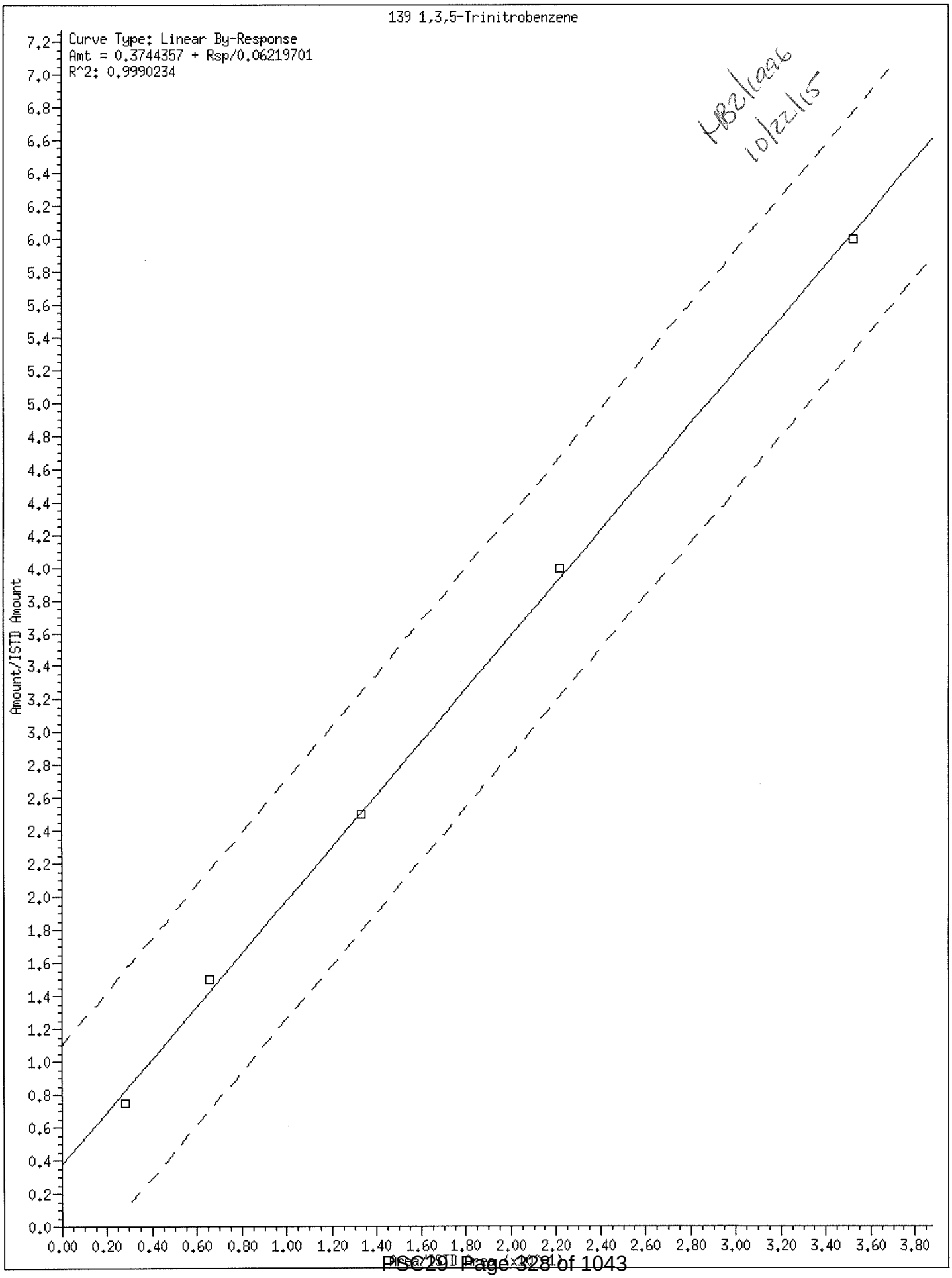

112 3-Nitroaniline
Curve Type: Linear By-Response
Amt = 0.0698067 + Rsp/0.30471
R^2: 0.9997655
HBZ 10/22/15
Amount/ISTD Amount
Area/ISTD Area

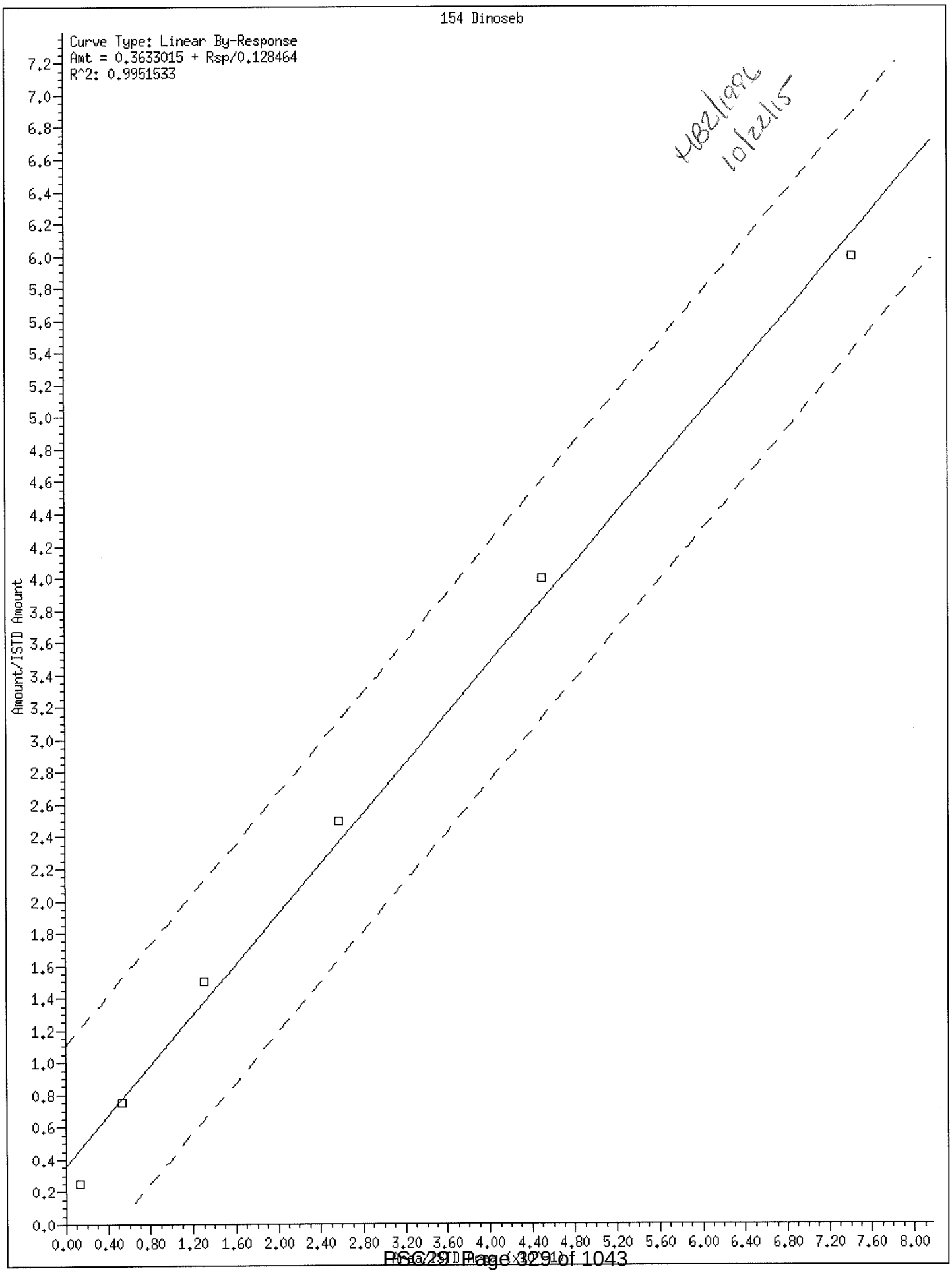

M 120 2,4_2,6-Dinitrotoluenes
Curve Type: Linear By-Response
Amt = 0.1662723 + Rsp/0.320557
R^2: 0.9995325
MB21/996
10/22/15
Amount/ISTD Amount
Area/ISTD Area
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0
3.2
3.4
3.6
3.8
4.0
4.2

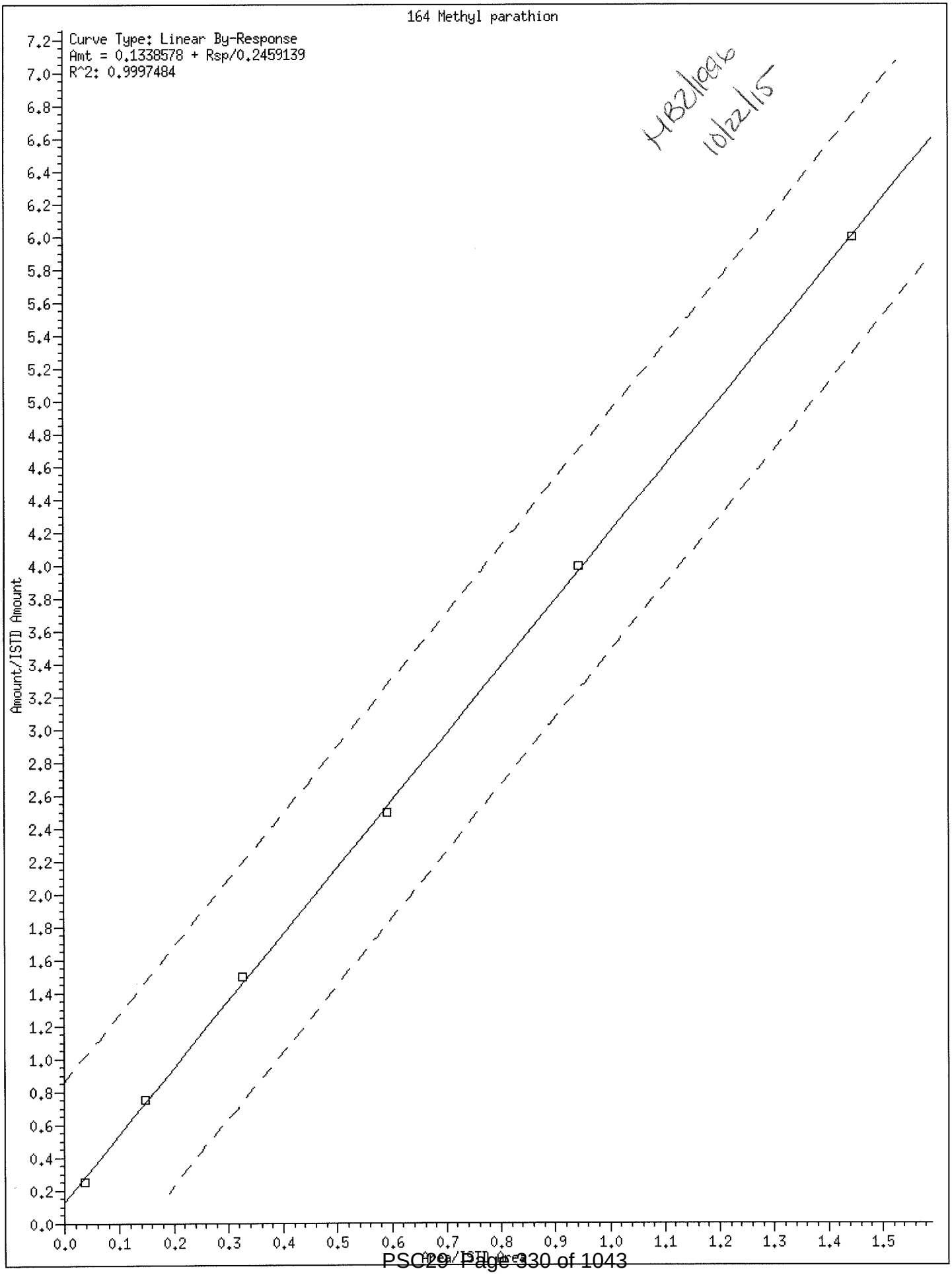

128 5-Nitro-o-toluidine
Curve Type: Linear By-Response
Amt = 0.0648698 + Rsp/0.3519825
R^2: 0.9995377
Amount/ISTD Amount
Area/ISTD Area
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0
3.2
3.4
3.6
3.8
4.0
4.2
4.4
4.6
4.8
5.0
5.2
5.4
5.6
5.8
6.0
6.2
6.4
6.6
6.8
7.0
7.2

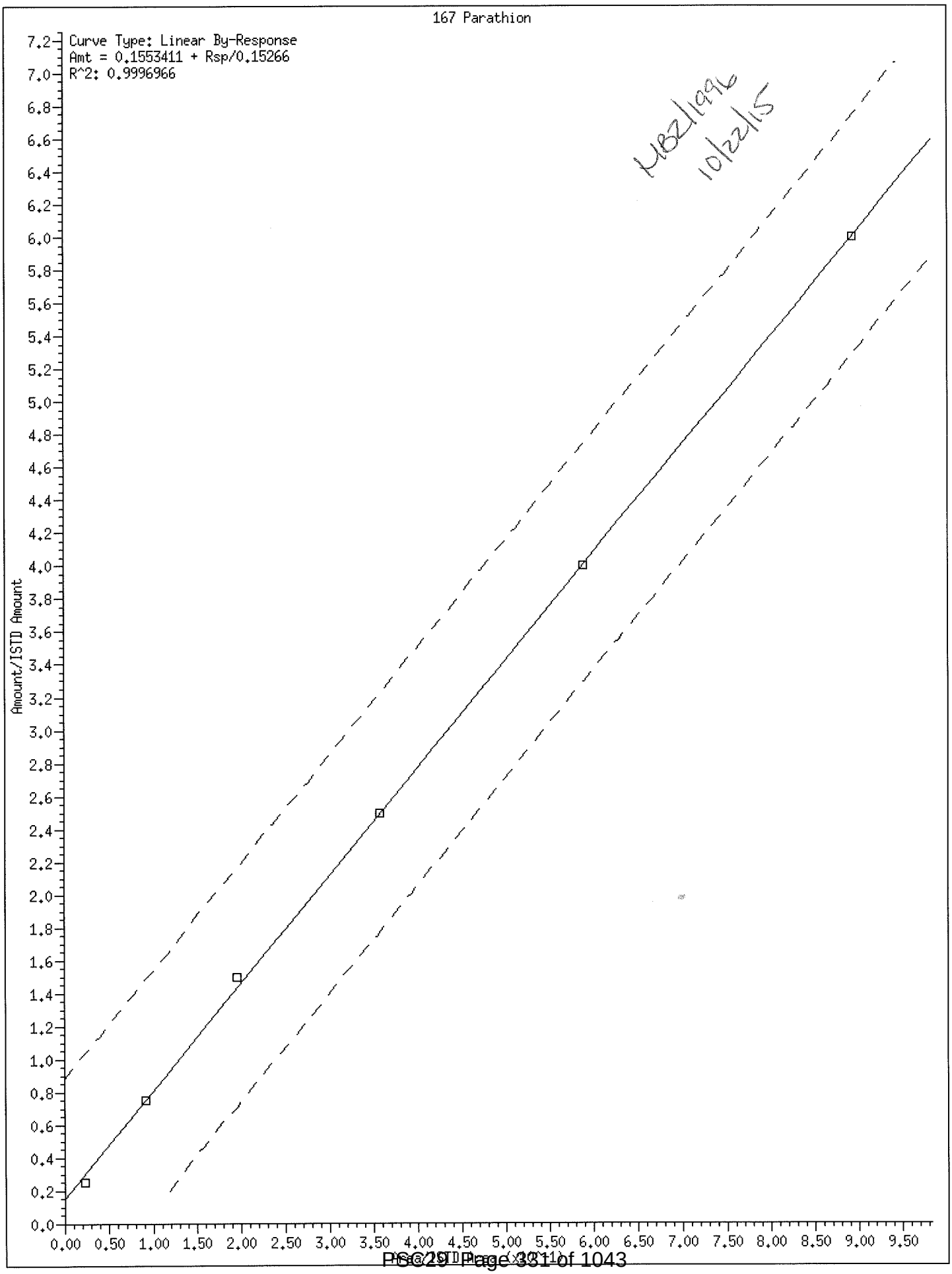

129 4-Nitroaniline
Curve Type: Linear By-Response
Amt = 0.0448103 + Rsp/0.3135064
R^2: 0.9996586
HBZ 1996
10/22/15
Amount/ISTD Amount
Area/ISTD Area

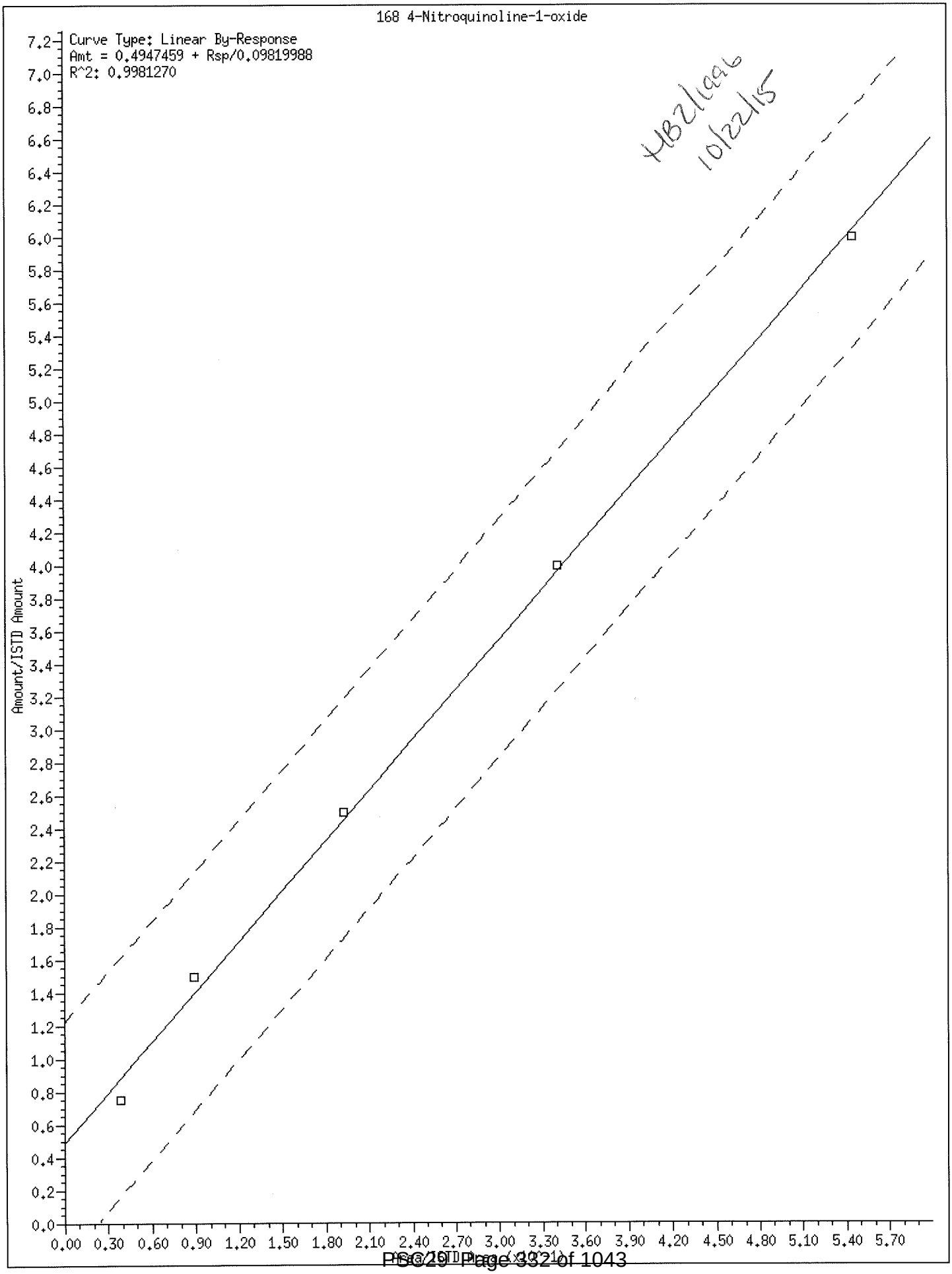

130 4,6-Dinitro-2-methylphenol
Curve Type: Linear By-Response
Amt = 0.3751897 + Rsp/0.07884442
R^2: 0.9985957
Amount/ISTD Amount
Resp/ISTD Area (x10^-1)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0
3.2
3.4
3.6
3.8
4.0
4.2
4.4
4.6
4.8
5.0
5.2
5.4
5.6
5.8
6.0
6.2
6.4
6.6
6.8
7.0
7.2
0.00
0.30
0.60
0.90
1.20
1.50
1.80
2.10
2.40
2.70
3.00
3.30
3.60
3.90
4.20
4.50
4.80


139 1,3,5-Trinitrobenzene
Curve Type: Linear By-Response
Amt = 0.3744357 + Rsp/0.06219701
R^2: 0.9990234
Amount/ISTD Amount
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0
3.2
3.4
3.6
3.8
4.0
4.2
4.4
4.6
4.8
5.0
5.2
5.4
5.6
5.8
6.0
6.2
6.4
6.6
6.8
7.0
7.2
0.00 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.20 2.40 2.60 2.80 3.00 3.20 3.40 3.60 3.80


154 Dinoseb
Curve Type: Linear By-Response
Amt = 0.3633015 + Rsp/0.128464
R^2: 0.9951533
HB21996
10/22/15
Amount/ISTD Amount
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0 3.2 3.4 3.6 3.8 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2
0.00 0.40 0.80 1.20 1.60 2.00 2.40 2.80 3.20 3.60 4.00 4.40 4.80 5.20 5.60 6.00 6.40 6.80 7.20 7.60 8.00


164 Methyl parathion
Curve Type: Linear By-Response
Amt = 0.1338578 + Rsp/0.2459139
R^2: 0.9997484
HB21096
10/22/15
Amount/ISTD Amount
Area/ISTD Area


167 Parathion
Curve Type: Linear By-Response
Amt = 0.1553411 + Rsp/0.15266
R^2: 0.9996966
M82/1996
10/22/15
Amount/ISTD Amount
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0 3.2 3.4 3.6 3.8 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2
0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 6.00 6.50 7.00 7.50 8.00 8.50 9.00 9.50


168 4-Nitroquinoline-1-oxide
Curve Type: Linear By-Response
Amt = 0.4947459 + Rsp/0.09819988
R^2: 0.9981270
HBZ1446
10/22/15
Amount/ISTD Amount
0.00 0.30 0.60 0.90 1.20 1.50 1.80 2.10 2.40 2.70 3.00 3.30 3.60 3.90 4.20 4.50 4.80 5.10 5.40 5.70

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP20296.i/15oct21a.b/lj0711.d SSTD7.5
/chem/HP20296.i/15oct21a.b/lj0712.d SSTD0.125
/chem/HP20296.i/15oct21a.b/lj0713.d SSTD030
/chem/HP20296.i/15oct21a.b/lj0714.d SSTD020
/chem/HP20296.i/15oct21a.b/lj0715.d SSTD12.5
/chem/HP20296.i/15oct21a.b/lj0716.d SSTD3.75
/chem/HP20296.i/15oct21a.b/lj0717.d SSTD1.25
/chem/HP20296.i/15oct21a.b/lj0718.d SSTD0.25

Area Summary

File ID:

Internal Standard Name	lj0711.d	lj0712.d	lj0713.d	lj0714.d	lj0715.d	lj0716.d	lj0717.d	lj0718.d	Avg. Area	%RSD
1,4-Dichlorobenzene-d4	163696	138697	137167	135793	136261	134666	138766	135303	140044	7
Naphthalene-d8	631099	532758	528424	523409	531432	507800	523696	521735	537544	7
Acenaphthene-d10	370042	315048	304520	310599	310446	303053	310300	304316	316040	7
Phenanthrene-d10	709060	598085	593975	600172	601088	573459	592546	584099	606560	7
Pyrene-d10	861575	709730	727102	727086	732575	709549	712061	700888	735071	7
Perylene-d12	689640	578319	615360	619021	610708	584441	575727	562861	604510	7

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	lj0711.d	lj0712.d	lj0713.d	lj0714.d	lj0715.d	lj0716.d	lj0717.d	lj0718.d
1,4-Dichlorobenzene-d4	6.931	6.931	6.936	6.931	6.931	6.931	6.931	6.931
Naphthalene-d8	8.921	8.921	8.926	8.926	8.921	8.921	8.921	8.921
Acenaphthene-d10	11.761	11.755	11.761	11.761	11.761	11.755	11.755	11.755
Phenanthrene-d10	13.686	13.686	13.692	13.692	13.686	13.686	13.686	13.686
Pyrene-d10	15.746	15.740	15.751	15.746	15.746	15.740	15.740	15.740
Perylene-d12	20.345	20.340	20.345	20.346	20.346	20.340	20.340	20.340

Comments: _____

_____

Report generated on 10/22/2015 at 07:48

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: lj0721.d

ICV SAMPLE ID: RVICV2465 BATCH: SDGA21800266 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	12.50	12.59	1	20	YES
N-Nitrosodimethylamine	12.50	12.43	-1	20	YES
Pyridine	12.50	13.06	4	20	YES
2-Picoline	12.50	12.59	1	20	YES
N-Nitrosomethylethylamine	12.50	12.49	0	20	YES
Methyl methanesulfonate	12.50	12.95	4	20	YES
N-Nitrosodiethylamine	12.50	12.33	-1	20	YES
Ethyl methanesulfonate	12.50	12.42	-1	20	YES
Phenol	12.50	12.59	1	20	YES
Aniline	12.50	12.58	1	20	YES
bis(2-Chloroethyl)ether	12.50	12.62	1	20	YES
2-Chlorophenol	12.50	12.81	2	20	YES
1,3-Dichlorobenzene	12.50	12.75	2	20	YES
1,4-Dichlorobenzene	12.50	12.81	3	20	YES
Benzyl alcohol	12.50	13.20	6	20	YES
1,2-Dichlorobenzene	12.50	13.09	5	20	YES
Indene	12.50	13.25	6	20	YES
2-Methylphenol	12.50	13.03	4	20	YES
2,2'-oxybis(1-Chloropropane	12.50	13.23	6	20	YES
bis(2-Chloroisopropyl)ether	12.50	13.23	6	20	YES
N-Nitrosopyrrolidine	12.50	12.66	1	20	YES
Acetophenone	12.50	12.46	0	20	YES
4-Methylphenol	12.50	12.78	2	20	YES
N-Nitroso-di-n-propylamine	12.50	12.18	-3	20	YES
N-Nitrosomorpholine	12.50	12.49	0	20	YES
o-Toluidine	12.50	12.51	0	20	YES
Total Cresols	25.00	25.81	3	20	YES
Hexachloroethane	12.50	12.91	3	20	YES
Nitrobenzene	12.50	12.01	-4	20	YES
N-Nitrosopiperidine	12.50	12.14	-3	20	YES
Isophorone	12.50	12.77	2	20	YES
2-Nitrophenol	12.50	12.65	1	20	YES
2,4-Dimethylphenol	12.50	12.05	-4	20	YES
bis(2-Chloroethoxy)methane	12.50	12.85	3	20	YES
Benzoic acid	25.00	11.73	-53	20	NO@
O,O,O-Triethylphosphorothio	12.50	12.48	0	20	YES
2,4-Dichlorophenol	12.50	12.87	3	20	YES

NC = Could not calculate

Comments: _____

@ICAL not valid for analyte

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: lj0721.d

ICV SAMPLE ID: RVICV2465 BATCH: SDGA21800266 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,2,4-Trichlorobenzene	12.50	12.77	2	20	YES
Naphthalene	12.50	12.64	1	20	YES
4-Chloroaniline	12.50	12.65	1	20	YES
2,6-Dichlorophenol	12.50	12.76	2	20	YES
Hexachloropropene	12.50	13.65	9	20	YES
Hexachlorobutadiene	12.50	13.10	5	20	YES
Quinoline	12.50	12.61	1	20	YES
N-Nitrosodi-n-butylamine	12.50	10.95	-12	20	YES
4-Chloro-3-methylphenol	12.50	12.72	2	20	YES
Safrole	12.50	12.38	-1	20	YES
2-Methylnaphthalene	12.50	12.02	-4	20	YES
1-Methylnaphthalene	12.50	12.54	0	20	YES
Hexachlorocyclopentadiene	25.00	26.28	5	20	YES
1,2,4,5-Tetrachlorobenzene	12.50	12.27	-2	20	YES
cis-Isosafrole	2.13	1.52	-28	20	NO#
2,4,6-Trichlorophenol	12.50	12.93	3	20	YES
2,4,5-Trichlorophenol	12.50	12.85	3	20	YES
trans-Isosafrole	10.38	11.32	9	20	YES
1,1'-Biphenyl	12.50	12.45	0	20	YES
2-Chloronaphthalene	12.50	13.01	4	20	YES
Isosafrole	12.50	12.84	3	20	YES
1-Chloronaphthalene	12.50	11.98	-4	20	YES
Diphenyl ether	12.50	12.28	-2	20	YES
2-Nitroaniline	12.50	13.18	5	20	YES
1,4-Naphthoquinone	15.63	15.81	1	20	YES
1,4-Dinitrobenzene	12.50	11.32	-9	20	YES
Dimethylphthalate	12.50	12.33	-1	20	YES
1,3-Dinitrobenzene	12.50	12.69	2	20	YES
2,6-Dinitrotoluene	12.50	13.63	9	20	YES
Acenaphthylene	12.50	12.68	1	20	YES
3-Nitroaniline	12.50	12.27	-2	20	YES
Acenaphthene	12.50	12.54	0	20	YES
2,4-Dinitrophenol	25.00	23.57	-6	20	YES
4-Nitrophenol	12.50	12.31	-1	20	YES
Pentachlorobenzene	12.50	12.04	-4	20	YES
2,4-Dinitrotoluene	12.50	13.10	5	20	YES
Dibenzofuran	12.50	12.34	-1	20	YES

NC = Could not calculate

Comments: _____

#non-CCC, <50%D, okay per SOP

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: lj0721.d

ICV SAMPLE ID: RVICV2465 BATCH: SDGA21800266 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
2,4_2,6-Dinitrotoluenes	25.00	26.72	7	20	YES
1-Naphthylamine	25.00	23.90	-4	20	YES
2,3,4,6-Tetrachlorophenol	12.50	13.98	12	20	YES
2-Naphthylamine	25.00	24.16	-3	20	YES
Diethylphthalate	12.50	12.61	1	20	YES
Thionazin	12.50	12.49	0	20	YES
Fluorene	12.50	12.43	-1	20	YES
4-Chlorophenyl-phenylether	12.50	12.49	0	20	YES
5-Nitro-o-toluidine	12.50	12.42	-1	20	YES
4-Nitroaniline	12.50	12.19	-2	20	YES
4,6-Dinitro-2-methylphenol	12.50	11.88	-5	20	YES
N-Nitrosodiphenylamine	12.50	12.58	1	20	YES
NDPA as diphenylamine	12.50	12.58	1	20	YES
1,2-Diphenylhydrazine	12.50	12.71	2	20	YES
Tetraethyldithiopyrophospha	12.50	11.98	-4	20	YES
1,3,5-Trinitrobenzene	12.50	11.61	-7	20	YES
Diallate (peak 1)	9.38	8.60	-8	20	YES
Phorate	12.50	11.87	-5	20	YES
Phenacetin	12.50	12.88	3	20	YES
4-Bromophenyl-phenylether	12.50	12.50	0	20	YES
Diallate (peak 2)	3.13	2.89	-8	20	YES
Hexachlorobenzene	12.50	12.32	-1	20	YES
Diallate trans/cis	12.50	11.49	-8	20	YES
Dimethoate	12.50	12.64	1	20	YES
Pentachlorophenol	12.50	14.08	13	20	YES
4-Aminobiphenyl	12.50	14.35	15	20	YES
Pentachloronitrobenzene	12.50	12.61	1	20	YES
Pronamide	12.50	12.55	0	20	YES
Dinoseb	12.50	11.50	-8	20	YES
Phenanthrene	12.50	12.12	-3	20	YES
Anthracene	12.50	12.86	3	20	YES
Carbazole	12.50	12.66	1	20	YES
Methyl parathion	12.50	12.11	-3	20	YES
Di-n-butylphthalate	12.50	12.76	2	20	YES
Parathion	12.50	12.13	-3	20	YES
4-Nitroquinoline-1-oxide	150.00	168.78	13	20	YES
Isodrin	12.50	11.65	-7	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: lj0721.d

ICV SAMPLE ID: RVICV2465 BATCH: SDGA21800266 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Fluoranthene	12.50	12.66	1	20	YES
Benzidine	62.50	61.16	-2	20	YES
Pyrene	12.50	12.48	0	20	YES
p-Dimethylaminoazobenzene	12.50	13.93	11	20	YES
Chlorobenzilate	12.50	12.47	0	20	YES
3,3'-Dimethylbenzidine	25.00	24.11	-4	20	YES
Butylbenzylphthalate	12.50	13.26	6	20	YES
2-Acetylaminofluorene	12.50	12.80	2	20	YES
3,3'-Dichlorobenzidine	12.50	12.04	-4	20	YES
Benzo(a)anthracene	12.50	12.93	3	20	YES
Chrysene	12.50	13.36	7	20	YES
4,4'-Methylenebis(2-chloroa	12.50	12.13	-3	20	YES
bis(2-Ethylhexyl)phthalate	12.50	13.09	5	20	YES
6-Methylchrysene	12.50	12.46	0	20	YES
Di-n-octylphthalate	12.50	13.39	7	20	YES
Benzo(b)fluoranthene	12.50	13.00	4	20	YES
7,12-Dimethylbenz[a]anthrac	12.50	12.81	2	20	YES
Benzo(k)fluoranthene	12.50	13.20	6	20	YES
Benzo(a)pyrene	12.50	12.71	2	20	YES
3-Methylcholanthrene	12.50	13.86	11	20	YES
Dibenz(a,h)acridine	12.50	12.90	3	20	YES
Dibenz(a,j)acridine	12.50	12.22	-2	20	YES
Indeno(1,2,3-cd)pyrene	12.50	13.03	4	20	YES
Dibenz(a,h)anthracene	12.50	13.58	9	20	YES
Benzo(g,h,i)perylene	12.50	13.07	5	20	YES
Total PAHs	225.00	229.84	2	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: lj0722.d

ICV SAMPLE ID: RVBASICV2475 BATCH: SDGA21800266 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzaldehyde	12.50	14.78	18	20	YES
Caprolactam	12.50	13.12	5	20	YES
Atrazine	12.50	13.78	10	20	YES

NC = Could not calculate

Comments: _____

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/16/15 Time: 10:17

Lab File ID: lj0581.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.705	0.761	8.100	7.5	8
N-Nitrosodimethylamine	1.114	1.289	8.680	7.5	16
Pyridine	1.883	2.148	8.560	7.5	14
2-Picoline	1.964	2.235	8.540	7.5	14
N-Nitrosomethylethylamine	0.804	0.880	8.210	7.5	10
Methyl methanesulfonate	0.948	1.132	8.950	7.5	19
N-Nitrosodiethylamine	0.754	0.871	8.660	7.5	16
Ethyl methanesulfonate	0.774	0.887	8.590	7.5	15
Benzaldehyde	1.469	1.548	7.900	7.5	5
Phenol	2.197	2.326	7.940	7.5	6
Aniline	2.757	2.959	8.050	7.5	7
a-methylstyrene	1.540	1.628	7.930	7.5	6
bis(2-Chloroethyl)ether	1.708	1.805	7.930	7.5	6
2-Chlorophenol	1.396	1.476	7.920	7.5	6
1,3-Dichlorobenzene	1.557	1.570	7.560	7.5	1
1,4-Dichlorobenzene	1.588	1.598	7.550	7.5	1
Benzyl alcohol	1.053	1.032	7.360	7.5	-2
1,2-Dichlorobenzene	1.495	1.504	7.550	7.5	1
Indene	2.658	2.577	7.270	7.5	-3
2-Methylphenol	1.475	1.487	7.560	7.5	1
2,2'-oxybis(1-Chloropropane)	2.404	2.430	7.580	7.5	1
bis(2-Chloroisopropyl)ether	2.404	2.430	7.580	7.5	1
N-Nitrosopyrrolidine	0.792	0.805	7.620	7.5	2
Acetophenone	2.304	2.278	7.420	7.5	-1
4-Methylphenol	1.540	1.587	7.730	7.5	3
Total Cresols	1.507	1.537	15.290	15.0	2
N-Nitroso-di-n-propylamine	1.333	1.354	7.620	7.5	2
N-Nitrosomorpholine	1.028	1.069	7.800	7.5	4
o-Toluidine	2.585	2.670	7.750	7.5	3
Hexachloroethane	0.659	0.673	7.660	7.5	2
Nitrobenzene	0.501	0.491	7.350	7.5	-2
N-Nitrosopiperidine	0.191	0.188	7.350	7.5	-2
Isophorone	0.881	0.869	7.400	7.5	-1
2-Nitrophenol	0.183	0.180	7.380	7.5	-2
2,4-Dimethylphenol	0.417	0.411	7.400	7.5	-1
O,O,O-Triethylphosphorothioate	0.183	0.179	7.340	7.5	-2

7C
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/16/15 Time: 10:17

Lab File ID: lj0581.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
bis(2-Chloroethoxy)methane	0.535	0.525	7.350	7.5	-2
Benzoic acid	0.314	0.242	7.960	10.0	-20
1,2,3,4-Tetrahydronaphthalene	0.615	0.579	7.050	7.5	-6
2,4-Dichlorophenol	0.296	0.299	7.570	7.5	1
1,2,4-Trichlorobenzene	0.339	0.320	7.070	7.5	-6
Naphthalene	1.074	1.049	7.320	7.5	-2
4-Chloroaniline	0.441	0.435	7.400	7.5	-1
2,6-Dichlorophenol	0.297	0.289	7.290	7.5	-3
Hexachloropropene	0.224	0.216	7.240	7.5	-3
Hexachlorobutadiene	0.193	0.185	7.170	7.5	-4
Quinoline	0.672	0.669	7.470	7.5	0
Caprolactam	0.099	0.104	7.870	7.5	5
N-Nitrosodi-n-butylamine	0.368	0.401	8.160	7.5	9
4-Chloro-3-methylphenol	0.354	0.352	7.470	7.5	0
Safrole	0.271	0.267	7.390	7.5	-2
2-Methylnaphthalene	0.712	0.690	7.270	7.5	-3
1-Methylnaphthalene	0.650	0.630	7.260	7.5	-3
Hexachlorocyclopentadiene	0.370	0.356	7.230	7.5	-4
1,2,4,5-Tetrachlorobenzene	0.597	0.578	7.260	7.5	-3
cis-Isosafrole	0.526	0.513	1.240	1.3	-2
2,4,6-Trichlorophenol	0.376	0.381	7.600	7.5	1
2,4,5-Trichlorophenol	0.409	0.415	7.600	7.5	1
trans-Isosafrole	0.568	0.567	6.210	6.2	0
Isosafrole	0.561	0.558	7.450	7.5	-1
1,1'-Biphenyl	1.497	1.482	7.430	7.5	-1
2-Chloronaphthalene	1.178	1.133	7.210	7.5	-4
1-Chloronaphthalene	1.122	1.161	7.760	7.5	3
Diphenyl ether	0.799	0.795	7.460	7.5	0
2-Nitroaniline	0.357	0.367	7.710	7.5	3
1,4-Naphthoquinone	0.471	0.476	7.580	7.5	1
1,4-Dinitrobenzene	0.183	0.185	7.570	7.5	1
Dimethylphthalate	1.273	1.288	7.590	7.5	1
1,3-Dinitrobenzene	0.200	0.203	7.600	7.5	1
2,6-Dinitrotoluene	0.276	0.289	7.860	7.5	5
Acenaphthylene	1.794	1.840	7.690	7.5	3
3-Nitroaniline	0.303	0.312	7.730	7.5	3

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/16/15 Time: 10:17

Lab File ID: lj0581.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Acenaphthene	1.196	1.204	7.560	7.5	1
2,4-Dinitrophenol	0.183	0.169	9.250	10.0	-7
4-Nitrophenol	0.234	0.238	7.640	7.5	2
Pentachlorobenzene	0.467	0.465	7.480	7.5	0
2,4-Dinitrotoluene	0.384	0.391	7.640	7.5	2
2,4_2,6-Dinitrotoluenes	0.326	0.340	15.510	15.0	3
Dibenzofuran	1.634	1.669	7.660	7.5	2
1-Naphthylamine	1.191	1.187	7.480	7.5	0
2,3,4,6-Tetrachlorophenol	0.307	0.320	7.810	7.5	4
2-Naphthylamine	1.158	1.168	7.570	7.5	1
Diethylphthalate	1.252	1.304	7.810	7.5	4
Thionazin	0.243	0.242	7.460	7.5	-1
Fluorene	1.278	1.323	7.770	7.5	4
4-Chlorophenyl-phenylether	0.613	0.637	7.790	7.5	4
5-Nitro-o-toluidine	0.353	0.371	7.880	7.5	5
4-Nitroaniline	0.309	0.331	8.040	7.5	7
4,6-Dinitro-2-methylphenol	0.129	0.124	7.190	7.5	-4
N-Nitrosodiphenylamine (1)	0.585	0.581	7.440	7.5	-1
NDPA as diphenylamine	0.585	0.581	7.440	7.5	-1
1,2-Diphenylhydrazine	0.882	0.909	7.730	7.5	3
Tetraethyldithiopyrophosphate	0.140	0.148	7.930	7.5	6
1,3,5-Trinitrobenzene	0.076	0.075	7.440	7.5	-1
Diallate (peak 1)	0.384	0.394	6.390	6.2	3
Phorate	0.551	0.585	7.960	7.5	6
Phenacetin	0.403	0.426	7.930	7.5	6
4-Bromophenyl-phenylether	0.177	0.175	7.450	7.5	-1
Diallate (peak 2)	0.377	0.389	1.320	1.3	3
Diallate trans/cis	0.383	0.393	7.710	7.5	3
Hexachlorobenzene	0.184	0.175	7.160	7.5	-5
Dimethoate	0.359	0.381	7.960	7.5	6
Atrazine	0.191	0.191	7.500	7.5	0
Pentachlorophenol	0.122	0.123	7.610	7.5	1
4-Aminobiphenyl	0.666	0.694	7.810	7.5	4
Pentachloronitrobenzene	0.089	0.088	7.450	7.5	-1
Pronamide	0.307	0.333	8.140	7.5	9
Dinoseb	0.184	0.190	7.410	7.5	-1

(1) Cannot be Separated from Diphenylamine

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/16/15 Time: 10:17

Lab File ID: lj0581.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenanthrene	1.041	1.049	7.560	7.5	1
Anthracene	1.034	1.069	7.760	7.5	3
Carbazole	0.951	0.991	7.820	7.5	4
Methyl parathion	0.265	0.285	8.080	7.5	8
Di-n-butylphthalate	1.164	1.231	7.930	7.5	6
Parathion	0.156	0.172	8.260	7.5	10
4-Nitroquinoline-1-oxide	0.112	0.099	6.600	7.5	-12
Octachlorostyrene	0.065	0.065	7.490	7.5	0
Isodrin	0.122	0.122	7.520	7.5	0
Fluoranthene	1.134	1.181	7.810	7.5	4
Benzidine	0.653	0.654	22.520	22.5	0
Pyrene	1.076	1.069	7.450	7.5	-1
p-Dimethylaminoazobenzene	0.174	0.193	8.290	7.5	10
Chlorobenzilate	0.310	0.339	8.190	7.5	9
3,3'-Dimethylbenzidine	0.656	0.684	7.820	7.5	4
Butylbenzylphthalate	0.454	0.486	8.020	7.5	7
2-Acetylaminofluorene	0.397	0.397	7.500	7.5	0
3,3'-Dichlorobenzidine	0.350	0.353	7.570	7.5	1
4,4'-Methylenebis(2-chloroanil	0.203	0.203	7.520	7.5	0
Benzo(a)anthracene	0.926	0.986	7.980	7.5	6
Chrysene	0.885	0.911	7.720	7.5	3
bis(2-Ethylhexyl)phthalate	0.651	0.693	7.980	7.5	6
6-Methylchrysene	0.625	0.638	7.660	7.5	2
Di-n-octylphthalate	1.533	1.684	8.230	7.5	10
Benzo(b)fluoranthene	1.230	1.296	7.900	7.5	5
7,12-Dimethylbenz[a]anthracene	0.532	0.557	7.860	7.5	5
Benzo(k)fluoranthene	1.197	1.239	7.760	7.5	3
Benzo(a)pyrene	1.146	1.178	7.710	7.5	3
3-Methylcholanthrene	0.535	0.540	7.560	7.5	1
Dibenz(a,h)acridine	0.981	0.914	6.980	7.5	-7
Dibenz(a,j)acridine	0.989	0.914	6.930	7.5	-8
Indeno(1,2,3-cd)pyrene	1.340	1.264	7.070	7.5	-6
Dibenz(a,h)anthracene	1.117	1.054	7.070	7.5	-6
Benzo(g,h,i)perylene	1.146	1.058	6.930	7.5	-8
Total PAHs	1.136	1.156	135.580	135.0	0
2-Fluorophenol	1.487	1.728	17.430	15.0	16

FORM VII SV-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/16/15 Time: 10:17

Lab File ID: lj0581.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenol-d6	2.048	2.200	16.120	15.0	7
Nitrobenzene-d5	0.505	0.488	14.510	15.0	-3
2-Fluorobiphenyl	1.378	1.387	15.090	15.0	1
2,4,6-Tribromophenol	0.145	0.144	14.960	15.0	0
Terphenyl-d14	0.664	0.677	15.310	15.0	2
			Average %Drift:		4

Continuing Calibration
Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP20296.i/15oct15.b/lj0531.d **
/chem/HP20296.i/15oct15.b/lj0532.d
/chem/HP20296.i/15oct15.b/lj0533.d
/chem/HP20296.i/15oct15.b/lj0534.d
/chem/HP20296.i/15oct15.b/lj0535.d
/chem/HP20296.i/15oct15.b/lj0536.d
/chem/HP20296.i/15oct15.b/lj0537.d
/chem/HP20296.i/15oct15.b/lj0538.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP20296.i/15oct16.b/lj0581.d

Area Summary

File ID:

Internal Standard Name	lj0581.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	216922	185789	92894	371578	Yes
Naphthalene-d8	873268	704214	352107	1408428	Yes
Acenaphthene-d10	491089	414115	207058	828230	Yes
Phenanthrene-d10	923670	752998	376499	1505996	Yes
Pyrene-d10	1075120	869908	434954	1739816	Yes
Perylene-d12	761186	649934	324967	1299868	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

File ID:

Internal Standard Name	lj0581.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	7.028	7.049	Yes
Naphthalene-d8	9.017	9.039	Yes
Acenaphthene-d10	11.841	11.868	Yes
Phenanthrene-d10	13.772	13.799	Yes
Pyrene-d10	15.848	15.874	Yes
Perylene-d12	20.463	20.495	Yes

A "No" indicates the retention time is greater than 30 seconds from the RT of the referenced standard.

Comments: _____

Report generated on 10/16/2015 at 10:59

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/17/15 Time: 12:42

Lab File ID: lj0611.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.705	0.731	7.770	7.5	4
N-Nitrosodimethylamine	1.114	1.147	7.720	7.5	3
Pyridine	1.883	1.895	7.550	7.5	1
2-Picoline	1.964	1.975	7.540	7.5	1
N-Nitrosomethylethylamine	0.804	0.795	7.420	7.5	-1
Methyl methanesulfonate	0.948	1.036	8.190	7.5	9
N-Nitrosodiethylamine	0.754	0.769	7.640	7.5	2
Ethyl methanesulfonate	0.774	0.804	7.780	7.5	4
Benzaldehyde	1.469	1.482	7.570	7.5	1
Phenol	2.197	2.415	8.240	7.5	10
Aniline	2.757	2.874	7.820	7.5	4
a-methylstyrene	1.540	1.569	7.640	7.5	2
bis(2-Chloroethyl)ether	1.708	1.751	7.690	7.5	2
2-Chlorophenol	1.396	1.468	7.890	7.5	5
1,3-Dichlorobenzene	1.557	1.583	7.630	7.5	2
1,4-Dichlorobenzene	1.588	1.624	7.670	7.5	2
Benzyl alcohol	1.053	1.024	7.290	7.5	-3
1,2-Dichlorobenzene	1.495	1.521	7.630	7.5	2
Indene	2.658	2.630	7.420	7.5	-1
2-Methylphenol	1.475	1.518	7.720	7.5	3
2,2'-oxybis(1-Chloropropane)	2.404	2.556	7.970	7.5	6
bis(2-Chloroisopropyl)ether	2.404	2.556	7.970	7.5	6
N-Nitrosopyrrolidine	0.792	0.806	7.640	7.5	2
Acetophenone	2.304	2.275	7.410	7.5	-1
4-Methylphenol	1.540	1.617	7.880	7.5	5
Total Cresols	1.507	1.568	15.600	15.0	4
N-Nitroso-di-n-propylamine	1.333	1.411	7.940	7.5	6
N-Nitrosomorpholine	1.028	1.156	8.440	7.5	13
o-Toluidine	2.585	2.668	7.740	7.5	3
Hexachloroethane	0.659	0.716	8.150	7.5	9
Nitrobenzene	0.501	0.524	7.840	7.5	5
N-Nitrosopiperidine	0.191	0.200	7.840	7.5	5
Isophorone	0.881	0.923	7.860	7.5	5
2-Nitrophenol	0.183	0.186	7.620	7.5	2
2,4-Dimethylphenol	0.417	0.430	7.740	7.5	3
O,O,O-Triethylphosphorothioate	0.183	0.170	6.970	7.5	-7

7C
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/17/15 Time: 12:42

Lab File ID: lj0611.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
bis(2-Chloroethoxy)methane	0.535	0.541	7.580	7.5	1
Benzoic acid	0.314	0.277	8.840	10.0	-12
1,2,3,4-Tetrahydronaphthalene	0.615	0.626	7.620	7.5	2
2,4-Dichlorophenol	0.296	0.298	7.550	7.5	1
1,2,4-Trichlorobenzene	0.339	0.320	7.080	7.5	-6
Naphthalene	1.074	1.081	7.550	7.5	1
4-Chloroaniline	0.441	0.458	7.800	7.5	4
2,6-Dichlorophenol	0.297	0.293	7.420	7.5	-1
Hexachloropropene	0.224	0.209	7.020	7.5	-6
Hexachlorobutadiene	0.193	0.179	6.940	7.5	-8
Quinoline	0.672	0.685	7.660	7.5	2
Caprolactam	0.099	0.100	7.560	7.5	1
N-Nitrosodi-n-butylamine	0.368	0.404	8.220	7.5	10
4-Chloro-3-methylphenol	0.354	0.367	7.790	7.5	4
Safrole	0.271	0.269	7.440	7.5	-1
2-Methylnaphthalene	0.712	0.718	7.560	7.5	1
1-Methylnaphthalene	0.650	0.646	7.450	7.5	-1
Hexachlorocyclopentadiene	0.370	0.340	6.910	7.5	-8
1,2,4,5-Tetrachlorobenzene	0.597	0.566	7.110	7.5	-5
cis-Isosafrole	0.526	0.524	1.270	1.3	0
2,4,6-Trichlorophenol	0.376	0.370	7.390	7.5	-1
2,4,5-Trichlorophenol	0.409	0.396	7.260	7.5	-3
trans-Isosafrole	0.568	0.574	6.280	6.2	1
Isosafrole	0.561	0.565	7.550	7.5	1
1,1'-Biphenyl	1.497	1.516	7.600	7.5	1
2-Chloronaphthalene	1.178	1.206	7.670	7.5	2
1-Chloronaphthalene	1.122	1.084	7.250	7.5	-3
Diphenyl ether	0.799	0.801	7.520	7.5	0
2-Nitroaniline	0.357	0.380	7.990	7.5	6
1,4-Naphthoquinone	0.471	0.462	7.360	7.5	-2
1,4-Dinitrobenzene	0.183	0.186	7.610	7.5	1
Dimethylphthalate	1.273	1.293	7.620	7.5	2
1,3-Dinitrobenzene	0.200	0.202	7.570	7.5	1
2,6-Dinitrotoluene	0.276	0.285	7.750	7.5	3
Acenaphthylene	1.794	1.874	7.830	7.5	4
3-Nitroaniline	0.303	0.325	8.040	7.5	7

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/17/15 Time: 12:42

Lab File ID: lj0611.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Acenaphthene	1.196	1.251	7.850	7.5	5
2,4-Dinitrophenol	0.183	0.173	9.480	10.0	-5
4-Nitrophenol	0.234	0.263	8.420	7.5	12
Pentachlorobenzene	0.467	0.436	7.010	7.5	-7
2,4-Dinitrotoluene	0.384	0.378	7.380	7.5	-2
2,4_2,6-Dinitrotoluenes	0.326	0.332	15.140	15.0	1
Dibenzofuran	1.634	1.660	7.620	7.5	2
1-Naphthylamine	1.191	1.232	7.760	7.5	3
2,3,4,6-Tetrachlorophenol	0.307	0.296	7.220	7.5	-4
2-Naphthylamine	1.158	1.196	7.750	7.5	3
Diethylphthalate	1.252	1.291	7.730	7.5	3
Thionazin	0.243	0.243	7.500	7.5	0
Fluorene	1.278	1.295	7.600	7.5	1
4-Chlorophenyl-phenylether	0.613	0.606	7.410	7.5	-1
5-Nitro-o-toluidine	0.353	0.367	7.810	7.5	4
4-Nitroaniline	0.309	0.341	8.290	7.5	11
4,6-Dinitro-2-methylphenol	0.129	0.124	7.190	7.5	-4
N-Nitrosodiphenylamine (1)	0.585	0.611	7.830	7.5	4
NDPA as diphenylamine	0.585	0.611	7.830	7.5	4
1,2-Diphenylhydrazine	0.882	1.015	8.630	7.5	15
Tetraethyldithiopyrophosphate	0.140	0.162	8.650	7.5	15
1,3,5-Trinitrobenzene	0.076	0.070	6.980	7.5	-7
Diallate (peak 1)	0.384	0.429	6.960	6.2	12
Phorate	0.551	0.631	8.590	7.5	15
Phenacetin	0.403	0.456	8.480	7.5	13
4-Bromophenyl-phenylether	0.177	0.174	7.390	7.5	-1
Diallate (peak 2)	0.377	0.417	1.410	1.3	11
Diallate trans/cis	0.383	0.427	8.370	7.5	12
Hexachlorobenzene	0.184	0.166	6.780	7.5	-10
Dimethoate	0.359	0.398	8.290	7.5	11
Atrazine	0.191	0.191	7.490	7.5	0
Pentachlorophenol	0.122	0.119	7.330	7.5	-2
4-Aminobiphenyl	0.666	0.711	8.000	7.5	7
Pentachloronitrobenzene	0.089	0.090	7.560	7.5	1
Pronamide	0.307	0.340	8.310	7.5	11
Dinoseb	0.184	0.186	7.280	7.5	-3

(1) Cannot be Separated from Diphenylamine

FORM VII SV-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/17/15 Time: 12:42

Lab File ID: lj0611.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenanthrene	1.041	1.079	7.770	7.5	4
Anthracene	1.034	1.083	7.860	7.5	5
Carbazole	0.951	1.019	8.040	7.5	7
Methyl parathion	0.265	0.304	8.610	7.5	15
Di-n-butylphthalate	1.164	1.245	8.020	7.5	7
Parathion	0.156	0.177	8.510	7.5	13
4-Nitroquinoline-1-oxide	0.112	0.094	6.260	7.5	-17
Octachlorostyrene	0.065	0.062	7.120	7.5	-5
Isodrin	0.122	0.123	7.590	7.5	1
Fluoranthene	1.134	1.149	7.600	7.5	1
Benzidine	0.653	0.688	23.700	22.5	5
Pyrene	1.076	1.085	7.560	7.5	1
p-Dimethylaminoazobenzene	0.174	0.176	7.570	7.5	1
Chlorobenzilate	0.310	0.361	8.710	7.5	16
3,3'-Dimethylbenzidine	0.656	0.656	7.500	7.5	0
Butylbenzylphthalate	0.454	0.508	8.390	7.5	12
2-Acetylaminofluorene	0.397	0.405	7.650	7.5	2
3,3'-Dichlorobenzidine	0.350	0.343	7.350	7.5	-2
4,4'-Methylenebis(2-chloroanil	0.203	0.202	7.480	7.5	0
Benzo(a)anthracene	0.926	0.961	7.790	7.5	4
Chrysene	0.885	0.902	7.650	7.5	2
bis(2-Ethylhexyl)phthalate	0.651	0.725	8.350	7.5	11
6-Methylchrysene	0.625	0.620	7.440	7.5	-1
Di-n-octylphthalate	1.533	1.719	8.410	7.5	12
Benzo(b)fluoranthene	1.230	1.234	7.520	7.5	0
7,12-Dimethylbenz[a]anthracene	0.532	0.521	7.340	7.5	-2
Benzo(k)fluoranthene	1.197	1.232	7.720	7.5	3
Benzo(a)pyrene	1.146	1.175	7.680	7.5	2
3-Methylcholanthrene	0.535	0.540	7.560	7.5	1
Dibenz(a,h)acridine	0.981	0.944	7.210	7.5	-4
Dibenz(a,j)acridine	0.989	0.970	7.360	7.5	-2
Indeno(1,2,3-cd)pyrene	1.340	1.376	7.700	7.5	3
Dibenz(a,h)anthracene	1.117	1.159	7.780	7.5	4
Benzo(g,h,i)perylene	1.146	1.149	7.520	7.5	0
Total PAHs	1.136	1.195	137.980	135.0	2
2-Fluorophenol	1.487	1.562	15.760	15.0	5

FORM VII SV-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/17/15 Time: 12:42

Lab File ID: lj0611.d Init. Calib. Date(s): 10/15/15 10/15/15

Init. Calib. Times(s): 13:06 16:51

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenol-d6	2.048	2.147	15.730	15.0	5
Nitrobenzene-d5	0.505	0.520	15.460	15.0	3
2-Fluorobiphenyl	1.378	1.377	14.980	15.0	0
2,4,6-Tribromophenol	0.145	0.125	12.960	15.0	-14
Terphenyl-d14	0.664	0.649	14.670	15.0	-2
			Average %Drift:		5

FORM VII SV-1

Continuing Calibration
Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP20296.i/15oct15.b/lj0531.d **
/chem/HP20296.i/15oct15.b/lj0532.d
/chem/HP20296.i/15oct15.b/lj0533.d
/chem/HP20296.i/15oct15.b/lj0534.d
/chem/HP20296.i/15oct15.b/lj0535.d
/chem/HP20296.i/15oct15.b/lj0536.d
/chem/HP20296.i/15oct15.b/lj0537.d
/chem/HP20296.i/15oct15.b/lj0538.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP20296.i/15oct17.b/lj0611.d

Area Summary

Internal Standard Name	File ID: lj0611.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	243160	185789	92894	371578	Yes
Naphthalene-d8	940552	704214	352107	1408428	Yes
Acenaphthene-d10	519166	414115	207058	828230	Yes
Phenanthrene-d10	920375	752998	376499	1505996	Yes
Pyrene-d10	1054405	869908	434954	1739816	Yes
Perylene-d12	757304	649934	324967	1299868	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

Internal Standard Name	File ID: lj0611.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	7.006	7.049	Yes
Naphthalene-d8	8.996	9.039	Yes
Acenaphthene-d10	11.825	11.868	Yes
Phenanthrene-d10	13.756	13.799	Yes
Pyrene-d10	15.826	15.874	Yes
Perylene-d12	20.437	20.495	Yes

A "No" indicates the retention time is greater than 30 seconds from the RT of the referenced standard.

Comments: _____

Report generated on 10/17/2015 at 13:11

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/22/15 Time: 08:42

Lab File ID: lj0731.d Init. Calib. Date(s): 10/21/15 10/21/15

Init. Calib. Times(s): 15:30 18:46

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.645	0.639	7.430	7.5	-1
N-Nitrosodimethylamine	1.032	1.020	7.410	7.5	-1
Pyridine	1.768	1.712	7.260	7.5	-3
2-Picoline	1.826	1.812	7.440	7.5	-1
N-Nitrosomethylethylamine	0.730	0.730	7.500	7.5	0
Methyl methanesulfonate	0.930	0.926	7.460	7.5	0
N-Nitrosodiethylamine	0.710	0.709	7.490	7.5	0
Ethyl methanesulfonate	0.748	0.744	7.470	7.5	0
Benzaldehyde	1.376	1.393	7.590	7.5	1
Phenol	2.185	2.181	7.480	7.5	0
Aniline	2.618	2.591	7.420	7.5	-1
a-methylstyrene	1.494	1.442	7.240	7.5	-3
bis(2-Chloroethyl)ether	1.623	1.603	7.400	7.5	-1
2-Chlorophenol	1.344	1.366	7.620	7.5	2
1,3-Dichlorobenzene	1.543	1.562	7.590	7.5	1
1,4-Dichlorobenzene	1.575	1.567	7.460	7.5	0
Benzyl alcohol	0.988	0.948	7.200	7.5	-4
1,2-Dichlorobenzene	1.478	1.494	7.580	7.5	1
Indene	2.605	2.543	7.320	7.5	-2
2-Methylphenol	1.402	1.408	7.530	7.5	0
2,2'-oxybis(1-Chloropropane)	1.994	1.960	7.370	7.5	-2
bis(2-Chloroisopropyl)ether	1.994	1.960	7.370	7.5	-2
N-Nitrosopyrrolidine	0.752	0.758	7.560	7.5	1
Acetophenone	2.270	2.157	7.130	7.5	-5
4-Methylphenol	1.572	1.617	7.720	7.5	3
Total Cresols	1.487	1.512	15.250	15.0	2
N-Nitroso-di-n-propylamine	1.317	1.256	7.160	7.5	-5
N-Nitrosomorpholine	0.919	0.939	7.660	7.5	2
o-Toluidine	2.530	2.533	7.510	7.5	0
Hexachloroethane	0.669	0.663	7.430	7.5	-1
Nitrobenzene	0.487	0.485	7.460	7.5	0
N-Nitrosopiperidine	0.190	0.193	7.620	7.5	2
Isophorone	0.878	0.863	7.370	7.5	-2
2-Nitrophenol	0.135	0.145	8.040	7.5	7
2,4-Dimethylphenol	0.409	0.412	7.550	7.5	1
O,O,O-Triethylphosphorothioate	0.198	0.199	7.550	7.5	1

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/22/15 Time: 08:42

Lab File ID: lj0731.d Init. Calib. Date(s): 10/21/15 10/21/15

Init. Calib. Times(s): 15:30 18:46

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
bis(2-Chloroethoxy)methane	0.518	0.518	7.490	7.5	0
Benzoic acid	0.052	0.068	13.280	10.0	33
1,2,3,4-Tetrahydronaphthalene	0.604	0.583	7.230	7.5	-4
2,4-Dichlorophenol	0.297	0.304	7.690	7.5	3
1,2,4-Trichlorobenzene	0.352	0.352	7.500	7.5	0
Naphthalene	1.070	1.061	7.440	7.5	-1
4-Chloroaniline	0.442	0.444	7.520	7.5	0
2,6-Dichlorophenol	0.291	0.296	7.650	7.5	2
Hexachloropropene	0.240	0.243	7.580	7.5	1
Hexachlorobutadiene	0.219	0.218	7.470	7.5	0
Quinoline	0.678	0.681	7.540	7.5	0
Caprolactam	0.097	0.096	7.400	7.5	-1
N-Nitrosodi-n-butylamine	0.344	0.378	8.230	7.5	10
4-Chloro-3-methylphenol	0.336	0.344	7.670	7.5	2
Safrole	0.280	0.279	7.460	7.5	-1
2-Methylnaphthalene	0.719	0.712	7.430	7.5	-1
1-Methylnaphthalene	0.649	0.649	7.500	7.5	0
Hexachlorocyclopentadiene	0.383	0.388	7.600	7.5	1
1,2,4,5-Tetrachlorobenzene	0.654	0.659	7.560	7.5	1
cis-Isosafrole	0.529	0.523	1.260	1.3	-1
2,4,6-Trichlorophenol	0.355	0.367	7.750	7.5	3
2,4,5-Trichlorophenol	0.382	0.399	7.830	7.5	4
trans-Isosafrole	0.578	0.573	6.170	6.2	-1
Isosafrole	0.569	0.564	7.430	7.5	-1
1,1'-Biphenyl	1.479	1.453	7.370	7.5	-2
2-Chloronaphthalene	1.155	1.162	7.540	7.5	1
1-Chloronaphthalene	1.110	1.112	7.520	7.5	0
Diphenyl ether	0.812	0.804	7.430	7.5	-1
2-Nitroaniline	0.297	0.322	8.120	7.5	8
1,4-Naphthoquinone	0.473	0.467	7.410	7.5	-1
1,4-Dinitrobenzene	0.127	0.129	7.270	7.5	-3
Dimethylphthalate	1.296	1.301	7.530	7.5	0
1,3-Dinitrobenzene	0.159	0.166	7.830	7.5	4
2,6-Dinitrotoluene	0.243	0.266	8.220	7.5	10
Acenaphthylene	1.821	1.826	7.520	7.5	0
3-Nitroaniline	0.264	0.288	7.430	7.5	-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/22/15 Time: 08:42

Lab File ID: lj0731.d Init. Calib. Date(s): 10/21/15 10/21/15

Init. Calib. Times(s): 15:30 18:46

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Acenaphthene	1.239	1.217	7.360	7.5	-2
2,4-Dinitrophenol	0.075	0.068	9.120	10.0	-9
4-Nitrophenol	0.201	0.193	7.200	7.5	-4
Pentachlorobenzene	0.545	0.545	7.500	7.5	0
2,4-Dinitrotoluene	0.324	0.329	7.610	7.5	2
2,4_2,6-Dinitrotoluenes	0.277	0.298	15.830	15.0	6
Dibenzofuran	1.650	1.656	7.530	7.5	0
1-Naphthylamine	1.193	1.160	7.290	7.5	-3
2,3,4,6-Tetrachlorophenol	0.280	0.294	7.870	7.5	5
2-Naphthylamine	1.167	1.135	7.300	7.5	-3
Diethylphthalate	1.278	1.268	7.440	7.5	-1
Thionazin	0.228	0.230	7.550	7.5	1
Fluorene	1.318	1.306	7.430	7.5	-1
4-Chlorophenyl-phenylether	0.665	0.647	7.290	7.5	-3
5-Nitro-o-toluidine	0.310	0.339	7.560	7.5	1
4-Nitroaniline	0.279	0.299	7.380	7.5	-2
4,6-Dinitro-2-methylphenol	0.064	0.062	7.780	7.5	4
N-Nitrosodiphenylamine (1)	0.567	0.573	7.580	7.5	1
NDPA as diphenylamine	0.567	0.573	7.580	7.5	1
1,2-Diphenylhydrazine	0.884	0.872	7.400	7.5	-1
Tetraethyldithiopyrophosphate	0.139	0.141	7.570	7.5	1
1,3,5-Trinitrobenzene	0.050	0.046	7.430	7.5	-1
Diallate (peak 1)	0.353	0.355	6.270	6.2	1
Phorate	0.544	0.531	7.330	7.5	-2
Phenacetin	0.374	0.393	7.890	7.5	5
4-Bromophenyl-phenylether	0.201	0.200	7.480	7.5	0
Diallate (peak 2)	0.353	0.346	1.250	1.3	-2
Diallate trans/cis	0.353	0.354	7.520	7.5	0
Hexachlorobenzene	0.215	0.214	7.460	7.5	-1
Dimethoate	0.317	0.326	7.720	7.5	3
Atrazine	0.196	0.202	7.720	7.5	3
Pentachlorophenol	0.089	0.094	7.900	7.5	5
4-Aminobiphenyl	0.661	0.679	7.700	7.5	3
Pentachloronitrobenzene	0.090	0.090	7.530	7.5	0
Pronamide	0.325	0.337	7.790	7.5	4
Dinoseb	0.091	0.096	7.400	7.5	-1

(1) Cannot be Separated from Diphenylamine

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/22/15 Time: 08:42

Lab File ID: lj0731.d Init. Calib. Date(s): 10/21/15 10/21/15

Init. Calib. Times(s): 15:30 18:46

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenanthrene	1.051	1.049	7.490	7.5	0
Anthracene	1.049	1.047	7.490	7.5	0
Carbazole	0.953	0.978	7.690	7.5	3
Methyl parathion	0.213	0.225	7.520	7.5	0
Di-n-butylphthalate	1.167	1.180	7.580	7.5	1
Parathion	0.130	0.132	7.270	7.5	-3
4-Nitroquinoline-1-oxide	0.073	0.066	7.540	7.5	1
Octachlorostyrene	0.080	0.081	7.510	7.5	0
Isodrin	0.128	0.125	7.320	7.5	-2
Fluoranthene	1.213	1.225	7.570	7.5	1
Benzidine	0.619	0.626	22.770	22.5	1
Pyrene	1.061	1.066	7.540	7.5	0
p-Dimethylaminoazobenzene	0.185	0.188	7.610	7.5	2
Chlorobenzilate	0.294	0.303	7.730	7.5	3
3,3'-Dimethylbenzidine	0.653	0.666	7.650	7.5	2
Butylbenzylphthalate	0.421	0.437	7.780	7.5	4
2-Acetylaminofluorene	0.352	0.355	7.560	7.5	1
3,3'-Dichlorobenzidine	0.375	0.372	7.430	7.5	-1
4,4'-Methylenebis(2-chloroanil	0.208	0.209	7.530	7.5	0
Benzo(a)anthracene	1.007	1.032	7.690	7.5	2
Chrysene	0.935	0.947	7.590	7.5	1
bis(2-Ethylhexyl)phthalate	0.623	0.631	7.600	7.5	1
6-Methylchrysene	0.671	0.673	7.520	7.5	0
Di-n-octylphthalate	1.340	1.348	7.540	7.5	1
Benzo(b)fluoranthene	1.229	1.256	7.670	7.5	2
7,12-Dimethylbenz[a]anthracene	0.513	0.525	7.680	7.5	2
Benzo(k)fluoranthene	1.168	1.224	7.860	7.5	5
Benzo(a)pyrene	1.136	1.168	7.710	7.5	3
3-Methylcholanthrene	0.542	0.548	7.570	7.5	1
Dibenz(a,h)acridine	0.965	0.985	7.660	7.5	2
Dibenz(a,j)acridine	0.952	0.989	7.790	7.5	4
Indeno(1,2,3-cd)pyrene	1.318	1.382	7.870	7.5	5
Dibenz(a,h)anthracene	1.074	1.142	7.970	7.5	6
Benzo(g,h,i)perylene	1.133	1.160	7.680	7.5	2
Total PAHs	1.028	1.051	136.810	135.0	1
2-Fluorophenol	1.414	1.417	15.030	15.0	0

FORM VII SV-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP20296 Calibration Date: 10/22/15 Time: 08:42

Lab File ID: lj0731.d Init. Calib. Date(s): 10/21/15 10/21/15

Init. Calib. Times(s): 15:30 18:46

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenol-d6	1.880	1.903	15.180	15.0	1
Nitrobenzene-d5	0.463	0.466	15.120	15.0	1
2-Fluorobiphenyl	1.386	1.387	15.010	15.0	0
2,4,6-Tribromophenol	0.156	0.159	15.330	15.0	2
Terphenyl-d14	0.711	0.730	15.400	15.0	3
			Average %Drift:		2

Continuing Calibration
Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP20296.i/15oct21a.b/lj0711.d **
/chem/HP20296.i/15oct21a.b/lj0712.d
/chem/HP20296.i/15oct21a.b/lj0713.d
/chem/HP20296.i/15oct21a.b/lj0714.d
/chem/HP20296.i/15oct21a.b/lj0715.d
/chem/HP20296.i/15oct21a.b/lj0716.d
/chem/HP20296.i/15oct21a.b/lj0717.d
/chem/HP20296.i/15oct21a.b/lj0718.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP20296.i/15oct22.b/lj0731.d

Area Summary

File ID:

Internal Standard Name	lj0731.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	157611	163696	81848	327392	Yes
Naphthalene-d8	604447	631099	315550	1262198	Yes
Acenaphthene-d10	357255	370042	185021	740084	Yes
Phenanthrene-d10	676816	709060	354530	1418120	Yes
Pyrene-d10	826318	861575	430788	1723150	Yes
Perylene-d12	672139	689640	344820	1379280	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

File ID:

Internal Standard Name	lj0731.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	6.936	6.931	Yes
Naphthalene-d8	8.926	8.921	Yes
Acenaphthene-d10	11.761	11.761	Yes
Phenanthrene-d10	13.686	13.686	Yes
Pyrene-d10	15.746	15.746	Yes
Perylene-d12	20.345	20.345	Yes

A "No" indicates the retention time is greater than 30 seconds from the RT of the referenced standard.

Comments: _____

Report generated on 10/22/2015 at 09:22

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0581.d Date Analyzed: 10/16/15

Instrument ID: HP20296 Time Analyzed: 10:17

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	216922	7.028	873268	9.017	491089	11.841
UPPER LIMIT	433844	7.528	1746536	9.517	982178	12.341
LOWER LIMIT	108461	6.528	436634	8.517	245545	11.341
LLI SAMPLE NO.						
01 283WBLCS	182086	7.027	710664	9.012	416451	11.841
02 SBLKWB283	182164	7.022	711234	9.012	405855	11.841
03 8081061	178805	7.022	712221	9.012	402544	11.841
04 8081062	213763	7.022	828924	9.012	458771	11.841
05 8081063	206085	7.022	743337	9.012	422563	11.842
06 8081064	244362	7.022	848314	9.012	483912	11.841
07 8082098	191230	7.022	712473	9.017	414516	11.842
08 8082099	197309	7.022	681899	9.017	390912	11.841
09 8082100	197119	7.027	713241	9.017	417500	11.841
10 8082101	186931	7.027	708588	9.017	423163	11.841
11 8082114	205528	7.022	760963	9.012	405012	11.841
12 8082115	192000	7.022	721870	9.012	403592	11.841
13 8082117	196526	7.022	795883	9.012	399502	11.841
14 8082118	188213	7.022	754558	9.012	421527	11.841
15 8082119	190261	7.022	733994	9.012	416438	11.841
16 8082120	188169	7.022	761701	9.012	410835	11.836
17 8082121MS	188313	7.027	721639	9.012	414181	11.841

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0581.d Date Analyzed: 10/16/15

Instrument ID: HP20296 Time Analyzed: 10:17

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	923670	13.772	1075120	15.848	761186	20.463
UPPER LIMIT	1847340	14.272	2150240	16.348	1522372	20.963
LOWER LIMIT	461835	13.272	537560	15.348	380593	19.963
LLI SAMPLE NO.						
01 283WBLCS	757596	13.772	864021	15.842	618233	20.458
02 SBLKWB283	747662	13.767	840144	15.842	586779	20.458
03 8081061	745129	13.767	843418	15.842	596513	20.458
04 8081062	882083	13.767	997268	15.842	704065	20.458
05 8081063	786031	13.767	886885	15.842	630835	20.458
06 8081064	892899	13.767	998678	15.842	701707	20.458
07 8082098	770158	13.767	898270	15.842	648689	20.458
08 8082099	722243	13.767	834287	15.842	596756	20.458
09 8082100	757199	13.767	875939	15.842	633001	20.458
10 8082101	768701	13.767	900737	15.842	634686	20.458
11 8082114	737834	13.767	841504	15.842	594347	20.458
12 8082115	745497	13.767	841945	15.842	586110	20.458
13 8082117	753881	13.767	868169	15.842	608876	20.458
14 8082118	783485	13.767	904470	15.842	635237	20.458
15 8082119	768077	13.767	871487	15.842	624865	20.458
16 8082120	741208	13.767	854336	15.837	593052	20.458
17 8082121MS	749411	13.767	869501	15.842	629652	20.458

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0581.d Date Analyzed: 10/16/15

Instrument ID: HP20296 Time Analyzed: 10:17

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	216922	7.028	873268	9.017	491089	11.841
UPPER LIMIT	433844	7.528	1746536	9.517	982178	12.341
LOWER LIMIT	108461	6.528	436634	8.517	245545	11.341
LLI SAMPLE NO.						
18 8082122MSD	179068	7.027	697994	9.012	407293	11.841
19 8082124	189045	7.022	706748	9.028	418193	11.841
20 8082126	188601	7.022	718971	9.012	408121	11.836
21 8082127	191487	7.022	742424	9.012	428335	11.836
22 8082128	192025	7.022	720150	9.006	426937	11.836

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0581.d Date Analyzed: 10/16/15

Instrument ID: HP20296 Time Analyzed: 10:17

		IS4(PHN)		IS5(PYR)		IS6(PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	923670	13.772	1075120	15.848	761186	20.463
	UPPER LIMIT	1847340	14.272	2150240	16.348	1522372	20.963
	LOWER LIMIT	461835	13.272	537560	15.348	380593	19.963
	LLI SAMPLE NO.						
18	8082122MSD	743171	13.767	852691	15.842	620189	20.452
19	8082124	754829	13.767	886811	15.842	659042	20.458
20	8082126	763923	13.767	888485	15.837	642466	20.453
21	8082127	806820	13.767	934306	15.837	682555	20.458
22	8082128	778858	13.767	898160	15.837	653225	20.452

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0611.d Date Analyzed: 10/17/15

Instrument ID: HP20296 Time Analyzed: 12:42

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	243160	7.006	940552	8.996	519166	11.825
UPPER LIMIT	486320	7.506	1881104	9.496	1038332	12.325
LOWER LIMIT	121580	6.506	470276	8.496	259583	11.325
LLI SAMPLE NO.						
01 SBLKWD288	182957	7.006	725171	8.996	368663	11.825
02 288WDLCS	198064	7.006	767279	8.995	392350	11.825
03 288WDLCSD	192607	7.006	759504	8.996	389673	11.825
04 8082098DL	191124	7.001	710707	8.990	395830	11.825
05 8082099DL	195173	7.001	748746	8.990	391000	11.825
06 8082100DL	201823	7.001	733315	8.990	411061	11.825
07 8082101DL	191456	7.001	723497	8.990	396534	11.825
08 8082124DL	192046	7.001	752990	8.996	421899	11.825
09 8082124DL2	191348	7.001	746830	8.990	398758	11.820
10 8082129	207064	7.001	765175	8.990	426485	11.820
11 8082130	196159	7.001	765205	8.990	420552	11.820
12 8083925	190120	7.001	696132	8.990	386429	11.820
13 8083928	199204	7.001	722776	8.990	399913	11.820
14 8083929	195064	7.001	727950	8.990	404183	11.820
15 8083930	177251	7.001	732108	8.990	376831	11.820
16 8083931	180703	7.001	713122	8.990	385664	11.820
17 8083932	195411	7.001	743650	8.990	417775	11.820

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0611.d Date Analyzed: 10/17/15

Instrument ID: HP20296 Time Analyzed: 12:42

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	920375	13.756	1054405	15.826	757304	20.437
UPPER LIMIT	1840750	14.256	2108810	16.326	1514608	20.937
LOWER LIMIT	460188	13.256	527203	15.326	378652	19.937
LLI SAMPLE NO.						
01 SBLKWD288	672423	13.756	746234	15.826	515531	20.436
02 288WDLCS	710647	13.756	831793	15.826	596934	20.436
03 288WDLCSD	711486	13.756	817309	15.826	596306	20.436
04 8082098DL	714705	13.751	792729	15.820	573325	20.436
05 8082099DL	717640	13.750	791360	15.820	573574	20.436
06 8082100DL	745159	13.751	831823	15.820	575270	20.436
07 8082101DL	738458	13.750	824674	15.820	572292	20.436
08 8082124DL	752007	13.751	832230	15.820	605690	20.436
09 8082124DL2	722314	13.751	795188	15.821	561743	20.431
10 8082129	774655	13.751	907555	15.820	651151	20.436
11 8082130	758951	13.751	853400	15.821	617858	20.431
12 8083925	709051	13.751	781447	15.821	575457	20.431
13 8083928	734753	13.751	821990	15.820	593187	20.431
14 8083929	738408	13.751	815087	15.821	581742	20.431
15 8083930	689133	13.751	802662	15.815	594761	20.431
16 8083931	700386	13.745	799653	15.821	586268	20.431
17 8083932	748364	13.750	843403	15.820	636705	20.431

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0611.d Date Analyzed: 10/17/15

Instrument ID: HP20296 Time Analyzed: 12:42

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	243160	7.006	940552	8.996	519166	11.825
UPPER LIMIT	486320	7.506	1881104	9.496	1038332	12.325
LOWER LIMIT	121580	6.506	470276	8.496	259583	11.325
LLI SAMPLE NO.						
18 8083933	187718	7.001	729050	8.990	374257	11.820
19 8083934	187228	6.995	714197	8.985	395044	11.820
20 8083935	187386	6.995	699337	8.990	409175	11.820
21 8083937	189417	6.995	758204	8.985	409437	11.820
22 8083938	195371	7.001	753048	8.991	432488	11.820
23 8083939	180563	7.001	709456	8.985	378246	11.820
24 8083940	178127	6.995	679440	8.985	382929	11.820
25 8083941	187445	7.001	712877	8.990	394819	11.820

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0611.d Date Analyzed: 10/17/15

Instrument ID: HP20296 Time Analyzed: 12:42

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	920375	13.756	1054405	15.826	757304	20.437
UPPER LIMIT	1840750	14.256	2108810	16.326	1514608	20.937
LOWER LIMIT	460188	13.256	527203	15.326	378652	19.937
LLI SAMPLE NO.						
18 8083933	645353	13.745	746395	15.815	604114	20.431
19 8083934	722950	13.745	812411	15.815	621735	20.431
20 8083935	727776	13.745	823893	15.820	618613	20.431
21 8083937	713886	13.745	789672	15.815	600229	20.431
22 8083938	738272	13.751	853700	15.815	636459	20.431
23 8083939	710642	13.746	803311	15.816	634490	20.431
24 8083940	691676	13.745	792753	15.815	595389	20.431
25 8083941	718225	13.751	810715	15.815	638612	20.431

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0731.d Date Analyzed: 10/22/15

Instrument ID: HP20296 Time Analyzed: 08:42

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	157611	6.936	604447	8.926	357255	11.761
UPPER LIMIT	315222	7.436	1208894	9.426	714510	12.261
LOWER LIMIT	78806	6.436	302224	8.426	178628	11.261
LLI SAMPLE NO.						
01 SBLKWE293	135505	6.936	508703	8.926	296084	11.761
02 293WELCS	133808	6.936	508844	8.921	295837	11.761
03 293WELCSD	126122	6.937	486198	8.921	286421	11.761
04 SBLKWP293	136643	6.931	522757	8.921	298417	11.756
05 293WPLCS	130523	6.936	505335	8.921	295050	11.761
06 293WPLCSD	130651	6.936	494955	8.921	291175	11.761
07 8080063RE	128160	6.931	496189	8.921	298065	11.756
08 8082124RE	131681	6.936	503763	8.931	303975	11.761
09 8084132RE	125269	6.936	465373	8.942	292133	11.761
10 8084138RE	135091	6.937	508525	8.937	310344	11.761
11 8084141RE	137603	6.936	525900	8.926	308736	11.761
12 8081610RE	131243	6.936	500295	8.926	300318	11.761
13 8090566	138615	6.936	526984	8.921	307790	11.761
14 8090568	137174	6.936	524421	8.926	303637	11.761
15 8090569	132501	6.936	504800	8.926	293634	11.761
16 8090570	137424	6.936	517241	8.926	301069	11.761
17 8090571	134272	6.936	508762	8.926	293118	11.761

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0731.d Date Analyzed: 10/22/15

Instrument ID: HP20296 Time Analyzed: 08:42

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	676816	13.686	826318	15.746	672139	20.345
UPPER LIMIT	1353632	14.186	1652636	16.246	1344278	20.845
LOWER LIMIT	338408	13.186	413159	15.246	336070	19.845
LLI SAMPLE NO.						
01 SBLKWE293	558452	13.686	669006	15.746	530491	20.346
02 293WELCS	553565	13.686	672109	15.746	563230	20.345
03 293WELCSD	536566	13.687	658955	15.746	541639	20.346
04 SBLKWP293	574999	13.686	680290	15.740	548567	20.340
05 293WPLCS	556926	13.686	693325	15.746	564007	20.345
06 293WPLCSD	555625	13.686	693003	15.746	580380	20.345
07 8080063RE	582414	13.687	713617	15.746	627824	20.351
08 8082124RE	585770	13.686	708021	15.746	601195	20.345
09 8084132RE	576222	13.686	693156	15.746	593652	20.345
10 8084138RE	599434	13.687	722605	15.746	598089	20.346
11 8084141RE	585623	13.686	703587	15.746	581417	20.345
12 8081610RE	575996	13.686	698159	15.746	577020	20.345
13 8090566	586615	13.686	705140	15.746	579594	20.345
14 8090568	582120	13.692	701666	15.746	569736	20.345
15 8090569	569223	13.686	684976	15.746	571272	20.345
16 8090570	582390	13.686	689937	15.746	575898	20.345
17 8090571	561107	13.692	667256	15.746	539231	20.345

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0731.d Date Analyzed: 10/22/15

Instrument ID: HP20296 Time Analyzed: 08:42

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	157611	6.936	604447	8.926	357255	11.761
UPPER LIMIT	315222	7.436	1208894	9.426	714510	12.261
LOWER LIMIT	78806	6.436	302224	8.426	178628	11.261
LLI SAMPLE NO.						
18 8090572	138486	6.937	520467	8.926	299151	11.761
19 8090573	136126	6.936	520543	8.926	304311	11.761
20 8090574	130179	6.936	497851	8.926	289779	11.761
21 8090575	138522	6.937	526337	8.921	303074	11.761
22 8090576	133562	6.937	511759	8.926	294452	11.761
23 8090577	134850	6.937	508238	8.926	294447	11.761

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): lj0731.d Date Analyzed: 10/22/15

Instrument ID: HP20296 Time Analyzed: 08:42

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	676816	13.686	826318	15.746	672139	20.345
UPPER LIMIT	1353632	14.186	1652636	16.246	1344278	20.845
LOWER LIMIT	338408	13.186	413159	15.246	336070	19.845
LLI SAMPLE NO.						
18 8090572	577660	13.687	685408	15.746	563537	20.346
19 8090573	585982	13.686	705408	15.746	579008	20.345
20 8090574	566204	13.686	677457	15.746	560744	20.346
21 8090575	576336	13.687	677972	15.746	547800	20.346
22 8090576	567204	13.686	675818	15.746	537403	20.346
23 8090577	571091	13.687	683715	15.746	546126	20.346

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

Sample Data

Semivolatiles by GC/MS

Fraction: Semivolatiles by GC/MS

07805: PAHs 8270C (17) Analyte Name	Default MDL	Default LOQ	Units
Naphthalene	0.1	0.5	ug/l
2-Methylnaphthalene	0.1	0.5	ug/l
Acenaphthylene	0.1	0.5	ug/l
Acenaphthene	0.1	0.5	ug/l
Fluorene	0.1	0.5	ug/l
Phenanthrene	0.1	0.5	ug/l
Anthracene	0.1	0.5	ug/l
Fluoranthene	0.1	0.5	ug/l
Pyrene	0.1	0.5	ug/l
Benzo(a)anthracene	0.1	0.5	ug/l
Chrysene	0.1	0.5	ug/l
Benzo(b)fluoranthene	0.1	0.5	ug/l
Benzo(k)fluoranthene	0.1	0.5	ug/l
Benzo(a)pyrene	0.1	0.5	ug/l
Indeno(1,2,3-cd)pyrene	0.1	0.5	ug/l
Dibenz(a,h)anthracene	0.1	0.5	ug/l
Benzo(g,h,i)perylene	0.1	0.5	ug/l

P2901 Lancaster Laboratories, Inc. 8082120
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0597.d Injection date and time: **16-OCT-2015 18:47**
Data file Sample Info. Line: P2901;8082120;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 19:11 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 243 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.022(0.005)	904	152	188169 (-13)	5.00	
65) Naphthalene-d8	9.012(0.005)	1276	136	761701 (-13)	5.00	
113) Acenaphthene-d10	11.836(0.005)	1804	164	410835 (-16)	5.00	
153) Phenanthrene-d10	13.767(0.005)	2165	188	741208 (-20)	5.00	
175) Pyrene-d10	15.837(0.011)	2552	212	854336 (-21)	5.00	
213) Perylene-d12	20.458(0.005)	3416	264	593052 (-22)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.878(0.001)	82	1638559	21.307	85%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.799(0.000)	172	2316170	20.451	82%		61 - 112
179) Terphenyl-d14	(5)	16.158(0.000)	244	2176004	19.181	77%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.03
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)			Not Detected					0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0597.d Injection date and time: **16-OCT-2015 18:47**
Data file Sample Info. Line: P2901;8082120;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 19:11 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 243 ml Volume Injected (Vi): 1 ul

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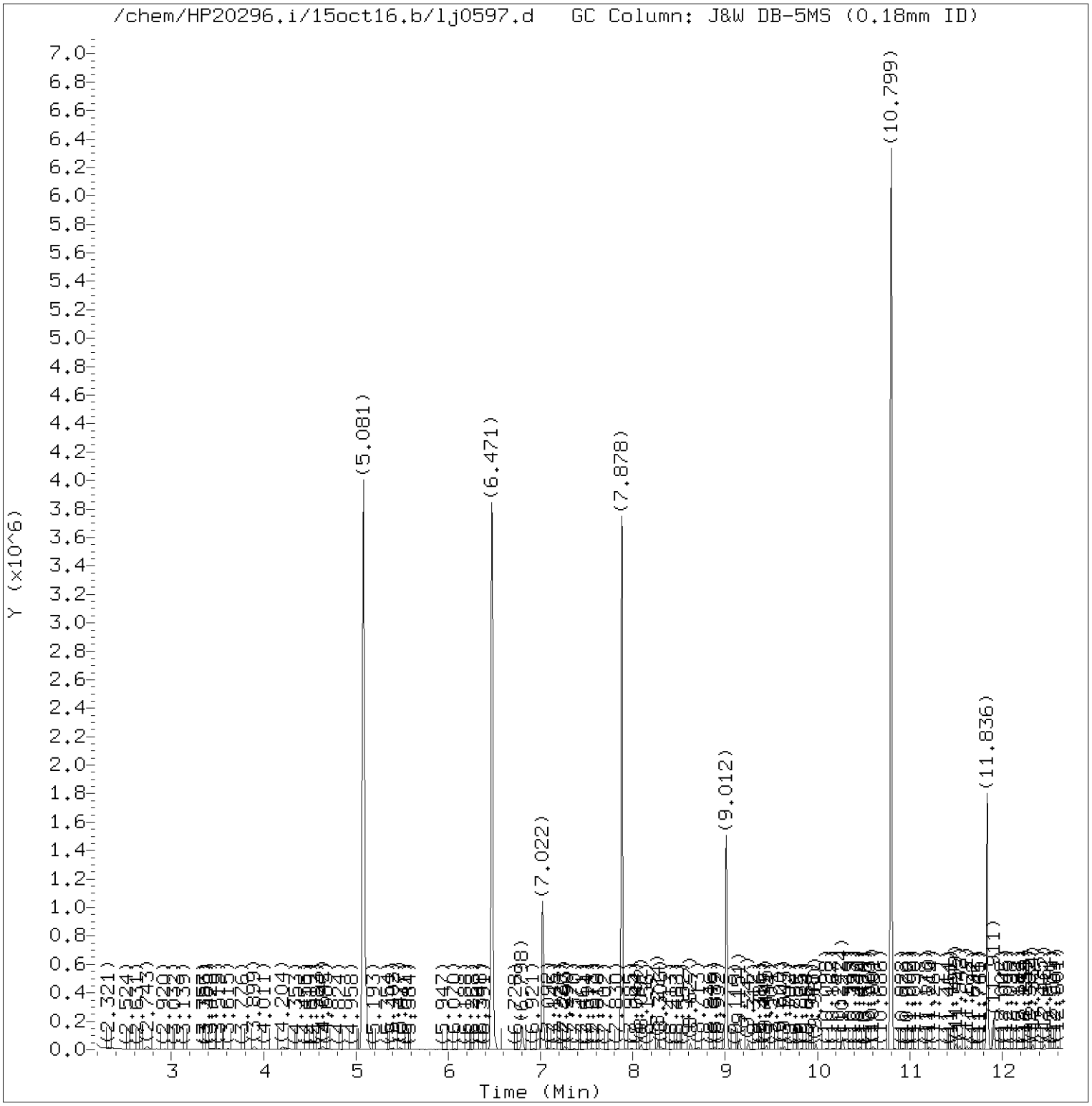
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:16. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:54. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

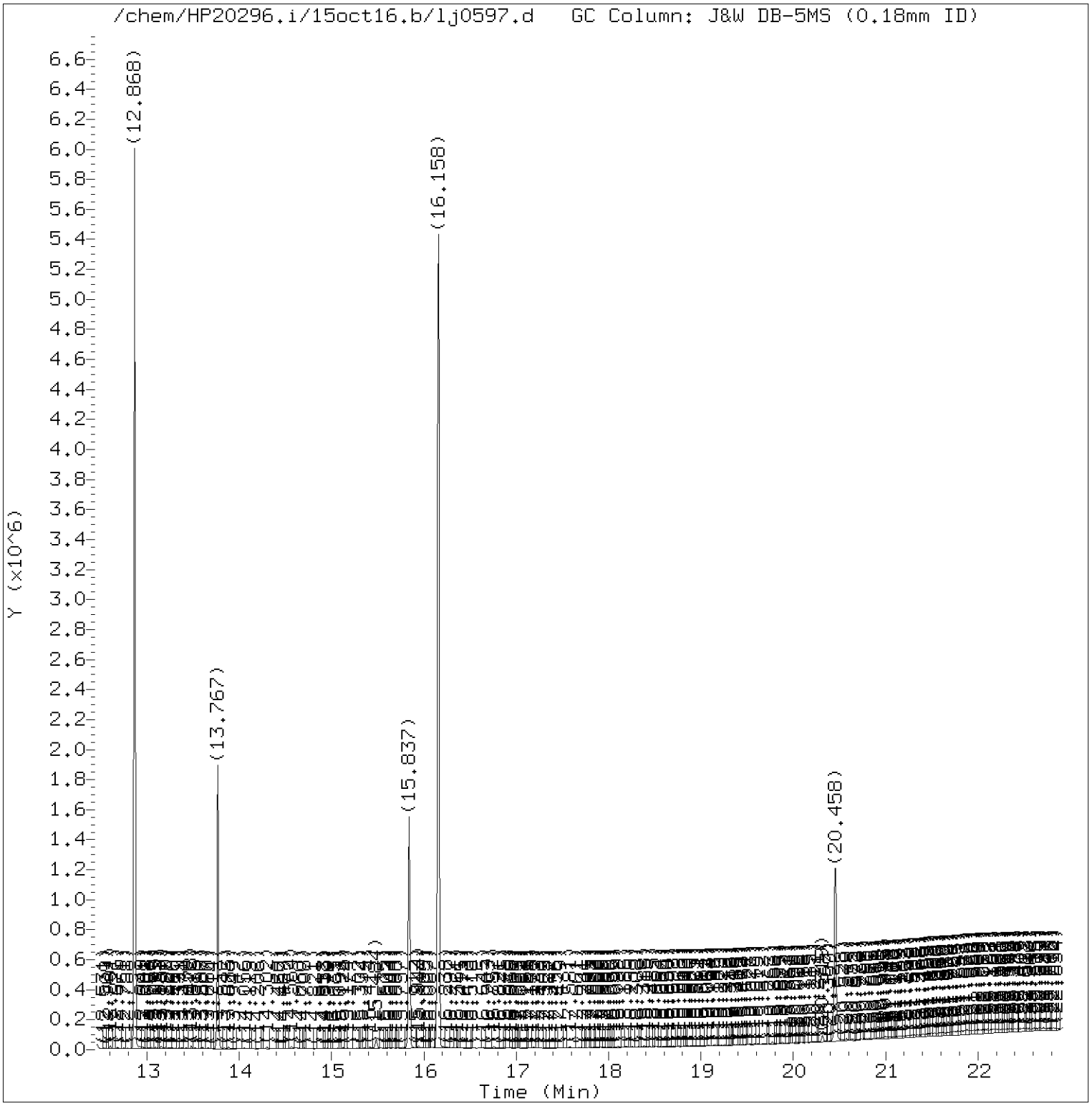
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0597.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 18:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 19:11 Unknown

Sample Name: P2901 Lab Sample ID: 8082120

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:16.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0597.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 18:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 19:11 Unknown

Sample Name: P2901 Lab Sample ID: 8082120

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:16.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0597.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 18:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 19:11 Unknown

Sample Name: P2901 Lab Sample ID: 8082120

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.022	152	188169	5.000
44)$Nitrobenzene-d5	(2)	7.878	82	1638559	21.307
65)*Naphthalene-d8	(2)	9.012	136	761701	5.000
93)$2-Fluorobiphenyl	(3)	10.799	172	2316170	20.451
113)*Acenaphthene-d10	(3)	11.836	164	410835	5.000
153)*Phenanthrene-d10	(4)	13.767	188	741208	5.000
175)*Pyrene-d10	(5)	15.837	212	854336	5.000
179)$Terphenyl-d14	(5)	16.158	244	2176004	19.181
213)*Perylene-d12	(6)	20.458	264	593052	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/17/2015 at 12:16.
Target 3.5 esignature user ID: ceb05247

P2902 Lancaster Laboratories, Inc. 8082124
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0600.d Injection date and time: **16-OCT-2015 20:10**
Data file Sample Info. Line: P2902;8082124;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 240 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.022(0.006)	904	152	189045 (-13)	5.00	
65) Naphthalene-d8	9.028(-0.010)	1279	136	706748 (-19)	5.00	
113) Acenaphthene-d10	11.841(0.000)	1805	164	418193 (-15)	5.00	
153) Phenanthrene-d10	13.767(0.006)	2165	188	754829 (-18)	5.00	
175) Pyrene-d10	15.842(0.006)	2553	212	886811 (-18)	5.00	
213) Perylene-d12	20.458(0.006)	3416	264	659042 (-13)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.883(0.002)	82	1567540	21.969	88%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.798(0.000)	172	2324216	20.161	81%		61 - 112
179) Terphenyl-d14	(5)	16.157(0.000)	244	2155773	18.307	73%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	9.102(-0.004)	128	36954674	243.451	1014.38		E	0.03
83) 2-Methylnaphthalene	(2)	10.199(-0.001)	142	15129296	150.262	626.09		E	0.03
109) Acenaphthylene	(3)	11.632(-0.000)	152	831325	5.540	23.08			0.03
114) Acenaphthene	(3)	11.889(-0.000)	153	3609629	36.101	150.42		E	0.03
126) Fluorene	(3)	12.568(-0.000)	166	1420270	13.288	55.37			0.03
155) Phenanthrene	(4)	13.799(-0.000)	178	2473469	15.731	65.55			0.03
157) Anthracene	(4)	13.868(-0.000)	178	589439	3.778	15.74			0.03
173) Fluoranthene	(4)	15.516(-0.000)	202	400011	2.337	9.74			0.03
177) Pyrene	(5)	15.869(-0.000)	202	532949	2.793	11.64			0.03
195) Benzo(a)anthracene	(5)	17.933(0.000)	228	145747	0.887	3.70			0.03
196) Chrysene	(5)	17.992(0.000)	228	123864	0.789	3.29			0.03
206) Benzo(b)fluoranthene	(6)	19.821(0.000)	252	73469	0.453	1.89	0.143	B	0.03
208) Benzo(k)fluoranthene	(6)	19.869(0.000)	252	29711	0.188	0.78	0.133	B	0.03
211) Benzo(a)pyrene	(6)	20.361(0.000)	252	82944	0.549	2.29			0.03
219) Indeno(1,2,3-cd)pyrene	(6)	22.110(0.000)	276	35892	0.203	0.85			0.03
220) Dibenz(a,h)anthracene	(6)	22.153(0.000)	278	10901	0.074	0.31	0.109	B	0.03
221) Benzo(g,h,i)perylene	(6)	22.544(0.000)	276	37556	0.249	1.04	0.114	B	0.03

E = Compound concentration above calibration range. B = Compound detected in referenced method blank.

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:17. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0600.d Injection date and time: **16-OCT-2015 20:10**
Data file Sample Info. Line: P2902;8082124;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 240 ml Volume Injected (Vi): 1 ul

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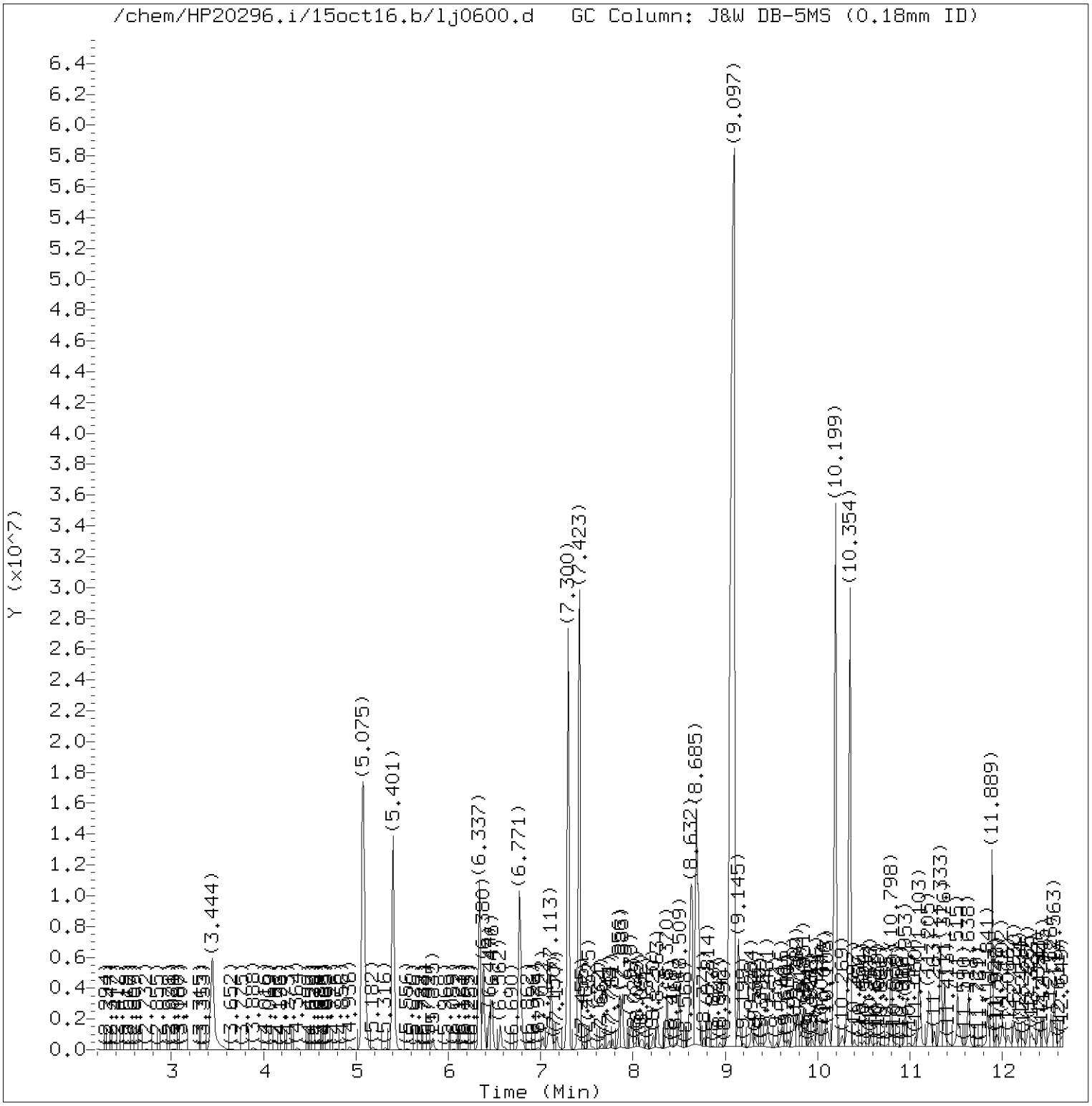
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:17. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:56. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

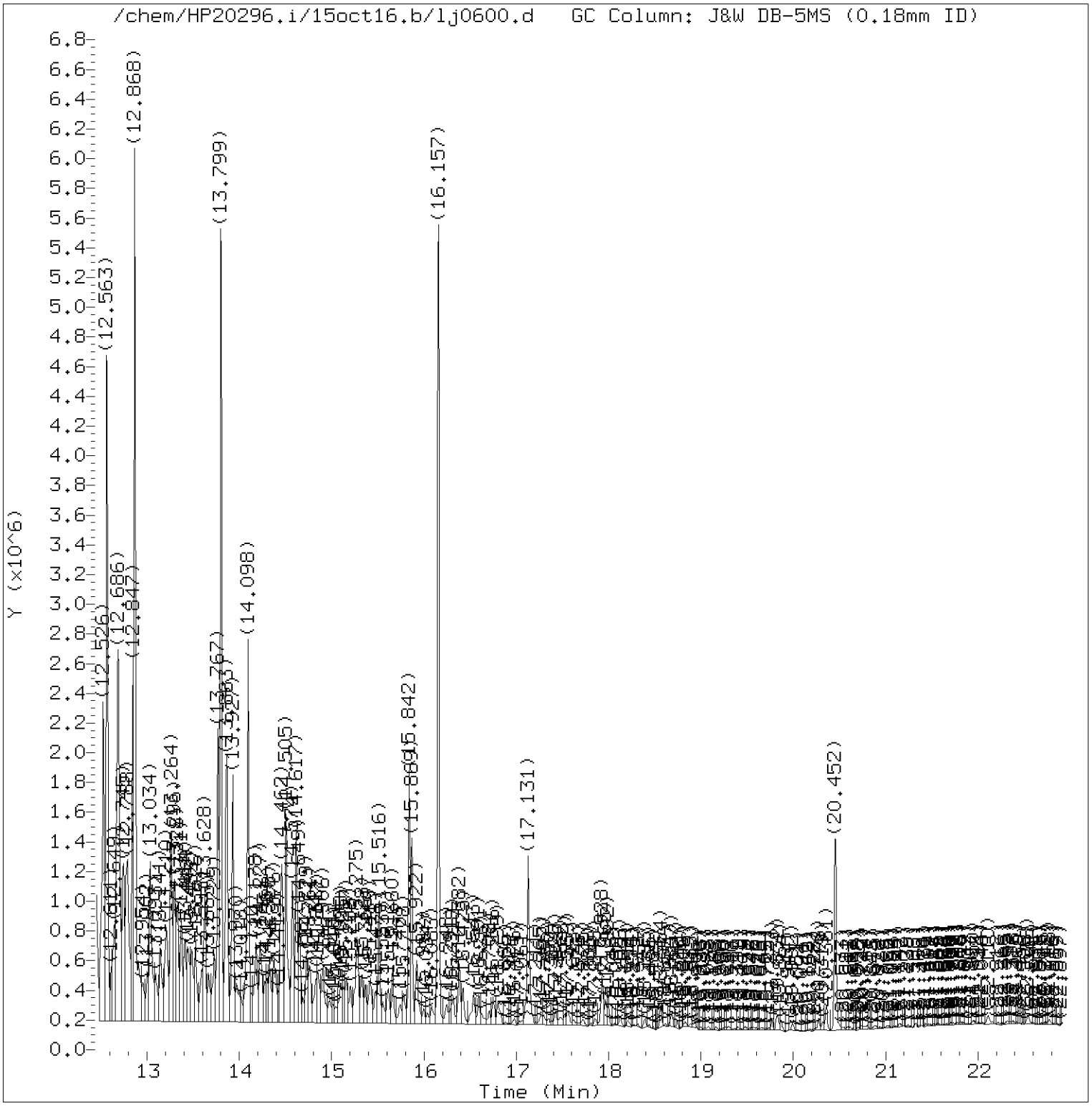
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.022	152	189045	5.000
44)$Nitrobenzene-d5	(2)	7.883	82	1567540	21.969
65)*Naphthalene-d8	(2)	9.028	136	706748	5.000
66) Naphthalene	(2)	9.103	128	36954674	243.451
83) 2-Methylnaphthalene	(2)	10.199	142	15129296	150.262
93)$2-Fluorobiphenyl	(3)	10.798	172	2324216	20.161
109) Acenaphthylene	(3)	11.632	152	831325	5.540
113)*Acenaphthene-d10	(3)	11.841	164	418193	5.000
114) Acenaphthene	(3)	11.889	153	3609629	36.101
126) Fluorene	(3)	12.568	166	1420270	13.288
153)*Phenanthrene-d10	(4)	13.767	188	754829	5.000
155) Phenanthrene	(4)	13.799	178	2473469	15.731
157) Anthracene	(4)	13.868	178	589439	3.778
173) Fluoranthene	(4)	15.516	202	400011	2.337
175)*Pyrene-d10	(5)	15.842	212	886811	5.000
177) Pyrene	(5)	15.869	202	532949	2.793
179)$Terphenyl-d14	(5)	16.157	244	2155773	18.307
195) Benzo(a)anthracene	(5)	17.933	228	145747	0.887
196) Chrysene	(5)	17.992	228	123864	0.789
206) Benzo(b)fluoranthene	(6)	19.821	252	73469	0.453
208) Benzo(k)fluoranthene	(6)	19.869	252	29711	0.188
211) Benzo(a)pyrene	(6)	20.361	252	82944	0.549
213)*Perylene-d12	(6)	20.458	264	659042	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	22.110	276	35892	0.203
220) Dibenz(a,h)anthracene	(6)	22.153	278	10901	0.074
221) Benzo(g,h,i)perylene	(6)	22.544	276	37556	0.249

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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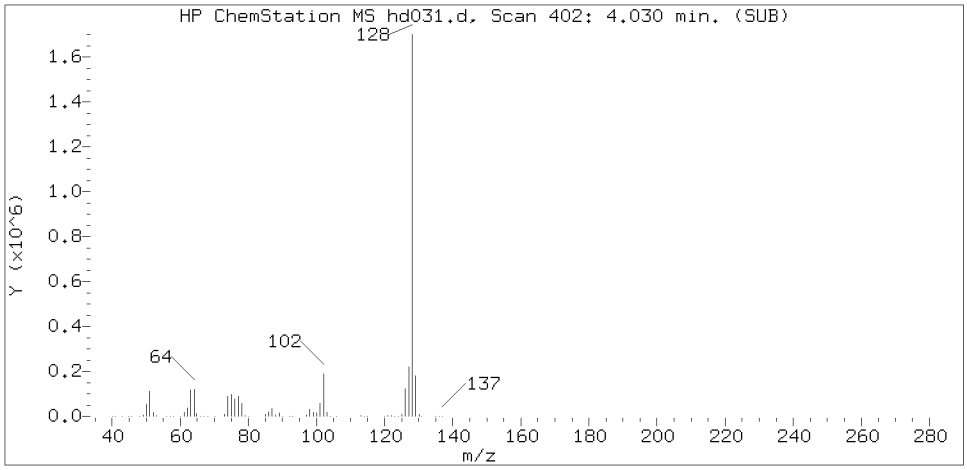
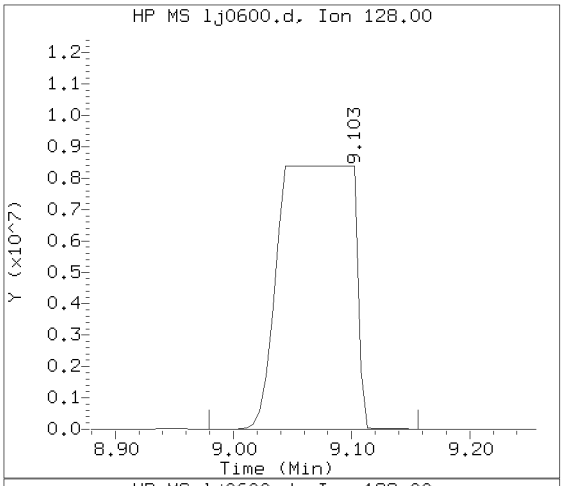
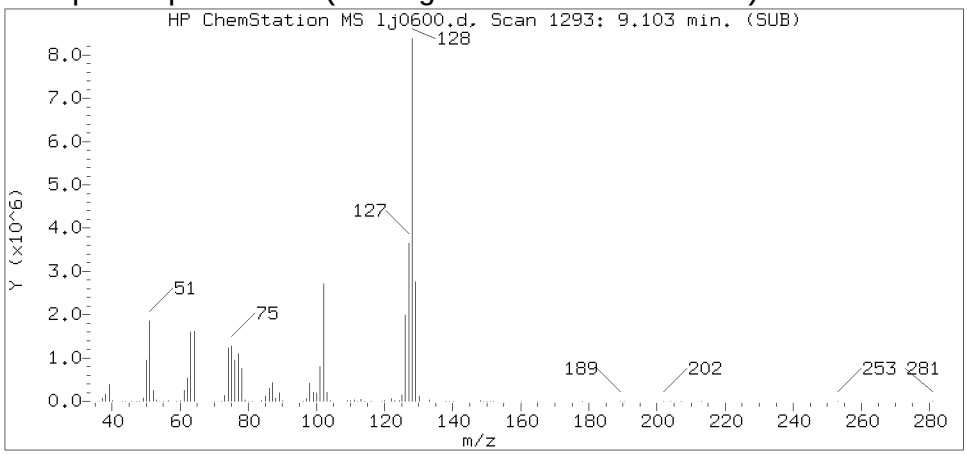
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247

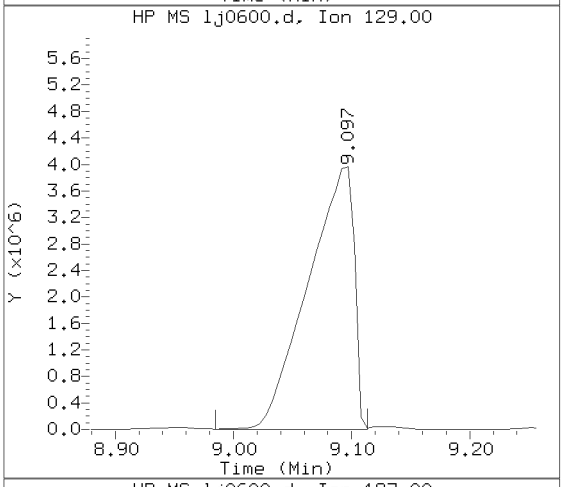
Reference Standard Spectrum for Naphthalene



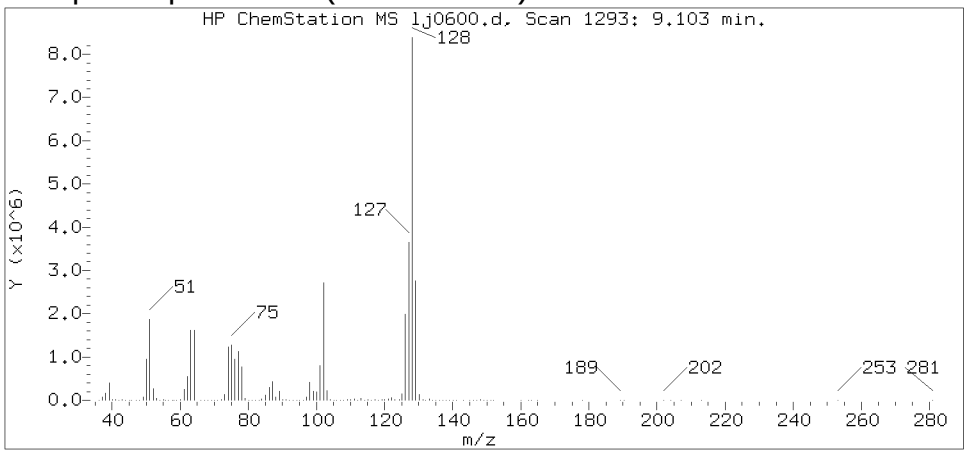


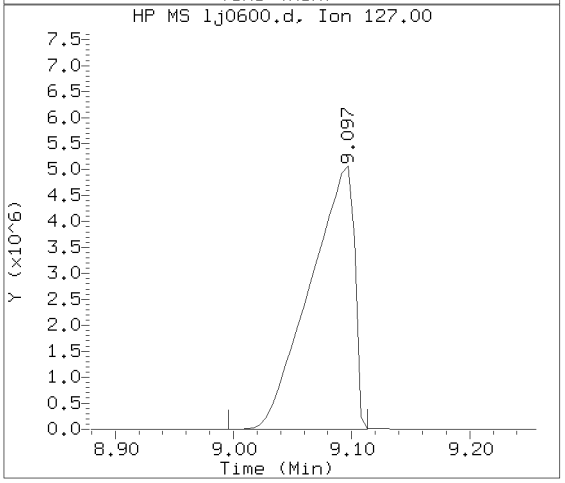
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

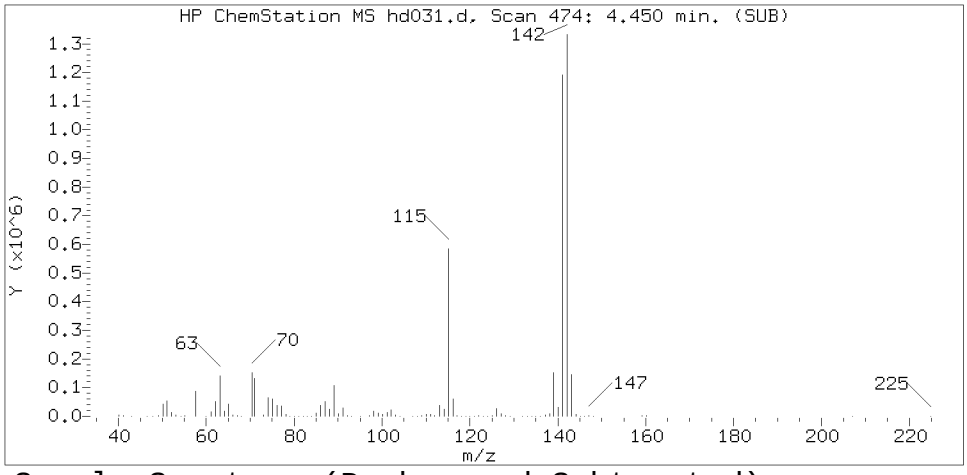
Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

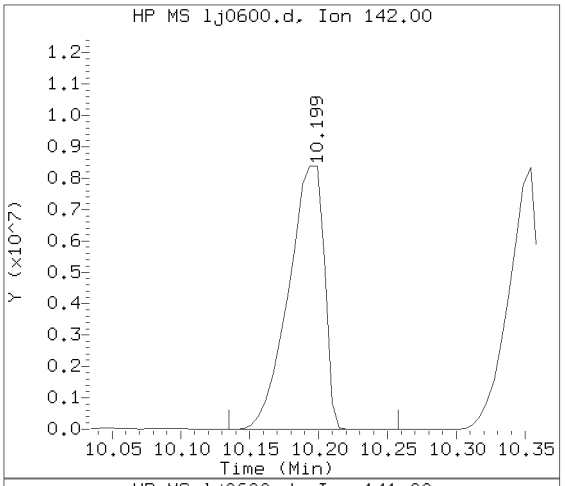
Sample Name: P2902 Lab Sample ID: 8082124

Compound Number : 66
Compound Name : Naphthalene
Scan Number : 1293
Retention Time (minutes) : 9.103
Relative Retention Time :-0.00474
Quant Ion : 128.00
Area (flag) : 36954674
On-column Amount (ng/ul) : 243.4513

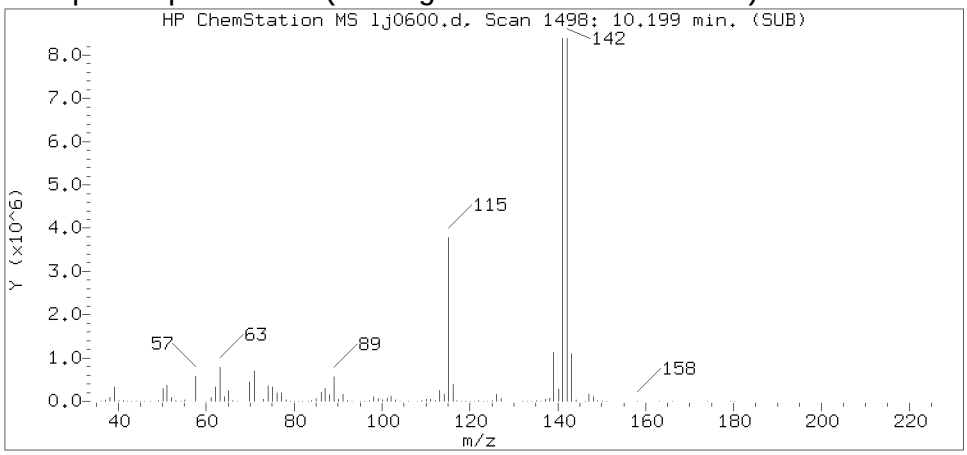
Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247

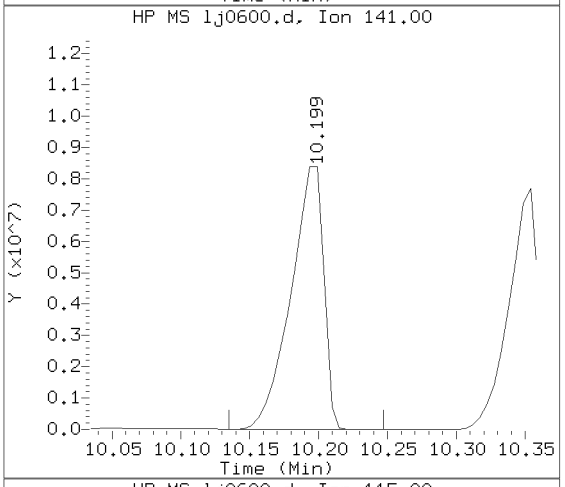
Reference Standard Spectrum for 2-Methylnaphthalene



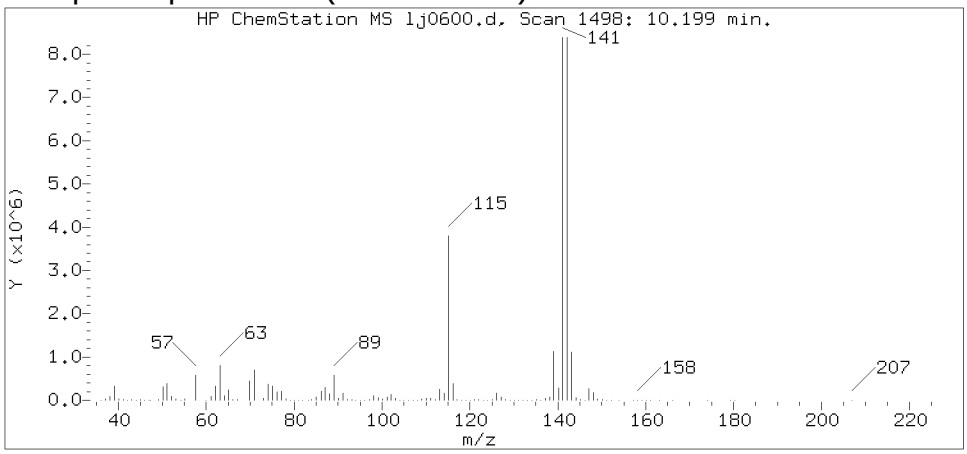


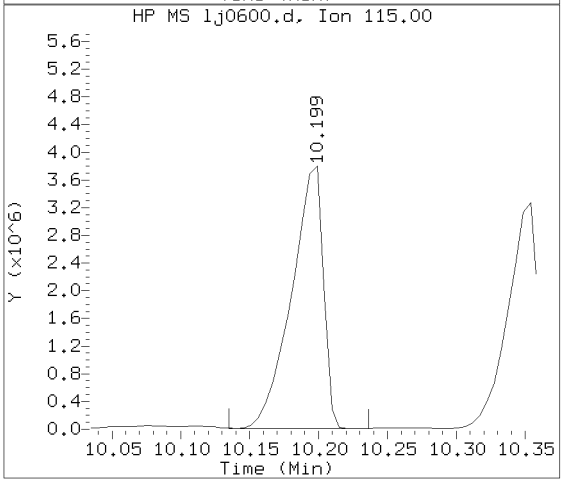
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number : 83
Compound Name : 2-Methylnaphthalene
Scan Number : 1498
Retention Time (minutes) : 10.199
Relative Retention Time :-0.00104
Quant Ion : 142.00
Area (flag) : 15129296
On-column Amount (ng/ul) : 150.2621

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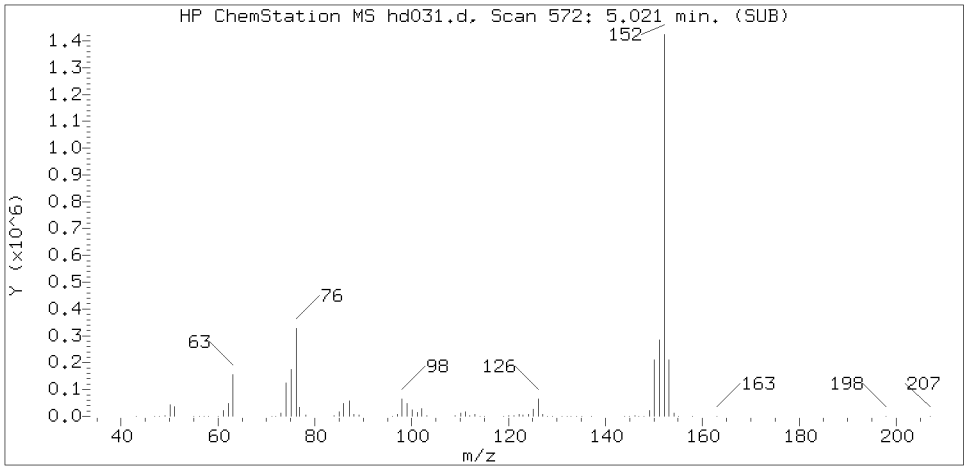
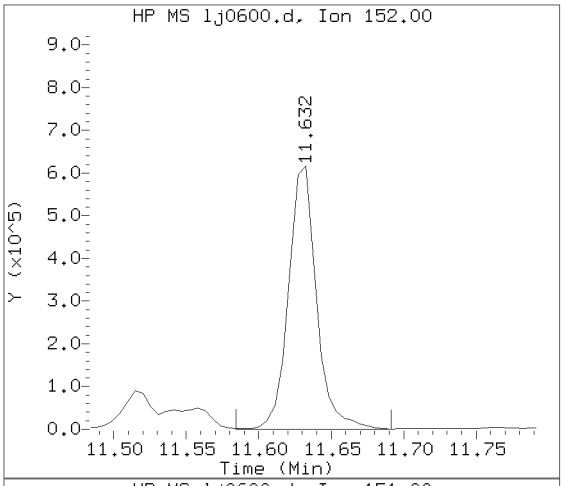
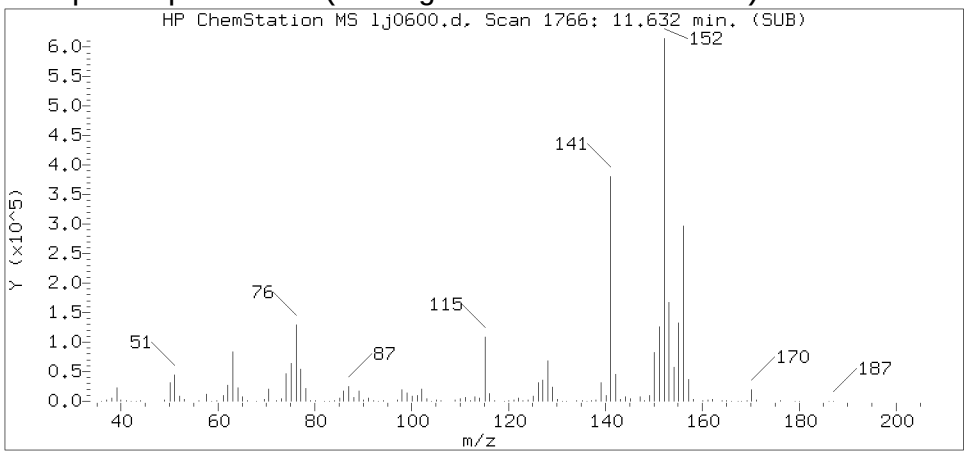
Target 3.5 esignature user ID: ceb05247

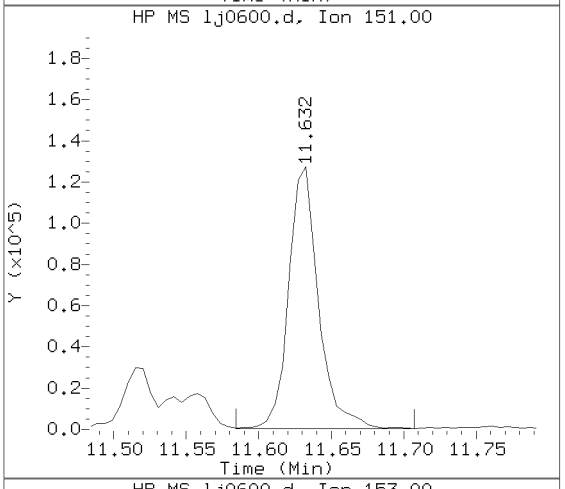
Reference Standard Spectrum for Acenaphthylene



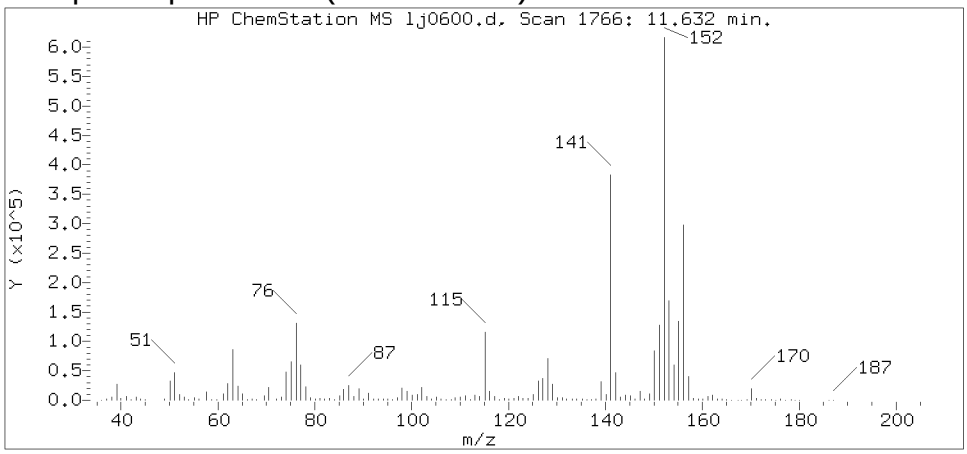


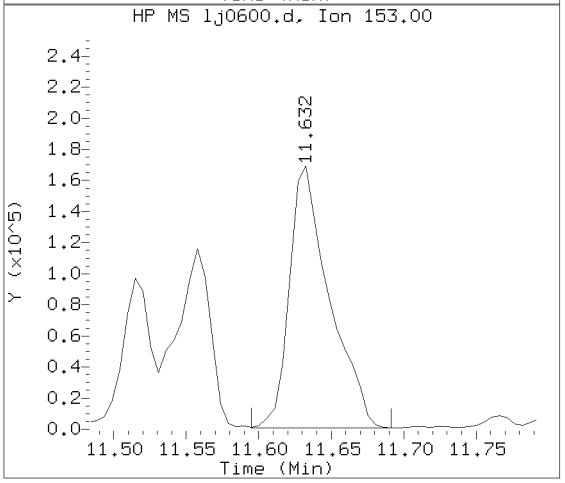
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number : 109
Compound Name : Acenaphthylene
Scan Number : 1766
Retention Time (minutes) : 11.632
Relative Retention Time :-0.00000
Quant Ion : 152.00
Area (flag) : 831325
On-column Amount (ng/ul) : 5.5401

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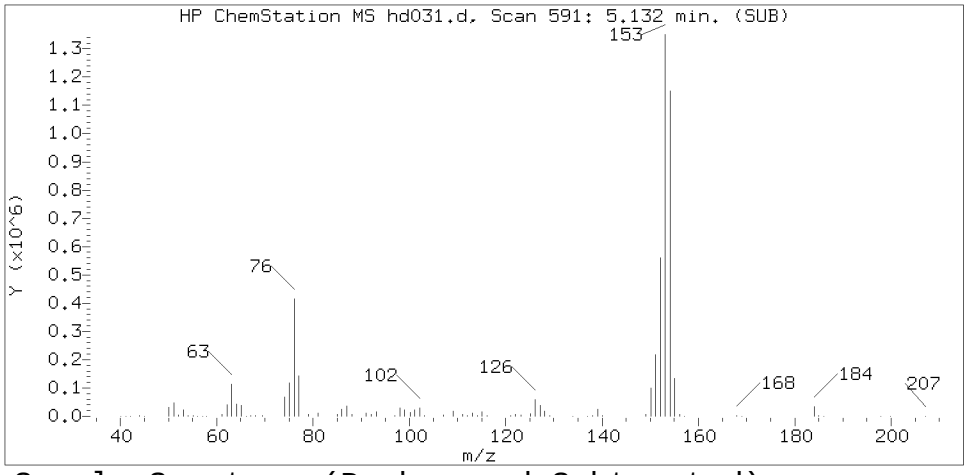
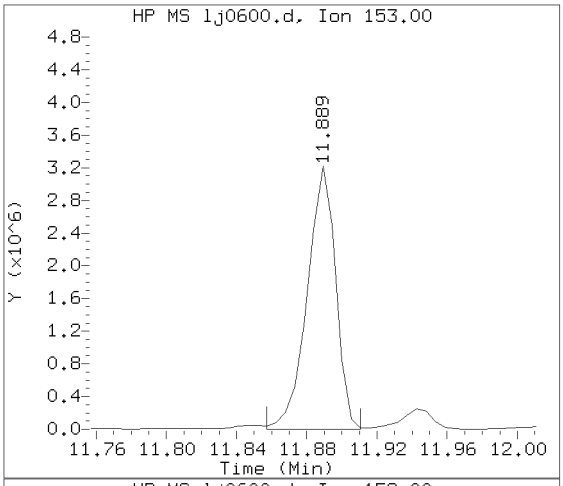
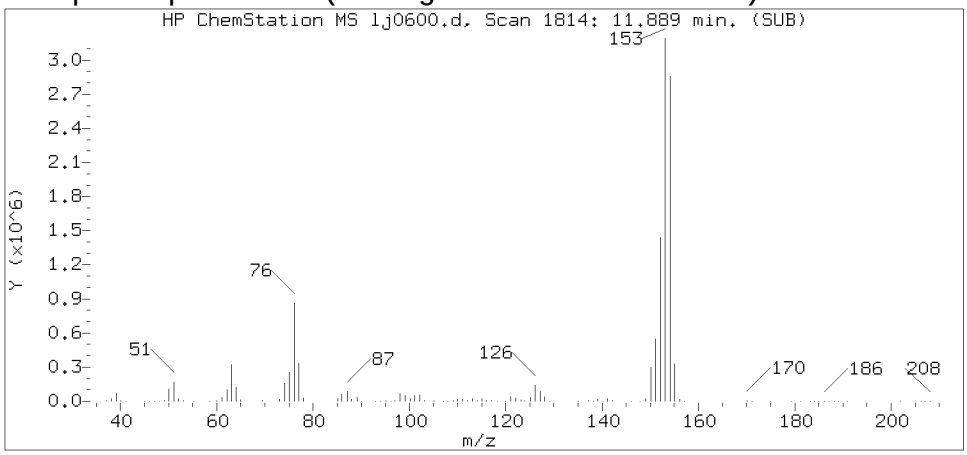
Target 3.5 esignature user ID: ceb05247

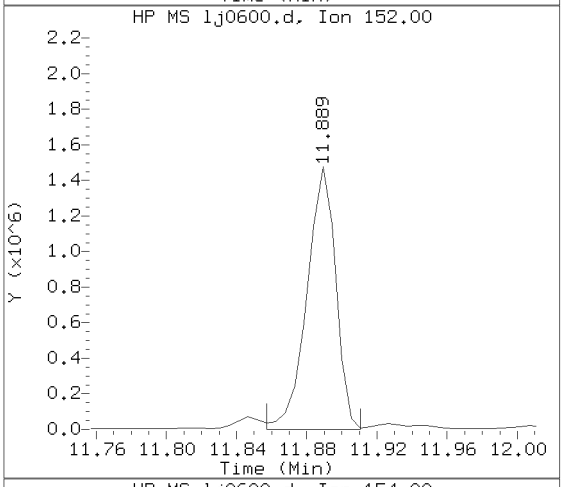
Reference Standard Spectrum for Acenaphthene



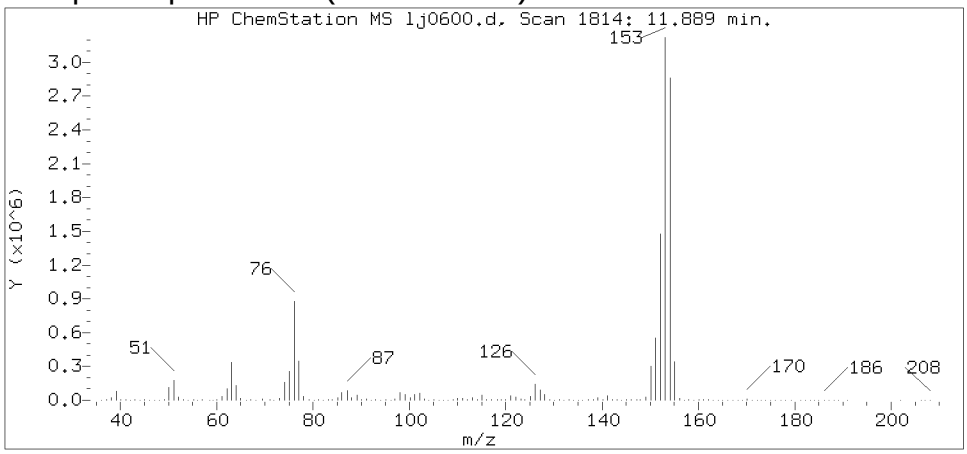


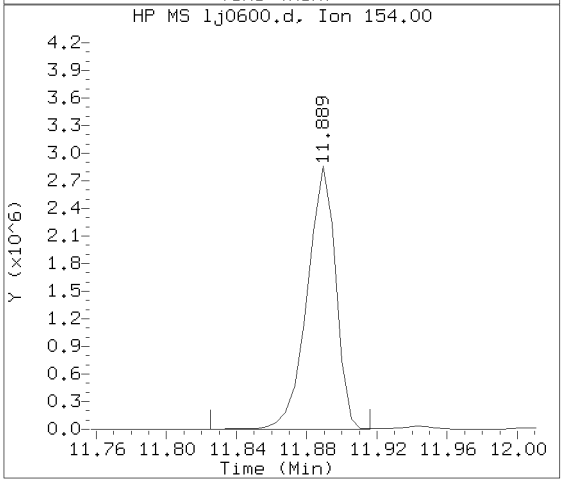
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1814
Retention Time (minutes) : 11.889
Relative Retention Time :-0.00000
Quant Ion : 153.00
Area (flag) : 3609629
On-column Amount (ng/ul) : 36.1014

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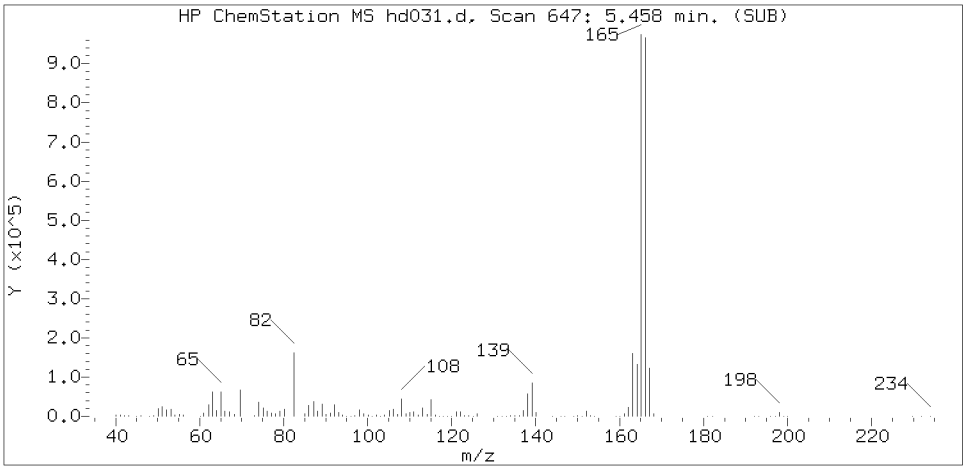
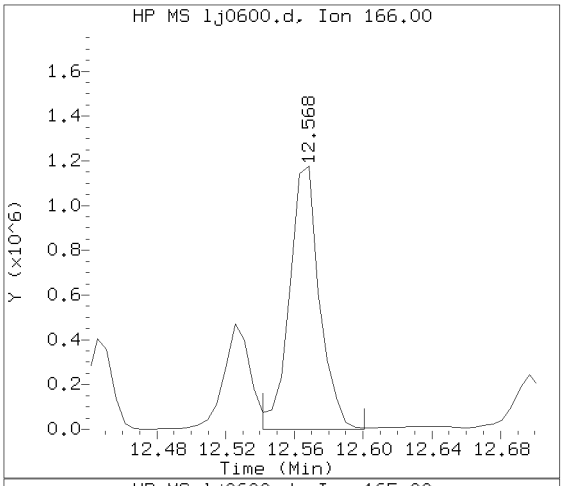
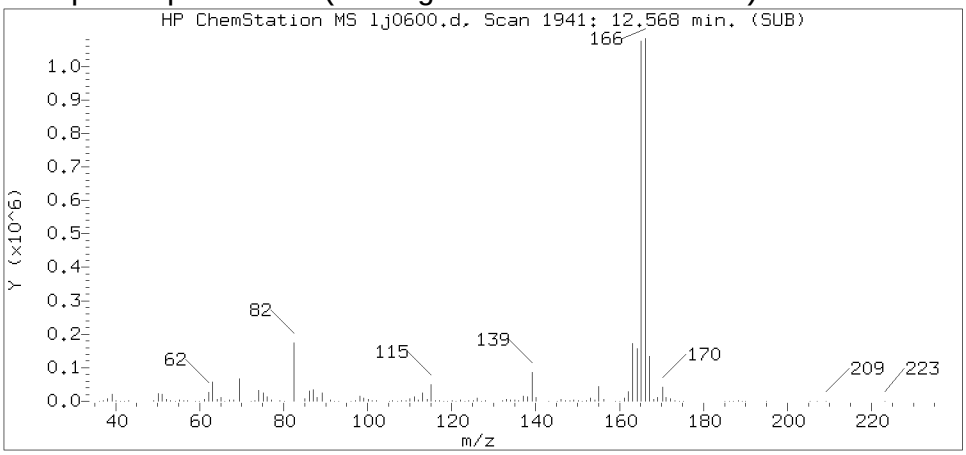
Target 3.5 esignature user ID: ceb05247

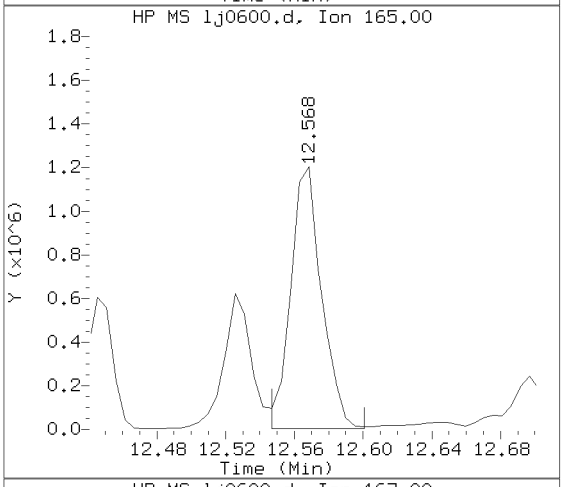
Reference Standard Spectrum for Fluorene



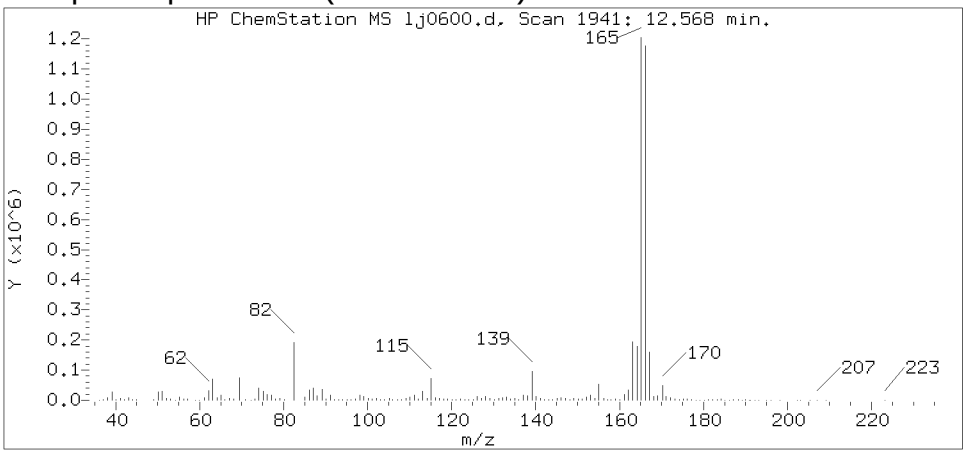


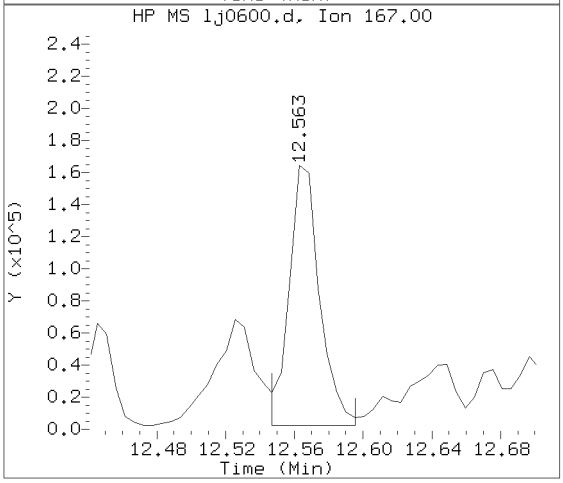
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number : 126
Compound Name : Fluorene
Scan Number : 1941
Retention Time (minutes) : 12.568
Relative Retention Time :-0.00000
Quant Ion : 166.00
Area (flag) : 1420270
On-column Amount (ng/ul) : 13.2883

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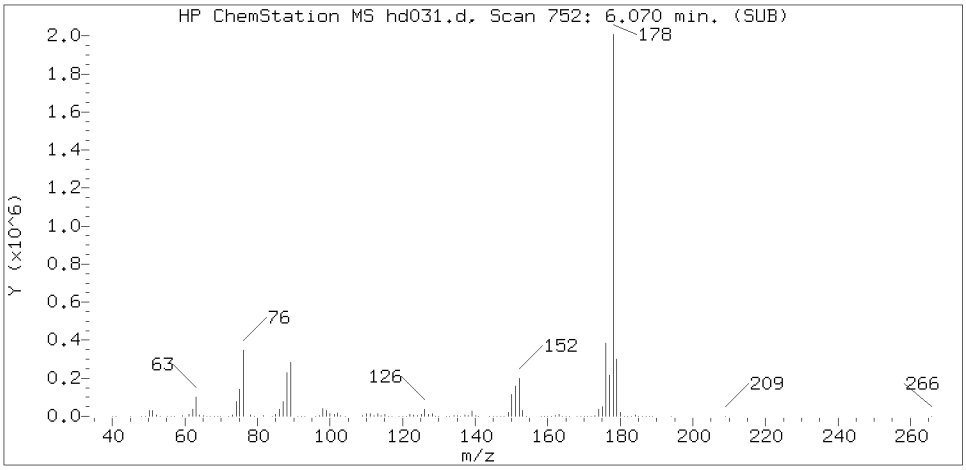
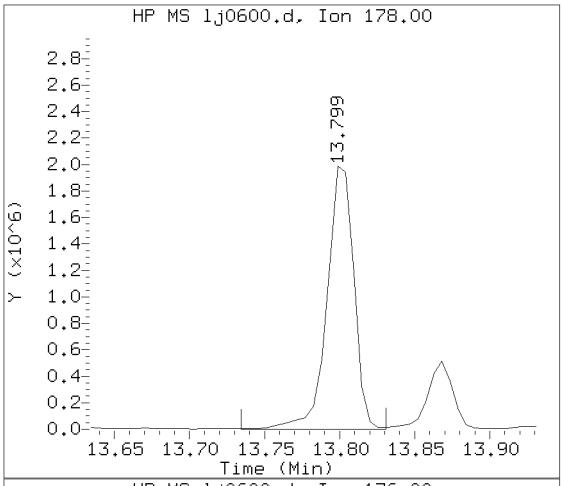
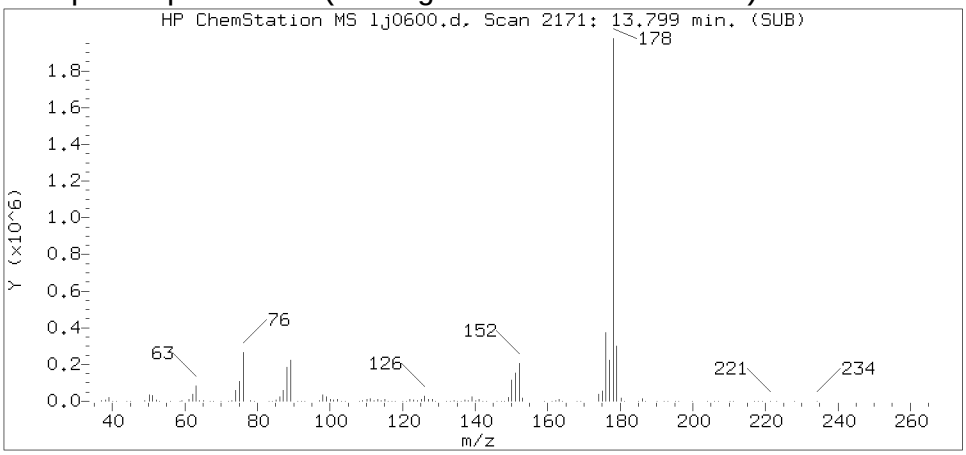
Target 3.5 esignature user ID: ceb05247

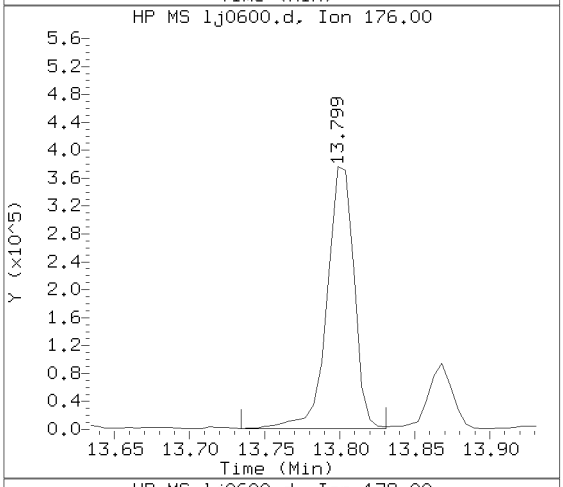
Reference Standard Spectrum for Phenanthrene



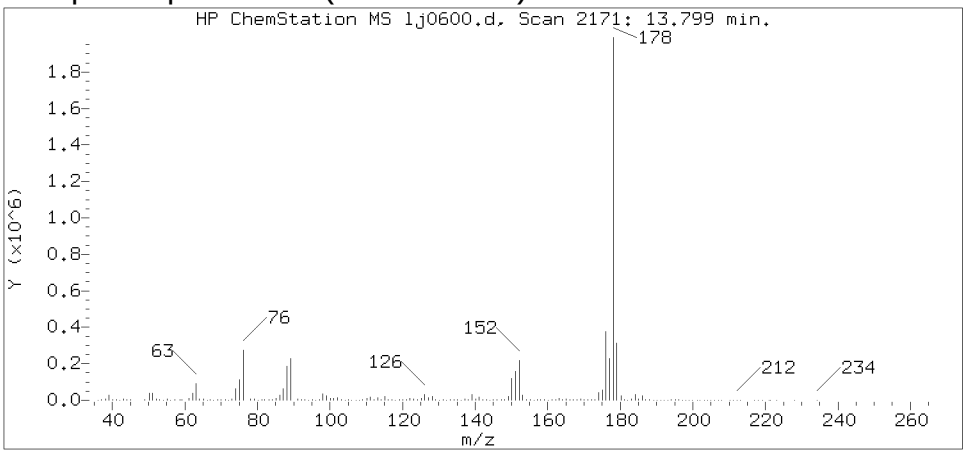


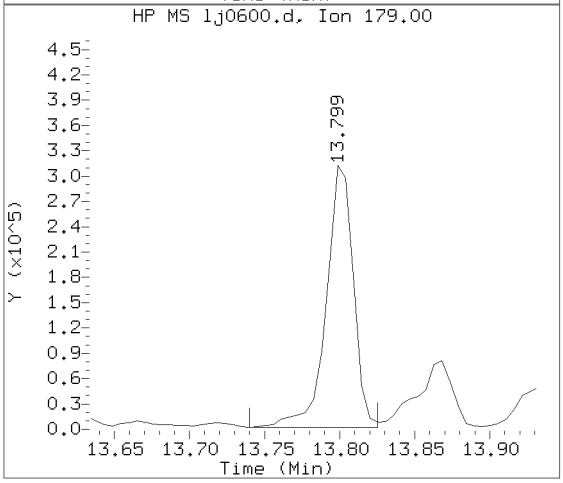
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number : 155
Compound Name : Phenanthrene
Scan Number : 2171
Retention Time (minutes) : 13.799
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 2473469
On-column Amount (ng/ul) : 15.7313

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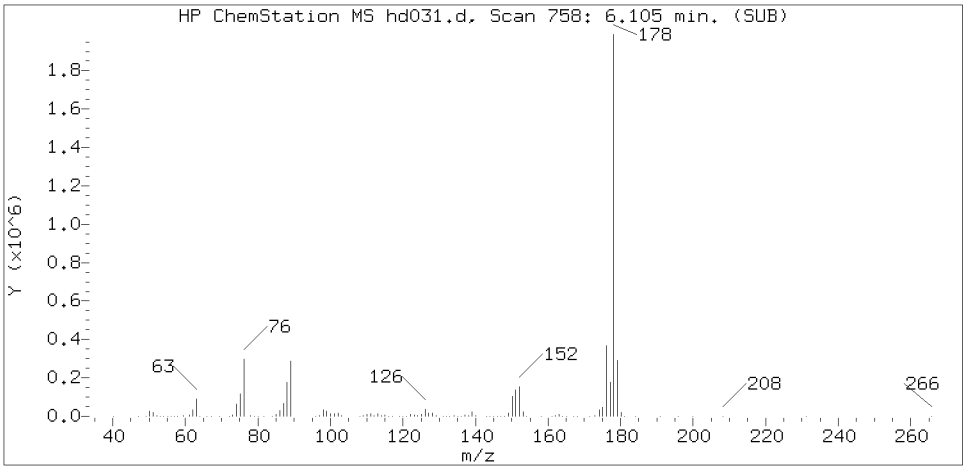
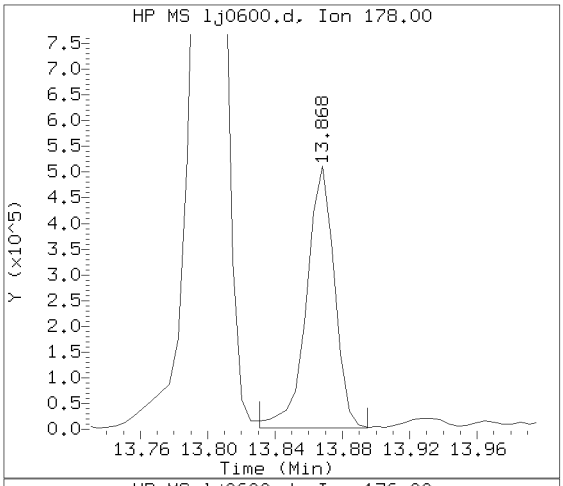
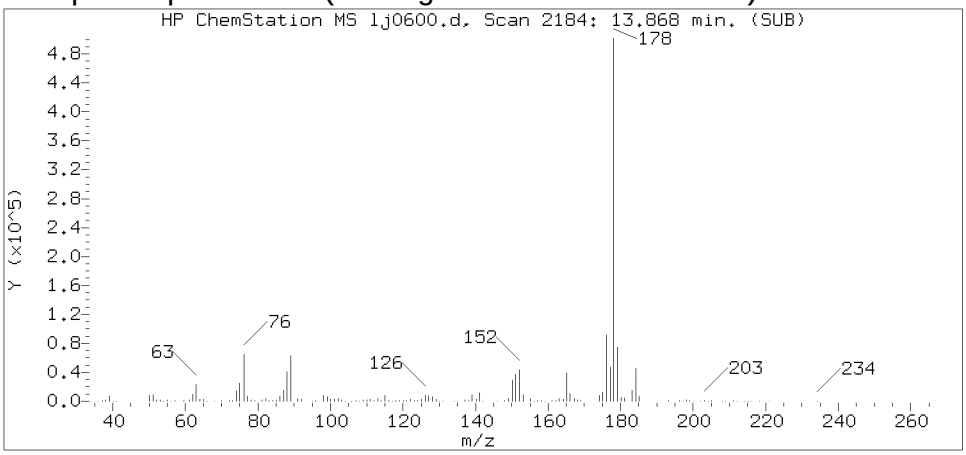
Target 3.5 esignature user ID: ceb05247

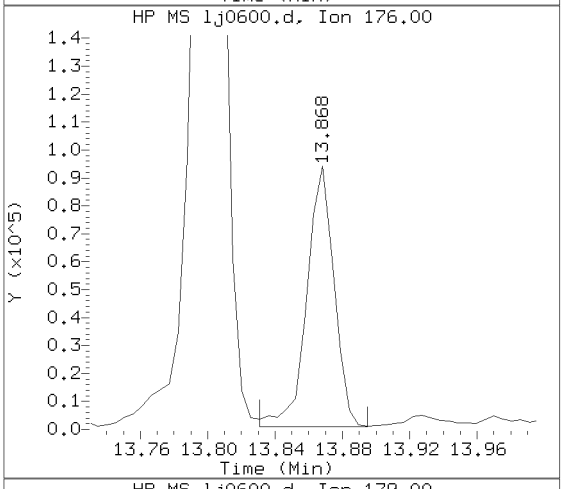
Reference Standard Spectrum for Anthracene



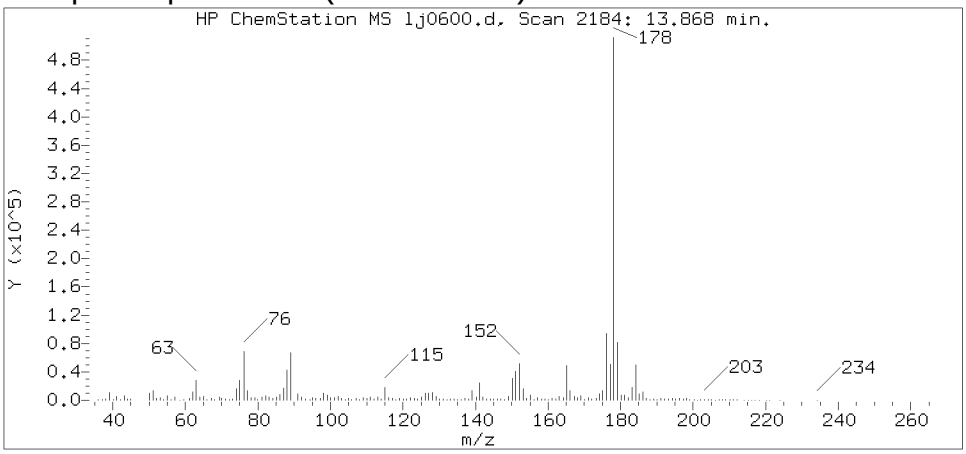


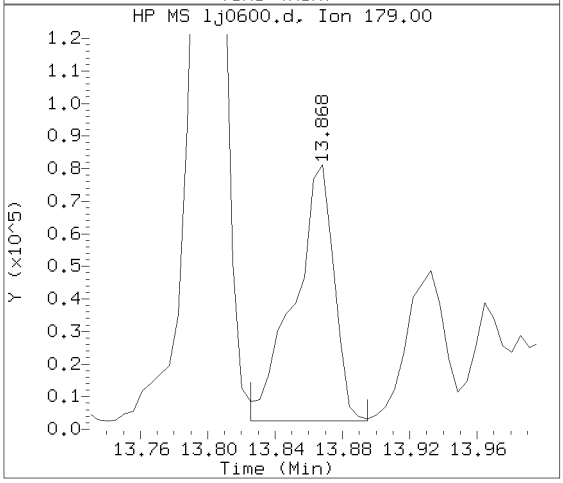
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number : 157
Compound Name : Anthracene
Scan Number : 2184
Retention Time (minutes) : 13.868
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 589439
On-column Amount (ng/ul) : 3.7776

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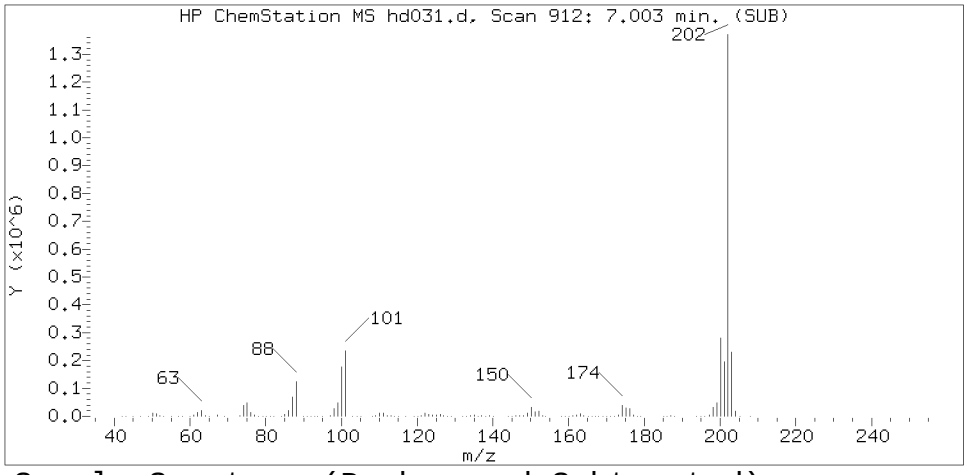
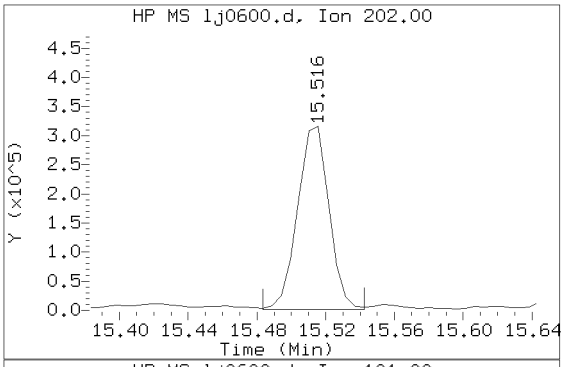
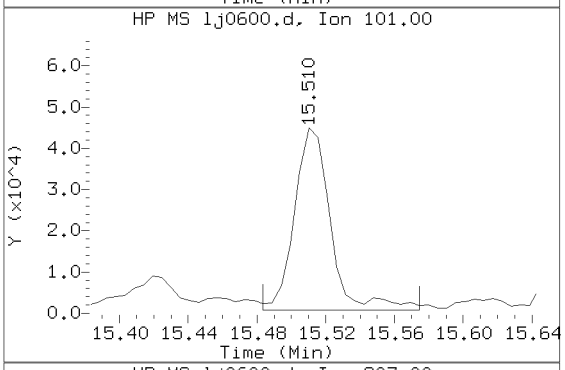
Target 3.5 esignature user ID: ceb05247

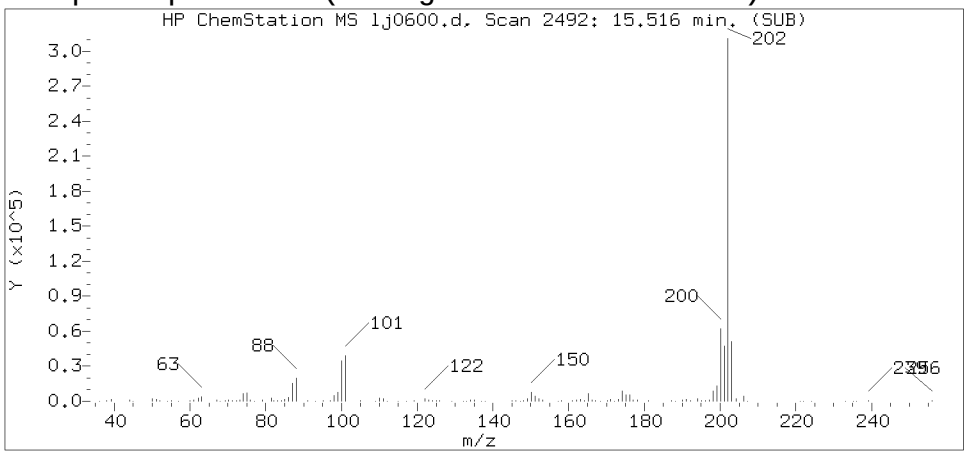
Reference Standard Spectrum for Fluoranthene

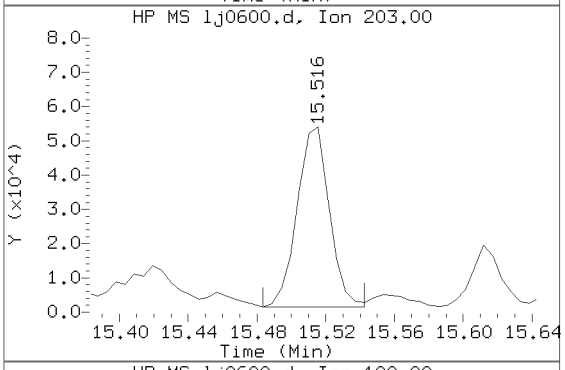




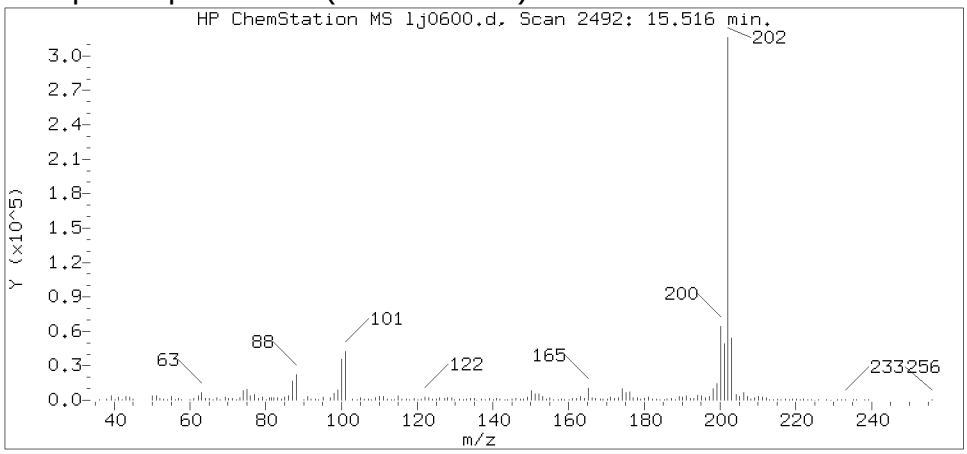


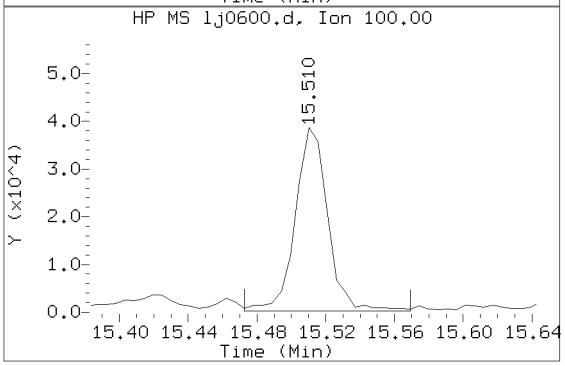
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number : 173
Compound Name : Fluoranthene
Scan Number : 2492
Retention Time (minutes) : 15.516
Relative Retention Time :-0.00005
Quant Ion : 202.00
Area (flag) : 400011
On-column Amount (ng/ul) : 2.3372

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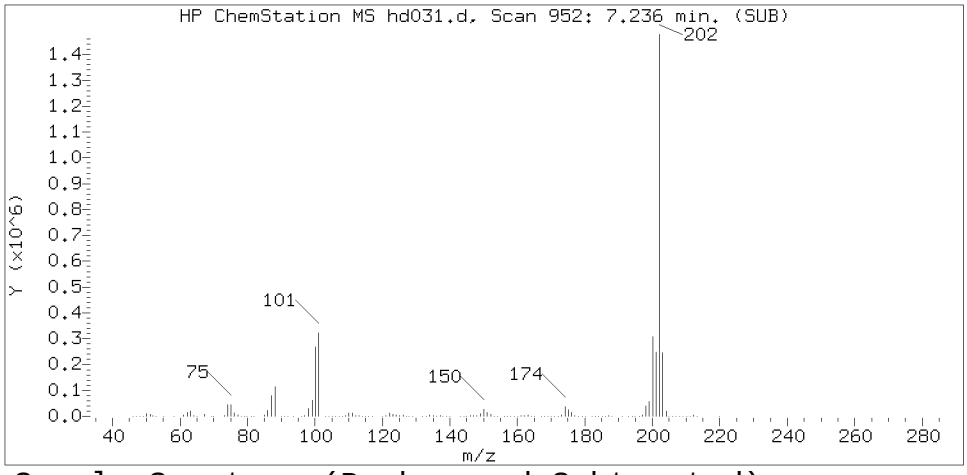
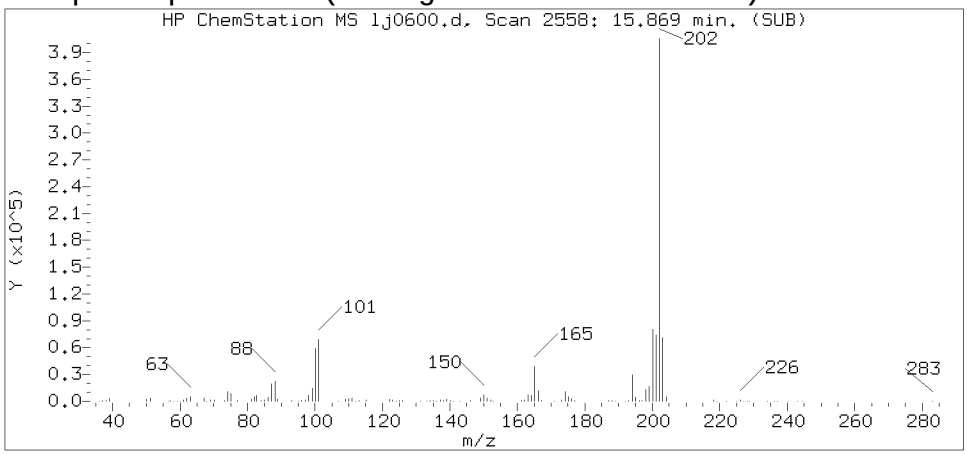
Target 3.5 esignature user ID: ceb05247

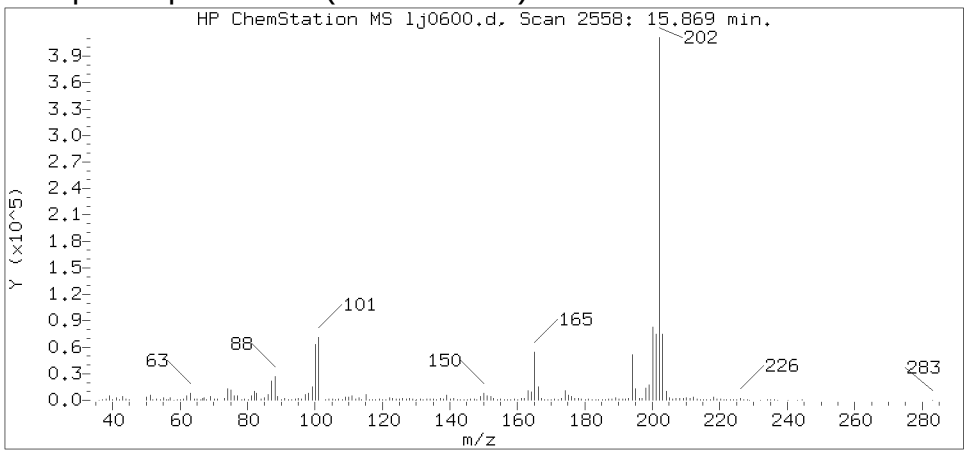
Reference Standard Spectrum for Pyrene

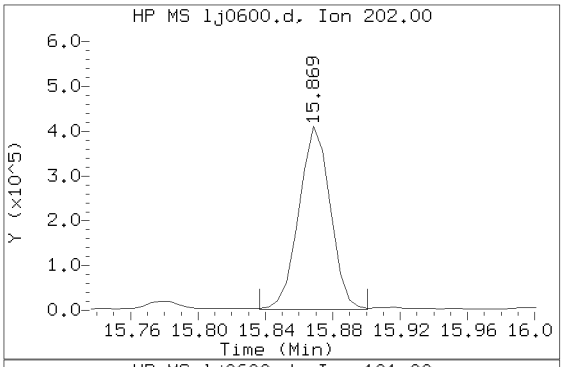


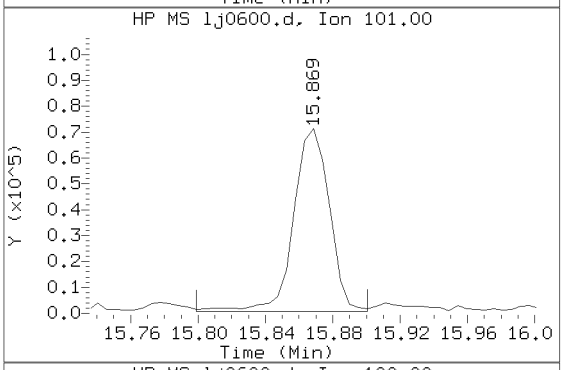
Sample Spectrum (Background Subtracted)

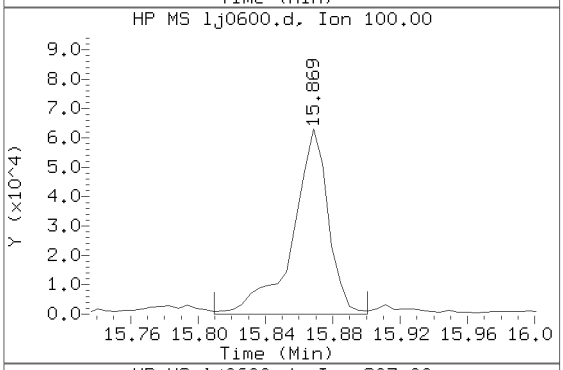


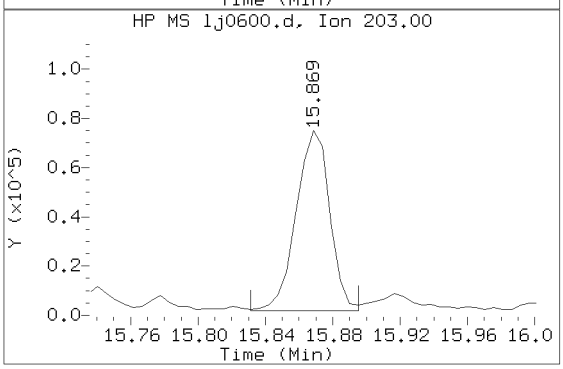
Sample Spectrum (Unaltered)











Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 2558
Retention Time (minutes)	: 15.869
Relative Retention Time	:-0.00000
Quant Ion	: 202.00
Area (flag)	: 532949
On-column Amount (ng/ul)	: 2.7926

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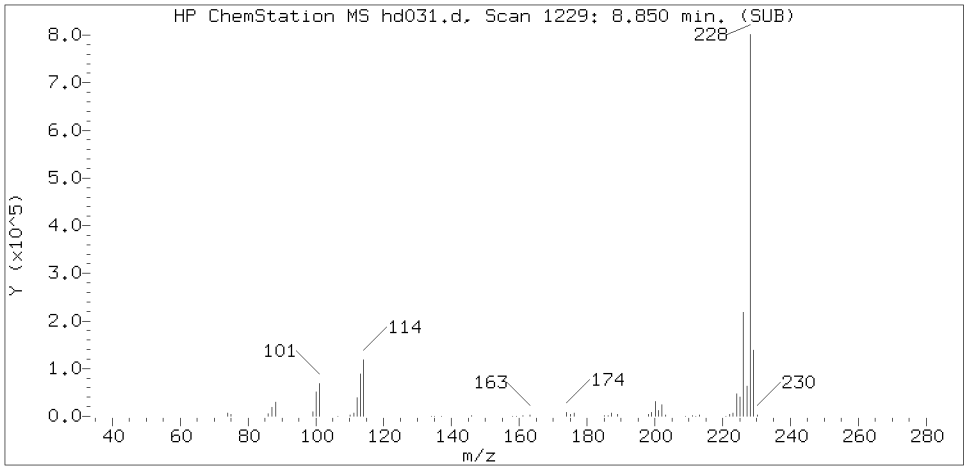
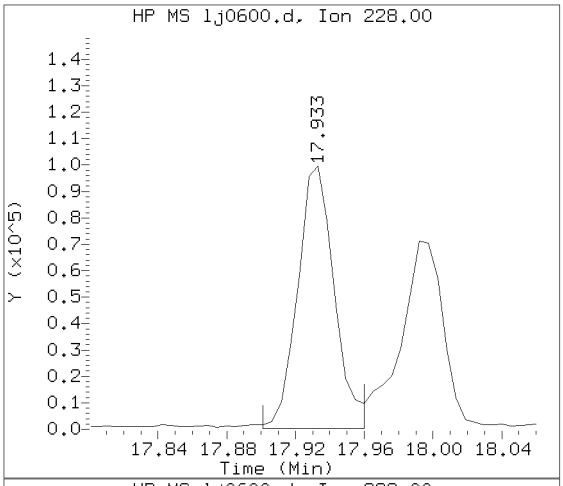
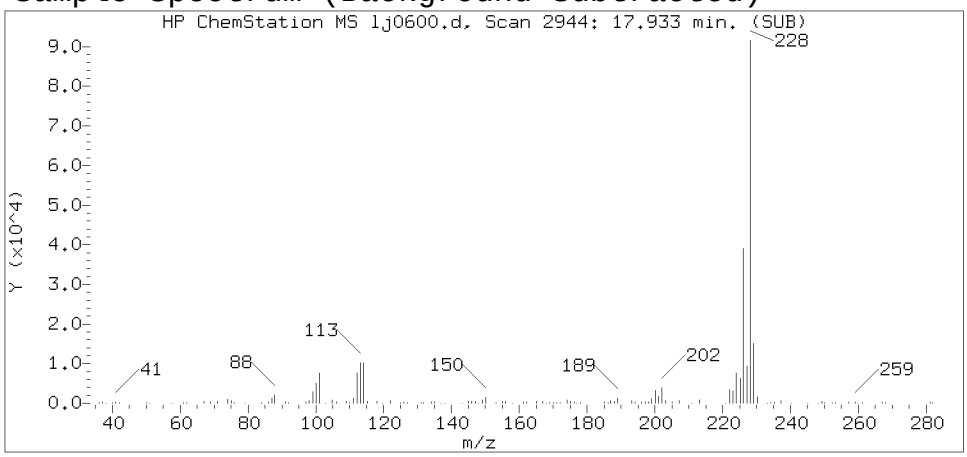
Target 3.5 esignature user ID: ceb05247

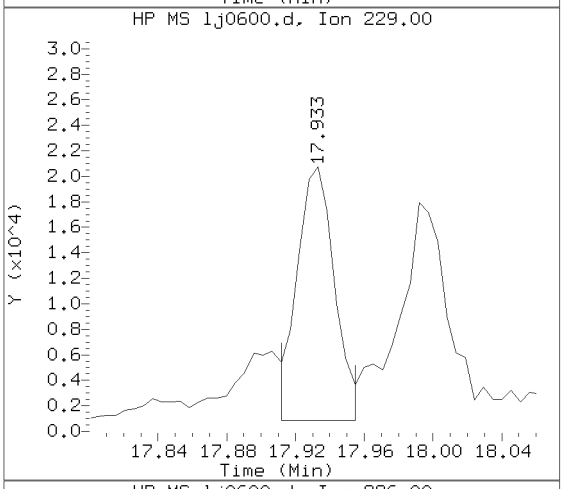
Reference Standard Spectrum for Benzo(a)anthracene



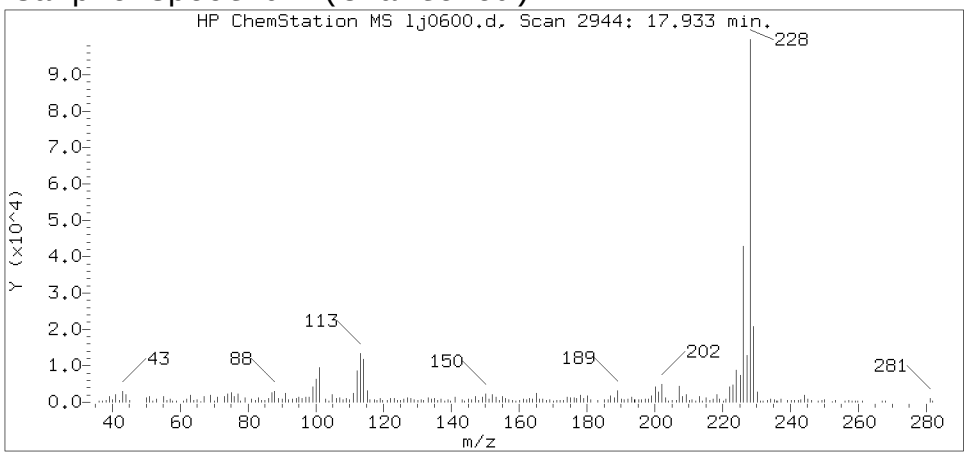


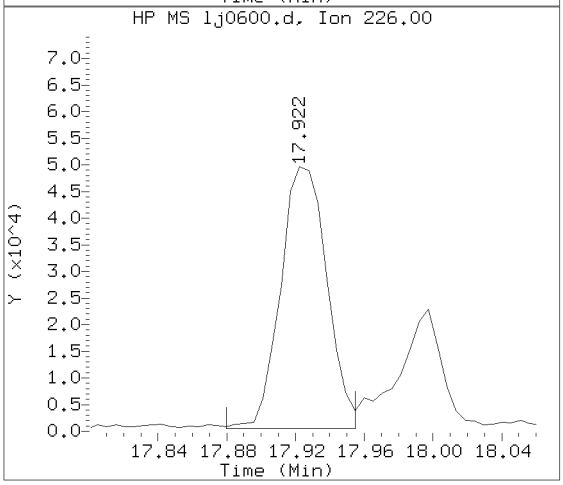
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number	: 195
Compound Name	: Benzo(a)anthracene
Scan Number	: 2944
Retention Time (minutes)	: 17.933
Relative Retention Time	: 0.00029
Quant Ion	: 228.00
Area (flag)	: 145747
On-column Amount (ng/ul)	: 0.8872

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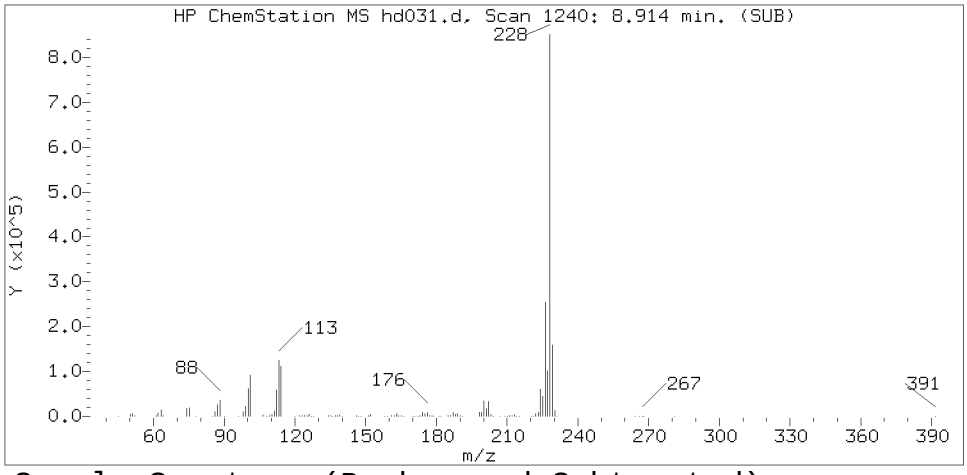
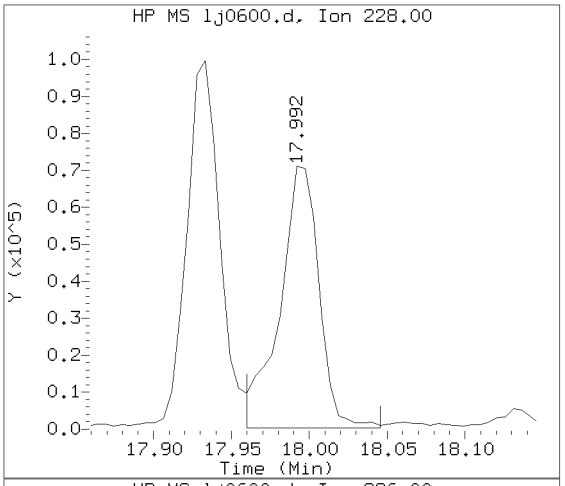
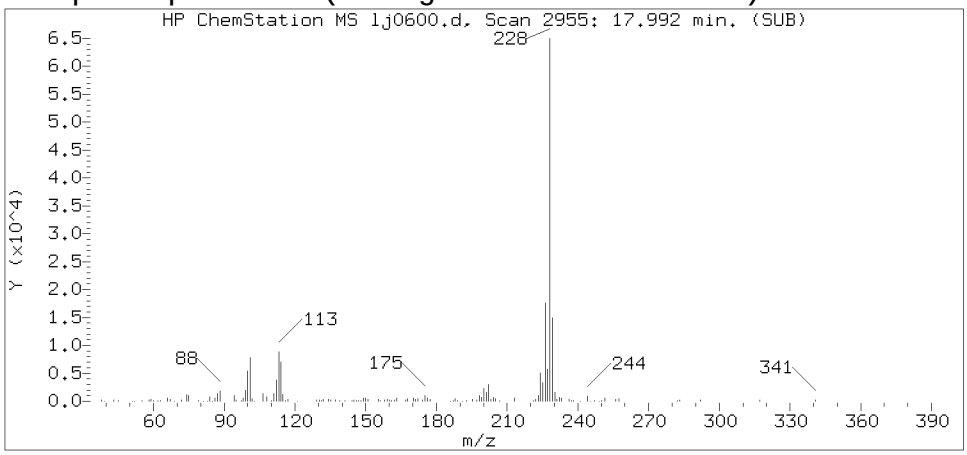
Target 3.5 esignature user ID: ceb05247

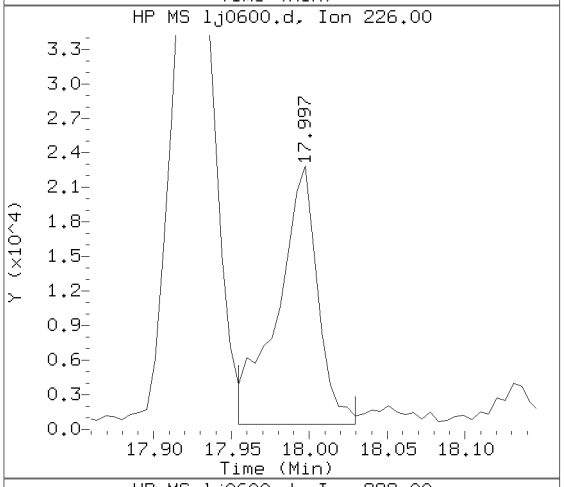
Reference Standard Spectrum for Chrysene



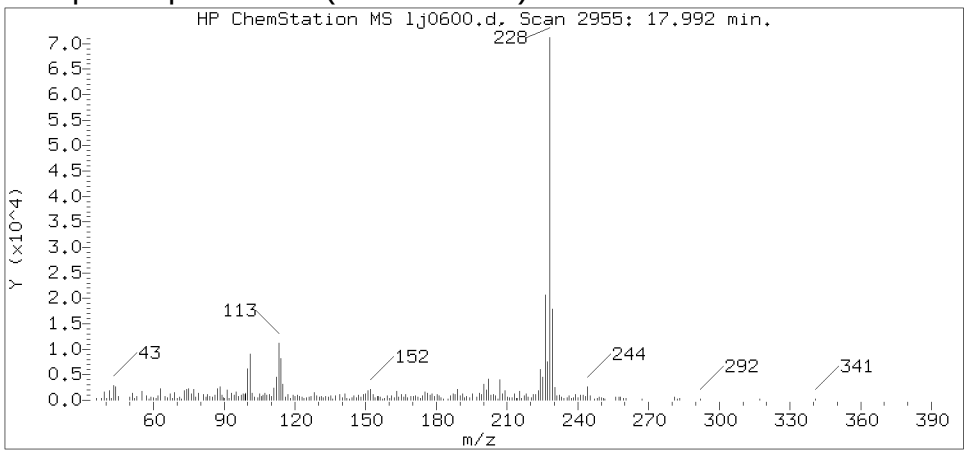


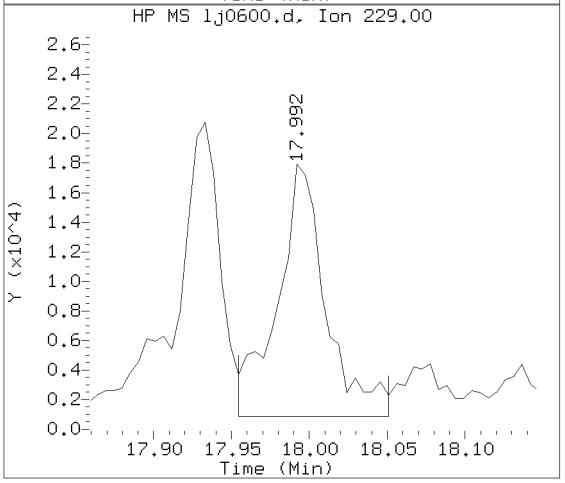
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number	: 196
Compound Name	: Chrysene
Scan Number	: 2955
Retention Time (minutes)	: 17.992
Relative Retention Time	: 0.00029
Quant Ion	: 228.00
Area (flag)	: 123864
On-column Amount (ng/ul)	: 0.7893

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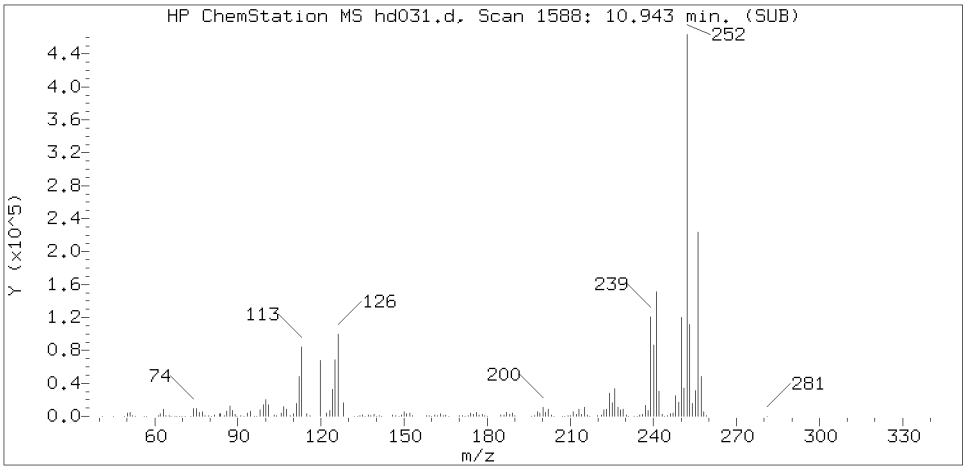
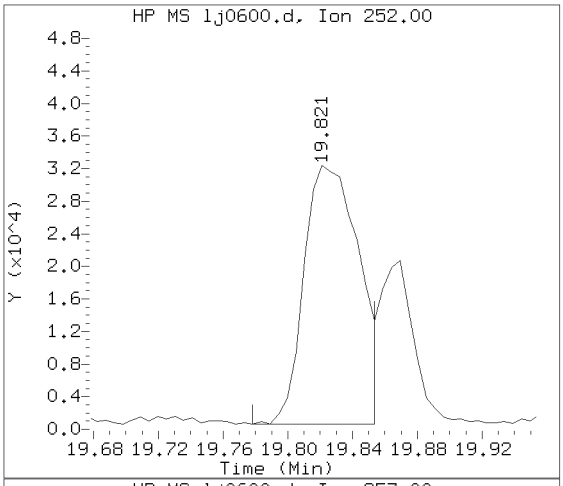
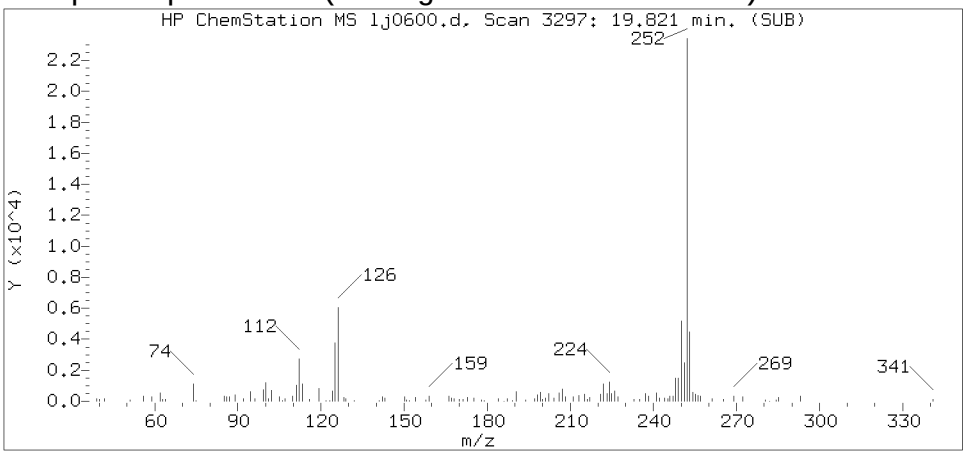
Target 3.5 esignature user ID: ceb05247

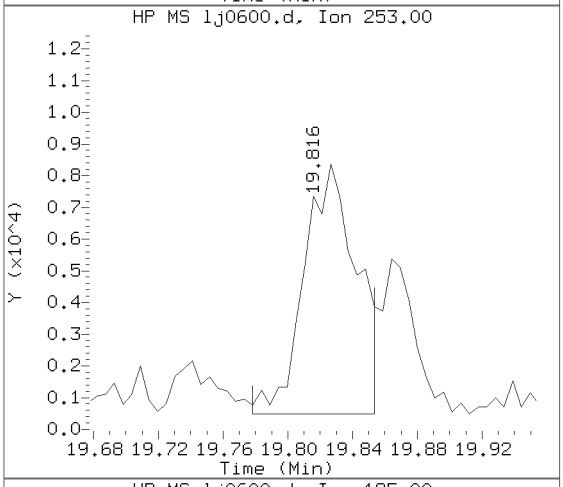
Reference Standard Spectrum for Benzo(b)fluoranthene



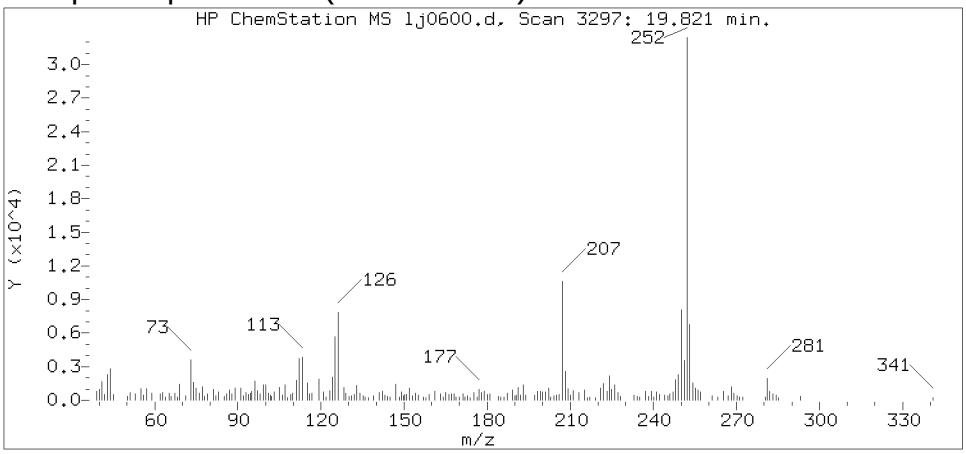


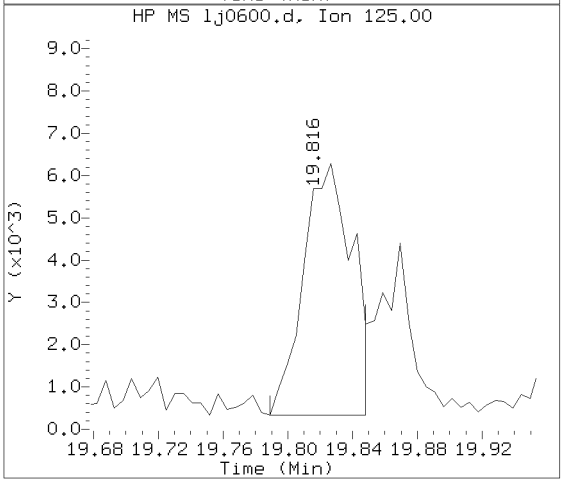
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 3297
Retention Time (minutes)	: 19.821
Relative Retention Time	: 0.00027
Quant Ion	: 252.00
Area (flag)	: 73469
On-column Amount (ng/ul)	: 0.4530

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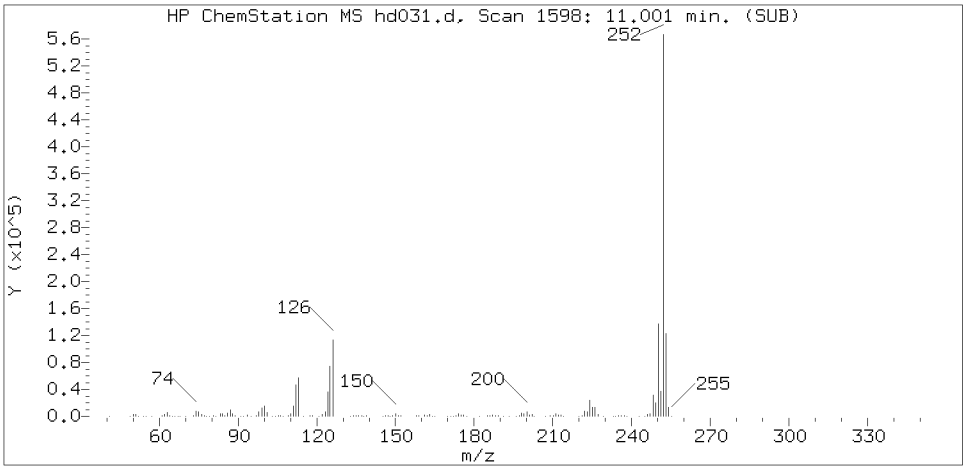
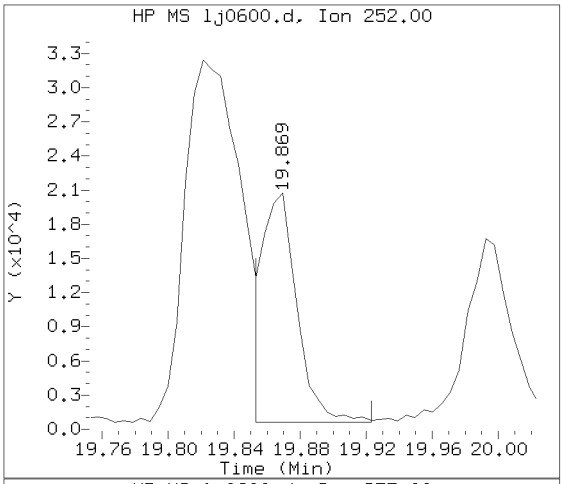
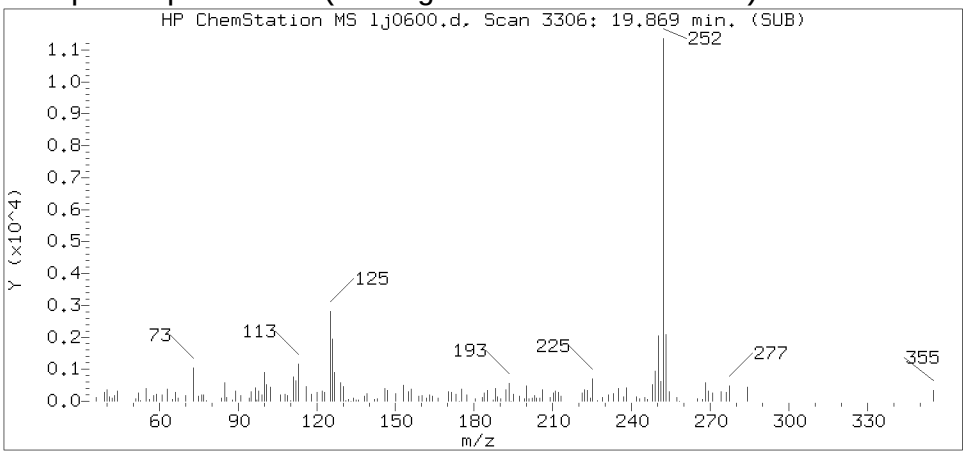
Target 3.5 esignature user ID: ceb05247

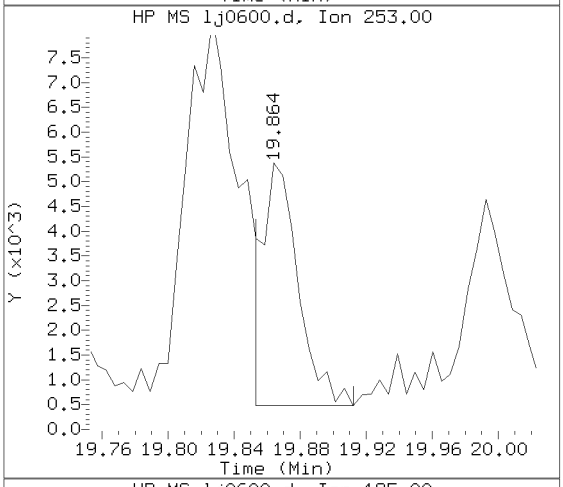
Reference Standard Spectrum for Benzo(k)fluoranthene



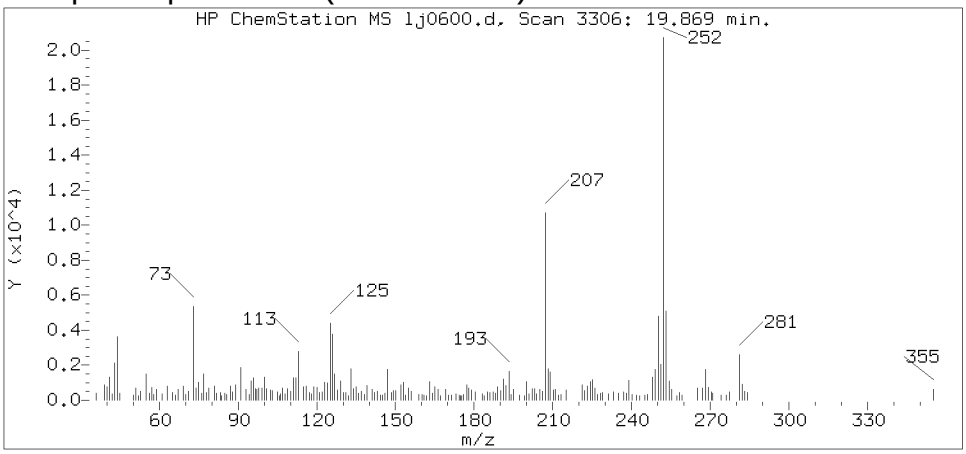


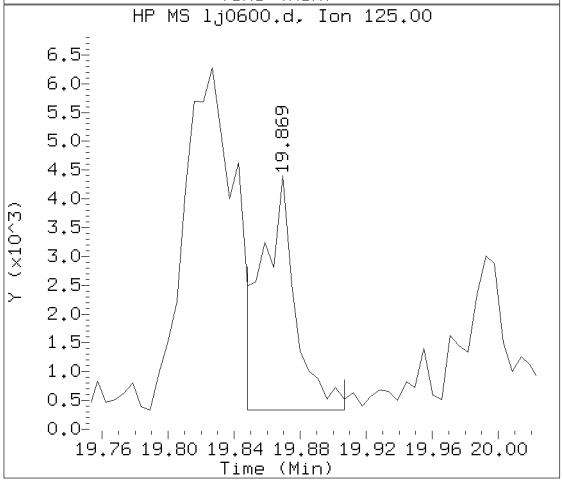
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 3306
Retention Time (minutes) : 19.869
Relative Retention Time : 0.00027
Quant Ion : 252.00
Area (flag) : 29711
On-column Amount (ng/ul) : 0.1884

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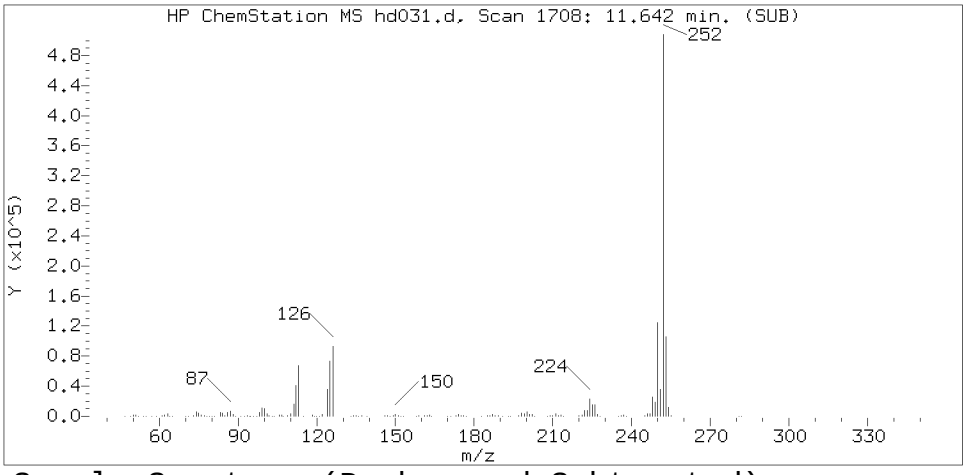
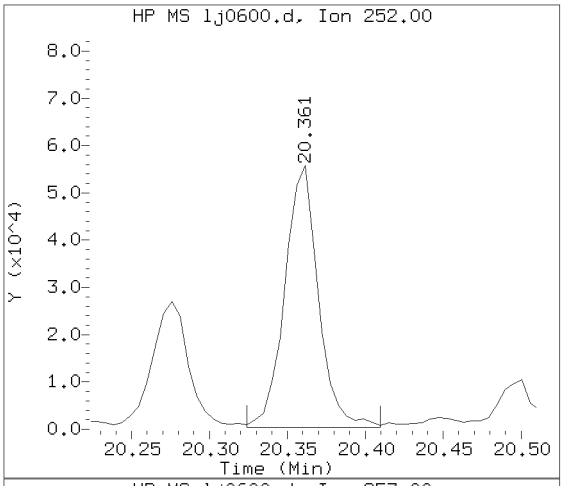
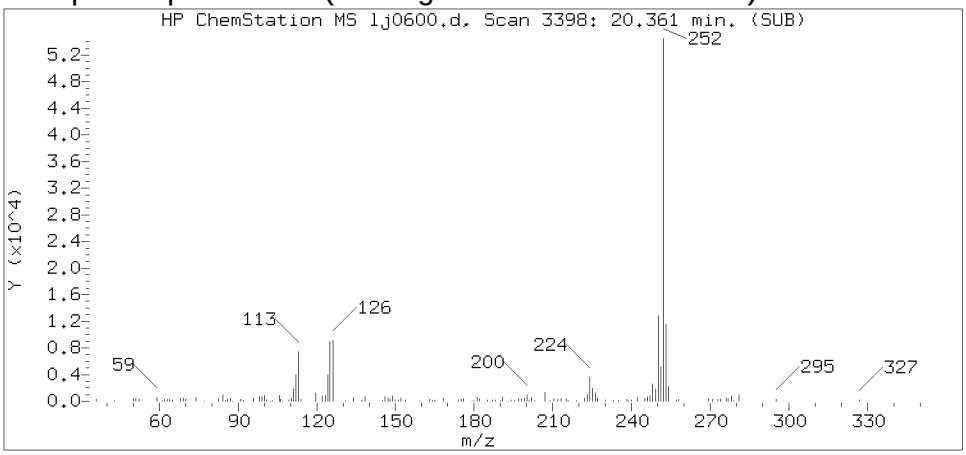
Target 3.5 esignature user ID: ceb05247

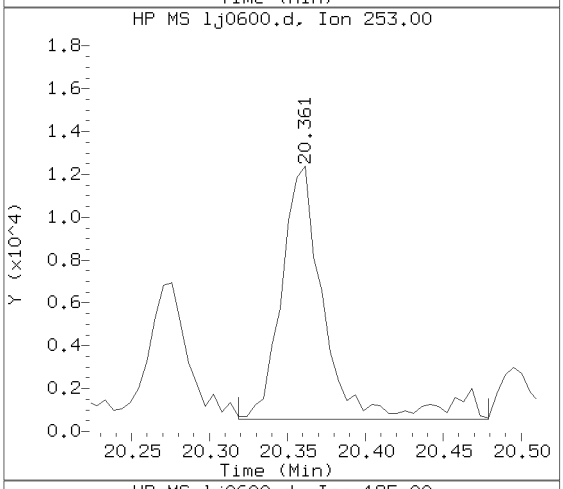
Reference Standard Spectrum for Benzo(a)pyrene



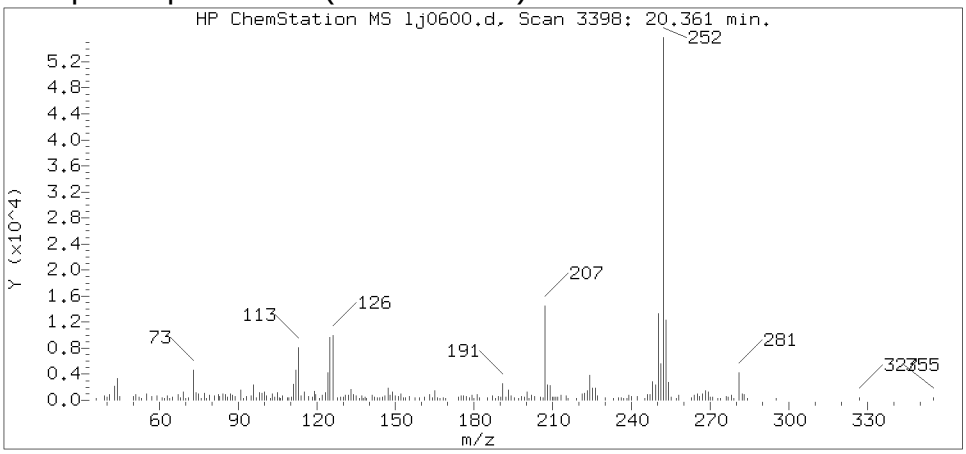


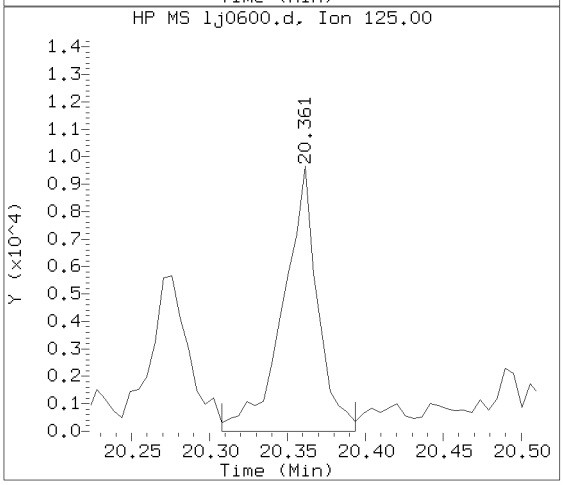
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number	: 211
Compound Name	: Benzo(a)pyrene
Scan Number	: 3398
Retention Time (minutes)	: 20.361
Relative Retention Time	: 0.00026
Quant Ion	: 252.00
Area (flag)	: 82944
On-column Amount (ng/ul)	: 0.5490

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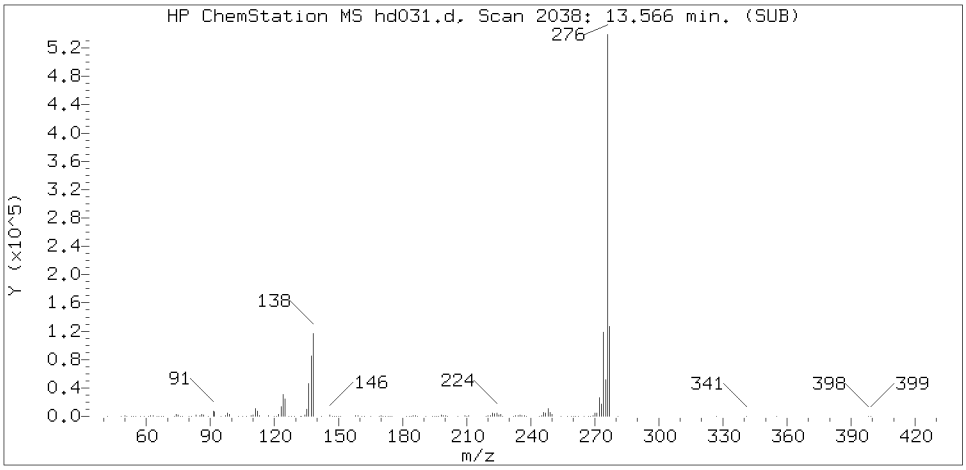
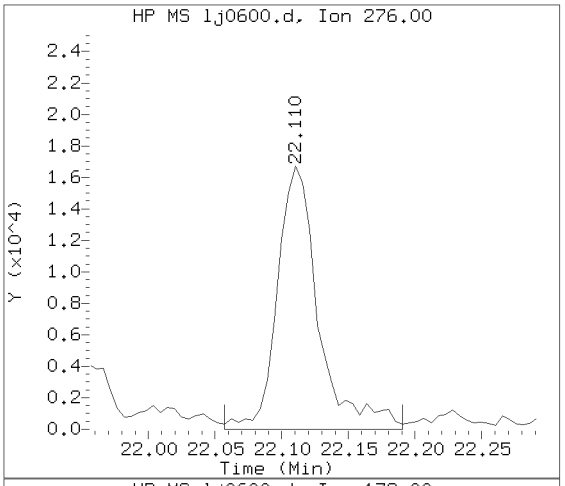
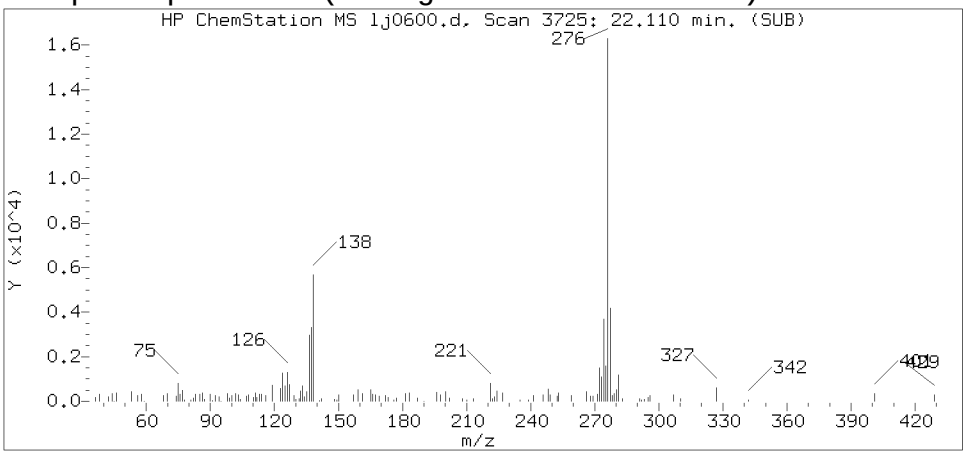
Target 3.5 esignature user ID: ceb05247

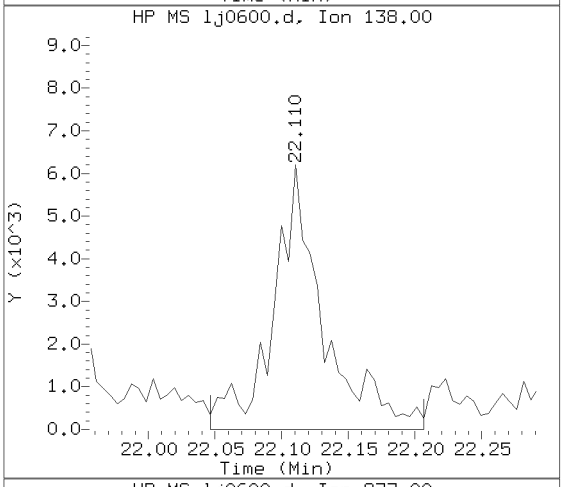
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



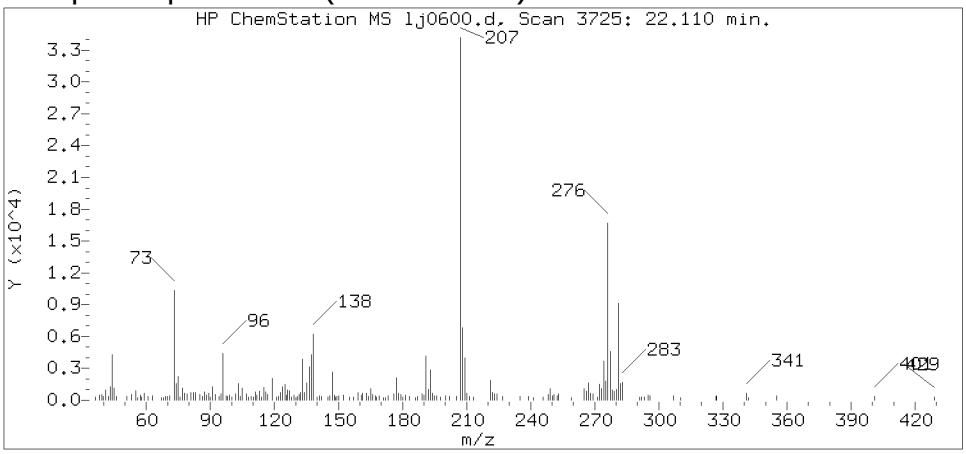


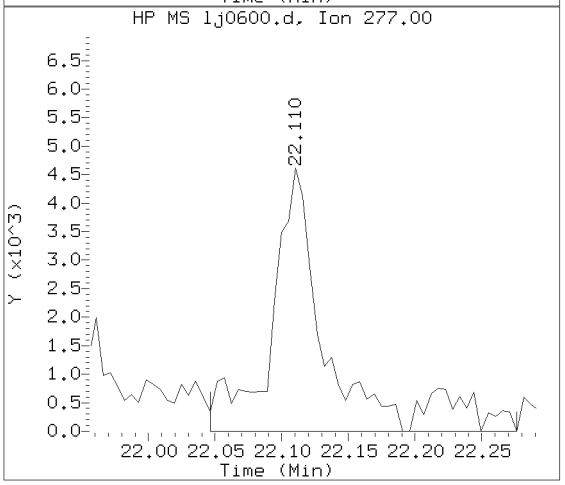
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number	: 219
Compound Name	: Indeno(1,2,3-cd)pyrene
Scan Number	: 3725
Retention Time (minutes)	: 22.110
Relative Retention Time	: 0.00050
Quant Ion	: 276.00
Area (flag)	: 35892
On-column Amount (ng/ul)	: 0.2031

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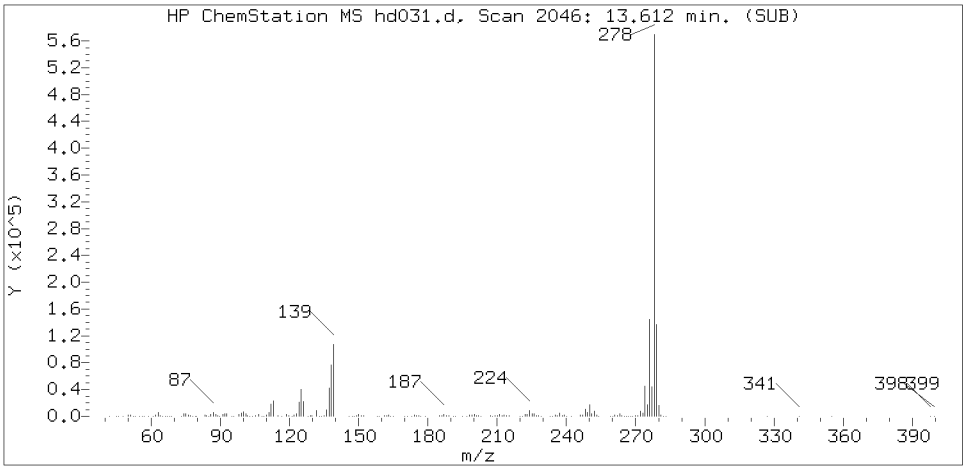
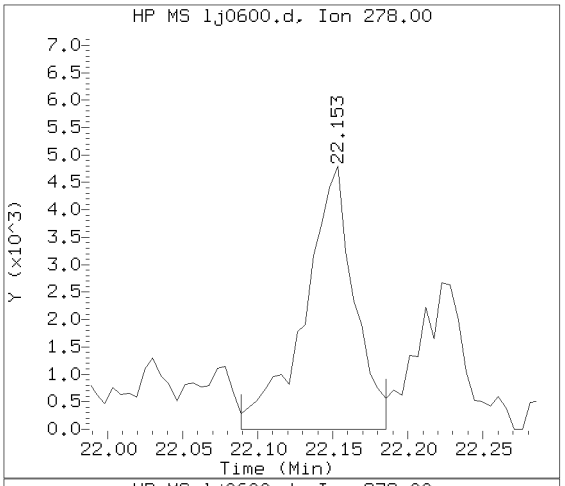
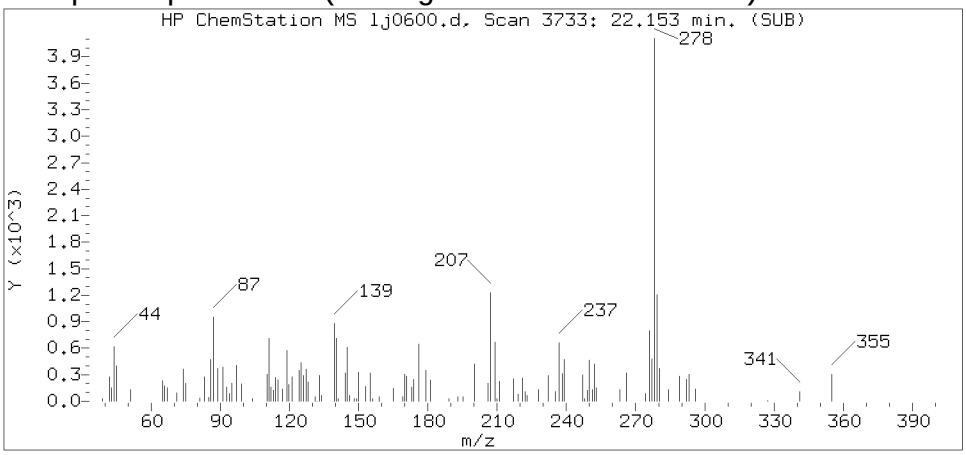
Target 3.5 esignature user ID: ceb05247

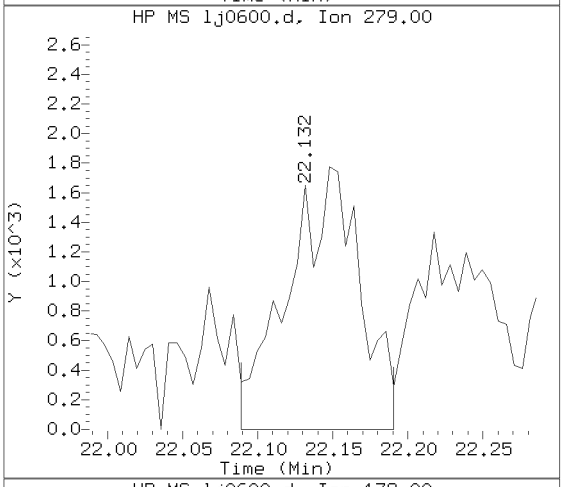
Reference Standard Spectrum for Dibenz(a,h)anthracene



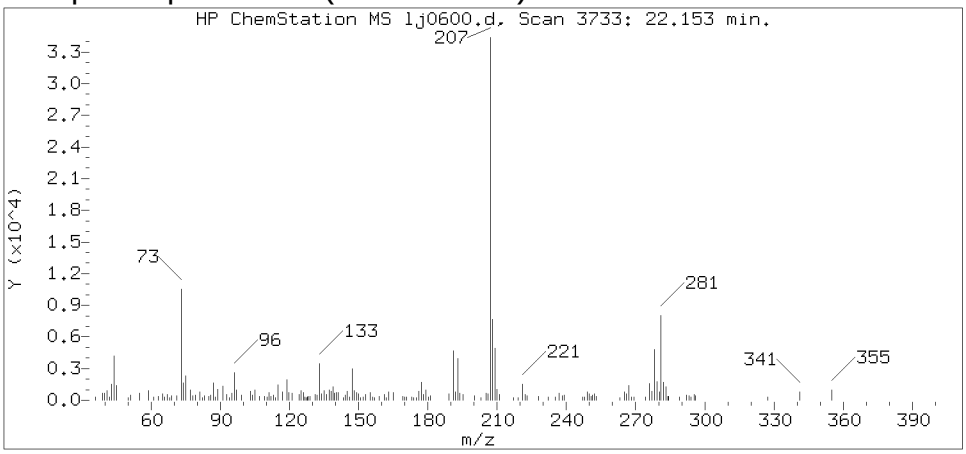


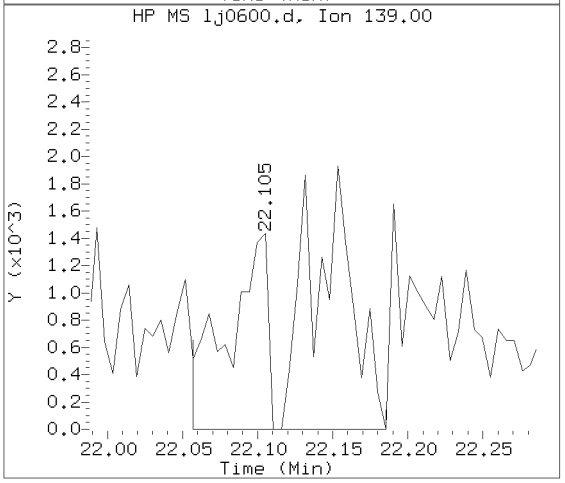
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

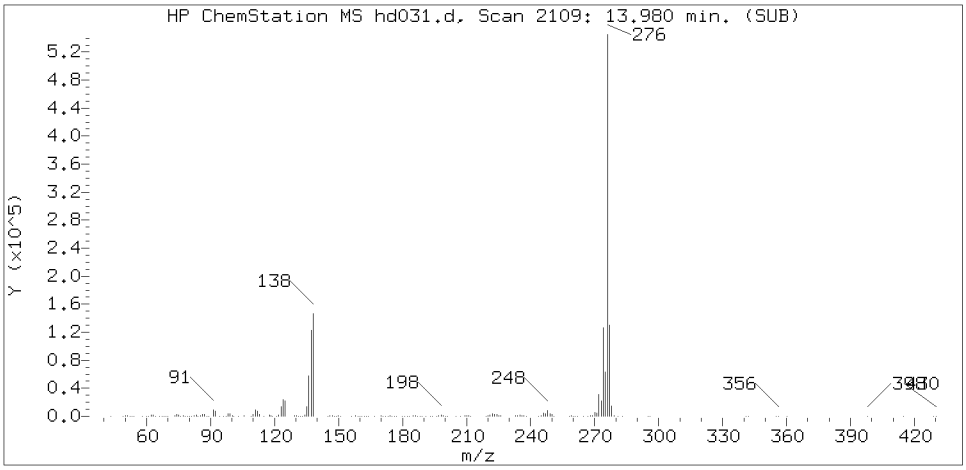
Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

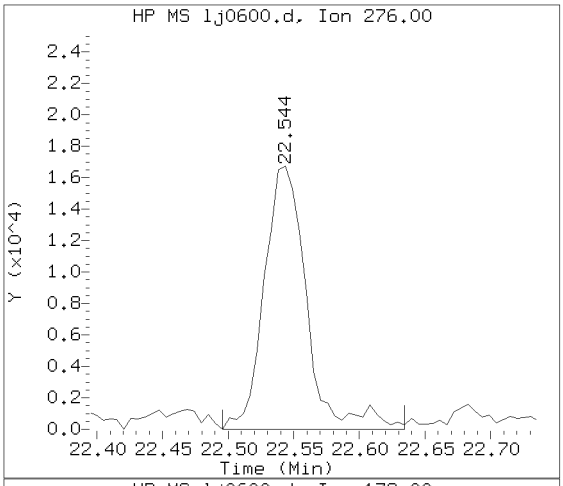
Sample Name: P2902 Lab Sample ID: 8082124

Compound Number	: 220
Compound Name	: Dibenz(a,h)anthracene
Scan Number	: 3733
Retention Time (minutes)	: 22.153
Relative Retention Time	: 0.00050
Quant Ion	: 278.00
Area (flag)	: 10901
On-column Amount (ng/ul)	: 0.0740

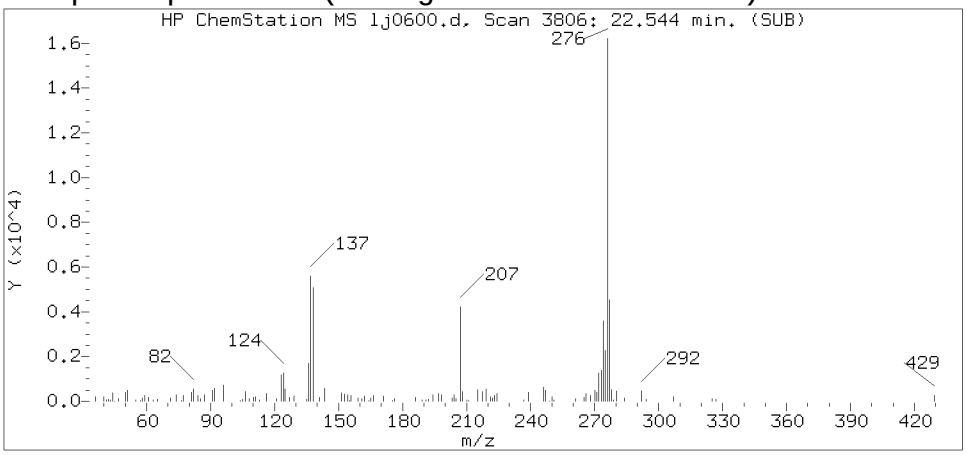
Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247

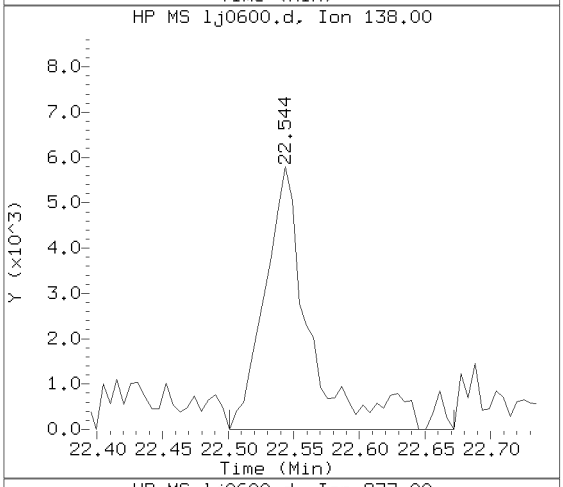
Reference Standard Spectrum for Benzo(g,h,i)perylene



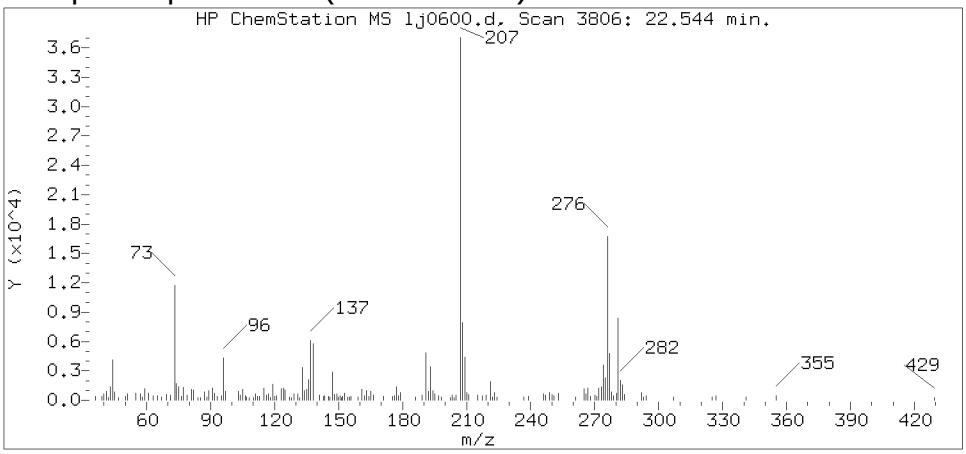


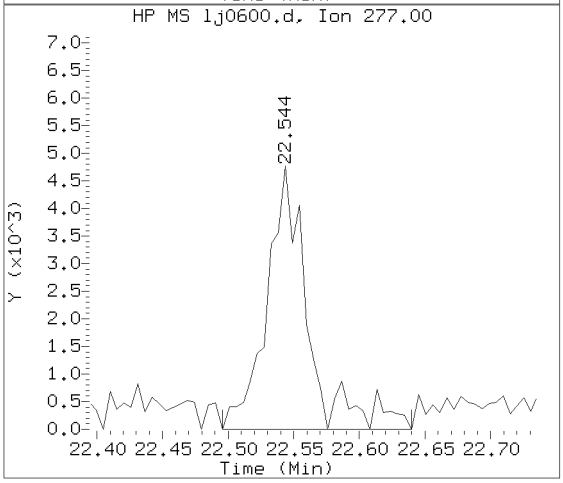
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0600.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:10 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:36 Unknown

Sample Name: P2902 Lab Sample ID: 8082124

Compound Number	: 221
Compound Name	: Benzo(g,h,i)perylene
Scan Number	: 3806
Retention Time (minutes)	: 22.544
Relative Retention Time	: 0.00049
Quant Ion	: 276.00
Area (flag)	: 37556
On-column Amount (ng/ul)	: 0.2487

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Target 3.5 esignature user ID: ceb05247

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct17.b/lj0619.d
Injection date and time: **17-OCT-2015 16:35**
Data file Sample Info. Line: P2902DL;8082124DL;1;0;SAMPLE;;;
Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 17-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct17.b/lj0611.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 10 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 240 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.001(0.006)	900	152	192046 (-21)	5.00	
65) Naphthalene-d8	8.996(0.000)	1273	136	752990 (-20)	5.00	
113) Acenaphthene-d10	11.825(0.000)	1802	164	421899 (-19)	5.00	
153) Phenanthrene-d10	13.751(0.006)	2162	188	752007 (-18)	5.00	
175) Pyrene-d10	15.820(0.006)	2549	212	832230 (-21)	5.00	
213) Perylene-d12	20.436(0.000)	3412	264	605690 (-20)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.856(0.001)	82	159927	2.104	84%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.777(0.000)	172	243833	2.097	84%		61 - 112
179) Terphenyl-d14	(5)	16.136(0.000)	244	203559	1.842	74%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	9.033(-0.000)	128	11597715	71.712	2987.99		E	0.03
83) 2-Methylnaphthalene	(2)	10.156(-0.000)	142	1787045	16.659	694.11			0.03
109) Acenaphthylene	(3)	11.611(0.000)	152	85690	0.566	23.58			0.03
114) Acenaphthene	(3)	11.868(0.000)	153	399031	3.956	164.83			0.03
126) Fluorene	(3)	12.552(-0.000)	166	155031	1.438	59.91			0.03
155) Phenanthrene	(4)	13.782(-0.000)	178	251792	1.607	66.98			0.03
157) Anthracene	(4)	13.852(-0.000)	178	57786	0.372	15.49			0.03
173) Fluoranthene	(4)	15.494(-0.000)	202	38380	0.225	9.38			0.03
177) Pyrene	(5)	15.852(-0.000)	202	55773	0.311	12.98			0.03
195) Benzo(a)anthracene	(5)	17.912(-0.000)	228	12194	0.079	3.30			0.03
196) Chrysene	(5)	17.976(-0.000)	228	12146	0.082	3.44			0.03
206) Benzo(b)fluoranthene	(6)	19.794(0.000)	252	4207	0.028	1.18	0.143	B	0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)	20.345(0.000)	252	7889	0.057	2.37			0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

E = Compound concentration above calibration range. B = Compound detected in referenced method blank.

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:29. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP20296.i/15oct17.b/lj0619.d Injection date and time: **17-OCT-2015 16:35**
Data file Sample Info. Line: P2902DL;8082124DL;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 17-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct17.b/lj0611.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 10 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 240 ml Volume Injected (Vi): 1 ul

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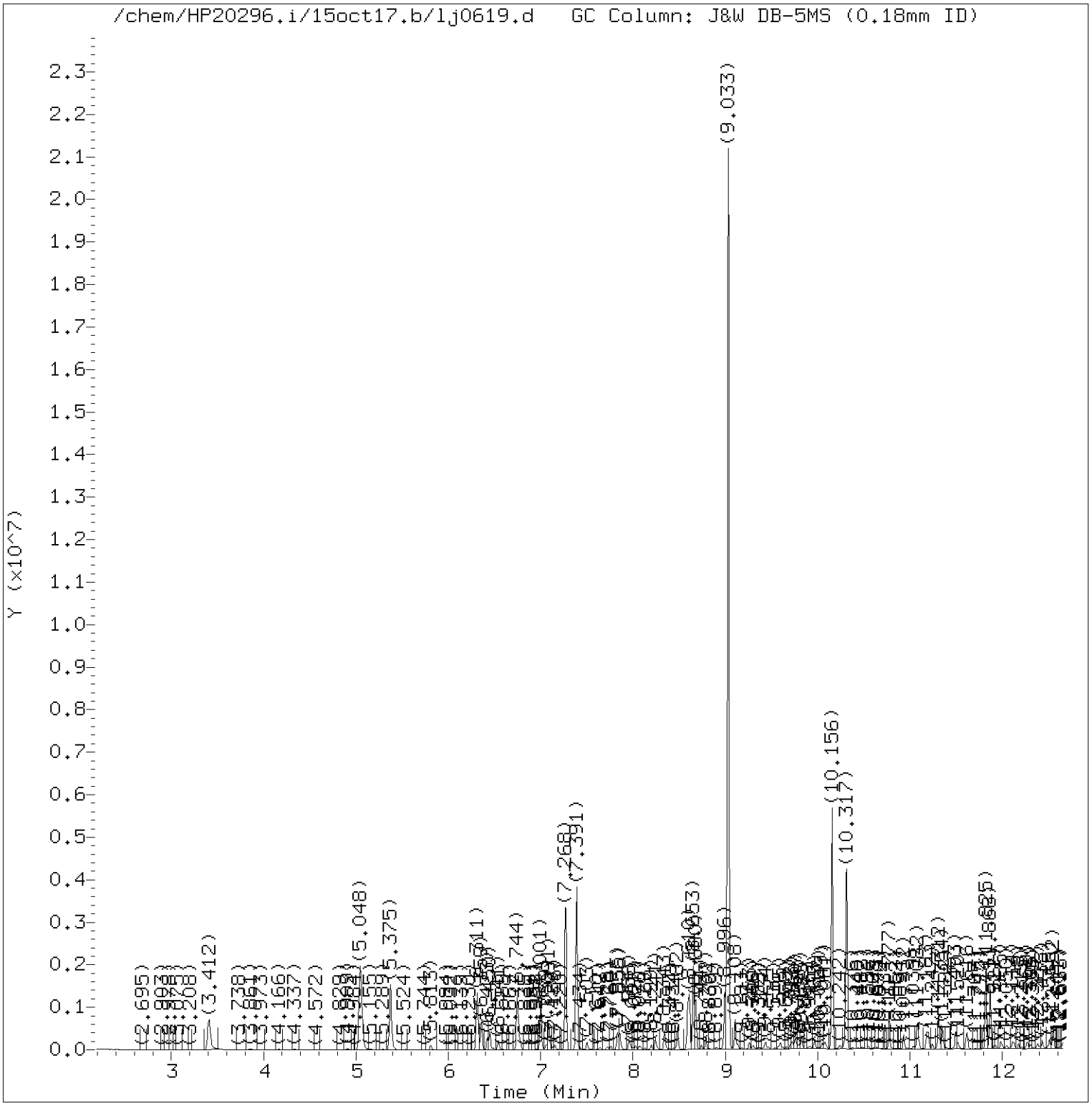
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:29. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 14:21. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

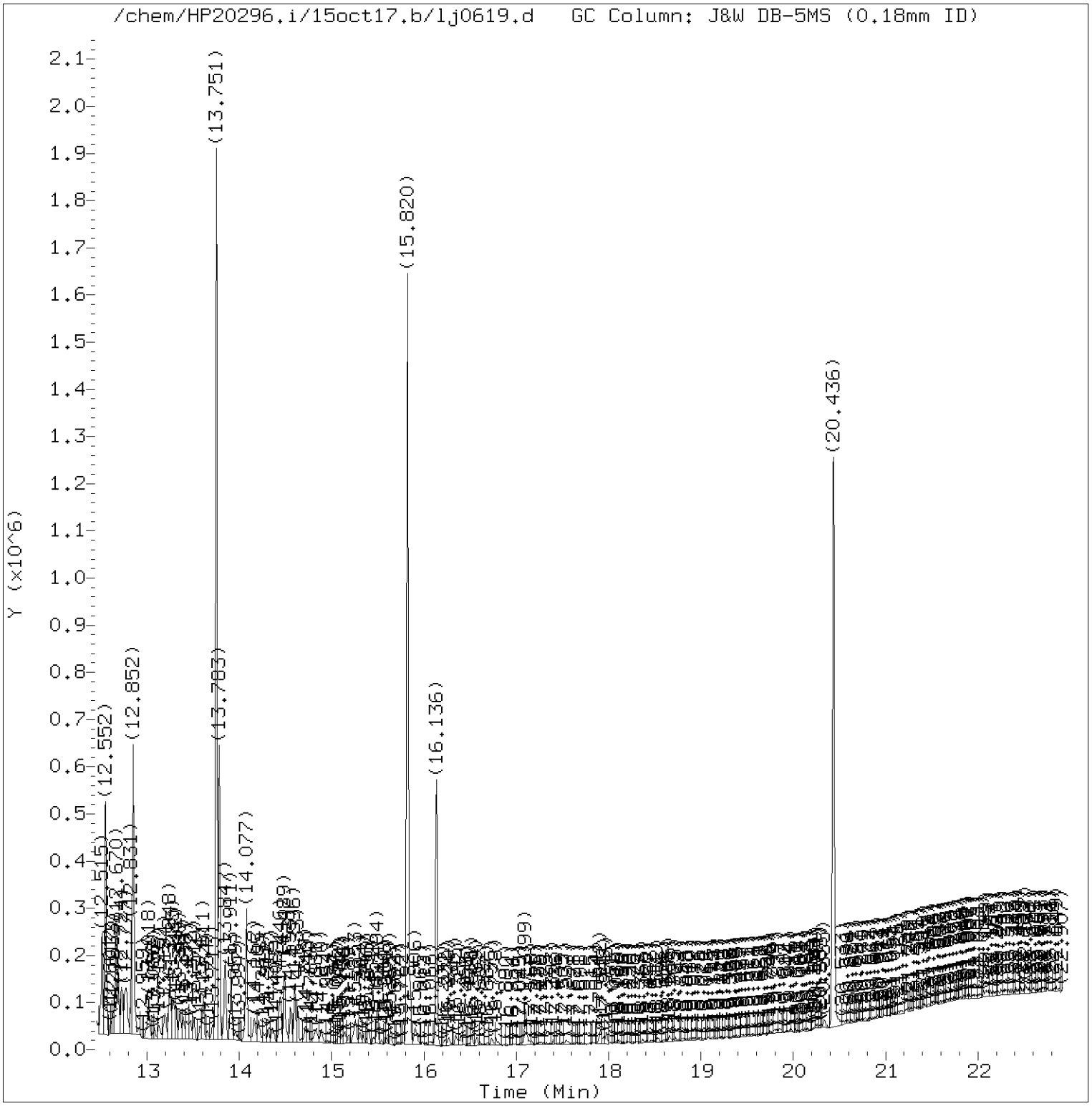
Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0619.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:35 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

Sample Name: P2902DL Lab Sample ID: 8082124DL

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0619.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:35 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

Sample Name: P2902DL Lab Sample ID: 8082124DL

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0619.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:35 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

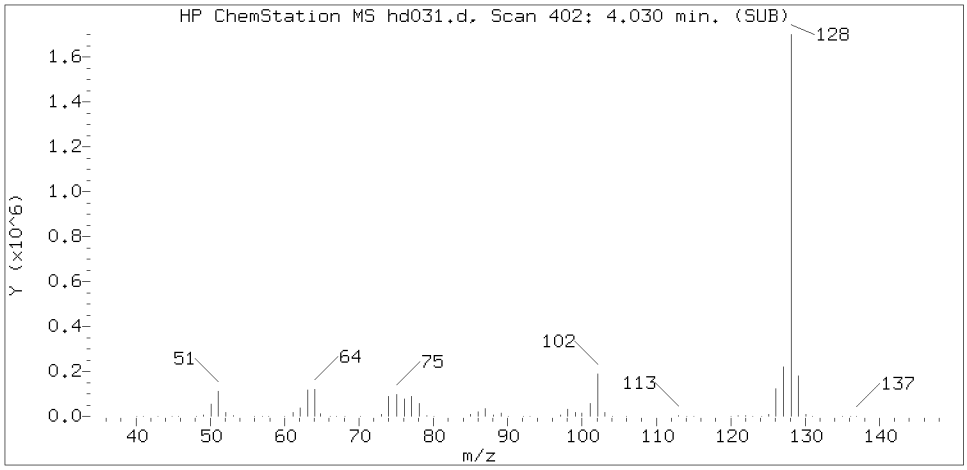
Sample Name: P2902DL Lab Sample ID: 8082124DL

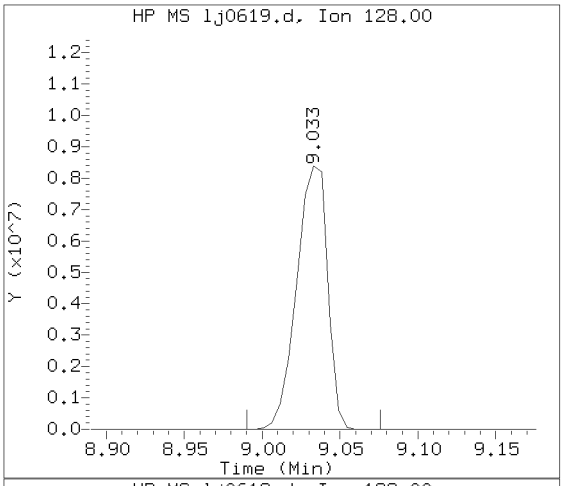
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.001	152	192046	5.000
44)$Nitrobenzene-d5	(2)	7.856	82	159927	2.104
65)*Naphthalene-d8	(2)	8.996	136	752990	5.000
66) Naphthalene	(2)	9.033	128	11597715	71.712
83) 2-Methylnaphthalene	(2)	10.156	142	1787045	16.659
93)$2-Fluorobiphenyl	(3)	10.777	172	243833	2.097
109) Acenaphthylene	(3)	11.611	152	85690	0.566
113)*Acenaphthene-d10	(3)	11.825	164	421899	5.000
114) Acenaphthene	(3)	11.868	153	399031	3.956
126) Fluorene	(3)	12.552	166	155031	1.438
153)*Phenanthrene-d10	(4)	13.751	188	752007	5.000
155) Phenanthrene	(4)	13.783	178	251792	1.607
157) Anthracene	(4)	13.852	178	57786	0.372
173) Fluoranthene	(4)	15.494	202	38380	0.225
175)*Pyrene-d10	(5)	15.820	212	832230	5.000
177) Pyrene	(5)	15.853	202	55773	0.311
179)$Terphenyl-d14	(5)	16.136	244	203559	1.842
195) Benzo(a)anthracene	(5)	17.912	228	12194	0.079
196) Chrysene	(5)	17.976	228	12146	0.082
206) Benzo(b)fluoranthene	(6)	19.794	252	4207	0.028
211) Benzo(a)pyrene	(6)	20.345	252	7889	0.057
213)*Perylene-d12	(6)	20.436	264	605690	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

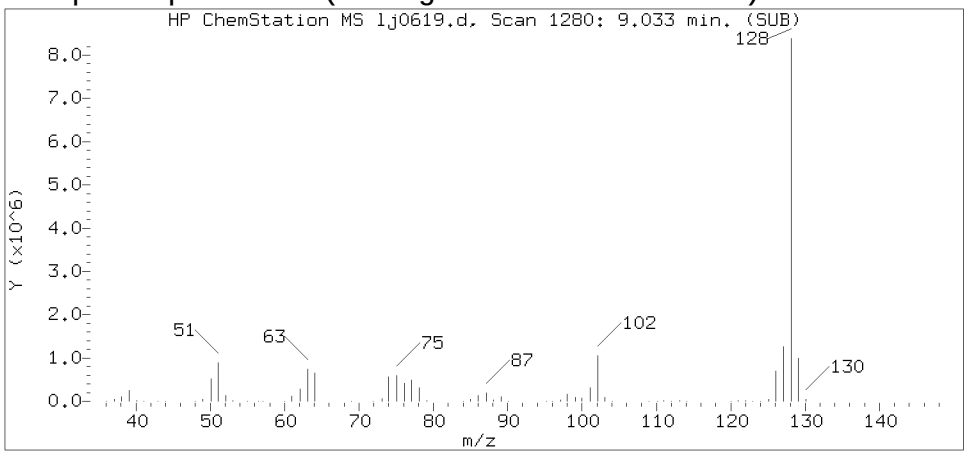
Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996

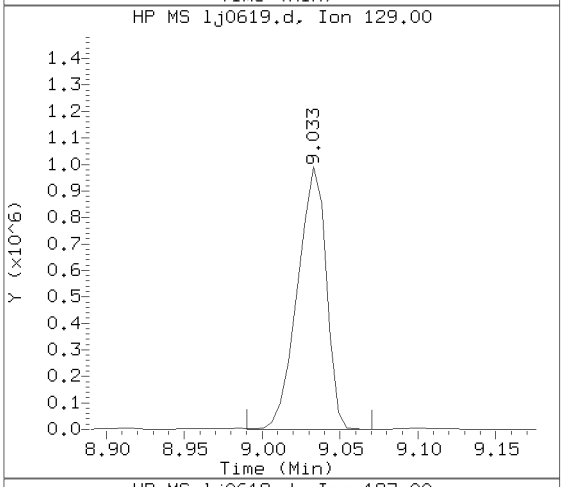
Reference Standard Spectrum for Naphthalene



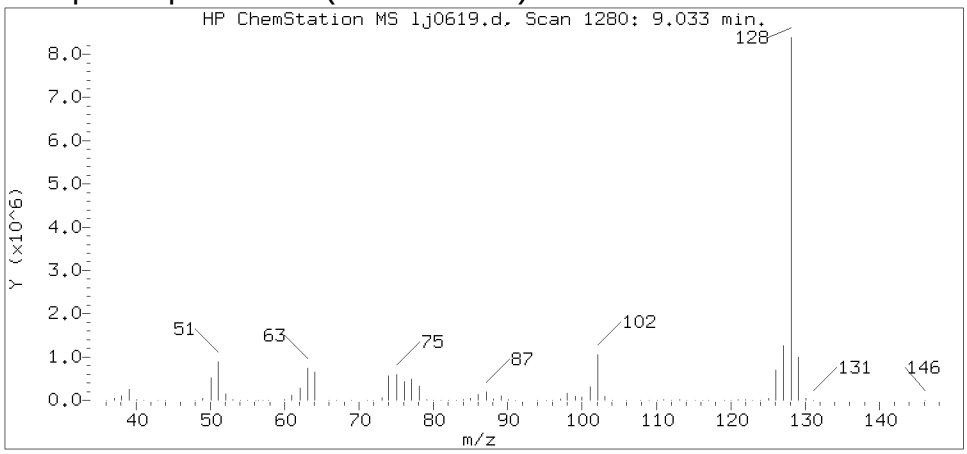


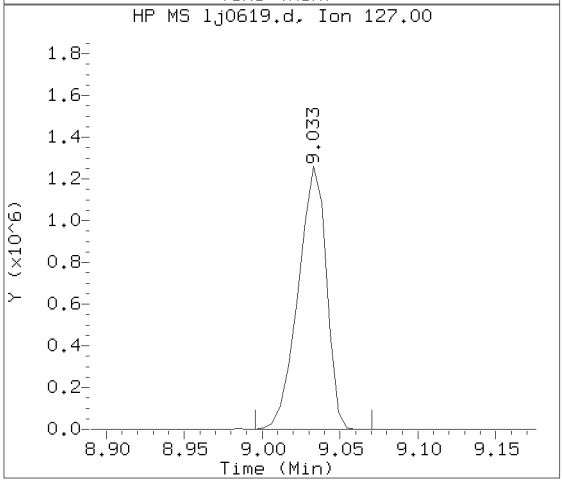
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0619.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:35 Analyst ID: ceb05247

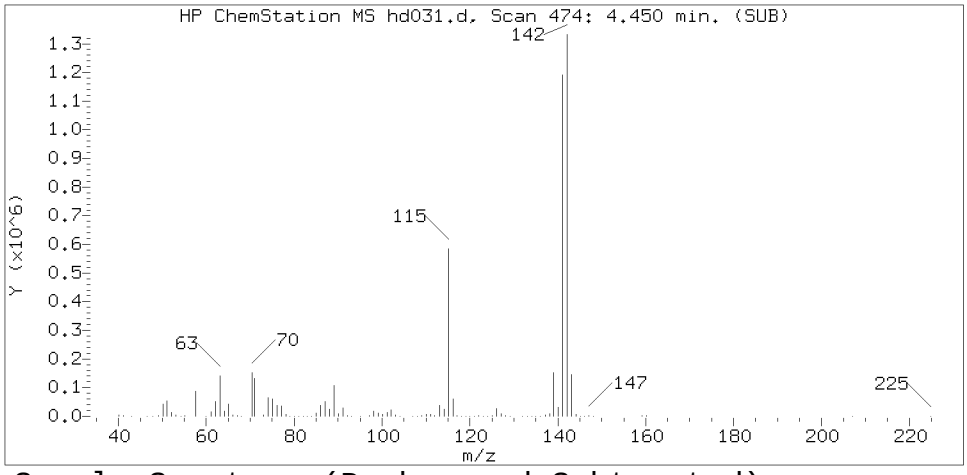
Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

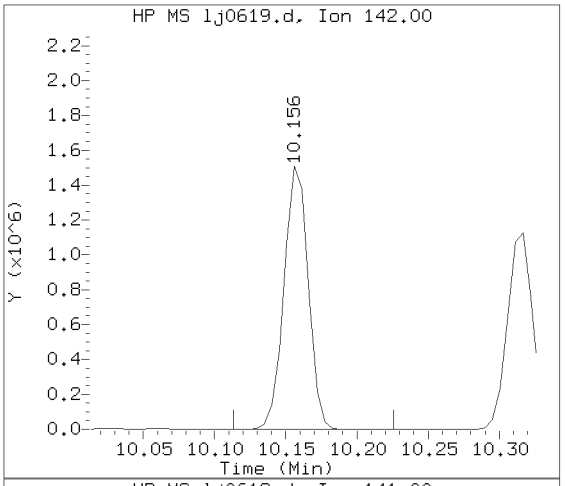
Sample Name: P2902DL Lab Sample ID: 8082124DL

Compound Number : 66
Compound Name : Naphthalene
Scan Number : 1280
Retention Time (minutes) : 9.033
Relative Retention Time :-0.00059
Quant Ion : 128.00
Area (flag) : 11597715
On-column Amount (ng/ul) : 71.7119

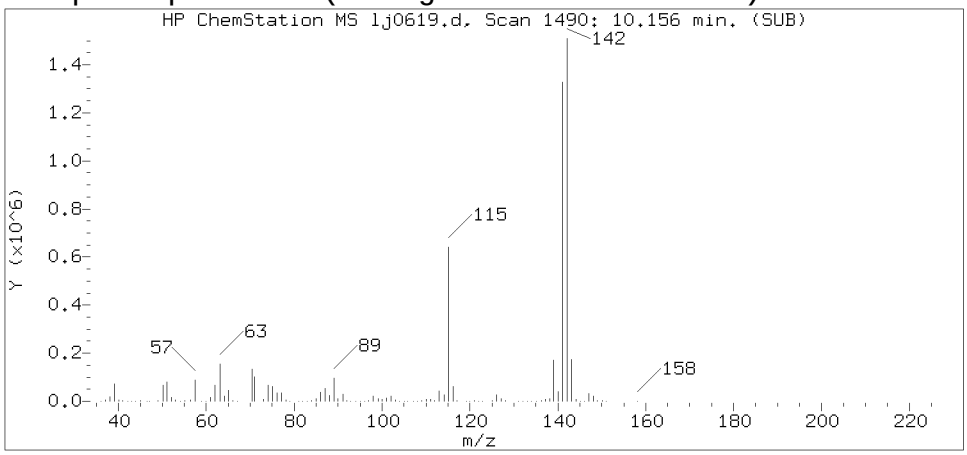
Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996

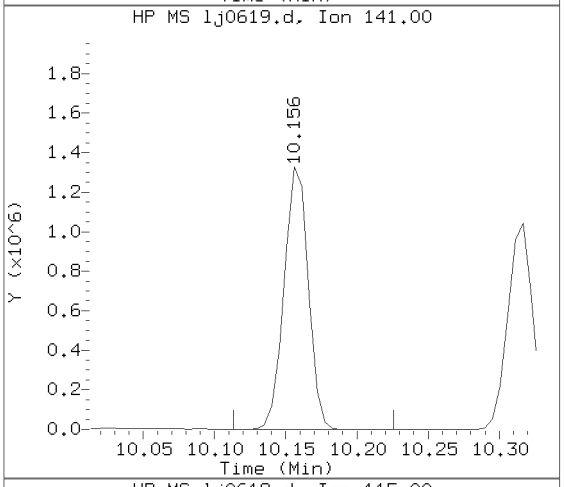
Reference Standard Spectrum for 2-Methylnaphthalene



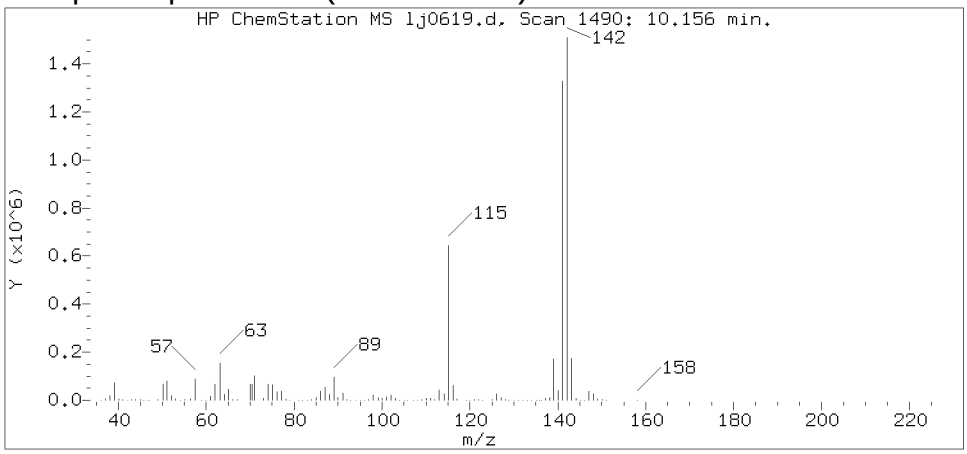


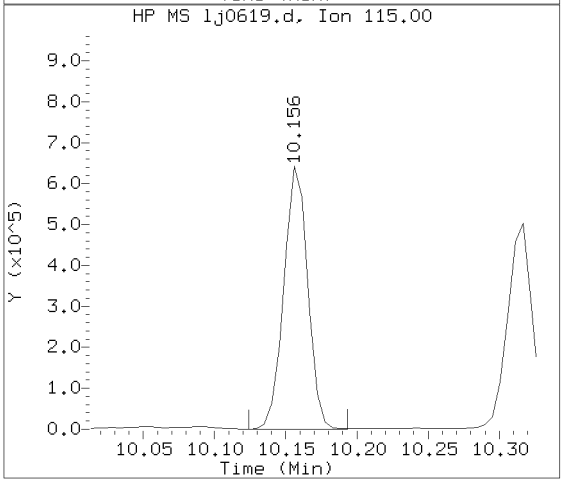
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0619.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:35 Analyst ID: ceb05247

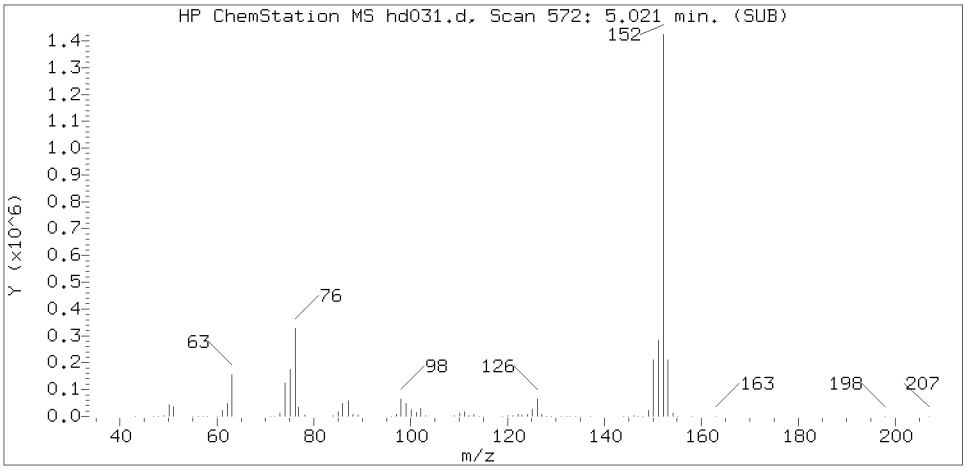
Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

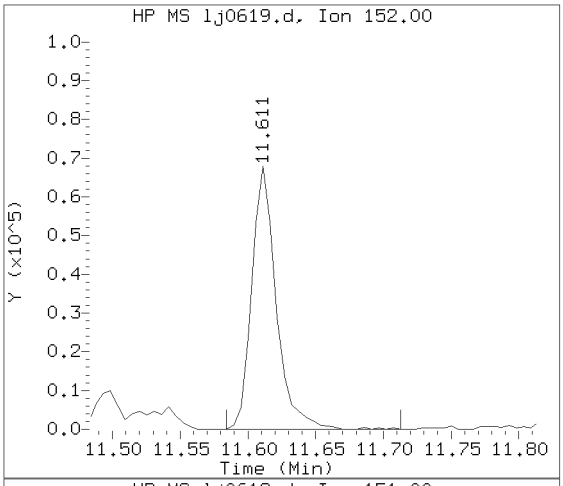
Sample Name: P2902DL Lab Sample ID: 8082124DL

Compound Number : 83
Compound Name : 2-Methylnaphthalene
Scan Number : 1490
Retention Time (minutes) : 10.156
Relative Retention Time :-0.00000
Quant Ion : 142.00
Area (flag) : 1787045
On-column Amount (ng/ul) : 16.6587

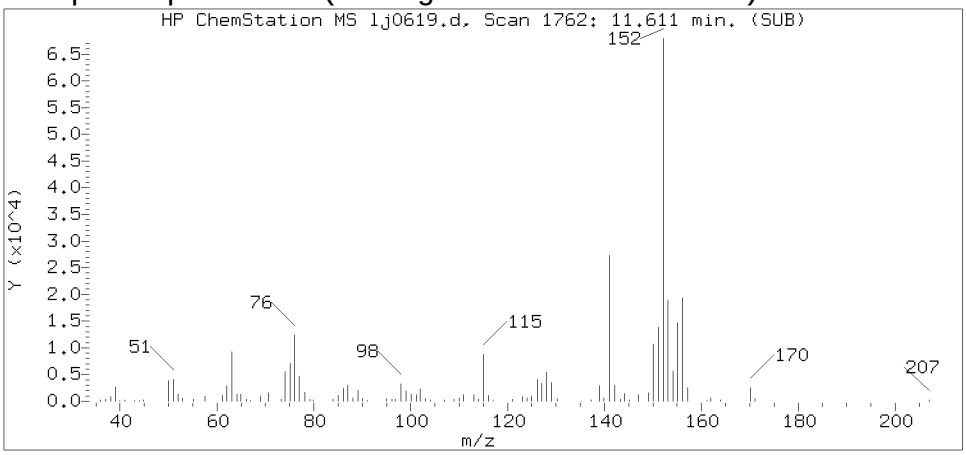
Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996

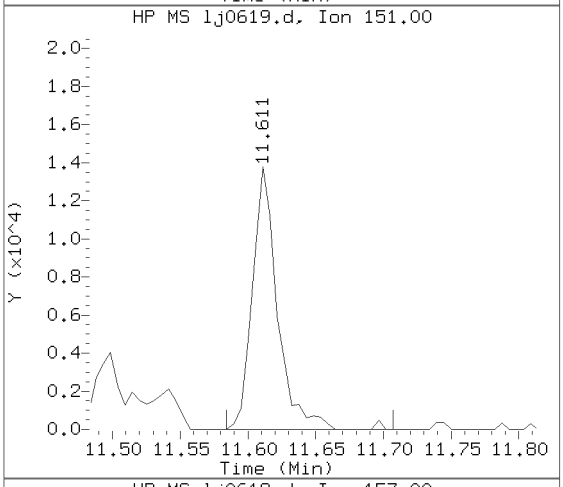
Reference Standard Spectrum for Acenaphthylene



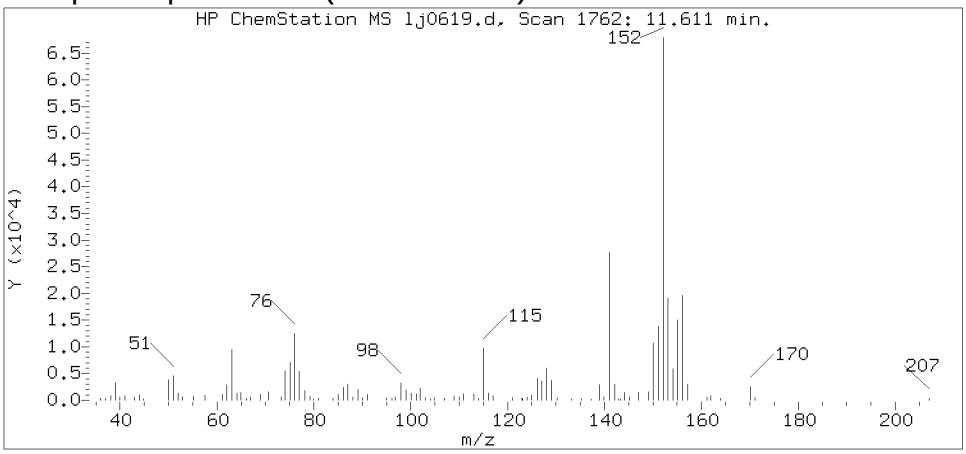


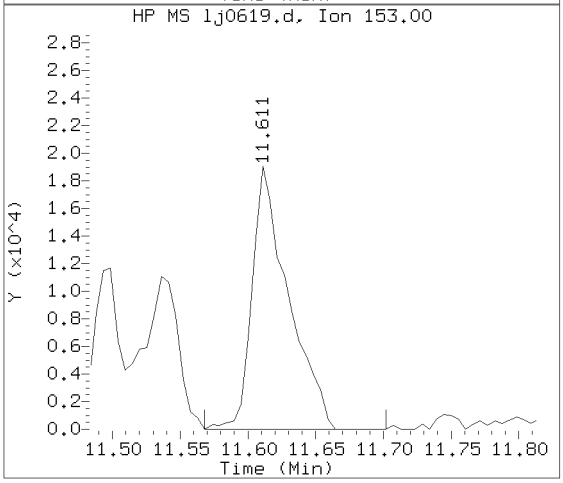
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0619.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:35 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

Sample Name: P2902DL Lab Sample ID: 8082124DL

Compound Number	: 109
Compound Name	: Acenaphthylene
Scan Number	: 1762
Retention Time (minutes)	: 11.611
Relative Retention Time	: 0.00045
Quant Ion	: 152.00
Area (flag)	: 85690
On-column Amount (ng/ul)	: 0.5660

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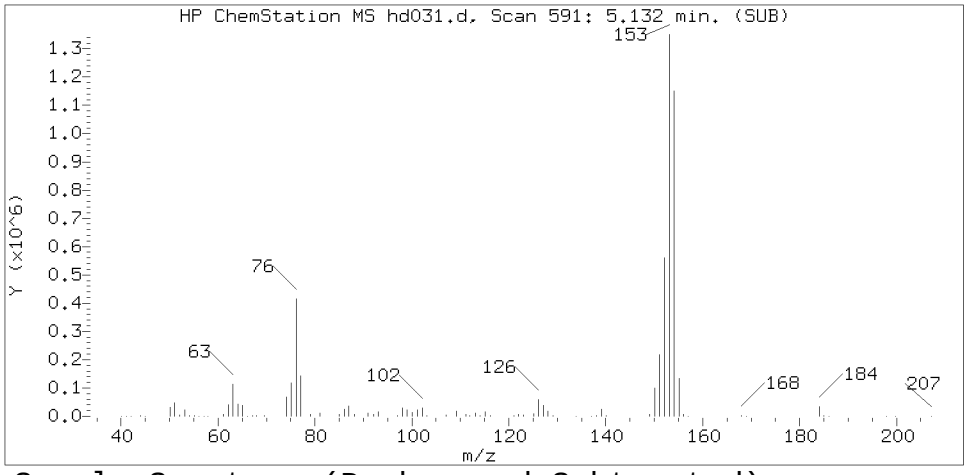
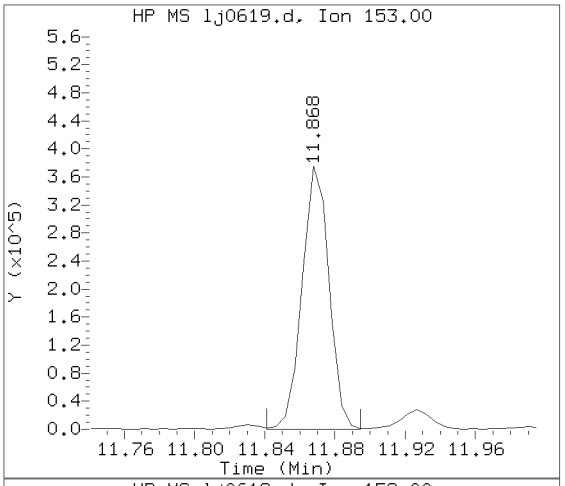
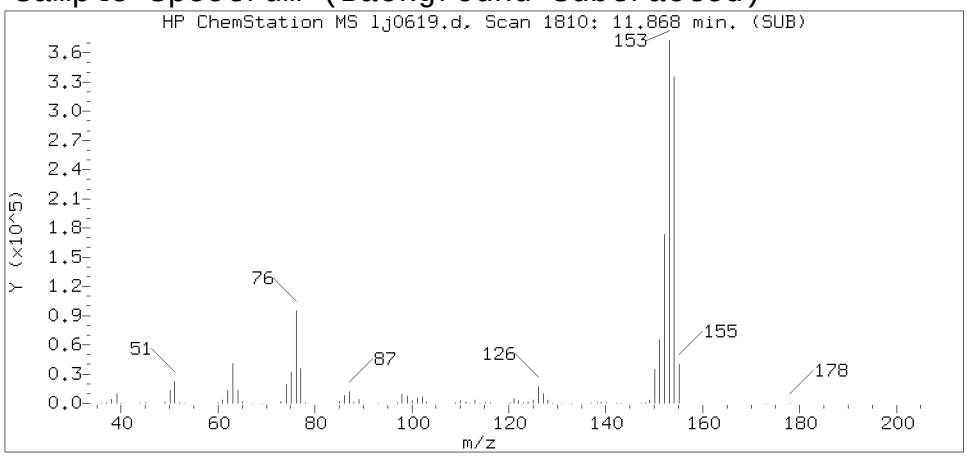
Target 3.5 esignature user ID: hbz01996

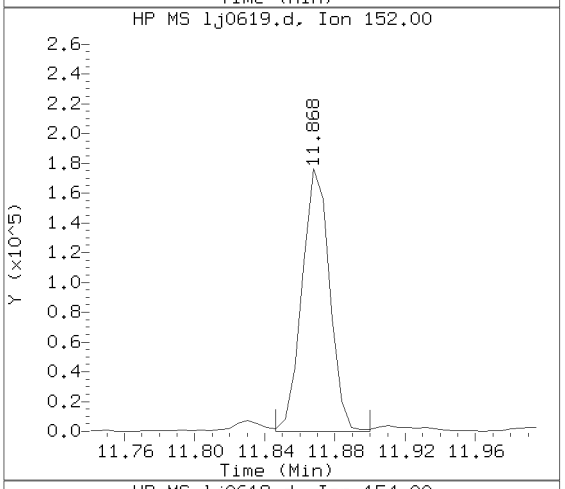
Reference Standard Spectrum for Acenaphthene



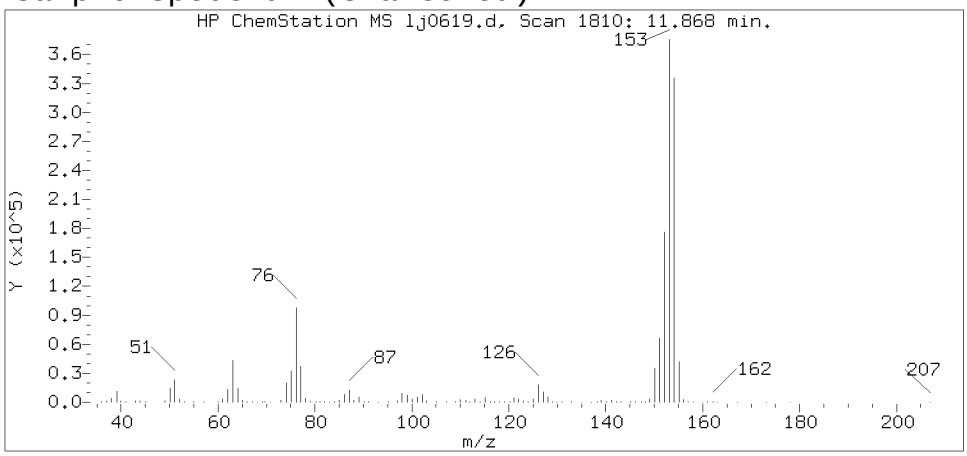


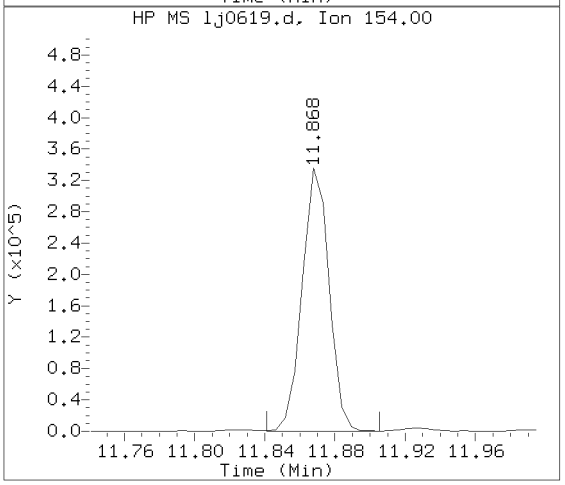
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0619.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:35 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

Sample Name: P2902DL Lab Sample ID: 8082124DL

Compound Number	: 114
Compound Name	: Acenaphthene
Scan Number	: 1810
Retention Time (minutes)	: 11.868
Relative Retention Time	: 0.00045
Quant Ion	: 153.00
Area (flag)	: 399031
On-column Amount (ng/ul)	: 3.9558

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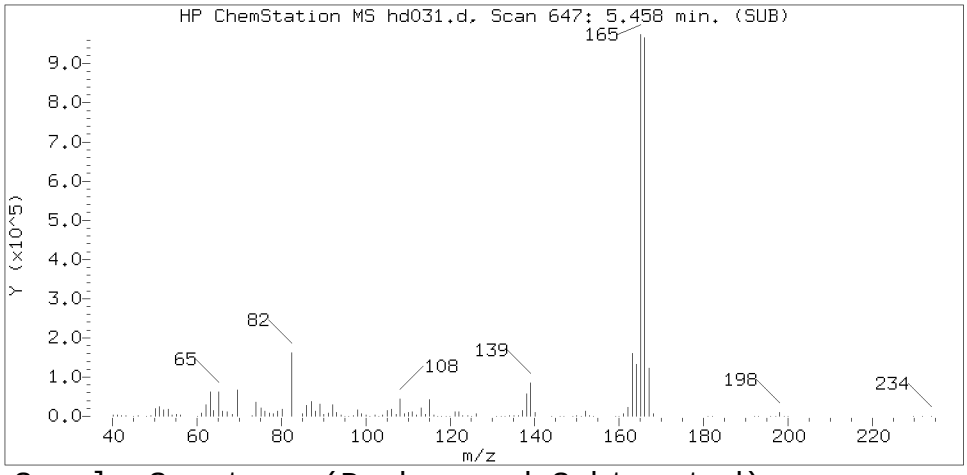
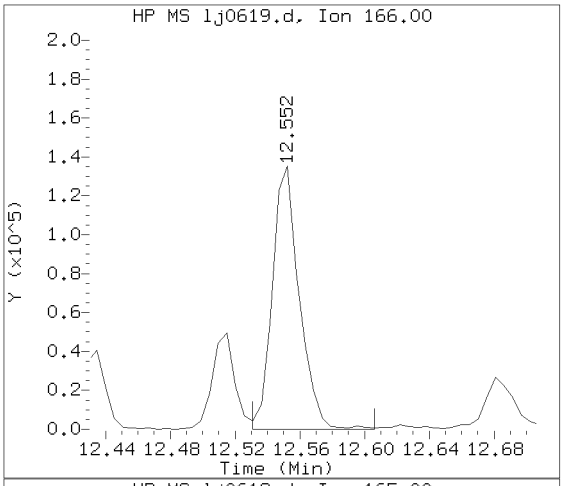
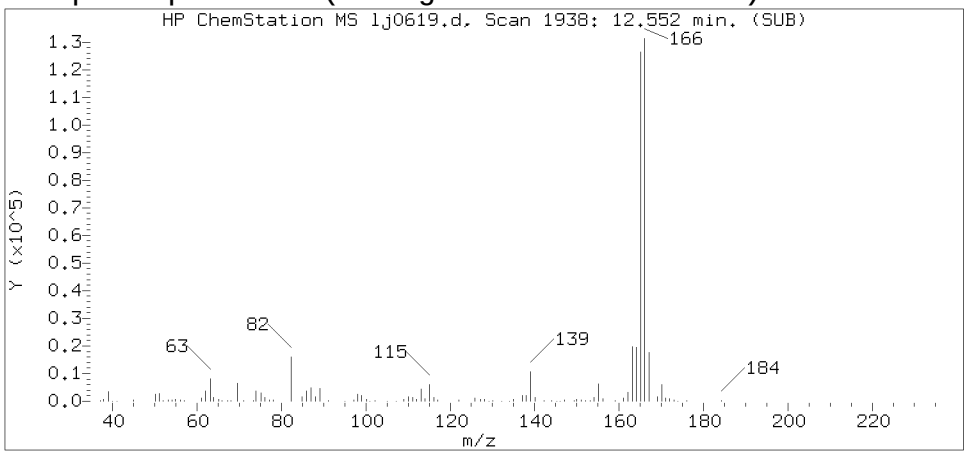
Target 3.5 esignature user ID: hbz01996

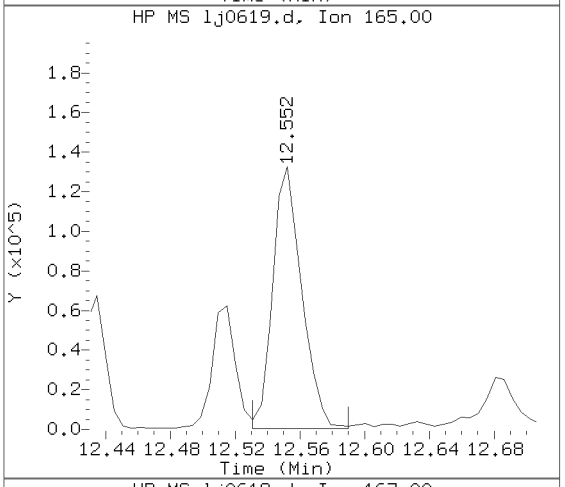
Reference Standard Spectrum for Fluorene



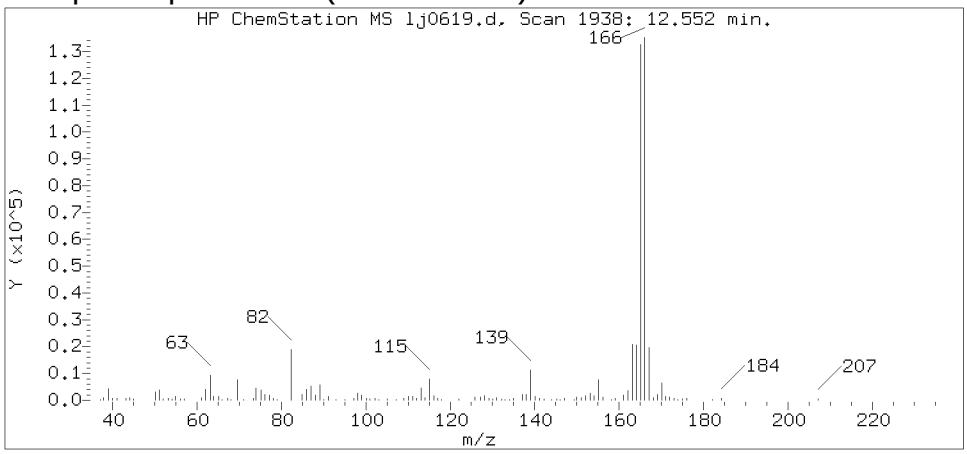


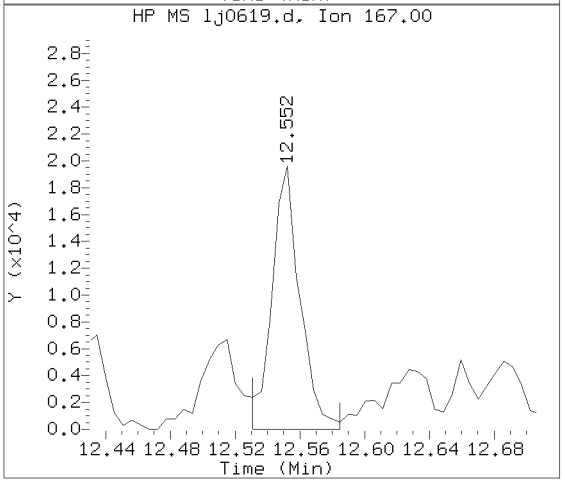
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0619.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:35 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

Sample Name: P2902DL Lab Sample ID: 8082124DL

Compound Number : 126
Compound Name : Fluorene
Scan Number : 1938
Retention Time (minutes) : 12.552
Relative Retention Time :-0.00000
Quant Ion : 166.00
Area (flag) : 155031
On-column Amount (ng/ul) : 1.4378

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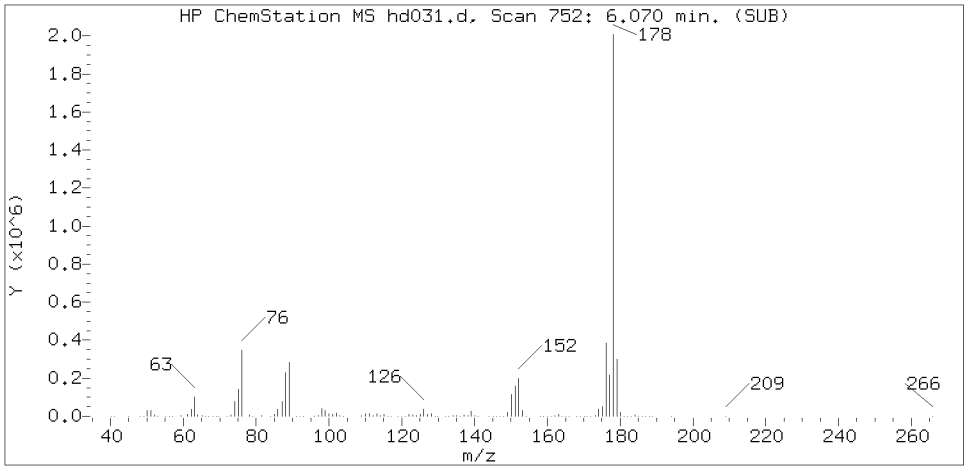
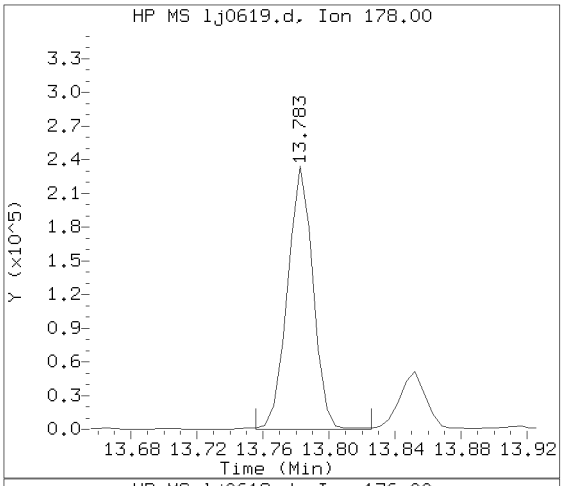
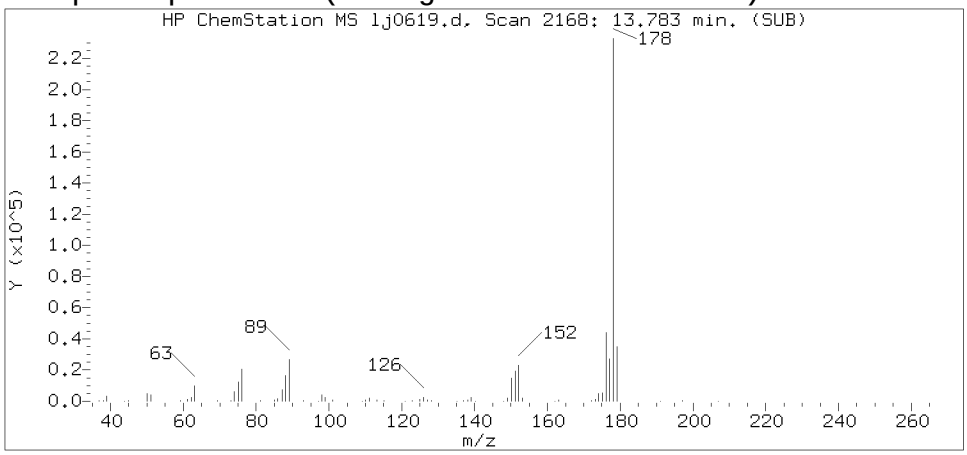
Target 3.5 esignature user ID: hbz01996

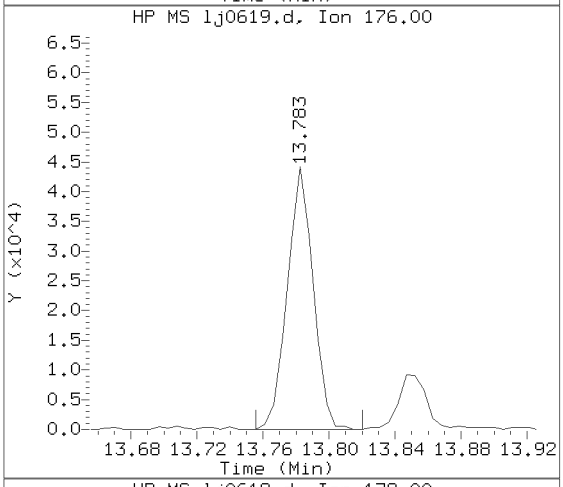
Reference Standard Spectrum for Phenanthrene



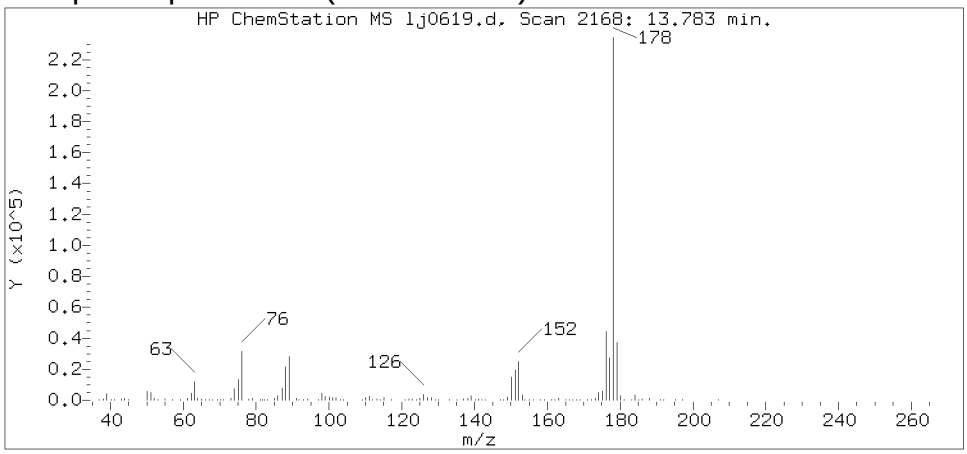


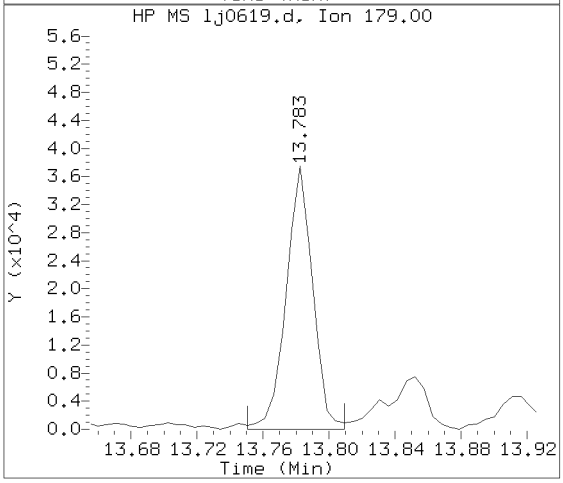
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0619.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:35 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

Sample Name: P2902DL Lab Sample ID: 8082124DL

Compound Number : 155
Compound Name : Phenanthrene
Scan Number : 2168
Retention Time (minutes) : 13.783
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 251792
On-column Amount (ng/ul) : 1.6074

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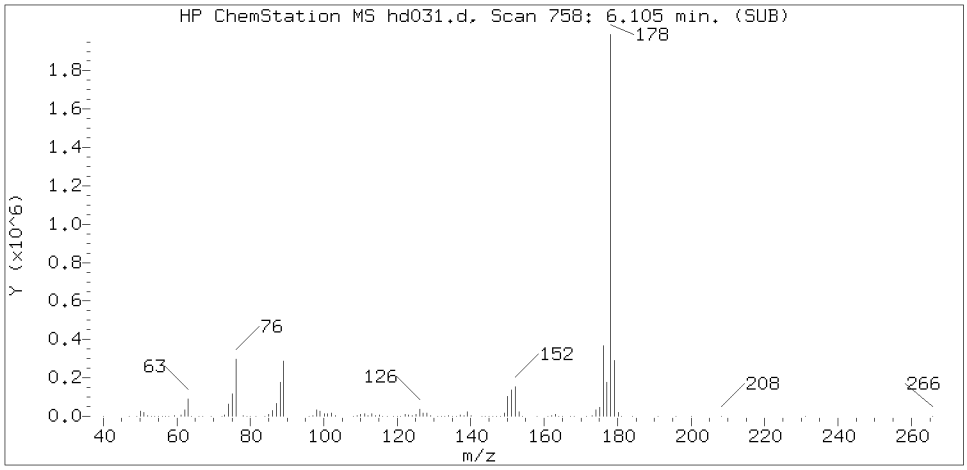
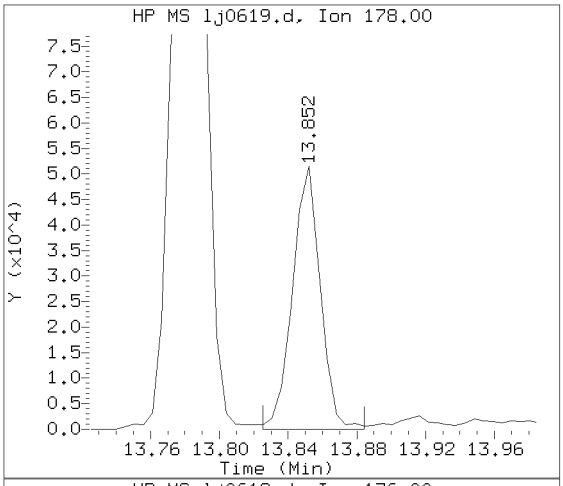
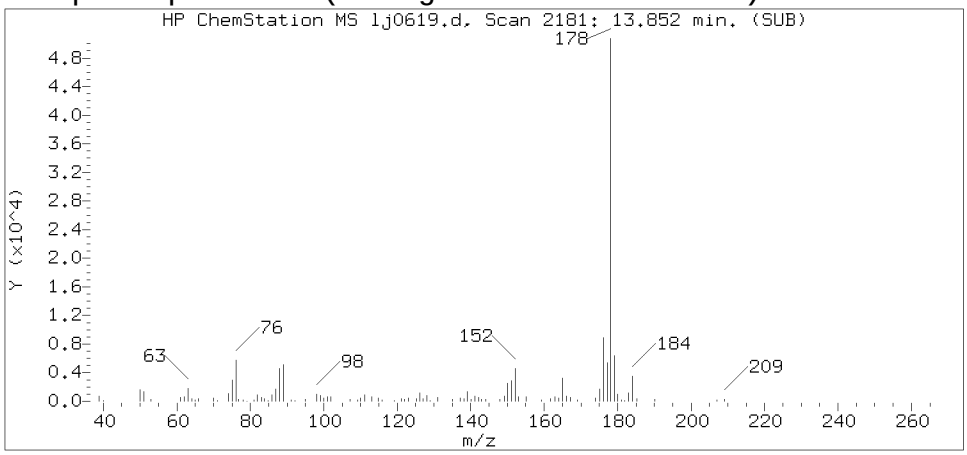
Target 3.5 esignature user ID: hbz01996

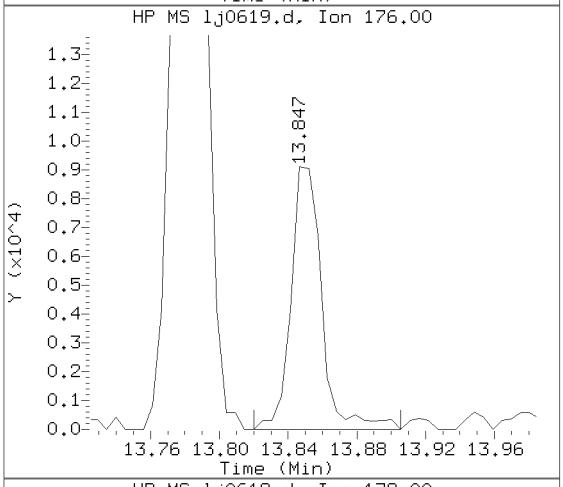
Reference Standard Spectrum for Anthracene



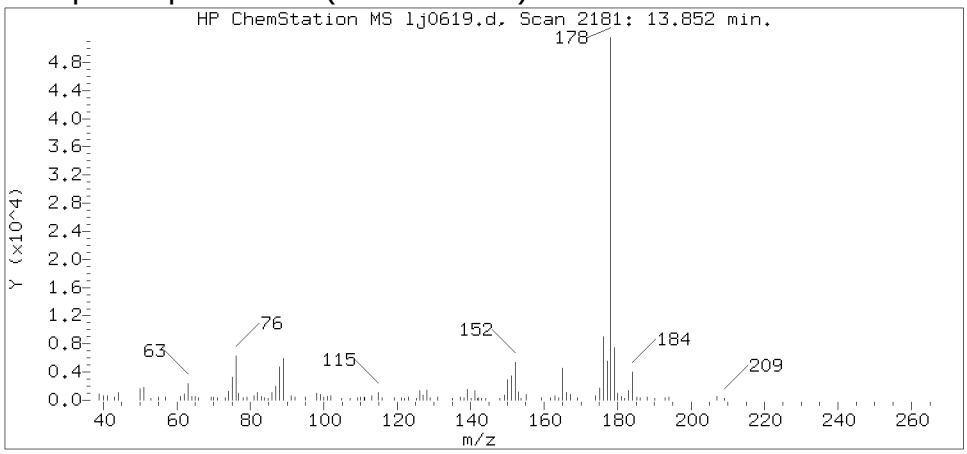


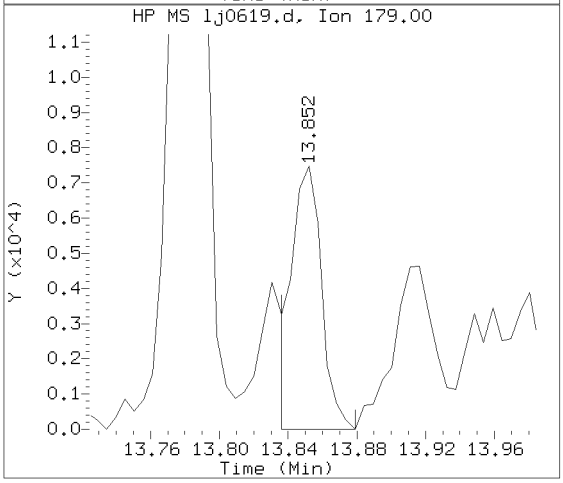
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0619.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:35 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

Sample Name: P2902DL Lab Sample ID: 8082124DL

Compound Number : 157
Compound Name : Anthracene
Scan Number : 2181
Retention Time (minutes) : 13.852
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 57786
On-column Amount (ng/ul) : 0.3717

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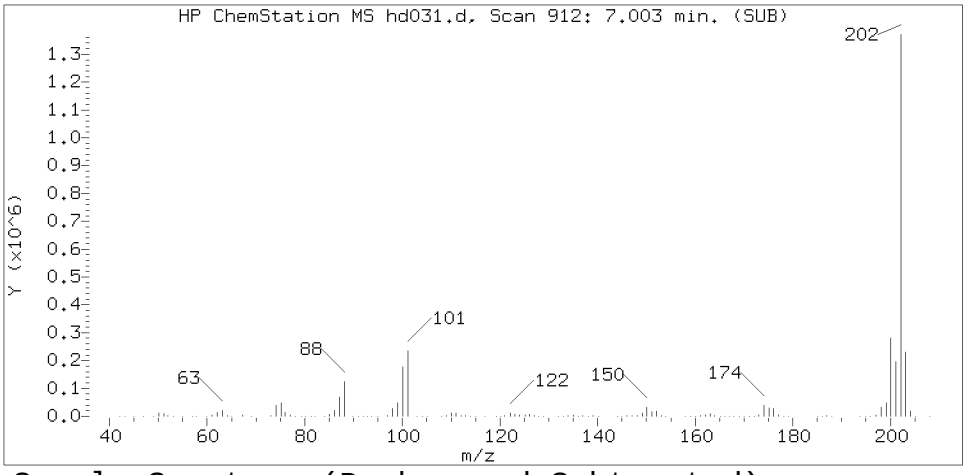
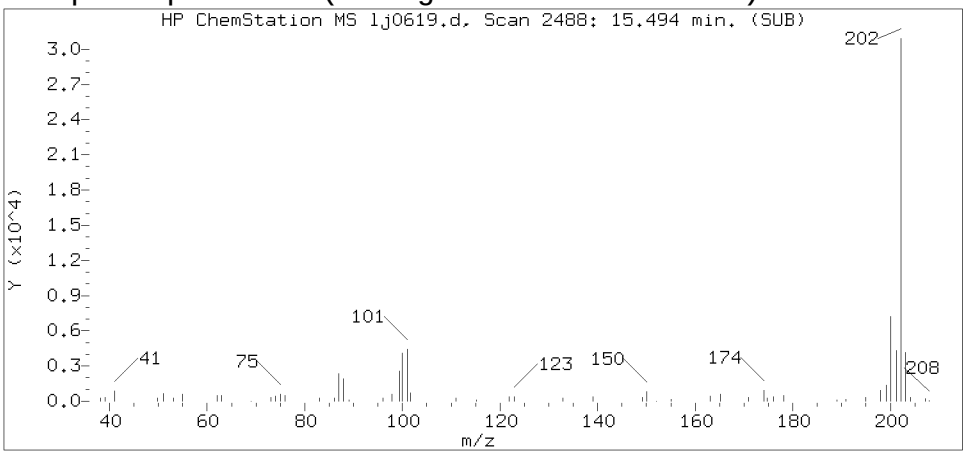
Target 3.5 esignature user ID: hbz01996

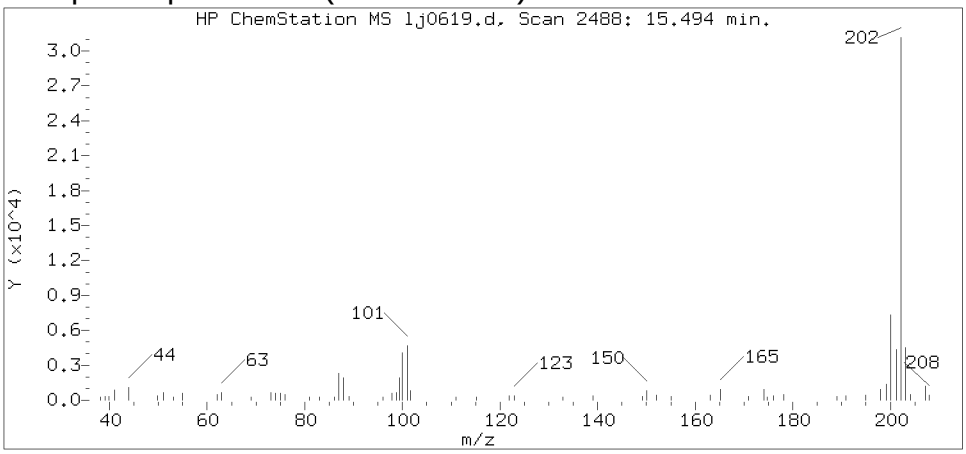
Reference Standard Spectrum for Fluoranthene

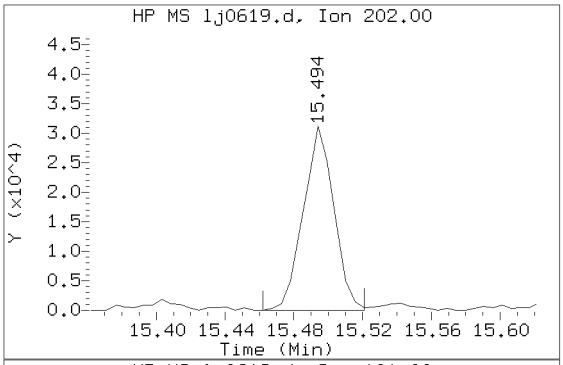


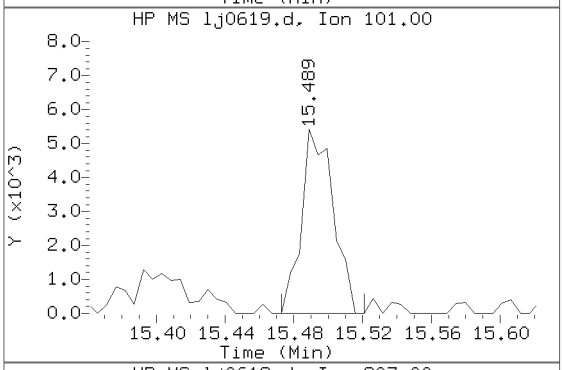
Sample Spectrum (Background Subtracted)

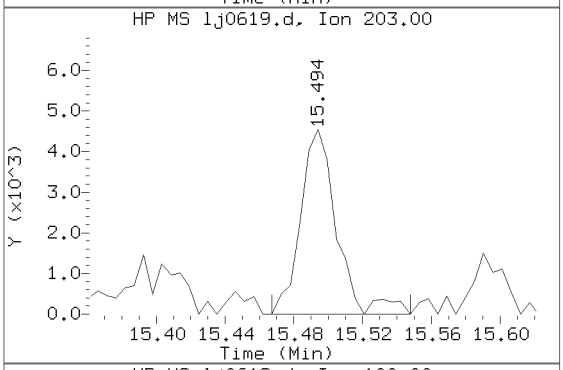


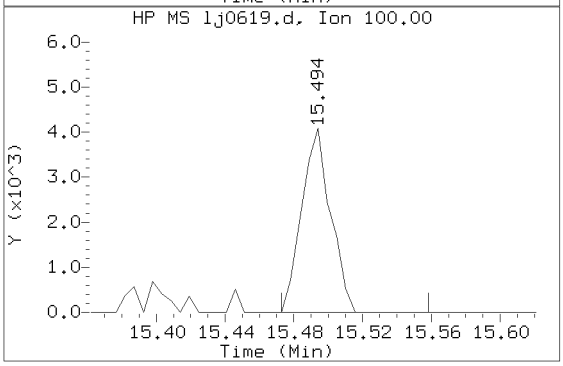
Sample Spectrum (Unaltered)











Data File: /chem/HP20296.i/15oct17.b/lj0619.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:35 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

Sample Name: P2902DL Lab Sample ID: 8082124DL

Compound Number : 173
Compound Name : Fluoranthene
Scan Number : 2488
Retention Time (minutes) : 15.494
Relative Retention Time :-0.00005
Quant Ion : 202.00
Area (flag) : 38380
On-column Amount (ng/ul) : 0.2251

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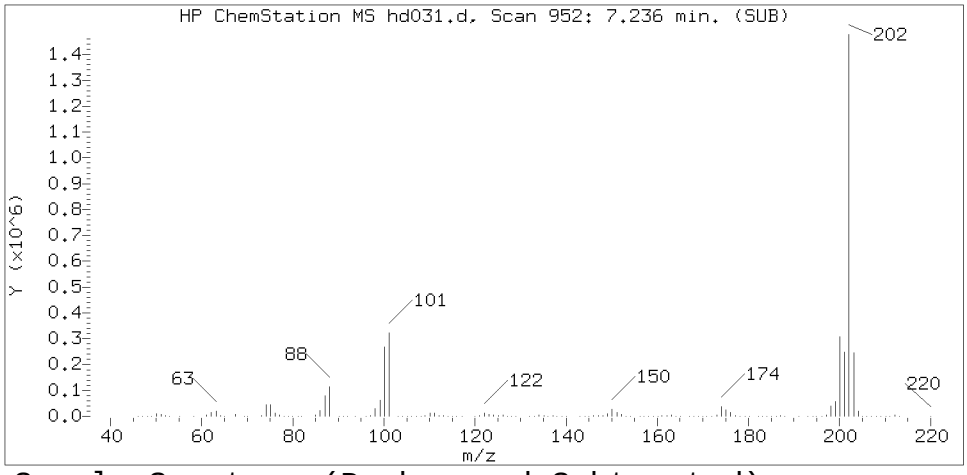
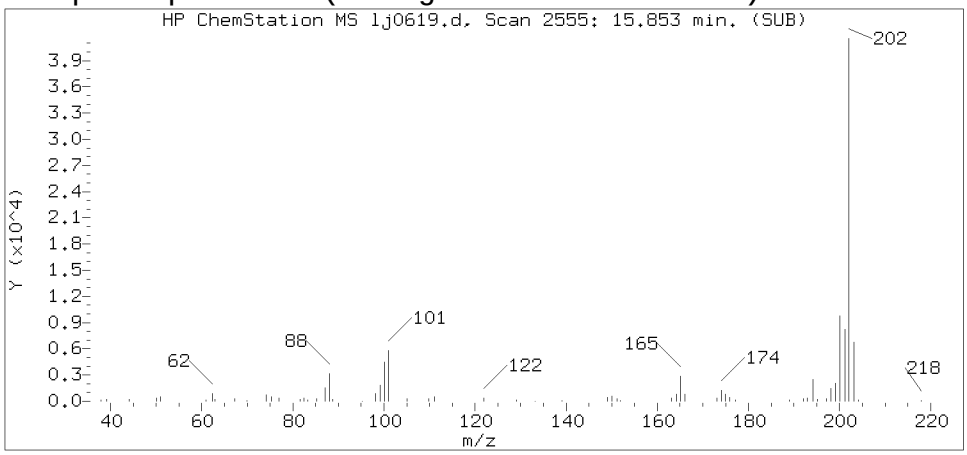
Target 3.5 esignature user ID: hbz01996

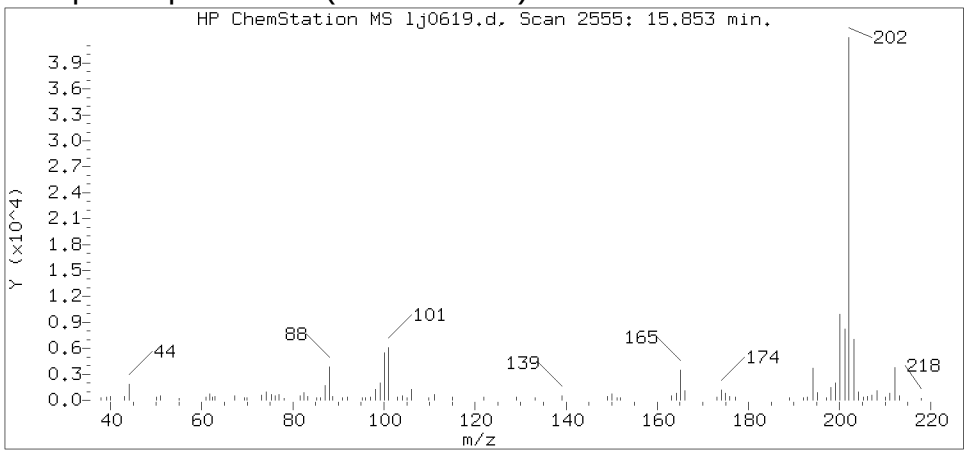
Reference Standard Spectrum for Pyrene

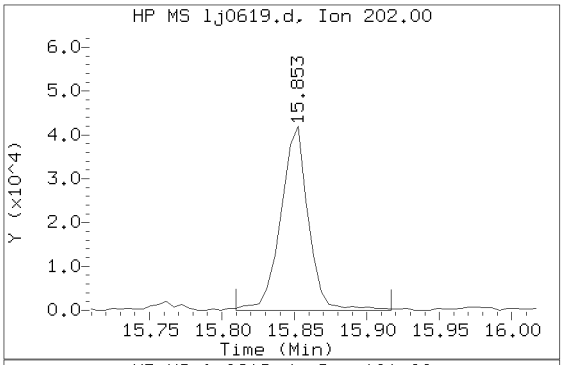


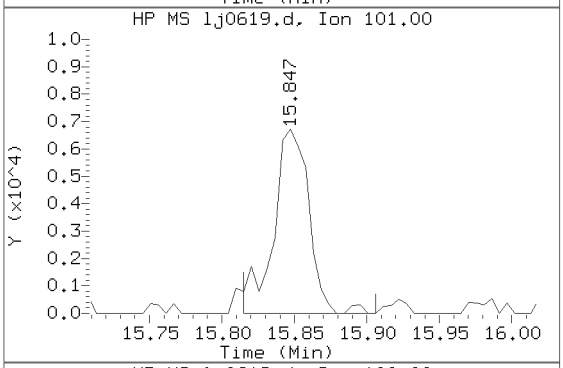
Sample Spectrum (Background Subtracted)

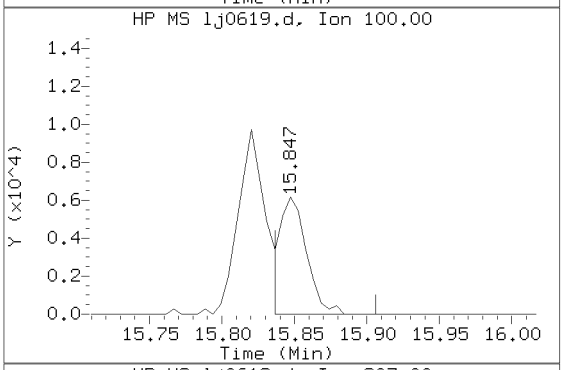


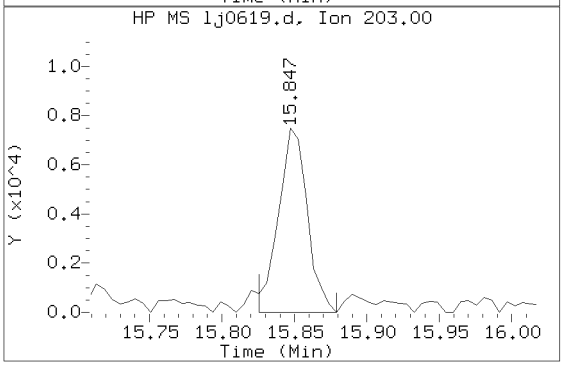
Sample Spectrum (Unaltered)











Data File: /chem/HP20296.i/15oct17.b/lj0619.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:35 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

Sample Name: P2902DL Lab Sample ID: 8082124DL

Compound Number : 177
Compound Name : Pyrene
Scan Number : 2555
Retention Time (minutes) : 15.853
Relative Retention Time :-0.00034
Quant Ion : 202.00
Area (flag) : 55773
On-column Amount (ng/ul) : 0.3114

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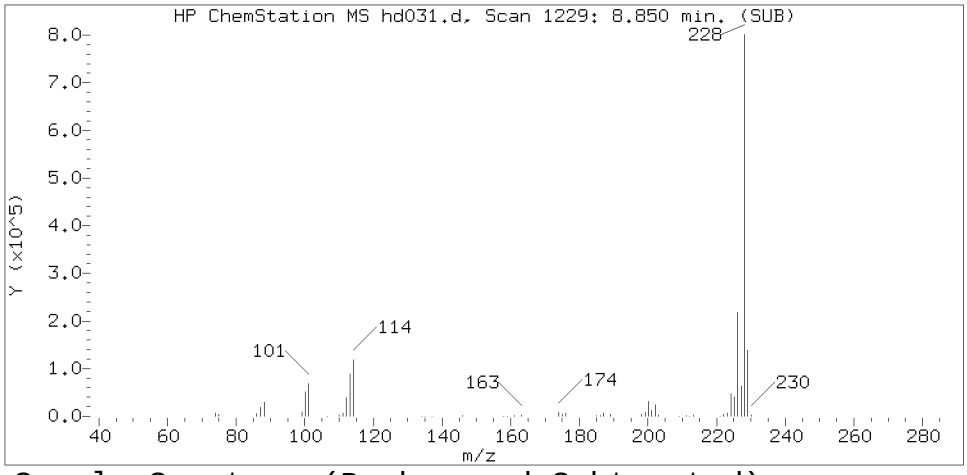
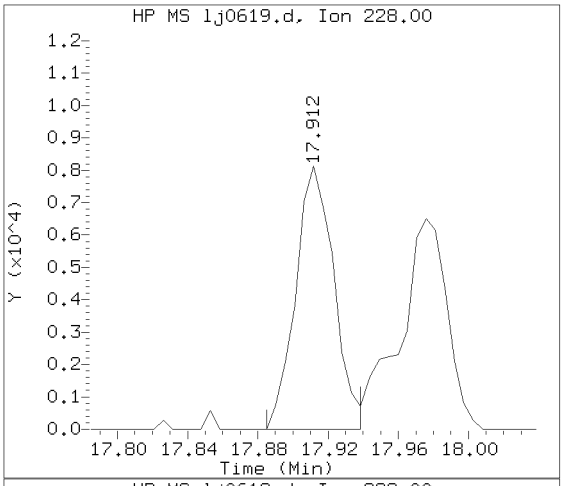
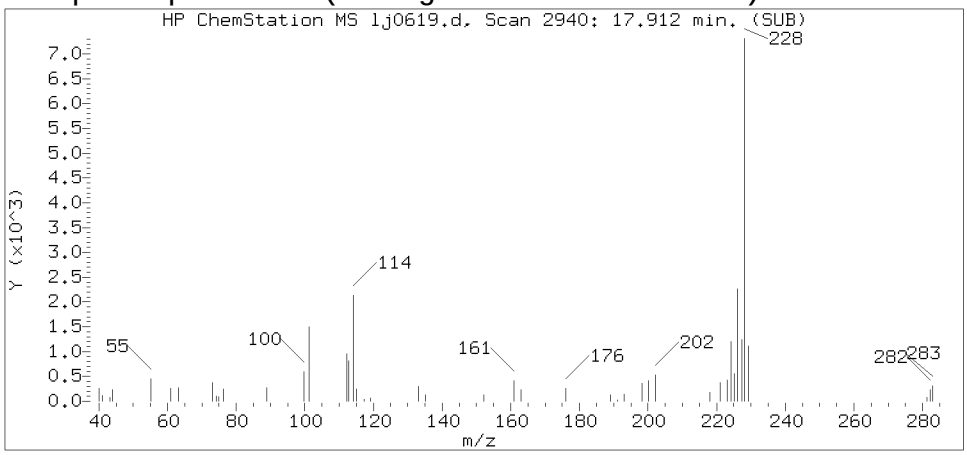
Target 3.5 esignature user ID: hbz01996

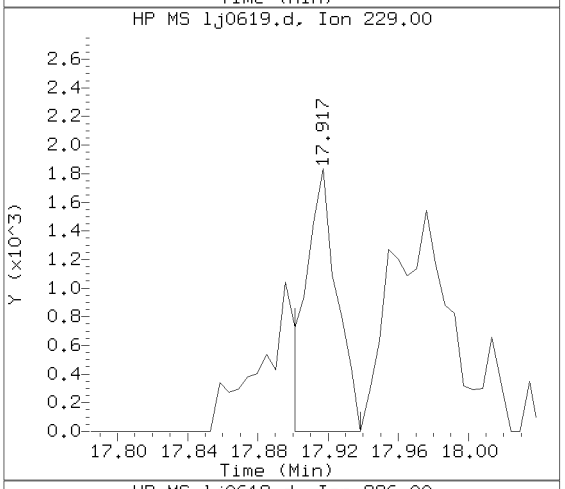
Reference Standard Spectrum for Benzo(a)anthracene



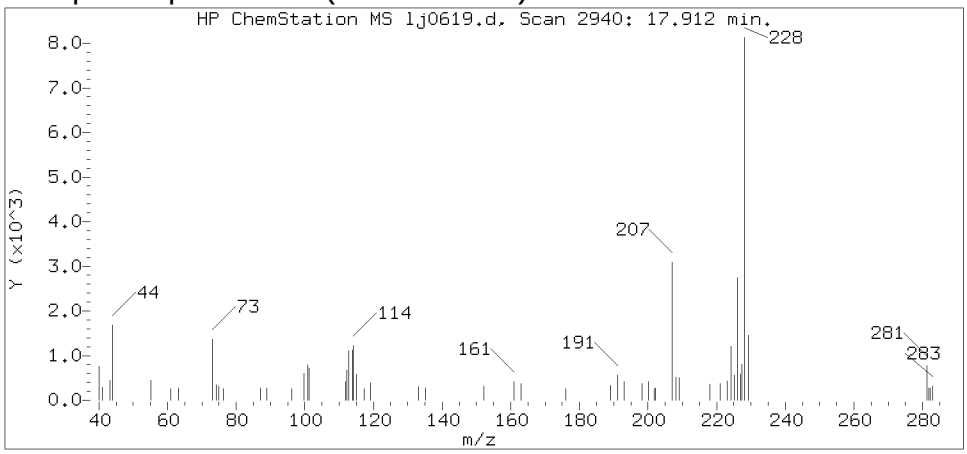


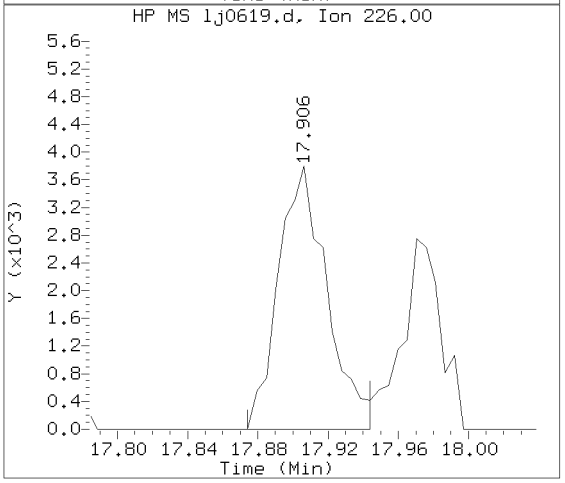
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0619.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:35 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

Sample Name: P2902DL Lab Sample ID: 8082124DL

Compound Number : 195
Compound Name : Benzo(a)anthracene
Scan Number : 2940
Retention Time (minutes) : 17.912
Relative Retention Time :-0.00005
Quant Ion : 228.00
Area (flag) : 12194
On-column Amount (ng/ul) : 0.0791

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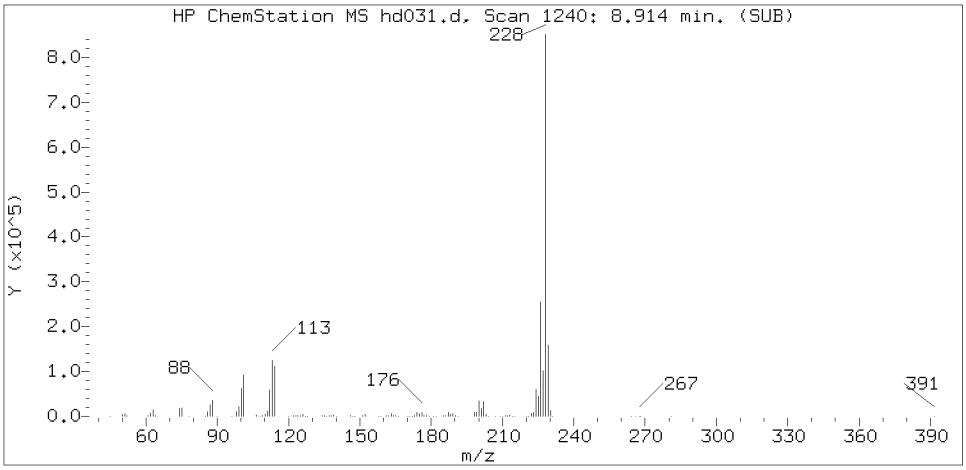
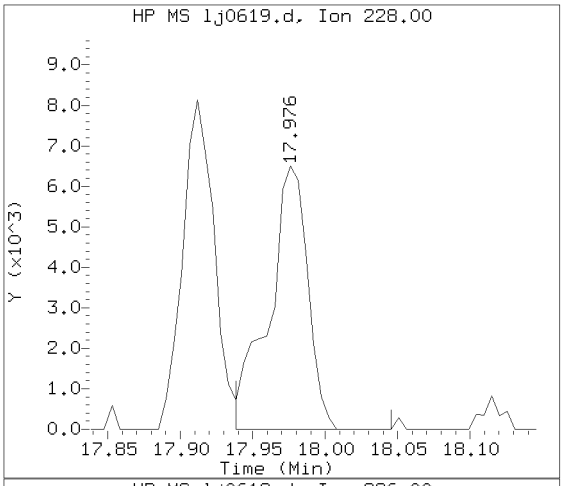
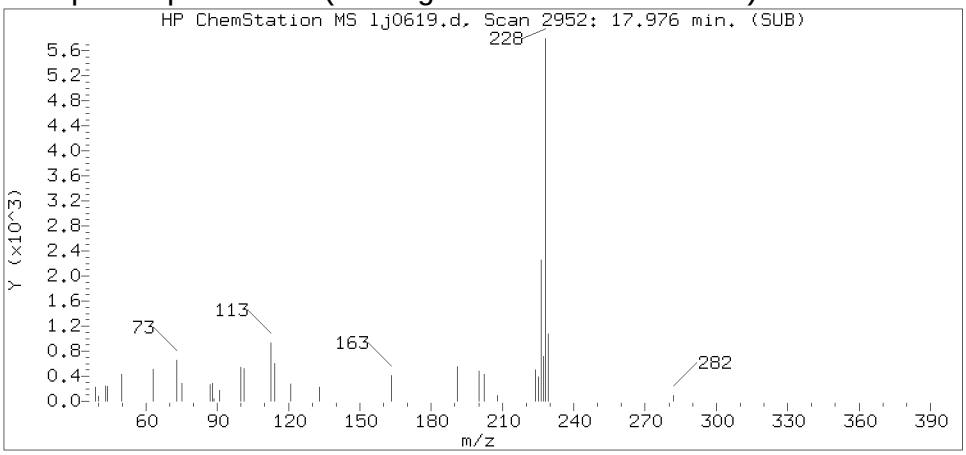
Target 3.5 esignature user ID: hbz01996

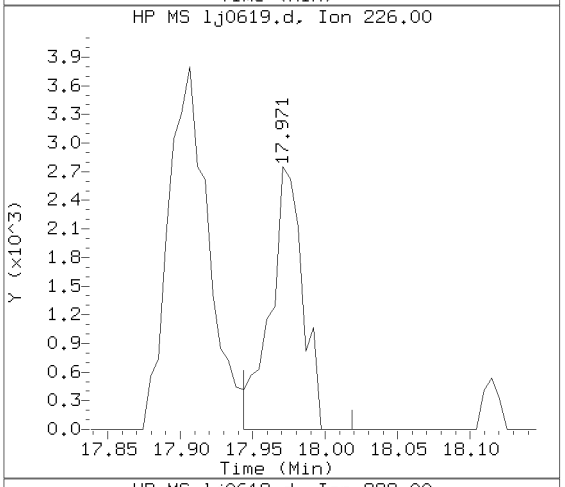
Reference Standard Spectrum for Chrysene



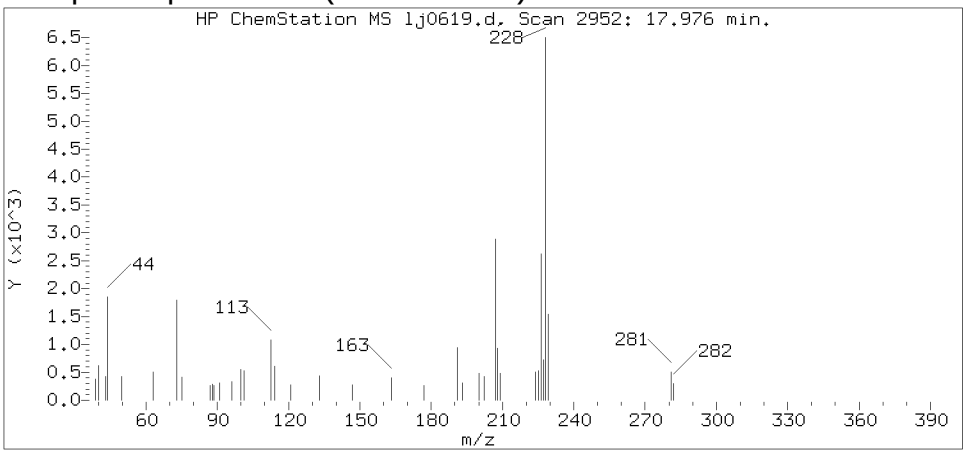


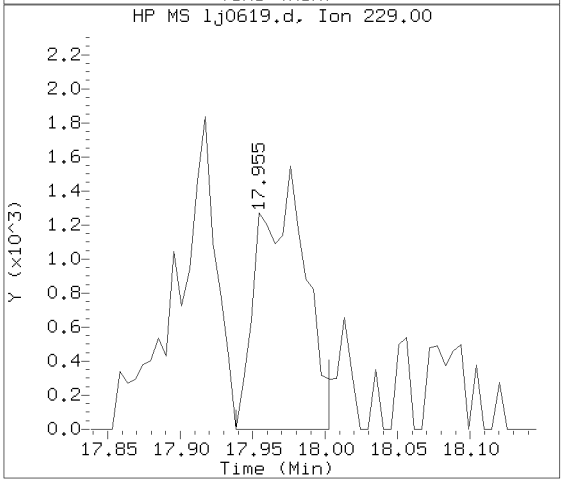
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0619.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:35 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

Sample Name: P2902DL Lab Sample ID: 8082124DL

Compound Number : 196
Compound Name : Chrysene
Scan Number : 2952
Retention Time (minutes) : 17.976
Relative Retention Time :-0.00005
Quant Ion : 228.00
Area (flag) : 12146
On-column Amount (ng/ul) : 0.0825

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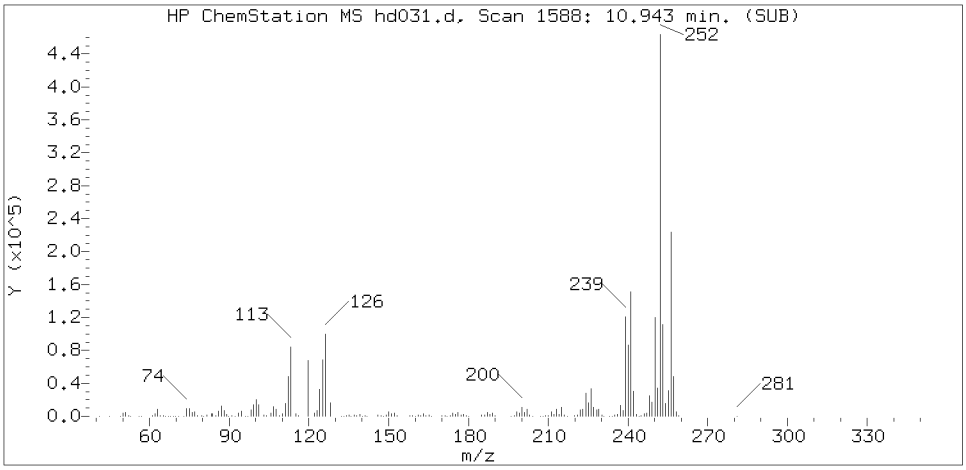
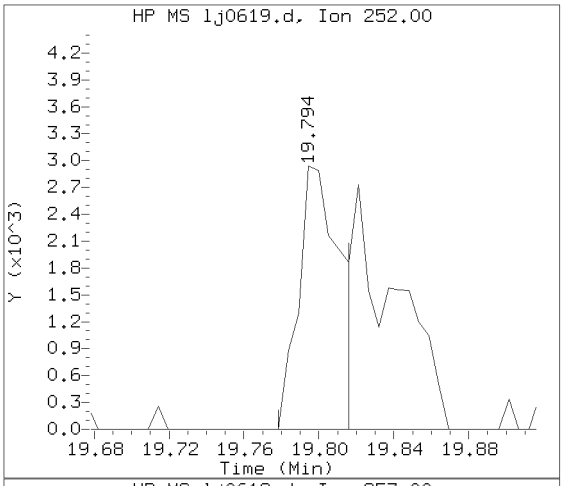
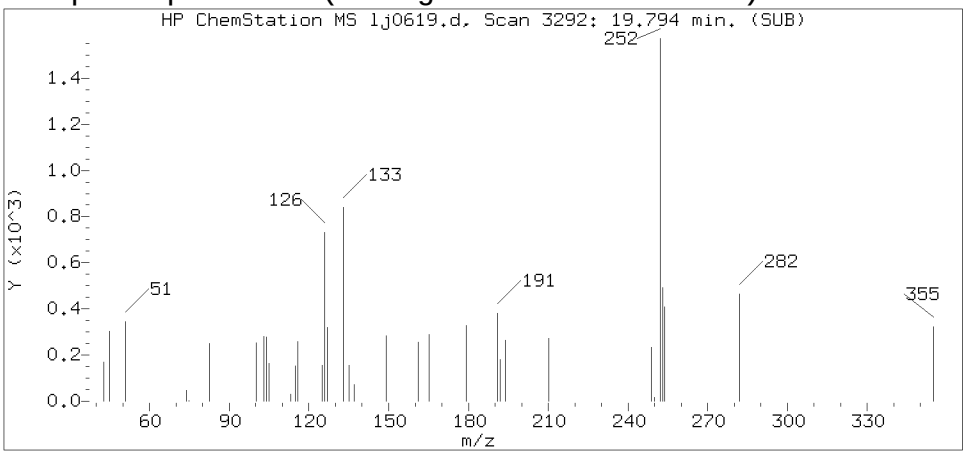
Target 3.5 esignature user ID: hbz01996

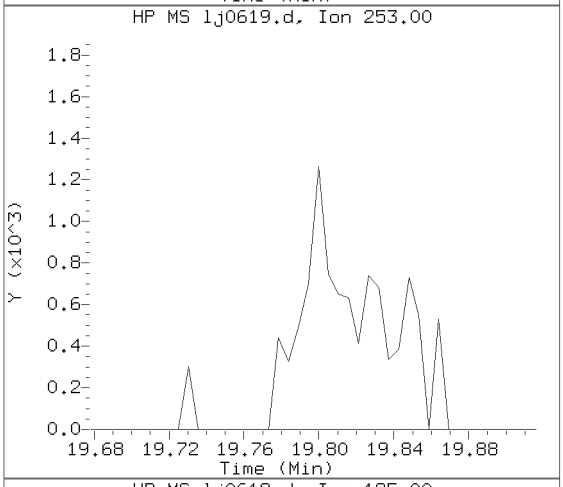
Reference Standard Spectrum for Benzo(b)fluoranthene



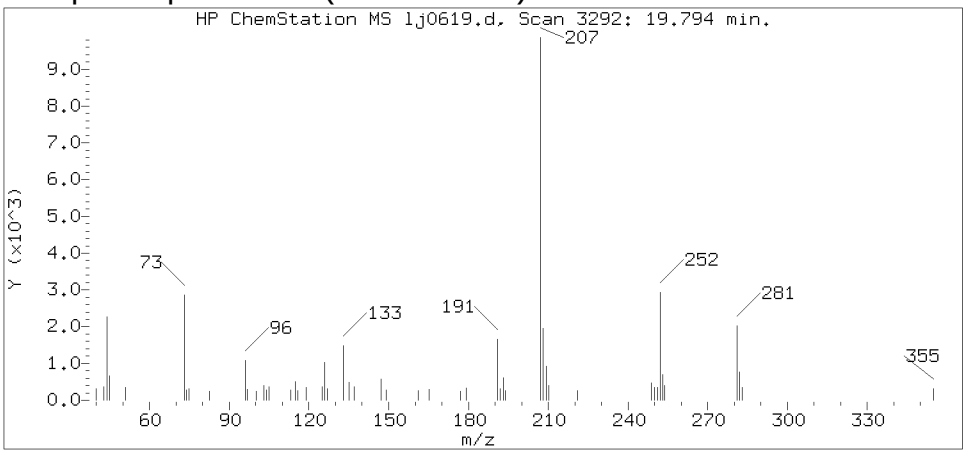


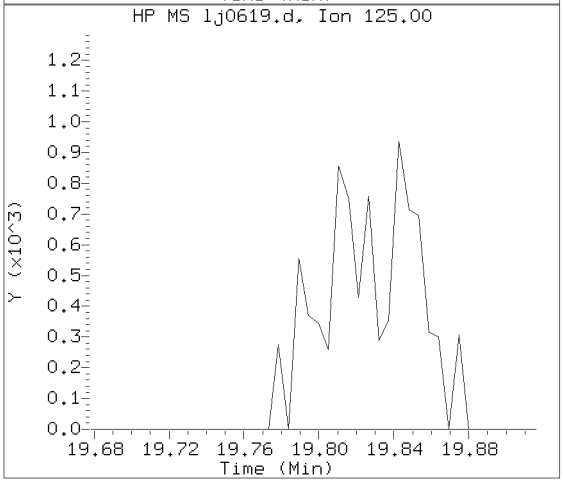
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0619.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:35 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

Sample Name: P2902DL Lab Sample ID: 8082124DL

Compound Number : 206
Compound Name : Benzo(b)fluoranthene
Scan Number : 3292
Retention Time (minutes) : 19.794
Relative Retention Time : 0.00079
Quant Ion : 252.00
Area (flag) : 4207
On-column Amount (ng/ul) : 0.0282

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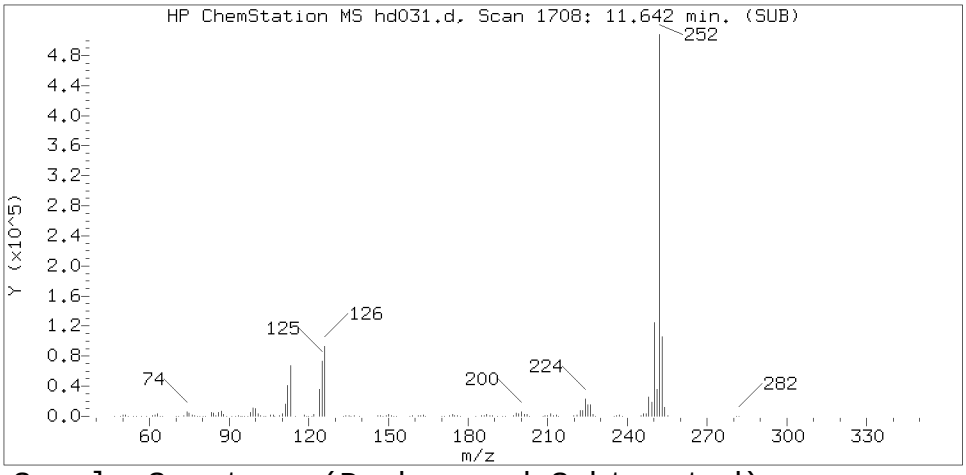
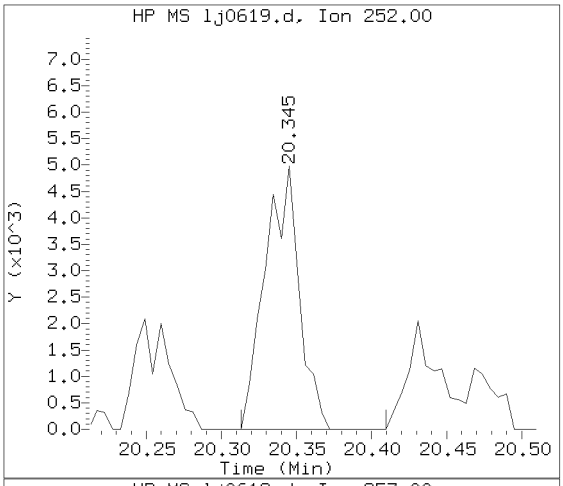
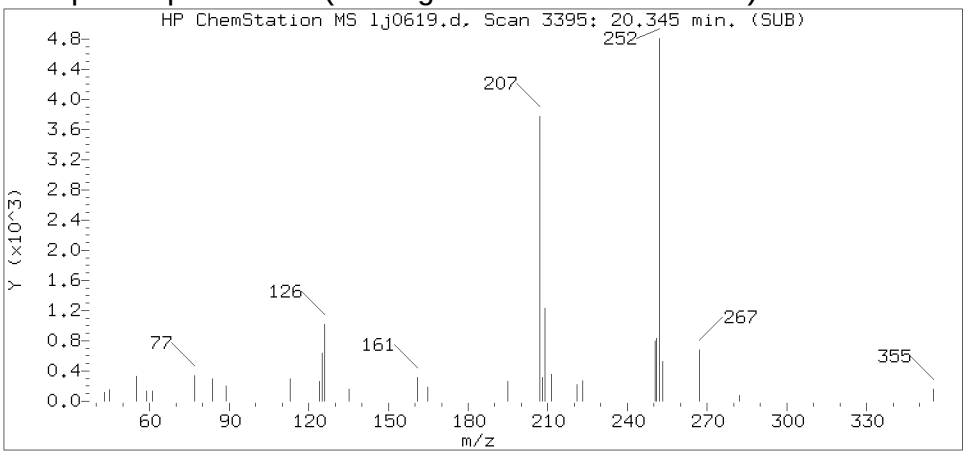
Target 3.5 esignature user ID: hbz01996

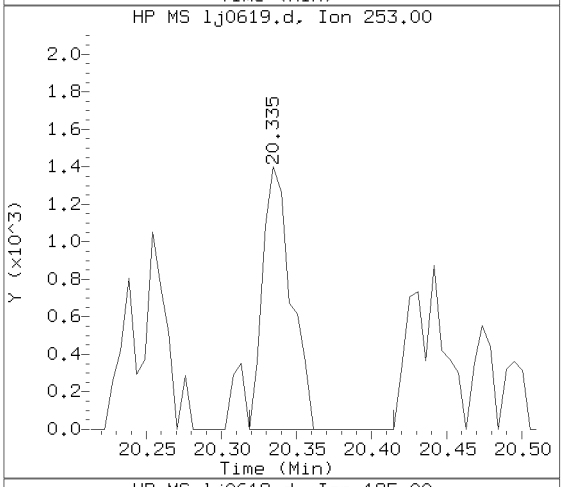
Reference Standard Spectrum for Benzo(a)pyrene



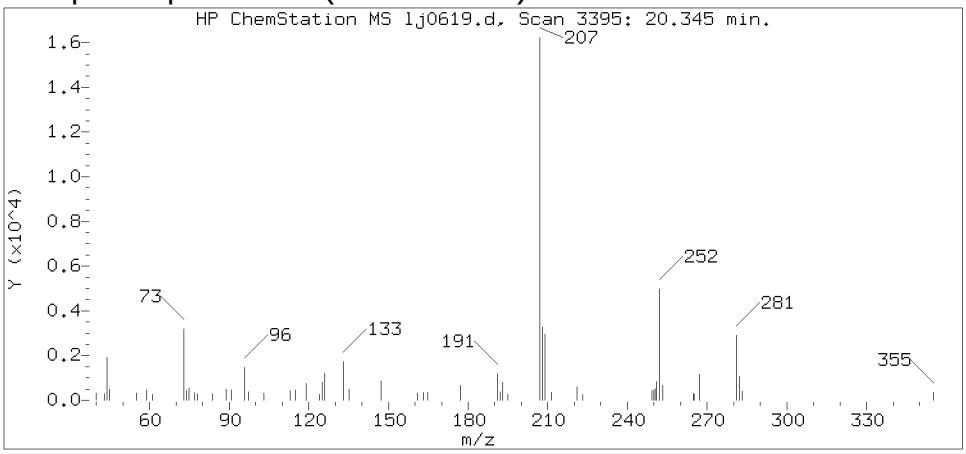


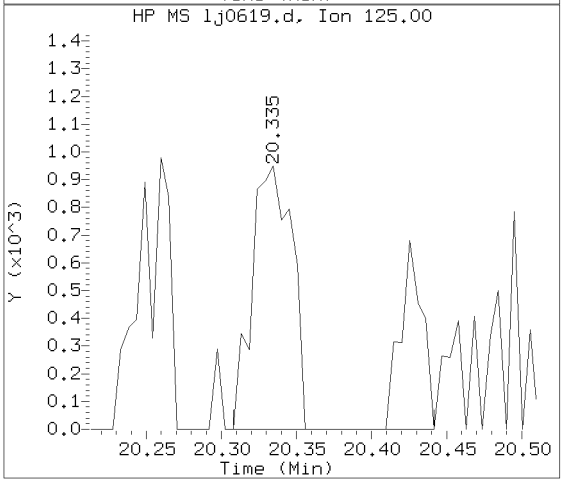
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0619.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 16:35 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:26 hbz01996

Sample Name: P2902DL Lab Sample ID: 8082124DL

Compound Number	: 211
Compound Name	: Benzo(a)pyrene
Scan Number	: 3395
Retention Time (minutes)	: 20.345
Relative Retention Time	: 0.00000
Quant Ion	: 252.00
Area (flag)	: 7889
On-column Amount (ng/ul)	: 0.0568

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Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct17.b/lj0620.d Injection date and time: **17-OCT-2015 17:03**
Data file Sample Info. Line: P2902DL2;8082124DL2;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 17-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct17.b/lj0611.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 100 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 240 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.001(0.005)	900	152	191348 (-21)	5.00	
65) Naphthalene-d8	8.990(0.005)	1272	136	746830 (-21)	5.00	
113) Acenaphthene-d10	11.820(0.005)	1801	164	398758 (-23)	5.00	
153) Phenanthrene-d10	13.751(0.005)	2162	188	722314 (-22)	5.00	
175) Pyrene-d10	15.821(0.005)	2549	212	795188 (-25)	5.00	
213) Perylene-d12	20.431(0.005)	3411	264	561743 (-26)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.856(0.001)	82	14440	0.192	77%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.777(0.000)	172	22339	0.203	81%		61 - 112
179) Terphenyl-d14	(5)	16.136(0.000)	244	18353	0.174	70%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	9.022(-0.000)	128	1187817	7.405	3085.49			0.03
83) 2-Methylnaphthalene	(2)	10.156(-0.000)	142	166731	1.567	652.95			0.03
109) Acenaphthylene	(3)	11.611(0.000)	152	7223	0.050	21.03			0.03
114) Acenaphthene	(3)	11.868(-0.000)	153	34846	0.365	152.29			0.03
126) Fluorene	(3)	12.547(-0.000)	166	12846	0.126	52.52			0.03
155) Phenanthrene	(4)	13.783(-0.000)	178	23612	0.157	65.39			0.03
157) Anthracene	(4)	13.847(0.000)	178	6008	0.040	16.77			0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)	15.853(-0.000)	202	5339	0.031	13.00			0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct17.b/lj0620.d Injection date and time: **17-OCT-2015 17:03**
Data file Sample Info. Line: P2902DL2;8082124DL2;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 17-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct17.b/lj0611.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 100 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 240 ml Volume Injected (Vi): 1 ul

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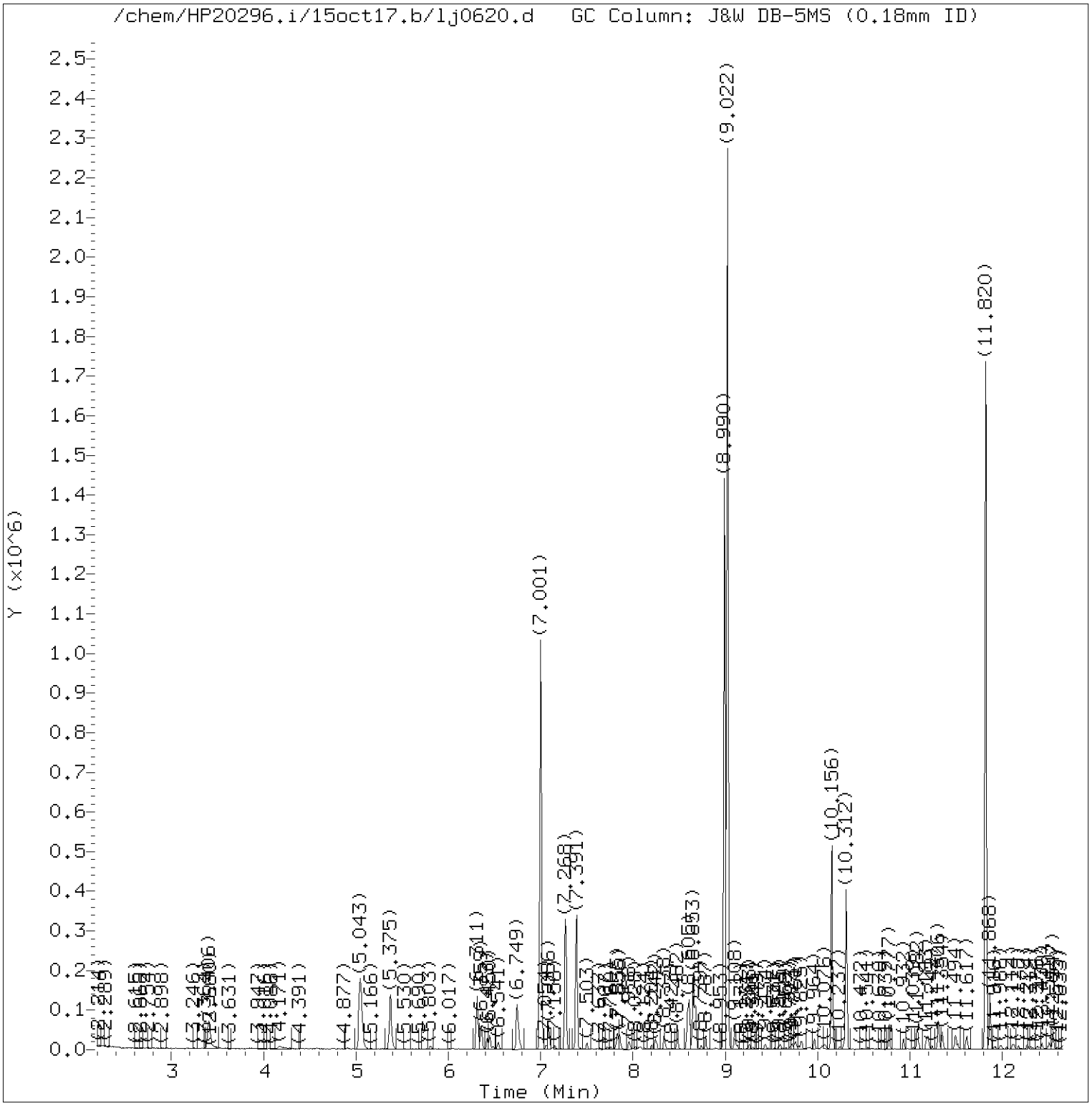
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:29. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 14:22. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

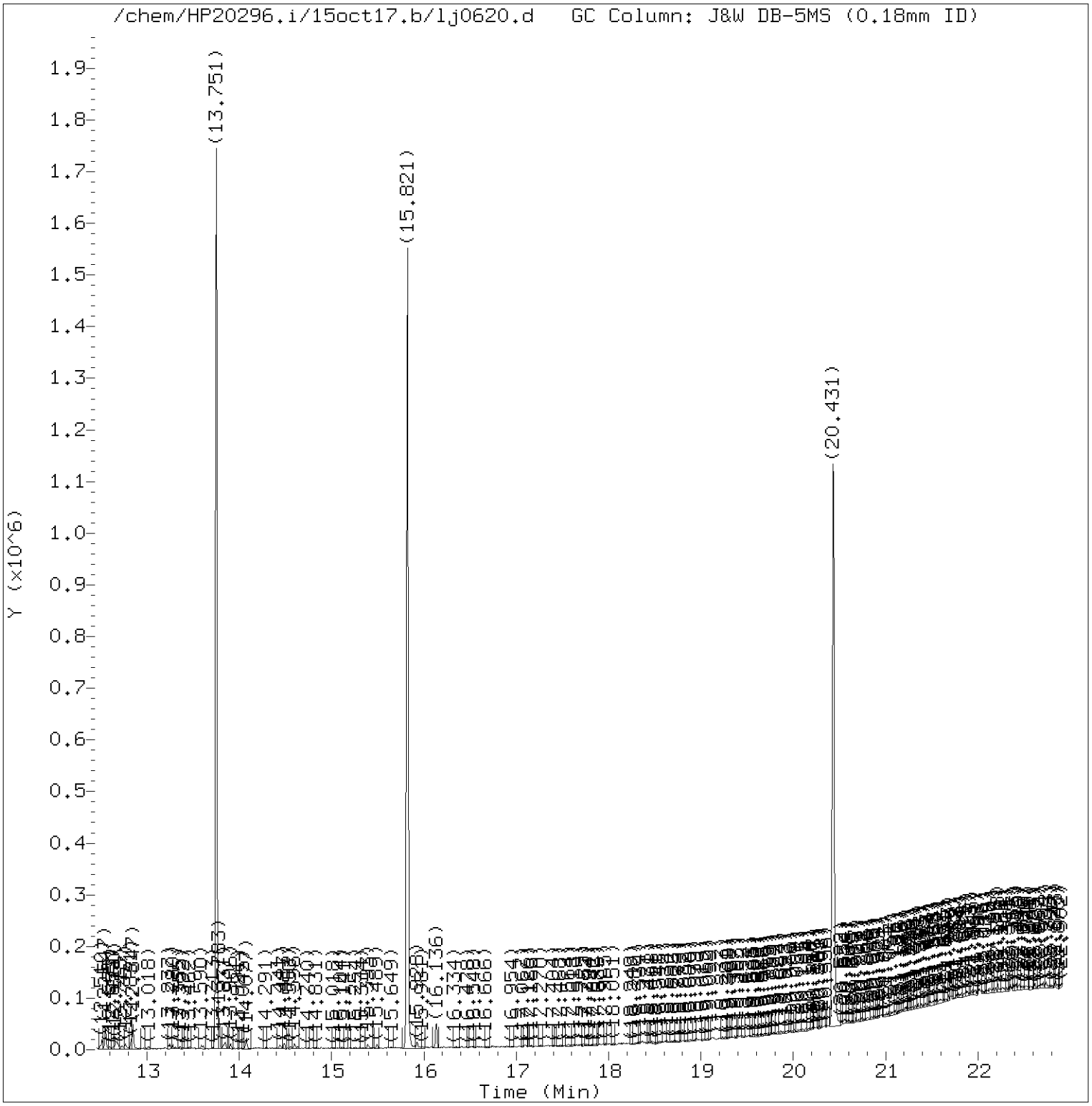
Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0620.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:03 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2902DL2 Lab Sample ID: 8082124DL2

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0620.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:03 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2902DL2 Lab Sample ID: 8082124DL2

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0620.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:03 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

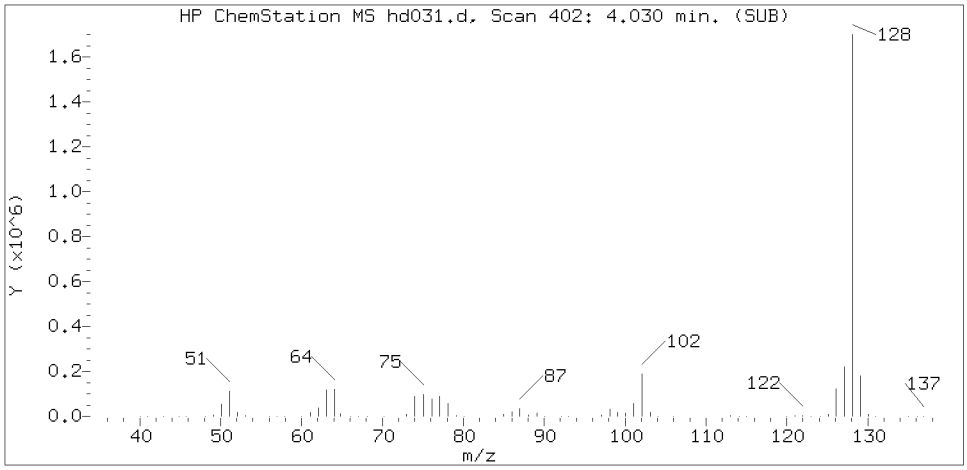
Sample Name: P2902DL2 Lab Sample ID: 8082124DL2

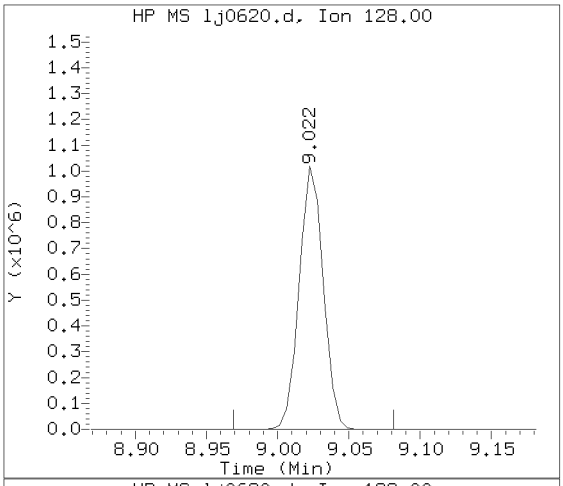
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.001	152	191348	5.000
44)$Nitrobenzene-d5	(2)	7.856	82	14440	0.192
65)*Naphthalene-d8	(2)	8.990	136	746830	5.000
66) Naphthalene	(2)	9.022	128	1187817	7.405
83) 2-Methylnaphthalene	(2)	10.156	142	166731	1.567
93)$2-Fluorobiphenyl	(3)	10.777	172	22339	0.203
109) Acenaphthylene	(3)	11.611	152	7223	0.050
113)*Acenaphthene-d10	(3)	11.820	164	398758	5.000
114) Acenaphthene	(3)	11.868	153	34846	0.365
126) Fluorene	(3)	12.547	166	12846	0.126
153)*Phenanthrene-d10	(4)	13.751	188	722314	5.000
155) Phenanthrene	(4)	13.783	178	23612	0.157
157) Anthracene	(4)	13.847	178	6008	0.040
175)*Pyrene-d10	(5)	15.821	212	795188	5.000
177) Pyrene	(5)	15.853	202	5339	0.031
179)$Terphenyl-d14	(5)	16.136	244	18353	0.174
213)*Perylene-d12	(6)	20.431	264	561743	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

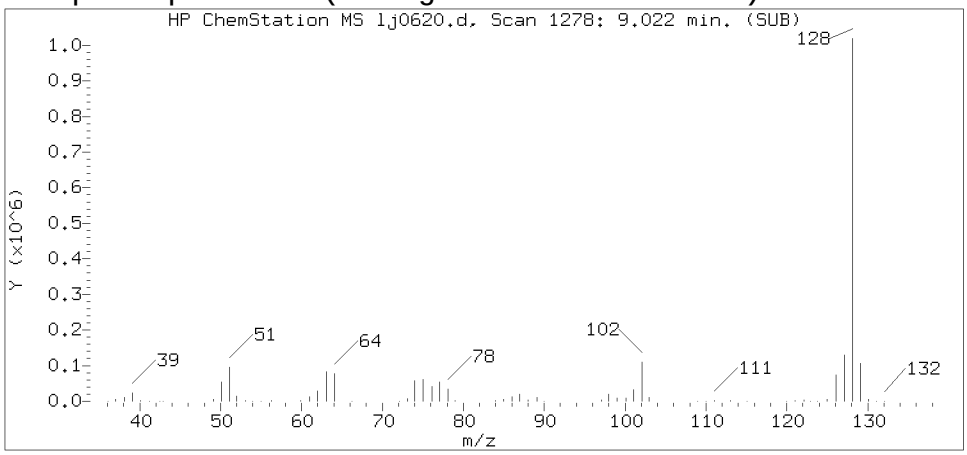
Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996

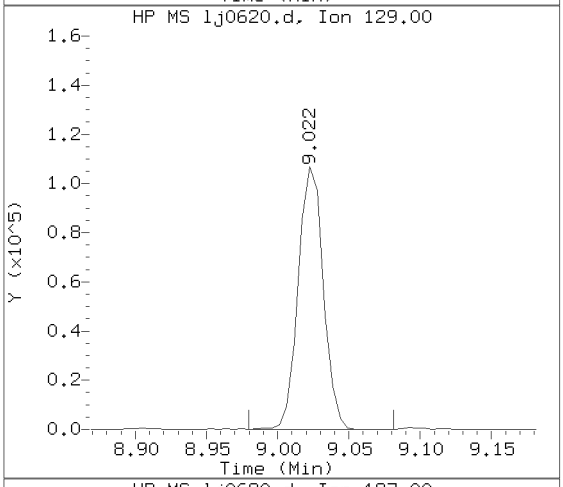
Reference Standard Spectrum for Naphthalene



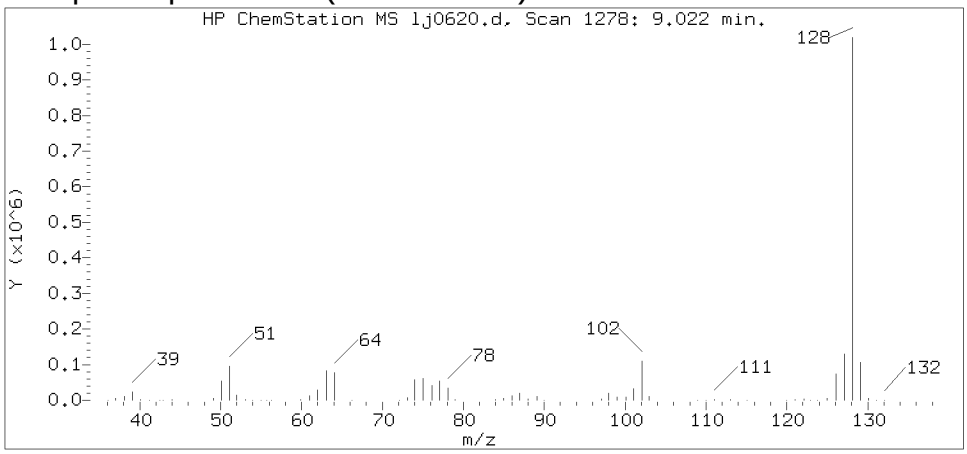


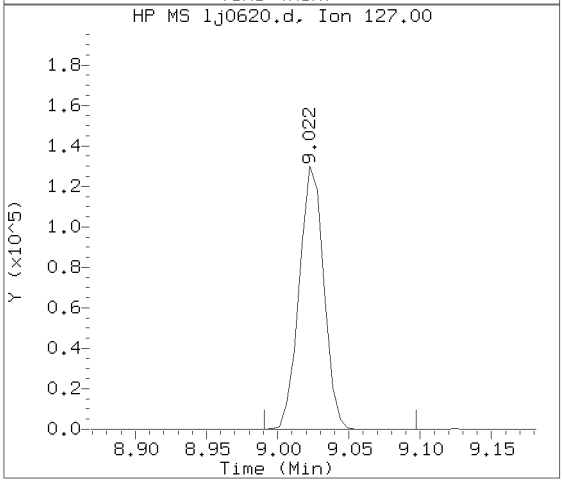
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0620.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:03 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2902DL2 Lab Sample ID: 8082124DL2

Compound Number	: 66
Compound Name	: Naphthalene
Scan Number	: 1278
Retention Time (minutes)	: 9.022
Relative Retention Time	:-0.00000
Quant Ion	: 128.00
Area (flag)	: 1187817
On-column Amount (ng/ul)	: 7.4052

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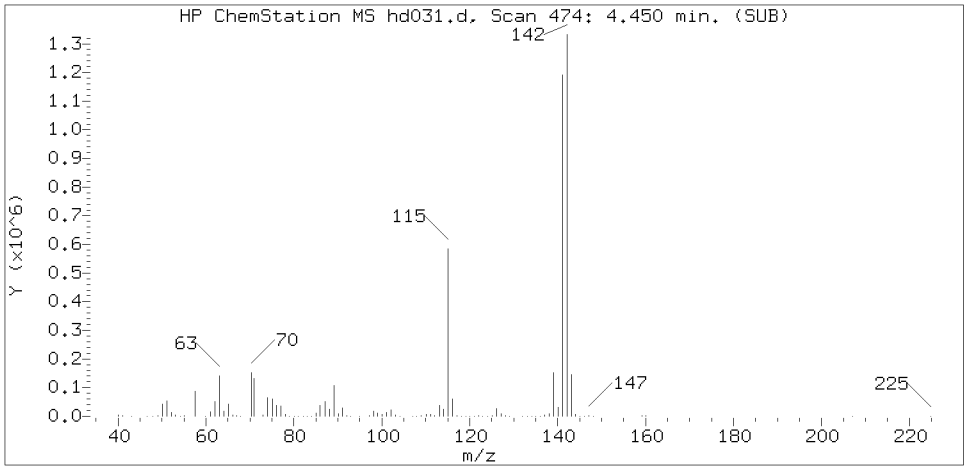
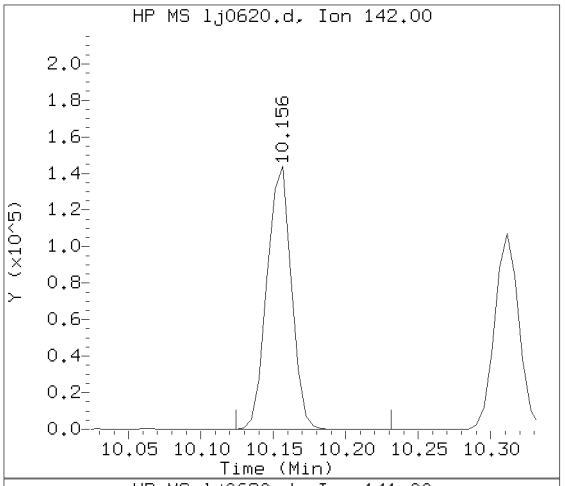
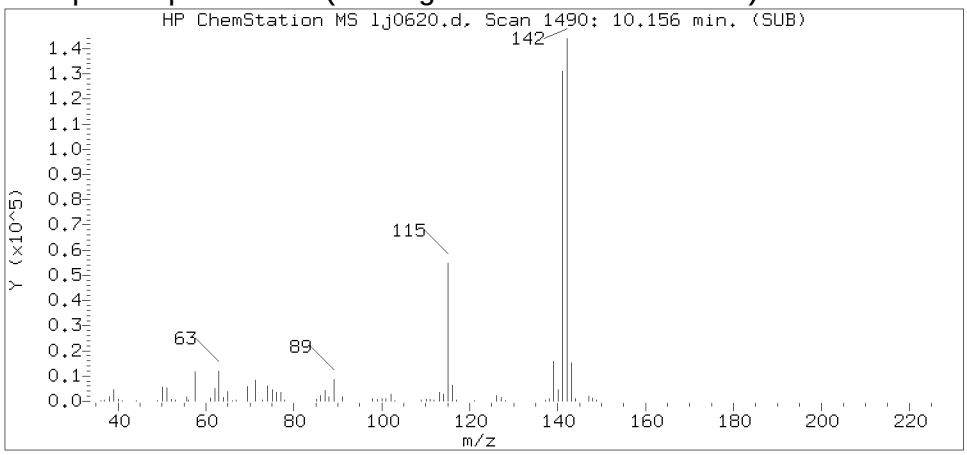
Target 3.5 esignature user ID: hbz01996

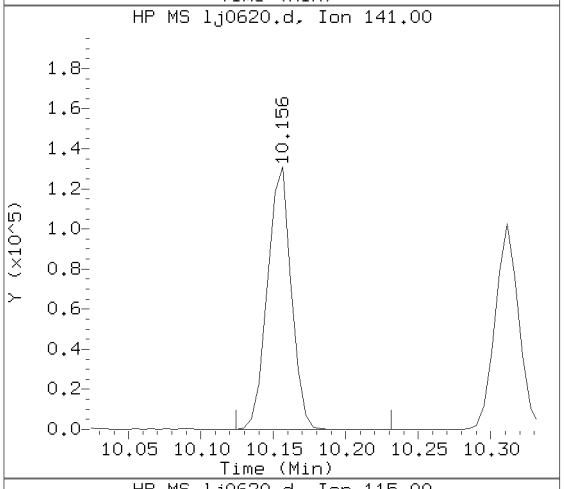
Reference Standard Spectrum for 2-Methylnaphthalene



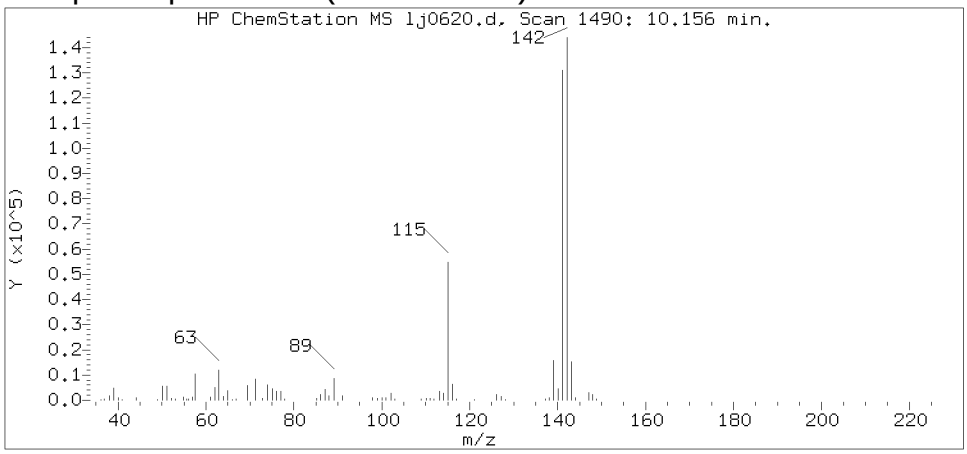


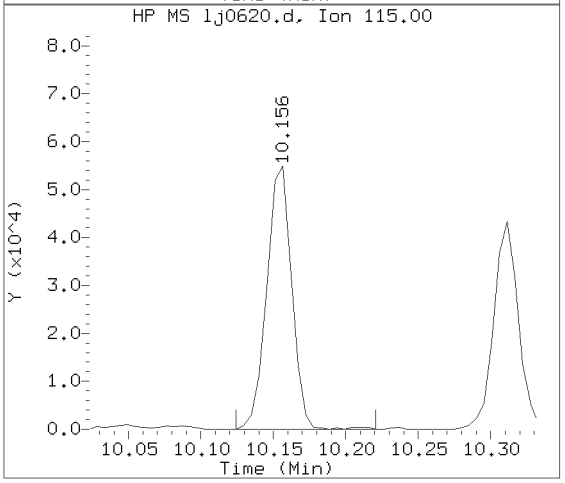
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0620.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:03 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2902DL2 Lab Sample ID: 8082124DL2

Compound Number : 83
Compound Name : 2-Methylnaphthalene
Scan Number : 1490
Retention Time (minutes) : 10.156
Relative Retention Time :-0.00067
Quant Ion : 142.00
Area (flag) : 166731
On-column Amount (ng/ul) : 1.5671

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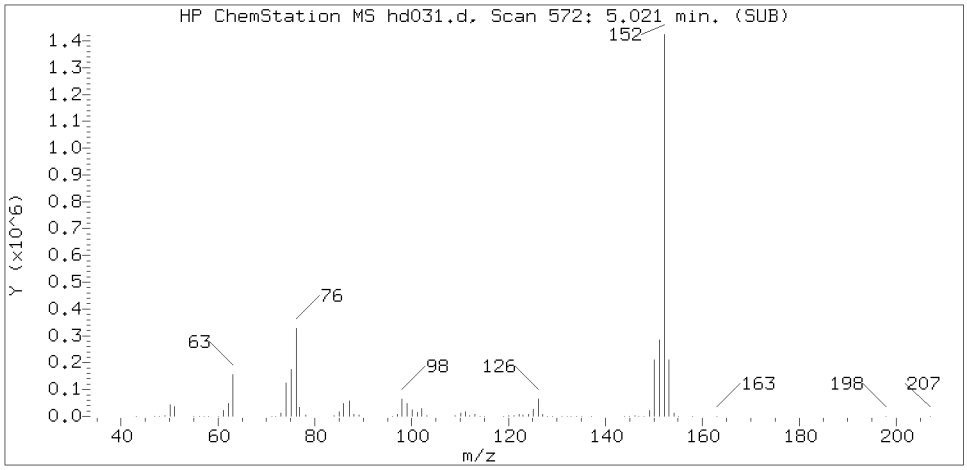
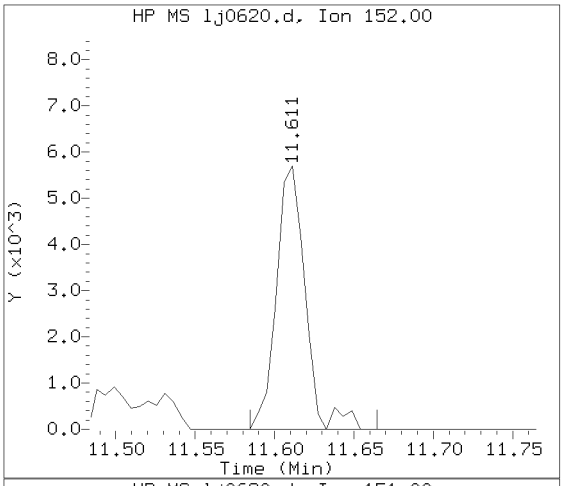
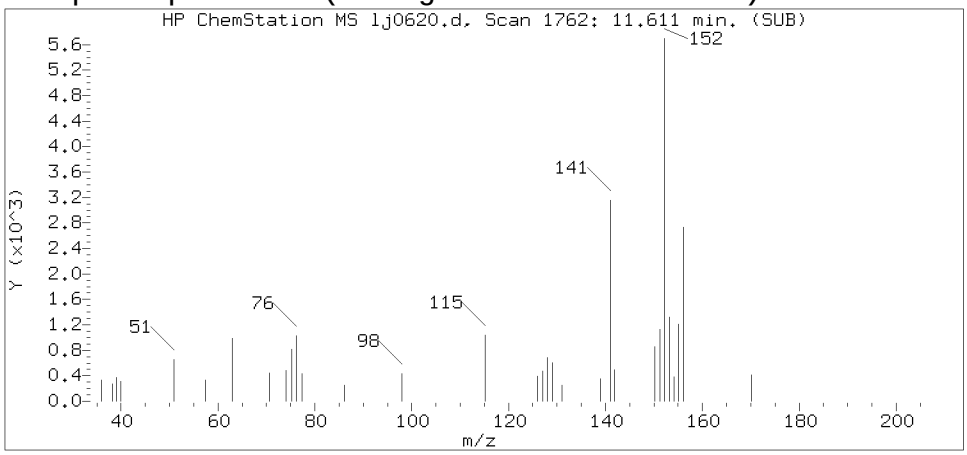
Target 3.5 esignature user ID: hbz01996

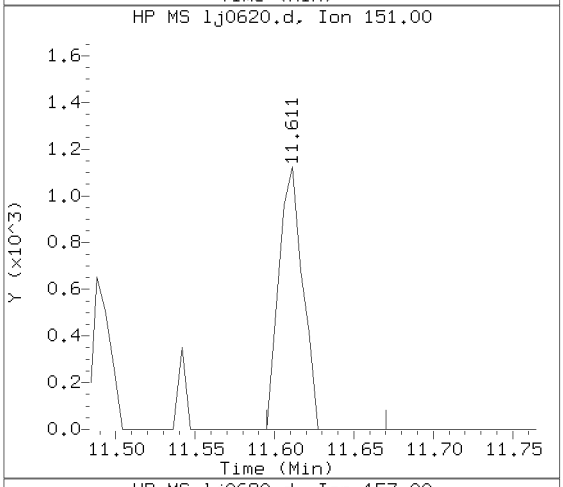
Reference Standard Spectrum for Acenaphthylene



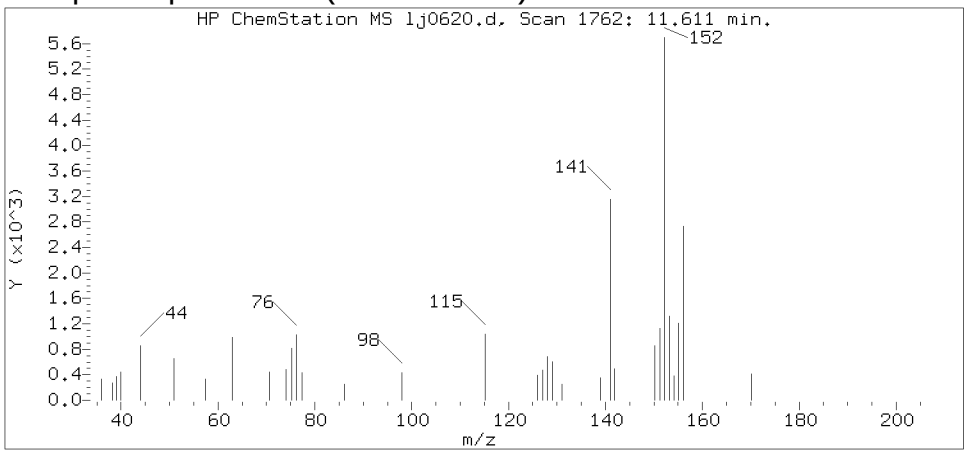


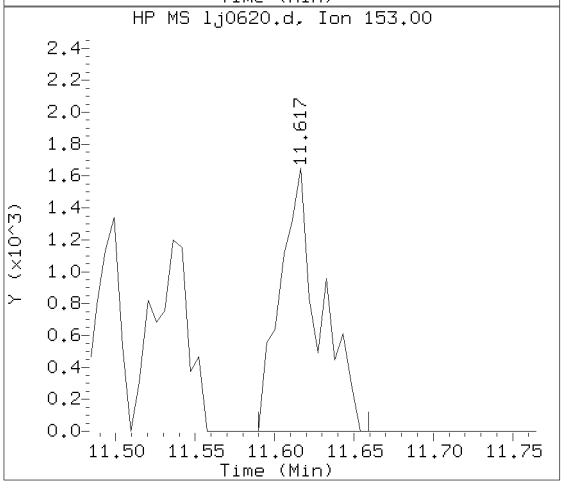
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0620.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:03 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2902DL2 Lab Sample ID: 8082124DL2

Compound Number	: 109
Compound Name	: Acenaphthylene
Scan Number	: 1762
Retention Time (minutes)	: 11.611
Relative Retention Time	: 0.00001
Quant Ion	: 152.00
Area (flag)	: 7223
On-column Amount (ng/ul)	: 0.0505

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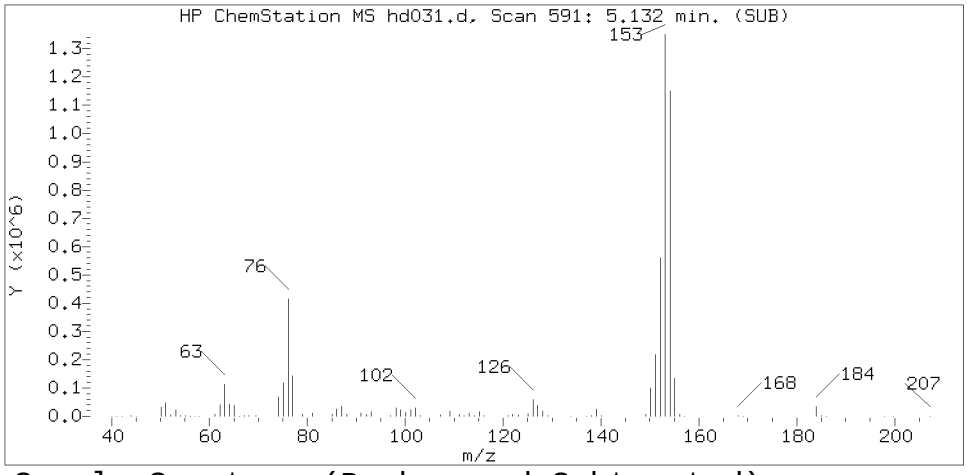
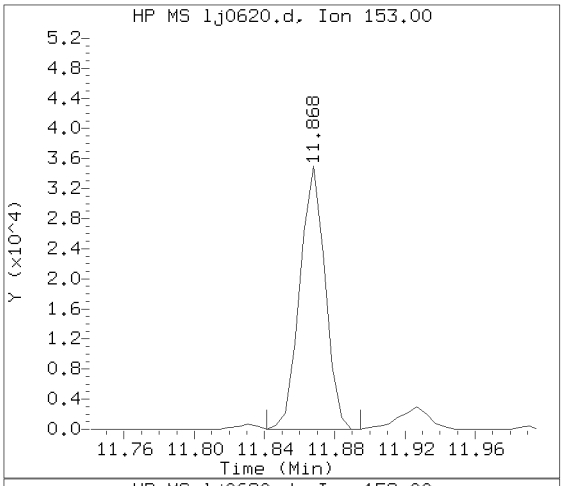
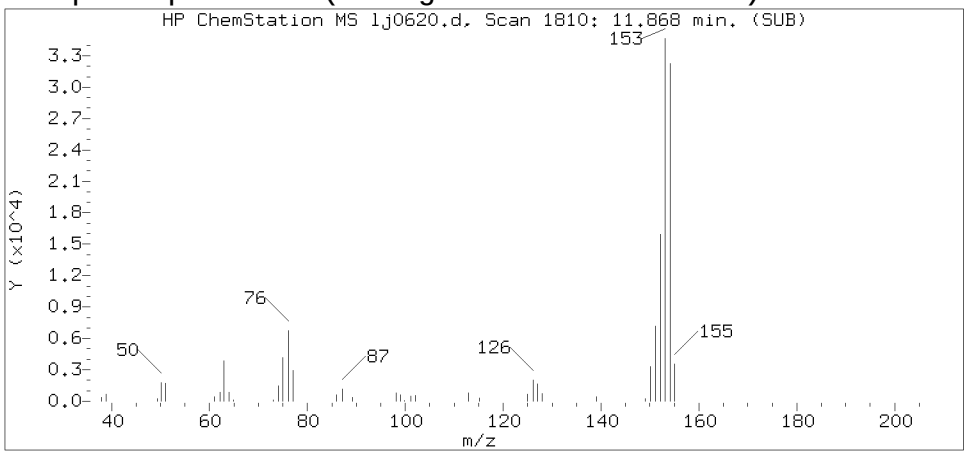
Target 3.5 esignature user ID: hbz01996

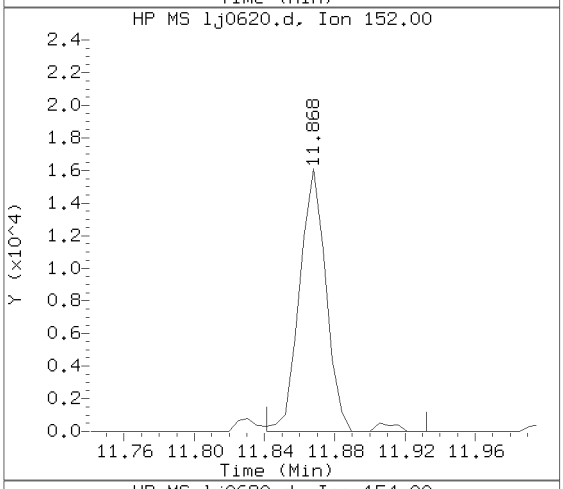
Reference Standard Spectrum for Acenaphthene



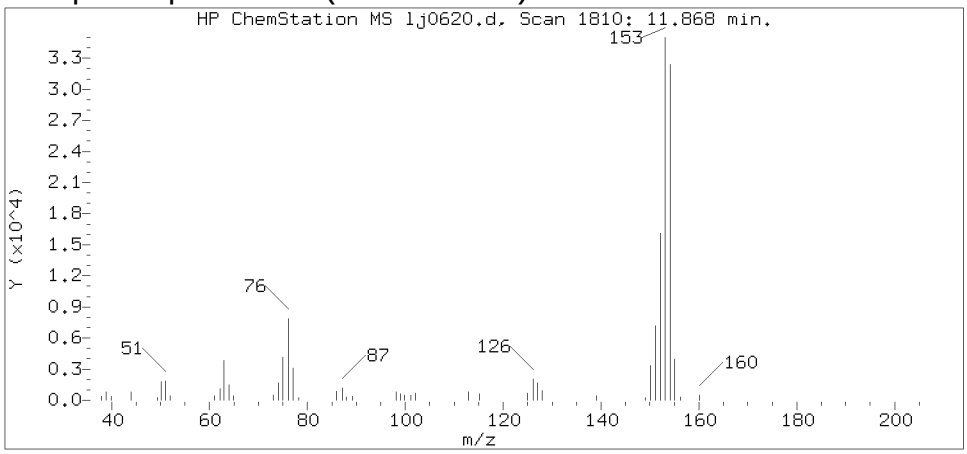


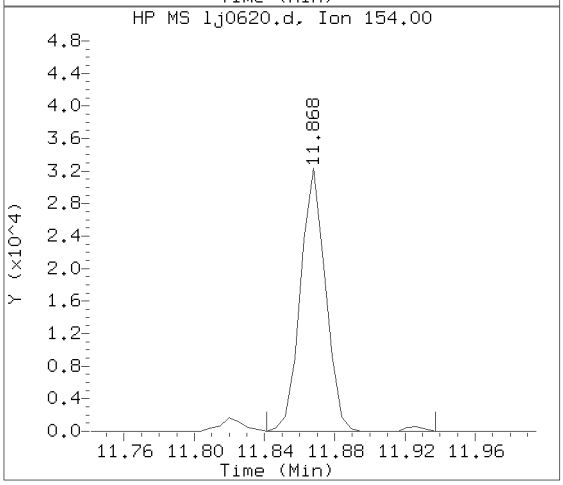
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0620.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:03 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2902DL2 Lab Sample ID: 8082124DL2

Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1810
Retention Time (minutes) : 11.868
Relative Retention Time :-0.00000
Quant Ion : 153.00
Area (flag) : 34846
On-column Amount (ng/ul) : 0.3655

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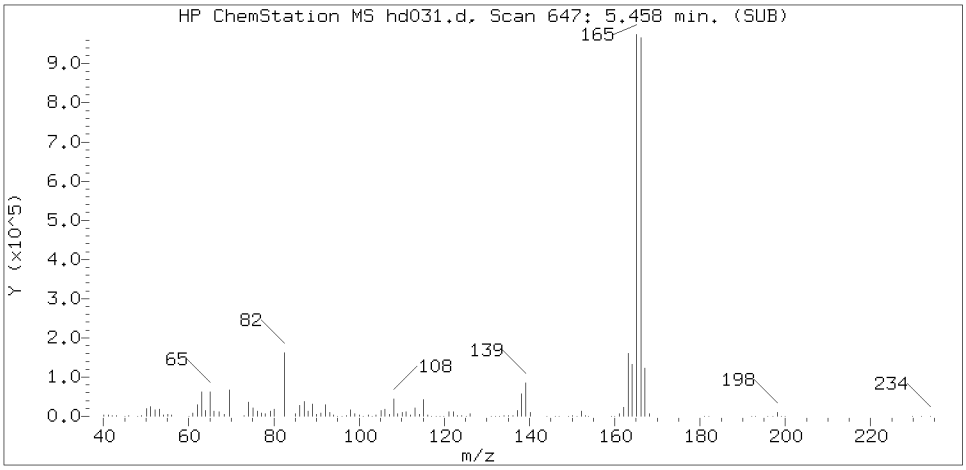
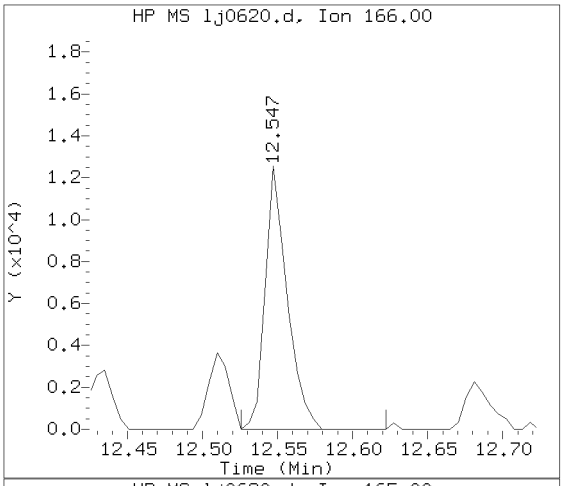
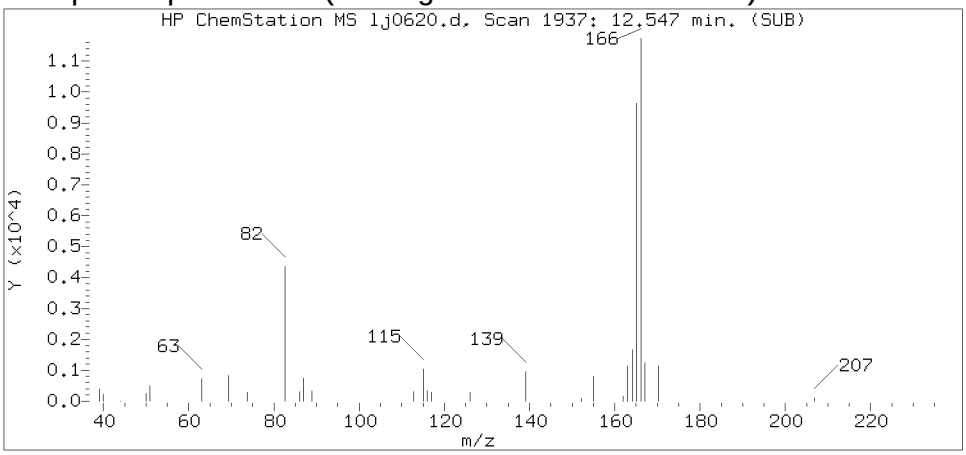
Target 3.5 esignature user ID: hbz01996

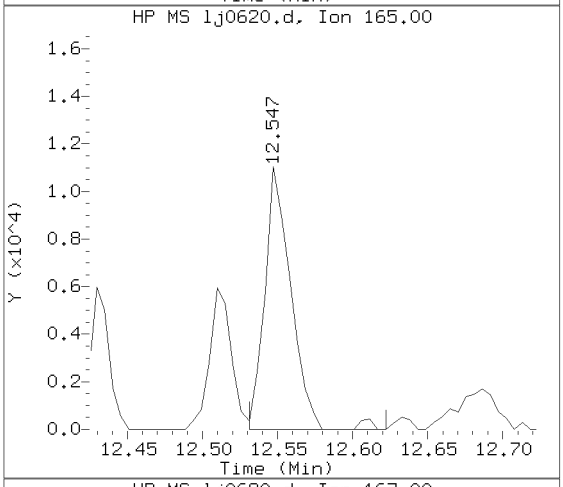
Reference Standard Spectrum for Fluorene



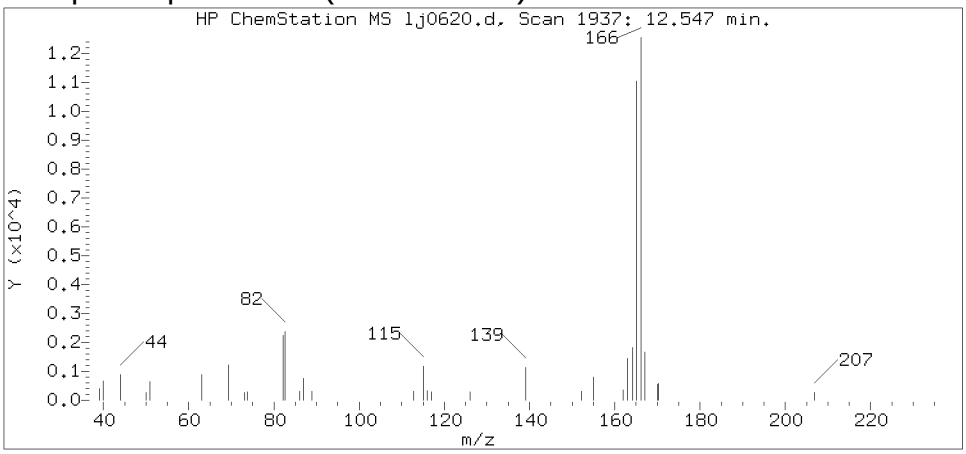


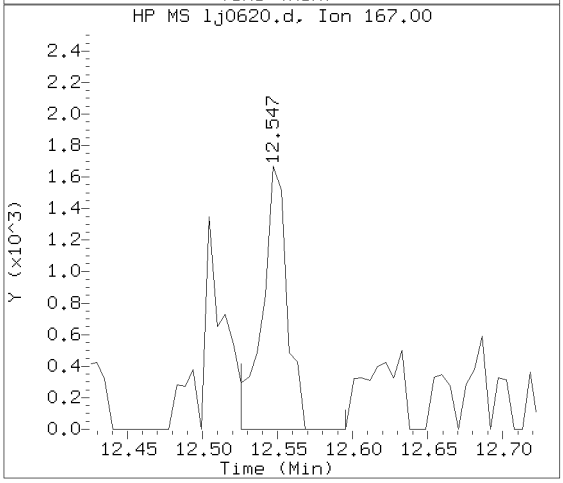
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0620.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:03 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2902DL2 Lab Sample ID: 8082124DL2

Compound Number : 126
Compound Name : Fluorene
Scan Number : 1937
Retention Time (minutes) : 12.547
Relative Retention Time :-0.00003
Quant Ion : 166.00
Area (flag) : 12846
On-column Amount (ng/ul) : 0.1260

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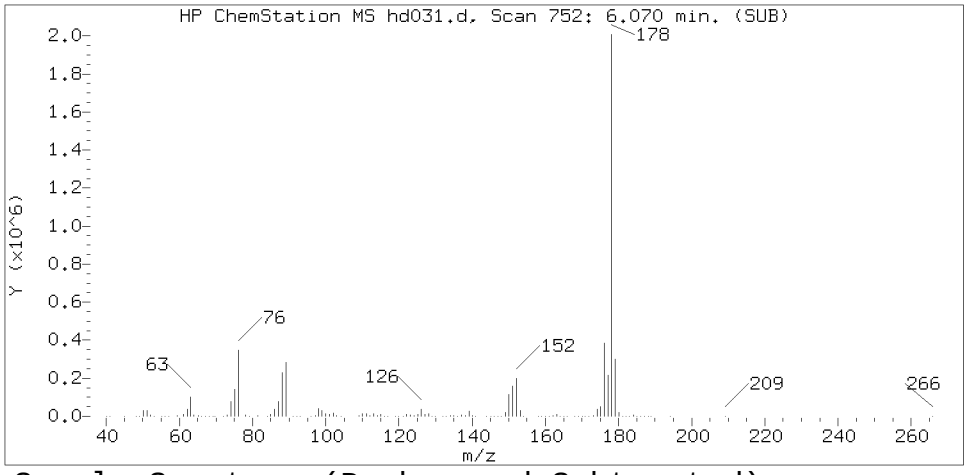
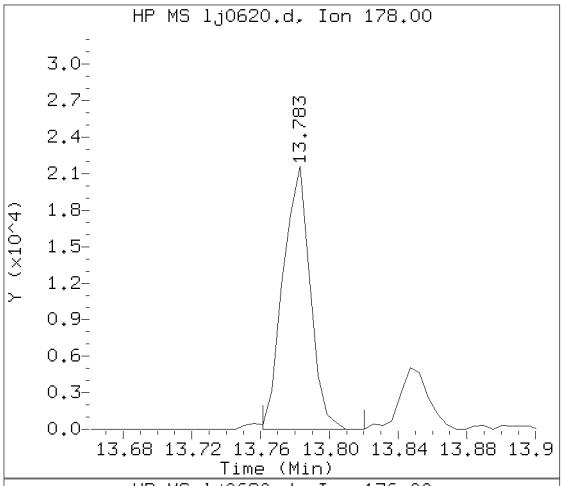
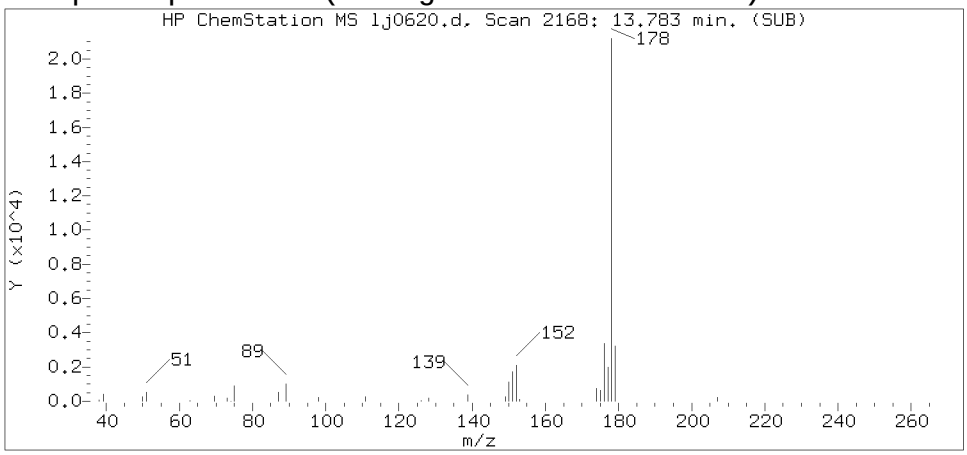
Target 3.5 esignature user ID: hbz01996

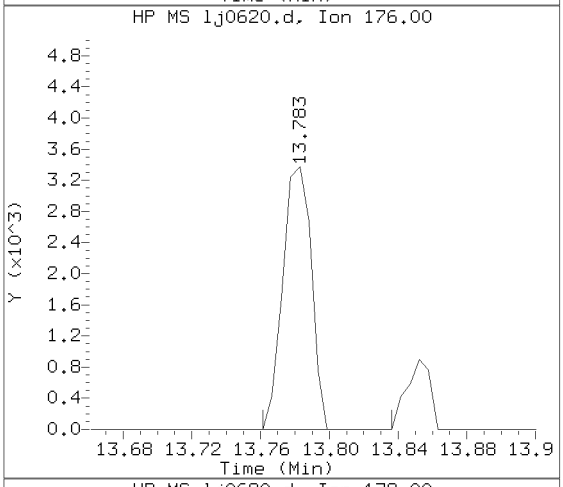
Reference Standard Spectrum for Phenanthrene



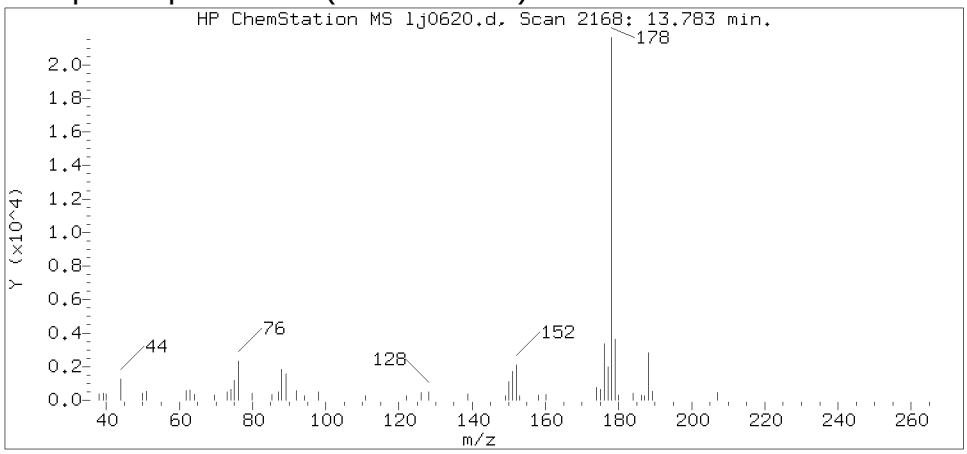


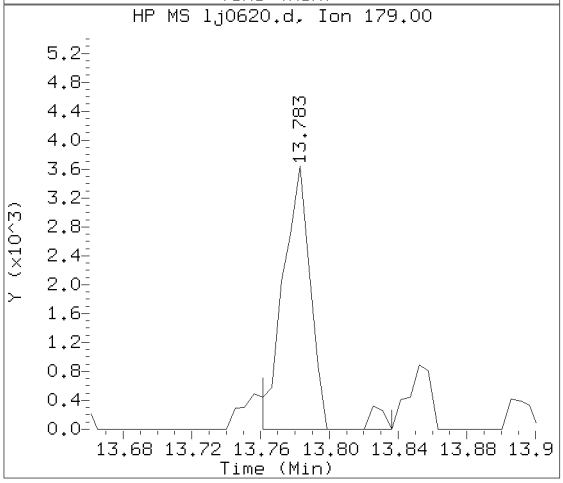
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0620.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:03 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2902DL2 Lab Sample ID: 8082124DL2

Compound Number : 155
Compound Name : Phenanthrene
Scan Number : 2168
Retention Time (minutes) : 13.783
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 23612
On-column Amount (ng/ul) : 0.1569

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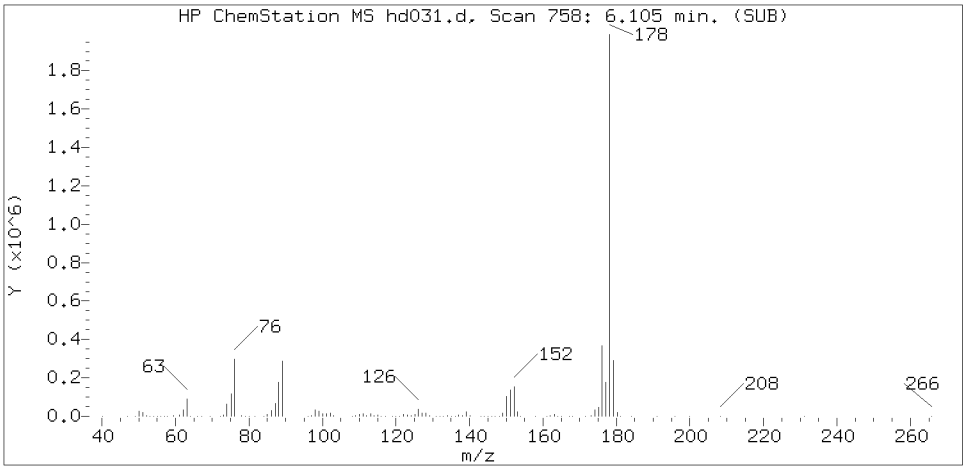
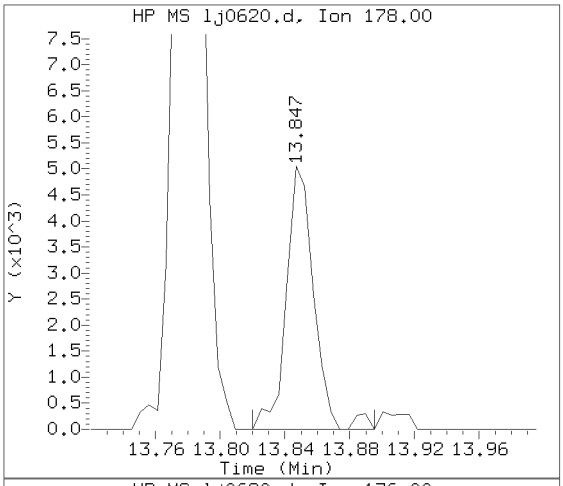
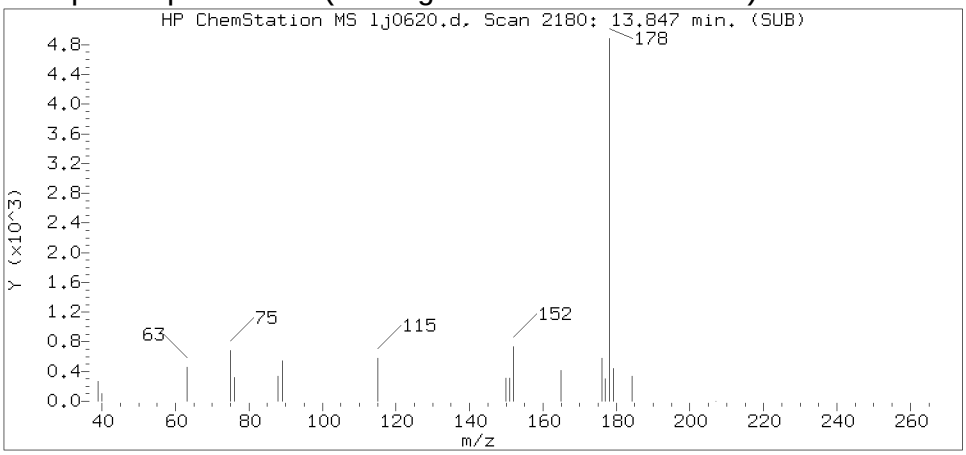
Target 3.5 esignature user ID: hbz01996

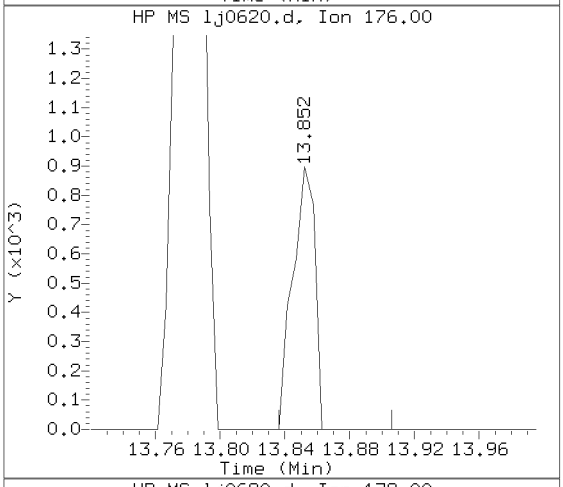
Reference Standard Spectrum for Anthracene



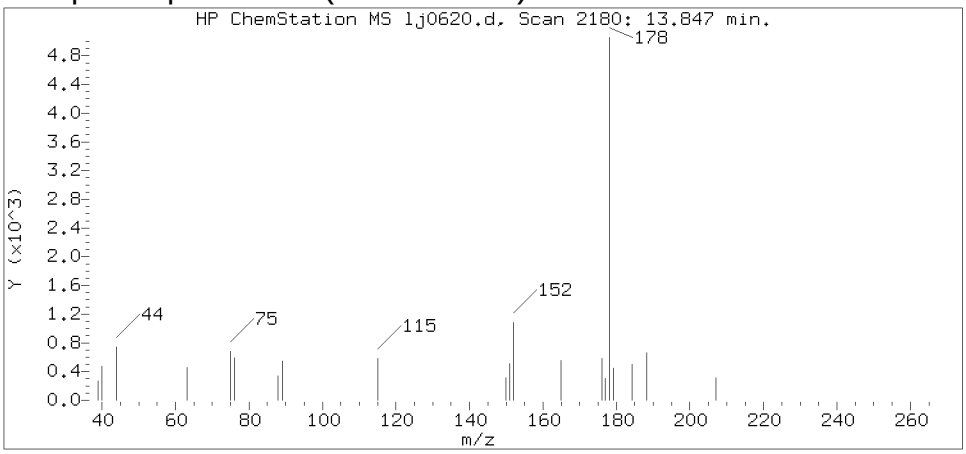


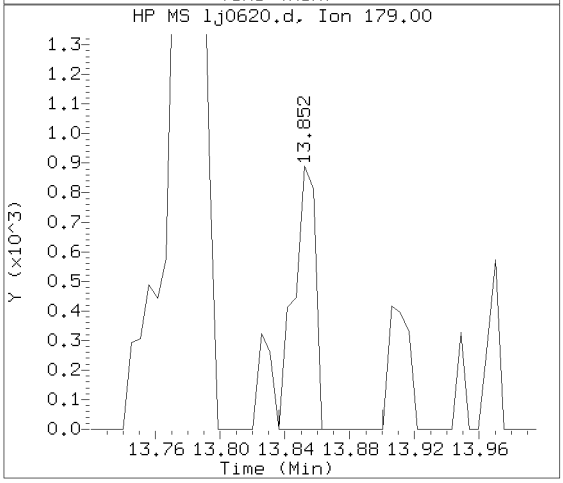
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0620.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:03 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2902DL2 Lab Sample ID: 8082124DL2

Compound Number	: 157
Compound Name	: Anthracene
Scan Number	: 2180
Retention Time (minutes)	: 13.847
Relative Retention Time	: 0.00038
Quant Ion	: 178.00
Area (flag)	: 6008
On-column Amount (ng/ul)	: 0.0402

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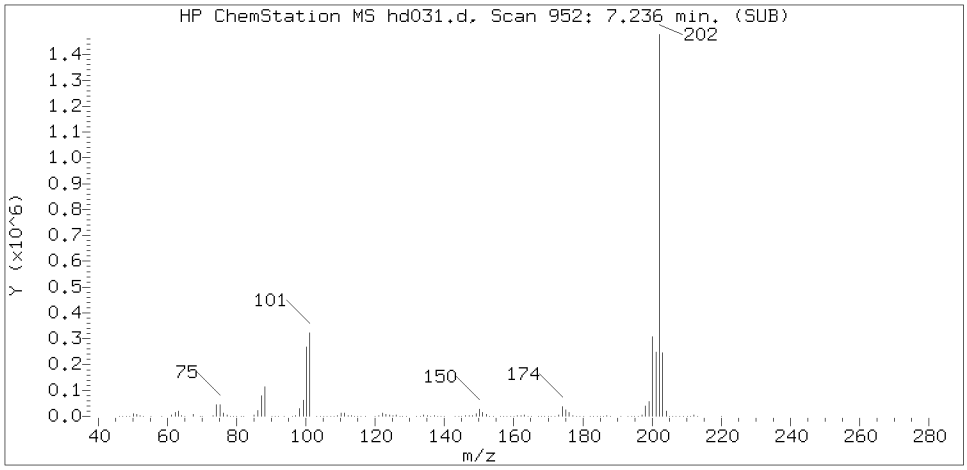
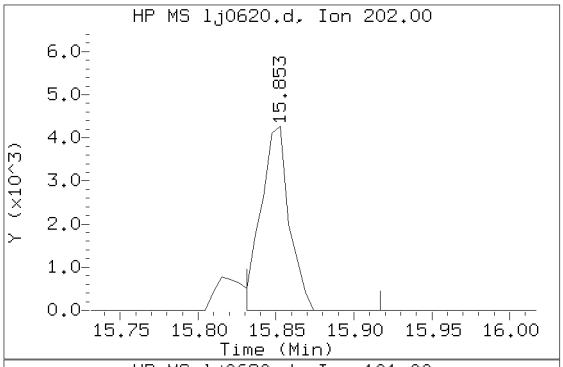
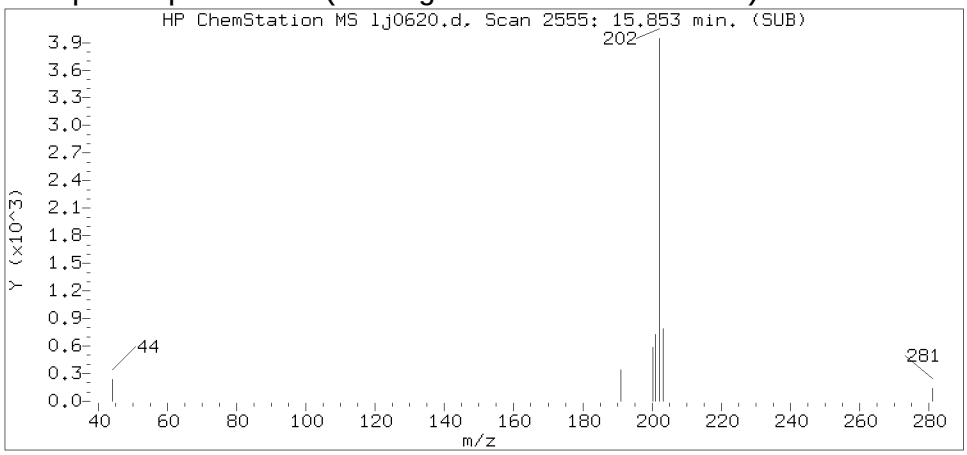
Target 3.5 esignature user ID: hbz01996

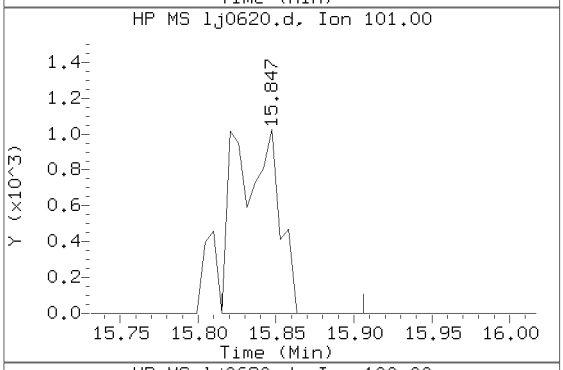
Reference Standard Spectrum for Pyrene

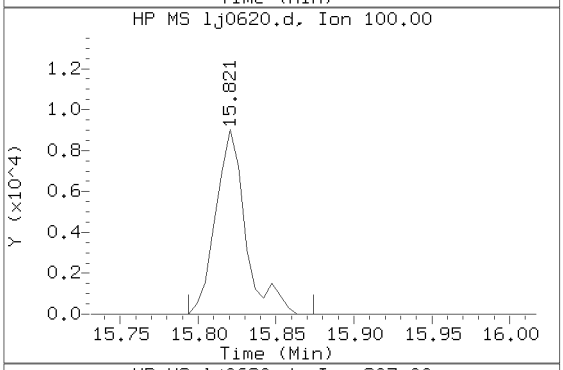




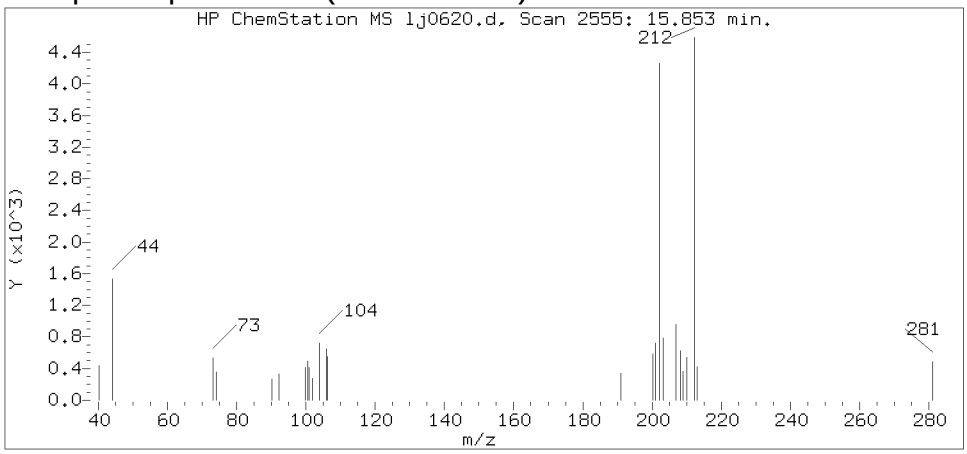
Sample Spectrum (Background Subtracted)

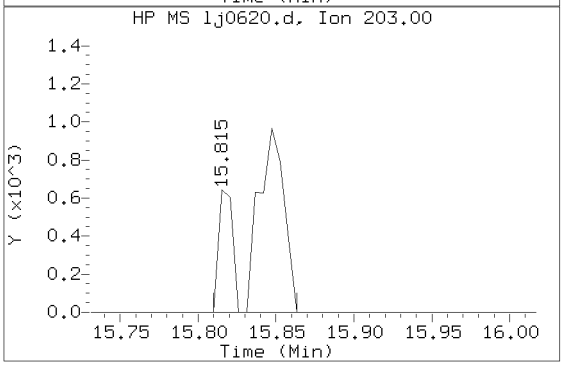






Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct17.b/lj0620.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:03 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 19-Oct-2015 09:21 hbz01996

Sample Name: P2902DL2 Lab Sample ID: 8082124DL2

Compound Number : 177
Compound Name : Pyrene
Scan Number : 2555
Retention Time (minutes) : 15.853
Relative Retention Time :-0.00034
Quant Ion : 202.00
Area (flag) : 5339
On-column Amount (ng/ul) : 0.0312

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:29.
Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct22.b/lj0739.d Injection date and time: **22-OCT-2015 13:08**
Data file Sample Info. Line: P2902RE;8082124RE;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15293WAE**
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Blank Data file reference: **/chem/HP20296.i/15oct22.b/lj0732.d**

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 22-OCT-2015 13:51
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct22.b/lj0731.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 242 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.936(0.000)	888	152	131681 (-16)	5.00	
65) Naphthalene-d8	8.931(-0.005)	1261	136	503763 (-17)	5.00	
113) Acenaphthene-d10	11.761(0.000)	1790	164	303975 (-15)	5.00	
153) Phenanthrene-d10	13.686(0.000)	2150	188	585770 (-13)	5.00	
175) Pyrene-d10	15.746(0.000)	2535	212	708021 (-14)	5.00	
213) Perylene-d12	20.345(0.000)	3395	264	601195 (-11)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.797(0.001)	82	1018424	21.841	87%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.712(0.000)	172	1791324	21.256	85%		61 - 112
179) Terphenyl-d14	(5)	16.061(0.000)	244	1535439	15.260	61%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	8.990(-0.002)	128	22812928	211.600	874.38		E	0.03
83) 2-Methylnaphthalene	(2)	10.103(-0.001)	142	7598434	104.920	433.55		E	0.03
109) Acenaphthylene	(3)	11.547(0.000)	152	576388	5.207	21.52			0.03
114) Acenaphthene	(3)	11.814(-0.000)	153	2682210	35.599	147.10		E	0.03
126) Fluorene	(3)	12.494(0.000)	166	1092806	13.636	56.35			0.03
155) Phenanthrene	(4)	13.724(-0.000)	178	1954055	15.867	65.57			0.03
157) Anthracene	(4)	13.788(-0.000)	178	470057	3.826	15.81			0.03
173) Fluoranthene	(4)	15.419(-0.000)	202	363789	2.559	10.58			0.03
177) Pyrene	(5)	15.772(0.000)	202	489437	3.259	13.47			0.03
195) Benzo(a)anthracene	(5)	17.826(0.000)	228	138541	0.972	4.02			0.03
196) Chrysene	(5)	17.890(0.000)	228	123252	0.930	3.85			0.03
206) Benzo(b)fluoranthene	(6)	19.714(0.000)	252	80718	0.546	2.26			0.03
208) Benzo(k)fluoranthene	(6)	19.757(0.000)	252	27424	0.195	0.81			0.03
211) Benzo(a)pyrene	(6)	20.249(0.000)	252	90943	0.666	2.75			0.03
219) Indeno(1,2,3-cd)pyrene	(6)	21.982(0.000)	276	40761	0.257	1.06			0.03
220) Dibenz(a,h)anthracene	(6)	22.019(0.000)	278	11670	0.090	0.37			0.03
221) Benzo(g,h,i)perylene	(6)	22.404(0.000)	276	41203	0.303	1.25			0.03

E = Compound concentration above calibration range.

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct22.b/lj0739.d Injection date and time: **22-OCT-2015 13:08**
Data file Sample Info. Line: P2902RE;8082124RE;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15293WAE**
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Blank Data file reference: **/chem/HP20296.i/15oct22.b/lj0732.d**

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 22-OCT-2015 13:51
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct22.b/lj0731.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 242 ml Volume Injected (Vi): 1 ul

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

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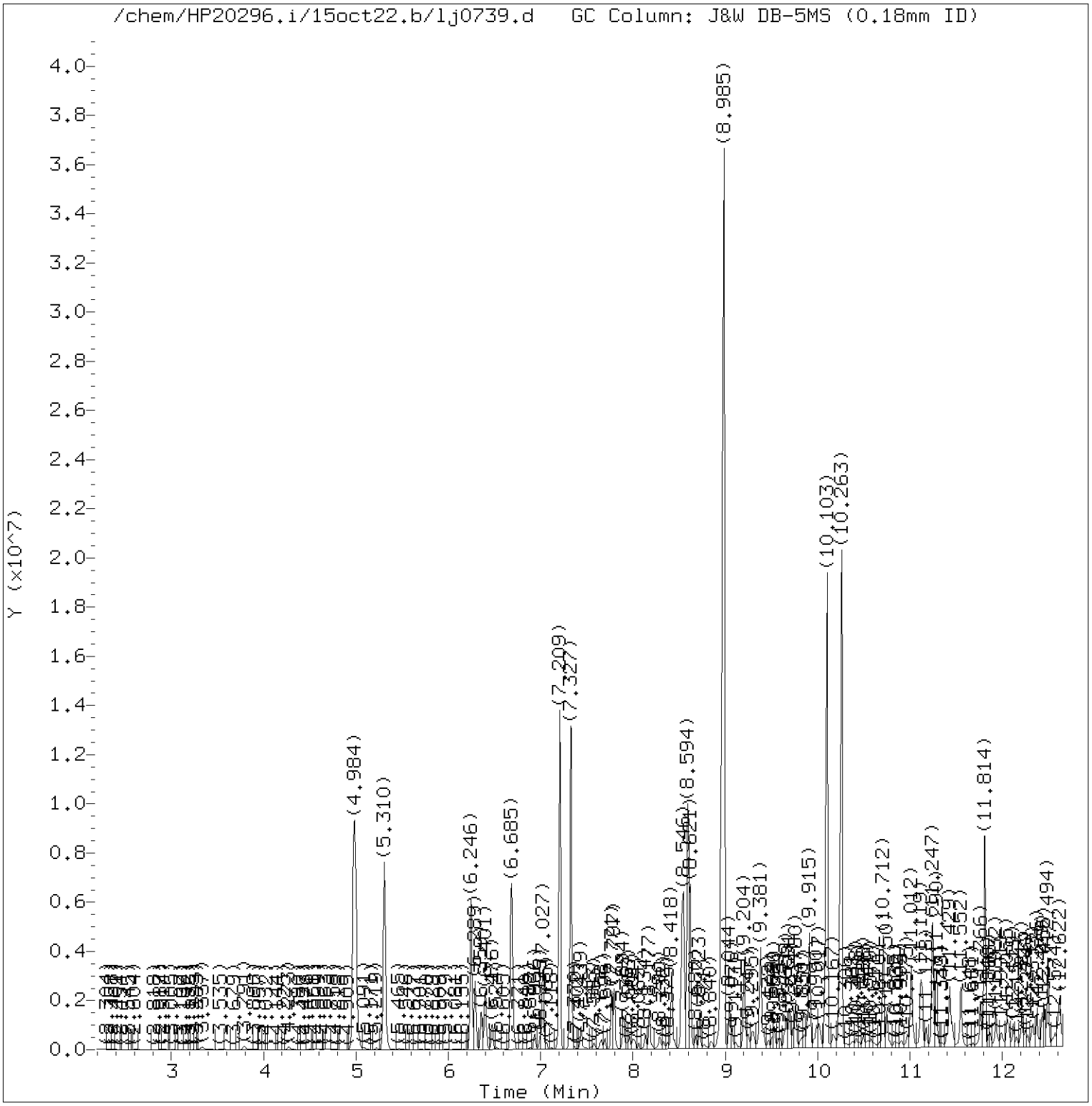
Secondary review performed and digitally signed by Beth A. Rubino on 10/25/2015 at 13:49. Parallax ID: bar06484



Total Ion Chromatogram (TIC)

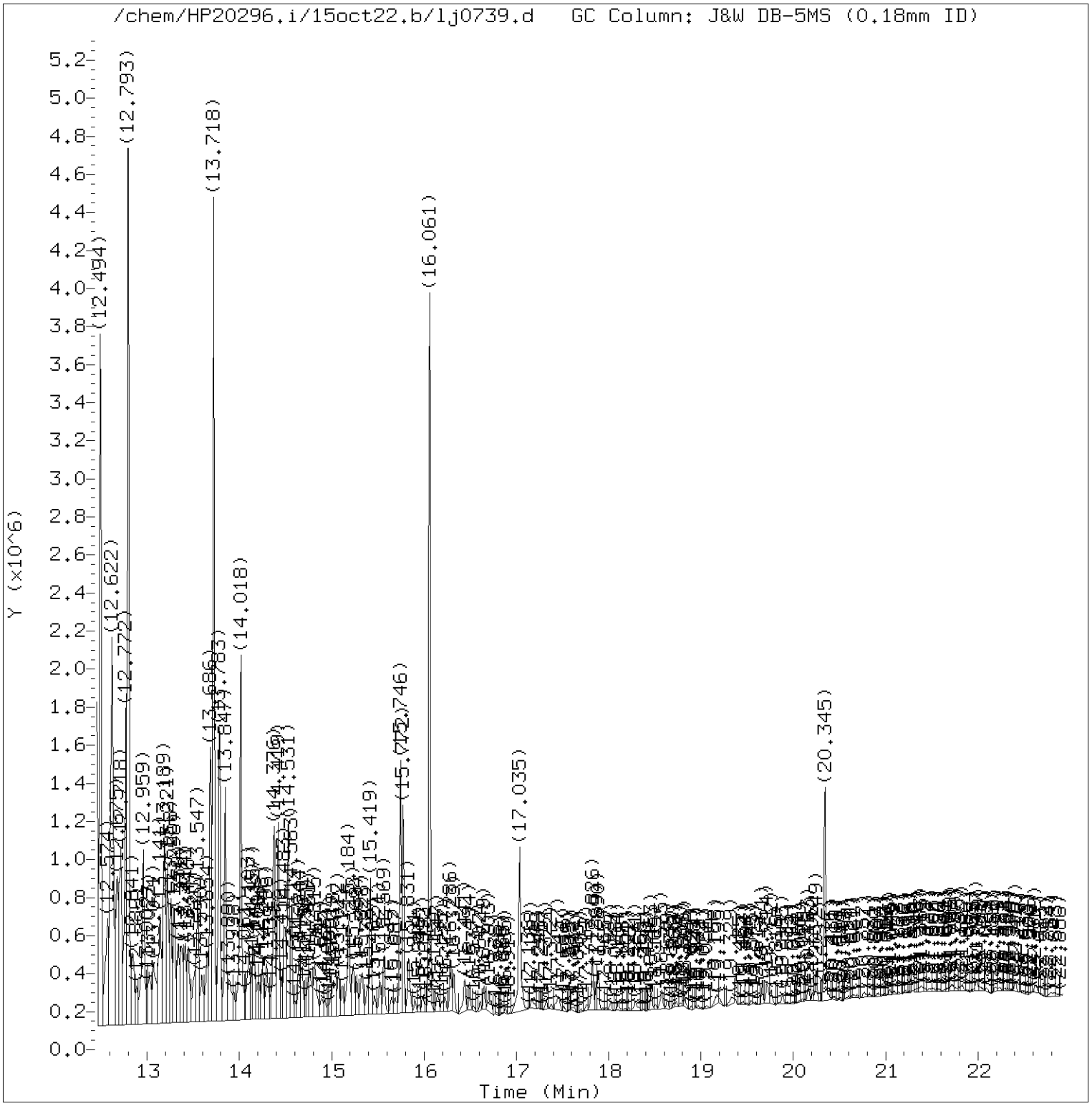
Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Digitally signed by Holly Berry
on 10/22/2015 at 13:57.
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Digitally signed by Holly Berry
on 10/22/2015 at 13:57.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.936	152	131681	5.000
44)$Nitrobenzene-d5	(2)	7.797	82	1018424	21.841
65)*Naphthalene-d8	(2)	8.931	136	503763	5.000
66) Naphthalene	(2)	8.990	128	22812928	211.600
83) 2-Methylnaphthalene	(2)	10.103	142	7598434	104.920
93)$2-Fluorobiphenyl	(3)	10.712	172	1791324	21.256
109) Acenaphthylene	(3)	11.547	152	576388	5.207
113)*Acenaphthene-d10	(3)	11.761	164	303975	5.000
114) Acenaphthene	(3)	11.814	153	2682210	35.599
126) Fluorene	(3)	12.494	166	1092806	13.636
153)*Phenanthrene-d10	(4)	13.686	188	585770	5.000
155) Phenanthrene	(4)	13.724	178	1954055	15.867
157) Anthracene	(4)	13.788	178	470057	3.826
173) Fluoranthene	(4)	15.419	202	363789	2.559
175)*Pyrene-d10	(5)	15.746	212	708021	5.000
177) Pyrene	(5)	15.772	202	489437	3.259
179)$Terphenyl-d14	(5)	16.061	244	1535439	15.260
195) Benzo(a)anthracene	(5)	17.826	228	138541	0.972
196) Chrysene	(5)	17.890	228	123252	0.930
206) Benzo(b)fluoranthene	(6)	19.714	252	80718	0.546
208) Benzo(k)fluoranthene	(6)	19.757	252	27424	0.195
211) Benzo(a)pyrene	(6)	20.249	252	90943	0.666
213)*Perylene-d12	(6)	20.345	264	601195	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	21.982	276	40761	0.257
220) Dibenz(a,h)anthracene	(6)	22.019	278	11670	0.090
221) Benzo(g,h,i)perylene	(6)	22.405	276	41203	0.303

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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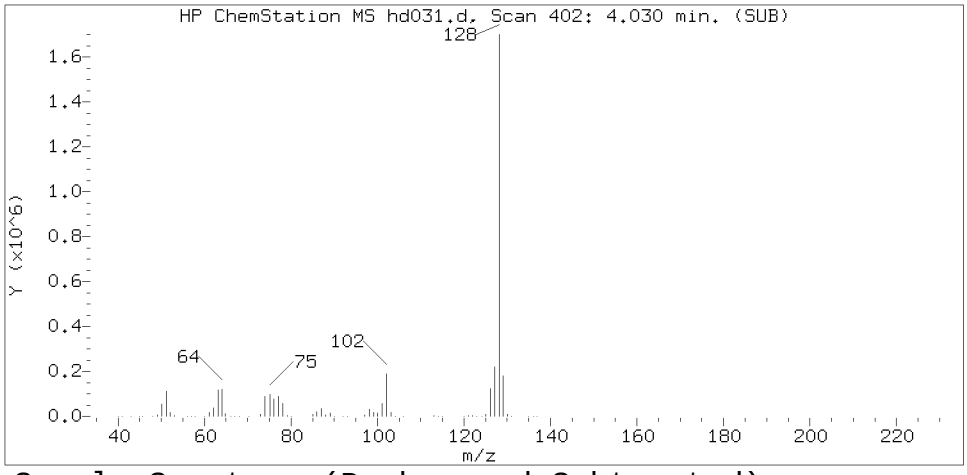
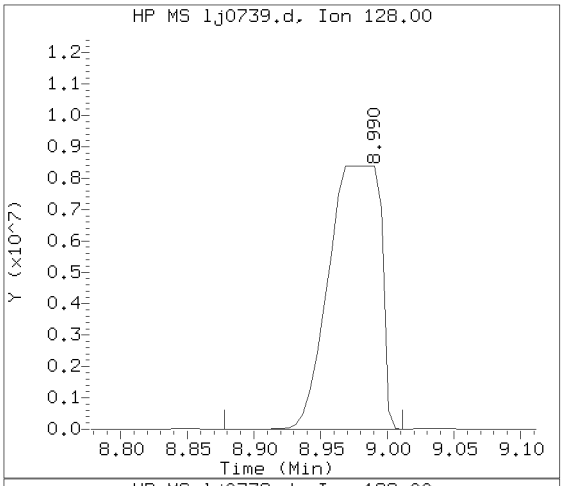
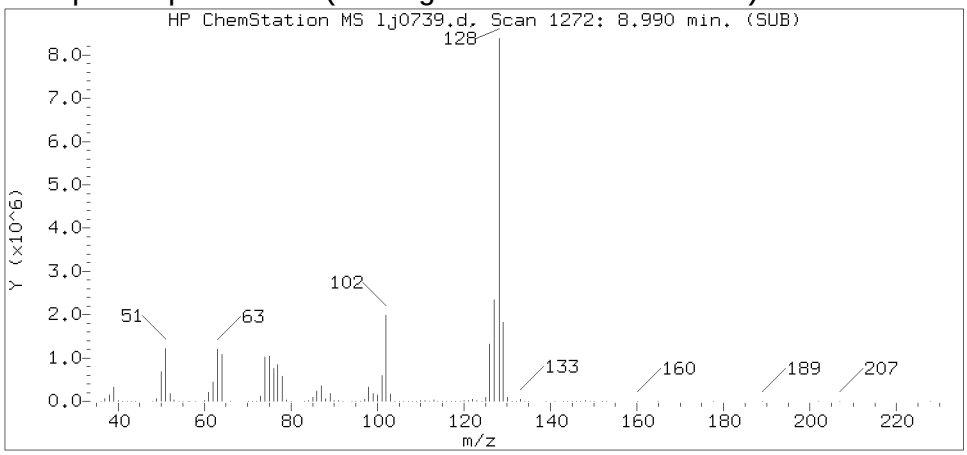
Target 3.5 esignature user ID: hb01996

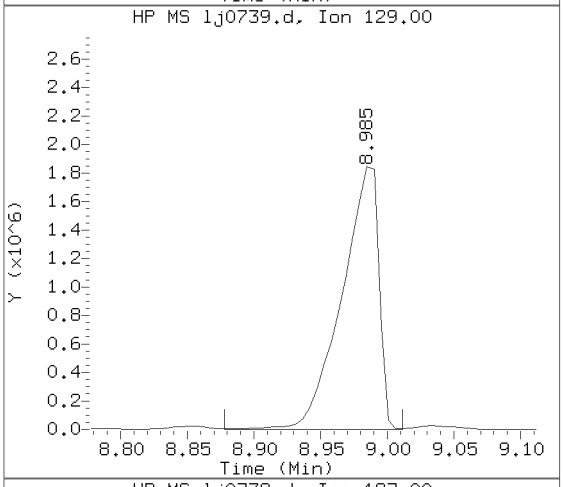
Reference Standard Spectrum for Naphthalene



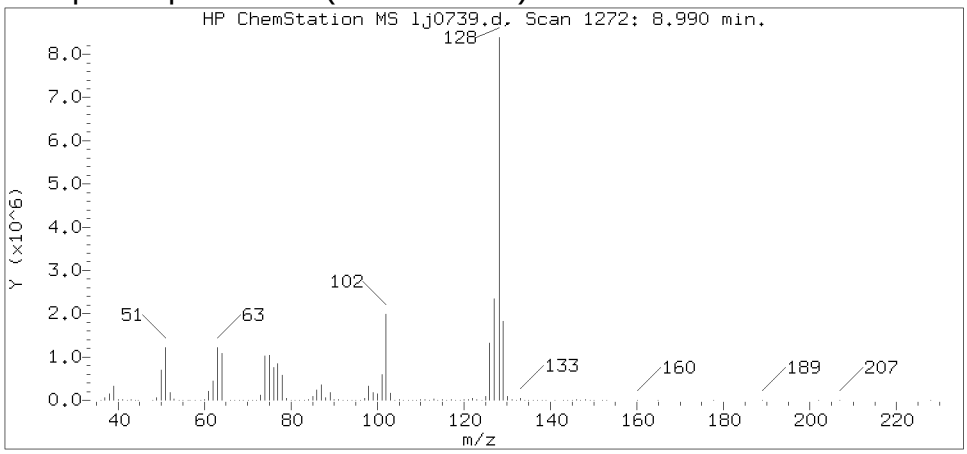


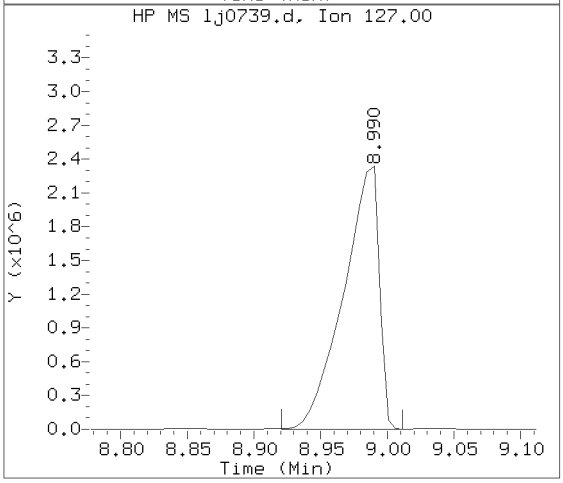
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number : 66
Compound Name : Naphthalene
Scan Number : 1272
Retention Time (minutes) : 8.990
Relative Retention Time :-0.00299
Quant Ion : 128.00
Area (flag) : 22812928
On-column Amount (ng/ul) : 211.6000

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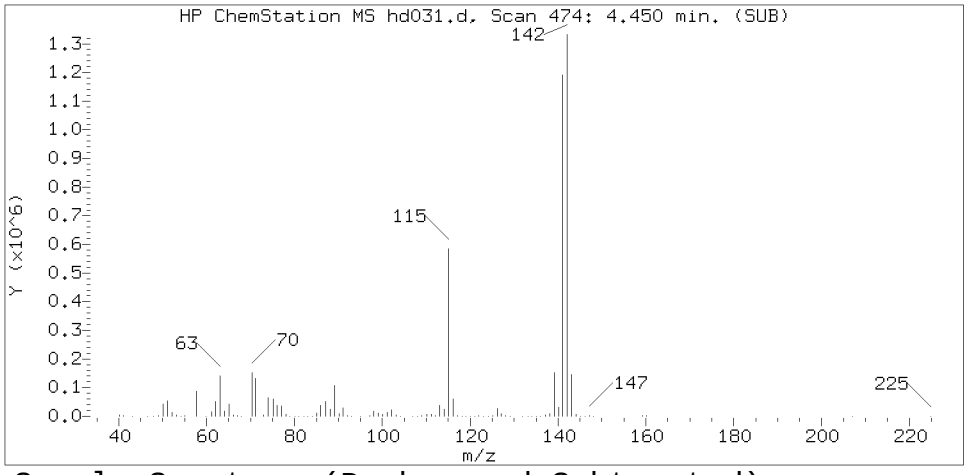
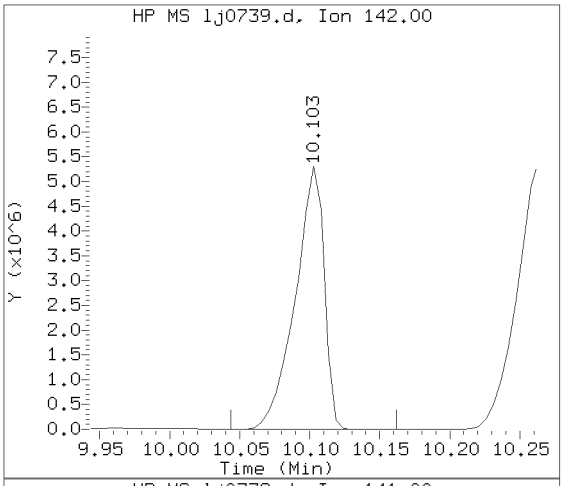
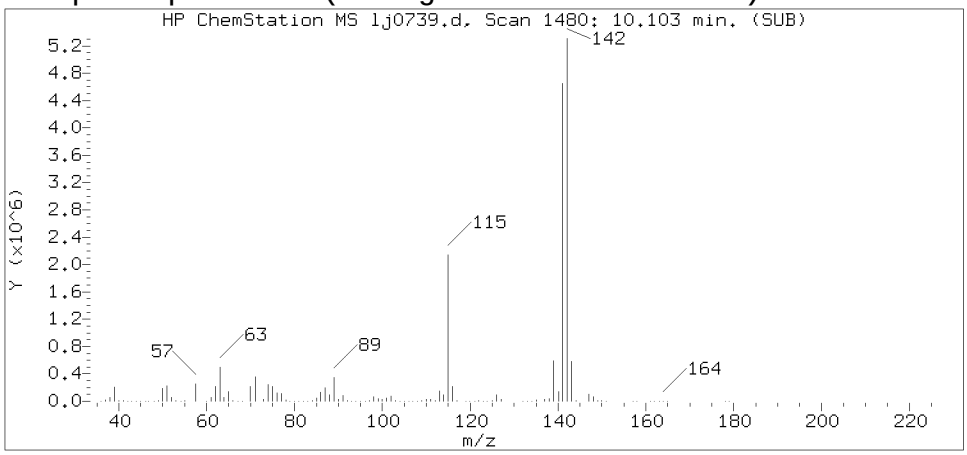
Target 3.5 esignature user ID: hb01996

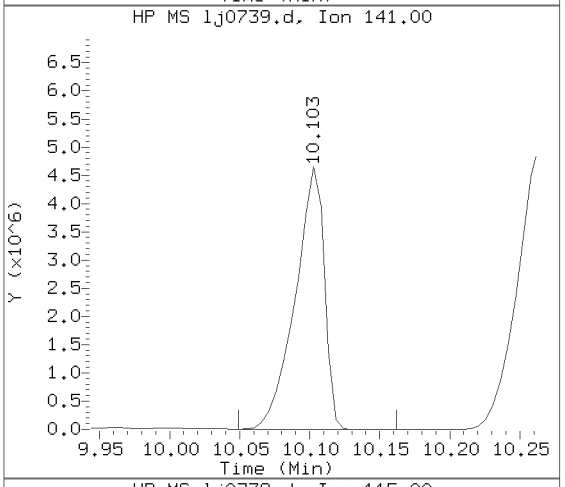
Reference Standard Spectrum for 2-Methylnaphthalene



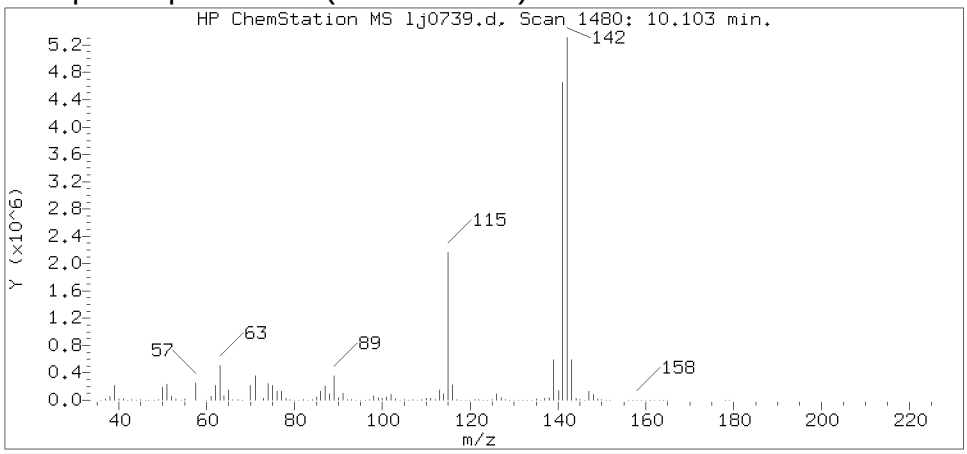


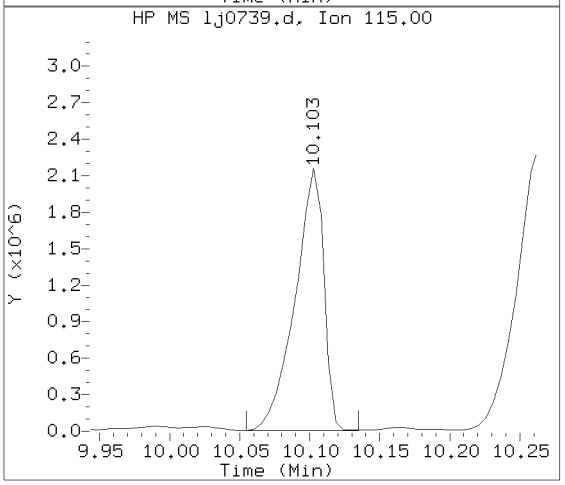
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number : 83
Compound Name : 2-Methylnaphthalene
Scan Number : 1480
Retention Time (minutes) : 10.103
Relative Retention Time :-0.00112
Quant Ion : 142.00
Area (flag) : 7598434
On-column Amount (ng/ul) : 104.9199

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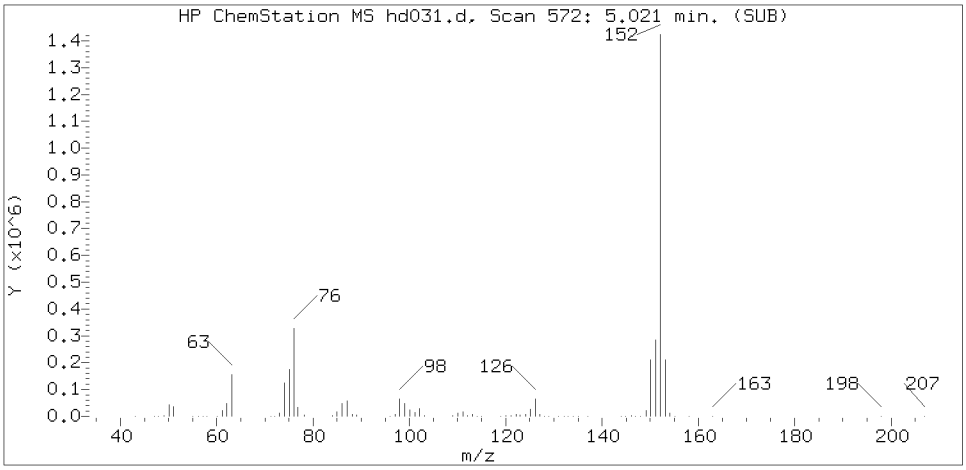
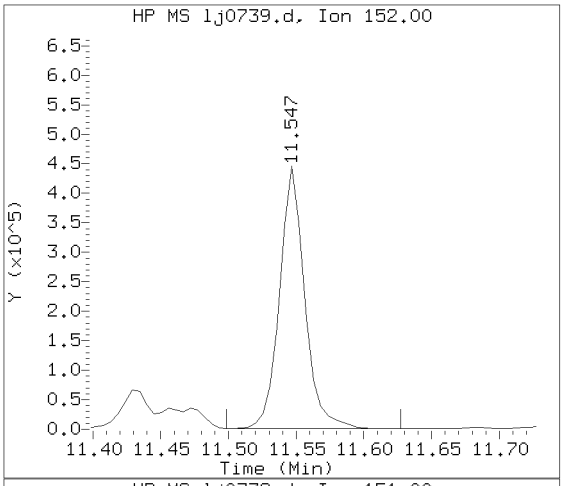
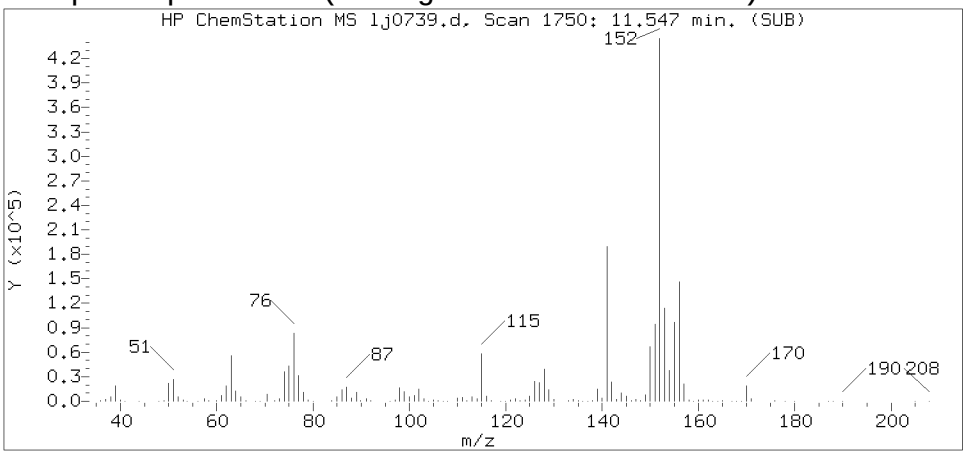
Target 3.5 esignature user ID: hb01996

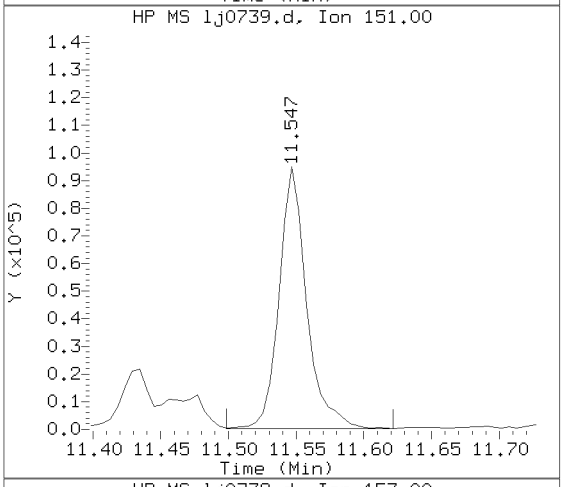
Reference Standard Spectrum for Acenaphthylene



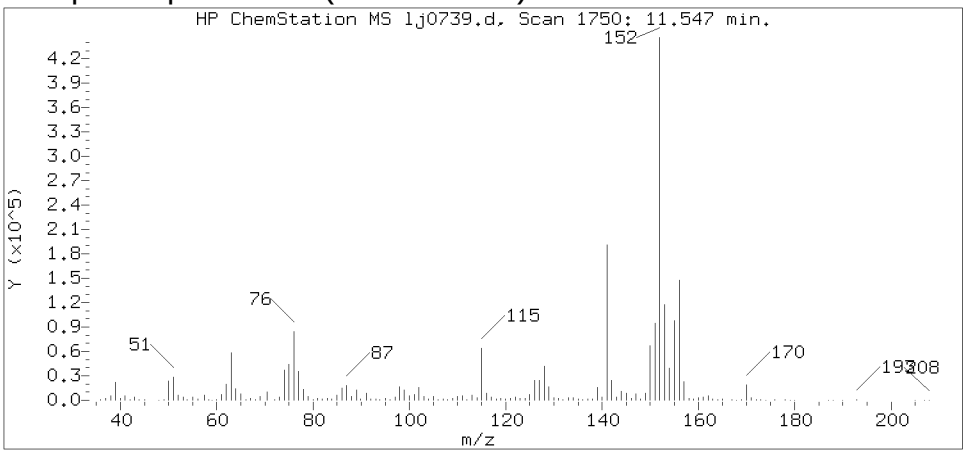


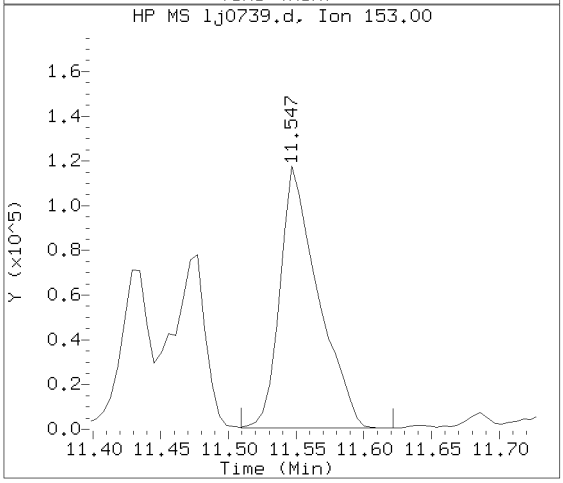
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

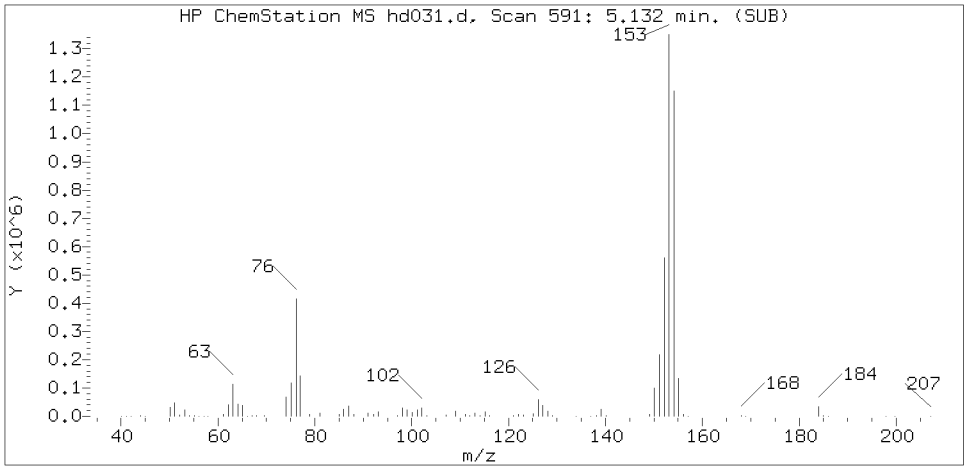
Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

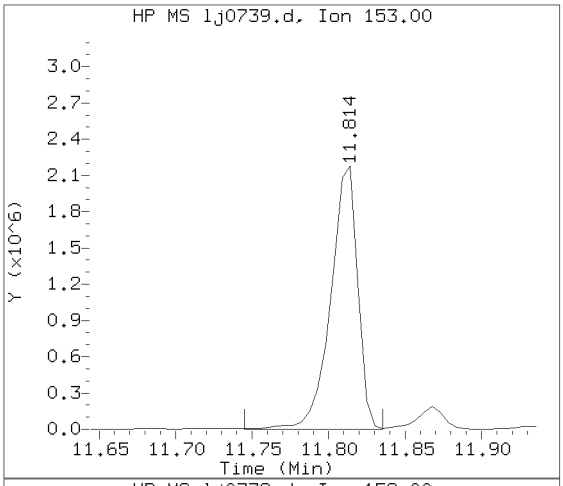
Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number : 109
Compound Name : Acenaphthylene
Scan Number : 1750
Retention Time (minutes) : 11.547
Relative Retention Time : 0.00000
Quant Ion : 152.00
Area (flag) : 576388
On-column Amount (ng/ul) : 5.2073

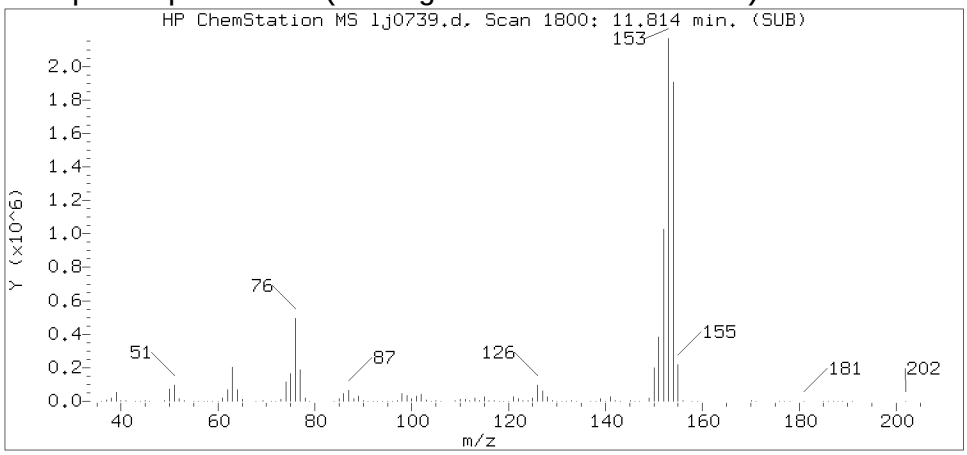
Digitally signed by Holly Berry on 10/22/2015 at 13:57.
Target 3.5 esignature user ID: hb01996

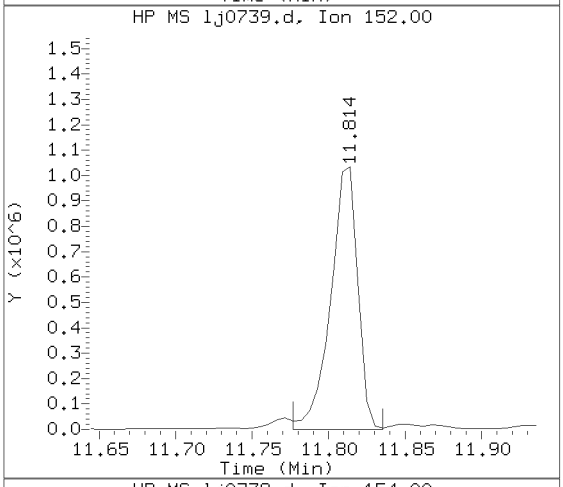
Reference Standard Spectrum for Acenaphthene



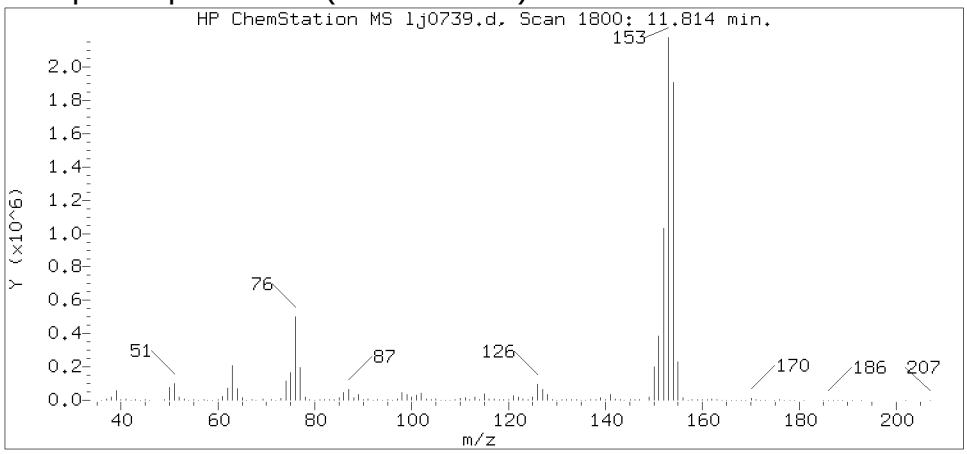


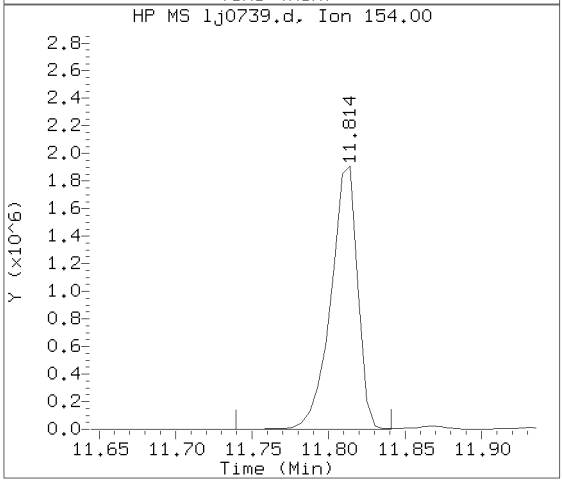
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

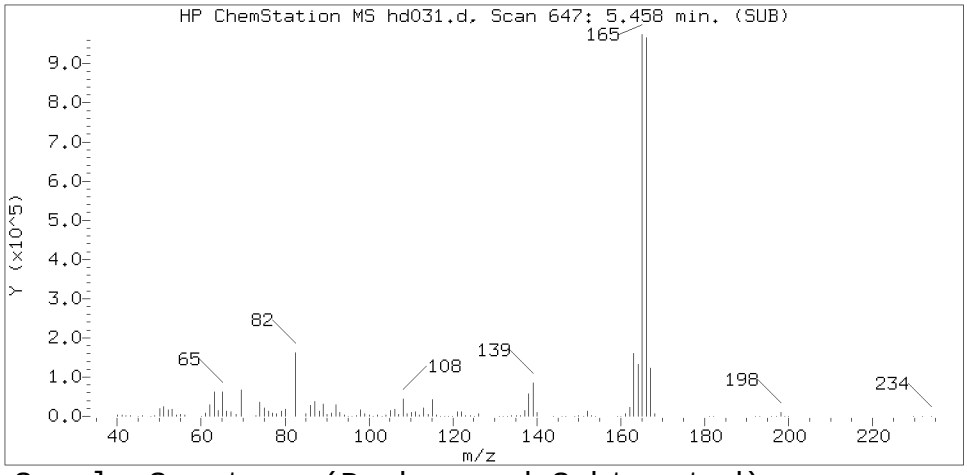
Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

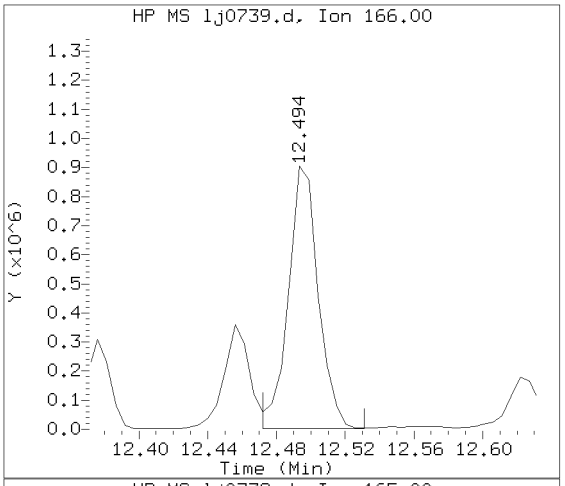
Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1800
Retention Time (minutes) : 11.814
Relative Retention Time :-0.00045
Quant Ion : 153.00
Area (flag) : 2682210
On-column Amount (ng/ul) : 35.5992

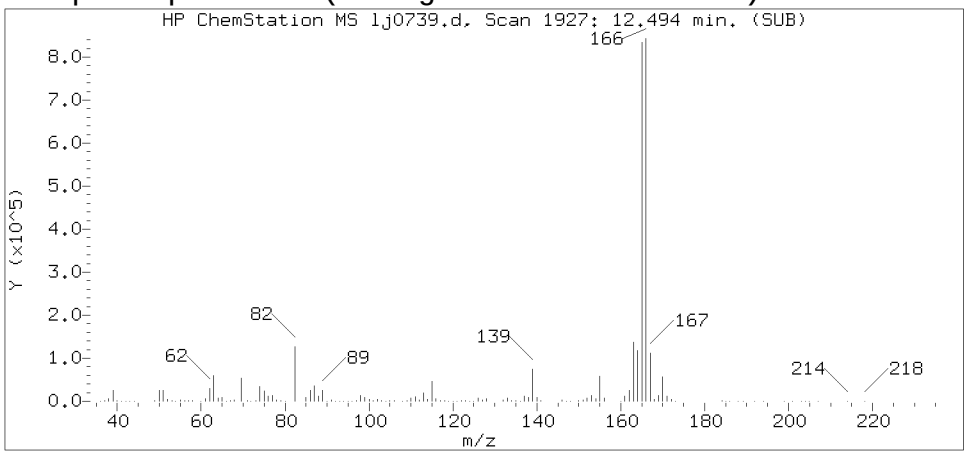
Digitally signed by Holly Berry on 10/22/2015 at 13:57.
Target 3.5 esignature user ID: hb01996

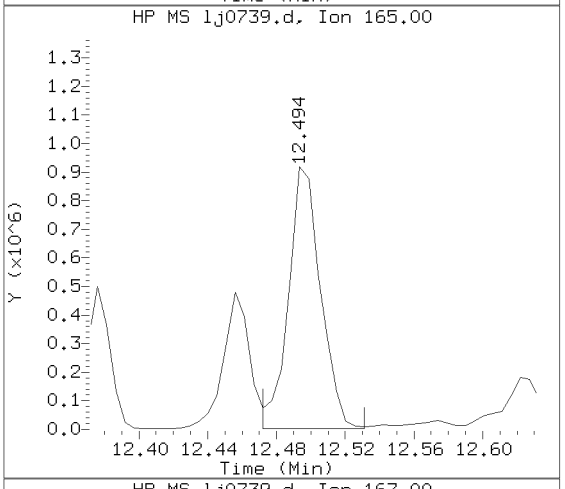
Reference Standard Spectrum for Fluorene



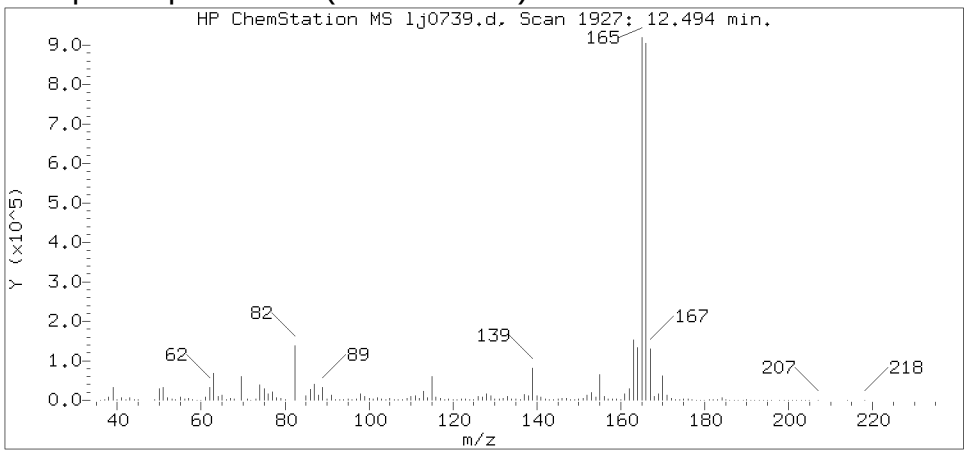


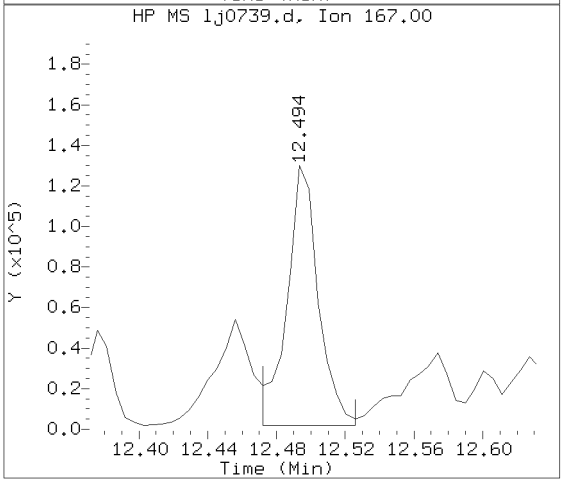
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number : 126
Compound Name : Fluorene
Scan Number : 1927
Retention Time (minutes) : 12.494
Relative Retention Time : 0.00000
Quant Ion : 166.00
Area (flag) : 1092806
On-column Amount (ng/ul) : 13.6356

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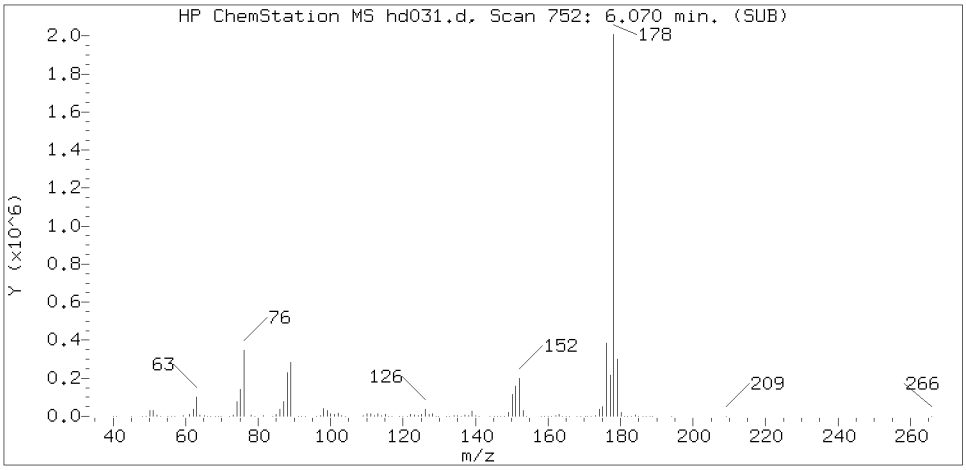
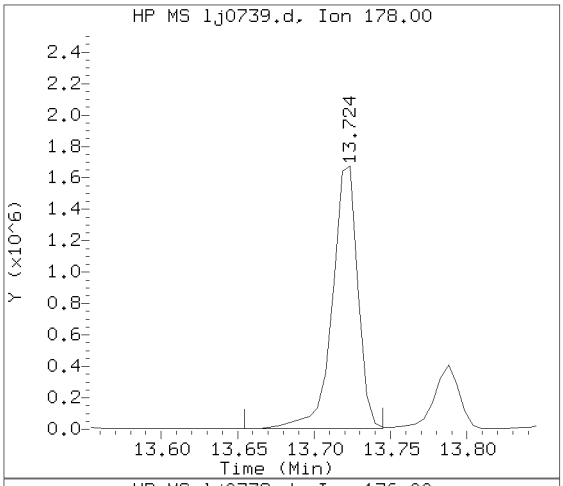
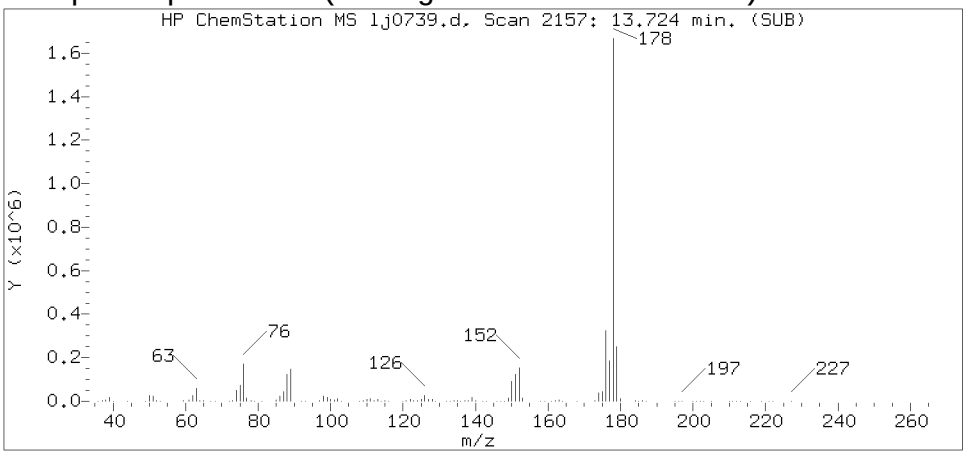
Target 3.5 esignature user ID: hb01996

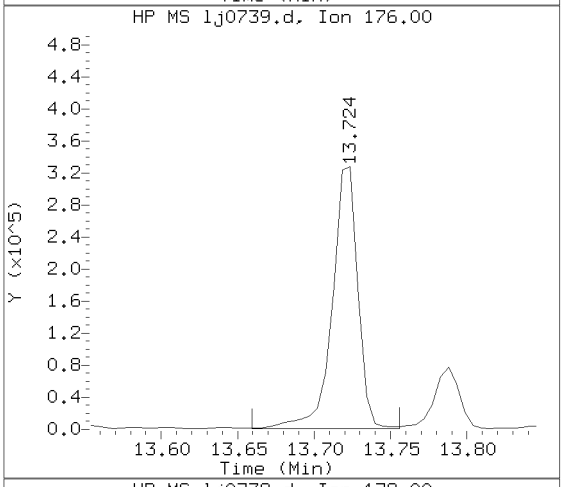
Reference Standard Spectrum for Phenanthrene



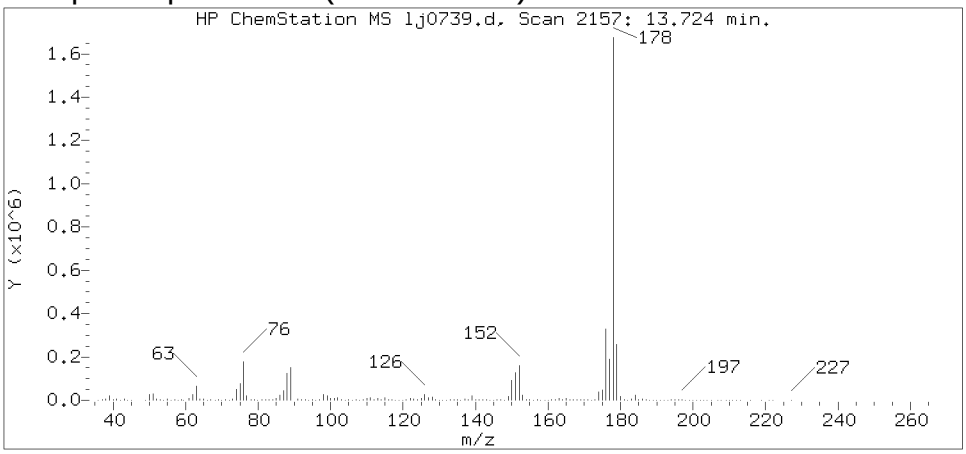


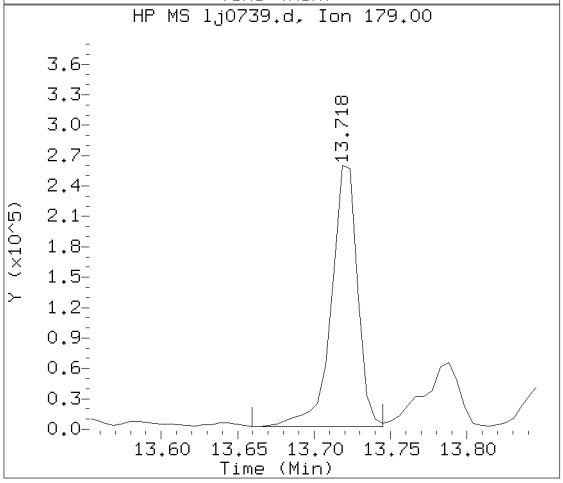
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number : 155
Compound Name : Phenanthrene
Scan Number : 2157
Retention Time (minutes) : 13.724
Relative Retention Time :-0.00039
Quant Ion : 178.00
Area (flag) : 1954055
On-column Amount (ng/ul) : 15.8675

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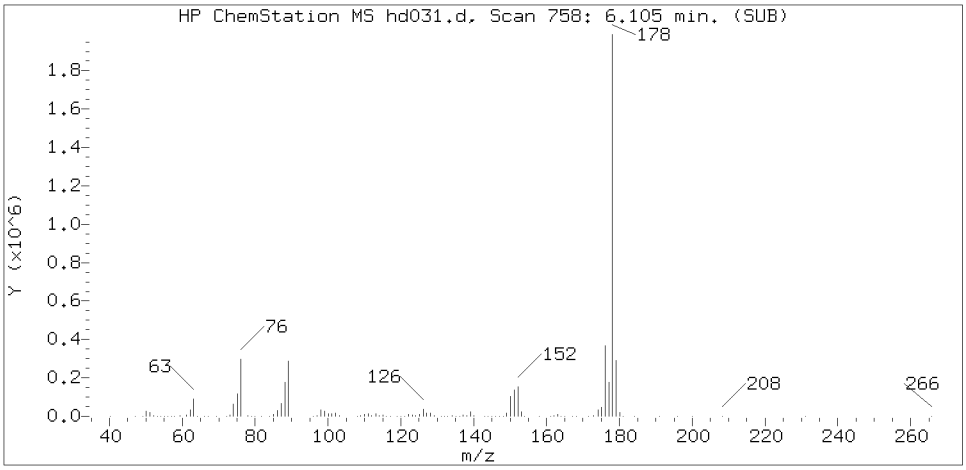
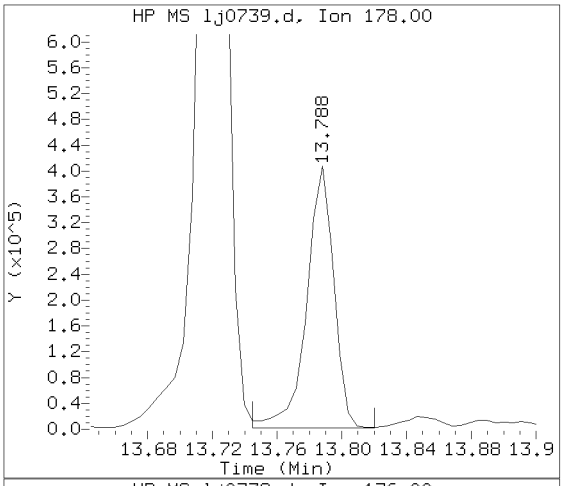
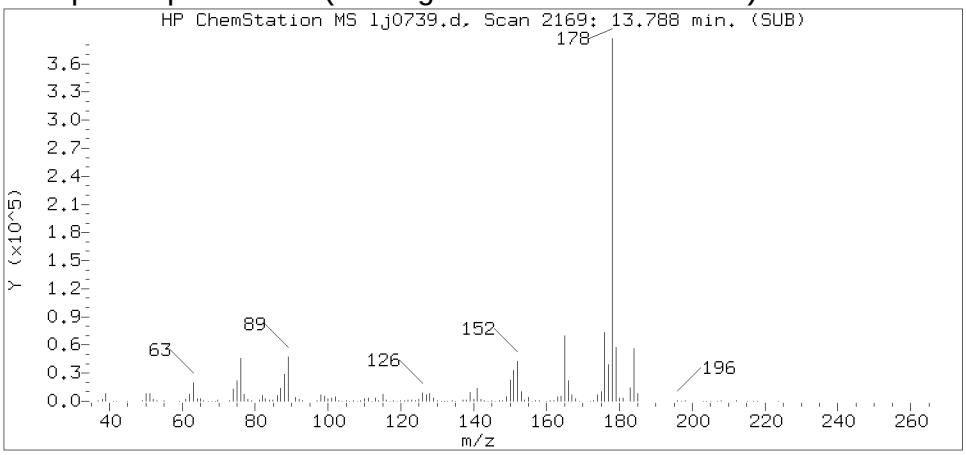
Target 3.5 esignature user ID: hb01996

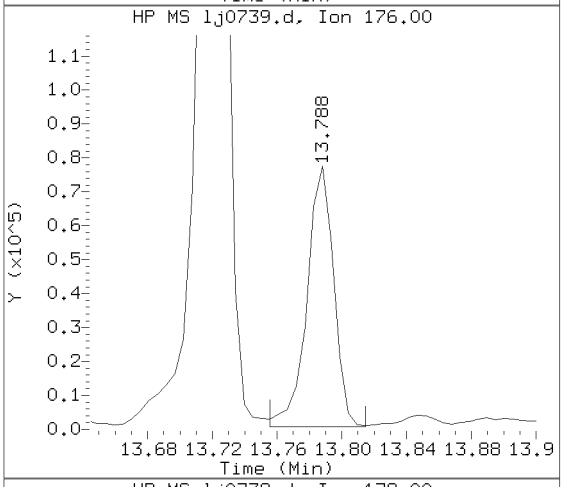
Reference Standard Spectrum for Anthracene



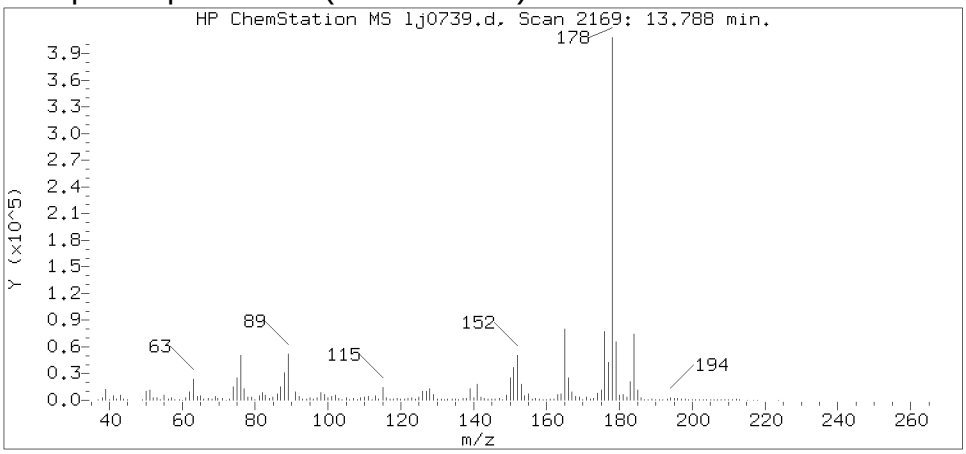


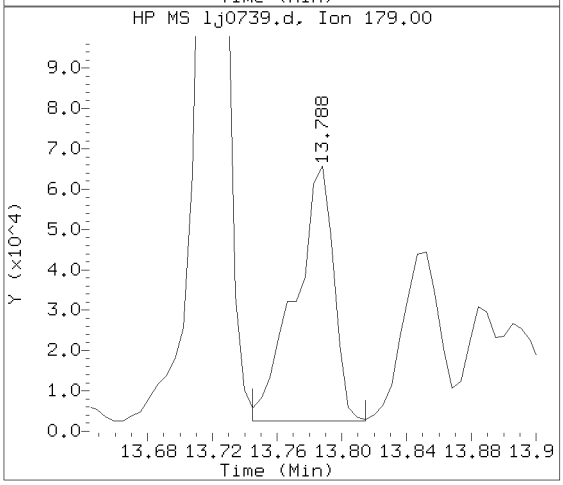
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number : 157
Compound Name : Anthracene
Scan Number : 2169
Retention Time (minutes) : 13.788
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 470057
On-column Amount (ng/ul) : 3.8264

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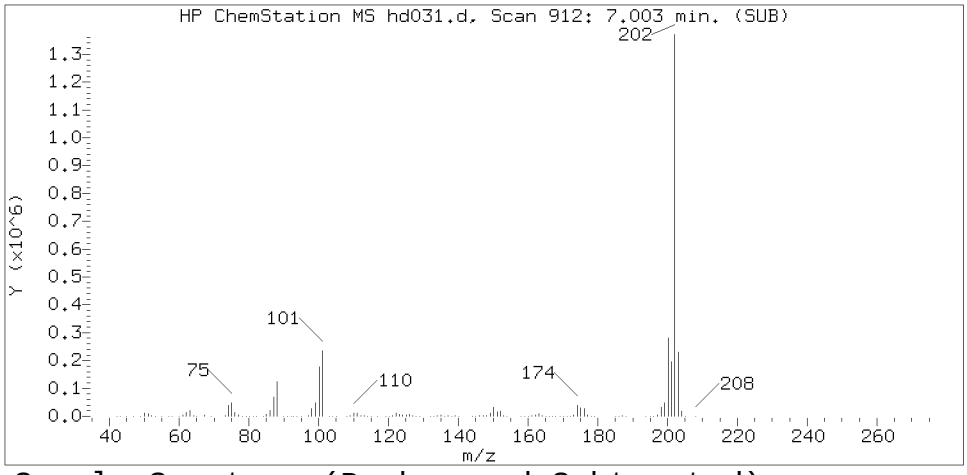
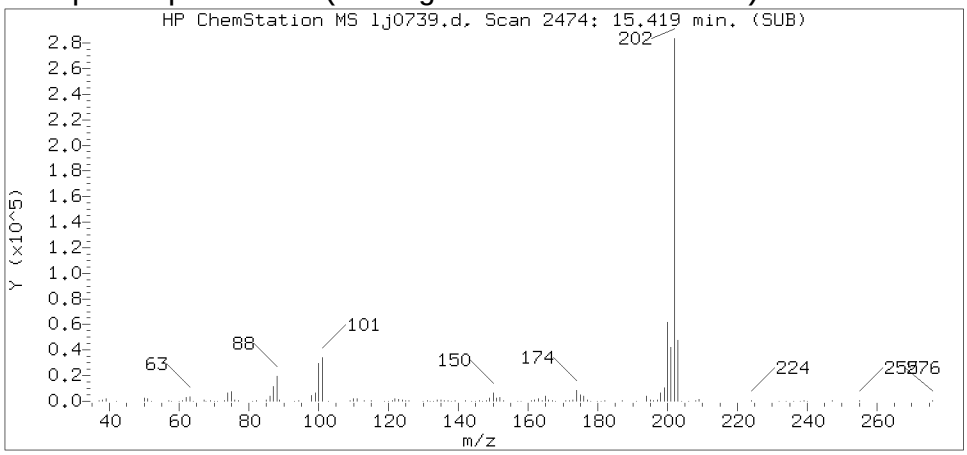
Target 3.5 esignature user ID: hb01996

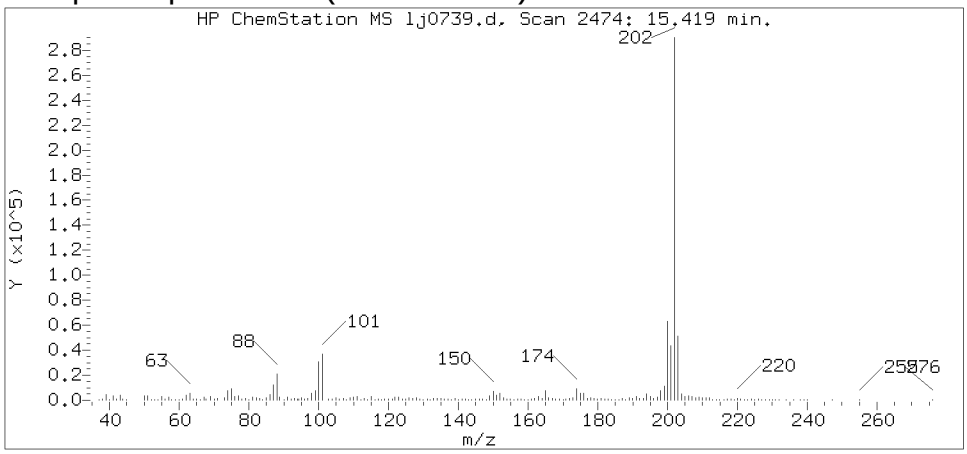
Reference Standard Spectrum for Fluoranthene

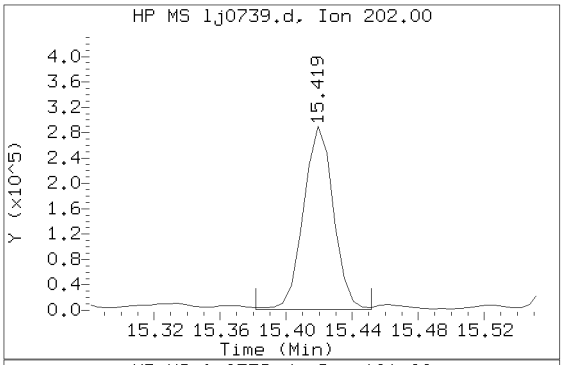


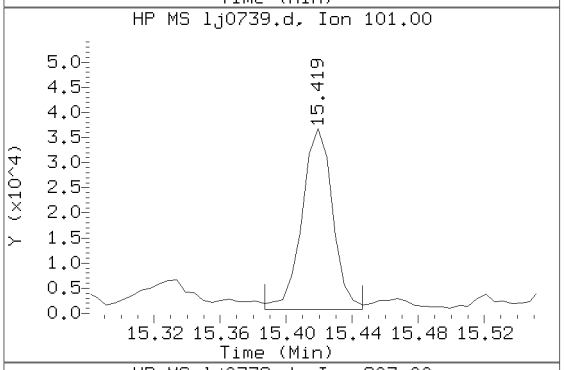
Sample Spectrum (Background Subtracted)

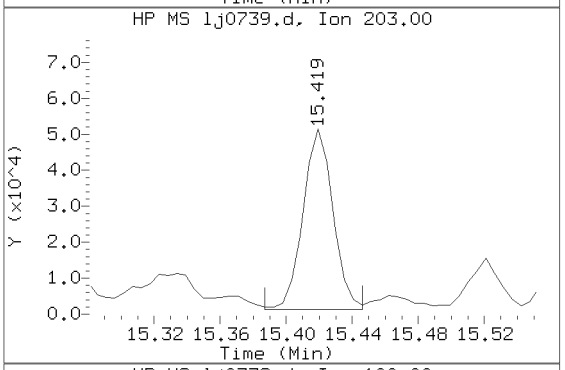


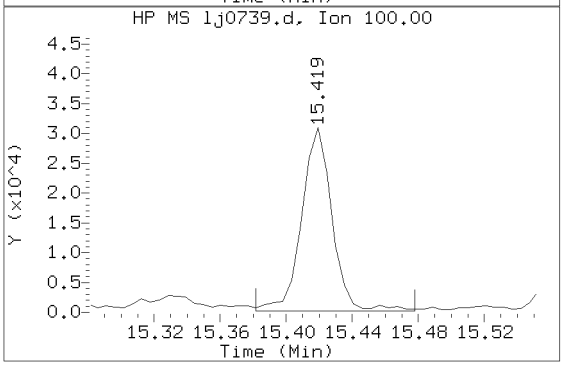
Sample Spectrum (Unaltered)











Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number	: 173
Compound Name	: Fluoranthene
Scan Number	: 2474
Retention Time (minutes)	: 15.419
Relative Retention Time	:-0.00000
Quant Ion	: 202.00
Area (flag)	: 363789
On-column Amount (ng/ul)	: 2.5593

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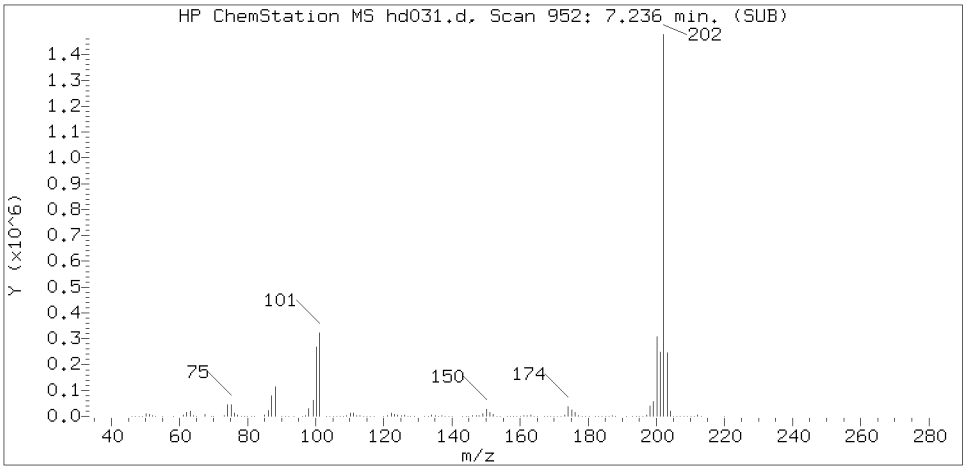
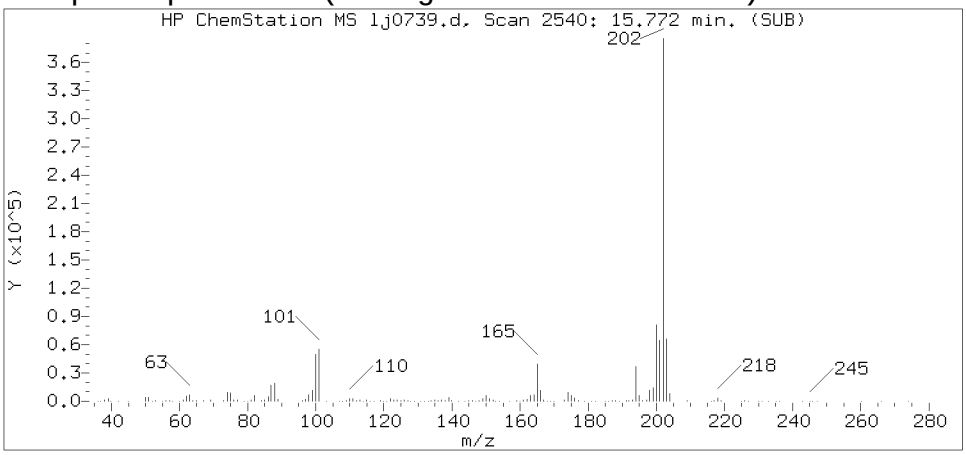
Target 3.5 esignature user ID: hb01996

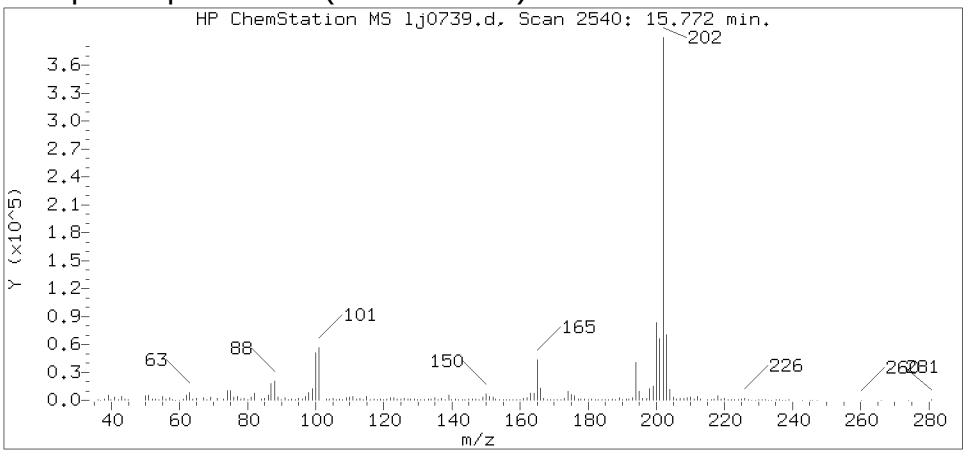
Reference Standard Spectrum for Pyrene

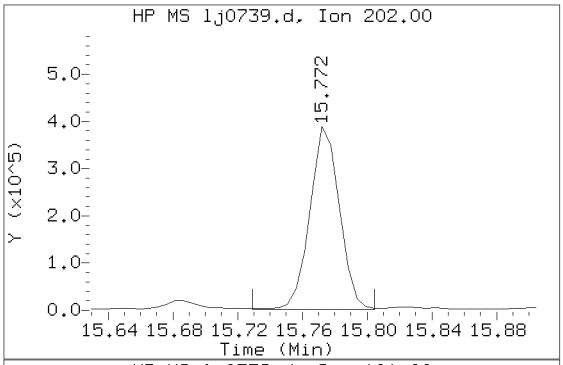


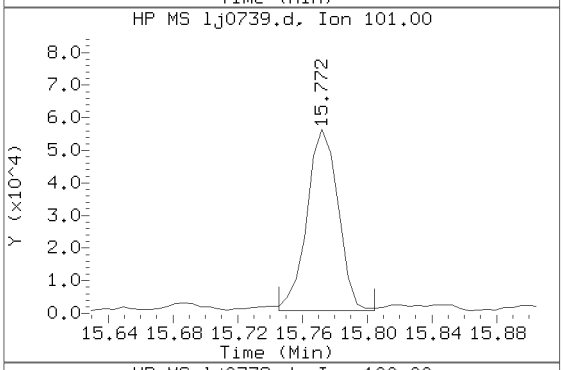
Sample Spectrum (Background Subtracted)

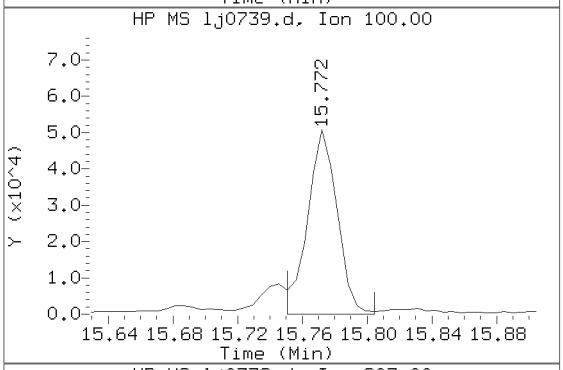


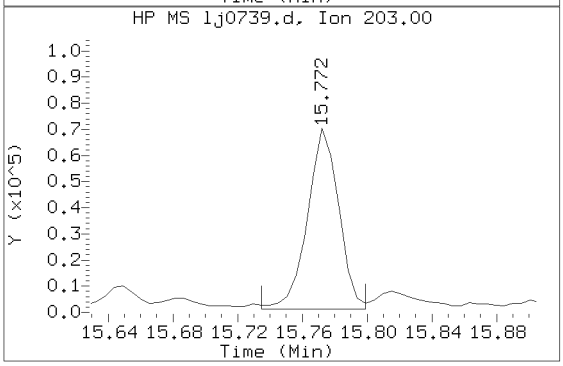
Sample Spectrum (Unaltered)











Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number	: 177
Compound Name	: Pyrene
Scan Number	: 2540
Retention Time (minutes)	: 15.772
Relative Retention Time	: 0.00034
Quant Ion	: 202.00
Area (flag)	: 489437
On-column Amount (ng/ul)	: 3.2588

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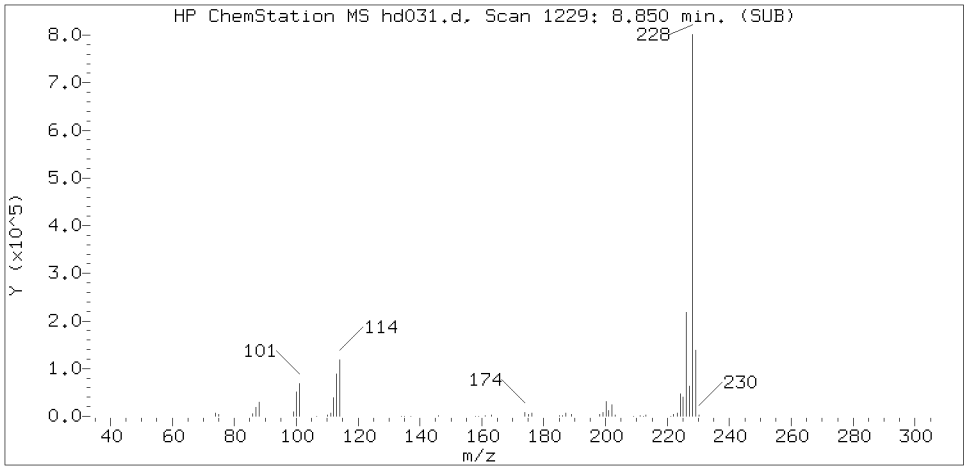
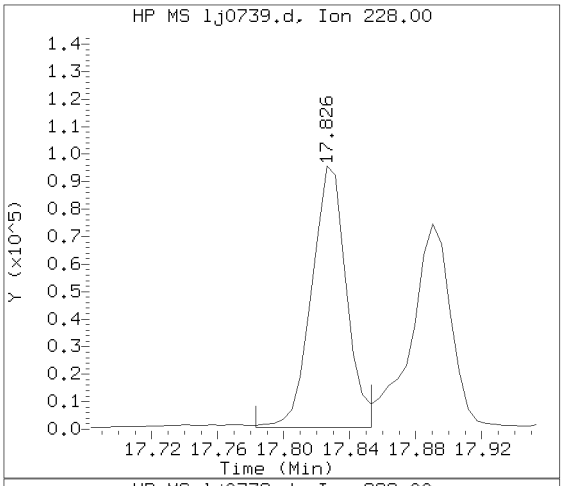
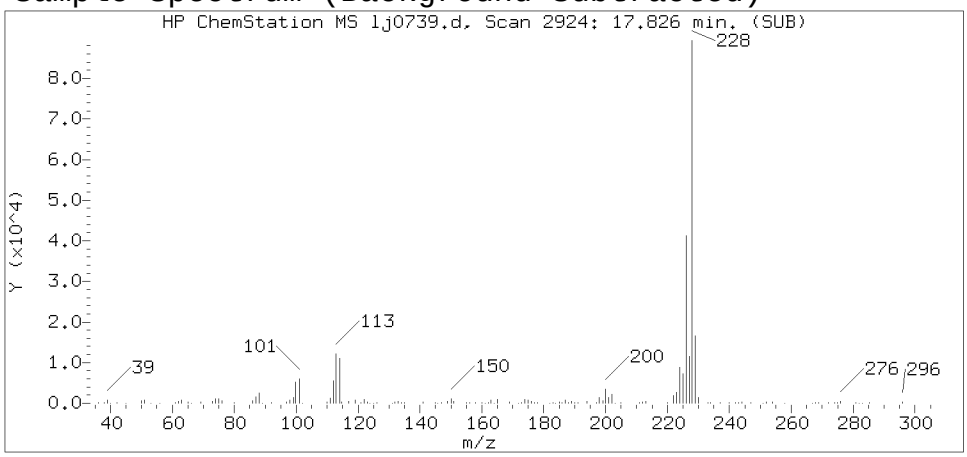
Target 3.5 esignature user ID: hb01996

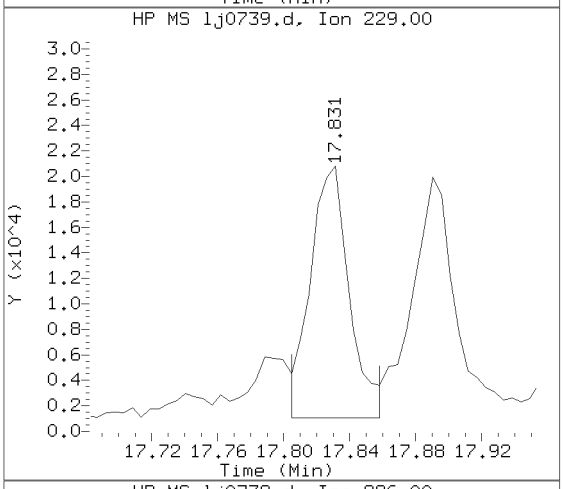
Reference Standard Spectrum for Benzo(a)anthracene



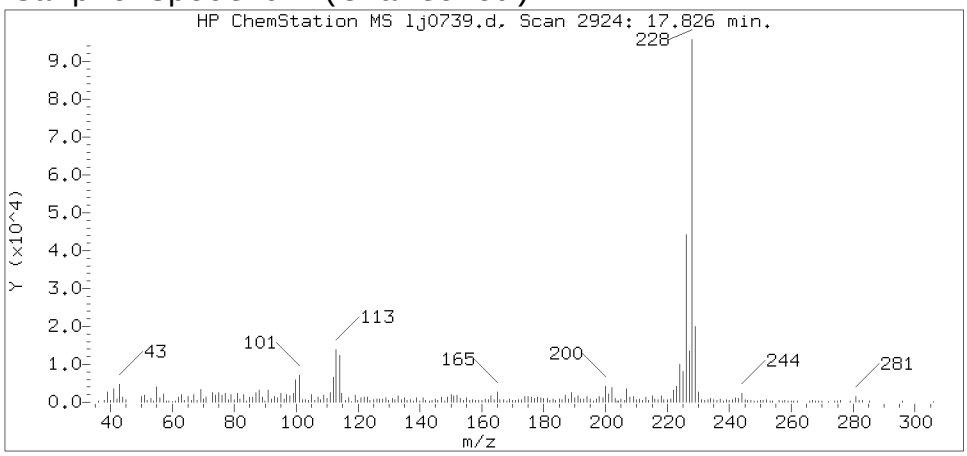


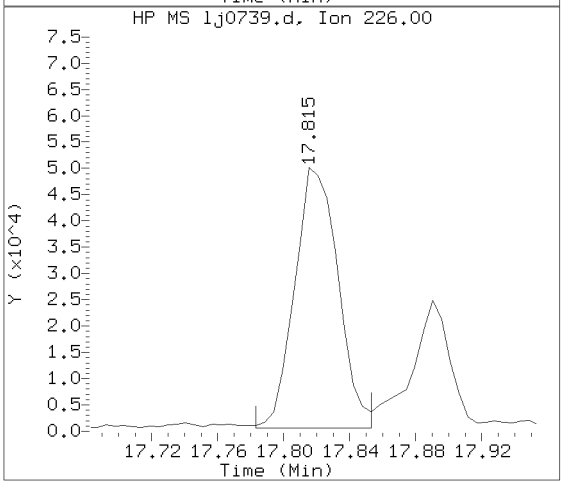
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number	: 195
Compound Name	: Benzo(a)anthracene
Scan Number	: 2924
Retention Time (minutes)	: 17.826
Relative Retention Time	: 0.00034
Quant Ion	: 228.00
Area (flag)	: 138541
On-column Amount (ng/ul)	: 0.9720

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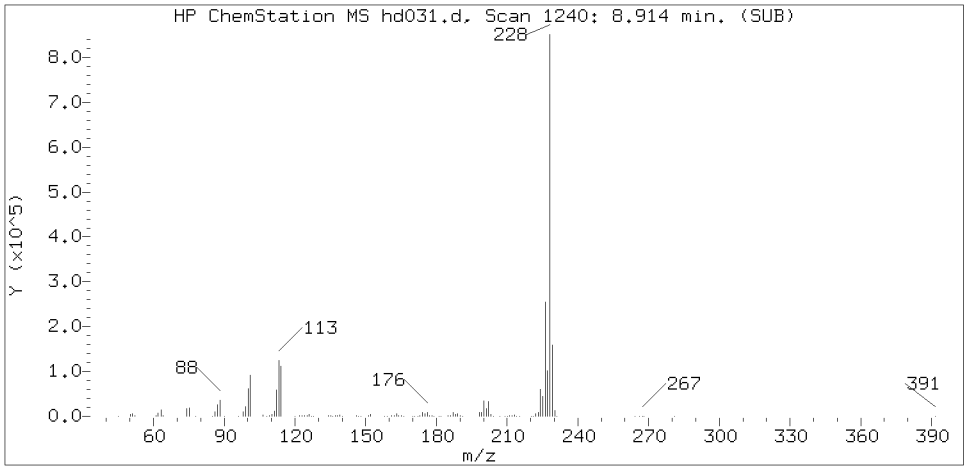
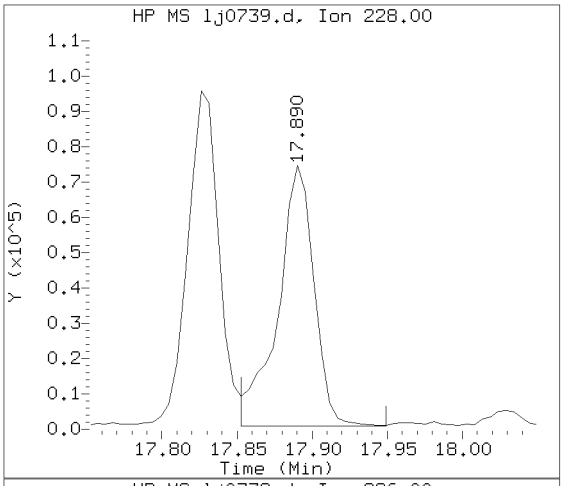
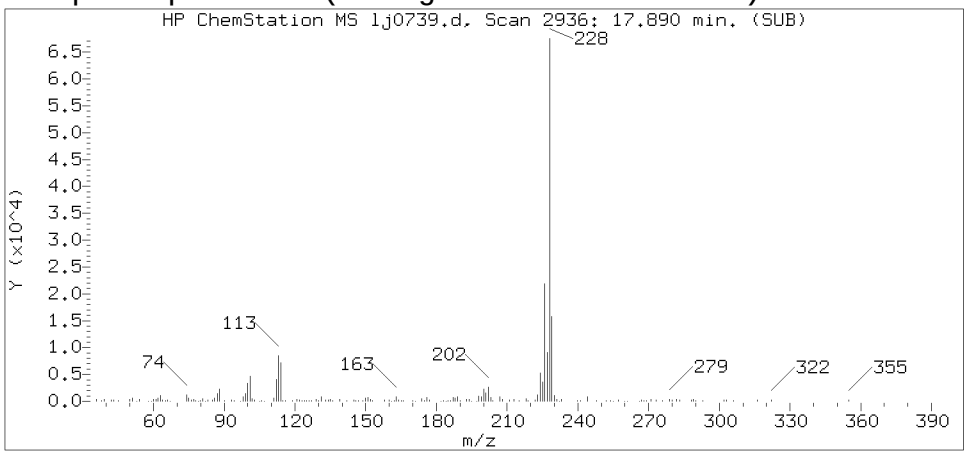
Target 3.5 esignature user ID: hb01996

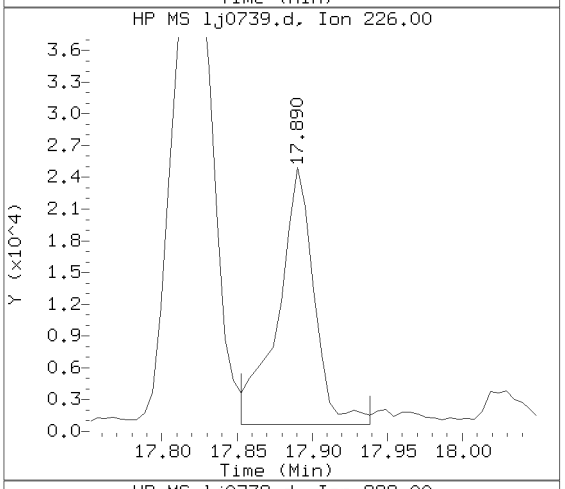
Reference Standard Spectrum for Chrysene



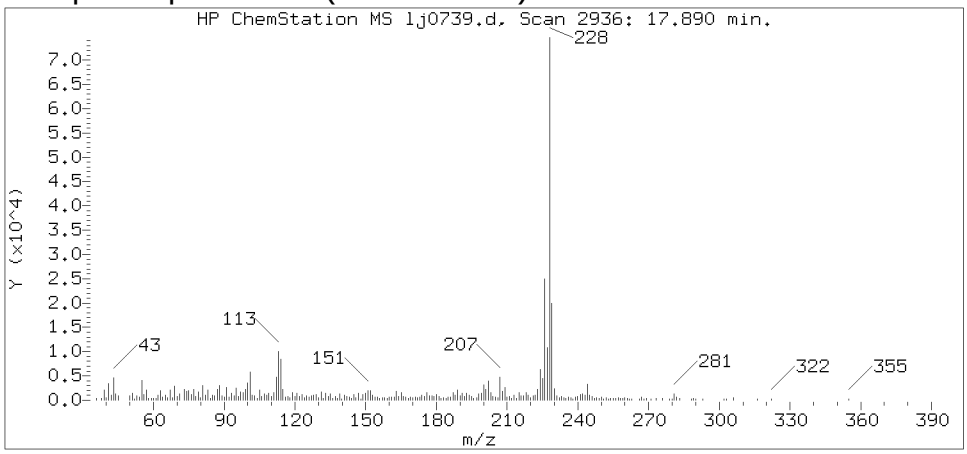


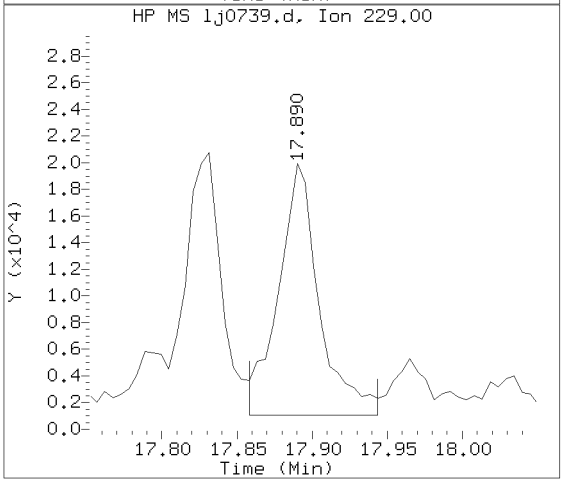
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

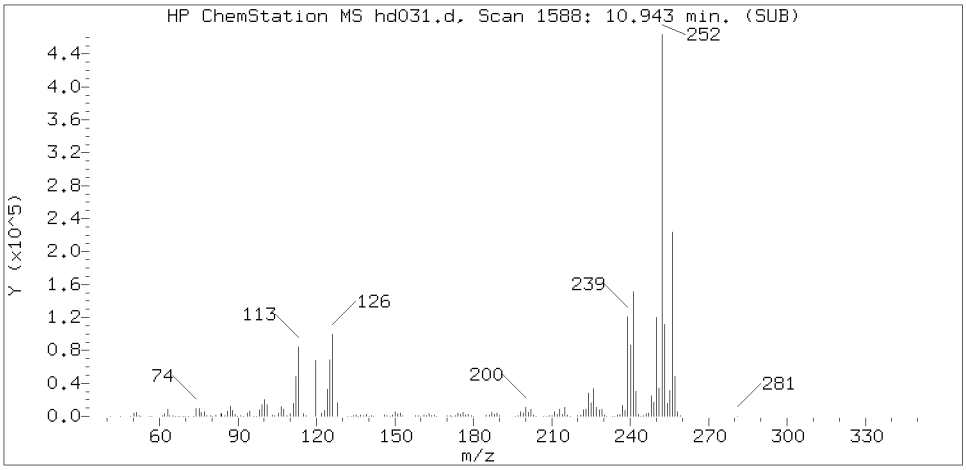
Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

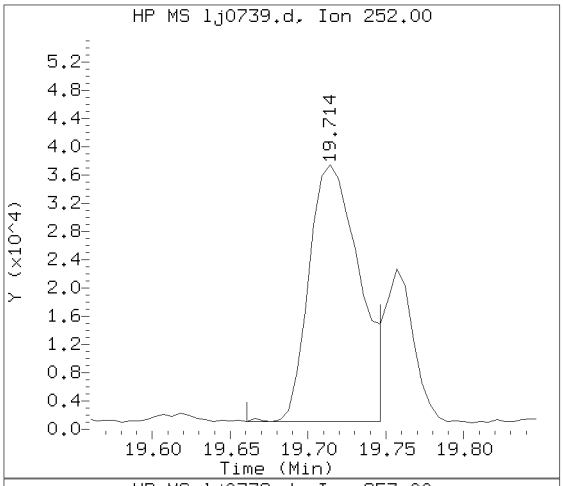
Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number	: 196
Compound Name	: Chrysene
Scan Number	: 2936
Retention Time (minutes)	: 17.890
Relative Retention Time	: 0.00034
Quant Ion	: 228.00
Area (flag)	: 123252
On-column Amount (ng/ul)	: 0.9305

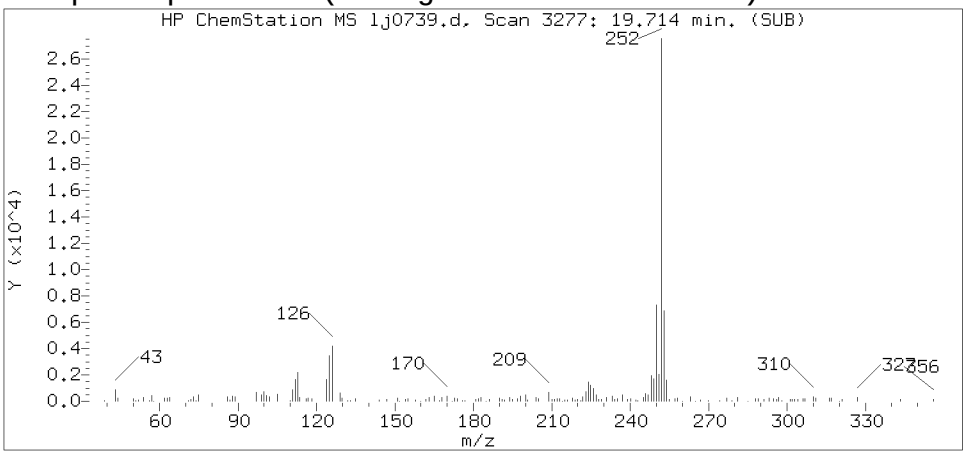
Digitally signed by Holly Berry on 10/22/2015 at 13:57.
Target 3.5 esignature user ID: hb01996

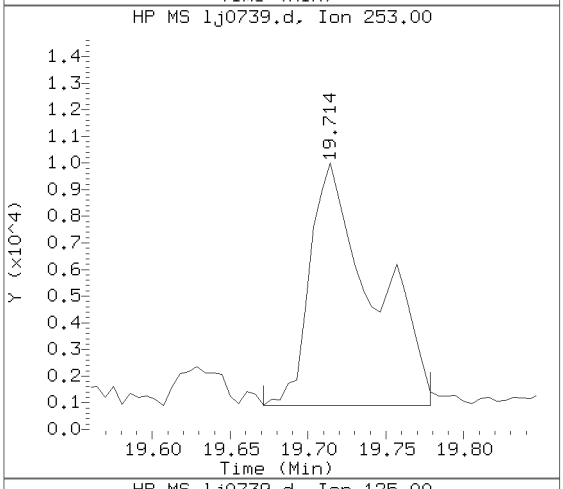
Reference Standard Spectrum for Benzo(b)fluoranthene



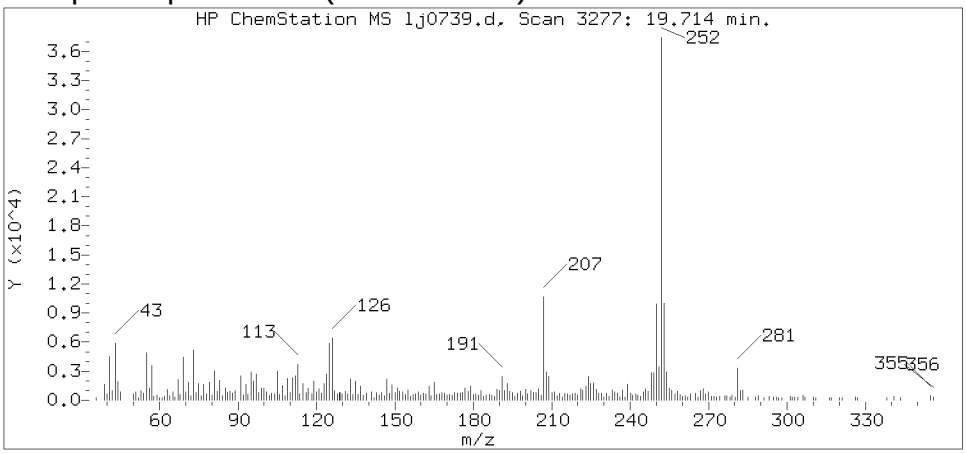


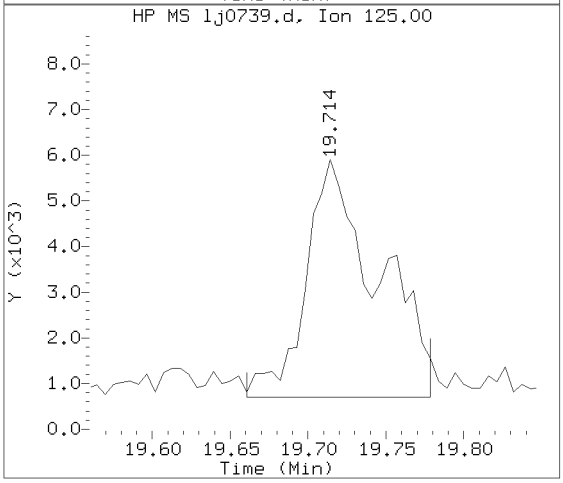
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 3277
Retention Time (minutes)	: 19.714
Relative Retention Time	: 0.00000
Quant Ion	: 252.00
Area (flag)	: 80718
On-column Amount (ng/ul)	: 0.5463

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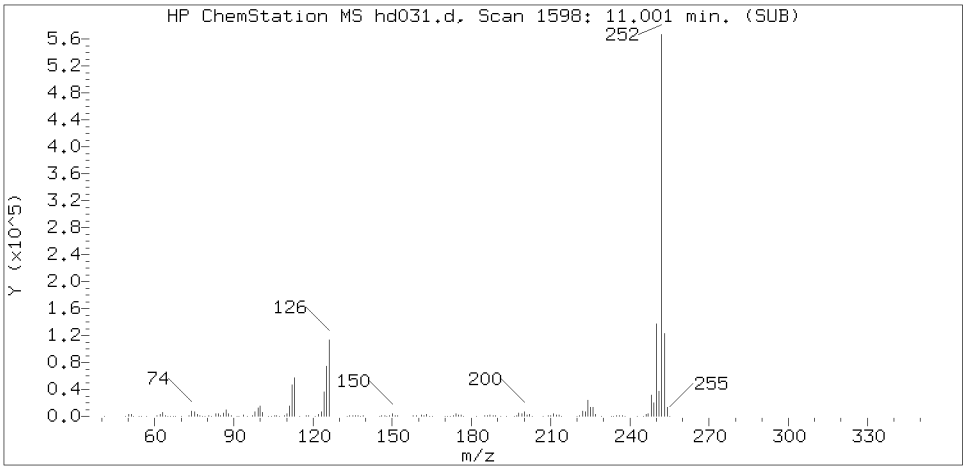
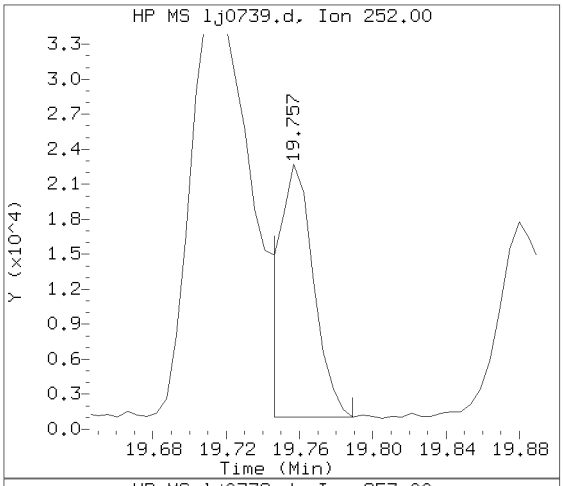
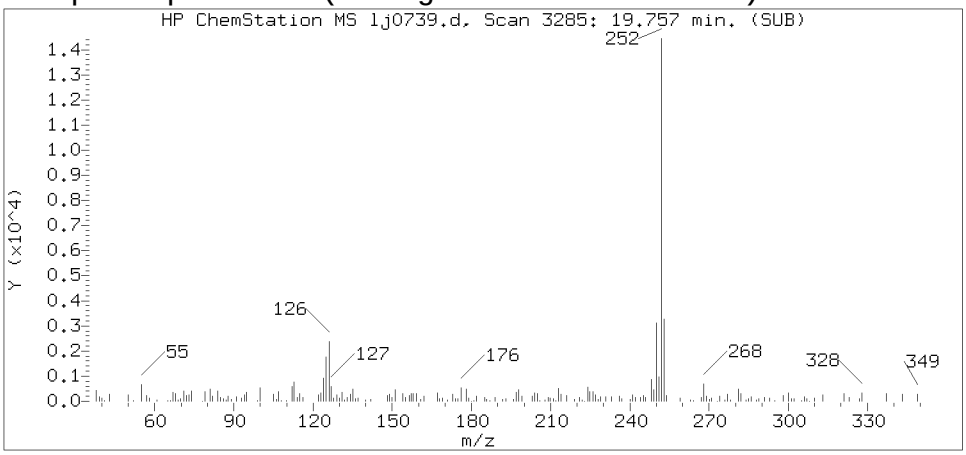
Target 3.5 esignature user ID: hb01996

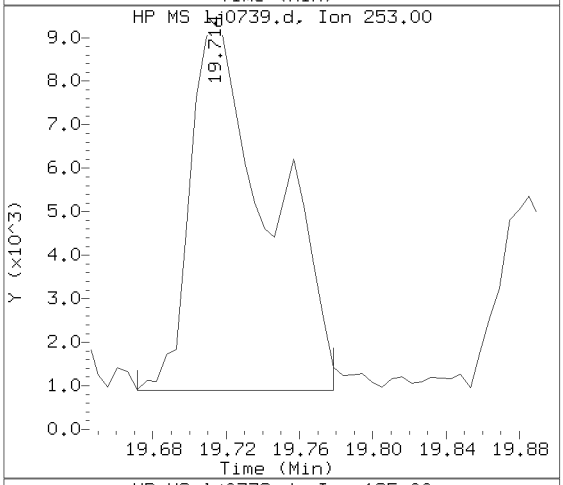
Reference Standard Spectrum for Benzo(k)fluoranthene



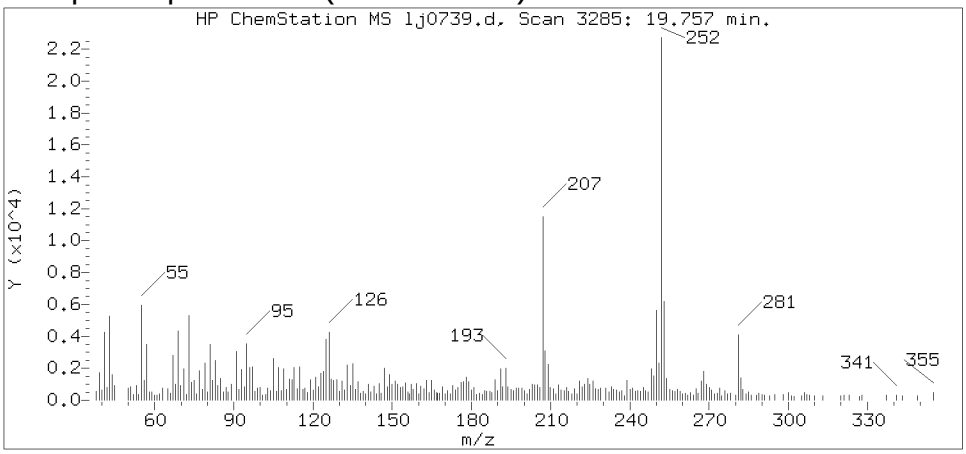


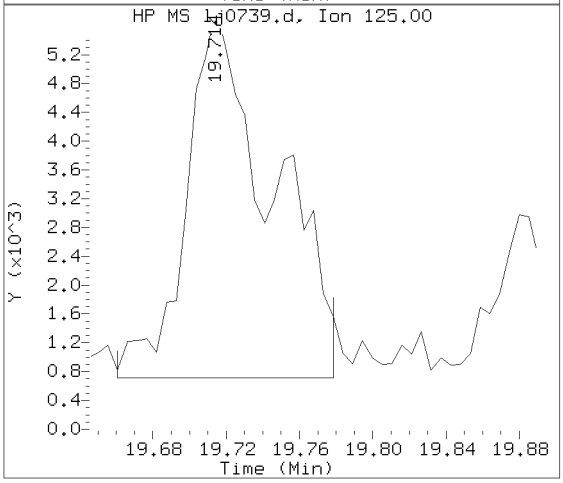
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number	: 208
Compound Name	: Benzo(k)fluoranthene
Scan Number	: 3285
Retention Time (minutes)	: 19.757
Relative Retention Time	: 0.00026
Quant Ion	: 252.00
Area (flag)	: 27424
On-column Amount (ng/ul)	: 0.1953

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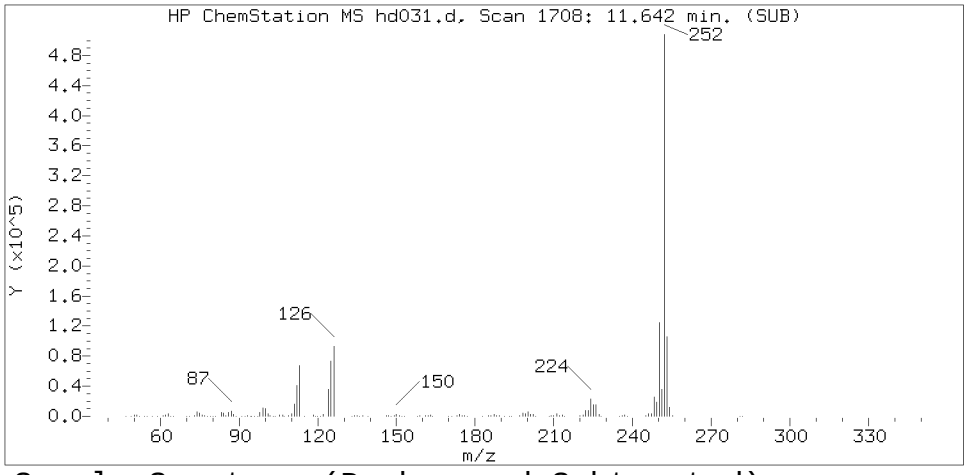
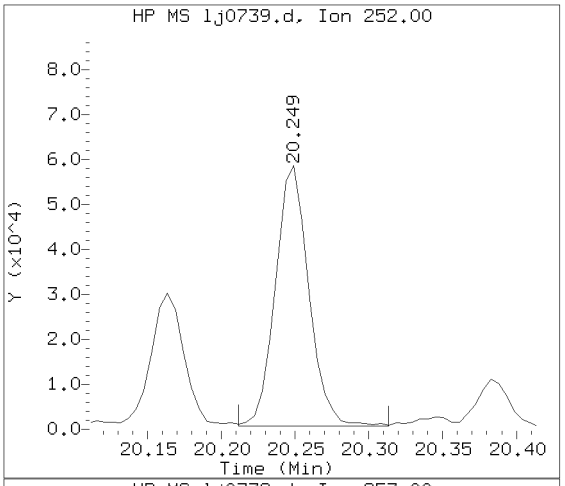
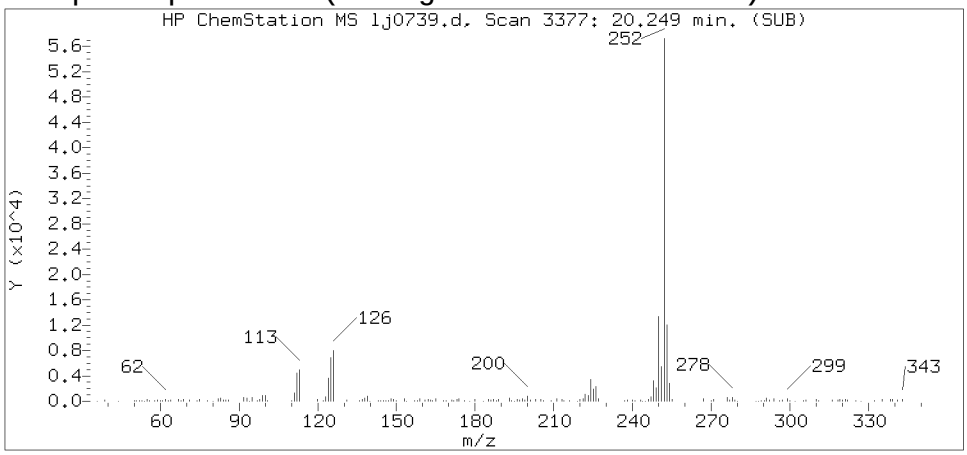
Target 3.5 esignature user ID: hb01996

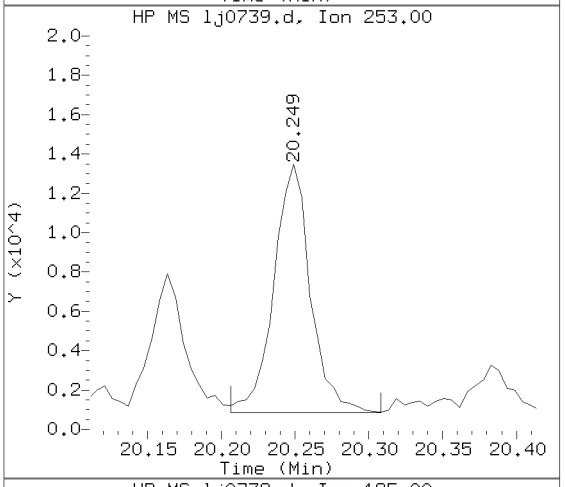
Reference Standard Spectrum for Benzo(a)pyrene



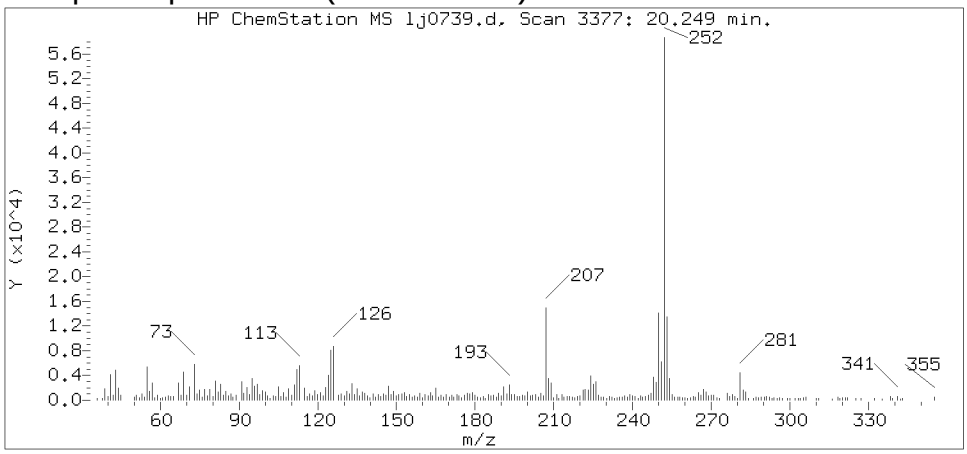


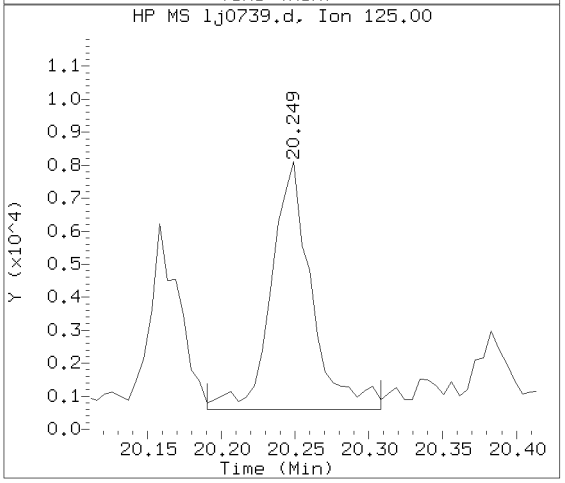
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number	: 211
Compound Name	: Benzo(a)pyrene
Scan Number	: 3377
Retention Time (minutes)	: 20.249
Relative Retention Time	: 0.00026
Quant Ion	: 252.00
Area (flag)	: 90943
On-column Amount (ng/ul)	: 0.6658

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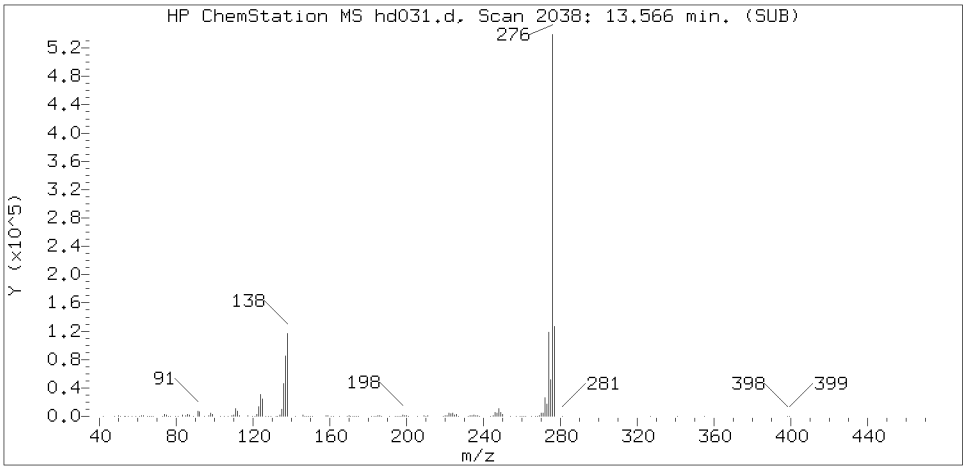
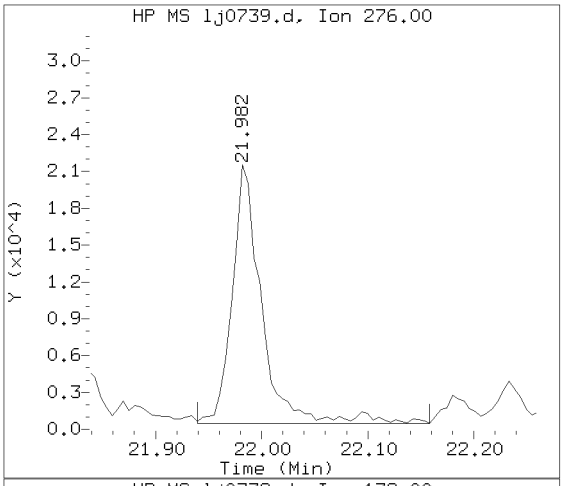
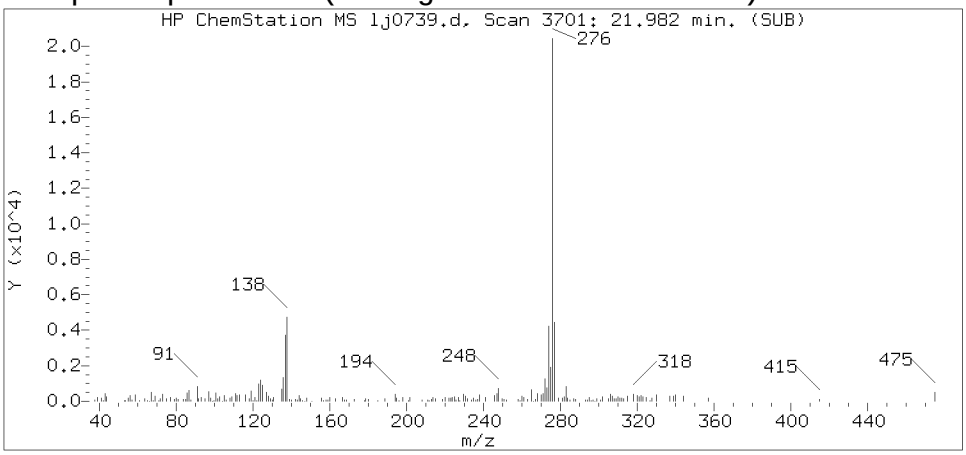
Target 3.5 esignature user ID: hb01996

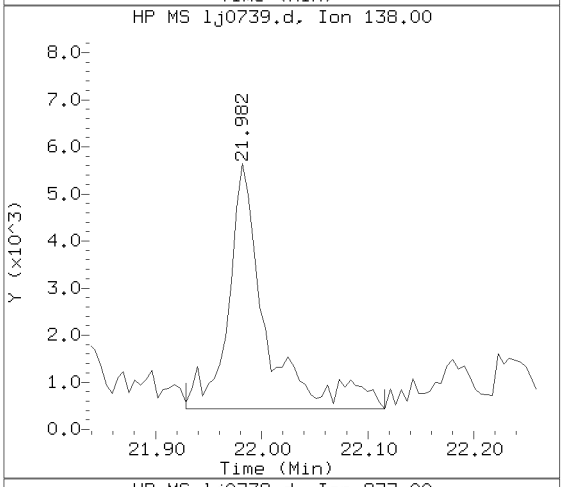
Reference Standard Spectrum for Indeno(1,2,3-cd)pyrene



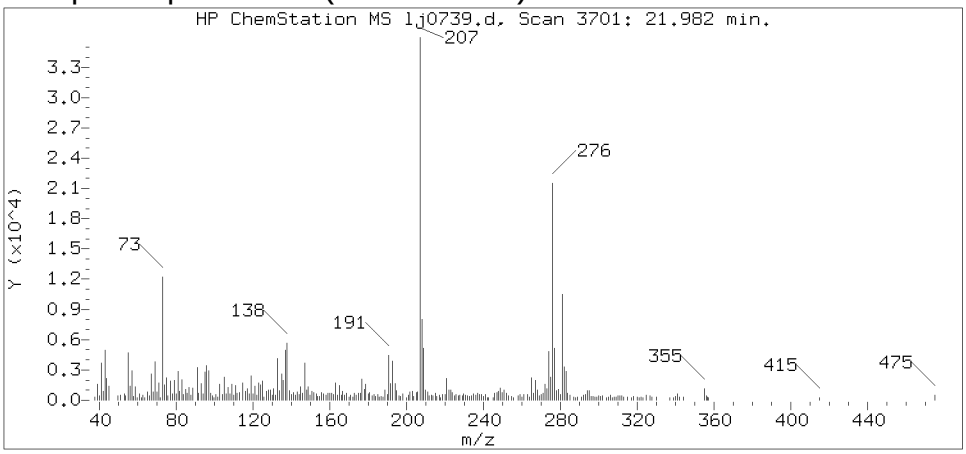


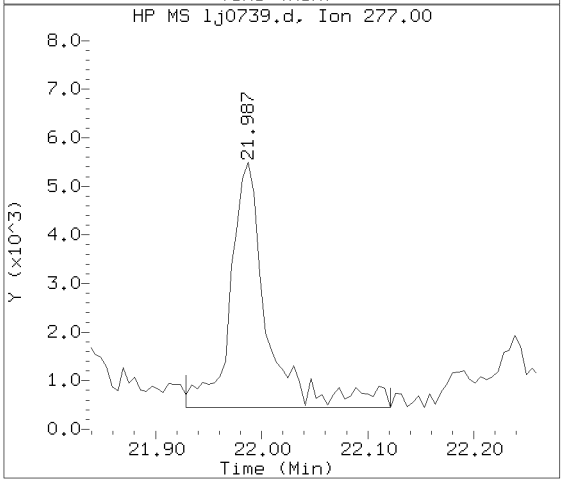
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3701
Retention Time (minutes) : 21.982
Relative Retention Time : 0.00053
Quant Ion : 276.00
Area (flag) : 40761
On-column Amount (ng/ul) : 0.2572

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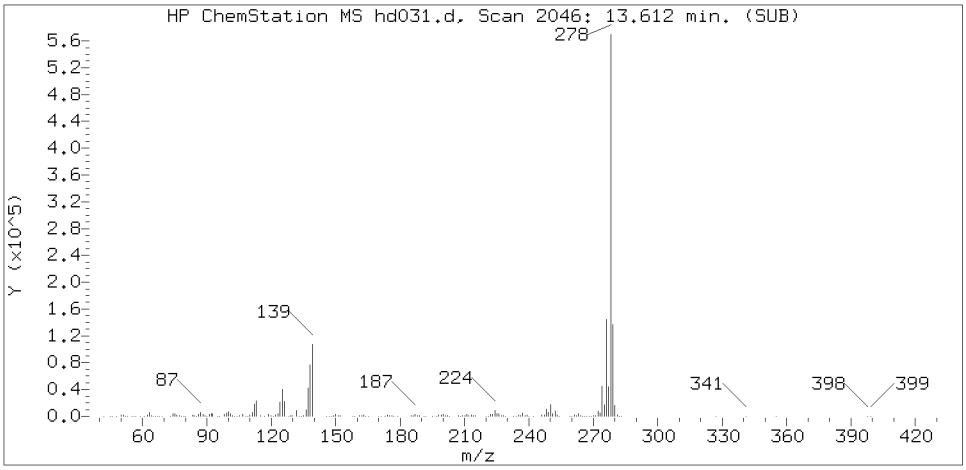
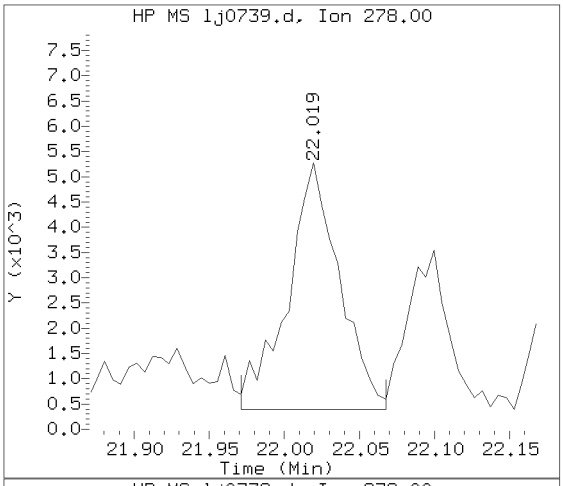
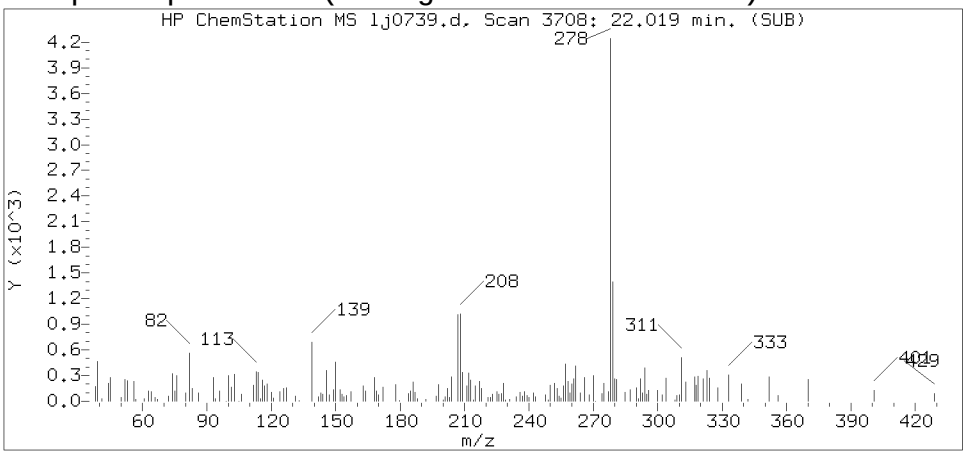
Target 3.5 esignature user ID: hb01996

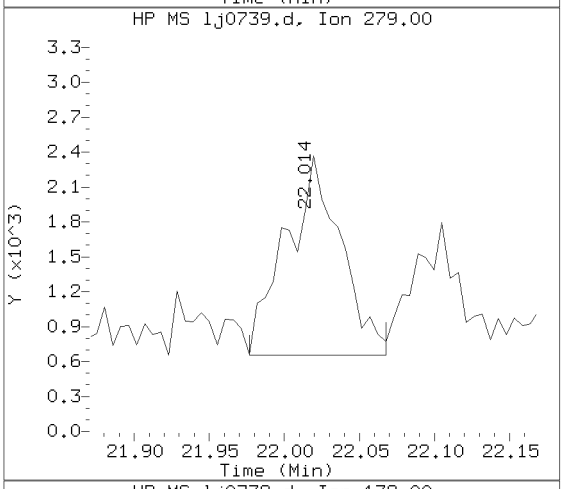
Reference Standard Spectrum for Dibenz(a,h)anthracene



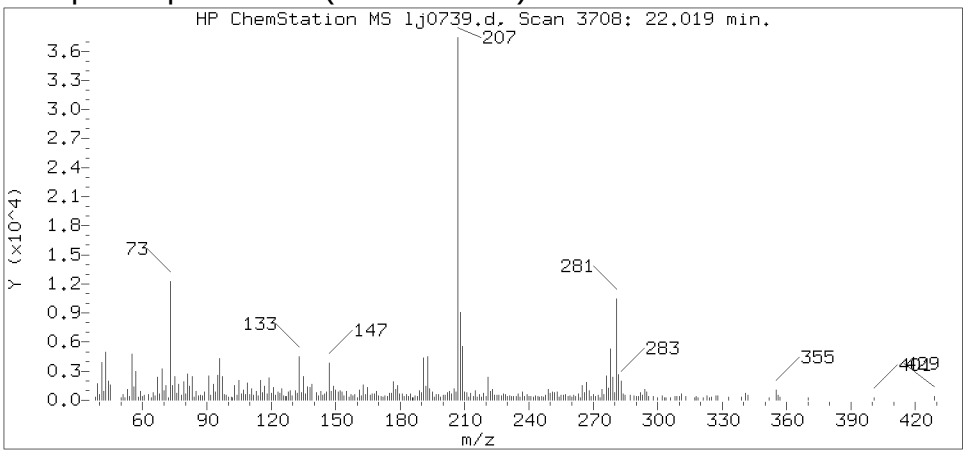


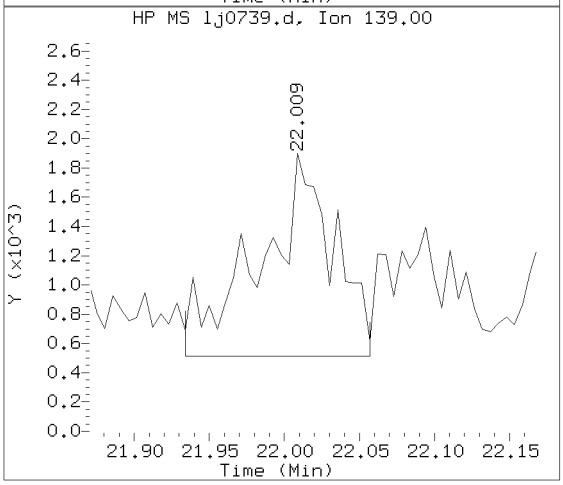
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 3708
Retention Time (minutes) : 22.019
Relative Retention Time : 0.00079
Quant Ion : 278.00
Area (flag) : 11670
On-column Amount (ng/ul) : 0.0904

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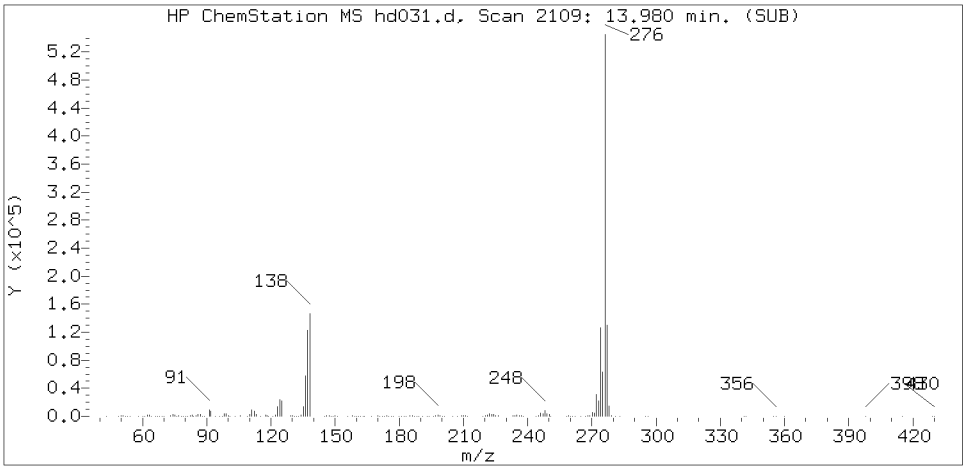
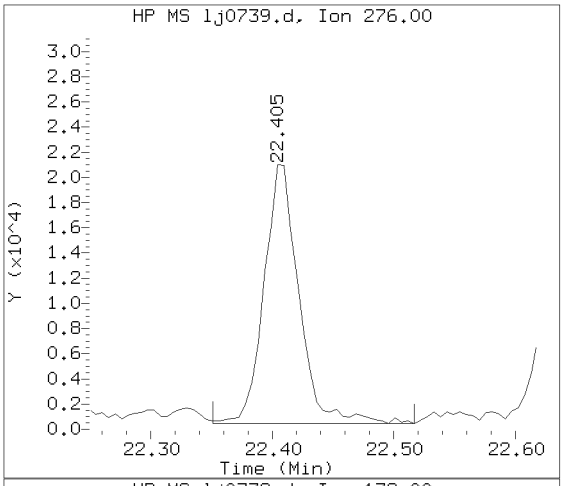
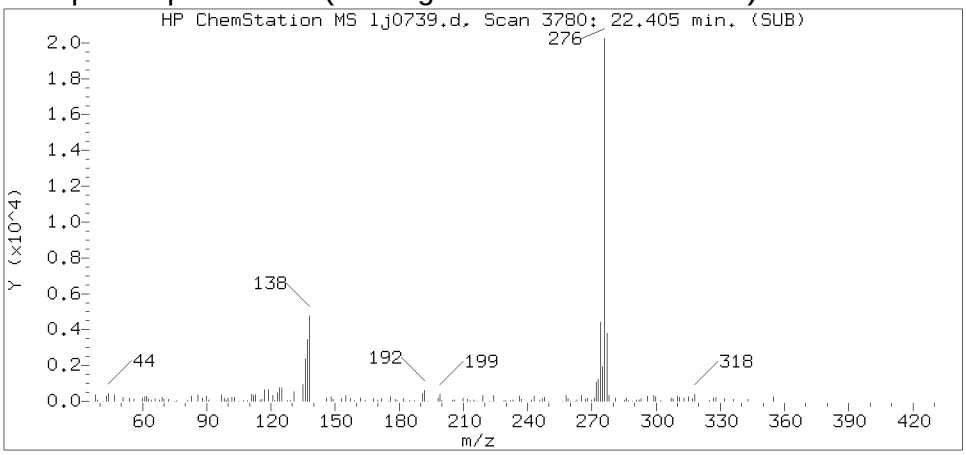
Target 3.5 esignature user ID: hb01996

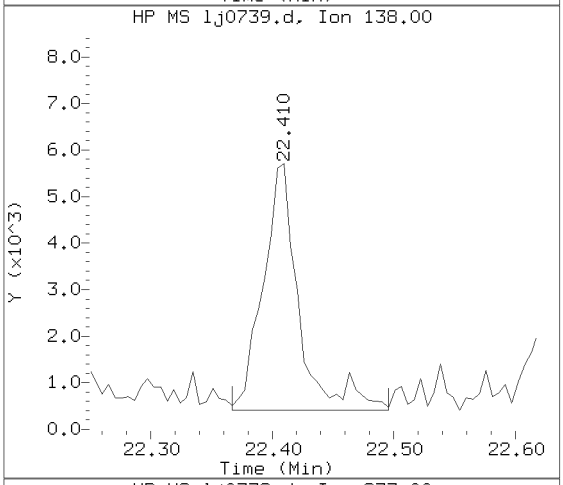
Reference Standard Spectrum for Benzo(g,h,i)perylene



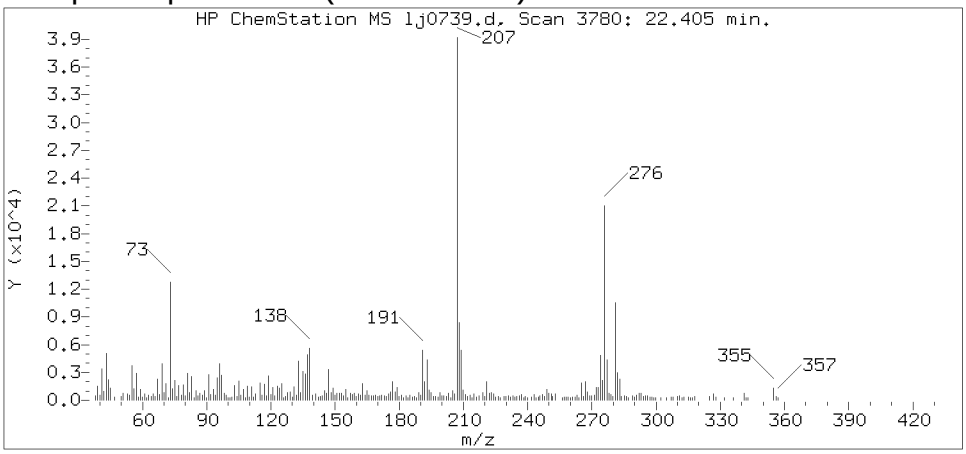


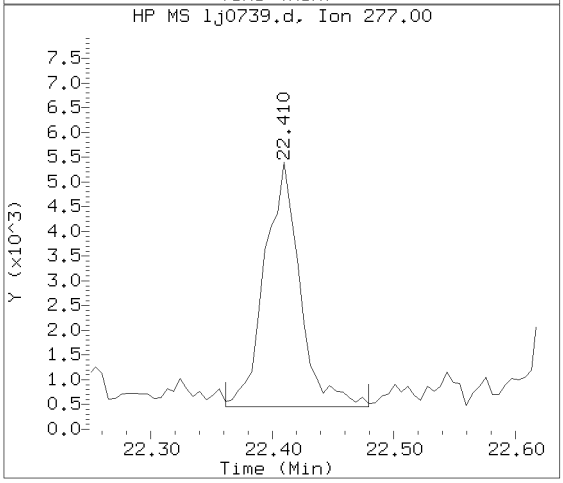
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct22.b/lj0739.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 13:08 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: P2902RE Lab Sample ID: 8082124RE

Compound Number : 221
Compound Name : Benzo(g,h,i)perylene
Scan Number : 3780
Retention Time (minutes) : 22.405
Relative Retention Time : 0.00079
Quant Ion : 276.00
Area (flag) : 41203
On-column Amount (ng/ul) : 0.3025

Digitally signed by Holly Berry on 10/22/2015 at 13:57.
Target 3.5 esignature user ID: hb01996

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0601.d
Data file Sample Info. Line: P2904;8082126;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 16-Oct-2015 21:03 Unknown

Injection date and time: **16-OCT-2015 20:38**
Instrument ID: **HP20296.i** Batch: **15283WAB**

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.022(0.006)	904	152	188601 (-13)	5.00	
65) Naphthalene-d8	9.012(0.006)	1276	136	718971 (-18)	5.00	
113) Acenaphthene-d10	11.836(0.006)	1804	164	408121 (-17)	5.00	
153) Phenanthrene-d10	13.767(0.006)	2165	188	763923 (-17)	5.00	
175) Pyrene-d10	15.837(0.011)	2552	212	888485 (-17)	5.00	
213) Perylene-d12	20.453(0.011)	3415	264	642466 (-16)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.878(0.001)	82	1571533	21.650	87%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.798(0.000)	172	2396525	21.301	85%		61 - 112
179) Terphenyl-d14	(5)	16.158(0.000)	244	1734929	14.705	59%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	9.044(-0.000)	128	11065	0.072	0.29			0.03
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)	11.884(-0.000)	153	3418	0.035	0.14			0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:17. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0601.d Injection date and time: **16-OCT-2015 20:38**
Data file Sample Info. Line: P2904;8082126;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 21:03 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 1 ul

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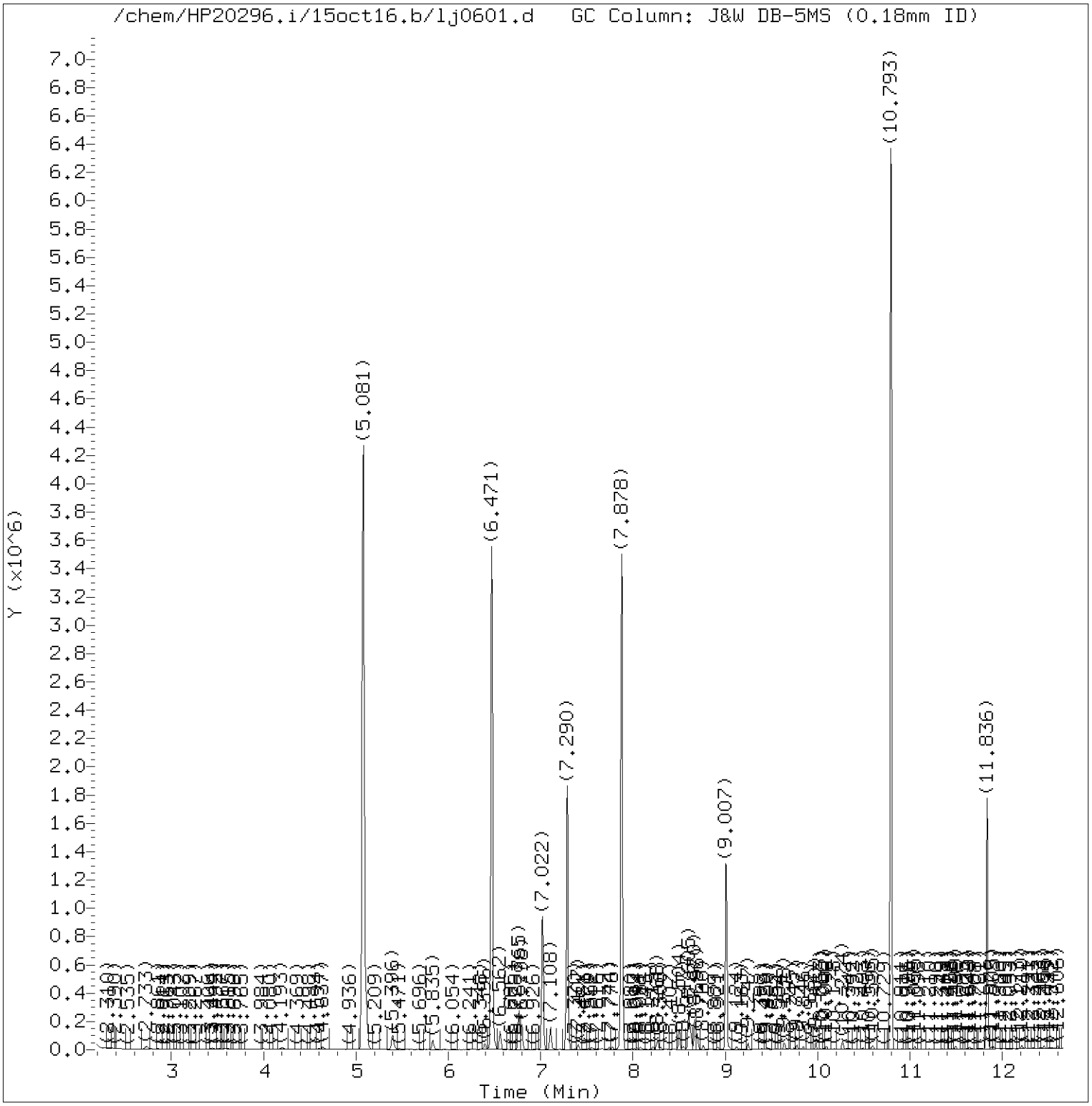
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:17. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 14:05. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

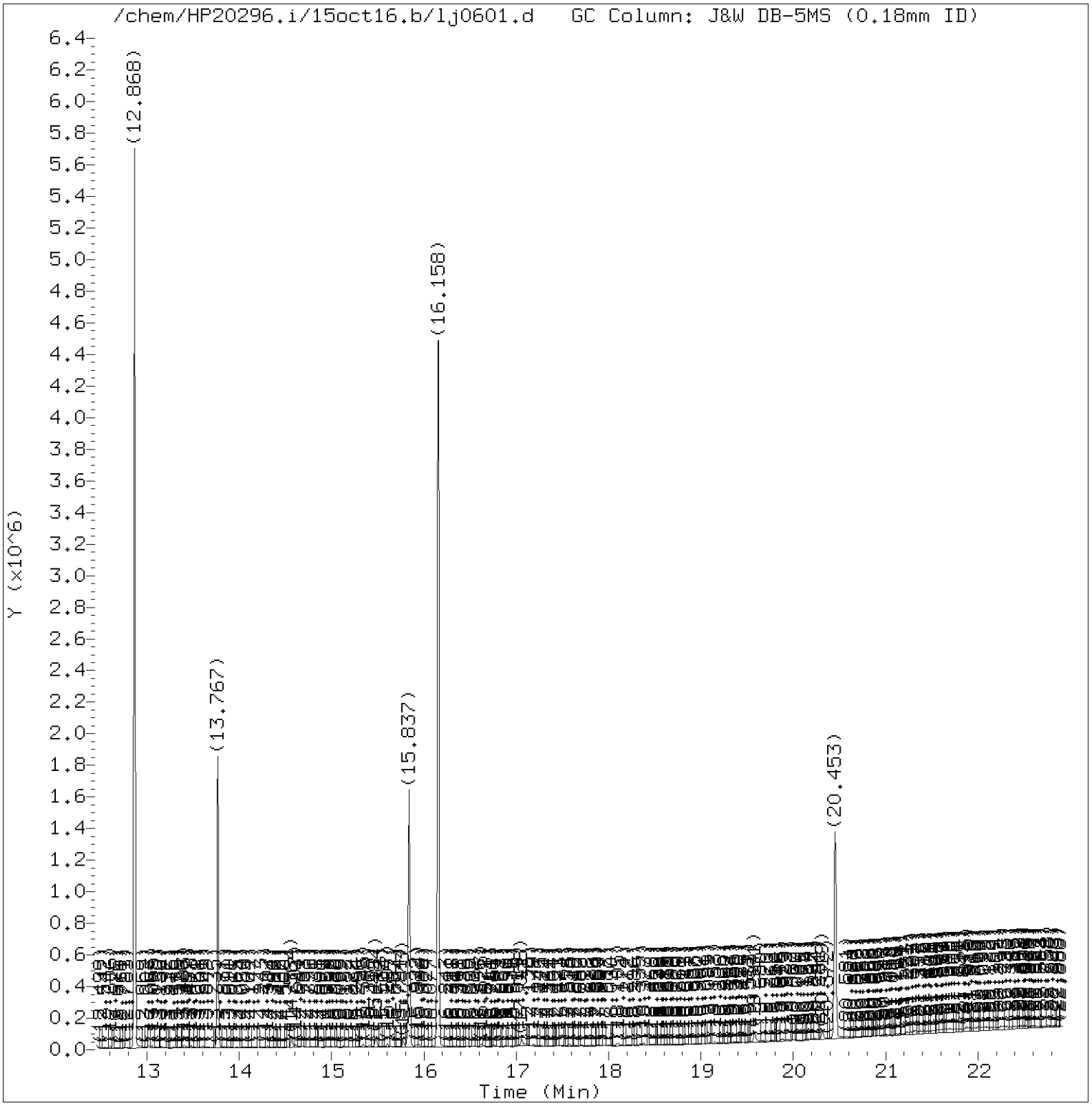
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0601.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:38 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 21:03 Unknown

Sample Name: P2904 Lab Sample ID: 8082126

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0601.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:38 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 21:03 Unknown

Sample Name: P2904 Lab Sample ID: 8082126

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0601.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:38 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 21:03 Unknown

Sample Name: P2904 Lab Sample ID: 8082126

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.022	152	188601	5.000
44)$Nitrobenzene-d5	(2)	7.878	82	1571533	21.650
65)*Naphthalene-d8	(2)	9.012	136	718971	5.000
66) Naphthalene	(2)	9.044	128	11065	0.072
93)$2-Fluorobiphenyl	(3)	10.798	172	2396525	21.301
113)*Acenaphthene-d10	(3)	11.836	164	408121	5.000
114) Acenaphthene	(3)	11.884	153	3418	0.035
153)*Phenanthrene-d10	(4)	13.767	188	763923	5.000
175)*Pyrene-d10	(5)	15.837	212	888485	5.000
179)$Terphenyl-d14	(5)	16.158	244	1734929	14.705
213)*Perylene-d12	(6)	20.453	264	642466	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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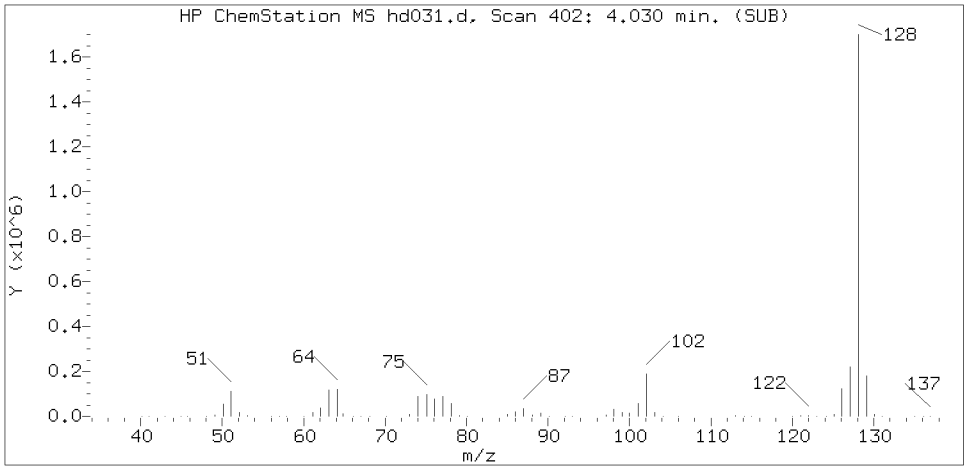
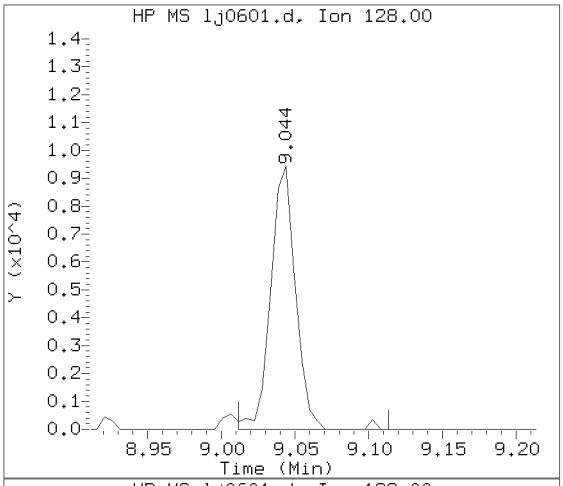
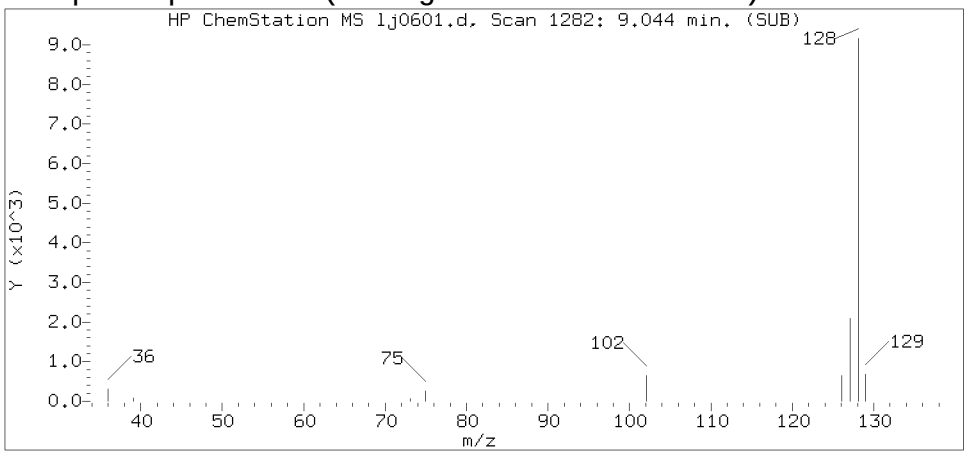
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247

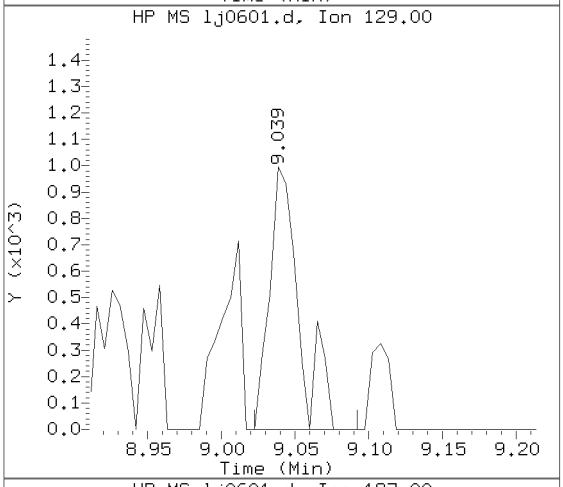
Reference Standard Spectrum for Naphthalene



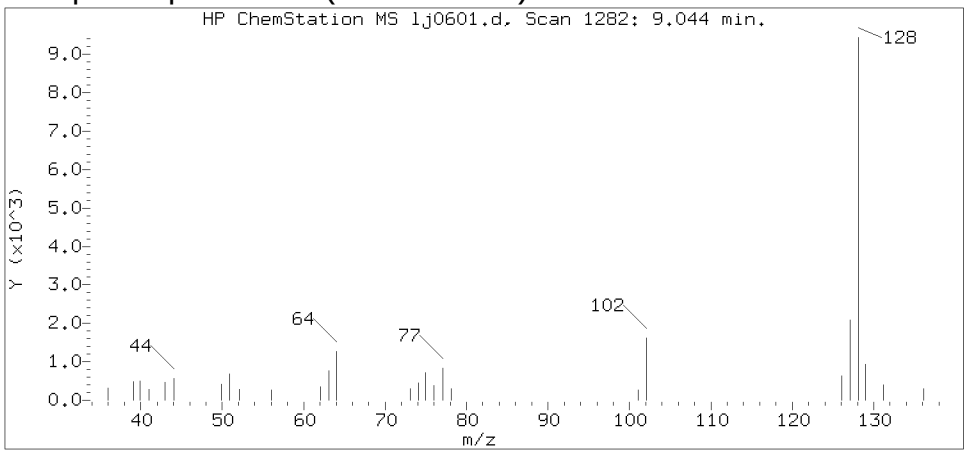


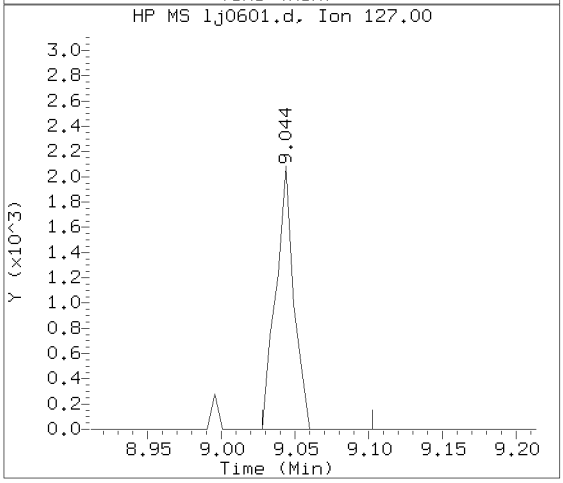
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0601.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:38 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 21:03 Unknown

Sample Name: P2904 Lab Sample ID: 8082126

Compound Number : 66
Compound Name : Naphthalene
Scan Number : 1282
Retention Time (minutes) : 9.044
Relative Retention Time :-0.00000
Quant Ion : 128.00
Area (flag) : 11065
On-column Amount (ng/ul) : 0.0717

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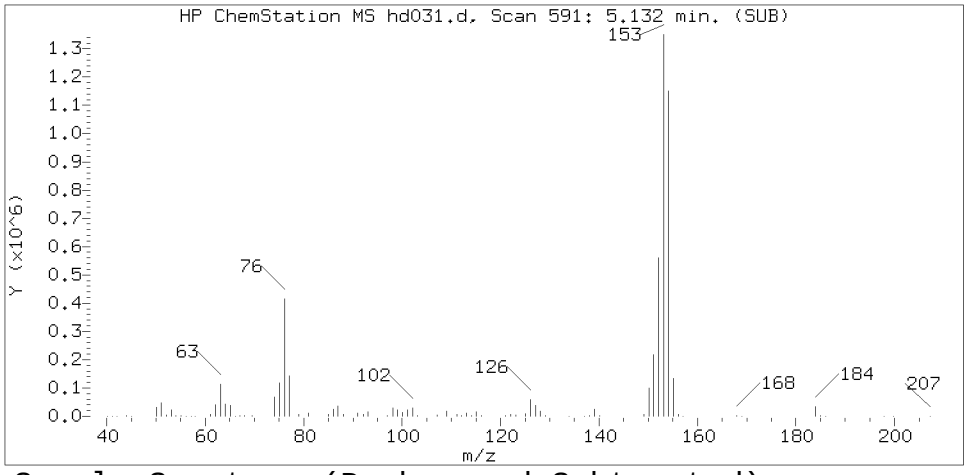
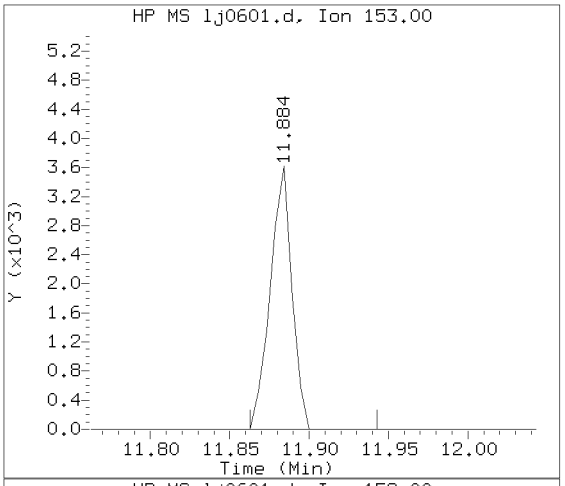
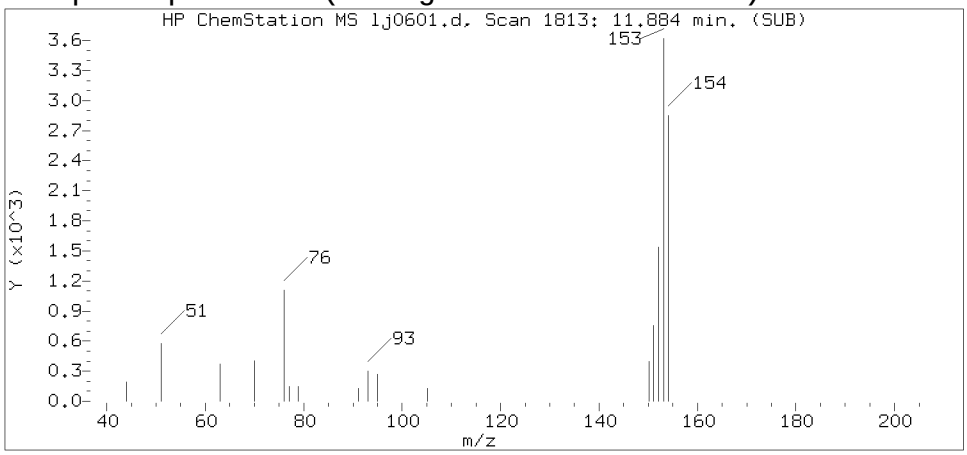
Target 3.5 esignature user ID: ceb05247

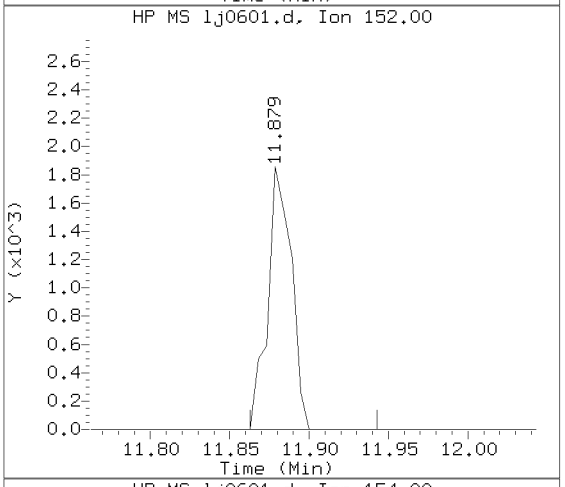
Reference Standard Spectrum for Acenaphthene



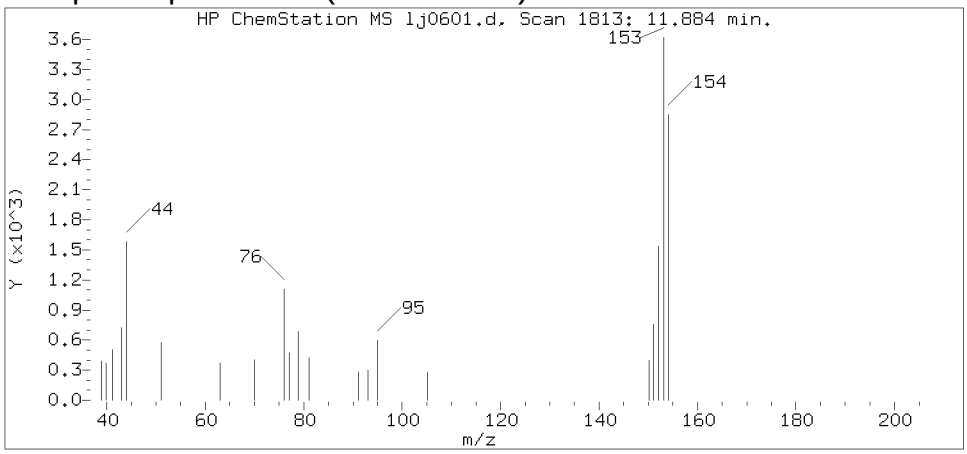


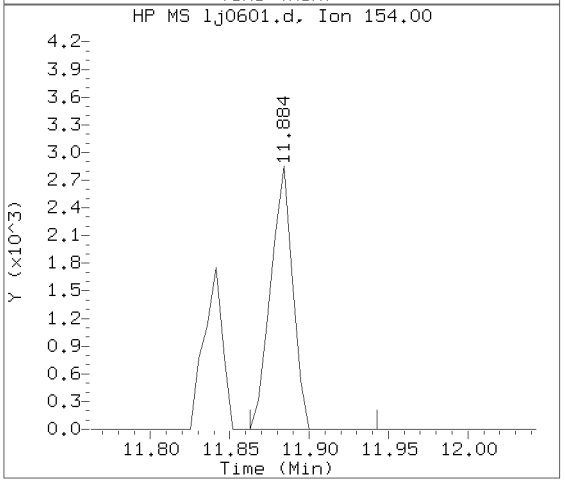
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0601.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 20:38 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 21:03 Unknown

Sample Name: P2904 Lab Sample ID: 8082126

Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1813
Retention Time (minutes) : 11.884
Relative Retention Time :-0.00000
Quant Ion : 153.00
Area (flag) : 3418
On-column Amount (ng/ul) : 0.0350

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Target 3.5 esignature user ID: ceb05247

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0602.d Injection date and time: **16-OCT-2015 21:06**
Data file Sample Info. Line: P2905;8082127;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 21:31 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.022(0.006)	904	152	191487 (-12)	5.00	
65) Naphthalene-d8	9.012(0.006)	1276	136	742424 (-15)	5.00	
113) Acenaphthene-d10	11.836(0.006)	1804	164	428335 (-13)	5.00	
153) Phenanthrene-d10	13.767(0.006)	2165	188	806820 (-13)	5.00	
175) Pyrene-d10	15.837(0.011)	2552	212	934306 (-13)	5.00	
213) Perylene-d12	20.458(0.006)	3416	264	682555 (-10)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.878(0.001)	82	1504698	20.075	80%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.793(0.000)	172	2291393	19.406	78%		61 - 112
179) Terphenyl-d14	(5)	16.158(0.000)	244	2153476	17.358	69%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.03
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)			Not Detected					0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0602.d Injection date and time: **16-OCT-2015 21:06**
Data file Sample Info. Line: P2905;8082127;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 21:31 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 1 ul

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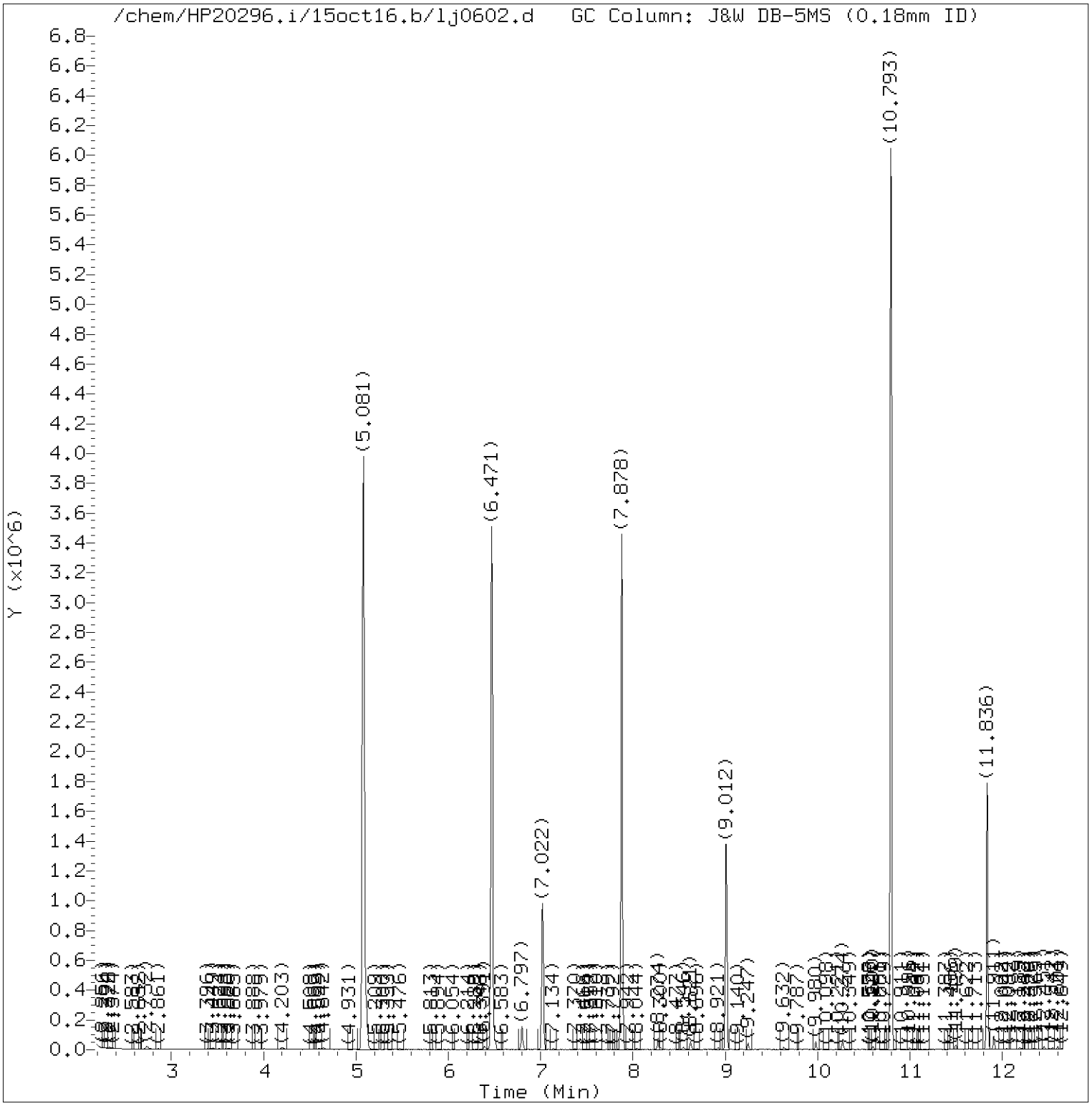
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:17. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 14:06. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

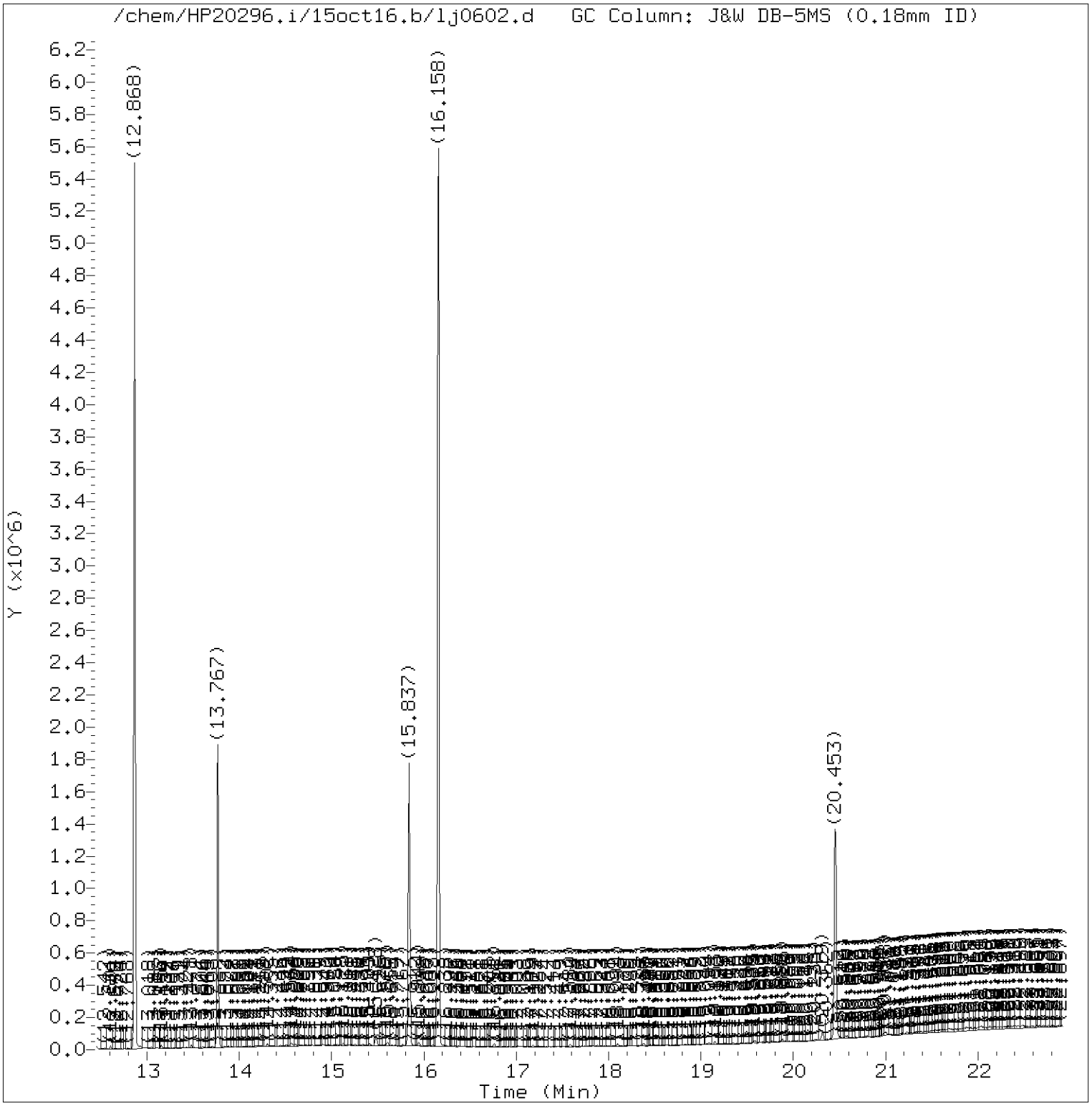
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0602.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 21:06 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 21:31 Unknown

Sample Name: P2905 Lab Sample ID: 8082127

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0602.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 21:06 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 21:31 Unknown

Sample Name: P2905 Lab Sample ID: 8082127

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0602.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 21:06 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 21:31 Unknown

Sample Name: P2905 Lab Sample ID: 8082127

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.022	152	191487	5.000
44)$Nitrobenzene-d5	(2)	7.878	82	1504698	20.075
65)*Naphthalene-d8	(2)	9.012	136	742424	5.000
93)$2-Fluorobiphenyl	(3)	10.793	172	2291393	19.406
113)*Acenaphthene-d10	(3)	11.836	164	428335	5.000
153)*Phenanthrene-d10	(4)	13.767	188	806820	5.000
175)*Pyrene-d10	(5)	15.837	212	934306	5.000
179)$Terphenyl-d14	(5)	16.158	244	2153476	17.358
213)*Perylene-d12	(6)	20.458	264	682555	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0603.d
Injection date and time: **16-OCT-2015 21:34**
Data file Sample Info. Line: P2906;8082128;1;0;SAMPLE;;;
Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 21:59 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.022(0.006)	904	152	192025 (-11)	5.00	
65) Naphthalene-d8	9.006(0.011)	1275	136	720150 (-18)	5.00	
113) Acenaphthene-d10	11.836(0.006)	1804	164	426937 (-13)	5.00	
153) Phenanthrene-d10	13.767(0.006)	2165	188	778858 (-16)	5.00	
175) Pyrene-d10	15.837(0.011)	2552	212	898160 (-16)	5.00	
213) Perylene-d12	20.452(0.011)	3415	264	653225 (-14)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.878(0.000)	82	1504346	20.691	83%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.793(0.000)	172	2254526	19.156	77%		61 - 112
179) Terphenyl-d14	(5)	16.157(0.000)	244	2374996	19.914	80%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.03
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)	11.884(-0.000)	153	7588	0.074	0.30			0.03
126) Fluorene	(3)	12.563(-0.000)	166	4583	0.042	0.17			0.03
155) Phenanthrene	(4)	13.799(0.000)	178	6583	0.041	0.16			0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)	15.505(0.000)	202	6970	0.039	0.16			0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:17. Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0603.d Injection date and time: **16-OCT-2015 21:34**
Data file Sample Info. Line: P2906;8082128;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 21:59 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 1 ul

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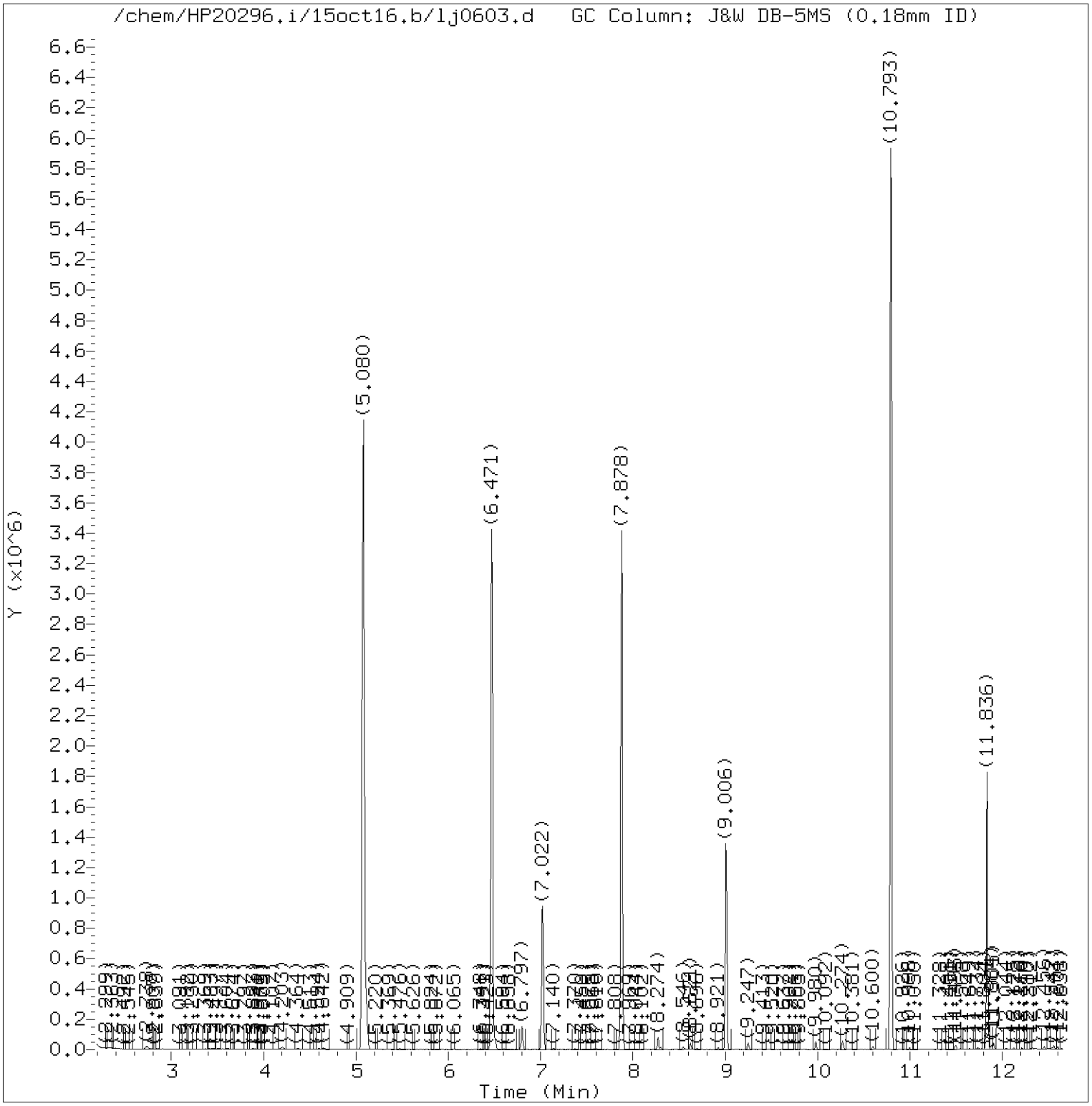
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:17. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 14:06. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

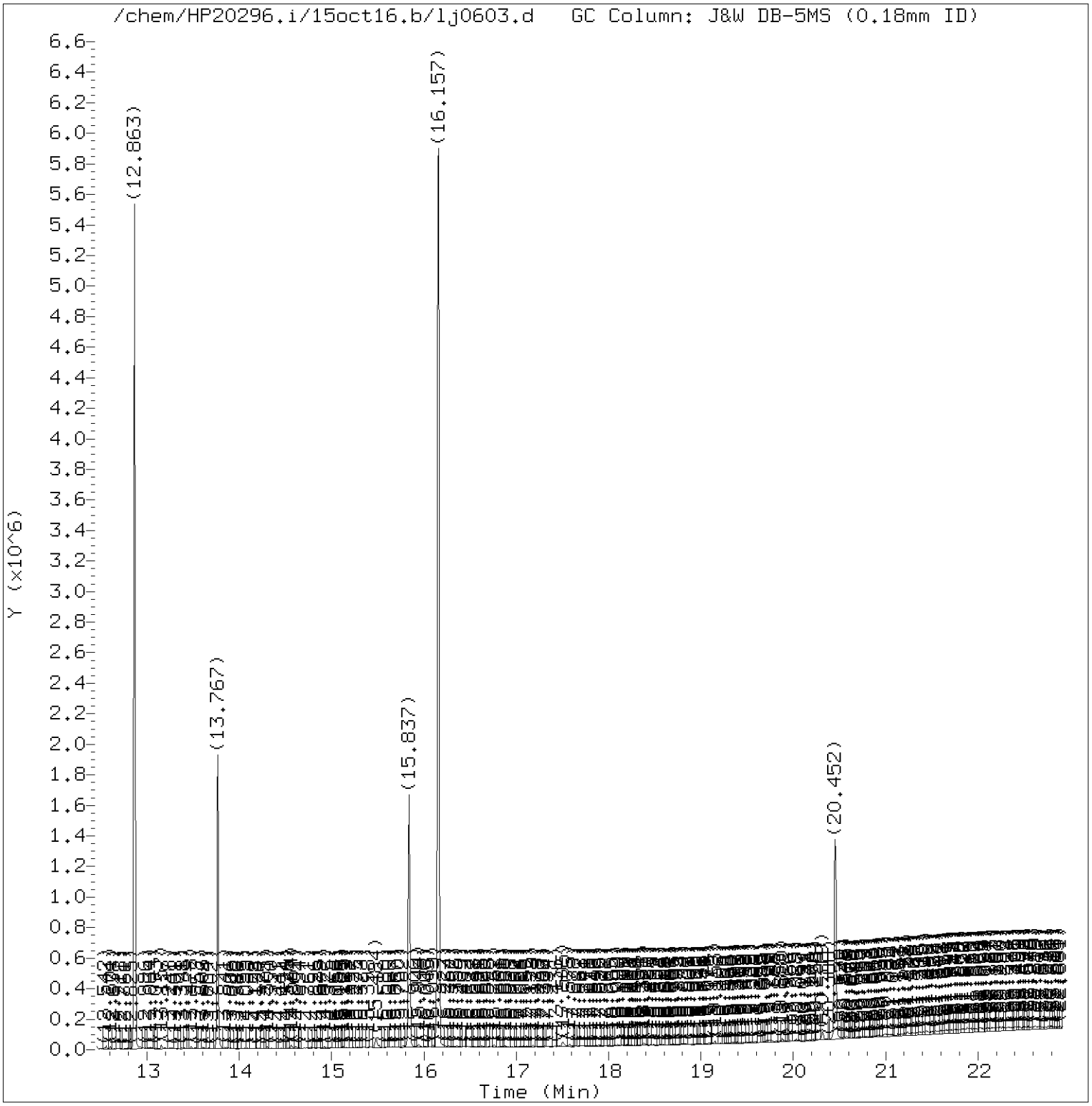
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0603.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 21:34 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 21:59 Unknown

Sample Name: P2906 Lab Sample ID: 8082128

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0603.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 21:34 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 21:59 Unknown

Sample Name: P2906 Lab Sample ID: 8082128

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0603.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 21:34 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 21:59 Unknown

Sample Name: P2906 Lab Sample ID: 8082128

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.022	152	192025	5.000
44)$Nitrobenzene-d5	(2)	7.878	82	1504346	20.691
65)*Naphthalene-d8	(2)	9.006	136	720150	5.000
93)$2-Fluorobiphenyl	(3)	10.793	172	2254526	19.156
113)*Acenaphthene-d10	(3)	11.836	164	426937	5.000
114) Acenaphthene	(3)	11.884	153	7588	0.074
126) Fluorene	(3)	12.563	166	4583	0.042
153)*Phenanthrene-d10	(4)	13.767	188	778858	5.000
155) Phenanthrene	(4)	13.799	178	6583	0.041
173) Fluoranthene	(4)	15.505	202	6970	0.039
175)*Pyrene-d10	(5)	15.837	212	898160	5.000
179)$Terphenyl-d14	(5)	16.157	244	2374996	19.914
213)*Perylene-d12	(6)	20.452	264	653225	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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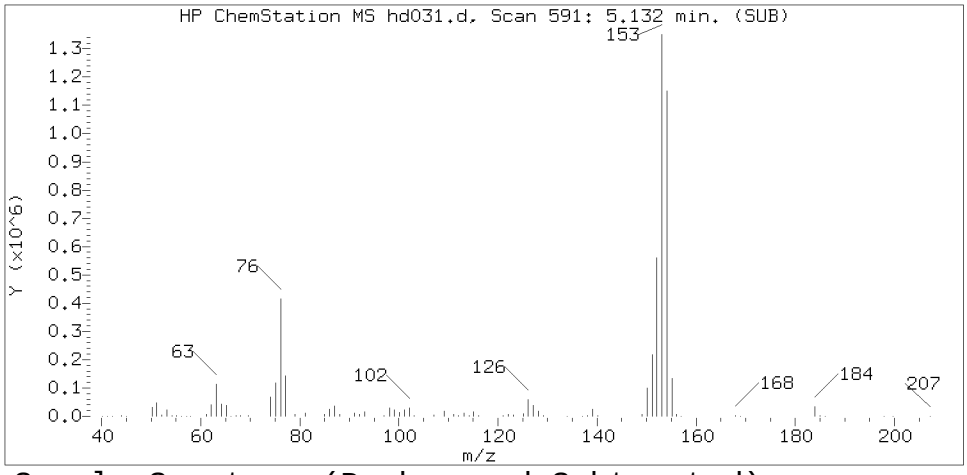
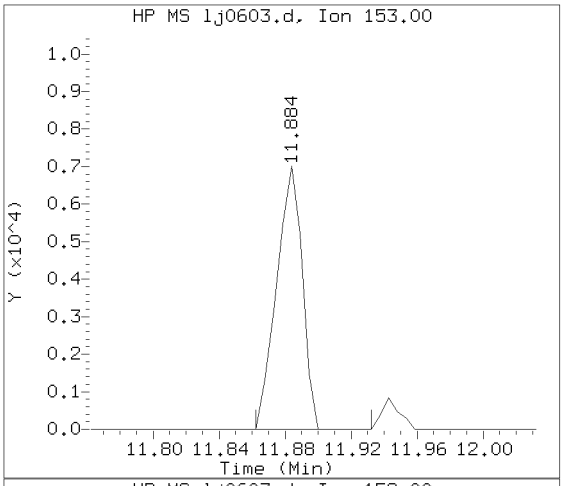
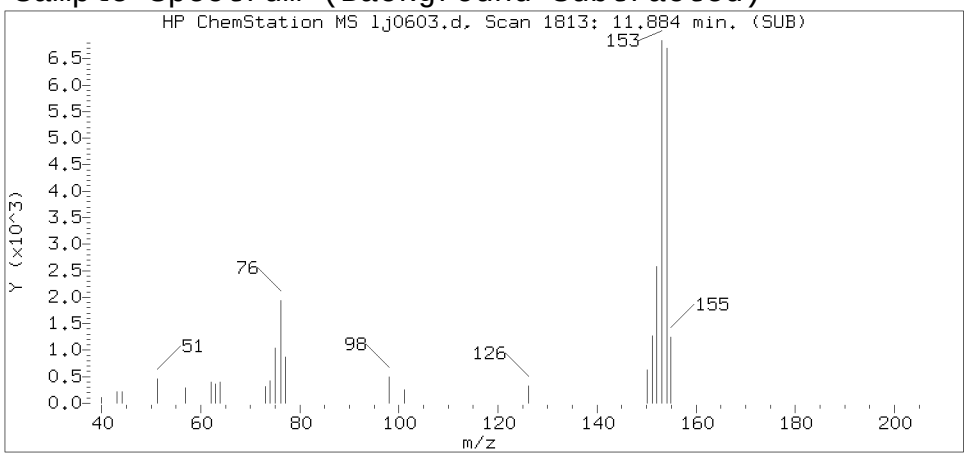
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247

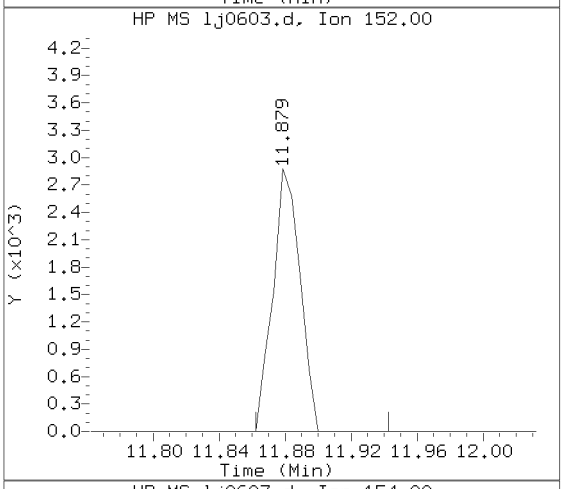
Reference Standard Spectrum for Acenaphthene



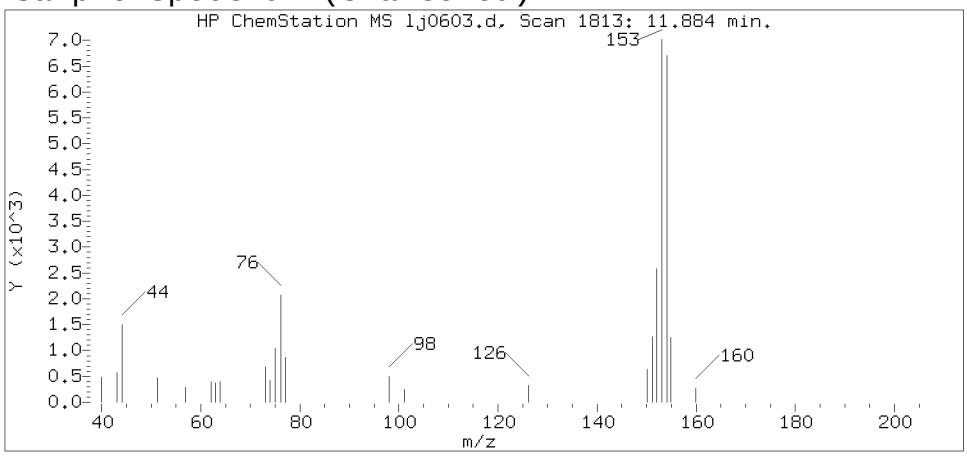


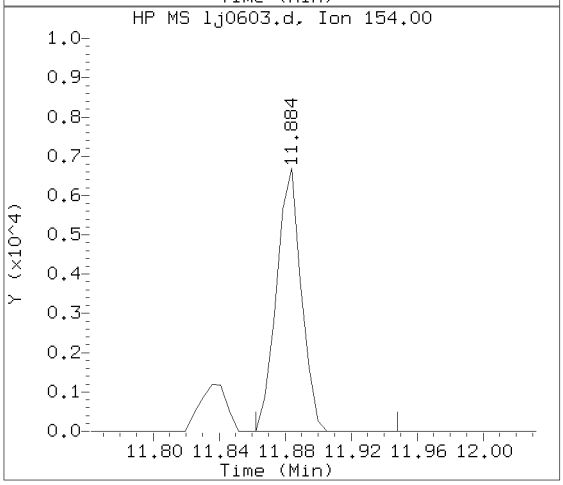
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0603.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 21:34 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 21:59 Unknown

Sample Name: P2906 Lab Sample ID: 8082128

Compound Number : 114
Compound Name : Acenaphthene
Scan Number : 1813
Retention Time (minutes) : 11.884
Relative Retention Time :-0.00000
Quant Ion : 153.00
Area (flag) : 7588
On-column Amount (ng/ul) : 0.0743

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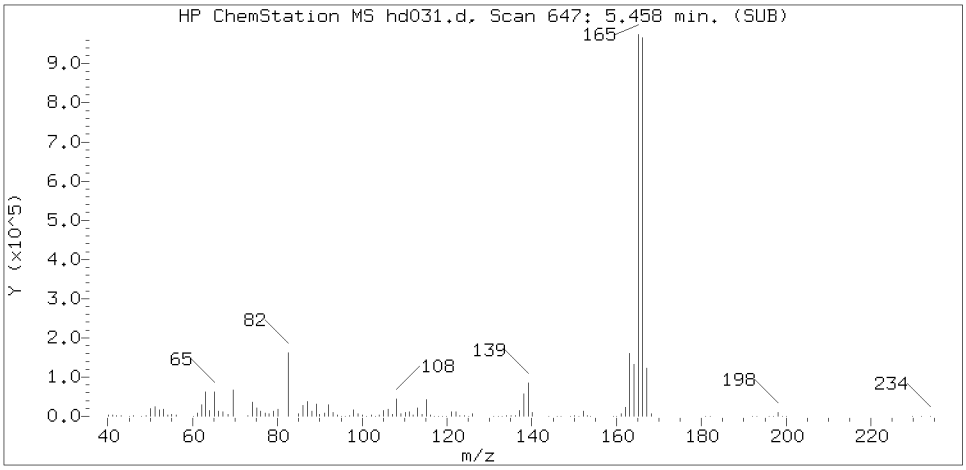
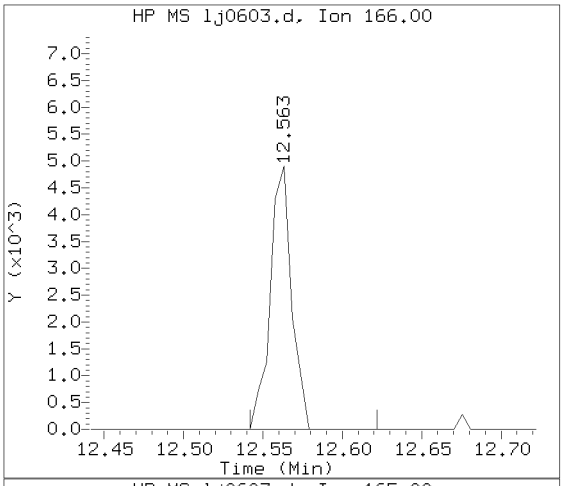
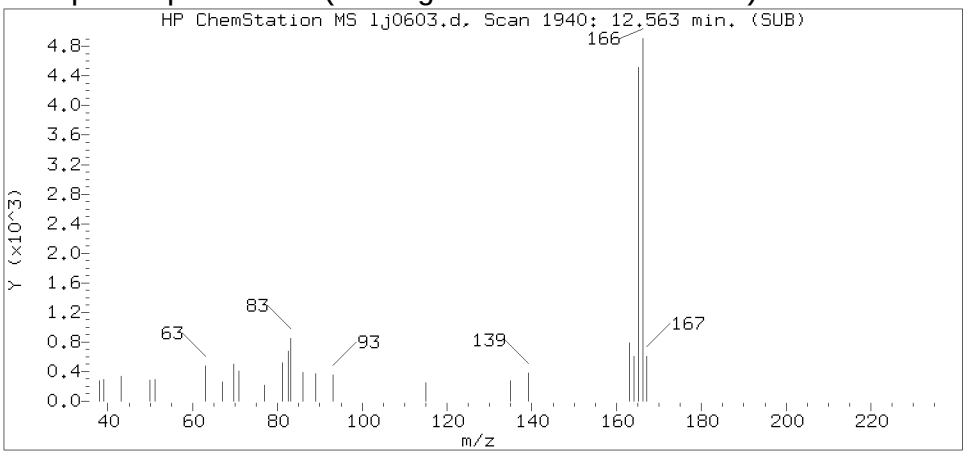
Target 3.5 esignature user ID: ceb05247

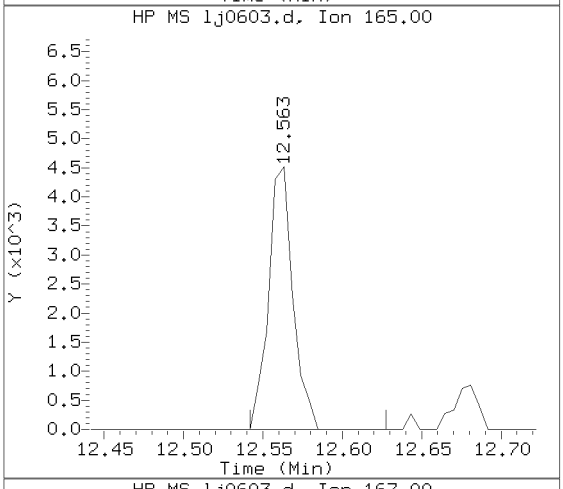
Reference Standard Spectrum for Fluorene



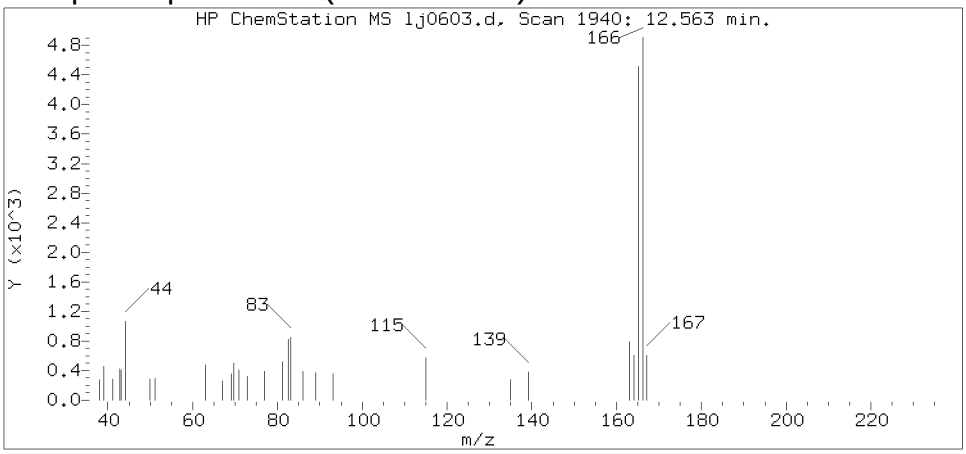


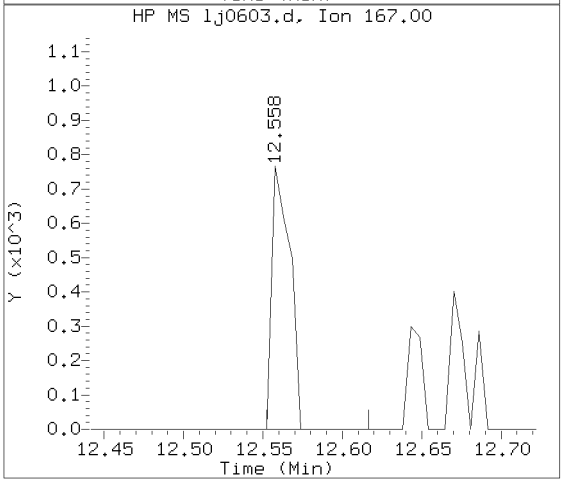
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0603.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 21:34 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 21:59 Unknown

Sample Name: P2906 Lab Sample ID: 8082128

Compound Number : 126
Compound Name : Fluorene
Scan Number : 1940
Retention Time (minutes) : 12.563
Relative Retention Time :-0.00003
Quant Ion : 166.00
Area (flag) : 4583
On-column Amount (ng/ul) : 0.0420

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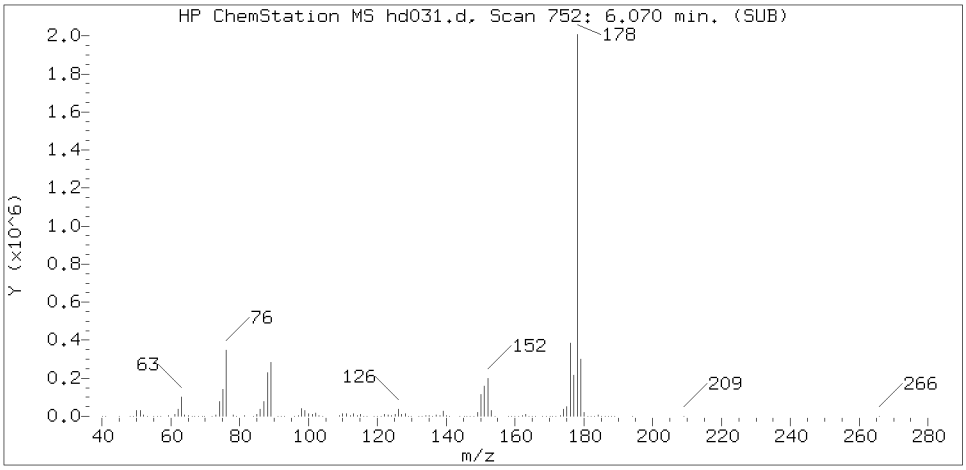
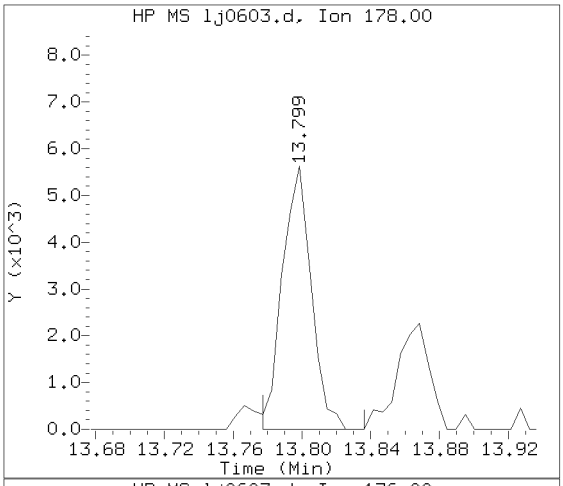
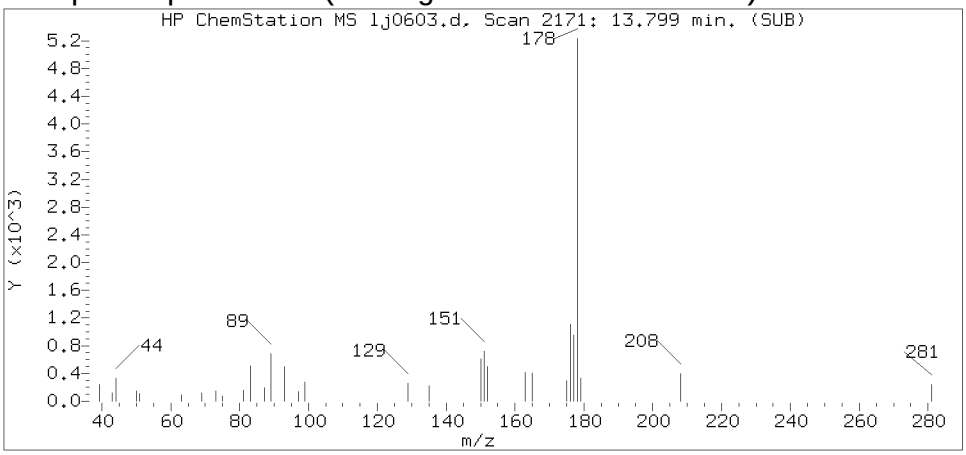
Target 3.5 esignature user ID: ceb05247

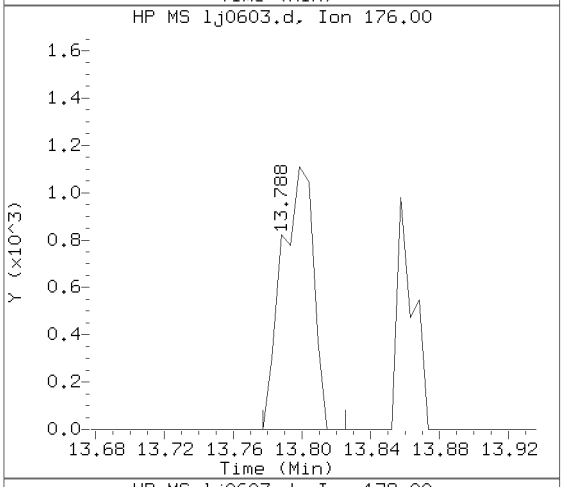
Reference Standard Spectrum for Phenanthrene



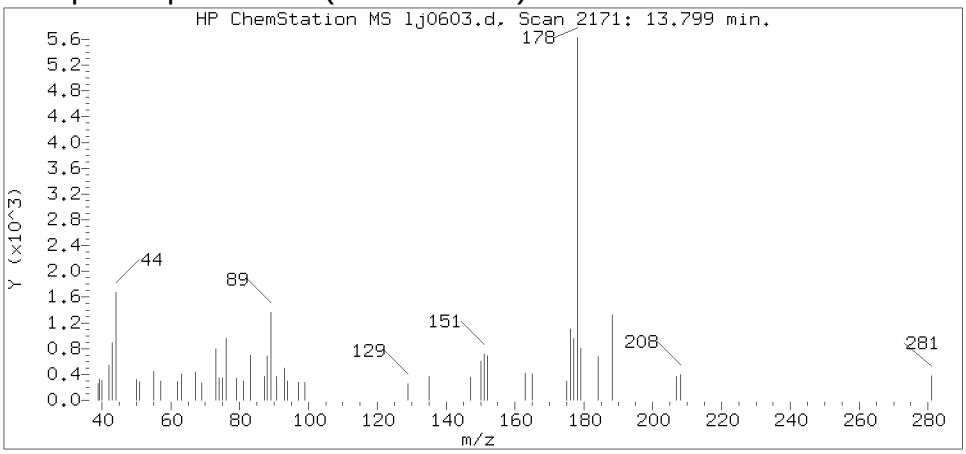


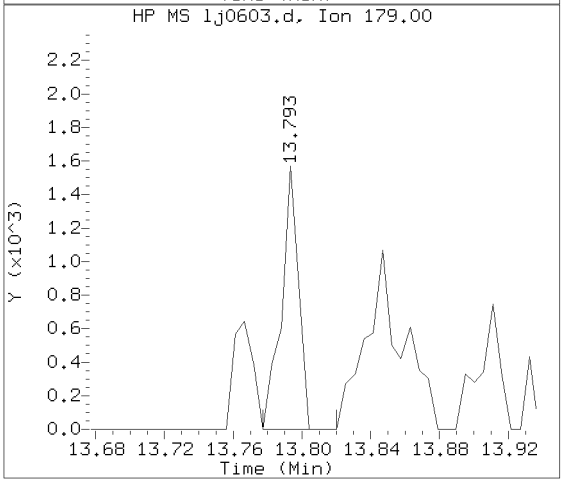
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0603.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 21:34 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 21:59 Unknown

Sample Name: P2906 Lab Sample ID: 8082128

Compound Number	: 155
Compound Name	: Phenanthrene
Scan Number	: 2171
Retention Time (minutes)	: 13.799
Relative Retention Time	: 0.00000
Quant Ion	: 178.00
Area (flag)	: 6583
On-column Amount (ng/ul)	: 0.0406

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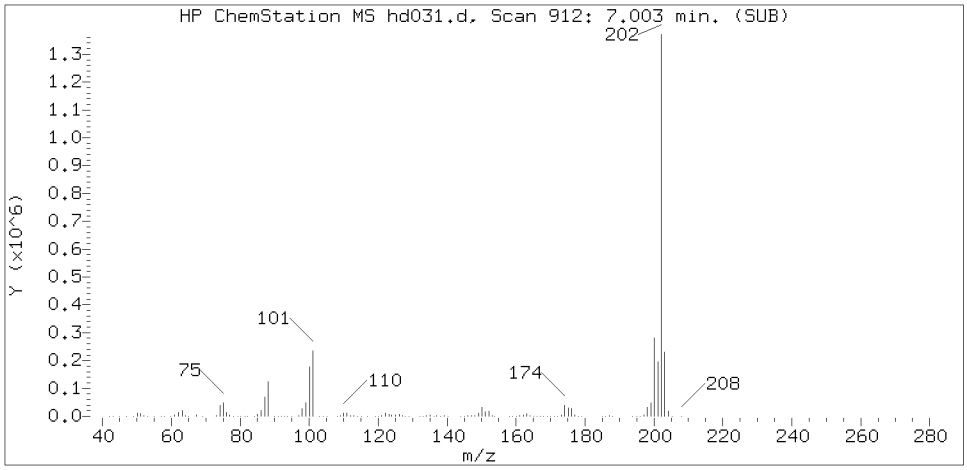
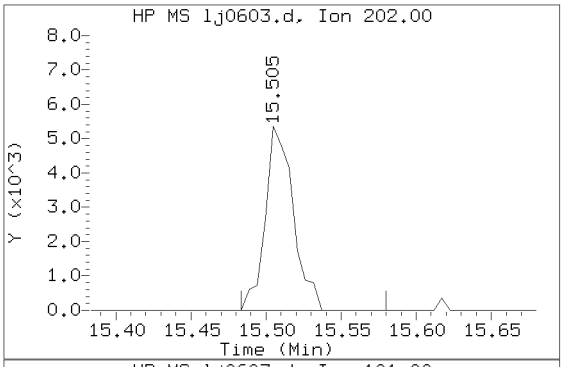
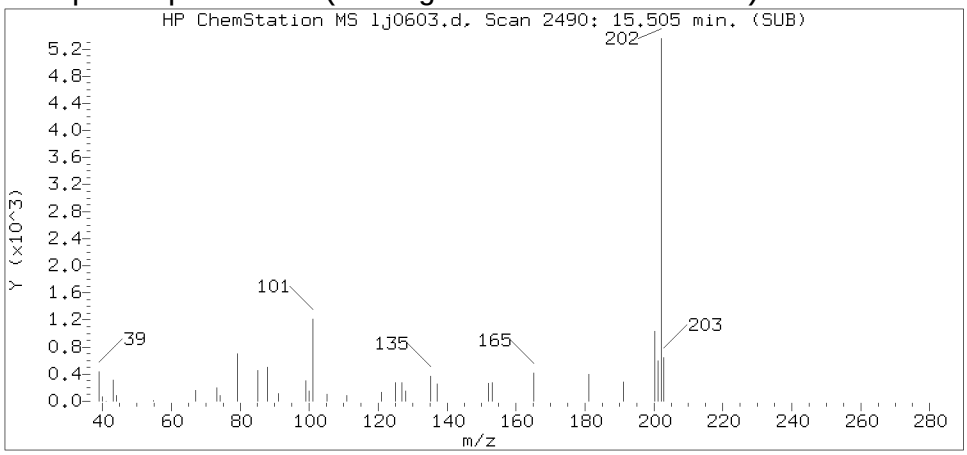
Target 3.5 esignature user ID: ceb05247

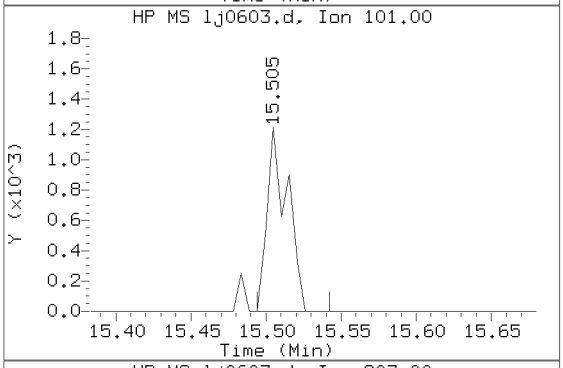
Reference Standard Spectrum for Fluoranthene

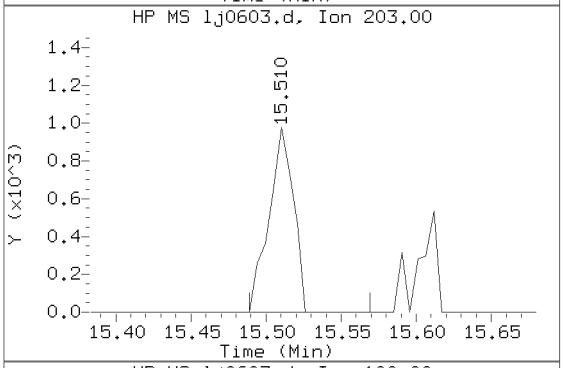




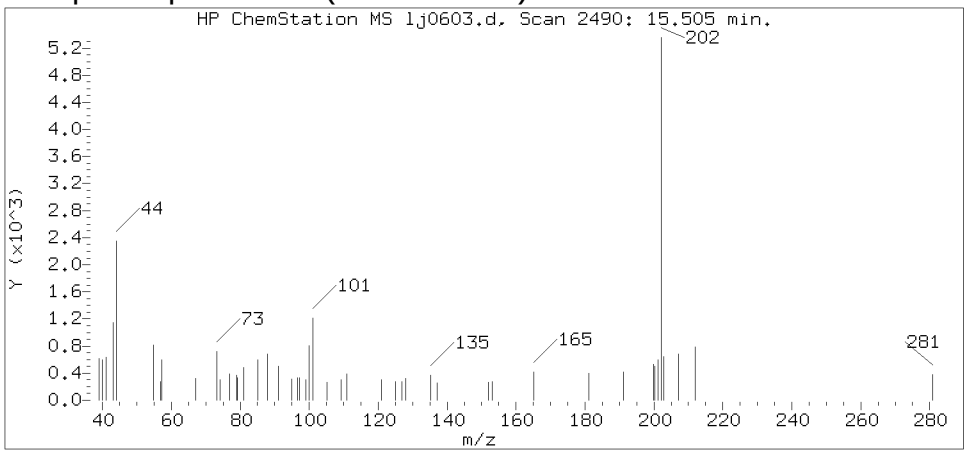
Sample Spectrum (Background Subtracted)

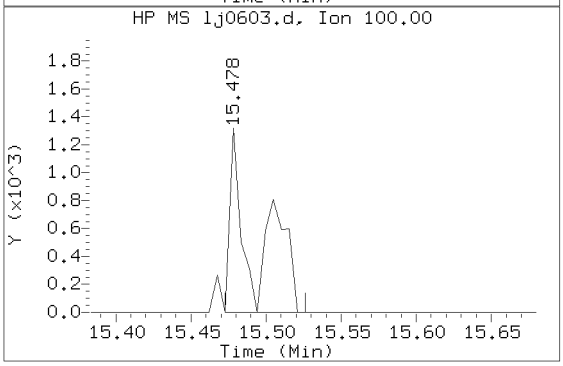






Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0603.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 21:34 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 21:59 Unknown

Sample Name: P2906 Lab Sample ID: 8082128

Compound Number	: 173
Compound Name	: Fluoranthene
Scan Number	: 2490
Retention Time (minutes)	: 15.505
Relative Retention Time	: 0.00072
Quant Ion	: 202.00
Area (flag)	: 6970
On-column Amount (ng/ul)	: 0.0395

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct17.b/lj0621.d
Injection date and time: **17-OCT-2015 17:31**
Data file Sample Info. Line: P2907;8082129;1;0;SAMPLE;;;
Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 17-Oct-2015 17:56 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 17-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct17.b/lj0611.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 245 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.001(0.006)	900	152	207064 (-15)	5.00	
65) Naphthalene-d8	8.990(0.005)	1272	136	765175 (-19)	5.00	
113) Acenaphthene-d10	11.820(0.006)	1801	164	426485 (-18)	5.00	
153) Phenanthrene-d10	13.751(0.006)	2162	188	774655 (-16)	5.00	
175) Pyrene-d10	15.820(0.005)	2549	212	907555 (-14)	5.00	
213) Perylene-d12	20.436(0.000)	3412	264	651151 (-14)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.862(0.000)	82	1533016	19.844	79%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.777(0.000)	172	2203900	18.746	75%		61 - 112
179) Terphenyl-d14	(5)	16.136(0.000)	244	1672078	13.875	55%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.03
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)			Not Detected					0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:30. Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct17.b/lj0621.d Injection date and time: **17-OCT-2015 17:31**
Data file Sample Info. Line: P2907;8082129;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 17-Oct-2015 17:56 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 17-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct17.b/lj0611.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 245 ml Volume Injected (Vi): 1 ul

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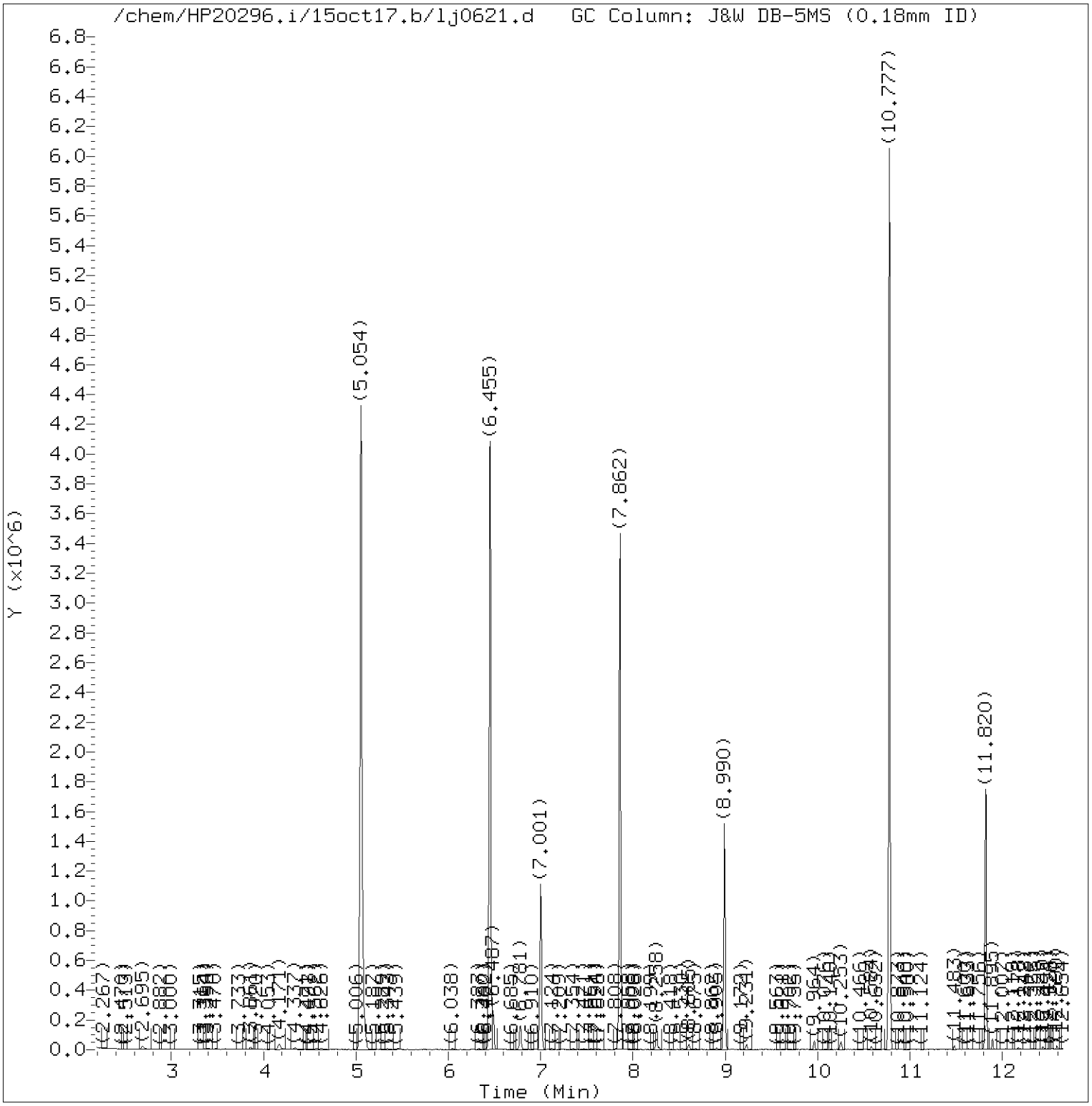
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:30. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 14:09. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

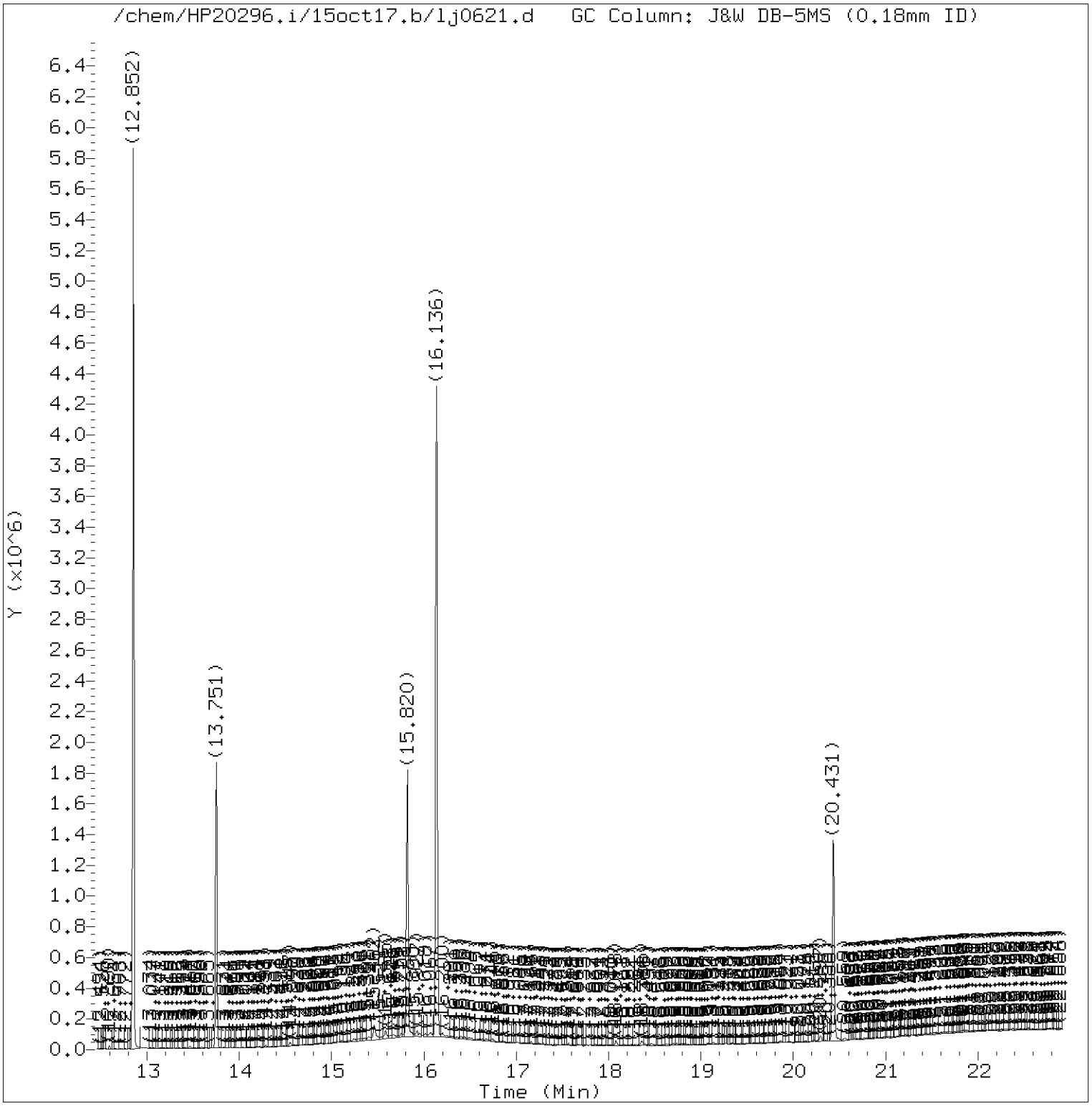
Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0621.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:31 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 17:56 Unknown

Sample Name: P2907 Lab Sample ID: 8082129

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:30.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0621.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:31 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 17:56 Unknown

Sample Name: P2907 Lab Sample ID: 8082129

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:30.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0621.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:31 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 17:56 Unknown

Sample Name: P2907 Lab Sample ID: 8082129

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.001	152	207064	5.000
44)$Nitrobenzene-d5	(2)	7.862	82	1533016	19.844
65)*Naphthalene-d8	(2)	8.990	136	765175	5.000
93)$2-Fluorobiphenyl	(3)	10.777	172	2203900	18.746
113)*Acenaphthene-d10	(3)	11.820	164	426485	5.000
153)*Phenanthrene-d10	(4)	13.751	188	774655	5.000
175)*Pyrene-d10	(5)	15.820	212	907555	5.000
179)$Terphenyl-d14	(5)	16.136	244	1672078	13.875
213)*Perylene-d12	(6)	20.436	264	651151	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:30.
Target 3.5 esignature user ID: hbz01996

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct17.b/lj0622.d
Injection date and time: **17-OCT-2015 17:59**
Data file Sample Info. Line: P2908;8082130;1;0;SAMPLE;;;
Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 17-Oct-2015 18:23 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 17-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct17.b/lj0611.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 242 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.001(0.005)	900	152	196159 (-19)	5.00	
65) Naphthalene-d8	8.990(0.005)	1272	136	765205 (-19)	5.00	
113) Acenaphthene-d10	11.820(0.005)	1801	164	420552 (-19)	5.00	
153) Phenanthrene-d10	13.751(0.005)	2162	188	758951 (-18)	5.00	
175) Pyrene-d10	15.821(0.005)	2549	212	853400 (-19)	5.00	
213) Perylene-d12	20.431(0.005)	3411	264	617858 (-18)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.862(0.000)	82	1688453	21.856	87%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.777(0.000)	172	2279498	19.662	79%		61 - 112
179) Terphenyl-d14	(5)	16.136(0.000)	244	2237082	19.741	79%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.03
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)			Not Detected					0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:30. Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct17.b/lj0622.d Injection date and time: **17-OCT-2015 17:59**
Data file Sample Info. Line: P2908;8082130;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 17-Oct-2015 18:23 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 17-OCT-2015 13:10
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct17.b/lj0611.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 242 ml Volume Injected (Vi): 1 ul

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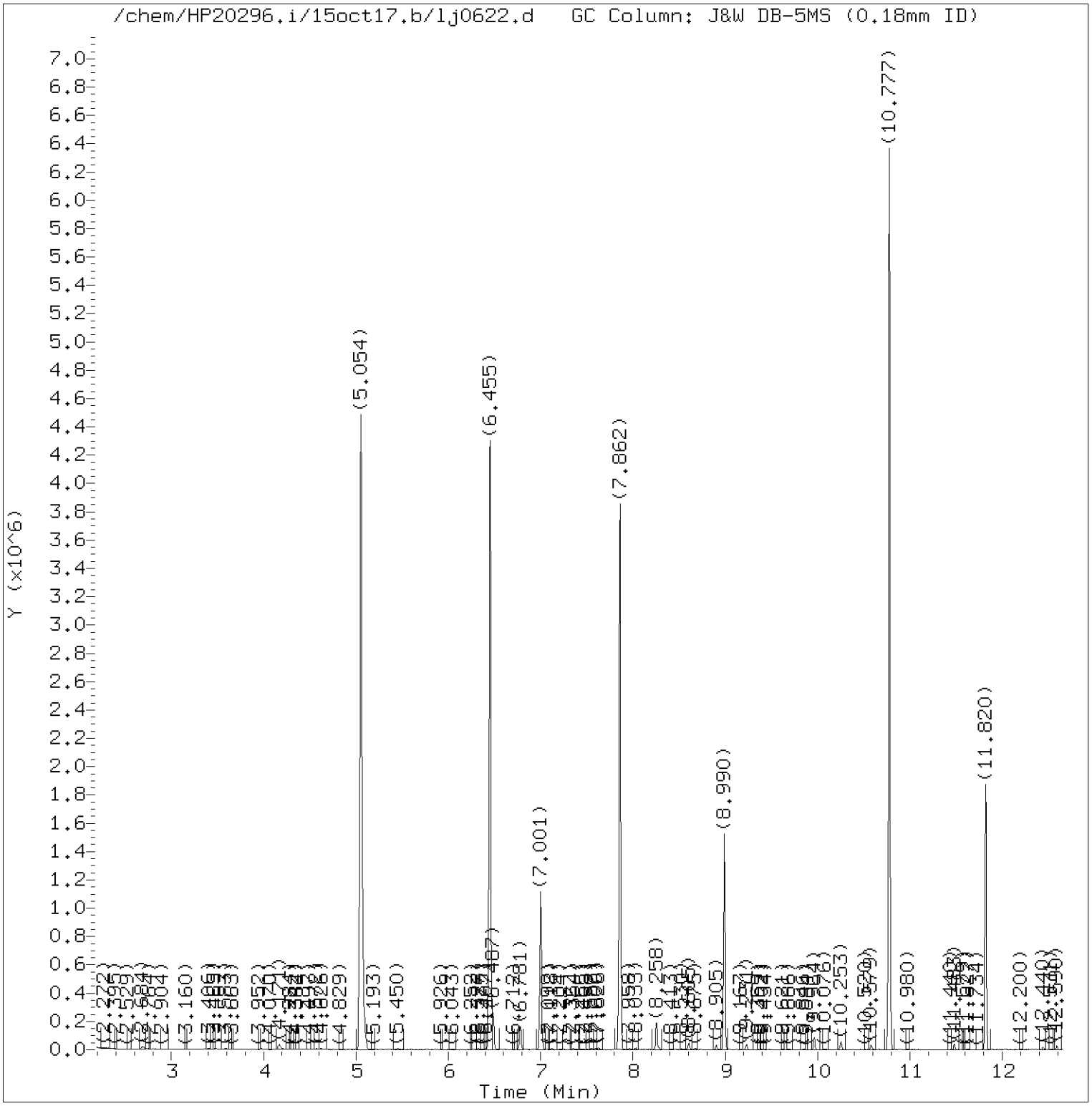
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Holly B. Ziegler on 10/19/2015 at 09:30. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 14:12. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

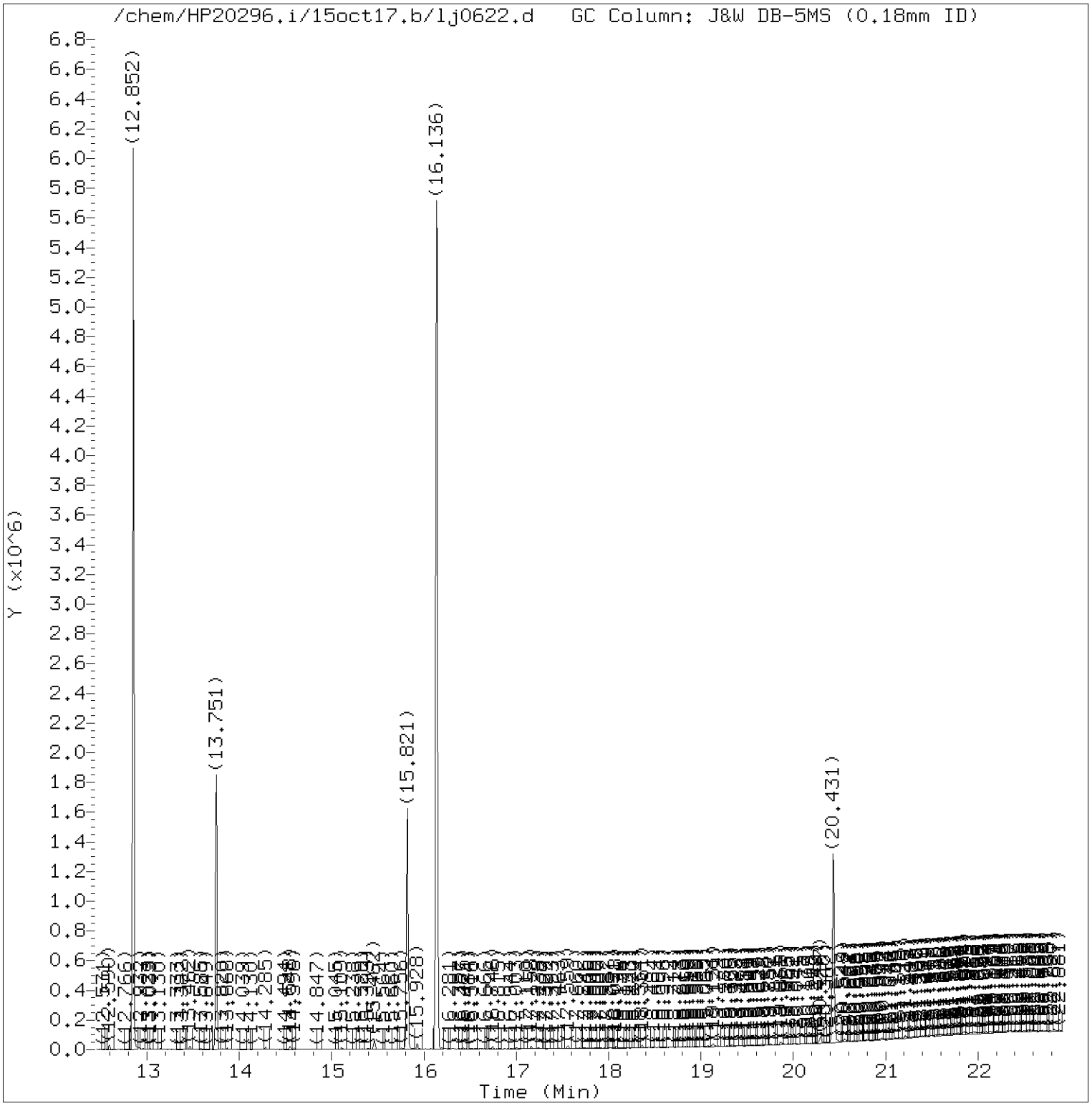
Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0622.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:59 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 18:23 Unknown

Sample Name: P2908 Lab Sample ID: 8082130

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:30.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0622.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:59 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 18:23 Unknown

Sample Name: P2908 Lab Sample ID: 8082130

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:30.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0622.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 17:59 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: 4656
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 18:23 Unknown

Sample Name: P2908 Lab Sample ID: 8082130

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.001	152	196159	5.000
44)$Nitrobenzene-d5	(2)	7.862	82	1688453	21.856
65)*Naphthalene-d8	(2)	8.990	136	765205	5.000
93)$2-Fluorobiphenyl	(3)	10.777	172	2279498	19.662
113)*Acenaphthene-d10	(3)	11.820	164	420552	5.000
153)*Phenanthrene-d10	(4)	13.751	188	758951	5.000
175)*Pyrene-d10	(5)	15.821	212	853400	5.000
179)$Terphenyl-d14	(5)	16.136	244	2237082	19.741
213)*Perylene-d12	(6)	20.431	264	617858	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/19/2015 at 09:30.
Target 3.5 esignature user ID: hbz01996

Standards Data

Semivolatiles by GC/MS

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP20296 **HP #12**

Data Directory Path is - D:\DATA\15oct15\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
hbz01996	LJ0530.D	RVDFTPP2435	10/15/2015	11:57		
hbz01996	LJ0531.D	RVSTD2745	10/15/2015	13:06		
hbz01996	LJ0532.D	RVSTD2745	10/15/2015	14:04		
hbz01996	LJ0533.D	RVSTD2745	10/15/2015	14:32		
hbz01996	LJ0534.D	RVSTD2745	10/15/2015	15:00		
hbz01996	LJ0535.D	RVSTD2745	10/15/2015	15:28		
hbz01996	LJ0536.D	RVSTD2745	10/15/2015	15:56		
hbz01996	LJ0537.D	RVSTD2745	10/15/2015	16:23		
hbz01996	LJ0538.D	RVMDL2745	10/15/2015	16:51		
hbz01996	LJ0539.D	PAHMDL2745	10/15/2015	17:19		
hbz01996	LJ0540.D	RVICV2465	10/15/2015	17:47		
hbz01996	LJ0541.D	RVBASICV2475	10/15/2015	18:15		
hbz01996	LJ0542.D			18:43		

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP20296 **HP #12**

Data Directory Path is - D:\DATA\15oct16\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
hbz01996	LJ0580.D	RVDFTPP2435	10/16/2015	08:06		
hbz01996	LJ0580z.D	RVDFTPP2435	10/16/2015	09:57		
hbz01996	LJ0581.D	RVSTD2745	10/16/2015	10:17		
hbz01996	LJ0582.D	SBLKWB283	10/16/2015	11:20	15283WAB	
hbz01996	LJ0583.D	283WBLCS	10/16/2015	11:48	15283WAB	
hbz01996	LJ0582a.D	SBLKWB283	10/16/2015	12:16	15283WAB	
hbz01996	LJ0584.D	8081061	10/16/2015	12:44	15285WAJ	
hbz01996	LJ0585.D	8081062	10/16/2015	13:12	15285WAJ	
hbz01996	LJ0586.D	8081063	10/16/2015	13:40	15285WAJ	
hbz01996	LJ0587.D	8081064	10/16/2015	14:08	15285WAJ	
hbz01996	LJ0588.D	8082098	10/16/2015	14:36	15283WAB	
hbz01996	LJ0589.D	8082099	10/16/2015	15:03	15283WAB	
hbz01996	LJ0590.D	8082100	10/16/2015	15:31	15283WAB	
hbz01996	LJ0591.D	8082101	10/16/2015	15:59	15283WAB	
hbz01996	LJ0592.D	8082114	10/16/2015	16:27	15283WAB	
hbz01996	LJ0593.D	8082115	10/16/2015	16:55	15283WAB	
hbz01996	LJ0594.D	8082117	10/16/2015	17:23	15283WAB	
hbz01996	LJ0595.D	8082118	10/16/2015	17:51	15283WAB	
hbz01996	LJ0596.D	8082119	10/16/2015	18:19	15283WAB	
hbz01996	LJ0597.D	8082120	10/16/2015	18:47	15283WAB	
hbz01996	LJ0598.D	8082121	10/16/2015	19:15	15283WAB	
hbz01996	LJ0599.D	8082122	10/16/2015	19:42	15283WAB	
hbz01996	LJ0600.D	8082124	10/16/2015	20:10	15283WAB	
hbz01996	LJ0601.D	8082126	10/16/2015	20:38	15283WAB	
hbz01996	LJ0602.D	8082127	10/16/2015	21:06	15283WAB	
hbz01996	LJ0603.D	8082128	10/16/2015	21:34	15283WAB	
hbz01996	LJ0604.D	8082129	10/16/2015	22:02	15283WAB	
hbz01996	LJ0605.D	8082130	10/16/2015	22:29	15283WAB	

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP20296 **HP #12**

Data Directory Path is - D:\DATA\15oct17\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
ceb05247	LJ0610.D	RVDFTPP2435	10/17/2015	12:08		
ceb05247	LJ0610a.D	RVDFTPP2435	10/17/2015	12:29		
ceb05247	LJ0611.D	RVSTD2745	10/17/2015	12:42		
ceb05247	LJ0612.D	SBLKWD288	10/17/2015	13:20	15288WAD	
ceb05247	LJ0613.D	288WDLCS	10/17/2015	13:48	15288WAD	
ceb05247	LJ0614.D	288WDLCSD	10/17/2015	14:16	15288WAD	
ceb05247	LJ0615.D	8082098DL	10/17/2015	14:44	15283WAB	10
ceb05247	LJ0616.D	8082099DL	10/17/2015	15:12	15283WAB	20
ceb05247	LJ0617.D	8082100DL	10/17/2015	15:39	15283WAB	20
ceb05247	LJ0618.D	8082101DL	10/17/2015	16:07	15283WAB	20
ceb05247	LJ0619.D	8082124DL	10/17/2015	16:35	15283WAB	10
ceb05247	LJ0620.D	8082124DL2	10/17/2015	17:03	15283WAB	100
ceb05247	LJ0621.D	8082129	10/17/2015	17:31	15283WAB	
ceb05247	LJ0622.D	8082130	10/17/2015	17:59	15283WAB	
ceb05247	LJ0623.D	8083925	10/17/2015	18:27	15288WAD	
ceb05247	LJ0624.D	8083928	10/17/2015	18:55	15288WAD	
ceb05247	LJ0625.D	8083929	10/17/2015	19:22	15288WAD	
ceb05247	LJ0626.D	8083930	10/17/2015	19:50	15288WAD	
ceb05247	LJ0627.D	8083931	10/17/2015	20:18	15288WAD	
ceb05247	LJ0628.D	8083932	10/17/2015	20:46	15288WAD	
ceb05247	LJ0629.D	8083933	10/17/2015	21:14	15288WAD	
ceb05247	LJ0630.D	8083934	10/17/2015	21:42	15288WAD	
ceb05247	LJ0631.D	8083935	10/17/2015	22:09	15288WAD	
ceb05247	LJ0632.D	8083937	10/17/2015	22:37	15288WAD	
ceb05247	LJ0633.D	8083938	10/17/2015	23:05	15288WAD	
ceb05247	LJ0634.D	8083939	10/17/2015	23:33	15288WAD	
ceb05247	LJ0635.D	8083940	10/18/2015	00:01	15288WAD	
ceb05247	LJ0636.D	8083941	10/18/2015	00:29	15288WAD	
ceb05247	LJ0637.D	8083942	10/18/2015	00:57	15288WAD	
ceb05247	LJ0638.D	8083943	10/18/2015	01:25	15288WAD	
ceb05247	LJ0639.D	8083944	10/18/2015	01:53	15288WAD	
ceb05247	LJ0640.D	8083945	10/18/2015	02:21	15288WAD	

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP20296 **HP #12**

Data Directory Path is - D:\DATA\15oct21a\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
ceb05247	LJ0710.D	RVDFTPP2435	10/21/2015	15:15		
ceb05247	LJ0711.D	RVSTD2745	10/21/2015	15:30		
ceb05247	LJ0712.D	RVSTD2745	10/21/2015	15:58		
ceb05247	LJ0713.D	RVSTD2745	10/21/2015	16:26		
ceb05247	LJ0714.D	RVSTD2745	10/21/2015	16:54		
ceb05247	LJ0715.D	RVSTD2745	10/21/2015	17:22		
ceb05247	LJ0716.D	RVSTD2745	10/21/2015	17:50		
ceb05247	LJ0717.D	RVSTD2745	10/21/2015	18:18		
ceb05247	LJ0718.D	RVSTD2745	10/21/2015	18:46		
ceb05247	LJ0719.D	RVMDL2745	10/21/2015	19:14		
ceb05247	LJ0720.D	RVPAHMDL2745	10/21/2015	19:42		
ceb05247	LJ0721.D	RVICV2465	10/21/2015	20:10		
ceb05247	LJ0722.D	RVBASICV2475	10/21/2015	20:38		

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP20296 **HP #12**

Data Directory Path is - D:\DATA\15oct22\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
hbz01996	LJ0730.D	RVDFTPP2435	10/22/2015	08:14		
hbz01996	LJ0730z.D	RVDFTPP2435	10/22/2015	08:29		
hbz01996	LJ0731.D	RVSTD2745	10/22/2015	08:42		
hbz01996	LJ0732.D	SBLKWE293	10/22/2015	09:53	15293WAE	
hbz01996	LJ0733.D	293WELCS	10/22/2015	10:21	15293WAE	
hbz01996	LJ0734.D	293WELCSD	10/22/2015	10:49	15293WAE	
hbz01996	LJ0735.D	SBLKWP293	10/22/2015	11:17	15293WAP	
hbz01996	LJ0736.D	293WPLCS	10/22/2015	11:45	15293WAP	
hbz01996	LJ0737.D	293WPLCSD	10/22/2015	12:13	15293WAP	
hbz01996	LJ0738.D	8080063RE	10/22/2015	12:41	15293WAE	
hbz01996	LJ0739.D	8082124RE	10/22/2015	13:08	15293WAE	
hbz01996	LJ0741.D	8084132RE	10/22/2015	13:36	15293WAP	
hbz01996	LJ0742.D	8084138RE	10/22/2015	14:04	15293WAP	
hbz01996	LJ0743.D	8084141RE	10/22/2015	14:32	15293WAP	
hbz01996	LJ0740.D	8081610RE	10/22/2015	15:00	15293WAP	
hbz01996	LJ0747.D	8090566	10/22/2015	15:28	15293WAP	
hbz01996	LJ0748.D	8090568	10/22/2015	15:56	15293WAP	
hbz01996	LJ0749.D	8090569	10/22/2015	16:24	15293WAP	
hbz01996	LJ0750.D	8090570	10/22/2015	16:52	15293WAP	
hbz01996	LJ0751.D	8090571	10/22/2015	17:20	15293WAP	
hbz01996	LJ0752.D	8090572	10/22/2015	17:48	15293WAP	
hbz01996	LJ0753.D	8090573	10/22/2015	18:16	15293WAP	
hbz01996	LJ0754.D	8090574	10/22/2015	18:44	15293WAP	
hbz01996	LJ0755.D	8090575	10/22/2015	19:12	15293WAP	
hbz01996	LJ0756.D	8090576	10/22/2015	19:40	15293WAP	
hbz01996	LJ0757.D	8090577	10/22/2015	20:08	15293WAP	

Data File: /chem/HP20296.i/15oct15.b/lj0530.d

Date : 15-OCT-2015 11:57

Client ID: DFTPP12.5

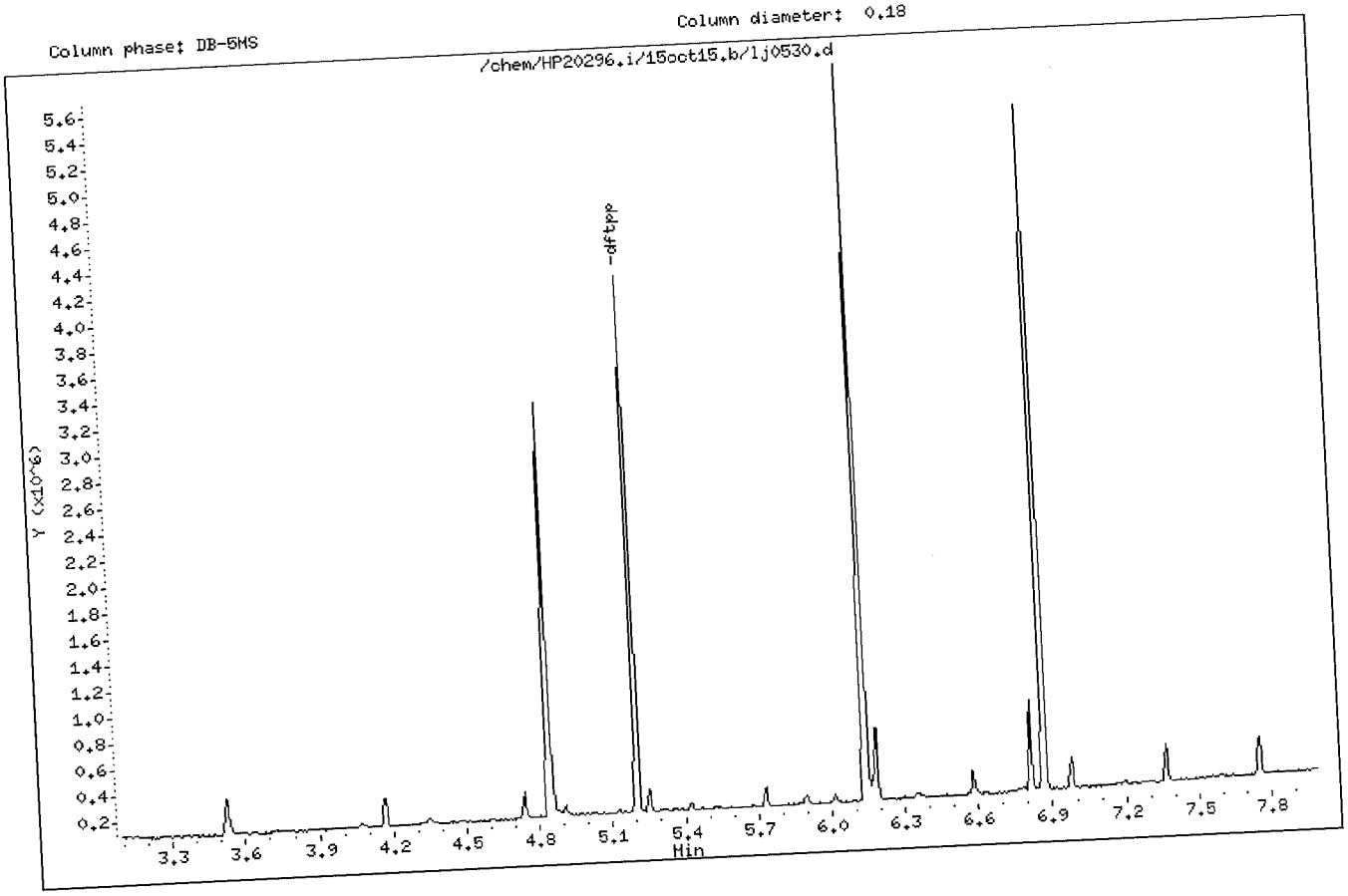
Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Instrument: HP20296.i

Operator: hbz01996

Column diameter: 0.18

Column phase: DB-5MS



Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15oct15.b/lj0530.d

Date : 15-OCT-2015 11:57

Client ID: DFTPP12.5

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

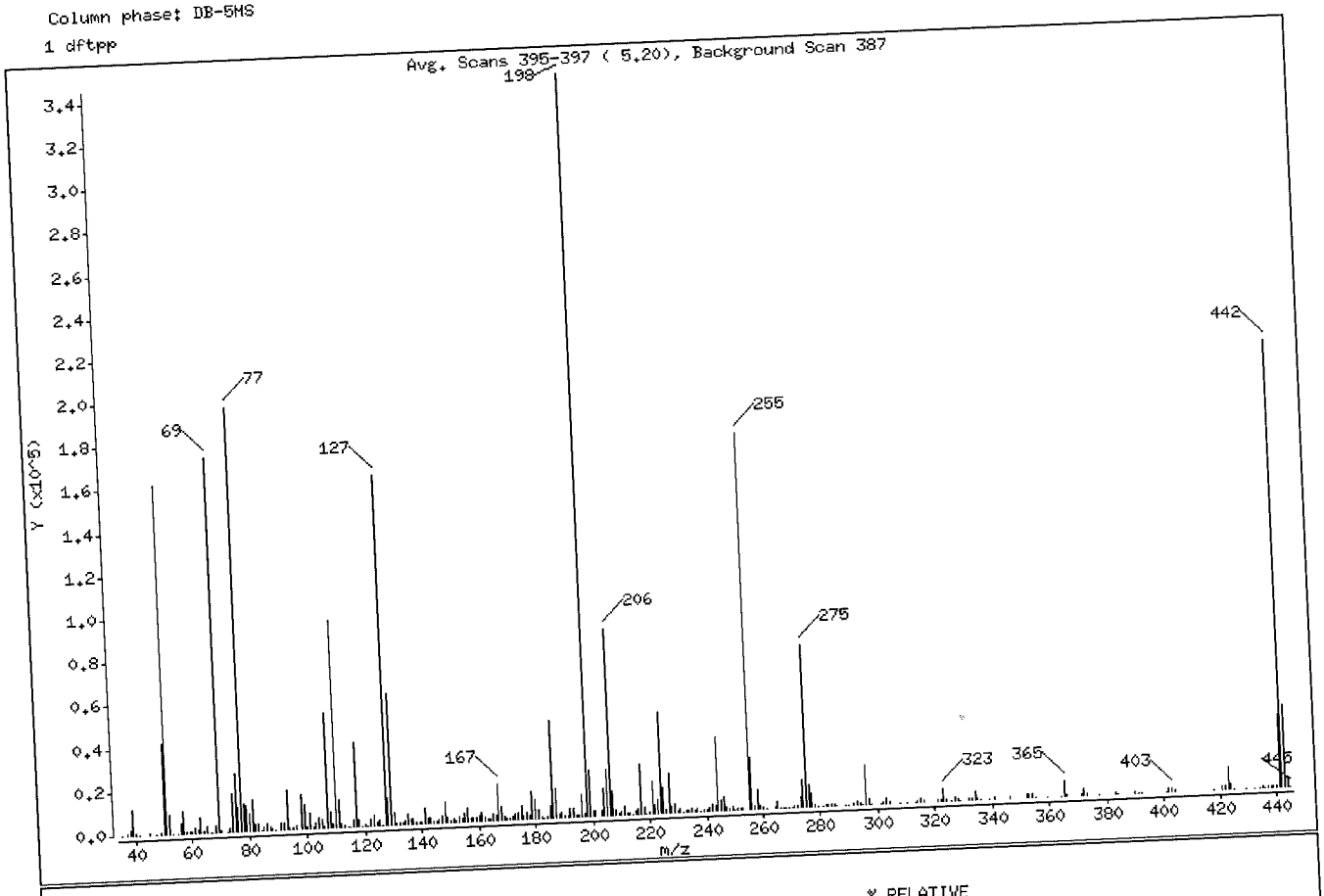
Instrument: HP20296.i

Operator: hbz01996

Column diameter: 0.18

Column phase: DB-5MS

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	46.79
68	Less than 2.00% of mass 69	0.97 (1.92)
69	Mass 69 relative abundance	50.33
70	Less than 2.00% of mass 69	0.15 (0.30)
127	40.00 - 60.00% of mass 198	47.17
197	Less than 1.00% of mass 198	0.39
199	5.00 - 9.00% of mass 198	6.30
275	10.00 - 30.00% of mass 198	21.83
365	Greater than 1.00% of mass 198	2.05
441	Present, but less than mass 443	9.92
442	40.00 - 99.99% of mass 198	60.29
443	17.00 - 23.00% of mass 442	11.04 (18.32)

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15oct15.b/lj0530.d

Date : 15-OCT-2015 11:57

Client ID: DFTPP12.5

Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18

Data File: lj0530.d

Spectrum: Avg. Scans 395-397 (5.20), Background Scan 387

Location of Maximum: 198.00

Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	122	124.00	1964	204.00	12503	289.00	130
37.00	404	125.00	2431	205.00	21672	290.00	168
38.00	2240	126.00	93	206.00	86584	292.00	419
39.00	11597	127.00	162944	207.00	11365	293.00	1630
40.00	905	128.00	12794	208.00	2754	294.00	534
41.00	104	129.00	61408	209.00	734	295.00	337
45.00	511	130.00	5226	210.00	1518	296.00	18280
47.00	114	131.00	786	211.00	3836	297.00	2461
49.00	863	132.00	727	212.00	639	298.00	257
50.00	41840	133.00	606	213.00	472	301.00	129
51.00	161600	134.00	1436	214.00	183	302.00	544
52.00	8370	135.00	4557	215.00	1270	303.00	2352
53.00	122	136.00	2077	216.00	2274	304.00	622
55.00	333	137.00	2136	217.00	22728	308.00	333
56.00	4528	138.00	557	218.00	2864	310.00	307
57.00	10577	139.00	547	219.00	329	313.00	272
58.00	625	140.00	951	220.00	604	314.00	646
59.00	463	141.00	7164	221.00	15018	315.00	1807
60.00	557	142.00	2634	222.00	3679	316.00	943
61.00	2134	143.00	2081	223.00	6311	321.00	432
62.00	1889	144.00	610	224.00	47000	322.00	425
63.00	7058	145.00	605	225.00	12284	323.00	5407
64.00	940	146.00	1536	226.00	1597	324.00	1026
65.00	2899	147.00	3565	227.00	18368	326.00	88
66.00	299	148.00	9336	228.00	3246	327.00	1195
67.00	141	149.00	2373	229.00	3817	328.00	588
68.00	3336	150.00	513	230.00	714	329.00	97
69.00	173824	151.00	1370	231.00	1836	332.00	588
70.00	530	152.00	956	232.00	125	333.00	550
72.00	108	153.00	2467	233.00	429	334.00	3582
73.00	1275	154.00	1748	234.00	1005	335.00	1144
74.00	17608	155.00	4113	235.00	1462	336.00	87
75.00	26760	156.00	6594	236.00	810	339.00	105
76.00	10741	157.00	1286	237.00	1470	341.00	902
77.00	196544	158.00	1248	238.00	174	346.00	1121

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15oct15.b/lj0530.d

Date : 15-OCT-2015 11:57

Client ID: DFTPP12.5

Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18

Data File: lj0530.d

Spectrum: Avg. Scans 395-397 (5.20), Background Scan 387

Location of Maximum: 198.00

Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
78.00	12371	159.00	1318	239.00	663	352.00	1921
79.00	11730	160.00	2409	240.00	645	353.00	1218
80.00	8235	161.00	3588	241.00	1350	354.00	1688
81.00	14045	162.00	1227	242.00	2859	355.00	260
82.00	3214	163.00	547	243.00	2666	359.00	177
83.00	3107	164.00	643	244.00	34456	364.00	241
84.00	222	165.00	3053	245.00	4598	365.00	7092
85.00	1412	166.00	2554	246.00	6590	366.00	1165
86.00	3323	167.00	16848	247.00	1382	371.00	521
87.00	1819	168.00	6641	248.00	418	372.00	2857
88.00	595	169.00	1222	249.00	1413	373.00	643
89.00	115	170.00	554	250.00	352	377.00	89
91.00	2905	171.00	862	251.00	578	383.00	676
92.00	3284	172.00	1608	252.00	553	384.00	329
93.00	18520	173.00	2011	253.00	1190	390.00	599
94.00	960	174.00	3532	255.00	175040	391.00	244
95.00	707	175.00	6468	256.00	23768	392.00	93
96.00	1541	176.00	1890	257.00	1755	401.00	230
98.00	15739	177.00	2976	258.00	8494	402.00	1254
99.00	10962	178.00	1442	259.00	1714	403.00	1770
100.00	754	179.00	12429	260.00	459	404.00	613
101.00	6989	180.00	8467	261.00	127	418.00	87
102.00	455	181.00	3899	264.00	404	421.00	1374
103.00	2326	182.00	676	265.00	3566	422.00	1272
104.00	4422	183.00	216	266.00	357	423.00	10259
105.00	4364	184.00	1150	267.00	350	424.00	2266
106.00	1145	185.00	5773	268.00	90	425.00	177
107.00	53024	186.00	45248	269.00	199	429.00	101
108.00	7483	187.00	13864	270.00	215	432.00	115
109.00	1533	188.00	1342	271.00	693	434.00	358
110.00	95992	189.00	2602	272.00	1015	435.00	426
111.00	12906	190.00	705	273.00	5112	436.00	184
112.00	1623	191.00	1039	274.00	13008	437.00	681
113.00	1074	192.00	3929	275.00	75424	438.00	663
114.00	201	193.00	4147	276.00	10055	439.00	712

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15oct15.b/lj0530.d

Date : 15-OCT-2015 11:57

Client ID: DFTPP12.5

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Instrument: HP20296.i

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18

Data File: lj0530.d

Spectrum: Avg. Scans 395-397 (5.20), Background Scan 387

Location of Maximum: 198.00

Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
115.00	95	194.00	557	277.00	6385	440.00	662
116.00	2937	195.00	1015	278.00	1042	441.00	34256
117.00	38560	196.00	10304	279.00	368	442.00	208256
118.00	3010	197.00	1332	281.00	338	443.00	38152
119.00	235	198.00	345408	282.00	415	444.00	3837
120.00	597	199.00	21744	283.00	1095	445.00	227
121.00	271	200.00	2066	284.00	431		
122.00	3190	201.00	2264	285.00	924		
123.00	4694	203.00	2593	286.00	93		

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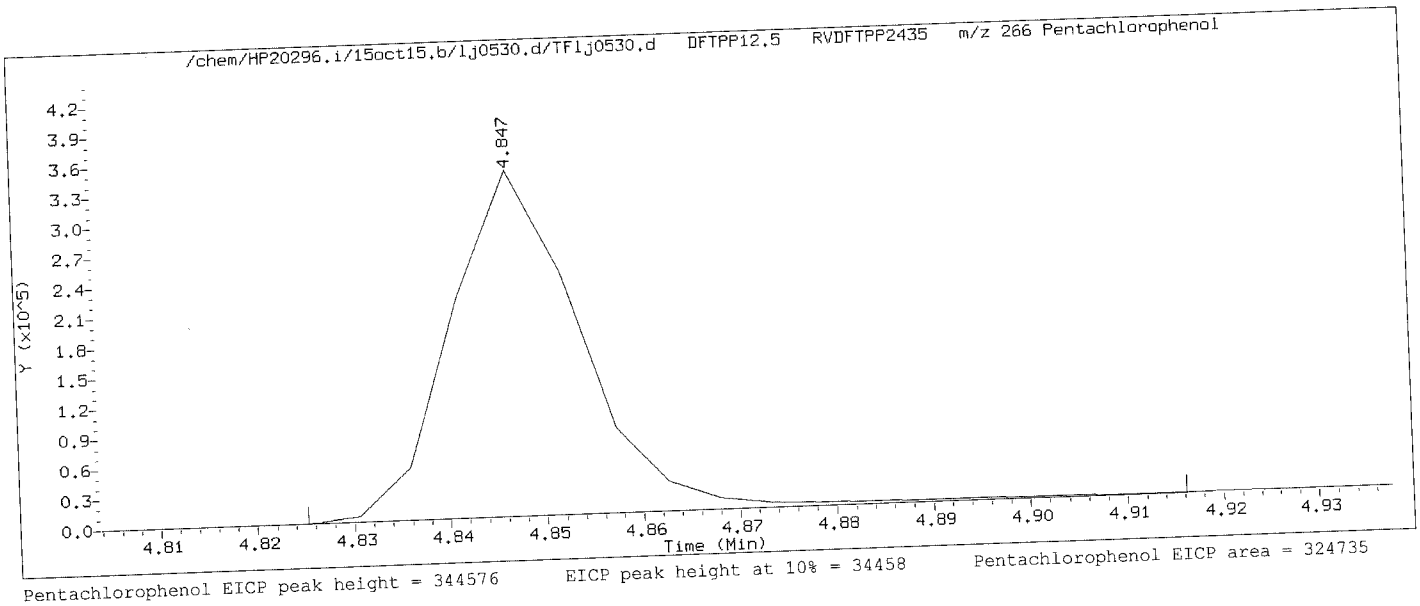
Target 3.5 esignature user ID: csb05247

Assessment of GC Column Performance and Injection Port Inertness for

Instrument ID: HP20296.i Injection Date: 15-OCT-2015 11:57 Operator: hbz01996

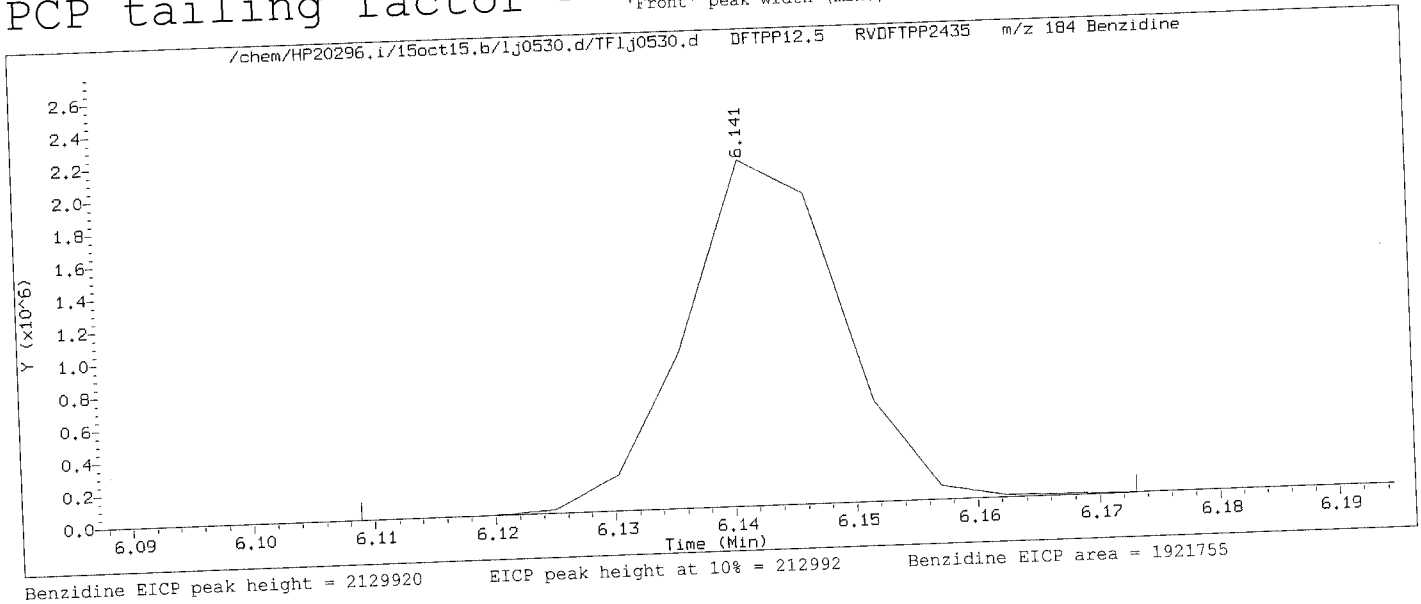


Pentachlorophenol EICP peak height = 344576 EICP peak height at 10% = 34458 Pentachlorophenol EICP area = 324735

Pentachlorophenol EICP peak apex (min.) = 4.847
RT at 10% of front half of EICP (min.) = 4.834
RT at 10% of back half of EICP (min.) = 4.862

'Front' peak width (min.) = 0.0127333333
'Tailing' peak width (min.) = 0.0155833333

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0155833333}{0.0127333333} = 1.224$$



Benzidine EICP peak height = 2129920 EICP peak height at 10% = 212992 Benzidine EICP area = 1921755

Benzidine EICP peak apex (min.) = 6.141
RT at 10% of front half of EICP (min.) = 6.130
RT at 10% of back half of EICP (min.) = 6.156

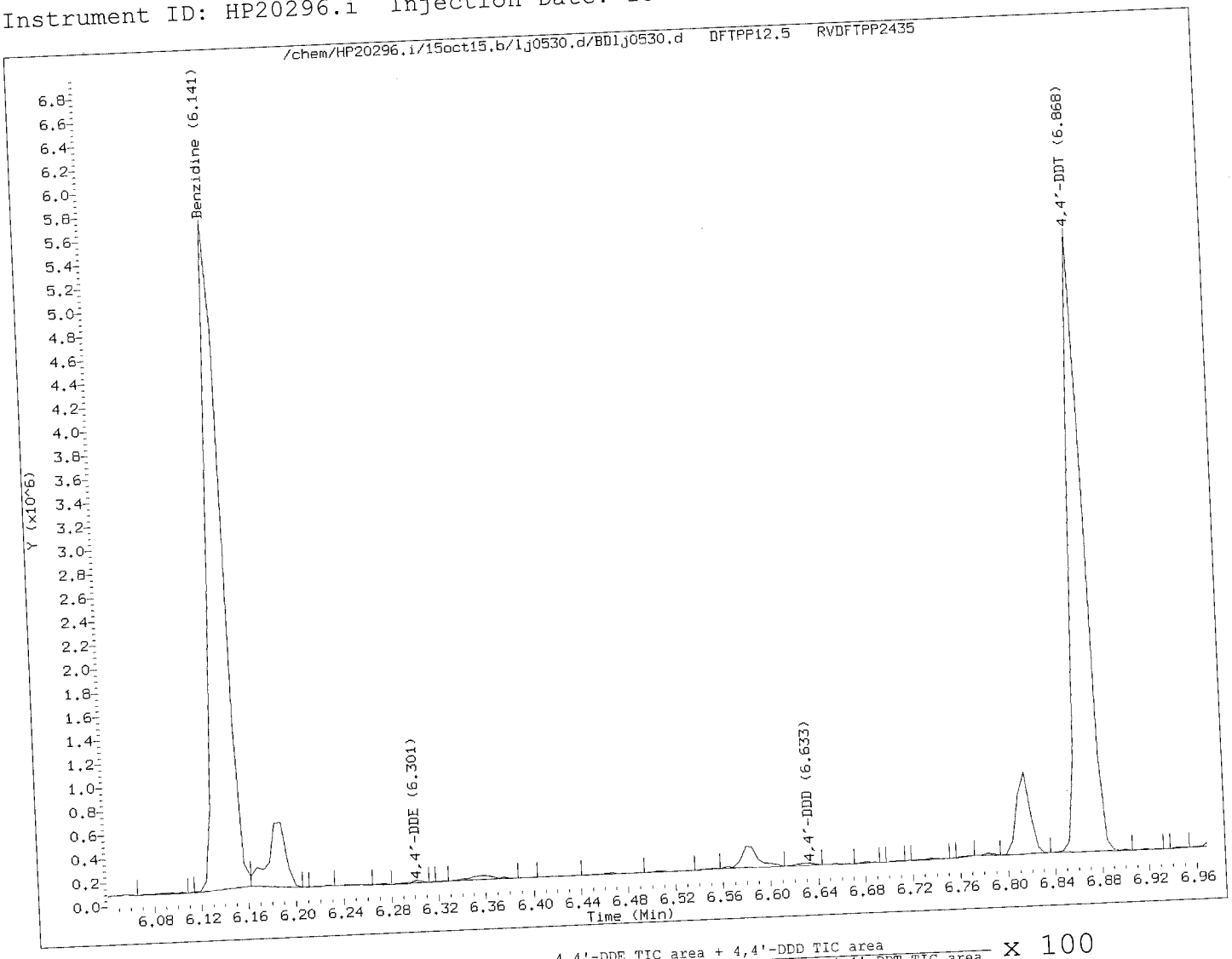
'Front' peak width (min.) = 0.0109500000
'Tailing' peak width (min.) = 0.0147333333

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0147333333}{0.0109500000} = 1.346$$

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: cbh05247

Assessment of GC Column Performance and Injection Port Inertness for

Instrument ID: HP20296.i Injection Date: 15-OCT-2015 11:57 Operator: hbz01996



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{18339 + 19193}{18339 + 19193 + 4408192} \times 100 = 0.8$$

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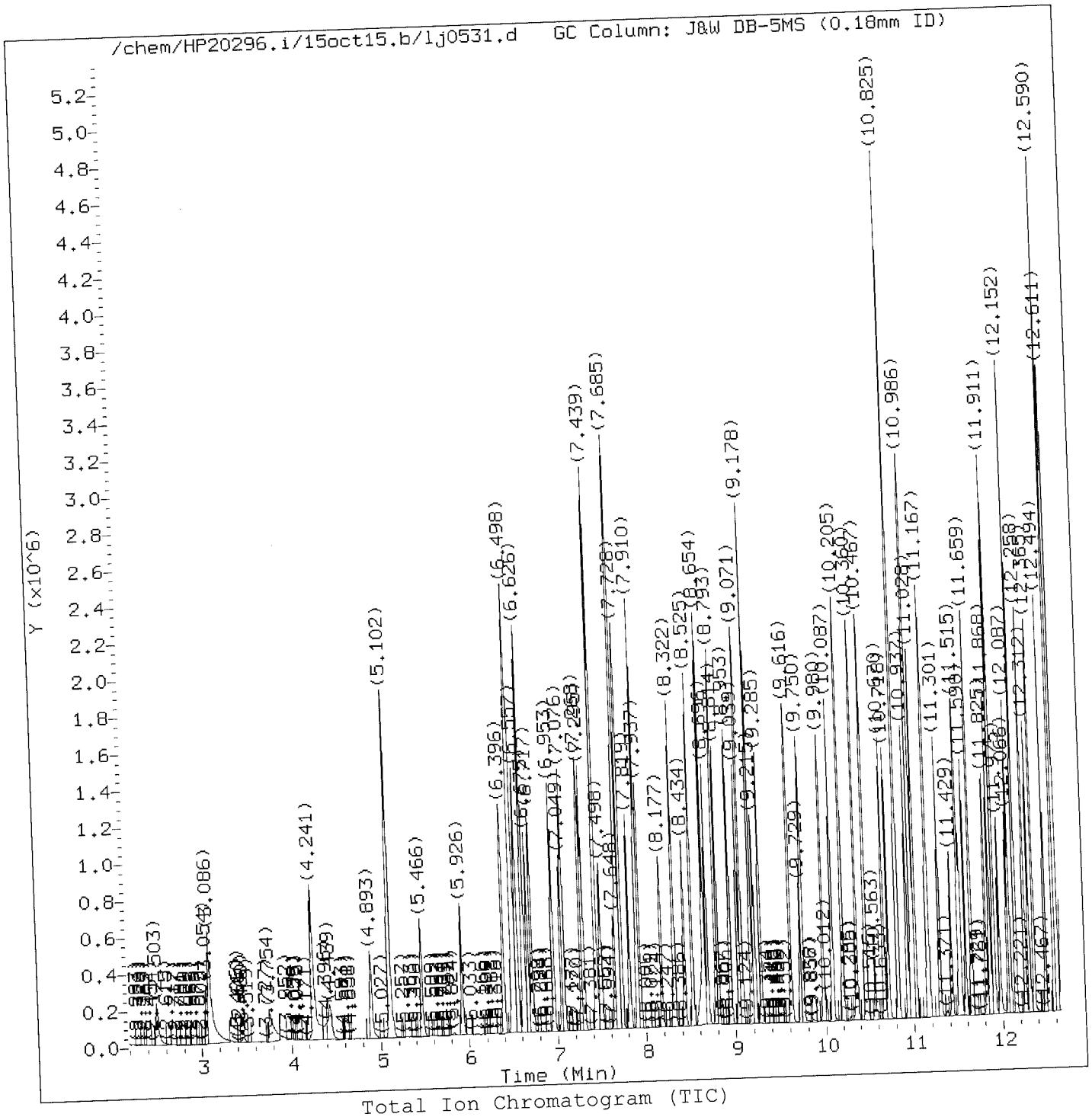
Target 3.5 esignature used: TD_ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0531.d
Injection date and time: 15-OCT-2015 13:06

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2745

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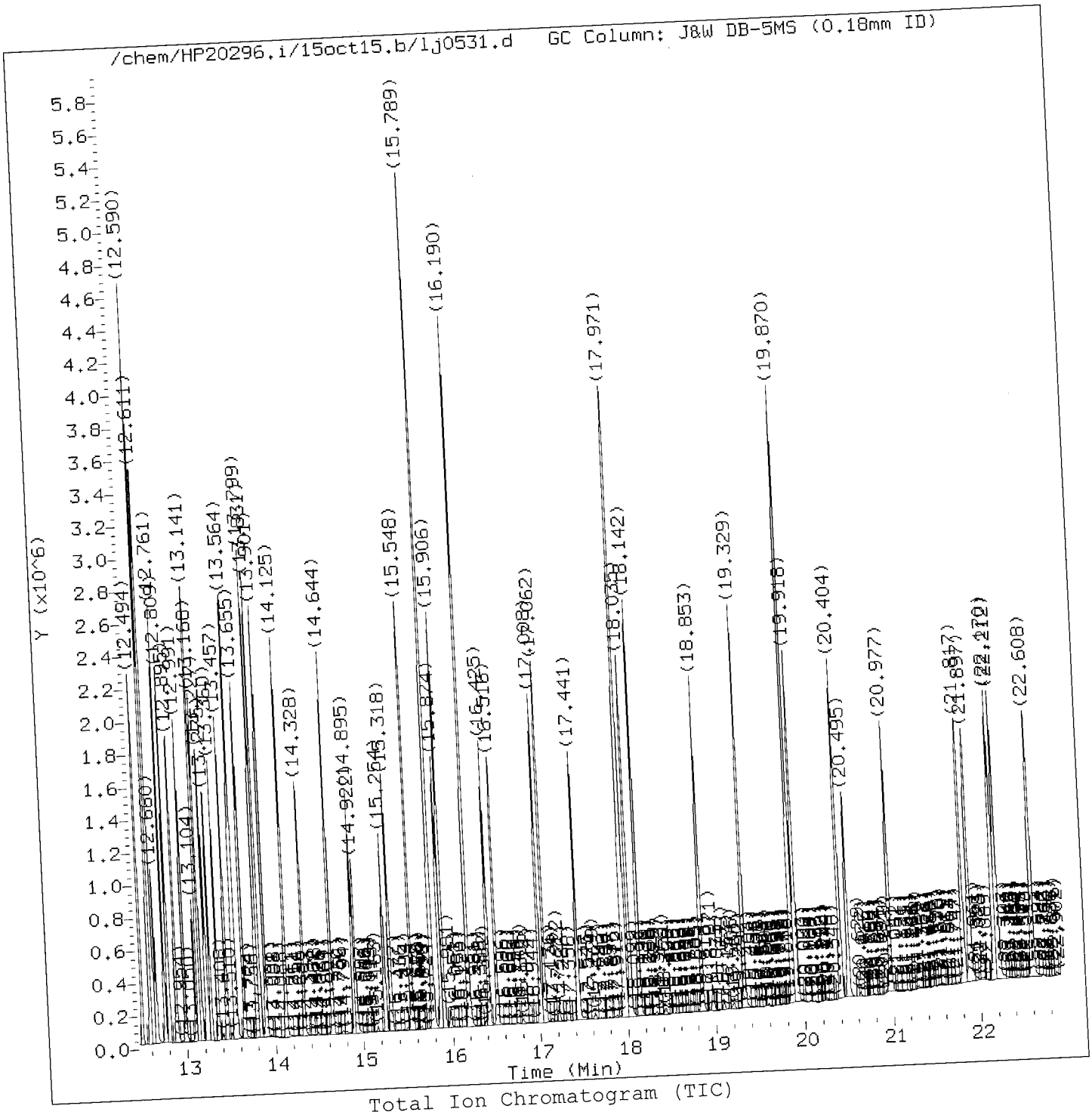
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0531.d
Injection date and time: 15-OCT-2015 13:06

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:4
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0531.d
Injection date and time: 15-OCT-2015 13:06

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.503	88	204990	7.500
4) N-Nitrosodimethylamine	(1)	3.054	74	315090	7.500
5) Pyridine	(1)	3.086	79	533094	7.500
7) 2-Picoline	(1)	4.241	93	550717	7.500
8) N-Nitrosomethylethylamine	(1)	4.439	88	227385	7.500
9) Methyl methanesulfonate	(1)	4.893	80	267470	7.500
11)$2-Fluorophenol	(1)	5.102	112	854537	15.000
13) N-Nitrosodiethylamine	(1)	5.466	102	216640	7.500
15) Ethyl methanesulfonate	(1)	5.926	109	218939	7.500
16) Benzaldehyde	(1)	6.396	77	414298	7.500
17)$Phenol-d6	(1)	6.498	99	1158851	15.000
18) Phenol	(1)	6.519	94	613825	7.500
19) Aniline	(1)	6.557	93	769227	7.500
20) a-methylstyrene	(1)	6.632	118	424336	7.500
22) bis(2-Chloroethyl)ether	(1)	6.675	93	476895	7.500
23) 2-Chlorophenol	(1)	6.717	128	399294	7.500
24) 1,3-Dichlorobenzene	(1)	6.953	146	437815	7.500
25)*1,4-Dichlorobenzene-d4	(1)	7.049	152	185789	5.000
26) 1,4-Dichlorobenzene	(1)	7.076	146	447103	7.500
27) Benzyl alcohol	(1)	7.268	108	294367	7.500
28) 1,2-Dichlorobenzene	(1)	7.295	146	422365	7.500
31) 2-Methylphenol	(1)	7.439	108	416563	7.500
30) Indene	(1)	7.439	115	721932	7.500
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.498	45	670805	7.500
34) bis(2-Chloroisopropyl)ether	(1)	7.498	45	670805	7.500
35) N-Nitrosopyrrolidine	(1)	7.648	100	224375	7.500
42) Total Cresols	(1)			855042	15.000
36) Acetophenone	(1)	7.680	105	625338	7.500
37) 4-Methylphenol	(1)	7.685	108	438479	7.500
38) N-Nitroso-di-n-propylamine	(1)	7.696	70	377274	7.500
39) N-Nitrosomorpholine	(1)	7.723	56	294317	7.500
40) o-Toluidine	(1)	7.728	106	742057	7.500
43) Hexachloroethane	(1)	7.819	117	184167	7.500
44)$Nitrobenzene-d5	(2)	7.910	82	1087985	15.000
45) Nitrobenzene	(2)	7.937	77	554616	7.500
48) N-Nitrosopiperidine	(2)	8.177	114	209381	7.500
50) Isophorone	(2)	8.322	82	966413	7.500
51) 2-Nitrophenol	(2)	8.440	139	202521	7.500
53) 2,4-Dimethylphenol	(2)	8.525	107	464822	7.500
57) O,O,O-Triethylphosphorothioate	(2)	8.654	198	201691	7.500

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0531.d
Injection date and time: 15-OCT-2015 13:06

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	8.659	105	446471M	10.000
55) bis(2-Chloroethoxy)methane	(2)	8.696	93	578200	7.500
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.793	104	646440	7.500
60) 2,4-Dichlorophenol	(2)	8.814	162	326008	7.500
62) 1,2,4-Trichlorobenzene	(2)	8.953	180	364822	7.500
65)*Naphthalene-d8	(2)	9.039	136	704214	5.000
66) Naphthalene	(2)	9.071	128	1150625	5.022
67) 4-Chloroaniline	(2)	9.178	127	479563	7.500
68) 2,6-Dichlorophenol	(2)	9.183	162	327051	7.500
69) Hexachloropropene	(2)	9.215	213	243570	7.500
71) Hexachlorobutadiene	(2)	9.285	225	212262	7.500
75) Quinoline	(2)	9.616	129	733650	7.500
76) Caprolactam	(2)	9.729	113	107923	7.500
77) N-Nitrosodi-n-butylamine	(2)	9.750	84	431575	7.500
80) 4-Chloro-3-methylphenol	(2)	9.980	107	399031	7.500
82) Safrole	(2)	10.087	162	293709	5.082
83) 2-Methylnaphthalene	(2)	10.205	142	763340	5.252
84) 1-Methylnaphthalene	(2)	10.360	142	691929	7.500
85) Hexachlorocyclopentadiene	(3)	10.461	237	230597	7.500
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.472	216	366001	1.275
88) cis-Isosafrole	(3)	10.568	162	55762	7.500
90) 2,4,6-Trichlorophenol	(3)	10.670	196	240055	7.500
92) 2,4,5-Trichlorophenol	(3)	10.718	196	255767	7.500
97) Isosafrole	(3)			350179	15.000
93)$2-Fluorobiphenyl	(3)	10.825	172	1702064	6.225
94) trans-Isosafrole	(3)	10.937	162	294417	7.500
95) 1,1'-Biphenyl	(3)	10.980	154	902082	7.500
96) 2-Chloronaphthalene	(3)	10.996	162	715505	7.500
98) 1-Chloronaphthalene	(3)	11.028	162	692098	7.500
99) Diphenyl ether	(3)	11.167	170	496638	7.500
100) 2-Nitroaniline	(3)	11.183	138	230893	7.500
104) 1,4-Naphthoquinone	(3)	11.301	158	301099	7.500
105) 1,4-Dinitrobenzene	(3)	11.429	168	112363	7.500
106) Dimethylphthalate	(3)	11.515	163	786753	7.500
107) 1,3-Dinitrobenzene	(3)	11.536	168	125147	7.500
108) 2,6-Dinitrotoluene	(3)	11.590	165	179365	7.500
109) Acenaphthylene	(3)	11.659	152	1127438	5.202
112) 3-Nitroaniline	(3)	11.825	138	196374	7.500
113)*Acenaphthene-d10	(3)	11.868	164	414115	5.000
114) Acenaphthene	(3)	11.911	153	753456	4.905

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:41:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0531.d
Injection date and time: 15-OCT-2015 13:06

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			415484	15.000
115) 2,4-Dinitrophenol	(3)	11.975	184	142010	10.000
116) 4-Nitrophenol	(3)	12.066	109	143757	7.500
117) Pentachlorobenzene	(3)	12.093	250	295797	7.500
119) Dibenzofuran	(3)	12.152	168	999711	7.500
118) 2,4-Dinitrotoluene	(3)	12.157	165	236119	7.500
121) 1-Naphthylamine	(3)	12.258	143	713117	7.500
122) 2,3,4,6-Tetrachlorophenol	(3)	12.312	232	195326	7.500
123) 2-Naphthylamine	(3)	12.365	143	696210	7.500
124) Diethylphthalate	(3)	12.494	149	778554	7.500
125) Thionazin	(3)	12.590	107	144369	4.949
126) Fluorene	(3)	12.590	166	793544	7.500
127) 4-Chlorophenyl-phenylether	(3)	12.611	204	386265	7.500
128) 5-Nitro-o-toluidine	(3)	12.617	152	220560	7.500
129) 4-Nitroaniline	(3)	12.628	138	202347	7.500
130) 4,6-Dinitro-2-methylphenol	(4)	12.660	198	144856	7.500
132) NDPA as diphenylamine	(4)	12.761	169	663376	7.500
131) N-Nitrosodiphenylamine	(4)	12.761	169	663376	7.500
134) 1,2-Diphenylhydrazine	(4)	12.809	77	1012252	7.500
135)$2,4,6-Tribromophenol	(3)	12.895	330	181676	15.000
137) Tetraethyldithiopyrophosphate	(4)	12.991	97	161938	7.500
146) Diallate trans/cis	(4)			438505	7.500
139) 1,3,5-Trinitrobenzene	(4)	13.104	213	85422	7.500
140) Diallate (peak 1)	(4)	13.136	86	366249	6.225
141) Phorate	(4)	13.146	75	655051	7.500
142) Phenacetin	(4)	13.168	108	482031	7.500
143) 4-Bromophenyl-phenylether	(4)	13.232	248	202428	7.500
144) Diallate (peak 2)	(4)	13.248	86	72256	1.275
145) Hexachlorobenzene	(4)	13.280	284	208206	5.023
147) Dimethoate	(4)	13.360	87	420314	7.500
148) Atrazine	(4)	13.457	200	219713	7.500
149) Pentachlorophenol	(4)	13.542	266	141207	7.500
151) Pentachloronitrobenzene	(4)	13.553	237	99879	7.500
150) 4-Aminobiphenyl	(4)	13.564	169	779618	7.500
152) Pronamide	(4)	13.655	173	376026	5.000
153)*Phenanthrene-d10	(4)	13.799	188	752998	7.500
154) Dinoseb	(4)	13.799	211	213162	5.051
155) Phenanthrene	(4)	13.831	178	1178006	5.173
157) Anthracene	(4)	13.901	178	1184044	7.500
163) Carbazole	(4)	14.125	167	1113667	

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:41:41
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0531.d
Injection date and time: 15-OCT-2015 13:06

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.328	109	313028	7.500
165) Di-n-butylphthalate	(4)	14.644	149	1346100	7.500
167) Parathion	(4)	14.895	109	181898	7.500
168) 4-Nitroquinoline-1-oxide	(4)	14.927	190	115676	7.500
169) Octachlorostyrene	(4)	15.254	308	74826	7.500
171) Isodrin	(4)	15.318	193	139049	7.500
173) Fluoranthene	(4)	15.548	202	1328382	5.453
174) Benzidine	(5)	15.789	184	2589526	22.500
175)*Pyrene-d10	(5)	15.874	212	869908	5.000
177) Pyrene	(5)	15.906	202	1380318	4.888
179)$Terphenyl-d14	(5)	16.190	244	1755177	15.000
182) p-Dimethylaminoazobenzene	(5)	16.430	225	247493	7.500
185) Chlorobenzilate	(5)	16.516	139	417198	7.500
187) 3,3'-Dimethylbenzidine	(5)	17.008	212	895284	7.500
188) Butylbenzylphthalate	(5)	17.062	149	610311	7.500
191) 2-Acetylaminofluorene	(5)	17.441	181	538811	7.500
193) 3,3'-Dichlorobenzidine	(5)	17.965	252	465317	7.500
195) Benzo(a)anthracene	(5)	17.976	228	1245672	5.479
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.982	231	262727	7.500
196) Chrysene	(5)	18.035	228	1161247	5.249
199) bis(2-Ethylhexyl)phthalate	(5)	18.142	149	875065	7.500
203) 6-Methylchrysene	(5)	18.853	242	834349	7.500
205) Di-n-octylphthalate	(6)	19.329	149	1561575	7.500
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.870	256	539456	7.500
206) Benzo(b)fluoranthene	(6)	19.870	252	1202558	5.125
208) Benzo(k)fluoranthene	(6)	19.918	252	1182482	5.245
211) Benzo(a)pyrene	(6)	20.404	252	1144703	5.191
213)*Perylene-d12	(6)	20.495	264	649934	5.000
215) 3-Methylcholanthrene	(6)	20.977	268	544619	7.500
217) Dibenz(a,h)acridine	(6)	21.822	279	973553	7.500
218) Dibenz(a,j)acridine	(6)	21.897	279	981452	7.500
222) Total PAHs	(6)			19911818	93.160
219) Indeno(1,2,3-cd)pyrene	(6)	22.170	276	1342930	5.210
220) Dibenz(a,h)anthracene	(6)	22.218	278	1137692	5.494
221) Benzo(g,h,i)perylene	(6)	22.608	276	1143452	5.190

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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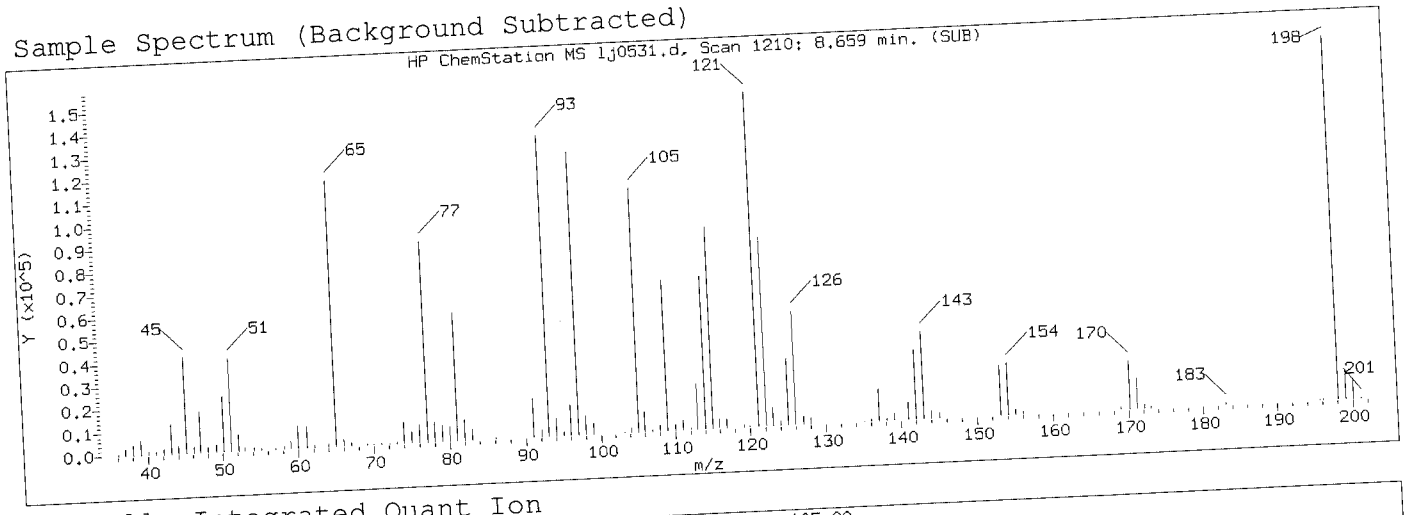
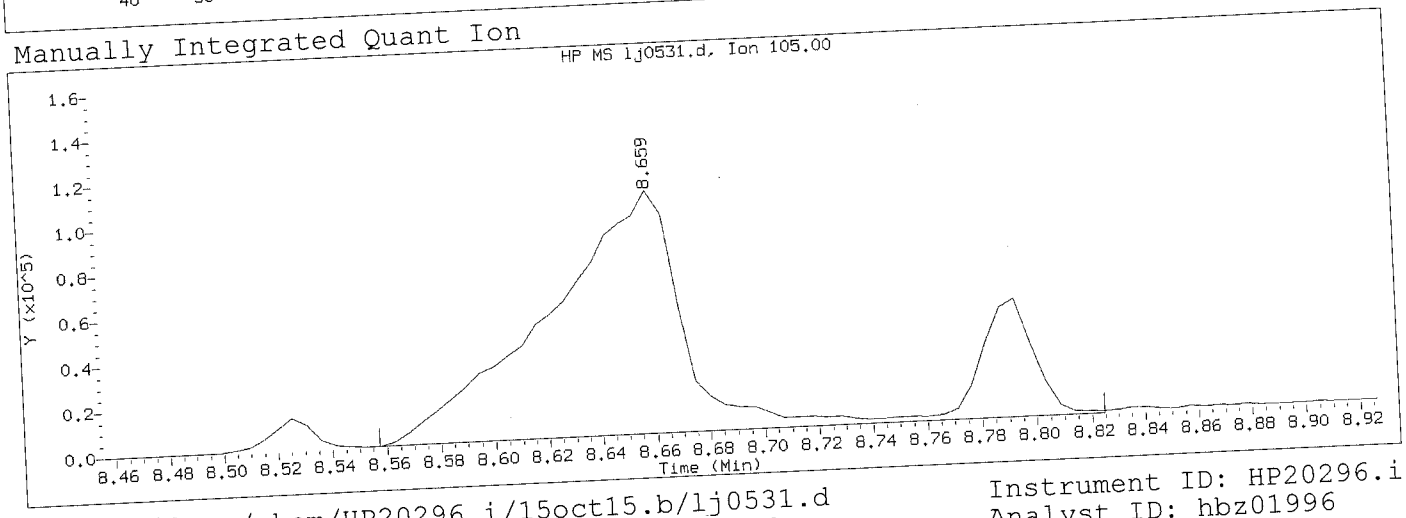
on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0531.d
Injection date and time: 15-OCT-2015 13:06

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1210		
Retention Time (minutes)	: 8.659		
Quant Ion	: 105.00		
Area (flag)	: 446471M		
On-Column Amount (ng/ul)	: 10.0000		
Integration start scan	: 1190	Integration stop scan:	1240
Y at integration start	: -6	Y at integration end:	-6

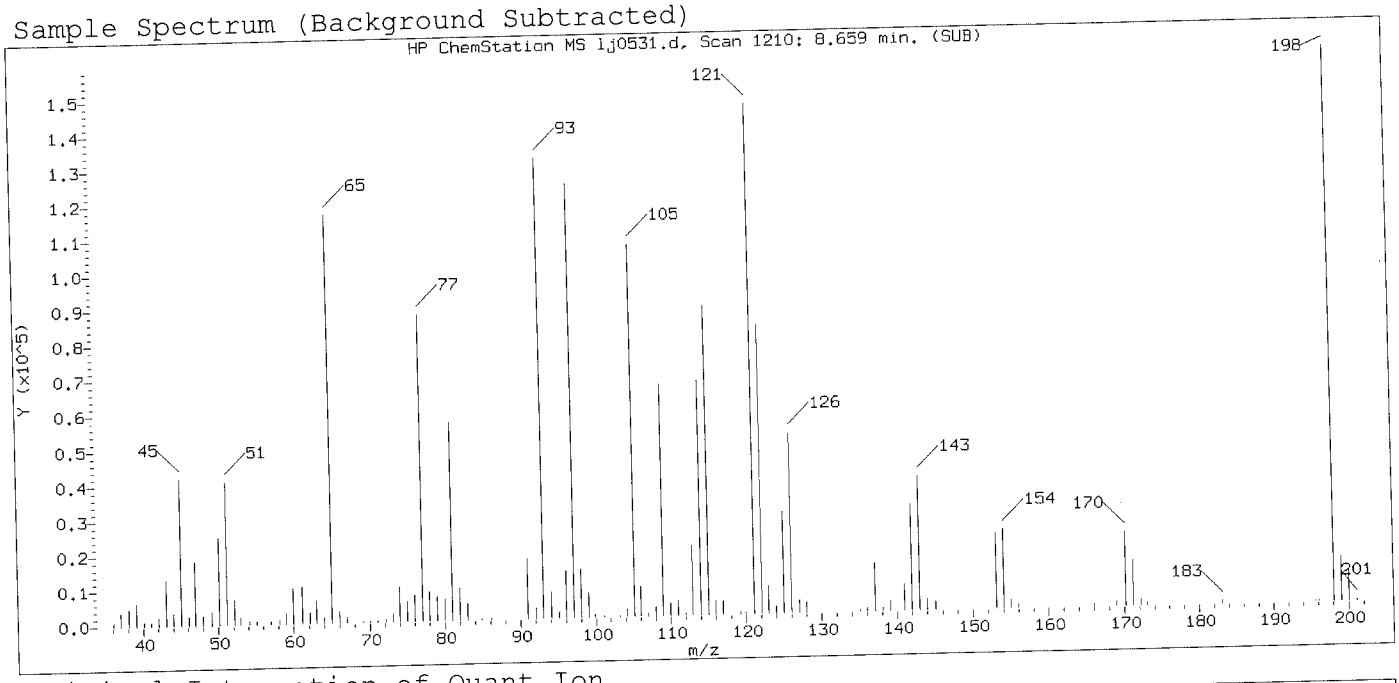
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 designature user ID: ceb05247

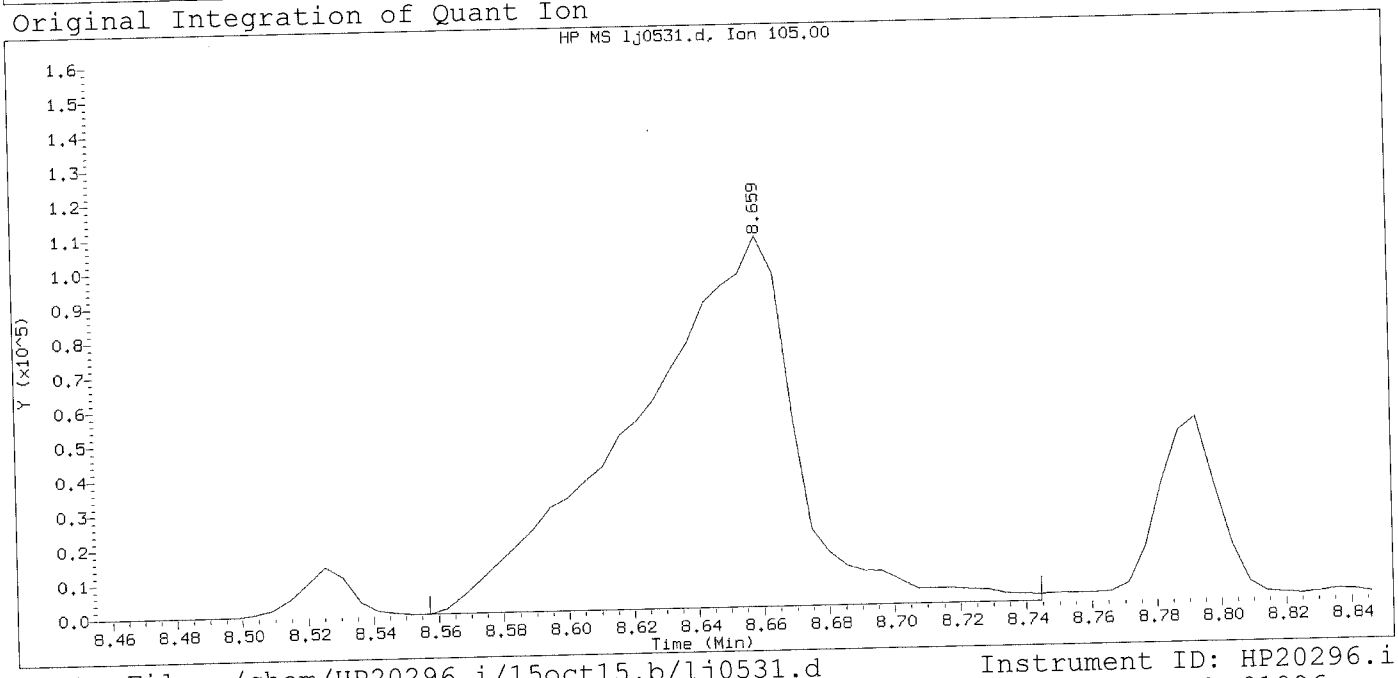
OCT 16 2015

GC/MS audit/management approval: _____ Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0531.d
Injection date and time: 15-OCT-2015 13:06

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 13:54

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 13:54 hbz01996

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1210		
Retention Time (minutes)	: 8.659		
Quant Ion	: 105.00		
Area	: 374754		
On-column Amount (ng/ul)	: 9.1046		
Integration start scan	: 1190	Integration stop scan:	1225
Y at integration start	: 0	Y at integration end:	0

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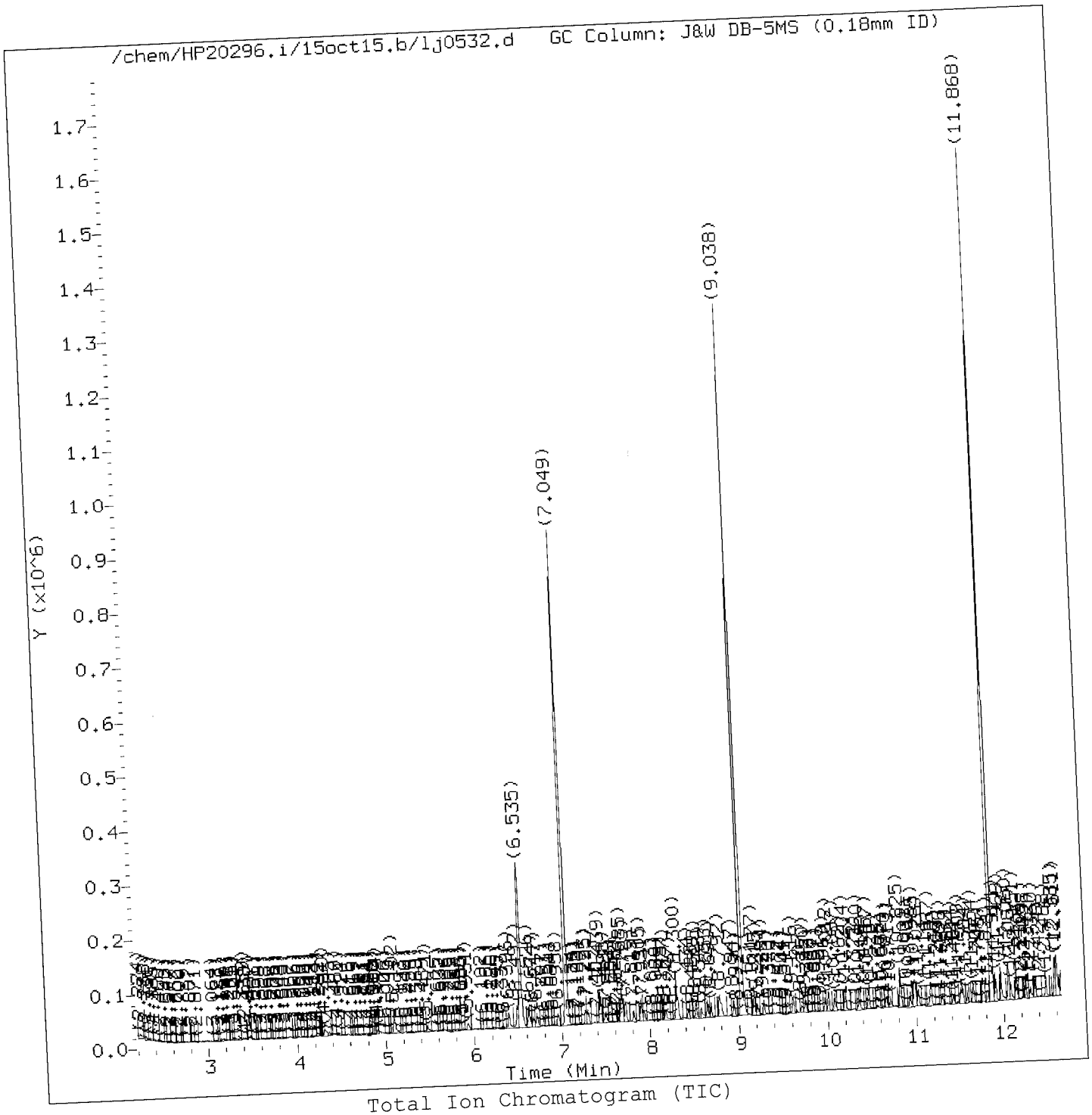
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0532.d
Injection date and time: 15-OCT-2015 14:04

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2745

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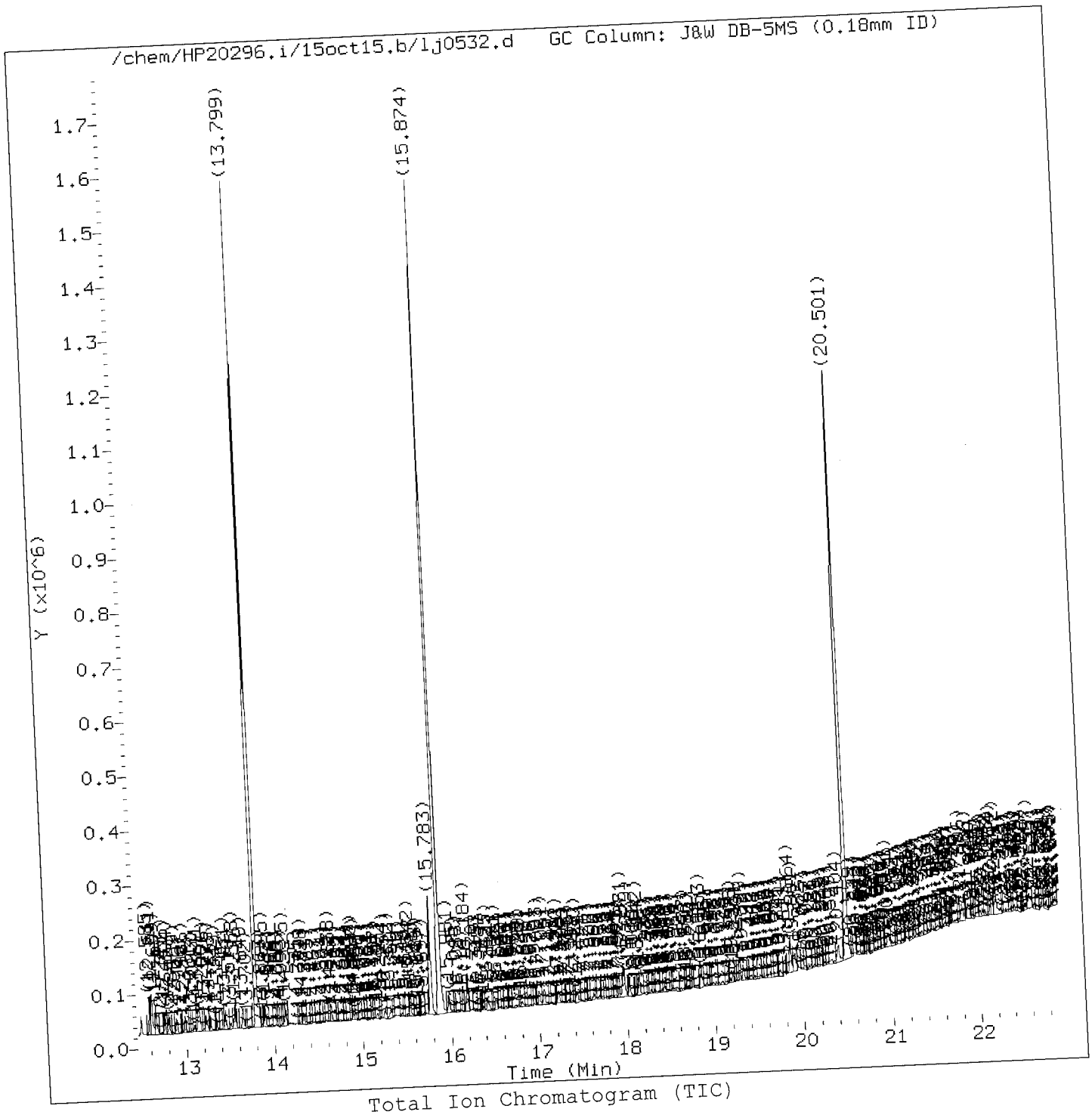
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0532.d
Injection date and time: 15-OCT-2015 14:04

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0532.d
Injection date and time: 15-OCT-2015 14:04

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
4) N-Nitrosodimethylamine	(1)	3.144	74	2903	0.075
5) Pyridine	(1)	3.283	79	2207	0.034
7) 2-Picoline	(1)	4.305	93	8007	0.118
9) Methyl methanesulfonate	(1)	4.915	80	4060	0.123
11) $2-Fluorophenol	(1)	5.102	112	13221	0.250
13) N-Nitrosodiethylamine	(1)	5.471	102	3333	0.125
15) Ethyl methanesulfonate	(1)	5.931	109	3487	0.129
16) Benzaldehyde	(1)	6.396	77	7914	0.155
17) $Phenol-d6	(1)	6.492	99	17087	0.239
18) Phenol	(1)	6.514	94	9552	0.126
19) Aniline	(1)	6.557	93	12228	0.129
20) a-methylstyrene	(1)	6.632	118	6517	0.124
22) bis(2-Chloroethyl)ether	(1)	6.674	93	7588	0.129
23) 2-Chlorophenol	(1)	6.717	128	5851	0.119
24) 1,3-Dichlorobenzene	(1)	6.952	146	7303	0.135
25) *1,4-Dichlorobenzene-d4	(1)	7.049	152	172168	5.000
26) 1,4-Dichlorobenzene	(1)	7.075	146	6576	0.119
27) Benzyl alcohol	(1)	7.268	108	4233	0.116
28) 1,2-Dichlorobenzene	(1)	7.295	146	7047	0.135
31) 2-Methylphenol	(1)	7.434	108	6220	0.121
30) Indene	(1)	7.434	115	12502	0.140
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.498	45	11984	0.145
34) bis(2-Chloroisopropyl)ether	(1)	7.498	45	11984	0.145
35) N-Nitrosopyrrolidine	(1)	7.653	100	3054	0.110
42) Total Cresols	(1)			13762	0.260
36) Acetophenone	(1)	7.675	105	10868	0.141
37) 4-Methylphenol	(1)	7.680	108	7542	0.139
38) N-Nitroso-di-n-propylamine	(1)	7.691	70	5997	0.129
39) N-Nitrosomorpholine	(1)	7.717	56	4304	0.118
40) o-Toluidine	(1)	7.728	106	11498	0.125
43) Hexachloroethane	(2)	7.819	117	2989	0.131
44) $Nitrobenzene-d5	(2)	7.905	82	16523	0.241
45) Nitrobenzene	(2)	7.931	77	9001	0.129
48) N-Nitrosopiperidine	(2)	8.177	114	3197	0.121
50) Isophorone	(2)	8.322	82	14321	0.117
51) 2-Nitrophenol	(2)	8.434	139	2909	0.114
53) 2,4-Dimethylphenol	(2)	8.525	107	7092	0.121
56) Benzoic acid	(2)	8.578	105	7417	0.175
57) O,O,O-Triethylphosphorothioate	(2)	8.643	198	3446	0.135
55) bis(2-Chloroethoxy)methane	(2)	8.696	93	10008	0.137

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0532.d
Injection date and time: 15-OCT-2015 14:04

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.792	104	11193	0.137
60) 2,4-Dichlorophenol	(2)	8.814	162	5054	0.123
62) 1,2,4-Trichlorobenzene	(2)	8.947	180	5753	0.125
65)*Naphthalene-d8	(2)	9.038	136	666639	5.000
66) Naphthalene	(2)	9.071	128	18548	0.126
68) 2,6-Dichlorophenol	(2)	9.177	162	4664	0.113
67) 4-Chloroaniline	(2)	9.177	127	7907	0.131
69) Hexachloropropene	(2)	9.215	213	2950	0.096
71) Hexachlorobutadiene	(2)	9.290	225	3257	0.122
75) Quinoline	(2)	9.616	129	11780	0.127
76) Caprolactam	(2)	9.707	113	1274	0.094
77) N-Nitrosodi-n-butylamine	(2)	9.750	84	5874	0.108
80) 4-Chloro-3-methylphenol	(2)	9.974	107	6089	0.121
82) Safrole	(2)	10.081	162	4745	0.128
83) 2-Methylnaphthalene	(2)	10.204	142	12561	0.128
84) 1-Methylnaphthalene	(2)	10.360	142	12223	0.132
85) Hexachlorocyclopentadiene	(3)	10.461	237	3411	0.119
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.472	216	5449	0.120
88) cis-Isosafrole	(3)	10.563	162	774	0.019
90) 2,4,6-Trichlorophenol	(3)	10.664	196	3484	0.117
92) 2,4,5-Trichlorophenol	(3)	10.718	196	4206	0.133
97) Isosafrole	(3)			5020	0.116
93)$2-Fluorobiphenyl	(3)	10.825	172	27376	0.260
94) trans-Isosafrole	(3)	10.937	162	4246	0.097
95) 1,1'-Biphenyl	(3)	10.980	154	15368	0.137
96) 2-Chloronaphthalene	(3)	10.996	162	11567	0.130
98) 1-Chloronaphthalene	(3)	11.023	162	10762	0.125
99) Diphenyl ether	(3)	11.162	170	8309	0.135
100) 2-Nitroaniline	(3)	11.178	138	2814	0.098
104) 1,4-Naphthoquinone	(3)	11.296	158	3971	0.106
105) 1,4-Dinitrobenzene	(3)	11.424	168	1449	0.104
107) 1,3-Dinitrobenzene	(3)	11.424	168	1449	0.093
106) Dimethylphthalate	(3)	11.509	163	12560	0.129
108) 2,6-Dinitrotoluene	(3)	11.590	165	2028	0.091
109) Acenaphthylene	(3)	11.654	152	16826	0.123
112) 3-Nitroaniline	(3)	11.820	138	3148	0.129
113)*Acenaphthene-d10	(3)	11.868	164	384995	5.000
114) Acenaphthene	(3)	11.911	153	10593	0.119
120) 2,4_2,6-Dinitrotoluenes	(3)			4875	0.188
115) 2,4-Dinitrophenol	(3)	11.969	184	7392	0.560

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0532.d
Injection date and time: 15-OCT-2015 14:04

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
116) 4-Nitrophenol	(3)	12.060	109	8394	0.471
117) Pentachlorobenzene	(3)	12.087	250	4695	0.128
119) Dibenzofuran	(3)	12.151	168	16176	0.131
118) 2,4-Dinitrotoluene	(3)	12.151	165	2847	0.097
121) 1-Naphthylamine	(3)	12.258	143	11094	0.126
122) 2,3,4,6-Tetrachlorophenol	(3)	12.312	232	2695	0.111
123) 2-Naphthylamine	(3)	12.360	143	11908	0.138
124) Diethylphthalate	(3)	12.488	149	11425	0.118
125) Thionazin	(3)	12.585	107	2175	0.122
126) Fluorene	(3)	12.590	166	11738	0.122
128) 5-Nitro-o-toluidine	(3)	12.611	152	3216	0.118
127) 4-Chlorophenyl-phenylether	(3)	12.611	204	5941	0.124
129) 4-Nitroaniline	(3)	12.611	138	3161	0.126
130) 4,6-Dinitro-2-methylphenol	(4)	12.659	198	6270	0.352
132) NDPA as diphenylamine	(4)	12.756	169	9983	0.123
131) N-Nitrosodiphenylamine	(4)	12.756	169	9983	0.123
134) 1,2-Diphenylhydrazine	(4)	12.804	77	15221	0.122
135)$2,4,6-Tribromophenol	(3)	12.889	330	2469	0.219
137) Tetraethyldithiopyrophosphate	(4)	12.986	97	2996	0.151
146) Diallate trans/cis	(4)			6401	0.119
139) 1,3,5-Trinitrobenzene	(4)	13.093	213	956	0.091
140) Diallate (peak 1)	(4)	13.135	86	5462	0.101
141) Phorate	(4)	13.146	75	8168	0.102
142) Phenacetin	(4)	13.157	108	5600	0.095
143) 4-Bromophenyl-phenylether	(4)	13.226	248	3389	0.136
144) Diallate (peak 2)	(4)	13.248	86	939	0.018
145) Hexachlorobenzene	(4)	13.275	284	3262	0.126
147) Dimethoate	(4)	13.349	87	5293	0.103
148) Atrazine	(4)	13.451	200	3836	0.142
149) Pentachlorophenol	(4)	13.537	266	1487	0.086
150) 4-Aminobiphenyl	(4)	13.563	169	11100	0.116
152) Pronamide	(4)	13.649	173	4827	0.105
153)*Phenanthrene-d10	(4)	13.799	188	693584	5.000
155) Phenanthrene	(4)	13.825	178	18580	0.127
157) Anthracene	(4)	13.895	178	17913	0.124
163) Carbazole	(4)	14.120	167	16554	0.121
164) Methyl parathion	(4)	14.328	109	3225	0.084
165) Di-n-butylphthalate	(4)	14.638	149	17470	0.106
167) Parathion	(4)	14.890	109	2181	0.098
168) 4-Nitroquinoline-1-oxide	(4)	14.917	190	744	0.052

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:44:
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0532.d
Injection date and time: 15-OCT-2015 14:04

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
173) Fluoranthene	(4)	15.542	202	20169	0.124
174) Benzidine	(5)	15.783	184	102790	0.975
175)*Pyrene-d10	(5)	15.874	212	797125	5.000
177) Pyrene	(5)	15.901	202	23890	0.133
179)$Terphenyl-d14	(5)	16.190	244	27320	0.255
182) p-Dimethylaminoazobenzene	(5)	16.425	225	2934	0.097
185) Chlorobenzilate	(5)	16.521	139	5717	0.112
187) 3,3'-Dimethylbenzidine	(5)	17.008	212	11340	0.104
188) Butylbenzylphthalate	(5)	17.061	149	7476	0.100
191) 2-Acetylaminofluorene	(5)	17.436	181	5702	0.087
193) 3,3'-Dichlorobenzidine	(5)	17.960	252	6443	0.113
195) Benzo(a)anthracene	(5)	17.971	228	18016	0.122
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.981	231	2970	0.093
196) Chrysene	(5)	18.029	228	17950	0.126
199) bis(2-Ethylhexyl)phthalate	(5)	18.142	149	10791	0.101
203) 6-Methylchrysene	(5)	18.848	242	11805	0.116
205) Di-n-octylphthalate	(6)	19.329	149	17053	0.094
206) Benzo(b)fluoranthene	(6)	19.859	252	17440	0.125
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.864	256	7072	0.113
208) Benzo(k)fluoranthene	(6)	19.901	252	17012	0.124
211) Benzo(a)pyrene	(6)	20.404	252	14468	0.116
213)*Perylene-d12	(6)	20.495	264	566613	5.000
215) 3-Methylcholanthrene	(6)	20.971	268	7541	0.119
217) Dibenz(a,h)acridine	(6)	21.811	279	12298	0.109
218) Dibenz(a,j)acridine	(6)	21.886	279	12928	0.113
222) Total PAHs	(6)			296810	2.232
219) Indeno(1,2,3-cd)pyrene	(6)	22.159	276	17617	0.119
220) Dibenz(a,h)anthracene	(6)	22.201	278	15109	0.119
221) Benzo(g,h,i)perylene	(6)	22.597	276	16157	0.123

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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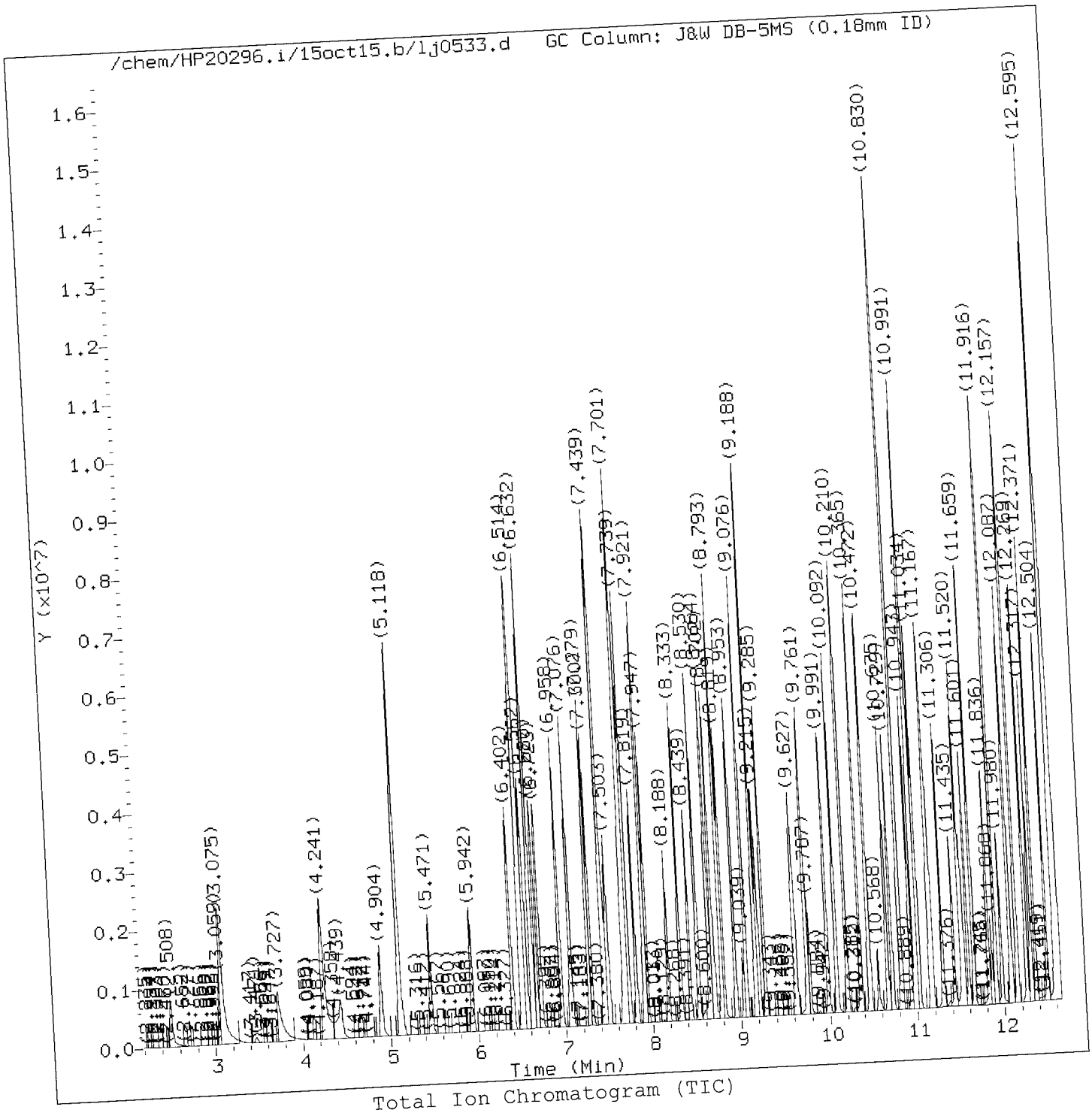
on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: cebo5247



Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

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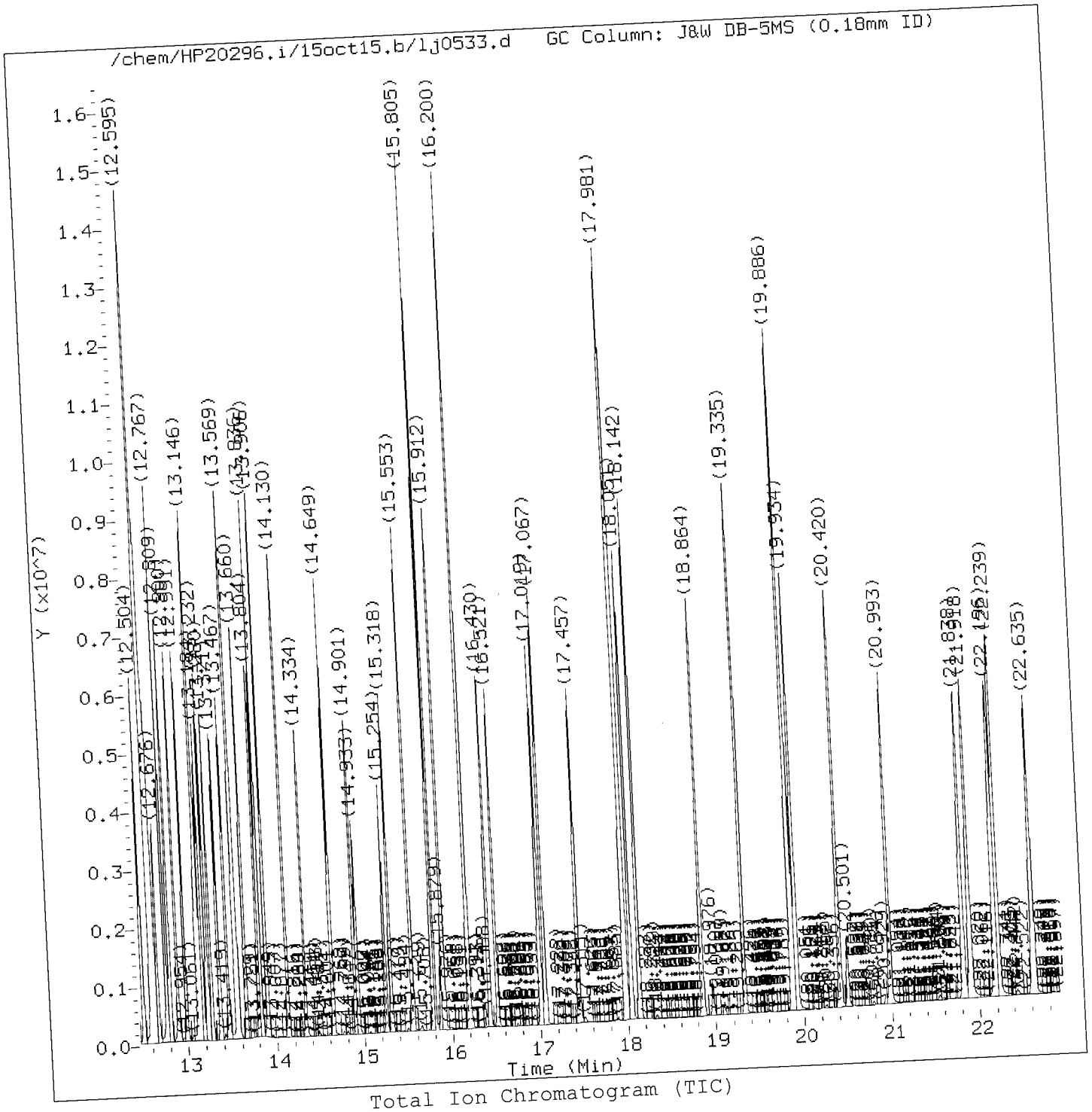
on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

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on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.508	88	724396	29.497
4) N-Nitrosodimethylamine	(1)	3.059	74	1174824	30.302
5) Pyridine	(1)	3.080	79	1976522	30.217
7) 2-Picoline	(1)	4.241	93	1992885	29.853
8) N-Nitrosomethylethylamine	(1)	4.439	88	819949	29.800
9) Methyl methanesulfonate	(1)	4.904	80	955283	29.656
11) $2-Fluorophenol	(1)	5.118	112	3088803	59.672
13) N-Nitrosodiethylamine	(1)	5.471	102	784478	29.863
15) Ethyl methanesulfonate	(1)	5.942	109	787457	29.762
16) Benzaldehyde	(1)	6.402	77	1356365	28.353
17) $Phenol-d6	(1)	6.514	99	4132011	59.263
18) Phenol	(1)	6.535	94	2375403	30.859
19) Aniline	(1)	6.562	93	2817746	30.036
20) a-methylstyrene	(1)	6.632	118	1589876	30.375
22) bis(2-Chloroethyl)ether	(1)	6.680	93	1693497	29.570
23) 2-Chlorophenol	(1)	6.723	128	1420479	29.597
24) 1,3-Dichlorobenzene	(1)	6.958	146	1573993	29.755
25) *1,4-Dichlorobenzene-d4	(1)	7.049	152	169733	5.000
26) 1,4-Dichlorobenzene	(1)	7.076	146	1594716	29.636
27) Benzyl alcohol	(1)	7.279	108	1084003	30.115
28) 1,2-Dichlorobenzene	(1)	7.300	146	1508877	29.660
30) Indene	(1)	7.439	115	2726555	30.494
31) 2-Methylphenol	(1)	7.450	108	1489774	29.677
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.503	45	2368947	29.487
34) bis(2-Chloroisopropyl)ether	(1)	7.503	45	2368947	29.487
42) Total Cresols	(1)			3046229	59.241
35) N-Nitrosopyrrolidine	(1)	7.675	100	812471	29.863
36) Acetophenone	(1)	7.691	105	2270332	29.902
37) 4-Methylphenol	(1)	7.701	108	1556455	29.564
38) N-Nitroso-di-n-propylamine	(1)	7.717	70	1341205	29.587
39) N-Nitrosomorpholine	(1)	7.739	56	1031829	29.378
40) o-Toluidine	(1)	7.739	106	2597259	29.353
43) Hexachloroethane	(1)	7.819	117	665171	29.824
44) $Nitrobenzene-d5	(2)	7.921	82	3921822	59.285
45) Nitrobenzene	(2)	7.947	77	1963450	29.372
48) N-Nitrosopiperidine	(2)	8.193	114	754991	29.647
50) Isophorone	(2)	8.333	82	3461735	29.548
51) 2-Nitrophenol	(2)	8.439	139	735186	29.748
53) 2,4-Dimethylphenol	(2)	8.530	107	1639657	29.318
57) O,O,O-Triethylphosphorothioate	(2)	8.664	198	712217	29.334

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:4
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	8.702	93	2065351	29.506
56) Benzoic acid	(2)	8.723	105	1414742M	32.021
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.793	104	2433219	30.291
60) 2,4-Dichlorophenol	(2)	8.819	162	1172752	29.612
62) 1,2,4-Trichlorobenzene	(2)	8.953	180	1311588	29.603
65)*Naphthalene-d8	(2)	9.039	136	649919	5.000
66) Naphthalene	(2)	9.076	128	4095017	29.060
67) 4-Chloroaniline	(2)	9.188	127	1721672	29.582
68) 2,6-Dichlorophenol	(2)	9.188	162	1161624	29.421
69) Hexachloropropene	(2)	9.220	213	902384	30.054
71) Hexachlorobutadiene	(2)	9.285	225	758253	29.507
75) Quinoline	(2)	9.627	129	2602984	29.405
77) N-Nitrosodi-n-butylamine	(2)	9.761	84	1551851	29.606
76) Caprolactam	(2)	9.787	113	387485A	29.583
80) 4-Chloro-3-methylphenol	(2)	9.991	107	1398100	29.217
82) Safrole	(2)	10.092	162	1063278	29.707
83) 2-Methylnaphthalene	(2)	10.210	142	2704807	28.768
84) 1-Methylnaphthalene	(2)	10.365	142	2469527	28.192
85) Hexachlorocyclopentadiene	(3)	10.461	237	848639	30.487
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.477	216	1306906	30.034
88) cis-Isosafrole	(3)	10.568	162	195872	5.064
90) 2,4,6-Trichlorophenol	(3)	10.675	196	862708	30.131
97) Isosafrole	(3)			1248200	30.005
92) 2,4,5-Trichlorophenol	(3)	10.729	196	887299	29.601
93)$2-Fluorobiphenyl	(3)	10.830	172	6085052	60.105
94) trans-Isosafrole	(3)	10.943	162	1052328	24.941
95) 1,1'-Biphenyl	(3)	10.985	154	3247272	30.155
96) 2-Chloronaphthalene	(3)	11.001	162	2573507	30.143
98) 1-Chloronaphthalene	(3)	11.034	162	2456859	29.946
99) Diphenyl ether	(3)	11.167	170	1739137	29.742
100) 2-Nitroaniline	(3)	11.189	138	820629	29.964
104) 1,4-Naphthoquinone	(3)	11.306	158	1061763	29.846
105) 1,4-Dinitrobenzene	(3)	11.435	168	434600	31.232
106) Dimethylphthalate	(3)	11.520	163	2777137	29.861
107) 1,3-Dinitrobenzene	(3)	11.547	168	459161	30.441
108) 2,6-Dinitrotoluene	(3)	11.601	165	639279	30.006
109) Acenaphthylene	(3)	11.659	152	4032082	30.450
112) 3-Nitroaniline	(3)	11.836	138	714981	30.326
113)*Acenaphthene-d10	(3)	11.868	164	368836	5.000
114) Acenaphthene	(3)	11.916	153	2632539	30.562

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:[illegible]
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			1503432	60.410
115) 2,4-Dinitrophenol	(3)	11.986	184	439328	32.194
116) 4-Nitrophenol	(3)	12.082	109	513461	30.038
117) Pentachlorobenzene	(3)	12.093	250	1022435	29.547
119) Dibenzofuran	(3)	12.157	168	3540783	29.912
118) 2,4-Dinitrotoluene	(3)	12.167	165	864153	30.404
121) 1-Naphthylamine	(3)	12.269	143	2664631	30.715
122) 2,3,4,6-Tetrachlorophenol	(3)	12.317	232	713625	30.378
123) 2-Naphthylamine	(3)	12.371	143	2608121	30.753
124) Diethylphthalate	(3)	12.504	149	2754159	29.894
126) Fluorene	(3)	12.590	166	2802824	30.287
125) Thionazin	(3)	12.601	107	517645	30.096
127) 4-Chlorophenyl-phenylether	(3)	12.611	204	1352672	29.742
128) 5-Nitro-o-toluidine	(3)	12.627	152	813380	30.518
129) 4-Nitroaniline	(3)	12.644	138	711956	29.813
130) 4,6-Dinitro-2-methylphenol	(4)	12.676	198	546457	30.733
132) NDPA as diphenylamine	(4)	12.767	169	2368655	29.908
131) N-Nitrosodiphenylamine	(4)	12.767	169	2368655	29.908
134) 1,2-Diphenylhydrazine	(4)	12.809	77	3640341	30.016
135)$2,4,6-Tribromophenol	(3)	12.900	330	665151	60.819
137) Tetraethyldithiopyrophosphate	(4)	12.991	97	551888	29.209
146) Diallate trans/cis	(4)			1549509	29.754
139) 1,3,5-Trinitrobenzene	(4)	13.125	213	326748	30.941
140) Diallate (peak 1)	(4)	13.141	86	1287515	24.630
141) Phorate	(4)	13.152	75	2288614	29.582
142) Phenacetin	(4)	13.184	108	1697928	29.705
143) 4-Bromophenyl-phenylether	(4)	13.232	248	723181	29.916
144) Diallate (peak 2)	(4)	13.248	86	261994	5.124
145) Hexachlorobenzene	(4)	13.280	284	752719	29.922
147) Dimethoate	(4)	13.371	87	1454683	29.441
148) Atrazine	(4)	13.467	200	743562	29.105
149) Pentachlorophenol	(4)	13.547	266	530598	30.674
151) Pentachloronitrobenzene	(4)	13.563	237	366620	30.323
150) 4-Aminobiphenyl	(4)	13.569	169	2798026	29.985
152) Pronamide	(4)	13.660	173	1331336	29.782
153)*Phenanthrene-d10	(4)	13.804	188	676284	5.000
154) Dinoseb	(4)	13.804	211	851515	31.590
155) Phenanthrene	(4)	13.836	178	4262147	29.870
157) Anthracene	(4)	13.906	178	4249865	30.128
163) Carbazole	(4)	14.130	167	3925166	29.714

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.334	109	1119354	29.931
165) Di-n-butylphthalate	(4)	14.649	149	4857453	30.067
167) Parathion	(4)	14.901	109	682256	30.647
168) 4-Nitroquinoline-1-oxide	(4)	14.933	190	520255	33.356
169) Octachlorostyrene	(4)	15.254	308	272121	30.184
171) Isodrin	(4)	15.318	193	489900	29.708
173) Fluoranthene	(4)	15.553	202	4686959	29.750
174) Benzidine	(5)	15.805	184	8813617	87.992
175)*Pyrene-d10	(5)	15.879	212	773974	5.000
177) Pyrene	(5)	15.912	202	4866505	28.541
179)$Terphenyl-d14	(5)	16.200	244	6201975	59.786
182) p-Dimethylaminoazobenzene	(5)	16.436	225	903047	30.374
185) Chlorobenzilate	(5)	16.521	139	1461064	29.759
187) 3,3'-Dimethylbenzidine	(5)	17.019	212	3171821	29.932
188) Butylbenzylphthalate	(5)	17.067	149	2147917	29.833
191) 2-Acetylaminofluorene	(5)	17.457	181	2030850	30.861
193) 3,3'-Dichlorobenzidine	(5)	17.971	252	1694992	30.349
195) Benzo(a)anthracene	(5)	17.981	228	4474074	30.725
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.992	231	954245	30.305
196) Chrysene	(5)	18.051	228	4134253	29.886
199) bis(2-Ethylhexyl)phthalate	(5)	18.142	149	3202226	30.418
203) 6-Methylchrysene	(5)	18.864	242	3050250	30.403
205) Di-n-octylphthalate	(6)	19.335	149	5897892	30.261
206) Benzo(b)fluoranthene	(6)	19.880	252	4520293	30.272
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.886	256	2032685	30.226
208) Benzo(k)fluoranthene	(6)	19.934	252	4377859	30.048
211) Benzo(a)pyrene	(6)	20.420	252	4366443	31.921
213)*Perylene-d12	(6)	20.501	264	603092	5.000
215) 3-Methylcholanthrene	(6)	20.993	268	2085054	30.465
217) Dibenz(a,h)acridine	(6)	21.838	279	3756844	30.583
218) Dibenz(a,j)acridine	(6)	21.918	279	3692327	30.202
222) Total PAHs	(6)			72189059	540.889
219) Indeno(1,2,3-cd)pyrene	(6)	22.196	276	5036359	31.214
220) Dibenz(a,h)anthracene	(6)	22.239	278	4252683	31.029
221) Benzo(g,h,i)perylene	(6)	22.635	276	4224823	30.186

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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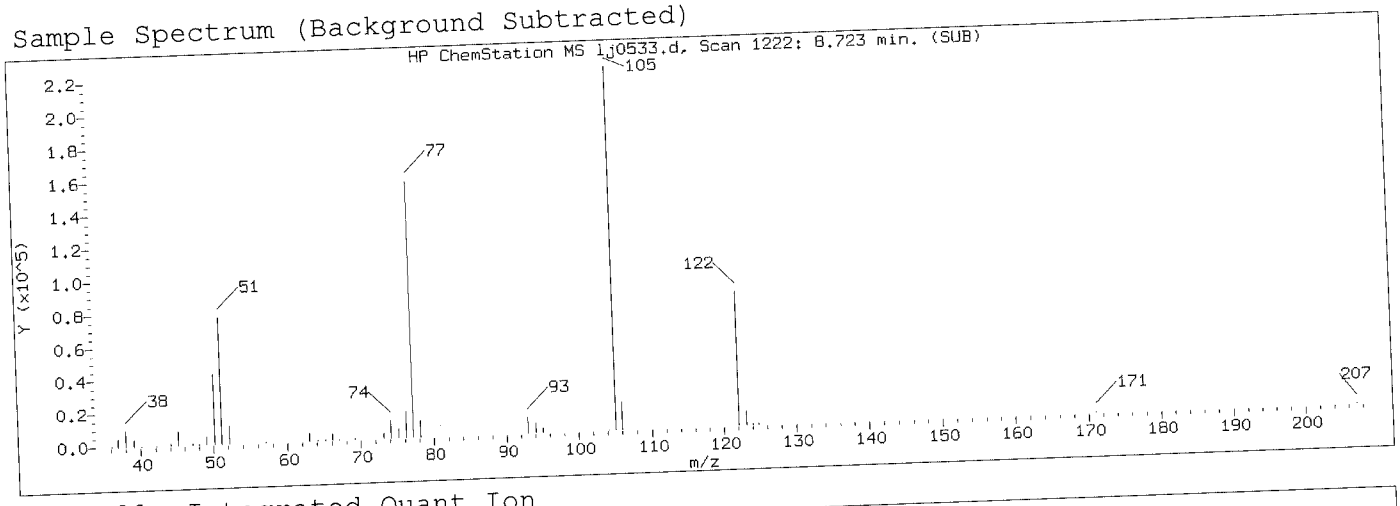
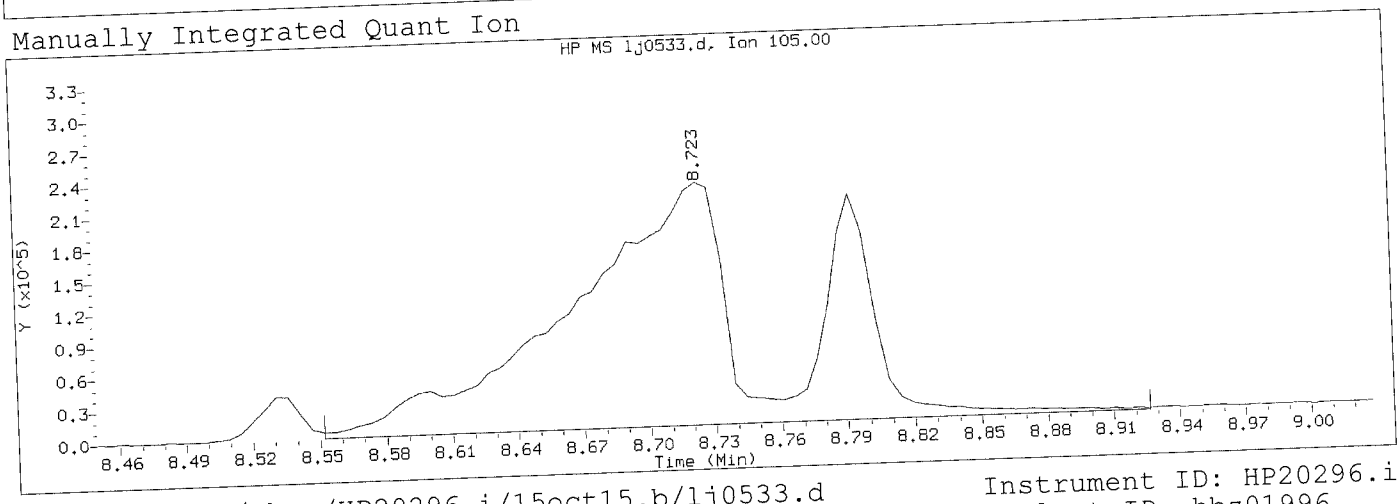
on 10/15/2015 at 18:44.
Target 3.5 esignature used: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32
Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15
Sublist used: all1
Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD030
Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1222		
Retention Time (minutes)	: 8.723		
Quant Ion	: 105.00		
Area (flag)	: 1414742M		
On-Column Amount (ng/ul)	: 32.0212		
Integration start scan	: 1189	Integration stop scan:	1259
Y at integration start	: 254	Y at integration end:	254

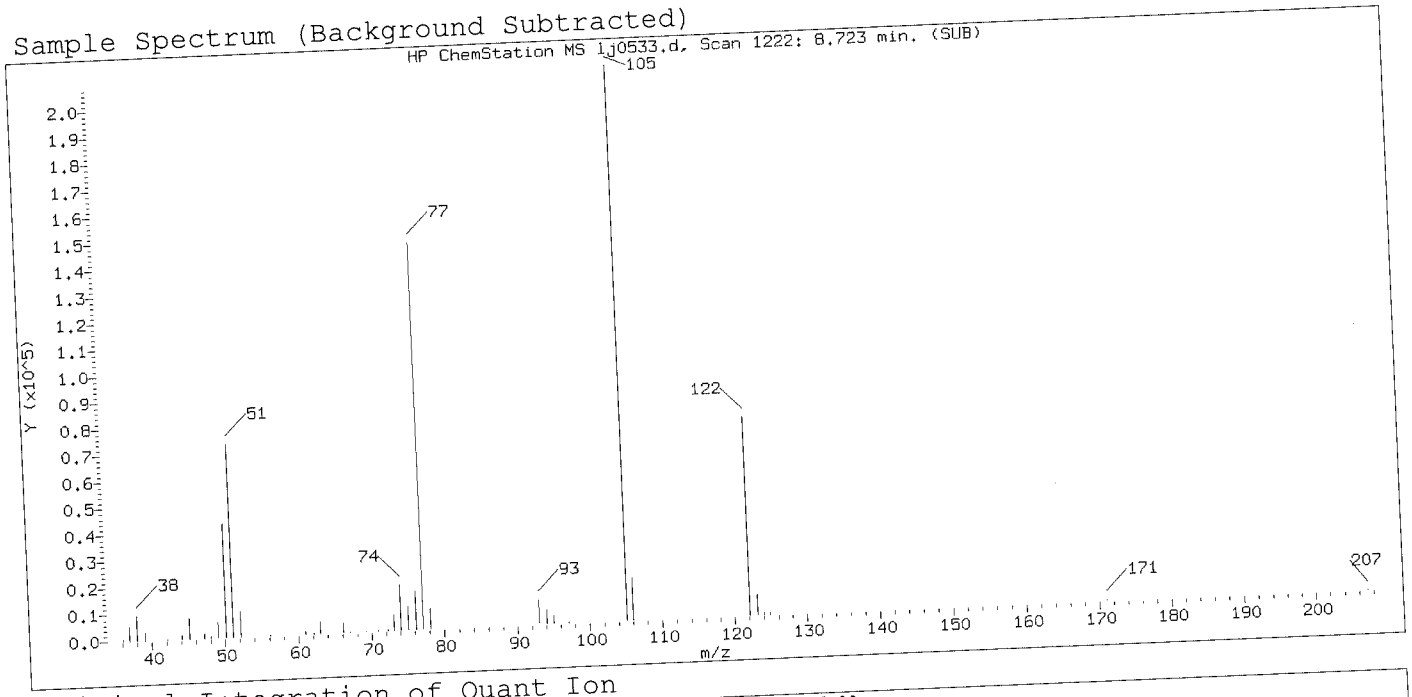
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44 Target 3.5 Signature user ID: ceb05247

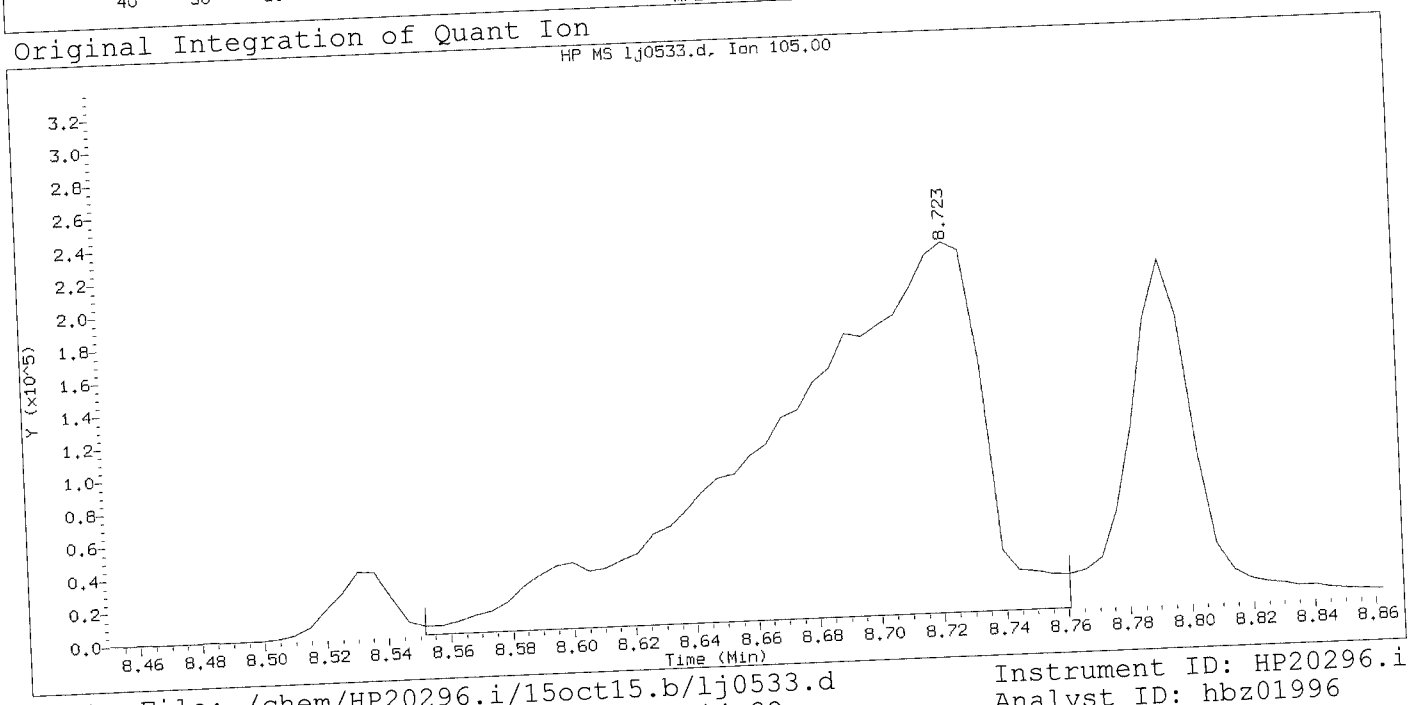
OCT 16 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 14:57

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 14:57 Unknown

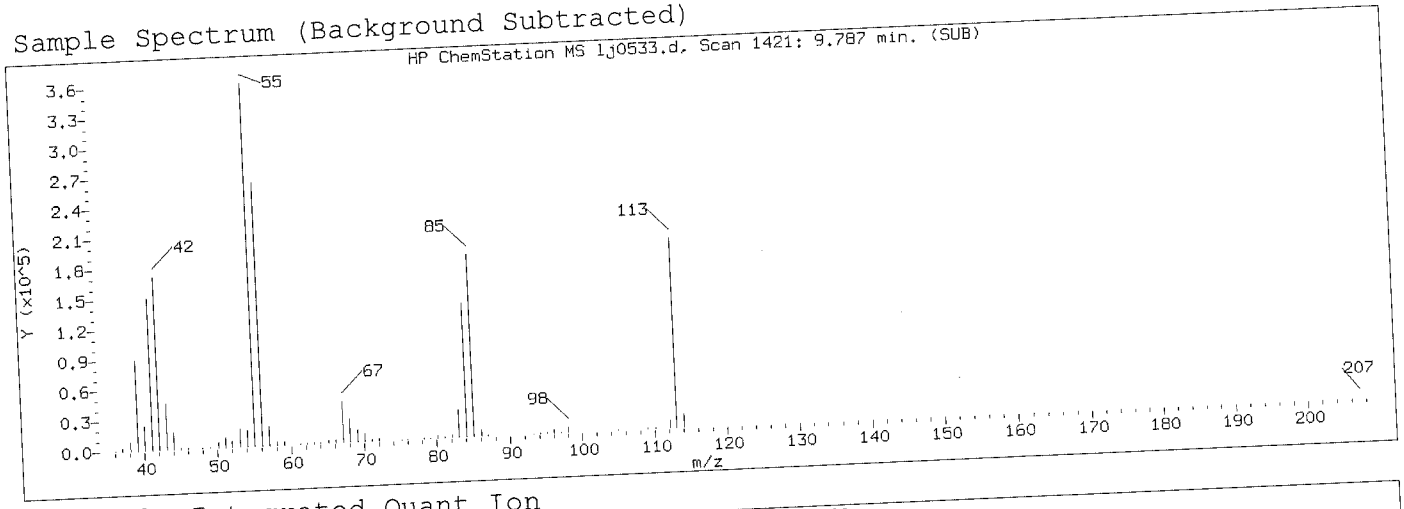
Sample Name: SSTD030

Lab Sample ID: RVSTD2745

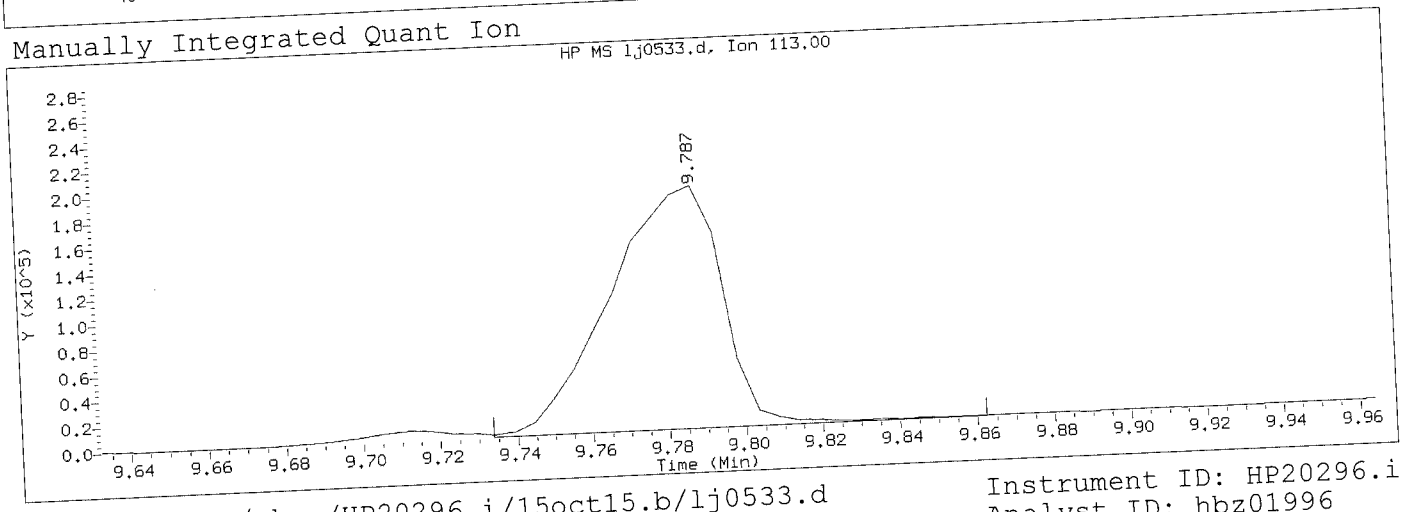
Compound Number	: 56
Compound Name	: Benzoic acid
Scan Number	: 1222
Retention Time (minutes)	: 8.723
Quant Ion	: 105.00
Area	: 1082970
On-column Amount (ng/ul)	: 24.3978
Integration start scan	: 1189
Integration stop scan:	1228
Y at integration start	: 0
Y at integration end:	0

Digitally signed by Catherine [illegible] on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

Compound Number	: 76		
Compound Name	: Caprolactam		
Scan Number	: 1421		
Retention Time (minutes)	: 9.787		
Quant Ion	: 113.00		
Area (flag)	: 387485A		
On-Column Amount (ng/ul)	: 29.5830		
Integration start scan	: 1410	Integration stop scan:	1434
Y at integration start	: 0	Y at integration end:	0

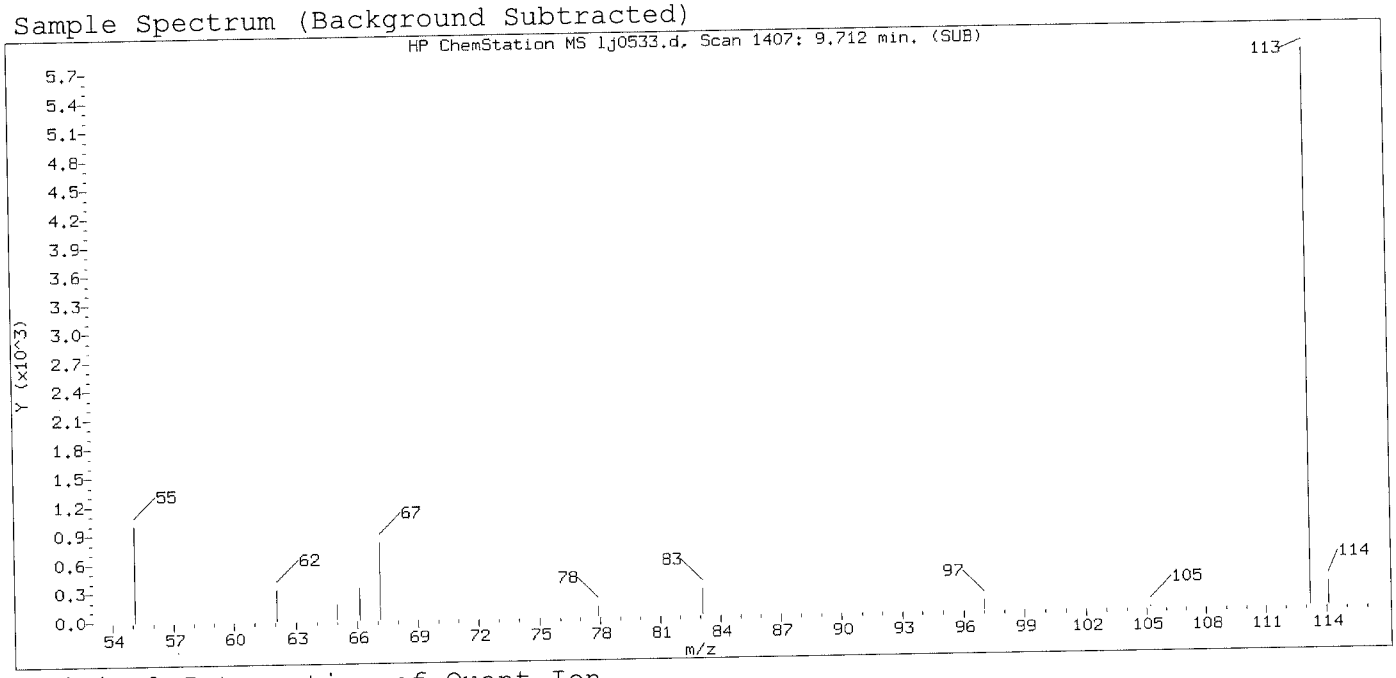
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 esignature user ID: ceb05247

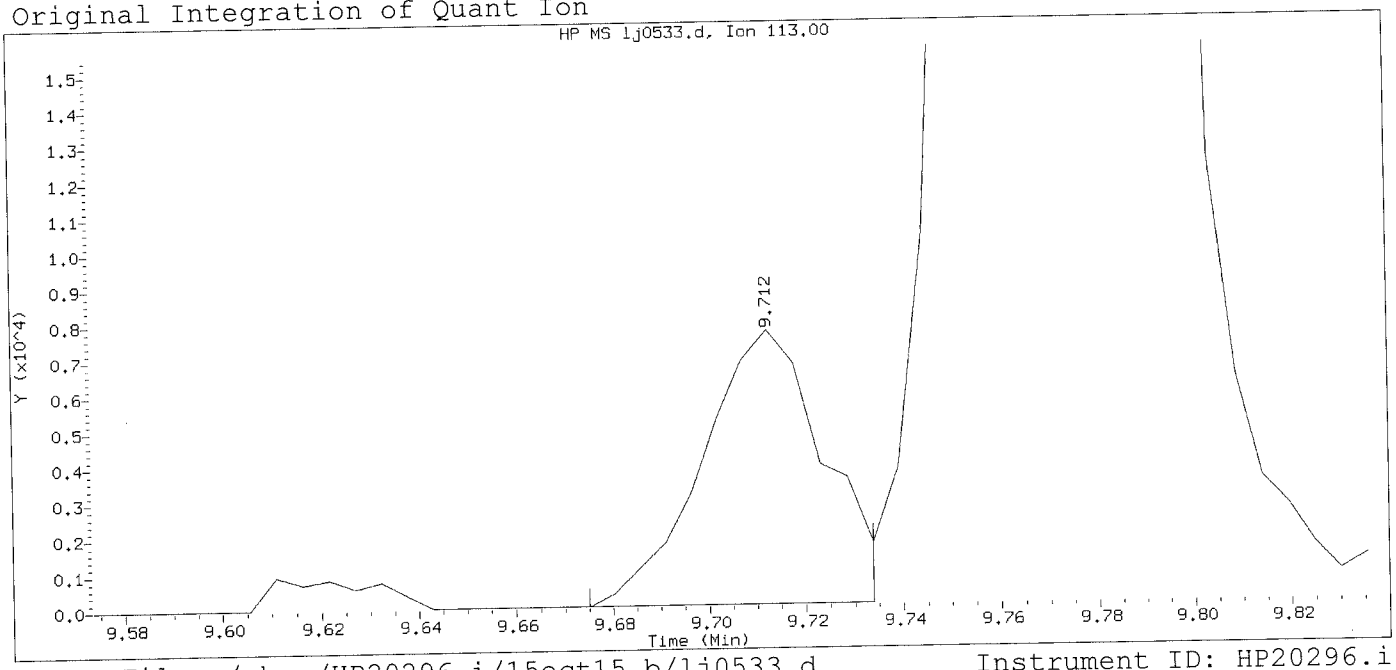
OCT 16 2015

GC/MS audit/management approval: Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0533.d
Injection date and time: 15-OCT-2015 14:32

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 14:57
Date, time and analyst ID of latest file update: 15-Oct-2015 14:57 Unknown

Sublist used: all1

Sample Name: SSTD030

Lab Sample ID: RVSTD2745

Compound Number	: 76		
Compound Name	: Caprolactam		
Scan Number	: 1407		
Retention Time (minutes)	: 9.712		
Quant Ion	: 113.00		
Area	: 13195		
On-column Amount (ng/ul)	: 1.1822		
Integration start scan	: 1399	Integration stop scan:	1410
Y at integration start	: 0	Y at integration end:	0

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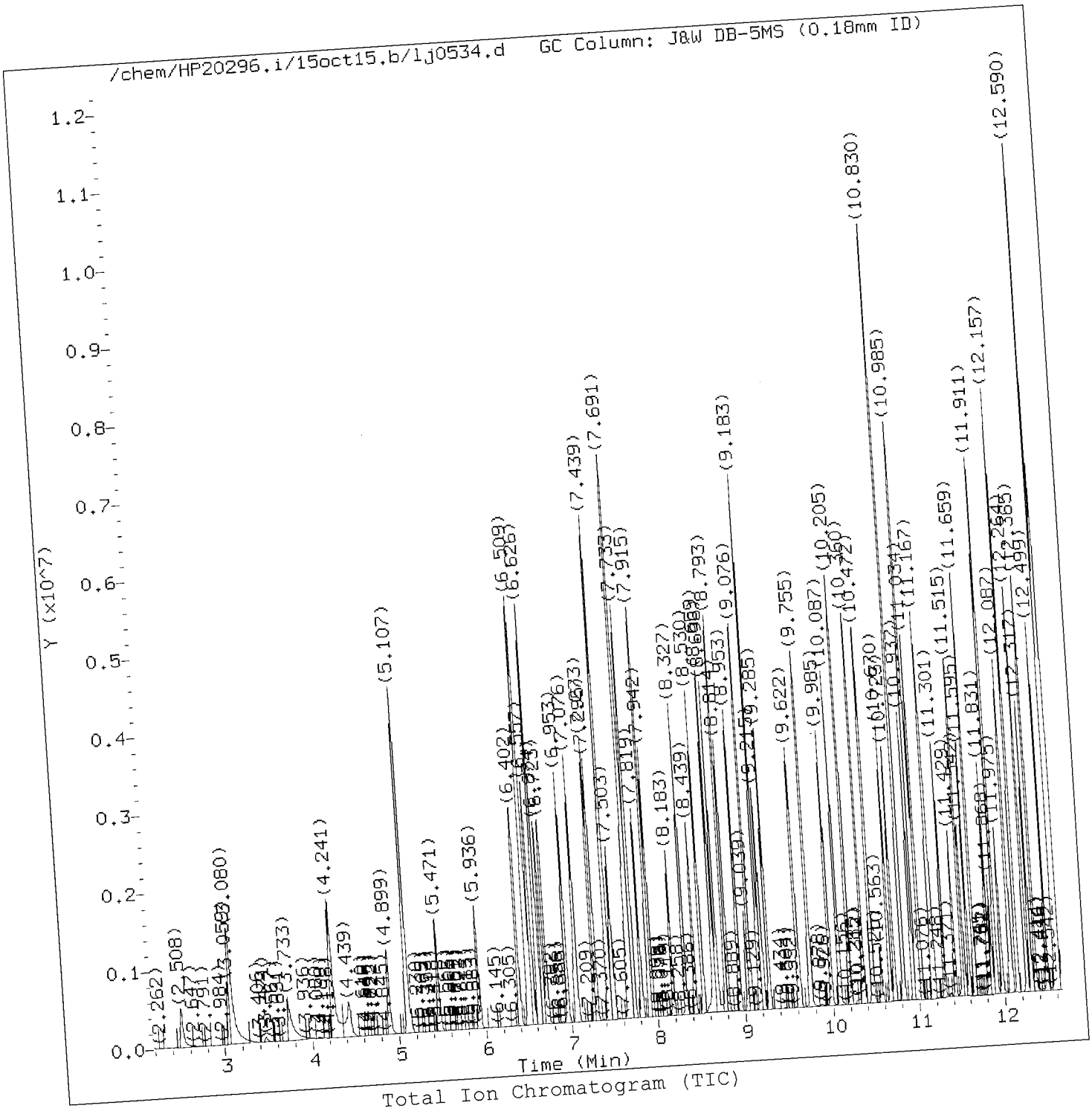
Target 3.5 esignature user ID: ceb05247



Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0534.d
Injection date and time: 15-OCT-2015 15:00

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

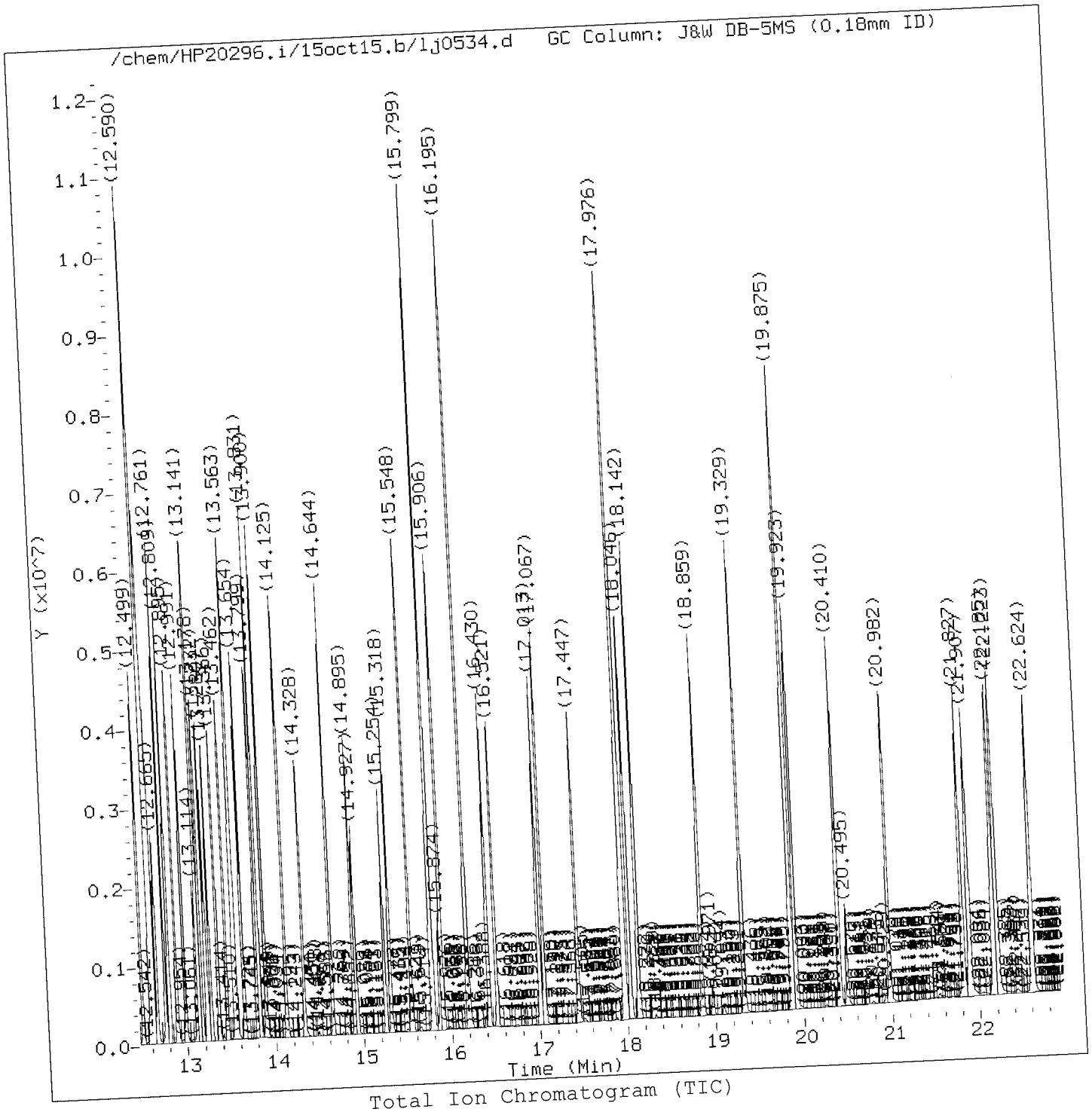
Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD020

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0534.d
Injection date and time: 15-OCT-2015 15:00

Instrument ID: HP20296.i
Analyst ID: hbz01996

Sublist used: all1

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15
Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD020

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0534.d
Injection date and time: 15-OCT-2015 15:00

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD020

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.513	88	474328	19.337
4) N-Nitrosodimethylamine	(1)	3.059	74	761528	19.557
5) Pyridine	(1)	3.086	79	1308688	19.801
7) 2-Picoline	(1)	4.241	93	1316739	19.613
8) N-Nitrosomethylethylamine	(1)	4.439	88	543262	19.626
9) Methyl methanesulfonate	(1)	4.899	80	635645	19.619
11)$2-Fluorophenol	(1)	5.107	112	2027353	39.036
13) N-Nitrosodiethylamine	(1)	5.471	102	522286	19.718
15) Ethyl methanesulfonate	(1)	5.936	109	515882	19.460
16) Benzaldehyde	(1)	6.402	77	990624	20.260
17)$Phenol-d6	(1)	6.503	99	2780507	39.513
18) Phenol	(1)	6.525	94	1482224	19.297
19) Aniline	(1)	6.557	93	1901818	19.976
20) a-methylstyrene	(1)	6.632	118	1070870	20.099
22) bis(2-Chloroethyl)ether	(1)	6.674	93	1143141	19.770
23) 2-Chlorophenol	(1)	6.723	128	945603	19.598
24) 1,3-Dichlorobenzene	(1)	6.958	146	1045028	19.634
25)*1,4-Dichlorobenzene-d4	(1)	7.049	152	172350	5.000
26) 1,4-Dichlorobenzene	(1)	7.076	146	1067446	19.688
27) Benzyl alcohol	(1)	7.273	108	724685	19.884
28) 1,2-Dichlorobenzene	(1)	7.295	146	1009554	19.693
30) Indene	(1)	7.434	115	1851882	20.263
31) 2-Methylphenol	(1)	7.445	108	994940	19.676
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.503	45	1612162	19.841
34) bis(2-Chloroisopropyl)ether	(1)	7.503	45	1612162	19.841
42) Total Cresols	(1)			2044601	39.432
35) N-Nitrosopyrrolidine	(1)	7.664	100	557732	20.125
36) Acetophenone	(1)	7.685	105	1586024	20.378
37) 4-Methylphenol	(1)	7.696	108	1049661	19.755
38) N-Nitroso-di-n-propylamine	(1)	7.707	70	899142	19.687
39) N-Nitrosomorpholine	(1)	7.733	56	697799	19.708
40) o-Toluidine	(1)	7.733	106	1773076	19.822
43) Hexachloroethane	(1)	7.819	117	445214	19.771
44)$Nitrobenzene-d5	(2)	7.915	82	2669665	39.406
45) Nitrobenzene	(2)	7.942	77	1322303	19.441
48) N-Nitrosopiperidine	(2)	8.188	114	508712	19.570
50) Isophorone	(2)	8.327	82	2339621	19.566
51) 2-Nitrophenol	(2)	8.439	139	490836	19.494
53) 2,4-Dimethylphenol	(2)	8.530	107	1110399	19.490
57) O,O,O-Triethylphosphorothioate	(2)	8.659	198	476440	19.336

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0534.d
Injection date and time: 15-OCT-2015 15:00

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD020

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	8.696	105	946810M	20.508
55) bis(2-Chloroethoxy)methane	(2)	8.696	93	1394478	19.534
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.793	104	1653773	19.970
60) 2,4-Dichlorophenol	(2)	8.814	162	793063	19.602
62) 1,2,4-Trichlorobenzene	(2)	8.953	180	879510	19.487
65)*Naphthalene-d8	(2)	9.039	136	670534	5.000
66) Naphthalene	(2)	9.076	128	2770554	19.284
67) 4-Chloroaniline	(2)	9.183	127	1170289	19.657
68) 2,6-Dichlorophenol	(2)	9.183	162	774761	19.335
69) Hexachloropropene	(2)	9.215	213	605950	19.705
71) Hexachlorobutadiene	(2)	9.285	225	508002	19.433
75) Quinoline	(2)	9.622	129	1773421	19.608
77) N-Nitrosodi-n-butylamine	(2)	9.755	84	1045299	19.547
76) Caprolactam	(2)	9.766	113	265440	19.760
80) 4-Chloro-3-methylphenol	(2)	9.985	107	946011	19.433
82) Safrole	(2)	10.087	162	723026	19.718
83) 2-Methylnaphthalene	(2)	10.205	142	1835850	19.183
84) 1-Methylnaphthalene	(2)	10.360	142	1676629	18.894
85) Hexachlorocyclopentadiene	(3)	10.461	237	569232	20.051
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.472	216	892724	20.095
88) cis-Isosafrole	(3)	10.568	162	133384	3.390
90) 2,4,6-Trichlorophenol	(3)	10.670	196	584735	20.034
92) 2,4,5-Trichlorophenol	(3)	10.723	196	610969	20.008
97) Isosafrole	(3)			844308	19.952
93)$2-Fluorobiphenyl	(3)	10.830	172	4079471	39.707
94) trans-Isosafrole	(3)	10.937	162	710924	16.562
95) 1,1'-Biphenyl	(3)	10.985	154	2244055	20.304
96) 2-Chloronaphthalene	(3)	11.001	162	1810326	20.538
98) 1-Chloronaphthalene	(3)	11.034	162	1585197	19.301
99) Diphenyl ether	(3)	11.167	170	1201023	20.110
100) 2-Nitroaniline	(3)	11.183	138	558249	20.009
104) 1,4-Naphthoquinone	(3)	11.306	158	721526	19.942
105) 1,4-Dinitrobenzene	(3)	11.429	168	288993	20.258
106) Dimethylphthalate	(3)	11.515	163	1894217	19.998
107) 1,3-Dinitrobenzene	(3)	11.542	168	312193	20.213
108) 2,6-Dinitrotoluene	(3)	11.595	165	435230	20.038
109) Acenaphthylene	(3)	11.659	152	2746333	20.271
112) 3-Nitroaniline	(3)	11.831	138	482296	20.056
113)*Acenaphthene-d10	(3)	11.868	164	375673	5.000
114) Acenaphthene	(3)	11.916	153	1764555	20.084

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05241

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/1j0534.d
Injection date and time: 15-OCT-2015 15:00

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD020

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			1030243	40.403
115) 2,4-Dinitrophenol	(3)	11.980	184	291163	20.622
116) 4-Nitrophenol	(3)	12.077	109	352666	20.170
117) Pentachlorobenzene	(3)	12.093	250	694185	19.796
119) Dibenzofuran	(3)	12.151	168	2388618	19.874
118) 2,4-Dinitrotoluene	(3)	12.162	165	595013	20.366
121) 1-Naphthylamine	(3)	12.264	143	1779057	20.089
122) 2,3,4,6-Tetrachlorophenol	(3)	12.317	232	481058	20.070
123) 2-Naphthylamine	(3)	12.365	143	1746932	20.149
124) Diethylphthalate	(3)	12.499	149	1896111	20.137
126) Fluorene	(3)	12.590	166	1910221	20.199
125) Thionazin	(3)	12.595	107	355933	20.211
127) 4-Chlorophenyl-phenylether	(3)	12.611	204	929865	20.049
128) 5-Nitro-o-toluidine	(3)	12.622	152	556202	20.323
129) 4-Nitroaniline	(3)	12.633	138	484551	19.947
130) 4,6-Dinitro-2-methylphenol	(4)	12.670	198	375891	20.231
132) NDPA as diphenylamine	(4)	12.767	169	1611078	19.718
131) N-Nitrosodiphenylamine	(4)	12.767	169	1611078	19.718
134) 1,2-Diphenylhydrazine	(4)	12.809	77	2479247	19.783
135)$2,4,6-Tribromophenol	(3)	12.895	330	453370	40.464
137) Tetraethyldithiopyrophosphate	(4)	12.991	97	388883	19.874
146) Diallate trans/cis	(4)			1051454	19.619
139) 1,3,5-Trinitrobenzene	(4)	13.114	213	218531	19.945
140) Diallate (peak 1)	(4)	13.136	86	873628	16.254
141) Phorate	(4)	13.152	75	1571290	19.697
142) Phenacetin	(4)	13.178	108	1167588	19.773
143) 4-Bromophenyl-phenylether	(4)	13.232	248	490244	19.678
144) Diallate (peak 2)	(4)	13.248	86	177826	3.365
145) Hexachlorobenzene	(4)	13.280	284	504964	19.486
147) Dimethoate	(4)	13.366	87	1001657	19.672
148) Atrazine	(4)	13.462	200	531681	20.021
149) Pentachlorophenol	(4)	13.542	266	354631	19.821
151) Pentachloronitrobenzene	(4)	13.558	237	249476	19.907
150) 4-Aminobiphenyl	(4)	13.569	169	1894565	19.693
152) Pronamide	(4)	13.654	173	902401	19.616
153)*Phenanthrene-d10	(4)	13.799	188	702612	5.000
154) Dinoseb	(4)	13.804	211	571925	20.280
155) Phenanthrene	(4)	13.831	178	2878491	19.560
157) Anthracene	(4)	13.900	178	2902980	19.856
163) Carbazole	(4)	14.125	167	2693340	19.748

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0534.d
Injection date and time: 15-OCT-2015 15:00

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD020

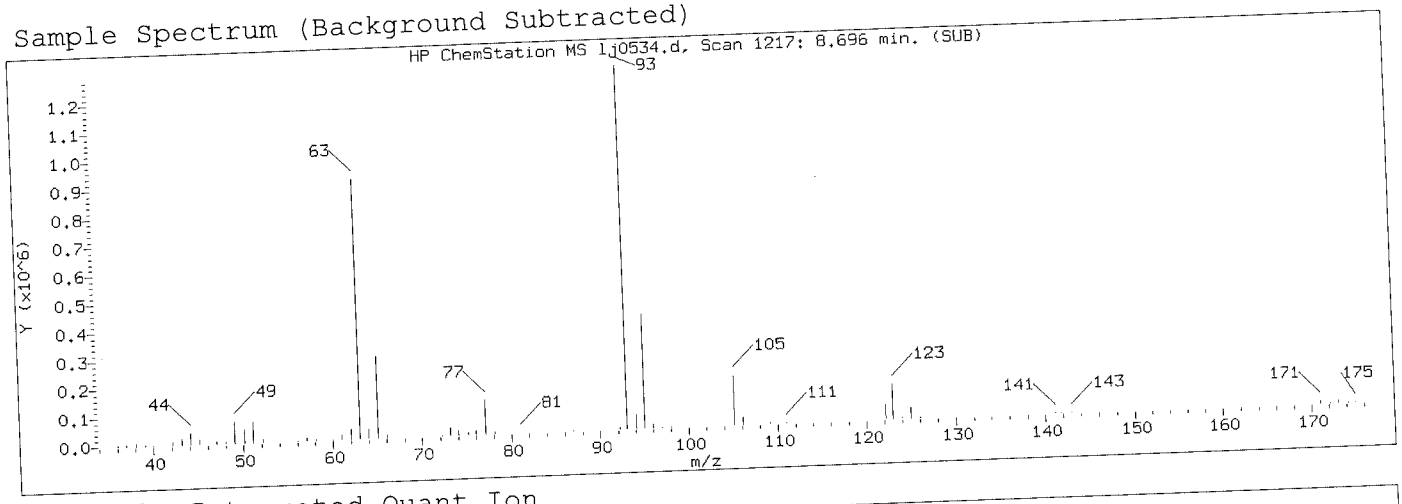
Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.328	109	771682	19.907
165) Di-n-butylphthalate	(4)	14.644	149	3300209	19.774
167) Parathion	(4)	14.895	109	464128	20.045
168) 4-Nitroquinoline-1-oxide	(4)	14.927	190	346716	20.910
169) Octachlorostyrene	(4)	15.254	308	185359	19.859
171) Isodrin	(4)	15.318	193	339378	19.872
173) Fluoranthene	(4)	15.548	202	3194318	19.635
174) Benzidine	(5)	15.799	184	6160593	59.541
175)*Pyrene-d10	(5)	15.874	212	802565	5.000
177) Pyrene	(5)	15.906	202	3302564	18.992
179)$Terphenyl-d14	(5)	16.195	244	4212886	39.439
182) p-Dimethylaminoazobenzene	(5)	16.430	225	603692	19.719
185) Chlorobenzilate	(5)	16.521	139	1002765	19.797
187) 3,3'-Dimethylbenzidine	(5)	17.013	212	2132619	19.602
188) Butylbenzylphthalate	(5)	17.067	149	1459641	19.698
191) 2-Acetylaminofluorene	(5)	17.447	181	1333269	19.690
193) 3,3'-Dichlorobenzidine	(5)	17.965	252	1126165	19.627
195) Benzo(a)anthracene	(5)	17.976	228	3034503	20.072
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.987	231	640878	19.751
196) Chrysene	(5)	18.046	228	2808486	19.683
199) bis(2-Ethylhexyl)phthalate	(5)	18.142	149	2134688	19.701
203) 6-Methylchrysene	(5)	18.859	242	1999312	19.472
205) Di-n-octylphthalate	(6)	19.329	149	3842236	19.894
206) Benzo(b)fluoranthene	(6)	19.875	252	2988486	20.107
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.880	256	1334621	19.983
208) Benzo(k)fluoranthene	(6)	19.923	252	2828473	19.653
211) Benzo(a)pyrene	(6)	20.410	252	2834501	20.635
213)*Perylene-d12	(6)	20.495	264	599209	5.000
215) 3-Methylcholanthrene	(6)	20.987	268	1330292	19.706
217) Dibenz(a,h)acridine	(6)	21.827	279	2392023	19.731
218) Dibenz(a,j)acridine	(6)	21.907	279	2410176	19.895
222) Total PAHs	(6)			48232319	356.308
219) Indeno(1,2,3-cd)pyrene	(6)	22.185	276	3262182	20.261
220) Dibenz(a,h)anthracene	(6)	22.228	278	2742951	20.107
221) Benzo(g,h,i)perylene	(6)	22.624	276	2750242	19.833

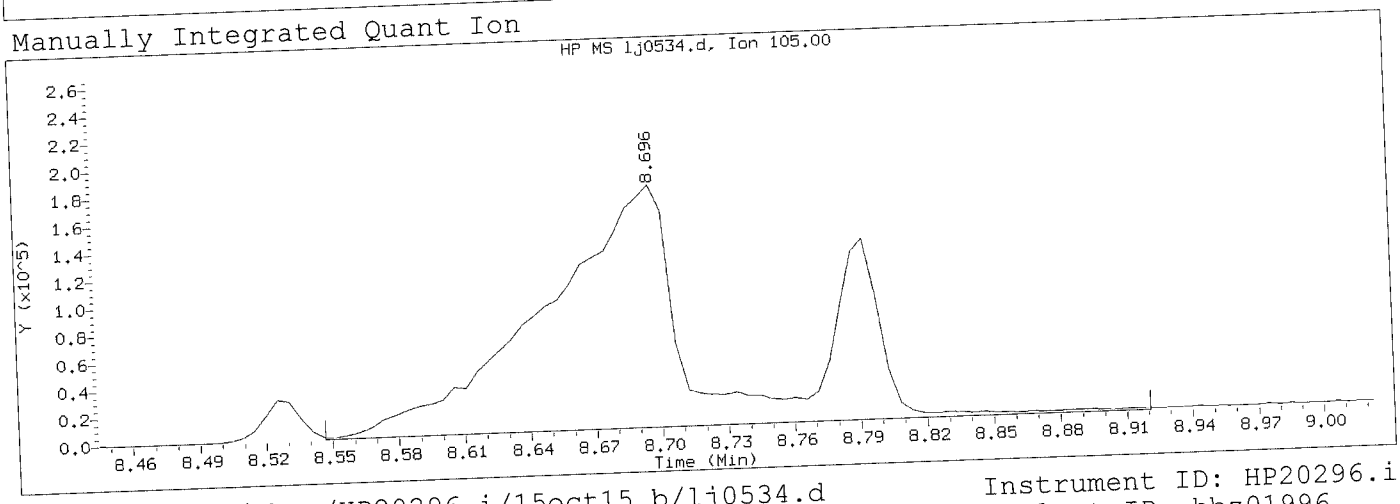
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0534.d
Injection date and time: 15-OCT-2015 15:00

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD020

Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1217		
Retention Time (minutes)	: 8.696		
Quant Ion	: 105.00		
Area (flag)	: 946810M		
On-Column Amount (ng/ul)	: 20.5076		
Integration start scan	: 1188	Integration stop scan:	1258
Y at integration start	: 88	Y at integration end:	88

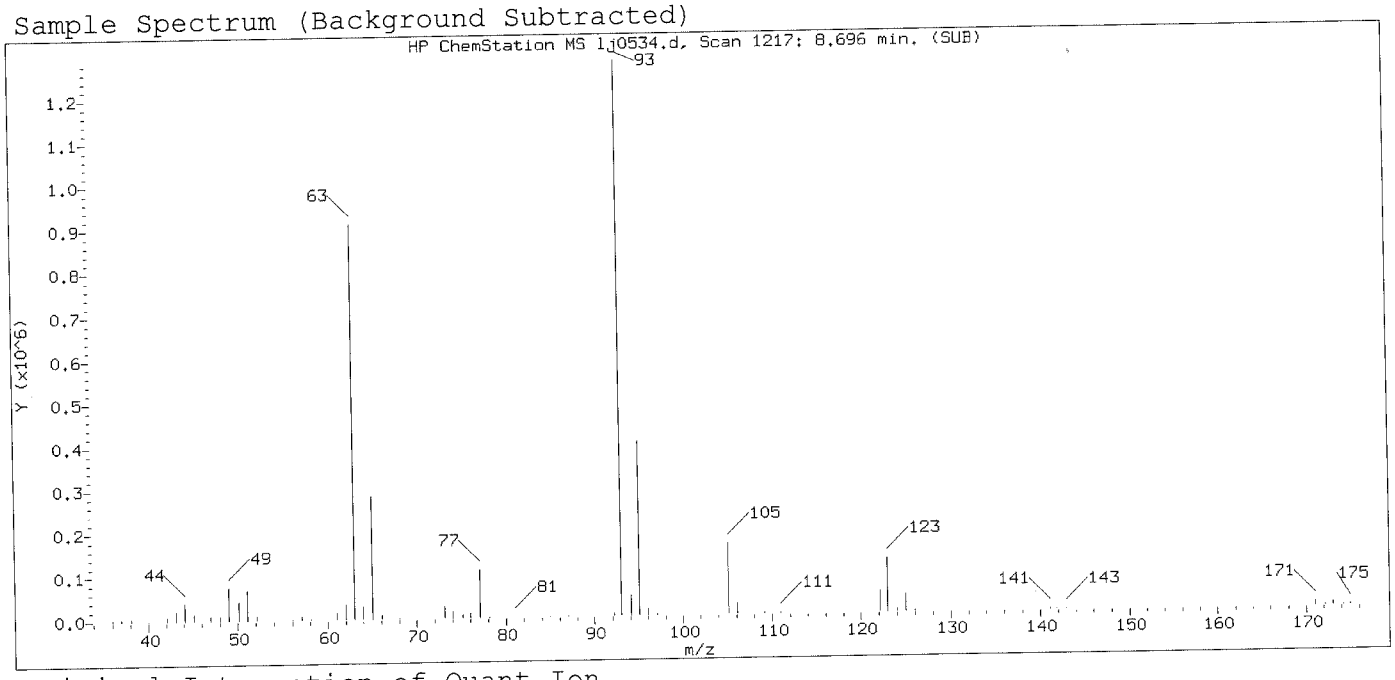
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44 Target 3.5 signature user ID: ceb05247

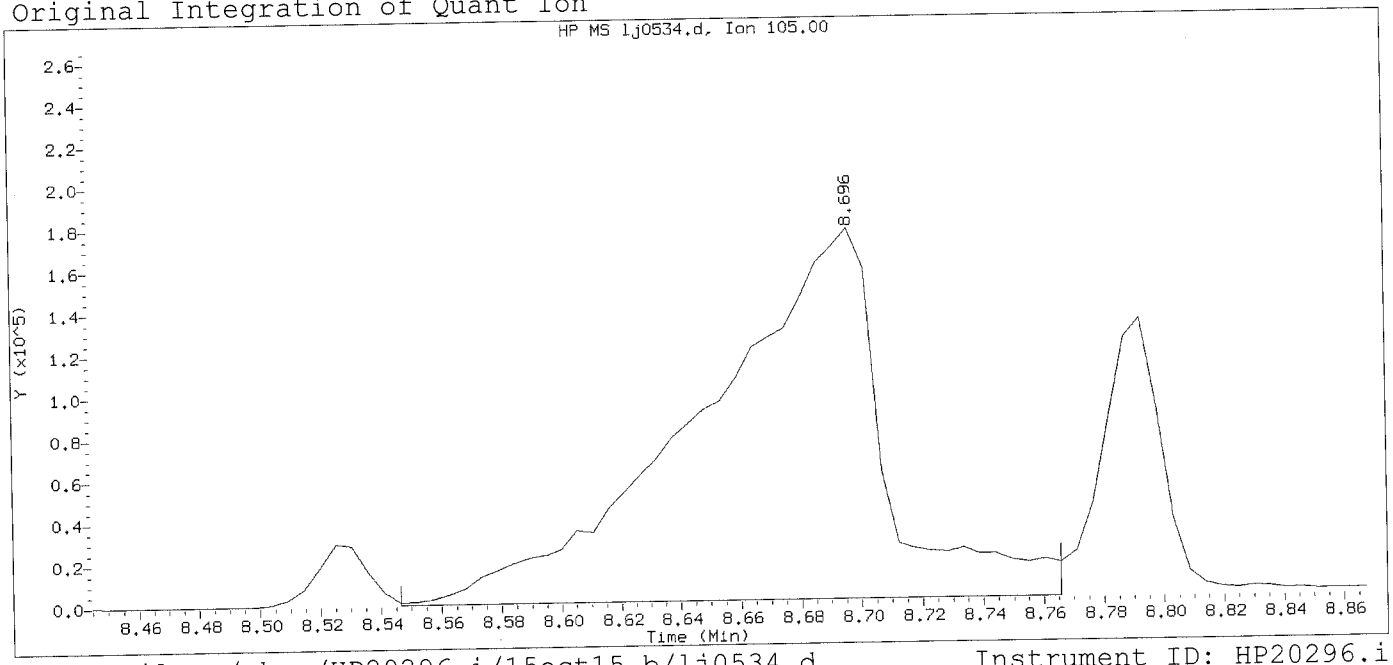
OCT 16 2015

GC/MS audit/management approval: Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0534.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 15:00 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-OCT-2015 15:25
Date, time and analyst ID of latest file update: 15-Oct-2015 15:25 Unknown

Sample Name: SSTD020 Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1217		
Retention Time (minutes)	: 8.696		
Quant Ion	: 105.00		
Area	: 754738		
On-column Amount (ng/ul)	: 17.1064		
Integration start scan	: 1188	Integration stop scan:	1229
Y at integration start	: 0	Y at integration end:	0

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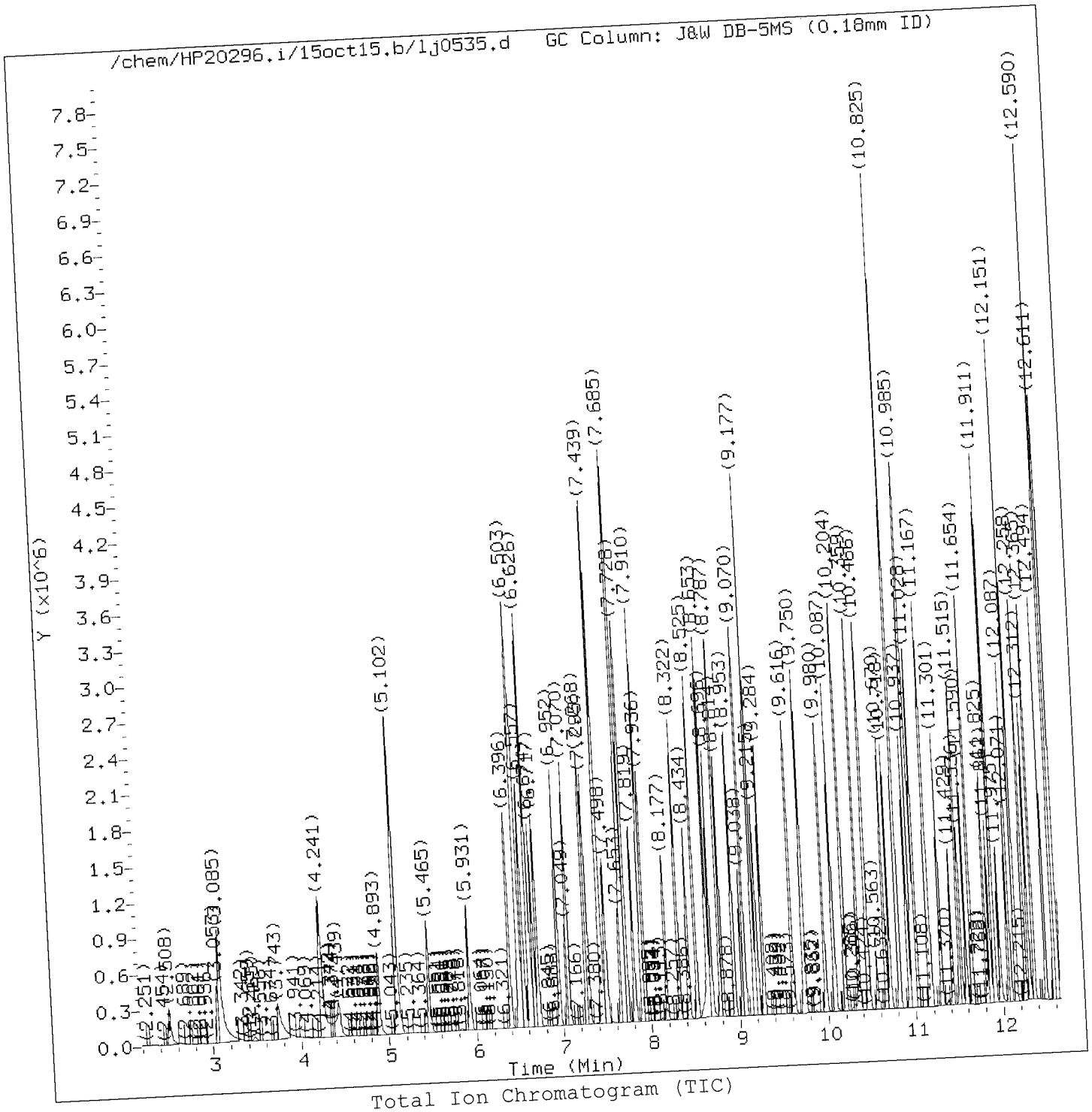
Target 3.5 esignature user ID: cebachman



Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0535.d
Injection date and time: 15-OCT-2015 15:28

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

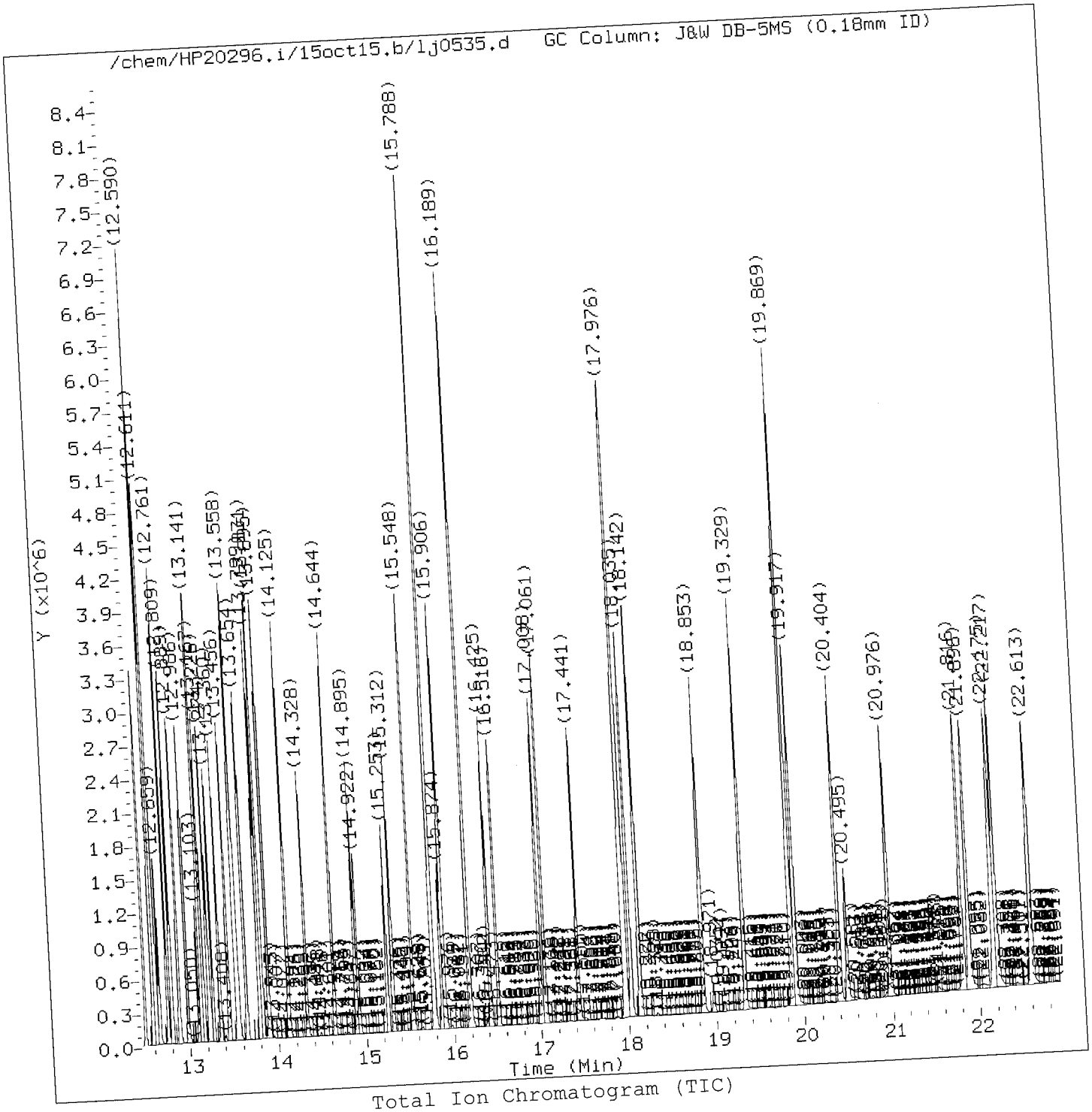
Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD12.5

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:41:
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0535.d
Injection date and time: 15-OCT-2015 15:28

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD12.5

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05241

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0535.d
Injection date and time: 15-OCT-2015 15:28

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD12.5

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.508	88	295981	12.588
4) N-Nitrosodimethylamine	(1)	3.059	74	476651	12.724
5) Pyridine	(1)	3.085	79	788411	12.481
7) 2-Picoline	(1)	4.241	93	825389	12.765
8) N-Nitrosomethylethylamine	(1)	4.439	88	340168	12.761
9) Methyl methanesulfonate	(1)	4.893	80	403441	12.887
11)$2-Fluorophenol	(1)	5.107	112	1264952	25.350
13) N-Nitrosodiethylamine	(1)	5.465	102	327052	12.806
15) Ethyl methanesulfonate	(1)	5.931	109	329307	12.864
16) Benzaldehyde	(1)	6.396	77	598090	12.717
17)$Phenol-d6	(1)	6.498	99	1737814	25.613
18) Phenol	(1)	6.519	94	922562	12.545
19) Aniline	(1)	6.557	93	1158289	12.666
20) a-methylstyrene	(1)	6.631	118	656475	12.786
22) bis(2-Chloroethyl)ether	(1)	6.674	93	708355	12.731
23) 2-Chlorophenol	(1)	6.717	128	598502	12.850
24) 1,3-Dichlorobenzene	(1)	6.952	146	654968	12.774
25)*1,4-Dichlorobenzene-d4	(1)	7.049	152	164820	5.000
26) 1,4-Dichlorobenzene	(1)	7.070	146	674368	12.876
27) Benzyl alcohol	(1)	7.268	108	450768	12.822
28) 1,2-Dichlorobenzene	(1)	7.295	146	637081	12.868
30) Indene	(1)	7.434	115	1137521	12.883
31) 2-Methylphenol	(1)	7.439	108	623108	12.787
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.498	45	1008311	12.854
34) bis(2-Chloroisopropyl)ether	(1)	7.498	45	1008311	12.854
35) N-Nitrosopyrrolidine	(1)	7.653	100	343794	12.851
42) Total Cresols	(1)			1287341	25.712
36) Acetophenone	(1)	7.680	105	937431	12.571
37) 4-Methylphenol	(1)	7.690	108	664233	12.924
38) N-Nitroso-di-n-propylamine	(1)	7.696	70	570208	12.912
39) N-Nitrosomorpholine	(1)	7.723	56	440861	12.886
40) o-Toluidine	(1)	7.728	106	1107048	12.828
43) Hexachloroethane	(2)	7.819	117	282164	12.947
44)$Nitrobenzene-d5	(2)	7.910	82	1652962	25.271
45) Nitrobenzene	(2)	7.936	77	830588	12.645
48) N-Nitrosopiperidine	(2)	8.183	114	322393	12.792
50) Isophorone	(2)	8.322	82	1464103	12.670
51) 2-Nitrophenol	(2)	8.434	139	311603	12.771
53) 2,4-Dimethylphenol	(2)	8.525	107	692593	12.602
57) O,O,O-Triethylphosphorothioate	(2)	8.653	198	298957	12.584

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0535.d
Injection date and time: 15-OCT-2015 15:28
Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15
Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD12.5
Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	8.664	105	559548M	12.573
55) bis(2-Chloroethoxy)methane	(2)	8.696	93	877077	12.702
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.787	104	1016030	12.689
60) 2,4-Dichlorophenol	(2)	8.814	162	492746	12.620
62) 1,2,4-Trichlorobenzene	(2)	8.953	180	555646	12.722
65)*Naphthalene-d8	(2)	9.038	136	645068	5.000
66) Naphthalene	(2)	9.070	128	1743830	12.593
67) 4-Chloroaniline	(2)	9.177	127	733451	12.728
68) 2,6-Dichlorophenol	(2)	9.183	162	495674	12.767
69) Hexachloropropene	(2)	9.215	213	374819	12.627
71) Hexachlorobutadiene	(2)	9.284	225	319660	12.657
75) Quinoline	(2)	9.616	129	1107390	12.670
76) Caprolactam	(2)	9.744	113	167510	12.843
77) N-Nitrosodi-n-butylamine	(2)	9.750	84	650492	12.608
80) 4-Chloro-3-methylphenol	(2)	9.980	107	611191	12.909
82) Safrole	(2)	10.087	162	448889	12.668
83) 2-Methylnaphthalene	(2)	10.204	142	1155044	12.537
84) 1-Methylnaphthalene	(2)	10.359	142	1046642	12.307
85) Hexachlorocyclopentadiene	(3)	10.461	237	353801	12.613
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.472	216	549203	12.537
88) cis-Isosafrole	(3)	10.563	162	83070	2.139
90) 2,4,6-Trichlorophenol	(3)	10.670	196	358874	12.486
92) 2,4,5-Trichlorophenol	(3)	10.718	196	389971	12.844
97) Isosafrole	(3)			528584	12.633
93)$2-Fluorobiphenyl	(3)	10.825	172	2574771	25.328
94) trans-Isosafrole	(3)	10.937	162	445514	10.495
95) 1,1'-Biphenyl	(3)	10.980	154	1369828	12.561
96) 2-Chloronaphthalene	(3)	10.996	162	1090097	12.540
98) 1-Chloronaphthalene	(3)	11.028	162	1035640	12.724
99) Diphenyl ether	(3)	11.167	170	745306	12.625
100) 2-Nitroaniline	(3)	11.183	138	347878	12.617
104) 1,4-Naphthoquinone	(3)	11.301	158	454808	12.694
105) 1,4-Dinitrobenzene	(3)	11.429	168	179787	12.719
106) Dimethylphthalate	(3)	11.515	163	1184009	12.641
107) 1,3-Dinitrobenzene	(3)	11.536	168	191384	12.558
108) 2,6-Dinitrotoluene	(3)	11.590	165	266869	12.479
109) Acenaphthylene	(3)	11.654	152	1706099	12.725
112) 3-Nitroaniline	(3)	11.825	138	294788	12.458
113)*Acenaphthene-d10	(3)	11.862	164	370090	5.000
114) Acenaphthene	(3)	11.911	153	1120448	12.854

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44:14
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0535.d
Injection date and time: 15-OCT-2015 15:28

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD12.5

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			635038	25.196
115) 2,4-Dinitrophenol	(3)	11.975	184	171822	12.390
116) 4-Nitrophenol	(3)	12.071	109	219091	12.664
117) Pentachlorobenzene	(3)	12.087	250	434620	12.561
119) Dibenzofuran	(3)	12.151	168	1512231	12.703
118) 2,4-Dinitrotoluene	(3)	12.157	165	368169	12.717
121) 1-Naphthylamine	(3)	12.258	143	1117392	12.729
122) 2,3,4,6-Tetrachlorophenol	(3)	12.312	232	294403	12.476
123) 2-Naphthylamine	(3)	12.365	143	1075917	12.572
124) Diethylphthalate	(3)	12.494	149	1191148	12.754
125) Thionazin	(3)	12.590	107	221773	12.711
126) Fluorene	(3)	12.590	166	1189002	12.709
127) 4-Chlorophenyl-phenylether	(3)	12.611	204	583180	12.697
128) 5-Nitro-o-toluidine	(3)	12.617	152	342317	12.647
129) 4-Nitroaniline	(3)	12.627	138	306151	12.719
130) 4,6-Dinitro-2-methylphenol	(4)	12.665	198	224090	12.355
132) NDPA as diphenylamine	(4)	12.761	169	1008202	12.569
131) N-Nitrosodiphenylamine	(4)	12.761	169	1008202	12.569
134) 1,2-Diphenylhydrazine	(4)	12.809	77	1542813	12.547
135)$2,4,6-Tribromophenol	(3)	12.895	330	275963	25.001
137) Tetraethyldithiopyrophosphate	(4)	12.986	97	241145	12.557
146) Diallate trans/cis	(4)			665170	12.623
139) 1,3,5-Trinitrobenzene	(4)	13.109	213	131971	12.343
140) Diallate (peak 1)	(4)	13.135	86	554385	10.488
141) Phorate	(4)	13.146	75	996989	12.689
142) Phenacetin	(4)	13.167	108	736624	12.672
143) 4-Bromophenyl-phenylether	(4)	13.226	248	304863	12.491
144) Diallate (peak 2)	(4)	13.248	86	110785	2.136
145) Hexachlorobenzene	(4)	13.274	284	314384	12.404
147) Dimethoate	(4)	13.360	87	639816	12.741
148) Atrazine	(4)	13.456	200	336743	12.827
149) Pentachlorophenol	(4)	13.542	266	220163	12.543
151) Pentachloronitrobenzene	(4)	13.553	237	155187	12.602
150) 4-Aminobiphenyl	(4)	13.563	169	1177444	12.492
152) Pronamide	(4)	13.654	173	569991	12.608
153)*Phenanthrene-d10	(4)	13.799	188	688510	5.000
154) Dinoseb	(4)	13.799	211	341377	12.389
155) Phenanthrene	(4)	13.831	178	1790934	12.435
157) Anthracene	(4)	13.900	178	1819945	12.662
163) Carbazole	(4)	14.125	167	1689873	12.608

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0535.d
Injection date and time: 15-OCT-2015 15:28

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD12.5

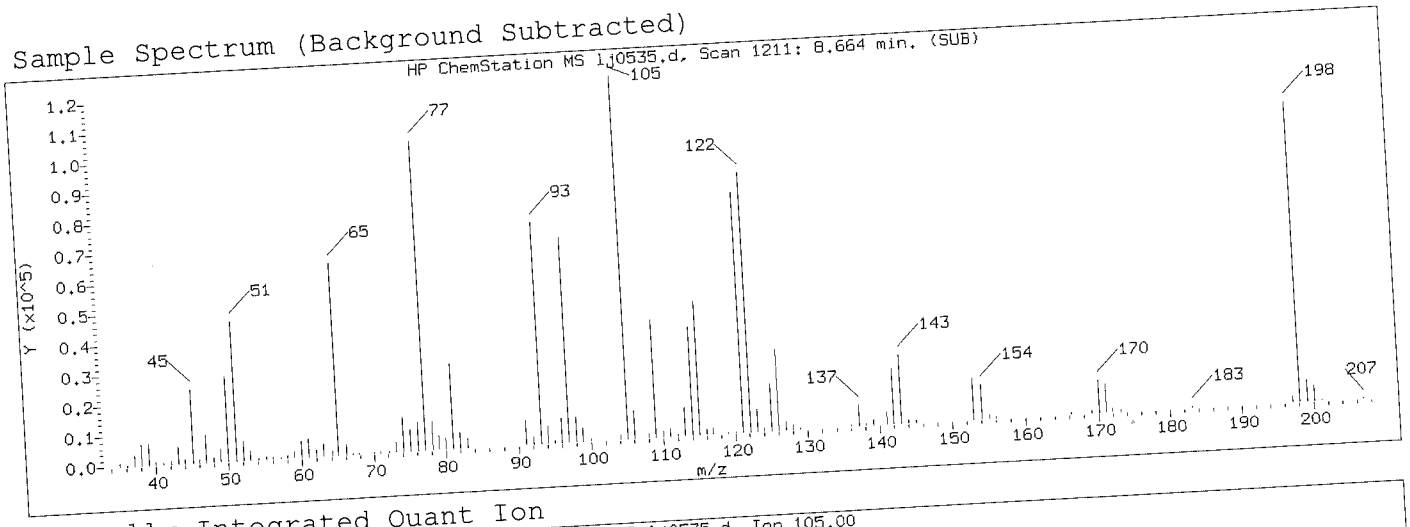
Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.328	109	489082	12.779
165) Di-n-butylphthalate	(4)	14.644	149	2049327	12.523
167) Parathion	(4)	14.895	109	286642	12.600
168) 4-Nitroquinoline-1-oxide	(4)	14.927	190	202327	12.464
169) Octachlorostyrene	(4)	15.253	308	112915	12.384
171) Isodrin	(4)	15.318	193	209987	12.536
173) Fluoranthene	(4)	15.548	202	2004271	12.558
174) Benzidine	(5)	15.788	184	3932844	38.456
175)*Pyrene-d10	(5)	15.874	212	786512	5.000
177) Pyrene	(5)	15.906	202	2077969	12.254
179)$Terphenyl-d14	(5)	16.189	244	2659213	25.301
182) p-Dimethylaminoazobenzene	(5)	16.425	225	379532	12.612
185) Chlorobenzilate	(5)	16.516	139	625271	12.572
187) 3,3'-Dimethylbenzidine	(5)	17.008	212	1351150	12.629
188) Butylbenzylphthalate	(5)	17.061	149	920992	12.637
191) 2-Acetylaminofluorene	(5)	17.441	181	824014	12.438
193) 3,3'-Dichlorobenzidine	(5)	17.965	252	705238	12.531
195) Benzo(a)anthracene	(5)	17.976	228	1903973	12.779
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.987	231	403462	12.640
196) Chrysene	(5)	18.040	228	1783962	12.705
199) bis(2-Ethylhexyl)phthalate	(5)	18.142	149	1337969	12.575
203) 6-Methylchrysene	(5)	18.853	242	1248015	12.427
205) Di-n-octylphthalate	(6)	19.329	149	2369304	12.616
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.869	256	826879	12.703
206) Benzo(b)fluoranthene	(6)	19.869	252	1824288	12.630
208) Benzo(k)fluoranthene	(6)	19.917	252	1799129	12.815
211) Benzo(a)pyrene	(6)	20.410	252	1719353	12.828
213)*Perylene-d12	(6)	20.495	264	580842	5.000
215) 3-Methylcholanthrene	(6)	20.982	268	823686	12.566
217) Dibenz(a,h)acridine	(6)	21.816	279	1473451	12.529
218) Dibenz(a,j)acridine	(6)	21.896	279	1488900	12.634
222) Total PAHs	(6)			30147047	227.882
219) Indeno(1,2,3-cd)pyrene	(6)	22.175	276	2031936	12.912
220) Dibenz(a,h)anthracene	(6)	22.217	278	1705963	12.819
221) Benzo(g,h,i)perylene	(6)	22.613	276	1724259	12.760

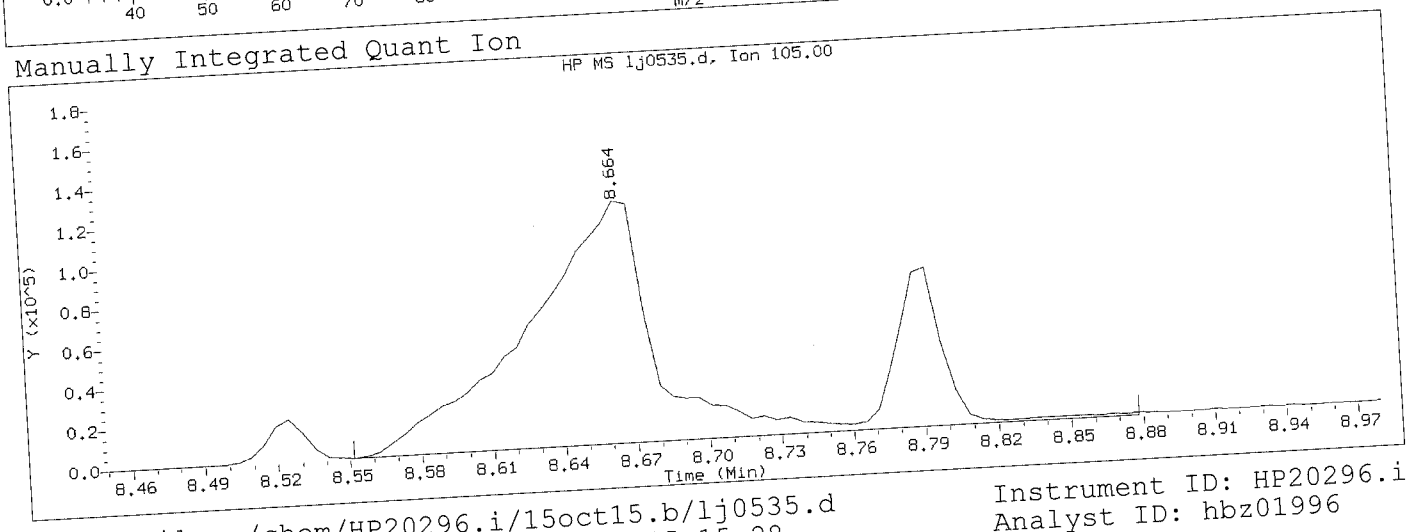
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0535.d
Injection date and time: 15-OCT-2015 15:28
Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15
Sublist used: all1
Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD12.5
Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1211		
Retention Time (minutes)	: 8.664		
Quant Ion	: 105.00		
Area (flag)	: 559548M		
On-Column Amount (ng/ul)	: 12.5734		
Integration start scan	: 1189	Integration stop scan:	1250
Y at integration start	: 18	Y at integration end:	18

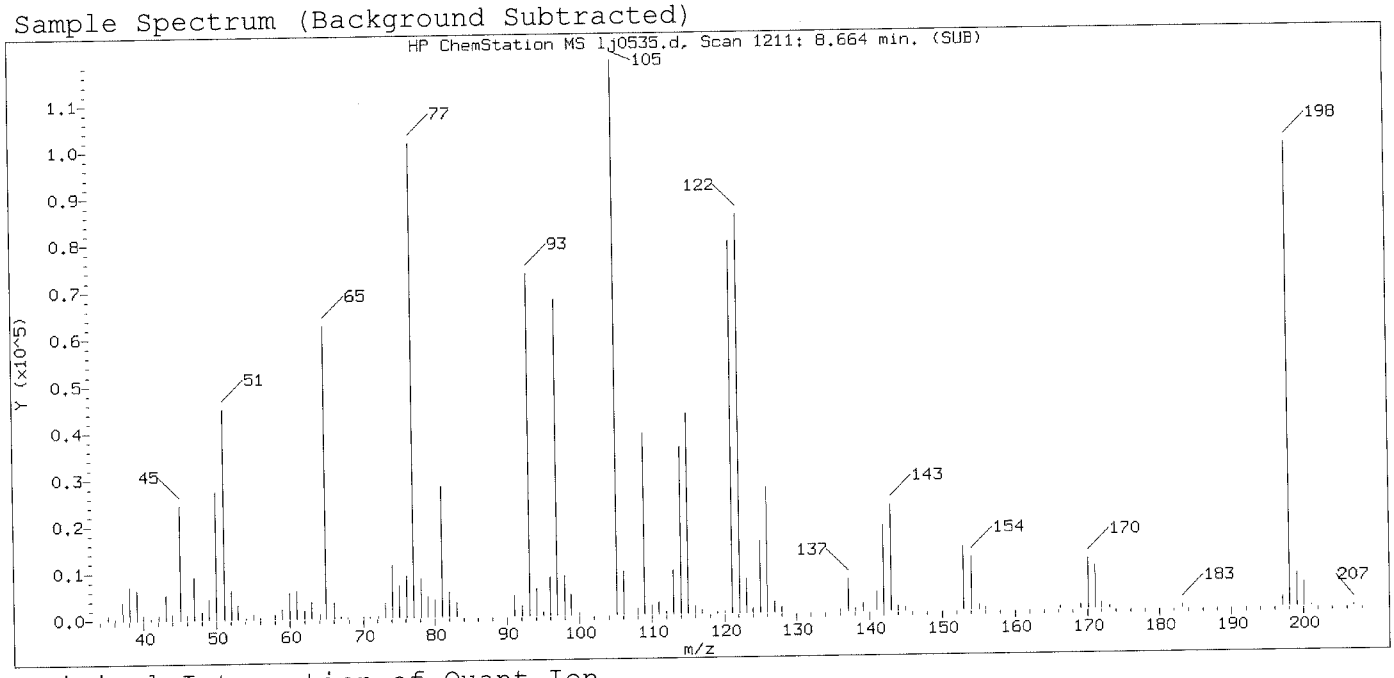
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 esignature user ID: ceb05247

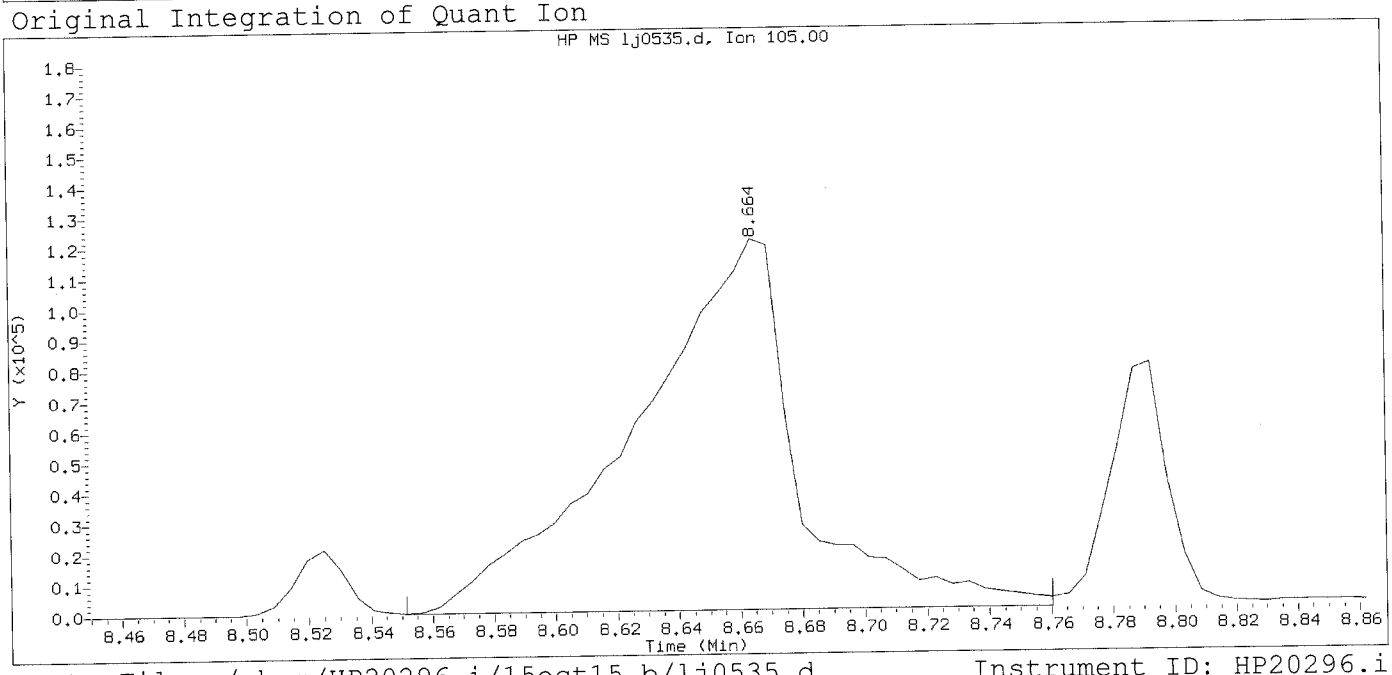
OCT 16 2015

GC/MS audit/management approval: _____ Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0535.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 15:28 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-OCT-2015 15:53
Date, time and analyst ID of latest file update: 15-Oct-2015 15:53 Unknown

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1211		
Retention Time (minutes)	: 8.664		
Quant Ion	: 105.00		
Area	: 451750		
On-column Amount (ng/ul)	: 11.3721		
Integration start scan	: 1189	Integration stop scan:	1228
Y at integration start	: 0	Y at integration end:	0

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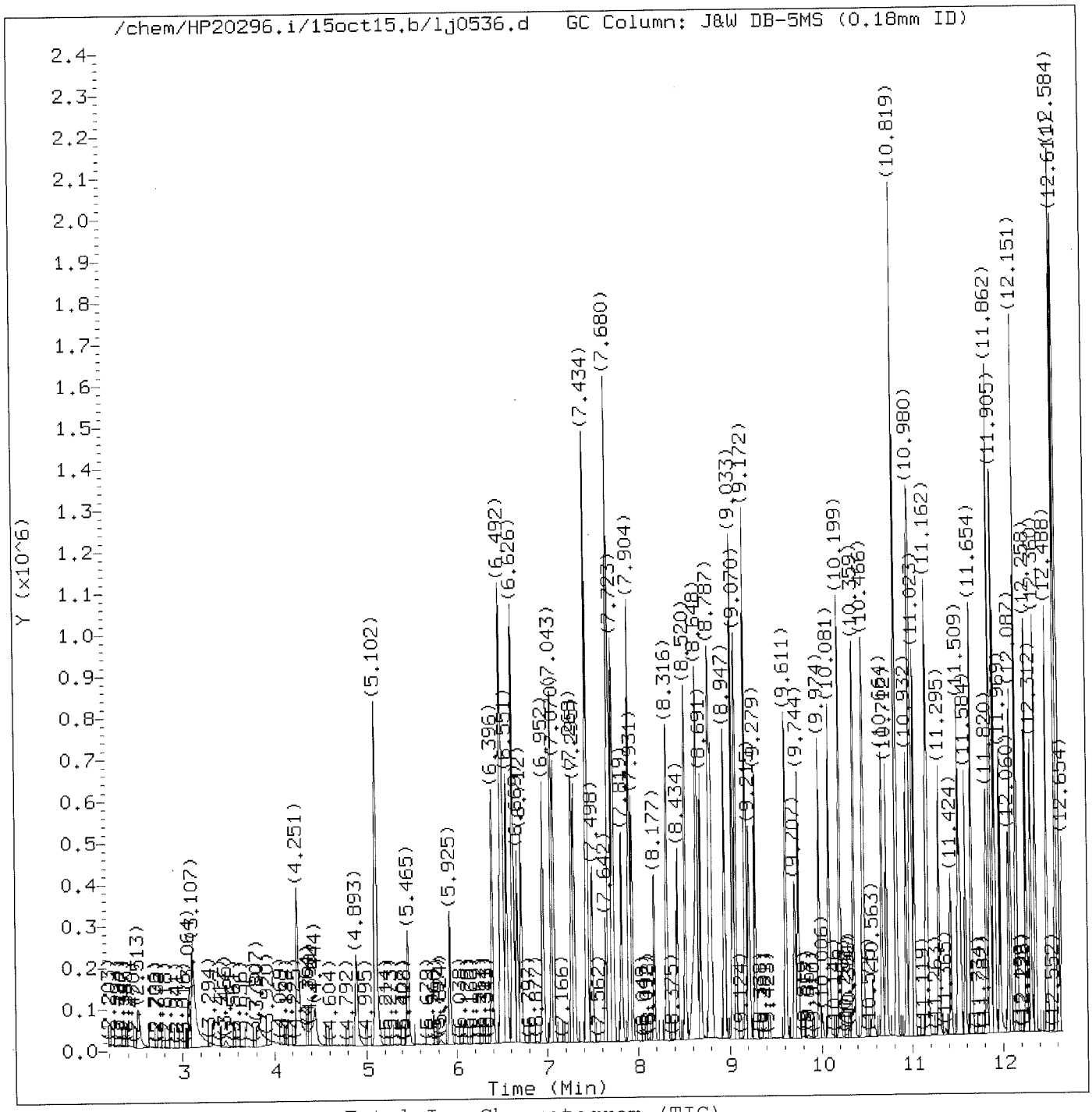
Target 3.5 esignature user ID: cebo524



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0536.d
Injection date and time: 15-OCT-2015 15:56

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

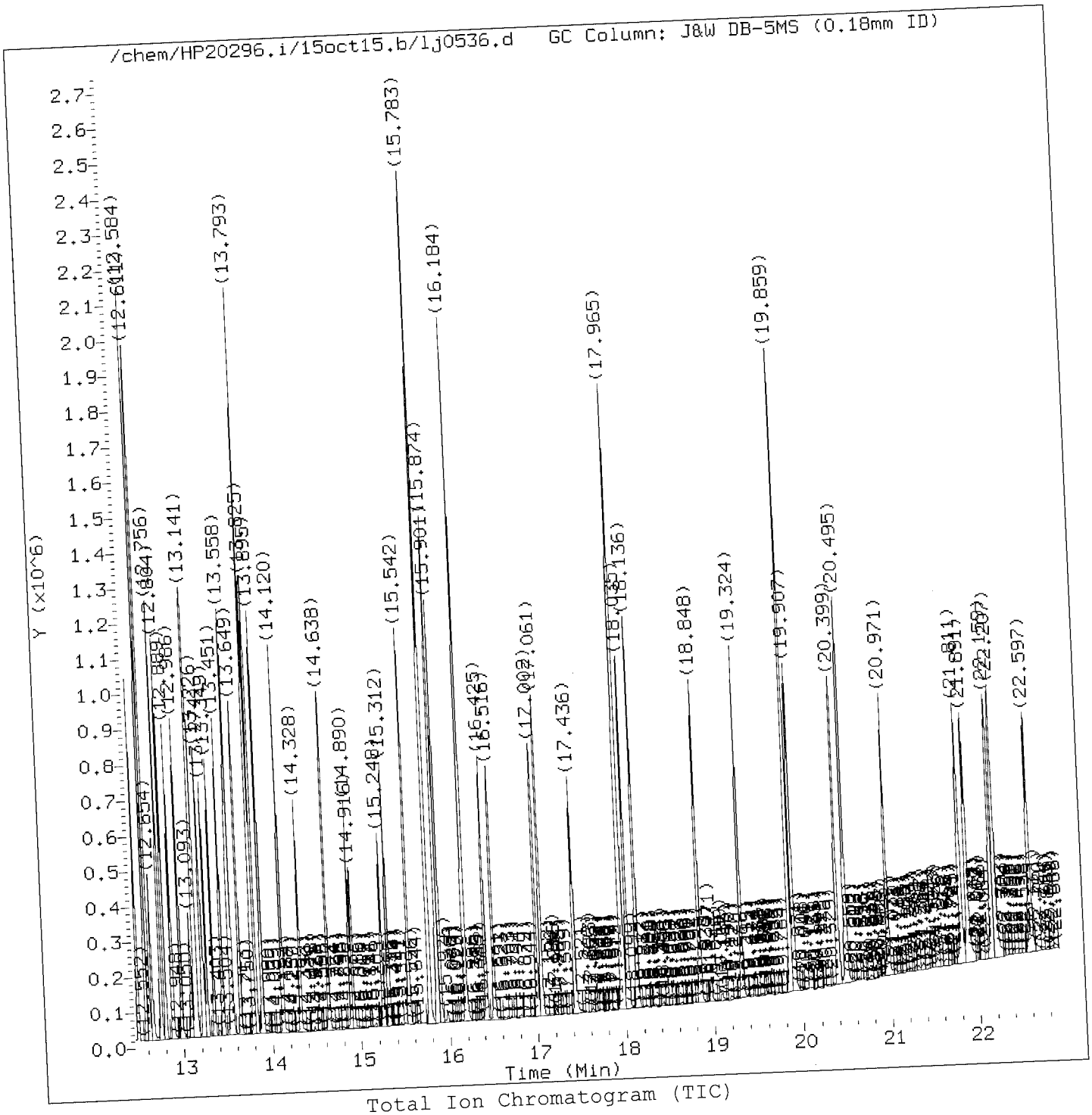
Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0536.d
Injection date and time: 15-OCT-2015 15:56

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0536.d
Injection date and time: 15-OCT-2015 15:56

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.518	88	88297	3.726
4) N-Nitrosodimethylamine	(1)	3.064	74	137222	3.652
5) Pyridine	(1)	3.107	79	234662	3.693
7) 2-Picoline	(1)	4.246	93	251088	3.827
8) N-Nitrosomethylethylamine	(1)	4.444	88	100636	3.742
9) Methyl methanesulfonate	(1)	4.893	80	122101	3.840
11)$2-Fluorophenol	(1)	5.102	112	378114	7.505
13) N-Nitrosodiethylamine	(1)	5.465	102	95873	3.725
15) Ethyl methanesulfonate	(1)	5.925	109	97564	3.770
16) Benzaldehyde	(1)	6.396	77	193735	4.010
17)$Phenol-d6	(1)	6.492	99	522319	7.600
18) Phenol	(1)	6.514	94	268559	3.643
19) Aniline	(1)	6.551	93	347296	3.759
20) a-methylstyrene	(1)	6.626	118	194693	3.755
22) bis(2-Chloroethyl)ether	(1)	6.669	93	211432	3.761
23) 2-Chlorophenol	(1)	6.717	128	175109	3.729
24) 1,3-Dichlorobenzene	(1)	6.952	146	198273	3.814
25)*1,4-Dichlorobenzene-d4	(1)	7.043	152	166396	5.000
26) 1,4-Dichlorobenzene	(1)	7.075	146	200418	3.782
27) Benzyl alcohol	(1)	7.263	108	130518	3.692
28) 1,2-Dichlorobenzene	(1)	7.295	146	185975	3.727
30) Indene	(1)	7.434	115	331187	3.722
31) 2-Methylphenol	(1)	7.439	108	183125	3.728
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.498	45	300028	3.781
34) bis(2-Chloroisopropyl)ether	(1)	7.498	45	300028	3.781
35) N-Nitrosopyrrolidine	(1)	7.642	100	98265	3.660
42) Total Cresols	(1)			378187	7.486
36) Acetophenone	(1)	7.674	105	289039	3.821
37) 4-Methylphenol	(1)	7.680	108	195062	3.758
38) N-Nitroso-di-n-propylamine	(1)	7.690	70	166697	3.741
39) N-Nitrosomorpholine	(1)	7.717	56	128719	3.731
40) o-Toluidine	(1)	7.723	106	327372	3.756
43) Hexachloroethane	(2)	7.819	117	83328	3.780
44)$Nitrobenzene-d5	(2)	7.904	82	490281	7.502
45) Nitrobenzene	(2)	7.931	77	246427	3.754
48) N-Nitrosopiperidine	(2)	8.172	114	95261	3.777
50) Isophorone	(2)	8.322	82	436092	3.772
51) 2-Nitrophenol	(2)	8.434	139	85325	3.548
53) 2,4-Dimethylphenol	(2)	8.520	107	202402	3.699
56) Benzoic acid	(2)	8.637	105	277592M	6.460

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0536.d
Injection date and time: 15-OCT-2015 15:56

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.653	198	91316	3.827
55) bis(2-Chloroethoxy)methane	(2)	8.691	93	260135	3.767
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.787	104	294400	3.694
60) 2,4-Dichlorophenol	(2)	8.808	162	146976	3.764
62) 1,2,4-Trichlorobenzene	(2)	8.947	180	166995	3.811
65)*Naphthalene-d8	(2)	9.033	136	644442	5.000
66) Naphthalene	(2)	9.070	128	530640	3.821
67) 4-Chloroaniline	(2)	9.172	127	217810	3.777
68) 2,6-Dichlorophenol	(2)	9.177	162	141994	3.678
69) Hexachloropropene	(2)	9.215	213	105743	3.601
71) Hexachlorobutadiene	(2)	9.279	225	93356	3.710
75) Quinoline	(2)	9.611	129	325243	3.730
76) Caprolactam	(2)	9.707	113	49121	3.766
77) N-Nitrosodi-n-butylamine	(2)	9.750	84	155413	3.138
80) 4-Chloro-3-methylphenol	(2)	9.974	107	176515	3.735
82) Safrole	(2)	10.081	162	133380	3.764
83) 2-Methylnaphthalene	(2)	10.199	142	348757	3.782
84) 1-Methylnaphthalene	(2)	10.359	142	314413	3.709
85) Hexachlorocyclopentadiene	(3)	10.461	237	96514	3.546
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.466	216	165143	3.817
88) cis-Isosafrole	(3)	10.563	162	24467	0.640
90) 2,4,6-Trichlorophenol	(3)	10.664	196	105198	3.728
92) 2,4,5-Trichlorophenol	(3)	10.712	196	114978	3.831
97) Isosafrole	(3)			152305	3.712
93)$2-Fluorobiphenyl	(3)	10.819	172	771522	7.673
94) trans-Isosafrole	(3)	10.932	162	127838	3.072
95) 1,1'-Biphenyl	(3)	10.980	154	414146	3.839
96) 2-Chloronaphthalene	(3)	10.991	162	315847	3.706
98) 1-Chloronaphthalene	(3)	11.023	162	315707	3.904
99) Diphenyl ether	(3)	11.162	170	223505	3.830
100) 2-Nitroaniline	(3)	11.178	138	98317	3.650
104) 1,4-Naphthoquinone	(3)	11.295	158	127326	3.640
105) 1,4-Dinitrobenzene	(3)	11.424	168	49202	3.580
106) Dimethylphthalate	(3)	11.509	163	355956	3.841
107) 1,3-Dinitrobenzene	(3)	11.531	168	56022	3.741
108) 2,6-Dinitrotoluene	(3)	11.584	165	77658	3.704
109) Acenaphthylene	(3)	11.654	152	504088	3.811
112) 3-Nitroaniline	(3)	11.820	138	85948	3.705
113)*Acenaphthene-d10	(3)	11.862	164	363918	5.000
114) Acenaphthene	(3)	11.911	153	339567	3.925

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0536.d
Injection date and time: 15-OCT-2015 15:56

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			183619	7.432
115) 2,4-Dinitrophenol	(3)	11.969	184	90310	6.781
116) 4-Nitrophenol	(3)	12.060	109	64110	3.765
117) Pentachlorobenzene	(3)	12.087	250	130228	3.812
118) 2,4-Dinitrotoluene	(3)	12.151	165	105961	3.728
119) Dibenzofuran	(3)	12.151	168	456045	3.866
121) 1-Naphthylamine	(3)	12.258	143	330090	3.809
122) 2,3,4,6-Tetrachlorophenol	(3)	12.312	232	86010	3.715
123) 2-Naphthylamine	(3)	12.360	143	317839	3.772
124) Diethylphthalate	(3)	12.488	149	340214	3.714
125) Thionazin	(3)	12.584	107	74290	4.200
126) Fluorene	(3)	12.584	166	362143	3.904
127) 4-Chlorophenyl-phenylether	(3)	12.606	204	171718	3.791
128) 5-Nitro-o-toluidine	(3)	12.611	152	99548	3.742
129) 4-Nitroaniline	(3)	12.617	138	88957	3.757
130) 4,6-Dinitro-2-methylphenol	(4)	12.654	198	59485	3.451
132) NDPA as diphenylamine	(4)	12.756	169	298787	3.824
131) N-Nitrosodiphenylamine	(4)	12.756	169	298787	3.824
134) 1,2-Diphenylhydrazine	(4)	12.804	77	455759	3.809
135)$2,4,6-Tribromophenol	(3)	12.889	330	81015	7.471
137) Tetraethyldithiopyrophosphate	(4)	12.986	97	71772	3.834
146) Diallate trans/cis	(4)			194861	3.802
139) 1,3,5-Trinitrobenzene	(4)	13.098	213	33945	3.361
140) Diallate (peak 1)	(4)	13.135	86	162003	3.152
141) Phorate	(4)	13.146	75	282251	3.715
142) Phenacetin	(4)	13.157	108	205128	3.662
143) 4-Bromophenyl-phenylether	(4)	13.226	248	88064	3.728
144) Diallate (peak 2)	(4)	13.242	86	32858	0.650
145) Hexachlorobenzene	(4)	13.274	284	92553	3.765
147) Dimethoate	(4)	13.349	87	181072	3.726
148) Atrazine	(4)	13.451	200	99569	3.879
149) Pentachlorophenol	(4)	13.537	266	57525	3.449
151) Pentachloronitrobenzene	(4)	13.553	237	45091	3.772
150) 4-Aminobiphenyl	(4)	13.563	169	342675	3.751
152) Pronamide	(4)	13.649	173	158698	3.647
153)*Phenanthrene-d10	(4)	13.793	188	667346	5.000
154) Dinoseb	(4)	13.799	211	84254	3.258
155) Phenanthrene	(4)	13.825	178	526070	3.765
157) Anthracene	(4)	13.895	178	524298	3.761
163) Carbazole	(4)	14.120	167	484184	3.732

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0536.d
Injection date and time: 15-OCT-2015 15:56

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.328	109	130448	3.561
165) Di-n-butylphthalate	(4)	14.638	149	582837	3.689
167) Parathion	(4)	14.890	109	77403	3.556
168) 4-Nitroquinoline-1-oxide	(4)	14.922	190	45055	3.006
169) Octachlorostyrene	(4)	15.248	308	32872	3.726
171) Isodrin	(4)	15.312	193	59739	3.693
173) Fluoranthene	(4)	15.542	202	578289	3.740
174) Benzidine	(5)	15.783	184	1136655	11.440
175)*Pyrene-d10	(5)	15.874	212	760948	5.000
177) Pyrene	(5)	15.901	202	614362	3.746
179)$Terphenyl-d14	(5)	16.184	244	770233	7.559
182) p-Dimethylaminoazobenzene	(5)	16.425	225	101251	3.529
185) Chlorobenzilate	(5)	16.516	139	180134	3.745
187) 3,3'-Dimethylbenzidine	(5)	17.002	212	366737	3.583
188) Butylbenzylphthalate	(5)	17.061	149	263899	3.744
191) 2-Acetylaminofluorene	(5)	17.436	181	219540	3.486
193) 3,3'-Dichlorobenzidine	(5)	17.960	252	200693	3.699
195) Benzo(a)anthracene	(5)	17.971	228	552210	3.817
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.981	231	114730	3.722
196) Chrysene	(5)	18.035	228	520486	3.818
199) bis(2-Ethylhexyl)phthalate	(5)	18.136	149	372582	3.645
203) 6-Methylchrysene	(5)	18.848	242	358220	3.699
205) Di-n-octylphthalate	(6)	19.324	149	625491	3.490
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.859	256	231170	3.676
206) Benzo(b)fluoranthene	(6)	19.859	252	535630	3.808
208) Benzo(k)fluoranthene	(6)	19.907	252	509948	3.743
211) Benzo(a)pyrene	(6)	20.399	252	493154	3.783
213)*Perylene-d12	(6)	20.495	264	563925	5.000
215) 3-Methylcholanthrene	(6)	20.971	268	226685	3.598
217) Dibenz(a,h)acridine	(6)	21.811	279	404328	3.581
218) Dibenz(a,j)acridine	(6)	21.891	279	410470	3.619
222) Total PAHs	(6)			8790706	68.101
219) Indeno(1,2,3-cd)pyrene	(6)	22.164	276	573693	3.754
220) Dibenz(a,h)anthracene	(6)	22.207	278	482875	3.739
221) Benzo(g,h,i)perylene	(6)	22.597	276	480083	3.674

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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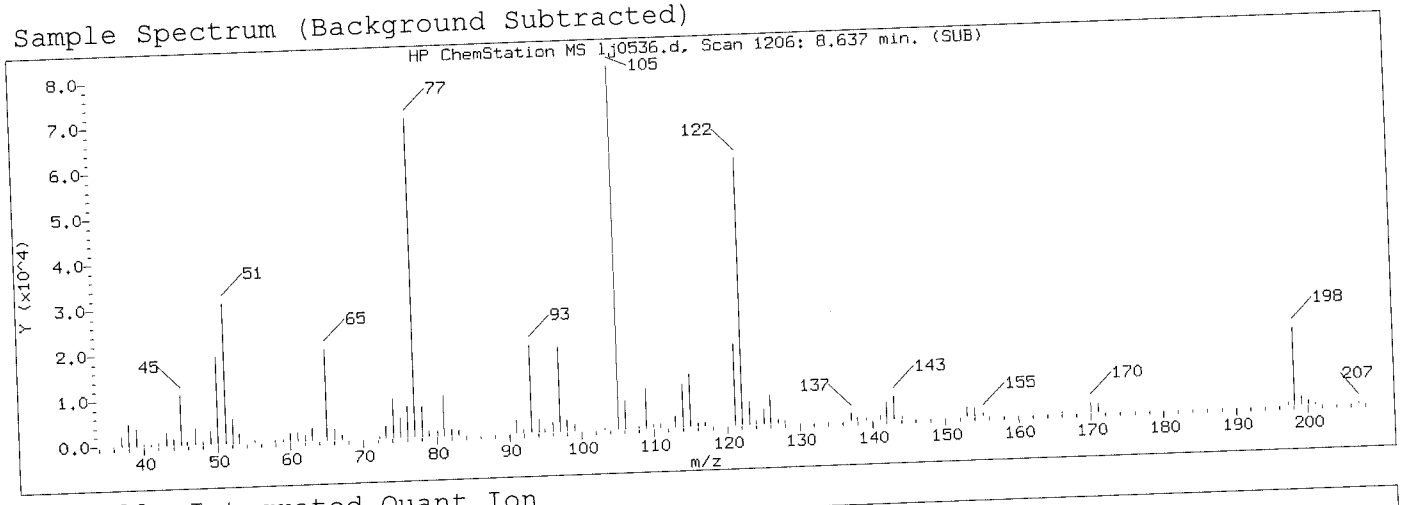
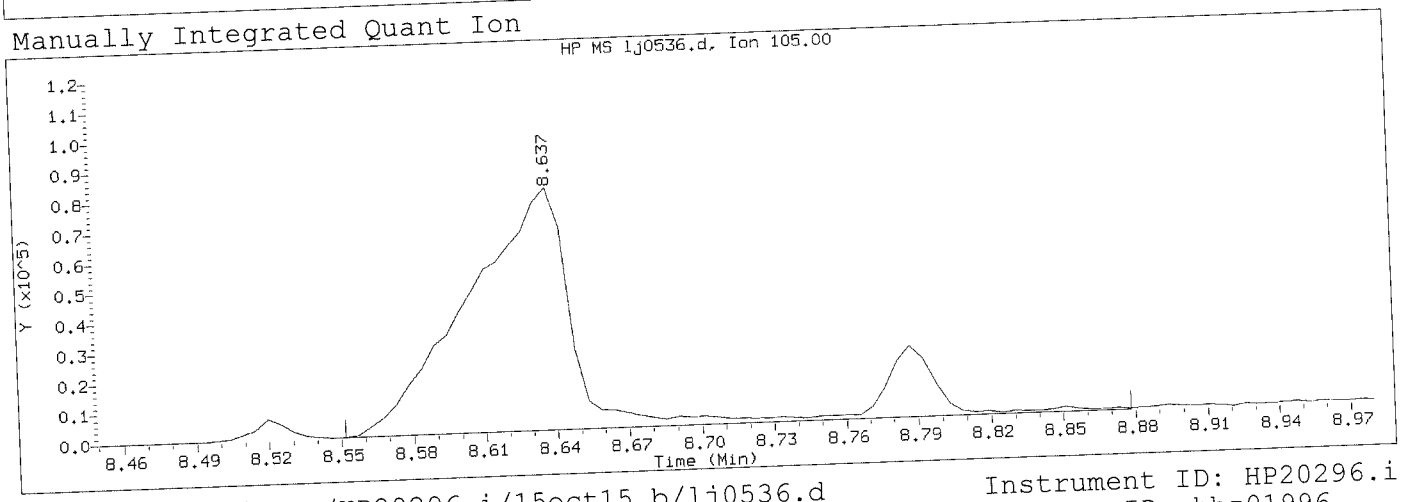
on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0536.d
Injection date and time: 15-OCT-2015 15:56

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15
Date, time and analyst ID of latest file update: 15-Oct-2015 18:15 ceb05247

Sublist used: all1

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1206		
Retention Time (minutes)	: 8.637		
Quant Ion	: 105.00		
Area (flag)	: 277592M		
On-Column Amount (ng/ul)	: 6.4602		
Integration start scan	: 1189	Integration stop scan:	1250
Y at integration start	: 0	Y at integration end:	0

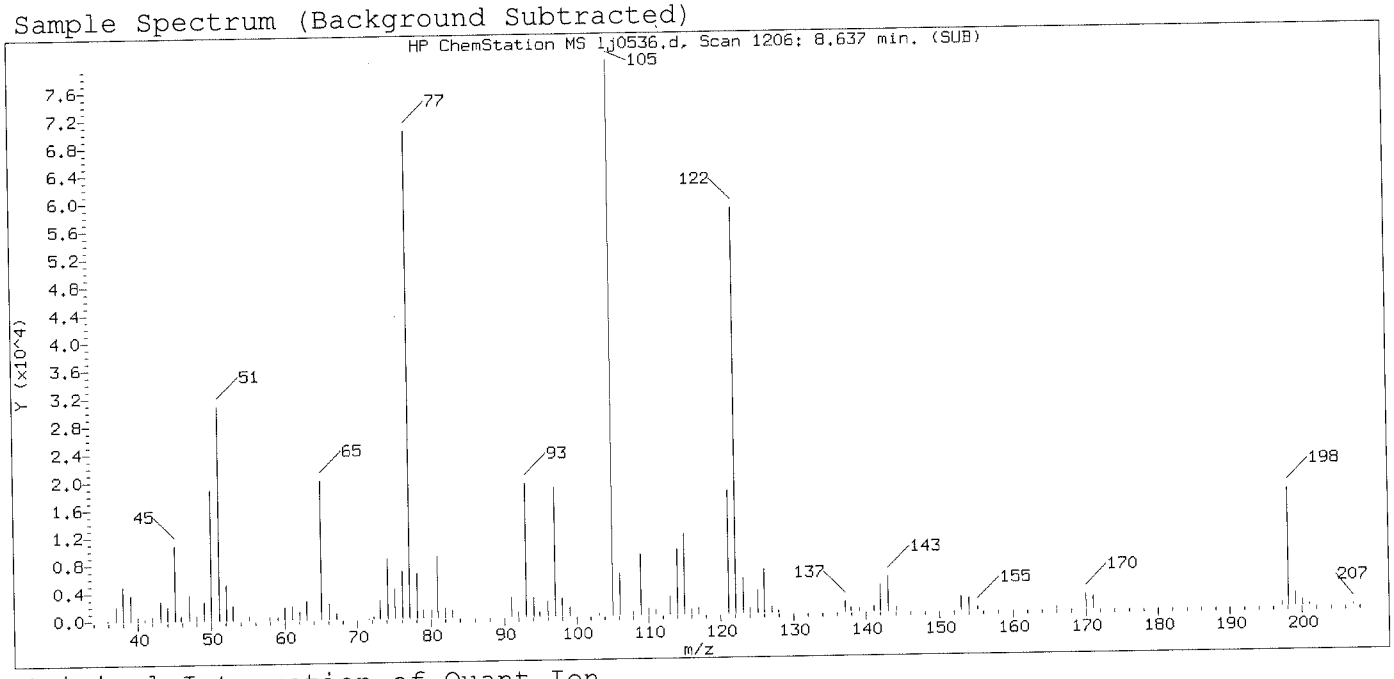
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44 Target 3.5 Designature User ID: ceb05247

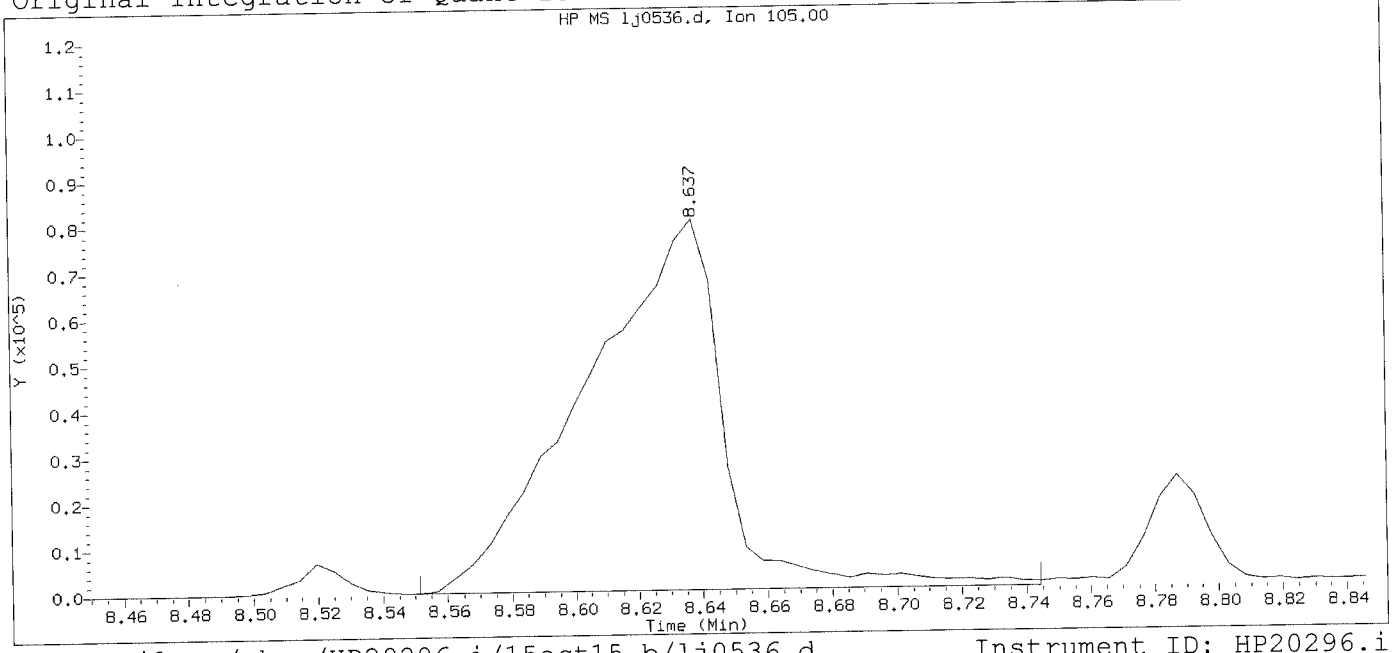
OCT 16 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Data Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



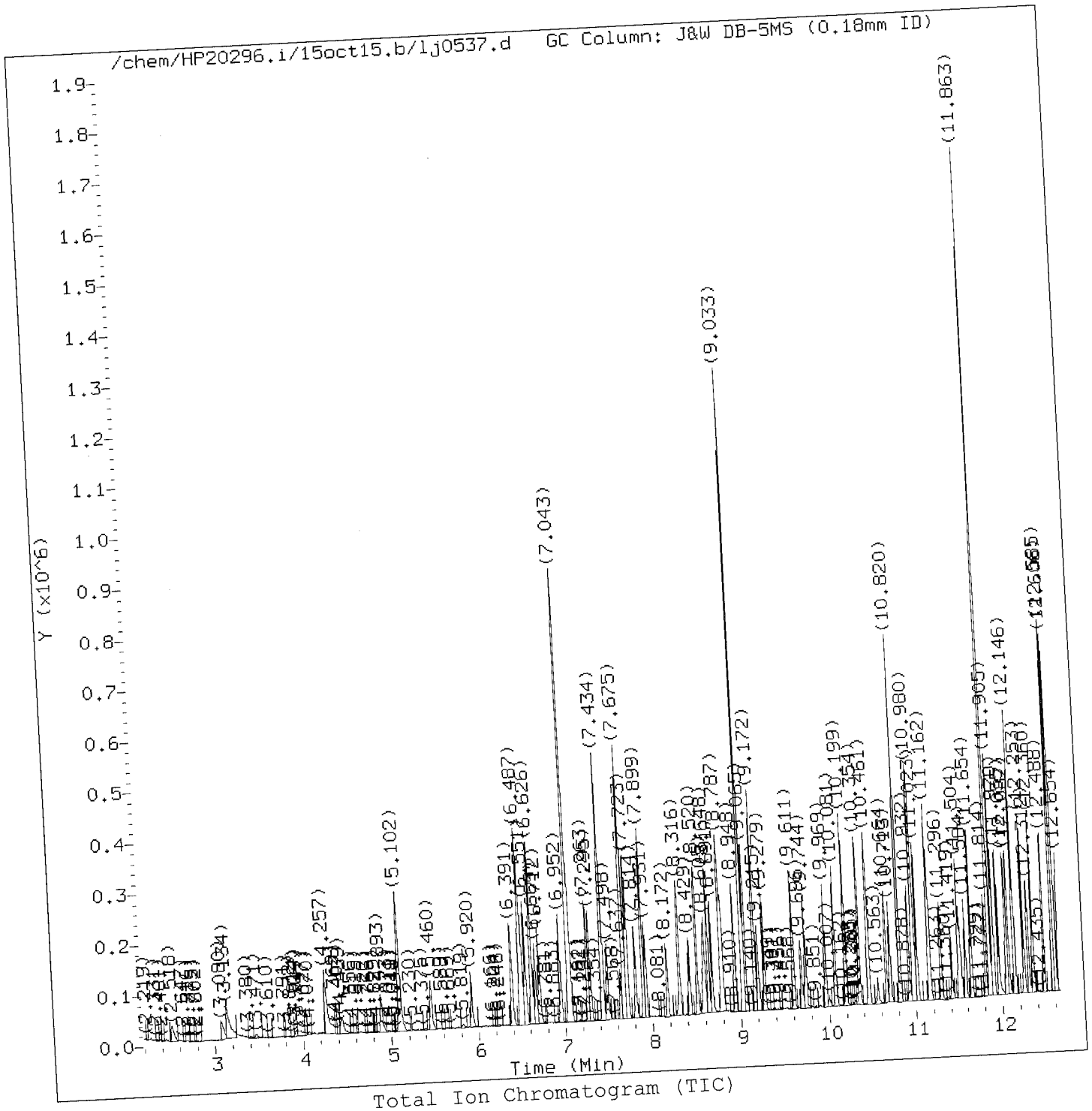
Data File: /chem/HP20296.i/15oct15.b/lj0536.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 15:56 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-OCT-2015 16:21
Date, time and analyst ID of latest file update: 15-Oct-2015 16:21 Unknown

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2745

Compound Number	: 56	
Compound Name	: Benzoic acid	
Scan Number	: 1206	
Retention Time (minutes)	: 8.637	
Quant Ion	: 105.00	
Area	: 242347	
On-column Amount (ng/ul)	: 6.9997	
Integration start scan	: 1189	Integration stop scan: 1225
Y at integration start	: 0	Y at integration end: 0

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44.
Target 3.5 esignature used in: Page 527



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0537.d
Injection date and time: 15-OCT-2015 16:23

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

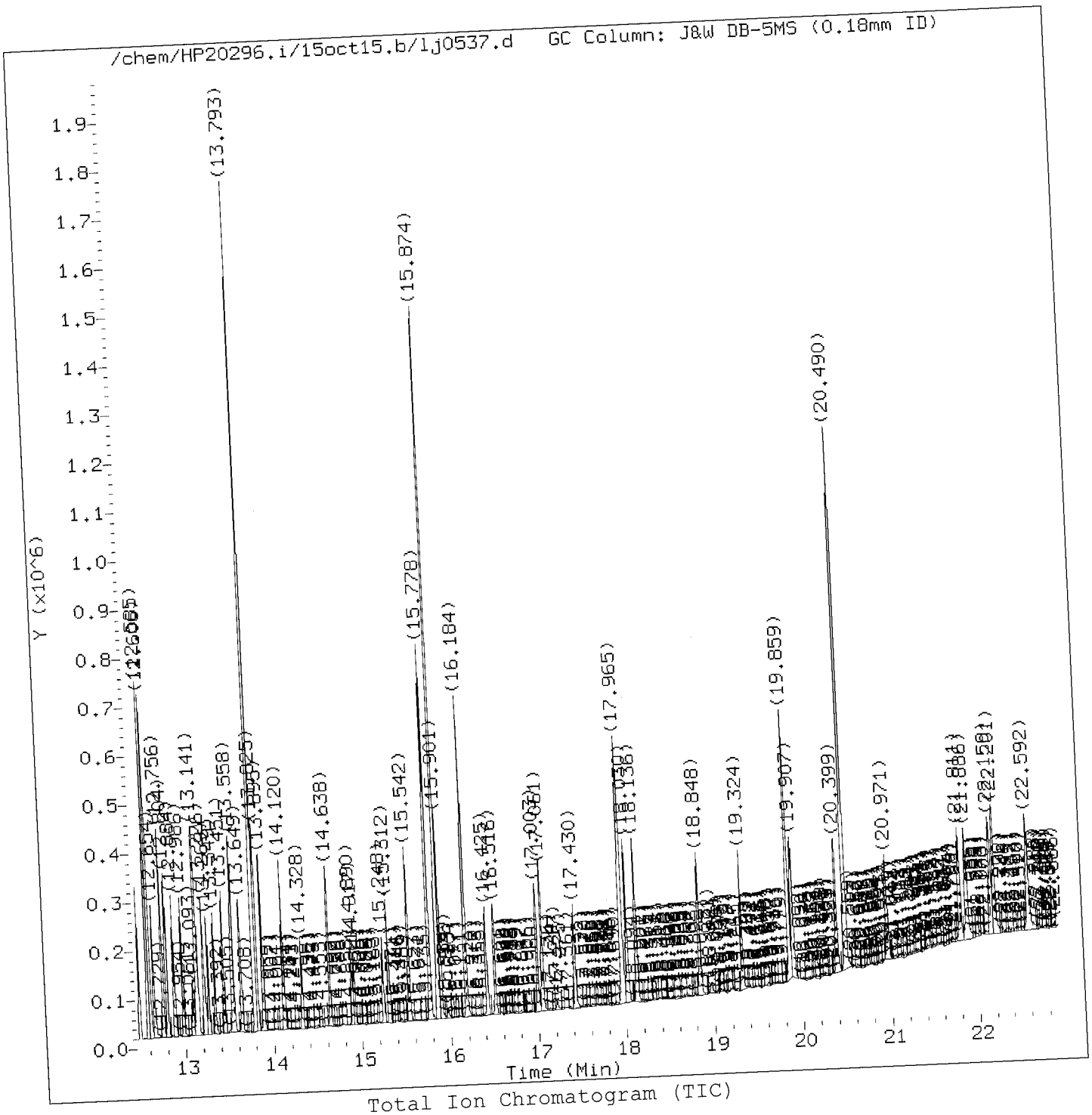
Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0537.d
Injection date and time: 15-OCT-2015 16:23

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0537.d
Injection date and time: 15-OCT-2015 16:23

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15
Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sublist used: all1

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.518	88	29354	1.189
4) N-Nitrosodimethylamine	(1)	3.080	74	45397	1.164
5) Pyridine	(1)	3.139	79	76655M	1.163
7) 2-Picoline	(1)	4.262	93	84162	1.224
8) N-Nitrosomethylethylamine	(1)	4.449	88	34159	1.214
9) Methyl methanesulfonate	(1)	4.893	80	39982	1.204
11)$2-Fluorophenol	(1)	5.102	112	126671	2.407
13) N-Nitrosodiethylamine	(1)	5.460	102	32233	1.200
15) Ethyl methanesulfonate	(1)	5.920	109	32408	1.200
16) Benzaldehyde	(1)	6.391	77	67992	1.322
17)$Phenol-d6	(1)	6.487	99	171105	2.388
18) Phenol	(1)	6.509	94	91045	1.186
19) Aniline	(1)	6.551	93	118763	1.227
20) a-methylstyrene	(1)	6.626	118	63472	1.177
22) bis(2-Chloroethyl)ether	(1)	6.669	93	74616	1.260
23) 2-Chlorophenol	(1)	6.712	128	60795	1.234
24) 1,3-Dichlorobenzene	(1)	6.952	146	65607	1.208
25)*1,4-Dichlorobenzene-d4	(1)	7.043	152	175058	5.000
26) 1,4-Dichlorobenzene	(1)	7.070	146	68229	1.228
27) Benzyl alcohol	(1)	7.263	108	43907	1.192
28) 1,2-Dichlorobenzene	(1)	7.295	146	64569	1.233
31) 2-Methylphenol	(1)	7.434	108	63235	1.228
30) Indene	(1)	7.434	115	112869	1.213
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.498	45	103728	1.244
34) bis(2-Chloroisopropyl)ether	(1)	7.498	45	103728	1.244
35) N-Nitrosopyrrolidine	(1)	7.637	100	32791	1.175
42) Total Cresols	(1)			127610	2.418
37) 4-Methylphenol	(1)	7.675	108	64375	1.190
36) Acetophenone	(1)	7.675	105	97471	1.229
38) N-Nitroso-di-n-propylamine	(1)	7.685	70	57606	1.232
39) N-Nitrosomorpholine	(1)	7.712	56	42997	1.195
40) o-Toluidine	(1)	7.723	106	108808	1.197
43) Hexachloroethane	(1)	7.814	117	27991	1.214
44)$Nitrobenzene-d5	(2)	7.899	82	164571	2.412
45) Nitrobenzene	(2)	7.931	77	81594	1.193
48) N-Nitrosopiperidine	(2)	8.172	114	31298	1.191
50) Isophorone	(2)	8.316	82	142509	1.185
51) 2-Nitrophenol	(2)	8.429	139	30100	1.200
53) 2,4-Dimethylphenol	(2)	8.520	107	69868	1.220
56) Benzoic acid	(2)	8.605	105	109985	2.586

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44.
Target 3.5 esignature used: 05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0537.d
Injection date and time: 15-OCT-2015 16:23
Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15
Sublist used: all1
Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD1.25
Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.648	198	29291	1.181
55) bis(2-Chloroethoxy)methane	(2)	8.691	93	88402	1.223
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.787	104	101875	1.222
60) 2,4-Dichlorophenol	(2)	8.808	162	47885	1.180
62) 1,2,4-Trichlorobenzene	(2)	8.948	180	55307	1.209
65)*Naphthalene-d8	(2)	9.033	136	677442	5.000
66) Naphthalene	(2)	9.071	128	176881	1.217
67) 4-Chloroaniline	(2)	9.172	127	71462	1.190
68) 2,6-Dichlorophenol	(2)	9.178	162	50226	1.240
69) Hexachloropropene	(2)	9.215	213	34315	1.133
71) Hexachlorobutadiene	(2)	9.279	225	32505	1.232
75) Quinoline	(2)	9.611	129	109448	1.203
76) Caprolactam	(2)	9.696	113	15200	1.130
77) N-Nitrosodi-n-butylamine	(2)	9.744	84	49094	0.983
80) 4-Chloro-3-methylphenol	(2)	9.969	107	57670	1.175
82) Safrole	(2)	10.081	162	42959	1.168
83) 2-Methylnaphthalene	(2)	10.199	142	118753	1.229
84) 1-Methylnaphthalene	(2)	10.354	142	109638	1.233
85) Hexachlorocyclopentadiene	(3)	10.456	237	32894	1.175
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.467	216	56012	1.245
88) cis-Isosafrole	(3)	10.563	162	8493	0.213
90) 2,4,6-Trichlorophenol	(3)	10.664	196	32630	1.132
92) 2,4,5-Trichlorophenol	(3)	10.713	196	37484	1.208
97) Isosafrole	(3)			51880	1.221
93)$2-Fluorobiphenyl	(3)	10.820	172	258538	2.475
94) trans-Isosafrole	(3)	10.932	162	43387	1.007
95) 1,1'-Biphenyl	(3)	10.980	154	138746	1.238
96) 2-Chloronaphthalene	(3)	10.991	162	109352	1.235
98) 1-Chloronaphthalene	(3)	11.023	162	106850	1.266
99) Diphenyl ether	(3)	11.162	170	74781	1.234
100) 2-Nitroaniline	(3)	11.173	138	29579	1.083
104) 1,4-Naphthoquinone	(3)	11.296	158	39895	1.119
105) 1,4-Dinitrobenzene	(3)	11.419	168	14756	1.062
106) Dimethylphthalate	(3)	11.504	163	120396	1.248
107) 1,3-Dinitrobenzene	(3)	11.526	168	16251	1.072
108) 2,6-Dinitrotoluene	(3)	11.584	165	25092	1.165
109) Acenaphthylene	(3)	11.654	152	164786	1.204
112) 3-Nitroaniline	(3)	11.814	138	27799	1.166
113)*Acenaphthene-d10	(3)	11.863	164	378866	5.000
114) Acenaphthene	(3)	11.905	153	112028	1.245

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/15/2015 at 18:44.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0537.d
Injection date and time: 15-OCT-2015 16:23

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			58319	2.307
115) 2,4-Dinitrophenol	(3)	11.970	184	36415	2.626
116) 4-Nitrophenol	(3)	12.055	109	36916	2.082
117) Pentachlorobenzene	(3)	12.087	250	44439	1.249
118) 2,4-Dinitrotoluene	(3)	12.146	165	33227	1.142
119) Dibenzofuran	(3)	12.146	168	153097	1.247
121) 1-Naphthylamine	(3)	12.253	143	108905	1.207
122) 2,3,4,6-Tetrachlorophenol	(3)	12.312	232	27293	1.150
123) 2-Naphthylamine	(3)	12.360	143	114371	1.304
124) Diethylphthalate	(3)	12.488	149	115511	1.217
125) Thionazin	(3)	12.579	107	22958	1.247
126) Fluorene	(3)	12.585	166	121168	1.254
127) 4-Chlorophenyl-phenylether	(3)	12.606	204	58282	1.238
129) 4-Nitroaniline	(3)	12.611	138	28291	1.163
128) 5-Nitro-o-toluidine	(3)	12.611	152	29815	1.102
130) 4,6-Dinitro-2-methylphenol	(4)	12.654	198	35853	2.018
132) NDPA as diphenylamine	(4)	12.756	169	100126	1.244
131) N-Nitrosodiphenylamine	(4)	12.756	169	100126	1.244
134) 1,2-Diphenylhydrazine	(4)	12.804	77	149620	1.219
135)$2,4,6-Tribromophenol	(3)	12.889	330	26729	2.389
137) Tetraethyldithiopyrophosphate	(4)	12.986	97	24073	1.248
146) Diallate trans/cis	(4)			64572	1.227
139) 1,3,5-Trinitrobenzene	(4)	13.093	213	10334	0.992
140) Diallate (peak 1)	(4)	13.130	86	53840	1.020
141) Phorate	(4)	13.141	75	93459	1.202
142) Phenacetin	(4)	13.152	108	62098	1.101
143) 4-Bromophenyl-phenylether	(4)	13.226	248	29085	1.203
144) Diallate (peak 2)	(4)	13.242	86	10732	0.207
145) Hexachlorobenzene	(4)	13.275	284	31259	1.236
147) Dimethoate	(4)	13.349	87	57863	1.170
148) Atrazine	(4)	13.451	200	32266	1.224
149) Pentachlorophenol	(4)	13.537	266	18165	1.084
151) Pentachloronitrobenzene	(4)	13.553	237	14757	1.206
150) 4-Aminobiphenyl	(4)	13.558	169	108214	1.165
152) Pronamide	(4)	13.649	173	47319	1.083
153)*Phenanthrene-d10	(4)	13.793	188	687996	5.000
154) Dinoseb	(4)	13.799	211	22760	0.901
155) Phenanthrene	(4)	13.825	178	176200	1.227
157) Anthracene	(4)	13.895	178	173099	1.211
163) Carbazole	(4)	14.120	167	159762	1.203

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on 10/15/2015 at 18:4[illegible]
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0537.d
Injection date and time: 15-OCT-2015 16:23

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.323	109	37176	1.021
165) Di-n-butylphthalate	(4)	14.638	149	183692	1.147
167) Parathion	(4)	14.890	109	21120	0.981
168) 4-Nitroquinoline-1-oxide	(4)	14.917	190	10181	0.659
169) Octachlorostyrene	(4)	15.254	308	10504	1.170
171) Isodrin	(4)	15.312	193	19527	1.183
173) Fluoranthene	(4)	15.542	202	187332	1.185
174) Benzidine	(5)	15.778	184	358630	3.469
175)*Pyrene-d10	(5)	15.874	212	791702	5.000
177) Pyrene	(5)	15.901	202	207286	1.220
179)$Terphenyl-d14	(5)	16.184	244	254371	2.416
182) p-Dimethylaminoazobenzene	(5)	16.425	225	29828	1.034
185) Chlorobenzilate	(5)	16.511	139	55875	1.137
187) 3,3'-Dimethylbenzidine	(5)	17.003	212	113228	1.090
188) Butylbenzylphthalate	(5)	17.061	149	80595	1.122
191) 2-Acetylaminofluorene	(5)	17.430	181	61444	0.978
193) 3,3'-Dichlorobenzidine	(5)	17.955	252	62189	1.124
195) Benzo(a)anthracene	(5)	17.965	228	173559	1.166
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.976	231	34630	1.080
196) Chrysene	(5)	18.030	228	173578	1.227
199) bis(2-Ethylhexyl)phthalate	(5)	18.136	149	108039	1.049
203) 6-Methylchrysene	(5)	18.848	242	112890	1.140
205) Di-n-octylphthalate	(6)	19.324	149	177424	1.023
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.859	256	70076	1.133
206) Benzo(b)fluoranthene	(6)	19.859	252	165646	1.185
208) Benzo(k)fluoranthene	(6)	19.907	252	169264	1.241
211) Benzo(a)pyrene	(6)	20.399	252	159183	1.223
213)*Perylene-d12	(6)	20.495	264	565243	5.000
215) 3-Methylcholanthrene	(6)	20.971	268	69856	1.128
217) Dibenz(a,h)acridine	(6)	21.811	279	124641	1.124
218) Dibenz(a,j)acridine	(6)	21.886	279	127948	1.144
222) Total PAHs	(6)			2878148	21.843
219) Indeno(1,2,3-cd)pyrene	(6)	22.159	276	183747	1.207
220) Dibenz(a,h)anthracene	(6)	22.207	278	149776	1.170
221) Benzo(g,h,i)perylene	(6)	22.592	276	156224	1.201

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$ = Compound is a surrogate standard.

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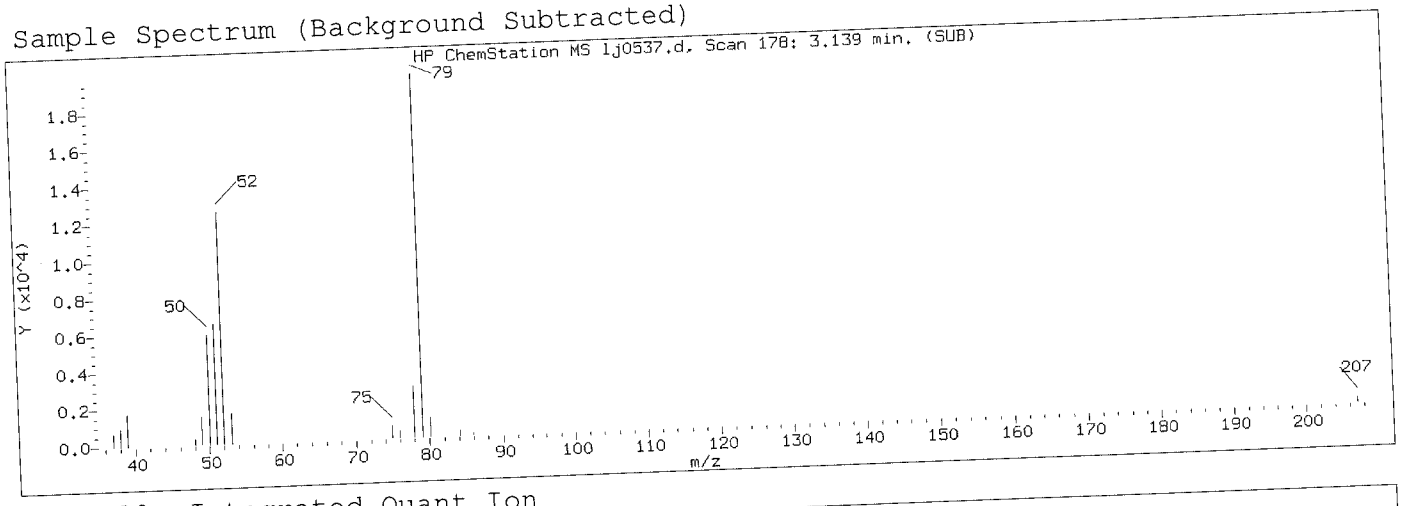
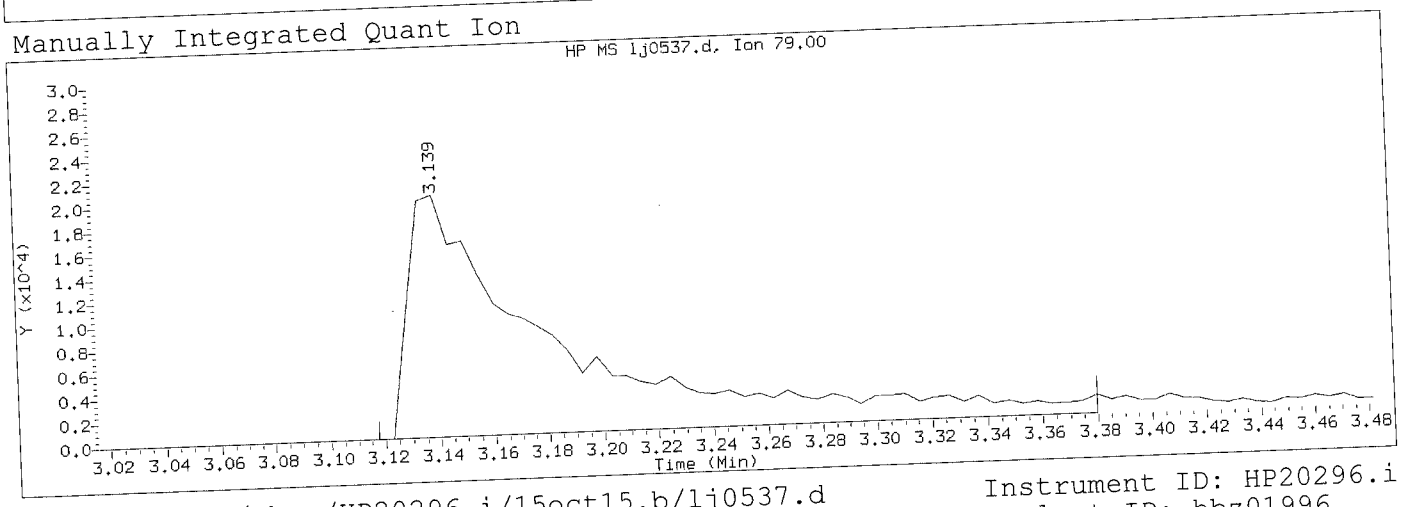
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0537.d
Injection date and time: 15-OCT-2015 16:23

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:15

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2745

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 178		
Retention Time (minutes)	: 3.139		
Quant Ion	: 79.00		
Area (flag)	: 76655M		
On-Column Amount (ng/ul)	: 1.1628		
Integration start scan	: 173	Integration stop scan:	222
Y at integration start	: 3	Y at integration end:	3

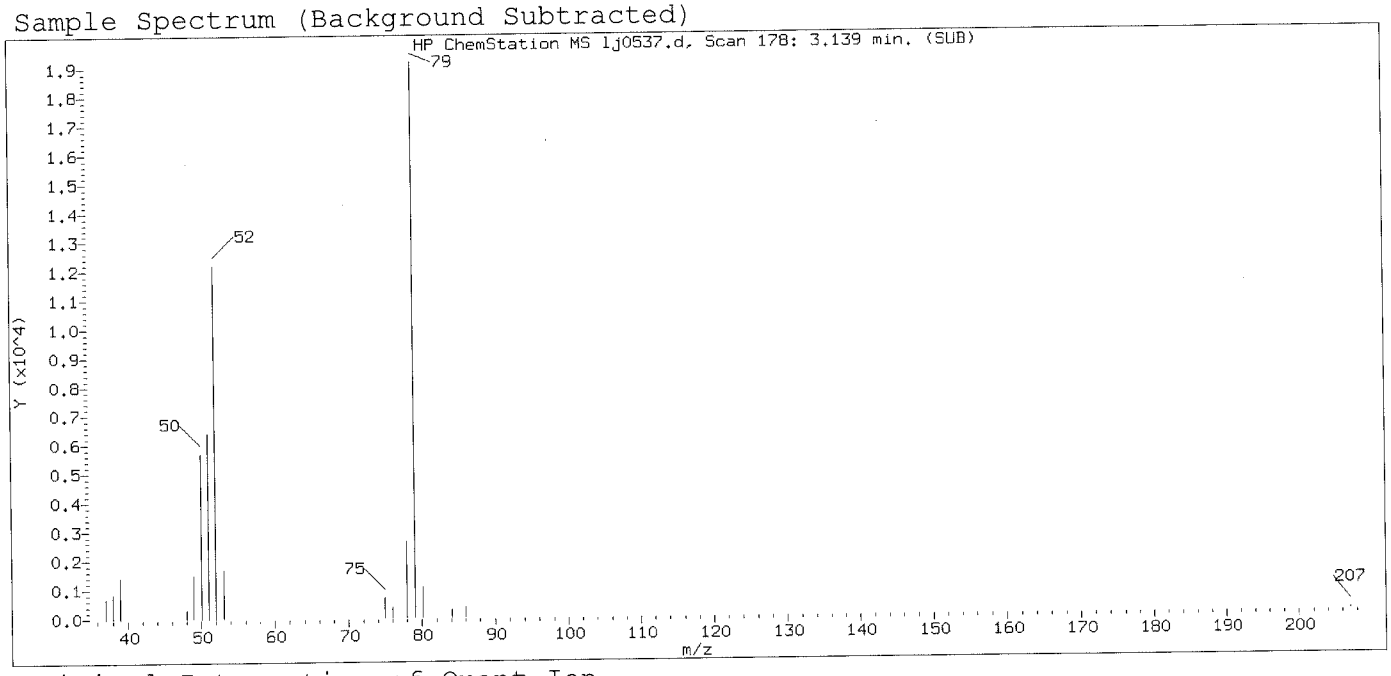
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 signature user ID: ceb05247

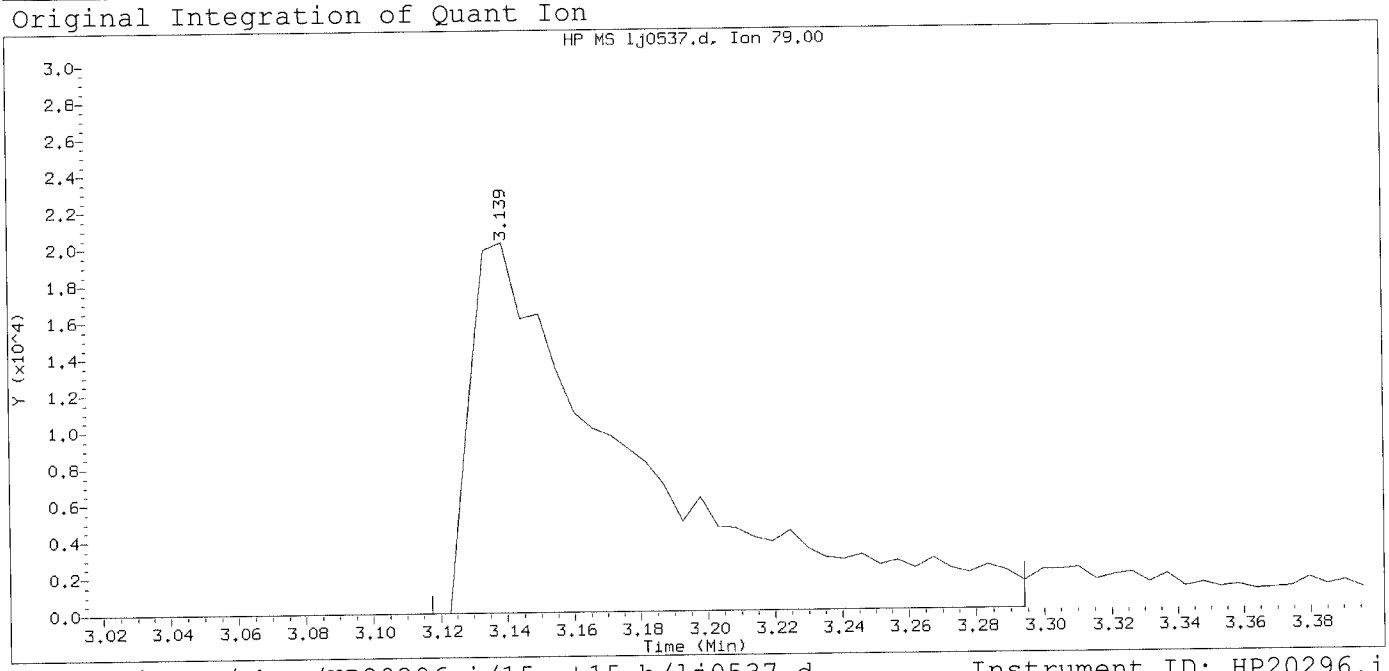
OCT 16 2015

GC/MS audit/management approval: _____ Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



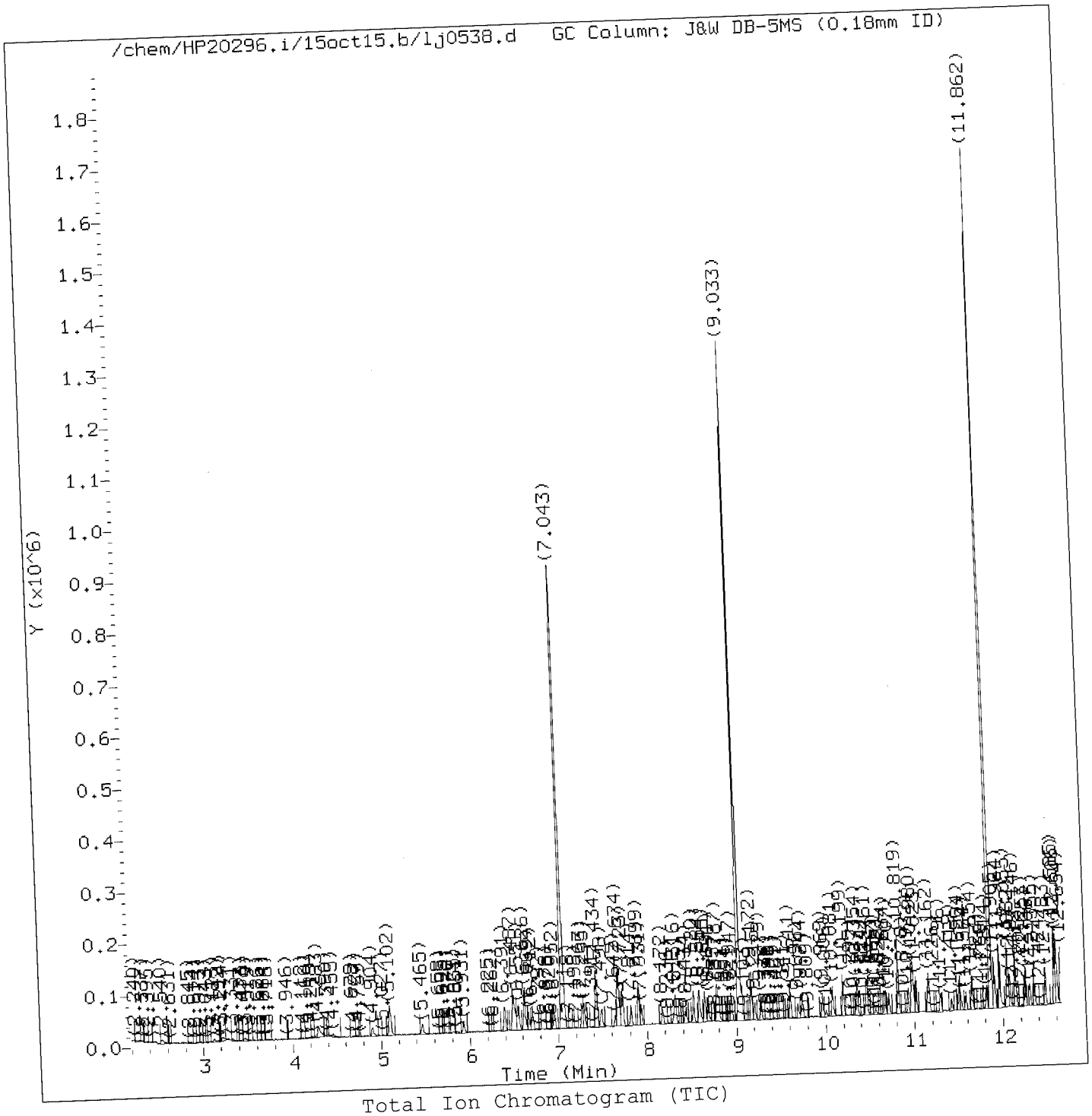
Data File: /chem/HP20296.i/15oct15.b/lj0537.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 16:23 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-OCT-2015 16:48
Date, time and analyst ID of latest file update: 15-Oct-2015 16:48 Unknown

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2745

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 178		
Retention Time (minutes)	: 3.139		
Quant Ion	: 79.00		
Area	: 68801		
On-column Amount (ng/ul)	: 1.1201		
Integration start scan	: 173	Integration stop scan:	206
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44.
Target 3.5 esignature used: 14. Cert 5247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

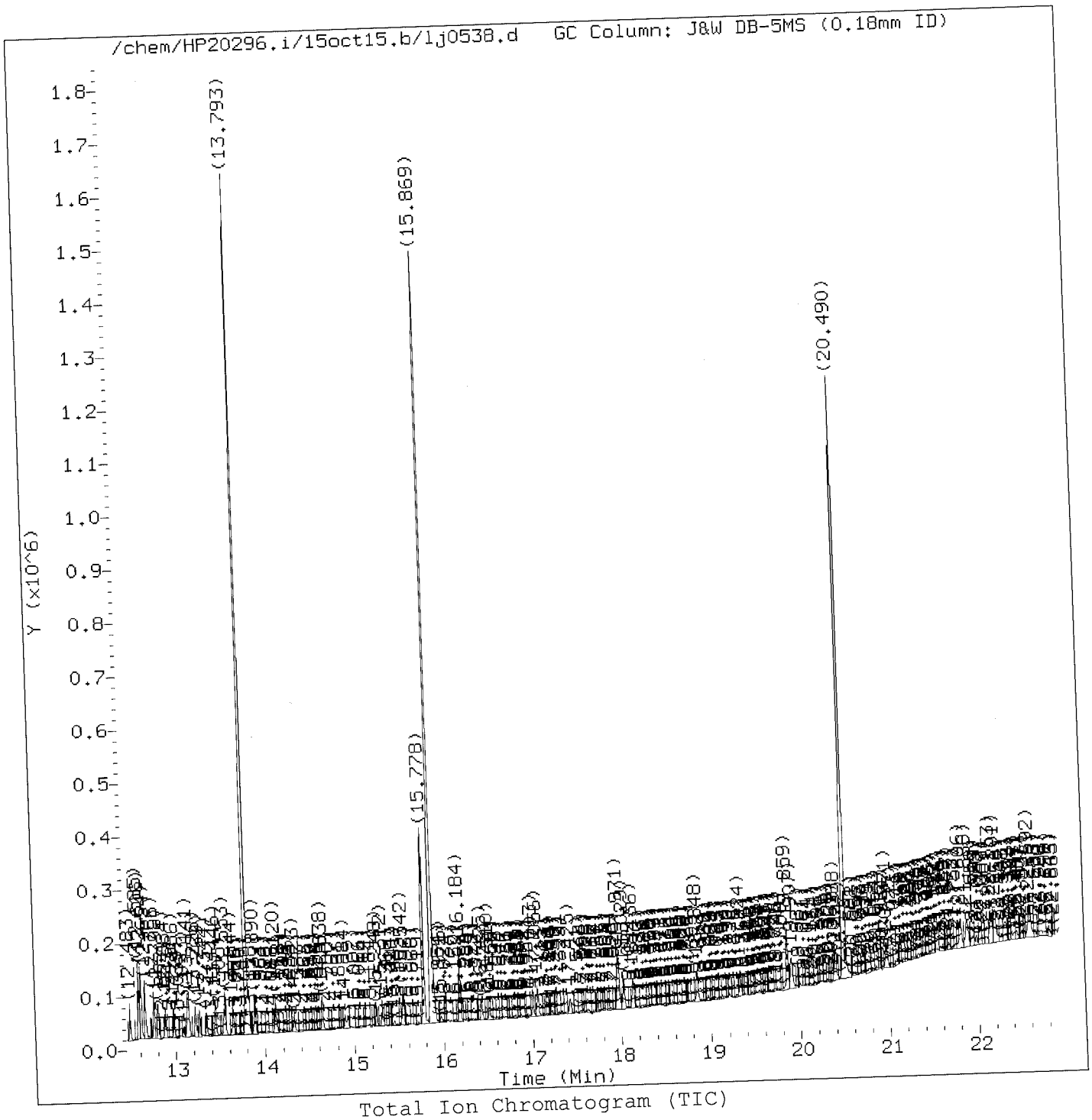
Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.550	88	6313	0.252
4) N-Nitrosodimethylamine	(1)	3.123	74	8582	0.217
5) Pyridine	(1)	3.214	79	14083M	0.211
7) 2-Picoline	(1)	4.283	93	16204M	0.232
8) N-Nitrosomethylethylamine	(1)	4.449	88	7219M	0.253
9) Methyl methanesulfonate	(1)	4.899	80	8884M	0.264
11)$2-Fluorophenol	(1)	5.102	112	24684	0.468
13) N-Nitrosodiethylamine	(1)	5.465	102	5994	0.224
15) Ethyl methanesulfonate	(1)	5.925	109	7034	0.256
16) Benzaldehyde	(1)	6.396	77	14590	0.280
17)$Phenol-d6	(1)	6.487	99	36438	0.501
18) Phenol	(1)	6.508	94	19756	0.253
19) Aniline	(1)	6.551	93	23995	0.245
20) a-methylstyrene	(1)	6.626	118	14157	0.259
22) bis(2-Chloroethyl)ether	(1)	6.669	93	16026	0.264
23) 2-Chlorophenol	(1)	6.712	128	11820	0.238
24) 1,3-Dichlorobenzene	(1)	6.952	146	14132	0.256
25)*1,4-Dichlorobenzene-d4	(1)	7.043	152	177531	5.000
26) 1,4-Dichlorobenzene	(1)	7.070	146	14154	0.251
27) Benzyl alcohol	(1)	7.263	108	8904	0.238
28) 1,2-Dichlorobenzene	(1)	7.289	146	13241	0.249
31) 2-Methylphenol	(1)	7.434	108	13313	0.254
30) Indene	(1)	7.434	115	24814	0.263
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.487	45	22521	0.264
34) bis(2-Chloroisopropyl)ether	(1)	7.487	45	22521	0.264
35) N-Nitrosopyrrolidine	(1)	7.642	100	6731	0.239
42) Total Cresols	(1)			26693	0.499
36) Acetophenone	(1)	7.669	105	22491	0.275
37) 4-Methylphenol	(1)	7.674	108	13380	0.245
38) N-Nitroso-di-n-propylamine	(1)	7.685	70	11702	0.247
39) N-Nitrosomorpholine	(1)	7.712	56	8902	0.244
40) o-Toluidine	(1)	7.723	106	22339	0.243
43) Hexachloroethane	(1)	7.819	117	6124	0.262
44)$Nitrobenzene-d5	(2)	7.899	82	35013	0.508
45) Nitrobenzene	(2)	7.931	77	16331	0.239
48) N-Nitrosopiperidine	(2)	8.177	114	6057	0.231
50) Isophorone	(2)	8.316	82	28692	0.238
51) 2-Nitrophenol	(2)	8.434	139	5726	0.229
53) 2,4-Dimethylphenol	(2)	8.520	107	13019	0.229
56) Benzoic acid	(2)	8.584	105	30692M	0.716

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on 10/15/2015 at 18:44
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.648	198	6275	0.251
55) bis(2-Chloroethoxy)methane	(2)	8.691	93	18602	0.254
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.787	104	21288	0.253
60) 2,4-Dichlorophenol	(2)	8.808	162	9328	0.231
62) 1,2,4-Trichlorobenzene	(2)	8.947	180	11915	0.257
65) *Naphthalene-d8	(2)	9.033	136	683133	5.000
66) Naphthalene	(2)	9.065	128	36966	0.252
68) 2,6-Dichlorophenol	(2)	9.172	162	9682	0.239
67) 4-Chloroaniline	(2)	9.172	127	14532	0.241
69) Hexachloropropene	(2)	9.215	213	6779	0.222
71) Hexachlorobutadiene	(2)	9.284	225	6303	0.239
75) Quinoline	(2)	9.605	129	21665	0.236
76) Caprolactam	(2)	9.702	113	3445	0.254
77) N-Nitrosodi-n-butylamine	(2)	9.744	84	10615	0.211
80) 4-Chloro-3-methylphenol	(2)	9.969	107	10293	0.213
82) Safrole	(2)	10.081	162	8695	0.235
83) 2-Methylnaphthalene	(2)	10.199	142	24085	0.247
84) 1-Methylnaphthalene	(2)	10.354	142	20763	0.234
85) Hexachlorocyclopentadiene	(3)	10.456	237	6302	0.226
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.472	216	11611	0.258
88) cis-Isosafrole	(3)	10.563	162	1420	0.036
90) 2,4,6-Trichlorophenol	(3)	10.664	196	6533	0.230
92) 2,4,5-Trichlorophenol	(3)	10.707	196	7650	0.248
97) Isosafrole	(3)			9859	0.233
93) $2-Fluorobiphenyl	(3)	10.819	172	51946	0.499
94) trans-Isosafrole	(3)	10.932	162	8439	0.197
95) 1,1'-Biphenyl	(3)	10.975	154	30212	0.267
96) 2-Chloronaphthalene	(3)	10.991	162	23372	0.263
98) 1-Chloronaphthalene	(3)	11.023	162	22073	0.261
99) Diphenyl ether	(3)	11.162	170	14998	0.249
100) 2-Nitroaniline	(3)	11.167	138	6345	0.236
104) 1,4-Naphthoquinone	(3)	11.296	158	7407	0.209
105) 1,4-Dinitrobenzene	(3)	11.419	168	2364	0.171
106) Dimethylphthalate	(3)	11.504	163	23046	0.240
107) 1,3-Dinitrobenzene	(3)	11.525	168	2874	0.190
108) 2,6-Dinitrotoluene	(3)	11.579	165	4251	0.204
109) Acenaphthylene	(3)	11.654	152	32253	0.238
112) 3-Nitroaniline	(3)	11.814	138	4405	0.193
113) *Acenaphthene-d10	(3)	11.862	164	377362	5.000
114) Acenaphthene	(3)	11.905	153	23554	0.261

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Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

	Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120)	2,4_2,6-Dinitrotoluenes	(3)			10578	0.423
115)	2,4-Dinitrophenol	(3)	11.969	184	15781	1.143
116)	4-Nitrophenol	(3)	12.055	109	14393	0.815
117)	Pentachlorobenzene	(3)	12.087	250	8506	0.241
118)	2,4-Dinitrotoluene	(3)	12.146	165	6327	0.218
119)	Dibenzofuran	(3)	12.151	168	32351	0.262
121)	1-Naphthylamine	(3)	12.253	143	21179	0.236
122)	2,3,4,6-Tetrachlorophenol	(3)	12.312	232	5090	0.220
123)	2-Naphthylamine	(3)	12.355	143	21924	0.251
124)	Diethylphthalate	(3)	12.488	149	22389	0.237
125)	Thionazin	(3)	12.585	107	4580	0.250
126)	Fluorene	(3)	12.585	166	24475	0.254
127)	4-Chlorophenyl-phenylether	(3)	12.606	204	10683	0.231
128)	5-Nitro-o-toluidine	(3)	12.606	152	6165	0.232
129)	4-Nitroaniline	(3)	12.611	138	4456	0.191
130)	4,6-Dinitro-2-methylphenol	(4)	12.654	198	14493	0.819
132)	NDPA as diphenylamine	(4)	12.756	169	20143	0.251
131)	N-Nitrosodiphenylamine	(4)	12.756	169	20143	0.251
134)	1,2-Diphenylhydrazine	(4)	12.804	77	28038	0.232
135)	$2,4,6-Tribromophenol	(3)	12.889	330	4822	0.441
137)	Tetraethyldithiopyrophosphate	(4)	12.980	97	4689	0.244
146)	Diallate trans/cis	(4)			10633	0.203
139)	1,3,5-Trinitrobenzene	(4)	13.093	213	1683	0.162
140)	Diallate (peak 1)	(4)	13.130	86	8907	0.169
141)	Phorate	(4)	13.141	75	15977	0.212
142)	Phenacetin	(4)	13.151	108	12348	0.224
143)	4-Bromophenyl-phenylether	(4)	13.226	248	6245	0.258
144)	Diallate (peak 2)	(4)	13.242	86	1726M	0.033
145)	Hexachlorobenzene	(4)	13.275	284	6269	0.249
147)	Dimethoate	(4)	13.344	87	9959	0.202
148)	Atrazine	(4)	13.446	200	6606	0.252
149)	Pentachlorophenol	(4)	13.542	266	2770	0.166
151)	Pentachloronitrobenzene	(4)	13.547	237	2355	0.193
150)	4-Aminobiphenyl	(4)	13.558	169	20860	0.229
152)	Pronamide	(4)	13.644	173	8351	0.199
153)	*Phenanthrene-d10	(4)	13.793	188	684811	5.000
154)	Dinoseb	(4)	13.799	211	3491	0.139
155)	Phenanthrene	(4)	13.820	178	35166	0.247
157)	Anthracene	(4)	13.890	178	34098	0.241
163)	Carbazole	(4)	14.120	167	29707	0.228

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Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51
Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16
Sublist used: all1
Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25
Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.323	109	5781	0.159
165) Di-n-butylphthalate	(4)	14.638	149	33779	0.212
167) Parathion	(4)	14.890	109	4064	0.190
168) 4-Nitroquinoline-1-oxide	(4)	14.917	190	1438	0.093
169) Octachlorostyrene	(4)	15.254	308	2076	0.232
171) Isodrin	(4)	15.312	193	4504	0.270
173) Fluoranthene	(4)	15.542	202	35256	0.227
174) Benzidine	(5)	15.778	184	177580	1.760
175)*Pyrene-d10	(5)	15.869	212	772801	5.000
177) Pyrene	(5)	15.901	202	42275	0.254
179)$Terphenyl-d14	(5)	16.184	244	50807	0.495
182) p-Dimethylaminoazobenzene	(5)	16.419	225	4939	0.183
185) Chlorobenzilate	(5)	16.516	139	10262	0.214
187) 3,3'-Dimethylbenzidine	(5)	17.003	212	20379	0.201
188) Butylbenzylphthalate	(5)	17.056	149	14472	0.206
191) 2-Acetylaminofluorene	(5)	17.425	181	10069	0.164
193) 3,3'-Dichlorobenzidine	(5)	17.960	252	11219	0.208
195) Benzo(a)anthracene	(5)	17.965	228	32052	0.224
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.971	231	6046	0.193
196) Chrysene	(5)	18.029	228	31941	0.234
199) bis(2-Ethylhexyl)phthalate	(5)	18.136	149	17972	0.179
203) 6-Methylchrysene	(5)	18.848	242	19459	0.201
205) Di-n-octylphthalate	(6)	19.324	149	28249	0.165
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.859	256	12299	0.207
206) Benzo(b)fluoranthene	(6)	19.859	252	33224	0.241
208) Benzo(k)fluoranthene	(6)	19.901	252	31531	0.236
211) Benzo(a)pyrene	(6)	20.399	252	31010	0.242
213)*Perylene-d12	(6)	20.490	264	559095	5.000
215) 3-Methylcholanthrene	(6)	20.966	268	12875	0.215
217) Dibenz(a,h)acridine	(6)	21.806	279	24312	0.222
218) Dibenz(a,j)acridine	(6)	21.886	279	23364	0.211
222) Total PAHs	(6)			564029	4.340
219) Indeno(1,2,3-cd)pyrene	(6)	22.153	276	36177	0.241
220) Dibenz(a,h)anthracene	(6)	22.207	278	28220	0.226
221) Benzo(g,h,i)perylene	(6)	22.592	276	30983	0.242

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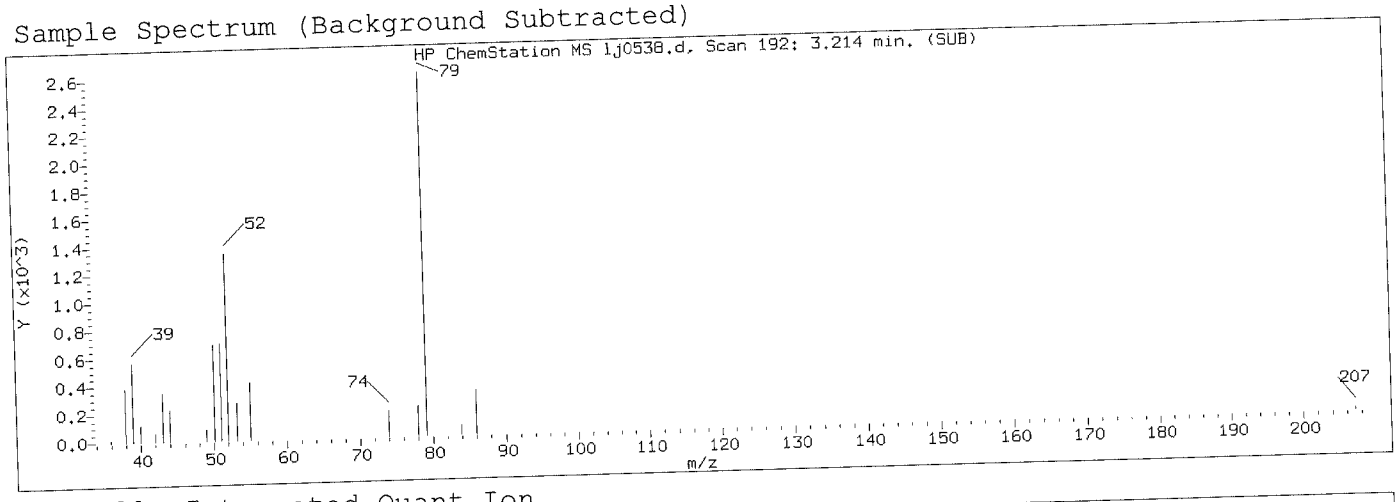
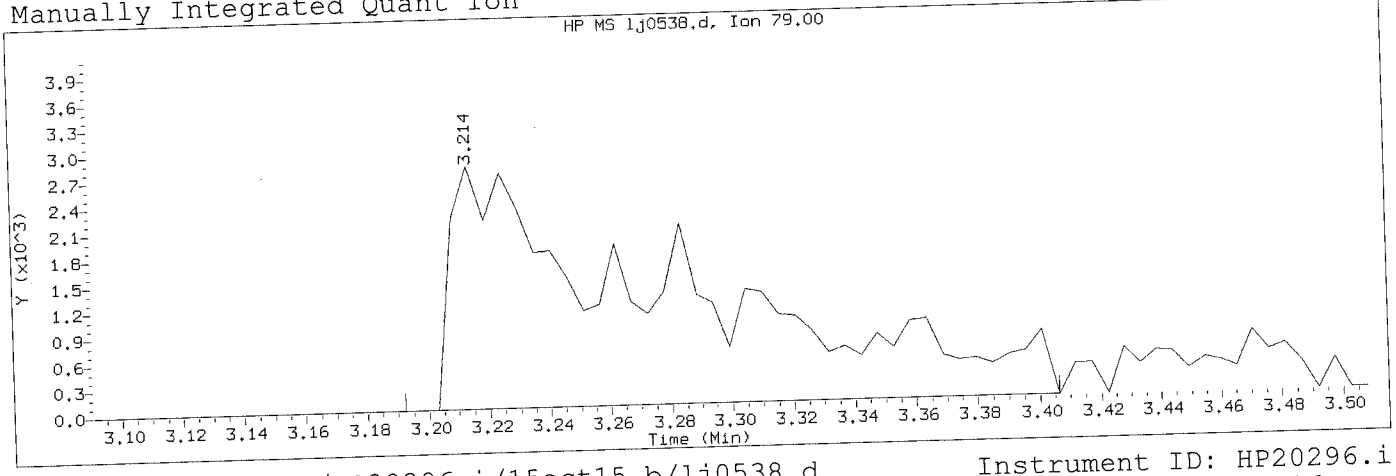
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 192		
Retention Time (minutes)	: 3.214		
Quant Ion	: 79.00		
Area (flag)	: 14083M		
On-Column Amount (ng/ul)	: 0.2107		
Integration start scan	: 187	Integration stop scan:	227
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: compound not in processing sublist

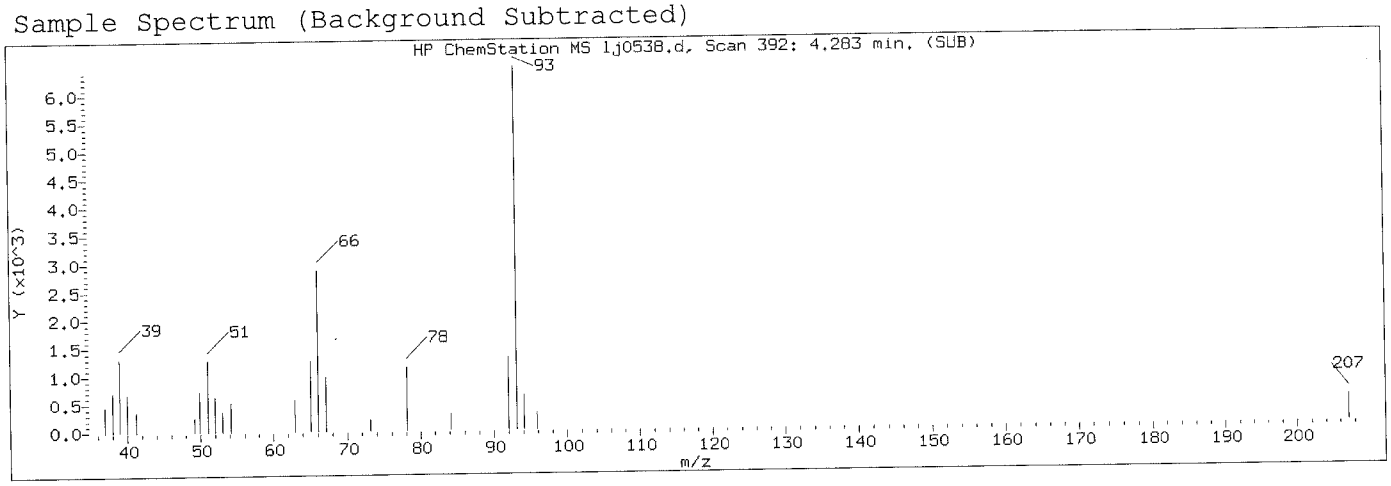
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 signature user ID: ceb05247

OCT 16 2015

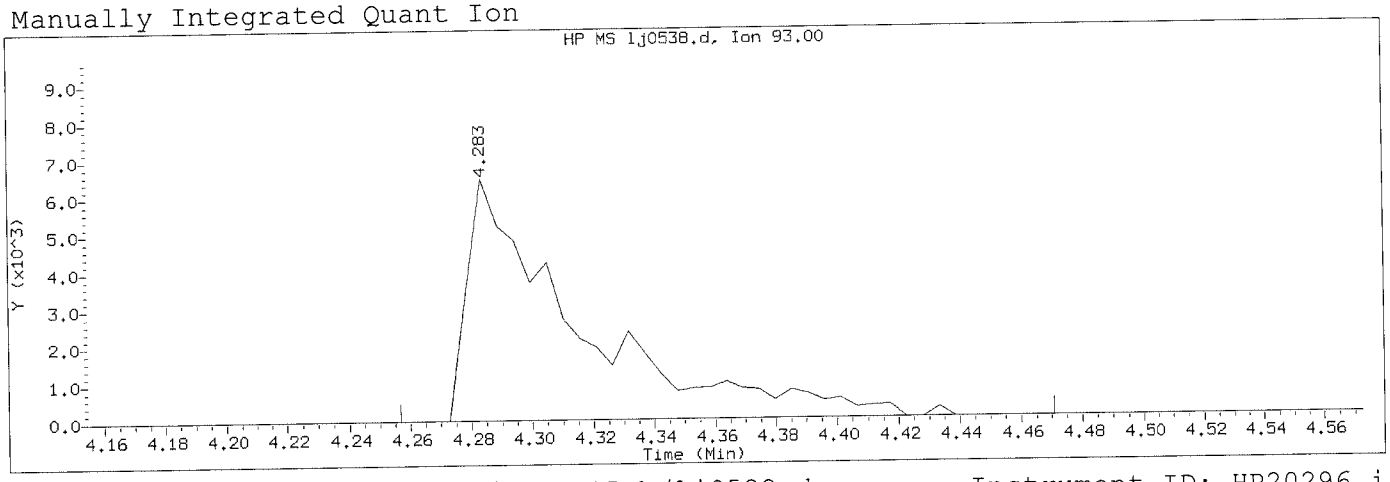
GC/MS audit/management approval: _____

Matthew E. Barton
Section Specialist

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0538.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 16:51 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-OCT-2015 18:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 392		
Retention Time (minutes)	: 4.283		
Quant Ion	: 93.00		
Area (flag)	: 16204M		
On-Column Amount (ng/ul)	: 0.2324		
Integration start scan	: 386	Integration stop scan:	426
Y at integration start	: 0	Y at integration end:	0

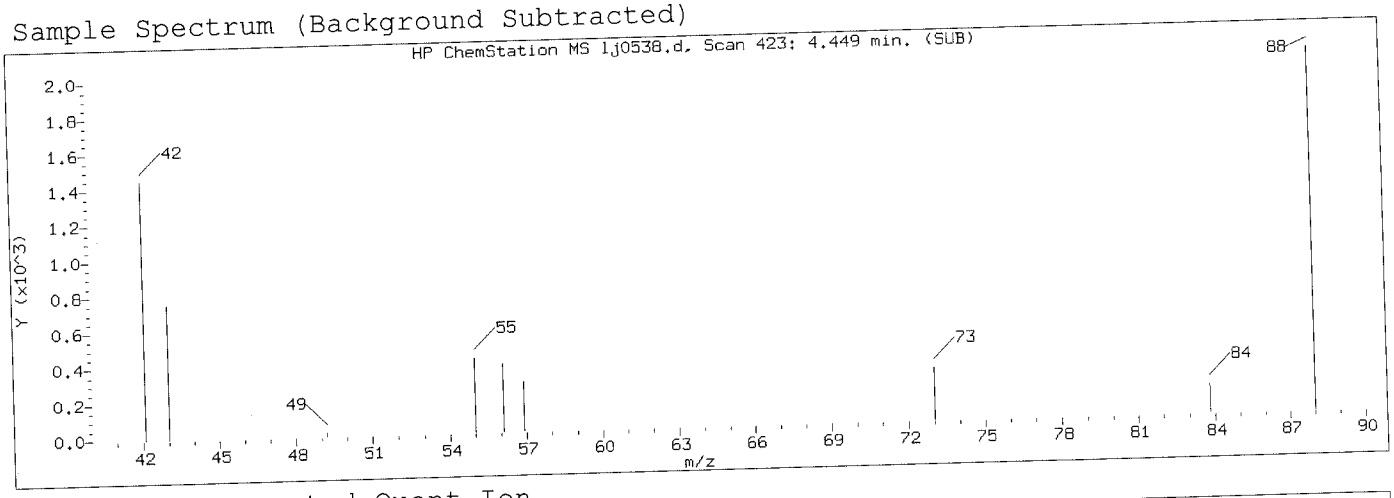
Reason for manual integration: compound not in processing sublist

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 signature user ID: ceb05247

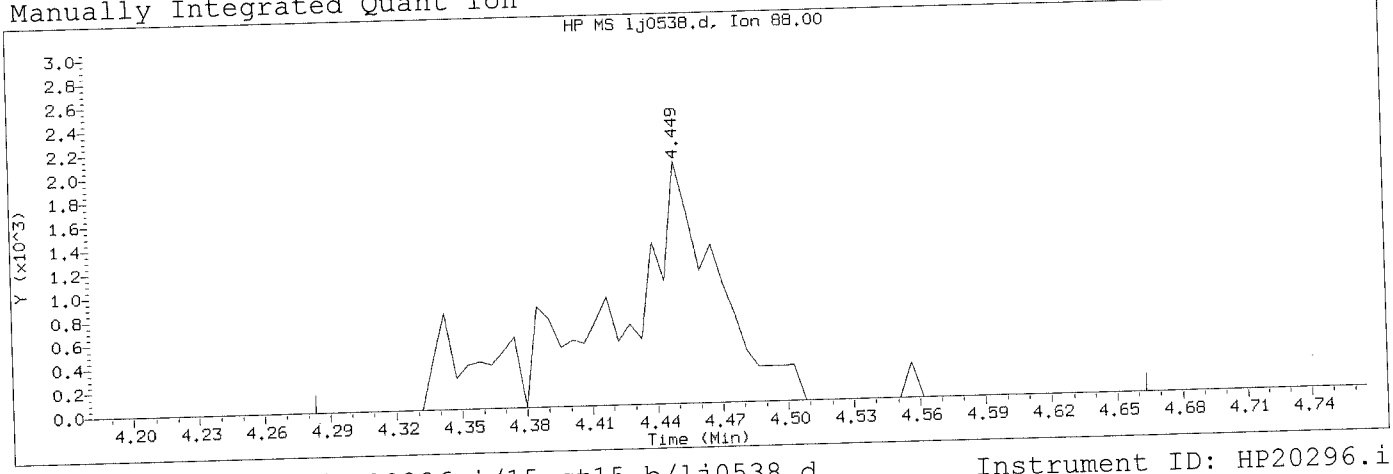
OCT 16 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 423		
Retention Time (minutes)	: 4.449		
Quant Ion	: 88.00		
Area (flag)	: 7219M		
On-Column Amount (ng/ul)	: 0.2530		
Integration start scan	: 391	Integration stop scan:	462
Y at integration start	: 0	Y at integration end:	0

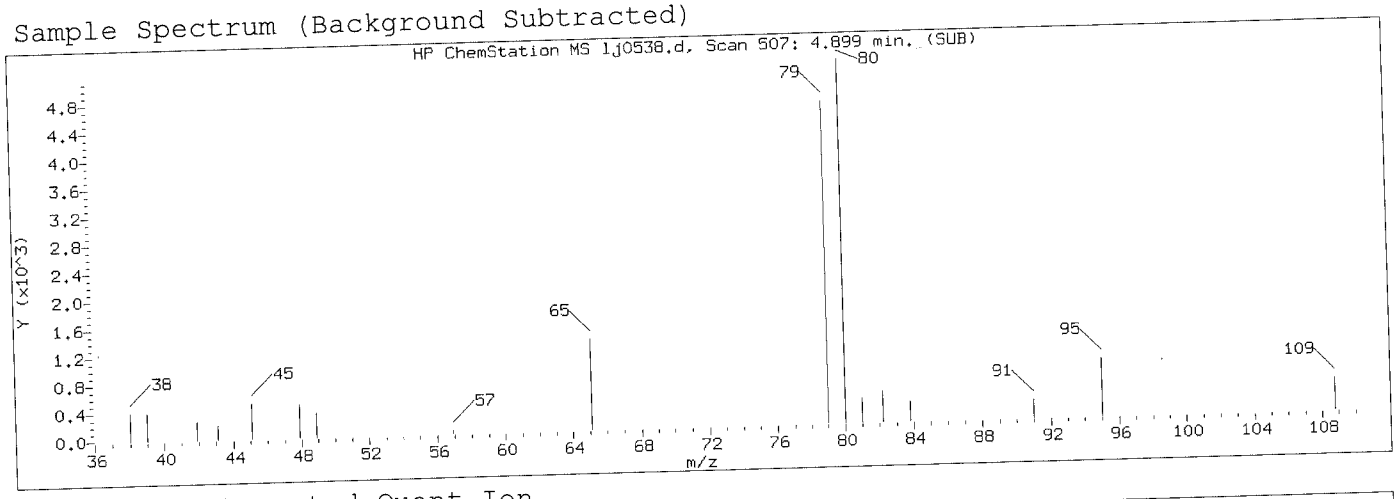
Reason for manual integration: compound not in processing sublist

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 signature user ID: ceb05247

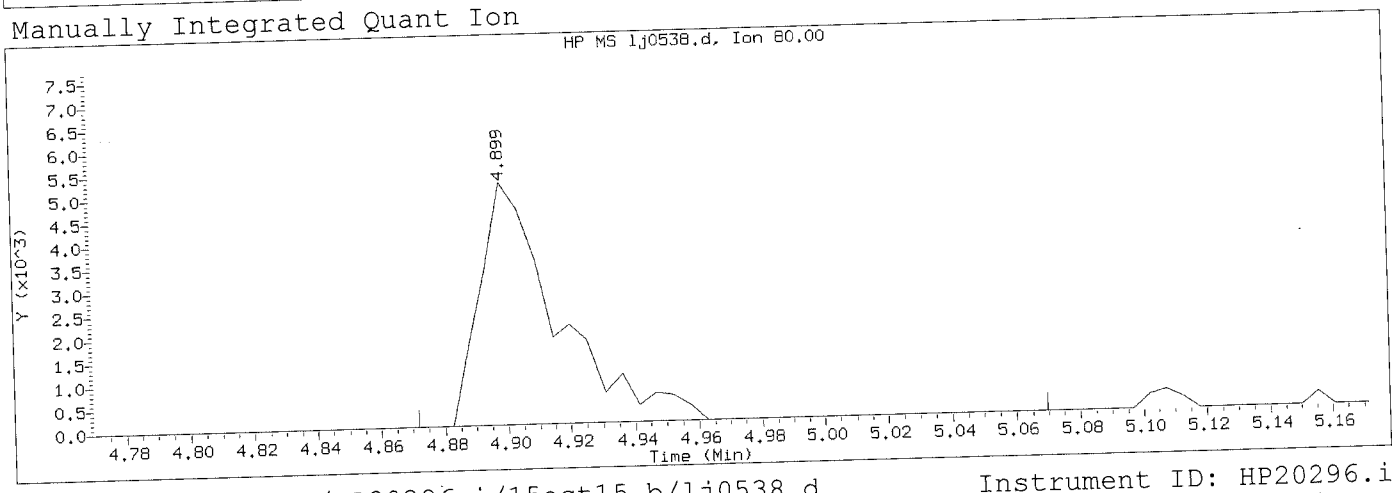
OCT 16 2015

GC/MS audit/management approval: _____ Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 507		
Retention Time (minutes)	: 4.899		
Quant Ion	: 80.00		
Area (flag)	: 8884M		
On-Column Amount (ng/ul)	: 0.2638		
Integration start scan	: 501	Integration stop scan:	538
Y at integration start	: 0	Y at integration end:	0

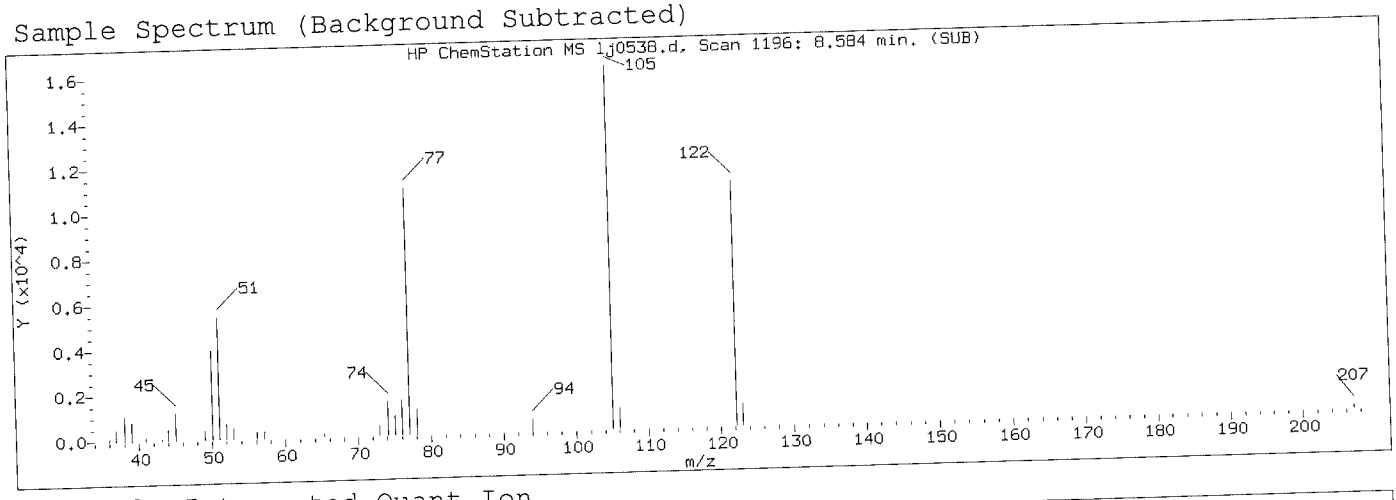
Reason for manual integration: compound not in processing sublist

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 signature user ID: ceb05247

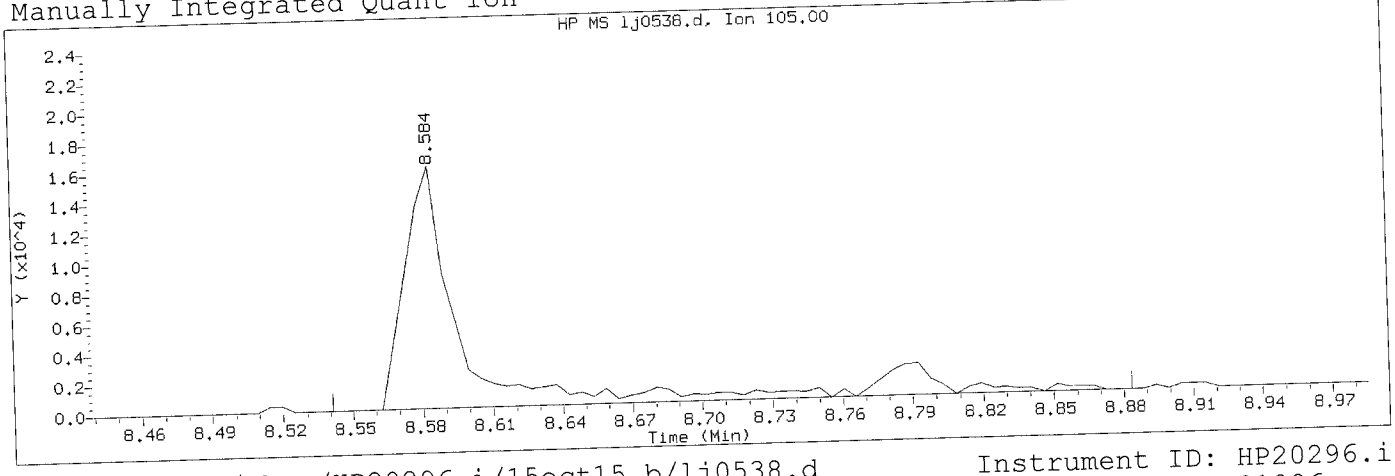
OCT 16 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1196		
Retention Time (minutes)	: 8.584		
Quant Ion	: 105.00		
Area (flag)	: 30692M		
On-Column Amount (ng/ul)	: 0.7156		
Integration start scan	: 1187	Integration stop scan:	1251
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

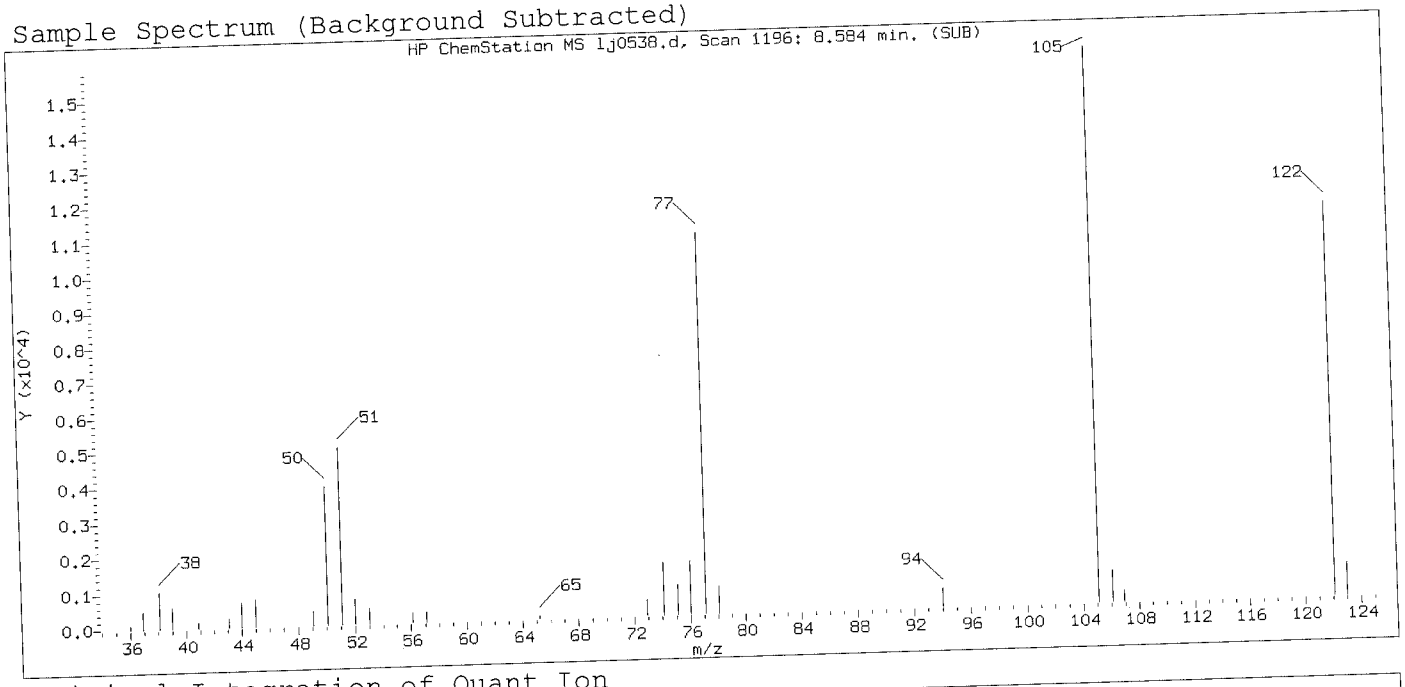
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 asignature user ID: ceb05247

OCT 16 2015

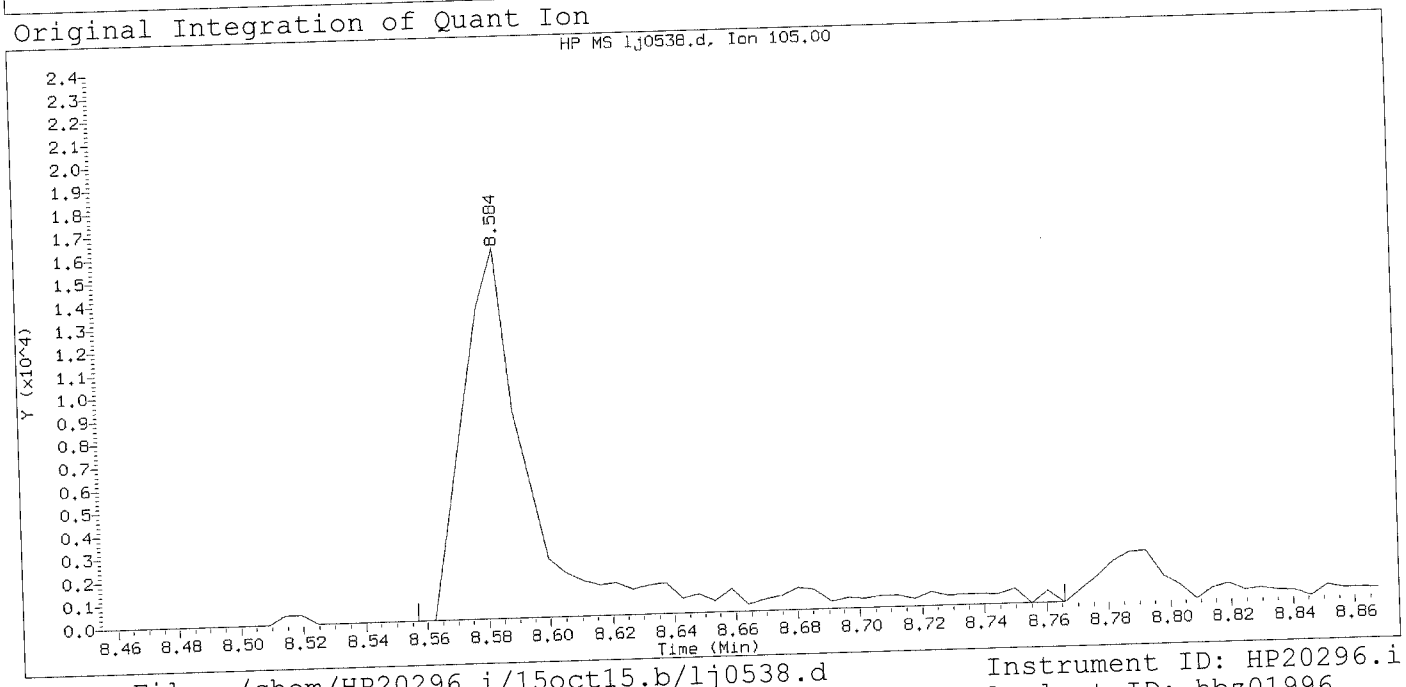
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 17:16 Unknown

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Compound Number	:	56
Compound Name	:	Benzoic acid
Scan Number	:	1196
Retention Time (minutes)	:	8.584
Quant Ion	:	105.00
Area	:	26517
On-column Amount (ng/ul)	:	2.4523
Integration start scan	:	1190
Y at integration start	:	0

Integration stop scan: 1229
Y at integration end: 0

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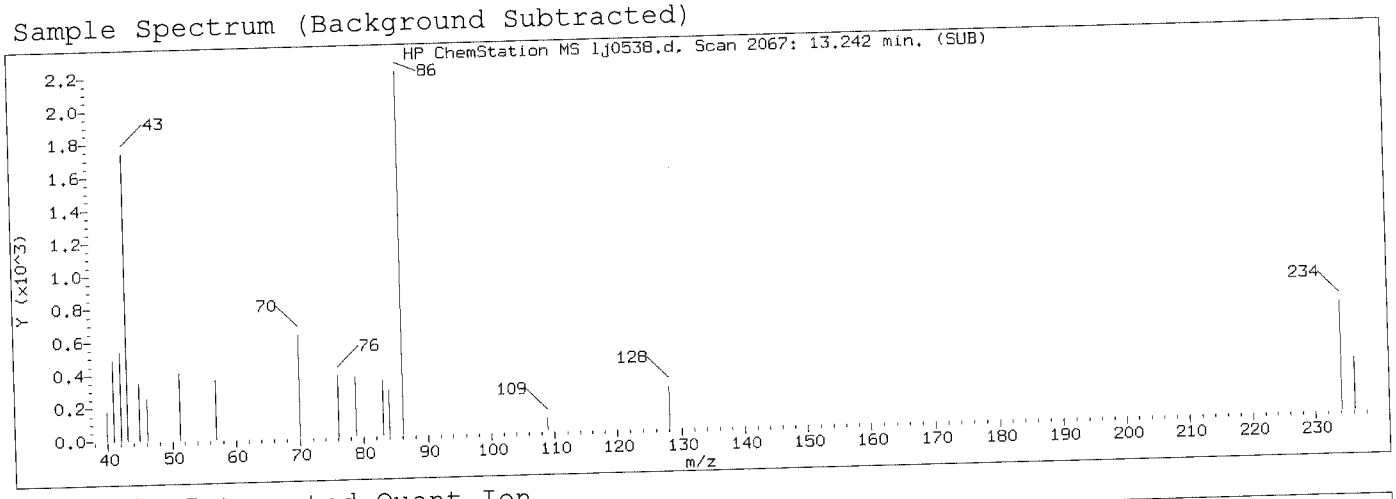
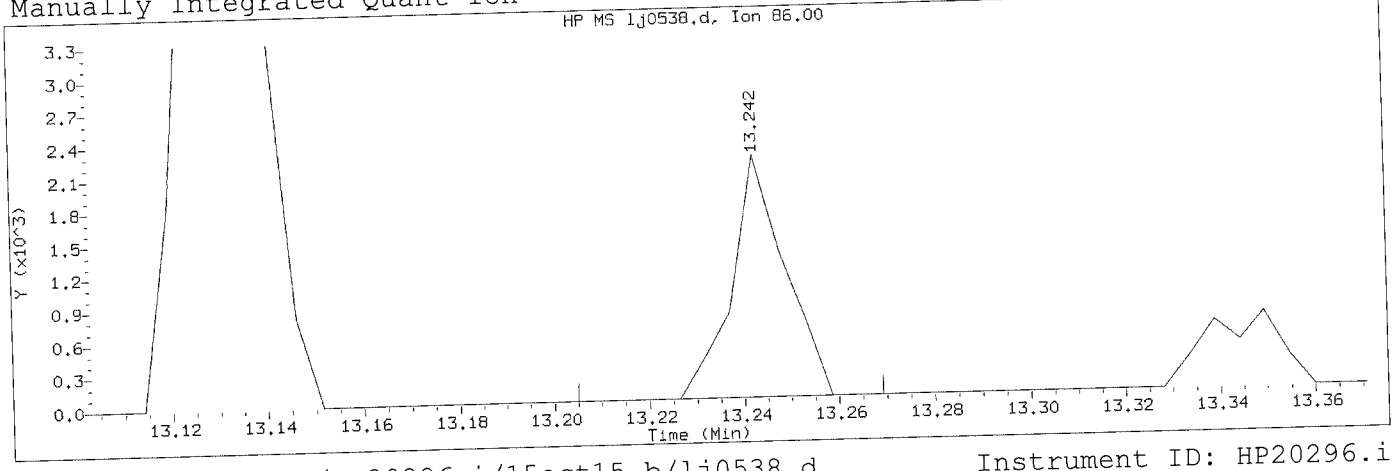
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:16

Sublist used: all1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:16 ceb05247

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Compound Number	: 144		
Compound Name	: Diallate (peak 2)		
Scan Number	: 2067		
Retention Time (minutes)	: 13.242		
Quant Ion	: 86.00		
Area (flag)	: 1726M		
On-Column Amount (ng/ul)	: 0.0335		
Integration start scan	: 2059	Integration stop scan:	2071
Y at integration start	: 0	Y at integration end:	0

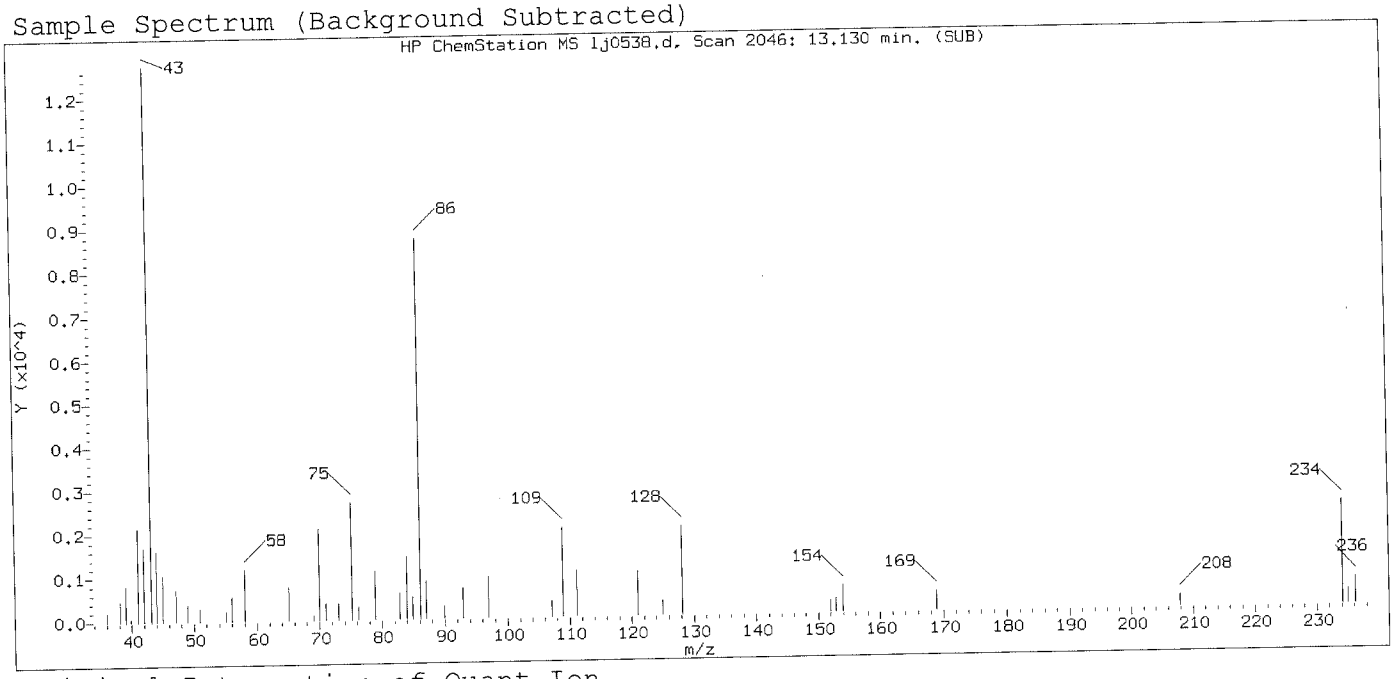
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:44. Target 3.5 signature user ID: ceb05247

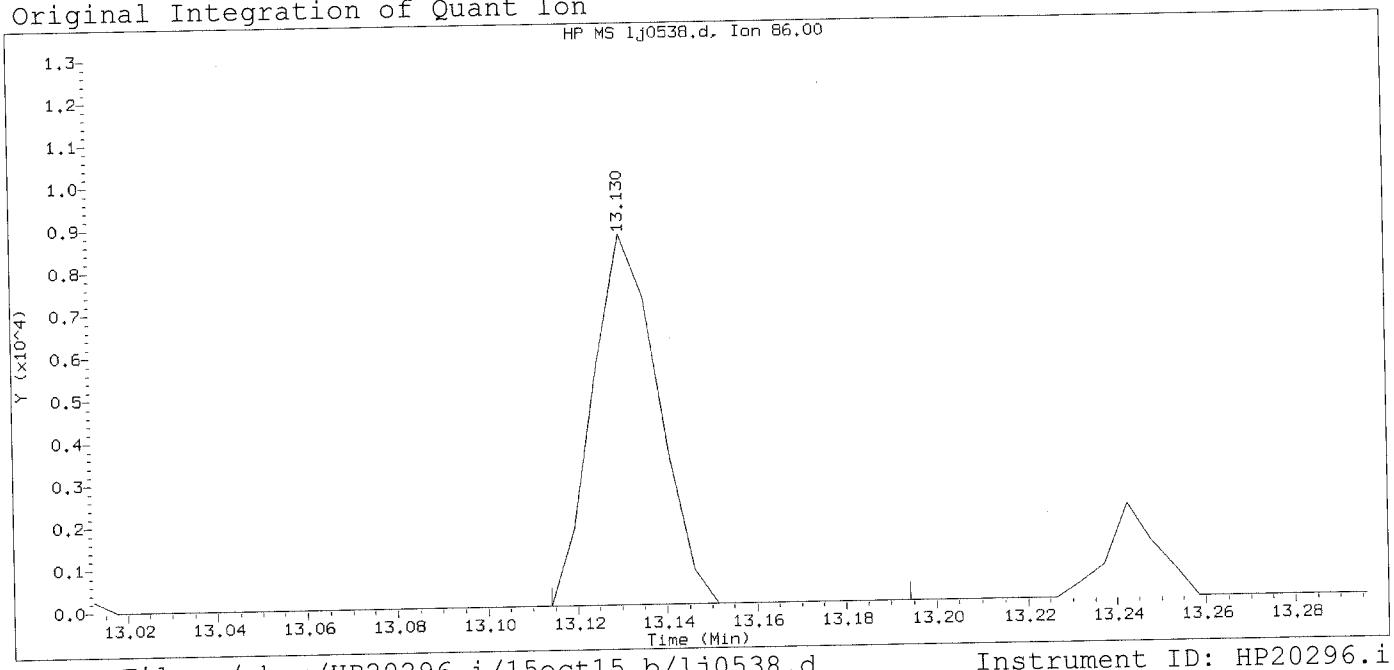
OCT 16 2015

GC/MS audit/management approval: _____ Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0538.d
Injection date and time: 15-OCT-2015 16:51

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:16 Unknown

Sublist used: all1

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2745

Compound Number	: 144		
Compound Name	: Diallate (peak 2)		
Scan Number	: 2046		
Retention Time (minutes)	: 13.130		
Quant Ion	: 86.00		
Area	: 8907		
On-column Amount (ng/ul)	: 0.1950		
Integration start scan	: 2042	Integration stop scan:	2057
Y at integration start	: 0	Y at integration end:	0

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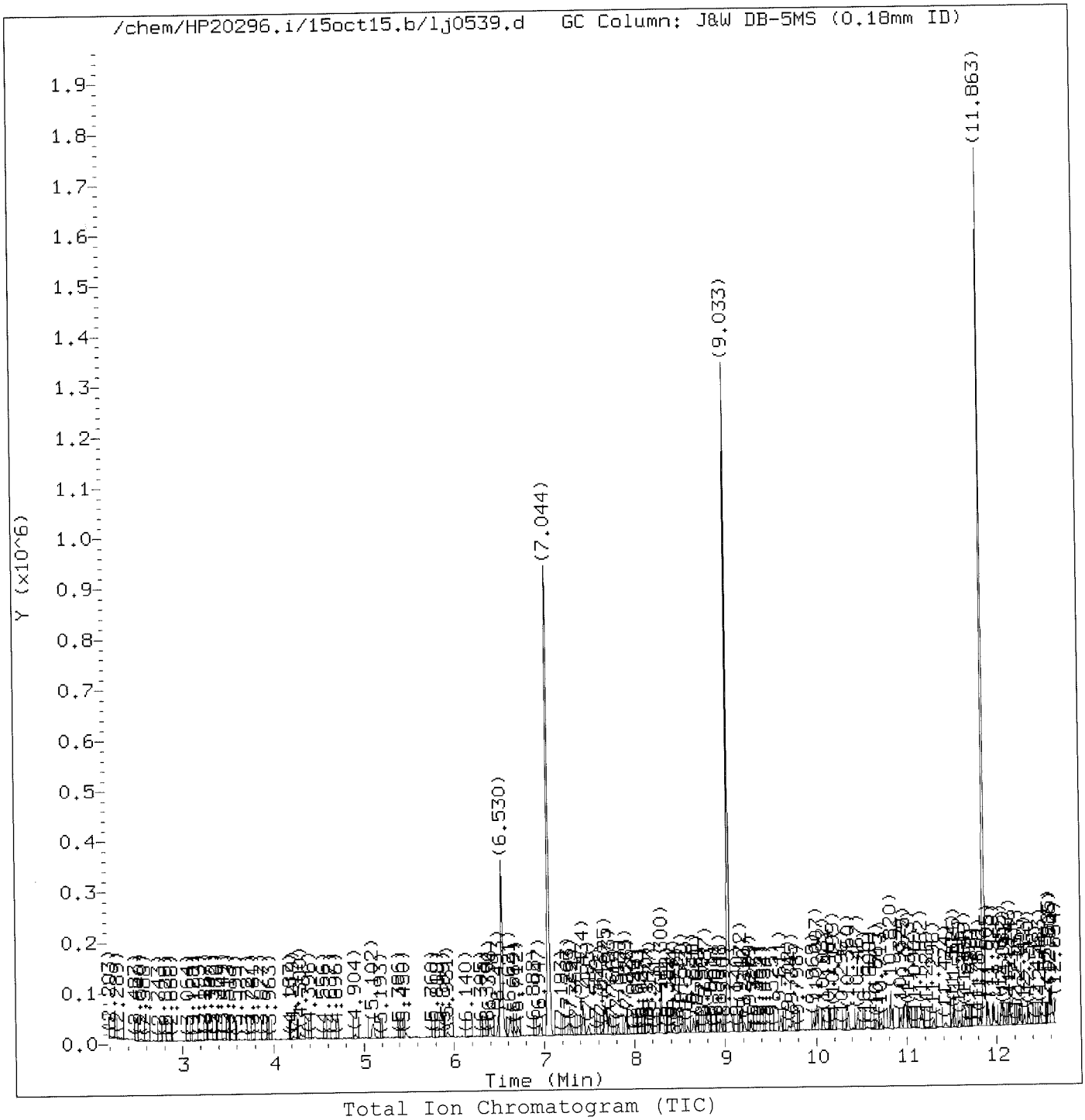
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

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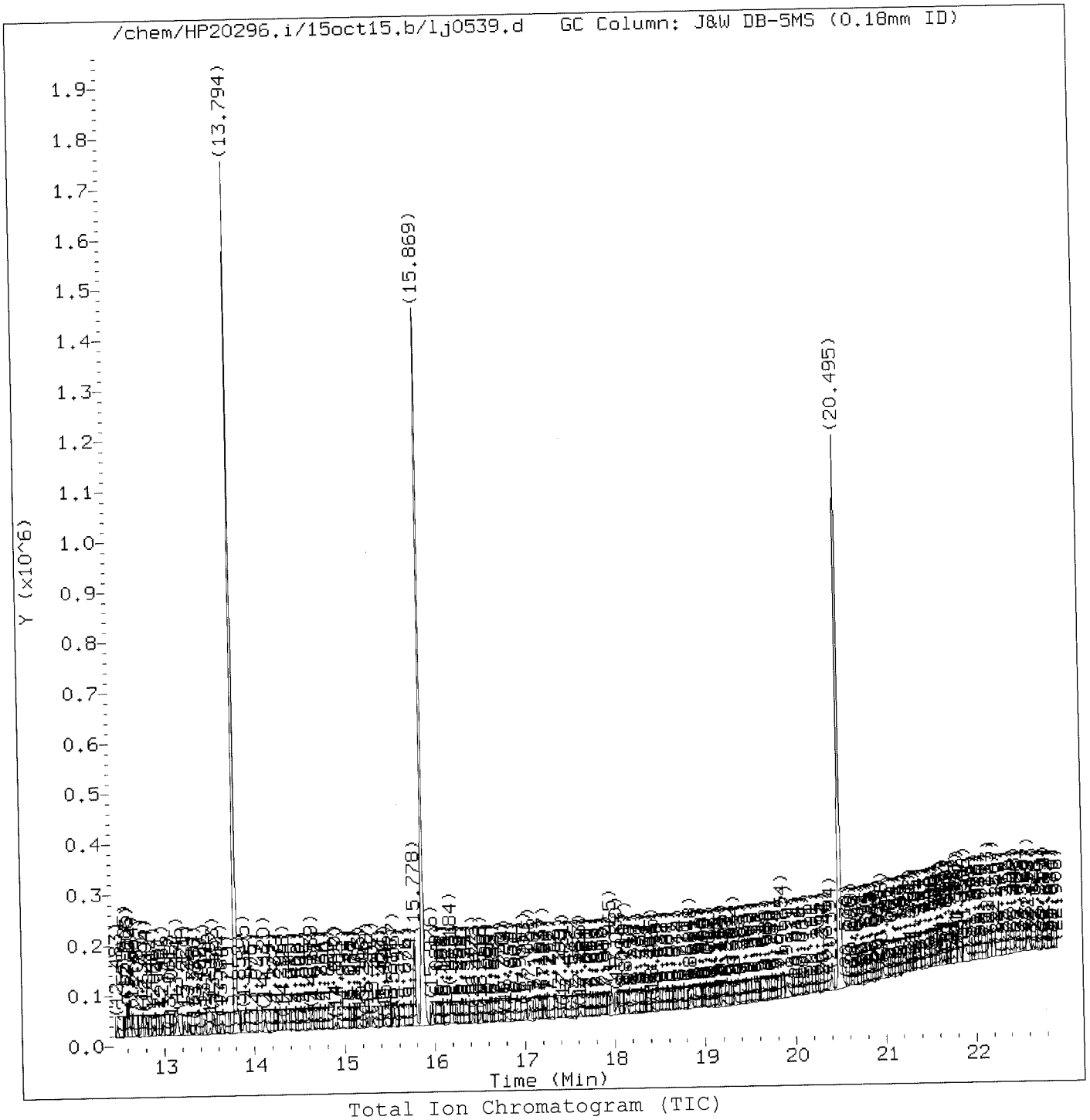
on 10/15/2015 at 18:49.
Target 3.5 esignature used.



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:49.
Target 3.5 esignature used.

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.545	88	2748M	0.109
4) N-Nitrosodimethylamine	(1)	3.150	74	3191	0.080
5) Pyridine	(1)	3.267	79	5525M	0.082
7) 2-Picoline	(1)	4.305	93	8756	0.124
8) N-Nitrosomethylethylamine	(1)	4.460	88	3360M	0.117
9) Methyl methanesulfonate	(1)	4.909	80	4252M	0.125
11) $2-Fluorophenol	(1)	5.097	112	13190	0.247
13) N-Nitrosodiethylamine	(1)	5.466	102	3193	0.118
15) Ethyl methanesulfonate	(1)	5.926	109	3485	0.125
16) Benzaldehyde	(1)	6.396	77	7019	0.133
17) $Phenol-d6	(1)	6.493	99	18233	0.248
18) Phenol	(1)	6.509	94	10881	0.138
19) Aniline	(1)	6.551	93	10931	0.110
20) a-methylstyrene	(1)	6.626	118	7405	0.134
22) bis(2-Chloroethyl)ether	(1)	6.675	93	8250	0.135
23) 2-Chlorophenol	(1)	6.712	128	6325	0.126
24) 1,3-Dichlorobenzene	(1)	6.953	146	7428	0.133
25) *1,4-Dichlorobenzene-d4	(1)	7.044	152	179452	5.000
26) 1,4-Dichlorobenzene	(1)	7.076	146	7815	0.137
27) Benzyl alcohol	(1)	7.263	108	5005	0.132
28) 1,2-Dichlorobenzene	(1)	7.290	146	5927	0.110
30) Indene	(1)	7.429	115	12364	0.130
31) 2-Methylphenol	(1)	7.434	108	6548	0.124
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.482	45	11798	0.137
34) bis(2-Chloroisopropyl)ether	(1)	7.482	45	11798	0.137
35) N-Nitrosopyrrolidine	(1)	7.648	100	3168	0.112
42) Total Cresols	(1)			13485	0.249
37) 4-Methylphenol	(1)	7.675	108	6937	0.126
36) Acetophenone	(1)	7.675	105	12054	0.146
38) N-Nitroso-di-n-propylamine	(1)	7.685	70	5469	0.114
39) N-Nitrosomorpholine	(1)	7.712	56	4595	0.125
40) o-Toluidine	(1)	7.723	106	11157	0.120
43) Hexachloroethane	(1)	7.814	117	3187	0.135
44) $Nitrobenzene-d5	(2)	7.899	82	16747	0.239
45) Nitrobenzene	(2)	7.931	77	7953	0.115
48) N-Nitrosopiperidine	(2)	8.177	114	2949	0.111
50) Isophorone	(2)	8.317	82	14581	0.119
51) 2-Nitrophenol	(2)	8.424	139	2913	0.115
53) 2,4-Dimethylphenol	(2)	8.520	107	6321	0.109
56) Benzoic acid	(2)	8.573	105	8560M	1.826

M = Compound was manually integrated.
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on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.648	198	3112	0.123
55) bis(2-Chloroethoxy)methane	(2)	8.691	93	9553	0.129
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.787	104	11133	0.130
60) 2,4-Dichlorophenol	(2)	8.809	162	4882	0.119
62) 1,2,4-Trichlorobenzene	(2)	8.953	180	5882	0.125
65)*Naphthalene-d8	(2)	9.033	136	693100	5.000
67) 4-Chloroaniline	(2)	9.172	127	7665	0.125
68) 2,6-Dichlorophenol	(2)	9.172	162	5332	0.130
69) Hexachloropropene	(2)	9.215	213	3560	0.115
71) Hexachlorobutadiene	(2)	9.285	225	3428	0.128
75) Quinoline	(2)	9.611	129	11370	0.122
76) Caprolactam	(2)	9.702	113	1520	0.110
77) N-Nitrosodi-n-butylamine	(2)	9.750	84	5343	0.105
80) 4-Chloro-3-methylphenol	(2)	9.969	107	5679	0.116
82) Safrole	(2)	10.082	162	4218	0.112
85) Hexachlorocyclopentadiene	(3)	10.456	237	3390	0.117
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.467	216	6555	0.140
88) cis-Isosafrole	(3)	10.563	162	797	0.019
90) 2,4,6-Trichlorophenol	(3)	10.665	196	2753	0.093
92) 2,4,5-Trichlorophenol	(3)	10.713	196	3131	0.097
97) Isosafrole	(3)			5266	0.119
93)$2-Fluorobiphenyl	(3)	10.820	172	26590	0.245
94) trans-Isosafrole	(3)	10.932	162	4469	0.100
95) 1,1'-Biphenyl	(3)	10.975	154	15638	0.133
96) 2-Chloronaphthalene	(3)	10.991	162	11516	0.124
98) 1-Chloronaphthalene	(3)	11.023	162	13013	0.148
99) Diphenyl ether	(3)	11.162	170	7636	0.122
100) 2-Nitroaniline	(3)	11.167	138	2734	0.097
104) 1,4-Naphthoquinone	(3)	11.290	158	3659	0.099
105) 1,4-Dinitrobenzene	(3)	11.419	168	1487M	0.103
106) Dimethylphthalate	(3)	11.504	163	12349	0.123
107) 1,3-Dinitrobenzene	(3)	11.526	168	993	0.063
108) 2,6-Dinitrotoluene	(3)	11.585	165	2020	0.093
112) 3-Nitroaniline	(3)	11.815	138	2415	0.101
113)*Acenaphthene-d10	(3)	11.863	164	393118	5.000
120) 2,4_2,6-Dinitrotoluenes	(3)			4554	0.177
115) 2,4-Dinitrophenol	(3)	11.970	184	5647	0.393
116) 4-Nitrophenol	(3)	12.055	109	6423	0.349
117) Pentachlorobenzene	(3)	12.087	250	5025	0.137
118) 2,4-Dinitrotoluene	(3)	12.152	165	2534	0.084

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on 10/15/2015 at 18:49.
Target 3.5 esignature used: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sublist used: mdlall1

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
119) Dibenzofuran	(3)	12.152	168	15921	0.124
121) 1-Naphthylamine	(3)	12.253	143	10551	0.113
122) 2,3,4,6-Tetrachlorophenol	(3)	12.312	232	2257	0.094
123) 2-Naphthylamine	(3)	12.360	143	10924	0.120
124) Diethylphthalate	(3)	12.488	149	11394	0.116
125) Thionazin	(3)	12.579	107	2116	0.111
129) 4-Nitroaniline	(3)	12.606	138	2382	0.098
127) 4-Chlorophenyl-phenylether	(3)	12.606	204	5629	0.117
128) 5-Nitro-o-toluidine	(3)	12.611	152	2659	0.096
130) 4,6-Dinitro-2-methylphenol	(4)	12.654	198	5871	0.324
132) NDPA as diphenylamine	(4)	12.756	169	10095	0.123
131) N-Nitrosodiphenylamine	(4)	12.756	169	10095	0.123
134) 1,2-Diphenylhydrazine	(4)	12.804	77	14466	0.117
135)$2,4,6-Tribromophenol	(3)	12.884	330	2090	0.184
137) Tetraethyldithiopyrophosphate	(4)	12.986	97	2617	0.133
146) Diallate trans/cis	(4)			5907	0.110
139) 1,3,5-Trinitrobenzene	(4)	13.088	213	733M	0.069
140) Diallate (peak 1)	(4)	13.130	86	4814	0.089
141) Phorate	(4)	13.141	75	7827	0.101
142) Phenacetin	(4)	13.152	108	5343	0.094
143) 4-Bromophenyl-phenylether	(4)	13.227	248	3013	0.121
144) Diallate (peak 2)	(4)	13.243	86	1093M	0.021
147) Dimethoate	(4)	13.350	87	4619	0.091
148) Atrazine	(4)	13.451	200	3101	0.115
149) Pentachlorophenol	(4)	13.537	266	1650	0.097
151) Pentachloronitrobenzene	(4)	13.548	237	1199	0.096
150) 4-Aminobiphenyl	(4)	13.558	169	10592	0.113
152) Pronamide	(4)	13.649	173	4061	0.094
153)*Phenanthrene-d10	(4)	13.794	188	702223	5.000
154) Dinoseb	(4)	13.799	211	1507	0.813
163) Carbazole	(4)	14.120	167	15537	0.116
164) Methyl parathion	(4)	14.328	109	2960	0.080
165) Di-n-butylphthalate	(4)	14.639	149	18274	0.112
167) Parathion	(4)	14.890	109	1839M	0.084
168) 4-Nitroquinoline-1-oxide	(4)	14.917	190	757	0.048
169) Octachlorostyrene	(4)	15.248	308	1120	0.122
171) Isodrin	(4)	15.313	193	2528M	0.148
174) Benzidine	(5)	15.778	184	87587	0.847
175)*Pyrene-d10	(5)	15.874	212	791744	5.000
179)$Terphenyl-d14	(5)	16.184	244	25287	0.241

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Target 3.5 esignature used. Page 0697

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sublist used: mdlall1

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

	Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182)	p-Dimethylaminoazobenzene	(5)	16.430	225	2686	0.097
185)	Chlorobenzilate	(5)	16.505	139	5267	0.107
187)	3,3'-Dimethylbenzidine	(5)	17.008	212	9649	0.093
188)	Butylbenzylphthalate	(5)	17.056	149	6663	0.093
191)	2-Acetylaminofluorene	(5)	17.431	181	4749	0.076
193)	3,3'-Dichlorobenzidine	(5)	17.955	252	5753	0.104
198)	4,4'-Methylenebis(2-chloroanil	(5)	17.976	231	3207	0.100
199)	bis(2-Ethylhexyl)phthalate	(5)	18.137	149	8939	0.087
203)	6-Methylchrysene	(5)	18.843	242	11168	0.113
205)	Di-n-octylphthalate	(6)	19.319	149	13584	0.078
207)	7,12-Dimethylbenz[a]anthracene	(6)	19.859	256	5984	0.099
213)	*Perylene-d12	(6)	20.495	264	568489	5.000
215)	3-Methylcholanthrene	(6)	20.971	268	6893	0.113
217)	Dibenz(a,h)acridine	(6)	21.811	279	11656	0.104
218)	Dibenz(a,j)acridine	(6)	21.886	279	11724	0.104

* = Compound is an internal standard.

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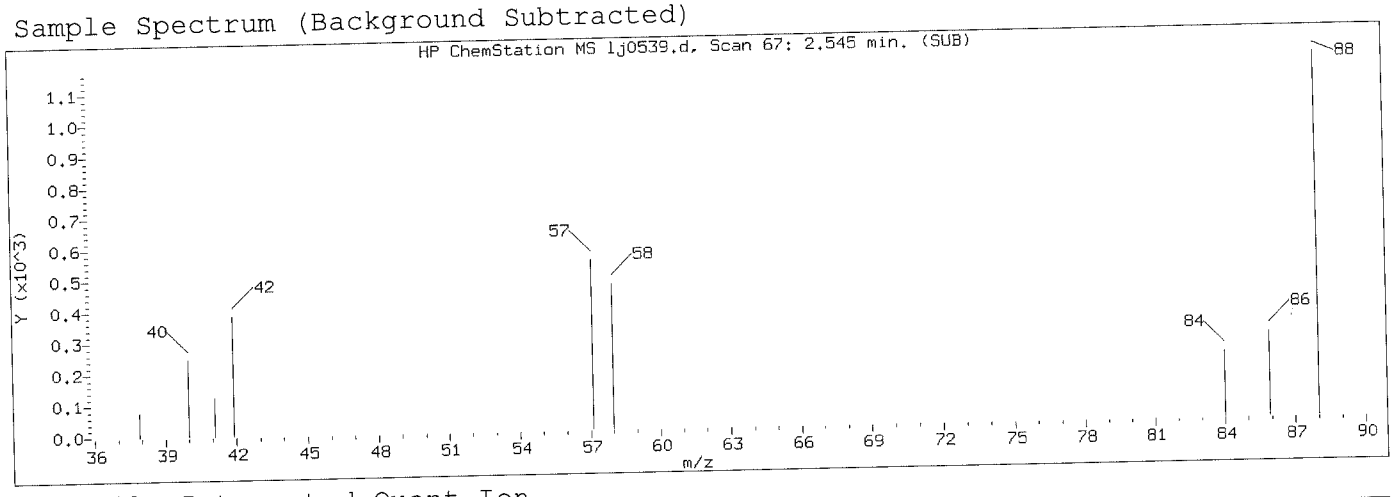
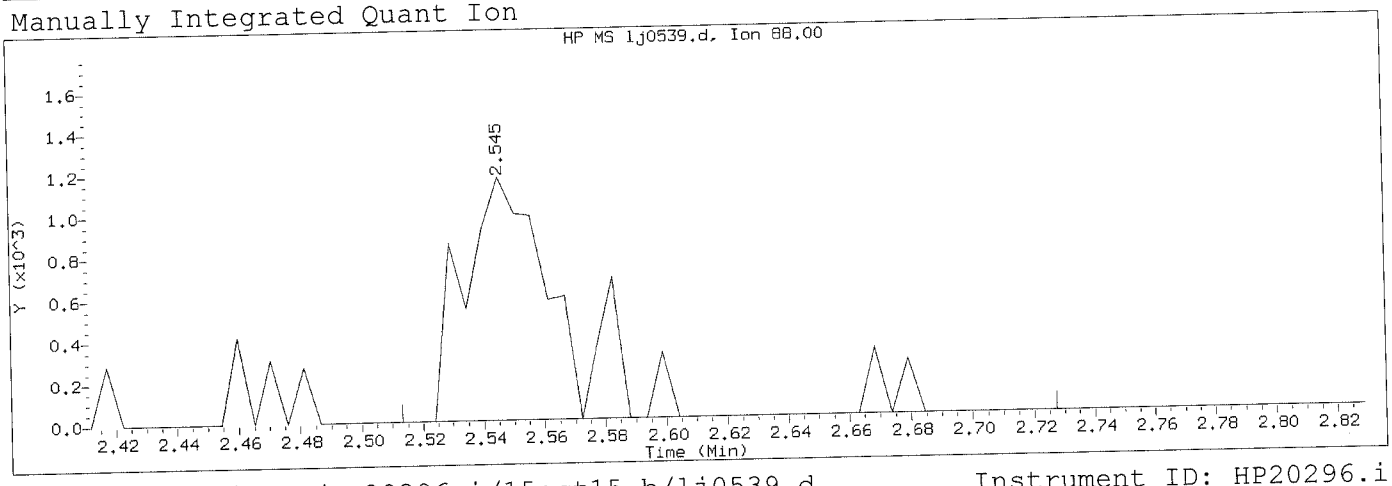
on 10/15/2015 at 18:49.
Target 3.5 esignature used: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 67		
Retention Time (minutes)	: 2.545		
Quant Ion	: 88.00		
Area (flag)	: 2748M		
On-Column Amount (ng/ul)	: 0.1086		
Integration start scan	: 60	Integration stop scan:	100
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

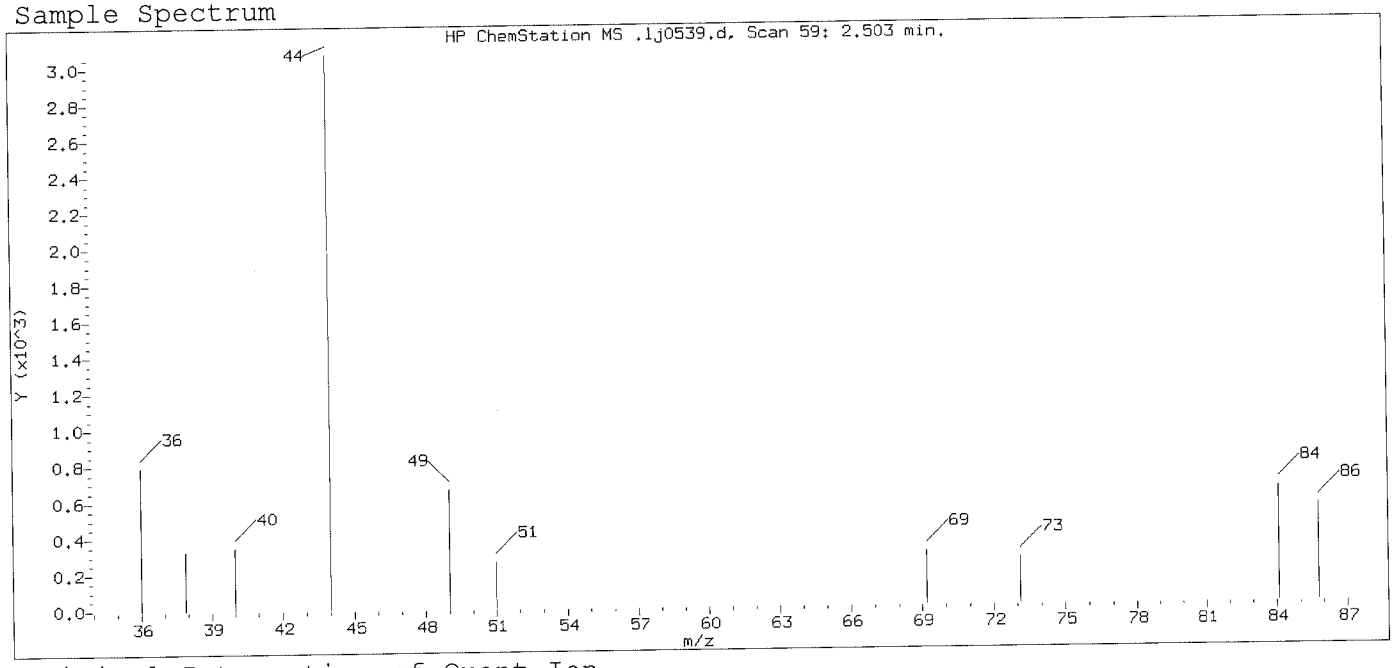
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 signature user ID: ceb05247

OCT 16 2015

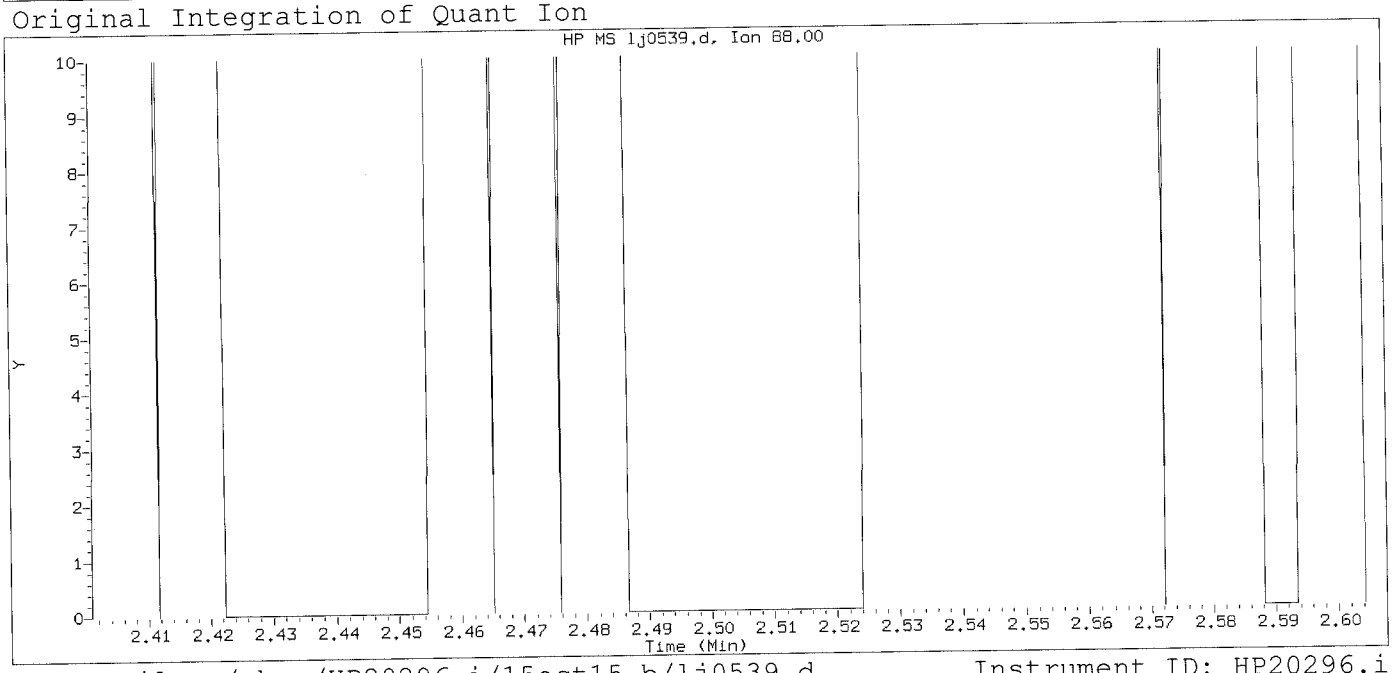
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

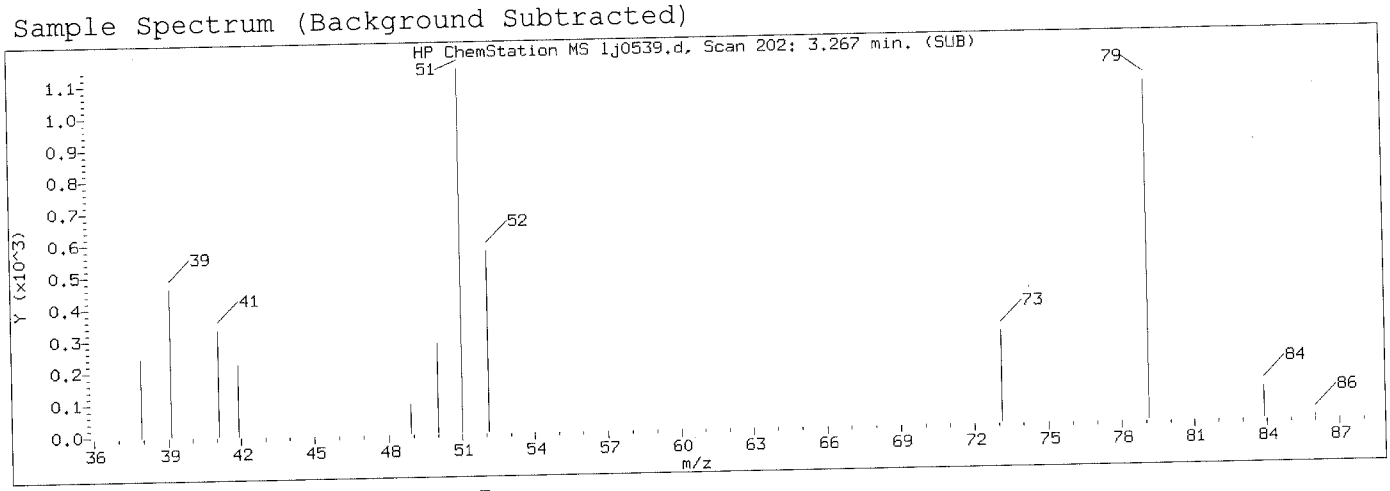
Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

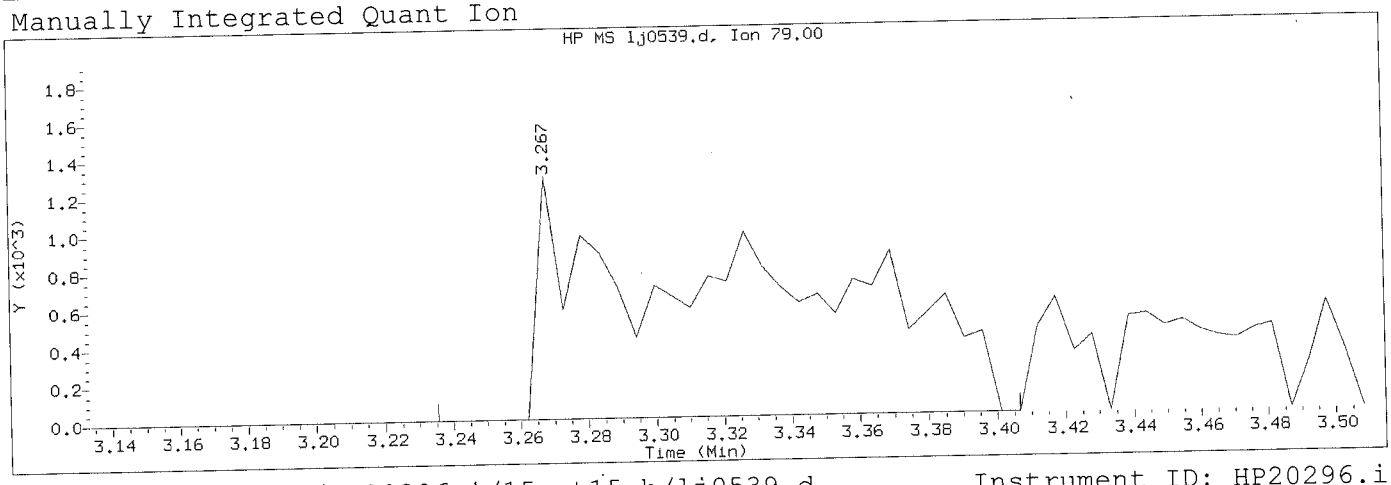
Compound Number : 1
Compound Name : 1,4-Dioxane
Expected RT (minutes) : 2.503
Quant Ion : 88.00

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature used. Certificate

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 202		
Retention Time (minutes)	: 3.267		
Quant Ion	: 79.00		
Area (flag)	: 5525M		
On-Column Amount (ng/ul)	: 0.0818		
Integration start scan	: 195	Integration stop scan:	227
Y at integration start	: 0	Y at integration end:	0

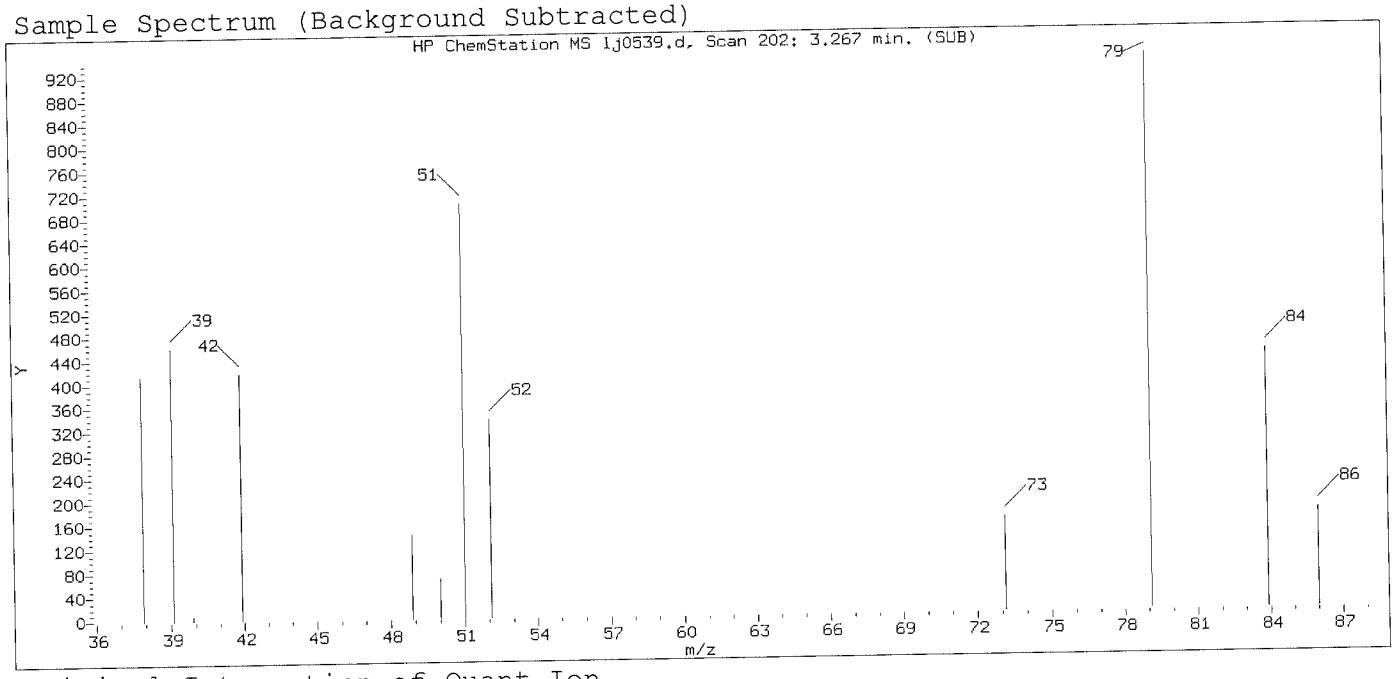
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 signature user ID: ceb05247

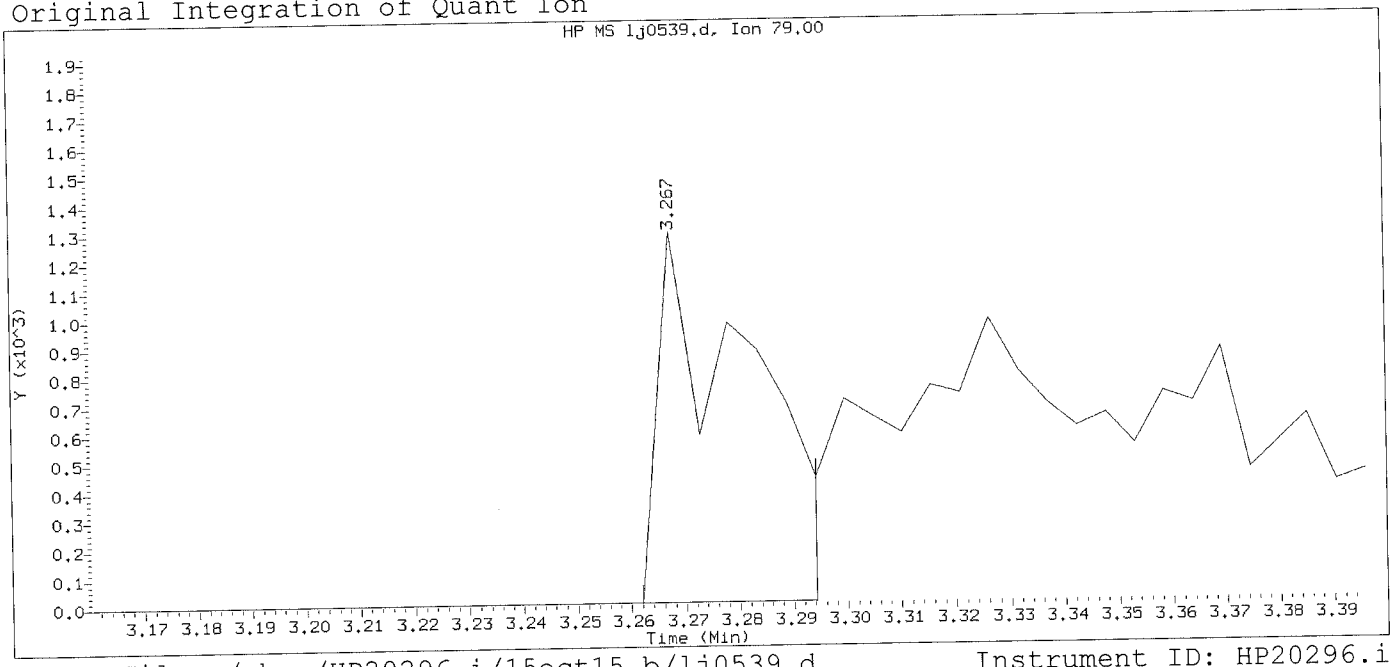
OCT 16 2015

GC/MS audit/management approval: Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

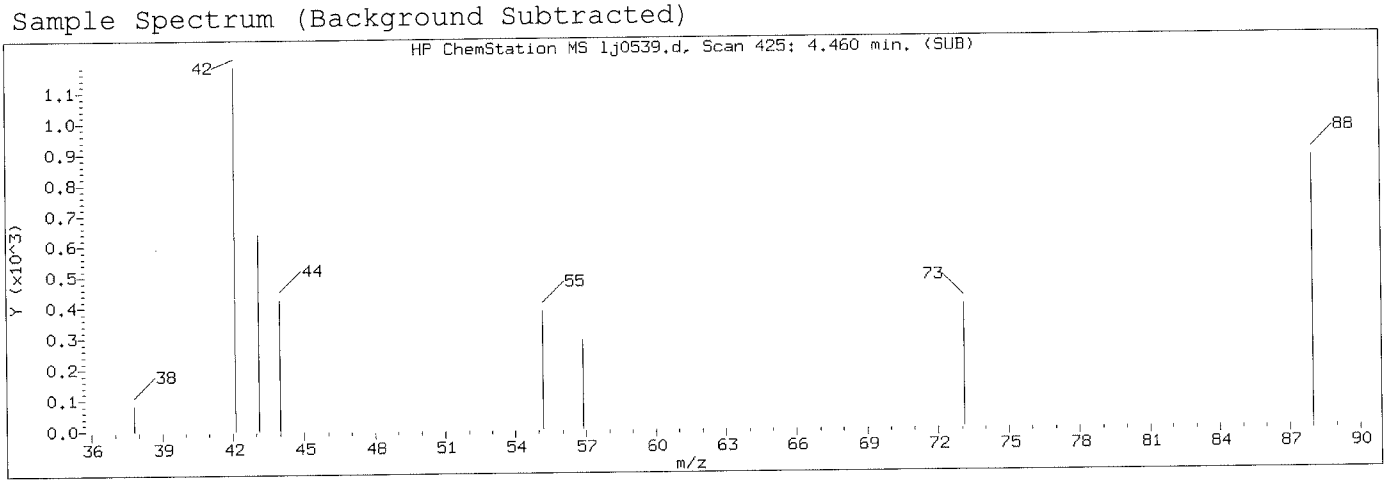
Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

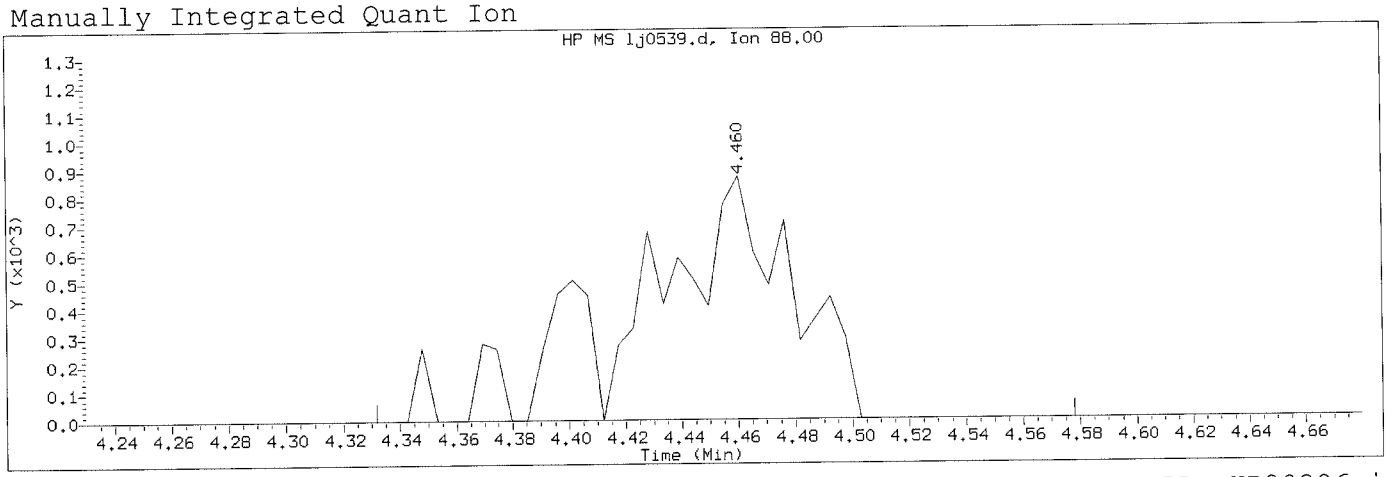
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 202		
Retention Time (minutes)	: 3.267		
Quant Ion	: 79.00		
Area	: 1489		
On-column Amount (ng/ul)	: 0.0237		
Integration start scan	: 200	Integration stop scan:	206
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: cebx247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 425		
Retention Time (minutes)	: 4.460		
Quant Ion	: 88.00		
Area (flag)	: 3360M		
On-Column Amount (ng/ul)	: 0.1165		
Integration start scan	: 400	Integration stop scan:	446
Y at integration start	: 0	Y at integration end:	0

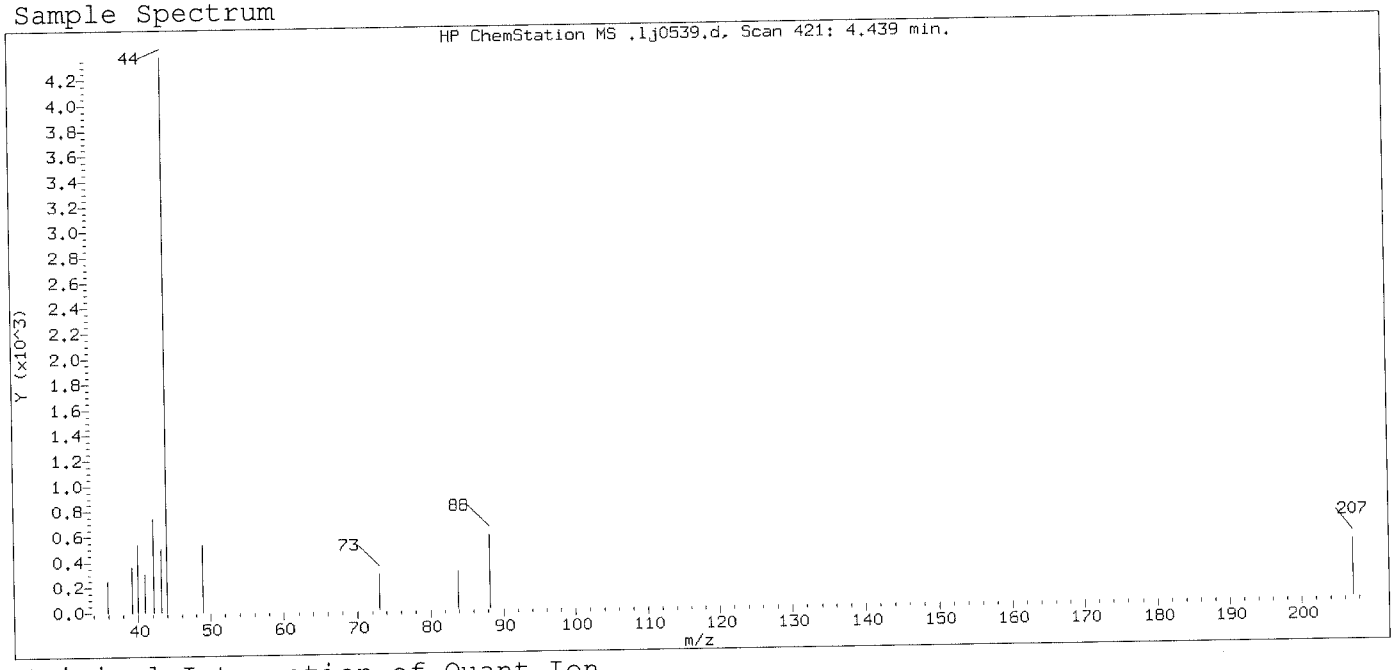
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 signature user ID: ceb05247

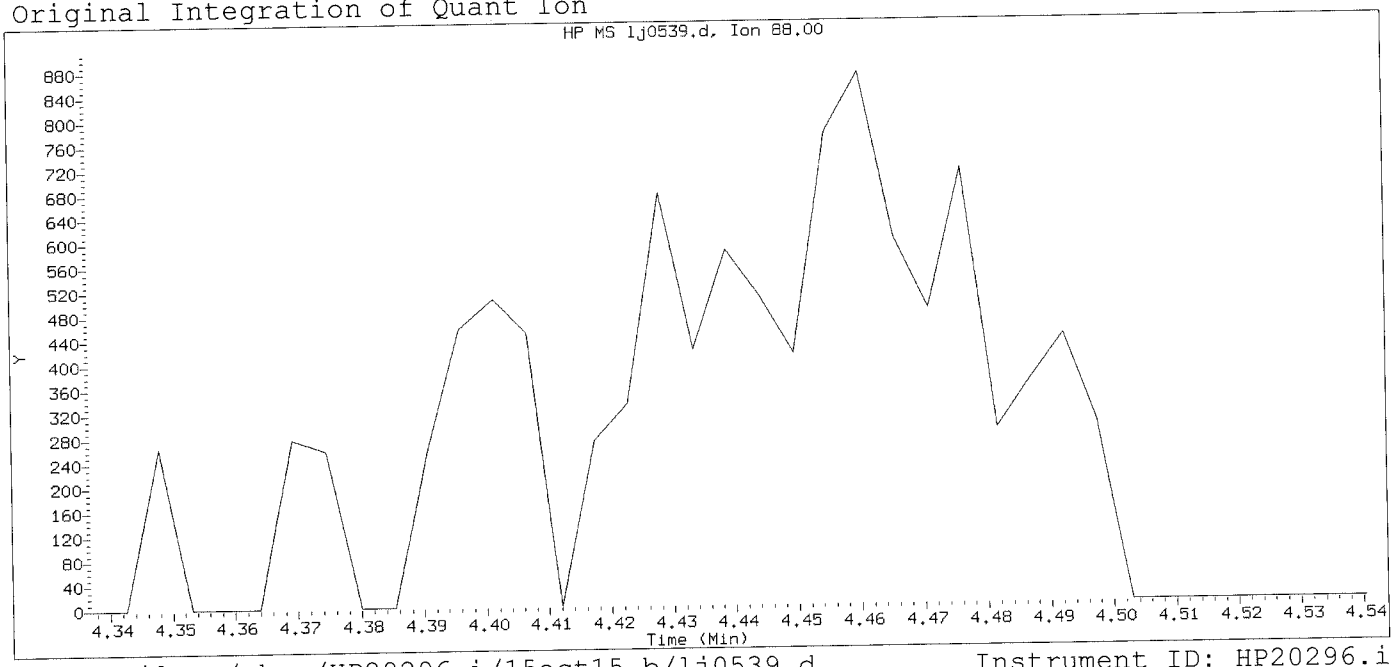
OCT 16 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Technical Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sublist used: mdlall1

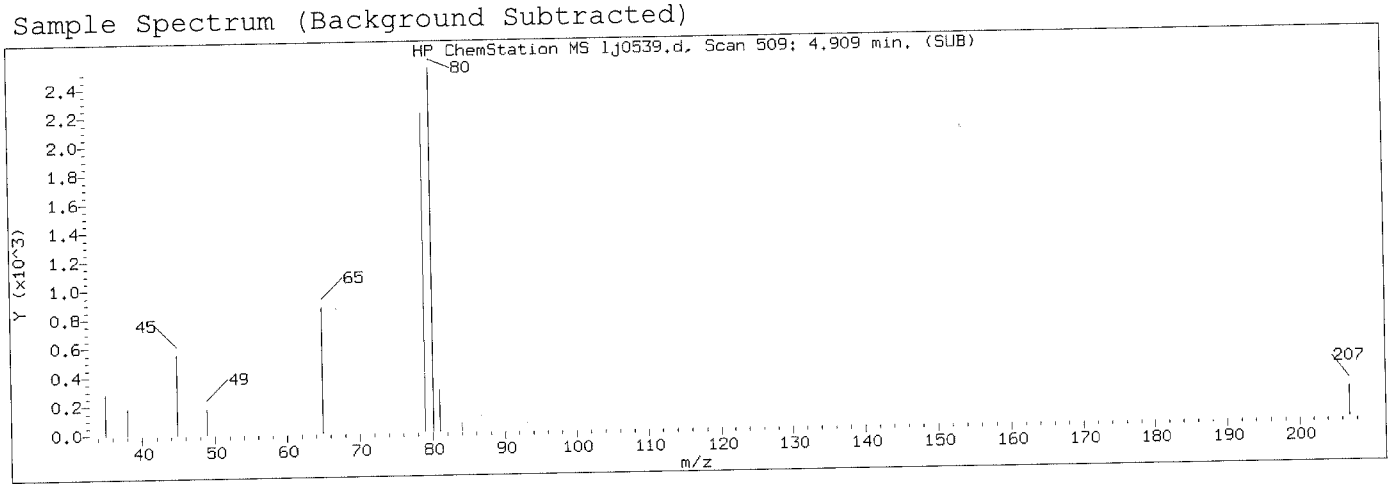
Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

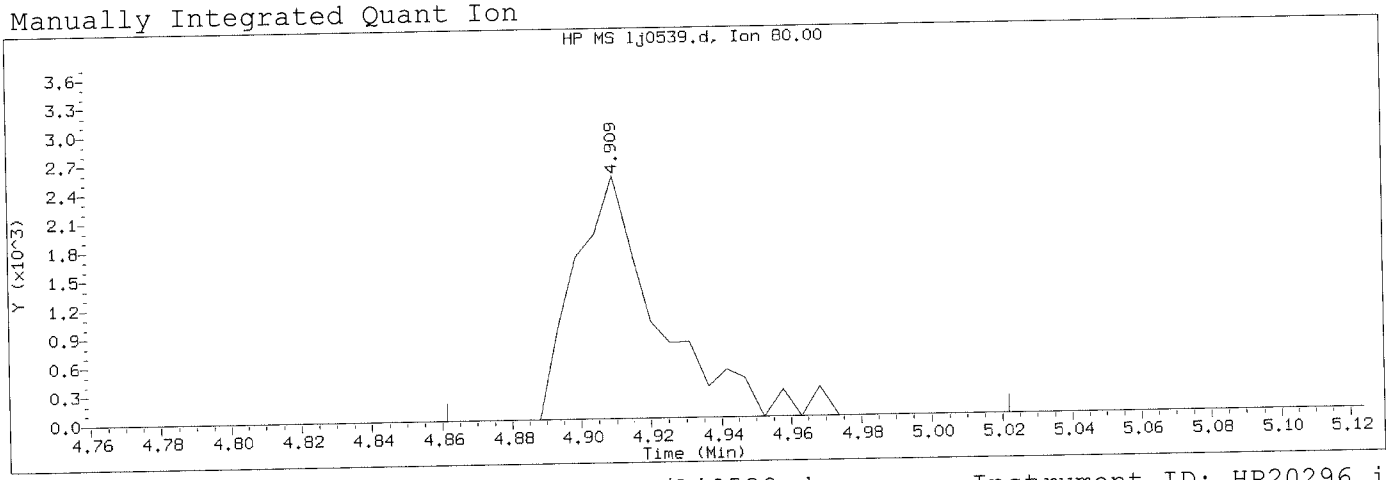
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.439
Quant Ion : 88.00

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 509		
Retention Time (minutes)	: 4.909		
Quant Ion	: 80.00		
Area (flag)	: 4252M		
On-Column Amount (ng/ul)	: 0.1249		
Integration start scan	: 499	Integration stop scan:	529
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

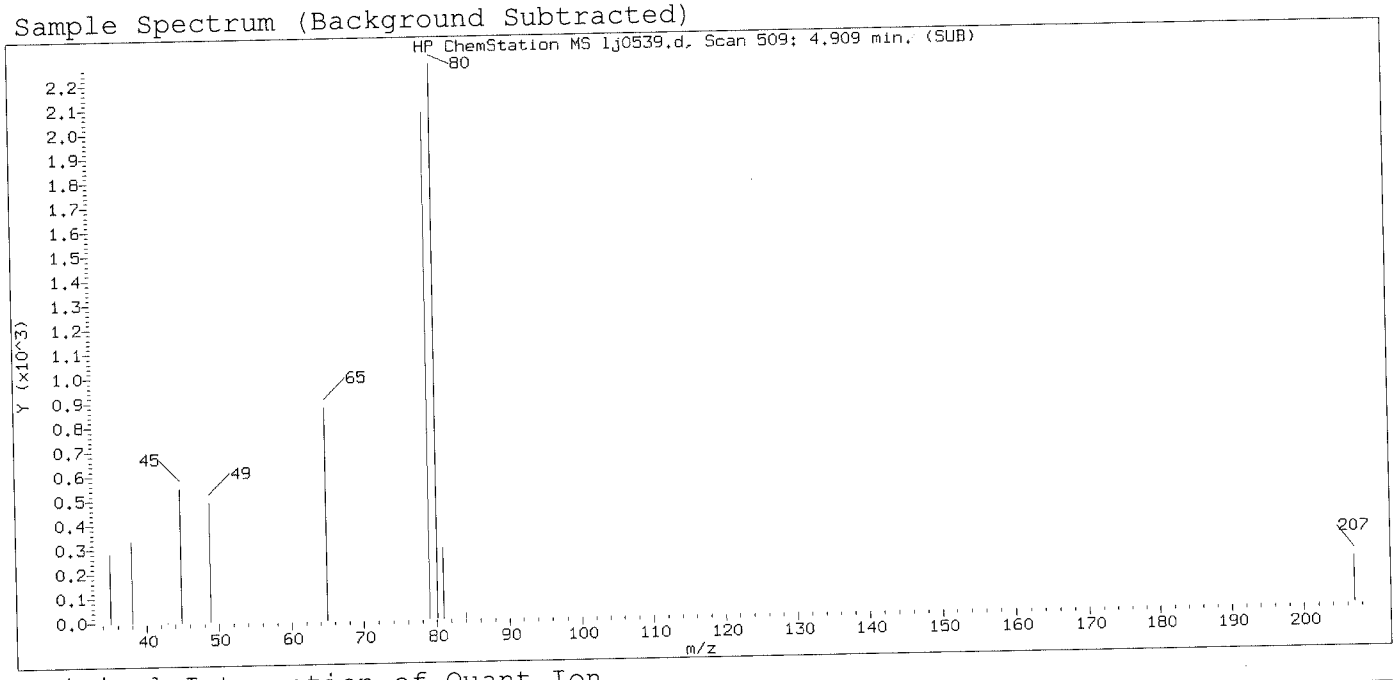
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 esignature user ID: ceb05247

OCT 16 2015

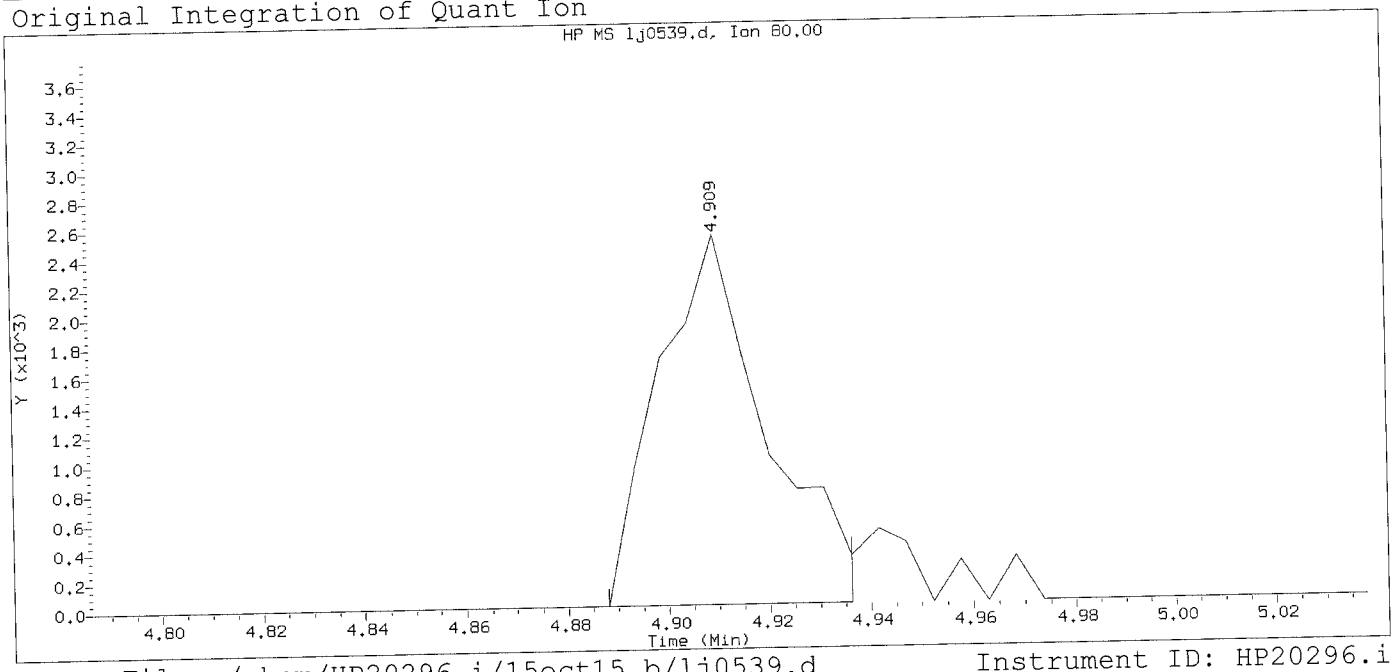
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sublist used: mdlall1

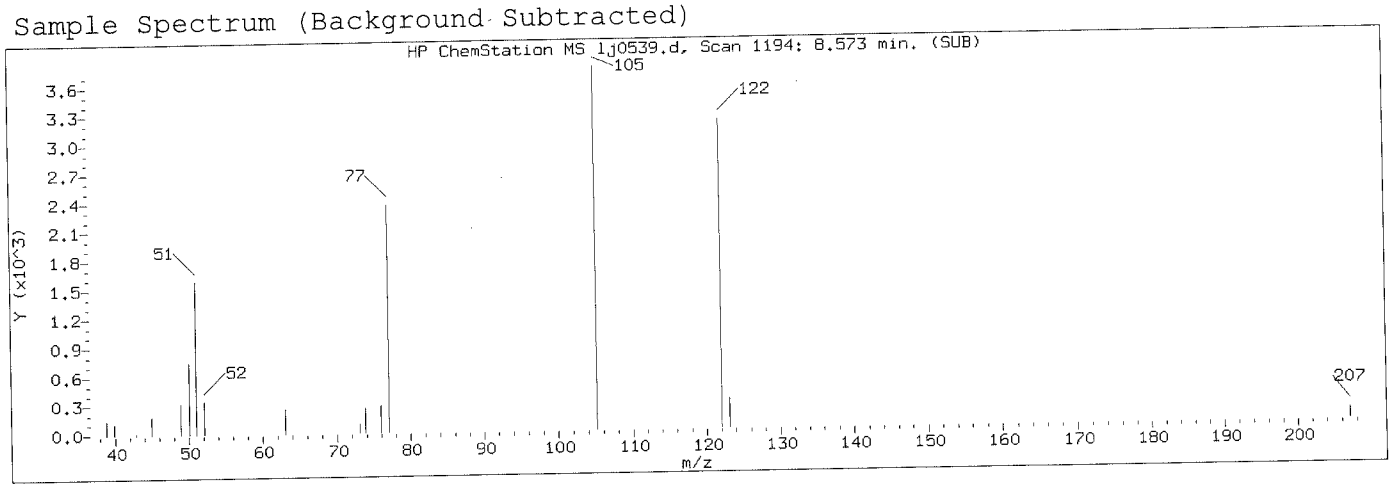
Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

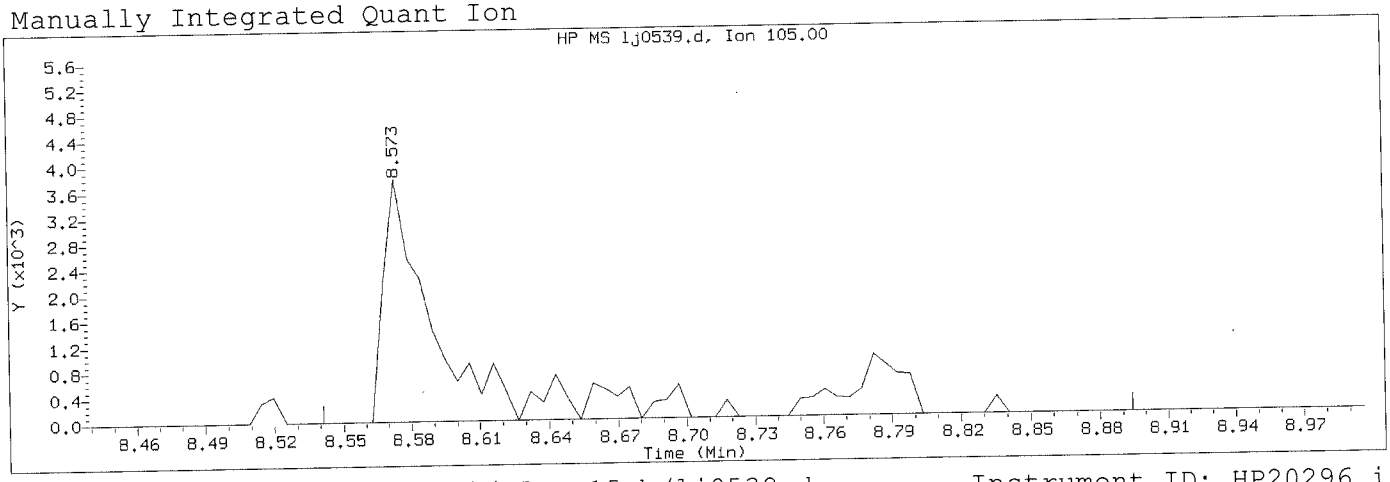
Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 509		
Retention Time (minutes)	: 4.909		
Quant Ion	: 80.00		
Area	: 3715		
On-column Amount (ng/ul)	: 0.1188		
Integration start scan	: 504	Integration stop scan:	513
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d
Injection date and time: 15-OCT-2015 17:19

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 17:16

Sublist used: mdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125

Lab Sample ID: RVMDL2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1194		
Retention Time (minutes)	: 8.573		
Quant Ion	: 105.00		
Area (flag)	: 8560M		
On-Column Amount (ng/ul)	: 1.8257		
Integration start scan	: 1187	Integration stop scan:	1253
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

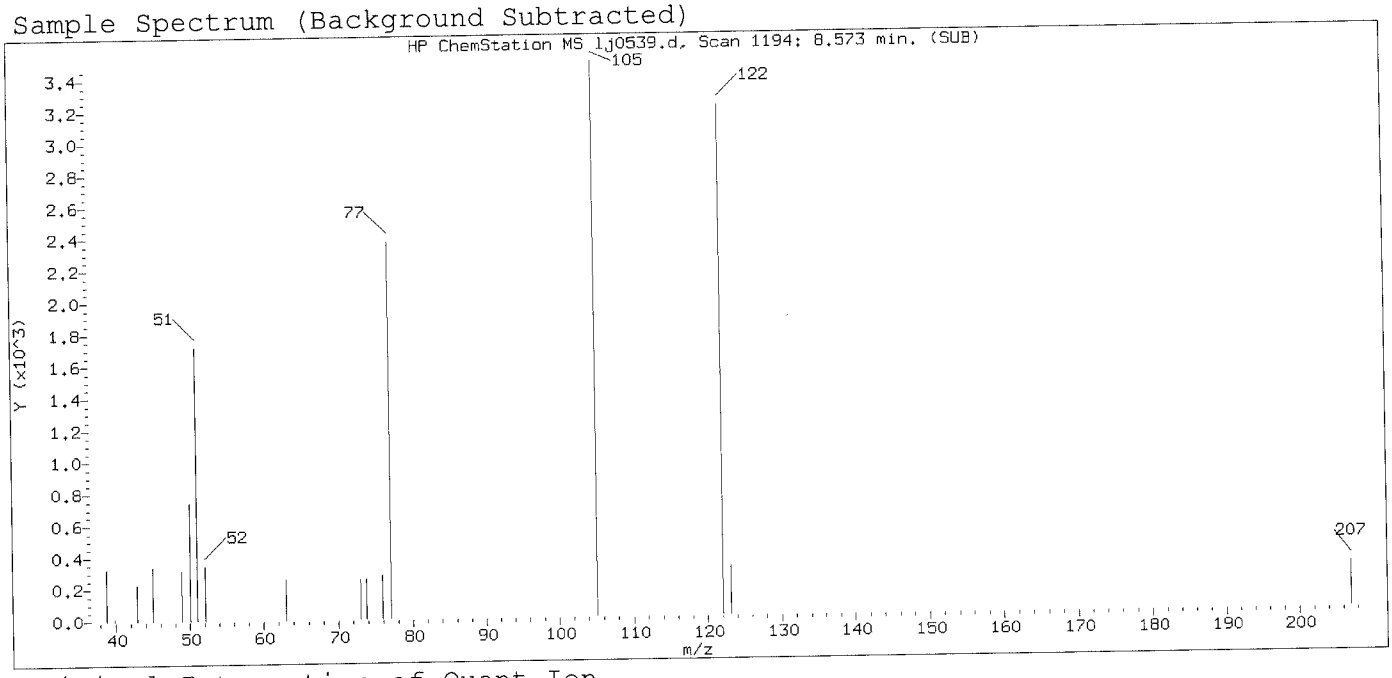
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 signature user ID: ceb05247

OCT 16 2015

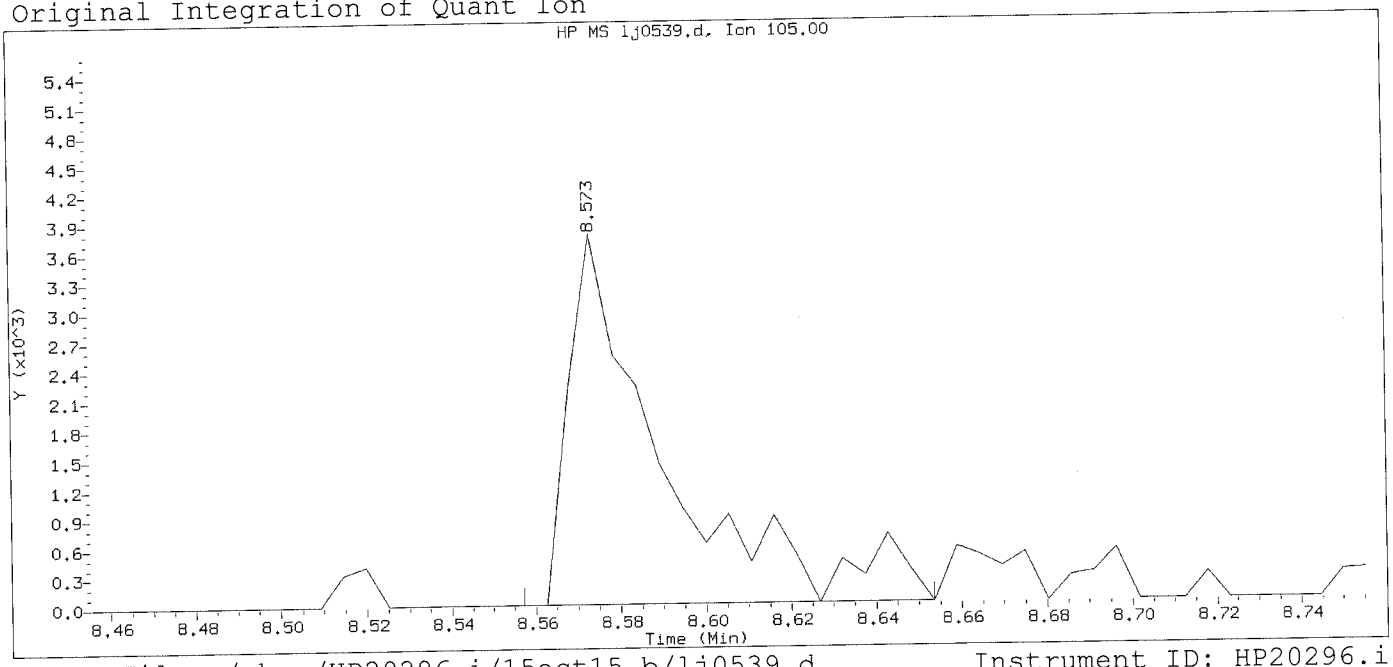
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

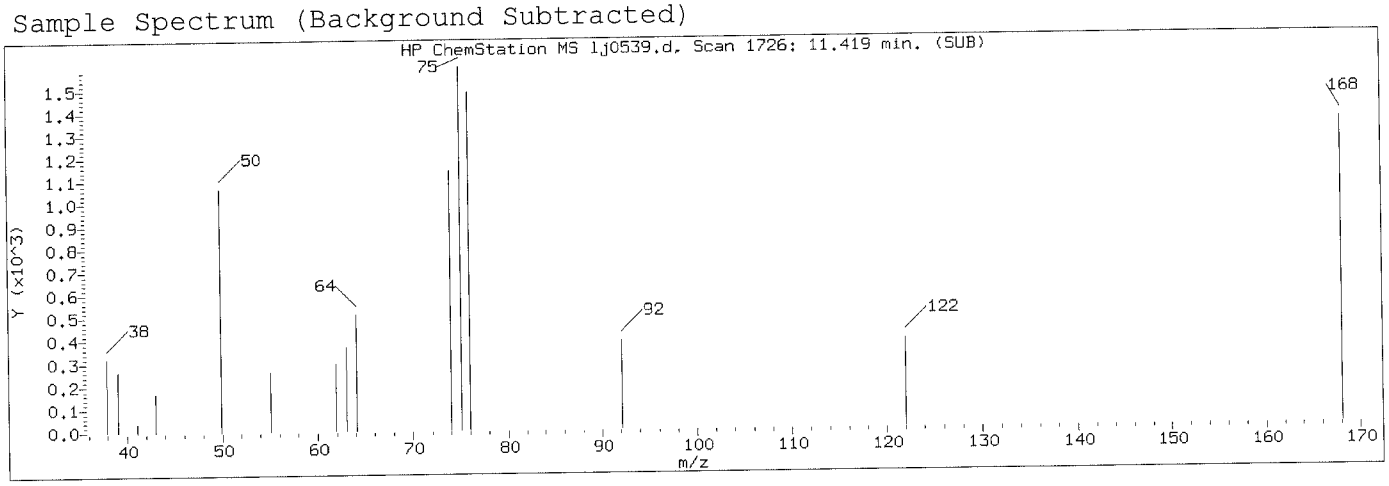
Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

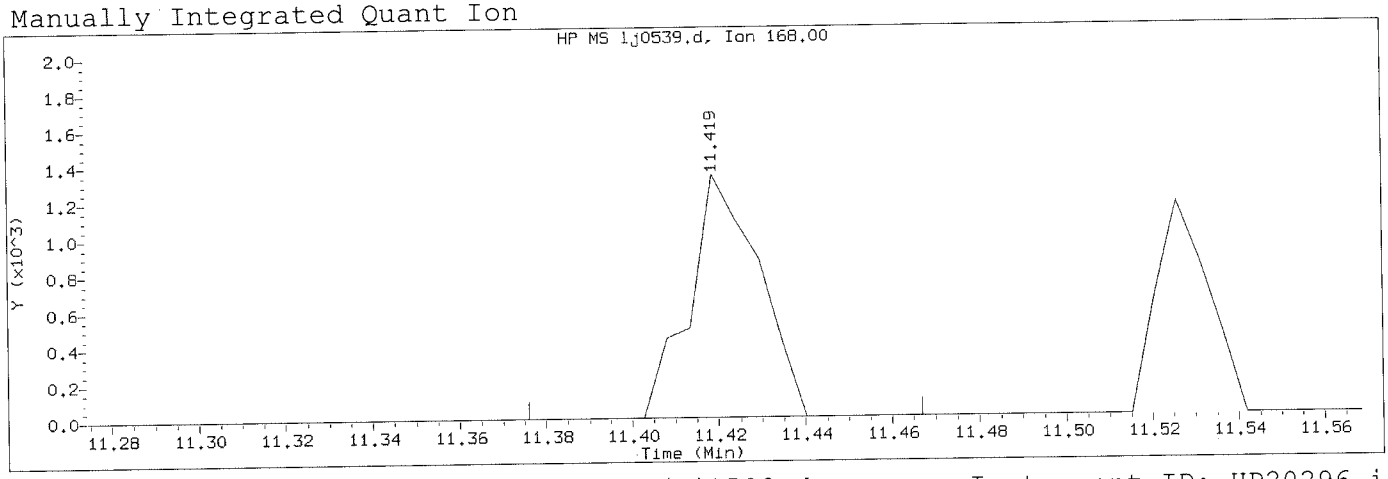
Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1194		
Retention Time (minutes)	: 8.573		
Quant Ion	: 105.00		
Area	: 5835		
On-column Amount (ng/ul)	: 2.0424		
Integration start scan	: 1190	Integration stop scan:	1208
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: cebach247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 105		
Compound Name	: 1,4-Dinitrobenzene		
Scan Number	: 1726		
Retention Time (minutes)	: 11.419		
Quant Ion	: 168.00		
Area (flag)	: 1487M		
On-Column Amount (ng/ul)	: 0.1032		
Integration start scan	: 1717	Integration stop scan:	1734
Y at integration start	: 0	Y at integration end:	0

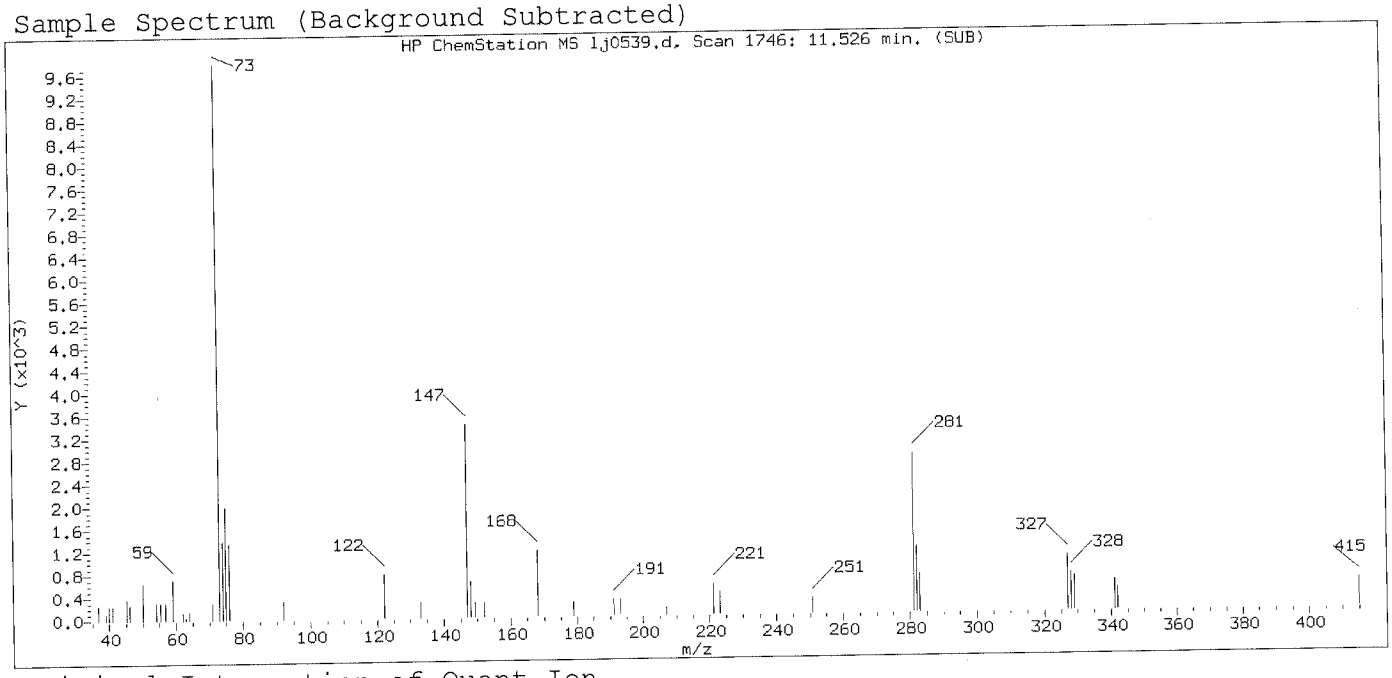
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 signature user ID: ceb05247

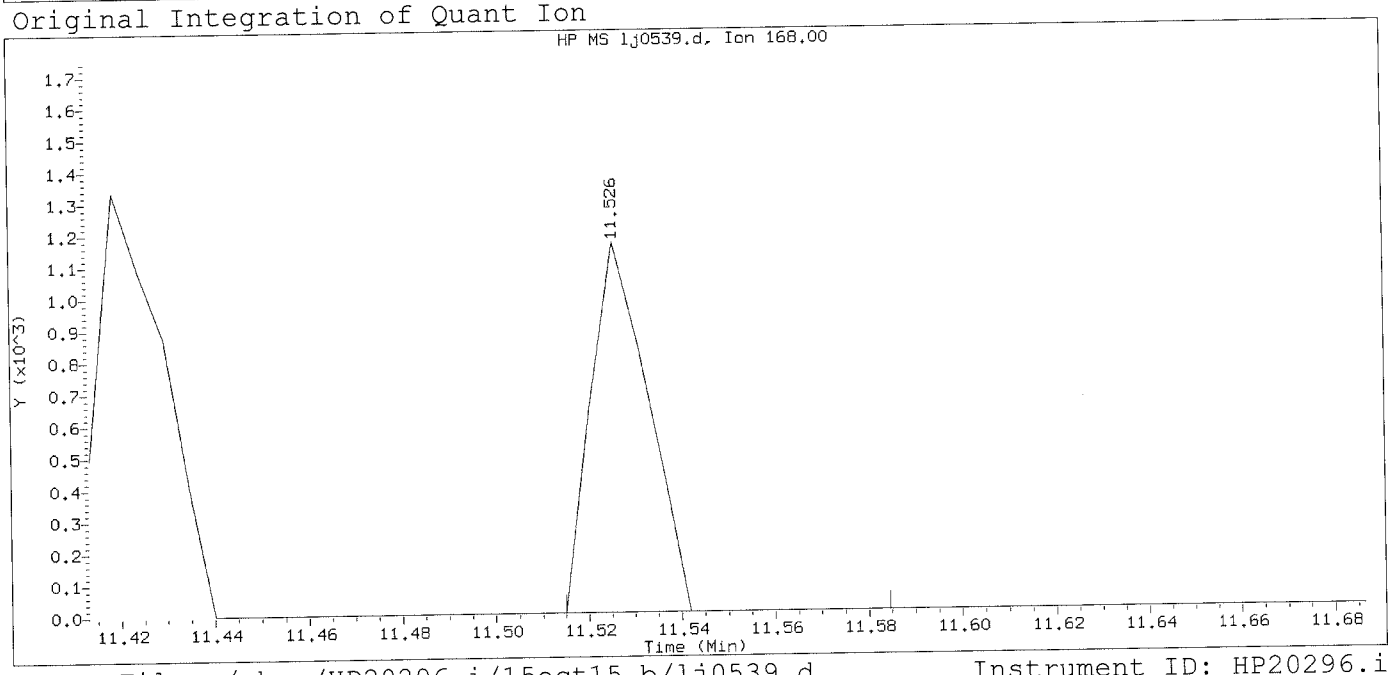
OCT 16 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

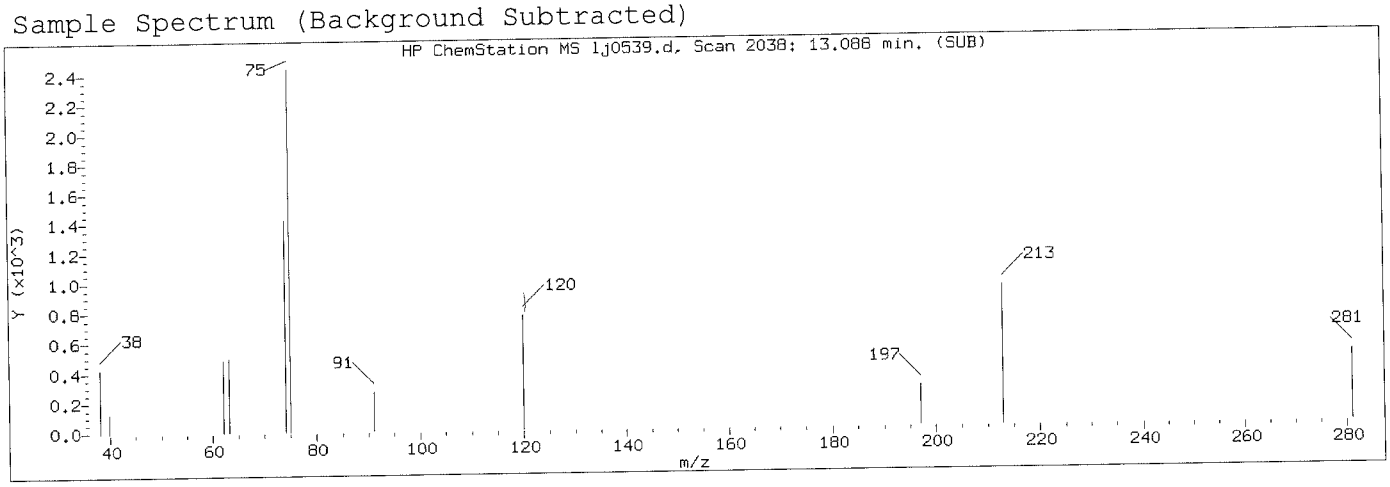
Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

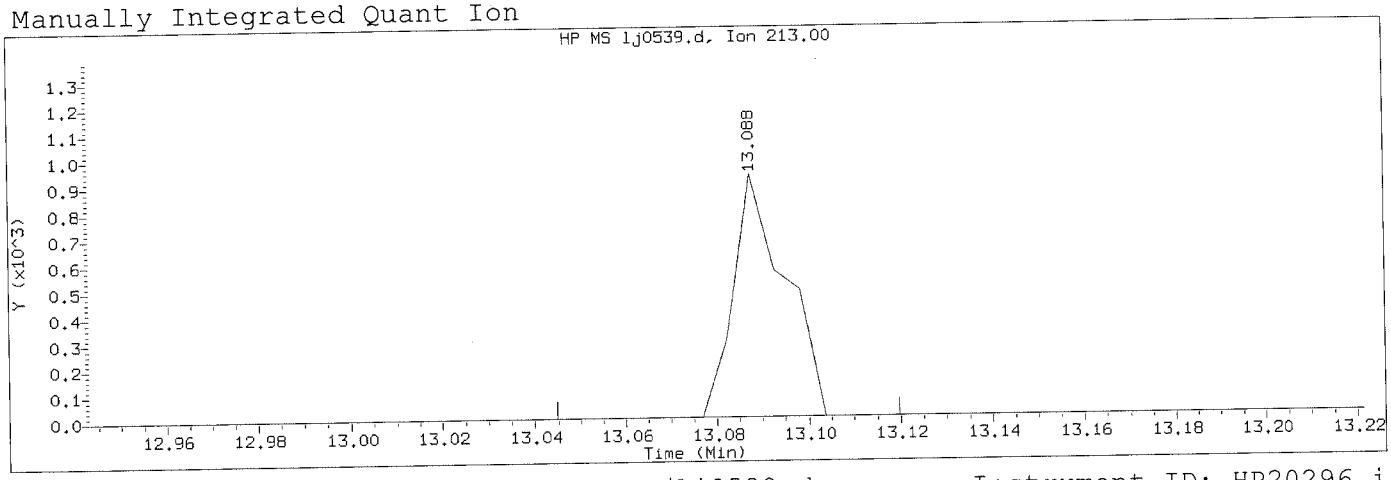
Compound Number	: 105		
Compound Name	: 1,4-Dinitrobenzene		
Scan Number	: 1746		
Retention Time (minutes)	: 11.526		
Quant Ion	: 168.00		
Area	: 993		
On-column Amount (ng/ul)	: 0.0681		
Integration start scan	: 1743	Integration stop scan:	1756
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 139		
Compound Name	: 1,3,5-Trinitrobenzene		
Scan Number	: 2038		
Retention Time (minutes)	: 13.088		
Quant Ion	: 213.00		
Area (flag)	: 733M		
On-Column Amount (ng/ul)	: 0.0690		
Integration start scan	: 2029	Integration stop scan:	2043
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

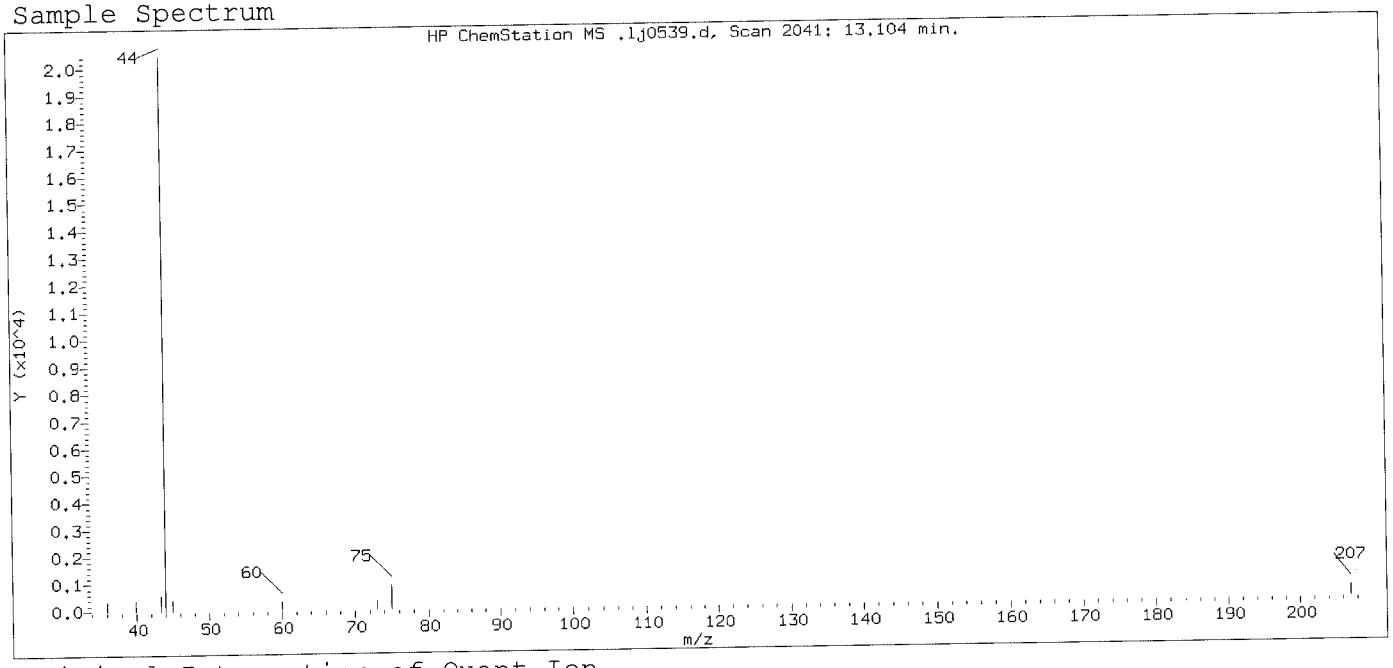
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 esignature user ID: ceb05247

OCT 16 2015

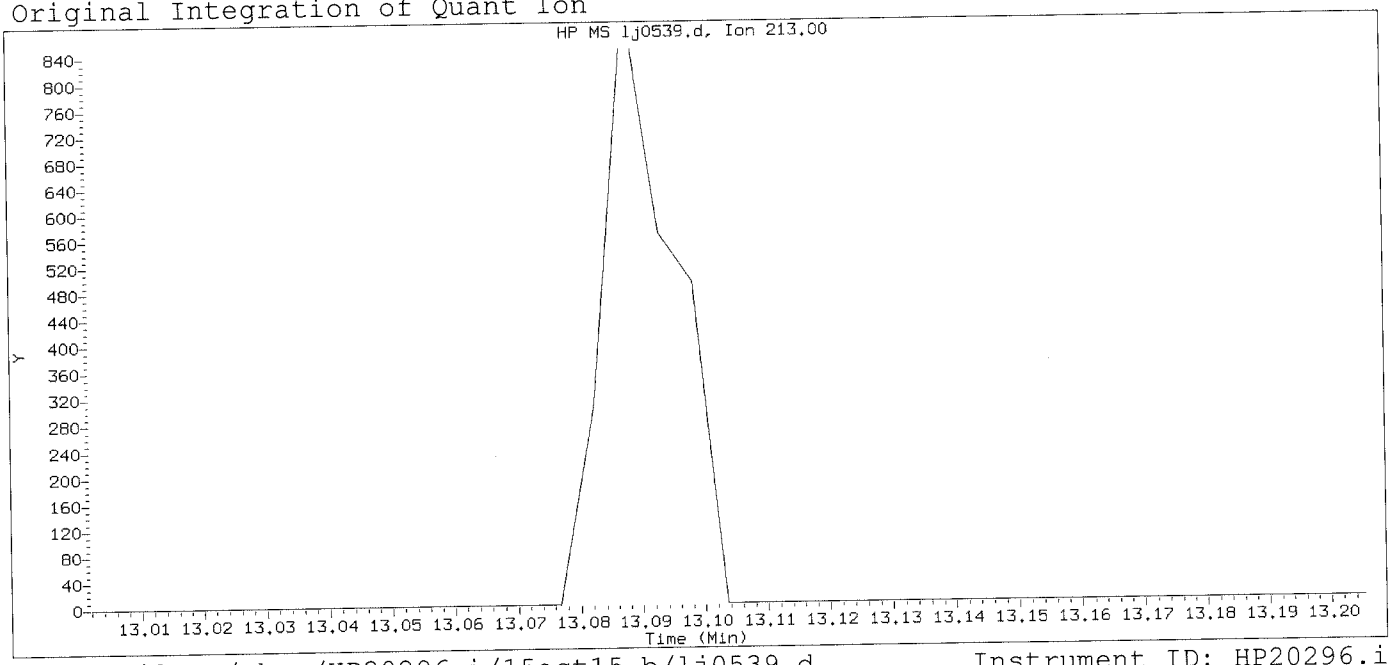
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

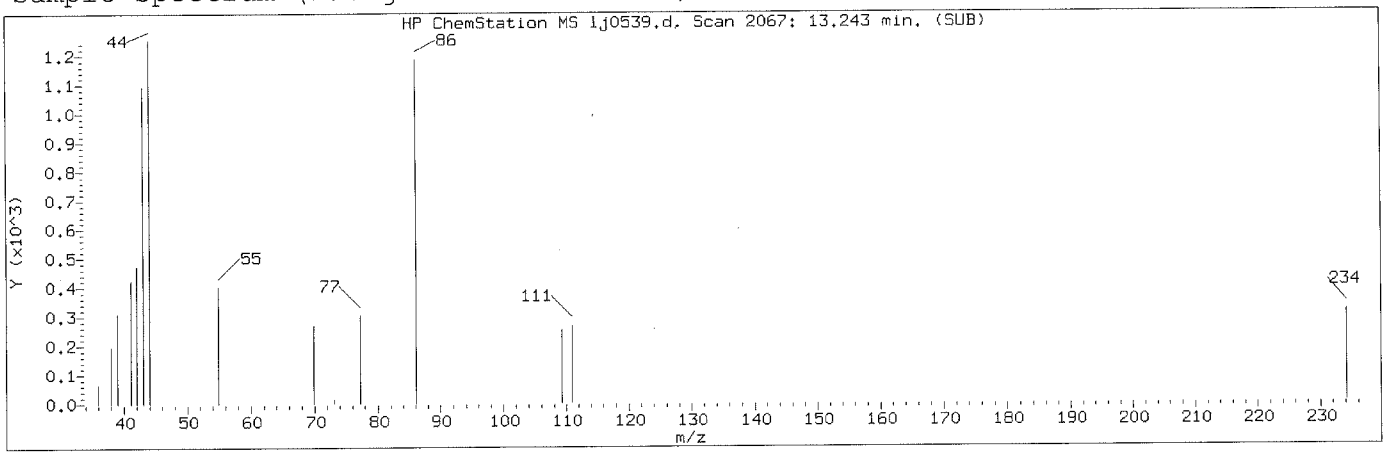
Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

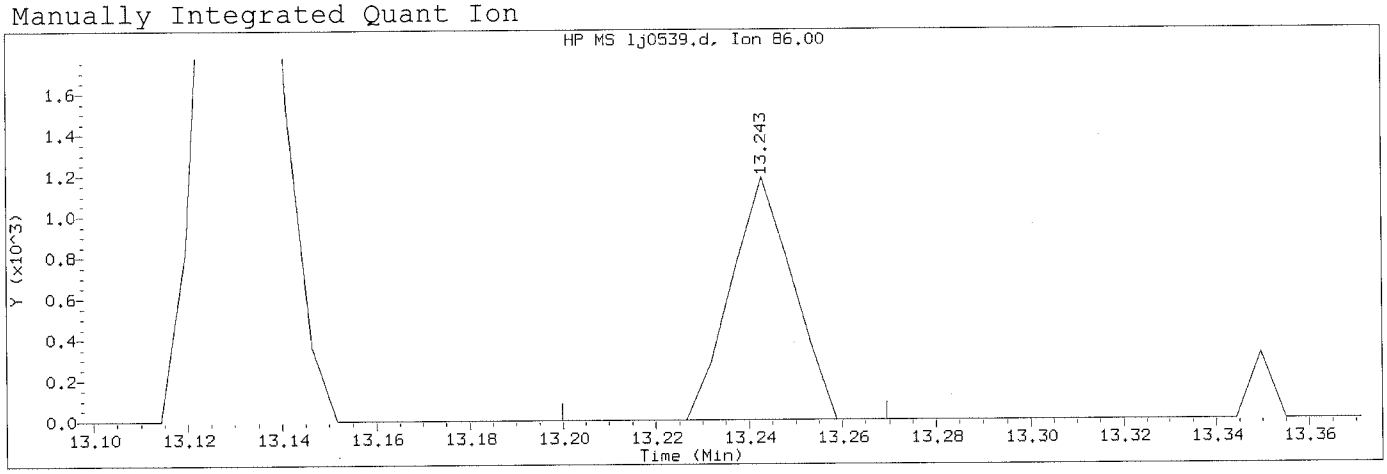
Compound Number : 139
Compound Name : 1,3,5-Trinitrobenzene
Expected RT (minutes) : 13.104
Quant Ion : 213.00

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 144		
Compound Name	: Diallate (peak 2)		
Scan Number	: 2067		
Retention Time (minutes)	: 13.243		
Quant Ion	: 86.00		
Area (flag)	: 1093M		
On-Column Amount (ng/ul)	: 0.0207		
Integration start scan	: 2058	Integration stop scan:	2071
Y at integration start	: 0	Y at integration end:	0

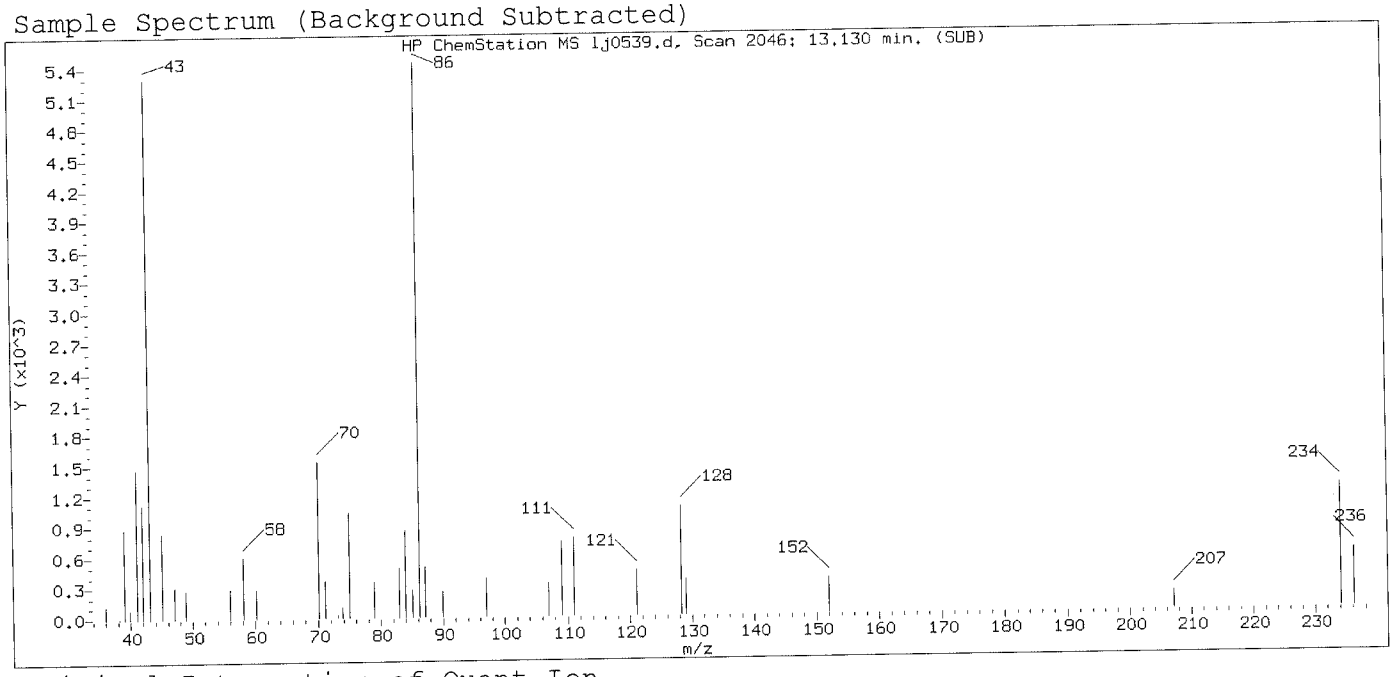
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 esignature user ID: ceb05247

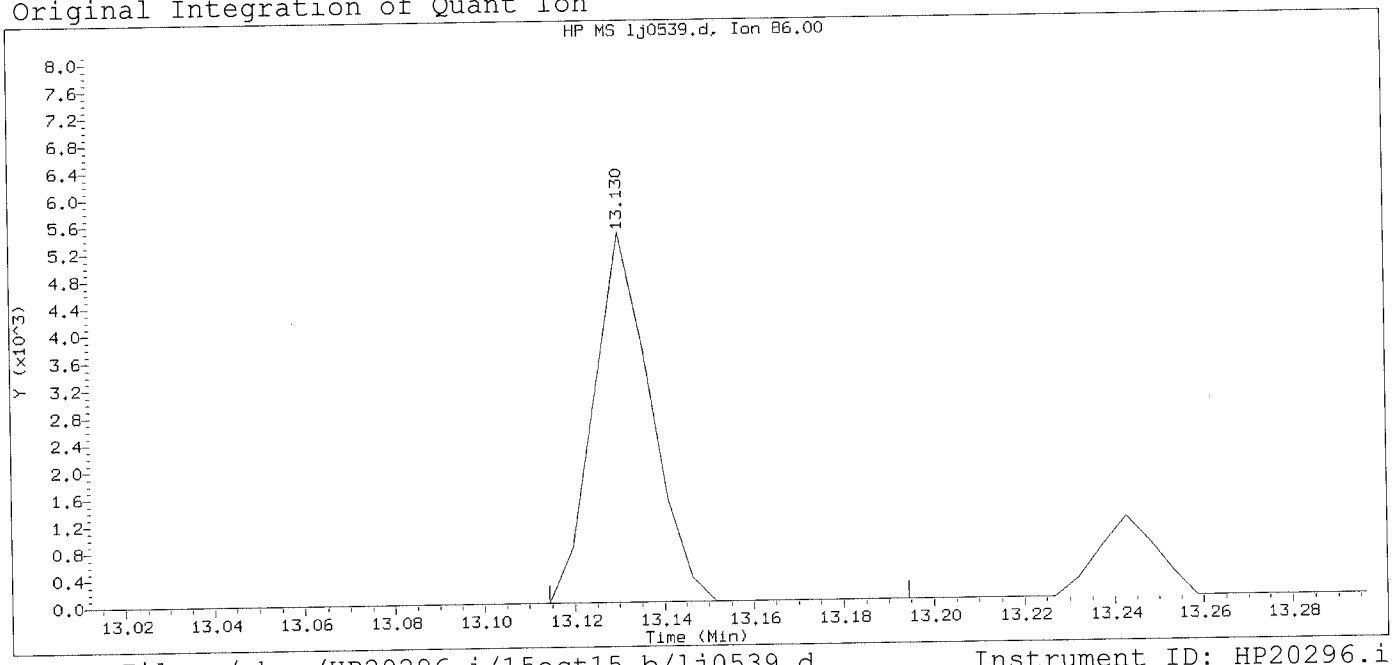
GC/MS audit/management approval: OCT 16 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 144		
Compound Name	: Diallate (peak 2)		
Scan Number	: 2046		
Retention Time (minutes)	: 13.130		
Quant Ion	: 86.00		
Area	: 4814		
On-column Amount (ng/ul)	: 0.1028		
Integration start scan	: 2042	Integration stop scan:	2057
Y at integration start	: 0	Y at integration end:	0

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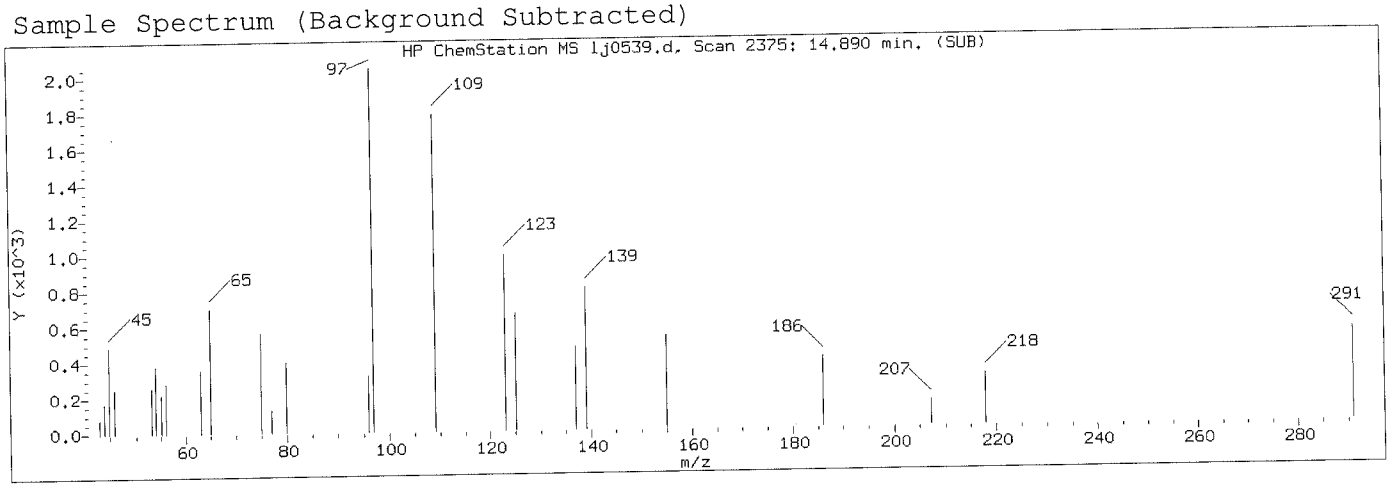
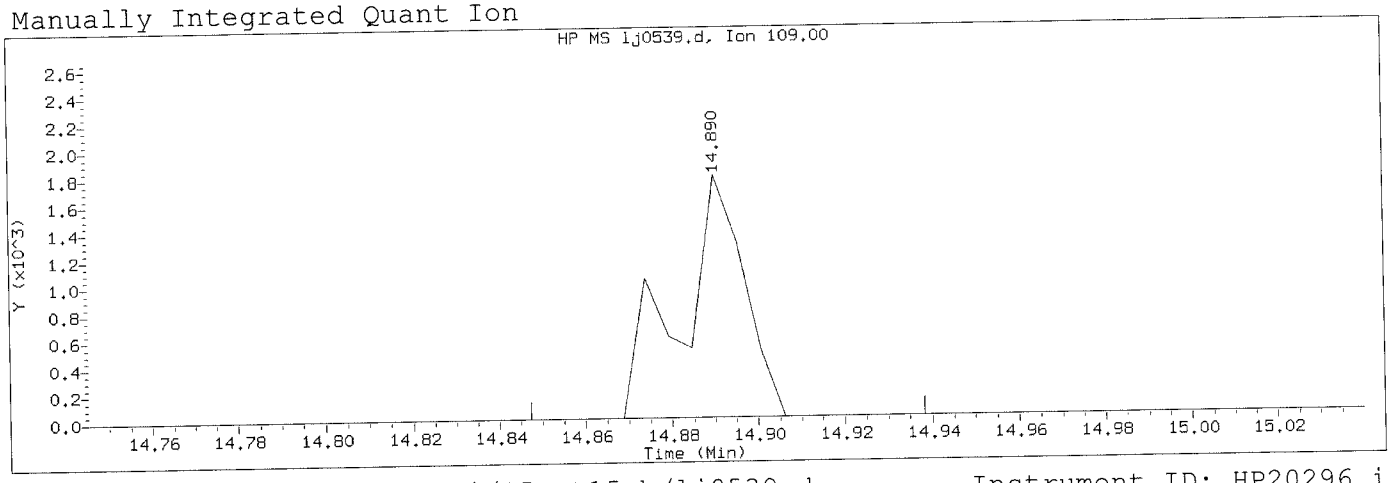
Target 3.5 esignature user ID: ceb0524

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 167		
Compound Name	: Parathion		
Scan Number	: 2375		
Retention Time (minutes)	: 14.890		
Quant Ion	: 109.00		
Area (flag)	: 1839M		
On-Column Amount (ng/ul)	: 0.0837		
Integration start scan	: 2366	Integration stop scan:	2383
Y at integration start	: 0	Y at integration end:	0

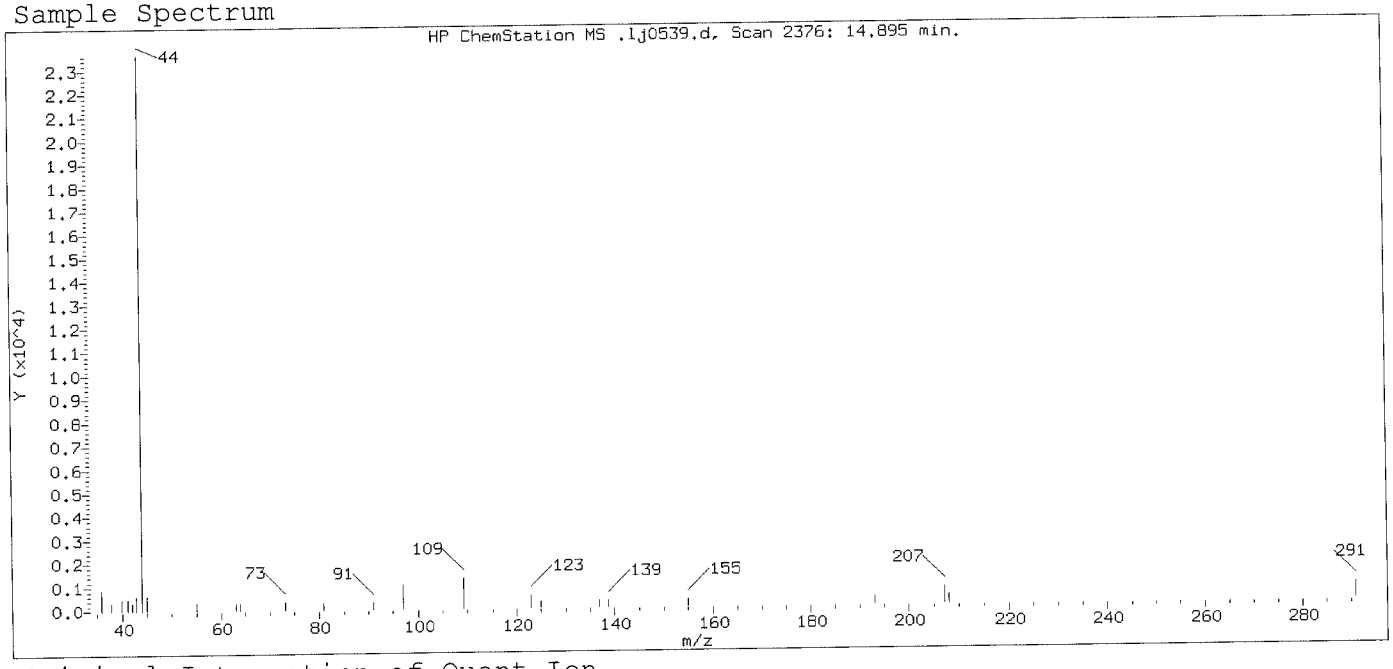
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature user ID: ceb05247

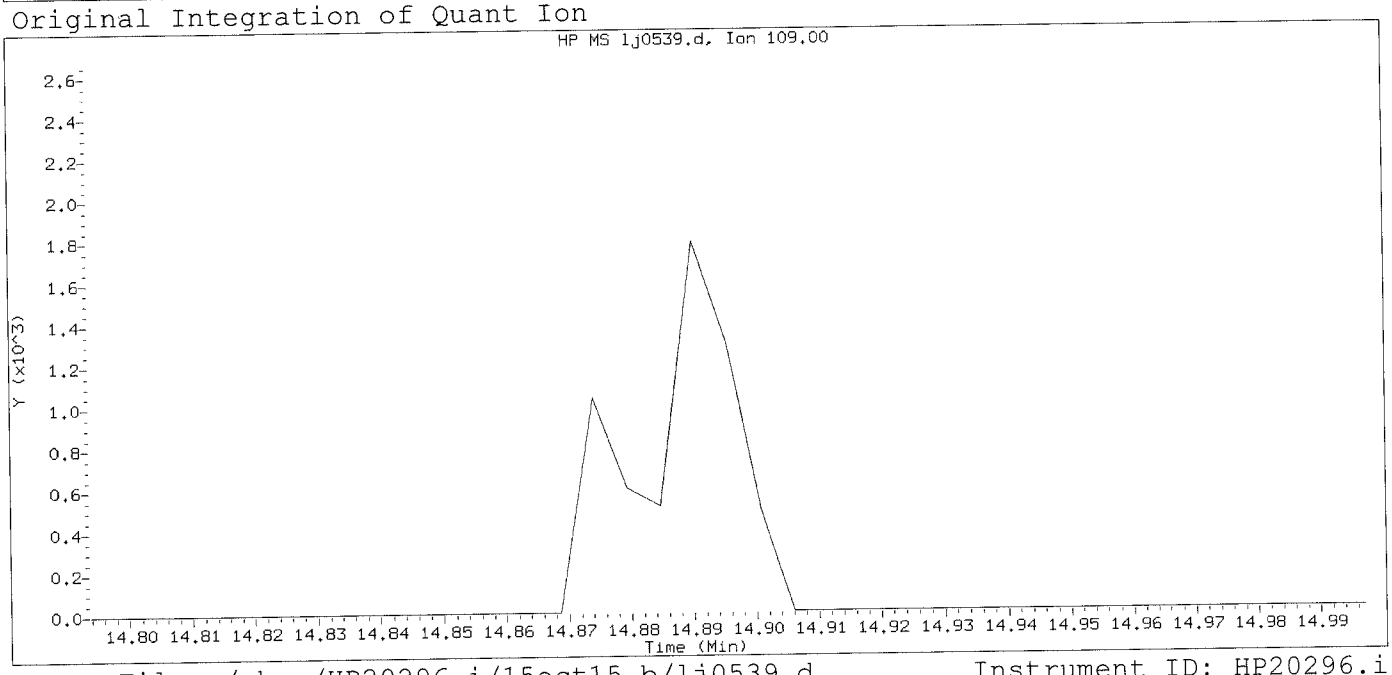
GC/MS audit/management approval: OCT 16 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

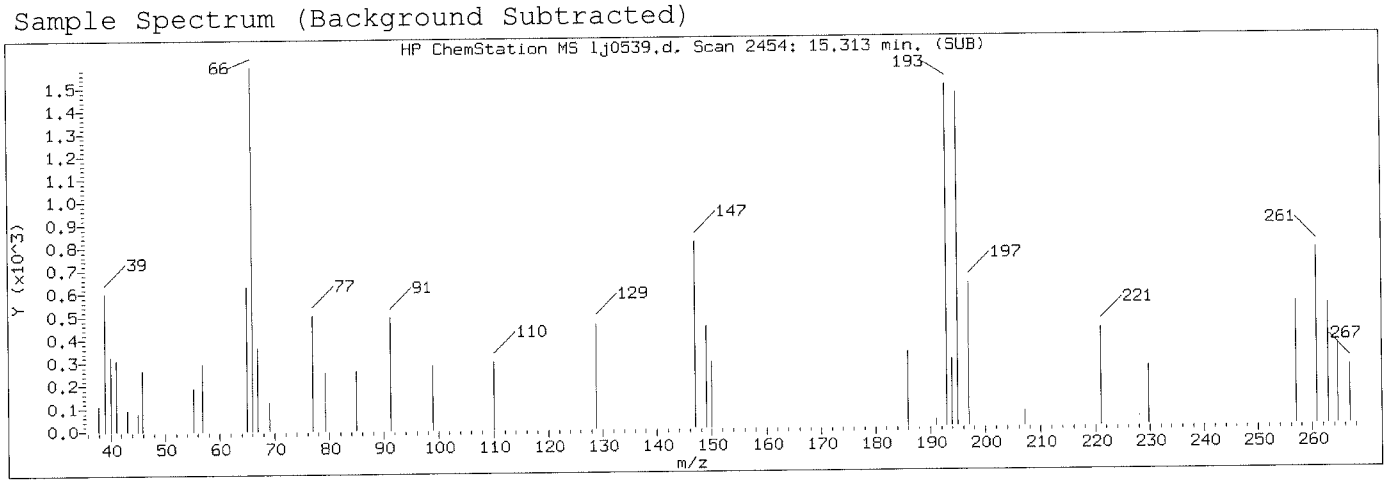
Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

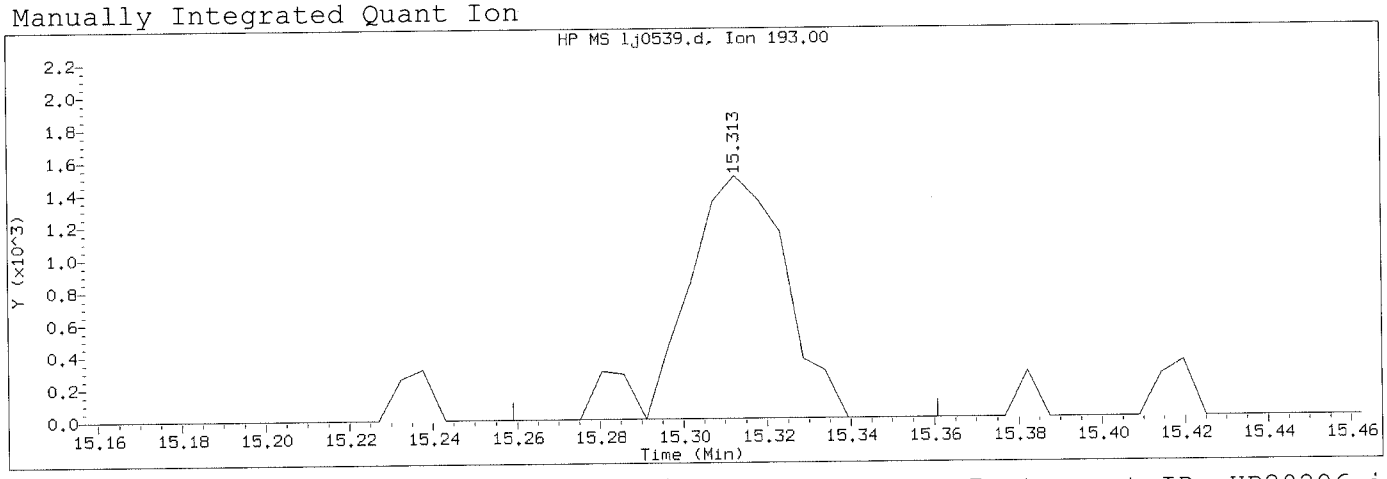
Compound Number : 167
Compound Name : Parathion
Expected RT (minutes) : 14.895
Quant Ion : 109.00

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 18:19 ceb05247

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 171		
Compound Name	: Isodrin		
Scan Number	: 2454		
Retention Time (minutes)	: 15.313		
Quant Ion	: 193.00		
Area (flag)	: 2528M		
On-Column Amount (ng/ul)	: 0.1481		
Integration start scan	: 2443	Integration stop scan:	2462
Y at integration start	: 0	Y at integration end:	0

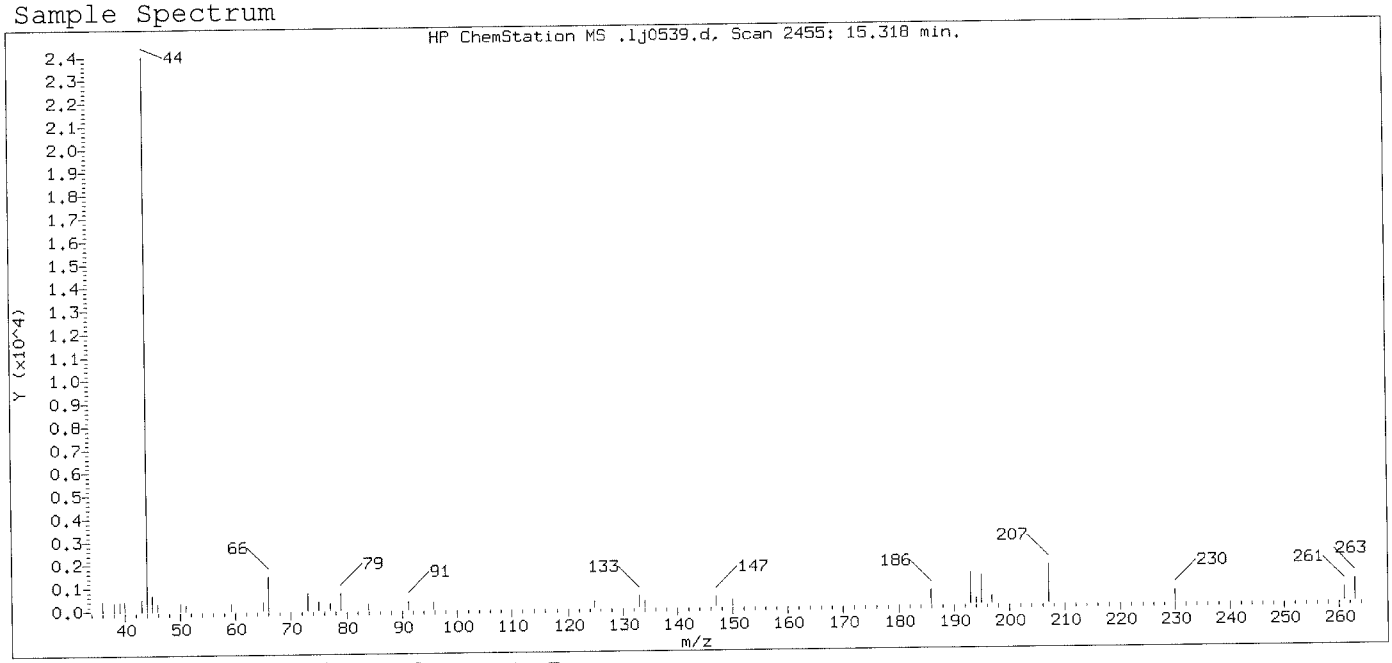
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49. Target 3.5 esignature user ID: ceb05247

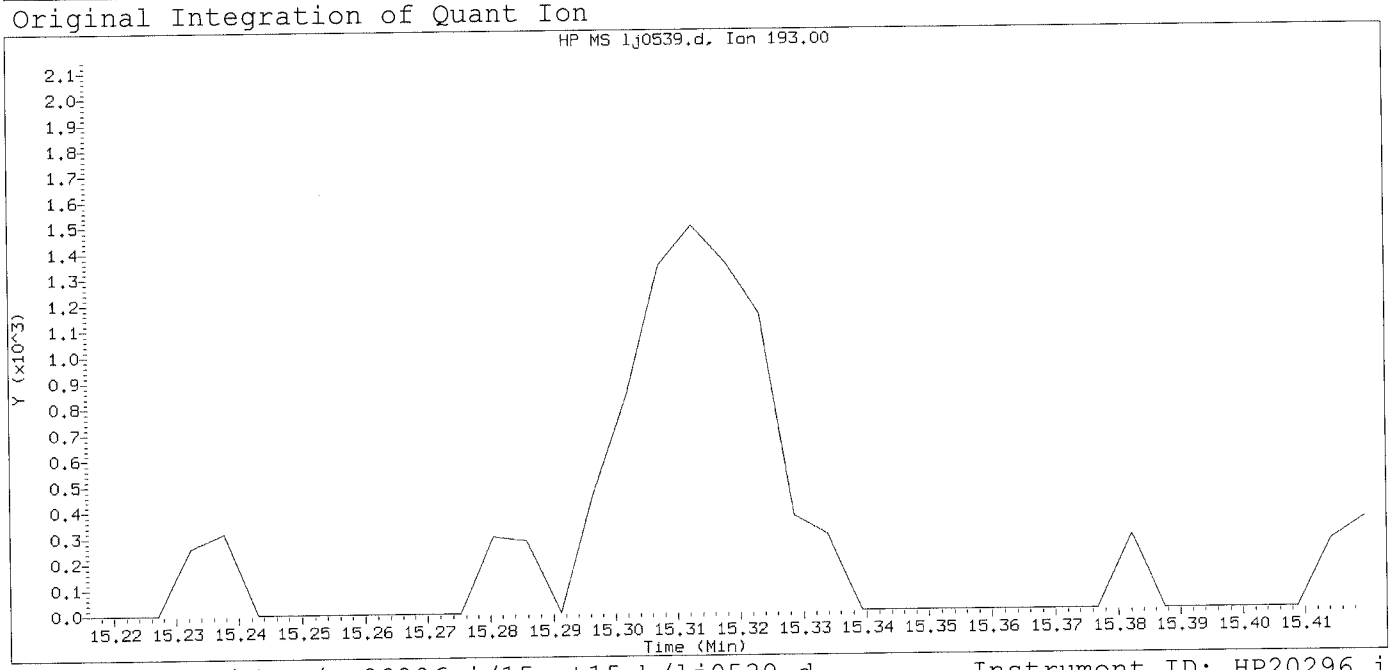
OCT 16 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



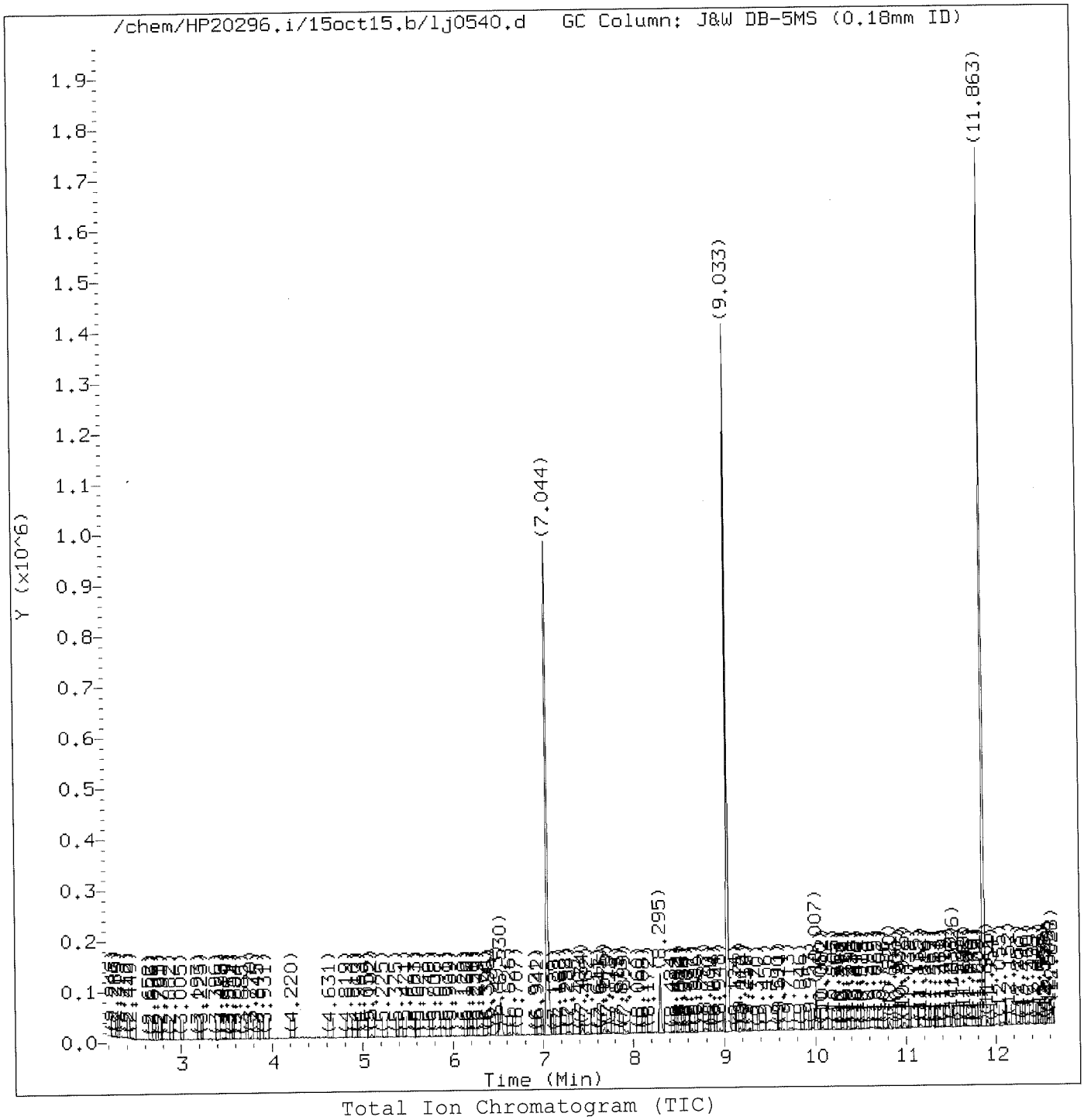
Data File: /chem/HP20296.i/15oct15.b/lj0539.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 17:19 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-OCT-2015 17:16
Date, time and analyst ID of latest file update: 15-Oct-2015 17:44 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number : 171
Compound Name : Isodrin
Expected RT (minutes) : 15.318
Quant Ion : 193.00

Digitally signed by Catherine E. Bachman on 10/15/2015 at 18:49.
Target 3.5 esignature use[illegible]



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0540.d
Injection date and time: 15-OCT-2015 17:47

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:06

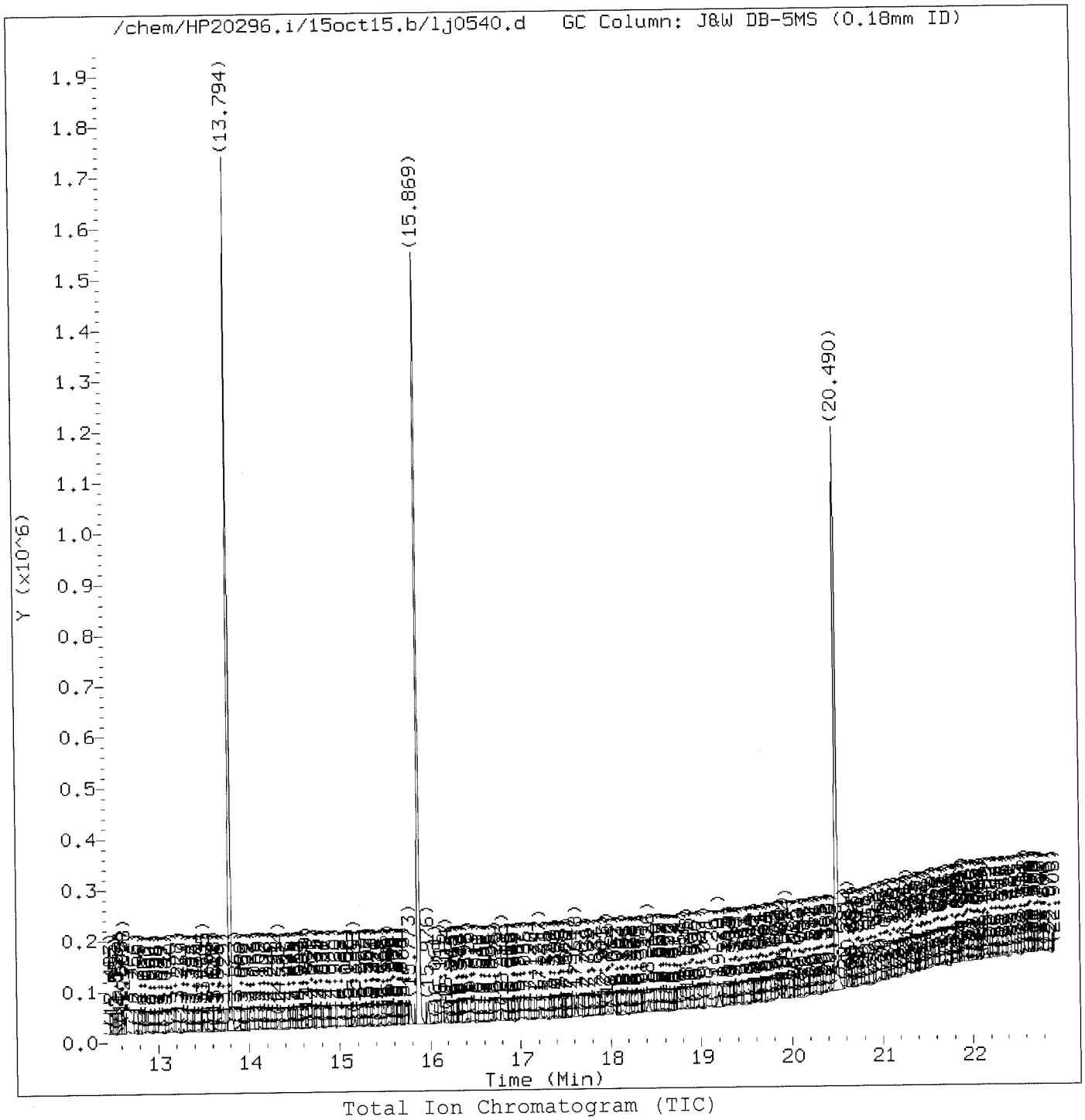
Sublist used: pahmdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:12 Unknown

Sample Name: SSTD0.025

Lab Sample ID: PAHMDL2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0540.d
Injection date and time: 15-OCT-2015 17:47

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:06

Sublist used: pahmdlall1

Date, time and analyst ID of latest file update: 15-Oct-2015 18:12 Unknown

Sample Name: SSTD0.025

Lab Sample ID: PAHMDL2745

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0540.d
Injection date and time: 15-OCT-2015 17:47
Instrument ID: HP20296.i
Analyst ID: hbz01996

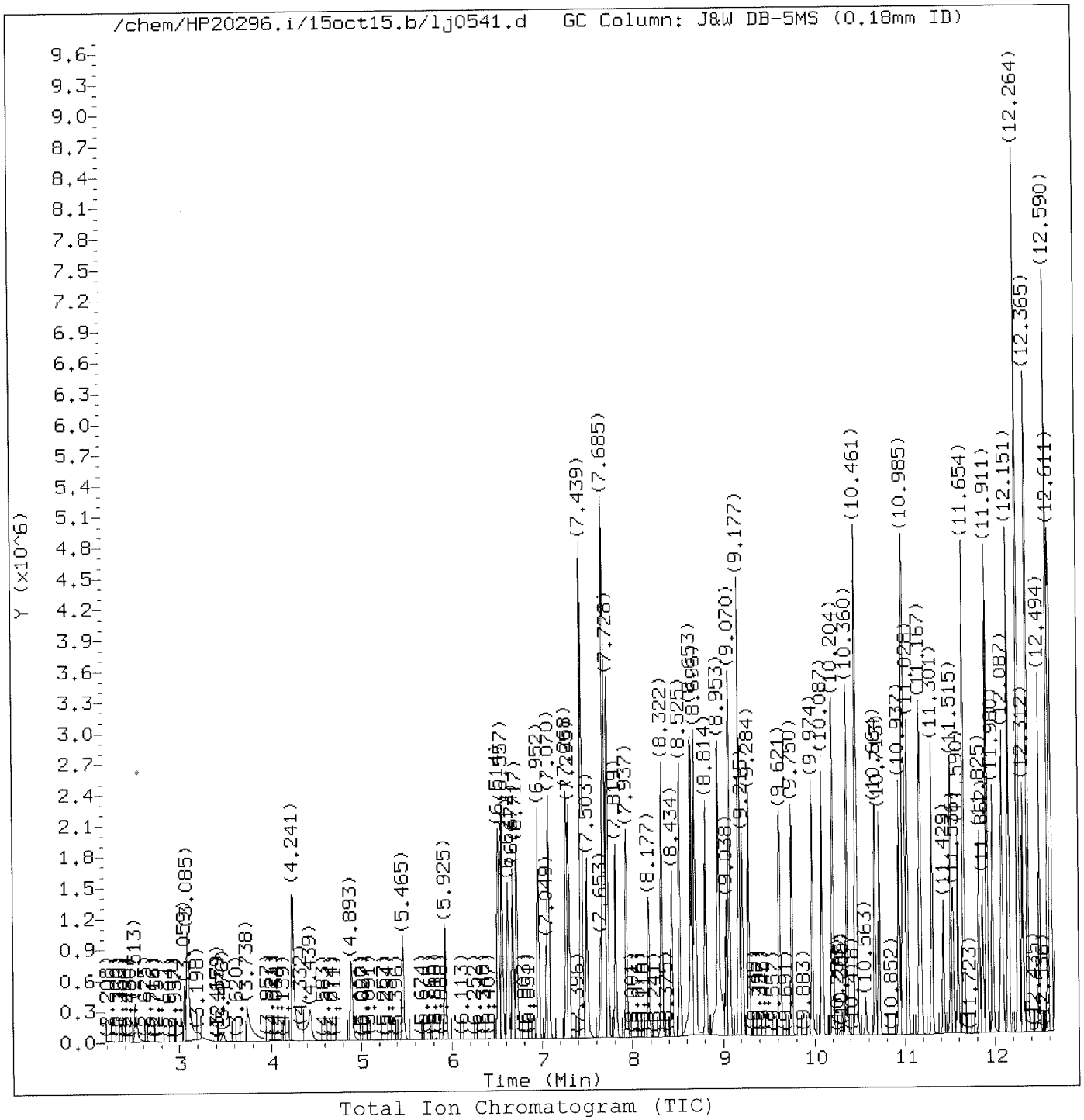
Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:06
Sublist used: pahmdlall1
Date, time and analyst ID of latest file update: 15-Oct-2015 18:12 Unknown

Sample Name: SSTD0.025
Lab Sample ID: PAHMDL2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.044	152	185713	5.000
44)$Nitrobenzene-d5	(2)	7.899	82	3405	0.000
65)*Naphthalene-d8	(2)	9.033	136	724230	5.000
66) Naphthalene	(2)	9.071	128	4347	0.001
83) 2-Methylnaphthalene	(2)	10.199	142	2128	0.001
84) 1-Methylnaphthalene	(2)	10.360	142	1783	0.001
93)$2-Fluorobiphenyl	(3)	10.820	172	5933	0.000
109) Acenaphthylene	(3)	11.654	152	3204	0.001
113)*Acenaphthene-d10	(3)	11.863	164	394100	5.000
114) Acenaphthene	(3)	11.906	153	2399	0.001
126) Fluorene	(3)	12.585	166	2718	0.001
145) Hexachlorobenzene	(4)	13.269	284	648	0.001
153)*Phenanthrene-d10	(4)	13.794	188	720720	5.000
155) Phenanthrene	(4)	13.820	178	4142	0.001
157) Anthracene	(4)	13.895	178	3392	0.001
173) Fluoranthene	(4)	15.537	202	4129	0.001
175)*Pyrene-d10	(5)	15.869	212	808785	5.000
177) Pyrene	(5)	15.901	202	5330	0.001
179)$Terphenyl-d14	(5)	16.184	244	5689	0.000
195) Benzo(a)anthracene	(5)	17.960	228	3685	0.001
196) Chrysene	(5)	18.024	228	3623	0.001
206) Benzo(b)fluoranthene	(6)	19.854	252	3321	0.001
208) Benzo(k)fluoranthene	(6)	19.902	252	3495	0.001
211) Benzo(a)pyrene	(6)	20.394	252	2915	0.001
213)*Perylene-d12	(6)	20.495	264	576327	5.000
222) Total PAHs	(6)			60054	0.014
219) Indeno(1,2,3-cd)pyrene	(6)	22.154	276	3321	0.001
220) Dibenz(a,h)anthracene	(6)	22.202	278	2858	0.001
221) Benzo(g,h,i)perylene	(6)	22.587	276	3264	0.001

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

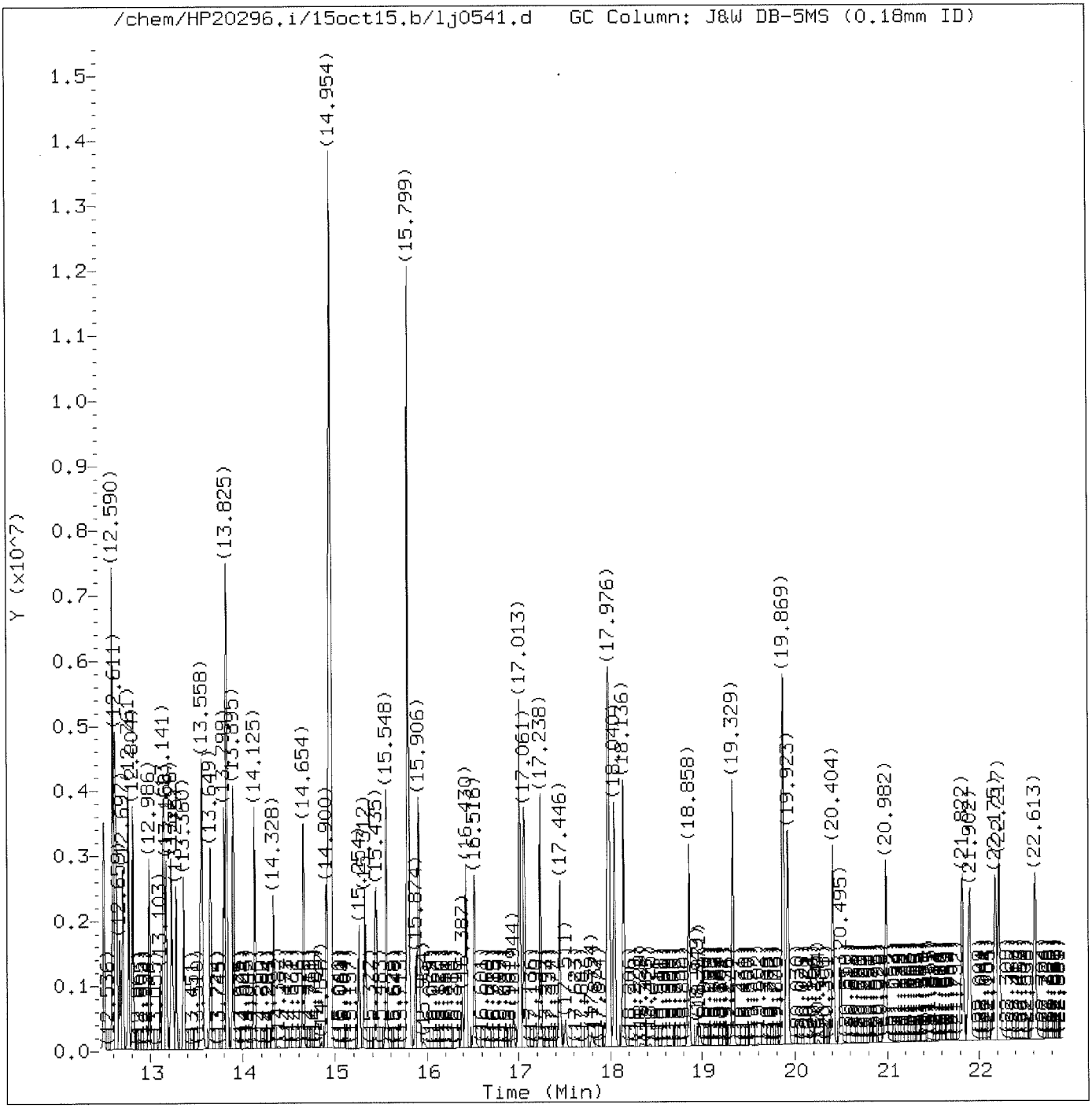
Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0541.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 18:15 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-OCT-2015 18:18
Date, time and analyst ID of latest file update: 15-Oct-2015 18:44 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVICV2465

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0541.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 18:15 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-OCT-2015 18:18
Date, time and analyst ID of latest file update: 15-Oct-2015 18:44 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVICV2465

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0541.d
Injection date and time: 15-OCT-2015 18:15

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:18

Sublist used: icval11

Date, time and analyst ID of latest file update: 15-Oct-2015 18:44 ceb05247

Sample Name: SSTD12.5

Lab Sample ID: RVICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.513	88	318323	12.641
4) N-Nitrosodimethylamine	(1)	3.059	74	493288	12.404
5) Pyridine	(1)	3.091	79	884552	13.157
7) 2-Picoline	(1)	4.241	93	873761	12.463
8) N-Nitrosomethylethylamine	(1)	4.439	88	350551	12.217
9) Methyl methanesulfonate	(1)	4.893	80	427702	12.629
13) N-Nitrosodiethylamine	(1)	5.465	102	329969	12.254
15) Ethyl methanesulfonate	(1)	5.925	109	342376	12.382
18) Phenol	(1)	6.514	94	959528	12.229
19) Aniline	(1)	6.557	93	1218428	12.379
22) bis(2-Chloroethyl)ether	(1)	6.674	93	745536	12.225
23) 2-Chlorophenol	(1)	6.717	128	620871	12.451
24) 1,3-Dichlorobenzene	(1)	6.952	146	699620	12.581
25)*1,4-Dichlorobenzene-d4	(1)	7.049	152	178528	5.000
26) 1,4-Dichlorobenzene	(1)	7.075	146	710981	12.541
27) Benzyl alcohol	(1)	7.268	108	479345	12.755
28) 1,2-Dichlorobenzene	(1)	7.295	146	688200	12.893
30) Indene	(1)	7.434	115	1229003	12.950
31) 2-Methylphenol	(1)	7.444	108	668479	12.693
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.498	45	1119905	13.045
34) bis(2-Chloroisopropyl)ether	(1)	7.498	45	1119905	13.045
35) N-Nitrosopyrrolidine	(1)	7.653	100	345734	12.232
42) Total Cresols	(1)	7.660	100	1349239	25.076
36) Acetophenone	(1)	7.680	105	1013926	12.327
37) 4-Methylphenol	(1)	7.685	108	680760	12.383
38) N-Nitroso-di-n-propylamine	(1)	7.696	70	580283	12.194
39) N-Nitrosomorpholine	(1)	7.723	56	449142	12.242
40) o-Toluidine	(1)	7.728	106	1143622	12.389
43) Hexachloroethane	(1)	7.819	117	299387	12.730
45) Nitrobenzene	(2)	7.937	77	847795	12.646
48) N-Nitrosopiperidine	(2)	8.183	114	317283	12.378
50) Isophorone	(2)	8.322	82	1526396	12.946
51) 2-Nitrophenol	(2)	8.434	139	310813	12.716
53) 2,4-Dimethylphenol	(2)	8.525	107	677376	12.148
57) O,O,O-Triethylphosphorothioate	(2)	8.653	198	300105	12.248
55) bis(2-Chloroethoxy)methane	(2)	8.696	93	913318	12.753
56) Benzoic acid	(2)	8.707	105	986459	20.796
60) 2,4-Dichlorophenol	(2)	8.814	162	503641	12.722
62) 1,2,4-Trichlorobenzene	(2)	8.953	180	578748	12.745
65)*Naphthalene-d8	(2)	9.038	136	669181	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0541.d
Injection date and time: 15-OCT-2015 18:15
Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:18
Sublist used: icvall1
Date, time and analyst ID of latest file update: 15-Oct-2015 18:44 ceb05247

Sample Name: SSTD12.5
Lab Sample ID: RVICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
66) Naphthalene	(2)	9.070	128	1827003	12.712
67) 4-Chloroaniline	(2)	9.177	127	741033	12.565
68) 2,6-Dichlorophenol	(2)	9.183	162	498697	12.555
69) Hexachloropropene	(2)	9.215	213	408306	13.643
71) Hexachlorobutadiene	(2)	9.284	225	338312	13.082
75) Quinoline	(2)	9.621	129	1121389	12.477
77) N-Nitrosodi-n-butylamine	(2)	9.750	84	521619	10.576
80) 4-Chloro-3-methylphenol	(2)	9.974	107	613174	12.958
82) Safrole	(2)	10.087	162	450627	12.407
83) 2-Methylnaphthalene	(2)	10.204	142	1142338	11.982
84) 1-Methylnaphthalene	(2)	10.360	142	1078802	12.397
85) Hexachlorocyclopentadiene	(3)	10.461	237	746214	27.000
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.472	216	561824	12.580
88) cis-Isosafrole	(3)	10.563	162	61394	1.561
90) 2,4,6-Trichlorophenol	(3)	10.670	196	373834	13.304
92) 2,4,5-Trichlorophenol	(3)	10.713	196	385379	12.595
97) Isosafrole	(3)	10.725	162	559195	13.270
94) trans-Isosafrole	(3)	10.937	162	497801	11.708
95) 1,1'-Biphenyl	(3)	10.980	154	1429395	12.767
96) 2-Chloronaphthalene	(3)	10.996	162	1149286	13.039
98) 1-Chloronaphthalene	(3)	11.028	162	1037760	12.366
99) Diphenyl ether	(3)	11.162	170	761009	12.732
100) 2-Nitroaniline	(3)	11.178	138	348285	13.043
104) 1,4-Naphthoquinone	(3)	11.301	158	567942	16.132
105) 1,4-Dinitrobenzene	(3)	11.429	168	175775	12.818
106) Dimethylphthalate	(3)	11.515	163	1209889	12.707
107) 1,3-Dinitrobenzene	(3)	11.536	168	194972	13.028
108) 2,6-Dinitrotoluene	(3)	11.590	165	276982	13.427
109) Acenaphthylene	(3)	11.654	152	1760951	13.121
112) 3-Nitroaniline	(3)	11.825	138	302760	13.360
113)*Acenaphthene-d10	(3)	11.862	164	374021	5.000
114) Acenaphthene	(3)	11.911	153	1186594	13.269
120) 2,4_2,6-Dinitrotoluenes	(3)	11.950	165	655903	26.621
115) 2,4-Dinitrophenol	(3)	11.980	184	351544	25.683
116) 4-Nitrophenol	(3)	12.071	109	230056	13.145
117) Pentachlorobenzene	(3)	12.087	250	442143	12.664
119) Dibenzofuran	(3)	12.151	168	1552528	12.705
118) 2,4-Dinitrotoluene	(3)	12.162	165	378921	13.194
121) 1-Naphthylamine	(3)	12.264	143	2245876	25.217
122) 2,3,4,6-Tetrachlorophenol	(3)	12.317	232	305787	13.320

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0541.d
Injection date and time: 15-OCT-2015 18:15
Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:18
Sublist used: icvall1
Date, time and analyst ID of latest file update: 15-Oct-2015 18:44 ceb05247

Sample Name: SSTD12.5
Lab Sample ID: RVICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
123) 2-Naphthylamine	(3)	12.365	143	2199481	25.395
124) Diethylphthalate	(3)	12.494	149	1217797	13.001
125) Thionazin	(3)	12.590	107	226889	12.487
126) Fluorene	(3)	12.590	166	1250815	13.085
127) 4-Chlorophenyl-phenylether	(3)	12.611	204	601437	13.110
128) 5-Nitro-o-toluidine	(3)	12.617	152	358670	13.594
129) 4-Nitroaniline	(3)	12.627	138	305358	13.219
130) 4,6-Dinitro-2-methylphenol	(4)	12.665	198	228855	12.673
131) N-Nitrosodiphenylamine	(4)	12.761	169	1028147	12.561
132) NDPA as diphenylamine	(4)	12.761	169	1028147	12.561
134) 1,2-Diphenylhydrazine	(4)	12.804	77	1635464	13.266
137) Tetraethyldithiopyrophosphate	(4)	12.986	97	244039	12.448
146) Diallate trans/cis	(4)	13.000	86	630774	11.808
139) 1,3,5-Trinitrobenzene	(4)	13.109	213	129046	12.194
140) Diallate (peak 1)	(4)	13.135	86	475179	8.854
141) Phorate	(4)	13.146	75	988795	12.836
142) Phenacetin	(4)	13.168	108	719068	12.764
143) 4-Bromophenyl-phenylether	(4)	13.226	248	314216	12.721
144) Diallate (peak 2)	(4)	13.248	86	155595	2.954
145) Hexachlorobenzene	(4)	13.275	284	314330	12.233
147) Dimethoate	(4)	13.360	87	631438	12.561
149) Pentachlorophenol	(4)	13.542	266	234902	13.799
151) Pentachloronitrobenzene	(4)	13.553	237	156492	12.584
150) 4-Aminobiphenyl	(4)	13.563	169	1358285	14.588
152) Pronamide	(4)	13.654	173	557623	12.987
153)*Phenanthrene-d10	(4)	13.799	188	699184	5.000
154) Dinoseb	(4)	13.799	211	342639	12.223
155) Phenanthrene	(4)	13.831	178	1817787	12.481
157) Anthracene	(4)	13.900	178	1869824	12.937
163) Carbazole	(4)	14.125	167	1694144	12.739
164) Methyl parathion	(4)	14.328	109	479938	12.964
165) Di-n-butylphthalate	(4)	14.654	149	2118884	13.014
167) Parathion	(4)	14.900	109	292091	13.357
168) 4-Nitroquinoline-1-oxide	(4)	14.954	190	2962946	188.659
171) Isodrin	(4)	15.318	193	208821	12.283
173) Fluoranthene	(4)	15.548	202	2047507	12.915
174) Benzidine	(5)	15.799	184	6538153	63.361
175)*Pyrene-d10	(5)	15.874	212	790256	5.000
177) Pyrene	(5)	15.906	202	2092599	12.305
182) p-Dimethylaminoazobenzene	(5)	16.430	225	406675	14.750

* = Compound is an internal standard.

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on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0541.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 18:15 Analyst ID: hbz01996

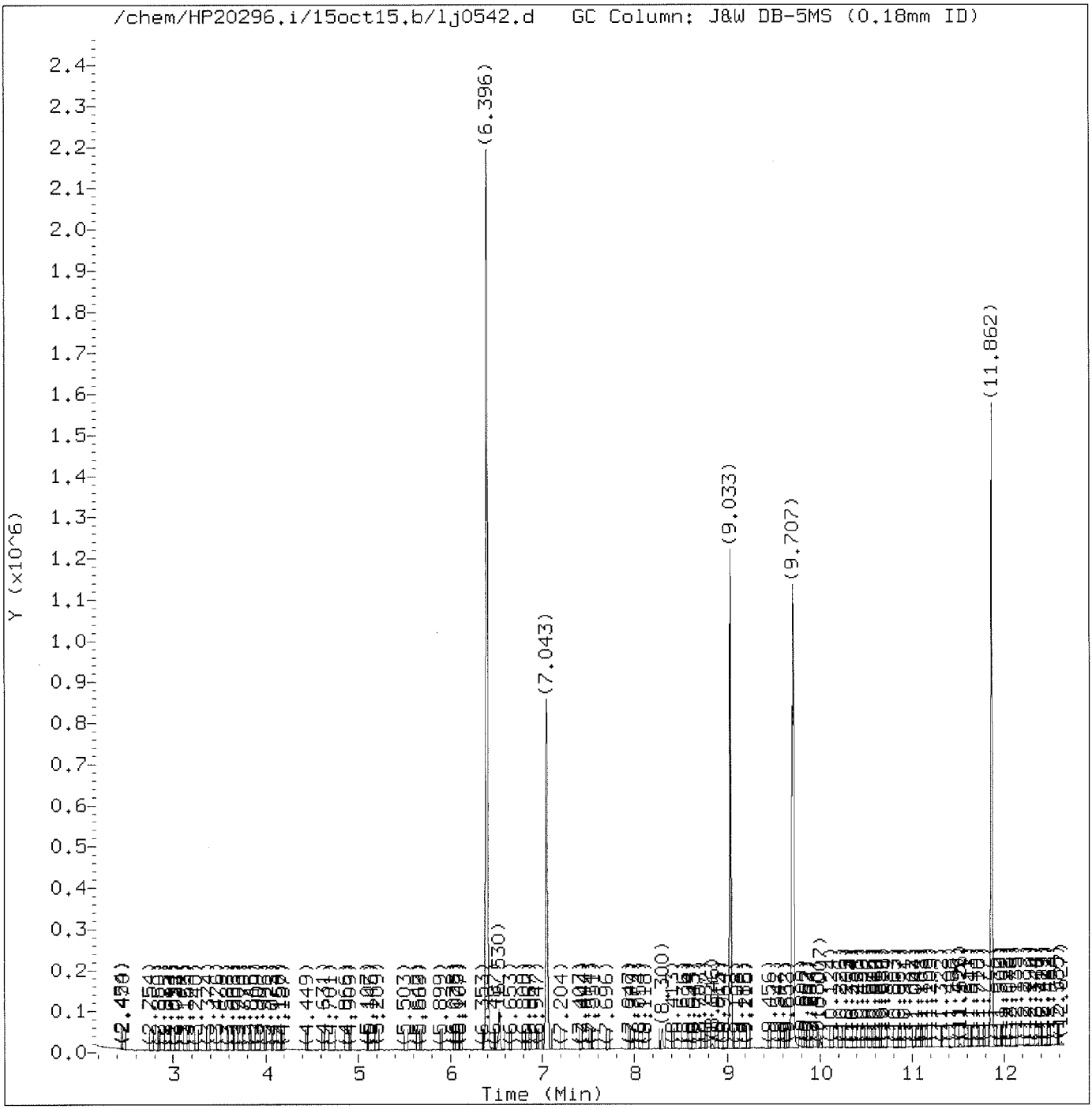
Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-OCT-2015 18:18
Date, time and analyst ID of latest file update: 15-Oct-2015 18:44 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
185) Chlorobenzilate	(5)	16.516	139	632739	12.896
187) 3,3'-Dimethylbenzidine	(5)	17.013	212	2506893	24.183
188) Butylbenzylphthalate	(5)	17.061	149	969743	13.520
191) 2-Acetylaminofluorene	(5)	17.446	181	816893	13.031
193) 3,3'-Dichlorobenzidine	(5)	17.965	252	679070	12.294
195) Benzo(a)anthracene	(5)	17.976	228	1932931	13.204
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.987	231	393884	12.305
196) Chrysene	(5)	18.040	228	1855319	13.267
199) bis(2-Ethylhexyl)phthalate	(5)	18.136	149	1395098	13.565
203) 6-Methylchrysene	(5)	18.858	242	1268565	12.836
205) Di-n-octylphthalate	(6)	19.329	149	2551828	13.895
206) Benzo(b)fluoranthene	(6)	19.869	252	1958674	13.291
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.869	256	817574	12.833
208) Benzo(k)fluoranthene	(6)	19.923	252	1861250	12.986
211) Benzo(a)pyrene	(6)	20.404	252	1765845	12.863
213)*Perylene-d12	(6)	20.495	264	598793	5.000
215) 3-Methylcholanthrene	(6)	20.982	268	921972	14.378
217) Dibenz(a,h)acridine	(6)	21.822	279	1528379	13.006
218) Dibenz(a,j)acridine	(6)	21.902	279	1454807	12.283
222) Total PAHs	(6)	22.000	100	31156290	232.532
219) Indeno(1,2,3-cd)pyrene	(6)	22.175	276	2094450	13.046
220) Dibenz(a,h)anthracene	(6)	22.217	278	1796832	13.427
221) Benzo(g,h,i)perylene	(6)	22.619	276	1816769	13.242

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 18:50.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0542.d Instrument ID: HP20296.i
Injection date and time: 15-OCT-2015 18:43 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m Sublist used: basicvall1
Calibration date and time: 15-OCT-2015 18:18
Date, time and analyst ID of latest file update: 15-Oct-2015 19:15 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV2475

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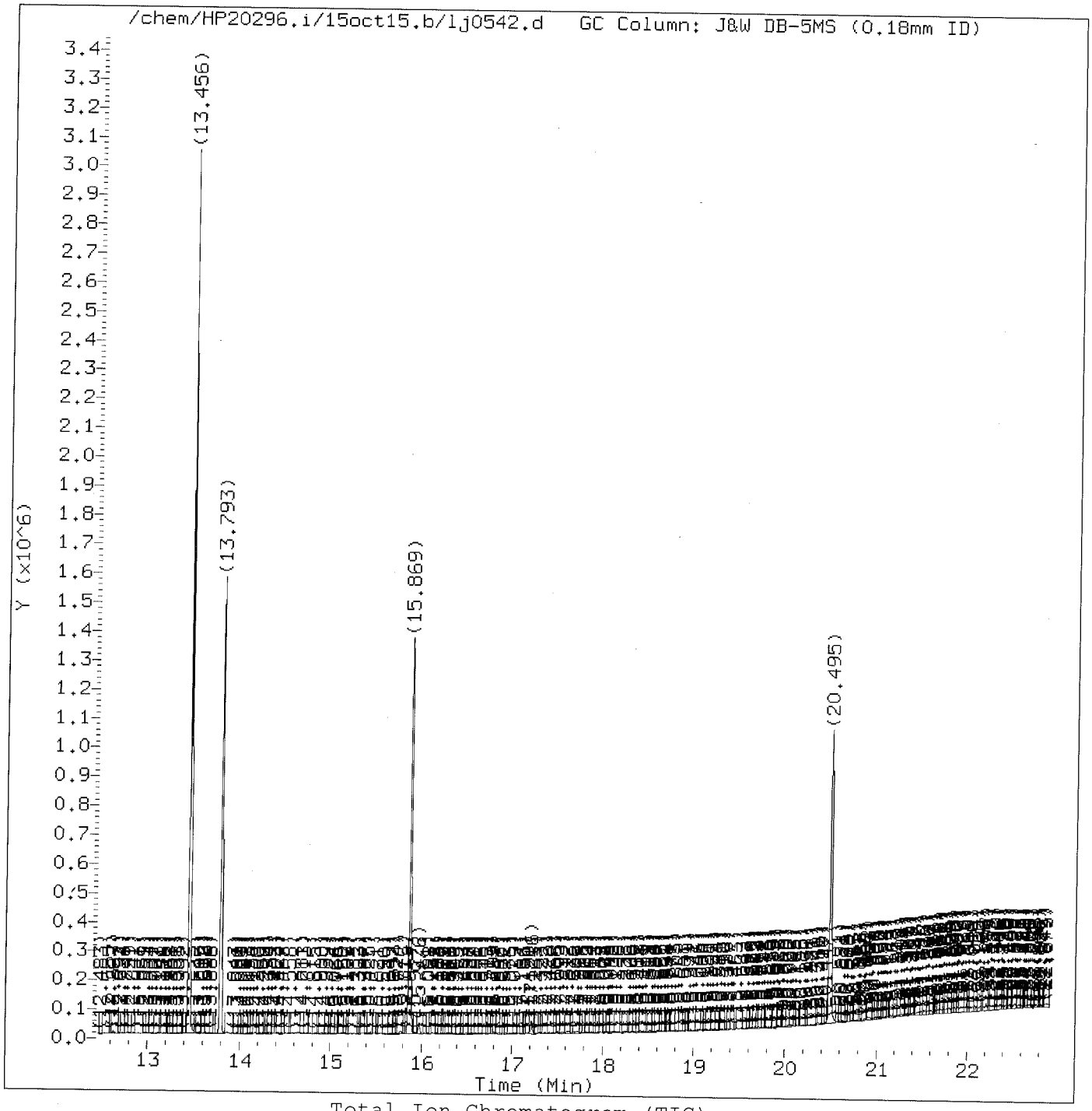
on 10/15/2015 at 19:15.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0542.d
Injection date and time: 15-OCT-2015 18:43

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:18

Sublist used: basicval11

Date, time and analyst ID of latest file update: 15-Oct-2015 19:15 ceb05247

Sample Name: SSTD12.5

Lab Sample ID: RVBASICV2475

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on 10/15/2015 at 19:15.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct15.b/lj0542.d
Injection date and time: 15-OCT-2015 18:43

Instrument ID: HP20296.i
Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct15.b/rv8270c.m
Calibration date and time: 15-OCT-2015 18:18

Sublist used: basicvall1

Date, time and analyst ID of latest file update: 15-Oct-2015 19:15 ceb05247

Sample Name: SSTD12.5

Lab Sample ID: RVBASICV2475

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
16) Benzaldehyde	(1)	6.396	77	697511	14.300
25)*1,4-Dichlorobenzene-d4	(1)	7.043	152	166039	5.000
65)*Naphthalene-d8	(2)	9.033	136	638179	5.000
76) Caprolactam	(2)	9.707	113	167829	13.243
113)*Acenaphthene-d10	(3)	11.862	164	353805	5.000
148) Atrazine	(4)	13.456	200	337396	13.692
153)*Phenanthrene-d10	(4)	13.793	188	643327	5.000
175)*Pyrene-d10	(5)	15.869	212	723639	5.000
213)*Perylene-d12	(6)	20.495	264	508806	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 10/15/2015 at 19:15.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15oct16.b/lj0580z.d

Page 1

Date : 16-OCT-2015 09:57

Client ID: DFTPP12.5

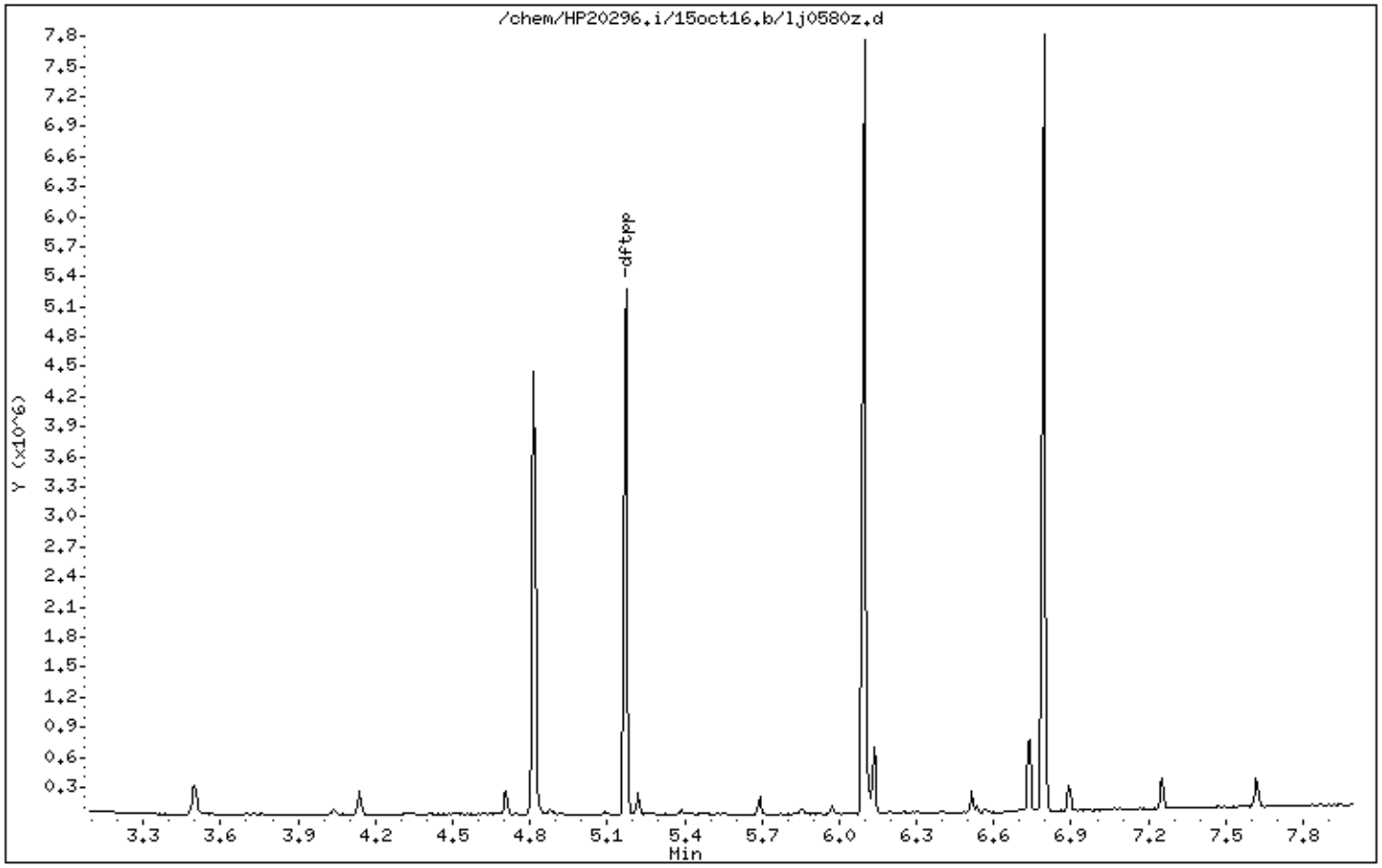
Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Data File: /chem/HP20296.i/15oct16.b/lj0580z.d

Date : 16-OCT-2015 09:57

Client ID: DFTPP12.5

Instrument: HP20296.i

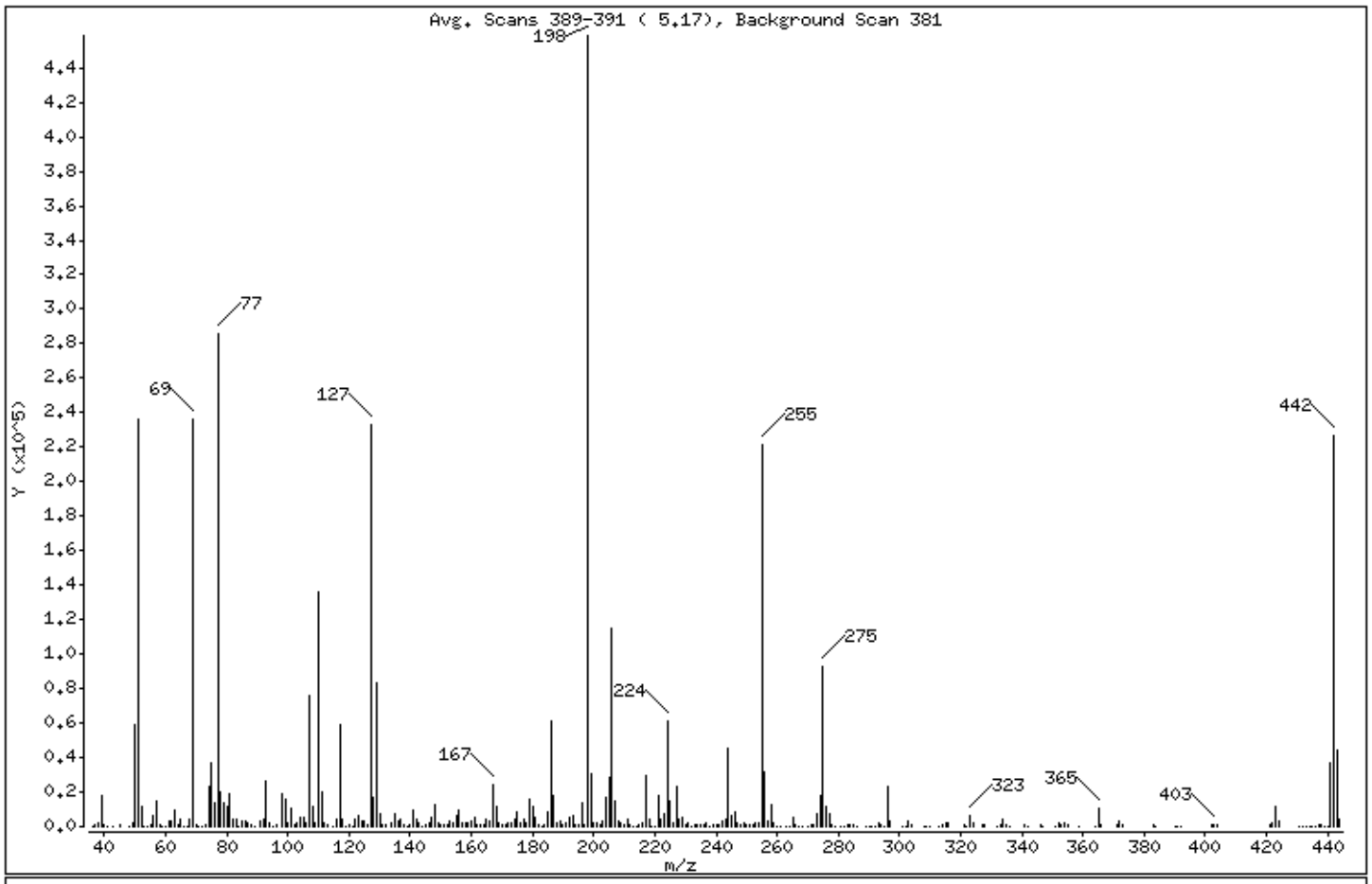
Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	51.38
68	Less than 2.00% of mass 69	0.89 (1.73)
69	Mass 69 relative abundance	51.51
70	Less than 2.00% of mass 69	0.29 (0.56)
127	40.00 - 60.00% of mass 198	50.76
197	Less than 1.00% of mass 198	0.17
199	5.00 - 9.00% of mass 198	6.75
275	10.00 - 30.00% of mass 198	20.20
365	Greater than 1.00% of mass 198	2.19
441	Present, but less than mass 443	8.02
442	40.00 - 99.99% of mass 198	49.48
443	17.00 - 23.00% of mass 442	9.58 (19.37)

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Date : 16-OCT-2015 09:57

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS Column diameter: 0.18

Data File: lj0580z.d
Spectrum: Avg. Scans 389-391 (5,17), Background Scan 381
Location of Maximum: 198.00
Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	266	122.00	4205	202.00	1106	284.00	673
37.00	834	123.00	6227	203.00	3468	285.00	1518
38.00	2422	124.00	3242	204.00	16656	286.00	124
39.00	17488	125.00	2992	205.00	28584	289.00	500
40.00	701	126.00	1561	206.00	114416	290.00	228
41.00	233	127.00	232768	207.00	14877	291.00	122
43.00	156	128.00	17336	208.00	3650	292.00	227
45.00	727	129.00	82984	209.00	1619	293.00	1769
48.00	228	130.00	7027	210.00	1460	294.00	593
49.00	1719	131.00	1035	211.00	4254	295.00	340
50.00	59280	132.00	664	212.00	782	296.00	23024
51.00	235648	134.00	2444	213.00	266	297.00	3172
52.00	11907	135.00	7072	214.00	314	301.00	252
53.00	280	136.00	2731	215.00	1316	302.00	425
54.00	232	137.00	3845	216.00	2608	303.00	2938
55.00	607	138.00	800	217.00	29248	304.00	780
56.00	6500	139.00	458	218.00	3772	308.00	299
57.00	14529	140.00	1342	219.00	519	309.00	201
58.00	1270	141.00	9490	220.00	241	310.00	127
59.00	356	142.00	3705	221.00	17616	313.00	287
60.00	119	143.00	2470	222.00	4663	314.00	986
61.00	2691	144.00	404	223.00	7024	315.00	2139
62.00	3080	145.00	921	224.00	61184	316.00	1602
63.00	9225	146.00	1690	225.00	15079	321.00	956
64.00	1298	147.00	5701	226.00	2064	322.00	370
65.00	4335	148.00	12585	227.00	22928	323.00	6739
66.00	431	149.00	2405	228.00	3912	324.00	1588
67.00	177	150.00	949	229.00	5207	327.00	1065
68.00	4076	151.00	1530	230.00	654	328.00	602
69.00	236224	152.00	1018	231.00	2089	332.00	180
70.00	1326	153.00	3559	232.00	309	333.00	1063
71.00	60	154.00	2584	233.00	586	334.00	4557
72.00	275	155.00	6365	234.00	1540	335.00	1226
73.00	1474	156.00	9416	235.00	1531	336.00	159
74.00	23176	157.00	1765	236.00	1275	341.00	1044

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Date : 16-OCT-2015 09:57

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS Column diameter: 0.18

Data File: lj0580z.d
Spectrum: Avg. Scans 389-391 (5,17), Background Scan 381
Location of Maximum: 198.00
Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
75.00	36928	158.00	1686	237.00	2194	342.00	312
76.00	13486	159.00	1624	238.00	246	346.00	1184
77.00	285696	160.00	3522	239.00	952	347.00	312
78.00	19912	161.00	5088	240.00	849	351.00	111
79.00	14032	162.00	1251	241.00	1373	352.00	1720
80.00	11886	163.00	546	242.00	3398	353.00	1230
81.00	18576	164.00	806	243.00	4014	354.00	2213
82.00	3845	165.00	3745	244.00	45816	355.00	529
83.00	4349	166.00	3547	245.00	6328	359.00	189
84.00	408	167.00	24592	246.00	8548	364.00	206
85.00	3609	168.00	11437	247.00	1729	365.00	10028
86.00	3653	169.00	2266	248.00	664	366.00	1317
87.00	2332	170.00	634	249.00	1771	371.00	581
88.00	796	171.00	963	250.00	554	372.00	3148
89.00	449	172.00	1928	251.00	708	373.00	721
91.00	3542	173.00	2445	252.00	1149	383.00	802
92.00	4230	174.00	4504	253.00	1682	384.00	159
93.00	26184	175.00	8835	254.00	2421	390.00	509
94.00	2281	176.00	2255	255.00	221440	391.00	229
95.00	162	177.00	3950	256.00	31832	392.00	106
96.00	1209	178.00	1763	257.00	2975	402.00	1188
98.00	19232	179.00	15549	258.00	12734	403.00	1576
99.00	15868	180.00	11799	259.00	1841	404.00	657
100.00	1737	181.00	4871	260.00	297	421.00	1351
101.00	10470	182.00	1104	261.00	476	422.00	1653
102.00	565	183.00	454	263.00	358	423.00	11728
103.00	2574	184.00	1244	264.00	230	424.00	3127
104.00	5163	185.00	8552	265.00	5176	431.00	84
105.00	5145	186.00	61240	266.00	1006	432.00	253
106.00	2131	187.00	18264	267.00	207	433.00	295
107.00	76216	188.00	2028	268.00	98	434.00	120
108.00	11216	189.00	3443	270.00	154	435.00	469
109.00	2102	190.00	755	271.00	796	436.00	500
110.00	135808	191.00	1639	272.00	1056	437.00	660
111.00	20272	192.00	5150	273.00	7088	438.00	628

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Date : 16-OCT-2015 09:57

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS Column diameter: 0.18

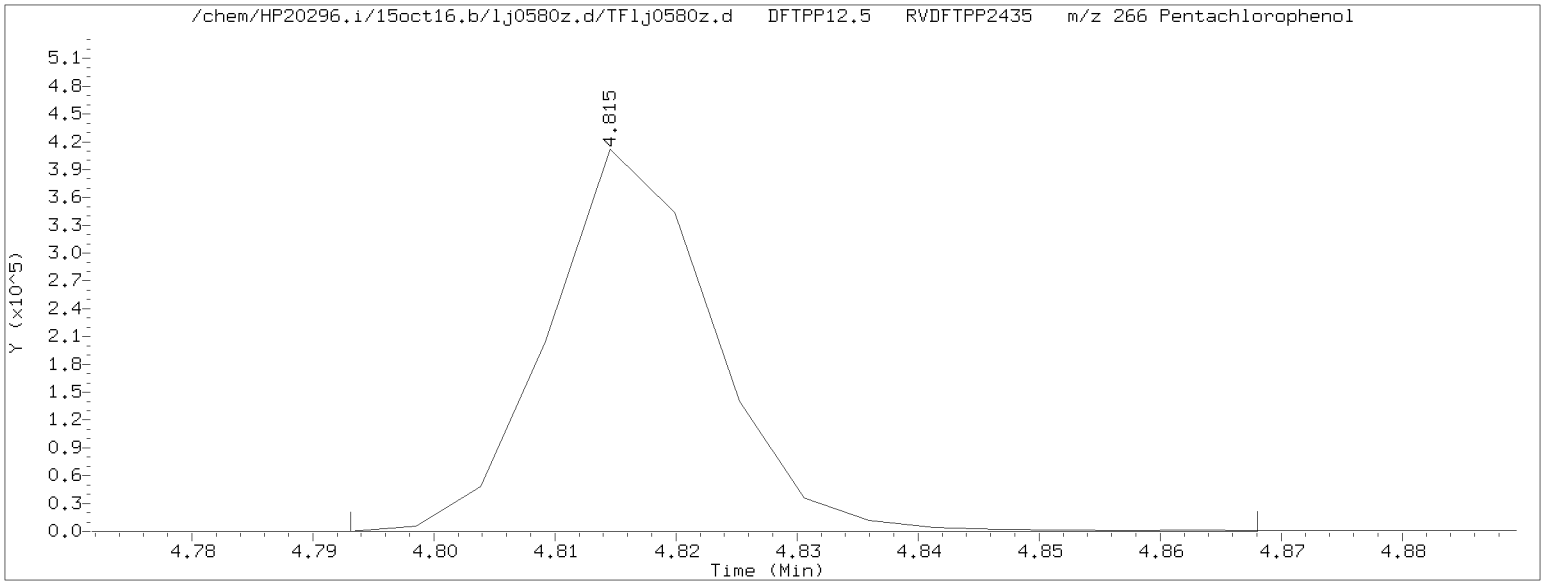
Data File: lj0580z.d
Spectrum: Avg. Scans 389-391 (5.17), Background Scan 381
Location of Maximum: 198.00
Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
112.00	2099	193.00	5957	274.00	17696	439.00	500
113.00	1001	194.00	1139	275.00	92624	440.00	413
115.00	359	195.00	1107	276.00	11762	441.00	36784
116.00	3973	196.00	13301	277.00	7890	442.00	226880
117.00	59112	197.00	764	278.00	1322	443.00	43960
118.00	4282	198.00	458624	279.00	174	444.00	4023
119.00	157	199.00	30944	281.00	321		
120.00	1100	200.00	2585	282.00	199		
121.00	274	201.00	2142	283.00	900		

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Assessment of GC Column Performance and Injection Port Inertness for

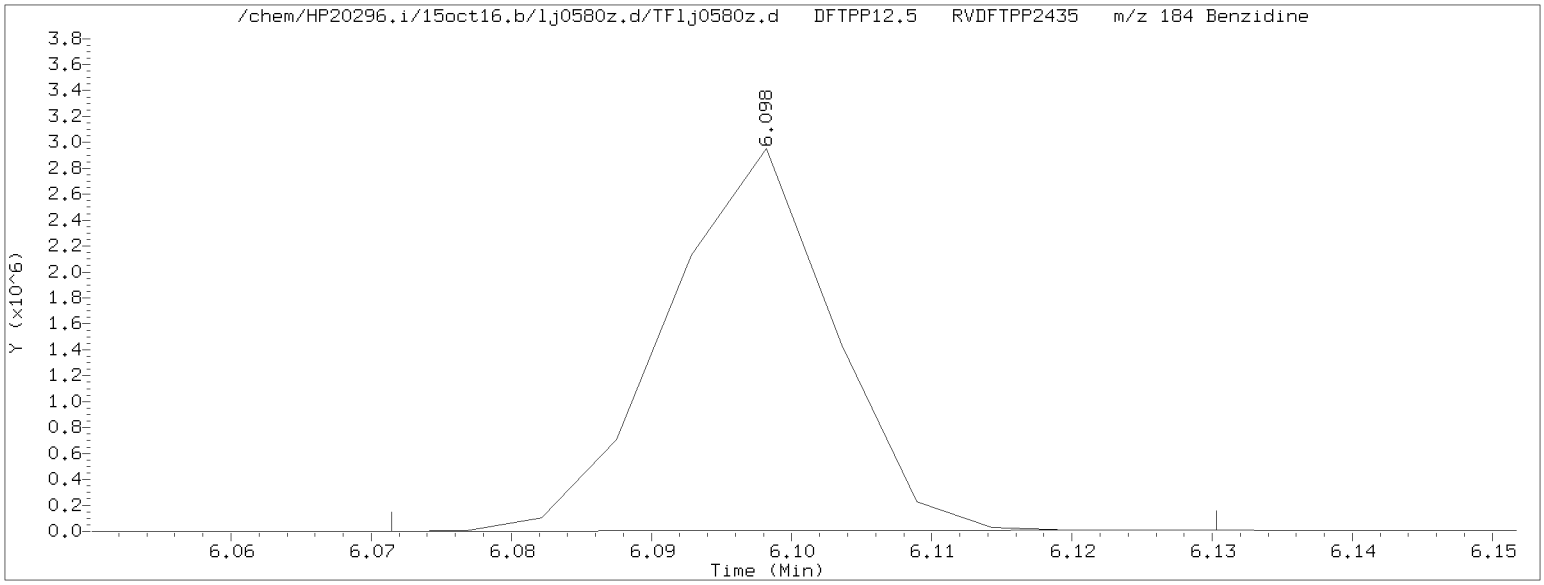
Instrument ID: HP20296.i Injection Date: 16-OCT-2015 09:57 Operator: hbz01996



Pentachlorophenol EICP peak height = 412160 EICP peak height at 10% = 41216 Pentachlorophenol EICP area = 389145

Pentachlorophenol EICP peak apex (min.) = 4.815
RT at 10% of front half of EICP (min.) = 4.803 'Front' peak width (min.) = 0.0115666667
RT at 10% of back half of EICP (min.) = 4.830 'Tailing' peak width (min.) = 0.0157833333

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0157833333}{0.0115666667} = 1.365$$



Benzidine EICP peak height = 2948224 EICP peak height at 10% = 294822 Benzidine EICP area = 2430895

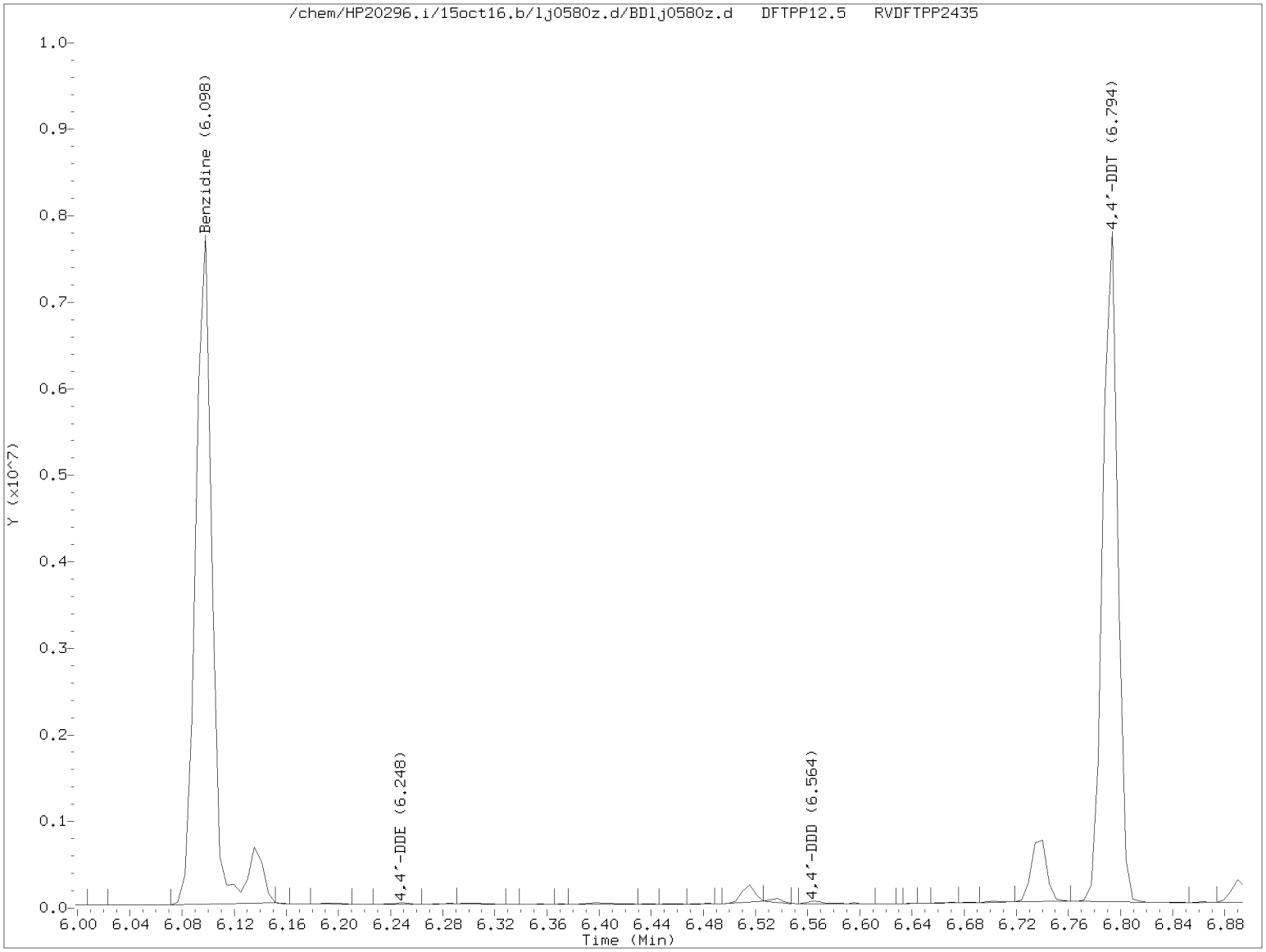
Benzidine EICP peak apex (min.) = 6.098
RT at 10% of front half of EICP (min.) = 6.084 'Front' peak width (min.) = 0.0143166667
RT at 10% of back half of EICP (min.) = 6.109 'Tailing' peak width (min.) = 0.0103833333

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0103833333}{0.0143166667} = 0.725$$

Secondary review performed and digitally signed by Matthew E. Barton on 10/19/2015 at 11:14. Parallax ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

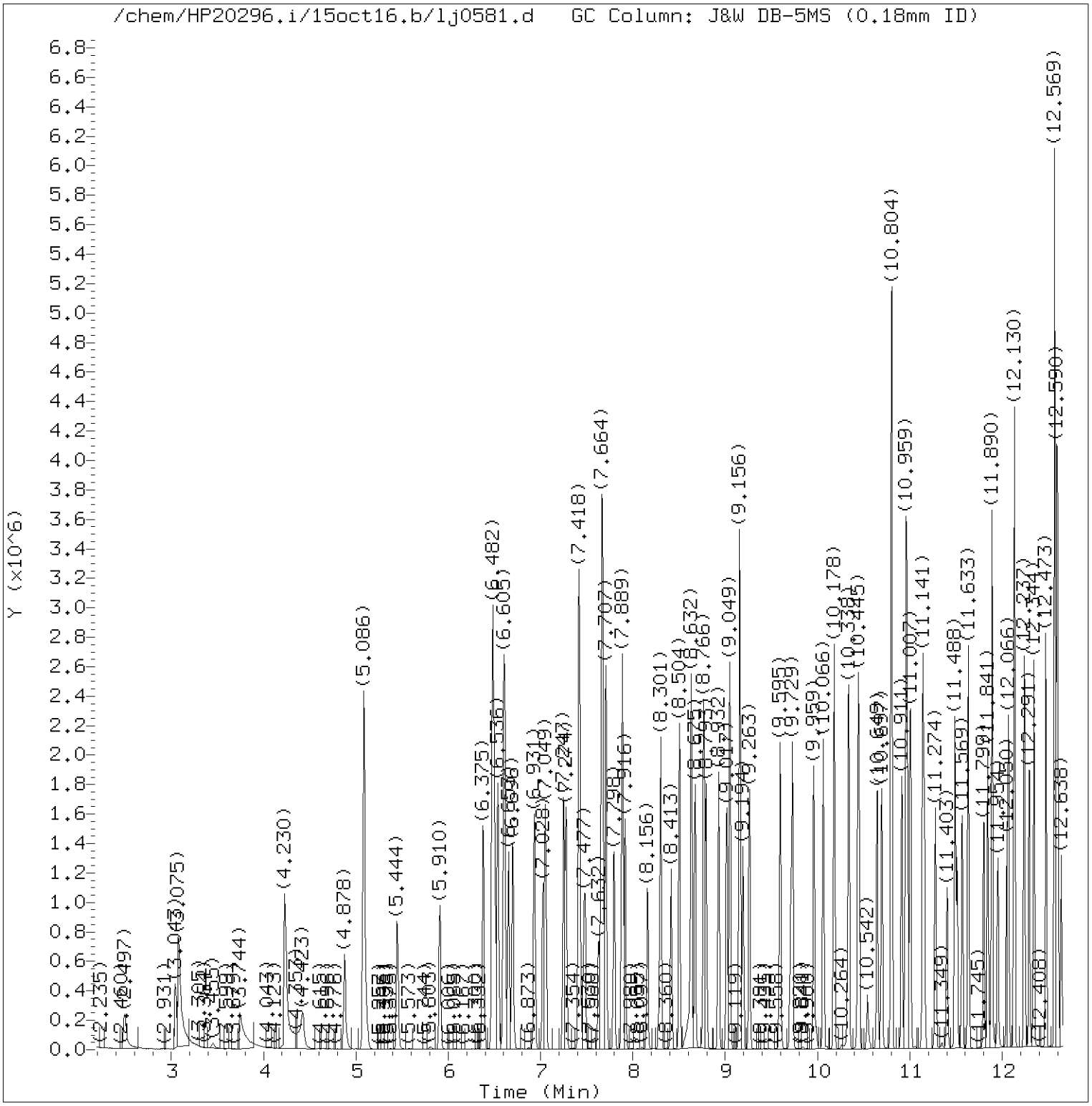
Instrument ID: HP20296.i Injection Date: 16-OCT-2015 09:57 Operator: hbz01996



$$\%\ 4,4'\text{-DDT breakdown} = \frac{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area}}{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area} + 4,4'\text{-DDT TIC area}} \times 100$$

$$\%\ 4,4'\text{-DDT breakdown} = \frac{17592 + 36205}{17592 + 36205 + 6215047} \times 100 = 0.9$$

Secondary review performed and digitally signed by Matthew E. Barton on 10/19/2015 at 11:14. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

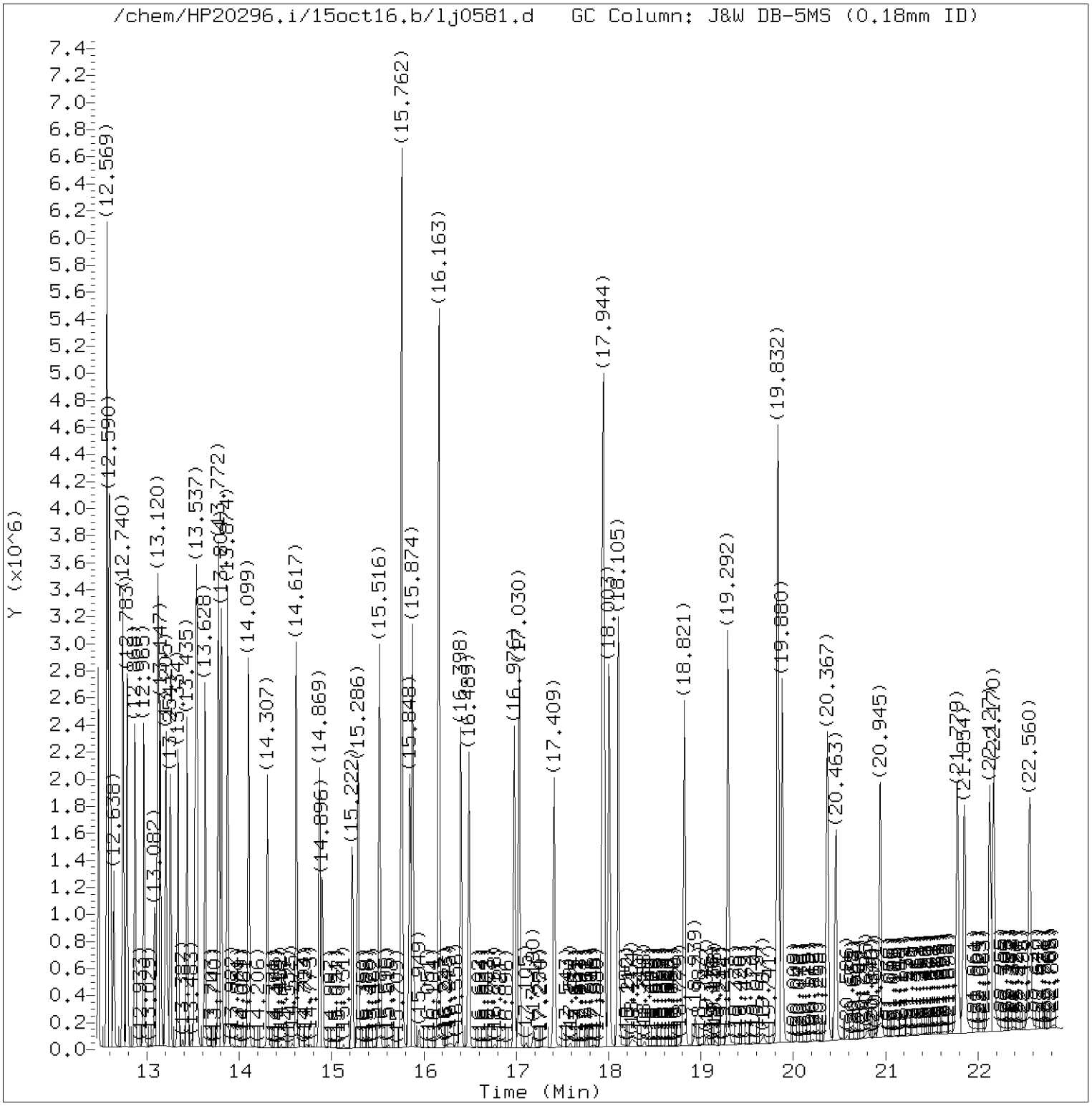
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0581.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 10:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: all1
Calibration date and time: 16-OCT-2015 10:59
Date, time and analyst ID of latest file update: 16-Oct-2015 10:59 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0581.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 10:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: all1
Calibration date and time: 16-OCT-2015 10:59
Date, time and analyst ID of latest file update: 16-Oct-2015 10:59 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0581.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 10:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: all1
Calibration date and time: 16-OCT-2015 10:59
Date, time and analyst ID of latest file update: 16-Oct-2015 10:59 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.497	88	247734	8.097
4) N-Nitrosodimethylamine	(1)	3.043	74	419394	8.680
5) Pyridine	(1)	3.075	79	698864	8.555
7) 2-Picoline	(1)	4.230	93	727387	8.539
8) N-Nitrosomethylethylamine	(1)	4.423	88	286398	8.215
9) Methyl methanesulfonate	(1)	4.878	80	368277	8.950
11)$2-Fluorophenol	(1)	5.086	112	1124495	17.433
13) N-Nitrosodiethylamine	(1)	5.444	102	283485	8.664
15) Ethyl methanesulfonate	(1)	5.910	109	288713	8.593
16) Benzaldehyde	(1)	6.375	77	503569	7.902
17)$Phenol-d6	(1)	6.482	99	1431642	16.116
18) Phenol	(1)	6.498	94	756868	7.939
19) Aniline	(1)	6.536	93	962731	8.050
20) a-methylstyrene	(1)	6.610	118	529839	7.930
22) bis(2-Chloroethyl)ether	(1)	6.653	93	587475	7.928
23) 2-Chlorophenol	(1)	6.696	128	480145	7.925
24) 1,3-Dichlorobenzene	(1)	6.931	146	511002	7.563
25)*1,4-Dichlorobenzene-d4	(1)	7.028	152	216922	5.000
26) 1,4-Dichlorobenzene	(1)	7.054	146	519934	7.548
27) Benzyl alcohol	(1)	7.247	108	335929	7.357
28) 1,2-Dichlorobenzene	(1)	7.274	146	489510	7.547
30) Indene	(1)	7.413	115	838411	7.271
31) 2-Methylphenol	(1)	7.423	108	483967	7.563
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.477	45	790581	7.579
34) bis(2-Chloroisopropyl)ether	(1)	7.477	45	790581	7.579
35) N-Nitrosopyrrolidine	(1)	7.627	100	261847	7.624
36) Acetophenone	(1)	7.659	105	741143	7.416
42) Total Cresols	(1)			1000271	15.292
37) 4-Methylphenol	(1)	7.670	108	516304	7.729
38) N-Nitroso-di-n-propylamine	(1)	7.675	70	440452	7.618
39) N-Nitrosomorpholine	(1)	7.702	56	347811	7.802
40) o-Toluidine	(1)	7.707	106	868870	7.746
43) Hexachloroethane	(1)	7.793	117	218845	7.659
44)$Nitrobenzene-d5	(2)	7.889	82	1279513	14.513
45) Nitrobenzene	(2)	7.916	77	643329	7.354
48) N-Nitrosopiperidine	(2)	8.162	114	245800	7.348
50) Isophorone	(2)	8.301	82	1138170	7.398
51) 2-Nitrophenol	(2)	8.413	139	235508	7.384
53) 2,4-Dimethylphenol	(2)	8.504	107	538636	7.402
57) O,O,O-Triethylphosphorothioate	(2)	8.632	198	234636	7.338

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0581.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 10:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: all1
Calibration date and time: 16-OCT-2015 10:59
Date, time and analyst ID of latest file update: 16-Oct-2015 10:59 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	8.638	105	423476M	7.959
55) bis(2-Chloroethoxy)methane	(2)	8.675	93	687257	7.354
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.766	104	758046	7.051
60) 2,4-Dichlorophenol	(2)	8.793	162	391055	7.570
62) 1,2,4-Trichlorobenzene	(2)	8.932	180	418963	7.070
65)*Naphthalene-d8	(2)	9.017	136	873268	5.000
66) Naphthalene	(2)	9.049	128	1373523	7.323
67) 4-Chloroaniline	(2)	9.156	127	569765	7.403
68) 2,6-Dichlorophenol	(2)	9.162	162	377948	7.291
69) Hexachloropropene	(2)	9.194	213	282709	7.238
71) Hexachlorobutadiene	(2)	9.263	225	242012	7.171
75) Quinoline	(2)	9.595	129	876021	7.469
76) Caprolactam	(2)	9.713	113	136488	7.870
77) N-Nitrosodi-n-butylamine	(2)	9.729	84	524965	8.157
80) 4-Chloro-3-methylphenol	(2)	9.959	107	461350	7.471
82) Safrole	(2)	10.066	162	350077	7.386
83) 2-Methylnaphthalene	(2)	10.178	142	904001	7.266
84) 1-Methylnaphthalene	(2)	10.338	142	824690	7.262
85) Hexachlorocyclopentadiene	(3)	10.435	237	262382	7.230
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.451	216	425705	7.260
88) cis-Isosafrole	(3)	10.542	162	64202	1.244
90) 2,4,6-Trichlorophenol	(3)	10.649	196	280510	7.603
92) 2,4,5-Trichlorophenol	(3)	10.697	196	305422	7.602
97) Isosafrole	(3)			410700	7.450
93)$2-Fluorobiphenyl	(3)	10.804	172	2042748	15.089
94) trans-Isosafrole	(3)	10.911	162	346498	6.207
95) 1,1'-Biphenyl	(3)	10.959	154	1091514	7.425
96) 2-Chloronaphthalene	(3)	10.975	162	834614	7.212
98) 1-Chloronaphthalene	(3)	11.007	162	855106	7.760
99) Diphenyl ether	(3)	11.141	170	585712	7.463
100) 2-Nitroaniline	(3)	11.157	138	270196	7.706
104) 1,4-Naphthoquinone	(3)	11.280	158	350620	7.585
105) 1,4-Dinitrobenzene	(3)	11.403	168	136339	7.572
106) Dimethylphthalate	(3)	11.488	163	949093	7.592
107) 1,3-Dinitrobenzene	(3)	11.510	168	149408	7.603
108) 2,6-Dinitrotoluene	(3)	11.569	165	212927	7.861
109) Acenaphthylene	(3)	11.633	152	1355121	7.690
112) 3-Nitroaniline	(3)	11.804	138	230050	7.731
113)*Acenaphthene-d10	(3)	11.841	164	491089	5.000
114) Acenaphthene	(3)	11.890	153	887091	7.555

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0581.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 10:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: all1
Calibration date and time: 16-OCT-2015 10:59
Date, time and analyst ID of latest file update: 16-Oct-2015 10:59 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			501175	15.505
115) 2,4-Dinitrophenol	(3)	11.954	184	166277	9.252
116) 4-Nitrophenol	(3)	12.050	109	175525	7.638
117) Pentachlorobenzene	(3)	12.066	250	342682	7.476
119) Dibenzofuran	(3)	12.130	168	1229374	7.662
118) 2,4-Dinitrotoluene	(3)	12.136	165	288248	7.644
121) 1-Naphthylamine	(3)	12.237	143	874467	7.478
122) 2,3,4,6-Tetrachlorophenol	(3)	12.296	232	235551	7.814
123) 2-Naphthylamine	(3)	12.344	143	860473	7.566
124) Diethylphthalate	(3)	12.473	149	960720	7.812
125) Thionazin	(3)	12.569	107	177961	7.459
126) Fluorene	(3)	12.569	166	974604	7.765
127) 4-Chlorophenyl-phenylether	(3)	12.590	204	469478	7.794
128) 5-Nitro-o-toluidine	(3)	12.596	152	272954	7.879
129) 4-Nitroaniline	(3)	12.606	138	243909	8.042
130) 4,6-Dinitro-2-methylphenol	(4)	12.644	198	171461	7.187
132) NDPA as diphenylamine	(4)	12.740	169	804868	7.443
131) N-Nitrosodiphenylamine	(4)	12.740	169	804868	7.443
134) 1,2-Diphenylhydrazine	(4)	12.783	77	1259461	7.733
135)$2,4,6-Tribromophenol	(3)	12.874	330	212739	14.956
137) Tetraethyldithiopyrophosphate	(4)	12.965	97	205509	7.935
146) Diallate trans/cis	(4)			544546	7.705
139) 1,3,5-Trinitrobenzene	(4)	13.088	213	104065	7.443
140) Diallate (peak 1)	(4)	13.114	86	452904	6.388
141) Phorate	(4)	13.125	75	810505	7.964
142) Phenacetin	(4)	13.147	108	589895	7.926
143) 4-Bromophenyl-phenylether	(4)	13.205	248	242948	7.446
144) Diallate (peak 2)	(4)	13.227	86	91642	1.317
145) Hexachlorobenzene	(4)	13.254	284	242985	7.158
147) Dimethoate	(4)	13.334	87	528412	7.957
148) Atrazine	(4)	13.435	200	265230	7.497
149) Pentachlorophenol	(4)	13.521	266	171099	7.608
151) Pentachloronitrobenzene	(4)	13.532	237	122457	7.454
150) 4-Aminobiphenyl	(4)	13.542	169	961134	7.814
152) Pronamide	(4)	13.628	173	461899	8.143
153)*Phenanthrene-d10	(4)	13.772	188	923670	5.000
154) Dinoseb	(4)	13.778	211	262652	7.413
155) Phenanthrene	(4)	13.804	178	1453648	7.555
157) Anthracene	(4)	13.874	178	1480863	7.756
163) Carbazole	(4)	14.099	167	1373478	7.818

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0581.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 10:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: all1
Calibration date and time: 16-OCT-2015 10:59
Date, time and analyst ID of latest file update: 16-Oct-2015 10:59 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.307	109	395302	8.083
165) Di-n-butylphthalate	(4)	14.617	149	1705746	7.930
167) Parathion	(4)	14.869	109	238634	8.260
168) 4-Nitroquinoline-1-oxide	(4)	14.901	190	136844	6.596
169) Octachlorostyrene	(4)	15.227	308	90278	7.487
171) Isodrin	(4)	15.286	193	168917	7.521
173) Fluoranthene	(4)	15.521	202	1636475	7.814
174) Benzidine	(5)	15.762	184	3161989	22.524
175)*Pyrene-d10	(5)	15.848	212	1075120	5.000
177) Pyrene	(5)	15.874	202	1724274	7.453
179)$Terphenyl-d14	(5)	16.163	244	2185100	15.306
182) p-Dimethylaminoazobenzene	(5)	16.398	225	310827	8.286
185) Chlorobenzilate	(5)	16.489	139	546612	8.189
187) 3,3'-Dimethylbenzidine	(5)	16.976	212	1102588	7.818
188) Butylbenzylphthalate	(5)	17.030	149	783099	8.025
191) 2-Acetylaminofluorene	(5)	17.409	181	639578	7.499
193) 3,3'-Dichlorobenzidine	(5)	17.934	252	568737	7.568
195) Benzo(a)anthracene	(5)	17.944	228	1589499	7.981
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.950	231	327563	7.521
196) Chrysene	(5)	18.003	228	1469413	7.723
199) bis(2-Ethylhexyl)phthalate	(5)	18.105	149	1117020	7.983
203) 6-Methylchrysene	(5)	18.821	242	1029359	7.656
205) Di-n-octylphthalate	(6)	19.292	149	1922194	8.234
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.832	256	636455	7.859
206) Benzo(b)fluoranthene	(6)	19.832	252	1479494	7.898
208) Benzo(k)fluoranthene	(6)	19.880	252	1414164	7.762
211) Benzo(a)pyrene	(6)	20.373	252	1345244	7.709
213)*Perylene-d12	(6)	20.463	264	761186	5.000
215) 3-Methylcholanthrene	(6)	20.945	268	616083	7.558
217) Dibenz(a,h)acridine	(6)	21.779	279	1043092	6.983
218) Dibenz(a,j)acridine	(6)	21.854	279	1043062	6.928
222) Total PAHs	(6)			23765835	135.580
219) Indeno(1,2,3-cd)pyrene	(6)	22.127	276	1442754	7.070
220) Dibenz(a,h)anthracene	(6)	22.170	278	1202951	7.072
221) Benzo(g,h,i)perylene	(6)	22.560	276	1208026	6.927

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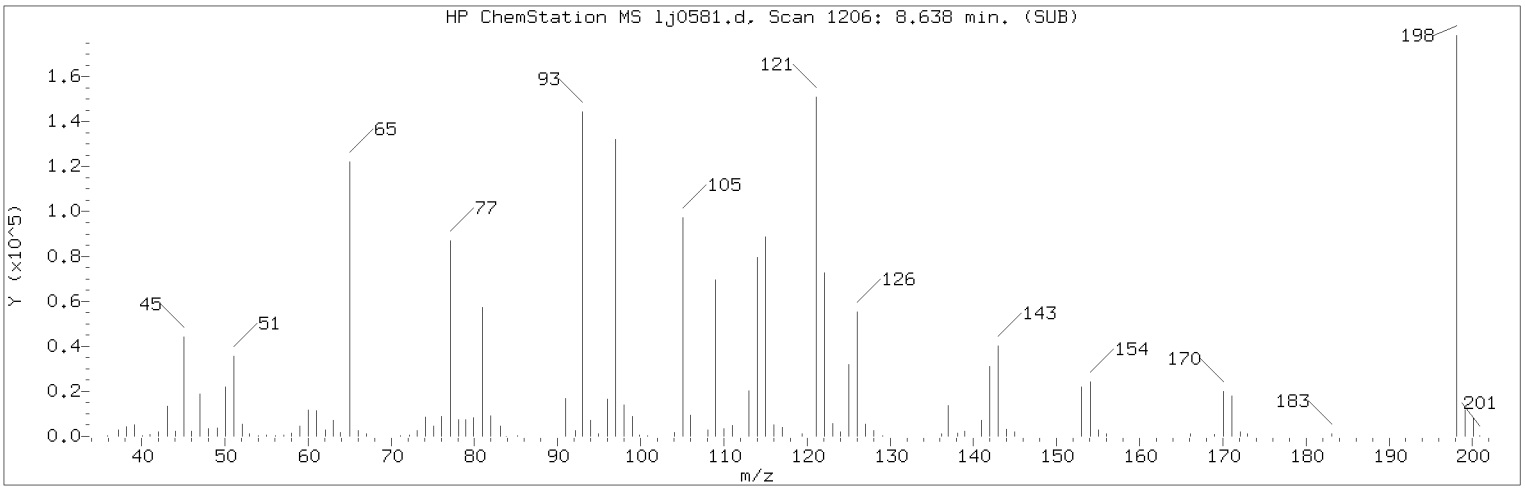
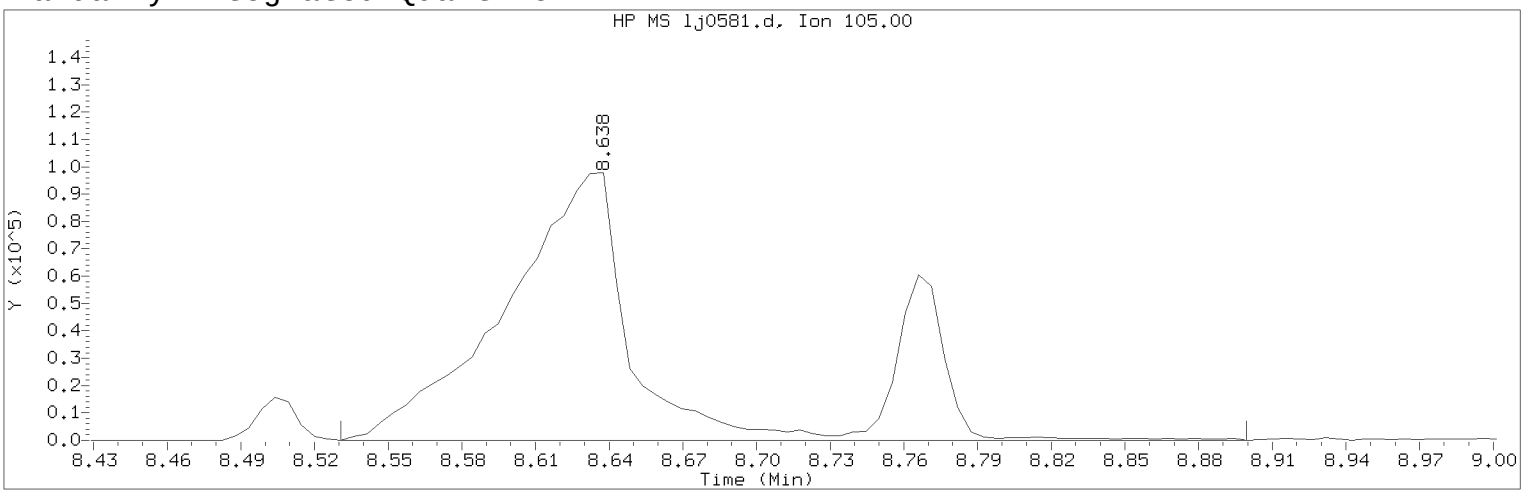
Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct16.b/lj0581.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 10:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: all1
Calibration date and time: 16-OCT-2015 10:59
Date, time and analyst ID of latest file update: 16-Oct-2015 10:59 hbz01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

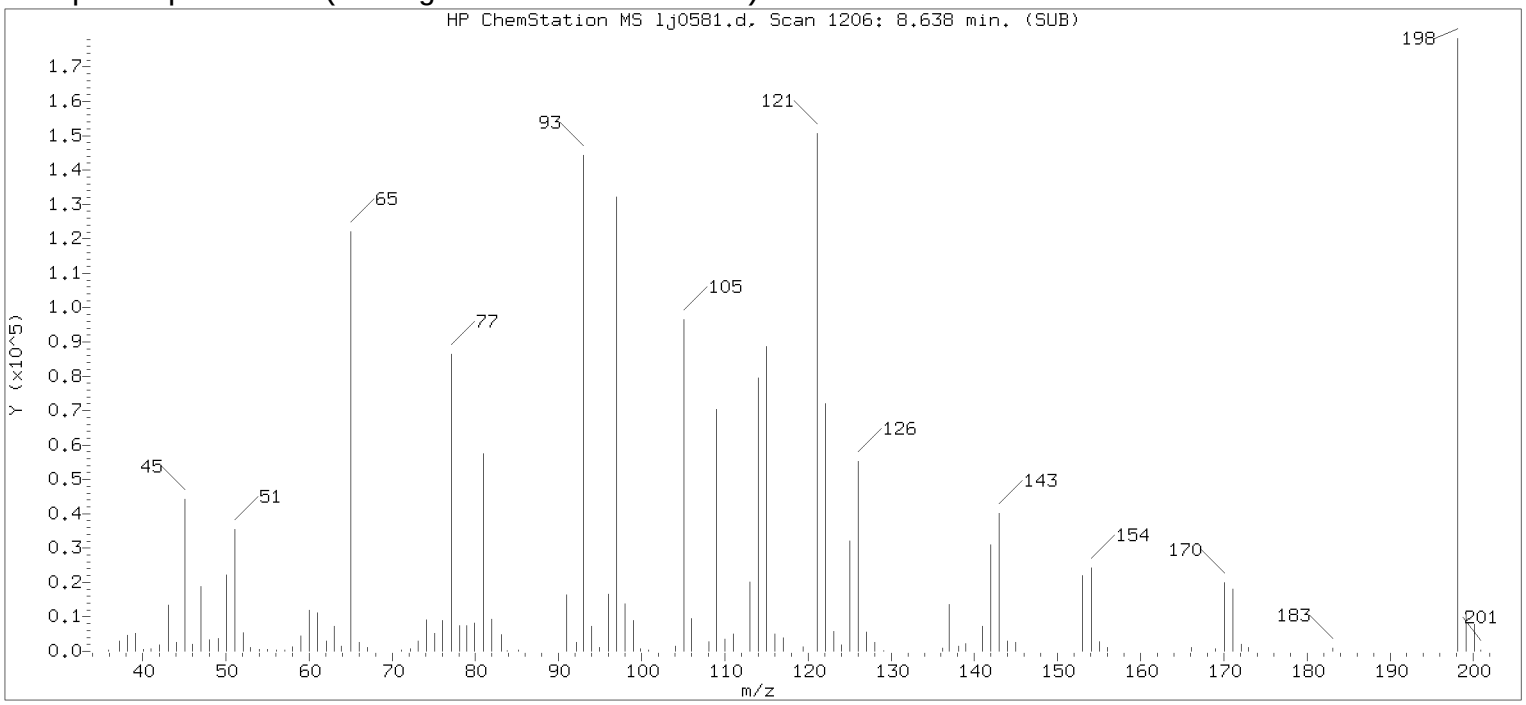
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1206
Retention Time (minutes) : 8.638
Quant Ion : 105.00
Area (flag) : 423476M
On-Column Amount (ng/ul) : 7.9588
Integration start scan : 1185 Integration stop scan: 1254
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

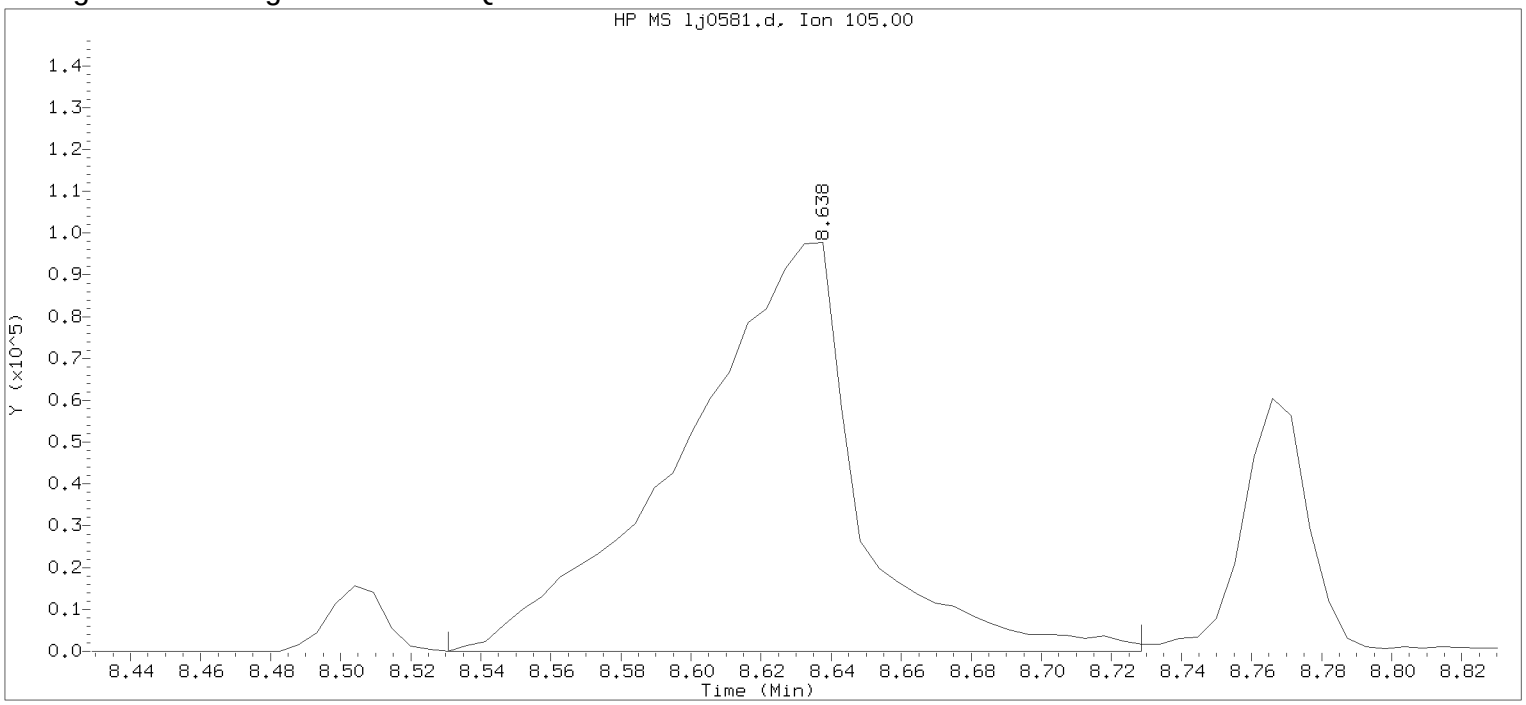
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 10/19/2015 at 11:14.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct16.b/lj0581.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 10:17 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: all1
Calibration date and time: 16-OCT-2015 10:43
Date, time and analyst ID of latest file update: 16-Oct-2015 10:43 Unknown

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1206		
Retention Time (minutes)	: 8.638		
Quant Ion	: 105.00		
Area	: 340029		
On-column Amount (ng/ul)	: 6.7187		
Integration start scan	: 1185	Integration stop scan:	1222
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:14.
Target 3.5 esignature user ID: hbz01996

Data File: /chem/HP20296.i/15oct17.b/lj0610a.d

Date : 17-OCT-2015 12:29

Client ID: DFTPP12.5

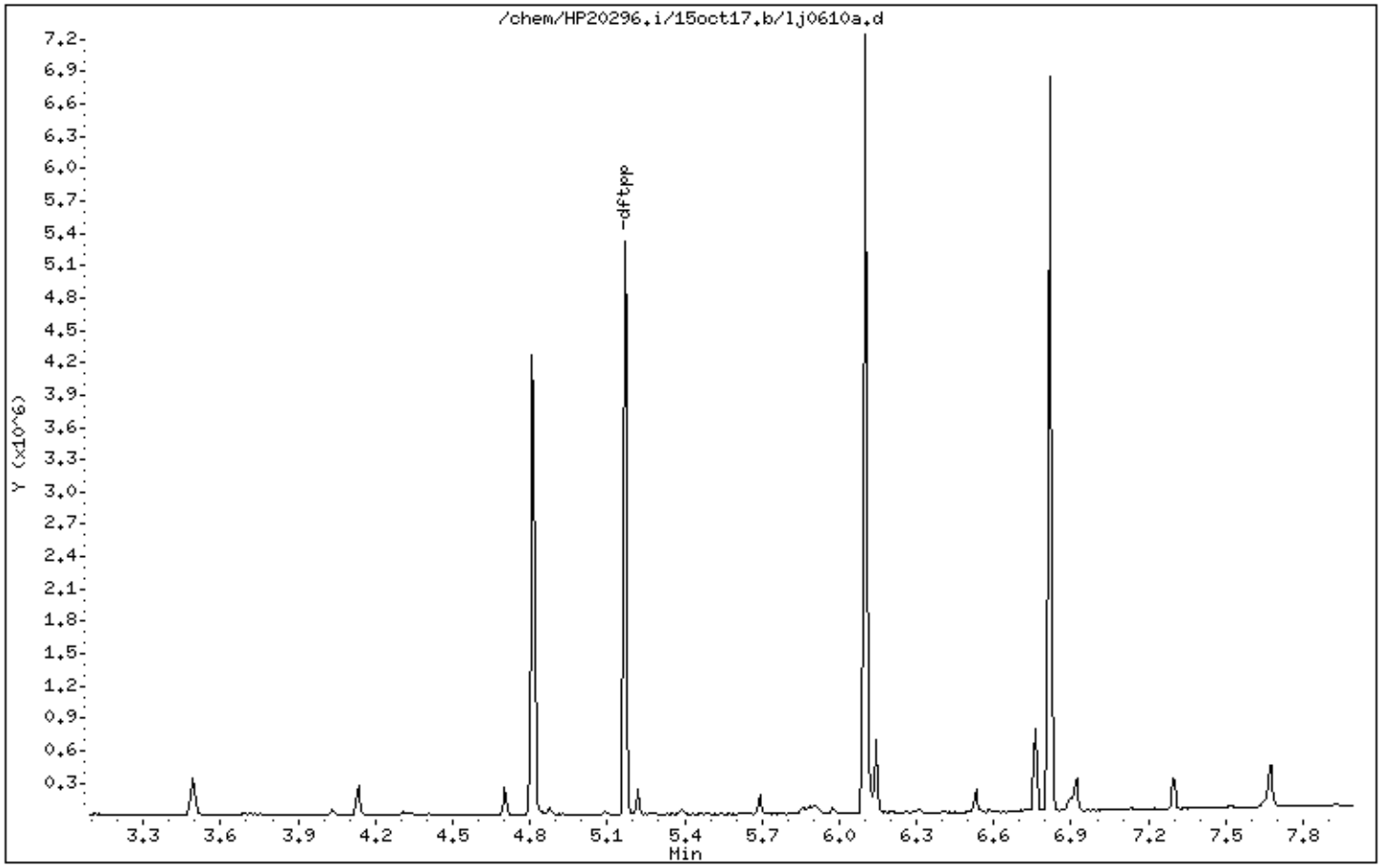
Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Catherine E. Bachman on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15oct17.b/lj0610a.d

Date : 17-OCT-2015 12:29

Client ID: DFTPP12.5

Instrument: HP20296.i

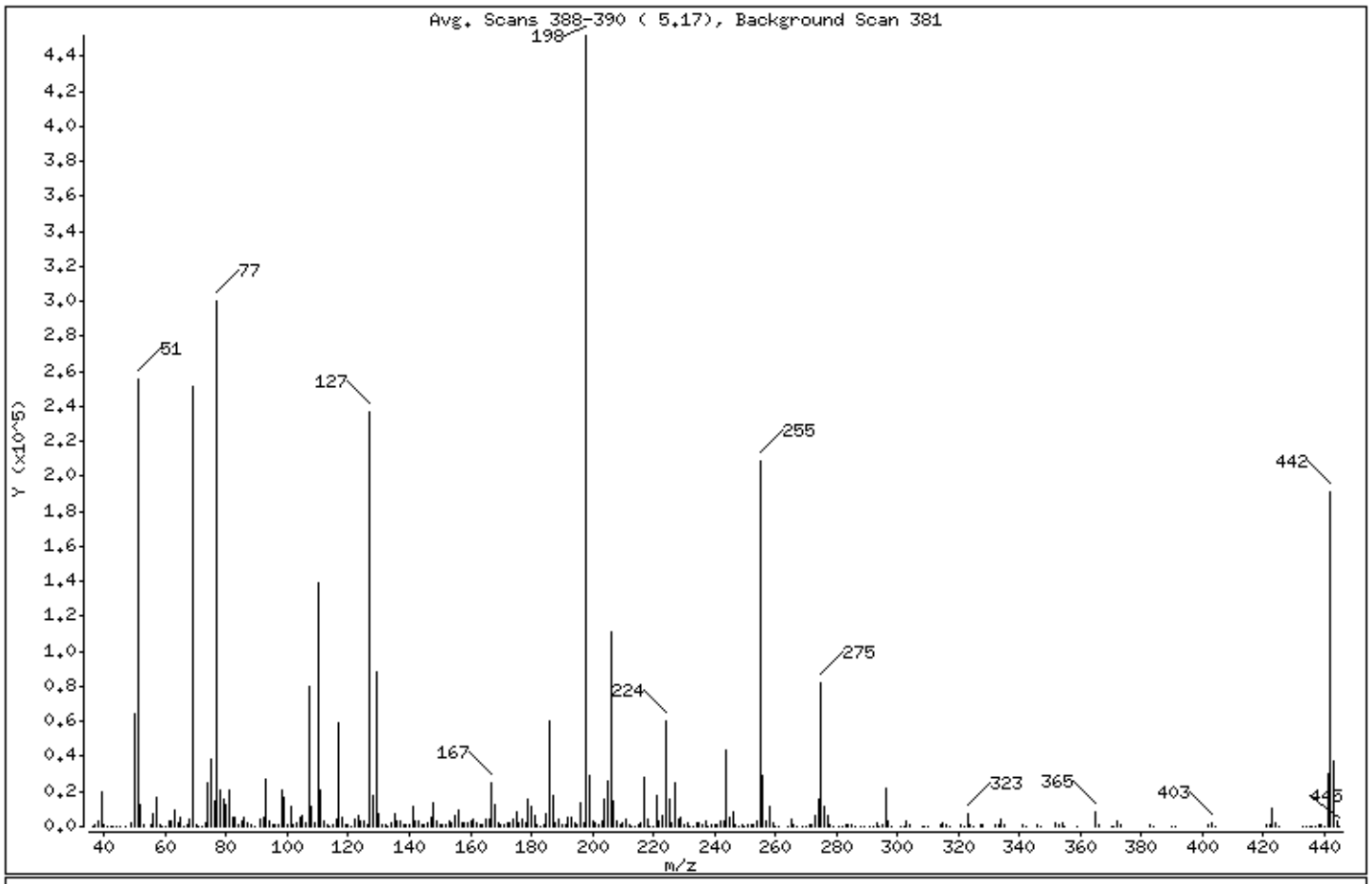
Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	56.55
68	Less than 2.00% of mass 69	0.94 (1.68)
69	Mass 69 relative abundance	55.69
70	Less than 2.00% of mass 69	0.34 (0.62)
127	40.00 - 60.00% of mass 198	52.35
197	Less than 1.00% of mass 198	0.43
199	5.00 - 9.00% of mass 198	6.52
275	10.00 - 30.00% of mass 198	18.15
365	Greater than 1.00% of mass 198	1.84
441	Present, but less than mass 443	6.58
442	40.00 - 99.99% of mass 198	42.29
443	17.00 - 23.00% of mass 442	8.33 (19.71)

Digitally signed by Catherine E. Bachman on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Date : 17-OCT-2015 12:29

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS Column diameter: 0.18

Data File: lj0610a.d
Spectrum: Avg. Scans 388-390 (5,17), Background Scan 381
Location of Maximum: 198.00
Number of points: 315

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	196	119.00	868	198.00	451840	281.00	480
37.00	906	120.00	928	199.00	29456	282.00	89
38.00	2785	121.00	353	200.00	2761	283.00	948
39.00	19528	122.00	3989	201.00	1734	284.00	578
40.00	530	123.00	6343	202.00	553	285.00	1509
41.00	479	124.00	2709	203.00	2738	286.00	336
42.00	88	125.00	3126	204.00	15353	288.00	91
43.00	134	126.00	1340	205.00	26192	289.00	119
44.00	445	127.00	236544	206.00	111280	291.00	201
45.00	150	128.00	17672	207.00	14485	292.00	305
47.00	137	129.00	88024	208.00	3575	293.00	1779
49.00	1784	130.00	7471	209.00	1296	294.00	492
50.00	64024	131.00	1284	210.00	2078	295.00	913
51.00	255488	132.00	581	211.00	3972	296.00	21592
52.00	12284	133.00	429	212.00	1006	297.00	3241
53.00	703	134.00	2410	213.00	199	298.00	435
55.00	1038	135.00	6799	214.00	171	301.00	273
56.00	7066	136.00	3275	215.00	901	302.00	443
57.00	16344	137.00	3617	216.00	2594	303.00	2602
58.00	749	138.00	669	217.00	28560	304.00	688
59.00	103	139.00	595	218.00	4085	308.00	438
60.00	105	140.00	1380	219.00	516	309.00	197
61.00	3074	141.00	11416	220.00	482	310.00	510
62.00	3618	142.00	3431	221.00	17552	314.00	1076
63.00	9768	143.00	2618	222.00	3427	315.00	2327
64.00	1573	144.00	1093	223.00	6414	316.00	1232
65.00	4723	145.00	686	224.00	60120	317.00	284
66.00	416	146.00	1892	225.00	15091	321.00	868
67.00	604	147.00	5071	226.00	1974	322.00	304
68.00	4235	148.00	13235	227.00	24544	323.00	7135
69.00	251584	149.00	2919	228.00	3689	324.00	1217
70.00	1558	150.00	661	229.00	5117	325.00	93
71.00	162	151.00	1178	230.00	826	327.00	1171
72.00	145	152.00	1208	231.00	1931	328.00	578
73.00	2130	153.00	2882	232.00	407	332.00	694

Digitally signed by Catherine E. Bachman on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Date : 17-OCT-2015 12:29

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP; Operator: ceb05247

Column phase: DB-5MS Column diameter: 0.18

Data File: lj0610a.d
Spectrum: Avg. Scans 388-390 (5,17), Background Scan 381
Location of Maximum: 198.00
Number of points: 315

m/z	Y	m/z	Y	m/z	Y	m/z	Y
74.00	25272	154.00	2342	233.00	426	333.00	605
75.00	38592	155.00	6034	234.00	1820	334.00	4058
76.00	14516	156.00	9012	235.00	1599	335.00	898
77.00	300288	157.00	1910	236.00	1337	341.00	886
78.00	21064	158.00	1811	237.00	2609	342.00	129
79.00	15783	159.00	1805	238.00	138	346.00	1394
80.00	12151	160.00	3404	239.00	711	347.00	270
81.00	20704	161.00	4649	240.00	797	352.00	1807
82.00	5016	162.00	1700	241.00	1301	353.00	1080
83.00	4744	163.00	564	242.00	3252	354.00	1832
84.00	830	164.00	923	243.00	3457	355.00	316
85.00	3470	165.00	4086	244.00	43784	359.00	86
86.00	5333	166.00	3894	245.00	5229	365.00	8301
87.00	2270	167.00	24904	246.00	8006	366.00	1087
88.00	845	168.00	12588	247.00	1512	370.00	85
89.00	316	169.00	2096	248.00	344	371.00	496
91.00	4050	170.00	740	249.00	1371	372.00	3022
92.00	4979	171.00	709	250.00	448	373.00	771
93.00	27048	172.00	1960	251.00	825	383.00	952
94.00	2623	173.00	2408	252.00	534	384.00	365
95.00	802	174.00	4559	253.00	1505	390.00	320
96.00	1466	175.00	8719	254.00	3456	391.00	240
97.00	712	176.00	2262	255.00	208384	402.00	935
98.00	20336	177.00	4319	256.00	29560	403.00	1887
99.00	16952	178.00	1593	257.00	2705	404.00	493
100.00	1415	179.00	15683	258.00	11384	421.00	1494
101.00	11013	180.00	11033	259.00	2040	422.00	1332
102.00	615	181.00	5860	260.00	208	423.00	9936
103.00	2551	182.00	895	261.00	362	424.00	2414
104.00	5558	183.00	453	264.00	269	425.00	408
105.00	6069	184.00	1324	265.00	4413	433.00	209
106.00	1813	185.00	7542	266.00	945	434.00	177
107.00	79592	186.00	60272	267.00	168	435.00	382
108.00	11124	187.00	17384	269.00	188	436.00	235
109.00	2106	188.00	1739	270.00	271	437.00	392

Digitally signed by Catherine E. Bachman on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Date : 17-OCT-2015 12:29

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS Column diameter: 0.18

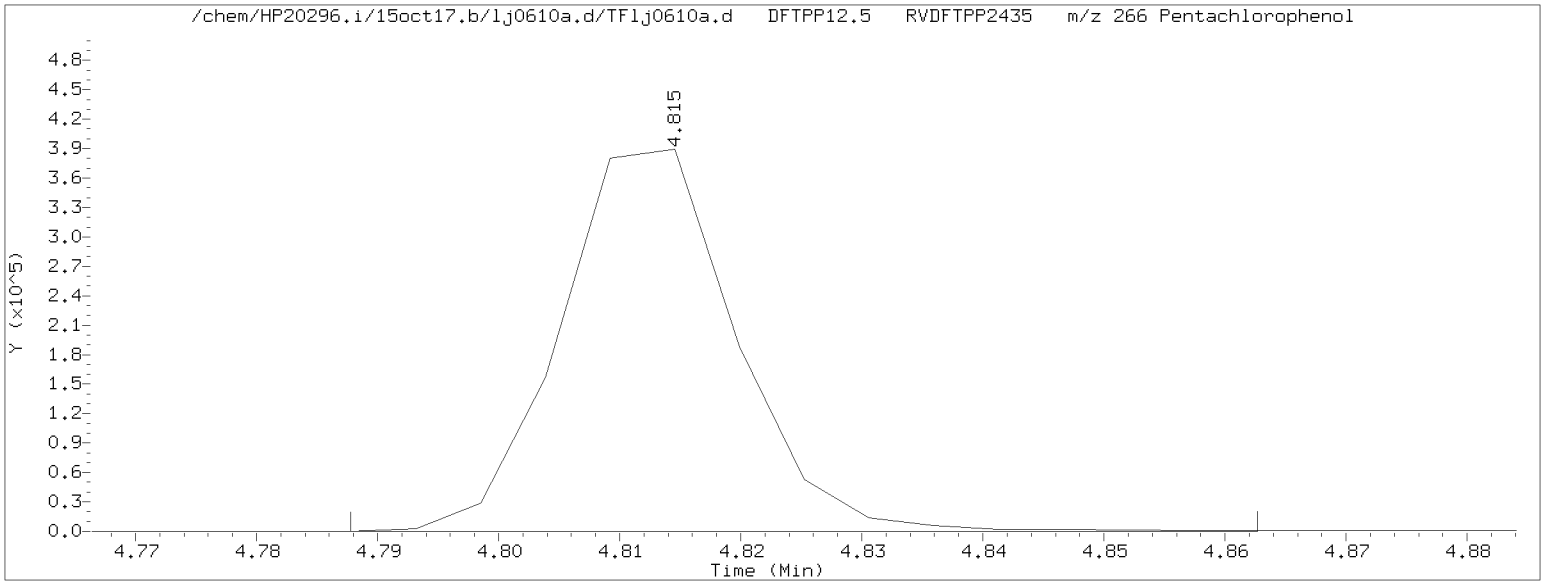
Data File: lj0610a.d
Spectrum: Avg. Scans 388-390 (5.17), Background Scan 381
Location of Maximum: 198.00
Number of points: 315

m/z	Y	m/z	Y	m/z	Y	m/z	Y
110.00	138944	189.00	3821	271.00	553	438.00	826
111.00	20856	190.00	619	272.00	1149	439.00	985
112.00	2656	191.00	1360	273.00	6182	440.00	425
113.00	1091	192.00	5130	274.00	16003	441.00	29704
114.00	257	193.00	5257	275.00	82008	442.00	191040
115.00	542	194.00	1781	276.00	11381	443.00	37656
116.00	4074	195.00	1156	277.00	6081	444.00	3304
117.00	59424	196.00	13053	278.00	1201	445.00	149
118.00	4775	197.00	1933	279.00	191		

Digitally signed by Catherine E. Bachman on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Assessment of GC Column Performance and Injection Port Inertness for

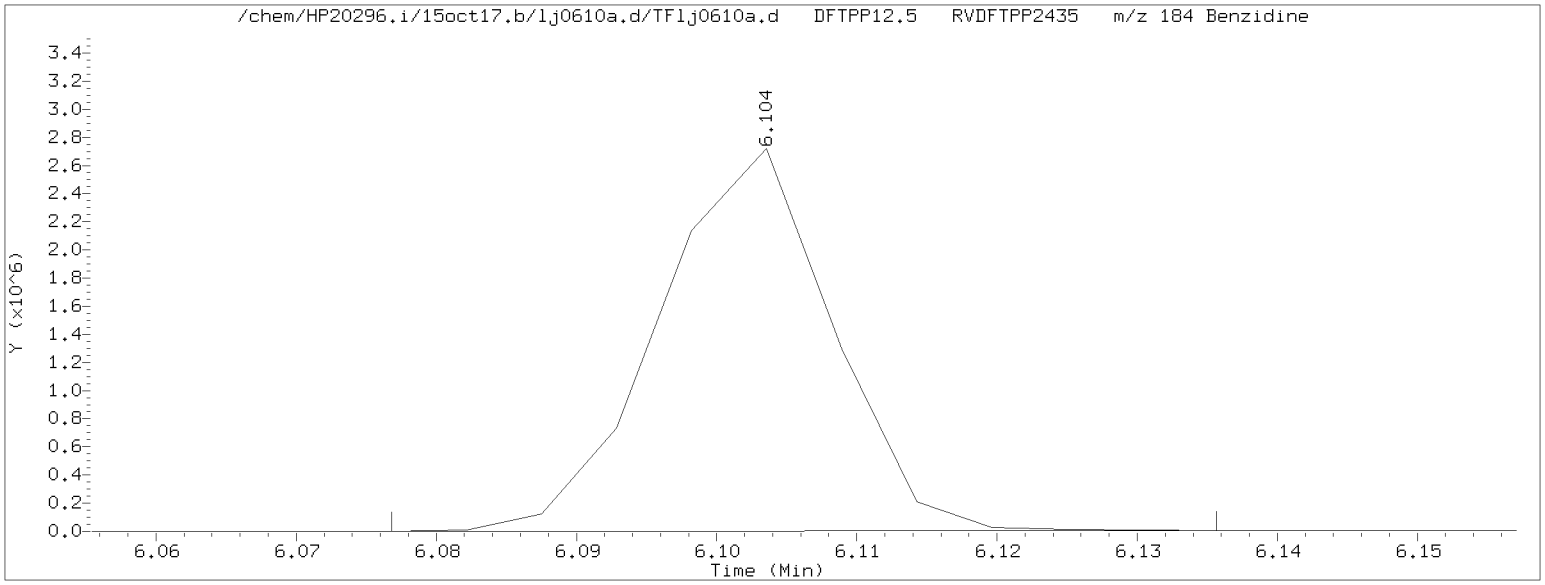
Instrument ID: HP20296.i Injection Date: 17-OCT-2015 12:29 Operator: ceb05247



Pentachlorophenol EICP peak height = 389504 EICP peak height at 10% = 38950 Pentachlorophenol EICP area = 392976

Pentachlorophenol EICP peak apex (min.) = 4.815
RT at 10% of front half of EICP (min.) = 4.799 'Front' peak width (min.) = 0.0155833333
RT at 10% of back half of EICP (min.) = 4.827 'Tailing' peak width (min.) = 0.0125666667

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0125666667}{0.0155833333} = 0.806$$



Benzidine EICP peak height = 2716928 EICP peak height at 10% = 271693 Benzidine EICP area = 2323171

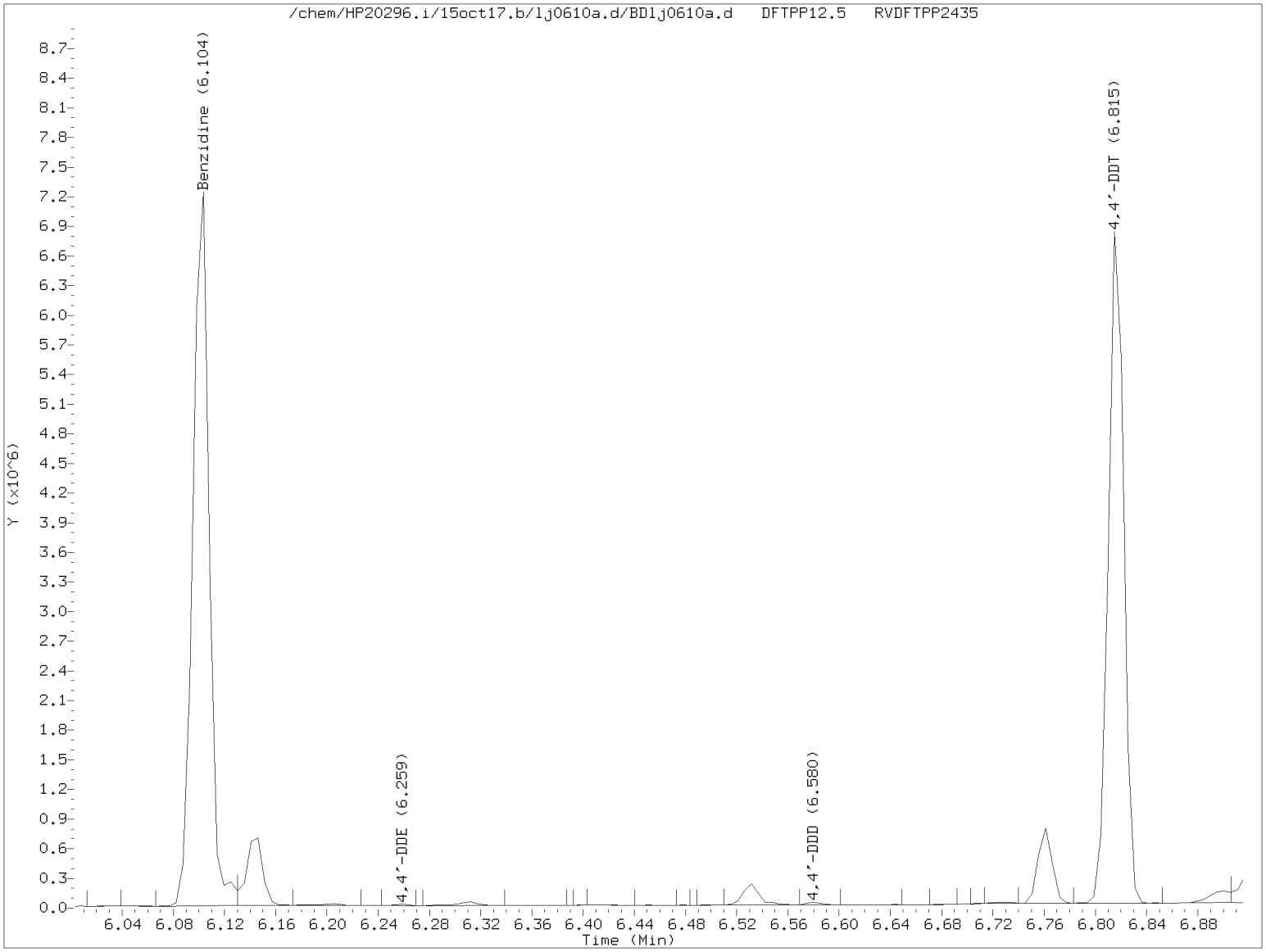
Benzidine EICP peak apex (min.) = 6.104
RT at 10% of front half of EICP (min.) = 6.089 'Front' peak width (min.) = 0.0147000000
RT at 10% of back half of EICP (min.) = 6.114 'Tailing' peak width (min.) = 0.0103666667

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0103666667}{0.0147000000} = 0.705$$

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:19. Parallax ID: mar00486

Assessment of GC Column Performance and Injection Port Inertness for

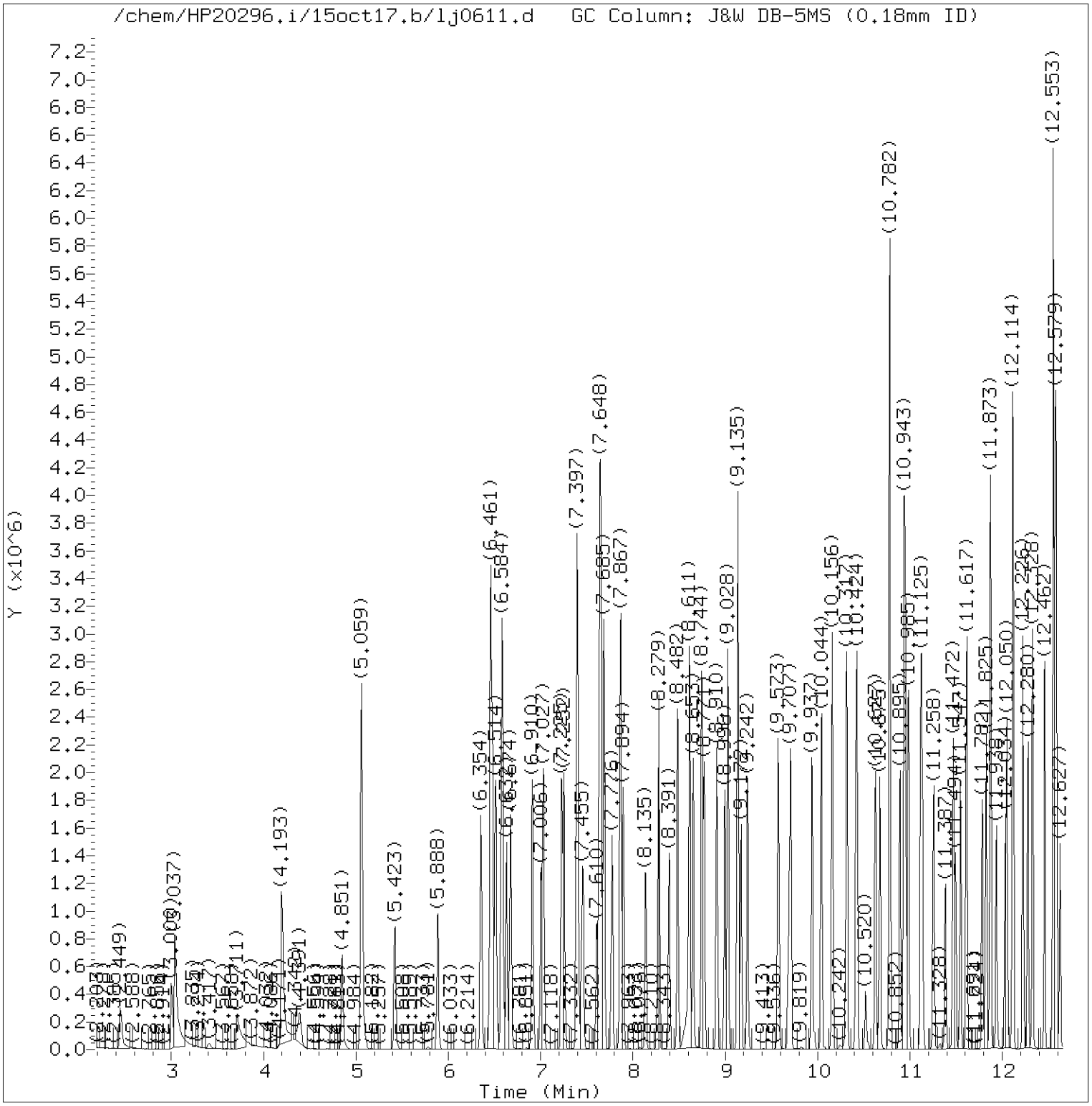
Instrument ID: HP20296.i Injection Date: 17-OCT-2015 12:29 Operator: ceb05247



$$\%\ 4,4'\text{-DDT breakdown} = \frac{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area}}{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area} + 4,4'\text{-DDT TIC area}} \times 100$$

$$\%\ 4,4'\text{-DDT breakdown} = \frac{10377 + 23872}{10377 + 23872 + 5790613} \times 100 = 0.6$$

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:19. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

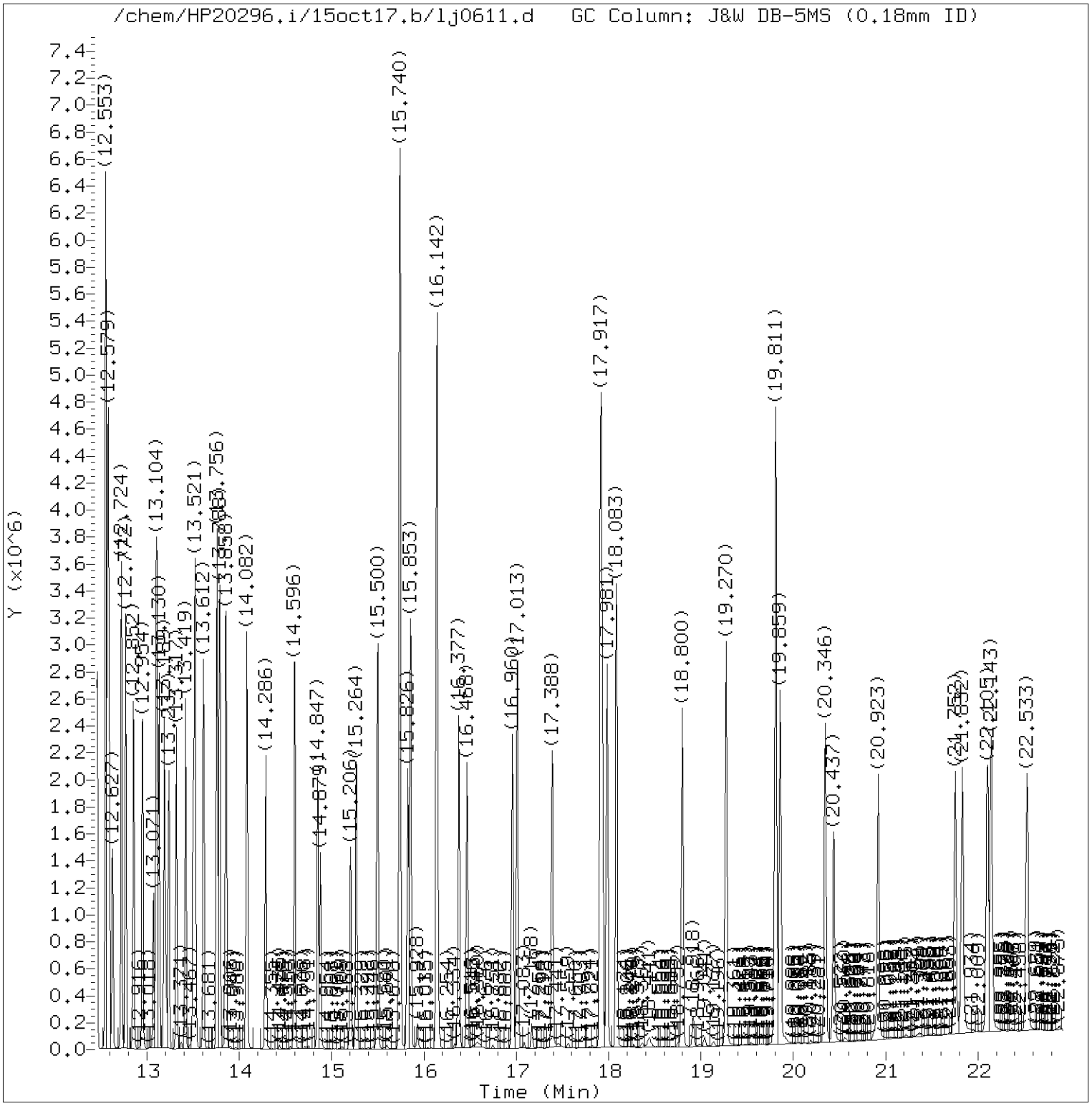
Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0611.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 12:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 13:10 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0611.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 12:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 13:10 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0611.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 12:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 13:10 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.449	88	266628	7.774
4) N-Nitrosodimethylamine	(1)	3.000	74	418239	7.722
5) Pyridine	(1)	3.037	79	691120	7.548
7) 2-Picoline	(1)	4.193	93	720204	7.542
8) N-Nitrosomethylethylamine	(1)	4.391	88	289978	7.420
9) Methyl methanesulfonate	(1)	4.851	80	377999	8.195
11)$2-Fluorophenol	(1)	5.059	112	1139440	15.759
13) N-Nitrosodiethylamine	(1)	5.423	102	280382	7.645
15) Ethyl methanesulfonate	(1)	5.888	109	293144	7.783
16) Benzaldehyde	(1)	6.354	77	540479	7.566
17)$Phenol-d6	(1)	6.461	99	1566369	15.730
18) Phenol	(1)	6.477	94	880991	8.244
19) Aniline	(1)	6.514	93	1048162	7.819
20) a-methylstyrene	(1)	6.589	118	572144	7.639
22) bis(2-Chloroethyl)ether	(1)	6.632	93	638518	7.687
23) 2-Chlorophenol	(1)	6.674	128	535545	7.885
24) 1,3-Dichlorobenzene	(1)	6.910	146	577537	7.625
25)*1,4-Dichlorobenzene-d4	(1)	7.006	152	243160	5.000
26) 1,4-Dichlorobenzene	(1)	7.033	146	592266	7.670
27) Benzyl alcohol	(1)	7.225	108	373344	7.294
28) 1,2-Dichlorobenzene	(1)	7.252	146	554614	7.628
30) Indene	(1)	7.391	115	959137	7.420
31) 2-Methylphenol	(1)	7.402	108	553710	7.719
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.455	45	932169	7.972
34) bis(2-Chloroisopropyl)ether	(1)	7.455	45	932169	7.972
35) N-Nitrosopyrrolidine	(1)	7.610	100	294143	7.641
36) Acetophenone	(1)	7.637	105	829735	7.406
37) 4-Methylphenol	(1)	7.648	108	589936	7.879
38) N-Nitroso-di-n-propylamine	(1)	7.653	70	514671	7.941
42) Total Cresols	(1)			1143646	15.598
39) N-Nitrosomorpholine	(1)	7.680	56	421795	8.441
40) o-Toluidine	(1)	7.685	106	972996	7.739
43) Hexachloroethane	(1)	7.776	117	261201	8.155
44)$Nitrobenzene-d5	(2)	7.867	82	1467621	15.455
45) Nitrobenzene	(2)	7.894	77	739061	7.844
48) N-Nitrosopiperidine	(2)	8.140	114	282557	7.843
50) Isophorone	(2)	8.279	82	1302716	7.861
51) 2-Nitrophenol	(2)	8.391	139	261893	7.623
53) 2,4-Dimethylphenol	(2)	8.482	107	606308	7.736
57) O,O,O-Triethylphosphorothioate	(2)	8.611	198	239888	6.966

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0611.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 12:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 13:10 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	8.616	105	520213M	8.843
55) bis(2-Chloroethoxy)methane	(2)	8.653	93	762866	7.579
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.744	104	882496	7.622
60) 2,4-Dichlorophenol	(2)	8.771	162	419823	7.545
62) 1,2,4-Trichlorobenzene	(2)	8.910	180	451932	7.081
65)*Naphthalene-d8	(2)	8.996	136	940552	5.000
66) Naphthalene	(2)	9.028	128	1524874	7.548
67) 4-Chloroaniline	(2)	9.135	127	646856	7.803
68) 2,6-Dichlorophenol	(2)	9.140	162	414042	7.416
69) Hexachloropropene	(2)	9.172	213	295396	7.022
71) Hexachlorobutadiene	(2)	9.242	225	252089	6.935
75) Quinoline	(2)	9.573	129	966986	7.655
76) Caprolactam	(2)	9.691	113	141150	7.557
77) N-Nitrosodi-n-butylamine	(2)	9.707	84	570114	8.224
80) 4-Chloro-3-methylphenol	(2)	9.937	107	517961	7.787
82) Safrole	(2)	10.044	162	379887	7.442
83) 2-Methylnaphthalene	(2)	10.156	142	1012608	7.557
84) 1-Methylnaphthalene	(2)	10.317	142	911225	7.450
85) Hexachlorocyclopentadiene	(3)	10.419	237	265097	6.910
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.429	216	440793	7.110
88) cis-Isosafrole	(3)	10.525	162	69421	1.272
90) 2,4,6-Trichlorophenol	(3)	10.627	196	288318	7.392
92) 2,4,5-Trichlorophenol	(3)	10.675	196	308527	7.264
97) Isosafrole	(3)			440168	7.554
93)$2-Fluorobiphenyl	(3)	10.782	172	2144500	14.984
94) trans-Isosafrole	(3)	10.895	162	370747	6.282
95) 1,1'-Biphenyl	(3)	10.937	154	1180334	7.595
96) 2-Chloronaphthalene	(3)	10.953	162	938789	7.673
98) 1-Chloronaphthalene	(3)	10.985	162	844114	7.246
99) Diphenyl ether	(3)	11.119	170	624127	7.522
100) 2-Nitroaniline	(3)	11.135	138	296042	7.987
104) 1,4-Naphthoquinone	(3)	11.258	158	359858	7.364
105) 1,4-Dinitrobenzene	(3)	11.387	168	144765	7.605
106) Dimethylphthalate	(3)	11.472	163	1007291	7.622
107) 1,3-Dinitrobenzene	(3)	11.494	168	157198	7.567
108) 2,6-Dinitrotoluene	(3)	11.547	165	221933	7.750
109) Acenaphthylene	(3)	11.617	152	1459146	7.833
112) 3-Nitroaniline	(3)	11.782	138	253030	8.044
113)*Acenaphthene-d10	(3)	11.825	164	519166	5.000
114) Acenaphthene	(3)	11.873	153	973849	7.846

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0611.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 12:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 13:10 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	11.938	184	180081	9.478
120) 2,4_2,6-Dinitrotoluenes	(3)			516316	15.135
116) 4-Nitrophenol	(3)	12.034	109	204435	8.415
117) Pentachlorobenzene	(3)	12.050	250	339675	7.009
119) Dibenzofuran	(3)	12.114	168	1292649	7.621
118) 2,4-Dinitrotoluene	(3)	12.119	165	294383	7.385
121) 1-Naphthylamine	(3)	12.226	143	959219	7.759
122) 2,3,4,6-Tetrachlorophenol	(3)	12.280	232	230163	7.223
123) 2-Naphthylamine	(3)	12.328	143	931203	7.746
124) Diethylphthalate	(3)	12.462	149	1005441	7.733
125) Thionazin	(3)	12.553	107	189237	7.503
126) Fluorene	(3)	12.553	166	1008381	7.600
127) 4-Chlorophenyl-phenylether	(3)	12.574	204	472066	7.413
128) 5-Nitro-o-toluidine	(3)	12.579	152	286008	7.809
129) 4-Nitroaniline	(3)	12.590	138	265915	8.293
130) 4,6-Dinitro-2-methylphenol	(4)	12.627	198	170804	7.185
132) NDPA as diphenylamine	(4)	12.724	169	843304	7.827
131) N-Nitrosodiphenylamine	(4)	12.724	169	843304	7.827
134) 1,2-Diphenylhydrazine	(4)	12.772	77	1401080	8.634
135)$2,4,6-Tribromophenol	(3)	12.857	330	194931	12.963
137) Tetraethyldithiopyrophosphate	(4)	12.948	97	223305	8.653
146) Diallate trans/cis	(4)			589466	8.370
139) 1,3,5-Trinitrobenzene	(4)	13.071	213	97265	6.982
140) Diallate (peak 1)	(4)	13.098	86	491508	6.958
141) Phorate	(4)	13.109	75	871405	8.593
142) Phenacetin	(4)	13.130	108	628942	8.481
143) 4-Bromophenyl-phenylether	(4)	13.189	248	240409	7.394
144) Diallate (peak 2)	(4)	13.205	86	97958	1.413
145) Hexachlorobenzene	(4)	13.237	284	229223	6.777
147) Dimethoate	(4)	13.317	87	548866	8.294
148) Atrazine	(4)	13.419	200	264022	7.489
149) Pentachlorophenol	(4)	13.505	266	164324	7.333
151) Pentachloronitrobenzene	(4)	13.515	237	123742	7.559
150) 4-Aminobiphenyl	(4)	13.526	169	981003	8.004
152) Pronamide	(4)	13.612	173	469849	8.313
153)*Phenanthrene-d10	(4)	13.756	188	920375	5.000
154) Dinoseb	(4)	13.761	211	256432	7.279
155) Phenanthrene	(4)	13.788	178	1489520	7.769
157) Anthracene	(4)	13.858	178	1495254	7.859
163) Carbazole	(4)	14.082	167	1407069	8.038

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$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct17.b/lj0611.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 12:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 13:10 ceb05247

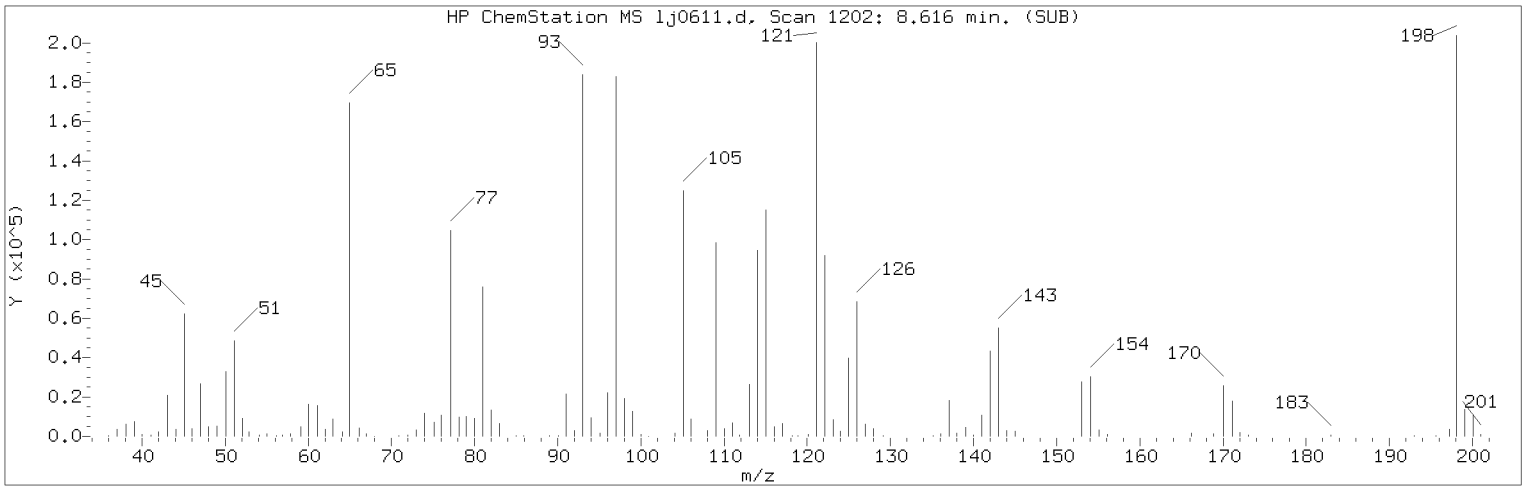
Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.286	109	419768	8.614
165) Di-n-butylphthalate	(4)	14.601	149	1719285	8.022
167) Parathion	(4)	14.847	109	245021	8.512
168) 4-Nitroquinoline-1-oxide	(4)	14.879	190	129421	6.260
169) Octachlorostyrene	(4)	15.206	308	85570	7.122
171) Isodrin	(4)	15.270	193	169748	7.585
173) Fluoranthene	(4)	15.500	202	1586548	7.603
174) Benzidine	(5)	15.740	184	3262467	23.696
175)*Pyrene-d10	(5)	15.826	212	1054405	5.000
177) Pyrene	(5)	15.853	202	1715606	7.561
179)$Terphenyl-d14	(5)	16.142	244	2054281	14.672
182) p-Dimethylaminoazobenzene	(5)	16.377	225	278598	7.573
185) Chlorobenzilate	(5)	16.468	139	570356	8.712
187) 3,3'-Dimethylbenzidine	(5)	16.960	212	1037382	7.500
188) Butylbenzylphthalate	(5)	17.013	149	802678	8.387
191) 2-Acetylaminofluorene	(5)	17.388	181	640221	7.654
193) 3,3'-Dichlorobenzidine	(5)	17.912	252	541838	7.352
195) Benzo(a)anthracene	(5)	17.917	228	1520673	7.786
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.933	231	319577	7.482
196) Chrysene	(5)	17.981	228	1427129	7.648
199) bis(2-Ethylhexyl)phthalate	(5)	18.083	149	1146297	8.354
203) 6-Methylchrysene	(5)	18.800	242	981147	7.441
205) Di-n-octylphthalate	(6)	19.270	149	1952836	8.408
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.811	256	591790	7.345
206) Benzo(b)fluoranthene	(6)	19.811	252	1401224	7.518
208) Benzo(k)fluoranthene	(6)	19.859	252	1400063	7.724
211) Benzo(a)pyrene	(6)	20.346	252	1334249	7.685
213)*Perylene-d12	(6)	20.437	264	757304	5.000
215) 3-Methylcholanthrene	(6)	20.923	268	613108	7.560
217) Dibenz(a,h)acridine	(6)	21.752	279	1071942	7.213
218) Dibenz(a,j)acridine	(6)	21.832	279	1102123	7.358
222) Total PAHs	(6)			24444537	137.982
219) Indeno(1,2,3-cd)pyrene	(6)	22.105	276	1562860	7.697
220) Dibenz(a,h)anthracene	(6)	22.143	278	1316336	7.778
221) Benzo(g,h,i)perylene	(6)	22.533	276	1304992	7.521

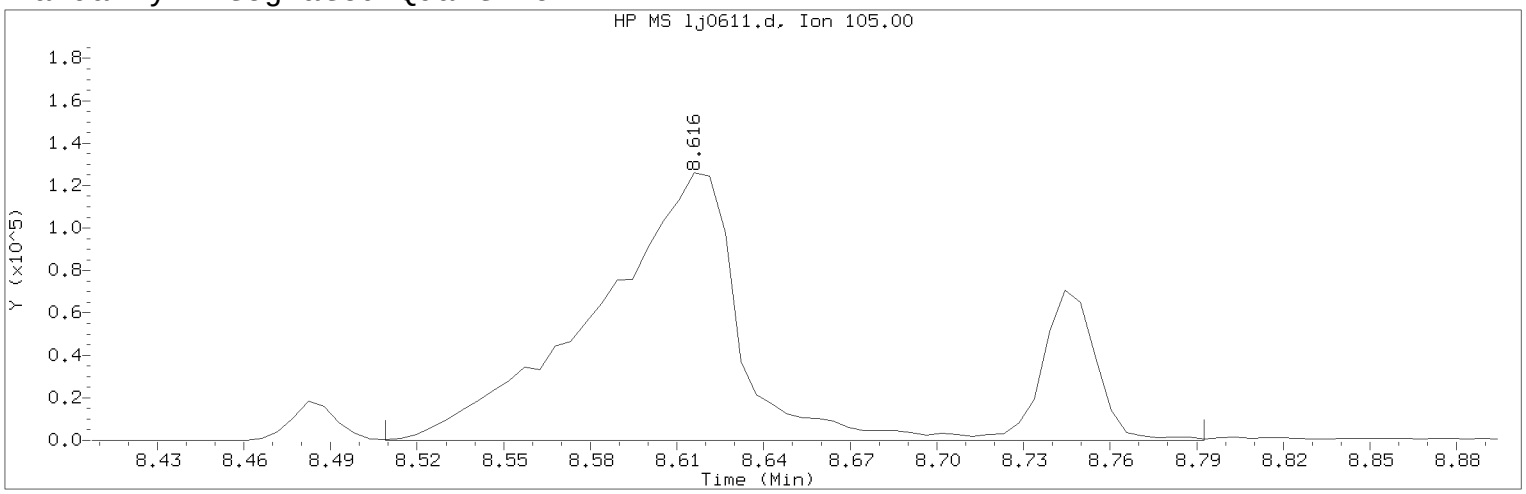
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct17.b/lj0611.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 12:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-OCT-2015 13:10
Date, time and analyst ID of latest file update: 17-Oct-2015 13:10 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

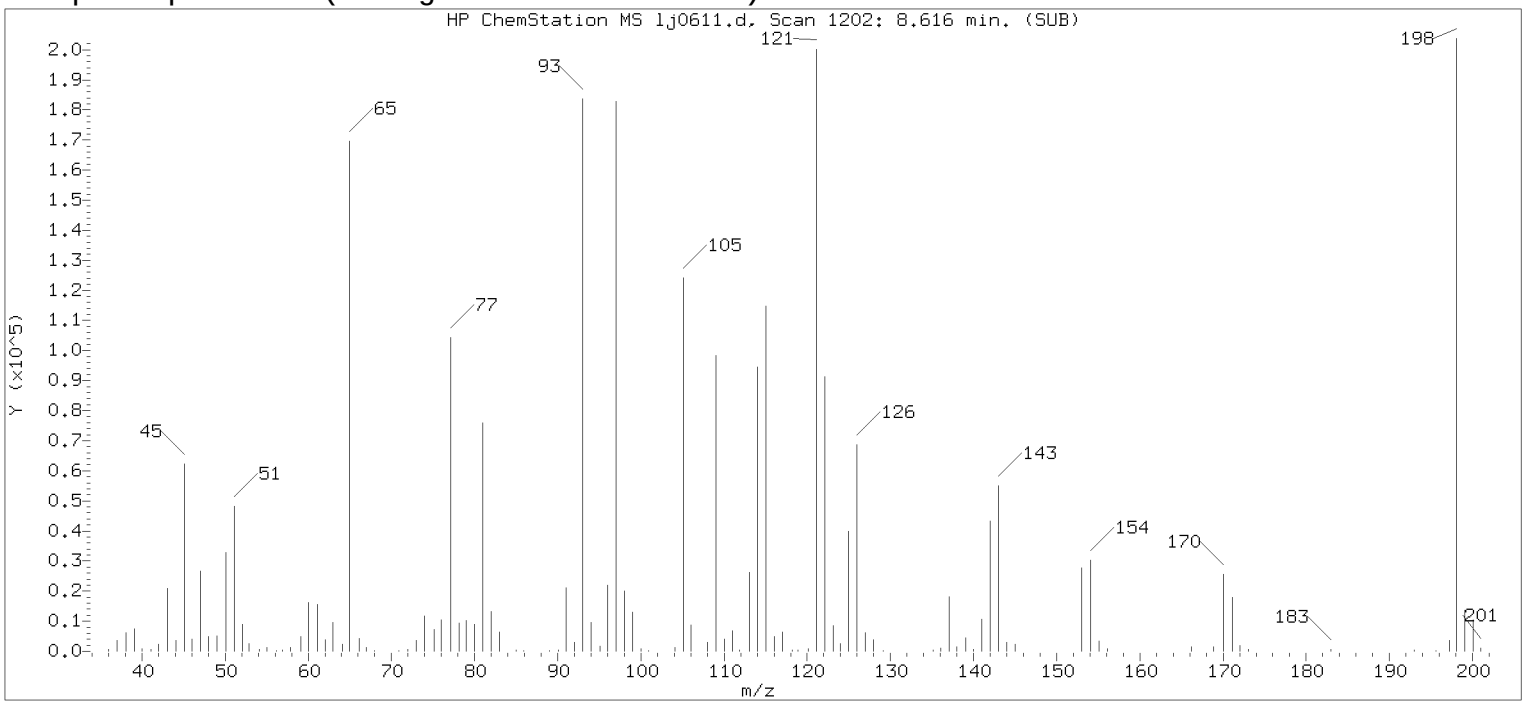
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1202
Retention Time (minutes) : 8.616
Quant Ion : 105.00
Area (flag) : 520213M
On-Column Amount (ng/ul) : 8.8434
Integration start scan : 1181 Integration stop scan: 1234
Y at integration start : 95 Y at integration end: 95

Reason for manual integration: improper integration

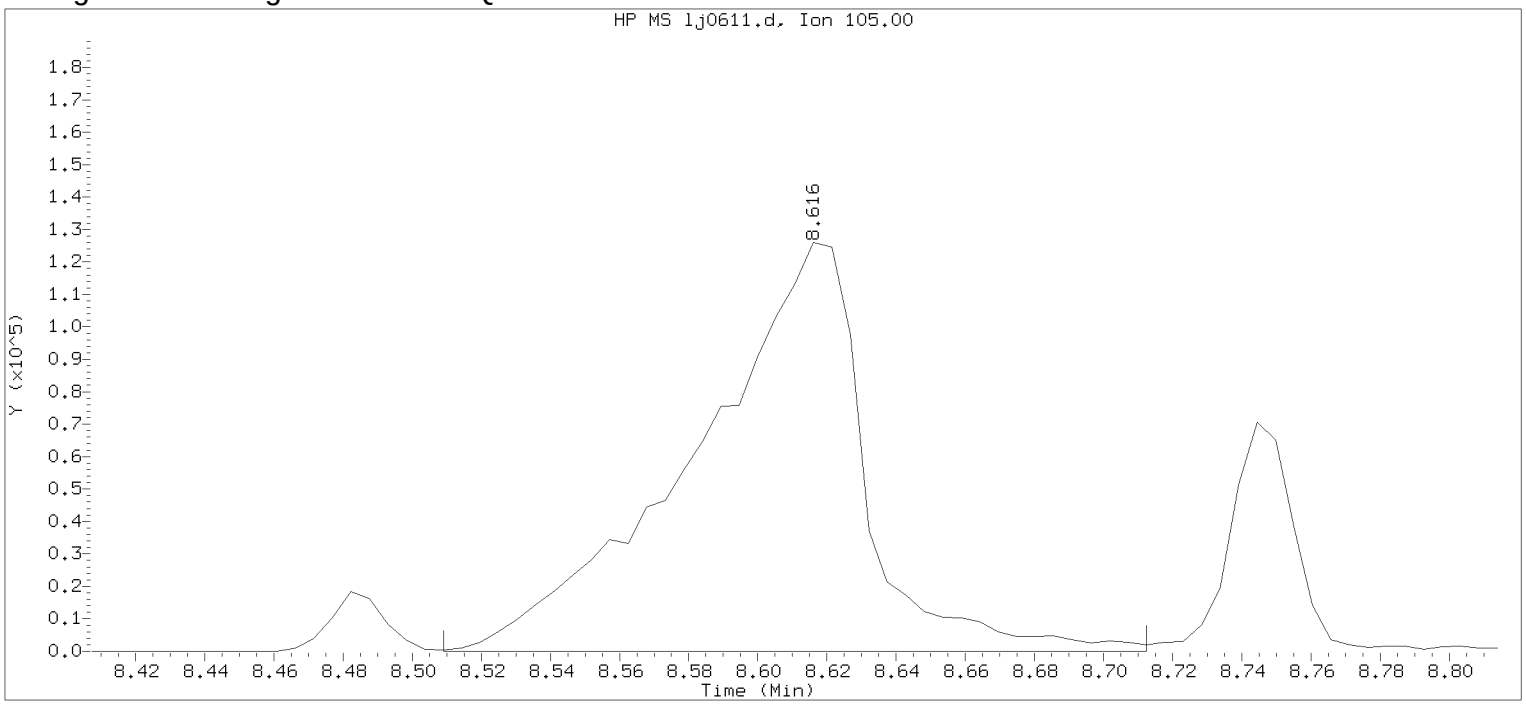
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:19.
Parallax ID: mar00486

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct17.b/lj0611.d Instrument ID: HP20296.i
Injection date and time: 17-OCT-2015 12:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-OCT-2015 13:09
Date, time and analyst ID of latest file update: 17-Oct-2015 13:09 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1202		
Retention Time (minutes)	: 8.616		
Quant Ion	: 105.00		
Area	: 430472		
On-column Amount (ng/ul)	: 7.6051		
Integration start scan	: 1181	Integration stop scan:	1219
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 10/17/2015 at 13:11.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP20296.i/15oct21a.b/lj0710.d

Date : 21-OCT-2015 15:15

Client ID: DFTPP12.5

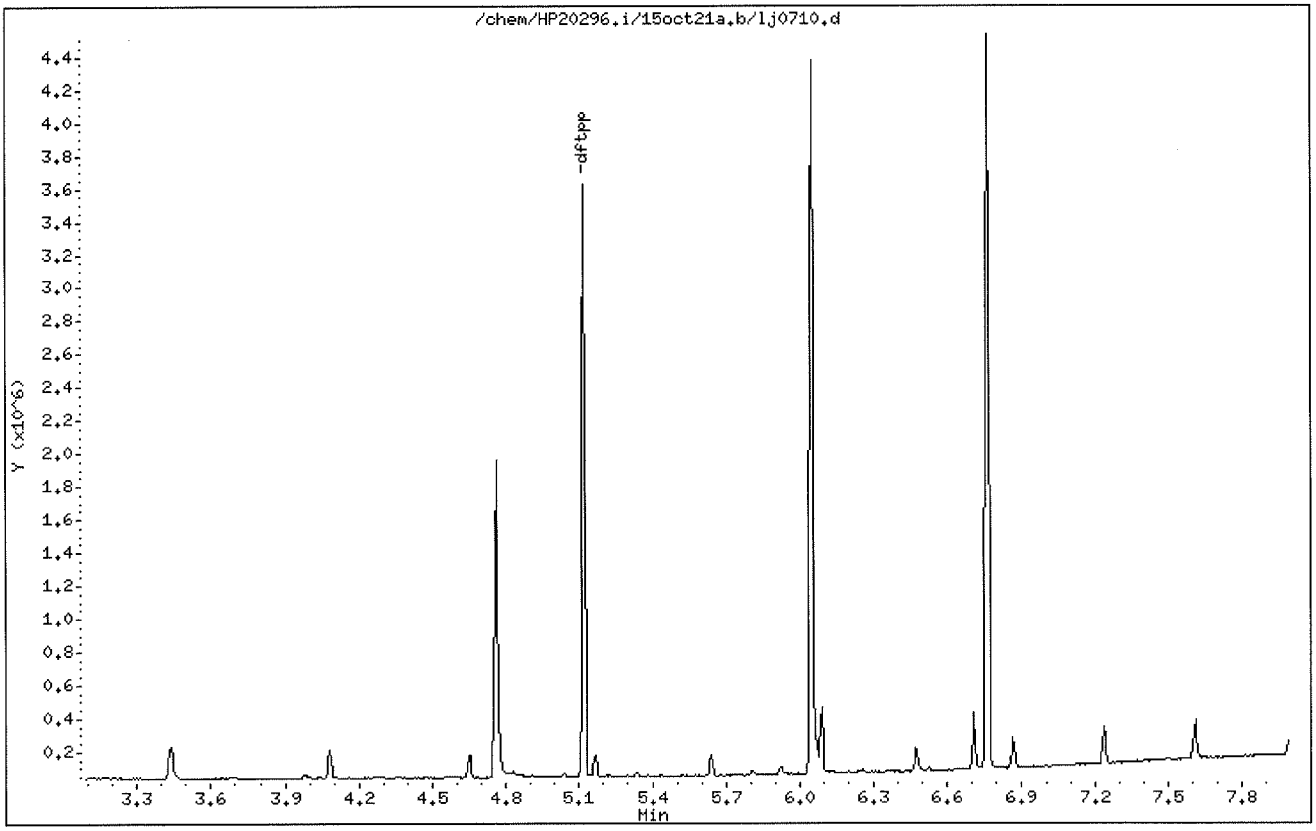
Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Holly Berry on 10/22/2015 at 08:20.
Target 3.5 esignature user ID: hb01996

Data File: /chem/HP20296.i/15oct21a.b/lj0710.d

Date : 21-OCT-2015 15:15

Client ID: DFTPP12.5

Instrument: HP20296.i

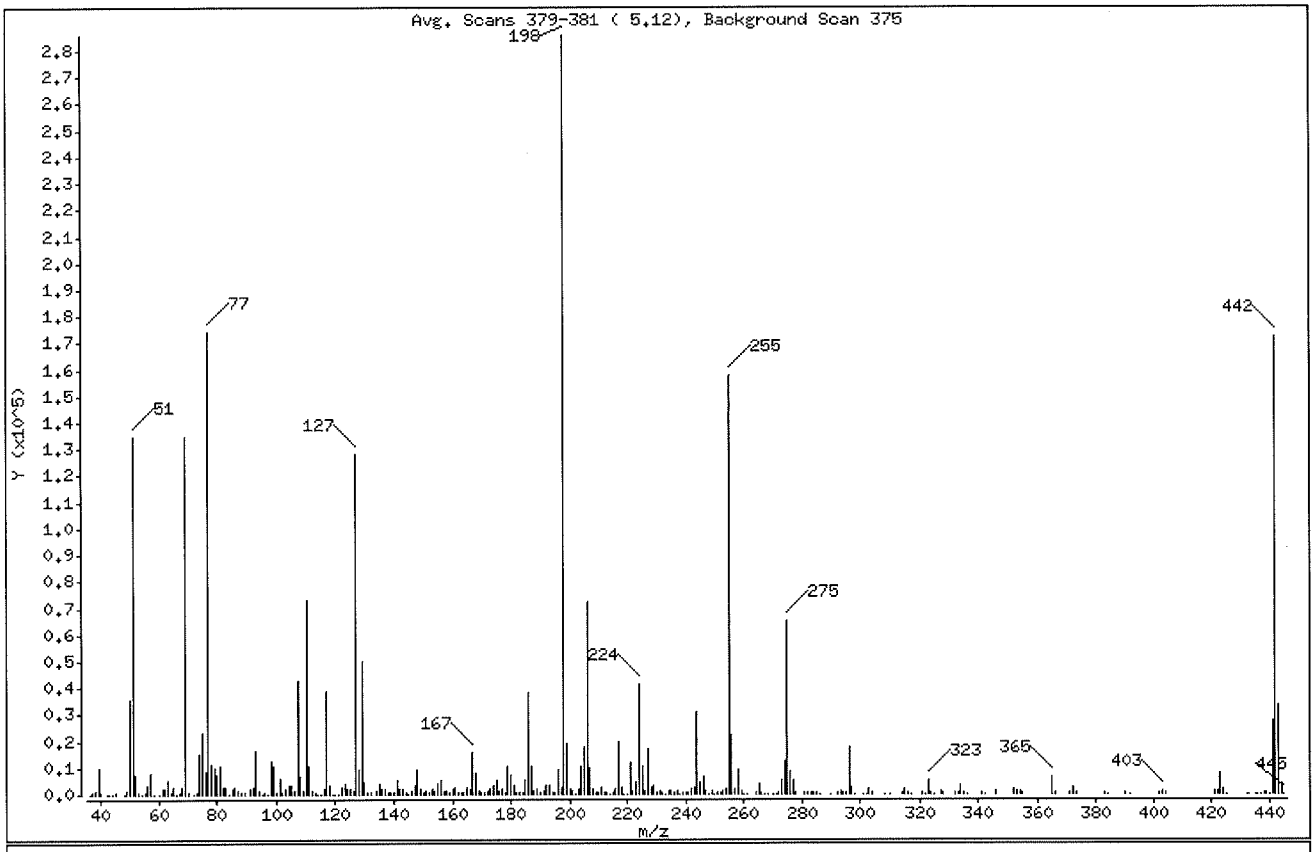
Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	47.12
68	Less than 2.00% of mass 69	0.85 (1.81)
69	Mass 69 relative abundance	47.10
70	Less than 2.00% of mass 69	0.29 (0.61)
127	40.00 - 60.00% of mass 198	44.87
197	Less than 1.00% of mass 198	0.95
199	5.00 - 9.00% of mass 198	6.66
275	10.00 - 30.00% of mass 198	22.65
365	Greater than 1.00% of mass 198	2.38
441	Present, but less than mass 443	9.65
442	40.00 - 99.99% of mass 198	60.14
443	17.00 - 23.00% of mass 442	11.74 (19.52)

Digitally signed by Holly Berry on 10/22/2015 at 08:20.
Target 3.5 esignature user ID: hb01996

Data File: /chem/HP20296.i/15oct21a.b/lj0710.d

Date : 21-OCT-2015 15:15

Client ID: DFTPP12.5

Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18

Data File: lj0710.d
Spectrum: Avg. Scans 379-381 (5,12), Background Scan 375
Location of Maximum: 198.00
Number of points: 306

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	62	119.00	252	197.00	2728	277.00	5022
37.00	675	120.00	310	198.00	285952	278.00	809
38.00	1554	121.00	89	199.00	19032	281.00	334
39.00	9640	122.00	2609	200.00	1687	282.00	357
40.00	581	123.00	3796	201.00	1336	283.00	746
42.00	98	124.00	1896	202.00	118	284.00	368
43.00	229	125.00	2022	203.00	2221	285.00	978
44.00	146	126.00	1084	204.00	10236	286.00	98
45.00	377	127.00	128320	205.00	17592	290.00	88
48.00	228	128.00	9102	206.00	72080	292.00	365
49.00	1056	129.00	49680	207.00	9827	293.00	1010
50.00	35528	130.00	4444	208.00	2022	294.00	456
51.00	134720	131.00	880	209.00	807	295.00	446
52.00	7067	132.00	512	210.00	735	296.00	18072
53.00	445	134.00	1475	211.00	2918	297.00	2848
54.00	74	135.00	3706	212.00	498	298.00	89
55.00	724	136.00	1670	213.00	402	301.00	236
56.00	3306	137.00	2229	214.00	104	302.00	147
57.00	8021	138.00	453	215.00	825	303.00	1993
58.00	225	139.00	465	216.00	1719	304.00	379
60.00	26	140.00	652	217.00	19696	308.00	225
61.00	1790	141.00	5349	218.00	2583	310.00	110
62.00	1997	142.00	2140	219.00	103	314.00	778
63.00	5388	143.00	1701	220.00	150	315.00	1678
64.00	800	144.00	488	221.00	11871	316.00	884
65.00	2676	145.00	276	222.00	1285	317.00	92
66.00	46	146.00	1465	223.00	4614	321.00	635
67.00	343	147.00	3209	224.00	41512	322.00	178
68.00	2434	148.00	8920	225.00	10226	323.00	5420
69.00	134656	149.00	1897	226.00	1137	324.00	976
70.00	828	150.00	489	227.00	16984	325.00	98
72.00	177	151.00	1363	228.00	2533	327.00	1141
73.00	862	152.00	573	229.00	3292	328.00	558
74.00	15109	153.00	2024	230.00	743	332.00	401
75.00	22872	154.00	1546	231.00	1522	333.00	534

Digitally signed by Holly Berry on 10/22/2015 at 08:20.
Target 3.5 esignature user ID: hb01996

Date : 21-OCT-2015 15:15

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS Column diameter: 0.18

Data File: lj0710.d
Spectrum: Avg. Scans 379-381 (5.12), Background Scan 375
Location of Maximum: 198.00
Number of points: 306

m/z	Y	m/z	Y	m/z	Y	m/z	Y
76.00	8478	155.00	3790	232.00	401	334.00	3500
77.00	173952	156.00	5511	233.00	328	335.00	744
78.00	11334	157.00	1086	234.00	1448	336.00	108
79.00	9615	158.00	1050	235.00	1257	341.00	696
80.00	7442	159.00	973	236.00	983	342.00	97
81.00	10624	160.00	2076	237.00	1448	346.00	1254
82.00	2815	161.00	2944	238.00	99	352.00	1656
83.00	2310	162.00	936	239.00	908	353.00	1194
84.00	214	163.00	411	240.00	648	354.00	1533
85.00	1904	164.00	359	241.00	785	355.00	356
86.00	2902	165.00	2510	242.00	2202	365.00	6816
87.00	1608	166.00	2068	243.00	2749	366.00	945
88.00	494	167.00	15832	244.00	31168	371.00	527
89.00	335	168.00	7664	245.00	4345	372.00	2794
91.00	2203	169.00	1443	246.00	6340	373.00	709
92.00	2390	170.00	423	247.00	1368	383.00	702
93.00	16520	171.00	530	248.00	321	384.00	90
94.00	1199	172.00	1288	249.00	1067	390.00	335
95.00	23	173.00	1707	250.00	294	392.00	110
96.00	776	174.00	3065	251.00	425	402.00	942
97.00	235	175.00	5390	252.00	707	403.00	1410
98.00	12522	176.00	1543	253.00	1091	404.00	415
99.00	10212	177.00	2209	254.00	2181	421.00	1423
100.00	981	178.00	969	255.00	157632	422.00	1129
101.00	5662	179.00	10261	256.00	22504	423.00	8001
102.00	386	180.00	6938	257.00	1820	424.00	1720
103.00	2128	181.00	3131	258.00	8921	425.00	129
104.00	3147	182.00	518	259.00	1565	432.00	94
105.00	3251	183.00	436	260.00	266	433.00	88
106.00	1378	184.00	790	261.00	270	435.00	193
107.00	42976	185.00	4951	264.00	412	436.00	282
108.00	6650	186.00	37912	265.00	3726	437.00	232
109.00	1560	187.00	10360	266.00	513	438.00	345
110.00	72712	188.00	1118	267.00	190	439.00	573
111.00	10791	189.00	2017	268.00	220	440.00	225

Digitally signed by Holly Berry on 10/22/2015 at 08:20.
Target 3.5 esignature user ID: hb01996

Data File: /chem/HP20296.i/15oct21a.b/lj0710.d

Date : 21-OCT-2015 15:15

Client ID: DFTPP12.5

Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18

Data File: lj0710.d

Spectrum: Avg. Scans 379-381 (5.12), Background Scan 375

Location of Maximum: 198.00

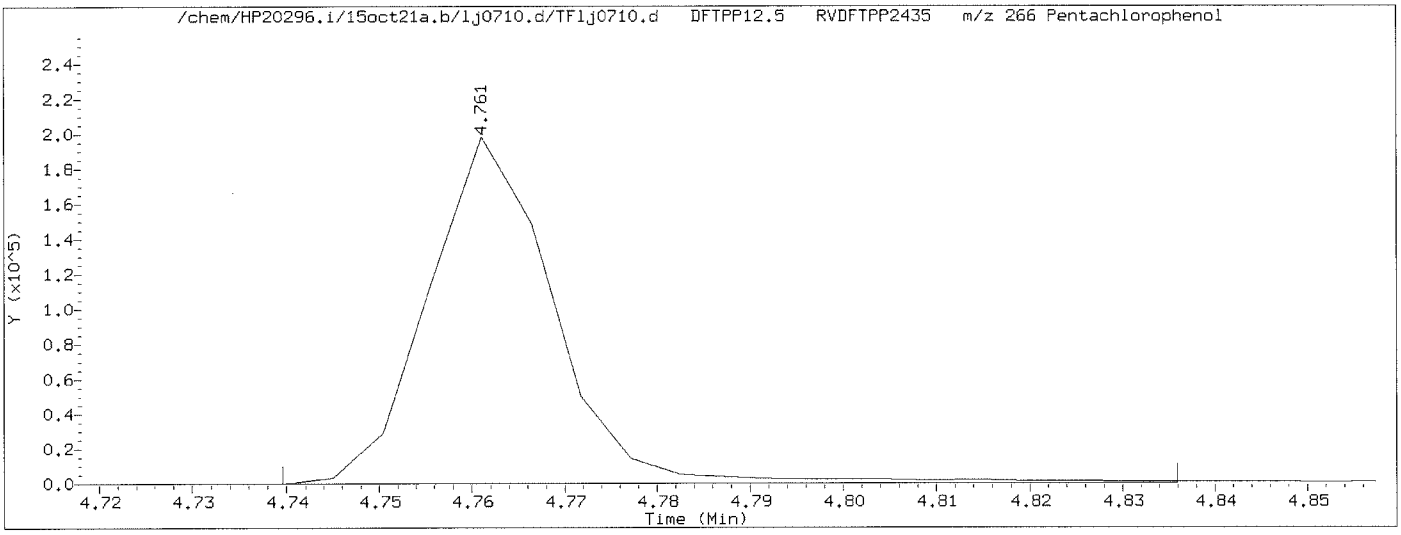
Number of points: 306

m/z	Y	m/z	Y	m/z	Y	m/z	Y
112.00	1616	190.00	505	270.00	196	441.00	27592
113.00	731	191.00	1012	271.00	304	442.00	171968
114.00	83	192.00	3286	272.00	480	443.00	33576
115.00	31	193.00	3539	273.00	5031	444.00	3032
116.00	2122	194.00	915	274.00	12546	445.00	96
117.00	38968	195.00	907	275.00	64760		
118.00	3093	196.00	8898	276.00	8810		

Digitally signed by Holly Berry on 10/22/2015 at 08:20.
Target 3.5 esignature user ID: hb01996

Assessment of GC Column Performance and Injection Port Inertness for

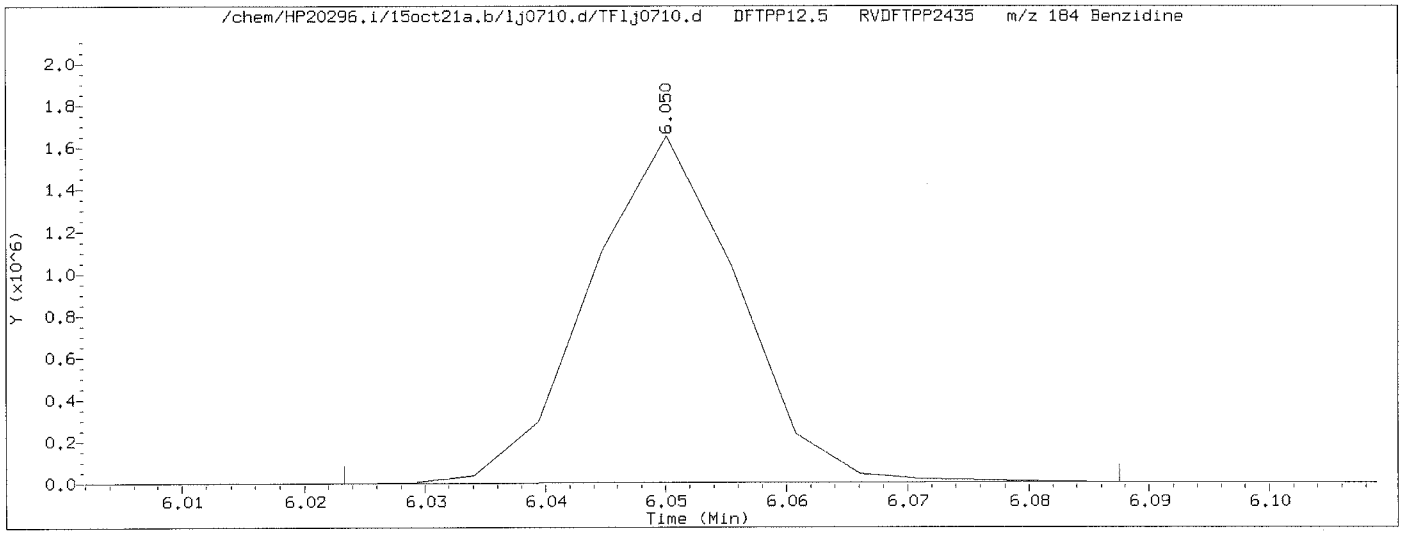
Instrument ID: HP20296.i Injection Date: 21-OCT-2015 15:15 Operator: ceb05247



Pentachlorophenol EICP peak height = 198272 EICP peak height at 10% = 19827 Pentachlorophenol EICP area = 187723

Pentachlorophenol EICP peak apex (min.) = 4.761
RT at 10% of front half of EICP (min.) = 4.748 'Front' peak width (min.) = 0.0125666667
RT at 10% of back half of EICP (min.) = 4.776 'Tailing' peak width (min.) = 0.0152500000

PCP tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0152500000}{0.0125666667} = 1.214$



Benzidine EICP peak height = 1650443 EICP peak height at 10% = 165044 Benzidine EICP area = 1423064

Benzidine EICP peak apex (min.) = 6.050
RT at 10% of front half of EICP (min.) = 6.037 'Front' peak width (min.) = 0.0133166667
RT at 10% of back half of EICP (min.) = 6.063 'Tailing' peak width (min.) = 0.0126166667

Benzidine tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0126166667}{0.0133166667} = 0.947$

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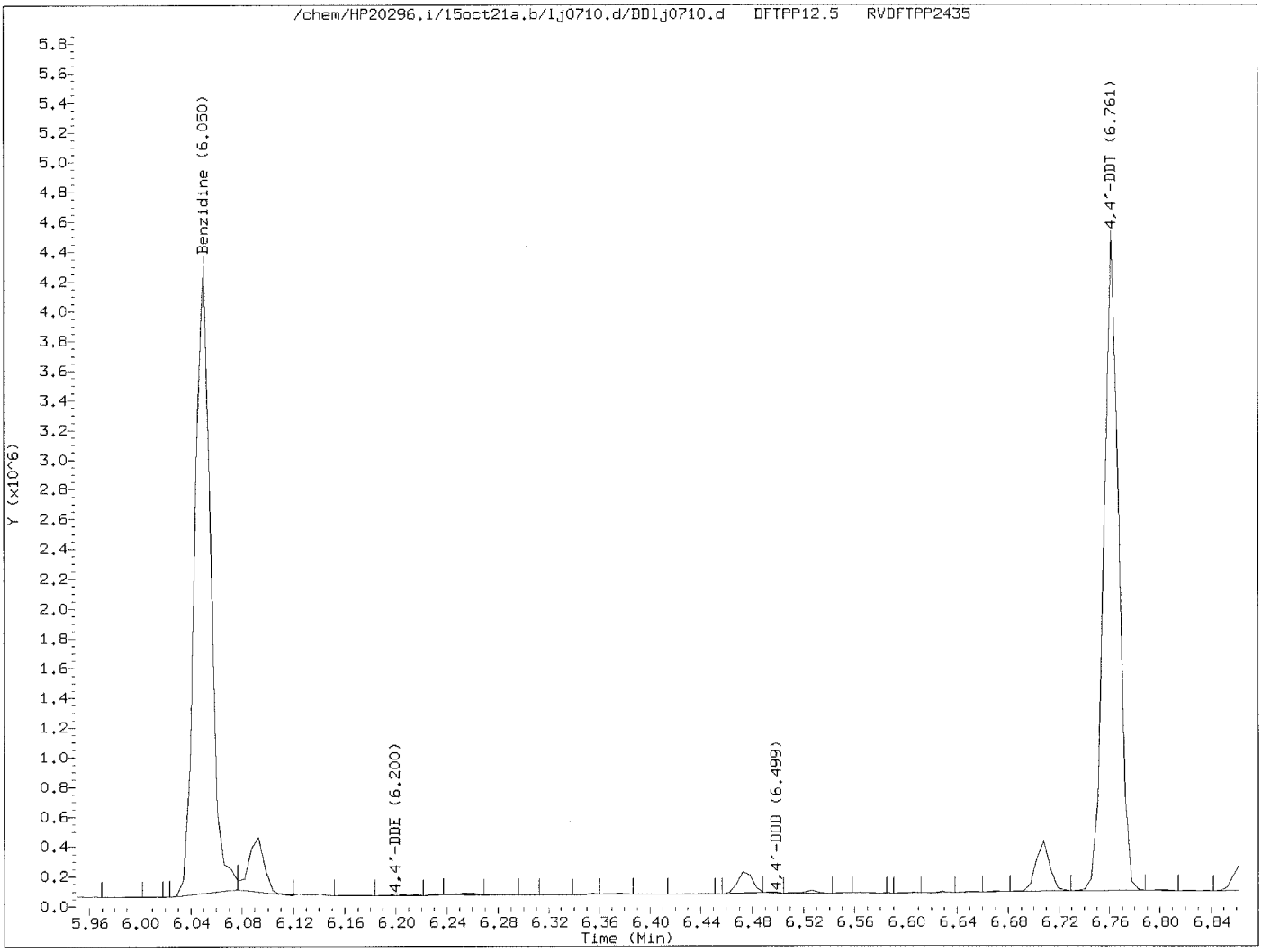
Target 3.5 esignature user ID: hb01996

Assessment of GC Column Performance and Injection Port Inertness for

Instrument ID: HP20296.i Injection Date: 21-OCT-2015 15:15 Operator: ceb05247



$$\%\ 4,4'\text{-DDT breakdown} = \frac{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area}}{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area} + 4,4'\text{-DDT TIC area}} \times 100$$

$$\%\ 4,4'\text{-DDT breakdown} = \frac{11104 + 4531}{11104 + 4531 + 3579296} \times 100 = 0.4$$

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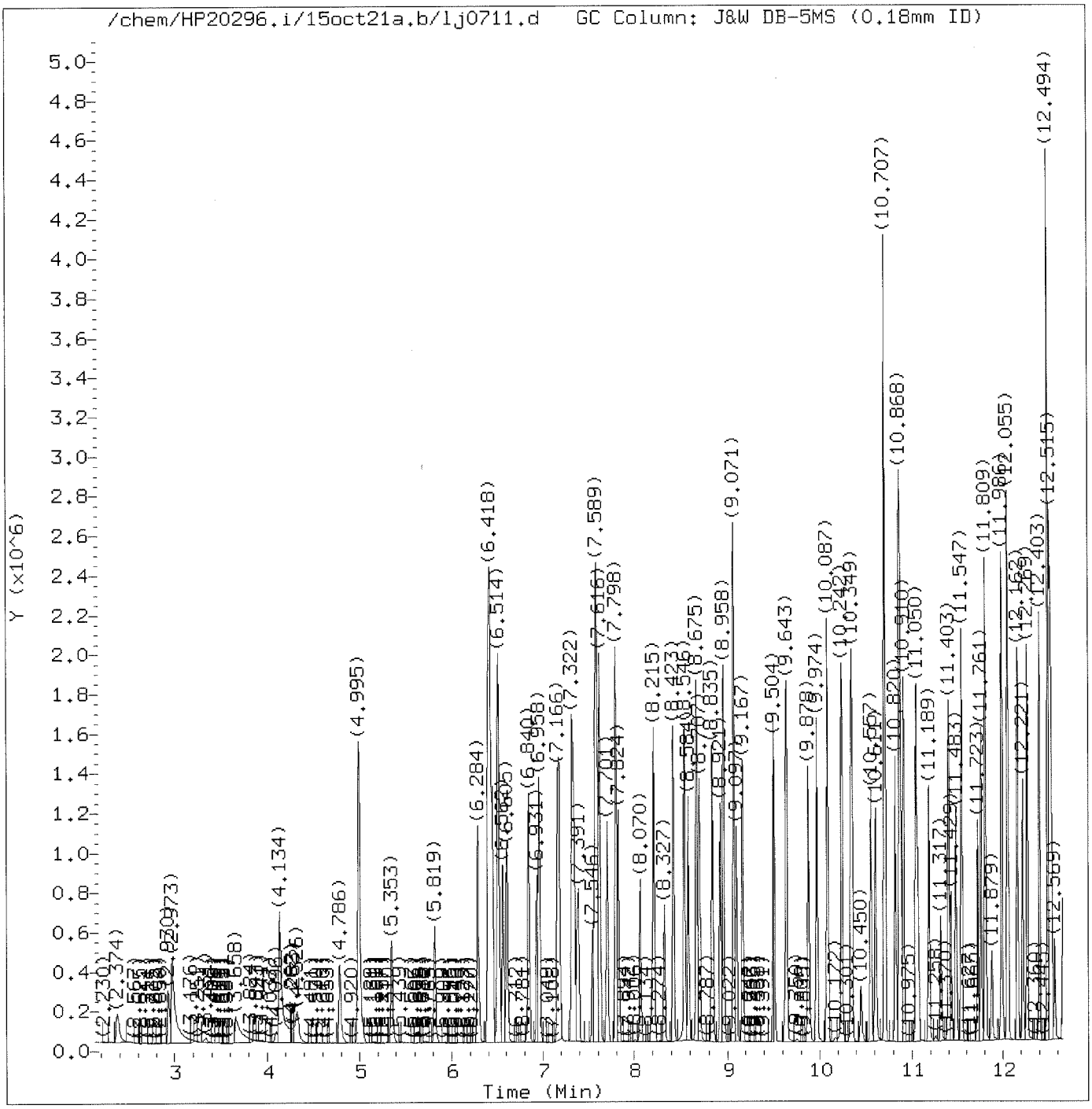
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0711.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 15:30 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

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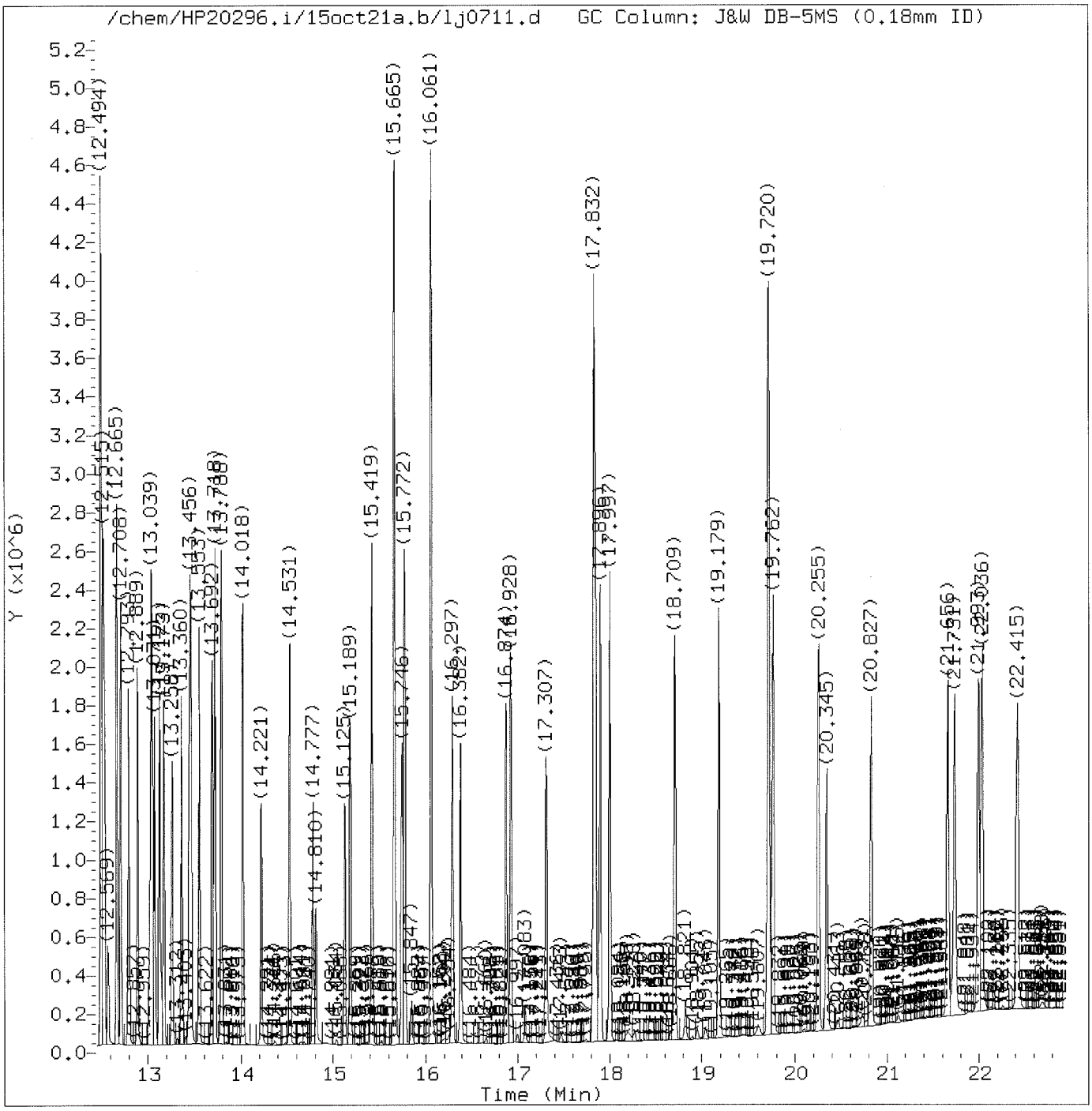
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0711.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 15:30 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0711.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 15:30 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.374	88	161355	7.500
4) N-Nitrosodimethylamine	(1)	2.930	74	260920	7.500
5) Pyridine	(1)	2.973	79	435599	7.500
7) 2-Picoline	(1)	4.134	93	462276	7.500
8) N-Nitrosomethylethylamine	(1)	4.326	88	183885	7.500
9) Methyl methanesulfonate	(1)	4.786	80	231559	7.500
11)$2-Fluorophenol	(1)	4.995	112	716269	15.000
13) N-Nitrosodiethylamine	(1)	5.353	102	181339	7.500
15) Ethyl methanesulfonate	(1)	5.824	109	184232	7.500
16) Benzaldehyde	(1)	6.284	77	346437	7.500
17)$Phenol-d6	(1)	6.402	99	949573	15.000
18) Phenol	(1)	6.423	94	547451	7.500
19) Aniline	(1)	6.444	93	654128	7.500
20) a-methylstyrene	(1)	6.514	118	362499	7.500
22) bis(2-Chloroethyl)ether	(1)	6.567	93	399792	7.500
23) 2-Chlorophenol	(1)	6.605	128	338499	7.500
24) 1,3-Dichlorobenzene	(1)	6.840	146	387183	7.500
25)*1,4-Dichlorobenzene-d4	(1)	6.931	152	163696	5.000
26) 1,4-Dichlorobenzene	(1)	6.958	146	391667	7.500
27) Benzyl alcohol	(1)	7.161	108	243402	7.500
28) 1,2-Dichlorobenzene	(1)	7.182	146	371976	7.500
30) Indene	(1)	7.322	115	635473	7.500
31) 2-Methylphenol	(1)	7.343	108	352192	7.500
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.391	45	492011	7.500
34) bis(2-Chloroisopropyl)ether	(1)	7.391	45	492011	7.500
35) N-Nitrosopyrrolidine	(1)	7.546	100	191168	7.500
36) Acetophenone	(1)	7.568	105	537517	7.500
38) N-Nitroso-di-n-propylamine	(1)	7.589	70	317448	7.500
37) 4-Methylphenol	(1)	7.589	108	399616	7.500
39) N-Nitrosomorpholine	(1)	7.616	56	231340	7.500
40) o-Toluidine	(1)	7.621	106	627016	7.500
42) Total Cresols	(1)			751808	15.000
43) Hexachloroethane	(1)	7.701	117	167063	7.500
44)$Nitrobenzene-d5	(2)	7.798	82	880942	15.000
45) Nitrobenzene	(2)	7.824	77	456772	7.500
48) N-Nitrosopiperidine	(2)	8.070	114	180332	7.500
50) Isophorone	(2)	8.215	82	835831	7.500
51) 2-Nitrophenol	(2)	8.327	139	131288	7.500
53) 2,4-Dimethylphenol	(2)	8.423	107	394774	7.500
56) Benzoic acid	(2)	8.541	105	64119M	10.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0711.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 15:30 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.546	198	185644	7.500
55) bis(2-Chloroethoxy)methane	(2)	8.584	93	492429	7.500
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.675	104	553859	7.500
60) 2,4-Dichlorophenol	(2)	8.707	162	285662	7.500
62) 1,2,4-Trichlorobenzene	(2)	8.841	180	329157	7.500
65)*Naphthalene-d8	(2)	8.921	136	631099	5.000
66) Naphthalene	(2)	8.958	128	1009118	7.500
68) 2,6-Dichlorophenol	(2)	9.071	162	281890	7.500
67) 4-Chloroaniline	(2)	9.071	127	422172	7.500
69) Hexachloropropene	(2)	9.103	213	221243	7.500
71) Hexachlorobutadiene	(2)	9.167	225	204242	7.500
75) Quinoline	(2)	9.504	129	653573	7.500
76) Caprolactam	(2)	9.637	113	92449	7.500
77) N-Nitrosodi-n-butylamine	(2)	9.643	84	362185	7.500
80) 4-Chloro-3-methylphenol	(2)	9.878	107	326281	7.500
82) Safrole	(2)	9.974	162	269526	7.500
83) 2-Methylnaphthalene	(2)	10.087	142	676692	7.500
84) 1-Methylnaphthalene	(2)	10.242	142	619298	7.500
85) Hexachlorocyclopentadiene	(3)	10.343	237	210098	7.500
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.354	216	363000	7.500
88) cis-Isosafrole	(3)	10.450	162	50134	1.275
90) 2,4,6-Trichlorophenol	(3)	10.557	196	198519	7.500
92) 2,4,5-Trichlorophenol	(3)	10.611	196	218182	7.500
93)$2-Fluorobiphenyl	(3)	10.707	172	1548658	15.000
97) Isosafrole	(3)			321462	7.500
94) trans-Isosafrole	(3)	10.820	162	271328	6.225
95) 1,1'-Biphenyl	(3)	10.862	154	816450	7.500
96) 2-Chloronaphthalene	(3)	10.878	162	650941	7.500
98) 1-Chloronaphthalene	(3)	10.910	162	618038	7.500
99) Diphenyl ether	(3)	11.050	170	447818	7.500
100) 2-Nitroaniline	(3)	11.071	138	169592	7.500
104) 1,4-Naphthoquinone	(3)	11.189	158	268497	7.500
105) 1,4-Dinitrobenzene	(3)	11.317	168	69679	7.500
106) Dimethylphthalate	(3)	11.403	163	724394	7.500
107) 1,3-Dinitrobenzene	(3)	11.429	168	87550	7.500
108) 2,6-Dinitrotoluene	(3)	11.483	165	142702	7.500
109) Acenaphthylene	(3)	11.547	152	1027130	7.500
112) 3-Nitroaniline	(3)	11.723	138	155532	7.500
113)*Acenaphthene-d10	(3)	11.761	164	370042	5.000
114) Acenaphthene	(3)	11.809	153	686192	7.500

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0711.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 15:30 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	11.879	184	48436	10.000
120) 2,4_2,6-Dinitrotoluenes	(3)			319831	15.000
116) 4-Nitrophenol	(3)	11.986	109	107739	7.500
117) Pentachlorobenzene	(3)	11.991	250	298971	7.500
119) Dibenzofuran	(3)	12.055	168	925320	7.500
118) 2,4-Dinitrotoluene	(3)	12.060	165	177129	7.500
121) 1-Naphthylamine	(3)	12.162	143	651309	7.500
122) 2,3,4,6-Tetrachlorophenol	(3)	12.221	232	159099	7.500
123) 2-Naphthylamine	(3)	12.269	143	640935	7.500
124) Diethylphthalate	(3)	12.403	149	716850	7.500
126) Fluorene	(3)	12.494	166	729178	7.500
125) Thionazin	(3)	12.499	107	128248	7.500
127) 4-Chlorophenyl-phenylether	(3)	12.515	204	367571	7.500
128) 5-Nitro-o-toluidine	(3)	12.526	152	185925	7.500
129) 4-Nitroaniline	(3)	12.536	138	167515	7.500
130) 4,6-Dinitro-2-methylphenol	(4)	12.569	198	62034	7.500
132) NDPA as diphenylamine	(4)	12.665	169	614725	7.500
131) N-Nitrosodiphenylamine	(4)	12.665	169	614725	7.500
134) 1,2-Diphenylhydrazine	(4)	12.708	77	956531	7.500
135)$2,4,6-Tribromophenol	(3)	12.793	330	169111	15.000
137) Tetraethyldithiopyrophosphate	(4)	12.889	97	152984	7.500
146) Diallate trans/cis	(4)			382910	7.500
139) 1,3,5-Trinitrobenzene	(4)	13.018	213	46540	7.500
140) Diallate (peak 1)	(4)	13.034	86	318397	6.225
141) Phorate	(4)	13.045	75	569282	7.500
142) Phenacetin	(4)	13.077	108	419039	7.500
143) 4-Bromophenyl-phenylether	(4)	13.125	248	208920	7.500
144) Diallate (peak 2)	(4)	13.146	86	64513	1.275
145) Hexachlorobenzene	(4)	13.173	284	229638	7.500
147) Dimethoate	(4)	13.258	87	342996	7.500
148) Atrazine	(4)	13.360	200	210848	7.500
149) Pentachlorophenol	(4)	13.440	266	92185	7.500
151) Pentachloronitrobenzene	(4)	13.451	237	94200	7.500
150) 4-Aminobiphenyl	(4)	13.462	169	722214	7.500
152) Pronamide	(4)	13.553	173	360133	7.500
153)*Phenanthrene-d10	(4)	13.686	188	709060	5.000
154) Dinoseb	(4)	13.697	211	92606	7.500
155) Phenanthrene	(4)	13.718	178	1108419	7.500
157) Anthracene	(4)	13.788	178	1124289	7.500
163) Carbazole	(4)	14.018	167	1044828	7.500

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0711.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 15:30 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.221	109	230357	7.500
165) Di-n-butylphthalate	(4)	14.531	149	1269419	7.500
167) Parathion	(4)	14.777	109	138338	7.500
168) 4-Nitroquinoline-1-oxide	(4)	14.810	190	62934	7.500
169) Octachlorostyrene	(4)	15.131	308	83334	7.500
171) Isodrin	(4)	15.189	193	134897	7.500
173) Fluoranthene	(4)	15.419	202	1308583	7.500
174) Benzidine	(5)	15.665	184	2381052	22.500
175)*Pyrene-d10	(5)	15.746	212	861575	5.000
177) Pyrene	(5)	15.772	202	1362962	7.500
179)$Terphenyl-d14	(5)	16.061	244	1843955	15.000
182) p-Dimethylaminoazobenzene	(5)	16.297	225	252711	7.500
185) Chlorobenzilate	(5)	16.382	139	381590	7.500
187) 3,3'-Dimethylbenzidine	(5)	16.880	212	867931	7.500
188) Butylbenzylphthalate	(5)	16.928	149	552218	7.500
191) 2-Acetylaminofluorene	(5)	17.307	181	446651	7.500
193) 3,3'-Dichlorobenzidine	(5)	17.826	252	486160	7.500
195) Benzo(a)anthracene	(5)	17.832	228	1321783	7.500
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.848	231	264140	7.500
196) Chrysene	(5)	17.896	228	1210465	7.500
199) bis(2-Ethylhexyl)phthalate	(5)	17.997	149	806221	7.500
203) 6-Methylchrysene	(5)	18.709	242	873690	7.500
205) Di-n-octylphthalate	(6)	19.179	149	1441421	7.500
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.720	256	530452	7.500
206) Benzo(b)fluoranthene	(6)	19.720	252	1309641	7.500
208) Benzo(k)fluoranthene	(6)	19.762	252	1246658	7.500
211) Benzo(a)pyrene	(6)	20.255	252	1210296	7.500
213)*Perylene-d12	(6)	20.345	264	689640	5.000
215) 3-Methylcholanthrene	(6)	20.827	268	566899	7.500
217) Dibenz(a,h)acridine	(6)	21.656	279	1024085	7.500
218) Dibenz(a,j)acridine	(6)	21.731	279	1009942	7.500
219) Indeno(1,2,3-cd)pyrene	(6)	21.993	276	1416374	7.500
222) Total PAHs	(6)			19746868	135.000
220) Dibenz(a,h)anthracene	(6)	22.036	278	1176332	7.500
221) Benzo(g,h,i)perylene	(6)	22.415	276	1203458	7.500

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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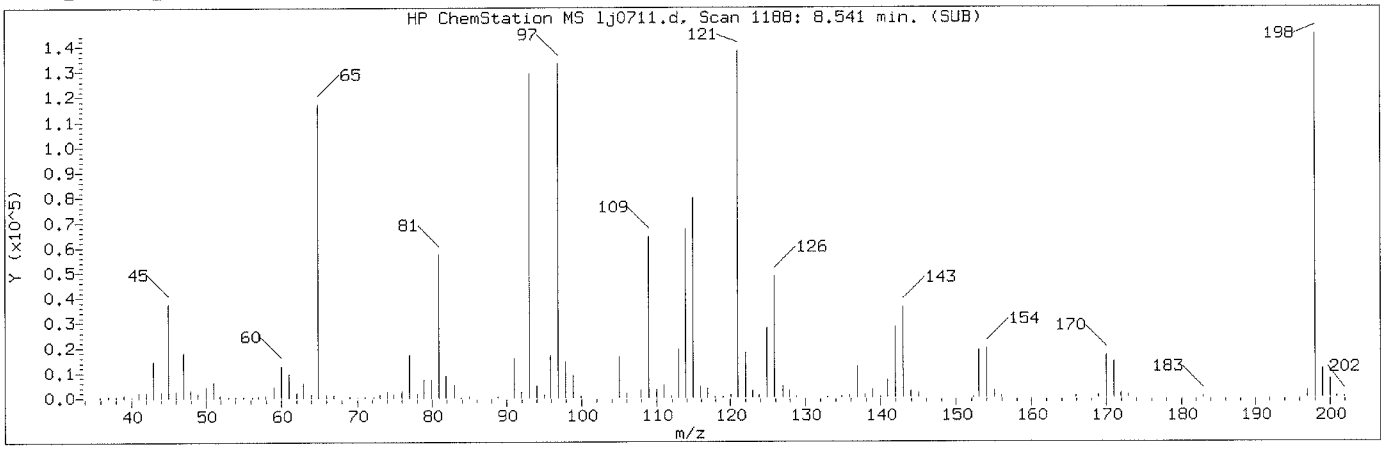
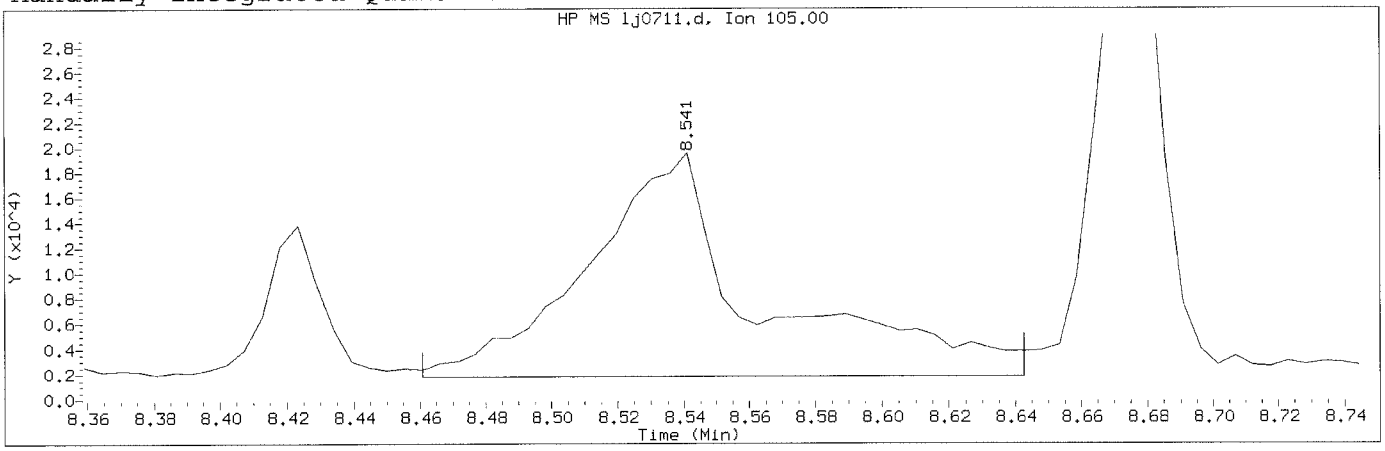
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0711.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 15:30 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1188		
Retention Time (minutes)	: 8.541		
Quant Ion	: 105.00		
Area (flag)	: 64119M		
On-Column Amount (ng/ul)	: 10.0000		
Integration start scan	: 1172	Integration stop scan:	1206
Y at integration start	: 1818	Y at integration end:	1818

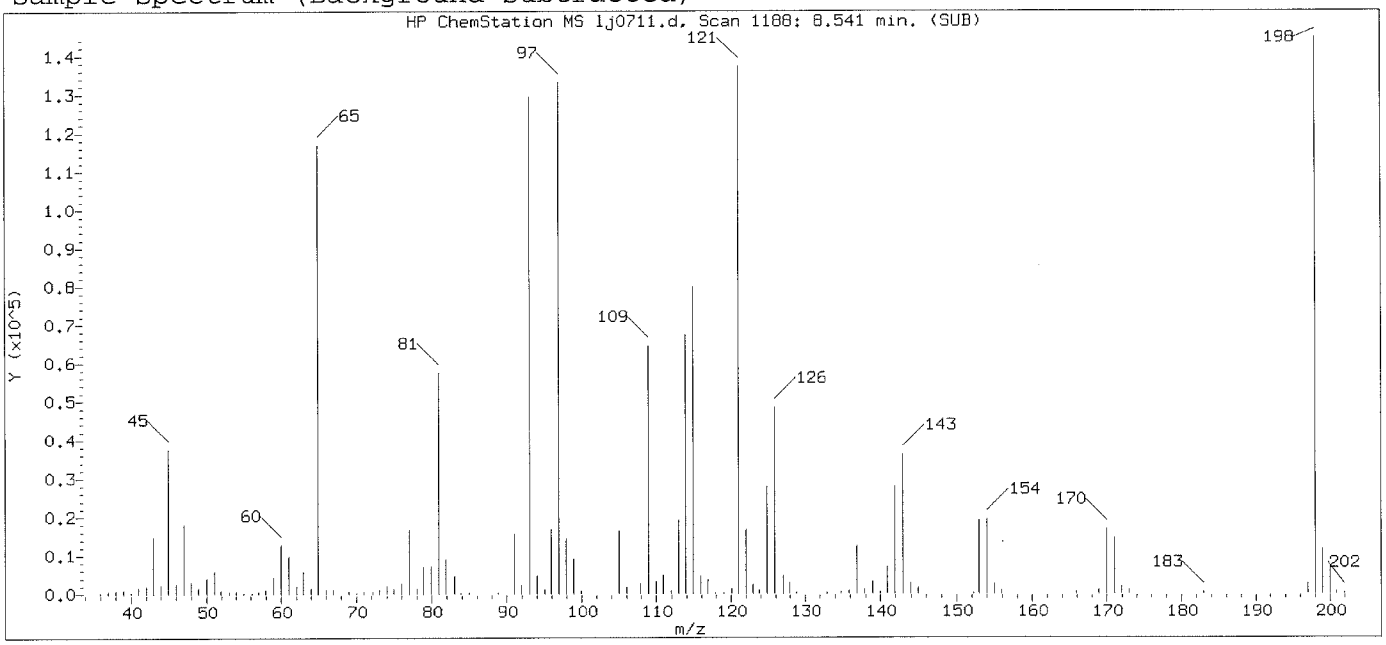
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21
Target 3.0 esignature user ID: hb01996

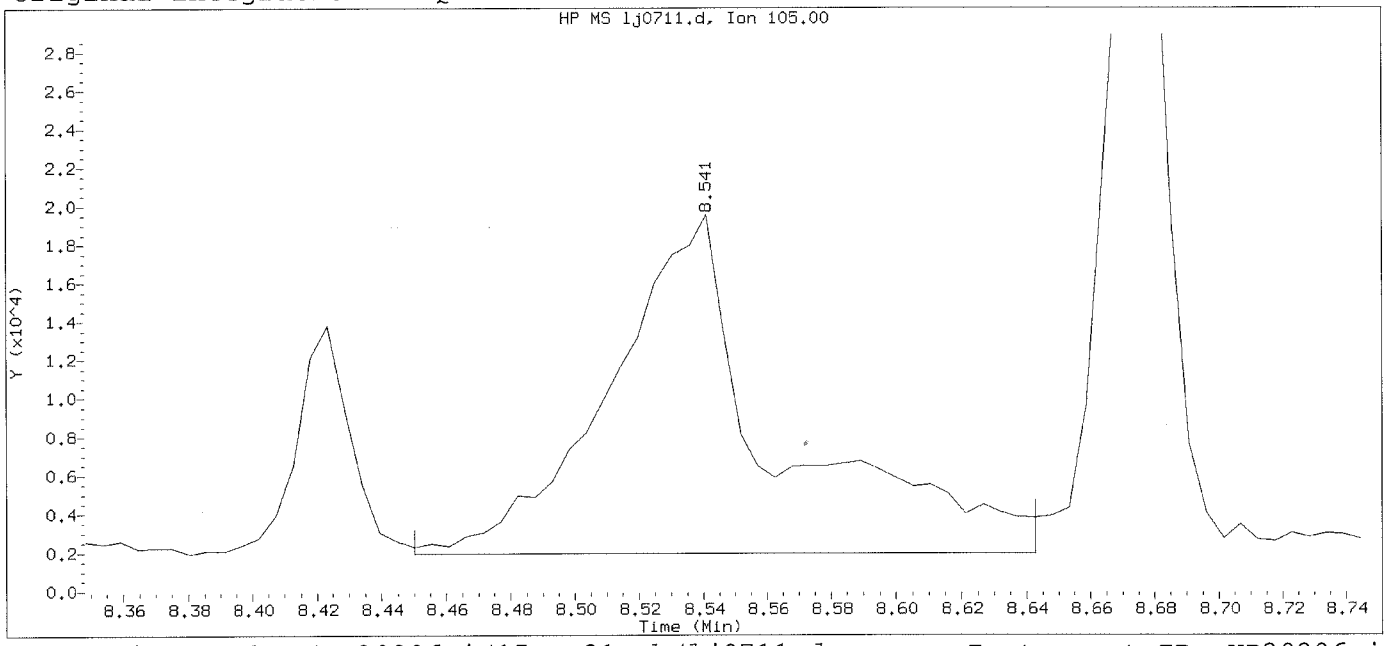
OCT 22 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0711.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 15:30 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 21-OCT-2015 16:06
Date, time and analyst ID of latest file update: 21-Oct-2015 16:06 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1188		
Retention Time (minutes)	: 8.541		
Quant Ion	: 105.00		
Area	: 62788		
On-column Amount (ng/ul)	: 2.9566		
Integration start scan	: 1170	Integration stop scan:	1206
Y at integration start	: 1930	Y at integration end:	1930

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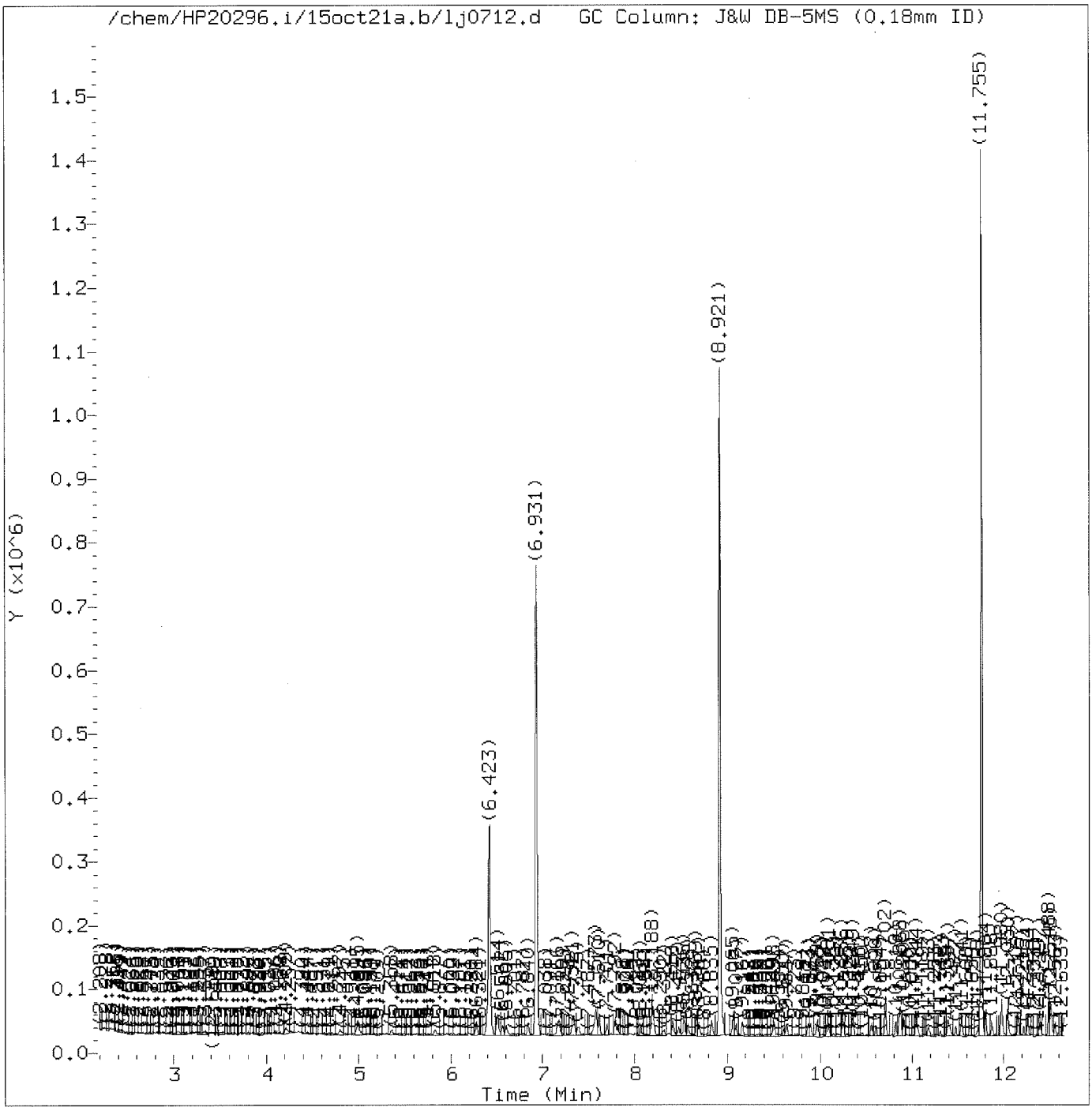
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0712.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 15:58 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2745

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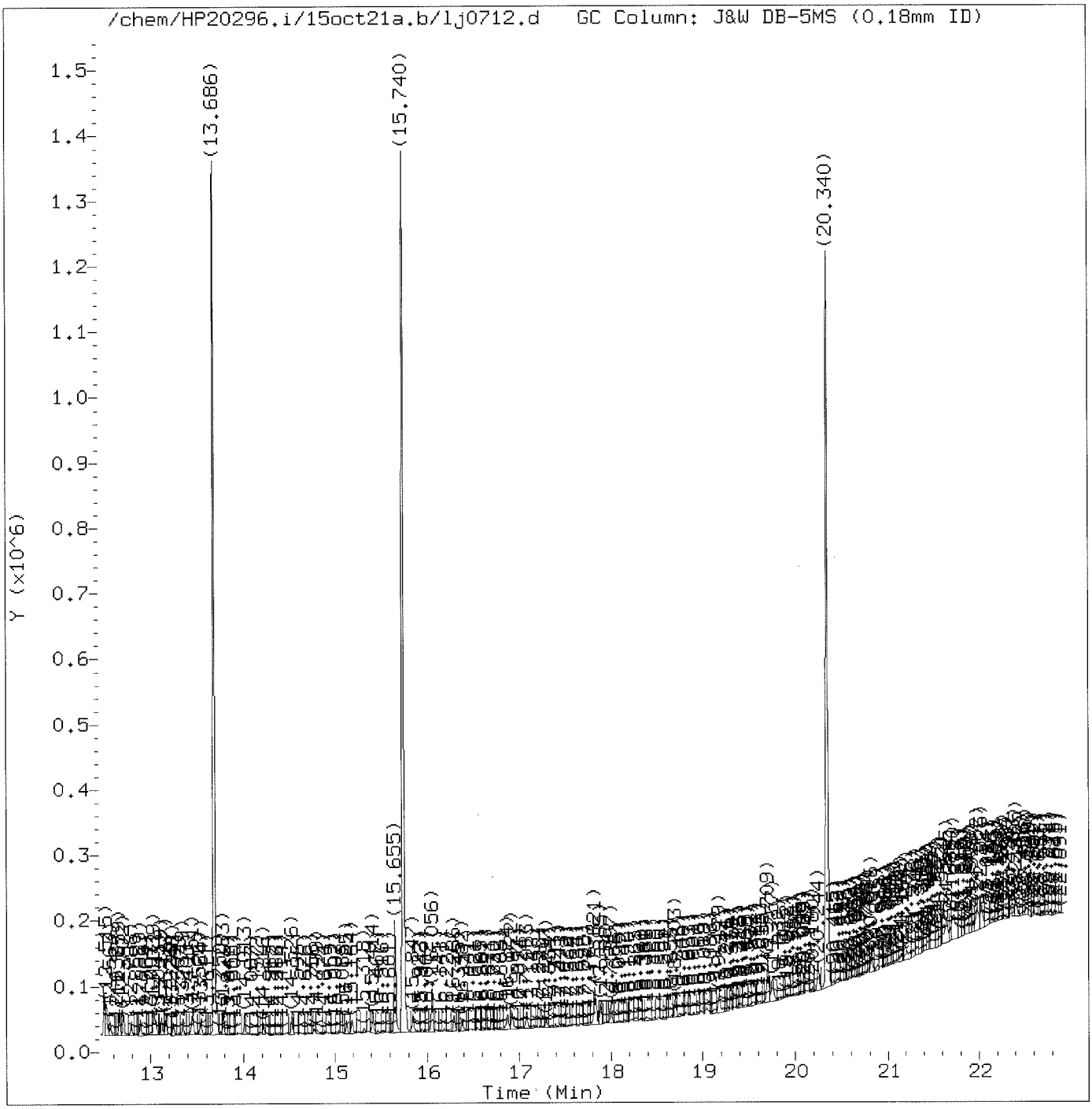
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0712.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 15:58 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2745

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Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0712.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 15:58 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
4) N-Nitrosodimethylamine	(1)	3.037	74	2544	0.086
5) Pyridine	(1)	3.112	79	2060	0.042
7) 2-Picoline	(1)	4.209	93	7958	0.152
9) Methyl methanesulfonate	(1)	4.802	80	3883	0.148
11)$2-Fluorophenol	(1)	4.995	112	10071	0.249
13) N-Nitrosodiethylamine	(1)	5.358	102	2385	0.116
15) Ethyl methanesulfonate	(1)	5.829	109	2967	0.143
16) Benzaldehyde	(1)	6.284	77	6358	0.162
17)$Phenol-d6	(1)	6.391	99	13137	0.245
18) Phenol	(1)	6.412	94	7988	0.129
19) Aniline	(1)	6.444	93	10465	0.142
20) a-methylstyrene	(1)	6.514	118	6623	0.162
22) bis(2-Chloroethyl)ether	(1)	6.562	93	7068	0.156
23) 2-Chlorophenol	(1)	6.605	128	5609	0.147
24) 1,3-Dichlorobenzene	(1)	6.835	146	5601	0.128
25)*1,4-Dichlorobenzene-d4	(1)	6.931	152	138697	5.000
26) 1,4-Dichlorobenzene	(1)	6.958	146	5518	0.125
27) Benzyl alcohol	(1)	7.166	108	3454	0.126
28) 1,2-Dichlorobenzene	(1)	7.182	146	5362	0.128
30) Indene	(1)	7.316	115	10897	0.152
31) 2-Methylphenol	(1)	7.332	108	5225	0.131
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.386	45	8174	0.147
34) bis(2-Chloroisopropyl)ether	(1)	7.386	45	8174	0.147
36) Acetophenone	(1)	7.562	105	10776	0.177
38) N-Nitroso-di-n-propylamine	(1)	7.573	70	5819	0.162
37) 4-Methylphenol	(1)	7.583	108	6232	0.138
40) o-Toluidine	(1)	7.610	106	10928	0.154
39) N-Nitrosomorpholine	(1)	7.610	56	3112	0.119
42) Total Cresols	(1)			11457	0.269
43) Hexachloroethane	(1)	7.696	117	3017	0.160
44)$Nitrobenzene-d5	(2)	7.792	82	12948	0.261
45) Nitrobenzene	(2)	7.819	77	6037	0.117
48) N-Nitrosopiperidine	(2)	8.065	114	2464	0.121
50) Isophorone	(2)	8.209	82	13261	0.141
51) 2-Nitrophenol	(2)	8.322	139	1478	0.100
53) 2,4-Dimethylphenol	(2)	8.418	107	5529	0.124
56) Benzoic acid	(2)	8.477	105	9313	1.721
57) O,O,O-Triethylphosphorothioate	(2)	8.541	198	2389	0.114
55) bis(2-Chloroethoxy)methane	(2)	8.584	93	7547	0.136
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.669	104	9541	0.153

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0712.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 15:58 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
60) 2,4-Dichlorophenol	(2)	8.701	162	3729	0.116
62) 1,2,4-Trichlorobenzene	(2)	8.835	180	4883	0.132
65)*Naphthalene-d8	(2)	8.921	136	532758	5.000
66) Naphthalene	(2)	8.953	128	15748	0.131
67) 4-Chloroaniline	(2)	9.065	127	5870	0.124
68) 2,6-Dichlorophenol	(2)	9.065	162	3967	0.125
69) Hexachloropropene	(2)	9.097	213	3005	0.121
71) Hexachlorobutadiene	(2)	9.167	225	2360	0.103
75) Quinoline	(2)	9.498	129	9432	0.128
77) N-Nitrosodi-n-butylamine	(2)	9.637	84	4143	0.102
80) 4-Chloro-3-methylphenol	(2)	9.873	107	4922	0.134
82) Safrole	(2)	9.969	162	3426	0.113
83) 2-Methylnaphthalene	(2)	10.081	142	10259	0.130
84) 1-Methylnaphthalene	(2)	10.242	142	9134	0.128
85) Hexachlorocyclopentadiene	(3)	10.338	237	2508	0.105
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.354	216	5104	0.124
88) cis-Isosafrole	(3)	10.445	162	625	0.019
90) 2,4,6-Trichlorophenol	(3)	10.552	196	2486	0.110
92) 2,4,5-Trichlorophenol	(3)	10.600	196	2825	0.114
93)$2-Fluorobiphenyl	(3)	10.707	172	21498	0.245
97) Isosafrole	(3)			4533	0.124
94) trans-Isosafrole	(3)	10.819	162	3908	0.105
95) 1,1'-Biphenyl	(3)	10.857	154	12593	0.136
96) 2-Chloronaphthalene	(3)	10.873	162	8990	0.122
98) 1-Chloronaphthalene	(3)	10.905	162	9233	0.132
99) Diphenyl ether	(3)	11.044	170	6598	0.130
100) 2-Nitroaniline	(3)	11.060	138	1864	0.097
104) 1,4-Naphthoquinone	(3)	11.178	158	3050	0.100
106) Dimethylphthalate	(3)	11.397	163	10482	0.127
108) 2,6-Dinitrotoluene	(3)	11.477	165	1381	0.085
109) Acenaphthylene	(3)	11.541	152	14555	0.125
112) 3-Nitroaniline	(3)	11.718	138	1433	0.081
113)*Acenaphthene-d10	(3)	11.755	164	315048	5.000
114) Acenaphthene	(3)	11.804	153	10362	0.129
115) 2,4-Dinitrophenol	(3)	11.873	184	2209	0.536
120) 2,4_2,6-Dinitrotoluenes	(3)			2973	0.164
116) 4-Nitrophenol	(3)	11.975	109	5017	0.410
117) Pentachlorobenzene	(3)	11.985	250	4263	0.126
119) Dibenzofuran	(3)	12.050	168	13512	0.129
118) 2,4-Dinitrotoluene	(3)	12.055	165	1592	0.079

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$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/1j0712.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 15:58 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
121) 1-Naphthylamine	(3)	12.157	143	10005	0.135
122) 2,3,4,6-Tetrachlorophenol	(3)	12.215	232	1771	0.098
123) 2-Naphthylamine	(3)	12.264	143	9371	0.129
124) Diethylphthalate	(3)	12.397	149	10059	0.124
126) Fluorene	(3)	12.488	166	11034	0.129
127) 4-Chlorophenyl-phenylether	(3)	12.515	204	5457	0.131
128) 5-Nitro-o-toluidine	(3)	12.515	152	1724	0.082
129) 4-Nitroaniline	(3)	12.526	138	1329	0.070
130) 4,6-Dinitro-2-methylphenol	(4)	12.563	198	1897	0.272
132) NDPA as diphenylamine	(4)	12.659	169	8693	0.126
131) N-Nitrosodiphenylamine	(4)	12.659	169	8693	0.126
134) 1,2-Diphenylhydrazine	(4)	12.702	77	14471	0.135
137) Tetraethyldithiopyrophosphate	(4)	12.889	97	1931	0.112
146) Diallate trans/cis	(4)			5214	0.121
140) Diallate (peak 1)	(4)	13.028	86	4331	0.100
141) Phorate	(4)	13.044	75	7295	0.114
142) Phenacetin	(4)	13.060	108	4228	0.090
143) 4-Bromophenyl-phenylether	(4)	13.125	248	3322	0.141
144) Diallate (peak 2)	(4)	13.141	86	883	0.021
145) Hexachlorobenzene	(4)	13.173	284	3295	0.126
147) Dimethoate	(4)	13.248	87	3251	0.084
148) Atrazine	(4)	13.355	200	3237	0.137
149) Pentachlorophenol	(4)	13.440	266	658	0.063
151) Pentachloronitrobenzene	(4)	13.451	237	652	0.062
150) 4-Aminobiphenyl	(4)	13.456	169	10262	0.126
152) Pronamide	(4)	13.542	173	4251	0.105
153)*Phenanthrene-d10	(4)	13.686	188	598085	5.000
155) Phenanthrene	(4)	13.713	178	16856	0.130
157) Anthracene	(4)	13.783	178	16220	0.127
163) Carbazole	(4)	14.013	167	15207	0.129
164) Methyl parathion	(4)	14.216	109	2069	0.080
165) Di-n-butylphthalate	(4)	14.526	149	16614	0.116
169) Octachlorostyrene	(4)	15.125	308	943	0.101
171) Isodrin	(4)	15.184	193	2353	0.155
173) Fluoranthene	(4)	15.419	202	18118	0.124
174) Benzidine	(5)	15.655	184	84197	0.966
175)*Pyrene-d10	(5)	15.740	212	709730	5.000
177) Pyrene	(5)	15.772	202	19503	0.128
179)$Terphenyl-d14	(5)	16.050	244	25778	0.255
182) p-Dimethylaminoazobenzene	(5)	16.291	225	2826	0.102

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Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0712.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 15:58 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
185) Chlorobenzilate	(5)	16.377	139	4543	0.108
187) 3,3'-Dimethylbenzidine	(5)	16.874	212	10479	0.110
188) Butylbenzylphthalate	(5)	16.922	149	5875	0.097
191) 2-Acetylaminofluorene	(5)	17.297	181	3584	0.073
195) Benzo(a)anthracene	(5)	17.821	228	17597	0.123
193) 3,3'-Dichlorobenzidine	(5)	17.821	252	5907	0.111
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.842	231	2992	0.103
196) Chrysene	(5)	17.890	228	17165	0.127
199) bis(2-Ethylhexyl)phthalate	(5)	17.992	149	10128	0.114
203) 6-Methylchrysene	(5)	18.703	242	12193	0.127
205) Di-n-octylphthalate	(6)	19.179	149	17189	0.107
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.709	256	6972	0.118
206) Benzo(b)fluoranthene	(6)	19.709	252	17166	0.121
208) Benzo(k)fluoranthene	(6)	19.757	252	17252	0.124
211) Benzo(a)pyrene	(6)	20.244	252	16563	0.124
213)*Perylene-d12	(6)	20.340	264	578319	5.000
215) 3-Methylcholanthrene	(6)	20.816	268	9129	0.144
217) Dibenz(a,h)acridine	(6)	21.640	279	12738	0.111
218) Dibenz(a,j)acridine	(6)	21.715	279	12305	0.109
219) Indeno(1,2,3-cd)pyrene	(6)	21.982	276	18563	0.121
222) Total PAHs	(6)			277697	2.264
220) Dibenz(a,h)anthracene	(6)	22.025	278	14824	0.119
221) Benzo(g,h,i)perylene	(6)	22.405	276	16778	0.125

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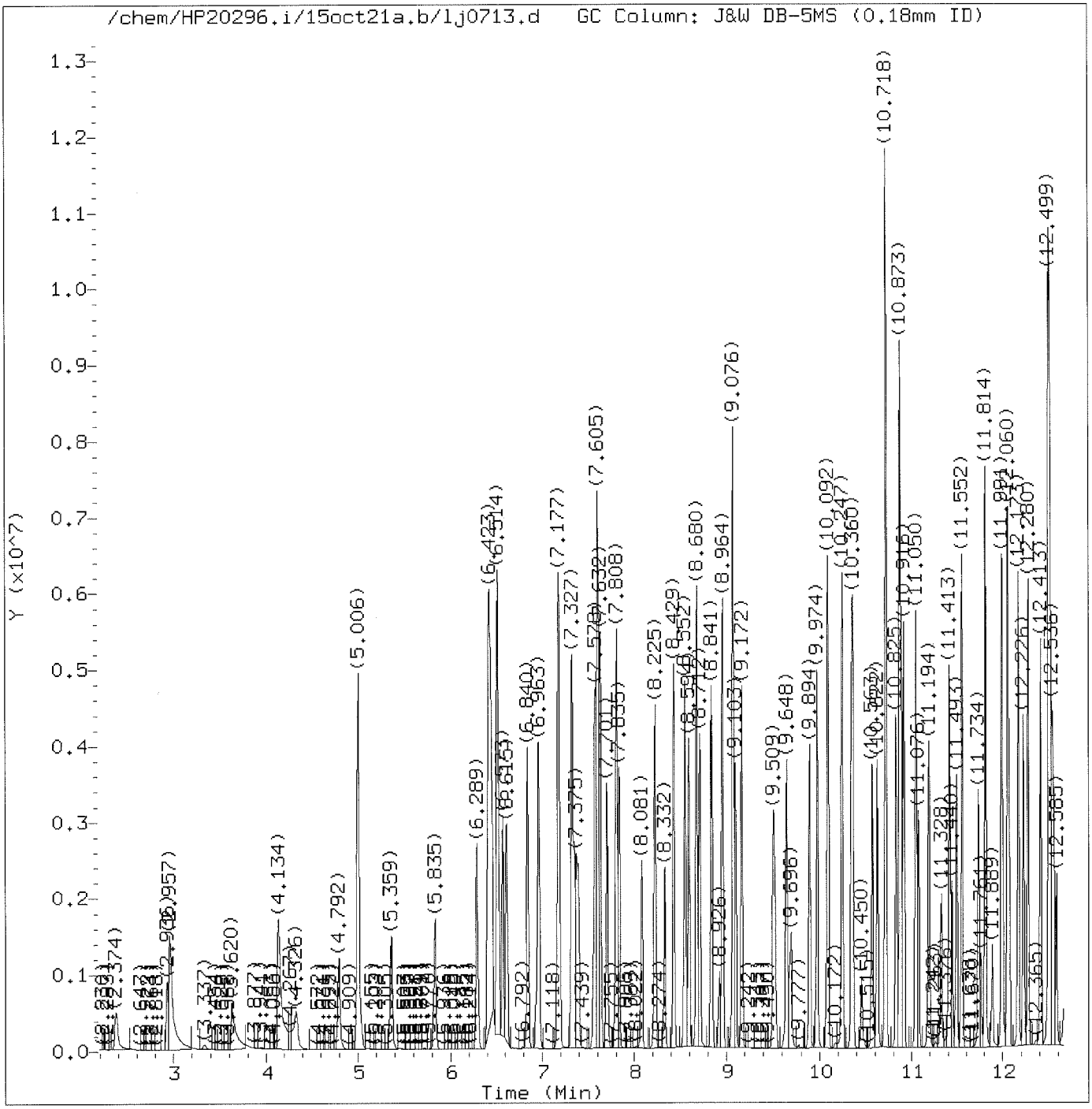
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0713.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:26 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD030 Lab Sample ID: RVSTD2745

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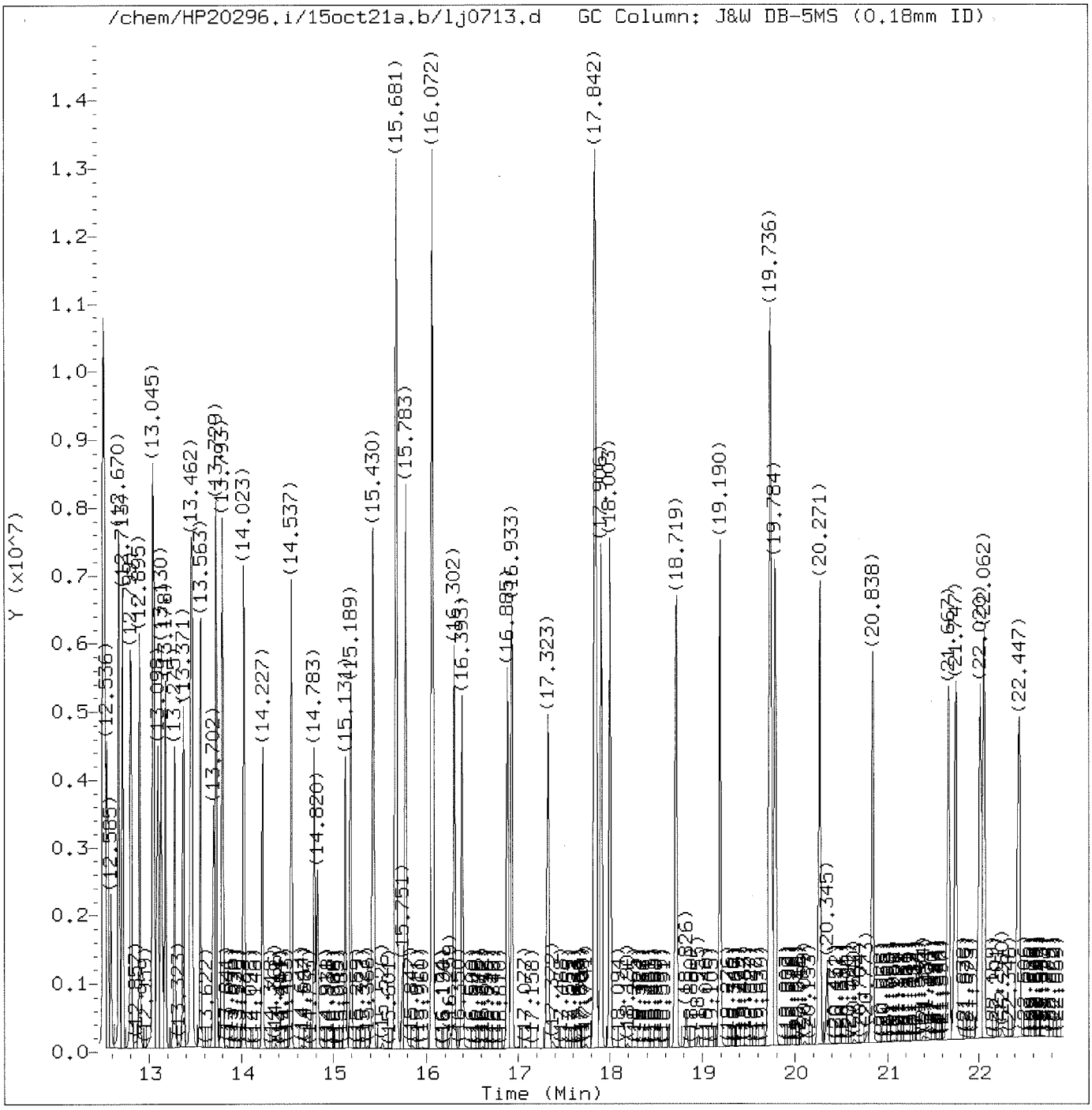
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0713.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:26 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD030 Lab Sample ID: RVSTD2745

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Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0713.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:26 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD030 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.374	88	526712	29.603
4) N-Nitrosodimethylamine	(1)	2.936	74	864891	29.834
5) Pyridine	(1)	2.962	79	1453384	29.932
7) 2-Picoline	(1)	4.134	93	1494477	29.458
8) N-Nitrosomethylethylamine	(1)	4.326	88	603982	29.696
9) Methyl methanesulfonate	(1)	4.792	80	760268	29.690
11)$2-Fluorophenol	(1)	5.006	112	2297124	58.676
13) N-Nitrosodiethylamine	(1)	5.364	102	588366	29.513
15) Ethyl methanesulfonate	(1)	5.835	109	611762	29.860
16) Benzaldehyde	(1)	6.289	77	965914	27.246
17)$Phenol-d6	(1)	6.418	99	3052479	58.747
18) Phenol	(1)	6.434	94	1775503	29.506
19) Aniline	(1)	6.450	93	2120670	29.501
20) a-methylstyrene	(1)	6.519	118	1220608	30.069
22) bis(2-Chloroethyl)ether	(1)	6.573	93	1316333	29.733
23) 2-Chlorophenol	(1)	6.615	128	1098958	29.522
24) 1,3-Dichlorobenzene	(1)	6.840	146	1243018	29.354
25)*1,4-Dichlorobenzene-d4	(1)	6.936	152	137167	5.000
26) 1,4-Dichlorobenzene	(1)	6.963	146	1262257	29.412
27) Benzyl alcohol	(1)	7.172	108	829172	30.243
28) 1,2-Dichlorobenzene	(1)	7.182	146	1171855	29.071
30) Indene	(1)	7.322	115	2157825	30.195
31) 2-Methylphenol	(1)	7.348	108	1153735	29.657
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.391	45	1596751	29.516
34) bis(2-Chloroisopropyl)ether	(1)	7.391	45	1596751	29.516
35) N-Nitrosopyrrolidine	(1)	7.568	100	637408	29.922
36) Acetophenone	(1)	7.578	105	1806879	30.044
37) 4-Methylphenol	(1)	7.605	108	1295468	29.500
38) N-Nitroso-di-n-propylamine	(1)	7.610	70	1052922	29.843
40) o-Toluidine	(1)	7.626	106	2035242	29.519
39) N-Nitrosomorpholine	(1)	7.632	56	759856	29.696
42) Total Cresols	(1)			2449203	59.156
43) Hexachloroethane	(1)	7.701	117	543522	29.553
44)$Nitrobenzene-d5	(2)	7.808	82	2967302	60.171
45) Nitrobenzene	(2)	7.835	77	1539409	30.094
48) N-Nitrosopiperidine	(2)	8.081	114	595613	29.791
50) Isophorone	(2)	8.225	82	2754909	29.760
51) 2-Nitrophenol	(2)	8.332	139	468895	30.963
53) 2,4-Dimethylphenol	(2)	8.429	107	1282956	29.548
57) O,O,O-Triethylphosphorothioate	(2)	8.552	198	620795	29.977

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$ = Compound is a surrogate standard.

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on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0713.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:26 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD030 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	8.594	93	1608267	29.622
56) Benzoic acid	(2)	8.605	105	170289	30.835
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.680	104	1921193	30.526
60) 2,4-Dichlorophenol	(2)	8.712	162	954185	29.960
62) 1,2,4-Trichlorobenzene	(2)	8.841	180	1091442	29.850
65)*Naphthalene-d8	(2)	8.926	136	528424	5.000
66) Naphthalene	(2)	8.964	128	3242665	28.139
67) 4-Chloroaniline	(2)	9.076	127	1355507	29.367
68) 2,6-Dichlorophenol	(2)	9.076	162	922627	29.655
69) Hexachloropropene	(2)	9.103	213	783086	30.829
71) Hexachlorobutadiene	(2)	9.172	225	685559	30.033
75) Quinoline	(2)	9.509	129	2104014	29.406
77) N-Nitrosodi-n-butylamine	(2)	9.648	84	1006256	27.205
76) Caprolactam	(2)	9.696	113	310160A	30.026
80) 4-Chloro-3-methylphenol	(2)	9.894	107	1071699	29.708
82) Safrole	(2)	9.980	162	880009	29.618
83) 2-Methylnaphthalene	(2)	10.092	142	2197281	28.636
84) 1-Methylnaphthalene	(2)	10.247	142	2001375	28.820
85) Hexachlorocyclopentadiene	(3)	10.344	237	740960	31.034
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.360	216	1197647	30.034
88) cis-Isosafrole	(3)	10.450	162	165225	5.103
90) 2,4,6-Trichlorophenol	(3)	10.568	196	692437	30.869
92) 2,4,5-Trichlorophenol	(3)	10.622	196	738960	30.427
93)$2-Fluorobiphenyl	(3)	10.718	172	4973268	59.258
97) Isosafrole	(3)			1054943	29.955
94) trans-Isosafrole	(3)	10.830	162	889718	24.852
95) 1,1'-Biphenyl	(3)	10.873	154	2611987	29.572
96) 2-Chloronaphthalene	(3)	10.884	162	2092471	29.644
98) 1-Chloronaphthalene	(3)	10.916	162	2059611	30.185
99) Diphenyl ether	(3)	11.050	170	1467739	29.935
100) 2-Nitroaniline	(3)	11.076	138	604136	31.184
104) 1,4-Naphthoquinone	(3)	11.194	158	889392	30.094
105) 1,4-Dinitrobenzene	(3)	11.328	168	267106	32.281
106) Dimethylphthalate	(3)	11.413	163	2337174	29.699
107) 1,3-Dinitrobenzene	(3)	11.440	168	328961	31.982
108) 2,6-Dinitrotoluene	(3)	11.493	165	500178	30.942
109) Acenaphthylene	(3)	11.552	152	3314355	29.616
112) 3-Nitroaniline	(3)	11.734	138	552997	31.156
113)*Acenaphthene-d10	(3)	11.761	164	304520	5.000
114) Acenaphthene	(3)	11.814	153	2193368	28.793

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0713.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:26 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD030 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	11.889	184	160780	34.409
120) 2,4_2,6-Dinitrotoluenes	(3)			1163656	62.877
117) Pentachlorobenzene	(3)	11.991	250	975557	29.869
116) 4-Nitrophenol	(3)	12.002	109	386705	31.297
119) Dibenzofuran	(3)	12.055	168	2929330	29.415
118) 2,4-Dinitrotoluene	(3)	12.076	165	663478	31.935
121) 1-Naphthylamine	(3)	12.173	143	2195317	30.355
122) 2,3,4,6-Tetrachlorophenol	(3)	12.226	232	582338	31.590
123) 2-Naphthylamine	(3)	12.280	143	2160344	30.355
124) Diethylphthalate	(3)	12.413	149	2377879	30.115
126) Fluorene	(3)	12.499	166	2354506	28.971
125) Thionazin	(3)	12.510	107	409871	29.557
127) 4-Chlorophenyl-phenylether	(3)	12.515	204	1217544	30.094
128) 5-Nitro-o-toluidine	(3)	12.536	152	642579	30.731
129) 4-Nitroaniline	(3)	12.558	138	570849	30.520
130) 4,6-Dinitro-2-methylphenol	(4)	12.585	198	266415	33.704
131) N-Nitrosodiphenylamine	(4)	12.670	169	2010791	29.639
132) NDPA as diphenylamine	(4)	12.670	169	2010791	29.639
134) 1,2-Diphenylhydrazine	(4)	12.713	77	3113047	29.563
135)$2,4,6-Tribromophenol	(3)	12.804	330	630317	63.723
137) Tetraethyldithiopyrophosphate	(4)	12.895	97	495181	29.481
146) Diallate trans/cis	(4)			1256865	29.690
140) Diallate (peak 1)	(4)	13.039	86	1038295	24.562
139) 1,3,5-Trinitrobenzene	(4)	13.039	213	209377	34.388
141) Phorate	(4)	13.050	75	2539335	34.262
142) Phenacetin	(4)	13.098	108	1402113	29.979
143) 4-Bromophenyl-phenylether	(4)	13.130	248	711811	30.250
144) Diallate (peak 2)	(4)	13.146	86	218570	5.128
145) Hexachlorobenzene	(4)	13.178	284	749359	29.269
147) Dimethoate	(4)	13.275	87	1171660	30.289
148) Atrazine	(4)	13.371	200	673771	29.289
149) Pentachlorophenol	(4)	13.446	266	371421	32.757
151) Pentachloronitrobenzene	(4)	13.456	237	340487	31.136
150) 4-Aminobiphenyl	(4)	13.467	169	2332582	29.448
152) Pronamide	(4)	13.563	173	1195101	29.855
153)*Phenanthrene-d10	(4)	13.692	188	593975	5.000
154) Dinoseb	(4)	13.702	211	440857	35.214
155) Phenanthrene	(4)	13.729	178	3673218	28.987
157) Anthracene	(4)	13.799	178	3688986	29.324
163) Carbazole	(4)	14.023	167	3397811	29.551

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$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/1j0713.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:26 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD030 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.227	109	858797	31.599
165) Di-n-butylphthalate	(4)	14.537	149	4191645	29.780
167) Parathion	(4)	14.783	109	530732	32.027
168) 4-Nitroquinoline-1-oxide	(4)	14.820	190	323629	36.328
169) Octachlorostyrene	(4)	15.131	308	288484	30.489
171) Isodrin	(4)	15.189	193	447052	29.835
173) Fluoranthene	(4)	15.430	202	4367998	30.075
174) Benzidine	(5)	15.681	184	7716371	88.164
175)*Pyrene-d10	(5)	15.751	212	727102	5.000
177) Pyrene	(5)	15.783	202	4551088	29.368
179)$Terphenyl-d14	(5)	16.072	244	6249888	60.122
182) p-Dimethylaminoazobenzene	(5)	16.302	225	860959	30.138
185) Chlorobenzilate	(5)	16.393	139	1310345	30.256
187) 3,3'-Dimethylbenzidine	(5)	16.885	212	2916081	29.929
188) Butylbenzylphthalate	(5)	16.933	149	1892805	30.229
191) 2-Acetylaminofluorene	(5)	17.323	181	1729962	32.059
193) 3,3'-Dichlorobenzidine	(5)	17.837	252	1675703	30.313
195) Benzo(a)anthracene	(5)	17.842	228	4483327	30.403
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.853	231	931388	30.654
196) Chrysene	(5)	17.906	228	4105120	29.767
199) bis(2-Ethylhexyl)phthalate	(5)	18.003	149	2830099	30.587
203) 6-Methylchrysene	(5)	18.719	242	2974115	30.126
205) Di-n-octylphthalate	(6)	19.190	149	5095308	29.855
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.736	256	1985329	30.712
206) Benzo(b)fluoranthene	(6)	19.736	252	4541527	30.055
208) Benzo(k)fluoranthene	(6)	19.784	252	4403736	29.892
211) Benzo(a)pyrene	(6)	20.271	252	4277555	30.013
213)*Perylene-d12	(6)	20.345	264	615360	5.000
215) 3-Methylcholanthrene	(6)	20.838	268	1994364	29.784
217) Dibenz(a,h)acridine	(6)	21.667	279	3615100	29.835
218) Dibenz(a,j)acridine	(6)	21.747	279	3562991	29.826
222) Total PAHs	(6)			66648708	531.172
219) Indeno(1,2,3-cd)pyrene	(6)	22.020	276	4989878	30.373
220) Dibenz(a,h)anthracene	(6)	22.062	278	4121352	30.641
221) Benzo(g,h,i)perylene	(6)	22.447	276	4141373	29.299

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$ = Compound is a surrogate standard.

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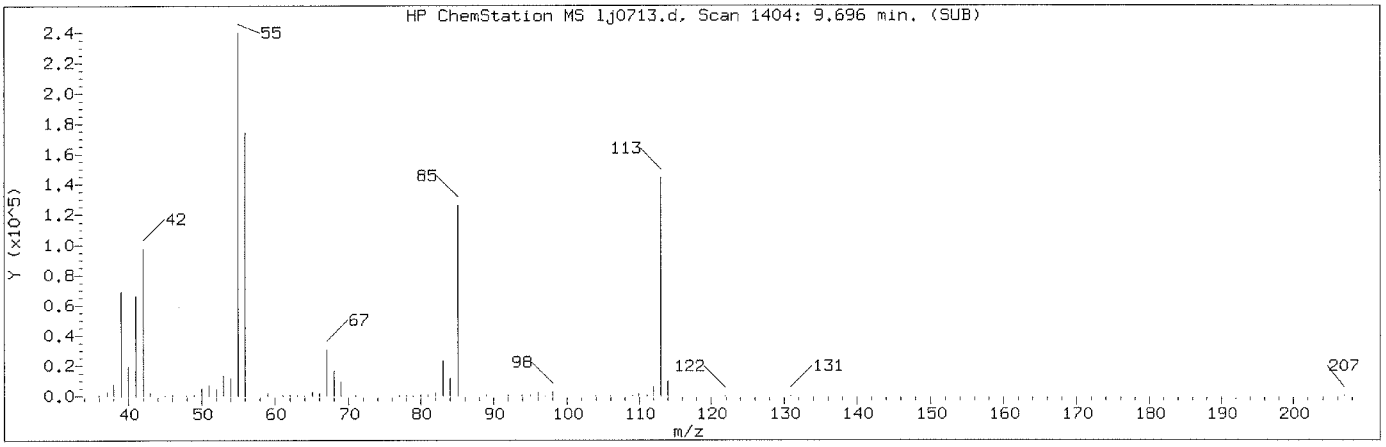
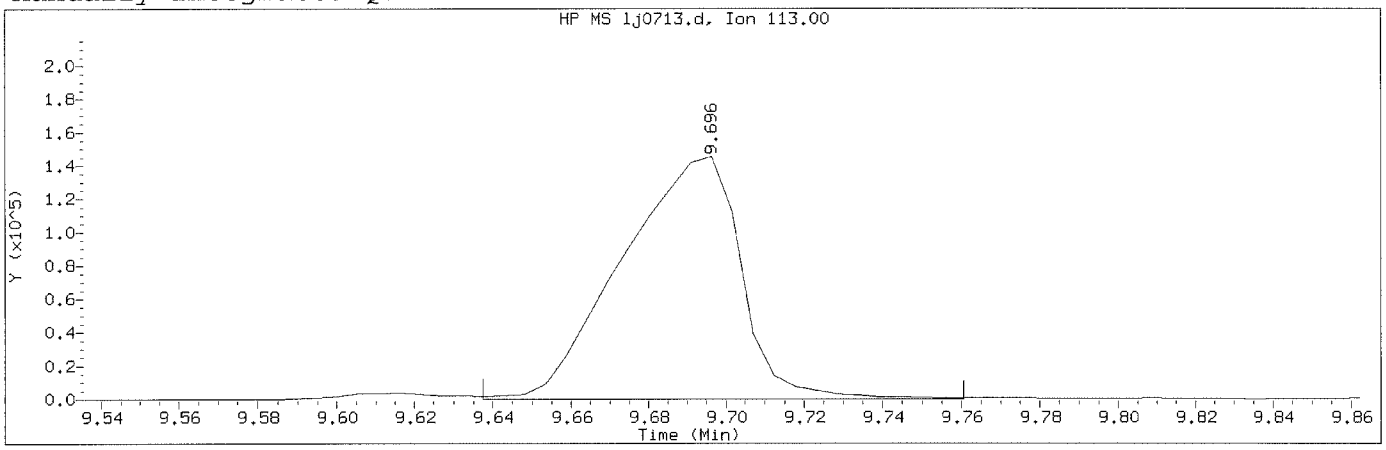
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0713.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:26 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD030 Lab Sample ID: RVSTD2745

Compound Number	: 76		
Compound Name	: Caprolactam		
Scan Number	: 1404		
Retention Time (minutes)	: 9.696		
Quant Ion	: 113.00		
Area (flag)	: 310160A		
On-Column Amount (ng/ul)	: 30.0255		
Integration start scan	: 1392	Integration stop scan:	1415
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

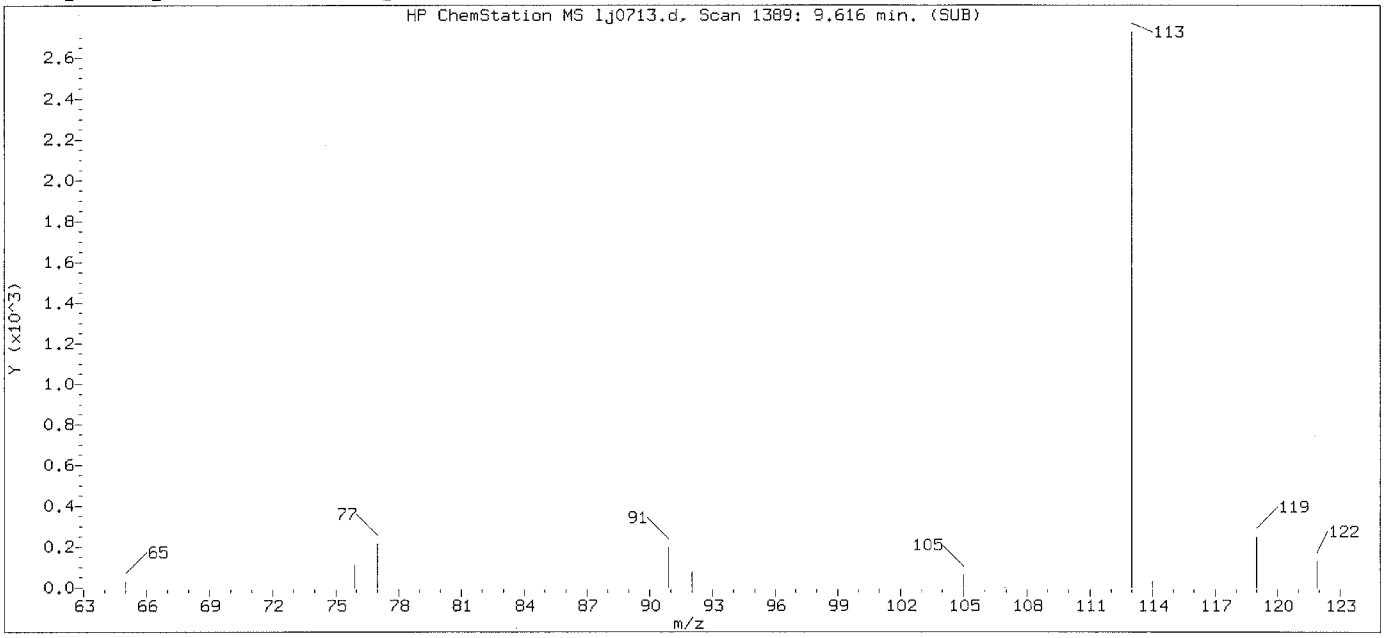
Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 designature User ID: hb01996

OCT 22 2015

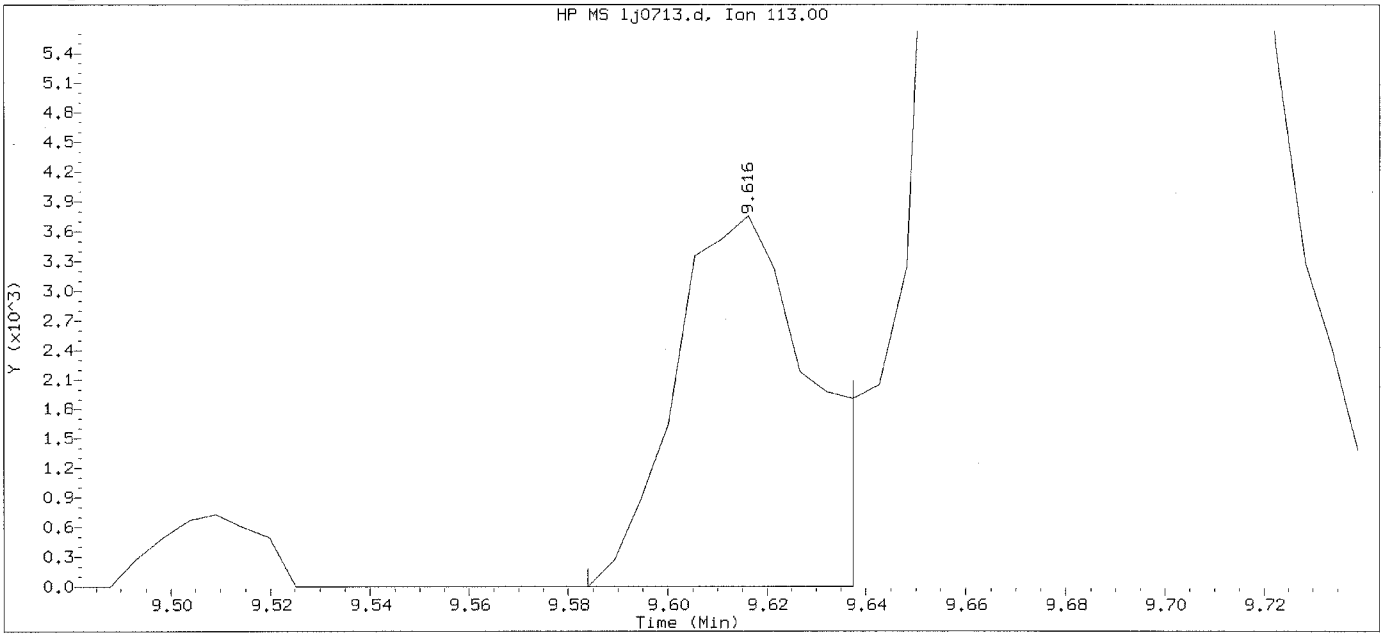
GC/MS audit/management approval:

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0713.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:26 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 21-OCT-2015 16:51
Date, time and analyst ID of latest file update: 21-Oct-2015 16:51 Unknown

Sample Name: SSTD030 Lab Sample ID: RVSTD2745

Compound Number	: 76		
Compound Name	: Caprolactam		
Scan Number	: 1389		
Retention Time (minutes)	: 9.616		
Quant Ion	: 113.00		
Area	: 6984		
On-column Amount (ng/ul)	: 0.6656		
Integration start scan	: 1382	Integration stop scan:	1392
Y at integration start	: 0	Y at integration end:	0

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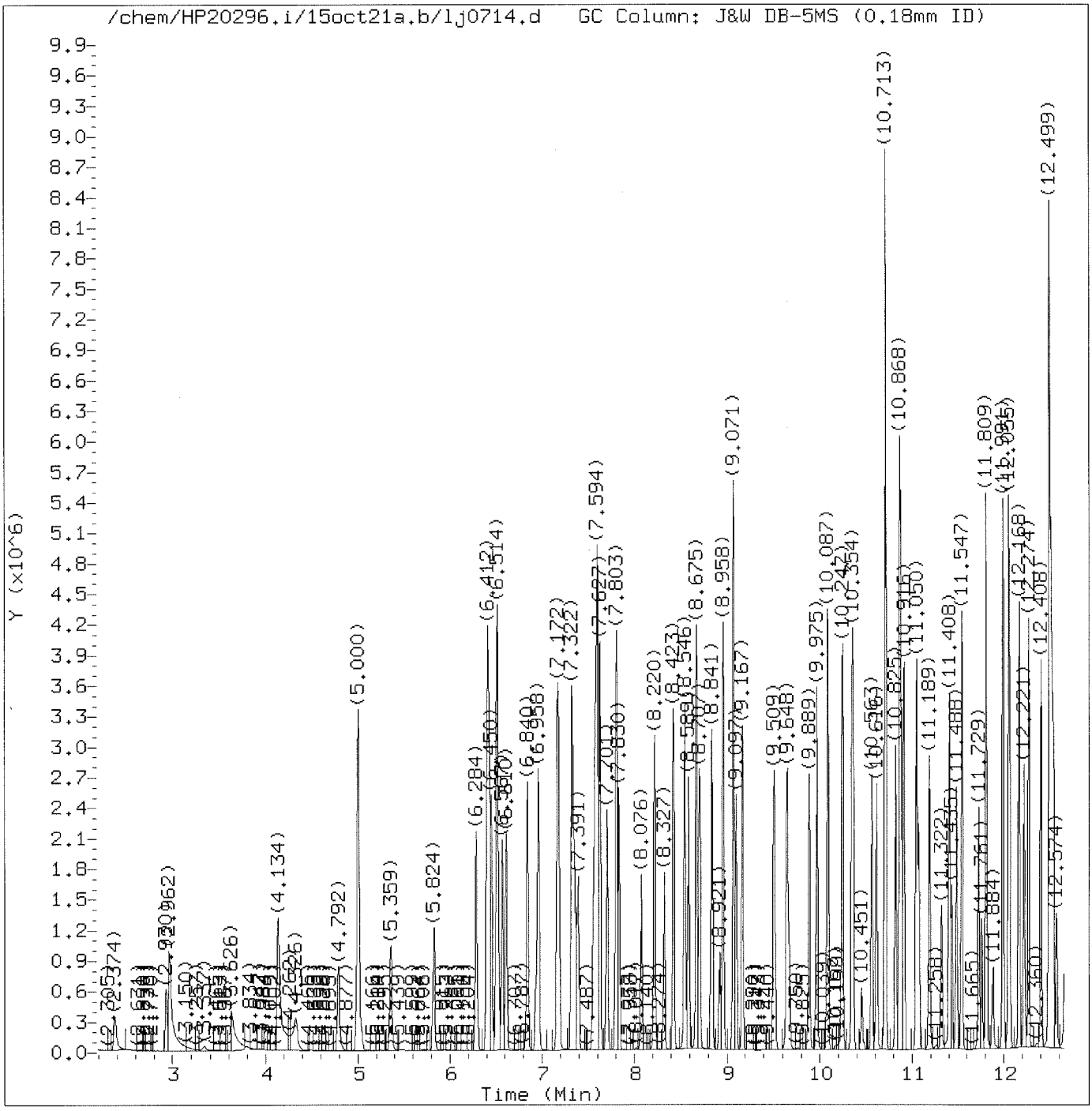
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0714.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:54 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD020 Lab Sample ID: RVSTD2745

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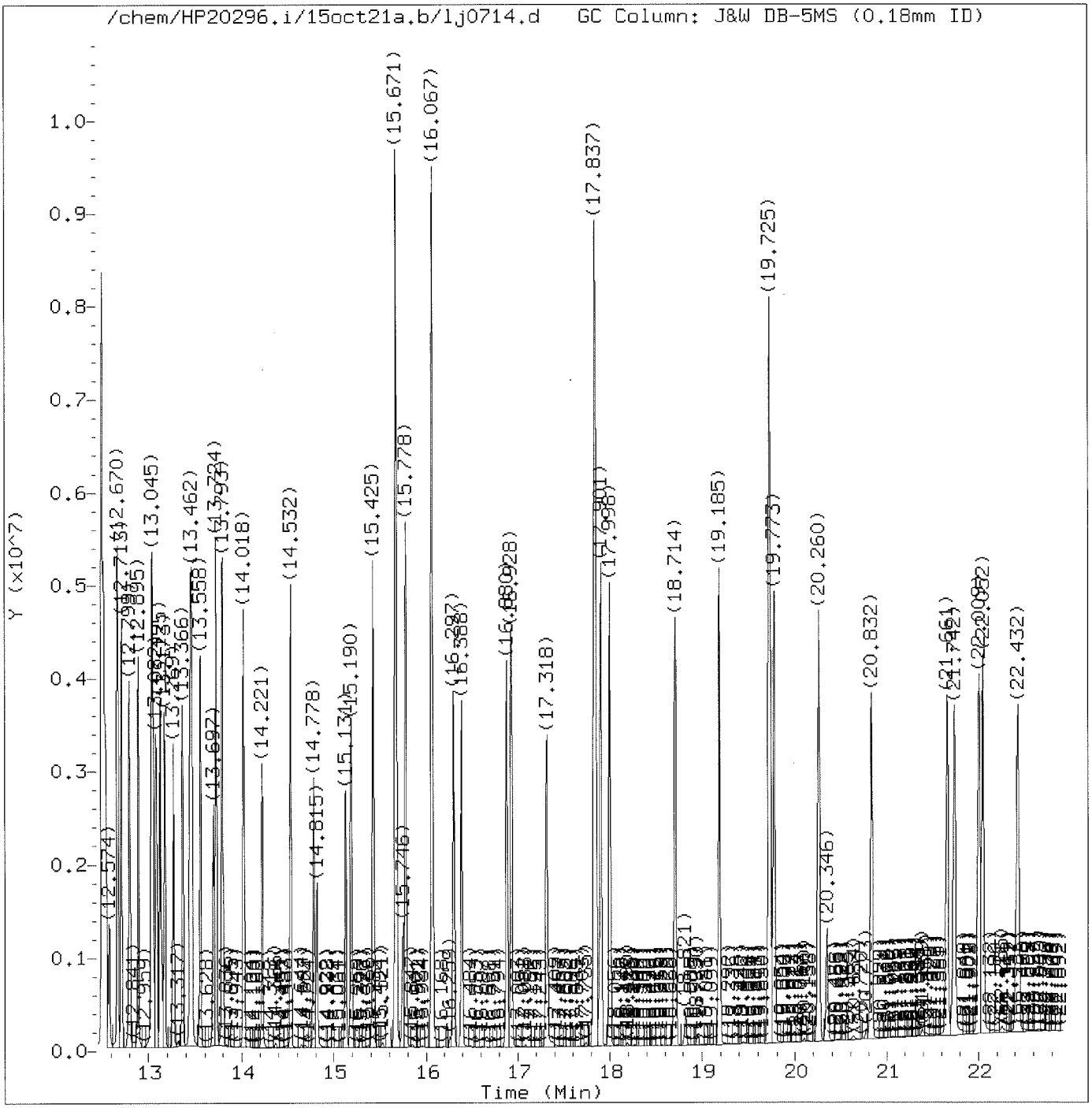
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0714.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:54 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD020 Lab Sample ID: RVSTD2745

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on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0714.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:54 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD020 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.374	88	349626	19.899
4) N-Nitrosodimethylamine	(1)	2.930	74	563920	19.764
5) Pyridine	(1)	2.962	79	956093	19.926
7) 2-Picoline	(1)	4.134	93	975501	19.612
8) N-Nitrosomethylethylamine	(1)	4.326	88	397783	19.837
9) Methyl methanesulfonate	(1)	4.792	80	501265	19.849
11)$2-Fluorophenol	(1)	5.000	112	1521410	39.500
13) N-Nitrosodiethylamine	(1)	5.359	102	385294	19.679
15) Ethyl methanesulfonate	(1)	5.829	109	399027	19.781
16) Benzaldehyde	(1)	6.284	77	722265	20.383
17)$Phenol-d6	(1)	6.407	99	2014721	39.441
18) Phenol	(1)	6.428	94	1168629	19.743
19) Aniline	(1)	6.450	93	1394952	19.733
20) a-methylstyrene	(1)	6.519	118	817371	20.225
22) bis(2-Chloroethyl)ether	(1)	6.567	93	861414	19.768
23) 2-Chlorophenol	(1)	6.610	128	717271	19.639
24) 1,3-Dichlorobenzene	(1)	6.840	146	816885	19.654
25)*1,4-Dichlorobenzene-d4	(1)	6.931	152	135793	5.000
26) 1,4-Dichlorobenzene	(1)	6.958	146	836902	19.797
27) Benzyl alcohol	(1)	7.167	108	553382	20.257
28) 1,2-Dichlorobenzene	(1)	7.183	146	780691	19.706
30) Indene	(1)	7.322	115	1427486	20.118
31) 2-Methylphenol	(1)	7.343	108	761550	19.848
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.391	45	1051807	19.758
34) bis(2-Chloroisopropyl)ether	(1)	7.391	45	1051807	19.758
35) N-Nitrosopyrrolidine	(1)	7.557	100	424451	20.084
36) Acetophenone	(1)	7.573	105	1212988	20.247
37) 4-Methylphenol	(1)	7.594	108	857557	19.816
38) N-Nitroso-di-n-propylamine	(1)	7.600	70	691065	19.856
40) o-Toluidine	(1)	7.627	106	1331064	19.664
39) N-Nitrosomorpholine	(1)	7.627	56	496192	19.724
42) Total Cresols	(1)			1619107	39.665
43) Hexachloroethane	(1)	7.701	117	358811	19.804
44)$Nitrobenzene-d5	(2)	7.803	82	1977166	40.317
45) Nitrobenzene	(2)	7.830	77	1016244	20.038
48) N-Nitrosopiperidine	(2)	8.076	114	392657	19.885
50) Isophorone	(2)	8.220	82	1822987	19.921
51) 2-Nitrophenol	(2)	8.327	139	320037	20.871
53) 2,4-Dimethylphenol	(2)	8.423	107	848159	19.813
57) O,O,O-Triethylphosphorothioate	(2)	8.546	198	413615	20.109

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0714.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:54 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD020 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	8.573	105	109814M	20.050
55) bis(2-Chloroethoxy)methane	(2)	8.589	93	1069974	19.931
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.675	104	1266004	20.204
60) 2,4-Dichlorophenol	(2)	8.712	162	630580	19.993
62) 1,2,4-Trichlorobenzene	(2)	8.841	180	723908	19.992
65)*Naphthalene-d8	(2)	8.926	136	523409	5.000
66) Naphthalene	(2)	8.958	128	2146404	19.090
67) 4-Chloroaniline	(2)	9.071	127	909042	19.922
68) 2,6-Dichlorophenol	(2)	9.076	162	612406	19.915
69) Hexachloropropene	(2)	9.097	213	517757	20.382
71) Hexachlorobutadiene	(2)	9.167	225	457458	20.154
75) Quinoline	(2)	9.509	129	1390367	19.744
77) N-Nitrosodi-n-butylamine	(2)	9.643	84	734577M	20.033
76) Caprolactam	(2)	9.670	113	207832	20.207
80) 4-Chloro-3-methylphenol	(2)	9.889	107	707952	19.875
82) Safrole	(2)	9.975	162	582745	19.867
83) 2-Methylnaphthalene	(2)	10.087	142	1454212	19.343
84) 1-Methylnaphthalene	(2)	10.247	142	1327895	19.474
85) Hexachlorocyclopentadiene	(3)	10.344	237	491234	20.114
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.360	216	798584	19.755
88) cis-Isosafrole	(3)	10.451	162	109257	3.338
90) 2,4,6-Trichlorophenol	(3)	10.563	196	460005	20.070
92) 2,4,5-Trichlorophenol	(3)	10.616	196	496943	20.041
93)$2-Fluorobiphenyl	(3)	10.713	172	3345223	39.382
97) Isosafrole	(3)			695594	19.573
94) trans-Isosafrole	(3)	10.825	162	586337	16.234
95) 1,1'-Biphenyl	(3)	10.868	154	1792804	19.934
96) 2-Chloronaphthalene	(3)	10.884	162	1469278	20.270
98) 1-Chloronaphthalene	(3)	10.916	162	1277532	18.873
99) Diphenyl ether	(3)	11.050	170	985146	19.798
100) 2-Nitroaniline	(3)	11.071	138	403820	20.289
104) 1,4-Naphthoquinone	(3)	11.189	158	586266	19.629
105) 1,4-Dinitrobenzene	(3)	11.322	168	177401	20.669
106) Dimethylphthalate	(3)	11.408	163	1567700	19.685
107) 1,3-Dinitrobenzene	(3)	11.435	168	218942	20.571
108) 2,6-Dinitrotoluene	(3)	11.488	165	329470	19.988
109) Acenaphthylene	(3)	11.547	152	2208411	19.507
112) 3-Nitroaniline	(3)	11.729	138	369220	20.261
113)*Acenaphthene-d10	(3)	11.761	164	310599	5.000
114) Acenaphthene	(3)	11.809	153	1473441	19.213

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0714.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:54 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD020 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	11.884	184	101566	20.855
120) 2,4_2,6-Dinitrotoluenes	(3)			770319	40.517
116) 4-Nitrophenol	(3)	11.991	109	253507	20.077
117) Pentachlorobenzene	(3)	11.991	250	658234	19.839
119) Dibenzofuran	(3)	12.055	168	1972503	19.609
118) 2,4-Dinitrotoluene	(3)	12.066	165	440849	20.529
121) 1-Naphthylamine	(3)	12.168	143	1452162	19.790
122) 2,3,4,6-Tetrachlorophenol	(3)	12.226	232	385032	20.316
123) 2-Naphthylamine	(3)	12.274	143	1423841	19.742
124) Diethylphthalate	(3)	12.408	149	1564901	19.617
126) Fluorene	(3)	12.494	166	1564681	19.145
125) Thionazin	(3)	12.504	107	279372	19.834
127) 4-Chlorophenyl-phenylether	(3)	12.515	204	803088	19.638
128) 5-Nitro-o-toluidine	(3)	12.531	152	420985	19.825
129) 4-Nitroaniline	(3)	12.547	138	378604	19.897
130) 4,6-Dinitro-2-methylphenol	(4)	12.579	198	168572	20.724
131) N-Nitrosodiphenylamine	(4)	12.670	169	1333112	19.628
132) NDPA as diphenylamine	(4)	12.670	169	1333112	19.628
134) 1,2-Diphenylhydrazine	(4)	12.713	77	2063646	19.592
135)$2,4,6-Tribromophenol	(3)	12.799	330	402443	39.926
137) Tetraethyldithiopyrophosphate	(4)	12.895	97	326636	19.491
146) Diallate trans/cis	(4)			843912	19.819
139) 1,3,5-Trinitrobenzene	(4)	13.029	213	133028	21.053
140) Diallate (peak 1)	(4)	13.039	86	702438	16.497
141) Phorate	(4)	13.050	75	1263567	17.801
142) Phenacetin	(4)	13.082	108	935549	19.864
143) 4-Bromophenyl-phenylether	(4)	13.130	248	468564	19.804
144) Diallate (peak 2)	(4)	13.146	86	141474	3.322
145) Hexachlorobenzene	(4)	13.173	284	502150	19.555
147) Dimethoate	(4)	13.269	87	776642	19.913
148) Atrazine	(4)	13.366	200	459613	19.848
149) Pentachlorophenol	(4)	13.446	266	237065	20.456
151) Pentachloronitrobenzene	(4)	13.451	237	225669	20.280
150) 4-Aminobiphenyl	(4)	13.467	169	1579076	19.819
152) Pronamide	(4)	13.558	173	790172	19.688
153)*Phenanthrene-d10	(4)	13.692	188	600172	5.000
154) Dinoseb	(4)	13.697	211	270188	20.886
155) Phenanthrene	(4)	13.724	178	2443522	19.305
157) Anthracene	(4)	13.793	178	2460999	19.516
163) Carbazole	(4)	14.018	167	2270110	19.691

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$ = Compound is a surrogate standard.

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on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0714.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:54 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD020 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.221	109	566464	20.414
165) Di-n-butylphthalate	(4)	14.532	149	2800608	19.794
167) Parathion	(4)	14.778	109	353031	20.710
168) 4-Nitroquinoline-1-oxide	(4)	14.815	190	204567	21.738
169) Octachlorostyrene	(4)	15.131	308	189881	19.907
171) Isodrin	(4)	15.190	193	290393	19.446
173) Fluoranthene	(4)	15.425	202	2871108	19.672
174) Benzidine	(5)	15.671	184	5333712	60.625
175)*Pyrene-d10	(5)	15.746	212	727086	5.000
177) Pyrene	(5)	15.778	202	3033783	19.681
179)$Terphenyl-d14	(5)	16.067	244	4113824	39.715
182) p-Dimethylaminoazobenzene	(5)	16.302	225	565316	19.859
185) Chlorobenzilate	(5)	16.388	139	871600	20.084
187) 3,3'-Dimethylbenzidine	(5)	16.880	212	1952795	20.029
188) Butylbenzylphthalate	(5)	16.933	149	1253668	20.015
191) 2-Acetylaminofluorene	(5)	17.318	181	1138920	20.724
193) 3,3'-Dichlorobenzidine	(5)	17.832	252	1103017	19.969
195) Benzo(a)anthracene	(5)	17.837	228	2969381	20.102
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.848	231	613696	20.132
196) Chrysene	(5)	17.901	228	2735309	19.876
199) bis(2-Ethylhexyl)phthalate	(5)	17.998	149	1855549	20.036
203) 6-Methylchrysene	(5)	18.714	242	1965323	19.938
205) Di-n-octylphthalate	(6)	19.185	149	3350529	19.675
206) Benzo(b)fluoranthene	(6)	19.725	252	3053332	20.065
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.730	256	1305710	20.053
208) Benzo(k)fluoranthene	(6)	19.779	252	2836302	19.347
211) Benzo(a)pyrene	(6)	20.260	252	2832640	19.818
213)*Perylene-d12	(6)	20.346	264	619021	5.000
215) 3-Methylcholanthrene	(6)	20.832	268	1327993	19.809
217) Dibenz(a,h)acridine	(6)	21.661	279	2402790	19.807
218) Dibenz(a,j)acridine	(6)	21.742	279	2369942	19.813
222) Total PAHs	(6)			44245340	353.055
219) Indeno(1,2,3-cd)pyrene	(6)	22.009	276	3296716	19.961
220) Dibenz(a,h)anthracene	(6)	22.052	278	2740650	20.191
221) Benzo(g,h,i)perylene	(6)	22.432	276	2796554	19.750

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$ = Compound is a surrogate standard.

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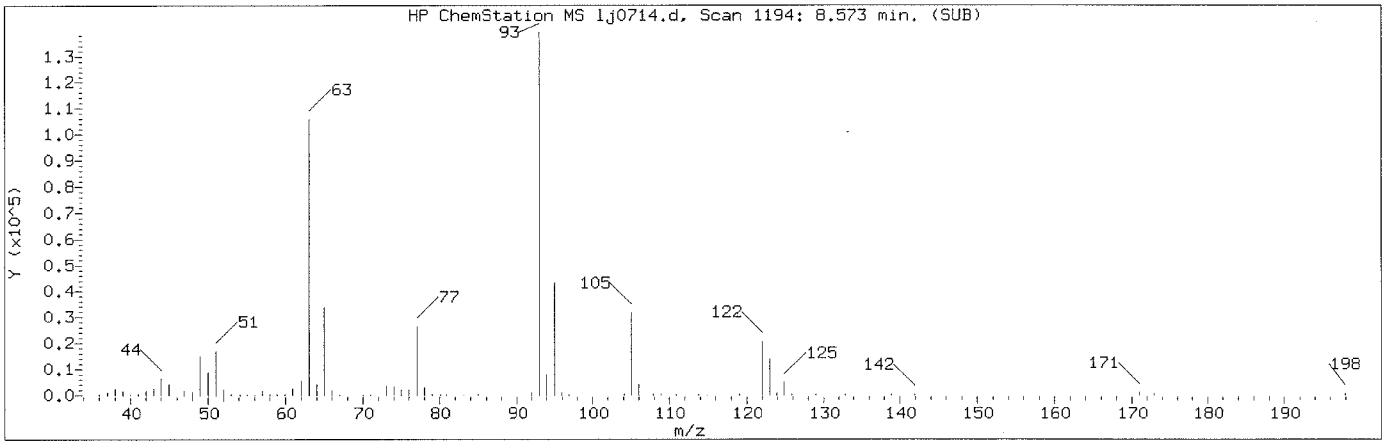
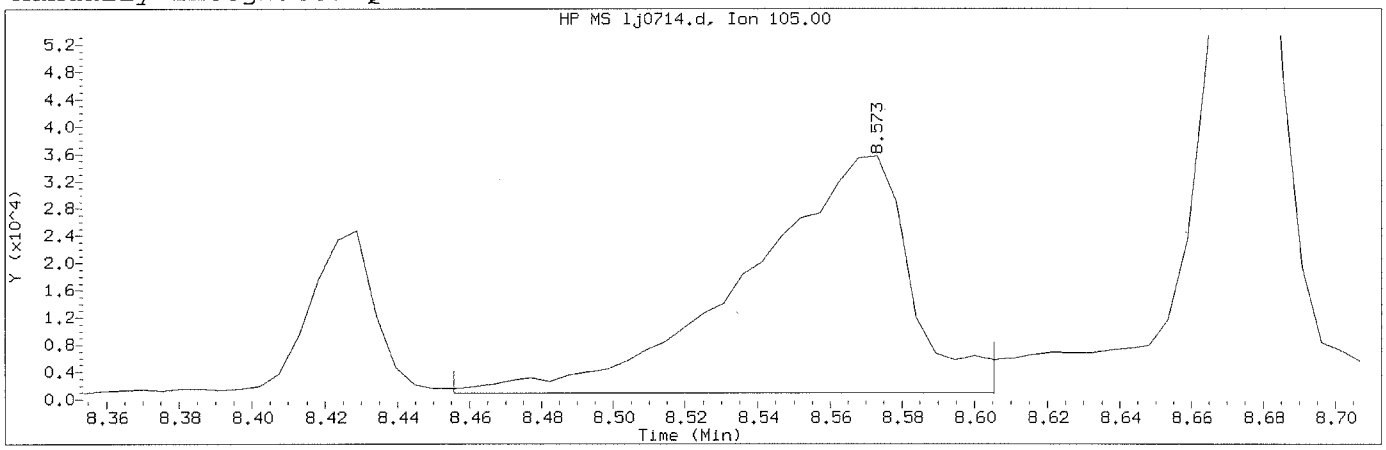
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0714.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:54 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD020 Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1194		
Retention Time (minutes)	: 8.573		
Quant Ion	: 105.00		
Area (flag)	: 109814M		
On-Column Amount (ng/ul)	: 20.0501		
Integration start scan	: 1171	Integration stop scan:	1199
Y at integration start	: 966	Y at integration end:	966

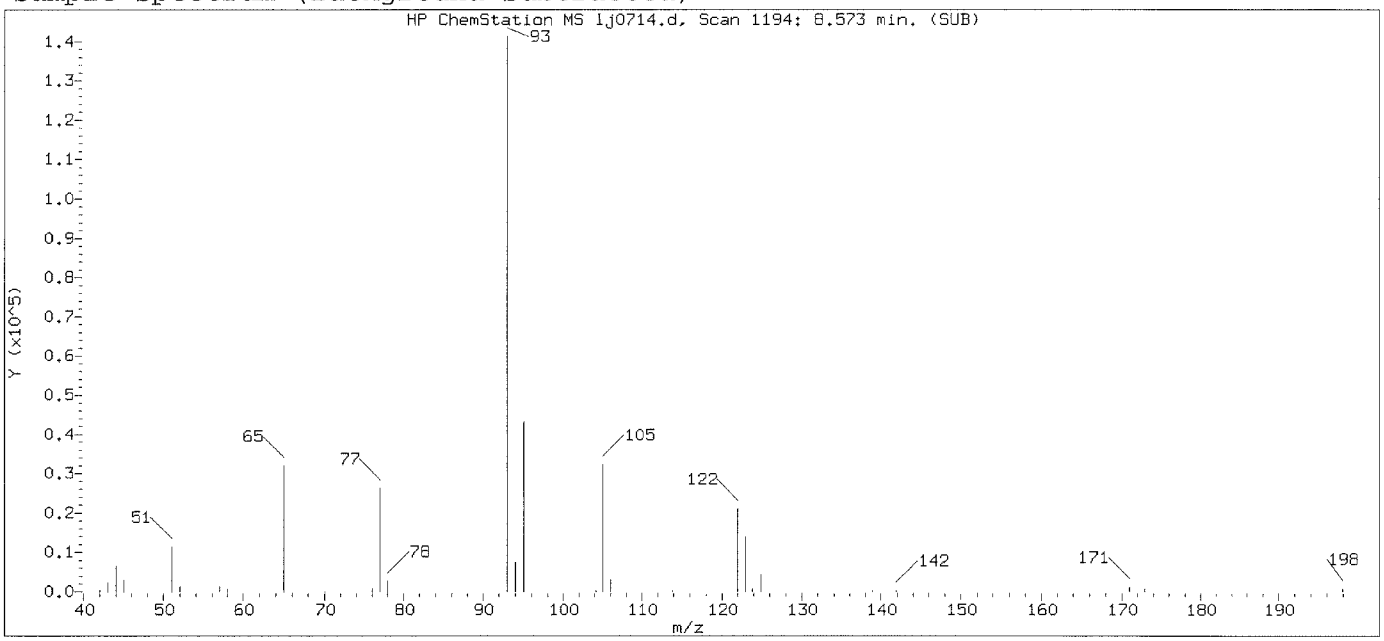
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

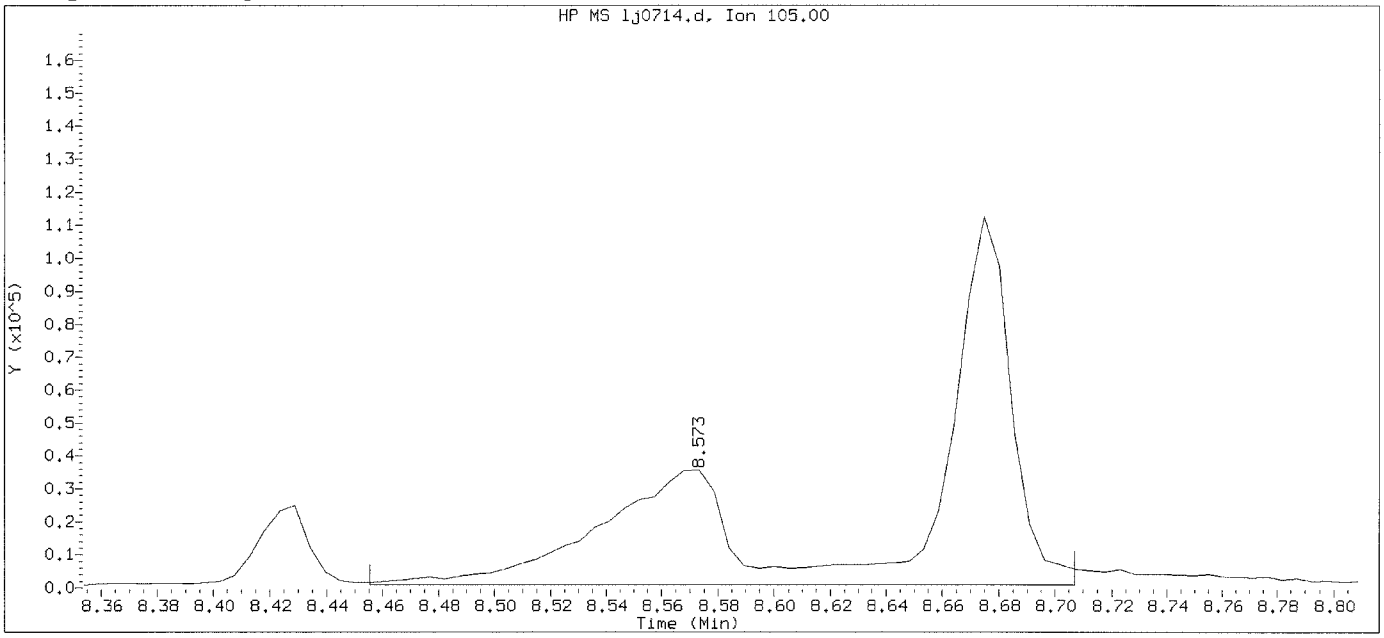
OCT 22 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0714.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:54 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 21-OCT-2015 17:19
Date, time and analyst ID of latest file update: 21-Oct-2015 17:19 Unknown

Sample Name: SSTD020 Lab Sample ID: RVSTD2745

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1194		
Retention Time (minutes)	: 8.573		
Quant Ion	: 105.00		
Area	: 271978		
On-column Amount (ng/ul)	: 8.4091		
Integration start scan	: 1171	Integration stop scan:	1218
Y at integration start	: 966	Y at integration end:	966

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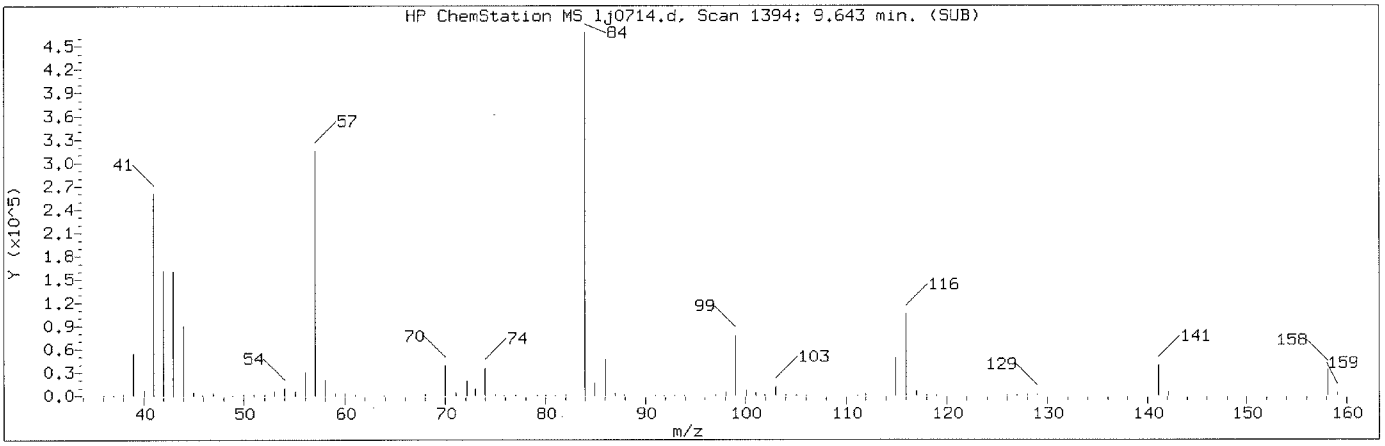
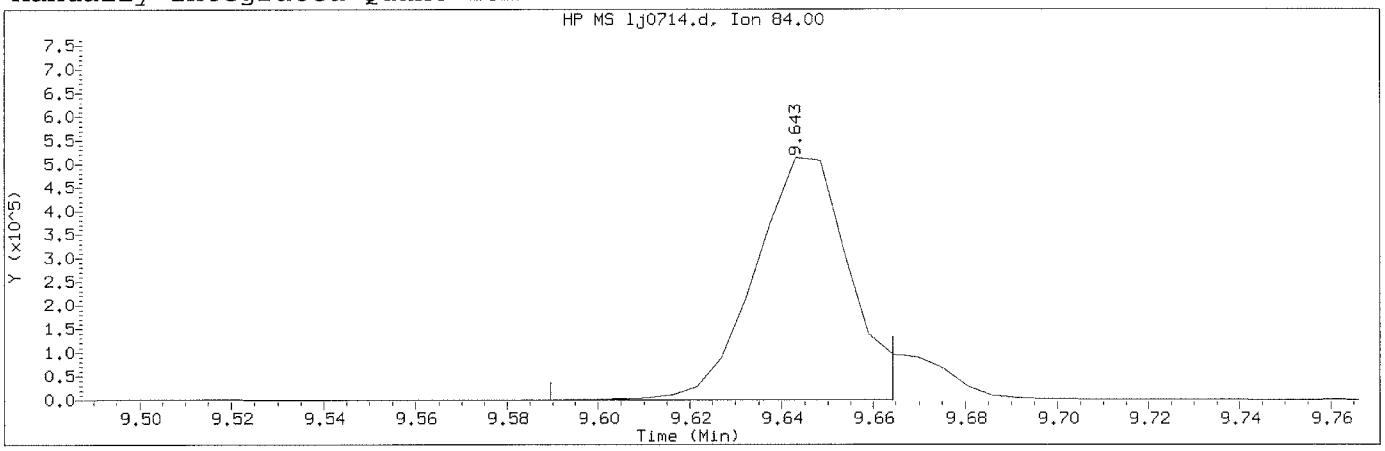
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0714.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:54 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD020 Lab Sample ID: RVSTD2745

Compound Number	: 77		
Compound Name	: N-Nitrosodi-n-butylamine		
Scan Number	: 1394		
Retention Time (minutes)	: 9.643		
Quant Ion	: 84.00		
Area (flag)	: 734577M		
On-Column Amount (ng/ul)	: 20.0333		
Integration start scan	: 1383	Integration stop scan:	1397
Y at integration start	: 303	Y at integration end:	303

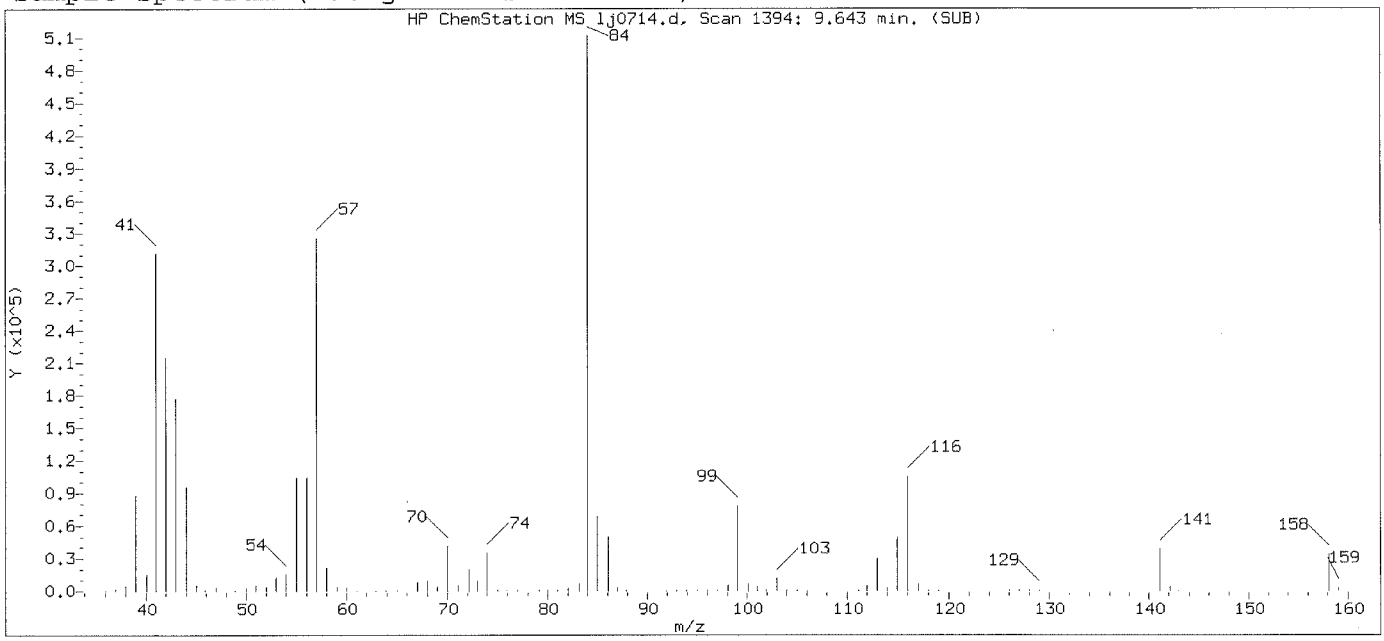
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Holly Berry on 10/22/2015 at 08:21 Target 3.5 designature user ID: hb01996

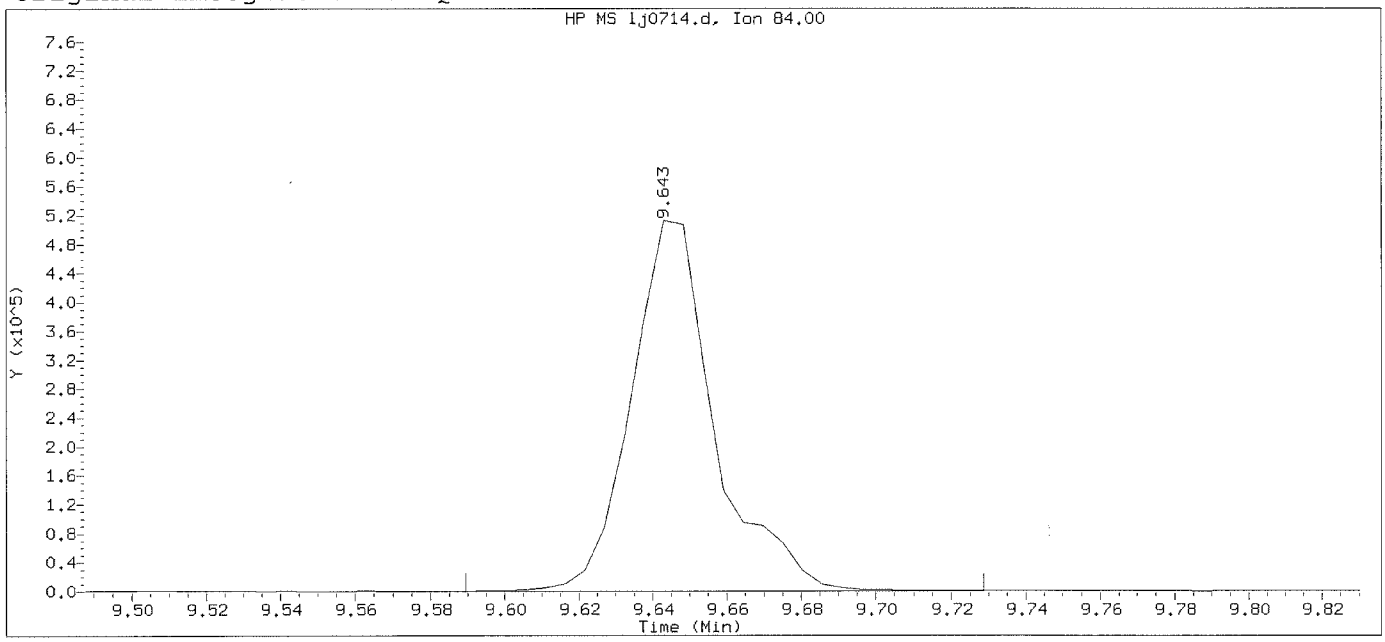
OCT 22 2015

GC/MS audit/management approval: Matthew E. Barton Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0714.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 16:54 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 21-OCT-2015 17:19
Date, time and analyst ID of latest file update: 21-Oct-2015 17:19 Unknown

Sample Name: SSTD020 Lab Sample ID: RVSTD2745

Compound Number	: 77		
Compound Name	: N-Nitrosodi-n-butylamine		
Scan Number	: 1394		
Retention Time (minutes)	: 9.643		
Quant Ion	: 84.00		
Area	: 801076		
On-column Amount (ng/ul)	: 20.7662		
Integration start scan	: 1383	Integration stop scan:	1409
Y at integration start	: 303	Y at integration end:	303

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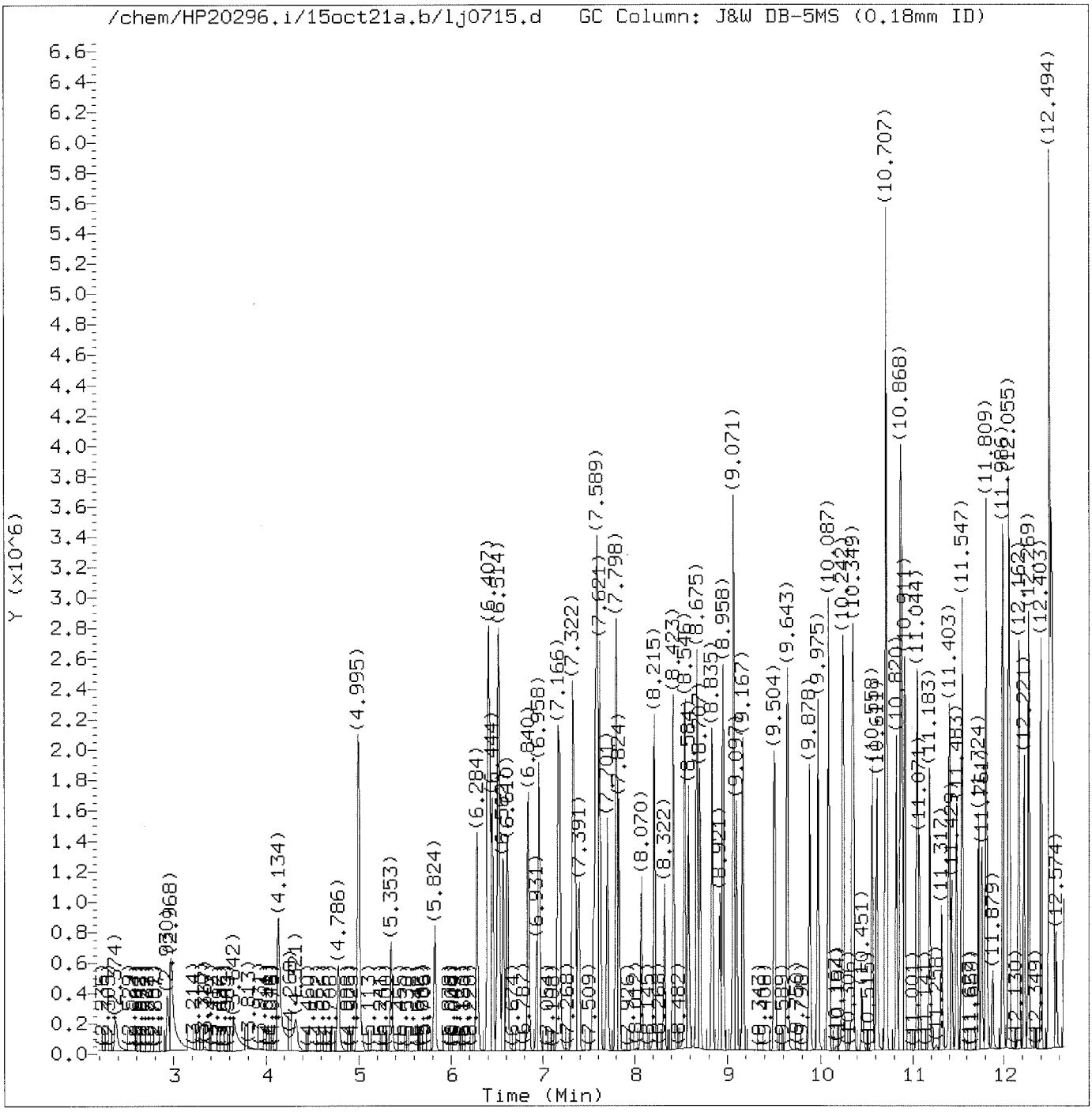
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0715.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 17:22 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2745

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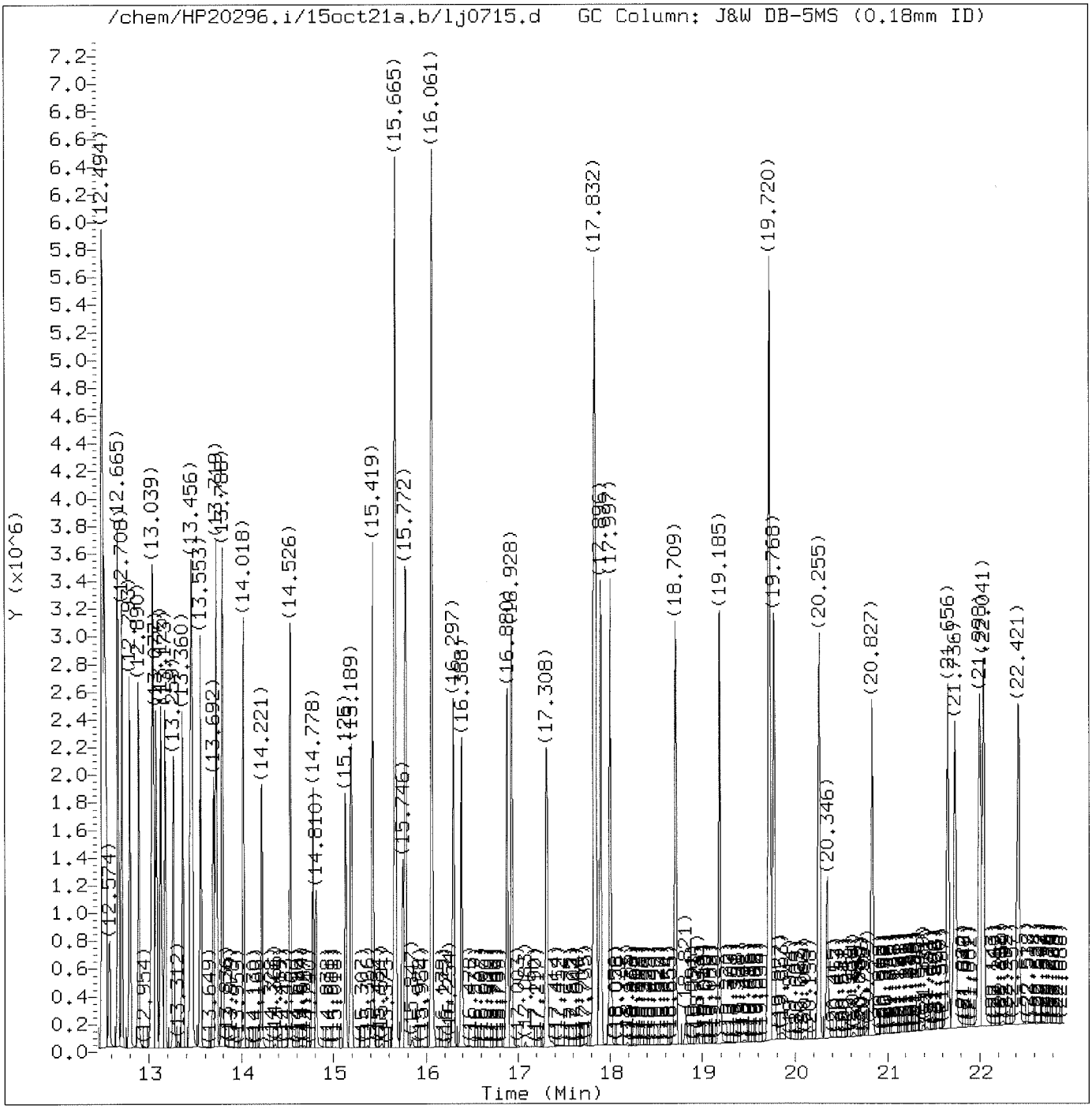
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0715.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 17:22 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2745

Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0715.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 17:22 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.374	88	225333	12.710
4) N-Nitrosodimethylamine	(1)	2.930	74	362060	12.609
5) Pyridine	(1)	2.968	79	615374	12.710
7) 2-Picoline	(1)	4.134	93	636751	12.692
8) N-Nitrosomethylethylamine	(1)	4.321	88	255879	12.662
9) Methyl methanesulfonate	(1)	4.786	80	326870	12.797
11)$2-Fluorophenol	(1)	4.995	112	988009	25.420
13) N-Nitrosodiethylamine	(1)	5.353	102	251085	12.709
15) Ethyl methanesulfonate	(1)	5.824	109	259906	12.753
16) Benzaldehyde	(1)	6.284	77	472150	13.075
17)$Phenol-d6	(1)	6.402	99	1322927	25.602
18) Phenol	(1)	6.423	94	768215	12.823
19) Aniline	(1)	6.444	93	908554	12.730
20) a-methylstyrene	(1)	6.514	118	522879	12.793
22) bis(2-Chloroethyl)ether	(1)	6.567	93	559408	12.719
23) 2-Chlorophenol	(1)	6.610	128	467803	12.697
24) 1,3-Dichlorobenzene	(1)	6.840	146	538104	12.799
25)*1,4-Dichlorobenzene-d4	(1)	6.931	152	136261	5.000
26) 1,4-Dichlorobenzene	(1)	6.958	146	543051	12.725
27) Benzyl alcohol	(1)	7.166	108	353239	12.788
28) 1,2-Dichlorobenzene	(1)	7.183	146	512211	12.787
30) Indene	(1)	7.322	115	916484	12.777
31) 2-Methylphenol	(1)	7.343	108	496970	12.804
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.391	45	687266	12.772
34) bis(2-Chloroisopropyl)ether	(1)	7.391	45	687266	12.772
35) N-Nitrosopyrrolidine	(1)	7.546	100	272176	12.749
36) Acetophenone	(1)	7.568	105	754861	12.543
38) N-Nitroso-di-n-propylamine	(1)	7.589	70	445291	12.687
37) 4-Methylphenol	(1)	7.589	108	514688	12.008
39) N-Nitrosomorpholine	(1)	7.616	56	324564	12.766
40) o-Toluidine	(1)	7.621	106	881257	12.853
42) Total Cresols	(1)			1011658	24.812
43) Hexachloroethane	(1)	7.701	117	233708	12.764
44)$Nitrobenzene-d5	(2)	7.798	82	1282172	25.558
45) Nitrobenzene	(2)	7.824	77	660421	12.742
48) N-Nitrosopiperidine	(2)	8.070	114	258785	12.803
50) Isophorone	(2)	8.215	82	1186042	12.698
51) 2-Nitrophenol	(2)	8.327	139	202956	12.898
53) 2,4-Dimethylphenol	(2)	8.423	107	550285	12.620
56) Benzoic acid	(2)	8.546	105	59861	11.152

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$ = Compound is a surrogate standard.

Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/1j0715.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 17:22 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.546	198	270607	12.840
55) bis(2-Chloroethoxy)methane	(2)	8.584	93	687760	12.588
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.675	104	813177	12.710
60) 2,4-Dichlorophenol	(2)	8.707	162	411723	12.766
62) 1,2,4-Trichlorobenzene	(2)	8.835	180	468431	12.680
65)*Naphthalene-d8	(2)	8.921	136	531432	5.000
66) Naphthalene	(2)	8.958	128	1401369	12.320
67) 4-Chloroaniline	(2)	9.071	127	593968	12.739
68) 2,6-Dichlorophenol	(2)	9.071	162	399792	12.727
69) Hexachloropropene	(2)	9.097	213	328053	12.664
71) Hexachlorobutadiene	(2)	9.167	225	294949	12.722
75) Quinoline	(2)	9.504	129	910553	12.676
77) N-Nitrosodi-n-butylamine	(2)	9.643	84	512586	13.428
76) Caprolactam	(2)	9.648	113	131826	12.593
80) 4-Chloro-3-methylphenol	(2)	9.878	107	462889	12.723
82) Safrole	(2)	9.975	162	377772	12.638
83) 2-Methylnaphthalene	(2)	10.087	142	945629	12.410
84) 1-Methylnaphthalene	(2)	10.242	142	861173	12.451
85) Hexachlorocyclopentadiene	(3)	10.344	237	314810	12.795
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.354	216	516054	12.703
88) cis-Isosafrole	(3)	10.451	162	71339	2.167
90) 2,4,6-Trichlorophenol	(3)	10.558	196	290319	12.629
92) 2,4,5-Trichlorophenol	(3)	10.611	196	320590	12.824
93)$2-Fluorobiphenyl	(3)	10.713	172	2175140	25.462
97) Isosafrole	(3)			449925	12.626
94) trans-Isosafrole	(3)	10.820	162	378586	10.459
95) 1,1'-Biphenyl	(3)	10.862	154	1146643	12.691
96) 2-Chloronaphthalene	(3)	10.878	162	904626	12.490
98) 1-Chloronaphthalene	(3)	10.911	162	883086	12.910
99) Diphenyl ether	(3)	11.044	170	633477	12.677
100) 2-Nitroaniline	(3)	11.071	138	256093	12.778
104) 1,4-Naphthoquinone	(3)	11.189	158	382031	12.722
105) 1,4-Dinitrobenzene	(3)	11.317	168	109093	12.662
106) Dimethylphthalate	(3)	11.403	163	1016864	12.705
107) 1,3-Dinitrobenzene	(3)	11.429	168	135194	12.656
108) 2,6-Dinitrotoluene	(3)	11.483	165	211291	12.742
109) Acenaphthylene	(3)	11.547	152	1444897	12.714
112) 3-Nitroaniline	(3)	11.724	138	230300	12.608
113)*Acenaphthene-d10	(3)	11.761	164	310446	5.000
114) Acenaphthene	(3)	11.809	153	956560	12.483

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0715.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 17:22 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	11.879	184	59510	12.293
120) 2,4_2,6-Dinitrotoluenes	(3)			482971	25.360
116) 4-Nitrophenol	(3)	11.991	109	159342	12.594
117) Pentachlorobenzene	(3)	11.991	250	433226	12.918
119) Dibenzofuran	(3)	12.055	168	1289544	12.743
118) 2,4-Dinitrotoluene	(3)	12.066	165	271680	12.618
121) 1-Naphthylamine	(3)	12.162	143	927209	12.606
122) 2,3,4,6-Tetrachlorophenol	(3)	12.221	232	237828	12.541
123) 2-Naphthylamine	(3)	12.269	143	907225	12.564
124) Diethylphthalate	(3)	12.403	149	1016468	12.685
126) Fluorene	(3)	12.494	166	1014247	12.433
125) Thionazin	(3)	12.499	107	181269	12.780
127) 4-Chlorophenyl-phenylether	(3)	12.515	204	515571	12.585
128) 5-Nitro-o-toluidine	(3)	12.526	152	265445	12.505
129) 4-Nitroaniline	(3)	12.537	138	244696	12.772
130) 4,6-Dinitro-2-methylphenol	(4)	12.574	198	96741	12.025
131) N-Nitrosodiphenylamine	(4)	12.665	169	865496	12.667
132) NDPA as diphenylamine	(4)	12.665	169	865496	12.667
134) 1,2-Diphenylhydrazine	(4)	12.708	77	1322747	12.529
135)$2,4,6-Tribromophenol	(3)	12.793	330	255217	25.248
137) Tetraethyldithiopyrophosphate	(4)	12.890	97	212878	12.637
146) Diallate trans/cis	(4)			535450	12.542
139) 1,3,5-Trinitrobenzene	(4)	13.023	213	79820	12.585
140) Diallate (peak 1)	(4)	13.034	86	445163	10.423
141) Phorate	(4)	13.045	75	816900	11.727
142) Phenacetin	(4)	13.077	108	606406	12.765
143) 4-Bromophenyl-phenylether	(4)	13.125	248	301328	12.661
144) Diallate (peak 2)	(4)	13.146	86	90287	2.119
145) Hexachlorobenzene	(4)	13.173	284	319869	12.450
147) Dimethoate	(4)	13.259	87	504770	12.814
148) Atrazine	(4)	13.366	200	298518	12.777
149) Pentachlorophenol	(4)	13.440	266	144297	12.449
151) Pentachloronitrobenzene	(4)	13.451	237	141895	12.673
150) 4-Aminobiphenyl	(4)	13.462	169	1027981	12.785
152) Pronamide	(4)	13.553	173	513299	12.701
153)*Phenanthrene-d10	(4)	13.686	188	601088	5.000
154) Dinoseb	(4)	13.697	211	154915	12.088
155) Phenanthrene	(4)	13.719	178	1581450	12.480
157) Anthracene	(4)	13.788	178	1590938	12.578
163) Carbazole	(4)	14.018	167	1466604	12.651

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$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0715.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 17:22 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD12.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.221	109	355406	12.715
165) Di-n-butylphthalate	(4)	14.526	149	1800283	12.653
167) Parathion	(4)	14.778	109	214978	12.569
168) 4-Nitroquinoline-1-oxide	(4)	14.810	190	115939	12.351
169) Octachlorostyrene	(4)	15.131	308	124459	12.892
171) Isodrin	(4)	15.189	193	188248	12.565
173) Fluoranthene	(4)	15.419	202	1851978	12.635
174) Benzidine	(5)	15.665	184	3527438	39.194
175)*Pyrene-d10	(5)	15.746	212	732575	5.000
177) Pyrene	(5)	15.778	202	1951303	12.551
179)$Terphenyl-d14	(5)	16.061	244	2635810	25.191
182) p-Dimethylaminoazobenzene	(5)	16.297	225	356099	12.437
185) Chlorobenzilate	(5)	16.388	139	550872	12.574
187) 3,3'-Dimethylbenzidine	(5)	16.880	212	1246202	12.639
188) Butylbenzylphthalate	(5)	16.928	149	809752	12.746
191) 2-Acetylaminofluorene	(5)	17.313	181	695555	12.546
193) 3,3'-Dichlorobenzidine	(5)	17.826	252	702043	12.586
195) Benzo(a)anthracene	(5)	17.832	228	1907125	12.750
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.848	231	385799	12.546
196) Chrysene	(5)	17.896	228	1735434	12.513
199) bis(2-Ethylhexyl)phthalate	(5)	17.997	149	1179590	12.606
203) 6-Methylchrysene	(5)	18.709	242	1248604	12.554
205) Di-n-octylphthalate	(6)	19.185	149	2104119	12.518
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.720	256	808182	12.560
206) Benzo(b)fluoranthene	(6)	19.720	252	1914491	12.701
208) Benzo(k)fluoranthene	(6)	19.768	252	1792417	12.414
211) Benzo(a)pyrene	(6)	20.255	252	1780509	12.601
213)*Perylene-d12	(6)	20.346	264	610708	5.000
215) 3-Methylcholanthrene	(6)	20.827	268	825906	12.490
217) Dibenz(a,h)acridine	(6)	21.656	279	1501624	12.535
218) Dibenz(a,j)acridine	(6)	21.736	279	1475437	12.502
219) Indeno(1,2,3-cd)pyrene	(6)	21.998	276	2082706	12.725
222) Total PAHs	(6)			28291610	226.108
220) Dibenz(a,h)anthracene	(6)	22.041	278	1718884	12.767
221) Benzo(g,h,i)perylene	(6)	22.421	276	1760500	12.582

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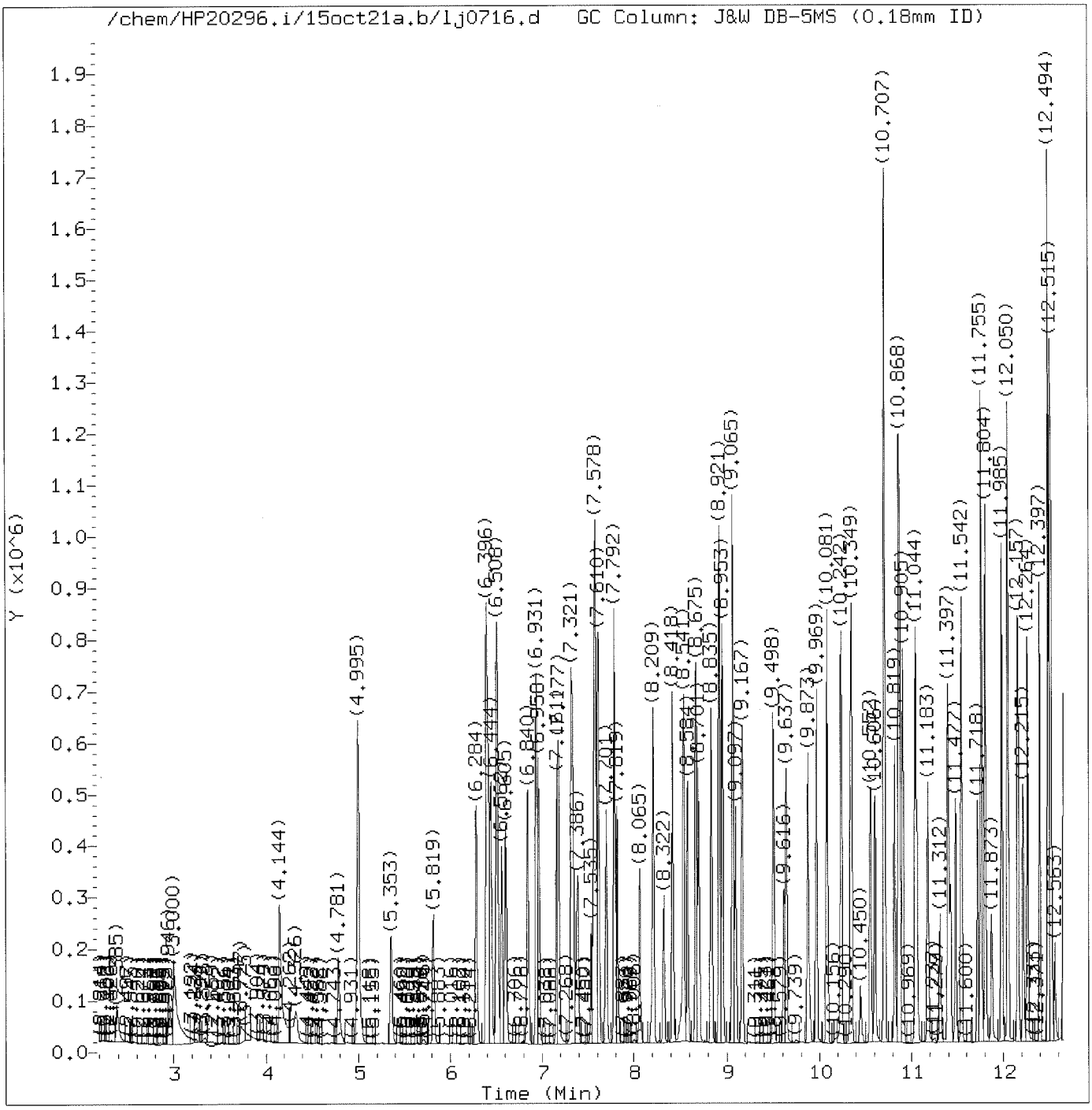
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0716.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 17:50 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2745

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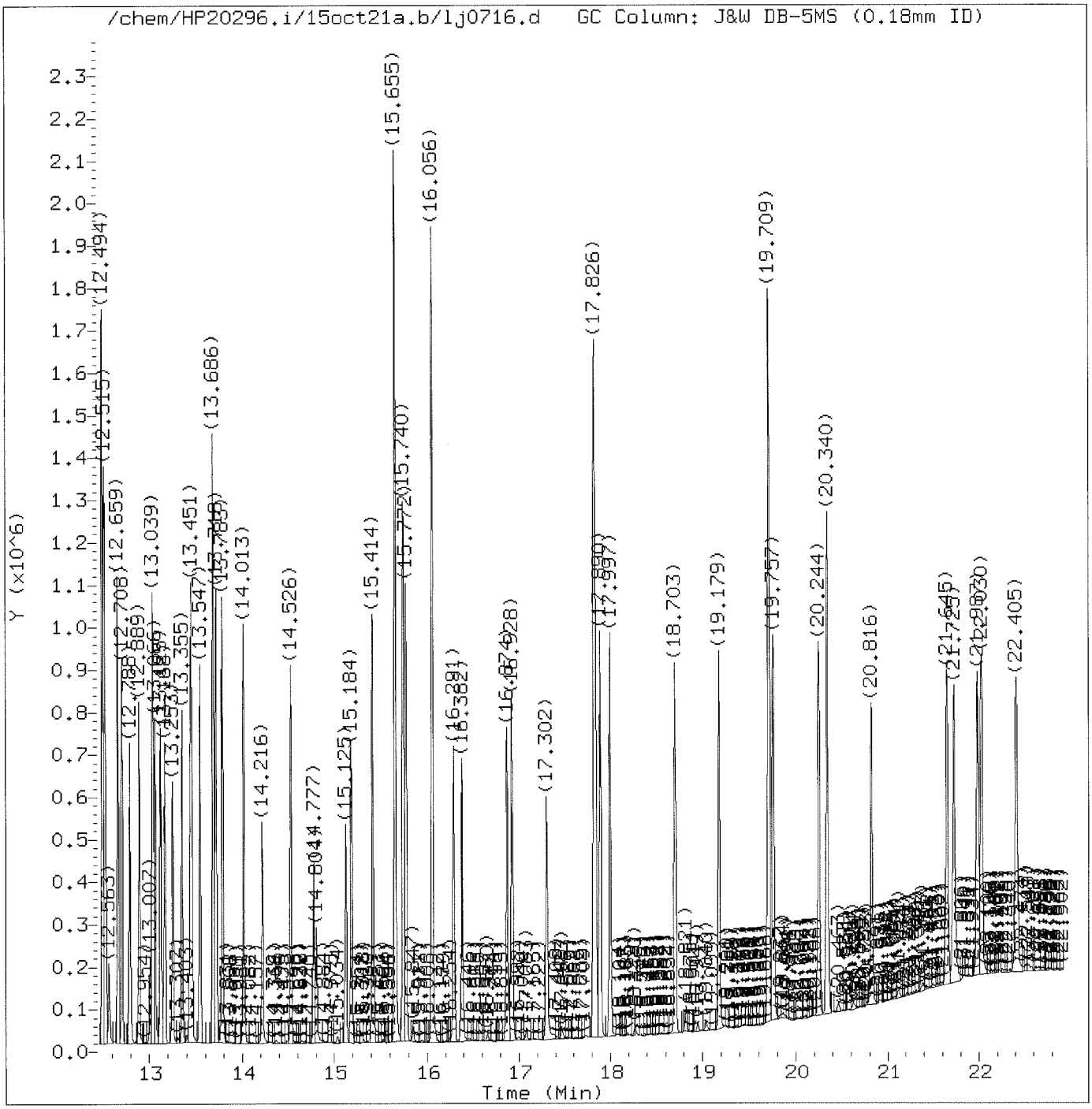
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0716.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 17:50 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2745

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on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/1j0716.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 17:50 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.385	88	64509	3.695
4) N-Nitrosodimethylamine	(1)	2.941	74	102510	3.639
5) Pyridine	(1)	3.000	79	175543	3.685
7) 2-Picoline	(1)	4.144	93	182678	3.697
8) N-Nitrosomethylethylamine	(1)	4.326	88	72744	3.663
9) Methyl methanesulfonate	(1)	4.781	80	95661	3.781
11)$2-Fluorophenol	(1)	4.995	112	283645	7.407
13) N-Nitrosodiethylamine	(1)	5.353	102	72782	3.732
15) Ethyl methanesulfonate	(1)	5.819	109	74866	3.724
16) Benzaldehyde	(1)	6.284	77	149168	4.086
17)$Phenol-d6	(1)	6.396	99	381320	7.473
18) Phenol	(1)	6.412	94	222639	3.758
19) Aniline	(1)	6.444	93	264167	3.746
20) a-methylstyrene	(1)	6.514	118	152828	3.777
22) bis(2-Chloroethyl)ether	(1)	6.562	93	166912	3.822
23) 2-Chlorophenol	(1)	6.605	128	135873	3.735
24) 1,3-Dichlorobenzene	(1)	6.840	146	156088	3.755
25)*1,4-Dichlorobenzene-d4	(1)	6.931	152	134666	5.000
26) 1,4-Dichlorobenzene	(1)	6.958	146	159723	3.780
27) Benzyl alcohol	(1)	7.161	108	97409	3.603
28) 1,2-Dichlorobenzene	(1)	7.177	146	146945	3.719
30) Indene	(1)	7.321	115	261673	3.703
31) 2-Methylphenol	(1)	7.338	108	142290	3.717
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.386	45	199916	3.757
34) bis(2-Chloroisopropyl)ether	(1)	7.386	45	199916	3.757
35) N-Nitrosopyrrolidine	(1)	7.535	100	75601	3.615
36) Acetophenone	(1)	7.562	105	225735	3.786
38) N-Nitroso-di-n-propylamine	(1)	7.578	70	132365	3.803
37) 4-Methylphenol	(1)	7.584	108	162846	3.825
39) N-Nitrosomorpholine	(1)	7.605	56	93357	3.722
40) o-Toluidine	(1)	7.616	106	255711	3.769
42) Total Cresols	(1)			305136	7.542
43) Hexachloroethane	(1)	7.701	117	67785	3.747
44)$Nitrobenzene-d5	(2)	7.792	82	359748	7.504
45) Nitrobenzene	(2)	7.819	77	187860	3.785
48) N-Nitrosopiperidine	(2)	8.065	114	75153	3.862
50) Isophorone	(2)	8.209	82	337313	3.773
51) 2-Nitrophenol	(2)	8.322	139	50785	3.446
53) 2,4-Dimethylphenol	(2)	8.418	107	161711	3.854
56) Benzoic acid	(2)	8.525	105	45541	8.564

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$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/1j0716.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 17:50 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.541	198	77502	3.828
55) bis(2-Chloroethoxy)methane	(2)	8.584	93	203303	3.865
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.675	104	232756	3.796
60) 2,4-Dichlorophenol	(2)	8.701	162	113240	3.689
62) 1,2,4-Trichlorobenzene	(2)	8.835	180	136693	3.847
65)*Naphthalene-d8	(2)	8.921	136	507800	5.000
66) Naphthalene	(2)	8.953	128	414150	3.800
68) 2,6-Dichlorophenol	(2)	9.065	162	113644	3.779
67) 4-Chloroaniline	(2)	9.065	127	172450	3.846
69) Hexachloropropene	(2)	9.097	213	91468	3.706
71) Hexachlorobutadiene	(2)	9.167	225	86168	3.861
75) Quinoline	(2)	9.498	129	264029	3.827
76) Caprolactam	(2)	9.611	113	37555	3.753
77) N-Nitrosodi-n-butylamine	(2)	9.637	84	128228M	3.560
80) 4-Chloro-3-methylphenol	(2)	9.873	107	131380	3.773
82) Safrole	(2)	9.969	162	108510	3.789
83) 2-Methylnaphthalene	(2)	10.081	142	277089	3.796
84) 1-Methylnaphthalene	(2)	10.242	142	252302	3.806
85) Hexachlorocyclopentadiene	(3)	10.343	237	83013	3.511
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.354	216	151203	3.800
88) cis-Isosafrole	(3)	10.450	162	20685	0.642
90) 2,4,6-Trichlorophenol	(3)	10.557	196	80750	3.628
92) 2,4,5-Trichlorophenol	(3)	10.606	196	88829	3.661
93)$2-Fluorobiphenyl	(3)	10.707	172	642423	7.662
97) Isosafrole	(3)			128443	3.704
94) trans-Isosafrole	(3)	10.819	162	107758	3.062
95) 1,1'-Biphenyl	(3)	10.862	154	338495	3.820
96) 2-Chloronaphthalene	(3)	10.873	162	257959	3.668
98) 1-Chloronaphthalene	(3)	10.905	162	263208	3.902
99) Diphenyl ether	(3)	11.044	170	184641	3.778
100) 2-Nitroaniline	(3)	11.066	138	66326	3.456
104) 1,4-Naphthoquinone	(3)	11.183	158	107520	3.684
105) 1,4-Dinitrobenzene	(3)	11.312	168	26525	3.257
106) Dimethylphthalate	(3)	11.397	163	301391	3.836
107) 1,3-Dinitrobenzene	(3)	11.424	168	33654	3.320
108) 2,6-Dinitrotoluene	(3)	11.477	165	56765	3.553
109) Acenaphthylene	(3)	11.542	152	419929	3.779
112) 3-Nitroaniline	(3)	11.718	138	62072	3.532
113)*Acenaphthene-d10	(3)	11.755	164	303053	5.000
114) Acenaphthene	(3)	11.804	153	278899	3.732

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0716.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 17:50 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	11.873	184	27870	6.161
120) 2,4_2,6-Dinitrotoluenes	(3)			127595	6.992
116) 4-Nitrophenol	(3)	11.980	109	43385	3.558
117) Pentachlorobenzene	(3)	11.985	250	125113	3.807
119) Dibenzofuran	(3)	12.050	168	382984	3.851
118) 2,4-Dinitrotoluene	(3)	12.055	165	70830	3.440
121) 1-Naphthylamine	(3)	12.162	143	278730	3.855
122) 2,3,4,6-Tetrachlorophenol	(3)	12.221	232	63307	3.481
123) 2-Naphthylamine	(3)	12.264	143	268374	3.796
124) Diethylphthalate	(3)	12.397	149	291742	3.734
126) Fluorene	(3)	12.488	166	303793	3.804
125) Thionazin	(3)	12.494	107	52367M	3.776
127) 4-Chlorophenyl-phenylether	(3)	12.515	204	151725	3.785
128) 5-Nitro-o-toluidine	(3)	12.520	152	71095	3.490
129) 4-Nitroaniline	(3)	12.526	138	64815	3.519
130) 4,6-Dinitro-2-methylphenol	(4)	12.563	198	21341	2.932
132) NDPA as diphenylamine	(4)	12.659	169	254289	3.870
131) N-Nitrosodiphenylamine	(4)	12.659	169	254289	3.870
134) 1,2-Diphenylhydrazine	(4)	12.708	77	387829	3.830
135)$2,4,6-Tribromophenol	(3)	12.793	330	68515	7.048
137) Tetraethyldithiopyrophosphate	(4)	12.889	97	61062	3.789
146) Diallate trans/cis	(4)			155186	3.798
139) 1,3,5-Trinitrobenzene	(4)	13.007	213	16276	2.851
140) Diallate (peak 1)	(4)	13.034	86	128391	3.143
141) Phorate	(4)	13.044	75	230334	3.519
142) Phenacetin	(4)	13.066	108	171078	3.770
143) 4-Bromophenyl-phenylether	(4)	13.125	248	88041	3.851
144) Diallate (peak 2)	(4)	13.141	86	26795	0.655
145) Hexachlorobenzene	(4)	13.168	284	93163	3.792
147) Dimethoate	(4)	13.253	87	136516	3.656
148) Atrazine	(4)	13.355	200	87284	3.881
149) Pentachlorophenol	(4)	13.435	266	35006	3.267
151) Pentachloronitrobenzene	(4)	13.446	237	38713	3.649
150) 4-Aminobiphenyl	(4)	13.456	169	294161	3.817
152) Pronamide	(4)	13.547	173	143274	3.723
153)*Phenanthrene-d10	(4)	13.686	188	573459	5.000
154) Dinoseb	(4)	13.692	211	30725	2.691
155) Phenanthrene	(4)	13.718	178	458181	3.783
157) Anthracene	(4)	13.783	178	458869	3.794
163) Carbazole	(4)	14.013	167	424254	3.818

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/1j0716.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 17:50 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.216	109	84873	3.282
165) Di-n-butylphthalate	(4)	14.526	149	510513	3.759
167) Parathion	(4)	14.777	109	52138	3.293
168) 4-Nitroquinoline-1-oxide	(4)	14.804	190	21900	2.628
169) Octachlorostyrene	(4)	15.125	308	34846	3.777
171) Isodrin	(4)	15.184	193	54612	3.806
173) Fluoranthene	(4)	15.419	202	537342	3.827
174) Benzidine	(5)	15.655	184	1015140	11.564
175)*Pyrene-d10	(5)	15.740	212	709549	5.000
177) Pyrene	(5)	15.772	202	563706	3.745
179)$Terphenyl-d14	(5)	16.056	244	772460	7.597
182) p-Dimethylaminoazobenzene	(5)	16.291	225	99860	3.630
185) Chlorobenzilate	(5)	16.382	139	156116	3.693
187) 3,3'-Dimethylbenzidine	(5)	16.874	212	345538	3.644
188) Butylbenzylphthalate	(5)	16.928	149	224713	3.671
191) 2-Acetylaminofluorene	(5)	17.302	181	179911	3.423
193) 3,3'-Dichlorobenzidine	(5)	17.821	252	199101	3.698
195) Benzo(a)anthracene	(5)	17.826	228	547988	3.777
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.842	231	107695	3.642
196) Chrysene	(5)	17.890	228	508294	3.778
199) bis(2-Ethylhexyl)phthalate	(5)	17.997	149	332298	3.683
203) 6-Methylchrysene	(5)	18.703	242	361011	3.748
205) Di-n-octylphthalate	(6)	19.179	149	583343	3.650
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.709	256	233376	3.782
206) Benzo(b)fluoranthene	(6)	19.709	252	556243	3.838
208) Benzo(k)fluoranthene	(6)	19.757	252	519456	3.758
211) Benzo(a)pyrene	(6)	20.244	252	507145	3.750
213)*Perylene-d12	(6)	20.340	264	584441	5.000
215) 3-Methylcholanthrene	(6)	20.821	268	235981	3.733
217) Dibenz(a,h)acridine	(6)	21.650	279	420960	3.687
218) Dibenz(a,j)acridine	(6)	21.725	279	414763	3.688
219) Indeno(1,2,3-cd)pyrene	(6)	21.987	276	584422	3.734
222) Total PAHs	(6)			8170478	67.985
220) Dibenz(a,h)anthracene	(6)	22.030	278	480946	3.736
221) Benzo(g,h,i)perylene	(6)	22.410	276	501724	3.747

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$ = Compound is a surrogate standard.

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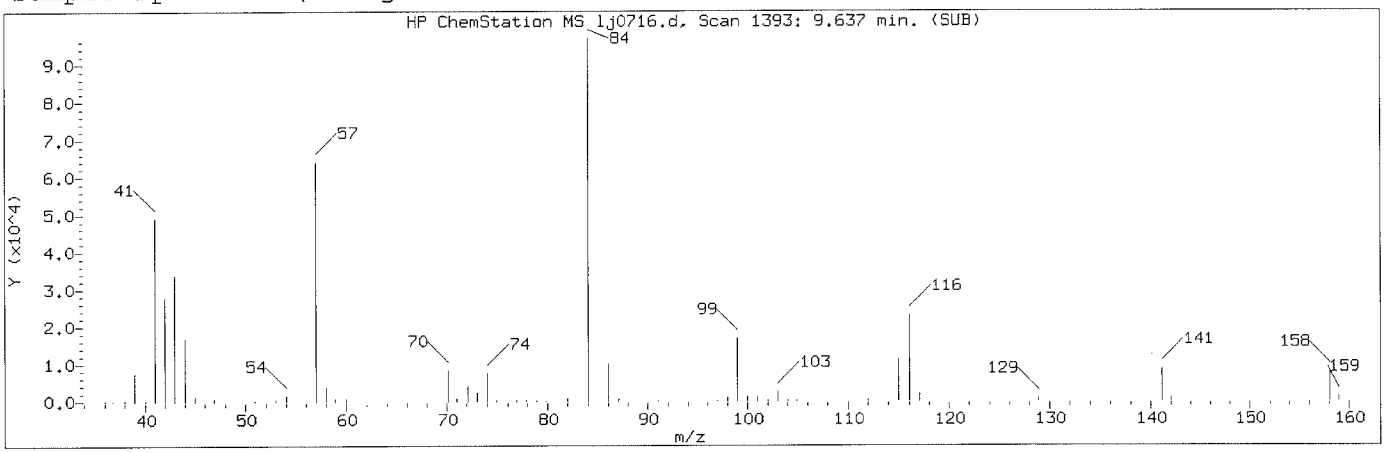
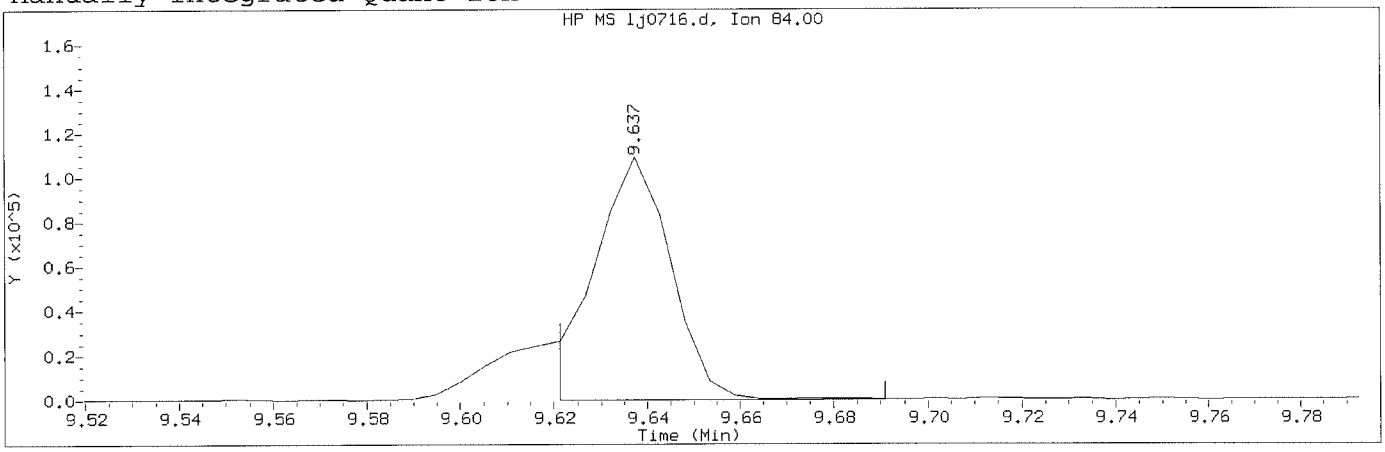
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0716.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 17:50 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2745

Compound Number	: 77		
Compound Name	: N-Nitrosodi-n-butylamine		
Scan Number	: 1393		
Retention Time (minutes)	: 9.637		
Quant Ion	: 84.00		
Area (flag)	: 128228M		
On-Column Amount (ng/ul)	: 3.5599		
Integration start scan	: 1389	Integration stop scan:	1402
Y at integration start	: 12	Y at integration end:	12

Reason for manual integration: improper integration

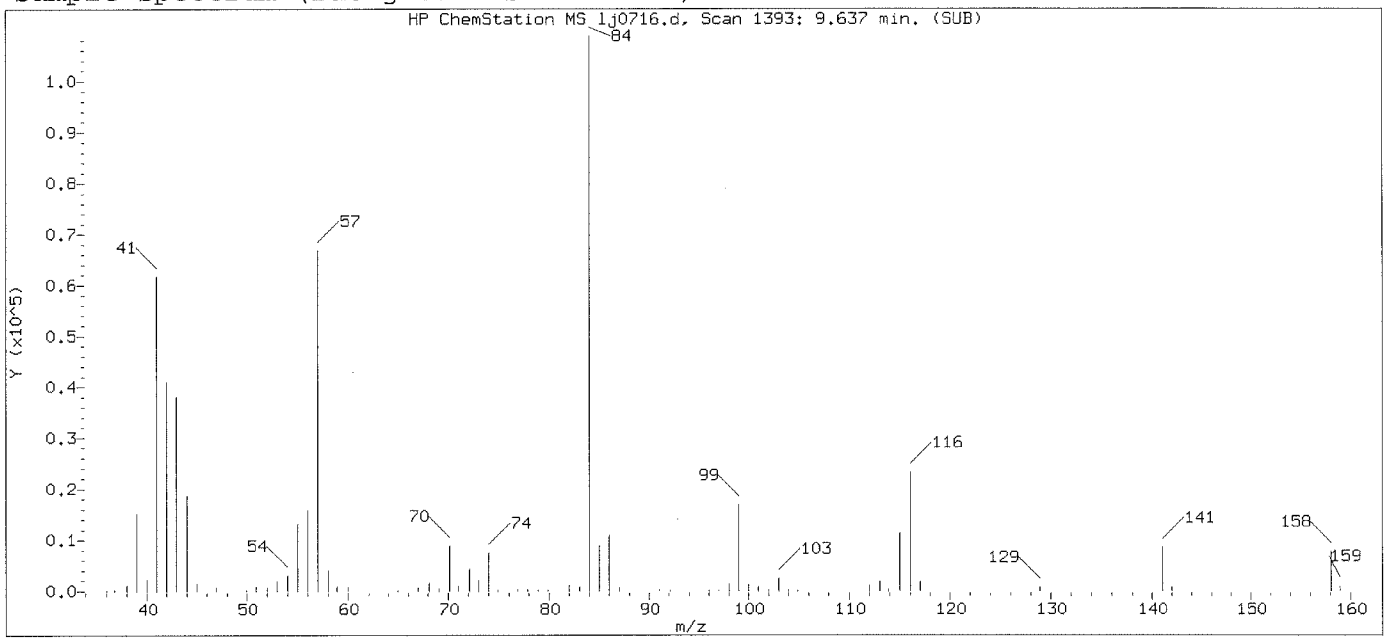
Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

OCT 22 2015

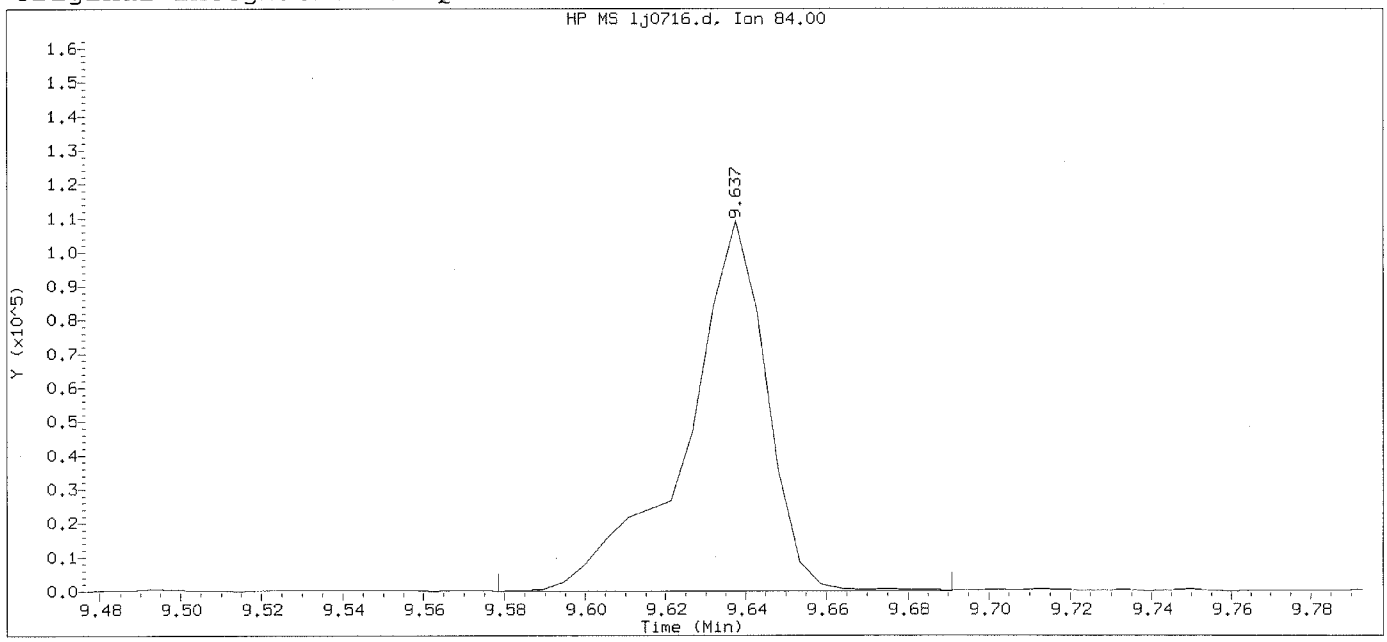
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0716.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 17:50 Analyst ID: ceb05247

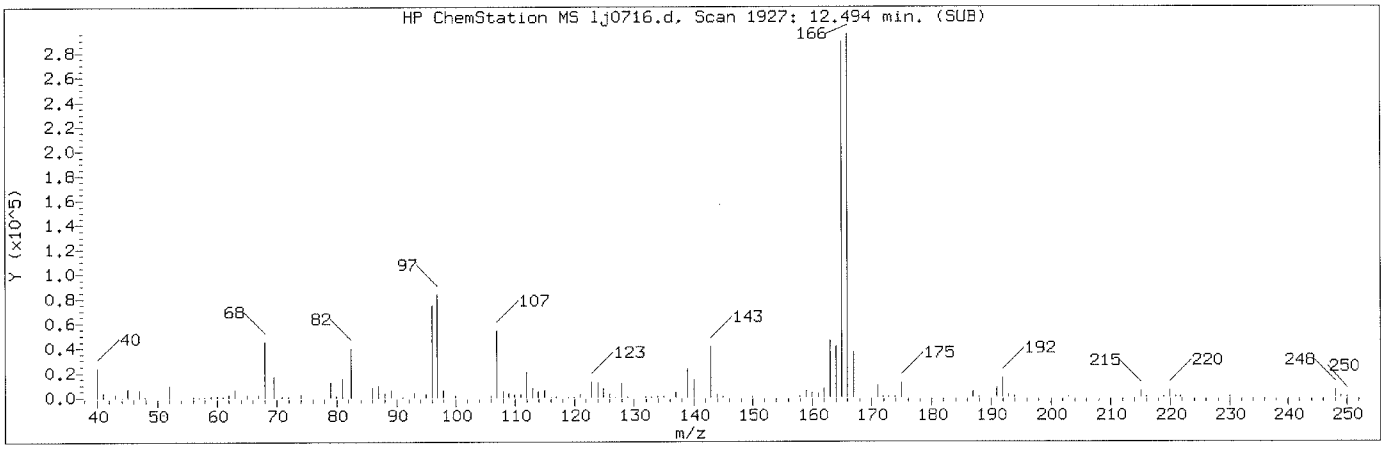
Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 21-OCT-2015 18:16
Date, time and analyst ID of latest file update: 21-Oct-2015 18:16 Unknown

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2745

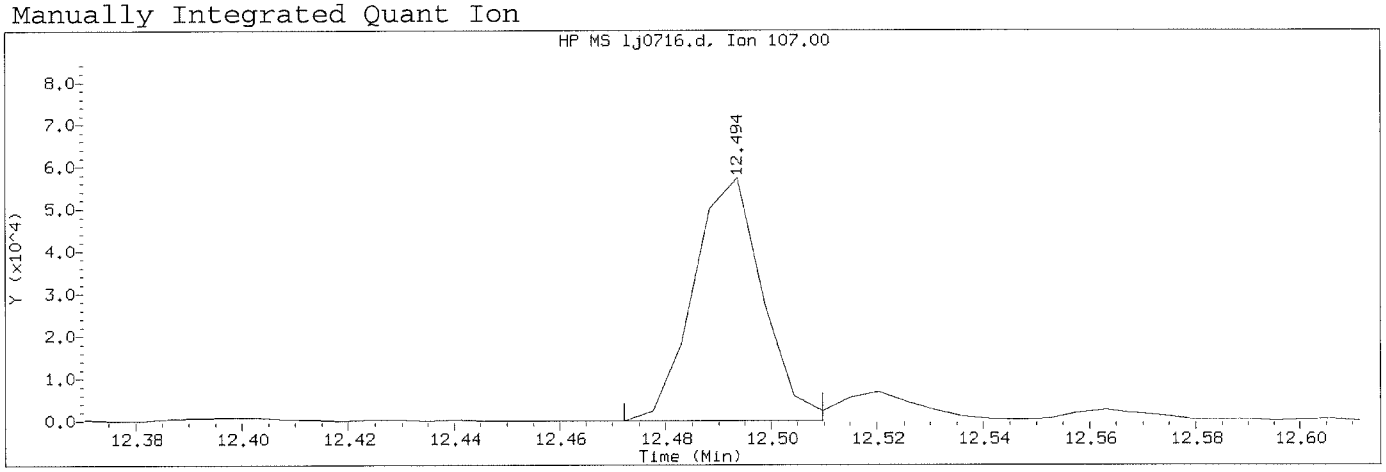
Compound Number	: 77		
Compound Name	: N-Nitrosodi-n-butylamine		
Scan Number	: 1393		
Retention Time (minutes)	: 9.637		
Quant Ion	: 84.00		
Area	: 151616		
On-column Amount (ng/ul)	: 4.0511		
Integration start scan	: 1381	Integration stop scan:	1402
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0716.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 17:50 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:47
Date, time and analyst ID of latest file update: 22-Oct-2015 07:47 hb01996

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2745

Compound Number	: 125		
Compound Name	: Thionazin		
Scan Number	: 1927		
Retention Time (minutes)	: 12.494		
Quant Ion	: 107.00		
Area (flag)	: 52367M		
On-Column Amount (ng/ul)	: 3.7755		
Integration start scan	: 1922	Integration stop scan:	1929
Y at integration start	: 0	Y at integration end:	0

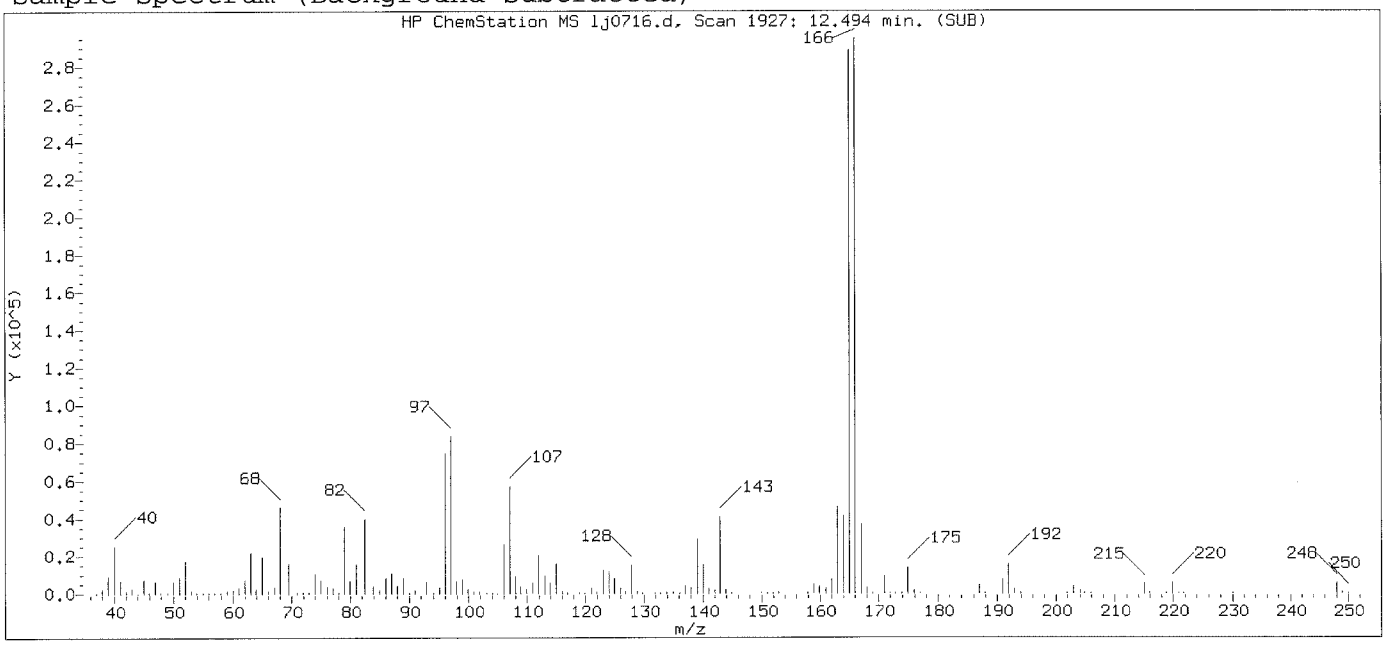
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 signature user ID: hb01996

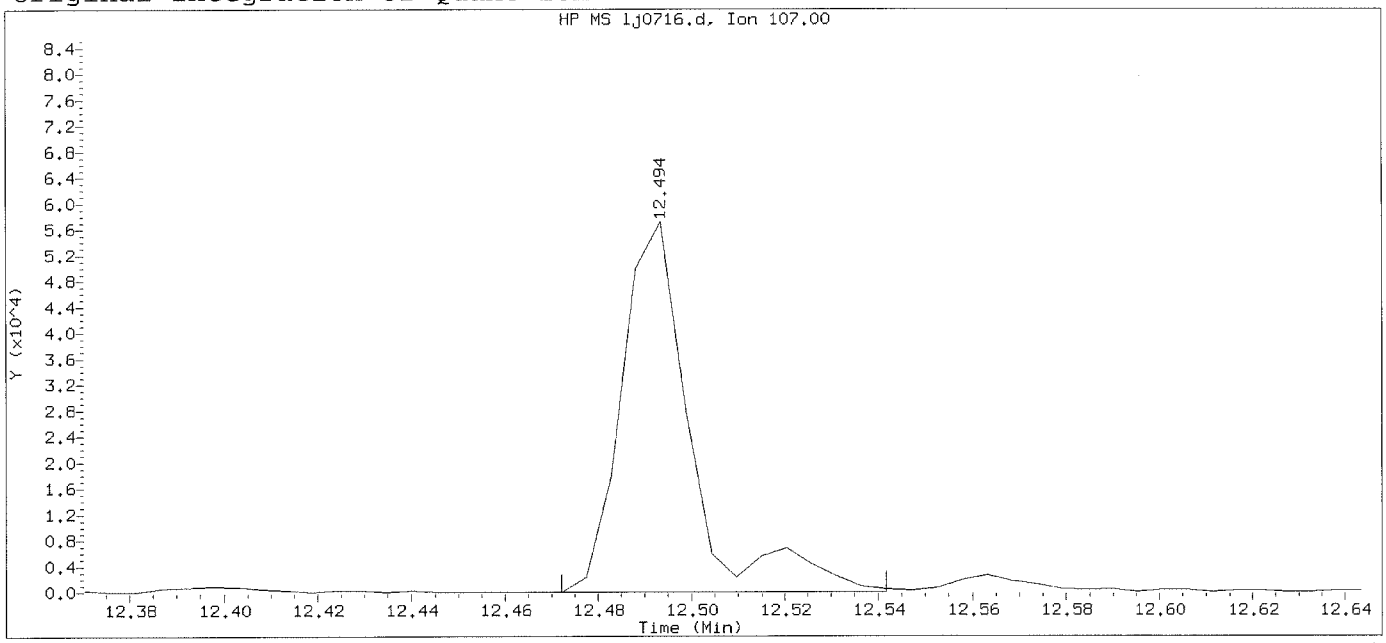
OCT 22 2015

GC/MS audit/management approval: Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



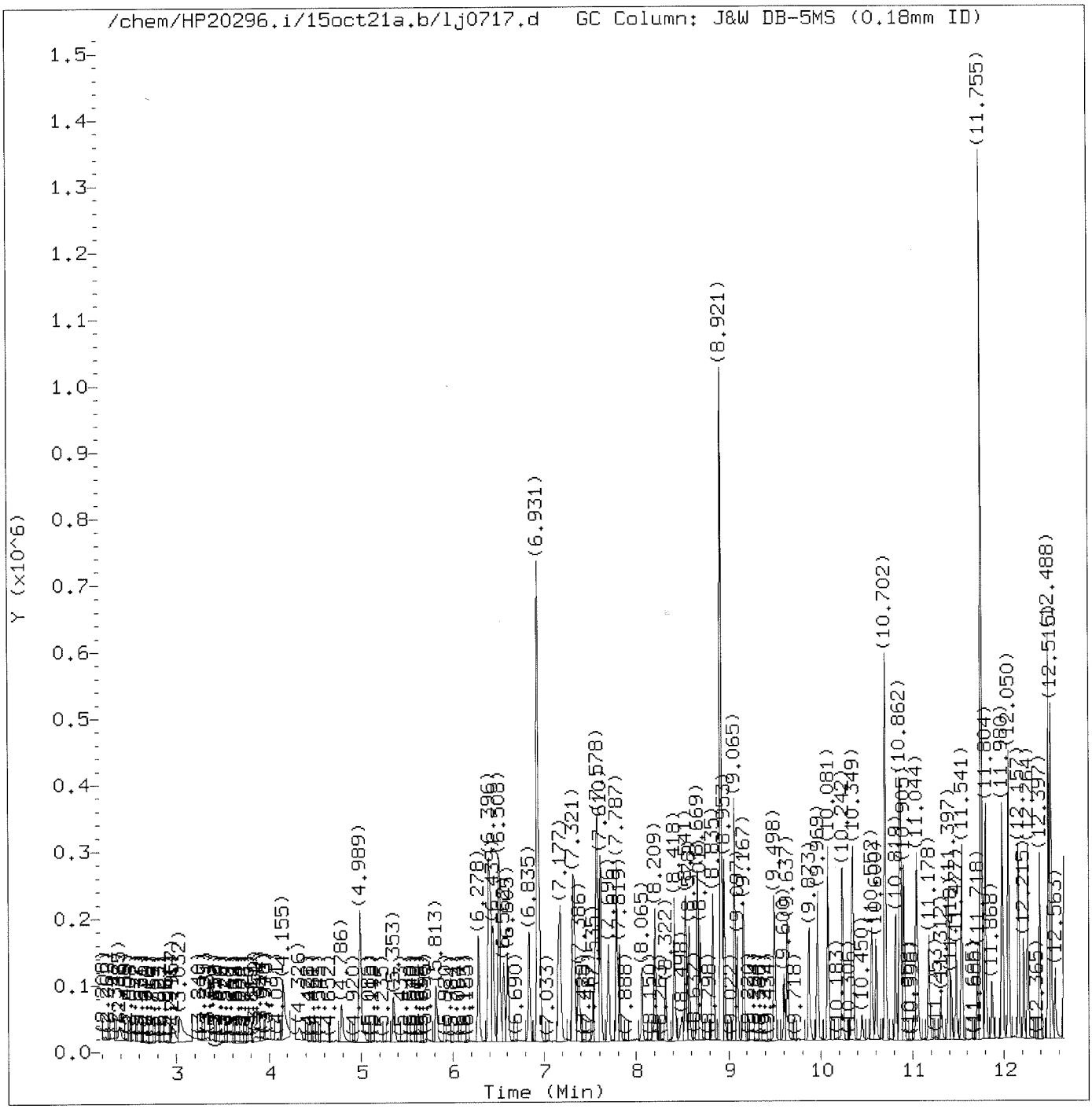
Data File: /chem/HP20296.i/15oct21a.b/1j0716.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 17:50 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 21-OCT-2015 18:16
Date, time and analyst ID of latest file update: 21-Oct-2015 18:16 Unknown

Sample Name: SSTD3.75 Lab Sample ID: RVSTD2745

Compound Number	: 125		
Compound Name	: Thionazin		
Scan Number	: 1927		
Retention Time (minutes)	: 12.494		
Quant Ion	: 107.00		
Area	: 58930		
On-column Amount (ng/ul)	: 4.0026		
Integration start scan	: 1922	Integration stop scan:	1935
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

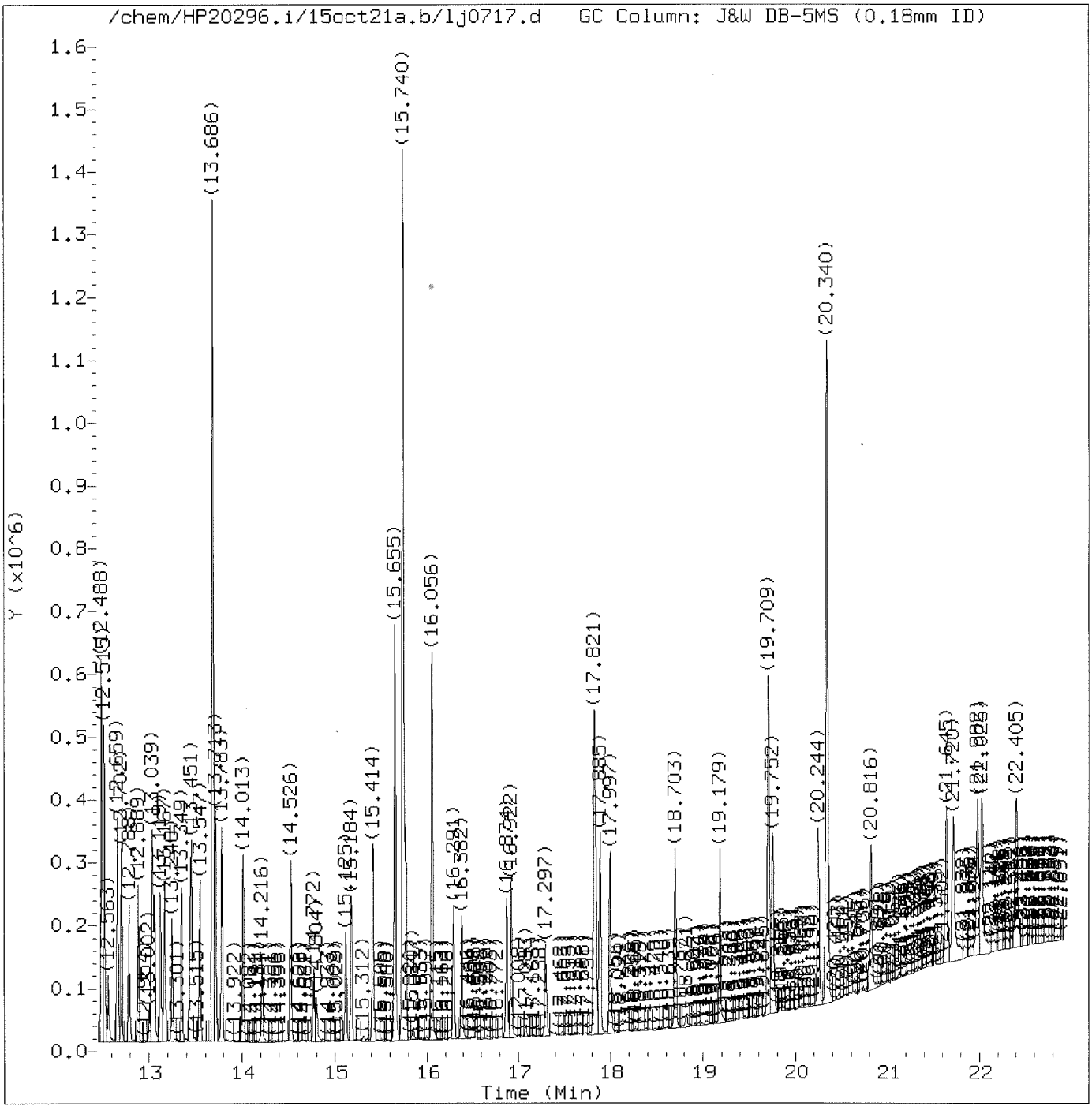
Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0717.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:18 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2745

Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0717.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:18 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2745

Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0717.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:18 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.390	88	21902M	1.223
4) N-Nitrosodimethylamine	(1)	2.957	74	33482	1.169
5) Pyridine	(1)	3.032	79	61222M	1.248
7) 2-Picoline	(1)	4.155	93	61881	1.221
8) N-Nitrosomethylethylamine	(1)	4.326	88	24070	1.188
9) Methyl methanesulfonate	(1)	4.786	80	30689	1.189
11)$2-Fluorophenol	(1)	4.989	112	93196	2.384
13) N-Nitrosodiethylamine	(1)	5.353	102	24045	1.205
15) Ethyl methanesulfonate	(1)	5.818	109	24907	1.210
16) Benzaldehyde	(1)	6.278	77	51271	1.343
17)$Phenol-d6	(1)	6.391	99	128153	2.448
18) Phenol	(1)	6.412	94	73344	1.209
19) Aniline	(1)	6.444	93	89015	1.229
20) a-methylstyrene	(1)	6.514	118	50404	1.215
22) bis(2-Chloroethyl)ether	(1)	6.562	93	55393	1.234
23) 2-Chlorophenol	(1)	6.599	128	43828	1.182
24) 1,3-Dichlorobenzene	(1)	6.840	146	51561	1.211
25)*1,4-Dichlorobenzene-d4	(1)	6.931	152	138766	5.000
26) 1,4-Dichlorobenzene	(1)	6.958	146	53071	1.224
27) Benzyl alcohol	(1)	7.161	108	31542	1.150
28) 1,2-Dichlorobenzene	(1)	7.182	146	51491	1.262
30) Indene	(1)	7.316	115	87030	1.204
31) 2-Methylphenol	(1)	7.337	108	46722	1.195
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.386	45	67886	1.240
34) bis(2-Chloroisopropyl)ether	(1)	7.386	45	67886	1.240
35) N-Nitrosopyrrolidine	(1)	7.535	100	23963	1.133
36) Acetophenone	(1)	7.562	105	76005	1.239
38) N-Nitroso-di-n-propylamine	(1)	7.578	70	43639	1.222
37) 4-Methylphenol	(1)	7.578	108	53327	1.221
39) N-Nitrosomorpholine	(1)	7.605	56	29761	1.167
40) o-Toluidine	(1)	7.610	106	85689	1.230
42) Total Cresols	(1)			100049	2.416
43) Hexachloroethane	(1)	7.696	117	22812	1.228
44)$Nitrobenzene-d5	(2)	7.787	82	114412	2.343
45) Nitrobenzene	(2)	7.819	77	60147	1.187
48) N-Nitrosopiperidine	(2)	8.065	114	23843	1.198
50) Isophorone	(2)	8.209	82	111779	1.219
51) 2-Nitrophenol	(2)	8.322	139	14893	1.016
53) 2,4-Dimethylphenol	(2)	8.418	107	52292	1.215
56) Benzoic acid	(2)	8.498	105	18671	3.458

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Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0717.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:18 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.541	198	24697	1.194
55) bis(2-Chloroethoxy)methane	(2)	8.578	93	67622	1.247
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.675	104	79310	1.253
60) 2,4-Dichlorophenol	(2)	8.701	162	37153	1.186
62) 1,2,4-Trichlorobenzene	(2)	8.835	180	46437	1.264
65)*Naphthalene-d8	(2)	8.921	136	523696	5.000
66) Naphthalene	(2)	8.953	128	137399	1.226
68) 2,6-Dichlorophenol	(2)	9.065	162	36067	1.177
67) 4-Chloroaniline	(2)	9.065	127	58051	1.254
69) Hexachloropropene	(2)	9.097	213	29567	1.175
71) Hexachlorobutadiene	(2)	9.167	225	28659	1.246
75) Quinoline	(2)	9.498	129	87982	1.239
76) Caprolactam	(2)	9.600	113	11934	1.171
77) N-Nitrosodi-n-butylamine	(2)	9.637	84	38304	1.062
80) 4-Chloro-3-methylphenol	(2)	9.873	107	41210	1.164
82) Safrole	(2)	9.969	162	35548	1.211
83) 2-Methylnaphthalene	(2)	10.081	142	92458	1.231
84) 1-Methylnaphthalene	(2)	10.242	142	83610	1.227
85) Hexachlorocyclopentadiene	(3)	10.338	237	26877	1.131
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.354	216	50031	1.232
88) cis-Isosafrole	(3)	10.445	162	6809	0.207
90) 2,4,6-Trichlorophenol	(3)	10.552	196	25681	1.146
92) 2,4,5-Trichlorophenol	(3)	10.605	196	27180	1.117
93)$2-Fluorobiphenyl	(3)	10.702	172	213879	2.493
97) Isosafrole	(3)			43083	1.219
94) trans-Isosafrole	(3)	10.819	162	36274	1.012
95) 1,1'-Biphenyl	(3)	10.862	154	113604	1.252
96) 2-Chloronaphthalene	(3)	10.873	162	86833	1.213
98) 1-Chloronaphthalene	(3)	10.905	162	84316	1.226
99) Diphenyl ether	(3)	11.044	170	62875	1.255
100) 2-Nitroaniline	(3)	11.060	138	19164	1.012
104) 1,4-Naphthoquinone	(3)	11.183	158	33287	1.134
105) 1,4-Dinitrobenzene	(3)	11.312	168	7047	0.893
106) Dimethylphthalate	(3)	11.397	163	100404	1.248
107) 1,3-Dinitrobenzene	(3)	11.424	168	9131	0.925
108) 2,6-Dinitrotoluene	(3)	11.477	165	15766	1.002
109) Acenaphthylene	(3)	11.541	152	137717	1.216
112) 3-Nitroaniline	(3)	11.718	138	17569	1.013
113)*Acenaphthene-d10	(3)	11.755	164	310300	5.000
114) Acenaphthene	(3)	11.804	153	95094	1.244

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/1j0717.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:18 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	11.873	184	9884	2.134
120) 2,4_2,6-Dinitrotoluenes	(3)			35022	1.958
116) 4-Nitrophenol	(3)	11.975	109	21727	1.740
117) Pentachlorobenzene	(3)	11.985	250	42570	1.263
119) Dibenzofuran	(3)	12.050	168	127004	1.248
118) 2,4-Dinitrotoluene	(3)	12.055	165	19256	0.956
121) 1-Naphthylamine	(3)	12.157	143	91083	1.230
122) 2,3,4,6-Tetrachlorophenol	(3)	12.215	232	19331	1.068
123) 2-Naphthylamine	(3)	12.264	143	92663	1.280
124) Diethylphthalate	(3)	12.397	149	94907	1.196
125) Thionazin	(3)	12.488	107	17443M	1.232
126) Fluorene	(3)	12.488	166	101595	1.243
127) 4-Chlorophenyl-phenylether	(3)	12.510	204	50564	1.235
128) 5-Nitro-o-toluidine	(3)	12.520	152	21509	1.062
129) 4-Nitroaniline	(3)	12.526	138	19399	1.060
130) 4,6-Dinitro-2-methylphenol	(4)	12.563	198	10785	1.434
132) NDPA as diphenylamine	(4)	12.659	169	82708	1.223
131) N-Nitrosodiphenylamine	(4)	12.659	169	82708	1.223
134) 1,2-Diphenylhydrazine	(4)	12.702	77	125562	1.208
135)$2,4,6-Tribromophenol	(3)	12.788	330	20534	2.125
137) Tetraethyldithiopyrophosphate	(4)	12.889	97	19807	1.199
146) Diallate trans/cis	(4)			49718	1.189
139) 1,3,5-Trinitrobenzene	(4)	13.007	213	4037	0.684
140) Diallate (peak 1)	(4)	13.034	86	41319	0.988
141) Phorate	(4)	13.044	75	72179	1.094
142) Phenacetin	(4)	13.060	108	50216	1.097
143) 4-Bromophenyl-phenylether	(4)	13.125	248	29267	1.241
144) Diallate (peak 2)	(4)	13.141	86	8399	0.201
145) Hexachlorobenzene	(4)	13.167	284	31826	1.253
147) Dimethoate	(4)	13.248	87	40147	1.070
148) Atrazine	(4)	13.349	200	29030	1.249
149) Pentachlorophenol	(4)	13.435	266	10188	0.963
151) Pentachloronitrobenzene	(4)	13.446	237	11073	1.043
150) 4-Aminobiphenyl	(4)	13.456	169	95682	1.209
152) Pronamide	(4)	13.547	173	44729	1.144
153)*Phenanthrene-d10	(4)	13.686	188	592546	5.000
154) Dinoseb	(4)	13.692	211	7482	0.691
155) Phenanthrene	(4)	13.713	178	153034	1.227
157) Anthracene	(4)	13.783	178	150947	1.214
163) Carbazole	(4)	14.013	167	136608	1.200

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0717.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:18 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.216	109	22144	0.878
165) Di-n-butylphthalate	(4)	14.526	149	160284	1.159
167) Parathion	(4)	14.772	109	13157	0.855
168) 4-Nitroquinoline-1-oxide	(4)	14.804	190	4828	0.561
169) Octachlorostyrene	(4)	15.125	308	11978	1.255
171) Isodrin	(4)	15.184	193	19000	1.276
173) Fluoranthene	(4)	15.414	202	174318	1.208
174) Benzidine	(5)	15.655	184	319451	3.626
175)*Pyrene-d10	(5)	15.740	212	712061	5.000
177) Pyrene	(5)	15.772	202	186044	1.234
179)$Terphenyl-d14	(5)	16.056	244	246975	2.433
182) p-Dimethylaminoazobenzene	(5)	16.291	225	29322	1.089
185) Chlorobenzilate	(5)	16.382	139	48855	1.167
187) 3,3'-Dimethylbenzidine	(5)	16.874	212	102901	1.106
188) Butylbenzylphthalate	(5)	16.922	149	66142	1.102
191) 2-Acetylaminofluorene	(5)	17.297	181	46770	0.932
193) 3,3'-Dichlorobenzidine	(5)	17.821	252	62904	1.178
195) Benzo(a)anthracene	(5)	17.826	228	173497	1.200
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.842	231	32444	1.093
196) Chrysene	(5)	17.885	228	160843	1.199
199) bis(2-Ethylhexyl)phthalate	(5)	17.997	149	99203	1.119
203) 6-Methylchrysene	(5)	18.703	242	112865	1.181
205) Di-n-octylphthalate	(6)	19.179	149	173694	1.125
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.709	256	71504	1.188
206) Benzo(b)fluoranthene	(6)	19.709	252	170717	1.203
208) Benzo(k)fluoranthene	(6)	19.752	252	162283	1.200
211) Benzo(a)pyrene	(6)	20.244	252	156501	1.185
213)*Perylene-d12	(6)	20.340	264	575727	5.000
215) 3-Methylcholanthrene	(6)	20.816	268	72224	1.174
217) Dibenz(a,h)acridine	(6)	21.645	279	130050	1.171
218) Dibenz(a,j)acridine	(6)	21.720	279	129638	1.183
219) Indeno(1,2,3-cd)pyrene	(6)	21.982	276	182009	1.190
222) Total PAHs	(6)			2621938	21.816
220) Dibenz(a,h)anthracene	(6)	22.025	278	145779	1.163
221) Benzo(g,h,i)perylene	(6)	22.405	276	158093	1.206

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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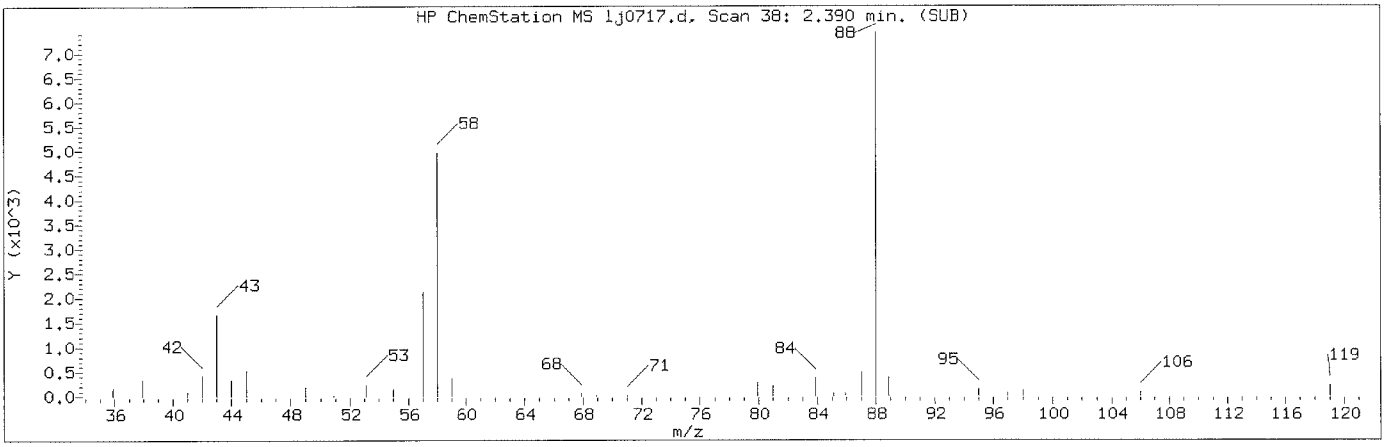
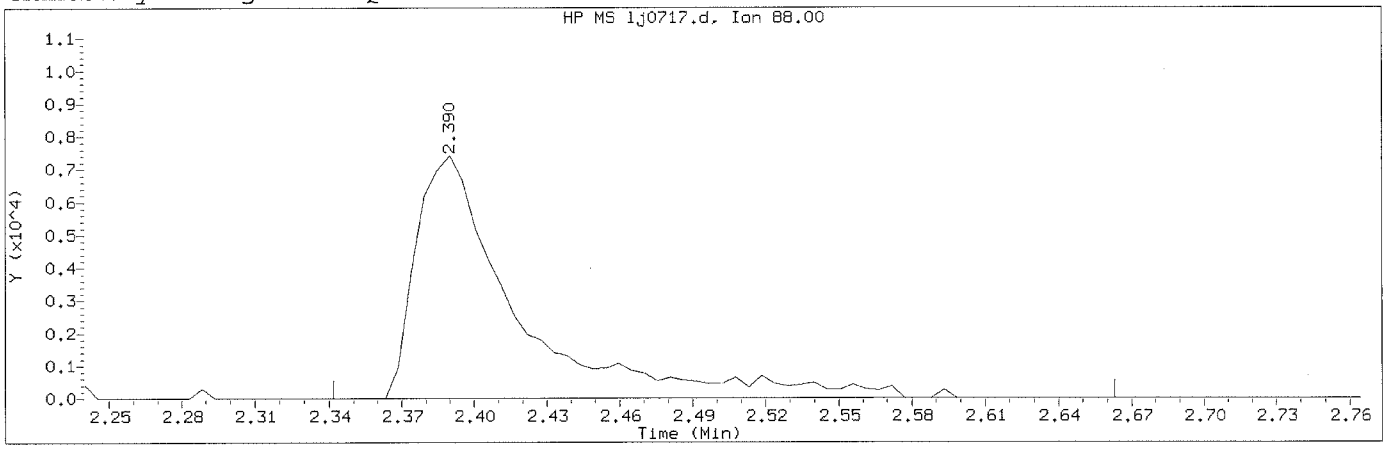
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0717.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:18 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2745

Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 38		
Retention Time (minutes)	: 2.390		
Quant Ion	: 88.00		
Area (flag)	: 21902M		
On-Column Amount (ng/ul)	: 1.2228		
Integration start scan	: 28	Integration stop scan:	88
Y at integration start	: 0	Y at integration end:	0

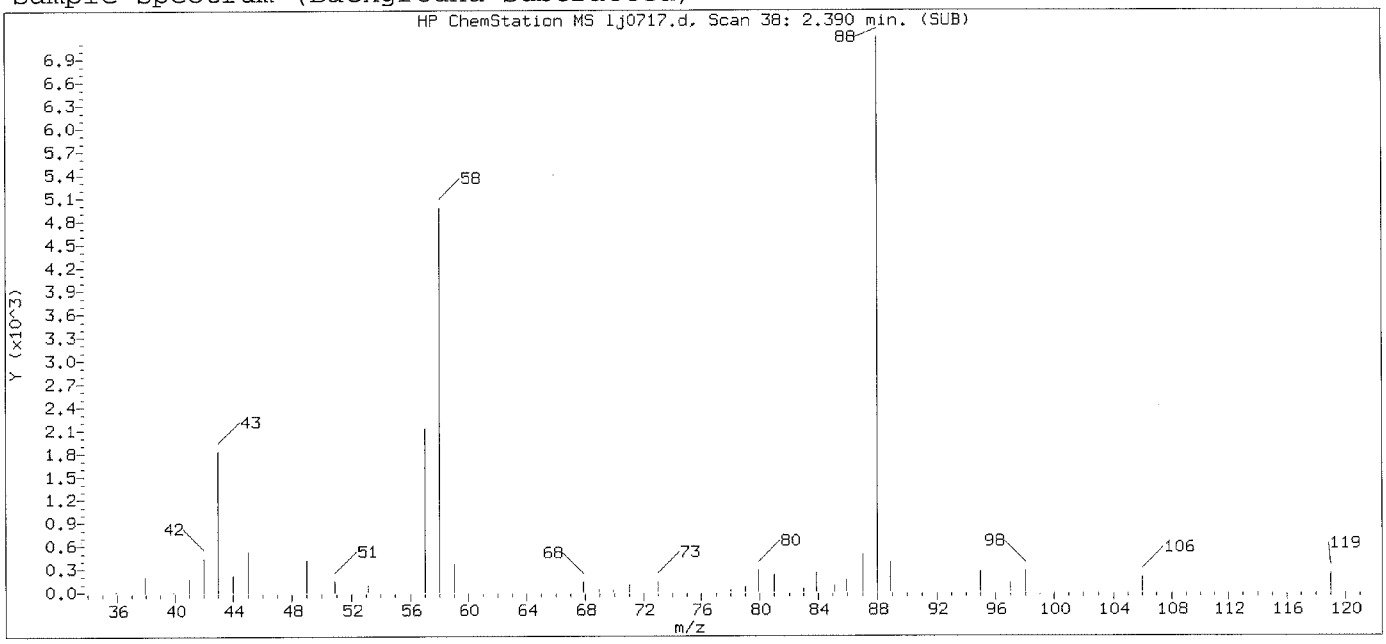
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 designature user ID: hb01996

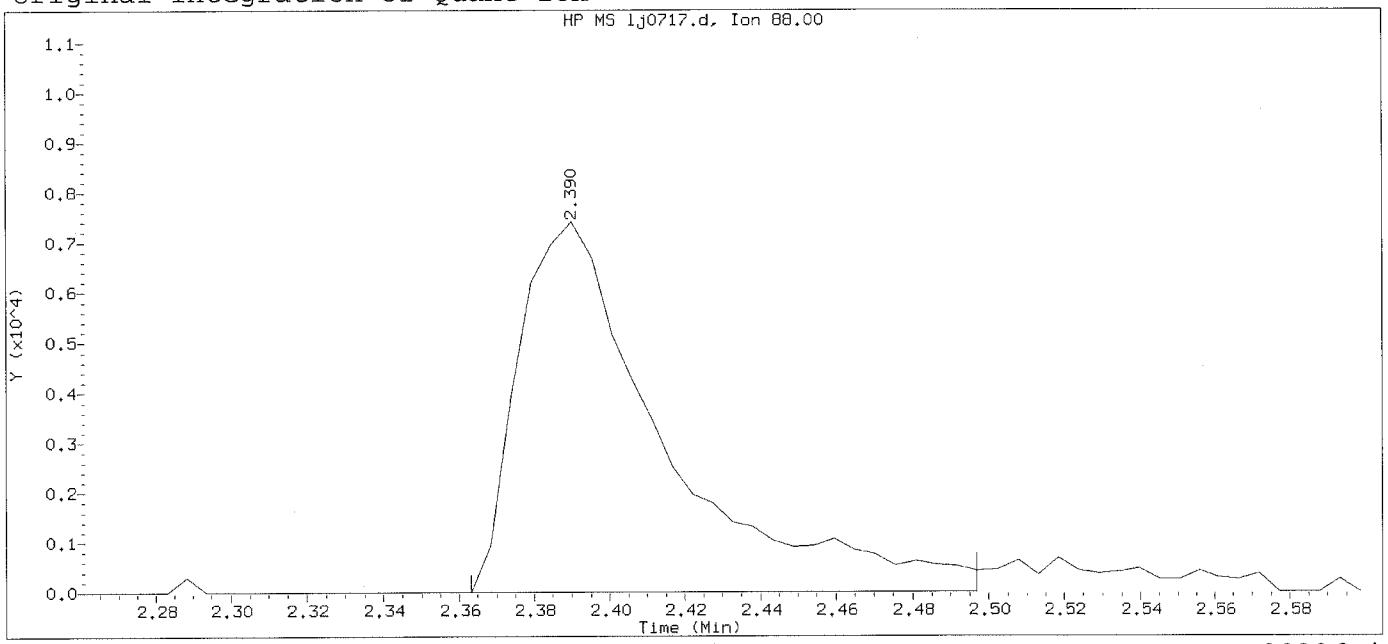
OCT 22 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0717.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:18 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 21-OCT-2015 18:44
Date, time and analyst ID of latest file update: 21-Oct-2015 18:44 Unknown

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2745

Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 38		
Retention Time (minutes)	: 2.390		
Quant Ion	: 88.00		
Area	: 19922		
On-column Amount (ng/ul)	: 1.0179		
Integration start scan	: 32	Integration stop scan:	57
Y at integration start	: 0	Y at integration end:	0

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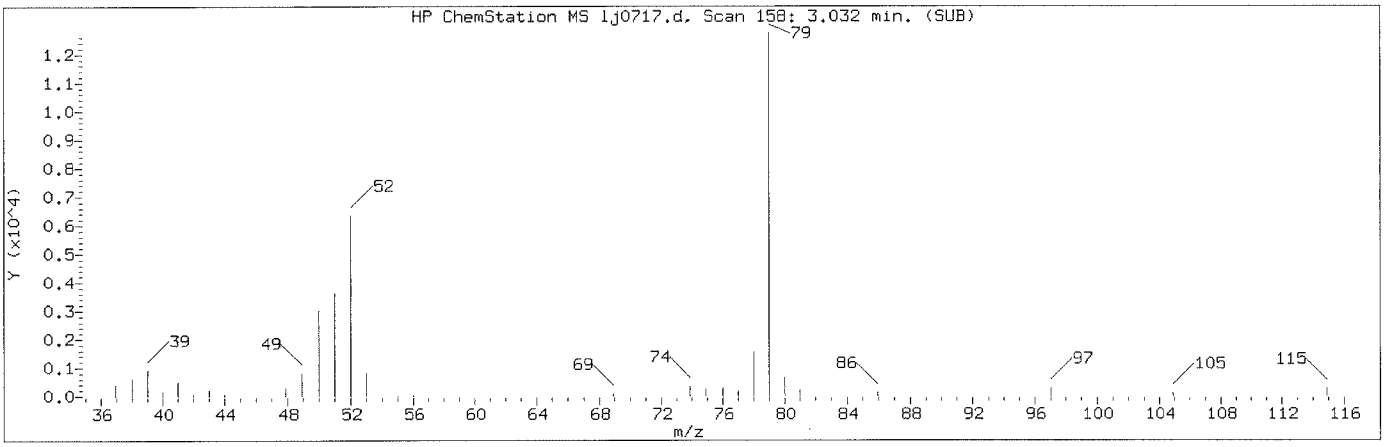
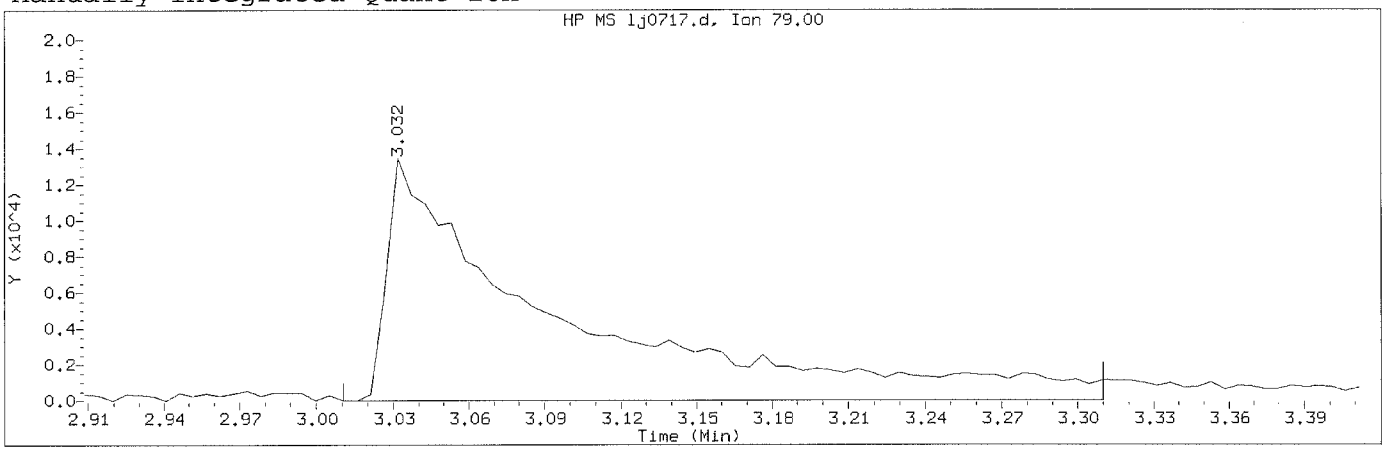
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0717.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:18 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2745

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 158		
Retention Time (minutes)	: 3.032		
Quant Ion	: 79.00		
Area (flag)	: 61222M		
On-Column Amount (ng/ul)	: 1.2475		
Integration start scan	: 153	Integration stop scan:	209
Y at integration start	: 0	Y at integration end:	0

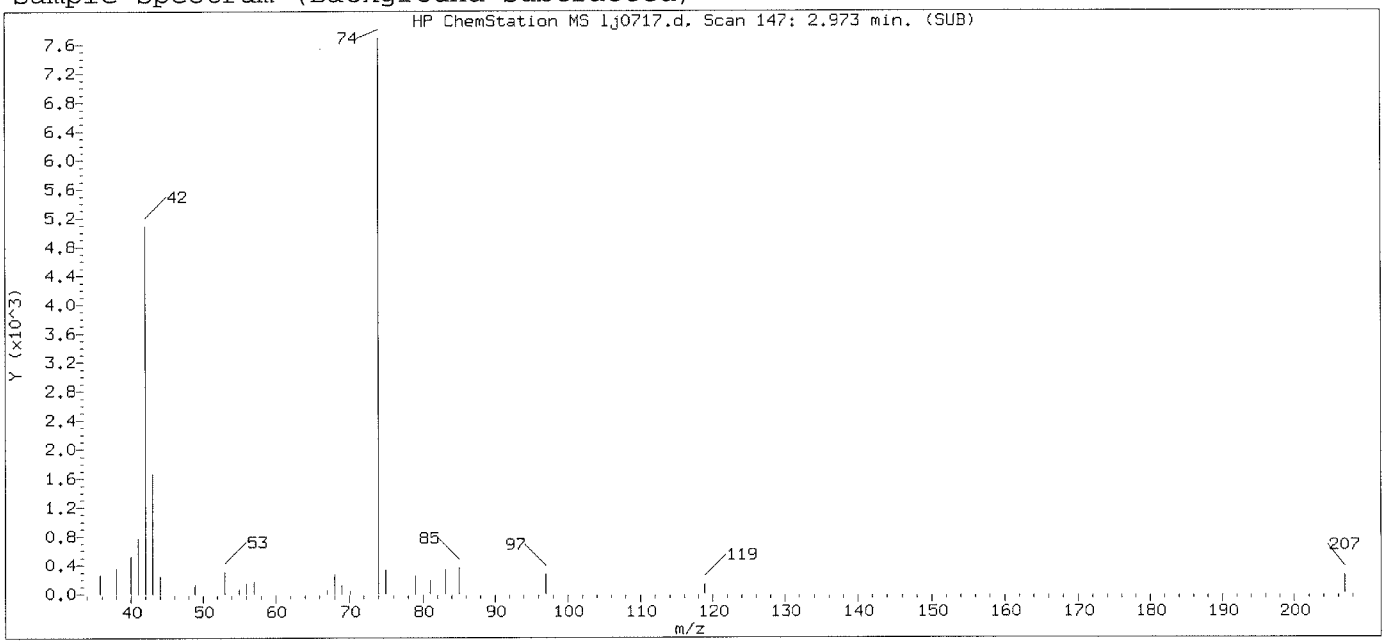
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 signature user ID: hb01996

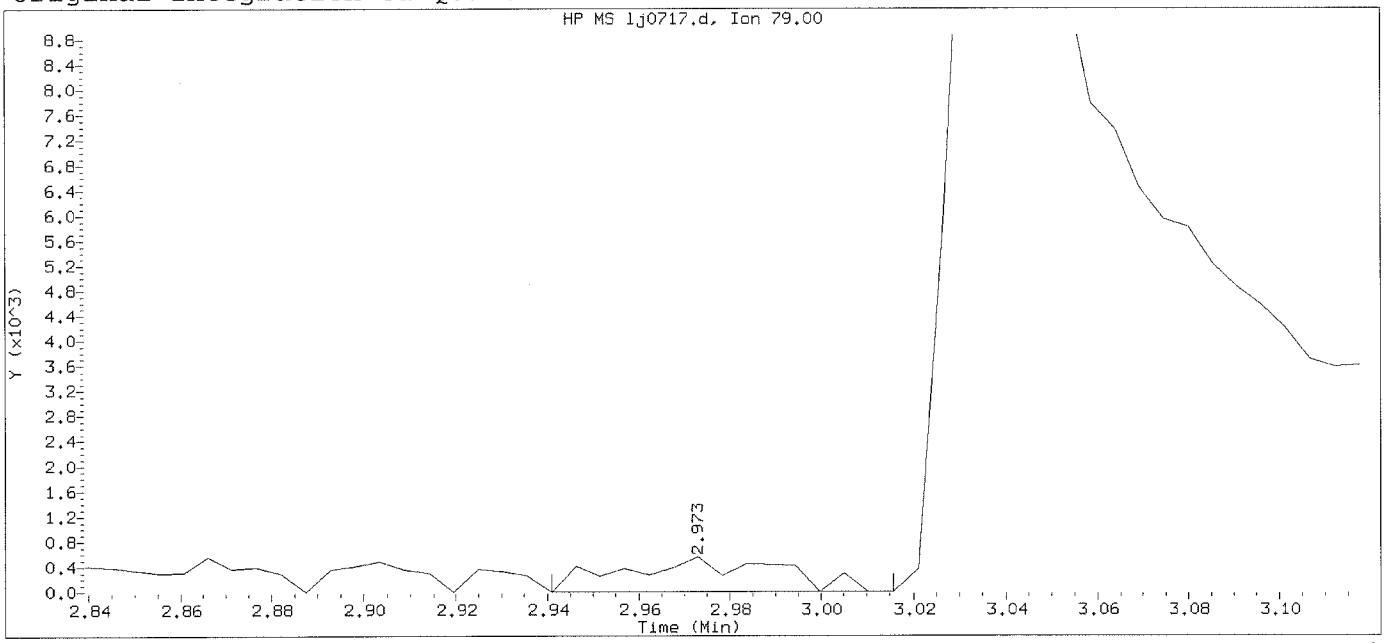
OCT 22 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0717.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:18 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 21-OCT-2015 18:44
Date, time and analyst ID of latest file update: 21-Oct-2015 18:44 Unknown

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2745

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 147		
Retention Time (minutes)	: 2.973		
Quant Ion	: 79.00		
Area	: 1312		
On-column Amount (ng/ul)	: 0.0251		
Integration start scan	: 140	Integration stop scan:	154
Y at integration start	: 0	Y at integration end:	0

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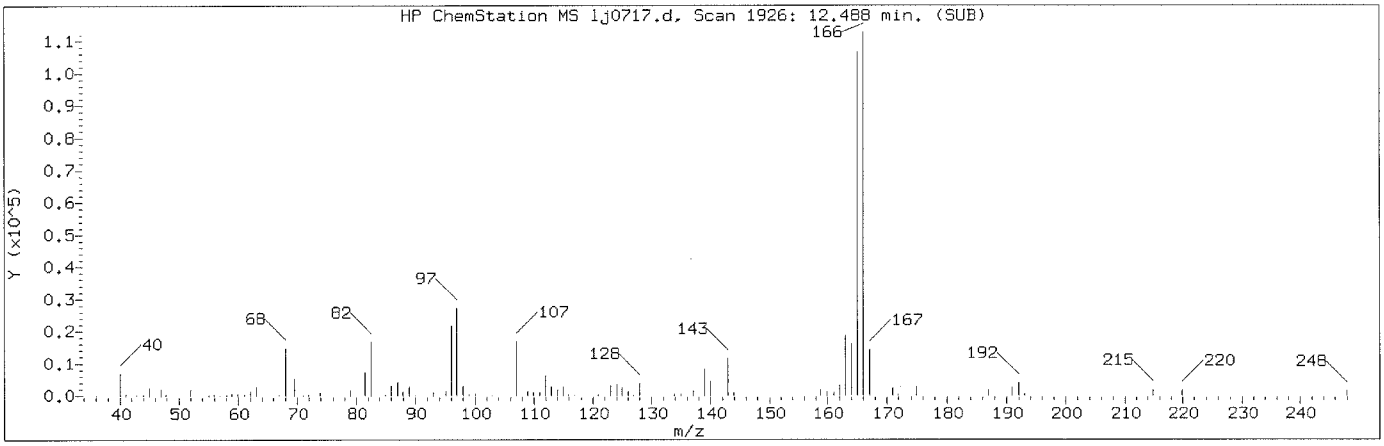
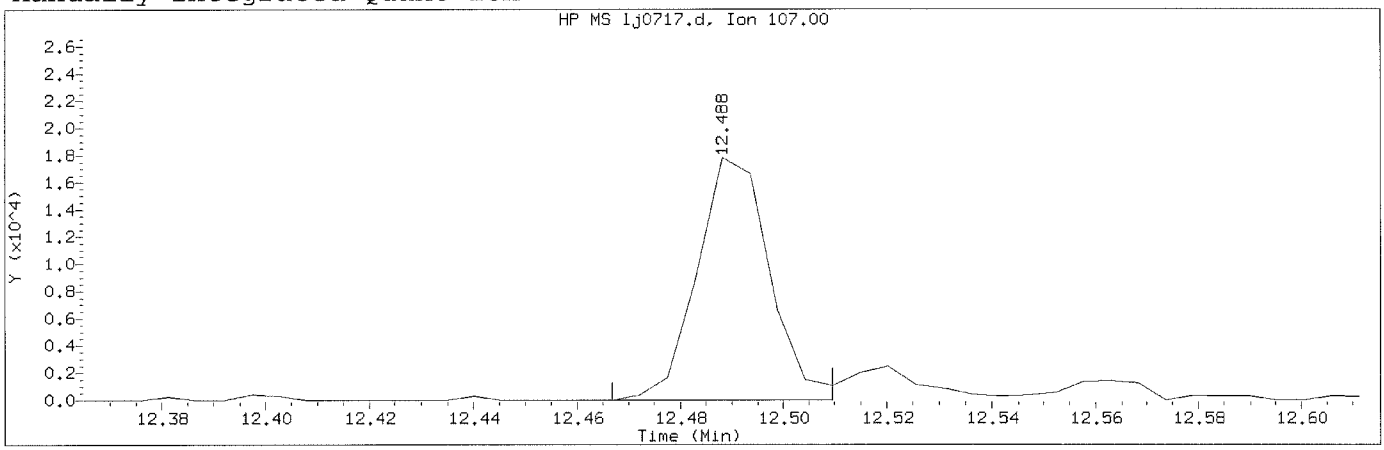
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0717.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:18 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2745

Compound Number	: 125		
Compound Name	: Thionazin		
Scan Number	: 1926		
Retention Time (minutes)	: 12.488		
Quant Ion	: 107.00		
Area (flag)	: 17443M		
On-Column Amount (ng/ul)	: 1.2318		
Integration start scan	: 1921	Integration stop scan:	1929
Y at integration start	: 0	Y at integration end:	0

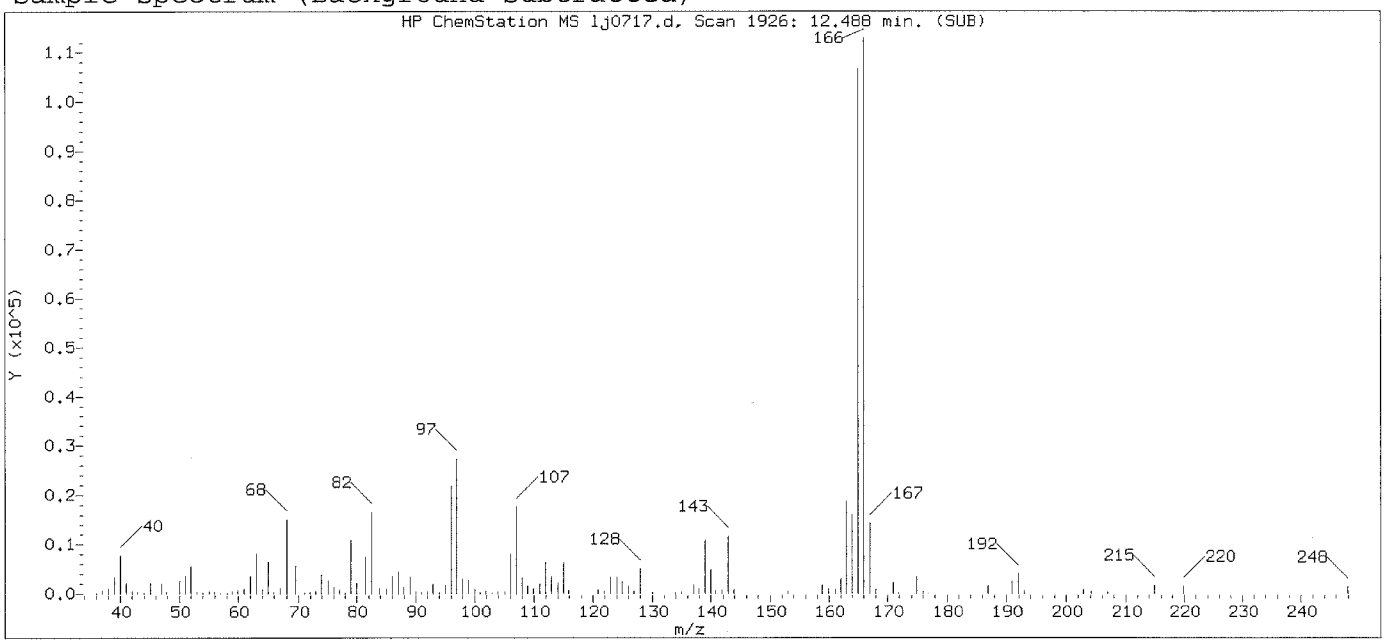
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 designature ~~user ID:~~ hb01996

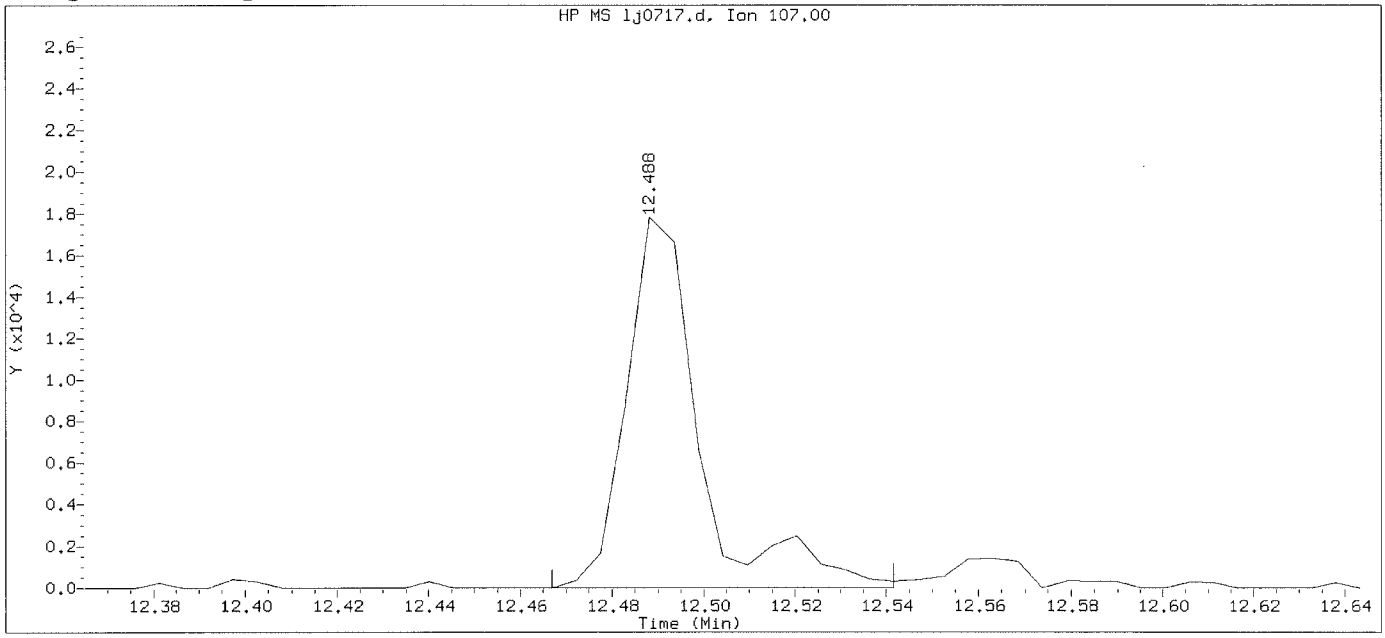
OCT 22 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0717.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:18 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 21-OCT-2015 18:44
Date, time and analyst ID of latest file update: 21-Oct-2015 18:44 Unknown

Sample Name: SSTD1.25 Lab Sample ID: RVSTD2745

Compound Number	: 125		
Compound Name	: Thionazin		
Scan Number	: 1926		
Retention Time (minutes)	: 12.488		
Quant Ion	: 107.00		
Area	: 19709		
On-column Amount (ng/ul)	: 1.3074		
Integration start scan	: 1921	Integration stop scan:	1935
Y at integration start	: 0	Y at integration end:	0

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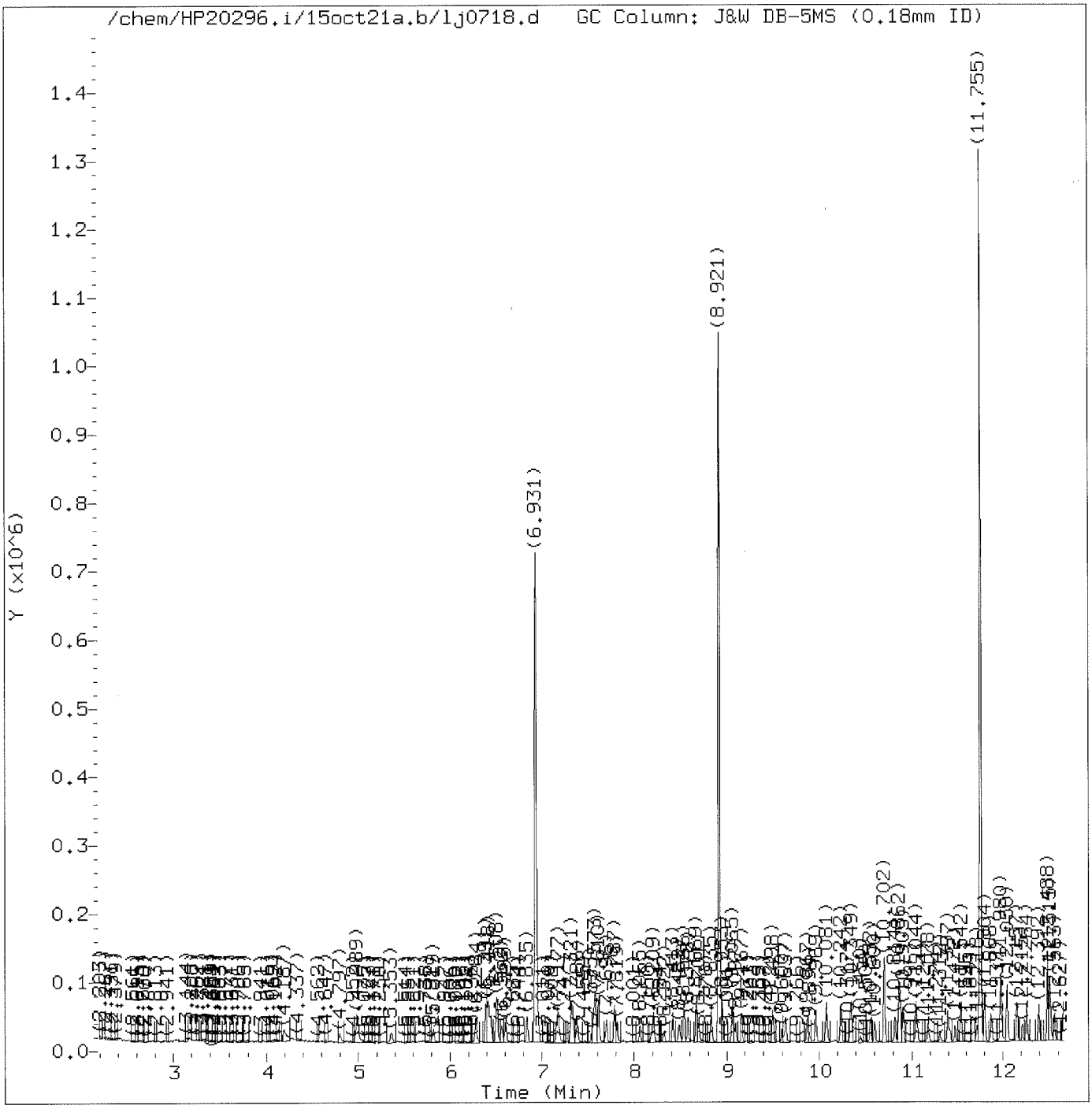
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

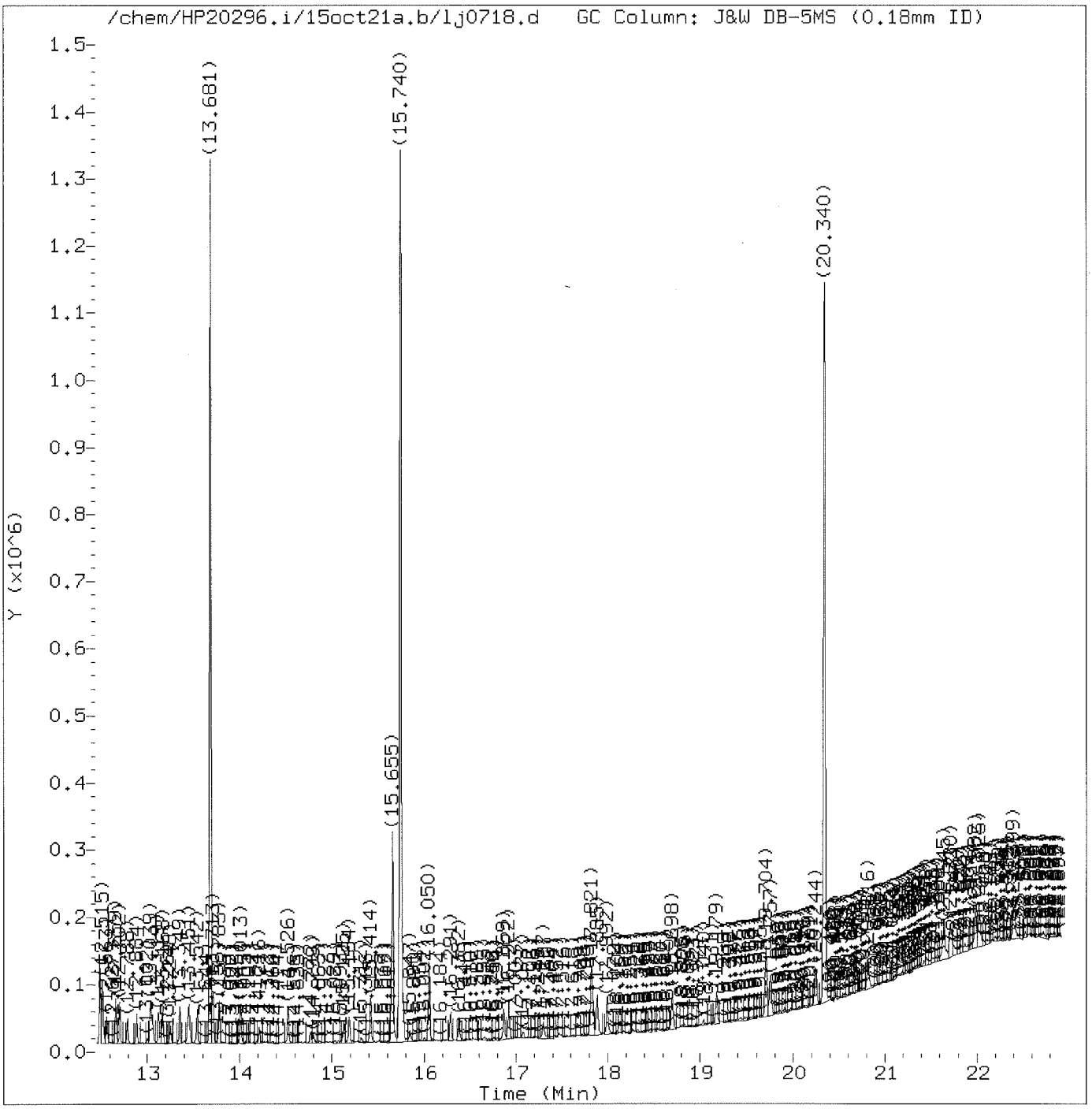
Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.411	88	3734M	0.214
4) N-Nitrosodimethylamine	(1)	3.010	74	5470	0.196
5) Pyridine	(1)	3.155	79	21305M	0.445
7) 2-Picoline	(1)	4.193	93	13557	0.274
8) N-Nitrosomethylethylamine	(1)	4.348	88	4874M	0.247
9) Methyl methanesulfonate	(1)	4.792	80	7012M	0.279
11)$2-Fluorophenol	(1)	4.989	112	19580	0.512
13) N-Nitrosodiethylamine	(1)	5.359	102	4455	0.232
15) Ethyl methanesulfonate	(1)	5.819	109	5299	0.262
16) Benzaldehyde	(1)	6.284	77	12634	0.339
17)$Phenol-d6	(1)	6.391	99	24882	0.489
18) Phenol	(1)	6.412	94	14787	0.250
19) Aniline	(1)	6.444	93	18071	0.255
20) a-methylstyrene	(1)	6.514	118	10707	0.265
22) bis(2-Chloroethyl)ether	(1)	6.562	93	11225	0.256
23) 2-Chlorophenol	(1)	6.605	128	9405	0.259
24) 1,3-Dichlorobenzene	(1)	6.840	146	10819	0.259
25)*1,4-Dichlorobenzene-d4	(1)	6.931	152	135303	5.000
26) 1,4-Dichlorobenzene	(1)	6.958	146	11146	0.262
27) Benzyl alcohol	(1)	7.161	108	6616	0.247
28) 1,2-Dichlorobenzene	(1)	7.177	146	10339	0.258
30) Indene	(1)	7.321	115	18937	0.269
31) 2-Methylphenol	(1)	7.332	108	9209	0.243
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.391	45	14371	0.266
34) bis(2-Chloroisopropyl)ether	(1)	7.391	45	14371	0.266
35) N-Nitrosopyrrolidine	(1)	7.535	100	4653	0.229
36) Acetophenone	(1)	7.562	105	17780	0.289
38) N-Nitroso-di-n-propylamine	(1)	7.578	70	10131	0.284
37) 4-Methylphenol	(1)	7.578	108	10557	0.248
40) o-Toluidine	(1)	7.610	106	17903	0.261
39) N-Nitrosomorpholine	(1)	7.610	56	5633	0.227
42) Total Cresols	(1)			19766	0.491
43) Hexachloroethane	(1)	7.696	117	5019	0.277
44)$Nitrobenzene-d5	(2)	7.787	82	23085	0.478
45) Nitrobenzene	(2)	7.819	77	13268	0.261
48) N-Nitrosopiperidine	(2)	8.065	114	4856	0.246
50) Isophorone	(2)	8.209	82	23172	0.253
51) 2-Nitrophenol	(2)	8.322	139	2811	0.199
53) 2,4-Dimethylphenol	(2)	8.413	107	10356	0.243
56) Benzoic acid	(2)	8.482	105	10130	1.883

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.541	198	5001	0.243
55) bis(2-Chloroethoxy)methane	(2)	8.578	93	13629	0.252
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.669	104	16730	0.265
60) 2,4-Dichlorophenol	(2)	8.696	162	7397	0.239
62) 1,2,4-Trichlorobenzene	(2)	8.835	180	9407	0.256
65)*Naphthalene-d8	(2)	8.921	136	521735	5.000
66) Naphthalene	(2)	8.953	128	27978	0.251
68) 2,6-Dichlorophenol	(2)	9.065	162	7252	0.239
67) 4-Chloroaniline	(2)	9.065	127	11621	0.252
69) Hexachloropropene	(2)	9.097	213	5493	0.219
71) Hexachlorobutadiene	(2)	9.167	225	5682	0.248
75) Quinoline	(2)	9.498	129	16863	0.238
76) Caprolactam	(2)	9.600	113	2162	0.213
77) N-Nitrosodi-n-butylamine	(2)	9.637	84	8507	0.237
80) 4-Chloro-3-methylphenol	(2)	9.867	107	8418	0.240
82) Safrole	(2)	9.969	162	7179	0.246
83) 2-Methylnaphthalene	(2)	10.081	142	19101	0.255
84) 1-Methylnaphthalene	(2)	10.242	142	16585	0.245
85) Hexachlorocyclopentadiene	(3)	10.338	237	5102	0.219
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.349	216	9891	0.249
88) cis-Isosafrole	(3)	10.450	162	1313	0.041
90) 2,4,6-Trichlorophenol	(3)	10.552	196	4828	0.223
92) 2,4,5-Trichlorophenol	(3)	10.600	196	4878	0.210
93)$2-Fluorobiphenyl	(3)	10.702	172	42842	0.508
97) Isosafrole	(3)			8301	0.240
94) trans-Isosafrole	(3)	10.814	162	6988	0.199
95) 1,1'-Biphenyl	(3)	10.862	154	23989	0.267
96) 2-Chloronaphthalene	(3)	10.873	162	17740	0.252
98) 1-Chloronaphthalene	(3)	10.905	162	17000	0.252
99) Diphenyl ether	(3)	11.044	170	12797	0.259
100) 2-Nitroaniline	(3)	11.060	138	3829	0.212
104) 1,4-Naphthoquinone	(3)	11.178	158	6165	0.214
105) 1,4-Dinitrobenzene	(3)	11.306	168	1284M	0.166
106) Dimethylphthalate	(3)	11.397	163	19716	0.250
107) 1,3-Dinitrobenzene	(3)	11.419	168	1336	0.138
108) 2,6-Dinitrotoluene	(3)	11.477	165	2713	0.184
109) Acenaphthylene	(3)	11.542	152	27250	0.246
112) 3-Nitroaniline	(3)	11.718	138	2649	0.165
113)*Acenaphthene-d10	(3)	11.755	164	304316	5.000
114) Acenaphthene	(3)	11.804	153	19642	0.260

M = Compound was manually integrated.
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$ = Compound is a surrogate standard.

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on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	11.868	184	4953	1.090
120) 2,4_2,6-Dinitrotoluenes	(3)			6190	0.360
116) 4-Nitrophenol	(3)	11.980	109	10153	0.829
117) Pentachlorobenzene	(3)	11.985	250	8445	0.255
119) Dibenzofuran	(3)	12.050	168	25973	0.259
118) 2,4-Dinitrotoluene	(3)	12.055	165	3477	0.176
121) 1-Naphthylamine	(3)	12.157	143	17733	0.244
122) 2,3,4,6-Tetrachlorophenol	(3)	12.215	232	3181	0.187
123) 2-Naphthylamine	(3)	12.264	143	17354	0.244
124) Diethylphthalate	(3)	12.392	149	18931	0.243
125) Thionazin	(3)	12.488	107	3475	0.250
126) Fluorene	(3)	12.488	166	20242	0.252
127) 4-Chlorophenyl-phenylether	(3)	12.510	204	10647	0.263
128) 5-Nitro-o-toluidine	(3)	12.515	152	3217	0.171
129) 4-Nitroaniline	(3)	12.520	138	2772	0.163
130) 4,6-Dinitro-2-methylphenol	(4)	12.563	198	4491	0.606
132) NDPA as diphenylamine	(4)	12.659	169	16012	0.242
131) N-Nitrosodiphenylamine	(4)	12.659	169	16012	0.242
134) 1,2-Diphenylhydrazine	(4)	12.702	77	27006	0.262
135)$2,4,6-Tribromophenol	(3)	12.788	330	2438	0.276
137) Tetraethyldithiopyrophosphate	(4)	12.889	97	4315	0.265
146) Diallate trans/cis	(4)			10127	0.246
139) 1,3,5-Trinitrobenzene	(4)	13.002	213	789M	0.136
140) Diallate (peak 1)	(4)	13.028	86	8383	0.203
141) Phorate	(4)	13.039	75	13573	0.214
142) Phenacetin	(4)	13.061	108	8769	0.201
143) 4-Bromophenyl-phenylether	(4)	13.125	248	6194	0.264
144) Diallate (peak 2)	(4)	13.141	86	1744	0.042
145) Hexachlorobenzene	(4)	13.168	284	6460	0.257
147) Dimethoate	(4)	13.248	87	7359	0.199
148) Atrazine	(4)	13.349	200	5933	0.259
149) Pentachlorophenol	(4)	13.435	266	1651	0.158
151) Pentachloronitrobenzene	(4)	13.446	237	1796	0.172
150) 4-Aminobiphenyl	(4)	13.456	169	18261	0.236
152) Pronamide	(4)	13.542	173	8544	0.225
153)*Phenanthrene-d10	(4)	13.686	188	584099	5.000
154) Dinoseb	(4)	13.692	211	1248M	0.117
155) Phenanthrene	(4)	13.713	178	30390	0.247
157) Anthracene	(4)	13.783	178	30431	0.248
163) Carbazole	(4)	14.013	167	26500	0.238

M = Compound was manually integrated.
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on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.216	109	3554	0.143
165) Di-n-butylphthalate	(4)	14.526	149	31257	0.229
167) Parathion	(4)	14.772	109	2422	0.160
168) 4-Nitroquinoline-1-oxide	(4)	14.799	190	750	0.088
169) Octachlorostyrene	(4)	15.125	308	2183	0.232
171) Isodrin	(4)	15.184	193	4235	0.282
173) Fluoranthene	(4)	15.414	202	34583	0.244
174) Benzidine	(5)	15.655	184	156124	1.801
175)*Pyrene-d10	(5)	15.740	212	700888	5.000
177) Pyrene	(5)	15.772	202	37671	0.253
179)$Terphenyl-d14	(5)	16.050	244	48927	0.491
182) p-Dimethylaminoazobenzene	(5)	16.291	225	5629	0.217
185) Chlorobenzilate	(5)	16.382	139	8666	0.210
187) 3,3'-Dimethylbenzidine	(5)	16.869	212	19803	0.216
188) Butylbenzylphthalate	(5)	16.922	149	12319	0.209
191) 2-Acetylaminofluorene	(5)	17.291	181	7838	0.159
195) Benzo(a)anthracene	(5)	17.821	228	33063	0.234
193) 3,3'-Dichlorobenzidine	(5)	17.821	252	11425	0.217
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.837	231	5671	0.194
196) Chrysene	(5)	17.885	228	31243	0.238
199) bis(2-Ethylhexyl)phthalate	(5)	17.997	149	18296	0.210
203) 6-Methylchrysene	(5)	18.703	242	21773	0.231
205) Di-n-octylphthalate	(6)	19.179	149	30907	0.205
206) Benzo(b)fluoranthene	(6)	19.704	252	33926	0.245
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.709	256	12785	0.221
208) Benzo(k)fluoranthene	(6)	19.757	252	31507	0.240
211) Benzo(a)pyrene	(6)	20.244	252	29823	0.233
213)*Perylene-d12	(6)	20.340	264	562861	5.000
215) 3-Methylcholanthrene	(6)	20.816	268	16644	0.273
217) Dibenz(a,h)acridine	(6)	21.645	279	24235	0.223
218) Dibenz(a,j)acridine	(6)	21.715	279	24302	0.227
219) Indeno(1,2,3-cd)pyrene	(6)	21.982	276	35096	0.237
222) Total PAHs	(6)			516538	4.396
220) Dibenz(a,h)anthracene	(6)	22.025	278	27308	0.226
221) Benzo(g,h,i)perylene	(6)	22.405	276	30699	0.241

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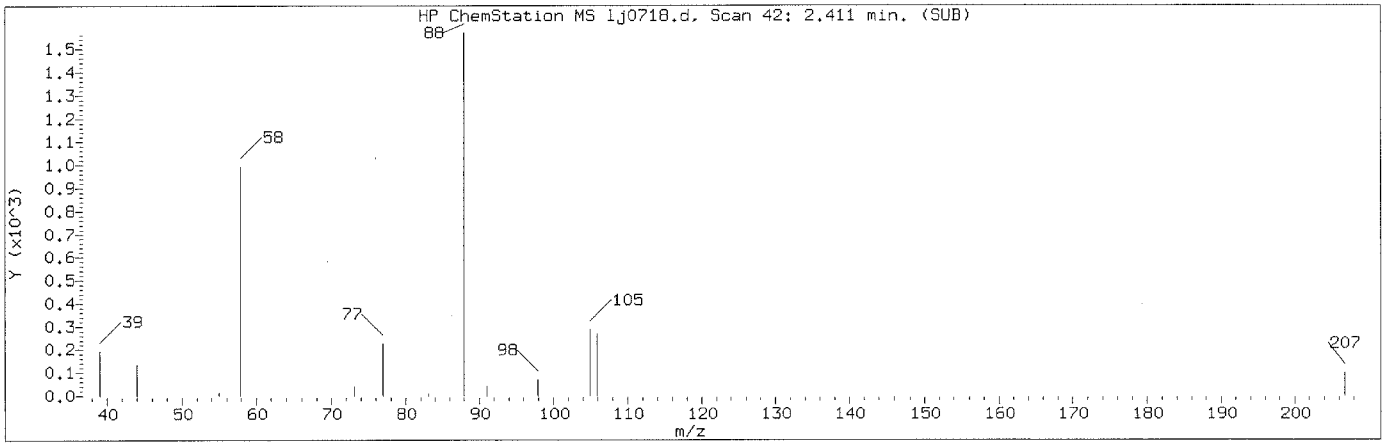
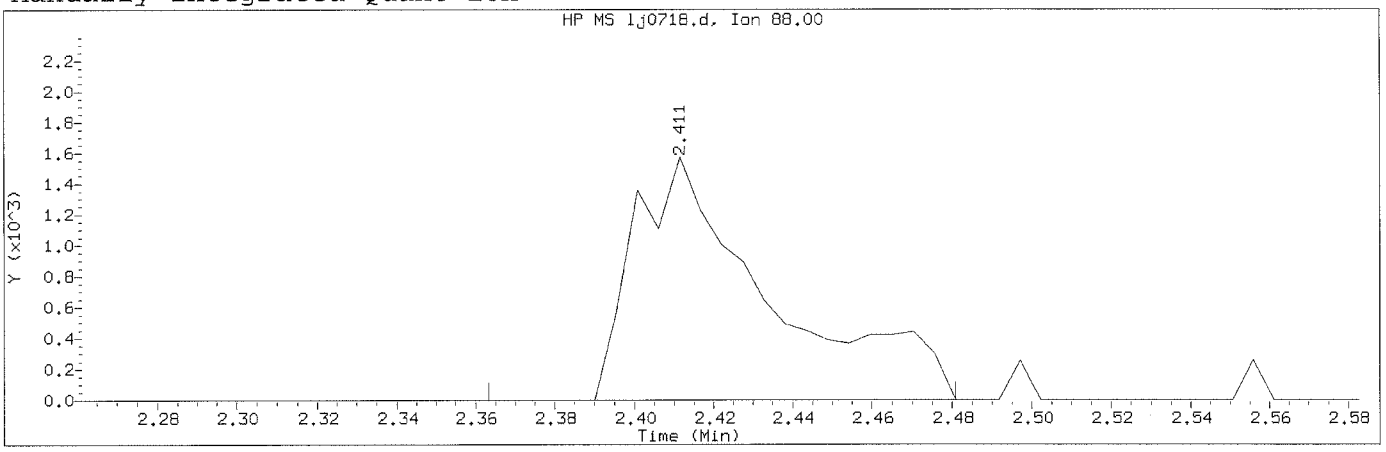
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 42		
Retention Time (minutes)	: 2.411		
Quant Ion	: 88.00		
Area (flag)	: 3734M		
On-Column Amount (ng/ul)	: 0.2138		
Integration start scan	: 32	Integration stop scan:	54
Y at integration start	: 0	Y at integration end:	0

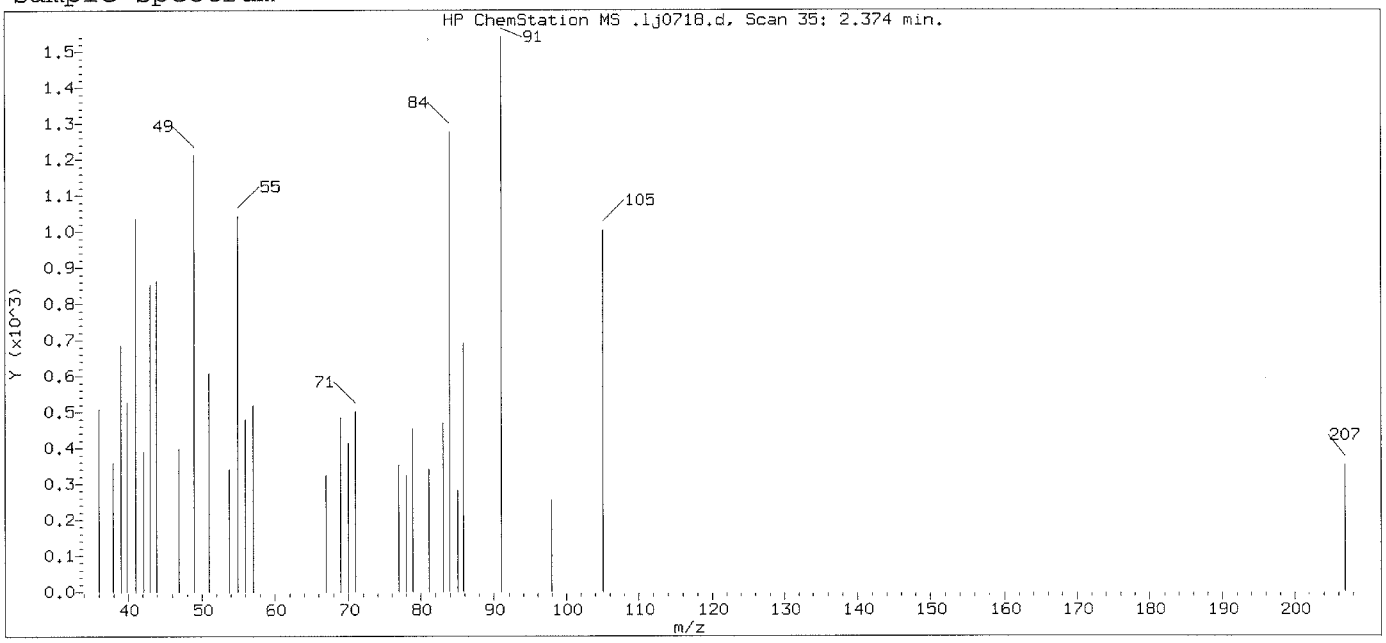
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21
Target 3.5 signature user ID: hb01996

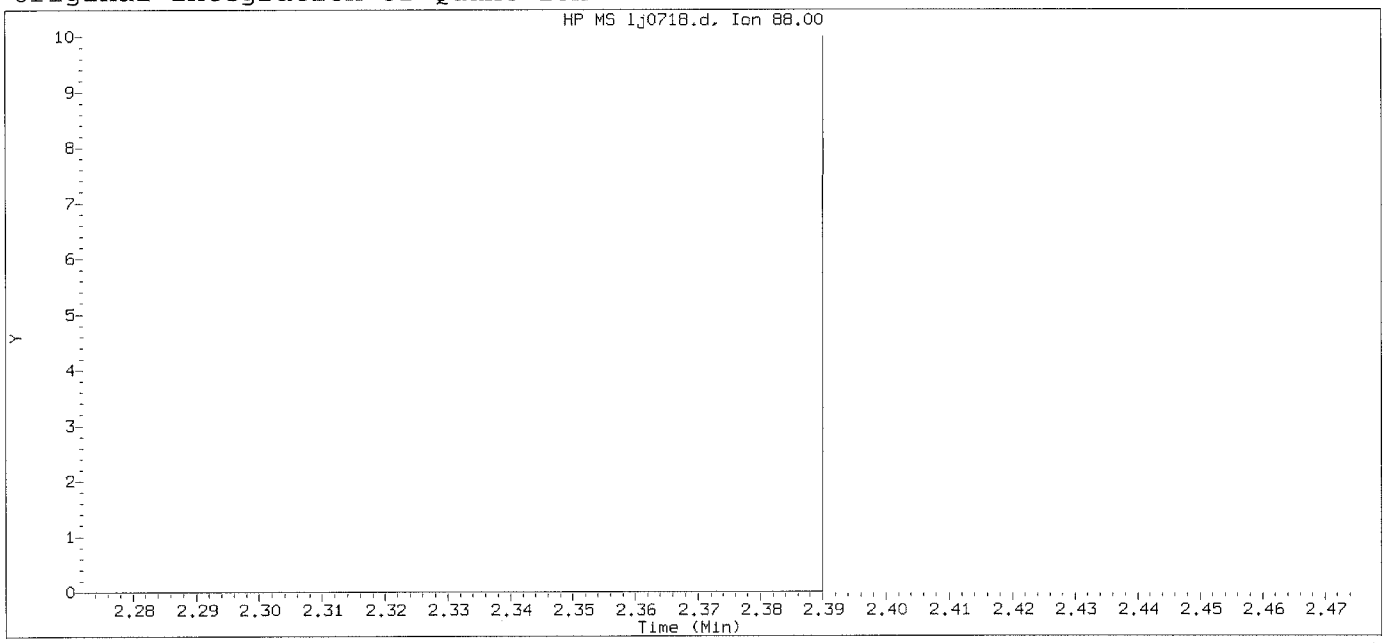
OCT 22 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

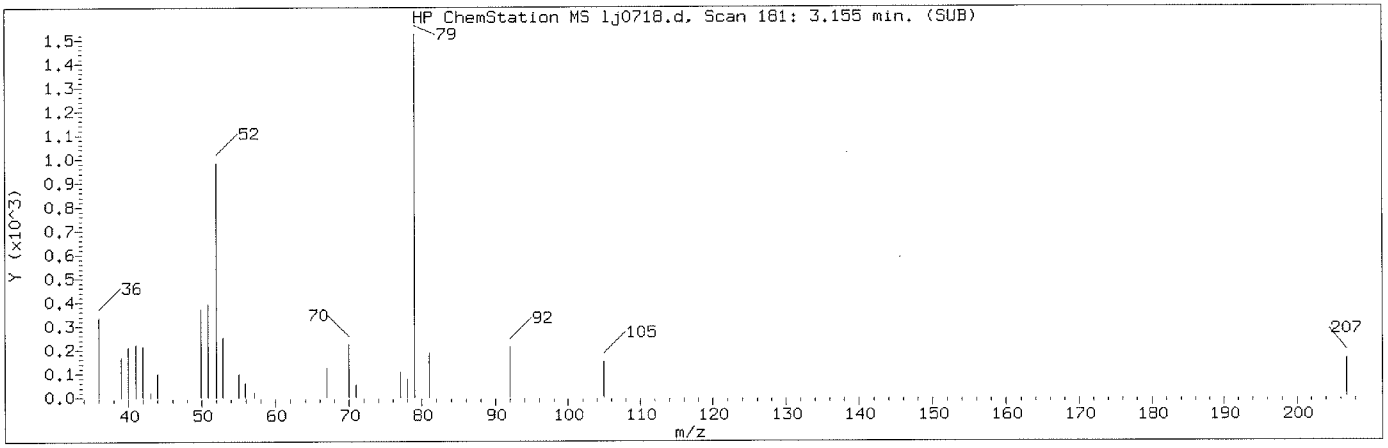
Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:11 Unknown

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

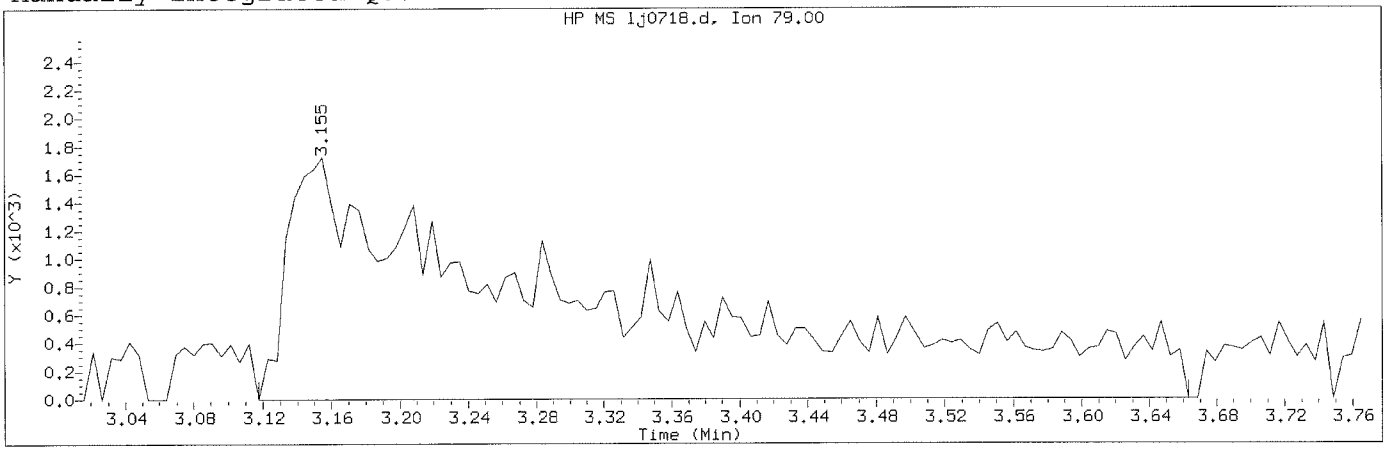
Compound Number : 1
Compound Name : 1,4-Dioxane
Expected RT (minutes) : 2.374
Quant Ion : 88.00

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 181		
Retention Time (minutes)	: 3.155		
Quant Ion	: 79.00		
Area (flag)	: 21305M		
On-Column Amount (ng/ul)	: 0.4452		
Integration start scan	: 173	Integration stop scan:	275
Y at integration start	: 0	Y at integration end:	0

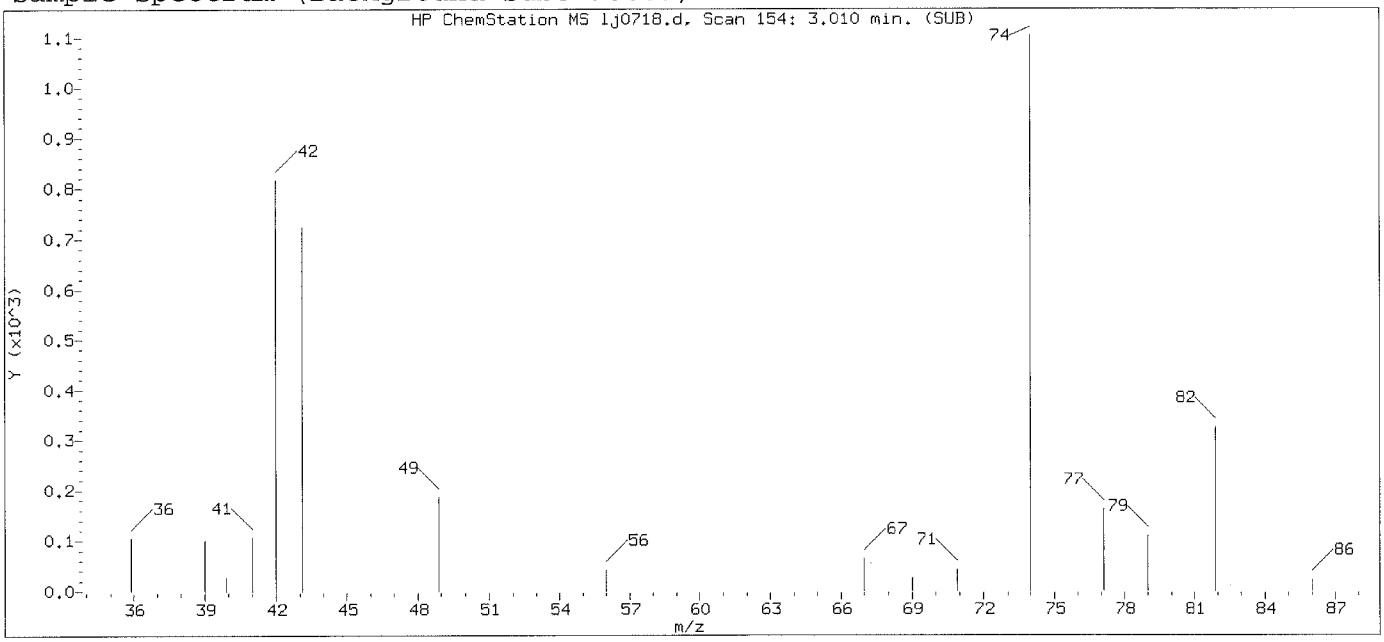
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21,
Target 3.5 signature user ID: hb01996

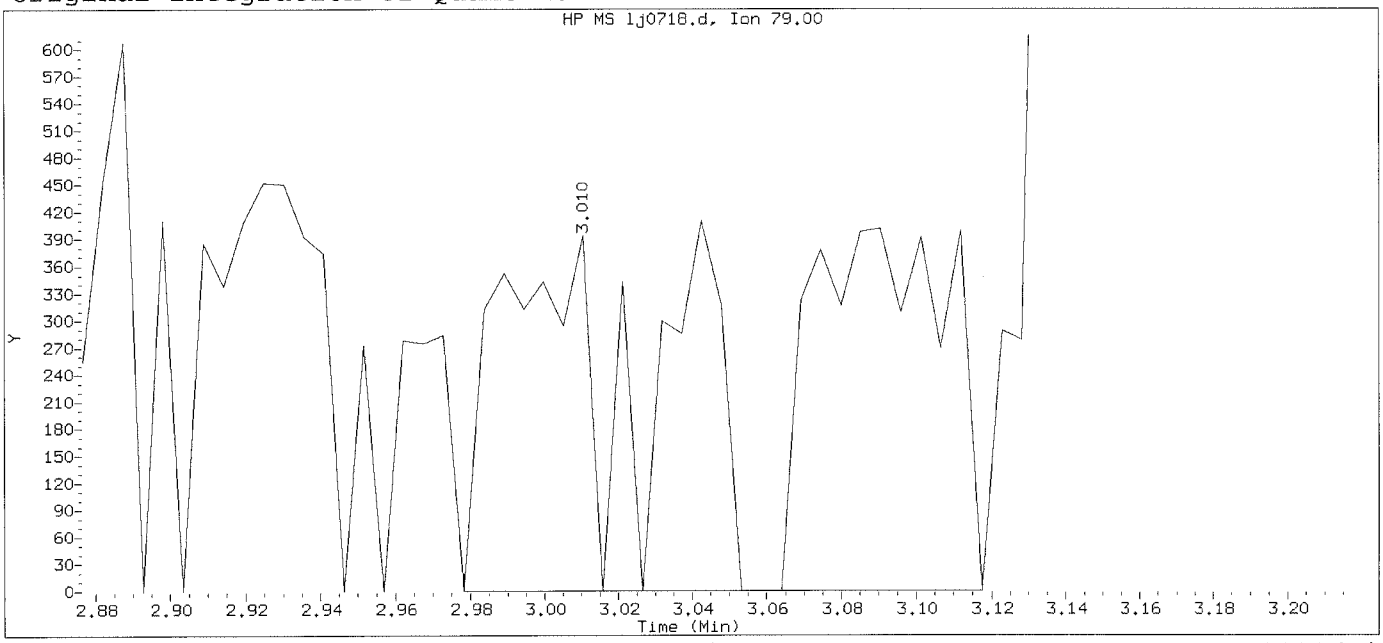
OCT 22 2015

GC/MS audit/management approval: Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

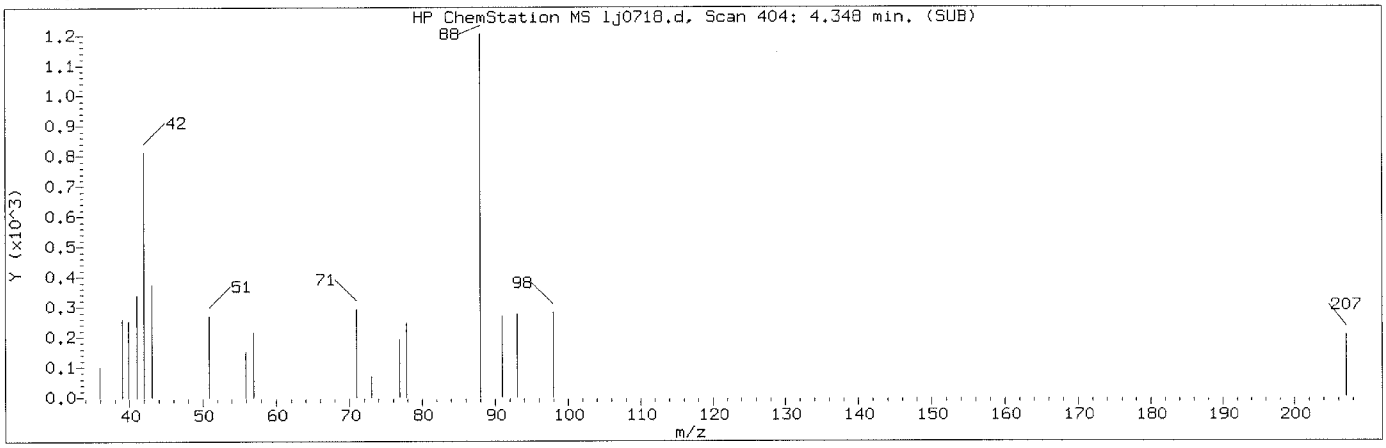
Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:11 Unknown

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

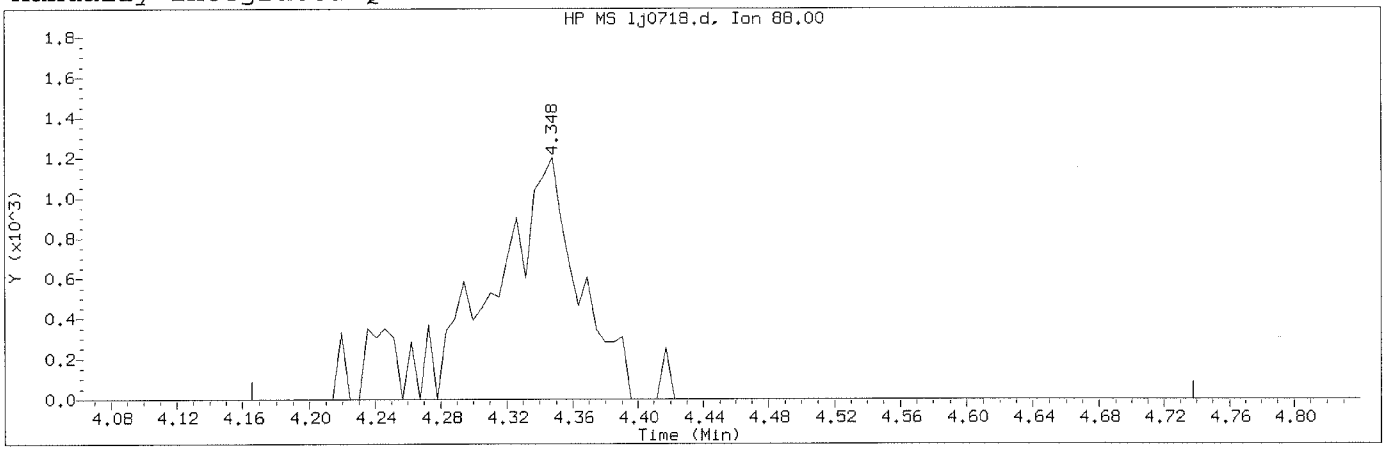
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 154		
Retention Time (minutes)	: 3.010		
Quant Ion	: 79.00		
Area	: 2199		
On-column Amount (ng/ul)	: 0.0432		
Integration start scan	: 147	Integration stop scan:	173
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 404		
Retention Time (minutes)	: 4.348		
Quant Ion	: 88.00		
Area (flag)	: 4874M		
On-Column Amount (ng/ul)	: 0.2467		
Integration start scan	: 369	Integration stop scan:	476
Y at integration start	: 0	Y at integration end:	0

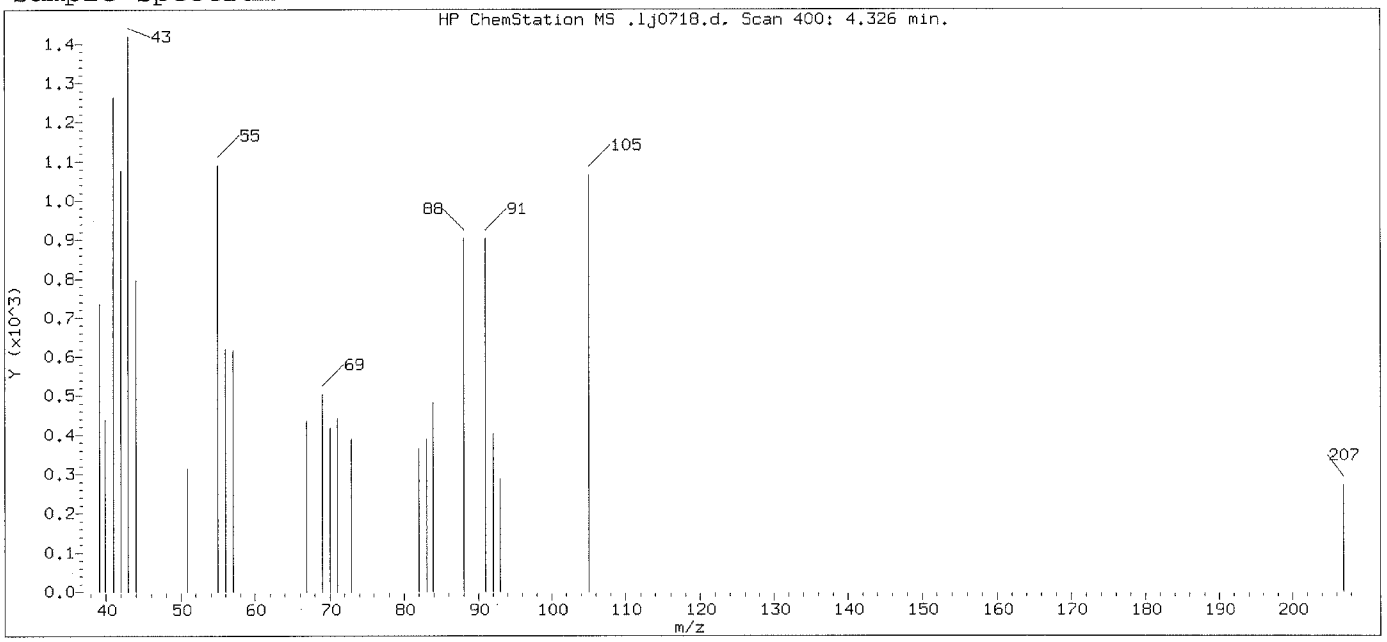
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21
Target 3.5 esignature user ID: hb01996

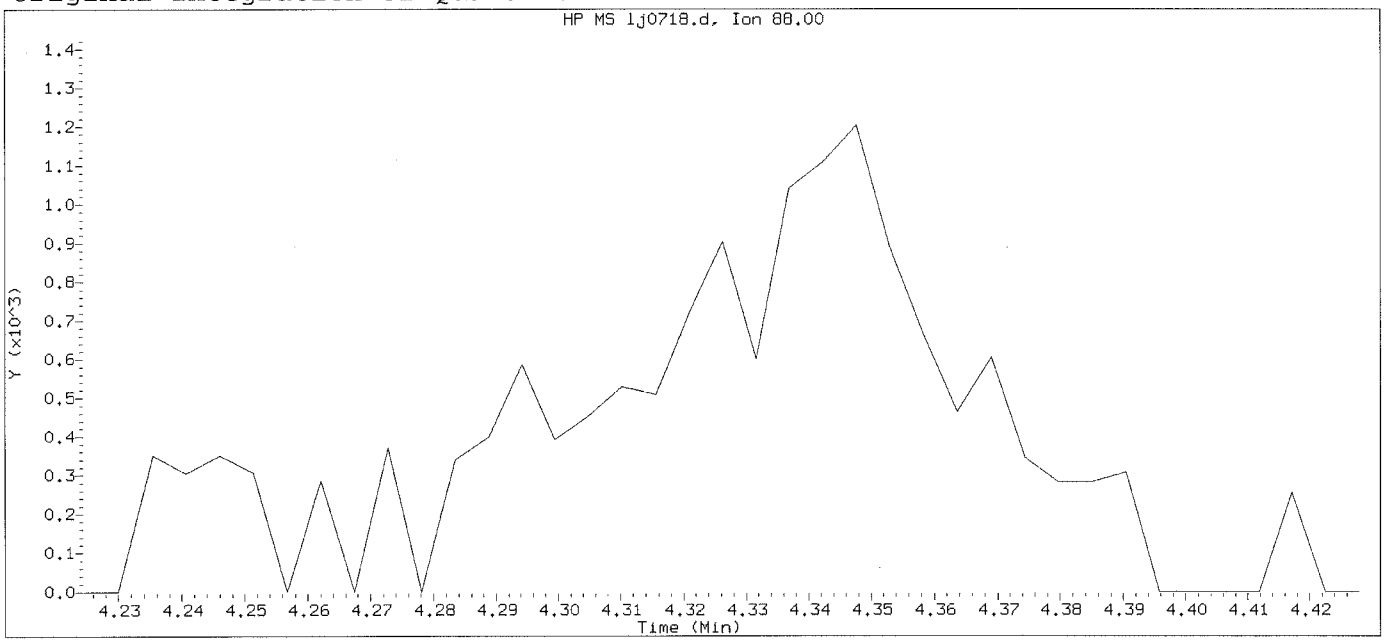
OCT 22 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

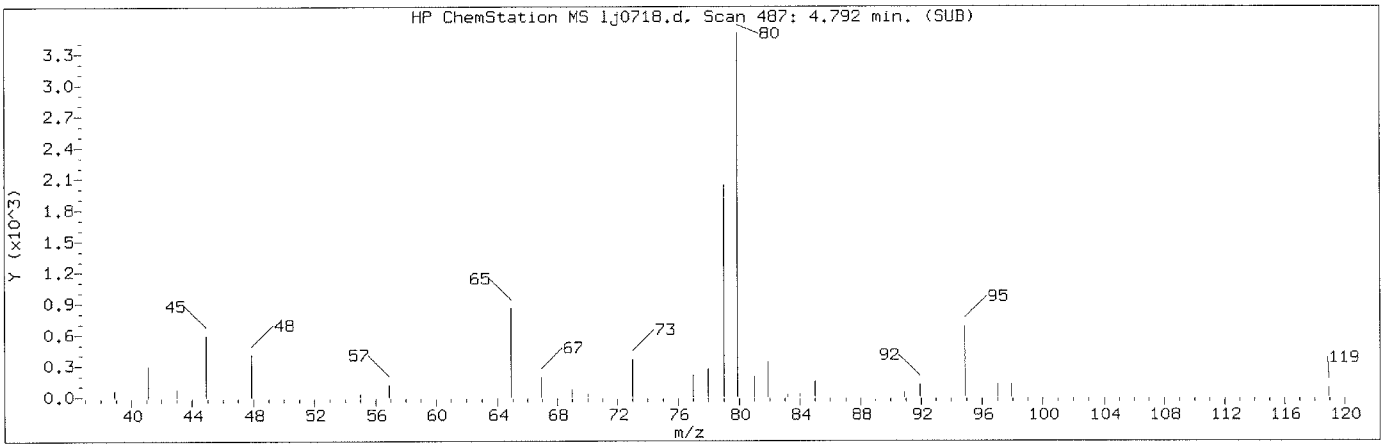
Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:11 Unknown

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

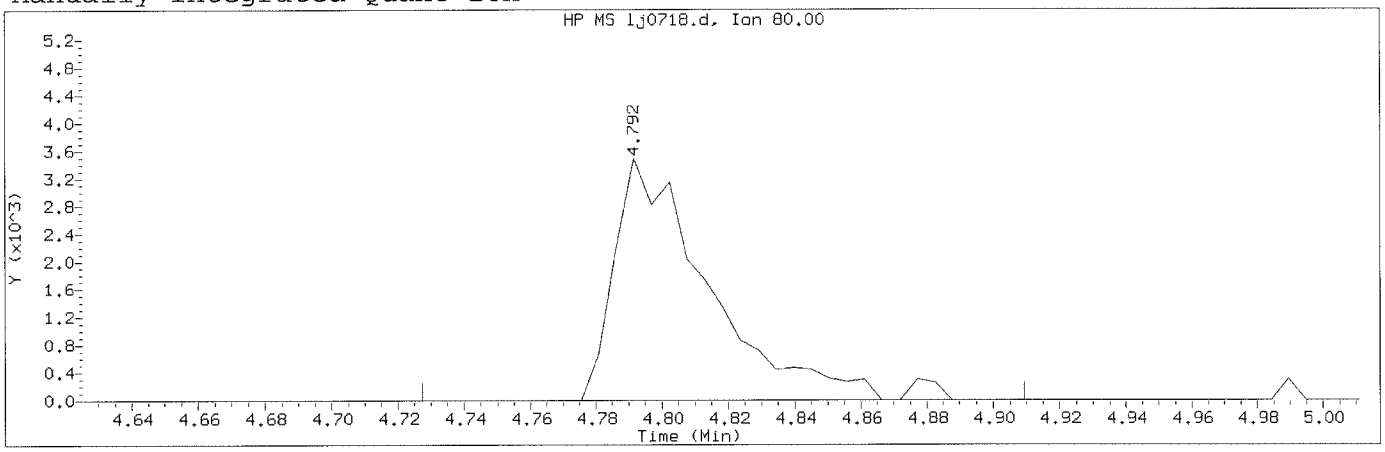
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.326
Quant Ion : 88.00

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 487		
Retention Time (minutes)	: 4.792		
Quant Ion	: 80.00		
Area (flag)	: 7012M		
On-Column Amount (ng/ul)	: 0.2786		
Integration start scan	: 474	Integration stop scan:	508
Y at integration start	: 0	Y at integration end:	0

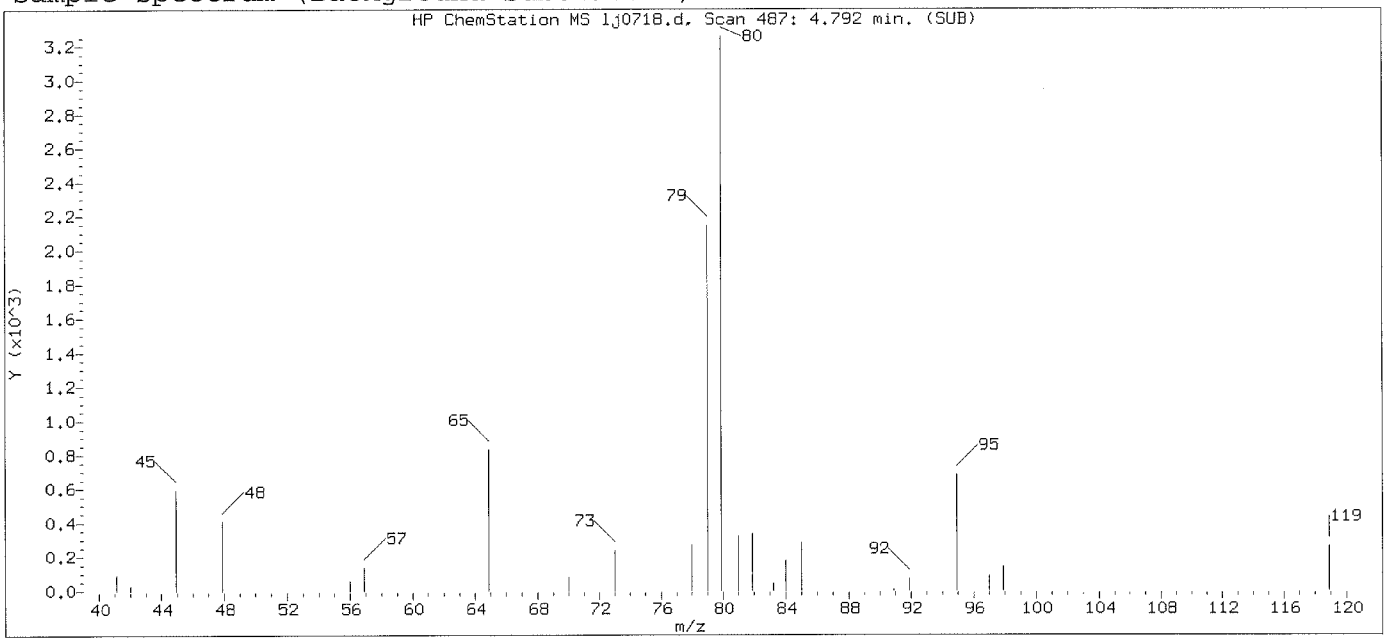
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21
Target 3.5 esignature user ID: hb01996

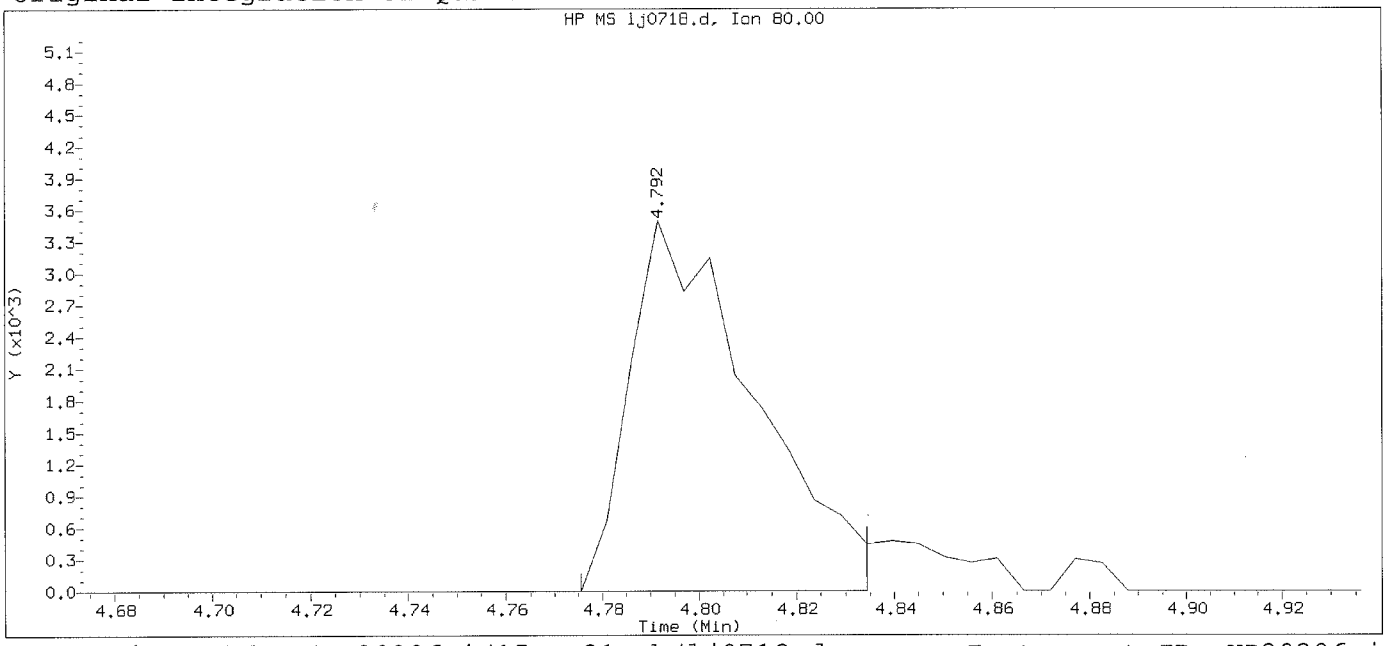
OCT 22 2015

GC/MS audit/management approval: Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:11 Unknown

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 487		
Retention Time (minutes)	: 4.792		
Quant Ion	: 80.00		
Area	: 6179		
On-column Amount (ng/ul)	: 0.2408		
Integration start scan	: 483	Integration stop scan:	494
Y at integration start	: 0	Y at integration end:	0

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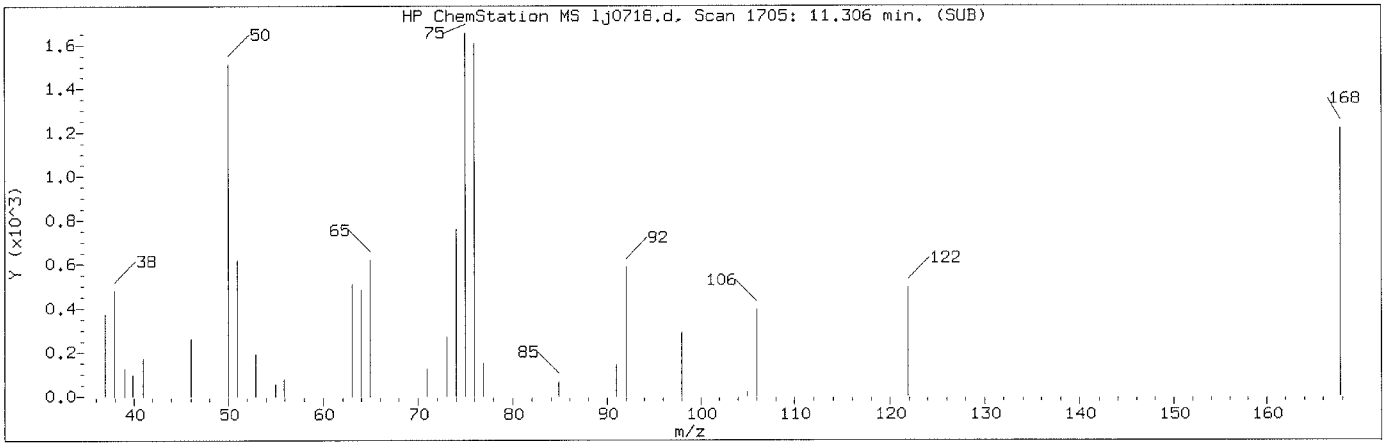
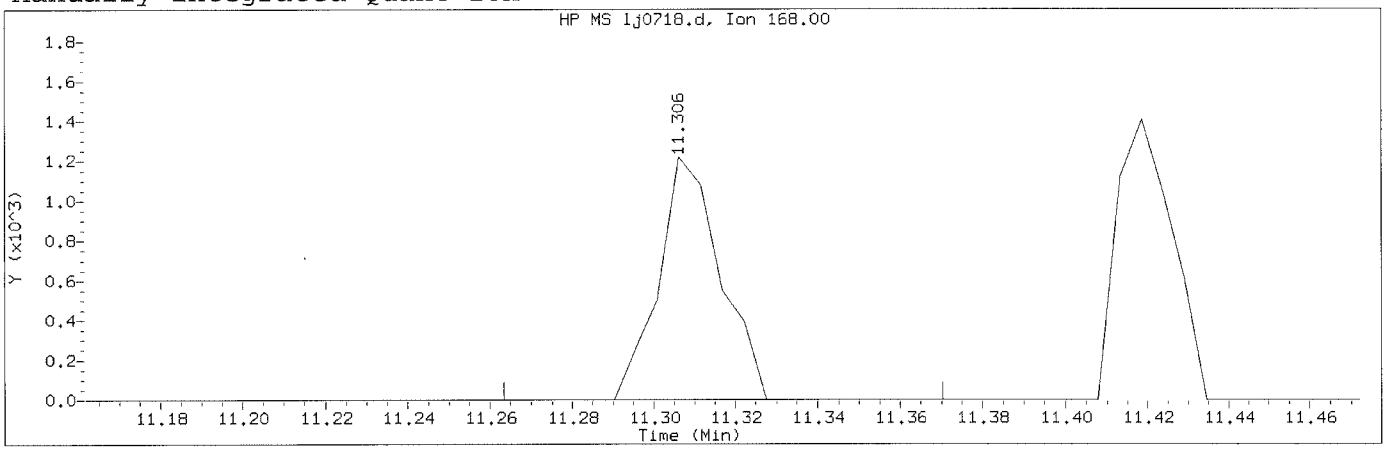
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compound Number	: 105		
Compound Name	: 1,4-Dinitrobenzene		
Scan Number	: 1705		
Retention Time (minutes)	: 11.306		
Quant Ion	: 168.00		
Area (flag)	: 1284M		
On-Column Amount (ng/ul)	: 0.1660		
Integration start scan	: 1696	Integration stop scan:	1716
Y at integration start	: 0	Y at integration end:	0

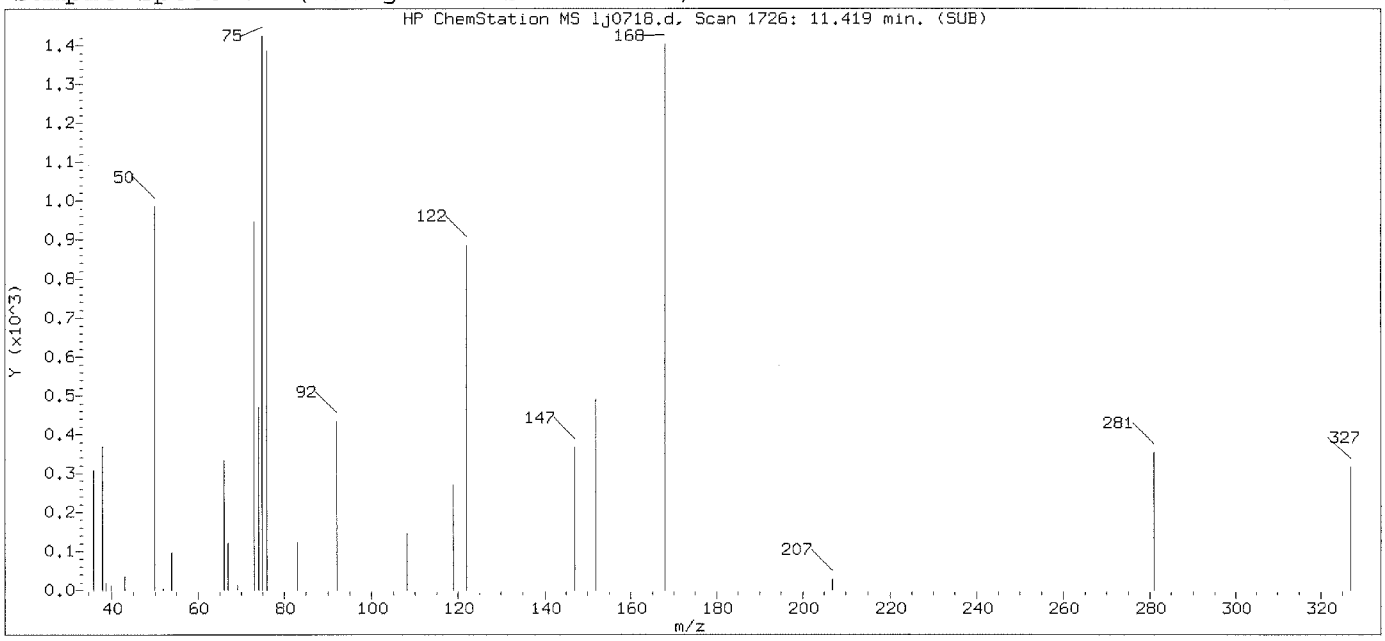
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21
Target 3.5 signature user ID: hb01996

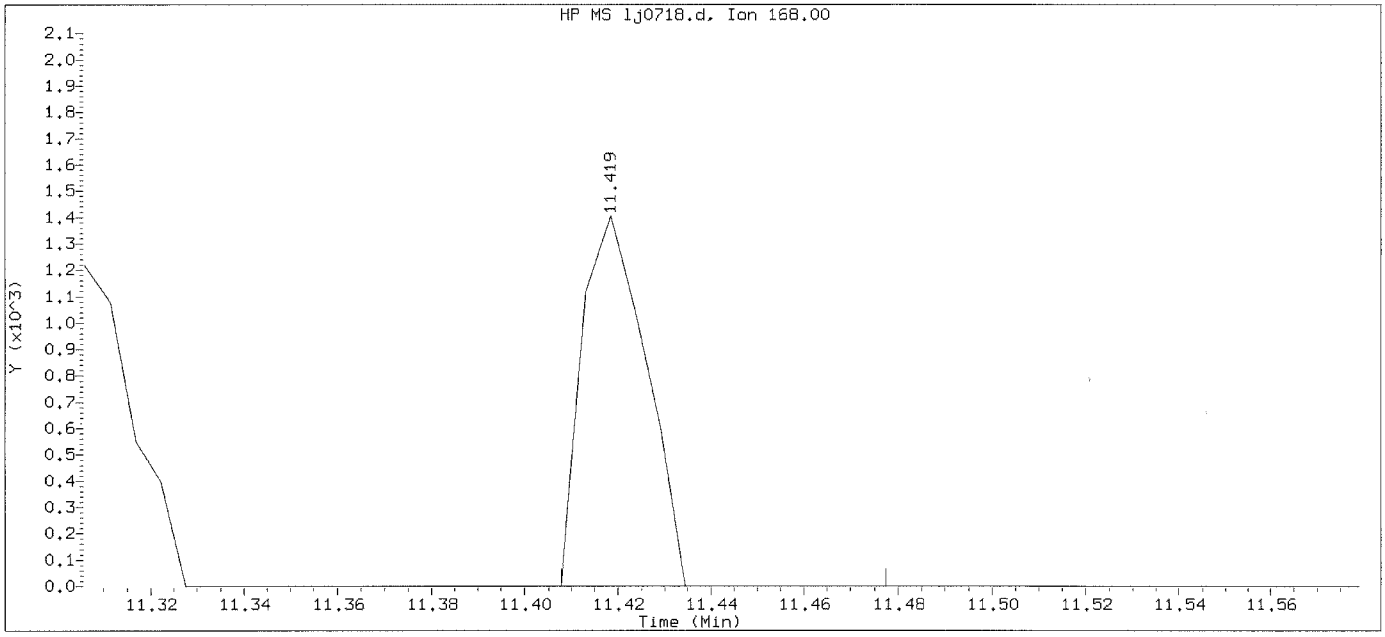
OCT 22 2015

GC/MS audit/management approval: Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:11 Unknown

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compound Number	: 105		
Compound Name	: 1,4-Dinitrobenzene		
Scan Number	: 1726		
Retention Time (minutes)	: 11.419		
Quant Ion	: 168.00		
Area	: 1336		
On-column Amount (ng/ul)	: 0.1198		
Integration start scan	: 1723	Integration stop scan:	1736
Y at integration start	: 0	Y at integration end:	0

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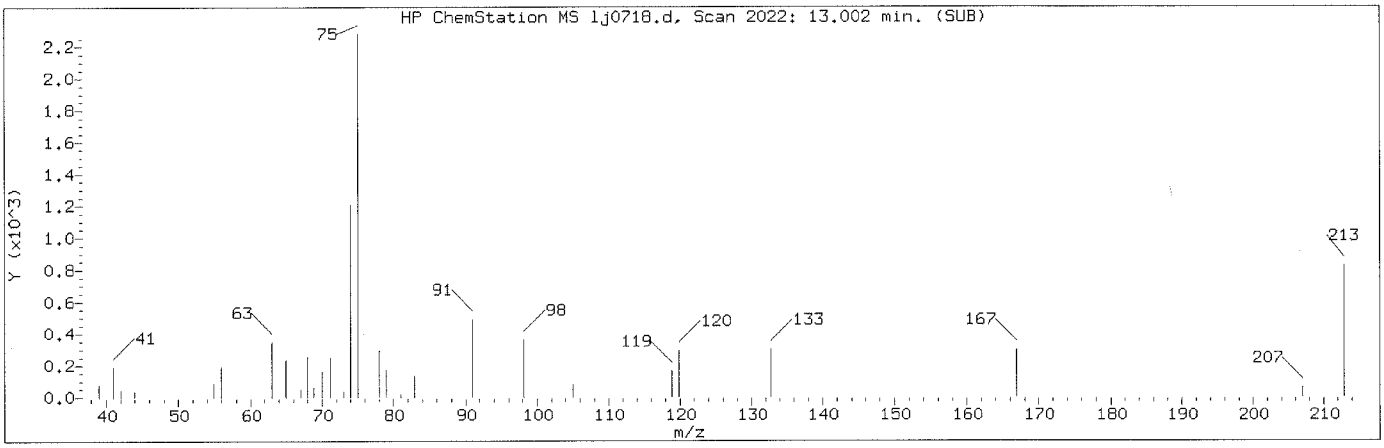
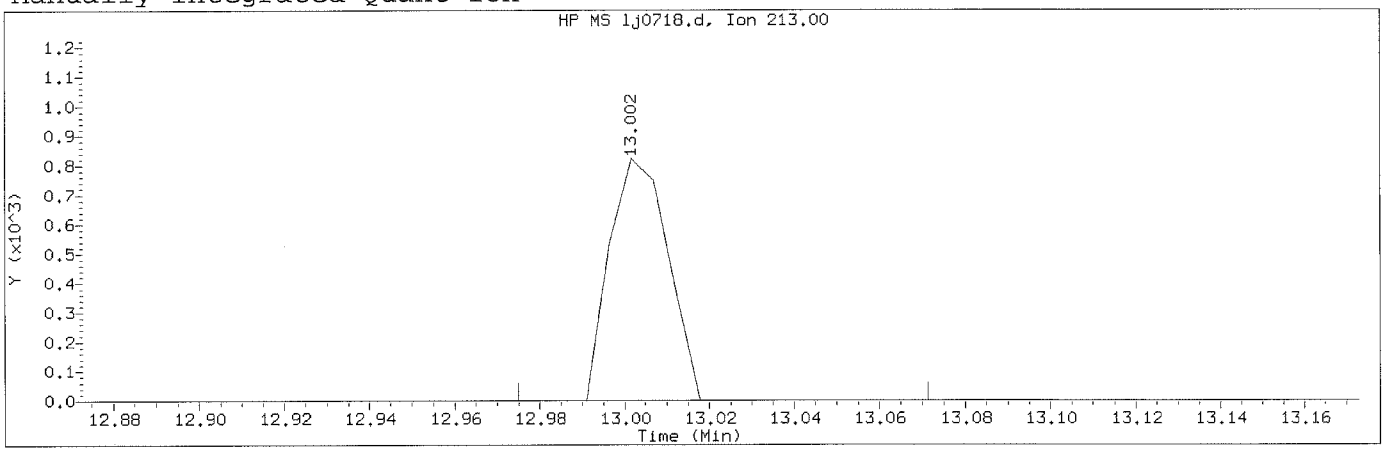
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compound Number	: 139		
Compound Name	: 1,3,5-Trinitrobenzene		
Scan Number	: 2022		
Retention Time (minutes)	: 13.002		
Quant Ion	: 213.00		
Area (flag)	: 789M		
On-Column Amount (ng/ul)	: 0.1357		
Integration start scan	: 2016	Integration stop scan:	2034
Y at integration start	: 0	Y at integration end:	0

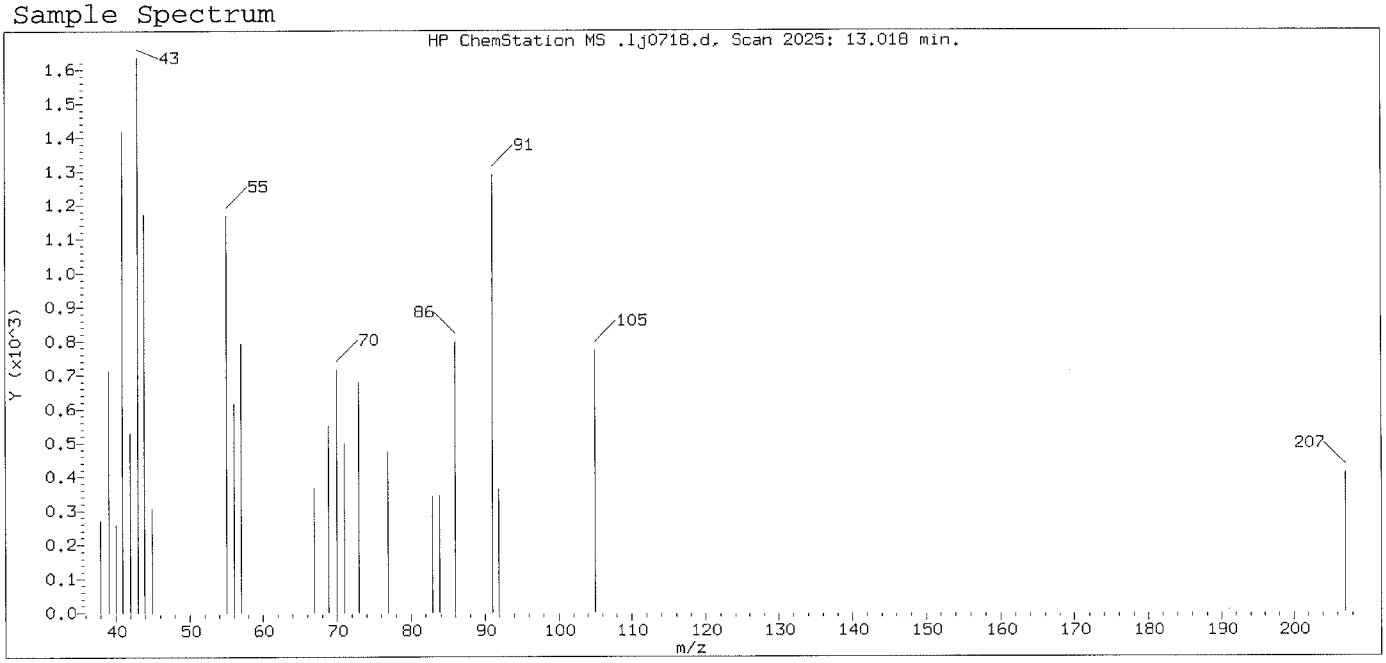
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature User ID: hb01996

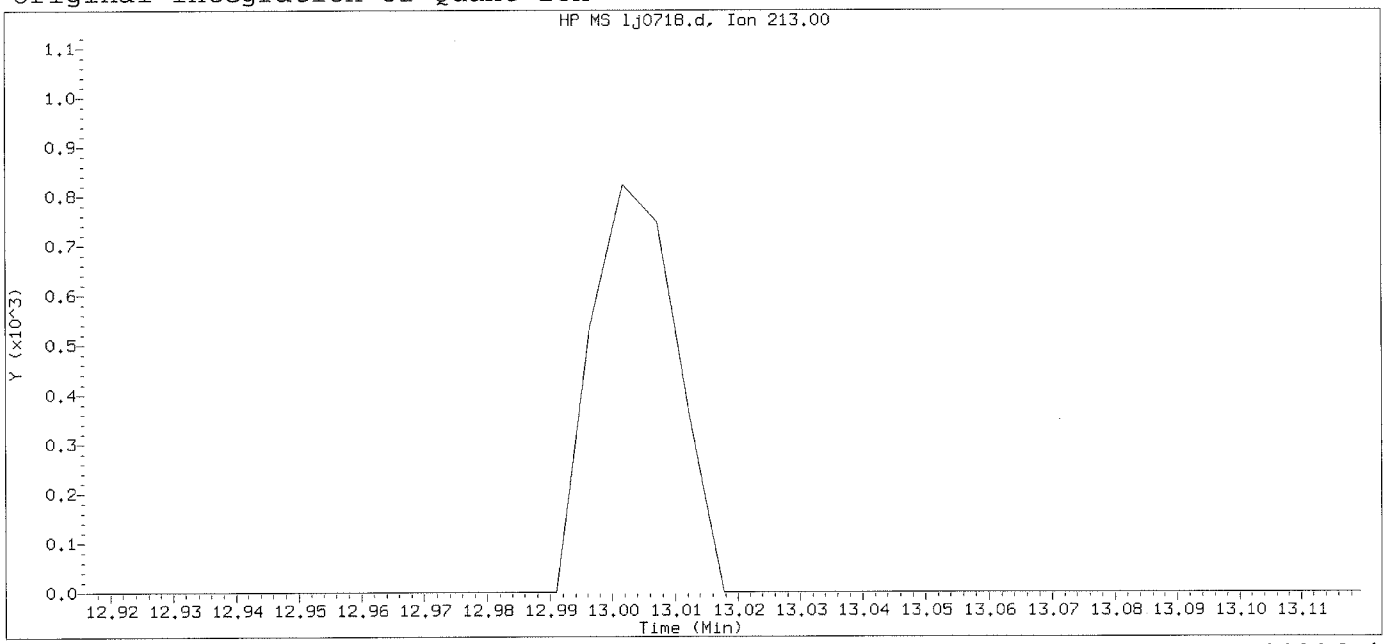
OCT 2 2 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:11 Unknown

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compound Number : 139
Compound Name : 1,3,5-Trinitrobenzene
Expected RT (minutes) : 13.018
Quant Ion : 213.00

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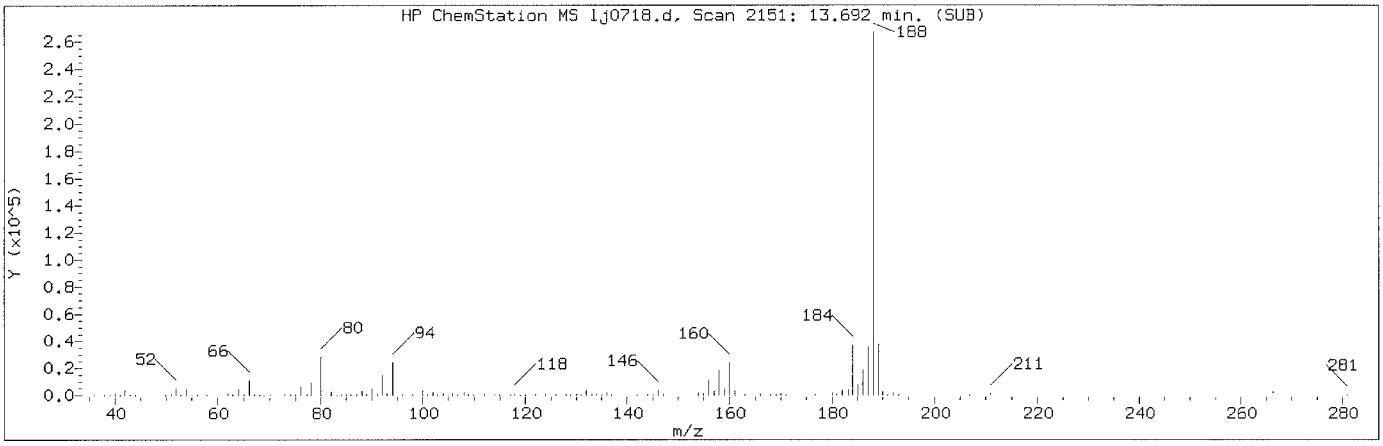
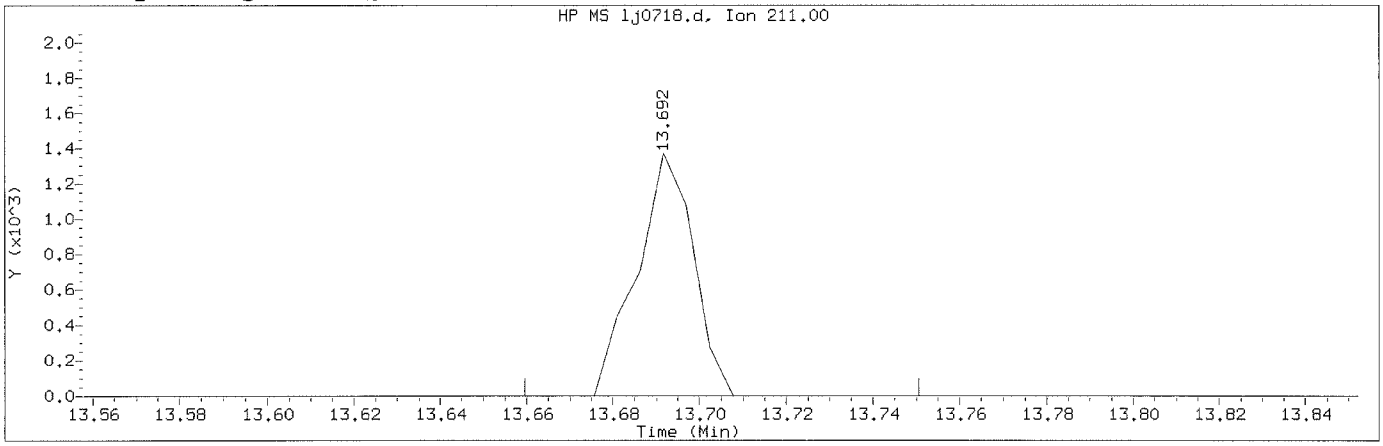
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 07:48
Date, time and analyst ID of latest file update: 22-Oct-2015 07:48 hb01996

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compound Number	: 154		
Compound Name	: Dinoseb		
Scan Number	: 2151		
Retention Time (minutes)	: 13.692		
Quant Ion	: 211.00		
Area (flag)	: 1248M		
On-Column Amount (ng/ul)	: 0.1169		
Integration start scan	: 2144	Integration stop scan:	2161
Y at integration start	: 0	Y at integration end:	0

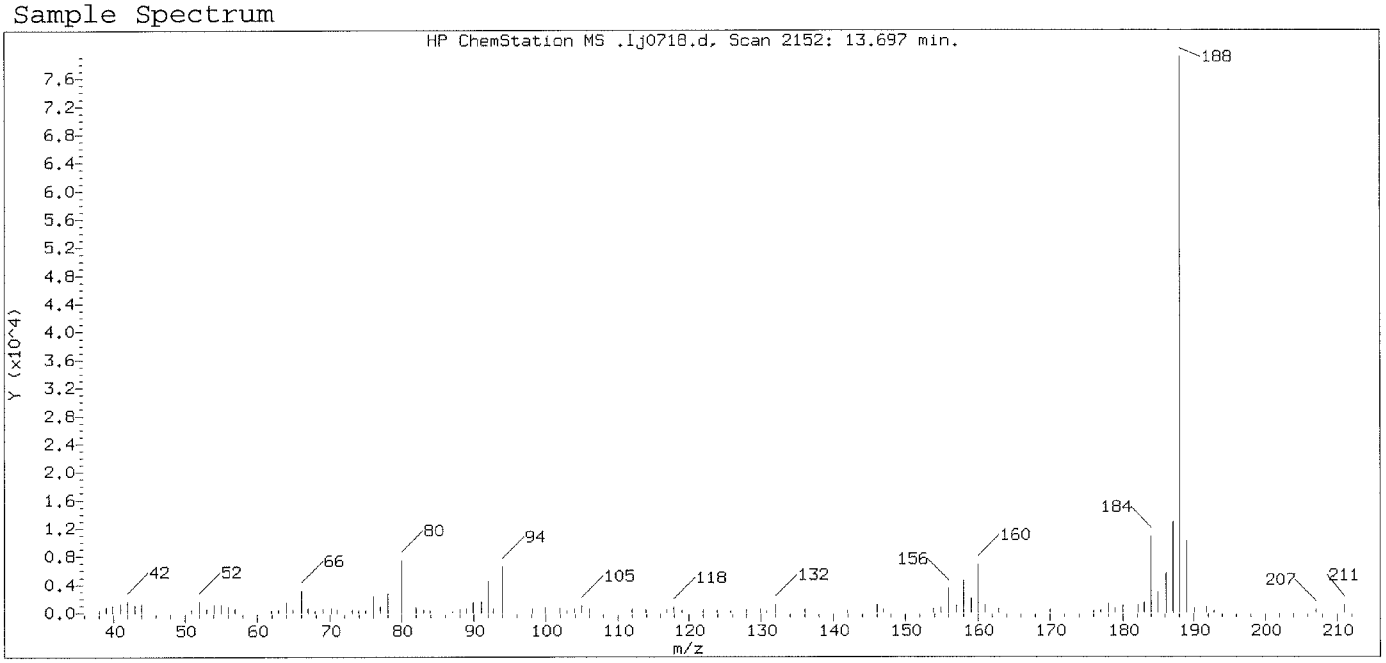
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 signature user ID: hb01996

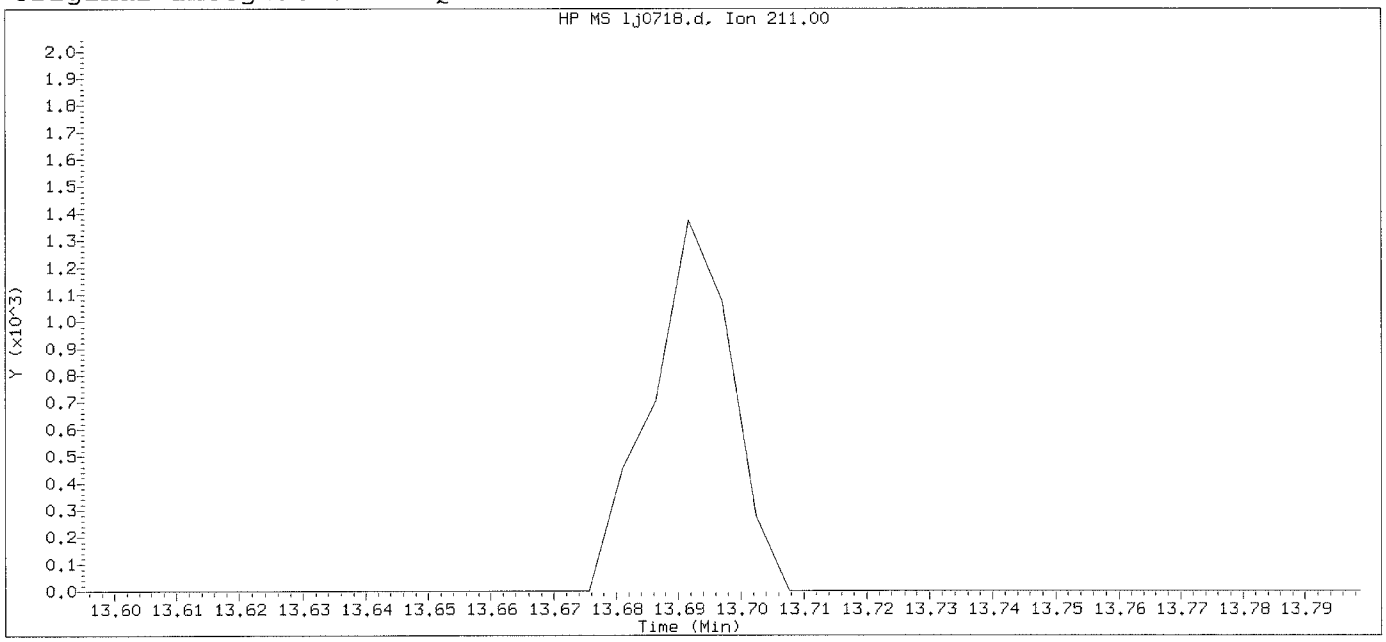
OCT 22 2015

GC/MS audit/management approval:_____
Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0718.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 18:46 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: all1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:11 Unknown

Sample Name: SSTD0.25 Lab Sample ID: RVSTD2745

Compound Number : 154
Compound Name : Dinoseb
Expected RT (minutes) : 13.697
Quant Ion : 211.00

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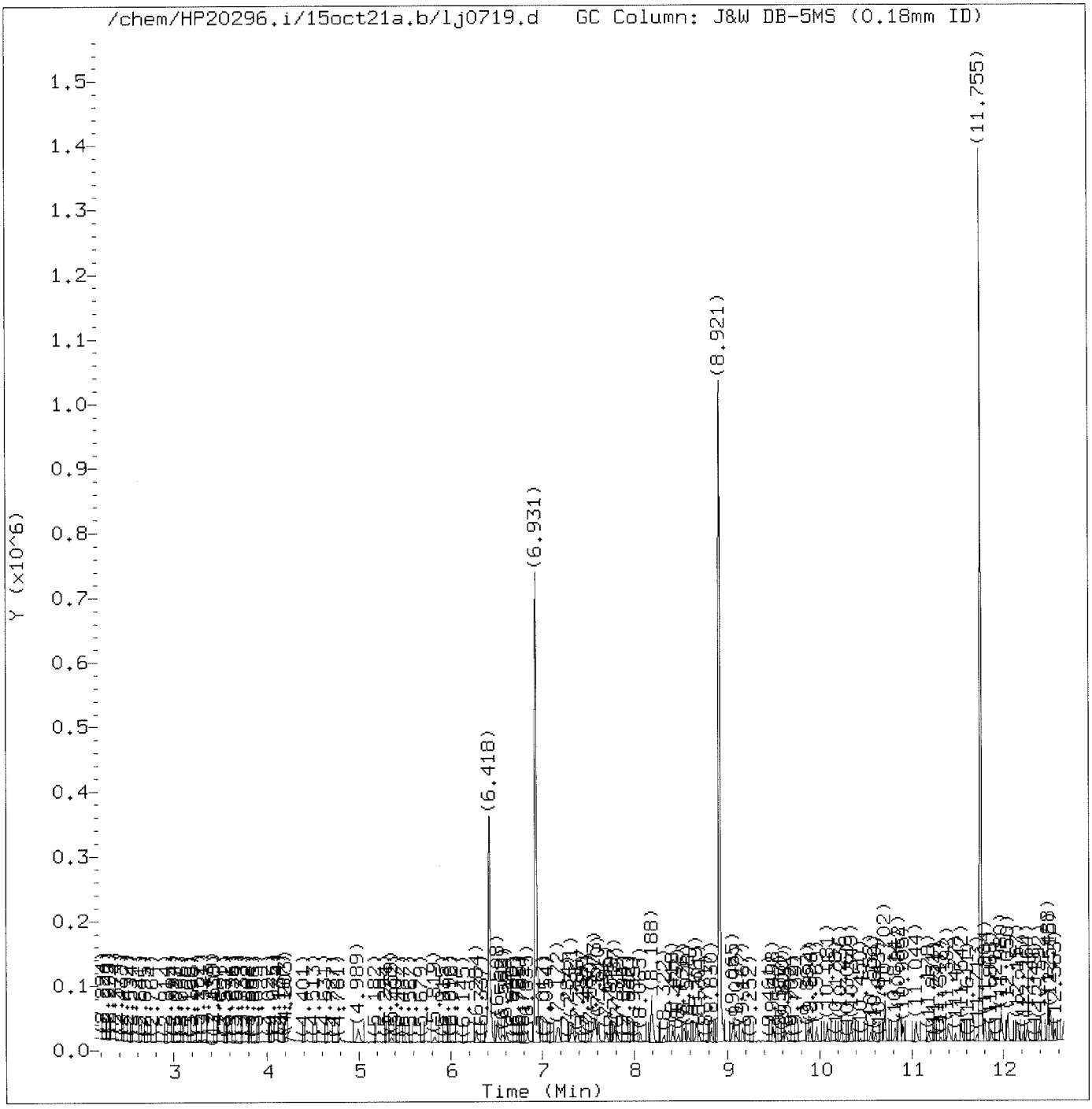
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

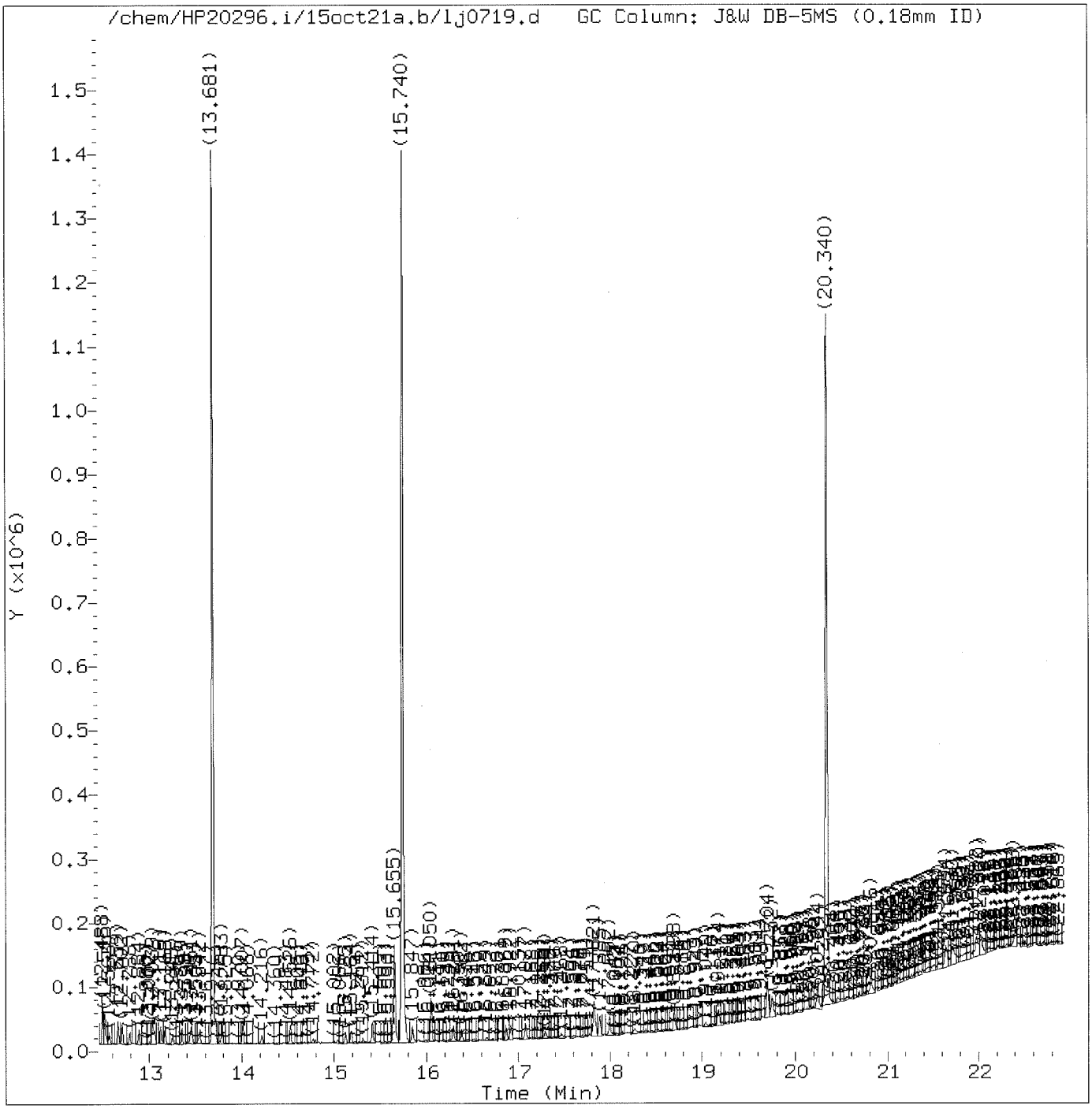
Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.406	88	1757M	0.097
4) N-Nitrosodimethylamine	(1)	3.037	74	2556	0.088
5) Pyridine	(1)	3.208	79	11030M	0.221
7) 2-Picoline	(1)	4.203	93	6564	0.128
8) N-Nitrosomethylethylamine	(1)	4.337	88	1710M	0.083
9) Methyl methanesulfonate	(1)	4.792	80	3619M	0.138
11)$2-Fluorophenol	(1)	4.995	112	9811	0.246
13) N-Nitrosodiethylamine	(1)	5.359	102	2260M	0.113
15) Ethyl methanesulfonate	(1)	5.824	109	2551	0.121
16) Benzaldehyde	(1)	6.284	77	6677	0.172
17)$Phenol-d6	(1)	6.391	99	13291	0.251
18) Phenol	(1)	6.412	94	6746	0.110
19) Aniline	(1)	6.444	93	9454	0.128
20) a-methylstyrene	(1)	6.508	118	6082	0.144
22) bis(2-Chloroethyl)ether	(1)	6.562	93	5850	0.128
23) 2-Chlorophenol	(1)	6.599	128	4537	0.120
24) 1,3-Dichlorobenzene	(1)	6.840	146	5093	0.117
25)*1,4-Dichlorobenzene-d4	(1)	6.931	152	140907	5.000
26) 1,4-Dichlorobenzene	(1)	6.952	146	5564	0.125
27) Benzyl alcohol	(1)	7.161	108	2969	0.107
28) 1,2-Dichlorobenzene	(1)	7.177	146	5530	0.133
30) Indene	(1)	7.316	115	9923	0.135
31) 2-Methylphenol	(1)	7.332	108	4647	0.118
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.386	45	7066	0.126
34) bis(2-Chloroisopropyl)ether	(1)	7.386	45	7066	0.126
35) N-Nitrosopyrrolidine	(1)	7.535	100	2608	0.123
36) Acetophenone	(1)	7.562	105	9370	0.146
38) N-Nitroso-di-n-propylamine	(1)	7.578	70	6477	0.175
37) 4-Methylphenol	(1)	7.578	108	5708	0.129
40) o-Toluidine	(1)	7.610	106	9197	0.129
39) N-Nitrosomorpholine	(1)	7.610	56	3133	0.121
42) Total Cresols	(1)			10355	0.246
43) Hexachloroethane	(1)	7.696	117	2618	0.139
44)$Nitrobenzene-d5	(2)	7.787	82	11713	0.235
45) Nitrobenzene	(2)	7.819	77	6917	0.132
48) N-Nitrosopiperidine	(2)	8.070	114	2453	0.120
50) Isophorone	(2)	8.209	82	11849	0.126
51) 2-Nitrophenol	(2)	8.322	139	1202	0.083
53) 2,4-Dimethylphenol	(2)	8.418	107	5409	0.123
56) Benzoic acid	(2)	8.477	105	5568	1.005

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.541	198	2774	0.131
55) bis(2-Chloroethoxy)methane	(2)	8.578	93	6918	0.124
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.669	104	9328	0.144
60) 2,4-Dichlorophenol	(2)	8.701	162	3204	0.100
62) 1,2,4-Trichlorobenzene	(2)	8.830	180	4966	0.131
65)*Naphthalene-d8	(2)	8.921	136	537453	5.000
67) 4-Chloroaniline	(2)	9.060	127	5976	0.126
68) 2,6-Dichlorophenol	(2)	9.065	162	3299	0.106
69) Hexachloropropene	(2)	9.097	213	2855	0.111
71) Hexachlorobutadiene	(2)	9.167	225	2877	0.122
75) Quinoline	(2)	9.498	129	9186	0.126
76) Caprolactam	(2)	9.605	113	1003	0.096
77) N-Nitrosodi-n-butylamine	(2)	9.637	84	5040	0.136
80) 4-Chloro-3-methylphenol	(2)	9.867	107	3867	0.107
82) Safrole	(2)	9.969	162	3471	0.115
85) Hexachlorocyclopentadiene	(3)	10.343	237	2673	0.112
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.349	216	5591	0.137
88) cis-Isosafrole	(3)	10.445	162	514	0.016
90) 2,4,6-Trichlorophenol	(3)	10.552	196	2508	0.113
92) 2,4,5-Trichlorophenol	(3)	10.600	196	2531	0.106
93)$2-Fluorobiphenyl	(3)	10.702	172	23161	0.267
97) Isosafrole	(3)			4011	0.112
94) trans-Isosafrole	(3)	10.819	162	3497	0.097
95) 1,1'-Biphenyl	(3)	10.857	154	12247	0.132
96) 2-Chloronaphthalene	(3)	10.873	162	9334	0.129
98) 1-Chloronaphthalene	(3)	10.905	162	8243	0.119
99) Diphenyl ether	(3)	11.044	170	6429	0.127
100) 2-Nitroaniline	(3)	11.055	138	1589	0.085
104) 1,4-Naphthoquinone	(3)	11.178	158	2664	0.090
105) 1,4-Dinitrobenzene	(3)	11.306	168	437M	0.864
106) Dimethylphthalate	(3)	11.392	163	10534	0.130
107) 1,3-Dinitrobenzene	(3)	11.419	168	711M	0.072
108) 2,6-Dinitrotoluene	(3)	11.477	165	1048	0.069
112) 3-Nitroaniline	(3)	11.718	138	1274	0.416
113)*Acenaphthene-d10	(3)	11.755	164	312672	5.000
115) 2,4-Dinitrophenol	(3)	11.868	184	1989	0.426
120) 2,4_2,6-Dinitrotoluenes	(3)			2421	0.137
116) 4-Nitrophenol	(3)	11.975	109	4513	0.359
117) Pentachlorobenzene	(3)	11.985	250	4682	0.137
119) Dibenzofuran	(3)	12.050	168	13662	0.132

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
118) 2,4-Dinitrotoluene	(3)	12.055	165	1373	0.068
121) 1-Naphthylamine	(3)	12.157	143	8786	0.118
122) 2,3,4,6-Tetrachlorophenol	(3)	12.215	232	1643	0.094
123) 2-Naphthylamine	(3)	12.264	143	9030	0.124
124) Diethylphthalate	(3)	12.392	149	10168	0.127
125) Thionazin	(3)	12.488	107	1840	0.129
127) 4-Chlorophenyl-phenylether	(3)	12.510	204	5662	0.136
128) 5-Nitro-o-toluidine	(3)	12.515	152	1554	0.395
129) 4-Nitroaniline	(3)	12.520	138	1402	0.296
130) 4,6-Dinitro-2-methylphenol	(4)	12.563	198	1900	2.076
132) NDPA as diphenylamine	(4)	12.659	169	8272	0.121
131) N-Nitrosodiphenylamine	(4)	12.659	169	8272	0.121
134) 1,2-Diphenylhydrazine	(4)	12.702	77	13663	0.129
135)$2,4,6-Tribromophenol	(3)	12.788	330	819	0.084
137) Tetraethyldithiopyrophosphate	(4)	12.884	97	2218	0.132
146) Diallate trans/cis	(4)			5138	0.121
139) 1,3,5-Trinitrobenzene	(4)	13.002	213	330M	1.916
140) Diallate (peak 1)	(4)	13.028	86	4378	0.103
141) Phorate	(4)	13.039	75	6874	0.105
142) Phenacetin	(4)	13.055	108	3970	0.088
143) 4-Bromophenyl-phenylether	(4)	13.125	248	2828	0.117
144) Diallate (peak 2)	(4)	13.141	86	760	0.018
147) Dimethoate	(4)	13.248	87	3135	0.082
148) Atrazine	(4)	13.349	200	3040	0.129
149) Pentachlorophenol	(4)	13.430	266	666	0.062
151) Pentachloronitrobenzene	(4)	13.446	237	896M	0.083
150) 4-Aminobiphenyl	(4)	13.456	169	9200	0.116
152) Pronamide	(4)	13.542	173	3941	0.101
153)*Phenanthrene-d10	(4)	13.681	188	601101	5.000
154) Dinoseb	(4)	13.697	211	567M	1.853
163) Carbazole	(4)	14.007	167	13864	0.121
164) Methyl parathion	(4)	14.216	109	1523M	0.721
165) Di-n-butylphthalate	(4)	14.526	149	16583	0.118
167) Parathion	(4)	14.772	109	1087M	0.836
168) 4-Nitroquinoline-1-oxide	(4)	14.794	190	292M	2.499
169) Octachlorostyrene	(4)	15.125	308	825	0.085
171) Isodrin	(4)	15.184	193	2326	0.151
174) Benzidine	(5)	15.655	184	80954	0.912
175)*Pyrene-d10	(5)	15.740	212	717750	5.000
179)$Terphenyl-d14	(5)	16.050	244	26100	0.256

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/1j0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) p-Dimethylaminoazobenzene	(5)	16.291	225	2720	0.102
185) Chlorobenzilate	(5)	16.382	139	4408	0.104
187) 3,3'-Dimethylbenzidine	(5)	16.869	212	9937	0.106
188) Butylbenzylphthalate	(5)	16.922	149	5826	0.096
191) 2-Acetylaminofluorene	(5)	17.291	181	3744	0.074
193) 3,3'-Dichlorobenzidine	(5)	17.821	252	5680	0.105
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.832	231	2715	0.091
199) bis(2-Ethylhexyl)phthalate	(5)	17.992	149	9462	0.106
203) 6-Methylchrysene	(5)	18.703	242	11831	0.123
205) Di-n-octylphthalate	(6)	19.179	149	15592	0.101
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.709	256	7087	0.120
213)*Perylene-d12	(6)	20.340	264	575318	5.000
215) 3-Methylcholanthrene	(6)	20.816	268	9473	0.152
217) Dibenz(a,h)acridine	(6)	21.640	279	13009	0.117
218) Dibenz(a,j)acridine	(6)	21.715	279	12441	0.114

* = Compound is an internal standard.

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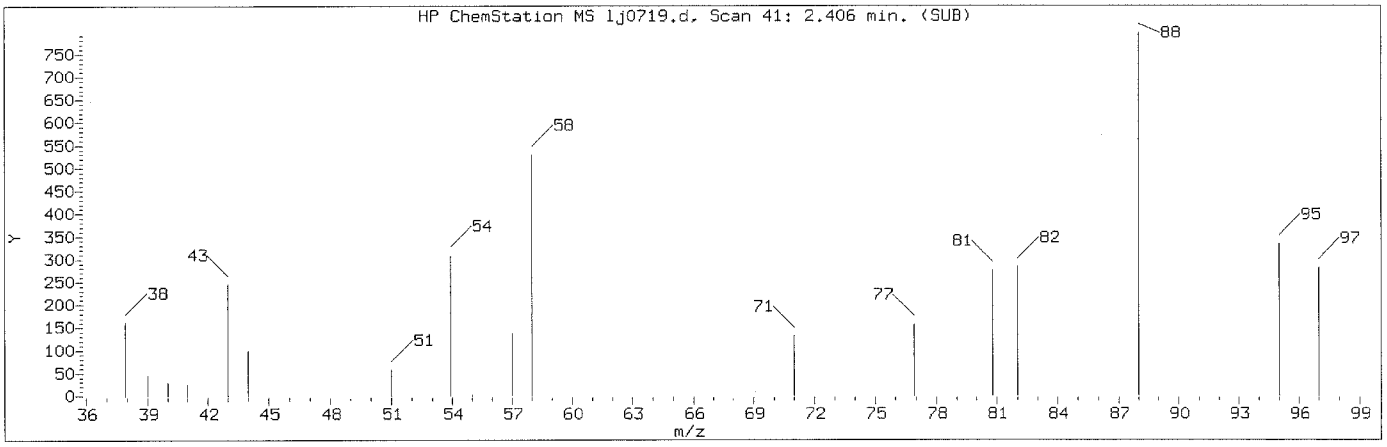
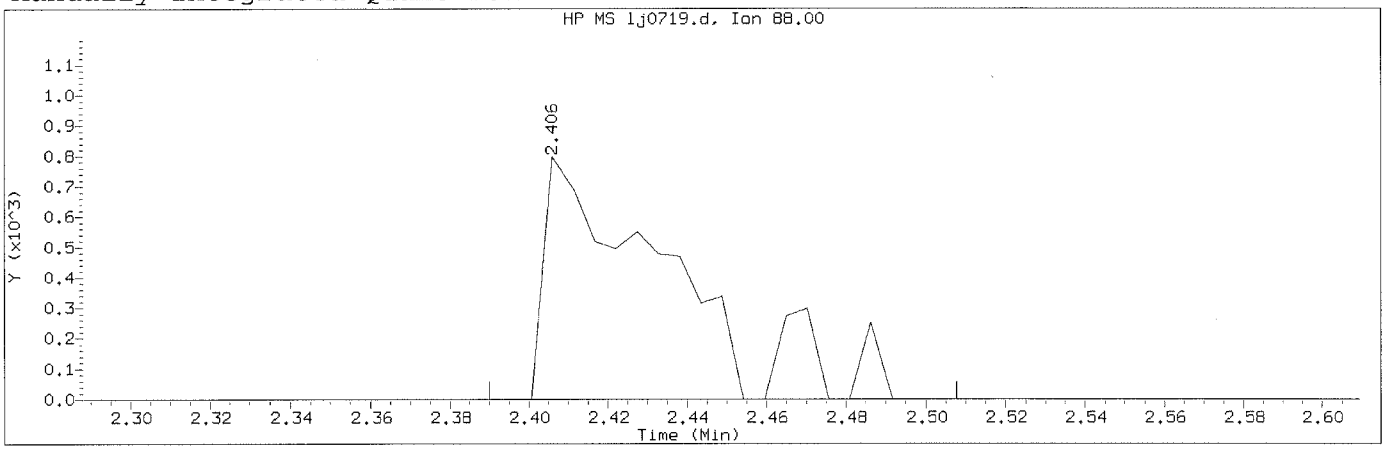
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 41		
Retention Time (minutes)	: 2.406		
Quant Ion	: 88.00		
Area (flag)	: 1757M		
On-Column Amount (ng/ul)	: 0.0967		
Integration start scan	: 37	Integration stop scan:	59
Y at integration start	: 0	Y at integration end:	0

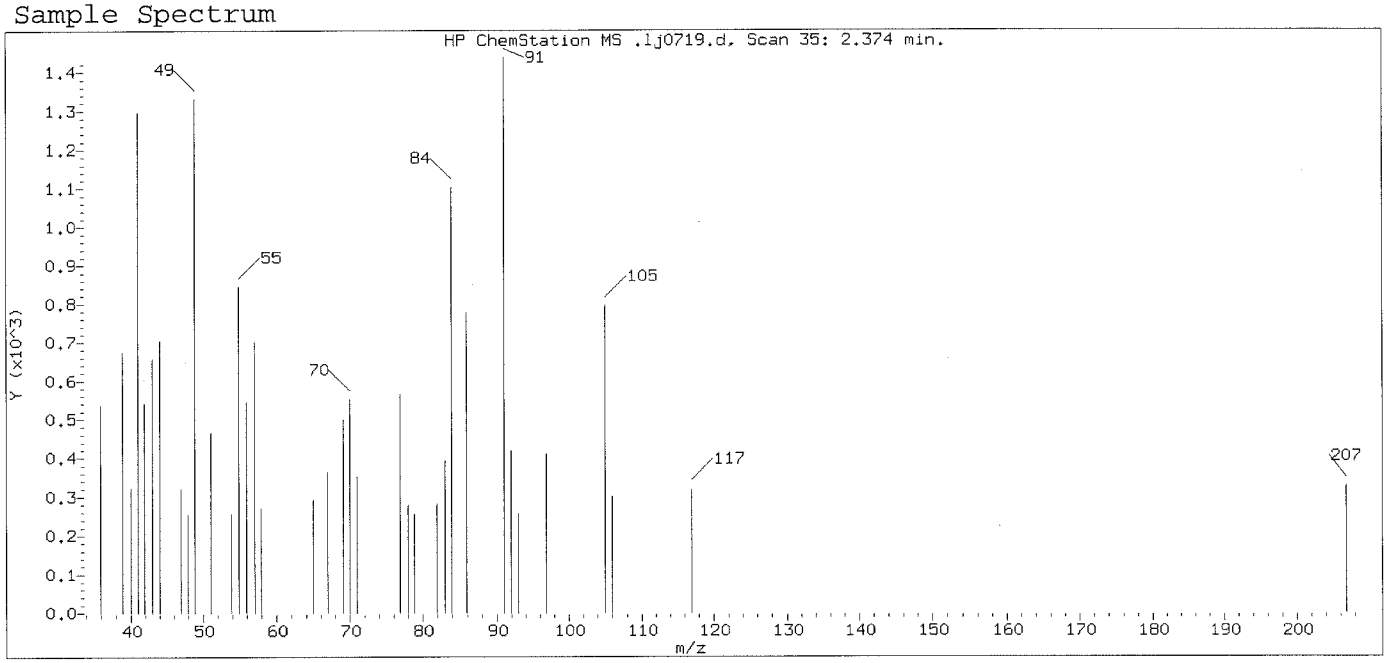
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 signature user ID: hb01996

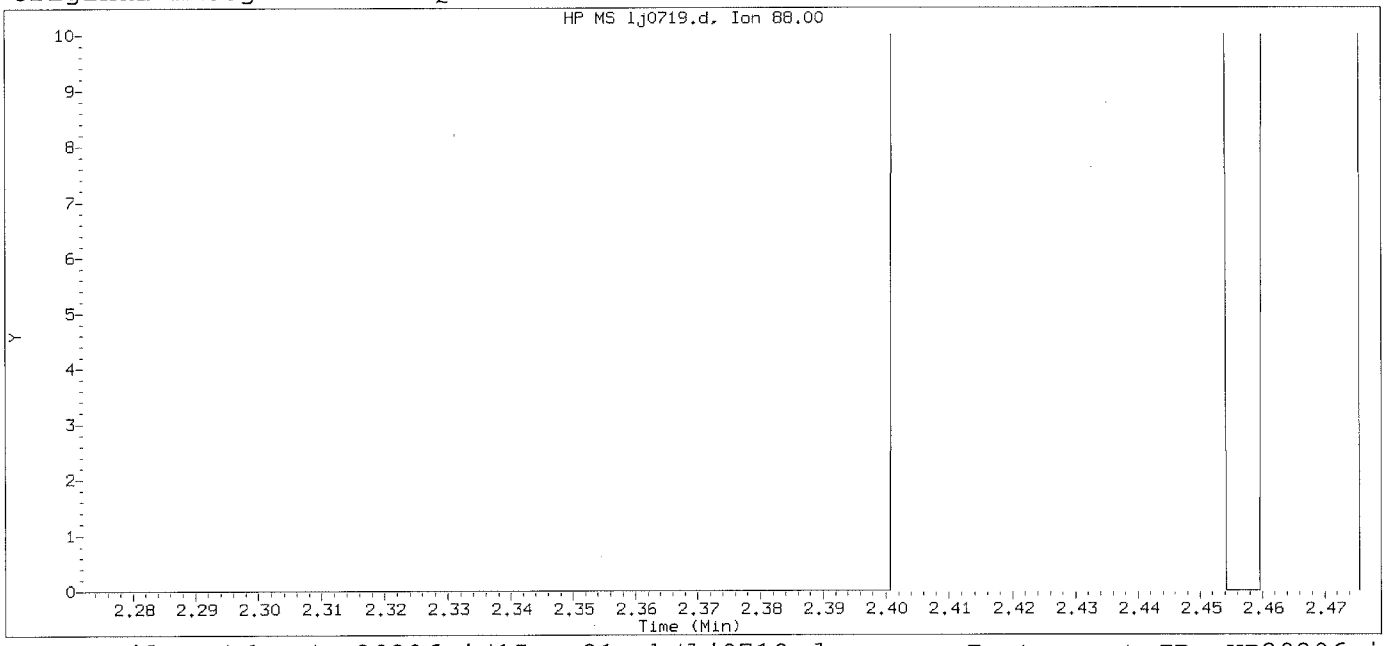
OCT 22 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

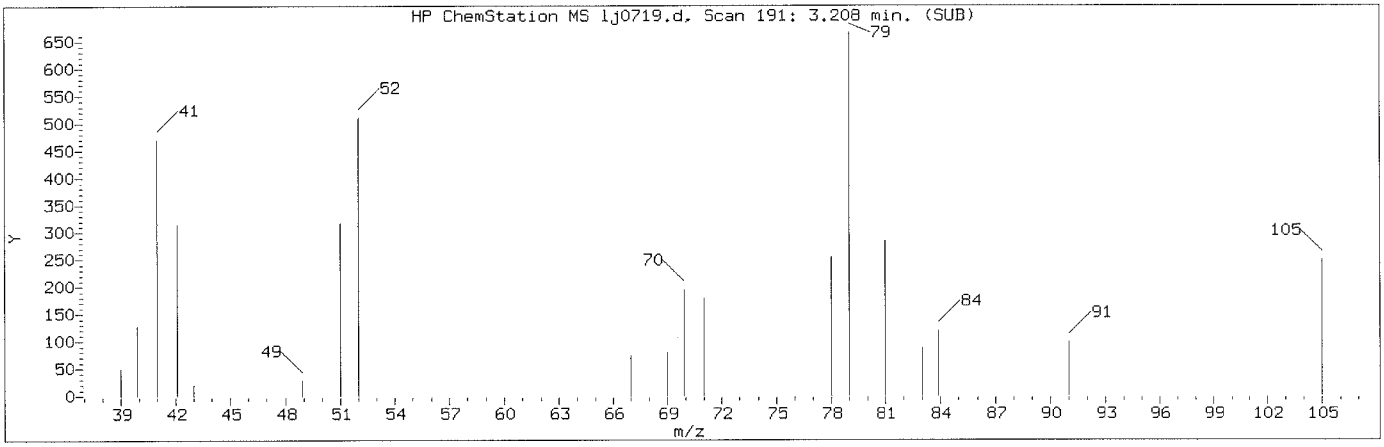
Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:39 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

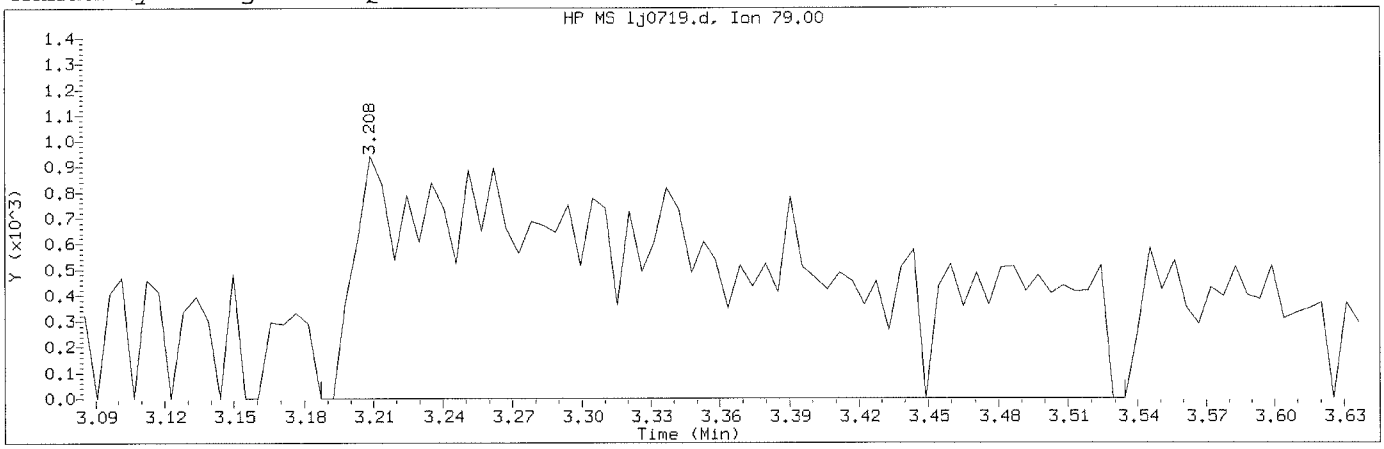
Compound Number : 1
Compound Name : 1,4-Dioxane
Expected RT (minutes) : 2.374
Quant Ion : 88.00

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 191		
Retention Time (minutes)	: 3.208		
Quant Ion	: 79.00		
Area (flag)	: 11030M		
On-Column Amount (ng/ul)	: 0.2214		
Integration start scan	: 186	Integration stop scan:	251
Y at integration start	: 0	Y at integration end:	0

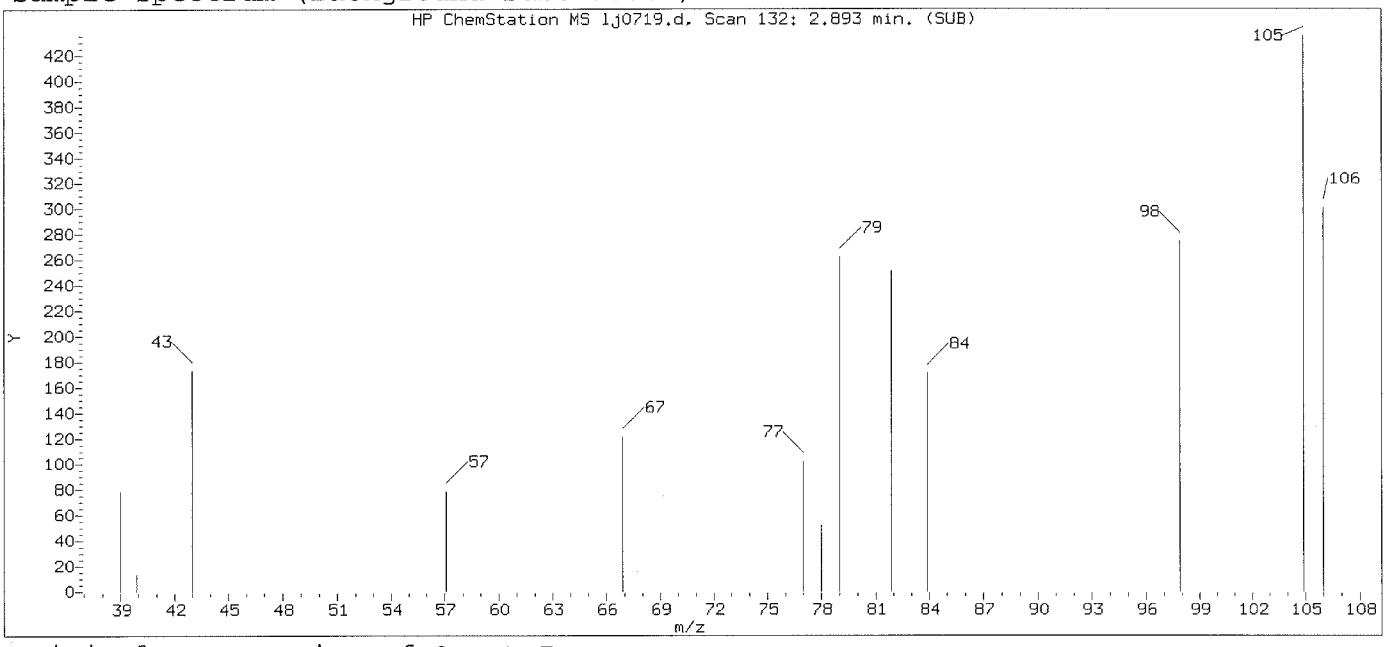
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 signature user ID: hb01996

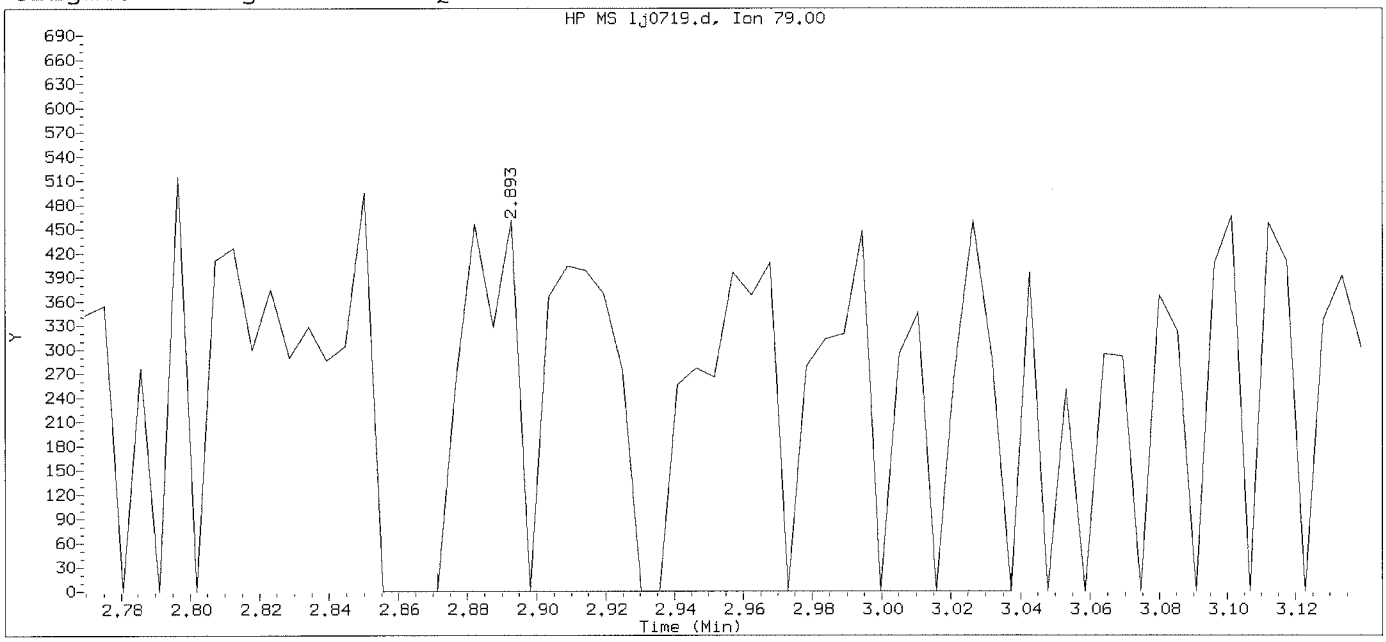
OCT 2 2 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

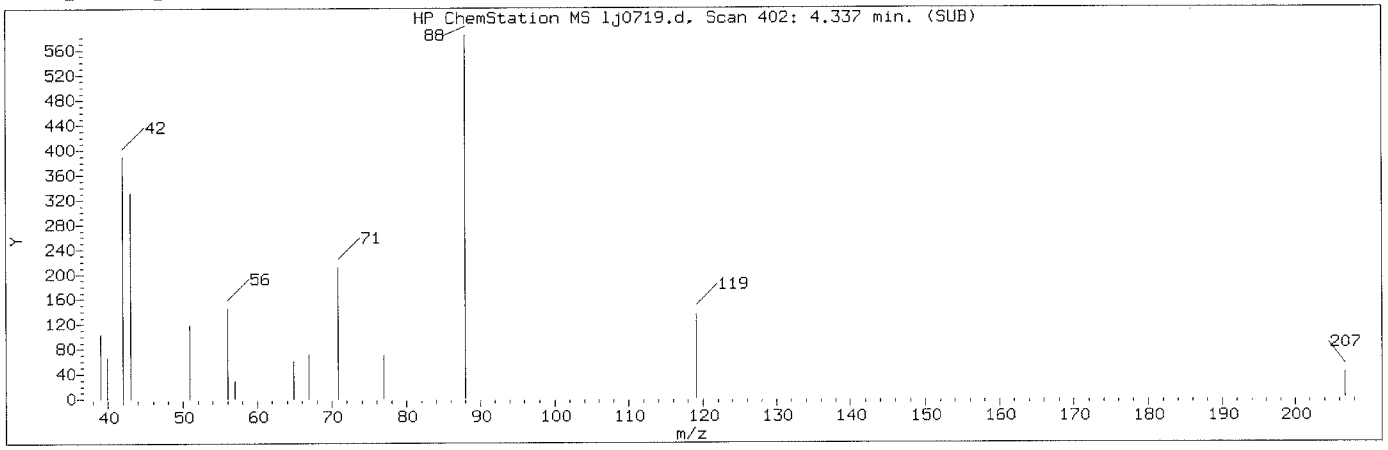
Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:39 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

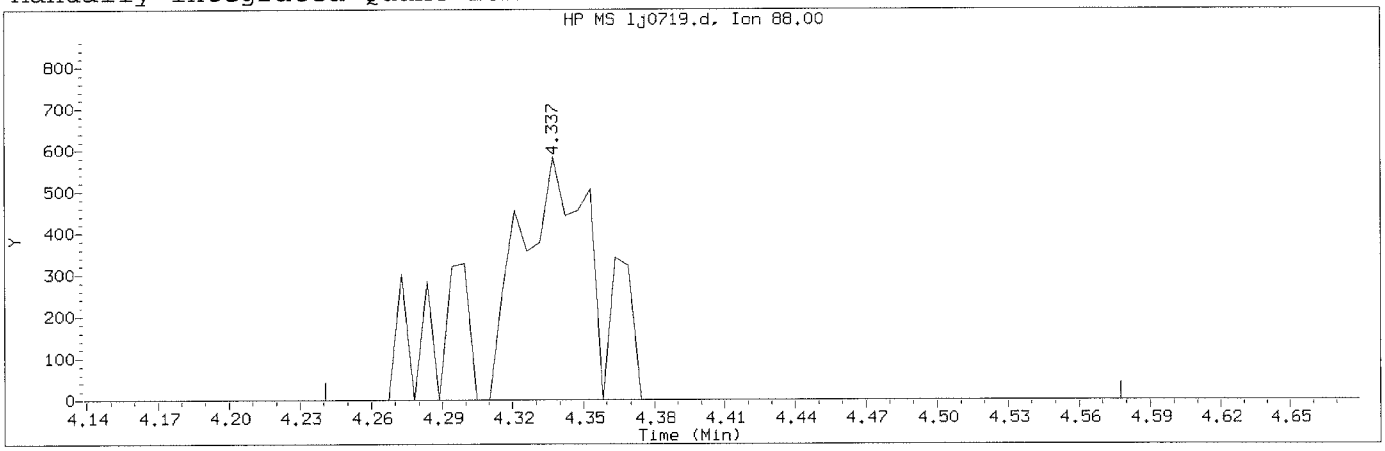
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 132		
Retention Time (minutes)	: 2.893		
Quant Ion	: 79.00		
Area	: 2665		
On-column Amount (ng/ul)	: 0.0502		
Integration start scan	: 127	Integration stop scan:	158
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Scan Number : 402
Retention Time (minutes) : 4.337
Quant Ion : 88.00
Area (flag) : 1710M
On-Column Amount (ng/ul) : 0.0831
Integration start scan : 383 Integration stop scan: 446
Y at integration start : 0 Y at integration end: 0

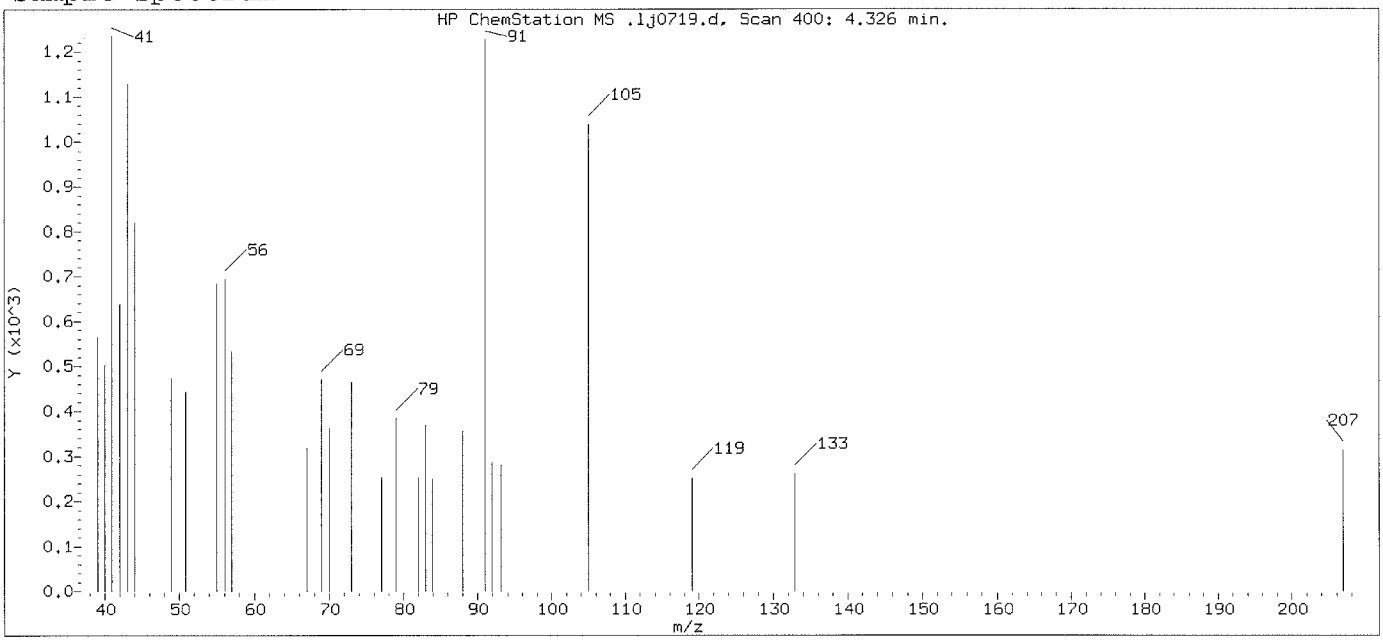
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

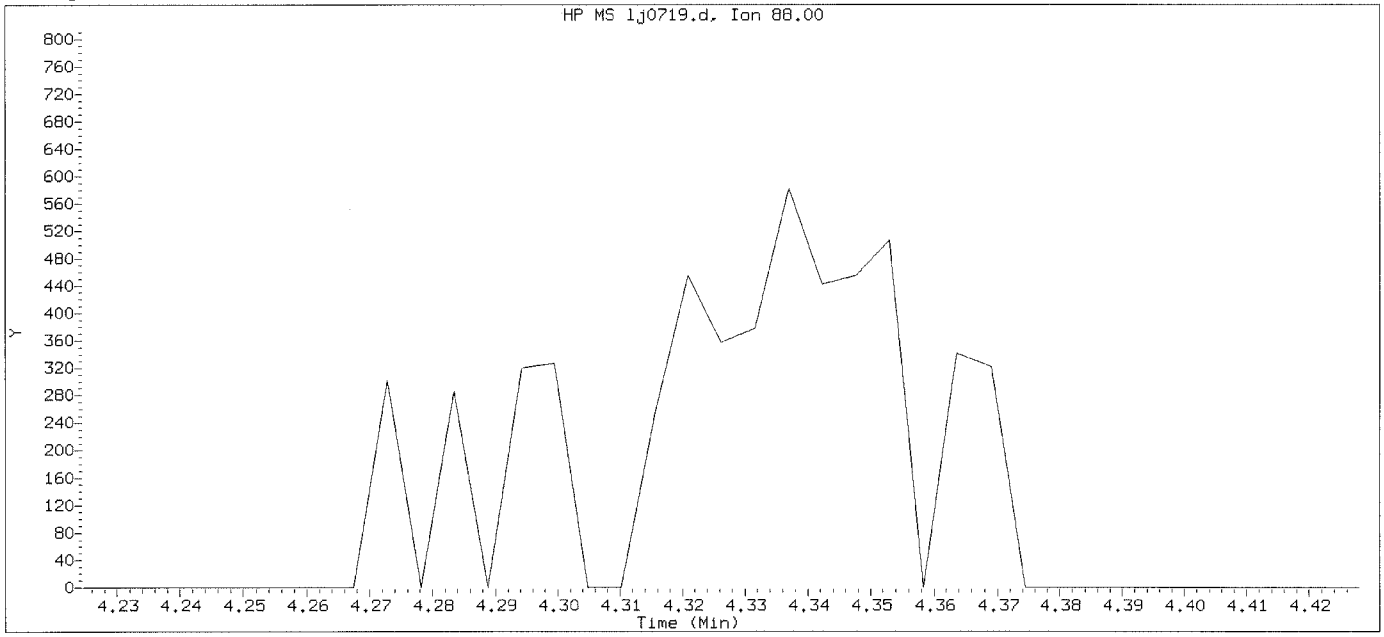
GC/MS audit/management approval: OCT 22 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

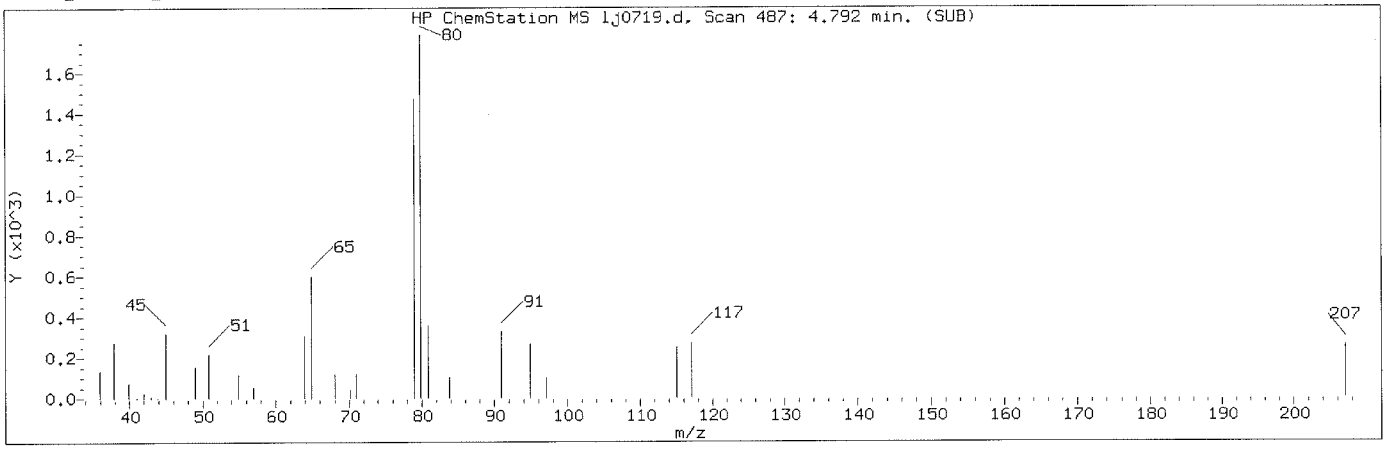
Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:39 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

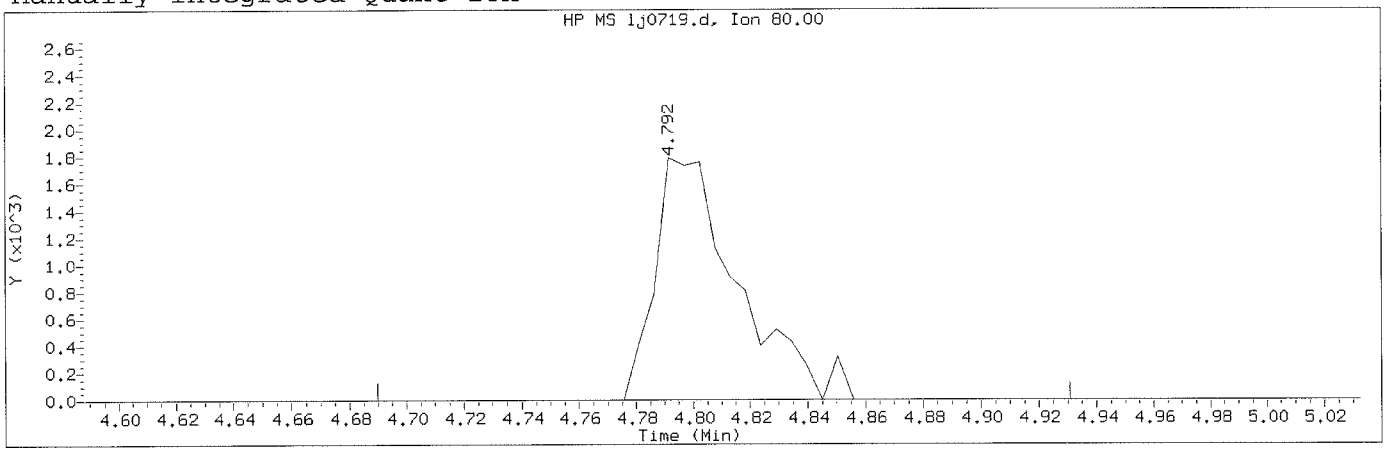
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.326
Quant Ion : 88.00

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 487		
Retention Time (minutes)	: 4.792		
Quant Ion	: 80.00		
Area (flag)	: 3619M		
On-Column Amount (ng/ul)	: 0.1381		
Integration start scan	: 467	Integration stop scan:	512
Y at integration start	: 0	Y at integration end:	0

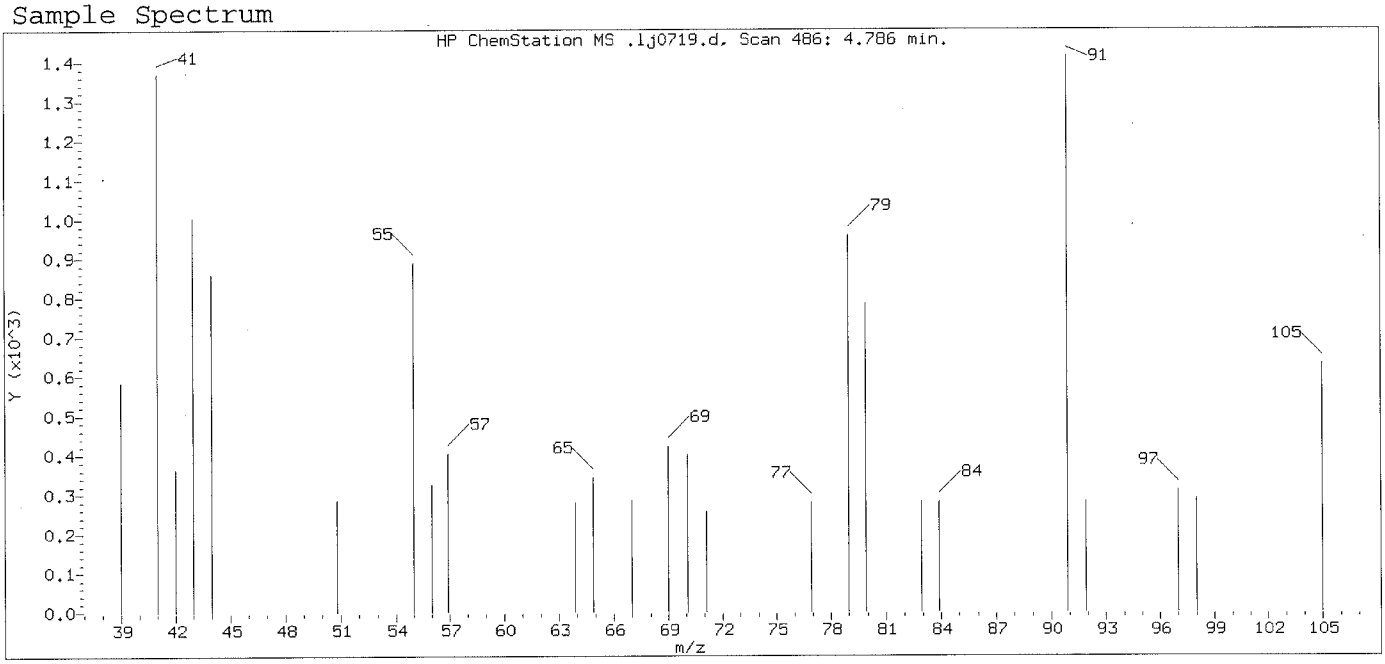
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

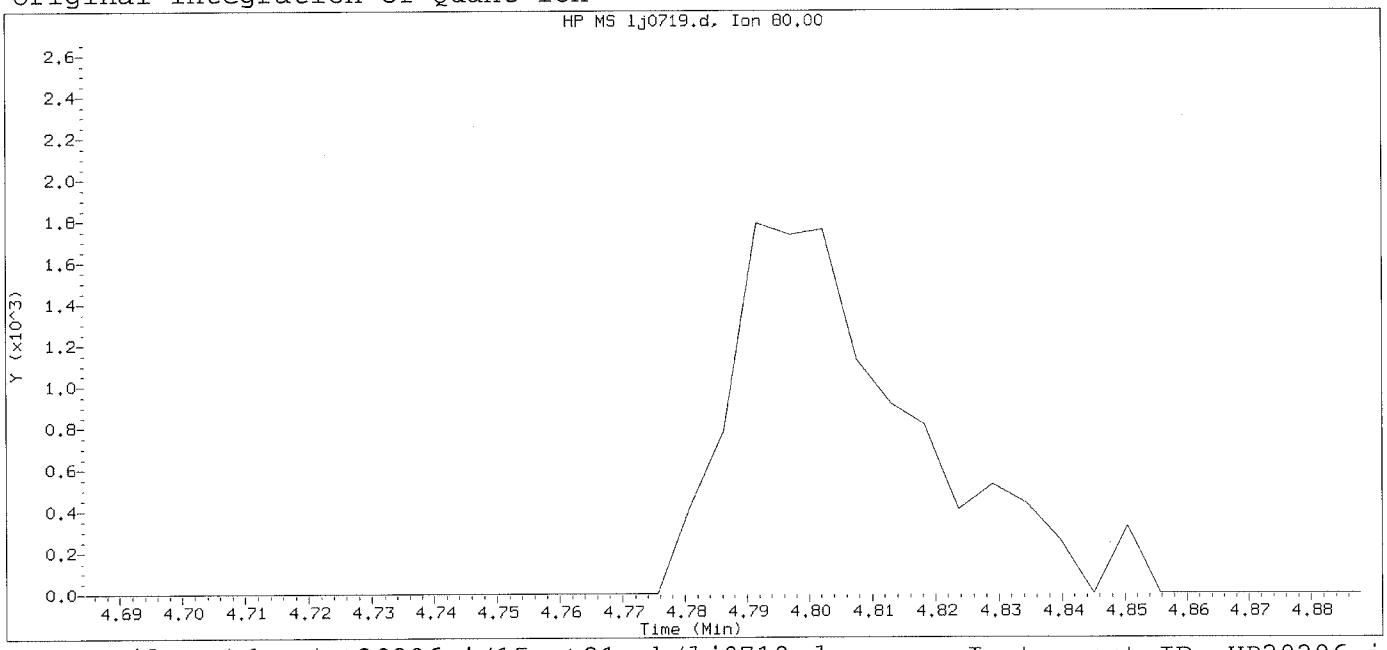
OCT 22 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

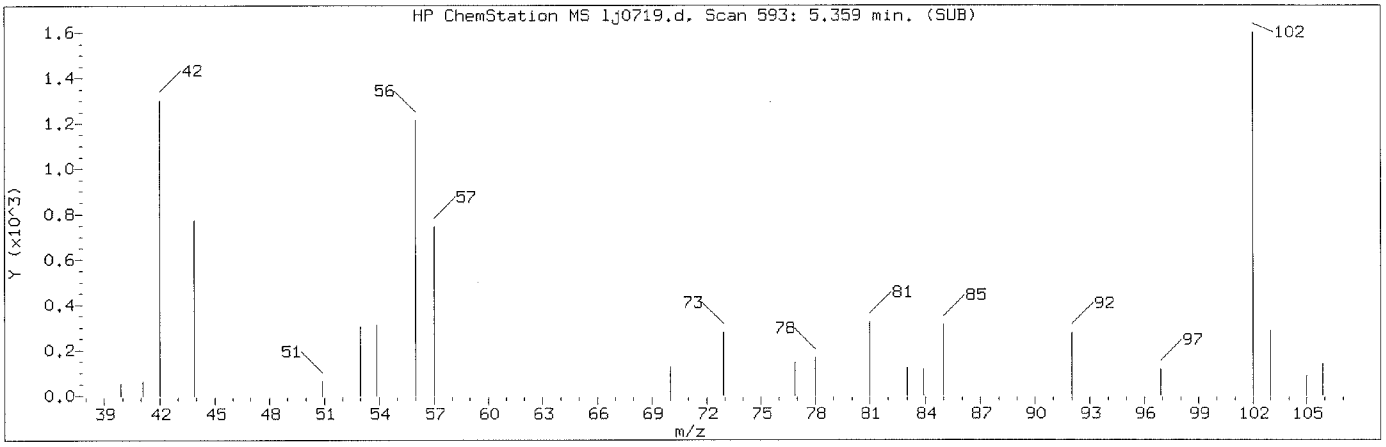
Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:39 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

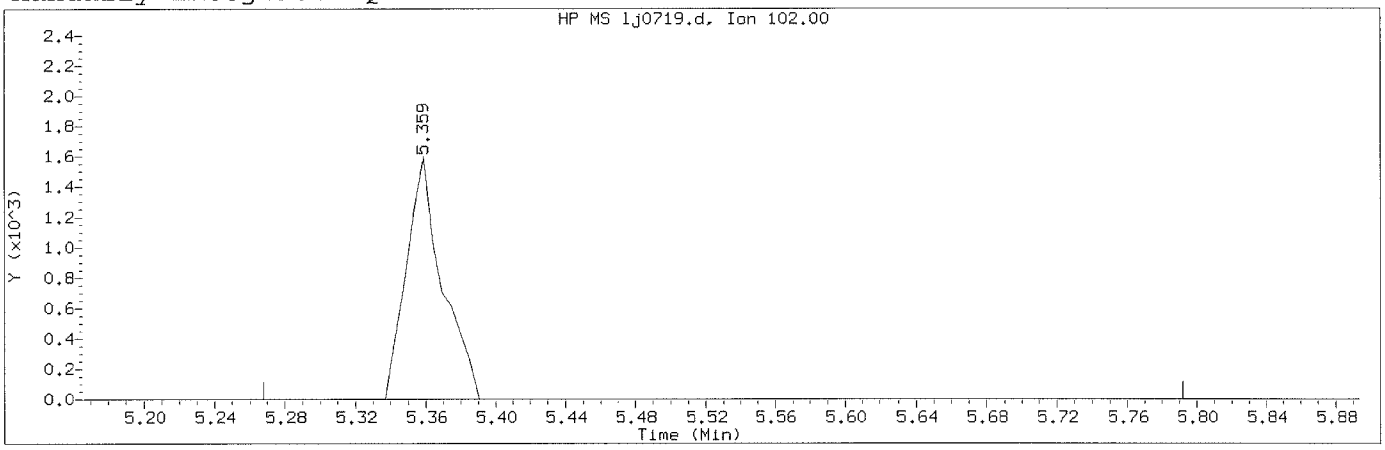
Compound Number : 9
Compound Name : Methyl methanesulfonate
Expected RT (minutes) : 4.786
Quant Ion : 80.00

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 13		
Compound Name	: N-Nitrosodiethylamine		
Scan Number	: 593		
Retention Time (minutes)	: 5.359		
Quant Ion	: 102.00		
Area (flag)	: 2260M		
On-Column Amount (ng/ul)	: 0.1129		
Integration start scan	: 575	Integration stop scan:	673
Y at integration start	: 0	Y at integration end:	0

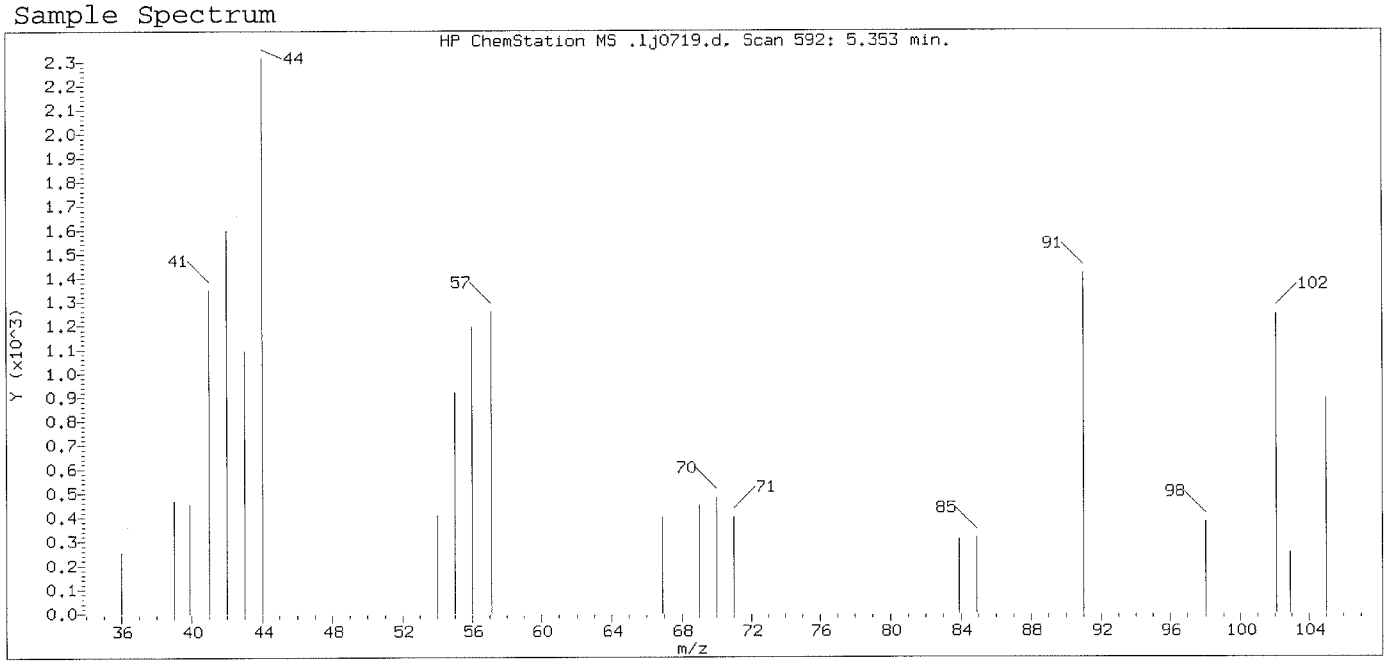
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21
Target 3.5 signature user ID: hb01996

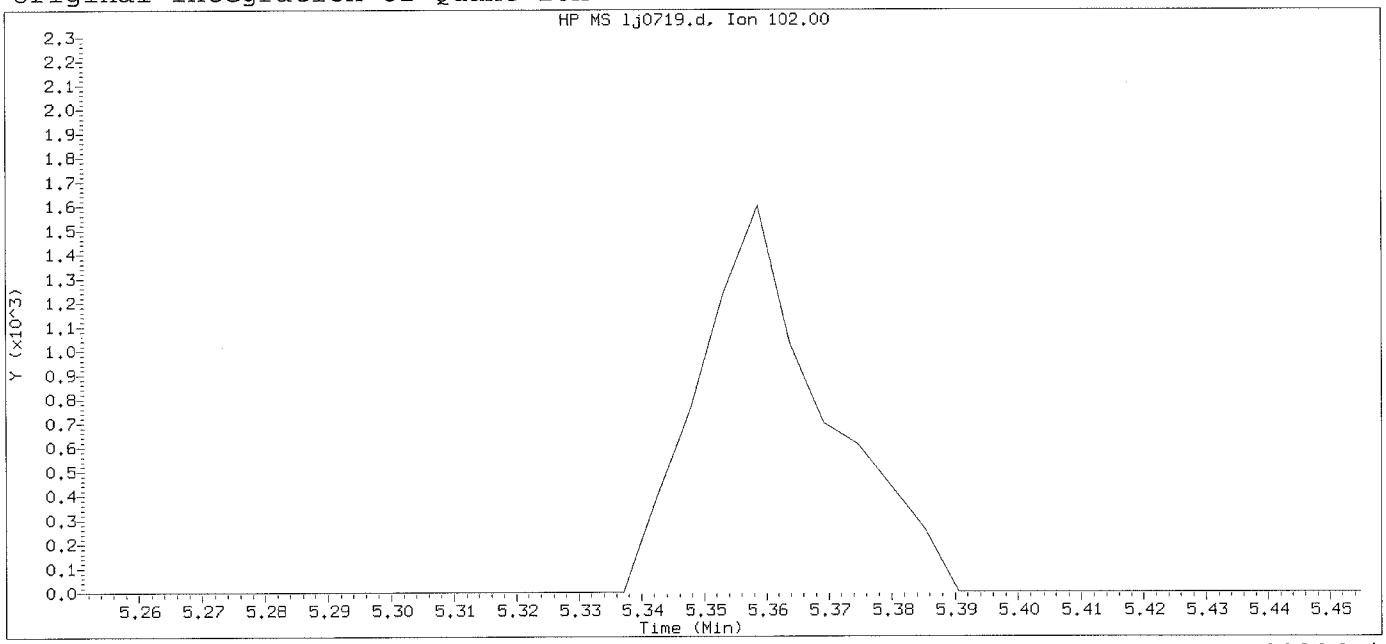
OCT 2 2 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

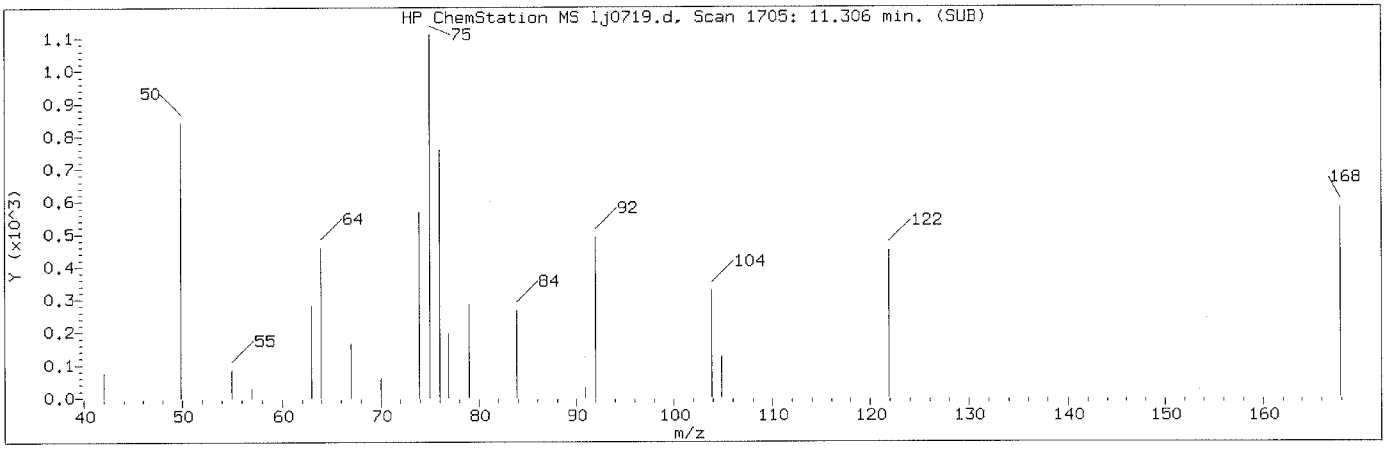
Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:39 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

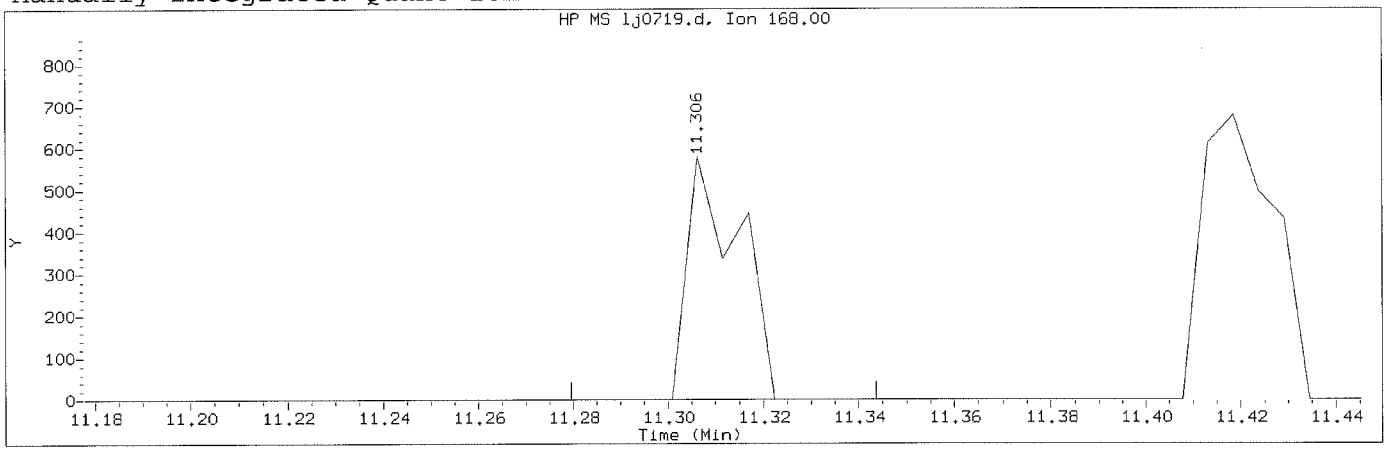
Compound Number : 13
Compound Name : N-Nitrosodiethylamine
Expected RT (minutes) : 5.353
Quant Ion : 102.00

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 105		
Compound Name	: 1,4-Dinitrobenzene		
Scan Number	: 1705		
Retention Time (minutes)	: 11.306		
Quant Ion	: 168.00		
Area (flag)	: 437M		
On-Column Amount (ng/ul)	: 0.8639		
Integration start scan	: 1699	Integration stop scan:	1711
Y at integration start	: 0	Y at integration end:	0

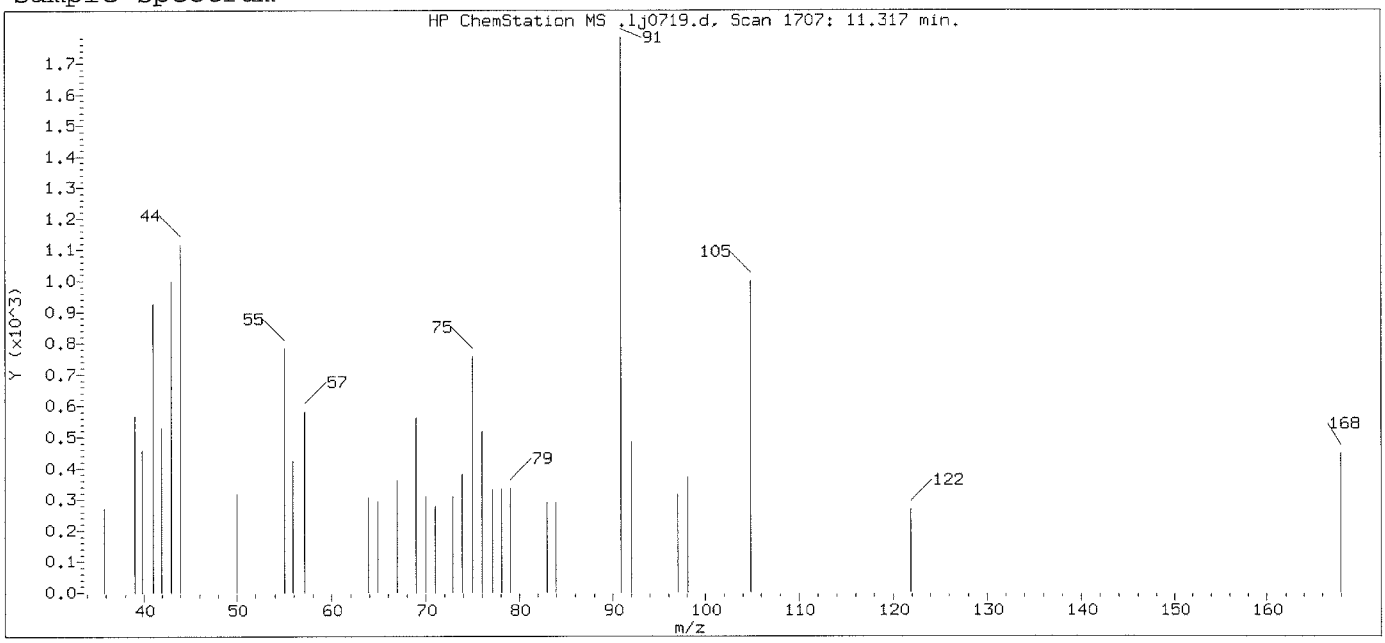
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 signature user ID: hb01996

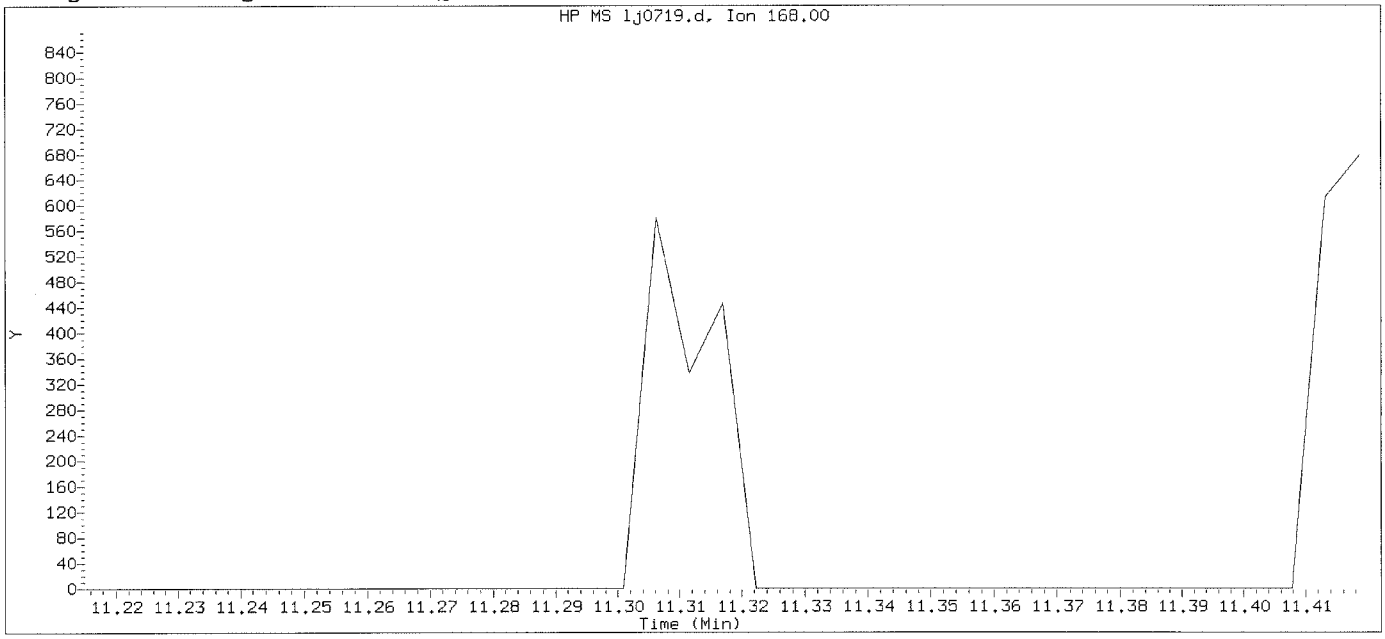
OCT 2 2 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

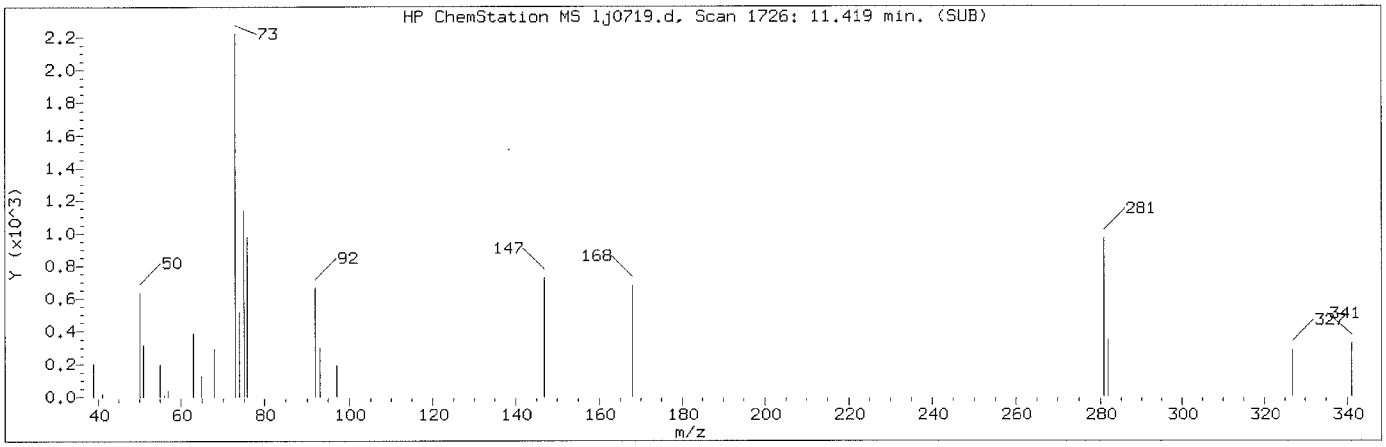
Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:39 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

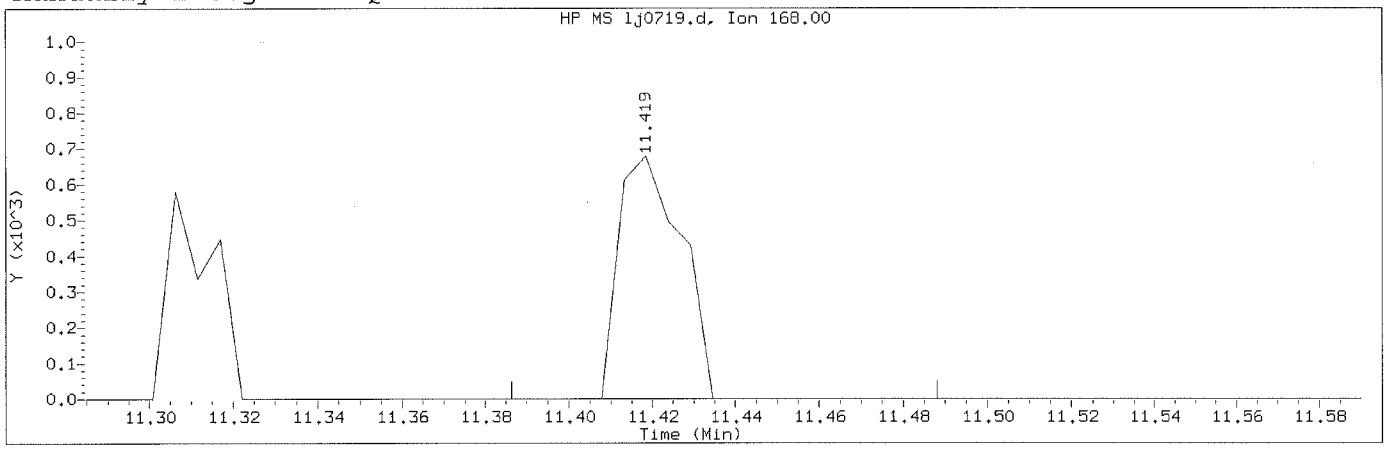
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Expected RT (minutes) : 11.317
Quant Ion : 168.00

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 107		
Compound Name	: 1,3-Dinitrobenzene		
Scan Number	: 1726		
Retention Time (minutes)	: 11.419		
Quant Ion	: 168.00		
Area (flag)	: 711M		
On-Column Amount (ng/ul)	: 0.0716		
Integration start scan	: 1719	Integration stop scan:	1738
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

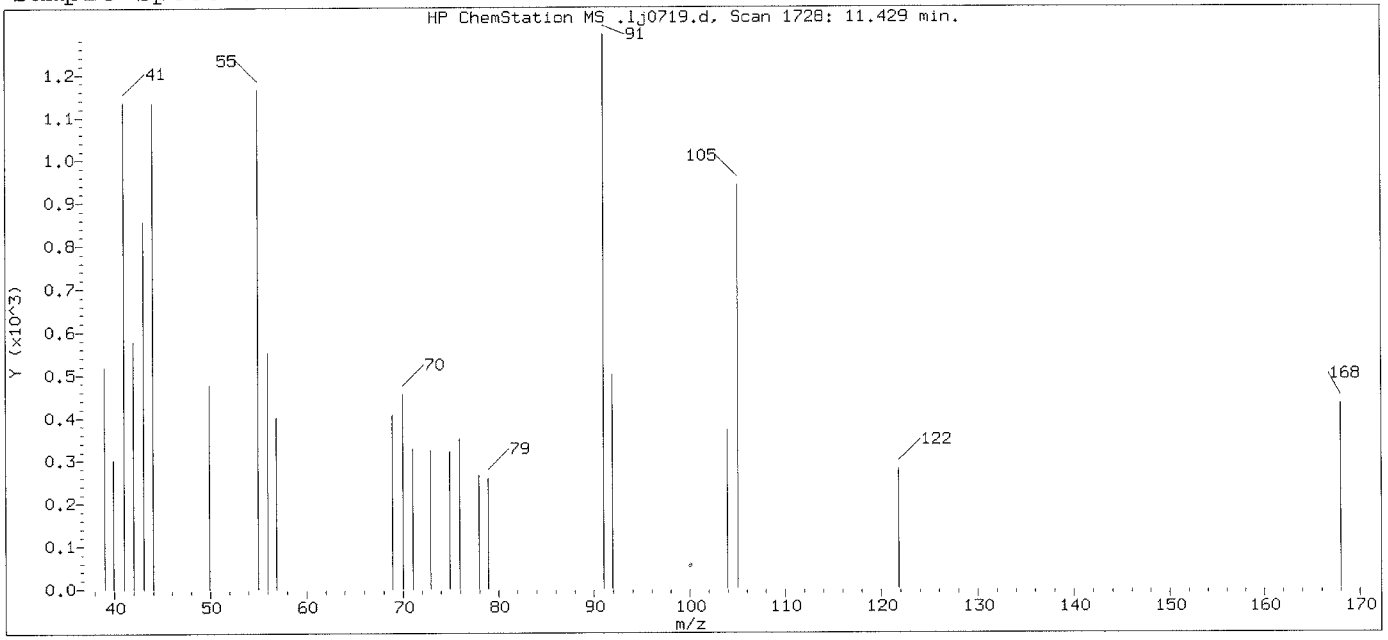
Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

OCT 22 2015

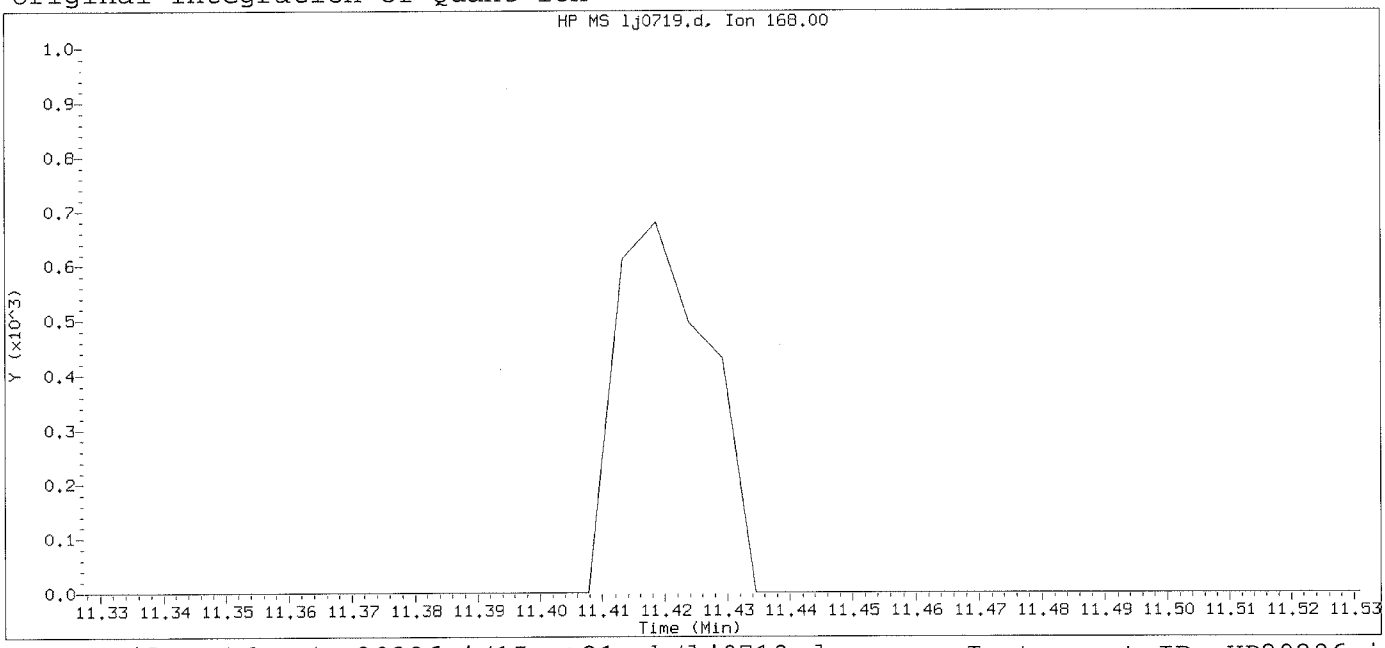
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

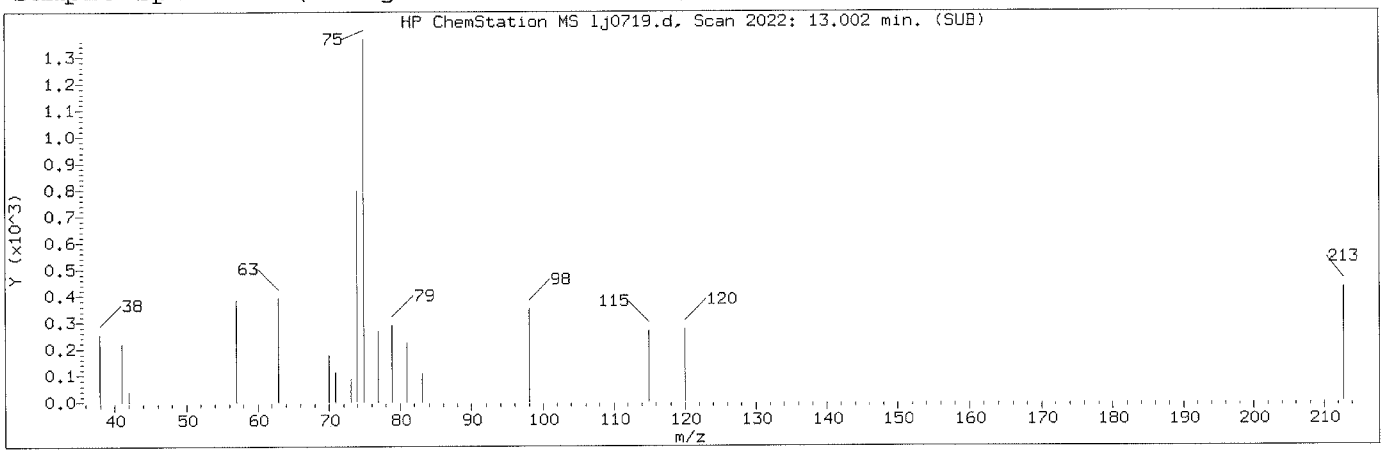
Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdla111
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:39 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

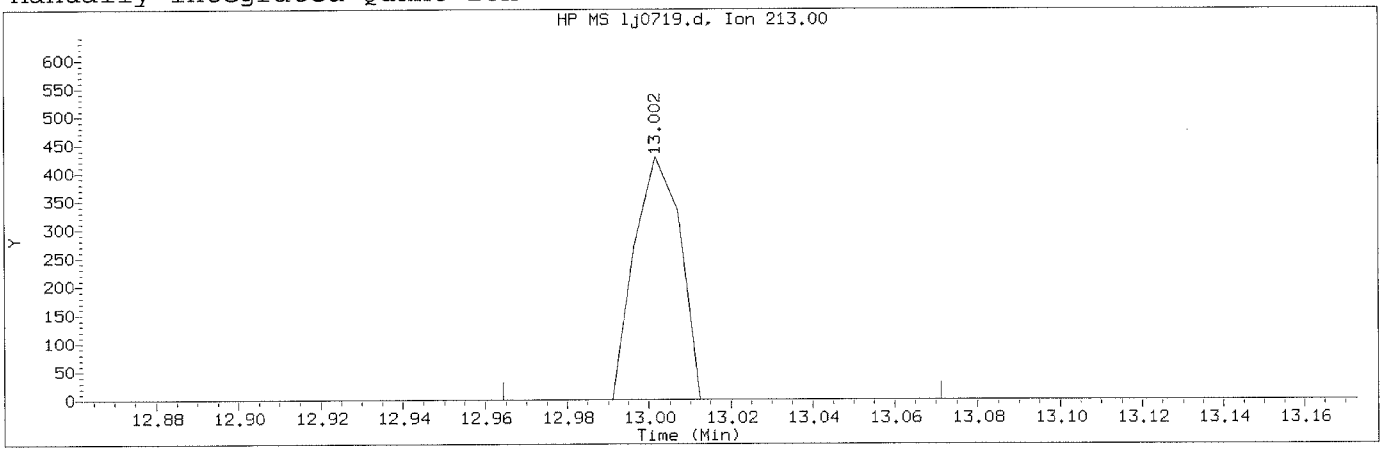
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Expected RT (minutes) : 11.429
Quant Ion : 168.00

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 139		
Compound Name	: 1,3,5-Trinitrobenzene		
Scan Number	: 2022		
Retention Time (minutes)	: 13.002		
Quant Ion	: 213.00		
Area (flag)	: 330M		
On-Column Amount (ng/ul)	: 1.9164		
Integration start scan	: 2014	Integration stop scan:	2034
Y at integration start	: 0	Y at integration end:	0

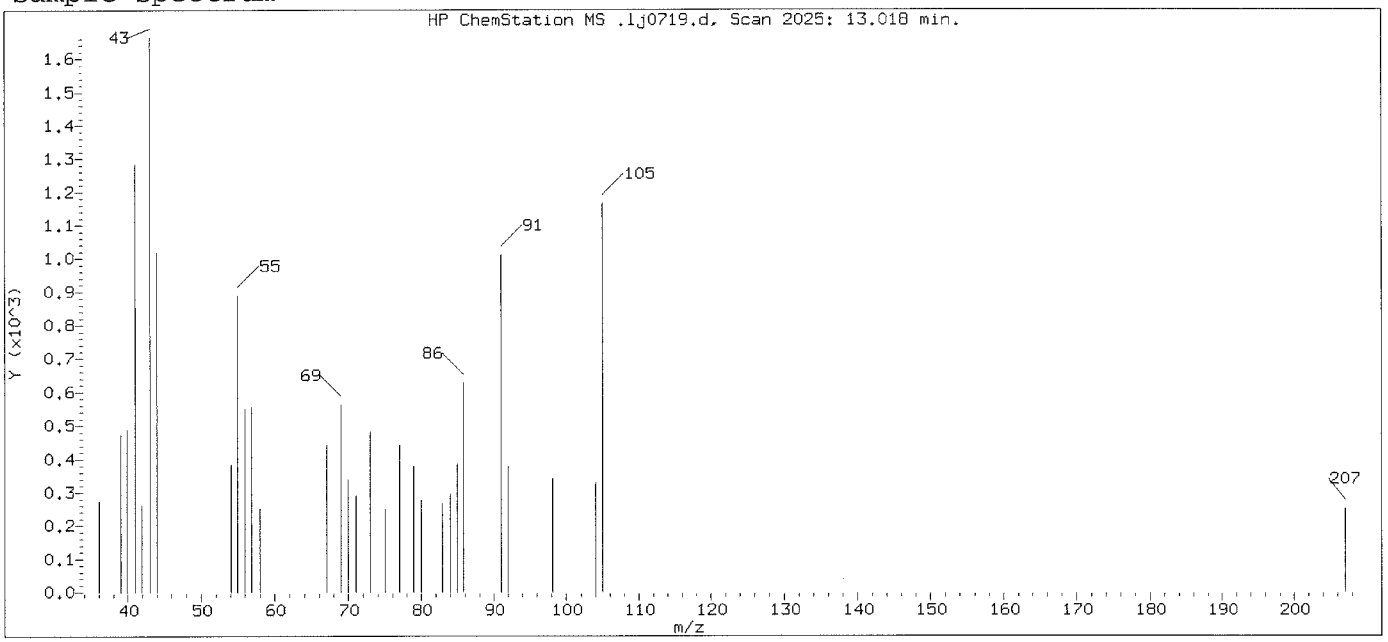
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

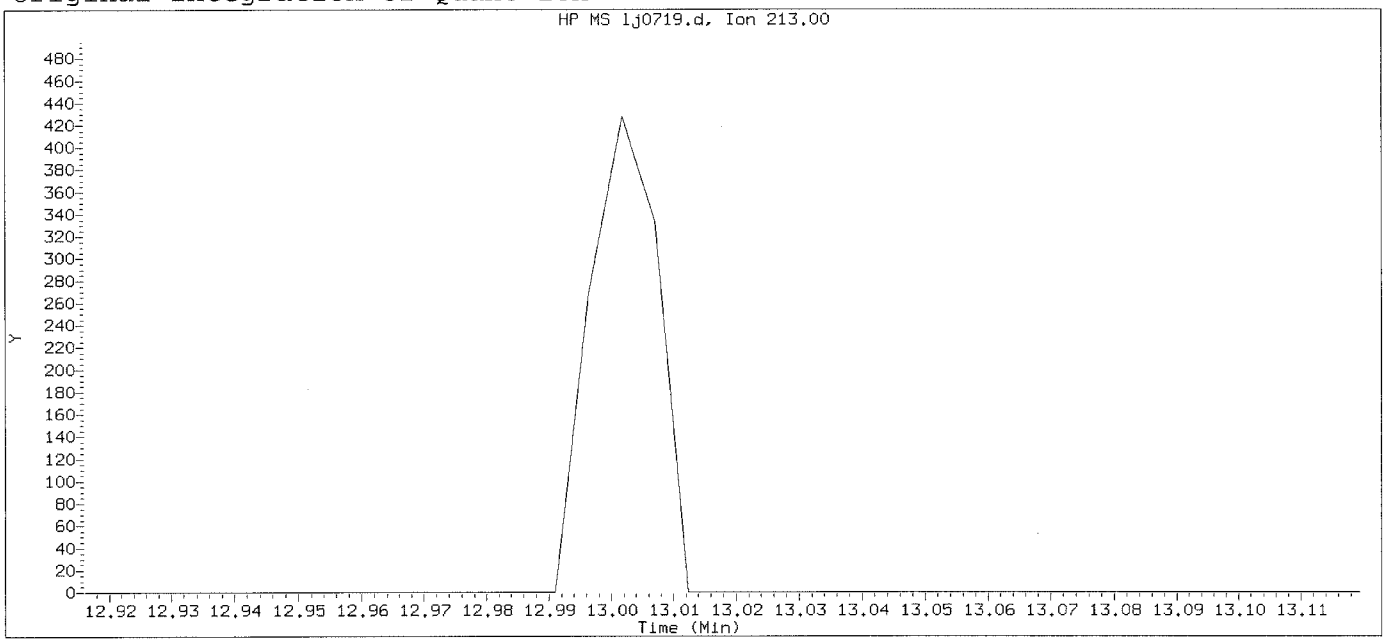
GC/MS audit/management approval: OCT 22 2015

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

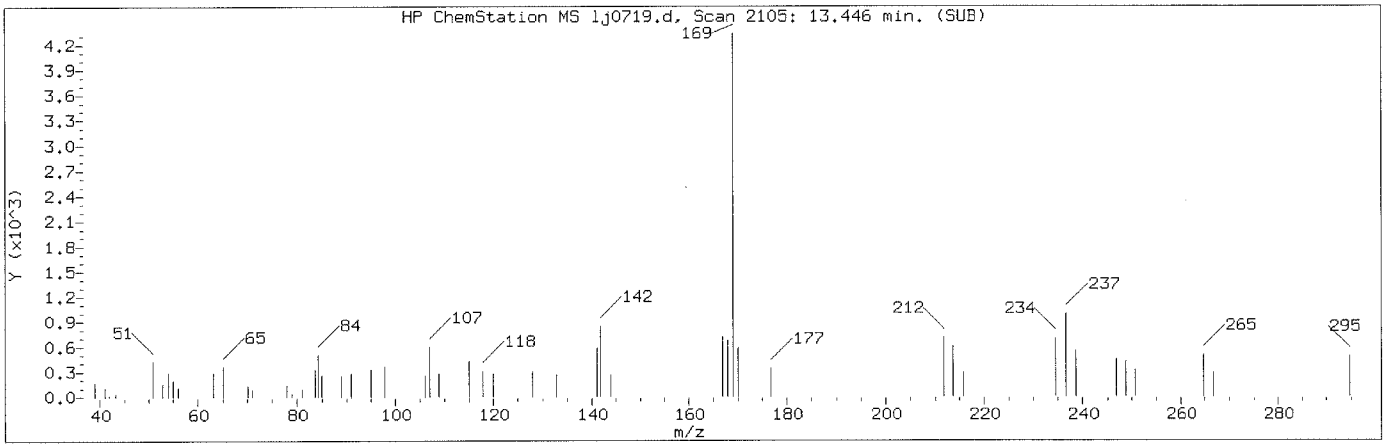
Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:39 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

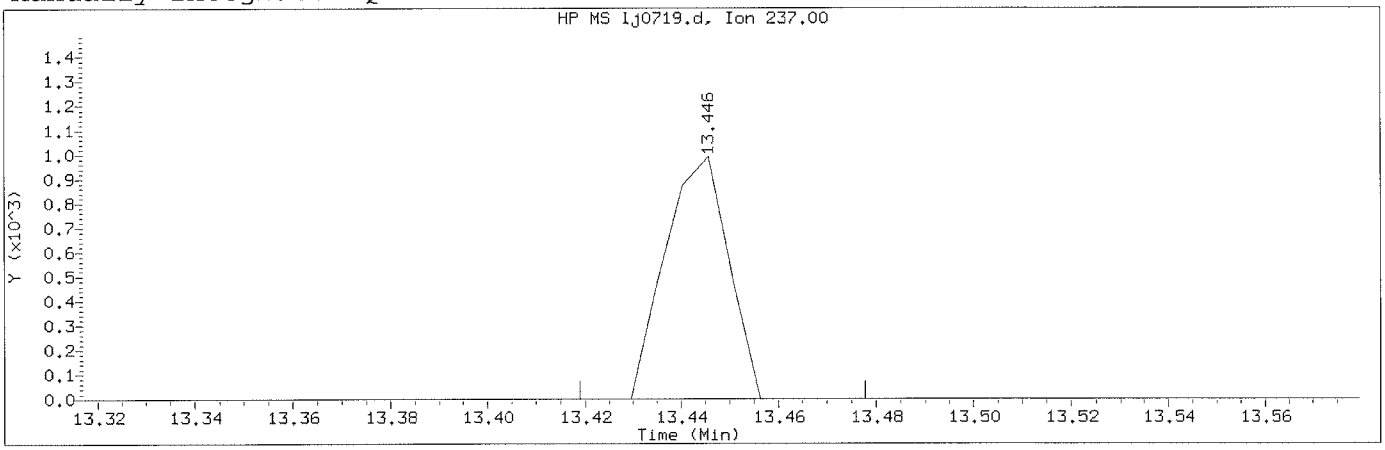
Compound Number : 139
Compound Name : 1,3,5-Trinitrobenzene
Expected RT (minutes) : 13.018
Quant Ion : 213.00

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 151		
Compound Name	: Pentachloronitrobenzene		
Scan Number	: 2105		
Retention Time (minutes)	: 13.446		
Quant Ion	: 237.00		
Area (flag)	: 896M		
On-Column Amount (ng/ul)	: 0.0833		
Integration start scan	: 2099	Integration stop scan:	2110
Y at integration start	: 0	Y at integration end:	0

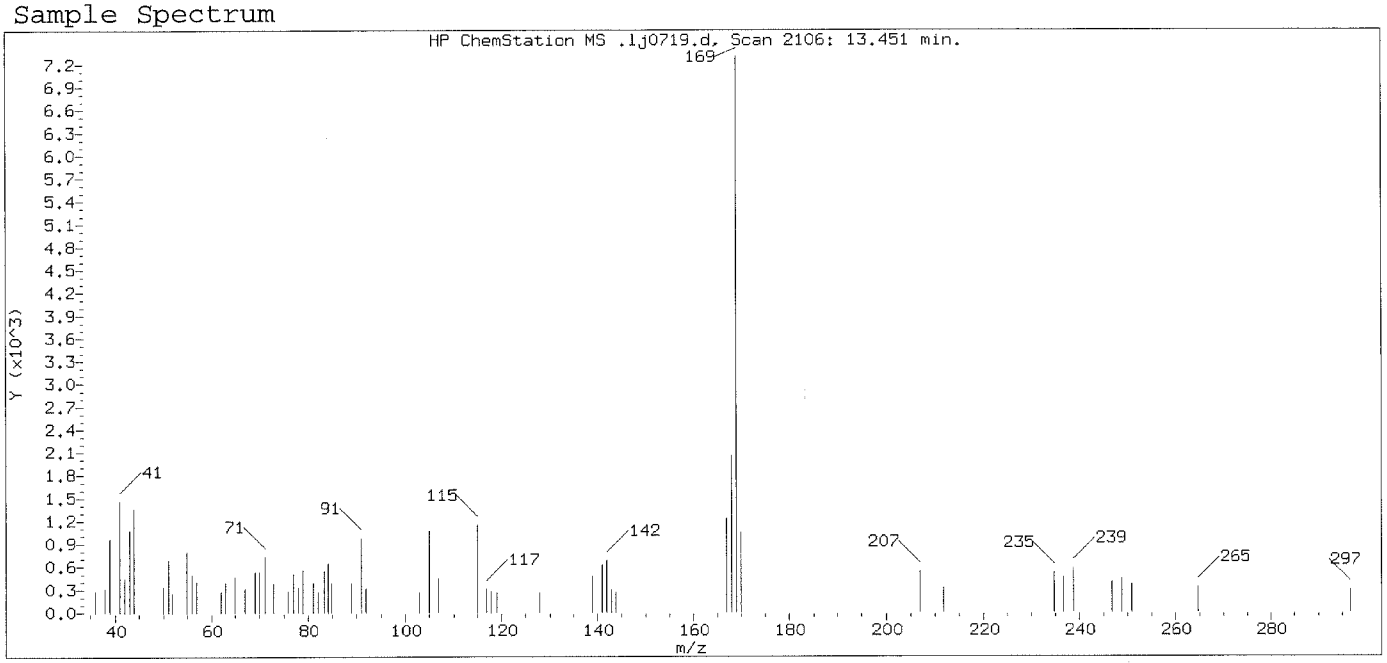
Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 signature user ID: hb01996

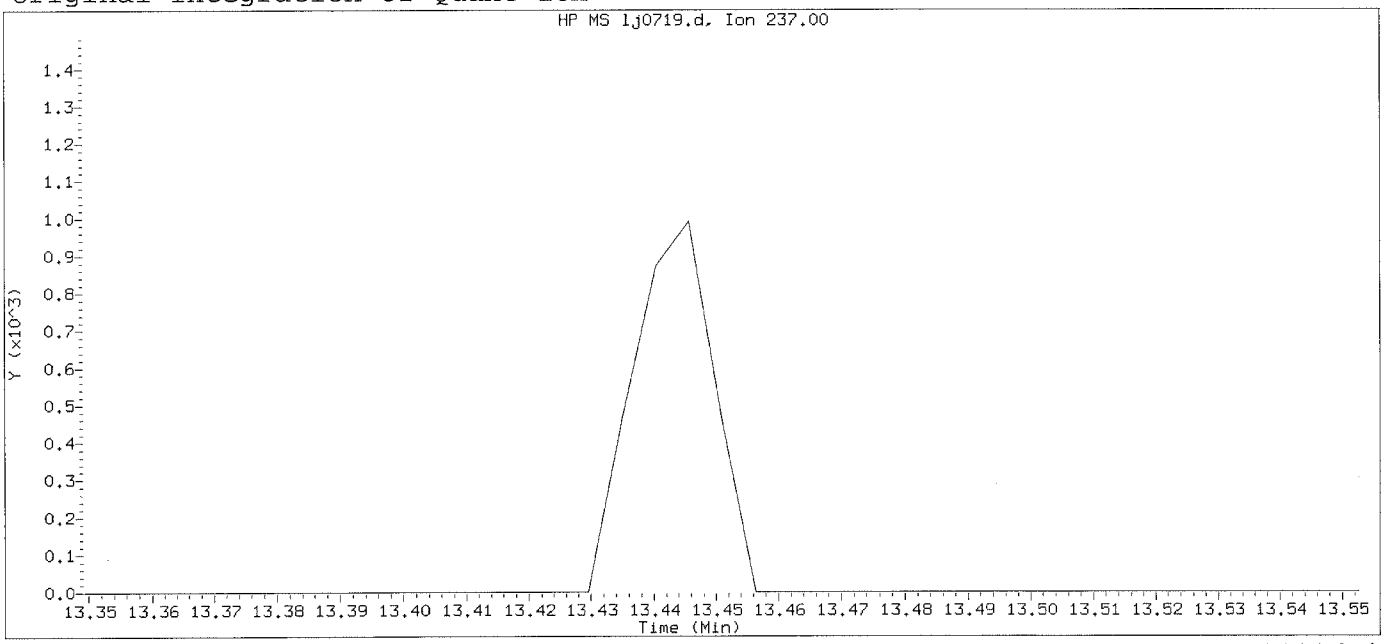
OCT 22 2015

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

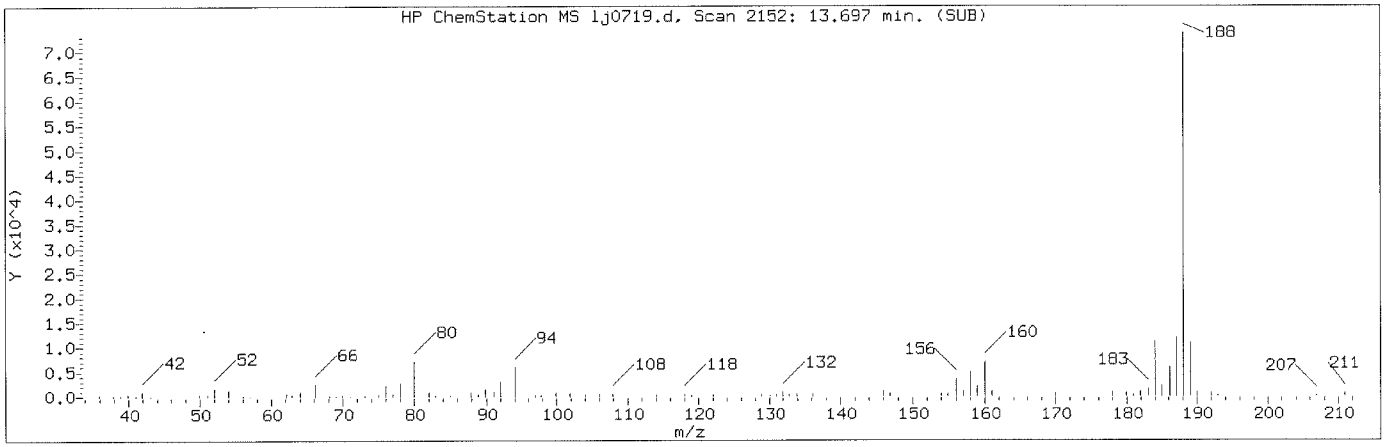
Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:39 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

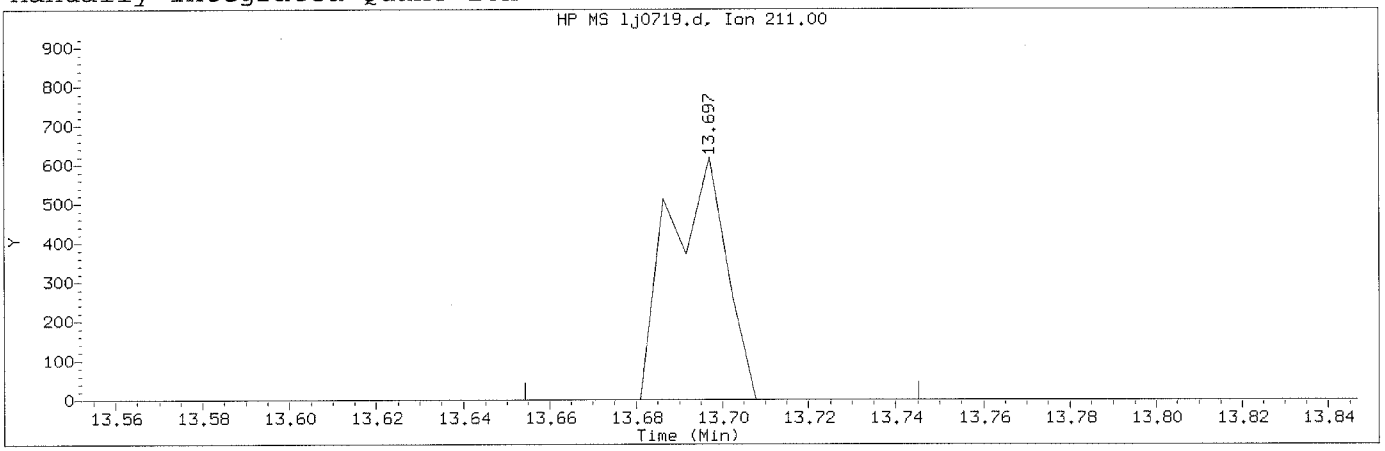
Compound Number : 151
Compound Name : Pentachloronitrobenzene
Expected RT (minutes) : 13.451
Quant Ion : 237.00

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 154		
Compound Name	: Dinoseb		
Scan Number	: 2152		
Retention Time (minutes)	: 13.697		
Quant Ion	: 211.00		
Area (flag)	: 567M		
On-Column Amount (ng/ul)	: 1.8532		
Integration start scan	: 2143	Integration stop scan:	2160
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

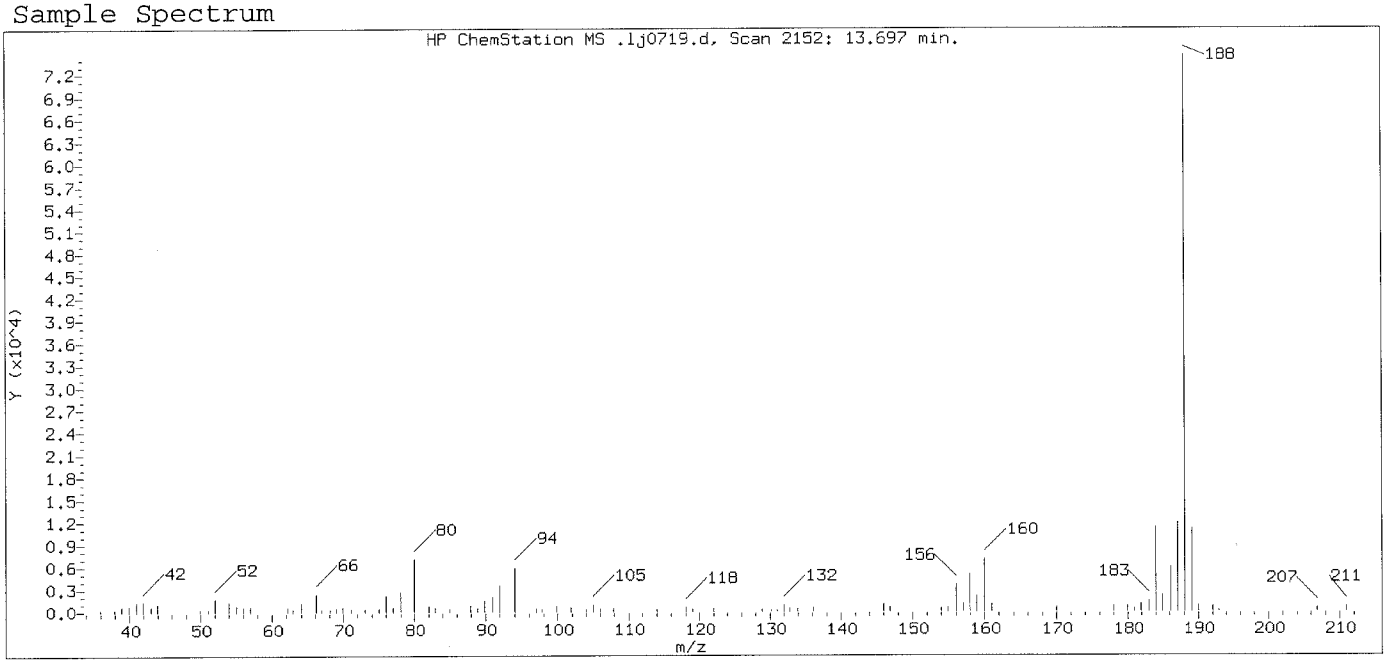
Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

OCT 22 2015

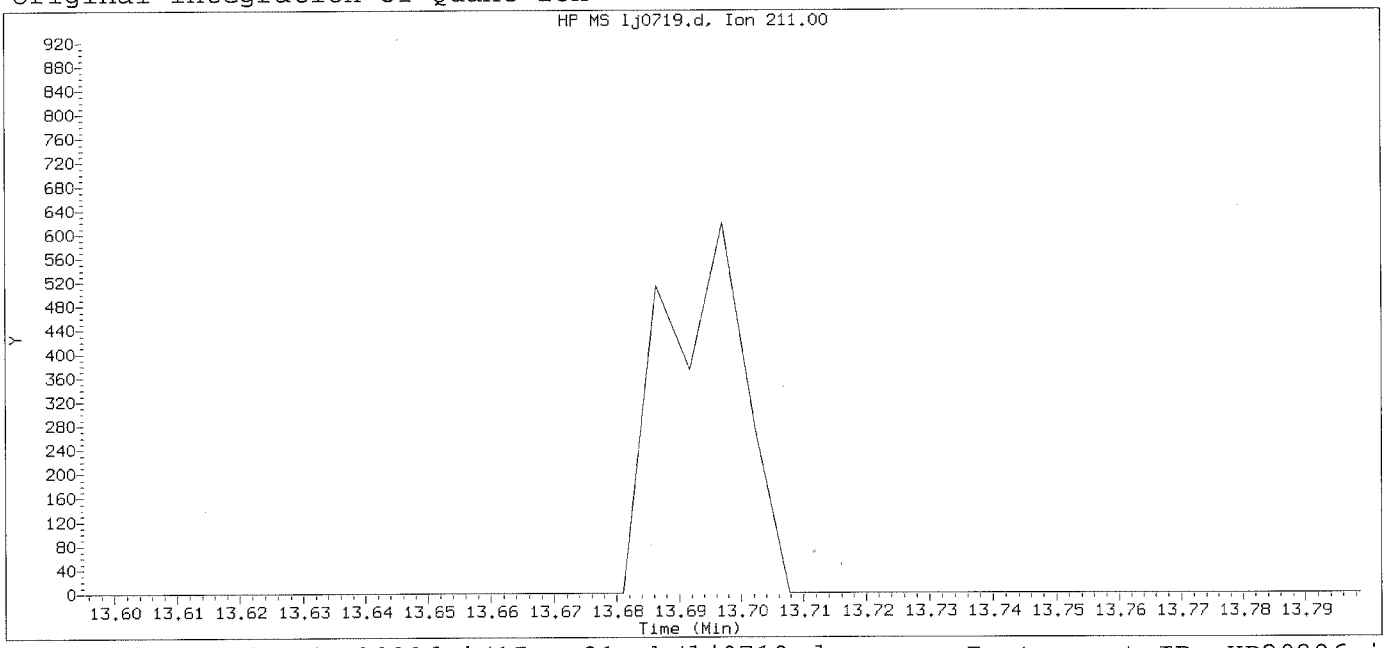
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

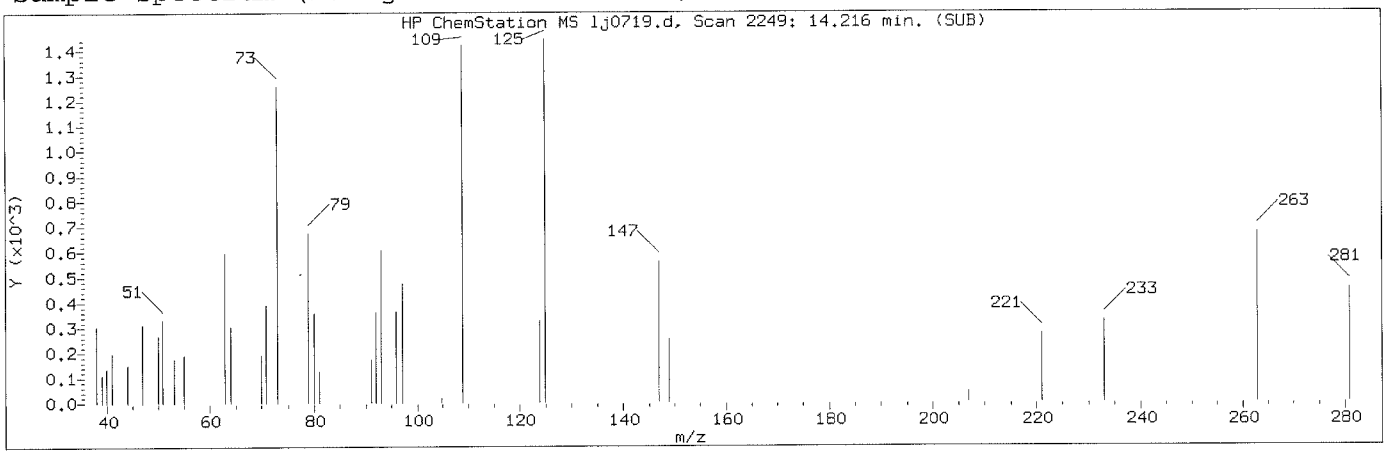
Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:39 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

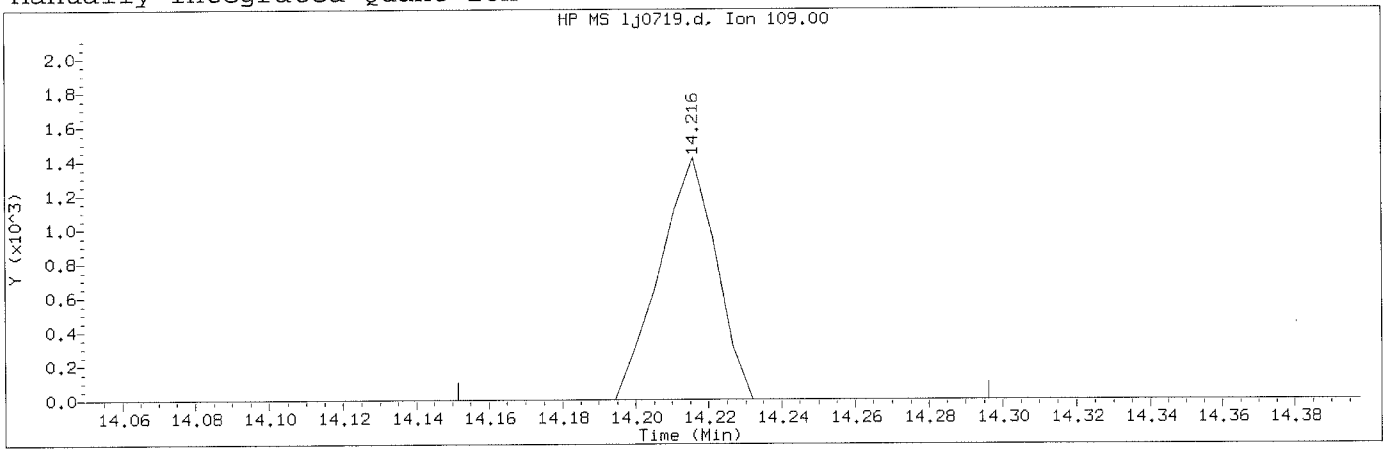
Compound Number : 154
Compound Name : Dinoseb
Expected RT (minutes) : 13.697
Quant Ion : 211.00

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 164		
Compound Name	: Methyl parathion		
Scan Number	: 2249		
Retention Time (minutes)	: 14.216		
Quant Ion	: 109.00		
Area (flag)	: 1523M		
On-Column Amount (ng/ul)	: 0.7208		
Integration start scan	: 2236	Integration stop scan:	2263
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

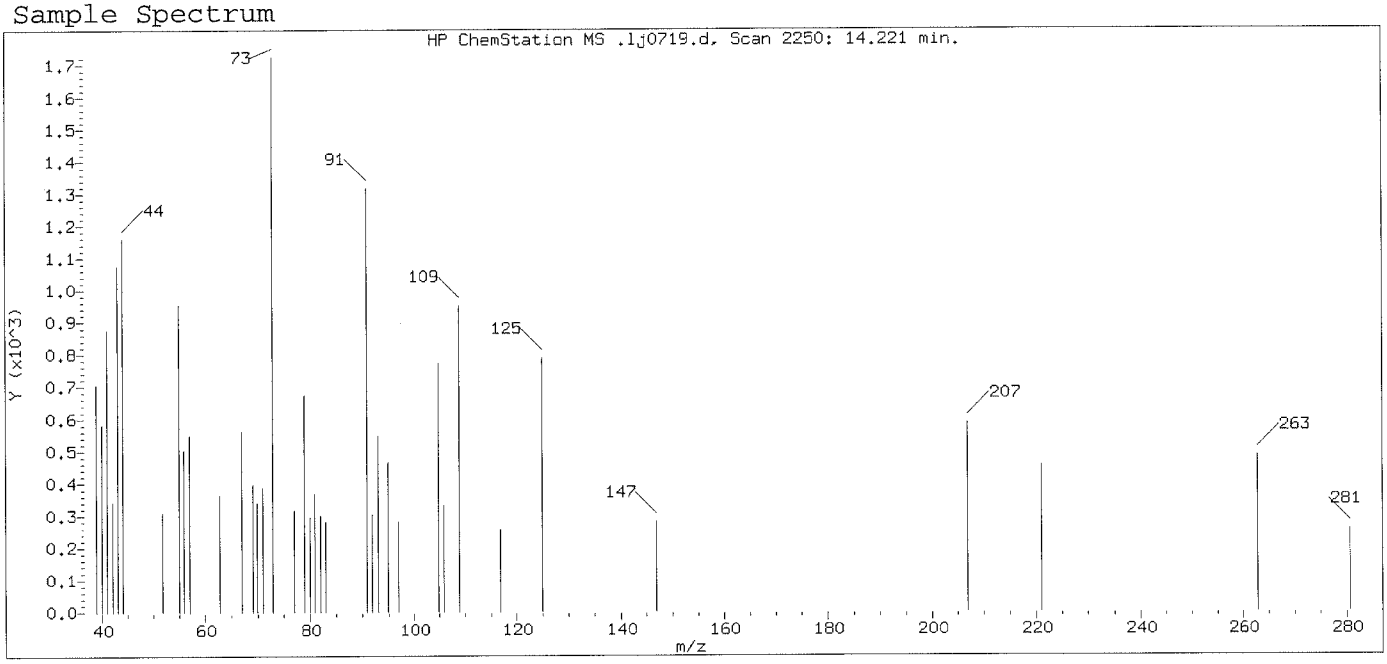
Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

OCT 22 2015

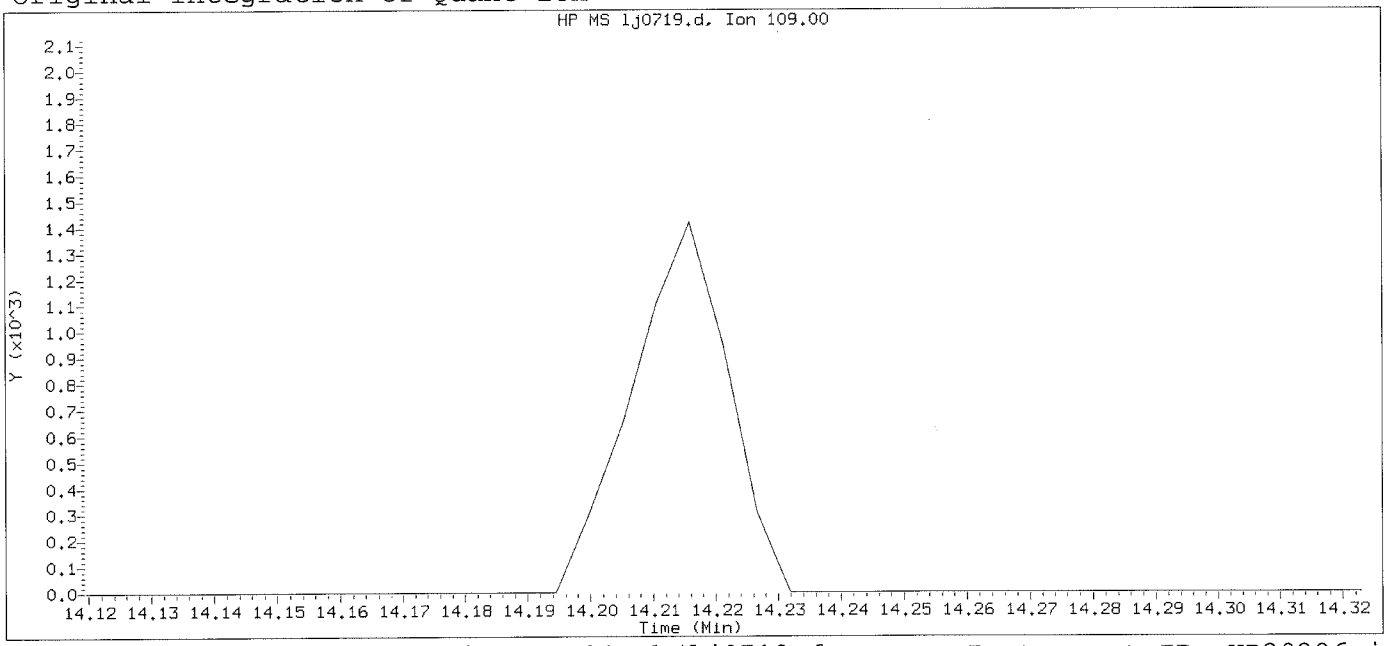
GC/MS audit/management approval:_____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

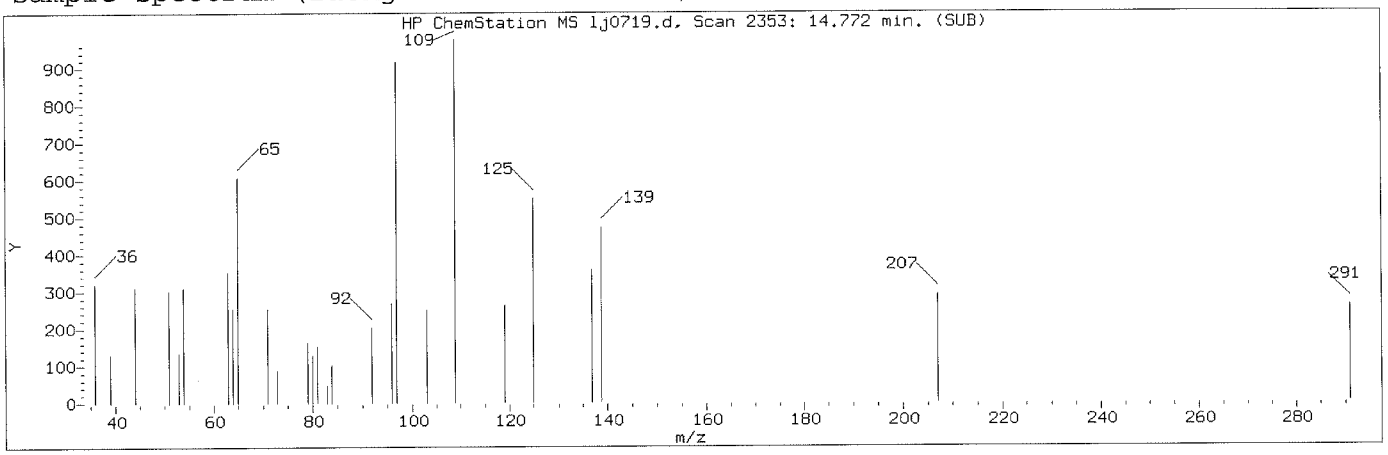
Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:39 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

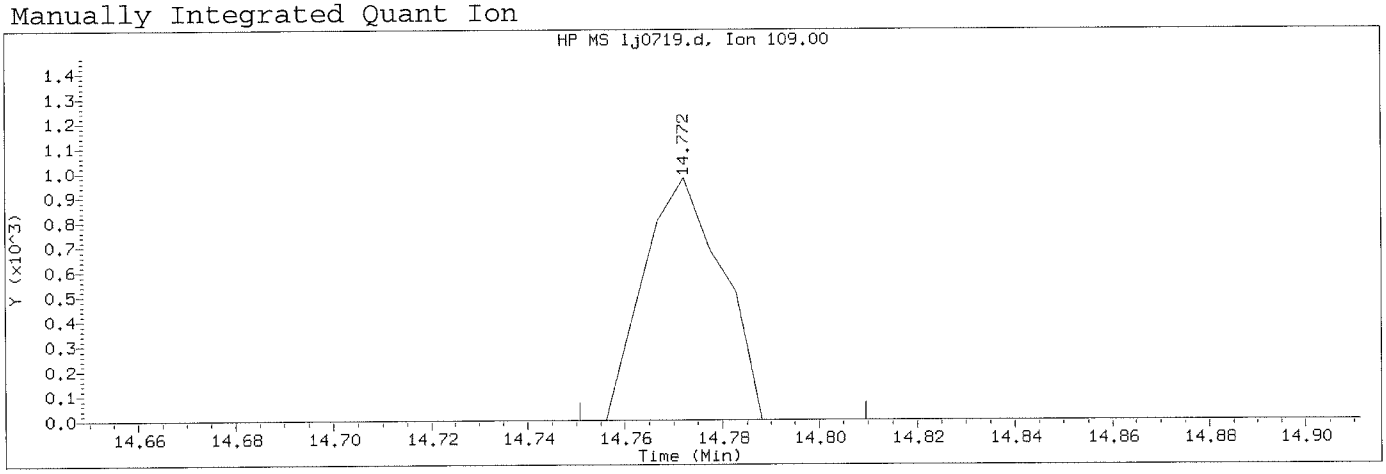
Compound Number : 164
Compound Name : Methyl parathion
Expected RT (minutes) : 14.221
Quant Ion : 109.00

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 167		
Compound Name	: Parathion		
Scan Number	: 2353		
Retention Time (minutes)	: 14.772		
Quant Ion	: 109.00		
Area (flag)	: 1087M		
On-Column Amount (ng/ul)	: 0.8359		
Integration start scan	: 2348	Integration stop scan:	2359
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

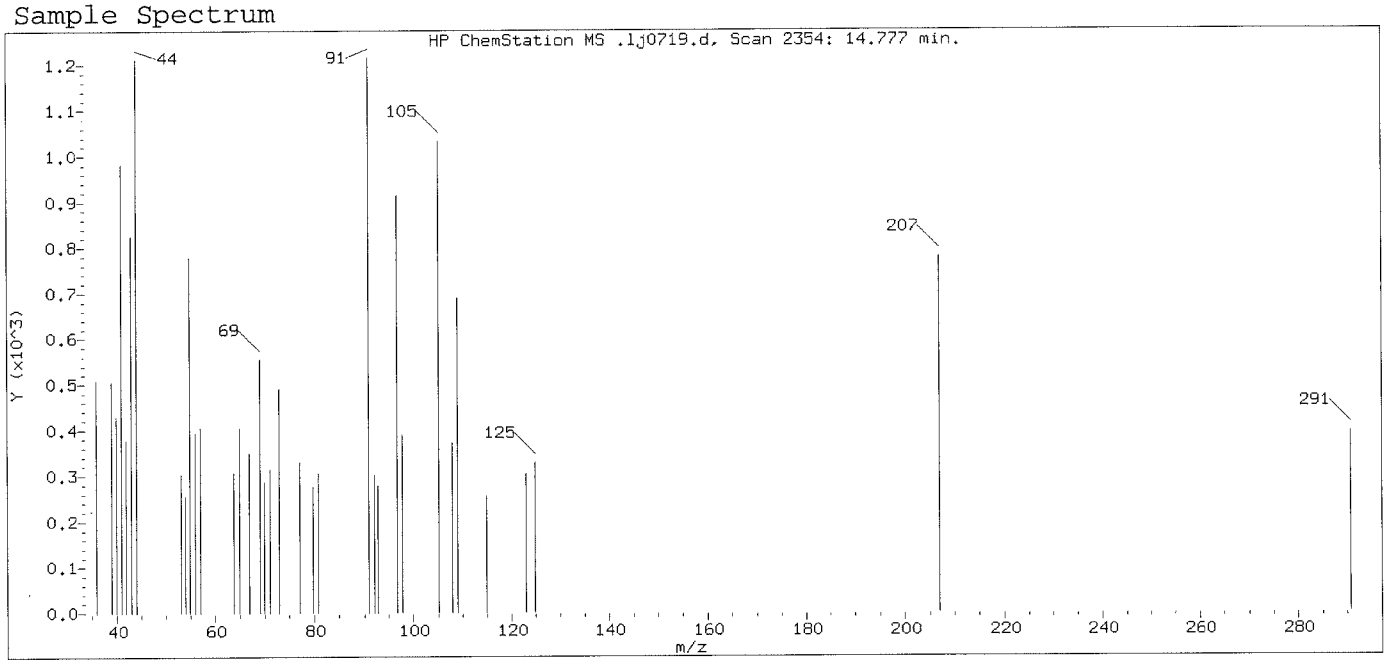
Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 signature user ID: hb01996

OCT 22 2015

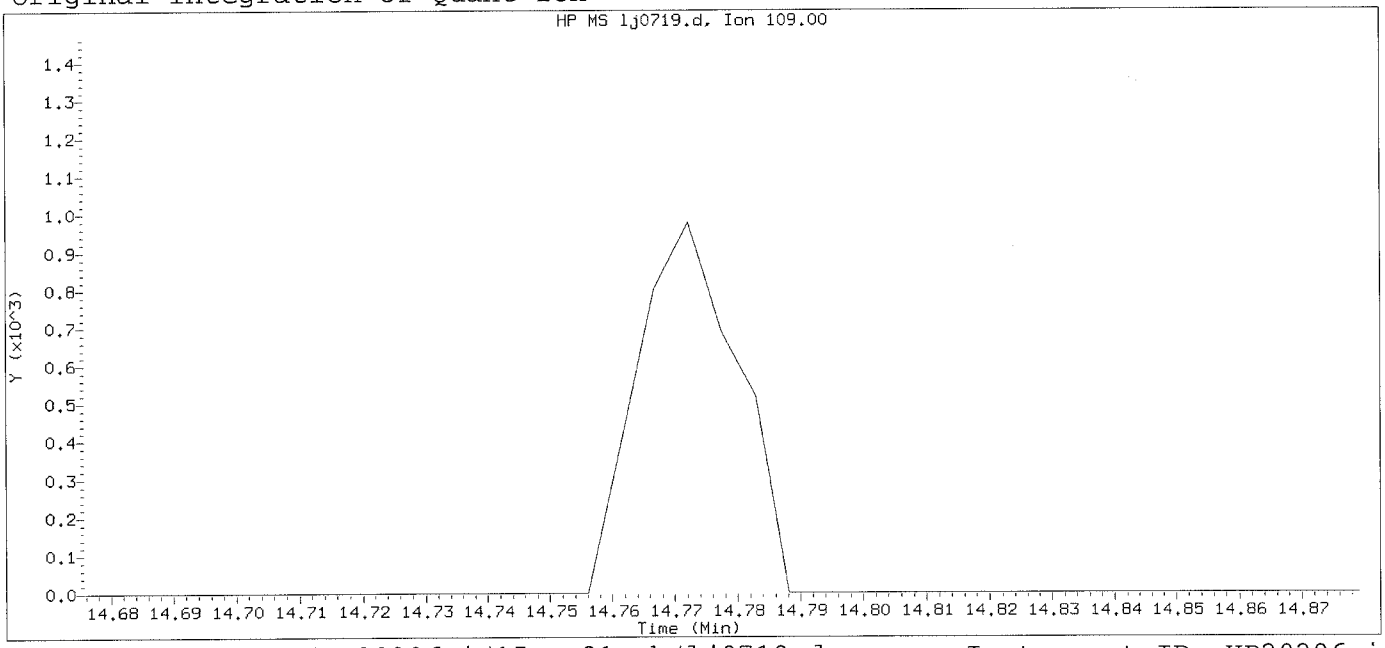
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

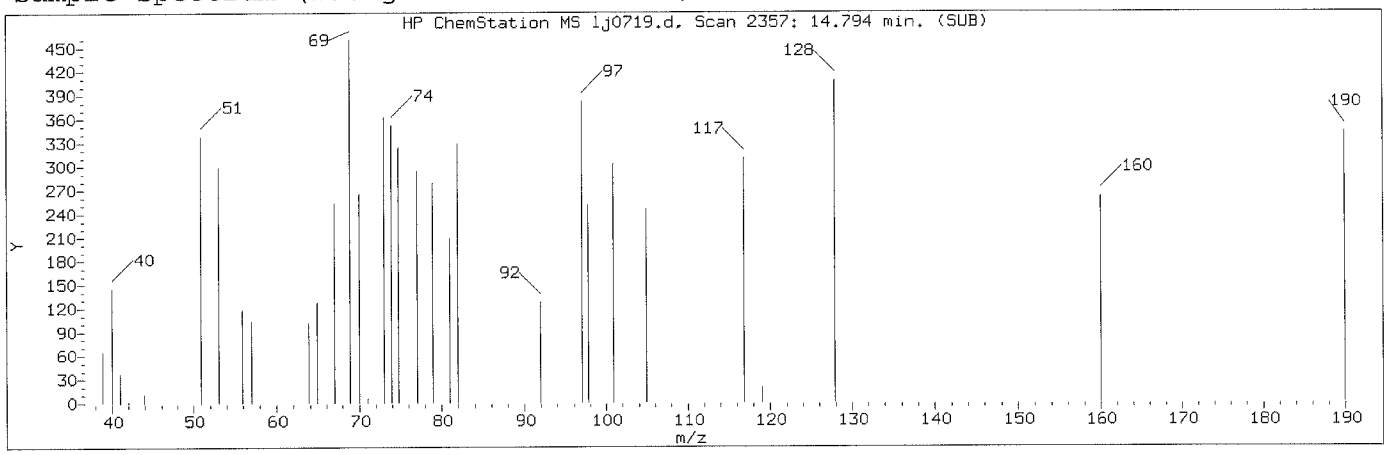
Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:39 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

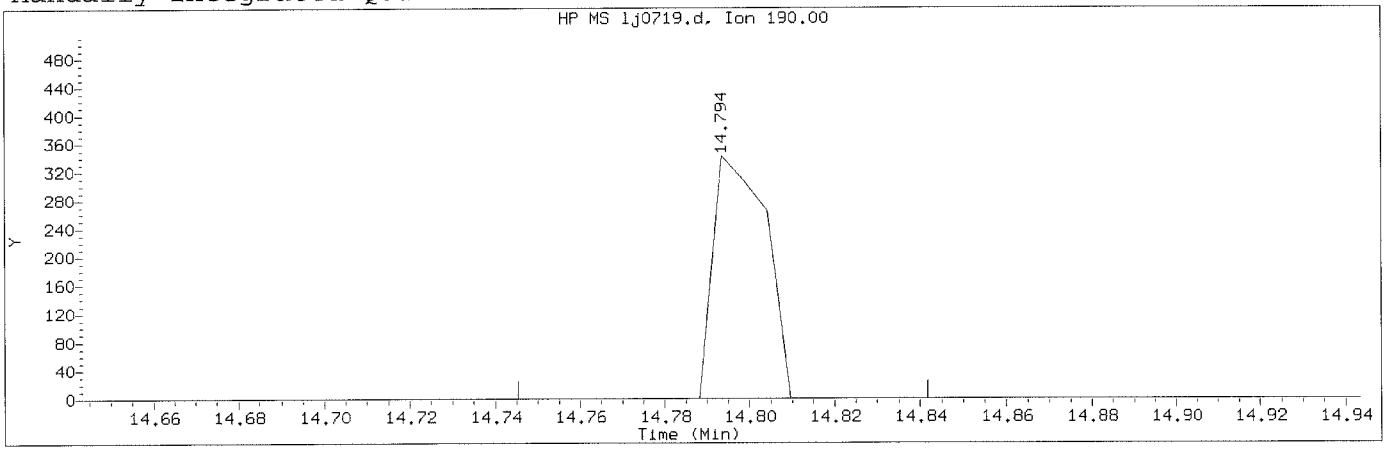
Compound Number : 167
Compound Name : Parathion
Expected RT (minutes) : 14.777
Quant Ion : 109.00

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/15oct21a.b/1j0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:18 hb01996

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number	: 168		
Compound Name	: 4-Nitroquinoline-1-oxide		
Scan Number	: 2357		
Retention Time (minutes)	: 14.794		
Quant Ion	: 190.00		
Area (flag)	: 292M		
On-Column Amount (ng/ul)	: 2.4985		
Integration start scan	: 2347	Integration stop scan:	2365
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

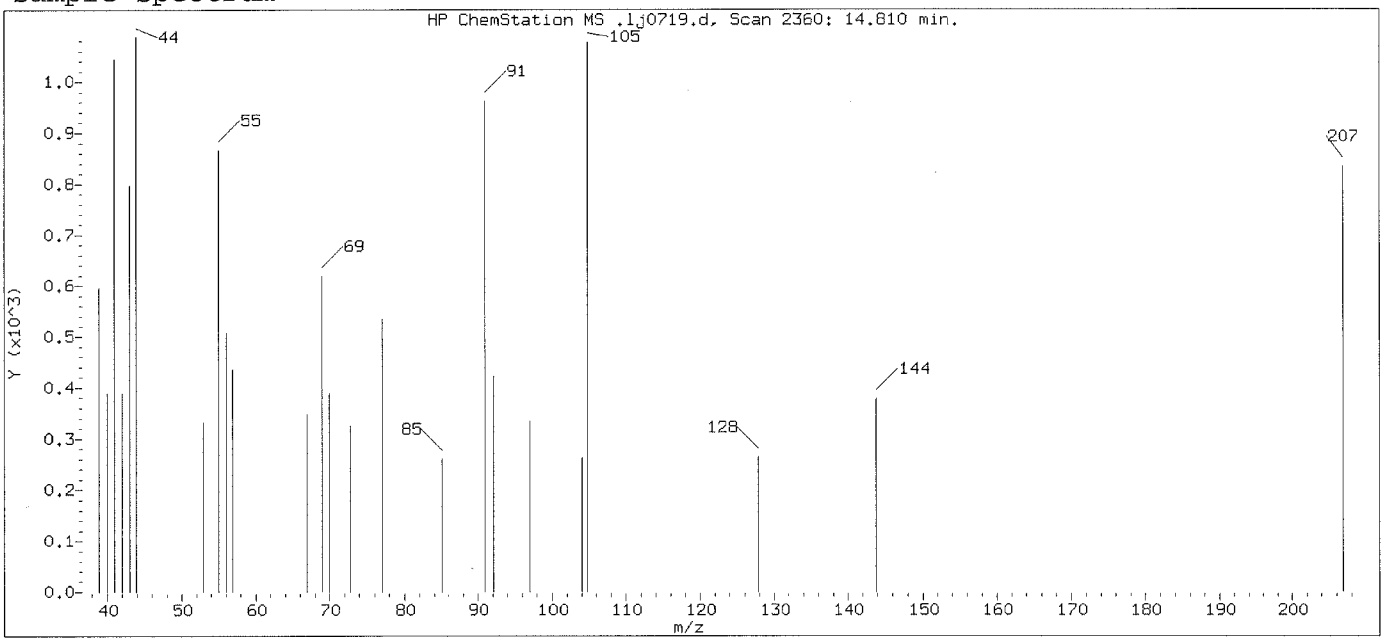
Analyst responsible for change: Digitally signed by Holly Berry
on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996

OCT 22 2015

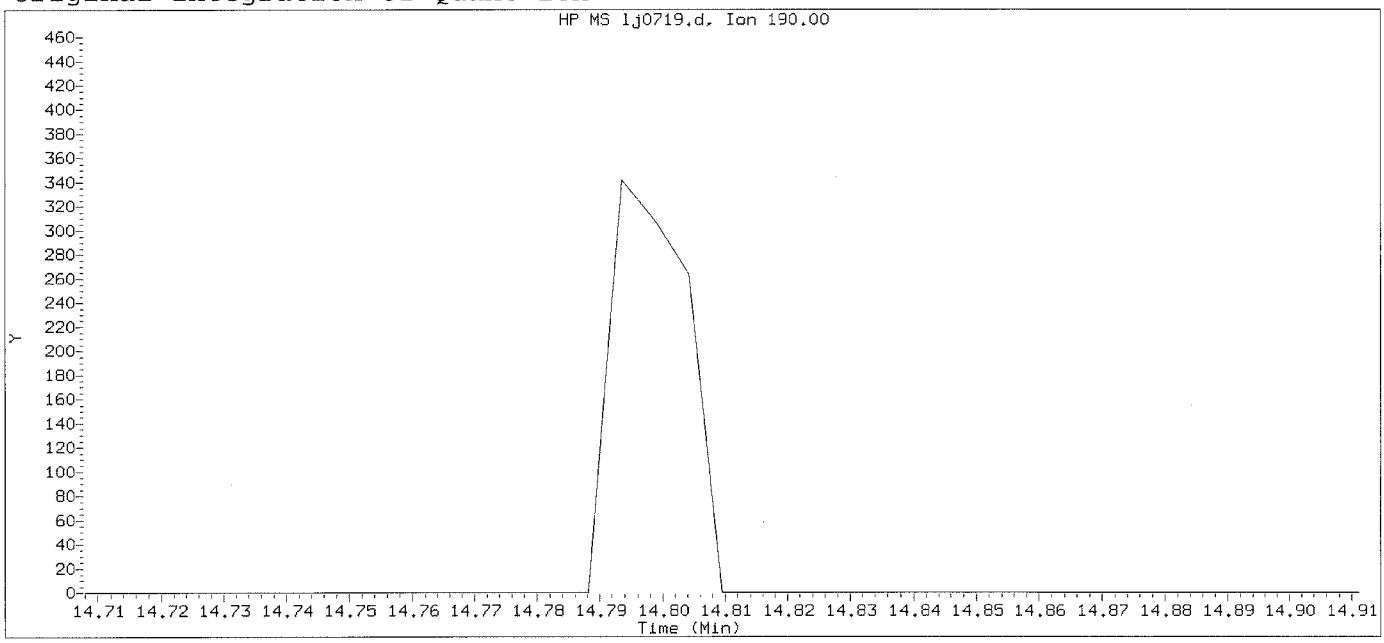
GC/MS audit/management approval:_____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



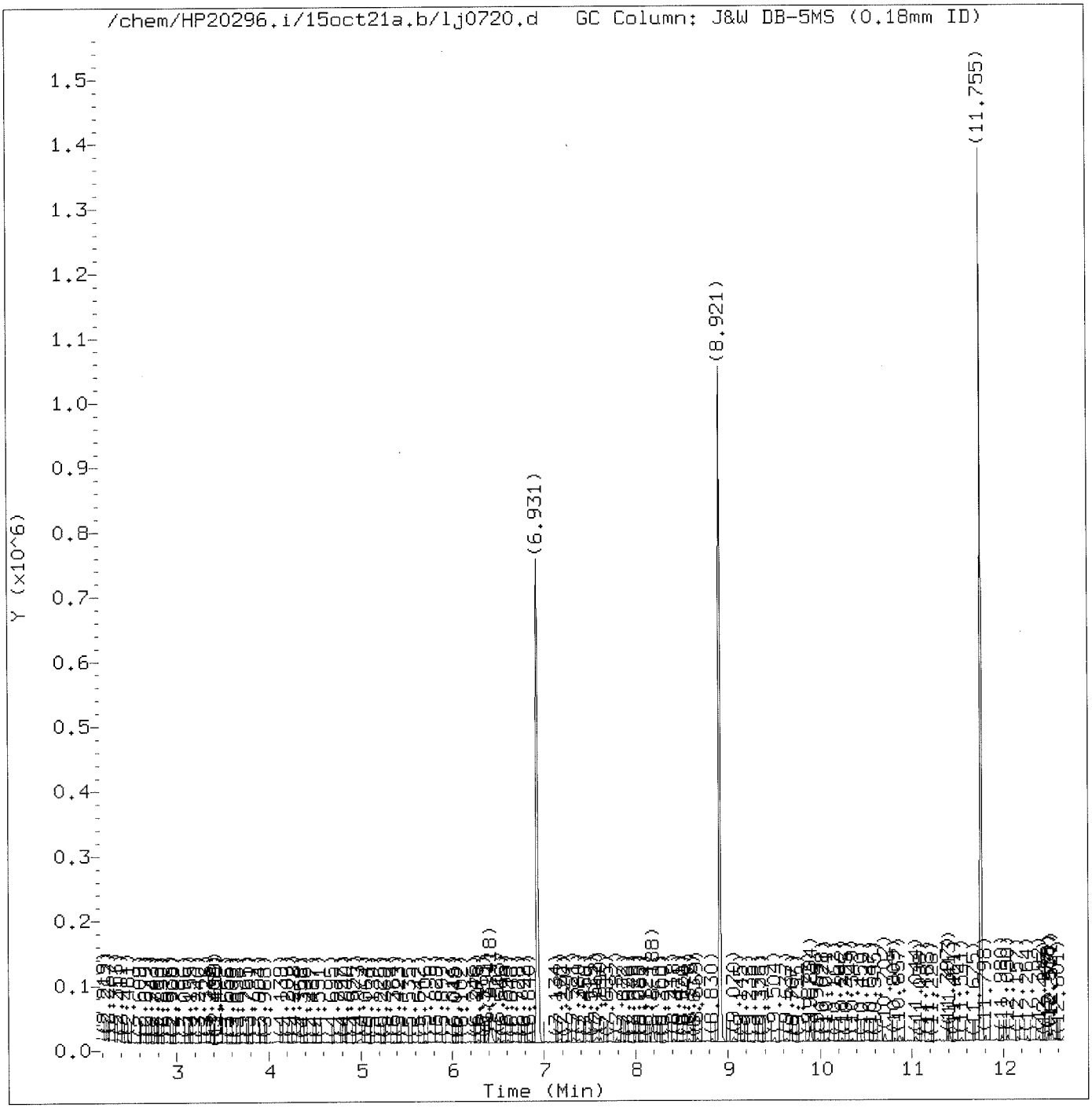
Data File: /chem/HP20296.i/15oct21a.b/lj0719.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:14 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 21-OCT-2015 19:11
Date, time and analyst ID of latest file update: 21-Oct-2015 19:39 Unknown

Sample Name: SSTD0.125 Lab Sample ID: RVMDL2745

Compound Number : 168
Compound Name : 4-Nitroquinoline-1-oxide
Expected RT (minutes) : 14.810
Quant Ion : 190.00

Digitally signed by Holly Berry on 10/22/2015 at 08:21.
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0720.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:07 hb01996

Sample Name: SSTD0.025 Lab Sample ID: RVPAHMDL2745

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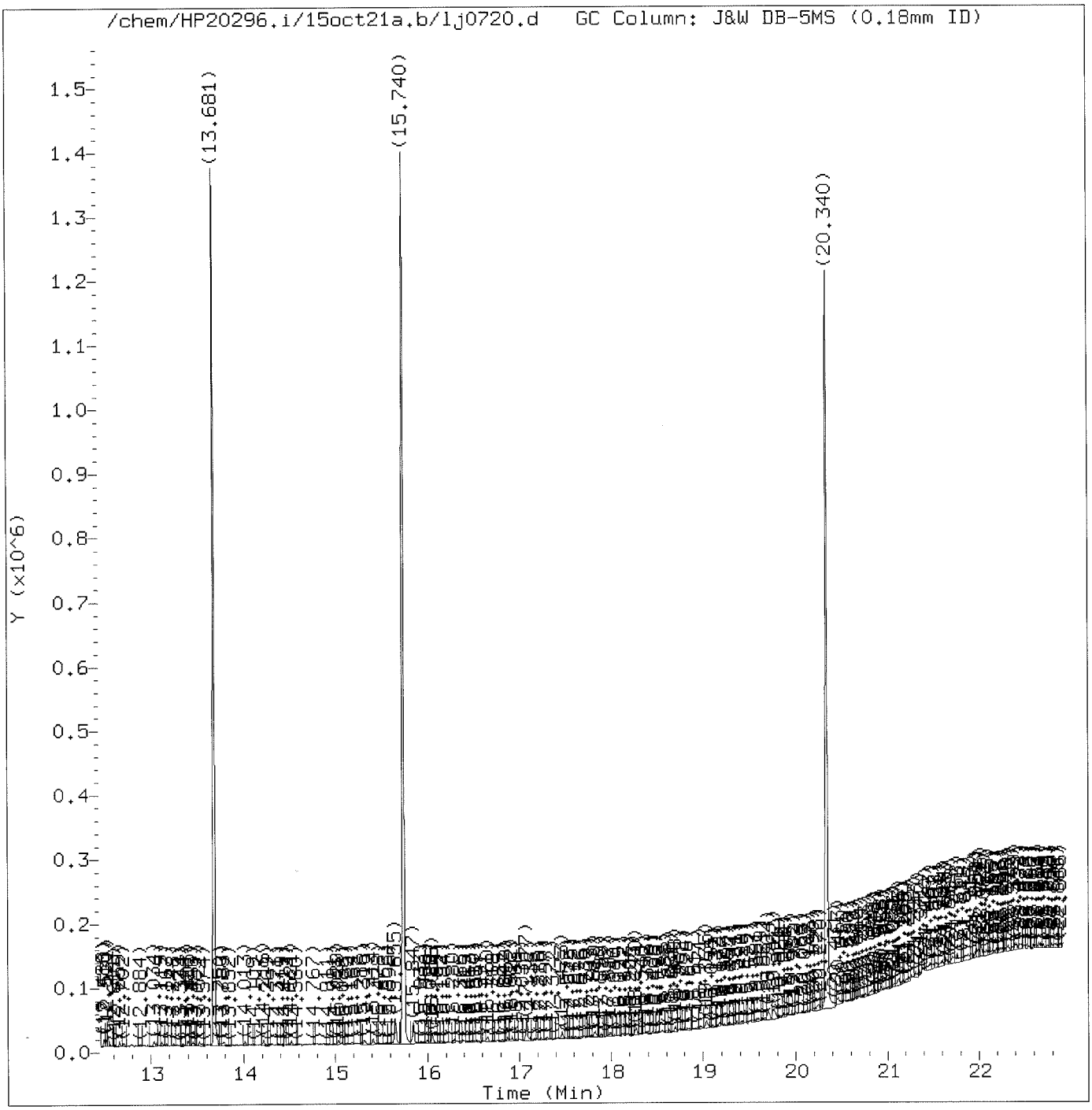
on 10/22/2015 at 08:22.
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0720.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:07 hb01996

Sample Name: SSTD0.025 Lab Sample ID: RVPAHMDL2745

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Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0720.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 19:42 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:07 hb01996

Sample Name: SSTD0.025 Lab Sample ID: RVPAHMDL2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.931	152	145317	5.000
44)$Nitrobenzene-d5	(2)	7.787	82	3084	0.061
65)*Naphthalene-d8	(2)	8.921	136	545046	5.000
66) Naphthalene	(2)	8.953	128	3109	0.027
83) 2-Methylnaphthalene	(2)	10.081	142	2084	0.027
84) 1-Methylnaphthalene	(2)	10.242	142	1797	0.025
93)$2-Fluorobiphenyl	(3)	10.702	172	4354	0.050
109) Acenaphthylene	(3)	11.536	152	2620	0.023
113)*Acenaphthene-d10	(3)	11.755	164	314129	5.000
114) Acenaphthene	(3)	11.804	153	2287	0.029
126) Fluorene	(3)	12.488	166	2237	0.027
145) Hexachlorobenzene	(4)	13.167	284	598	0.023
153)*Phenanthrene-d10	(4)	13.681	188	599472	5.000
155) Phenanthrene	(4)	13.713	178	3660	0.029
157) Anthracene	(4)	13.783	178	3255	0.026
173) Fluoranthene	(4)	15.414	202	3870	0.027
175)*Pyrene-d10	(5)	15.740	212	728595	5.000
177) Pyrene	(5)	15.767	202	4511	0.029
179)$Terphenyl-d14	(5)	16.056	244	5917	0.057
195) Benzo(a)anthracene	(5)	17.826	228	3424	0.023
196) Chrysene	(5)	17.885	228	3165	0.023
206) Benzo(b)fluoranthene	(6)	19.709	252	3781	0.026
208) Benzo(k)fluoranthene	(6)	19.757	252	3321	0.024
211) Benzo(a)pyrene	(6)	20.238	252	3404	0.026
213)*Perylene-d12	(6)	20.340	264	582504	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	21.982	276	4019	0.026
222) Total PAHs	(6)			56592	0.465
220) Dibenz(a,h)anthracene	(6)	22.025	278	2740	0.022
221) Benzo(g,h,i)perylene	(6)	22.399	276	3308	0.025

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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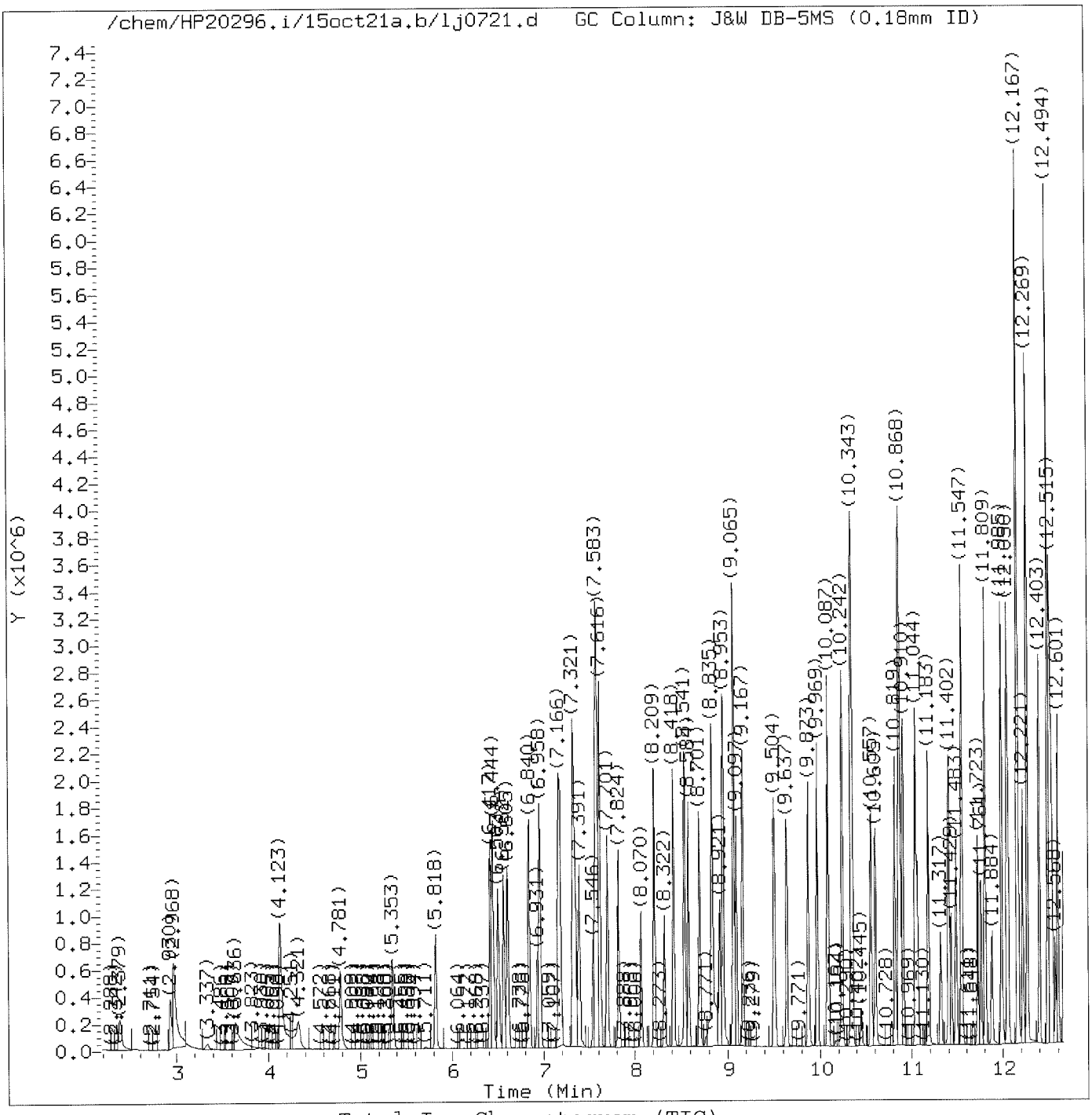
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0721.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 20:10 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: icval11
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:07 hb01996

Sample Name: SSTD12.5 Lab Sample ID: RVICV2465

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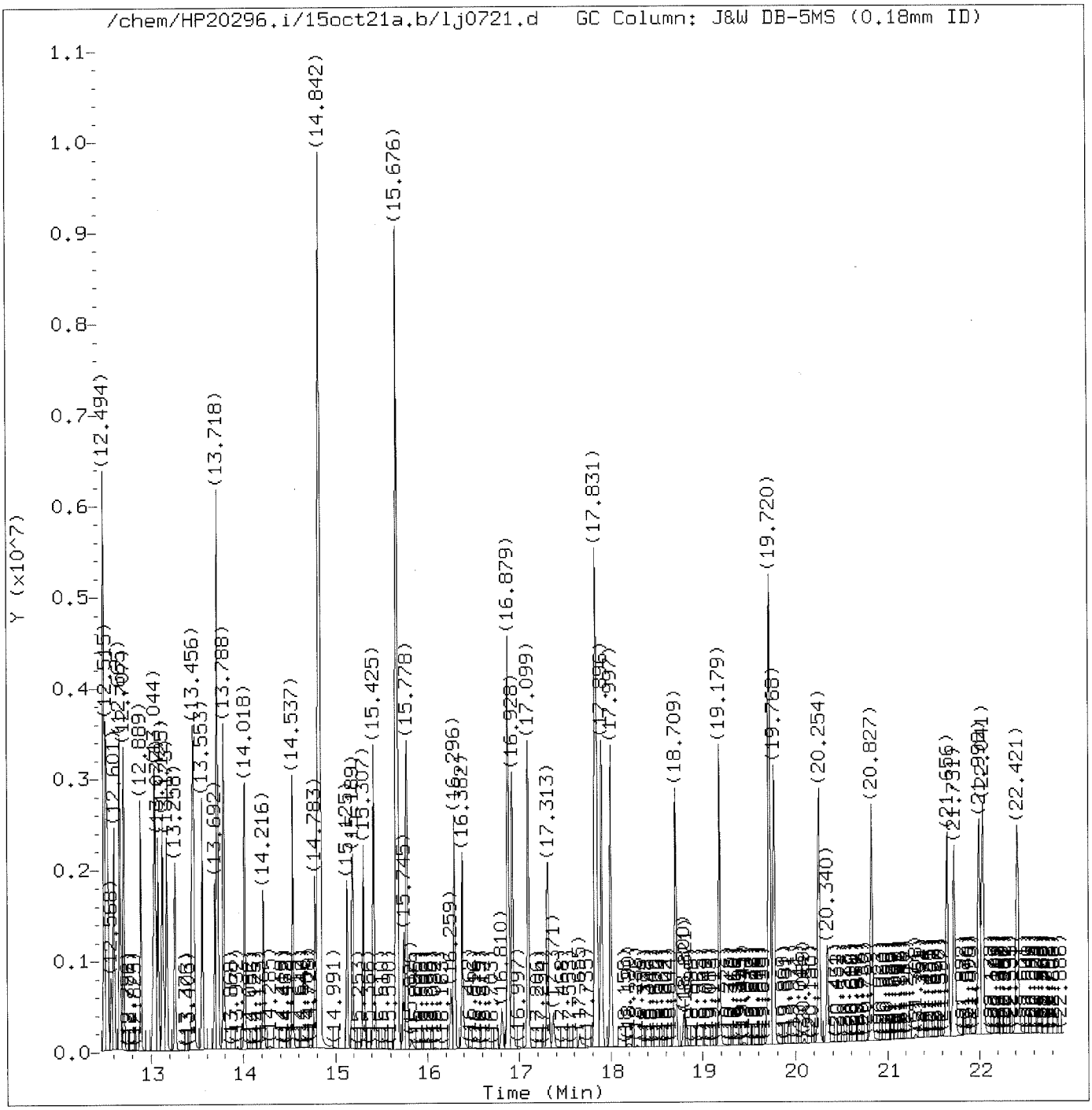
on 10/22/2015 at 08:22.
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0721.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 20:10 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: icval11
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:07 hb01996

Sample Name: SSTD12.5 Lab Sample ID: RVICV2465

Digitally signed by Holly Berry
on 10/22/2015 at 08:22.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/1j0721.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 20:10 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: icval11
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:07 hb01996

Sample Name: SSTD12.5 Lab Sample ID: RVICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.379	88	219428	12.587
4) N-Nitrosodimethylamine	(1)	2.930	74	346572	12.427
5) Pyridine	(1)	2.968	79	623590	13.056
7) 2-Picoline	(1)	4.128	93	621218	12.595
8) N-Nitrosomethylethylamine	(1)	4.321	88	246287	12.489
9) Methyl methanesulfonate	(1)	4.781	80	325492	12.955
13) N-Nitrosodiethylamine	(1)	5.353	102	236619	12.333
15) Ethyl methanesulfonate	(1)	5.818	109	250923	12.424
18) Phenol	(1)	6.417	94	743377	12.593
19) Aniline	(1)	6.444	93	889617	12.578
22) bis(2-Chloroethyl)ether	(1)	6.562	93	553431	12.620
23) 2-Chlorophenol	(1)	6.605	128	465039	12.812
24) 1,3-Dichlorobenzene	(1)	6.840	146	531392	12.749
25)*1,4-Dichlorobenzene-d4	(1)	6.931	152	135058	5.000
26) 1,4-Dichlorobenzene	(1)	6.958	146	544962	12.812
27) Benzyl alcohol	(1)	7.161	108	352276	13.200
28) 1,2-Dichlorobenzene	(1)	7.182	146	522814	13.094
30) Indene	(1)	7.321	115	931968	13.247
31) 2-Methylphenol	(1)	7.337	108	493502	13.031
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.391	45	712389	13.226
34) bis(2-Chloroisopropyl)ether	(1)	7.391	45	712389	13.226
35) N-Nitrosopyrrolidine	(1)	7.546	100	256949	12.658
36) Acetophenone	(1)	7.567	105	763836	12.459
37) 4-Methylphenol	(1)	7.589	108	542479	12.779
38) N-Nitroso-di-n-propylamine	(1)	7.589	70	433352	12.183
39) N-Nitrosomorpholine	(1)	7.616	56	310143	12.494
40) o-Toluidine	(1)	7.621	106	854875	12.508
42) Total Cresols	(1)	7.660	100	1035981	25.810
43) Hexachloroethane	(1)	7.701	117	233473	12.913
45) Nitrobenzene	(2)	7.824	77	607263	12.005
48) N-Nitrosopiperidine	(2)	8.070	114	238645	12.136
50) Isophorone	(2)	8.215	82	1163226	12.772
51) 2-Nitrophenol	(2)	8.322	139	177685	12.655
53) 2,4-Dimethylphenol	(2)	8.418	107	511374	12.052
57) O,O,O-Triethylphosphorothioate	(2)	8.546	198	255790	12.476
56) Benzoic acid	(2)	8.552	105	62765	11.730
55) bis(2-Chloroethoxy)methane	(2)	8.584	93	691594	12.854
60) 2,4-Dichlorophenol	(2)	8.707	162	396446	12.865
62) 1,2,4-Trichlorobenzene	(2)	8.835	180	466480	12.767
65)*Naphthalene-d8	(2)	8.921	136	518913	5.000

* = Compound is an internal standard.

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Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0721.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 20:10 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:07 hb01996

Sample Name: SSTD12.5 Lab Sample ID: RVICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
66) Naphthalene	(2)	8.958	128	1403992	12.642
67) 4-Chloroaniline	(2)	9.065	127	580538	12.646
68) 2,6-Dichlorophenol	(2)	9.070	162	384927	12.764
69) Hexachloropropene	(2)	9.097	213	340230	13.651
71) Hexachlorobutadiene	(2)	9.167	225	298180	13.098
75) Quinoline	(2)	9.504	129	887718	12.614
77) N-Nitrosodi-n-butylamine	(2)	9.637	84	391364	10.952
80) 4-Chloro-3-methylphenol	(2)	9.873	107	443634	12.724
82) Safrole	(2)	9.969	162	360068	12.381
83) 2-Methylnaphthalene	(2)	10.087	142	896547	12.018
84) 1-Methylnaphthalene	(2)	10.242	142	844723	12.545
85) Hexachlorocyclopentadiene	(3)	10.343	237	621396	26.284
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.354	216	495615	12.272
88) cis-Isosafrole	(3)	10.450	162	49703	1.522
90) 2,4,6-Trichlorophenol	(3)	10.557	196	283426	12.929
92) 2,4,5-Trichlorophenol	(3)	10.605	196	302901	12.847
97) Isosafrole	(3)	10.725	162	453658	12.843
94) trans-Isosafrole	(3)	10.819	162	403955	11.321
95) 1,1'-Biphenyl	(3)	10.862	154	1136821	12.448
96) 2-Chloronaphthalene	(3)	10.878	162	928557	13.015
98) 1-Chloronaphthalene	(3)	10.910	162	821197	11.980
99) Diphenyl ether	(3)	11.044	170	615932	12.284
100) 2-Nitroaniline	(3)	11.071	138	242108	13.182
104) 1,4-Naphthoquinone	(3)	11.183	158	461551	15.807
105) 1,4-Dinitrobenzene	(3)	11.317	168	97089	11.321
106) Dimethylphthalate	(3)	11.402	163	987325	12.334
107) 1,3-Dinitrobenzene	(3)	11.429	168	124656	12.695
108) 2,6-Dinitrotoluene	(3)	11.488	165	204341	13.627
109) Acenaphthylene	(3)	11.547	152	1426075	12.682
112) 3-Nitroaniline	(3)	11.723	138	224347	12.270
113)*Acenaphthene-d10	(3)	11.761	164	308803	5.000
114) Acenaphthene	(3)	11.809	153	959776	12.539
115) 2,4-Dinitrophenol	(3)	11.884	184	108649	23.570
120) 2,4_2,6-Dinitrotoluenes	(3)	11.950	165	466826	26.724
117) Pentachlorobenzene	(3)	11.985	250	405329	12.043
116) 4-Nitrophenol	(3)	11.991	109	153005	12.313
119) Dibenzofuran	(3)	12.050	168	1257590	12.342
118) 2,4-Dinitrotoluene	(3)	12.066	165	262485	13.097
121) 1-Naphthylamine	(3)	12.167	143	1760589	23.896
122) 2,3,4,6-Tetrachlorophenol	(3)	12.221	232	241538	13.978

* = Compound is an internal standard.

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Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/1j0721.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 20:10 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:07 hb01996

Sample Name: SSTD12.5 Lab Sample ID: RVICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
123) 2-Naphthylamine	(3)	12.269	143	1740964	24.164
124) Diethylphthalate	(3)	12.403	149	995335	12.608
125) Thionazin	(3)	12.494	107	176025	12.491
126) Fluorene	(3)	12.494	166	1011857	12.428
127) 4-Chlorophenyl-phenylether	(3)	12.515	204	513510	12.494
128) 5-Nitro-o-toluidine	(3)	12.526	152	262854	12.416
129) 4-Nitroaniline	(3)	12.536	138	231720	12.192
130) 4,6-Dinitro-2-methylphenol	(4)	12.574	198	92846	11.880
131) N-Nitrosodiphenylamine	(4)	12.665	169	840265	12.583
132) NDPA as diphenylamine	(4)	12.665	169	840265	12.583
134) 1,2-Diphenylhydrazine	(4)	12.707	77	1322581	12.713
137) Tetraethyldithiopyrophosphate	(4)	12.889	97	196488	11.978
146) Diallate trans/cis	(4)	13.000	86	477033	11.486
139) 1,3,5-Trinitrobenzene	(4)	13.018	213	71262	11.606
140) Diallate (peak 1)	(4)	13.034	86	357014	8.597
141) Phorate	(4)	13.044	75	759398	11.868
142) Phenacetin	(4)	13.077	108	566822	12.877
143) 4-Bromophenyl-phenylether	(4)	13.125	248	295490	12.496
144) Diallate (peak 2)	(4)	13.141	86	120019	2.889
145) Hexachlorobenzene	(4)	13.173	284	311924	12.317
147) Dimethoate	(4)	13.258	87	470929	12.640
149) Pentachlorophenol	(4)	13.440	266	147975	14.077
151) Pentachloronitrobenzene	(4)	13.451	237	132865	12.605
150) 4-Aminobiphenyl	(4)	13.462	169	1117635	14.354
152) Pronamide	(4)	13.553	173	479607	12.552
153)*Phenanthrene-d10	(4)	13.686	188	588538	5.000
154) Dinoseb	(4)	13.697	211	146430	11.500
155) Phenanthrene	(4)	13.718	178	1499089	12.116
157) Anthracene	(4)	13.788	178	1587339	12.861
163) Carbazole	(4)	14.018	167	1420082	12.655
164) Methyl parathion	(4)	14.216	109	331272	12.114
165) Di-n-butylphthalate	(4)	14.537	149	1753230	12.761
167) Parathion	(4)	14.783	109	204099	12.135
168) 4-Nitroquinoline-1-oxide	(4)	14.842	190	1922299	168.779
171) Isodrin	(4)	15.189	193	176073	11.651
173) Fluoranthene	(4)	15.425	202	1807765	12.658
174) Benzidine	(5)	15.676	184	5375182	61.159
175)*Pyrene-d10	(5)	15.745	212	710410	5.000
177) Pyrene	(5)	15.778	202	1880415	12.478
182) p-Dimethylaminoazobenzene	(5)	16.296	225	366048	13.929

* = Compound is an internal standard.

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Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0721.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 20:10 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:07 hb01996

Sample Name: SSTD12.5 Lab Sample ID: RVICV2465

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
185) Chlorobenzilate	(5)	16.382	139	520881	12.470
187) 3,3'-Dimethylbenzidine	(5)	16.879	212	2237282	24.106
188) Butylbenzylphthalate	(5)	16.928	149	793575	13.255
191) 2-Acetylaminofluorene	(5)	17.313	181	640910	12.801
193) 3,3'-Dichlorobenzidine	(5)	17.826	252	641519	12.038
195) Benzo(a)anthracene	(5)	17.831	228	1848610	12.926
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.848	231	359049	12.127
196) Chrysene	(5)	17.896	228	1775127	13.356
199) bis(2-Ethylhexyl)phthalate	(5)	17.997	149	1157785	13.086
203) 6-Methylchrysene	(5)	18.709	242	1188472	12.461
205) Di-n-octylphthalate	(6)	19.179	149	2076747	13.392
206) Benzo(b)fluoranthene	(6)	19.720	252	1847745	12.996
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.720	256	760045	12.807
208) Benzo(k)fluoranthene	(6)	19.768	252	1783375	13.199
211) Benzo(a)pyrene	(6)	20.254	252	1670581	12.710
213)*Perylene-d12	(6)	20.340	264	578479	5.000
215) 3-Methylcholanthrene	(6)	20.827	268	869733	13.859
217) Dibenz(a,h)acridine	(6)	21.656	279	1439001	12.896
218) Dibenz(a,j)acridine	(6)	21.731	279	1345423	12.216
219) Indeno(1,2,3-cd)pyrene	(6)	21.998	276	1987146	13.030
222) Total PAHs	(6)	22.000	100	27631276	229.844
220) Dibenz(a,h)anthracene	(6)	22.041	278	1687937	13.585
221) Benzo(g,h,i)perylene	(6)	22.421	276	1713177	13.072

* = Compound is an internal standard.

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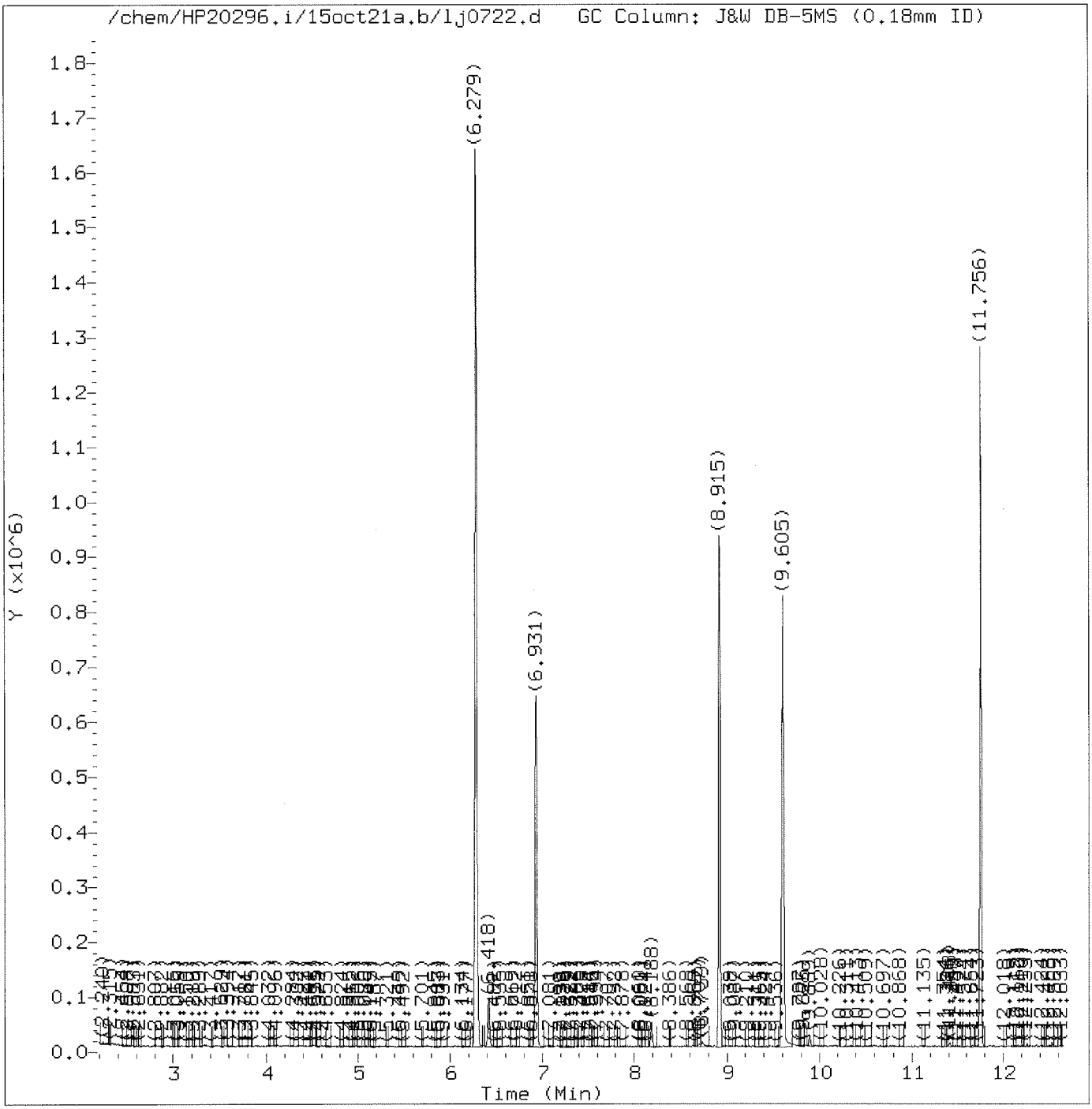
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0722.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 20:38 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: basicval11
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:07 hb01996

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV2475

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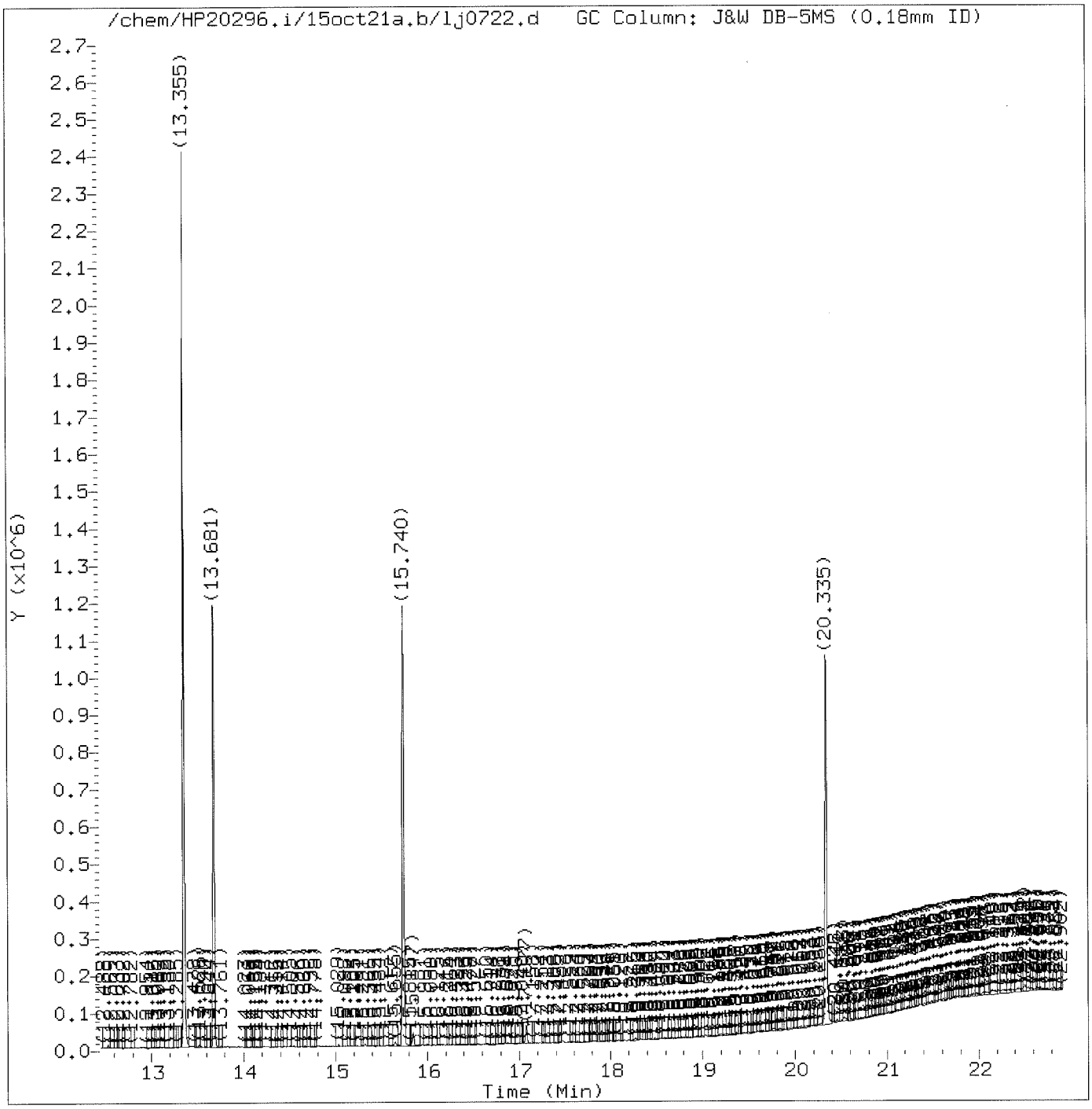
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/lj0722.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 20:38 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: basicval11
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:07 hb01996

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV2475

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on 10/22/2015 at 08:22.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct21a.b/1j0722.d Instrument ID: HP20296.i
Injection date and time: 21-OCT-2015 20:38 Analyst ID: ceb05247

Method used: /chem/HP20296.i/15oct21a.b/rv8270c.m Sublist used: basicval11
Calibration date and time: 22-OCT-2015 07:59
Date, time and analyst ID of latest file update: 22-Oct-2015 08:07 hb01996

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV2475

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
16) Benzaldehyde	(1)	6.279	77	521845	14.780
25)*1,4-Dichlorobenzene-d4	(1)	6.931	152	128312	5.000
65)*Naphthalene-d8	(2)	8.915	136	491327	5.000
76) Caprolactam	(2)	9.605	113	125445	13.122
113)*Acenaphthene-d10	(3)	11.756	164	282596	5.000
148) Atrazine	(4)	13.355	200	289857	13.777
153)*Phenanthrene-d10	(4)	13.686	188	536561	5.000
175)*Pyrene-d10	(5)	15.740	212	642374	5.000
213)*Perylene-d12	(6)	20.335	264	514961	5.000

* = Compound is an internal standard.

Digitally signed by Holly Berry
on 10/22/2015 at 08:22.
Target 3.5 esignature user ID: hb01996

Data File: /chem/HP20296.i/15oct22.b/lj0730z.d

Page 1

Date : 22-OCT-2015 08:29

Client ID: DFTPP12.5

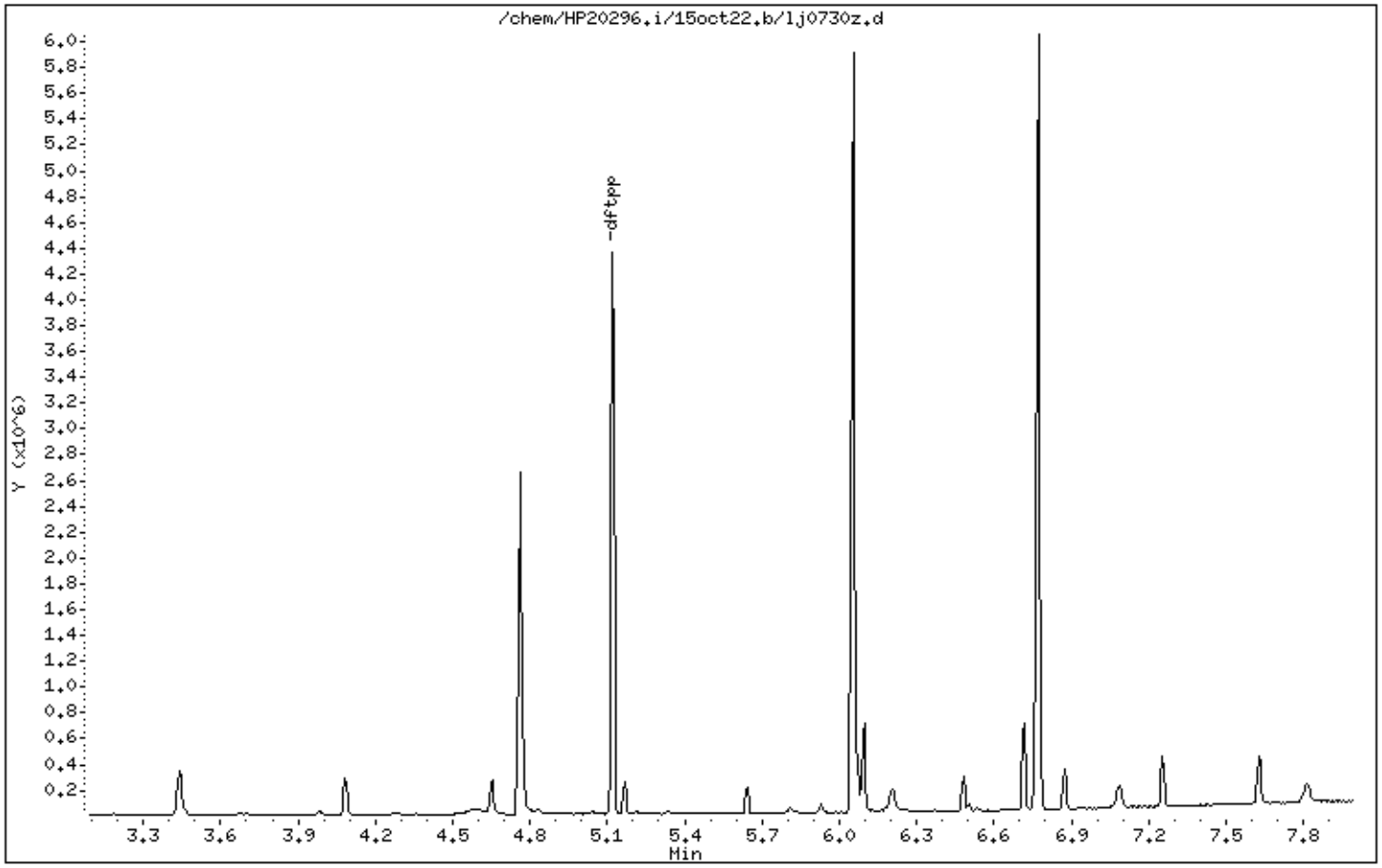
Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Holly Berry on 10/22/2015 at 13:37.
Target 3.5 esignature user ID: hb01996

Data File: /chem/HP20296.i/15oct22.b/lj0730z.d

Date : 22-OCT-2015 08:29

Client ID: DFTPP12.5

Instrument: HP20296.i

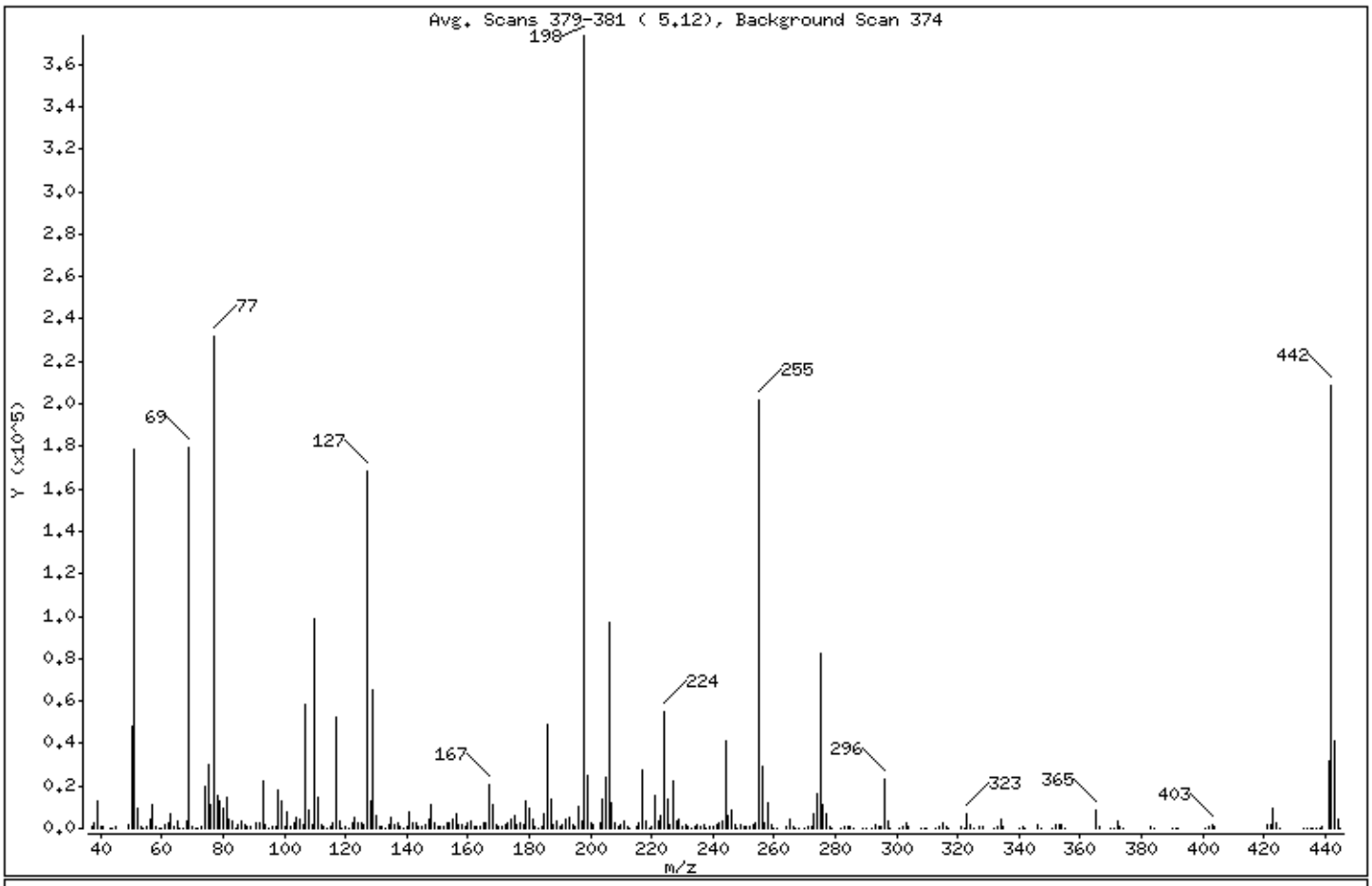
Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	47.92
68	Less than 2.00% of mass 69	0.89 (1.84)
69	Mass 69 relative abundance	48.05
70	Less than 2.00% of mass 69	0.23 (0.49)
127	40.00 - 60.00% of mass 198	45.11
197	Less than 1.00% of mass 198	0.95
199	5.00 - 9.00% of mass 198	6.55
275	10.00 - 30.00% of mass 198	22.01
365	Greater than 1.00% of mass 198	2.34
441	Present, but less than mass 443	8.60
442	40.00 - 99.99% of mass 198	55.82
443	17.00 - 23.00% of mass 442	10.96 (19.64)

Digitally signed by Holly Berry on 10/22/2015 at 13:37.
Target 3.5 esignature user ID: hb01996

Date : 22-OCT-2015 08:29

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS Column diameter: 0.18

Data File: lj0730z.d
Spectrum: Avg. Scans 379-381 (5,12), Background Scan 374
Location of Maximum: 198.00
Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	739	121.00	350	200.00	2233	286.00	220
38.00	2386	122.00	2999	201.00	1762	289.00	173
39.00	12650	123.00	4954	203.00	2732	290.00	280
40.00	631	124.00	2287	204.00	13550	292.00	322
41.00	654	125.00	2232	205.00	23704	293.00	1761
43.00	239	126.00	1584	206.00	96728	294.00	451
44.00	318	127.00	168384	207.00	12338	295.00	603
45.00	520	128.00	12756	208.00	2632	296.00	22864
49.00	1348	129.00	64952	209.00	1135	297.00	3115
50.00	47752	130.00	5813	210.00	1692	298.00	102
51.00	178944	131.00	1043	211.00	3563	301.00	229
52.00	9361	132.00	655	212.00	661	302.00	432
53.00	554	133.00	395	213.00	320	303.00	2561
54.00	101	134.00	1749	215.00	1131	304.00	679
55.00	717	135.00	5172	216.00	2149	308.00	299
56.00	4309	136.00	2124	217.00	27280	309.00	143
57.00	10779	137.00	2968	218.00	3404	310.00	288
58.00	554	138.00	579	219.00	284	313.00	205
59.00	199	139.00	424	220.00	455	314.00	1032
60.00	83	140.00	847	221.00	15624	315.00	2532
61.00	2081	141.00	7852	222.00	3287	316.00	1060
62.00	2590	142.00	2530	223.00	5954	317.00	137
63.00	7056	143.00	2238	224.00	54560	321.00	672
64.00	1004	144.00	593	225.00	13568	322.00	278
65.00	3395	145.00	452	226.00	1777	323.00	7015
66.00	323	146.00	1712	227.00	22408	324.00	1501
67.00	154	147.00	4450	228.00	3125	325.00	94
68.00	3305	148.00	10903	229.00	4481	327.00	1154
69.00	179392	149.00	2333	230.00	661	328.00	523
70.00	873	150.00	594	231.00	1814	332.00	423
71.00	376	151.00	1093	232.00	521	333.00	590
72.00	106	152.00	643	233.00	357	334.00	4299
73.00	1212	153.00	2764	234.00	1240	335.00	1162
74.00	19888	154.00	2215	235.00	1553	340.00	100
75.00	29792	155.00	4718	236.00	1076	341.00	874

Digitally signed by Holly Berry on 10/22/2015 at 13:37.
Target 3.5 esignature user ID: hb01996

Date : 22-OCT-2015 08:29

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS Column diameter: 0.18

Data File: lj0730z.d
Spectrum: Avg. Scans 379-381 (5,12), Background Scan 374
Location of Maximum: 198.00
Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
76.00	11333	156.00	6779	237.00	1963	342.00	118
77.00	231744	157.00	1495	238.00	306	346.00	1402
78.00	15361	158.00	1294	239.00	926	347.00	207
79.00	12763	159.00	1214	240.00	866	351.00	110
80.00	9475	160.00	2681	241.00	1363	352.00	1659
81.00	14374	161.00	3727	242.00	2988	353.00	1466
82.00	3883	162.00	1052	243.00	3410	354.00	2000
83.00	3233	163.00	515	244.00	40992	355.00	405
84.00	337	164.00	513	245.00	6019	365.00	8730
85.00	2143	165.00	2997	246.00	8236	366.00	1251
86.00	3847	166.00	2763	247.00	1683	370.00	208
87.00	1970	167.00	20688	248.00	301	371.00	423
88.00	684	168.00	11323	249.00	1769	372.00	3306
89.00	535	169.00	1609	250.00	439	373.00	641
91.00	2661	170.00	668	251.00	541	374.00	97
92.00	2834	171.00	651	252.00	704	383.00	861
93.00	22200	172.00	1477	253.00	1547	384.00	110
94.00	1764	173.00	2252	254.00	2764	390.00	336
95.00	137	174.00	4123	255.00	201856	391.00	243
96.00	930	175.00	6254	256.00	29288	392.00	94
97.00	701	176.00	1861	257.00	2566	401.00	110
98.00	18208	177.00	2999	258.00	11642	402.00	969
99.00	12491	178.00	1297	259.00	1900	403.00	1804
100.00	1261	179.00	12604	260.00	369	404.00	499
101.00	7585	180.00	9508	261.00	232	421.00	1669
102.00	464	181.00	4201	264.00	498	422.00	1424
103.00	2509	182.00	755	265.00	4453	423.00	9765
104.00	5095	183.00	350	266.00	816	424.00	2308
105.00	4488	184.00	1100	267.00	110	425.00	86
106.00	1477	185.00	6799	268.00	190	433.00	96
107.00	58056	186.00	48936	270.00	290	434.00	268
108.00	8842	187.00	14100	271.00	506	435.00	199
109.00	1758	188.00	1401	272.00	617	436.00	299
110.00	98464	189.00	3073	273.00	6501	437.00	266
111.00	14624	190.00	641	274.00	16296	438.00	295

Digitally signed by Holly Berry on 10/22/2015 at 13:37.
Target 3.5 esignature user ID: hb01996

Date : 22-OCT-2015 08:29

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP2435;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS Column diameter: 0.18

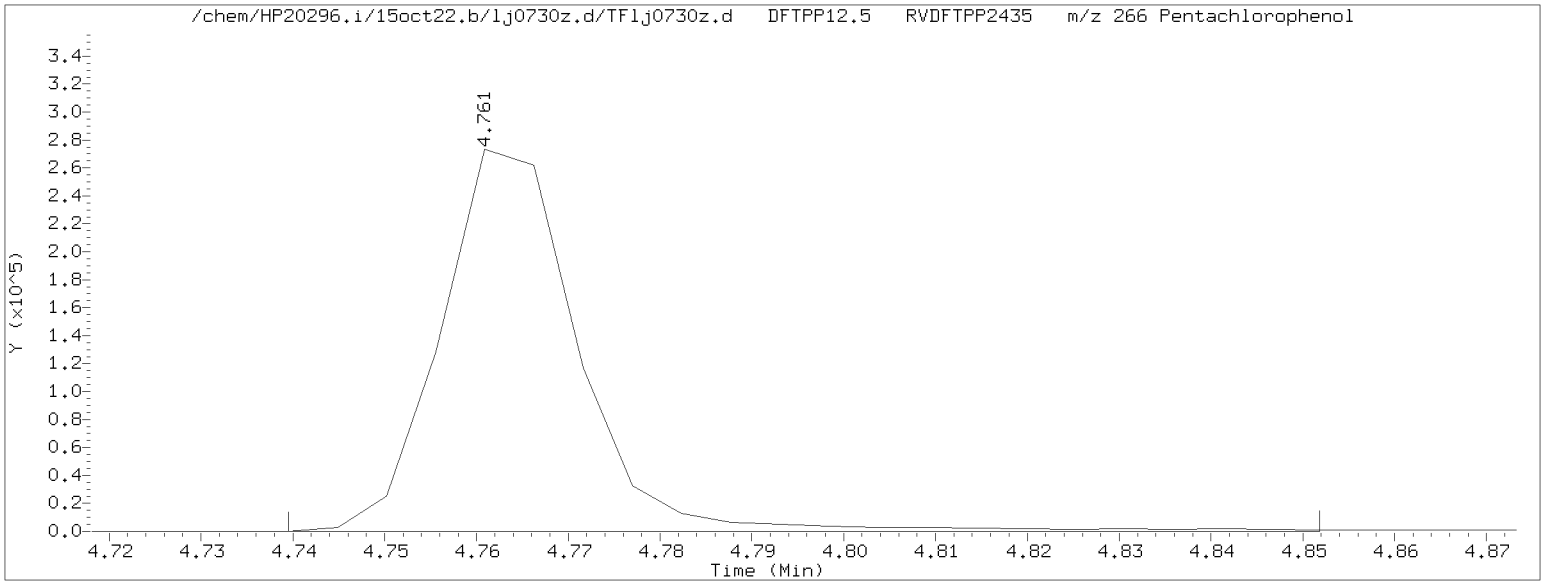
Data File: lj0730z.d
Spectrum: Avg. Scans 379-381 (5,12), Background Scan 374
Location of Maximum: 198.00
Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
112.00	1992	191.00	1781	275.00	82200	439.00	890
113.00	645	192.00	4330	276.00	11204	441.00	32120
114.00	239	193.00	5183	277.00	6657	442.00	208448
115.00	468	194.00	1293	278.00	1208	443.00	40928
116.00	2809	195.00	829	279.00	260	444.00	4131
117.00	52792	196.00	10546	282.00	221	445.00	137
118.00	3505	197.00	3539	283.00	964		
119.00	143	198.00	373440	284.00	454		
120.00	778	199.00	24472	285.00	1174		

Digitally signed by Holly Berry on 10/22/2015 at 13:37.
Target 3.5 esignature user ID: hb01996

Assessment of GC Column Performance and Injection Port Inertness for

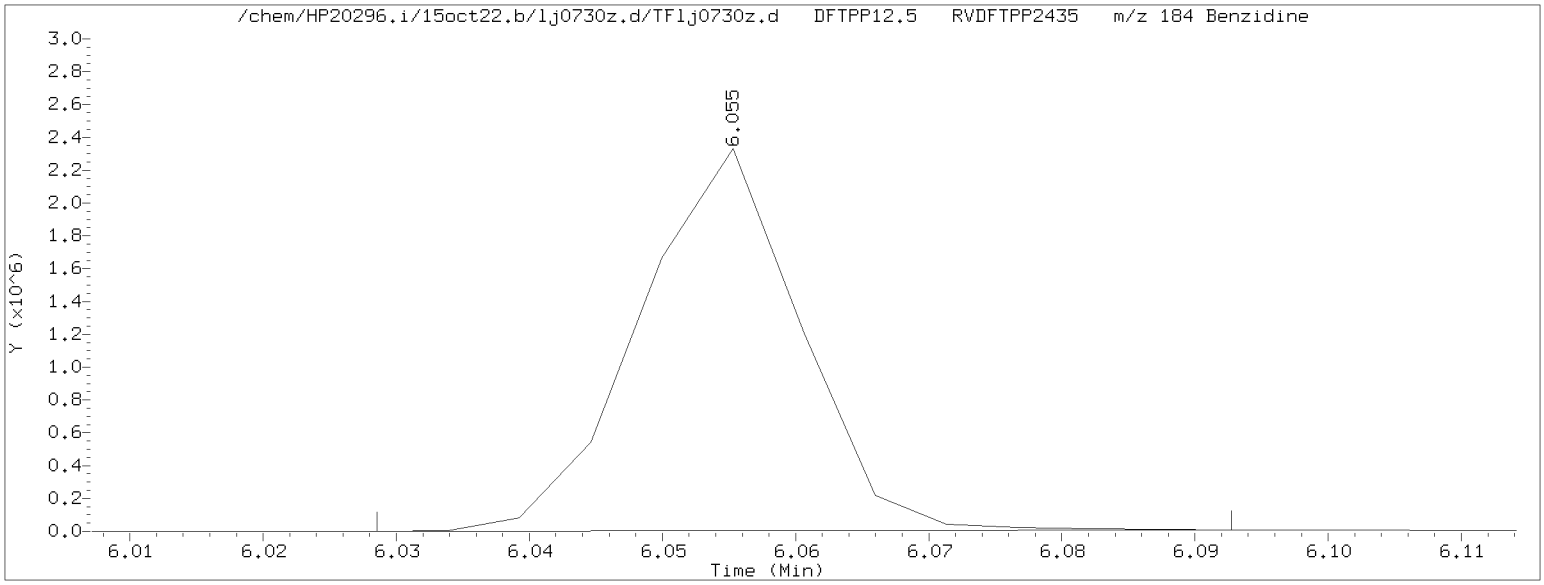
Instrument ID: HP20296.i Injection Date: 22-OCT-2015 08:29 Operator: hbz01996



Pentachlorophenol EICP peak height = 273472 EICP peak height at 10% = 27347 Pentachlorophenol EICP area = 284481

Pentachlorophenol EICP peak apex (min.) = 4.761
RT at 10% of front half of EICP (min.) = 4.750 'Front' peak width (min.) = 0.0105666667
RT at 10% of back half of EICP (min.) = 4.778 'Tailing' peak width (min.) = 0.0174666667

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0174666667}{0.0105666667} = 1.653$$



Benzidine EICP peak height = 2328669 EICP peak height at 10% = 232867 Benzidine EICP area = 1956059

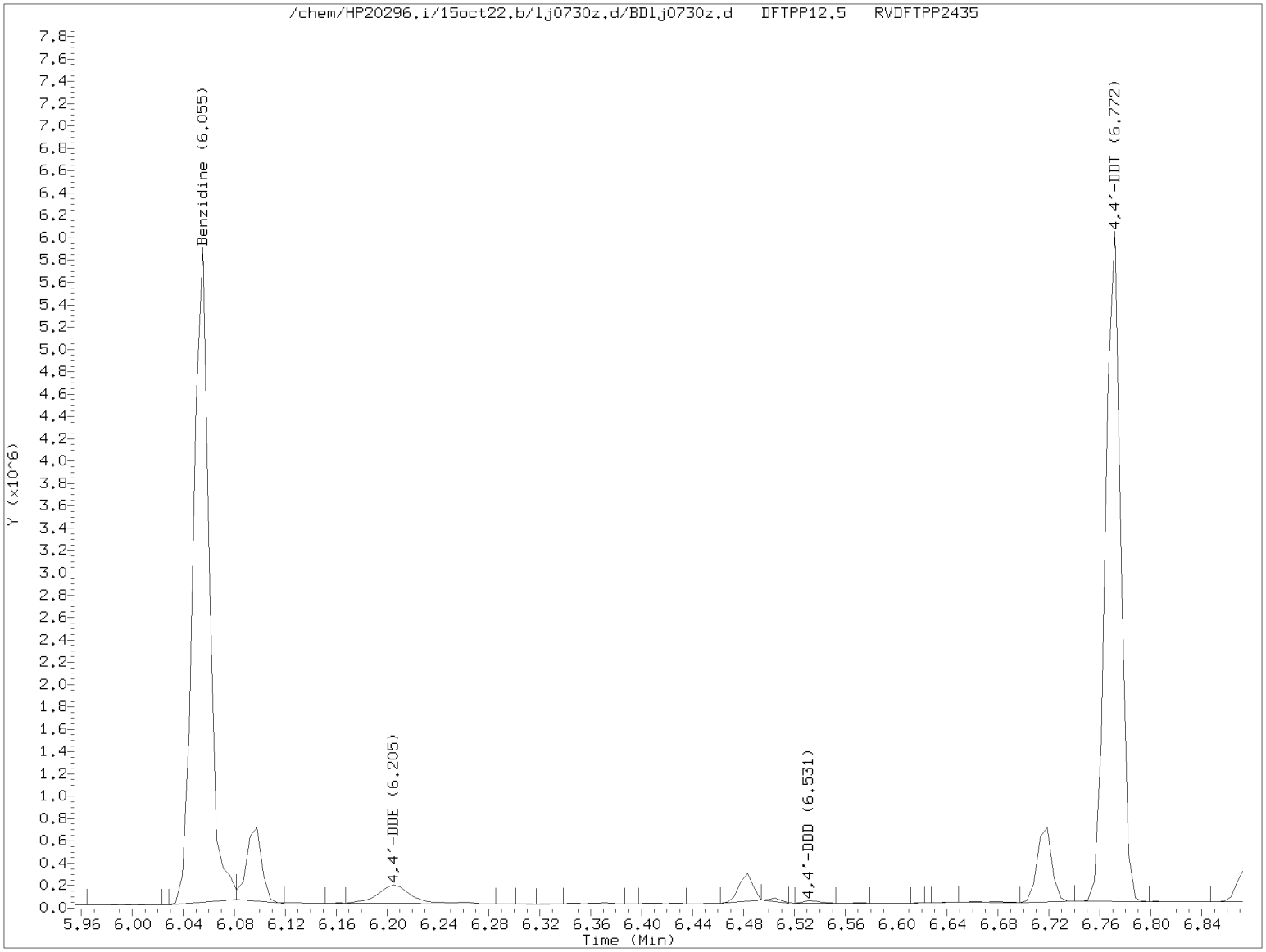
Benzidine EICP peak apex (min.) = 6.055
RT at 10% of front half of EICP (min.) = 6.041 'Front' peak width (min.) = 0.0142500000
RT at 10% of back half of EICP (min.) = 6.066 'Tailing' peak width (min.) = 0.0105666667

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0105666667}{0.0142500000} = 0.742$$

Secondary review performed and digitally signed by Beth A. Rubino on 10/25/2015 at 08:32. Parallax ID: bar06484

Assessment of GC Column Performance and Injection Port Inertness for

Instrument ID: HP20296.i Injection Date: 22-OCT-2015 08:29 Operator: hbz01996

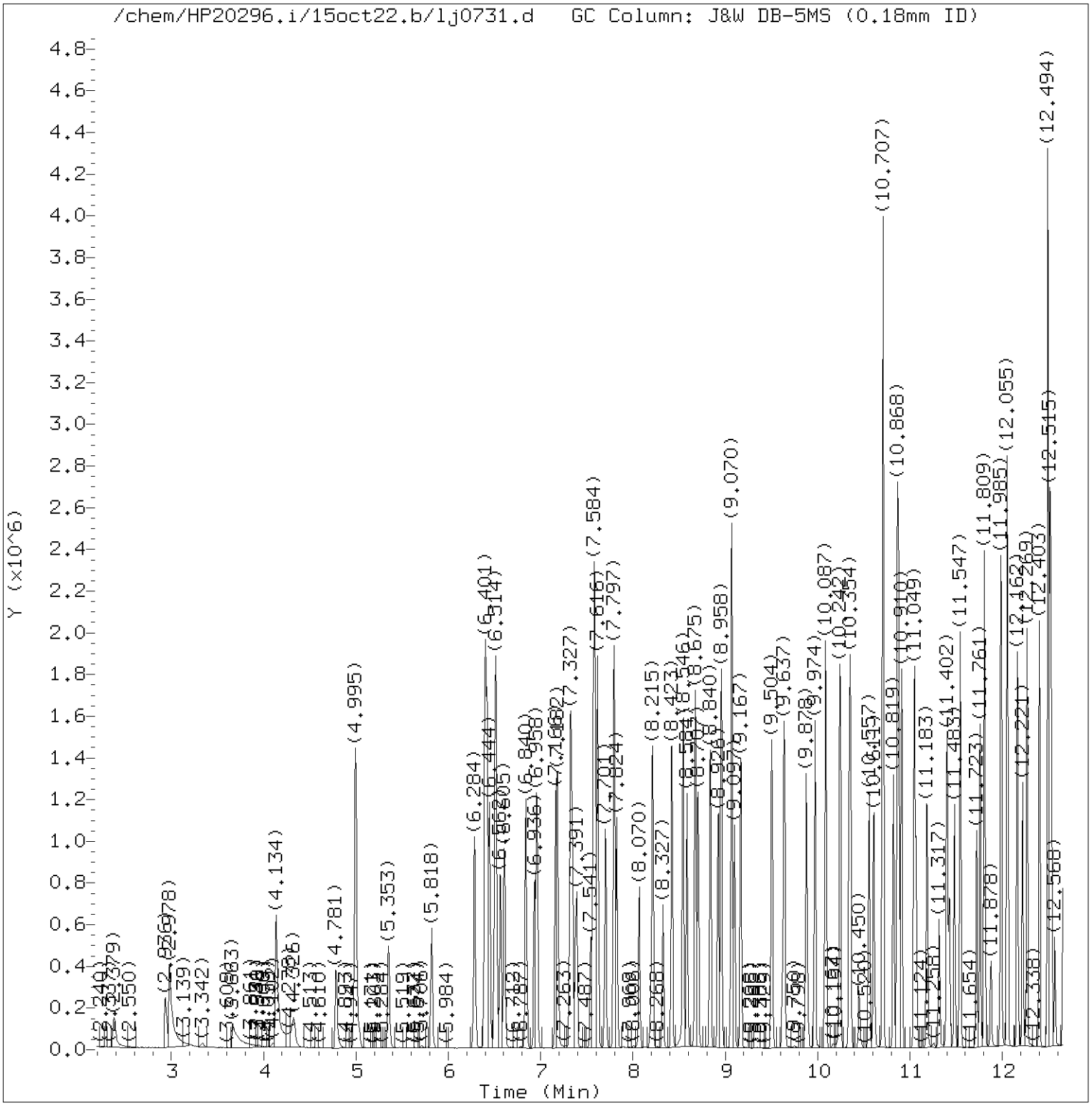


$$\%\ 4,4'\text{-DDT breakdown} = \frac{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area}}{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area} + 4,4'\text{-DDT TIC area}} \times 100$$

$$\%\ 4,4'\text{-DDT breakdown} = \frac{297938 + 22323}{297938 + 22323 + 5003682} \times 100 = 6.0$$

printed on 10/22/2015 at 08:39

Secondary review performed and digitally signed by Beth A. Rubino on 10/25/2015 at 08:32. Parallax ID: bar06484



Total Ion Chromatogram (TIC)

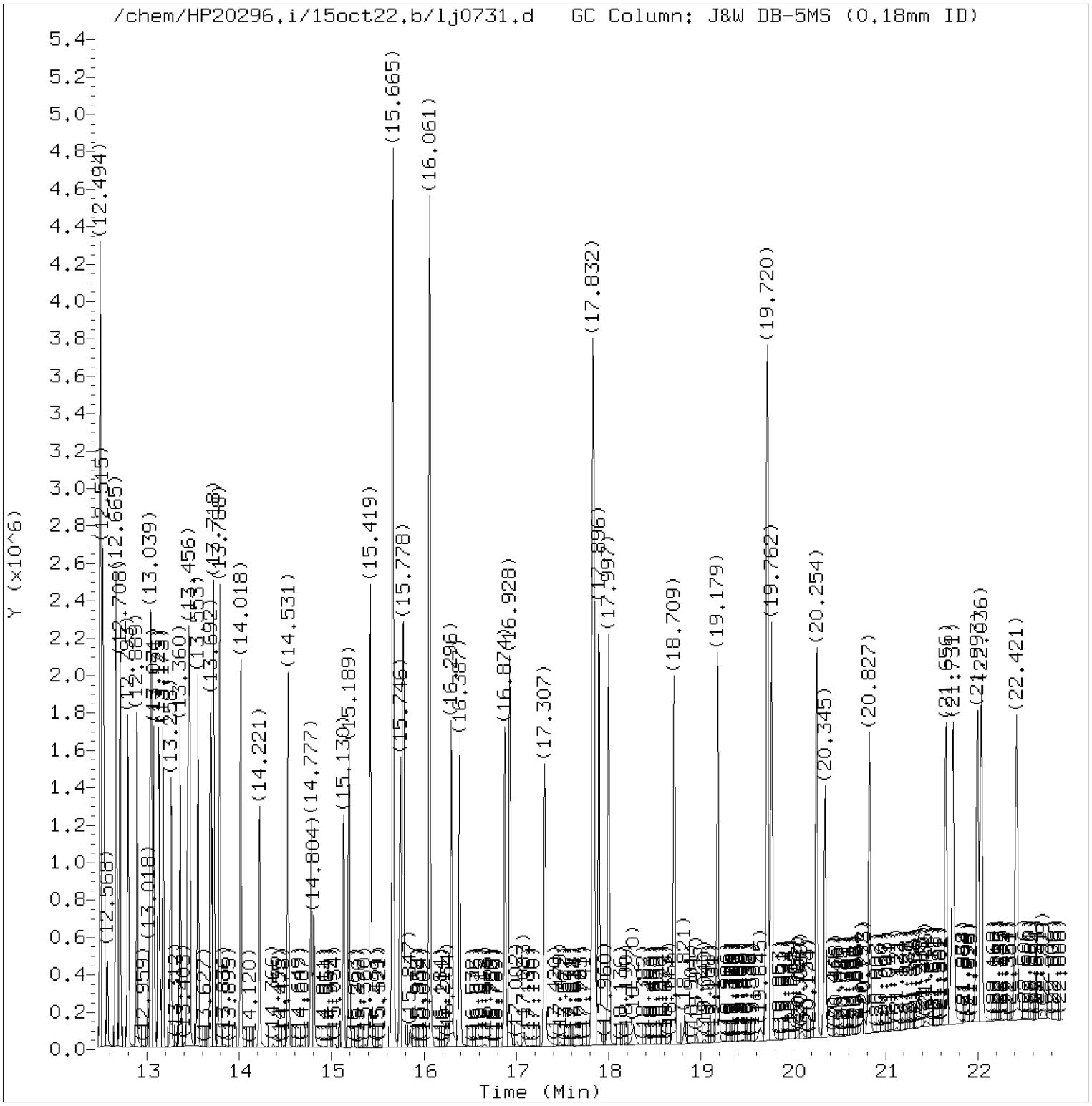
Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0731.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 08:42 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 09:21
Date, time and analyst ID of latest file update: 22-Oct-2015 09:21 hb01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Digitally signed by Holly Berry
on 10/22/2015 at 13:37.
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0731.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 08:42 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 09:21
Date, time and analyst ID of latest file update: 22-Oct-2015 09:21 hb01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Digitally signed by Holly Berry
on 10/22/2015 at 13:37.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0731.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 08:42 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 09:21
Date, time and analyst ID of latest file update: 22-Oct-2015 09:21 hb01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.379	88	151166	7.431
4) N-Nitrosodimethylamine	(1)	2.936	74	241117	7.409
5) Pyridine	(1)	2.978	79	404671	7.260
7) 2-Picoline	(1)	4.134	93	428313	7.441
8) N-Nitrosomethylethylamine	(1)	4.326	88	172577	7.499
9) Methyl methanesulfonate	(1)	4.781	80	218819	7.463
11)$2-Fluorophenol	(1)	4.995	112	669856	15.027
13) N-Nitrosodiethylamine	(1)	5.353	102	167610	7.486
15) Ethyl methanesulfonate	(1)	5.818	109	175974	7.467
16) Benzaldehyde	(1)	6.284	77	329301	7.593
17)$Phenol-d6	(1)	6.401	99	899743	15.185
18) Phenol	(1)	6.418	94	515583	7.484
19) Aniline	(1)	6.444	93	612550	7.422
20) a-methylstyrene	(1)	6.519	118	340943	7.239
22) bis(2-Chloroethyl)ether	(1)	6.567	93	378913	7.404
23) 2-Chlorophenol	(1)	6.605	128	322959	7.624
24) 1,3-Dichlorobenzene	(1)	6.840	146	369249	7.591
25)*1,4-Dichlorobenzene-d4	(1)	6.936	152	157611	5.000
26) 1,4-Dichlorobenzene	(1)	6.963	146	370430	7.463
27) Benzyl alcohol	(1)	7.161	108	224235	7.200
28) 1,2-Dichlorobenzene	(1)	7.182	146	353158	7.579
30) Indene	(1)	7.321	115	601096	7.321
31) 2-Methylphenol	(1)	7.343	108	332838	7.531
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.391	45	463266	7.370
34) bis(2-Chloroisopropyl)ether	(1)	7.391	45	463266	7.370
35) N-Nitrosopyrrolidine	(1)	7.541	100	179159	7.563
36) Acetophenone	(1)	7.567	105	509896	7.127
38) N-Nitroso-di-n-propylamine	(1)	7.589	70	297047	7.156
37) 4-Methylphenol	(1)	7.589	108	382257	7.716
39) N-Nitrosomorpholine	(1)	7.616	56	221881	7.659
40) o-Toluidine	(1)	7.621	106	598814	7.508
42) Total Cresols	(1)			715095	15.247
43) Hexachloroethane	(1)	7.701	117	156710	7.427
44)$Nitrobenzene-d5	(2)	7.797	82	845847	15.118
45) Nitrobenzene	(2)	7.824	77	439728	7.463
48) N-Nitrosopiperidine	(2)	8.070	114	174613	7.623
50) Isophorone	(2)	8.215	82	782315	7.374
51) 2-Nitrophenol	(2)	8.327	139	131493	8.040
53) 2,4-Dimethylphenol	(2)	8.423	107	373362	7.554
56) Benzoic acid	(2)	8.541	105	82798	13.284

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly Berry
on 10/22/2015 at 13:37.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0731.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 08:42 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 09:21
Date, time and analyst ID of latest file update: 22-Oct-2015 09:21 hb01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.546	198	180370	7.553
55) bis(2-Chloroethoxy)methane	(2)	8.584	93	469573	7.493
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.675	104	528195	7.232
60) 2,4-Dichlorophenol	(2)	8.707	162	275955	7.688
62) 1,2,4-Trichlorobenzene	(2)	8.840	180	319087	7.497
65)*Naphthalene-d8	(2)	8.926	136	604447	5.000
66) Naphthalene	(2)	8.958	128	962002	7.437
68) 2,6-Dichlorophenol	(2)	9.070	162	268642	7.647
67) 4-Chloroaniline	(2)	9.070	127	402209	7.521
69) Hexachloropropene	(2)	9.103	213	220051	7.580
71) Hexachlorobutadiene	(2)	9.172	225	197982	7.466
75) Quinoline	(2)	9.504	129	617890	7.537
76) Caprolactam	(2)	9.632	113	86995	7.397
77) N-Nitrosodi-n-butylamine	(2)	9.643	84	342757	8.235
80) 4-Chloro-3-methylphenol	(2)	9.878	107	311628	7.673
82) Safrole	(2)	9.974	162	252775	7.462
83) 2-Methylnaphthalene	(2)	10.087	142	645833	7.432
84) 1-Methylnaphthalene	(2)	10.242	142	588429	7.502
85) Hexachlorocyclopentadiene	(3)	10.343	237	207849	7.599
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.354	216	353207	7.560
88) cis-Isosafrole	(3)	10.450	162	47625	1.260
90) 2,4,6-Trichlorophenol	(3)	10.557	196	196462	7.747
92) 2,4,5-Trichlorophenol	(3)	10.611	196	213682	7.834
93)$2-Fluorobiphenyl	(3)	10.707	172	1486778	15.011
97) Isosafrole	(3)			302448	7.433
94) trans-Isosafrole	(3)	10.819	162	254823	6.173
95) 1,1'-Biphenyl	(3)	10.862	154	778526	7.368
96) 2-Chloronaphthalene	(3)	10.878	162	622754	7.545
98) 1-Chloronaphthalene	(3)	10.910	162	596164	7.518
99) Diphenyl ether	(3)	11.049	170	430980	7.429
100) 2-Nitroaniline	(3)	11.071	138	172615	8.124
104) 1,4-Naphthoquinone	(3)	11.188	158	250354	7.411
105) 1,4-Dinitrobenzene	(3)	11.317	168	69050	7.274
106) Dimethylphthalate	(3)	11.402	163	696927	7.526
107) 1,3-Dinitrobenzene	(3)	11.429	168	88979	7.832
108) 2,6-Dinitrotoluene	(3)	11.483	165	142582	8.219
109) Acenaphthylene	(3)	11.547	152	978786	7.524
112) 3-Nitroaniline	(3)	11.723	138	154111	7.427
113)*Acenaphthene-d10	(3)	11.761	164	357255	5.000
114) Acenaphthene	(3)	11.809	153	652152	7.365

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 10/22/2015 at 13:37.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0731.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 08:42 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 09:21
Date, time and analyst ID of latest file update: 22-Oct-2015 09:21 hb01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	11.878	184	48635	9.120
120) 2,4_2,6-Dinitrotoluenes	(3)			319124	15.833
116) 4-Nitrophenol	(3)	11.985	109	103551	7.203
117) Pentachlorobenzene	(3)	11.991	250	292189	7.504
119) Dibenzofuran	(3)	12.055	168	887453	7.528
118) 2,4-Dinitrotoluene	(3)	12.060	165	176542	7.614
121) 1-Naphthylamine	(3)	12.162	143	621606	7.293
122) 2,3,4,6-Tetrachlorophenol	(3)	12.221	232	157412	7.874
123) 2-Naphthylamine	(3)	12.269	143	608162	7.296
124) Diethylphthalate	(3)	12.403	149	679590	7.441
126) Fluorene	(3)	12.494	166	699846	7.430
125) Thionazin	(3)	12.499	107	123037	7.547
127) 4-Chlorophenyl-phenylether	(3)	12.515	204	346732	7.292
128) 5-Nitro-o-toluidine	(3)	12.526	152	181903	7.557
129) 4-Nitroaniline	(3)	12.536	138	160402	7.385
130) 4,6-Dinitro-2-methylphenol	(4)	12.568	198	62991	7.778
132) NDPA as diphenylamine	(4)	12.665	169	581882	7.577
131) N-Nitrosodiphenylamine	(4)	12.665	169	581882	7.577
134) 1,2-Diphenylhydrazine	(4)	12.708	77	884895	7.397
135)$2,4,6-Tribromophenol	(3)	12.793	330	170514	15.326
137) Tetraethyldithiopyrophosphate	(4)	12.889	97	142862	7.573
146) Diallate trans/cis	(4)			359108	7.519
139) 1,3,5-Trinitrobenzene	(4)	13.018	213	46762	7.426
140) Diallate (peak 1)	(4)	13.034	86	299452	6.270
141) Phorate	(4)	13.044	75	539397	7.330
142) Phenacetin	(4)	13.071	108	399270	7.888
143) 4-Bromophenyl-phenylether	(4)	13.125	248	203467	7.482
144) Diallate (peak 2)	(4)	13.146	86	59656	1.249
145) Hexachlorobenzene	(4)	13.173	284	217265	7.460
147) Dimethoate	(4)	13.258	87	330919	7.724
148) Atrazine	(4)	13.360	200	204945	7.723
149) Pentachlorophenol	(4)	13.440	266	95552	7.904
151) Pentachloronitrobenzene	(4)	13.451	237	91266	7.529
150) 4-Aminobiphenyl	(4)	13.462	169	689637	7.702
152) Pronamide	(4)	13.553	173	342162	7.787
153)*Phenanthrene-d10	(4)	13.686	188	676816	5.000
154) Dinoseb	(4)	13.697	211	97077	7.399
155) Phenanthrene	(4)	13.718	178	1065204	7.486
157) Anthracene	(4)	13.788	178	1063408	7.492
163) Carbazole	(4)	14.018	167	992842	7.694

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$ = Compound is a surrogate standard.

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on 10/22/2015 at 13:37.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0731.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 08:42 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: all1
Calibration date and time: 22-OCT-2015 09:21
Date, time and analyst ID of latest file update: 22-Oct-2015 09:21 hb01996

Sample Name: SSTD7.5 Lab Sample ID: RVSTD2745

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	14.221	109	228023	7.519
165) Di-n-butylphthalate	(4)	14.531	149	1197685	7.580
167) Parathion	(4)	14.777	109	134267	7.274
168) 4-Nitroquinoline-1-oxide	(4)	14.810	190	67344	7.540
169) Octachlorostyrene	(4)	15.130	308	81811	7.506
171) Isodrin	(4)	15.189	193	127251	7.322
173) Fluoranthene	(4)	15.419	202	1243883	7.574
174) Benzidine	(5)	15.665	184	2328246	22.775
175)*Pyrene-d10	(5)	15.746	212	826318	5.000
177) Pyrene	(5)	15.778	202	1321072	7.537
179)$Terphenyl-d14	(5)	16.061	244	1808592	15.401
182) p-Dimethylaminoazobenzene	(5)	16.296	225	232752	7.615
185) Chlorobenzilate	(5)	16.387	139	375325	7.725
187) 3,3'-Dimethylbenzidine	(5)	16.874	212	826045	7.652
188) Butylbenzylphthalate	(5)	16.928	149	541845	7.781
191) 2-Acetylaminofluorene	(5)	17.307	181	440520	7.564
193) 3,3'-Dichlorobenzidine	(5)	17.826	252	460773	7.434
195) Benzo(a)anthracene	(5)	17.832	228	1278533	7.686
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.848	231	259468	7.534
196) Chrysene	(5)	17.896	228	1173307	7.590
199) bis(2-Ethylhexyl)phthalate	(5)	17.997	149	782212	7.601
203) 6-Methylchrysene	(5)	18.709	242	833945	7.517
205) Di-n-octylphthalate	(6)	19.179	149	1359307	7.544
206) Benzo(b)fluoranthene	(6)	19.714	252	1266607	7.667
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.720	256	529325	7.676
208) Benzo(k)fluoranthene	(6)	19.762	252	1233581	7.858
211) Benzo(a)pyrene	(6)	20.254	252	1177817	7.712
213)*Perylene-d12	(6)	20.345	264	672139	5.000
215) 3-Methylcholanthrene	(6)	20.827	268	552112	7.572
217) Dibenz(a,h)acridine	(6)	21.656	279	993426	7.662
218) Dibenz(a,j)acridine	(6)	21.731	279	996912	7.790
219) Indeno(1,2,3-cd)pyrene	(6)	21.993	276	1393830	7.866
222) Total PAHs	(6)			19064714	136.811
220) Dibenz(a,h)anthracene	(6)	22.036	278	1151314	7.975
221) Benzo(g,h,i)perylene	(6)	22.421	276	1169110	7.678

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$ = Compound is a surrogate standard.

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on 10/22/2015 at 13:37.
Target 3.5 esignature user ID: hb01996

Raw QC Data

Semivolatiles by GC/MS

SBLKWB283L Lancaster Laboratories, Inc. Analysis Summary for GC/MS Semivolatiles SBLKWB283

Data file: /chem/HP20296.i/15oct16.b/lj0582a.d Injection date and time: **16-OCT-2015 12:16**
Data file Sample Info. Line: SBLKWB283L;SBLKWB283;1;3;BLANK;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.022(0.005)	904	152	182164 (-16)	5.00	
65) Naphthalene-d8	9.012(0.005)	1276	136	711234 (-19)	5.00	
113) Acenaphthene-d10	11.841(0.000)	1805	164	405855 (-17)	5.00	
153) Phenanthrene-d10	13.767(0.005)	2165	188	747662 (-19)	5.00	
175) Pyrene-d10	15.842(0.005)	2553	212	840144 (-22)	5.00	
213) Perylene-d12	20.458(0.005)	3416	264	586779 (-23)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.883(0.000)	82	1600679	22.292	89%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.798(0.000)	172	2425967	21.683	87%		61 - 112
179) Terphenyl-d14	(5)	16.158(0.000)	244	2314284	20.745	83%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.03
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)			Not Detected					0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)	19.827(0.000)	252	5153	0.036	0.14			0.03
208) Benzo(k)fluoranthene	(6)	19.875(0.000)	252	4668	0.033	0.13			0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)	22.164(-0.000)	278	3565	0.027	0.11			0.03
221) Benzo(g,h,i)perylene	(6)	22.549(0.000)	276	3841	0.029	0.11			0.03

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:22. Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0582a.d Injection date and time: **16-OCT-2015 12:16**
Data file Sample Info. Line: SBLKWB283L;SBLKWB283;1;3;BLANK;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 1 ul

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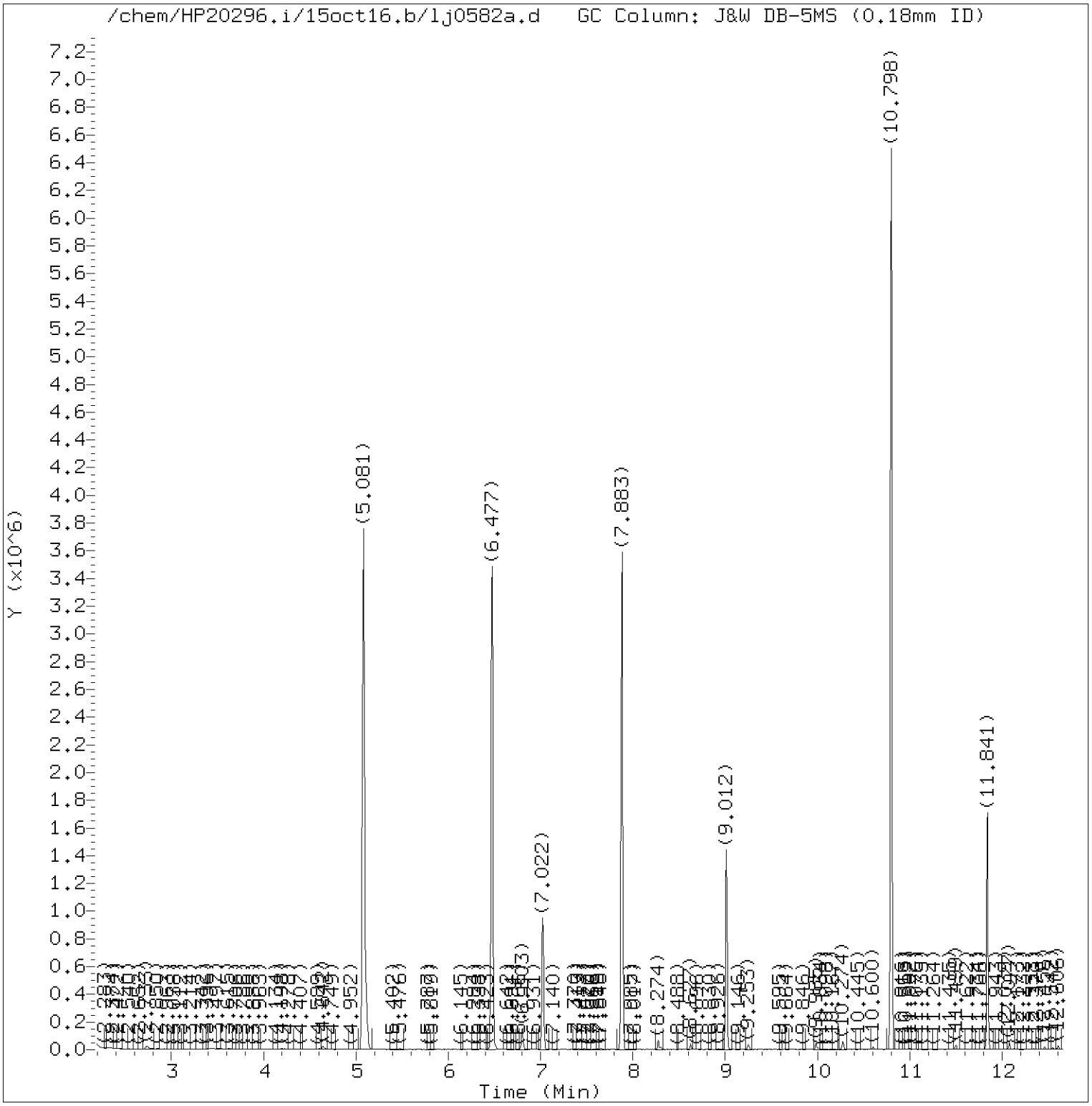
BLANK INTENTIONALLY

Total number of targets = 17

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:22. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:35. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

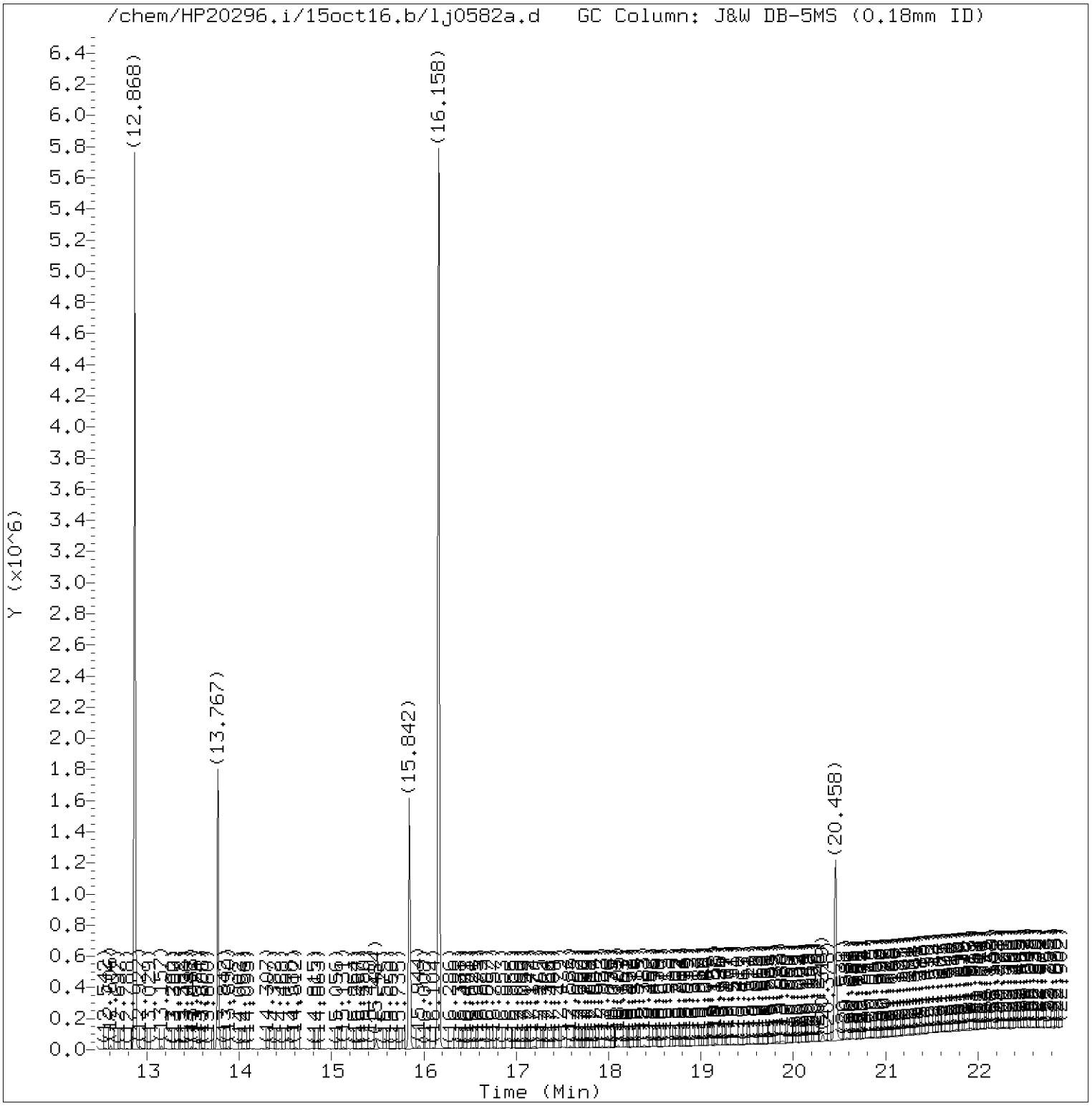
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0582a.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 12:16 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Sample Name: SBLKWB283L Lab Sample ID: SBLKWB283

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:22.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0582a.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 12:16 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Sample Name: SBLKWB283L Lab Sample ID: SBLKWB283

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:22.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0582a.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 12:16 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

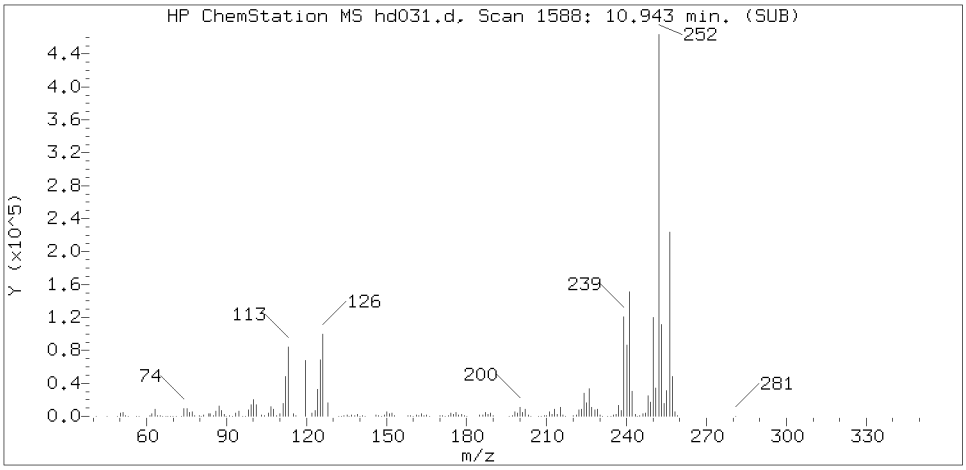
Sample Name: SBLKWB283L Lab Sample ID: SBLKWB283

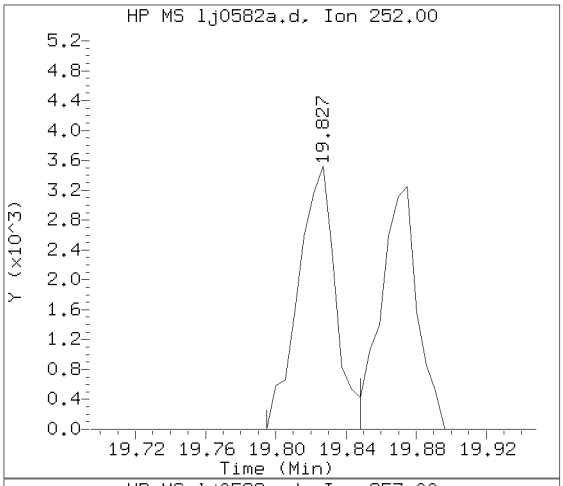
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.022	152	182164	5.000
44)$Nitrobenzene-d5	(2)	7.883	82	1600679	22.292
65)*Naphthalene-d8	(2)	9.012	136	711234	5.000
93)$2-Fluorobiphenyl	(3)	10.798	172	2425967	21.683
113)*Acenaphthene-d10	(3)	11.841	164	405855	5.000
153)*Phenanthrene-d10	(4)	13.767	188	747662	5.000
175)*Pyrene-d10	(5)	15.842	212	840144	5.000
179)$Terphenyl-d14	(5)	16.158	244	2314284	20.745
206) Benzo(b)fluoranthene	(6)	19.827	252	5153	0.036
208) Benzo(k)fluoranthene	(6)	19.875	252	4668	0.033
213)*Perylene-d12	(6)	20.458	264	586779	5.000
220) Dibenz(a,h)anthracene	(6)	22.164	278	3565	0.027
221) Benzo(g,h,i)perylene	(6)	22.549	276	3841	0.029

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

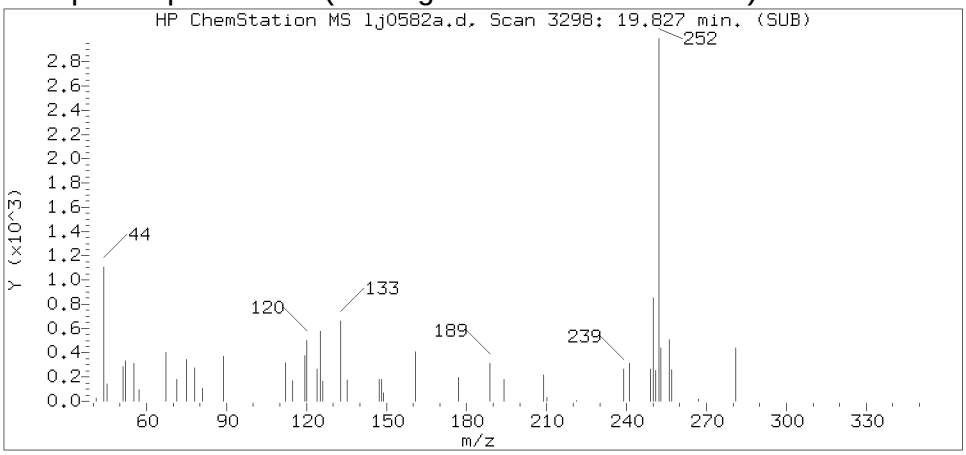
Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:22.
Target 3.5 esignature user ID: hbz01996

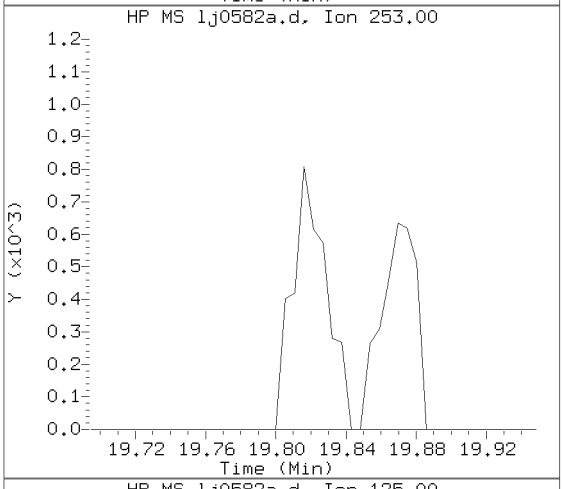
Reference Standard Spectrum for Benzo(b)fluoranthene



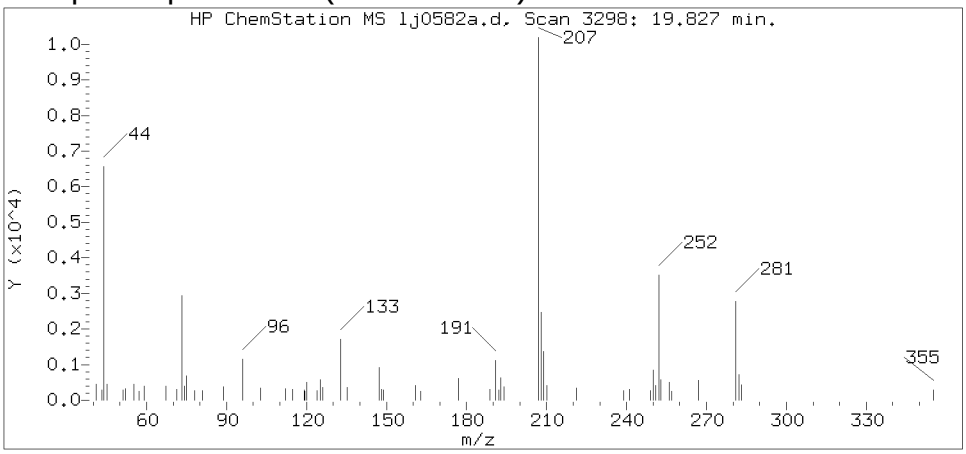


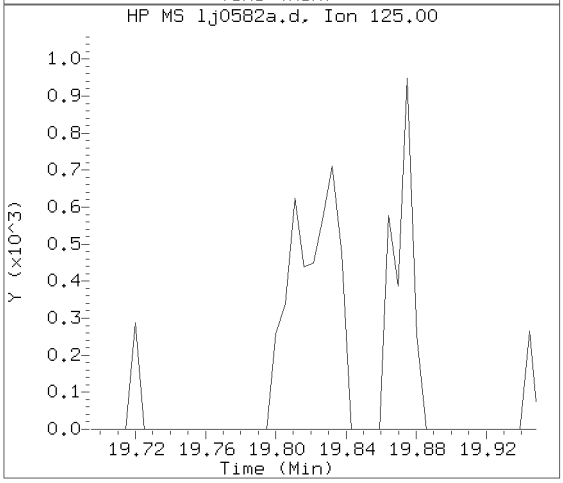
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0582a.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 12:16 Analyst ID: hbz01996

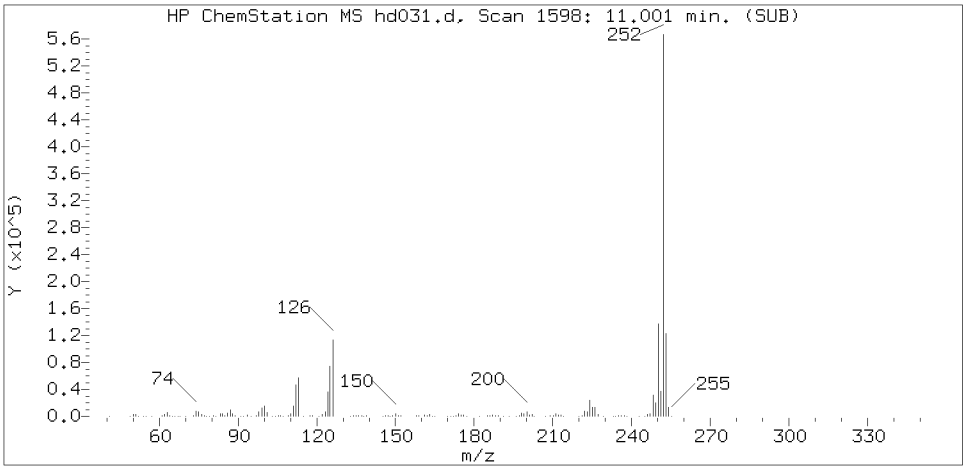
Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

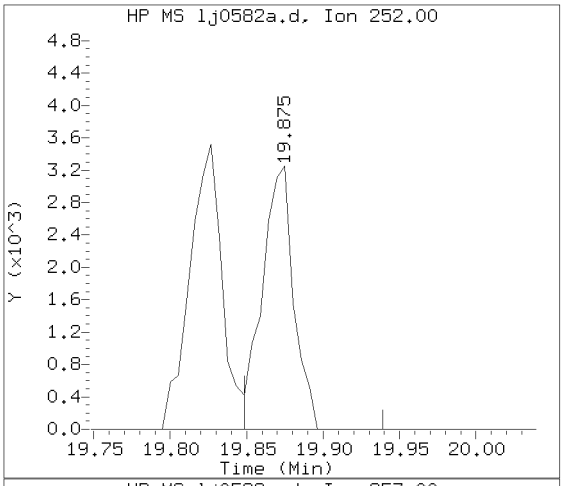
Sample Name: SBLKWB283L Lab Sample ID: SBLKWB283

Compound Number	: 206
Compound Name	: Benzo(b)fluoranthene
Scan Number	: 3298
Retention Time (minutes)	: 19.827
Relative Retention Time	: 0.00001
Quant Ion	: 252.00
Area (flag)	: 5153
On-column Amount (ng/ul)	: 0.0357

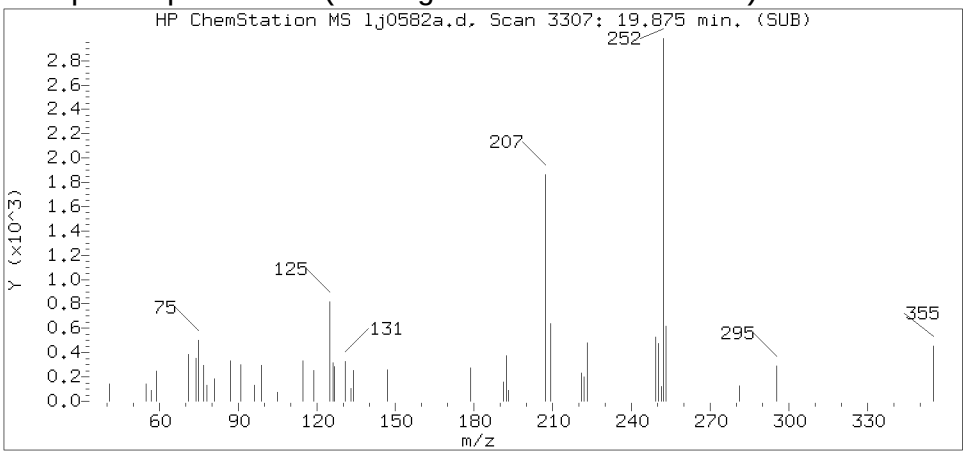
Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:22.
Target 3.5 esignature user ID: hbz01996

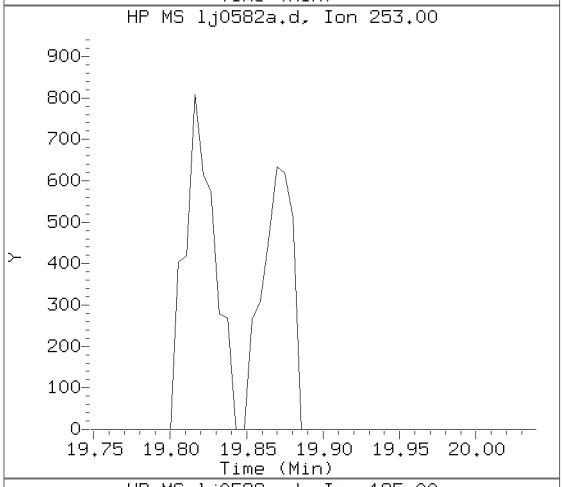
Reference Standard Spectrum for Benzo(k)fluoranthene



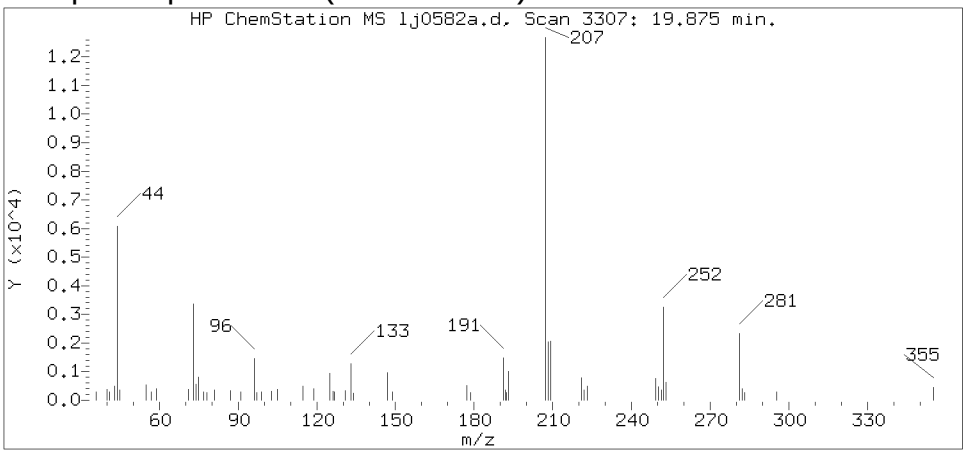


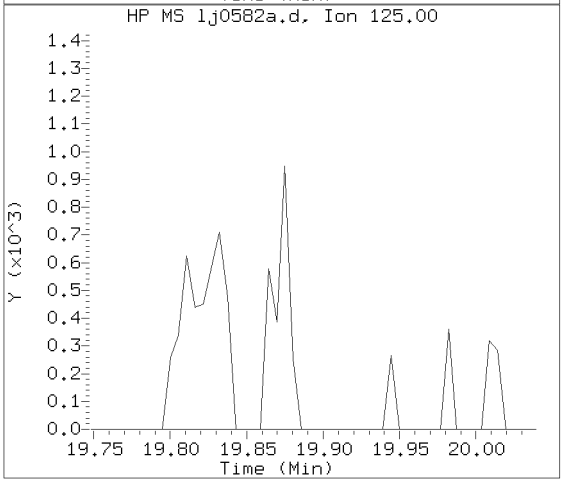
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0582a.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 12:16 Analyst ID: hbz01996

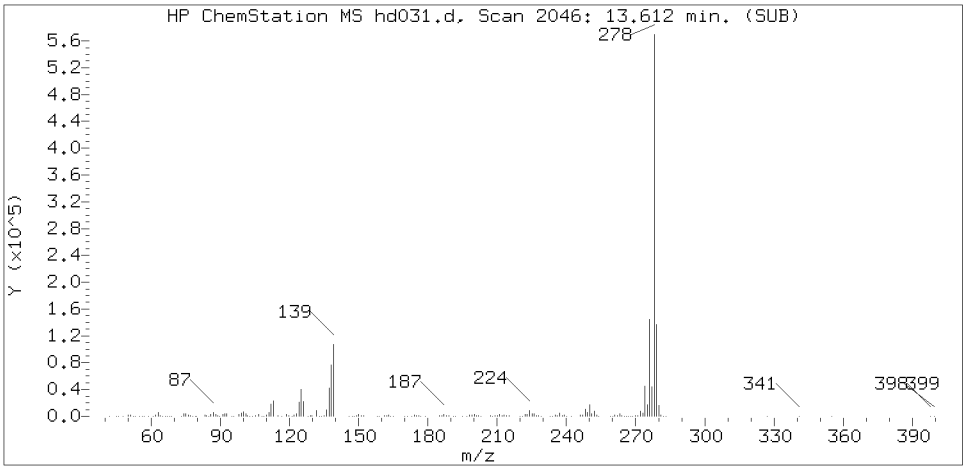
Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

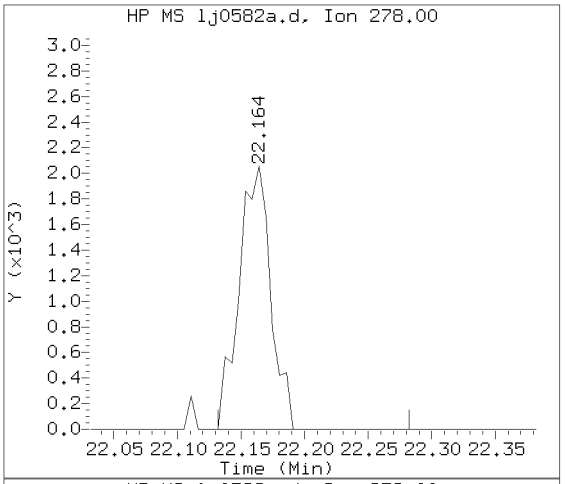
Sample Name: SBLKWB283L Lab Sample ID: SBLKWB283

Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 3307
Retention Time (minutes) : 19.875
Relative Retention Time : 0.00001
Quant Ion : 252.00
Area (flag) : 4668
On-column Amount (ng/ul) : 0.0332

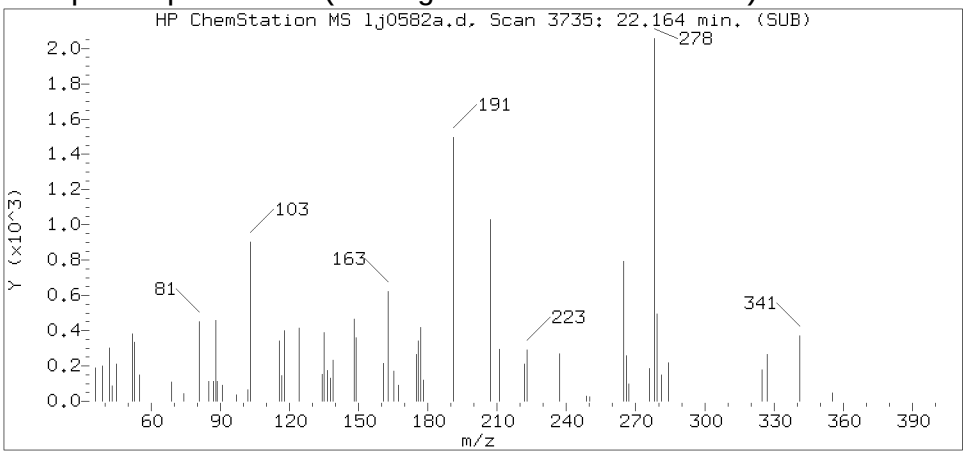
Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:22.
Target 3.5 esignature user ID: hbz01996

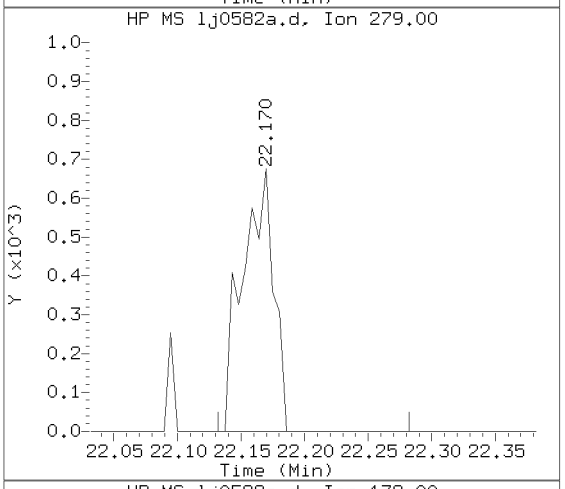
Reference Standard Spectrum for Dibenz(a,h)anthracene



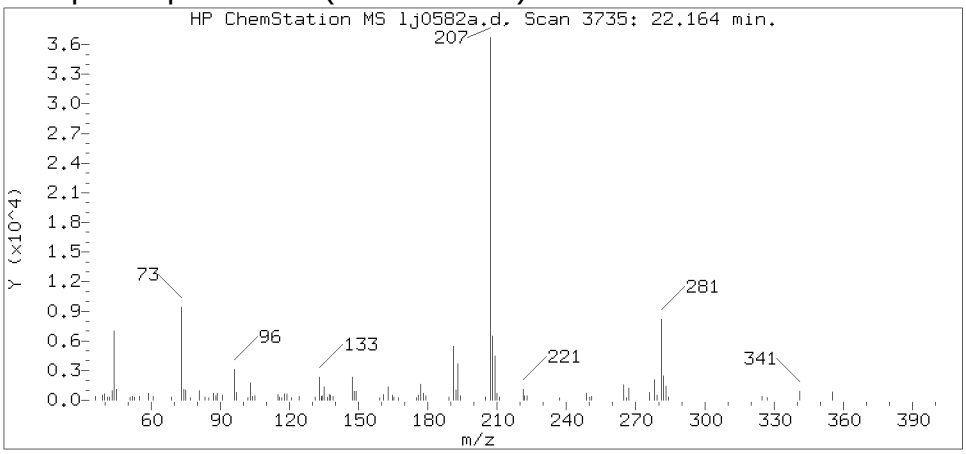


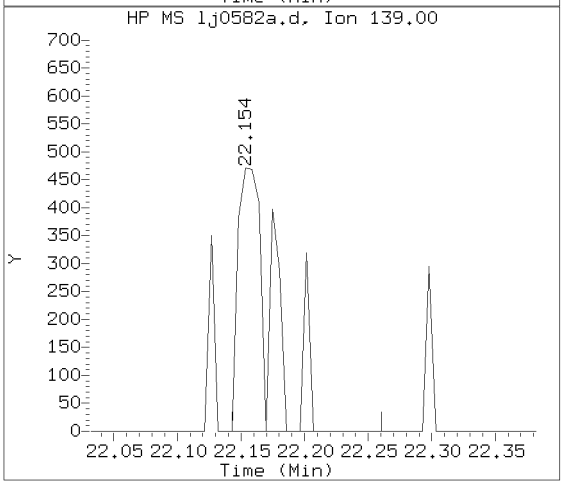
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0582a.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 12:16 Analyst ID: hbz01996

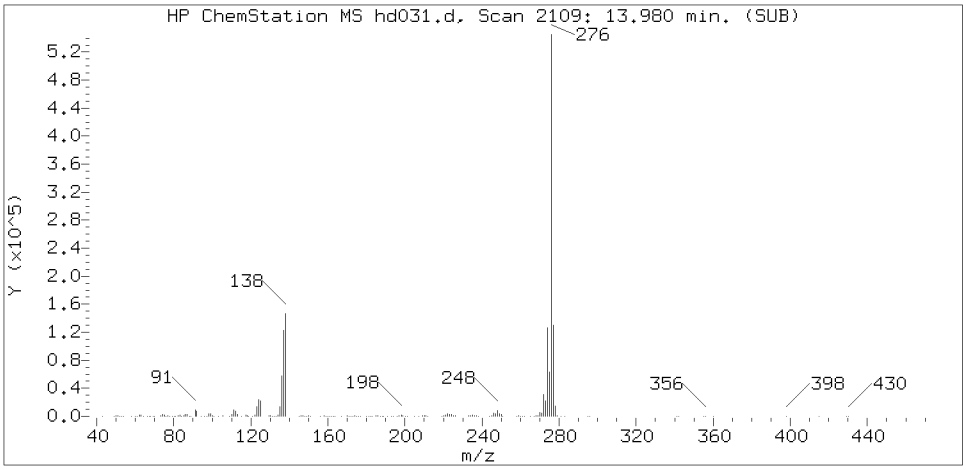
Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

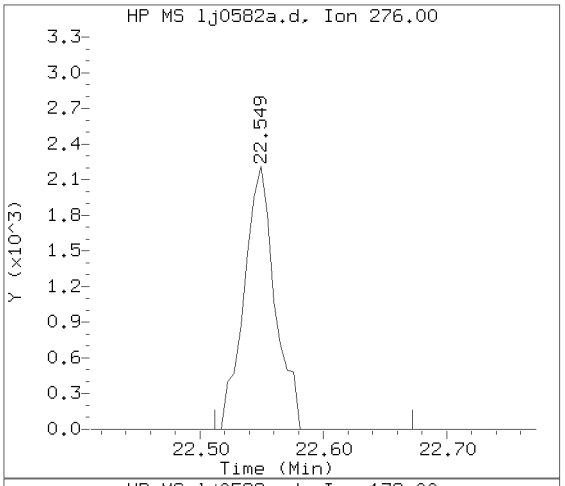
Sample Name: SBLKWB283L Lab Sample ID: SBLKWB283

Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 3735
Retention Time (minutes) : 22.164
Relative Retention Time :-0.00002
Quant Ion : 278.00
Area (flag) : 3565
On-column Amount (ng/ul) : 0.0272

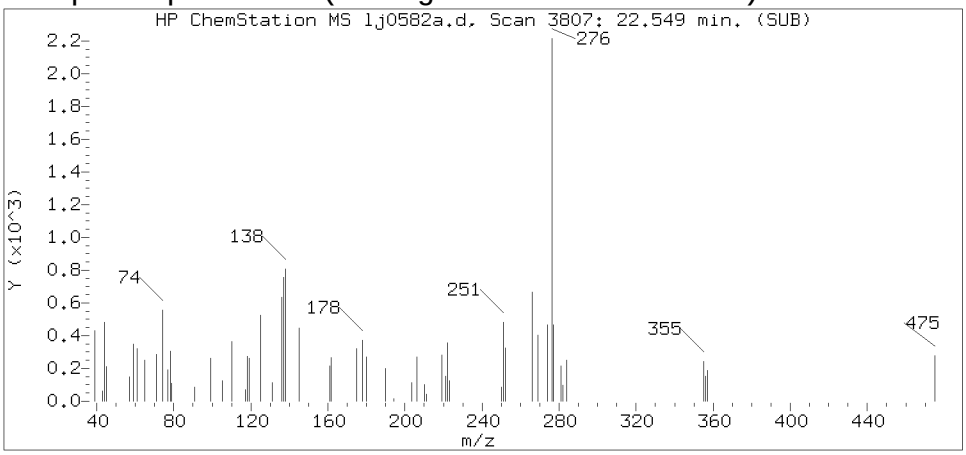
Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:22.
Target 3.5 esignature user ID: hbz01996

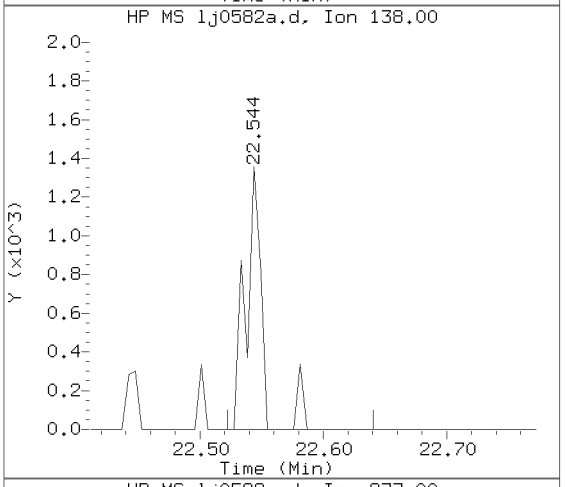
Reference Standard Spectrum for Benzo(g,h,i)perylene



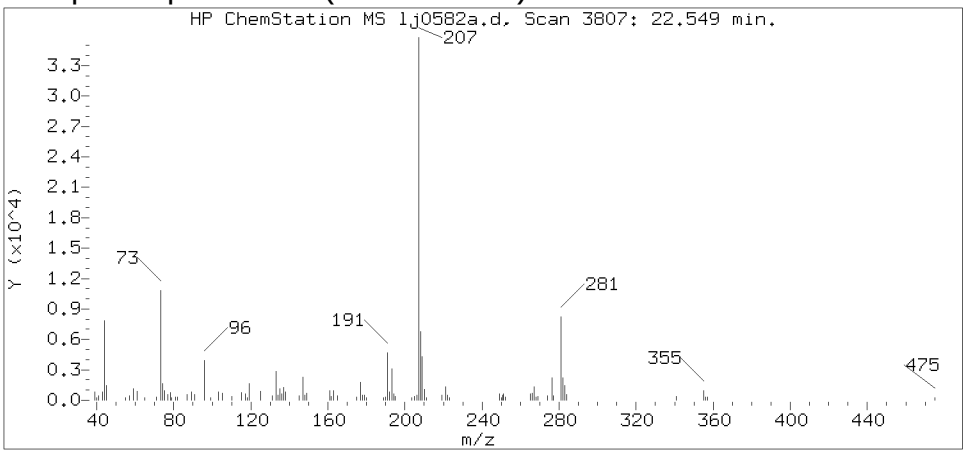


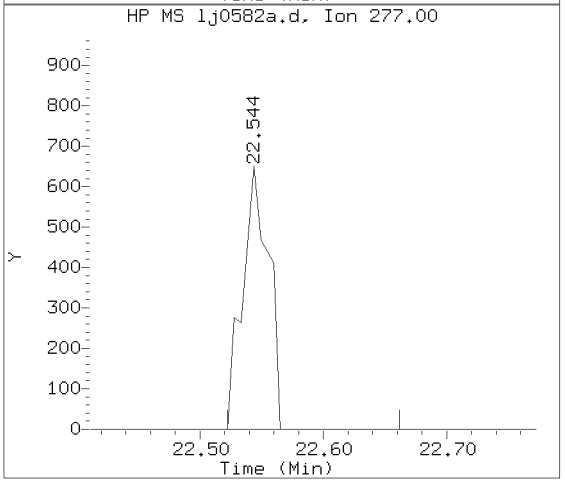
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/15oct16.b/lj0582a.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 12:16 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Sample Name: SBLKWB283L Lab Sample ID: SBLKWB283

Compound Number : 221
Compound Name : Benzo(g,h,i)perylene
Scan Number : 3807
Retention Time (minutes) : 22.549
Relative Retention Time : 0.00023
Quant Ion : 276.00
Area (flag) : 3841
On-column Amount (ng/ul) : 0.0286

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:22.
Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct22.b/lj0732.d Injection date and time: **22-OCT-2015 09:53**
Data file Sample Info. Line: SBLKWE293L;SBLKWE293;1;3;BLANK;;; Instrument ID: **HP20296.i** Batch: **15293WAE**
Date, time and analyst ID of latest file update: 22-Oct-2015 13:51 hb01996

Blank Data file reference: **/chem/HP20296.i/15oct22.b/lj0732.d**

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 22-OCT-2015 13:51
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct22.b/lj0731.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.936(0.000)	888	152	135505 (-14)	5.00	
65) Naphthalene-d8	8.926(0.000)	1260	136	508703 (-16)	5.00	
113) Acenaphthene-d10	11.761(0.000)	1790	164	296084 (-17)	5.00	
153) Phenanthrene-d10	13.686(0.000)	2150	188	558452 (-17)	5.00	
175) Pyrene-d10	15.746(0.000)	2535	212	669006 (-19)	5.00	
213) Perylene-d12	20.346(0.000)	3395	264	530491 (-21)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.798(0.000)	82	1063445	22.585	90%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.713(0.000)	172	1811631	22.070	88%		61 - 112
179) Terphenyl-d14	(5)	16.061(0.000)	244	1936585	20.369	81%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)			Not Detected					0.03
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
109) Acenaphthylene	(3)			Not Detected					0.03
114) Acenaphthene	(3)			Not Detected					0.03
126) Fluorene	(3)			Not Detected					0.03
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Holly Berry on 10/22/2015 at 13:56. Target 3.5 esignature user ID: hb01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct22.b/lj0732.d Injection date and time: **22-OCT-2015 09:53**
Data file Sample Info. Line: SBLKWE293L;SBLKWE293;1;3;BLANK;;; Instrument ID: **HP20296.i** Batch: **15293WAE**
Date, time and analyst ID of latest file update: 22-Oct-2015 13:51 hb01996

Blank Data file reference: **/chem/HP20296.i/15oct22.b/lj0732.d**

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 22-OCT-2015 13:51
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct22.b/lj0731.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 1 ul

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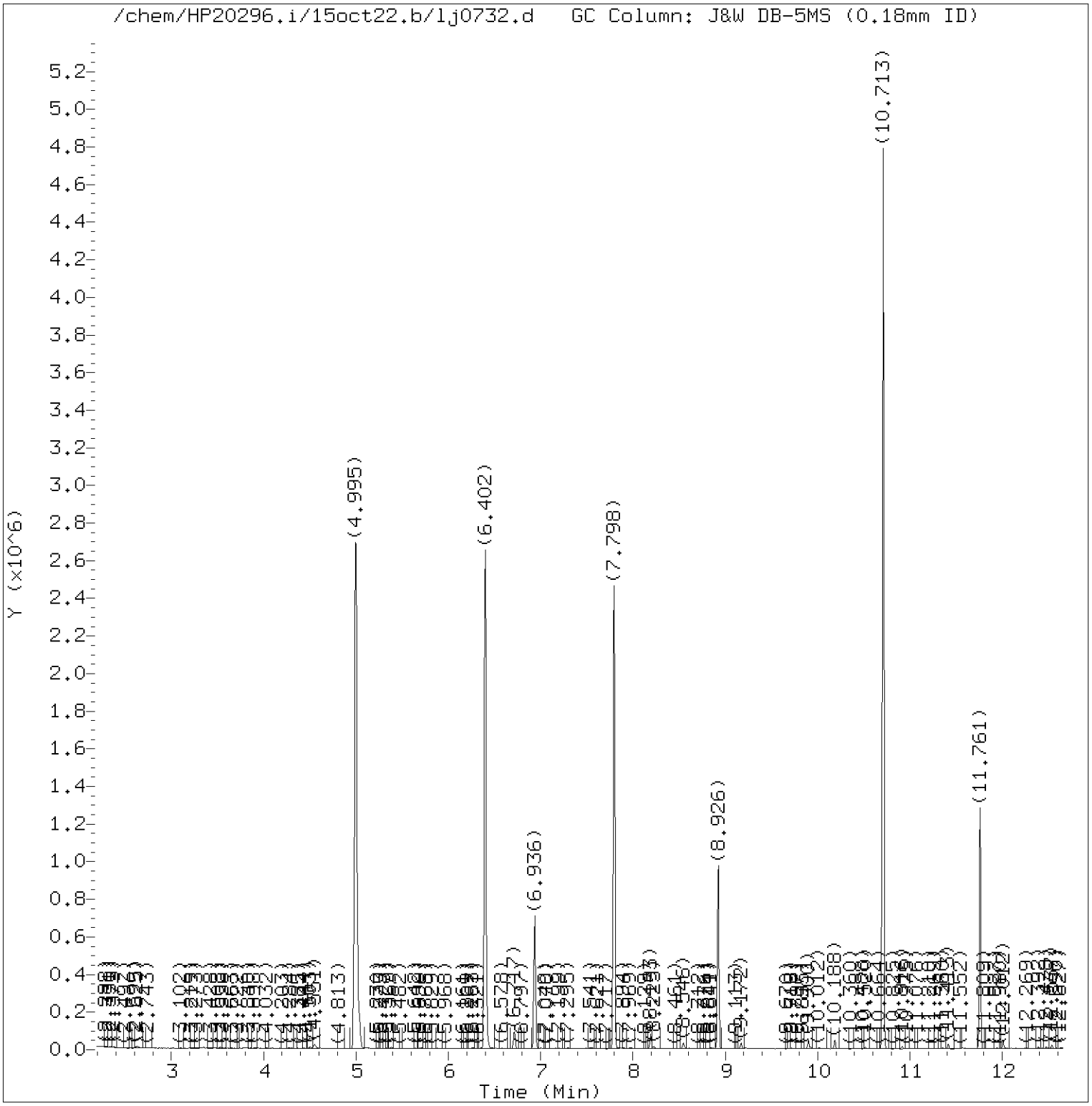
Total number of targets = 17

Digitally signed by Holly Berry on 10/22/2015 at 13:56. Target 3.5 esignature user ID: hb01996

Secondary review performed and digitally signed by Beth A. Rubino on 10/25/2015 at 13:49. Parallax ID: bar06484



Total Ion Chromatogram (TIC)

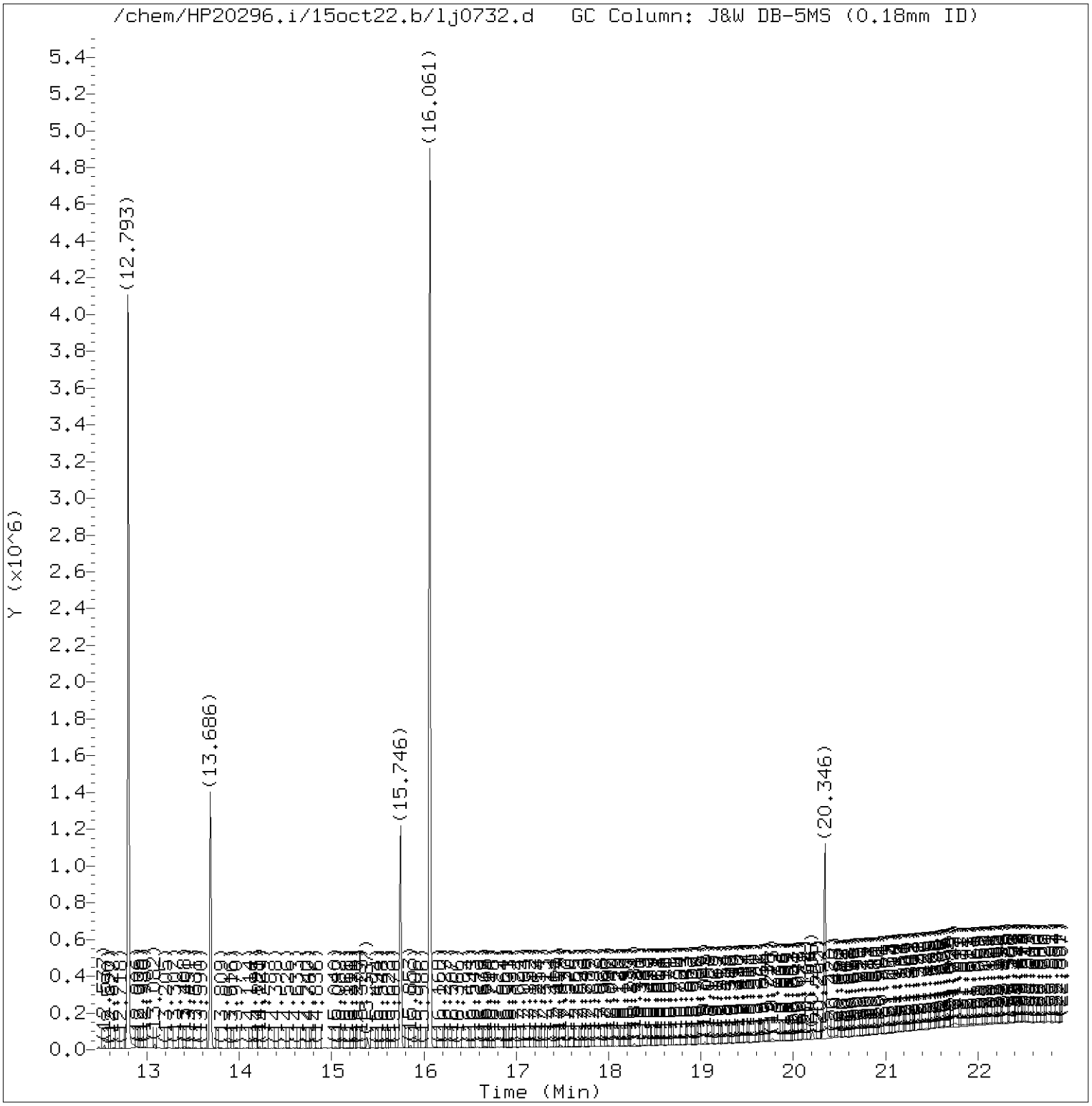
Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0732.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 09:53 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:51 hb01996

Sample Name: SBLKWE293L Lab Sample ID: SBLKWE293

Digitally signed by Holly Berry
on 10/22/2015 at 13:56.
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0732.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 09:53 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:51 hb01996

Sample Name: SBLKWE293L Lab Sample ID: SBLKWE293

Digitally signed by Holly Berry
on 10/22/2015 at 13:56.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0732.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 09:53 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:51 hb01996

Sample Name: SBLKWE293L Lab Sample ID: SBLKWE293

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.936	152	135505	5.000
44)$Nitrobenzene-d5	(2)	7.798	82	1063445	22.585
65)*Naphthalene-d8	(2)	8.926	136	508703	5.000
93)$2-Fluorobiphenyl	(3)	10.713	172	1811631	22.070
113)*Acenaphthene-d10	(3)	11.761	164	296084	5.000
153)*Phenanthrene-d10	(4)	13.686	188	558452	5.000
175)*Pyrene-d10	(5)	15.746	212	669006	5.000
179)$Terphenyl-d14	(5)	16.061	244	1936585	20.369
213)*Perylene-d12	(6)	20.346	264	530491	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly Berry
on 10/22/2015 at 13:56.
Target 3.5 esignature user ID: hb01996

P2901MS

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8082121

Data file: /chem/HP20296.i/15oct16.b/lj0598.d
Data file Sample Info. Line: P2901MS;8082121;1;3;MS;;;
Date, time and analyst ID of latest file update: 16-Oct-2015 19:39 Unknown

Injection date and time: **16-OCT-2015 19:15**
Instrument ID: **HP20296.i** Batch: **15283WAB**

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.027(0.000)	905	152	188313 (-13)	5.00	
65) Naphthalene-d8	9.012(0.006)	1276	136	721639 (-17)	5.00	
113) Acenaphthene-d10	11.841(0.000)	1805	164	414181 (-16)	5.00	
153) Phenanthrene-d10	13.767(0.006)	2165	188	749411 (-19)	5.00	
175) Pyrene-d10	15.842(0.006)	2553	212	869501 (-19)	5.00	
213) Perylene-d12	20.458(0.006)	3416	264	629652 (-17)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.883(0.000)	82	1583205	21.730	87%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.798(0.000)	172	2430136	21.284	85%		61 - 112
179) Terphenyl-d14	(5)	16.157(0.000)	244	2362809	20.465	82%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	9.049(-0.000)	128	1732266	11.176	45.25			0.03
83) 2-Methylnaphthalene	(2)	10.178(-0.000)	142	1089684	10.599	42.91			0.03
109) Acenaphthylene	(3)	11.632(0.000)	152	1758693	11.834	47.91			0.03
114) Acenaphthene	(3)	11.889(-0.000)	153	1161780	11.732	47.50			0.03
126) Fluorene	(3)	12.563(0.000)	166	1233396	11.652	47.17			0.03
155) Phenanthrene	(4)	13.799(-0.000)	178	1774619	11.368	46.03			0.03
157) Anthracene	(4)	13.868(-0.000)	178	1840257	11.879	48.09			0.03
173) Fluoranthene	(4)	15.516(-0.000)	202	2029601	11.944	48.36			0.03
177) Pyrene	(5)	15.874(-0.000)	202	2102157	11.234	45.48			0.03
195) Benzo(a)anthracene	(5)	17.938(-0.000)	228	1919500	11.917	48.25			0.03
196) Chrysene	(5)	18.003(-0.000)	228	1859331	12.084	48.92			0.03
206) Benzo(b)fluoranthene	(6)	19.832(-0.000)	252	1840330	11.876	48.08	0.143	B	0.03
208) Benzo(k)fluoranthene	(6)	19.880(-0.000)	252	1749177	11.606	46.99	0.133	B	0.03
211) Benzo(a)pyrene	(6)	20.367(0.000)	252	1612645	11.171	45.23			0.03
219) Indeno(1,2,3-cd)pyrene	(6)	22.126(-0.000)	276	1811980	10.734	43.46			0.03
220) Dibenz(a,h)anthracene	(6)	22.169(-0.000)	278	1557946	11.072	44.82	0.109	B	0.03
221) Benzo(g,h,i)perylene	(6)	22.560(-0.000)	276	1572400	10.899	44.13	0.114	B	0.03

B = Compound detected in referenced method blank.

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:17. Target 3.5 esignature user ID: ceb05247

Data file: /chem/HP20296.i/15oct16.b/lj0598.d Injection date and time: **16-OCT-2015 19:15**
Data file Sample Info. Line: P2901MS;8082121;1;3;MS;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 19:39 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 1 ul

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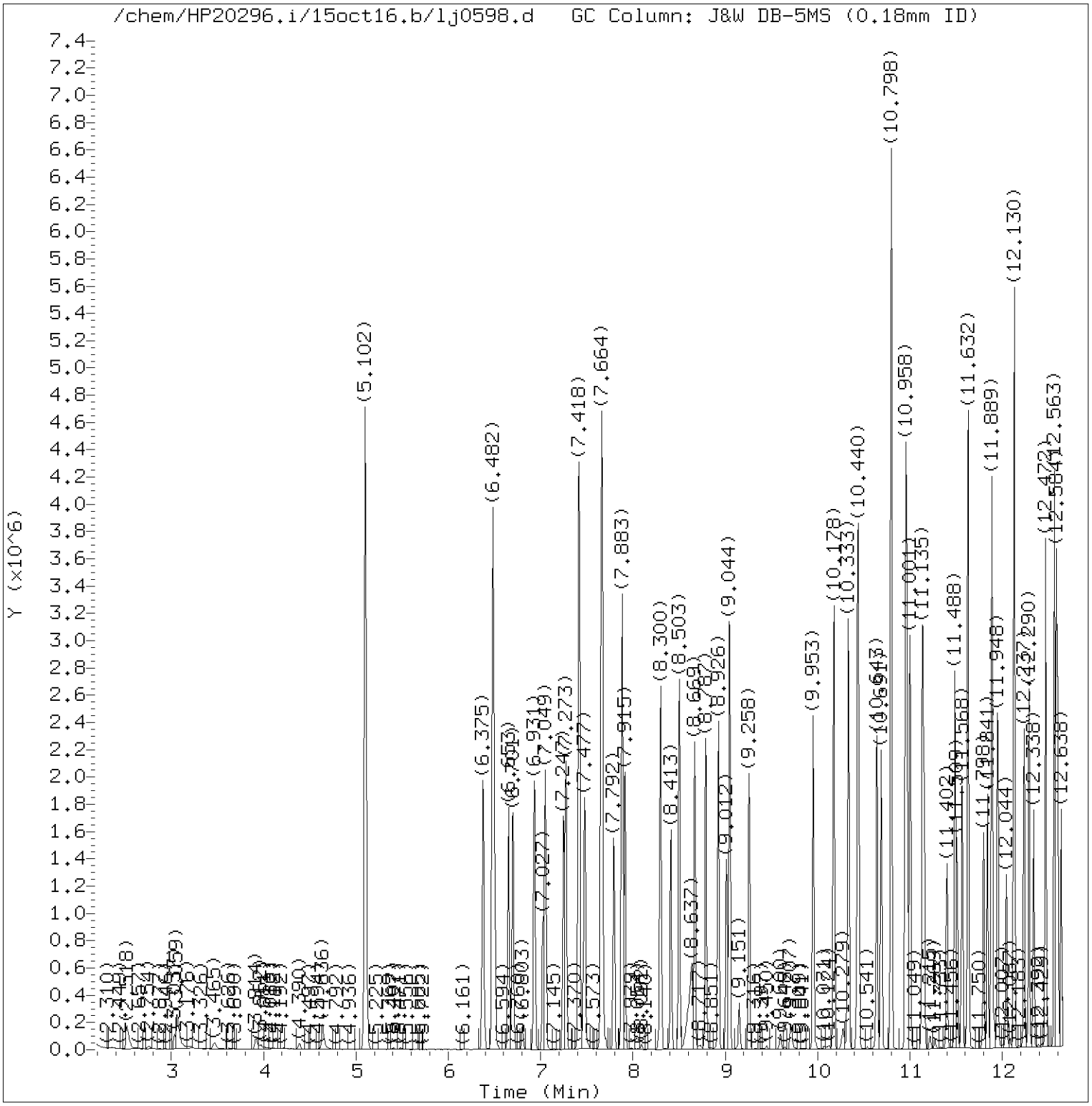
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:17. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:54. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

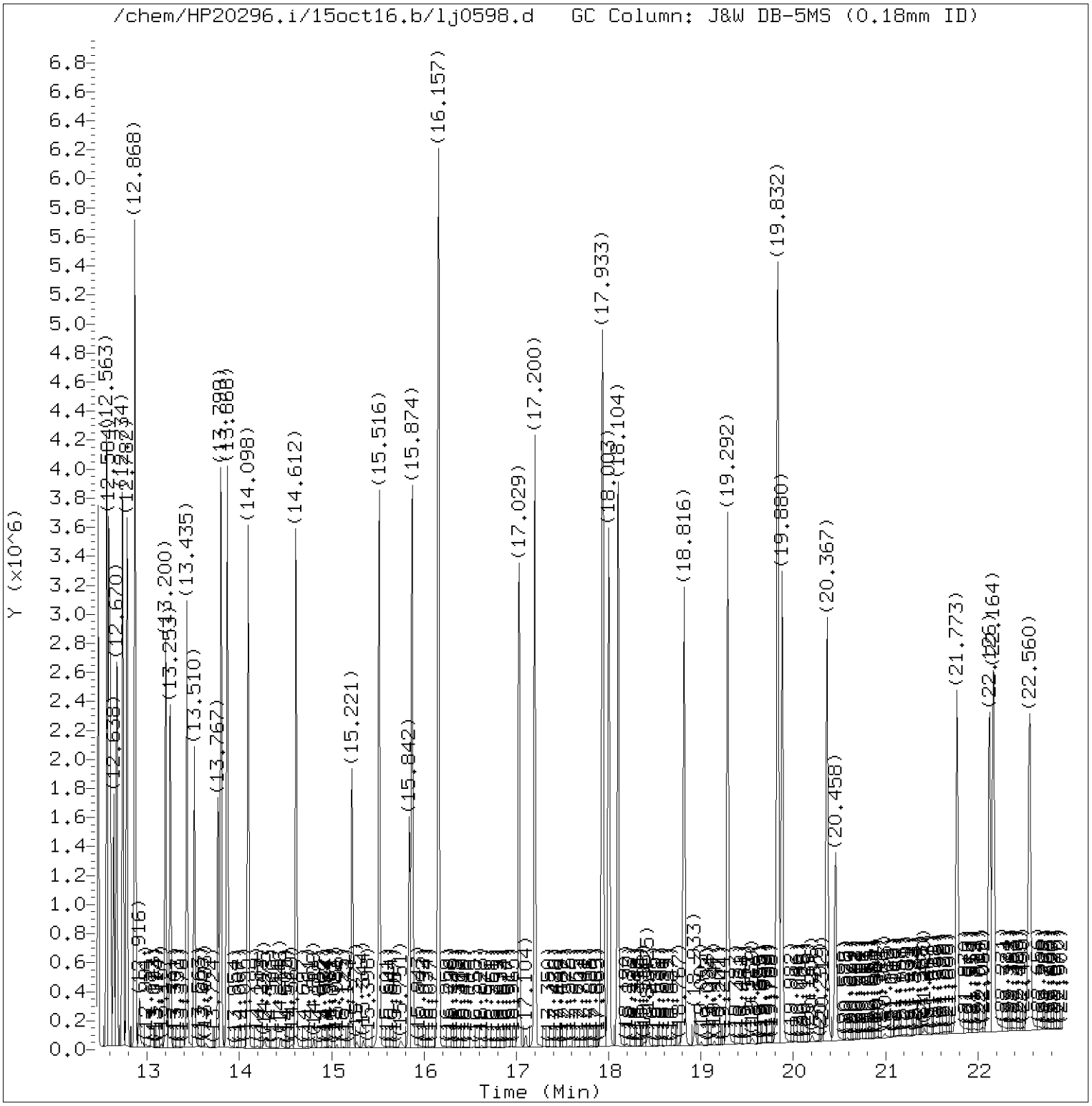
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0598.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 19:15 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 19:39 Unknown

Sample Name: P2901MS Lab Sample ID: 8082121

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0598.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 19:15 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 19:39 Unknown

Sample Name: P2901MS Lab Sample ID: 8082121

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0598.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 19:15 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 19:39 Unknown

Sample Name: P2901MS Lab Sample ID: 8082121

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.027	152	188313	5.000
44)$Nitrobenzene-d5	(2)	7.883	82	1583205	21.730
65)*Naphthalene-d8	(2)	9.012	136	721639	5.000
66) Naphthalene	(2)	9.049	128	1732266	11.176
83) 2-Methylnaphthalene	(2)	10.178	142	1089684	10.599
93)$2-Fluorobiphenyl	(3)	10.798	172	2430136	21.284
109) Acenaphthylene	(3)	11.632	152	1758693	11.834
113)*Acenaphthene-d10	(3)	11.841	164	414181	5.000
114) Acenaphthene	(3)	11.889	153	1161780	11.732
126) Fluorene	(3)	12.563	166	1233396	11.652
153)*Phenanthrene-d10	(4)	13.767	188	749411	5.000
155) Phenanthrene	(4)	13.799	178	1774619	11.368
157) Anthracene	(4)	13.868	178	1840257	11.879
173) Fluoranthene	(4)	15.516	202	2029601	11.944
175)*Pyrene-d10	(5)	15.842	212	869501	5.000
177) Pyrene	(5)	15.874	202	2102157	11.234
179)$Terphenyl-d14	(5)	16.157	244	2362809	20.465
195) Benzo(a)anthracene	(5)	17.938	228	1919500	11.917
196) Chrysene	(5)	18.003	228	1859331	12.084
206) Benzo(b)fluoranthene	(6)	19.832	252	1840330	11.876
208) Benzo(k)fluoranthene	(6)	19.880	252	1749177	11.606
211) Benzo(a)pyrene	(6)	20.367	252	1612645	11.171
213)*Perylene-d12	(6)	20.458	264	629652	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	22.126	276	1811980	10.734
220) Dibenz(a,h)anthracene	(6)	22.169	278	1557946	11.072
221) Benzo(g,h,i)perylene	(6)	22.560	276	1572400	10.899

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247

P2901MSD Lancaster Laboratories, Inc. Analysis Summary for GC/MS Semivolatiles 8082122

Data file: /chem/HP20296.i/15oct16.b/lj0599.d Injection date and time: **16-OCT-2015 19:42**
Data file Sample Info. Line: P2901MSD;8082122;1;3;MSD;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 20:07 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.027(0.000)	905	152	179068 (-17)	5.00	
65) Naphthalene-d8	9.012(0.006)	1276	136	697994 (-20)	5.00	
113) Acenaphthene-d10	11.841(0.000)	1805	164	407293 (-17)	5.00	
153) Phenanthrene-d10	13.767(0.006)	2165	188	743171 (-20)	5.00	
175) Pyrene-d10	15.842(0.006)	2553	212	852691 (-21)	5.00	
213) Perylene-d12	20.452(0.011)	3415	264	620189 (-19)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.883(0.000)	82	1589397	22.554	90%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.798(0.000)	172	2445002	21.776	87%		61 - 112
179) Terphenyl-d14	(5)	16.157(0.000)	244	2491505	22.005	88%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	9.044(-0.000)	128	1722658	11.491	46.52			0.03
83) 2-Methylnaphthalene	(2)	10.178(-0.000)	142	1078245	10.843	43.90			0.03
109) Acenaphthylene	(3)	11.627(0.000)	152	1741586	11.917	48.25			0.03
114) Acenaphthene	(3)	11.884(0.000)	153	1161946	11.932	48.31			0.03
126) Fluorene	(3)	12.563(0.000)	166	1254621	12.053	48.80			0.03
155) Phenanthrene	(4)	13.799(0.000)	178	1784722	11.529	46.68			0.03
157) Anthracene	(4)	13.868(-0.000)	178	1820356	11.849	47.97			0.03
173) Fluoranthene	(4)	15.516(-0.000)	202	2018380	11.978	48.49			0.03
177) Pyrene	(5)	15.874(-0.000)	202	2109921	11.498	46.55			0.03
195) Benzo(a)anthracene	(5)	17.938(-0.000)	228	1926545	12.197	49.38			0.03
196) Chrysene	(5)	18.003(-0.000)	228	1887662	12.510	50.65			0.03
206) Benzo(b)fluoranthene	(6)	19.826(-0.000)	252	1853505	12.144	49.16	0.143	B	0.03
208) Benzo(k)fluoranthene	(6)	19.880(-0.000)	252	1775564	11.961	48.43	0.133	B	0.03
211) Benzo(a)pyrene	(6)	20.367(-0.000)	252	1624028	11.422	46.24			0.03
219) Indeno(1,2,3-cd)pyrene	(6)	22.126(-0.000)	276	1844092	11.091	44.90			0.03
220) Dibenz(a,h)anthracene	(6)	22.164(-0.000)	278	1610448	11.619	47.04	0.109	B	0.03
221) Benzo(g,h,i)perylene	(6)	22.560(-0.000)	276	1604397	11.291	45.71	0.114	B	0.03

B = Compound detected in referenced method blank.

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:17. Target 3.5 esignature user ID: ceb05247

Data file: /chem/HP20296.i/15oct16.b/lj0599.d Injection date and time: **16-OCT-2015 19:42**
Data file Sample Info. Line: P2901MSD;8082122;1;3;MSD;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 20:07 Unknown

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 1 ul

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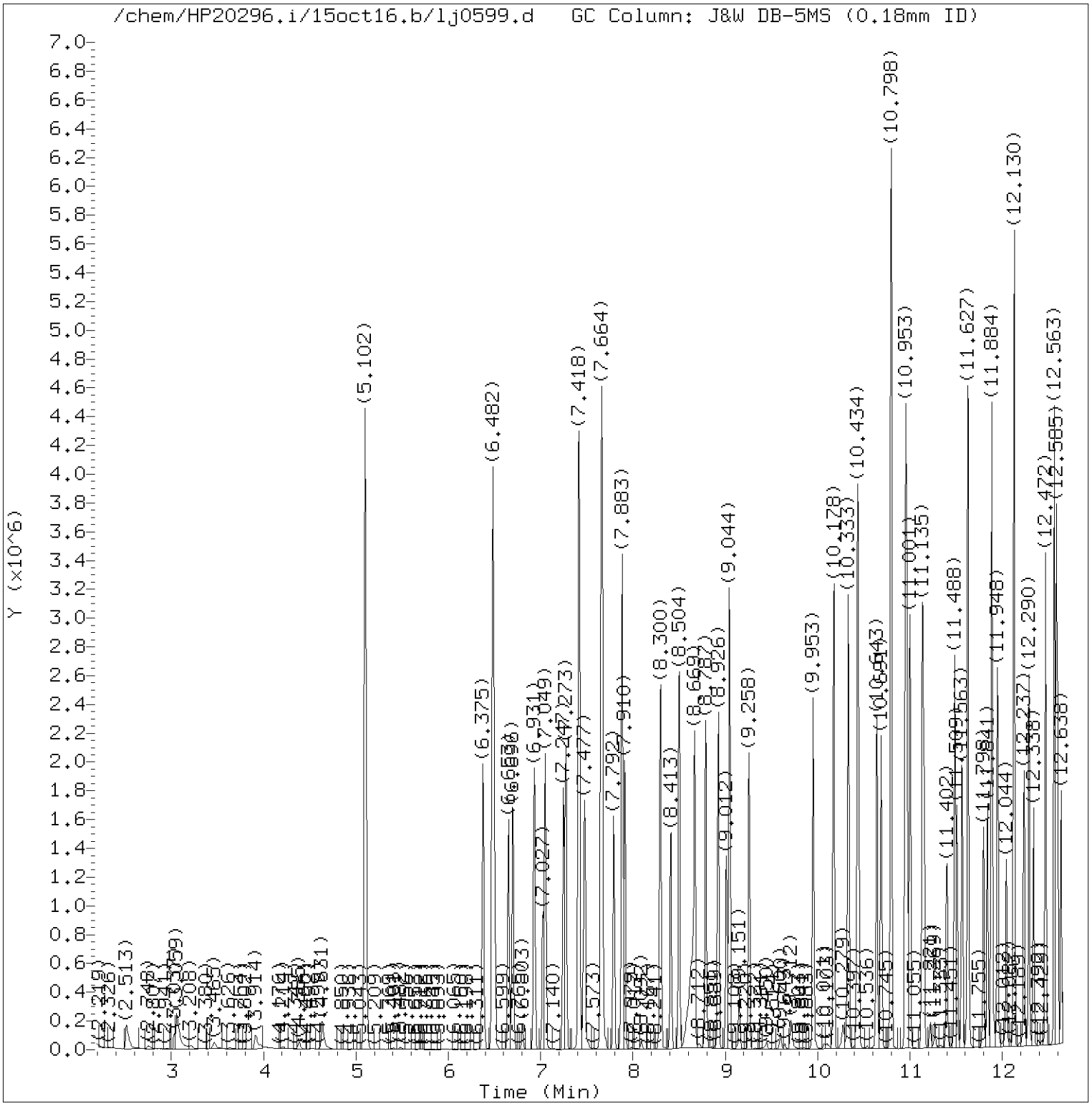
Total number of targets = 17

Digitally signed by Catherine E. Bachman on 10/17/2015 at 12:17. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:55. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

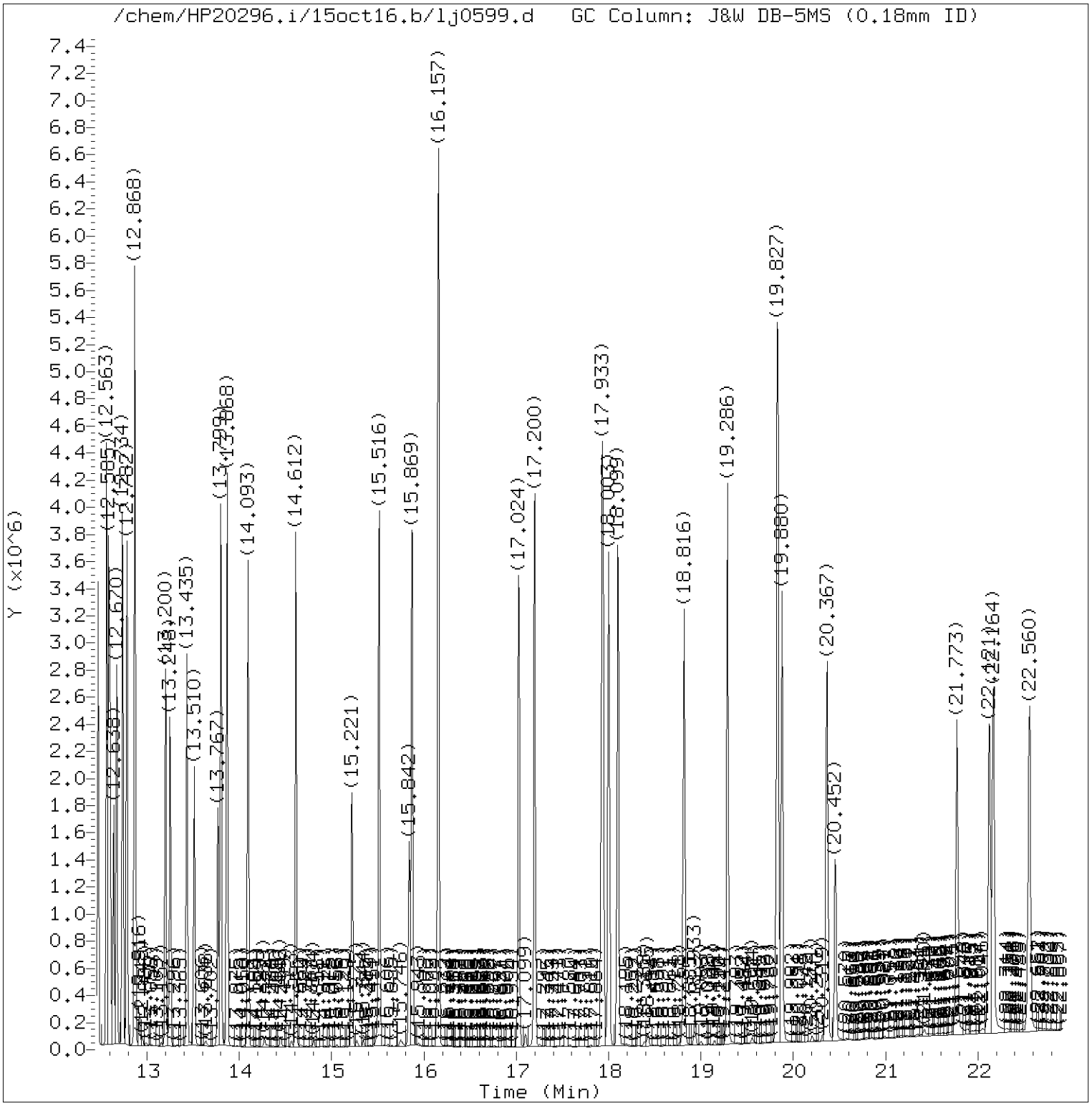
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0599.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 19:42 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:07 Unknown

Sample Name: P2901MSD Lab Sample ID: 8082122

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0599.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 19:42 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:07 Unknown

Sample Name: P2901MSD Lab Sample ID: 8082122

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0599.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 19:42 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 20:07 Unknown

Sample Name: P2901MSD Lab Sample ID: 8082122

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.027	152	179068	5.000
44)$Nitrobenzene-d5	(2)	7.883	82	1589397	22.554
65)*Naphthalene-d8	(2)	9.012	136	697994	5.000
66) Naphthalene	(2)	9.044	128	1722658	11.491
83) 2-Methylnaphthalene	(2)	10.178	142	1078245	10.843
93)$2-Fluorobiphenyl	(3)	10.798	172	2445002	21.776
109) Acenaphthylene	(3)	11.627	152	1741586	11.917
113)*Acenaphthene-d10	(3)	11.841	164	407293	5.000
114) Acenaphthene	(3)	11.884	153	1161946	11.932
126) Fluorene	(3)	12.563	166	1254621	12.053
153)*Phenanthrene-d10	(4)	13.767	188	743171	5.000
155) Phenanthrene	(4)	13.799	178	1784722	11.529
157) Anthracene	(4)	13.868	178	1820356	11.849
173) Fluoranthene	(4)	15.516	202	2018380	11.978
175)*Pyrene-d10	(5)	15.842	212	852691	5.000
177) Pyrene	(5)	15.874	202	2109921	11.498
179)$Terphenyl-d14	(5)	16.157	244	2491505	22.005
195) Benzo(a)anthracene	(5)	17.939	228	1926545	12.197
196) Chrysene	(5)	18.003	228	1887662	12.510
206) Benzo(b)fluoranthene	(6)	19.827	252	1853505	12.144
208) Benzo(k)fluoranthene	(6)	19.880	252	1775564	11.961
211) Benzo(a)pyrene	(6)	20.367	252	1624028	11.422
213)*Perylene-d12	(6)	20.452	264	620189	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	22.126	276	1844092	11.091
220) Dibenz(a,h)anthracene	(6)	22.164	278	1610448	11.619
221) Benzo(g,h,i)perylene	(6)	22.560	276	1604397	11.291

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 10/17/2015 at 12:17.
Target 3.5 esignature user ID: ceb05247

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0583.d
Data file Sample Info. Line: 283WBLCSL;283WBLCS;1;3;LCS;;;
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Injection date and time: **16-OCT-2015 11:48**
Instrument ID: **HP20296.i** Batch: **15283WAB**

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	7.027(0.000)	905	152	182086 (-16)	5.00	
65) Naphthalene-d8	9.012(0.006)	1276	136	710664 (-19)	5.00	
113) Acenaphthene-d10	11.841(0.000)	1805	164	416451 (-15)	5.00	
153) Phenanthrene-d10	13.772(0.000)	2166	188	757596 (-18)	5.00	
175) Pyrene-d10	15.842(0.006)	2553	212	864021 (-20)	5.00	
213) Perylene-d12	20.458(0.006)	3416	264	618233 (-19)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.883(0.000)	82	1520398	21.191	85%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.798(0.000)	172	2325649	20.258	81%		61 - 112
179) Terphenyl-d14	(5)	16.157(0.000)	244	2245507	19.572	78%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	9.049(-0.000)	128	1655641	10.847	43.39			0.03
83) 2-Methylnaphthalene	(2)	10.178(-0.000)	142	1039135	10.264	41.05			0.03
109) Acenaphthylene	(3)	11.632(0.000)	152	1659636	11.106	44.43			0.03
114) Acenaphthene	(3)	11.889(-0.000)	153	1106304	11.111	44.44			0.03
126) Fluorene	(3)	12.568(-0.000)	166	1188232	11.164	44.66			0.03
155) Phenanthrene	(4)	13.804(0.000)	178	1711530	10.846	43.38			0.03
157) Anthracene	(4)	13.873(0.000)	178	1737444	11.094	44.38			0.03
173) Fluoranthene	(4)	15.516(0.000)	202	1938881	11.287	45.15			0.03
177) Pyrene	(5)	15.874(-0.000)	202	2027979	10.907	43.63			0.03
195) Benzo(a)anthracene	(5)	17.938(-0.000)	228	1835782	11.470	45.88			0.03
196) Chrysene	(5)	18.003(-0.000)	228	1798891	11.765	47.06			0.03
206) Benzo(b)fluoranthene	(6)	19.832(-0.000)	252	1740827	11.442	45.77	0.143	B	0.03
208) Benzo(k)fluoranthene	(6)	19.880(-0.000)	252	1663677	11.243	44.97	0.133	B	0.03
211) Benzo(a)pyrene	(6)	20.367(0.000)	252	1442741	10.179	40.72			0.03
219) Indeno(1,2,3-cd)pyrene	(6)	22.126(-0.000)	276	1581554	9.542	38.17			0.03
220) Dibenz(a,h)anthracene	(6)	22.169(-0.000)	278	1365848	9.886	39.54	0.109	B	0.03
221) Benzo(g,h,i)perylene	(6)	22.560(-0.000)	276	1379926	9.742	38.97	0.114	B	0.03

B = Compound detected in referenced method blank.

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:23. Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct16.b/lj0583.d Injection date and time: **16-OCT-2015 11:48**
Data file Sample Info. Line: 283WBLCSL;283WBLCS;1;3;LCS;;; Instrument ID: **HP20296.i** Batch: **15283WAB**
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Blank Data file reference: **/chem/HP20296.i/15oct16.b/lj0582a.d**

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 16-OCT-2015 11:58
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct16.b/lj0581.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 1 ul

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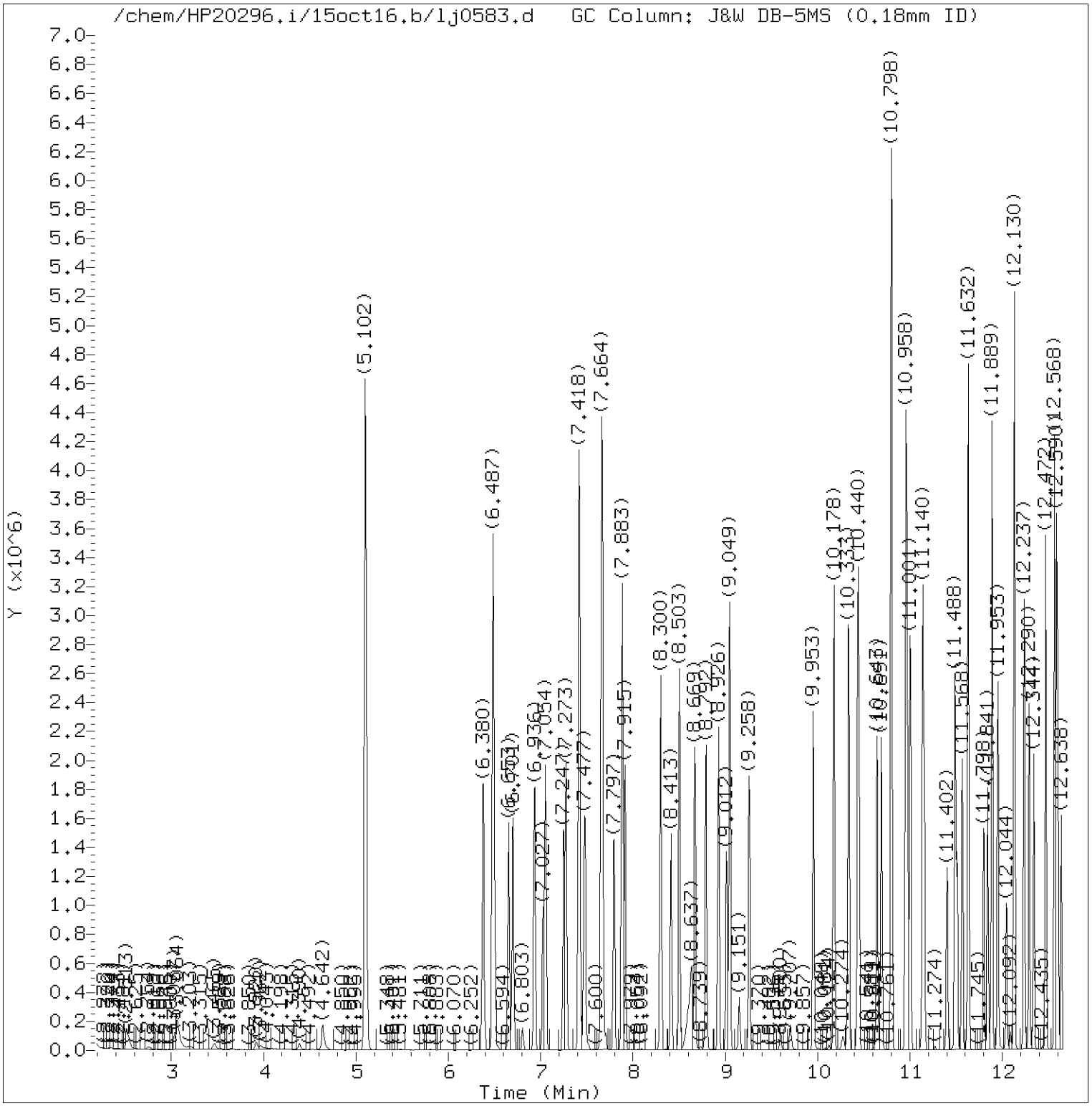
Total number of targets = 17

Digitally signed by Holly B. Ziegler on 10/16/2015 at 14:23. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Mark A. Ratcliff on 10/20/2015 at 13:36. Parallax ID: mar00486



Total Ion Chromatogram (TIC)

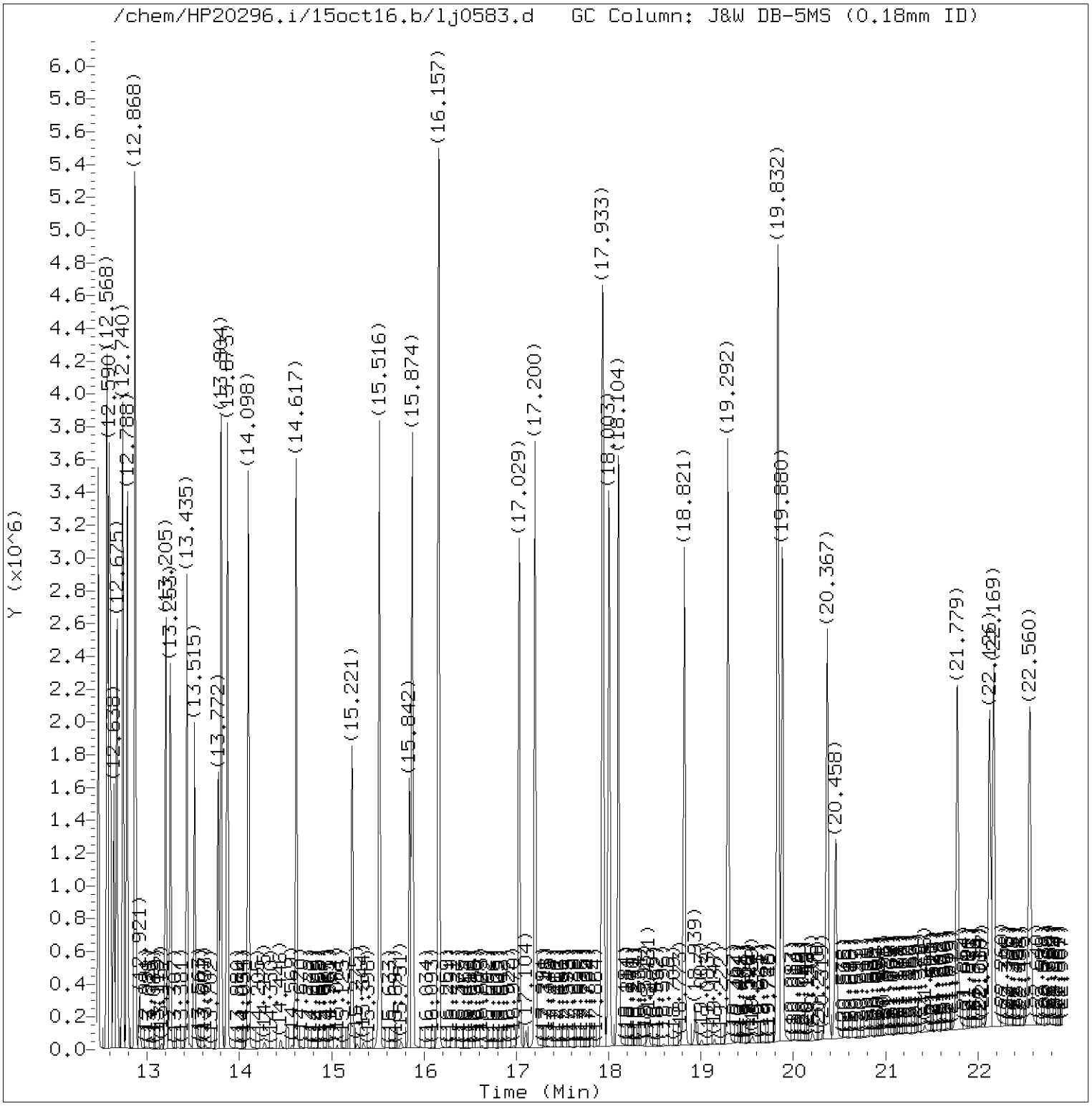
Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0583.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 11:48 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Sample Name: 283WBLCSL Lab Sample ID: 283WBLCS

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:23.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0583.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 11:48 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Sample Name: 283WBLCSL Lab Sample ID: 283WBLCS

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:23.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct16.b/lj0583.d Instrument ID: HP20296.i
Injection date and time: 16-OCT-2015 11:48 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct16.b/rv8270c.m Sublist used: 4656
Calibration date and time: 16-OCT-2015 11:58
Date, time and analyst ID of latest file update: 16-Oct-2015 14:22 hbz01996

Sample Name: 283WBLCSL Lab Sample ID: 283WBLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	7.027	152	182086	5.000
44)$Nitrobenzene-d5	(2)	7.883	82	1520398	21.191
65)*Naphthalene-d8	(2)	9.012	136	710664	5.000
66) Naphthalene	(2)	9.049	128	1655641	10.847
83) 2-Methylnaphthalene	(2)	10.178	142	1039135	10.264
93)$2-Fluorobiphenyl	(3)	10.798	172	2325649	20.258
109) Acenaphthylene	(3)	11.632	152	1659636	11.106
113)*Acenaphthene-d10	(3)	11.841	164	416451	5.000
114) Acenaphthene	(3)	11.889	153	1106304	11.111
126) Fluorene	(3)	12.568	166	1188232	11.164
153)*Phenanthrene-d10	(4)	13.772	188	757596	5.000
155) Phenanthrene	(4)	13.804	178	1711530	10.846
157) Anthracene	(4)	13.873	178	1737444	11.094
173) Fluoranthene	(4)	15.516	202	1938881	11.287
175)*Pyrene-d10	(5)	15.842	212	864021	5.000
177) Pyrene	(5)	15.874	202	2027979	10.907
179)$Terphenyl-d14	(5)	16.157	244	2245507	19.572
195) Benzo(a)anthracene	(5)	17.938	228	1835782	11.470
196) Chrysene	(5)	18.003	228	1798891	11.765
206) Benzo(b)fluoranthene	(6)	19.832	252	1740827	11.442
208) Benzo(k)fluoranthene	(6)	19.880	252	1663677	11.243
211) Benzo(a)pyrene	(6)	20.367	252	1442741	10.179
213)*Perylene-d12	(6)	20.458	264	618233	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	22.126	276	1581554	9.542
220) Dibenz(a,h)anthracene	(6)	22.169	278	1365848	9.886
221) Benzo(g,h,i)perylene	(6)	22.560	276	1379926	9.742

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/16/2015 at 14:23.
Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct22.b/lj0733.d
Injection date and time: **22-OCT-2015 10:21**
Data file Sample Info. Line: 293WELCSL;293WELCS;1;3;LCS;;;
Instrument ID: **HP20296.i** Batch: **15293WAE**
Date, time and analyst ID of latest file update: 22-Oct-2015 13:52 hb01996

Blank Data file reference: **/chem/HP20296.i/15oct22.b/lj0732.d**

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 22-OCT-2015 13:51
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct22.b/lj0731.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.936(0.000)	888	152	133808 (-15)	5.00	
65) Naphthalene-d8	8.921(0.005)	1259	136	508844 (-16)	5.00	
113) Acenaphthene-d10	11.761(0.000)	1790	164	295837 (-17)	5.00	
153) Phenanthrene-d10	13.686(0.000)	2150	188	553565 (-18)	5.00	
175) Pyrene-d10	15.746(0.000)	2535	212	672109 (-19)	5.00	
213) Perylene-d12	20.345(0.000)	3395	264	563230 (-16)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.798(-0.001)	82	1017886	21.611	86%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.713(0.000)	172	1765648	21.528	86%		61 - 112
179) Terphenyl-d14	(5)	16.061(0.000)	244	1929831	20.204	81%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	8.958(-0.000)	128	1190853	10.935	43.74			0.03
83) 2-Methylnaphthalene	(2)	10.087(-0.000)	142	753117	10.295	41.18			0.03
109) Acenaphthylene	(3)	11.547(0.000)	152	1238525	11.497	45.99			0.03
114) Acenaphthene	(3)	11.809(0.000)	153	836753	11.411	45.64			0.03
126) Fluorene	(3)	12.494(0.000)	166	901445	11.557	46.23			0.03
155) Phenanthrene	(4)	13.718(0.000)	178	1310545	11.261	45.04			0.03
157) Anthracene	(4)	13.788(0.000)	178	1342956	11.568	46.27			0.03
173) Fluoranthene	(4)	15.419(0.000)	202	1575683	11.730	46.92			0.03
177) Pyrene	(5)	15.778(-0.000)	202	1636771	11.480	45.92			0.03
195) Benzo(a)anthracene	(5)	17.832(0.000)	228	1594825	11.787	47.15			0.03
196) Chrysene	(5)	17.896(0.000)	228	1548875	12.318	49.27			0.03
206) Benzo(b)fluoranthene	(6)	19.720(-0.000)	252	1611096	11.638	46.55			0.03
208) Benzo(k)fluoranthene	(6)	19.768(-0.000)	252	1540462	11.710	46.84			0.03
211) Benzo(a)pyrene	(6)	20.254(0.000)	252	1369343	10.700	42.80			0.03
219) Indeno(1,2,3-cd)pyrene	(6)	21.998(-0.000)	276	1670339	11.249	45.00			0.03
220) Dibenz(a,h)anthracene	(6)	22.036(0.000)	278	1420404	11.741	46.96			0.03
221) Benzo(g,h,i)perylene	(6)	22.421(0.000)	276	1458841	11.433	45.73			0.03

Digitally signed by Holly Berry on 10/22/2015 at 13:56. Target 3.5 esignature user ID: hb01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct22.b/lj0733.d Injection date and time: **22-OCT-2015 10:21**
Data file Sample Info. Line: 293WELCSL;293WELCS;1;3;LCS;;; Instrument ID: **HP20296.i** Batch: **15293WAE**
Date, time and analyst ID of latest file update: 22-Oct-2015 13:52 hb01996

Blank Data file reference: **/chem/HP20296.i/15oct22.b/lj0732.d**

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 22-OCT-2015 13:51
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct22.b/lj0731.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 1 ul

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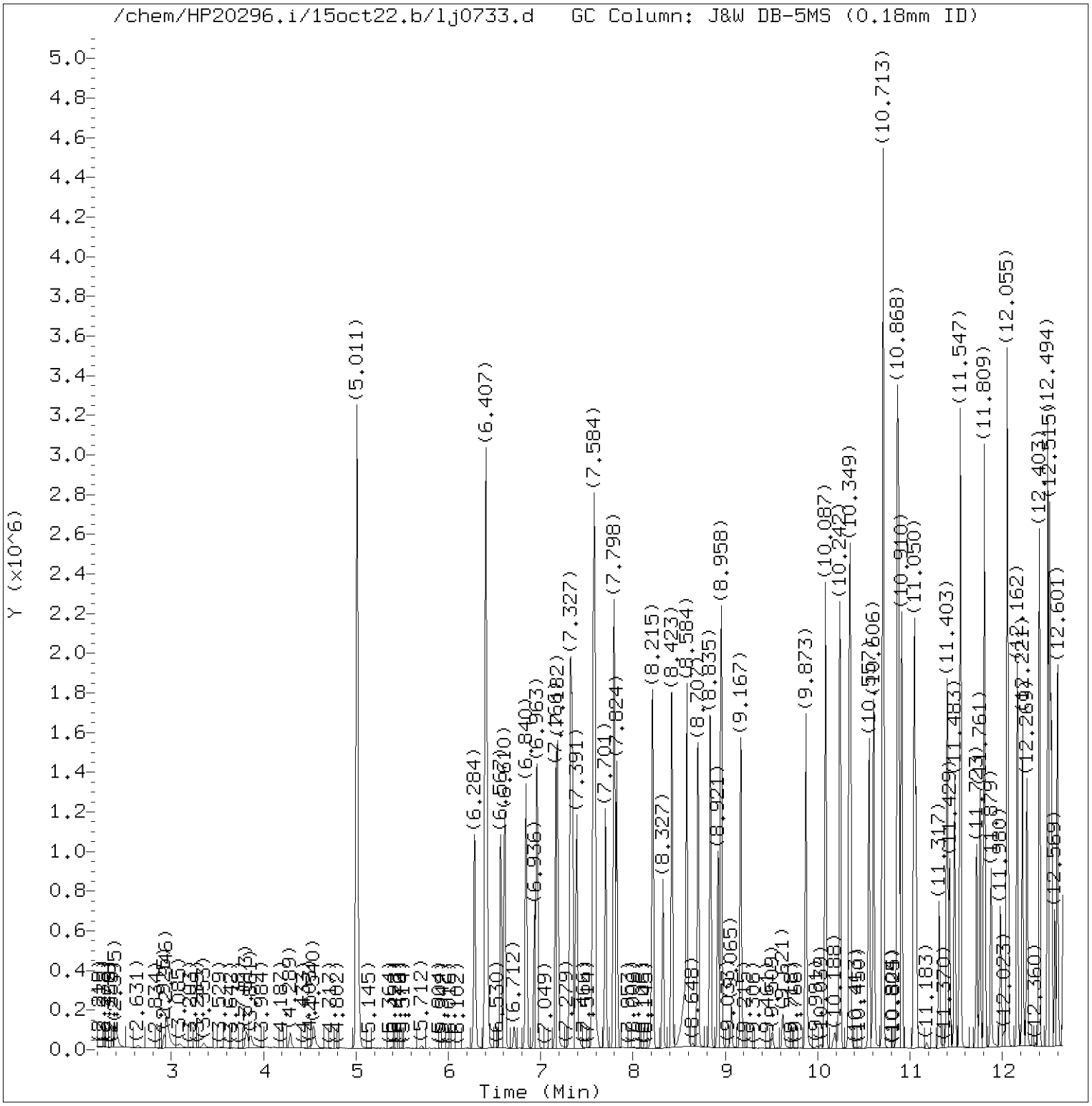
Total number of targets = 17

Digitally signed by Holly Berry on 10/22/2015 at 13:56. Target 3.5 esignature user ID: hb01996

Secondary review performed and digitally signed by Beth A. Rubino on 10/25/2015 at 13:49. Parallax ID: bar06484



Total Ion Chromatogram (TIC)

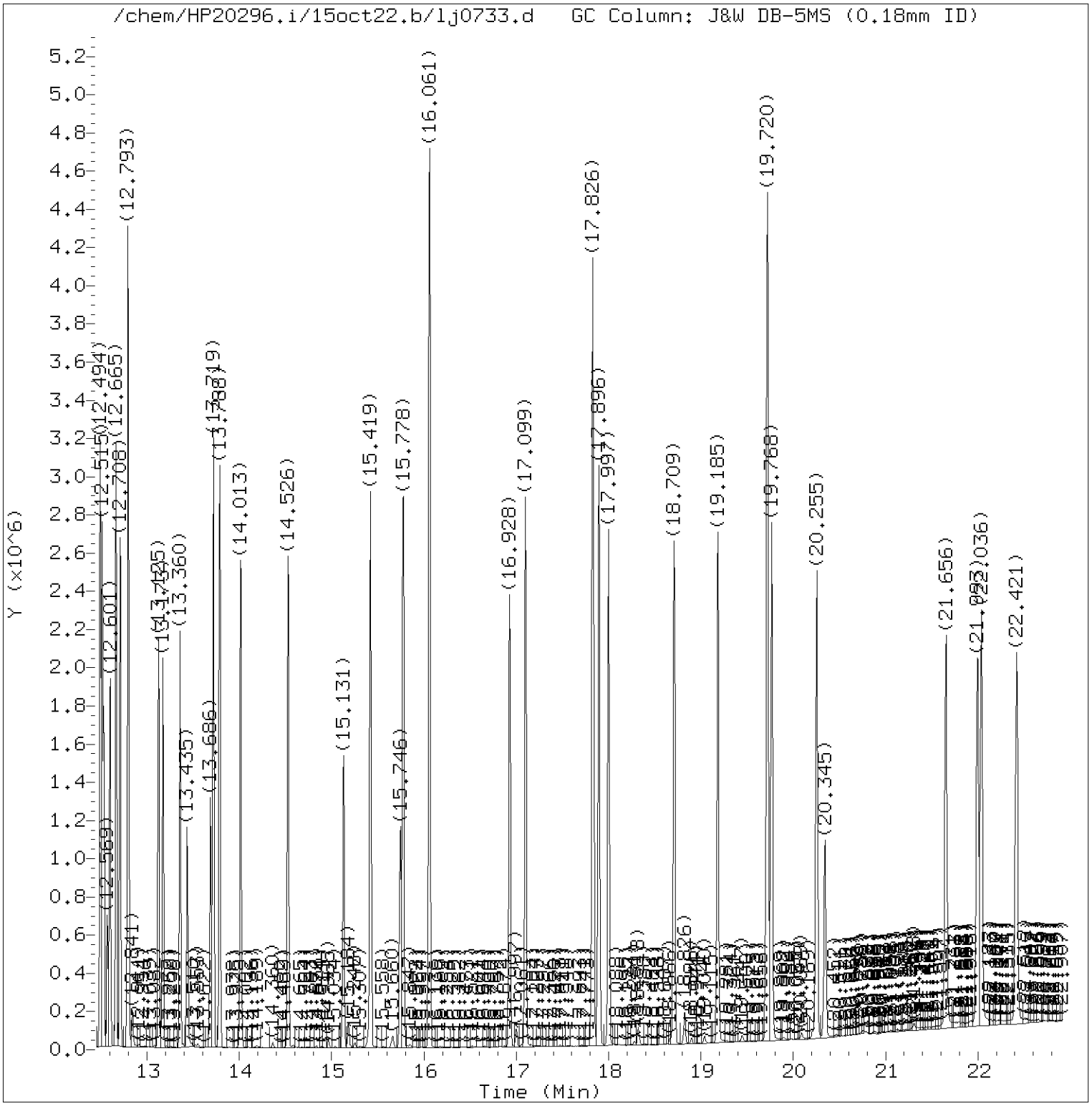
Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0733.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 10:21 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:52 hb01996

Sample Name: 293WELCSL Lab Sample ID: 293WELCS

Digitally signed by Holly Berry
on 10/22/2015 at 13:56.
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0733.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 10:21 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:52 hb01996

Sample Name: 293WELCSL Lab Sample ID: 293WELCS

Digitally signed by Holly Berry
on 10/22/2015 at 13:56.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0733.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 10:21 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:52 hb01996

Sample Name: 293WELCSL Lab Sample ID: 293WELCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.936	152	133808	5.000
44)$Nitrobenzene-d5	(2)	7.798	82	1017886	21.611
65)*Naphthalene-d8	(2)	8.921	136	508844	5.000
66) Naphthalene	(2)	8.958	128	1190853	10.935
83) 2-Methylnaphthalene	(2)	10.087	142	753117	10.295
93)$2-Fluorobiphenyl	(3)	10.713	172	1765648	21.528
109) Acenaphthylene	(3)	11.547	152	1238525	11.497
113)*Acenaphthene-d10	(3)	11.761	164	295837	5.000
114) Acenaphthene	(3)	11.809	153	836753	11.411
126) Fluorene	(3)	12.494	166	901445	11.557
153)*Phenanthrene-d10	(4)	13.686	188	553565	5.000
155) Phenanthrene	(4)	13.719	178	1310545	11.261
157) Anthracene	(4)	13.788	178	1342956	11.568
173) Fluoranthene	(4)	15.419	202	1575683	11.730
175)*Pyrene-d10	(5)	15.746	212	672109	5.000
177) Pyrene	(5)	15.778	202	1636771	11.480
179)$Terphenyl-d14	(5)	16.061	244	1929831	20.204
195) Benzo(a)anthracene	(5)	17.832	228	1594825	11.787
196) Chrysene	(5)	17.896	228	1548875	12.318
206) Benzo(b)fluoranthene	(6)	19.720	252	1611096	11.638
208) Benzo(k)fluoranthene	(6)	19.768	252	1540462	11.710
211) Benzo(a)pyrene	(6)	20.255	252	1369343	10.700
213)*Perylene-d12	(6)	20.345	264	563230	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	21.998	276	1670339	11.249
220) Dibenz(a,h)anthracene	(6)	22.036	278	1420404	11.741
221) Benzo(g,h,i)perylene	(6)	22.421	276	1458841	11.433

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly Berry
on 10/22/2015 at 13:56.
Target 3.5 esignature user ID: hb01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct22.b/lj0734.d
Data file Sample Info. Line: 293WELCSD;293WELCSD;1;3;LCSD;;;
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Injection date and time: **22-OCT-2015 10:49**
Instrument ID: **HP20296.i** Batch: **15293WAE**

Blank Data file reference: **/chem/HP20296.i/15oct22.b/lj0732.d**

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 22-OCT-2015 13:51
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct22.b/lj0731.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.937(0.000)	888	152	126122 (-20)	5.00	
65) Naphthalene-d8	8.921(0.005)	1259	136	486198 (-20)	5.00	
113) Acenaphthene-d10	11.761(0.000)	1790	164	286421 (-20)	5.00	
153) Phenanthrene-d10	13.687(0.000)	2150	188	536566 (-21)	5.00	
175) Pyrene-d10	15.746(0.000)	2535	212	658955 (-20)	5.00	
213) Perylene-d12	20.346(0.000)	3395	264	541639 (-19)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.798(-0.001)	82	1039458	23.097	92%		46 - 128
93) 2-Fluorobiphenyl	(3)	10.707(0.000)	172	1804634	22.727	91%		61 - 112
179) Terphenyl-d14	(5)	16.061(0.000)	244	1977084	21.112	84%		43 - 131

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
66) Naphthalene	(2)	8.958(-0.000)	128	1206233	11.593	46.37			0.03
83) 2-Methylnaphthalene	(2)	10.087(-0.000)	142	765436	10.951	43.80			0.03
109) Acenaphthylene	(3)	11.547(0.000)	152	1249670	11.982	47.93			0.03
114) Acenaphthene	(3)	11.809(0.000)	153	848623	11.954	47.81			0.03
126) Fluorene	(3)	12.494(0.000)	166	909852	12.049	48.19			0.03
155) Phenanthrene	(4)	13.719(0.000)	178	1342322	11.900	47.60			0.03
157) Anthracene	(4)	13.788(-0.000)	178	1369445	12.170	48.68			0.03
173) Fluoranthene	(4)	15.419(0.000)	202	1606348	12.337	49.35			0.03
177) Pyrene	(5)	15.778(0.000)	202	1669105	11.941	47.76			0.03
195) Benzo(a)anthracene	(5)	17.832(0.000)	228	1640325	12.366	49.46			0.03
196) Chrysene	(5)	17.896(0.000)	228	1594867	12.937	51.75			0.03
206) Benzo(b)fluoranthene	(6)	19.720(-0.000)	252	1645702	12.362	49.45			0.03
208) Benzo(k)fluoranthene	(6)	19.768(-0.000)	252	1559815	12.330	49.32			0.03
211) Benzo(a)pyrene	(6)	20.255(0.000)	252	1402340	11.395	45.58			0.03
219) Indeno(1,2,3-cd)pyrene	(6)	21.998(-0.000)	276	1708881	11.968	47.87			0.03
220) Dibenz(a,h)anthracene	(6)	22.036(0.000)	278	1464170	12.585	50.34			0.03
221) Benzo(g,h,i)perylene	(6)	22.421(0.000)	276	1498152	12.209	48.84			0.03

Digitally signed by Holly Berry on 10/22/2015 at 13:56. Target 3.5 esignature user ID: hb01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/15oct22.b/lj0734.d Injection date and time: **22-OCT-2015 10:49**
Data file Sample Info. Line: 293WELCSD;293WELCSD;1;3;LCSD;;; Instrument ID: **HP20296.i** Batch: **15293WAE**
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Blank Data file reference: **/chem/HP20296.i/15oct22.b/lj0732.d**

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: **4656**
Calibration date and time (Last Method Edit): 22-OCT-2015 13:51
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/15oct22.b/lj0731.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 1 ul

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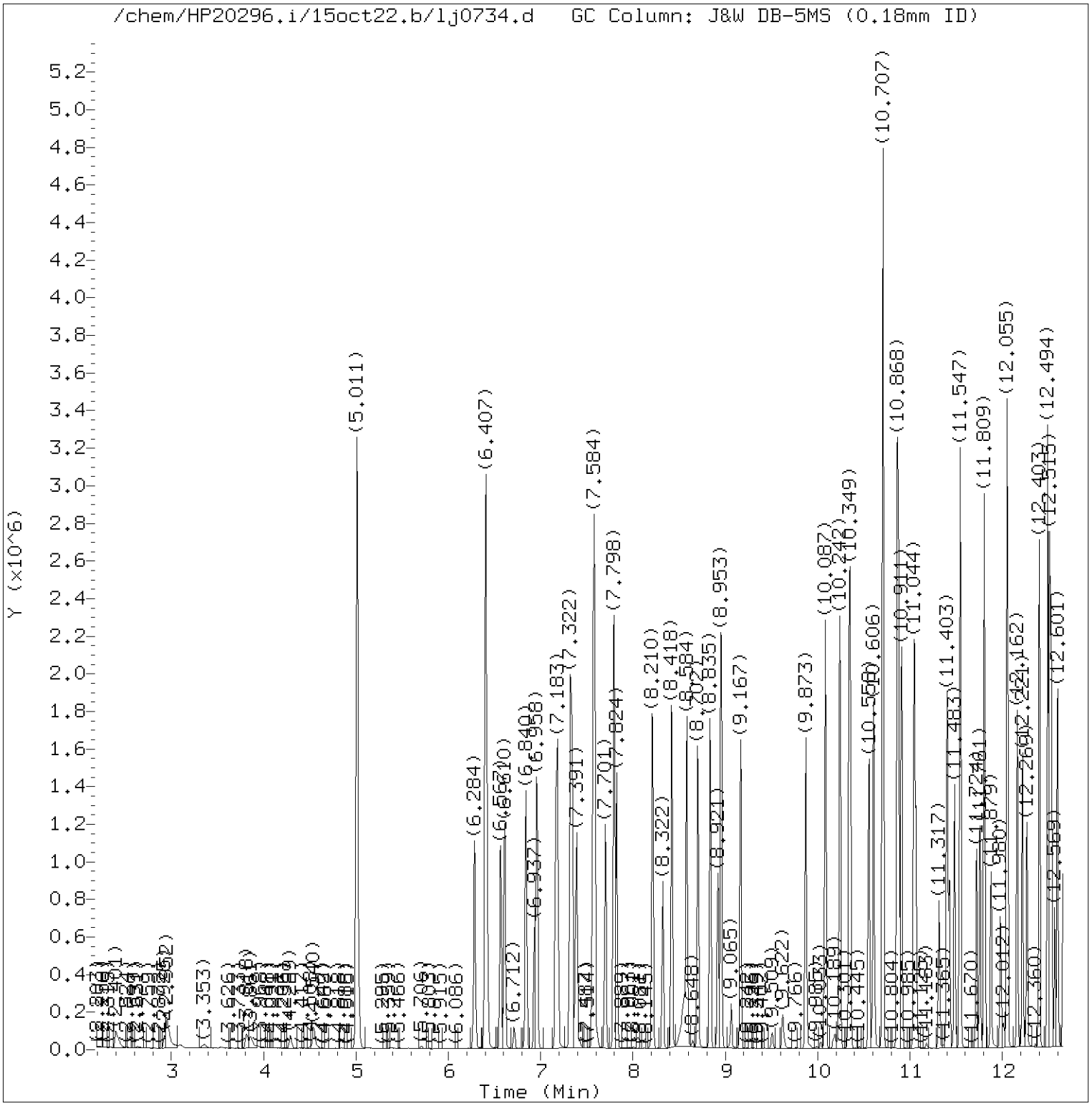
Total number of targets = 17

Digitally signed by Holly Berry on 10/22/2015 at 13:56. Target 3.5 esignature user ID: hb01996

Secondary review performed and digitally signed by Beth A. Rubino on 10/25/2015 at 13:49. Parallax ID: bar06484



Total Ion Chromatogram (TIC)

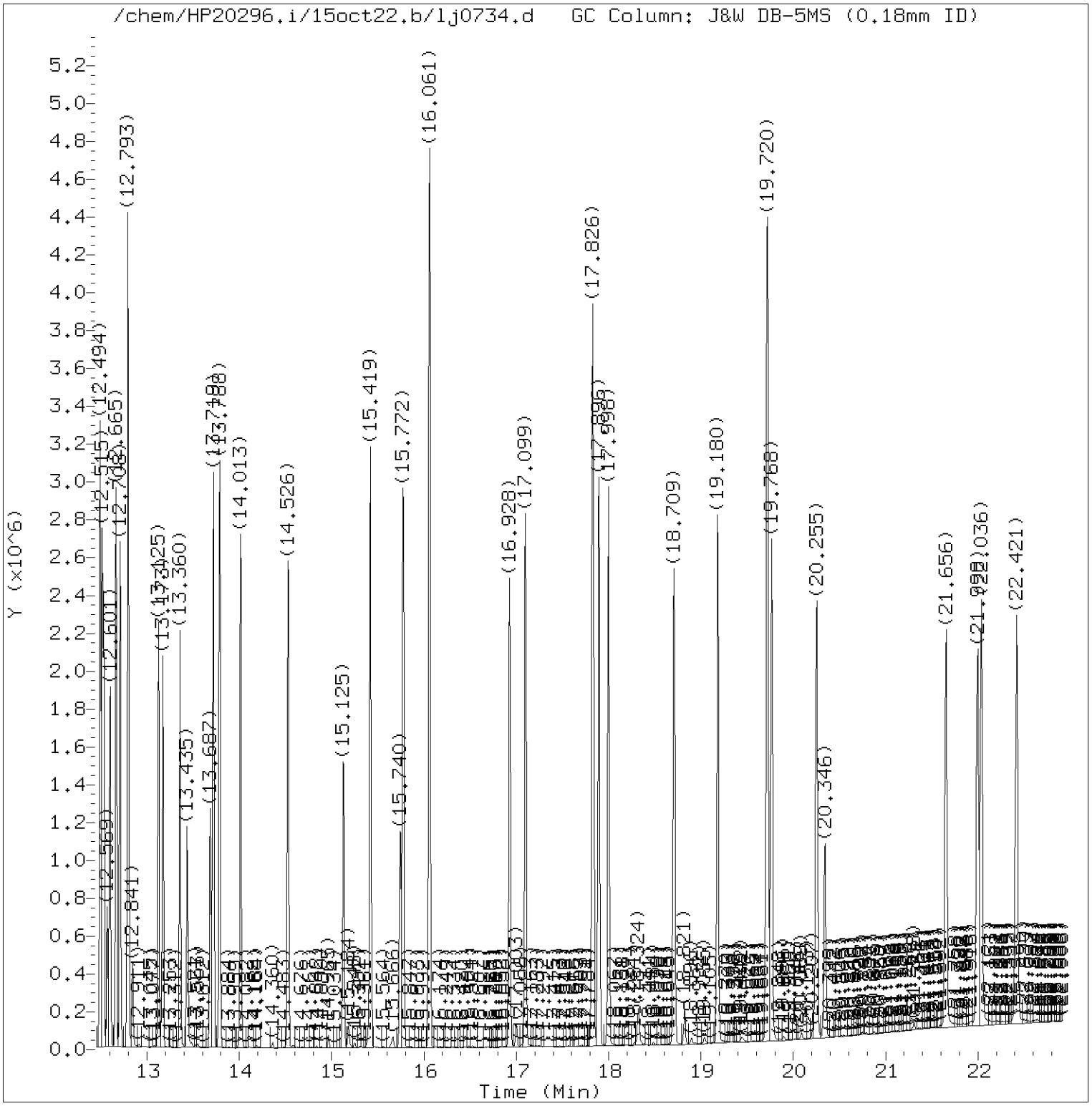
Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0734.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 10:49 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: 293WELCSD Lab Sample ID: 293WELCSD

Digitally signed by Holly Berry
on 10/22/2015 at 13:56.
Target 3.5 esignature user ID: hb01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0734.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 10:49 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: 293WELCSD Lab Sample ID: 293WELCSD

Digitally signed by Holly Berry
on 10/22/2015 at 13:56.
Target 3.5 esignature user ID: hb01996

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/15oct22.b/lj0734.d Instrument ID: HP20296.i
Injection date and time: 22-OCT-2015 10:49 Analyst ID: hbz01996

Method used: /chem/HP20296.i/15oct22.b/rv8270c.m Sublist used: 4656
Calibration date and time: 22-OCT-2015 13:51
Date, time and analyst ID of latest file update: 22-Oct-2015 13:53 hb01996

Sample Name: 293WELCSD Lab Sample ID: 293WELCSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.937	152	126122	5.000
44)$Nitrobenzene-d5	(2)	7.798	82	1039458	23.097
65)*Naphthalene-d8	(2)	8.921	136	486198	5.000
66) Naphthalene	(2)	8.958	128	1206233	11.593
83) 2-Methylnaphthalene	(2)	10.087	142	765436	10.951
93)$2-Fluorobiphenyl	(3)	10.707	172	1804634	22.727
109) Acenaphthylene	(3)	11.547	152	1249670	11.982
113)*Acenaphthene-d10	(3)	11.761	164	286421	5.000
114) Acenaphthene	(3)	11.809	153	848623	11.954
126) Fluorene	(3)	12.494	166	909852	12.049
153)*Phenanthrene-d10	(4)	13.687	188	536566	5.000
155) Phenanthrene	(4)	13.719	178	1342322	11.900
157) Anthracene	(4)	13.788	178	1369445	12.170
173) Fluoranthene	(4)	15.419	202	1606348	12.337
175)*Pyrene-d10	(5)	15.746	212	658955	5.000
177) Pyrene	(5)	15.778	202	1669105	11.941
179)$Terphenyl-d14	(5)	16.061	244	1977084	21.112
195) Benzo(a)anthracene	(5)	17.832	228	1640325	12.366
196) Chrysene	(5)	17.896	228	1594867	12.937
206) Benzo(b)fluoranthene	(6)	19.720	252	1645702	12.362
208) Benzo(k)fluoranthene	(6)	19.768	252	1559815	12.330
211) Benzo(a)pyrene	(6)	20.255	252	1402340	11.395
213)*Perylene-d12	(6)	20.346	264	541639	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	21.998	276	1708881	11.968
220) Dibenz(a,h)anthracene	(6)	22.036	278	1464170	12.585
221) Benzo(g,h,i)perylene	(6)	22.421	276	1498152	12.209

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly Berry
on 10/22/2015 at 13:56.
Target 3.5 esignature user ID: hb01996

Extraction/Distillation/Digestion Logs

Semivolatiles by GC/MS

Organic Extraction Batchlog Assigned to: 7673 Ryan Schafran Reviewed by: HBZ 10/16/15 Start Date: 10/11/15 Start time: 13:00

15283WAB026

Tech 1: RS 7673 Tech 2: _____

Dept: 26 Prep Analysis: 07807 BNA Water Extraction PAHs in Water by GC/MS

QC	Sample Code	Amt (M1)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH 2	BC	Comments
8082121MS	P2901	247	SS1528026A	1	MS1527626B	1	1		✓	153A	Orange
8082122MSD	P2901	247	SS1528026A	1	MS1527626B	1	1		✓	153A	↓
BLANKA	SBLKWB283	250	SS1528026A	1		—	1		✓	—	Tap H2O
LCSA	283WBLCS	250	SS1528026A	1	MS1527626B	1	1		✓		↓

Solvent Used	Lot No.
Methylene Chloride	121879
Sodium Sulfate	152841
Sulfuric Acid	155108

Spike Solutions: Witness: _____
MS1527626B MINI SEP. LCS SPIKE
SS1528026A MINI SEP. BNA SURROGATE

③ RS 7673 10/11/15

Sample #	Sample Code	Amt (M1)	SS/IS Sol.	Amt (mL)	FV (mL)	pH ③	pH 2	BC	Comments	Analyses	List	Due Date	Prio
1 8082098	P2802	240	SS1528026A	1	1		✓	153A	Yellow	07805	4656	10/20/2015	N
2 8082099	P2803	242	SS1528026A	↓	1		✓	153A	↓	07805	4656	10/20/2015	N
3 8082100	P2804	246	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
4 8082101	P2805	247	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
5 8082114	P2816	241	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
6 8082115	P2817	247	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
7 8082117	P2819	246	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
8 8082118	P2820	249	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
9 8082119	P2821	249	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
10 8082120BKG	P2901	243	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
11 8082124	P2902	240	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
12 8082126	P2904	247	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
13 8082127	P2905	246	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
14 8082128	P2906	247	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
15 8082129	P2907	245	SS1528026A		1		✓	153A		07805	4656	10/20/2015	N
16 8082130	P2908	242	SS1528026A	↓	1		✓	153A	Clear	07805	4656	10/20/2015	N

MA RS 7673 10/11/15

Rack ID:	—	Work Station	5	Micro Temp 100?	
Internal Standard	MSTD2795	Balance #	7		

S-bath ID W 86 C | S-bath ID | C | N-Evap | C | M-vap | C | 15283WAB026

Documented temps are NIST corrected.

DF = Dilution Factor FV = Final Volume

Organic Extraction Batchlog Assigned to: 7673 Ryan Schafran Reviewed by: HBZ 1956 10/22/15 Start Date: 10/20/15 Start time: 17:00

15293WAE026

Tech 1: RS 7673 Tech 2: _____

RS 7673 10/20/15

Dept: 26 Prep Analysis: 07807 BNA Water Extraction PAHs in Water by GC/MS

QC	Sample Code	Amt (ml)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH 2	BC	Comments
BLANKA	SBLKWE293	250	SS1528026A	1		—	1	7	✓	7	Top H2O
LCSA	293WELCS	250	SS1528026A	1	MS1528626A	1	1	7	✓	7	↓
LCSDA	293WELCSD	250	SS1528026A	1	MS1528626A	1	1	7	✓	7	↓

Solvent Used	Lot No.
Methylene Chloride (3)	75 123566
Sodium Sulfate	15293A
Sulfuric Acid	153386

Spike Solutions: Witness: _____

MS1528626A MINI SEP. LCS SPIKE

SS1528026A MINI SEP. BNA SURROGATE

	Sample #		Sample Code	Amt (ml)	SS/IS Sol.	Amt (mL)	FV (mL)	pH	pH 2	BC	Comments	Analyses	List	Due Date	Prio
1	8080063	R	M2515	247	SS1528026A	1	1	7	✓	153B	Orange	07805	14031	10/19/2015	N
F10/100 2	8082124	R	P2902	242	SS1528026A		1		✓	153B	↓	07805	4656	10/20/2015	N
3	8092694		ENOLA	246	SS1528026A		1		✓	153B	Clear	07805	826	10/28/2015	N
4	8092894		DPN01	249	SS1528026A		1		✓	153A	Black	07805	7170	10/28/2015	N
5	8092895		DPN02	247	SS1528026A		1		✓	153A	Clear	07805	7170	10/28/2015	N
6	8092896		DPN03	247	SS1528026A		1		✓	153A	Orange	07805	7170	10/28/2015	N
7	8092897		DPN04	246	SS1528026A		1		✓	153A	Brown	07805	7170	10/28/2015	N
8	8092898		DPN05	242	SS1528026A		1		✓	153A		07805	7170	10/28/2015	N
9	8092899		DPN06	241	SS1528026A		1		✓	153A		07805	7170	10/28/2015	N
10	8092900		DPN07	244	SS1528026A		1		✓	153A		07805	7170	10/28/2015	N
11	8092901		DPN08	247	SS1528026A		1		✓	153A		07805	7170	10/28/2015	N
12	8092902		DPN09	245	SS1528026A		1		✓	153A		07805	7170	10/28/2015	N
13	8092903		DPNS1	243	SS1528026A		1		✓	153A		07805	7170	10/28/2015	N
10 14	8092904		DPNS2	240	SS1528026A		1		✓	153A		07805	7170	10/28/2015	N
15	8092905		DPNS3	248	SS1528026A		1		✓	153A		07805	7170	10/28/2015	N
16	8092906		DPNS4	245	SS1528026A	↓	1	—	✓	153A	↓	07805	7170	10/28/2015	N

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NA RS 7673 10/29/15

Rack ID:	—	Work Station	5	Micro Temp 100?	
Internal Standard	rvISD2955	Balance #	7		

S-bath ID 11	65 C	S-bath ID	C	N-Evap	C	M-vap	C	15293WAE026

Documented temps are NIST corrected.

DF = Dilution Factor FV = Final Volume

Metals in Liquid Data

Case Narrative/Conformance Summary

Metals in Liquid

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Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC29

ICP Metals

Fraction: Metals in Liquid

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8082120	0082-33	X		1	Background/Unspiked
8082121	0082-33MS	X		1	Matrix Spike
8082122	0082-33MSD	X		1	Matrix Spike Duplicate
8082123	0082-33DUP	X		1	Duplicate
8082124	0087-33	X		1	
8082126	0089-33	X		1	
8082127	0090-33	X		1	
8082128	0076-33	X		1	
8082129	0079-33	X		1	
8082130	0073-33FB	X		1	Field Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

The instrument detection limits (IDLs) are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple

Case Narrative/Conformance Summary

CLIENT: The Johnson Company, Inc.
SDG: PSC29

ICP Metals

Fraction: Metals in Liquid

instruments are used for an analysis. The method detection limits (MDLs) are used for determining all other U flags.

Abbreviation Key

BKG – Background	AF - Cold Vapor Atomic Fluorescence
DUP – Duplicate	U - Below MDL
MS - Matrix Spike	B - Below LOQ
MSD - Matrix Spike Dup	N - Matrix Spike out of specifications
B – Blank	* - Duplicate out of specifications
Q - Laboratory Control Sample	E - Matrix Effects exist as proven by Serial Dilution or Spiked Dilution
Y - Laboratory Control Sample Duplicate	A - Post Digestion Spike
P - ICP Atomic Emission Spectrometer	L - Serial Dilution
MS - ICP Mass Spectrometry	R - Internal Standard Relative Intensity OOS
CV - Cold Vapor	NR - Not Required

Sample Data

Metals in Liquid

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC29
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082120BKG % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	72.8			MS
7440-39-3	Barium	27.1			P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	0.92	B		MS
7439-92-1	Lead	0.63	B		MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC29
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082121MS % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	87.2			MS
7440-39-3	Barium	2100			P
7440-43-9	Cadmium	50.0			P
7440-47-3	Chromium	52.5			MS
7439-92-1	Lead	16.2			MS
7439-97-6	Mercury	0.97			CV
7782-49-2	Selenium	9.9			MS
7440-22-4	Silver	49.5			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC29
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082122MSD % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	87.4			MS
7440-39-3	Barium	2080			P
7440-43-9	Cadmium	49.7			P
7440-47-3	Chromium	50.1			MS
7439-92-1	Lead	16.2			MS
7439-97-6	Mercury	0.93			CV
7782-49-2	Selenium	10			MS
7440-22-4	Silver	48.1			P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC29
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082123DUP % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	79.7			MS
7440-39-3	Barium	24.8			P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	0.78	B		MS
7439-92-1	Lead	0.78	B		MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC29
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082124 % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	2.7			MS
7440-39-3	Barium	52.1			P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	1.4	B		MS
7439-92-1	Lead	0.13	U		MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC29
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082126 % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.70	B		MS
7440-39-3	Barium	93.0			P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	0.70	U		MS
7439-92-1	Lead	0.40	B		MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC29
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082127 % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	3.5			MS
7440-39-3	Barium	112			P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	4.2			MS
7439-92-1	Lead	6.7			MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC29
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082128 % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	1.2	B		MS
7440-39-3	Barium	66.9			P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	1.0	B		MS
7439-92-1	Lead	1.8			MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC29
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082129 % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.2			MS
7440-39-3	Barium	164			P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	3.0			MS
7439-92-1	Lead	10.1			MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: PSC29
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8082130 % Solids: 0.0
Concentration Units: UG/L Date Received: 10/08/2015

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.54	U		MS
7440-39-3	Barium	0.30	U		P
7440-43-9	Cadmium	0.30	U		P
7440-47-3	Chromium	0.70	U		MS
7439-92-1	Lead	0.13	U		MS
7439-97-6	Mercury	0.050	U		CV
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	1.4	U		P

Comments:

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METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

Quality Control and Calibration Summary Forms

Metals in Liquid

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QUALITY CONTROL REFERENCE LIST

SDG No.: PSC29
Matrix: WATER

Analyte	Batch ID	Lab Sample ID
Barium	P28848C	8082120BKG
Cadmium		8082121MS
Silver		8082122MSD
		8082123DUP
		8082124
		8082126
		8082127
		8082128
		8082129
		8082130
		P28848CB
		P28848CQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

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QUALITY CONTROL REFERENCE LIST

SDG No.: PSC29
Matrix: WATER

Analyte	Batch ID	Lab Sample ID
Arsenic	P28850D	8082120BKG
Chromium		8082121MS
Lead		8082122MSD
Selenium		8082123DUP
		8082124
		8082126
		8082127
		8082128
		8082129
		8082130
		P28850DB
		P28850DQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

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QUALITY CONTROL REFERENCE LIST

SDG No.: PSC29
Matrix: WATER

Analyte	Batch ID	Lab Sample ID
Mercury	P28913E	8082120BKG
		8082121MS
		8082122MSD
		8082123DUP
		8082124
		8082126
		8082127
		8082128
		8082129
		8082130
		P28913EB
		P28913EQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC29

Method: P
Run Name: 1528909T73
Calibration Date(s): 10/16/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Barium		600.0	617.04	102.8	500.0	504.47	100.9	500.0	504.51	100.9
Cadmium		600.0	605.53	100.9	500.0	498.87	99.8	500.0	504.46	100.9
Silver		600.0	605.95	101.0	500.0	502.46	100.5	500.0	505.62	101.1

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC29

Method: P
Run Name: 1528909T73
Calibration Date(s): 10/16/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Barium					500.0	505.28	101.1	500.0	508.28	101.7
Cadmium					500.0	502.96	100.6	500.0	505.67	101.1
Silver					500.0	507.50	101.5	500.0	508.81	101.8

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC29

Method: MS
Run Name: 1529305E03
Calibration Date(s): 10/20/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Arsenic	75	500.0	535.70	107.1	250.0	256.00	102.4	250.0	263.50	105.4
Chromium	52	500.0	521.30	104.3	250.0	256.10	102.4	250.0	256.10	102.4
Lead	208	50.0	51.84	103.7	25.0	24.93	99.7	25.0	24.91	99.6
Selenium	78	50.0	52.25	104.5	25.0	25.67	102.7	25.0	25.85	103.4

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC29

Method: MS
Run Name: 1529305E03
Calibration Date(s): 10/20/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Arsenic	75				250.0	261.90	104.8	250.0	260.60	104.2
Chromium	52				250.0	257.20	102.9	250.0	261.60	104.6
Lead	208				25.0	25.61	102.4	25.0	25.20	100.8
Selenium	78				25.0	25.58	102.3	25.0	25.15	100.6

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury		2.5	2.47	98.8	1.0	0.96	96.0	1.0	0.97	97.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC29

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015
Concentration Units: UG/L

		Initial Calibration			Continuing Calibration					
Analyte	Mass	True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.97	97.0	1.0	0.95	95.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC29

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.97	97.0	1.0	0.96	96.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC29

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.95	95.0	1.0	0.96	96.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC29

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.94	94.0	1.0	0.95	95.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: PSC29

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015
Concentration Units: UG/L

		Initial Calibration			Continuing Calibration					
Analyte	Mass	True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.95	95.0			

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits, Only ND samples were accepted

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: PSC29

Method: P
Run Name: 1528909T73
Calibration Date(s): 10/16/2015
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Barium		5.0	4.91	98.2	4.83	96.6
Cadmium		5.0	5.27	105.4	5.09	101.8
Silver		5.0	4.86	97.2	4.65	93.0

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: PSC29

Method: MS
Run Name: 1529305E03
Calibration Date(s): 10/20/2015
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Arsenic	75	2.0	2.06	103.0	2.09	104.5
Chromium	52	2.0	1.99	99.5	2.03	101.5
Lead	208	1.0	0.98	98.0	0.97	97.0
Selenium	78	2.0	2.13	106.5	1.94	97.0

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: PSC29

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015
Concentration Units: UG/L

			Initial		Final	
Analyte	Mass	True	Found	%R	Found	%R
Mercury		0.2	0.18	90.0		

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC29

Method: P
Run Name: 1528909T73
Calibration Date(s): 10/16/2015
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Barium		0.33	U	0.33	U	0.33	U	2.2	B		0.300	U	P28848CB
Cadmium		0.45	B	0.52	B	0.33	U	0.33	U		0.300	U	P28848CB
Silver		0.83	U	0.83	U	0.83	U	0.83	U		1.400	U	P28848CB

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC29

Method: P
Run Name: 1528909T73
Calibration Date(s): 10/16/2015

Analyte	Mass	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank (UG/L) Mass		C	Lab Sample ID
Barium				0.33	U								
Cadmium				0.33	U								
Silver				0.83	U								

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC29

Method: MS
Run Name: 1529305E03
Calibration Date(s): 10/20/2015
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Arsenic	75	0.40	U	0.40	U	0.40	U	0.40	U	75	0.540	U	P28850DB
Chromium	52	0.50	U	0.50	U	0.50	U	0.50	U	52	0.700	U	P28850DB
Lead	208	0.019	U	0.019	U	0.019	U	0.019	U	208	0.130	U	P28850DB
Selenium	78	0.50	U	0.50	U	0.50	U	0.50	U	78	0.500	U	P28850DB

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC29

Method: MS
Run Name: 1529305E03
Calibration Date(s): 10/20/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Arsenic	75			0.40	U								
Chromium	52			0.50	U								
Lead	208			0.019	U								
Selenium	78			0.50	U								

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC29

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury		0.050	U	0.050	U	0.050	U	0.050	U		0.050	U	P28913EB

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC29

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury				0.050	U	0.050	U	0.050	U				

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC29

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury				0.050	U	0.050	U	0.050	U				

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: PSC29

Method: CV
Run Name: 1529201M07
Calibration Date(s): 10/19/2015

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Mercury				0.050	U	0.050	U						

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below IDL/MDL B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: PSC29

Instrument ID: 18255
Run Name: 1528909T73
Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	500000	500000	491127	98.2	495145.4	99.0	484923	97.0	487501.0	97.5
Barium	0	500	0		509.1	101.8	0		510.4	102.1
Cadmium	0	1000	-1		941.3	94.1	0		945.1	94.5
Calcium	500000	500000	497449	99.5	502229.2	100.4	490295	98.1	493402.1	98.7
Iron	200000	200000	196711	98.4	198501.6	99.3	188889	94.4	190045.9	95.0
Magnesium	500000	500000	495706	99.1	501517.6	100.3	461959	92.4	463510.5	92.7
Silver	0	200	4		213.1	106.6	1		210.0	105.0

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: PSC29

Instrument ID: 11332
Run Name: 1529305E03
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	10000	10000	10290	102.9	10050.0	100.5
Arsenic	75	0	20	0		20.9	104.5
Calcium	44	10000	10000	10140	101.4	9938.0	99.4
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium	52	0	20	0		20.5	102.5
Iron	57	10000	10000	10290	102.9	10150.0	101.5
Lead	208	0	0	0		0.0	
Magnesium	24	10000	10000	10120	101.2	9841.0	98.4
Molybdenum	98	200	200	199	99.5	200.2	100.1
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	10000	10000	10230	102.3	10080.0	100.8
Selenium	78	0	0	0		0.0	
Sodium	23	10000	10000	10130	101.3	9964.0	99.6
Sulfur	34	10000	10000	NA		NA	
Titanium	47	200	200	208	104.0	207.5	103.8

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: PSC29

Instrument ID: 11332
Run Name: 1529305E03
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	10000	10000	9954	99.5	10040.0	100.4
Arsenic	75	0	20	0		19.9	99.5
Calcium	44	10000	10000	10140	101.4	9844.0	98.4
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium	52	0	20	0		20.3	101.5
Iron	57	10000	10000	10050	100.5	10080.0	100.8
Lead	208	0	0	0		0.0	
Magnesium	24	10000	10000	9831	98.3	9842.0	98.4
Molybdenum	98	200	200	203	101.5	202.8	101.4
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	10000	10000	9900	99.0	9956.0	99.6
Selenium	78	0	0	0		0.0	
Sodium	23	10000	10000	10030	100.3	9938.0	99.4
Sulfur	34	10000	10000	NA		NA	
Titanium	47	200	200	202	101.0	197.2	98.6

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: PSC29
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 8082120BKG Matrix Spike Lab Sample ID: 8082121MS Matrix Spike Duplicate Lab Sample ID: 8082122MSD
Batch Id(s): P28850D, P28848C, P28913E

		BKG Sample		MS Sample		MSD Sample		MS Spike	MSD Spike		MS		MSD				Control Limit		
Analyte	Mass	Result	C	Result	C	Result	C	Added	Added	Units	%R	Q	%R	Q	RPD	Q	%R	RPD	M
Arsenic	75	72.8100		87.1700		87.3900		10.0000	10.0000	UG/L	144		146		0			20	MS
Barium		27.1100		2095.9300		2082.4700		2000.0000	2000.0000	UG/L	103		103		1		75 - 125	20	P
Cadmium		0.3000	U	50.0000		49.7000		50.0000	50.0000	UG/L	100		99		1		75 - 125	20	P
Chromium	52	0.9218	B	52.4700		50.0700		50.0000	50.0000	UG/L	103		98		5		75 - 125	20	MS
Lead	208	0.6326	B	16.1500		16.2300		15.0000	15.0000	UG/L	103		104		0		75 - 125	20	MS
Mercury		0.0500	U	0.9653		0.9343		1.0000	1.0000	UG/L	97		93		3		80 - 120	20	CV
Selenium	78	0.5000	U	9.9140		9.9690		10.0000	10.0000	UG/L	99		100		1		75 - 125	20	MS
Silver		1.4000	U	49.4900		48.1300		50.0000	50.0000	UG/L	99		96		3		75 - 125	20	P

Note: Results shown are reported on an as-received basis.

METHODS:
P = ICP Atomic Emission Spectrometer CV = Cold Vapor
MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL, B= Below LOQ
FLAGS:
N = Matrix Spike OOS, * = Duplicate OOS

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QUALITY ASSURANCE SUMMARY
FORM 6
DUPLICATES
SDG No.: PSC29
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 8082120BKG Duplicate Lab Sample ID: 8082123DUP
Batch ID(s): P28850D, P28848C, P28913E
Concentration Units: UG/L

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic	75		72.8100		79.6800		9		MS
Barium		5.0	27.1100		24.8100		9		P
Cadmium			-2.8600	B	-3.0200	B	-5		P
Chromium	52		0.9218	B	0.7830	B	16		MS
Lead	208		0.6326	B	0.7799	B	21		MS
Mercury			0.0500	U	0.0500	U			CV
Selenium	78		0.5000	U	0.5000	U			MS
Silver			1.4000	U	1.4000	U			P

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

Note: Results shown are reported on an as-received basis.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
* = Duplicate Out of Spec

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QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: PSC29
Matrix: WATER

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Arsenic	75	P28850DQ	UG/L	10.000	10.650		80 - 120	107	MS	Yes
Barium		P28848CQ	UG/L	2000.000	2069.950		80 - 120	103	P	Yes
Cadmium		P28848CQ	UG/L	50.000	54.070		80 - 120	108	P	Yes
Chromium	52	P28850DQ	UG/L	50.000	51.810		80 - 120	104	MS	Yes
Lead	208	P28850DQ	UG/L	15.000	15.610		80 - 120	104	MS	Yes
Mercury		P28913EQ	UG/L	1.000	1.024		80 - 120	102	CV	Yes
Selenium	78	P28850DQ	UG/L	10.000	10.540		80 - 120	105	MS	Yes
Silver		P28848CQ	UG/L	50.000	48.770		80 - 120	98	P	Yes

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 9
SERIAL DILUTIONS
SDG No.: PSC29
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 8082120BKG Serial Dilution Lab Sample ID: 8082120L
Batch ID(s): P28850D, P28848C
Concentration Units: UG/L

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Arsenic	75	72.8100		68.3500		6		MS
Barium		27.1100		28.3500		5		P
Cadmium		0.3000	U	1.5000	U			P
Chromium	52	0.9218	B	3.5000	U	100		MS
Lead	208	0.6326	B	0.6500	U	100		MS
Selenium	78	0.5000	U	2.5000	U			MS
Silver		1.4000	U	7.0000	U			P

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
E = Matrix Effects exist as proven by Serial Dilution or Spiked Dilution

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QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: PSC29

Method: P
Instrument ID: 18255
Date: 10/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Barium	455.40		0.33
Cadmium	226.50		0.33
Silver	328.06		0.83

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: PSC29

Method: MS
Instrument ID: 11332
Date: 10/2015

Analyte	MASS (amu)	Background	IDL (UG/L)
Arsenic	75		0.40
Chromium	52		0.50
Lead	208		0.019
Selenium	78		0.50

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Instrument ID: 17384
Date: 10/2015

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Mercury	254.00		0.050

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC29
Matrix: WATER

Method: P
Date: 07/2015

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Barium	455.40		5.0	0.30
Cadmium	226.50		5.0	0.30
Silver	328.06		5.0	1.4

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC29
Matrix: WATER

Method: MS
Date: 07/2015

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Arsenic	75		2.0	0.54
Chromium	52		2.0	0.70
Lead	208		1.0	0.13
Selenium	78		2.0	0.50

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: PSC29
Matrix: WATER

Method: CV
Date: 07/2015

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Mercury	254.00		0.20	0.050

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC29

Instrument ID: 18255
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: AL	CA	FE	MG	CO
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	-0.0000050	0.0000000	0.0000750	0.0000000	-0.0002110
Silver	328.06	0.0000000	0.0000000	-0.0003990	0.0000000	0.0000000

Comments:
_____
_____
_____
_____

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: PSC29

Instrument ID: 18255
Date: 08/2015

Analyte	Wavelength (nm)	Interelement Correction Factor for: NI	TH	TI	W	ZR
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0005420
Cadmium	226.50	-0.0000810	0.0000000	0.0000000	0.0002760	0.0000000
Silver	328.06	0.0000000	-0.0025090	-0.0005360	0.0000000	0.0070800

Comments:
_____
_____
_____
_____

QUALITY ASSURANCE SUMMARY
FORM 12
LINEAR RANGES
SDG No.: PSC29

Method: P
Instrument ID: 18255
Date: 10/2015

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Barium	455.4	10.00	10000.0
Cadmium	226.5	10.00	20000.0
Silver	328.06	10.00	10000.0

Comments:
_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: P
Batch ID: P28848C

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
8082124	10/16/2015	50.00	50
8082126	10/16/2015	50.00	50
8082127	10/16/2015	50.00	50
8082128	10/16/2015	50.00	50
8082129	10/16/2015	50.00	50
8082130	10/16/2015	50.00	50
8082120BKG	10/16/2015	50.00	50
8082123DUP	10/16/2015	50.00	50
8082122MSD	10/16/2015	50.00	50
8082121MS	10/16/2015	50.00	50
P28848CB	10/16/2015	50.00	50
P28848CQ	10/16/2015	1.00	1

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

Method: MS
Batch ID: P28850D

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
8082124	10/16/2015	50.00	50
8082126	10/16/2015	50.00	50
8082127	10/16/2015	50.00	50
8082128	10/16/2015	50.00	50
8082129	10/16/2015	50.00	50
8082130	10/16/2015	50.00	50
8082120BKG	10/16/2015	50.00	50
8082123DUP	10/16/2015	50.00	50
8082122MSD	10/16/2015	50.00	50
8082121MS	10/16/2015	50.00	50
P28850DB	10/16/2015	50.00	50
P28850DQ	10/16/2015	1.00	1

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

Method: CV
Batch ID: P28913E

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
8082124	10/18/2015	40.00	40
8082126	10/18/2015	40.00	40
8082127	10/18/2015	40.00	40
8082128	10/18/2015	40.00	40
8082129	10/18/2015	40.00	40
8082130	10/18/2015	40.00	40
8082120BKG	10/18/2015	40.00	40
8082123DUP	10/18/2015	40.00	40
8082122MSD	10/18/2015	40.00	40
8082121MS	10/18/2015	40.00	40
P28913EB	10/18/2015	40.00	40
P28913EQ	10/18/2015	1.00	1

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC29

Method: P
Instrument ID: 18255
Run Name: 1528909T73

Run Start Date: 10/16/2015
Run End Date: 10/16/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	PB	HG	SE	AG																						
S0	1.00	16:48		X	X					X																						
S	1.00	16:51																														
S	1.00	16:54		X	X					X																						
S	1.00	16:56																														
ICV	1.00	16:59		X	X					X																						
ICB	1.00	17:02		X	X					X																						
LLC	1.00	17:04		X	X					X																						
ICSA	1.00	17:07		X	X					X																						
ICSAB	1.00	17:10		X	X					X																						
CCV	1.00	17:12		X	X					X																						
CCB	1.00	17:15		X	X					X																						
P28848CB	1.00	17:17		X	X					X																						
P28848CQ	1.00	17:20		X	X					X																						
8082120BKG	1.00	17:23		X	X					X																						
8082120A	1.00	17:26																														
8082123DUP	1.00	17:28		X	X					X																						
8082121MS	1.00	17:31		X	X					X																						
8082122MSD	1.00	17:34		X	X					X																						
8082120L	5.00	17:36		X	X					X																						
ZZZZZZ	1.00	17:39																														
ZZZZZZ	1.00	17:42																														
CCV	1.00	17:44		X	X					X																						
CCB	1.00	17:47		X	X					X																						
ZZZZZZ	1.00	17:49																														
ZZZZZZ	1.00	17:52																														
ZZZZZZ	1.00	17:55																														
ZZZZZZ	1.00	17:57																														
ZZZZZZ	1.00	18:00																														
ZZZZZZ	1.00	18:03																														
ZZZZZZ	1.00	18:06																														
8082124	1.00	18:08		X	X					X																						
8082126	1.00	18:11		X	X					X																						
8082127	1.00	18:14		X	X					X																						
CCV	1.00	18:16		X	X					X																						
CCB	1.00	18:19		X	X					X																						
8082128	1.00	18:21		X	X					X																						
8082129	1.00	18:24		X	X					X																						
8082130	1.00	18:26		X	X					X																						

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC29

Method: P
Instrument ID: 18255
Run Name: 1528909T73

Run Start Date: 10/16/2015
Run End Date: 10/16/2015

Lab Sample ID	D/F	Time	Analytes																												
			AS	BA	CD	CR	PB	HG	SE	AG																					
ZZZZZZ	1.00	18:29																													
ZZZZZZ	1.00	18:32																													
ZZZZZZ	1.00	18:35																													
ZZZZZZ	1.00	18:38																													
LLC	1.00	18:41		X	X					X																					
ICSA	1.00	18:44		X	X					X																					
ICSAB	1.00	18:47		X	X					X																					
CCV	1.00	18:49		X	X					X																					
CCB	1.00	18:52		X	X					X																					

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC29

Method: MS
Instrument ID: 11332
Run Name: 1529305E03

Run Start Date: 10/20/2015
Run End Date: 10/20/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	PB	HG	SE	AG																						
S0	1.00	09:01	X			X	X		X																							
S	1.00	09:03	X			X	X		X																							
CCS	1.00	09:05	X			X	X		X																							
CCS	1.00	09:08	X			X	X		X																							
ICV	1.00	09:10	X			X	X		X																							
ICB	1.00	09:12	X			X	X		X																							
LLC	1.00	09:15	X			X	X		X																							
ICSA	1.00	09:17	X			X	X		X																							
ICSAB	1.00	09:19	X			X	X		X																							
CCV	1.00	09:22	X			X	X		X																							
CCB	1.00	09:24	X			X	X		X																							
P28850DB	1.00	09:26	X			X	X		X																							
P28850DQ	1.00	09:29	X			X	X		X																							
8082120BKG	1.00	09:31	X			X	X		X																							
8082120A	1.00	09:33																														
8082123DUP	1.00	09:36	X			X	X		X																							
8082121MS	1.00	09:38	X			X	X		X																							
8082122MSD	1.00	09:40	X			X	X		X																							
8082120L	5.00	09:43	X			X	X		X																							
ZZZZZZ	1.00	09:45																														
ZZZZZZ	1.00	09:47																														
CCV	1.00	09:49	X			X	X		X																							
CCB	1.00	09:52	X			X	X		X																							
ZZZZZZ	1.00	09:54																														
ZZZZZZ	1.00	09:56																														
ZZZZZZ	1.00	09:59																														
ZZZZZZ	1.00	10:01																														
ZZZZZZ	1.00	10:03																														
ZZZZZZ	1.00	10:06																														
ZZZZZZ	1.00	10:08																														
8082124	1.00	10:10	X			X	X		X																							
8082126	1.00	10:13	X			X	X		X																							
8082127	1.00	10:15	X			X	X		X																							
CCV	1.00	10:17	X			X	X		X																							
CCB	1.00	10:20	X			X	X		X																							
8082128	1.00	10:22	X			X	X		X																							
8082129	1.00	10:24	X			X	X		X																							
8082130	1.00	10:27	X			X	X		X																							

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC29

Method: MS
Instrument ID: 11332
Run Name: 1529305E03

Run Start Date: 10/20/2015
Run End Date: 10/20/2015

Lab Sample ID	D/F	Time	Analytes																												
			AS	BA	CD	CR	PB	HG	SE	AG																						
LLC	1.00	10:29	X			X	X		X																						
ICSA	1.00	10:31	X			X	X		X																						
ICSAB	1.00	10:34	X			X	X		X																						
CCV	1.00	10:36	X			X	X		X																						
CCB	1.00	10:38	X			X	X		X																						

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC29

Method: CV
Instrument ID: 17384
Run Name: 1529201M07

Run Start Date: 10/19/2015
Run End Date: 10/19/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	PB	HG	SE	AG																						
S0	1.00	03:23						X																								
S0.2	1.00	03:25						X																								
S0.5	1.00	03:27						X																								
S1.0	1.00	03:29						X																								
S2.5	1.00	03:31						X																								
S5.0	1.00	03:33						X																								
ICV	1.00	03:35						X																								
ICB	1.00	03:37						X																								
CRA	1.00	03:39						X																								
CCV	1.00	03:41						X																								
CCB	1.00	03:43						X																								
ZZZZZZ	1.00	03:46																														
ZZZZZZ	1.00	03:48																														
ZZZZZZ	1.00	03:50																														
ZZZZZZ	1.00	03:52																														
ZZZZZZ	1.00	03:54																														
ZZZZZZ	1.00	03:56																														
ZZZZZZ	1.00	03:58																														
ZZZZZZ	1.00	04:00																														
ZZZZZZ	1.00	04:02																														
ZZZZZZ	1.00	04:04																														
CCV	1.00	04:06						X																								
CCB	1.00	04:08						X																								
ZZZZZZ	1.00	04:10																														
ZZZZZZ	1.00	04:12																														
ZZZZZZ	1.00	04:14																														
ZZZZZZ	1.00	04:16																														
ZZZZZZ	1.00	04:18																														
ZZZZZZ	1.00	04:20																														
ZZZZZZ	1.00	04:22																														
ZZZZZZ	1.00	04:24																														
ZZZZZZ	1.00	04:26																														
ZZZZZZ	1.00	04:28																														
CCV	1.00	04:30						X																								
CCB	1.00	04:32						X																								
ZZZZZZ	1.00	04:34																														
ZZZZZZ	1.00	04:36																														
ZZZZZZ	1.00	04:39																														

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC29

Method: CV
Instrument ID: 17384
Run Name: 1529201M07

Run Start Date: 10/19/2015
Run End Date: 10/19/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	PB	HG	SE	AG																						
ZZZZZZ	1.00	04:41																														
ZZZZZZ	1.00	04:43																														
ZZZZZZ	1.00	04:45																														
ZZZZZZ	1.00	04:47																														
ZZZZZZ	1.00	04:49																														
ZZZZZZ	1.00	04:51																														
ZZZZZZ	1.00	04:53																														
CCV	1.00	04:55						X																								
CCB	1.00	04:57						X																								
ZZZZZZ	1.00	04:59																														
ZZZZZZ	1.00	05:01																														
ZZZZZZ	1.00	05:03																														
ZZZZZZ	1.00	05:05																														
ZZZZZZ	1.00	05:07																														
ZZZZZZ	1.00	05:09																														
ZZZZZZ	1.00	05:11																														
ZZZZZZ	1.00	05:13																														
ZZZZZZ	1.00	05:15																														
ZZZZZZ	1.00	05:17																														
CCV	1.00	05:19						X																								
CCB	1.00	05:21						X																								
ZZZZZZ	1.00	05:24																														
ZZZZZZ	1.00	05:26																														
ZZZZZZ	1.00	05:28																														
ZZZZZZ	1.00	05:30																														
ZZZZZZ	1.00	05:32																														
ZZZZZZ	1.00	05:34																														
ZZZZZZ	1.00	05:36																														
ZZZZZZ	1.00	05:38																														
ZZZZZZ	1.00	05:40																														
ZZZZZZ	1.00	05:42																														
CCV	1.00	05:44						X																								
CCB	1.00	05:46						X																								
ZZZZZZ	1.00	05:48																														
ZZZZZZ	1.00	05:50																														
ZZZZZZ	1.00	05:52																														
ZZZZZZ	1.00	05:54																														
ZZZZZZ	1.00	05:56																														

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC29

Method: CV
Instrument ID: 17384
Run Name: 1529201M07

Run Start Date: 10/19/2015
Run End Date: 10/19/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	PB	HG	SE	AG																						
ZZZZZZ	1.00	05:58																														
ZZZZZZ	1.00	06:01																														
ZZZZZZ	1.00	06:03																														
ZZZZZZ	1.00	06:05																														
ZZZZZZ	1.00	06:07																														
CCV	1.00	06:09						X																								
CCB	1.00	06:11						X																								
ZZZZZZ	1.00	06:15																														
ZZZZZZ	1.00	06:17																														
ZZZZZZ	1.00	06:19																														
ZZZZZZ	1.00	06:21																														
ZZZZZZ	1.00	06:23																														
ZZZZZZ	1.00	06:25																														
ZZZZZZ	1.00	06:27																														
ZZZZZZ	1.00	06:29																														
ZZZZZZ	1.00	06:31																														
ZZZZZZ	1.00	06:33																														
CCV	1.00	06:35						X																								
CCB	1.00	06:37						X																								
ZZZZZZ	1.00	06:39																														
ZZZZZZ	1.00	06:41																														
ZZZZZZ	1.00	06:43																														
ZZZZZZ	1.00	06:45																														
P28913EB	1.00	06:47						X																								
P28913EQ	1.00	06:49						X																								
8082120BKG	1.00	06:51						X																								
8082123DUP	1.00	06:53						X																								
8082121MS	1.00	06:55						X																								
8082122MSD	1.00	06:57						X																								
CCV	1.00	06:59						X																								
CCB	1.00	07:01						X																								
ZZZZZZ	1.00	07:03																														
ZZZZZZ	1.00	07:05																														
ZZZZZZ	1.00	07:08																														
ZZZZZZ	1.00	07:10																														
ZZZZZZ	1.00	07:12																														
ZZZZZZ	1.00	07:14																														
ZZZZZZ	1.00	07:16																														

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: PSC29

Method: CV
Instrument ID: 17384
Run Name: 1529201M07

Run Start Date: 10/19/2015
Run End Date: 10/19/2015

Lab Sample ID	D/F	Time	Analytes																													
			AS	BA	CD	CR	PB	HG	SE	AG																						
ZZZZZZ	1.00	07:18																														
ZZZZZZ	1.00	07:20																														
8082124	1.00	07:22						X																								
CCV	1.00	07:24						X																								
CCB	1.00	07:26						X																								
8082126	1.00	07:28						X																								
8082127	1.00	07:30						X																								
8082128	1.00	07:32						X																								
8082129	1.00	07:34						X																								
8082130	1.00	07:36						X																								
ZZZZZZ	1.00	07:38																														
ZZZZZZ	1.00	07:40																														
ZZZZZZ	1.00	07:42																														
ZZZZZZ	1.00	07:44																														
ZZZZZZ	1.00	07:46																														
CCV	1.00	07:48						X																								
CCB	1.00	07:50						X																								

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 15
ICP-MS TUNE
SDG No.: PSC29
Matrix: WATER

Instrument ID: 11332
Date: 10/20/2015

Analyte	Mass	Avg. Measured Mass (amu)	Avg. Peak Width at 5% Peak Height (amu)	%RSD
Lithium	6.000	6.05	0.70	1.9
Magnesium	24.000	23.95	0.70	1.1
Rhodium	103.000	103.00	0.65	1.2
Indium	115.000	115.00	0.65	0.7
Cerium	140.000	140.05	0.60	1.6
Lead	208.000	208.00	0.60	1.1
Uranium	238.000	238.00	0.65	0.4

Comments:

_____
_____
_____
_____

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: PSC29

Instrument ID: 11332
Run Name: 1529305E03

Start Date: 10/20/2015
End Date: 10/20/2015

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	PB	IN-1-115	SE
IN-2-115	AS	SC-2-45	CR

Lab Sample ID	Time	Internal Standards %RI For: Element SC-2-45	Q	Element IN-1-115	Q	Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q	Element	Q
S0	09:01	100		100		100		100							
S	09:03	98		98		97		97							
CCS	09:05	99		97		101		100							
CCS	09:08	98		99		99		101							
ICV	09:10	100		100		97		99							
ICB	09:12	99		98		101		102							
LLC	09:15	101		99		101		103							
ICSA	09:17	98		98		99		100							
ICSAB	09:19	99		99		97		99							
CCV	09:22	98		99		97		99							
CCB	09:24	100		100		100		102							
P28850DB	09:26	98		100		100		102							
P28850DQ	09:29	101		100		100		101							
8082120BKG	09:31	100		96		95		96							
8082120A	09:33	102		95		95		96							
8082123DUP	09:36	101		95		96		95							
8082121MS	09:38	98		97		94		94							
8082122MSD	09:40	99		95		95		94							
8082120L	09:43	100		100		96		99							
ZZZZZZ	09:45														
ZZZZZZ	09:47														
CCV	09:49	100		100		97		102							
CCB	09:52	100		98		100		102							
ZZZZZZ	09:54														
ZZZZZZ	09:56														
ZZZZZZ	09:59														
ZZZZZZ	10:01														
ZZZZZZ	10:03														
ZZZZZZ	10:06														
ZZZZZZ	10:08														
8082124	10:10	95		96		91		91							
8082126	10:13	98		95		92		90							

LEGEND:
BKG = Background
DUP = Duplicate
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike

FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
BI = Bismuth
GE = Germanium
HO = Holmium
IN = Indium
LI = Lithium
SC = Scandium
TB = Terbium
Y = Yttrium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: PSC29

Instrument ID: 11332
Run Name: 1529305E03

Start Date: 10/20/2015
End Date: 10/20/2015

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	PB	IN-1-115	SE
IN-2-115	AS	SC-2-45	CR

Lab Sample ID	Time	Internal Standards %RI For: Element SC-2-45	Q	Element IN-1-115	Q	Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q	Element	Q
8082127	10:15	100		96		95		96							
CCV	10:17	99		101		96		99							
CCB	10:20	101		100		98		100							
8082128	10:22	99		99		96		97							
8082129	10:24	97		94		93		93							
8082130	10:27	99		97		98		101							
LLC	10:29	99		99		98		100							
ICSA	10:31	100		100		98		99							
ICSAB	10:34	99		98		97		99							
CCV	10:36	99		99		97		100							
CCB	10:38	99		98		100		101							

LEGEND:
BKG = Background
DUP = Duplicate
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike

FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
BI = Bismuth
GE = Germanium
HO = Holmium
IN = Indium
LI = Lithium
SC = Scandium
TB = Terbium
Y = Yttrium

Raw Data

Metals in Liquid

ICP Data

Metals in Liquid

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ICP-AES Run Data Report

Reviewed By
Elaine F Stoltzfus

Reviewed Date
10/16/2015 7:42PM

Data File Name 1528909T73.TXT
Run Name: 1528909T73

Method Reference Name(s):

Verified By:
Deborah A Krady

Verified Date
10/20/2015 8:41AM

Analyst Employee: 0463

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 1 Date/Time: 10/16/2015 16:48

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-0.00377	55.690	-0.00493	-0.00135	-0.00504
AL	0.000	0.00829	124.361	-0.00324	0.01660	0.01151
AS	0.000	0.00711	57.967	0.01019	0.00243	0.00871
B	0.000	0.00001	26.818	0.00001	0.00001	0.00001
BA	0.000	0.00128	1.408	0.00128	0.00126	0.00129
BE	0.000	-0.02899	0.992	-0.02907	-0.02922	-0.02867
CA	0.000	0.00708	3.315	0.00697	0.00734	0.00691
CD	0.000	0.00643	136.505	0.00428	-0.00107	0.01607
CO	0.000	-0.03564	17.442	-0.03022	-0.04242	-0.03428
CR	0.000	-0.00001	88.203	-0.00001	0.00000	-0.00002
CU	0.000	0.00077	174.763	0.00201	-0.00067	0.00097
FE	0.000	0.00002	564.359	-0.00013	0.00007	0.00013
K	0.000	0.37365	7.706	0.35098	0.36393	0.40605
LI	0.000	0.00116	30.982	0.00143	0.00075	0.00130
MG	0.000	0.00031	37.258	0.00044	0.00024	0.00024
MN	0.000	0.00057	58.948	0.00056	0.00024	0.00092
MO	0.000	-0.00155	437.309	-0.00200	0.00543	-0.00807
NA	0.000	-0.00118	43.705	-0.00122	-0.00167	-0.00064
NI	0.000	0.02291	21.224	0.01767	0.02728	0.02378
P	0.000	0.00025	25.735	0.00021	0.00021	0.00032
PB	0.000	0.01748	69.786	0.01889	0.00464	0.02892
S	0.000	0.00088	11.151	0.00093	0.00076	0.00094
SB	0.000	0.00032	43.029	0.00029	0.00048	0.00020
SI	0.000	0.00011	43.073	0.00007	0.00010	0.00016
SN	0.000	0.02267	8.714	0.02459	0.02064	0.02278
SR	0.000	0.00018	5.558	0.00017	0.00019	0.00019
TI	0.000	0.00527	9.341	0.00470	0.00547	0.00562
TL	0.000	0.00012	1804.116	0.00021	-0.00207	0.00221
V	0.000	-0.00351	32.658	-0.00426	-0.00219	-0.00409
Y1	0.000	7005.91500	0.124	7015.97500	7000.73500	7001.03500
Y2A	0.000	184148.13439	0.362	184438.54000	183385.52316	184620.34000
Y2R	0.000	16591.51777	1.175	16380.49024	16628.92636	16765.13670
ZN	0.000	0.03402	17.930	0.03848	0.03650	0.02707
ZR	0.000	-0.00046	21.526	-0.00043	-0.00038	-0.00057

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 2 Date/Time: 10/16/2015 16:51

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	16.02089	0.080	16.03284	16.02260	16.00723
CA	50.000	1.98406	0.073	1.98559	1.98270	1.98390
FE	50.000	0.71509	0.180	0.71361	0.71599	0.71566
K	50.000	55.16999	0.115	55.16085	55.11142	55.23771
MG	50.000	4.62617	0.096	4.62340	4.62382	4.63129
NA	50.000	3.64425	0.280	3.63251	3.65119	3.64905
S	50.000	0.31950	2.260	0.32764	0.31698	0.31387
SI	50.000	0.51348	0.088	0.51298	0.51386	0.51359
Y1	50.000	6967.30333	0.285	6948.36000	6987.96000	6965.59000
Y2R	50.000	16545.21266	0.440	16537.72982	16621.49570	16476.41246

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 3 Date/Time: 10/16/2015 16:54

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	1.87670	0.064	1.87535	1.87767	1.87708
AS	1.000	1.01659	0.401	1.01585	1.01294	1.02098
B	1.000	0.02478	0.142	0.02476	0.02482	0.02476
BA	1.000	2.22860	0.762	2.21040	2.23135	2.24404
BE	1.000	49.84891	0.201	49.88655	49.92501	49.73517
CD	1.000	32.44184	0.147	32.44697	32.48691	32.39165
CO	1.000	18.20101	0.022	18.20203	18.19652	18.20449
CU	1.000	1.74038	0.277	1.74312	1.74321	1.73482
LI	1.000	0.43316	0.380	0.43128	0.43434	0.43387
MN	1.000	2.76789	0.136	2.76794	2.77163	2.76408
NI	1.000	11.25337	0.225	11.27968	11.25116	11.22928
P	1.000	0.00535	3.350	0.00529	0.00555	0.00521
PB	1.000	3.13183	0.715	3.11743	3.12042	3.15764
SR	1.000	2.63085	0.615	2.61633	2.64831	2.62791
TL	1.000	0.05552	4.889	0.05736	0.05240	0.05679
Y1	1.000	6997.93500	0.255	7017.26500	6994.52500	6982.01500
Y2A	1.000	182250.38414	0.321	182918.72379	181832.75862	181999.67000
Y2R	1.000	16693.81042	0.774	16797.01000	16548.78244	16735.63883
ZN	1.000	25.68186	0.162	25.63919	25.72255	25.68385

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 4 Date/Time: 10/16/2015 16:56

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	0.02674	0.216	0.02675	0.02668	0.02679
MO	1.000	1.50184	1.270	1.47982	1.51314	1.51255
SB	1.000	0.03051	0.412	0.03049	0.03040	0.03065
SN	1.000	1.96907	0.700	1.98346	1.95601	1.96774
TI	1.000	6.42707	0.271	6.42082	6.41363	6.44676
V	1.000	0.83849	0.242	0.83962	0.83614	0.83970
Y1	1.000	7025.35595	0.179	7019.79000	7039.72117	7016.55669
Y2A	1.000	185750.66197	0.209	185599.59139	186192.24310	185460.15142
Y2R	1.000	16929.32184	0.189	16911.54307	16910.18167	16966.24077
ZR	1.000	0.10611	0.797	0.10521	0.10689	0.10623

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 5

Date/Time: 10/16/2015 16:59

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.60595	4,072.39	0.130	0.60665	0.60611	0.60509
____ AL	29.86650	3,214.72	0.278	29.78091	29.87213	29.94646
____ AS	0.61061	86.93	0.359	0.60820	0.61250	0.61114
____ B	0.58393	2,855.72	0.147	0.58409	0.58300	0.58470
____ BA	0.61704	251,218.96	0.301	0.61915	0.61562	0.61636
____ BE	0.58750	106,926.02	0.351	0.58581	0.58688	0.58980
____ CA	29.98616	20,084.30	0.303	29.99802	29.89006	30.07039
____ CD	0.60553	2,754.83	0.168	0.60466	0.60665	0.60529
____ CO	0.59859	1,521.96	0.283	0.59988	0.59666	0.59921
____ CR	0.58736	2,867.17	0.537	0.58795	0.58396	0.59018
____ CU	0.60040	3,805.19	0.234	0.59916	0.60192	0.60012
____ FE	29.45216	7,143.75	0.355	29.53309	29.33424	29.48915
____ K	29.54945	11,003.99	0.373	29.51418	29.46131	29.67285
____ LI	0.60371	4,401.09	0.275	0.60183	0.60499	0.60430
____ MG	29.65983	46,407.53	0.321	29.66273	29.56306	29.75369
____ MN	0.60800	6,147.37	0.267	0.60622	0.60841	0.60939
____ MO	0.59369	124.73	1.526	0.60123	0.58364	0.59619
____ NA	29.36068	35,934.56	0.216	29.35209	29.30205	29.42789
____ NI	0.60035	943.69	0.151	0.59980	0.59985	0.60140
____ P	0.60377	23.26	10.832	0.53256	0.61764	0.66113
____ PB	0.60423	267.15	0.430	0.60314	0.60720	0.60236
____ S	29.70629	1,328.29	2.669	28.79705	30.06918	30.25263
____ SB	0.60275	129.58	1.412	0.59494	0.60149	0.61182
____ SI	29.63745	5,113.98	0.195	29.61204	29.59661	29.70371
____ SN	0.60946	168.85	0.365	0.60746	0.60906	0.61186
____ SR	0.61085	293,606.93	0.993	0.60394	0.61533	0.61326
____ TI	0.61885	14,572.93	0.064	0.61846	0.61883	0.61925
____ TL	0.66840	4.89	21.649	0.52054	0.67494	0.80972
____ V	0.60779	1,857.64	0.602	0.60727	0.60442	0.61168
____ Y1	6983.62833	6,983.63	0.189	6993.18500	6989.15500	6968.54500
____ Y2A	182620.65524	182,620.66	0.437	183277.01218	182852.48354	181732.47000
____ Y2R	16796.01347	16,796.01	0.104	16801.46794	16776.45650	16810.11595
____ ZN	0.60721	2,188.65	0.090	0.60659	0.60763	0.60740
____ ZR	0.60826	1,076.40	0.660	0.60742	0.60472	0.61262

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 6

Date/Time: 10/16/2015 17:02

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00024	-16.16	379.401	-0.00121	-0.00011	0.00060
____ AL	0.03013	6.06	82.039	0.02538	0.05687	0.00813
____ AS	-0.00181	0.73	59.553	-0.00180	-0.00288	-0.00073
____ B	-0.00041	0.27	35.340	-0.00058	-0.00034	-0.00031
____ BA	-0.00007	202.32	51.393	-0.00011	-0.00004	-0.00006
____ BE	0.00004	-81.49	70.253	0.00008	0.00004	0.00002
____ CA	-0.00264	117.84	141.765	0.00103	-0.00251	-0.00644
____ CD	0.00045	2.89	11.316	0.00050	0.00042	0.00041
____ CO	0.00155	-2.65	29.546	0.00204	0.00113	0.00148
____ CR	0.00061	0.70	132.750	-0.00030	0.00088	0.00125
____ CU	0.00043	5.50	76.966	0.00059	0.00065	0.00005
____ FE	0.01808	4.88	42.927	0.01715	0.02626	0.01082
____ K	0.03921	140.88	108.177	-0.00559	0.07875	0.04447
____ LI	-0.00129	10.25	144.451	-0.00289	-0.00173	0.00075
____ MG	0.00293	9.87	58.102	0.00455	0.00116	0.00307
____ MN	0.00053	7.30	78.338	0.00030	0.00027	0.00100
____ MO	0.00103	0.00	178.503	0.00281	-0.00085	0.00112
____ NA	0.01018	-7.37	43.184	0.01020	0.01456	0.00577
____ NI	-0.00081	1.91	95.066	-0.00078	-0.00006	-0.00159
____ P	-0.00582	1.51	62.713	-0.00734	-0.00847	-0.00166
____ PB	-0.00606	-0.19	89.847	-0.00003	-0.00753	-0.01062
____ S	0.00565	6.30	45.320	0.00271	0.00683	0.00740
____ SB	0.00492	3.26	81.027	0.00788	0.00648	0.00039
____ SI	0.01961	5.19	44.958	0.02888	0.01862	0.01133
____ SN	0.00420	4.26	84.840	0.00209	0.00831	0.00219
____ SR	0.00013	38.48	18.146	0.00012	0.00016	0.00011
____ TI	0.00037	27.47	70.080	0.00008	0.00045	0.00057
____ TL	0.01626	0.14	522.528	-0.06521	0.10431	0.00967
____ V	-0.00014	-13.10	1276.974	0.00104	-0.00211	0.00067
____ Y1	6901.32833	6,901.33	0.038	6900.31500	6899.36000	6904.31000
____ Y2A	180667.78806	180,667.79	1.846	184518.49342	178820.12961	178664.74116
____ Y2R	16905.13369	16,905.13	0.423	16842.89558	16889.31214	16983.19336
____ ZN	-0.00009	4.37	336.197	-0.00016	-0.00036	0.00024
____ ZR	0.00037	-8.27	256.668	0.00104	-0.00071	0.00076

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 7

Date/Time: 10/16/2015 17:04

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00486	19.47	18.712	0.00575	0.00393	0.00492
____ AL	0.21006	23.33	9.899	0.18740	0.21450	0.22827
____ AS	0.01992	3.75	34.080	0.02515	0.02236	0.01225
____ B	0.04760	215.42	0.863	0.04766	0.04716	0.04798
____ BA	0.00491	2,194.17	0.171	0.00492	0.00491	0.00490
____ BE	0.00495	798.30	0.788	0.00499	0.00493	0.00493
____ CA	0.19193	227.11	7.084	0.20711	0.18784	0.18086
____ CD	0.00527	24.49	1.364	0.00536	0.00523	0.00523
____ CO	0.00605	8.72	7.734	0.00581	0.00659	0.00576
____ CR	0.01555	72.57	7.347	0.01612	0.01423	0.01629
____ CU	0.00971	63.20	14.224	0.01114	0.00839	0.00959
____ FE	0.19749	45.00	5.006	0.20739	0.19744	0.18762
____ K	0.50487	286.16	11.879	0.57026	0.49189	0.45244
____ LI	0.02281	170.06	6.257	0.02129	0.02412	0.02302
____ MG	0.09751	146.36	2.231	0.09878	0.09500	0.09875
____ MN	0.00578	59.54	5.767	0.00598	0.00596	0.00539
____ MO	0.01283	2.44	33.199	0.01733	0.00887	0.01229
____ NA	1.00378	1,111.71	0.346	1.00004	1.00689	1.00442
____ NI	0.00973	18.20	9.227	0.00931	0.01076	0.00912
____ P	0.12124	5.95	10.392	0.12256	0.13312	0.10803
____ PB	0.01414	8.47	36.597	0.00907	0.01941	0.01394
____ S	0.51532	28.63	1.218	0.52211	0.51412	0.50973
____ SB	0.02359	7.14	2.783	0.02284	0.02388	0.02406
____ SI	0.07018	12.78	4.379	0.07006	0.06717	0.07331
____ SN	0.02094	8.73	16.583	0.01694	0.02282	0.02308
____ SR	0.00509	2,387.13	0.743	0.00512	0.00505	0.00511
____ TI	0.01044	260.23	1.656	0.01062	0.01041	0.01028
____ TL	0.04154	0.33	55.328	0.05201	0.05743	0.01519
____ V	0.00554	3.79	24.872	0.00477	0.00713	0.00473
____ Y1	6881.53667	6,881.54	0.156	6893.11000	6871.87000	6879.63000
____ Y2A	179780.58039	179,780.58	0.188	179661.11776	180162.18077	179518.44262
____ Y2R	15438.85254	15,438.85	0.412	15370.10196	15450.77875	15495.67692
____ ZN	0.02051	76.89	1.507	0.02016	0.02070	0.02068
____ ZR	0.04855	71.73	0.500	0.04883	0.04840	0.04842

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 8 Date/Time: 10/16/2015 17:07

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00446	-552.30	12.152	0.00454	0.00495	0.00388
____ AL	491.12726	46,207.26	0.056	491.06625	491.42872	490.88681
____ AS	-0.00933	1.29	24.136	-0.00993	-0.00684	-0.01122
____ B	-0.02278	1,200.96	9.708	-0.02530	-0.02120	-0.02182
____ BA	0.00025	300.14	14.764	0.00021	0.00028	0.00024
____ BE	-0.00094	-235.25	8.624	-0.00090	-0.00088	-0.00103
____ CA	497.44868	271,524.12	0.098	497.95631	497.40963	496.98012
____ CD	-0.00081	56.25	45.140	-0.00124	-0.00059	-0.00062
____ CO	0.00257	-0.08	32.774	0.00199	0.00218	0.00353
____ CR	0.00373	14.44	20.392	0.00409	0.00286	0.00425
____ CU	-0.00348	48.48	27.631	-0.00337	-0.00257	-0.00448
____ FE	196.71096	38,162.35	0.276	197.31612	196.55246	196.26431
____ K	0.07249	132.13	33.030	0.05436	0.06348	0.09963
____ LI	0.00859	87.31	8.315	0.00785	0.00863	0.00928
____ MG	495.70591	568,960.85	1.357	502.77069	494.97106	489.37600
____ MN	0.00274	26.84	9.591	0.00260	0.00304	0.00257
____ MO	-0.03996	-8.76	9.028	-0.04051	-0.04326	-0.03610
____ NA	0.24891	247.38	6.150	0.23774	0.26636	0.24263
____ NI	0.00777	3.08	10.705	0.00844	0.00684	0.00804
____ P	-0.01366	1.14	100.385	0.00087	-0.01549	-0.02638
____ PB	-0.00649	34.62	35.004	-0.00518	-0.00911	-0.00518
____ S	0.02997	7.93	68.298	0.05062	0.00969	0.02960
____ SB	0.00044	6.28	2768.653	-0.01040	0.01354	-0.00182
____ SI	0.00686	2.52	111.378	0.00004	0.00542	0.01511
____ SN	0.01989	7.80	26.795	0.02141	0.02430	0.01397
____ SR	0.00026	2,203.38	12.194	0.00026	0.00022	0.00029
____ TI	-0.00079	0.93	55.766	-0.00123	-0.00035	-0.00078
____ TL	-0.00018	-1.80	7821.907	0.21238	-0.16442	-0.04850
____ V	-0.00470	-22.76	28.711	-0.00410	-0.00376	-0.00625
____ Y1	6353.36833	6,353.37	0.102	6355.82000	6346.02500	6358.26000
____ Y2A	164714.79620	164,714.80	0.475	165147.02000	165186.22306	163811.14554
____ Y2R	14577.72341	14,577.72	0.582	14512.82409	14546.55276	14673.79338
____ ZN	0.00826	85.08	6.017	0.00838	0.00869	0.00772
____ ZR	0.00143	-29.64	161.434	0.00302	-0.00122	0.00249

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 9

Date/Time: 10/16/2015 17:10

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21313	740.82	0.882	0.21401	0.21097	0.21440
____ AL	495.14536	46,600.61	0.164	494.30820	495.19748	495.93040
____ AS	0.08858	13.95	10.956	0.09583	0.07755	0.09235
____ B	-0.02570	1,208.89	6.694	-0.02498	-0.02766	-0.02445
____ BA	0.50905	188,387.13	0.632	0.51089	0.50534	0.51093
____ BE	0.47352	78,306.95	0.423	0.47513	0.47128	0.47415
____ CA	502.22920	274,044.45	0.109	501.60338	502.48155	502.60265
____ CD	0.94133	3,958.46	0.142	0.94264	0.93997	0.94138
____ CO	0.47776	1,107.04	0.173	0.47815	0.47682	0.47832
____ CR	0.47125	2,090.19	0.426	0.47338	0.46940	0.47095
____ CU	0.52222	3,084.87	0.200	0.52247	0.52312	0.52107
____ FE	198.50156	38,485.60	0.060	198.37474	198.61072	198.51921
____ K	0.04241	122.51	44.136	0.02741	0.03642	0.06339
____ LI	0.00851	87.03	21.539	0.00939	0.00974	0.00641
____ MG	501.51763	574,507.12	0.343	499.69037	503.10792	501.75460
____ MN	0.45388	4,171.08	0.415	0.45192	0.45568	0.45405
____ MO	-0.03610	-8.07	5.804	-0.03438	-0.03843	-0.03547
____ NA	0.27514	275.34	0.236	0.27444	0.27524	0.27573
____ NI	0.94243	1,343.32	0.206	0.94397	0.94307	0.94025
____ P	-0.03323	0.61	14.928	-0.02848	-0.03838	-0.03284
____ PB	0.04672	56.27	5.049	0.04507	0.04942	0.04568
____ S	0.03769	8.39	37.965	0.05235	0.03697	0.02376
____ SB	0.56608	117.96	1.536	0.57610	0.56056	0.56158
____ SI	0.01257	3.37	80.634	0.02198	0.01390	0.00184
____ SN	0.02036	7.94	29.663	0.01353	0.02500	0.02256
____ SR	0.00021	2,219.74	30.235	0.00028	0.00015	0.00020
____ TI	-0.00082	10.75	39.848	-0.00113	-0.00048	-0.00086
____ TL	0.13442	-0.86	45.334	0.07016	0.14174	0.19138
____ V	0.50297	1,420.86	0.753	0.50020	0.50728	0.50141
____ Y1	6383.38833	6,383.39	0.121	6375.25500	6384.35000	6390.56000
____ Y2A	165965.47209	165,965.47	0.074	166032.41627	166040.80000	165823.20000
____ Y2R	14581.77776	14,581.78	0.617	14685.22138	14538.42926	14521.68265
____ ZN	0.96949	3,231.65	0.073	0.96908	0.96909	0.97031
____ ZR	-0.00184	-34.96	135.610	-0.00354	0.00102	-0.00301

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 10

Date/Time: 10/16/2015 17:12

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50246	3,290.59	0.717	0.50658	0.49993	0.50086
____ AL	25.15276	2,471.67	0.294	25.06739	25.19861	25.19227
____ AS	0.51008	72.10	1.604	0.50253	0.50894	0.51878
____ B	0.48533	2,317.30	0.276	0.48600	0.48619	0.48379
____ BA	0.50447	200,393.16	0.417	0.50662	0.50242	0.50437
____ BE	0.48974	86,934.83	0.512	0.49260	0.48871	0.48792
____ CA	25.06533	15,352.26	0.141	25.08745	25.08391	25.02462
____ CD	0.49887	2,248.64	1.297	0.49152	0.50141	0.50368
____ CO	0.49826	1,253.85	1.360	0.49044	0.50241	0.50193
____ CR	0.49609	2,361.94	0.327	0.49792	0.49485	0.49549
____ CU	0.50273	3,108.84	0.544	0.50586	0.50078	0.50155
____ FE	24.70929	5,483.28	0.517	24.81921	24.73962	24.56905
____ K	25.09555	8,548.19	0.760	25.27562	25.11517	24.89584
____ LI	0.51441	3,425.92	0.704	0.51292	0.51854	0.51176
____ MG	24.92868	35,662.48	0.500	25.01749	24.98222	24.78634
____ MN	0.51316	5,061.65	0.120	0.51278	0.51387	0.51284
____ MO	0.48668	101.27	1.455	0.48195	0.48328	0.49482
____ NA	25.06857	28,004.73	0.899	25.26989	25.11087	24.82493
____ NI	0.49746	775.16	1.425	0.48929	0.50196	0.50113
____ P	0.55172	21.19	3.233	0.53155	0.55822	0.56539
____ PB	0.50006	219.48	1.742	0.49146	0.49984	0.50888
____ S	25.37448	1,124.77	2.698	24.58746	25.70473	25.83127
____ SB	0.49368	105.59	0.574	0.49182	0.49228	0.49694
____ SI	25.13289	3,959.01	0.509	25.24044	25.16668	24.99153
____ SN	0.49776	137.19	1.175	0.49335	0.49553	0.50439
____ SR	0.50556	237,042.09	0.514	0.50840	0.50329	0.50498
____ TI	0.50399	11,581.78	0.349	0.50586	0.50237	0.50374
____ TL	0.55731	4.04	3.339	0.53601	0.56547	0.57043
____ V	0.50386	1,500.41	0.522	0.50407	0.50638	0.50113
____ Y1	6918.94167	6,918.94	1.129	7007.19000	6890.94000	6858.69500
____ Y2A	178144.46954	178,144.47	0.488	177398.75100	177934.74745	179099.91016
____ Y2R	15332.60643	15,332.61	0.485	15271.01580	15311.63810	15415.16540
____ ZN	0.50257	1,795.51	1.125	0.49608	0.50517	0.50646
____ ZR	0.50033	806.76	0.324	0.50198	0.49874	0.50027

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 11 Date/Time: 10/16/2015 17:15

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00042	-17.14	111.035	-0.00039	-0.00089	0.00003
____ AL	0.02123	4.63	69.817	0.00594	0.03553	0.02223
____ AS	0.00110	1.13	714.850	0.00996	-0.00172	-0.00495
____ B	-0.00055	-0.33	145.645	-0.00070	-0.00126	0.00031
____ BA	-0.00016	163.95	30.366	-0.00011	-0.00016	-0.00021
____ BE	-0.00001	-91.42	327.802	0.00002	0.00000	-0.00007
____ CA	0.02721	125.27	33.087	0.03297	0.03181	0.01683
____ CD	0.00052	3.19	54.145	0.00084	0.00035	0.00037
____ CO	0.00152	-2.72	35.376	0.00209	0.00144	0.00103
____ CR	0.00034	-0.55	211.157	0.00096	-0.00045	0.00052
____ CU	0.00050	5.89	174.926	0.00107	0.00094	-0.00051
____ FE	0.01650	4.08	37.652	0.02277	0.01035	0.01638
____ K	0.00858	117.63	752.359	0.06266	-0.06287	0.02595
____ LI	0.00183	30.02	103.611	-0.00018	0.00207	0.00358
____ MG	0.03259	51.80	5.868	0.03423	0.03304	0.03049
____ MN	0.00017	3.78	100.611	0.00032	-0.00002	0.00022
____ MO	-0.00199	-0.62	98.143	-0.00334	-0.00289	0.00025
____ NA	0.02243	7.04	0.590	0.02251	0.02228	0.02250
____ NI	-0.00045	2.44	181.227	0.00049	-0.00082	-0.00102
____ P	0.00870	2.01	33.259	0.01137	0.00563	0.00909
____ PB	0.00211	3.31	129.659	0.00243	0.00467	-0.00077
____ S	0.02208	6.98	45.134	0.02374	0.03110	0.01139
____ SB	0.00255	2.76	110.611	0.00098	0.00086	0.00581
____ SI	0.02251	5.18	44.381	0.01557	0.03396	0.01800
____ SN	-0.00016	3.07	1855.457	-0.00253	-0.00112	0.00317
____ SR	0.00008	15.81	46.809	0.00012	0.00007	0.00005
____ TI	0.00034	26.79	32.149	0.00047	0.00026	0.00030
____ TL	-0.01616	-0.11	419.585	0.06141	-0.06405	-0.04583
____ V	-0.00040	-13.69	579.357	0.00213	-0.00088	-0.00246
____ Y1	6859.20667	6,859.21	0.308	6847.62500	6883.62500	6846.37000
____ Y2A	179266.48562	179,266.49	0.168	179229.38299	178985.17668	179584.89719
____ Y2R	15358.54943	15,358.55	0.910	15224.54073	15347.62522	15503.48234
____ ZN	0.00000	4.65	4557.756	0.00019	-0.00006	-0.00014
____ ZR	0.00040	-7.47	332.744	0.00161	0.00066	-0.00105

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 12 Date/Time: 10/16/2015 17:17

Sample Number: **PBW** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00019	-15.48	290.421	-0.00079	-0.00005	0.00028
____ AL	0.02798	5.29	60.527	0.01875	0.04753	0.01767
____ AS	0.00272	1.34	23.575	0.00216	0.00258	0.00342
____ B	-0.00101	-2.40	57.317	-0.00039	-0.00110	-0.00154
____ BA	-0.00022	141.79	7.828	-0.00023	-0.00020	-0.00022
____ BE	-0.00007	-101.01	26.447	-0.00007	-0.00006	-0.00009
____ CA	0.03455	129.60	27.623	0.02677	0.04520	0.03169
____ CD	0.00000	0.89	3658.678	0.00024	0.00006	-0.00030
____ CO	0.00105	-3.86	40.781	0.00060	0.00111	0.00145
____ CR	0.00111	3.11	11.868	0.00100	0.00125	0.00108
____ CU	0.00025	4.31	332.688	0.00102	-0.00064	0.00038
____ FE	0.01434	3.58	88.206	0.01639	0.02583	0.00079
____ K	0.02453	122.85	87.681	0.04904	0.01574	0.00881
____ LI	0.00000	17.84	9520.718	-0.00056	-0.00087	0.00144
____ MG	0.02758	44.50	30.522	0.02094	0.03705	0.02475
____ MN	0.00047	6.70	61.953	0.00024	0.00080	0.00038
____ MO	0.00357	0.52	117.690	0.00312	0.00798	-0.00039
____ NA	0.01620	0.05	40.248	0.01192	0.02370	0.01297
____ NI	-0.00058	2.24	70.110	-0.00012	-0.00073	-0.00089
____ P	0.01035	2.05	115.462	-0.00262	0.01276	0.02090
____ PB	-0.00295	1.13	126.505	0.00124	-0.00592	-0.00417
____ S	0.01235	6.51	88.646	0.00451	0.02486	0.00768
____ SB	0.00398	3.04	94.859	0.00298	0.00080	0.00814
____ SI	0.01688	4.29	14.380	0.01865	0.01411	0.01787
____ SN	0.00112	3.39	257.934	0.00113	-0.00177	0.00399
____ SR	0.00005	-1.39	19.357	0.00004	0.00004	0.00005
____ TI	0.00010	21.06	335.886	-0.00028	0.00020	0.00038
____ TL	0.04086	0.32	179.651	0.00184	-0.00480	0.12554
____ V	-0.00025	-13.44	547.227	-0.00101	0.00130	-0.00103
____ Y1	6813.48167	6,813.48	0.333	6835.12000	6789.83500	6815.49000
____ Y2A	178106.06625	178,106.07	0.586	179307.36349	177590.93719	177419.89806
____ Y2R	15336.88820	15,336.89	0.391	15318.18091	15288.57229	15403.91139
____ ZN	0.00116	8.65	15.796	0.00127	0.00125	0.00095
____ ZR	0.00132	-5.94	154.940	-0.00097	0.00296	0.00198

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 13 Date/Time: 10/16/2015 17:20

Sample Number: **LCSW** Class: **** Batch: 152881848003

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04877	340.44	1.289	0.04854	0.04828	0.04948
____ AL	2.13792	214.40	1.699	2.16720	2.14928	2.09727
____ AS	0.15989	23.18	3.307	0.16368	0.16214	0.15385
____ B	2.00891	8,873.02	0.158	2.00823	2.01237	2.00613
____ BA	2.06995	821,831.95	0.718	2.05491	2.08462	2.07033
____ BE	0.05277	9,291.76	0.122	0.05274	0.05272	0.05284
____ CA	4.28137	2,718.15	0.692	4.24900	4.28794	4.30716
____ CD	0.05407	241.73	0.757	0.05375	0.05453	0.05394
____ CO	0.53216	1,331.02	0.044	0.53229	0.53189	0.53230
____ CR	0.21220	1,009.41	0.055	0.21207	0.21223	0.21229
____ CU	0.26403	1,604.88	0.249	0.26409	0.26335	0.26466
____ FE	1.06600	239.50	0.268	1.06772	1.06270	1.06759
____ K	10.49418	3,640.87	0.832	10.43826	10.44947	10.59482
____ LI	1.07000	7,104.37	0.353	1.07435	1.06765	1.06799
____ MG	2.12244	3,063.23	0.164	2.11929	2.12185	2.12618
____ MN	0.55161	5,442.57	0.387	0.55102	0.55398	0.54983
____ MO	2.12269	437.69	0.608	2.11440	2.11611	2.13755
____ NA	10.61286	11,844.26	0.536	10.59524	10.56687	10.67647
____ NI	0.53835	834.76	0.141	0.53920	0.53773	0.53813
____ P	1.17640	42.78	0.405	1.17536	1.17224	1.18160
____ PB	0.15453	66.94	1.710	0.15593	0.15148	0.15617
____ S	1.02088	50.96	1.247	1.02737	1.02906	1.00621
____ SB	0.55573	96.89	0.525	0.55580	0.55277	0.55861
____ SI	1.11772	181.08	1.206	1.11126	1.10868	1.13321
____ SN	4.15374	1,112.69	0.177	4.14524	4.15794	4.15804
____ SR	1.04628	490,547.80	0.732	1.03933	1.05449	1.04501
____ TI	1.05654	24,196.84	0.277	1.05625	1.05376	1.05960
____ TL	0.15852	1.23	43.286	0.16646	0.22283	0.08628
____ V	0.49873	1,396.34	0.855	0.50282	0.49905	0.49431
____ Y1	6861.02667	6,861.03	0.294	6865.70500	6878.42000	6838.95500
____ Y2A	178205.61708	178,205.62	0.117	178273.59225	177972.36422	178370.89478
____ Y2R	15330.56115	15,330.56	0.110	15311.22632	15342.10684	15338.35029
____ ZN	0.53116	1,873.65	0.266	0.53024	0.53046	0.53279
____ ZR	1.03429	1,683.03	0.545	1.03877	1.03613	1.02796

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 14 Date/Time: 10/16/2015 17:23

Sample Number: **8082120** Class: U*** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00036	-53.61	194.722	-0.00064	0.00043	-0.00086
____ AL	0.09754	11.92	40.203	0.08877	0.14039	0.06344
____ AS	0.07038	10.36	0.300	0.07060	0.07034	0.07019
____ B	0.36217	1,662.78	0.377	0.36344	0.36073	0.36234
____ BA	0.02711	10,823.07	0.299	0.02711	0.02702	0.02719
____ BE	-0.00020	-121.13	13.224	-0.00017	-0.00022	-0.00019
____ CA	69.51647	41,684.64	3.289	67.34361	71.90187	69.30393
____ CD	-0.00286	-7.14	9.408	-0.00255	-0.00302	-0.00300
____ CO	0.00186	-1.80	33.983	0.00258	0.00139	0.00161
____ CR	0.00381	15.74	34.138	0.00495	0.00407	0.00240
____ CU	0.00258	28.15	36.142	0.00166	0.00257	0.00352
____ FE	12.15600	2,683.23	3.605	11.72103	12.59748	12.14949
____ K	8.07567	2,797.27	3.044	7.89829	8.35631	7.97239
____ LI	0.00741	68.62	35.254	0.00961	0.00810	0.00452
____ MG	22.42194	31,744.95	3.484	21.68424	23.24034	22.34124
____ MN	0.21669	2,107.55	0.317	0.21745	0.21611	0.21653
____ MO	-0.00488	-1.24	41.391	-0.00349	-0.00719	-0.00395
____ NA	111.75480	123,509.34	3.655	107.83758	115.98834	111.43848
____ NI	0.00321	7.26	4.829	0.00333	0.00304	0.00328
____ P	0.21276	8.99	10.662	0.22846	0.22307	0.18675
____ PB	0.00464	3.95	47.493	0.00588	0.00210	0.00594
____ S	0.43027	24.68	5.927	0.45674	0.40587	0.42819
____ SB	-0.00112	1.77	318.304	-0.00483	0.00227	-0.00080
____ SI	8.64841	1,347.94	3.224	8.40647	8.95330	8.58545
____ SN	0.00146	3.45	173.055	0.00400	-0.00106	0.00145
____ SR	0.63084	291,674.16	0.110	0.63060	0.63162	0.63029
____ TI	0.00679	176.00	0.247	0.00678	0.00678	0.00681
____ TL	-0.05762	-0.53	55.350	-0.02939	-0.05126	-0.09221
____ V	0.00031	-10.92	654.937	0.00250	-0.00149	-0.00008
____ Y1	6758.22333	6,758.22	0.292	6780.93500	6748.78000	6744.95500
____ Y2A	175560.57439	175,560.57	0.113	175332.06000	175651.95492	175697.70825
____ Y2R	15171.06126	15,171.06	2.818	15565.84247	14716.92646	15230.41484
____ ZN	0.04258	154.83	0.844	0.04297	0.04226	0.04251
____ ZR	0.00276	-5.11	50.988	0.00390	0.00318	0.00119

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 15 Date/Time: 10/16/2015 17:26

Sample Number: **8082120** Class: UP** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01686	91.39	2.200	0.01646	0.01720	0.01692
____ AL	1.13548	114.59	1.056	1.12559	1.13203	1.14881
____ AS	0.57770	79.58	1.629	0.57128	0.58850	0.57331
____ B	0.55039	2,491.18	0.468	0.54998	0.54804	0.55314
____ BA	0.07696	30,425.88	0.066	0.07697	0.07700	0.07690
____ BE	0.02008	3,441.74	0.416	0.02016	0.02009	0.01999
____ CA	68.46795	41,705.81	0.178	68.39521	68.60845	68.40018
____ CD	0.04689	210.94	0.316	0.04681	0.04706	0.04680
____ CO	0.10102	243.19	0.582	0.10169	0.10074	0.10062
____ CR	0.19954	938.36	0.042	0.19952	0.19963	0.19947
____ CU	0.51331	3,154.70	0.581	0.51673	0.51191	0.51128
____ FE	12.36792	2,772.64	0.046	12.37300	12.36907	12.36170
____ K	9.88491	3,451.50	0.327	9.88645	9.91640	9.85189
____ LI	1.03295	6,891.90	0.299	1.03316	1.03593	1.02976
____ MG	22.77941	32,753.39	0.193	22.72877	22.80532	22.80415
____ MN	0.27201	2,654.53	0.534	0.27123	0.27110	0.27368
____ MO	0.20211	40.82	2.761	0.20437	0.19575	0.20620
____ NA	110.64265	124,202.96	0.472	110.03960	110.95903	110.92930
____ NI	0.15131	232.21	0.724	0.15228	0.15012	0.15152
____ P	1.34330	47.86	6.646	1.24432	1.41776	1.36782
____ PB	0.51167	217.28	0.384	0.51390	0.51097	0.51016
____ S	1.43146	67.80	2.039	1.40575	1.46319	1.42544
____ SB	0.40449	83.22	0.449	0.40404	0.40649	0.40294
____ SI	9.38650	1,486.06	0.784	9.32062	9.37295	9.46592
____ SN	0.60654	162.61	0.299	0.60687	0.60816	0.60459
____ SR	0.62977	292,220.53	1.353	0.63960	0.62480	0.62490
____ TI	0.11020	2,518.48	1.378	0.10965	0.10904	0.11192
____ TL	1.12184	8.26	9.106	1.00480	1.19313	1.16759
____ V	0.10219	285.63	0.837	0.10120	0.10277	0.10259
____ Y1	6756.58667	6,756.59	0.101	6749.96000	6763.61500	6756.18500
____ Y2A	176194.95680	176,194.96	0.431	175660.53157	177064.61661	175859.72222
____ Y2R	15399.16261	15,399.16	0.215	15433.61931	15367.61477	15396.25375
____ ZN	0.16287	573.54	0.132	0.16310	0.16285	0.16267
____ ZR	1.01545	1,657.45	1.008	1.01114	1.02713	1.00808

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 16 Date/Time: 10/16/2015 17:28

Sample Number: **8082123** Class: D*** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00067	-51.16	168.030	-0.00042	-0.00189	0.00031
____ AL	0.14847	17.19	11.711	0.13226	0.14631	0.16683
____ AS	0.07669	11.30	12.090	0.07630	0.06762	0.08615
____ B	0.40793	1,862.48	0.081	0.40762	0.40789	0.40828
____ BA	0.02481	9,986.98	0.539	0.02465	0.02485	0.02491
____ BE	-0.00020	-122.01	3.738	-0.00020	-0.00019	-0.00019
____ CA	62.52960	38,162.30	0.133	62.46154	62.50510	62.62214
____ CD	-0.00302	-8.50	13.112	-0.00262	-0.00341	-0.00305
____ CO	0.00185	-1.82	17.492	0.00222	0.00160	0.00174
____ CR	0.00152	5.04	59.875	0.00100	0.00257	0.00100
____ CU	0.00352	33.08	3.285	0.00365	0.00342	0.00351
____ FE	10.55892	2,371.48	0.126	10.55342	10.57406	10.54928
____ K	7.81335	2,754.95	0.442	7.79947	7.78790	7.85267
____ LI	0.00894	79.56	7.920	0.00958	0.00818	0.00906
____ MG	20.71673	29,837.57	0.164	20.68866	20.70691	20.75463
____ MN	0.18223	1,783.97	0.717	0.18353	0.18091	0.18224
____ MO	-0.00127	-0.50	370.884	0.00266	-0.00648	0.00001
____ NA	110.26600	123,901.27	0.357	109.91865	110.18568	110.69366
____ NI	0.00127	4.42	68.032	0.00029	0.00190	0.00161
____ P	0.21503	9.11	6.216	0.19975	0.22452	0.22083
____ PB	0.00493	4.16	30.457	0.00642	0.00493	0.00342
____ S	0.44419	25.37	3.336	0.42731	0.45021	0.45505
____ SB	0.00178	2.41	21.844	0.00223	0.00152	0.00159
____ SI	8.15125	1,291.70	0.451	8.10938	8.16634	8.17803
____ SN	-0.00127	2.74	249.415	-0.00104	0.00177	-0.00454
____ SR	0.57910	269,454.49	0.240	0.57776	0.57902	0.58053
____ TI	0.00798	203.72	5.329	0.00838	0.00753	0.00802
____ TL	-0.06299	-0.56	115.879	-0.10892	-0.10122	0.02118
____ V	0.00142	-7.85	28.886	0.00169	0.00162	0.00095
____ Y1	6789.28667	6,789.29	0.433	6756.65000	6813.67500	6797.53500
____ Y2A	176681.05828	176,681.06	0.240	176771.84000	177051.52634	176219.80850
____ Y2R	15414.30266	15,414.30	0.648	15418.43157	15512.00638	15312.47002
____ ZN	0.04921	177.97	0.517	0.04950	0.04905	0.04907
____ ZR	0.00062	-8.49	376.842	0.00223	0.00166	-0.00205

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 17 Date/Time: 10/16/2015 17:31

Sample Number: **8082121** Class: R*** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04949	304.55	0.963	0.04894	0.04974	0.04979
____ AL	2.27136	227.88	0.919	2.26513	2.29463	2.25431
____ AS	0.23160	32.41	4.524	0.24281	0.22206	0.22993
____ B	2.42639	10,610.48	0.361	2.41629	2.43189	2.43098
____ BA	2.09593	817,739.45	0.764	2.08147	2.09317	2.11314
____ BE	0.05262	9,105.21	0.721	0.05219	0.05281	0.05287
____ CA	69.86107	42,430.92	0.079	69.86961	69.80222	69.91139
____ CD	0.05000	224.38	0.345	0.05017	0.05001	0.04983
____ CO	0.52292	1,287.77	0.178	0.52225	0.52252	0.52398
____ CR	0.20906	977.24	0.624	0.20915	0.20771	0.21032
____ CU	0.27129	1,630.35	0.562	0.26954	0.27199	0.27233
____ FE	12.37539	2,766.84	0.198	12.37574	12.35067	12.39976
____ K	18.47742	6,334.62	0.148	18.48483	18.44707	18.50037
____ LI	1.08951	7,248.72	0.168	1.09161	1.08825	1.08868
____ MG	23.50507	33,697.69	0.076	23.51769	23.48474	23.51280
____ MN	0.72853	7,063.40	0.290	0.72947	0.73001	0.72611
____ MO	2.10603	427.52	1.143	2.07982	2.11115	2.12712
____ NA	119.44215	133,722.58	0.247	119.76415	119.37788	119.18442
____ NI	0.52936	807.57	0.190	0.53014	0.52972	0.52823
____ P	1.45202	51.58	3.510	1.39316	1.48122	1.48167
____ PB	0.16269	69.03	2.617	0.16231	0.16712	0.15863
____ S	1.44769	68.75	1.583	1.43293	1.47408	1.43605
____ SB	0.54125	92.08	0.365	0.53898	0.54220	0.54258
____ SI	9.42671	1,491.58	0.369	9.39963	9.41457	9.46591
____ SN	4.17589	1,101.36	0.096	4.17361	4.18050	4.17356
____ SR	1.64095	756,342.43	0.782	1.62852	1.64017	1.65416
____ TI	1.06847	24,050.53	0.678	1.06029	1.07102	1.07409
____ TL	0.05989	0.36	225.563	0.05405	-0.07219	0.19782
____ V	0.49880	1,373.54	0.693	0.49935	0.50195	0.49510
____ Y1	6755.20500	6,755.21	0.172	6767.73500	6744.79000	6753.09000
____ Y2A	175125.74033	175,125.74	0.594	176039.87822	175343.68137	173993.66141
____ Y2R	15357.72967	15,357.73	0.076	15370.86905	15348.39546	15353.92451
____ ZN	0.56860	1,976.75	0.143	0.56772	0.56933	0.56874
____ ZR	1.03268	1,681.92	0.433	1.03516	1.02752	1.03536

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 18 Date/Time: 10/16/2015 17:34

Sample Number: **8082122** Class: M*** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04813	298.79	1.333	0.04791	0.04762	0.04885
____ AL	2.23986	224.56	1.473	2.25717	2.26058	2.20182
____ AS	0.24071	33.71	2.729	0.23388	0.24698	0.24127
____ B	2.44335	10,741.71	0.222	2.43785	2.44869	2.44353
____ BA	2.08247	817,127.71	0.901	2.06291	2.10029	2.08422
____ BE	0.05261	9,154.80	0.349	0.05240	0.05272	0.05271
____ CA	67.66925	41,068.84	0.383	67.88824	67.73666	67.38285
____ CD	0.04970	223.23	1.322	0.04954	0.05043	0.04914
____ CO	0.52535	1,295.66	0.096	0.52515	0.52498	0.52593
____ CR	0.20846	979.99	0.324	0.20771	0.20866	0.20901
____ CU	0.27032	1,633.32	0.337	0.26928	0.27095	0.27074
____ FE	11.93150	2,665.22	0.549	11.99758	11.93025	11.86667
____ K	18.51171	6,339.21	0.414	18.59010	18.50807	18.43695
____ LI	1.08682	7,222.89	0.301	1.08967	1.08754	1.08325
____ MG	23.00651	32,952.15	0.515	23.12044	23.01514	22.88397
____ MN	0.72746	7,093.04	0.254	0.72554	0.72922	0.72762
____ MO	2.13896	434.85	0.421	2.13488	2.14927	2.13272
____ NA	118.83739	132,896.68	0.871	119.96036	118.62980	117.92200
____ NI	0.52767	806.25	0.219	0.52651	0.52882	0.52768
____ P	1.35281	48.24	3.628	1.36219	1.39653	1.29972
____ PB	0.15896	67.55	1.828	0.15947	0.16158	0.15584
____ S	1.41776	67.56	0.412	1.41300	1.41601	1.42428
____ SB	0.54496	93.07	0.239	0.54460	0.54641	0.54388
____ SI	9.20154	1,454.50	0.808	9.28002	9.19244	9.13217
____ SN	4.16157	1,099.22	0.091	4.15742	4.16238	4.16490
____ SR	1.61597	749,075.86	0.416	1.60868	1.62192	1.61730
____ TI	1.06253	24,053.44	0.165	1.06059	1.06400	1.06301
____ TL	0.08478	0.55	75.959	0.01066	0.11667	0.12701
____ V	0.50831	1,408.20	0.297	0.50706	0.50789	0.50999
____ Y1	6765.23500	6,765.24	0.198	6776.82500	6750.62000	6768.26000
____ Y2A	176121.20572	176,121.21	0.165	176453.61626	175988.28000	175921.72090
____ Y2R	15341.21230	15,341.21	0.756	15237.34771	15319.97204	15466.31716
____ ZN	0.57227	1,992.19	0.137	0.57178	0.57186	0.57318
____ ZR	1.03603	1,685.59	0.863	1.04213	1.04020	1.02577

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 19 Date/Time: 10/16/2015 17:36

Sample Number: **8082120** Class: UL** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00026	-23.81	291.709	-0.00110	0.00039	-0.00007
____ AL	0.03136	5.66	21.449	0.03829	0.03092	0.02486
____ AS	0.01699	3.30	35.126	0.01402	0.01309	0.02386
____ B	0.07739	364.21	1.411	0.07850	0.07738	0.07631
____ BA	0.00567	2,498.80	4.323	0.00553	0.00596	0.00553
____ BE	-0.00009	-104.28	10.411	-0.00008	-0.00010	-0.00008
____ CA	14.07051	8,744.67	0.114	14.08892	14.06249	14.06012
____ CD	-0.00124	-3.73	12.103	-0.00113	-0.00118	-0.00141
____ CO	0.00124	-3.40	47.764	0.00184	0.00066	0.00123
____ CR	0.00023	-1.08	133.374	-0.00012	0.00047	0.00034
____ CU	0.00025	6.28	305.209	0.00110	-0.00032	-0.00003
____ FE	2.47015	558.62	0.746	2.48041	2.44888	2.48117
____ K	1.62724	666.76	2.015	1.61910	1.66333	1.59930
____ LI	0.00119	26.40	113.100	0.00001	0.00266	0.00090
____ MG	4.56605	6,632.72	0.448	4.58170	4.54290	4.57356
____ MN	0.04502	449.66	0.325	0.04491	0.04497	0.04518
____ MO	0.00149	0.09	132.438	-0.00076	0.00233	0.00291
____ NA	22.44555	25,273.52	0.695	22.59163	22.28124	22.46379
____ NI	0.00065	4.02	51.183	0.00037	0.00056	0.00102
____ P	0.04265	3.20	38.373	0.02892	0.06076	0.03827
____ PB	0.00061	2.59	246.368	-0.00106	0.00185	0.00103
____ S	0.08799	9.94	24.005	0.11233	0.07451	0.07712
____ SB	0.00582	3.42	45.935	0.00566	0.00856	0.00323
____ SI	1.73922	277.63	0.698	1.75208	1.72794	1.73764
____ SN	0.00032	3.21	540.865	0.00158	-0.00166	0.00105
____ SR	0.12672	59,933.06	0.529	0.12691	0.12728	0.12598
____ TI	0.00210	68.14	21.574	0.00217	0.00251	0.00161
____ TL	0.03405	0.25	42.588	0.03399	0.01957	0.04857
____ V	0.00021	-11.99	395.304	-0.00073	0.00057	0.00079
____ Y1	6881.57167	6,881.57	0.206	6896.55000	6868.40000	6879.76500
____ Y2A	179637.21445	179,637.21	0.369	179312.07276	179199.21110	180400.35950
____ Y2R	15455.31509	15,455.32	0.415	15390.59000	15518.79496	15456.56032
____ ZN	0.00893	36.72	4.368	0.00927	0.00850	0.00900
____ ZR	0.00152	-5.99	215.874	0.00384	0.00294	-0.00223

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 20 Date/Time: 10/16/2015 17:39

Sample Number: **8082098** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00007	-79.57	1744.068	-0.00130	-0.00005	0.00114
____ AL	0.55621	57.29	1.714	0.54532	0.56306	0.56025
____ AS	-0.00286	0.21	207.615	-0.00474	0.00379	-0.00764
____ B	0.09168	550.01	1.695	0.09229	0.09284	0.08992
____ BA	0.06022	23,815.73	0.466	0.06001	0.06054	0.06012
____ BE	-0.00014	-112.05	28.000	-0.00011	-0.00019	-0.00013
____ CA	88.37182	53,625.54	0.535	87.89733	88.37583	88.84231
____ CD	-0.00354	-6.77	2.825	-0.00357	-0.00343	-0.00362
____ CO	0.00156	-2.44	2.576	0.00158	0.00152	0.00159
____ CR	0.00364	15.00	9.877	0.00387	0.00383	0.00323
____ CU	0.00289	32.38	18.454	0.00228	0.00326	0.00312
____ FE	21.15874	4,719.72	0.865	20.99307	21.12800	21.35515
____ K	5.99120	2,135.50	1.572	5.89649	6.08485	5.99228
____ LI	0.00733	69.63	25.655	0.00925	0.00550	0.00723
____ MG	22.35765	32,124.59	0.728	22.19112	22.36565	22.51617
____ MN	0.95278	9,276.91	0.406	0.95488	0.94831	0.95515
____ MO	-0.01470	-3.26	21.669	-0.01211	-0.01826	-0.01374
____ NA	137.22461	153,918.84	0.806	135.96349	137.68062	138.02973
____ NI	0.00248	5.59	52.403	0.00338	0.00099	0.00305
____ P	0.28317	11.39	9.397	0.30197	0.25272	0.29481
____ PB	0.00594	4.08	98.367	0.00763	0.01075	-0.00056
____ S	2.38300	108.83	1.300	2.38828	2.34972	2.41100
____ SB	0.00373	2.78	233.628	0.01228	-0.00515	0.00406
____ SI	9.41359	1,488.76	0.523	9.36999	9.40376	9.46701
____ SN	-0.00108	2.78	343.227	-0.00055	0.00233	-0.00501
____ SR	0.46441	215,284.53	0.415	0.46221	0.46579	0.46524
____ TI	0.02745	643.33	6.892	0.02673	0.02960	0.02603
____ TL	0.01954	-0.05	258.846	0.00322	-0.02086	0.07628
____ V	0.00536	5.47	7.746	0.00577	0.00537	0.00494
____ Y1	6747.96333	6,747.96	0.193	6762.39000	6744.33500	6737.16500
____ Y2A	175884.58506	175,884.59	0.218	176264.54763	175889.74615	175499.46140
____ Y2R	15386.58202	15,386.58	0.503	15451.04811	15407.93841	15300.75954
____ ZN	0.00988	44.78	2.306	0.00968	0.00984	0.01013
____ ZR	0.00279	-6.29	33.098	0.00222	0.00386	0.00230

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 21 Date/Time: 10/16/2015 17:42

Sample Number: **8082099** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00119	-85.15	35.783	-0.00166	-0.00109	-0.00083
____ AL	0.62783	64.30	0.552	0.62790	0.63126	0.62433
____ AS	0.00034	0.66	849.335	0.00216	-0.00296	0.00181
____ B	0.14557	781.02	0.375	0.14614	0.14554	0.14504
____ BA	0.04834	19,174.85	0.051	0.04833	0.04837	0.04833
____ BE	-0.00014	-112.50	15.505	-0.00015	-0.00012	-0.00016
____ CA	63.27002	38,505.21	0.284	63.06904	63.41427	63.32674
____ CD	-0.00313	-5.21	5.826	-0.00321	-0.00326	-0.00292
____ CO	0.00194	-1.49	11.473	0.00199	0.00170	0.00214
____ CR	0.00216	8.03	32.623	0.00137	0.00238	0.00274
____ CU	0.00259	26.98	17.097	0.00212	0.00300	0.00266
____ FE	20.53438	4,577.69	0.599	20.39786	20.63624	20.56906
____ K	2.83525	1,070.19	1.354	2.81316	2.87958	2.81300
____ LI	0.00954	83.34	15.669	0.00819	0.01115	0.00929
____ MG	22.64979	32,512.03	0.529	22.52688	22.76638	22.65611
____ MN	0.36427	3,550.46	0.555	0.36642	0.36241	0.36398
____ MO	-0.00671	-1.54	42.457	-0.00501	-0.00512	-0.01000
____ NA	87.35215	97,883.24	0.804	86.60257	87.99502	87.45886
____ NI	0.00290	6.26	19.431	0.00292	0.00345	0.00232
____ P	0.23263	9.65	6.576	0.24651	0.23514	0.21623
____ PB	0.00655	4.49	80.063	0.00685	0.01163	0.00116
____ S	0.43043	24.64	2.233	0.41977	0.43844	0.43307
____ SB	-0.00508	1.03	128.554	0.00195	-0.00624	-0.01096
____ SI	13.29772	2,100.47	0.693	13.20021	13.30969	13.38327
____ SN	0.00041	3.16	697.411	0.00356	-0.00196	-0.00037
____ SR	0.31900	147,980.11	0.276	0.31831	0.32000	0.31870
____ TI	0.02924	686.03	7.702	0.02792	0.03184	0.02796
____ TL	-0.02285	-0.36	422.026	-0.07596	0.08846	-0.08104
____ V	0.00189	-5.91	76.937	0.00023	0.00249	0.00294
____ Y1	6741.16333	6,741.16	0.047	6739.57500	6739.07500	6744.84000
____ Y2A	176001.67891	176,001.68	0.355	176684.76133	175461.41489	175858.86051
____ Y2R	15372.84747	15,372.85	0.826	15519.53484	15301.72758	15297.28000
____ ZN	0.01990	78.98	1.848	0.02025	0.01993	0.01952
____ ZR	0.00162	-8.14	180.796	-0.00025	0.00500	0.00011

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 22

Date/Time: 10/16/2015 17:44

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50562	3,306.14	0.489	0.50728	0.50680	0.50278
____ AL	24.98982	2,468.35	0.172	25.02775	24.94295	24.99876
____ AS	0.52021	72.98	0.664	0.51758	0.52412	0.51892
____ B	0.49015	2,334.37	0.203	0.48954	0.48962	0.49130
____ BA	0.50451	200,051.62	0.139	0.50519	0.50379	0.50455
____ BE	0.49161	87,111.94	0.479	0.49337	0.49252	0.48893
____ CA	25.11028	15,459.11	0.072	25.09321	25.10844	25.12919
____ CD	0.50446	2,257.17	0.158	0.50485	0.50500	0.50354
____ CO	0.50182	1,253.65	0.187	0.50252	0.50075	0.50218
____ CR	0.49610	2,357.79	0.696	0.49805	0.49813	0.49211
____ CU	0.50489	3,116.63	0.355	0.50685	0.50333	0.50448
____ FE	24.70096	5,509.84	0.542	24.68237	24.57738	24.84312
____ K	25.22514	8,636.33	0.438	25.24884	25.10466	25.32193
____ LI	0.51748	3,464.16	0.707	0.51696	0.52137	0.51411
____ MG	25.06021	36,034.88	0.275	25.11276	24.98233	25.08553
____ MN	0.51976	5,117.58	0.121	0.51960	0.51923	0.52046
____ MO	0.49313	101.86	0.657	0.49154	0.49685	0.49099
____ NA	25.24805	28,351.94	0.344	25.33286	25.15942	25.25186
____ NI	0.50178	776.18	0.076	0.50155	0.50222	0.50157
____ P	0.53207	20.36	6.112	0.52611	0.50295	0.56716
____ PB	0.51000	222.12	1.088	0.51586	0.50929	0.50483
____ S	25.70829	1,131.30	1.494	25.65309	25.35479	26.11699
____ SB	0.49596	105.25	1.569	0.50146	0.48705	0.49935
____ SI	25.10525	3,975.16	0.465	25.17522	24.97058	25.16996
____ SN	0.50465	138.03	0.880	0.50172	0.50247	0.50976
____ SR	0.50657	237,093.96	0.289	0.50794	0.50674	0.50502
____ TI	0.50555	11,596.90	0.248	0.50690	0.50532	0.50442
____ TL	0.63982	4.64	9.953	0.71333	0.60463	0.60149
____ V	0.51096	1,519.04	0.766	0.51145	0.50682	0.51460
____ Y1	6867.81500	6,867.82	0.089	6871.87000	6860.80000	6870.77500
____ Y2A	177827.44114	177,827.44	0.151	177711.59073	177636.18487	178134.54781
____ Y2R	15411.88656	15,411.89	0.205	15405.74736	15446.08000	15383.83234
____ ZN	0.50757	1,799.96	0.213	0.50640	0.50777	0.50853
____ ZR	0.50660	821.24	0.581	0.50856	0.50801	0.50322

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 23 Date/Time: 10/16/2015 17:47

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00020	-15.58	380.562	0.00028	0.00020	-0.00108
____ AL	0.01875	4.41	138.441	0.04694	0.01347	-0.00416
____ AS	0.00412	1.55	69.595	0.00574	0.00081	0.00580
____ B	0.00152	8.72	55.744	0.00249	0.00110	0.00096
____ BA	0.00018	300.03	288.056	0.00078	-0.00011	-0.00013
____ BE	0.00004	-81.82	477.207	0.00024	-0.00005	-0.00008
____ CA	0.01530	118.18	134.458	0.03839	-0.00104	0.00854
____ CD	0.00026	2.04	34.460	0.00029	0.00032	0.00016
____ CO	0.00119	-3.54	20.174	0.00141	0.00094	0.00123
____ CR	0.00001	-2.13	3167.867	0.00041	0.00018	-0.00057
____ CU	-0.00023	1.30	198.616	0.00028	-0.00039	-0.00058
____ FE	0.00843	2.28	182.332	0.02613	0.00057	-0.00142
____ K	0.05394	133.02	73.919	0.03507	0.02700	0.09974
____ LI	0.00035	20.16	470.573	-0.00069	0.00222	-0.00050
____ MG	0.01156	21.51	77.482	0.02190	0.00664	0.00615
____ MN	0.00029	4.95	190.676	0.00093	0.00004	-0.00009
____ MO	0.00492	0.81	96.538	0.01033	0.00296	0.00146
____ NA	0.05237	40.72	59.290	0.08818	0.03310	0.03582
____ NI	-0.00014	2.95	214.623	0.00020	-0.00029	-0.00032
____ P	0.00204	1.79	496.816	-0.00418	-0.00345	0.01376
____ PB	-0.00384	0.76	44.614	-0.00297	-0.00273	-0.00581
____ S	-0.00059	6.02	559.561	0.00322	-0.00268	-0.00230
____ SB	0.00125	2.50	50.723	0.00054	0.00147	0.00175
____ SI	0.01787	4.46	30.230	0.02313	0.01816	0.01234
____ SN	-0.00075	2.92	362.450	0.00176	-0.00365	-0.00037
____ SR	0.00052	220.82	126.109	0.00127	0.00016	0.00012
____ TI	0.00031	25.78	103.095	0.00066	0.00017	0.00008
____ TL	0.00396	0.05	1256.151	-0.03631	-0.01139	0.05958
____ V	0.00076	-10.46	218.084	0.00248	-0.00080	0.00058
____ Y1	6890.62167	6,890.62	0.212	6896.84500	6873.91500	6901.10500
____ Y2A	178438.56950	178,438.57	0.221	178886.91000	178278.75850	178150.04000
____ Y2R	15375.11529	15,375.12	0.723	15469.37899	15403.48234	15252.48453
____ ZN	-0.00015	4.16	101.309	-0.00029	-0.00017	0.00001
____ ZR	0.00044	-7.40	134.041	0.00081	-0.00024	0.00075

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 24 Date/Time: 10/16/2015 17:49

Sample Number: **8082100** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00059	-83.69	130.591	0.00002	-0.00033	-0.00145
____ AL	0.21021	22.99	1.686	0.20694	0.20972	0.21398
____ AS	0.00016	0.62	2710.979	0.00186	-0.00466	0.00327
____ B	0.09202	551.77	1.992	0.09289	0.09326	0.08992
____ BA	0.05754	22,684.63	0.479	0.05769	0.05722	0.05771
____ BE	-0.00018	-117.70	4.180	-0.00018	-0.00018	-0.00017
____ CA	70.84844	42,665.60	0.029	70.83152	70.87109	70.84273
____ CD	-0.00310	-4.75	2.344	-0.00312	-0.00302	-0.00317
____ CO	0.00129	-3.18	21.015	0.00146	0.00098	0.00142
____ CR	0.00279	10.94	44.543	0.00293	0.00396	0.00149
____ CU	0.00205	24.93	84.011	0.00390	0.00051	0.00174
____ FE	21.47912	4,741.85	0.249	21.51773	21.41816	21.50146
____ K	3.42303	1,256.43	2.351	3.34667	3.50709	3.41532
____ LI	0.01101	92.56	15.368	0.01123	0.00922	0.01258
____ MG	25.54937	36,298.67	0.152	25.59393	25.53177	25.52241
____ MN	0.54864	5,323.89	0.254	0.54811	0.55023	0.54759
____ MO	-0.01509	-3.29	20.652	-0.01372	-0.01290	-0.01866
____ NA	100.37805	111,441.18	0.333	100.76217	100.22258	100.14941
____ NI	0.00198	4.83	72.649	0.00051	0.00339	0.00203
____ P	0.21980	9.24	10.802	0.24529	0.19832	0.21577
____ PB	0.00937	5.56	18.248	0.01040	0.01033	0.00740
____ S	0.46502	26.30	2.581	0.47350	0.47027	0.45129
____ SB	-0.00350	1.34	75.150	-0.00502	-0.00501	-0.00046
____ SI	11.55002	1,807.72	0.309	11.58472	11.51347	11.55189
____ SN	-0.00136	2.71	163.823	-0.00352	0.00093	-0.00150
____ SR	0.34870	161,085.77	0.179	0.34942	0.34829	0.34838
____ TI	0.01595	383.36	43.017	0.01189	0.01208	0.02386
____ TL	-0.02271	-0.37	135.962	-0.02441	0.00898	-0.05270
____ V	0.00291	-2.22	72.988	0.00190	0.00148	0.00536
____ Y1	6767.90667	6,767.91	0.172	6767.45000	6779.78500	6756.48500
____ Y2A	175262.45503	175,262.46	0.232	175236.90833	174868.88622	175681.57054
____ Y2R	15229.92229	15,229.92	0.318	15249.57077	15174.73011	15265.46597
____ ZN	0.00623	32.39	1.279	0.00618	0.00632	0.00618
____ ZR	0.00201	-7.54	74.362	0.00279	0.00029	0.00295

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 25 Date/Time: 10/16/2015 17:52

Sample Number: **8082101** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00050	-83.04	327.437	-0.00237	0.00031	0.00057
____ AL	0.24488	26.32	2.151	0.23908	0.24937	0.24619
____ AS	-0.00576	-0.19	56.274	-0.00948	-0.00349	-0.00433
____ B	0.09167	548.12	1.308	0.09101	0.09096	0.09306
____ BA	0.05806	22,766.48	0.353	0.05796	0.05792	0.05830
____ BE	-0.00018	-116.84	24.092	-0.00014	-0.00016	-0.00022
____ CA	71.20924	42,789.40	0.196	71.14541	71.11295	71.36935
____ CD	-0.00338	-5.94	13.998	-0.00319	-0.00303	-0.00392
____ CO	0.00133	-3.09	16.088	0.00155	0.00131	0.00113
____ CR	0.00339	13.71	22.395	0.00338	0.00416	0.00264
____ CU	0.00153	21.71	79.819	0.00195	0.00249	0.00015
____ FE	21.59936	4,757.92	0.666	21.52454	21.50831	21.76524
____ K	3.46094	1,266.39	1.934	3.39068	3.46817	3.52396
____ LI	0.00929	81.07	7.104	0.00991	0.00860	0.00936
____ MG	25.77177	36,533.87	0.435	25.68621	25.73028	25.89883
____ MN	0.55417	5,348.75	0.660	0.55530	0.55713	0.55008
____ MO	-0.00699	-1.64	63.338	-0.01125	-0.00241	-0.00731
____ NA	101.73304	112,704.05	0.749	101.05230	101.59072	102.55611
____ NI	0.00197	4.82	12.772	0.00171	0.00199	0.00221
____ P	0.20873	8.87	3.511	0.20554	0.20353	0.21711
____ PB	0.00575	4.03	57.240	0.00469	0.00312	0.00944
____ S	0.45322	25.82	0.488	0.45069	0.45420	0.45478
____ SB	-0.00601	0.82	43.861	-0.00835	-0.00316	-0.00652
____ SI	11.65290	1,819.92	0.460	11.62583	11.61822	11.71465
____ SN	-0.00103	2.80	107.415	-0.00103	0.00007	-0.00214
____ SR	0.35218	161,820.76	0.440	0.35111	0.35147	0.35396
____ TI	0.01399	337.50	21.610	0.01748	0.01217	0.01233
____ TL	-0.07953	-0.79	52.248	-0.08995	-0.03376	-0.11488
____ V	0.00282	-2.93	54.152	0.00270	0.00440	0.00136
____ Y1	6775.66667	6,775.67	0.079	6772.89500	6772.29000	6781.81500
____ Y2A	174323.63114	174,323.63	0.188	174449.23108	174569.30752	173952.35482
____ Y2R	15197.62287	15,197.62	0.357	15252.79497	15195.76000	15144.31365
____ ZN	0.00587	31.23	3.103	0.00604	0.00568	0.00589
____ ZR	0.00067	-9.70	47.304	0.00080	0.00091	0.00031

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 26 Date/Time: 10/16/2015 17:55

Sample Number: **8082114** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00033	-16.16	391.109	-0.00038	-0.00157	0.00097
____ AL	-0.00257	2.29	1697.020	-0.04301	0.04373	-0.00844
____ AS	0.00008	0.98	3005.290	-0.00169	-0.00080	0.00271
____ B	0.04272	188.14	1.396	0.04326	0.04208	0.04281
____ BA	0.02850	11,382.69	0.279	0.02841	0.02852	0.02857
____ BE	-0.00013	-109.52	42.721	-0.00018	-0.00007	-0.00013
____ CA	12.70066	7,792.14	0.401	12.71222	12.64495	12.74480
____ CD	-0.00109	-3.93	14.804	-0.00090	-0.00115	-0.00121
____ CO	0.00090	-4.23	0.277	0.00090	0.00090	0.00091
____ CR	0.00116	3.31	73.568	0.00206	0.00106	0.00036
____ CU	0.00010	5.01	907.637	0.00064	-0.00093	0.00059
____ FE	0.02387	5.69	7.361	0.02245	0.02334	0.02584
____ K	0.81342	385.44	3.025	0.79995	0.79850	0.84182
____ LI	0.00472	49.21	65.905	0.00828	0.00332	0.00255
____ MG	7.38721	10,564.61	0.456	7.39348	7.35080	7.41734
____ MN	0.05417	529.00	1.087	0.05454	0.05349	0.05448
____ MO	0.01107	2.08	41.367	0.00966	0.01620	0.00737
____ NA	39.11747	43,429.64	0.701	39.24910	38.80217	39.30113
____ NI	-0.00003	3.08	2605.991	0.00101	-0.00039	-0.00073
____ P	0.00574	1.90	111.196	0.01110	-0.00132	0.00742
____ PB	0.00061	2.77	146.067	0.00018	0.00001	0.00162
____ S	5.92086	263.36	1.553	5.81474	5.97066	5.97717
____ SB	0.00284	2.76	68.494	0.00064	0.00434	0.00353
____ SI	4.23637	664.26	0.957	4.24829	4.19121	4.26963
____ SN	0.00078	3.30	422.105	-0.00005	0.00441	-0.00202
____ SR	0.38775	179,354.25	0.274	0.38776	0.38881	0.38669
____ TI	0.00099	42.99	24.115	0.00088	0.00082	0.00126
____ TL	-0.01935	-0.13	92.578	-0.03786	-0.00210	-0.01808
____ V	-0.00129	-16.77	77.428	-0.00231	-0.00031	-0.00126
____ Y1	6821.10333	6,821.10	0.320	6845.63000	6813.74500	6803.93500
____ Y2A	175774.07672	175,774.08	0.352	175563.69357	175288.17473	176470.36186
____ Y2R	15234.29366	15,234.29	0.425	15263.00837	15279.70465	15160.16797
____ ZN	0.00156	10.07	1.420	0.00157	0.00153	0.00157
____ ZR	0.00222	-4.44	50.824	0.00146	0.00351	0.00168

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 27 Date/Time: 10/16/2015 17:57

Sample Number: **8082115** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00092	-20.33	141.373	-0.00197	-0.00133	0.00054
____ AL	0.01500	4.04	40.748	0.02097	0.00876	0.01527
____ AS	0.00805	2.08	49.143	0.00348	0.01032	0.01035
____ B	0.07377	325.96	1.361	0.07340	0.07491	0.07301
____ BA	0.01369	5,630.84	0.180	0.01367	0.01372	0.01369
____ BE	-0.00006	-98.29	66.023	-0.00007	-0.00009	-0.00002
____ CA	7.49383	4,656.59	0.147	7.50605	7.49093	7.48452
____ CD	-0.00056	-1.60	31.381	-0.00042	-0.00051	-0.00076
____ CO	0.00115	-3.63	54.396	0.00154	0.00043	0.00147
____ CR	0.00007	-1.80	476.842	-0.00028	0.00008	0.00043
____ CU	-0.00011	2.86	286.073	-0.00008	-0.00045	0.00019
____ FE	0.02162	5.20	27.972	0.01472	0.02411	0.02602
____ K	0.51809	287.60	5.927	0.53844	0.48277	0.53306
____ LI	0.00411	45.13	16.728	0.00348	0.00485	0.00402
____ MG	2.01844	2,902.59	0.221	2.02263	2.01894	2.01377
____ MN	0.01934	191.70	3.381	0.02010	0.01897	0.01895
____ MO	0.03318	6.63	9.671	0.03620	0.03351	0.02981
____ NA	62.77542	69,884.42	0.797	63.27749	62.77250	62.27626
____ NI	-0.00006	3.08	715.254	0.00016	0.00018	-0.00051
____ P	0.06828	4.07	17.747	0.07974	0.06950	0.05559
____ PB	-0.00128	1.94	370.143	-0.00635	0.00300	-0.00048
____ S	9.08193	401.35	2.444	9.21445	9.20567	8.82567
____ SB	0.00044	2.29	816.964	0.00155	0.00334	-0.00358
____ SI	3.68766	579.97	0.763	3.71613	3.65991	3.68695
____ SN	-0.00095	2.85	259.385	-0.00366	-0.00027	0.00110
____ SR	0.18586	86,660.06	0.121	0.18603	0.18594	0.18560
____ TI	0.00073	37.06	17.415	0.00082	0.00058	0.00077
____ TL	-0.01760	-0.12	241.292	-0.03670	-0.04715	0.03106
____ V	-0.00082	-16.71	78.547	-0.00045	-0.00156	-0.00045
____ Y1	6831.45500	6,831.46	0.180	6819.16000	6843.71500	6831.49000
____ Y2A	177199.54300	177,199.54	0.350	176649.13000	177077.90651	177871.59250
____ Y2R	15273.45239	15,273.45	0.613	15207.39669	15232.27482	15380.68567
____ ZN	0.00158	10.17	2.094	0.00155	0.00158	0.00162
____ ZR	-0.00015	-8.30	1077.619	-0.00173	-0.00031	0.00158

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 28 Date/Time: 10/16/2015 18:00

Sample Number: **8082117** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00011	-108.28	697.442	0.00052	0.00011	-0.00097
____ AL	1.99861	197.85	1.761	2.03275	1.96245	2.00063
____ AS	0.00413	1.01	165.374	0.00379	-0.00252	0.01112
____ B	0.07024	519.90	1.414	0.07025	0.06925	0.07123
____ BA	0.07457	29,307.75	0.607	0.07411	0.07460	0.07501
____ BE	-0.00035	-148.22	17.594	-0.00034	-0.00042	-0.00030
____ CA	186.74159	111,032.80	0.096	186.53464	186.82871	186.86141
____ CD	-0.00442	-7.10	9.504	-0.00470	-0.00462	-0.00394
____ CO	0.00217	-0.66	28.506	0.00271	0.00150	0.00230
____ CR	0.00581	25.10	4.828	0.00602	0.00593	0.00549
____ CU	0.00297	45.43	16.230	0.00347	0.00251	0.00294
____ FE	30.51760	6,727.14	0.474	30.40693	30.68131	30.46456
____ K	10.18456	3,523.31	0.518	10.13997	10.24281	10.17091
____ LI	0.01117	97.86	22.531	0.01393	0.01059	0.00900
____ MG	29.28857	41,673.62	0.371	29.18363	29.40066	29.28141
____ MN	2.54532	24,670.68	0.613	2.55702	2.55133	2.52760
____ MO	-0.01607	-3.60	4.934	-0.01662	-0.01516	-0.01642
____ NA	13.66480	15,197.20	0.628	13.57322	13.74352	13.67764
____ NI	0.00539	9.36	12.791	0.00616	0.00518	0.00483
____ P	0.84181	30.26	7.049	0.91027	0.80512	0.81003
____ PB	0.01432	7.44	24.378	0.01059	0.01485	0.01751
____ S	0.43024	25.25	6.378	0.45371	0.40006	0.43693
____ SB	-0.00136	1.41	344.314	-0.00239	-0.00543	0.00375
____ SI	18.10662	2,840.84	0.348	18.14399	18.03396	18.14192
____ SN	-0.00272	2.32	42.397	-0.00333	-0.00139	-0.00344
____ SR	0.81149	374,680.17	0.442	0.80781	0.81498	0.81168
____ TI	0.08647	1,971.93	1.586	0.08780	0.08506	0.08655
____ TL	0.00670	-0.24	1879.913	0.01084	0.13046	-0.12121
____ V	0.00424	3.59	39.147	0.00289	0.00373	0.00609
____ Y1	6683.55333	6,683.55	0.272	6700.14000	6686.39000	6664.13000
____ Y2A	175109.23818	175,109.24	0.359	175726.37670	175130.20168	174471.13618
____ Y2R	15272.06265	15,272.06	0.130	15288.10903	15249.83061	15278.24831
____ ZN	0.01661	70.03	1.595	0.01691	0.01640	0.01652
____ ZR	0.00128	-9.92	116.964	0.00280	0.00122	-0.00019

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 29 Date/Time: 10/16/2015 18:03

Sample Number: **8082118** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00019	-101.90	354.326	0.00046	-0.00088	-0.00015
____ AL	0.00330	2.80	748.634	-0.00886	0.03174	-0.01298
____ AS	-0.00900	-0.76	63.479	-0.00876	-0.00341	-0.01483
____ B	0.03264	337.49	6.190	0.03333	0.03037	0.03423
____ BA	0.12288	46,513.33	0.276	0.12322	0.12254	0.12287
____ BE	-0.00032	-137.60	1.969	-0.00031	-0.00033	-0.00032
____ CA	105.91541	62,932.65	0.193	105.73727	106.13837	105.87060
____ CD	-0.00400	-5.64	7.847	-0.00424	-0.00412	-0.00365
____ CO	0.00134	-3.07	57.113	0.00058	0.00211	0.00133
____ CR	0.00143	4.42	72.847	0.00155	0.00033	0.00241
____ CU	0.00048	19.77	258.904	0.00120	-0.00095	0.00118
____ FE	29.46415	6,426.08	0.150	29.42704	29.51283	29.45257
____ K	5.25821	1,853.41	1.385	5.19492	5.33779	5.24191
____ LI	0.00673	65.04	16.169	0.00685	0.00776	0.00559
____ MG	24.68876	34,792.67	0.354	24.62699	24.78861	24.65069
____ MN	2.37688	22,255.42	0.400	2.37047	2.38780	2.37238
____ MO	-0.01098	-2.56	35.681	-0.00810	-0.01544	-0.00939
____ NA	584.74781	643,834.39	1.240	580.66726	593.11736	580.45881
____ NI	0.00154	3.65	35.502	0.00107	0.00140	0.00214
____ P	0.37839	14.52	4.031	0.36510	0.37502	0.39504
____ PB	0.00767	4.13	31.585	0.00869	0.00490	0.00941
____ S	0.27143	18.26	3.471	0.28207	0.26413	0.26810
____ SB	-0.00473	1.00	27.011	-0.00539	-0.00554	-0.00326
____ SI	5.54145	860.87	0.166	5.53804	5.55185	5.53445
____ SN	-0.00265	2.34	104.886	-0.00423	0.00056	-0.00427
____ SR	0.54561	243,265.94	0.446	0.54725	0.54281	0.54676
____ TI	0.00262	77.36	8.360	0.00239	0.00263	0.00283
____ TL	-0.06514	-0.76	78.019	-0.12357	-0.04057	-0.03127
____ V	0.00045	-8.12	377.038	-0.00128	0.00209	0.00053
____ Y1	6686.08000	6,686.08	0.088	6681.96000	6692.86000	6683.42000
____ Y2A	169160.40328	169,160.40	0.396	168390.99441	169619.91821	169470.29723
____ Y2R	15102.70613	15,102.71	0.445	15154.19916	15026.77465	15127.14457
____ ZN	0.00562	32.21	7.868	0.00511	0.00580	0.00594
____ ZR	0.00003	-11.68	4581.180	-0.00095	-0.00057	0.00161

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 30 Date/Time: 10/16/2015 18:06

Sample Number: **8082119** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00026	-16.03	3.137	-0.00027	-0.00027	-0.00025
____ AL	0.02618	5.09	41.920	0.01658	0.03814	0.02382
____ AS	-0.01011	-0.42	33.944	-0.01299	-0.01102	-0.00631
____ B	0.02405	107.71	0.581	0.02392	0.02404	0.02420
____ BA	0.09052	35,892.00	0.632	0.09015	0.09118	0.09023
____ BE	-0.00018	-119.27	9.783	-0.00017	-0.00017	-0.00020
____ CA	40.27639	24,456.92	0.260	40.24062	40.19405	40.39451
____ CD	-0.00287	-11.80	1.188	-0.00290	-0.00286	-0.00283
____ CO	0.00097	-4.07	42.668	0.00053	0.00102	0.00135
____ CR	0.00082	1.70	27.660	0.00061	0.00106	0.00077
____ CU	-0.00008	7.92	850.100	-0.00089	0.00029	0.00036
____ FE	0.04307	9.99	19.965	0.03698	0.03932	0.05290
____ K	1.94603	765.51	2.243	1.91176	1.93115	1.99517
____ LI	0.00502	52.27	34.670	0.00386	0.00702	0.00418
____ MG	17.38149	24,830.65	0.436	17.36725	17.31379	17.46344
____ MN	0.13148	1,289.35	0.310	0.13180	0.13102	0.13163
____ MO	-0.00547	-1.35	132.623	0.00041	-0.01359	-0.00325
____ NA	19.72862	21,948.69	0.362	19.75198	19.64841	19.78548
____ NI	-0.00002	3.09	4272.925	0.00105	-0.00073	-0.00039
____ P	0.01181	2.11	119.970	0.01213	0.02582	-0.00252
____ PB	0.00025	2.69	315.686	-0.00066	0.00071	0.00071
____ S	5.17853	231.47	0.126	5.18031	5.17128	5.18401
____ SB	0.00404	2.92	93.346	0.00828	0.00105	0.00280
____ SI	5.88108	923.77	0.907	5.87768	5.82954	5.93601
____ SN	-0.00200	2.56	87.837	0.00002	-0.00320	-0.00283
____ SR	0.55817	259,938.00	0.552	0.55608	0.56170	0.55671
____ TI	0.00211	69.56	6.199	0.00196	0.00215	0.00221
____ TL	-0.09847	-0.73	31.819	-0.07242	-0.13324	-0.08976
____ V	-0.00113	-15.40	10.045	-0.00102	-0.00124	-0.00112
____ Y1	6829.17333	6,829.17	0.155	6826.97500	6840.68000	6819.86500
____ Y2A	176898.37358	176,898.37	0.220	177234.75354	176471.21333	176989.15386
____ Y2R	15271.90919	15,271.91	0.414	15263.30806	15338.99220	15213.42731
____ ZN	0.00133	9.27	21.168	0.00162	0.00107	0.00129
____ ZR	-0.00103	-9.76	120.214	-0.00179	-0.00170	0.00040

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 31 Date/Time: 10/16/2015 18:08

Sample Number: **8082124** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00053	-73.26	171.318	0.00052	-0.00100	-0.00112
____ AL	0.03642	6.06	22.055	0.04568	0.03226	0.03131
____ AS	-0.00231	0.34	281.182	-0.00973	0.00063	0.00219
____ B	0.08524	498.98	0.422	0.08493	0.08563	0.08516
____ BA	0.05207	20,526.61	0.489	0.05215	0.05227	0.05178
____ BE	-0.00017	-116.64	9.871	-0.00015	-0.00019	-0.00017
____ CA	75.21513	45,277.63	0.251	75.07338	75.14302	75.42900
____ CD	-0.00333	-6.96	12.997	-0.00284	-0.00346	-0.00367
____ CO	0.00170	-2.22	8.336	0.00172	0.00182	0.00154
____ CR	0.00172	5.94	37.404	0.00101	0.00188	0.00227
____ CU	0.00000	13.19	3155.894	-0.00010	-0.00007	0.00017
____ FE	18.22305	4,030.27	0.504	18.17050	18.16951	18.32913
____ K	1.47104	605.03	3.790	1.40864	1.51594	1.48855
____ LI	0.00366	44.34	47.478	0.00251	0.00281	0.00566
____ MG	19.18954	27,329.12	0.495	19.12817	19.14154	19.29890
____ MN	1.04964	10,172.06	0.125	1.04875	1.04904	1.05114
____ MO	-0.00787	-1.88	40.117	-0.01037	-0.00432	-0.00893
____ NA	190.58346	211,661.00	0.661	189.69501	190.03059	192.02479
____ NI	0.00109	3.69	32.084	0.00110	0.00074	0.00144
____ P	0.31386	12.51	8.910	0.32432	0.33508	0.28217
____ PB	0.00564	4.01	39.365	0.00558	0.00344	0.00788
____ S	0.31059	19.83	11.205	0.27763	0.30717	0.34698
____ SB	-0.00080	1.87	643.022	0.00515	-0.00379	-0.00377
____ SI	7.29728	1,143.02	0.417	7.26478	7.30190	7.32516
____ SN	-0.00212	2.52	106.423	-0.00467	-0.00038	-0.00131
____ SR	0.39479	182,151.95	0.462	0.39608	0.39560	0.39270
____ TI	0.00537	142.74	4.331	0.00557	0.00541	0.00511
____ TL	-0.00120	-0.18	7436.605	-0.06859	-0.03504	0.10003
____ V	0.00249	-3.51	39.021	0.00171	0.00358	0.00218
____ Y1	6786.82500	6,786.83	0.110	6779.47000	6794.40500	6786.60000
____ Y2A	175062.30882	175,062.31	0.378	174303.18000	175360.53682	175523.20965
____ Y2R	15234.24683	15,234.25	0.362	15275.58395	15255.61102	15171.54553
____ ZN	0.03432	128.65	0.403	0.03436	0.03416	0.03443
____ ZR	0.00142	-8.07	162.929	0.00376	0.00139	-0.00088

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 32 Date/Time: 10/16/2015 18:11

Sample Number: **8082126** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00040	-80.26	50.828	0.00018	0.00044	0.00058
____ AL	0.08228	10.63	9.928	0.08246	0.07402	0.09035
____ AS	-0.00342	0.11	137.246	-0.00853	0.00071	-0.00245
____ B	0.04172	339.26	2.699	0.04056	0.04281	0.04178
____ BA	0.09303	36,295.93	0.031	0.09306	0.09302	0.09300
____ BE	-0.00023	-125.33	9.087	-0.00022	-0.00020	-0.00025
____ CA	78.05872	47,431.40	0.246	77.89625	78.00928	78.27065
____ CD	-0.00363	-6.60	7.277	-0.00360	-0.00338	-0.00390
____ CO	0.00101	-3.91	36.242	0.00143	0.00076	0.00084
____ CR	0.00103	2.68	23.701	0.00123	0.00111	0.00076
____ CU	0.00199	25.63	17.629	0.00208	0.00229	0.00160
____ FE	22.65667	5,049.60	0.168	22.63420	22.70062	22.63519
____ K	3.70544	1,364.43	0.789	3.70950	3.67440	3.73242
____ LI	0.00263	38.03	63.975	0.00450	0.00126	0.00211
____ MG	19.37356	27,861.02	0.198	19.32972	19.39034	19.40062
____ MN	0.92337	8,899.31	0.073	0.92303	0.92415	0.92294
____ MO	-0.01548	-3.45	23.399	-0.01414	-0.01959	-0.01273
____ NA	332.93981	373,409.73	0.930	329.37615	334.96109	334.48219
____ NI	0.00137	3.82	38.699	0.00188	0.00082	0.00140
____ P	0.09829	5.06	9.903	0.10918	0.09046	0.09521
____ PB	0.00791	4.67	24.874	0.00879	0.00565	0.00928
____ S	0.22739	16.14	6.013	0.24273	0.21650	0.22293
____ SB	-0.00193	1.65	168.654	-0.00395	-0.00368	0.00183
____ SI	5.79151	916.40	0.523	5.76041	5.79326	5.82086
____ SN	-0.00193	2.56	124.544	-0.00035	-0.00074	-0.00470
____ SR	0.37641	172,739.70	0.269	0.37636	0.37542	0.37744
____ TI	0.00465	125.17	4.212	0.00487	0.00450	0.00458
____ TL	-0.03664	-0.48	180.445	-0.11273	-0.00393	0.00674
____ V	-0.00122	-14.26	60.625	-0.00188	-0.00136	-0.00042
____ Y1	6761.80833	6,761.81	0.101	6756.02500	6760.01000	6769.39000
____ Y2A	174097.22401	174,097.22	0.450	174307.00879	174754.43000	173230.23325
____ Y2R	15384.07314	15,384.07	0.326	15442.02032	15356.27615	15353.92294
____ ZN	0.00608	32.18	0.959	0.00611	0.00601	0.00612
____ ZR	0.00071	-9.90	138.077	-0.00033	0.00085	0.00162

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 33 Date/Time: 10/16/2015 18:14

Sample Number: **8082127** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00025	-186.13	45.204	-0.00019	-0.00038	-0.00017
____ AL	2.18246	218.25	2.553	2.15560	2.14526	2.24652
____ AS	0.00083	0.15	140.932	-0.00007	0.00040	0.00215
____ B	0.06290	665.75	2.172	0.06415	0.06312	0.06144
____ BA	0.11178	44,236.40	0.095	0.11190	0.11170	0.11175
____ BE	-0.00015	-113.67	15.217	-0.00013	-0.00014	-0.00017
____ CA	72.37309	44,188.75	0.326	72.37446	72.13654	72.60828
____ CD	-0.00281	9.07	6.032	-0.00295	-0.00285	-0.00262
____ CO	0.00322	2.03	9.642	0.00304	0.00304	0.00357
____ CR	0.00711	31.44	16.379	0.00791	0.00577	0.00764
____ CU	0.01670	113.66	6.092	0.01646	0.01583	0.01782
____ FE	55.07896	12,137.08	0.489	55.10599	54.79736	55.33352
____ K	2.88879	1,093.40	2.719	2.83282	2.97857	2.85497
____ LI	0.01162	97.94	5.160	0.01119	0.01135	0.01230
____ MG	21.12690	30,484.81	0.377	21.18757	21.03675	21.15637
____ MN	1.26494	12,377.58	0.494	1.25774	1.26826	1.26883
____ MO	-0.01664	-3.57	19.570	-0.02039	-0.01497	-0.01455
____ NA	77.73397	87,515.89	0.327	77.95466	77.45643	77.79082
____ NI	0.00733	11.01	14.166	0.00829	0.00746	0.00623
____ P	0.45508	17.39	7.394	0.46570	0.41741	0.48214
____ PB	0.01816	7.77	26.608	0.02296	0.01330	0.01822
____ S	0.29100	19.03	8.154	0.31316	0.26597	0.29388
____ SB	-0.00253	1.77	226.770	-0.00175	-0.00863	0.00278
____ SI	15.48781	2,457.71	0.252	15.49703	15.44496	15.52144
____ SN	0.00170	3.53	36.147	0.00171	0.00108	0.00231
____ SR	0.36514	170,118.67	0.541	0.36741	0.36380	0.36422
____ TI	0.10908	2,502.32	2.792	0.10804	0.11251	0.10669
____ TL	0.01060	-0.45	403.302	0.03909	-0.03857	0.03128
____ V	0.00631	8.95	21.508	0.00747	0.00663	0.00482
____ Y1	6787.87833	6,787.88	0.213	6790.00500	6801.14000	6772.49000
____ Y2A	176765.03368	176,765.03	0.662	175413.93164	177471.84126	177409.32813
____ Y2R	15445.04245	15,445.04	0.167	15441.74156	15472.31322	15421.07257
____ ZN	0.08036	298.87	0.294	0.08009	0.08045	0.08054
____ ZR	0.00445	-8.00	23.379	0.00364	0.00562	0.00409

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 34

Date/Time: 10/16/2015 18:16

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50750	3,325.45	0.708	0.50676	0.51141	0.50433
____ AL	25.17460	2,486.59	0.342	25.27081	25.14828	25.10471
____ AS	0.52105	73.41	1.330	0.51929	0.52869	0.51517
____ B	0.49046	2,341.97	0.241	0.49178	0.49010	0.48950
____ BA	0.50528	200,796.06	0.263	0.50475	0.50679	0.50430
____ BE	0.49529	87,956.73	0.700	0.49502	0.49889	0.49197
____ CA	25.17315	15,497.37	0.458	25.27725	25.19304	25.04916
____ CD	0.50296	2,260.08	0.167	0.50229	0.50268	0.50389
____ CO	0.50157	1,258.35	0.331	0.49981	0.50310	0.50179
____ CR	0.50016	2,382.27	0.997	0.49779	0.50589	0.49680
____ CU	0.51108	3,161.78	0.362	0.51189	0.51239	0.50897
____ FE	24.86146	5,545.23	0.534	24.96178	24.91173	24.71085
____ K	25.61365	8,767.67	0.440	25.56025	25.74309	25.53761
____ LI	0.51673	3,459.10	0.735	0.52076	0.51622	0.51321
____ MG	25.29980	36,376.46	0.407	25.38674	25.32666	25.18600
____ MN	0.51583	5,089.98	0.062	0.51568	0.51560	0.51619
____ MO	0.49844	103.39	1.016	0.49264	0.50204	0.50063
____ NA	25.69447	28,853.48	0.508	25.79354	25.74341	25.54646
____ NI	0.50099	778.24	0.186	0.50111	0.50185	0.50000
____ P	0.55639	21.30	4.648	0.56253	0.52801	0.57863
____ PB	0.50599	221.36	0.763	0.50488	0.50281	0.51028
____ S	26.07266	1,152.13	1.392	25.86632	25.86009	26.49157
____ SB	0.50743	108.16	1.493	0.50660	0.51539	0.50031
____ SI	25.34423	4,012.99	0.482	25.41748	25.41187	25.20334
____ SN	0.50291	138.15	0.996	0.49819	0.50238	0.50816
____ SR	0.50964	239,051.83	0.583	0.50885	0.51292	0.50714
____ TI	0.50710	11,657.96	0.467	0.50666	0.50966	0.50499
____ TL	0.62195	4.52	21.962	0.55611	0.53074	0.77899
____ V	0.51245	1,526.60	0.597	0.51351	0.51483	0.50900
____ Y1	6897.00667	6,897.01	0.204	6896.81000	6883.01000	6911.20000
____ Y2A	178217.18053	178,217.18	0.382	178636.90048	177431.27117	178583.36993
____ Y2R	15412.01748	15,412.02	0.439	15347.39104	15406.42586	15482.23553
____ ZN	0.50786	1,808.69	0.151	0.50699	0.50844	0.50815
____ ZR	0.50709	822.04	0.136	0.50630	0.50749	0.50748

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 35

Date/Time: 10/16/2015 18:19

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00039	-16.98	90.239	-0.00049	-0.00068	0.00000
____ AL	0.00376	2.94	672.324	-0.00450	-0.01635	0.03213
____ AS	-0.00056	0.90	990.186	0.00291	-0.00697	0.00238
____ B	0.00078	5.53	86.977	0.00033	0.00156	0.00045
____ BA	0.00220	1,108.92	8.622	0.00230	0.00198	0.00231
____ BE	-0.00003	-93.64	126.706	-0.00003	0.00001	-0.00005
____ CA	0.00911	114.89	78.483	0.01222	0.01419	0.00093
____ CD	0.00007	1.19	174.218	0.00012	0.00015	-0.00007
____ CO	0.00104	-3.90	24.924	0.00115	0.00075	0.00123
____ CR	0.00063	0.83	148.520	0.00164	-0.00021	0.00046
____ CU	-0.00058	-0.87	129.208	-0.00081	0.00026	-0.00118
____ FE	0.01232	3.16	58.419	0.00743	0.02059	0.00895
____ K	0.08119	142.87	55.484	0.13132	0.04408	0.06818
____ LI	0.00130	26.63	12.489	0.00114	0.00131	0.00146
____ MG	0.00589	13.32	44.975	0.00781	0.00700	0.00287
____ MN	0.00036	5.59	23.243	0.00027	0.00037	0.00043
____ MO	0.00568	0.96	44.048	0.00296	0.00617	0.00789
____ NA	0.11444	110.69	1.955	0.11398	0.11687	0.11247
____ NI	-0.00037	2.58	138.590	0.00021	-0.00058	-0.00074
____ P	-0.00437	1.55	354.211	-0.00542	0.01161	-0.01930
____ PB	-0.00222	1.44	88.358	-0.00354	-0.00314	0.00003
____ S	0.01317	6.58	76.458	0.00520	0.02449	0.00983
____ SB	0.00382	3.02	42.953	0.00456	0.00194	0.00496
____ SI	0.01293	3.70	28.666	0.00908	0.01647	0.01325
____ SN	0.00204	3.65	16.217	0.00242	0.00188	0.00181
____ SR	0.00109	493.57	7.624	0.00114	0.00100	0.00114
____ TI	0.00027	25.24	82.473	0.00002	0.00045	0.00035
____ TL	-0.03476	-0.25	70.003	-0.06155	-0.01404	-0.02869
____ V	0.00112	-9.46	76.277	0.00044	0.00084	0.00209
____ Y1	6851.54167	6,851.54	0.258	6867.99500	6853.81000	6832.82000
____ Y2A	179687.11265	179,687.11	0.389	179451.75754	180472.54745	179137.03297
____ Y2R	15445.01721	15,445.02	0.441	15377.37146	15513.53729	15444.14289
____ ZN	-0.00022	3.88	92.939	-0.00008	-0.00012	-0.00046
____ ZR	0.00075	-6.91	429.702	-0.00140	0.00444	-0.00080

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 36 Date/Time: 10/16/2015 18:21

Sample Number: **8082128** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00015	-37.98	233.441	-0.00054	-0.00008	0.00016
____ AL	0.08196	10.73	16.127	0.07522	0.09719	0.07348
____ AS	-0.00379	0.32	127.769	0.00119	-0.00846	-0.00408
____ B	0.04663	259.60	2.618	0.04737	0.04730	0.04522
____ BA	0.06685	26,705.19	0.325	0.06667	0.06679	0.06709
____ BE	-0.00025	-131.90	11.731	-0.00023	-0.00028	-0.00023
____ CA	100.29423	61,480.21	0.293	100.61356	100.23455	100.03458
____ CD	-0.00385	-13.34	8.400	-0.00353	-0.00386	-0.00417
____ CO	0.00148	-2.76	16.768	0.00162	0.00119	0.00162
____ CR	0.00299	12.07	18.910	0.00246	0.00292	0.00359
____ CU	0.00360	39.26	9.406	0.00357	0.00327	0.00395
____ FE	7.34776	1,669.44	0.234	7.33142	7.34618	7.36569
____ K	5.81057	2,099.19	0.640	5.85283	5.79599	5.78291
____ LI	0.00856	79.16	4.067	0.00888	0.00861	0.00819
____ MG	13.33941	19,454.29	0.167	13.36366	13.33471	13.31985
____ MN	0.71057	6,995.67	0.378	0.71140	0.71274	0.70757
____ MO	-0.01205	-2.73	29.057	-0.01580	-0.01148	-0.00886
____ NA	16.98402	19,260.40	0.411	17.06012	16.96907	16.92286
____ NI	0.00502	10.32	14.701	0.00463	0.00456	0.00587
____ P	0.20300	8.69	6.471	0.18898	0.20500	0.21502
____ PB	0.00737	5.48	50.288	0.00629	0.01149	0.00432
____ S	0.51796	28.76	2.142	0.51685	0.50745	0.52956
____ SB	0.00246	2.38	155.546	0.00306	0.00594	-0.00163
____ SI	11.64103	1,862.51	0.495	11.65334	11.69150	11.57825
____ SN	-0.00036	2.98	331.657	-0.00139	0.00096	-0.00065
____ SR	0.54532	255,575.08	0.053	0.54564	0.54523	0.54507
____ TI	0.00534	146.76	1.041	0.00537	0.00538	0.00528
____ TL	-0.01131	-0.14	246.615	-0.04305	-0.00012	0.00925
____ V	0.00183	-5.62	22.673	0.00149	0.00171	0.00230
____ Y1	6783.21333	6,783.21	0.251	6764.51000	6787.31500	6797.81500
____ Y2A	177832.12516	177,832.13	0.296	177776.10000	177336.30548	178383.97000
____ Y2R	15569.08002	15,569.08	0.348	15509.17715	15614.52000	15583.54291
____ ZN	0.01935	73.77	1.153	0.01910	0.01953	0.01943
____ ZR	0.00274	-4.65	14.857	0.00261	0.00241	0.00320

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 37 Date/Time: 10/16/2015 18:24

Sample Number: **8082129** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00097	-257.50	60.698	0.00029	0.00127	0.00135
____ AL	0.89245	89.65	3.924	0.93256	0.86794	0.87686
____ AS	0.00031	-0.38	580.308	-0.00095	-0.00051	0.00239
____ B	0.16067	1,270.70	1.239	0.16292	0.15996	0.15914
____ BA	0.16414	64,419.46	0.500	0.16507	0.16352	0.16382
____ BE	-0.00028	-136.45	17.526	-0.00034	-0.00024	-0.00026
____ CA	104.94447	63,009.53	0.195	105.11105	104.71589	105.00648
____ CD	-0.00270	19.27	8.117	-0.00284	-0.00282	-0.00245
____ CO	0.00440	4.58	7.764	0.00453	0.00466	0.00401
____ CR	0.00459	19.44	3.193	0.00454	0.00449	0.00476
____ CU	0.02755	185.20	2.143	0.02791	0.02687	0.02788
____ FE	81.33513	17,486.24	0.182	81.24546	81.25372	81.50621
____ K	6.81453	2,393.17	0.852	6.75646	6.81460	6.87253
____ LI	0.01612	127.59	19.402	0.01268	0.01691	0.01878
____ MG	26.12666	37,182.37	0.125	26.11036	26.10523	26.16438
____ MN	1.74066	16,918.98	0.357	1.73806	1.74776	1.73616
____ MO	-0.01943	-4.16	14.143	-0.02146	-0.02052	-0.01630
____ NA	103.90464	115,576.83	0.172	103.70349	104.04538	103.96505
____ NI	0.00912	12.11	2.788	0.00910	0.00938	0.00888
____ P	0.78352	28.54	6.921	0.73692	0.77061	0.84304
____ PB	0.02901	10.79	15.739	0.03422	0.02573	0.02706
____ S	0.42768	24.98	5.544	0.42984	0.40296	0.45023
____ SB	0.00347	3.06	212.796	-0.00077	0.01198	-0.00082
____ SI	17.66042	2,768.48	0.330	17.72112	17.60480	17.65534
____ SN	-0.00088	2.83	337.154	0.00225	-0.00123	-0.00366
____ SR	0.61230	283,330.02	0.553	0.61587	0.60914	0.61188
____ TI	0.03499	816.37	5.769	0.03731	0.03372	0.03393
____ TL	0.03164	-0.55	77.980	0.01046	0.05874	0.02573
____ V	0.00160	-4.94	83.623	0.00249	0.00224	0.00006
____ Y1	6746.23833	6,746.24	0.201	6747.68500	6732.02500	6759.00500
____ Y2A	175598.01649	175,598.02	0.152	175292.76604	175782.89447	175718.38897
____ Y2R	15258.97732	15,258.98	0.107	15276.74256	15255.72169	15244.46770
____ ZN	0.03411	145.74	0.427	0.03420	0.03394	0.03418
____ ZR	0.00036	-17.94	380.502	0.00188	-0.00079	-0.00001

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 38 Date/Time: 10/16/2015 18:26

Sample Number: **8082130** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00014	-15.22	742.895	-0.00061	-0.00081	0.00102
____ AL	-0.02607	-0.02	96.275	-0.01750	-0.00638	-0.05432
____ AS	-0.00057	0.90	183.575	0.00062	-0.00098	-0.00133
____ B	0.00135	8.07	62.198	0.00218	0.00136	0.00050
____ BA	0.00010	266.22	19.521	0.00008	0.00009	0.00012
____ BE	-0.00011	-108.31	10.964	-0.00010	-0.00012	-0.00012
____ CA	0.06259	149.60	7.546	0.06766	0.06179	0.05831
____ CD	0.00007	1.20	62.443	0.00004	0.00012	0.00005
____ CO	0.00059	-5.04	28.315	0.00065	0.00072	0.00040
____ CR	0.00130	4.01	41.441	0.00140	0.00072	0.00178
____ CU	0.00181	13.93	14.394	0.00206	0.00182	0.00154
____ FE	0.02281	5.59	38.474	0.03288	0.01681	0.01874
____ K	0.06335	138.57	44.114	0.08321	0.07544	0.03139
____ LI	0.00189	30.99	69.531	0.00045	0.00303	0.00221
____ MG	0.01704	29.89	5.150	0.01681	0.01801	0.01630
____ MN	0.00105	12.40	20.126	0.00115	0.00081	0.00119
____ MO	0.00582	0.99	29.760	0.00431	0.00542	0.00771
____ NA	0.28367	305.02	4.402	0.29489	0.28590	0.27022
____ NI	0.00008	3.27	372.322	0.00000	-0.00016	0.00040
____ P	-0.00050	1.69	1769.482	-0.00938	-0.00053	0.00840
____ PB	-0.00418	0.61	61.462	-0.00125	-0.00527	-0.00603
____ S	0.03081	7.36	18.628	0.02510	0.03658	0.03076
____ SB	0.00400	3.05	98.328	0.00602	-0.00053	0.00651
____ SI	0.23043	38.66	6.404	0.24591	0.22886	0.21652
____ SN	0.00299	3.91	51.550	0.00476	0.00231	0.00191
____ SR	0.00020	70.78	1.536	0.00020	0.00020	0.00020
____ TI	0.00023	24.21	85.644	0.00024	0.00003	0.00043
____ TL	-0.01445	-0.09	283.606	0.03226	-0.03119	-0.04443
____ V	0.00107	-9.57	45.472	0.00162	0.00074	0.00084
____ Y1	6860.33167	6,860.33	0.057	6857.07000	6864.68000	6859.24500
____ Y2A	178335.24668	178,335.25	0.276	178401.93690	178790.50709	177813.29607
____ Y2R	15641.11315	15,641.11	0.620	15531.90000	15674.61646	15716.82299
____ ZN	0.00073	7.25	30.707	0.00092	0.00048	0.00080
____ ZR	-0.00034	-8.83	68.893	-0.00060	-0.00029	-0.00014

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 39 Date/Time: 10/16/2015 18:29

Sample Number: **8083008** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00273	-55.63	19.783	-0.00299	-0.00308	-0.00211
____ AL	0.04639	6.55	61.210	0.02649	0.07891	0.03377
____ AS	0.00114	0.72	556.047	0.00005	0.00794	-0.00458
____ B	17.81708	59,636.06	0.102	17.83217	17.79703	17.82204
____ BA	0.01016	3,224.80	0.574	0.01020	0.01018	0.01009
____ BE	-0.00054	-139.10	2.290	-0.00054	-0.00052	-0.00054
____ CA	197.88458	104,630.83	0.345	198.31544	198.24202	197.09629
____ CD	-0.00472	-11.96	6.138	-0.00473	-0.00442	-0.00500
____ CO	0.00188	-1.42	65.521	0.00157	0.00324	0.00083
____ CR	0.00231	6.68	50.361	0.00209	0.00356	0.00127
____ CU	0.00131	28.28	35.030	0.00143	0.00169	0.00080
____ FE	13.43416	2,658.49	0.520	13.46075	13.48687	13.35486
____ K	22.34327	6,762.17	9.424	20.09141	22.67497	24.26344
____ LI	0.54839	3,243.82	1.477	0.53904	0.55284	0.55329
____ MG	727.19352	707,958.01	0.751	732.77308	726.95093	721.85655
____ MN	0.68896	5,145.28	0.225	0.68788	0.68826	0.69073
____ MO	0.22433	36.40	2.922	0.22490	0.23058	0.21751
____ NA	4004.46671	3,970,684.52	3.876	4166.87968	3988.87144	3857.64901
____ NI	0.00413	7.10	36.835	0.00539	0.00455	0.00244
____ P	0.22265	7.53	12.193	0.25383	0.20424	0.20989
____ PB	0.00149	1.92	148.587	-0.00056	0.00120	0.00384
____ S	2820.13405	98,063.49	3.130	2921.62292	2777.51388	2761.26535
____ SB	-0.00417	0.54	7.194	-0.00393	-0.00450	-0.00408
____ SI	8.75447	1,224.22	0.462	8.75651	8.79389	8.71300
____ SN	0.00261	3.03	65.753	0.00386	0.00331	0.00065
____ SR	7.19416	2,553,921.23	0.177	7.20155	7.20150	7.17943
____ TI	0.00382	83.66	5.241	0.00367	0.00404	0.00373
____ TL	-0.11970	-0.82	12.298	-0.10348	-0.12340	-0.13221
____ V	-0.00767	-36.15	20.436	-0.00629	-0.00938	-0.00735
____ Y1	5456.76602	5,456.77	0.119	5457.62433	5462.79872	5449.87501
____ Y2A	134895.42352	134,895.42	0.262	134677.18912	134705.51000	135303.57143
____ Y2R	13600.24847	13,600.25	0.226	13611.66966	13565.39996	13623.67579
____ ZN	0.00305	15.41	8.615	0.00302	0.00280	0.00332
____ ZR	0.02726	30.87	2.682	0.02810	0.02690	0.02678

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 40 Date/Time: 10/16/2015 18:32

Sample Number: **8083009** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00134	-16.93	74.503	-0.00248	-0.00074	-0.00078
____ AL	-0.02345	0.44	94.633	-0.04864	-0.00678	-0.01492
____ AS	-0.00073	0.69	1039.476	0.00744	-0.00203	-0.00761
____ B	18.14495	60,282.08	0.223	18.17898	18.10014	18.15573
____ BA	0.00776	2,489.08	0.287	0.00777	0.00778	0.00774
____ BE	-0.00057	-142.51	7.166	-0.00052	-0.00059	-0.00059
____ CA	198.81310	105,462.73	0.233	198.32763	199.25082	198.86084
____ CD	-0.00589	-19.98	2.391	-0.00580	-0.00605	-0.00581
____ CO	0.00147	-2.23	20.080	0.00167	0.00113	0.00162
____ CR	0.00130	3.01	104.995	0.00167	-0.00021	0.00244
____ CU	-0.00035	20.63	219.828	-0.00025	0.00037	-0.00118
____ FE	0.08101	16.51	6.086	0.07546	0.08269	0.08488
____ K	30.14998	9,119.40	2.738	29.22295	30.42090	30.80607
____ LI	0.57060	3,385.73	0.301	0.57145	0.56862	0.57173
____ MG	699.99424	691,785.25	1.148	703.54387	705.64327	690.79556
____ MN	0.69921	5,189.30	0.378	0.69707	0.69840	0.70217
____ MO	0.20001	32.19	4.428	0.20428	0.18983	0.20593
____ NA	3371.57167	3,354,369.45	2.180	3426.97631	3399.54609	3288.19262
____ NI	0.00320	6.53	19.746	0.00392	0.00289	0.00278
____ P	-0.03497	0.39	33.350	-0.03775	-0.04498	-0.02216
____ PB	0.00574	3.92	54.438	0.00854	0.00237	0.00632
____ S	2823.00097	97,507.13	1.122	2828.62923	2851.49289	2788.88079
____ SB	0.00055	1.26	1190.112	-0.00449	0.00798	-0.00184
____ SI	8.11486	1,138.68	0.475	8.07043	8.13890	8.13526
____ SN	-0.00178	2.08	263.707	-0.00073	0.00230	-0.00692
____ SR	7.21127	2,544,038.51	0.332	7.21887	7.18445	7.23049
____ TI	0.00146	42.37	24.362	0.00112	0.00183	0.00142
____ TL	-0.06183	-0.36	105.378	0.00499	-0.06529	-0.12519
____ V	-0.00756	-34.65	4.324	-0.00765	-0.00784	-0.00720
____ Y1	5420.37835	5,420.38	0.170	5425.67905	5409.74428	5425.71172
____ Y2A	134054.62130	134,054.62	0.205	133841.66833	134365.08698	133957.10858
____ Y2R	13646.01120	13,646.01	0.546	13705.12974	13562.29508	13670.60878
____ ZN	0.00262	10.98	15.218	0.00223	0.00259	0.00303
____ ZR	0.02844	34.22	6.586	0.02964	0.02939	0.02628

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 41 Date/Time: 10/16/2015 18:35

Sample Number: **8083000** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00280	-59.80	33.904	-0.00340	-0.00330	-0.00171
____ AL	0.07511	8.57	9.528	0.07425	0.08266	0.06842
____ AS	0.00425	0.95	47.215	0.00615	0.00215	0.00445
____ B	14.32595	45,487.64	0.134	14.32297	14.30838	14.34649
____ BA	0.02371	6,917.38	0.368	0.02362	0.02373	0.02379
____ BE	-0.00064	-145.08	5.826	-0.00062	-0.00062	-0.00068
____ CA	370.79816	187,388.29	0.286	371.17510	369.60035	371.61902
____ CD	-0.00567	-13.38	2.168	-0.00569	-0.00554	-0.00578
____ CO	0.00313	0.99	42.093	0.00227	0.00464	0.00247
____ CR	0.00235	6.48	24.829	0.00269	0.00168	0.00268
____ CU	-0.00207	30.73	63.272	-0.00352	-0.00098	-0.00171
____ FE	16.77824	3,237.74	0.266	16.79763	16.72713	16.80996
____ K	63.39309	18,555.65	1.700	62.43845	63.17912	64.56170
____ LI	0.67240	3,884.96	0.298	0.67259	0.67031	0.67430
____ MG	942.87389	812,925.38	1.918	957.74018	922.74608	948.13542
____ MN	4.80476	34,007.75	0.194	4.81187	4.80818	4.79421
____ MO	-0.01499	-2.93	25.530	-0.01255	-0.01302	-0.01940
____ NA	3268.87044	3,165,588.71	2.673	3367.44274	3200.88362	3238.28497
____ NI	0.00794	10.67	3.978	0.00797	0.00824	0.00761
____ P	0.43235	12.46	1.997	0.43884	0.43567	0.42255
____ PB	0.01329	5.57	34.089	0.01614	0.01566	0.00807
____ S	3083.95360	100,124.29	0.763	3102.11349	3092.36388	3057.38345
____ SB	0.00339	1.18	244.185	0.00678	-0.00604	0.00942
____ SI	10.01287	1,366.99	0.379	9.99951	9.98343	10.05568
____ SN	0.00377	3.06	60.361	0.00521	0.00495	0.00115
____ SR	9.31148	3,134,005.13	0.271	9.28992	9.30525	9.33928
____ TI	0.00460	92.63	12.672	0.00524	0.00410	0.00446
____ TL	0.01516	-0.04	1283.101	0.06879	0.17729	-0.20059
____ V	0.00465	4.66	53.699	0.00177	0.00603	0.00616
____ Y1	5094.90889	5,094.91	0.341	5083.72279	5086.06033	5114.94356
____ Y2A	127878.64350	127,878.64	0.328	127932.10000	128268.60164	127435.22886
____ Y2R	13283.35300	13,283.35	0.737	13252.05000	13393.05000	13204.95901
____ ZN	0.08435	226.25	0.538	0.08450	0.08471	0.08384
____ ZR	0.06197	78.86	1.516	0.06305	0.06133	0.06154

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 42 Date/Time: 10/16/2015 18:38

Sample Number: **8083004** Class: **** Batch: 152881848003

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00022	-10.64	537.040	0.00091	-0.00013	-0.00143
____ AL	-0.00590	1.68	242.196	0.00618	-0.02169	-0.00219
____ AS	-0.00458	0.25	114.396	-0.00419	-0.01000	0.00046
____ B	14.22764	44,963.47	0.154	14.24831	14.23002	14.20458
____ BA	0.01206	3,586.53	0.406	0.01211	0.01204	0.01201
____ BE	-0.00073	-156.55	5.321	-0.00074	-0.00077	-0.00069
____ CA	363.96031	183,862.94	0.324	365.11449	362.75468	364.01176
____ CD	-0.00601	-19.19	4.785	-0.00573	-0.00600	-0.00631
____ CO	0.00289	0.53	14.558	0.00240	0.00317	0.00308
____ CR	0.00291	8.35	28.139	0.00277	0.00378	0.00217
____ CU	-0.00288	26.40	36.906	-0.00410	-0.00219	-0.00234
____ FE	0.36739	71.66	4.289	0.38551	0.35982	0.35684
____ K	63.59374	18,591.57	0.813	63.05292	63.64533	64.08296
____ LI	0.65956	3,806.37	0.091	0.66013	0.65894	0.65961
____ MG	898.48197	790,117.59	1.527	909.86770	902.32457	883.25365
____ MN	4.71122	33,250.37	0.276	4.71303	4.69740	4.72323
____ MO	-0.01397	-2.78	48.604	-0.01608	-0.01946	-0.00638
____ NA	3067.27681	2,966,893.71	1.835	3105.15408	3094.07791	3002.59842
____ NI	0.00844	12.01	10.174	0.00936	0.00766	0.00829
____ P	-0.03398	0.39	44.603	-0.04629	-0.03859	-0.01705
____ PB	0.00731	4.34	70.317	0.00304	0.00589	0.01302
____ S	3053.11731	99,506.69	0.140	3048.35055	3054.34768	3056.65369
____ SB	-0.00534	-0.25	114.412	-0.00428	-0.01192	0.00017
____ SI	9.08327	1,238.67	0.700	9.15658	9.04372	9.04952
____ SN	0.00281	2.88	180.497	0.00068	0.00859	-0.00085
____ SR	9.14735	3,069,922.52	0.759	9.13104	9.22350	9.08751
____ TI	0.00074	28.90	20.668	0.00064	0.00066	0.00091
____ TL	-0.06360	-0.36	59.606	-0.02042	-0.09140	-0.07898
____ V	-0.00188	-9.74	48.302	-0.00288	-0.00110	-0.00168
____ Y1	5114.53702	5,114.54	0.085	5118.78870	5114.67853	5110.14384
____ Y2A	127512.64572	127,512.65	0.264	127683.76974	127125.04488	127729.12253
____ Y2R	13266.83057	13,266.83	0.277	13244.79354	13309.20606	13246.49210
____ ZN	0.00755	23.35	2.466	0.00740	0.00775	0.00749
____ ZR	0.06152	79.96	2.008	0.06079	0.06294	0.06082

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 43

Date/Time: 10/16/2015 18:41

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00465	18.07	8.686	0.00479	0.00496	0.00419
____ AL	0.19630	22.05	9.858	0.17573	0.19902	0.21415
____ AS	0.02031	3.82	12.127	0.01810	0.01987	0.02297
____ B	0.07198	325.42	2.006	0.07360	0.07152	0.07083
____ BA	0.00483	2,170.75	2.478	0.00496	0.00476	0.00475
____ BE	0.00498	807.48	0.555	0.00496	0.00501	0.00498
____ CA	0.29015	288.66	1.636	0.28985	0.29504	0.28556
____ CD	0.00509	23.80	0.775	0.00513	0.00506	0.00507
____ CO	0.00636	9.53	4.397	0.00603	0.00655	0.00648
____ CR	0.01621	76.09	2.181	0.01598	0.01662	0.01604
____ CU	0.01008	65.84	11.881	0.01141	0.00909	0.00974
____ FE	0.19948	45.66	7.820	0.21406	0.20135	0.18303
____ K	2.64024	1,013.25	4.627	2.77931	2.59109	2.55031
____ LI	0.02778	204.12	8.877	0.02861	0.02973	0.02501
____ MG	0.47284	694.43	7.304	0.50876	0.46990	0.43987
____ MN	0.00693	71.30	3.477	0.00714	0.00697	0.00667
____ MO	0.01118	2.11	16.534	0.00930	0.01300	0.01125
____ NA	9.60351	10,839.83	6.598	10.23497	9.60792	8.96765
____ NI	0.00988	18.53	3.418	0.01012	0.00949	0.01002
____ P	0.10906	5.56	7.781	0.10665	0.11849	0.10204
____ PB	0.01232	7.73	15.019	0.01191	0.01070	0.01434
____ S	2.91168	134.49	6.895	3.10751	2.92123	2.70630
____ SB	0.02250	6.95	12.141	0.02499	0.01958	0.02293
____ SI	0.06427	11.90	8.890	0.07062	0.05954	0.06265
____ SN	0.02102	8.80	8.543	0.02034	0.02306	0.01967
____ SR	0.00712	3,361.90	2.684	0.00734	0.00707	0.00696
____ TI	0.01026	257.05	1.727	0.01031	0.01006	0.01040
____ TL	0.04789	0.38	134.158	0.11215	0.04786	-0.01634
____ V	0.00383	-1.39	68.352	0.00460	0.00092	0.00598
____ Y1	6921.91500	6,921.92	0.117	6914.95000	6919.95000	6930.84500
____ Y2A	180521.99028	180,521.99	0.236	180869.27000	180650.23943	180046.46142
____ Y2R	15503.94181	15,503.94	0.651	15620.21765	15438.66308	15452.94470
____ ZN	0.02066	77.87	2.477	0.02011	0.02074	0.02113
____ ZR	0.04815	71.38	1.805	0.04847	0.04882	0.04717

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 44

Date/Time: 10/16/2015 18:44

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00057	-562.55	98.493	0.00117	0.00049	0.00005
____ AL	484.92314	46,096.08	0.520	487.70647	482.79076	484.27220
____ AS	-0.00787	1.56	32.061	-0.00526	-0.01030	-0.00804
____ B	-0.00366	1,246.82	56.164	-0.00317	-0.00592	-0.00189
____ BA	0.00014	266.44	27.208	0.00010	0.00016	0.00016
____ BE	-0.00094	-240.25	2.810	-0.00091	-0.00095	-0.00097
____ CA	490.29519	270,667.03	0.331	492.14831	489.11748	489.61977
____ CD	-0.00041	55.85	125.714	-0.00095	-0.00035	0.00007
____ CO	0.00274	0.33	11.643	0.00289	0.00296	0.00238
____ CR	0.00187	6.34	32.572	0.00167	0.00256	0.00139
____ CU	-0.00445	42.66	17.424	-0.00499	-0.00478	-0.00356
____ FE	188.88874	37,175.87	0.525	189.93719	187.96365	188.76536
____ K	1.37170	552.95	2.416	1.38093	1.33493	1.39924
____ LI	0.01541	131.37	9.077	0.01529	0.01686	0.01407
____ MG	461.95925	542,903.77	0.857	465.32001	462.96025	457.59748
____ MN	0.00341	33.48	19.294	0.00317	0.00415	0.00291
____ MO	-0.04480	-9.77	13.483	-0.04921	-0.04727	-0.03791
____ NA	5.08216	5,440.34	2.937	5.25112	5.02711	4.96825
____ NI	0.00773	3.48	4.865	0.00805	0.00732	0.00783
____ P	-0.02372	0.82	6.718	-0.02544	-0.02341	-0.02230
____ PB	-0.00353	35.98	48.425	-0.00374	-0.00513	-0.00173
____ S	1.60045	72.19	2.519	1.60315	1.63936	1.55885
____ SB	0.00032	6.22	2282.690	-0.00793	0.00361	0.00527
____ SI	0.01437	3.67	16.441	0.01425	0.01679	0.01207
____ SN	0.02002	7.91	18.341	0.01767	0.01814	0.02426
____ SR	0.00118	2,612.98	2.007	0.00116	0.00120	0.00118
____ TI	-0.00091	-1.97	17.751	-0.00090	-0.00108	-0.00076
____ TL	0.10619	-1.00	52.489	0.07652	0.17049	0.07157
____ V	-0.00416	-21.34	73.382	-0.00310	-0.00760	-0.00178
____ Y1	6415.31167	6,415.31	0.387	6438.99500	6389.53000	6417.41000
____ Y2A	167294.34295	167,294.34	0.435	166551.06786	168003.83846	167328.12251
____ Y2R	14730.46091	14,730.46	0.434	14657.76051	14778.04343	14755.57880
____ ZN	0.00885	85.67	5.509	0.00860	0.00942	0.00855
____ ZR	0.00036	-30.68	577.638	0.00273	-0.00086	-0.00080

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 45

Date/Time: 10/16/2015 18:47

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21001	750.49	0.586	0.21135	0.20893	0.20976
____ AL	487.50098	46,478.18	0.186	488.54803	486.97428	486.98063
____ AS	0.09122	14.37	10.345	0.10198	0.08736	0.08433
____ B	-0.00417	1,248.90	55.372	-0.00659	-0.00199	-0.00394
____ BA	0.51042	190,021.88	0.234	0.51076	0.51141	0.50909
____ BE	0.47566	79,130.40	0.482	0.47318	0.47609	0.47770
____ CA	493.40211	273,070.82	0.301	495.07470	492.90041	492.23122
____ CD	0.94508	3,976.70	0.106	0.94617	0.94420	0.94485
____ CO	0.48099	1,116.13	0.238	0.48091	0.47989	0.48217
____ CR	0.47332	2,111.90	0.507	0.47073	0.47376	0.47547
____ CU	0.53056	3,150.60	0.483	0.52763	0.53237	0.53169
____ FE	190.04592	37,490.95	0.555	191.14737	189.04318	189.94720
____ K	0.99861	433.76	3.589	0.97745	1.04000	0.97839
____ LI	0.01437	125.28	22.561	0.01079	0.01711	0.01522
____ MG	463.51052	545,975.99	1.305	469.85474	462.86667	457.81014
____ MN	0.45377	4,194.94	0.435	0.45266	0.45261	0.45605
____ MO	-0.04262	-9.32	23.679	-0.03880	-0.05406	-0.03499
____ NA	3.79891	4,074.39	0.844	3.83572	3.77704	3.78397
____ NI	0.95176	1,359.07	0.321	0.95514	0.95098	0.94918
____ P	-0.03031	0.70	36.563	-0.01838	-0.03227	-0.04029
____ PB	0.04880	56.91	11.674	0.05066	0.04241	0.05334
____ S	1.16361	54.24	6.452	1.24733	1.14127	1.10224
____ SB	0.57957	120.68	0.844	0.58516	0.57604	0.57752
____ SI	0.01570	3.87	35.049	0.02167	0.01458	0.01084
____ SN	0.02148	8.22	9.177	0.02278	0.02244	0.01921
____ SR	0.00097	2,528.57	2.660	0.00100	0.00096	0.00095
____ TI	-0.00063	14.86	58.584	-0.00021	-0.00075	-0.00092
____ TL	0.28659	0.29	15.598	0.26677	0.33777	0.25522
____ V	0.50534	1,436.47	0.156	0.50454	0.50612	0.50535
____ Y1	6392.33333	6,392.33	0.123	6386.51000	6389.18500	6401.30500
____ Y2A	166956.69900	166,956.70	0.310	167382.18700	167108.36000	166379.55000
____ Y2R	14773.38774	14,773.39	0.270	14736.61677	14767.77800	14815.76846
____ ZN	0.97581	3,254.61	0.095	0.97685	0.97507	0.97551
____ ZR	0.00064	-30.46	101.128	0.00025	0.00139	0.00029

LANCASTER LABORATORIES

Run Name: 1528909T73

Instrument ID: 18255

Tube: 46

Date/Time: 10/16/2015 18:49

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50881	3,351.85	0.800	0.50672	0.51350	0.50621
____ AL	24.95609	2,455.35	0.115	24.96446	24.97963	24.92418
____ AS	0.51997	73.06	2.541	0.50823	0.53427	0.51740
____ B	0.50116	2,392.36	0.096	0.50084	0.50091	0.50171
____ BA	0.50828	202,862.82	0.296	0.50691	0.50989	0.50804
____ BE	0.49364	88,044.22	0.539	0.49468	0.49563	0.49062
____ CA	24.96075	15,307.73	0.064	24.94287	24.97379	24.96559
____ CD	0.50567	2,265.39	0.344	0.50606	0.50377	0.50719
____ CO	0.50381	1,260.39	0.242	0.50259	0.50381	0.50502
____ CR	0.49634	2,374.32	0.638	0.49668	0.49931	0.49301
____ CU	0.51219	3,182.36	0.413	0.51427	0.51225	0.51004
____ FE	23.85205	5,301.76	0.120	23.83347	23.88504	23.83764
____ K	26.06499	8,885.05	0.308	26.06072	26.14729	25.98694
____ LI	0.52667	3,511.39	0.542	0.52396	0.52965	0.52639
____ MG	24.24584	34,736.69	0.141	24.23703	24.28363	24.21688
____ MN	0.51813	5,134.90	0.073	0.51791	0.51792	0.51857
____ MO	0.49286	101.93	0.873	0.49762	0.48925	0.49172
____ NA	24.26478	27,139.73	0.538	24.16140	24.41133	24.22162
____ NI	0.50384	780.49	0.238	0.50520	0.50291	0.50342
____ P	0.53772	20.58	6.446	0.52019	0.51533	0.57764
____ PB	0.50556	220.53	1.240	0.49931	0.51184	0.50553
____ S	26.28085	1,157.97	1.927	26.11160	25.88076	26.85018
____ SB	0.50175	106.63	0.717	0.49791	0.50229	0.50504
____ SI	24.12578	3,805.23	0.118	24.12938	24.09569	24.15228
____ SN	0.50203	137.52	0.501	0.50148	0.49984	0.50478
____ SR	0.51128	240,862.26	0.430	0.51101	0.51360	0.50923
____ TI	0.50803	11,729.27	0.517	0.50895	0.51007	0.50507
____ TL	0.62327	4.53	10.657	0.69352	0.56148	0.61482
____ V	0.51327	1,536.07	0.884	0.51756	0.50853	0.51371
____ Y1	6877.33167	6,877.33	0.219	6887.61000	6860.00000	6884.38500
____ Y2A	178989.15268	178,989.15	0.222	179010.54049	178582.35177	179374.56578
____ Y2R	15351.47108	15,351.47	0.683	15458.05839	15248.42032	15347.93454
____ ZN	0.51115	1,814.84	0.233	0.51009	0.51092	0.51244
____ ZR	0.50671	818.31	0.083	0.50655	0.50719	0.50639

LANCASTER LABORATORIES

Run Name: 1528909T73 Instrument ID: 18255

Tube: 47 Date/Time: 10/16/2015 18:52

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00051	-17.81	130.935	-0.00014	-0.00011	-0.00127
____ AL	0.04582	7.06	68.792	0.06551	0.00947	0.06249
____ AS	0.00263	1.34	144.134	-0.00099	0.00659	0.00231
____ B	0.00725	34.36	8.046	0.00675	0.00710	0.00789
____ BA	-0.00024	132.45	13.986	-0.00026	-0.00020	-0.00026
____ BE	-0.00004	-96.84	46.367	-0.00002	-0.00005	-0.00006
____ CA	0.03451	129.71	10.956	0.03327	0.03150	0.03875
____ CD	0.00009	1.31	251.202	0.00015	0.00030	-0.00017
____ CO	0.00138	-3.08	42.264	0.00126	0.00200	0.00086
____ CR	0.00041	-0.25	158.372	0.00113	0.00015	-0.00007
____ CU	0.00043	5.43	199.129	0.00143	-0.00004	-0.00009
____ FE	0.02182	5.27	15.604	0.02485	0.01814	0.02248
____ K	0.39437	247.44	1.206	0.38889	0.39738	0.39685
____ LI	0.00400	44.34	40.076	0.00573	0.00370	0.00257
____ MG	0.08788	131.63	3.160	0.09025	0.08856	0.08482
____ MN	0.00051	7.07	41.417	0.00033	0.00074	0.00044
____ MO	0.00554	0.93	52.577	0.00791	0.00229	0.00644
____ NA	1.73834	1,927.64	1.341	1.76237	1.73684	1.71581
____ NI	-0.00131	1.13	93.161	-0.00268	-0.00090	-0.00035
____ P	-0.00040	1.70	2867.229	-0.01343	0.00832	0.00391
____ PB	-0.00189	1.59	211.705	-0.00542	0.00245	-0.00270
____ S	0.62515	33.41	1.316	0.63403	0.62363	0.61779
____ SB	0.00762	3.83	35.070	0.00455	0.00939	0.00893
____ SI	0.01318	3.71	122.670	0.02445	0.02045	-0.00535
____ SN	0.00261	3.81	69.274	0.00190	0.00466	0.00126
____ SR	0.00043	180.15	7.980	0.00042	0.00047	0.00040
____ TI	-0.00012	16.13	125.935	-0.00021	0.00005	-0.00020
____ TL	-0.01356	-0.09	155.865	0.00711	-0.03513	-0.01266
____ V	-0.00018	-13.43	785.135	0.00078	-0.00176	0.00045
____ Y1	6873.30500	6,873.31	0.147	6865.97000	6869.13500	6884.81000
____ Y2A	179481.20999	179,481.21	0.230	179039.78613	179547.53395	179856.30990
____ Y2R	15352.26393	15,352.26	0.155	15334.22631	15343.36062	15379.20486
____ ZN	0.00002	4.73	1150.464	-0.00011	-0.00013	0.00031
____ ZR	0.00009	-7.97	1227.581	-0.00113	0.00078	0.00061

ICP-MS Data

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 15J20F00.E03

Run Name: 1529305E03

Analyst: 1242

Reviewed By: Choon Y Tian

Reviewed Date: 10/20/2015 11:22

Verified By: Deborah A Krady

Verified Date: 10/20/2015 11:33

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-2		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
IN-1		115
	SE	78
IN-2		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
BI-2		209
	TL	203
	PB	208

Run Name: 1529305E03 Date/Time: 10/20/2015 9:01:00
Tube Number: 1
Sample Number: **S0**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
NA	23	-0.00001	123163.00000	-156334000	-0.43370	-17.18315	17.61146
MG	24	0.00000	246.67900	-790273000	-0.62744	0.55137	0.07607
AL	27	0.00000	53.33530	-1360320000	-0.38268	-0.41268	0.79537
K	39	0.00000	13657.50000	-213223000	2.07915	-8.71756	6.63583
CA	44	0.00000	243.34800	578110000	-16.90065	19.83682	-2.93635
SC-1	45	311926.00000	0.00000	0.831	313553.00000	313288.00000	308938.00000
SC-2	45	39607.50000	0.00000	1.928	39400.50000	40453.30000	38968.80000
TI	47	0.00000	10.00060	-2833280000	0.95566	-0.47783	-0.47783
V	51	0.00000	16.66730	1980090000	-0.00894	0.00396	0.00497
CR	52	0.00000	343.35300	-13309800000	-0.08442	0.05026	0.03416
MN	55	0.00000	1073.43000	-406029000	0.28948	-0.29509	0.00561
FE	57	0.00000	90.00420	-1478780000	-1.00113	-0.59976	1.60092
CO	59	0.00000	163.34100	-2238200000	-0.02463	-0.00993	0.03456
NI	60	0.00000	80.00350	-7574430000	-0.06268	0.06146	0.00122
CU	63	0.00000	383.35600	2911600000	0.04309	0.00611	-0.04919
ZN	66	0.00000	83.33730	994003000	-0.14589	0.03261	0.11328
GE-1	72	358904.00000	0.00000	2.169	362669.00000	364090.00000	349953.00000
GE-2	72	99722.40000	0.00000	1.332	101247.00000	98818.90000	99101.10000
AS	75	0.00000	38.66700	-1385120000	0.19349	-0.10185	-0.09165
SE	78	0.00000	2.22223	-843487000	0.01733	-0.01438	-0.00295
SR	88	0.00000	23.33450	5214470000	-0.00547	0.01164	-0.00617
MO	98	0.00000	50.00190	-757080000	-0.01916	0.01879	0.00037
AG	107	0.00000	3.33346	-48362100000	0.00310	-0.00155	-0.00155
CD	111	0.00000	18.00020	725766000	-0.02190	0.02914	-0.00725
IN-1	115	270971.00000	0.00000	1.591	272593.00000	274237.00000	266084.00000
IN-2	115	50905.90000	0.00000	2.100	49891.40000	52022.70000	50803.70000
SN	120	0.00000	6451.50000	3436770000	-2.37229	2.34524	0.02707
SB	121	0.00000	16.66730	-565824000	0.00624	0.00484	-0.01108
BA	137	0.00000	23.33450	497448000	-0.01216	0.02587	-0.01372
TB-2	159	213177.00000	0.00000	2.221	214518.00000	217096.00000	207917.00000
TL	203	0.00000	20.00080	22967100000	-0.00802	-0.00403	0.01204
PB	208	0.00000	163.34100	1870300000	-0.00315	-0.00034	0.00349
BI-2	209	182609.00000	0.00000	1.430	185555.00000	181696.00000	180578.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:03:00
Tube Number: 2
Sample Number: **S1**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	38952.70000	0.00000	2.665	39400.40000	37766.20000	39691.40000
AL	27	10000.00000	343086.00000	1.750	9868.01830	10198.60036	9933.39996
CA	44	10000.00000	30356.20000	1.151	9962.50913	10129.21022	9908.27160
CR	52	1000.00000	951494.00000	2.054	976.94361	1016.34783	1006.71374
FE	57	10000.00000	195051.00000	2.245	9877.63153	10259.13482	9863.19565
K	39	10000.00000	562899.00000	2.562	9847.95533	10295.83256	9856.24630
MG	24	10000.00000	1022570.00000	2.109	9851.31559	10241.39206	9907.27711
MN	55	1000.00000	482459.00000	2.701	977.83111	1030.08742	992.07652
NA	23	10000.00000	2071090.00000	1.398	9893.14069	10158.26432	9948.59133
TI	47	1000.00000	20693.80000	2.363	978.37868	1025.23152	996.39210
V	51	1000.00000	725981.00000	3.085	979.93916	1035.51966	984.53623
IN-1	115	266292.00000	0.00000	1.748	270400.00000	267240.00000	261235.00000
IN-2	115	49307.60000	0.00000	0.895	48799.50000	49596.40000	49526.90000
AG	107	100.00000	212333.00000	2.241	102.17374	97.69819	100.12785
AS	75	1000.00000	71346.60000	1.501	1009.01634	982.67545	1008.31323
BA	137	1000.00000	227937.00000	1.842	1013.25758	978.96569	1007.77406
CD	111	100.00000	25060.30000	1.788	102.03620	98.68556	99.27809
CO	59	1000.00000	1604170.00000	1.670	986.28513	995.10605	1018.60004
CU	63	1000.00000	1240010.00000	0.941	1006.46732	1004.31731	989.20744
MO	98	100.00000	96742.10000	1.334	101.27351	100.11295	98.61303
NI	60	1000.00000	441872.00000	0.409	1004.58180	996.71637	998.70117
SB	121	100.00000	58122.60000	1.443	100.88544	98.33448	100.77995
SE	78	100.00000	6187.27000	1.431	98.37382	100.55809	101.06801
SN	120	100.00000	94980.60000	15.630	114.88242	83.70885	101.40972
SR	88	100.00000	50675.20000	0.346	99.63379	100.04383	100.32266
ZN	66	1000.00000	145778.00000	2.162	996.56765	980.30739	1023.12710
BI-2	209	177261.00000	0.00000	0.214	176860.00000	177306.00000	177616.00000
PB	208	100.00000	795248.00000	0.707	100.81386	99.64949	99.53641
TL	203	100.00000	244685.00000	1.239	101.36620	99.68474	98.94907
SC-1	45	314621.00000	0.00000	1.213	318022.00000	310492.00000	315349.00000
GE-1	72	356306.00000	0.00000	0.810	359328.00000	356010.00000	353579.00000
GE-2	72	97592.90000	0.00000	1.312	98153.10000	96128.00000	98497.40000
TB-2	159	208904.00000	0.00000	0.423	208734.00000	209861.00000	208117.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:05:00
Tube Number: 3
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39162.90000	0.00000	2.952	40493.20000	38407.50000	38588.10000
AL	27	0.84880	83.34240	198.280	2.67060	-0.64847	0.52417
CA	44	-5.45300	223.34500	-65.872	-9.00430	-1.82091	-5.53437
CR	52	0.12100	453.35900	90.496	0.02963	0.24240	0.09105
FE	57	-2.03300	50.00240	-85.735	-0.11035	-3.50946	-2.47917
K	39	-5.84400	13170.40000	-258.898	-23.31159	2.73160	3.04567
MG	24	0.00839	243.34800	8316.240	-0.48625	0.80606	-0.29465
MN	55	-2.02200	83.33650	-3.398	-2.05478	-2.06824	-1.94307
NA	23	4.33900	122605.00000	410.463	-15.83510	17.87931	10.97004
TI	47	-0.15940	6.66692	-173.149	-0.01291	0.01234	-0.47783
V	51	0.08178	76.67030	55.637	0.12314	0.08916	0.03304
IN-1	115	262032.00000	0.00000	0.890	264706.00000	260962.00000	260426.00000
IN-2	115	51197.90000	0.00000	1.758	52236.90000	50676.50000	50680.20000
AG	107	0.01817	43.33500	81.563	0.01178	0.03511	0.00761
AS	75	0.25600	58.00050	26.918	0.26703	0.31877	0.18228
BA	137	0.05764	36.66810	260.062	-0.09888	0.19994	0.07186
CD	111	0.02580	24.66690	150.775	0.00613	0.07061	0.00067
CO	59	0.06205	266.68100	86.785	0.01325	0.11983	0.05308
CU	63	0.00871	396.68900	939.157	-0.01799	-0.05641	0.10054
MO	98	0.27210	323.35100	27.913	0.28208	0.19168	0.34259
NI	60	0.08800	120.00700	103.114	-0.00360	0.17786	0.08974
SB	121	0.67540	423.36100	19.381	0.52454	0.74249	0.75919
SE	78	0.10330	8.44448	42.285	0.12732	0.12965	0.05285
SN	120	7.05000	12908.80000	111.348	1.50140	3.61593	16.03152
SR	88	0.01877	33.33490	52.035	0.03005	0.01313	0.01313
ZN	66	-0.20000	53.33560	-20.860	-0.22895	-0.21897	-0.15222
BI-2	209	182874.00000	0.00000	1.667	184574.00000	179353.00000	184693.00000
PB	208	0.00236	183.34200	93.297	0.00419	-0.00008	0.00296
TL	203	0.01703	63.33650	52.314	0.02731	0.01218	0.01160
SC-1	45	308550.00000	0.00000	0.883	310484.00000	309733.00000	305432.00000
GE-1	72	349230.00000	0.00000	1.110	344800.00000	350893.00000	351997.00000
GE-2	72	98153.30000	0.00000	3.085	101539.00000	97216.00000	95705.30000
TB-2	159	212985.00000	0.00000	0.901	212467.00000	211378.00000	215109.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:08:00
Tube Number: 4
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	38811.80000	0.00000	1.208	38317.10000	39249.80000	38868.60000
AL	27	-0.65850	30.00110	-43.523	-0.64637	-0.37826	-0.95106
CA	44	-21.45000	173.34200	-35.282	-15.13811	-29.84098	-19.37511
CR	52	-0.03164	306.68200	-221.997	-0.09815	0.04180	-0.03858
FE	57	-1.97600	50.00190	-1.577	-1.94328	-2.00522	-1.98026
K	39	1.68900	13480.70000	85.850	3.31476	1.22211	0.53040
MG	24	-0.73460	166.67400	-59.202	-0.97586	-0.23257	-0.99562
MN	55	-2.00000	93.33760	-2.063	-2.04683	-1.96792	-1.98650
NA	23	5.84800	121854.00000	142.681	15.27993	-0.56371	2.82608
TI	47	-0.31790	3.33346	-87.103	-0.47783	0.00182	-0.47783
V	51	-0.00402	13.33380	-399.254	0.00544	-0.02255	0.00505
IN-1	115	267604.00000	0.00000	3.245	276316.00000	267548.00000	258947.00000
IN-2	115	50551.90000	0.00000	2.212	50521.70000	51684.60000	49449.40000
AG	107	-0.00002	3.33346	-13715.800	0.00304	-0.00155	-0.00155
AS	75	-0.06115	34.00030	-130.188	-0.00710	-0.15258	-0.02379
BA	137	-0.05576	10.00040	-78.479	-0.09888	-0.05702	-0.01138
CD	111	0.00041	18.00020	7144.230	0.00089	0.02979	-0.02944
CO	59	0.05351	250.01100	59.428	0.01705	0.06798	0.07551
CU	63	-0.07854	280.01400	-93.430	-0.12653	-0.11503	0.00593
MO	98	0.02754	76.66970	105.955	0.06120	0.00938	0.01205
NI	60	0.06907	110.00500	89.605	0.11265	-0.00178	0.09632
SB	121	0.12840	93.33780	43.886	0.07300	0.18566	0.12666
SE	78	-0.00681	1.77778	-327.363	-0.01454	0.01832	-0.02423
SN	120	6.47700	12259.20000	171.684	19.26979	-0.88382	1.04527
SR	88	-0.02537	10.00040	-74.261	-0.04450	-0.00683	-0.02481
ZN	66	-0.10790	66.67000	-121.038	-0.21796	0.03644	-0.14225
BI-2	209	184889.00000	0.00000	2.421	189914.00000	183429.00000	181325.00000
PB	208	-0.00269	143.34000	-276.955	-0.00471	0.00555	-0.00891
TL	203	0.00511	33.33470	120.231	-0.00039	0.01173	0.00397
SC-1	45	310101.00000	0.00000	2.387	317877.00000	309283.00000	303144.00000
GE-1	72	355260.00000	0.00000	1.742	359023.00000	358641.00000	348115.00000
GE-2	72	98883.40000	0.00000	1.122	99967.70000	98930.20000	97752.10000
TB-2	159	211929.00000	0.00000	1.314	214389.00000	212491.00000	208907.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:10:00
Tube Number: 5
Sample Number: **ICV**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39477.10000	0.00000	1.382	39099.10000	40102.30000	39229.70000
AL	27	5165.00000	179631.00000	1.994	5205.82001	5047.61306	5241.09215
CA	44	5227.00000	16197.20000	4.898	5493.87781	5202.71543	4983.52879
CR	52	521.30000	502873.00000	1.878	532.54038	514.86717	516.40176
FE	57	5154.00000	101964.00000	1.148	5183.50755	5086.34320	5193.42166
K	39	5086.00000	296973.00000	1.245	5156.58611	5068.98838	5033.56904
MG	24	5110.00000	529868.00000	0.862	5160.73868	5080.04564	5089.83951
MN	55	522.00000	255819.00000	2.329	535.36532	511.56333	519.10475
NA	23	5208.00000	1151960.00000	3.161	5282.69937	5019.41440	5322.30392
TI	47	512.80000	10761.50000	6.835	548.66790	510.97503	478.64350
V	51	523.40000	385270.00000	1.501	527.46614	514.36274	528.42770
IN-1	115	270456.00000	0.00000	2.632	272404.00000	276397.00000	262567.00000
IN-2	115	49344.70000	0.00000	2.728	50854.60000	48907.80000	48271.80000
AG	107	52.72000	111997.00000	2.020	51.60448	52.82548	53.72545
AS	75	535.70000	38252.60000	2.165	522.34578	543.52375	541.15657
BA	137	525.10000	119794.00000	0.368	523.16308	525.13593	527.02348
CD	111	51.77000	12989.40000	1.780	50.89549	51.68315	52.73247
CO	59	535.60000	859570.00000	2.005	523.21432	542.29952	541.30619
CU	63	529.30000	656823.00000	2.265	515.53675	537.17836	535.32055
MO	98	51.29000	49675.00000	1.036	50.69686	51.72297	51.45061
NI	60	532.50000	235394.00000	2.913	515.55911	546.04425	535.78064
SB	121	52.93000	30805.70000	2.133	54.12200	51.87657	52.78894
SE	78	52.25000	3285.09000	1.801	53.30121	51.48158	51.97571
SN	120	78.31000	75599.10000	46.788	52.20709	120.19290	62.53864
SR	88	52.75000	26752.30000	2.984	51.92532	51.76097	54.56523
ZN	66	529.80000	77308.40000	1.887	518.29175	535.74704	535.46913
BI-2	209	179962.00000	0.00000	1.404	181774.00000	181035.00000	177077.00000
PB	208	51.84000	418679.00000	0.780	52.30606	51.55048	51.67922
TL	203	51.01000	126733.00000	0.624	50.83595	50.82659	51.38268
SC-1	45	314851.00000	0.00000	2.354	316077.00000	321573.00000	306902.00000
GE-1	72	359638.00000	0.00000	2.252	365311.00000	363238.00000	350364.00000
GE-2	72	98977.60000	0.00000	1.018	99797.00000	99283.30000	97852.50000
TB-2	159	211588.00000	0.00000	1.607	214069.00000	212983.00000	207713.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:12:00
Tube Number: 6
Sample Number: **ICB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39019.30000	0.00000	2.260	38758.40000	40002.10000	38297.30000
AL	27	0.50210	70.00290	9.088	0.51514	0.45137	0.53980
CA	44	-17.66000	186.67600	-112.061	-32.55103	4.79013	-25.23503
CR	52	-0.01185	326.68300	-209.958	0.01514	-0.01683	-0.03387
FE	57	-2.00600	50.00190	-65.553	-1.45765	-1.05449	-3.50647
K	39	-5.53200	13153.70000	-114.895	-11.40274	-6.41299	1.21881
MG	24	-0.31770	210.01100	-133.774	-0.79516	-0.17745	0.01944
MN	55	-1.93100	126.67300	-1.483	-1.94417	-1.95196	-1.89892
NA	23	-0.41800	121239.00000	-4521.530	8.34669	-22.11241	12.51134
TI	47	-0.31390	3.33346	-90.411	-0.47783	-0.47783	0.01375
V	51	0.08274	76.67010	37.938	0.04663	0.09811	0.10348
IN-1	115	265586.00000	0.00000	2.754	273682.00000	263618.00000	259457.00000
IN-2	115	51193.70000	0.00000	1.193	51882.40000	50982.00000	50716.80000
AG	107	0.01658	40.00160	47.123	0.02083	0.00756	0.02134
AS	75	0.05618	43.33470	459.416	0.35245	-0.12029	-0.06363
BA	137	0.00026	23.33450	38688.800	-0.05718	-0.05645	0.11440
CD	111	0.00001	18.00020	286471.000	-0.00095	-0.01519	0.01615
CO	59	0.05968	263.34600	87.031	0.05549	0.00997	0.11359
CU	63	-0.05088	320.01800	-59.847	-0.08507	-0.02666	-0.04092
MO	98	0.16270	213.34500	10.135	0.15658	0.15022	0.18143
NI	60	0.15240	150.00800	62.179	0.19118	0.04439	0.22159
SB	121	0.34780	226.67900	6.593	0.36476	0.32175	0.35705
SE	78	0.04407	4.88890	58.067	0.02761	0.07356	0.03106
SN	120	2.16900	8449.69000	88.520	0.46353	4.24836	1.79584
SR	88	-0.01300	16.66730	-221.077	0.01179	-0.00631	-0.04450
ZN	66	-0.13450	63.33680	-54.602	-0.09627	-0.08820	-0.21924
BI-2	209	185895.00000	0.00000	2.068	189070.00000	186993.00000	181622.00000
PB	208	-0.00517	123.33900	-58.959	-0.00818	-0.00209	-0.00524
TL	203	-0.00026	20.00080	-1484.450	-0.00035	0.00361	-0.00403
SC-1	45	306247.00000	0.00000	3.549	318562.00000	302206.00000	297974.00000
GE-1	72	353644.00000	0.00000	3.062	366129.00000	346859.00000	347943.00000
GE-2	72	100038.00000	0.00000	0.534	100189.00000	100480.00000	99443.80000
TB-2	159	214804.00000	0.00000	0.211	215271.00000	214366.00000	214775.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:15:00
Tube Number: 7
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39915.40000	0.00000	2.360	40503.60000	40413.50000	38829.00000
AL	27	103.10000	3677.34000	3.254	99.66139	103.25804	106.36550
CA	44	197.40000	853.39900	13.794	166.58264	218.33110	207.16170
CR	52	1.99300	2286.96000	9.313	1.77859	2.09749	2.10265
FE	57	94.85000	1983.57000	10.553	85.69525	93.31118	105.53470
K	39	188.20000	24376.70000	4.543	198.09791	183.61612	182.98245
MG	24	98.67000	10588.00000	4.659	94.25087	103.42631	98.31871
MN	55	0.06511	1113.43000	356.167	-0.11772	-0.01298	0.32600
NA	23	186.80000	161421.00000	12.516	167.85311	179.57526	212.92365
TI	47	16.70000	363.35300	14.323	14.86103	15.82701	19.40121
V	51	0.62120	480.03000	18.142	0.58654	0.74714	0.52993
IN-1	115	267836.00000	0.00000	2.344	274565.00000	266811.00000	262133.00000
IN-2	115	51476.00000	0.00000	0.665	51861.20000	51207.30000	51359.50000
AG	107	0.52340	1163.44000	13.433	0.47755	0.48820	0.60432
AS	75	2.06100	192.67000	1.496	2.05934	2.09237	2.03076
BA	137	1.87500	470.02400	13.435	2.07029	1.59100	1.96511
CD	111	0.45090	136.00200	15.647	0.46221	0.51514	0.37541
CO	59	0.55620	1096.76000	11.057	0.61875	0.49581	0.55392
CU	63	2.02600	3010.48000	4.615	2.11657	1.92984	2.03165
MO	98	0.50150	556.70000	8.407	0.54014	0.50784	0.45654
NI	60	2.36100	1170.10000	11.398	2.62331	2.37569	2.08557
SB	121	1.04400	650.04000	3.485	1.08487	1.01623	1.02965
SE	78	2.12600	134.44500	3.107	2.08652	2.20198	2.08862
SN	120	1.53800	7924.22000	79.324	2.94602	0.86096	0.80637
SR	88	0.96980	536.70000	15.178	1.13813	0.90608	0.86533
ZN	66	14.24000	2250.29000	4.687	13.74017	13.98851	15.00005
BI-2	209	187591.00000	0.00000	1.337	190487.00000	186157.00000	186129.00000
PB	208	0.98380	8444.86000	2.639	0.96918	1.01374	0.96838
TL	203	0.52270	1373.48000	6.334	0.49027	0.52133	0.55645
SC-1	45	309426.00000	0.00000	2.402	317154.00000	308796.00000	302328.00000
GE-1	72	353941.00000	0.00000	3.577	367473.00000	351972.00000	342377.00000
GE-2	72	100103.00000	0.00000	2.529	99537.30000	102871.00000	97902.30000
TB-2	159	215137.00000	0.00000	1.171	217992.00000	214195.00000	213223.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:17:00
Tube Number: 8
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	38969.30000	0.00000	3.657	39310.00000	40193.10000	37404.80000
AL	27	10290.00000	352786.00000	4.303	10291.11101	9840.57073	10726.01554
CA	44	10140.00000	30774.00000	3.164	10011.91774	9903.05973	10505.16611
CR	52	0.02318	360.01900	226.057	0.08287	0.00194	-0.01527
FE	57	10290.00000	200644.00000	3.903	10140.82016	9980.96761	10742.57314
K	39	10230.00000	575678.00000	3.293	10094.74247	9984.78035	10615.39778
MG	24	10120.00000	1034430.00000	2.973	10157.96755	9794.95415	10392.19611
MN	55	-1.16300	496.70200	-9.768	-1.28926	-1.06763	-1.13501
NA	23	10130.00000	2096090.00000	3.240	10130.96043	9799.96009	10456.34159
TI	47	208.20000	4317.55000	2.227	211.23992	202.83975	210.44343
V	51	0.03265	40.00150	43.553	0.04566	0.01748	0.03480
IN-1	115	266870.00000	0.00000	1.764	272285.00000	264562.00000	263763.00000
IN-2	115	50397.80000	0.00000	1.397	50888.00000	50714.40000	49590.90000
AG	107	0.00458	13.33380	57.146	0.00301	0.00761	0.00313
AS	75	-0.09838	31.33360	-153.588	0.07068	-0.14541	-0.22042
BA	137	-0.05590	10.00040	-76.315	-0.09888	-0.01357	-0.05526
CD	111	0.07389	36.66700	41.589	0.05455	0.10932	0.05779
CO	59	-0.02119	126.67300	-76.546	-0.02004	-0.03795	-0.00558
CU	63	0.01869	403.35400	65.864	0.00511	0.02183	0.02912
MO	98	198.70000	196410.00000	1.061	199.87501	196.24202	199.91483
NI	60	0.02459	90.00420	148.597	0.06672	0.00153	0.00552
SB	121	0.02278	30.00140	147.059	-0.01111	0.05588	0.02355
SE	78	0.01133	2.88890	58.385	0.00685	0.01893	0.00821
SN	120	0.68400	6968.49000	211.257	0.66986	-0.75415	2.13637
SR	88	0.03273	40.00180	116.743	0.07029	-0.00610	0.03403
ZN	66	-0.28240	40.00180	-86.756	-0.55290	-0.21923	-0.07517
BI-2	209	182993.00000	0.00000	2.783	188307.00000	182519.00000	178154.00000
PB	208	0.01165	260.01300	30.910	0.01436	0.01301	0.00756
TL	203	-0.00402	10.00040	-101.169	-0.00417	-0.00802	0.00012
SC-1	45	311946.00000	0.00000	1.377	316198.00000	312031.00000	307610.00000
GE-1	72	359528.00000	0.00000	1.742	366724.00000	356550.00000	355309.00000
GE-2	72	98033.20000	0.00000	1.494	98364.50000	99304.10000	96431.00000
TB-2	159	212888.00000	0.00000	2.258	216428.00000	214818.00000	207417.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:19:00
Tube Number: 9
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39133.40000	0.00000	0.874	39461.10000	39160.30000	38778.70000
AL	27	10050.00000	346545.00000	0.949	9953.78225	10057.18191	10144.36689
CA	44	9938.00000	30316.10000	0.868	10015.87726	9845.27091	9952.93646
CR	52	20.51000	19939.30000	2.467	20.77740	19.92407	20.82164
FE	57	10150.00000	198991.00000	0.901	10196.26106	10209.94826	10045.22992
K	39	10080.00000	569912.00000	1.599	10109.95787	9899.99025	10216.84560
MG	24	9841.00000	1011340.00000	0.422	9793.39943	9868.64315	9861.46879
MN	55	19.50000	10494.60000	3.492	19.41778	18.86030	20.21544
NA	23	9964.00000	2074090.00000	0.249	9982.18884	9935.67649	9974.05060
TI	47	207.50000	4324.22000	5.590	210.42971	217.34066	194.71296
V	51	0.01864	30.00110	75.483	0.00463	0.01853	0.03277
IN-1	115	267709.00000	0.00000	0.741	267243.00000	269883.00000	266000.00000
IN-2	115	49626.10000	0.00000	1.813	50625.40000	48881.00000	49372.10000
AG	107	20.55000	43911.10000	3.097	20.17371	21.28440	20.19039
AS	75	20.90000	1537.44000	5.215	20.07009	20.49394	22.13358
BA	137	-0.07003	6.66693	-35.685	-0.05615	-0.09888	-0.05506
CD	111	20.66000	5225.12000	1.416	20.48353	20.99942	20.50263
CO	59	20.74000	33647.90000	2.366	21.30619	20.44921	20.46350
CU	63	21.15000	26765.30000	2.948	21.45601	21.56346	20.43363
MO	98	200.20000	194875.00000	1.910	197.15113	204.50361	199.01017
NI	60	20.10000	9010.14000	3.701	19.29882	20.77057	20.22278
SB	121	0.03504	36.66840	31.022	0.02250	0.04166	0.04097
SE	78	-0.00671	1.77778	-185.301	0.00765	-0.01404	-0.01373
SN	120	2.41800	8394.73000	107.155	-0.56000	4.15634	3.65945
SR	88	0.07987	63.33580	16.414	0.07088	0.09491	0.07381
ZN	66	21.22000	3190.52000	4.012	20.24047	21.81361	21.59127
BI-2	209	180731.00000	0.00000	1.724	181992.00000	183018.00000	177183.00000
PB	208	0.01910	316.68100	6.005	0.01801	0.01901	0.02029
TL	203	0.00523	33.33550	304.913	-0.00404	0.02365	-0.00393
SC-1	45	315332.00000	0.00000	1.358	310841.00000	319365.00000	315790.00000
GE-1	72	356191.00000	0.00000	0.896	353480.00000	355386.00000	359708.00000
GE-2	72	97136.00000	0.00000	0.945	98033.00000	97176.30000	96198.60000
TB-2	159	214264.00000	0.00000	1.604	216863.00000	215561.00000	210368.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:22:00
Tube Number: 10
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	38868.80000	0.00000	2.072	39230.00000	37946.10000	39430.40000
AL	27	2506.00000	85845.70000	2.506	2504.82038	2570.07828	2444.53257
CA	44	2492.00000	7725.93000	4.342	2423.40461	2617.17314	2436.87801
CR	52	256.10000	243412.00000	1.061	254.63166	259.22681	254.41981
FE	57	2503.00000	48793.10000	1.037	2479.46323	2530.78299	2498.35327
K	39	2477.00000	149240.00000	1.742	2461.30248	2525.68026	2443.74099
MG	24	2515.00000	256821.00000	1.254	2487.70041	2549.37709	2506.94114
MN	55	256.30000	124201.00000	2.111	254.07307	262.49233	252.39730
NA	23	2508.00000	608926.00000	1.369	2485.98626	2547.60296	2490.53556
TI	47	267.40000	5534.76000	5.868	279.36446	249.62111	273.16830
V	51	253.40000	183670.00000	1.557	253.84548	257.16079	249.30197
IN-1	115	266981.00000	0.00000	0.627	268464.00000	265166.00000	267312.00000
IN-2	115	49399.70000	0.00000	3.101	51154.00000	48328.00000	48717.10000
AG	107	25.94000	55175.20000	2.346	25.54314	25.63264	26.63914
AS	75	256.00000	18318.40000	3.392	246.48902	263.45572	258.19226
BA	137	258.40000	58998.20000	3.967	247.50053	260.00053	267.83068
CD	111	26.29000	6611.77000	2.615	25.52310	26.51429	26.84372
CO	59	261.40000	420031.00000	2.923	253.06177	263.21035	268.03038
CU	63	262.00000	325601.00000	2.176	255.41186	264.85543	265.66460
MO	98	25.65000	24895.30000	1.837	25.23537	25.56135	26.16419
NI	60	261.50000	115759.00000	2.018	255.38995	264.97427	264.01115
SB	121	25.41000	14802.70000	2.953	24.57084	25.65757	26.01048
SE	78	25.67000	1593.88000	1.041	25.50440	25.97351	25.51784
SN	120	25.39000	28852.70000	5.589	26.97997	24.25624	24.92947
SR	88	25.43000	12920.40000	3.004	24.61293	25.55041	26.12668
ZN	66	260.60000	38117.10000	1.356	257.66199	264.54284	259.71074
BI-2	209	181291.00000	0.00000	1.640	184414.00000	178495.00000	180965.00000
PB	208	24.93000	202868.00000	1.304	24.55668	25.14084	25.09543
TL	203	25.23000	63152.20000	2.383	24.54383	25.52562	25.63579
SC-1	45	310210.00000	0.00000	0.906	313375.00000	309247.00000	308008.00000
GE-1	72	356045.00000	0.00000	2.067	362999.00000	356796.00000	348341.00000
GE-2	72	96897.40000	0.00000	0.992	97751.40000	95856.30000	97084.60000
TB-2	159	208381.00000	0.00000	1.642	207245.00000	205671.00000	212227.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:24:00
Tube Number: 11
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39527.30000	0.00000	2.125	40002.20000	38557.70000	40022.10000
AL	27	-0.66980	30.00110	-75.261	-1.25140	-0.35749	-0.40058
CA	44	-11.94000	206.67700	-227.387	-17.83963	-35.66156	17.67259
CR	52	-0.02985	313.35000	-55.712	-0.02707	-0.01479	-0.04769
FE	57	-3.38400	23.33420	-30.703	-3.05164	-4.54949	-2.55335
K	39	-10.91000	13020.30000	-81.448	-12.97492	-1.17355	-18.58399
MG	24	-0.63840	180.00900	-60.824	-0.36793	-1.08334	-0.46412
MN	55	-1.99000	100.00500	-3.617	-2.05306	-2.00580	-1.91166
NA	23	-6.26900	121669.00000	-262.562	-13.09209	12.50446	-18.23001
TI	47	-0.47780	0.00000	0.000	-0.47783	-0.47783	-0.47783
V	51	0.04067	46.66890	16.157	0.04448	0.03309	0.04445
IN-1	115	270219.00000	0.00000	1.219	269193.00000	267560.00000	273905.00000
IN-2	115	50932.50000	0.00000	1.971	50407.30000	52090.10000	50300.10000
AG	107	0.01356	33.33460	68.518	0.01687	0.02074	0.00306
AS	75	0.00640	39.33380	3718.750	-0.25282	0.05689	0.21513
BA	137	-0.07027	6.66693	-70.528	-0.01305	-0.09888	-0.09888
CD	111	0.02355	24.00030	34.497	0.01667	0.02146	0.03251
CO	59	0.01993	196.67700	118.113	0.02951	0.03717	-0.00689
CU	63	-0.08121	280.01300	-49.649	-0.04723	-0.07066	-0.12577
MO	98	0.22270	273.34800	42.779	0.13227	0.32217	0.21376
NI	60	0.03653	96.67060	159.978	0.00260	0.10401	0.00298
SB	121	0.15040	106.67100	52.500	0.24156	0.10254	0.10718
SE	78	0.00379	2.44445	595.408	-0.00333	0.02905	-0.01435
SN	120	1.22800	7539.12000	172.313	-0.15213	0.17131	3.66441
SR	88	-0.01873	13.33410	-157.501	0.01344	-0.04450	-0.02514
ZN	66	-0.06439	73.33660	-248.175	-0.15006	-0.16307	0.11995
BI-2	209	185825.00000	0.00000	1.821	186548.00000	188787.00000	182138.00000
PB	208	-0.00276	143.34000	-96.373	-0.00563	-0.00226	-0.00039
TL	203	0.00888	43.33540	24.837	0.01140	0.00733	0.00790
SC-1	45	308818.00000	0.00000	0.868	311773.00000	306546.00000	308135.00000
GE-1	72	353974.00000	0.00000	0.761	357075.00000	352200.00000	352648.00000
GE-2	72	98990.50000	0.00000	0.953	100080.00000	98415.70000	98476.20000
TB-2	159	213922.00000	0.00000	0.787	215786.00000	212509.00000	213471.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:26:00
Tube Number: 12 Batch: 152886050004A
Sample Number: **PBW** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	38641.50000	0.00000	0.533	38838.80000	38427.60000	38658.00000
AL	27	1.10300	90.00390	158.568	2.84928	-0.64893	1.10777
CA	44	3.21600	246.68100	681.903	17.29647	-22.05321	14.40411
CR	52	0.01640	350.02000	520.854	-0.06997	0.01832	0.10084
FE	57	-1.10500	66.66970	-142.534	-1.46405	-2.47048	0.61702
K	39	-3.93900	13113.70000	-248.109	-15.17470	0.75831	2.59634
MG	24	3.74600	620.03900	17.165	3.51688	4.47201	3.24874
MN	55	-1.86700	156.67500	-7.204	-1.73643	-2.00516	-1.85983
NA	23	4.81600	121132.00000	25.332	3.58260	4.84284	6.01930
TI	47	-0.47780	0.00000	0.000	-0.47783	-0.47783	-0.47783
V	51	0.02367	33.33460	88.678	0.04649	0.01932	0.00520
IN-1	115	271026.00000	0.00000	1.244	274709.00000	270279.00000	268091.00000
IN-2	115	50678.60000	0.00000	1.083	51099.40000	50057.60000	50878.80000
AG	107	0.01067	26.66880	25.183	0.01208	0.01237	0.00758
AS	75	0.00043	38.66710	9696.760	-0.04004	-0.00228	0.04361
BA	137	-0.07036	6.66693	-35.105	-0.05655	-0.05566	-0.09888
CD	111	-0.00719	16.00010	-489.006	0.03092	-0.01419	-0.03829
CO	59	-0.02984	113.33800	-29.997	-0.02036	-0.03102	-0.03815
CU	63	-0.01236	366.68900	-470.307	0.03498	-0.07724	0.00517
MO	98	0.11430	163.34200	84.375	0.21962	0.09279	0.03036
NI	60	0.12580	136.67400	144.515	0.06573	-0.01846	0.33001
SB	121	0.07272	60.00340	23.226	0.05525	0.07393	0.08897
SE	78	0.01091	2.88890	409.808	-0.02486	-0.00345	0.06103
SN	120	2.83500	8997.70000	242.575	-0.70381	-1.55251	10.76025
SR	88	-0.00623	20.00080	-527.109	0.03171	-0.02505	-0.02536
ZN	66	0.53730	163.34200	17.085	0.63929	0.46125	0.51143
BI-2	209	186035.00000	0.00000	1.582	187999.00000	187454.00000	182650.00000
PB	208	0.00241	186.67500	78.429	0.00375	0.00025	0.00322
TL	203	-0.00541	6.66694	-41.832	-0.00802	-0.00415	-0.00405
SC-1	45	313117.00000	0.00000	1.361	316973.00000	313833.00000	308545.00000
GE-1	72	359316.00000	0.00000	1.471	364200.00000	353704.00000	360044.00000
GE-2	72	99067.80000	0.00000	1.829	99413.10000	97107.60000	100683.00000
TB-2	159	212918.00000	0.00000	0.928	213624.00000	210687.00000	214443.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:29:00
Tube Number: 13 Batch: 152886050004A
Sample Number: **LCSW** Class: **********

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	40119.40000	0.00000	2.787	39851.60000	39160.10000	41346.60000
AL	27	2072.00000	73250.50000	2.011	2097.46039	2094.32638	2023.77013
CA	44	4294.00000	13560.90000	3.300	4284.12054	4440.55222	4157.62501
CR	52	51.81000	51101.40000	2.687	50.75563	53.39013	51.29326
FE	57	1064.00000	21461.90000	3.565	1051.27101	1107.20623	1034.86511
K	39	10330.00000	598277.00000	2.302	10311.64719	10571.85961	10097.02595
MG	24	2089.00000	220227.00000	1.460	2068.32628	2123.84779	2074.19768
MN	55	49.96000	25869.90000	1.949	48.93917	50.87726	50.07026
NA	23	10240.00000	2181870.00000	2.284	10430.86323	10319.51057	9981.73213
TI	47	274.50000	5858.21000	5.832	257.98351	289.96225	275.51649
V	51	51.77000	38738.50000	1.616	52.56636	51.84645	50.89846
IN-1	115	269905.00000	0.00000	3.089	279315.00000	263438.00000	266963.00000
IN-2	115	50778.10000	0.00000	0.484	50922.80000	50917.00000	50494.40000
AG	107	50.81000	111111.00000	1.803	50.38905	50.17909	51.86041
AS	75	10.65000	820.69800	2.485	10.55289	10.44552	10.94818
BA	137	50.53000	11882.80000	1.977	50.99028	49.37993	51.20994
CD	111	5.33300	1393.42000	6.533	5.01881	5.70771	5.27256
CO	59	264.20000	436507.00000	1.607	259.71872	264.65937	268.17137
CU	63	52.67000	67617.60000	1.399	52.02019	52.51313	53.46983
MO	98	51.04000	50879.90000	1.229	51.52428	50.33374	51.27183
NI	60	53.24000	24300.20000	2.030	52.45364	52.78863	54.47184
SB	121	6.02300	3620.67000	3.651	5.78864	6.05606	6.22466
SE	78	10.54000	662.90800	1.228	10.49642	10.43391	10.68271
SN	120	50.95000	53021.30000	3.996	50.01830	53.28843	49.55176
SR	88	41.49000	21662.50000	2.564	40.47914	41.38443	42.59966
ZN	66	531.00000	79753.50000	3.137	528.63102	515.71840	548.76777
BI-2	209	183638.00000	0.00000	0.995	184772.00000	181531.00000	184611.00000
PB	208	15.61000	128712.00000	1.050	15.44307	15.77084	15.60726
TL	203	2.00300	5094.62000	6.860	1.94514	2.15968	1.90362
SC-1	45	313248.00000	0.00000	2.672	322260.00000	305715.00000	311768.00000
GE-1	72	359489.00000	0.00000	1.950	367576.00000	355120.00000	355772.00000
GE-2	72	99385.60000	0.00000	1.658	99423.30000	97719.60000	101014.00000
TB-2	159	215168.00000	0.00000	0.301	215912.00000	214852.00000	214739.00000

Run Name: 1529305E03
Tube Number: 14
Sample Number: **8082120**

Date/Time: 10/20/2015 9:31:00
Batch: 152886050004A
Class: U*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39657.80000	0.00000	1.163	39581.00000	40152.60000	39239.70000
AL	27	73.29000	2613.72000	3.986	70.46222	73.11635	76.29699
CA	44	66390.00000	203836.00000	1.288	66641.87358	65438.60248	67092.03491
CR	52	0.92180	1236.79000	14.851	0.77304	1.04253	0.94980
FE	57	11780.00000	233899.00000	0.831	11694.33104	11747.04087	11883.88251
K	39	7439.00000	429936.00000	1.731	7481.84128	7293.81350	7540.33900
MG	24	20760.00000	2162030.00000	2.127	20326.11449	20755.85179	21209.08341
MN	55	198.60000	98445.90000	2.016	199.12750	194.37334	202.32983
NA	23	101400.00000	20261000.00000	2.205	99576.40984	100787.24376	103909.43197
TI	47	3.02000	73.33710	72.185	2.85164	0.92877	5.27965
V	51	1.31700	990.07500	9.051	1.26469	1.23300	1.45356
IN-1	115	258781.00000	0.00000	1.243	262135.00000	255722.00000	258485.00000
IN-2	115	48442.10000	0.00000	2.001	49471.90000	47547.70000	48306.50000
AG	107	0.01430	33.33490	74.546	0.02661	0.00822	0.00806
AS	75	72.81000	5135.72000	4.241	71.52097	76.32784	70.56723
BA	137	26.37000	5928.33000	2.212	26.66969	26.75165	25.70267
CD	111	0.03377	25.33360	38.910	0.03422	0.04669	0.02041
CO	59	0.56180	1040.08000	7.001	0.52288	0.56097	0.60152
CU	63	2.61700	3550.64000	6.477	2.59516	2.79594	2.45906
MO	98	6.17900	5918.28000	6.372	6.38348	6.42928	5.72558
NI	60	0.98620	503.36700	14.226	0.95349	1.14000	0.86520
SB	121	0.14730	100.00400	42.838	0.12659	0.09715	0.21815
SE	78	0.06801	6.22224	55.742	0.10702	0.06569	0.03131
SN	120	3.49900	9234.14000	179.737	10.73053	-0.68926	0.45656
SR	88	625.60000	311247.00000	2.673	606.92312	639.11683	630.87843
ZN	66	40.28000	5841.54000	4.461	38.58638	42.16459	40.09158
BI-2	209	174742.00000	0.00000	0.536	174620.00000	173871.00000	175734.00000
PB	208	0.63260	5114.00000	5.005	0.60954	0.66867	0.61951
TL	203	0.00303	26.66810	77.554	0.00443	0.00032	0.00435
SC-1	45	308671.00000	0.00000	0.603	310386.00000	306691.00000	308935.00000
GE-1	72	347681.00000	0.00000	1.021	350853.00000	343848.00000	348342.00000
GE-2	72	97475.30000	0.00000	0.811	98354.30000	97247.70000	96823.80000
TB-2	159	209148.00000	0.00000	0.858	209883.00000	210458.00000	207103.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:33:00
Tube Number: 15 Batch: 152886050004A
Sample Number: **8082120** Class: UP********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	40280.10000	0.00000	1.063	40122.60000	39952.80000	40764.70000
AL	27	267.30000	9540.53000	2.208	261.12805	267.93333	272.88117
CA	44	63730.00000	198757.00000	0.944	63921.28026	64214.96846	63057.19704
CR	52	4.78800	5061.18000	6.846	4.94294	4.41180	5.01021
FE	57	11290.00000	227803.00000	2.132	11430.83598	11431.24793	11014.12776
K	39	7422.00000	435697.00000	2.265	7475.44216	7556.10378	7233.06729
MG	24	19780.00000	2092350.00000	1.082	19981.17485	19555.68943	19809.92248
MN	55	190.50000	95970.60000	2.152	192.48637	193.29575	185.82636
NA	23	95820.00000	19450500.00000	1.524	97482.19817	95262.73079	94728.27247
TI	47	33.30000	723.38800	23.006	38.46883	24.49723	36.93165
V	51	2.24600	1703.52000	2.606	2.20980	2.31326	2.21411
IN-1	115	258741.00000	0.00000	2.257	265384.00000	254416.00000	256423.00000
IN-2	115	48451.80000	0.00000	0.776	48622.50000	48712.20000	48020.60000
AG	107	1.12400	2350.32000	7.616	1.12561	1.20936	1.03817
AS	75	75.77000	5347.14000	1.320	76.39328	76.30813	74.62039
BA	137	29.90000	6718.77000	1.045	30.25356	29.66440	29.77776
CD	111	1.14100	298.00600	6.791	1.12927	1.22406	1.07049
CO	59	1.49200	2507.01000	3.964	1.55818	1.47307	1.44449
CU	63	6.85700	8716.60000	2.995	6.77068	6.70866	7.09136
MO	98	6.76000	6471.92000	10.842	7.58719	6.19062	6.50358
NI	60	4.91100	2206.94000	7.088	4.89879	4.56860	5.26453
SB	121	2.38400	1376.80000	10.579	2.57273	2.09756	2.48160
SE	78	4.28800	260.00300	4.513	4.50660	4.21734	4.13930
SN	120	5.09900	10566.80000	25.103	4.43959	6.57475	4.28380
SR	88	598.60000	297948.00000	1.555	603.28758	587.88605	604.64265
ZN	66	69.49000	10027.70000	1.841	70.96059	68.67387	68.82433
BI-2	209	175679.00000	0.00000	2.152	178902.00000	176618.00000	171516.00000
PB	208	2.67400	21231.70000	2.117	2.72023	2.68995	2.61059
TL	203	0.97100	2373.67000	10.126	0.88708	1.07918	0.94675
SC-1	45	307468.00000	0.00000	0.881	310437.00000	305125.00000	306843.00000
GE-1	72	340174.00000	0.00000	1.521	346118.00000	337731.00000	336674.00000
GE-2	72	95950.20000	0.00000	1.406	96551.30000	96893.90000	94405.40000
TB-2	159	214869.00000	0.00000	1.332	216027.00000	216969.00000	211610.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:36:00
Tube Number: 16 Batch: 152886050004A
Sample Number: **8082123** Class: D*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39825.00000	0.00000	0.718	39501.00000	39931.80000	40042.30000
AL	27	83.99000	3000.52000	4.514	81.24963	88.31280	82.39400
CA	44	61120.00000	188456.00000	2.331	62343.59626	61453.19043	59554.40647
CR	52	0.78300	1106.76000	13.895	0.75457	0.69134	0.90320
FE	57	10290.00000	205268.00000	2.386	10567.38136	10204.90531	10099.22347
K	39	7285.00000	423133.00000	1.386	7400.99541	7217.75487	7235.72289
MG	24	19670.00000	2057440.00000	0.664	19524.44345	19764.18223	19734.27102
MN	55	168.30000	83948.30000	2.516	173.01588	164.80668	167.11120
NA	23	102300.00000	20516600.00000	1.245	103712.94681	101290.95755	101815.73565
TI	47	2.83300	70.00320	50.018	2.85842	4.23683	1.40281
V	51	1.02300	776.71800	0.147	1.02289	1.02504	1.02215
IN-1	115	257500.00000	0.00000	0.464	258624.00000	256247.00000	257627.00000
IN-2	115	48751.90000	0.00000	2.872	49832.80000	49253.10000	47169.80000
AG	107	0.00166	6.66693	167.610	-0.00155	0.00316	0.00337
AS	75	79.68000	5649.94000	5.781	74.66371	80.66101	83.71863
BA	137	25.18000	5694.85000	5.500	23.69596	26.43724	25.40652
CD	111	0.07621	36.00030	5.558	0.07297	0.07465	0.08100
CO	59	0.57810	1073.43000	13.859	0.65412	0.49444	0.58581
CU	63	2.91000	3937.43000	5.278	3.02930	2.96342	2.73642
MO	98	7.54100	7252.39000	3.916	7.31981	7.42730	7.87649
NI	60	1.32900	656.71100	2.457	1.32611	1.29842	1.36348
SB	121	0.06504	53.33600	14.526	0.05736	0.07559	0.06217
SE	78	0.07264	6.44447	99.504	0.02017	0.15508	0.04267
SN	120	8.12900	13030.50000	194.981	-0.60792	-1.42860	26.42476
SR	88	571.90000	286270.00000	2.812	557.59581	568.73857	589.29237
ZN	66	46.84000	6825.42000	4.105	44.69029	48.38574	47.45962
BI-2	209	174320.00000	0.00000	1.066	176376.00000	173829.00000	172755.00000
PB	208	0.77990	6254.22000	2.630	0.77900	0.75992	0.80091
TL	203	-0.00388	10.00040	-105.904	0.00020	-0.00802	-0.00382
SC-1	45	304214.00000	0.00000	1.384	306021.00000	299403.00000	307219.00000
GE-1	72	342109.00000	0.00000	1.881	344659.00000	334789.00000	346879.00000
GE-2	72	94950.00000	0.00000	1.286	94234.20000	94256.10000	96359.60000
TB-2	159	209466.00000	0.00000	0.461	210416.00000	209497.00000	208485.00000

Run Name: 1529305E03
Tube Number: 17
Sample Number: **8082121**

Date/Time: 10/20/2015 9:38:00
Batch: 152886050004A
Class: R*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	38795.20000	0.00000	1.897	38437.20000	38306.80000	39641.50000
AL	27	2118.00000	72435.90000	0.940	2129.89561	2129.66258	2095.31769
CA	44	69700.00000	209298.00000	2.257	71169.30901	69890.44972	68039.90113
CR	52	52.47000	50050.60000	0.419	52.71126	52.41957	52.28103
FE	57	12450.00000	241877.00000	2.116	12480.21867	12697.68684	12173.23054
K	39	18100.00000	1004470.00000	2.141	18551.96253	17894.09215	17868.13822
MG	24	22700.00000	2311650.00000	2.337	23152.69791	22829.22652	22115.65480
MN	55	241.30000	116766.00000	2.665	242.64730	246.97506	234.32154
NA	23	112700.00000	22008700.00000	2.668	114133.15548	114756.84170	109265.48538
TI	47	258.10000	5327.99000	2.481	252.30639	264.96837	256.97936
V	51	52.06000	37661.90000	3.740	52.77983	53.54993	49.85928
IN-1	115	261707.00000	0.00000	1.086	264122.00000	258577.00000	262424.00000
IN-2	115	47605.50000	0.00000	2.233	48746.00000	46641.10000	47429.40000
AG	107	49.18000	100840.00000	1.455	49.31018	49.83003	48.41511
AS	75	87.17000	6036.79000	1.682	85.47906	88.02555	88.01230
BA	137	78.62000	17316.00000	4.041	76.90933	82.28956	76.67164
CD	111	5.06400	1240.74000	6.317	4.97943	5.41837	4.79577
CO	59	264.00000	408923.00000	1.389	259.99575	267.16273	264.91670
CU	63	55.19000	66401.40000	1.381	54.55340	56.03431	54.98111
MO	98	58.79000	54903.20000	3.916	56.48452	61.08913	58.79911
NI	60	53.38000	22840.80000	2.124	52.18871	53.52054	54.44444
SB	121	6.36100	3577.34000	13.586	5.45640	7.17798	6.44982
SE	78	9.91400	604.90500	1.659	9.84177	9.79830	10.10254
SN	120	56.84000	54730.30000	20.672	49.94208	50.17285	70.40099
SR	88	655.50000	320520.00000	1.698	643.81209	665.95239	656.85149
ZN	66	575.20000	80997.10000	0.697	579.29902	571.29049	574.99446
BI-2	209	171861.00000	0.00000	0.233	171417.00000	172197.00000	171968.00000
PB	208	16.15000	124639.00000	1.376	16.38962	16.10542	15.95136
TL	203	2.07500	4941.24000	4.111	2.17342	2.02042	2.03153
SC-1	45	309850.00000	0.00000	0.911	312106.00000	306686.00000	310758.00000
GE-1	72	343945.00000	0.00000	1.653	350249.00000	339201.00000	342386.00000
GE-2	72	94493.20000	0.00000	0.390	94799.60000	94595.90000	94084.20000
TB-2	159	210248.00000	0.00000	1.522	213925.00000	208102.00000	208718.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:40:00
Tube Number: 18 Batch: 152886050004A
Sample Number: **8082122** Class: M*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39380.50000	0.00000	1.389	38938.90000	39992.60000	39209.90000
AL	27	2068.00000	71792.90000	1.916	2096.54174	2023.04524	2085.52086
CA	44	67680.00000	206346.00000	0.832	68109.38495	67043.85073	67891.04521
CR	52	50.07000	48491.50000	2.359	50.63440	48.71591	50.86833
FE	57	11900.00000	234611.00000	1.564	12063.32269	11695.22776	11927.60480
K	39	18060.00000	1017010.00000	0.597	18140.72560	17934.85861	18093.71570
MG	24	22190.00000	2293820.00000	1.766	22154.39111	21810.42965	22592.15564
MN	55	227.70000	111935.00000	1.465	230.71493	224.12941	228.33578
NA	23	113100.00000	22428200.00000	0.632	113642.47976	112314.37645	113434.94113
TI	47	252.40000	5287.95000	3.532	252.43466	243.41934	261.25127
V	51	52.23000	38360.90000	2.562	53.70219	51.08962	51.89108
IN-1	115	257515.00000	0.00000	0.314	258362.00000	257427.00000	256754.00000
IN-2	115	48555.10000	0.00000	2.160	47801.00000	48111.80000	49752.60000
AG	107	48.25000	100882.00000	2.151	48.93368	48.77344	47.06081
AS	75	87.39000	6172.17000	2.804	87.46851	89.80464	84.90677
BA	137	77.47000	17409.40000	0.621	77.70675	77.78955	76.91833
CD	111	5.24400	1310.75000	2.054	5.18636	5.17696	5.36799
CO	59	260.00000	410759.00000	2.159	263.99419	262.52906	253.62312
CU	63	54.31000	66645.90000	2.650	55.96425	53.59807	53.36318
MO	98	59.76000	56942.40000	1.631	60.88095	59.14623	59.24242
NI	60	52.55000	22931.00000	3.265	54.34647	52.39136	50.92718
SB	121	6.33800	3647.37000	9.068	6.04429	5.96971	7.00035
SE	78	9.96900	598.46000	1.735	9.83980	10.16553	9.90165
SN	120	47.73000	47859.40000	5.954	50.98945	45.76297	46.43977
SR	88	638.70000	318562.00000	1.280	645.41951	641.18509	629.62916
ZN	66	566.00000	81269.10000	1.920	577.78491	563.94288	556.33902
BI-2	209	172010.00000	0.00000	1.041	171499.00000	173999.00000	170530.00000
PB	208	16.23000	125341.00000	1.875	16.50384	15.90126	16.27638
TL	203	2.01200	4794.49000	5.989	1.95260	1.93275	2.15075
SC-1	45	309833.00000	0.00000	0.600	308578.00000	308951.00000	311970.00000
GE-1	72	347308.00000	0.00000	0.714	345695.00000	350165.00000	346063.00000
GE-2	72	96192.50000	0.00000	0.676	96943.40000	95796.80000	95837.30000
TB-2	159	211339.00000	0.00000	1.156	213267.00000	212157.00000	208591.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:43:00
Tube Number: 19 Batch: 152886050004A
Sample Number: **8082120** Class: UL********

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39614.40000	0.00000	2.082	40403.10000	39681.90000	38758.10000
AL	27	17.75000	673.37700	4.765	18.69602	17.06081	17.50411
CA	44	13320.00000	41015.40000	4.766	12697.75186	13289.36501	13966.32761
CR	52	0.11910	456.69400	106.129	-0.02018	0.15100	0.22644
FE	57	2338.00000	46450.80000	3.058	2296.70852	2297.08651	2420.72186
K	39	1473.00000	96004.40000	2.963	1440.30886	1457.10879	1522.87550
MG	24	4251.00000	442164.00000	3.333	4139.53382	4202.66892	4410.39595
MN	55	39.22000	20273.20000	4.985	38.01396	38.17322	41.47674
NA	23	20070.00000	4102320.00000	3.921	19478.63952	19771.57117	20964.15787
TI	47	1.11800	33.33480	110.197	0.92009	-0.00340	2.43660
V	51	0.25720	206.67600	19.592	0.22965	0.31533	0.22652
IN-1	115	271122.00000	0.00000	1.219	274278.00000	267687.00000	271400.00000
IN-2	115	49029.00000	0.00000	1.409	49449.90000	48231.90000	49405.10000
AG	107	0.01575	36.66810	44.781	0.01723	0.00808	0.02195
AS	75	13.67000	1006.72000	5.170	12.89657	13.83774	14.28035
BA	137	5.14200	1186.77000	12.524	5.23863	5.73236	4.45528
CD	111	0.02429	23.33350	97.200	0.01834	0.00422	0.05030
CO	59	0.06454	260.01400	45.119	0.03198	0.07353	0.08811
CU	63	0.55080	1046.75000	27.415	0.44031	0.72292	0.48930
MO	98	1.31300	1310.11000	10.685	1.16704	1.32464	1.44684
NI	60	0.25140	186.67500	57.200	0.27687	0.38083	0.09656
SB	121	0.01842	26.66800	143.105	0.04086	0.02500	-0.01061
SE	78	0.01393	3.11112	153.625	0.03793	-0.00315	0.00699
SN	120	0.12580	6298.16000	1834.660	-1.93752	-0.30267	2.61762
SR	88	124.00000	62467.50000	1.356	124.80101	122.03184	125.07165
ZN	66	7.38800	1150.10000	6.354	7.66038	7.65729	6.84589
BI-2	209	180272.00000	0.00000	1.577	180443.00000	177348.00000	183025.00000
PB	208	0.11610	1100.07000	11.947	0.12954	0.11706	0.10185
TL	203	-0.00532	6.66694	-43.999	-0.00400	-0.00393	-0.00802
SC-1	45	315934.00000	0.00000	2.235	321884.00000	308132.00000	317785.00000
GE-1	72	358843.00000	0.00000	1.783	362361.00000	351458.00000	362711.00000
GE-2	72	99614.70000	0.00000	0.990	98688.80000	100652.00000	99503.50000
TB-2	159	215059.00000	0.00000	1.385	212814.00000	218438.00000	213925.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:45:00
Tube Number: 20 Batch: 152886050004A
Sample Number: **8082098** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39754.70000	0.00000	1.435	39119.20000	39921.80000	40223.00000
AL	27	370.00000	13013.60000	2.137	366.32747	379.14105	364.71067
CA	44	85220.00000	262216.00000	1.029	86171.84993	84445.60515	85038.14963
CR	52	2.53200	2800.42000	9.333	2.76491	2.53803	2.29239
FE	57	20750.00000	413100.00000	1.343	21049.36056	20497.56698	20704.91551
K	39	5486.00000	321459.00000	1.233	5559.67416	5471.72343	5426.71720
MG	24	21120.00000	2203770.00000	2.528	21733.10828	20815.56375	20801.05066
MN	55	904.20000	445464.00000	1.685	921.23581	891.85842	899.53854
NA	23	126900.00000	25390700.00000	0.173	126701.31086	127137.73235	126964.56478
TI	47	12.96000	283.34800	15.000	14.44119	13.66979	10.75539
V	51	4.28500	3193.85000	5.580	4.31014	4.03491	4.51125
IN-1	115	262206.00000	0.00000	1.219	265852.00000	259892.00000	260875.00000
IN-2	115	49418.40000	0.00000	1.376	50075.30000	48717.10000	49462.80000
AG	107	0.00471	13.33380	57.437	0.00309	0.00321	0.00784
AS	75	0.85270	98.66790	8.515	0.93648	0.80697	0.81481
BA	137	60.68000	13888.30000	2.815	62.06141	58.77091	61.21075
CD	111	0.13010	50.00050	18.055	0.11946	0.15706	0.11384
CO	59	0.86560	1550.16000	4.031	0.89608	0.87332	0.82758
CU	63	3.25000	4410.93000	3.474	3.29126	3.12183	3.33574
MO	98	0.12200	166.67400	54.082	0.09274	0.07578	0.19760
NI	60	1.53400	756.72100	11.023	1.54172	1.36045	1.69837
SB	121	0.08649	66.66980	39.797	0.12473	0.07673	0.05800
SE	78	0.11410	9.11114	18.273	0.13741	0.09720	0.10770
SN	120	-2.10400	4355.32000	-33.184	-2.91066	-1.69966	-1.70286
SR	88	461.20000	234135.00000	0.644	457.76535	462.69385	463.09592
ZN	66	7.98200	1246.77000	4.940	8.43652	7.78392	7.72672
BI-2	209	176115.00000	0.00000	0.751	176272.00000	177352.00000	174721.00000
PB	208	1.06200	8544.89000	4.872	1.01985	1.04621	1.11969
TL	203	-0.00253	13.33390	-93.602	0.00020	-0.00393	-0.00387
SC-1	45	318916.00000	0.00000	1.762	324030.00000	312902.00000	319817.00000
GE-1	72	357604.00000	0.00000	0.173	357476.00000	357058.00000	358278.00000
GE-2	72	96018.30000	0.00000	1.819	94717.80000	95333.20000	98003.80000
TB-2	159	214501.00000	0.00000	1.029	213896.00000	212658.00000	216949.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:47:00
Tube Number: 21 Batch: 152886050004A
Sample Number: **8082099** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39109.80000	0.00000	1.637	38377.20000	39561.20000	39390.90000
AL	27	382.60000	13237.10000	4.645	370.76879	373.99385	403.02414
CA	44	63450.00000	192124.00000	1.355	63830.53849	62463.35457	64049.79235
CR	52	1.57500	1843.53000	0.785	1.56600	1.57061	1.58933
FE	57	20840.00000	408158.00000	2.871	21442.37427	20245.49392	20845.27638
K	39	2642.00000	159298.00000	1.501	2649.45951	2599.01349	2677.25473
MG	24	22130.00000	2272530.00000	1.451	22201.88263	21779.67659	22410.20618
MN	55	352.70000	171569.00000	2.566	362.27362	344.28591	351.55759
NA	23	83910.00000	16552000.00000	2.156	84252.06149	81953.76261	85522.72489
TI	47	12.66000	273.34700	20.979	10.80518	15.70218	11.47065
V	51	1.93400	1426.81000	18.863	1.85014	1.61783	2.33296
IN-1	115	263257.00000	0.00000	1.546	265589.00000	265625.00000	258556.00000
IN-2	115	49177.10000	0.00000	1.560	49197.40000	48400.10000	49933.70000
AG	107	0.00949	23.33420	30.559	0.00789	0.01284	0.00775
AS	75	4.58300	363.34100	5.564	4.39191	4.87296	4.48554
BA	137	48.98000	11155.50000	2.993	47.76449	50.61117	48.57587
CD	111	0.02672	24.00020	46.819	0.01879	0.02024	0.04115
CO	59	0.69160	1263.44000	9.826	0.75758	0.69545	0.62181
CU	63	2.26000	3163.85000	8.504	2.06945	2.45373	2.25760
MO	98	0.40970	443.35900	4.630	0.40624	0.39268	0.43015
NI	60	1.56500	766.72000	0.927	1.54966	1.57807	1.56891
SB	121	0.05277	46.66900	75.649	0.00672	0.07742	0.07418
SE	78	0.09563	8.00002	41.357	0.12677	0.05112	0.10899
SN	120	-1.91800	4502.46000	-29.849	-1.27643	-2.10286	-2.37588
SR	88	319.30000	161323.00000	1.895	312.91084	324.93070	320.12578
ZN	66	17.79000	2663.72000	7.634	18.84871	18.25904	16.25765
BI-2	209	176493.00000	0.00000	0.203	176080.00000	176668.00000	176730.00000
PB	208	0.96550	7801.33000	5.068	0.98299	0.91022	1.00327
TL	203	-0.00254	13.33390	-186.693	0.00021	-0.00802	0.00018
SC-1	45	315035.00000	0.00000	1.438	312632.00000	320259.00000	312215.00000
GE-1	72	352075.00000	0.00000	1.220	356074.00000	352619.00000	347531.00000
GE-2	72	96726.60000	0.00000	1.251	96179.10000	98113.50000	95887.20000
TB-2	159	212267.00000	0.00000	0.726	210858.00000	212030.00000	213912.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:49:00
Tube Number: 22
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39781.70000	0.00000	0.491	39591.10000	39772.40000	39981.70000
AL	27	2506.00000	87878.40000	1.593	2551.49581	2476.06277	2491.14795
CA	44	2641.00000	8369.67000	5.013	2508.39331	2773.13501	2641.70322
CR	52	256.10000	249168.00000	0.656	254.48812	257.83858	255.95138
FE	57	2488.00000	49652.70000	0.943	2509.93070	2491.47366	2463.33671
K	39	2470.00000	152411.00000	0.848	2488.26018	2447.33248	2475.54677
MG	24	2530.00000	264480.00000	1.734	2571.42019	2534.53002	2484.03926
MN	55	258.30000	128113.00000	1.229	261.00011	259.04184	254.79165
NA	23	2487.00000	619166.00000	0.902	2506.17445	2462.45680	2492.98963
TI	47	246.60000	5221.23000	0.985	246.36539	244.29066	249.13420
V	51	255.10000	189273.00000	1.345	258.91361	254.28415	252.21382
IN-1	115	271204.00000	0.00000	0.944	273881.00000	270952.00000	268778.00000
IN-2	115	49375.90000	0.00000	1.738	48395.10000	49988.60000	49744.10000
AG	107	26.56000	56473.90000	1.861	27.05250	26.06379	26.56706
AS	75	263.50000	18851.20000	2.411	270.75763	258.84137	260.97938
BA	137	261.10000	59598.10000	1.607	264.66865	256.45059	262.04078
CD	111	26.28000	6608.44000	1.383	26.63205	25.90699	26.31191
CO	59	267.80000	430272.00000	1.791	273.31007	264.32395	265.91471
CU	63	268.60000	333743.00000	1.983	274.67082	266.44259	264.70245
MO	98	25.82000	25042.30000	2.064	26.33893	25.83505	25.27386
NI	60	267.90000	118574.00000	2.424	275.31393	263.16981	265.25842
SB	121	25.05000	14592.40000	1.553	24.76177	24.88902	25.49013
SE	78	25.85000	1630.55000	2.587	25.30308	26.59395	25.64545
SN	120	24.14000	27697.80000	10.510	24.34102	21.51033	26.57197
SR	88	26.15000	13287.30000	2.254	26.42110	25.48008	26.56542
ZN	66	265.40000	38795.80000	1.587	269.71793	261.30486	265.18469
BI-2	209	185444.00000	0.00000	3.542	186303.00000	191542.00000	178488.00000
PB	208	24.91000	207214.00000	3.090	24.95500	24.11791	25.65507
TL	203	25.11000	64226.90000	3.990	25.34642	24.00640	25.96662
SC-1	45	313083.00000	0.00000	1.170	317302.00000	311218.00000	310730.00000
GE-1	72	362495.00000	0.00000	1.865	369280.00000	362446.00000	355760.00000
GE-2	72	99753.60000	0.00000	1.733	98315.90000	101672.00000	99273.20000
TB-2	159	215774.00000	0.00000	1.221	215287.00000	218617.00000	213418.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:52:00
Tube Number: 23
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39423.80000	0.00000	3.105	38066.60000	39761.30000	40443.60000
AL	27	-0.47670	36.66800	-193.350	-0.04407	-1.53520	0.14899
CA	44	-11.27000	206.67900	-221.118	-7.92160	11.80475	-37.69463
CR	52	-0.05341	290.01400	-124.602	-0.03193	-0.12807	-0.00027
FE	57	-1.88500	53.33590	-98.939	-4.02482	-1.03329	-0.59878
K	39	-7.86900	13160.40000	-91.244	-8.65677	-0.32893	-14.62338
MG	24	-0.11710	233.34400	-471.563	-0.16622	-0.64322	0.45788
MN	55	-2.05800	66.66970	-0.997	-2.06711	-2.07254	-2.03461
NA	23	-1.70800	122224.00000	-1049.180	18.83389	-9.81930	-14.14447
TI	47	-0.47780	0.00000	0.000	-0.47783	-0.47783	-0.47783
V	51	0.04946	53.33610	53.437	0.01972	0.05838	0.07027
IN-1	115	265975.00000	0.00000	0.922	267950.00000	263230.00000	266747.00000
IN-2	115	50938.10000	0.00000	1.722	49957.40000	51209.90000	51647.00000
AG	107	0.00756	20.00080	59.299	0.00774	0.00298	0.01194
AS	75	-0.03666	36.00040	-487.725	0.16486	-0.17611	-0.09875
BA	137	-0.07095	6.66693	-68.175	-0.09888	-0.09888	-0.01511
CD	111	-0.00223	17.33350	-220.278	0.00168	-0.00774	-0.00064
CO	59	-0.03213	110.00500	-38.220	-0.03088	-0.02053	-0.04500
CU	63	-0.07587	286.68300	-62.344	-0.06088	-0.12885	-0.03788
MO	98	0.09348	143.34000	20.197	0.07267	0.10950	0.09828
NI	60	-0.02088	70.00290	-117.577	0.00419	-0.02197	-0.04487
SB	121	0.26100	173.34200	13.418	0.27797	0.22078	0.28439
SE	78	-0.00286	2.00001	-1004.550	0.00753	0.01920	-0.03531
SN	120	-2.17400	4431.53000	-7.893	-2.34516	-2.17655	-2.00196
SR	88	-0.02538	10.00040	-1.306	-0.02501	-0.02549	-0.02565
ZN	66	-0.17890	56.66910	-127.445	-0.41741	-0.15637	0.03687
BI-2	209	186578.00000	0.00000	0.794	185623.00000	188284.00000	185827.00000
PB	208	-0.00602	116.67200	-31.894	-0.00556	-0.00813	-0.00437
TL	203	0.00618	36.66820	128.486	0.00369	0.01507	-0.00022
SC-1	45	311075.00000	0.00000	0.736	313717.00000	309677.00000	309831.00000
GE-1	72	355546.00000	0.00000	1.759	361284.00000	348877.00000	356477.00000
GE-2	72	101278.00000	0.00000	1.306	101590.00000	99826.20000	102416.00000
TB-2	159	215505.00000	0.00000	0.519	214518.00000	216721.00000	215276.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:54:00
Tube Number: 24 Batch: 152886050004A
Sample Number: **8082100** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39491.00000	0.00000	1.143	39150.00000	39320.40000	40002.70000
AL	27	169.40000	5944.89000	5.313	176.83958	172.02210	159.40959
CA	44	69490.00000	212485.00000	1.110	69390.19672	68776.72370	70308.55853
CR	52	1.51100	1800.20000	6.982	1.43394	1.46786	1.63127
FE	57	21340.00000	422066.00000	1.068	21584.81125	21133.01389	21305.29270
K	39	3164.00000	189988.00000	1.189	3133.57339	3153.10280	3206.27280
MG	24	24070.00000	2496440.00000	1.694	23605.34981	24350.23989	24265.07763
MN	55	533.10000	261358.00000	0.528	533.41037	535.73997	530.13535
NA	23	94970.00000	18901100.00000	1.434	94245.10396	96542.76671	94127.12076
TI	47	8.58300	190.00900	34.976	6.25446	11.97094	7.52282
V	51	1.80900	1350.13000	14.019	1.71726	1.61422	2.09581
IN-1	115	262756.00000	0.00000	0.302	263174.00000	261841.00000	263254.00000
IN-2	115	48594.30000	0.00000	1.231	48047.90000	48501.40000	49233.40000
AG	107	0.00319	10.00040	147.883	-0.00155	0.00324	0.00788
AS	75	2.18600	190.67000	6.619	2.09194	2.35256	2.11313
BA	137	58.75000	13217.60000	2.221	60.22250	57.73747	58.28625
CD	111	0.02310	22.66690	271.905	0.07826	0.03629	-0.04526
CO	59	0.59700	1100.09000	10.002	0.52851	0.62407	0.63829
CU	63	1.90200	2690.38000	6.246	1.91912	1.77533	2.01112
MO	98	0.17090	210.01000	37.613	0.17305	0.23405	0.10554
NI	60	0.90560	470.02900	12.577	1.03338	0.81499	0.86828
SB	121	0.09432	70.00300	16.921	0.07818	0.09469	0.11010
SE	78	0.14300	10.88890	30.671	0.19369	0.11814	0.11731
SN	120	3.54200	9223.20000	29.362	4.41054	3.82585	2.38951
SR	88	354.10000	176768.00000	1.323	359.11537	349.84829	353.29060
ZN	66	4.27600	693.38100	13.894	3.88480	4.95988	3.98417
BI-2	209	176350.00000	0.00000	1.791	179887.00000	173807.00000	175356.00000
PB	208	0.75570	6134.24000	1.837	0.73986	0.76130	0.76586
TL	203	-0.00255	13.33390	-185.502	0.00004	0.00032	-0.00802
SC-1	45	313240.00000	0.00000	0.271	312484.00000	313078.00000	314158.00000
GE-1	72	348445.00000	0.00000	1.241	351950.00000	343613.00000	349771.00000
GE-2	72	96951.40000	0.00000	1.436	98204.60000	97195.70000	95453.90000
TB-2	159	212552.00000	0.00000	0.940	210248.00000	213784.00000	213624.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:56:00
Tube Number: 25 Batch: 152886050004A
Sample Number: **8082101** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39250.00000	0.00000	0.487	39069.50000	39230.20000	39450.40000
AL	27	179.10000	6245.08000	3.104	183.60552	180.81806	172.89096
CA	44	68840.00000	209204.00000	0.255	68853.18385	69014.47855	68663.23519
CR	52	1.61000	1883.55000	3.546	1.63679	1.64952	1.54489
FE	57	21150.00000	415763.00000	0.569	21286.64840	21056.88750	21109.63082
K	39	3129.00000	186850.00000	0.566	3134.29440	3143.32145	3109.12635
MG	24	24000.00000	2473820.00000	0.658	24093.17929	23821.26816	24096.39870
MN	55	520.60000	253719.00000	0.164	521.61283	520.15780	520.10420
NA	23	93540.00000	18504800.00000	0.077	93567.96899	93590.94218	93456.41292
TI	47	7.83800	173.34400	7.519	8.19591	8.16028	7.15792
V	51	1.91400	1416.80000	12.868	2.10523	2.00080	1.63603
IN-1	115	261072.00000	0.00000	2.015	265224.00000	262834.00000	255157.00000
IN-2	115	48668.50000	0.00000	1.604	48202.70000	49569.80000	48232.90000
AG	107	0.00322	10.00040	149.581	0.00808	0.00313	-0.00155
AS	75	2.08000	183.33600	13.370	2.37041	1.81623	2.05322
BA	137	59.19000	13337.70000	1.700	58.54510	58.67556	60.34994
CD	111	0.02020	22.00020	216.980	0.03694	-0.02953	0.05320
CO	59	0.60440	1113.43000	17.141	0.68595	0.63951	0.48786
CU	63	2.05900	2883.77000	9.767	2.02755	1.87506	2.27355
MO	98	0.19120	230.01200	2.004	0.19349	0.18678	0.19334
NI	60	0.94700	490.03000	21.014	0.82111	1.17642	0.84365
SB	121	0.03008	33.33460	85.007	0.00743	0.05781	0.02500
SE	78	0.15150	11.33340	5.713	0.14864	0.16123	0.14465
SN	120	1.12900	7151.27000	213.463	-0.32870	3.91030	-0.19575
SR	88	344.90000	172424.00000	2.148	344.33019	337.79206	352.58115
ZN	66	4.01100	656.70700	9.277	3.58969	4.29478	4.14843
BI-2	209	175119.00000	0.00000	0.841	176588.00000	175123.00000	173645.00000
PB	208	0.75600	6094.23000	2.315	0.74522	0.74652	0.77617
TL	203	-0.00116	16.66740	-543.290	0.00429	0.00026	-0.00802
SC-1	45	314059.00000	0.00000	0.803	316294.00000	314556.00000	311326.00000
GE-1	72	349722.00000	0.00000	1.432	354828.00000	349521.00000	344818.00000
GE-2	72	96689.30000	0.00000	1.285	95323.40000	96995.30000	97749.20000
TB-2	159	210114.00000	0.00000	0.535	210582.00000	208832.00000	210929.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 9:59:00
Tube Number: 26 Batch: 152886050004A
Sample Number: **8082114** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	38945.60000	0.00000	1.656	38678.00000	38477.50000	39681.40000
AL	27	6.44700	273.34600	24.926	6.09619	8.20123	5.04490
CA	44	14280.00000	43229.30000	1.428	14173.14151	14510.34603	14143.01816
CR	52	2.70400	2910.46000	3.391	2.60989	2.71050	2.79296
FE	57	30.95000	690.05200	33.990	31.59844	41.13050	20.11371
K	39	761.40000	55263.70000	4.320	764.58817	792.59736	727.05532
MG	24	7469.00000	764000.00000	3.602	7174.82461	7702.10951	7531.07918
MN	55	52.46000	26307.40000	3.574	54.15745	52.76656	50.44543
NA	23	38620.00000	7652300.00000	0.194	38702.47915	38607.32335	38554.58457
TI	47	-0.47780	0.00000	0.000	-0.47783	-0.47783	-0.47783
V	51	0.07860	73.33690	28.079	0.10224	0.07502	0.05854
IN-1	115	266522.00000	0.00000	2.584	272405.00000	258944.00000	268216.00000
IN-2	115	49513.40000	0.00000	1.689	50476.10000	49096.10000	48967.80000
AG	107	0.00161	6.66693	170.237	-0.00155	0.00318	0.00319
AS	75	2.93100	247.33800	18.383	2.51388	2.74019	3.53950
BA	137	30.23000	6945.57000	4.674	31.84075	29.65203	29.19958
CD	111	-0.01907	12.66680	-90.981	0.00096	-0.02915	-0.02905
CO	59	-0.04458	86.67020	-36.765	-0.06203	-0.04222	-0.02951
CU	63	0.56990	1083.42000	11.727	0.63804	0.56718	0.50446
MO	98	8.26400	8076.27000	4.753	8.53993	8.43861	7.81466
NI	60	1.29200	650.04400	16.006	1.17431	1.53047	1.17024
SB	121	0.01804	26.66770	58.537	0.00584	0.02407	0.02421
SE	78	-0.00263	2.00001	-854.857	-0.02477	0.02011	-0.00321
SN	120	9.57900	14681.20000	182.691	-1.72091	0.71451	29.74307
SR	88	399.60000	203207.00000	2.255	389.19737	404.09387	405.43305
ZN	66	0.60930	170.01000	3.191	0.58696	0.61900	0.62206
BI-2	209	179097.00000	0.00000	0.826	178738.00000	177829.00000	180722.00000
PB	208	0.04272	503.36000	24.181	0.05362	0.04146	0.03308
TL	203	-0.00394	10.00070	-179.066	-0.00802	0.00421	-0.00802
SC-1	45	315548.00000	0.00000	1.945	321343.00000	309118.00000	316182.00000
GE-1	72	358161.00000	0.00000	1.019	361884.00000	358012.00000	354587.00000
GE-2	72	97457.70000	0.00000	0.542	97941.50000	96893.30000	97538.20000
TB-2	159	208733.00000	0.00000	1.510	209649.00000	211325.00000	205224.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:01:00
Tube Number: 27 Batch: 152886050004A
Sample Number: **8082115** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39707.90000	0.00000	1.240	40112.30000	39851.70000	39159.70000
AL	27	4.94500	226.67900	21.658	4.12531	6.15629	4.55281
CA	44	7989.00000	24771.20000	2.342	7807.13837	7979.02550	8180.89629
CR	52	-0.01068	333.35100	-825.655	-0.09942	0.07692	-0.00956
FE	57	11.39000	316.68300	19.385	10.88598	9.48341	13.81175
K	39	446.30000	38701.20000	4.448	433.68204	436.15699	469.23252
MG	24	1992.00000	207913.00000	2.483	1951.76676	1977.88765	2047.47811
MN	55	16.20000	9030.12000	1.027	16.26189	16.32159	16.00818
NA	23	59620.00000	11973700.00000	3.611	57944.24456	58869.46951	62049.02410
TI	47	-0.16490	6.66692	-328.623	0.46085	-0.47783	-0.47783
V	51	0.08122	76.67060	54.075	0.03093	0.11202	0.10071
IN-1	115	267594.00000	0.00000	1.703	272651.00000	266320.00000	263811.00000
IN-2	115	50912.50000	0.00000	2.901	50268.50000	49867.00000	52602.10000
AG	107	0.00146	6.66693	178.767	0.00307	-0.00155	0.00286
AS	75	5.83800	469.34600	10.105	5.99275	5.18556	6.33446
BA	137	13.57000	3217.22000	1.355	13.45907	13.78526	13.47488
CD	111	-0.01798	13.33350	-101.001	-0.01442	-0.03767	-0.00188
CO	59	-0.03628	103.33800	-32.056	-0.04965	-0.03076	-0.02844
CU	63	0.13940	563.37400	55.079	0.17504	0.05123	0.19179
MO	98	35.32000	35310.40000	0.700	35.45178	35.47176	35.03403
NI	60	0.22950	183.34300	67.582	0.15852	0.40739	0.12251
SB	121	-0.00010	16.66730	-9246.510	0.00598	-0.01076	0.00448
SE	78	0.00780	2.66668	244.903	-0.01426	0.01857	0.01908
SN	120	0.64140	7057.40000	438.104	-1.52149	-0.37216	3.81777
SR	88	181.70000	94997.70000	1.918	182.80167	184.43313	177.74853
ZN	66	0.93580	223.34400	28.211	1.19760	0.94022	0.66957
BI-2	209	181034.00000	0.00000	1.565	181866.00000	177877.00000	183360.00000
PB	208	0.02968	403.35400	15.923	0.02539	0.02891	0.03475
TL	203	-0.00405	10.00040	-97.459	-0.00403	-0.00802	-0.00011
SC-1	45	314411.00000	0.00000	1.167	317731.00000	315027.00000	310473.00000
GE-1	72	358820.00000	0.00000	2.454	368228.00000	357455.00000	350778.00000
GE-2	72	98016.30000	0.00000	0.299	97790.80000	98347.00000	97911.10000
TB-2	159	212817.00000	0.00000	0.845	213906.00000	210740.00000	213805.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:03:00
Tube Number: 28 Batch: 152886050004A
Sample Number: **8082117** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39022.80000	0.00000	2.911	38317.10000	38418.00000	40333.30000
AL	27	1394.00000	47954.50000	2.918	1432.67746	1398.34848	1351.64750
CA	44	178700.00000	539501.00000	1.711	178624.08598	181859.88172	175747.15994
CR	52	3.45400	3630.64000	2.247	3.36467	3.50411	3.49347
FE	57	29970.00000	585395.00000	2.631	30108.58130	30679.62009	29120.91850
K	39	9375.00000	529535.00000	2.187	9483.60191	9503.37095	9138.72282
MG	24	27420.00000	2809360.00000	1.333	27410.04923	27797.08199	27066.14945
MN	55	2439.00000	1177430.00000	1.486	2424.95966	2479.70033	2411.15273
NA	23	12940.00000	2649450.00000	2.581	13043.96672	13218.15152	12572.44999
TI	47	51.53000	1076.76000	6.771	55.04504	51.46810	48.06786
V	51	3.62900	2657.04000	2.122	3.71483	3.56540	3.60784
IN-1	115	261846.00000	0.00000	2.141	268186.00000	259807.00000	257545.00000
IN-2	115	48254.40000	0.00000	2.321	47540.10000	47678.20000	49545.10000
AG	107	0.01589	36.66810	83.763	0.00822	0.00819	0.03126
AS	75	16.12000	1161.40000	3.370	16.66486	16.12200	15.57838
BA	137	69.64000	15550.30000	3.225	71.93657	69.54779	67.44739
CD	111	0.07467	35.33370	52.551	0.03014	0.10418	0.08970
CO	59	1.34700	2266.96000	11.559	1.52477	1.23628	1.27908
CU	63	3.84600	5024.50000	6.758	3.97657	4.01430	3.54651
MO	98	0.21130	246.68100	20.672	0.19689	0.26034	0.17661
NI	60	3.78800	1713.52000	4.527	3.60549	3.94575	3.81298
SB	121	0.20210	130.00600	45.596	0.29351	0.20359	0.10924
SE	78	0.35390	23.55560	38.231	0.20011	0.40654	0.45499
SN	120	1.55800	7459.94000	88.768	0.54315	0.99827	3.13300
SR	88	803.40000	398147.00000	2.343	813.95061	814.66977	781.72490
ZN	66	15.04000	2220.30000	8.677	16.24973	15.20710	13.65669
BI-2	209	175537.00000	0.00000	0.429	176296.00000	174791.00000	175525.00000
PB	208	6.24000	49291.90000	0.896	6.24505	6.29387	6.18238
TL	203	0.00438	30.00120	163.777	-0.00391	0.00856	0.00849
SC-1	45	315414.00000	0.00000	1.233	319817.00000	313979.00000	312444.00000
GE-1	72	346476.00000	0.00000	1.245	351447.00000	344245.00000	343735.00000
GE-2	72	94916.50000	0.00000	1.424	93408.20000	95323.30000	96018.00000
TB-2	159	211548.00000	0.00000	1.689	210314.00000	208755.00000	215575.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:06:00
Tube Number: 29 Batch: 152886050004A
Sample Number: **8082118** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	38641.40000	0.00000	0.547	38818.60000	38698.20000	38407.30000
AL	27	13.44000	510.03200	18.958	14.25753	15.47997	10.58381
CA	44	103600.00000	309867.00000	1.677	101989.03864	103426.66595	105447.25259
CR	52	0.48640	793.39700	17.311	0.43652	0.43897	0.58358
FE	57	28700.00000	555376.00000	0.059	28695.46067	28685.66483	28718.67991
K	39	4584.00000	263289.00000	1.246	4520.95249	4598.53101	4632.37083
MG	24	23580.00000	2392160.00000	2.370	23089.93685	23458.82734	24188.10641
MN	55	2241.00000	1071910.00000	0.849	2227.81743	2233.35527	2263.19626
NA	23	567500.00000	109914000.00000	2.252	552783.44314	574065.19977	575682.70463
TI	47	1.14600	33.33480	88.307	1.94711	0.00866	1.48287
V	51	0.26890	210.01000	17.735	0.23994	0.32392	0.24276
IN-1	115	245347.00000	0.00000	0.921	247827.00000	244814.00000	243401.00000
IN-2	115	46018.20000	0.00000	0.942	46188.40000	46341.00000	45525.30000
AG	107	0.00355	10.00040	248.915	-0.00155	-0.00155	0.01375
AS	75	0.88450	94.00120	13.454	0.96983	0.93506	0.74863
BA	137	128.00000	27250.80000	1.589	128.09624	125.94268	130.00813
CD	111	0.05331	28.66690	50.272	0.03305	0.08369	0.04319
CO	59	0.19760	443.36100	5.309	0.20761	0.18670	0.19856
CU	63	0.57970	1016.75000	18.734	0.56148	0.48138	0.69634
MO	98	0.03540	76.67100	121.384	0.01642	0.00520	0.08459
NI	60	0.79690	400.02400	26.151	0.74371	0.62026	1.02677
SB	121	0.07110	53.33650	134.937	-0.00941	0.04546	0.17726
SE	78	0.06583	5.77779	61.036	0.10365	0.07019	0.02364
SN	120	0.89350	6548.88000	195.859	2.91315	-0.07583	-0.15669
SR	88	554.90000	262305.00000	1.763	546.45431	552.59727	565.60831
ZN	66	4.84600	733.38800	19.238	4.86955	3.90220	5.76635
BI-2	209	161260.00000	0.00000	0.362	160911.00000	161934.00000	160937.00000
PB	208	0.13120	1093.40000	11.120	0.12274	0.14800	0.12272
TL	203	-0.00502	6.66694	-51.573	-0.00802	-0.00354	-0.00351
SC-1	45	304821.00000	0.00000	0.648	306826.00000	302876.00000	304761.00000
GE-1	72	329793.00000	0.00000	0.512	331071.00000	330429.00000	327879.00000
GE-2	72	91287.50000	0.00000	0.127	91172.90000	91285.20000	91404.40000
TB-2	159	206796.00000	0.00000	1.102	206238.00000	209302.00000	204848.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:08:00
Tube Number: 30 Batch: 152886050004A
Sample Number: **8082119** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39460.70000	0.00000	1.677	38698.90000	39791.30000	39891.90000
AL	27	9.38800	380.01900	9.319	8.43896	10.16227	9.56349
CA	44	40710.00000	124466.00000	1.704	41403.22330	40723.57663	40015.49150
CR	52	0.09875	436.69300	82.835	0.13210	0.00554	0.15860
FE	57	39.33000	866.73300	2.387	40.35261	39.12011	38.50939
K	39	1750.00000	111031.00000	2.101	1789.29631	1716.59929	1743.34340
MG	24	16580.00000	1717680.00000	1.022	16637.72486	16709.08600	16386.61623
MN	55	123.00000	61077.70000	1.785	125.49073	122.25000	121.30604
NA	23	18060.00000	3690970.00000	1.425	18300.99581	17789.39877	18094.82801
TI	47	0.32410	16.66750	228.448	0.98165	0.46842	-0.47783
V	51	0.06850	66.66920	63.183	0.11603	0.03136	0.05811
IN-1	115	269228.00000	0.00000	1.888	275036.00000	265595.00000	267054.00000
IN-2	115	49625.50000	0.00000	2.004	50284.60000	48481.30000	50110.40000
AG	107	0.00308	10.00040	150.601	0.00307	-0.00155	0.00772
AS	75	1.14300	120.00200	21.470	1.42541	0.98460	1.01825
BA	137	89.41000	20527.60000	2.059	87.78052	91.40667	89.03748
CD	111	0.02574	24.00020	217.599	0.08736	0.01197	-0.02210
CO	59	-0.00987	143.33900	-192.584	0.01148	-0.01614	-0.02495
CU	63	0.08991	486.69900	37.615	0.11951	0.05306	0.09716
MO	98	3.55200	3503.97000	8.407	3.21595	3.65298	3.78711
NI	60	0.31880	220.02700	39.743	0.44706	0.19381	0.31547
SB	121	0.00076	16.66730	3396.670	0.02284	0.00723	-0.02778
SE	78	-0.02452	0.66667	-44.086	-0.03531	-0.01370	-0.02456
SN	120	7.22100	12666.50000	80.668	0.59505	11.53775	9.52994
SR	88	542.30000	276455.00000	1.329	535.66179	549.97769	541.40158
ZN	66	0.10690	96.67110	100.561	-0.01445	0.14518	0.19003
BI-2	209	182406.00000	0.00000	0.332	182845.00000	182658.00000	181715.00000
PB	208	0.01386	276.68000	62.706	0.01295	0.00566	0.02297
TL	203	0.00920	43.33510	25.584	0.00783	0.00785	0.01192
SC-1	45	314288.00000	0.00000	1.293	315373.00000	317700.00000	309790.00000
GE-1	72	359695.00000	0.00000	0.380	360460.00000	358115.00000	360509.00000
GE-2	72	99154.30000	0.00000	0.900	98212.50000	99262.30000	99988.20000
TB-2	159	215177.00000	0.00000	0.698	214245.00000	216910.00000	214377.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:10:00
Tube Number: 31 Batch: 152886050004A
Sample Number: **8082124** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	37798.90000	0.00000	2.087	37986.20000	36933.10000	38477.40000
AL	27	42.45000	1466.81000	11.769	41.80161	37.81176	47.73994
CA	44	78050.00000	228319.00000	2.234	78624.32227	79434.36925	76090.15980
CR	52	1.44700	1660.17000	18.991	1.26235	1.76305	1.31621
FE	57	19270.00000	364719.00000	1.326	19001.30686	19510.89746	19292.26234
K	39	1358.00000	85471.20000	1.852	1337.32058	1386.09866	1351.04126
MG	24	19710.00000	1955910.00000	1.915	19282.38721	20000.88178	19842.76218
MN	55	1064.00000	498299.00000	1.341	1053.96845	1080.50750	1058.14650
NA	23	190300.00000	36129900.00000	0.489	189211.39925	190888.66847	190748.92299
TI	47	3.32400	76.67060	35.529	3.48715	2.07087	4.41504
V	51	2.53300	1800.21000	3.786	2.51893	2.63497	2.44466
IN-1	115	260595.00000	0.00000	1.109	262000.00000	257270.00000	262515.00000
IN-2	115	46473.50000	0.00000	0.433	46658.20000	46259.10000	46503.30000
AG	107	0.00178	6.66693	162.044	0.00343	0.00347	-0.00155
AS	75	2.74600	220.00400	7.924	2.97019	2.73132	2.53577
BA	137	56.16000	12086.40000	2.977	56.81990	57.40543	54.26211
CD	111	0.01842	20.66690	339.577	-0.05237	0.04140	0.06622
CO	59	0.25210	530.03400	7.477	0.23089	0.26696	0.25843
CU	63	0.29390	693.38300	31.878	0.27146	0.39677	0.21348
MO	98	0.08543	123.33900	31.652	0.11411	0.06041	0.08176
NI	60	0.57770	313.34900	22.624	0.56701	0.45278	0.71348
SB	121	0.00273	16.66730	1026.390	-0.02778	0.02725	0.00871
SE	78	0.09337	7.77780	38.931	0.10709	0.12086	0.05215
SN	120	1.68300	7273.28000	356.269	-1.71774	-1.83965	8.60611
SR	88	418.00000	199584.00000	0.910	420.30929	413.61605	420.08923
ZN	66	34.23000	4777.75000	7.400	37.10080	32.30263	33.29479
BI-2	209	166690.00000	0.00000	0.289	166291.00000	166554.00000	167225.00000
PB	208	0.04601	493.36000	10.861	0.04841	0.04027	0.04936
TL	203	-0.00077	16.66740	-324.150	0.00070	-0.00367	0.00065
SC-1	45	313137.00000	0.00000	0.876	314589.00000	309973.00000	314849.00000
GE-1	72	346961.00000	0.00000	1.291	351043.00000	342168.00000	347673.00000
GE-2	72	94459.40000	0.00000	1.170	95171.70000	93186.00000	95020.50000
TB-2	159	205928.00000	0.00000	0.751	207308.00000	206220.00000	204256.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:13:00
Tube Number: 32 Batch: 152886050004A
Sample Number: **8082126** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	38748.50000	0.00000	0.782	38708.70000	39069.50000	38467.20000
AL	27	45.65000	1610.17000	9.036	43.04590	43.50617	50.40987
CA	44	75090.00000	225230.00000	3.078	73545.48329	73982.93709	77749.11446
CR	52	0.65950	960.07800	11.892	0.63975	0.74586	0.59276
FE	57	22100.00000	428884.00000	0.705	22050.83866	21977.46166	22276.68327
K	39	3225.00000	189726.00000	2.207	3171.29745	3198.82614	3306.01285
MG	24	18640.00000	1896360.00000	3.065	19060.29120	17989.98537	18871.73335
MN	55	881.20000	423218.00000	1.259	882.50361	869.57639	891.64687
NA	23	315900.00000	61395200.00000	1.954	318743.60646	308768.02764	320054.96082
TI	47	2.42800	60.00330	71.046	1.95399	4.34089	0.99044
V	51	0.43010	326.68500	23.413	0.42081	0.33435	0.53513
IN-1	115	257954.00000	0.00000	2.179	263681.00000	257734.00000	252447.00000
IN-2	115	46941.90000	0.00000	2.050	48051.60000	46434.60000	46339.40000
AG	107	0.01179	26.66800	106.785	-0.00155	0.02345	0.01348
AS	75	0.70020	83.33430	4.267	0.71033	0.72364	0.66653
BA	137	95.18000	20671.20000	2.528	93.21719	97.86670	94.46823
CD	111	0.05943	30.66700	10.883	0.05366	0.06642	0.05821
CO	59	0.12860	346.68600	31.781	0.11896	0.09343	0.17344
CU	63	1.63400	2280.30000	7.907	1.48844	1.67921	1.73478
MO	98	0.08059	120.00600	41.221	0.07752	0.04901	0.11524
NI	60	0.65960	350.01800	48.272	0.47583	1.02728	0.47577
SB	121	0.03888	36.66810	73.740	0.00754	0.04532	0.06378
SE	78	0.09099	7.55558	31.861	0.06265	0.12058	0.08974
SN	120	4.89300	10003.70000	211.527	-1.14812	16.84505	-1.01934
SR	88	374.50000	180553.00000	2.283	364.66697	378.60846	380.21195
ZN	66	4.83200	746.71900	2.821	4.72972	4.98654	4.77882
BI-2	209	164569.00000	0.00000	1.243	165208.00000	162280.00000	166220.00000
PB	208	0.40410	3130.29000	10.240	0.44834	0.39770	0.36634
TL	203	-0.00219	13.33390	-230.924	0.00075	-0.00802	0.00070
SC-1	45	310627.00000	0.00000	0.908	312827.00000	311607.00000	307448.00000
GE-1	72	345022.00000	0.00000	0.944	347830.00000	345783.00000	341453.00000
GE-2	72	91451.90000	0.00000	1.028	92432.60000	90558.10000	91364.80000
TB-2	159	203277.00000	0.00000	0.380	202388.00000	203778.00000	203665.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:15:00
Tube Number: 33 Batch: 152886050004A
Sample Number: **8082127** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39491.00000	0.00000	0.577	39651.20000	39230.10000	39591.60000
AL	27	1289.00000	44885.20000	1.385	1293.05905	1304.09060	1269.16798
CA	44	68770.00000	210264.00000	0.861	69439.89203	68324.10447	68540.22267
CR	52	4.23600	4427.63000	1.935	4.15886	4.32215	4.22775
FE	57	51250.00000	1013510.00000	2.416	49985.54632	52459.28637	51322.46069
K	39	2393.00000	146990.00000	1.252	2407.12989	2358.53612	2413.19765
MG	24	19540.00000	2026720.00000	0.687	19515.21882	19692.29465	19429.05986
MN	55	1183.00000	578572.00000	0.847	1172.23142	1183.85442	1192.18677
NA	23	69970.00000	13957300.00000	0.262	69757.35352	70098.90919	70041.87410
TI	47	66.25000	1400.19000	10.044	65.52260	59.99171	73.23888
V	51	6.10800	4514.32000	0.542	6.10554	6.07565	6.14182
IN-1	115	260674.00000	0.00000	0.708	260468.00000	258941.00000	262613.00000
IN-2	115	48284.00000	0.00000	0.832	48746.40000	48020.30000	48085.30000
AG	107	0.00809	20.00080	158.194	0.00321	-0.00155	0.02259
AS	75	3.51100	282.00500	10.587	3.52959	3.13017	3.87296
BA	137	106.00000	23690.30000	1.544	105.62651	104.65241	107.84622
CD	111	0.18100	61.33390	33.807	0.15692	0.25053	0.13546
CO	59	2.15400	3537.29000	1.306	2.12173	2.17450	2.16501
CU	63	14.66000	18153.30000	1.561	14.39808	14.83593	14.73275
MO	98	0.24560	280.01600	21.665	0.30585	0.20504	0.22590
NI	60	4.78800	2146.93000	1.580	4.70271	4.84611	4.81623
SB	121	0.08358	63.33580	53.398	0.07667	0.13126	0.04281
SE	78	0.04176	4.66668	1.305	0.04182	0.04227	0.04119
SN	120	12.96000	17333.00000	108.488	6.63685	29.06634	3.17728
SR	88	355.50000	176350.00000	1.896	359.76416	347.70802	358.95547
ZN	66	72.35000	10404.60000	6.564	77.10214	72.35074	67.60342
BI-2	209	175828.00000	0.00000	1.170	174446.00000	178193.00000	174846.00000
PB	208	6.68100	52831.60000	4.133	6.80064	6.36511	6.87702
TL	203	0.00293	26.66780	211.047	-0.00386	0.00825	0.00442
SC-1	45	315116.00000	0.00000	0.397	314234.00000	316546.00000	314568.00000
GE-1	72	348272.00000	0.00000	0.629	350047.00000	345826.00000	348944.00000
GE-2	72	96313.20000	0.00000	1.581	96572.60000	94677.40000	97689.50000
TB-2	159	211012.00000	0.00000	0.621	210158.00000	210358.00000	212521.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:17:00
Tube Number: 34
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39320.50000	0.00000	1.547	39370.20000	38688.90000	39902.50000
AL	27	2504.00000	86785.30000	1.308	2529.25604	2516.28621	2467.15113
CA	44	2520.00000	7906.02000	2.134	2516.34004	2468.40684	2575.74828
CR	52	257.20000	247271.00000	1.961	261.35607	258.56193	251.56659
FE	57	2563.00000	50555.90000	0.822	2539.82558	2580.52222	2569.71387
K	39	2454.00000	149704.00000	2.557	2494.28771	2485.84779	2381.62248
MG	24	2494.00000	257670.00000	0.728	2501.99368	2506.34147	2472.93815
MN	55	257.80000	126372.00000	1.983	260.73273	260.74488	251.88231
NA	23	2513.00000	617002.00000	1.288	2501.40144	2549.54549	2487.98933
TI	47	252.80000	5287.96000	4.589	263.06035	255.04065	240.19245
V	51	258.20000	189280.00000	1.682	261.74085	259.40594	253.32597
IN-1	115	274530.00000	0.00000	2.007	280786.00000	270394.00000	272408.00000
IN-2	115	49048.80000	0.00000	4.241	51364.40000	47339.70000	48442.40000
AG	107	26.41000	55734.40000	3.373	25.48416	27.26139	26.47716
AS	75	261.90000	18590.10000	5.437	245.85545	272.94396	267.00580
BA	137	258.90000	58666.60000	3.621	250.20978	268.83496	257.63308
CD	111	25.87000	6456.36000	4.171	24.62836	26.47844	26.51653
CO	59	268.40000	427903.00000	3.541	257.87759	276.40789	270.80864
CU	63	267.80000	330413.00000	2.983	258.81700	270.68761	274.01315
MO	98	25.66000	24701.80000	4.486	24.44553	26.73304	25.80697
NI	60	266.70000	117185.00000	3.617	256.60499	275.81180	267.78777
SB	121	25.93000	14972.80000	7.952	23.59321	27.48578	26.71918
SE	78	25.58000	1633.66000	1.878	25.50800	26.09695	25.14506
SN	120	25.58000	28665.00000	21.052	20.65057	31.32724	24.75648
SR	88	25.31000	12770.20000	1.966	24.94821	25.87912	25.10816
ZN	66	265.30000	38511.90000	2.941	257.00488	266.56565	272.46857
BI-2	209	180019.00000	0.00000	1.779	183681.00000	178630.00000	177745.00000
PB	208	25.61000	206927.00000	1.199	25.48811	25.37955	25.95731
TL	203	25.22000	62689.20000	1.099	25.15756	24.98365	25.52636
SC-1	45	323874.00000	0.00000	1.202	328024.00000	320301.00000	323295.00000
GE-1	72	364834.00000	0.00000	1.471	368540.00000	358679.00000	367282.00000
GE-2	72	98523.50000	0.00000	0.893	99535.40000	98093.30000	97941.90000
TB-2	159	210971.00000	0.00000	0.933	212762.00000	208864.00000	211287.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:20:00
Tube Number: 35
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39852.00000	0.00000	2.117	40113.20000	40533.90000	38908.80000
AL	27	-0.67930	30.00140	-42.176	-0.40314	-0.97506	-0.65989
CA	44	-1.21500	240.01400	-1095.470	-11.56139	-5.88373	13.80035
CR	52	-0.05074	296.68300	-131.967	-0.03818	0.00905	-0.12310
FE	57	0.28400	96.67160	335.669	-0.06826	1.36339	-0.44298
K	39	-6.48300	13377.30000	-116.798	-5.65727	-14.43434	0.64153
MG	24	1.19700	373.35700	24.252	1.33580	1.39134	0.86305
MN	55	-2.01800	86.67050	-1.606	-1.99296	-2.05492	-2.00750
NA	23	-0.46740	123836.00000	-2768.510	-6.33079	-9.43651	14.36191
TI	47	-0.47780	0.00000	0.000	-0.47783	-0.47783	-0.47783
V	51	0.02252	33.33510	125.178	0.04430	-0.00932	0.03258
IN-1	115	271276.00000	0.00000	1.649	274593.00000	266188.00000	273047.00000
IN-2	115	49820.40000	0.00000	1.386	49175.90000	49735.90000	50549.60000
AG	107	0.00769	20.00100	119.542	-0.00155	0.00779	0.01682
AS	75	-0.04632	34.66700	-116.947	-0.10535	0.00112	-0.03474
BA	137	0.00271	23.33430	2461.230	-0.01090	0.07511	-0.05609
CD	111	0.01249	20.66680	102.962	0.02683	0.00200	0.00864
CO	59	-0.03917	96.67110	-72.019	-0.06106	-0.04912	-0.00735
CU	63	-0.07883	276.68200	-23.379	-0.06517	-0.09980	-0.07154
MO	98	0.04922	96.67070	26.473	0.06424	0.04245	0.04097
NI	60	-0.00310	76.67060	-1435.540	-0.01566	-0.03989	0.04627
SB	121	0.21610	143.34000	31.023	0.23106	0.14283	0.27438
SE	78	0.01063	2.88890	119.003	-0.00395	0.01860	0.01724
SN	120	12.34000	17232.10000	131.523	30.12113	8.57288	-1.67399
SR	88	0.00144	23.33420	3188.060	0.05449	-0.02492	-0.02524
ZN	66	-0.03095	76.67010	-564.136	-0.00232	0.12758	-0.21814
BI-2	209	183075.00000	0.00000	1.308	184548.00000	180313.00000	184364.00000
PB	208	-0.00816	96.67100	-58.821	-0.01031	-0.00266	-0.01151
TL	203	-0.00406	10.00040	-1.285	-0.00409	-0.00400	-0.00409
SC-1	45	313840.00000	0.00000	1.193	316399.00000	309543.00000	315576.00000
GE-1	72	357341.00000	0.00000	1.043	360774.00000	357874.00000	353376.00000
GE-2	72	97894.80000	0.00000	0.705	98033.50000	97145.60000	98505.20000
TB-2	159	209987.00000	0.00000	0.168	209603.00000	210296.00000	210064.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:22:00
Tube Number: 36 Batch: 152886050004A
Sample Number: **8082128** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39036.30000	0.00000	1.469	38627.90000	38789.40000	39691.70000
AL	27	91.03000	3180.50000	12.644	104.27996	85.39816	83.42021
CA	44	100500.00000	303558.00000	1.802	102411.25345	100248.71140	98814.04784
CR	52	1.02000	1310.13000	8.349	1.00227	1.11276	0.94526
FE	57	7551.00000	147661.00000	1.918	7649.98849	7619.14850	7385.20916
K	39	5688.00000	326755.00000	1.590	5791.97301	5635.45652	5635.15060
MG	24	13190.00000	1352310.00000	1.836	13458.96708	13139.96024	12983.89298
MN	55	690.20000	334142.00000	1.943	702.44224	692.40458	675.87681
NA	23	15930.00000	3234370.00000	2.471	16277.10345	16011.29820	15502.52021
TI	47	1.46000	40.00150	58.651	1.95904	1.94890	0.47080
V	51	1.15300	856.72900	11.683	1.01875	1.15268	1.28813
IN-1	115	268216.00000	0.00000	0.411	269383.00000	267192.00000	268073.00000
IN-2	115	48637.90000	0.00000	0.669	48855.60000	48263.90000	48794.30000
AG	107	0.00639	16.66730	42.453	0.00795	0.00326	0.00797
AS	75	1.16000	118.66800	24.879	0.83150	1.27794	1.37168
BA	137	69.26000	15593.70000	1.997	67.91361	70.67654	69.19830
CD	111	0.13600	50.66720	28.868	0.09194	0.16734	0.14863
CO	59	0.57990	1073.42000	9.459	0.62512	0.59577	0.51891
CU	63	4.12000	5404.67000	1.563	4.16279	4.15155	4.04607
MO	98	0.17380	213.34400	26.973	0.22155	0.17205	0.12784
NI	60	4.44400	2013.56000	7.174	4.78312	4.15011	4.40051
SB	121	0.08850	66.66960	40.757	0.05906	0.07771	0.12874
SE	78	0.07894	7.11113	56.929	0.02861	0.11506	0.09316
SN	120	0.95950	6968.90000	196.248	-0.67633	3.01764	0.53737
SR	88	542.80000	271227.00000	0.090	543.15356	543.01382	542.24194
ZN	66	19.70000	2910.45000	4.145	18.77656	19.99564	20.32699
BI-2	209	177028.00000	0.00000	0.321	176659.00000	177683.00000	176743.00000
PB	208	1.83700	14744.20000	1.309	1.81045	1.84257	1.85751
TL	203	0.00290	26.66830	163.508	0.00019	0.00014	0.00838
SC-1	45	317586.00000	0.00000	0.289	317230.00000	316899.00000	318628.00000
GE-1	72	354714.00000	0.00000	1.128	350557.00000	358537.00000	355048.00000
GE-2	72	95726.30000	0.00000	0.977	95132.10000	96804.80000	95241.90000
TB-2	159	210905.00000	0.00000	1.205	213224.00000	208189.00000	211301.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:24:00
Tube Number: 37 Batch: 152886050004A
Sample Number: **8082129** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	38597.90000	0.00000	1.217	38698.10000	39009.30000	38086.20000
AL	27	702.10000	23922.40000	1.578	709.62856	689.38442	707.31661
CA	44	107800.00000	321981.00000	2.544	106637.44323	105852.39846	110945.55294
CR	52	2.95300	3120.50000	11.622	2.96815	3.28814	2.60220
FE	57	81140.00000	1567910.00000	2.736	79108.86275	80792.86743	83509.41949
K	39	6464.00000	365397.00000	1.308	6480.60021	6372.94583	6539.71398
MG	24	25680.00000	2601630.00000	3.137	25545.29090	24945.65245	26540.37841
MN	55	1774.00000	847576.00000	0.704	1759.44557	1780.76509	1781.39040
NA	23	100200.00000	19484900.00000	2.496	100723.40401	97505.03598	102430.28437
TI	47	29.13000	606.70700	8.081	29.68534	26.54883	31.15907
V	51	2.86300	2076.92000	8.509	3.13749	2.67226	2.77978
IN-1	115	253648.00000	0.00000	0.265	253952.00000	254114.00000	252876.00000
IN-2	115	47498.90000	0.00000	1.011	47974.30000	47014.00000	47508.30000
AG	107	0.00828	20.00080	103.878	0.00329	0.01820	0.00334
AS	75	7.15200	527.34900	5.768	6.73695	7.56185	7.15751
BA	137	173.30000	38079.50000	0.668	172.60381	172.71816	174.66301
CD	111	0.56910	154.00200	13.959	0.51348	0.53376	0.66010
CO	59	4.05700	6421.84000	2.854	4.18967	3.97630	4.00513
CU	63	27.01000	32615.50000	0.883	26.76346	27.03622	27.23873
MO	98	0.40790	426.69000	12.108	0.46039	0.36234	0.40098
NI	60	7.94700	3457.25000	3.659	8.08543	7.61299	8.14296
SB	121	0.11530	80.00370	16.748	0.09604	0.13466	0.11511
SE	78	0.05529	5.33335	102.767	-0.00141	0.05504	0.11223
SN	120	3.28500	8771.97000	167.884	-1.42287	9.35380	1.92590
SR	88	633.60000	309154.00000	0.447	632.59318	636.75676	631.34215
ZN	66	32.62000	4657.70000	4.007	33.88014	31.27111	32.72124
BI-2	209	169217.00000	0.00000	1.240	170187.00000	166809.00000	170655.00000
PB	208	10.11000	76847.00000	1.822	10.21012	10.21355	9.89274
TL	203	0.01478	53.33550	42.686	0.01327	0.00936	0.02170
SC-1	45	307559.00000	0.00000	2.582	298814.00000	309539.00000	314322.00000
GE-1	72	338108.00000	0.00000	1.749	331392.00000	342545.00000	340387.00000
GE-2	72	94113.90000	0.00000	1.561	95634.90000	94003.20000	92703.60000
TB-2	159	208290.00000	0.00000	1.605	204752.00000	208721.00000	211398.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:27:00
Tube Number: 38 Batch: 152886050004A
Sample Number: **8082130** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39303.40000	0.00000	0.551	39470.70000	39059.00000	39380.60000
AL	27	2.12600	126.67300	29.229	1.91627	2.82457	1.63588
CA	44	61.17000	426.69800	21.694	51.78960	76.35059	55.37664
CR	52	-0.04881	293.34900	-186.437	-0.03303	0.03326	-0.14667
FE	57	9.69600	280.01600	46.628	6.58284	14.88188	7.62255
K	39	0.72600	13597.60000	941.460	-7.15973	4.96749	4.36838
MG	24	18.79000	2183.61000	4.140	17.89951	19.18619	19.30023
MN	55	-1.25400	456.69400	-2.528	-1.23145	-1.24203	-1.29088
NA	23	181.20000	157929.00000	2.778	186.86378	179.70960	177.15473
TI	47	-0.47780	0.00000	0.000	-0.47783	-0.47783	-0.47783
V	51	0.05010	53.33610	86.826	0.09974	0.01864	0.03192
IN-1	115	263366.00000	0.00000	1.408	267528.00000	260413.00000	262156.00000
IN-2	115	49965.90000	0.00000	2.768	51080.70000	48418.10000	50398.90000
AG	107	0.00165	6.66693	336.452	-0.00155	0.00804	-0.00155
AS	75	-0.02612	36.00030	-611.409	-0.12108	0.15830	-0.11558
BA	137	0.30410	93.33730	33.838	0.28228	0.21388	0.41622
CD	111	-0.00899	15.33350	-120.440	-0.00758	-0.02046	0.00106
CO	59	-0.07787	33.33460	-12.932	-0.08654	-0.06683	-0.08027
CU	63	3.17800	4367.60000	4.446	3.04142	3.16766	3.32349
MO	98	0.00442	53.33590	237.395	0.01008	-0.00769	0.01089
NI	60	0.10730	126.67200	72.572	0.19691	0.05598	0.06906
SB	121	-0.00495	13.33390	-213.867	-0.01117	0.00727	-0.01094
SE	78	-0.00602	1.77778	-421.569	-0.03531	0.00877	0.00848
SN	120	3.05200	9029.04000	66.514	3.36430	4.90747	0.88326
SR	88	0.09735	73.33620	57.689	0.14608	0.03593	0.11003
ZN	66	0.48850	153.34000	33.982	0.30843	0.63539	0.52155
BI-2	209	184348.00000	0.00000	1.210	186850.00000	182568.00000	183626.00000
PB	208	-0.00266	143.34000	-178.668	0.00151	-0.00165	-0.00783
TL	203	-0.00539	6.66694	-84.605	-0.00802	-0.00802	-0.00013
SC-1	45	306449.00000	0.00000	0.696	305248.00000	305187.00000	308911.00000
GE-1	72	353209.00000	0.00000	0.974	350226.00000	352425.00000	356975.00000
GE-2	72	99226.20000	0.00000	1.755	100140.00000	97218.10000	100320.00000
TB-2	159	211887.00000	0.00000	1.025	212384.00000	213768.00000	209510.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:29:00
Tube Number: 39
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39226.50000	0.00000	2.667	38136.90000	39320.10000	40222.60000
AL	27	103.20000	3617.31000	3.859	104.74989	106.17209	98.67385
CA	44	221.20000	913.40500	19.946	171.66450	256.20616	235.82224
CR	52	2.03100	2283.63000	11.689	2.26537	1.79073	2.03784
FE	57	109.40000	2236.95000	5.216	114.34142	103.14544	110.65910
K	39	184.70000	23748.80000	6.427	189.62260	193.35511	171.17879
MG	24	99.45000	10484.50000	1.163	100.34469	99.87225	98.14640
MN	55	-0.14870	990.08200	-180.161	0.15964	-0.28147	-0.32441
NA	23	197.60000	160729.00000	13.902	228.16694	189.50184	175.01941
TI	47	14.70000	316.68300	7.306	13.83820	14.36487	15.90430
V	51	0.46650	356.68600	19.083	0.52589	0.50939	0.36412
IN-1	115	267715.00000	0.00000	0.611	269148.00000	268065.00000	265934.00000
IN-2	115	49888.50000	0.00000	0.861	50145.70000	50127.20000	49392.60000
AG	107	0.53670	1156.77000	11.511	0.60509	0.48487	0.52031
AS	75	2.08800	188.67000	21.240	1.62386	2.50746	2.13262
BA	137	1.86800	453.36200	19.459	1.45423	2.01588	2.13493
CD	111	0.54100	154.66900	12.477	0.61388	0.48060	0.52864
CO	59	0.51960	1003.41000	6.311	0.55744	0.50249	0.49898
CU	63	2.06100	2960.43000	8.011	2.11984	1.87468	2.18894
MO	98	0.44460	483.36600	22.053	0.46880	0.33675	0.52833
NI	60	2.06100	1000.08000	12.814	2.07351	2.31927	1.79141
SB	121	0.96470	583.37000	6.104	0.90295	0.97101	1.02022
SE	78	1.93700	122.66800	7.641	1.93730	2.08445	1.78847
SN	120	2.50300	8553.78000	85.058	4.16811	3.23828	0.10377
SR	88	1.02100	546.70100	17.414	1.19800	1.02366	0.84245
ZN	66	14.64000	2240.29000	3.552	15.24161	14.30191	14.38587
BI-2	209	183486.00000	0.00000	1.486	185968.00000	183922.00000	180566.00000
PB	208	0.97390	8181.46000	4.108	0.96444	1.01783	0.93953
TL	203	0.55140	1416.82000	6.812	0.52966	0.59474	0.52969
SC-1	45	312834.00000	0.00000	0.644	310902.00000	312676.00000	314924.00000
GE-1	72	358720.00000	0.00000	1.177	353894.00000	361735.00000	360532.00000
GE-2	72	98143.60000	0.00000	1.093	97974.00000	99291.50000	97165.40000
TB-2	159	211555.00000	0.00000	0.453	211434.00000	212568.00000	210663.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:31:00
Tube Number: 40
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39708.20000	0.00000	1.854	40102.50000	40163.00000	38859.00000
AL	27	9954.00000	348187.00000	1.345	9927.09244	9835.96256	10099.65049
CA	44	10140.00000	31368.70000	1.370	10197.08057	9978.28173	10235.82123
CR	52	0.09638	436.69300	62.523	0.08443	0.04299	0.16171
FE	57	10050.00000	199942.00000	2.513	9928.22700	9890.58934	10345.78570
K	39	9900.00000	568440.00000	1.791	10035.91477	9699.74472	9965.37157
MG	24	9831.00000	1025030.00000	1.502	9842.44741	9678.44274	9973.21260
MN	55	-1.35900	410.02200	-3.224	-1.32732	-1.40918	-1.34120
NA	23	10030.00000	2117940.00000	1.870	9895.96599	9957.39926	10247.32243
TI	47	201.60000	4264.18000	2.517	204.70693	204.39691	195.76589
V	51	0.03151	40.00150	127.388	0.07106	-0.00920	0.03265
IN-1	115	269645.00000	0.00000	0.538	271151.00000	268260.00000	269524.00000
IN-2	115	49763.60000	0.00000	0.117	49828.50000	49716.80000	49745.50000
AG	107	0.00312	10.00070	149.808	-0.00155	0.00779	0.00312
AS	75	0.00095	38.00040	28382.700	-0.11087	0.30729	-0.19358
BA	137	-0.05536	10.00070	-136.145	-0.09888	0.03166	-0.09888
CD	111	0.05472	31.33360	44.316	0.04928	0.08123	0.03365
CO	59	-0.05739	66.67000	-24.848	-0.04921	-0.04910	-0.07385
CU	63	-0.04662	316.68300	-100.450	-0.02833	-0.01171	-0.09984
MO	98	202.90000	198052.00000	1.282	205.85028	201.79608	200.99901
NI	60	-0.01754	70.00320	-127.081	0.00466	-0.01739	-0.03991
SB	121	0.02337	30.00140	126.316	0.04034	0.04049	-0.01072
SE	78	0.00017	2.22223	3616.200	-0.00356	-0.00321	0.00728
SN	120	1.20200	7353.02000	191.015	-0.85752	3.67759	0.78458
SR	88	0.01418	30.00120	137.447	0.03365	-0.00533	0.01421
ZN	66	-0.19020	53.33590	-89.748	-0.00953	-0.21253	-0.34879
BI-2	209	179956.00000	0.00000	2.279	184650.00000	178151.00000	177065.00000
PB	208	0.01185	256.67900	15.409	0.01021	0.01382	0.01151
TL	203	-0.00404	10.00040	-97.250	-0.00017	-0.00802	-0.00392
SC-1	45	317585.00000	0.00000	1.085	317229.00000	321196.00000	314331.00000
GE-1	72	358850.00000	0.00000	1.402	361243.00000	362238.00000	353068.00000
GE-2	72	97951.80000	0.00000	2.445	100692.00000	96260.10000	96903.30000
TB-2	159	214795.00000	0.00000	1.288	216383.00000	216402.00000	211601.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:34:00
Tube Number: 41
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39203.10000	0.00000	3.354	39991.90000	39932.00000	37685.30000
AL	27	10040.00000	346651.00000	2.305	9878.61869	9939.57865	10306.46883
CA	44	9844.00000	30068.60000	2.554	9680.93221	9718.27308	10133.86557
CR	52	20.32000	19789.10000	2.582	19.71780	20.56952	20.67432
FE	57	10080.00000	197825.00000	4.268	9828.85084	9840.60058	10579.85327
K	39	9956.00000	563963.00000	2.800	9808.68178	9780.94248	10277.05485
MG	24	9842.00000	1012560.00000	3.319	9761.86178	9563.23178	10201.73009
MN	55	19.15000	10341.20000	2.917	18.52360	19.32495	19.59854
NA	23	9938.00000	2071810.00000	2.429	9721.54687	9895.75863	10198.46990
TI	47	197.20000	4117.49000	3.210	204.33479	194.73706	192.38348
V	51	0.02326	33.33490	41.359	0.01768	0.01774	0.03437
IN-1	115	266260.00000	0.00000	0.938	263423.00000	268127.00000	267229.00000
IN-2	115	49536.80000	0.00000	1.554	50357.40000	49422.80000	48830.30000
AG	107	20.83000	44446.00000	1.177	21.04908	20.56550	20.87692
AS	75	19.92000	1464.09000	4.341	19.46559	19.36799	20.91225
BA	137	-0.05565	10.00040	-77.197	-0.01296	-0.05511	-0.09888
CD	111	20.61000	5203.11000	2.449	20.60855	21.11118	20.10165
CO	59	21.01000	34008.80000	0.196	20.99136	21.05361	20.97577
CU	63	21.34000	26955.70000	1.505	21.67448	21.03350	21.31695
MO	98	202.80000	197072.00000	0.607	202.91413	201.52867	203.98086
NI	60	20.42000	9143.60000	3.792	20.75546	20.97019	19.53441
SB	121	0.01803	26.66820	242.041	0.02277	-0.02778	0.05911
SE	78	0.01149	2.88890	147.346	0.03006	0.00750	-0.00309
SN	120	4.94900	10742.90000	194.383	15.98473	-1.66429	0.52605
SR	88	0.02796	36.66830	150.572	-0.00583	0.01460	0.07512
ZN	66	20.67000	3103.85000	10.160	18.80495	20.26738	22.94636
BI-2	209	181488.00000	0.00000	1.408	184013.00000	181549.00000	178903.00000
PB	208	0.01321	270.01200	11.628	0.01274	0.01196	0.01492
TL	203	-0.00402	10.00040	-1.398	-0.00408	-0.00403	-0.00397
SC-1	45	309381.00000	0.00000	0.718	311578.00000	309430.00000	307135.00000
GE-1	72	354043.00000	0.00000	0.649	356676.00000	352439.00000	353015.00000
GE-2	72	97744.10000	0.00000	2.249	100180.00000	95906.90000	97145.70000
TB-2	159	212614.00000	0.00000	2.193	217976.00000	209522.00000	210345.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:36:00
Tube Number: 42
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39142.80000	0.00000	1.652	39861.50000	38958.80000	38607.90000
AL	27	2494.00000	86020.10000	2.611	2418.71355	2533.98713	2528.89596
CA	44	2523.00000	7875.99000	1.489	2481.09510	2553.72327	2534.05609
CR	52	261.60000	250389.00000	1.472	257.47819	262.22166	265.10449
FE	57	2491.00000	48893.30000	2.731	2415.44006	2547.71095	2509.10154
K	39	2416.00000	146946.00000	0.874	2392.39418	2422.38886	2433.13707
MG	24	2494.00000	256471.00000	2.237	2452.08350	2472.06761	2557.15355
MN	55	259.30000	126553.00000	2.021	253.41583	263.34105	261.28815
NA	23	2488.00000	609254.00000	1.951	2431.84506	2516.98751	2514.77240
TI	47	255.30000	5314.63000	5.080	244.69046	251.33856	269.72616
V	51	258.00000	188258.00000	2.457	251.84433	257.55911	264.49931
IN-1	115	268657.00000	0.00000	1.893	274348.00000	267073.00000	264552.00000
IN-2	115	49390.10000	0.00000	1.055	49359.40000	49925.90000	48885.10000
AG	107	26.07000	55456.80000	2.205	26.73193	25.69079	25.78890
AS	75	260.60000	18648.90000	1.756	264.78534	255.70067	261.21253
BA	137	255.10000	58261.10000	1.842	255.79622	250.11131	259.43575
CD	111	25.48000	6410.34000	1.393	25.07295	25.67920	25.69561
CO	59	264.40000	424907.00000	1.261	264.38745	261.07234	267.74281
CU	63	266.40000	331098.00000	2.106	269.44638	259.90069	269.77804
MO	98	26.36000	25590.20000	4.177	26.97264	27.02400	25.09196
NI	60	262.40000	116183.00000	1.002	264.95305	259.69364	262.46400
SB	121	25.11000	14625.80000	4.767	25.89530	23.72942	25.69535
SE	78	25.15000	1570.77000	3.988	23.99417	25.83084	25.61081
SN	120	28.80000	31830.60000	25.330	22.30943	27.39839	36.69578
SR	88	24.99000	12706.80000	4.022	24.68031	26.11717	24.18242
ZN	66	259.80000	37997.20000	1.533	263.67953	255.72483	260.06867
BI-2	209	182149.00000	0.00000	0.567	182741.00000	182750.00000	180956.00000
PB	208	25.20000	206056.00000	0.734	25.08436	25.10447	25.41430
TL	203	25.10000	63134.50000	0.850	24.97968	24.98249	25.35076
SC-1	45	312571.00000	0.00000	1.579	317224.00000	307397.00000	313092.00000
GE-1	72	356484.00000	0.00000	0.866	356052.00000	359765.00000	353637.00000
GE-2	72	97089.60000	0.00000	0.397	97136.40000	97449.20000	96683.20000
TB-2	159	213022.00000	0.00000	0.706	212865.00000	214599.00000	211604.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:38:00
Tube Number: 43
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39079.30000	0.00000	3.355	40303.10000	37695.20000	39239.70000
AL	27	0.02021	53.33660	3122.220	0.15492	0.57297	-0.66725
CA	44	-8.58700	213.34400	-118.318	-5.46353	-0.35826	-19.94114
CR	52	-0.04017	300.01600	-205.676	0.01113	0.00384	-0.13549
FE	57	0.41180	96.67060	537.154	0.90167	2.33844	-2.00456
K	39	-8.44600	13010.20000	-115.498	-18.22296	-8.40520	1.28715
MG	24	-0.18830	223.34300	-159.586	-0.09936	0.05757	-0.52324
MN	55	-2.04800	70.00320	-2.792	-2.11432	-2.02294	-2.00908
NA	23	-9.98500	119500.00000	-249.975	-31.58711	17.33619	-15.70874
TI	47	-0.31130	3.33346	-92.612	-0.47783	0.02160	-0.47783
V	51	0.06890	66.66940	56.938	0.04398	0.04859	0.11412
IN-1	115	264437.00000	0.00000	1.435	268394.00000	260827.00000	264092.00000
IN-2	115	50829.10000	0.00000	0.829	51313.50000	50547.70000	50625.90000
AG	107	0.00601	16.66730	156.478	0.01655	0.00304	-0.00155
AS	75	-0.12810	29.33360	-128.650	-0.14987	-0.28094	0.04646
BA	137	-0.05634	10.00040	-75.843	-0.05672	-0.09888	-0.01342
CD	111	0.00315	18.66680	635.410	-0.01554	0.02423	0.00075
CO	59	-0.04617	86.67150	-46.069	-0.04465	-0.06816	-0.02570
CU	63	-0.10910	243.34600	-34.409	-0.15246	-0.08727	-0.08760
MO	98	0.18780	236.68000	23.184	0.13899	0.22256	0.20199
NI	60	-0.02105	70.00370	-272.019	0.02122	-0.08621	0.00184
SB	121	0.14500	103.33800	52.566	0.07144	0.14009	0.22364
SE	78	0.01911	3.33334	102.459	0.00746	0.04171	0.00816
SN	120	0.44320	6829.14000	523.466	3.07642	-1.29789	-0.44903
SR	88	0.00012	23.33420	17689.200	0.01242	-0.02524	0.01319
ZN	66	-0.17470	56.66880	-97.138	-0.35504	-0.15117	-0.01809
BI-2	209	185055.00000	0.00000	1.346	187599.00000	182623.00000	184942.00000
PB	208	-0.01073	76.67010	-23.243	-0.01165	-0.01265	-0.00792
TL	203	0.00108	23.33430	539.945	0.00743	-0.00008	-0.00410
SC-1	45	307090.00000	0.00000	0.916	306468.00000	304640.00000	310162.00000
GE-1	72	355242.00000	0.00000	0.838	358632.00000	353058.00000	354038.00000
GE-2	72	99615.30000	0.00000	0.465	100139.00000	99443.30000	99263.20000
TB-2	159	213712.00000	0.00000	1.445	216694.00000	213914.00000	210527.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:41:00
Tube Number: 44 Batch: 152886050001A
Sample Number: **8085872** Class: **********

Initial Vol: 25.00 Final Vol: 25.00 DF: 10.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	40046.20000	0.00000	2.395	41136.10000	39671.60000	39330.90000
AL	27	15.27000	593.37100	11.873	16.12738	16.49351	13.18574
CA	44	510.20000	1823.54000	8.342	461.47628	540.11543	529.03547
CR	52	25.17000	24954.80000	2.846	24.34420	25.56612	25.60306
FE	57	66.27000	1420.13000	1.112	66.82618	65.43264	66.54664
K	39	224500.00000	12696100.00000	2.217	218891.51851	226150.47465	228425.08587
MG	24	33.06000	3724.02000	1.589	32.73089	32.77835	33.66385
MN	55	-0.80690	686.71400	-5.478	-0.85751	-0.78780	-0.77559
NA	23	185400.00000	37284100.00000	2.561	180065.03849	186963.23170	189166.53882
TI	47	-0.32520	3.33346	-81.242	-0.02017	-0.47783	-0.47783
V	51	0.08885	83.33670	29.837	0.10782	0.05856	0.10017
IN-1	115	265703.00000	0.00000	0.580	266184.00000	266945.00000	263980.00000
IN-2	115	49273.70000	0.00000	0.514	48993.50000	49341.30000	49486.20000
AG	107	0.01101	26.66800	65.177	0.01267	0.00315	0.01722
AS	75	3.03600	254.00500	14.460	2.57768	3.45267	3.07772
BA	137	8.58100	1976.91000	7.295	8.60057	9.19702	7.94549
CD	111	0.42090	122.66800	4.481	0.43707	0.42552	0.40020
CO	59	75.93000	121868.00000	0.737	76.30940	75.29231	76.20592
CU	63	11.68000	14842.40000	2.566	11.69019	11.97706	11.37776
MO	98	4.46300	4360.93000	3.881	4.48883	4.62226	4.27873
NI	60	2.56600	1210.11000	6.539	2.44534	2.49473	2.75759
SB	121	0.03547	36.66840	112.546	0.05882	0.05821	-0.01063
SE	78	0.64160	41.77800	23.878	0.80565	0.50223	0.61698
SN	120	132.90000	124164.00000	5.494	131.30198	140.82733	126.48152
SR	88	1.06100	560.03800	14.279	0.88942	1.11961	1.17522
ZN	66	112.20000	16414.30000	1.701	114.32849	111.59547	110.65160
BI-2	209	176973.00000	0.00000	0.460	177646.00000	176068.00000	177206.00000
PB	208	0.14420	1303.42000	13.488	0.12938	0.13705	0.16624
TL	203	-0.00392	10.00040	-104.364	-0.00802	-0.00390	0.00016
SC-1	45	313864.00000	0.00000	0.065	313683.00000	314087.00000	313821.00000
GE-1	72	352363.00000	0.00000	1.392	355773.00000	354573.00000	346743.00000
GE-2	72	97488.10000	0.00000	1.387	95936.60000	98414.50000	98113.00000
TB-2	159	213790.00000	0.00000	1.324	216393.00000	210776.00000	214201.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:43:00
Tube Number: 45 Batch: 152886050001A
Sample Number: **8085872** Class: **********

Initial Vol: 25.00 Final Vol: 25.00 DF: 20.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	40025.70000	0.00000	1.783	40634.10000	40202.80000	39240.20000
AL	27	9.26300	380.01900	19.000	7.40511	9.47774	10.90514
CA	44	235.10000	973.41400	5.300	248.54031	232.75809	223.93720
CR	52	12.34000	12409.70000	1.754	12.15648	12.29070	12.58014
FE	57	29.23000	676.71100	2.872	28.38306	29.23339	30.06211
K	39	110900.00000	6274410.00000	3.089	108690.71218	109111.86994	114825.19090
MG	24	18.07000	2146.93000	4.892	17.22532	18.00424	18.98940
MN	55	-1.32300	430.02900	-21.580	-1.31876	-1.61115	-1.04027
NA	23	91810.00000	18518800.00000	2.892	89426.15124	91345.01235	94673.42470
TI	47	-0.47780	0.00000	0.000	-0.47783	-0.47783	-0.47783
V	51	0.04944	53.33560	90.433	0.01704	0.03081	0.10045
IN-1	115	266661.00000	0.00000	1.682	268007.00000	261655.00000	270320.00000
IN-2	115	51210.70000	0.00000	2.744	51961.00000	49589.60000	52081.50000
AG	107	0.00448	13.33380	56.402	0.00739	0.00313	0.00291
AS	75	1.28100	134.00200	4.147	1.33580	1.22969	1.27839
BA	137	4.26100	1033.42000	12.697	3.93980	3.95839	4.88590
CD	111	0.15960	59.33400	28.202	0.12019	0.20865	0.15000
CO	59	36.40000	60750.00000	4.025	36.20798	37.94424	35.03281
CU	63	5.61200	7612.57000	2.414	5.76491	5.56537	5.50635
MO	98	2.05600	2116.94000	8.502	2.25659	1.93494	1.97706
NI	60	1.07700	573.36800	9.898	0.96389	1.17589	1.08985
SB	121	0.02791	33.33460	127.481	-0.01145	0.05778	0.03739
SE	78	0.38480	26.00010	10.210	0.38231	0.42535	0.34689
SN	120	78.06000	78608.70000	25.634	101.08067	68.32135	64.78063
SR	88	0.44650	256.68000	38.029	0.34895	0.64260	0.34804
ZN	66	53.88000	8229.62000	4.942	53.46035	56.72608	51.44913
BI-2	209	182797.00000	0.00000	1.392	184774.00000	183693.00000	179926.00000
PB	208	0.06183	670.03500	18.567	0.04881	0.06620	0.07049
TL	203	-0.00536	6.66694	-42.937	-0.00802	-0.00407	-0.00399
SC-1	45	313449.00000	0.00000	0.941	313403.00000	310521.00000	316423.00000
GE-1	72	359640.00000	0.00000	0.597	362099.00000	358689.00000	358130.00000
GE-2	72	99557.70000	0.00000	1.291	98274.10000	100844.00000	99554.60000
TB-2	159	217104.00000	0.00000	0.192	217155.00000	216665.00000	217492.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:45:00
Tube Number: 46
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39661.40000	0.00000	1.334	40243.30000	39210.00000	39530.90000
AL	27	105.40000	3734.00000	4.012	101.16220	105.31559	109.61924
CA	44	206.50000	876.73200	6.508	216.37329	191.18311	211.89099
CR	52	2.12900	2406.98000	8.652	2.28086	2.18318	1.92432
FE	57	98.67000	2050.25000	6.789	99.18406	91.72868	105.09673
K	39	195.00000	24593.80000	4.745	185.25043	203.64035	196.22606
MG	24	102.80000	10948.30000	1.770	100.74761	104.24211	103.37862
MN	55	-0.14780	1003.41000	-75.643	-0.24498	-0.17298	-0.02570
NA	23	219.10000	166878.00000	1.918	217.88042	215.59089	223.73704
TI	47	12.81000	280.01500	48.080	15.89587	16.80749	5.71336
V	51	0.59970	460.02600	10.338	0.55050	0.57928	0.66935
IN-1	115	274081.00000	0.00000	1.011	276814.00000	271272.00000	274158.00000
IN-2	115	50818.40000	0.00000	0.516	50739.80000	51110.70000	50604.70000
AG	107	0.54660	1200.11000	11.078	0.51560	0.61636	0.50781
AS	75	1.92300	180.00300	12.720	1.95298	1.66441	2.15089
BA	137	2.10000	516.70000	14.419	1.86242	2.44078	1.99592
CD	111	0.46790	138.66900	16.595	0.38084	0.49313	0.52988
CO	59	0.56290	1093.43000	8.780	0.51341	0.56311	0.61226
CU	63	2.00200	2940.43000	10.609	2.22481	1.80171	1.97997
MO	98	0.51890	566.70100	7.695	0.49288	0.49891	0.56487
NI	60	1.94900	966.74300	5.844	1.82721	1.96555	2.05312
SB	121	1.08000	663.37800	2.690	1.10948	1.05140	1.07897
SE	78	1.79300	116.44500	1.025	1.81011	1.77375	1.79657
SN	120	3.84100	9915.41000	136.267	0.93550	0.70467	9.88420
SR	88	0.87490	480.02800	3.262	0.85728	0.90786	0.85968
ZN	66	15.85000	2463.67000	4.390	16.65764	15.47344	15.43266
BI-2	209	186525.00000	0.00000	1.799	188567.00000	188356.00000	182651.00000
PB	208	1.00300	8561.59000	4.380	0.97571	1.05378	0.97987
TL	203	0.49930	1303.46000	16.643	0.44539	0.45744	0.59496
SC-1	45	314107.00000	0.00000	1.084	317490.00000	310679.00000	314151.00000
GE-1	72	361802.00000	0.00000	0.593	363281.00000	359340.00000	362786.00000
GE-2	72	100299.00000	0.00000	0.433	100127.00000	99977.60000	100793.00000
TB-2	159	216676.00000	0.00000	1.734	220351.00000	216838.00000	212840.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:48:00
Tube Number: 47
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	39688.30000	0.00000	0.290	39801.70000	39571.50000	39691.70000
AL	27	10090.00000	352707.00000	1.574	9917.47611	10232.07335	10112.10642
CA	44	9782.00000	30266.10000	2.031	9555.09196	9866.47964	9924.71341
CR	52	0.11990	460.02400	53.461	0.17005	0.14206	0.04771
FE	57	10030.00000	199449.00000	0.367	10035.65841	9993.37812	10066.80436
K	39	10050.00000	576749.00000	1.065	10044.51313	9950.31337	10163.88027
MG	24	9978.00000	1039990.00000	2.606	10085.27326	10167.82681	9681.98253
MN	55	-1.44000	370.02200	-3.604	-1.40205	-1.49963	-1.42023
NA	23	10020.00000	2115560.00000	0.567	9972.08760	10017.00674	10085.02314
TI	47	201.80000	4264.22000	7.611	217.14332	201.75048	186.43114
V	51	0.03146	40.00180	74.062	0.04482	0.00456	0.04501
IN-1	115	270901.00000	0.00000	1.690	269172.00000	276092.00000	267439.00000
IN-2	115	50048.80000	0.00000	1.740	50937.50000	50011.90000	49197.10000
AG	107	0.00626	16.66730	114.831	-0.00155	0.00773	0.01261
AS	75	0.03412	40.66710	160.727	0.09725	-0.00180	0.00690
BA	137	-0.05614	10.00040	-75.650	-0.01394	-0.05562	-0.09888
CD	111	0.04123	28.00030	73.587	0.01578	0.03310	0.07481
CO	59	-0.06170	60.00250	-34.538	-0.07443	-0.03710	-0.07358
CU	63	-0.11690	230.01200	-17.571	-0.10452	-0.14067	-0.10569
MO	98	201.70000	197998.00000	1.686	197.78076	203.64540	203.69614
NI	60	0.09322	120.00700	105.171	0.13223	-0.01831	0.16576
SB	121	0.01745	26.66770	112.436	0.00554	0.04009	0.00672
SE	78	-0.02457	0.66667	-75.661	-0.03531	-0.03531	-0.00312
SN	120	-0.62320	5749.40000	-41.175	-0.90495	-0.40299	-0.56172
SR	88	0.05255	50.00190	33.796	0.07017	0.05283	0.03465
ZN	66	-0.25930	43.33580	-40.339	-0.35358	-0.14687	-0.27772
BI-2	209	183590.00000	0.00000	0.693	184173.00000	182129.00000	184466.00000
PB	208	0.00998	246.67800	4.982	0.01029	0.00941	0.01024
TL	203	-0.00014	20.00080	-5013.260	0.00772	-0.00404	-0.00409
SC-1	45	316269.00000	0.00000	0.830	317151.00000	313316.00000	318341.00000
GE-1	72	362884.00000	0.00000	0.981	360520.00000	361154.00000	366977.00000
GE-2	72	97844.90000	0.00000	1.392	99383.60000	97357.10000	96794.10000
TB-2	159	214149.00000	0.00000	0.745	215491.00000	212385.00000	214571.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:50:00
Tube Number: 48
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	38865.50000	0.00000	3.057	37494.90000	39590.90000	39510.80000
AL	27	10240.00000	350428.00000	2.785	10563.69185	10128.27928	10026.82178
CA	44	10050.00000	30426.40000	3.126	10337.98924	10094.18819	9714.45542
CR	52	20.75000	20022.60000	3.099	21.49177	20.43892	20.32532
FE	57	10230.00000	198991.00000	2.607	10532.13119	10104.65415	10042.09911
K	39	10210.00000	573337.00000	2.920	10552.54358	9988.34515	10103.44346
MG	24	10140.00000	1034510.00000	3.907	10600.14770	9945.61245	9885.96071
MN	55	18.79000	10081.00000	2.472	19.29904	18.69280	18.38653
NA	23	10340.00000	2132710.00000	0.884	10439.36328	10259.63375	10320.66502
TI	47	207.90000	4304.23000	5.998	202.90743	222.10700	198.72351
V	51	0.00983	23.33420	92.718	0.02036	0.00454	0.00460
IN-1	115	266912.00000	0.00000	0.672	268827.00000	266637.00000	265273.00000
IN-2	115	50018.50000	0.00000	1.089	50076.40000	50532.00000	49447.10000
AG	107	20.37000	43877.60000	2.344	20.01815	20.17842	20.91359
AS	75	20.06000	1489.43000	2.457	19.55016	20.10816	20.53295
BA	137	-0.04148	13.33390	-157.401	-0.09888	0.02955	-0.05513
CD	111	20.29000	5171.77000	1.458	20.60660	20.02264	20.23246
CO	59	21.23000	34700.90000	1.725	20.88840	21.18715	21.61693
CU	63	21.08000	26892.00000	4.510	19.99080	21.56675	21.70007
MO	98	199.40000	195587.00000	1.366	197.20838	198.43085	202.41647
NI	60	20.89000	9437.05000	7.870	19.86890	20.01972	22.78939
SB	121	0.02857	33.33490	122.716	0.05695	0.03939	-0.01062
SE	78	0.00057	2.22223	2901.030	-0.00328	-0.01378	0.01878
SN	120	4.27100	10216.50000	245.610	-1.12117	16.35500	-2.42076
SR	88	0.05302	50.00300	133.516	-0.02506	0.07109	0.11301
ZN	66	20.25000	3073.81000	4.793	19.52208	19.87687	21.35215
BI-2	209	181912.00000	0.00000	1.385	180172.00000	180762.00000	184802.00000
PB	208	0.02369	356.68400	25.796	0.02086	0.01950	0.03070
TL	203	-0.00668	3.33347	-34.641	-0.00802	-0.00401	-0.00802
SC-1	45	319532.00000	0.00000	1.436	314542.00000	323570.00000	320484.00000
GE-1	72	355663.00000	0.00000	1.178	359171.00000	356795.00000	351024.00000
GE-2	72	98328.00000	0.00000	0.934	97326.50000	99131.10000	98526.60000
TB-2	159	214555.00000	0.00000	0.829	214940.00000	212616.00000	216109.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:53:00
Tube Number: 49
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39517.30000	0.00000	2.910	40844.70000	38848.80000	38858.50000
AL	27	2450.00000	85225.90000	6.469	2268.12541	2559.70425	2521.49313
CA	44	2522.00000	7946.12000	3.403	2444.83445	2614.50166	2507.23291
CR	52	259.60000	250698.00000	3.657	249.05633	267.51395	262.14709
FE	57	2495.00000	49442.40000	2.515	2424.46864	2543.58660	2518.18798
K	39	2434.00000	149281.00000	4.064	2320.19463	2495.44024	2487.29795
MG	24	2477.00000	257143.00000	2.715	2402.59638	2532.99744	2496.43107
MN	55	257.10000	126614.00000	3.758	245.98367	262.30873	263.10231
NA	23	2463.00000	609917.00000	4.726	2332.70518	2556.03530	2501.56878
TI	47	240.90000	5064.55000	3.702	234.17887	237.50966	251.02106
V	51	253.90000	187031.00000	2.524	246.56138	258.30778	256.87564
IN-1	115	271820.00000	0.00000	1.406	271831.00000	275635.00000	267994.00000
IN-2	115	50170.90000	0.00000	2.262	49668.30000	51470.30000	49374.10000
AG	107	25.85000	55838.30000	3.422	26.23702	24.84255	26.48291
AS	75	256.40000	18636.20000	3.503	261.37847	246.07393	261.87337
BA	137	253.70000	58847.50000	1.802	254.95082	248.64278	257.52822
CD	111	25.88000	6610.43000	2.974	25.76514	25.17450	26.70103
CO	59	259.90000	424151.00000	2.272	260.38683	253.74343	265.52036
CU	63	261.00000	329543.00000	1.250	260.58072	257.96858	264.45124
MO	98	25.44000	25079.10000	1.170	25.62162	25.09970	25.60862
NI	60	259.90000	116881.00000	2.825	264.65909	251.47547	263.66706
SB	121	24.52000	14515.60000	0.246	24.58809	24.46929	24.51101
SE	78	24.98000	1579.88000	1.299	24.61779	25.23555	25.09927
SN	120	25.11000	29071.20000	14.205	23.79383	29.14559	22.38310
SR	88	25.03000	12923.70000	5.921	23.56500	25.01027	26.52824
ZN	66	257.10000	38187.30000	1.898	257.79942	251.92033	261.60762
BI-2	209	181219.00000	0.00000	0.789	179804.00000	181191.00000	182662.00000
PB	208	25.42000	206752.00000	1.699	25.79535	25.51063	24.94680
TL	203	25.41000	63567.50000	0.874	25.37974	25.63987	25.19824
SC-1	45	313877.00000	0.00000	2.262	313843.00000	320995.00000	306793.00000
GE-1	72	359683.00000	0.00000	0.020	359628.00000	359764.00000	359657.00000
GE-2	72	99130.90000	0.00000	1.040	98597.70000	100319.00000	98475.70000
TB-2	159	213664.00000	0.00000	0.930	214924.00000	214694.00000	211372.00000

Run Name: 1529305E03 Date/Time: 10/20/2015 10:55:00
Tube Number: 50
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	39370.20000	0.00000	2.550	38688.30000	38898.60000	40523.60000
AL	27	-0.18070	46.66920	-475.982	0.81231	-0.65964	-0.69477
CA	44	0.51610	243.34700	1856.040	-9.06766	0.52534	10.09072
CR	52	0.00937	350.01800	158.501	-0.00536	0.02433	0.00914
FE	57	-2.02600	50.00220	-39.630	-2.48453	-2.49569	-1.09944
K	39	-10.43000	12993.60000	-85.561	-7.31184	-3.49134	-20.50132
MG	24	0.36990	283.34700	188.456	-0.39850	0.96180	0.54628
MN	55	-1.99600	96.67060	-5.281	-2.11097	-1.90349	-1.97504
NA	23	-6.23300	121176.00000	-334.831	-2.07599	12.24893	-28.87165
TI	47	-0.47780	0.00000	0.000	-0.47783	-0.47783	-0.47783
V	51	0.02757	36.66830	60.356	0.04676	0.01881	0.01715
IN-1	115	269295.00000	0.00000	1.016	270993.00000	266138.00000	270754.00000
IN-2	115	51190.70000	0.00000	0.861	51062.90000	50827.90000	51681.40000
AG	107	0.00147	6.66693	178.080	-0.00155	0.00302	0.00294
AS	75	0.06645	44.00040	242.137	0.14988	-0.11906	0.16854
BA	137	-0.02813	16.66760	-230.217	0.02822	-0.01375	-0.09888
CD	111	-0.00011	18.00020	-20044.400	-0.02298	0.00047	0.02218
CO	59	-0.03253	110.00500	-17.227	-0.03837	-0.03204	-0.02719
CU	63	-0.12070	230.01200	-41.334	-0.10500	-0.08062	-0.17659
MO	98	0.22240	273.34700	28.799	0.14990	0.27122	0.24618
NI	60	-0.03653	63.33570	-171.749	-0.10896	0.00113	-0.00177
SB	121	0.17660	123.33900	19.071	0.13840	0.18925	0.20209
SE	78	-0.00334	2.00001	-317.256	0.00705	-0.00296	-0.01411
SN	120	0.47010	6890.90000	522.867	-2.28282	2.44292	1.25015
SR	88	-0.01263	16.66760	-231.512	-0.00637	0.01296	-0.04450
ZN	66	-0.24410	46.66840	-16.612	-0.22151	-0.21997	-0.29096
BI-2	209	184571.00000	0.00000	0.667	183483.00000	184323.00000	185907.00000
PB	208	-0.00707	106.67200	-44.132	-0.00417	-0.00667	-0.01038
TL	203	0.00636	36.66820	93.825	-0.00012	0.01164	0.00757
SC-1	45	313388.00000	0.00000	1.568	318473.00000	313026.00000	308666.00000
GE-1	72	358217.00000	0.00000	1.928	366138.00000	355068.00000	353446.00000
GE-2	72	100697.00000	0.00000	1.270	100916.00000	99322.20000	101852.00000
TB-2	159	214873.00000	0.00000	0.585	214029.00000	214274.00000	216318.00000

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Instrument Tuning Report (ICPMS #11332)

File Name: default.tun

File Path: C:\elandata\Tuning

Sample Date/Time: 10/20/2015 3:11:00AM

Number of Replicates: 6

Method File: c:\elandata\Method\dailytune.mth

Measured Mass must be within +/- 0.1 amu of the Exact Mass.

Measured Peak Width must be > or = to 0.640 AND < or = to 0.660.

Analyte	EXACT MASS	MEAS. MASS	Mass DAC	RES. DAC	MEAS. PK. WIDTH
Ce	140.000	140.050	0	0	0.600
In	115.000	115.000	0	0	0.650
Li	6.000	6.050	0	0	0.700
Mg	24.000	23.950	0	0	0.700
Pb	208.000	208.000	0	0	0.600
Rh	103.000	103.000	0	0	0.650
U	238.000	238.000	0	0	0.650

Summary: Verify that the RSD is less than 5 for the following masses.

Mass	Meas. Intens. Mean	Meas. Intens. RSD
140.000	77105.000	1.550
115.000	76932.000	0.720
6.000	34860.000	1.870
24.000	43389.000	1.050
208.000	49514.000	1.080
103.000	70007.000	1.210
238.000	106771.000	0.380

Mercury Data

Metals in Liquid

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Mercury Run Data Report

Data File Name: 1529201.M07

Run Name: 1529201M07

Instrument No.: 17384

Element: Hg

Analyst Employee ID: 0354

Reviewed By
Damary Valentin

Reviewed Date
10/19/2015 8:42AM

Method Reference Name(s):
SW-846 7470A

Verified By:
Jennifer L Moyer

Verified Date
10/19/2015 11:19AM

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

1 Burn Date/Time: 10/19/2015 03:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0		1	1	1.00

AVG (ppb)	Intensity
0.0000	144.0

2 Burn Date/Time: 10/19/2015 03:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.2		1	1	1.00

AVG (ppb)	Intensity
0.0000	1678.0

3 Burn Date/Time: 10/19/2015 03:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	4310.0

4 Burn Date/Time: 10/19/2015 03:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S1.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	8448.0

5 Burn Date/Time: 10/19/2015 03:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S2.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	21239.0

6 Burn Date/Time: 10/19/2015 03:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S5.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	41109.0

CorrelationCoefficient = 1.00000
Slope = 8225.5786600000
Y-Intercept = 208.7793900000

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

7 Burn Date/Time: 10/19/2015 03:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICV		1	1	1.00

AVG (ppb)	Intensity
2.4681	20512.0

8 Burn Date/Time: 10/19/2015 03:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICB		1	1	1.00

AVG (ppb)	Intensity
-0.0382	-109.0

9 Burn Date/Time: 10/19/2015 03:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.1843	1722.0

10 Burn Date/Time: 10/19/2015 03:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 1		1	1	1.00

AVG (ppb)	Intensity
0.9617	8118.0

11 Burn Date/Time: 10/19/2015 03:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 1		1	1	1.00

AVG (ppb)	Intensity
-0.0296	-38.0

12 Burn Date/Time: 10/19/2015 03:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0079	141.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

13 Burn Date/Time: 10/19/2015 03:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0039	8465.0		

14 Burn Date/Time: 10/19/2015 03:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089282	U*********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0121	106.0		

15 Burn Date/Time: 10/19/2015 03:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089285	D*********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0065	259.0		

16 Burn Date/Time: 10/19/2015 03:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089283	R*********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0146	8553.0		

17 Burn Date/Time: 10/19/2015 03:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089284	M*********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0633	8954.0		

18 Burn Date/Time: 10/19/2015 03:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087536	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0039	174.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

19 Burn Date/Time: 10/19/2015 04:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087537	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0028	229.0		

20 Burn Date/Time: 10/19/2015 04:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087538	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0057	159.0		

21 Burn Date/Time: 10/19/2015 04:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087539	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0040	173.0		

22 Burn Date/Time: 10/19/2015 04:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 2		1	1	1.00

AVG (ppb)	Intensity
0.9651	8146.0

23 Burn Date/Time: 10/19/2015 04:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 2		1	1	1.00

AVG (ppb)	Intensity
-0.0293	-35.0

24 Burn Date/Time: 10/19/2015 04:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087540	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0059	157.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

25 Burn Date/Time: 10/19/2015 04:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087541	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0008	212.0		

26 Burn Date/Time: 10/19/2015 04:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087542	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0095	284.0		

27 Burn Date/Time: 10/19/2015 04:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087544	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0104	291.0		

28 Burn Date/Time: 10/19/2015 04:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087545	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0038	237.0		

29 Burn Date/Time: 10/19/2015 04:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087546	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0134	316.0		

30 Burn Date/Time: 10/19/2015 04:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087547	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0002	204.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

31 Burn Date/Time: 10/19/2015 04:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087548	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0002	207.0		

32 Burn Date/Time: 10/19/2015 04:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8087549	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0008	212.0		

33 Burn Date/Time: 10/19/2015 04:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089281	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0050	247.0		

34 Burn Date/Time: 10/19/2015 04:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 3		1	1	1.00

AVG (ppb)	Intensity
0.9676	8167.0

35 Burn Date/Time: 10/19/2015 04:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 3		1	1	1.00

AVG (ppb)	Intensity
-0.0301	-42.0

36 Burn Date/Time: 10/19/2015 04:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089286	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0061	256.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

37 Burn Date/Time: 10/19/2015 04:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089287	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0014	217.0		

38 Burn Date/Time: 10/19/2015 04:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089288	**********	4	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0483	603.0		

39 Burn Date/Time: 10/19/2015 04:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089290	**********	40	40	1.00	152895713001

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0011	197.0		

40 Burn Date/Time: 10/19/2015 04:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0177	60.0		

41 Burn Date/Time: 10/19/2015 04:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9750	8228.0		

42 Burn Date/Time: 10/19/2015 04:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081053	U**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0229	17.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

43 Burn Date/Time: 10/19/2015 04:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081056	D*********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0099	124.0		

44 Burn Date/Time: 10/19/2015 04:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081054	R*********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9579	8087.0		

45 Burn Date/Time: 10/19/2015 04:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081055	M*********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9606	8109.0		

46 Burn Date/Time: 10/19/2015 04:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 4		1	1	1.00

AVG (ppb)	Intensity
0.9477	8003.0

47 Burn Date/Time: 10/19/2015 04:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 4		1	1	1.00

AVG (ppb)	Intensity
-0.0302	-43.0

48 Burn Date/Time: 10/19/2015 04:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8090814	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0133	96.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

49 Burn Date/Time: 10/19/2015 05:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8090817	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0108	117.0		

50 Burn Date/Time: 10/19/2015 05:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8089792	**********	4	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.6485	5541.0		

51 Burn Date/Time: 10/19/2015 05:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081057	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0124	104.0		

52 Burn Date/Time: 10/19/2015 05:07

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081058	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0078	270.0		

53 Burn Date/Time: 10/19/2015 05:09

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081059	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0672	759.0		

54 Burn Date/Time: 10/19/2015 05:11

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081060	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0096	127.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

55 Burn Date/Time: 10/19/2015 05:13

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081061	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0097	126.0		

56 Burn Date/Time: 10/19/2015 05:15

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081062	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0127	101.0		

57 Burn Date/Time: 10/19/2015 05:17

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081063	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0099	124.0		

58 Burn Date/Time: 10/19/2015 05:19

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 5		1	1	1.00

AVG (ppb)	Intensity
0.9697	8184.0

59 Burn Date/Time: 10/19/2015 05:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 5		1	1	1.00

AVG (ppb)	Intensity
-0.0284	-28.0

60 Burn Date/Time: 10/19/2015 05:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081064	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0137	93.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

61 Burn Date/Time: 10/19/2015 05:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081832	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0103	121.0		

62 Burn Date/Time: 10/19/2015 05:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081833	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0014	217.0		

63 Burn Date/Time: 10/19/2015 05:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081834	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0036	176.0		

64 Burn Date/Time: 10/19/2015 05:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081835	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0059	157.0		

65 Burn Date/Time: 10/19/2015 05:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081836	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0064	153.0		

66 Burn Date/Time: 10/19/2015 05:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081841	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0082	138.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

67 Burn Date/Time: 10/19/2015 05:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081842	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0093	129.0		

68 Burn Date/Time: 10/19/2015 05:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8084141	**********	40	40	1.00	152895713003

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0074	145.0		

69 Burn Date/Time: 10/19/2015 05:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0094	283.0		

70 Burn Date/Time: 10/19/2015 05:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 6		1	1	1.00

AVG (ppb)	Intensity
0.9606	8109.0

71 Burn Date/Time: 10/19/2015 05:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 6		1	1	1.00

AVG (ppb)	Intensity
-0.0302	-43.0

72 Burn Date/Time: 10/19/2015 05:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9616	8117.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

73 Burn Date/Time: 10/19/2015 05:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081595	U*********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0085	136.0		

74 Burn Date/Time: 10/19/2015 05:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081598	D*********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0076	268.0		

75 Burn Date/Time: 10/19/2015 05:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081596	R*********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9375	7919.0		

76 Burn Date/Time: 10/19/2015 05:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081597	M*********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9280	7841.0		

77 Burn Date/Time: 10/19/2015 05:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081594	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0240	8.0		

78 Burn Date/Time: 10/19/2015 06:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081599	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0136	94.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

79 Burn Date/Time: 10/19/2015 06:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081601	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0135	95.0		

80 Burn Date/Time: 10/19/2015 06:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081602	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0109	116.0		

81 Burn Date/Time: 10/19/2015 06:07

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8081603	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0105	292.0		

82 Burn Date/Time: 10/19/2015 06:09

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 7		1	1	1.00

AVG (ppb)	Intensity
0.9486	8010.0

83 Burn Date/Time: 10/19/2015 06:11

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 7		1	1	1.00

AVG (ppb)	Intensity
-0.0266	-13.0

84 Burn Date/Time: 10/19/2015 06:15

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082084	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0036	176.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

85 Burn Date/Time: 10/19/2015 06:17

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8084142	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0099	124.0		

86 Burn Date/Time: 10/19/2015 06:19

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8084143	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0052	163.0		

87 Burn Date/Time: 10/19/2015 06:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8084144	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0043	170.0		

88 Burn Date/Time: 10/19/2015 06:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8084145	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0032	179.0		

89 Burn Date/Time: 10/19/2015 06:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8084146	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0009	198.0		

90 Burn Date/Time: 10/19/2015 06:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8084147	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0034	178.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

91 Burn Date/Time: 10/19/2015 06:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8086798	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0006	211.0		

92 Burn Date/Time: 10/19/2015 06:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8086799	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0035	177.0		

93 Burn Date/Time: 10/19/2015 06:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8086801	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0109	295.0		

94 Burn Date/Time: 10/19/2015 06:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 8		1	1	1.00

AVG (ppb)	Intensity
0.9635	8133.0

95 Burn Date/Time: 10/19/2015 06:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 8		1	1	1.00

AVG (ppb)	Intensity
-0.0284	-28.0

96 Burn Date/Time: 10/19/2015 06:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8086802	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0001	205.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

97 Burn Date/Time: 10/19/2015 06:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8086804	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0040	173.0		

98 Burn Date/Time: 10/19/2015 06:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8086805	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0036	176.0		

99 Burn Date/Time: 10/19/2015 06:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8085591	**********	40	40	1.00	152895713004

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0031	180.0		

100 Burn Date/Time: 10/19/2015 06:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0262	421.0		

101 Burn Date/Time: 10/19/2015 06:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0235	8627.0		

102 Burn Date/Time: 10/19/2015 06:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082120	U**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0206	375.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

103 Burn Date/Time: 10/19/2015 06:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082123	D*********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0181	355.0		

104 Burn Date/Time: 10/19/2015 06:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082121	R*********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9653	8148.0		

105 Burn Date/Time: 10/19/2015 06:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082122	M*********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9343	7893.0		

106 Burn Date/Time: 10/19/2015 06:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 9		1	1	1.00

AVG (ppb)	Intensity
0.9443	7975.0

107 Burn Date/Time: 10/19/2015 07:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 9		1	1	1.00

AVG (ppb)	Intensity
-0.0280	-25.0

108 Burn Date/Time: 10/19/2015 07:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082098	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0117	302.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

109 Burn Date/Time: 10/19/2015 07:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082099	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0062	257.0		

110 Burn Date/Time: 10/19/2015 07:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082100	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0032	232.0		

111 Burn Date/Time: 10/19/2015 07:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082101	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0053	249.0		

112 Burn Date/Time: 10/19/2015 07:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082114	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0133	315.0		

113 Burn Date/Time: 10/19/2015 07:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082115	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0201	371.0		

114 Burn Date/Time: 10/19/2015 07:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082117	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0310	461.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

115 Burn Date/Time: 10/19/2015 07:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082118	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0084	275.0		

116 Burn Date/Time: 10/19/2015 07:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082119	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0117	302.0		

117 Burn Date/Time: 10/19/2015 07:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082124	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0059	254.0		

118 Burn Date/Time: 10/19/2015 07:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 10		1	1	1.00

AVG (ppb)	Intensity
0.9488	8012.0

119 Burn Date/Time: 10/19/2015 07:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 10		1	1	1.00

AVG (ppb)	Intensity
-0.0289	-32.0

120 Burn Date/Time: 10/19/2015 07:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082126	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0040	239.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

121 Burn Date/Time: 10/19/2015 07:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082127	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0127	310.0		

122 Burn Date/Time: 10/19/2015 07:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082128	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0037	236.0		

123 Burn Date/Time: 10/19/2015 07:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082129	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0028	229.0		

124 Burn Date/Time: 10/19/2015 07:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082130	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0015	193.0		

125 Burn Date/Time: 10/19/2015 07:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082297	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0076	143.0		

126 Burn Date/Time: 10/19/2015 07:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8086745	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0102	122.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

127 Burn Date/Time: 10/19/2015 07:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8088199	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0137	93.0		

128 Burn Date/Time: 10/19/2015 07:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8088820	**********	40	40	1.00	152895713005

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0075	267.0		

129 Burn Date/Time: 10/19/2015 07:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	152895713002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0144	87.0		

130 Burn Date/Time: 10/19/2015 07:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 11		1	1	1.00

AVG (ppb)	Intensity
0.9461	7990.0

131 Burn Date/Time: 10/19/2015 07:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 11		1	1	1.00

AVG (ppb)	Intensity
-0.0271	-17.0

132 Burn Date/Time: 10/19/2015 07:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	152895713002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8840	7479.0		

LANCASTER LABORATORIES

Run Name: 1529201M07

Analyst ID: 0354

Instrument ID: 17384

CV Element: Hg

133 Burn Date/Time: 10/19/2015 07:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSWD	**********	1	1	1.00	152895713002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9052	7653.0		

134 Burn Date/Time: 10/19/2015 07:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082727	**********	40	40	1.00	152895713002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0359	-90.0		

135 Burn Date/Time: 10/19/2015 07:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8082729	**********	40	40	1.00	152895713002

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0195	45.0		

136 Burn Date/Time: 10/19/2015 08:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 12		1	1	1.00

AVG (ppb)	Intensity
0.9442	7974.0

137 Burn Date/Time: 10/19/2015 08:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 12		1	1	1.00

AVG (ppb)	Intensity
-0.0283	-27.0

Extraction/Distillation/Digestion Logs

Metals in Liquid

LLENS Worksheet for 1848 SW846 Water

Batch# 15 288 1848 003

Balance ID#: CLEAR **Start Time:** 10/16/15 11:15 **End Time:** 10/16/15 15:05 **Hot Block:** DEENA2

Pipette ID: W/1000

Spike/Reagent	Lot#	Volume Added(mL)
1:1 HCL	P15-278D	5.00
1:1 HNO3	P15-258E	2.00
ICP Spike 1A	1517023-27	1.00
ICP Spike 1B	1517025-27	1.00
LCS A1	1517023-27	1.00
LCS B1	1517025-27	1.00

Method Ref: SW-846 3005A

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1501179	Filtered reagent Lot# P15-286B
2)	LCSW	.							1501179	Filtered reagent Lot# P15-286B
3)	8082098	10/20/15 10:00		WW	N8			008a	1501179	
4)	8082099	10/20/15 10:00		WW	N8			008a	1501179	
5)	8082100	10/20/15 10:00		WW	N8			008a	1501179	
6)	8082101	10/20/15 10:00		WW	N8			008a	1501179	
7)	8082114	10/20/15 10:00		WW	N8			008a	1501179	
8)	8082115	10/20/15 10:00		WW	N8			008a	1501179	
9)	8082117	10/20/15 10:00		WW	N8		Y	008a	1501179	
10)	8082118	10/20/15 10:00		WW	N8			008a	1501179	
11)	8082119	10/20/15 10:00		WW	N8			008a	1501179	
12)	**8082120U**	10/20/15 10:00		WW	N8			008a	1501179	
13)	**8082121R**	10/20/15 10:00		WW	N8			008a	1501179	
14)	**8082122M**	10/20/15 10:00		WW	N8			008a	1501179	
15)	**8082123D**	10/20/15 10:00		WW	N8			008a	1501179	
16)	8082124	10/20/15 10:00		WW	N8			008a	1501179	
17)	8082126	10/20/15 10:00		WW	N8			008a	1501179	
18)	8082127	10/20/15 10:00		WW	N8			008a	1501179	
19)	8082128	10/20/15 10:00		WW	N8			008a	1501179	
20)	8082129	10/20/15 10:00		WW	N8			008a	1501179	
21)	8082130FB	10/20/15 10:00		WW	N8			008a	1501179	
22)	8083008	10/21/15 09:20		WW	N8			008a	1501179	
23)	8083009	10/21/15 09:20		WW	N8			089a	1501179	
24)	8083000	10/21/15 09:20		WW	N8			008a	1501179	

Prep Employee: 3282

10/16/2015

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
25)	8083004	10/21/15 09:20		WW	N8			089a	1501179	

Batch# 15 288 1848 003

LLENS Batch Chronology and Change Log - SW846 Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		10/15/15 18:47	3282
2)	Sample Vol		10/16/15 10:18	354
3)	Final Vol	CLEAR	10/16/15 10:18	354
4)	Trial		10/16/15 10:18	354
5)	Upload Prep	US19VDIELD03	10/16/15 15:08	3282

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 1848 SW846 Water

Batch# 15 288 1848 003

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
8082098	10/20/15	N8	P2802	PSC28-02	50.0000	50.0000	1
8082099	10/20/15	N8	P2803	PSC28-03	50.0000	50.0000	1
8082100	10/20/15	N8	P2804	PSC28-04	50.0000	50.0000	1
8082101	10/20/15	N8	P2805	PSC28-05	50.0000	50.0000	1
8082114	10/20/15	N8	P2816	PSC28-16	50.0000	50.0000	1
8082115	10/20/15	N8	P2817	PSC28-17	50.0000	50.0000	1
8082117	10/20/15	N8	P2819	PSC28-19	50.0000	50.0000	1
8082118	10/20/15	N8	P2820	PSC28-20	50.0000	50.0000	1
8082119	10/20/15	N8	P2821	PSC28-21	50.0000	50.0000	1
8082120U	10/20/15	N8	P2901	PSC29-01BKG	50.0000	50.0000	1
8082121R	10/20/15	N8	P2901	PSC29-01MS	50.0000	50.0000	1
8082122M	10/20/15	N8	P2901	PSC29-01MSD	50.0000	50.0000	1
8082123D	10/20/15	N8	P2901	PSC29-01DUP	50.0000	50.0000	1
8082124	10/20/15	N8	P2902	PSC29-02	50.0000	50.0000	1
8082126	10/20/15	N8	P2904	PSC29-04	50.0000	50.0000	1
8082127	10/20/15	N8	P2905	PSC29-05	50.0000	50.0000	1
8082128	10/20/15	N8	P2906	PSC29-06	50.0000	50.0000	1
8082129	10/20/15	N8	P2907	PSC29-07	50.0000	50.0000	1
8082130FB	10/20/15	N8	P2908	PSC29-08FB	50.0000	50.0000	1
8083008	10/21/15	N8	RS-9-		50.0000	50.0000	1
8083009	10/21/15	N8			50.0000	50.0000	1
8083000	10/21/15	N8	RS-21	XXX01-01BKG	50.0000	50.0000	1
8083004	10/21/15	N8	RS21F	XXX01-01BKG	50.0000	50.0000	1

LLENS Worksheet for 6050 ICP/MS SW846 Water

Batch# 15 288 6050 004

Balance ID#: CLEAR **Start Time:** 10/16/15 9:05 **End Time:** 10/16/15 14:14 **Hot Block:** 15

Pipette ID: JU06758

Reflux Cap Lot#: 1504103-5252-NK

Spike/Reagent	Lot#	Volume Added(mL)
HNO3	54295	3.00
ICP/MS Spike	1523621-3	0.50
LCS	1523621-3	0.50

Method Ref: SW-846 3010A modified

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1504103	
2)	LCSW	.							1504103	
3)	8082098	10/20/15 10:00		WW	N8			008a	1504103	
4)	8082099	10/20/15 10:00		WW	N8			008a	1504103	
5)	8082100	10/20/15 10:00		WW	N8			008a	1504103	
6)	8082101	10/20/15 10:00		WW	N8			008a	1504103	
7)	8082114	10/20/15 10:00		WW	N8			008a	1504103	
8)	8082115	10/20/15 10:00		WW	N8			008a	1504103	
9)	8082117	10/20/15 10:00		WW	N8		Y	008a	1504103	
10)	8082118	10/20/15 10:00		WW	N8			008a	1504103	
11)	8082119	10/20/15 10:00		WW	N8			008a	1504103	
12)	**8082120U**	10/20/15 10:00		WW	N8			008a	1504103	
13)	**8082121R**	10/20/15 10:00		WW	N8			008a	1504103	
14)	**8082122M**	10/20/15 10:00		WW	N8			008a	1504103	
15)	**8082123D**	10/20/15 10:00		WW	N8			008a	1504103	
16)	8082124	10/20/15 10:00		WW	N8			008a	1504103	
17)	8082126	10/20/15 10:00		WW	N8			008a	1504103	
18)	8082127	10/20/15 10:00		WW	N8			008a	1504103	
19)	8082128	10/20/15 10:00		WW	N8			008a	1504103	
20)	8082129	10/20/15 10:00		WW	N8			008a	1504103	
21)	8082130FB	10/20/15 10:00		WW	N8			008a	1504103	

Prep Employee: 3282

10/16/2015

v 1.0.1

Batch# 15 288 6050 004

LLENS Batch Chronology and Change Log - ICP/MS SW846 Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		10/15/15 18:46	3282
2)	Sample Vol		10/16/15 14:51	3282
3)	Final Vol	CLEAR	10/16/15 14:51	3282
4)	Trial		10/16/15 14:51	3282
5)	Upload Prep	US19VDIELD03	10/16/15 14:51	3282

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 6050 ICP/MS SW846 Water

Batch# 15 288 6050 004

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
8082098	10/20/15	N8	P2802	PSC28-02	50.0000	50.0000	1
8082099	10/20/15	N8	P2803	PSC28-03	50.0000	50.0000	1
8082100	10/20/15	N8	P2804	PSC28-04	50.0000	50.0000	1
8082101	10/20/15	N8	P2805	PSC28-05	50.0000	50.0000	1
8082114	10/20/15	N8	P2816	PSC28-16	50.0000	50.0000	1
8082115	10/20/15	N8	P2817	PSC28-17	50.0000	50.0000	1
8082117	10/20/15	N8	P2819	PSC28-19	50.0000	50.0000	1
8082118	10/20/15	N8	P2820	PSC28-20	50.0000	50.0000	1
8082119	10/20/15	N8	P2821	PSC28-21	50.0000	50.0000	1
8082120U	10/20/15	N8	P2901	PSC29-01BKG	50.0000	50.0000	1
8082121R	10/20/15	N8	P2901	PSC29-01MS	50.0000	50.0000	1
8082122M	10/20/15	N8	P2901	PSC29-01MSD	50.0000	50.0000	1
8082123D	10/20/15	N8	P2901	PSC29-01DUP	50.0000	50.0000	1
8082124	10/20/15	N8	P2902	PSC29-02	50.0000	50.0000	1
8082126	10/20/15	N8	P2904	PSC29-04	50.0000	50.0000	1
8082127	10/20/15	N8	P2905	PSC29-05	50.0000	50.0000	1
8082128	10/20/15	N8	P2906	PSC29-06	50.0000	50.0000	1
8082129	10/20/15	N8	P2907	PSC29-07	50.0000	50.0000	1
8082130FB	10/20/15	N8	P2908	PSC29-08FB	50.0000	50.0000	1

LLENS Worksheet for 5713 Hg SW846 Digest Water

Batch# 15 289 5713 005

Balance ID#: CLEAR **Start Time:** 10/18/15 11:20 **End Time:** 10/18/15 13:20 **Hot Block:** 11

Pipette ID: W/1000

Reflux Cap Lot#: 1504103-5252-NK

Spike/Reagent	Lot#	Volume Added(mL)
5%K2S2O8	P15-269C	3.20
5%KMnO4	P15-285C	6.00
H2SO4	153388	2.00
HNO3	54295	1.00
LCS 40ppb Hg	P15-291A	1.00
NaCl/NH2OH.HCl	P15-271C	2.40
Spike 40ppb Hg	P15-291A	1.00

Method Ref: SW-846 7470A

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1504103	
2)	LCSW	.							1504103	
3)	8082098	10/20/15 10:00		WW	N8			008a	1504103	
4)	8082099	10/20/15 10:00		WW	N8			008a	1504103	
5)	8082100	10/20/15 10:00		WW	N8			008a	1504103	
6)	8082101	10/20/15 10:00		WW	N8			008a	1504103	
7)	8082114	10/20/15 10:00		WW	N8			008a	1504103	
8)	8082115	10/20/15 10:00		WW	N8			008a	1504103	
9)	8082117	10/20/15 10:00		WW	N8		Y	008a	1504103	
10)	8082118	10/20/15 10:00		WW	N8			008a	1504103	
11)	8082119	10/20/15 10:00		WW	N8			008a	1504103	
12)	**8082120U**	10/20/15 10:00		WW	N8			008a	1504103	
13)	**8082121R**	10/20/15 10:00		WW	N8			008a	1504103	
14)	**8082122M**	10/20/15 10:00		WW	N8			008a	1504103	
15)	**8082123D**	10/20/15 10:00		WW	N8			008a	1504103	
16)	8082124	10/20/15 10:00		WW	N8			008a	1504103	
17)	8082126	10/20/15 10:00		WW	N8			008a	1504103	
18)	8082127	10/20/15 10:00		WW	N8			008a	1504103	
19)	8082128	10/20/15 10:00		WW	N8			008a	1504103	
20)	8082129	10/20/15 10:00		WW	N8			008a	1504103	
21)	8082130FB	10/20/15 10:00		WW	N8			008a	1504103	
22)	8082297FB	10/20/15 20:24		WW	N8			008a	1504103	
23)	8086745FB	10/23/15 18:00		WW	N8			008a	1504103	

Prep Employee: 3282

10/18/2015

v 1.0.1

	SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
24)	8088199FB	10/26/15 09:20		WW	N8			008a	1504103	
25)	8088820FB	10/26/15 18:00		WW	N8			008a	1504103	

Batch# 15 289 5713 005

LLENS Batch Chronology and Change Log - Hg SW846 Digest Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		10/16/15 16:48	3282
2)	Sample Vol		10/18/15 8:36	354
3)	Final Vol	CLEAR	10/18/15 8:36	354
4)	Trial		10/18/15 8:36	354
5)	Upload Prep	US19VDIELD001	0/18/15 14:04	3282

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 5713 Hg SW846 Digest Water

Batch# 15 289 5713 005

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Dilution	Final Volume	Trial
PBW					40.0000		40.0000	1
LCSW					1.0000		1.0000	1
8082098	10/20/15	N8	P2802	PSC28-02	40.0000		40.0000	1
8082099	10/20/15	N8	P2803	PSC28-03	40.0000		40.0000	1
8082100	10/20/15	N8	P2804	PSC28-04	40.0000		40.0000	1
8082101	10/20/15	N8	P2805	PSC28-05	40.0000		40.0000	1
8082114	10/20/15	N8	P2816	PSC28-16	40.0000		40.0000	1
8082115	10/20/15	N8	P2817	PSC28-17	40.0000		40.0000	1
8082117	10/20/15	N8	P2819	PSC28-19	40.0000		40.0000	1
8082118	10/20/15	N8	P2820	PSC28-20	40.0000		40.0000	1
8082119	10/20/15	N8	P2821	PSC28-21	40.0000		40.0000	1
8082120U	10/20/15	N8	P2901	PSC29-01BKG	40.0000		40.0000	1
8082121R	10/20/15	N8	P2901	PSC29-01MS	40.0000		40.0000	1
8082122M	10/20/15	N8	P2901	PSC29-01MSD	40.0000		40.0000	1
8082123D	10/20/15	N8	P2901	PSC29-01DUP	40.0000		40.0000	1
8082124	10/20/15	N8	P2902	PSC29-02	40.0000		40.0000	1
8082126	10/20/15	N8	P2904	PSC29-04	40.0000		40.0000	1
8082127	10/20/15	N8	P2905	PSC29-05	40.0000		40.0000	1
8082128	10/20/15	N8	P2906	PSC29-06	40.0000		40.0000	1
8082129	10/20/15	N8	P2907	PSC29-07	40.0000		40.0000	1
8082130FB	10/20/15	N8	P2908	PSC29-08FB	40.0000		40.0000	1
8082297FB	10/20/15	N8		FB	40.0000		40.0000	1
8086745FB	10/23/15	N8	F1013	CP879-04FB	40.0000		40.0000	1
8088199FB	10/26/15	N8		FB	40.0000		40.0000	1
8088820FB	10/26/15	N8	646FB	CP882-05FB	40.0000		40.0000	1

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 4793 Std Cal	H15-288L	Hg 1.0mg/L Cal	7	10-14-15	H15-280A	0.25ml			
2	↓	M	↓		↓	↓	0.50ml			
3	↓	N								
4	↓ CRA	↓ O	Hg 0.1mg/L Cont		10-14-15	H15-280D	0.40ml			
5	Hg 1.0mg/L Inter Cal	H15-281A	Hg 10mg/L Cal		12-22-15	H15-1730	1.0ml			
6	Hg 0.1mg/L Inter Cal	B	Hg 1.0mg/L Cal		10-15-15	H15-281A	1.0ml			
7	Hg 5701 CCV	C					0.1ml			
8	↓ CCV	D								
9	CCV	E	↓		↓	↓	↓			
10	↓ SD	F								
11	Aqua Regia	↓ G						5	14	54295
12	Hg 1.0mg/L Inter Cal	H15-282A	Hg 10mg/L Cal		12-22-15	H15-1730	1.0ml			
13	0.1mg/L Inter Cal	B	1.0mg/L Cal		10-16-15	H15-282A				
14	1.0mg/L Inter Cont	C	10mg/L Cont		12-22-15	H15-173P				
15	↓ 0.1mg/L Inter Cont	D	↓ 1.0mg/L Cont		10-16-15	H15-282C	↓			
16	Hg 5700 ICV	E	↓			↓	0.25ml	1	14	54295
17	↓ CCV	F	Hg 1.0mg/L Cal			H15-280A	0.20			
18	CRA	G	Hg 0.1mg/L Cont			H15-280D	0.20			
19	Std Cal	H	Hg 0.1mg/L Cal			H15-282B	0.20			
20	↓ ↓	↓ I	↓		↓	↓	0.50	↓	↓	↓

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

a

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	5	6	93325				100	2.5ug/L	DN354	10-07-15	10-14-15	RT
2								5.0				
3								0.0				
4								0.4				
5				To vol w/ 0.5% HNO3		HI5-1880	10	1.0	DN354	10-08-15	10-15-15	RT
6							10	0.1				
7				5ml Aqua Regia 15ml HNO3		HI5-2816 HI5-2360	100	1.0ug/L				
8								1.0				
9								1.0				
10								0.0				
11	15	6	93325				20	1.3			10-08-15	
12				To vol w/ 1.5% HNO3		HI5-1880	10	1.0	DN354	10-09-15	10-16-15	RT
13								0.1				
14								1.0				
15								0.1				
16	2ml H2SO4	4	153388	8.2ml NaC2H3O2 1ml HNO3		HI5-2366 HI5-2360	100	2.5ug/L				
17							200	1.0				
18							100	0.2				
19								0.2				
20								0.5				

Footnotes

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B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
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b

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 Std Cal	H15-282J	Hg 1.0 mg/L Cal		10-16-15	H15-282A	0.30 ml	1	14	5+295
2		K					0.25			
3		L					0.50			
4		M								
5	ICV	N	Hg 1.0 mg/L Cont		10-16-15	H15-282C	0.25 ml			
6	CCV	O	Hg 1.0 mg/L Cal			H15-282A	0.20			
7	Hg 5701 ICV	P	Hg 1.0 mg/L Cont			H15-282C	0.25			
8	CCV	Q	Hg 1.0 mg/L Cal			H15-282A	0.10			
9	CCV	R					0.10			
10	CCV	S					0.10			
11	CCV	T					0.10			
12	CRA	U	Hg 0.1 mg/L Cont			H15-282D	0.20			
13	Std Cal	V	Hg 0.1 mg/L Cal			H15-282B	0.20			
14		W					0.50			
15		X	Hg 1.0 mg/L Cal			H15-282A	0.10			
16		Y					0.25			
17		Z					0.50			
18		AA								
19	SI	BB	Hg 0.1 mg/L Cal		10-16-15	H15-282B	0.10 ml			
20	CRA	CC	Hg 0.1 mg/L Cont			H15-282D	0.10 ml			

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a

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Document Title: Standard/Reagent Preparation Log

Eurofins Document Reference: 1-P-QM-FOR-9009818 | Revision: 2 | Historical Reference: Form 1105

Effective date: Feb 20, 2015 | Status: Effective

	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #						
1	3ml H_2SO_4	4	153388	3.2ml $K_2S_2O_8$ 1ml NH_4NO_3		H15-236E H15-236D	200	1.0	DL	10-09-15	10-16-15	RT
2							100	2.5				
3								5.0				
4								6.0				
5							↓	2.5				
6	✓	✓	✓	✓	✓	✓	200	1.0				
7				5ml Aqua Regia 15ml NH_4NO_3		H15-222FF H15-236D	100	2.5				
8								1.0				
9								1.0				
10								1.0				
11								1.0				
12								0.2				
13								0.2				
14								0.5				
15								1.0				
16								2.5				
17								5.0				
18								0.0				
19								0.1				
20				↓	↓	↓	↓	0.1 ↓	↓	↓	↓	✓

Footnotes

Key (••) – Other Used

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B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

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b

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Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5701 CRA	HI5-282DD	Hg 0.1 mg/L Cont	7	10-16-15	HI5-282D	0.40 ml			
2	↓ ICV	EE	Hg 1.0 mg/L Cont		↓	HI5-282C	0.25 ml			
3	Aqua Regia	↓ FF						21.5	14	54295
4	Hg 1.0 mg/L InterCal	HI5-286A	Hg 10 mg/L Cal		12-22-15	HI5-1730	1.0 ml			
5	0.1 mg/L InterCal	B	1.0 mg/L Cal		10-20-15	HI5-286A	↓			
6	1.0 mg/L InterCont	C	10 mg/L Cont		12-22-15	HI5-1738				
7	↓ 0.1 mg/L InterCont	D	↓ 1.0 mg/L Cont		10-20-15	HI5-286C	↓			
8	Hg 5700 ICV	E	↓			↓	0.25 ml	1	14	54295
9	CCV	F	Hg 1.0 mg/L Cal			HI5-286A	0.20			
10	CRA	G	Hg 0.1 mg/L Cont			HI5-286D	0.20			
11	Std Cal	H	Hg 0.1 mg/L Cal			HI5-286D	0.20			
12		I	↓			↓	0.50			
13		J	Hg 1.0 mg/L Cal			HI5-286A	0.20			
14		K	↓			↓	0.25			
15		L	↓		↓	↓	0.50 ↓			
16	↓	M								
17	ICV	N	Hg 1.0 mg/L Cont	7	10-20-15	HI5-286C	0.25 ml			
18	↓ CCV	↓ O	Hg 1.0 mg/L Cal		↓	HI5-286A	0.20 ml	↓	↓	↓
19	Hg 1.0 mg/L InterCal	HI5-287A	Hg 10 mg/L Cal	7	12-22-15	HI5-1730	1.0 ml			
20	Hg 0.1 mg/L InterCal	↓ 287B	Hg 1.0 mg/L Cal	7	10-21-15	HI5-287A	1.0 ml			

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XX – Other (footnote Manuf.)

a

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Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #						
1				5ml Aqua Regia 15ml KMnO4		HIS-2821F HIS-236D	100	0.40µg/L	DL354	10-09-15	10-16-15	RT
2				↓	↓	↓	100	2.5µg/L			↓	
3	64.5	6	93325				86	1:3	↓	↓	10-09-15	↓
4				To vol w/ 0.15% HNO3		HIS-1880	10	1.0	DL354	10-13-15	10-20-15	RT
5								0.1				
6								1.0				
7				↓	↓	↓	↓	0.1				
8	2ml H2SO4	4	153388	3.2ml K2S2O8 4ml KMnO4		HIS 236E HIS-236D	100	2.5µg/L				
9							200	1.0				
10							100	0.2				
11								0.2				
12							↓	0.5				
13							200	1.0				
14							100	2.5				
15								5.0				
16								6.0				
17							↓	2.5				
18	↓	↓	↓	↓	↓	↓	200	1.0	↓	↓	↓	↓
19				To vol w/ 0.15% HNO3		HIS-1880	10	1.0	DL354	10-14-15	10-21-15	RT
20				↓	↓	↓	10	0.1	↓	↓	↓	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 1.0mg/L InterCont	HI5287C	Hg 10mg/L Cont	7	12-22-15	HI5-173F	1.0ml			
2	Hg 1mg/L InterCont	D	Hg 10mg/L Cont		10-21-15	HI5-287C	1.0ml			
3	Hg 5701 ICV	E	↓			↓	0.25			
4	CCV	F	Hg 1.0mg/L Cal			HI5-287A	0.10			
5	CCV	G					0.10			
6	CCV	H					0.10			
7	CCV	I	↓			↓	0.10			
8	CRA	J	Hg 0.1mg/L Cont			HI5-287D	0.20			
9	Std Cal	K	Hg 0.1mg/L Cal			HI5-287B	0.20			
10		L	↓			↓	0.50			
11		M	Hg 1.0mg/L Cal			HI5-287A	0.10			
12		N					0.25			
13		O	↓	L	↓	↓	0.50			
14	↓	P								
15	SI	Q	Hg 0.1mg/L Cal	7	10-21-15	HI5-287B	10.10ml			
16	CRA	R	Hg 0.1mg/L Cont			HI5-287D	0.10			
17	CRA	S	↓			↓	0.40			
18	↓ ICV	T	Hg 1.0mg/L Cont	L	↓	HI5-287C	0.25 (3)	~~21.5~~	~~14~~	~~54295~~
19	Aqua Regia	U						21.5	14	54295
20	Stannous Chloride	HI5-288A	$SnCl_2$	6	6-28-16	116747 [15]	200.01g			

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Document Title: Standard/Reagent Preparation Log		
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Effective date: Feb 20, 2015	Status: Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				Tevalve 0.15	HNO3	HIS-1880	10	1.0	DN135Y	10-14-15	10-21-15	RT
2				↓	↓	↓	10	0.1				
3				5ml Aqua Regia 15ml HNO3		HIS-237 4 HIS-231.0	100	2.5 ug/L				
4								1.0				
5								1.0				
6								1.0				
7								1.0				
8								0.2				
9								0.2				
10								0.5				
11								1.0				
12								2.5				
13								5.0				
14								0.0				
15								0.1				
16								0.1				
17								0.4				
18				↓	↓	↓	↓	2.5			↓	
19	64.5	6	93325				86	1.3	↓	↓	10-14-15	↓
20	200	6	93325				2000	10	DN135Y	10-15-15	4-15-16	RT

Footnotes

Key (••) – Other Used

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B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

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b

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Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Stannous Chloride	HIS-288B	$SnCl_2$	6	6-28-16	116747 #5	200.01g			
2	Stannous Chloride	288C	↓	↓	↓	↓ #5 6	200.02g			
3	Hg-1.0mg/L Inter Cal	HIS289A	Hg-10mg/L Cal	7	12-22-15	HIS-1730	1.0ml			
4	Hg-0.1mg/L Inter Cal	289B	Hg-1.0mg/L Cal	7	10-23-15	HIS-289A	1.0ml			
5	Potassium Persulfate	289C	$K_2S_2O_8$	6	5-24-20	100375 #3	100.01g			
6	Hydroxylamine	HIS289D	NaCl	↓	10-5-20	121677 #3	240.03g			
7	↓	↓	$NH_2OH \cdot HCl$	↓	9-24-19	110992 #1	240.03g			
8	Hg-1.0mg/L Inter Cal	HIS-291A	Hg-10mg/L Cal	7	12-22-15	HIS-1730	1.0ml			
9	0.1mg/L Inter Cal	B	Hg-1.0mg/L Cal	7	10-25-15	HIS-289A	1.0ml			
10	1.0mg/L Inter Cont	C	Hg-10mg/L Cont	7	12-22-15	HIS-1730	1.0ml			
11	↓ 0.1mg/L Inter Cont	D	Hg-1.0mg/L Cont	L	10-25-15	HIS-291C	1.0ml			
12	Hg-5700 ICV	E	↓	7		↓	0.25ml	1	14	54295
13	CCV	F	Hg-1.0mg/L Cal			HIS-291A	0.20			
14	CRA	G	Hg-0.1mg/L Cont			HIS-291D	0.20			
15	Std Cal	H	Hg-0.1mg/L Cal			HIS-291B	0.20			
16		I	↓			↓	0.50			
17		J	Hg-1.0mg/L Cal			HIS-291A	0.20			
18		K	↓			↓	0.25			
19		L	↓	L	↓	↓	0.50			
20	↓	↓	m					↓	↓	↓

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14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Log

Eurofins Document Reference: 1-P-QM-FOR-9009818 | Revision: 2 | Historical Reference: Form 1105

Effective date: Feb 20, 2015 | Status: Effective

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	260	6	93385				2000	10%	DW354	10-15-15	4-15-16	RT
2	↓	↓	↓				↓	↓	↓	↓	↓	↓
3				To vol w/ 10	15% HNO3	HIS-1886	10	1.0				
4				↓	↓	↓	10	0.1	DW354	10-16-15	10-23-15	RT
5							2000	5%			↓	
6							↓	12%			4-16-16	
7								↓			↓	
8				To vol w/ 0.15% HNO3		HIS-1886	10	10	DW354	10-18-15	10-25-15	RT
9				↓	↓	↓	↓	0.1				
10								1.0				
11								0.1				
12	2mlH2SO4	4	153388	0.2ml K2Cr2O8		HIS-2366	100	2.5ug/L				
13				6ml MnCl4		HIS-2360	200	1.0				
14							100	0.2				
15							↓	0.2				
16								0.5				
17							200	1.0				
18							100	2.5				
19							↓	5.0				
20								0.0				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
* * units are mg/L unless otherwise specified

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 ICV	HI5-291N	Hg 1.0 mg/L Cont	7	10-25-15	HI5-291C	0.25 ml	1	14	54295
2	↓ CCV	↓ 2910	Hg 1.0 mg/L Cal	L	↓	HI5-291A	0.20 ml	↓	↓	↓
3	Hg 1.0 mg/L Inter Cal	HI5-293A	Hg 10 mg/L Cal	7	12-22-15	HI5-1730	1.0 ml			
4	0.1 mg/L Inter Cal	B	1.0 mg/L Cal		10-27-15	HI5-293A	↓			
5	1.0 mg/L Inter Cont	C	10 mg/L Cont		12-22-15	HI5-173P				
6	↓ 0.1 mg/L Inter Cont	D	↓ 1.0 mg/L Cont	L	10-27-15	HI5-293C	↓			
7	Hg 5700 ICV	E	↓	7		↓	0.25 ml	1	14	54295
8	CCV	F	Hg 1.0 mg/L Cal			HI5-293A	0.20 ml			
9	CRA	G	Hg 0.1 mg/L Cont			HI5-293D	0.20 ml			
10	Std Cal	H	Hg 0.1 mg/L Cal			HI5-293B	0.20			
11		I	↓			↓	0.50			
12		J	Hg 1.0 mg/L Cal			HI5-293A	0.20			
13		K	↓			↓	0.25			
14		L	↓	L	↓	↓	0.50 ↓			
15	↓	M								
16	ICV	N	Hg 1.0 mg/L Cont	7	10-27-15	HI5-293C	0.25 ml			
17	↓ CCV	↓ O	Hg 1.0 mg/L Cal	L	↓	HI5-293A	0.20 ml	↓	↓	↓
18	Hg 1.0 mg/L Inter Cal	HI5-294A	Hg 10 mg/L Cal	7	12-22-15	HI5-1730	1.0 ml			
19	0.1 mg/L Inter Cal	B	1.0 mg/L Cal		10-28-15	HI5-294A	↓			
20	↓ 1.0 mg/L Inter Cont	↓ C	↓ 10 mg/L Cont	L	12-22-15	HI5-173P	↓			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

a

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Effective date: Feb 20, 2015 | Status: Effective

	HCl Used			Other Used								
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	153388	3.2ml $K_2S_2O_8$ 6ml KMnO4		H15-236E H15-236D	100	2.5ug/L	DU 354	10-18-15	10-25-15	RT
2	↓	↓	↓	↓	↓	↓	200	1.0ug/L	↓	↓	↓	↓
3				To vol w/ 0.15% HNO_3		H15-1886	10	1.0	DU 354	10-20-15	10-27-15	RT
4								0.1				
5								1.0				
6							↓	0.1				
7	2ml H_2SO_4	4	153388	3.2ml $K_2S_2O_8$ 6ml KMnO4		H15-236E H15-236D	100	2.5ug/L				
8							200	1.0				
9							100	0.2				
10							↓	0.2				
11							↓	0.5				
12							200	1.0				
13							100	2.5				
14							↓	5.0				
15							↓	0.0				
16							↓	2.5				
17	↓	↓	↓	↓	↓	↓	200	1.0	↓	↓	↓	↓
18				To vol w/ 0.15% HNO_3		H15-1886	10	1.0	DU 354	10-21-15	10-28-15	RT
19							↓	0.1				
20				↓	↓	↓	↓	1.0	↓	↓	↓	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

b

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Log		
Eurofins Document Reference: 1-P-QM-FOR-9009818	Revision: 2	Historical Reference: Form 1105
Effective date: Feb 20, 2015	Status: Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg-0.1mg/L Inter Cont	H15-294D	Hg 1.0 mg/L Cont	7	10-28-15	H15-294C	1.0ml	—		
2	Hg-5701 ICV	E	↓			↓	0.25ml			
3	CCV	F	Hg 1.0 mg/L Cal			H15-294A	0.10			
4	CCV	G	↓			↓	0.10			
5	CCV	H					0.10			
6	CCV	I	↓			↓	0.10			
7	CRA	J	Hg 0.1 mg/L Cont			H15-294D	0.20			
8	Std Cal	K	Hg 0.1 mg/L Cal			H15-294D	0.20			
9		L	↓			↓	0.50			
10		M	Hg 1.0 mg/L Cal			H15-294A	0.10			
11		N	↓			↓	0.25			
12	↓	O	↓		↓	↓	0.50			
13	↓	P	—							
14	SI	Q	Hg 0.1 mg/L Cal	7	10-28-15	H15-294B	0.10ml			
15	CRA	R	Hg 0.1 mg/L Cont		↓	H15-294D	0.10			
16	CRA	S	↓			↓	0.40			
17	↓ ICV	T	Hg 1.0 mg/L Cont	7	↓	H15-294C	0.25	—	—	—
18	Aqua Regia	↓ U	—					21.5	14	54295
19	Stannous Chloride	H15-295A	SnCl2	6	1-28-16	111747	200.00g	—	—	—
20	↓	↓ 295B	↓	↓	↓	↓	200.61g	—	—	—

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
XX – Other (footnote Manuf.)

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Document Title: Standard/Reagent Preparation Log

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Effective date: Feb 20, 2015 | Status: Effective

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				Tevi w/0.15% HNO3		H15-1880	10	0.1	DJ357	10-21-15	10-28-15	R1
2				5ml Aqua Regia		H15-2976						
3				15ml Kmno4		H15-2360	100	2.5ug/L				
4								1.0				
5								1.0				
6								1.0				
7								1.0				
8								0.7				
9								0.2				
10								0.5				
11								1.0				
12								2.5				
13								5.0				
14								0.0				
15								0.1				
16								0.1				
17								0.4				
18	6.45	6	93325					2.5				
19	200	6	93325				86	1:3			10-21-15	
20							1000	10%	DJ357	10-22-15	4-22-16	RT

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

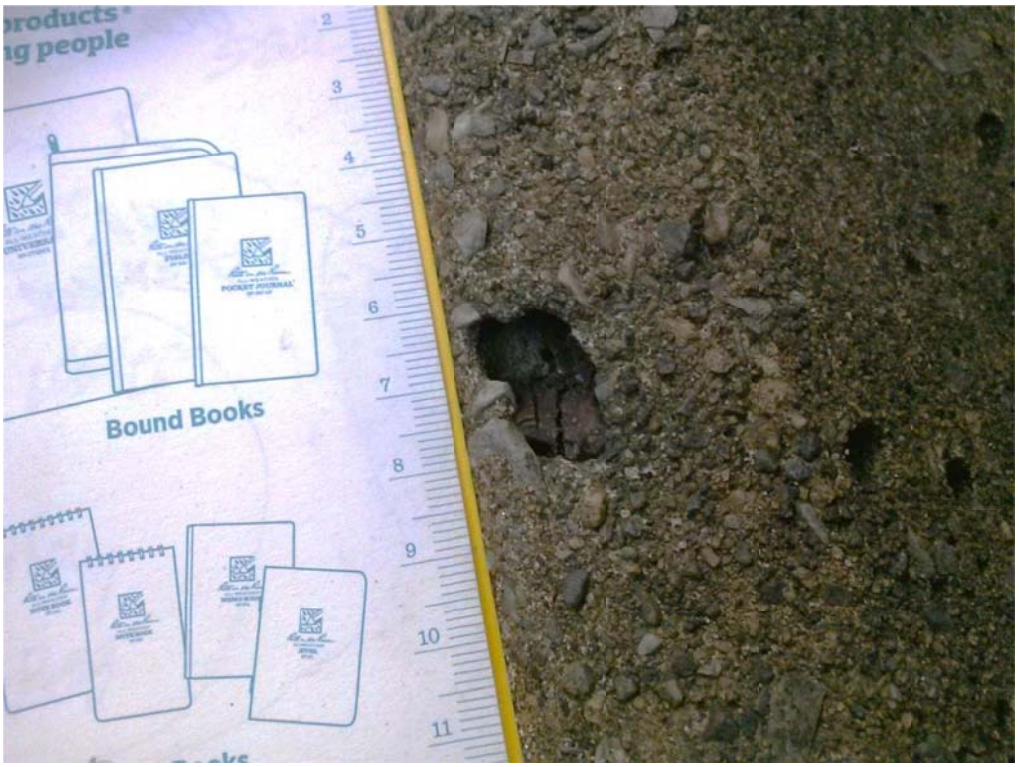
APPENDIX 7

PHOTOGRAPHS

070915 Sheen at T12+60-E40

072215 Sheen at T12+60-E45

080515 Sheen at T12+51-E45



082615 Weir Inspection: Pitting in Weir concrete

082615 Weir Inspection: Pitting in Weir concrete

082615 Weir Inspection: Weir, looking southeast

082615 Weir Inspection: Weir, looking south (North abutment in foreground)

082615 Weir Inspection: Weir Spillway, looking south-southwest

082615 Weir Inspection: Weir North Abutment, looking north

100715 Groundwater Sampling Event: Weir spillway, looking west

100715 Groundwater Sampling Event: Approximate location where monitoring well MW-8A was known to have existed (well could not be located)

APPENDIX 8

DATA VALIDATION REPORTS AND RELATED QA/QC CORRESPONDENCE AND DOCUMENTATION

Phoenix Chemistry Services

December 16, 2015

Guy Vaillancourt
Project Manager, Pine Street Canal Site
The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

Reference #: 2015-1123-001

Dear Guy,

Enclosed please find the results of the data validation of Sample Delivery Group (SDG) Nos. PSC24 and PSC27 from the Compliance Monitoring work at the Pine Street Canal Site, in Burlington, VT. The sediment samples and field blanks in these SDGs were collected on September 21-24, 2015. The laboratory analyses were performed by Eurofins Lancaster Laboratories of Lancaster, PA , and the Total Organic Carbon (TOC) analyses were performed by Eurofins Spectrum Analytical of Agawam, MA under sub-contract to Eurofins Lancaster.

The original data packages were received on November 23, 2015; a revision containing missing documents for the TOC analyses was received on December 8, 2015, and a full revision of the TOC results for both data packages was received on December 16, 2015. The validation has been performed by Phoenix Chemistry Services, according to the Tier II guidelines as defined by USEPA Region I, to maintain consistency with previous site work, as presented in "Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses", Parts I-III, December, 1996, and Part IV, November, 2008. The EPA's National Functional Guidelines for Organic Data Review (EPA 540/R-99/008, October, 1999), EPA's National Functional Guidelines for Inorganic Data Review (EPA 540-R-04-004, October 2004), and The Johnson Company's 2006 Quality Assurance Project Plan (QAPP), Rev. 5, were also considered during the evaluation, and professional judgment was applied as necessary and appropriate. Most of the TOC validation was raised to a Tier III when the validator and project Quality Assurance Officer questioned the original results. All issues have now been addressed, and the revisions received should be used in place of the corresponding sections of the original data packages. These issues are detailed within the validation report for TOC. Data qualifiers have been applied in the final validation report as necessary and appropriate, in accordance with these guidelines.

No sediment samples exhibited percent solids content less than 20 percent, and based on the approval of the original QAPP for this project, no qualifications were applied for sediment samples exhibiting percent solids between 20% and 30%.

Thank you for this opportunity to provide data validation services to The Johnson Company. We look forward to continuing to work with you on this and other projects. If there are any questions or concerns about the material in this report, please do not hesitate to contact me for help and clarification.

Sincerely,

Deborah H. Gaynor, Ph.D.
Principal, Phoenix Chemistry Services

DATA VALIDATION

FOR

Pine Street Canal Site
BURLINGTON, VT

ORGANIC ANALYSIS DATA
Polynuclear Aromatic Hydrocarbons in Sediments and Water

Sample Delivery Group Nos. PSC24 and PSC27

Chemical Analyses Performed by:

Eurofins Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

FOR

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

Data Validation Report by:

Phoenix Chemistry Services
126 Covered Bridge Rd.
N. Ferrisburg, VT 05473
802-233-2473

December 6, 2015

Reference #2015-1123-001
SVOA Validation Report/PSC24_27/dal/dhg

EXECUTIVE SUMMARY

Phoenix Chemistry Services (Phoenix) has completed the validation of Polynuclear Aromatic Hydrocarbon (PAH) analysis data prepared by Eurofins Lancaster Laboratories for 23 sediment samples and 4 field blanks (FBs) from the Pine Street Canal Site in Burlington, VT. The laboratory reported the data under Sample Delivery Group (SDG) Nos. PSC24 and PSC27, which were submitted as two data packages received by Phoenix on November 23, 2015, and which include the following samples:

Sample Location Identifier (SLID)	Sample Identifier Number (SIN)	Laboratory ID
SDG No. PSC24		
J_T2+00E100 (0-10 cm)	0481-13	8057359
J_T2+00E100 (11-22 in)	0482-13	8057360
J_T3+00E100 (0-10 cm)	0483-13	8057361
J_T3+00E100 (15-30 in)	0484-13	8057362
J_0162-13DP (0-10 cm)	0163-13DP	8057366
J_T3+00E300 (0-10 cm)	0485-13	8057367
J_T3+00E300 (15-30 in)	0486-13	8057368
J_0160-13FB	0160-13FB	8057369
SDG No. PSC27		
J_T8+00E40 (0-10 cm)	0491-13	8064450
J_T8+00E40 (10-20 in)	0492-13	8064451
J_T15+50E100 (0-10 cm)	0493-13	8064452
J_T15+50E100 (5-10 in)	0494-13	8064453
J_0164-13DP	0164-13 DP	8064457
J_T16+50E150 (0-10 cm)	0495-13	8064458
J_T16+50E150 (4-8 in)	0496-13	8064459
J_0165-13FB	0165-13 FB	8064460
J_T1+00E50 (0-10 cm)	0479-13	8064461
J_T1+00E50 (10-20 in)	0480-13	8064462
J_T6+00E60 (0-10 cm)	0489-13	8064463
J_T6+00E60 (8-16 in)	0490-13	8064464
J_T5+00E20 (0-10 cm)	0487-13	8064465
J_T5+00E20 (12-24 in)	0488-13	8064466
J_0163-13FB	0163-13 FB	8064467
J_T21+00E25 (0-10 cm)	0498-13	8064468
J_T21+00E50 (0-10 cm)	0499-13	8064469
J_T17+00E400 (0-10 cm)	0497-13	8064470
J_0161-13FB	0161-13 FB	8064471

A cross-reference of sample IDs was provided in both data packages. The samples in this data set represent the sample collections from September 21-24, 2015. Samples collected on September 21, 2015 were shipped overnight to the laboratory for receipt on September 22, 2015. Samples collected on September 22, 23,

and 24, 2015 were shipped overnight on September 24, 2015 to the laboratory for receipt on September 25, 2015.

Results for PAH compounds were determined to be valid as reported for all samples in SDG Nos. PSC24 and PSC25, with the following qualifications and observation:

- Results for pyrene, acenaphthylene, phenanthrene, fluoranthene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, and benzo(g,h,i)perylene in 0493-13 and 0164-13 DP were qualified as estimated (J). Acenaphthylene in sample 0493-13 was already estimated (J) as it was detected below the sample specific Practical Quantitation Limit (PQL).

- The laboratory appropriately applied "J" qualifiers to the sample results when the concentration of an analyte was less than the sample-specific PQL.

The Overall Evaluation of Data (Section XVI) summarizes the validation results. The validation findings and conclusions for each analytical parameter are detailed in the remaining sections of this report.

Documentation problems observed in the data packages are described in Section XVII.

This validation report shall be considered part of the data packages for all future distributions of the polynuclear aromatic hydrocarbons (PAH) analysis data.

INTRODUCTION

Analyses were performed according to SW-846 Method 8270C, as documented in Eurofins Lancaster Laboratories SOP No. 09491309_13_8270C. The target compound list for semivolatiles was limited to the following 17 polynuclear aromatic hydrocarbon (PAH) compounds:

Naphthalene	Benzo(a)anthracene
2-Methylnaphthalene	Chrysene
Acenaphthylene	Benzo(b)fluoranthene
Acenaphthene	Benzo(k)fluoranthene
Fluorene	Benzo(a)pyrene
Phenanthrene	Indeno(1,2,3-cd)pyrene
Anthracene	Dibenz(a,h)anthracene
Fluoranthene	Benzo(g,h,i)perylene
Pyrene	

Tentative identification of non-target analyte peaks (i.e., tentatively identified compounds, or TICs) was not requested for these analyses.

Phoenix Chemistry Services' validation was performed in conformance with Tier II guidelines as defined by USEPA Region I. Data qualifiers are applied as necessary and appropriate. To the extent possible and to maintain consistency with previous work at this site, the data were evaluated in accordance with the "Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses", December, 1996. The Quality Assurance Project Plan (QAPP; The Johnson Company, Revision 5, December, 2006) and EPA's National Functional Guidelines for Organic Data Review (EPA 540/R-99/008, October, 1999) were also considered during the evaluation, and professional judgment was applied as necessary and appropriate.

The data validation process evaluates data on a technical basis for chemical analyses conducted under the CLP or other well-defined methods. Contract compliance is evaluated only in specific situations. Issues pertaining to contractual compliance are noted where applicable. It is assumed that the data packages are presented in accordance with the CLP (CLP-like or SW-846) requirements. It is also assumed that the data packages represents the best efforts of the laboratory and has already been subjected to adequate and sufficient quality review prior to submission for validation. In instances where SW-846 or other specific methods have been used for the analyses, the validation effort is modified to acknowledge the differences in methodology while maintaining the goals and quality objectives of the CLP.

Results of sample analyses are reported by the laboratory as either qualified or unqualified; various qualifier codes are used by the laboratory to denote specific information regarding the analytical results. During the validation process, laboratory data are verified against all available supporting documentation. Based on this evaluation, qualifier codes may be added, deleted or modified by the data validator. Validated results are either qualified or unqualified; if results are unqualified, this means that the reported values may be used without reservation. Final validated results are annotated with the following codes, as defined in the EPA Region I Functional Guidelines:

U - The analyte was analyzed for, but was not detected. The associated numerical value is the

sample quantitation limit. The sample quantitation limit accounts for sample specific dilution factors and percent solids corrections or sample sizes that deviate from those required by the method.

J - The associated numerical value is an estimated quantity.

UJ - The analyte was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

R - The data are unusable (analyte may or may not be present). Resampling and reanalysis is necessary for verification. The R replaces the numerical value or sample quantitation limit. In some instances (e.g., a dilution) a result may be indicated as "rejected" to avoid confusion when a more quantitatively accurate result is available.

EB, TB, BB - An analyte that was identified in an aqueous equipment (field) blank, trip blank, or bottle blank that was used to assess field contamination associated with soil/sediment samples. These qualifiers are to be applied to soil/sediment sample results only.

These codes (qualifiers) are assigned during the validation process and are based on the data review of the results. They are recorded in the Data Summary Table contained in Attachment A and the spreadsheet summary files in Attachment B (submitted electronically) of this validation report.

All data users should note two facts. First, **the "R" qualifier means that the laboratory-reported value is completely unusable.** The analysis is invalid due to significant quality control problems, and provides no information as to whether the compound is present or not. Rejected values should not appear on data tables because they have no useful purpose under any circumstances. Second, **no analyte concentration is guaranteed to be accurate even if all associated quality control is acceptable.** While strict quality control conformance provides well-defined confidence in the reported results, any analytical result will always contain some error.

The user is also cautioned that the validation effort is based on the materials provided by the laboratory. Software manipulation, resulting in misleading raw data printouts, cannot be routinely detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.

Detailed Findings of Measurement Error Associated with the Analytical Analysis

I. Preservation and Technical Holding Times (Sample Integrity)

The samples for semivolatile analysis in SDG Nos. PSC24 and PSC27 were collected on September 21-24, 2015, and received by the laboratory on Sep. 22 and 25, 2015. All extractions were performed within the acceptable holding times for water (7 days from collection) and soil/sediment (14 days from collection) samples. The sample extracts were also analyzed within 40 days of extraction, as required by Region 1.

The temperature blanks of the coolers on receipt at the laboratory were checked and documented in the data packages to be within or just below the acceptable range of 4 ^{o}C ±2°C at 1.0, 1.5, 4.7, and 1.9^{o}C. Since temperatures were within or slightly below the acceptance range, and the laboratory did not note the presence of ice in any sample, all sample temperatures were deemed acceptable.

II. GC/MS Instrument Performance Check (Tuning)

The samples were analyzed on three GC/MS systems identified as instruments HP19760, HP18444, and HP09910. The tuning of these instruments was demonstrated with analysis of decafluorotriphenylphosphine (DFTPP); tunes were analyzed for each shift (12-hour period) during which the samples or associated standards were analyzed. All nine (9) DFTPP tunes were within acceptance limits, and are reported on the Form 5 summaries in the data packages, with the exception of the DFTPP analyzed on 10/5/15 on Instrument HP09910, for which a Form 5 summary was not provided. The raw data for this DFTPP was included in the data package. This was reviewed and was within acceptance limits.

III. Initial Calibration (IC)

One IC (8/13-14/2015) was performed on instrument HP19760, one IC (9/22/15) was performed on instrument HP09910, and one IC (9/23/15) was performed on instrument HP18444 in support of the sample analyses reported in these data packages. The ICs were performed at eight concentration levels (0.5, 1, 5, 15, 30, 50, 80, and 120 ug/L for sediments and 0.125, 0.25, 1.25, 3.75, 7.5, 12.5, 20, and 30 ug/L for field blanks) for the 17 target analytes. Relative response factor (RRF) as well as percent relative standard deviation (%RSD) values were reported on the Form 6 summaries. One independent calibration verification (ICV) standard, as required by the method, was analyzed after each initial calibration and reported in the data packages. Standards at the nominal method detection limit (0.5 ug/L for non-target analytes and 0.1 ug/L for target analytes for soils and 0.125 ug/L for non-target analytes and 0.025 ug/L for target analytes for field blanks) were also analyzed immediately following each IC as sensitivity checks.

All RRFs were above the 0.05 minimum technical criterion and all %RSDs were below the maximum limit (30%) specified by Region I, and were also below the method limit of 15%. Recoveries of target compounds in the ICVs were within laboratory established acceptance limits (80 – 120 % recovery).

IV. Continuing Calibration (CC)

One continuing calibration (CC) standard was analyzed on instrument HP19760, four CC standards were analyzed on instrument HP09110, and one CC standard was analyzed on instrument HP18444 in support of the sample analyses reported in these data packages. The RRF as well as percent difference (%D) values for all CC standards were reported on the Form 7 summaries within the data packages, with the exception of the CC analyzed on 10/5/15 on Instrument HP09910, for which a Form 7 summary was not provided. The raw data for this CC was included in the data package. This was reviewed and was within acceptance limits.

All RRFs were above the 0.05 minimum criterions, and all %D results were below the maximum limit (25%) in the indicated CC standards.

It should be noted that negative % Difference values will result in a low bias for positive detects, and a positive % Difference will result in a high bias for positive detects.

V. Blanks

Results for two water-matrix and two solid-matrix laboratory method blanks (MBs) were reported in association with this set of samples. No PAH compounds were detected in any MB.

Four sediment collection field blanks (FBs) were reported in these SDGs; no PAH compounds were detected in any FB.

VI. Surrogate Compounds

Percent recoveries (%R) for three surrogate compounds are reported on the Form 2 summaries within the data packages, and are within acceptance limits for all sample analyses

All surrogate standards are spiked into samples during extraction, however, only the three surrogate standards associated with PAH target analytes are reported in the summary forms.

VII. Internal Standards (IS)

All internal standard (IS) areas and retention times (RT) for the six IS were within the established QC limits for all reported sample analyses in these data packages. The internal standard summary form (Form 8) was not included for the sequence analyzed on 10/5/15 on Instrument HP09910. The raw data was reviewed and the IS areas in this sequence were found to be acceptable.

VIII. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Samples 0484-13 and 0494-13 were used for the sediment MS/MSD analyses. The spiking solution contained all 17 PAH compounds. Percent recoveries (%R) and relative percent differences (%RPD) between paired recoveries were reported on the Form 3 summaries for the spiked analytes. Recoveries (%R) of all

target analytes and relative percent difference (RPD) values were within (overall, 84 – 105 %R; 0 - 6 %RPD) established QC limits (76 – 129 %R) for both MS/MSD paired analyses.

IX. Field Duplicates

The following samples were identified as field duplicate pairs:

Parent	Duplicate	matrix
0483-13	0163-13 DP	sediment
0493-13	0164-13 DP	sediment

All target analytes except acenaphthene, anthracene, dibenz(a,h)anthracene, fluorene, 2-methylnaphthalene, and naphthalene were reported in both sample 0483-13 and its field duplicate 0163-13. Acenaphthylene was reported below the sample specific PQL in the parent sample and not detected in the field duplicate. Results for all detected analytes were below twice the sample specific PQL in both members of this field duplicate pair, so precision could not be evaluated for the less concentrated analytes in these field duplicates.

All target analytes except acenaphthene and fluorene were reported in both sample 0493-13 and its field duplicate 0164-13 DP. Naphthalene and 2-methylnaphthalene were reported below the sample specific PQL in the field duplicate and not detected in the parent sample. Target analytes pyrene, fluoranthene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, and benzo(g,h,i)perylene were reported at greater than twice the sample specific PQL in both members of the field duplicate pair. Target analytes acenaphthylene, phenanthrene, benzo(a)anthracene, benzo(k)fluoranthene, and indeno(1,2,3-cd)pyrene were reported at greater than twice the sample specific PQL in field duplicate only. Precision exceeded criteria (>50% RPD) for all analytes above twice the quantitation limit in both members of the field duplicate pair.

On the basis of the unacceptable precision in the field duplicate pair, results for pyrene, acenaphthylene, phenanthrene, fluoranthene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, and benzo(g,h,i)perylene in 0493-13 and 0164-13 DP were qualified as estimated (J). Acenaphthylene in sample 0493-13 was already estimated (J) as it was detected below the sample specific PQL.

X. Sensitivity Check

The aqueous MDL study submitted for this project was performed on 1/30/12, which is more than one year prior to these analyses. An updated MDL study or LOQ verification study was not requested. All project analytes had calculated MDL's below the method quantitation limits. The reporting limit is supported by the low standard of the IC as well as the MDL check standards analyzed with the ICs.

XI. Performance Evaluation (PE) Samples/Accuracy Check

Two (2) aqueous and two (2) solid matrix zero blind PE samples (commonly known as laboratory control samples, LCSs) were prepared at the same concentration level as the mid-point standard, and analyzed

by the laboratory in support of these samples. Percent recoveries were reported on the Form 3 summaries in the data packages, and were within (overall, aqueous, 71 – 115% and solid, 89 - 108 %R) established QC limits (laboratory limits: aqueous, 69 - 127 %R and solid, 76 – 129 %R; Region 1 limits: 60 - 140 %R) for all spiked analytes.

No external single-blind PES sample was required or submitted with the samples in this data set.

XII. Target Compound Identification

Target compound identification is not evaluated in a Tier II validation assessment.

XIII. Compound Quantitation and Reported Quantitation Limits

Practical quantitation limits (PQLs) were reported on the Form I summaries on a dry weight basis, as requested; the PQLs and MDLs (also reported on the Form 1 summaries) were adjusted for the sample weight or volume extracted, and for the measured percent moisture content in the sediment samples. Compound quantitation is not evaluated in a Tier II validation assessment. Sample decanting logbooks were not included in the data package.

Samples 0497-13 and 0499-13 were analyzed at 5-fold dilutions. In sample 0497-13, all analytes were detected, however, acenaphthene, naphthalene, acenaphthylene, fluorene, anthracene, dibenz(a,h)anthracene, and 2-methylnaphthalene were detected below the sample specific PQL and estimated (J). In sample 0499-13, acenaphthene, naphthalene and 2-methylnaphthalene were not detected and elevated sample specific PQLs were provided for these analytes. Acenaphthylene, fluorene, anthracene, and dibenz(a,h)anthracene were detected below the sample specific PQL and estimated (J). All other analytes were reported without qualification in both samples. There were no compounds in the samples that required dilution for quantification within calibration range, and there were no non-target interferences apparent in the sample analysis. The reasons for the dilutions were not noted in the project narrative.

Both of these samples also had high moisture content; sample 0497-13 exhibited 70.7 % moisture (29.3 % solids) content and sample 0499-13 exhibited 72.0 % moisture content (28.0 % solids). In keeping with previous project work, no qualifications were applied on the basis of the percent solids less than 30% but greater than 10%.

The laboratory appropriately applied “J” qualifiers to the sample results when the concentration of an analyte was less than the sample-specific PQL. The validator did not remove these qualifiers.

The values that the validator has judged to be acceptable are presented in the “Result” column in the Data Summary Table in Attachment A and in the “Validator_Result” column in the spreadsheet summary file submitted electronically as Attachment B. The final qualifiers based on the validation effort are presented in the “Validator_Qualifier” column in the Data Summary Table and in the spreadsheet summary file. All results, positive and non-detect, are listed in the these summaries, whether or not the value or qualifier was changed as a result of the validation; if a value or qualifier was changed, this is indicated by the “Y” (for yes) notation in the column “Validator_Change” in the Data Summary Table. A brief explanation of the reason for the validation change is coded in the “Validator_Reason” column in the Data Summary Table and the full

spreadsheet summary file; the definitions of these codes are given at the end of the Data Summary Table and on a separate tab of the spreadsheet file. Sample-specific PQLs are given in the summaries.

It should be noted that for sediments, percent moisture was measured after decanting. All samples were extracted at approximately the weight described in the method and the laboratory SOP. Therefore, the additional column labeled "Prep_Factor" added during validation was not required for this sample set, and has not been added.

XIV. Tentatively Identified Compounds (TICs)

Evaluation of unidentified, non-target analyte peaks was not requested or performed for these samples.

XV. System Performance

Analytical system performance is not evaluated in a Tier II validation assessment.

XVI. Overall Evaluation of Data

Results for PAH compounds were determined to be valid as reported for all samples in SDG Nos. PSC24 and PSC27, with the following qualifications and observation:

- On the basis of the unacceptable precision in the field duplicate pair, results for pyrene, acenaphthylene, phenanthrene, anthracene, fluoranthene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, and benzo(g,h,i)perylene in 0493-13 and 0164-13 DP were qualified as estimated (J). Acenaphthylene in sample 0493-13 was already estimated (J) as it was detected below the sample specific PQL.

- The laboratory appropriately applied "J" qualifiers to the sample results when the concentration of an analyte was less than the sample-specific PQL.

Documentation problems observed in the data packages are described in Section XVII.

XVII. Documentation

Chain-of-custody (COC) records were present and completed accurately.

Data presentation was acceptable, with the following observations and exceptions:

- Decanting logs were not included in either data package.

- Forms 5B (DFTPP), Form 7C (CC) and Form 8 (IS) were not included in the data package for the sequence analyzed on 10/5/15 on Instrument HP 09910. The raw data for these analyses

were included and review and calculations of the raw data were performed in validation to ensure that appropriate criteria were met.

The missing documentation has been requested from the laboratory, and should be maintained in Appendix C of this report upon receipt.

This validation report should be considered part of the data packages for all future distributions of the PAH analysis data.

ATTACHMENT A

DATA SUMMARY TABLE
SDG Nos. PSC24 and PSC27
Polynuclear Aromatic Hydrocarbons in Sediment and Water Samples

Lab_ID	Sample_ID	SDG No.	Analyte	Validator_ Result	Validator_ Qualifier	PQL	Units	Dilution	Validator_ Change	Validator_ Reason
8057359	0481-13	PSC24	Acenaphthene	5	J	21	ug/kg	1	N	z
8057359	0481-13	PSC24	Pyrene	130		21	ug/kg	1	N	z
8057359	0481-13	PSC24	Naphthalene	6	J	21	ug/kg	1	N	z
8057359	0481-13	PSC24	Acenaphthylene	30		21	ug/kg	1	N	z
8057359	0481-13	PSC24	Fluorene	8	J	21	ug/kg	1	N	z
8057359	0481-13	PSC24	Phenanthrene	42		21	ug/kg	1	N	z
8057359	0481-13	PSC24	Anthracene	21		21	ug/kg	1	N	z
8057359	0481-13	PSC24	Fluoranthene	110		21	ug/kg	1	N	z
8057359	0481-13	PSC24	Benzo(a)anthracene	61		21	ug/kg	1	N	z
8057359	0481-13	PSC24	Chrysene	87		21	ug/kg	1	N	z
8057359	0481-13	PSC24	Benzo(b)fluoranthene	120		21	ug/kg	1	N	z
8057359	0481-13	PSC24	Benzo(k)fluoranthene	54		21	ug/kg	1	N	z
8057359	0481-13	PSC24	Benzo(a)pyrene	71		21	ug/kg	1	N	z
8057359	0481-13	PSC24	Indeno(1,2,3-cd)pyrene	55		21	ug/kg	1	N	z
8057359	0481-13	PSC24	Dibenz(a,h)anthracene	13	J	21	ug/kg	1	N	z
8057359	0481-13	PSC24	Benzo(g,h,i)perylene	70		21	ug/kg	1	N	z
8057359	0481-13	PSC24	2-Methylnaphthalene	4	J	21	ug/kg	1	N	z
8057360	0482-13	PSC24	Acenaphthene	20	U	20	ug/kg	1	N	z
8057360	0482-13	PSC24	Pyrene	20	U	20	ug/kg	1	N	z
8057360	0482-13	PSC24	Naphthalene	20	U	20	ug/kg	1	N	z
8057360	0482-13	PSC24	Acenaphthylene	20	U	20	ug/kg	1	N	z
8057360	0482-13	PSC24	Fluorene	20	U	20	ug/kg	1	N	z
8057360	0482-13	PSC24	Phenanthrene	20	U	20	ug/kg	1	N	z
8057360	0482-13	PSC24	Anthracene	20	U	20	ug/kg	1	N	z
8057360	0482-13	PSC24	Fluoranthene	20	U	20	ug/kg	1	N	z
8057360	0482-13	PSC24	Benzo(a)anthracene	20	U	20	ug/kg	1	N	z
8057360	0482-13	PSC24	Chrysene	20	U	20	ug/kg	1	N	z
8057360	0482-13	PSC24	Benzo(b)fluoranthene	20	U	20	ug/kg	1	N	z
8057360	0482-13	PSC24	Benzo(k)fluoranthene	20	U	20	ug/kg	1	N	z
8057360	0482-13	PSC24	Benzo(a)pyrene	20	U	20	ug/kg	1	N	z
8057360	0482-13	PSC24	Indeno(1,2,3-cd)pyrene	20	U	20	ug/kg	1	N	z
8057360	0482-13	PSC24	Dibenz(a,h)anthracene	20	U	20	ug/kg	1	N	z
8057360	0482-13	PSC24	Benzo(g,h,i)perylene	20	U	20	ug/kg	1	N	z
8057360	0482-13	PSC24	2-Methylnaphthalene	20	U	20	ug/kg	1	N	z
8057361	0483-13	PSC24	Acenaphthene	21	U	21	ug/kg	1	N	z
8057361	0483-13	PSC24	Pyrene	13	J	21	ug/kg	1	N	z
8057361	0483-13	PSC24	Naphthalene	21	U	21	ug/kg	1	N	z
8057361	0483-13	PSC24	Acenaphthylene	5	J	21	ug/kg	1	N	z
8057361	0483-13	PSC24	Fluorene	21	U	21	ug/kg	1	N	z
8057361	0483-13	PSC24	Phenanthrene	5	J	21	ug/kg	1	N	z
8057361	0483-13	PSC24	Anthracene	21	U	21	ug/kg	1	N	z
8057361	0483-13	PSC24	Fluoranthene	13	J	21	ug/kg	1	N	z
8057361	0483-13	PSC24	Benzo(a)anthracene	7	J	21	ug/kg	1	N	z
8057361	0483-13	PSC24	Chrysene	11	J	21	ug/kg	1	N	z
8057361	0483-13	PSC24	Benzo(b)fluoranthene	17	J	21	ug/kg	1	N	z
8057361	0483-13	PSC24	Benzo(k)fluoranthene	7	J	21	ug/kg	1	N	z
8057361	0483-13	PSC24	Benzo(a)pyrene	8	J	21	ug/kg	1	N	z
8057361	0483-13	PSC24	Indeno(1,2,3-cd)pyrene	10	J	21	ug/kg	1	N	z
8057361	0483-13	PSC24	Dibenz(a,h)anthracene	21	U	21	ug/kg	1	N	z
8057361	0483-13	PSC24	Benzo(g,h,i)perylene	10	J	21	ug/kg	1	N	z
8057361	0483-13	PSC24	2-Methylnaphthalene	21	U	21	ug/kg	1	N	z
8057362	0484-13	PSC24	Acenaphthene	20	U	20	ug/kg	1	N	z
8057362	0484-13	PSC24	Pyrene	15	J	20	ug/kg	1	N	z
8057362	0484-13	PSC24	Naphthalene	20	U	20	ug/kg	1	N	z
8057362	0484-13	PSC24	Acenaphthylene	20	U	20	ug/kg	1	N	z
8057362	0484-13	PSC24	Fluorene	20	U	20	ug/kg	1	N	z
8057362	0484-13	PSC24	Phenanthrene	10	J	20	ug/kg	1	N	z
8057362	0484-13	PSC24	Anthracene	4	J	20	ug/kg	1	N	z
8057362	0484-13	PSC24	Fluoranthene	9	J	20	ug/kg	1	N	z
8057362	0484-13	PSC24	Benzo(a)anthracene	5	J	20	ug/kg	1	N	z
8057362	0484-13	PSC24	Chrysene	5	J	20	ug/kg	1	N	z
8057362	0484-13	PSC24	Benzo(b)fluoranthene	7	J	20	ug/kg	1	N	z
8057362	0484-13	PSC24	Benzo(k)fluoranthene	20	U	20	ug/kg	1	N	z
8057362	0484-13	PSC24	Benzo(a)pyrene	7	J	20	ug/kg	1	N	z

Lab_ID	Sample_ID	SDG No.	Analyte	Validator_ Result	Validator_ Qualifier	PQL	Units	Dilution	Validator_ Change	Validator_ Reason
8057362	0484-13	PSC24	Indeno(1,2,3-cd)pyrene	20	U	20	ug/kg	1	N	z
8057362	0484-13	PSC24	Dibenz(a,h)anthracene	20	U	20	ug/kg	1	N	z
8057362	0484-13	PSC24	Benzo(g,h,i)perylene	20	U	20	ug/kg	1	N	z
8057362	0484-13	PSC24	2-Methylnaphthalene	20	U	20	ug/kg	1	N	z
8057366	0163-13DP	PSC24	Acenaphthene	21	U	21	ug/kg	1	N	z
8057366	0163-13DP	PSC24	Pyrene	11	J	21	ug/kg	1	N	z
8057366	0163-13DP	PSC24	Naphthalene	21	U	21	ug/kg	1	N	z
8057366	0163-13DP	PSC24	Acenaphthylene	21	U	21	ug/kg	1	N	z
8057366	0163-13DP	PSC24	Fluorene	21	U	21	ug/kg	1	N	z
8057366	0163-13DP	PSC24	Phenanthrene	4	J	21	ug/kg	1	N	z
8057366	0163-13DP	PSC24	Anthracene	21	U	21	ug/kg	1	N	z
8057366	0163-13DP	PSC24	Fluoranthene	11	J	21	ug/kg	1	N	z
8057366	0163-13DP	PSC24	Benzo(a)anthracene	7	J	21	ug/kg	1	N	z
8057366	0163-13DP	PSC24	Chrysene	11	J	21	ug/kg	1	N	z
8057366	0163-13DP	PSC24	Benzo(b)fluoranthene	15	J	21	ug/kg	1	N	z
8057366	0163-13DP	PSC24	Benzo(k)fluoranthene	7	J	21	ug/kg	1	N	z
8057366	0163-13DP	PSC24	Benzo(a)pyrene	11	J	21	ug/kg	1	N	z
8057366	0163-13DP	PSC24	Indeno(1,2,3-cd)pyrene	8	J	21	ug/kg	1	N	z
8057366	0163-13DP	PSC24	Dibenz(a,h)anthracene	21	U	21	ug/kg	1	N	z
8057366	0163-13DP	PSC24	Benzo(g,h,i)perylene	9	J	21	ug/kg	1	N	z
8057366	0163-13DP	PSC24	2-Methylnaphthalene	21	U	21	ug/kg	1	N	z
8057367	0485-13	PSC24	Acenaphthene	4	J	21	ug/kg	1	N	z
8057367	0485-13	PSC24	Pyrene	86		21	ug/kg	1	N	z
8057367	0485-13	PSC24	Naphthalene	7	J	21	ug/kg	1	N	z
8057367	0485-13	PSC24	Acenaphthylene	15	J	21	ug/kg	1	N	z
8057367	0485-13	PSC24	Fluorene	6	J	21	ug/kg	1	N	z
8057367	0485-13	PSC24	Phenanthrene	30		21	ug/kg	1	N	z
8057367	0485-13	PSC24	Anthracene	15	J	21	ug/kg	1	N	z
8057367	0485-13	PSC24	Fluoranthene	78		21	ug/kg	1	N	z
8057367	0485-13	PSC24	Benzo(a)anthracene	33		21	ug/kg	1	N	z
8057367	0485-13	PSC24	Chrysene	59		21	ug/kg	1	N	z
8057367	0485-13	PSC24	Benzo(b)fluoranthene	84		21	ug/kg	1	N	z
8057367	0485-13	PSC24	Benzo(k)fluoranthene	34		21	ug/kg	1	N	z
8057367	0485-13	PSC24	Benzo(a)pyrene	40		21	ug/kg	1	N	z
8057367	0485-13	PSC24	Indeno(1,2,3-cd)pyrene	35		21	ug/kg	1	N	z
8057367	0485-13	PSC24	Dibenz(a,h)anthracene	7	J	21	ug/kg	1	N	z
8057367	0485-13	PSC24	Benzo(g,h,i)perylene	46		21	ug/kg	1	N	z
8057367	0485-13	PSC24	2-Methylnaphthalene	8	J	21	ug/kg	1	N	z
8057368	0486-13	PSC24	Acenaphthene	20	U	20	ug/kg	1	N	z
8057368	0486-13	PSC24	Pyrene	20	U	20	ug/kg	1	N	z
8057368	0486-13	PSC24	Naphthalene	20	U	20	ug/kg	1	N	z
8057368	0486-13	PSC24	Acenaphthylene	20	U	20	ug/kg	1	N	z
8057368	0486-13	PSC24	Fluorene	20	U	20	ug/kg	1	N	z
8057368	0486-13	PSC24	Phenanthrene	20	U	20	ug/kg	1	N	z
8057368	0486-13	PSC24	Anthracene	20	U	20	ug/kg	1	N	z
8057368	0486-13	PSC24	Fluoranthene	20	U	20	ug/kg	1	N	z
8057368	0486-13	PSC24	Benzo(a)anthracene	20	U	20	ug/kg	1	N	z
8057368	0486-13	PSC24	Chrysene	20	U	20	ug/kg	1	N	z
8057368	0486-13	PSC24	Benzo(b)fluoranthene	20	U	20	ug/kg	1	N	z
8057368	0486-13	PSC24	Benzo(k)fluoranthene	20	U	20	ug/kg	1	N	z
8057368	0486-13	PSC24	Benzo(a)pyrene	20	U	20	ug/kg	1	N	z
8057368	0486-13	PSC24	Indeno(1,2,3-cd)pyrene	20	U	20	ug/kg	1	N	z
8057368	0486-13	PSC24	Dibenz(a,h)anthracene	20	U	20	ug/kg	1	N	z
8057368	0486-13	PSC24	Benzo(g,h,i)perylene	20	U	20	ug/kg	1	N	z
8057368	0486-13	PSC24	2-Methylnaphthalene	20	U	20	ug/kg	1	N	z
8057369	0160-13FB	PSC24	2-Methylnaphthalene	0.5	U	0.5	ug/l	1	N	z
8057369	0160-13FB	PSC24	Naphthalene	0.5	U	0.5	ug/l	1	N	z
8057369	0160-13FB	PSC24	Acenaphthylene	0.5	U	0.5	ug/l	1	N	z
8057369	0160-13FB	PSC24	Acenaphthene	0.5	U	0.5	ug/l	1	N	z
8057369	0160-13FB	PSC24	Fluorene	0.5	U	0.5	ug/l	1	N	z
8057369	0160-13FB	PSC24	Phenanthrene	0.5	U	0.5	ug/l	1	N	z
8057369	0160-13FB	PSC24	Anthracene	0.5	U	0.5	ug/l	1	N	z
8057369	0160-13FB	PSC24	Fluoranthene	0.5	U	0.5	ug/l	1	N	z
8057369	0160-13FB	PSC24	Pyrene	0.5	U	0.5	ug/l	1	N	z

Lab_ID	Sample_ID	SDG No.	Analyte	Validator_ Result	Validator_ Qualifier	PQL	Units	Dilution	Validator_ Change	Validator_ Reason
8057369	0160-13FB	PSC24	Benzo(a)anthracene	0.5	U	0.5	ug/l	1	N	z
8057369	0160-13FB	PSC24	Chrysene	0.5	U	0.5	ug/l	1	N	z
8057369	0160-13FB	PSC24	Benzo(b)fluoranthene	0.5	U	0.5	ug/l	1	N	z
8057369	0160-13FB	PSC24	Benzo(k)fluoranthene	0.5	U	0.5	ug/l	1	N	z
8057369	0160-13FB	PSC24	Benzo(a)pyrene	0.5	U	0.5	ug/l	1	N	z
8057369	0160-13FB	PSC24	Indeno(1,2,3-cd)pyrene	0.5	U	0.5	ug/l	1	N	z
8057369	0160-13FB	PSC24	Dibenz(a,h)anthracene	0.5	U	0.5	ug/l	1	N	z
8057369	0160-13FB	PSC24	Benzo(g,h,i)perylene	0.5	U	0.5	ug/l	1	N	z
8064450	0491-13	PSC27	Acenaphthene	18	J	20	ug/kg	1	N	z
8064450	0491-13	PSC27	Pyrene	240		20	ug/kg	1	N	z
8064450	0491-13	PSC27	Naphthalene	20	U	20	ug/kg	1	N	z
8064450	0491-13	PSC27	Acenaphthylene	59		20	ug/kg	1	N	z
8064450	0491-13	PSC27	Fluorene	26		20	ug/kg	1	N	z
8064450	0491-13	PSC27	Phenanthrene	140		20	ug/kg	1	N	z
8064450	0491-13	PSC27	Anthracene	42		20	ug/kg	1	N	z
8064450	0491-13	PSC27	Fluoranthene	170		20	ug/kg	1	N	z
8064450	0491-13	PSC27	Benzo(a)anthracene	72		20	ug/kg	1	N	z
8064450	0491-13	PSC27	Chrysene	100		20	ug/kg	1	N	z
8064450	0491-13	PSC27	Benzo(b)fluoranthene	130		20	ug/kg	1	N	z
8064450	0491-13	PSC27	Benzo(k)fluoranthene	52		20	ug/kg	1	N	z
8064450	0491-13	PSC27	Benzo(a)pyrene	91		20	ug/kg	1	N	z
8064450	0491-13	PSC27	Indeno(1,2,3-cd)pyrene	56		20	ug/kg	1	N	z
8064450	0491-13	PSC27	Dibenz(a,h)anthracene	18	J	20	ug/kg	1	N	z
8064450	0491-13	PSC27	Benzo(g,h,i)perylene	78		20	ug/kg	1	N	z
8064450	0491-13	PSC27	2-Methylnaphthalene	14	J	20	ug/kg	1	N	z
8064451	0492-13	PSC27	Acenaphthene	8	J	20	ug/kg	1	N	z
8064451	0492-13	PSC27	Pyrene	20	U	20	ug/kg	1	N	z
8064451	0492-13	PSC27	Naphthalene	20	U	20	ug/kg	1	N	z
8064451	0492-13	PSC27	Acenaphthylene	20	U	20	ug/kg	1	N	z
8064451	0492-13	PSC27	Fluorene	20	U	20	ug/kg	1	N	z
8064451	0492-13	PSC27	Phenanthrene	9	J	20	ug/kg	1	N	z
8064451	0492-13	PSC27	Anthracene	20	U	20	ug/kg	1	N	z
8064451	0492-13	PSC27	Fluoranthene	20	U	20	ug/kg	1	N	z
8064451	0492-13	PSC27	Benzo(a)anthracene	20	U	20	ug/kg	1	N	z
8064451	0492-13	PSC27	Chrysene	20	U	20	ug/kg	1	N	z
8064451	0492-13	PSC27	Benzo(b)fluoranthene	5	J	20	ug/kg	1	N	z
8064451	0492-13	PSC27	Benzo(k)fluoranthene	20	U	20	ug/kg	1	N	z
8064451	0492-13	PSC27	Benzo(a)pyrene	7	J	20	ug/kg	1	N	z
8064451	0492-13	PSC27	Indeno(1,2,3-cd)pyrene	20	U	20	ug/kg	1	N	z
8064451	0492-13	PSC27	Dibenz(a,h)anthracene	20	U	20	ug/kg	1	N	z
8064451	0492-13	PSC27	Benzo(g,h,i)perylene	20	U	20	ug/kg	1	N	z
8064451	0492-13	PSC27	2-Methylnaphthalene	20	U	20	ug/kg	1	N	z
8064452	0493-13	PSC27	Acenaphthene	34	U	34	ug/kg	1	N	z
8064452	0493-13	PSC27	Pyrene	120	J	34	ug/kg	1	Y	i
8064452	0493-13	PSC27	Naphthalene	34	U	34	ug/kg	1	N	z
8064452	0493-13	PSC27	Acenaphthylene	22	J	34	ug/kg	1	N	z
8064452	0493-13	PSC27	Fluorene	34	U	34	ug/kg	1	N	z
8064452	0493-13	PSC27	Phenanthrene	51	J	34	ug/kg	1	Y	i
8064452	0493-13	PSC27	Anthracene	29	J	34	ug/kg	1	N	z
8064452	0493-13	PSC27	Fluoranthene	120	J	34	ug/kg	1	Y	i
8064452	0493-13	PSC27	Benzo(a)anthracene	56	J	34	ug/kg	1	Y	i
8064452	0493-13	PSC27	Chrysene	88	J	34	ug/kg	1	Y	i
8064452	0493-13	PSC27	Benzo(b)fluoranthene	130	J	34	ug/kg	1	Y	i
8064452	0493-13	PSC27	Benzo(k)fluoranthene	58	J	34	ug/kg	1	Y	i
8064452	0493-13	PSC27	Benzo(a)pyrene	81	J	34	ug/kg	1	Y	i
8064452	0493-13	PSC27	Indeno(1,2,3-cd)pyrene	67	J	34	ug/kg	1	Y	i
8064452	0493-13	PSC27	Dibenz(a,h)anthracene	21	J	34	ug/kg	1	N	z
8064452	0493-13	PSC27	Benzo(g,h,i)perylene	83	J	34	ug/kg	1	Y	i
8064452	0493-13	PSC27	2-Methylnaphthalene	34	U	34	ug/kg	1	N	z
8064453	0494-13	PSC27	Acenaphthene	21	U	21	ug/kg	1	N	z
8064453	0494-13	PSC27	Pyrene	16	J	21	ug/kg	1	N	z
8064453	0494-13	PSC27	Naphthalene	21	U	21	ug/kg	1	N	z
8064453	0494-13	PSC27	Acenaphthylene	21	U	21	ug/kg	1	N	z
8064453	0494-13	PSC27	Fluorene	21	U	21	ug/kg	1	N	z

Lab_ID	Sample_ID	SDG No.	Analyte	Validator_ Result	Validator_ Qualifier	PQL	Units	Dilution	Validator_ Change	Validator_ Reason
8064453	0494-13	PSC27	Phenanthrene	6	J	21	ug/kg	1	N	z
8064453	0494-13	PSC27	Anthracene	21	U	21	ug/kg	1	N	z
8064453	0494-13	PSC27	Fluoranthene	16	J	21	ug/kg	1	N	z
8064453	0494-13	PSC27	Benzo(a)anthracene	9	J	21	ug/kg	1	N	z
8064453	0494-13	PSC27	Chrysene	12	J	21	ug/kg	1	N	z
8064453	0494-13	PSC27	Benzo(b)fluoranthene	16	J	21	ug/kg	1	N	z
8064453	0494-13	PSC27	Benzo(k)fluoranthene	5	J	21	ug/kg	1	N	z
8064453	0494-13	PSC27	Benzo(a)pyrene	11	J	21	ug/kg	1	N	z
8064453	0494-13	PSC27	Indeno(1,2,3-cd)pyrene	8	J	21	ug/kg	1	N	z
8064453	0494-13	PSC27	Dibenz(a,h)anthracene	5	J	21	ug/kg	1	N	z
8064453	0494-13	PSC27	Benzo(g,h,i)perylene	10	J	21	ug/kg	1	N	z
8064453	0494-13	PSC27	2-Methylnaphthalene	21	U	21	ug/kg	1	N	z
8064457	0164-13 DP	PSC27	Acenaphthene	34	U	34	ug/kg	1	N	z
8064457	0164-13 DP	PSC27	Pyrene	380	J	34	ug/kg	1	Y	i
8064457	0164-13 DP	PSC27	Naphthalene	22	J	34	ug/kg	1	N	z
8064457	0164-13 DP	PSC27	Acenaphthylene	69	J	34	ug/kg	1	Y	i
8064457	0164-13 DP	PSC27	Fluorene	34	U	34	ug/kg	1	N	z
8064457	0164-13 DP	PSC27	Phenanthrene	88	J	34	ug/kg	1	Y	i
8064457	0164-13 DP	PSC27	Anthracene	62		34	ug/kg	1	N	z
8064457	0164-13 DP	PSC27	Fluoranthene	330	J	34	ug/kg	1	Y	i
8064457	0164-13 DP	PSC27	Benzo(a)anthracene	200	J	34	ug/kg	1	Y	i
8064457	0164-13 DP	PSC27	Chrysene	240	J	34	ug/kg	1	Y	i
8064457	0164-13 DP	PSC27	Benzo(b)fluoranthene	310	J	34	ug/kg	1	Y	i
8064457	0164-13 DP	PSC27	Benzo(k)fluoranthene	130	J	34	ug/kg	1	Y	i
8064457	0164-13 DP	PSC27	Benzo(a)pyrene	220	J	34	ug/kg	1	Y	i
8064457	0164-13 DP	PSC27	Indeno(1,2,3-cd)pyrene	140	J	34	ug/kg	1	Y	i
8064457	0164-13 DP	PSC27	Dibenz(a,h)anthracene	55		34	ug/kg	1	N	z
8064457	0164-13 DP	PSC27	Benzo(g,h,i)perylene	180	J	34	ug/kg	1	Y	i
8064457	0164-13 DP	PSC27	2-Methylnaphthalene	9	J	34	ug/kg	1	N	z
8064458	0495-13	PSC27	Acenaphthene	8	J	28	ug/kg	1	N	z
8064458	0495-13	PSC27	Pyrene	220		28	ug/kg	1	N	z
8064458	0495-13	PSC27	Naphthalene	28	U	28	ug/kg	1	N	z
8064458	0495-13	PSC27	Acenaphthylene	25	J	28	ug/kg	1	N	z
8064458	0495-13	PSC27	Fluorene	6	J	28	ug/kg	1	N	z
8064458	0495-13	PSC27	Phenanthrene	130		28	ug/kg	1	N	z
8064458	0495-13	PSC27	Anthracene	39		28	ug/kg	1	N	z
8064458	0495-13	PSC27	Fluoranthene	200		28	ug/kg	1	N	z
8064458	0495-13	PSC27	Benzo(a)anthracene	100		28	ug/kg	1	N	z
8064458	0495-13	PSC27	Chrysene	140		28	ug/kg	1	N	z
8064458	0495-13	PSC27	Benzo(b)fluoranthene	180		28	ug/kg	1	N	z
8064458	0495-13	PSC27	Benzo(k)fluoranthene	64		28	ug/kg	1	N	z
8064458	0495-13	PSC27	Benzo(a)pyrene	130		28	ug/kg	1	N	z
8064458	0495-13	PSC27	Indeno(1,2,3-cd)pyrene	89		28	ug/kg	1	N	z
8064458	0495-13	PSC27	Dibenz(a,h)anthracene	22	J	28	ug/kg	1	N	z
8064458	0495-13	PSC27	Benzo(g,h,i)perylene	110		28	ug/kg	1	N	z
8064458	0495-13	PSC27	2-Methylnaphthalene	28	U	28	ug/kg	1	N	z
8064459	0496-13	PSC27	Acenaphthene	19	U	19	ug/kg	1	N	z
8064459	0496-13	PSC27	Pyrene	26		19	ug/kg	1	N	z
8064459	0496-13	PSC27	Naphthalene	19	U	19	ug/kg	1	N	z
8064459	0496-13	PSC27	Acenaphthylene	4	J	19	ug/kg	1	N	z
8064459	0496-13	PSC27	Fluorene	19	U	19	ug/kg	1	N	z
8064459	0496-13	PSC27	Phenanthrene	18	J	19	ug/kg	1	N	z
8064459	0496-13	PSC27	Anthracene	8	J	19	ug/kg	1	N	z
8064459	0496-13	PSC27	Fluoranthene	29		19	ug/kg	1	N	z
8064459	0496-13	PSC27	Benzo(a)anthracene	18	J	19	ug/kg	1	N	z
8064459	0496-13	PSC27	Chrysene	18	J	19	ug/kg	1	N	z
8064459	0496-13	PSC27	Benzo(b)fluoranthene	21		19	ug/kg	1	N	z
8064459	0496-13	PSC27	Benzo(k)fluoranthene	9	J	19	ug/kg	1	N	z
8064459	0496-13	PSC27	Benzo(a)pyrene	21		19	ug/kg	1	N	z
8064459	0496-13	PSC27	Indeno(1,2,3-cd)pyrene	9	J	19	ug/kg	1	N	z
8064459	0496-13	PSC27	Dibenz(a,h)anthracene	19	U	19	ug/kg	1	N	z
8064459	0496-13	PSC27	Benzo(g,h,i)perylene	11	J	19	ug/kg	1	N	z
8064459	0496-13	PSC27	2-Methylnaphthalene	19	U	19	ug/kg	1	N	z
8064460	0165-13 FB	PSC27	2-Methylnaphthalene	0.5	U	0.5	ug/l	1	N	z

Lab_ID	Sample_ID	SDG No.	Analyte	Validator_ Result	Validator_ Qualifier	PQL	Units	Dilution	Validator_ Change	Validator_ Reason
8064460	0165-13 FB	PSC27	Naphthalene	0.5	U	0.5	ug/l	1	N	z
8064460	0165-13 FB	PSC27	Acenaphthylene	0.5	U	0.5	ug/l	1	N	z
8064460	0165-13 FB	PSC27	Acenaphthene	0.5	U	0.5	ug/l	1	N	z
8064460	0165-13 FB	PSC27	Fluorene	0.5	U	0.5	ug/l	1	N	z
8064460	0165-13 FB	PSC27	Phenanthrene	0.5	U	0.5	ug/l	1	N	z
8064460	0165-13 FB	PSC27	Anthracene	0.5	U	0.5	ug/l	1	N	z
8064460	0165-13 FB	PSC27	Fluoranthene	0.5	U	0.5	ug/l	1	N	z
8064460	0165-13 FB	PSC27	Pyrene	0.5	U	0.5	ug/l	1	N	z
8064460	0165-13 FB	PSC27	Benzo(a)anthracene	0.5	U	0.5	ug/l	1	N	z
8064460	0165-13 FB	PSC27	Chrysene	0.5	U	0.5	ug/l	1	N	z
8064460	0165-13 FB	PSC27	Benzo(b)fluoranthene	0.5	U	0.5	ug/l	1	N	z
8064460	0165-13 FB	PSC27	Benzo(k)fluoranthene	0.5	U	0.5	ug/l	1	N	z
8064460	0165-13 FB	PSC27	Benzo(a)pyrene	0.5	U	0.5	ug/l	1	N	z
8064460	0165-13 FB	PSC27	Indeno(1,2,3-cd)pyrene	0.5	U	0.5	ug/l	1	N	z
8064460	0165-13 FB	PSC27	Dibenz(a,h)anthracene	0.5	U	0.5	ug/l	1	N	z
8064460	0165-13 FB	PSC27	Benzo(g,h,i)perylene	0.5	U	0.5	ug/l	1	N	z
8064461	0479-13	PSC27	Acenaphthene	15	J	21	ug/kg	1	N	z
8064461	0479-13	PSC27	Pyrene	340		21	ug/kg	1	N	z
8064461	0479-13	PSC27	Naphthalene	16	J	21	ug/kg	1	N	z
8064461	0479-13	PSC27	Acenaphthylene	41		21	ug/kg	1	N	z
8064461	0479-13	PSC27	Fluorene	26		21	ug/kg	1	N	z
8064461	0479-13	PSC27	Phenanthrene	210		21	ug/kg	1	N	z
8064461	0479-13	PSC27	Anthracene	84		21	ug/kg	1	N	z
8064461	0479-13	PSC27	Fluoranthene	360		21	ug/kg	1	N	z
8064461	0479-13	PSC27	Benzo(a)anthracene	170		21	ug/kg	1	N	z
8064461	0479-13	PSC27	Chrysene	250		21	ug/kg	1	N	z
8064461	0479-13	PSC27	Benzo(b)fluoranthene	310		21	ug/kg	1	N	z
8064461	0479-13	PSC27	Benzo(k)fluoranthene	100		21	ug/kg	1	N	z
8064461	0479-13	PSC27	Benzo(a)pyrene	220		21	ug/kg	1	N	z
8064461	0479-13	PSC27	Indeno(1,2,3-cd)pyrene	130		21	ug/kg	1	N	z
8064461	0479-13	PSC27	Dibenz(a,h)anthracene	30		21	ug/kg	1	N	z
8064461	0479-13	PSC27	Benzo(g,h,i)perylene	140		21	ug/kg	1	N	z
8064461	0479-13	PSC27	2-Methylnaphthalene	8	J	21	ug/kg	1	N	z
8064462	0480-13	PSC27	Acenaphthene	20	U	20	ug/kg	1	N	z
8064462	0480-13	PSC27	Pyrene	20	U	20	ug/kg	1	N	z
8064462	0480-13	PSC27	Naphthalene	20	U	20	ug/kg	1	N	z
8064462	0480-13	PSC27	Acenaphthylene	20	U	20	ug/kg	1	N	z
8064462	0480-13	PSC27	Fluorene	20	U	20	ug/kg	1	N	z
8064462	0480-13	PSC27	Phenanthrene	20	U	20	ug/kg	1	N	z
8064462	0480-13	PSC27	Anthracene	20	U	20	ug/kg	1	N	z
8064462	0480-13	PSC27	Fluoranthene	20	U	20	ug/kg	1	N	z
8064462	0480-13	PSC27	Benzo(a)anthracene	20	U	20	ug/kg	1	N	z
8064462	0480-13	PSC27	Chrysene	20	U	20	ug/kg	1	N	z
8064462	0480-13	PSC27	Benzo(b)fluoranthene	20	U	20	ug/kg	1	N	z
8064462	0480-13	PSC27	Benzo(k)fluoranthene	20	U	20	ug/kg	1	N	z
8064462	0480-13	PSC27	Benzo(a)pyrene	20	U	20	ug/kg	1	N	z
8064462	0480-13	PSC27	Indeno(1,2,3-cd)pyrene	20	U	20	ug/kg	1	N	z
8064462	0480-13	PSC27	Dibenz(a,h)anthracene	20	U	20	ug/kg	1	N	z
8064462	0480-13	PSC27	Benzo(g,h,i)perylene	20	U	20	ug/kg	1	N	z
8064462	0480-13	PSC27	2-Methylnaphthalene	20	U	20	ug/kg	1	N	z
8064463	0489-13	PSC27	Acenaphthene	6	J	21	ug/kg	1	N	z
8064463	0489-13	PSC27	Pyrene	110		21	ug/kg	1	N	z
8064463	0489-13	PSC27	Naphthalene	21	U	21	ug/kg	1	N	z
8064463	0489-13	PSC27	Acenaphthylene	45		21	ug/kg	1	N	z
8064463	0489-13	PSC27	Fluorene	11	J	21	ug/kg	1	N	z
8064463	0489-13	PSC27	Phenanthrene	39		21	ug/kg	1	N	z
8064463	0489-13	PSC27	Anthracene	24		21	ug/kg	1	N	z
8064463	0489-13	PSC27	Fluoranthene	89		21	ug/kg	1	N	z
8064463	0489-13	PSC27	Benzo(a)anthracene	48		21	ug/kg	1	N	z
8064463	0489-13	PSC27	Chrysene	69		21	ug/kg	1	N	z
8064463	0489-13	PSC27	Benzo(b)fluoranthene	110		21	ug/kg	1	N	z
8064463	0489-13	PSC27	Benzo(k)fluoranthene	30		21	ug/kg	1	N	z
8064463	0489-13	PSC27	Benzo(a)pyrene	55		21	ug/kg	1	N	z
8064463	0489-13	PSC27	Indeno(1,2,3-cd)pyrene	42		21	ug/kg	1	N	z

Lab_ID	Sample_ID	SDG No.	Analyte	Validator_ Result	Validator_ Qualifier	PQL	Units	Dilution	Validator_ Change	Validator_ Reason
8064463	0489-13	PSC27	Dibenz(a,h)anthracene	9	J	21	ug/kg	1	N	z
8064463	0489-13	PSC27	Benzo(g,h,i)perylene	49		21	ug/kg	1	N	z
8064463	0489-13	PSC27	2-Methylnaphthalene	21	U	21	ug/kg	1	N	z
8064464	0490-13	PSC27	Acenaphthene	20	U	20	ug/kg	1	N	z
8064464	0490-13	PSC27	Pyrene	20	U	20	ug/kg	1	N	z
8064464	0490-13	PSC27	Naphthalene	20	U	20	ug/kg	1	N	z
8064464	0490-13	PSC27	Acenaphthylene	20	U	20	ug/kg	1	N	z
8064464	0490-13	PSC27	Fluorene	20	U	20	ug/kg	1	N	z
8064464	0490-13	PSC27	Phenanthrene	20	U	20	ug/kg	1	N	z
8064464	0490-13	PSC27	Anthracene	20	U	20	ug/kg	1	N	z
8064464	0490-13	PSC27	Fluoranthene	20	U	20	ug/kg	1	N	z
8064464	0490-13	PSC27	Benzo(a)anthracene	20	U	20	ug/kg	1	N	z
8064464	0490-13	PSC27	Chrysene	20	U	20	ug/kg	1	N	z
8064464	0490-13	PSC27	Benzo(b)fluoranthene	20	U	20	ug/kg	1	N	z
8064464	0490-13	PSC27	Benzo(k)fluoranthene	20	U	20	ug/kg	1	N	z
8064464	0490-13	PSC27	Benzo(a)pyrene	20	U	20	ug/kg	1	N	z
8064464	0490-13	PSC27	Indeno(1,2,3-cd)pyrene	20	U	20	ug/kg	1	N	z
8064464	0490-13	PSC27	Dibenz(a,h)anthracene	20	U	20	ug/kg	1	N	z
8064464	0490-13	PSC27	Benzo(g,h,i)perylene	20	U	20	ug/kg	1	N	z
8064464	0490-13	PSC27	2-Methylnaphthalene	20	U	20	ug/kg	1	N	z
8064465	0487-13	PSC27	Acenaphthene	20	U	20	ug/kg	1	N	z
8064465	0487-13	PSC27	Pyrene	36		20	ug/kg	1	N	z
8064465	0487-13	PSC27	Naphthalene	20	U	20	ug/kg	1	N	z
8064465	0487-13	PSC27	Acenaphthylene	13	J	20	ug/kg	1	N	z
8064465	0487-13	PSC27	Fluorene	20	U	20	ug/kg	1	N	z
8064465	0487-13	PSC27	Phenanthrene	11	J	20	ug/kg	1	N	z
8064465	0487-13	PSC27	Anthracene	6	J	20	ug/kg	1	N	z
8064465	0487-13	PSC27	Fluoranthene	30		20	ug/kg	1	N	z
8064465	0487-13	PSC27	Benzo(a)anthracene	13	J	20	ug/kg	1	N	z
8064465	0487-13	PSC27	Chrysene	24		20	ug/kg	1	N	z
8064465	0487-13	PSC27	Benzo(b)fluoranthene	43		20	ug/kg	1	N	z
8064465	0487-13	PSC27	Benzo(k)fluoranthene	13	J	20	ug/kg	1	N	z
8064465	0487-13	PSC27	Benzo(a)pyrene	21		20	ug/kg	1	N	z
8064465	0487-13	PSC27	Indeno(1,2,3-cd)pyrene	21		20	ug/kg	1	N	z
8064465	0487-13	PSC27	Dibenz(a,h)anthracene	20	U	20	ug/kg	1	N	z
8064465	0487-13	PSC27	Benzo(g,h,i)perylene	23		20	ug/kg	1	N	z
8064465	0487-13	PSC27	2-Methylnaphthalene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	Acenaphthene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	Pyrene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	Naphthalene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	Acenaphthylene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	Fluorene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	Phenanthrene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	Anthracene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	Fluoranthene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	Benzo(a)anthracene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	Chrysene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	Benzo(b)fluoranthene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	Benzo(k)fluoranthene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	Benzo(a)pyrene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	Indeno(1,2,3-cd)pyrene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	Dibenz(a,h)anthracene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	Benzo(g,h,i)perylene	20	U	20	ug/kg	1	N	z
8064466	0488-13	PSC27	2-Methylnaphthalene	20	U	20	ug/kg	1	N	z
8064467	0163-13 FB	PSC27	2-Methylnaphthalene	0.5	U	0.5	ug/l	1	N	z
8064467	0163-13 FB	PSC27	Naphthalene	0.5	U	0.5	ug/l	1	N	z
8064467	0163-13 FB	PSC27	Acenaphthylene	0.5	U	0.5	ug/l	1	N	z
8064467	0163-13 FB	PSC27	Acenaphthene	0.5	U	0.5	ug/l	1	N	z
8064467	0163-13 FB	PSC27	Fluorene	0.5	U	0.5	ug/l	1	N	z
8064467	0163-13 FB	PSC27	Phenanthrene	0.5	U	0.5	ug/l	1	N	z
8064467	0163-13 FB	PSC27	Anthracene	0.5	U	0.5	ug/l	1	N	z
8064467	0163-13 FB	PSC27	Fluoranthene	0.5	U	0.5	ug/l	1	N	z
8064467	0163-13 FB	PSC27	Pyrene	0.5	U	0.5	ug/l	1	N	z
8064467	0163-13 FB	PSC27	Benzo(a)anthracene	0.5	U	0.5	ug/l	1	N	z

Lab_ID	Sample_ID	SDG No.	Analyte	Validator_ Result	Validator_ Qualifier	PQL	Units	Dilution	Validator_ Change	Validator_ Reason
8064467	0163-13 FB	PSC27	Chrysene	0.5	U	0.5	ug/l	1	N	z
8064467	0163-13 FB	PSC27	Benzo(b)fluoranthene	0.5	U	0.5	ug/l	1	N	z
8064467	0163-13 FB	PSC27	Benzo(k)fluoranthene	0.5	U	0.5	ug/l	1	N	z
8064467	0163-13 FB	PSC27	Benzo(a)pyrene	0.5	U	0.5	ug/l	1	N	z
8064467	0163-13 FB	PSC27	Indeno(1,2,3-cd)pyrene	0.5	U	0.5	ug/l	1	N	z
8064467	0163-13 FB	PSC27	Dibenz(a,h)anthracene	0.5	U	0.5	ug/l	1	N	z
8064467	0163-13 FB	PSC27	Benzo(g,h,i)perylene	0.5	U	0.5	ug/l	1	N	z
8064468	0498-13	PSC27	Acenaphthene	73		45	ug/kg	1	N	z
8064468	0498-13	PSC27	Pyrene	1800		45	ug/kg	1	N	z
8064468	0498-13	PSC27	Naphthalene	37	J	45	ug/kg	1	N	z
8064468	0498-13	PSC27	Acenaphthylene	25	J	45	ug/kg	1	N	z
8064468	0498-13	PSC27	Fluorene	64		45	ug/kg	1	N	z
8064468	0498-13	PSC27	Phenanthrene	980		45	ug/kg	1	N	z
8064468	0498-13	PSC27	Anthracene	200		45	ug/kg	1	N	z
8064468	0498-13	PSC27	Fluoranthene	1900		45	ug/kg	1	N	z
8064468	0498-13	PSC27	Benzo(a)anthracene	840		45	ug/kg	1	N	z
8064468	0498-13	PSC27	Chrysene	960		45	ug/kg	1	N	z
8064468	0498-13	PSC27	Benzo(b)fluoranthene	1400		45	ug/kg	1	N	z
8064468	0498-13	PSC27	Benzo(k)fluoranthene	580		45	ug/kg	1	N	z
8064468	0498-13	PSC27	Benzo(a)pyrene	890		45	ug/kg	1	N	z
8064468	0498-13	PSC27	Indeno(1,2,3-cd)pyrene	650		45	ug/kg	1	N	z
8064468	0498-13	PSC27	Dibenz(a,h)anthracene	190		45	ug/kg	1	N	z
8064468	0498-13	PSC27	Benzo(g,h,i)perylene	770		45	ug/kg	1	N	z
8064468	0498-13	PSC27	2-Methylnaphthalene	34	J	45	ug/kg	1	N	z
8064469	0499-13	PSC27	Acenaphthene	300	U	300	ug/kg	5	N	z
8064469	0499-13	PSC27	Pyrene	2600		300	ug/kg	5	N	z
8064469	0499-13	PSC27	Naphthalene	300	U	300	ug/kg	5	N	z
8064469	0499-13	PSC27	Acenaphthylene	93	J	300	ug/kg	5	N	z
8064469	0499-13	PSC27	Fluorene	100	J	300	ug/kg	5	N	z
8064469	0499-13	PSC27	Phenanthrene	1300		300	ug/kg	5	N	z
8064469	0499-13	PSC27	Anthracene	120	J	300	ug/kg	5	N	z
8064469	0499-13	PSC27	Fluoranthene	3300		300	ug/kg	5	N	z
8064469	0499-13	PSC27	Benzo(a)anthracene	790		300	ug/kg	5	N	z
8064469	0499-13	PSC27	Chrysene	2100		300	ug/kg	5	N	z
8064469	0499-13	PSC27	Benzo(b)fluoranthene	3000		300	ug/kg	5	N	z
8064469	0499-13	PSC27	Benzo(k)fluoranthene	1000		300	ug/kg	5	N	z
8064469	0499-13	PSC27	Benzo(a)pyrene	1300		300	ug/kg	5	N	z
8064469	0499-13	PSC27	Indeno(1,2,3-cd)pyrene	1400		300	ug/kg	5	N	z
8064469	0499-13	PSC27	Dibenz(a,h)anthracene	220	J	300	ug/kg	5	N	z
8064469	0499-13	PSC27	Benzo(g,h,i)perylene	1600		300	ug/kg	5	N	z
8064469	0499-13	PSC27	2-Methylnaphthalene	300	U	300	ug/kg	5	N	z
8064470	0497-13	PSC27	Acenaphthene	70	J	290	ug/kg	5	N	z
8064470	0497-13	PSC27	Pyrene	2600		290	ug/kg	5	N	z
8064470	0497-13	PSC27	Naphthalene	79	J	290	ug/kg	5	N	z
8064470	0497-13	PSC27	Acenaphthylene	150	J	290	ug/kg	5	N	z
8064470	0497-13	PSC27	Fluorene	110	J	290	ug/kg	5	N	z
8064470	0497-13	PSC27	Phenanthrene	1400		290	ug/kg	5	N	z
8064470	0497-13	PSC27	Anthracene	220	J	290	ug/kg	5	N	z
8064470	0497-13	PSC27	Fluoranthene	3200		290	ug/kg	5	N	z
8064470	0497-13	PSC27	Benzo(a)anthracene	980		290	ug/kg	5	N	z
8064470	0497-13	PSC27	Chrysene	2000		290	ug/kg	5	N	z
8064470	0497-13	PSC27	Benzo(b)fluoranthene	2900		290	ug/kg	5	N	z
8064470	0497-13	PSC27	Benzo(k)fluoranthene	1000		290	ug/kg	5	N	z
8064470	0497-13	PSC27	Benzo(a)pyrene	1600		290	ug/kg	5	N	z
8064470	0497-13	PSC27	Indeno(1,2,3-cd)pyrene	1400		290	ug/kg	5	N	z
8064470	0497-13	PSC27	Dibenz(a,h)anthracene	260	J	290	ug/kg	5	N	z
8064470	0497-13	PSC27	Benzo(g,h,i)perylene	1500		290	ug/kg	5	N	z
8064470	0497-13	PSC27	2-Methylnaphthalene	58	J	290	ug/kg	5	N	z
8064471	0161-13 FB	PSC27	2-Methylnaphthalene	0.5	U	0.5	ug/l	1	N	z
8064471	0161-13 FB	PSC27	Naphthalene	0.5	U	0.5	ug/l	1	N	z
8064471	0161-13 FB	PSC27	Acenaphthylene	0.5	U	0.5	ug/l	1	N	z
8064471	0161-13 FB	PSC27	Acenaphthene	0.5	U	0.5	ug/l	1	N	z
8064471	0161-13 FB	PSC27	Fluorene	0.5	U	0.5	ug/l	1	N	z
8064471	0161-13 FB	PSC27	Phenanthrene	0.5	U	0.5	ug/l	1	N	z

Lab_ID	Sample_ID	SDG No.	Analyte	Validator_ Result	Validator_ Qualifier	PQL	Units	Dilution	Validator_ Change	Validator_ Reason
8064471	0161-13 FB	PSC27	Anthracene	0.5	U	0.5	ug/l	1	N	z
8064471	0161-13 FB	PSC27	Fluoranthene	0.5	U	0.5	ug/l	1	N	z
8064471	0161-13 FB	PSC27	Pyrene	0.5	U	0.5	ug/l	1	N	z
8064471	0161-13 FB	PSC27	Benzo(a)anthracene	0.5	U	0.5	ug/l	1	N	z
8064471	0161-13 FB	PSC27	Chrysene	0.5	U	0.5	ug/l	1	N	z
8064471	0161-13 FB	PSC27	Benzo(b)fluoranthene	0.5	U	0.5	ug/l	1	N	z
8064471	0161-13 FB	PSC27	Benzo(k)fluoranthene	0.5	U	0.5	ug/l	1	N	z
8064471	0161-13 FB	PSC27	Benzo(a)pyrene	0.5	U	0.5	ug/l	1	N	z
8064471	0161-13 FB	PSC27	Indeno(1,2,3-cd)pyrene	0.5	U	0.5	ug/l	1	N	z
8064471	0161-13 FB	PSC27	Dibenz(a,h)anthracene	0.5	U	0.5	ug/l	1	N	z
8064471	0161-13 FB	PSC27	Benzo(g,h,i)perylene	0.5	U	0.5	ug/l	1	N	z

Reason Code	Explanation
a	Holding times exceeded
b	Temperature or chemical preservation issue
c	Calibration standard exceedance (initial and/or continuing)
d	Laboratory or field blank contamination
e	Surrogate standard recovery exceedance
f	Internal standard area exceedance
g	Spiked standard (LCS, MS, BS, MSD, LCSD, BSD) recovery exceedance
h	Spiked Duplicate RPD exceedance
i	Field duplicate RPD exceedance
j	Serial dilution results issue
k	Chromatographic resolution, interference, or pattern match issue
l	Clean-up standard recovery exceedance
m	Sample preparation issue
n	Quantitation issue
o	Dual column RPD exceedance
p	Compound identification issue
q	Low % solids
r	defined in body of report
z	no change made during validation

ATTACHMENT B

SPREADSHEET SUMMARY
(submitted electronically)
SDG Nos. PSC24 and PSC27
Polynuclear Aromatic Hydrocarbons in Sediment and Water Samples

ATTACHMENT C

SUPPLEMENTARY DOCUMENTS
(sample decanting logbook pages, Form 5B, 7C and Form 8 for 10-5-15 analysis on 10-5-15 sequence)
SDG Nos. PSC24 and PSC27
Polynuclear Aromatic Hydrocarbons in Sediment and Water Samples

DATA VALIDATION

FOR

Pine Street Canal Site
BURLINGTON, VT

INORGANIC ANALYSIS DATA
Total Metals in Sediment and Water Field Blanks

Sample Delivery Group Nos. PSC24 and PSC27

Chemical Analyses Performed by:

Eurofins Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

FOR

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

Data Validation Report by:

Phoenix Chemistry Services
136 Covered Bridge Rd.
N. Ferrisburg, VT 05473
802-233-2473

December 8, 2015

Reference # 2015-1123-001
Metals Validation Report/PSC24_27/kbw/dhg

EXECUTIVE SUMMARY

Phoenix Chemistry Services (Phoenix) has completed the validation of the inorganic (total metals) analysis data by Eurofins Lancaster Laboratories in Lancaster, PA for 23 sediment samples and 4 (water) Field Blanks (FB) from the Pine Street Canal Site in Burlington, VT. The laboratory reported the data under Sample Delivery Group (SDG) Nos. PSC24 and PSC27, which were submitted as two data packages received by Phoenix on November 23, 2015, and which include the following samples:

Sample Location Identifier (SLID)	Sample Identifier Number (SIN)	Laboratory ID
SDG No. PSC24		
J_T2+00E100 0-10 cm	0481-13	8057359
J_T2+00E100 11-22 cm	0482-13	8057360
J_T3+00E100 0-10 cm	0483-13	8057361
J_T3+00E100 15-30 cm	0484-13	8057362
J_0162-13DP 0-10 cm	0163-13DP	8057366
J_T3+00E300 0-10 cm	0485-13	8057367
J_T3+00E300 15-30 cm	0486-13	8057368
J_160-13FB	0160-13FB	8057369
SDG No. PSC27		
J_T8+00E40 0-10 cm	0491-13	8064450
J_T8+00E40 10-20 cm	0492-13	8064451
J_T15+50E100 0-10 cm	0493-13	8064452
J_T15+50E100 5-10 cm	0494-13	8064453
J_0164-13 DP	0164-13 DP	8064457
J_T16+50E150 0-10 cm	0495-13	8064458
J_T16+50E150 4-8 in	0496-13	8064459
J_0165-13FB	0165-13FB	8064460
J_T1+00E50 0-10 cm	0479-13	8064461
J_T1+00E50 10-20 in	0480-13	8064462
J_T6+00E60 0-10 cm	0489-13	8064463
J_T6+00E60 8-16 in	0490-13	8064464
J_T5+00E20 0-10 cm	0487-13	8064465
J_T5+00E20 13-24 in	0488-13	8064466
J_0163-13FB	0163-13FB	8064467
J_T21+00E25 0-10 cm	0498-13	8064468
J_T21+00E50 0-10 cm	0499-13	8064469
J_T17+00E400 0-10 cm	0497-13	8064470
J_0161-13FB	0161-13FB	8064471

A cross-reference of sample IDs was provided in the data packages. The samples in this data set represent the sample collections from September 21-24, 2015; each day the samples were shipped overnight to the laboratory and were received the next day with the exception of samples collected on September 22 and 23, which were shipped on September 24 and received on September 25, 2015.

Based on the validation effort, results for the inorganic analytes in all samples were determined to be valid as reported with the following exception and observation:

- Results for arsenic and selenium reported in all samples below their respective LOQs were qualified as less than the LOQ (U). Field blanks were not qualified based on laboratory blank contamination.

- Results for cadmium and mercury reported in all samples below their respective LOQs were qualified as less than the LOQ (U). Field blanks were not qualified based on laboratory blank contamination.

- Results for barium, copper, and chromium in all samples in SDG No. PCS27 were qualified as estimated (J).

- The laboratory reported all results to the LOQ or RL on the analysis reports in the analysis results section of the data package; however, target compounds detected in the associated samples below the LOQ but greater than the MDL (as reported on the Form 10) were reported on the Form Is with a "J" (estimated) qualifier. The "J" qualifiers were not removed by the validator, unless previously qualified based on laboratory or field blank contamination. Analysis Form 1s included in the metals section of the data packages used "B" qualifiers for values less than the LOQs. These Form 1s were disregarded in the validation effort since the laboratory also reported results with a non-detect to the MDL. As stated in the case narratives, the IDLs are used for determining the U flags (non-detects) on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The MDLs are used for determining all other U flags.

The Overall Evaluation of Data (Section XIII) summarizes the validation results. The validation findings and conclusions for each analytical parameter are detailed in the remaining sections of this report.

Documentation problems (exceptions) observed in the data packages are described in Section XIV.

This validation report shall be considered part of the data packages for all future distributions of the inorganics (total metals) data.

INTRODUCTION

Analyses for ICP metals were performed according to SW-846 Method 6010B (digestion 3005A and 3050A) and 6020A waters (digestion 3020A) for selected metals, mercury was performed by methods 7470A (mercury in water) and 7471 (mercury in soil). The target compound list for metals was limited to the following 10 metals:

Arsenic	Barium
Cadmium	Chromium
Copper	Lead
Mercury	Zinc
Selenium	Silver

Phoenix Chemistry Services' validation was performed to the extent possible in conformance with Tier II guidelines as defined by USEPA Region I. Data qualifiers are applied as necessary and appropriate. The data were evaluated in accordance with the "Region I EPA-NE Inorganic Data Validation Functional Guidelines" (11/2008). EPA's National Functional Guidelines for Inorganic Data Review (EPA 540-R-04-004, October 2004) were also considered during the evaluation, and professional judgment was applied as necessary and appropriate.

The data validation process evaluates data on a technical basis for chemical analyses conducted under the CLP or other well-defined methods. Contract compliance is evaluated only in specific situations. Issues pertaining to contractual compliance are noted where applicable. It is assumed that the data packages is presented in accordance with the CLP (CLP-like or SW-846) requirements. It is also assumed that the data packages represents the best efforts of the laboratory and has already been subjected to adequate and sufficient quality review prior to submission for validation. In instances where SW-846 or other specific methods have been used for the analyses, the validation effort is modified to acknowledge the differences in methodology while maintaining the goals and quality objectives of the CLP.

Results of sample analyses are reported by the laboratory as either qualified or unqualified; various qualifier codes are used by the laboratory to denote specific information regarding the analytical results. During the validation process, laboratory data are verified against all available supporting documentation. Based on this evaluation, qualifier codes may be added, deleted or modified by the data validator. Validated results are either qualified or unqualified; if results are unqualified, this means that the reported values may be used without reservation. Final validated results are annotated with the following codes, as defined in the EPA Region I Functional Guidelines:

U - The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit

J - The associated numerical value is an estimated quantity.

UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise. The sample quantitation limit is an estimated quantity.

R - The data are unusable. (Note: Analyte may or may not be present). Resampling and reanalysis is necessary for verification. The R replaces the numerical value or sample quantitation limit.

These codes (qualifiers) are assigned during the validation process and are based on the data review of the results. They are recorded in the Data Summary Table contained in Attachment A, and the spreadsheet summary files (Attachment B, submitted electronically) of this validation report.

All data users should note two facts. First, **the "R" qualifier means that the laboratory-reported value is completely unusable.** The analysis is invalid due to significant quality control problems, and provides no information as to whether the compound is present or not. Rejected values should not appear on data tables because they have no useful purpose under any circumstances. Second, **no analyte concentration is guaranteed to be accurate even if all associated quality control is acceptable.** While strict quality control conformance provides well-defined confidence in the reported results, any analytical result will always contain some uncertainty as demonstrated in the laboratory control limits.

The user is also cautioned that the validation effort is based on the materials provided by the laboratory. Software manipulation, resulting in misleading raw data printouts, cannot be routinely detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.

Detailed Findings of Measurement Error Associated with the Analytical Analysis

I. Preservation and Technical Holding Times (Sample Integrity)

Samples for inorganic analysis (total metals) were collected on September 21-24, 2015, and received by the laboratory the following day with the exception of samples collected on September 22 and 23, which were shipped on September 24 and received on September 25, 2015. All analyses were performed within the established holding times. According to the sample receipt records, the water samples were properly preserved with HNO3 (<2) in the field.

The temperature blanks of the coolers on receipt at the laboratory were checked and documented in the data package to be within or just below the acceptance range of 4 ^{o}C ±2 ^{o}C at 1, 1.5, 4.7 and 1.9^{o}C. Since temperatures were within or slightly below the acceptance range, all sample temperatures were deemed acceptable.

II. Calibration

The samples were analyzed for the ICP elements from 9/29/2015-10/7/2015 on ICPs identified as 16417, 16315, 18255 and ICP MS instruments 11332 and 19024. ICP/MS was used only for the field blank (liquid analyses). Initial and continuing calibration verification (ICV/CCV) standards were run at the required frequencies in all analytical series for all target elements. Results for all ICV/CCV standards were correctly reported on the summary forms, and recoveries of all target analytes were within applicable acceptance limits. For the ICP/MS (6020) data sets all tune criteria and internal standard recoveries met criteria as documented on the Forms 15 and Forms 16 in the data packages. However, the tune Form 15 was missing in the data package PCS27 for the sequence on 10/05/15 on the instrument 19204. Tune data was found in the raw data and was acceptable.

Sample analyses for mercury were performed in analytical series from 9/29/2015-10/2/2015 on the cold vapor instruments identified as 17384 and 19302. Reported correlation coefficients of the initial calibration for mercury analysis are not reported on the data summary forms provided in a Tier II analysis. Results for all ICV/CCV standards bracketing the associated samples were correctly reported on the summary forms, and recoveries of all target analytes were within applicable acceptance limits.

Quantitation limit (QL) check standards as specified in the USEPA Inorganic (ILM) Statement of Work were analyzed at the required frequencies and concentrations for all applicable analytes. Percent recoveries were accurately reported and acceptable (Region I limits:; 70-130 %R, lab limits: 50-150 %R) with the exception of copper (134.7 and 141.7%) in the opening/closing sequence on 10/7/2015. Results for copper in all samples were greater than 2X the reporting limit; therefore, no data was qualified.

III. Blanks

Initial and continuing calibration blanks (ICB/CCBs) were prepared and analyzed at the proper frequency for all target analytes. All laboratory blank results were accurately reported on the Form III

summaries included in the data packages.

No target analytes were detected in the calibration blanks associated with the site samples at concentrations (units = ug/L) above the applicable LOQs or below the negative LOQs. However, responses at concentrations (units=ug/L) greater than the IDL, and values below their respective negative IDLs were observed in one or more of the calibration blanks as follows:

- Arsenic (3.5-4.3), chromium (1.9), selenium (3.7) and copper (3.2-4.4) were detected in the associated calibration blanks above their respective IDLs.

- Lead (-1.8) was detected in associated calibration blanks below its respective IDL.

An appropriate matrix preparation blank was digested with each analytical batch and analyzed with the associated samples. No target analytes were detected in the preparation blanks at concentrations above the applicable LOQs or below the negative LOQs. However, responses at concentrations greater than the MDL and values below the respective negative MDL were observed in the blanks as follows:

- Chromium (0.135 mg/kg) was detected in the soil preparation blank in SDG No. PCS24 and copper (0.473 mg/kg) was detected in the soil preparation blank in SDG No. PCS27 below the detection limit.

- Barium (0.720 ug/L) and cadmium (0.410 µg/L) were detected in the liquid preparation blanks in these SDGs. Since these samples are only related to the liquid field blank sequences, they were not used in evaluating the sediment samples for preparation blank contamination.

All sample results were greater than applicable action limits, with the exceptions of arsenic and selenium; therefore, based on laboratory blank contamination, results for arsenic and selenium reported in all samples below their respective LOQs were qualified as less than the LOQ (U). Field blanks were not qualified based on laboratory blank contamination.

Four field blanks (0160-13FB, 0161-13FB, 0163-13FB, 0165-13FB) were submitted with the site samples in these data packages. No target analytes were detected in the field blanks associated with the site samples at concentrations above the applicable MDLs, with the exceptions of cadmium (0.40 µg/L) in 0160-13FB, barium (0.70-0.92 µg/L) and copper (4.5-9.6 µg/L) in 0161-13FB and 0165-13FB, and mercury (0.056-0.072 µg/L) in 0160-13FB, 0161-13FB, 0163-13FB and 0165-13FB. All sample results (not previously qualified above) were greater than applicable action limits, with the exceptions of mercury and cadmium; therefore, based on field blank contamination, results for cadmium and mercury reported in all samples below their respective LOQs were qualified as less than the LOQ (U). Field blanks were not qualified based on laboratory blank contamination.

IV. ICP Interference Check Sample

Percent recoveries (%R) for the interference check samples were reported on the summary forms. All recoveries were within acceptance limits of 80 to 120 percent.

V. Matrix Spike and Matrix Spike Duplicate Sample Analysis

Samples 0484-13 and 0494-13 were each prepared as a soil matrix spike and matrix spike duplicate (MS/MSD) in association with the samples in this data set. Percent recoveries of all spiked analytes were accurately reported on the Form V summaries included in the data packages. All recoveries were within the laboratory acceptance limits.

VI. Duplicate Sample Analysis

A. Laboratory Duplicate

Samples 0484-13 and 0494-13 were prepared as laboratory duplicate pairs with the samples in this data set. Relative percent difference (RPD) values must be less than 20% for sample values greater than five times the QL, and the control limit of ± QL is used for values less than five times the QL. Paired results for all target analytes were within the applicable acceptance criteria with the exception of barium (21 %RPD) and copper (22 %RPD) in the laboratory duplicate pair from sample 0494-13. Based on poor precision in the laboratory duplicate pair (and annotated as reason code "r" in the spreadsheet deliverables), results for barium and copper in all sediment samples in SDG No. PSC27 were qualified as estimated (J).

B. Field Duplicates

The following samples were identified as field duplicate pairs.

Parent	Duplicate	matrix
0483-13	0163-13DP	sediment
0493-13	0164-13DP	sediment

Paired results for all target analytes in the field duplicate pairs were within the applicable acceptance limits with the exception of chromium (54.9 %RPD) in 0493-13 and 0164-13DP. Based on the poor reproducibility in an associated field duplicate pair, results for chromium in all sediment samples in SDG No. PSC27 were qualified as estimated (J). Relative percent difference (RPD) values must be less than 50% for sample values greater than five times the QL and the control limit of ± 4xQL is used for values less than five times the QL.

VII. Laboratory Control Sample Analyses

Percent recoveries for the water-matrix laboratory control samples (LCS) were accurately reported on the Form VII summaries included in the data packages. Concentrations of all target analytes in the LCS were within the acceptance limits as documented on the Form VII summaries.

VIII. Sensitivity Check

The laboratory reports results to the MDL for samples and to the IDL for calibration blanks. The IDLs reported on Form 10 in the data packages were generated in 7/2015 for the ICP and Hg instruments and in 7/2015 and 8/2015 for the ICP/MS instrument. The MDLs were performed in 7/2015 for ICP metals and mercury analyses, which were within the annual requirements established by CLP and SW846 methods. ICP interelement correction factors and the ICP linear ranges were established in 11/2014, 7/2015 and 8/2015. The laboratory reports detections to the MDL and non-detects to the laboratory LOQ.

IX. PE Samples/Accuracy Check

An external matrix single blind PES sample was not submitted or required with the samples in this data set.

X. Furnace Atomic Absorption QC

None of the samples in this data set was analyzed pursuant to furnace atomic absorption spectroscopy.

XI. ICP Serial Dilution Analysis

ICP serial dilutions were performed on the same samples as the batch MS/MSD analyses. Percent difference (%D) values were less than the maximum acceptance limit of 15% for all target analytes in which the original concentration (in the undiluted sample) was greater than 50 times the IDL with the exception of copper (17%D). Based on the matrix interferences observed in the serial dilution, results for copper in all sediment samples in SDG No. PCS27 were qualified as estimated (J).

XII. Sample Result Verification

Sample result verification using the raw data printouts is not evaluated in a Tier II validation assessment. As specified in the SDG Narrative, the IDLs are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The MDLs are used for determining all other U flags. The laboratory reported all results to the LOQ on the analysis reports; however, target compounds detected in the associated samples below the LOQ but greater than the MDL (as reported on the Form 10) were reported on the Form Is with a “J” (estimated) qualifier. The “J” qualifiers were not removed by the validator, unless previously qualified based on laboratory blank contamination. Analysis Form 1s included in the data reports in the metals section used "B" qualifiers for values less than the LOQs which should be replaced with a “J” value if presented. These Form 1s were disregarded in the validation effort since they also reported results with a non-detect to the MDL.

Samples 0499-13 (28.0 %Solids) and 0497-13 (29.3 %Solids) exhibited % solids of less than 30% but greater than 20%. In keeping with previous project work and the approved QAPP, no qualifications were applied on the basis of the percent solids less than 30% but greater than 10%.

The values that the validator has judged to be acceptable are presented in the "Validator_Result" columns (see below for further details) in the Data Summary Table in Attachment A and in the spreadsheet summary file submitted electronically as Attachment B. The final qualifiers based on the validation effort are presented in the "Validator_Qualifier" column in the Data Summary Table and in the spreadsheet summary file. All results, positive and non-detect, are listed in the these summaries, whether or not the value or qualifier was changed as a result of the validation; if a value or qualifier was changed, this is indicated by the "Y" (for yes) notation in the column "Validator_Change" in the Data Summary Table. A brief explanation of the reason for the validation change is coded in the "Validator_Reason" column in the Data Summary Table and the full spreadsheet summary file; the definitions of these codes are given at the end of the Data Summary Table and on a separate tab of the spreadsheet file. Sample-specific (practical) quantitation limits (PQL) are given in the summaries.

All results are reported on a dry weight basis in the analytical report section and on the EDD. It should also be noted that for sediments, percent moisture was measured after decanting; the raw data for these weights may be found in the decanting bench sheets.

XIII. Overall Evaluation of Data

Based on the validation effort, results for the inorganic analytes in all samples were determined to be valid as reported with the following exception and observation:

- Based on laboratory blank contamination, results for arsenic and selenium reported in all samples below their respective LOQs were qualified as less than the LOQ (U). Field blanks were not qualified based on laboratory blank contamination.

- Based on field blank contamination, results for cadmium and mercury reported in all samples below the respective LOQ were qualified as less than the LOQ (U). Field blanks were not qualified based on laboratory blank contamination.

- Based on poor precision in the laboratory duplicate pairs, results for barium and copper in all sediment samples in SDG No. PCS27 were qualified as estimated (J).

- Based on the poor reproducibility in an associated field duplicate pair, results for chromium in all sediment samples in SDG No. PSC27 were qualified as estimated (J).

- Based on the matrix interferences observed in the serial dilution, results for copper in all sediment samples in SDG No. PCS27 were qualified as estimated (J).

- The laboratory reported all results to the LOQ or RL on the analysis reports in the analysis results section of the data package; however, target compounds detected in the associated samples below the LOQ but greater than the MDL (as reported on the Form 10) were reported on the Form Is with a "J" (estimated) qualifier. The "J" qualifiers were not removed by the validator, unless previously qualified based on laboratory or field blank contamination. Analysis Form 1s included in the metals section of the data packages used "B" qualifiers for

values less than the LOQs. These Form 1s were disregarded in the validation effort since the laboratory also reported results with a non-detect to the MDL. As stated in the case narrative, the IDLs are used for determining the U flags (non-detects) on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The MDLs are used for determining all other U flags.

XIV. Documentation

Chain-of-custody (COC) and internal chain of custody (ICOC) records were present and completed accurately. Data presentation was acceptable, with the following exception:

- The Form 15 (Tune) was missing from SDG No. PCS27, the tune data was found in the raw data and was acceptable. The missing document has been requested from the laboratory, and if received should be maintained with this report in Appendix C.

This validation report should be considered part of the data packages for all future distributions of the inorganic (total metals) data.

ATTACHMENT A

DATA SUMMARY TABLE
SDG Nos. PSC24 and PSC27
Total Metals in Sediments and Water Field Blanks

Lab_ID	Sample_ID	SDG No.	Analyte	Validator_ Result	Validator_ Qualifier	PQL	Units	Dilution	Validator_ Change	Validator_ Reason
8057359	0481-13	PSC24	Mercury	0.118	U	0.118	mg/kg	1	N	z
8057359	0481-13	PSC24	Arsenic	2.39	U	2.39	mg/kg	1	Y	d
8057359	0481-13	PSC24	Selenium	4.39		2.39	mg/kg	1	N	z
8057359	0481-13	PSC24	Barium	25.5		0.597	mg/kg	1	N	z
8057359	0481-13	PSC24	Cadmium	0.597	U	0.597	mg/kg	1	N	z
8057359	0481-13	PSC24	Chromium	15.4		1.79	mg/kg	1	N	z
8057359	0481-13	PSC24	Copper	11.8		1.19	mg/kg	1	N	z
8057359	0481-13	PSC24	Lead	7.16		1.79	mg/kg	1	N	z
8057359	0481-13	PSC24	Silver	0.670		0.597	mg/kg	1	N	z
8057359	0481-13	PSC24	Zinc	38.5		2.39	mg/kg	1	N	z
8057360	0482-13	PSC24	Mercury	0.112	U	0.112	mg/kg	1	N	z
8057360	0482-13	PSC24	Arsenic	7.03		2.29	mg/kg	1	N	z
8057360	0482-13	PSC24	Selenium	3.60		2.29	mg/kg	1	N	z
8057360	0482-13	PSC24	Barium	11.6		0.572	mg/kg	1	N	z
8057360	0482-13	PSC24	Cadmium	0.572	U	0.572	mg/kg	1	N	z
8057360	0482-13	PSC24	Chromium	12.4		1.72	mg/kg	1	N	z
8057360	0482-13	PSC24	Copper	8.80		1.14	mg/kg	1	N	z
8057360	0482-13	PSC24	Lead	3.67		1.72	mg/kg	1	N	z
8057360	0482-13	PSC24	Silver	0.484	J	0.572	mg/kg	1	N	z
8057360	0482-13	PSC24	Zinc	22.0		2.29	mg/kg	1	N	z
8057361	0483-13	PSC24	Mercury	0.119	U	0.119	mg/kg	1	N	z
8057361	0483-13	PSC24	Arsenic	6.62		2.43	mg/kg	1	N	z
8057361	0483-13	PSC24	Selenium	4.24		2.43	mg/kg	1	N	z
8057361	0483-13	PSC24	Barium	13.1		0.607	mg/kg	1	N	z
8057361	0483-13	PSC24	Cadmium	0.607	U	0.607	mg/kg	1	N	z
8057361	0483-13	PSC24	Chromium	12.9		1.82	mg/kg	1	N	z
8057361	0483-13	PSC24	Copper	10.7		1.21	mg/kg	1	N	z
8057361	0483-13	PSC24	Lead	3.94		1.82	mg/kg	1	N	z
8057361	0483-13	PSC24	Silver	0.537	J	0.607	mg/kg	1	N	z
8057361	0483-13	PSC24	Zinc	25.4		2.43	mg/kg	1	N	z
8057362	0484-13	PSC24	Mercury	0.112	U	0.112	mg/kg	1	N	z
8057362	0484-13	PSC24	Arsenic	7.26		2.34	mg/kg	1	N	z
8057362	0484-13	PSC24	Selenium	4.10		2.34	mg/kg	1	N	z
8057362	0484-13	PSC24	Barium	16.0		0.584	mg/kg	1	N	z
8057362	0484-13	PSC24	Cadmium	0.584	U	0.584	mg/kg	1	N	z
8057362	0484-13	PSC24	Chromium	14.7		1.75	mg/kg	1	N	z
8057362	0484-13	PSC24	Copper	9.82		1.17	mg/kg	1	N	z
8057362	0484-13	PSC24	Lead	4.02		1.75	mg/kg	1	N	z
8057362	0484-13	PSC24	Silver	0.543	J	0.584	mg/kg	1	N	z
8057362	0484-13	PSC24	Zinc	24.3		2.34	mg/kg	1	N	z
8057366	0163-13DP	PSC24	Mercury	0.119	U	0.119	mg/kg	1	N	z
8057366	0163-13DP	PSC24	Arsenic	6.51		2.43	mg/kg	1	N	z
8057366	0163-13DP	PSC24	Selenium	4.14		2.43	mg/kg	1	N	z
8057366	0163-13DP	PSC24	Barium	14.1		0.608	mg/kg	1	N	z
8057366	0163-13DP	PSC24	Cadmium	0.608	U	0.608	mg/kg	1	N	z
8057366	0163-13DP	PSC24	Chromium	13.9		1.82	mg/kg	1	N	z
8057366	0163-13DP	PSC24	Copper	10.8		1.22	mg/kg	1	N	z
8057366	0163-13DP	PSC24	Lead	4.34		1.82	mg/kg	1	N	z
8057366	0163-13DP	PSC24	Silver	0.554	J	0.608	mg/kg	1	N	z
8057366	0163-13DP	PSC24	Zinc	25.6		2.43	mg/kg	1	N	z
8057367	0485-13	PSC24	Mercury	0.121	U	0.121	mg/kg	1	N	z
8057367	0485-13	PSC24	Arsenic	6.64		2.40	mg/kg	1	N	z
8057367	0485-13	PSC24	Selenium	4.46		2.40	mg/kg	1	N	z
8057367	0485-13	PSC24	Barium	19.3		0.601	mg/kg	1	N	z

8057367	0485-13	PSC24	Cadmium	0.601	U	0.601	mg/kg	1	N	z
8057367	0485-13	PSC24	Chromium	13.4		1.80	mg/kg	1	N	z
8057367	0485-13	PSC24	Copper	12.0		1.20	mg/kg	1	N	z
8057367	0485-13	PSC24	Lead	14.4		1.80	mg/kg	1	N	z
8057367	0485-13	PSC24	Silver	0.561	J	0.601	mg/kg	1	N	z
8057367	0485-13	PSC24	Zinc	36.2		2.40	mg/kg	1	N	z
8057368	0486-13	PSC24	Mercury	0.115	U	0.115	mg/kg	1	N	z
8057368	0486-13	PSC24	Arsenic	3.37		2.32	mg/kg	1	N	z
8057368	0486-13	PSC24	Selenium	3.83		2.32	mg/kg	1	N	z
8057368	0486-13	PSC24	Barium	20.1		0.581	mg/kg	1	N	z
8057368	0486-13	PSC24	Cadmium	0.581	U	0.581	mg/kg	1	N	z
8057368	0486-13	PSC24	Chromium	12.3		1.74	mg/kg	1	N	z
8057368	0486-13	PSC24	Copper	11.7		1.16	mg/kg	1	N	z
8057368	0486-13	PSC24	Lead	4.17		1.74	mg/kg	1	N	z
8057368	0486-13	PSC24	Silver	0.410	J	0.581	mg/kg	1	N	z
8057368	0486-13	PSC24	Zinc	27.6		2.32	mg/kg	1	N	z
8057369	0160-13FB	PSC24	Mercury	0.000072	J	0.00020	mg/l	1	N	z
8057369	0160-13FB	PSC24	Arsenic	0.0020	U	0.0020	mg/l	1	N	z
8057369	0160-13FB	PSC24	Chromium	0.0020	U	0.0020	mg/l	1	N	z
8057369	0160-13FB	PSC24	Lead	0.0010	U	0.0010	mg/l	1	N	z
8057369	0160-13FB	PSC24	Selenium	0.0020	U	0.0020	mg/l	1	N	z
8057369	0160-13FB	PSC24	Barium	0.0050	U	0.0050	mg/l	1	N	z
8057369	0160-13FB	PSC24	Cadmium	0.00040	J	0.0050	mg/l	1	N	z
8057369	0160-13FB	PSC24	Copper	0.0100	U	0.0100	mg/l	1	N	z
8057369	0160-13FB	PSC24	Silver	0.0050	U	0.0050	mg/l	1	N	z
8057369	0160-13FB	PSC24	Zinc	0.0200	U	0.0200	mg/l	1	N	z
8064450	0491-13	PSC27	Mercury	0.115	U	0.115	mg/kg	1	N	z
8064450	0491-13	PSC27	Arsenic	4.16		2.43	mg/kg	1	N	z
8064450	0491-13	PSC27	Selenium	3.39		2.43	mg/kg	1	N	z
8064450	0491-13	PSC27	Barium	23.4	J	0.607	mg/kg	1	Y	r
8064450	0491-13	PSC27	Cadmium	0.607	U	0.607	mg/kg	1	N	z
8064450	0491-13	PSC27	Chromium	14.7	J	1.82	mg/kg	1	Y	i
8064450	0491-13	PSC27	Copper	14.9	J	1.21	mg/kg	1	Y	j,r
8064450	0491-13	PSC27	Lead	5.54		1.82	mg/kg	1	N	z
8064450	0491-13	PSC27	Silver	0.607	U	0.607	mg/kg	1	N	z
8064450	0491-13	PSC27	Zinc	35.5		2.43	mg/kg	1	N	z
8064451	0492-13	PSC27	Mercury	0.117	U	0.117	mg/kg	1	N	z
8064451	0492-13	PSC27	Arsenic	3.67		2.37	mg/kg	1	N	z
8064451	0492-13	PSC27	Selenium	3.08		2.37	mg/kg	1	N	z
8064451	0492-13	PSC27	Barium	24.9	J	0.593	mg/kg	1	Y	r
8064451	0492-13	PSC27	Cadmium	0.593	U	0.593	mg/kg	1	N	z
8064451	0492-13	PSC27	Chromium	13.1	J	1.78	mg/kg	1	Y	i
8064451	0492-13	PSC27	Copper	13.2	J	1.19	mg/kg	1	Y	j,r
8064451	0492-13	PSC27	Lead	4.20		1.78	mg/kg	1	N	z
8064451	0492-13	PSC27	Silver	0.593	U	0.593	mg/kg	1	N	z
8064451	0492-13	PSC27	Zinc	29.6		2.37	mg/kg	1	N	z
8064452	0493-13	PSC27	Mercury	0.190	U	0.190	mg/kg	1	Y	d
8064452	0493-13	PSC27	Arsenic	3.88	U	3.88	mg/kg	1	Y	d
8064452	0493-13	PSC27	Selenium	3.88	U	3.88	mg/kg	1	Y	d
8064452	0493-13	PSC27	Barium	51.4	J	0.971	mg/kg	1	Y	r
8064452	0493-13	PSC27	Cadmium	0.971	U	0.971	mg/kg	1	Y	d
8064452	0493-13	PSC27	Chromium	23.2	J	2.91	mg/kg	1	Y	i
8064452	0493-13	PSC27	Copper	15.3	J	1.94	mg/kg	1	Y	j,r
8064452	0493-13	PSC27	Lead	16.2		2.91	mg/kg	1	N	z
8064452	0493-13	PSC27	Silver	0.971	U	0.971	mg/kg	1	N	z
8064452	0493-13	PSC27	Zinc	67.1		3.88	mg/kg	1	N	z

8064453	0494-13	PSC27	Mercury	0.117	U	0.117	mg/kg	1	N	z
8064453	0494-13	PSC27	Arsenic	4.01		2.43	mg/kg	1	N	z
8064453	0494-13	PSC27	Selenium	2.96		2.43	mg/kg	1	N	z
8064453	0494-13	PSC27	Barium	18.1	J	0.608	mg/kg	1	Y	r
8064453	0494-13	PSC27	Cadmium	0.608	U	0.608	mg/kg	1	Y	d
8064453	0494-13	PSC27	Chromium	11.0	J	1.82	mg/kg	1	Y	i
8064453	0494-13	PSC27	Copper	10.4	J	1.22	mg/kg	1	Y	j,r
8064453	0494-13	PSC27	Lead	5.78		1.82	mg/kg	1	N	z
8064453	0494-13	PSC27	Silver	0.608	U	0.608	mg/kg	1	N	z
8064453	0494-13	PSC27	Zinc	25.1		2.43	mg/kg	1	N	z
8064457	0164-13 DP	PSC27	Mercury	0.192	U	0.192	mg/kg	1	Y	d
8064457	0164-13 DP	PSC27	Arsenic	3.95	U	3.95	mg/kg	1	Y	d
8064457	0164-13 DP	PSC27	Selenium	3.95	U	3.95	mg/kg	1	Y	d
8064457	0164-13 DP	PSC27	Barium	51.8	J	0.988	mg/kg	1	Y	r
8064457	0164-13 DP	PSC27	Cadmium	0.988	U	0.988	mg/kg	1	Y	d
8064457	0164-13 DP	PSC27	Chromium	13.2	J	2.96	mg/kg	1	Y	i
8064457	0164-13 DP	PSC27	Copper	15.1	J	1.98	mg/kg	1	Y	j,r
8064457	0164-13 DP	PSC27	Lead	17.1		2.96	mg/kg	1	N	z
8064457	0164-13 DP	PSC27	Silver	0.988	U	0.988	mg/kg	1	N	z
8064457	0164-13 DP	PSC27	Zinc	63.8		3.95	mg/kg	1	N	z
8064458	0495-13	PSC27	Mercury	0.157	U	0.157	mg/kg	1	Y	d
8064458	0495-13	PSC27	Arsenic	3.22	U	3.22	mg/kg	1	Y	d
8064458	0495-13	PSC27	Selenium	3.22	U	3.22	mg/kg	1	Y	d
8064458	0495-13	PSC27	Barium	35.8	J	0.805	mg/kg	1	Y	r
8064458	0495-13	PSC27	Cadmium	0.805	U	0.805	mg/kg	1	Y	d
8064458	0495-13	PSC27	Chromium	13.8	J	2.42	mg/kg	1	Y	i
8064458	0495-13	PSC27	Copper	13.4	J	1.61	mg/kg	1	Y	j,r
8064458	0495-13	PSC27	Lead	12.2		2.42	mg/kg	1	N	z
8064458	0495-13	PSC27	Silver	0.805	U	0.805	mg/kg	1	N	z
8064458	0495-13	PSC27	Zinc	53.9		3.22	mg/kg	1	N	z
8064459	0496-13	PSC27	Mercury	0.114	U	0.114	mg/kg	1	N	z
8064459	0496-13	PSC27	Arsenic	4.01		2.24	mg/kg	1	N	z
8064459	0496-13	PSC27	Selenium	2.80		2.24	mg/kg	1	N	z
8064459	0496-13	PSC27	Barium	15.1	J	0.560	mg/kg	1	Y	r
8064459	0496-13	PSC27	Cadmium	0.560	U	0.560	mg/kg	1	N	z
8064459	0496-13	PSC27	Chromium	12.7	J	1.68	mg/kg	1	Y	i
8064459	0496-13	PSC27	Copper	11.7	J	1.12	mg/kg	1	Y	j,r
8064459	0496-13	PSC27	Lead	5.06		1.68	mg/kg	1	N	z
8064459	0496-13	PSC27	Silver	0.560	U	0.560	mg/kg	1	N	z
8064459	0496-13	PSC27	Zinc	26.8		2.24	mg/kg	1	N	z
8064460	0165-13 FB	PSC27	Mercury	0.00020	U	0.00020	mg/l	1	Y	d
8064460	0165-13 FB	PSC27	Arsenic	0.0020	U	0.0020	mg/l	1	N	z
8064460	0165-13 FB	PSC27	Chromium	0.0020	U	0.0020	mg/l	1	N	z
8064460	0165-13 FB	PSC27	Lead	0.0010	U	0.0010	mg/l	1	N	z
8064460	0165-13 FB	PSC27	Selenium	0.0020	U	0.0020	mg/l	1	N	z
8064460	0165-13 FB	PSC27	Barium	0.00070	J	0.0050	mg/l	1	N	z
8064460	0165-13 FB	PSC27	Cadmium	0.0050	U	0.0050	mg/l	1	N	z
8064460	0165-13 FB	PSC27	Copper	0.0045	J	0.0100	mg/l	1	N	z
8064460	0165-13 FB	PSC27	Silver	0.0050	U	0.0050	mg/l	1	N	z
8064460	0165-13 FB	PSC27	Zinc	0.0200	U	0.0200	mg/l	1	N	z
8064461	0479-13	PSC27	Mercury	0.124	U	0.124	mg/kg	1	N	z
8064461	0479-13	PSC27	Arsenic	2.74		2.45	mg/kg	1	N	z
8064461	0479-13	PSC27	Selenium	2.45	U	2.45	mg/kg	1	Y	d
8064461	0479-13	PSC27	Barium	16.7	J	0.612	mg/kg	1	Y	r
8064461	0479-13	PSC27	Cadmium	0.612	U	0.612	mg/kg	1	N	z
8064461	0479-13	PSC27	Chromium	13.5	J	1.84	mg/kg	1	Y	i

8064461	0479-13	PSC27	Copper	12.7	J	1.22	mg/kg	1	Y	j,r
8064461	0479-13	PSC27	Lead	6.95		1.84	mg/kg	1	N	z
8064461	0479-13	PSC27	Silver	0.612	U	0.612	mg/kg	1	N	z
8064461	0479-13	PSC27	Zinc	37.0		2.45	mg/kg	1	N	z
8064462	0480-13	PSC27	Mercury	0.119	U	0.119	mg/kg	1	N	z
8064462	0480-13	PSC27	Arsenic	3.15		2.32	mg/kg	1	N	z
8064462	0480-13	PSC27	Selenium	2.58		2.32	mg/kg	1	N	z
8064462	0480-13	PSC27	Barium	14.0	J	0.581	mg/kg	1	Y	r
8064462	0480-13	PSC27	Cadmium	0.581	U	0.581	mg/kg	1	N	z
8064462	0480-13	PSC27	Chromium	12.4	J	1.74	mg/kg	1	Y	i
8064462	0480-13	PSC27	Copper	10.8	J	1.16	mg/kg	1	Y	j,r
8064462	0480-13	PSC27	Lead	3.67		1.74	mg/kg	1	N	z
8064462	0480-13	PSC27	Silver	0.581	U	0.581	mg/kg	1	N	z
8064462	0480-13	PSC27	Zinc	23.5		2.32	mg/kg	1	N	z
8064463	0489-13	PSC27	Mercury	0.117	U	0.117	mg/kg	1	N	z
8064463	0489-13	PSC27	Arsenic	3.75		2.39	mg/kg	1	N	z
8064463	0489-13	PSC27	Selenium	2.52		2.39	mg/kg	1	N	z
8064463	0489-13	PSC27	Barium	13.1	J	0.599	mg/kg	1	Y	r
8064463	0489-13	PSC27	Cadmium	0.599	U	0.599	mg/kg	1	N	z
8064463	0489-13	PSC27	Chromium	12.8	J	1.80	mg/kg	1	Y	i
8064463	0489-13	PSC27	Copper	9.38	J	1.20	mg/kg	1	Y	j,r
8064463	0489-13	PSC27	Lead	4.58		1.80	mg/kg	1	N	z
8064463	0489-13	PSC27	Silver	0.599	U	0.599	mg/kg	1	N	z
8064463	0489-13	PSC27	Zinc	27.1		2.39	mg/kg	1	N	z
8064464	0490-13	PSC27	Mercury	0.115	U	0.115	mg/kg	1	N	z
8064464	0490-13	PSC27	Arsenic	3.77		2.35	mg/kg	1	N	z
8064464	0490-13	PSC27	Selenium	2.77		2.35	mg/kg	1	N	z
8064464	0490-13	PSC27	Barium	12.3	J	0.587	mg/kg	1	Y	r
8064464	0490-13	PSC27	Cadmium	0.587	U	0.587	mg/kg	1	N	z
8064464	0490-13	PSC27	Chromium	12.0	J	1.76	mg/kg	1	Y	i
8064464	0490-13	PSC27	Copper	9.96	J	1.17	mg/kg	1	Y	j,r
8064464	0490-13	PSC27	Lead	3.70		1.76	mg/kg	1	N	z
8064464	0490-13	PSC27	Silver	0.587	U	0.587	mg/kg	1	N	z
8064464	0490-13	PSC27	Zinc	21.9		2.35	mg/kg	1	N	z
8064465	0487-13	PSC27	Mercury	0.120	U	0.120	mg/kg	1	N	z
8064465	0487-13	PSC27	Arsenic	3.75		2.43	mg/kg	1	N	z
8064465	0487-13	PSC27	Selenium	3.47		2.43	mg/kg	1	N	z
8064465	0487-13	PSC27	Barium	17.8	J	0.607	mg/kg	1	Y	r
8064465	0487-13	PSC27	Cadmium	0.607	U	0.607	mg/kg	1	N	z
8064465	0487-13	PSC27	Chromium	12.9	J	1.82	mg/kg	1	Y	i
8064465	0487-13	PSC27	Copper	11.0	J	1.21	mg/kg	1	Y	j,r
8064465	0487-13	PSC27	Lead	4.32		1.82	mg/kg	1	N	z
8064465	0487-13	PSC27	Silver	0.607	U	0.607	mg/kg	1	N	z
8064465	0487-13	PSC27	Zinc	29.4		2.43	mg/kg	1	N	z
8064466	0488-13	PSC27	Mercury	0.115	U	0.115	mg/kg	1	N	z
8064466	0488-13	PSC27	Arsenic	4.09		2.34	mg/kg	1	N	z
8064466	0488-13	PSC27	Selenium	3.02		2.34	mg/kg	1	N	z
8064466	0488-13	PSC27	Barium	11.4	J	0.585	mg/kg	1	Y	r
8064466	0488-13	PSC27	Cadmium	0.585	U	0.585	mg/kg	1	N	z
8064466	0488-13	PSC27	Chromium	13.3	J	1.76	mg/kg	1	Y	i
8064466	0488-13	PSC27	Copper	14.4	J	1.17	mg/kg	1	Y	j,r
8064466	0488-13	PSC27	Lead	3.88		1.76	mg/kg	1	N	z
8064466	0488-13	PSC27	Silver	0.585	U	0.585	mg/kg	1	N	z
8064466	0488-13	PSC27	Zinc	24.6		2.34	mg/kg	1	N	z
8064467	0163-13 FB	PSC27	Mercury	0.000063	J	0.00020	mg/l	1	N	z
8064467	0163-13 FB	PSC27	Arsenic	0.0020	U	0.0020	mg/l	1	N	z

8064467	0163-13 FB	PSC27	Chromium	0.0020	U	0.0020	mg/l	1	N	z
8064467	0163-13 FB	PSC27	Lead	0.0010	U	0.0010	mg/l	1	N	z
8064467	0163-13 FB	PSC27	Selenium	0.0020	U	0.0020	mg/l	1	N	z
8064467	0163-13 FB	PSC27	Barium	0.0050	U	0.0050	mg/l	1	N	z
8064467	0163-13 FB	PSC27	Cadmium	0.0050	U	0.0050	mg/l	1	N	z
8064467	0163-13 FB	PSC27	Copper	0.0100	U	0.0100	mg/l	1	N	z
8064467	0163-13 FB	PSC27	Silver	0.0050	U	0.0050	mg/l	1	N	z
8064467	0163-13 FB	PSC27	Zinc	0.0200	U	0.0200	mg/l	1	N	z
8064468	0498-13	PSC27	Mercury	0.259		0.248	mg/kg	1	N	z
8064468	0498-13	PSC27	Arsenic	7.35		5.21	mg/kg	1	N	z
8064468	0498-13	PSC27	Selenium	6.29		5.21	mg/kg	1	N	z
8064468	0498-13	PSC27	Barium	98.8	J	1.30	mg/kg	1	Y	r
8064468	0498-13	PSC27	Cadmium	2.05		1.30	mg/kg	1	N	z
8064468	0498-13	PSC27	Chromium	82.4	J	3.91	mg/kg	1	Y	i
8064468	0498-13	PSC27	Copper	95.6	J	2.61	mg/kg	1	Y	j,r
8064468	0498-13	PSC27	Lead	127		3.91	mg/kg	1	N	z
8064468	0498-13	PSC27	Silver	1.95		1.30	mg/kg	1	N	z
8064468	0498-13	PSC27	Zinc	387		5.21	mg/kg	1	N	z
8064469	0499-13	PSC27	Mercury	0.348		0.346	mg/kg	1	N	z
8064469	0499-13	PSC27	Arsenic	22.3		7.00	mg/kg	1	N	z
8064469	0499-13	PSC27	Selenium	15.3		7.00	mg/kg	1	N	z
8064469	0499-13	PSC27	Barium	238	J	1.75	mg/kg	1	Y	r
8064469	0499-13	PSC27	Cadmium	1.75	U	1.75	mg/kg	1	Y	d
8064469	0499-13	PSC27	Chromium	67.5	J	5.25	mg/kg	1	Y	i
8064469	0499-13	PSC27	Copper	225	J	3.50	mg/kg	1	Y	j,r
8064469	0499-13	PSC27	Lead	89.1		5.25	mg/kg	1	N	z
8064469	0499-13	PSC27	Silver	8.36		1.75	mg/kg	1	N	z
8064469	0499-13	PSC27	Zinc	976		7.00	mg/kg	1	N	z
8064470	0497-13	PSC27	Mercury	0.377		0.319	mg/kg	1	N	z
8064470	0497-13	PSC27	Arsenic	11.6		6.69	mg/kg	1	N	z
8064470	0497-13	PSC27	Selenium	8.91		6.69	mg/kg	1	N	z
8064470	0497-13	PSC27	Barium	116	J	1.67	mg/kg	1	Y	r
8064470	0497-13	PSC27	Cadmium	3.38		1.67	mg/kg	1	N	z
8064470	0497-13	PSC27	Chromium	69.5	J	5.02	mg/kg	1	Y	i
8064470	0497-13	PSC27	Copper	147	J	3.35	mg/kg	1	Y	j,r
8064470	0497-13	PSC27	Lead	140		5.02	mg/kg	1	N	z
8064470	0497-13	PSC27	Silver	12.6		1.67	mg/kg	1	N	z
8064470	0497-13	PSC27	Zinc	709		6.69	mg/kg	1	N	z
8064471	0161-13 FB	PSC27	Mercury	0.000067	J	0.00020	mg/l	1	N	z
8064471	0161-13 FB	PSC27	Arsenic	0.0020	U	0.0020	mg/l	1	N	z
8064471	0161-13 FB	PSC27	Chromium	0.0020	U	0.0020	mg/l	1	N	z
8064471	0161-13 FB	PSC27	Lead	0.0010	U	0.0010	mg/l	1	N	z
8064471	0161-13 FB	PSC27	Selenium	0.0020	U	0.0020	mg/l	1	N	z
8064471	0161-13 FB	PSC27	Barium	0.00092	J	0.0050	mg/l	1	N	z
8064471	0161-13 FB	PSC27	Cadmium	0.0050	U	0.0050	mg/l	1	N	z
8064471	0161-13 FB	PSC27	Copper	0.0096	J	0.0100	mg/l	1	N	z
8064471	0161-13 FB	PSC27	Silver	0.0050	U	0.0050	mg/l	1	N	z
8064471	0161-13 FB	PSC27	Zinc	0.0200	U	0.0200	mg/l	1	N	z

Reason Code	Explanation
a	Holding times exceeded
b	Temperature or chemical preservation issue
c	Calibration standard exceedance (initial and/or continuing)
d	Laboratory or field blank contamination
e	Surrogate standard recovery exceedance
f	Internal standard area exceedance
g	Spiked standard (LCS, MS, BS, MSD, LCSD, BSD) recovery exceedance
h	Spiked Duplicate RPD exceedance
i	Field duplicate RPD exceedance
j	Serial dilution results issue
k	Chromatographic resolution, interference, or pattern match issue
l	Clean-up standard recovery exceedance
m	Sample preparation issue
n	Quantitation issue
o	Dual column RPD exceedance
p	Compound identification issue
q	Low % solids
r	defined in body of report
z	no change made during validation

ATTACHMENT B

SPREADSHEET SUMMARY
(submitted electronically)
SDG Nos. PSC24 and PSC27
Total Metals in Sediments and Water Field Blanks

ATTACHMENT C

SUPPLEMENTARY DOCUMENTS
(Form 15; ICP/MS tune 10/5/15 instrument 19204)
SDG Nos. PSC24 and PSC27

DATA VALIDATION

FOR

Pine Street Canal Site
BURLINGTON, VT

CONVENTIONAL ANALYSIS DATA
Total Organic Carbon
in Soil Samples

Sample Delivery Group Nos. PSC24 and PSC27

Chemical Analyses Performed by:

Eurofins Spectrum Analytical, Inc.
830 Silver Street
Agawam, MA 01001
for
Eurofins Lancaster Laboratories, LLC
Lancaster, PA 17605-2425

FOR

The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602

Data Validation Report by:

Phoenix Chemistry Services
126 Covered Bridge Rd.
N. Ferrisburg, VT 05473
802-233-2473

December 16, 2015

EXECUTIVE SUMMARY

Phoenix Chemistry Services (Phoenix) has completed the validation of the Total Organic Carbon (TOC) analysis data by prepared by Eurofins Spectrum Analytical of Agawam, MA, as a sub-contractor to Eurofins Lancaster Laboratories for 12 soil and sediment samples and 2 field duplicates (FDs) from the Pine Street Canal Site in Burlington, VT. The laboratory reported the data under Sample Delivery Group (SDG*)* Nos. PSC24 and PSC27, which were submitted as two data packages received by Phoenix on November 23, 2015, with revisions received on December 8 and December 16, 2015, and which include the following samples:

Sample Location Identifier (SLID)	Sample Identifier Number (SIN)	Spectrum Laboratory ID	Lancaster Laboratory ID
SDG No. PSC24			
J_T2+00E100 0-10 cm	0481-13	SC13114-01	8057359
J_T3+00E100 0-10 cm	0483-13	SC13114-02	8057361
J_0162-13DP 0-10 cm	0163-13DP	SC13114-03	8057366
J_T3+00E300 0-10 cm	0485-13	SC13114-04	8057367
SDG No. PSC27			
J_T8+00E40 0-10 cm	0491-13	SC13115-01	8064450
J_T15+50E100 0-10 cm	0493-13	SC13115-02	8064452
J_0164-13 DP	0164-13 DP	SC13115-03	8064457
J_T1+00E50 0-10 cm	0479-13	SC13115-04	8064461
J_T6+00E60 0-10 cm	0489-13	SC13115-05	8064463
J_T5+00E20 0-10 cm	0487-13	SC13115-06	8064465
J_T21+00E25 0-10 cm	0498-13	SC13115-07	8064468
J_T21+00E50 0-10 cm	0499-13	SC13115-08	8064469
J_T17+00E400 0-10 cm	0497-13	SC13115-09	8064470
J_T8+00E40 0-10 cm	0491-13	SC13115-10	8064450

A cross-reference of sample IDs was provided in the data packages from each laboratory.

The validation effort found all sample results acceptable as reported, following receipt of full revisions, which were required because the original data packages included adjustment for percent moisture in the samples; however, the sub-contracting laboratory performs the Lloyd Kahn TOC analysis on oven-dry samples, so the results were already reported on a dry-weight basis.

The Overall Evaluation of Data (Section IX) summarizes the validation results. The validation findings and conclusions for each analytical parameter are detailed in the remaining sections of this report. The validation effort determined that the results as presented in the fully revised data packages are acceptable as presented.

Documentation deficiencies observed in the data packages are described in Section X.

This validation report shall be considered part of the data package for all future distributions of the Total Organic Carbon (TOC) analysis data.

INTRODUCTION

Analyses were performed according to the USEPA Region II "Lloyd Kahn" Method for total organic carbon (TOC), and as described in Spectrum Analytical SOP for Total Organic and Inorganic Carbon by Lloyd Kahn Method (Revision No. 5, 06/15/15).

Phoenix Chemistry Services' validation was performed to the extent possible in conformance with Tier II guidelines as defined by USEPA Region I. Data qualifiers are applied as necessary and appropriate. The data were evaluated in accordance with the "Region I EPA-NE Data Validation Functional Guidelines for Evaluating Inorganic Analyses" (2/89 modifications). The Quality Assurance Project Plan (QAPP; The Johnson Company, Revision 5, December, 2006) and EPA's National Functional Guidelines for Inorganic Data Review (EPA 540-R-04-004, October 2004) were also considered during the evaluation, and professional judgment was applied as necessary and appropriate.

The data validation process evaluates data on a technical basis for chemical analyses conducted under the CLP or other well-defined methods. Contract compliance is evaluated only in specific situations. Issues pertaining to contractual compliance are noted where applicable. It is assumed that the data package is presented in accordance with the CLP (CLP-like or SW-846) requirements. It is also assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate and sufficient quality review prior to submission for validation. In instances where SW-846 or other specific methods have been used for the analyses, the validation effort is modified to acknowledge the differences in methodology while maintaining the goals and quality objectives of the CLP.

Results of sample analyses are reported by the laboratory as either qualified or unqualified; various qualifier codes are used by the laboratory to denote specific information regarding the analytical results. During the validation process, laboratory data are verified against all available supporting documentation. Based on this evaluation, qualifier codes may be added, deleted or modified by the data validator. Validated results are either qualified or unqualified; if results are unqualified, this means that the reported values may be used without reservation. Final validated results are annotated with the following codes, as defined in the EPA Region I Functional Guidelines:

U - The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit

J - The associated numerical value is an estimated quantity.

UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise. The sample quantitation limit is an estimated quantity.

R - The data are unusable. (Note: Analyte may or may not be present). Resampling and reanalysis is necessary for verification. The R replaces the numerical value or sample quantitation limit.

These codes (qualifiers) are assigned during the validation process and are based on the data review of the results. They are recorded in the Data Summary Table contained in Attachment A and the spreadsheet summary files in Attachment B (submitted electronically) of this validation report.

All data users should note two facts. First, **the "R" qualifier means that the laboratory-reported value is completely unusable.** The analysis is invalid due to significant quality control problems, and provides no information as to whether the compound is present or not. Rejected values should not appear on data tables because they have no useful purpose under any circumstances. Second, **no analyte concentration is guaranteed to be accurate even if all associated quality control is acceptable.** While strict quality control conformance provides well-defined confidence in the reported results, any analytical result will always contain some error.

The user is also cautioned that the validation effort is based on the materials provided by the laboratory. Software manipulation, resulting in misleading raw data printouts, cannot be routinely detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.

Detailed Findings of Measurement Error Associated with the Analytical Analysis

I. Preservation and Technical Holding Times (Sample Integrity)

Samples for TOC analysis in SDG. Nos. PSC24 and PSC27 were collected on September 21-24, 2015, and were received by the Lancaster laboratory on Sep. 22 and 25, 2015, and by Spectrum on Oct. 2, 2015. All sample analyses were performed within the established holding time of 14 days for analysis of samples maintained at 4°C.

The temperature blanks of the coolers on receipt at the laboratory were checked and documented in the data packages to be within or just below the acceptable range of <6°C °C at 1.0, 1.5, 4.7, and 1.9 °C on arrival at Lancaster, and at 0.7, -0.1, and -0.3 °C on arrival at Spectrum. Since temperatures were within or slightly below the acceptance range, and the laboratory did not note the presence of ice in any sample, all sample temperatures were deemed acceptable.

II. Calibration and Analytical Sequence

One "high-range" IC (7/23/15) and one "low-range" IC (7/24/15) were performed on the instrument identified as TOC2 (Teledyne Tekmar Apollo 9000) in support of the sample analyses in this data set. The high-range IC consists of seven concentration levels: 0, 1000, 2000, 4000, 8000, 12,500, and 15,000 micrograms (ug) C, and the low-range IC consists of seven concentration levels: 0, 125, 250, 500, 1000, 2000, 4000, and 8000 ug C. The ICs are documented with a graphical presentation of the data points giving the calibration coefficient and the linear regression formula, and with a summary form of the response factors. However, the preparation bench sheet and the raw data from the low-range initial calibration were not originally included in either data package, and were requested by the validator. A revision from Spectrum was received on December 8, 2015, including the missing calibration data. This file, which is included in Attachment C of this report, should be incorporated into the TOC section of the data packages for both PSC24 and PSC27, and maintained with them. The calibration coefficient value (0.999) for each IC was acceptable. The independent calibration verification (ICV) analyses, as required by the method, and the initial calibration blank (ICB) were submitted with the ICs, and were acceptable (108 percent recovery [%R] for the high-range ICV and 111 %R for the low-range ICV, and non-detect for the ICBs).

Sample analyses for TOC were performed in two analytical series on 10/3/15. The first sequence began with analysis of what appear to be a high and a low standard that were not formally reported. Otherwise, each analytical sequence began with a continuing calibration verification (CCV) followed by a continuing calibration blank (CCB) analysis, followed by a preparation blank, a laboratory control sample (LCS) for that preparation batch, and then analysis of a standard reference material (SRM). The sample analyses then began, and after five samples were followed by a CCV and CCB analyses. These were followed by another sequence of not more than ten sample analyses before analysis of another CCV and CCB, and the analytical sequence ended with another CCV and CCB. Required replicate analyses were analyzed within the sample sequences.

The calculated recovery results for the LCS, CCV, and CCB analyses were shown for all analyses on summary forms and on the instrument run log within the raw data section, and were all within the applicable

acceptance criteria of ±15% of the expected value for the spiked analyses, and were non-detect for all blank analyses.

III. Blanks

Results from two preparation blanks were reported as method blanks (MBs) for the two preparation batches, although a method blank (MB) is not required by the Lloyd Kahn method. Results for one ICB and six CCB analyses were reported. No contamination was detected in any reported blank results. The results of the MBs were reported on the Summary Section forms as not detected at 100 mg/Kg C, with a method detection limit (MDL) at 99 mg/Kg C.

IV. Matrix Spike Sample Analysis

A matrix spike (MS) analysis was not requested or performed for the TOC sample analyses reported in this data set.

V. Duplicate Sample Analysis

A. Laboratory Duplicate

Samples 0489-13 and 0495-13 were each prepared as a set of soil laboratory duplicates for the samples in this data set and the relative percent difference (RPD) results were reported. Paired results for TOC in the laboratory duplicate pairs were within (11 and 5.5 %RPD, respectively) the laboratory established acceptance limit (15 %RPD) for each pair of duplicate samples.

A quadruplicate sample analysis was performed and reported on a non-site sample in SDG No. PSC24, and quadruplicate analysis of site sample 0495-13 was performed and reported with SDG No. PSC27. Both sets of laboratory quadruplicate analyses were within applicable specifications, at 9.9 and 12.3 %RSD, respectively, for the quadruplicate analyses.

B. Field Duplicates

Sample 0163-13DP was identified as a field duplicate of 0483-13, and sample 0164-13DP was identified as a field duplicate of 0493-13. Precision was acceptable (<50 %RPD) for paired results in the field duplicate pair 0483-13 and 0163-13DP, at 17.6 % RPD, and at 5.5 %RPD for the field duplicate pair 0493-13 and 0164-13DP.

VI. Laboratory Control Sample Analyses

Percent recoveries (at 88-118 %R) for the four associated laboratory control samples (LCSs) were accurately reported on the Quality Control Summary forms within the Sample Summary sections, and were within the laboratory acceptance limits of 75 – 125% R.

VII. PE Samples/Accuracy Check

An external solid-matrix single blind PES sample was not submitted or required with the samples in this data set.

VIII. Sample Result Verification

All field sample results appeared to be accurately reported on the Analytical Report summary forms included in the data package; however, results were significantly higher than previous sampling rounds, and the project Quality Assurance Officer and the independent data validator both questioned the accuracy of these results. The laboratory was asked to investigate twice, and following internal review, determined that the sub-contracting laboratory (Eurofins Spectrum) performs Lloyd Kahn analysis on oven-dried samples, including pre-analysis weight determination. Therefore, the percent moisture correction performed by the contracting laboratory (Eurofins Lancaster) incorrectly raised the results by this factor. The results were corrected by Eurofins Lancaster and reported in revisions received on December 16, 2015.

Two samples were submitted with a high moisture content; sample 0497-13 exhibited a 70.7% moisture (29.3 % solids) and sample 0499-13 exhibited a 72.0% moisture (28.0 % solids) content. Two laboratory control samples were used for laboratory duplicate analysis, and acceptable precision was exhibited in these analyses (at 100 % moisture in all LCS analyses). Since all site samples were analyzed after drying, and suitable sample volumes were utilized for TOC, no qualifications were deemed necessary on the basis of the unacceptably low solids content.

The values that the validator has judged to be acceptable are presented in the "Result" column in the Data Summary Table in Attachment A and in the "Validator_Result" column in the spreadsheet summary file submitted electronically as Attachment B. The final qualifiers based on the validation effort are presented in the "Validator_Qualifier" column in the Data Summary Table and in the spreadsheet summary file. All results, positive and non-detect, are listed in the these summaries, whether or not the value or qualifier was changed as a result of the validation; if a value or qualifier was changed, this is indicated by the "Y" (for yes) notation in the column "Validator_Change" in the Data Summary Table. A brief explanation of the reason for the validation change is coded in the "Validator_Reason" column in the Data Summary Table and the full spreadsheet summary file; the definitions of these codes are given at the end of the Data Summary Table and on a separate tab of the spreadsheet file. Sample-specific (practical) quantitation limits (PQL) are given in the summaries.

IX. Overall Evaluation of Data

Based on the validation effort, results for the analyte TOC in all samples were determined to be valid as reported in the final revisions.

- Since analytical weight determination was performed by Eurofins Spectrum prior to the Lloyd Kahn analysis for TOC, the percent moisture correction performed by Eurofins Lancaster incorrectly raised the results by this factor. Correct results were submitted in the revisions received on December 16, 2015.

Documentation problems observed in the data packages are described in Section X.

X. Documentation

The chain of custody (COC) records were present and accurately completed for all reported samples in this TOC data set. Data presentation was acceptable, with the following exceptions:.

- Raw data for the initial calibration curve performed on instrument TOC2 on 7/24/15 was not included in either data package. The validator requested submittal of all relevant initial calibration raw data, and this was provided on December 8, 2015. The revision is included in Attachment C of this report, and should be maintained with both PSC24 and PSC27.

- Sample identifiers used within the raw data in SDG No. PSC27 were not identical to the laboratory identifiers used for reporting. The validator requested that the laboratory verify that the correct samples had been analyzed and reported. They reported that the analyst has mis-typed the identifiers, and that the software did not allow corrections, but that the correct samples had been analyzed.

- A revision consisting of the Analysis Reports from Eurofins Lancaster and the full report from Eurofins Spectrum was submitted for each data package on December 16, 2015. Because of the size of these data packages, they have not been attached to this report, but they should replace the Analysis Reports and the TOC sections of the original data packages, and be maintained with them. The raw data and summary forms associated with the IC on 7/24/15 are included in these packages.

This validation report should be considered part of the data packages for all future distributions of the Total Organic Carbon (TOC) analysis data.

ATTACHMENT A

DATA SUMMARY TABLE
SDG Nos. PSC24 and PSC27
Total Organic Carbon (TOC) in Soil and Sediment Samples

Lab_ID	Sample_ID	SDG No.	Analyte	Validator_ Result	Validator_ Qualifier	PQL	Units	Dilution	Validator_ Change	Validator_ Reason
8057359	0481-13	PSC24	TOC by Lloyd Kahn	2750		202	mg/kg	1	N	z
8057361	0483-13	PSC24	TOC by Lloyd Kahn	846		190	mg/kg	1	N	z
8057366	0163-13DP	PSC24	TOC by Lloyd Kahn	709		193	mg/kg	1	N	z
8057367	0485-13	PSC24	TOC by Lloyd Kahn	1730		194	mg/kg	1	N	z
8064450	0491-13	PSC27	TOC by Lloyd Kahn	1030		165	mg/kg	1	N	z
8064452	0493-13	PSC27	TOC by Lloyd Kahn	112000		851	mg/kg	1	N	z
8064457	0164-13 DP	PSC27	TOC by Lloyd Kahn	106000		1430	mg/kg	1	N	z
8064458	0495-13	PSC27	TOC by Lloyd Kahn	73100		870	mg/kg	1	N	z
8064461	0479-13	PSC27	TOC by Lloyd Kahn	2440		120	mg/kg	1	N	z
8064463	0489-13	PSC27	TOC by Lloyd Kahn	2790		188	mg/kg	1	N	z
8064465	0487-13	PSC27	TOC by Lloyd Kahn	1010		156	mg/kg	1	N	z
8064468	0498-13	PSC27	TOC by Lloyd Kahn	64500		976	mg/kg	1	N	z
8064469	0499-13	PSC27	TOC by Lloyd Kahn	174000		2350	mg/kg	1	N	z
8064470	0497-13	PSC27	TOC by Lloyd Kahn	204000		3330	mg/kg	1	N	z

Reason Code	Explanation
a	Holding times exceeded
b	Temperature or chemical preservation issue
c	Calibration standard exceedance (initial and/or continuing)
d	Laboratory or field blank contamination
e	Surrogate standard recovery exceedance
f	Internal standard area exceedance
g	Spiked standard (LCS, MS, BS, MSD, LCSD, BSD) recovery exceedance
h	Spiked Duplicate RPD exceedance
i	Field duplicate RPD exceedance
j	Serial dilution results issue
k	Chromatographic resolution, interference, or pattern match issue
l	Clean-up standard recovery exceedance
m	Sample preparation issue
n	Quantitation issue
o	Dual column RPD exceedance
p	Compound identification issue
q	Low % solids
r	defined in body of report
z	no change made during validation

ATTACHMENT B

SPREADSHEET SUMMARY
(submitted electronically)
SDG Nos. PSC24 and PSC27
Total Organic Carbon (TOC) in Soil and Sediment Samples

ATTACHMENT C

SUPPLEMENTARY DOCUMENTS
(including laboratory responses and 7/24/15 Initial Calibration Raw Data)
SDG Nos. PSC24 and PSC27
Total Organic Carbon (TOC) in Soil and Sediment Samples

Subject: RE: 1596019- Client Questioning Spectrum report
From: Alejandro Paredes Morales <AlejandroParedes@eurofinsUS.com>
Date: 12/8/2015 9:56 AM
To: Barbara Weyandt <BarbaraWeyandt@eurofinsUS.com>, Rebecca Merz <RebeccaMerz@eurofinsUS.com>, Alejandro Paredes Morales <AlejandroParedes@eurofinsUS.com>, Wendy Kozma <WendyKozma@eurofinsUS.com>
CC: Kevin Moran <KevinMoran@eurofinsUS.com>, Alejandro Paredes Morales <AlejandroParedes@eurofinsUS.com>

Hi Barbara!

From the raw data which is present in SDG #PSC27, it appears that two different initial calibrations were used. One is referred to as "HIGH 072315". The second of these appears to be what is presented in graphical form on page 1351 of Lancaster's data package, or page 58 of Spectrum's data package. The other is written (typed) in as "072415low", and the printed reference to "063015 low" has been crossed out. If the 072415low is different than the HIGH 072315, please submit all relevant pages for the missing calibration, including the Detailed Analysis Report and the graphical presentation, with the linearity coefficient calculated.

We will issue a revised data package for SC13115.

Within the raw data pages, starting on page 1358 (Spectrum's page 65) and possibly continuing onto the following page, the laboratory identifier for the client samples is incorrect (SC12115-xx instead of SC13115-xx). Please verify that these are indeed the correct analyses for the samples submitted.
This was a typo when loaded in the instrument, samples submitted where ran. Instrument doesn't allow to change them once have been run

Additionally, our data validator is also trying to understand how these results may be compared to previous results, and has a request for additional items from the Spectrum laboratory. Please submit the raw data for the Lloyd Kahn analysis for the initial calibration curve analyzed on instrument TOC2 on July 23 2015 at 11:19 (Calibration ID 1507063). The data packages PSC24 and PSC27 contain the graphical presentation of this calibration, but the original raw data (the "Detailed Analysis Report" instrument printout) is not present in the data packages. Please also include an example calculation demonstrating the use of this calibration for any one of the samples in these two sample sets (SC13114-01 through SC13114-04 or SC13115-01 through SC13115-07). Please don/t hesitate to contact me with questions or comments, or if you need more information. Thank you again for your assistance.

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

0491-13

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC			Project:	See Chain of Custody
Project Number:	1596027			Received:	10/02/15 12:46
Matrix:	Sediment	Laboratory ID:	SC13115-01	File ID:	10031610
Sampled:	09/24/15 10:10	Prepared:	10/03/15 10:08	Analyzed:	10/03/15 16:14
% Solids:		Preparation:	General Preparation	Initial/Final:	0.0243 g / 1 ml
Batch:	1518720	Sequence:	S508901	Calibration:	1507063
Instrument:	TOC2				
Reported to:	MDL				

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	1030	1	163	165	

```
================================================================================

Sample ID:   SC13115-01A                        Mode:        TOC
Method:                      *                  Filename:    10031610
Cal. Curve:  063015 LOW                         Timestamp:   2015/10/03 16:14
Operator ID: rlt                                Sample Type: Sample

Rep #     ppm C     ug C    Raw Data     Beginning    Ending     Integration
                                          Baseline    Baseline       Time
  1   1031.0355   25.0542   1196013       106.511     107.499       112
================================================================================
```

$$\text{Final} = \frac{\text{Final Weight}}{\text{Initial Weight}} \times \text{Calculated Value}$$

Final= (1/0.0243) x (25.0542) = 1031

Thanks

Alejandro Paredes
Data Specialist / PM Assistant
Eurofins Spectrum Analytical, Inc.
830 Silver Street
Agawam, MA 01001
USA
Phone: 413-789-9018
Fax: 413-789-4076
Email: AlejandroParedes@EurofinsUS.com
Website: http://www.eurofinsus.com/Spectrum

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From: Barbara Weyandt [mailto:BarbaraWeyandt@eurofinsUS.com]
Sent: Monday, December 07, 2015 5:30 PM
To: Rebecca Merz [Agawam]; Alejandro Paredes Morales; Wendy Kozma
Cc: Kevin Moran; Alejandro Paredes Morales
Subject: RE: 1596019- Client Questioning Spectrum report

Thank-you, Rebecca.

Barb

From: Rebecca Merz [Agawam] [mailto:RebeccaMerz@EurofinsUS.com]
Sent: Monday, December 07, 2015 5:21 PM
To: Barbara Weyandt; Alejandro Paredes Morales; Wendy Kozma
Cc: Kevin Moran; Alejandro Paredes Morales
Subject: RE: 1596019- Client Questioning Spectrum report

Hopefully you relayed the message that we were looking into this issue to Jim last Thursday so he at least knows someone is

taking his questions to the right personnel.

We apologize for the delay we had staff out on Friday that were responsible for putting the data package together and needed clarification from this analyst since the datafile was in question with their handwritten notes.

There is nothing wrong with the data we are working to put together a response that clearly explains the calibrations and data.

We will have this to you as early tomorrow as possible.

Thank you,
Rebecca

From: Barbara Weyandt [mailto:BarbaraWeyandt@eurofinsUS.com]
Sent: Monday, December 07, 2015 4:54 PM
To: Alejandro Paredes Morales; Rebecca Merz [Agawam]; Wendy Kozma
Cc: Kevin Moran; Alejandro Paredes Morales
Subject: RE: 1596019- Client Questioning Spectrum report

OK, thanks Alejandro. Please respond tomorrow morning with whatever response you may have, even if there is not yet any response from the wet chem lab.

Barb

From: Alejandro Paredes [Agawam] [mailto:AlejandroParedesMorales@EurofinsUS.com]
Sent: Monday, December 07, 2015 4:51 PM
To: Barbara Weyandt; Rebecca Merz; Wendy Kozma
Cc: Kevin Moran; Alejandro Paredes Morales
Subject: RE: 1596019- Client Questioning Spectrum report

Hi Barbara!

We are working on it; I'm waiting to confirm some information from our wet department.

Thanks

Alejandro Paredes
Data Specialist / PM Assistant
Eurofins Spectrum Analytical, Inc.
830 Silver Street
Agawam, MA 01001
USA
Phone: 413-789-9018
Fax: 413-789-4076
Email: AlejandroParedes@EurofinsUS.com
Website: http://www.eurofinsus.com/Spectrum

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From: Barbara Weyandt [mailto:BarbaraWeyandt@eurofinsUS.com]
Sent: Monday, December 07, 2015 4:48 PM
To: Rebecca Merz [Agawam]; Wendy Kozma
Cc: Kevin Moran; Alejandro Paredes Morales

Subject: RE: 1596019- Client Questioning Spectrum report
Importance: High

HI Rebecca/Alejandro,

Please respond ASAP as our client is very upset with the lack of responsiveness on this issue. Thank-you.

Barb

From: Rebecca Merz [Agawam] [mailto:RebeccaMerz@EurofinsUS.com]
Sent: Thursday, December 03, 2015 2:12 PM
To: Wendy Kozma
Cc: Barbara Weyandt; Kevin Moran; Alejandro Paredes Morales
Subject: RE: 1596019- Client Questioning Spectrum report

Hi Wendy,

I have elevated the clients concerns to our Wet Chemistry staff and included Alejandro Paredes as he compiles data packages. Either Alejandro or I will get back to you with a response soon.

Thank you,
Rebecca

From: Wendy Kozma [mailto:WendyKozma@eurofinsUS.com]
Sent: Thursday, December 03, 2015 1:23 PM
To: Rebecca Merz [Agawam]
Cc: Barbara Weyandt; Kevin Moran
Subject: FW: 1596019- Client Questioning Spectrum report

Rebecca,

Our client is questioning some TOC results that Spectrum Labs reported to us. See attached Spectrum report.

Will you please read through the clients concerns and provide the requested documentation?

Please reply to all with your response.

Thank you,
Wendy

Could you please add the following requests to your investigation?

In the data package for SDG #PSC27, Spectrum SDG #SC13115, there are a number of inconsistencies or possible errors within the sub-contracted data package.

First, no copy of the raw data for any initial calibration is presented (the "Detailed Analysis Report", showing the actual instrument output) for any of the reports. As noted below, I will need this to complete the validation.

From the raw data which is present in SDG #PSC27, it appears that two different initial calibrations were used. One is referred to as "HIGH 072315". The second of these appears to be what is presented in graphical form on page 1351 of Lancaster's data package, or page 58 of Spectrum's data package. The other is written (typed) in as "072415low", and the printed reference to "063015 low" has been crossed out. If the 072415low is different than the HIGH 072315, please submit all relevant pages for the missing calibration, including the Detailed Analysis Report and the graphical presentation, with the linearity coefficient calculated.

Within the raw data pages, starting on page 1358 (Spectrum's page 65) and possibly continuing onto the following page, the laboratory identifier for the client samples is incorrect (SC12115-xx instead of SC13115-xx). Please verify that these are indeed the correct analyses for the samples submitted.

From: Barbara Weyandt
Sent: Thursday, December 03, 2015 9:55 AM
To: Nicole Maljovec
Subject: FW: TOC Results

From: Jim Bowes [mailto:JRB@jcomail.com]
Sent: Thursday, December 03, 2015 9:47 AM
To: Barbara Weyandt
Cc: dgaynor@phoenixchemistryservices.com; Sonja Schuyler
Subject: TOC Results

Hi Barb,
It was brought to my attention that the TOC results listed on the benthic sample report (Benthic Samples #1596019) are Orders-of-Magnitude higher than what we have previously collected at the site. The levels reported are indicative of free phase coal tar, and in speaking with the field crew, there were no visual or olfactoral observations of product by the sample team. Is confirmation that Spectrum may have already converted the TOC results to dry weight prior to releasing the data to Lancaster available? I appreciate any information you could provide regarding Spectrum's report.

Additionally, our data validator is also trying to understand how these results may be compared to previous results, and has a request for additional items from the Spectrum laboratory. Please submit the raw data for the Lloyd Kahn analysis for the initial calibration curve analyzed on instrument TOC2 on July 23 2015 at 11:19 (Calibration ID 1507063). The data packages PSC24 and PSC27 contain the graphical presentation of this calibration, but the original raw data (the "Detailed Analysis Report" instrument printout) is not present in the data packages. Please also include an example calculation demonstrating the use of this calibration for any one of the samples in these two sample sets (SC13114-01 through SC13114-04 or SC13115-01 through SC13115-07). Please don/t hesitate to contact me with questions or comments, or if you need more information. Thank you again for your assistance.
Jim

James R. Bowes, P.G.
Senior Scientist

The Johnson Company, Inc.
100 State Street
Montpelier, VT 05602

Phone: (802) 229-4600
Fax: (802) 229-5876
Cell: (802) 839-9241

Email: jrb@jcomail.com

Notify us here to report this email as spam.

Lloyd Kahn

Standards Data

FORM VI - INITIAL CALIBRATION DATA

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	0	0	1000	2110.995	2000	2020.206	4000	1984.608	8000	1905.392	12500	1875.863

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	15000	1812.287										

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1507063	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/23/15 11:19
File ID:	1507063		

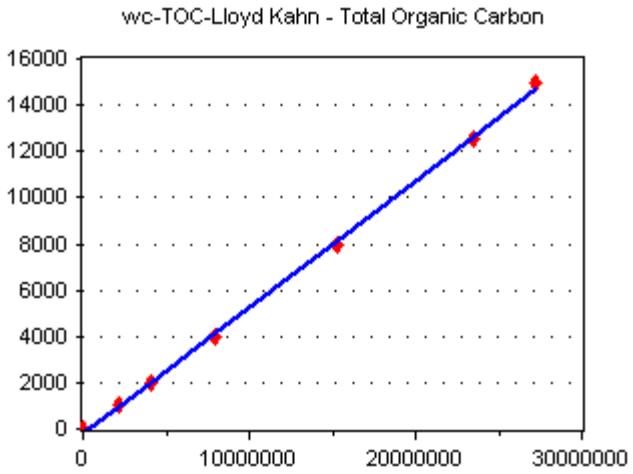
Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Total Organic Carbon	1672.765	44.48907	0	0	0.9990526		0.997	

Individual peaks for multi-component analytes are indicated by a number in parentheses

Instrument:	TOC2	Calibration Date:	23-Jul-15 11:19 By RLT
Calibration ID:	1507063	Last Edit Date:	24-Jul-15 11:20 By RLT

wc-TOC-Lloyd Kahn

Total Organic Carbon



Linear Regression

r2: 0.9990526

[Conc] = 5.486597E-04 * [Response] + -197.7798

FORM VI - INITIAL CALIBRATION DATA

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1508009	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/24/15 00:45
File ID:	1508009		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	0	0	125	2408.736	250	2256.392	500	2191.402	1000	2598.953	2000	2016.667

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1508009	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/24/15 00:45
File ID:	1508009		

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF	µg	RF
Total Organic Carbon	4000	2028.89	8000	1915.474								

Individual peaks for multi-component analytes are indicated by a number in parentheses

FORM VI - INITIAL CALIBRATION DATA (Continued)

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Calibration:	1508009	Instrument:	TOC2
Matrix:	Soil/Sediment	Calibration Date:	07/24/15 00:45
File ID:	1508009		

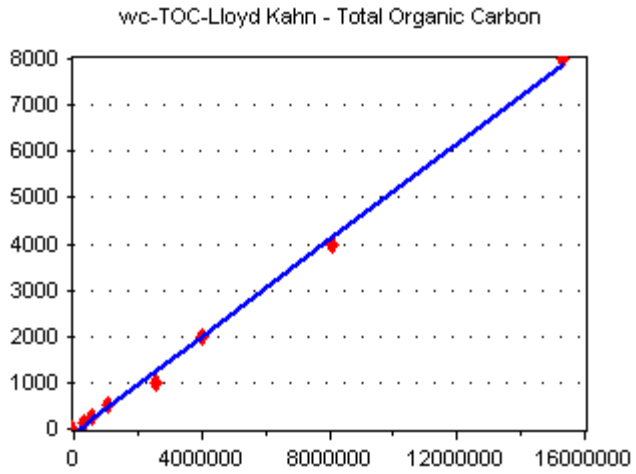
Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Total Organic Carbon	1927.064	42.03826	0	0	0.9977251		0.997	

Individual peaks for multi-component analytes are indicated by a number in parentheses

Instrument:	TOC2	Calibration Date:	24-Jul-15 00:45 By RLT
Calibration ID:	1508009	Last Edit Date:	06-Aug-15 09:46 By RLT

wc-TOC-Lloyd Kahn

Total Organic Carbon



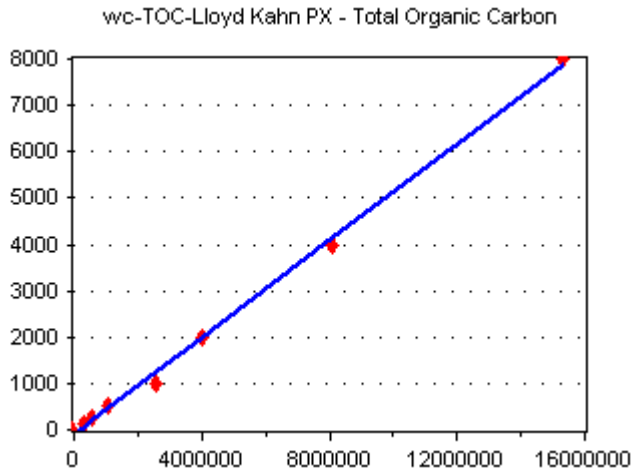
Linear Regression

r2: 0.9977251

[Conc] = 5.212453E-04 * [Response] + -97.81655

wc-TOC-Lloyd Kahn PX

Total Organic Carbon



Linear Regression

r2: 0.9977251

[Conc] = 5.212453E-04 * [Response] + -97.81655

Lloyd Kahn

Raw Quality Control Data

Detailed Analysis Report Print Date/Time: 2015/07/23 18:33:20

Sample ID: CLN BLK | Mode: TOC
Method: Boat Sampler | Filename: 07231119
Cal. Curve: 063015 HIGH | Timestamp: 2015/07/23 11:23
Operator ID: rlt | Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	914.2606	36.5704	3210692	135.158	136.156	165

Sample ID: 0.000 15G0877 | Mode: TOC
Method: Boat Sampler | Filename: 07231501
Cal. Curve: HIGH 072315 | Timestamp: 2015/07/23 15:04
Operator ID: rlt | Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			19261	135.991	135.893	120

Last Message: Low Sample Detected

Sample ID: 1000PPM 15G0881 | Mode: TOC
Method: Boat Sampler | Filename: 07231505
Cal. Curve: HIGH 072315 | Timestamp: 2015/07/23 15:08
Operator ID: rlt | Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			2110995	135.530	136.522	100

Sample ID: 2000PPM 15G0882 | Mode: TOC
Method: Boat Sampler | Filename: 07231508
Cal. Curve: HIGH 072315 | Timestamp: 2015/07/23 15:11
Operator ID: rlt | Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			4040412	135.368	136.364	106

Sample ID: 4000PPM 15G0883 | Mode: TOC
Method: Boat Sampler | Filename: 07231512
Cal. Curve: HIGH 072315 | Timestamp: 2015/07/23 15:15
Operator ID: rlt | Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			7938431	135.309	136.308	119

Sample ID: 8000PPM 15G0884 | Mode: TOC
Method: Boat Sampler | Filename: 07231516
Cal. Curve: HIGH 072315 | Timestamp: 2015/07/23 15:19
Operator ID: rlt | Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			15243136	135.283	136.279	133

Sample ID: 12500PPM 15G0885 | Mode: TOC
Method: Boat Sampler | Filename: 07231520
Cal. Curve: HIGH 072315 | Timestamp: 2015/07/23 15:23
Operator ID: rlt | Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning	Ending	Integration

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			23448292	135.290	136.287	151

Sample ID: 20000PPM 15G0886 Mode: TOC
Method: Boat Sampler Filename: 07231524
Cal. Curve: HIGH 072315 Timestamp: 2015/07/23 15:28
Operator ID: rlt Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			31968572	135.295	136.295	203

Last Message: Over-range

CURVE FAILS USING 20,000PPM

Sample ID: 20000PPM 15G0886 Mode: TOC
Method: Boat Sampler Filename: 07231529
Cal. Curve: HIGH 072315 Timestamp: 2015/07/23 15:34
Operator ID: rlt Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			32110984	135.388	136.387	218

Last Message: Over-range

Sample ID: 20000PPM 15G0886 Mode: TOC
Method: Boat Sampler Filename: 07231535
Cal. Curve: HIGH 072315 Timestamp: 2015/07/23 15:39
Operator ID: rlt Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			29360944	135.634	136.698	220

Last Message: Over-range

Sample ID: 15000PPM 15G0886 Mode: TOC
Method: Boat Sampler Filename: 07231545
Cal. Curve: HIGH 072315 Timestamp: 2015/07/23 15:49
Operator ID: rlt Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			27184308	136.041	137.040	206

Last Message: Over-range

Sample ID: SEQ-ICV1 Mode: TOC
Method: Boat Sampler Filename: 07231605
Cal. Curve: HIGH 072315 Timestamp: 2015/07/23 16:08
Operator ID: rlt Sample Type: Sample

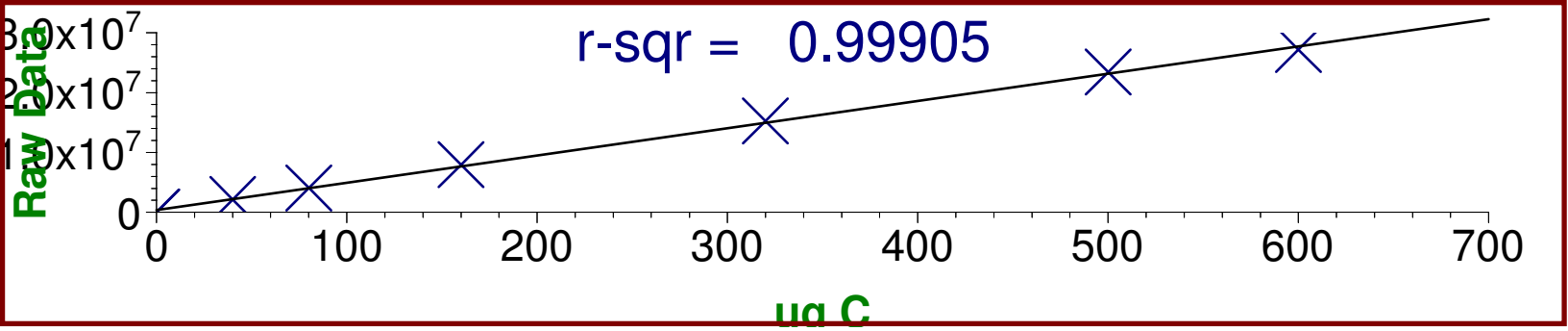
USED SOIL SRM

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5855.4214	144.6289	6583858	136.811	137.810	115

Sample ID: SEQ-ICB1 Mode: TOC
Method: Boat Sampler Filename: 07231608
Cal. Curve: HIGH 072315 Timestamp: 2015/07/23 16:11
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	19.2094	0.7684	34978	135.713	135.598	120

Last Message: Low Sample Detected
==========


r-sqr = 0.99905
Raw Data
ug C
0
100
200
300
400
500
600
700

New low curve run on 07.24.15 under the name 063015low and could not be renamed as 072415low in TOC Talk after running.

S507374
1508009

Detailed Analysis Report Print Date/Time: 2015/07/24 17:09:27

Sample ID: CLN BLK
Method: Boat Sampler
Cal. Curve: HIGH 072315
Operator ID: rlt

Mode: TOC
Filename: 07241131
Timestamp: 2015/07/24 11:33
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	24.6680	0.9867	44918	132.441	133.438	59

15g0877

Sample ID: 0.000PPM 15F1175
Method: Boat Sampler *
Cal. Curve: 063015 LOW
Operator ID: rlt

Mode: TOC
Filename: 07241136
Timestamp: 2015/07/24 11:39
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			-75343	132.905	131.908	120

Last Message: Low Sample Detected

15g0878

Sample ID: 100PPM 15F1174
Method: Boat Sampler *
Cal. Curve: 063015 LOW
Operator ID: rlt

Mode: TOC
Filename: 07241140
Timestamp: 2015/07/24 11:42
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			301092	131.496	132.492	83

15g0879

Sample ID: 200PPM 15F1173
Method: Boat Sampler
Cal. Curve: 063015 LOW *
Operator ID: rlt

Mode: TOC
Filename: 07241144
Timestamp: 2015/07/24 11:46
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			564098	131.417	132.412	89

15g0880

Sample ID: 500PPM 15F1172
Method: Boat Sampler
Cal. Curve: 063015 LOW *
Operator ID: rlt

Mode: TOC
Filename: 07241149
Timestamp: 2015/07/24 11:51
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			1095701	131.212	132.208	97

15g0881

Sample ID: 1000PPM 15F1171
Method: Boat Sampler *
Cal. Curve: 063015 LOW
Operator ID: rlt

Mode: TOC
Filename: 07241153
Timestamp: 2015/07/24 11:55
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			2598953	132.020	133.017	98

15g0882

Sample ID: 2000PPM 15F1170
Method: Boat Sampler *
Cal. Curve: 063015 LOW
Operator ID: rlt

Mode: TOC
Filename: 07241159
Timestamp: 2015/07/24 12:02
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning	Ending	Integration

*072415low
8.06.15 rlt

		Baseline	Baseline	Time
1	4033333	131.736	132.731	112

15g0883

Sample ID: 4000PPM ~~15F1169~~ Mode: TOC
Method: Boat Sampler * Filename: 07241205
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/07/24 12:10
Operator ID: rlt Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			8115560	132.034	133.028	300

*072415 low
8.06.15 rlt

15g0884

Sample ID: 8000PPM ~~15F1168~~ Mode: TOC
Method: Boat Sampler Filename: 07241211
Cal. Curve: ~~063015~~ ~~LOW~~ * Timestamp: 2015/07/24 12:16
Operator ID: rlt Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			15323789	132.917	133.917	199

15F0281

Sample ID: SEQ-ICV1 Mode: TOC
Method: Filename: 07241230
Cal. Curve: ~~063015~~ ~~LOW~~ * Timestamp: 2015/07/24 12:32
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1107.5909	44.3036	2114927	132.989	133.984	98

15g0877

Sample ID: SEQ-ICB1 Mode: TOC
Method: Filename: 07241233
Cal. Curve: ~~063015~~ ~~LOW~~ * Timestamp: 2015/07/24 12:35
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	90.6968	3.6279	173184	132.341	133.339	73

Sample ID: SEQ-ICB1 Mode: TOC
Method: * Filename: 07241236
Cal. Curve: ~~063015~~ ~~LOW~~ Timestamp: 2015/07/24 12:39
Operator ID: rlt Sample Type: Sample

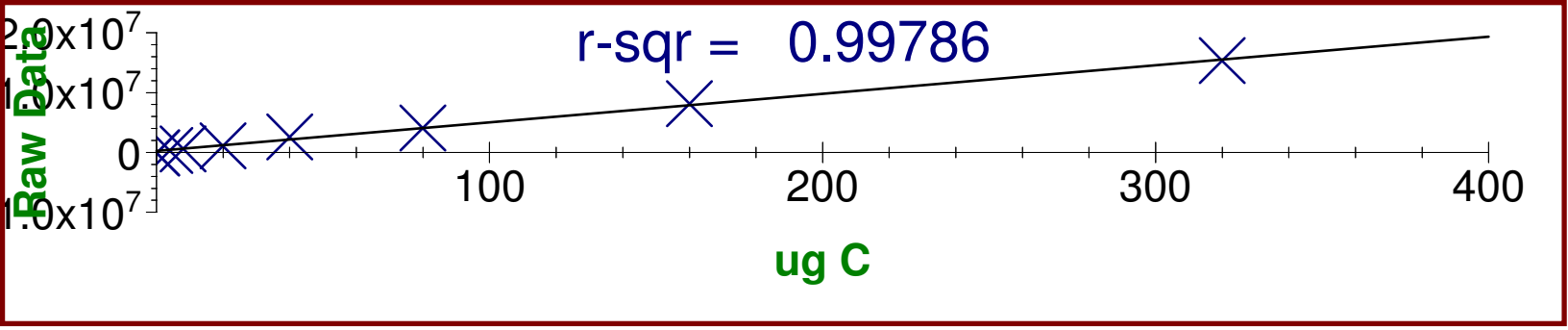
Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-60.6370	-2.4255	-115785	133.155	131.644	120

Last Message: Low Sample Detected

Sample ID: SEQ-CCV1 Mode: TOC
Method: Filename: 07241240
Cal. Curve: ~~063015~~ ~~LOW~~ * Timestamp: 2015/07/24 12:43
Operator ID: rlt Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1059.7209	42.3888	2023520	131.816	132.815	96

Sample ID: SEQ-CCB1 Mode: TOC
Method: Filename: 07241243
Cal. Curve: ~~063015~~ ~~LOW~~ * Timestamp: 2015/07/24 12:46
Operator ID: rlt Sample Type: Sample


r-sqr = 0.99786
Raw Data
2.0x10^7
1.0x10^7
0
-1.0x10^7
100
200
300
400
ug C

FORM VIII(Organics)/FORM XIII(Inorganics)
ANALYSIS BATCH (SEQUENCE) SUMMARY

Lloyd Kahn

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA	SDG:	13115
Client:	Eurofins Lancaster Laboratories Environmental, LLC	Project:	See Chain of Custody
Sequence:	S507374	Instrument:	TOC2
		Calibration:	1508009

Sample Name	Lab Sample ID	Lab File ID	Analyzed
Cal Standard	S507374-CAL1	07241136	07/24/15 11:39
Cal Standard	S507374-CAL2	07241140	07/24/15 11:42
Cal Standard	S507374-CAL3	07241144	07/24/15 11:46
Cal Standard	S507374-CAL4	07241149	07/24/15 11:51
Cal Standard	S507374-CAL5	07241153	07/24/15 11:55
Cal Standard	S507374-CAL6	07241159	07/24/15 12:02
Cal Standard	S507374-CAL7	07241205	07/24/15 12:10
Cal Standard	S507374-CAL8	07241211	07/24/15 12:16
Initial Cal Check	S507374-ICV1	07241230	07/24/15 12:32
Initial Cal Blank	S507374-ICB1	07241233	07/24/15 12:35

Calibration Report Print Date/Time: 2015/07/23 15:50:47

Cal. Curve ID: HIGH 072315
Created: 2015/07/23 15:50
Calibration Factor (m): 4.552e+04
Y Intercept (b): 370960
r-squared: 0.99905

Standard ID	Y Raw Data	X Expected ug C	Measured ug C	Message	Date & Time
0.000 15G0877	19261	0.000	-7.726	Low Sample De	2015/07/23 15:04
1000PPM 15G0881	2110995	40.000	38.224		2015/07/23 15:08
2000PPM 15G0882	4040412	80.000	80.608		2015/07/23 15:11
4000PPM 15G0883	7938431	160.000	166.236		2015/07/23 15:15
8000PPM 15G0884	15243136	320.000	326.700		2015/07/23 15:19
12500PPM 15G088	23448292	500.000	506.944		2015/07/23 15:23
15000PPM 15G088	27184308	600.000	589.014	Over-range	2015/07/23 15:49

Calibration Report Print Date/Time: 2015/07/24 17:12:20

Cal. Curve ID: ~~063015~~ ~~LOW~~ 072415 low 8.06.15rlt
Created: 2015/07/24 12:17
Calibration Factor (m): 4.774e+04
Y Intercept (b): 223418
r-squared: 0.99786

	Standard ID	Y Raw Data	X Expected ug C	Measured ug C	Message	Date & Time
15G0877 *	0.000PPM ~~15F117~~	-75343	0.000	-6.258	Low Sample De	2015/07/24 11:39
15G0878 *	100PPM ~~15F1174~~	301092	4.000	1.627		2015/07/24 11:42
15G0879 *	200PPM ~~15F1173~~	564098	8.000	7.137		2015/07/24 11:46
15G0880 *	500PPM ~~15F1172~~	1095701	20.000	18.273		2015/07/24 11:51
15G0881 *	1000PPM ~~15F1171~~	2598953	40.000	49.763		2015/07/24 11:55
15G0882 *	2000PPM ~~15F1170~~	4033333	80.000	79.810		2015/07/24 12:02
15G0883 *	4000PPM ~~15F1169~~	8115560	160.000	165.325		2015/07/24 12:10
	8000PPM ~~15F1168~~	15323789	320.000	316.324		2015/07/24 12:16

*080615 rlt

THE JOHNSON COMPANY, INC.
100 State Street, Montpelier, Vermont 05602
Phone: (802) 229-4600
FAX: (802) 229-5876

MEMORANDUM

Date: **December 28, 2015**

From: **James R. Bowes, P.G.** JRB
Pine Street Canal Superfund Site
Quality Assurance Officer

To: **QA/QC File**

CC: **Guy Vaillancourt, Project Manager**

Re: **Procedure Deviation Alerts:**

AWR-METHOD #007-020
JEP METHOD #007-2015-1
JRB-METHOD #008-001
RJP-METHOD #007-2015-1
RJP-METHOD #2007-2015-2

Job#: **1-0870-02**

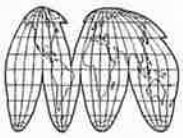
I have reviewed the above referenced Procedure Deviation Alerts (PDA) related to fall 2015 compliance monitoring. A description of the non-conforming situations and corrective actions taken are provided in the attached completed PDA forms. The appropriate corrective actions were completed , and there are no adverse effects to the integrity and usability of the data set.

Attachments

K:\1-0870-2\QAPP\devalert\122815_jrb_response_PDAs_Fall 2015.doc

PROCEDURE - DEVIATION

ALERT



Alert No: AWR-METHOD#007-020
To: Jim Bowes, The Johnson Company - Quality Assurance Officer
From: Adam Robtoy
Date: December 17, 2015
Re: **SIN Discrepancy COC – 384521, SIN: 0162-13DP**

BACKGROUND: During the 2015 annual subaqueous sand cap monitoring event, the duplicate sample collected on September 21, 2015 (SLID: J_0162-13DP, SIN: 0162-13DP) was incorrectly documented on the chain of custody as SIN: 0163-13DP. The laboratory logged the sample in and reported the results with the incorrect SIN (0163-13DP).

ACTION: This alert was prepared to document the deviation, and the SIN was corrected in the analytical database.

Reviewed By: JRB
K:\1-0870-2\QAPP\devalert\AWR-METHOD#007-020 12_17_15.doc

SAMPLE ID: COC# 384521
SAMPLE OR OPERATOR'S INITIALS: AWR

EQUIPMENT: N/A
SAMPLING EVENT: 2015 annual cap monitoring

ALERT RECEIVED/READ: JRB

PROCEDURE - DEVIATION

A L E R T !

Alert No: JEP- Method #007 – 2015-1
To: Pine Street Canal Site QA File
CC: Guy Vaillancourt - Project Manager
From: Johanna Palmer, Staff Scientist
Date: 11/11/15
Re: Chain of Custody # 376957 Transcription Error: Incorrect Sample Identification Number and Sample Location Identification Number

BACKGROUND: Chain of Custody # 376957 was submitted with an incorrect Sample Location Identification Number (SLID) and Sample Identification Number (SIN), for the field duplicate sample J_0085-33DP. The correct SIN for this sample is 0085-33DP. Chain of Custody (COC) 376957 was submitted with the incorrect SLID of J_0085-33 and incorrect SIN of 0085-33, and the analytical lab logged the sample in under the SIN that was incorrectly entered on the COC (laboratory sample number 8082101). The sample jars were correctly labeled as SLID J_0085-33DP and SIN 0085-33DP.

ACTION: Alert was prepared for the Project Manager by the Staff Scientist. A copy of this PDA will also be included with the Fall 2015 Compliance Monitoring Report, and also with the original laboratory data package. The correct SIN will be transcribed onto the original laboratory report, and the correct SLID and SIN will be entered into the project database for this sample so that the sample results for the 2015 cap coring and benthic monitoring event appear at the correct SLID location.

K:\1-0870-2\PostConstruction Compliance\Fall 2015 CMR\PDAs\111115_JEP-Method #007-2015-1.doc

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SAMPLE: C of C # 376957
SAMPLE OR OPERATOR'S INITIALS: RJP

EQUIPMENT: NA
SAMPLING EVENT:
2015 CAP CORING
& BENTHIC MONITORING

ALERT RECEIVED/READ: ___JRB___

PROCEDURE - DEVIATION

A L E R T !

Alert No: JRB- Method #008 - 001
To: Pine Street Canal Site QA File
CC: Guy Vaillancourt - Project Manager
From: James Bowes, QA Officer
Date: December 28, 2015
Re: Transcription Error: Incorrect Sample Intake Depth for monitoring well J_MW-22A

BACKGROUND: An incorrect sample intake depth of 15.2 feet below top of casing for monitoring well J_MW-22A was listed on the Groundwater Sample Collection form dated May 6, 2015. This incorrect depth was discovered during update of the database with the fall 2015 groundwater purge parameters. The correct sample intake depth for MW-22A is 21.6 feet which correctly places the intake in the approximate center of the five-foot screened interval. The incorrect depth of 15.2 feet was entered on the Groundwater Sample Collection form due to transcription error.

ACTION: This Alert has been prepared by the QA Officer for the QA File and Project Manager. The correct intake depth will be entered into the project database. A copy of this PDA will also be included with the Compliance Monitoring Report for the Fall 2015 groundwater sampling.

SAMPLE: NA
SAMPLER OR OPERATOR'S INITIALS: JRB

ALERT RECEIVED/READ: JRB

EQUIPMENT: NA
SAMPLING EVENT:
Spring 2015

PROCEDURE - DEVIATION

A L E R T !

Alert No: RJP- Method #007 – 2015-1
To: Pine Street Canal Site QA File
CC: Guy Vaillancourt - Project Manager
From: Ross Predom, Staff Scientist
Date: 09/30/15
Re: Chain of Custody # 384523 Transcription Error: Incorrect Sample Identification Number

BACKGROUND: Chain of Custody # 384523 and sample labels were submitted with an incorrect Sample Identification Number (SIN) for the benthic sample J_T21+00-E50 collected on 9/22/15 at 10:45. The correct SIN for this location is 0499-13. Chain of Custody (COC) 384523 was submitted with the incorrect SIN of 0498-13, and the analytical lab logged the sample in under the SIN that was incorrectly entered on the COC (laboratory sample numbers 8064406 and 8064407).

ACTION: The laboratory was initially notified of the error and correct SIN was provided by email after receipt of the log-in report. Alert was prepared for the Project Manager by the Staff Scientist and copied to the analytical laboratory. A copy of this PDA will also be included with the Fall 2015 Compliance Monitoring Report, and also with the original laboratory data package. The correct SIN will be transcribed onto the original laboratory report, and will be entered into the project database for this sample so that the sample results for the 2015 cap coring and benthic monitoring event appear at the correct SLID location.

K:\1-0870-2\PostConstruction Compliance\Fall 2015 CMR\PDAs\093015_RJP-Method #007-2015-1.doc

---

SAMPLE: C of C # 384523
SAMPLE OR OPERATOR'S INITIALS: RJP

EQUIPMENT: NA
SAMPLING EVENT:
2015 CAP CORING
& BENTHIC MONITORING

ALERT RECEIVED/READ: _____JRB JRB

PROCEDURE - DEVIATION

A L E R T !

Alert No: RJP- Method #007 – 2015-2
To: Pine Street Canal Site QA File
CC: Guy Vaillancourt - Project Manager
From: Ross Predom, Staff Scientist
Date: 11/11/15
Re: Chain of Custody # 384726 Transcription Error: Incorrect Sample Identification Numbers

BACKGROUND: Chain of Custody # 384726 was submitted with two incorrect Sample Identification Numbers (SIN), for the following samples: J_SW-DP collected on 9/22/15 at 14:20; and J_SW-FB collected on 9/22/15 at 14:45. The correct SIN for J_SW-DP is 0122-24DP. The correct SIN for J_SW-FB is 0123-24FB. These samples and the Chain of Custody (COC) 384726 were submitted with the incorrect SIN of 0122-24 for J_SW-DP, and 0123-24 for J_SW-FB, and the analytical lab logged the sample in under the SINs that were incorrectly entered on the COC (laboratory sample numbers 8064321 and 8064322).

ACTION: Alert was prepared for the Project Manager by the Staff Scientist. A copy of this PDA will also be included with the Fall 2015 Compliance Monitoring Report, and also with the original laboratory data package. The correct SINs will be transcribed onto the original laboratory report, and will be entered into the project database for this sample so that the sample results for the 2015 cap coring and benthic monitoring event appear at the correct SLID location.

K:\1-0870-2\PostConstruction Compliance\Fall 2015 CMR\PDAs\111115_RJP-Method #007-2015-2.doc

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SAMPLE: C of C # 384726
SAMPLE OR OPERATOR'S INITIALS: RJP

EQUIPMENT: NA
SAMPLING EVENT:
2015 CAP CORING
& BENTHIC MONITORING

ALERT RECEIVED/READ:

APPENDIX 9

RESTORATION AREA MONITORING REPORT

COMPENSATORY RESTORATION MONITORING REPORT 2015

PINE STREET CANAL SUPERFUND SITE BURLINGTON, VT

January 2016

The Johnson Company
ENVIRONMENTAL SCIENCE AND ENGINEERING SOLUTIONS

PARTNERS FOR SMART THINKING
AND CREATIVE STRATEGIES

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Table 2 Ethan Allen Homestead Buffer Restoration Site Monitoring 2015

LIST OF ATTACHMENTS

Attachment A June 2015 Site Photographs
Attachment B September 2015 Site Photographs
Attachment C June 2015 EAH Photographs

\\jcoafp\projects\1-0870-3\Site Restoration\Restoration Reports 2015\Restoration Monitoring Report 1-18-16.docx

1.0 INTRODUCTION

Monitoring events for the 2015 on-site compensatory restoration were conducted on June 10 and September 24, 2015; and for the off-site compensatory restoration area at the Ethan Allen Homestead on June 11, 2015. These monitoring events are specified in the Restoration Plan ("Plan") for Mitigation of Habitat Loss Due to Installation of the Amended Cap, The Johnson Company, July 26, 2012. The Plan calls for two monitoring events for the restoration area at the Pine Street Canal site ("Site") and one monitoring event for the off-site restoration area at the Ethan Allen Homestead (EAH).

2.0 ON-SITE COMPENSATORY RESTORATION MONITORING

2.1 SPRING MONITORING

The spring 2015 monitoring of the on-site restoration areas at the Pine Street Canal Site was conducted on June 10, 2015 by The Johnson Company. The monitoring quadrats established in the north restoration area (North Area Plot) and south restoration area (South Area Plot) have been marked by GPS so that they can be put on site plans and re-visited for future monitoring (Figure 1). The North Area Plot is approximately 25 feet by 50 feet and the South Area Plot is approximately 50 feet by 50 feet.

Overall, the restoration areas survived the winter very well. Photos are presented in Attachment A. Out of over 400 plantings, no mortalities were noted. The spring lake level did not exceed 98 feet (1988 NGVD) so the edge of the Canal, the North and South Paths and the western edges of the North and South Areas were not flooded. Heavy rain had occurred during the two days preceding the monitoring event which was the source of the ponded water observed in the North and South Path and South Area (see Photos A-2 and A-17). Both the North Area (Photos A-8 and A-9) and South Areas (Photos A-11 and A-12) were well vegetated. The area between the canal access road and the Canal was well vegetated (see Photos A-5 and A-6). The volunteer cottonwood in the North Plot noted in fall 2014 was still present (Photo A-10). A large patch of Canadian anemones (*Anemone canadensis*) was in bloom at the east end of the North Path (Photo A-13). No mortalities were observed in the monitoring plots or outside of these

areas. Monitoring data are presented in Table 1.

2.2 FALL MONITORING

The fall 2015 monitoring event was conducted on September 24, 2015 by The Johnson Company. The photos from this monitoring event are presented in Attachment B. The trimming around the trees had been done July 21st and the first week in September. All of the plantings had survived the summer. Four enclosures around the trees had been damaged, and these were replaced by Treeworks on September 28th. A large dead tree had fallen across the South Path. (Photos B-9 and B-10) The main trunk fell between the plantings, but branches brought down by the falling tree damaged two of the highbush cranberries. (See Photo B-11). Treeworks had cleared the brush from around the plantings. The small cottonwood that had volunteered in the North Area Plot in 2014 is still present. Silver maple (*Acer saccharinum*) and high bush cranberry (*Viburnum opulus americanum*) showed moderate insect damage, but this damage did not appear to threaten survival. Boxelder (*Acer negundo*) and the dogwoods (*Cornus amomum and C. sericea*) seemed unaffected by insects. Light deer browse was also observed on many trees, especially the silver maple. (Photo B-15) A three well cluster installed by Stone Environmental in the North Area has not interfered with any of the restoration plantings. (Photo B-16) Many of the green ash trees had dropped their leaves, but all had healthy buds. Dry summer conditions contributed to the early senescence of the green ash. The planted sensitive ferns (*Onoclea sensibilis)* had turned brown and presented fertile fronds with beadlike spore cases, as is expected in late September. Volunteer dogwoods continue to colonize the area to the east of the Canal access road between the planted shrubs. A volunteer green ash was also noted in this area (See Photo B-5). Another volunteer green ash was noted in the South Area outside of the monitoring plot. The monitoring data are presented in Table 1.

Ground cover was well established in the North and South Areas, and along the Canal, estimated at 100% for these areas. The dominant species in the North and South Areas were clovers (*Trifolium pretense, T. repens, Melitotus officinalis*). Since the grass had been cut, grass identification was not attempted. The ground cover in the South Path was also 100 %. The

ground cover on the North Path was 95%. The ground cover in the paths had little clover, and showed more grasses and wildflowers. Examples include: showy tickseed (*Bidens cernua*); ditch stonecrop (*Penthorum sedoides*); bugleweed (*Lycopus uniflorus*); wild strawberry (*Fragaria virginiana*); wild lettuce (*Lactuca canadensis*); deer tongue (*Panicum clandestinum*); and rough barnyard grass (*Crus-galli muricata*). The vegetation between the Canal access road and the Canal had been mowed, but is well established, estimated at 100% coverage (see Photo B-6).

2.3 INVASIVE SPECIES CONTROL

The restoration areas had been treated with herbicide for *Phragmites* control in August, 2013, prior to the restoration planting, and small areas of Japanese knotweed (*Polygonum cuspidatum*) at the edges of the North and South Areas had been treated in September 2013 (see Figure 1). Herbicide treatment was repeated on the restoration areas and the small areas of knotweed outside the areas in 2014. In 2015, some Japanese knotweed had survived at the edges of the restoration area (Photos A-16 and A-17) and a single Japanese knotweed plant appeared in the South Plot (Photo A-11). Also, some *Phragmites* was present on the west side of the North Area (Photo A-16), the west side of the South Area (Photo A-17) and at the South Slip (Photo A-6).

Therefore, invasive species control was conducted during August 2015 for *Phragmites* and Japanese knotweed. Some *Phragmites* and Japanese knotweed survived the August treatment (Photo B-19), so a follow-up spot treatment was conducted on September 28, 2015.

The initial introduction of the *Galerucella spp.* beetles continues to control the purple loosestrife at the Pine Street Canal site. Evidence of herbivory can be seen in Photo A-14.

3.0 OFF-SITE COMPENSATORY RESTORATION MONITORING

The monitoring of the off-site restoration area at the Ethan Allen Homestead was conducted on June 11, 2015. As reported in the 2013 Monitoring report 115 trees were planted in April 22, 2013. The Winooski River flooded several times during the spring and summer of

2013. Severe flooding also occurred in the spring of 2014. These flood events have affected the restoration area and the loss of trees was reported in the 2014 monitoring report. Flooding did not occur in spring 2015, and trees were not observed on the riverbank or in the water. Fifty trees survived, although some were not in good condition. Forty-seven trees were dead and 18 trees were missing and presumed dead. The survival rate was 48%. Some of the trees have done very well and are 6-10 feet tall and visible above the surrounding vegetation (See Photos C-1 through C-4). Trees rated fair or poor generally did not have live vegetation visible above the surrounding vegetation and often were re-sprouting from the bottom. Site inspection photos are in Attachment C and the monitoring data are presented in Table 2.

4.0 CONCLUSION

The installation of the Amended Cap resulted in temporary construction impacts to approximately one and one-third acres of the site. However, in order to monitor and maintain the Amended Cap a gravel access road was installed to allow access to the monitoring and recovery wells, and the area between the road and the canal was to be maintained free of woody vegetation that could impair visual observation of the canal. Thus this area could not be returned to a wooded riparian area. To compensate for this loss of approximately 0.4 acres of wooded riparian area, the construction areas on-site were planted with trees and shrubs, and further compensation was provided by an off-site mitigation project consisting of planting trees in a riparian buffer area at the Ethan Allen Homestead with trees. The Vermont NRCS Specification Guide Sheet-Riparian Forest (391) was used to determine the number of trees and shrubs to plant. This guidance recommends planting 300-400 stems per acre in order to achieve a density of 150 stems per acre in the mature forest buffer.

The on-site restoration consisted of planting 375 trees and shrubs and seeding the planting areas with appropriate restoration seed mixes. There have been no losses of trees or shrubs in the planted areas and, as noted in the monitoring results, some native trees and shrubs are colonizing the planted areas. The area between the access road and the canal is fully vegetated with a mix wetland plants. Therefore the restoration planting has exceeded

expectations. Herbicide treatments for invasive species and removal of buckthorn have been undertaken for three years. The Plan called for an evaluation of the invasive species control after three years. Based on the success of the restoration, no further herbicide treatment or cutting of buckthorn is recommended, and continued monitoring of the restoration plantings is no longer necessary.

The goal of the off-site buffer plantings at the Ethan Allen Homestead was to create the equivalent of one-quarter acre of wooded riparian buffer by planting a one-eighth of an acre with area within a 2-acre buffer with 57 trees and planting 48 trees in the remaining portion of the 2-acre buffer (Figure 2). Based on the 150 woody stems per acre, the final tree density in the 1/8-acre are is 19 trees, and the total stems equivalent to ¼-acre is 38 trees. Thus despite the mortality at Ethan Allen Homestead, the 50 surviving trees are more than needed to create the desired tree density and achieve the objective in the Plan. Accordingly, no further action is necessary.

FIGURES

T12 T11 T10 T8

ASH

COTTONWOOD COTTONWOOD

SOUTH AREA

ADDITIONAL HERBICIDE TREATMENT FOR PHRAGMITES

ADDITIONAL HERBICIDE TREATMENT FOR JAPANESE KNOTWEED

SOUTH AREA PLOT

ADDITIONAL HERBICIDE TREATMENT FOR JAPANESE KNOTWEED

ADDITIONAL HERBICIDE TREATMENT FOR JAPANESE KNOTWEED AND PHRAGMITES

ACCESS ROAD

NORTH AREA

COTTONWOOD

ELM

NORTH AREA PLOT

SOUTH SLIP (FILLED)

100 101 102 103 104 105 99

Scientific Name	Common Name	Number
North Area		
Acer negundo	Boxelder	25
Acer saccharinum	Silver Maple	17
Fraxinus pennsylvanica	Green Ash	15
Cornus amomum	Silky Dogwood	16
Cornus sericea	Red-osier Dogwood	35
Viburnum lentago	Nannyberry	18
Viburnum opulus americanum	Highbush Cranberry	20
South Area		
Acer negundo	Boxelder	16
Acer saccharinum	Silver Maple	29
Fraxinus pennsylvanica	Green Ash	20
Cornus amomum	Silky Dogwood	12
Cornus sericea	Red-osier Dogwood	68
Viburnum lentago	Nannyberry	28
Viburnum opulus americanum	Highbush Cranberry	8

LEGEND

- GRAVEL DRIVE
- WETLAND BOUNDARY
- ESTIMATED EXISTING TREE LINE
- 5' SURFACE CONTOUR (NGVD88)
- 1' SURFACE CONTOUR (NGVD88)
- EXISTING TREE LOCATION
- NEW ENGLAND SEMI-SHADE GRASS & FORB MIX
- 2014 GPS POINT LOCATION

SOURCES:

VERTICAL & HORIZONTAL CONTROL AND TOPOGRAPHIC SURVEY BY LITTLE RIVER SURVEY COMPANY OF STOWE, VERMONT – 1992, 1994, 2000, 2003, & 2010.

ADDITIONAL SURVEY DATA BY THE JOHNSON COMPANY, INC. – MARCH, 2003 & SUMMER, 2004.

ADDITIONAL GPS SURVEY DATA BY THE JOHNSON COMPANY, INC. – SEPTEMBER, 2003 & JUNE, 2011.

ADDITIONAL GPS SURVEY DATA BY THE JOHNSON COMPANY, INC. – JULY, 2014.

ADDITIONAL SOURCES: 3/92 S.R.I., 8/96 A.R.I., 5/98 A.F.S., A.R.I. Fieldbooks and 2002–2003 PSCS RA Fieldbooks 1 through 8. (Documents #337 & #408);

PINE STREET CANAL SUPERFUND SITE AMENDED CAP BY ARCADIS U.S., INC. – APRIL, 2011.

K:\1-0870-3\CAD\AB Plantings 2015.dwg

VT GRID NORTH

0 7.5 15 30

SCALE IN FEET

The Johnson Company

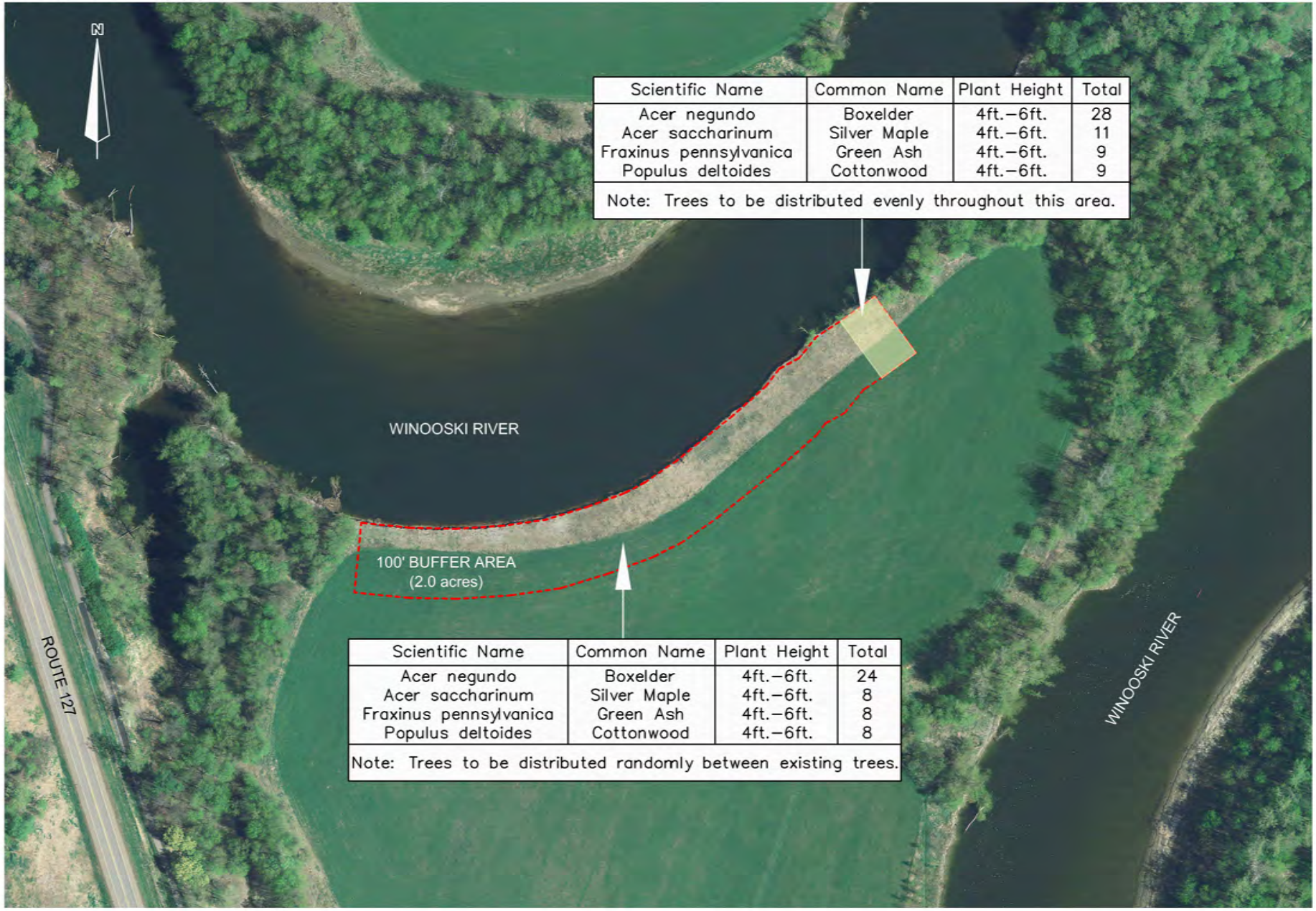
100 State Street, Suite 600
Montpelier, VT 05602
(802) 229-4600

Drawn by: TJK Date: 10/19/15
Chk'd by: SAS Date: 10/19/15
Scale: As Shown Project: 1-0870-3

FIGURE 1: NORTH AND SOUTH AREAS WETLAND MITIGATION PLANTING 2015 PINE STREET CANAL SITE BURLINGTON, VERMONT

Base Map: Aerial Photography by VCGI May 8–12, 2004

K:\1-0870-3\CAD\Ethan Allen Homestead.dwg



Scientific Name	Common Name	Plant Height	Total
Acer negundo	Boxelder	4ft.–6ft.	28
Acer saccharinum	Silver Maple	4ft.–6ft.	11
Fraxinus pennsylvanica	Green Ash	4ft.–6ft.	9
Populus deltoides	Cottonwood	4ft.–6ft.	9

Note: Trees to be distributed evenly throughout this area.

Scientific Name	Common Name	Plant Height	Total
Acer negundo	Boxelder	4ft.–6ft.	24
Acer saccharinum	Silver Maple	4ft.–6ft.	8
Fraxinus pennsylvanica	Green Ash	4ft.–6ft.	8
Populus deltoides	Cottonwood	4ft.–6ft.	8

Note: Trees to be distributed randomly between existing trees.

0 15 30 60

SCALE IN METERS

FIGURE 8: OFFSITE RESTORATION PROJECT
ETHAN ALLEN HOMESTEAD
BURLINGTON, VERMONT

The Johnson Company

100 State Street, Suite 600
Montpelier, VT 05602
(802) 229-4600

Drawn by: TJK	Date: 05/01/12
Chk'd by: SAS	Date: 05/01/12
Scale: As Shown	Project: 1-0870-3

TABLES

Pine Street Canal Superfund Site
On-site Restoration Planting Monitoring Results
(plantings done fall 2013)

South Area (monitoring plot = 50ft x 50ft)		5-Jun-14		25-Sep-14		10-Jun-15		24-Sep-15	
Species	Common name	Count	Mortality	Count	Mortality	Count	Mortality	Count	Mortality
Trees and Shrubs									
Acer saccharinum	Silver maple	2	0	2	0	2	0	2	0
Acer negundo	Boxelder	5	0	5	0	5	0	5	0
Fraxinus pennsylvanica	Green ash	3	0	3	0	3	0	3	0
Cornus amomum	Silky dogwood	4	0	4	0	4	0	4	0
Cornus sericea	Red-osier dogwood	13	0	13	0	13	0	13	0
Viburnum lentago	Nannyberry	0	0	0	0	0	0	0	0
Viburnum opulus americanum	Highbush cranberry	0	0	0	0	0	0	0	0
Total woody stems:		27	0	27	0	27	0	27	0
Non-woody vegetation									
Onoclea sensibilis	Sensitive fern	7	0	7	0	7	0	7	0
Percent cover:			85%		98%		100%		100%

North Area (monitoring plot = 25ft x 50ft)		5-Jun-14		25-Sep-14		10-Jun-15		24-Sep-15	
Species	Common name	Count	Mortality	Count	Mortality	Count	Mortality	Count	Mortality
Trees and Shrubs									
Acer saccharinum	Silver maple	6	0	6	0	6	0	6	0
Acer negundo	Boxelder	3	0	3	0	3	0	3	0
Fraxinus pennsylvanica	Green ash	1	0	1	0	1	0	1	0
Cornus amomum	Silky dogwood	3	0	3	0	3	0	3	0
Cornus sericea	Red-osier dogwood	1	0	1	0	1	0	1	0
Viburnum lentago	Nannyberry	4	0	4	0	4	0	4	0
Populus deltoides [3]	Cottonwood					1	0	1	0
Viburnum opulus americanum	Highbush cranberry	7	0	7	0				
Total woody stems:		25	0	25	0	26	0	26	0
Non-woody vegetation									
Onoclea sensibilis	Sensitive fern	2	0	2	0	2	0	2	0
Percent cover:			70%		98%		100%		100%

North Path		5-Jun-14		25-Sep-14		10-Jun-15		24-Sep-15	
Species	Common name	Count	Mortality	Count	Mortality	Count	Mortality	Count	Mortality
Trees and Shrubs									
Fraxinus pennsylvanica	Green ash	6	0	7	0	7	0	7	0
Cornus amomum	Silky dogwood	4	0	6	0	6	0	6	0
Viburnum opulus americanum	Highbush cranberry	4	1	4	0	4	0	4	0
Total woody stems:		14	1	17	0	17	0	17	0
Non-woody vegetation									
Onoclea sensibilis	Sensitive fern	6	0	6	0	7	0	7	0
Percent cover:		Note 2			75%		90%		95%

South Path		5-Jun-14		25-Sep-14		10-Jun-15		24-Sep-15	
Species	Common name	Count	Mortality	Count	Mortality	Count	Mortality	Count	Mortality
Trees and Shrubs									
Fraxinus pennsylvanica	Green ash	5	0	5	0	5	0	5	0
Cornus amomum	Silky dogwood	2	0	2	0	2	0	2	0
Cornus sericea	Red-osier dogwood	3	0	3	0	3	0	3	0
Viburnum opulus americanum	Highbush cranberry	3	0	3	0	3	0	3	0
Total woody stems:		13	0	13	0	13	0	13	0
Non-woody vegetation									
Onoclea sensibilis	Sensitive fern	10	0	10	0	10	0	10	0
Percent cover:		Note 2			85%		95%		100%

Canal Access Road		5-Jun-14		25-Sep-14		10-Jun-15		24-Sep-15	
Species	Common name	Count	Mortality	Count	Mortality	Count	Mortality	Count	Mortality
Trees and Shrubs									
Fraxinus pennsylvanica	Green ash	15	0	16	0	16	0	16	0
Cornus amomum	Silky dogwood	8	0	6	0	6	0	6	0
Cornus sericea	Red-osier dogwood	17	0	17	0	17	0	17	0
Viburnum opulus americanum	Highbush cranberry	3	0	3	0	3	0	3	0
Total woody stems:		43	0	42	0	42	0	42	0
Percent cover:		Note 2			98%		98%		100%

Notes:
1. Differences in path counts due to different starting points. Start and end marked 9-25-14 for future counts
2. Percent cover not calculated 6-5-14 due to standing water and recent flooding
3. Volunteer cottonwood within the quadrat

Ethan Allen Homestead Buffer Restoration Site **Table 2**
Monitoring Data 2013/2014/2015

Tree #	Species	Cond.[1]	Notes[2]	Cond.[1]	Notes[2]	Cond.[1]	Notes[2]
		9/23/2013		6/6/2014		6/11/2015	
1	cottonwood	G	browse - L; yellow leaf fungus	G	insect L	D	
2	cottonwood	G	browse - L	F	leaders dead	G	No insect damage or browse, ~ 6ft tall
3	boxelder	F	insect damage - M	D	dead	D	
4	boxelder	F	insect damage - M	F	central leaders dead, sprouting	G	No damage, ~ 6ft tall
5	boxelder	F	insect damage - L to M	F	insect damage, leader OK	D	
6	green ash	F	browsed, some leaf damage	F	browse M, insect L	P	Leader and older side shoots dead, new shoot ~ 3ft
7	boxelder	F-P	insect damage - M	F-G	leader dead, resprouted	missing	
8	boxelder	F	insect damage - M	F-G	leader dead, resprouted	D	
9	silver maple	F	insect damage L-M	F-G	central leader dead, multiple sprouts	missing	
10	boxelder	F-P	insect damage M	G		P	Leader dead, sprouting from base
11	boxelder	F-P	insect damage M	F	leaders dead, resprouted	F	leaders dead, resprouted
12	green ash	F	insect damage L; leaf blight	G		G	~ 6 ft tall
13	boxelder	F	insect damage M	F-P	leader dead, resprouted	P	Last yr sprouts dead, resprouted
14	silver maple	F	browse - L; insect damage - M	F-G	browse L, insect L	D	
15	cottonwood	F	yellow fungus	G	no fungus	missing	
16	silver maple	F-G	browse - L; insect damage - L	G		G	
17	boxelder	F	insect damage - M; no browse	F	central leader dead, multiple sprouts	missing	
18	silver maple	F	insect damage - M; no browse	G		G	~ 6ft tall
18A						D	Two # 18
19	boxelder	F-P	insect damage - M; no browse	F	leaders dead	F-P	Last yr sprouts dead, resprouted
20	boxelder	F	insect - M	D		D	
21	silver maple	G	browse - L; insect damage - L	P	main stem dead, one small sprout	D	Heavy browse
22	boxelder	F	insect damage - M	F-G	central leader gone, healthy sprouts	P	Last yr sprouts dead, resprouted
23	green ash	F	browse - L; insect damage - L; leaf blight	F	central stem dead, 2 stems	P	Last yr sprouts dead, resprouted
24	boxelder	G	insect damage - L	P	main stem dead, sprouted	missing	
25	silver maple	F	browse - L; insect damage - M	D		D	
26	boxelder	F	insect damage - M; no browse	D		D	
27	boxelder	F	insect damage - M	VP	one small sprout	VP	Leader dead, one small sprout
27A	boxelder			D		D	
28	green ash	F-G	insect damage - L; no browse; leaf blight ~ 50%	G	very good	G	Very good, ~ 10 ft tall
28BE	boxelder			G	insect L	F-P	Leader dead, one small sprout
29	boxelder	F	insect damage - M	D		D	
30	green ash	F	browse - L; insect damage - L	F	mainstem dead, rigorous sprouts	D	
		10/30/2013		6/6/2014 (continued)			
31	boxelder	F	browse - L; insect damage - M	G		G	~6 ft tall
32	boxelder	F	insect damage - M	F-P	leader dead, resprouted	P	Leader dead, one small sprout
33	boxelder	D		D		D	
34	cottonwood	F-G	insect damage - L; no browse; yellow fungus	G	insect L	G	
35	cottonwood	F-G	insect damage - L; no browse; yellow fungus	VP	99% dead	D	
36	silver maple	F-G	insect damage - M	D		D	
37	silver maple	F-G	insect damage - L-M; no browse	D		D	
38	boxelder	F-G	insect damage - L-M	G	insect L	G	~ 10 ft tall
39	boxelder	F	insect damage - L	F	central leader dead	missing	
40	green ash	F-G	insect damage - L; leaf blight ~ 75%	G		D	
41	silver maple	F	insect damage - L-M	missing		missing	
42	green ash	F	leaf blight	missing		missing	
43	silver maple	F	insect damag - M	P	central leader dead, small sprouts	D	
44	boxelder	F-P	browse - M; insect damage - M	F-G	leader dead, vigorous sprouts	P	Leader dead, strong side shoots
45	boxelder	P	insect damage - M	G	insect L	G	~10 ft tall
46	boxelder	F-P	browse - M; insect damage - M	F	centralleader dead, strong sprout	P	Small shoot at bottom
47	boxelder	F	insect damage - M; no browse	D		D	
48	cottonwood	F	insect damage - L; no browse	P	99% dead	D	
49	boxelder	F-P	insect damage - M; no browse	P		D	
50	silver maple	F	browse - L; insect damage - L-M; black spot	F-G	main shoot dead, side shoot good	G	
50A	boxelder			P	main stem dead, one small sprout	D	
No #	silver maple					G	
51	silver maple	G	browse - L	F	main stem dead, one strong shoot	G	~ 6 ft tall
52	cottonwood	G	some leaves	D		D	
53	cottonwood	G	insect damage - L	D		D	
54	cottonwood	G	no browse, no leaves	D		D	
55	boxelder	D		D		D	At bank undermined
A-1	green ash	G	no browse, no leaves	G		G	
56	cottonwood	G	no browse, no leaves	D		D	
57	boxelder	F	browse - L	F		G	
58	green ash	F-G	no browse, no leaves	G	browse M	G	
59	silver maple	G	insect damage - L	G		G	browse M
60	cottonwood	F-G	no browse, no leaves	D		D	
		10/30/2013		6/6/2014 (continued)			
61	silver maple	F-G	insect damage L-M; no browse	D		D	
62	cottonwood	F-G	no browse, no leaves	D	cage in river	D	
63	silver maple	G	insect damage L-M; no browse	VP	99% dead, heavy browse by rodent	D	
64	boxelder	F-G	no browse, no leaves	D		F	Strong shoot, browse L
65	boxelder	F-G	no browse, no leaves	G		G	browse L
66	silver maple	G	insect damage - L; no browse	F	pruned by rodent, small stem	D	browse on leader
67	cottonwood	F-G	no browse, no leaves	F-P	central leader gone, small shoot	F	browse M
68	silver maple	F-G	no browse, no leaves	D	in river	D	
69	silver maple	G	browse - L; insect damage - L	F	central leader gone, strong small shoot	G	browse M
70	silver maple	G	insect damage - L; no browse	P	central dead, sprout, slipped into river	missing	
71	boxelder	F-G	no browse, no leaves	G		missing	

Ethan Allen Homestead Buffer Restoration Site **Table 2**
Monitoring Data 2013/2014/2015

Tree #	Species	Cond.[1]	Notes[2]	Cond.[1]	Notes[2]	Cond.[1]	Notes[2]
72	green ash	F-G	no browse, no leaves	D		D	
73	silver maple	G	insect damage - L; no browse	VP	slipped into river, browsed	D	
74	cottonwood	F-G	no browse, no leaves	P	central stem broken at base, sprout	D	
75 (A-2)	silver maple	G	insect damage - L; no browse	F	central stem dead, sprouting at bottom	G	new leader, browse L
76	silver maple	F-G	browse - L; insect damage - L	G		G	~10 ft tall
77	boxelder	F-G	insect damage L-M; no browse	G	browse M	G	~7 ft tall, browse L
78	silver maple	F-G	insect damage - L; no browse	P	central stem dead, sprouting at bottom	G	browse M
79	cottonwood	F-G	no browse, no leaves	P-F	main stem dead, strong small shoot	F	leader dead, browsed
80	silver maple	F-G	insect damage - L; no browse	D		P	sprouting from bottom
81	boxelder	F-G	browse - L; insect damage - L	F	central stem dead, sprouting at bottom	G	Strong leader, ~ 6 ft
no #	boxelder					G	no stake or cage
82	silver maple	F-G	browse - L; insect damage - L	P-F	central stem dead, side shoot	G	browse L
83	green ash	F-G	no browse, no leaves	D		D	
84	green ash	F-G	no browse, no leaves	G		G	browse L
85	cottonwood	G	no browse, some leaves	F	central leader dead, strong shoot	F	leader dead, shoot from bottom
J-1	silver maple					P	shoot from bottom, near bank
86	silver maple	G	browse - L; insect damage - L	D		P	shoot from bottom, near bank
87	silver maple	G	insect damage - L; less than 4 ft from top of bank	G	browse L	G	Marked 87
88	cottonwood	F	no browse; main leader broken at top	P-F	main stem dead, strong short shoot	D	
89	green ash	F-G	no browse; no leaves; heavy bindweed	P-F	central stem dead, side shoot	D	
90	green ash	F-G	no browse; no leaves	D		D	
91	silver maple	F-G	browse - L; insect damage - L	G		G	strong trunk, ~ 10 ft tall
92	silver maple	G	insect damage - L; no browse	D	flood damage	missing	
		10/30/2013		6/6/2014 (continued)			
93	silver maple	F	browse - M; insect damage - L	D	flood damage	missing	
94	cottonwood	F	browse - L	missing		missing	
95	cottonwood	F-G	no leaves; no browse	P-F	flood damage, central shoot dead, side shoo	missing	
96	silver maple	F-G	insect damage - L; no browse; black spot on leaves	G		missing	
97	silver maple	F-G	insect damage - L; no browse	D		D	
98	boxelder	F	insect damage - L; no browse	D		D	
99 (A-3)	silver maple	F-G	browse - L; insect damage - L	G		D	
100	silver maple	F	browse - M; insect damage - L	G	browse L	G	~10 ft tall, browse L
101	boxelder	F-G	no browse; no leaves	P	central stem dead, 95% dead	P	few shoots at bottom
102 (A-4)	boxelder	F-G	insect damage - L; no browse	G		D	
103(A-5)	silver maple	F	insect damage - L; no browse	G		G	browse L
104 (A-6)	silver maple	F	insect damage - M; no browse	P	central stem dead, some growth at bottom,	F	leader browsed, browse M
105 (A-7)	silver maple	F	insect damage - M; no browse	D		P	Small shoot at bottom
106	green ash	F	browse - L	P	top browsed, small leaves, no mat	D	
107	silver maple	G	browse - L; insect damage - L	G		missing	
A-8	silver maple	F-G	browse - L; no leaves; no mat	D		D	
A-9	silver maple	F-G	browse - L; no leaves; no mat	F	needs new cage	missing	
A-10	green ash	F-G	no leaves; no browse; no mat	G	insect L	G	
A-11	green ash	F-G	no leaves; no browse; no mat	missing		missing	

Results 2014

115 Trees planted in 2013
30 dead on 6/6/14
4 missing on 6/6/14
81 Survived on 6/6/14

105 specified in Planting Plan
77% survival

Results 2015

115 Trees planted in 2013
47 Dead on 6/11/15
18 Missing on 6/11/15
50 Survived 6/11/15

105 specified in Planting Plan
48% survival

[1] E - excellent, new growth; G - good, survival expected; F - fair, stressed; P - poor, severly stressed; D - dead
[2] L - light, < 25% affected; M - moderate, 25-50% affected; S - severe, > 50% affected

ATTACHMENT A
JUNE 2015 SITE PHOTOGRAPHS

Photo A-1: North Path looking east 6-10-15

Photo A-2: North Path looking west 6-10-15

Photo A-3: South Path looking west 6-10-15

Photo A-4: South Path looking east 6-10-15

Photo A-5: Canal margin looking north from west end of South Path

Photo A-6: South end of canal margin at filled slip 6-10-15

Photo A-7: Plantings east of access road 6-10-15

Photo A-8: North Area Plot from southwest corner 6-10-15

Photo A-9: North Area Plot from southeast corner 6-10-15

Photo A-10: Volunteer cottonwood in North Area Plot

Photo A-11: South Area Plot from southeast corner 6-10-15

Photo A-12: South Area Plot from northwest corner 6-10-15

Photo A-13: *Anemone canadensis* at west end of north path

Photo A-14: Purple loosestrife plant showing leaves eaten by *Galerucella* beetles 6-10-15

Photo A-15: Area of treated *Phragmites* west side of South Area 6-10-15

Photo A-16: Area of treated Japanese knotweed west side of North Area 6-10-15

Photo A-17: Area of treated knotweed east side of South Area 6-10-15

ATTACHMENT B

SEPTEMBER 2015 SITE PHOTOGRAPHS

Photo B-1: North Path looking east 9-24-15

Photo B-2: North Path looking west 9-24-15

Photo B-3: Canal Access Area looking north 9-24-15

B-4: Canal Access Area looking south 9-24-15

Photo B-5: Volunteer Green Ash Canal Access Area 9-24-15

B-6: South Slip looking south 9-24-15

B-7: South Path looking east 9-24-15

B-8: South Path looking east 9-24-15

B-9: Fallen tree in South Path, note damaged tree enclosure 9-24-15

B-10: Fallen tree in South Path, narrow escape for shrub 9-24-15

B-11: South Path, highbush cranberry shrubs damaged by fallen branches 9-24-15

B-12: South Area 9-24-15

B-13: South Plot looking north 9-24-15

B-14: South Plot looking south 9-24-15

B-15: Deer browsed silver maple 9-24-15

B-16: Well cluster north area 9-24-15

B-17: North Area 9-24-15

B-18 North Plot looking north 9-24-15

B-19: Knotweed South Area 9-24-15

ATTACHMENT C
JUNE 2015 EAH PHOTOGRAPHS

Plate C-1: Southeast end of buffer – typical 6-11-15

Plate C-2: Middle buffer typical 6-11-15

Plate C-3: Northwest end of buffer typical 6-11-15

Plate C-4: Silver maple #100 example of Good condition 6-11-15

Plate C-5: Dead green ash #90 approximately 20 feet from #100 6-11-15